	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03



RPW Data Product Description Document

ROC-PRO-DAT-NTT-00075-LES

Iss.01, Rev.03

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CLASSIFICATION


PUBLIC

RESTRICTED



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	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: i

Change Record

Issue	Rev.	Date	Authors	Modifications
1	0	18/01/2018	X.Bonnin	First issue
1	1	15/11/2019	X.Bonnin	Minor updates
1	2	23/09/2020	X.Bonnin	Update calibration section. Update L0/L1/L2 data description.
1	3	11/03/2021	X.Bonnin	Update L0/L1/L2/L3/CAL data description.


Acronym List

Acronym	Definition
BP	Basic Parameters
CCSDS	Consultative Committee for Space Data Systems
CDF	Common Data Format
HFR	High Frequency Receiver
LFM	Low Frequency Mode
LFR	Low Frequency Receiver
MB	Megabyte
MOC	Mission Operations Centre
ROC	RPW Operations Centre
RPW	Radio and Plasma Waves instrument
RSWF	Regular Snapshot WaveForm
SBM	Selected Burst Mode
SOAR	Solar Orbiter Archive
SOC	Science Operations Centre
TBC	To Be Confirmed
TBD	To Be Defined
TBW	To Be Written
TDS	Time Domain Sampler
TNR	Thermal Noise Receiver
TSWF	Triggered Snapshot WaveForm

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: ii

Contents

1	INTRODUCTION	1
1.1	Purpose and Scope	1
1.2	Applicable Documents	1
1.3	Reference Documents	1
1.4	Abbreviations and Acronyms	2
2	RPW INSTRUMENT DESCRIPTION	3
2.1	Science Objective	3
2.2	Operational Modes	5
2.3	Calibration	6
2.3.1	On-Ground Calibration	6
2.3.2	In-Flight Calibration	6
2.3.2.1	LFR receiver calibration	6
2.3.2.2	TDS receiver calibration	6
2.3.2.3	TNR-HFR receiver calibration	7
2.3.2.4	Electrical antenna sensor calibration (LF part)	7
2.3.2.5	Electrical antenna sensor calibration (HF part)	7
2.3.2.6	SCM sensor calibration	7
3	DATA GENERATION AND ANALYSIS PROCESS	8
3.1	Scientific Measurements	8
3.1.1	Overview	8
3.1.2	LFR measurements	9
3.1.3	TDS measurements	9
3.1.4	TNR-HFR measurements	10
3.2	Data flow overview	10
3.3	Data Generation	12
3.3.1	L0 - Raw Data	13
3.3.2	L1 - Engineering data (uncalibrated)	13
3.3.3	L2 - Science Data (calibrated)	14
3.3.4	L3 - Higher level data	14
3.3.5	CAL- Calibration data	14
3.3.6	ANC - Ancillary data	14
3.4	Validation	14
3.4.1	Instrument Team Validation	14
3.4.2	SOC Validation	15
4	DATA PRODUCT DESCRIPTIONS	16
4.1	Primary Products Formats	16
4.1.1	L0 - Raw data products	16
4.1.1.1	SOLO L0 RPW data product	16

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: iii

4.1.1.1.1	Filename	17
4.1.1.1.2	Expected cadence and data volume	17
4.1.1.1.3	File structure description	17
4.1.2	L1 - Engineering data products	21
4.1.2.1	RPW L1 data product common description	21
4.1.2.1.1	RPW L1 data product format	21
4.1.2.1.2	RPW L1 data product metadata	22
4.1.2.2	SOLO_L1_RPW-TNR-SURV data product	22
4.1.2.2.1	Filename	23
4.1.2.2.2	Expected cadence and data volume	23
4.1.2.2.3	Global Attributes	23
4.1.2.2.4	zVariables	25
4.1.2.2.5	Variable attributes	26
4.1.2.2.6	Non-Record-Variant (NRV) Variables	41
4.1.2.3	SOLO_L1_RPW-HFR-SURV data product	48
4.1.2.3.1	Filename	48
4.1.2.3.2	Expected cadence and data volume	48
4.1.2.3.3	Global Attributes	48
4.1.2.3.4	zVariables	51
4.1.2.3.5	Variable attributes	52
4.1.2.3.6	Non-Record-Variant (NRV) Variables	64
4.1.2.4	SOLO_L1_RPW-TDS-SURV-RSWF data product	64
4.1.2.4.1	Filename	65
4.1.2.4.2	Expected cadence and data volume	65
4.1.2.4.3	Global Attributes	65
4.1.2.4.4	zVariables	68
4.1.2.4.5	Variable attributes	68
4.1.2.4.6	Non-Record-Variant (NRV) Variables	77
4.1.2.5	SOLO_L1_RPW-TDS-SURV-TSWF data product	77
4.1.2.5.1	Filename	77
4.1.2.5.2	Expected cadence and data volume	77
4.1.2.5.3	Global Attributes	78
4.1.2.5.4	zVariables	81
4.1.2.5.5	Variable attributes	81
4.1.2.5.6	Non-Record-Variant (NRV) Variables	91
4.1.2.6	SOLO_L1_RPW-TDS-SURV-HIST1D data product	91
4.1.2.6.1	Filename	91
4.1.2.6.2	Expected cadence and data volume	91
4.1.2.6.3	Global Attributes	92
4.1.2.6.4	zVariables	95
4.1.2.6.5	Variable attributes	95
4.1.2.6.6	Non-Record-Variant (NRV) Variables	104
4.1.2.7	SOLO_L1_RPW-TDS-SURV-HIST2D data product	105
4.1.2.7.1	Filename	105
4.1.2.7.2	Expected cadence and data volume	105



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03

Date: March 11, 2021

Page: **iv**

4.1.2.7.3	Global Attributes	105
4.1.2.7.4	zVariables	108
4.1.2.7.5	Variable attributes	109
4.1.2.7.6	Non-Record-Variant (NRV) Variables	118
4.1.2.8	SOLO_L1_RPW-TDS-SURV-STAT data product	118
4.1.2.8.1	Filename	119
4.1.2.8.2	Expected cadence and data volume	119
4.1.2.8.3	Global Attributes	119
4.1.2.8.4	zVariables	122
4.1.2.8.5	Variable attributes	122
4.1.2.8.6	Non-Record-Variant (NRV) Variables	135
4.1.2.9	SOLO_L1_RPW-TDS-SURV-MAMP data product	135
4.1.2.9.1	Filename	135
4.1.2.9.2	Expected cadence and data volume	135
4.1.2.9.3	Global Attributes	135
4.1.2.9.4	zVariables	138
4.1.2.9.5	Variable attributes	139
4.1.2.9.6	Non-Record-Variant (NRV) Variables	146
4.1.2.10	SOLO_L1_RPW-TDS-LFM-RSWF data product	147
4.1.2.10.1	Filename	147
4.1.2.10.2	Expected cadence and data volume	147
4.1.2.10.3	Global Attributes	147
4.1.2.10.4	zVariables	150
4.1.2.10.5	Variable attributes	150
4.1.2.10.6	Non-Record-Variant (NRV) Variables	159
4.1.2.11	SOLO_L1_RPW-TDS-LFM-CWF data product	159
4.1.2.11.1	Filename	160
4.1.2.11.2	Expected cadence and data volume	160
4.1.2.11.3	Global Attributes	160
4.1.2.11.4	zVariables	163
4.1.2.11.5	Variable attributes	163
4.1.2.11.6	Non-Record-Variant (NRV) Variables	170
4.1.2.12	SOLO_L1_RPW-TDS-LFM-SM data product	170
4.1.2.12.1	Filename	171
4.1.2.12.2	Expected cadence and data volume	171
4.1.2.12.3	Global Attributes	171
4.1.2.12.4	zVariables	174
4.1.2.12.5	Variable attributes	174
4.1.2.12.6	Non-Record-Variant (NRV) Variables	182
4.1.2.13	SOLO_L1_RPW-TDS-LFM-PSD data product	182
4.1.2.13.1	Filename	183
4.1.2.13.2	Expected cadence and data volume	183
4.1.2.13.3	Global Attributes	183
4.1.2.13.4	zVariables	186
4.1.2.13.5	Variable attributes	186



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03

Date: March 11, 2021

Page: v

4.1.2.13.6	Non-Record-Variant (NRV) Variables	193
4.1.2.14	SOLO_L1_RPW-TDS-SBM1-RSWF data product	194
4.1.2.14.1	Filename	194
4.1.2.14.2	Expected cadence and data volume	194
4.1.2.14.3	Global Attributes	194
4.1.2.14.4	zVariables	197
4.1.2.14.5	Variable attributes	198
4.1.2.14.6	Non-Record-Variant (NRV) Variables	207
4.1.2.15	SOLO_L1_RPW-TDS-SBM2-TSWF data product	207
4.1.2.15.1	Filename	207
4.1.2.15.2	Expected cadence and data volume	207
4.1.2.15.3	Global Attributes	208
4.1.2.15.4	zVariables	211
4.1.2.15.5	Variable attributes	211
4.1.2.15.6	Non-Record-Variant (NRV) Variables	221
4.1.2.16	SOLO_L1_RPW-LFR-SURV-ASM data product	221
4.1.2.16.1	Filename	221
4.1.2.16.2	Expected cadence and data volume	221
4.1.2.16.3	Global Attributes	222
4.1.2.16.4	zVariables	225
4.1.2.16.5	Variable attributes	225
4.1.2.16.6	Non-Record-Variant (NRV) Variables	237
4.1.2.17	SOLO_L1_RPW-LFR-SURV-BP1 data product	237
4.1.2.17.1	Filename	238
4.1.2.17.2	Expected cadence and data volume	238
4.1.2.17.3	Global Attributes	238
4.1.2.17.4	zVariables	241
4.1.2.17.5	Variable attributes	242
4.1.2.17.6	Non-Record-Variant (NRV) Variables	257
4.1.2.18	SOLO_L1_RPW-LFR-SURV-BP2 data product	257
4.1.2.18.1	Filename	258
4.1.2.18.2	Expected cadence and data volume	258
4.1.2.18.3	Global Attributes	258
4.1.2.18.4	zVariables	261
4.1.2.18.5	Variable attributes	262
4.1.2.18.6	Non-Record-Variant (NRV) Variables	274
4.1.2.19	SOLO_L1_RPW-LFR-SURV-CWF data product	274
4.1.2.19.1	Filename	275
4.1.2.19.2	Expected cadence and data volume	275
4.1.2.19.3	Global Attributes	275
4.1.2.19.4	zVariables	278
4.1.2.19.5	Variable attributes	278
4.1.2.19.6	Non-Record-Variant (NRV) Variables	291
4.1.2.20	SOLO_L1_RPW-LFR-SURV-SWF data product	291
4.1.2.20.1	Filename	291



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03

Date: March 11, 2021

Page: **vi**

4.1.2.20.2	Expected cadence and data volume	291
4.1.2.20.3	Global Attributes	291
4.1.2.20.4	zVariables	294
4.1.2.20.5	Variable attributes	295
4.1.2.20.6	Non-Record-Variant (NRV) Variables	307
4.1.2.21	SOLO_L1_RPW-LFR-SBM1-CWF data product	307
4.1.2.21.1	Filename	308
4.1.2.21.2	Expected cadence and data volume	308
4.1.2.21.3	Global Attributes	308
4.1.2.21.4	zVariables	311
4.1.2.21.5	Variable attributes	311
4.1.2.21.6	Non-Record-Variant (NRV) Variables	322
4.1.2.22	SOLO_L1_RPW-LFR-SBM1-BP1 data product	323
4.1.2.22.1	Filename	323
4.1.2.22.2	Expected cadence and data volume	323
4.1.2.22.3	Global Attributes	323
4.1.2.22.4	zVariables	326
4.1.2.22.5	Variable attributes	327
4.1.2.22.6	Non-Record-Variant (NRV) Variables	341
4.1.2.23	SOLO_L1_RPW-LFR-SBM1-BP2 data product	342
4.1.2.23.1	Filename	342
4.1.2.23.2	Expected cadence and data volume	342
4.1.2.23.3	Global Attributes	342
4.1.2.23.4	zVariables	346
4.1.2.23.5	Variable attributes	346
4.1.2.23.6	Non-Record-Variant (NRV) Variables	358
4.1.2.24	SOLO_L1_RPW-LFR-SBM2-CWF data product	358
4.1.2.24.1	Filename	358
4.1.2.24.2	Expected cadence and data volume	358
4.1.2.24.3	Global Attributes	358
4.1.2.24.4	zVariables	361
4.1.2.24.5	Variable attributes	362
4.1.2.24.6	Non-Record-Variant (NRV) Variables	372
4.1.2.25	SOLO_L1_RPW-LFR-SBM2-BP1 data product	373
4.1.2.25.1	Filename	373
4.1.2.25.2	Expected cadence and data volume	373
4.1.2.25.3	Global Attributes	373
4.1.2.25.4	zVariables	376
4.1.2.25.5	Variable attributes	377
4.1.2.25.6	Non-Record-Variant (NRV) Variables	392
4.1.2.26	SOLO_L1_RPW-LFR-SBM2-BP2 data product	392
4.1.2.26.1	Filename	392
4.1.2.26.2	Expected cadence and data volume	393
4.1.2.26.3	Global Attributes	393
4.1.2.26.4	zVariables	396



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03

Date: March 11, 2021

Page: **vii**

4.1.2.26.5	Variable attributes	397
4.1.2.26.6	Non-Record-Variant (NRV) Variables	408
4.1.2.27	SOLO_L1_RPW-BIA-SWEEP data product	408
4.1.2.27.1	Filename	409
4.1.2.27.2	Expected cadence and data volume	409
4.1.2.27.3	Global Attributes	409
4.1.2.27.4	zVariables	412
4.1.2.27.5	Variable attributes	412
4.1.2.27.6	Non-Record-Variant (NRV) Variables	427
4.1.2.28	SOLO_L1_RPW-BIA-CURRENT data product	427
4.1.2.28.1	Filename	427
4.1.2.28.2	Expected cadence and data volume	427
4.1.2.28.3	Global Attributes	427
4.1.2.28.4	zVariables	430
4.1.2.28.5	Variable attributes	430
4.1.2.28.6	Non-Record-Variant (NRV) Variables	432
4.1.3	L2 - Science data products	432
4.1.3.1	RPW L2 data product common description	433
4.1.3.1.1	RPW L2 data product format	433
4.1.3.1.2	RPW L2 data product metadata	433
4.1.3.2	SOLO_L2_RPW-TNR-SURV data product	435
4.1.3.2.1	Filename	435
4.1.3.2.2	Expected cadence and data volume	435
4.1.3.2.3	Global Attributes	435
4.1.3.2.4	zVariables	438
4.1.3.2.5	Variable attributes	439
4.1.3.2.6	Non-Record-Variant (NRV) Variables	454
4.1.3.3	SOLO_L2_RPW-HFR-SURV data product	461
4.1.3.3.1	Filename	462
4.1.3.3.2	Expected cadence and data volume	462
4.1.3.3.3	Global Attributes	462
4.1.3.3.4	zVariables	465
4.1.3.3.5	Variable attributes	465
4.1.3.3.6	Non-Record-Variant (NRV) Variables	478
4.1.3.4	SOLO_L2_RPW-TDS-SURV-RSWF-E data product	478
4.1.3.4.1	Filename	479
4.1.3.4.2	Expected cadence and data volume	479
4.1.3.4.3	Global Attributes	479
4.1.3.4.4	zVariables	483
4.1.3.4.5	Variable attributes	483
4.1.3.4.6	Non-Record-Variant (NRV) Variables	493
4.1.3.5	SOLO_L2_RPW-TDS-SURV-RSWF-B data product	493
4.1.3.5.1	Filename	494
4.1.3.5.2	Expected cadence and data volume	494
4.1.3.5.3	Global Attributes	494



**RPW Data Product
Description Document**

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03

Date: March 11, 2021

Page: **viii**

4.1.3.5.4	zVariables	497
4.1.3.5.5	Variable attributes	498
4.1.3.5.6	Non-Record-Variant (NRV) Variables	502
4.1.3.6	SOLO_L2_RPW-TDS-SURV-TSWF-E data product	502
4.1.3.6.1	Filename	502
4.1.3.6.2	Expected cadence and data volume	502
4.1.3.6.3	Global Attributes	502
4.1.3.6.4	zVariables	506
4.1.3.6.5	Variable attributes	507
4.1.3.6.6	Non-Record-Variant (NRV) Variables	517
4.1.3.7	SOLO_L2_RPW-TDS-SURV-TSWF-B data product	517
4.1.3.7.1	Filename	518
4.1.3.7.2	Expected cadence and data volume	518
4.1.3.7.3	Global Attributes	518
4.1.3.7.4	zVariables	521
4.1.3.7.5	Variable attributes	521
4.1.3.7.6	Non-Record-Variant (NRV) Variables	526
4.1.3.8	SOLO_L2_RPW-TDS-SURV-HIST1D data product	526
4.1.3.8.1	Filename	526
4.1.3.8.2	Expected cadence and data volume	526
4.1.3.8.3	Global Attributes	526
4.1.3.8.4	zVariables	530
4.1.3.8.5	Variable attributes	530
4.1.3.8.6	Non-Record-Variant (NRV) Variables	538
4.1.3.9	SOLO_L2_RPW-TDS-SURV-HIST2D data product	539
4.1.3.9.1	Filename	539
4.1.3.9.2	Expected cadence and data volume	539
4.1.3.9.3	Global Attributes	539
4.1.3.9.4	zVariables	543
4.1.3.9.5	Variable attributes	543
4.1.3.9.6	Non-Record-Variant (NRV) Variables	552
4.1.3.10	SOLO_L2_RPW-TDS-SURV-STAT data product	552
4.1.3.10.1	Filename	552
4.1.3.10.2	Expected cadence and data volume	552
4.1.3.10.3	Global Attributes	552
4.1.3.10.4	zVariables	556
4.1.3.10.5	Variable attributes	557
4.1.3.10.6	Non-Record-Variant (NRV) Variables	568
4.1.3.11	SOLO_L2_RPW-TDS-SURV-MAMP data product	568
4.1.3.11.1	Filename	568
4.1.3.11.2	Expected cadence and data volume	568
4.1.3.11.3	Global Attributes	569
4.1.3.11.4	zVariables	572
4.1.3.11.5	Variable attributes	572
4.1.3.11.6	Non-Record-Variant (NRV) Variables	580



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03

Date: March 11, 2021

Page: **ix**

4.1.3.12	SOLO_L2_RPW-TDS-LFM-RSWF-E data product	580
4.1.3.12.1	Filename	580
4.1.3.12.2	Expected cadence and data volume	580
4.1.3.12.3	Global Attributes	581
4.1.3.12.4	zVariables	584
4.1.3.12.5	Variable attributes	584
4.1.3.12.6	Non-Record-Variant (NRV) Variables	591
4.1.3.13	SOLO_L2_RPW-TDS-LFM-RSWF-B data product	591
4.1.3.13.1	Filename	591
4.1.3.13.2	Expected cadence and data volume	592
4.1.3.13.3	Global Attributes	592
4.1.3.13.4	zVariables	595
4.1.3.13.5	Variable attributes	596
4.1.3.13.6	Non-Record-Variant (NRV) Variables	601
4.1.3.14	SOLO_L2_RPW-TDS-LFM-CWF-E data product	601
4.1.3.14.1	Filename	601
4.1.3.14.2	Expected cadence and data volume	601
4.1.3.14.3	Global Attributes	601
4.1.3.14.4	zVariables	605
4.1.3.14.5	Variable attributes	605
4.1.3.14.6	Non-Record-Variant (NRV) Variables	612
4.1.3.15	SOLO_L2_RPW-TDS-LFM-CWF-B data product	612
4.1.3.15.1	Filename	612
4.1.3.15.2	Expected cadence and data volume	612
4.1.3.15.3	Global Attributes	612
4.1.3.15.4	zVariables	616
4.1.3.15.5	Variable attributes	616
4.1.3.15.6	Non-Record-Variant (NRV) Variables	620
4.1.3.16	SOLO_L2_RPW-TDS-LFM-PSDSM data product	620
4.1.3.16.1	Filename	621
4.1.3.16.2	Expected cadence and data volume	621
4.1.3.16.3	Global Attributes	621
4.1.3.16.4	zVariables	624
4.1.3.16.5	Variable attributes	625
4.1.3.16.6	Non-Record-Variant (NRV) Variables	634
4.1.3.17	SOLO_L2_RPW-TDS-SBM1-RSWF-E data product	634
4.1.3.17.1	Filename	635
4.1.3.17.2	Expected cadence and data volume	635
4.1.3.17.3	Global Attributes	635
4.1.3.17.4	zVariables	639
4.1.3.17.5	Variable attributes	639
4.1.3.17.6	Non-Record-Variant (NRV) Variables	649
4.1.3.18	SOLO_L2_RPW-TDS-SBM1-RSWF-B data product	649
4.1.3.18.1	Filename	650
4.1.3.18.2	Expected cadence and data volume	650



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03

Date: March 11, 2021

Page: **x**

4.1.3.18.3	Global Attributes	650
4.1.3.18.4	zVariables	653
4.1.3.18.5	Variable attributes	654
4.1.3.18.6	Non-Record-Variant (NRV) Variables	658
4.1.3.19	SOLO_L2_RPW-TDS-SBM2-TSWF-E data product	658
4.1.3.19.1	Filename	658
4.1.3.19.2	Expected cadence and data volume	658
4.1.3.19.3	Global Attributes	658
4.1.3.19.4	zVariables	663
4.1.3.19.5	Variable attributes	663
4.1.3.19.6	Non-Record-Variant (NRV) Variables	674
4.1.3.20	SOLO_L2_RPW-TDS-SBM2-TSWF-B data product	674
4.1.3.20.1	Filename	675
4.1.3.20.2	Expected cadence and data volume	675
4.1.3.20.3	Global Attributes	675
4.1.3.20.4	zVariables	678
4.1.3.20.5	Variable attributes	679
4.1.3.20.6	Non-Record-Variant (NRV) Variables	683
4.1.3.21	SOLO_L2_RPW-LFR-SURV-ASM data product	683
4.1.3.21.1	Filename	683
4.1.3.21.2	Expected cadence and data volume	683
4.1.3.21.3	Global Attributes	683
4.1.3.21.4	zVariables	686
4.1.3.21.5	Variable attributes	687
4.1.3.21.6	Non-Record-Variant (NRV) Variables	705
4.1.3.22	SOLO_L2_RPW-LFR-SURV-BP1 data product	705
4.1.3.22.1	Filename	705
4.1.3.22.2	Expected cadence and data volume	705
4.1.3.22.3	Global Attributes	705
4.1.3.22.4	zVariables	708
4.1.3.22.5	Variable attributes	710
4.1.3.22.6	Non-Record-Variant (NRV) Variables	744
4.1.3.23	SOLO_L2_RPW-LFR-SURV-BP2 data product	744
4.1.3.23.1	Filename	745
4.1.3.23.2	Expected cadence and data volume	745
4.1.3.23.3	Global Attributes	745
4.1.3.23.4	zVariables	748
4.1.3.23.5	Variable attributes	749
4.1.3.23.6	Non-Record-Variant (NRV) Variables	769
4.1.3.24	SOLO_L2_RPW-LFR-SURV-CWF-E data product	769
4.1.3.24.1	Filename	769
4.1.3.24.2	Expected cadence and data volume	769
4.1.3.24.3	Global Attributes	769
4.1.3.24.4	zVariables	773
4.1.3.24.5	Variable attributes	773



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03

Date: March 11, 2021

Page: **xi**

4.1.3.24.6	Non-Record-Variant (NRV) Variables	780
4.1.3.25	SOLO_L2_RPW-LFR-SURV-CWF-B data product	780
4.1.3.25.1	Filename	781
4.1.3.25.2	Expected cadence and data volume	781
4.1.3.25.3	Global Attributes	781
4.1.3.25.4	zVariables	784
4.1.3.25.5	Variable attributes	785
4.1.3.25.6	Non-Record-Variant (NRV) Variables	789
4.1.3.26	SOLO_L2_RPW-LFR-SURV-SWF-E data product	789
4.1.3.26.1	Filename	790
4.1.3.26.2	Expected cadence and data volume	790
4.1.3.26.3	Global Attributes	790
4.1.3.26.4	zVariables	793
4.1.3.26.5	Variable attributes	794
4.1.3.26.6	Non-Record-Variant (NRV) Variables	801
4.1.3.27	SOLO_L2_RPW-LFR-SURV-SWF-B data product	801
4.1.3.27.1	Filename	801
4.1.3.27.2	Expected cadence and data volume	801
4.1.3.27.3	Global Attributes	801
4.1.3.27.4	zVariables	805
4.1.3.27.5	Variable attributes	805
4.1.3.27.6	Non-Record-Variant (NRV) Variables	810
4.1.3.28	SOLO_L2_RPW-LFR-SBM1-CWF-E data product	810
4.1.3.28.1	Filename	810
4.1.3.28.2	Expected cadence and data volume	810
4.1.3.28.3	Global Attributes	810
4.1.3.28.4	zVariables	814
4.1.3.28.5	Variable attributes	814
4.1.3.28.6	Non-Record-Variant (NRV) Variables	821
4.1.3.29	SOLO_L2_RPW-LFR-SBM1-CWF-B data product	821
4.1.3.29.1	Filename	822
4.1.3.29.2	Expected cadence and data volume	822
4.1.3.29.3	Global Attributes	822
4.1.3.29.4	zVariables	825
4.1.3.29.5	Variable attributes	826
4.1.3.29.6	Non-Record-Variant (NRV) Variables	830
4.1.3.30	SOLO_L2_RPW-LFR-SBM1-BP1 data product	830
4.1.3.30.1	Filename	830
4.1.3.30.2	Expected cadence and data volume	830
4.1.3.30.3	Global Attributes	830
4.1.3.30.4	zVariables	834
4.1.3.30.5	Variable attributes	834
4.1.3.30.6	Non-Record-Variant (NRV) Variables	847
4.1.3.31	SOLO_L2_RPW-LFR-SBM1-BP2 data product	847
4.1.3.31.1	Filename	847



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03

Date: March 11, 2021

Page: **xii**

4.1.3.31.2	Expected cadence and data volume	847
4.1.3.31.3	Global Attributes	848
4.1.3.31.4	zVariables	851
4.1.3.31.5	Variable attributes	851
4.1.3.31.6	Non-Record-Variant (NRV) Variables	861
4.1.3.32	SOLO_L2_RPW-LFR-SBM2-CWF-E data product	861
4.1.3.32.1	Filename	861
4.1.3.32.2	Expected cadence and data volume	861
4.1.3.32.3	Global Attributes	862
4.1.3.32.4	zVariables	865
4.1.3.32.5	Variable attributes	865
4.1.3.32.6	Non-Record-Variant (NRV) Variables	873
4.1.3.33	SOLO_L2_RPW-LFR-SBM2-CWF-B data product	873
4.1.3.33.1	Filename	873
4.1.3.33.2	Expected cadence and data volume	873
4.1.3.33.3	Global Attributes	873
4.1.3.33.4	zVariables	877
4.1.3.33.5	Variable attributes	877
4.1.3.33.6	Non-Record-Variant (NRV) Variables	881
4.1.3.34	SOLO_L2_RPW-LFR-SBM2-BP1 data product	881
4.1.3.34.1	Filename	882
4.1.3.34.2	Expected cadence and data volume	882
4.1.3.34.3	Global Attributes	882
4.1.3.34.4	zVariables	885
4.1.3.34.5	Variable attributes	886
4.1.3.34.6	Non-Record-Variant (NRV) Variables	904
4.1.3.35	SOLO_L2_RPW-LFR-SBM2-BP2 data product	904
4.1.3.35.1	Filename	905
4.1.3.35.2	Expected cadence and data volume	905
4.1.3.35.3	Global Attributes	905
4.1.3.35.4	zVariables	908
4.1.3.35.5	Variable attributes	908
4.1.3.35.6	Non-Record-Variant (NRV) Variables	921
4.1.4	L3 - Higher level data products	921
4.1.4.1	RPW L3 data product common description	921
4.1.4.1.1	RPW L3 data product format	921
4.1.4.1.2	RPW L3 data product metadata	922
4.1.4.2	SOLO_L3_RPW-TNR-FP data product	922
4.1.4.2.1	Filename	922
4.1.4.2.2	Expected cadence and data volume	922
4.1.4.2.3	Global Attributes	922
4.1.4.2.4	zVariables	924
4.1.4.2.5	Variable attributes	925
4.1.4.2.6	Non-Record-Variant (NRV) Variables	927
4.1.4.3	SOLO_L3_RPW-BIA-SCPOT data product	927



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**


Issue
01

Revision
03

Date: March 11, 2021

Page: **xiii**


4.1.4.3.1	Filename	928
4.1.4.3.2	Expected cadence and data volume	928
4.1.4.3.3	Global Attributes	928
4.1.4.3.4	zVariables	930
4.1.4.3.5	Variable attributes	931
4.1.4.3.6	Non-Record-Variant (NRV) Variables	934
4.1.4.4	SOLO_L3_RPW-BIA-SCPOT-10-SECONDS data product	934
4.1.4.4.1	Filename	935
4.1.4.4.2	Expected cadence and data volume	935
4.1.4.4.3	Global Attributes	935
4.1.4.4.4	zVariables	938
4.1.4.4.5	Variable attributes	938
4.1.4.4.6	Non-Record-Variant (NRV) Variables	943
4.1.4.5	SOLO_L3_RPW-BIA-EFIELD data product	943
4.1.4.5.1	Filename	943
4.1.4.5.2	Expected cadence and data volume	943
4.1.4.5.3	Global Attributes	943
4.1.4.5.4	zVariables	946
4.1.4.5.5	Variable attributes	946
4.1.4.5.6	Non-Record-Variant (NRV) Variables	949
4.1.4.6	SOLO_L3_RPW-BIA-EFIELD-10-SECONDS data product	949
4.1.4.6.1	Filename	950
4.1.4.6.2	Expected cadence and data volume	950
4.1.4.6.3	Global Attributes	950
4.1.4.6.4	zVariables	953
4.1.4.6.5	Variable attributes	953
4.1.4.6.6	Non-Record-Variant (NRV) Variables	957
4.1.4.7	SOLO_L3_RPW-BIA-DENSITY data product	957
4.1.4.7.1	Filename	957
4.1.4.7.2	Expected cadence and data volume	957
4.1.4.7.3	Global Attributes	958
4.1.4.7.4	zVariables	960
4.1.4.7.5	Variable attributes	960
4.1.4.7.6	Non-Record-Variant (NRV) Variables	963
4.1.4.8	SOLO_L3_RPW-BIA-DENSITY-10-SECONDS data product	963
4.1.4.8.1	Filename	964
4.1.4.8.2	Expected cadence and data volume	964
4.1.4.8.3	Global Attributes	964
4.1.4.8.4	zVariables	966
4.1.4.8.5	Variable attributes	967
4.1.4.8.6	Non-Record-Variant (NRV) Variables	971
4.1.5	CAL - Calibration data products	971
4.1.5.1	RPW CAL data product common description	971
4.1.5.1.1	RPW CAL data product format	971
4.1.5.1.2	RPW CAL data product metadata	971

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: xiv

4.1.5.2	SOLO_CAL_RPW-THR-HFR data product	971
4.1.5.2.1	Filename	972
4.1.5.3	SOLO_CAL_RPW-THR-TNR data product	972
4.1.5.3.1	Filename	972
4.1.5.4	SOLO_CAL_RPW-THR-TNRSA data product	972
4.1.5.4.1	Filename	972
4.1.5.5	SOLO_CAL_RPW-THR-ANT-HF_PARAMS data product	973
4.1.5.5.1	Filename	973
4.1.5.6	SOLO_CAL_RPW-TDS-LFM-CWF-B data product	973
4.1.5.6.1	Filename	973
4.1.5.7	SOLO_CAL_RPW-TDS-LFM-CWF-E data product	973
4.1.5.7.1	Filename	974
4.1.5.8	SOLO_CAL_RPW-TDS-LFM-RSWF-B data product	974
4.1.5.8.1	Filename	974
4.1.5.9	SOLO_CAL_RPW-TDS-LFM-RSWF-E data product	974
4.1.5.9.1	Filename	974
4.1.5.10	SOLO_CAL_RPW-TDS-SURV-MAMP data product	975
4.1.5.10.1	Filename	975
4.1.5.11	SOLO_CAL_RPW-TDS-SURV-STAT data product	975
4.1.5.11.1	Filename	975
4.1.5.12	SOLO_CAL_RPW-TDS-SURV-SWF-E data product	975
4.1.5.12.1	Filename	976
4.1.5.13	SOLO_CAL_RCT-LFR-VHF data product	976
4.1.5.13.1	Filename	976
4.1.5.14	SOLO_CAL_RCT-LFR-SCM data product	976
4.1.5.14.1	Filename	976
4.1.5.15	SOLO_CAL_RCT-LFR-BIAS data product	977
4.1.5.15.1	Filename	977
4.1.5.16	SOLO_CAL_RPW-SCM_SCM-FS-MEB-PFM data product	977
4.1.5.16.1	Filename	977
4.1.5.17	SOLO_CAL_RPW-BIA data product	977
4.1.5.17.1	Filename	978
4.1.6	ANC - Ancillary data products	978


5 APPENDIX - DATA PRODUCTS MATRIX 979

6 SAMPLE FILES 982


	<p style="text-align: center;">RPW Data Product Description Document</p>	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: xv

List of Figures

2.1	RPW operational modes	5
3.1	RPW measurement frequency allocation	8
3.2	RPW science data processing overview	11
4.1	Example of RPW L0 data file structure	18

	<p style="text-align: center;">RPW Data Product Description Document</p>	<p>Ref: ROC-PRO-DAT-NTT-00075-LES</p> <table><tr><td>Issue 01</td><td>Revision 03</td></tr><tr><td>Date: March 11, 2021</td><td>Page: xvi</td></tr></table>	Issue 01	Revision 03	Date: March 11, 2021	Page: xvi
Issue 01	Revision 03					
Date: March 11, 2021	Page: xvi					

List of Tables

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 1

1 INTRODUCTION

1.1 Purpose and Scope

This Data Product Definition Document (DPDD) describes the format and content of the Radio and Plasma Waves instrument (RPW) Science data. It includes descriptions of the data products and associated metadata, including the data format, content, and generation pipeline. These products will be stored and distributed from the Solar Orbiter Science Archive (SOAR) of the SOC. The specifications described in this DPDD apply to all RPW Science products submitted to ESA's Solar Orbiter SOC for further archival and exploitation. This document only includes descriptions of Science products delivered by the Science pipelines run at the RPW Team premises. It does not address the Low Latency data (see [RD.05]) since it will be described in [RD.01], [RD.02], [RD.03] and [RD.04].

1.2 Applicable Documents

[AD.01] SOL-SGS-TN-0009 Metadata Definition for Solar Orbiter Science

[AD.02] SOL-SGS-ICD-002 Data Producer to Archive ICD (DPAICD)

1.3 Reference Documents

[RD.01] SOL-SGS-ICD-0004 Solar Orbiter Interface Control Document for Low Latency CDF Files

[RD.02] SOL-SGS-OTH-0002 Dataset Description Document Template for Low Latency CDF Files

[RD.03] SOL-SGS-ICD-0005 Solar Orbiter Interface Control Document for Low Latency FITS Files

[RD.04] SOL-SGS-OTH-0003 Dataset Description Document Template for Low Latency FITS Files

[RD.05] SOL-SGS-TN-0003 Solar Orbiter Low Latency Data: Concept and Implementation

[RD.06] SOL-SGS-PL-0009 Solar Orbiter Archive Plan


[RD.07] SOLO-RPWSY-PT-1235-CNES RPW Instrument Calibration Pla

[RD.08] SOLO-RPW-TN-1989-CNES Calibration test Report

[RD.09] SOL-SGS-TN-0017 SOC-Provided Ancillary Data for Solar Orbiter

[RD.10] ROC-OPS-LLD-NTT-00028-LES Dataset Description Document for RPW Low Latency CDF Files

[RD.11] ROC-GEN-SCI-PLN-00077-LES RPW Data Validation and Verification Plan

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 2


[RD.12] ROC-TST-CAL-PRC-00031-LES THR Calibration Procedures

[RD.13] Panchenko et al., Calibration of the Solar Orbiter antennas by Rheometry and computer simulations, 2017 (Scientific Report on FFG/ASAP 11 project SOLOCAL, Projektnummer: 847978)

[RD.14] SO-SP-RPW-SC-0181-LPC2E Technical Specifications of the SCM Waveforms Calibration Software

1.4 Abbreviations and Acronyms

See “Acronym List” table at the beginning of the document.

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 3

2 RPW INSTRUMENT DESCRIPTION

2.1 Science Objective

RPW will make key measurements in support of the first three, out of four top-level scientific questions, which drive Solar Orbiter overall science objectives:

- How and where do the solar wind plasma and magnetic field originate in the corona?
- How do solar transients drive heliospheric variability?
- How do solar eruptions produce energetic particle radiation that fills the heliosphere?
- How does the solar dynamo work and drive connections between the Sun and the heliosphere?

Here is the summary of the specific RPW Science Objectives.

Solar & Interplanetary Radio Burst

- What is the role of shocks and flares in accelerating particles near the Sun?
- How is the Sun connected magnetically to the interplanetary medium?
- What are the sources and the global dynamics of eruptive events?
- What is the role of ambient medium conditions on particle acceleration and propagation?
- How do variations and structure in the solar wind affect low frequency radio wave propagation?

Electron density & temperature measurements with the Quasi-Thermal Noise spectroscopy


- Precise measurement of both the electron density and temperature, with accuracies respectively of a few % and around 10 %, at perihelion.
- Study the non-thermal character of the electron distributions at perihelion.

Radio emission processes from electron beams: Langmuir waves and electromagnetic mode conversion

- Measurements for the first time in the Solar Wind of both the electric and magnetic field waveforms at high time resolution (up to 500 kSs).
- Study of the mode conversion from Langmuir to electromagnetic waves.
- Study of the energy balance between electron beams, Langmuir waves and e.m. radio waves at several radial distances

Solar wind microphysics and turbulence

- Measure of the waves associated with the plasma instabilities that are generated by temperature anisotropies in the solar wind.

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 4


- First DC/LF electric field measurements in the inner heliosphere and over a large radial distance in the solar.

Shocks, Reconnection, Current Sheets, and Magnetic Holes

- Identification & study of the reconnection process in current sheets with thickness down to the ion scales and smaller.
- Determination of the interplanetary shock structure down to the spatial and temporal scales comparable and smaller than the typical ion scales.
- Determination of different particle energisation mechanisms within shocks and reconnection regions.
- Distinguish different radio burst generation mechanisms. Interplanetary Dust
- Determination, in combination with the EPD instrument, the spatial distribution, mass and dynamics of dust particles in the near-Sun heliosphere, in and out of the ecliptic.

To cover its specific Science Objectives, RPW will measure magnetic and electric fields at high time resolution using a number of sensors, to determine the characteristics of electromagnetic and electrostatic waves in the solar wind. More precisely, RPW will:

- Make the first-ever high accuracy, high-sensitivity and low noise measurements of electric fields at low frequencies (below ~1 kHz) in the inner Heliosphere.
- Measure the magnetic and electric fields of the solar wind turbulence with high sensitivity and dynamic range along the spacecraft trajectory.
- Store high-resolution data from scientifically interesting regions such as in-situ shock crossings, in-situ Type III events and others.
- Measure the satellite potential with high temporal resolution permitting to estimate the density fluctuations in the solar wind and allowing higher accuracy particle instrument measurements.
- Measure the quasi thermal noise and Langmuir waves around the local plasma frequency
- Measure for the first time the high frequency magnetic counterpart of Langmuir waves associated with in-situ Type III bursts
- Observe the solar and interplanetary radio burst
- Observe the radio counterpart of dust particle impacts
- Detect on-board in-situ shock crossings and store the corresponding data
- Detect on-board in-situ Type III events and store the corresponding data

	<h2 style="margin: 0;">RPW Data Product Description Document</h2>	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 5

2.2 Operational Modes

Figure below gives the RPW operational modes, which are managed by the Data Processing Unit (DPU).

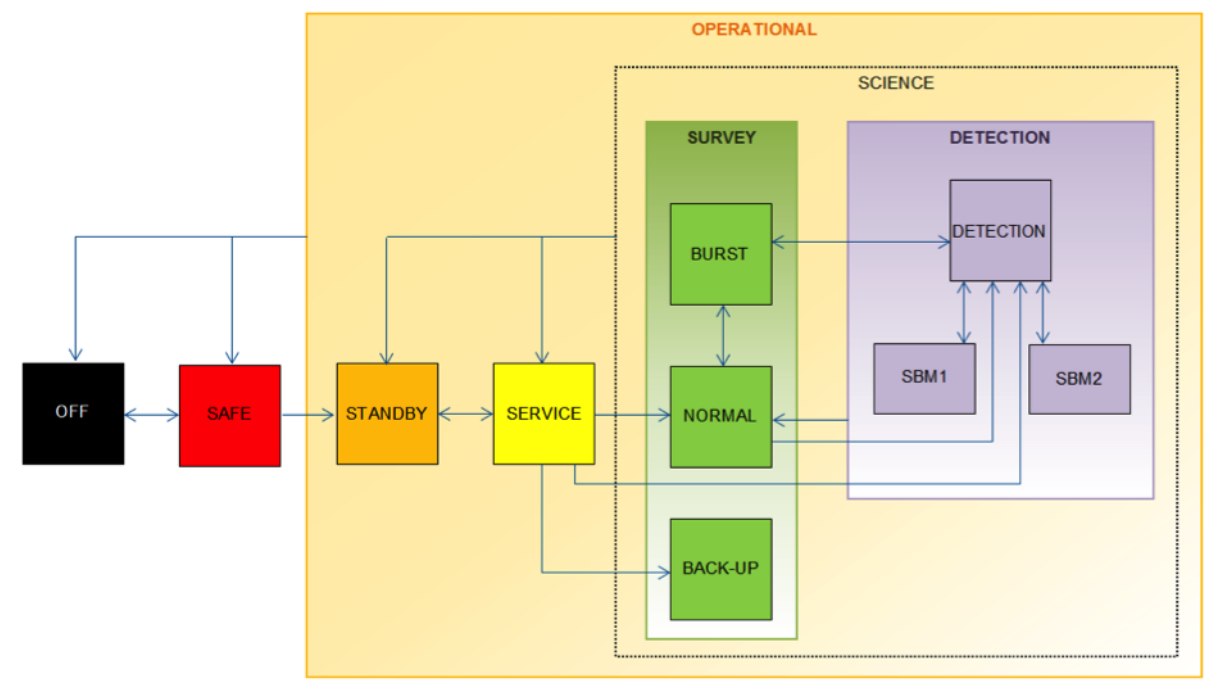



Fig. 2.1: RPW operational modes

Especially, the DPU shall manage the following modes:

- A “SAFE” mode: RPW is electrically powered by the spacecraft and initializes its DPU Boot Software (DBS). Only Housekeeping (HK) telemetry (TM) is emitted.
- A “STANDBY” mode: When the DPU Application Software (DAS) is started by the DBS upon reception of a telecommand (TC), RPW enters in the STANDBY mode. In this mode, only the DPU and the Power Distribution Unit (PDU) are switched on. RPW waits for a TC to go in the SERVICE mode.
- A “SERVICE” mode: In this mode, RPW switches on all the analyser boards, checks the analyser software integrity before booting them, performs maintenance operations if needed and configures the software and hardware parameters of each analyser. RPW switches ON the Search Coil Magnetometer (SCM) and the Antenna preamplifiers. RPW waits for a TC to go in the science modes
- A “SCIENCE” mode: where the instrument performs scientific measurements and generates related TM packets, including Low Latency.

In the SCIENCE mode, RPW will have capability to run into basically three different sub-modes:

- A “SURVEY_NORMAL” sub-mode, where the science data acquisition is performed continuously in the normal cadence

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 6

- A “SURVEY_BURST” mode, where the science data acquisition is performed continuously in a high cadence
- A “SBM_DETECTION” mode where, in parallel to the normal cadence data acquisition, in-situ shocks and Langmuir Waves (LW) events are automatically detected and measured at higher cadence, via dedicated “SBM1” and “SBM2” sub-modes respectively.

The “SURVEY_NORMAL” mode is a nominal cadence mode that will basically run all the time along the orbit, except during time when the “SURVEY_BURST” mode will operate. The “SURVEY_NORMAL” mode is intended to provide all the data for synoptic survey of the plasma conditions in the heliosphere.

The “SURVEY_BURST” mode is a high cadence mode that will be operated by command.

The “SBM_DETECTION” mode will run simultaneously with the normal cadence data flow, and fill internal (circular or no) buffers in order to enable the RPW DPU to perform the selection of in-situ shocks and LW events. The existence of “SBM_DETECTION” mode involves therefore that two data flows, one at “normal” cadence, the other one at higher cadence, are continuously recorded by the sub-systems and transmitted to the DPU. The telemetry (TM) data of in-situ shocks and LW events detected by RPW are saved in a dedicated packet store of the Solar Orbiter Solid State Mass Memory (SSMM). The selection of SBM event data to downlink is triggered from ground by command.

2.3 Calibration

2.3.1 On-Ground Calibration

The instrument on-ground calibration is described in the RPW Instrument Calibration Plan [RD.07]. Results are presented in the Calibration test Report [RD.08].


2.3.2 In-Flight Calibration

2.3.2.1 LFR receiver calibration

TDS

2.3.2.2 TDS receiver calibration

TDS

	<p>RPW Data Product Description Document</p>	<p>Ref: ROC-PRO-DAT-NTT-00075-LES</p> <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">Issue 01</td> <td style="width: 50%;">Revision 03</td> </tr> <tr> <td>Date: March 11, 2021</td> <td>Page: 7</td> </tr> </table>	Issue 01	Revision 03	Date: March 11, 2021	Page: 7
Issue 01	Revision 03					
Date: March 11, 2021	Page: 7					

2.3.2.3 TNR-HFR receiver calibration

The calibration methods for TNR-HFR receiver are presented in [RD.12].

2.3.2.4 Electrical antenna sensor calibration (LF part)

TBW


2.3.2.5 Electrical antenna sensor calibration (HF part)

In the case of TDS, to obtain L2 field values, the coefficients from [RD.13] are applied.

2.3.2.6 SCM sensor calibration

The SCM sensor is based on the Faraday's law of induction and therefore converts magnetic field variations in voltage variations. The response of the sensor to a varying magnetic field at various frequency has been measured on ground and is used to retrieve the magnetic field variations in nT in space. The variation of the sensor's response can be monitored in flight.

The calibration method is presented in the section 7 of [RD.14]

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 8

3 DATA GENERATION AND ANALYSIS PROCESS

The RPW science products are produced by the RPW Instrument Team. The data generation and analysis process is described in this section. Science data received by the SOC from the RPW team are made available to end users through the Solar Orbiter archive following the policies described in the Archiving Plan [RD.06]. The procedure for delivery of the Science data from the RPW Instrument Team to the SOC must be fully compliant with the IT-SOC Science Data Delivery ICD (TBW) [AD.02].

3.1 Scientific Measurements

3.1.1 Overview

To meet the science objectives defined above, the RPW instrument has to consist of a sophisticated plasma/radio wave receiver system connected to high sensitivity electric and magnetic sensors. Since the receiver system covers a very wide frequency range (quasi-DC to 20 MHz for electric, and 0.1 Hz to 500 kHz for magnetic), different kinds of sensors are used for the measurements.

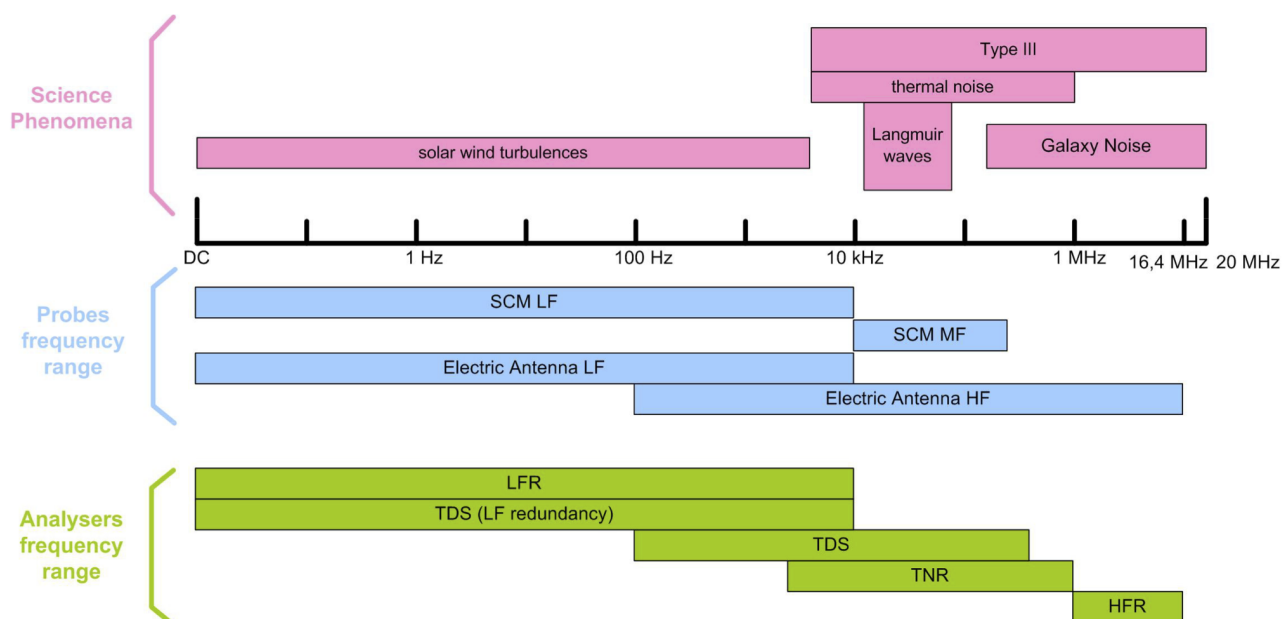



Fig. 3.1: RPW measurement frequency allocation

The electric antenna (ANT), consisting on a set of three monopoles and the magnetic search coil unit (SCM) are designed to perform correctly for quasi-DC as well as for high frequency measurements. In

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 9

particular, ANT design is optimised to satisfy the goal of measuring both the quasi-DC/low frequency electric fields and higher frequency radio and thermal noise emissions.


A biasing unit (BIAS) will allow DC electric measurements. The three TDS, LFR and TNR- HFR sub-systems correspond to the core of the receiver system by covering both waveform data and power spectral densities. TDS, LFR and TNR-HFR are connected to a common DPU that will handle commands, data and communication with S/C.

3.1.2 LFR measurements

The science objective of LFR is the study of the electromagnetic wave activity in the extended corona and the solar wind, from a fraction of a Hertz to about 10 kHz, which should cover the electron gyro-frequency and most of the Doppler-shifted frequencies of the low frequency plasma waves. The main waves to be observed in this frequency range are thus kinetic or inertial Alfvén waves, ion cyclotron waves, ion acoustic waves, and magnetosonic or whistler mode waves. Their characterization and the determination of their respective role in heating and accelerating the solar wind during its expansion is the main scientific issue addressed by LFR. Another important subject for LFR is the study of the low frequency plasma waves associated to solar wind disturbances, as for instance interplanetary shocks. Characterizing the low frequency waves in the solar wind involves the capability of the LFR to distinguish solitary waves from broadband wave activity, to cover turbulence and plasma instabilities, to identify the wave modes at work. Performing a multi-component analysis of the data is thus mandatory, using either a classical Fourier analysis or another treatment of the waveforms more appropriate to turbulence analysis. Given the limitations in the telemetry, it is necessary to implement specific techniques to take the maximum advantage of the data. The LFR is tailored to optimize the scientific return of the data. The LFR design gives the possibility of mixing different types of output data, from low-level processed data (waveform data) to high-level processed data (averaged spectral matrices and their derived parameters), with various data rate possibilities (continuous or cyclic transmission, adaptable frequency bandwidth as well as adaptable frequency and time resolutions). A number of predefined working modes will be defined, but it will also be possible to define other working modes in flight.

3.1.3 TDS measurements

The main scientific objective of TDS is the study of high frequency plasma waves and electric fields oscillations in the solar wind. The most important phenomenon observed in this frequency range are Langmuir waves associated with solar bursts, interplanetary shocks and other solar wind disturbances. These waves play a significant role in solar wind physics, being the source process of the solar radio emissions. The TDS is designed to study the detailed structure and dynamics of the waves and primarily the poorly understood process of conversion of electron beam energy to electromagnetic radiation via Langmuir waves. The target waves appear close (within 20%) to the local plasma frequency and the conversion to electromagnetic waves can occur both at the plasma frequency and at its first harmonic ($2 \cdot f_p$). The waves are typically narrow-band, strongly modulated and appear in bursts lasting from several milliseconds to about one second. Experience from previous experiments (e.g. Cluster, WIND and STEREO) has shown that due to short duration and rich structure, the waves are best studied using broadband waveform data. In particular:

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 10

- Multiple field components are required to study wave polarization
- Magnetic field measurements are needed to properly identify the EM radiation process
- Waveform snapshots need to be sufficiently long to capture an entire wave burst.

TDS will be designed to perform waveform measurements fulfilling these requirements, offering a range of configurable parameters to tune the instrument to a present region of solar wind and target process. Since the data volume associated with these measurements is enormous and Langmuir wave bursts are relatively rare and short, the on-board logic will attempt to identify snapshots containing potentially interesting measurements and only select these for downlink. Second science objective of the TDS instrument is the study of interplanetary dust by registering voltage spikes measured by spacecraft antenna in response to an impact of a dust particle on the spacecraft. Recent studies have shown that the amplitude and shape of the dust impact can be used to gather information about the size and energy of the impacting particle. Full waveform measurements are in general not necessary for this process. TDS on-board software will scan the data for dust impact signatures and collect statistics of their parameters.

3.1.4 TNR-HFR measurements

TNR-HFR is of prime importance for the RPW science objectives since it provides electric power spectral densities from 4 kHz up to 16MHz and magnetic power spectral densities from 10 kHz up to 500 kHz. Below is a brief overview of the TNR-HFR science objectives:

The TNR-HFR measures the Quasi-thermal Noise due to the motion of solar wind electrons around the electric antennas. The spectroscopy of this noise will provide electron properties such as their density and temperature. The TNR-HFR measures Langmuir-like waves that are frequently observed in the solar wind in association with supra-thermal electron beams produced by either solar flares or accelerated by interplanetary shocks.

The TNR-HFR measures and tracks the solar radio bursts due to particle acceleration and shock waves in the corona and inner heliosphere. By processing cross-correlations between two channels connected to different antennas, the TNR- HFR has direction-finding capabilities for tracking the solar radio bursts. Finally, TNR-HFR is also sensitive to dust impacts via the corresponding plasma cloud and pickup signal on the electric field antennas. Actually, TNR-HFR measures, in the spectral domain, the voltage induced when a dust grain impacting the S/C at high velocity is vaporized and ionized, producing a plasma cloud, which is partially recollected by the target.

3.2 Data flow overview

The RPW science data processing is performed by the RPW Operations Centre (ROC), which is located at the Laboratoire d'Etudes Spatiales et d'Instrumentation en Astrophysique (LESIA) in Meudon, France. Figure below gives an overview of the RPW data processing workflow.

The main steps are:

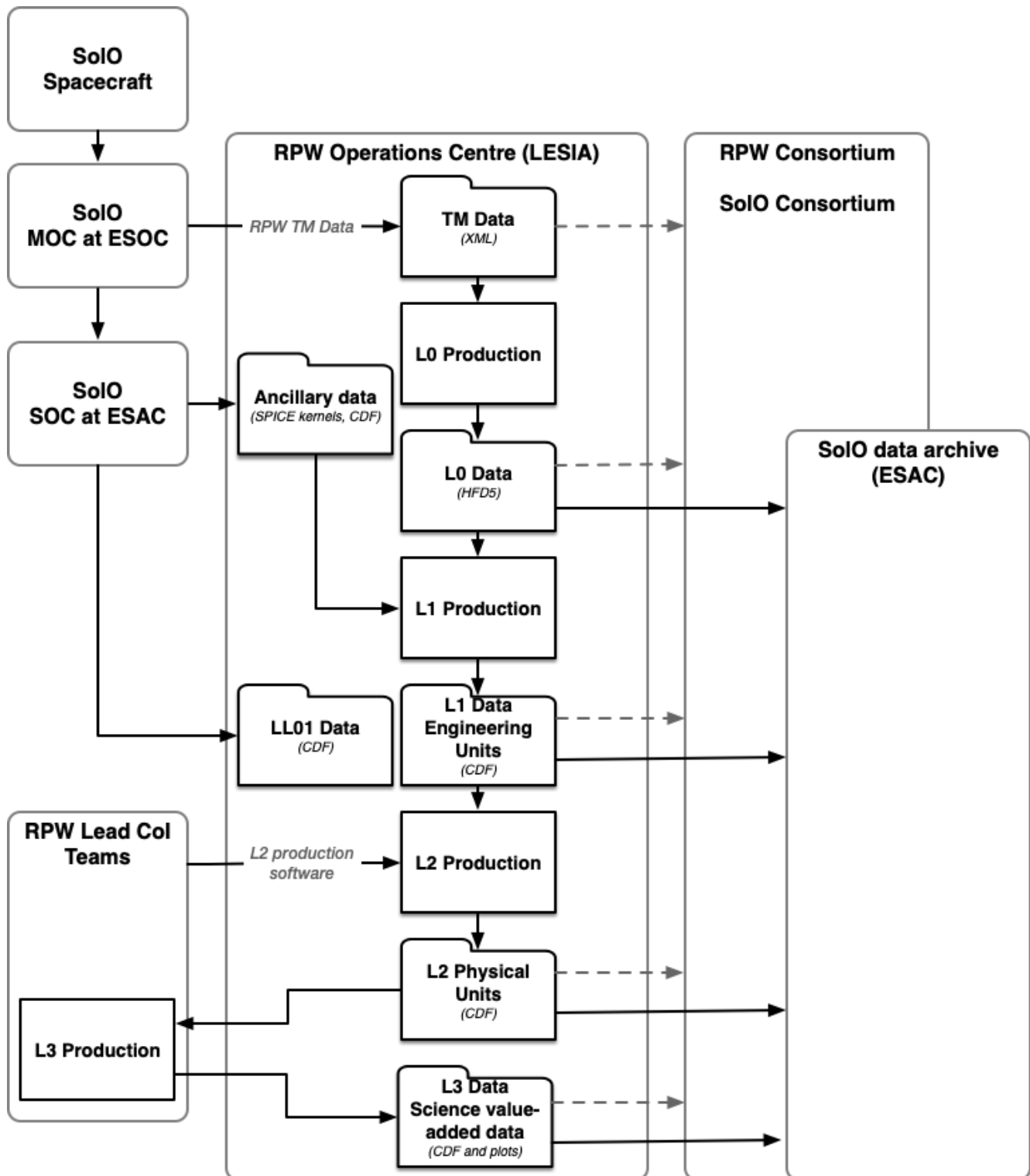



Fig. 3.2: RPW science data processing overview

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 12


1. RPW telemetry raw data available at the MOC are requested using EDDS system, as “TmRaw” XML files. In the same time the ROC retrieves: the latest mission ancillary data supplied by SOC, i.e., SPICE kernels and CDF “digest” files [RD.09], the RPW Low Latency data products [RD.10], and the RPW “TcReport” XML files from EDDS.
2. Received RPW “TmRaw” and “TcReport” EDDS XML files are parsed. New packet elements inside are extracted to be saved into daily “TmRaw” and “TcReport” XML files.
3. RPW L0 daily file in HDF5 format are generated from the parent daily “TmRaw” and “TcReport” XML files.
4. RPW L1 files in CDF are written from the parent L0 file. Some L1 files require to known TC parameters to be generated. Internal CDF files are also saved at this stage to store RPW HK data in engineering units.
5. RPW L2 files in CDF are written from the parent L1 files, ancillary and HK data. The generation of L2 CDF files is performed by the RPW Data Pipeline at ROC, but using the RPW calibration software (RCS) delivered by the RPW Lead CoI analyser/sensor teams.
6. Summary plots are generated by the ROC from parent L2 files. RPW L3 files are produced by the RPW Lead CoI teams, then delivered to the ROC.

Notes:

- All RPW L1/L2 data are written in daily files, except for in-situ shocks (SBM1) and Langmuir Waves (SBM2) selective data, where there is one CDF file per event. Additionally, the ROC will produce specific L1 data products for the Bias unit, i.e., 1 CDF file per Bias sweep and 1 CDF file every month containing the Biased intensity currents applied on each RPW electrical antenna.
- RPW L0, L1 and L2 preliminary files will be accessible to the RPW and Solar Orbiter teams within 24 hours after their production at ROC.
- RPW L2 CDAG files will be made available to CDAG members at ESAC after 30 days.
- RPW L0, L1, L2 and L3 definitive files will be made publicly available at SOAR after 90 days.
- The Low Latency data production and distribution are operated by SOC.
- At this stage, the ROC does not plan to produce specific ancillary data for RPW.

3.3 Data Generation

The following sections describe the process used to produce the data products described in section 4.

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 13

3.3.1 L0 - Raw Data

RPW Level 0 files (L0) contains RPW unpacked telemetry data in raw units. There is one L0 daily file generated by the RPW Data Pipeline in the HDF5 format.

The RPW TM data are unpacked using the RPW instrument database (IDB), which contains the instrument telemetry/command packet definitions. The operational version of the RPW IDB is delivered by the Solar Orbiter Mission Operation Centre (MOC) as a part of the Mission information Base (MIB).

The steps performed by the RPW Data Pipeline to produce a L0 daily file is:


1. Regularly check that new RPW TmRaw and TcReport daily XML files is available in the input directory
2. If new TmRaw and TcReport daily XML files are found, they are parsed and the telemetry data inside is extracted and analyzed packet by packet. The analysis leads to retrieve the raw value of each packet parameters, from packet header, data field header and source data parts. During the process any group repeater, i.e., loop, found in a packet is separated into blocks and stored as an array in the pipeline memory cache (but the content of each block is not analyzed at this step). The packet creation time in CUC format is also retrieved from packets and split into three unsigned integer variables containing the time coarse and fine parts as well as the time synchronization flag.
3. The resulting processed telemetry data is then sorted by packet name and creation time and saved into a L0 file as described in the section 4.1.1.1.3. Additionally, metadata are also written from information supplied by the pipeline.

3.3.2 L1 - Engineering data (uncalibrated)

RPW Level 1 files (L1) contains RPW science uncalibrated data in engineering units (TM units).

The overall process to produce L1 files is:

1. The RPW Data Pipeline checks for L0 file existence in its input directory. In the nominal case, the checking is automatically triggered each time a new L0 file is generated.
2. If a L0 file is found, the pipeline reads it and retrieves unpacked telemetry data inside.
3. Depending of the packets stored in the L0 file, the RPW Data Pipeline runs the production of the expected L1 files, using the corresponding CDF master files as templates; there is one CDF master per L1 file. Especially at this step:
 - The CDF Epoch time is computed and converted from On-Board Time (OBT) to UTC time using the SOC-provided spacecraft clock kernels
 - The QUALITY_BITMASK CDF zVariable is set from mission and instrument context data (RPW HK, E-FECS, ancillary data). N.B. QUALITY_BITMASK CDF zVariable is not properly written in the current file versions.

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 14

3.3.3 L2 - Science Data (calibrated)

RPW Level 2 files (L2) contains RPW science calibrated data in physical units (e.g., mV/Hz, W/m²/Hz, nT, etc.).

The overall process to produce L2 files is:

1. The RPW Data Pipeline checks for L1 files existence in its input directory. In the nominal case, the checking is automatically triggered each time new L1 files are generated.
2. If L1 files are provided, then the pipeline calls the RPW calibration software (RCS) in charge of the L2 data production. The RCS are delivered to the ROC by each analyzer (TDS, LFR, THR) and sensor (Bias, SCM) teams with the expected calibration table files (see section 4.1.5).
3. Resulting L2 files are automatically checked and moved to the target directory for distribution.

Table below gives the list of the RCS and the corresponding list of L2 data products generated.

3.3.4 L3 - Higher level data

TBW

3.3.5 CAL- Calibration data

Calibration data are saved by each RPW equipment team in CDF files.

3.3.6 ANC - Ancillary data


No ancillary data is produced for RPW.

3.4 Validation

The following sections describe the process by which the data products are validated.


3.4.1 Instrument Team Validation

The instrument team validation is described in the RPW Data Validation and Verification Plan (DVVP) [RD.11].

	<p style="text-align: center;">RPW Data Product Description Document</p>	Ref: ROC-PRO-DAT-NTT-00075-LES
Issue 01		Revision 03
Date: March 11, 2021		Page: 15

3.4.2 SOC Validation

The SOC will check the data types that the RPW team intends to archive. The SOC might also perform spot checks on contents of the files. The exact procedure in which this routine check will take place is still TBD

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 16

4 DATA PRODUCT DESCRIPTIONS

RPW data products are formatted in accordance with the [AD.01] document. This section provides details on the formats used for each of the products included in the RPW science data.

4.1 Primary Products Formats

The RPW instrument uses the CDF format(s) for its science data products, except for the L0 data that are saved in the HDF5 format. This section describes the format and record structure of each of the Science data file types.

The following information should be given for each of the data products:

- Product name
- Description
- Descriptor
- Free field
- Level
- Dataset dependencies (if any)
- Associated calibration set (if any)
- Expected cadence and dataset volume


The definitions of these attributes can be found in the Data Products and Filenames Confluence document ([AD.01], section 2.1)

The definitions below shall include all metadata contained in the product, both Solar Orbiter mandatory metadata [AD.01] and Instrument Specific metadata if any. A description of the data content organisation (as described in the aforementioned section of [AD.01]) shall be given as well.

4.1.1 L0 - Raw data products

4.1.1.1 SOLO_L0_RPW data product

The “SOLO_L0_RPW” data product contains RPW “raw” data. According to data processing level definition in [AD.01], the L0 data are the instrument TM unpacked and decompressed. The “SOLO_L0_RPW” data are written in HDF5 format files. There is a single file per day, generated from data in the corresponding RPW TmRaw and TcReport parent daily XML files.

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 17

4.1.1.1.1 Filename

```
solo_L0_rpw_[YYYYMMDD]_V[version].cdf
```

4.1.1.1.2 Expected cadence and data volume

Nominal cadence: One file per day


Expected data volume: 500 MB per file

4.1.1.1.3 File structure description

The RPW L0 files are used by the RPW Data Pipeline as intermediate products. The L0 file structure relies on the HDF5 concept - i.e., group, dataset, attribute - as illustrated in the figure below.

A RPW L0 file is composed of the following elements:

- */root*, the top-level HDF5 file group, which has the following attributes:
 - Dataset_ID, see “Dataset_ID” CDF global attribute definition in [AD.01].. It must be “SOLO_L0_RPW”.
 - Data_version, see “Data_version” CDF global attribute definition in [AD.01].
 - Datetime, datetime field in the file basename.
 - Descriptor, see “Descriptor” CDF global attribute definition in [AD.01]. It must be “RPW>Radio and Plasma Waves instrument”.
 - File_ID, unique ID of the file. It is generated by the RPW Data Pipeline at the file creation.
 - File_naming_convention, see “File_naming_convention” CDF global attribute definition in [AD.01].
 - Free_field, free_field field in the file basename. Should be empty.
 - Generation_date, see “Generation_date” CDF global attribute definition in [AD.01].
 - LEVEL, see “Source_name” CDF global attribute definition in [AD.01]. It must be “L0>Level 0 data processing”.
 - Logical_file_id, see “Logical_file_id” CDF global attribute definition in [AD.01].
 - Parents, basename of the parent files used to generated the L0 file.
 - Pipeline_name, name of the pipeline that produces the file.
 - Pipeline_version, version of the pipeline that produces the file.
 - Project, see “Project” CDF global attribute definition in [AD.01]

	<h2>RPW Data Product Description Document</h2>	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 18

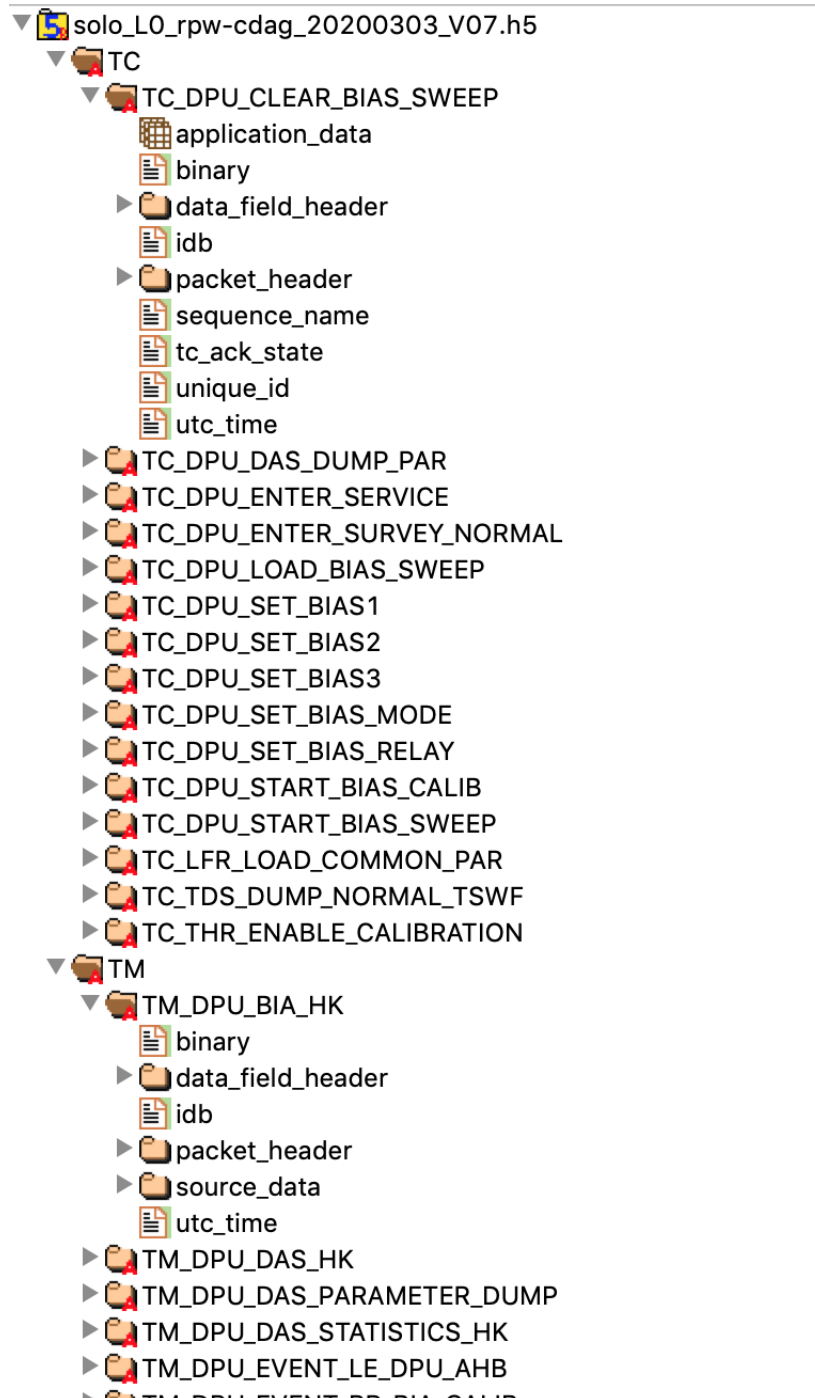



Fig. 4.1: Example of RPW L0 data file structure

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 19

- PROVIDER, name of the Institute providing the data
- Software_name, name of the pipeline plugin that produces the file.
- Software_version, version of the pipeline plugin that produces the file.
- Source_name, see “Source_name” CDF global attribute definition in [AD.01].
- SPICE_KERNELS, file basename of the SPICE SCLK kernel used to compute OBT to UTC times.
- TIME_MAX, Date file maximal date and time (UTC)
- TIME_MIN, Data file minimal date and time (UTC)

/root contains two groups named:


- */TM* group gathers the RPW telemetry packets generated on-board for the current day.
- */TC* group gathers the RPW command packets executed on-board for the current day. The TC data are required to generated some RPW L1 CDF files.

The */TM* group has the following elements:

- *COUNT*, a 64-bit integer attribute giving the total number of TM packets for the current day
- */[TM_PACKET]* groups containing RPW TM packet data. The groups are named using TM human-readable descriptions (e.g “TM_DPU_BIA_HK”, “TM_TDS_SCIENCE_LFM_CWF”, etc.).

Each */[TM_PACKET]* group contains:

- */packet_header*, a group storing the TM CCSDS PACKET_HEADER parameters as datasets:
 - */[Packet_header_parameter]*, are series of datasets classified by TM PACKET_HEADER parameter name (e.g., “CCSDS_VERSION_NUMBER”, “PACKET_TYPE”, etc.). There is one dataset per TM parameter, which contains an [n, m] array, where n is the number of *[TM_PACKET]* TM packets in the current file, and m is the number of *[Packet_data_field_header_parameter_#i]* parameter values for a given TM packet. In practice the PACKET_HEADER parameters have a single scalar value per TM packet (i.e., m=1).
- */data_field_header*, a group storing the TM CCSDS DATA_FIELD_HEADER parameters as datasets:
 - */[Packet_data_field_header_parameter_#i]*, are series of datasets classified by TM DATA_FIELD_HEADER parameter name (e.g., “DESTINATION_ID”, “SERVICE_TYPE”, etc.). There is one dataset per TM parameter, which contains an [n, m] array, where n is the number of *[TM_PACKET]* packets in the current file, and m is the number of *[Packet_data_field_header_parameter_#i]* parameter values for a given TM packet. In practice the DATA_FIELD_HEADER parameters have a single scalar value per TM packet (i.e., m=1).
- */source_data*, a group storing the TM CCSDS SOURCE_DATA parameters as datasets:

	<h2>RPW Data Product Description Document</h2>	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 20

- */[Packet_source_data_parameter_#i]*, a series of dataset classified by TM SOURCE_DATA parameter name (e.g “PA_TDS_ACQUISITION_TIME”, “PA_BIA_ON_OFF”, etc.).

Additionally the following data are also stored in the */[TM_PACKET]* group:

- *binary*, a 1-element vector dataset storing the raw binary data (in hexadecimal without the 76-bytes SCOS header) of the N *[TM_PACKET]* of the current day
- *COUNT*, a 64-bit integer attribute giving the total number N of *[TM_PACKET]* packets for the current day
- *idb*, a 2-elements array dataset storing the source (column 0) and version (column 1) of RPW IDB used to unpack the N packets.
- *SRDB_ID*, an attribute providing the SRDB ID of the TM packet
- *PACKET_CATEGORY*, an attribute giving the packet category of *[TM_PACKET]*
- *sha*, a 1-element vector dataset providing the SHA256 values of the N *[TM_PACKET]* packets for the current day (computed from the binary raw data)
- *utc_times*, a 1-element vector dataset providing the N packet creation UTC times.


The */TC* group has the following elements:

- *COUNT*, a 64-bit integer attribute giving the total number of TC packets executed for the current day
- */[TC_PACKET]* groups containing RPW TC packet data. The groups are named using TC human-readable descriptions (e.g “TC_TDS_DUMP_NORMAL_TSWF”).

Each */[TC_PACKET]* group contains:

- */packet_header*, a group storing the TC CCSDS PACKET_HEADER parameters as datasets:
 - */[Packet_header_parameter]*, are series of datasets classified by TC PACKET_HEADER parameter name (e.g., “CCSDS_VERSION_NUMBER”, “PACKET_TYPE”, etc.). There is one dataset per TC parameter, which contains an [n, m] array, where n is the number of *[TC_PACKET]* TC packets in the current file, and m is the number of *[Packet_data_field_header_parameter_#i]* parameter values for a given TC packet. In practice the PACKET_HEADER parameters have a single scalar value per TC packet (i.e., m=1).
- */data_field_header*, a group storing the TC CCSDS DATA_FIELD_HEADER parameters as datasets:
 - */[Packet_data_field_header_parameter_#i]*, are series of datasets classified by TC DATA_FIELD_HEADER parameter name (e.g., “DESTINATION_ID”, “SERVICE_TYPE”, etc.). There is one dataset per TC parameter, which contains an [n, m] array, where n is the number of *[TC_PACKET]* packets in the current file, and m is the number of *[Packet_data_field_header_parameter_#i]* parameter values for a given TC packet. In practice the DATA_FIELD_HEADER parameters have a single scalar value per TC packet (i.e., m=1).

- */source_data*, a group storing the TC CCSDS SOURCE_DATA parameters as datasets:

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 21

– *[/Packet_application_data_parameter_#i]*, a series of dataset classified by TC APPLICATION_DATA parameter name.

Additionally the following data are also stored in the *[/TC_PACKET]* group:

- *binary*, a 1-element vector dataset storing the raw binary data (in hexadecimal) of the N *[/TC_PACKET]* of the current day
- *COUNT*, a 64-bit integer attribute giving the total number N of *[/TC_PACKET]* packets for the current day
- *idb*, a 2-elements array dataset storing the source (column 0) and version (column 1) of RPW IDB used to unpack the N packets.
- *SRDB_ID*, an attribute providing the SRDB ID of the TC packet
- *PACKET_CATEGORY*, an attribute giving the packet category of *[/TC_PACKET]*
- *sequence_name*, a 1-element vector dataset providing the N packet sequence name.
- *sha*, a 1-element vector dataset providing the SHA256 values of the N *[/TC_PACKET]* packets for the current day (computed from the binary raw data, the time of execution and the TC ack. state)
- *tc_ack_state*, a 2-element array dataset providing the acceptance and execution states of the N TC packets.
- *unique_id*, a 1-element vector dataset providing the N packet uniqueID.
- *utc_times*, a 1-element vector dataset providing the N packet execution UTC times.


4.1.2 L1 - Engineering data products

4.1.2.1 RPW L1 data product common description

4.1.2.1.1 RPW L1 data product format

According to [AD.01], the RPW L1 data products are saved in Common Data format (CDF) files with the following options.

DATA ENCODING	NETWORK
MAJORITY	COLUMN
FORMAT	SINGLE
CDF_COMPRESSION	None
CDF_CHECKSUM	MD5
VAR_COMPRESSION	None
VAR_SPARESERECORDS	None
VAR_PADVALUE	None

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 22

4.1.2.1.2 RPW L1 data product metadata


Table below gives the CDF attributes which are specific to RPW L1 data products. All other attributes are defined in [AD.01].

Attribute name	Attribute category	Attribute data type	Attribute definition
APPLICABLE	Global	CDF_CHAR	Applicable document. It shall make reference to the [AD.01] issue applied to generate the CDF files.
Datetime	Global	CDF_CHAR	Datetime field in the filename
File_ID	Global	CDF_CHAR	Unique ID of the file
Parent_version	Global	CDF_CHAR	Version of the parent file(s).
Pipeline_name	Global	CDF_CHAR	Name of the RPW Data Pipeline.
Pipeline_version	Global	CDF_CHAR	Version of the RPW Data Pipeline.
Provider	Global	CDF_CHAR	Name of the data provider.
SKELETON_MODS	Global	CDF_CHAR	Change log of the CDF skeleton file (if any).
SKELETON_PARENT	Global	CDF_CHAR	Name of the CDF skeleton file (if any).
Software_name	Global	CDF_CHAR	Name of the software used to generate the CDF file (i.e., name of the pipeline module).
SPICE_KERNELS	Global	CDF_CHAR	Name of the Solar Orbiter SPICE kernels used to computed OBT->UTC times.
Validate	Global	CDF_CHAR	Data validation index (=0 not validate, 1=validate, -1=problem with validation).

4.1.2.2 SOLO_L1_RPW-TNR-SURV data product

The “SOLO_L1_RPW-TNR-SURV” data product contains the uncalibrated TNR receiver spectrum survey data.

The “SOLO_L1_RPW-TNR-SURV” data are written in CDF format files. There is a single file per day, generated from data in the corresponding SOLO_L0_RPW parent file.

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 23

4.1.2.2.1 Filename

```
solo_L1_rpw-tnr-surv_[YYYYMMDD]_V[version].cdf
```

4.1.2.2.2 Expected cadence and data volume


Nominal cadence: 1 file per day

Expected data volume: 20 MB per file

4.1.2.2.3 Global Attributes

Attribute Name	Entry Number	Data Type	Value
ACCESS_FORMAT	1	CDF_CHAR	CDF
ACCESS_URL	1	CDF_CHAR	
Acknowledgement	1	CDF_CHAR	The authors are pleased to acknowledge the Solar Orbiter/RPW Investigation (M. Maksimovic, PIs) for access to data.
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009 (2.4)
Data_type	1	CDF_CHAR	H0>High Resolution data
Data_version	1	CDF_CHAR	
Descriptor	1	CDF_CHAR	RPW-TNR-SURV>RPW Thermal Noise Receiver in survey mode
Discipline	1	CDF_CHAR	Space Physics>Interplanetary Studies
File_naming_convention	1	CDF_CHAR	<Source_name>_<LEVEL>_<Descriptor>_<Date>
File_ID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	RPW Operations Centre located at LESIA (Meudon, France)
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	https://rpw.lesia.obspm.fr
Instrument_type	1	CDF_CHAR	Radio and Plasma Waves (space)
LINK_TEXT	1	CDF_CHAR	RPW Web site at LESIA
LINK_TITLE	1	CDF_CHAR	RPW Web site
Logical_file_id	1	CDF_CHAR	
Logical_source	1	CDF_CHAR	solo_L1_rpw-tnr-surv
Logical_source_description	1	CDF_CHAR	Solar Orbiter Radio/Plasma Wave, TNR L1 parameters
Mission_group	1	CDF_CHAR	Solar Orbiter


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 24

Tab. 4.1 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
SKELETON_MODS	1	CDF_CHAR	July 2015: initial release, X.Bonnin (CNRS-LESIA)
SKELETON_MODS	2	CDF_CHAR	V04: Update for solo data definition, X. BONNIN (CNRS-LESIA), April 2019
SKELETON_MODS	3	CDF_CHAR	V05: Update to compliant with SOL-SGS-TN-0009 Issue 2, Rev 4 - X.Bonnin, 09/2019
SKELETON_MODS	4	CDF_CHAR	V06: March 2020 : Delete Test_* g.attrs - X.Bonnin (CNRS, LESIA)
SKELETON_MODS	5	CDF_CHAR	V07: Removing POST_GAP_FLAG zvar and UCD vattr. (X.Bonnin, 09/2020)
SKELETON_MODS	6	CDF_CHAR	V08: Jan. 2021 : Fix inconsistencies against the ISTEP CDF guidelines, add FREQUENCY zVariable - X.Bonnin (CNRS-LESIA)
Parent_version	1	CDF_CHAR	
Parents	1	CDF_CHAR	
PI_affiliation	1	CDF_CHAR	LESIA, Observatoire de Paris-CNRS
PI_name	1	CDF_CHAR	M.Maksimovic
Pipeline_version	1	CDF_CHAR	
Project	1	CDF_CHAR	SOLO>Solar Orbiter
Provider	1	CDF_CHAR	LESIA (Meudon, France)
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00006-LES (1.3)
Rules_of_use	1	CDF_CHAR	Data provided are publicly available. If used in presentations or publications, please acknowledge Solar Orbiter/RPW Investigation (M. Maksimovic, PIs). Please read carefully the caveats attached to the data. For reporting purposes, we request bibliography information for any publication, etc., using these data. Please send information on the use of this data to: M. Maksimovic (PI).
SKELETON_PARENT	1	CDF_CHAR	SOLO_L1_RPW-TNR-SURV_V08.cdf
Skeleton_version	1	CDF_CHAR	08
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	SOLO>Solar Orbiter
SPECTRAL_RANGE_MAX	1	CDF_CHAR	

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 25


Tab. 4.1 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
SPECTRAL_RANGE_MIN	1	CDF_CHAR	
TEXT	1	CDF_CHAR	This file contains RPW TNR level 1 science survey data for the current day.
TEXT_supplement_1	1	CDF_CHAR	
TIME_MAX	1	CDF_CHAR	
TIME_MIN	1	CDF_CHAR	
Validate	1	CDF_CHAR	
CAVEATS	1	CDF_CHAR	Engineering data. No good for publication.
Datetime	1	CDF_CHAR	
Free_field	1	CDF_CHAR	
Job_ID	1	CDF_CHAR	
LEVEL	1	CDF_CHAR	L1>Level 1 data processing
SOOP_TYPE	1	CDF_CHAR	
Data_product	1	CDF_CHAR	SURV>SURV
TARGET_NAME	1	CDF_CHAR	Sun
TARGET_CLASS	1	CDF_CHAR	Star
TARGET_REGION	1	CDF_CHAR	Solar Wind
Pipeline_name	1	CDF_CHAR	
Dataset_ID	1	CDF_CHAR	SOLO_L1_RPW-TNR-SURV
OBS_ID	1	CDF_CHAR	
MODS	1	CDF_CHAR	

4.1.2.2.4 zVariables

Variable Name	Data Type	Number Elements	Dims	Sizes
Epoch	CDF_TIME_TT2000	1	0	
ACQUISITION_TIME	CDF_UINT4	1	1	2
QUALITY_FLAG	CDF_UINT1	1	0	
QUALITY_BITMASK	CDF_UINT2	1	0	
SWEEP_NUM	CDF_UINT4	1	0	
MEASUREMENT_DURATION	CDF_DOUBLE	1	0	
TICKS_NR	CDF_INT8	1	0	
DELTA_TIME	CDF_DOUBLE	1	0	
SURVEY_MODE	CDF_UINT1	1	0	
CALIBRATION_LEVEL	CDF_UINT1	1	0	

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 26


Tab. 4.2 – continued from previous page

Variable Name	Data Type	Number Elements	Dims	Sizes
AVERAGE_NR	CDF_UINT1	1	0	
AUTO_CROSS_STATUS	CDF_UINT1	1	1	2
CHANNEL_STATUS	CDF_UINT1	1	1	2
FRONT_END	CDF_UINT1	1	0	
SENSOR_CONFIG	CDF_UINT1	1	1	2
RPW_STATUS	CDF_UINT1	1	1	15
TEMPERATURE	CDF_UINT1	1	1	4
TNR_BAND	CDF_UINT1	1	0	
FREQUENCY	CDF_UINT4	1	1	32
INTEGRATION_TIME	CDF_UINT1	1	1	4
BANDWIDTH	CDF_FLOAT	1	2	4 32
AGC1	CDF_UINT2	1	0	
AGC2	CDF_UINT2	1	0	
AUTO1	CDF_UINT2	1	1	32
AUTO2	CDF_UINT2	1	1	32
CROSS_R	CDF_UINT2	1	1	32
CROSS_I	CDF_UINT2	1	1	32
ACQUISITION_TIME_UNITS	CDF_CHAR	16	1	2
ACQUISITION_TIME_LABEL	CDF_CHAR	32	1	2
BAND_LABEL	CDF_CHAR	1	1	4
CHANNEL_LABEL	CDF_CHAR	1	1	2
TEMPERATURE_LABEL	CDF_CHAR	8	1	4
RPW_STATUS_LABEL	CDF_CHAR	16	1	15
SCET	CDF_REAL8	1	0	
SYNCHRO_FLAG	CDF_UINT1	1	0	
TNR_BAND_FREQ	CDF_UINT4	1	2	4 32

4.1.2.2.5 Variable attributes

Variable Name	Attribute Name	Data Type	Value
Epoch	FIELDNAM	CDF_CHAR	Epoch
Epoch	CATDESC	CDF_CHAR	Default time
Epoch	VALIDMIN	CDF_TIME_TT2000	1990-01-01T00:00:00.000000000
Epoch	VALIDMAX	CDF_TIME_TT2000	2029-12-31T23:59:59.999000000
Epoch	SCALEMIN	CDF_TIME_TT2000	1990-01-01T00:00:00.000000000


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 27

Tab. 4.3 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
Epoch	SCALEMAX	CDF_TIME_TT2000	2029-12-31T23:59:59.999000000
Epoch	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch	LABLAXIS	CDF_CHAR	Epoch
Epoch	UNITS	CDF_CHAR	ns
Epoch	VAR_TYPE	CDF_CHAR	support_data
Epoch	SCALETYP	CDF_CHAR	linear
Epoch	MONOTON	CDF_CHAR	INCREASE
Epoch	TIME_BASE	CDF_CHAR	J2000
Epoch	TIME_SCALE	CDF_CHAR	Terrestrial Time
Epoch	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
Epoch	Resolution	CDF_CHAR	15258 ns
Epoch	Bin_location	CDF_CHAR	0.5
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file. Epoch is taken at the middle of the current TNR data sample measurement.
ACQUISITION_TIME	FIELDNAM	CDF_CHAR	CCSDS CUC Acquisition time as returned in TM packets
ACQUISITION_TIME	CATDESC	CDF_CHAR	RPW TNR acquisition time
ACQUISITION_TIME	VALIDMIN	CDF_UINT4	0
ACQUISITION_TIME	VALIDMAX	CDF_UINT4	4294967294
ACQUISITION_TIME	SCALEMIN	CDF_UINT4	0
ACQUISITION_TIME	SCALEMAX	CDF_UINT4	4294967294
ACQUISITION_TIME	FILLVAL	CDF_UINT4	4294967295
ACQUISITION_TIME	VAR_TYPE	CDF_CHAR	support_data
ACQUISITION_TIME	SCALETYP	CDF_CHAR	linear
ACQUISITION_TIME	TIME_BASE	CDF_CHAR	2000-01-01T00:00:00
ACQUISITION_TIME	TIME_SCALE	CDF_CHAR	RPW DPU clock
ACQUISITION_TIME	VAR_NOTES	CDF_CHAR	Acquisition time of the first sample contained in the packet. (CUC format)
ACQUISITION_TIME	DEPEND_0	CDF_CHAR	Epoch
ACQUISITION_TIME	DISPLAY_TYPE	CDF_CHAR	time_series
ACQUISITION_TIME	FORMAT	CDF_CHAR	I10.0
ACQUISITION_TIME	LABL_PTR_1	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME	UNIT_PTR	CDF_CHAR	ACQUISITION_TIME_UNITS
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 28

Tab. 4.3 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	VALIDMIN	CDF_UINT1	0
QUALITY_FLAG	VALIDMAX	CDF_UINT1	4
QUALITY_FLAG	SCALEMIN	CDF_UINT1	0
QUALITY_FLAG	SCALEMAX	CDF_UINT1	4
QUALITY_FLAG	FILLVAL	CDF_UINT1	255
QUALITY_FLAG	LABLAXIS	CDF_CHAR	Quality flag
QUALITY_FLAG	UNITS	CDF_CHAR	
QUALITY_FLAG	VAR_TYPE	CDF_CHAR	support_data
QUALITY_FLAG	SCALETYP	CDF_CHAR	linear
QUALITY_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the quality of the data
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	UNITS	CDF_CHAR	
QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context information or status at the receiver or experiment level
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
SWEEP_NUM	FIELDNAM	CDF_CHAR	SWEEP_NUM
SWEEP_NUM	CATDESC	CDF_CHAR	TNR sweep index number in current file
SWEEP_NUM	VALIDMIN	CDF_UINT4	1
SWEEP_NUM	VALIDMAX	CDF_UINT4	4294967294
SWEEP_NUM	SCALEMIN	CDF_UINT4	1
SWEEP_NUM	SCALEMAX	CDF_UINT4	4294967294
SWEEP_NUM	FILLVAL	CDF_UINT4	4294967295
SWEEP_NUM	LABLAXIS	CDF_CHAR	TNR sweep index


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 29

Tab. 4.3 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SWEEP_NUM	UNITS	CDF_CHAR	
SWEEP_NUM	VAR_TYPE	CDF_CHAR	support_data
SWEEP_NUM	SCALETYP	CDF_CHAR	linear
SWEEP_NUM	VAR_NOTES	CDF_CHAR	TNR sweep index number in the current file
SWEEP_NUM	DEPEND_0	CDF_CHAR	Epoch
SWEEP_NUM	DISPLAY_TYPE	CDF_CHAR	time_series
SWEEP_NUM	FORMAT	CDF_CHAR	I10.0
MEASUREMENT_DURATION	FIELDNAM	CDF_CHAR	MEASUREMENT_DURATION
MEASUREMENT_DURATION	CATDESC	CDF_CHAR	Time duration of the current TNR band measurement
MEASUREMENT_DURATION	VALIDMIN	CDF_DOUBLE	0.0
MEASUREMENT_DURATION	VALIDMAX	CDF_DOUBLE	1.0e+30
MEASUREMENT_DURATION	SCALEMIN	CDF_DOUBLE	0.0
MEASUREMENT_DURATION	SCALEMAX	CDF_DOUBLE	1.0e+30
MEASUREMENT_DURATION	FILLVAL	CDF_DOUBLE	-1.0e+31
MEASUREMENT_DURATION	LABLAXIS	CDF_CHAR	TNR measurement duration
MEASUREMENT_DURATION	UNITS	CDF_CHAR	ns
MEASUREMENT_DURATION	VAR_TYPE	CDF_CHAR	support_data
MEASUREMENT_DURATION	SCALETYP	CDF_CHAR	linear
MEASUREMENT_DURATION	MONOTON	CDF_CHAR	INCREASE
MEASUREMENT_DURATION	VAR_NOTES	CDF_CHAR	Time duration of the current TNR band measurement in nanoseconds.
MEASUREMENT_DURATION	DEPEND_0	CDF_CHAR	Epoch
MEASUREMENT_DURATION	DISPLAY_TYPE	CDF_CHAR	time_series
MEASUREMENT_DURATION	FORMAT	CDF_CHAR	F32.6
TICKS_NR	FIELDNAM	CDF_CHAR	TICKS_NR
TICKS_NR	CATDESC	CDF_CHAR	Number of ticks
TICKS_NR	VALIDMIN	CDF_INT8	0
TICKS_NR	VALIDMAX	CDF_INT8	9223372036854775807
TICKS_NR	SCALEMIN	CDF_INT8	0
TICKS_NR	SCALEMAX	CDF_INT8	9223372036854775807
TICKS_NR	FILLVAL	CDF_INT8	-9223372036854775808
TICKS_NR	LABLAXIS	CDF_CHAR	TNR ticks
TICKS_NR	UNITS	CDF_CHAR	
TICKS_NR	VAR_TYPE	CDF_CHAR	support_data
TICKS_NR	SCALETYP	CDF_CHAR	linear
TICKS_NR	VAR_NOTES	CDF_CHAR	Number of ticks between two data samples for the current TNR band.


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 30

Tab. 4.3 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
TICKS_NR	DEPEND_0	CDF_CHAR	Epoch
TICKS_NR	DISPLAY_TYPE	CDF_CHAR	time_series
TICKS_NR	FORMAT	CDF_CHAR	I10.0
DELTA_TIME	FIELDNAM	CDF_CHAR	DELTA_TIME
DELTA_TIME	CATDESC	CDF_CHAR	RPW TNR delta time
DELTA_TIME	VALIDMIN	CDF_DOUBLE	0.0
DELTA_TIME	VALIDMAX	CDF_DOUBLE	1.0e+30
DELTA_TIME	SCALEMIN	CDF_DOUBLE	0.0
DELTA_TIME	SCALEMAX	CDF_DOUBLE	1.0e+30
DELTA_TIME	FILLVAL	CDF_DOUBLE	-1.0e+31
DELTA_TIME	LABLAXIS	CDF_CHAR	TNR delta time
DELTA_TIME	UNITS	CDF_CHAR	microsec
DELTA_TIME	VAR_TYPE	CDF_CHAR	support_data
DELTA_TIME	SCALETYP	CDF_CHAR	linear
DELTA_TIME	VAR_NOTES	CDF_CHAR	Delta times of the current TNR band between two data samples in microseconds. Computed from TICKS_NR * (1 tick = 15.258 us)
DELTA_TIME	DEPEND_0	CDF_CHAR	Epoch
DELTA_TIME	DISPLAY_TYPE	CDF_CHAR	time_series
DELTA_TIME	FORMAT	CDF_CHAR	F32.6
SURVEY_MODE	FIELDNAM	CDF_CHAR	SURVEY_MODE
SURVEY_MODE	CATDESC	CDF_CHAR	THR survey mode
SURVEY_MODE	VALIDMIN	CDF_UINT1	0
SURVEY_MODE	VALIDMAX	CDF_UINT1	1
SURVEY_MODE	SCALEMIN	CDF_UINT1	0
SURVEY_MODE	SCALEMAX	CDF_UINT1	1
SURVEY_MODE	FILLVAL	CDF_UINT1	255
SURVEY_MODE	LABLAXIS	CDF_CHAR	THR survey mode
SURVEY_MODE	UNITS	CDF_CHAR	
SURVEY_MODE	VAR_TYPE	CDF_CHAR	support_data
SURVEY_MODE	SCALETYP	CDF_CHAR	linear
SURVEY_MODE	VAR_NOTES	CDF_CHAR	Flag to indicate if the receiver in the SURVEY_BURST (=1) or SURVEY_NORMAL (=0) mode
SURVEY_MODE	DEPEND_0	CDF_CHAR	Epoch
SURVEY_MODE	DISPLAY_TYPE	CDF_CHAR	time_series
SURVEY_MODE	FORMAT	CDF_CHAR	I1.1
CALIBRATION_LEVEL	FIELDNAM	CDF_CHAR	CALIBRATION_LEVEL


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 31

Tab. 4.3 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
CALIBRATION_LEVEL	CATDESC	CDF_CHAR	receiver calibration level
CALIBRATION_LEVEL	VALIDMIN	CDF_UINT1	0
CALIBRATION_LEVEL	VALIDMAX	CDF_UINT1	8
CALIBRATION_LEVEL	SCALEMIN	CDF_UINT1	0
CALIBRATION_LEVEL	SCALEMAX	CDF_UINT1	8
CALIBRATION_LEVEL	FILLVAL	CDF_UINT1	255
CALIBRATION_LEVEL	LABLAXIS	CDF_CHAR	TNR Cal. Level
CALIBRATION_LEVEL	UNITS	CDF_CHAR	
CALIBRATION_LEVEL	VAR_TYPE	CDF_CHAR	support_data
CALIBRATION_LEVEL	SCALETYP	CDF_CHAR	linear
CALIBRATION_LEVEL	VAR_NOTES	CDF_CHAR	Internal calibration level (0=no calibration)
CALIBRATION_LEVEL	DEPEND_0	CDF_CHAR	Epoch
CALIBRATION_LEVEL	DISPLAY_TYPE	CDF_CHAR	time_series
CALIBRATION_LEVEL	FORMAT	CDF_CHAR	I1.1
AVERAGE_NR	FIELDNAM	CDF_CHAR	AVERAGE_NR
AVERAGE_NR	CATDESC	CDF_CHAR	Number of averages
AVERAGE_NR	VALIDMIN	CDF_UINT1	16
AVERAGE_NR	VALIDMAX	CDF_UINT1	128
AVERAGE_NR	SCALEMIN	CDF_UINT1	16
AVERAGE_NR	SCALEMAX	CDF_UINT1	128
AVERAGE_NR	FILLVAL	CDF_UINT1	255
AVERAGE_NR	LABLAXIS	CDF_CHAR	averages
AVERAGE_NR	UNITS	CDF_CHAR	
AVERAGE_NR	VAR_TYPE	CDF_CHAR	support_data
AVERAGE_NR	SCALETYP	CDF_CHAR	linear
AVERAGE_NR	VAR_NOTES	CDF_CHAR	Number of averages (16, 32, 64 or 128) applied
AVERAGE_NR	DEPEND_0	CDF_CHAR	Epoch
AVERAGE_NR	DISPLAY_TYPE	CDF_CHAR	time_series
AVERAGE_NR	FORMAT	CDF_CHAR	I3.3
AUTO_CROSS_STATUS	FIELDNAM	CDF_CHAR	AUTO_CROSS_STATUS
AUTO_CROSS_STATUS	CATDESC	CDF_CHAR	Auto cross computation com- putation status
AUTO_CROSS_STATUS	VALIDMIN	CDF_UINT1	0
AUTO_CROSS_STATUS	VALIDMAX	CDF_UINT1	1
AUTO_CROSS_STATUS	SCALEMIN	CDF_UINT1	0
AUTO_CROSS_STATUS	SCALEMAX	CDF_UINT1	1
AUTO_CROSS_STATUS	FILLVAL	CDF_UINT1	255
AUTO_CROSS_STATUS	LABLAXIS	CDF_CHAR	Auto/Cross comp. status
AUTO_CROSS_STATUS	UNITS	CDF_CHAR	


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 32

Tab. 4.3 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
AUTO_CROSS_STATUS	VAR_TYPE	CDF_CHAR	support_data
AUTO_CROSS_STATUS	SCALETYP	CDF_CHAR	linear
AUTO_CROSS_STATUS	VAR_NOTES	CDF_CHAR	Flag to indicate if the auto and cross values are computed (=1) or not (=0)
AUTO_CROSS_STATUS	DEPEND_0	CDF_CHAR	Epoch
AUTO_CROSS_STATUS	DISPLAY_TYPE	CDF_CHAR	time_series
AUTO_CROSS_STATUS	FORMAT	CDF_CHAR	I1.1
CHANNEL_STATUS	FIELDNAM	CDF_CHAR	CHANNEL_STATUS
CHANNEL_STATUS	CATDESC	CDF_CHAR	TNR channel status
CHANNEL_STATUS	VALIDMIN	CDF_UINT1	0
CHANNEL_STATUS	VALIDMAX	CDF_UINT1	1
CHANNEL_STATUS	SCALEMIN	CDF_UINT1	0
CHANNEL_STATUS	SCALEMAX	CDF_UINT1	1
CHANNEL_STATUS	FILLVAL	CDF_UINT1	255
CHANNEL_STATUS	UNITS	CDF_CHAR	
CHANNEL_STATUS	VAR_TYPE	CDF_CHAR	support_data
CHANNEL_STATUS	SCALETYP	CDF_CHAR	linear
CHANNEL_STATUS	VAR_NOTES	CDF_CHAR	TNR channel status of the current record. Possible values are: 1=OFF, 0=ON.
CHANNEL_STATUS	DEPEND_0	CDF_CHAR	Epoch
CHANNEL_STATUS	DISPLAY_TYPE	CDF_CHAR	time_series
CHANNEL_STATUS	FORMAT	CDF_CHAR	I1.1
CHANNEL_STATUS	LABL_PTR_1	CDF_CHAR	CHANNEL_LABEL
FRONT_END	FIELDNAM	CDF_CHAR	FRONT_END
FRONT_END	CATDESC	CDF_CHAR	Front end setting
FRONT_END	VALIDMIN	CDF_UINT1	0
FRONT_END	VALIDMAX	CDF_UINT1	1
FRONT_END	SCALEMIN	CDF_UINT1	0
FRONT_END	SCALEMAX	CDF_UINT1	1
FRONT_END	FILLVAL	CDF_UINT1	255
FRONT_END	LABLAXIS	CDF_CHAR	FRONT_END
FRONT_END	UNITS	CDF_CHAR	
FRONT_END	VAR_TYPE	CDF_CHAR	support_data
FRONT_END	SCALETYP	CDF_CHAR	linear
FRONT_END	VAR_NOTES	CDF_CHAR	Indicates the TNR front end setting (GND=0, PREAMP=1, CAL=2)
FRONT_END	DEPEND_0	CDF_CHAR	Epoch
FRONT_END	DISPLAY_TYPE	CDF_CHAR	time_series

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 33

Tab. 4.3 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
FRONT_END	FORMAT	CDF_CHAR	I1.1
SENSOR_CONFIG	FIELDNAM	CDF_CHAR	SENSOR_CONFIG
SENSOR_CONFIG	CATDESC	CDF_CHAR	TNR sensor configuration
SENSOR_CONFIG	VALIDMIN	CDF_UINT1	0
SENSOR_CONFIG	VALIDMAX	CDF_UINT1	1
SENSOR_CONFIG	SCALEMIN	CDF_UINT1	0
SENSOR_CONFIG	SCALEMAX	CDF_UINT1	1
SENSOR_CONFIG	FILLVAL	CDF_UINT1	255
SENSOR_CONFIG	LABLAXIS	CDF_CHAR	THR sensor config.
SENSOR_CONFIG	UNITS	CDF_CHAR	
SENSOR_CONFIG	VAR_TYPE	CDF_CHAR	support_data
SENSOR_CONFIG	SCALETYP	CDF_CHAR	linear
SENSOR_CONFIG	VAR_NOTES	CDF_CHAR	Indicates the THR sensor configuration (V1=1, V2=2, V3=3, V1-V2=4, V2-V3=5, V3-V1=6, B_MF=7, HF_V1-V2=9, HF_V2-V3=10, HF_V3-V1=11)
SENSOR_CONFIG	DEPEND_0	CDF_CHAR	Epoch
SENSOR_CONFIG	DISPLAY_TYPE	CDF_CHAR	time_series
SENSOR_CONFIG	FORMAT	CDF_CHAR	I1.1
SENSOR_CONFIG	LABL_PTR_1	CDF_CHAR	CHANNEL_LABEL
RPW_STATUS	FIELDNAM	CDF_CHAR	RPW_STATUS
RPW_STATUS	CATDESC	CDF_CHAR	Status parameters of RPW sub-systems
RPW_STATUS	VALIDMIN	CDF_UINT1	0
RPW_STATUS	VALIDMAX	CDF_UINT1	1
RPW_STATUS	SCALEMIN	CDF_UINT1	0
RPW_STATUS	SCALEMAX	CDF_UINT1	1
RPW_STATUS	FILLVAL	CDF_UINT1	255
RPW_STATUS	LABLAXIS	CDF_CHAR	RPW sub-system status
RPW_STATUS	UNITS	CDF_CHAR	
RPW_STATUS	VAR_TYPE	CDF_CHAR	support_data
RPW_STATUS	SCALETYP	CDF_CHAR	linear
RPW_STATUS	VAR_NOTES	CDF_CHAR	Status of 15 RPW sub-systems.
RPW_STATUS	DEPEND_0	CDF_CHAR	Epoch
RPW_STATUS	DISPLAY_TYPE	CDF_CHAR	time_series
RPW_STATUS	FORMAT	CDF_CHAR	I1.1
RPW_STATUS	LABL_PTR_1	CDF_CHAR	RPW_STATUS_LABEL
TEMPERATURE	FIELDNAM	CDF_CHAR	TEMPERATURE

continues on next page



**RPW Data Product
Description Document**

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **34**

Tab. 4.3 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
TEMPERATURE	CATDESC	CDF_CHAR	PA and analog temperature
TEMPERATURE	VALIDMIN	CDF_UINT1	0
TEMPERATURE	VALIDMAX	CDF_UINT1	254
TEMPERATURE	SCALEMIN	CDF_UINT1	0
TEMPERATURE	SCALEMAX	CDF_UINT1	254
TEMPERATURE	FILLVAL	CDF_UINT1	255
TEMPERATURE	LABLAXIS	CDF_CHAR	Temperature
TEMPERATURE	UNITS	CDF_CHAR	degrees
TEMPERATURE	VAR_TYPE	CDF_CHAR	data
TEMPERATURE	SCALETYP	CDF_CHAR	linear
TEMPERATURE	VAR_NOTES	CDF_CHAR	Temperature of the 3 HF PAs and analog. in degrees. In the case of an internal calibration mode, it contains the PCB temperature and the 3 Voltages.
TEMPERATURE	DEPEND_0	CDF_CHAR	Epoch
TEMPERATURE	DISPLAY_TYPE	CDF_CHAR	time_series
TEMPERATURE	FORMAT	CDF_CHAR	I3.3
TEMPERATURE	LABL_PTR_1	CDF_CHAR	TEMPERATURE_LABEL
TNR_BAND	FIELDNAM	CDF_CHAR	TNR_BAND
TNR_BAND	CATDESC	CDF_CHAR	TNR band of the current record
TNR_BAND	VALIDMIN	CDF_UINT1	0
TNR_BAND	VALIDMAX	CDF_UINT1	1
TNR_BAND	SCALEMIN	CDF_UINT1	0
TNR_BAND	SCALEMAX	CDF_UINT1	1
TNR_BAND	FILLVAL	CDF_UINT1	255
TNR_BAND	LABLAXIS	CDF_CHAR	tnr band
TNR_BAND	UNITS	CDF_CHAR	
TNR_BAND	VAR_TYPE	CDF_CHAR	data
TNR_BAND	SCALETYP	CDF_CHAR	linear
TNR_BAND	VAR_NOTES	CDF_CHAR	TNR band of the current record. Possible values are: 1=A, 2=B, 3=C, 4=D
TNR_BAND	DEPEND_0	CDF_CHAR	Epoch
TNR_BAND	DISPLAY_TYPE	CDF_CHAR	time_series
TNR_BAND	FORMAT	CDF_CHAR	I1.0
FREQUENCY	FIELDNAM	CDF_CHAR	FREQUENCY
FREQUENCY	CATDESC	CDF_CHAR	Frequencies of analysis of the current TNR band in Hz

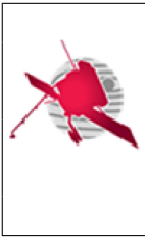
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	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 35

Tab. 4.3 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
FREQUENCY	VALIDMIN	CDF_UINT4	3992
FREQUENCY	VALIDMAX	CDF_UINT4	978572
FREQUENCY	SCALEMIN	CDF_UINT4	3992
FREQUENCY	SCALEMAX	CDF_UINT4	978572
FREQUENCY	FILLVAL	CDF_UINT4	4294967295
FREQUENCY	UNITS	CDF_CHAR	Hz
FREQUENCY	VAR_TYPE	CDF_CHAR	support_data
FREQUENCY	SCALETYP	CDF_CHAR	log
FREQUENCY	VAR_NOTES	CDF_CHAR	Frequencies of analysis of the current TNR band in Hz
FREQUENCY	DEPEND_0	CDF_CHAR	Epoch
FREQUENCY	DISPLAY_TYPE	CDF_CHAR	time_series
FREQUENCY	FORMAT	CDF_CHAR	I6.0
INTEGRATION_TIME	FIELDNAM	CDF_CHAR	INTEGRATION_TIME
INTEGRATION_TIME	CATDESC	CDF_CHAR	Integration time of TNR bands
INTEGRATION_TIME	VALIDMIN	CDF_UINT1	10
INTEGRATION_TIME	VALIDMAX	CDF_UINT1	20
INTEGRATION_TIME	SCALEMIN	CDF_UINT1	0
INTEGRATION_TIME	SCALEMAX	CDF_UINT1	255
INTEGRATION_TIME	FILLVAL	CDF_UINT1	255
INTEGRATION_TIME	LABLAXIS	CDF_CHAR	Int. Time
INTEGRATION_TIME	UNITS	CDF_CHAR	ms
INTEGRATION_TIME	VAR_TYPE	CDF_CHAR	support_data
INTEGRATION_TIME	SCALETYP	CDF_CHAR	linear
INTEGRATION_TIME	VAR_NOTES	CDF_CHAR	Integration time of a single measurement in the TNR A, B,C and D bands in milliseconds. Total measurement duration T (ms) for a given TNR band is $T = INTEGRATION_TIME * AVERAGE_NR$, where $AVERAGE_NR$ is the number of averages (i.e., 16, 32, 64 or 128).
INTEGRATION_TIME	DEPEND_0	CDF_CHAR	Epoch
INTEGRATION_TIME	DISPLAY_TYPE	CDF_CHAR	time_series
INTEGRATION_TIME	FORMAT	CDF_CHAR	I2.2
BANDWIDTH	FIELDNAM	CDF_CHAR	BANDWIDTH
BANDWIDTH	CATDESC	CDF_CHAR	Frequency bandwidth
BANDWIDTH	VALIDMIN	CDF_FLOAT	0.0

continues on next page



**RPW Data Product
Description Document**

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **36**

Tab. 4.3 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BANDWIDTH	VALIDMAX	CDF_FLOAT	1.0e+30
BANDWIDTH	SCALEMIN	CDF_FLOAT	0.0
BANDWIDTH	SCALEMAX	CDF_FLOAT	1.0e+30
BANDWIDTH	FILLVAL	CDF_FLOAT	-1.0e+31
BANDWIDTH	LABLAXIS	CDF_CHAR	Bandwidth
BANDWIDTH	UNITS	CDF_CHAR	Hz
BANDWIDTH	VAR_TYPE	CDF_CHAR	support_data
BANDWIDTH	SCALETYP	CDF_CHAR	linear
BANDWIDTH	VAR_NOTES	CDF_CHAR	TNR frequency bandwidth in Hz
BANDWIDTH	DEPEND_0	CDF_CHAR	Epoch
BANDWIDTH	DISPLAY_TYPE	CDF_CHAR	time_series
BANDWIDTH	FORMAT	CDF_CHAR	F10.3
AGC1	FIELDNAM	CDF_CHAR	AGC1
AGC1	CATDESC	CDF_CHAR	Automatic Gain Control on channel 1
AGC1	VALIDMIN	CDF_UINT2	0
AGC1	VALIDMAX	CDF_UINT2	65534
AGC1	SCALEMIN	CDF_UINT2	0
AGC1	SCALEMAX	CDF_UINT2	65534
AGC1	FILLVAL	CDF_UINT2	65535
AGC1	LABLAXIS	CDF_CHAR	AGC1
AGC1	UNITS	CDF_CHAR	count
AGC1	VAR_TYPE	CDF_CHAR	data
AGC1	SCALETYP	CDF_CHAR	linear
AGC1	VAR_NOTES	CDF_CHAR	Automatic Gain Control measured on channel 1
AGC1	DEPEND_0	CDF_CHAR	Epoch
AGC1	DISPLAY_TYPE	CDF_CHAR	time_series
AGC1	FORMAT	CDF_CHAR	I5.1
AGC2	FIELDNAM	CDF_CHAR	AGC2
AGC2	CATDESC	CDF_CHAR	Automatic Gain Control on channel 2
AGC2	VALIDMIN	CDF_UINT2	0
AGC2	VALIDMAX	CDF_UINT2	65534
AGC2	SCALEMIN	CDF_UINT2	0
AGC2	SCALEMAX	CDF_UINT2	65534
AGC2	FILLVAL	CDF_UINT2	65535
AGC2	LABLAXIS	CDF_CHAR	TNR AGC2
AGC2	UNITS	CDF_CHAR	count
AGC2	VAR_TYPE	CDF_CHAR	data


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 37

Tab. 4.3 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
AGC2	SCALETYP	CDF_CHAR	linear
AGC2	VAR_NOTES	CDF_CHAR	Automatic Gain Control measured on channel 2
AGC2	DEPEND_0	CDF_CHAR	Epoch
AGC2	DISPLAY_TYPE	CDF_CHAR	time_series
AGC2	FORMAT	CDF_CHAR	I5.1
AUTO1	FIELDNAM	CDF_CHAR	AUTO1
AUTO1	CATDESC	CDF_CHAR	Auto-correlation on channel 1
AUTO1	VALIDMIN	CDF_UINT2	0
AUTO1	VALIDMAX	CDF_UINT2	65534
AUTO1	SCALEMIN	CDF_UINT2	0
AUTO1	SCALEMAX	CDF_UINT2	65534
AUTO1	FILLVAL	CDF_UINT2	65535
AUTO1	LABLAXIS	CDF_CHAR	TNR Auto1
AUTO1	UNITS	CDF_CHAR	
AUTO1	VAR_TYPE	CDF_CHAR	data
AUTO1	SCALETYP	CDF_CHAR	linear
AUTO1	VAR_NOTES	CDF_CHAR	Auto-correlation on channel 1
AUTO1	DEPEND_0	CDF_CHAR	Epoch
AUTO1	DISPLAY_TYPE	CDF_CHAR	time_series
AUTO1	FORMAT	CDF_CHAR	I5.1
AUTO1	DEPEND_1	CDF_CHAR	FREQUENCY
AUTO2	FIELDNAM	CDF_CHAR	AUTO2
AUTO2	CATDESC	CDF_CHAR	Auto-correlation on channel 2
AUTO2	VALIDMIN	CDF_UINT2	0
AUTO2	VALIDMAX	CDF_UINT2	65534
AUTO2	SCALEMIN	CDF_UINT2	0
AUTO2	SCALEMAX	CDF_UINT2	65534
AUTO2	FILLVAL	CDF_UINT2	65535
AUTO2	LABLAXIS	CDF_CHAR	TNR Auto2
AUTO2	UNITS	CDF_CHAR	
AUTO2	VAR_TYPE	CDF_CHAR	data
AUTO2	SCALETYP	CDF_CHAR	linear
AUTO2	VAR_NOTES	CDF_CHAR	Auto-correlation on channel 2
AUTO2	DEPEND_0	CDF_CHAR	Epoch
AUTO2	DISPLAY_TYPE	CDF_CHAR	time_series
AUTO2	FORMAT	CDF_CHAR	I5.1
AUTO2	DEPEND_1	CDF_CHAR	FREQUENCY
CROSS_R	FIELDNAM	CDF_CHAR	CROSS_R


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 38

Tab. 4.3 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
CROSS_R	CATDESC	CDF_CHAR	Real part of the cross-correlation between channel 1 and channel 2 signals
CROSS_R	VALIDMIN	CDF_UINT2	0
CROSS_R	VALIDMAX	CDF_UINT2	65534
CROSS_R	SCALEMIN	CDF_UINT2	0
CROSS_R	SCALEMAX	CDF_UINT2	65534
CROSS_R	FILLVAL	CDF_UINT2	65535
CROSS_R	LABLAXIS	CDF_CHAR	TNR CROSS_R
CROSS_R	UNITS	CDF_CHAR	
CROSS_R	VAR_TYPE	CDF_CHAR	data
CROSS_R	SCALETYP	CDF_CHAR	linear
CROSS_R	VAR_NOTES	CDF_CHAR	Real part of the cross-correlation between channel 1 and channel 2 signals
CROSS_R	DEPEND_0	CDF_CHAR	Epoch
CROSS_R	DISPLAY_TYPE	CDF_CHAR	time_series
CROSS_R	FORMAT	CDF_CHAR	I5.1
CROSS_R	DEPEND_1	CDF_CHAR	FREQUENCY
CROSS_I	FIELDNAM	CDF_CHAR	CROSS_I
CROSS_I	CATDESC	CDF_CHAR	Imaginary part of the cross-correlation between channel 1 and channel 2 signals
CROSS_I	VALIDMIN	CDF_UINT2	0
CROSS_I	VALIDMAX	CDF_UINT2	65534
CROSS_I	SCALEMIN	CDF_UINT2	0
CROSS_I	SCALEMAX	CDF_UINT2	65534
CROSS_I	FILLVAL	CDF_UINT2	65535
CROSS_I	LABLAXIS	CDF_CHAR	TNR CROSS_I
CROSS_I	UNITS	CDF_CHAR	
CROSS_I	VAR_TYPE	CDF_CHAR	data
CROSS_I	SCALETYP	CDF_CHAR	linear
CROSS_I	VAR_NOTES	CDF_CHAR	Imaginary part of the cross-correlation between channel 1 and channel 2 signals
CROSS_I	DEPEND_0	CDF_CHAR	Epoch
CROSS_I	DISPLAY_TYPE	CDF_CHAR	time_series
CROSS_I	FORMAT	CDF_CHAR	I5.5
CROSS_I	DEPEND_1	CDF_CHAR	FREQUENCY
ACQUISITION_TIME_UNITS	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_UNITS


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 39

Tab. 4.3 – continued from previous page

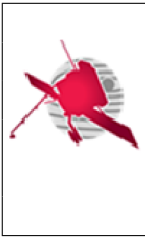
Variable Name	Attribute Name	Data Type	Value
ACQUISITION_TIME_UNITS	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME_UNIT_PTR attribute
ACQUISITION_TIME_UNITS	VAR_TYPE	CDF_CHAR	metadata
ACQUISITION_TIME_UNITS	FORMAT	CDF_CHAR	A16
ACQUISITION_TIME_LABEL	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME_LABEL	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME
ACQUISITION_TIME_LABEL	VAR_TYPE	CDF_CHAR	metadata
ACQUISITION_TIME_LABEL	FORMAT	CDF_CHAR	A32
BAND_LABEL	FIELDNAM	CDF_CHAR	BAND_LABEL
BAND_LABEL	CATDESC	CDF_CHAR	Label for TNR band (A, B, C, D)
BAND_LABEL	VAR_TYPE	CDF_CHAR	metadata
BAND_LABEL	FORMAT	CDF_CHAR	A3
CHANNEL_LABEL	FIELDNAM	CDF_CHAR	CHANNEL_LABEL
CHANNEL_LABEL	CATDESC	CDF_CHAR	Label for channel (1, 2)
CHANNEL_LABEL	VAR_TYPE	CDF_CHAR	metadata
CHANNEL_LABEL	FORMAT	CDF_CHAR	A1
TEMPERATURE_LABEL	FIELDNAM	CDF_CHAR	TEMPERATURE_LABEL
TEMPERATURE_LABEL	CATDESC	CDF_CHAR	Label for PA temperature
TEMPERATURE_LABEL	VAR_TYPE	CDF_CHAR	metadata
TEMPERATURE_LABEL	FORMAT	CDF_CHAR	A8
RPW_STATUS_LABEL	FIELDNAM	CDF_CHAR	RPW_STATUS_LABEL
RPW_STATUS_LABEL	CATDESC	CDF_CHAR	Label for RPW status
RPW_STATUS_LABEL	VAR_TYPE	CDF_CHAR	metadata
RPW_STATUS_LABEL	FORMAT	CDF_CHAR	A16
SCET	FIELDNAM	CDF_CHAR	Spacecraft Elapsed Time
SCET	CATDESC	CDF_CHAR	Elapsed Time of the onboard clock
SCET	VALIDMIN	CDF_REAL8	0.0
SCET	VALIDMAX	CDF_REAL8	1.0e+31
SCET	SCALEMIN	CDF_REAL8	0.0
SCET	SCALEMAX	CDF_REAL8	1.0e+31
SCET	FILLVAL	CDF_REAL8	-1.0e+31
SCET	LABLAXIS	CDF_CHAR	Spacecraft Elapsed Time (Ticks)
SCET	UNITS	CDF_CHAR	Ticks
SCET	VAR_TYPE	CDF_CHAR	support_data
SCET	SCALETYP	CDF_CHAR	linear
SCET	MONOTON	CDF_CHAR	INCREASE

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 40

Tab. 4.3 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SCET	TIME_BASE	CDF_CHAR	Spacecraft onboard clock
SCET	TIME_SCALE	CDF_CHAR	Spacecraft onboard clock
SCET	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
SCET	VAR_NOTES	CDF_CHAR	Spaceraft Elapsed Time
SCET	DEPEND_0	CDF_CHAR	Epoch
SCET	DISPLAY_TYPE	CDF_CHAR	time_series
SYNCHRO_FLAG	FIELDNAM	CDF_CHAR	SYNCHRO_FLAG
SYNCHRO_FLAG	CATDESC	CDF_CHAR	Receiver time synchronisation flag
SYNCHRO_FLAG	VALIDMIN	CDF_UINT1	0
SYNCHRO_FLAG	VALIDMAX	CDF_UINT1	1
SYNCHRO_FLAG	SCALEMIN	CDF_UINT1	0
SYNCHRO_FLAG	SCALEMAX	CDF_UINT1	1
SYNCHRO_FLAG	FILLVAL	CDF_UINT1	255
SYNCHRO_FLAG	LABLAXIS	CDF_CHAR	Time sync. Flag
SYNCHRO_FLAG	UNITS	CDF_CHAR	
SYNCHRO_FLAG	VAR_TYPE	CDF_CHAR	support_data
SYNCHRO_FLAG	SCALETYP	CDF_CHAR	linear
SYNCHRO_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate if the receiver time is synchronised or not
SYNCHRO_FLAG	DEPEND_0	CDF_CHAR	Epoch
SYNCHRO_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
SYNCHRO_FLAG	FORMAT	CDF_CHAR	I1.1
TNR_BAND_FREQ	FIELDNAM	CDF_CHAR	TNR_BAND_FREQ
TNR_BAND_FREQ	CATDESC	CDF_CHAR	Frequencies of analysis of the 4 TNR bands in Hz
TNR_BAND_FREQ	VALIDMIN	CDF_UINT4	3992
TNR_BAND_FREQ	VALIDMAX	CDF_UINT4	978572
TNR_BAND_FREQ	SCALEMIN	CDF_UINT4	3992
TNR_BAND_FREQ	SCALEMAX	CDF_UINT4	978572
TNR_BAND_FREQ	FILLVAL	CDF_UINT4	4294967295
TNR_BAND_FREQ	UNITS	CDF_CHAR	Hz
TNR_BAND_FREQ	VAR_TYPE	CDF_CHAR	support_data
TNR_BAND_FREQ	SCALETYP	CDF_CHAR	log
TNR_BAND_FREQ	VAR_NOTES	CDF_CHAR	Frequencies of analysis of the 4 TNR bands in Hz
TNR_BAND_FREQ	DEPEND_0	CDF_CHAR	Epoch
TNR_BAND_FREQ	DISPLAY_TYPE	CDF_CHAR	time_series
TNR_BAND_FREQ	FORMAT	CDF_CHAR	I6.0
TNR_BAND_FREQ	LABL_PTR_1	CDF_CHAR	BAND_LABEL



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03

Date: March 11, 2021

Page: **41**

4.1.2.2.6 Non-Record-Variant (NRV) Variables

Variable Name	Index	Value
INTEGRATION_TIME	1	20
INTEGRATION_TIME	2	10
INTEGRATION_TIME	3	10
INTEGRATION_TIME	4	10
BANDWIDTH	1,1	180.063
BANDWIDTH	2,1	720.207
BANDWIDTH	3,1	2880.88
BANDWIDTH	4,1	11523.4
BANDWIDTH	1,2	188.047
BANDWIDTH	2,2	752.097
BANDWIDTH	3,2	3008.39
BANDWIDTH	4,2	12033.6
BANDWIDTH	1,3	196.346
BANDWIDTH	2,3	785.386
BANDWIDTH	3,3	3141.59
BANDWIDTH	4,3	12566.4
BANDWIDTH	1,4	205.052
BANDWIDTH	2,4	820.162
BANDWIDTH	3,4	3280.69
BANDWIDTH	4,4	13122.7
BANDWIDTH	1,5	214.118
BANDWIDTH	2,5	856.473
BANDWIDTH	3,5	3425.94
BANDWIDTH	4,5	13703.7
BANDWIDTH	1,6	223.59
BANDWIDTH	2,6	894.407
BANDWIDTH	3,6	3577.63
BANDWIDTH	4,6	14310.5
BANDWIDTH	1,7	233.514
BANDWIDTH	2,7	934.01
BANDWIDTH	3,7	3735.99
BANDWIDTH	4,7	14944.0
BANDWIDTH	1,8	243.843
BANDWIDTH	2,8	975.372
BANDWIDTH	3,8	3901.4
BANDWIDTH	4,8	15605.6
BANDWIDTH	1,9	254.623
BANDWIDTH	2,9	1018.54
BANDWIDTH	3,9	4074.15

continues on next page



**RPW Data Product
Description Document**

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03

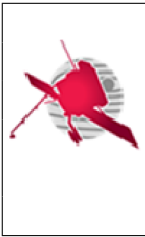
Date: March 11, 2021

Page: **42**

Tab. 4.4 – continued from previous page

Variable Name	Index	Value
BANDWIDTH	4,9	16296.6
BANDWIDTH	1,10	265.9
BANDWIDTH	2,10	1063.64
BANDWIDTH	3,10	4254.53
BANDWIDTH	4,10	17018.1
BANDWIDTH	1,11	277.673
BANDWIDTH	2,11	1110.74
BANDWIDTH	3,11	4442.9
BANDWIDTH	4,11	17771.5
BANDWIDTH	1,12	289.986
BANDWIDTH	2,12	1159.9
BANDWIDTH	3,12	4639.6
BANDWIDTH	4,12	18558.4
BANDWIDTH	1,13	302.797
BANDWIDTH	2,13	1211.23
BANDWIDTH	3,13	4845.02
BANDWIDTH	4,13	19380.0
BANDWIDTH	1,14	316.238
BANDWIDTH	2,14	1264.86
BANDWIDTH	3,14	5059.49
BANDWIDTH	4,14	20238.0
BANDWIDTH	1,15	330.221
BANDWIDTH	2,15	1320.88
BANDWIDTH	3,15	5283.49
BANDWIDTH	4,15	21134.1
BANDWIDTH	1,16	344.835
BANDWIDTH	2,16	1379.34
BANDWIDTH	3,16	5517.46
BANDWIDTH	4,16	22069.7
BANDWIDTH	1,17	360.126
BANDWIDTH	2,17	1440.41
BANDWIDTH	3,17	5761.71
BANDWIDTH	4,17	23046.9
BANDWIDTH	1,18	376.049
BANDWIDTH	2,18	1504.19
BANDWIDTH	3,18	6016.82
BANDWIDTH	4,18	24067.2
BANDWIDTH	1,19	392.693
BANDWIDTH	2,19	1570.82
BANDWIDTH	3,19	6283.18
BANDWIDTH	4,19	25132.7

continues on next page



**RPW Data Product
Description Document**

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **43**

Tab. 4.4 – continued from previous page

Variable Name	Index	Value
BANDWIDTH	1,20	410.104
BANDWIDTH	2,20	1640.32
BANDWIDTH	3,20	6561.39
BANDWIDTH	4,20	26245.5
BANDWIDTH	1,21	428.236
BANDWIDTH	2,21	1712.95
BANDWIDTH	3,21	6851.87
BANDWIDTH	4,21	27407.5
BANDWIDTH	1,22	447.181
BANDWIDTH	2,22	1788.81
BANDWIDTH	3,22	7155.21
BANDWIDTH	4,22	28620.9
BANDWIDTH	1,23	466.982
BANDWIDTH	2,23	1868.02
BANDWIDTH	3,23	7472.03
BANDWIDTH	4,23	29888.0
BANDWIDTH	1,24	487.686
BANDWIDTH	2,24	1950.7
BANDWIDTH	3,24	7802.84
BANDWIDTH	4,24	31211.3
BANDWIDTH	1,25	509.247
BANDWIDTH	2,25	2037.08
BANDWIDTH	3,25	8148.31
BANDWIDTH	4,25	32593.1
BANDWIDTH	1,26	531.8
BANDWIDTH	2,26	2127.24
BANDWIDTH	3,26	8509.07
BANDWIDTH	4,26	34036.2
BANDWIDTH	1,27	555.345
BANDWIDTH	2,27	2221.43
BANDWIDTH	3,27	8885.79
BANDWIDTH	4,27	35543.1
BANDWIDTH	1,28	579.928
BANDWIDTH	2,28	2319.8
BANDWIDTH	3,28	9279.16
BANDWIDTH	4,28	37116.7
BANDWIDTH	1,29	605.638
BANDWIDTH	2,29	2422.51
BANDWIDTH	3,29	9689.99
BANDWIDTH	4,29	38760.0
BANDWIDTH	1,30	632.431

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 44

Tab. 4.4 – continued from previous page

Variable Name	Index	Value
BANDWIDTH	2,30	2529.77
BANDWIDTH	3,30	10119.0
BANDWIDTH	4,30	40476.1
BANDWIDTH	1,31	660.442
BANDWIDTH	2,31	2641.77
BANDWIDTH	3,31	10567.0
BANDWIDTH	4,31	42268.1
BANDWIDTH	1,32	689.671
BANDWIDTH	2,32	2758.73
BANDWIDTH	3,32	11034.9
BANDWIDTH	4,32	44139.5
ACQUISITION_TIME_UNITS	1	s
ACQUISITION_TIME_UNITS	2	s / 65536
ACQUISITION_TIME_LABEL	1	CUC coarse part time
ACQUISITION_TIME_LABEL	2	CUC fine part time
BAND_LABEL	1	A
BAND_LABEL	2	B
BAND_LABEL	3	C
BAND_LABEL	4	D
CHANNEL_LABEL	1	1
CHANNEL_LABEL	2	2
TEMPERATURE_LABEL	1	Analog
TEMPERATURE_LABEL	2	Preamp1
TEMPERATURE_LABEL	3	Preamp2
TEMPERATURE_LABEL	4	Preamp3
RPW_STATUS_LABEL	1	BIAS_ON_OFF
RPW_STATUS_LABEL	2	LFR_ON_OFF
RPW_STATUS_LABEL	3	TDS_ON_OFF
RPW_STATUS_LABEL	4	THR_ON_OFF
RPW_STATUS_LABEL	5	ANT1_ON_OFF
RPW_STATUS_LABEL	6	ANT2_ON_OFF
RPW_STATUS_LABEL	7	ANT3_ON_OFF
RPW_STATUS_LABEL	8	SCM_ON_OFF
RPW_STATUS_LABEL	9	BIAS3
RPW_STATUS_LABEL	10	BIAS2
RPW_STATUS_LABEL	11	BIAS1
RPW_STATUS_LABEL	12	HV
RPW_STATUS_LABEL	13	M_LFR
RPW_STATUS_LABEL	14	C_LFR
RPW_STATUS_LABEL	15	M_TDS
TNR_BAND_FREQ	1,1	3992

continues on next page



**RPW Data Product
Description Document**

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03

Date: March 11, 2021

Page: **45**

Tab. 4.4 – continued from previous page

Variable Name	Index	Value
TNR_BAND_FREQ	2,1	15967
TNR_BAND_FREQ	3,1	63869
TNR_BAND_FREQ	4,1	255474
TNR_BAND_FREQ	1,2	4169
TNR_BAND_FREQ	2,2	16674
TNR_BAND_FREQ	3,2	66696
TNR_BAND_FREQ	4,2	266785
TNR_BAND_FREQ	1,3	4353
TNR_BAND_FREQ	2,3	17412
TNR_BAND_FREQ	3,3	69649
TNR_BAND_FREQ	4,3	278597
TNR_BAND_FREQ	1,4	4546
TNR_BAND_FREQ	2,4	18183
TNR_BAND_FREQ	3,4	72733
TNR_BAND_FREQ	4,4	290931
TNR_BAND_FREQ	1,5	4747
TNR_BAND_FREQ	2,5	18988
TNR_BAND_FREQ	3,5	75953
TNR_BAND_FREQ	4,5	303812
TNR_BAND_FREQ	1,6	4957
TNR_BAND_FREQ	2,6	19829
TNR_BAND_FREQ	3,6	79316
TNR_BAND_FREQ	4,6	317263
TNR_BAND_FREQ	1,7	5177
TNR_BAND_FREQ	2,7	20707
TNR_BAND_FREQ	3,7	82827
TNR_BAND_FREQ	4,7	331309
TNR_BAND_FREQ	1,8	5406
TNR_BAND_FREQ	2,8	21624
TNR_BAND_FREQ	3,8	86494
TNR_BAND_FREQ	4,8	345977
TNR_BAND_FREQ	1,9	5645
TNR_BAND_FREQ	2,9	22581
TNR_BAND_FREQ	3,9	90324
TNR_BAND_FREQ	4,9	361295
TNR_BAND_FREQ	1,10	5895
TNR_BAND_FREQ	2,10	23581
TNR_BAND_FREQ	3,10	94323
TNR_BAND_FREQ	4,10	377291
TNR_BAND_FREQ	1,11	6156
TNR_BAND_FREQ	2,11	24625

continues on next page



**RPW Data Product
Description Document**

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03

Date: March 11, 2021

Page: **46**

Tab. 4.4 – continued from previous page

Variable Name	Index	Value
TNR_BAND_FREQ	3,11	98499
TNR_BAND_FREQ	4,11	393995
TNR_BAND_FREQ	1,12	6429
TNR_BAND_FREQ	2,12	25715
TNR_BAND_FREQ	3,12	102860
TNR_BAND_FREQ	4,12	411439
TNR_BAND_FREQ	1,13	6713
TNR_BAND_FREQ	2,13	26853
TNR_BAND_FREQ	3,13	107414
TNR_BAND_FREQ	4,13	429655
TNR_BAND_FREQ	1,14	7011
TNR_BAND_FREQ	2,14	28042
TNR_BAND_FREQ	3,14	112169
TNR_BAND_FREQ	4,14	448677
TNR_BAND_FREQ	1,15	7321
TNR_BAND_FREQ	2,15	29284
TNR_BAND_FREQ	3,15	117135
TNR_BAND_FREQ	4,15	468542
TNR_BAND_FREQ	1,16	7645
TNR_BAND_FREQ	2,16	30580
TNR_BAND_FREQ	3,16	122322
TNR_BAND_FREQ	4,16	489286
TNR_BAND_FREQ	1,17	7984
TNR_BAND_FREQ	2,17	31934
TNR_BAND_FREQ	3,17	127737
TNR_BAND_FREQ	4,17	510949
TNR_BAND_FREQ	1,18	8337
TNR_BAND_FREQ	2,18	33348
TNR_BAND_FREQ	3,18	133393
TNR_BAND_FREQ	4,18	533570
TNR_BAND_FREQ	1,19	8706
TNR_BAND_FREQ	2,19	34825
TNR_BAND_FREQ	3,19	139298
TNR_BAND_FREQ	4,19	557193
TNR_BAND_FREQ	1,20	9092
TNR_BAND_FREQ	2,20	36366
TNR_BAND_FREQ	3,20	145466
TNR_BAND_FREQ	4,20	581862
TNR_BAND_FREQ	1,21	9494
TNR_BAND_FREQ	2,21	37976
TNR_BAND_FREQ	3,21	151906

continues on next page



**RPW Data Product
Description Document**

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **47**

Tab. 4.4 – continued from previous page

Variable Name	Index	Value
TNR_BAND_FREQ	4,21	607624
TNR_BAND_FREQ	1,22	9914
TNR_BAND_FREQ	2,22	39658
TNR_BAND_FREQ	3,22	158631
TNR_BAND_FREQ	4,22	634525
TNR_BAND_FREQ	1,23	10353
TNR_BAND_FREQ	2,23	41414
TNR_BAND_FREQ	3,23	165655
TNR_BAND_FREQ	4,23	662618
TNR_BAND_FREQ	1,24	10812
TNR_BAND_FREQ	2,24	43247
TNR_BAND_FREQ	3,24	172989
TNR_BAND_FREQ	4,24	691955
TNR_BAND_FREQ	1,25	11290
TNR_BAND_FREQ	2,25	45162
TNR_BAND_FREQ	3,25	180648
TNR_BAND_FREQ	4,25	722590
TNR_BAND_FREQ	1,26	11790
TNR_BAND_FREQ	2,26	47161
TNR_BAND_FREQ	3,26	188646
TNR_BAND_FREQ	4,26	754582
TNR_BAND_FREQ	1,27	12312
TNR_BAND_FREQ	2,27	49249
TNR_BAND_FREQ	3,27	196998
TNR_BAND_FREQ	4,27	787990
TNR_BAND_FREQ	1,28	12857
TNR_BAND_FREQ	2,28	51430
TNR_BAND_FREQ	3,28	205719
TNR_BAND_FREQ	4,28	822878
TNR_BAND_FREQ	1,29	13427
TNR_BAND_FREQ	2,29	53707
TNR_BAND_FREQ	3,29	214827
TNR_BAND_FREQ	4,29	859310
TNR_BAND_FREQ	1,30	14021
TNR_BAND_FREQ	2,30	56085
TNR_BAND_FREQ	3,30	224339
TNR_BAND_FREQ	4,30	897355
TNR_BAND_FREQ	1,31	14642
TNR_BAND_FREQ	2,31	58568
TNR_BAND_FREQ	3,31	234271
TNR_BAND_FREQ	4,31	937084

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 48

Tab. 4.4 – continued from previous page

Variable Name	Index	Value
TNR_BAND_FREQ	1,32	15290
TNR_BAND_FREQ	2,32	61161
TNR_BAND_FREQ	3,32	244643
TNR_BAND_FREQ	4,32	978572

4.1.2.3 SOLO_L1_RPW-HFR-SURV data product

The “SOLO_L1_RPW-HFR-SURV” data product contains the uncalibrated HFR receiver spectrum survey data.

The “SOLO_L1_RPW-HFR-SURV” data are written in CDF format files. There is a single file per day, generated from data in the corresponding SOLO_L0_RPW parent file.

4.1.2.3.1 Filename

```
solo_l1_rpw-hfr-surv_[YYYYMMDD]_V[version].cdf
```

4.1.2.3.2 Expected cadence and data volume


Nominal cadence: 1 file per day

Expected data volume: 200 MB per file

4.1.2.3.3 Global Attributes

Attribute Name	Entry Number	Data Type	Value
ACCESS_FORMAT	1	CDF_CHAR	CDF
ACCESS_URL	1	CDF_CHAR	
Acknowledgement	1	CDF_CHAR	The authors are pleased to acknowledge the Solar Orbiter/RPW Investigation (M. Maksimovic, PIs) for access to data.
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009 (2.4)
Data_type	1	CDF_CHAR	H0>High Resolution data
Data_version	1	CDF_CHAR	
Descriptor	1	CDF_CHAR	RPW-HFR-SURV>RPW High Frequency Receiver in survey mode


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 49

Tab. 4.5 – continued from previous page


Attribute Name	Entry Number	Data Type	Value
Discipline	1	CDF_CHAR	Space Physics>Interplanetary Studies
File_naming_convention	1	CDF_CHAR	<Source_name>_<LEVEL>_<Descriptor>_<Date>
File_ID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	RPW Operations Centre located at LESIA (Meudon, France)
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	https://rpw.lesia.obspm.fr
Instrument_type	1	CDF_CHAR	Radio and Plasma Waves (space)
LINK_TEXT	1	CDF_CHAR	RPW Web site at LESIA
LINK_TITLE	1	CDF_CHAR	RPW Web site
Logical_file_id	1	CDF_CHAR	
Logical_source	1	CDF_CHAR	solo_L1_rpw-hfr-surv
Logical_source_description	1	CDF_CHAR	Solar Orbiter Radio/Plasma Wave, HFR L1 parameters
Mission_group	1	CDF_CHAR	Solar Orbiter
SKELETON_MODS	1	CDF_CHAR	July 2015 : initial release, X. BONNIN (CNRS-LESIA)
SKELETON_MODS	2	CDF_CHAR	V04: Update for solo data definition, X. BONNIN (CNRS-LESIA), April 2019
SKELETON_MODS	3	CDF_CHAR	V05: Update to compliant with SOL-SGS-TN-0009 Issue 2, Rev 4 - X.Bonnin, 09/2019
SKELETON_MODS	4	CDF_CHAR	V06: March 2020 : Delete Test_* g.attrs - X.Bonnin (CNRS, LESIA)
SKELETON_MODS	5	CDF_CHAR	V07: Removing POST_GAP_FLAG zvar and UCD vattr. (X.Bonnin, 09/2020)
SKELETON_MODS	6	CDF_CHAR	V08: Jan. 2021 : Fix inconsistencies against the ISTP CDF guidelines, X.Bonnin (CNRS-LESIA)
PACKET_SRDB_ID	1	CDF_CHAR	
Parent_version	1	CDF_CHAR	
Parents	1	CDF_CHAR	
PI_affiliation	1	CDF_CHAR	LESIA, Observatoire de Paris-CNRS
PI_name	1	CDF_CHAR	M.Maksimovic
Pipeline_version	1	CDF_CHAR	
Project	1	CDF_CHAR	SOLO>Solar Orbiter
Provider	1	CDF_CHAR	LESIA (Meudon, France)
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00006-LES (1.3)

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 50


Tab. 4.5 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Rules_of_use	1	CDF_CHAR	Data provided are publicly available. If used in presentations or publications, please acknowledge Solar Orbiter/RPW Investigation (M. Maksimovic, PIs). Please read carefully the caveats attached to the data. For reporting purposes, we request bibliography information for any publication, etc., using these data. Please send information on the use of this data to: M. Maksimovic (PI).
SKELETON_PARENT	1	CDF_CHAR	SOLO_L1_RPW-HFR-SURV_V08.cdf
Skeleton_version	1	CDF_CHAR	08
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	SOLO>Solar Orbiter
SPECTRAL_RANGE_MAX	1	CDF_CHAR	
SPECTRAL_RANGE_MIN	1	CDF_CHAR	
TEXT	1	CDF_CHAR	This file contains RPW HFR level 1 science survey data for the current day.
TEXT_supplement_1	1	CDF_CHAR	
TIME_MAX	1	CDF_CHAR	
TIME_MIN	1	CDF_CHAR	
Validate	1	CDF_CHAR	
CAVEATS	1	CDF_CHAR	Engineering data. No good for publication.
Datetime	1	CDF_CHAR	
Free_field	1	CDF_CHAR	
Job_ID	1	CDF_CHAR	
LEVEL	1	CDF_CHAR	L1>Level 1 data processing
SOOP_TYPE	1	CDF_CHAR	
Data_product	1	CDF_CHAR	SURV>SURV
TARGET_NAME	1	CDF_CHAR	Sun
TARGET_CLASS	1	CDF_CHAR	Star
TARGET_REGION	1	CDF_CHAR	Solar Wind
Pipeline_name	1	CDF_CHAR	
Dataset_ID	1	CDF_CHAR	SOLO_L1_RPW-HFR-SURV
OBS_ID	1	CDF_CHAR	
MODS	1	CDF_CHAR	

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 51

4.1.2.3.4 zVariables


Variable Name	Data Type	Number El- ements	Dims	Sizes
Epoch	CDF_TIME_TT2000	1	0	
ACQUISITION_TIME	CDF_UINT4	1	1	2
QUALITY_FLAG	CDF_UINT1	1	0	
QUALITY_BITMASK	CDF_UINT2	1	0	
SWEEP_NUM	CDF_UINT4	1	0	
SAMPLE_TIME	CDF_REAL8	1	0	
TICKS_NR	CDF_INT8	1	0	
DELTA_TIME	CDF_REAL8	1	0	
SWEEP_MODE	CDF_UINT1	1	0	
SURVEY_MODE	CDF_UINT1	1	0	
CHANNEL_STATUS	CDF_UINT1	1	1	2
CALIBRATION_LEVEL	CDF_UINT1	1	0	
AVERAGE_NR	CDF_UINT1	1	0	
FRONT_END	CDF_UINT1	1	0	
SENSOR_CONFIG	CDF_UINT1	1	1	2
RPW_STATUS	CDF_UINT1	1	1	15
TEMPERATURE	CDF_UINT1	1	1	4
HFR_BAND	CDF_UINT1	1	0	
INTEGRATION_TIME	CDF_UINT1	1	0	
BANDWIDTH	CDF_UINT1	1	0	
FREQUENCY	CDF_UINT2	1	0	
AGC1	CDF_UINT2	1	0	
AGC2	CDF_UINT2	1	0	
ACQUISITION_TIME_UNITS	CDF_CHAR	16	1	2
ACQUISITION_TIME_LABEL	CDF_CHAR	32	1	2
CHANNEL_LABEL	CDF_CHAR	8	1	2
RPW_STATUS_LABEL	CDF_CHAR	16	1	15
TEMPERATURE_LABEL	CDF_CHAR	8	1	4
SCET	CDF_REAL8	1	0	
SYNCHRO_FLAG	CDF_UINT1	1	0	

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 52

4.1.2.3.5 Variable attributes

Variable Name	Attribute Name	Data Type	Value
Epoch	FIELDNAM	CDF_CHAR	Epoch
Epoch	CATDESC	CDF_CHAR	Default time
Epoch	VALIDMIN	CDF_TIME_TT2000	1990-01-01T00:00:00.000000000
Epoch	VALIDMAX	CDF_TIME_TT2000	2029-12-31T23:59:59.999000000
Epoch	SCALEMIN	CDF_TIME_TT2000	1990-01-01T00:00:00.000000000
Epoch	SCALEMAX	CDF_TIME_TT2000	2029-12-31T23:59:59.999000000
Epoch	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch	LABLAXIS	CDF_CHAR	Epoch
Epoch	UNITS	CDF_CHAR	ns
Epoch	VAR_TYPE	CDF_CHAR	support_data
Epoch	SCALETYP	CDF_CHAR	linear
Epoch	MONOTON	CDF_CHAR	INCREASE
Epoch	TIME_BASE	CDF_CHAR	J2000
Epoch	TIME_SCALE	CDF_CHAR	Terrestrial Time
Epoch	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
Epoch	Resolution	CDF_CHAR	15258 ns
Epoch	Bin_location	CDF_CHAR	0.5
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file. Epoch is taken at the middle of the current HFR data sample measurement.
ACQUISITION_TIME	FIELDNAM	CDF_CHAR	CCSDS CUC Acquisition time as returned in TM packets
ACQUISITION_TIME	CATDESC	CDF_CHAR	RPW HFR acquisition time
ACQUISITION_TIME	VALIDMIN	CDF_UINT4	0
ACQUISITION_TIME	VALIDMAX	CDF_UINT4	4294967294
ACQUISITION_TIME	SCALEMIN	CDF_UINT4	0
ACQUISITION_TIME	SCALEMAX	CDF_UINT4	4294967294
ACQUISITION_TIME	FILLVAL	CDF_UINT4	4294967295
ACQUISITION_TIME	VAR_TYPE	CDF_CHAR	support_data
ACQUISITION_TIME	SCALETYP	CDF_CHAR	linear
ACQUISITION_TIME	TIME_BASE	CDF_CHAR	2000-01-01T00:00:00


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 53

Tab. 4.7 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
ACQUISITION_TIME	TIME_SCALE	CDF_CHAR	RPW DPU clock
ACQUISITION_TIME	VAR_NOTES	CDF_CHAR	Acquisition time of the first sample contained in the packet. (CUC format)
ACQUISITION_TIME	DEPEND_0	CDF_CHAR	Epoch
ACQUISITION_TIME	DISPLAY_TYPE	CDF_CHAR	time_series
ACQUISITION_TIME	FORMAT	CDF_CHAR	I10.0
ACQUISITION_TIME	LABL_PTR_1	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME	UNIT_PTR	CDF_CHAR	ACQUISITION_TIME_UNITS
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	VALIDMIN	CDF_UINT1	0
QUALITY_FLAG	VALIDMAX	CDF_UINT1	4
QUALITY_FLAG	SCALEMIN	CDF_UINT1	0
QUALITY_FLAG	SCALEMAX	CDF_UINT1	4
QUALITY_FLAG	FILLVAL	CDF_UINT1	255
QUALITY_FLAG	LABLAXIS	CDF_CHAR	Quality flag
QUALITY_FLAG	UNITS	CDF_CHAR	
QUALITY_FLAG	VAR_TYPE	CDF_CHAR	support_data
QUALITY_FLAG	SCALETYP	CDF_CHAR	linear
QUALITY_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the quality of the data
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	UNITS	CDF_CHAR	
QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context information or status at the receiver or experiment level
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 54

Tab. 4.7 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
SWEEP_NUM	FIELDNAM	CDF_CHAR	SWEEP_NUM
SWEEP_NUM	CATDESC	CDF_CHAR	HFR sweep index number
SWEEP_NUM	VALIDMIN	CDF_UINT4	1
SWEEP_NUM	VALIDMAX	CDF_UINT4	4294967294
SWEEP_NUM	SCALEMIN	CDF_UINT4	1
SWEEP_NUM	SCALEMAX	CDF_UINT4	4294967294
SWEEP_NUM	FILLVAL	CDF_UINT4	4294967295
SWEEP_NUM	LABLAXIS	CDF_CHAR	HFR sweep index
SWEEP_NUM	UNITS	CDF_CHAR	
SWEEP_NUM	VAR_TYPE	CDF_CHAR	data
SWEEP_NUM	SCALETYP	CDF_CHAR	linear
SWEEP_NUM	VAR_NOTES	CDF_CHAR	HFR sweep index number in the current file
SWEEP_NUM	DEPEND_0	CDF_CHAR	Epoch
SWEEP_NUM	DISPLAY_TYPE	CDF_CHAR	time_series
SWEEP_NUM	FORMAT	CDF_CHAR	I10.0
SAMPLE_TIME	FIELDNAM	CDF_CHAR	SAMPLE_TIME
SAMPLE_TIME	CATDESC	CDF_CHAR	Time of the HFR data sample since the beginning of the current sweep
SAMPLE_TIME	VALIDMIN	CDF_REAL8	0.0
SAMPLE_TIME	VALIDMAX	CDF_REAL8	1.0e+30
SAMPLE_TIME	SCALEMIN	CDF_REAL8	0.0
SAMPLE_TIME	SCALEMAX	CDF_REAL8	1.0e+30
SAMPLE_TIME	FILLVAL	CDF_REAL8	-1.0e+31
SAMPLE_TIME	LABLAXIS	CDF_CHAR	HFR sample time
SAMPLE_TIME	UNITS	CDF_CHAR	us
SAMPLE_TIME	VAR_TYPE	CDF_CHAR	support_data
SAMPLE_TIME	SCALETYP	CDF_CHAR	linear
SAMPLE_TIME	Bin_location	CDF_CHAR	0.5
SAMPLE_TIME	VAR_NOTES	CDF_CHAR	Time of the HFR data sample since the beginning of the current sweep. Time is computed at the middle of the measurement.
SAMPLE_TIME	DEPEND_0	CDF_CHAR	Epoch
SAMPLE_TIME	DISPLAY_TYPE	CDF_CHAR	time_series
SAMPLE_TIME	FORMAT	CDF_CHAR	F32.6
TICKS_NR	FIELDNAM	CDF_CHAR	TICKS_NR

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 55

Tab. 4.7 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
TICKS_NR	CATDESC	CDF_CHAR	Number of ticks since the ACQUISITION_TIME
TICKS_NR	VALIDMIN	CDF_INT8	0
TICKS_NR	VALIDMAX	CDF_INT8	9223372036854775807
TICKS_NR	SCALEMIN	CDF_INT8	0
TICKS_NR	SCALEMAX	CDF_INT8	9223372036854775807
TICKS_NR	FILLVAL	CDF_INT8	-9223372036854775808
TICKS_NR	LABLAXIS	CDF_CHAR	TNR ticks
TICKS_NR	UNITS	CDF_CHAR	
TICKS_NR	VAR_TYPE	CDF_CHAR	support_data
TICKS_NR	SCALETYP	CDF_CHAR	linear
TICKS_NR	VAR_NOTES	CDF_CHAR	Number of ticks between two data samples for the current HFR.
TICKS_NR	DEPEND_0	CDF_CHAR	Epoch
TICKS_NR	DISPLAY_TYPE	CDF_CHAR	time_series
TICKS_NR	FORMAT	CDF_CHAR	I10.0
DELTA_TIME	FIELDNAM	CDF_CHAR	DELTA_TIME
DELTA_TIME	CATDESC	CDF_CHAR	RPW HFR band delta time
DELTA_TIME	VALIDMIN	CDF_REAL8	0.0
DELTA_TIME	VALIDMAX	CDF_REAL8	1.0e+30
DELTA_TIME	SCALEMIN	CDF_REAL8	0.0
DELTA_TIME	SCALEMAX	CDF_REAL8	1.0e+30
DELTA_TIME	FILLVAL	CDF_REAL8	-1.0e+31
DELTA_TIME	LABLAXIS	CDF_CHAR	HFR delta time
DELTA_TIME	UNITS	CDF_CHAR	microsec
DELTA_TIME	VAR_TYPE	CDF_CHAR	support_data
DELTA_TIME	SCALETYP	CDF_CHAR	linear
DELTA_TIME	MONOTON	CDF_CHAR	INCREASE
DELTA_TIME	VAR_NOTES	CDF_CHAR	Delta time of the HF band between two data samples in microseconds. Computed from TICKS_NR * (1 tick = 15.258 us)
DELTA_TIME	DEPEND_0	CDF_CHAR	Epoch
DELTA_TIME	DISPLAY_TYPE	CDF_CHAR	time_series
DELTA_TIME	FORMAT	CDF_CHAR	F32.6
SWEEP_MODE	FIELDNAM	CDF_CHAR	SWEEP_MODE
SWEEP_MODE	CATDESC	CDF_CHAR	HFR sweep mode of the current record
SWEEP_MODE	VALIDMIN	CDF_UINT1	0

continues on next page



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **56**

Tab. 4.7 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SWEEP_MODE	VALIDMAX	CDF_UINT1	1
SWEEP_MODE	SCALEMIN	CDF_UINT1	0
SWEEP_MODE	SCALEMAX	CDF_UINT1	1
SWEEP_MODE	FILLVAL	CDF_UINT1	255
SWEEP_MODE	LABLAXIS	CDF_CHAR	HFR sweep mode
SWEEP_MODE	UNITS	CDF_CHAR	
SWEEP_MODE	VAR_TYPE	CDF_CHAR	data
SWEEP_MODE	SCALETYP	CDF_CHAR	linear
SWEEP_MODE	VAR_NOTES	CDF_CHAR	HFR sweep mode of the current record. Possible values are: 0=Automatic sweep, 1=List sweep.
SWEEP_MODE	DEPEND_0	CDF_CHAR	Epoch
SWEEP_MODE	DISPLAY_TYPE	CDF_CHAR	time_series
SWEEP_MODE	FORMAT	CDF_CHAR	I1.1
SURVEY_MODE	FIELDNAM	CDF_CHAR	SURVEY_MODE
SURVEY_MODE	CATDESC	CDF_CHAR	THR survey mode
SURVEY_MODE	VALIDMIN	CDF_UINT1	0
SURVEY_MODE	VALIDMAX	CDF_UINT1	1
SURVEY_MODE	SCALEMIN	CDF_UINT1	0
SURVEY_MODE	SCALEMAX	CDF_UINT1	1
SURVEY_MODE	FILLVAL	CDF_UINT1	255
SURVEY_MODE	LABLAXIS	CDF_CHAR	THR survey mode
SURVEY_MODE	UNITS	CDF_CHAR	
SURVEY_MODE	VAR_TYPE	CDF_CHAR	data
SURVEY_MODE	SCALETYP	CDF_CHAR	linear
SURVEY_MODE	VAR_NOTES	CDF_CHAR	Flag to indicate if the receiver in the SURVEY_BURST (=1) or SURVEY_NORMAL (=0) mode
SURVEY_MODE	DEPEND_0	CDF_CHAR	Epoch
SURVEY_MODE	DISPLAY_TYPE	CDF_CHAR	time_series
SURVEY_MODE	FORMAT	CDF_CHAR	I1.1
CHANNEL_STATUS	FIELDNAM	CDF_CHAR	CHANNEL_STATUS
CHANNEL_STATUS	CATDESC	CDF_CHAR	HFR channel status of the current record
CHANNEL_STATUS	VALIDMIN	CDF_UINT1	0
CHANNEL_STATUS	VALIDMAX	CDF_UINT1	254
CHANNEL_STATUS	SCALEMIN	CDF_UINT1	0
CHANNEL_STATUS	SCALEMAX	CDF_UINT1	254
CHANNEL_STATUS	FILLVAL	CDF_UINT1	255


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 57

Tab. 4.7 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
CHANNEL_STATUS	UNITS	CDF_CHAR	
CHANNEL_STATUS	VAR_TYPE	CDF_CHAR	support_data
CHANNEL_STATUS	SCALETYP	CDF_CHAR	linear
CHANNEL_STATUS	VAR_NOTES	CDF_CHAR	HFR channel status of the current record. Possible values are: 0=OFF, 1=ON.
CHANNEL_STATUS	DEPEND_0	CDF_CHAR	Epoch
CHANNEL_STATUS	DISPLAY_TYPE	CDF_CHAR	time_series
CHANNEL_STATUS	FORMAT	CDF_CHAR	I3.3
CHANNEL_STATUS	LABL_PTR_1	CDF_CHAR	CHANNEL_LABEL
CALIBRATION_LEVEL	FIELDNAM	CDF_CHAR	CALIBRATION_LEVEL
CALIBRATION_LEVEL	CATDESC	CDF_CHAR	receiver calibration level
CALIBRATION_LEVEL	VALIDMIN	CDF_UINT1	0
CALIBRATION_LEVEL	VALIDMAX	CDF_UINT1	8
CALIBRATION_LEVEL	SCALEMIN	CDF_UINT1	0
CALIBRATION_LEVEL	SCALEMAX	CDF_UINT1	8
CALIBRATION_LEVEL	FILLVAL	CDF_UINT1	255
CALIBRATION_LEVEL	LABLAXIS	CDF_CHAR	TNR Cal. Level
CALIBRATION_LEVEL	UNITS	CDF_CHAR	
CALIBRATION_LEVEL	VAR_TYPE	CDF_CHAR	data
CALIBRATION_LEVEL	SCALETYP	CDF_CHAR	linear
CALIBRATION_LEVEL	VAR_NOTES	CDF_CHAR	Internal calibration level (0=no calibration)
CALIBRATION_LEVEL	DEPEND_0	CDF_CHAR	Epoch
CALIBRATION_LEVEL	DISPLAY_TYPE	CDF_CHAR	time_series
CALIBRATION_LEVEL	FORMAT	CDF_CHAR	I1.1
AVERAGE_NR	FIELDNAM	CDF_CHAR	AVERAGE_NR
AVERAGE_NR	CATDESC	CDF_CHAR	Number of averages
AVERAGE_NR	VALIDMIN	CDF_UINT1	16
AVERAGE_NR	VALIDMAX	CDF_UINT1	128
AVERAGE_NR	SCALEMIN	CDF_UINT1	16
AVERAGE_NR	SCALEMAX	CDF_UINT1	128
AVERAGE_NR	FILLVAL	CDF_UINT1	255
AVERAGE_NR	LABLAXIS	CDF_CHAR	averages
AVERAGE_NR	UNITS	CDF_CHAR	
AVERAGE_NR	VAR_TYPE	CDF_CHAR	data
AVERAGE_NR	SCALETYP	CDF_CHAR	linear
AVERAGE_NR	VAR_NOTES	CDF_CHAR	Number of averages (16, 32, 64 or 128) applied
AVERAGE_NR	DEPEND_0	CDF_CHAR	Epoch
AVERAGE_NR	DISPLAY_TYPE	CDF_CHAR	time_series


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 58

Tab. 4.7 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
AVERAGE_NR	FORMAT	CDF_CHAR	I3.3
FRONT_END	FIELDNAM	CDF_CHAR	FRONT_END
FRONT_END	CATDESC	CDF_CHAR	Front end setting
FRONT_END	VALIDMIN	CDF_UINT1	0
FRONT_END	VALIDMAX	CDF_UINT1	2
FRONT_END	SCALEMIN	CDF_UINT1	0
FRONT_END	SCALEMAX	CDF_UINT1	2
FRONT_END	FILLVAL	CDF_UINT1	255
FRONT_END	LABLAXIS	CDF_CHAR	Front enf
FRONT_END	UNITS	CDF_CHAR	
FRONT_END	VAR_TYPE	CDF_CHAR	data
FRONT_END	SCALETYP	CDF_CHAR	linear
FRONT_END	VAR_NOTES	CDF_CHAR	Front end setting (0= GND, 1=PREAMP, 2=CAL)
FRONT_END	DEPEND_0	CDF_CHAR	Epoch
FRONT_END	DISPLAY_TYPE	CDF_CHAR	time_series
FRONT_END	FORMAT	CDF_CHAR	I1.1
SENSOR_CONFIG	FIELDNAM	CDF_CHAR	SENSOR_CONFIG
SENSOR_CONFIG	CATDESC	CDF_CHAR	THR sensor configuration
SENSOR_CONFIG	VALIDMIN	CDF_UINT1	0
SENSOR_CONFIG	VALIDMAX	CDF_UINT1	9
SENSOR_CONFIG	SCALEMIN	CDF_UINT1	0
SENSOR_CONFIG	SCALEMAX	CDF_UINT1	9
SENSOR_CONFIG	FILLVAL	CDF_UINT1	255
SENSOR_CONFIG	LABLAXIS	CDF_CHAR	THR sensor config.
SENSOR_CONFIG	UNITS	CDF_CHAR	
SENSOR_CONFIG	VAR_TYPE	CDF_CHAR	data
SENSOR_CONFIG	SCALETYP	CDF_CHAR	linear
SENSOR_CONFIG	VAR_NOTES	CDF_CHAR	Indicates the THR sensor configuration (V1=1, V2=2, V3=3, V1-V2=4, V2-V3=5, V3-V1=6, B_MF=7, HF_V1-V2=9, HF_V2-V3=10, HF_V3-V1=11)
SENSOR_CONFIG	DEPEND_0	CDF_CHAR	Epoch
SENSOR_CONFIG	DISPLAY_TYPE	CDF_CHAR	time_series
SENSOR_CONFIG	FORMAT	CDF_CHAR	I1.1
RPW_STATUS	FIELDNAM	CDF_CHAR	RPW_STATUS
RPW_STATUS	CATDESC	CDF_CHAR	RPW status
RPW_STATUS	VALIDMIN	CDF_UINT1	0
RPW_STATUS	VALIDMAX	CDF_UINT1	1


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 59

Tab. 4.7 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
RPW_STATUS	SCALEMIN	CDF_UINT1	0
RPW_STATUS	SCALEMAX	CDF_UINT1	1
RPW_STATUS	FILLVAL	CDF_UINT1	255
RPW_STATUS	LABLAXIS	CDF_CHAR	RPW status
RPW_STATUS	UNITS	CDF_CHAR	
RPW_STATUS	VAR_TYPE	CDF_CHAR	data
RPW_STATUS	SCALETYP	CDF_CHAR	linear
RPW_STATUS	VAR_NOTES	CDF_CHAR	Flag to indicate the status of 15 RPW sub-systems
RPW_STATUS	DEPEND_0	CDF_CHAR	Epoch
RPW_STATUS	DISPLAY_TYPE	CDF_CHAR	time_series
RPW_STATUS	FORMAT	CDF_CHAR	I1.1
TEMPERATURE	FIELDNAM	CDF_CHAR	TEMPERATURE
TEMPERATURE	CATDESC	CDF_CHAR	PA temperature
TEMPERATURE	VALIDMIN	CDF_UINT1	0
TEMPERATURE	VALIDMAX	CDF_UINT1	254
TEMPERATURE	SCALEMIN	CDF_UINT1	0
TEMPERATURE	SCALEMAX	CDF_UINT1	254
TEMPERATURE	FILLVAL	CDF_UINT1	255
TEMPERATURE	UNITS	CDF_CHAR	degrees
TEMPERATURE	VAR_TYPE	CDF_CHAR	data
TEMPERATURE	SCALETYP	CDF_CHAR	linear
TEMPERATURE	VAR_NOTES	CDF_CHAR	Temperature of the 3 HF PAs and analog. in degrees. In the case of an internal calibration mode, it contains the PCB temperature and the 3 Volt-ages.
TEMPERATURE	DEPEND_0	CDF_CHAR	Epoch
TEMPERATURE	DISPLAY_TYPE	CDF_CHAR	time_series
TEMPERATURE	FORMAT	CDF_CHAR	I3.3
TEMPERATURE	LABL_PTR_1	CDF_CHAR	TEMPERATURE_LABEL
HFR_BAND	FIELDNAM	CDF_CHAR	HFR_BAND
HFR_BAND	CATDESC	CDF_CHAR	HFR frequency band of the current record
HFR_BAND	VALIDMIN	CDF_UINT1	1
HFR_BAND	VALIDMAX	CDF_UINT1	2
HFR_BAND	SCALEMIN	CDF_UINT1	0
HFR_BAND	SCALEMAX	CDF_UINT1	254
HFR_BAND	FILLVAL	CDF_UINT1	255
HFR_BAND	LABLAXIS	CDF_CHAR	HFR band


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 60

Tab. 4.7 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
HFR_BAND	UNITS	CDF_CHAR	
HFR_BAND	VAR_TYPE	CDF_CHAR	support_data
HFR_BAND	SCALETYP	CDF_CHAR	linear
HFR_BAND	VAR_NOTES	CDF_CHAR	HFR frequency band of the current record. Possible values are: 1=HF1, 2=HF2.
HFR_BAND	DEPEND_0	CDF_CHAR	Epoch
HFR_BAND	DISPLAY_TYPE	CDF_CHAR	time_series
HFR_BAND	FORMAT	CDF_CHAR	I3.3
INTEGRATION_TIME	FIELDNAM	CDF_CHAR	INTEGRATION_TIME
INTEGRATION_TIME	CATDESC	CDF_CHAR	Integration time of HFR
INTEGRATION_TIME	VALIDMIN	CDF_UINT1	1
INTEGRATION_TIME	VALIDMAX	CDF_UINT1	1
INTEGRATION_TIME	SCALEMIN	CDF_UINT1	0
INTEGRATION_TIME	SCALEMAX	CDF_UINT1	2
INTEGRATION_TIME	FILLVAL	CDF_UINT1	255
INTEGRATION_TIME	LABLAXIS	CDF_CHAR	Int. Time
INTEGRATION_TIME	UNITS	CDF_CHAR	ms
INTEGRATION_TIME	VAR_TYPE	CDF_CHAR	metadata
INTEGRATION_TIME	SCALETYP	CDF_CHAR	linear
INTEGRATION_TIME	VAR_NOTES	CDF_CHAR	Integration time of a single measurement on HF band in milliseconds. Total measurement duration T (ms) over a sweep cycle is $T = \text{AVERAGE_NR} * \text{INTEGRATION_TIME} * \text{N_FREQ}$, where AVERAGE_NR is the number of averages (i.e., 16, 32, 64 or 128) and N_FREQ is the number of frequencies in the current sweep.
INTEGRATION_TIME	DEPEND_0	CDF_CHAR	Epoch
INTEGRATION_TIME	DISPLAY_TYPE	CDF_CHAR	time_series
INTEGRATION_TIME	FORMAT	CDF_CHAR	I1.1
BANDWIDTH	FIELDNAM	CDF_CHAR	BANDWIDTH
BANDWIDTH	CATDESC	CDF_CHAR	Frequency bandwidth
BANDWIDTH	VALIDMIN	CDF_UINT1	0
BANDWIDTH	VALIDMAX	CDF_UINT1	30
BANDWIDTH	SCALEMIN	CDF_UINT1	0


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 61

Tab. 4.7 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BANDWIDTH	SCALEMAX	CDF_UINT1	254
BANDWIDTH	FILLVAL	CDF_UINT1	255
BANDWIDTH	LABLAXIS	CDF_CHAR	Bandwidth
BANDWIDTH	UNITS	CDF_CHAR	kHz
BANDWIDTH	VAR_TYPE	CDF_CHAR	metadata
BANDWIDTH	SCALETYP	CDF_CHAR	linear
BANDWIDTH	VAR_NOTES	CDF_CHAR	HFR frequency bandwidth in kHz
BANDWIDTH	DEPEND_0	CDF_CHAR	Epoch
BANDWIDTH	DISPLAY_TYPE	CDF_CHAR	time_series
BANDWIDTH	FORMAT	CDF_CHAR	I2.2
FREQUENCY	FIELDNAM	CDF_CHAR	FREQUENCY
FREQUENCY	CATDESC	CDF_CHAR	Frequency of analysis
FREQUENCY	VALIDMIN	CDF_UINT2	4
FREQUENCY	VALIDMAX	CDF_UINT2	16400
FREQUENCY	SCALEMIN	CDF_UINT2	4
FREQUENCY	SCALEMAX	CDF_UINT2	16400
FREQUENCY	FILLVAL	CDF_UINT2	65535
FREQUENCY	LABLAXIS	CDF_CHAR	Frequency
FREQUENCY	UNITS	CDF_CHAR	kHz
FREQUENCY	VAR_TYPE	CDF_CHAR	support_data
FREQUENCY	SCALETYP	CDF_CHAR	linear
FREQUENCY	VAR_NOTES	CDF_CHAR	Frequency of analysis in kHz
FREQUENCY	DEPEND_0	CDF_CHAR	Epoch
FREQUENCY	DISPLAY_TYPE	CDF_CHAR	time_series
FREQUENCY	FORMAT	CDF_CHAR	I5.5
AGC1	FIELDNAM	CDF_CHAR	AGC1
AGC1	CATDESC	CDF_CHAR	Automatic Gain Control of the current record on channel 1
AGC1	VALIDMIN	CDF_UINT2	0
AGC1	VALIDMAX	CDF_UINT2	65534
AGC1	SCALEMIN	CDF_UINT2	0
AGC1	SCALEMAX	CDF_UINT2	65534
AGC1	FILLVAL	CDF_UINT2	65535
AGC1	LABLAXIS	CDF_CHAR	AGC1
AGC1	UNITS	CDF_CHAR	
AGC1	VAR_TYPE	CDF_CHAR	data
AGC1	SCALETYP	CDF_CHAR	linear
AGC1	VAR_NOTES	CDF_CHAR	Automatic Gain Control of the current record on channel 1
AGC1	DEPEND_0	CDF_CHAR	Epoch


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 62

Tab. 4.7 – continued from previous page


Variable Name	Attribute Name	Data Type	Value
AGC1	DISPLAY_TYPE	CDF_CHAR	time_series
AGC1	FORMAT	CDF_CHAR	I5.5
AGC2	FIELDNAM	CDF_CHAR	AGC2
AGC2	CATDESC	CDF_CHAR	Automatic Gain Control of the current record on channel 2
AGC2	VALIDMIN	CDF_UINT2	0
AGC2	VALIDMAX	CDF_UINT2	65534
AGC2	SCALEMIN	CDF_UINT2	0
AGC2	SCALEMAX	CDF_UINT2	65534
AGC2	FILLVAL	CDF_UINT2	65535
AGC2	LABLAXIS	CDF_CHAR	AGC2
AGC2	UNITS	CDF_CHAR	
AGC2	VAR_TYPE	CDF_CHAR	data
AGC2	SCALETYP	CDF_CHAR	linear
AGC2	VAR_NOTES	CDF_CHAR	Automatic Gain Control of the current record on channel 2
AGC2	DEPEND_0	CDF_CHAR	Epoch
AGC2	DISPLAY_TYPE	CDF_CHAR	time_series
AGC2	FORMAT	CDF_CHAR	I5.5
ACQUISITION_TIME_UNITS	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_UNITS
ACQUISITION_TIME_UNITS	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME_UNIT_PTR attribute
ACQUISITION_TIME_UNITS	VAR_TYPE	CDF_CHAR	metadata
ACQUISITION_TIME_UNITS	FORMAT	CDF_CHAR	A16
ACQUISITION_TIME_LABEL	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME_LABEL	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME
ACQUISITION_TIME_LABEL	VAR_TYPE	CDF_CHAR	metadata
ACQUISITION_TIME_LABEL	FORMAT	CDF_CHAR	A32
CHANNEL_LABEL	FIELDNAM	CDF_CHAR	CHANNEL_LABEL
CHANNEL_LABEL	CATDESC	CDF_CHAR	Label for channel status
CHANNEL_LABEL	VAR_TYPE	CDF_CHAR	metadata
CHANNEL_LABEL	FORMAT	CDF_CHAR	A8
RPW_STATUS_LABEL	FIELDNAM	CDF_CHAR	RPW_STATUS_LABEL
RPW_STATUS_LABEL	CATDESC	CDF_CHAR	Label for RPW status
RPW_STATUS_LABEL	VAR_TYPE	CDF_CHAR	metadata
RPW_STATUS_LABEL	FORMAT	CDF_CHAR	A16
TEMPERATURE_LABEL	FIELDNAM	CDF_CHAR	TEMPERATURE_LABEL
TEMPERATURE_LABEL	CATDESC	CDF_CHAR	Label for PA temperature
TEMPERATURE_LABEL	VAR_TYPE	CDF_CHAR	metadata

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 63

Tab. 4.7 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
TEMPERATURE_LABEL	FORMAT	CDF_CHAR	A8
SCET	FIELDNAM	CDF_CHAR	Spacecraft Elapsed Time
SCET	CATDESC	CDF_CHAR	Elapsed Time of the onboard clock
SCET	VALIDMIN	CDF_REAL8	0.0
SCET	VALIDMAX	CDF_REAL8	1.0e+31
SCET	SCALEMIN	CDF_REAL8	0.0
SCET	SCALEMAX	CDF_REAL8	1.0e+31
SCET	FILLVAL	CDF_REAL8	-1.0e+31
SCET	LABLAXIS	CDF_CHAR	Spacecraft Elapsed Time (Ticks)
SCET	UNITS	CDF_CHAR	Ticks
SCET	VAR_TYPE	CDF_CHAR	support_data
SCET	SCALETYP	CDF_CHAR	linear
SCET	MONOTON	CDF_CHAR	INCREASE
SCET	TIME_BASE	CDF_CHAR	Spacecraft onboard clock
SCET	TIME_SCALE	CDF_CHAR	Spacecraft onboard clock
SCET	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
SCET	VAR_NOTES	CDF_CHAR	Spacecraft Elapsed Time
SCET	DEPEND_0	CDF_CHAR	Epoch
SCET	DISPLAY_TYPE	CDF_CHAR	time_series
SYNCHRO_FLAG	FIELDNAM	CDF_CHAR	SYNCHRO_FLAG
SYNCHRO_FLAG	CATDESC	CDF_CHAR	Receiver time synchronisation flag
SYNCHRO_FLAG	VALIDMIN	CDF_UINT1	0
SYNCHRO_FLAG	VALIDMAX	CDF_UINT1	1
SYNCHRO_FLAG	SCALEMIN	CDF_UINT1	0
SYNCHRO_FLAG	SCALEMAX	CDF_UINT1	1
SYNCHRO_FLAG	FILLVAL	CDF_UINT1	255
SYNCHRO_FLAG	LABLAXIS	CDF_CHAR	Time sync. Flag
SYNCHRO_FLAG	UNITS	CDF_CHAR	
SYNCHRO_FLAG	VAR_TYPE	CDF_CHAR	support_data
SYNCHRO_FLAG	SCALETYP	CDF_CHAR	linear
SYNCHRO_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate if the receiver time is synchronised or not (0=Not synchronized, 1=Synchronized)
SYNCHRO_FLAG	DEPEND_0	CDF_CHAR	Epoch
SYNCHRO_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
SYNCHRO_FLAG	FORMAT	CDF_CHAR	II.1


	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 64

4.1.2.3.6 Non-Record-Variant (NRV) Variables

Variable Name	Index	Value
INTEGRATION_TIME		1
BANDWIDTH		30
ACQUISITION_TIME_UNITS	1.0	s
ACQUISITION_TIME_UNITS	2.0	s / 65536
ACQUISITION_TIME_LABEL	1.0	CUC coarse part time
ACQUISITION_TIME_LABEL	2.0	CUC fine part time
CHANNEL_LABEL	1.0	Ch1
CHANNEL_LABEL	2.0	Ch2
RPW_STATUS_LABEL	1.0	BIAS_ON_OFF
RPW_STATUS_LABEL	2.0	LFR_ON_OFF
RPW_STATUS_LABEL	3.0	TDS_ON_OFF
RPW_STATUS_LABEL	4.0	THR_ON_OFF
RPW_STATUS_LABEL	5.0	ANT1_ON_OFF
RPW_STATUS_LABEL	6.0	ANT2_ON_OFF
RPW_STATUS_LABEL	7.0	ANT3_ON_OFF
RPW_STATUS_LABEL	8.0	SCM_ON_OFF
RPW_STATUS_LABEL	9.0	BIAS3
RPW_STATUS_LABEL	10.0	BIAS2
RPW_STATUS_LABEL	11.0	BIAS1
RPW_STATUS_LABEL	12.0	HV
RPW_STATUS_LABEL	13.0	M_LFR
RPW_STATUS_LABEL	14.0	C_LFR
RPW_STATUS_LABEL	15.0	M_TDS
TEMPERATURE_LABEL	1.0	Analog
TEMPERATURE_LABEL	2.0	Preamp1
TEMPERATURE_LABEL	3.0	Preamp2
TEMPERATURE_LABEL	4.0	Preamp3

4.1.2.4 SOLO_L1_RPW-TDS-SURV-RSWF data product

The “SOLO_L1_RPW-TDS-SURV-RSWF” data product contains the uncalibrated TDS receiver Regular Snapshot Waveform (RSWF) survey data. The “SOLO_L1_RPW-TDS-SURV-RSWF” data are written in CDF format files. There is a single file per day, generated from data in the corresponding SOLO_L0_RPW parent file.

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 65

4.1.2.4.1 Filename

```
solo_L1_rpw-tds-surv-rswf_[YYYYMMDD]_V[version].cdf
```

4.1.2.4.2 Expected cadence and data volume


Nominal cadence: 1 file per day

Expected data volume: 125 MB per file

4.1.2.4.3 Global Attributes

Attribute Name	Entry Number	Data Type	Value
ACCESS_URL	1	CDF_CHAR	
ACCESS_FORMAT	1	CDF_CHAR	CDF
Acknowledgement	1	CDF_CHAR	The authors are pleased to acknowledge the Solar Orbiter/RPW Investigation (M. Maksimovic, PIs) for access to data.
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009 (2.4)
Data_type	1	CDF_CHAR	H0>High Resolution data
Data_version	1	CDF_CHAR	
Descriptor	1	CDF_CHAR	RPW-TDS-SURV-RSWF> RPW Time Domain Sampler Regular Waveform Snapshot data in survey mode
Discipline	1	CDF_CHAR	Space Physics>Interplanetary Studies
File_naming_convention	1	CDF_CHAR	<Source_name>_<LEVEL>_<Descriptor>_<Date>
File_ID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	RPW Operations Centre located at LESIA (Meudon, France)
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	https://rpw.lesia.obspm.fr
Instrument_type	1	CDF_CHAR	Radio and Plasma Waves (space)
LINK_TEXT	1	CDF_CHAR	RPW Web site at LESIA
LINK_TITLE	1	CDF_CHAR	RPW Web site
Logical_file_id	1	CDF_CHAR	
Logical_source	1	CDF_CHAR	solo_L1_rpw-tds-surv-rswf
Logical_source_description	1	CDF_CHAR	Solar Orbiter Radio/Plasma Wave, TDS L1 parameters


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 66

Tab. 4.8 – continued from previous page


Attribute Name	Entry Number	Data Type	Value
Mission_group	1	CDF_CHAR	Solar Orbiter
SKELETON_MODS	1	CDF_CHAR	July 2016: data organization by snapshots, time vector added
SKELETON_MODS	2	CDF_CHAR	V04: Update for solo data definition, X. BONNIN (CNRS-LESIA), April 2019
SKELETON_MODS	3	CDF_CHAR	V05: Update to compliant with SOL-SGS-TN-0009 Issue 2, Rev 4 - X.Bonnin, 09/2019
SKELETON_MODS	4	CDF_CHAR	V06: March 2020 : Harmonize SAMPLING_RATE zvar and Test_* g.attrs - X.Bonnin (CNRS, LESIA)
SKELETON_MODS	5	CDF_CHAR	V07: Removing POST_GAP_FLAG zvar and UCD vattr. (X.Bonnin, 09/2020)
SKELETON_MODS	6	CDF_CHAR	V08: Jan. 2021 : Fix inconsistencies against the ISTP CDF guidelines, X.Bonnin (CNRS-LESIA)
Parent_version	1	CDF_CHAR	
Parents	1	CDF_CHAR	
PI_affiliation	1	CDF_CHAR	LESIA, Observatoire de Paris-CNRS
PI_name	1	CDF_CHAR	M.Maksimovic
Pipeline_version	1	CDF_CHAR	
Project	1	CDF_CHAR	SOLO>Solar Orbiter
Provider	1	CDF_CHAR	LESIA (Meudon, France)
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00006-LES (1.3)
Rules_of_use	1	CDF_CHAR	Data provided are publicly available. If used in presentations or publications, please acknowledge Solar Orbiter/RPW Investigation (M. Maksimovic, PIs). Please read carefully the caveats attached to the data. For reporting purposes, we request bibliography information for any publication, etc., using these data. Please send information on the use of this data to: M. Maksimovic (PI).
SKELETON_PARENT	1	CDF_CHAR	SOLO_L1_RPW-TDS-SURV-RSWF_V08.cdf
Skeleton_version	1	CDF_CHAR	08
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 67

Tab. 4.8 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Source_name	1	CDF_CHAR	SOLO>Solar Orbiter
SPECTRAL_RANGE_MAX	1	CDF_CHAR	
SPECTRAL_RANGE_MIN	1	CDF_CHAR	
TEXT	1	CDF_CHAR	This file contains RPW TDS level 1 regular snapshot waveform survey data for the current day.
TEXT_supplement_1	1	CDF_CHAR	
TIME_MAX	1	CDF_CHAR	
TIME_MIN	1	CDF_CHAR	
Validate	1	CDF_CHAR	
CAVEATS	1	CDF_CHAR	Engineering data. No good for publication.
Datetime	1	CDF_CHAR	
Free_field	1	CDF_CHAR	
Job_ID	1	CDF_CHAR	
LEVEL	1	CDF_CHAR	L1>Level 1 data processing
SOOP_TYPE	1	CDF_CHAR	
Data_product	1	CDF_CHAR	SURV-RSWF>SURV-RSWF
TARGET_NAME	1	CDF_CHAR	Sun
TARGET_CLASS	1	CDF_CHAR	Star
TARGET_REGION	1	CDF_CHAR	Solar Wind
Pipeline_name	1	CDF_CHAR	
Dataset_ID	1	CDF_CHAR	SOLO_L1_RPW-TDS-SURV-RSWF
OBS_ID	1	CDF_CHAR	
MODS	1	CDF_CHAR	

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 68


4.1.2.4.4 zVariables

Variable Name	Data Type	Number Elements	Dims	Sizes
Epoch	CDF_TIME_TT2000	1	0	
ACQUISITION_TIME	CDF_UINT4	1	1	2
QUALITY_FLAG	CDF_UINT1	1	0	
QUALITY_BITMASK	CDF_UINT2	1	0	
SURVEY_MODE	CDF_UINT1	1	0	
BIA_STATUS_INFO	CDF_UINT1	1	1	6
SAMPLING_RATE	CDF_REAL4	1	0	
HF_DATA_ARTEFACTS	CDF_UINT1	1	1	5
FILTER_COEFS	CDF_UINT1	1	0	
RPW_STATUS_INFO	CDF_UINT1	1	1	8
INPUT_CONFIG	CDF_UINT4	1	0	
SNAPSHOT_SEQ_NR	CDF_UINT2	1	0	
ACQUISITION_TIME_UNITS	CDF_CHAR	16	1	2
ACQUISITION_TIME_LABEL	CDF_CHAR	32	1	2
CHANNEL_STATUS_INFO	CDF_UINT1	1	1	4
SAMPS_PER_CH	CDF_UINT4	1	0	
WAVEFORM_DATA	CDF_INT2	1	2	4 65536
CHANNEL_LABEL	CDF_CHAR	8	1	4
WAVEFORM_LABEL	CDF_CHAR	16	1	4
SCET	CDF_REAL8	1	0	
SYNCHRO_FLAG	CDF_UINT1	1	0	

4.1.2.4.5 Variable attributes

Variable Name	Attribute Name	Data Type	Value
Epoch	FIELDNAM	CDF_CHAR	Epoch
Epoch	CATDESC	CDF_CHAR	Default time
Epoch	VALIDMIN	CDF_TIME_TT2000	2000-01-01T12:00:00.000000000
Epoch	VALIDMAX	CDF_TIME_TT2000	2029-12-31T23:59:59.999000000
Epoch	SCALEMIN	CDF_TIME_TT2000	2000-01-01T12:00:00.000000000
Epoch	SCALEMAX	CDF_TIME_TT2000	2029-12-31T23:59:59.999000000


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 69

Tab. 4.9 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
Epoch	FILLVAL	CDF_TIME_TT2000	1999-12-31T23:59:59.999999999
Epoch	LABLAXIS	CDF_CHAR	Epoch
Epoch	UNITS	CDF_CHAR	ns
Epoch	VAR_TYPE	CDF_CHAR	support_data
Epoch	SCALETYP	CDF_CHAR	linear
Epoch	MONOTON	CDF_CHAR	INCREASE
Epoch	TIME_BASE	CDF_CHAR	J2000
Epoch	TIME_SCALE	CDF_CHAR	Terrestrial Time
Epoch	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file
Epoch	Resolution	CDF_CHAR	15258 ns
ACQUISITION_TIME	FIELDNAM	CDF_CHAR	CCSDS CUC Acquisition time as returned in TM packets
ACQUISITION_TIME	CATDESC	CDF_CHAR	CCSDS CUC format TDS time, coarse and fine parts
ACQUISITION_TIME	VALIDMIN	CDF_UINT4	0
ACQUISITION_TIME	VALIDMAX	CDF_UINT4	4294967295
ACQUISITION_TIME	SCALEMIN	CDF_UINT4	0
ACQUISITION_TIME	SCALEMAX	CDF_UINT4	4294967295
ACQUISITION_TIME	FILLVAL	CDF_UINT4	4294967295
ACQUISITION_TIME	VAR_TYPE	CDF_CHAR	support_data
ACQUISITION_TIME	SCALETYP	CDF_CHAR	linear
ACQUISITION_TIME	MONOTON	CDF_CHAR	INCREASE
ACQUISITION_TIME	TIME_BASE	CDF_CHAR	2000-01-01T00:00:00
ACQUISITION_TIME	TIME_SCALE	CDF_CHAR	RPW DPU clock
ACQUISITION_TIME	VAR_NOTES	CDF_CHAR	Local time measured by the RPW TDS receiver (Coarse and fine parts of the CUC format) of the first sample of the packet
ACQUISITION_TIME	DEPEND_0	CDF_CHAR	Epoch
ACQUISITION_TIME	DISPLAY_TYPE	CDF_CHAR	time_series
ACQUISITION_TIME	FORMAT	CDF_CHAR	I10.0
ACQUISITION_TIME	LABL_PTR_1	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME	UNIT_PTR	CDF_CHAR	ACQUISITION_TIME_UNITS
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	VALIDMIN	CDF_UINT1	0


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 70

Tab. 4.9 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
QUALITY_FLAG	VALIDMAX	CDF_UINT1	4
QUALITY_FLAG	SCALEMIN	CDF_UINT1	0
QUALITY_FLAG	SCALEMAX	CDF_UINT1	4
QUALITY_FLAG	FILLVAL	CDF_UINT1	255
QUALITY_FLAG	LABLAXIS	CDF_CHAR	Quality flag
QUALITY_FLAG	UNITS	CDF_CHAR	
QUALITY_FLAG	VAR_TYPE	CDF_CHAR	support_data
QUALITY_FLAG	SCALETYP	CDF_CHAR	linear
QUALITY_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the quality of the data
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	UNITS	CDF_CHAR	
QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context information or status at the receiver or experiment level
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
SURVEY_MODE	FIELDNAM	CDF_CHAR	SURVEY_MODE
SURVEY_MODE	CATDESC	CDF_CHAR	TDS survey mode
SURVEY_MODE	VALIDMIN	CDF_UINT1	0
SURVEY_MODE	VALIDMAX	CDF_UINT1	1
SURVEY_MODE	SCALEMIN	CDF_UINT1	0
SURVEY_MODE	SCALEMAX	CDF_UINT1	1
SURVEY_MODE	FILLVAL	CDF_UINT1	255
SURVEY_MODE	LABLAXIS	CDF_CHAR	TDS survey mode
SURVEY_MODE	UNITS	CDF_CHAR	
SURVEY_MODE	VAR_TYPE	CDF_CHAR	data
SURVEY_MODE	SCALETYP	CDF_CHAR	linear

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 71

Tab. 4.9 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SURVEY_MODE	VAR_NOTES	CDF_CHAR	Flag to indicate if the receiver in the SURVEY_BURST (=1) or SURVEY_NORMAL (=0) mode
SURVEY_MODE	DEPEND_0	CDF_CHAR	Epoch
SURVEY_MODE	DISPLAY_TYPE	CDF_CHAR	time_series
SURVEY_MODE	FORMAT	CDF_CHAR	I1.1
BIA_STATUS_INFO	FIELDNAM	CDF_CHAR	BIA_STATUS_INFO
BIA_STATUS_INFO	CATDESC	CDF_CHAR	BIAS status byte
BIA_STATUS_INFO	VALIDMIN	CDF_UINT1	0
BIA_STATUS_INFO	VALIDMAX	CDF_UINT1	255
BIA_STATUS_INFO	SCALEMIN	CDF_UINT1	0
BIA_STATUS_INFO	SCALEMAX	CDF_UINT1	1
BIA_STATUS_INFO	FILLVAL	CDF_UINT1	255
BIA_STATUS_INFO	LABLAXIS	CDF_CHAR	BIAS status
BIA_STATUS_INFO	UNITS	CDF_CHAR	
BIA_STATUS_INFO	VAR_TYPE	CDF_CHAR	data
BIA_STATUS_INFO	SCALETYP	CDF_CHAR	linear
BIA_STATUS_INFO	VAR_NOTES	CDF_CHAR	BIAS status byte
BIA_STATUS_INFO	DEPEND_0	CDF_CHAR	Epoch
BIA_STATUS_INFO	DISPLAY_TYPE	CDF_CHAR	time_series
BIA_STATUS_INFO	FORMAT	CDF_CHAR	I3.3
SAMPLING_RATE	FIELDNAM	CDF_CHAR	SAMPLING_RATE
SAMPLING_RATE	CATDESC	CDF_CHAR	TDS sampling rate
SAMPLING_RATE	VALIDMIN	CDF_REAL4	0.0
SAMPLING_RATE	VALIDMAX	CDF_REAL4	2.0971e+06
SAMPLING_RATE	SCALEMIN	CDF_REAL4	0.0
SAMPLING_RATE	SCALEMAX	CDF_REAL4	2.0971e+06
SAMPLING_RATE	FILLVAL	CDF_REAL4	-1.0e+31
SAMPLING_RATE	LABLAXIS	CDF_CHAR	Sampling rate code
SAMPLING_RATE	UNITS	CDF_CHAR	Hz
SAMPLING_RATE	VAR_TYPE	CDF_CHAR	data
SAMPLING_RATE	SCALETYP	CDF_CHAR	linear
SAMPLING_RATE	VAR_NOTES	CDF_CHAR	TDS sampling rate
SAMPLING_RATE	DEPEND_0	CDF_CHAR	Epoch
SAMPLING_RATE	DISPLAY_TYPE	CDF_CHAR	time_series
SAMPLING_RATE	FORMAT	CDF_CHAR	F8.2
HF_DATA_ARTEFACTS	FIELDNAM	CDF_CHAR	HF_DATA_ARTEFACTS
HF_DATA_ARTEFACTS	CATDESC	CDF_CHAR	Bitmask of data artefacts (overflows etc)
HF_DATA_ARTEFACTS	VALIDMIN	CDF_UINT1	0

continues on next page



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **72**

Tab. 4.9 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
HF_DATA_ARTEFACTS	VALIDMAX	CDF_UINT1	255
HF_DATA_ARTEFACTS	SCALEMIN	CDF_UINT1	0
HF_DATA_ARTEFACTS	SCALEMAX	CDF_UINT1	1
HF_DATA_ARTEFACTS	FILLVAL	CDF_UINT1	255
HF_DATA_ARTEFACTS	LABLAXIS	CDF_CHAR	HF data artefacts.
HF_DATA_ARTEFACTS	UNITS	CDF_CHAR	
HF_DATA_ARTEFACTS	VAR_TYPE	CDF_CHAR	data
HF_DATA_ARTEFACTS	SCALETYP	CDF_CHAR	linear
HF_DATA_ARTEFACTS	VAR_NOTES	CDF_CHAR	Bitmask of data artefacts (overflows etc)
HF_DATA_ARTEFACTS	DEPEND_0	CDF_CHAR	Epoch
HF_DATA_ARTEFACTS	DISPLAY_TYPE	CDF_CHAR	time_series
HF_DATA_ARTEFACTS	FORMAT	CDF_CHAR	I3.3
FILTER_COEFS	FIELDNAM	CDF_CHAR	FILTER_COEFS
FILTER_COEFS	CATDESC	CDF_CHAR	Index of filter coefficients used
FILTER_COEFS	VALIDMIN	CDF_UINT1	0
FILTER_COEFS	VALIDMAX	CDF_UINT1	4
FILTER_COEFS	SCALEMIN	CDF_UINT1	0
FILTER_COEFS	SCALEMAX	CDF_UINT1	1
FILTER_COEFS	FILLVAL	CDF_UINT1	255
FILTER_COEFS	LABLAXIS	CDF_CHAR	Filter coeffs.
FILTER_COEFS	UNITS	CDF_CHAR	
FILTER_COEFS	VAR_TYPE	CDF_CHAR	data
FILTER_COEFS	SCALETYP	CDF_CHAR	linear
FILTER_COEFS	VAR_NOTES	CDF_CHAR	Index of filter coefficients used
FILTER_COEFS	DEPEND_0	CDF_CHAR	Epoch
FILTER_COEFS	DISPLAY_TYPE	CDF_CHAR	time_series
FILTER_COEFS	FORMAT	CDF_CHAR	I1.1
RPW_STATUS_INFO	FIELDNAM	CDF_CHAR	RPW_STATUS_INFO
RPW_STATUS_INFO	CATDESC	CDF_CHAR	RPW status
RPW_STATUS_INFO	VALIDMIN	CDF_UINT1	0
RPW_STATUS_INFO	VALIDMAX	CDF_UINT1	255
RPW_STATUS_INFO	SCALEMIN	CDF_UINT1	0
RPW_STATUS_INFO	SCALEMAX	CDF_UINT1	1
RPW_STATUS_INFO	FILLVAL	CDF_UINT1	255
RPW_STATUS_INFO	LABLAXIS	CDF_CHAR	RPW Status info
RPW_STATUS_INFO	UNITS	CDF_CHAR	
RPW_STATUS_INFO	VAR_TYPE	CDF_CHAR	data
RPW_STATUS_INFO	SCALETYP	CDF_CHAR	linear


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 73

Tab. 4.9 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
RPW_STATUS_INFO	VAR_NOTES	CDF_CHAR	RPW status (bitmask - received from DPU)
RPW_STATUS_INFO	DEPEND_0	CDF_CHAR	Epoch
RPW_STATUS_INFO	DISPLAY_TYPE	CDF_CHAR	time_series
RPW_STATUS_INFO	FORMAT	CDF_CHAR	I3.3
INPUT_CONFIG	FIELDNAM	CDF_CHAR	INPUT_CONFIG
INPUT_CONFIG	CATDESC	CDF_CHAR	Bitmask of TDS analog input configuration
INPUT_CONFIG	VALIDMIN	CDF_UINT4	0
INPUT_CONFIG	VALIDMAX	CDF_UINT4	4294967295
INPUT_CONFIG	SCALEMIN	CDF_UINT4	0
INPUT_CONFIG	SCALEMAX	CDF_UINT4	1
INPUT_CONFIG	FILLVAL	CDF_UINT4	4294967295
INPUT_CONFIG	LABLAXIS	CDF_CHAR	TDS input config.
INPUT_CONFIG	UNITS	CDF_CHAR	
INPUT_CONFIG	VAR_TYPE	CDF_CHAR	data
INPUT_CONFIG	SCALETYP	CDF_CHAR	linear
INPUT_CONFIG	VAR_NOTES	CDF_CHAR	Input TDS configuration
INPUT_CONFIG	DEPEND_0	CDF_CHAR	Epoch
INPUT_CONFIG	DISPLAY_TYPE	CDF_CHAR	time_series
INPUT_CONFIG	FORMAT	CDF_CHAR	I10.0
SNAPSHOT_SEQ_NR	FIELDNAM	CDF_CHAR	SNAPSHOT_SEQ_NR
SNAPSHOT_SEQ_NR	CATDESC	CDF_CHAR	Sequential number of a snapshot incremented with every snapshot
SNAPSHOT_SEQ_NR	VALIDMIN	CDF_UINT2	0
SNAPSHOT_SEQ_NR	VALIDMAX	CDF_UINT2	65535
SNAPSHOT_SEQ_NR	SCALEMIN	CDF_UINT2	0
SNAPSHOT_SEQ_NR	SCALEMAX	CDF_UINT2	65535
SNAPSHOT_SEQ_NR	FILLVAL	CDF_UINT2	65535
SNAPSHOT_SEQ_NR	LABLAXIS	CDF_CHAR	Snapshot seq. Num.
SNAPSHOT_SEQ_NR	UNITS	CDF_CHAR	
SNAPSHOT_SEQ_NR	VAR_TYPE	CDF_CHAR	data
SNAPSHOT_SEQ_NR	SCALETYP	CDF_CHAR	linear
SNAPSHOT_SEQ_NR	VAR_NOTES	CDF_CHAR	Sequential number of a snapshot incremented with every snapshot
SNAPSHOT_SEQ_NR	DEPEND_0	CDF_CHAR	Epoch
SNAPSHOT_SEQ_NR	DISPLAY_TYPE	CDF_CHAR	time_series
SNAPSHOT_SEQ_NR	FORMAT	CDF_CHAR	I6.5
ACQUISITION_TIME_UNITS	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_UNITS


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 74

Tab. 4.9 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
ACQUISITION_TIME_UNITS	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME_UNIT_PTR attribute
ACQUISITION_TIME_UNITS	VAR_TYPE	CDF_CHAR	metadata
ACQUISITION_TIME_UNITS	FORMAT	CDF_CHAR	A16
ACQUISITION_TIME_LABEL	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME_LABEL	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME
ACQUISITION_TIME_LABEL	VAR_TYPE	CDF_CHAR	metadata
ACQUISITION_TIME_LABEL	FORMAT	CDF_CHAR	A32
CHANNEL_STATUS_INFO	FIELDNAM	CDF_CHAR	CHANNEL_STATUS_INFO
CHANNEL_STATUS_INFO	CATDESC	CDF_CHAR	Status of signal channels in the snapshot
CHANNEL_STATUS_INFO	VALIDMIN	CDF_UINT1	0
CHANNEL_STATUS_INFO	VALIDMAX	CDF_UINT1	4
CHANNEL_STATUS_INFO	SCALEMIN	CDF_UINT1	0
CHANNEL_STATUS_INFO	SCALEMAX	CDF_UINT1	4
CHANNEL_STATUS_INFO	FILLVAL	CDF_UINT1	255
CHANNEL_STATUS_INFO	UNITS	CDF_CHAR	
CHANNEL_STATUS_INFO	VAR_TYPE	CDF_CHAR	data
CHANNEL_STATUS_INFO	SCALETYP	CDF_CHAR	linear
CHANNEL_STATUS_INFO	VAR_NOTES	CDF_CHAR	Status of signal channels in the snapshot (0=GND 1=V1 2=V2 3=V3 4=BMF)
CHANNEL_STATUS_INFO	DEPEND_0	CDF_CHAR	Epoch
CHANNEL_STATUS_INFO	DISPLAY_TYPE	CDF_CHAR	time_series
CHANNEL_STATUS_INFO	FORMAT	CDF_CHAR	I1
CHANNEL_STATUS_INFO	LABL_PTR_1	CDF_CHAR	CHANNEL_LABEL
SAMPS_PER_CH	FIELDNAM	CDF_CHAR	SAMPS_PER_CH
SAMPS_PER_CH	CATDESC	CDF_CHAR	Number of samples per channel
SAMPS_PER_CH	VALIDMIN	CDF_UINT4	0
SAMPS_PER_CH	VALIDMAX	CDF_UINT4	4294967295
SAMPS_PER_CH	SCALEMIN	CDF_UINT4	0
SAMPS_PER_CH	SCALEMAX	CDF_UINT4	4294967295
SAMPS_PER_CH	FILLVAL	CDF_UINT4	4294967295
SAMPS_PER_CH	LABLAXIS	CDF_CHAR	Nsamps
SAMPS_PER_CH	UNITS	CDF_CHAR	
SAMPS_PER_CH	VAR_TYPE	CDF_CHAR	data
SAMPS_PER_CH	SCALETYP	CDF_CHAR	linear


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 75

Tab. 4.9 – continued from previous page


Variable Name	Attribute Name	Data Type	Value
SAMPS_PER_CH	VAR_NOTES	CDF_CHAR	Number of samples per channel
SAMPS_PER_CH	DEPEND_0	CDF_CHAR	Epoch
SAMPS_PER_CH	DISPLAY_TYPE	CDF_CHAR	time_series
SAMPS_PER_CH	FORMAT	CDF_CHAR	I10
WAVEFORM_DATA	FIELDNAM	CDF_CHAR	Waveform data (electric and magnetic)
WAVEFORM_DATA	CATDESC	CDF_CHAR	Electric field data measured on the four high frequency channels of TDS
WAVEFORM_DATA	VALIDMIN	CDF_INT2	-32768
WAVEFORM_DATA	VALIDMAX	CDF_INT2	32767
WAVEFORM_DATA	SCALEMIN	CDF_INT2	-32768
WAVEFORM_DATA	SCALEMAX	CDF_INT2	32767
WAVEFORM_DATA	FILLVAL	CDF_INT2	-32768
WAVEFORM_DATA	UNITS	CDF_CHAR	Count
WAVEFORM_DATA	VAR_TYPE	CDF_CHAR	data
WAVEFORM_DATA	SCALETYP	CDF_CHAR	linear
WAVEFORM_DATA	VAR_NOTES	CDF_CHAR	1-4 entry array with signal values
WAVEFORM_DATA	DEPEND_0	CDF_CHAR	Epoch
WAVEFORM_DATA	DISPLAY_TYPE	CDF_CHAR	time_series
WAVEFORM_DATA	FORMAT	CDF_CHAR	I6.6
WAVEFORM_DATA	LABL_PTR_1	CDF_CHAR	WAVEFORM_LABEL
CHANNEL_LABEL	FIELDNAM	CDF_CHAR	CHANNEL_LABEL
CHANNEL_LABEL	CATDESC	CDF_CHAR	Label for CHANNEL_INFO_STATUS
CHANNEL_LABEL	VAR_TYPE	CDF_CHAR	metadata
CHANNEL_LABEL	FORMAT	CDF_CHAR	A8
WAVEFORM_LABEL	FIELDNAM	CDF_CHAR	WAVEFORM_LABEL
WAVEFORM_LABEL	CATDESC	CDF_CHAR	Label for WAVEFORM_DATA
WAVEFORM_LABEL	VAR_TYPE	CDF_CHAR	metadata
WAVEFORM_LABEL	FORMAT	CDF_CHAR	A16
SCET	FIELDNAM	CDF_CHAR	Spacecraft Elapsed Time
SCET	CATDESC	CDF_CHAR	Elapsed Time of the onboard clock
SCET	VALIDMIN	CDF_REAL8	0.0
SCET	VALIDMAX	CDF_REAL8	1.0e+31
SCET	SCALEMIN	CDF_REAL8	0.0
SCET	SCALEMAX	CDF_REAL8	1.0e+31

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 76

Tab. 4.9 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SCET	FILLVAL	CDF_REAL8	-1.0e+31
SCET	LABLAXIS	CDF_CHAR	Spacecraft Elapsed Time (Ticks)
SCET	UNITS	CDF_CHAR	Ticks
SCET	VAR_TYPE	CDF_CHAR	support_data
SCET	SCALETYP	CDF_CHAR	linear
SCET	MONOTON	CDF_CHAR	INCREASE
SCET	TIME_BASE	CDF_CHAR	Spacecraft onboard clock
SCET	TIME_SCALE	CDF_CHAR	Spacecraft onboard clock
SCET	REFERENCE_POS	CDF_CHAR	Spacecraft barycenter
SCET	VAR_NOTES	CDF_CHAR	Spacecraft Elapsed Time
SCET	DEPEND_0	CDF_CHAR	Epoch
SCET	DISPLAY_TYPE	CDF_CHAR	time_series
SYNCHRO_FLAG	FIELDNAM	CDF_CHAR	SYNCHRO_FLAG
SYNCHRO_FLAG	CATDESC	CDF_CHAR	Time synchronisation flag
SYNCHRO_FLAG	VALIDMIN	CDF_UINT1	0
SYNCHRO_FLAG	VALIDMAX	CDF_UINT1	1
SYNCHRO_FLAG	SCALEMIN	CDF_UINT1	0
SYNCHRO_FLAG	SCALEMAX	CDF_UINT1	1
SYNCHRO_FLAG	FILLVAL	CDF_UINT1	255
SYNCHRO_FLAG	LABLAXIS	CDF_CHAR	time sync. flag
SYNCHRO_FLAG	UNITS	CDF_CHAR	
SYNCHRO_FLAG	VAR_TYPE	CDF_CHAR	support_data
SYNCHRO_FLAG	SCALETYP	CDF_CHAR	linear
SYNCHRO_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate if the local time is synchronized with the RPW DPU clock or not. Possible values: synchronized=0, not synchronized=1. This flag is extracted from ACQUISITION_TIME in L0 packets, it is the MSB of the CUC time.
SYNCHRO_FLAG	DEPEND_0	CDF_CHAR	Epoch
SYNCHRO_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
SYNCHRO_FLAG	FORMAT	CDF_CHAR	I3.3

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 77

4.1.2.4.6 Non-Record-Variant (NRV) Variables

Variable Name	Index	Value
ACQUISITION_TIME_UNITS	1	s
ACQUISITION_TIME_UNITS	2	s / 65536
ACQUISITION_TIME_LABEL	1	CUC coarse part time
ACQUISITION_TIME_LABEL	2	CUC fine part time
CHANNEL_LABEL	1	TDS CH1
CHANNEL_LABEL	2	TDS CH2
CHANNEL_LABEL	3	TDS CH3
CHANNEL_LABEL	4	TDS CH4
WAVEFORM_LABEL	1	WF in CH1
WAVEFORM_LABEL	2	WF in CH2
WAVEFORM_LABEL	3	WF in CH3
WAVEFORM_LABEL	4	WF in CH4

4.1.2.5 SOLO_L1_RPW-TDS-SURV-TSWF data product

The “SOLO_L1_RPW-TDS-SURV-TSWF” data product contains the uncalibrated TDS receiver Triggered Snapshot Waveform (TSWF) survey data. The “SOLO_L1_RPW-TDS-SURV-RSWF” data are written in CDF format files. There is a single file per day, generated from data in the corresponding SOLO_L0_RPW parent file.


4.1.2.5.1 Filename

```
solo_L1_rpw-tds-surv-tswf_[YYYYMMDD]_V[version].cdf
```

4.1.2.5.2 Expected cadence and data volume

Nominal cadence: 1 file per day


Expected data volume: 300 MB per file

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 78

4.1.2.5.3 Global Attributes

Attribute Name	Entry Number	Data Type	Value
ACCESS_URL	1	CDF_CHAR	
ACCESS_FORMAT	1	CDF_CHAR	CDF
Acknowledgement	1	CDF_CHAR	The authors are pleased to acknowledge the Solar Orbiter/RPW Investigation (M. Maksimovic, PIs) for access to data.
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009 (2.4)
Data_type	1	CDF_CHAR	H0>High Resolution data
Data_version	1	CDF_CHAR	
Descriptor	1	CDF_CHAR	RPW-TDS-SURV-TSWF> RPW Time Domain Sampler Triggered Waveform Snapshot data in survey mode
Discipline	1	CDF_CHAR	Space Physics>Interplanetary Studies
File_naming_convention	1	CDF_CHAR	<Source_name>_<LEVEL>_<Descriptor>_<Date>
File_ID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	RPW Operations Centre located at LESIA (Meudon, France)
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	https://rpw.lesia.obspm.fr
Instrument_type	1	CDF_CHAR	Radio and Plasma Waves (space)
LINK_TEXT	1	CDF_CHAR	RPW Web site at LESIA
LINK_TITLE	1	CDF_CHAR	RPW Web site
Logical_file_id	1	CDF_CHAR	
Logical_source	1	CDF_CHAR	solo_L1_rpw-tds-surv-tswf
Logical_source_description	1	CDF_CHAR	Solar Orbiter Radio/Plasma Wave, TDS L1 parameters
Mission_group	1	CDF_CHAR	Solar Orbiter
SKELETON_MODS	1	CDF_CHAR	July 2016: data organization by snapshots, time vector added
SKELETON_MODS	2	CDF_CHAR	V04: Update for solo data definition, X. BONNIN (CNRS-LESIA), April 2019
SKELETON_MODS	3	CDF_CHAR	V05: Update to compliant with SOL-SGS-TN-0009 Issue 2, Rev 4 - X.Bonnin, 09/2019
SKELETON_MODS	4	CDF_CHAR	V06: March 2020 : Harmonize SAMPLING_RATE zvar and Test_* g.attrs - X.Bonnin (CNRS, LESIA)


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 79

Tab. 4.10 – continued from previous page


Attribute Name	Entry Number	Data Type	Value
SKELETON_MODS	5	CDF_CHAR	V07: Removing POST_GAP_FLAG zvar and UCD vattr. (X.Bonnin, 09/2020)
SKELETON_MODS	6	CDF_CHAR	V08: Jan. 2021 : Fix inconsistencies against the ISTEP CDF guidelines, X.Bonnin (CNRS-LESIA)
Parent_version	1	CDF_CHAR	
Parents	1	CDF_CHAR	
PI_affiliation	1	CDF_CHAR	LESIA, Observatoire de Paris-CNRS
PI_name	1	CDF_CHAR	M.Maksimovic
Pipeline_version	1	CDF_CHAR	
Project	1	CDF_CHAR	SOLO>Solar Orbiter
Provider	1	CDF_CHAR	LESIA (Meudon, France)
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00006-LES (1.3)
Rules_of_use	1	CDF_CHAR	Data provided are publicly available. If used in presentations or publications, please acknowledge Solar Orbiter/RPW Investigation (M. Maksimovic, PIs). Please read carefully the caveats attached to the data. For reporting purposes, we request bibliography information for any publication, etc., using these data. Please send information on the use of this data to: M. Maksimovic (PI).
SKELETON_PARENT	1	CDF_CHAR	SOLO_L1_RPW-TDS-SURV-TSWF_V08.cdf
Skeleton_version	1	CDF_CHAR	08
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	SOLO>Solar Orbiter
SPECTRAL_RANGE_MAX	1	CDF_CHAR	
SPECTRAL_RANGE_MIN	1	CDF_CHAR	
TEXT	1	CDF_CHAR	This file contains RPW TDS level 1 triggered snapshot waveform survey data for the current day.
TEXT_supplement_1	1	CDF_CHAR	
TIME_MAX	1	CDF_CHAR	
TIME_MIN	1	CDF_CHAR	
Validate	1	CDF_CHAR	

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 80

Tab. 4.10 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
CAVEATS	1	CDF_CHAR	Engineering data. No good for publication.
Datetime	1	CDF_CHAR	
Free_field	1	CDF_CHAR	
Job_ID	1	CDF_CHAR	
LEVEL	1	CDF_CHAR	L1>Level 1 data processing
SOOP_TYPE	1	CDF_CHAR	
Data_product	1	CDF_CHAR	SURV-TSWF>SURV-TSWF
TARGET_NAME	1	CDF_CHAR	Sun
TARGET_CLASS	1	CDF_CHAR	Star
TARGET_REGION	1	CDF_CHAR	Solar Wind
Pipeline_name	1	CDF_CHAR	
Dataset_ID	1	CDF_CHAR	SOLO_L1_RPW-TDS-SURV-TSWF
OBS_ID	1	CDF_CHAR	
MODS	1	CDF_CHAR	

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 81


4.1.2.5.4 zVariables

Variable Name	Data Type	Number Elements	Dims	Sizes
Epoch	CDF_TIME_TT2000	1	0	
ACQUISITION_TIME	CDF_UINT4	1	1	2
QUALITY_FLAG	CDF_UINT1	1	0	
QUALITY_BITMASK	CDF_UINT2	1	0	
SURVEY_MODE	CDF_UINT1	1	0	
BIA_STATUS_INFO	CDF_UINT1	1	1	6
SAMPLING_RATE	CDF_REAL4	1	0	
HF_DATA_ARTEFACTS	CDF_UINT1	1	1	5
FILTER_COEFS	CDF_UINT1	1	0	
RPW_STATUS_INFO	CDF_UINT1	1	1	8
INPUT_CONFIG	CDF_UINT4	1	0	
SNAPSHOT_SEQ_NR	CDF_UINT2	1	0	
ACQUISITION_TIME_UNITS	CDF_CHAR	16	1	2
ACQUISITION_TIME_LABEL	CDF_CHAR	32	1	2
CHANNEL_STATUS_INFO	CDF_UINT1	1	1	4
QUALITY_FACT	CDF_UINT2	1	0	
DOWNLINK_INFO	CDF_UINT1	1	1	2
SAMPS_PER_CH	CDF_UINT4	1	0	
WAVEFORM_DATA	CDF_FLOAT	1	2	4 65536
CHANNEL_LABEL	CDF_CHAR	8	1	4
WAVEFORM_LABEL	CDF_CHAR	16	1	4
SCET	CDF_REAL8	1	0	
SYNCHRO_FLAG	CDF_UINT1	1	0	

4.1.2.5.5 Variable attributes

Variable Name	Attribute Name	Data Type	Value
Epoch	FIELDNAM	CDF_CHAR	Epoch
Epoch	CATDESC	CDF_CHAR	Default time
Epoch	VALIDMIN	CDF_TIME_TT2000	2000-01-01T12:00:00.000000000
Epoch	VALIDMAX	CDF_TIME_TT2000	2029-12-31T23:59:59.999000000
Epoch	SCALEMIN	CDF_TIME_TT2000	2000-01-01T12:00:00.000000000


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 82

Tab. 4.11 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
Epoch	SCALEMAX	CDF_TIME_TT2000	2029-12-31T23:59:59.999000000
Epoch	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch	LABLAXIS	CDF_CHAR	Epoch
Epoch	UNITS	CDF_CHAR	ns
Epoch	VAR_TYPE	CDF_CHAR	support_data
Epoch	SCALETYP	CDF_CHAR	linear
Epoch	MONOTON	CDF_CHAR	INCREASE
Epoch	TIME_BASE	CDF_CHAR	J2000
Epoch	TIME_SCALE	CDF_CHAR	Terrestrial Time
Epoch	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file
Epoch	Resolution	CDF_CHAR	15258 ns
ACQUISITION_TIME	FIELDNAM	CDF_CHAR	CCSDS CUC Acquisition time as returned in TM packets
ACQUISITION_TIME	CATDESC	CDF_CHAR	CCSDS CUC format LFR time, coarse and fine parts
ACQUISITION_TIME	VALIDMIN	CDF_UINT4	0
ACQUISITION_TIME	VALIDMAX	CDF_UINT4	4294967294
ACQUISITION_TIME	SCALEMIN	CDF_UINT4	0
ACQUISITION_TIME	SCALEMAX	CDF_UINT4	4294967294
ACQUISITION_TIME	FILLVAL	CDF_UINT4	4294967295
ACQUISITION_TIME	VAR_TYPE	CDF_CHAR	support_data
ACQUISITION_TIME	SCALETYP	CDF_CHAR	linear
ACQUISITION_TIME	MONOTON	CDF_CHAR	INCREASE
ACQUISITION_TIME	TIME_BASE	CDF_CHAR	2000-01-01T00:00:00
ACQUISITION_TIME	TIME_SCALE	CDF_CHAR	RPW DPU clock
ACQUISITION_TIME	VAR_NOTES	CDF_CHAR	Local time measured by the RPW TDS receiver (Coarse and fine parts of the CUC format) of the first sample of the packet
ACQUISITION_TIME	DEPEND_0	CDF_CHAR	Epoch
ACQUISITION_TIME	DISPLAY_TYPE	CDF_CHAR	time_series
ACQUISITION_TIME	FORMAT	CDF_CHAR	I10.0
ACQUISITION_TIME	LABL_PTR_1	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME	UNIT_PTR	CDF_CHAR	ACQUISITION_TIME_UNITS
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 83

Tab. 4.11 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	VALIDMIN	CDF_UINT1	0
QUALITY_FLAG	VALIDMAX	CDF_UINT1	4
QUALITY_FLAG	SCALEMIN	CDF_UINT1	0
QUALITY_FLAG	SCALEMAX	CDF_UINT1	4
QUALITY_FLAG	FILLVAL	CDF_UINT1	255
QUALITY_FLAG	LABLAXIS	CDF_CHAR	Quality flag
QUALITY_FLAG	UNITS	CDF_CHAR	
QUALITY_FLAG	VAR_TYPE	CDF_CHAR	support_data
QUALITY_FLAG	SCALETYP	CDF_CHAR	linear
QUALITY_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the quality of the data
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	UNITS	CDF_CHAR	
QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context information or status at the receiver or experiment level
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
SURVEY_MODE	FIELDNAM	CDF_CHAR	SURVEY_MODE
SURVEY_MODE	CATDESC	CDF_CHAR	TDS survey mode
SURVEY_MODE	VALIDMIN	CDF_UINT1	0
SURVEY_MODE	VALIDMAX	CDF_UINT1	1
SURVEY_MODE	SCALEMIN	CDF_UINT1	0
SURVEY_MODE	SCALEMAX	CDF_UINT1	1
SURVEY_MODE	FILLVAL	CDF_UINT1	255
SURVEY_MODE	LABLAXIS	CDF_CHAR	TDS survey mode
SURVEY_MODE	UNITS	CDF_CHAR	

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 84

Tab. 4.11 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SURVEY_MODE	VAR_TYPE	CDF_CHAR	data
SURVEY_MODE	SCALETYP	CDF_CHAR	linear
SURVEY_MODE	VAR_NOTES	CDF_CHAR	Flag to indicate if the receiver in the SURVEY_BURST (=1) or SURVEY_NORMAL (=0) mode
SURVEY_MODE	DEPEND_0	CDF_CHAR	Epoch
SURVEY_MODE	DISPLAY_TYPE	CDF_CHAR	time_series
SURVEY_MODE	FORMAT	CDF_CHAR	I1.1
BIA_STATUS_INFO	FIELDNAM	CDF_CHAR	BIA_STATUS_INFO
BIA_STATUS_INFO	CATDESC	CDF_CHAR	BIAS status byte
BIA_STATUS_INFO	VALIDMIN	CDF_UINT1	0
BIA_STATUS_INFO	VALIDMAX	CDF_UINT1	255
BIA_STATUS_INFO	SCALEMIN	CDF_UINT1	0
BIA_STATUS_INFO	SCALEMAX	CDF_UINT1	1
BIA_STATUS_INFO	FILLVAL	CDF_UINT1	255
BIA_STATUS_INFO	LABLAXIS	CDF_CHAR	BIAS status
BIA_STATUS_INFO	UNITS	CDF_CHAR	
BIA_STATUS_INFO	VAR_TYPE	CDF_CHAR	data
BIA_STATUS_INFO	SCALETYP	CDF_CHAR	linear
BIA_STATUS_INFO	VAR_NOTES	CDF_CHAR	BIAS status byte
BIA_STATUS_INFO	DEPEND_0	CDF_CHAR	Epoch
BIA_STATUS_INFO	DISPLAY_TYPE	CDF_CHAR	time_series
BIA_STATUS_INFO	FORMAT	CDF_CHAR	I3.1
SAMPLING_RATE	FIELDNAM	CDF_CHAR	SAMPLING_RATE
SAMPLING_RATE	CATDESC	CDF_CHAR	TDS sampling rate
SAMPLING_RATE	VALIDMIN	CDF_REAL4	0.0
SAMPLING_RATE	VALIDMAX	CDF_REAL4	2.0971e+06
SAMPLING_RATE	SCALEMIN	CDF_REAL4	0.0
SAMPLING_RATE	SCALEMAX	CDF_REAL4	2.0971e+06
SAMPLING_RATE	FILLVAL	CDF_REAL4	-1.0e+31
SAMPLING_RATE	LABLAXIS	CDF_CHAR	Sampling rate code
SAMPLING_RATE	UNITS	CDF_CHAR	Hz
SAMPLING_RATE	VAR_TYPE	CDF_CHAR	data
SAMPLING_RATE	SCALETYP	CDF_CHAR	linear
SAMPLING_RATE	VAR_NOTES	CDF_CHAR	TDS sampling rate
SAMPLING_RATE	DEPEND_0	CDF_CHAR	Epoch
SAMPLING_RATE	DISPLAY_TYPE	CDF_CHAR	time_series
SAMPLING_RATE	FORMAT	CDF_CHAR	F8.2
HF_DATA_ARTEFACTS	FIELDNAM	CDF_CHAR	HF_DATA_ARTEFACTS

continues on next page



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **85**

Tab. 4.11 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
HF_DATA_ARTEFACTS	CATDESC	CDF_CHAR	Bitmask of data artefacts (overflows etc)
HF_DATA_ARTEFACTS	VALIDMIN	CDF_UINT1	0
HF_DATA_ARTEFACTS	VALIDMAX	CDF_UINT1	255
HF_DATA_ARTEFACTS	SCALEMIN	CDF_UINT1	0
HF_DATA_ARTEFACTS	SCALEMAX	CDF_UINT1	1
HF_DATA_ARTEFACTS	FILLVAL	CDF_UINT1	255
HF_DATA_ARTEFACTS	LABLAXIS	CDF_CHAR	HF data artefacts.
HF_DATA_ARTEFACTS	UNITS	CDF_CHAR	
HF_DATA_ARTEFACTS	VAR_TYPE	CDF_CHAR	data
HF_DATA_ARTEFACTS	SCALETYP	CDF_CHAR	linear
HF_DATA_ARTEFACTS	VAR_NOTES	CDF_CHAR	Bitmask of data artefacts (overflows etc)
HF_DATA_ARTEFACTS	DEPEND_0	CDF_CHAR	Epoch
HF_DATA_ARTEFACTS	DISPLAY_TYPE	CDF_CHAR	time_series
HF_DATA_ARTEFACTS	FORMAT	CDF_CHAR	I3.1
FILTER_COEFS	FIELDNAM	CDF_CHAR	FILTER_COEFS
FILTER_COEFS	CATDESC	CDF_CHAR	Index of filter coefficients used
FILTER_COEFS	VALIDMIN	CDF_UINT1	0
FILTER_COEFS	VALIDMAX	CDF_UINT1	4
FILTER_COEFS	SCALEMIN	CDF_UINT1	0
FILTER_COEFS	SCALEMAX	CDF_UINT1	1
FILTER_COEFS	FILLVAL	CDF_UINT1	255
FILTER_COEFS	LABLAXIS	CDF_CHAR	Filter coeffs.
FILTER_COEFS	UNITS	CDF_CHAR	
FILTER_COEFS	VAR_TYPE	CDF_CHAR	data
FILTER_COEFS	SCALETYP	CDF_CHAR	linear
FILTER_COEFS	VAR_NOTES	CDF_CHAR	Index of filter coefficients used
FILTER_COEFS	DEPEND_0	CDF_CHAR	Epoch
FILTER_COEFS	DISPLAY_TYPE	CDF_CHAR	time_series
FILTER_COEFS	FORMAT	CDF_CHAR	I1.1
RPW_STATUS_INFO	FIELDNAM	CDF_CHAR	RPW_STATUS_INFO
RPW_STATUS_INFO	CATDESC	CDF_CHAR	RPW status
RPW_STATUS_INFO	VALIDMIN	CDF_UINT1	0
RPW_STATUS_INFO	VALIDMAX	CDF_UINT1	255
RPW_STATUS_INFO	SCALEMIN	CDF_UINT1	0
RPW_STATUS_INFO	SCALEMAX	CDF_UINT1	1
RPW_STATUS_INFO	FILLVAL	CDF_UINT1	255
RPW_STATUS_INFO	LABLAXIS	CDF_CHAR	RPW Status info


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 86

Tab. 4.11 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
RPW_STATUS_INFO	UNITS	CDF_CHAR	
RPW_STATUS_INFO	VAR_TYPE	CDF_CHAR	data
RPW_STATUS_INFO	SCALETYP	CDF_CHAR	linear
RPW_STATUS_INFO	VAR_NOTES	CDF_CHAR	RPW status (bitmask - received from DPU)
RPW_STATUS_INFO	DEPEND_0	CDF_CHAR	Epoch
RPW_STATUS_INFO	DISPLAY_TYPE	CDF_CHAR	time_series
RPW_STATUS_INFO	FORMAT	CDF_CHAR	I3.1
INPUT_CONFIG	FIELDNAM	CDF_CHAR	INPUT_CONFIG
INPUT_CONFIG	CATDESC	CDF_CHAR	Bitmask of TDS analog input configuration
INPUT_CONFIG	VALIDMIN	CDF_UINT4	0
INPUT_CONFIG	VALIDMAX	CDF_UINT4	4294967294
INPUT_CONFIG	SCALEMIN	CDF_UINT4	0
INPUT_CONFIG	SCALEMAX	CDF_UINT4	1
INPUT_CONFIG	FILLVAL	CDF_UINT4	4294967295
INPUT_CONFIG	LABLAXIS	CDF_CHAR	TDS input config.
INPUT_CONFIG	UNITS	CDF_CHAR	
INPUT_CONFIG	VAR_TYPE	CDF_CHAR	data
INPUT_CONFIG	SCALETYP	CDF_CHAR	linear
INPUT_CONFIG	VAR_NOTES	CDF_CHAR	Input TDS configuration
INPUT_CONFIG	DEPEND_0	CDF_CHAR	Epoch
INPUT_CONFIG	DISPLAY_TYPE	CDF_CHAR	time_series
INPUT_CONFIG	FORMAT	CDF_CHAR	I10.1
SNAPSHOT_SEQ_NR	FIELDNAM	CDF_CHAR	SNAPSHOT_SEQ_NR
SNAPSHOT_SEQ_NR	CATDESC	CDF_CHAR	Sequential number of a snapshot incremented with every snapshot
SNAPSHOT_SEQ_NR	VALIDMIN	CDF_UINT2	0
SNAPSHOT_SEQ_NR	VALIDMAX	CDF_UINT2	65534
SNAPSHOT_SEQ_NR	SCALEMIN	CDF_UINT2	0
SNAPSHOT_SEQ_NR	SCALEMAX	CDF_UINT2	1
SNAPSHOT_SEQ_NR	FILLVAL	CDF_UINT2	65535
SNAPSHOT_SEQ_NR	LABLAXIS	CDF_CHAR	Snapshot seq. Num.
SNAPSHOT_SEQ_NR	UNITS	CDF_CHAR	
SNAPSHOT_SEQ_NR	VAR_TYPE	CDF_CHAR	data
SNAPSHOT_SEQ_NR	SCALETYP	CDF_CHAR	linear
SNAPSHOT_SEQ_NR	VAR_NOTES	CDF_CHAR	Sequential number of a snapshot incremented with every snapshot
SNAPSHOT_SEQ_NR	DEPEND_0	CDF_CHAR	Epoch


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 87

Tab. 4.11 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SNAPSHOT_SEQ_NR	DISPLAY_TYPE	CDF_CHAR	time_series
SNAPSHOT_SEQ_NR	FORMAT	CDF_CHAR	I6.5
ACQUISITION_TIME_UNITS	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_UNITS
ACQUISITION_TIME_UNITS	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME_UNIT_PTR attribute
ACQUISITION_TIME_UNITS	VAR_TYPE	CDF_CHAR	metadata
ACQUISITION_TIME_UNITS	FORMAT	CDF_CHAR	A16
ACQUISITION_TIME_LABEL	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME_LABEL	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME
ACQUISITION_TIME_LABEL	VAR_TYPE	CDF_CHAR	metadata
ACQUISITION_TIME_LABEL	FORMAT	CDF_CHAR	A32
CHANNEL_STATUS_INFO	FIELDNAM	CDF_CHAR	CHANNEL_STATUS_INFO
CHANNEL_STATUS_INFO	CATDESC	CDF_CHAR	Status of signal channels in the snapshot
CHANNEL_STATUS_INFO	VALIDMIN	CDF_UINT1	0
CHANNEL_STATUS_INFO	VALIDMAX	CDF_UINT1	4
CHANNEL_STATUS_INFO	SCALEMIN	CDF_UINT1	0
CHANNEL_STATUS_INFO	SCALEMAX	CDF_UINT1	4
CHANNEL_STATUS_INFO	FILLVAL	CDF_UINT1	255
CHANNEL_STATUS_INFO	UNITS	CDF_CHAR	
CHANNEL_STATUS_INFO	VAR_TYPE	CDF_CHAR	data
CHANNEL_STATUS_INFO	SCALETYP	CDF_CHAR	linear
CHANNEL_STATUS_INFO	VAR_NOTES	CDF_CHAR	Status of signal channels in the snapshot (0=GND 1=V1 2=V2 3=V3 4=BMF)
CHANNEL_STATUS_INFO	DEPEND_0	CDF_CHAR	Epoch
CHANNEL_STATUS_INFO	DISPLAY_TYPE	CDF_CHAR	time_series
CHANNEL_STATUS_INFO	FORMAT	CDF_CHAR	I1
CHANNEL_STATUS_INFO	LABL_PTR_1	CDF_CHAR	CHANNEL_LABEL
QUALITY_FACT	FIELDNAM	CDF_CHAR	QUALITY_FACT
QUALITY_FACT	CATDESC	CDF_CHAR	Quality factor of the packet
QUALITY_FACT	VALIDMIN	CDF_UINT2	0
QUALITY_FACT	VALIDMAX	CDF_UINT2	65534
QUALITY_FACT	SCALEMIN	CDF_UINT2	0
QUALITY_FACT	SCALEMAX	CDF_UINT2	1
QUALITY_FACT	FILLVAL	CDF_UINT2	65535
QUALITY_FACT	LABLAXIS	CDF_CHAR	Quality factor
QUALITY_FACT	UNITS	CDF_CHAR	
QUALITY_FACT	VAR_TYPE	CDF_CHAR	support_data


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 88

Tab. 4.11 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
QUALITY_FACT	SCALETYP	CDF_CHAR	linear
QUALITY_FACT	VAR_NOTES	CDF_CHAR	Quality factor
QUALITY_FACT	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FACT	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FACT	FORMAT	CDF_CHAR	I5.5
DOWNLINK_INFO	FIELDNAM	CDF_CHAR	DOWNLINK_INFO
DOWNLINK_INFO	CATDESC	CDF_CHAR	Quality factor of the packet
DOWNLINK_INFO	VALIDMIN	CDF_UINT1	0
DOWNLINK_INFO	VALIDMAX	CDF_UINT1	254
DOWNLINK_INFO	SCALEMIN	CDF_UINT1	0
DOWNLINK_INFO	SCALEMAX	CDF_UINT1	254
DOWNLINK_INFO	FILLVAL	CDF_UINT1	255
DOWNLINK_INFO	LABLAXIS	CDF_CHAR	DOWNLINK_INFO
DOWNLINK_INFO	UNITS	CDF_CHAR	
DOWNLINK_INFO	VAR_TYPE	CDF_CHAR	support_data
DOWNLINK_INFO	SCALETYP	CDF_CHAR	linear
DOWNLINK_INFO	VAR_NOTES	CDF_CHAR	Algorithm code of the down-linked packet and selection code of the down-linked packet
DOWNLINK_INFO	DEPEND_0	CDF_CHAR	Epoch
DOWNLINK_INFO	DISPLAY_TYPE	CDF_CHAR	time_series
DOWNLINK_INFO	FORMAT	CDF_CHAR	I3.3
SAMPS_PER_CH	FIELDNAM	CDF_CHAR	SAMPS_PER_CH
SAMPS_PER_CH	CATDESC	CDF_CHAR	Number of samples per channel
SAMPS_PER_CH	VALIDMIN	CDF_UINT4	0
SAMPS_PER_CH	VALIDMAX	CDF_UINT4	4294967295
SAMPS_PER_CH	SCALEMIN	CDF_UINT4	0
SAMPS_PER_CH	SCALEMAX	CDF_UINT4	4294967295
SAMPS_PER_CH	FILLVAL	CDF_UINT4	4294967295
SAMPS_PER_CH	LABLAXIS	CDF_CHAR	Nsamps
SAMPS_PER_CH	UNITS	CDF_CHAR	
SAMPS_PER_CH	VAR_TYPE	CDF_CHAR	data
SAMPS_PER_CH	SCALETYP	CDF_CHAR	linear
SAMPS_PER_CH	VAR_NOTES	CDF_CHAR	Number of samples per channel
SAMPS_PER_CH	DEPEND_0	CDF_CHAR	Epoch
SAMPS_PER_CH	DISPLAY_TYPE	CDF_CHAR	time_series
SAMPS_PER_CH	FORMAT	CDF_CHAR	I10


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 89

Tab. 4.11 – continued from previous page


Variable Name	Attribute Name	Data Type	Value
WAVEFORM_DATA	FIELDNAM	CDF_CHAR	Waveform data (electric and magnetic)
WAVEFORM_DATA	CATDESC	CDF_CHAR	Integer data measured on the four high frequency channels of TDS
WAVEFORM_DATA	VALIDMIN	CDF_FLOAT	-1.0e+30
WAVEFORM_DATA	VALIDMAX	CDF_FLOAT	1.0e+30
WAVEFORM_DATA	SCALEMIN	CDF_FLOAT	-1.0e+30
WAVEFORM_DATA	SCALEMAX	CDF_FLOAT	1.0e+30
WAVEFORM_DATA	FILLVAL	CDF_FLOAT	-1.0e+31
WAVEFORM_DATA	UNITS	CDF_CHAR	Count
WAVEFORM_DATA	VAR_TYPE	CDF_CHAR	data
WAVEFORM_DATA	SCALETYP	CDF_CHAR	linear
WAVEFORM_DATA	VAR_NOTES	CDF_CHAR	1-4 entry array with signal values
WAVEFORM_DATA	DEPEND_0	CDF_CHAR	Epoch
WAVEFORM_DATA	DISPLAY_TYPE	CDF_CHAR	time_series
WAVEFORM_DATA	FORMAT	CDF_CHAR	F9.3
WAVEFORM_DATA	LABL_PTR_1	CDF_CHAR	WAVEFORM_LABEL
CHANNEL_LABEL	FIELDNAM	CDF_CHAR	CHANNEL_LABEL
CHANNEL_LABEL	CATDESC	CDF_CHAR	Label for CHANNEL_INFO_STATUS
CHANNEL_LABEL	VAR_TYPE	CDF_CHAR	metadata
CHANNEL_LABEL	FORMAT	CDF_CHAR	A8
WAVEFORM_LABEL	FIELDNAM	CDF_CHAR	WAVEFORM_LABEL
WAVEFORM_LABEL	CATDESC	CDF_CHAR	Label for WAVEFORM_DATA
WAVEFORM_LABEL	VAR_TYPE	CDF_CHAR	metadata
WAVEFORM_LABEL	FORMAT	CDF_CHAR	A16
SCET	FIELDNAM	CDF_CHAR	Spacecraft Elapsed Time
SCET	CATDESC	CDF_CHAR	Elapsed Time of the onboard clock
SCET	VALIDMIN	CDF_REAL8	0.0
SCET	VALIDMAX	CDF_REAL8	1.0e+31
SCET	SCALEMIN	CDF_REAL8	0.0
SCET	SCALEMAX	CDF_REAL8	1.0e+31
SCET	FILLVAL	CDF_REAL8	-1.0e+31
SCET	LABLAXIS	CDF_CHAR	Spacecraft Elapsed Time (Ticks)
SCET	UNITS	CDF_CHAR	Ticks
SCET	VAR_TYPE	CDF_CHAR	support_data

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 90

Tab. 4.11 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SCET	SCALETYP	CDF_CHAR	linear
SCET	MONOTON	CDF_CHAR	INCREASE
SCET	TIME_BASE	CDF_CHAR	Spacecraft onboard clock
SCET	TIME_SCALE	CDF_CHAR	Spacecraft onboard clock
SCET	REFERENCE_POS	CDF_CHAR	Spacecraft barycenter
SCET	VAR_NOTES	CDF_CHAR	Spaceraft Elapsed Time
SCET	DEPEND_0	CDF_CHAR	Epoch
SCET	DISPLAY_TYPE	CDF_CHAR	time_series
SYNCHRO_FLAG	FIELDNAM	CDF_CHAR	SYNCHRO_FLAG
SYNCHRO_FLAG	CATDESC	CDF_CHAR	Time synchronisation flag
SYNCHRO_FLAG	VALIDMIN	CDF_UINT1	0
SYNCHRO_FLAG	VALIDMAX	CDF_UINT1	1
SYNCHRO_FLAG	SCALEMIN	CDF_UINT1	0
SYNCHRO_FLAG	SCALEMAX	CDF_UINT1	1
SYNCHRO_FLAG	FILLVAL	CDF_UINT1	255
SYNCHRO_FLAG	LABLAXIS	CDF_CHAR	time sync. flag
SYNCHRO_FLAG	UNITS	CDF_CHAR	
SYNCHRO_FLAG	VAR_TYPE	CDF_CHAR	support_data
SYNCHRO_FLAG	SCALETYP	CDF_CHAR	linear
SYNCHRO_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate if the local time is synchronized with the RPW DPU clock or not. Possible values: synchronized=0, not synchronized=1. This flag is extracted from ACQUISITION_TIME in L0 packets, it is the MSB of the CUC time.
SYNCHRO_FLAG	DEPEND_0	CDF_CHAR	Epoch
SYNCHRO_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
SYNCHRO_FLAG	FORMAT	CDF_CHAR	I3.3

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 91

4.1.2.5.6 Non-Record-Variant (NRV) Variables

Variable Name	Index	Value
ACQUISITION_TIME_UNITS	1	s
ACQUISITION_TIME_UNITS	2	s / 65536
ACQUISITION_TIME_LABEL	1	CUC coarse part time
ACQUISITION_TIME_LABEL	2	CUC fine part time
CHANNEL_LABEL	1	TDS CH1
CHANNEL_LABEL	2	TDS CH2
CHANNEL_LABEL	3	TDS CH3
CHANNEL_LABEL	4	TDS CH4
WAVEFORM_LABEL	1	WF in CH1
WAVEFORM_LABEL	2	WF in CH2
WAVEFORM_LABEL	3	WF in CH3
WAVEFORM_LABEL	4	WF in CH4

4.1.2.6 SOLO_L1_RPW-TDS-SURV-HIST1D data product

The “SOLO_L1_RPW-TDS-SURV-HIST1D” data product contains the uncalibrated TDS receiver 1D histogram survey data. The “SOLO_L1_RPW-TDS-SURV-HIST1D” data are written in CDF format files. There is a single file per day, generated from data in the corresponding SOLO_L0_RPW parent file.


4.1.2.6.1 Filename

```
solo_L1_rpw-tds-surv-hist1d_[YYYYMMDD]_V[version].cdf
```

4.1.2.6.2 Expected cadence and data volume

Nominal cadence: 1 file per day


Expected data volume: 0.5 MB per file

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 92

4.1.2.6.3 Global Attributes

Attribute Name	Entry Number	Data Type	Value
ACCESS_URL	1	CDF_CHAR	
ACCESS_FORMAT	1	CDF_CHAR	CDF
Acknowledgement	1	CDF_CHAR	The authors are pleased to acknowledge the Solar Orbiter/RPW Investigation (M. Maksimovic, PIs) for access to data.
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009 (2.4)
Data_type	1	CDF_CHAR	H0>High Resolution data
Data_version	1	CDF_CHAR	
Descriptor	1	CDF_CHAR	RPW-TDS-SURV-HIST1D> RPW Time Domain Sampler 1D Histogram data in survey mode
Discipline	1	CDF_CHAR	Space Physics>Interplanetary Studies
File_naming_convention	1	CDF_CHAR	<Source_name>_<LEVEL>_<Descriptor>_<Date>
File_ID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	RPW Operations Centre located at LESIA (Meudon, France)
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	https://rpw.lesia.obspm.fr
Instrument_type	1	CDF_CHAR	Radio and Plasma Waves (space)
LINK_TEXT	1	CDF_CHAR	RPW Web site at LESIA
LINK_TITLE	1	CDF_CHAR	RPW Web site
Logical_file_id	1	CDF_CHAR	
Logical_source	1	CDF_CHAR	solo_L1_rpw-tds-surv-hist1d
Logical_source_description	1	CDF_CHAR	Solar Orbiter Radio/Plasma Wave, TDS L1 parameters
Mission_group	1	CDF_CHAR	Solar Orbiter
SKELETON_MODS	1	CDF_CHAR	November 2018 : initial release
SKELETON_MODS	2	CDF_CHAR	V04: Update for solo data definition, X. BONNIN (CNRS-LESIA), April 2019
SKELETON_MODS	3	CDF_CHAR	V05: Update to compliant with SOL-SGS-TN-0009 Issue 2, Rev 4 - X.Bonnin, 09/2019
SKELETON_MODS	4	CDF_CHAR	V06: Add CHANNEL_STATUS_INFO zVar - X.Bonnin, 02/2020
SKELETON_MODS	5	CDF_CHAR	V07: March 2020 : Delete Test_* g.attrs - X.Bonnin (CNRS, LESIA)


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 93

Tab. 4.12 – continued from previous page


Attribute Name	Entry Number	Data Type	Value
SKELETON_MODS	6	CDF_CHAR	V08: June 2020 : Update SAMPLING_RATE, FORMATs in zVars.attrs - D.Pisa (IAP-CAS)
SKELETON_MODS	7	CDF_CHAR	V09: Removing POST_GAP_FLAG zvar and UCD vattr. (X.Bonnin, 09/2020)
SKELETON_MODS	8	CDF_CHAR	V10: Jan. 2021 : Fix inconsistencies against the ISTP CDF guidelines, X.Bonnin (CNRS-LESIA)
Parent_version	1	CDF_CHAR	
Parents	1	CDF_CHAR	
PI_affiliation	1	CDF_CHAR	LESIA, Observatoire de Paris-CNRS
PI_name	1	CDF_CHAR	M.Maksimovic
Pipeline_version	1	CDF_CHAR	
Project	1	CDF_CHAR	SOLO>Solar Orbiter
Provider	1	CDF_CHAR	LESIA (Meudon, France)
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00006-LES (1.3)
Rules_of_use	1	CDF_CHAR	Data provided are publicly available. If used in presentations or publications, please acknowledge Solar Orbiter/RPW Investigation (M. Maksimovic, PIs). Please read carefully the caveats attached to the data. For reporting purposes, we request bibliography information for any publication, etc., using these data. Please send information on the use of this data to: M. Maksimovic (PI).
SKELETON_PARENT	1	CDF_CHAR	SOLO_L1_RPW-TDS-SURV-HIST1D_V10.cdf
Skeleton_version	1	CDF_CHAR	10
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	SOLO>Solar Orbiter
SPECTRAL_RANGE_MAX	1	CDF_CHAR	
SPECTRAL_RANGE_MIN	1	CDF_CHAR	
TEXT	1	CDF_CHAR	This file contains RPW TDS level 1 regular snapshot Histogram 1D survey data for the current day.
TEXT_supplement_1	1	CDF_CHAR	
TIME_MAX	1	CDF_CHAR	

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 94

Tab. 4.12 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
TIME_MIN	1	CDF_CHAR	
Validate	1	CDF_CHAR	
CAVEATS	1	CDF_CHAR	Engineering data. No good for publication.
Datetime	1	CDF_CHAR	
Free_field	1	CDF_CHAR	
Job_ID	1	CDF_CHAR	
LEVEL	1	CDF_CHAR	L1>Level 1 data processing
SOOP_TYPE	1	CDF_CHAR	
Data_product	1	CDF_CHAR	SURV-HIST1D>SURV-HIST1D
TARGET_NAME	1	CDF_CHAR	Sun
TARGET_CLASS	1	CDF_CHAR	Star
TARGET_REGION	1	CDF_CHAR	Solar Wind
Pipeline_name	1	CDF_CHAR	
Dataset_ID	1	CDF_CHAR	SOLO_L1_RPW-TDS-SURV-HIST1D
OBS_ID	1	CDF_CHAR	
MODS	1	CDF_CHAR	

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 95


4.1.2.6.4 zVariables

Variable Name	Data Type	Number Elements	Dims	Sizes
Epoch	CDF_TIME_TT2000	1	0	
ACQUISITION_TIME	CDF_UINT4	1	1	2
QUALITY_FLAG	CDF_UINT1	1	0	
QUALITY_BITMASK	CDF_UINT2	1	0	
SURVEY_MODE	CDF_UINT1	1	0	
BIA_STATUS_INFO	CDF_UINT1	1	1	6
CHANNEL_STATUS_INFO	CDF_UINT1	1	1	4
SAMPLING_RATE	CDF_FLOAT	1	0	
RPW_STATUS_INFO	CDF_UINT1	1	1	8
INPUT_CONFIG	CDF_UINT4	1	0	
SNAPSHOT_LEN	CDF_UINT1	1	0	
HIST1D_ID	CDF_UINT1	1	0	
HIST1D_PARAM	CDF_UINT1	1	0	
HIST1D_AXIS	CDF_UINT1	1	0	
HIST1D_COL_TIME	CDF_UINT2	1	0	
HIST1D_OUT	CDF_UINT2	1	0	
HIST1D_BINS	CDF_UINT2	1	0	
HIST1D_COUNTS	CDF_UINT2	1	1	256
SCET	CDF_REAL8	1	0	
SYNCHRO_FLAG	CDF_UINT1	1	0	
ACQUISITION_TIME_UNITS	CDF_CHAR	16	1	2
ACQUISITION_TIME_LABEL	CDF_CHAR	32	1	2

4.1.2.6.5 Variable attributes

Variable Name	Attribute Name	Data Type	Value
Epoch	FIELDNAM	CDF_CHAR	Epoch
Epoch	CATDESC	CDF_CHAR	Default time
Epoch	VALIDMIN	CDF_TIME_TT2000	2000-01-01T12:00:00.000000000
Epoch	VALIDMAX	CDF_TIME_TT2000	2029-12-31T23:59:59.999000000
Epoch	SCALEMIN	CDF_TIME_TT2000	2000-01-01T12:00:00.000000000
Epoch	SCALEMAX	CDF_TIME_TT2000	2029-12-31T23:59:59.999000000


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 96

Tab. 4.13 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
Epoch	FILLVAL	CDF_TIME_TT2000	1999-12-31T23:59:59.999999999
Epoch	LABLAXIS	CDF_CHAR	Epoch
Epoch	UNITS	CDF_CHAR	ns
Epoch	VAR_TYPE	CDF_CHAR	support_data
Epoch	SCALETYP	CDF_CHAR	linear
Epoch	MONOTON	CDF_CHAR	INCREASE
Epoch	TIME_BASE	CDF_CHAR	J2000
Epoch	TIME_SCALE	CDF_CHAR	Terrestrial Time
Epoch	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file
Epoch	Resolution	CDF_CHAR	15258 ns
ACQUISITION_TIME	FIELDNAM	CDF_CHAR	CCSDS CUC Acquisition time as returned in TM packets
ACQUISITION_TIME	CATDESC	CDF_CHAR	CCSDS CUC format TDS time, coarse and fine parts
ACQUISITION_TIME	VALIDMIN	CDF_UINT4	0
ACQUISITION_TIME	VALIDMAX	CDF_UINT4	4294967294
ACQUISITION_TIME	SCALEMIN	CDF_UINT4	0
ACQUISITION_TIME	SCALEMAX	CDF_UINT4	4294967294
ACQUISITION_TIME	FILLVAL	CDF_UINT4	4294967295
ACQUISITION_TIME	VAR_TYPE	CDF_CHAR	support_data
ACQUISITION_TIME	SCALETYP	CDF_CHAR	linear
ACQUISITION_TIME	MONOTON	CDF_CHAR	INCREASE
ACQUISITION_TIME	TIME_BASE	CDF_CHAR	2000-01-01T00:00:00
ACQUISITION_TIME	TIME_SCALE	CDF_CHAR	RPW DPU clock
ACQUISITION_TIME	VAR_NOTES	CDF_CHAR	Local time measured by the RPW TDS receiver (Coarse and fine parts of the CUC format) of the first sample of the packet
ACQUISITION_TIME	DEPEND_0	CDF_CHAR	Epoch
ACQUISITION_TIME	DISPLAY_TYPE	CDF_CHAR	time_series
ACQUISITION_TIME	FORMAT	CDF_CHAR	I10.0
ACQUISITION_TIME	LABL_PTR_1	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME	UNIT_PTR	CDF_CHAR	ACQUISITION_TIME_UNITS
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	VALIDMIN	CDF_UINT1	0


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 97

Tab. 4.13 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
QUALITY_FLAG	VALIDMAX	CDF_UINT1	4
QUALITY_FLAG	SCALEMIN	CDF_UINT1	0
QUALITY_FLAG	SCALEMAX	CDF_UINT1	4
QUALITY_FLAG	FILLVAL	CDF_UINT1	255
QUALITY_FLAG	LABLAXIS	CDF_CHAR	Quality flag
QUALITY_FLAG	UNITS	CDF_CHAR	
QUALITY_FLAG	VAR_TYPE	CDF_CHAR	support_data
QUALITY_FLAG	SCALETYP	CDF_CHAR	linear
QUALITY_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the quality of the data
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	FORMAT	CDF_CHAR	I1
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	UNITS	CDF_CHAR	
QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context information or status at the receiver or experiment level
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
SURVEY_MODE	FIELDNAM	CDF_CHAR	SURVEY_MODE
SURVEY_MODE	CATDESC	CDF_CHAR	TDS survey mode
SURVEY_MODE	VALIDMIN	CDF_UINT1	0
SURVEY_MODE	VALIDMAX	CDF_UINT1	1
SURVEY_MODE	SCALEMIN	CDF_UINT1	0
SURVEY_MODE	SCALEMAX	CDF_UINT1	1
SURVEY_MODE	FILLVAL	CDF_UINT1	255
SURVEY_MODE	LABLAXIS	CDF_CHAR	TDS survey mode
SURVEY_MODE	UNITS	CDF_CHAR	
SURVEY_MODE	VAR_TYPE	CDF_CHAR	data
SURVEY_MODE	SCALETYP	CDF_CHAR	linear


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 98

Tab. 4.13 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SURVEY_MODE	VAR_NOTES	CDF_CHAR	Flag to indicate if the receiver in the SURVEY_BURST (=1) or SURVEY_NORMAL (=0) mode
SURVEY_MODE	DEPEND_0	CDF_CHAR	Epoch
SURVEY_MODE	DISPLAY_TYPE	CDF_CHAR	time_series
SURVEY_MODE	FORMAT	CDF_CHAR	I1
BIA_STATUS_INFO	FIELDNAM	CDF_CHAR	BIA_STATUS_INFO
BIA_STATUS_INFO	CATDESC	CDF_CHAR	BIAS status byte
BIA_STATUS_INFO	VALIDMIN	CDF_UINT1	0
BIA_STATUS_INFO	VALIDMAX	CDF_UINT1	1
BIA_STATUS_INFO	SCALEMIN	CDF_UINT1	0
BIA_STATUS_INFO	SCALEMAX	CDF_UINT1	1
BIA_STATUS_INFO	FILLVAL	CDF_UINT1	255
BIA_STATUS_INFO	LABLAXIS	CDF_CHAR	BIAS status
BIA_STATUS_INFO	UNITS	CDF_CHAR	
BIA_STATUS_INFO	VAR_TYPE	CDF_CHAR	data
BIA_STATUS_INFO	SCALETYP	CDF_CHAR	linear
BIA_STATUS_INFO	VAR_NOTES	CDF_CHAR	BIAS status byte
BIA_STATUS_INFO	DEPEND_0	CDF_CHAR	Epoch
BIA_STATUS_INFO	DISPLAY_TYPE	CDF_CHAR	time_series
BIA_STATUS_INFO	FORMAT	CDF_CHAR	I1
CHANNEL_STATUS_INFO	FIELDNAM	CDF_CHAR	CHANNEL_STATUS_INFO
CHANNEL_STATUS_INFO	CATDESC	CDF_CHAR	Status of signal channels
CHANNEL_STATUS_INFO	VALIDMIN	CDF_UINT1	0
CHANNEL_STATUS_INFO	VALIDMAX	CDF_UINT1	4
CHANNEL_STATUS_INFO	SCALEMIN	CDF_UINT1	0
CHANNEL_STATUS_INFO	SCALEMAX	CDF_UINT1	4
CHANNEL_STATUS_INFO	FILLVAL	CDF_UINT1	255
CHANNEL_STATUS_INFO	UNITS	CDF_CHAR	
CHANNEL_STATUS_INFO	VAR_TYPE	CDF_CHAR	data
CHANNEL_STATUS_INFO	SCALETYP	CDF_CHAR	linear
CHANNEL_STATUS_INFO	VAR_NOTES	CDF_CHAR	Status of signal channels (0=GND 1=V1 2=V2 3=V3 4=BMF)
CHANNEL_STATUS_INFO	DEPEND_0	CDF_CHAR	Epoch
CHANNEL_STATUS_INFO	DISPLAY_TYPE	CDF_CHAR	time_series
CHANNEL_STATUS_INFO	FORMAT	CDF_CHAR	I1
CHANNEL_STATUS_INFO	LABL_PTR_1	CDF_CHAR	CHANNEL_LABEL
SAMPLING_RATE	FIELDNAM	CDF_CHAR	SAMPLING_RATE
SAMPLING_RATE	CATDESC	CDF_CHAR	TDS sampling rate

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 99

Tab. 4.13 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SAMPLING_RATE	VALIDMIN	CDF_FLOAT	0.0
SAMPLING_RATE	VALIDMAX	CDF_FLOAT	2.0971e+06
SAMPLING_RATE	SCALEMIN	CDF_FLOAT	65534.0
SAMPLING_RATE	SCALEMAX	CDF_FLOAT	2.0971e+06
SAMPLING_RATE	FILLVAL	CDF_FLOAT	-1.0e+31
SAMPLING_RATE	LABLAXIS	CDF_CHAR	Sampling rate
SAMPLING_RATE	UNITS	CDF_CHAR	Hz
SAMPLING_RATE	VAR_TYPE	CDF_CHAR	data
SAMPLING_RATE	SCALETYP	CDF_CHAR	linear
SAMPLING_RATE	VAR_NOTES	CDF_CHAR	TDS sampling rate
SAMPLING_RATE	DEPEND_0	CDF_CHAR	Epoch
SAMPLING_RATE	DISPLAY_TYPE	CDF_CHAR	time_series
SAMPLING_RATE	FORMAT	CDF_CHAR	F9.2
RPW_STATUS_INFO	FIELDNAM	CDF_CHAR	RPW_STATUS_INFO
RPW_STATUS_INFO	CATDESC	CDF_CHAR	RPW status
RPW_STATUS_INFO	VALIDMIN	CDF_UINT1	0
RPW_STATUS_INFO	VALIDMAX	CDF_UINT1	1
RPW_STATUS_INFO	SCALEMIN	CDF_UINT1	0
RPW_STATUS_INFO	SCALEMAX	CDF_UINT1	1
RPW_STATUS_INFO	FILLVAL	CDF_UINT1	255
RPW_STATUS_INFO	LABLAXIS	CDF_CHAR	RPW Status info
RPW_STATUS_INFO	UNITS	CDF_CHAR	
RPW_STATUS_INFO	VAR_TYPE	CDF_CHAR	data
RPW_STATUS_INFO	SCALETYP	CDF_CHAR	linear
RPW_STATUS_INFO	VAR_NOTES	CDF_CHAR	RPW status (bitmask - received from DPU)
RPW_STATUS_INFO	DEPEND_0	CDF_CHAR	Epoch
RPW_STATUS_INFO	DISPLAY_TYPE	CDF_CHAR	time_series
RPW_STATUS_INFO	FORMAT	CDF_CHAR	I1.1
INPUT_CONFIG	FIELDNAM	CDF_CHAR	INPUT_CONFIG
INPUT_CONFIG	CATDESC	CDF_CHAR	Bitmask of TDS analog input configuration
INPUT_CONFIG	VALIDMIN	CDF_UINT4	0
INPUT_CONFIG	VALIDMAX	CDF_UINT4	4294967294
INPUT_CONFIG	SCALEMIN	CDF_UINT4	0
INPUT_CONFIG	SCALEMAX	CDF_UINT4	4294967294
INPUT_CONFIG	FILLVAL	CDF_UINT4	4294967295
INPUT_CONFIG	LABLAXIS	CDF_CHAR	TDS input config.
INPUT_CONFIG	UNITS	CDF_CHAR	
INPUT_CONFIG	VAR_TYPE	CDF_CHAR	data
INPUT_CONFIG	SCALETYP	CDF_CHAR	linear

continues on next page



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **100**

Tab. 4.13 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
INPUT_CONFIG	VAR_NOTES	CDF_CHAR	Input TDS configuration
INPUT_CONFIG	DEPEND_0	CDF_CHAR	Epoch
INPUT_CONFIG	DISPLAY_TYPE	CDF_CHAR	time_series
INPUT_CONFIG	FORMAT	CDF_CHAR	I10
SNAPSHOT_LEN	FIELDNAM	CDF_CHAR	SNAPSHOT_LEN
SNAPSHOT_LEN	CATDESC	CDF_CHAR	Length of snapshot
SNAPSHOT_LEN	VALIDMIN	CDF_UINT1	9
SNAPSHOT_LEN	VALIDMAX	CDF_UINT1	18
SNAPSHOT_LEN	SCALEMIN	CDF_UINT1	9
SNAPSHOT_LEN	SCALEMAX	CDF_UINT1	18
SNAPSHOT_LEN	FILLVAL	CDF_UINT1	255
SNAPSHOT_LEN	LABLAXIS	CDF_CHAR	Length of snapshot
SNAPSHOT_LEN	UNITS	CDF_CHAR	
SNAPSHOT_LEN	VAR_TYPE	CDF_CHAR	data
SNAPSHOT_LEN	SCALETYP	CDF_CHAR	linear
SNAPSHOT_LEN	VAR_NOTES	CDF_CHAR	Length of snapshot, 2 ^N where N = 9..18
SNAPSHOT_LEN	DEPEND_0	CDF_CHAR	Epoch
SNAPSHOT_LEN	DISPLAY_TYPE	CDF_CHAR	time_series
SNAPSHOT_LEN	FORMAT	CDF_CHAR	I3.3
HIST1D_ID	FIELDNAM	CDF_CHAR	HIST1D_ID
HIST1D_ID	CATDESC	CDF_CHAR	Histogram ID
HIST1D_ID	VALIDMIN	CDF_UINT1	1
HIST1D_ID	VALIDMAX	CDF_UINT1	4
HIST1D_ID	SCALEMIN	CDF_UINT1	1
HIST1D_ID	SCALEMAX	CDF_UINT1	4
HIST1D_ID	FILLVAL	CDF_UINT1	255
HIST1D_ID	LABLAXIS	CDF_CHAR	Histogram ID
HIST1D_ID	UNITS	CDF_CHAR	
HIST1D_ID	VAR_TYPE	CDF_CHAR	data
HIST1D_ID	SCALETYP	CDF_CHAR	linear
HIST1D_ID	VAR_NOTES	CDF_CHAR	An ID number of the his- togram (1..4) indicating which of the four possible configured
HIST1D_ID	DEPEND_0	CDF_CHAR	Epoch
HIST1D_ID	DISPLAY_TYPE	CDF_CHAR	time_series
HIST1D_ID	FORMAT	CDF_CHAR	I1
HIST1D_PARAM	FIELDNAM	CDF_CHAR	HIST1D_PARAM
HIST1D_PARAM	CATDESC	CDF_CHAR	Histogram build parameters
HIST1D_PARAM	VALIDMIN	CDF_UINT1	0
HIST1D_PARAM	VALIDMAX	CDF_UINT1	14


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 101

Tab. 4.13 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
HIST1D_PARAM	SCALEMIN	CDF_UINT1	0
HIST1D_PARAM	SCALEMAX	CDF_UINT1	14
HIST1D_PARAM	FILLVAL	CDF_UINT1	255
HIST1D_PARAM	LABLAXIS	CDF_CHAR	Histogram param
HIST1D_PARAM	UNITS	CDF_CHAR	
HIST1D_PARAM	VAR_TYPE	CDF_CHAR	data
HIST1D_PARAM	SCALETYP	CDF_CHAR	linear
HIST1D_PARAM	VAR_NOTES	CDF_CHAR	The parameter used to build this histogram. Equal to the corresponding CP_TDS_N_1D_HISTx_TYPE Setting.
HIST1D_PARAM	DEPEND_0	CDF_CHAR	Epoch
HIST1D_PARAM	DISPLAY_TYPE	CDF_CHAR	time_series
HIST1D_PARAM	FORMAT	CDF_CHAR	I2
HIST1D_AXIS	FIELDNAM	CDF_CHAR	HIST1D_AXIS
HIST1D_AXIS	CATDESC	CDF_CHAR	Axis corresponding to the histogram
HIST1D_AXIS	VALIDMIN	CDF_UINT1	1
HIST1D_AXIS	VALIDMAX	CDF_UINT1	11
HIST1D_AXIS	SCALEMIN	CDF_UINT1	1
HIST1D_AXIS	SCALEMAX	CDF_UINT1	11
HIST1D_AXIS	FILLVAL	CDF_UINT1	255
HIST1D_AXIS	LABLAXIS	CDF_CHAR	HIST1D_AXIS
HIST1D_AXIS	UNITS	CDF_CHAR	
HIST1D_AXIS	VAR_TYPE	CDF_CHAR	data
HIST1D_AXIS	SCALETYP	CDF_CHAR	linear
HIST1D_AXIS	VAR_NOTES	CDF_CHAR	Axis corresponding to this histogram
HIST1D_AXIS	DEPEND_0	CDF_CHAR	Epoch
HIST1D_AXIS	DISPLAY_TYPE	CDF_CHAR	time_series
HIST1D_AXIS	FORMAT	CDF_CHAR	I2
HIST1D_COL_TIME	FIELDNAM	CDF_CHAR	HIST1D_COL_TIME
HIST1D_COL_TIME	CATDESC	CDF_CHAR	Histogram build duration
HIST1D_COL_TIME	VALIDMIN	CDF_UINT2	0
HIST1D_COL_TIME	VALIDMAX	CDF_UINT2	65534
HIST1D_COL_TIME	SCALEMIN	CDF_UINT2	0
HIST1D_COL_TIME	SCALEMAX	CDF_UINT2	65534
HIST1D_COL_TIME	FILLVAL	CDF_UINT2	65535
HIST1D_COL_TIME	LABLAXIS	CDF_CHAR	Histogram dur
HIST1D_COL_TIME	UNITS	CDF_CHAR	s


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 102

Tab. 4.13 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
HIST1D_COL_TIME	VAR_TYPE	CDF_CHAR	data
HIST1D_COL_TIME	SCALETYP	CDF_CHAR	linear
HIST1D_COL_TIME	VAR_NOTES	CDF_CHAR	The duration of the time period (in seconds) over which this histogram has been built.
HIST1D_COL_TIME	DEPEND_0	CDF_CHAR	Epoch
HIST1D_COL_TIME	DISPLAY_TYPE	CDF_CHAR	time_series
HIST1D_COL_TIME	FORMAT	CDF_CHAR	I5
HIST1D_OUT	FIELDNAM	CDF_CHAR	HIST1D_OUT
HIST1D_OUT	CATDESC	CDF_CHAR	Histogram out values
HIST1D_OUT	VALIDMIN	CDF_UINT2	0
HIST1D_OUT	VALIDMAX	CDF_UINT2	65534
HIST1D_OUT	SCALEMIN	CDF_UINT2	0
HIST1D_OUT	SCALEMAX	CDF_UINT2	65534
HIST1D_OUT	FILLVAL	CDF_UINT2	65535
HIST1D_OUT	LABLAXIS	CDF_CHAR	Histogram out values
HIST1D_OUT	UNITS	CDF_CHAR	
HIST1D_OUT	VAR_TYPE	CDF_CHAR	data
HIST1D_OUT	SCALETYP	CDF_CHAR	linear
HIST1D_OUT	VAR_NOTES	CDF_CHAR	Number of out of range values which were out of the limit specified by the current axis configuration.
HIST1D_OUT	DEPEND_0	CDF_CHAR	Epoch
HIST1D_OUT	DISPLAY_TYPE	CDF_CHAR	time_series
HIST1D_OUT	FORMAT	CDF_CHAR	I5
HIST1D_BINS	FIELDNAM	CDF_CHAR	HIST1D_BINS
HIST1D_BINS	CATDESC	CDF_CHAR	Number of histogram bins
HIST1D_BINS	VALIDMIN	CDF_UINT2	32
HIST1D_BINS	VALIDMAX	CDF_UINT2	256
HIST1D_BINS	SCALEMIN	CDF_UINT2	32
HIST1D_BINS	SCALEMAX	CDF_UINT2	256
HIST1D_BINS	FILLVAL	CDF_UINT2	65535
HIST1D_BINS	LABLAXIS	CDF_CHAR	Number of bins
HIST1D_BINS	UNITS	CDF_CHAR	
HIST1D_BINS	VAR_TYPE	CDF_CHAR	data
HIST1D_BINS	SCALETYP	CDF_CHAR	linear
HIST1D_BINS	VAR_NOTES	CDF_CHAR	Number of bins in the histogram. Determines the length of the packet.
HIST1D_BINS	DEPEND_0	CDF_CHAR	Epoch


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 103

Tab. 4.13 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
HIST1D_BINS	DISPLAY_TYPE	CDF_CHAR	time_series
HIST1D_BINS	FORMAT	CDF_CHAR	I5.5
HIST1D_COUNTS	FIELDNAM	CDF_CHAR	HIST1D_COUNTS
HIST1D_COUNTS	CATDESC	CDF_CHAR	Number of histogram bins
HIST1D_COUNTS	VALIDMIN	CDF_UINT2	0
HIST1D_COUNTS	VALIDMAX	CDF_UINT2	65534
HIST1D_COUNTS	SCALEMIN	CDF_UINT2	0
HIST1D_COUNTS	SCALEMAX	CDF_UINT2	65534
HIST1D_COUNTS	FILLVAL	CDF_UINT2	65535
HIST1D_COUNTS	LABLAXIS	CDF_CHAR	Counts
HIST1D_COUNTS	UNITS	CDF_CHAR	
HIST1D_COUNTS	VAR_TYPE	CDF_CHAR	data
HIST1D_COUNTS	SCALETYP	CDF_CHAR	linear
HIST1D_COUNTS	VAR_NOTES	CDF_CHAR	Counts of each bin in the histogram
HIST1D_COUNTS	DEPEND_0	CDF_CHAR	Epoch
HIST1D_COUNTS	DISPLAY_TYPE	CDF_CHAR	time_series
HIST1D_COUNTS	FORMAT	CDF_CHAR	I5
SCET	FIELDNAM	CDF_CHAR	Spacecraft Elapsed Time
SCET	CATDESC	CDF_CHAR	Elapsed Time of the onboard clock
SCET	VALIDMIN	CDF_REAL8	0.0
SCET	VALIDMAX	CDF_REAL8	1.0e+31
SCET	SCALEMIN	CDF_REAL8	0.0
SCET	SCALEMAX	CDF_REAL8	1.0e+31
SCET	FILLVAL	CDF_REAL8	-1.0e+31
SCET	LABLAXIS	CDF_CHAR	Spacecraft Elapsed Time (Ticks)
SCET	UNITS	CDF_CHAR	Ticks
SCET	VAR_TYPE	CDF_CHAR	support_data
SCET	SCALETYP	CDF_CHAR	linear
SCET	MONOTON	CDF_CHAR	INCREASE
SCET	TIME_BASE	CDF_CHAR	Spacecraft onboard clock
SCET	TIME_SCALE	CDF_CHAR	Spacecraft onboard clock
SCET	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
SCET	VAR_NOTES	CDF_CHAR	Spacecraft Elapsed Time
SCET	DEPEND_0	CDF_CHAR	Epoch
SCET	DISPLAY_TYPE	CDF_CHAR	time_series
SYNCHRO_FLAG	FIELDNAM	CDF_CHAR	SYNCHRO_FLAG
SYNCHRO_FLAG	CATDESC	CDF_CHAR	Time synchronisation flag
SYNCHRO_FLAG	VALIDMIN	CDF_UINT1	0

continues on next page


	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 104

Tab. 4.13 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SYNCHRO_FLAG	VALIDMAX	CDF_UINT1	1
SYNCHRO_FLAG	SCALEMIN	CDF_UINT1	0
SYNCHRO_FLAG	SCALEMAX	CDF_UINT1	1
SYNCHRO_FLAG	FILLVAL	CDF_UINT1	255
SYNCHRO_FLAG	LABLAXIS	CDF_CHAR	time sync. flag
SYNCHRO_FLAG	UNITS	CDF_CHAR	
SYNCHRO_FLAG	VAR_TYPE	CDF_CHAR	support_data
SYNCHRO_FLAG	SCALETYP	CDF_CHAR	linear
SYNCHRO_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate if the local time is synchronized with the RPW DPU clock or not. Possible values: synchronized=0, not synchronized=1. This flag is extracted from ACQUISITION_TIME in L0 packets, it is the MSB of the CUC time.
SYNCHRO_FLAG	DEPEND_0	CDF_CHAR	Epoch
SYNCHRO_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
SYNCHRO_FLAG	FORMAT	CDF_CHAR	I1
ACQUISITION_TIME_UNITS	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_UNITS
ACQUISITION_TIME_UNITS	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME_UNIT_PTR attribute
ACQUISITION_TIME_UNITS	VAR_TYPE	CDF_CHAR	metadata
ACQUISITION_TIME_UNITS	FORMAT	CDF_CHAR	A16
ACQUISITION_TIME_LABEL	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME_LABEL	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME
ACQUISITION_TIME_LABEL	VAR_TYPE	CDF_CHAR	metadata
ACQUISITION_TIME_LABEL	FORMAT	CDF_CHAR	A32

4.1.2.6.6 Non-Record-Variant (NRV) Variables

Variable Name	Index	Value
ACQUISITION_TIME_UNITS	1	s
ACQUISITION_TIME_UNITS	2	s / 65535
ACQUISITION_TIME_LABEL	1	CUC coarse part time
ACQUISITION_TIME_LABEL	2	CUC fine part time

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 105

4.1.2.7 SOLO_L1_RPW-TDS-SURV-HIST2D data product

The “SOLO_L1_RPW-TDS-SURV-HIST2D” data product contains the uncalibrated TDS receiver 2D histogram survey data. The “SOLO_L1_RPW-TDS-SURV-HIST2D” data are written in CDF format files. There is a single file per day, generated from data in the corresponding SOLO_L0_RPW parent file.

4.1.2.7.1 Filename

```
solo_L1_rpw-tds-surv-hist2d_[YYYYMMDD]_V[version].cdf
```

4.1.2.7.2 Expected cadence and data volume


Nominal cadence: 1 file per day

Expected data volume: 2.5 MB per file

4.1.2.7.3 Global Attributes

Attribute Name	Entry Number	Data Type	Value
ACCESS_URL	1	CDF_CHAR	
ACCESS_FORMAT	1	CDF_CHAR	CDF
Acknowledgement	1	CDF_CHAR	The authors are pleased to acknowledge the Solar Orbiter/RPW Investigation (M. Maksimovic, PIs) for access to data.
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009 (2.4)
Data_type	1	CDF_CHAR	H0>High Resolution data
Data_version	1	CDF_CHAR	
Descriptor	1	CDF_CHAR	RPW-TDS-SURV-HIST2D> RPW Time Domain Sampler 2D Histogram data in survey mode
Discipline	1	CDF_CHAR	Space Physics>Interplanetary Studies
File_naming_convention	1	CDF_CHAR	<Source_name>_<LEVEL>_<Descriptor>_<Date>
File_ID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	RPW Operations Centre located at LESIA (Meudon, France)
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	https://rpw.lesia.obspm.fr


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 106

Tab. 4.14 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Instrument_type	1	CDF_CHAR	Radio and Plasma Waves (space)
LINK_TEXT	1	CDF_CHAR	RPW Web site at LESIA
LINK_TITLE	1	CDF_CHAR	RPW Web site
Logical_file_id	1	CDF_CHAR	
Logical_source	1	CDF_CHAR	solo_L1_rpw-tds-surv-hist2d
Logical_source_description	1	CDF_CHAR	Solar Orbiter Radio/Plasma Wave, TDS L1 parameters
Mission_group	1	CDF_CHAR	Solar Orbiter
SKELETON_MODS	1	CDF_CHAR	November 2018 : initial release
SKELETON_MODS	2	CDF_CHAR	V04: Update for solo data definition, X. BONNIN (CNRS-LESIA), April 2019
SKELETON_MODS	3	CDF_CHAR	V05: Update to compliant with SOL-SGS-TN-0009 Issue 2, Rev 4 - X.Bonnin, 09/2019
SKELETON_MODS	4	CDF_CHAR	V06: Add CHANNEL_STATUS_INFO zVar. - X.Bonnin 02/2020
SKELETON_MODS	5	CDF_CHAR	V07: March 2020 : Delete Test_* g.attrs - X.Bonnin (CNRS, LESIA)
SKELETON_MODS	6	CDF_CHAR	V08: June 2020 : Update SAMPLING_RATE, FORMATs in zVars.attrs - D.Pisa (IAP-CAS)
SKELETON_MODS	7	CDF_CHAR	V09: Sept 2020 : Update HIST2D_BINS1, Hist2HIST2D_BINS2 type and filvall fixed - D.Pisa (IAP-CAS) RPW_STATUS_INFO removed
SKELETON_MODS	8	CDF_CHAR	V10: Removing POST_GAP_FLAG zvar and UCD vattr. (X.Bonnin, 09/2020)
SKELETON_MODS	9	CDF_CHAR	V11: Atts for HIST2D_TOT_PTS added. (D.POSA, 09/2020)
SKELETON_MODS	10	CDF_CHAR	V12: Jan. 2021 : Fix inconsistencies against the ISTEP CDF guidelines, X.Bonnin (CNRS-LESIA)
Parent_version	1	CDF_CHAR	
Parents	1	CDF_CHAR	
PI_affiliation	1	CDF_CHAR	LESIA, Observatoire de Paris-CNRS
PI_name	1	CDF_CHAR	M.Maksimovic
Pipeline_version	1	CDF_CHAR	
Project	1	CDF_CHAR	SOLO>Solar Orbiter


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 107

Tab. 4.14 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Provider	1	CDF_CHAR	LESIA (Meudon, France)
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00006-LES (1.3)
Rules_of_use	1	CDF_CHAR	Data provided are publicly available. If used in presentations or publications, please acknowledge Solar Orbiter/RPW Investigation (M. Maksimovic, PIs). Please read carefully the caveats attached to the data. For reporting purposes, we request bibliography information for any publication, etc., using these data. Please send information on the use of this data to: M. Maksimovic (PI).
SKELETON_PARENT	1	CDF_CHAR	SOLO_L1_RPW-TDS-SURV-HIST2D_V12.cdf
Skeleton_version	1	CDF_CHAR	12
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	SOLO>Solar Orbiter
SPECTRAL_RANGE_MAX	1	CDF_CHAR	
SPECTRAL_RANGE_MIN	1	CDF_CHAR	
TEXT	1	CDF_CHAR	This file contains RPW TDS level 1 regular snapshot Histogram 2D survey data for the current day.
TEXT_supplement_1	1	CDF_CHAR	
TIME_MAX	1	CDF_CHAR	
TIME_MIN	1	CDF_CHAR	
Validate	1	CDF_CHAR	
CAVEATS	1	CDF_CHAR	Engineering data. No good for publication.
Datetime	1	CDF_CHAR	
Free_field	1	CDF_CHAR	
Job_ID	1	CDF_CHAR	
LEVEL	1	CDF_CHAR	L1>Level 1 data processing
SOOP_TYPE	1	CDF_CHAR	
Data_product	1	CDF_CHAR	SURV-HIST2D>SURV-HIST2D
TARGET_NAME	1	CDF_CHAR	Sun
TARGET_CLASS	1	CDF_CHAR	Star
TARGET_REGION	1	CDF_CHAR	Solar Wind
Pipeline_name	1	CDF_CHAR	

continues on next page


	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 108

Tab. 4.14 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Dataset_ID	1	CDF_CHAR	SOLO_L1_RPW-TDS-SURV-HIST2D
OBS_ID	1	CDF_CHAR	
MODS	1	CDF_CHAR	

4.1.2.7.4 zVariables


Variable Name	Data Type	Number Elements	Dims	Sizes
Epoch	CDF_TIME_TT2000	1	0	
ACQUISITION_TIME	CDF_UINT4	1	1	2
QUALITY_FLAG	CDF_UINT1	1	0	
QUALITY_BITMASK	CDF_UINT2	1	0	
SURVEY_MODE	CDF_UINT1	1	0	
BIA_STATUS_INFO	CDF_UINT1	1	1	6
CHANNEL_STATUS_INFO	CDF_UINT1	1	1	4
SAMPLING_RATE	CDF_REAL4	1	0	
INPUT_CONFIG	CDF_UINT4	1	0	
SNAPSHOT_LEN	CDF_UINT4	1	0	
HIST2D_ID	CDF_UINT1	1	0	
HIST2D_PARAMS	CDF_UINT1	1	0	
HIST2D_COL_TIME	CDF_UINT2	1	0	
HIST2D_AXIS1	CDF_UINT1	1	0	
HIST2D_AXIS2	CDF_UINT1	1	0	
HIST2D_BINS1	CDF_UINT1	1	0	
HIST2D_BINS2	CDF_UINT1	1	0	
HIST2D_TOT_PTS	CDF_UINT2	1	0	
HIST2D_COUNTS	CDF_UINT2	1	2	128 128
SCET	CDF_REAL8	1	0	
SYNCHRO_FLAG	CDF_UINT1	1	0	
ACQUISITION_TIME_UNITS	CDF_CHAR	16	1	2
ACQUISITION_TIME_LABEL	CDF_CHAR	32	1	2

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 109

4.1.2.7.5 Variable attributes

Variable Name	Attribute Name	Data Type	Value
Epoch	FIELDNAM	CDF_CHAR	Epoch
Epoch	CATDESC	CDF_CHAR	Default time
Epoch	VALIDMIN	CDF_TIME_TT2000	1990-01-01T00:00:00.000000000
Epoch	VALIDMAX	CDF_TIME_TT2000	2029-12-31T23:59:59.999000000
Epoch	SCALEMIN	CDF_TIME_TT2000	1990-01-01T00:00:00.000000000
Epoch	SCALEMAX	CDF_TIME_TT2000	2029-12-31T23:59:59.999000000
Epoch	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch	LABLAXIS	CDF_CHAR	Epoch
Epoch	UNITS	CDF_CHAR	ns
Epoch	VAR_TYPE	CDF_CHAR	support_data
Epoch	SCALETYP	CDF_CHAR	linear
Epoch	MONOTON	CDF_CHAR	INCREASE
Epoch	TIME_BASE	CDF_CHAR	J2000
Epoch	TIME_SCALE	CDF_CHAR	Terrestrial Time
Epoch	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file
Epoch	Resolution	CDF_CHAR	15258 ns
ACQUISITION_TIME	FIELDNAM	CDF_CHAR	CCSDS CUC Acquisition time as returned in TM packets
ACQUISITION_TIME	CATDESC	CDF_CHAR	CCSDS CUC format TDS time, coarse and fine parts
ACQUISITION_TIME	VALIDMIN	CDF_UINT4	0
ACQUISITION_TIME	VALIDMAX	CDF_UINT4	4294967294
ACQUISITION_TIME	SCALEMIN	CDF_UINT4	0
ACQUISITION_TIME	SCALEMAX	CDF_UINT4	4294967294
ACQUISITION_TIME	FILLVAL	CDF_UINT4	4294967295
ACQUISITION_TIME	VAR_TYPE	CDF_CHAR	support_data
ACQUISITION_TIME	SCALETYP	CDF_CHAR	linear
ACQUISITION_TIME	MONOTON	CDF_CHAR	INCREASE
ACQUISITION_TIME	TIME_BASE	CDF_CHAR	2000-01-01T00:00:00
ACQUISITION_TIME	TIME_SCALE	CDF_CHAR	RPW DPU clock


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 110

Tab. 4.15 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
ACQUISITION_TIME	VAR_NOTES	CDF_CHAR	Local time measured by the RPW TDS receiver (Coarse and fine parts of the CUC format) of the first sample of the packet
ACQUISITION_TIME	DEPEND_0	CDF_CHAR	Epoch
ACQUISITION_TIME	DISPLAY_TYPE	CDF_CHAR	time_series
ACQUISITION_TIME	FORMAT	CDF_CHAR	I10.0
ACQUISITION_TIME	LABL_PTR_1	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME	UNIT_PTR	CDF_CHAR	ACQUISITION_TIME_UNITS
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	VALIDMIN	CDF_UINT1	0
QUALITY_FLAG	VALIDMAX	CDF_UINT1	4
QUALITY_FLAG	SCALEMIN	CDF_UINT1	0
QUALITY_FLAG	SCALEMAX	CDF_UINT1	4
QUALITY_FLAG	FILLVAL	CDF_UINT1	255
QUALITY_FLAG	LABLAXIS	CDF_CHAR	Quality flag
QUALITY_FLAG	UNITS	CDF_CHAR	
QUALITY_FLAG	VAR_TYPE	CDF_CHAR	support_data
QUALITY_FLAG	SCALETYP	CDF_CHAR	linear
QUALITY_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the quality of the data
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	FORMAT	CDF_CHAR	I1
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	UNITS	CDF_CHAR	
QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context information or status at the receiver or experiment level
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 111

Tab. 4.15 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
SURVEY_MODE	FIELDNAM	CDF_CHAR	SURVEY_MODE
SURVEY_MODE	CATDESC	CDF_CHAR	TDS survey mode
SURVEY_MODE	VALIDMIN	CDF_UINT1	0
SURVEY_MODE	VALIDMAX	CDF_UINT1	1
SURVEY_MODE	SCALEMIN	CDF_UINT1	0
SURVEY_MODE	SCALEMAX	CDF_UINT1	1
SURVEY_MODE	FILLVAL	CDF_UINT1	255
SURVEY_MODE	LABLAXIS	CDF_CHAR	TDS survey mode
SURVEY_MODE	UNITS	CDF_CHAR	
SURVEY_MODE	VAR_TYPE	CDF_CHAR	data
SURVEY_MODE	SCALETYP	CDF_CHAR	linear
SURVEY_MODE	VAR_NOTES	CDF_CHAR	Flag to indicate if the receiver in the SURVEY_BURST (=1) or SURVEY_NORMAL (=0) mode
SURVEY_MODE	DEPEND_0	CDF_CHAR	Epoch
SURVEY_MODE	DISPLAY_TYPE	CDF_CHAR	time_series
SURVEY_MODE	FORMAT	CDF_CHAR	I1
BIA_STATUS_INFO	FIELDNAM	CDF_CHAR	BIA_STATUS_INFO
BIA_STATUS_INFO	CATDESC	CDF_CHAR	BIAS status byte
BIA_STATUS_INFO	VALIDMIN	CDF_UINT1	0
BIA_STATUS_INFO	VALIDMAX	CDF_UINT1	255
BIA_STATUS_INFO	SCALEMIN	CDF_UINT1	0
BIA_STATUS_INFO	SCALEMAX	CDF_UINT1	1
BIA_STATUS_INFO	FILLVAL	CDF_UINT1	255
BIA_STATUS_INFO	LABLAXIS	CDF_CHAR	BIAS status
BIA_STATUS_INFO	UNITS	CDF_CHAR	
BIA_STATUS_INFO	VAR_TYPE	CDF_CHAR	data
BIA_STATUS_INFO	SCALETYP	CDF_CHAR	linear
BIA_STATUS_INFO	VAR_NOTES	CDF_CHAR	BIAS status byte
BIA_STATUS_INFO	DEPEND_0	CDF_CHAR	Epoch
BIA_STATUS_INFO	DISPLAY_TYPE	CDF_CHAR	time_series
BIA_STATUS_INFO	FORMAT	CDF_CHAR	I3.3
CHANNEL_STATUS_INFO	FIELDNAM	CDF_CHAR	CHANNEL_STATUS_INFO
CHANNEL_STATUS_INFO	CATDESC	CDF_CHAR	Status of signal channels
CHANNEL_STATUS_INFO	VALIDMIN	CDF_UINT1	0
CHANNEL_STATUS_INFO	VALIDMAX	CDF_UINT1	4
CHANNEL_STATUS_INFO	SCALEMIN	CDF_UINT1	0
CHANNEL_STATUS_INFO	SCALEMAX	CDF_UINT1	4


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 112

Tab. 4.15 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
CHANNEL_STATUS_INFO	FILLVAL	CDF_UINT1	255
CHANNEL_STATUS_INFO	UNITS	CDF_CHAR	
CHANNEL_STATUS_INFO	VAR_TYPE	CDF_CHAR	data
CHANNEL_STATUS_INFO	SCALETYP	CDF_CHAR	linear
CHANNEL_STATUS_INFO	VAR_NOTES	CDF_CHAR	Status of signal channels (0=GND 1=V1 2=V2 3=V3 4=BMF)
CHANNEL_STATUS_INFO	DEPEND_0	CDF_CHAR	Epoch
CHANNEL_STATUS_INFO	DISPLAY_TYPE	CDF_CHAR	time_series
CHANNEL_STATUS_INFO	FORMAT	CDF_CHAR	I1
CHANNEL_STATUS_INFO	LABL_PTR_1	CDF_CHAR	CHANNEL_LABEL
SAMPLING_RATE	FIELDNAM	CDF_CHAR	SAMPLING_RATE
SAMPLING_RATE	CATDESC	CDF_CHAR	TDS sampling rate
SAMPLING_RATE	VALIDMIN	CDF_REAL4	0.0
SAMPLING_RATE	VALIDMAX	CDF_REAL4	2.0971e+06
SAMPLING_RATE	SCALEMIN	CDF_REAL4	65534.0
SAMPLING_RATE	SCALEMAX	CDF_REAL4	524275.0
SAMPLING_RATE	FILLVAL	CDF_REAL4	-1.0e+31
SAMPLING_RATE	LABLAXIS	CDF_CHAR	Sampling rate
SAMPLING_RATE	UNITS	CDF_CHAR	Hz
SAMPLING_RATE	VAR_TYPE	CDF_CHAR	data
SAMPLING_RATE	SCALETYP	CDF_CHAR	linear
SAMPLING_RATE	VAR_NOTES	CDF_CHAR	TDS sampling rate
SAMPLING_RATE	DEPEND_0	CDF_CHAR	Epoch
SAMPLING_RATE	DISPLAY_TYPE	CDF_CHAR	time_series
SAMPLING_RATE	FORMAT	CDF_CHAR	F9.2
INPUT_CONFIG	FIELDNAM	CDF_CHAR	INPUT_CONFIG
INPUT_CONFIG	CATDESC	CDF_CHAR	Bitmask of TDS analog input configuration
INPUT_CONFIG	VALIDMIN	CDF_UINT4	0
INPUT_CONFIG	VALIDMAX	CDF_UINT4	4294967294
INPUT_CONFIG	SCALEMIN	CDF_UINT4	0
INPUT_CONFIG	SCALEMAX	CDF_UINT4	1
INPUT_CONFIG	FILLVAL	CDF_UINT4	4294967295
INPUT_CONFIG	LABLAXIS	CDF_CHAR	TDS input config.
INPUT_CONFIG	UNITS	CDF_CHAR	
INPUT_CONFIG	VAR_TYPE	CDF_CHAR	data
INPUT_CONFIG	SCALETYP	CDF_CHAR	linear
INPUT_CONFIG	VAR_NOTES	CDF_CHAR	Input TDS configuration
INPUT_CONFIG	DEPEND_0	CDF_CHAR	Epoch
INPUT_CONFIG	DISPLAY_TYPE	CDF_CHAR	time_series


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 113

Tab. 4.15 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
INPUT_CONFIG	FORMAT	CDF_CHAR	I10
SNAPSHOT_LEN	FIELDNAM	CDF_CHAR	SNAPSHOT_LEN
SNAPSHOT_LEN	CATDESC	CDF_CHAR	Length of snapshot
SNAPSHOT_LEN	VALIDMIN	CDF_UINT4	0
SNAPSHOT_LEN	VALIDMAX	CDF_UINT4	4294967294
SNAPSHOT_LEN	SCALEMIN	CDF_UINT4	512
SNAPSHOT_LEN	SCALEMAX	CDF_UINT4	262144
SNAPSHOT_LEN	FILLVAL	CDF_UINT4	4294967295
SNAPSHOT_LEN	LABLAXIS	CDF_CHAR	Length of snapshot
SNAPSHOT_LEN	UNITS	CDF_CHAR	samples
SNAPSHOT_LEN	VAR_TYPE	CDF_CHAR	data
SNAPSHOT_LEN	SCALETYP	CDF_CHAR	linear
SNAPSHOT_LEN	VAR_NOTES	CDF_CHAR	Length of snapshot in samples
SNAPSHOT_LEN	DEPEND_0	CDF_CHAR	Epoch
SNAPSHOT_LEN	DISPLAY_TYPE	CDF_CHAR	time_series
SNAPSHOT_LEN	FORMAT	CDF_CHAR	I8
HIST2D_ID	FIELDNAM	CDF_CHAR	HIST2D_ID
HIST2D_ID	CATDESC	CDF_CHAR	Histogram ID
HIST2D_ID	VALIDMIN	CDF_UINT1	1
HIST2D_ID	VALIDMAX	CDF_UINT1	2
HIST2D_ID	SCALEMIN	CDF_UINT1	1
HIST2D_ID	SCALEMAX	CDF_UINT1	2
HIST2D_ID	FILLVAL	CDF_UINT1	255
HIST2D_ID	LABLAXIS	CDF_CHAR	Histogram ID
HIST2D_ID	UNITS	CDF_CHAR	
HIST2D_ID	VAR_TYPE	CDF_CHAR	data
HIST2D_ID	SCALETYP	CDF_CHAR	linear
HIST2D_ID	VAR_NOTES	CDF_CHAR	An ID number of the histogram (1 or 2) indicating which of the four possible configured histograms is contained in the packet
HIST2D_ID	DEPEND_0	CDF_CHAR	Epoch
HIST2D_ID	DISPLAY_TYPE	CDF_CHAR	time_series
HIST2D_ID	FORMAT	CDF_CHAR	I1
HIST2D_PARAMS	FIELDNAM	CDF_CHAR	HIST2D_PARAMS
HIST2D_PARAMS	CATDESC	CDF_CHAR	Histogram build parameters
HIST2D_PARAMS	VALIDMIN	CDF_UINT1	0
HIST2D_PARAMS	VALIDMAX	CDF_UINT1	8
HIST2D_PARAMS	SCALEMIN	CDF_UINT1	0
HIST2D_PARAMS	SCALEMAX	CDF_UINT1	8


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 114

Tab. 4.15 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
HIST2D_PARAMS	FILLVAL	CDF_UINT1	255
HIST2D_PARAMS	LABLAXIS	CDF_CHAR	Histogram param
HIST2D_PARAMS	UNITS	CDF_CHAR	
HIST2D_PARAMS	VAR_TYPE	CDF_CHAR	data
HIST2D_PARAMS	SCALETYP	CDF_CHAR	linear
HIST2D_PARAMS	VAR_NOTES	CDF_CHAR	The parameter used to build this histogram. Equal to the corresponding CP_TDS_N_2D_HISTx_TYPE Setting.
HIST2D_PARAMS	DEPEND_0	CDF_CHAR	Epoch
HIST2D_PARAMS	DISPLAY_TYPE	CDF_CHAR	time_series
HIST2D_PARAMS	FORMAT	CDF_CHAR	I1
HIST2D_COL_TIME	FIELDNAM	CDF_CHAR	HIST2D_COL_TIME
HIST2D_COL_TIME	CATDESC	CDF_CHAR	Histogram build duration
HIST2D_COL_TIME	VALIDMIN	CDF_UINT2	0
HIST2D_COL_TIME	VALIDMAX	CDF_UINT2	65534
HIST2D_COL_TIME	SCALEMIN	CDF_UINT2	0
HIST2D_COL_TIME	SCALEMAX	CDF_UINT2	65534
HIST2D_COL_TIME	FILLVAL	CDF_UINT2	65535
HIST2D_COL_TIME	LABLAXIS	CDF_CHAR	Histogram dur
HIST2D_COL_TIME	UNITS	CDF_CHAR	s
HIST2D_COL_TIME	VAR_TYPE	CDF_CHAR	data
HIST2D_COL_TIME	SCALETYP	CDF_CHAR	linear
HIST2D_COL_TIME	VAR_NOTES	CDF_CHAR	The duration of the time period (in seconds) over which this histogram has been built.
HIST2D_COL_TIME	DEPEND_0	CDF_CHAR	Epoch
HIST2D_COL_TIME	DISPLAY_TYPE	CDF_CHAR	time_series
HIST2D_COL_TIME	FORMAT	CDF_CHAR	I5
HIST2D_AXIS1	FIELDNAM	CDF_CHAR	HIST2D_AXIS1
HIST2D_AXIS1	CATDESC	CDF_CHAR	Axis 1 for the histogram
HIST2D_AXIS1	VALIDMIN	CDF_UINT1	0
HIST2D_AXIS1	VALIDMAX	CDF_UINT1	11
HIST2D_AXIS1	SCALEMIN	CDF_UINT1	0
HIST2D_AXIS1	SCALEMAX	CDF_UINT1	11
HIST2D_AXIS1	FILLVAL	CDF_UINT1	255
HIST2D_AXIS1	LABLAXIS	CDF_CHAR	HIST2D_AXIS1
HIST2D_AXIS1	UNITS	CDF_CHAR	
HIST2D_AXIS1	VAR_TYPE	CDF_CHAR	support_data
HIST2D_AXIS1	SCALETYP	CDF_CHAR	linear


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 115

Tab. 4.15 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
HIST2D_AXIS1	VAR_NOTES	CDF_CHAR	The axis corresponding to this histogram. Equal to the corresponding
HIST2D_AXIS1	DEPEND_0	CDF_CHAR	Epoch
HIST2D_AXIS1	DISPLAY_TYPE	CDF_CHAR	time_series
HIST2D_AXIS1	FORMAT	CDF_CHAR	I2
HIST2D_AXIS2	FIELDNAM	CDF_CHAR	HIST2D_AXIS2
HIST2D_AXIS2	CATDESC	CDF_CHAR	Axis 2 for the histogram
HIST2D_AXIS2	VALIDMIN	CDF_UINT1	0
HIST2D_AXIS2	VALIDMAX	CDF_UINT1	11
HIST2D_AXIS2	SCALEMIN	CDF_UINT1	0
HIST2D_AXIS2	SCALEMAX	CDF_UINT1	11
HIST2D_AXIS2	FILLVAL	CDF_UINT1	255
HIST2D_AXIS2	LABLAXIS	CDF_CHAR	AXIS2
HIST2D_AXIS2	UNITS	CDF_CHAR	
HIST2D_AXIS2	VAR_TYPE	CDF_CHAR	data
HIST2D_AXIS2	SCALETYP	CDF_CHAR	linear
HIST2D_AXIS2	VAR_NOTES	CDF_CHAR	The axis corresponding to this histogram. Equal to the corresponding
HIST2D_AXIS2	DEPEND_0	CDF_CHAR	Epoch
HIST2D_AXIS2	DISPLAY_TYPE	CDF_CHAR	time_series
HIST2D_AXIS2	FORMAT	CDF_CHAR	I3
HIST2D_BINS1	FIELDNAM	CDF_CHAR	HIST2D_BINS1
HIST2D_BINS1	CATDESC	CDF_CHAR	Number of X bins
HIST2D_BINS1	VALIDMIN	CDF_UINT1	32
HIST2D_BINS1	VALIDMAX	CDF_UINT1	128
HIST2D_BINS1	SCALEMIN	CDF_UINT1	32
HIST2D_BINS1	SCALEMAX	CDF_UINT1	128
HIST2D_BINS1	FILLVAL	CDF_UINT1	255
HIST2D_BINS1	LABLAXIS	CDF_CHAR	Number of histogram bins on the X axis
HIST2D_BINS1	UNITS	CDF_CHAR	
HIST2D_BINS1	VAR_TYPE	CDF_CHAR	data
HIST2D_BINS1	SCALETYP	CDF_CHAR	linear
HIST2D_BINS1	VAR_NOTES	CDF_CHAR	Number of X bins in the histogram. Determines the length of the packet.
HIST2D_BINS1	DEPEND_0	CDF_CHAR	Epoch
HIST2D_BINS1	DISPLAY_TYPE	CDF_CHAR	time_series
HIST2D_BINS1	FORMAT	CDF_CHAR	I3


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 116

Tab. 4.15 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
HIST2D_BINS2	FIELDNAM	CDF_CHAR	HIST2D_BINS2
HIST2D_BINS2	CATDESC	CDF_CHAR	Number of Y bins
HIST2D_BINS2	VALIDMIN	CDF_UINT1	32
HIST2D_BINS2	VALIDMAX	CDF_UINT1	128
HIST2D_BINS2	SCALEMIN	CDF_UINT1	32
HIST2D_BINS2	SCALEMAX	CDF_UINT1	128
HIST2D_BINS2	FILLVAL	CDF_UINT1	255
HIST2D_BINS2	LABLAXIS	CDF_CHAR	Number of histogram bins on the Y axis
HIST2D_BINS2	UNITS	CDF_CHAR	
HIST2D_BINS2	VAR_TYPE	CDF_CHAR	data
HIST2D_BINS2	SCALETYP	CDF_CHAR	linear
HIST2D_BINS2	VAR_NOTES	CDF_CHAR	Number of Y bins in the histogram. Determines the length of the packet.
HIST2D_BINS2	DEPEND_0	CDF_CHAR	Epoch
HIST2D_BINS2	DISPLAY_TYPE	CDF_CHAR	time_series
HIST2D_BINS2	FORMAT	CDF_CHAR	I3
HIST2D_TOT_PTS	FIELDNAM	CDF_CHAR	HIST2D_TOT_PTS
HIST2D_TOT_PTS	CATDESC	CDF_CHAR	Total number of valid points to build the histogram
HIST2D_TOT_PTS	VALIDMIN	CDF_UINT2	0
HIST2D_TOT_PTS	VALIDMAX	CDF_UINT2	65534
HIST2D_TOT_PTS	SCALEMIN	CDF_UINT2	0
HIST2D_TOT_PTS	SCALEMAX	CDF_UINT2	65534
HIST2D_TOT_PTS	FILLVAL	CDF_UINT2	65535
HIST2D_TOT_PTS	LABLAXIS	CDF_CHAR	Total Points
HIST2D_TOT_PTS	UNITS	CDF_CHAR	
HIST2D_TOT_PTS	VAR_TYPE	CDF_CHAR	data
HIST2D_TOT_PTS	SCALETYP	CDF_CHAR	linear
HIST2D_TOT_PTS	VAR_NOTES	CDF_CHAR	Numer of counts
HIST2D_TOT_PTS	DEPEND_0	CDF_CHAR	Epoch
HIST2D_TOT_PTS	DISPLAY_TYPE	CDF_CHAR	time_series
HIST2D_TOT_PTS	FORMAT	CDF_CHAR	I5
HIST2D_COUNTS	FIELDNAM	CDF_CHAR	HIST2D_COUNTS
HIST2D_COUNTS	CATDESC	CDF_CHAR	Total number of counts
HIST2D_COUNTS	VALIDMIN	CDF_UINT2	0
HIST2D_COUNTS	VALIDMAX	CDF_UINT2	65534
HIST2D_COUNTS	SCALEMIN	CDF_UINT2	0
HIST2D_COUNTS	SCALEMAX	CDF_UINT2	65534
HIST2D_COUNTS	FILLVAL	CDF_UINT2	65535


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 117

Tab. 4.15 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
HIST2D_COUNTS	LABLAXIS	CDF_CHAR	Counts
HIST2D_COUNTS	UNITS	CDF_CHAR	
HIST2D_COUNTS	VAR_TYPE	CDF_CHAR	data
HIST2D_COUNTS	SCALETYP	CDF_CHAR	linear
HIST2D_COUNTS	VAR_NOTES	CDF_CHAR	Numer of counts
HIST2D_COUNTS	DEPEND_0	CDF_CHAR	Epoch
HIST2D_COUNTS	DISPLAY_TYPE	CDF_CHAR	time_series
HIST2D_COUNTS	FORMAT	CDF_CHAR	I5
SCET	FIELDNAM	CDF_CHAR	Spacecraft Elapsed Time
SCET	CATDESC	CDF_CHAR	Elapsed Time of the onboard clock
SCET	VALIDMIN	CDF_REAL8	0.0
SCET	VALIDMAX	CDF_REAL8	1.0e+31
SCET	SCALEMIN	CDF_REAL8	0.0
SCET	SCALEMAX	CDF_REAL8	1.0e+31
SCET	FILLVAL	CDF_REAL8	-1.0e+31
SCET	LABLAXIS	CDF_CHAR	Spacecraft Elapsed Time (Ticks)
SCET	UNITS	CDF_CHAR	Ticks
SCET	VAR_TYPE	CDF_CHAR	support_data
SCET	SCALETYP	CDF_CHAR	linear
SCET	MONOTON	CDF_CHAR	INCREASE
SCET	TIME_BASE	CDF_CHAR	Spacecraft onboard clock
SCET	TIME_SCALE	CDF_CHAR	Spacecraft onboard clock
SCET	REFERENCE_POS	CDF_CHAR	Spacecraft barycenter
SCET	VAR_NOTES	CDF_CHAR	Spacecraft Elapsed Time
SCET	DEPEND_0	CDF_CHAR	Epoch
SCET	DISPLAY_TYPE	CDF_CHAR	time_series
SYNCHRO_FLAG	FIELDNAM	CDF_CHAR	SYNCHRO_FLAG
SYNCHRO_FLAG	CATDESC	CDF_CHAR	Time synchronisation flag
SYNCHRO_FLAG	VALIDMIN	CDF_UINT1	0
SYNCHRO_FLAG	VALIDMAX	CDF_UINT1	1
SYNCHRO_FLAG	SCALEMIN	CDF_UINT1	0
SYNCHRO_FLAG	SCALEMAX	CDF_UINT1	1
SYNCHRO_FLAG	FILLVAL	CDF_UINT1	255
SYNCHRO_FLAG	LABLAXIS	CDF_CHAR	time sync. flag
SYNCHRO_FLAG	UNITS	CDF_CHAR	
SYNCHRO_FLAG	VAR_TYPE	CDF_CHAR	support_data
SYNCHRO_FLAG	SCALETYP	CDF_CHAR	linear

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 118

Tab. 4.15 – continued from previous page


Variable Name	Attribute Name	Data Type	Value
SYNCHRO_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate if the local time is synchronized with the RPW DPU clock or not. Possible values: synchronized=0, not synchronized=1. This flag is extracted from ACQUISITION_TIME in L0 packets, it is the MSB of the CUC time.
SYNCHRO_FLAG	DEPEND_0	CDF_CHAR	Epoch
SYNCHRO_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
SYNCHRO_FLAG	FORMAT	CDF_CHAR	I1
ACQUISITION_TIME_UNITS	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_UNITS
ACQUISITION_TIME_UNITS	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME_UNIT_PTR attribute
ACQUISITION_TIME_UNITS	VAR_TYPE	CDF_CHAR	metadata
ACQUISITION_TIME_UNITS	FORMAT	CDF_CHAR	A16
ACQUISITION_TIME_LABEL	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME_LABEL	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME
ACQUISITION_TIME_LABEL	VAR_TYPE	CDF_CHAR	metadata
ACQUISITION_TIME_LABEL	EORFORMAT	CDF_CHAR	A32

4.1.2.7.6 Non-Record-Variant (NRV) Variables

Variable Name	Index	Value
ACQUISITION_TIME_UNITS	1	s
ACQUISITION_TIME_UNITS	2	s / 65535
ACQUISITION_TIME_LABEL	1	CUC coarse part time
ACQUISITION_TIME_LABEL	2	CUC fine part time

4.1.2.8 SOLO_L1_RPW-TDS-SURV-STAT data product

The “SOLO_L1_RPW-TDS-SURV-STAT” data product contains the uncalibrated TDS receiver dust statistics survey data. The “SOLO_L1_RPW-TDS-SURV-STAT” data are written in CDF format files. There is a single file per day, generated from data in the corresponding SOLO_L0_RPW parent file.

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 119

4.1.2.8.1 Filename

```
solo_L1_rpw-tds-surv-stat_[YYYYMMDD]_V[version].cdf
```

4.1.2.8.2 Expected cadence and data volume


Nominal cadence: 1 file per day

Expected data volume: 0.5 MB per file

4.1.2.8.3 Global Attributes


Attribute Name	Entry Number	Data Type	Value
ACCESS_URL	1	CDF_CHAR	
ACCESS_FORMAT	1	CDF_CHAR	CDF
Acknowledgement	1	CDF_CHAR	The authors are pleased to acknowledge the Solar Orbiter/RPW Investigation (M. Maksimovic, PIs) for access to data.
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009 (2.4)
Data_type	1	CDF_CHAR	H0>High Resolution data
Data_version	1	CDF_CHAR	
Descriptor	1	CDF_CHAR	RPW-TDS-SURV-STAT> RPW Time Domain Sampler the basic statistical parameters in survey mode
Discipline	1	CDF_CHAR	Space Physics>Interplanetary Studies
File_naming_convention	1	CDF_CHAR	<Source_name>_<LEVEL>_<Descriptor>_<Date>
File_ID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	RPW Operations Centre located at LESIA (Meudon, France)
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	https://rpw.lesia.obspm.fr
Instrument_type	1	CDF_CHAR	Radio and Plasma Waves (space)
LINK_TEXT	1	CDF_CHAR	RPW Web site at LESIA
LINK_TITLE	1	CDF_CHAR	RPW Web site
Logical_file_id	1	CDF_CHAR	
Logical_source	1	CDF_CHAR	solo_L1_rpw-tds-surv-stat
Logical_source_description	1	CDF_CHAR	Solar Orbiter Radio/Plasma Wave, TDS L1 parameters

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 120


Tab. 4.16 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Mission_group	1	CDF_CHAR	Solar Orbiter
SKELETON_MODS	1	CDF_CHAR	November 2018 : initial release
SKELETON_MODS	2	CDF_CHAR	V04: Update for solo data definition, X. BONNIN (CNRS-LESIA), April 2019
SKELETON_MODS	3	CDF_CHAR	V05: Update to compliant with SOL-SGS-TN-0009 Issue 2, Rev 4 - X.Bonnin, 09/2019
SKELETON_MODS	4	CDF_CHAR	V06: March 2020 : Delete Test_* g.attrs - X.Bonnin (CNRS, LESIA)
SKELETON_MODS	5	CDF_CHAR	V07: Removing POST_GAP_FLAG zvar and UCD vattr. (X.Bonnin, 09/2020)
SKELETON_MODS	6	CDF_CHAR	V08: Jan. 2021 : Fix inconsistencies against the ISTEP CDF guidelines, X.Bonnin (CNRS-LESIA)
Parent_version	1	CDF_CHAR	
Parents	1	CDF_CHAR	
PI_affiliation	1	CDF_CHAR	LESIA, Observatoire de Paris-CNRS
PI_name	1	CDF_CHAR	M.Maksimovic
Pipeline_version	1	CDF_CHAR	
Project	1	CDF_CHAR	SOLO>Solar Orbiter
Provider	1	CDF_CHAR	LESIA (Meudon, France)
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00006-LES (1.3)
Rules_of_use	1	CDF_CHAR	Data provided are publicly available. If used in presentations or publications, please acknowledge Solar Orbiter/RPW Investigation (M. Maksimovic, PIs). Please read carefully the caveats attached to the data. For reporting purposes, we request bibliography information for any publication, etc., using these data. Please send information on the use of this data to: M. Maksimovic (PI).
SKELETON_PARENT	1	CDF_CHAR	SOLO_L1_RPW-TDS-SURV-STAT_V08.cdf
Skeleton_version	1	CDF_CHAR	08
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	SOLO>Solar Orbiter
SPECTRAL_RANGE_MAX	1	CDF_CHAR	

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 121

Tab. 4.16 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
SPECTRAL_RANGE_MIN	1	CDF_CHAR	
TEXT	1	CDF_CHAR	This file contains RPW TDS level 1 basic statistical data for the current day.
TEXT_supplement_1	1	CDF_CHAR	
TIME_MAX	1	CDF_CHAR	
TIME_MIN	1	CDF_CHAR	
Validate	1	CDF_CHAR	
CAVEATS	1	CDF_CHAR	Engineering data. No good for publication.
Datetime	1	CDF_CHAR	
Free_field	1	CDF_CHAR	
Job_ID	1	CDF_CHAR	
LEVEL	1	CDF_CHAR	L1>Level 1 data processing
SOOP_TYPE	1	CDF_CHAR	
Data_product	1	CDF_CHAR	SURV-STAT>SURV-STAT
TARGET_NAME	1	CDF_CHAR	Sun
TARGET_CLASS	1	CDF_CHAR	Star
TARGET_REGION	1	CDF_CHAR	Solar Wind
Pipeline_name	1	CDF_CHAR	
Dataset_ID	1	CDF_CHAR	SOLO_L1_RPW-TDS-SURV-STAT
OBS_ID	1	CDF_CHAR	
MODS	1	CDF_CHAR	

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 122


4.1.2.8.4 zVariables

Variable Name	Data Type	Number Elements	Dims	Sizes
Epoch	CDF_TIME_TT2000	1	0	
ACQUISITION_TIME	CDF_UINT4	1	1	2
QUALITY_FLAG	CDF_UINT1	1	0	
QUALITY_BITMASK	CDF_UINT2	1	0	
SURVEY_MODE	CDF_UINT1	1	0	
BIA_STATUS_INFO	CDF_UINT1	1	1	6
SAMPLING_RATE	CDF_UINT1	1	0	
RPW_STATUS_INFO	CDF_UINT1	1	1	8
INPUT_CONFIG	CDF_UINT4	1	0	
SNAPSHOT_LEN	CDF_UINT1	1	0	
SN_NR_EVENTS	CDF_UINT1	1	0	
SN_MAX_E	CDF_UINT2	1	0	
SN_MED_MAX_E	CDF_UINT2	1	0	
SN_RMS_E	CDF_UINT2	1	0	
SN_THRESHOLD	CDF_UINT1	1	0	
DU_NR_IMPACT	CDF_UINT1	1	0	
DU_MED_IMP	CDF_UINT2	1	0	
WA_AMP_MAX	CDF_UINT2	1	0	
WA_AMP_MED	CDF_UINT2	1	0	
WA_RMS	CDF_UINT2	1	0	
WA_NR_EVENTS	CDF_UINT1	1	0	
WA_MED_FREQ	CDF_UINT1	1	0	
ACQUISITION_TIME_UNITS	CDF_CHAR	16	1	2
ACQUISITION_TIME_LABEL	CDF_CHAR	32	1	2
CHANNEL_STATUS_INFO	CDF_UINT1	1	1	4
CHANNEL_LABEL	CDF_CHAR	8	1	4
SCET	CDF_REAL8	1	0	
SYNCHRO_FLAG	CDF_UINT1	1	0	

4.1.2.8.5 Variable attributes

Variable Name	Attribute Name	Data Type	Value
Epoch	FIELDNAM	CDF_CHAR	Epoch
Epoch	CATDESC	CDF_CHAR	Default time
Epoch	VALIDMIN	CDF_TIME_TT2000	2000-01-01T12:00:00.000000000


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 123

Tab. 4.17 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
Epoch	VALIDMAX	CDF_TIME_TT2000	2029-12-31T23:59:59.999000000
Epoch	SCALEMIN	CDF_TIME_TT2000	2000-01-01T12:00:00.000000000
Epoch	SCALEMAX	CDF_TIME_TT2000	2029-12-31T23:59:59.999000000
Epoch	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch	LABLAXIS	CDF_CHAR	Epoch
Epoch	UNITS	CDF_CHAR	ns
Epoch	VAR_TYPE	CDF_CHAR	support_data
Epoch	SCALETYP	CDF_CHAR	linear
Epoch	MONOTON	CDF_CHAR	INCREASE
Epoch	TIME_BASE	CDF_CHAR	J2000
Epoch	TIME_SCALE	CDF_CHAR	Terrestrial Time
Epoch	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file
Epoch	Resolution	CDF_CHAR	15258 ns
ACQUISITION_TIME	FIELDNAM	CDF_CHAR	CCSDS CUC Acquisition time as returned in TM packets
ACQUISITION_TIME	CATDESC	CDF_CHAR	CCSDS CUC format TDS time, coarse and fine parts
ACQUISITION_TIME	VALIDMIN	CDF_UINT4	0
ACQUISITION_TIME	VALIDMAX	CDF_UINT4	4294967294
ACQUISITION_TIME	SCALEMIN	CDF_UINT4	0
ACQUISITION_TIME	SCALEMAX	CDF_UINT4	4294967294
ACQUISITION_TIME	FILLVAL	CDF_UINT4	4294967295
ACQUISITION_TIME	VAR_TYPE	CDF_CHAR	support_data
ACQUISITION_TIME	SCALETYP	CDF_CHAR	linear
ACQUISITION_TIME	MONOTON	CDF_CHAR	INCREASE
ACQUISITION_TIME	TIME_BASE	CDF_CHAR	2000-01-01T00:00:00
ACQUISITION_TIME	TIME_SCALE	CDF_CHAR	RPW DPU clock
ACQUISITION_TIME	VAR_NOTES	CDF_CHAR	Local time measured by the RPW TDS receiver (Coarse and fine parts of the CUC format) of the first sample of the packet
ACQUISITION_TIME	DEPEND_0	CDF_CHAR	Epoch
ACQUISITION_TIME	DISPLAY_TYPE	CDF_CHAR	time_series

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 124

Tab. 4.17 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
ACQUISITION_TIME	FORMAT	CDF_CHAR	I10.0
ACQUISITION_TIME	LABL_PTR_1	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME	UNIT_PTR	CDF_CHAR	ACQUISITION_TIME_UNITS
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	VALIDMIN	CDF_UINT1	0
QUALITY_FLAG	VALIDMAX	CDF_UINT1	4
QUALITY_FLAG	SCALEMIN	CDF_UINT1	0
QUALITY_FLAG	SCALEMAX	CDF_UINT1	4
QUALITY_FLAG	FILLVAL	CDF_UINT1	255
QUALITY_FLAG	LABLAXIS	CDF_CHAR	Quality flag
QUALITY_FLAG	UNITS	CDF_CHAR	
QUALITY_FLAG	VAR_TYPE	CDF_CHAR	support_data
QUALITY_FLAG	SCALETYP	CDF_CHAR	linear
QUALITY_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the quality of the data
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	UNITS	CDF_CHAR	
QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context information or status at the receiver or experiment level
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
SURVEY_MODE	FIELDNAM	CDF_CHAR	SURVEY_MODE
SURVEY_MODE	CATDESC	CDF_CHAR	TDS survey mode
SURVEY_MODE	VALIDMIN	CDF_UINT1	0
SURVEY_MODE	VALIDMAX	CDF_UINT1	1
SURVEY_MODE	SCALEMIN	CDF_UINT1	0

continues on next page



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03

Date: March 11, 2021

Page: **125**

Tab. 4.17 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SURVEY_MODE	SCALEMAX	CDF_UINT1	1
SURVEY_MODE	FILLVAL	CDF_UINT1	255
SURVEY_MODE	LABLAXIS	CDF_CHAR	survey mode
SURVEY_MODE	UNITS	CDF_CHAR	
SURVEY_MODE	VAR_TYPE	CDF_CHAR	data
SURVEY_MODE	SCALETYP	CDF_CHAR	linear
SURVEY_MODE	VAR_NOTES	CDF_CHAR	Flag to indicate if the receiver in the SURVEY_BURST (=1) or SURVEY_NORMAL (=0) mode
SURVEY_MODE	DEPEND_0	CDF_CHAR	Epoch
SURVEY_MODE	DISPLAY_TYPE	CDF_CHAR	time_series
SURVEY_MODE	FORMAT	CDF_CHAR	I3.1
BIA_STATUS_INFO	FIELDNAM	CDF_CHAR	BIA_STATUS_INFO
BIA_STATUS_INFO	CATDESC	CDF_CHAR	BIAS status byte
BIA_STATUS_INFO	VALIDMIN	CDF_UINT1	0
BIA_STATUS_INFO	VALIDMAX	CDF_UINT1	255
BIA_STATUS_INFO	SCALEMIN	CDF_UINT1	0
BIA_STATUS_INFO	SCALEMAX	CDF_UINT1	1
BIA_STATUS_INFO	FILLVAL	CDF_UINT1	255
BIA_STATUS_INFO	LABLAXIS	CDF_CHAR	BIAS status
BIA_STATUS_INFO	UNITS	CDF_CHAR	
BIA_STATUS_INFO	VAR_TYPE	CDF_CHAR	data
BIA_STATUS_INFO	SCALETYP	CDF_CHAR	linear
BIA_STATUS_INFO	VAR_NOTES	CDF_CHAR	BIAS status byte
BIA_STATUS_INFO	DEPEND_0	CDF_CHAR	Epoch
BIA_STATUS_INFO	DISPLAY_TYPE	CDF_CHAR	time_series
BIA_STATUS_INFO	FORMAT	CDF_CHAR	I3.1
SAMPLING_RATE	FIELDNAM	CDF_CHAR	SAMPLING_RATE
SAMPLING_RATE	CATDESC	CDF_CHAR	TDS sampling rate
SAMPLING_RATE	VALIDMIN	CDF_UINT1	0
SAMPLING_RATE	VALIDMAX	CDF_UINT1	4
SAMPLING_RATE	SCALEMIN	CDF_UINT1	0
SAMPLING_RATE	SCALEMAX	CDF_UINT1	1
SAMPLING_RATE	FILLVAL	CDF_UINT1	255
SAMPLING_RATE	LABLAXIS	CDF_CHAR	Sampling rate code
SAMPLING_RATE	UNITS	CDF_CHAR	
SAMPLING_RATE	VAR_TYPE	CDF_CHAR	data
SAMPLING_RATE	SCALETYP	CDF_CHAR	linear
SAMPLING_RATE	VAR_NOTES	CDF_CHAR	TDS sampling rate
SAMPLING_RATE	DEPEND_0	CDF_CHAR	Epoch

continues on next page



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **126**

Tab. 4.17 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SAMPLING_RATE	DISPLAY_TYPE	CDF_CHAR	time_series
SAMPLING_RATE	FORMAT	CDF_CHAR	I3.1
RPW_STATUS_INFO	FIELDNAM	CDF_CHAR	RPW_STATUS_INFO
RPW_STATUS_INFO	CATDESC	CDF_CHAR	RPW status
RPW_STATUS_INFO	VALIDMIN	CDF_UINT1	0
RPW_STATUS_INFO	VALIDMAX	CDF_UINT1	255
RPW_STATUS_INFO	SCALEMIN	CDF_UINT1	0
RPW_STATUS_INFO	SCALEMAX	CDF_UINT1	1
RPW_STATUS_INFO	FILLVAL	CDF_UINT1	255
RPW_STATUS_INFO	LABLAXIS	CDF_CHAR	RPW Status info
RPW_STATUS_INFO	UNITS	CDF_CHAR	
RPW_STATUS_INFO	VAR_TYPE	CDF_CHAR	data
RPW_STATUS_INFO	SCALETYP	CDF_CHAR	linear
RPW_STATUS_INFO	VAR_NOTES	CDF_CHAR	RPW status (bitmask - received from DPU)
RPW_STATUS_INFO	DEPEND_0	CDF_CHAR	Epoch
RPW_STATUS_INFO	DISPLAY_TYPE	CDF_CHAR	time_series
RPW_STATUS_INFO	FORMAT	CDF_CHAR	I3.1
INPUT_CONFIG	FIELDNAM	CDF_CHAR	INPUT_CONFIG
INPUT_CONFIG	CATDESC	CDF_CHAR	Bitmask of TDS analog input configuration
INPUT_CONFIG	VALIDMIN	CDF_UINT4	0
INPUT_CONFIG	VALIDMAX	CDF_UINT4	4294967294
INPUT_CONFIG	SCALEMIN	CDF_UINT4	0
INPUT_CONFIG	SCALEMAX	CDF_UINT4	1
INPUT_CONFIG	FILLVAL	CDF_UINT4	4294967295
INPUT_CONFIG	LABLAXIS	CDF_CHAR	TDS input config.
INPUT_CONFIG	UNITS	CDF_CHAR	
INPUT_CONFIG	VAR_TYPE	CDF_CHAR	data
INPUT_CONFIG	SCALETYP	CDF_CHAR	linear
INPUT_CONFIG	VAR_NOTES	CDF_CHAR	Input TDS configuration
INPUT_CONFIG	DEPEND_0	CDF_CHAR	Epoch
INPUT_CONFIG	DISPLAY_TYPE	CDF_CHAR	time_series
INPUT_CONFIG	FORMAT	CDF_CHAR	I3.1
SNAPSHOT_LEN	FIELDNAM	CDF_CHAR	SNAPSHOT_LEN
SNAPSHOT_LEN	CATDESC	CDF_CHAR	Length of snapshot
SNAPSHOT_LEN	VALIDMIN	CDF_UINT1	9
SNAPSHOT_LEN	VALIDMAX	CDF_UINT1	18
SNAPSHOT_LEN	SCALEMIN	CDF_UINT1	9
SNAPSHOT_LEN	SCALEMAX	CDF_UINT1	18
SNAPSHOT_LEN	FILLVAL	CDF_UINT1	255


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 127

Tab. 4.17 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SNAPSHOT_LEN	LABLAXIS	CDF_CHAR	Length of snapshot
SNAPSHOT_LEN	UNITS	CDF_CHAR	
SNAPSHOT_LEN	VAR_TYPE	CDF_CHAR	data
SNAPSHOT_LEN	SCALETYP	CDF_CHAR	linear
SNAPSHOT_LEN	VAR_NOTES	CDF_CHAR	Length (in samples) of each snapshot processed by the TDS SW to build this statistics
SNAPSHOT_LEN	DEPEND_0	CDF_CHAR	Epoch
SNAPSHOT_LEN	DISPLAY_TYPE	CDF_CHAR	time_series
SNAPSHOT_LEN	FORMAT	CDF_CHAR	I3
SN_NR_EVENTS	FIELDNAM	CDF_CHAR	SN_NR_EVENTS
SN_NR_EVENTS	CATDESC	CDF_CHAR	Total number of valid snapshots processed
SN_NR_EVENTS	VALIDMIN	CDF_UINT1	0
SN_NR_EVENTS	VALIDMAX	CDF_UINT1	255
SN_NR_EVENTS	SCALEMIN	CDF_UINT1	0
SN_NR_EVENTS	SCALEMAX	CDF_UINT1	254
SN_NR_EVENTS	FILLVAL	CDF_UINT1	255
SN_NR_EVENTS	LABLAXIS	CDF_CHAR	Number of events
SN_NR_EVENTS	UNITS	CDF_CHAR	
SN_NR_EVENTS	VAR_TYPE	CDF_CHAR	data
SN_NR_EVENTS	SCALETYP	CDF_CHAR	linear
SN_NR_EVENTS	VAR_NOTES	CDF_CHAR	Total number of valid snapshots processed during the statistics collection period.
SN_NR_EVENTS	DEPEND_0	CDF_CHAR	Epoch
SN_NR_EVENTS	DISPLAY_TYPE	CDF_CHAR	time_series
SN_NR_EVENTS	FORMAT	CDF_CHAR	I3
SN_MAX_E	FIELDNAM	CDF_CHAR	SN_MAX_E
SN_MAX_E	CATDESC	CDF_CHAR	Maximum of maxima of the amplitude of snapshots
SN_MAX_E	VALIDMIN	CDF_UINT2	0
SN_MAX_E	VALIDMAX	CDF_UINT2	65535
SN_MAX_E	SCALEMIN	CDF_UINT2	0
SN_MAX_E	SCALEMAX	CDF_UINT2	65534
SN_MAX_E	FILLVAL	CDF_UINT2	65535
SN_MAX_E	LABLAXIS	CDF_CHAR	E_MAX
SN_MAX_E	UNITS	CDF_CHAR	
SN_MAX_E	VAR_TYPE	CDF_CHAR	data
SN_MAX_E	SCALETYP	CDF_CHAR	linear


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 128

Tab. 4.17 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SN_MAX_E	VAR_NOTES	CDF_CHAR	For each snapshot a maximum absolute value from all samples is calculated. This value gives the maximum of these maxima For each snapshot a maximum absolute value from all samples is calculated. This value gives the maximum of these maxima from all snapshots.from all snapshots.
SN_MAX_E	DEPEND_0	CDF_CHAR	Epoch
SN_MAX_E	DISPLAY_TYPE	CDF_CHAR	time_series
SN_MAX_E	FORMAT	CDF_CHAR	I5
SN_MED_MAX_E	FIELDNAM	CDF_CHAR	SN_MED_MAX_E
SN_MED_MAX_E	CATDESC	CDF_CHAR	Median of maxima of the amplitude of snapshots
SN_MED_MAX_E	VALIDMIN	CDF_UINT2	0
SN_MED_MAX_E	VALIDMAX	CDF_UINT2	65535
SN_MED_MAX_E	SCALEMIN	CDF_UINT2	0
SN_MED_MAX_E	SCALEMAX	CDF_UINT2	65534
SN_MED_MAX_E	FILLVAL	CDF_UINT2	65535
SN_MED_MAX_E	LABLAXIS	CDF_CHAR	E_MAX
SN_MED_MAX_E	UNITS	CDF_CHAR	
SN_MED_MAX_E	VAR_TYPE	CDF_CHAR	data
SN_MED_MAX_E	SCALETYP	CDF_CHAR	linear
SN_MED_MAX_E	VAR_NOTES	CDF_CHAR	For each snapshot a maximum absolute value
SN_MED_MAX_E	DEPEND_0	CDF_CHAR	Epoch
SN_MED_MAX_E	DISPLAY_TYPE	CDF_CHAR	time_series
SN_MED_MAX_E	FORMAT	CDF_CHAR	I5
SN_RMS_E	FIELDNAM	CDF_CHAR	SN_RMS_E
SN_RMS_E	CATDESC	CDF_CHAR	RMS of all proceeded snapshots.
SN_RMS_E	VALIDMIN	CDF_UINT2	0
SN_RMS_E	VALIDMAX	CDF_UINT2	65534
SN_RMS_E	SCALEMIN	CDF_UINT2	0
SN_RMS_E	SCALEMAX	CDF_UINT2	65535
SN_RMS_E	FILLVAL	CDF_UINT2	65535
SN_RMS_E	LABLAXIS	CDF_CHAR	RMS_E
SN_RMS_E	UNITS	CDF_CHAR	
SN_RMS_E	VAR_TYPE	CDF_CHAR	data


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 129

Tab. 4.17 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SN_RMS_E	SCALETYP	CDF_CHAR	linear
SN_RMS_E	VAR_NOTES	CDF_CHAR	RMS of E field over all proceeded snapshots.
SN_RMS_E	DEPEND_0	CDF_CHAR	Epoch
SN_RMS_E	DISPLAY_TYPE	CDF_CHAR	time_series
SN_RMS_E	FORMAT	CDF_CHAR	I5
SN_THRESHOLD	FIELDNAM	CDF_CHAR	SN_THRESHOLD
SN_THRESHOLD	CATDESC	CDF_CHAR	RMS value calculated form all snapshots
SN_THRESHOLD	VALIDMIN	CDF_UINT1	0
SN_THRESHOLD	VALIDMAX	CDF_UINT1	254
SN_THRESHOLD	SCALEMIN	CDF_UINT1	0
SN_THRESHOLD	SCALEMAX	CDF_UINT1	254
SN_THRESHOLD	FILLVAL	CDF_UINT1	255
SN_THRESHOLD	LABLAXIS	CDF_CHAR	SN Threshold
SN_THRESHOLD	UNITS	CDF_CHAR	
SN_THRESHOLD	VAR_TYPE	CDF_CHAR	data
SN_THRESHOLD	SCALETYP	CDF_CHAR	linear
SN_THRESHOLD	VAR_NOTES	CDF_CHAR	Number of snapshots in the covered period where the maximum amplitude (maximum absolute value) exceeded the threshold
SN_THRESHOLD	DEPEND_0	CDF_CHAR	Epoch
SN_THRESHOLD	DISPLAY_TYPE	CDF_CHAR	time_series
SN_THRESHOLD	FORMAT	CDF_CHAR	I3.3
DU_NR_IMPACT	FIELDNAM	CDF_CHAR	DU_NR_IMPACT
DU_NR_IMPACT	CATDESC	CDF_CHAR	Number of dust impact
DU_NR_IMPACT	VALIDMIN	CDF_UINT1	0
DU_NR_IMPACT	VALIDMAX	CDF_UINT1	254
DU_NR_IMPACT	SCALEMIN	CDF_UINT1	0
DU_NR_IMPACT	SCALEMAX	CDF_UINT1	254
DU_NR_IMPACT	FILLVAL	CDF_UINT1	255
DU_NR_IMPACT	LABLAXIS	CDF_CHAR	Dust impacts
DU_NR_IMPACT	UNITS	CDF_CHAR	
DU_NR_IMPACT	VAR_TYPE	CDF_CHAR	data
DU_NR_IMPACT	SCALETYP	CDF_CHAR	linear
DU_NR_IMPACT	VAR_NOTES	CDF_CHAR	Total number of valid snapshots processed during the statistics collection period and identified as


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 130

Tab. 4.17 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
DU_NR_IMPACT	DEPEND_0	CDF_CHAR	Epoch
DU_NR_IMPACT	DISPLAY_TYPE	CDF_CHAR	time_series
DU_NR_IMPACT	FORMAT	CDF_CHAR	I3.3
DU_MED_IMP	FIELDNAM	CDF_CHAR	DU_MED_IMP
DU_MED_IMP	CATDESC	CDF_CHAR	Median ampl of dust impacts
DU_MED_IMP	VALIDMIN	CDF_UINT2	0
DU_MED_IMP	VALIDMAX	CDF_UINT2	65534
DU_MED_IMP	SCALEMIN	CDF_UINT2	0
DU_MED_IMP	SCALEMAX	CDF_UINT2	65534
DU_MED_IMP	FILLVAL	CDF_UINT2	65535
DU_MED_IMP	LABLAXIS	CDF_CHAR	Ampl_med
DU_MED_IMP	UNITS	CDF_CHAR	
DU_MED_IMP	VAR_TYPE	CDF_CHAR	data
DU_MED_IMP	SCALETYP	CDF_CHAR	linear
DU_MED_IMP	VAR_NOTES	CDF_CHAR	Median amplitude of the dust spikes. For each snapshot identified as dust, TDS SW calculates the
DU_MED_IMP	DEPEND_0	CDF_CHAR	Epoch
DU_MED_IMP	DISPLAY_TYPE	CDF_CHAR	time_series
DU_MED_IMP	FORMAT	CDF_CHAR	I5
WA_AMP_MAX	FIELDNAM	CDF_CHAR	WA_AMP_MAX
WA_AMP_MAX	CATDESC	CDF_CHAR	Maximum of detected wave amplitudes
WA_AMP_MAX	VALIDMIN	CDF_UINT2	0
WA_AMP_MAX	VALIDMAX	CDF_UINT2	65534
WA_AMP_MAX	SCALEMIN	CDF_UINT2	0
WA_AMP_MAX	SCALEMAX	CDF_UINT2	65534
WA_AMP_MAX	FILLVAL	CDF_UINT2	65535
WA_AMP_MAX	LABLAXIS	CDF_CHAR	Ampl_max
WA_AMP_MAX	UNITS	CDF_CHAR	
WA_AMP_MAX	VAR_TYPE	CDF_CHAR	data
WA_AMP_MAX	SCALETYP	CDF_CHAR	linear
WA_AMP_MAX	VAR_NOTES	CDF_CHAR	Maximum of maxima of the amplitude of waves. For each snapshot identified as a wave, a maximum
WA_AMP_MAX	DEPEND_0	CDF_CHAR	Epoch
WA_AMP_MAX	DISPLAY_TYPE	CDF_CHAR	time_series
WA_AMP_MAX	FORMAT	CDF_CHAR	I5
WA_AMP_MED	FIELDNAM	CDF_CHAR	WA_AMP_MED

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 131

Tab. 4.17 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
WA_AMP_MED	CATDESC	CDF_CHAR	Median of the peak wave amplitudes
WA_AMP_MED	VALIDMIN	CDF_UINT2	0
WA_AMP_MED	VALIDMAX	CDF_UINT2	65534
WA_AMP_MED	SCALEMIN	CDF_UINT2	0
WA_AMP_MED	SCALEMAX	CDF_UINT2	65534
WA_AMP_MED	FILLVAL	CDF_UINT2	65535
WA_AMP_MED	LABLAXIS	CDF_CHAR	Ampl_med
WA_AMP_MED	UNITS	CDF_CHAR	
WA_AMP_MED	VAR_TYPE	CDF_CHAR	data
WA_AMP_MED	SCALETYP	CDF_CHAR	linear
WA_AMP_MED	VAR_NOTES	CDF_CHAR	Median of the peak amplitudes of waves. For each snapshot identified as a wave, a maximum absolute value from all samples is calculated
WA_AMP_MED	DEPEND_0	CDF_CHAR	Epoch
WA_AMP_MED	DISPLAY_TYPE	CDF_CHAR	time_series
WA_AMP_MED	FORMAT	CDF_CHAR	I5
WA_RMS	FIELDNAM	CDF_CHAR	WA_RMS
WA_RMS	CATDESC	CDF_CHAR	RMS value calculated form all waves
WA_RMS	VALIDMIN	CDF_UINT2	0
WA_RMS	VALIDMAX	CDF_UINT2	65534
WA_RMS	SCALEMIN	CDF_UINT2	0
WA_RMS	SCALEMAX	CDF_UINT2	65534
WA_RMS	FILLVAL	CDF_UINT2	65535
WA_RMS	LABLAXIS	CDF_CHAR	Ampl_rms
WA_RMS	UNITS	CDF_CHAR	
WA_RMS	VAR_TYPE	CDF_CHAR	data
WA_RMS	SCALETYP	CDF_CHAR	linear
WA_RMS	VAR_NOTES	CDF_CHAR	RMS value calculated form all waves
WA_RMS	DEPEND_0	CDF_CHAR	Epoch
WA_RMS	DISPLAY_TYPE	CDF_CHAR	time_series
WA_RMS	FORMAT	CDF_CHAR	I5
WA_NR_EVENTS	FIELDNAM	CDF_CHAR	WA_NR_EVENTS
WA_NR_EVENTS	CATDESC	CDF_CHAR	Total number of valid snapshots
WA_NR_EVENTS	VALIDMIN	CDF_UINT1	0
WA_NR_EVENTS	VALIDMAX	CDF_UINT1	254

continues on next page



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **132**

Tab. 4.17 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
WA_NR_EVENTS	SCALEMIN	CDF_UINT1	0
WA_NR_EVENTS	SCALEMAX	CDF_UINT1	254
WA_NR_EVENTS	FILLVAL	CDF_UINT1	255
WA_NR_EVENTS	LABLAXIS	CDF_CHAR	Ampl Events
WA_NR_EVENTS	UNITS	CDF_CHAR	
WA_NR_EVENTS	VAR_TYPE	CDF_CHAR	data
WA_NR_EVENTS	SCALETYP	CDF_CHAR	linear
WA_NR_EVENTS	VAR_NOTES	CDF_CHAR	Total number of valid snapshots processed during the statistics collection period and identified as dust impacts from all samples is calculated. This value gives the median value of these maxima from all snapshots.
WA_NR_EVENTS	DEPEND_0	CDF_CHAR	Epoch
WA_NR_EVENTS	DISPLAY_TYPE	CDF_CHAR	time_series
WA_NR_EVENTS	FORMAT	CDF_CHAR	I3
WA_MED_FREQ	FIELDNAM	CDF_CHAR	WA_MED_FREQ
WA_MED_FREQ	CATDESC	CDF_CHAR	Median frequency of all identified waves
WA_MED_FREQ	VALIDMIN	CDF_UINT1	0
WA_MED_FREQ	VALIDMAX	CDF_UINT1	254
WA_MED_FREQ	SCALEMIN	CDF_UINT1	0
WA_MED_FREQ	SCALEMAX	CDF_UINT1	254
WA_MED_FREQ	FILLVAL	CDF_UINT1	255
WA_MED_FREQ	LABLAXIS	CDF_CHAR	Freq_med
WA_MED_FREQ	UNITS	CDF_CHAR	
WA_MED_FREQ	VAR_TYPE	CDF_CHAR	data
WA_MED_FREQ	SCALETYP	CDF_CHAR	linear
WA_MED_FREQ	VAR_NOTES	CDF_CHAR	Median frequency of all identified waves. This value is calculated from the largest peak in the averaged FFT and encoded logarithmically in an 8-bit value
WA_MED_FREQ	DEPEND_0	CDF_CHAR	Epoch
WA_MED_FREQ	DISPLAY_TYPE	CDF_CHAR	time_series
WA_MED_FREQ	FORMAT	CDF_CHAR	I3
ACQUISITION_TIME_UNITS	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_UNITS


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 133

Tab. 4.17 – continued from previous page


Variable Name	Attribute Name	Data Type	Value
ACQUISITION_TIME_UNITS	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME_UNIT_PTR attribute
ACQUISITION_TIME_UNITS	VAR_TYPE	CDF_CHAR	metadata
ACQUISITION_TIME_UNITS	FORMAT	CDF_CHAR	A16
ACQUISITION_TIME_LABEL	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME_LABEL	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME
ACQUISITION_TIME_LABEL	VAR_TYPE	CDF_CHAR	metadata
ACQUISITION_TIME_LABEL	FORMAT	CDF_CHAR	A32
CHANNEL_STATUS_INFO	FIELDNAM	CDF_CHAR	CHANNEL_STATUS_INFO
CHANNEL_STATUS_INFO	CATDESC	CDF_CHAR	Status of signal channels in the snapshot
CHANNEL_STATUS_INFO	VALIDMIN	CDF_UINT1	0
CHANNEL_STATUS_INFO	VALIDMAX	CDF_UINT1	1
CHANNEL_STATUS_INFO	SCALEMIN	CDF_UINT1	0
CHANNEL_STATUS_INFO	SCALEMAX	CDF_UINT1	1
CHANNEL_STATUS_INFO	FILLVAL	CDF_UINT1	255
CHANNEL_STATUS_INFO	UNITS	CDF_CHAR	
CHANNEL_STATUS_INFO	VAR_TYPE	CDF_CHAR	data
CHANNEL_STATUS_INFO	SCALETYP	CDF_CHAR	linear
CHANNEL_STATUS_INFO	VAR_NOTES	CDF_CHAR	Status of signal channels in the snapshot (0=OFF, 1=ON)
CHANNEL_STATUS_INFO	DEPEND_0	CDF_CHAR	Epoch
CHANNEL_STATUS_INFO	DISPLAY_TYPE	CDF_CHAR	time_series
CHANNEL_STATUS_INFO	FORMAT	CDF_CHAR	I1
CHANNEL_STATUS_INFO	LABL_PTR_1	CDF_CHAR	CHANNEL_LABEL
CHANNEL_LABEL	FIELDNAM	CDF_CHAR	CHANNEL_LABEL
CHANNEL_LABEL	CATDESC	CDF_CHAR	Label for CHANNEL_INFO_STATUS
CHANNEL_LABEL	VAR_TYPE	CDF_CHAR	metadata
CHANNEL_LABEL	FORMAT	CDF_CHAR	A8
SCET	FIELDNAM	CDF_CHAR	Spaceraft Elapsed Time
SCET	CATDESC	CDF_CHAR	Elapsed Time of the onboard clock
SCET	VALIDMIN	CDF_REAL8	0.0
SCET	VALIDMAX	CDF_REAL8	1.0e+31
SCET	SCALEMIN	CDF_REAL8	0.0
SCET	SCALEMAX	CDF_REAL8	1.0e+31
SCET	FILLVAL	CDF_REAL8	-1.0e+31

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 134

Tab. 4.17 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SCET	LABLAXIS	CDF_CHAR	Spacecraft Elapsed Time (Ticks)
SCET	UNITS	CDF_CHAR	Ticks
SCET	VAR_TYPE	CDF_CHAR	support_data
SCET	SCALETYP	CDF_CHAR	linear
SCET	MONOTON	CDF_CHAR	INCREASE
SCET	TIME_BASE	CDF_CHAR	Spacecraft onboard clock
SCET	TIME_SCALE	CDF_CHAR	Spacecraft onboard clock
SCET	REFERENCE_POS	CDF_CHAR	Spacecraft barycenter
SCET	VAR_NOTES	CDF_CHAR	Spacecraft Elapsed Time
SCET	DEPEND_0	CDF_CHAR	Epoch
SCET	DISPLAY_TYPE	CDF_CHAR	time_series
SYNCHRO_FLAG	FIELDNAM	CDF_CHAR	SYNCHRO_FLAG
SYNCHRO_FLAG	CATDESC	CDF_CHAR	Time synchronisation flag
SYNCHRO_FLAG	VALIDMIN	CDF_UINT1	0
SYNCHRO_FLAG	VALIDMAX	CDF_UINT1	1
SYNCHRO_FLAG	SCALEMIN	CDF_UINT1	0
SYNCHRO_FLAG	SCALEMAX	CDF_UINT1	1
SYNCHRO_FLAG	FILLVAL	CDF_UINT1	255
SYNCHRO_FLAG	LABLAXIS	CDF_CHAR	time sync. flag
SYNCHRO_FLAG	UNITS	CDF_CHAR	
SYNCHRO_FLAG	VAR_TYPE	CDF_CHAR	support_data
SYNCHRO_FLAG	SCALETYP	CDF_CHAR	linear
SYNCHRO_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate if the local time is synchronized with the RPW DPU clock or not. Possible values: synchronized=0, not synchronized=1. This flag is extracted from ACQUISITION_TIME in L0 packets, it is the MSB of the CUC time.
SYNCHRO_FLAG	DEPEND_0	CDF_CHAR	Epoch
SYNCHRO_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
SYNCHRO_FLAG	FORMAT	CDF_CHAR	I3.3

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 135

4.1.2.8.6 Non-Record-Variant (NRV) Variables

Variable Name	Index	Value
ACQUISITION_TIME_UNITS	1	s
ACQUISITION_TIME_UNITS	2	s / 65536
ACQUISITION_TIME_LABEL	1	CUC coarse part time
ACQUISITION_TIME_LABEL	2	CUC fine part time
CHANNEL_LABEL	1	V1
CHANNEL_LABEL	2	V2
CHANNEL_LABEL	3	V3
CHANNEL_LABEL	4	Bx

4.1.2.9 SOLO_L1_RPW-TDS-SURV-MAMP data product

The “SOLO_L1_RPW-TDS-SURV-MAMP” data product contains the uncalibrated TDS receiver continuous HF signal maximum amplitude (MAMP) data survey data. The “SOLO_L1_RPW-TDS-SURV-MAMP” data are written in CDF format files. There is a single file per day, generated from data in the corresponding SOLO_L0_RPW parent file.

4.1.2.9.1 Filename

```
solo_l1_rpw-tds-surv-mamp_[YYYYMMDD]_V[version].cdf
```

4.1.2.9.2 Expected cadence and data volume


Nominal cadence: 1 file per day

Expected data volume: 125 MB per file

4.1.2.9.3 Global Attributes

Attribute Name	Entry Number	Data Type	Value
ACCESS_URL	1	CDF_CHAR	
ACCESS_FORMAT	1	CDF_CHAR	CDF


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 136

Tab. 4.18 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Acknowledgement	1	CDF_CHAR	The authors are pleased to acknowledge the Solar Orbiter/RPW Investigation (M. Maksimovic, PIs) for access to data.
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009 (2.4)
Data_type	1	CDF_CHAR	H0>High Resolution data
Data_version	1	CDF_CHAR	
Descriptor	1	CDF_CHAR	RPW-TDS-SURV-MAMP> RPW Time Domain Sampler continuous HF maximum amplitudes in survey mode
Discipline	1	CDF_CHAR	Space Physics>Interplanetary Studies
File_naming_convention	1	CDF_CHAR	<Source_name>_<LEVEL>_<Descriptor>_<Date>
File_ID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	RPW Operations Centre located at LESIA (Meudon, France)
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	https://rpw.lesia.obspm.fr
Instrument_type	1	CDF_CHAR	Radio and Plasma Waves (space)
LINK_TEXT	1	CDF_CHAR	RPW Web site at LESIA
LINK_TITLE	1	CDF_CHAR	RPW Web site
Logical_file_id	1	CDF_CHAR	
Logical_source	1	CDF_CHAR	solo_L1_rpw-tds-surv-mamp
Logical_source_description	1	CDF_CHAR	Solar Orbiter Radio/Plasma Wave, TDS L1 parameters
Mission_group	1	CDF_CHAR	Solar Orbiter
SKELETON_MODS	1	CDF_CHAR	November 2018 : initial release
SKELETON_MODS	2	CDF_CHAR	V04: Update for solo data definition, X. BONNIN (CNRS-LESIA), April 2019
SKELETON_MODS	3	CDF_CHAR	V05: Update to compliant with SOL-SGS-TN-0009 Issue 2, Rev 4 - X.Bonnin, 09/2019
SKELETON_MODS	4	CDF_CHAR	V06: March 2020 : Delete Test_* g.attrs - X.Bonnin (CNRS, LESIA)
SKELETON_MODS	5	CDF_CHAR	V07: Removing POST_GAP_FLAG zvar and UCD vattr. (X.Bonnin, 09/2020)
SKELETON_MODS	6	CDF_CHAR	V08: Attds to HF_DATA_ARTEFACTS added. (D. Pisa, 09/2020)


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 137

Tab. 4.18 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
SKELETON_MODS	7	CDF_CHAR	V09: Jan. 2021 : Fix inconsistencies against the ISTP CDF guidelines, X.Bonnin (CNRS-LESIA)
Parent_version	1	CDF_CHAR	
Parents	1	CDF_CHAR	
PI_affiliation	1	CDF_CHAR	LESIA, Observatoire de Paris-CNRS
PI_name	1	CDF_CHAR	M.Maksimovic
Pipeline_version	1	CDF_CHAR	
Project	1	CDF_CHAR	SOLO>Solar Orbiter
Provider	1	CDF_CHAR	LESIA (Meudon, France)
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00006-LES (1.3)
Rules_of_use	1	CDF_CHAR	Data provided are publicly available. If used in presentations or publications, please acknowledge Solar Orbiter/RPW Investigation (M. Maksimovic, PIs). Please read carefully the caveats attached to the data. For reporting purposes, we request bibliography information for any publication, etc., using these data. Please send information on the use of this data to: M. Maksimovic (PI).
SKELETON_PARENT	1	CDF_CHAR	SOLO_L1_RPW-TDS-SURV-MAMP_V09.cdf
Skeleton_version	1	CDF_CHAR	09
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	SOLO>Solar Orbiter
SPECTRAL_RANGE_MAX	1	CDF_CHAR	
SPECTRAL_RANGE_MIN	1	CDF_CHAR	
TEXT	1	CDF_CHAR	This file contains RPW TDS level 1 continuous HF maximum amplitudes data for the current day.
TEXT_supplement_1	1	CDF_CHAR	
TIME_MAX	1	CDF_CHAR	
TIME_MIN	1	CDF_CHAR	
Validate	1	CDF_CHAR	
CAVEATS	1	CDF_CHAR	Engineering data. No good for publication.
Datetime	1	CDF_CHAR	

continues on next page


	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 138

Tab. 4.18 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Free_field	1	CDF_CHAR	
Job_ID	1	CDF_CHAR	
LEVEL	1	CDF_CHAR	L1>Level 1 data processing
SOOP_TYPE	1	CDF_CHAR	
Data_product	1	CDF_CHAR	SURV-MAMP>SURV-MAMP
TARGET_NAME	1	CDF_CHAR	Sun
TARGET_CLASS	1	CDF_CHAR	Star
TARGET_REGION	1	CDF_CHAR	Solar Wind
Pipeline_name	1	CDF_CHAR	
Dataset_ID	1	CDF_CHAR	SOLO_L1_RPW-TDS-SURV-MAMP
OBS_ID	1	CDF_CHAR	
MODS	1	CDF_CHAR	

4.1.2.9.4 zVariables


Variable Name	Data Type	Number Elements	Dims	Sizes
Epoch	CDF_TIME_TT2000	1	0	
ACQUISITION_TIME	CDF_UINT4	1	1	2
QUALITY_FLAG	CDF_UINT1	1	0	
QUALITY_BITMASK	CDF_UINT2	1	0	
SURVEY_MODE	CDF_UINT1	1	0	
BIA_STATUS_INFO	CDF_UINT1	1	1	6
DEC_RATE	CDF_UINT1	1	0	
HF_DATA_ARTEFACTS	CDF_UINT1	1	1	5
RPW_STATUS_INFO	CDF_UINT1	1	1	8
INPUT_CONFIG	CDF_UINT4	1	0	
SNAPSHOT_SEQ_NR	CDF_UINT2	1	0	
ACQUISITION_TIME_UNITS	CDF_CHAR	16	1	2
ACQUISITION_TIME_LABEL	CDF_CHAR	32	1	2
CHANNEL_STATUS_INFO	CDF_UINT1	1	1	4
WAVEFORM_DATA	CDF_UINT2	1	1	4
CHANNEL_LABEL	CDF_CHAR	8	1	4
WAVEFORM_LABEL	CDF_CHAR	16	1	4
SCET	CDF_REAL8	1	0	
SYNCHRO_FLAG	CDF_UINT1	1	0	

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 139

4.1.2.9.5 Variable attributes

Variable Name	Attribute Name	Data Type	Value
Epoch	FIELDNAM	CDF_CHAR	Epoch
Epoch	CATDESC	CDF_CHAR	Default time
Epoch	VALIDMIN	CDF_TIME_TT2000	2000-01-01T12:00:00.000000000
Epoch	VALIDMAX	CDF_TIME_TT2000	2029-12-31T23:59:59.999000000
Epoch	SCALEMIN	CDF_TIME_TT2000	2000-01-01T12:00:00.000000000
Epoch	SCALEMAX	CDF_TIME_TT2000	2029-12-31T23:59:59.999000000
Epoch	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch	LABLAXIS	CDF_CHAR	Epoch
Epoch	UNITS	CDF_CHAR	ns
Epoch	VAR_TYPE	CDF_CHAR	support_data
Epoch	SCALETYP	CDF_CHAR	linear
Epoch	MONOTON	CDF_CHAR	INCREASE
Epoch	TIME_BASE	CDF_CHAR	J2000
Epoch	TIME_SCALE	CDF_CHAR	Terrestrial Time
Epoch	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file
Epoch	Resolution	CDF_CHAR	15258 ns
ACQUISITION_TIME	FIELDNAM	CDF_CHAR	CCSDS CUC Acquisition time as returned in TM packets
ACQUISITION_TIME	CATDESC	CDF_CHAR	CCSDS CUC format TDS time, coarse and fine parts
ACQUISITION_TIME	VALIDMIN	CDF_UINT4	0
ACQUISITION_TIME	VALIDMAX	CDF_UINT4	4294967294
ACQUISITION_TIME	SCALEMIN	CDF_UINT4	0
ACQUISITION_TIME	SCALEMAX	CDF_UINT4	4294967294
ACQUISITION_TIME	FILLVAL	CDF_UINT4	4294967295
ACQUISITION_TIME	LABLAXIS	CDF_CHAR	TDS acquisition time
ACQUISITION_TIME	UNITS	CDF_CHAR	s
ACQUISITION_TIME	VAR_TYPE	CDF_CHAR	support_data
ACQUISITION_TIME	SCALETYP	CDF_CHAR	linear
ACQUISITION_TIME	MONOTON	CDF_CHAR	INCREASE
ACQUISITION_TIME	TIME_BASE	CDF_CHAR	2000-01-01T00:00:00

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 140

Tab. 4.19 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
ACQUISITION_TIME	TIME_SCALE	CDF_CHAR	RPW DPU clock
ACQUISITION_TIME	VAR_NOTES	CDF_CHAR	Local time measured by the RPW TDS receiver (Coarse and fine parts of the CUC format) of the first sample of the packet
ACQUISITION_TIME	DEPEND_0	CDF_CHAR	Epoch
ACQUISITION_TIME	DISPLAY_TYPE	CDF_CHAR	time_series
ACQUISITION_TIME	FORMAT	CDF_CHAR	I10.0
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	VALIDMIN	CDF_UINT1	0
QUALITY_FLAG	VALIDMAX	CDF_UINT1	4
QUALITY_FLAG	SCALEMIN	CDF_UINT1	0
QUALITY_FLAG	SCALEMAX	CDF_UINT1	4
QUALITY_FLAG	FILLVAL	CDF_UINT1	255
QUALITY_FLAG	LABLAXIS	CDF_CHAR	Quality flag
QUALITY_FLAG	UNITS	CDF_CHAR	
QUALITY_FLAG	VAR_TYPE	CDF_CHAR	support_data
QUALITY_FLAG	SCALETYP	CDF_CHAR	linear
QUALITY_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the quality of the data
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	UNITS	CDF_CHAR	
QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context information or status at the receiver or experiment level
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series

continues on next page



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **141**

Tab. 4.19 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
SURVEY_MODE	FIELDNAM	CDF_CHAR	SURVEY_MODE
SURVEY_MODE	CATDESC	CDF_CHAR	TDS survey mode
SURVEY_MODE	VALIDMIN	CDF_UINT1	0
SURVEY_MODE	VALIDMAX	CDF_UINT1	1
SURVEY_MODE	SCALEMIN	CDF_UINT1	0
SURVEY_MODE	SCALEMAX	CDF_UINT1	1
SURVEY_MODE	FILLVAL	CDF_UINT1	255
SURVEY_MODE	LABLAXIS	CDF_CHAR	TDS survey mode
SURVEY_MODE	UNITS	CDF_CHAR	
SURVEY_MODE	VAR_TYPE	CDF_CHAR	data
SURVEY_MODE	SCALETYP	CDF_CHAR	linear
SURVEY_MODE	VAR_NOTES	CDF_CHAR	Flag to indicate if the receiver in the SURVEY_BURST (=1) or SURVEY_NORMAL (=0) mode
SURVEY_MODE	DEPEND_0	CDF_CHAR	Epoch
SURVEY_MODE	DISPLAY_TYPE	CDF_CHAR	time_series
SURVEY_MODE	FORMAT	CDF_CHAR	I1.1
BIA_STATUS_INFO	FIELDNAM	CDF_CHAR	BIA_STATUS_INFO
BIA_STATUS_INFO	CATDESC	CDF_CHAR	BIAS status byte
BIA_STATUS_INFO	VALIDMIN	CDF_UINT1	0
BIA_STATUS_INFO	VALIDMAX	CDF_UINT1	255
BIA_STATUS_INFO	SCALEMIN	CDF_UINT1	0
BIA_STATUS_INFO	SCALEMAX	CDF_UINT1	1
BIA_STATUS_INFO	FILLVAL	CDF_UINT1	255
BIA_STATUS_INFO	LABLAXIS	CDF_CHAR	BIAS status
BIA_STATUS_INFO	UNITS	CDF_CHAR	
BIA_STATUS_INFO	VAR_TYPE	CDF_CHAR	data
BIA_STATUS_INFO	SCALETYP	CDF_CHAR	linear
BIA_STATUS_INFO	VAR_NOTES	CDF_CHAR	BIAS status byte
BIA_STATUS_INFO	DEPEND_0	CDF_CHAR	Epoch
BIA_STATUS_INFO	DISPLAY_TYPE	CDF_CHAR	time_series
BIA_STATUS_INFO	FORMAT	CDF_CHAR	I3.3
DEC_RATE	FIELDNAM	CDF_CHAR	DEC_RATE
DEC_RATE	CATDESC	CDF_CHAR	Decimation rate of the MAMP data
DEC_RATE	VALIDMIN	CDF_UINT1	0
DEC_RATE	VALIDMAX	CDF_UINT1	5
DEC_RATE	SCALEMIN	CDF_UINT1	0
DEC_RATE	SCALEMAX	CDF_UINT1	5


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 142

Tab. 4.19 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
DEC_RATE	FILLVAL	CDF_UINT1	255
DEC_RATE	LABLAXIS	CDF_CHAR	Decimation rate of the MAMP data
DEC_RATE	UNITS	CDF_CHAR	
DEC_RATE	VAR_TYPE	CDF_CHAR	data
DEC_RATE	SCALETYP	CDF_CHAR	linear
DEC_RATE	VAR_NOTES	CDF_CHAR	Decimation rate of the MAMP data. A value of MAMP_DEC_1X corresponds to 128 sps, higher decimation to lower sampling
DEC_RATE	DEPEND_0	CDF_CHAR	Epoch
DEC_RATE	DISPLAY_TYPE	CDF_CHAR	time_series
DEC_RATE	FORMAT	CDF_CHAR	I1.1
HF_DATA_ARTEFACTS	FIELDNAM	CDF_CHAR	HF_DATA_ARTEFACTS
HF_DATA_ARTEFACTS	CATDESC	CDF_CHAR	Bitmask of data artefacts (overflows etc)
HF_DATA_ARTEFACTS	VALIDMIN	CDF_UINT1	0
HF_DATA_ARTEFACTS	VALIDMAX	CDF_UINT1	255
HF_DATA_ARTEFACTS	SCALEMIN	CDF_UINT1	0
HF_DATA_ARTEFACTS	SCALEMAX	CDF_UINT1	1
HF_DATA_ARTEFACTS	FILLVAL	CDF_UINT1	255
HF_DATA_ARTEFACTS	LABLAXIS	CDF_CHAR	HF data artefacts.
HF_DATA_ARTEFACTS	UNITS	CDF_CHAR	
HF_DATA_ARTEFACTS	VAR_TYPE	CDF_CHAR	data
HF_DATA_ARTEFACTS	SCALETYP	CDF_CHAR	linear
HF_DATA_ARTEFACTS	VAR_NOTES	CDF_CHAR	Bitmask of data artefacts (overflows etc)
HF_DATA_ARTEFACTS	DEPEND_0	CDF_CHAR	Epoch
HF_DATA_ARTEFACTS	DISPLAY_TYPE	CDF_CHAR	time_series
HF_DATA_ARTEFACTS	FORMAT	CDF_CHAR	I3.3
RPW_STATUS_INFO	FIELDNAM	CDF_CHAR	RPW_STATUS_INFO
RPW_STATUS_INFO	CATDESC	CDF_CHAR	RPW status
RPW_STATUS_INFO	VALIDMIN	CDF_UINT1	0
RPW_STATUS_INFO	VALIDMAX	CDF_UINT1	255
RPW_STATUS_INFO	SCALEMIN	CDF_UINT1	0
RPW_STATUS_INFO	SCALEMAX	CDF_UINT1	1
RPW_STATUS_INFO	FILLVAL	CDF_UINT1	255
RPW_STATUS_INFO	LABLAXIS	CDF_CHAR	RPW Status info
RPW_STATUS_INFO	UNITS	CDF_CHAR	
RPW_STATUS_INFO	VAR_TYPE	CDF_CHAR	data


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 143

Tab. 4.19 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
RPW_STATUS_INFO	SCALETYP	CDF_CHAR	linear
RPW_STATUS_INFO	VAR_NOTES	CDF_CHAR	RPW status (bitmask - received from DPU)
RPW_STATUS_INFO	DEPEND_0	CDF_CHAR	Epoch
RPW_STATUS_INFO	DISPLAY_TYPE	CDF_CHAR	time_series
RPW_STATUS_INFO	FORMAT	CDF_CHAR	I3.3
INPUT_CONFIG	FIELDNAM	CDF_CHAR	INPUT_CONFIG
INPUT_CONFIG	CATDESC	CDF_CHAR	Bitmask of TDS analog input configuration
INPUT_CONFIG	VALIDMIN	CDF_UINT4	0
INPUT_CONFIG	VALIDMAX	CDF_UINT4	4294967294
INPUT_CONFIG	SCALEMIN	CDF_UINT4	0
INPUT_CONFIG	SCALEMAX	CDF_UINT4	1
INPUT_CONFIG	FILLVAL	CDF_UINT4	4294967295
INPUT_CONFIG	LABLAXIS	CDF_CHAR	TDS input config.
INPUT_CONFIG	UNITS	CDF_CHAR	
INPUT_CONFIG	VAR_TYPE	CDF_CHAR	data
INPUT_CONFIG	SCALETYP	CDF_CHAR	linear
INPUT_CONFIG	VAR_NOTES	CDF_CHAR	Input TDS configuration
INPUT_CONFIG	DEPEND_0	CDF_CHAR	Epoch
INPUT_CONFIG	DISPLAY_TYPE	CDF_CHAR	time_series
INPUT_CONFIG	FORMAT	CDF_CHAR	I10.0
SNAPSHOT_SEQ_NR	FIELDNAM	CDF_CHAR	SNAPSHOT_SEQ_NR
SNAPSHOT_SEQ_NR	CATDESC	CDF_CHAR	Sequential number of a snapshot incremented with every snapshot
SNAPSHOT_SEQ_NR	VALIDMIN	CDF_UINT2	0
SNAPSHOT_SEQ_NR	VALIDMAX	CDF_UINT2	65534
SNAPSHOT_SEQ_NR	SCALEMIN	CDF_UINT2	0
SNAPSHOT_SEQ_NR	SCALEMAX	CDF_UINT2	1
SNAPSHOT_SEQ_NR	FILLVAL	CDF_UINT2	65535
SNAPSHOT_SEQ_NR	LABLAXIS	CDF_CHAR	Snapshot seq. Num.
SNAPSHOT_SEQ_NR	UNITS	CDF_CHAR	
SNAPSHOT_SEQ_NR	VAR_TYPE	CDF_CHAR	data
SNAPSHOT_SEQ_NR	SCALETYP	CDF_CHAR	linear
SNAPSHOT_SEQ_NR	VAR_NOTES	CDF_CHAR	Sequential number of a snapshot incremented with every snapshot
SNAPSHOT_SEQ_NR	DEPEND_0	CDF_CHAR	Epoch
SNAPSHOT_SEQ_NR	DISPLAY_TYPE	CDF_CHAR	time_series
SNAPSHOT_SEQ_NR	FORMAT	CDF_CHAR	I6.5


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 144

Tab. 4.19 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
ACQUISITION_TIME_UNITS	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_UNITS
ACQUISITION_TIME_UNITS	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME_UNIT_PTR attribute
ACQUISITION_TIME_UNITS	VAR_TYPE	CDF_CHAR	metadata
ACQUISITION_TIME_UNITS	FORMAT	CDF_CHAR	A16
ACQUISITION_TIME_LABEL	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME_LABEL	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME
ACQUISITION_TIME_LABEL	VAR_TYPE	CDF_CHAR	metadata
ACQUISITION_TIME_LABEL	FORMAT	CDF_CHAR	A32
CHANNEL_STATUS_INFO	FIELDNAM	CDF_CHAR	CHANNEL_STATUS_INFO
CHANNEL_STATUS_INFO	CATDESC	CDF_CHAR	Status of signal channels in the snapshot
CHANNEL_STATUS_INFO	VALIDMIN	CDF_UINT1	0
CHANNEL_STATUS_INFO	VALIDMAX	CDF_UINT1	1
CHANNEL_STATUS_INFO	SCALEMIN	CDF_UINT1	0
CHANNEL_STATUS_INFO	SCALEMAX	CDF_UINT1	1
CHANNEL_STATUS_INFO	FILLVAL	CDF_UINT1	255
CHANNEL_STATUS_INFO	UNITS	CDF_CHAR	
CHANNEL_STATUS_INFO	VAR_TYPE	CDF_CHAR	data
CHANNEL_STATUS_INFO	SCALETYP	CDF_CHAR	linear
CHANNEL_STATUS_INFO	VAR_NOTES	CDF_CHAR	Status of signal channels in the snapshot (0=OFF, 1=ON)
CHANNEL_STATUS_INFO	DEPEND_0	CDF_CHAR	Epoch
CHANNEL_STATUS_INFO	DISPLAY_TYPE	CDF_CHAR	time_series
CHANNEL_STATUS_INFO	FORMAT	CDF_CHAR	I3
CHANNEL_STATUS_INFO	LABL_PTR_1	CDF_CHAR	CHANNEL_LABEL
WAVEFORM_DATA	FIELDNAM	CDF_CHAR	Waveform data (electric and magnetic)
WAVEFORM_DATA	CATDESC	CDF_CHAR	Integer data measured on the four high frequency channels of TDS
WAVEFORM_DATA	VALIDMIN	CDF_UINT2	0
WAVEFORM_DATA	VALIDMAX	CDF_UINT2	16384
WAVEFORM_DATA	SCALEMIN	CDF_UINT2	0
WAVEFORM_DATA	SCALEMAX	CDF_UINT2	16384
WAVEFORM_DATA	FILLVAL	CDF_UINT2	65535
WAVEFORM_DATA	UNITS	CDF_CHAR	Count
WAVEFORM_DATA	VAR_TYPE	CDF_CHAR	data
WAVEFORM_DATA	SCALETYP	CDF_CHAR	linear


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 145

Tab. 4.19 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
WAVEFORM_DATA	VAR_NOTES	CDF_CHAR	1-4 entry array with signal values
WAVEFORM_DATA	DEPEND_0	CDF_CHAR	Epoch
WAVEFORM_DATA	DISPLAY_TYPE	CDF_CHAR	time_series
WAVEFORM_DATA	FORMAT	CDF_CHAR	I6.5
WAVEFORM_DATA	LABL_PTR_1	CDF_CHAR	WAVEFORM_LABEL
CHANNEL_LABEL	FIELDNAM	CDF_CHAR	CHANNEL_LABEL
CHANNEL_LABEL	CATDESC	CDF_CHAR	Label for CHANNEL_INFO_STATUS
CHANNEL_LABEL	VAR_TYPE	CDF_CHAR	metadata
CHANNEL_LABEL	FORMAT	CDF_CHAR	A8
WAVEFORM_LABEL	FIELDNAM	CDF_CHAR	WAVEFORM_LABEL
WAVEFORM_LABEL	CATDESC	CDF_CHAR	Label for WAVEFORM_DATA
WAVEFORM_LABEL	VAR_TYPE	CDF_CHAR	metadata
WAVEFORM_LABEL	FORMAT	CDF_CHAR	A16
SCET	FIELDNAM	CDF_CHAR	Spacecraft Elapsed Time
SCET	CATDESC	CDF_CHAR	Elapsed Time of the onboard clock
SCET	VALIDMIN	CDF_REAL8	0.0
SCET	VALIDMAX	CDF_REAL8	1.0e+31
SCET	SCALEMIN	CDF_REAL8	0.0
SCET	SCALEMAX	CDF_REAL8	1.0e+31
SCET	FILLVAL	CDF_REAL8	-1.0e+31
SCET	LABLAXIS	CDF_CHAR	Spacecraft Elapsed Time (Ticks)
SCET	UNITS	CDF_CHAR	Ticks
SCET	VAR_TYPE	CDF_CHAR	support_data
SCET	SCALETYP	CDF_CHAR	linear
SCET	MONOTON	CDF_CHAR	INCREASE
SCET	TIME_BASE	CDF_CHAR	Spacecraft onboard clock
SCET	TIME_SCALE	CDF_CHAR	Spacecraft onboard clock
SCET	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
SCET	VAR_NOTES	CDF_CHAR	Spacecraft Elapsed Time
SCET	DEPEND_0	CDF_CHAR	Epoch
SCET	DISPLAY_TYPE	CDF_CHAR	time_series
SYNCHRO_FLAG	FIELDNAM	CDF_CHAR	SYNCHRO_FLAG
SYNCHRO_FLAG	CATDESC	CDF_CHAR	Time synchronisation flag
SYNCHRO_FLAG	VALIDMIN	CDF_UINT1	0
SYNCHRO_FLAG	VALIDMAX	CDF_UINT1	1
SYNCHRO_FLAG	SCALEMIN	CDF_UINT1	0

continues on next page


	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 146

Tab. 4.19 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SYNCHRO_FLAG	SCALEMAX	CDF_UINT1	1
SYNCHRO_FLAG	FILLVAL	CDF_UINT1	255
SYNCHRO_FLAG	LABLAXIS	CDF_CHAR	time sync. flag
SYNCHRO_FLAG	UNITS	CDF_CHAR	
SYNCHRO_FLAG	VAR_TYPE	CDF_CHAR	support_data
SYNCHRO_FLAG	SCALETYP	CDF_CHAR	linear
SYNCHRO_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate if the local time is synchronized with the RPW DPU clock or not. Possible values: synchronized=0, not synchronized=1. This flag is extracted from ACQUISITION_TIME in L0 packets, it is the MSB of the CUC time.
SYNCHRO_FLAG	DEPEND_0	CDF_CHAR	Epoch
SYNCHRO_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
SYNCHRO_FLAG	FORMAT	CDF_CHAR	I3.3

4.1.2.9.6 Non-Record-Variant (NRV) Variables

Variable Name	Index	Value
ACQUISITION_TIME_UNITS	1	s
ACQUISITION_TIME_UNITS	2	s / 65536
ACQUISITION_TIME_LABEL	1	CUC coarse part time
ACQUISITION_TIME_LABEL	2	CUC fine part time
CHANNEL_LABEL	1	V1-HF
CHANNEL_LABEL	2	V2-HF
CHANNEL_LABEL	3	V3-HF
CHANNEL_LABEL	4	Bx-MF
WAVEFORM_LABEL	1	WF max in V1-HF
WAVEFORM_LABEL	2	WF max in V2-HF
WAVEFORM_LABEL	3	WF max in V3-HF
WAVEFORM_LABEL	4	WF max in Bx-MF

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 147

4.1.2.10 SOLO_L1_RPW-TDS-LFM-RSWF data product

The “SOLO_L1_RPW-TDS-LFM-RSWF” data product contains the uncalibrated TDS receiver Regular Snapshot Waveform data in LFM mode. The “SOLO_L1_RPW-TDS-LFM-RSWF” data are written in CDF format files. There is a single file per day, generated from data in the corresponding SOLO_L0_RPW parent file.

4.1.2.10.1 Filename

```
solo_L1_rpw-tds-lfm-rswf_[YYYYMMDD]_V[version].cdf
```

4.1.2.10.2 Expected cadence and data volume


Nominal cadence: 1 file per day (only when LFM backup mode is enabled)

Expected data volume: 150 MB per file

4.1.2.10.3 Global Attributes

Attribute Name	Entry Number	Data Type	Value
ACCESS_URL	1	CDF_CHAR	
ACCESS_FORMAT	1	CDF_CHAR	CDF
Acknowledgement	1	CDF_CHAR	The authors are pleased to acknowledge the Solar Orbiter/RPW Investigation (M. Maksimovic, PIs) for access to data.
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009 (2.4)
Data_type	1	CDF_CHAR	H0>High Resolution data
Data_version	1	CDF_CHAR	
Descriptor	1	CDF_CHAR	RPW-TDS-LFM-RSWF> RPW Time Domain Sampler Regular Waveform Snapshot data in LFM mode
Discipline	1	CDF_CHAR	Space Physics>Interplanetary Studies
File_naming_convention	1	CDF_CHAR	<Source_name>_<LEVEL>_<Descriptor>_<Date>
File_ID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	RPW Operations Centre located at LESIA (Meudon, France)
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	https://rpw.lesia.obspm.fr


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 148

Tab. 4.20 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Instrument_type	1	CDF_CHAR	Radio and Plasma Waves (space)
LINK_TEXT	1	CDF_CHAR	RPW Web site at LESIA
LINK_TITLE	1	CDF_CHAR	RPW Web site
Logical_file_id	1	CDF_CHAR	
Logical_source	1	CDF_CHAR	solo_L1_rpw-tds-lfm-rswf
Logical_source_description	1	CDF_CHAR	Solar Orbiter Radio/Plasma Wave, TDS L1 parameters
Mission_group	1	CDF_CHAR	Solar Orbiter
SKELETON_MODS	1	CDF_CHAR	July 2016 : data organization by snapshots, time vector added
SKELETON_MODS	2	CDF_CHAR	V04: Update for solo data definition, X. BONNIN (CNRS-LESIA), April 2019
SKELETON_MODS	3	CDF_CHAR	V05: Update to compliant with SOL-SGS-TN-0009 Issue 2, Rev 4 - X.Bonnin, 09/2019
SKELETON_MODS	4	CDF_CHAR	V06: March 2020 : Harmonize SAMPLING_RATE zvar and Test_* g.attrs - X.Bonnin (CNRS, LESIA)
SKELETON_MODS	5	CDF_CHAR	V07: Removing POST_GAP_FLAG zvar and UCD vattr. (X.Bonnin, 09/2020)
SKELETON_MODS	6	CDF_CHAR	V08: Jan. 2021 : Fix inconsistencies against the ISTEP CDF guidelines, X.Bonnin (CNRS-LESIA)
Parent_version	1	CDF_CHAR	
Parents	1	CDF_CHAR	
PI_affiliation	1	CDF_CHAR	LESIA, Observatoire de Paris-CNRS
PI_name	1	CDF_CHAR	M.Maksimovic
Pipeline_version	1	CDF_CHAR	
Project	1	CDF_CHAR	SOLO>Solar Orbiter
Provider	1	CDF_CHAR	LESIA (Meudon, France)
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00006-LES (1.3)


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 149

Tab. 4.20 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Rules_of_use	1	CDF_CHAR	Data provided are publicly available. If used in presentations or publications, please acknowledge Solar Orbiter/RPW Investigation (M. Maksimovic, PIs). Please read carefully the caveats attached to the data. For reporting purposes, we request bibliography information for any publication, etc., using these data. Please send information on the use of this data to: M. Maksimovic (PI).
SKELETON_PARENT	1	CDF_CHAR	SOLO_L1_RPW-TDS-LFM-RSWF_V08.cdf
Skeleton_version	1	CDF_CHAR	08
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	SOLO>Solar Orbiter
SPECTRAL_RANGE_MAX	1	CDF_CHAR	
SPECTRAL_RANGE_MIN	1	CDF_CHAR	
TEXT	1	CDF_CHAR	This file contains RPW TDS level 1 regular snapshot waveform data in LFM mode for the current day.
TEXT_supplement_1	1	CDF_CHAR	
TIME_MAX	1	CDF_CHAR	
TIME_MIN	1	CDF_CHAR	
Validate	1	CDF_CHAR	
CAVEATS	1	CDF_CHAR	Engineering data. No good for publication.
Datetime	1	CDF_CHAR	
Free_field	1	CDF_CHAR	
Job_ID	1	CDF_CHAR	
LEVEL	1	CDF_CHAR	L1>Level 1 data processing
SOOP_TYPE	1	CDF_CHAR	
Data_product	1	CDF_CHAR	LFM-RSWF>LFM-RSWF
TARGET_NAME	1	CDF_CHAR	Sun
TARGET_CLASS	1	CDF_CHAR	Star
TARGET_REGION	1	CDF_CHAR	Solar Wind
Pipeline_name	1	CDF_CHAR	
Dataset_ID	1	CDF_CHAR	SOLO_L1_RPW-TDS-LFM-RSWF
OBS_ID	1	CDF_CHAR	

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 150

Tab. 4.20 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
MODS	1	CDF_CHAR	


4.1.2.10.4 zVariables

Variable Name	Data Type	Number Elements	Dims	Sizes
Epoch	CDF_TIME_TT2000	1	0	
ACQUISITION_TIME	CDF_UINT4	1	1	2
QUALITY_FLAG	CDF_UINT1	1	0	
QUALITY_BITMASK	CDF_UINT2	1	0	
SURVEY_MODE	CDF_UINT1	1	0	
BIA_STATUS_INFO	CDF_UINT1	1	1	6
RPW_STATUS_INFO	CDF_UINT1	1	1	8
SAMPLING_RATE	CDF_REAL4	1	0	
LF_DATA_ARTEFACTS	CDF_UINT2	1	1	16
INPUT_CONFIG	CDF_UINT1	1	1	8
SNAPSHOT_SEQ_NR	CDF_UINT2	1	0	
ACQUISITION_TIME_UNITS	CDF_CHAR	16	1	2
ACQUISITION_TIME_LABEL	CDF_CHAR	32	1	2
CHANNEL_STATUS_INFO	CDF_UINT1	1	1	8
SAMPS_PER_CH	CDF_UINT4	1	0	
WAVEFORM_DATA	CDF_FLOAT	1	2	8 32768
CHANNEL_LABEL	CDF_CHAR	8	1	8
WAVEFORM_LABEL	CDF_CHAR	16	1	8
SCET	CDF_REAL8	1	0	
SYNCHRO_FLAG	CDF_UINT1	1	0	

4.1.2.10.5 Variable attributes

Variable Name	Attribute Name	Data Type	Value
Epoch	FIELDNAM	CDF_CHAR	Epoch
Epoch	CATDESC	CDF_CHAR	Default time
Epoch	VALIDMIN	CDF_TIME_TT2000	2000-01-01T12:00:00.000000000
Epoch	VALIDMAX	CDF_TIME_TT2000	2029-12-31T23:59:59.999000000

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 151

Tab. 4.21 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
Epoch	SCALEMIN	CDF_TIME_TT2000	2000-01-01T12:00:00.000000000
Epoch	SCALEMAX	CDF_TIME_TT2000	2029-12-31T23:59:59.999000000
Epoch	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch	LABLAXIS	CDF_CHAR	Epoch
Epoch	UNITS	CDF_CHAR	ns
Epoch	VAR_TYPE	CDF_CHAR	support_data
Epoch	SCALETYP	CDF_CHAR	linear
Epoch	MONOTON	CDF_CHAR	INCREASE
Epoch	TIME_BASE	CDF_CHAR	J2000
Epoch	TIME_SCALE	CDF_CHAR	Terrestrial Time
Epoch	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file
Epoch	Resolution	CDF_CHAR	15258 ns
ACQUISITION_TIME	FIELDNAM	CDF_CHAR	CCSDS CUC Acquisition time as returned in TM packets
ACQUISITION_TIME	CATDESC	CDF_CHAR	CCSDS CUC format TDS time, coarse and fine parts
ACQUISITION_TIME	VALIDMIN	CDF_UINT4	0
ACQUISITION_TIME	VALIDMAX	CDF_UINT4	4294967294
ACQUISITION_TIME	SCALEMIN	CDF_UINT4	0
ACQUISITION_TIME	SCALEMAX	CDF_UINT4	4294967294
ACQUISITION_TIME	FILLVAL	CDF_UINT4	4294967295
ACQUISITION_TIME	LABLAXIS	CDF_CHAR	TDS acquisition time
ACQUISITION_TIME	UNITS	CDF_CHAR	s
ACQUISITION_TIME	VAR_TYPE	CDF_CHAR	support_data
ACQUISITION_TIME	SCALETYP	CDF_CHAR	linear
ACQUISITION_TIME	MONOTON	CDF_CHAR	INCREASE
ACQUISITION_TIME	TIME_BASE	CDF_CHAR	2000-01-01T00:00:00
ACQUISITION_TIME	TIME_SCALE	CDF_CHAR	RPW DPU clock
ACQUISITION_TIME	VAR_NOTES	CDF_CHAR	Local time measured by the RPW TDS receiver (Coarse and fine parts of the CUC format) of the first sample of the packet
ACQUISITION_TIME	DEPEND_0	CDF_CHAR	Epoch
ACQUISITION_TIME	DISPLAY_TYPE	CDF_CHAR	time_series

continues on next page



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **152**

Tab. 4.21 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
ACQUISITION_TIME	FORMAT	CDF_CHAR	I10.0
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	VALIDMIN	CDF_UINT1	0
QUALITY_FLAG	VALIDMAX	CDF_UINT1	4
QUALITY_FLAG	SCALEMIN	CDF_UINT1	0
QUALITY_FLAG	SCALEMAX	CDF_UINT1	4
QUALITY_FLAG	FILLVAL	CDF_UINT1	255
QUALITY_FLAG	LABLAXIS	CDF_CHAR	Quality flag
QUALITY_FLAG	UNITS	CDF_CHAR	
QUALITY_FLAG	VAR_TYPE	CDF_CHAR	support_data
QUALITY_FLAG	SCALETYP	CDF_CHAR	linear
QUALITY_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the quality of the data
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	UNITS	CDF_CHAR	
QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context information or status at the receiver or experiment level
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
SURVEY_MODE	FIELDNAM	CDF_CHAR	SURVEY_MODE
SURVEY_MODE	CATDESC	CDF_CHAR	TDS survey mode
SURVEY_MODE	VALIDMIN	CDF_UINT1	0
SURVEY_MODE	VALIDMAX	CDF_UINT1	1
SURVEY_MODE	SCALEMIN	CDF_UINT1	0
SURVEY_MODE	SCALEMAX	CDF_UINT1	1
SURVEY_MODE	FILLVAL	CDF_UINT1	255

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 153

Tab. 4.21 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SURVEY_MODE	LABLAXIS	CDF_CHAR	TDS survey mode
SURVEY_MODE	UNITS	CDF_CHAR	
SURVEY_MODE	VAR_TYPE	CDF_CHAR	data
SURVEY_MODE	SCALETYP	CDF_CHAR	linear
SURVEY_MODE	VAR_NOTES	CDF_CHAR	Flag to indicate if the receiver in the SURVEY_BURST (=1) or SURVEY_NORMAL (=0) mode
SURVEY_MODE	DEPEND_0	CDF_CHAR	Epoch
SURVEY_MODE	DISPLAY_TYPE	CDF_CHAR	time_series
SURVEY_MODE	FORMAT	CDF_CHAR	I1.1
BIA_STATUS_INFO	FIELDNAM	CDF_CHAR	BIA_STATUS_INFO
BIA_STATUS_INFO	CATDESC	CDF_CHAR	BIAS status byte
BIA_STATUS_INFO	VALIDMIN	CDF_UINT1	0
BIA_STATUS_INFO	VALIDMAX	CDF_UINT1	1
BIA_STATUS_INFO	SCALEMIN	CDF_UINT1	0
BIA_STATUS_INFO	SCALEMAX	CDF_UINT1	1
BIA_STATUS_INFO	FILLVAL	CDF_UINT1	255
BIA_STATUS_INFO	LABLAXIS	CDF_CHAR	BIAS status
BIA_STATUS_INFO	UNITS	CDF_CHAR	
BIA_STATUS_INFO	VAR_TYPE	CDF_CHAR	data
BIA_STATUS_INFO	SCALETYP	CDF_CHAR	linear
BIA_STATUS_INFO	VAR_NOTES	CDF_CHAR	BIAS status byte
BIA_STATUS_INFO	DEPEND_0	CDF_CHAR	Epoch
BIA_STATUS_INFO	DISPLAY_TYPE	CDF_CHAR	time_series
BIA_STATUS_INFO	FORMAT	CDF_CHAR	I1.1
RPW_STATUS_INFO	FIELDNAM	CDF_CHAR	RPW_STATUS_INFO
RPW_STATUS_INFO	CATDESC	CDF_CHAR	RPW status
RPW_STATUS_INFO	VALIDMIN	CDF_UINT1	0
RPW_STATUS_INFO	VALIDMAX	CDF_UINT1	255
RPW_STATUS_INFO	SCALEMIN	CDF_UINT1	0
RPW_STATUS_INFO	SCALEMAX	CDF_UINT1	1
RPW_STATUS_INFO	FILLVAL	CDF_UINT1	255
RPW_STATUS_INFO	LABLAXIS	CDF_CHAR	RPW Status info
RPW_STATUS_INFO	UNITS	CDF_CHAR	
RPW_STATUS_INFO	VAR_TYPE	CDF_CHAR	data
RPW_STATUS_INFO	SCALETYP	CDF_CHAR	linear
RPW_STATUS_INFO	VAR_NOTES	CDF_CHAR	RPW status (bitmask - received from DPU)
RPW_STATUS_INFO	DEPEND_0	CDF_CHAR	Epoch
RPW_STATUS_INFO	DISPLAY_TYPE	CDF_CHAR	time_series

continues on next page



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **154**

Tab. 4.21 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
RPW_STATUS_INFO	FORMAT	CDF_CHAR	I3.3
SAMPLING_RATE	FIELDNAM	CDF_CHAR	SAMPLING_RATE
SAMPLING_RATE	CATDESC	CDF_CHAR	TDS sampling rate
SAMPLING_RATE	VALIDMIN	CDF_REAL4	0.0
SAMPLING_RATE	VALIDMAX	CDF_REAL4	32768.0
SAMPLING_RATE	SCALEMIN	CDF_REAL4	0.0
SAMPLING_RATE	SCALEMAX	CDF_REAL4	32768.0
SAMPLING_RATE	FILLVAL	CDF_REAL4	-1.0e+31
SAMPLING_RATE	LABLAXIS	CDF_CHAR	Sampling rate code
SAMPLING_RATE	UNITS	CDF_CHAR	Hz
SAMPLING_RATE	VAR_TYPE	CDF_CHAR	data
SAMPLING_RATE	SCALETYP	CDF_CHAR	linear
SAMPLING_RATE	VAR_NOTES	CDF_CHAR	TDS sampling rate
SAMPLING_RATE	DEPEND_0	CDF_CHAR	Epoch
SAMPLING_RATE	DISPLAY_TYPE	CDF_CHAR	time_series
SAMPLING_RATE	FORMAT	CDF_CHAR	F32.6
LF_DATA_ARTEFACTS	FIELDNAM	CDF_CHAR	LF_DATA_ARTEFACTS
LF_DATA_ARTEFACTS	CATDESC	CDF_CHAR	Bitmask of data artefacts (overflows etc)
LF_DATA_ARTEFACTS	VALIDMIN	CDF_UINT2	0
LF_DATA_ARTEFACTS	VALIDMAX	CDF_UINT2	65534
LF_DATA_ARTEFACTS	SCALEMIN	CDF_UINT2	0
LF_DATA_ARTEFACTS	SCALEMAX	CDF_UINT2	65534
LF_DATA_ARTEFACTS	FILLVAL	CDF_UINT2	65535
LF_DATA_ARTEFACTS	LABLAXIS	CDF_CHAR	LF data artefacts.
LF_DATA_ARTEFACTS	UNITS	CDF_CHAR	
LF_DATA_ARTEFACTS	VAR_TYPE	CDF_CHAR	data
LF_DATA_ARTEFACTS	SCALETYP	CDF_CHAR	linear
LF_DATA_ARTEFACTS	VAR_NOTES	CDF_CHAR	Bitmask of data artefacts (overflows etc)
LF_DATA_ARTEFACTS	DEPEND_0	CDF_CHAR	Epoch
LF_DATA_ARTEFACTS	DISPLAY_TYPE	CDF_CHAR	time_series
LF_DATA_ARTEFACTS	FORMAT	CDF_CHAR	I5.5
INPUT_CONFIG	FIELDNAM	CDF_CHAR	INPUT_CONFIG
INPUT_CONFIG	CATDESC	CDF_CHAR	Bitmask of TDS analog input configuration
INPUT_CONFIG	VALIDMIN	CDF_UINT1	0
INPUT_CONFIG	VALIDMAX	CDF_UINT1	254
INPUT_CONFIG	SCALEMIN	CDF_UINT1	0
INPUT_CONFIG	SCALEMAX	CDF_UINT1	254
INPUT_CONFIG	FILLVAL	CDF_UINT1	255


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 155

Tab. 4.21 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
INPUT_CONFIG	LABLAXIS	CDF_CHAR	TDS input config.
INPUT_CONFIG	UNITS	CDF_CHAR	
INPUT_CONFIG	VAR_TYPE	CDF_CHAR	data
INPUT_CONFIG	SCALETYP	CDF_CHAR	linear
INPUT_CONFIG	VAR_NOTES	CDF_CHAR	Input TDS configuration
INPUT_CONFIG	DEPEND_0	CDF_CHAR	Epoch
INPUT_CONFIG	DISPLAY_TYPE	CDF_CHAR	time_series
INPUT_CONFIG	FORMAT	CDF_CHAR	I3.3
SNAPSHOT_SEQ_NR	FIELDNAM	CDF_CHAR	SNAPSHOT_SEQ_NR
SNAPSHOT_SEQ_NR	CATDESC	CDF_CHAR	Sequential number of a snapshot incremented with every snapshot
SNAPSHOT_SEQ_NR	VALIDMIN	CDF_UINT2	0
SNAPSHOT_SEQ_NR	VALIDMAX	CDF_UINT2	65534
SNAPSHOT_SEQ_NR	SCALEMIN	CDF_UINT2	0
SNAPSHOT_SEQ_NR	SCALEMAX	CDF_UINT2	1
SNAPSHOT_SEQ_NR	FILLVAL	CDF_UINT2	65535
SNAPSHOT_SEQ_NR	LABLAXIS	CDF_CHAR	Snapshot seq. Num.
SNAPSHOT_SEQ_NR	UNITS	CDF_CHAR	
SNAPSHOT_SEQ_NR	VAR_TYPE	CDF_CHAR	data
SNAPSHOT_SEQ_NR	SCALETYP	CDF_CHAR	linear
SNAPSHOT_SEQ_NR	VAR_NOTES	CDF_CHAR	Sequential number of a snapshot incremented with every snapshot
SNAPSHOT_SEQ_NR	DEPEND_0	CDF_CHAR	Epoch
SNAPSHOT_SEQ_NR	DISPLAY_TYPE	CDF_CHAR	time_series
SNAPSHOT_SEQ_NR	FORMAT	CDF_CHAR	I6.5
ACQUISITION_TIME_UNITS	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_UNITS
ACQUISITION_TIME_UNITS	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME_UNIT_PTR attribute
ACQUISITION_TIME_UNITS	VAR_TYPE	CDF_CHAR	metadata
ACQUISITION_TIME_UNITS	FORMAT	CDF_CHAR	A16
ACQUISITION_TIME_LABEL	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME_LABEL	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME
ACQUISITION_TIME_LABEL	VAR_TYPE	CDF_CHAR	metadata
ACQUISITION_TIME_LABEL	FORMAT	CDF_CHAR	A32
CHANNEL_STATUS_INFO	FIELDNAM	CDF_CHAR	CHANNEL_STATUS_INFO
CHANNEL_STATUS_INFO	CATDESC	CDF_CHAR	Status of signal channels in the snapshot


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 156

Tab. 4.21 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
CHANNEL_STATUS_INFO	VALIDMIN	CDF_UINT1	0
CHANNEL_STATUS_INFO	VALIDMAX	CDF_UINT1	1
CHANNEL_STATUS_INFO	SCALEMIN	CDF_UINT1	0
CHANNEL_STATUS_INFO	SCALEMAX	CDF_UINT1	1
CHANNEL_STATUS_INFO	FILLVAL	CDF_UINT1	255
CHANNEL_STATUS_INFO	UNITS	CDF_CHAR	
CHANNEL_STATUS_INFO	VAR_TYPE	CDF_CHAR	data
CHANNEL_STATUS_INFO	SCALETYP	CDF_CHAR	linear
CHANNEL_STATUS_INFO	VAR_NOTES	CDF_CHAR	Status of signal channels in the snapshot (0=OFF, 1=ON)
CHANNEL_STATUS_INFO	DEPEND_0	CDF_CHAR	Epoch
CHANNEL_STATUS_INFO	DISPLAY_TYPE	CDF_CHAR	time_series
CHANNEL_STATUS_INFO	FORMAT	CDF_CHAR	I6.5
CHANNEL_STATUS_INFO	LABL_PTR_1	CDF_CHAR	CHANNEL_LABEL
SAMPS_PER_CH	FIELDNAM	CDF_CHAR	SAMPS_PER_CH
SAMPS_PER_CH	CATDESC	CDF_CHAR	Number of samples per channel
SAMPS_PER_CH	VALIDMIN	CDF_UINT4	0
SAMPS_PER_CH	VALIDMAX	CDF_UINT4	4294967295
SAMPS_PER_CH	SCALEMIN	CDF_UINT4	0
SAMPS_PER_CH	SCALEMAX	CDF_UINT4	4294967295
SAMPS_PER_CH	FILLVAL	CDF_UINT4	4294967295
SAMPS_PER_CH	LABLAXIS	CDF_CHAR	Nsamps
SAMPS_PER_CH	UNITS	CDF_CHAR	
SAMPS_PER_CH	VAR_TYPE	CDF_CHAR	data
SAMPS_PER_CH	SCALETYP	CDF_CHAR	linear
SAMPS_PER_CH	VAR_NOTES	CDF_CHAR	Number of samples per channel
SAMPS_PER_CH	DEPEND_0	CDF_CHAR	Epoch
SAMPS_PER_CH	DISPLAY_TYPE	CDF_CHAR	time_series
SAMPS_PER_CH	FORMAT	CDF_CHAR	I10
WAVEFORM_DATA	FIELDNAM	CDF_CHAR	Waveform data (electric and magnetic)
WAVEFORM_DATA	CATDESC	CDF_CHAR	Integer data measured on the four high frequency channels of TDS
WAVEFORM_DATA	VALIDMIN	CDF_FLOAT	-1.0e+30
WAVEFORM_DATA	VALIDMAX	CDF_FLOAT	1.0e+30
WAVEFORM_DATA	SCALEMIN	CDF_FLOAT	-1.0e+30
WAVEFORM_DATA	SCALEMAX	CDF_FLOAT	1.0e+30
WAVEFORM_DATA	FILLVAL	CDF_FLOAT	-1.0e+31


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 157

Tab. 4.21 – continued from previous page


Variable Name	Attribute Name	Data Type	Value
WAVEFORM_DATA	UNITS	CDF_CHAR	Count
WAVEFORM_DATA	VAR_TYPE	CDF_CHAR	data
WAVEFORM_DATA	SCALETYP	CDF_CHAR	linear
WAVEFORM_DATA	VAR_NOTES	CDF_CHAR	1-4 entry array with signal values
WAVEFORM_DATA	DEPEND_0	CDF_CHAR	Epoch
WAVEFORM_DATA	DISPLAY_TYPE	CDF_CHAR	time_series
WAVEFORM_DATA	FORMAT	CDF_CHAR	F9.3
WAVEFORM_DATA	LABL_PTR_1	CDF_CHAR	WAVEFORM_LABEL
CHANNEL_LABEL	FIELDNAM	CDF_CHAR	CHANNEL_LABEL
CHANNEL_LABEL	CATDESC	CDF_CHAR	Label for CHANNEL_INFO_STATUS
CHANNEL_LABEL	VAR_TYPE	CDF_CHAR	metadata
CHANNEL_LABEL	FORMAT	CDF_CHAR	A8
WAVEFORM_LABEL	FIELDNAM	CDF_CHAR	WAVEFORM_LABEL
WAVEFORM_LABEL	CATDESC	CDF_CHAR	Label for WAVEFORM_DATA
WAVEFORM_LABEL	VAR_TYPE	CDF_CHAR	metadata
WAVEFORM_LABEL	FORMAT	CDF_CHAR	A16
SCET	FIELDNAM	CDF_CHAR	Spacecraft Elapsed Time
SCET	CATDESC	CDF_CHAR	Elapsed Time of the onboard clock
SCET	VALIDMIN	CDF_REAL8	0.0
SCET	VALIDMAX	CDF_REAL8	1.0e+31
SCET	SCALEMIN	CDF_REAL8	0.0
SCET	SCALEMAX	CDF_REAL8	1.0e+31
SCET	FILLVAL	CDF_REAL8	-1.0e+31
SCET	LABLAXIS	CDF_CHAR	Spacecraft Elapsed Time (Ticks)
SCET	UNITS	CDF_CHAR	Ticks
SCET	VAR_TYPE	CDF_CHAR	support_data
SCET	SCALETYP	CDF_CHAR	linear
SCET	MONOTON	CDF_CHAR	INCREASE
SCET	TIME_BASE	CDF_CHAR	Spacecraft onboard clock
SCET	TIME_SCALE	CDF_CHAR	Spacecraft onboard clock
SCET	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
SCET	VAR_NOTES	CDF_CHAR	Spacecraft Elapsed Time
SCET	DEPEND_0	CDF_CHAR	Epoch
SCET	DISPLAY_TYPE	CDF_CHAR	time_series
SYNCHRO_FLAG	FIELDNAM	CDF_CHAR	SYNCHRO_FLAG
SYNCHRO_FLAG	CATDESC	CDF_CHAR	Time synchronisation flag

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 158

Tab. 4.21 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SYNCHRO_FLAG	VALIDMIN	CDF_UINT1	0
SYNCHRO_FLAG	VALIDMAX	CDF_UINT1	1
SYNCHRO_FLAG	SCALEMIN	CDF_UINT1	0
SYNCHRO_FLAG	SCALEMAX	CDF_UINT1	1
SYNCHRO_FLAG	FILLVAL	CDF_UINT1	255
SYNCHRO_FLAG	LABLAXIS	CDF_CHAR	time sync. flag
SYNCHRO_FLAG	UNITS	CDF_CHAR	
SYNCHRO_FLAG	VAR_TYPE	CDF_CHAR	support_data
SYNCHRO_FLAG	SCALETYP	CDF_CHAR	linear
SYNCHRO_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate if the local time is synchronized with the RPW DPU clock or not. Possible values: synchronized=0, not synchronized=1. This flag is extracted from ACQUISITION_TIME in L0 packets, it is the MSB of the CUC time.
SYNCHRO_FLAG	DEPEND_0	CDF_CHAR	Epoch
SYNCHRO_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
SYNCHRO_FLAG	FORMAT	CDF_CHAR	I3.3


	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 159

4.1.2.10.6 Non-Record-Variant (NRV) Variables

Variable Name	Index	Value
ACQUISITION_TIME_UNITS	1	s
ACQUISITION_TIME_UNITS	2	s / 65536
ACQUISITION_TIME_LABEL	1	CUC coarse part time
ACQUISITION_TIME_LABEL	2	CUC fine part time
CHANNEL_LABEL	1	BIAS1
CHANNEL_LABEL	2	BIAS2
CHANNEL_LABEL	3	BIAS3
CHANNEL_LABEL	4	B_LF1
CHANNEL_LABEL	5	B_LF2
CHANNEL_LABEL	6	B_LF3
CHANNEL_LABEL	7	V_REF
CHANNEL_LABEL	8	GND
WAVEFORM_LABEL	1	WF in BIAS1
WAVEFORM_LABEL	2	WF in BIAS2
WAVEFORM_LABEL	3	WF in BIAS3
WAVEFORM_LABEL	4	WF in B_LF1
WAVEFORM_LABEL	5	WF in B_LF2
WAVEFORM_LABEL	6	WF in B_LF3
WAVEFORM_LABEL	7	WF in V_REF
WAVEFORM_LABEL	8	WF in GND

4.1.2.11 SOLO_L1_RPW-TDS-LFM-CWF data product

The “SOLO_L1_RPW-TDS-LFM-CWF” data product contains the uncalibrated TDS receiver Continuous Waveform data in the LFM mode. The “SOLO_L1_RPW-TDS-LFM-CWF” data are written in CDF format files. There is a single file per day, generated from data in the corresponding SOLO_L0_RPW parent file.

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 160

4.1.2.11.1 Filename

solo_L1_rpw-tds-lfm-cwf_[YYYYMMDD]_V[version].cdf

4.1.2.11.2 Expected cadence and data volume


Nominal cadence: 1 file per day (only when LFM backup mode is enabled)

Expected data volume: 60 MB per file

4.1.2.11.3 Global Attributes

Attribute Name	Entry Number	Data Type	Value
ACCESS_URL	1	CDF_CHAR	
ACCESS_FORMAT	1	CDF_CHAR	CDF
Acknowledgement	1	CDF_CHAR	The authors are pleased to acknowledge the Solar Orbiter/RPW Investigation (M. Maksimovic, PIs) for access to data.
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009 (2.4)
Data_type	1	CDF_CHAR	H0>High Resolution data
Data_version	1	CDF_CHAR	
Descriptor	1	CDF_CHAR	RPW-TDS-LFM-CWF> RPW Time Domain Sampler continuous waveform LFM data
Discipline	1	CDF_CHAR	Space Physics>Interplanetary Studies
File_naming_convention	1	CDF_CHAR	<Source_name>_<LEVEL>_<Descriptor>_<Date>
File_ID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	RPW Operations Centre located at LESIA (Meudon, France)
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	https://rpw.lesia.obspm.fr
Instrument_type	1	CDF_CHAR	Radio and Plasma Waves (space)
LINK_TEXT	1	CDF_CHAR	RPW Web site at LESIA
LINK_TITLE	1	CDF_CHAR	RPW Web site
Logical_file_id	1	CDF_CHAR	
Logical_source	1	CDF_CHAR	solo_L1_rpw-tds-lfm-cwf
Logical_source_description	1	CDF_CHAR	Solar Orbiter Radio/Plasma Wave, TDS L1 parameters


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 161

Tab. 4.22 – continued from previous page


Attribute Name	Entry Number	Data Type	Value
Mission_group	1	CDF_CHAR	Solar Orbiter
SKELETON_MODS	1	CDF_CHAR	November 2018 : initial release
SKELETON_MODS	2	CDF_CHAR	V04: Update for solo data definition, X. BONNIN (CNRS-LESIA), April 2019
SKELETON_MODS	3	CDF_CHAR	V05: Update to compliant with SOL-SGS-TN-0009 Issue 2, Rev 4 - X.Bonnin, 09/2019
SKELETON_MODS	4	CDF_CHAR	V06: March 2020 : Standardize SAMPLING_RATE and delete Test_* g.attrs - X.Bonnin (CNRS, LESIA)
SKELETON_MODS	5	CDF_CHAR	V07: Removing POST_GAP_FLAG zvar and UCD vattr. (X.Bonnin, 09/2020)
SKELETON_MODS	6	CDF_CHAR	V08: Jan. 2021 : Fix inconsistencies against the ISTP CDF guidelines, X.Bonnin (CNRS-LESIA)
Parent_version	1	CDF_CHAR	
Parents	1	CDF_CHAR	
PI_affiliation	1	CDF_CHAR	LESIA, Observatoire de Paris-CNRS
PI_name	1	CDF_CHAR	M.Maksimovic
Pipeline_version	1	CDF_CHAR	
Project	1	CDF_CHAR	SOLO>Solar Orbiter
Provider	1	CDF_CHAR	LESIA (Meudon, France)
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00006-LES (1.3)
Rules_of_use	1	CDF_CHAR	Data provided are publicly available. If used in presentations or publications, please acknowledge Solar Orbiter/RPW Investigation (M. Maksimovic, PIs). Please read carefully the caveats attached to the data. For reporting purposes, we request bibliography information for any publication, etc., using these data. Please send information on the use of this data to: M. Maksimovic (PI).
SKELETON_PARENT	1	CDF_CHAR	SOLO_L1_RPW-TDS-LFM-CWF_V08.cdf
Skeleton_version	1	CDF_CHAR	08
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	SOLO>Solar Orbiter

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 162

Tab. 4.22 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
SPECTRAL_RANGE_MAX	1	CDF_CHAR	
SPECTRAL_RANGE_MIN	1	CDF_CHAR	
TEXT	1	CDF_CHAR	This file contains RPW TDS level 1 continuous waveform data in LFM mode for the current day.
TEXT_supplement_1	1	CDF_CHAR	
TIME_MAX	1	CDF_CHAR	
TIME_MIN	1	CDF_CHAR	
Validate	1	CDF_CHAR	
CAVEATS	1	CDF_CHAR	Engineering data. No good for publication.
Datetime	1	CDF_CHAR	
Free_field	1	CDF_CHAR	
Job_ID	1	CDF_CHAR	
LEVEL	1	CDF_CHAR	L1>Level 1 data processing
SOOP_TYPE	1	CDF_CHAR	
Data_product	1	CDF_CHAR	LFM-CWF>LFM-CWF
TARGET_NAME	1	CDF_CHAR	Sun
TARGET_CLASS	1	CDF_CHAR	Star
TARGET_REGION	1	CDF_CHAR	Solar Wind
Pipeline_name	1	CDF_CHAR	
Dataset_ID	1	CDF_CHAR	SOLO_L1_RPW-TDS-LFM-CWF
OBS_ID	1	CDF_CHAR	
MODS	1	CDF_CHAR	

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 163


4.1.2.11.4 zVariables

Variable Name	Data Type	Number Elements	Dims	Sizes
Epoch	CDF_TIME_TT2000	1	0	
ACQUISITION_TIME	CDF_UINT4	1	1	2
QUALITY_FLAG	CDF_UINT1	1	0	
QUALITY_BITMASK	CDF_UINT2	1	0	
SURVEY_MODE	CDF_UINT1	1	0	
BIA_STATUS_INFO	CDF_UINT1	1	1	6
SAMPLING_RATE	CDF_REAL4	1	0	
CWF_DATA_ARTEFACTS	CDF_UINT1	1	1	8
INPUT_CONFIG	CDF_UINT1	1	1	8
CHANNEL_STATUS_INFO	CDF_UINT1	1	1	8
WAVEFORM_DATA	CDF_INT2	1	1	8
CHANNEL_LABEL	CDF_CHAR	8	1	8
WAVEFORM_LABEL	CDF_CHAR	16	1	8
ACQUISITION_TIME_UNITS	CDF_CHAR	16	1	2
ACQUISITION_TIME_LABEL	CDF_CHAR	32	1	2
SCET	CDF_REAL8	1	0	
SYNCHRO_FLAG	CDF_UINT1	1	0	

4.1.2.11.5 Variable attributes

Variable Name	Attribute Name	Data Type	Value
Epoch	FIELDNAM	CDF_CHAR	Epoch
Epoch	CATDESC	CDF_CHAR	Default time
Epoch	VALIDMIN	CDF_TIME_TT2000	2000-01-01T12:00:00.000000000
Epoch	VALIDMAX	CDF_TIME_TT2000	2029-12-31T23:59:59.999000000
Epoch	SCALEMIN	CDF_TIME_TT2000	2000-01-01T12:00:00.000000000
Epoch	SCALEMAX	CDF_TIME_TT2000	2029-12-31T23:59:59.999000000
Epoch	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch	LABLAXIS	CDF_CHAR	Epoch
Epoch	UNITS	CDF_CHAR	ns
Epoch	VAR_TYPE	CDF_CHAR	support_data


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 164

Tab. 4.23 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
Epoch	SCALETYP	CDF_CHAR	linear
Epoch	MONOTON	CDF_CHAR	INCREASE
Epoch	TIME_BASE	CDF_CHAR	J2000
Epoch	TIME_SCALE	CDF_CHAR	Terrestrial Time
Epoch	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file
Epoch	Resolution	CDF_CHAR	15258 ns
ACQUISITION_TIME	FIELDNAM	CDF_CHAR	CCSDS CUC Acquisition time as returned in TM packets
ACQUISITION_TIME	CATDESC	CDF_CHAR	CCSDS CUC format TDS time, coarse and fine parts
ACQUISITION_TIME	VALIDMIN	CDF_UINT4	0
ACQUISITION_TIME	VALIDMAX	CDF_UINT4	4294967294
ACQUISITION_TIME	SCALEMIN	CDF_UINT4	0
ACQUISITION_TIME	SCALEMAX	CDF_UINT4	4294967294
ACQUISITION_TIME	FILLVAL	CDF_UINT4	4294967295
ACQUISITION_TIME	VAR_TYPE	CDF_CHAR	support_data
ACQUISITION_TIME	SCALETYP	CDF_CHAR	linear
ACQUISITION_TIME	MONOTON	CDF_CHAR	INCREASE
ACQUISITION_TIME	TIME_BASE	CDF_CHAR	2000-01-01T00:00:00
ACQUISITION_TIME	TIME_SCALE	CDF_CHAR	RPW DPU clock
ACQUISITION_TIME	VAR_NOTES	CDF_CHAR	Local time measured by the RPW TDS receiver (Coarse and fine parts of the CUC format) of the first sample of the packet
ACQUISITION_TIME	DEPEND_0	CDF_CHAR	Epoch
ACQUISITION_TIME	DISPLAY_TYPE	CDF_CHAR	time_series
ACQUISITION_TIME	FORMAT	CDF_CHAR	I10.0
ACQUISITION_TIME	LABL_PTR_1	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME	UNIT_PTR	CDF_CHAR	ACQUISITION_TIME_UNITS
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	VALIDMIN	CDF_UINT1	0
QUALITY_FLAG	VALIDMAX	CDF_UINT1	4
QUALITY_FLAG	SCALEMIN	CDF_UINT1	0
QUALITY_FLAG	SCALEMAX	CDF_UINT1	4
QUALITY_FLAG	FILLVAL	CDF_UINT1	255
QUALITY_FLAG	LABLAXIS	CDF_CHAR	Quality flag


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 165

Tab. 4.23 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
QUALITY_FLAG	UNITS	CDF_CHAR	
QUALITY_FLAG	VAR_TYPE	CDF_CHAR	support_data
QUALITY_FLAG	SCALETYP	CDF_CHAR	linear
QUALITY_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the quality of the data
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	UNITS	CDF_CHAR	
QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context information or status at the receiver or experiment level
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
SURVEY_MODE	FIELDNAM	CDF_CHAR	SURVEY_MODE
SURVEY_MODE	CATDESC	CDF_CHAR	TDS survey mode
SURVEY_MODE	VALIDMIN	CDF_UINT1	0
SURVEY_MODE	VALIDMAX	CDF_UINT1	1
SURVEY_MODE	SCALEMIN	CDF_UINT1	0
SURVEY_MODE	SCALEMAX	CDF_UINT1	1
SURVEY_MODE	FILLVAL	CDF_UINT1	255
SURVEY_MODE	LABLAXIS	CDF_CHAR	TDS survey mode
SURVEY_MODE	UNITS	CDF_CHAR	
SURVEY_MODE	VAR_TYPE	CDF_CHAR	data
SURVEY_MODE	SCALETYP	CDF_CHAR	linear
SURVEY_MODE	VAR_NOTES	CDF_CHAR	Flag to indicate if the receiver in the SURVEY_BURST (=1) or SURVEY_NORMAL (=0) mode
SURVEY_MODE	DEPEND_0	CDF_CHAR	Epoch


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 166

Tab. 4.23 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SURVEY_MODE	DISPLAY_TYPE	CDF_CHAR	time_series
SURVEY_MODE	FORMAT	CDF_CHAR	I1.1
BIA_STATUS_INFO	FIELDNAM	CDF_CHAR	BIA_STATUS_INFO
BIA_STATUS_INFO	CATDESC	CDF_CHAR	BIAS status byte
BIA_STATUS_INFO	VALIDMIN	CDF_UINT1	0
BIA_STATUS_INFO	VALIDMAX	CDF_UINT1	255
BIA_STATUS_INFO	SCALEMIN	CDF_UINT1	0
BIA_STATUS_INFO	SCALEMAX	CDF_UINT1	1
BIA_STATUS_INFO	FILLVAL	CDF_UINT1	255
BIA_STATUS_INFO	LABLAXIS	CDF_CHAR	BIAS status
BIA_STATUS_INFO	UNITS	CDF_CHAR	
BIA_STATUS_INFO	VAR_TYPE	CDF_CHAR	data
BIA_STATUS_INFO	SCALETYP	CDF_CHAR	linear
BIA_STATUS_INFO	VAR_NOTES	CDF_CHAR	BIAS status byte
BIA_STATUS_INFO	DEPEND_0	CDF_CHAR	Epoch
BIA_STATUS_INFO	DISPLAY_TYPE	CDF_CHAR	time_series
BIA_STATUS_INFO	FORMAT	CDF_CHAR	I3.3
SAMPLING_RATE	FIELDNAM	CDF_CHAR	Sampling rate
SAMPLING_RATE	CATDESC	CDF_CHAR	Sampling frequency of the snapshot
SAMPLING_RATE	VALIDMIN	CDF_REAL4	1.0
SAMPLING_RATE	VALIDMAX	CDF_REAL4	128.0
SAMPLING_RATE	SCALEMIN	CDF_REAL4	1.0
SAMPLING_RATE	SCALEMAX	CDF_REAL4	128.0
SAMPLING_RATE	FILLVAL	CDF_REAL4	-1.0e+31
SAMPLING_RATE	LABLAXIS	CDF_CHAR	Fe
SAMPLING_RATE	UNITS	CDF_CHAR	Hz
SAMPLING_RATE	VAR_TYPE	CDF_CHAR	metadata
SAMPLING_RATE	SCALETYP	CDF_CHAR	linear
SAMPLING_RATE	VAR_NOTES	CDF_CHAR	TDS sampling rate
SAMPLING_RATE	DEPEND_0	CDF_CHAR	Epoch
SAMPLING_RATE	DISPLAY_TYPE	CDF_CHAR	time_series
SAMPLING_RATE	FORMAT	CDF_CHAR	F8.2
CWF_DATA_ARTEFACTS	FIELDNAM	CDF_CHAR	CWF_DATA_ARTEFACTS
CWF_DATA_ARTEFACTS	CATDESC	CDF_CHAR	Bitmask of data artefacts (overflows etc)
CWF_DATA_ARTEFACTS	VALIDMIN	CDF_UINT1	0
CWF_DATA_ARTEFACTS	VALIDMAX	CDF_UINT1	255
CWF_DATA_ARTEFACTS	SCALEMIN	CDF_UINT1	0
CWF_DATA_ARTEFACTS	SCALEMAX	CDF_UINT1	1
CWF_DATA_ARTEFACTS	FILLVAL	CDF_UINT1	255


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 167

Tab. 4.23 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
CWF_DATA_ARTEFACTS	LABLAXIS	CDF_CHAR	HF data artefacts.
CWF_DATA_ARTEFACTS	UNITS	CDF_CHAR	
CWF_DATA_ARTEFACTS	VAR_TYPE	CDF_CHAR	data
CWF_DATA_ARTEFACTS	SCALETYP	CDF_CHAR	linear
CWF_DATA_ARTEFACTS	VAR_NOTES	CDF_CHAR	Bitmask of data artefacts (overflows etc)
CWF_DATA_ARTEFACTS	DEPEND_0	CDF_CHAR	Epoch
CWF_DATA_ARTEFACTS	DISPLAY_TYPE	CDF_CHAR	time_series
CWF_DATA_ARTEFACTS	FORMAT	CDF_CHAR	I3.3
INPUT_CONFIG	FIELDNAM	CDF_CHAR	INPUT_CONFIG
INPUT_CONFIG	CATDESC	CDF_CHAR	Bitmask of TDS analog input configuration
INPUT_CONFIG	VALIDMIN	CDF_UINT1	0
INPUT_CONFIG	VALIDMAX	CDF_UINT1	1
INPUT_CONFIG	SCALEMIN	CDF_UINT1	0
INPUT_CONFIG	SCALEMAX	CDF_UINT1	1
INPUT_CONFIG	FILLVAL	CDF_UINT1	255
INPUT_CONFIG	LABLAXIS	CDF_CHAR	TDS input config.
INPUT_CONFIG	UNITS	CDF_CHAR	
INPUT_CONFIG	VAR_TYPE	CDF_CHAR	data
INPUT_CONFIG	SCALETYP	CDF_CHAR	linear
INPUT_CONFIG	VAR_NOTES	CDF_CHAR	Input TDS configuration
INPUT_CONFIG	DEPEND_0	CDF_CHAR	Epoch
INPUT_CONFIG	DISPLAY_TYPE	CDF_CHAR	time_series
INPUT_CONFIG	FORMAT	CDF_CHAR	I1.1
CHANNEL_STATUS_INFO	FIELDNAM	CDF_CHAR	CHANNEL_STATUS_INFO
CHANNEL_STATUS_INFO	CATDESC	CDF_CHAR	Status of signal channels in the snapshot
CHANNEL_STATUS_INFO	VALIDMIN	CDF_UINT1	0
CHANNEL_STATUS_INFO	VALIDMAX	CDF_UINT1	1
CHANNEL_STATUS_INFO	SCALEMIN	CDF_UINT1	0
CHANNEL_STATUS_INFO	SCALEMAX	CDF_UINT1	1
CHANNEL_STATUS_INFO	FILLVAL	CDF_UINT1	255
CHANNEL_STATUS_INFO	UNITS	CDF_CHAR	
CHANNEL_STATUS_INFO	VAR_TYPE	CDF_CHAR	data
CHANNEL_STATUS_INFO	SCALETYP	CDF_CHAR	linear
CHANNEL_STATUS_INFO	VAR_NOTES	CDF_CHAR	Status of signal channels in the snapshot (0=OFF, 1=ON)
CHANNEL_STATUS_INFO	DEPEND_0	CDF_CHAR	Epoch
CHANNEL_STATUS_INFO	DISPLAY_TYPE	CDF_CHAR	time_series
CHANNEL_STATUS_INFO	FORMAT	CDF_CHAR	I1.1


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 168

Tab. 4.23 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
CHANNEL_STATUS_INFO	LABL_PTR_1	CDF_CHAR	CHANNEL_LABEL
WAVEFORM_DATA	FIELDNAM	CDF_CHAR	Waveform data (electric and magnetic)
WAVEFORM_DATA	CATDESC	CDF_CHAR	Integer data measured on the four high frequency channels of TDS
WAVEFORM_DATA	VALIDMIN	CDF_INT2	-32767
WAVEFORM_DATA	VALIDMAX	CDF_INT2	32767
WAVEFORM_DATA	SCALEMIN	CDF_INT2	-32767
WAVEFORM_DATA	SCALEMAX	CDF_INT2	32767
WAVEFORM_DATA	FILLVAL	CDF_INT2	-32768
WAVEFORM_DATA	UNITS	CDF_CHAR	Count
WAVEFORM_DATA	VAR_TYPE	CDF_CHAR	data
WAVEFORM_DATA	SCALETYP	CDF_CHAR	linear
WAVEFORM_DATA	VAR_NOTES	CDF_CHAR	1-8 entry array with signal values
WAVEFORM_DATA	DEPEND_0	CDF_CHAR	Epoch
WAVEFORM_DATA	DISPLAY_TYPE	CDF_CHAR	time_series
WAVEFORM_DATA	FORMAT	CDF_CHAR	I6.5
WAVEFORM_DATA	LABL_PTR_1	CDF_CHAR	WAVEFORM_LABEL
CHANNEL_LABEL	FIELDNAM	CDF_CHAR	CHANNEL_LABEL
CHANNEL_LABEL	CATDESC	CDF_CHAR	Label for CHANNEL_INFO_STATUS
CHANNEL_LABEL	VAR_TYPE	CDF_CHAR	metadata
CHANNEL_LABEL	FORMAT	CDF_CHAR	A8
WAVEFORM_LABEL	FIELDNAM	CDF_CHAR	WAVEFORM_LABEL
WAVEFORM_LABEL	CATDESC	CDF_CHAR	Label for WAVEFORM_DATA
WAVEFORM_LABEL	VAR_TYPE	CDF_CHAR	metadata
WAVEFORM_LABEL	FORMAT	CDF_CHAR	A16
ACQUISITION_TIME_UNITS	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_UNITS
ACQUISITION_TIME_UNITS	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME_UNIT_PTR attribute
ACQUISITION_TIME_UNITS	VAR_TYPE	CDF_CHAR	metadata
ACQUISITION_TIME_UNITS	FORMAT	CDF_CHAR	A16
ACQUISITION_TIME_LABEL	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME_LABEL	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME
ACQUISITION_TIME_LABEL	VAR_TYPE	CDF_CHAR	metadata
ACQUISITION_TIME_LABEL	FORMAT	CDF_CHAR	A32


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 169

Tab. 4.23 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SCET	FIELDNAM	CDF_CHAR	Spacecraft Elapsed Time
SCET	CATDESC	CDF_CHAR	Elapsed Time of the onboard clock
SCET	VALIDMIN	CDF_REAL8	0.0
SCET	VALIDMAX	CDF_REAL8	1.0e+31
SCET	SCALEMIN	CDF_REAL8	0.0
SCET	SCALEMAX	CDF_REAL8	1.0e+31
SCET	FILLVAL	CDF_REAL8	-1.0e+31
SCET	LABLAXIS	CDF_CHAR	Spacecraft Elapsed Time (Ticks)
SCET	UNITS	CDF_CHAR	Ticks
SCET	VAR_TYPE	CDF_CHAR	support_data
SCET	SCALETYP	CDF_CHAR	linear
SCET	MONOTON	CDF_CHAR	INCREASE
SCET	TIME_BASE	CDF_CHAR	Spacecraft onboard clock
SCET	TIME_SCALE	CDF_CHAR	Spacecraft onboard clock
SCET	REFERENCE_POS	CDF_CHAR	Spacecraft barycenter
SCET	VAR_NOTES	CDF_CHAR	Spacecraft Elapsed Time
SCET	DEPEND_0	CDF_CHAR	Epoch
SCET	DISPLAY_TYPE	CDF_CHAR	time_series
SYNCHRO_FLAG	FIELDNAM	CDF_CHAR	SYNCHRO_FLAG
SYNCHRO_FLAG	CATDESC	CDF_CHAR	Time synchronisation flag
SYNCHRO_FLAG	VALIDMIN	CDF_UINT1	0
SYNCHRO_FLAG	VALIDMAX	CDF_UINT1	1
SYNCHRO_FLAG	SCALEMIN	CDF_UINT1	0
SYNCHRO_FLAG	SCALEMAX	CDF_UINT1	1
SYNCHRO_FLAG	FILLVAL	CDF_UINT1	255
SYNCHRO_FLAG	LABLAXIS	CDF_CHAR	time sync. flag
SYNCHRO_FLAG	UNITS	CDF_CHAR	
SYNCHRO_FLAG	VAR_TYPE	CDF_CHAR	support_data
SYNCHRO_FLAG	SCALETYP	CDF_CHAR	linear
SYNCHRO_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate if the local time is synchronized with the RPW DPU clock or not. Possible values: synchronized=0, not synchronized=1. This flag is extracted from ACQUISITION_TIME in L0 packets, it is the MSB of the CUC time.
SYNCHRO_FLAG	DEPEND_0	CDF_CHAR	Epoch
SYNCHRO_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 170

Tab. 4.23 – continued from previous page


Variable Name	Attribute Name	Data Type	Value
SYNCHRO_FLAG	FORMAT	CDF_CHAR	I3.3

4.1.2.11.6 Non-Record-Variant (NRV) Variables

Variable Name	Index	Value
CHANNEL_LABEL	1	BIAS1
CHANNEL_LABEL	2	BIAS2
CHANNEL_LABEL	3	BIAS3
CHANNEL_LABEL	4	B_LF1
CHANNEL_LABEL	5	B_LF2
CHANNEL_LABEL	6	B_LF3
CHANNEL_LABEL	7	Lower 16
CHANNEL_LABEL	8	Fine tim
WAVEFORM_LABEL	1	WF in BIAS1
WAVEFORM_LABEL	2	WF in BIAS2
WAVEFORM_LABEL	3	WF in BIAS3
WAVEFORM_LABEL	4	WF in B_LF1
WAVEFORM_LABEL	5	WF in B_LF2
WAVEFORM_LABEL	6	WF in B_LF3
WAVEFORM_LABEL	7	WF Lower 16bit
WAVEFORM_LABEL	8	Fine time
ACQUISITION_TIME_UNITS	1	s
ACQUISITION_TIME_UNITS	2	s / 65536
ACQUISITION_TIME_LABEL	1	CUC coarse part time
ACQUISITION_TIME_LABEL	2	CUC fine part time

4.1.2.12 SOLO_L1_RPW-TDS-LFM-SM data product

The “SOLO_L1_RPW-TDS-LFM-SM” data product contains the uncalibrated TDS receiver spectral matrix (SM) data in the LFM mode. The “SOLO_L1_RPW-TDS-LFM-SM” data are written in CDF format files. There is a single file per day, generated from data in the corresponding SOLO_L0_RPW parent file.

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 171

4.1.2.12.1 Filename

```
solo_L1_rpw-tds-lfm-sm_[YYYYMMDD]_V[version].cdf
```

4.1.2.12.2 Expected cadence and data volume


Nominal cadence: 1 file per day (only when LFM backup mode is enabled)

Expected data volume: 10 MB per day

4.1.2.12.3 Global Attributes

Attribute Name	Entry Number	Data Type	Value
ACCESS_URL	1	CDF_CHAR	
ACCESS_FORMAT	1	CDF_CHAR	CDF
Acknowledgement	1	CDF_CHAR	The authors are pleased to acknowledge the Solar Orbiter/RPW Investigation (M. Maksimovic, PIs) for access to data.
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009 (2.4)
Data_type	1	CDF_CHAR	H0>High Resolution data
Data_version	1	CDF_CHAR	
Descriptor	1	CDF_CHAR	RPW-TDS-LFM-SM> RPW Time Domain Sampler Spectral Matrix data in LFM mode
Discipline	1	CDF_CHAR	Space Physics>Interplanetary Studies
File_naming_convention	1	CDF_CHAR	<Source_name>_<LEVEL>_<Descriptor>_<Date>
File_ID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	RPW Operations Centre located at LESIA (Meudon, France)
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	https://rpw.lesia.obspm.fr
Instrument_type	1	CDF_CHAR	Radio and Plasma Waves (space)
LINK_TEXT	1	CDF_CHAR	RPW Web site at LESIA
LINK_TITLE	1	CDF_CHAR	RPW Web site
Logical_file_id	1	CDF_CHAR	
Logical_source	1	CDF_CHAR	solo_L1_rpw-tds-lfm-sm
Logical_source_description	1	CDF_CHAR	Solar Orbiter Radio/Plasma Wave, TDS L1 parameters


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 172

Tab. 4.24 – continued from previous page


Attribute Name	Entry Number	Data Type	Value
Mission_group	1	CDF_CHAR	Solar Orbiter
SKELETON_MODS	1	CDF_CHAR	January 2016 : initial release
SKELETON_MODS	2	CDF_CHAR	V04: Update for solo data definition, X. BONNIN (CNRS-LESIA), April 2019
SKELETON_MODS	3	CDF_CHAR	V05: Update to compliant with SOL-SGS-TN-0009 Issue 2, Rev 4 - X.Bonnin, 09/2019
SKELETON_MODS	4	CDF_CHAR	V06: March 2020 : Delete Test_* g.attrs - X.Bonnin (CNRS, LESIA)
SKELETON_MODS	5	CDF_CHAR	V07: Removing POST_GAP_FLAG zvar and UCD vattr. (X.Bonnin, 09/2020)
SKELETON_MODS	6	CDF_CHAR	V08: Jan. 2021 : Fix inconsistencies against the ISTEP CDF guidelines, X.Bonnin (CNRS-LESIA)
Parent_version	1	CDF_CHAR	
Parents	1	CDF_CHAR	
PI_affiliation	1	CDF_CHAR	LESIA, Observatoire de Paris-CNRS
PI_name	1	CDF_CHAR	M.Maksimovic
Pipeline_version	1	CDF_CHAR	
Project	1	CDF_CHAR	SOLO>Solar Orbiter
Provider	1	CDF_CHAR	LESIA (Meudon, France)
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00006-LES (1.3)
Rules_of_use	1	CDF_CHAR	Data provided are publicly available. If used in presentations or publications, please acknowledge Solar Orbiter/RPW Investigation (M. Maksimovic, PIs). Please read carefully the caveats attached to the data. For reporting purposes, we request bibliography information for any publication, etc., using these data. Please send information on the use of this data to: M. Maksimovic (PI).
SKELETON_PARENT	1	CDF_CHAR	SOLO_L1_RPW-TDS-LFM-SM_V08.cdf
Skeleton_version	1	CDF_CHAR	08
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	SOLO>Solar Orbiter
SPECTRAL_RANGE_MAX	1	CDF_CHAR	

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 173

Tab. 4.24 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
SPECTRAL_RANGE_MIN	1	CDF_CHAR	
TEXT	1	CDF_CHAR	This file contains RPW TDS level 1 regular snapshot waveform data in LFM mode for the current day.
TEXT_supplement_1	1	CDF_CHAR	
TIME_MAX	1	CDF_CHAR	
TIME_MIN	1	CDF_CHAR	
Validate	1	CDF_CHAR	
CAVEATS	1	CDF_CHAR	Engineering data. No good for publication.
Datetime	1	CDF_CHAR	
Free_field	1	CDF_CHAR	
Job_ID	1	CDF_CHAR	
LEVEL	1	CDF_CHAR	L1>Level 1 data processing
SOOP_TYPE	1	CDF_CHAR	
Data_product	1	CDF_CHAR	LFM-SM>LFM-SM
TARGET_NAME	1	CDF_CHAR	Sun
TARGET_CLASS	1	CDF_CHAR	Star
TARGET_REGION	1	CDF_CHAR	Solar Wind
Pipeline_name	1	CDF_CHAR	
Dataset_ID	1	CDF_CHAR	SOLO_L1_RPW-TDS-LFM-SM
OBS_ID	1	CDF_CHAR	
MODS	1	CDF_CHAR	

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 174


4.1.2.12.4 zVariables

Variable Name	Data Type	Number Elements	Dims	Sizes
Epoch	CDF_TIME_TT2000	1	0	
ACQUISITION_TIME	CDF_UINT4	1	1	2
QUALITY_FLAG	CDF_UINT1	1	0	
QUALITY_BITMASK	CDF_UINT2	1	0	
SURVEY_MODE	CDF_UINT1	1	0	
BIA_STATUS_INFO	CDF_UINT1	1	1	6
LF_DATA_ARTEFACTS	CDF_UINT1	1	1	16
ACQUISITION_TIME_UNITS	CDF_CHAR	16	1	2
ACQUISITION_TIME_LABEL	CDF_CHAR	32	1	2
INPUT_CONFIG	CDF_UINT1	1	1	6
SM_SRCLLEN	CDF_UINT1	1	0	
SM_TYPE	CDF_UINT1	1	0	
SM_FREQ_NR	CDF_UINT2	1	0	
SM_FREQ_AXIS	CDF_UINT1	1	0	
CROSS_RE	CDF_INT1	1	2	10 200
CROSS_IM	CDF_INT1	1	2	10 200
CHANNEL_LABEL	CDF_CHAR	8	1	6
SCET	CDF_REAL8	1	0	
SYNCHRO_FLAG	CDF_UINT1	1	0	

4.1.2.12.5 Variable attributes

Variable Name	Attribute Name	Data Type	Value
Epoch	FIELDNAM	CDF_CHAR	Epoch
Epoch	CATDESC	CDF_CHAR	Default time
Epoch	VALIDMIN	CDF_TIME_TT2000	2000-01-01T12:00:00.000000000
Epoch	VALIDMAX	CDF_TIME_TT2000	2029-12-31T23:59:59.999000000
Epoch	SCALEMIN	CDF_TIME_TT2000	2000-01-01T12:00:00.000000000
Epoch	SCALEMAX	CDF_TIME_TT2000	2029-12-31T23:59:59.999000000
Epoch	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch	LABLAXIS	CDF_CHAR	Epoch


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 175

Tab. 4.25 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
Epoch	UNITS	CDF_CHAR	ns
Epoch	VAR_TYPE	CDF_CHAR	support_data
Epoch	SCALETYP	CDF_CHAR	linear
Epoch	MONOTON	CDF_CHAR	INCREASE
Epoch	TIME_BASE	CDF_CHAR	J2000
Epoch	TIME_SCALE	CDF_CHAR	Terrestrial Time
Epoch	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file
Epoch	Resolution	CDF_CHAR	15258 ns
ACQUISITION_TIME	FIELDNAM	CDF_CHAR	CCSDS CUC Acquisition time as returned in TM packets
ACQUISITION_TIME	CATDESC	CDF_CHAR	CCSDS CUC format TDS time, coarse and fine parts
ACQUISITION_TIME	VALIDMIN	CDF_UINT4	0
ACQUISITION_TIME	VALIDMAX	CDF_UINT4	4294967294
ACQUISITION_TIME	SCALEMIN	CDF_UINT4	0
ACQUISITION_TIME	SCALEMAX	CDF_UINT4	4294967294
ACQUISITION_TIME	FILLVAL	CDF_UINT4	4294967295
ACQUISITION_TIME	LABLAXIS	CDF_CHAR	TDS acquisition time
ACQUISITION_TIME	UNITS	CDF_CHAR	s
ACQUISITION_TIME	VAR_TYPE	CDF_CHAR	support_data
ACQUISITION_TIME	SCALETYP	CDF_CHAR	linear
ACQUISITION_TIME	MONOTON	CDF_CHAR	INCREASE
ACQUISITION_TIME	TIME_BASE	CDF_CHAR	2000-01-01T00:00:00
ACQUISITION_TIME	TIME_SCALE	CDF_CHAR	RPW DPU clock
ACQUISITION_TIME	VAR_NOTES	CDF_CHAR	Local time measured by the RPW TDS receiver (Coarse and fine parts of the CUC format) of the first sample of the packet
ACQUISITION_TIME	DEPEND_0	CDF_CHAR	Epoch
ACQUISITION_TIME	DISPLAY_TYPE	CDF_CHAR	time_series
ACQUISITION_TIME	FORMAT	CDF_CHAR	I10.0
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	VALIDMIN	CDF_UINT1	0
QUALITY_FLAG	VALIDMAX	CDF_UINT1	4
QUALITY_FLAG	SCALEMIN	CDF_UINT1	0
QUALITY_FLAG	SCALEMAX	CDF_UINT1	4


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 176

Tab. 4.25 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
QUALITY_FLAG	FILLVAL	CDF_UINT1	255
QUALITY_FLAG	LABLAXIS	CDF_CHAR	Quality flag
QUALITY_FLAG	UNITS	CDF_CHAR	
QUALITY_FLAG	VAR_TYPE	CDF_CHAR	support_data
QUALITY_FLAG	SCALETYP	CDF_CHAR	linear
QUALITY_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the quality of the data
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	UNITS	CDF_CHAR	
QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context information or status at the receiver or experiment level
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
SURVEY_MODE	FIELDNAM	CDF_CHAR	SURVEY_MODE
SURVEY_MODE	CATDESC	CDF_CHAR	TDS survey mode
SURVEY_MODE	VALIDMIN	CDF_UINT1	0
SURVEY_MODE	VALIDMAX	CDF_UINT1	1
SURVEY_MODE	SCALEMIN	CDF_UINT1	0
SURVEY_MODE	SCALEMAX	CDF_UINT1	1
SURVEY_MODE	FILLVAL	CDF_UINT1	255
SURVEY_MODE	LABLAXIS	CDF_CHAR	TDS survey mode
SURVEY_MODE	UNITS	CDF_CHAR	
SURVEY_MODE	VAR_TYPE	CDF_CHAR	data
SURVEY_MODE	SCALETYP	CDF_CHAR	linear


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 177

Tab. 4.25 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SURVEY_MODE	VAR_NOTES	CDF_CHAR	Flag to indicate if the receiver in the SURVEY_BURST (=1) or SURVEY_NORMAL (=0) mode
SURVEY_MODE	DEPEND_0	CDF_CHAR	Epoch
SURVEY_MODE	DISPLAY_TYPE	CDF_CHAR	time_series
SURVEY_MODE	FORMAT	CDF_CHAR	I1.1
BIA_STATUS_INFO	FIELDNAM	CDF_CHAR	BIA_STATUS_INFO
BIA_STATUS_INFO	CATDESC	CDF_CHAR	BIAS status byte
BIA_STATUS_INFO	VALIDMIN	CDF_UINT1	0
BIA_STATUS_INFO	VALIDMAX	CDF_UINT1	255
BIA_STATUS_INFO	SCALEMIN	CDF_UINT1	0
BIA_STATUS_INFO	SCALEMAX	CDF_UINT1	1
BIA_STATUS_INFO	FILLVAL	CDF_UINT1	255
BIA_STATUS_INFO	LABLAXIS	CDF_CHAR	BIAS status
BIA_STATUS_INFO	UNITS	CDF_CHAR	
BIA_STATUS_INFO	VAR_TYPE	CDF_CHAR	data
BIA_STATUS_INFO	SCALETYP	CDF_CHAR	linear
BIA_STATUS_INFO	VAR_NOTES	CDF_CHAR	BIAS status byte
BIA_STATUS_INFO	DEPEND_0	CDF_CHAR	Epoch
BIA_STATUS_INFO	DISPLAY_TYPE	CDF_CHAR	time_series
BIA_STATUS_INFO	FORMAT	CDF_CHAR	I3.3
LF_DATA_ARTEFACTS	FIELDNAM	CDF_CHAR	LF_DATA_ARTEFACTS
LF_DATA_ARTEFACTS	CATDESC	CDF_CHAR	Bitmask of data artefacts (overflows etc)
LF_DATA_ARTEFACTS	VALIDMIN	CDF_UINT1	0
LF_DATA_ARTEFACTS	VALIDMAX	CDF_UINT1	1
LF_DATA_ARTEFACTS	SCALEMIN	CDF_UINT1	0
LF_DATA_ARTEFACTS	SCALEMAX	CDF_UINT1	1
LF_DATA_ARTEFACTS	FILLVAL	CDF_UINT1	255
LF_DATA_ARTEFACTS	LABLAXIS	CDF_CHAR	LF data artefacts.
LF_DATA_ARTEFACTS	UNITS	CDF_CHAR	
LF_DATA_ARTEFACTS	VAR_TYPE	CDF_CHAR	data
LF_DATA_ARTEFACTS	SCALETYP	CDF_CHAR	linear
LF_DATA_ARTEFACTS	VAR_NOTES	CDF_CHAR	Bitmask of data artefacts (overflows etc)
LF_DATA_ARTEFACTS	DEPEND_0	CDF_CHAR	Epoch
LF_DATA_ARTEFACTS	DISPLAY_TYPE	CDF_CHAR	time_series
LF_DATA_ARTEFACTS	FORMAT	CDF_CHAR	I3.3
ACQUISITION_TIME_UNITS	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_UNITS

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 178

Tab. 4.25 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
ACQUISITION_TIME_UNITS	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME_UNIT_PTR attribute
ACQUISITION_TIME_UNITS	VAR_TYPE	CDF_CHAR	metadata
ACQUISITION_TIME_UNITS	FORMAT	CDF_CHAR	A16
ACQUISITION_TIME_LABEL	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME_LABEL	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME
ACQUISITION_TIME_LABEL	VAR_TYPE	CDF_CHAR	metadata
ACQUISITION_TIME_LABEL	FORMAT	CDF_CHAR	A32
INPUT_CONFIG	FIELDNAM	CDF_CHAR	INPUT_CONFIG
INPUT_CONFIG	CATDESC	CDF_CHAR	Bitmask of TDS analog input configuration
INPUT_CONFIG	VALIDMIN	CDF_UINT1	0
INPUT_CONFIG	VALIDMAX	CDF_UINT1	1
INPUT_CONFIG	SCALEMIN	CDF_UINT1	0
INPUT_CONFIG	SCALEMAX	CDF_UINT1	1
INPUT_CONFIG	FILLVAL	CDF_UINT1	255
INPUT_CONFIG	LABLAXIS	CDF_CHAR	TDS input config.
INPUT_CONFIG	UNITS	CDF_CHAR	
INPUT_CONFIG	VAR_TYPE	CDF_CHAR	data
INPUT_CONFIG	SCALETYP	CDF_CHAR	linear
INPUT_CONFIG	VAR_NOTES	CDF_CHAR	Input TDS configuration
INPUT_CONFIG	DEPEND_0	CDF_CHAR	Epoch
INPUT_CONFIG	DISPLAY_TYPE	CDF_CHAR	time_series
INPUT_CONFIG	FORMAT	CDF_CHAR	I1.1
SM_SRCLLEN	FIELDNAM	CDF_CHAR	SM_SRCLLEN
SM_SRCLLEN	CATDESC	CDF_CHAR	Length of the snapshot in samples
SM_SRCLLEN	VALIDMIN	CDF_UINT1	0
SM_SRCLLEN	VALIDMAX	CDF_UINT1	3
SM_SRCLLEN	SCALEMIN	CDF_UINT1	0
SM_SRCLLEN	SCALEMAX	CDF_UINT1	3
SM_SRCLLEN	FILLVAL	CDF_UINT1	255
SM_SRCLLEN	LABLAXIS	CDF_CHAR	SM_SRCLLEN
SM_SRCLLEN	UNITS	CDF_CHAR	
SM_SRCLLEN	VAR_TYPE	CDF_CHAR	data
SM_SRCLLEN	SCALETYP	CDF_CHAR	linear

continues on next page



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03

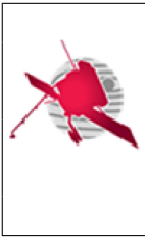
Date: March 11, 2021

Page: **179**

Tab. 4.25 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SM_SRCLEN	VAR_NOTES	CDF_CHAR	Length of the snapshot in samples which was used to calculate the spectra transmitted in this packet
SM_SRCLEN	DEPEND_0	CDF_CHAR	Epoch
SM_SRCLEN	DISPLAY_TYPE	CDF_CHAR	time_series
SM_SRCLEN	FORMAT	CDF_CHAR	I1.1
SM_TYPE	FIELDNAM	CDF_CHAR	SM_TYPE
SM_TYPE	CATDESC	CDF_CHAR	Status of signal channels in the snapshot
SM_TYPE	VALIDMIN	CDF_UINT1	1
SM_TYPE	VALIDMAX	CDF_UINT1	2
SM_TYPE	SCALEMIN	CDF_UINT1	1
SM_TYPE	SCALEMAX	CDF_UINT1	2
SM_TYPE	FILLVAL	CDF_UINT1	255
SM_TYPE	LABLAXIS	CDF_CHAR	Channel status
SM_TYPE	UNITS	CDF_CHAR	
SM_TYPE	VAR_TYPE	CDF_CHAR	data
SM_TYPE	SCALETYP	CDF_CHAR	linear
SM_TYPE	VAR_NOTES	CDF_CHAR	Status of signal channels in the snapshot (0=OFF, 1=ON)
SM_TYPE	DEPEND_0	CDF_CHAR	Epoch
SM_TYPE	DISPLAY_TYPE	CDF_CHAR	time_series
SM_TYPE	FORMAT	CDF_CHAR	I3.3
SM_FREQ_NR	FIELDNAM	CDF_CHAR	SM_FREQ_NR
SM_FREQ_NR	CATDESC	CDF_CHAR	Number of frequency bins
SM_FREQ_NR	VALIDMIN	CDF_UINT2	16
SM_FREQ_NR	VALIDMAX	CDF_UINT2	200
SM_FREQ_NR	SCALEMIN	CDF_UINT2	16
SM_FREQ_NR	SCALEMAX	CDF_UINT2	200
SM_FREQ_NR	FILLVAL	CDF_UINT2	65535
SM_FREQ_NR	LABLAXIS	CDF_CHAR	Number of frequencies
SM_FREQ_NR	UNITS	CDF_CHAR	
SM_FREQ_NR	VAR_TYPE	CDF_CHAR	data
SM_FREQ_NR	SCALETYP	CDF_CHAR	linear
SM_FREQ_NR	VAR_NOTES	CDF_CHAR	Number of frequency bins
SM_FREQ_NR	DEPEND_0	CDF_CHAR	Epoch
SM_FREQ_NR	DISPLAY_TYPE	CDF_CHAR	time_series
SM_FREQ_NR	FORMAT	CDF_CHAR	I3.3
SM_FREQ_AXIS	FIELDNAM	CDF_CHAR	SM_FREQ_AXIS
SM_FREQ_AXIS	CATDESC	CDF_CHAR	Index of the frequency axis

continues on next page



**RPW Data Product
Description Document**

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **180**

Tab. 4.25 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SM_FREQ_AXIS	VALIDMIN	CDF_UINT1	0
SM_FREQ_AXIS	VALIDMAX	CDF_UINT1	15
SM_FREQ_AXIS	SCALEMIN	CDF_UINT1	0
SM_FREQ_AXIS	SCALEMAX	CDF_UINT1	15
SM_FREQ_AXIS	FILLVAL	CDF_UINT1	255
SM_FREQ_AXIS	LABLAXIS	CDF_CHAR	Index of the frequency axis
SM_FREQ_AXIS	UNITS	CDF_CHAR	
SM_FREQ_AXIS	VAR_TYPE	CDF_CHAR	data
SM_FREQ_AXIS	SCALETYP	CDF_CHAR	linear
SM_FREQ_AXIS	VAR_NOTES	CDF_CHAR	Number of frequency bins
SM_FREQ_AXIS	DEPEND_0	CDF_CHAR	Epoch
SM_FREQ_AXIS	DISPLAY_TYPE	CDF_CHAR	time_series
SM_FREQ_AXIS	FORMAT	CDF_CHAR	I3.3
CROSS_RE	FIELDNAM	CDF_CHAR	CROSS_RE
CROSS_RE	CATDESC	CDF_CHAR	Real part of complex cross correlations from the EM data
CROSS_RE	VALIDMIN	CDF_INT1	-127
CROSS_RE	VALIDMAX	CDF_INT1	127
CROSS_RE	SCALEMIN	CDF_INT1	-127
CROSS_RE	SCALEMAX	CDF_INT1	127
CROSS_RE	FILLVAL	CDF_INT1	-128
CROSS_RE	LABLAXIS	CDF_CHAR	CROSS_RE
CROSS_RE	UNITS	CDF_CHAR	
CROSS_RE	VAR_TYPE	CDF_CHAR	data
CROSS_RE	SCALETYP	CDF_CHAR	linear
CROSS_RE	VAR_NOTES	CDF_CHAR	This variable contains the 3 (10) real parts of complex values for TDS LFM data.
CROSS_RE	DEPEND_0	CDF_CHAR	Epoch
CROSS_RE	DISPLAY_TYPE	CDF_CHAR	time_series
CROSS_RE	FORMAT	CDF_CHAR	I3.3
CROSS_IM	FIELDNAM	CDF_CHAR	CROSS_IM
CROSS_IM	CATDESC	CDF_CHAR	Imaginary part of complex cross correlations from the TDS LFM data
CROSS_IM	VALIDMIN	CDF_INT1	-127
CROSS_IM	VALIDMAX	CDF_INT1	127
CROSS_IM	SCALEMIN	CDF_INT1	-127
CROSS_IM	SCALEMAX	CDF_INT1	127
CROSS_IM	FILLVAL	CDF_INT1	-128
CROSS_IM	LABLAXIS	CDF_CHAR	CROSS_IM


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 181

Tab. 4.25 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
CROSS_IM	UNITS	CDF_CHAR	
CROSS_IM	VAR_TYPE	CDF_CHAR	data
CROSS_IM	SCALETYP	CDF_CHAR	linear
CROSS_IM	VAR_NOTES	CDF_CHAR	This variable contains the 3 (10) imaginary parts of complex values for TDS LFM data.
CROSS_IM	DEPEND_0	CDF_CHAR	Epoch
CROSS_IM	DISPLAY_TYPE	CDF_CHAR	time_series
CROSS_IM	FORMAT	CDF_CHAR	I3.3
CHANNEL_LABEL	FIELDNAM	CDF_CHAR	CHANNEL_LABEL
CHANNEL_LABEL	CATDESC	CDF_CHAR	Label for CHANNEL_INFO_STATUS
CHANNEL_LABEL	VAR_TYPE	CDF_CHAR	metadata
CHANNEL_LABEL	FORMAT	CDF_CHAR	A8
SCET	FIELDNAM	CDF_CHAR	Spacecraft Elapsed Time
SCET	CATDESC	CDF_CHAR	Elapsed Time of the onboard clock
SCET	VALIDMIN	CDF_REAL8	0.0
SCET	VALIDMAX	CDF_REAL8	1.0e+31
SCET	SCALEMIN	CDF_REAL8	0.0
SCET	SCALEMAX	CDF_REAL8	1.0e+31
SCET	FILLVAL	CDF_REAL8	-1.0e+31
SCET	LABLAXIS	CDF_CHAR	Spacecraft Elapsed Time (Ticks)
SCET	UNITS	CDF_CHAR	Ticks
SCET	VAR_TYPE	CDF_CHAR	support_data
SCET	SCALETYP	CDF_CHAR	linear
SCET	MONOTON	CDF_CHAR	INCREASE
SCET	TIME_BASE	CDF_CHAR	Spacecraft onboard clock
SCET	TIME_SCALE	CDF_CHAR	Spacecraft onboard clock
SCET	REFERENCE_POS	CDF_CHAR	Spacecraft barycenter
SCET	VAR_NOTES	CDF_CHAR	Spacecraft Elapsed Time
SCET	DEPEND_0	CDF_CHAR	Epoch
SCET	DISPLAY_TYPE	CDF_CHAR	time_series
SYNCHRO_FLAG	FIELDNAM	CDF_CHAR	SYNCHRO_FLAG
SYNCHRO_FLAG	CATDESC	CDF_CHAR	Time synchronisation flag
SYNCHRO_FLAG	VALIDMIN	CDF_UINT1	0
SYNCHRO_FLAG	VALIDMAX	CDF_UINT1	1
SYNCHRO_FLAG	SCALEMIN	CDF_UINT1	0
SYNCHRO_FLAG	SCALEMAX	CDF_UINT1	1

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 182

Tab. 4.25 – continued from previous page


Variable Name	Attribute Name	Data Type	Value
SYNCHRO_FLAG	FILLVAL	CDF_UINT1	255
SYNCHRO_FLAG	LABLAXIS	CDF_CHAR	time sync. flag
SYNCHRO_FLAG	UNITS	CDF_CHAR	
SYNCHRO_FLAG	VAR_TYPE	CDF_CHAR	support_data
SYNCHRO_FLAG	SCALETYP	CDF_CHAR	linear
SYNCHRO_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate if the local time is synchronized with the RPW DPU clock or not. Possible values: synchronized=0, not synchronized=1. This flag is extracted from ACQUISITION_TIME in L0 packets, it is the MSB of the CUC time.
SYNCHRO_FLAG	DEPEND_0	CDF_CHAR	Epoch
SYNCHRO_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
SYNCHRO_FLAG	FORMAT	CDF_CHAR	I3.3

4.1.2.12.6 Non-Record-Variant (NRV) Variables

Variable Name	Index	Value
ACQUISITION_TIME_UNITS	1	s
ACQUISITION_TIME_UNITS	2	s / 65536
ACQUISITION_TIME_LABEL	1	CUC coarse part time
ACQUISITION_TIME_LABEL	2	CUC fine part time
CHANNEL_LABEL	1	BIAS1
CHANNEL_LABEL	2	BIAS2
CHANNEL_LABEL	3	BIAS3
CHANNEL_LABEL	4	B_LF1
CHANNEL_LABEL	5	B_LF2
CHANNEL_LABEL	6	B_LF3

4.1.2.13 SOLO_L1_RPW-TDS-LFM-PSD data product

The “SOLO_L1_RPW-TDS-LFM-PSD” data product contains the uncalibrated TDS receiver single power spectrum data (PSD) in LFM mode. The “SOLO_L1_RPW-TDS-LFM-PSD” data are written in CDF format files. There is a single file per day, generated from data in the corresponding SOLO_L0_RPW parent file.

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 183

4.1.2.13.1 Filename

solo_L1_rpw-tds-lfm-psd_[YYYYMMDD]_V[version].cdf

4.1.2.13.2 Expected cadence and data volume


Nominal cadence: 1 file per day (only when LFM backup mode is enabled)

Expected data volume: 15 MB per day

4.1.2.13.3 Global Attributes

Attribute Name	Entry Number	Data Type	Value
ACCESS_URL	1	CDF_CHAR	
ACCESS_FORMAT	1	CDF_CHAR	CDF
Acknowledgement	1	CDF_CHAR	The authors are pleased to acknowledge the Solar Orbiter/RPW Investigation (M. Maksimovic, PIs) for access to data.
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009 (2.4)
Data_type	1	CDF_CHAR	H0>High Resolution data
Data_version	1	CDF_CHAR	
Descriptor	1	CDF_CHAR	RPW-TDS-LFM-PSD> RPW Time Domain Sampler LFM averaged power spectra
Discipline	1	CDF_CHAR	Space Physics>Interplanetary Studies
File_naming_convention	1	CDF_CHAR	<Source_name>_<LEVEL>_<Descriptor>_<Date>
File_ID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	RPW Operations Centre located at LESIA (Meudon, France)
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	https://rpw.lesia.obspm.fr
Instrument_type	1	CDF_CHAR	Radio and Plasma Waves (space)
LINK_TEXT	1	CDF_CHAR	RPW Web site at LESIA
LINK_TITLE	1	CDF_CHAR	RPW Web site
Logical_file_id	1	CDF_CHAR	
Logical_source	1	CDF_CHAR	solo_L1_rpw-tds-lfm-psd
Logical_source_description	1	CDF_CHAR	Solar Orbiter Radio/Plasma Wave, TDS L1 parameters


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 184

Tab. 4.26 – continued from previous page


Attribute Name	Entry Number	Data Type	Value
Mission_group	1	CDF_CHAR	Solar Orbiter
SKELETON_MODS	1	CDF_CHAR	January 2016 : initial release
SKELETON_MODS	2	CDF_CHAR	V04: Update for solo data definition, X. BONNIN (CNRS-LESIA), April 2019
SKELETON_MODS	3	CDF_CHAR	V05: Update to compliant with SOL-SGS-TN-0009 Issue 2, Rev 4 - X.Bonnin, 09/2019
SKELETON_MODS	4	CDF_CHAR	V06: March 2020 : Delete Test_* g.attrs - X.Bonnin (CNRS, LESIA)
SKELETON_MODS	5	CDF_CHAR	V07: Removing POST_GAP_FLAG zvar and UCD vattr. (X.Bonnin, 09/2020)
SKELETON_MODS	6	CDF_CHAR	V08: Jan. 2021 : Fix inconsistencies against the ISTEP CDF guidelines, X.Bonnin (CNRS-LESIA)
Parent_version	1	CDF_CHAR	
Parents	1	CDF_CHAR	
PI_affiliation	1	CDF_CHAR	LESIA, Observatoire de Paris-CNRS
PI_name	1	CDF_CHAR	M.Maksimovic
Pipeline_version	1	CDF_CHAR	
Project	1	CDF_CHAR	SOLO>Solar Orbiter
Provider	1	CDF_CHAR	LESIA (Meudon, France)
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00006-LES (1.3)
Rules_of_use	1	CDF_CHAR	Data provided are publicly available. If used in presentations or publications, please acknowledge Solar Orbiter/RPW Investigation (M. Maksimovic, PIs). Please read carefully the caveats attached to the data. For reporting purposes, we request bibliography information for any publication, etc., using these data. Please send information on the use of this data to: M. Maksimovic (PI).
SKELETON_PARENT	1	CDF_CHAR	SOLO_L1_RPW-TDS-LFM-PSD_V08.cdf
Skeleton_version	1	CDF_CHAR	08
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	SOLO>Solar Orbiter
SPECTRAL_RANGE_MAX	1	CDF_CHAR	

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 185

Tab. 4.26 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
SPECTRAL_RANGE_MIN	1	CDF_CHAR	
TEXT	1	CDF_CHAR	This file contains RPW TDS level 1 regular snapshot waveform data in LFM mode for the current day.
TEXT_supplement_1	1	CDF_CHAR	
TIME_MAX	1	CDF_CHAR	
TIME_MIN	1	CDF_CHAR	
Validate	1	CDF_CHAR	
CAVEATS	1	CDF_CHAR	Engineering data. No good for publication.
Datetime	1	CDF_CHAR	
Free_field	1	CDF_CHAR	
Job_ID	1	CDF_CHAR	
LEVEL	1	CDF_CHAR	L1>Level 1 data processing
SOOP_TYPE	1	CDF_CHAR	
Data_product	1	CDF_CHAR	LFM-PSD>LFM-PSD
TARGET_NAME	1	CDF_CHAR	Sun
TARGET_CLASS	1	CDF_CHAR	Star
TARGET_REGION	1	CDF_CHAR	Solar Wind
Pipeline_name	1	CDF_CHAR	
Dataset_ID	1	CDF_CHAR	SOLO_L1_RPW-TDS-LFM-PSD
OBS_ID	1	CDF_CHAR	
MODS	1	CDF_CHAR	

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 186


4.1.2.13.4 zVariables

Variable Name	Data Type	Number Elements	Dims	Sizes
Epoch	CDF_TIME_TT2000	1	0	
ACQUISITION_TIME	CDF_UINT4	1	1	2
QUALITY_FLAG	CDF_UINT1	1	0	
QUALITY_BITMASK	CDF_UINT2	1	0	
SURVEY_MODE	CDF_UINT1	1	0	
BIA_STATUS_INFO	CDF_UINT1	1	1	6
LF_DATA_ARTEFACTS	CDF_UINT1	1	1	16
INPUT_CONFIG	CDF_UINT1	1	1	6
ACQUISITION_TIME_UNITS	CDF_CHAR	16	1	2
ACQUISITION_TIME_LABEL	CDF_CHAR	32	1	2
PSD_SRCLLEN	CDF_UINT1	1	0	
CHANNEL_STATUS_INFO	CDF_UINT1	1	1	6
PSD_FREQ_AXIS	CDF_UINT1	1	0	
PSD_FREQ_NR	CDF_UINT2	1	0	
PSD_DATA	CDF_INT2	1	2	6 200
CHANNEL_LABEL	CDF_CHAR	8	1	6
SCET	CDF_REAL8	1	0	
SYNCHRO_FLAG	CDF_UINT1	1	0	

4.1.2.13.5 Variable attributes

Variable Name	Attribute Name	Data Type	Value
Epoch	FIELDNAM	CDF_CHAR	Epoch
Epoch	CATDESC	CDF_CHAR	Default time
Epoch	VALIDMIN	CDF_TIME_TT2000	2000-01-01T12:00:00.000000000
Epoch	VALIDMAX	CDF_TIME_TT2000	2029-12-31T23:59:59.999000000
Epoch	SCALEMIN	CDF_TIME_TT2000	2000-01-01T12:00:00.000000000
Epoch	SCALEMAX	CDF_TIME_TT2000	2029-12-31T23:59:59.999000000
Epoch	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch	LABLAXIS	CDF_CHAR	Epoch
Epoch	UNITS	CDF_CHAR	ns


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 187

Tab. 4.27 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
Epoch	VAR_TYPE	CDF_CHAR	support_data
Epoch	SCALETYP	CDF_CHAR	linear
Epoch	MONOTON	CDF_CHAR	INCREASE
Epoch	TIME_BASE	CDF_CHAR	J2000
Epoch	TIME_SCALE	CDF_CHAR	Terrestrial Time
Epoch	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file
Epoch	Resolution	CDF_CHAR	15258 ns
ACQUISITION_TIME	FIELDNAM	CDF_CHAR	CCSDS CUC Acquisition time as returned in TM packets
ACQUISITION_TIME	CATDESC	CDF_CHAR	CCSDS CUC format TDS time, coarse and fine parts
ACQUISITION_TIME	VALIDMIN	CDF_UINT4	0
ACQUISITION_TIME	VALIDMAX	CDF_UINT4	4294967294
ACQUISITION_TIME	SCALEMIN	CDF_UINT4	0
ACQUISITION_TIME	SCALEMAX	CDF_UINT4	4294967294
ACQUISITION_TIME	FILLVAL	CDF_UINT4	4294967295
ACQUISITION_TIME	LABLAXIS	CDF_CHAR	TDS acquisition time
ACQUISITION_TIME	UNITS	CDF_CHAR	s
ACQUISITION_TIME	VAR_TYPE	CDF_CHAR	support_data
ACQUISITION_TIME	SCALETYP	CDF_CHAR	linear
ACQUISITION_TIME	MONOTON	CDF_CHAR	INCREASE
ACQUISITION_TIME	TIME_BASE	CDF_CHAR	2000-01-01T00:00:00
ACQUISITION_TIME	TIME_SCALE	CDF_CHAR	RPW DPU clock
ACQUISITION_TIME	VAR_NOTES	CDF_CHAR	Local time measured by the RPW TDS receiver (Coarse and fine parts of the CUC format) of the first sample of the packet
ACQUISITION_TIME	DEPEND_0	CDF_CHAR	Epoch
ACQUISITION_TIME	DISPLAY_TYPE	CDF_CHAR	time_series
ACQUISITION_TIME	FORMAT	CDF_CHAR	I10.0
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	VALIDMIN	CDF_UINT1	0
QUALITY_FLAG	VALIDMAX	CDF_UINT1	4
QUALITY_FLAG	SCALEMIN	CDF_UINT1	0
QUALITY_FLAG	SCALEMAX	CDF_UINT1	4
QUALITY_FLAG	FILLVAL	CDF_UINT1	255


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 188

Tab. 4.27 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
QUALITY_FLAG	LABLAXIS	CDF_CHAR	Quality flag
QUALITY_FLAG	UNITS	CDF_CHAR	
QUALITY_FLAG	VAR_TYPE	CDF_CHAR	support_data
QUALITY_FLAG	SCALETYP	CDF_CHAR	linear
QUALITY_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the quality of the data
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	UNITS	CDF_CHAR	
QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context information or status at the receiver or experiment level
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
SURVEY_MODE	FIELDNAM	CDF_CHAR	SURVEY_MODE
SURVEY_MODE	CATDESC	CDF_CHAR	TDS survey mode
SURVEY_MODE	VALIDMIN	CDF_UINT1	0
SURVEY_MODE	VALIDMAX	CDF_UINT1	1
SURVEY_MODE	SCALEMIN	CDF_UINT1	0
SURVEY_MODE	SCALEMAX	CDF_UINT1	1
SURVEY_MODE	FILLVAL	CDF_UINT1	255
SURVEY_MODE	LABLAXIS	CDF_CHAR	TDS survey mode
SURVEY_MODE	UNITS	CDF_CHAR	
SURVEY_MODE	VAR_TYPE	CDF_CHAR	data
SURVEY_MODE	SCALETYP	CDF_CHAR	linear
SURVEY_MODE	VAR_NOTES	CDF_CHAR	Flag to indicate if the receiver in the SURVEY_BURST (=1) or SURVEY_NORMAL (=0) mode


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 189

Tab. 4.27 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SURVEY_MODE	DEPEND_0	CDF_CHAR	Epoch
SURVEY_MODE	DISPLAY_TYPE	CDF_CHAR	time_series
SURVEY_MODE	FORMAT	CDF_CHAR	I1.1
BIA_STATUS_INFO	FIELDNAM	CDF_CHAR	BIA_STATUS_INFO
BIA_STATUS_INFO	CATDESC	CDF_CHAR	BIAS status byte
BIA_STATUS_INFO	VALIDMIN	CDF_UINT1	0
BIA_STATUS_INFO	VALIDMAX	CDF_UINT1	1
BIA_STATUS_INFO	SCALEMIN	CDF_UINT1	0
BIA_STATUS_INFO	SCALEMAX	CDF_UINT1	1
BIA_STATUS_INFO	FILLVAL	CDF_UINT1	255
BIA_STATUS_INFO	LABLAXIS	CDF_CHAR	BIAS status
BIA_STATUS_INFO	UNITS	CDF_CHAR	
BIA_STATUS_INFO	VAR_TYPE	CDF_CHAR	data
BIA_STATUS_INFO	SCALETYP	CDF_CHAR	linear
BIA_STATUS_INFO	VAR_NOTES	CDF_CHAR	BIAS status byte
BIA_STATUS_INFO	DEPEND_0	CDF_CHAR	Epoch
BIA_STATUS_INFO	DISPLAY_TYPE	CDF_CHAR	time_series
BIA_STATUS_INFO	FORMAT	CDF_CHAR	I1.1
LF_DATA_ARTEFACTS	FIELDNAM	CDF_CHAR	LF_DATA_ARTEFACTS
LF_DATA_ARTEFACTS	CATDESC	CDF_CHAR	Bitmask of data artefacts (overflows etc)
LF_DATA_ARTEFACTS	VALIDMIN	CDF_UINT1	0
LF_DATA_ARTEFACTS	VALIDMAX	CDF_UINT1	1
LF_DATA_ARTEFACTS	SCALEMIN	CDF_UINT1	0
LF_DATA_ARTEFACTS	SCALEMAX	CDF_UINT1	1
LF_DATA_ARTEFACTS	FILLVAL	CDF_UINT1	255
LF_DATA_ARTEFACTS	LABLAXIS	CDF_CHAR	LF data artefacts.
LF_DATA_ARTEFACTS	UNITS	CDF_CHAR	
LF_DATA_ARTEFACTS	VAR_TYPE	CDF_CHAR	data
LF_DATA_ARTEFACTS	SCALETYP	CDF_CHAR	linear
LF_DATA_ARTEFACTS	VAR_NOTES	CDF_CHAR	Bitmask of data artefacts (overflows etc)
LF_DATA_ARTEFACTS	DEPEND_0	CDF_CHAR	Epoch
LF_DATA_ARTEFACTS	DISPLAY_TYPE	CDF_CHAR	time_series
LF_DATA_ARTEFACTS	FORMAT	CDF_CHAR	I3.3
INPUT_CONFIG	FIELDNAM	CDF_CHAR	INPUT_CONFIG
INPUT_CONFIG	CATDESC	CDF_CHAR	Bitmask of TDS analog input configuration
INPUT_CONFIG	VALIDMIN	CDF_UINT1	0
INPUT_CONFIG	VALIDMAX	CDF_UINT1	1
INPUT_CONFIG	SCALEMIN	CDF_UINT1	0


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 190

Tab. 4.27 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
INPUT_CONFIG	SCALEMAX	CDF_UINT1	1
INPUT_CONFIG	FILLVAL	CDF_UINT1	255
INPUT_CONFIG	LABLAXIS	CDF_CHAR	TDS input config.
INPUT_CONFIG	UNITS	CDF_CHAR	
INPUT_CONFIG	VAR_TYPE	CDF_CHAR	data
INPUT_CONFIG	SCALETYP	CDF_CHAR	linear
INPUT_CONFIG	VAR_NOTES	CDF_CHAR	Input TDS configuration
INPUT_CONFIG	DEPEND_0	CDF_CHAR	Epoch
INPUT_CONFIG	DISPLAY_TYPE	CDF_CHAR	time_series
INPUT_CONFIG	FORMAT	CDF_CHAR	I1
ACQUISITION_TIME_UNITS	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_UNITS
ACQUISITION_TIME_UNITS	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME_UNIT_PTR attribute
ACQUISITION_TIME_UNITS	VAR_TYPE	CDF_CHAR	metadata
ACQUISITION_TIME_UNITS	FORMAT	CDF_CHAR	A16
ACQUISITION_TIME_LABEL	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME_LABEL	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME
ACQUISITION_TIME_LABEL	VAR_TYPE	CDF_CHAR	metadata
ACQUISITION_TIME_LABEL	FORMAT	CDF_CHAR	A32
PSD_SRCLLEN	FIELDNAM	CDF_CHAR	PSD_SRCLLEN
PSD_SRCLLEN	CATDESC	CDF_CHAR	Length of the snapshot in samples
PSD_SRCLLEN	VALIDMIN	CDF_UINT1	0
PSD_SRCLLEN	VALIDMAX	CDF_UINT1	3
PSD_SRCLLEN	SCALEMIN	CDF_UINT1	0
PSD_SRCLLEN	SCALEMAX	CDF_UINT1	3
PSD_SRCLLEN	FILLVAL	CDF_UINT1	255
PSD_SRCLLEN	LABLAXIS	CDF_CHAR	PSD_SRCLLEN
PSD_SRCLLEN	UNITS	CDF_CHAR	
PSD_SRCLLEN	VAR_TYPE	CDF_CHAR	data
PSD_SRCLLEN	SCALETYP	CDF_CHAR	linear
PSD_SRCLLEN	VAR_NOTES	CDF_CHAR	Length of the snapshot in samples which was used to calculate the spectra transmitted in this packet
PSD_SRCLLEN	DEPEND_0	CDF_CHAR	Epoch
PSD_SRCLLEN	DISPLAY_TYPE	CDF_CHAR	time_series
PSD_SRCLLEN	FORMAT	CDF_CHAR	I1.1
CHANNEL_STATUS_INFO	FIELDNAM	CDF_CHAR	CHANNEL_STATUS_INFO


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 191

Tab. 4.27 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
CHANNEL_STATUS_INFO	CATDESC	CDF_CHAR	Status of signal channels in the snapshot
CHANNEL_STATUS_INFO	VALIDMIN	CDF_UINT1	0
CHANNEL_STATUS_INFO	VALIDMAX	CDF_UINT1	1
CHANNEL_STATUS_INFO	SCALEMIN	CDF_UINT1	0
CHANNEL_STATUS_INFO	SCALEMAX	CDF_UINT1	1
CHANNEL_STATUS_INFO	FILLVAL	CDF_UINT1	255
CHANNEL_STATUS_INFO	UNITS	CDF_CHAR	
CHANNEL_STATUS_INFO	VAR_TYPE	CDF_CHAR	data
CHANNEL_STATUS_INFO	SCALETYP	CDF_CHAR	linear
CHANNEL_STATUS_INFO	VAR_NOTES	CDF_CHAR	Status of signal channels in the snapshot (0=OFF, 1=ON)
CHANNEL_STATUS_INFO	DEPEND_0	CDF_CHAR	Epoch
CHANNEL_STATUS_INFO	DISPLAY_TYPE	CDF_CHAR	time_series
CHANNEL_STATUS_INFO	FORMAT	CDF_CHAR	I6.5
CHANNEL_STATUS_INFO	LABL_PTR_1	CDF_CHAR	CHANNEL_LABEL
PSD_FREQ_AXIS	FIELDNAM	CDF_CHAR	PSD_FREQ_AXIS
PSD_FREQ_AXIS	CATDESC	CDF_CHAR	Status of signal channels in the snapshot
PSD_FREQ_AXIS	VALIDMIN	CDF_UINT1	0
PSD_FREQ_AXIS	VALIDMAX	CDF_UINT1	1
PSD_FREQ_AXIS	SCALEMIN	CDF_UINT1	0
PSD_FREQ_AXIS	SCALEMAX	CDF_UINT1	1
PSD_FREQ_AXIS	FILLVAL	CDF_UINT1	255
PSD_FREQ_AXIS	LABLAXIS	CDF_CHAR	PSD_FREQ_AXIS
PSD_FREQ_AXIS	UNITS	CDF_CHAR	
PSD_FREQ_AXIS	VAR_TYPE	CDF_CHAR	data
PSD_FREQ_AXIS	SCALETYP	CDF_CHAR	linear
PSD_FREQ_AXIS	VAR_NOTES	CDF_CHAR	Index of the frequency axis
PSD_FREQ_AXIS	DEPEND_0	CDF_CHAR	Epoch
PSD_FREQ_AXIS	DISPLAY_TYPE	CDF_CHAR	time_series
PSD_FREQ_NR	FIELDNAM	CDF_CHAR	PSD_FREQ_NR
PSD_FREQ_NR	CATDESC	CDF_CHAR	Status of signal channels in the snapshot
PSD_FREQ_NR	VALIDMIN	CDF_UINT2	16
PSD_FREQ_NR	VALIDMAX	CDF_UINT2	200
PSD_FREQ_NR	SCALEMIN	CDF_UINT2	16
PSD_FREQ_NR	SCALEMAX	CDF_UINT2	200
PSD_FREQ_NR	FILLVAL	CDF_UINT2	65535
PSD_FREQ_NR	LABLAXIS	CDF_CHAR	PSD_FREQ_NR
PSD_FREQ_NR	UNITS	CDF_CHAR	


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 192

Tab. 4.27 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
PSD_FREQ_NR	VAR_TYPE	CDF_CHAR	data
PSD_FREQ_NR	SCALETYP	CDF_CHAR	linear
PSD_FREQ_NR	VAR_NOTES	CDF_CHAR	Number of frequency bins
PSD_FREQ_NR	DEPEND_0	CDF_CHAR	Epoch
PSD_FREQ_NR	DISPLAY_TYPE	CDF_CHAR	time_series
PSD_FREQ_NR	FORMAT	CDF_CHAR	I6.5
PSD_DATA	FIELDNAM	CDF_CHAR	PSD_DATA
PSD_DATA	CATDESC	CDF_CHAR	Auto spectral PSD values
PSD_DATA	VALIDMIN	CDF_INT2	-2
PSD_DATA	VALIDMAX	CDF_INT2	0
PSD_DATA	SCALEMIN	CDF_INT2	-2
PSD_DATA	SCALEMAX	CDF_INT2	0
PSD_DATA	FILLVAL	CDF_INT2	-32768
PSD_DATA	LABLAXIS	CDF_CHAR	PSD_DATA
PSD_DATA	UNITS	CDF_CHAR	
PSD_DATA	VAR_TYPE	CDF_CHAR	data
PSD_DATA	SCALETYP	CDF_CHAR	linear
PSD_DATA	VAR_NOTES	CDF_CHAR	Auto spectral PSD values
PSD_DATA	DEPEND_0	CDF_CHAR	Epoch
PSD_DATA	DISPLAY_TYPE	CDF_CHAR	time_series
PSD_DATA	FORMAT	CDF_CHAR	I6.5
CHANNEL_LABEL	FIELDNAM	CDF_CHAR	CHANNEL_LABEL
CHANNEL_LABEL	CATDESC	CDF_CHAR	Label for CHANNEL_INFO_STATUS
CHANNEL_LABEL	VAR_TYPE	CDF_CHAR	metadata
CHANNEL_LABEL	FORMAT	CDF_CHAR	A8
SCET	FIELDNAM	CDF_CHAR	Spacecraft Elapsed Time
SCET	CATDESC	CDF_CHAR	Elapsed Time of the onboard clock
SCET	VALIDMIN	CDF_REAL8	0.0
SCET	VALIDMAX	CDF_REAL8	1.0e+31
SCET	SCALEMIN	CDF_REAL8	0.0
SCET	SCALEMAX	CDF_REAL8	1.0e+31
SCET	FILLVAL	CDF_REAL8	-1.0e+31
SCET	LABLAXIS	CDF_CHAR	Spacecraft Elapsed Time (Ticks)
SCET	UNITS	CDF_CHAR	Ticks
SCET	VAR_TYPE	CDF_CHAR	support_data
SCET	SCALETYP	CDF_CHAR	linear
SCET	MONOTON	CDF_CHAR	INCREASE
SCET	TIME_BASE	CDF_CHAR	Spacecraft onboard clock

continues on next page


	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 193

Tab. 4.27 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SCET	TIME_SCALE	CDF_CHAR	Spacecraft onboard clock
SCET	REFERENCE_POS	CDF_CHAR	Spacecraft barycenter
SCET	VAR_NOTES	CDF_CHAR	Spacecraft Elapsed Time
SCET	DEPEND_0	CDF_CHAR	Epoch
SCET	DISPLAY_TYPE	CDF_CHAR	time_series
SYNCHRO_FLAG	FIELDNAM	CDF_CHAR	SYNCHRO_FLAG
SYNCHRO_FLAG	CATDESC	CDF_CHAR	Time synchronisation flag
SYNCHRO_FLAG	VALIDMIN	CDF_UINT1	0
SYNCHRO_FLAG	VALIDMAX	CDF_UINT1	1
SYNCHRO_FLAG	SCALEMIN	CDF_UINT1	0
SYNCHRO_FLAG	SCALEMAX	CDF_UINT1	1
SYNCHRO_FLAG	FILLVAL	CDF_UINT1	255
SYNCHRO_FLAG	LABLAXIS	CDF_CHAR	time sync. flag
SYNCHRO_FLAG	UNITS	CDF_CHAR	
SYNCHRO_FLAG	VAR_TYPE	CDF_CHAR	support_data
SYNCHRO_FLAG	SCALETYP	CDF_CHAR	linear
SYNCHRO_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate if the local time is synchronized with the RPW DPU clock or not. Possible values: synchronized=0, not synchronized=1. This flag is extracted from ACQUISITION_TIME in L0 packets, it is the MSB of the CUC time.
SYNCHRO_FLAG	DEPEND_0	CDF_CHAR	Epoch
SYNCHRO_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
SYNCHRO_FLAG	FORMAT	CDF_CHAR	I3.3

4.1.2.13.6 Non-Record-Variant (NRV) Variables

Variable Name	Index	Value
ACQUISITION_TIME_UNITS	1	s
ACQUISITION_TIME_UNITS	2	s / 65536
ACQUISITION_TIME_LABEL	1	CUC coarse part time
ACQUISITION_TIME_LABEL	2	CUC fine part time
CHANNEL_LABEL	1	BIAS1
CHANNEL_LABEL	2	BIAS2
CHANNEL_LABEL	3	BIAS3
CHANNEL_LABEL	4	B_LF1
CHANNEL_LABEL	5	B_LF2
CHANNEL_LABEL	6	B_LF3

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 194

4.1.2.14 SOLO_L1_RPW-TDS-SBM1-RSWF data product

The “SOLO_L1_RPW-TDS-SBM1-RSWF” data product contains the uncalibrated TDS receiver Regular Snapshot Waveform data for SBM1 events. The “SOLO_L1_RPW-TDS-SBM1-RSWF” data are written in CDF format files. There is a single file per SBM1 event data effectively downlinked on-ground. The file is generated from data in the corresponding SOLO_L0_RPW parent file.

4.1.2.14.1 Filename

```
solo_l1_rpw-tds-sbm1-rswf_[YYYYMMDDThhmmss1- YYYYMMDDThhmmss2]_V[version].  
↪cdf
```

4.1.2.14.2 Expected cadence and data volume


Nominal cadence: 1 file per SBM1 event

Expected data volume: 125 MB per file

4.1.2.14.3 Global Attributes

Attribute Name	Entry Number	Data Type	Value
ACCESS_URL	1	CDF_CHAR	
ACCESS_FORMAT	1	CDF_CHAR	CDF
Acknowledgement	1	CDF_CHAR	The authors are pleased to acknowledge the Solar Orbiter/RPW Investigation (M. Maksimovic, PIs) for access to data.
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009 (2.4)
Data_type	1	CDF_CHAR	H0>High Resolution data
Data_version	1	CDF_CHAR	
Descriptor	1	CDF_CHAR	RPW-TDS-SBM1-RSWF> RPW Time Domain Sampler Waveform Snapshot data in SBM1 mode
Discipline	1	CDF_CHAR	Space Physics>Interplanetary Studies
File_naming_convention	1	CDF_CHAR	<Source_name>_<LEVEL>_<Descriptor>_<Date>
File_ID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	RPW Operations Centre located at LESIA (Meudon, France)
Generation_date	1	CDF_CHAR	


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 195

Tab. 4.28 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
HTTP_LINK	1	CDF_CHAR	https://rpw.lesia.obspm.fr
Instrument_type	1	CDF_CHAR	Radio and Plasma Waves (space)
LINK_TEXT	1	CDF_CHAR	RPW Web site at LESIA
LINK_TITLE	1	CDF_CHAR	RPW Web site
Logical_file_id	1	CDF_CHAR	
Logical_source	1	CDF_CHAR	solo_L1_rpw-tds-sbm1-rswf
Logical_source_description	1	CDF_CHAR	Solar Orbiter Radio/Plasma Wave, TDS L1 parameters
Mission_group	1	CDF_CHAR	Solar Orbiter
SKELETON_MODS	1	CDF_CHAR	July 2016 : data organization by snapshots, time vector added
SKELETON_MODS	2	CDF_CHAR	V04: Update for solo data definition, X. BONNIN (CNRS-LESIA), April 2019
SKELETON_MODS	3	CDF_CHAR	V05: Update to compliant with SOL-SGS-TN-0009 Issue 2, Rev 4 - X.Bonnin, 09/2019
SKELETON_MODS	4	CDF_CHAR	V06: March 2020 : Harmonize SAMPLING_RATE zvar and Test_* g.attrs - X.Bonnin (CNRS, LESIA)
SKELETON_MODS	5	CDF_CHAR	V07: Removing POST_GAP_FLAG zvar and UCD vattr. (X.Bonnin, 09/2020)
SKELETON_MODS	6	CDF_CHAR	V08: Jan. 2021 : Fix inconsistencies against the ISTP CDF guidelines, X.Bonnin (CNRS-LESIA)
Parent_version	1	CDF_CHAR	
Parents	1	CDF_CHAR	
PI_affiliation	1	CDF_CHAR	LESIA, Observatoire de Paris-CNRS
PI_name	1	CDF_CHAR	M.Maksimovic
Pipeline_version	1	CDF_CHAR	
Project	1	CDF_CHAR	SOLO>Solar Orbiter
Provider	1	CDF_CHAR	LESIA (Meudon, France)
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00006-LES (1.3)


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 196

Tab. 4.28 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Rules_of_use	1	CDF_CHAR	Data provided are publicly available. If used in presentations or publications, please acknowledge Solar Orbiter/RPW Investigation (M. Maksimovic, PIs). Please read carefully the caveats attached to the data. For reporting purposes, we request bibliography information for any publication, etc., using these data. Please send information on the use of this data to: M. Maksimovic (PI).
SKELETON_PARENT	1	CDF_CHAR	SOLO_L1_RPW-TDS-SBM1-RSWF_V08.cdf
Skeleton_version	1	CDF_CHAR	08
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	SOLO>Solar Orbiter
SPECTRAL_RANGE_MAX	1	CDF_CHAR	
SPECTRAL_RANGE_MIN	1	CDF_CHAR	
TEXT	1	CDF_CHAR	This file contains RPW TDS level 1 snapshot waveform data in SBM1 mode for the current SBM1 event.
TEXT_supplement_1	1	CDF_CHAR	
TIME_MAX	1	CDF_CHAR	
TIME_MIN	1	CDF_CHAR	
Validate	1	CDF_CHAR	
CAVEATS	1	CDF_CHAR	Engineering data. No good for publication.
Datetime	1	CDF_CHAR	
Free_field	1	CDF_CHAR	
Job_ID	1	CDF_CHAR	
LEVEL	1	CDF_CHAR	L1>Level 1 data processing
SOOP_TYPE	1	CDF_CHAR	
Data_product	1	CDF_CHAR	SBM1-RSWF>SBM1-RSWF
TARGET_NAME	1	CDF_CHAR	Sun
TARGET_CLASS	1	CDF_CHAR	Star
TARGET_REGION	1	CDF_CHAR	Solar Wind
Pipeline_name	1	CDF_CHAR	
Dataset_ID	1	CDF_CHAR	SOLO_L1_RPW-TDS-SBM1-RSWF
OBS_ID	1	CDF_CHAR	

continues on next page


	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 197

Tab. 4.28 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
MODS	1	CDF_CHAR	

4.1.2.14.4 zVariables


Variable Name	Data Type	Number Elements	Dims	Sizes
Epoch	CDF_TIME_TT2000	1	0	
ACQUISITION_TIME	CDF_UINT4	1	1	2
QUALITY_FLAG	CDF_UINT1	1	0	
QUALITY_BITMASK	CDF_UINT2	1	0	
SURVEY_MODE	CDF_UINT1	1	0	
BIA_STATUS_INFO	CDF_UINT1	1	1	6
SAMPLING_RATE	CDF_REAL4	1	0	
HF_DATA_ARTEFACTS	CDF_UINT1	1	1	5
FILTER_COEFS	CDF_UINT1	1	0	
RPW_STATUS_INFO	CDF_UINT1	1	1	8
INPUT_CONFIG	CDF_UINT4	1	0	
SNAPSHOT_SEQ_NR	CDF_UINT2	1	0	
ACQUISITION_TIME_UNITS	CDF_CHAR	16	1	2
ACQUISITION_TIME_LABEL	CDF_CHAR	32	1	2
CHANNEL_STATUS_INFO	CDF_UINT1	1	1	4
QUALITY_FACT	CDF_UINT2	1	0	
DOWNLINK_INFO	CDF_UINT1	1	1	2
SAMPS_PER_CH	CDF_UINT4	1	0	
WAVEFORM_DATA	CDF_FLOAT	1	2	4 65536
CHANNEL_LABEL	CDF_CHAR	8	1	4
WAVEFORM_LABEL	CDF_CHAR	16	1	4
SCET	CDF_REAL8	1	0	
SYNCHRO_FLAG	CDF_UINT1	1	0	

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 198

4.1.2.14.5 Variable attributes

Variable Name	Attribute Name	Data Type	Value
Epoch	FIELDNAM	CDF_CHAR	Epoch
Epoch	CATDESC	CDF_CHAR	Default time
Epoch	VALIDMIN	CDF_TIME_TT2000	2000-01-01T12:00:00.000000000
Epoch	VALIDMAX	CDF_TIME_TT2000	2029-12-31T23:59:59.999000000
Epoch	SCALEMIN	CDF_TIME_TT2000	2000-01-01T12:00:00.000000000
Epoch	SCALEMAX	CDF_TIME_TT2000	2029-12-31T23:59:59.999000000
Epoch	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch	LABLAXIS	CDF_CHAR	Epoch
Epoch	UNITS	CDF_CHAR	ns
Epoch	VAR_TYPE	CDF_CHAR	support_data
Epoch	SCALETYP	CDF_CHAR	linear
Epoch	MONOTON	CDF_CHAR	INCREASE
Epoch	TIME_BASE	CDF_CHAR	J2000
Epoch	TIME_SCALE	CDF_CHAR	Terrestrial Time
Epoch	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file
Epoch	Resolution	CDF_CHAR	15258 ns
ACQUISITION_TIME	FIELDNAM	CDF_CHAR	CCSDS CUC Acquisition time as returned in TM packets
ACQUISITION_TIME	CATDESC	CDF_CHAR	CCSDS CUC format TDS time, coarse and fine parts
ACQUISITION_TIME	VALIDMIN	CDF_UINT4	0
ACQUISITION_TIME	VALIDMAX	CDF_UINT4	4294967294
ACQUISITION_TIME	SCALEMIN	CDF_UINT4	0
ACQUISITION_TIME	SCALEMAX	CDF_UINT4	4294967294
ACQUISITION_TIME	FILLVAL	CDF_UINT4	4294967295
ACQUISITION_TIME	VAR_TYPE	CDF_CHAR	support_data
ACQUISITION_TIME	SCALETYP	CDF_CHAR	linear
ACQUISITION_TIME	MONOTON	CDF_CHAR	INCREASE
ACQUISITION_TIME	TIME_BASE	CDF_CHAR	2000-01-01T00:00:00
ACQUISITION_TIME	TIME_SCALE	CDF_CHAR	RPW DPU clock

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 199

Tab. 4.29 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
ACQUISITION_TIME	VAR_NOTES	CDF_CHAR	Local time measured by the RPW TDS receiver (Coarse and fine parts of the CUC format) of the first sample of the packet
ACQUISITION_TIME	DEPEND_0	CDF_CHAR	Epoch
ACQUISITION_TIME	DISPLAY_TYPE	CDF_CHAR	time_series
ACQUISITION_TIME	FORMAT	CDF_CHAR	I10.0
ACQUISITION_TIME	LABL_PTR_1	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME	UNIT_PTR	CDF_CHAR	ACQUISITION_TIME_UNITS
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	VALIDMIN	CDF_UINT1	0
QUALITY_FLAG	VALIDMAX	CDF_UINT1	4
QUALITY_FLAG	SCALEMIN	CDF_UINT1	0
QUALITY_FLAG	SCALEMAX	CDF_UINT1	4
QUALITY_FLAG	FILLVAL	CDF_UINT1	255
QUALITY_FLAG	LABLAXIS	CDF_CHAR	Quality flag
QUALITY_FLAG	UNITS	CDF_CHAR	
QUALITY_FLAG	VAR_TYPE	CDF_CHAR	support_data
QUALITY_FLAG	SCALETYP	CDF_CHAR	linear
QUALITY_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the quality of the data
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	UNITS	CDF_CHAR	
QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context information or status at the receiver or experiment level
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch

continues on next page



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03

Date: March 11, 2021

Page: **200**

Tab. 4.29 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
SURVEY_MODE	FIELDNAM	CDF_CHAR	SURVEY_MODE
SURVEY_MODE	CATDESC	CDF_CHAR	TDS HF survey mode
SURVEY_MODE	VALIDMIN	CDF_UINT1	0
SURVEY_MODE	VALIDMAX	CDF_UINT1	1
SURVEY_MODE	SCALEMIN	CDF_UINT1	0
SURVEY_MODE	SCALEMAX	CDF_UINT1	1
SURVEY_MODE	FILLVAL	CDF_UINT1	255
SURVEY_MODE	LABLAXIS	CDF_CHAR	TDS survey mode
SURVEY_MODE	UNITS	CDF_CHAR	
SURVEY_MODE	VAR_TYPE	CDF_CHAR	data
SURVEY_MODE	SCALETYP	CDF_CHAR	linear
SURVEY_MODE	VAR_NOTES	CDF_CHAR	Flag to indicate if the receiver in the SURVEY_BURST (=1) or SURVEY_NORMAL (=0) mode
SURVEY_MODE	DEPEND_0	CDF_CHAR	Epoch
SURVEY_MODE	DISPLAY_TYPE	CDF_CHAR	time_series
SURVEY_MODE	FORMAT	CDF_CHAR	I1.1
BIA_STATUS_INFO	FIELDNAM	CDF_CHAR	BIA_STATUS_INFO
BIA_STATUS_INFO	CATDESC	CDF_CHAR	BIAS status byte
BIA_STATUS_INFO	VALIDMIN	CDF_UINT1	0
BIA_STATUS_INFO	VALIDMAX	CDF_UINT1	255
BIA_STATUS_INFO	SCALEMIN	CDF_UINT1	0
BIA_STATUS_INFO	SCALEMAX	CDF_UINT1	1
BIA_STATUS_INFO	FILLVAL	CDF_UINT1	255
BIA_STATUS_INFO	LABLAXIS	CDF_CHAR	BIAS status
BIA_STATUS_INFO	UNITS	CDF_CHAR	
BIA_STATUS_INFO	VAR_TYPE	CDF_CHAR	data
BIA_STATUS_INFO	SCALETYP	CDF_CHAR	linear
BIA_STATUS_INFO	VAR_NOTES	CDF_CHAR	BIAS status byte
BIA_STATUS_INFO	DEPEND_0	CDF_CHAR	Epoch
BIA_STATUS_INFO	DISPLAY_TYPE	CDF_CHAR	time_series
BIA_STATUS_INFO	FORMAT	CDF_CHAR	I3.3
SAMPLING_RATE	FIELDNAM	CDF_CHAR	SAMPLING_RATE
SAMPLING_RATE	CATDESC	CDF_CHAR	TDS sampling rate
SAMPLING_RATE	VALIDMIN	CDF_REAL4	0.0
SAMPLING_RATE	VALIDMAX	CDF_REAL4	2.0971e+06
SAMPLING_RATE	SCALEMIN	CDF_REAL4	0.0
SAMPLING_RATE	SCALEMAX	CDF_REAL4	2.0971e+06

continues on next page



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **201**

Tab. 4.29 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SAMPLING_RATE	FILLVAL	CDF_REAL4	-1.0e+31
SAMPLING_RATE	LABLAXIS	CDF_CHAR	Sampling rate code
SAMPLING_RATE	UNITS	CDF_CHAR	Hz
SAMPLING_RATE	VAR_TYPE	CDF_CHAR	data
SAMPLING_RATE	SCALETYP	CDF_CHAR	linear
SAMPLING_RATE	VAR_NOTES	CDF_CHAR	TDS sampling rate
SAMPLING_RATE	DEPEND_0	CDF_CHAR	Epoch
SAMPLING_RATE	DISPLAY_TYPE	CDF_CHAR	time_series
SAMPLING_RATE	FORMAT	CDF_CHAR	F8.2
HF_DATA_ARTEFACTS	FIELDNAM	CDF_CHAR	HF_DATA_ARTEFACTS
HF_DATA_ARTEFACTS	CATDESC	CDF_CHAR	Bitmask of data artefacts (overflows etc)
HF_DATA_ARTEFACTS	VALIDMIN	CDF_UINT1	0
HF_DATA_ARTEFACTS	VALIDMAX	CDF_UINT1	255
HF_DATA_ARTEFACTS	SCALEMIN	CDF_UINT1	0
HF_DATA_ARTEFACTS	SCALEMAX	CDF_UINT1	1
HF_DATA_ARTEFACTS	FILLVAL	CDF_UINT1	255
HF_DATA_ARTEFACTS	LABLAXIS	CDF_CHAR	HF data artefacts.
HF_DATA_ARTEFACTS	UNITS	CDF_CHAR	
HF_DATA_ARTEFACTS	VAR_TYPE	CDF_CHAR	data
HF_DATA_ARTEFACTS	SCALETYP	CDF_CHAR	linear
HF_DATA_ARTEFACTS	VAR_NOTES	CDF_CHAR	Bitmask of data artefacts (overflows etc)
HF_DATA_ARTEFACTS	DEPEND_0	CDF_CHAR	Epoch
HF_DATA_ARTEFACTS	DISPLAY_TYPE	CDF_CHAR	time_series
HF_DATA_ARTEFACTS	FORMAT	CDF_CHAR	I3.3
FILTER_COEFS	FIELDNAM	CDF_CHAR	FILTER_COEFS
FILTER_COEFS	CATDESC	CDF_CHAR	Index of filter coefficients used
FILTER_COEFS	VALIDMIN	CDF_UINT1	0
FILTER_COEFS	VALIDMAX	CDF_UINT1	4
FILTER_COEFS	SCALEMIN	CDF_UINT1	0
FILTER_COEFS	SCALEMAX	CDF_UINT1	1
FILTER_COEFS	FILLVAL	CDF_UINT1	255
FILTER_COEFS	LABLAXIS	CDF_CHAR	Filter coeffs.
FILTER_COEFS	UNITS	CDF_CHAR	
FILTER_COEFS	VAR_TYPE	CDF_CHAR	data
FILTER_COEFS	SCALETYP	CDF_CHAR	linear
FILTER_COEFS	VAR_NOTES	CDF_CHAR	Index of filter coefficients used
FILTER_COEFS	DEPEND_0	CDF_CHAR	Epoch


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 202

Tab. 4.29 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
FILTER_COEFS	DISPLAY_TYPE	CDF_CHAR	time_series
FILTER_COEFS	FORMAT	CDF_CHAR	I1.1
RPW_STATUS_INFO	FIELDNAM	CDF_CHAR	RPW_STATUS_INFO
RPW_STATUS_INFO	CATDESC	CDF_CHAR	RPW status
RPW_STATUS_INFO	VALIDMIN	CDF_UINT1	0
RPW_STATUS_INFO	VALIDMAX	CDF_UINT1	255
RPW_STATUS_INFO	SCALEMIN	CDF_UINT1	0
RPW_STATUS_INFO	SCALEMAX	CDF_UINT1	1
RPW_STATUS_INFO	FILLVAL	CDF_UINT1	255
RPW_STATUS_INFO	LABLAXIS	CDF_CHAR	RPW Status info
RPW_STATUS_INFO	UNITS	CDF_CHAR	
RPW_STATUS_INFO	VAR_TYPE	CDF_CHAR	data
RPW_STATUS_INFO	SCALETYP	CDF_CHAR	linear
RPW_STATUS_INFO	VAR_NOTES	CDF_CHAR	RPW status (bitmask - received from DPU)
RPW_STATUS_INFO	DEPEND_0	CDF_CHAR	Epoch
RPW_STATUS_INFO	DISPLAY_TYPE	CDF_CHAR	time_series
RPW_STATUS_INFO	FORMAT	CDF_CHAR	I3.3
INPUT_CONFIG	FIELDNAM	CDF_CHAR	INPUT_CONFIG
INPUT_CONFIG	CATDESC	CDF_CHAR	Bitmask of TDS analog input configuration
INPUT_CONFIG	VALIDMIN	CDF_UINT4	0
INPUT_CONFIG	VALIDMAX	CDF_UINT4	4294967294
INPUT_CONFIG	SCALEMIN	CDF_UINT4	0
INPUT_CONFIG	SCALEMAX	CDF_UINT4	4294967294
INPUT_CONFIG	FILLVAL	CDF_UINT4	4294967295
INPUT_CONFIG	LABLAXIS	CDF_CHAR	TDS input config.
INPUT_CONFIG	UNITS	CDF_CHAR	
INPUT_CONFIG	VAR_TYPE	CDF_CHAR	data
INPUT_CONFIG	SCALETYP	CDF_CHAR	linear
INPUT_CONFIG	VAR_NOTES	CDF_CHAR	Input TDS configuration
INPUT_CONFIG	DEPEND_0	CDF_CHAR	Epoch
INPUT_CONFIG	DISPLAY_TYPE	CDF_CHAR	time_series
INPUT_CONFIG	FORMAT	CDF_CHAR	I10
SNAPSHOT_SEQ_NR	FIELDNAM	CDF_CHAR	SNAPSHOT_SEQ_NR
SNAPSHOT_SEQ_NR	CATDESC	CDF_CHAR	Sequential number of a snapshot incremented with every snapshot
SNAPSHOT_SEQ_NR	VALIDMIN	CDF_UINT2	0
SNAPSHOT_SEQ_NR	VALIDMAX	CDF_UINT2	65534
SNAPSHOT_SEQ_NR	SCALEMIN	CDF_UINT2	0


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 203

Tab. 4.29 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SNAPSHOT_SEQ_NR	SCALEMAX	CDF_UINT2	1
SNAPSHOT_SEQ_NR	FILLVAL	CDF_UINT2	65535
SNAPSHOT_SEQ_NR	LABLAXIS	CDF_CHAR	Snapshot seq. Num.
SNAPSHOT_SEQ_NR	UNITS	CDF_CHAR	
SNAPSHOT_SEQ_NR	VAR_TYPE	CDF_CHAR	data
SNAPSHOT_SEQ_NR	SCALETYP	CDF_CHAR	linear
SNAPSHOT_SEQ_NR	VAR_NOTES	CDF_CHAR	Sequential number of a snapshot incremented with every snapshot
SNAPSHOT_SEQ_NR	DEPEND_0	CDF_CHAR	Epoch
SNAPSHOT_SEQ_NR	DISPLAY_TYPE	CDF_CHAR	time_series
SNAPSHOT_SEQ_NR	FORMAT	CDF_CHAR	I6.5
ACQUISITION_TIME_UNITS	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_UNITS
ACQUISITION_TIME_UNITS	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME_UNIT_PTR attribute
ACQUISITION_TIME_UNITS	VAR_TYPE	CDF_CHAR	metadata
ACQUISITION_TIME_UNITS	FORMAT	CDF_CHAR	A16
ACQUISITION_TIME_LABEL	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME_LABEL	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME
ACQUISITION_TIME_LABEL	VAR_TYPE	CDF_CHAR	metadata
ACQUISITION_TIME_LABEL	FORMAT	CDF_CHAR	A32
CHANNEL_STATUS_INFO	FIELDNAM	CDF_CHAR	CHANNEL_STATUS_INFO
CHANNEL_STATUS_INFO	CATDESC	CDF_CHAR	Status of signal channels in the snapshot
CHANNEL_STATUS_INFO	VALIDMIN	CDF_UINT1	0
CHANNEL_STATUS_INFO	VALIDMAX	CDF_UINT1	4
CHANNEL_STATUS_INFO	SCALEMIN	CDF_UINT1	0
CHANNEL_STATUS_INFO	SCALEMAX	CDF_UINT1	4
CHANNEL_STATUS_INFO	FILLVAL	CDF_UINT1	255
CHANNEL_STATUS_INFO	UNITS	CDF_CHAR	
CHANNEL_STATUS_INFO	VAR_TYPE	CDF_CHAR	data
CHANNEL_STATUS_INFO	SCALETYP	CDF_CHAR	linear
CHANNEL_STATUS_INFO	VAR_NOTES	CDF_CHAR	Status of signal channels in the snapshot (0=GND 1=V1 2=V2 3=V3 4=BMF)
CHANNEL_STATUS_INFO	DEPEND_0	CDF_CHAR	Epoch
CHANNEL_STATUS_INFO	DISPLAY_TYPE	CDF_CHAR	time_series
CHANNEL_STATUS_INFO	FORMAT	CDF_CHAR	I1
CHANNEL_STATUS_INFO	LABL_PTR_1	CDF_CHAR	CHANNEL_LABEL


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 204

Tab. 4.29 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
QUALITY_FACT	FIELDNAM	CDF_CHAR	QUALITY_FACT
QUALITY_FACT	CATDESC	CDF_CHAR	Quality factor of the packet
QUALITY_FACT	VALIDMIN	CDF_UINT2	0
QUALITY_FACT	VALIDMAX	CDF_UINT2	65534
QUALITY_FACT	SCALEMIN	CDF_UINT2	0
QUALITY_FACT	SCALEMAX	CDF_UINT2	1
QUALITY_FACT	FILLVAL	CDF_UINT2	65535
QUALITY_FACT	LABLAXIS	CDF_CHAR	Quality factor
QUALITY_FACT	UNITS	CDF_CHAR	
QUALITY_FACT	VAR_TYPE	CDF_CHAR	support_data
QUALITY_FACT	SCALETYP	CDF_CHAR	linear
QUALITY_FACT	VAR_NOTES	CDF_CHAR	Quality factor
QUALITY_FACT	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FACT	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FACT	FORMAT	CDF_CHAR	I6.5
DOWNLINK_INFO	FIELDNAM	CDF_CHAR	DOWNLINK_INFO
DOWNLINK_INFO	CATDESC	CDF_CHAR	Quality factor of the packet
DOWNLINK_INFO	VALIDMIN	CDF_UINT1	0
DOWNLINK_INFO	VALIDMAX	CDF_UINT1	254
DOWNLINK_INFO	SCALEMIN	CDF_UINT1	0
DOWNLINK_INFO	SCALEMAX	CDF_UINT1	254
DOWNLINK_INFO	FILLVAL	CDF_UINT1	255
DOWNLINK_INFO	LABLAXIS	CDF_CHAR	DOWNLINK_INFO
DOWNLINK_INFO	UNITS	CDF_CHAR	
DOWNLINK_INFO	VAR_TYPE	CDF_CHAR	support_data
DOWNLINK_INFO	SCALETYP	CDF_CHAR	linear
DOWNLINK_INFO	VAR_NOTES	CDF_CHAR	Algorithm code of the down-linked packet and selection code of the down-linked packet
DOWNLINK_INFO	DEPEND_0	CDF_CHAR	Epoch
DOWNLINK_INFO	DISPLAY_TYPE	CDF_CHAR	time_series
DOWNLINK_INFO	FORMAT	CDF_CHAR	I6.5
SAMPS_PER_CH	FIELDNAM	CDF_CHAR	SAMPS_PER_CH
SAMPS_PER_CH	CATDESC	CDF_CHAR	Number of samples per channel
SAMPS_PER_CH	VALIDMIN	CDF_UINT4	0
SAMPS_PER_CH	VALIDMAX	CDF_UINT4	4294967295
SAMPS_PER_CH	SCALEMIN	CDF_UINT4	0
SAMPS_PER_CH	SCALEMAX	CDF_UINT4	4294967295
SAMPS_PER_CH	FILLVAL	CDF_UINT4	4294967295


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 205

Tab. 4.29 – continued from previous page


Variable Name	Attribute Name	Data Type	Value
SAMPS_PER_CH	LABLAXIS	CDF_CHAR	Nsamps
SAMPS_PER_CH	UNITS	CDF_CHAR	
SAMPS_PER_CH	VAR_TYPE	CDF_CHAR	data
SAMPS_PER_CH	SCALETYP	CDF_CHAR	linear
SAMPS_PER_CH	VAR_NOTES	CDF_CHAR	Number of samples per channel
SAMPS_PER_CH	DEPEND_0	CDF_CHAR	Epoch
SAMPS_PER_CH	DISPLAY_TYPE	CDF_CHAR	time_series
SAMPS_PER_CH	FORMAT	CDF_CHAR	I10
WAVEFORM_DATA	FIELDNAM	CDF_CHAR	Waveform data (electric and magnetic)
WAVEFORM_DATA	CATDESC	CDF_CHAR	Integer data measured on the four high frequency channels of TDS
WAVEFORM_DATA	VALIDMIN	CDF_FLOAT	-1.0e+30
WAVEFORM_DATA	VALIDMAX	CDF_FLOAT	1.0e+30
WAVEFORM_DATA	SCALEMIN	CDF_FLOAT	-1.0e+30
WAVEFORM_DATA	SCALEMAX	CDF_FLOAT	1.0e+30
WAVEFORM_DATA	FILLVAL	CDF_FLOAT	-1.0e+31
WAVEFORM_DATA	UNITS	CDF_CHAR	Count
WAVEFORM_DATA	VAR_TYPE	CDF_CHAR	data
WAVEFORM_DATA	SCALETYP	CDF_CHAR	linear
WAVEFORM_DATA	VAR_NOTES	CDF_CHAR	1-4 entry array with signal values
WAVEFORM_DATA	DEPEND_0	CDF_CHAR	Epoch
WAVEFORM_DATA	DISPLAY_TYPE	CDF_CHAR	time_series
WAVEFORM_DATA	FORMAT	CDF_CHAR	F6.5
WAVEFORM_DATA	LABL_PTR_1	CDF_CHAR	WAVEFORM_LABEL
CHANNEL_LABEL	FIELDNAM	CDF_CHAR	CHANNEL_LABEL
CHANNEL_LABEL	CATDESC	CDF_CHAR	Label for CHANNEL_INFO_STATUS
CHANNEL_LABEL	VAR_TYPE	CDF_CHAR	metadata
CHANNEL_LABEL	FORMAT	CDF_CHAR	A8
WAVEFORM_LABEL	FIELDNAM	CDF_CHAR	WAVEFORM_LABEL
WAVEFORM_LABEL	CATDESC	CDF_CHAR	Label for WAVEFORM_DATA
WAVEFORM_LABEL	VAR_TYPE	CDF_CHAR	metadata
WAVEFORM_LABEL	FORMAT	CDF_CHAR	A16
SCET	FIELDNAM	CDF_CHAR	Spacraft Elapsed Time
SCET	CATDESC	CDF_CHAR	Elapsed Time of the onboard clock

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 206

Tab. 4.29 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SCET	VALIDMIN	CDF_REAL8	0.0
SCET	VALIDMAX	CDF_REAL8	1.0e+31
SCET	SCALEMIN	CDF_REAL8	0.0
SCET	SCALEMAX	CDF_REAL8	1.0e+31
SCET	FILLVAL	CDF_REAL8	-1.0e+31
SCET	LABLAXIS	CDF_CHAR	Spacecraft Elapsed Time (Ticks)
SCET	UNITS	CDF_CHAR	Ticks
SCET	VAR_TYPE	CDF_CHAR	support_data
SCET	SCALETYP	CDF_CHAR	linear
SCET	MONOTON	CDF_CHAR	INCREASE
SCET	TIME_BASE	CDF_CHAR	Spacecraft onboard clock
SCET	TIME_SCALE	CDF_CHAR	Spacecraft onboard clock
SCET	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
SCET	VAR_NOTES	CDF_CHAR	Spacecraft Elapsed Time
SCET	DEPEND_0	CDF_CHAR	Epoch
SCET	DISPLAY_TYPE	CDF_CHAR	time_series
SYNCHRO_FLAG	FIELDNAM	CDF_CHAR	SYNCHRO_FLAG
SYNCHRO_FLAG	CATDESC	CDF_CHAR	Time synchronisation flag
SYNCHRO_FLAG	VALIDMIN	CDF_UINT1	0
SYNCHRO_FLAG	VALIDMAX	CDF_UINT1	1
SYNCHRO_FLAG	SCALEMIN	CDF_UINT1	0
SYNCHRO_FLAG	SCALEMAX	CDF_UINT1	1
SYNCHRO_FLAG	FILLVAL	CDF_UINT1	255
SYNCHRO_FLAG	LABLAXIS	CDF_CHAR	time sync. flag
SYNCHRO_FLAG	UNITS	CDF_CHAR	
SYNCHRO_FLAG	VAR_TYPE	CDF_CHAR	support_data
SYNCHRO_FLAG	SCALETYP	CDF_CHAR	linear
SYNCHRO_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate if the local time is synchronized with the RPW DPU clock or not. Possible values: synchronized=0, not synchronized=1. This flag is extracted from ACQUISITION_TIME in L0 packets, it is the MSB of the CUC time.
SYNCHRO_FLAG	DEPEND_0	CDF_CHAR	Epoch
SYNCHRO_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
SYNCHRO_FLAG	FORMAT	CDF_CHAR	I3.3

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 207

4.1.2.14.6 Non-Record-Variant (NRV) Variables

Variable Name	Index	Value
ACQUISITION_TIME_UNITS	1	s
ACQUISITION_TIME_UNITS	2	s / 65536
ACQUISITION_TIME_LABEL	1	CUC coarse part time
ACQUISITION_TIME_LABEL	2	CUC fine part time
CHANNEL_LABEL	1	TDS CH1
CHANNEL_LABEL	2	TDS CH2
CHANNEL_LABEL	3	TDS CH3
CHANNEL_LABEL	4	TDS CH4
WAVEFORM_LABEL	1	WF in CH1
WAVEFORM_LABEL	2	WF in CH2
WAVEFORM_LABEL	3	WF in CH3
WAVEFORM_LABEL	4	WF in CH4

4.1.2.15 SOLO_L1_RPW-TDS-SBM2-TSWF data product

The “SOLO_L1_RPW-TDS-SBM2-TSWF” data product contains the uncalibrated TDS receiver Regular Snapshot Waveform data for SBM2 events. The “SOLO_L1_RPW-TDS-SBM2-TSWF” data are written in CDF format files. There is a single file per SBM2 event data effectively downlinked on-ground. The file is generated from data in the corresponding SOLO_L0_RPW parent file.


4.1.2.15.1 Filename

```
solo_L1_rpw-tds-sbm2-tswf_[YYYYMMDDThhmmss1- YYYYMMDDThhmmss2]_V[version].  
↪cdf
```

4.1.2.15.2 Expected cadence and data volume

Nominal cadence: 1 file per SBM2 event


Expected data volume: 300 MB per file

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 208

4.1.2.15.3 Global Attributes

Attribute Name	Entry Number	Data Type	Value
ACCESS_URL	1	CDF_CHAR	
ACCESS_FORMAT	1	CDF_CHAR	CDF
Acknowledgement	1	CDF_CHAR	The authors are pleased to acknowledge the Solar Orbiter/RPW Investigation (M. Maksimovic, PIs) for access to data.
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009 (2.4)
Data_type	1	CDF_CHAR	H0>High Resolution data
Data_version	1	CDF_CHAR	
Descriptor	1	CDF_CHAR	RPW-TDS-SBM2-TSWF> RPW Time Domain Sampler Triggered Waveform Snapshot data in SBM2 mode
Discipline	1	CDF_CHAR	Space Physics>Interplanetary Studies
File_naming_convention	1	CDF_CHAR	<Source_name>_<LEVEL>_<Descriptor>_<Date>
File_ID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	RPW Operations Centre located at LESIA (Meudon, France)
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	https://rpw.lesia.obspm.fr
Instrument_type	1	CDF_CHAR	Radio and Plasma Waves (space)
LINK_TEXT	1	CDF_CHAR	RPW Web site at LESIA
LINK_TITLE	1	CDF_CHAR	RPW Web site
Logical_file_id	1	CDF_CHAR	
Logical_source	1	CDF_CHAR	solo_L1_rpw-tds-sbm2-tswf
Logical_source_description	1	CDF_CHAR	Solar Orbiter Radio/Plasma Wave, TDS L1 parameters
Mission_group	1	CDF_CHAR	Solar Orbiter
SKELETON_MODS	1	CDF_CHAR	July 2016 : data organization by snapshots, time vector added
SKELETON_MODS	2	CDF_CHAR	V04: Update for solo data definition, X. BONNIN (CNRS-LESIA), April 2019
SKELETON_MODS	3	CDF_CHAR	V05: Update to compliant with SOL-SGS-TN-0009 Issue 2, Rev 4 - X.Bonnin, 09/2019
SKELETON_MODS	4	CDF_CHAR	V06: March 2020 : Harmonize SAMPLING_RATE zvar and Test_* g.attrs - X.Bonnin (CNRS, LESIA)


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 209

Tab. 4.30 – continued from previous page


Attribute Name	Entry Number	Data Type	Value
SKELETON_MODS	5	CDF_CHAR	V07: Removing POST_GAP_FLAG zvar and UCD vattr. (X.Bonnin, 09/2020)
SKELETON_MODS	6	CDF_CHAR	V08: Jan. 2021 : Fix inconsistencies against the ISTEP CDF guidelines, X.Bonnin (CNRS-LESIA)
Parent_version	1	CDF_CHAR	
Parents	1	CDF_CHAR	
PI_affiliation	1	CDF_CHAR	LESIA, Observatoire de Paris-CNRS
PI_name	1	CDF_CHAR	M.Maksimovic
Pipeline_version	1	CDF_CHAR	
Project	1	CDF_CHAR	SOLO>Solar Orbiter
Provider	1	CDF_CHAR	LESIA (Meudon, France)
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00006-LES (1.3)
Rules_of_use	1	CDF_CHAR	Data provided are publicly available. If used in presentations or publications, please acknowledge Solar Orbiter/RPW Investigation (M. Maksimovic, PIs). Please read carefully the caveats attached to the data. For reporting purposes, we request bibliography information for any publication, etc., using these data. Please send information on the use of this data to: M. Maksimovic (PI).
SKELETON_PARENT	1	CDF_CHAR	SOLO_L1_RPW-TDS-SBM2-TSWF_V08.cdf
Skeleton_version	1	CDF_CHAR	08
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	SOLO>Solar Orbiter
SPECTRAL_RANGE_MAX	1	CDF_CHAR	
SPECTRAL_RANGE_MIN	1	CDF_CHAR	
TEXT	1	CDF_CHAR	This file contains RPW TDS level 1 triggered snapshot waveform data in SBM2 mode for the current SBM2 event.
TEXT_supplement_1	1	CDF_CHAR	
TIME_MAX	1	CDF_CHAR	
TIME_MIN	1	CDF_CHAR	
Validate	1	CDF_CHAR	

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 210

Tab. 4.30 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
CAVEATS	1	CDF_CHAR	Engineering data. No good for publication.
Datetime	1	CDF_CHAR	
Free_field	1	CDF_CHAR	
Job_ID	1	CDF_CHAR	
LEVEL	1	CDF_CHAR	L1>Level 1 data processing
SOOP_TYPE	1	CDF_CHAR	
Data_product	1	CDF_CHAR	SBM2-TSWF>SBM2-TSWF
TARGET_NAME	1	CDF_CHAR	Sun
TARGET_CLASS	1	CDF_CHAR	Star
TARGET_REGION	1	CDF_CHAR	Solar Wind
Pipeline_name	1	CDF_CHAR	
Dataset_ID	1	CDF_CHAR	SOLO_L1_RPW-TDS-SBM2-TSWF
OBS_ID	1	CDF_CHAR	
MODS	1	CDF_CHAR	

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 211


4.1.2.15.4 zVariables

Variable Name	Data Type	Number Elements	Dims	Sizes
Epoch	CDF_TIME_TT2000	1	0	
ACQUISITION_TIME	CDF_UINT4	1	1	2
QUALITY_FLAG	CDF_UINT1	1	0	
QUALITY_BITMASK	CDF_UINT2	1	0	
SURVEY_MODE	CDF_UINT1	1	0	
BIA_STATUS_INFO	CDF_UINT1	1	1	6
SAMPLING_RATE	CDF_REAL4	1	0	
HF_DATA_ARTEFACTS	CDF_UINT1	1	1	5
FILTER_COEFS	CDF_UINT1	1	0	
RPW_STATUS_INFO	CDF_UINT1	1	1	8
INPUT_CONFIG	CDF_UINT4	1	0	
SNAPSHOT_SEQ_NR	CDF_UINT2	1	0	
ACQUISITION_TIME_UNITS	CDF_CHAR	16	1	2
ACQUISITION_TIME_LABEL	CDF_CHAR	32	1	2
CHANNEL_STATUS_INFO	CDF_UINT1	1	1	4
QUALITY_FACT	CDF_UINT2	1	0	
DOWNLINK_INFO	CDF_UINT1	1	1	2
SAMPS_PER_CH	CDF_UINT4	1	0	
WAVEFORM_DATA	CDF_FLOAT	1	2	4 65536
CHANNEL_LABEL	CDF_CHAR	8	1	4
WAVEFORM_LABEL	CDF_CHAR	16	1	4
SCET	CDF_REAL8	1	0	
SYNCHRO_FLAG	CDF_UINT1	1	0	

4.1.2.15.5 Variable attributes

Variable Name	Attribute Name	Data Type	Value
Epoch	FIELDNAM	CDF_CHAR	Epoch
Epoch	CATDESC	CDF_CHAR	Default time
Epoch	VALIDMIN	CDF_TIME_TT2000	2000-01-01T12:00:00.000000000
Epoch	VALIDMAX	CDF_TIME_TT2000	2029-12-31T23:59:59.999000000
Epoch	SCALEMIN	CDF_TIME_TT2000	2000-01-01T12:00:00.000000000


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 212

Tab. 4.31 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
Epoch	SCALEMAX	CDF_TIME_TT2000	2029-12-31T23:59:59.999000000
Epoch	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch	LABLAXIS	CDF_CHAR	Epoch
Epoch	UNITS	CDF_CHAR	ns
Epoch	VAR_TYPE	CDF_CHAR	support_data
Epoch	SCALETYP	CDF_CHAR	linear
Epoch	MONOTON	CDF_CHAR	INCREASE
Epoch	TIME_BASE	CDF_CHAR	J2000
Epoch	TIME_SCALE	CDF_CHAR	Terrestrial Time
Epoch	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file
Epoch	Resolution	CDF_CHAR	15258 ns
ACQUISITION_TIME	FIELDNAM	CDF_CHAR	CCSDS CUC Acquisition time as returned in TM packets
ACQUISITION_TIME	CATDESC	CDF_CHAR	CCSDS CUC format TDS time, coarse and fine parts
ACQUISITION_TIME	VALIDMIN	CDF_UINT4	0
ACQUISITION_TIME	VALIDMAX	CDF_UINT4	4294967294
ACQUISITION_TIME	SCALEMIN	CDF_UINT4	0
ACQUISITION_TIME	SCALEMAX	CDF_UINT4	4294967294
ACQUISITION_TIME	FILLVAL	CDF_UINT4	4294967295
ACQUISITION_TIME	VAR_TYPE	CDF_CHAR	support_data
ACQUISITION_TIME	SCALETYP	CDF_CHAR	linear
ACQUISITION_TIME	MONOTON	CDF_CHAR	INCREASE
ACQUISITION_TIME	TIME_BASE	CDF_CHAR	2000-01-01T00:00:00
ACQUISITION_TIME	TIME_SCALE	CDF_CHAR	RPW DPU clock
ACQUISITION_TIME	VAR_NOTES	CDF_CHAR	Local time measured by the RPW TDS receiver (Coarse and fine parts of the CUC format) of the first sample of the packet
ACQUISITION_TIME	DEPEND_0	CDF_CHAR	Epoch
ACQUISITION_TIME	DISPLAY_TYPE	CDF_CHAR	time_series
ACQUISITION_TIME	FORMAT	CDF_CHAR	I10.0
ACQUISITION_TIME	LABL_PTR_1	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME	UNIT_PTR	CDF_CHAR	ACQUISITION_TIME_UNITS
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 213

Tab. 4.31 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	VALIDMIN	CDF_UINT1	0
QUALITY_FLAG	VALIDMAX	CDF_UINT1	4
QUALITY_FLAG	SCALEMIN	CDF_UINT1	0
QUALITY_FLAG	SCALEMAX	CDF_UINT1	4
QUALITY_FLAG	FILLVAL	CDF_UINT1	255
QUALITY_FLAG	LABLAXIS	CDF_CHAR	Quality flag
QUALITY_FLAG	UNITS	CDF_CHAR	
QUALITY_FLAG	VAR_TYPE	CDF_CHAR	support_data
QUALITY_FLAG	SCALETYP	CDF_CHAR	linear
QUALITY_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the quality of the data
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	UNITS	CDF_CHAR	
QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context information or status at the receiver or experiment level
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
SURVEY_MODE	FIELDNAM	CDF_CHAR	SURVEY_MODE
SURVEY_MODE	CATDESC	CDF_CHAR	TDS survey mode
SURVEY_MODE	VALIDMIN	CDF_UINT1	0
SURVEY_MODE	VALIDMAX	CDF_UINT1	1
SURVEY_MODE	SCALEMIN	CDF_UINT1	0
SURVEY_MODE	SCALEMAX	CDF_UINT1	1
SURVEY_MODE	FILLVAL	CDF_UINT1	255
SURVEY_MODE	LABLAXIS	CDF_CHAR	TDS survey mode
SURVEY_MODE	UNITS	CDF_CHAR	


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 214

Tab. 4.31 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SURVEY_MODE	VAR_TYPE	CDF_CHAR	data
SURVEY_MODE	SCALETYP	CDF_CHAR	linear
SURVEY_MODE	VAR_NOTES	CDF_CHAR	Flag to indicate if the receiver in the SURVEY_BURST (=1) or SURVEY_NORMAL (=0) mode
SURVEY_MODE	DEPEND_0	CDF_CHAR	Epoch
SURVEY_MODE	DISPLAY_TYPE	CDF_CHAR	time_series
SURVEY_MODE	FORMAT	CDF_CHAR	I1.1
BIA_STATUS_INFO	FIELDNAM	CDF_CHAR	BIA_STATUS_INFO
BIA_STATUS_INFO	CATDESC	CDF_CHAR	BIAS status byte
BIA_STATUS_INFO	VALIDMIN	CDF_UINT1	0
BIA_STATUS_INFO	VALIDMAX	CDF_UINT1	255
BIA_STATUS_INFO	SCALEMIN	CDF_UINT1	0
BIA_STATUS_INFO	SCALEMAX	CDF_UINT1	1
BIA_STATUS_INFO	FILLVAL	CDF_UINT1	255
BIA_STATUS_INFO	LABLAXIS	CDF_CHAR	BIAS status
BIA_STATUS_INFO	UNITS	CDF_CHAR	
BIA_STATUS_INFO	VAR_TYPE	CDF_CHAR	data
BIA_STATUS_INFO	SCALETYP	CDF_CHAR	linear
BIA_STATUS_INFO	VAR_NOTES	CDF_CHAR	BIAS status byte
BIA_STATUS_INFO	DEPEND_0	CDF_CHAR	Epoch
BIA_STATUS_INFO	DISPLAY_TYPE	CDF_CHAR	time_series
BIA_STATUS_INFO	FORMAT	CDF_CHAR	I3.3
SAMPLING_RATE	FIELDNAM	CDF_CHAR	SAMPLING_RATE
SAMPLING_RATE	CATDESC	CDF_CHAR	TDS sampling rate
SAMPLING_RATE	VALIDMIN	CDF_REAL4	0.0
SAMPLING_RATE	VALIDMAX	CDF_REAL4	2.0971e+06
SAMPLING_RATE	SCALEMIN	CDF_REAL4	0.0
SAMPLING_RATE	SCALEMAX	CDF_REAL4	2.0971e+06
SAMPLING_RATE	FILLVAL	CDF_REAL4	-1.0e+31
SAMPLING_RATE	LABLAXIS	CDF_CHAR	Sampling rate code
SAMPLING_RATE	UNITS	CDF_CHAR	Hz
SAMPLING_RATE	VAR_TYPE	CDF_CHAR	data
SAMPLING_RATE	SCALETYP	CDF_CHAR	linear
SAMPLING_RATE	VAR_NOTES	CDF_CHAR	TDS sampling rate
SAMPLING_RATE	DEPEND_0	CDF_CHAR	Epoch
SAMPLING_RATE	DISPLAY_TYPE	CDF_CHAR	time_series
SAMPLING_RATE	FORMAT	CDF_CHAR	F8.2
HF_DATA_ARTEFACTS	FIELDNAM	CDF_CHAR	HF_DATA_ARTEFACTS


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 215

Tab. 4.31 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
HF_DATA_ARTEFACTS	CATDESC	CDF_CHAR	Bitmask of data artefacts (overflows etc)
HF_DATA_ARTEFACTS	VALIDMIN	CDF_UINT1	0
HF_DATA_ARTEFACTS	VALIDMAX	CDF_UINT1	255
HF_DATA_ARTEFACTS	SCALEMIN	CDF_UINT1	0
HF_DATA_ARTEFACTS	SCALEMAX	CDF_UINT1	1
HF_DATA_ARTEFACTS	FILLVAL	CDF_UINT1	255
HF_DATA_ARTEFACTS	LABLAXIS	CDF_CHAR	HF data artefacts.
HF_DATA_ARTEFACTS	UNITS	CDF_CHAR	
HF_DATA_ARTEFACTS	VAR_TYPE	CDF_CHAR	data
HF_DATA_ARTEFACTS	SCALETYP	CDF_CHAR	linear
HF_DATA_ARTEFACTS	VAR_NOTES	CDF_CHAR	Bitmask of data artefacts (overflows etc)
HF_DATA_ARTEFACTS	DEPEND_0	CDF_CHAR	Epoch
HF_DATA_ARTEFACTS	DISPLAY_TYPE	CDF_CHAR	time_series
HF_DATA_ARTEFACTS	FORMAT	CDF_CHAR	I3.3
FILTER_COEFS	FIELDNAM	CDF_CHAR	FILTER_COEFS
FILTER_COEFS	CATDESC	CDF_CHAR	Index of filter coefficients used
FILTER_COEFS	VALIDMIN	CDF_UINT1	0
FILTER_COEFS	VALIDMAX	CDF_UINT1	4
FILTER_COEFS	SCALEMIN	CDF_UINT1	0
FILTER_COEFS	SCALEMAX	CDF_UINT1	1
FILTER_COEFS	FILLVAL	CDF_UINT1	255
FILTER_COEFS	LABLAXIS	CDF_CHAR	Filter coeffs.
FILTER_COEFS	UNITS	CDF_CHAR	
FILTER_COEFS	VAR_TYPE	CDF_CHAR	data
FILTER_COEFS	SCALETYP	CDF_CHAR	linear
FILTER_COEFS	VAR_NOTES	CDF_CHAR	Index of filter coefficients used
FILTER_COEFS	DEPEND_0	CDF_CHAR	Epoch
FILTER_COEFS	DISPLAY_TYPE	CDF_CHAR	time_series
FILTER_COEFS	FORMAT	CDF_CHAR	I1.1
RPW_STATUS_INFO	FIELDNAM	CDF_CHAR	RPW_STATUS_INFO
RPW_STATUS_INFO	CATDESC	CDF_CHAR	RPW status
RPW_STATUS_INFO	VALIDMIN	CDF_UINT1	0
RPW_STATUS_INFO	VALIDMAX	CDF_UINT1	255
RPW_STATUS_INFO	SCALEMIN	CDF_UINT1	0
RPW_STATUS_INFO	SCALEMAX	CDF_UINT1	1
RPW_STATUS_INFO	FILLVAL	CDF_UINT1	255
RPW_STATUS_INFO	LABLAXIS	CDF_CHAR	RPW Status info


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 216

Tab. 4.31 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
RPW_STATUS_INFO	UNITS	CDF_CHAR	
RPW_STATUS_INFO	VAR_TYPE	CDF_CHAR	data
RPW_STATUS_INFO	SCALETYP	CDF_CHAR	linear
RPW_STATUS_INFO	VAR_NOTES	CDF_CHAR	RPW status (bitmask - received from DPU)
RPW_STATUS_INFO	DEPEND_0	CDF_CHAR	Epoch
RPW_STATUS_INFO	DISPLAY_TYPE	CDF_CHAR	time_series
RPW_STATUS_INFO	FORMAT	CDF_CHAR	I3.3
INPUT_CONFIG	FIELDNAM	CDF_CHAR	INPUT_CONFIG
INPUT_CONFIG	CATDESC	CDF_CHAR	Bitmask of TDS analog input configuration
INPUT_CONFIG	VALIDMIN	CDF_UINT4	0
INPUT_CONFIG	VALIDMAX	CDF_UINT4	4294967294
INPUT_CONFIG	SCALEMIN	CDF_UINT4	0
INPUT_CONFIG	SCALEMAX	CDF_UINT4	1
INPUT_CONFIG	FILLVAL	CDF_UINT4	4294967295
INPUT_CONFIG	LABLAXIS	CDF_CHAR	TDS input config.
INPUT_CONFIG	UNITS	CDF_CHAR	
INPUT_CONFIG	VAR_TYPE	CDF_CHAR	data
INPUT_CONFIG	SCALETYP	CDF_CHAR	linear
INPUT_CONFIG	VAR_NOTES	CDF_CHAR	Input TDS configuration
INPUT_CONFIG	DEPEND_0	CDF_CHAR	Epoch
INPUT_CONFIG	DISPLAY_TYPE	CDF_CHAR	time_series
INPUT_CONFIG	FORMAT	CDF_CHAR	I10
SNAPSHOT_SEQ_NR	FIELDNAM	CDF_CHAR	SNAPSHOT_SEQ_NR
SNAPSHOT_SEQ_NR	CATDESC	CDF_CHAR	Sequential number of a snapshot incremented with every snapshot
SNAPSHOT_SEQ_NR	VALIDMIN	CDF_UINT2	0
SNAPSHOT_SEQ_NR	VALIDMAX	CDF_UINT2	65534
SNAPSHOT_SEQ_NR	SCALEMIN	CDF_UINT2	0
SNAPSHOT_SEQ_NR	SCALEMAX	CDF_UINT2	1
SNAPSHOT_SEQ_NR	FILLVAL	CDF_UINT2	65535
SNAPSHOT_SEQ_NR	LABLAXIS	CDF_CHAR	Snapshot seq. Num.
SNAPSHOT_SEQ_NR	UNITS	CDF_CHAR	
SNAPSHOT_SEQ_NR	VAR_TYPE	CDF_CHAR	data
SNAPSHOT_SEQ_NR	SCALETYP	CDF_CHAR	linear
SNAPSHOT_SEQ_NR	VAR_NOTES	CDF_CHAR	Sequential number of a snapshot incremented with every snapshot
SNAPSHOT_SEQ_NR	DEPEND_0	CDF_CHAR	Epoch


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 217

Tab. 4.31 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SNAPSHOT_SEQ_NR	DISPLAY_TYPE	CDF_CHAR	time_series
SNAPSHOT_SEQ_NR	FORMAT	CDF_CHAR	I6.5
ACQUISITION_TIME_UNITS	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_UNITS
ACQUISITION_TIME_UNITS	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME_UNIT_PTR attribute
ACQUISITION_TIME_UNITS	VAR_TYPE	CDF_CHAR	metadata
ACQUISITION_TIME_UNITS	FORMAT	CDF_CHAR	A16
ACQUISITION_TIME_LABEL	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME_LABEL	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME
ACQUISITION_TIME_LABEL	VAR_TYPE	CDF_CHAR	metadata
ACQUISITION_TIME_LABEL	FORMAT	CDF_CHAR	A32
CHANNEL_STATUS_INFO	FIELDNAM	CDF_CHAR	CHANNEL_STATUS_INFO
CHANNEL_STATUS_INFO	CATDESC	CDF_CHAR	Status of signal channels in the snapshot
CHANNEL_STATUS_INFO	VALIDMIN	CDF_UINT1	0
CHANNEL_STATUS_INFO	VALIDMAX	CDF_UINT1	4
CHANNEL_STATUS_INFO	SCALEMIN	CDF_UINT1	0
CHANNEL_STATUS_INFO	SCALEMAX	CDF_UINT1	4
CHANNEL_STATUS_INFO	FILLVAL	CDF_UINT1	255
CHANNEL_STATUS_INFO	UNITS	CDF_CHAR	
CHANNEL_STATUS_INFO	VAR_TYPE	CDF_CHAR	data
CHANNEL_STATUS_INFO	SCALETYP	CDF_CHAR	linear
CHANNEL_STATUS_INFO	VAR_NOTES	CDF_CHAR	Status of signal channels in the snapshot (0=OFF, 1=ON)
CHANNEL_STATUS_INFO	DEPEND_0	CDF_CHAR	Epoch
CHANNEL_STATUS_INFO	DISPLAY_TYPE	CDF_CHAR	time_series
CHANNEL_STATUS_INFO	FORMAT	CDF_CHAR	I6.5
CHANNEL_STATUS_INFO	LABL_PTR_1	CDF_CHAR	CHANNEL_LABEL
QUALITY_FACT	FIELDNAM	CDF_CHAR	QUALITY_FACT
QUALITY_FACT	CATDESC	CDF_CHAR	Quality factor of the packet
QUALITY_FACT	VALIDMIN	CDF_UINT2	0
QUALITY_FACT	VALIDMAX	CDF_UINT2	65534
QUALITY_FACT	SCALEMIN	CDF_UINT2	0
QUALITY_FACT	SCALEMAX	CDF_UINT2	1
QUALITY_FACT	FILLVAL	CDF_UINT2	65535
QUALITY_FACT	LABLAXIS	CDF_CHAR	Quality factor
QUALITY_FACT	UNITS	CDF_CHAR	
QUALITY_FACT	VAR_TYPE	CDF_CHAR	support_data
QUALITY_FACT	SCALETYP	CDF_CHAR	linear


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 218

Tab. 4.31 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
QUALITY_FACT	VAR_NOTES	CDF_CHAR	Quality factor
QUALITY_FACT	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FACT	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FACT	FORMAT	CDF_CHAR	I6.5
DOWNLINK_INFO	FIELDNAM	CDF_CHAR	DOWNLINK_INFO
DOWNLINK_INFO	CATDESC	CDF_CHAR	Quality factor of the packet
DOWNLINK_INFO	VALIDMIN	CDF_UINT1	0
DOWNLINK_INFO	VALIDMAX	CDF_UINT1	254
DOWNLINK_INFO	SCALEMIN	CDF_UINT1	0
DOWNLINK_INFO	SCALEMAX	CDF_UINT1	254
DOWNLINK_INFO	FILLVAL	CDF_UINT1	255
DOWNLINK_INFO	LABLAXIS	CDF_CHAR	DOWNLINK_INFO
DOWNLINK_INFO	UNITS	CDF_CHAR	
DOWNLINK_INFO	VAR_TYPE	CDF_CHAR	support_data
DOWNLINK_INFO	SCALETYP	CDF_CHAR	linear
DOWNLINK_INFO	VAR_NOTES	CDF_CHAR	Algorithm code of the down-linked packet and selection code of the down-linked packet
DOWNLINK_INFO	DEPEND_0	CDF_CHAR	Epoch
DOWNLINK_INFO	DISPLAY_TYPE	CDF_CHAR	time_series
DOWNLINK_INFO	FORMAT	CDF_CHAR	I6.5
SAMPS_PER_CH	FIELDNAM	CDF_CHAR	SAMPS_PER_CH
SAMPS_PER_CH	CATDESC	CDF_CHAR	Number of samples per channel
SAMPS_PER_CH	VALIDMIN	CDF_UINT4	0
SAMPS_PER_CH	VALIDMAX	CDF_UINT4	4294967295
SAMPS_PER_CH	SCALEMIN	CDF_UINT4	0
SAMPS_PER_CH	SCALEMAX	CDF_UINT4	4294967295
SAMPS_PER_CH	FILLVAL	CDF_UINT4	4294967295
SAMPS_PER_CH	LABLAXIS	CDF_CHAR	Nsamps
SAMPS_PER_CH	UNITS	CDF_CHAR	
SAMPS_PER_CH	VAR_TYPE	CDF_CHAR	data
SAMPS_PER_CH	SCALETYP	CDF_CHAR	linear
SAMPS_PER_CH	VAR_NOTES	CDF_CHAR	Number of samples per channel
SAMPS_PER_CH	DEPEND_0	CDF_CHAR	Epoch
SAMPS_PER_CH	DISPLAY_TYPE	CDF_CHAR	time_series
SAMPS_PER_CH	FORMAT	CDF_CHAR	I10
WAVEFORM_DATA	FIELDNAM	CDF_CHAR	Waveform data (electric and magnetic)


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 219

Tab. 4.31 – continued from previous page


Variable Name	Attribute Name	Data Type	Value
WAVEFORM_DATA	CATDESC	CDF_CHAR	Integer data measured on the four high frequency channels of TDS
WAVEFORM_DATA	VALIDMIN	CDF_FLOAT	-1.0e+30
WAVEFORM_DATA	VALIDMAX	CDF_FLOAT	1.0e+30
WAVEFORM_DATA	SCALEMIN	CDF_FLOAT	-1.0e+30
WAVEFORM_DATA	SCALEMAX	CDF_FLOAT	1.0e+30
WAVEFORM_DATA	FILLVAL	CDF_FLOAT	-1.0e+31
WAVEFORM_DATA	UNITS	CDF_CHAR	Count
WAVEFORM_DATA	VAR_TYPE	CDF_CHAR	data
WAVEFORM_DATA	SCALETYP	CDF_CHAR	linear
WAVEFORM_DATA	VAR_NOTES	CDF_CHAR	1-4 entry array with signal values
WAVEFORM_DATA	DEPEND_0	CDF_CHAR	Epoch
WAVEFORM_DATA	DISPLAY_TYPE	CDF_CHAR	time_series
WAVEFORM_DATA	FORMAT	CDF_CHAR	F6.5
WAVEFORM_DATA	LABL_PTR_1	CDF_CHAR	WAVEFORM_LABEL
CHANNEL_LABEL	FIELDNAM	CDF_CHAR	CHANNEL_LABEL
CHANNEL_LABEL	CATDESC	CDF_CHAR	Label for CHANNEL_INFO_STATUS
CHANNEL_LABEL	VAR_TYPE	CDF_CHAR	metadata
CHANNEL_LABEL	FORMAT	CDF_CHAR	A8
WAVEFORM_LABEL	FIELDNAM	CDF_CHAR	WAVEFORM_LABEL
WAVEFORM_LABEL	CATDESC	CDF_CHAR	Label for WAVEFORM_DATA
WAVEFORM_LABEL	VAR_TYPE	CDF_CHAR	metadata
WAVEFORM_LABEL	FORMAT	CDF_CHAR	A16
SCET	FIELDNAM	CDF_CHAR	Spacecraft Elapsed Time
SCET	CATDESC	CDF_CHAR	Elapsed Time of the onboard clock
SCET	VALIDMIN	CDF_REAL8	0.0
SCET	VALIDMAX	CDF_REAL8	1.0e+31
SCET	SCALEMIN	CDF_REAL8	0.0
SCET	SCALEMAX	CDF_REAL8	1.0e+31
SCET	FILLVAL	CDF_REAL8	-1.0e+31
SCET	LABLAXIS	CDF_CHAR	Spacecraft Elapsed Time (Ticks)
SCET	UNITS	CDF_CHAR	Ticks
SCET	VAR_TYPE	CDF_CHAR	support_data
SCET	SCALETYP	CDF_CHAR	linear
SCET	MONOTON	CDF_CHAR	INCREASE

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 220

Tab. 4.31 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SCET	TIME_BASE	CDF_CHAR	Spacecraft onboard clock
SCET	TIME_SCALE	CDF_CHAR	Spacecraft onboard clock
SCET	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
SCET	VAR_NOTES	CDF_CHAR	Spaceraft Elapsed Time
SCET	DEPEND_0	CDF_CHAR	Epoch
SCET	DISPLAY_TYPE	CDF_CHAR	time_series
SYNCHRO_FLAG	FIELDNAM	CDF_CHAR	SYNCHRO_FLAG
SYNCHRO_FLAG	CATDESC	CDF_CHAR	Time synchronisation flag
SYNCHRO_FLAG	VALIDMIN	CDF_UINT1	0
SYNCHRO_FLAG	VALIDMAX	CDF_UINT1	1
SYNCHRO_FLAG	SCALEMIN	CDF_UINT1	0
SYNCHRO_FLAG	SCALEMAX	CDF_UINT1	1
SYNCHRO_FLAG	FILLVAL	CDF_UINT1	255
SYNCHRO_FLAG	LABLAXIS	CDF_CHAR	time sync. flag
SYNCHRO_FLAG	UNITS	CDF_CHAR	
SYNCHRO_FLAG	VAR_TYPE	CDF_CHAR	support_data
SYNCHRO_FLAG	SCALETYP	CDF_CHAR	linear
SYNCHRO_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate if the local time is synchronized with the RPW DPU clock or not. Possible values: synchronized=0, not synchronized=1. This flag is extracted from ACQUISITION_TIME in L0 packets, it is the MSB of the CUC time.
SYNCHRO_FLAG	DEPEND_0	CDF_CHAR	Epoch
SYNCHRO_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
SYNCHRO_FLAG	FORMAT	CDF_CHAR	I3.3

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 221

4.1.2.15.6 Non-Record-Variant (NRV) Variables

Variable Name	Index	Value
ACQUISITION_TIME_UNITS	1	s
ACQUISITION_TIME_UNITS	2	s / 65536
ACQUISITION_TIME_LABEL	1	CUC coarse part time
ACQUISITION_TIME_LABEL	2	CUC fine part time
CHANNEL_LABEL	1	TDS CH1
CHANNEL_LABEL	2	TDS CH2
CHANNEL_LABEL	3	TDS CH3
CHANNEL_LABEL	4	TDS CH4
WAVEFORM_LABEL	1	WF in CH1
WAVEFORM_LABEL	2	WF in CH2
WAVEFORM_LABEL	3	WF in CH3
WAVEFORM_LABEL	4	WF in CH4

4.1.2.16 SOLO_L1_RPW-LFR-SURV-ASM data product

The “SOLO_L1_RPW-LFR-SURV-ASM” data product contains the uncalibrated LFR receiver Averaged Spectral Matrix (ASM) survey data. The “SOLO_L1_RPW-LFR-SURV-ASM” data are written in CDF format files. There is a single file per day, generated from data in the corresponding SOLO_L0_RPW parent file.


4.1.2.16.1 Filename

```
solo_L1_rpw-lfr-surv-asm_[YYYYMMDD]_V[version].cdf
```

4.1.2.16.2 Expected cadence and data volume

Nominal cadence: 1 file per day


Expected data volume: 20 MB per day

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 222

4.1.2.16.3 Global Attributes

Attribute Name	Entry Number	Data Type	Value
ACCESS_FORMAT	1	CDF_CHAR	CDF
ACCESS_URL	1	CDF_CHAR	
Acknowledgement	1	CDF_CHAR	The authors are pleased to acknowledge the Solar Orbiter/RPW Investigation (M. Maksimovic, PIs) for access to data.
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009 (2.4)
Data_type	1	CDF_CHAR	H0>High Resolution data
Data_version	1	CDF_CHAR	
Descriptor	1	CDF_CHAR	RPW-LFR-SURV-ASM>RPW Low Frequency Receiver Average Spectral Matrices data in survey mode
Discipline	1	CDF_CHAR	Space Physics>Interplanetary Studies
File_naming_convention	1	CDF_CHAR	<Source_name>_<LEVEL>_<Descriptor>_<Date>
File_ID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	RPW Operations Centre located at LESIA (Meudon, France)
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	https://rpw.lesia.obspm.fr
Instrument_type	1	CDF_CHAR	Radio and Plasma Waves (space)
LINK_TEXT	1	CDF_CHAR	RPW Web site at LESIA
LINK_TITLE	1	CDF_CHAR	RPW Web site
Logical_file_id	1	CDF_CHAR	
Logical_source	1	CDF_CHAR	solo_L1_rpw-lfr-surv-asm
Logical_source_description	1	CDF_CHAR	Solar Orbiter Radio/Plasma Wave, LFR L1 parameters
Mission_group	1	CDF_CHAR	Solar Orbiter
SKELETON_MODS	1	CDF_CHAR	July 2015 : initial release, B. KATRA (CNRS-LPP)
SKELETON_MODS	2	CDF_CHAR	V04: Update for solo data definition, X. BONNIN (CNRS-LESIA), April 2019
SKELETON_MODS	3	CDF_CHAR	V05: Update to compliant with SOL-SGS-TN-0009 Issue 2, Rev 4 - X.Bonnin, 09/2019
SKELETON_MODS	4	CDF_CHAR	V06: March 2020 : Delete Test_* g.attrs - X.Bonnin (CNRS, LESIA)


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 223

Tab. 4.32 – continued from previous page


Attribute Name	Entry Number	Data Type	Value
SKELETON_MODS	5	CDF_CHAR	V07: Removing POST_GAP_FLAG zvar and UCD vattr. (X.Bonnin, 09/2020)
SKELETON_MODS	6	CDF_CHAR	V09: Jan. 2021 : Fix inconsistencies against the ISTEP CDF guidelines, X.Bonnin (CNRS-LESIA)
Parent_version	1	CDF_CHAR	
Parents	1	CDF_CHAR	
PI_affiliation	1	CDF_CHAR	LESIA, Observatoire de Paris-CNRS
PI_name	1	CDF_CHAR	M.Maksimovic
Pipeline_version	1	CDF_CHAR	
Project	1	CDF_CHAR	SOLO>Solar Orbiter
Provider	1	CDF_CHAR	LESIA (Meudon, France)
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00006-LES (1.3)
Rules_of_use	1	CDF_CHAR	Data provided are publicly available. If used in presentations or publications, please acknowledge Solar Orbiter/RPW Investigation (M. Maksimovic, PIs). Please read carefully the caveats attached to the data. For reporting purposes, we request bibliography information for any publication, etc., using these data. Please send information on the use of this data to: M. Maksimovic (PI).
SKELETON_PARENT	1	CDF_CHAR	SOLO_L1_RPW-LFR-SURV-ASM_V09.cdf
Skeleton_version	1	CDF_CHAR	09
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	SOLO>Solar Orbiter
SPECTRAL_RANGE_MAX	1	CDF_CHAR	
SPECTRAL_RANGE_MIN	1	CDF_CHAR	
TEXT	1	CDF_CHAR	This file contains RPW LFR level 1 survey ASM data of the current day.
TEXT_supplement_1	1	CDF_CHAR	
TIME_MAX	1	CDF_CHAR	
TIME_MIN	1	CDF_CHAR	
Validate	1	CDF_CHAR	

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 224

Tab. 4.32 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
CAVEATS	1	CDF_CHAR	Engineering data. No good for publication.
Datetime	1	CDF_CHAR	
Free_field	1	CDF_CHAR	
Job_ID	1	CDF_CHAR	
LEVEL	1	CDF_CHAR	L1>Level 1 data processing
SOOP_TYPE	1	CDF_CHAR	
Data_product	1	CDF_CHAR	SURV-ASM>SURV-ASM
TARGET_NAME	1	CDF_CHAR	Sun
TARGET_CLASS	1	CDF_CHAR	Star
TARGET_REGION	1	CDF_CHAR	Solar Wind
Pipeline_name	1	CDF_CHAR	
Dataset_ID	1	CDF_CHAR	SOLO_L1_RPW-LFR-SURV-ASM
OBS_ID	1	CDF_CHAR	
MODS	1	CDF_CHAR	

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 225


4.1.2.16.4 zVariables

Variable Name	Data Type	Number Elements	Dims	Sizes
Epoch	CDF_TIME_TT2000	1	0	
ACQUISITION_TIME	CDF_UINT4	1	1	2
QUALITY_FLAG	CDF_UINT1	1	0	
COMMON_BIA_STATUS_FLAG	CDF_UINT1	1	0	
QUALITY_BITMASK	CDF_UINT2	1	0	
SURVEY_MODE	CDF_UINT1	1	0	
FREQ	CDF_UINT1	1	0	
BIAS_MODE_MUX_SET	CDF_UINT1	1	0	
BIAS_MODE_HV_ENABLED	CDF_UINT1	1	0	
BIAS_MODE_BIAS1_ENABLED	CDF_UINT1	1	0	
BIAS_MODE_BIAS2_ENABLED	CDF_UINT1	1	0	
BIAS_MODE_BIAS3_ENABLED	CDF_UINT1	1	0	
BIAS_ON_OFF	CDF_UINT1	1	0	
BW	CDF_UINT1	1	0	
SP0	CDF_UINT1	1	0	
SP1	CDF_UINT1	1	0	
R0	CDF_UINT1	1	0	
R1	CDF_UINT1	1	0	
R2	CDF_UINT1	1	0	
ASM_CNT	CDF_UINT1	1	0	
ASM	CDF_REAL4	1	2	128 25
ACQUISITION_TIME_UNITS	CDF_CHAR	16	1	2
ACQUISITION_TIME_LABEL	CDF_CHAR	32	1	2
SCET	CDF_REAL8	1	0	
SYNCHRO_FLAG	CDF_UINT1	1	0	

4.1.2.16.5 Variable attributes

Variable Name	Attribute Name	Data Type	Value
Epoch	FIELDNAM	CDF_CHAR	Epoch
Epoch	CATDESC	CDF_CHAR	Default time
Epoch	DISPLAY_TYPE	CDF_CHAR	time_series
Epoch	VALIDMIN	CDF_TIME_TT2000	2000-01-01T00:00:00.000000000
Epoch	VALIDMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 226

Tab. 4.33 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
Epoch	SCALEMIN	CDF_TIME_TT2000	1990-01-01T00:00:00.000000000
Epoch	SCALEMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch	LABLAXIS	CDF_CHAR	Epoch
Epoch	UNITS	CDF_CHAR	ns
Epoch	VAR_TYPE	CDF_CHAR	support_data
Epoch	SCALETYP	CDF_CHAR	linear
Epoch	MONOTON	CDF_CHAR	INCREASE
Epoch	TIME_BASE	CDF_CHAR	J2000
Epoch	TIME_SCALE	CDF_CHAR	Terrestrial Time
Epoch	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
Epoch	Resolution	CDF_CHAR	15258 ns
Epoch	Bin_location	CDF_CHAR	0.5
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file.
ACQUISITION_TIME	FIELDNAM	CDF_CHAR	CCSDS CUC Acquisition time as returned in TM packets
ACQUISITION_TIME	CATDESC	CDF_CHAR	CCSDS CUC format LFR time, coarse and fine parts
ACQUISITION_TIME	DISPLAY_TYPE	CDF_CHAR	time_series
ACQUISITION_TIME	VALIDMIN	CDF_UINT4	0
ACQUISITION_TIME	VALIDMAX	CDF_UINT4	4294967294
ACQUISITION_TIME	SCALEMIN	CDF_UINT4	0
ACQUISITION_TIME	SCALEMAX	CDF_UINT4	4294967294
ACQUISITION_TIME	FILLVAL	CDF_UINT4	4294967295
ACQUISITION_TIME	VAR_TYPE	CDF_CHAR	support_data
ACQUISITION_TIME	SCALETYP	CDF_CHAR	linear
ACQUISITION_TIME	MONOTON	CDF_CHAR	INCREASE
ACQUISITION_TIME	TIME_BASE	CDF_CHAR	2000-01-01T00:00:00
ACQUISITION_TIME	TIME_SCALE	CDF_CHAR	RPW DPU clock
ACQUISITION_TIME	VAR_NOTES	CDF_CHAR	Local time measured by the RPW LFR receiver (Coarse and fine parts of the CUC format).
ACQUISITION_TIME	DEPEND_0	CDF_CHAR	Epoch
ACQUISITION_TIME	FORMAT	CDF_CHAR	I10.0
ACQUISITION_TIME	LABL_PTR_1	CDF_CHAR	ACQUISITION_TIME_LABEL


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 227

Tab. 4.33 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
ACQUISITION_TIME	UNIT_PTR	CDF_CHAR	ACQUISITION_TIME_UNITS
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	VALIDMIN	CDF_UINT1	0
QUALITY_FLAG	VALIDMAX	CDF_UINT1	4
QUALITY_FLAG	SCALEMIN	CDF_UINT1	0
QUALITY_FLAG	SCALEMAX	CDF_UINT1	4
QUALITY_FLAG	FILLVAL	CDF_UINT1	255
QUALITY_FLAG	LABLAXIS	CDF_CHAR	Quality flag
QUALITY_FLAG	UNITS	CDF_CHAR	
QUALITY_FLAG	VAR_TYPE	CDF_CHAR	support_data
QUALITY_FLAG	SCALETYP	CDF_CHAR	linear
QUALITY_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the quality of the data
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
COMMON_BIA_STATUS_FLAG	FIELDNAM	CDF_CHAR	COMMON_BIA_STATUS_FLAG
COMMON_BIA_STATUS_FLAG	CATDESC	CDF_CHAR	LFR common parameters and BIAS status info relevancy flag
COMMON_BIA_STATUS_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
COMMON_BIA_STATUS_FLAG	VALIDMIN	CDF_UINT1	0
COMMON_BIA_STATUS_FLAG	VALIDMAX	CDF_UINT1	1
COMMON_BIA_STATUS_FLAG	SCALEMIN	CDF_UINT1	0
COMMON_BIA_STATUS_FLAG	SCALEMAX	CDF_UINT1	1
COMMON_BIA_STATUS_FLAG	FILLVAL	CDF_UINT1	255
COMMON_BIA_STATUS_FLAG	LABLAXIS	CDF_CHAR	Common bia status flag
COMMON_BIA_STATUS_FLAG	UNITS	CDF_CHAR	
COMMON_BIA_STATUS_FLAG	VAR_TYPE	CDF_CHAR	support_data
COMMON_BIA_STATUS_FLAG	SCALETYP	CDF_CHAR	linear
COMMON_BIA_STATUS_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the relevancy of LFR common parameters (SP0/1, R0/1/2, BW) and BIAS STATUS INFO which can be non representative for the first packet following a change in those parameters.
COMMON_BIA_STATUS_FLAG	DEPEND_0	CDF_CHAR	Epoch
COMMON_BIA_STATUS_FLAG	FORMAT	CDF_CHAR	I1.1
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 228

Tab. 4.33 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	UNITS	CDF_CHAR	
QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context information or status at the receiver or experiment level
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
SURVEY_MODE	FIELDNAM	CDF_CHAR	SURVEY_MODE
SURVEY_MODE	CATDESC	CDF_CHAR	LFR survey mode
SURVEY_MODE	DISPLAY_TYPE	CDF_CHAR	time_series
SURVEY_MODE	VALIDMIN	CDF_UINT1	0
SURVEY_MODE	VALIDMAX	CDF_UINT1	1
SURVEY_MODE	SCALEMIN	CDF_UINT1	0
SURVEY_MODE	SCALEMAX	CDF_UINT1	1
SURVEY_MODE	FILLVAL	CDF_UINT1	255
SURVEY_MODE	LABLAXIS	CDF_CHAR	LFR survey mode
SURVEY_MODE	UNITS	CDF_CHAR	
SURVEY_MODE	VAR_TYPE	CDF_CHAR	data
SURVEY_MODE	SCALETYP	CDF_CHAR	linear
SURVEY_MODE	VAR_NOTES	CDF_CHAR	Flag to indicate if the receiver in the SURVEY_BURST (=1) or SURVEY_NORMAL (=0) mode
SURVEY_MODE	DEPEND_0	CDF_CHAR	Epoch
SURVEY_MODE	FORMAT	CDF_CHAR	I1.1
FREQ	FIELDNAM	CDF_CHAR	Sampling frequency of ASM
FREQ	CATDESC	CDF_CHAR	Sampling frequency of ASM
FREQ	DISPLAY_TYPE	CDF_CHAR	time_series
FREQ	VALIDMIN	CDF_UINT1	0
FREQ	VALIDMAX	CDF_UINT1	2
FREQ	SCALEMIN	CDF_UINT1	0
FREQ	SCALEMAX	CDF_UINT1	1

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 229

Tab. 4.33 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
FREQ	FILLVAL	CDF_UINT1	255
FREQ	LABLAXIS	CDF_CHAR	ASM sampling frequency
FREQ	UNITS	CDF_CHAR	
FREQ	VAR_TYPE	CDF_CHAR	support_data
FREQ	SCALETYP	CDF_CHAR	linear
FREQ	VAR_NOTES	CDF_CHAR	Index to indicate the sampling frequency of the snapshot : F0, F1 or F2 in order to use only one skeleton for the 3 normal mode asm products of ICD.
FREQ	DEPEND_0	CDF_CHAR	Epoch
FREQ	FORMAT	CDF_CHAR	I3.3
BIAS_MODE_MUX_SET	FIELDNAM	CDF_CHAR	BIAS multiplexer setting
BIAS_MODE_MUX_SET	CATDESC	CDF_CHAR	Copy of multiplexer setting.
BIAS_MODE_MUX_SET	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_MUX_SET	VALIDMIN	CDF_UINT1	0
BIAS_MODE_MUX_SET	VALIDMAX	CDF_UINT1	7
BIAS_MODE_MUX_SET	SCALEMIN	CDF_UINT1	0
BIAS_MODE_MUX_SET	SCALEMAX	CDF_UINT1	7
BIAS_MODE_MUX_SET	FILLVAL	CDF_UINT1	255
BIAS_MODE_MUX_SET	LABLAXIS	CDF_CHAR	BIAS_MODE_MUX_SET
BIAS_MODE_MUX_SET	UNITS	CDF_CHAR	
BIAS_MODE_MUX_SET	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_MUX_SET	SCALETYP	CDF_CHAR	linear
BIAS_MODE_MUX_SET	VAR_NOTES	CDF_CHAR	Indicates the mode of BIAS multiplexer for a full snapshot ([PA_LFR_PKT_CNT_ASM] number of packets). Possible values are
BIAS_MODE_MUX_SET	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_MUX_SET	FORMAT	CDF_CHAR	I3.3
BIAS_MODE_HV_ENABLED	FIELDNAM	CDF_CHAR	BIAS high voltage status
BIAS_MODE_HV_ENABLED	CATDESC	CDF_CHAR	Copy of enable/disable HV (+- 100V).
BIAS_MODE_HV_ENABLED	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_HV_ENABLED	VALIDMIN	CDF_UINT1	0
BIAS_MODE_HV_ENABLED	VALIDMAX	CDF_UINT1	1
BIAS_MODE_HV_ENABLED	SCALEMIN	CDF_UINT1	0
BIAS_MODE_HV_ENABLED	SCALEMAX	CDF_UINT1	1
BIAS_MODE_HV_ENABLED	FILLVAL	CDF_UINT1	255

continues on next page



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **230**

Tab. 4.33 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_MODE_HV_ENABLED	LABLAXIS	CDF_CHAR	BIAS_MODE_HV_ENABLED
BIAS_MODE_HV_ENABLED	UNITS	CDF_CHAR	
BIAS_MODE_HV_ENABLED	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_HV_ENABLED	SCALETYP	CDF_CHAR	linear
BIAS_MODE_HV_ENABLED	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS HV. Possible values are
BIAS_MODE_HV_ENABLED	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_HV_ENABLED	FORMAT	CDF_CHAR	I3.3
BIAS_MODE_BIAS1_ENABLED	HELDNAM	CDF_CHAR	BIAS probe 1 status
BIAS_MODE_BIAS1_ENABLED	CATDESC	CDF_CHAR	Copy of enable/disable BIAS 1.
BIAS_MODE_BIAS1_ENABLED	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_BIAS1_ENABLED	VALIDMIN	CDF_UINT1	0
BIAS_MODE_BIAS1_ENABLED	VALIDMAX	CDF_UINT1	1
BIAS_MODE_BIAS1_ENABLED	SCALEMIN	CDF_UINT1	0
BIAS_MODE_BIAS1_ENABLED	SCALEMAX	CDF_UINT1	1
BIAS_MODE_BIAS1_ENABLED	HELDVAL	CDF_UINT1	255
BIAS_MODE_BIAS1_ENABLED	LABLAXIS	CDF_CHAR	BIAS_MODE_BIAS1_ENABLED
BIAS_MODE_BIAS1_ENABLED	UNITS	CDF_CHAR	
BIAS_MODE_BIAS1_ENABLED	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_BIAS1_ENABLED	SCALETYP	CDF_CHAR	linear
BIAS_MODE_BIAS1_ENABLED	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS probe 1. Possible values are
BIAS_MODE_BIAS1_ENABLED	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_BIAS1_ENABLED	FORMAT	CDF_CHAR	I3.3
BIAS_MODE_BIAS2_ENABLED	HELDNAM	CDF_CHAR	BIAS probe 2 status
BIAS_MODE_BIAS2_ENABLED	CATDESC	CDF_CHAR	Copy of enable/disable BIAS 2.
BIAS_MODE_BIAS2_ENABLED	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_BIAS2_ENABLED	VALIDMIN	CDF_UINT1	0
BIAS_MODE_BIAS2_ENABLED	VALIDMAX	CDF_UINT1	1
BIAS_MODE_BIAS2_ENABLED	SCALEMIN	CDF_UINT1	0
BIAS_MODE_BIAS2_ENABLED	SCALEMAX	CDF_UINT1	1
BIAS_MODE_BIAS2_ENABLED	HELDVAL	CDF_UINT1	255
BIAS_MODE_BIAS2_ENABLED	LABLAXIS	CDF_CHAR	BIAS_MODE_BIAS2_ENABLED
BIAS_MODE_BIAS2_ENABLED	UNITS	CDF_CHAR	
BIAS_MODE_BIAS2_ENABLED	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_BIAS2_ENABLED	SCALETYP	CDF_CHAR	linear
BIAS_MODE_BIAS2_ENABLED	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS probe 2. Possible values are
BIAS_MODE_BIAS2_ENABLED	DEPEND_0	CDF_CHAR	Epoch


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 231

Tab. 4.33 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_MODE_BIAS2_ENAB	FORMAT	CDF_CHAR	I3.3
BIAS_MODE_BIAS3_ENAB	FIELDNAM	CDF_CHAR	BIAS probe 3 status
BIAS_MODE_BIAS3_ENAB	CATDESC	CDF_CHAR	Copy of enable/disable BIAS 3.
BIAS_MODE_BIAS3_ENAB	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_BIAS3_ENAB	VALIDMIN	CDF_UINT1	0
BIAS_MODE_BIAS3_ENAB	VALIDMAX	CDF_UINT1	1
BIAS_MODE_BIAS3_ENAB	SCALEMIN	CDF_UINT1	0
BIAS_MODE_BIAS3_ENAB	SCALEMAX	CDF_UINT1	1
BIAS_MODE_BIAS3_ENAB	FILLVAL	CDF_UINT1	255
BIAS_MODE_BIAS3_ENAB	LABLAXIS	CDF_CHAR	BIAS_MODE_BIAS3_ENABLED
BIAS_MODE_BIAS3_ENAB	UNITS	CDF_CHAR	
BIAS_MODE_BIAS3_ENAB	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_BIAS3_ENAB	SCALETYP	CDF_CHAR	linear
BIAS_MODE_BIAS3_ENAB	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS probe 3. Possible values are
BIAS_MODE_BIAS3_ENAB	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_BIAS3_ENAB	FORMAT	CDF_CHAR	I3.3
BIAS_ON_OFF	FIELDNAM	CDF_CHAR	BIAS status
BIAS_ON_OFF	CATDESC	CDF_CHAR	Copy of BIAS status.
BIAS_ON_OFF	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_ON_OFF	VALIDMIN	CDF_UINT1	0
BIAS_ON_OFF	VALIDMAX	CDF_UINT1	1
BIAS_ON_OFF	SCALEMIN	CDF_UINT1	0
BIAS_ON_OFF	SCALEMAX	CDF_UINT1	1
BIAS_ON_OFF	FILLVAL	CDF_UINT1	255
BIAS_ON_OFF	LABLAXIS	CDF_CHAR	BIAS_ON_OFF
BIAS_ON_OFF	UNITS	CDF_CHAR	
BIAS_ON_OFF	VAR_TYPE	CDF_CHAR	support_data
BIAS_ON_OFF	SCALETYP	CDF_CHAR	linear
BIAS_ON_OFF	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS. Possible values are
BIAS_ON_OFF	DEPEND_0	CDF_CHAR	Epoch
BIAS_ON_OFF	FORMAT	CDF_CHAR	I3.3
BW	FIELDNAM	CDF_CHAR	BIAS Works/BIAS Fails configuration.
BW	CATDESC	CDF_CHAR	BIAS Works/BIAS Fails configuration.
BW	DISPLAY_TYPE	CDF_CHAR	time_series
BW	VALIDMIN	CDF_UINT1	0
BW	VALIDMAX	CDF_UINT1	1


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 232

Tab. 4.33 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BW	SCALEMIN	CDF_UINT1	0
BW	SCALEMAX	CDF_UINT1	1
BW	FILLVAL	CDF_UINT1	255
BW	LABLAXIS	CDF_CHAR	BW
BW	UNITS	CDF_CHAR	
BW	VAR_TYPE	CDF_CHAR	support_data
BW	SCALETYP	CDF_CHAR	linear
BW	VAR_NOTES	CDF_CHAR	This variable should be filled once for each [PA_LFR_PKT_CNT_ASM] number of packets i.e. full snapshot because LFR FSW copy the same value for all sub packets.
BW	DEPEND_0	CDF_CHAR	Epoch
BW	FORMAT	CDF_CHAR	I3.3
SP0	FIELDNAM	CDF_CHAR	Shaping of electrical data parameter 0.
SP0	CATDESC	CDF_CHAR	Shaping of electrical data.
SP0	DISPLAY_TYPE	CDF_CHAR	time_series
SP0	VALIDMIN	CDF_UINT1	0
SP0	VALIDMAX	CDF_UINT1	1
SP0	SCALEMIN	CDF_UINT1	0
SP0	SCALEMAX	CDF_UINT1	1
SP0	FILLVAL	CDF_UINT1	255
SP0	LABLAXIS	CDF_CHAR	SP0
SP0	UNITS	CDF_CHAR	
SP0	VAR_TYPE	CDF_CHAR	support_data
SP0	SCALETYP	CDF_CHAR	linear
SP0	VAR_NOTES	CDF_CHAR	This variable should be filled once for each [PA_LFR_PKT_CNT_ASM] number of packets i.e. full snapshot because LFR FSW copy the same value for all sub packets.
SP0	DEPEND_0	CDF_CHAR	Epoch
SP0	FORMAT	CDF_CHAR	I3.3
SP1	FIELDNAM	CDF_CHAR	Shaping of electrical data parameter 1.
SP1	CATDESC	CDF_CHAR	Shaping of electrical data.


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 233

Tab. 4.33 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SP1	DISPLAY_TYPE	CDF_CHAR	time_series
SP1	VALIDMIN	CDF_UINT1	0
SP1	VALIDMAX	CDF_UINT1	1
SP1	SCALEMIN	CDF_UINT1	0
SP1	SCALEMAX	CDF_UINT1	1
SP1	FILLVAL	CDF_UINT1	255
SP1	LABLAXIS	CDF_CHAR	SP1
SP1	UNITS	CDF_CHAR	
SP1	VAR_TYPE	CDF_CHAR	support_data
SP1	SCALETYP	CDF_CHAR	linear
SP1	VAR_NOTES	CDF_CHAR	This variable should be filled once for each [PA_LFR_PKT_CNT_ASM] number of packets i.e. full snapshot because LFR FSW copy the same value for all sub packets.
SP1	DEPEND_0	CDF_CHAR	Epoch
SP1	FORMAT	CDF_CHAR	I3.3
R0	FIELDNAM	CDF_CHAR	Rooting of electrical data for F0.
R0	CATDESC	CDF_CHAR	Rooting of electrical data.
R0	DISPLAY_TYPE	CDF_CHAR	time_series
R0	VALIDMIN	CDF_UINT1	0
R0	VALIDMAX	CDF_UINT1	1
R0	SCALEMIN	CDF_UINT1	0
R0	SCALEMAX	CDF_UINT1	1
R0	FILLVAL	CDF_UINT1	255
R0	LABLAXIS	CDF_CHAR	R0
R0	UNITS	CDF_CHAR	
R0	VAR_TYPE	CDF_CHAR	support_data
R0	SCALETYP	CDF_CHAR	linear
R0	VAR_NOTES	CDF_CHAR	This variable should be filled once for each [PA_LFR_PKT_CNT_ASM] number of packets i.e. full snapshot because LFR FSW copy the same value for all sub packets.
R0	DEPEND_0	CDF_CHAR	Epoch
R0	FORMAT	CDF_CHAR	I3.3


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 234

Tab. 4.33 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
R1	FIELDNAM	CDF_CHAR	Rooting of electrical data for F1.
R1	CATDESC	CDF_CHAR	Rooting of electrical data.
R1	DISPLAY_TYPE	CDF_CHAR	time_series
R1	VALIDMIN	CDF_UINT1	0
R1	VALIDMAX	CDF_UINT1	1
R1	SCALEMIN	CDF_UINT1	0
R1	SCALEMAX	CDF_UINT1	1
R1	FILLVAL	CDF_UINT1	255
R1	LABLAXIS	CDF_CHAR	R1
R1	UNITS	CDF_CHAR	
R1	VAR_TYPE	CDF_CHAR	support_data
R1	SCALETYP	CDF_CHAR	linear
R1	VAR_NOTES	CDF_CHAR	This variable should be filled once for each [PA_LFR_PKT_CNT_ASM] number of packets i.e. full snapshot because LFR FSW copy the same value for all sub packets.
R1	DEPEND_0	CDF_CHAR	Epoch
R1	FORMAT	CDF_CHAR	I3.3
R2	FIELDNAM	CDF_CHAR	Rooting of electrical data for F2.
R2	CATDESC	CDF_CHAR	Rooting of electrical data.
R2	DISPLAY_TYPE	CDF_CHAR	time_series
R2	VALIDMIN	CDF_UINT1	0
R2	VALIDMAX	CDF_UINT1	1
R2	SCALEMIN	CDF_UINT1	0
R2	SCALEMAX	CDF_UINT1	1
R2	FILLVAL	CDF_UINT1	255
R2	LABLAXIS	CDF_CHAR	R2
R2	UNITS	CDF_CHAR	
R2	VAR_TYPE	CDF_CHAR	support_data
R2	SCALETYP	CDF_CHAR	linear


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 235

Tab. 4.33 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
R2	VAR_NOTES	CDF_CHAR	This variable should be filled once for each [PA_LFR_PKT_CNT_ASM] number of packets i.e. full snapshot because LFR FSW copy the same value for all sub packets.
R2	DEPEND_0	CDF_CHAR	Epoch
R2	FORMAT	CDF_CHAR	I3.3
ASM_CNT	FIELDNAM	CDF_CHAR	ASM_CNT
ASM_CNT	CATDESC	CDF_CHAR	Number of matrices read for a given sampling frequency (F0, F1 or F2).
ASM_CNT	DISPLAY_TYPE	CDF_CHAR	time_series
ASM_CNT	VALIDMIN	CDF_UINT1	0
ASM_CNT	VALIDMAX	CDF_UINT1	104
ASM_CNT	SCALEMIN	CDF_UINT1	0
ASM_CNT	SCALEMAX	CDF_UINT1	104
ASM_CNT	FILLVAL	CDF_UINT1	255
ASM_CNT	LABLAXIS	CDF_CHAR	ASM_CNT
ASM_CNT	UNITS	CDF_CHAR	
ASM_CNT	VAR_TYPE	CDF_CHAR	support_data
ASM_CNT	SCALETYP	CDF_CHAR	linear
ASM_CNT	VAR_NOTES	CDF_CHAR	This variable should be filled once for each [PA_LFR_PKT_CNT_ASM_ASM] number of packets i.e. full asm set. Expected numbers are 88 for F0, 104 for F1 and 96 for F2.
ASM_CNT	DEPEND_0	CDF_CHAR	Epoch
ASM_CNT	FORMAT	CDF_CHAR	I3.3
ASM	FIELDNAM	CDF_CHAR	ASM
ASM	CATDESC	CDF_CHAR	All the 5x5 matrices for all bins of a given sampling frequency. Number of matrices is [ASM_CNT]
ASM	DISPLAY_TYPE	CDF_CHAR	time_series
ASM	VALIDMIN	CDF_REAL4	-1.0e+30
ASM	VALIDMAX	CDF_REAL4	1.0e+30
ASM	SCALEMIN	CDF_REAL4	-1.0e+30


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 236

Tab. 4.33 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
ASM	SCALEMAX	CDF_REAL4	1.0e+30
ASM	FILLVAL	CDF_REAL4	-1.0e+31
ASM	LABLAXIS	CDF_CHAR	ASM
ASM	UNITS	CDF_CHAR	
ASM	VAR_TYPE	CDF_CHAR	data
ASM	SCALETYP	CDF_CHAR	linear
ASM	VAR_NOTES	CDF_CHAR	
ASM	DEPEND_0	CDF_CHAR	Epoch
ASM	FORMAT	CDF_CHAR	F32.6
ACQUISITION_TIME_UNITS	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_UNITS
ACQUISITION_TIME_UNITS	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME_UNIT_PTR attribute
ACQUISITION_TIME_UNITS	VAR_TYPE	CDF_CHAR	metadata
ACQUISITION_TIME_UNITS	FORMAT	CDF_CHAR	A16
ACQUISITION_TIME_LABEL	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME_LABEL	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME
ACQUISITION_TIME_LABEL	VAR_TYPE	CDF_CHAR	metadata
ACQUISITION_TIME_LABEL	FORMAT	CDF_CHAR	A32
SCET	FIELDNAM	CDF_CHAR	Spacecraft Elapsed Time
SCET	CATDESC	CDF_CHAR	Elapsed Time of the onboard clock
SCET	DISPLAY_TYPE	CDF_CHAR	time_series
SCET	VALIDMIN	CDF_REAL8	0.0
SCET	VALIDMAX	CDF_REAL8	1.0e+31
SCET	SCALEMIN	CDF_REAL8	0.0
SCET	SCALEMAX	CDF_REAL8	1.0e+31
SCET	FILLVAL	CDF_REAL8	-1.0e+31
SCET	LABLAXIS	CDF_CHAR	Spacecraft Elapsed Time (Ticks)
SCET	UNITS	CDF_CHAR	Ticks
SCET	VAR_TYPE	CDF_CHAR	support_data
SCET	SCALETYP	CDF_CHAR	linear
SCET	MONOTON	CDF_CHAR	INCREASE
SCET	TIME_BASE	CDF_CHAR	Spacecraft onboard clock
SCET	TIME_SCALE	CDF_CHAR	Spacecraft onboard clock
SCET	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
SCET	VAR_NOTES	CDF_CHAR	Spacecraft Elapsed Time
SCET	DEPEND_0	CDF_CHAR	Epoch
SYNCHRO_FLAG	FIELDNAM	CDF_CHAR	SYNCHRO_FLAG

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 237

Tab. 4.33 – continued from previous page


Variable Name	Attribute Name	Data Type	Value
SYNCHRO_FLAG	CATDESC	CDF_CHAR	Time synchronisation flag
SYNCHRO_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
SYNCHRO_FLAG	VALIDMIN	CDF_UINT1	0
SYNCHRO_FLAG	VALIDMAX	CDF_UINT1	1
SYNCHRO_FLAG	SCALEMIN	CDF_UINT1	0
SYNCHRO_FLAG	SCALEMAX	CDF_UINT1	1
SYNCHRO_FLAG	FILLVAL	CDF_UINT1	255
SYNCHRO_FLAG	LABLAXIS	CDF_CHAR	time sync. flag
SYNCHRO_FLAG	UNITS	CDF_CHAR	
SYNCHRO_FLAG	VAR_TYPE	CDF_CHAR	support_data
SYNCHRO_FLAG	SCALETYP	CDF_CHAR	linear
SYNCHRO_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate if the local time is synchronized with the RPW DPU clock or not. Possible values: synchronized=0, not synchronized=1. This flag is extracted from ACQUISITION_TIME in L0 packets, it is the MSB of the CUC time.
SYNCHRO_FLAG	DEPEND_0	CDF_CHAR	Epoch
SYNCHRO_FLAG	FORMAT	CDF_CHAR	I3.3

4.1.2.16.6 Non-Record-Variant (NRV) Variables

Variable Name	Index	Value
ACQUISITION_TIME_UNITS	1	s
ACQUISITION_TIME_UNITS	2	s / 65536
ACQUISITION_TIME_LABEL	1	CUC coarse part time
ACQUISITION_TIME_LABEL	2	CUC fine part time

4.1.2.17 SOLO_L1_RPW-LFR-SURV-BP1 data product

The “SOLO_L1_RPW-LFR-SURV-BP1” data product contains the uncalibrated LFR receiver Basic Parameters 1 (BP1) survey data. The “SOLO_L1_RPW-LFR-SURV-BP1” data are written in CDF format files. There is a single file per day, generated from data in the corresponding SOLO_L0_RPW parent file.

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 238

4.1.2.17.1 Filename

solo_L1_rpw-lfr-surv-bp1_[YYYYMMDD]_V[version].cdf

4.1.2.17.2 Expected cadence and data volume


Nominal cadence: 1 file per day

Expected data volume: 90 MB per day

4.1.2.17.3 Global Attributes

Attribute Name	Entry Number	Data Type	Value
ACCESS_FORMAT	1	CDF_CHAR	CDF
ACCESS_URL	1	CDF_CHAR	
Acknowledgement	1	CDF_CHAR	The authors are pleased to acknowledge the Solar Orbiter/RPW Investigation (M. Maksimovic, PIs) for access to data.
Data_type	1	CDF_CHAR	H0>High Resolution data
Data_version	1	CDF_CHAR	
Descriptor	1	CDF_CHAR	RPW-LFR-SURV-BP1> RPW Low Frequency Receiver Basic parameters set 1 data in Survey mode
Discipline	1	CDF_CHAR	Space Physics>Interplanetary Studies
File_naming_convention	1	CDF_CHAR	<Source_name>_<LEVEL>_<Descriptor>_<Date>
File_ID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	RPW Operations Centre located at LESIA (Meudon, France)
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	https://rpw.lesia.obspm.fr
Instrument_type	1	CDF_CHAR	Radio and Plasma Waves (space)
LINK_TEXT	1	CDF_CHAR	RPW Web site at LESIA
LINK_TITLE	1	CDF_CHAR	RPW Web site
Logical_file_id	1	CDF_CHAR	
Logical_source	1	CDF_CHAR	solo_L1_rpw-lfr-surv-bp1
Logical_source_description	1	CDF_CHAR	Solar Orbiter Radio/Plasma Wave, LFR L1 parameters
Mission_group	1	CDF_CHAR	Solar Orbiter


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 239

Tab. 4.34 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
SKELETON_MODS	1	CDF_CHAR	July 2015 : initial release, B. KATRA (CNRS-LPP)
SKELETON_MODS	2	CDF_CHAR	october 2015 : data_type and name changed from NORMAL to SURVEY to be compliant with NORMAL and BURST skeletons merging + fix of zVariable BP1 structure +attributes updates , B. KATRA (CNRS-LPP)
SKELETON_MODS	3	CDF_CHAR	Dec. 2015: Update to be compliant with the ROC-TST-GSE-SPC-00017-LES 1.3 doc.
SKELETON_MODS	4	CDF_CHAR	Dec. 2015 : fix of zVar dims for science data, B. KATRA (CNRS-LPP) + X.Bonnin (LESIA-CNRS)
SKELETON_MODS	5	CDF_CHAR	Sept. 2016 : upgrade to skt V02 + attributes updated for zVar EPOCH and ACQUISITION_TIME, B. KATRA (CNRS-LPP)
SKELETON_MODS	6	CDF_CHAR	Feb. 2019 : upgrade to skt V03 : add zVariable + change zVariable types to prepare decommutation, R. PIBERNE (X-LPP)
SKELETON_MODS	7	CDF_CHAR	V04: Update for solo data definition, X. BONNIN (CNRS-LESIA), April 2019
SKELETON_MODS	8	CDF_CHAR	V05: Update to compliant with SOL-SGS-TN-0009 Issue 2, Rev 4 - X.Bonnin, 09/2019
SKELETON_MODS	9	CDF_CHAR	V06: March 2020 : Delete Test_* g.attrs - X.Bonnin (CNRS, LESIA)
SKELETON_MODS	10	CDF_CHAR	V07: Removing POST_GAP_FLAG zvar and UCD vattr. (X.Bonnin, 09/2020)
SKELETON_MODS	11	CDF_CHAR	V09: Jan. 2021 : Fix inconsistencies against the ISTEP CDF guidelines, X.Bonnin (CNRS-LESIA)
Parent_version	1	CDF_CHAR	
Parents	1	CDF_CHAR	
PI_affiliation	1	CDF_CHAR	LESIA, Observatoire de Paris-CNRS
PI_name	1	CDF_CHAR	M.Maksimovic
Pipeline_version	1	CDF_CHAR	


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 240

Tab. 4.34 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Project	1	CDF_CHAR	SOLO>Solar Orbiter
Provider	1	CDF_CHAR	LESIA (Meudon, France)
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00006-LES (1.3)
ROC_REFERENCE	1	CDF_CHAR	ROC-TST-GSE-SPC-00017-LES_Issue02_Rev0(Data_format_and_metadata_data_ground_Data).pdf
Rules_of_use	1	CDF_CHAR	Data provided are publicly available. If used in presentations or publications, please acknowledge Solar Orbiter/RPW Investigation (M. Maksimovic, PIs). Please read carefully the caveats attached to the data. For reporting purposes, we request bibliography information for any publication, etc., using these data. Please send information on the use of this data to: M. Maksimovic (PI).
SKELETON_PARENT	1	CDF_CHAR	SOLO_L1_RPW-LFR-SURV-BP1_V09.cdf
Skeleton_version	1	CDF_CHAR	09
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	SOLO>Solar Orbiter
SPECTRAL_RANGE_MAX	1	CDF_CHAR	
SPECTRAL_RANGE_MIN	1	CDF_CHAR	
TEXT	1	CDF_CHAR	This file contains RPW LFR level 1 Survey BP1 data of the current test.
TEXT_supplement_1	1	CDF_CHAR	
TIME_MAX	1	CDF_CHAR	
TIME_MIN	1	CDF_CHAR	
Validate	1	CDF_CHAR	
CAVEATS	1	CDF_CHAR	Engineering data. No good for publication.
Datetime	1	CDF_CHAR	
Free_field	1	CDF_CHAR	
Job_ID	1	CDF_CHAR	
LEVEL	1	CDF_CHAR	L1>Level 1 data processing
SOOP_TYPE	1	CDF_CHAR	
Data_product	1	CDF_CHAR	SURV-BP1>SURV-BP1
TARGET_NAME	1	CDF_CHAR	Sun

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 241


Tab. 4.34 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
TARGET_CLASS	1	CDF_CHAR	Star
TARGET_REGION	1	CDF_CHAR	Solar Wind
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009 (2.4)
Pipeline_name	1	CDF_CHAR	
Dataset_ID	1	CDF_CHAR	SOLO_L1_RPW-LFR-SURV-BP1
OBS_ID	1	CDF_CHAR	
MODS	1	CDF_CHAR	

4.1.2.17.4 zVariables

Variable Name	Data Type	Number Elements	Dims	Sizes
Epoch	CDF_TIME_TT2000	1	0	
ACQUISITION_TIME	CDF_UINT4	1	1	2
QUALITY_FLAG	CDF_UINT1	1	0	
COMMON_BIA_STATUS_FLAG	CDF_UINT1	1	0	
QUALITY_BITMASK	CDF_UINT2	1	0	
SURVEY_MODE	CDF_UINT1	1	0	
FREQ	CDF_UINT1	1	0	
BIAS_MODE_MUX_SET	CDF_UINT1	1	0	
BIAS_MODE_HV_ENABLED	CDF_UINT1	1	0	
BIAS_MODE_BIAS1_ENABLED	CDF_UINT1	1	0	
BIAS_MODE_BIAS2_ENABLED	CDF_UINT1	1	0	
BIAS_MODE_BIAS3_ENABLED	CDF_UINT1	1	0	
BIAS_ON_OFF	CDF_UINT1	1	0	
BW	CDF_UINT1	1	0	
SP0	CDF_UINT1	1	0	
SP1	CDF_UINT1	1	0	
R0	CDF_UINT1	1	0	
R1	CDF_UINT1	1	0	
R2	CDF_UINT1	1	0	
BP1_CNT	CDF_UINT1	1	0	
PE	CDF_REAL8	1	1	26
PB	CDF_REAL8	1	1	26
NVEC_V0	CDF_REAL4	1	1	26
NVEC_V1	CDF_REAL4	1	1	26
NVEC_V2	CDF_UINT1	1	1	26

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 242


Tab. 4.35 – continued from previous page

Variable Name	Data Type	Number Elements	Dims	Sizes
ELLIP	CDF_REAL4	1	1	26
DOP	CDF_REAL4	1	1	26
SX_REA	CDF_REAL8	1	1	26
SX_ARG	CDF_UINT1	1	1	26
VPHI_REA	CDF_REAL8	1	1	26
VPHI_ARG	CDF_UINT1	1	1	26
ACQUISITION_TIME_UNITS	CDF_CHAR	16	1	2
ACQUISITION_TIME_LABEL	CDF_CHAR	32	1	2
SCET	CDF_REAL8	1	0	
SYNCHRO_FLAG	CDF_UINT1	1	0	

4.1.2.17.5 Variable attributes

Variable Name	Attribute Name	Data Type	Value
Epoch	FIELDNAM	CDF_CHAR	Epoch
Epoch	CATDESC	CDF_CHAR	Default time
Epoch	DISPLAY_TYPE	CDF_CHAR	time_series
Epoch	VALIDMIN	CDF_TIME_TT2000	2000-01-01T00:00:00.000000000
Epoch	VALIDMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch	SCALEMIN	CDF_TIME_TT2000	1990-01-01T00:00:00.000000000
Epoch	SCALEMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch	LABLAXIS	CDF_CHAR	Epoch
Epoch	UNITS	CDF_CHAR	ns
Epoch	VAR_TYPE	CDF_CHAR	support_data
Epoch	SCALETYP	CDF_CHAR	linear
Epoch	MONOTON	CDF_CHAR	INCREASE
Epoch	TIME_BASE	CDF_CHAR	J2000
Epoch	TIME_SCALE	CDF_CHAR	Terrestrial Time
Epoch	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
Epoch	Resolution	CDF_CHAR	15258
Epoch	Bin_location	CDF_CHAR	0.5


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 243

Tab. 4.36 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file.
ACQUISITION_TIME	FIELDNAM	CDF_CHAR	ACQUISITION_TIME
ACQUISITION_TIME	CATDESC	CDF_CHAR	CCSDS CUC format LFR time, coarse and fine parts
ACQUISITION_TIME	DISPLAY_TYPE	CDF_CHAR	time_series
ACQUISITION_TIME	VALIDMIN	CDF_UINT4	0
ACQUISITION_TIME	VALIDMAX	CDF_UINT4	4294967294
ACQUISITION_TIME	SCALEMIN	CDF_UINT4	0
ACQUISITION_TIME	SCALEMAX	CDF_UINT4	4294967294
ACQUISITION_TIME	FILLVAL	CDF_UINT4	4294967295
ACQUISITION_TIME	VAR_TYPE	CDF_CHAR	support_data
ACQUISITION_TIME	SCALETYP	CDF_CHAR	linear
ACQUISITION_TIME	MONOTON	CDF_CHAR	INCREASE
ACQUISITION_TIME	TIME_BASE	CDF_CHAR	LFR Time base
ACQUISITION_TIME	TIME_SCALE	CDF_CHAR	DPU clock
ACQUISITION_TIME	REFERENCE_POSITION	CDF_CHAR	Rotating Earth Geoid
ACQUISITION_TIME	VAR_NOTES	CDF_CHAR	Local time measured by the RPW LFR receiver (Coarse and fine parts of the CUC format).
ACQUISITION_TIME	DEPEND_0	CDF_CHAR	Epoch
ACQUISITION_TIME	FORMAT	CDF_CHAR	I10.0
ACQUISITION_TIME	LABL_PTR_1	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME	UNIT_PTR	CDF_CHAR	ACQUISITION_TIME_UNITS
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	VALIDMIN	CDF_UINT1	0
QUALITY_FLAG	VALIDMAX	CDF_UINT1	4
QUALITY_FLAG	SCALEMIN	CDF_UINT1	0
QUALITY_FLAG	SCALEMAX	CDF_UINT1	4
QUALITY_FLAG	FILLVAL	CDF_UINT1	255
QUALITY_FLAG	LABLAXIS	CDF_CHAR	Quality flag
QUALITY_FLAG	UNITS	CDF_CHAR	
QUALITY_FLAG	VAR_TYPE	CDF_CHAR	support_data
QUALITY_FLAG	SCALETYP	CDF_CHAR	linear
QUALITY_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the quality of the data
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 244

Tab. 4.36 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
COMMON_BIA_STATUS_FLAG	FLDNAME	CDF_CHAR	COMMON_BIA_STATUS_FLAG
COMMON_BIA_STATUS_FLAG	CATDESC	CDF_CHAR	LFR common parameters and BIAS status info relevancy flag
COMMON_BIA_STATUS_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
COMMON_BIA_STATUS_FLAG	VALIDMIN	CDF_UINT1	0
COMMON_BIA_STATUS_FLAG	VALIDMAX	CDF_UINT1	1
COMMON_BIA_STATUS_FLAG	SCALEMIN	CDF_UINT1	0
COMMON_BIA_STATUS_FLAG	SCALEMAX	CDF_UINT1	1
COMMON_BIA_STATUS_FLAG	FILLVAL	CDF_UINT1	255
COMMON_BIA_STATUS_FLAG	LABLAXIS	CDF_CHAR	Common bias status flag
COMMON_BIA_STATUS_FLAG	UNITS	CDF_CHAR	
COMMON_BIA_STATUS_FLAG	VAR_TYPE	CDF_CHAR	support_data
COMMON_BIA_STATUS_FLAG	SCALETYP	CDF_CHAR	linear
COMMON_BIA_STATUS_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the relevancy of LFR common parameters (SP0/1, R0/1/2, BW) and BIAS STATUS INFO which can be non representative for the first packet following a change in those parameters.
COMMON_BIA_STATUS_FLAG	DEPEND_0	CDF_CHAR	Epoch
COMMON_BIA_STATUS_FLAG	FORMAT	CDF_CHAR	I1.1
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	UNITS	CDF_CHAR	
QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context information or status at the receiver or experiment level
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
SURVEY_MODE	FIELDNAM	CDF_CHAR	SURVEY_MODE


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 245

Tab. 4.36 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SURVEY_MODE	CATDESC	CDF_CHAR	LFR survey mode
SURVEY_MODE	DISPLAY_TYPE	CDF_CHAR	time_series
SURVEY_MODE	VALIDMIN	CDF_UINT1	0
SURVEY_MODE	VALIDMAX	CDF_UINT1	1
SURVEY_MODE	SCALEMIN	CDF_UINT1	0
SURVEY_MODE	SCALEMAX	CDF_UINT1	1
SURVEY_MODE	FILLVAL	CDF_UINT1	255
SURVEY_MODE	LABLAXIS	CDF_CHAR	LFR survey mode
SURVEY_MODE	UNITS	CDF_CHAR	
SURVEY_MODE	VAR_TYPE	CDF_CHAR	data
SURVEY_MODE	SCALETYP	CDF_CHAR	linear
SURVEY_MODE	VAR_NOTES	CDF_CHAR	Flag to indicate if the receiver in the SURVEY_BURST (=1) or SURVEY_NORMAL (=0) mode
SURVEY_MODE	DEPEND_0	CDF_CHAR	Epoch
SURVEY_MODE	FORMAT	CDF_CHAR	I1.1
FREQ	FIELDNAM	CDF_CHAR	Sampling frequency of the BP1
FREQ	CATDESC	CDF_CHAR	Sampling frequency of the BP1
FREQ	DISPLAY_TYPE	CDF_CHAR	time_series
FREQ	VALIDMIN	CDF_UINT1	0
FREQ	VALIDMAX	CDF_UINT1	2
FREQ	SCALEMIN	CDF_UINT1	0
FREQ	SCALEMAX	CDF_UINT1	1
FREQ	FILLVAL	CDF_UINT1	255
FREQ	LABLAXIS	CDF_CHAR	FREQ
FREQ	UNITS	CDF_CHAR	
FREQ	VAR_TYPE	CDF_CHAR	support_data
FREQ	SCALETYP	CDF_CHAR	linear
FREQ	VAR_NOTES	CDF_CHAR	Index to indicate the sampling frequency of the BP1 : F0, F1 or F2 in order to use only one skeleton for the 3 normal mode bp1 products of ICD.
FREQ	DEPEND_0	CDF_CHAR	Epoch
FREQ	FORMAT	CDF_CHAR	I3.3
BIAS_MODE_MUX_SET	FIELDNAM	CDF_CHAR	BIAS multiplexer setting
BIAS_MODE_MUX_SET	CATDESC	CDF_CHAR	Copy of multiplexer setting.
BIAS_MODE_MUX_SET	DISPLAY_TYPE	CDF_CHAR	time_series


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 246

Tab. 4.36 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_MODE_MUX_SET	VALIDMIN	CDF_UINT1	0
BIAS_MODE_MUX_SET	VALIDMAX	CDF_UINT1	7
BIAS_MODE_MUX_SET	SCALEMIN	CDF_UINT1	0
BIAS_MODE_MUX_SET	SCALEMAX	CDF_UINT1	7
BIAS_MODE_MUX_SET	FILLVAL	CDF_UINT1	255
BIAS_MODE_MUX_SET	LABLAXIS	CDF_CHAR	BIAS_MODE_MUX_SET
BIAS_MODE_MUX_SET	UNITS	CDF_CHAR	
BIAS_MODE_MUX_SET	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_MUX_SET	SCALETYP	CDF_CHAR	linear
BIAS_MODE_MUX_SET	VAR_NOTES	CDF_CHAR	Indicates the mode of BIAS multiplexer for a set of BP1 parameters. Possible values are 0 : Standard operation. 1 : Probe 1 fails. 2 : Probe 2 fails. 3 : Probe 3 fails. 4 : Calibration mode 0. 5 : Calibration mode 1. 6 : Calibration mode 2. 7 : Calibration mode 3.
BIAS_MODE_MUX_SET	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_MUX_SET	FORMAT	CDF_CHAR	I3.3
BIAS_MODE_HV_ENABLED	FIELDNAM	CDF_CHAR	BIAS high voltage status
BIAS_MODE_HV_ENABLED	CATDESC	CDF_CHAR	Copy of enable/disable HV (+- 100V).
BIAS_MODE_HV_ENABLED	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_HV_ENABLED	VALIDMIN	CDF_UINT1	0
BIAS_MODE_HV_ENABLED	VALIDMAX	CDF_UINT1	1
BIAS_MODE_HV_ENABLED	SCALEMIN	CDF_UINT1	0
BIAS_MODE_HV_ENABLED	SCALEMAX	CDF_UINT1	1
BIAS_MODE_HV_ENABLED	FILLVAL	CDF_UINT1	255
BIAS_MODE_HV_ENABLED	LABLAXIS	CDF_CHAR	BIAS_MODE_HV_ENABLED
BIAS_MODE_HV_ENABLED	UNITS	CDF_CHAR	
BIAS_MODE_HV_ENABLED	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_HV_ENABLED	SCALETYP	CDF_CHAR	linear
BIAS_MODE_HV_ENABLED	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS HV. Possible values are DISABLED = 0. ENABLED = 1.
BIAS_MODE_HV_ENABLED	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_HV_ENABLED	FORMAT	CDF_CHAR	I3.3
BIAS_MODE_BIAS1_ENABLED	FIELDNAM	CDF_CHAR	BIAS probe 1 status
BIAS_MODE_BIAS1_ENABLED	CATDESC	CDF_CHAR	Copy of enable/disable BIAS 1.


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 247

Tab. 4.36 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_MODE_BIAS1_ENAB	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_BIAS1_ENAB	VALIDMIN	CDF_UINT1	0
BIAS_MODE_BIAS1_ENAB	VALIDMAX	CDF_UINT1	1
BIAS_MODE_BIAS1_ENAB	SCALEMIN	CDF_UINT1	0
BIAS_MODE_BIAS1_ENAB	SCALEMAX	CDF_UINT1	1
BIAS_MODE_BIAS1_ENAB	DELVAL	CDF_UINT1	255
BIAS_MODE_BIAS1_ENAB	BLAXIS	CDF_CHAR	BIAS_MODE_BIAS1_ENABLED
BIAS_MODE_BIAS1_ENAB	UNITS	CDF_CHAR	
BIAS_MODE_BIAS1_ENAB	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_BIAS1_ENAB	SCALETYP	CDF_CHAR	linear
BIAS_MODE_BIAS1_ENAB	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS probe 1. Possible values are DISABLED = 0. ENABLED = 1.
BIAS_MODE_BIAS1_ENAB	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_BIAS1_ENAB	FORMAT	CDF_CHAR	I3.3
BIAS_MODE_BIAS2_ENAB	ELDNAM	CDF_CHAR	BIAS probe 2 status
BIAS_MODE_BIAS2_ENAB	CTDESC	CDF_CHAR	Copy of enable/disable BIAS 2.
BIAS_MODE_BIAS2_ENAB	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_BIAS2_ENAB	VALIDMIN	CDF_UINT1	0
BIAS_MODE_BIAS2_ENAB	VALIDMAX	CDF_UINT1	1
BIAS_MODE_BIAS2_ENAB	SCALEMIN	CDF_UINT1	0
BIAS_MODE_BIAS2_ENAB	SCALEMAX	CDF_UINT1	1
BIAS_MODE_BIAS2_ENAB	DELVAL	CDF_UINT1	255
BIAS_MODE_BIAS2_ENAB	BLAXIS	CDF_CHAR	BIAS_MODE_BIAS2_ENABLED
BIAS_MODE_BIAS2_ENAB	UNITS	CDF_CHAR	
BIAS_MODE_BIAS2_ENAB	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_BIAS2_ENAB	SCALETYP	CDF_CHAR	linear
BIAS_MODE_BIAS2_ENAB	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS probe 2. Possible values are DISABLED = 0. ENABLED = 1.
BIAS_MODE_BIAS2_ENAB	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_BIAS2_ENAB	FORMAT	CDF_CHAR	I3.3
BIAS_MODE_BIAS3_ENAB	ELDNAM	CDF_CHAR	BIAS probe 3 status
BIAS_MODE_BIAS3_ENAB	CTDESC	CDF_CHAR	Copy of enable/disable BIAS 3.
BIAS_MODE_BIAS3_ENAB	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_BIAS3_ENAB	VALIDMIN	CDF_UINT1	0
BIAS_MODE_BIAS3_ENAB	VALIDMAX	CDF_UINT1	1


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 248

Tab. 4.36 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_MODE_BIAS3_ENAB	SCALEMIN	CDF_UINT1	0
BIAS_MODE_BIAS3_ENAB	SCALEMAX	CDF_UINT1	1
BIAS_MODE_BIAS3_ENAB	FILLVAL	CDF_UINT1	255
BIAS_MODE_BIAS3_ENAB	LABLAXIS	CDF_CHAR	BIAS_MODE_BIAS3_ENABLED
BIAS_MODE_BIAS3_ENAB	UNITS	CDF_CHAR	
BIAS_MODE_BIAS3_ENAB	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_BIAS3_ENAB	SCALETYP	CDF_CHAR	linear
BIAS_MODE_BIAS3_ENAB	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS probe 3. Possible values are DISABLED = 0. ENABLED = 1.
BIAS_MODE_BIAS3_ENAB	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_BIAS3_ENAB	FORMAT	CDF_CHAR	I3.3
BIAS_ON_OFF	FIELDNAM	CDF_CHAR	BIAS status
BIAS_ON_OFF	CATDESC	CDF_CHAR	Copy of BIAS status.
BIAS_ON_OFF	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_ON_OFF	VALIDMIN	CDF_UINT1	0
BIAS_ON_OFF	VALIDMAX	CDF_UINT1	1
BIAS_ON_OFF	SCALEMIN	CDF_UINT1	0
BIAS_ON_OFF	SCALEMAX	CDF_UINT1	1
BIAS_ON_OFF	FILLVAL	CDF_UINT1	255
BIAS_ON_OFF	LABLAXIS	CDF_CHAR	BIAS_ON_OFF
BIAS_ON_OFF	UNITS	CDF_CHAR	
BIAS_ON_OFF	VAR_TYPE	CDF_CHAR	support_data
BIAS_ON_OFF	SCALETYP	CDF_CHAR	linear
BIAS_ON_OFF	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS. Possible values are OFF = 0 - Power line off. ON = 1 - Power line on.
BIAS_ON_OFF	DEPEND_0	CDF_CHAR	Epoch
BIAS_ON_OFF	FORMAT	CDF_CHAR	I3.3
BW	FIELDNAM	CDF_CHAR	BIAS Works/BIAS Fails configuration.
BW	CATDESC	CDF_CHAR	BIAS Works/BIAS Fails configuration.
BW	DISPLAY_TYPE	CDF_CHAR	time_series
BW	VALIDMIN	CDF_UINT1	0
BW	VALIDMAX	CDF_UINT1	1
BW	SCALEMIN	CDF_UINT1	0
BW	SCALEMAX	CDF_UINT1	1
BW	FILLVAL	CDF_UINT1	255


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 249

Tab. 4.36 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BW	LABLAXIS	CDF_CHAR	BW
BW	UNITS	CDF_CHAR	
BW	VAR_TYPE	CDF_CHAR	support_data
BW	SCALETYP	CDF_CHAR	linear
BW	VAR_NOTES	CDF_CHAR	
BW	DEPEND_0	CDF_CHAR	Epoch
BW	FORMAT	CDF_CHAR	I3.3
SP0	FIELDNAM	CDF_CHAR	Shaping of electrical data parameter 0.
SP0	CATDESC	CDF_CHAR	Shaping of electrical data.
SP0	DISPLAY_TYPE	CDF_CHAR	time_series
SP0	VALIDMIN	CDF_UINT1	0
SP0	VALIDMAX	CDF_UINT1	1
SP0	SCALEMIN	CDF_UINT1	0
SP0	SCALEMAX	CDF_UINT1	1
SP0	FILLVAL	CDF_UINT1	255
SP0	LABLAXIS	CDF_CHAR	SP0
SP0	UNITS	CDF_CHAR	
SP0	VAR_TYPE	CDF_CHAR	support_data
SP0	SCALETYP	CDF_CHAR	linear
SP0	VAR_NOTES	CDF_CHAR	
SP0	DEPEND_0	CDF_CHAR	Epoch
SP0	FORMAT	CDF_CHAR	I3.3
SP1	FIELDNAM	CDF_CHAR	Shaping of electrical data parameter 1.
SP1	CATDESC	CDF_CHAR	Shaping of electrical data.
SP1	DISPLAY_TYPE	CDF_CHAR	time_series
SP1	VALIDMIN	CDF_UINT1	0
SP1	VALIDMAX	CDF_UINT1	1
SP1	SCALEMIN	CDF_UINT1	0
SP1	SCALEMAX	CDF_UINT1	1
SP1	FILLVAL	CDF_UINT1	255
SP1	LABLAXIS	CDF_CHAR	SP1
SP1	UNITS	CDF_CHAR	
SP1	VAR_TYPE	CDF_CHAR	support_data
SP1	SCALETYP	CDF_CHAR	linear
SP1	VAR_NOTES	CDF_CHAR	
SP1	DEPEND_0	CDF_CHAR	Epoch
SP1	FORMAT	CDF_CHAR	I3.3
R0	FIELDNAM	CDF_CHAR	Rooting of electrical data for F0.


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 250

Tab. 4.36 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
R0	CATDESC	CDF_CHAR	Rooting of electrical data.
R0	DISPLAY_TYPE	CDF_CHAR	time_series
R0	VALIDMIN	CDF_UINT1	0
R0	VALIDMAX	CDF_UINT1	1
R0	SCALEMIN	CDF_UINT1	0
R0	SCALEMAX	CDF_UINT1	1
R0	FILLVAL	CDF_UINT1	255
R0	LABLAXIS	CDF_CHAR	R0
R0	UNITS	CDF_CHAR	
R0	VAR_TYPE	CDF_CHAR	support_data
R0	SCALETYP	CDF_CHAR	linear
R0	VAR_NOTES	CDF_CHAR	
R0	DEPEND_0	CDF_CHAR	Epoch
R0	FORMAT	CDF_CHAR	I3.3
R1	FIELDNAM	CDF_CHAR	Rooting of electrical data for F1.
R1	CATDESC	CDF_CHAR	Rooting of electrical data.
R1	DISPLAY_TYPE	CDF_CHAR	time_series
R1	VALIDMIN	CDF_UINT1	0
R1	VALIDMAX	CDF_UINT1	1
R1	SCALEMIN	CDF_UINT1	0
R1	SCALEMAX	CDF_UINT1	1
R1	FILLVAL	CDF_UINT1	255
R1	LABLAXIS	CDF_CHAR	R1
R1	UNITS	CDF_CHAR	
R1	VAR_TYPE	CDF_CHAR	support_data
R1	SCALETYP	CDF_CHAR	linear
R1	VAR_NOTES	CDF_CHAR	
R1	DEPEND_0	CDF_CHAR	Epoch
R1	FORMAT	CDF_CHAR	I3.3
R2	FIELDNAM	CDF_CHAR	Rooting of electrical data for F2.
R2	CATDESC	CDF_CHAR	Rooting of electrical data.
R2	DISPLAY_TYPE	CDF_CHAR	time_series
R2	VALIDMIN	CDF_UINT1	0
R2	VALIDMAX	CDF_UINT1	1
R2	SCALEMIN	CDF_UINT1	0
R2	SCALEMAX	CDF_UINT1	1
R2	FILLVAL	CDF_UINT1	255
R2	LABLAXIS	CDF_CHAR	R2
R2	UNITS	CDF_CHAR	


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 251

Tab. 4.36 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
R2	VAR_TYPE	CDF_CHAR	support_data
R2	SCALETYP	CDF_CHAR	linear
R2	VAR_NOTES	CDF_CHAR	
R2	DEPEND_0	CDF_CHAR	Epoch
R2	FORMAT	CDF_CHAR	I3.3
BP1_CNT	FIELDNAM	CDF_CHAR	BP1_CNT
BP1_CNT	CATDESC	CDF_CHAR	Number of BP1 sets read for a given sampling frequency(F0, F1 or F2).
BP1_CNT	DISPLAY_TYPE	CDF_CHAR	time_series
BP1_CNT	VALIDMIN	CDF_UINT1	11
BP1_CNT	VALIDMAX	CDF_UINT1	26
BP1_CNT	SCALEMIN	CDF_UINT1	11
BP1_CNT	SCALEMAX	CDF_UINT1	26
BP1_CNT	FILLVAL	CDF_UINT1	255
BP1_CNT	LABLAXIS	CDF_CHAR	BP1_CNT
BP1_CNT	UNITS	CDF_CHAR	
BP1_CNT	VAR_TYPE	CDF_CHAR	support_data
BP1_CNT	SCALETYP	CDF_CHAR	linear
BP1_CNT	VAR_NOTES	CDF_CHAR	This indicates how many sets of BP1 have been read. Expected numbers for NORMAL MODE are 11 for F0, 13 for F1 and 12 for F2. Expected numbers for BURST MODE are 22 for F0 and 26 for F1.
BP1_CNT	DEPEND_0	CDF_CHAR	Epoch
BP1_CNT	FORMAT	CDF_CHAR	I3.3
PE	FIELDNAM	CDF_CHAR	Spectral power of E field
PE	CATDESC	CDF_CHAR	Spectral power of E field
PE	DISPLAY_TYPE	CDF_CHAR	time_series
PE	VALIDMIN	CDF_REAL8	0.0
PE	VALIDMAX	CDF_REAL8	1.0e+30
PE	SCALEMIN	CDF_REAL8	0.0
PE	SCALEMAX	CDF_REAL8	1.0e+30
PE	FILLVAL	CDF_REAL8	-1.0e+31
PE	LABLAXIS	CDF_CHAR	PE
PE	UNITS	CDF_CHAR	
PE	VAR_TYPE	CDF_CHAR	data
PE	SCALETYP	CDF_CHAR	linear


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 252

Tab. 4.36 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
PE	VAR_NOTES	CDF_CHAR	
PE	DEPEND_0	CDF_CHAR	Epoch
PE	FORMAT	CDF_CHAR	F32.6
PB	FIELDNAM	CDF_CHAR	Spectral power of B field
PB	CATDESC	CDF_CHAR	Spectral power of B field
PB	DISPLAY_TYPE	CDF_CHAR	time_series
PB	VALIDMIN	CDF_REAL8	0.0
PB	VALIDMAX	CDF_REAL8	1.0e+30
PB	SCALEMIN	CDF_REAL8	0.0
PB	SCALEMAX	CDF_REAL8	1.0e+30
PB	FILLVAL	CDF_REAL8	-1.0e+31
PB	LABLAXIS	CDF_CHAR	PB
PB	UNITS	CDF_CHAR	
PB	VAR_TYPE	CDF_CHAR	data
PB	SCALETYP	CDF_CHAR	linear
PB	VAR_NOTES	CDF_CHAR	
PB	DEPEND_0	CDF_CHAR	Epoch
PB	FORMAT	CDF_CHAR	F32.6
NVEC_V0	FIELDNAM	CDF_CHAR	NVEC_V0
NVEC_V0	CATDESC	CDF_CHAR	Component 0 of wave normal vector from magnetic field
NVEC_V0	DISPLAY_TYPE	CDF_CHAR	time_series
NVEC_V0	VALIDMIN	CDF_REAL4	-1.0
NVEC_V0	VALIDMAX	CDF_REAL4	1.0
NVEC_V0	SCALEMIN	CDF_REAL4	-1.0
NVEC_V0	SCALEMAX	CDF_REAL4	1.0
NVEC_V0	FILLVAL	CDF_REAL4	-1.0e+31
NVEC_V0	LABLAXIS	CDF_CHAR	NVEC_V0
NVEC_V0	UNITS	CDF_CHAR	
NVEC_V0	VAR_TYPE	CDF_CHAR	data
NVEC_V0	SCALETYP	CDF_CHAR	linear
NVEC_V0	VAR_NOTES	CDF_CHAR	
NVEC_V0	DEPEND_0	CDF_CHAR	Epoch
NVEC_V0	FORMAT	CDF_CHAR	F32.6
NVEC_V1	FIELDNAM	CDF_CHAR	NVEC_V1
NVEC_V1	CATDESC	CDF_CHAR	Component 1 of wave normal vector from magnetic field
NVEC_V1	DISPLAY_TYPE	CDF_CHAR	time_series
NVEC_V1	VALIDMIN	CDF_REAL4	-1.0
NVEC_V1	VALIDMAX	CDF_REAL4	1.0
NVEC_V1	SCALEMIN	CDF_REAL4	-1.0

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 253

Tab. 4.36 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
NVEC_V1	SCALEMAX	CDF_REAL4	1.0
NVEC_V1	FILLVAL	CDF_REAL4	-1.0e+31
NVEC_V1	LABLAXIS	CDF_CHAR	NVEC_V1
NVEC_V1	UNITS	CDF_CHAR	
NVEC_V1	VAR_TYPE	CDF_CHAR	data
NVEC_V1	SCALETYP	CDF_CHAR	linear
NVEC_V1	VAR_NOTES	CDF_CHAR	
NVEC_V1	DEPEND_0	CDF_CHAR	Epoch
NVEC_V1	FORMAT	CDF_CHAR	F32.6
NVEC_V2	FIELDNAM	CDF_CHAR	NVEC_V2
NVEC_V2	CATDESC	CDF_CHAR	Sign of component 2 of wave normal vector from magnetic field
NVEC_V2	DISPLAY_TYPE	CDF_CHAR	time_series
NVEC_V2	VALIDMIN	CDF_UINT1	0
NVEC_V2	VALIDMAX	CDF_UINT1	1
NVEC_V2	SCALEMIN	CDF_UINT1	0
NVEC_V2	SCALEMAX	CDF_UINT1	2
NVEC_V2	FILLVAL	CDF_UINT1	255
NVEC_V2	LABLAXIS	CDF_CHAR	NVEC_V2
NVEC_V2	UNITS	CDF_CHAR	
NVEC_V2	VAR_TYPE	CDF_CHAR	data
NVEC_V2	SCALETYP	CDF_CHAR	linear
NVEC_V2	VAR_NOTES	CDF_CHAR	0 == positive, 1 == negative
NVEC_V2	DEPEND_0	CDF_CHAR	Epoch
NVEC_V2	FORMAT	CDF_CHAR	I3.3
ELLIP	FIELDNAM	CDF_CHAR	Wave ellipticity from magnetic field
ELLIP	CATDESC	CDF_CHAR	Wave ellipticity from magnetic field
ELLIP	DISPLAY_TYPE	CDF_CHAR	time_series
ELLIP	VALIDMIN	CDF_REAL4	0.0
ELLIP	VALIDMAX	CDF_REAL4	1.0
ELLIP	SCALEMIN	CDF_REAL4	0.0
ELLIP	SCALEMAX	CDF_REAL4	1.0
ELLIP	FILLVAL	CDF_REAL4	-1.0e+31
ELLIP	LABLAXIS	CDF_CHAR	ELLIP
ELLIP	UNITS	CDF_CHAR	
ELLIP	VAR_TYPE	CDF_CHAR	data
ELLIP	SCALETYP	CDF_CHAR	linear
ELLIP	VAR_NOTES	CDF_CHAR	

continues on next page



RPW Data Product
Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03

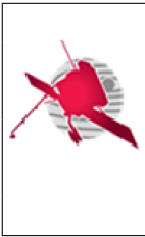
Date: March 11, 2021

Page: **254**

Tab. 4.36 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
ELLIP	DEPEND_0	CDF_CHAR	Epoch
ELLIP	FORMAT	CDF_CHAR	F32.6
DOP	FIELDNAM	CDF_CHAR	degree of polarization from magnetic field
DOP	CATDESC	CDF_CHAR	degree of polarization from magnetic field
DOP	DISPLAY_TYPE	CDF_CHAR	time_series
DOP	VALIDMIN	CDF_REAL4	0.0
DOP	VALIDMAX	CDF_REAL4	1.0
DOP	SCALEMIN	CDF_REAL4	0.0
DOP	SCALEMAX	CDF_REAL4	1.0
DOP	FILLVAL	CDF_REAL4	-1.0e+31
DOP	LABLAXIS	CDF_CHAR	DOP
DOP	UNITS	CDF_CHAR	
DOP	VAR_TYPE	CDF_CHAR	data
DOP	SCALETYP	CDF_CHAR	linear
DOP	VAR_NOTES	CDF_CHAR	
DOP	DEPEND_0	CDF_CHAR	Epoch
DOP	FORMAT	CDF_CHAR	F32.6
SX_REA	FIELDNAM	CDF_CHAR	Real part of X Poynting flux
SX_REA	CATDESC	CDF_CHAR	Real part of the X component of the Poynting vector
SX_REA	DISPLAY_TYPE	CDF_CHAR	time_series
SX_REA	VALIDMIN	CDF_REAL8	-1.0e+30
SX_REA	VALIDMAX	CDF_REAL8	1.0e+30
SX_REA	SCALEMIN	CDF_REAL8	-1.0e+30
SX_REA	SCALEMAX	CDF_REAL8	1.0e+30
SX_REA	FILLVAL	CDF_REAL8	-1.0e+31
SX_REA	LABLAXIS	CDF_CHAR	SX_REA
SX_REA	UNITS	CDF_CHAR	
SX_REA	VAR_TYPE	CDF_CHAR	data
SX_REA	SCALETYP	CDF_CHAR	linear
SX_REA	VAR_NOTES	CDF_CHAR	
SX_REA	DEPEND_0	CDF_CHAR	Epoch
SX_REA	FORMAT	CDF_CHAR	F32.6
SX_ARG	FIELDNAM	CDF_CHAR	Arg bit of X Poynting flux
SX_ARG	CATDESC	CDF_CHAR	Argument bit = 0 if $ \text{ARG}(\text{SX}) < \pi/4$ or $3\pi/4 < \text{ARG}(\text{SX}) < \pi$, bit arg = 1 elsewhere
SX_ARG	DISPLAY_TYPE	CDF_CHAR	time_series

continues on next page



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03

Date: March 11, 2021

Page: **255**

Tab. 4.36 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SX_ARG	VALIDMIN	CDF_UINT1	0
SX_ARG	VALIDMAX	CDF_UINT1	1
SX_ARG	SCALEMIN	CDF_UINT1	0
SX_ARG	SCALEMAX	CDF_UINT1	1
SX_ARG	FILLVAL	CDF_UINT1	255
SX_ARG	LABLAXIS	CDF_CHAR	SX_ARG
SX_ARG	UNITS	CDF_CHAR	
SX_ARG	VAR_TYPE	CDF_CHAR	data
SX_ARG	SCALETYP	CDF_CHAR	linear
SX_ARG	VAR_NOTES	CDF_CHAR	
SX_ARG	DEPEND_0	CDF_CHAR	Epoch
SX_ARG	FORMAT	CDF_CHAR	I3.3
VPHI_REA	FIELDNAM	CDF_CHAR	Real part of phase velocity estimator
VPHI_REA	CATDESC	CDF_CHAR	Phase velocity estimated from the X projection of Maxwell-Faraday equation
VPHI_REA	DISPLAY_TYPE	CDF_CHAR	time_series
VPHI_REA	VALIDMIN	CDF_REAL8	-1.0e+30
VPHI_REA	VALIDMAX	CDF_REAL8	1.0e+30
VPHI_REA	SCALEMIN	CDF_REAL8	-1.0e+30
VPHI_REA	SCALEMAX	CDF_REAL8	1.0e+30
VPHI_REA	FILLVAL	CDF_REAL8	-1.0e+31
VPHI_REA	LABLAXIS	CDF_CHAR	VPHI_REA
VPHI_REA	UNITS	CDF_CHAR	
VPHI_REA	VAR_TYPE	CDF_CHAR	data
VPHI_REA	SCALETYP	CDF_CHAR	linear
VPHI_REA	VAR_NOTES	CDF_CHAR	
VPHI_REA	DEPEND_0	CDF_CHAR	Epoch
VPHI_REA	FORMAT	CDF_CHAR	F32.6
VPHI_ARG	FIELDNAM	CDF_CHAR	Arg bit of phase velocity estimator
VPHI_ARG	CATDESC	CDF_CHAR	Argument bit = 0 if $ \text{ARG}(\text{VPHI}) < \pi/4$ or $3\pi/4 < \text{ARG}(\text{VPHI}) < \pi$, bit arg = 1 elsewhere
VPHI_ARG	DISPLAY_TYPE	CDF_CHAR	time_series
VPHI_ARG	VALIDMIN	CDF_UINT1	0
VPHI_ARG	VALIDMAX	CDF_UINT1	1
VPHI_ARG	SCALEMIN	CDF_UINT1	0
VPHI_ARG	SCALEMAX	CDF_UINT1	1

continues on next page



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **256**

Tab. 4.36 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
VPHI_ARG	FILLVAL	CDF_UINT1	255
VPHI_ARG	LABLAXIS	CDF_CHAR	VPHI_ARG
VPHI_ARG	UNITS	CDF_CHAR	
VPHI_ARG	VAR_TYPE	CDF_CHAR	data
VPHI_ARG	SCALETYP	CDF_CHAR	linear
VPHI_ARG	VAR_NOTES	CDF_CHAR	
VPHI_ARG	DEPEND_0	CDF_CHAR	Epoch
VPHI_ARG	FORMAT	CDF_CHAR	I3.3
ACQUISITION_TIME_UNITS	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_UNITS
ACQUISITION_TIME_UNITS	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME_UNIT_PTR attribute
ACQUISITION_TIME_UNITS	VAR_TYPE	CDF_CHAR	metadata
ACQUISITION_TIME_UNITS	FORMAT	CDF_CHAR	A16
ACQUISITION_TIME_LABEL	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME_LABEL	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME
ACQUISITION_TIME_LABEL	VAR_TYPE	CDF_CHAR	metadata
ACQUISITION_TIME_LABEL	FORMAT	CDF_CHAR	A32
SCET	FIELDNAM	CDF_CHAR	Spacecraft Elapsed Time
SCET	CATDESC	CDF_CHAR	Elapsed Time of the onboard clock
SCET	DISPLAY_TYPE	CDF_CHAR	time_series
SCET	VALIDMIN	CDF_REAL8	0.0
SCET	VALIDMAX	CDF_REAL8	1.0e+31
SCET	SCALEMIN	CDF_REAL8	0.0
SCET	SCALEMAX	CDF_REAL8	1.0e+31
SCET	FILLVAL	CDF_REAL8	-1.0e+31
SCET	LABLAXIS	CDF_CHAR	Spacecraft Elapsed Time (Ticks)
SCET	UNITS	CDF_CHAR	Ticks
SCET	VAR_TYPE	CDF_CHAR	support_data
SCET	SCALETYP	CDF_CHAR	linear
SCET	MONOTON	CDF_CHAR	INCREASE
SCET	TIME_BASE	CDF_CHAR	Spacecraft onboard clock
SCET	TIME_SCALE	CDF_CHAR	Spacecraft onboard clock
SCET	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
SCET	VAR_NOTES	CDF_CHAR	Spacecraft Elapsed Time
SCET	DEPEND_0	CDF_CHAR	Epoch
SYNCHRO_FLAG	FIELDNAM	CDF_CHAR	SYNCHRO_FLAG
SYNCHRO_FLAG	CATDESC	CDF_CHAR	Time synchronisation flag

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 257

Tab. 4.36 – continued from previous page


Variable Name	Attribute Name	Data Type	Value
SYNCHRO_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
SYNCHRO_FLAG	VALIDMIN	CDF_UINT1	0
SYNCHRO_FLAG	VALIDMAX	CDF_UINT1	1
SYNCHRO_FLAG	SCALEMIN	CDF_UINT1	0
SYNCHRO_FLAG	SCALEMAX	CDF_UINT1	1
SYNCHRO_FLAG	FILLVAL	CDF_UINT1	255
SYNCHRO_FLAG	LABLAXIS	CDF_CHAR	time sync. flag
SYNCHRO_FLAG	UNITS	CDF_CHAR	
SYNCHRO_FLAG	VAR_TYPE	CDF_CHAR	support_data
SYNCHRO_FLAG	SCALETYP	CDF_CHAR	linear
SYNCHRO_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate if the local time is synchronized with the RPW DPU clock or not. Possible values: synchronized=0, not synchronized=1. This flag is extracted from ACQUISITION_TIME in L0 packets, it is the MSB of the CUC time.
SYNCHRO_FLAG	DEPEND_0	CDF_CHAR	Epoch
SYNCHRO_FLAG	FORMAT	CDF_CHAR	I3.3

4.1.2.17.6 Non-Record-Variant (NRV) Variables

Variable Name	Index	Value
ACQUISITION_TIME_UNITS	1	s
ACQUISITION_TIME_UNITS	2	s / 65536
ACQUISITION_TIME_LABEL	1	CUC coarse part time
ACQUISITION_TIME_LABEL	2	CUC fine part time

4.1.2.18 SOLO_L1_RPW-LFR-SURV-BP2 data product

The “SOLO_L1_RPW-LFR-SURV-BP2” data product contains the uncalibrated LFR receiver Basic Parameters 2 (BP2) survey data. The “SOLO_L1_RPW-LFR-SURV-BP2” data are written in CDF format files. There is a single file per day, generated from data in the corresponding SOLO_L0_RPW parent file.

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 258

4.1.2.18.1 Filename

solo_L1_rpw-lfr-surv-bp2_[YYYYMMDD]_V[version].cdf

4.1.2.18.2 Expected cadence and data volume


Nominal cadence: 1 file per day

Expected data volume: 40 MB per day

4.1.2.18.3 Global Attributes

Attribute Name	Entry Number	Data Type	Value
ACCESS_FORMAT	1	CDF_CHAR	CDF
ACCESS_URL	1	CDF_CHAR	
Acknowledgement	1	CDF_CHAR	The authors are pleased to acknowledge the Solar Orbiter/RPW Investigation (M. Maksimovic, PIs) for access to data.
Data_type	1	CDF_CHAR	H0>High Resolution data
Data_version	1	CDF_CHAR	
Descriptor	1	CDF_CHAR	RPW-LFR-SURV-BP2> RPW Low Frequency Receiver Basic parameters set 2 data in Survey mode
Discipline	1	CDF_CHAR	Space Physics>Interplanetary Studies
File_naming_convention	1	CDF_CHAR	<Source_name>_<LEVEL>_<Descriptor>_<Date>
File_ID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	RPW Operations Centre located at LESIA (Meudon, France)
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	https://rpw.lesia.obspm.fr
Instrument_type	1	CDF_CHAR	Radio and Plasma Waves (space)
LINK_TEXT	1	CDF_CHAR	RPW Web site at LESIA
LINK_TITLE	1	CDF_CHAR	RPW Web site
Logical_file_id	1	CDF_CHAR	
Logical_source	1	CDF_CHAR	solo_L1_rpw-lfr-surv-bp2
Logical_source_description	1	CDF_CHAR	Solar Orbiter Radio/Plasma Wave, LFR L1 parameters
Mission_group	1	CDF_CHAR	Solar Orbiter


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 259

Tab. 4.37 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
SKELETON_MODS	1	CDF_CHAR	July 2015 : initial release, B. KATRA (CNRS-LPP)
SKELETON_MODS	2	CDF_CHAR	november 2015 : data_type and name changed from NORMAL to SURVEY to be compliant with NORMAL and BURST skeletons merging + fix of zVariable BP2 structure+attributes updates , B. KATRA (CNRS-LPP)
SKELETON_MODS	3	CDF_CHAR	Dec. 2015: Update to be compliant with the ROC-TST-GSE-SPC-00017-LES 1.3 doc.
SKELETON_MODS	4	CDF_CHAR	Dec. 2015 : fix of zVar dims for science data, B. KATRA (CNRS-LPP) + X.Bonnin (LESIA-CNRS)
SKELETON_MODS	5	CDF_CHAR	Sept. 2016 : upgrade to skt V02 + attributes updated for zVar EPOCH and ACQUISITION_TIME, B. KATRA (CNRS-LPP)
SKELETON_MODS	6	CDF_CHAR	Feb. 2019 : upgrade to skt V03 : change zVariable types to prepare decommutation, R. PIBERNE (X-LPP)
SKELETON_MODS	7	CDF_CHAR	V04: Update for solo data definition, X. BONNIN (CNRS-LESIA), April 2019
SKELETON_MODS	8	CDF_CHAR	V05: Update to compliant with SOL-SGS-TN-0009 Issue 2, Rev 4 - X.Bonnin, 09/2019
SKELETON_MODS	9	CDF_CHAR	V06: March 2020 : Delete Test_* g.attrs - X.Bonnin (CNRS, LESIA)
SKELETON_MODS	10	CDF_CHAR	V07: Removing POST_GAP_FLAG zvar and UCD vattr. (X.Bonnin, 09/2020)
SKELETON_MODS	11	CDF_CHAR	V09: Jan. 2021 : Fix inconsistencies against the ISTEP CDF guidelines, X.Bonnin (CNRS-LESIA)
Parent_version	1	CDF_CHAR	
Parents	1	CDF_CHAR	
PI_affiliation	1	CDF_CHAR	LESIA, Observatoire de Paris-CNRS
PI_name	1	CDF_CHAR	M.Maksimovic
Pipeline_version	1	CDF_CHAR	
Project	1	CDF_CHAR	SOLO>Solar Orbiter


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 260

Tab. 4.37 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Provider	1	CDF_CHAR	LESIA (Meudon, France)
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00006-LES (1.3)
ROC_REFERENCE	1	CDF_CHAR	ROC-TST-GSE-SPC-00017-LES_Issue02_Rev0(Data_format_and_metadata_data_ground_Data).pdf
Rules_of_use	1	CDF_CHAR	Data provided are publicly available. If used in presentations or publications, please acknowledge Solar Orbiter/RPW Investigation (M. Maksimovic, PIs). Please read carefully the caveats attached to the data. For reporting purposes, we request bibliography information for any publication, etc., using these data. Please send information on the use of this data to: M. Maksimovic (PI).
SKELETON_PARENT	1	CDF_CHAR	SOLO_L1_RPW-LFR-SURV-BP2_V09.cdf
Skeleton_version	1	CDF_CHAR	09
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	SOLO>Solar Orbiter
SPECTRAL_RANGE_MAX	1	CDF_CHAR	
SPECTRAL_RANGE_MIN	1	CDF_CHAR	
TEXT	1	CDF_CHAR	This file contains RPW LFR level 1 Survey BP2 data of the current test.
TEXT_supplement_1	1	CDF_CHAR	
TIME_MAX	1	CDF_CHAR	
TIME_MIN	1	CDF_CHAR	
Validate	1	CDF_CHAR	
CAVEATS	1	CDF_CHAR	Engineering data. No good for publication.
Datetime	1	CDF_CHAR	
Free_field	1	CDF_CHAR	
Job_ID	1	CDF_CHAR	
LEVEL	1	CDF_CHAR	L1>Level 1 data processing
SOOP_TYPE	1	CDF_CHAR	
Data_product	1	CDF_CHAR	SURV-BP2>SURV-BP2
TARGET_NAME	1	CDF_CHAR	Sun
TARGET_CLASS	1	CDF_CHAR	Star

continues on next page


	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 261

Tab. 4.37 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
TARGET_REGION	1	CDF_CHAR	Solar Wind
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009 (2.4)
Pipeline_name	1	CDF_CHAR	
Dataset_ID	1	CDF_CHAR	SOLO_L1_RPW-LFR-SURV-BP2
OBS_ID	1	CDF_CHAR	
MODS	1	CDF_CHAR	

4.1.2.18.4 zVariables


Variable Name	Data Type	Number Elements	Dims	Sizes
Epoch	CDF_TIME_TT2000	1	0	
ACQUISITION_TIME	CDF_UINT4	1	1	2
QUALITY_FLAG	CDF_UINT1	1	0	
QUALITY_BITMASK	CDF_UINT2	1	0	
COMMON_BIA_STATUS_FLAG	CDF_UINT1	1	0	
SURVEY_MODE	CDF_UINT1	1	0	
FREQ	CDF_UINT1	1	0	
BIAS_MODE_MUX_SET	CDF_UINT1	1	0	
BIAS_MODE_HV_ENABLED	CDF_UINT1	1	0	
BIAS_MODE_BIAS1_ENABLED	CDF_UINT1	1	0	
BIAS_MODE_BIAS2_ENABLED	CDF_UINT1	1	0	
BIAS_MODE_BIAS3_ENABLED	CDF_UINT1	1	0	
BIAS_ON_OFF	CDF_UINT1	1	0	
BW	CDF_UINT1	1	0	
SP0	CDF_UINT1	1	0	
SP1	CDF_UINT1	1	0	
R0	CDF_UINT1	1	0	
R1	CDF_UINT1	1	0	
R2	CDF_UINT1	1	0	
BP2_CNT	CDF_UINT1	1	0	
AUTO	CDF_REAL8	1	2	26 5
CROSS_RE	CDF_REAL4	1	2	26 10
CROSS_IM	CDF_REAL4	1	2	26 10
ACQUISITION_TIME_UNITS	CDF_CHAR	16	1	2
ACQUISITION_TIME_LABEL	CDF_CHAR	32	1	2
SCET	CDF_REAL8	1	0	
SYNCHRO_FLAG	CDF_UINT1	1	0	

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 262

4.1.2.18.5 Variable attributes

Variable Name	Attribute Name	Data Type	Value
Epoch	FIELDNAM	CDF_CHAR	Epoch
Epoch	CATDESC	CDF_CHAR	Default time
Epoch	DISPLAY_TYPE	CDF_CHAR	time_series
Epoch	VALIDMIN	CDF_TIME_TT2000	2000-01-01T00:00:00.000000000
Epoch	VALIDMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch	SCALEMIN	CDF_TIME_TT2000	1990-01-01T00:00:00.000000000
Epoch	SCALEMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch	LABLAXIS	CDF_CHAR	Epoch
Epoch	UNITS	CDF_CHAR	ns
Epoch	VAR_TYPE	CDF_CHAR	support_data
Epoch	SCALETYP	CDF_CHAR	linear
Epoch	MONOTON	CDF_CHAR	INCREASE
Epoch	TIME_BASE	CDF_CHAR	J2000
Epoch	TIME_SCALE	CDF_CHAR	Terrestrial Time
Epoch	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
Epoch	Resolution	CDF_CHAR	15258
Epoch	Bin_location	CDF_CHAR	0.5
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file.
ACQUISITION_TIME	FIELDNAM	CDF_CHAR	ACQUISITION_TIME
ACQUISITION_TIME	CATDESC	CDF_CHAR	CCSDS CUC format LFR time, coarse and fine parts
ACQUISITION_TIME	DISPLAY_TYPE	CDF_CHAR	time_series
ACQUISITION_TIME	VALIDMIN	CDF_UINT4	0
ACQUISITION_TIME	VALIDMAX	CDF_UINT4	4294967294
ACQUISITION_TIME	SCALEMIN	CDF_UINT4	0
ACQUISITION_TIME	SCALEMAX	CDF_UINT4	4294967294
ACQUISITION_TIME	FILLVAL	CDF_UINT4	4294967295
ACQUISITION_TIME	VAR_TYPE	CDF_CHAR	support_data
ACQUISITION_TIME	SCALETYP	CDF_CHAR	linear
ACQUISITION_TIME	MONOTON	CDF_CHAR	INCREASE
ACQUISITION_TIME	TIME_BASE	CDF_CHAR	LFR Time base
ACQUISITION_TIME	TIME_SCALE	CDF_CHAR	DPU clock

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 263

Tab. 4.38 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
ACQUISITION_TIME	REFERENCE_POS	CDF_CHAR	Rotating Earth Geoid
ACQUISITION_TIME	VAR_NOTES	CDF_CHAR	Local time measured by the RPW LFR receiver (Coarse and fine parts of the CUC format).
ACQUISITION_TIME	DEPEND_0	CDF_CHAR	Epoch
ACQUISITION_TIME	FORMAT	CDF_CHAR	I10.0
ACQUISITION_TIME	LABL_PTR_1	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME	UNIT_PTR	CDF_CHAR	ACQUISITION_TIME_UNITS
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	VALIDMIN	CDF_UINT1	0
QUALITY_FLAG	VALIDMAX	CDF_UINT1	4
QUALITY_FLAG	SCALEMIN	CDF_UINT1	0
QUALITY_FLAG	SCALEMAX	CDF_UINT1	4
QUALITY_FLAG	FILLVAL	CDF_UINT1	255
QUALITY_FLAG	LABLAXIS	CDF_CHAR	Quality flag
QUALITY_FLAG	UNITS	CDF_CHAR	
QUALITY_FLAG	VAR_TYPE	CDF_CHAR	support_data
QUALITY_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the quality of the data
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
QUALITY_FLAG	SCALETYPE	CDF_CHAR	linear
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	UNITS	CDF_CHAR	
QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context information or status at the receiver or experiment level
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch

continues on next page



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **264**

Tab. 4.38 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
COMMON_BIA_STATUS_FLAG	FIELDNAM	CDF_CHAR	COMMON_BIA_STATUS_FLAG
COMMON_BIA_STATUS_FLAG	CATDESC	CDF_CHAR	LFR common parameters and BIAS status info relevancy flag
COMMON_BIA_STATUS_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
COMMON_BIA_STATUS_FLAG	VALIDMIN	CDF_UINT1	0
COMMON_BIA_STATUS_FLAG	VALIDMAX	CDF_UINT1	1
COMMON_BIA_STATUS_FLAG	SCALEMIN	CDF_UINT1	0
COMMON_BIA_STATUS_FLAG	SCALEMAX	CDF_UINT1	1
COMMON_BIA_STATUS_FLAG	FILLVAL	CDF_UINT1	255
COMMON_BIA_STATUS_FLAG	LABLAXIS	CDF_CHAR	Common bias status flag
COMMON_BIA_STATUS_FLAG	UNITS	CDF_CHAR	
COMMON_BIA_STATUS_FLAG	VAR_TYPE	CDF_CHAR	support_data
COMMON_BIA_STATUS_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the relevancy of LFR common parameters (SP0/1, R0/1/2, BW) and BIAS STATUS INFO which can be non representative for the first packet following a change in those parameters.
COMMON_BIA_STATUS_FLAG	DEPEND_0	CDF_CHAR	Epoch
COMMON_BIA_STATUS_FLAG	FORMAT	CDF_CHAR	I1.1
COMMON_BIA_STATUS_FLAG	SCALETYPE	CDF_CHAR	linear
SURVEY_MODE	FIELDNAM	CDF_CHAR	SURVEY_MODE
SURVEY_MODE	CATDESC	CDF_CHAR	LFR survey mode
SURVEY_MODE	DISPLAY_TYPE	CDF_CHAR	time_series
SURVEY_MODE	VALIDMIN	CDF_UINT1	0
SURVEY_MODE	VALIDMAX	CDF_UINT1	1
SURVEY_MODE	SCALEMIN	CDF_UINT1	0
SURVEY_MODE	SCALEMAX	CDF_UINT1	1
SURVEY_MODE	FILLVAL	CDF_UINT1	255
SURVEY_MODE	LABLAXIS	CDF_CHAR	LFR survey mode
SURVEY_MODE	UNITS	CDF_CHAR	
SURVEY_MODE	VAR_TYPE	CDF_CHAR	data
SURVEY_MODE	VAR_NOTES	CDF_CHAR	Flag to indicate if the receiver in the SURVEY_BURST (=1) or SURVEY_NORMAL (=0) mode
SURVEY_MODE	DEPEND_0	CDF_CHAR	Epoch
SURVEY_MODE	FORMAT	CDF_CHAR	I1.1


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 265

Tab. 4.38 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SURVEY_MODE	SCALETYPE	CDF_CHAR	linear
FREQ	FIELDNAM	CDF_CHAR	Sampling frequency of the BP2
FREQ	CATDESC	CDF_CHAR	Sampling frequency of the BP2
FREQ	DISPLAY_TYPE	CDF_CHAR	time_series
FREQ	VALIDMIN	CDF_UINT1	0
FREQ	VALIDMAX	CDF_UINT1	2
FREQ	SCALEMIN	CDF_UINT1	0
FREQ	SCALEMAX	CDF_UINT1	2
FREQ	FILLVAL	CDF_UINT1	255
FREQ	LABLAXIS	CDF_CHAR	FREQ
FREQ	UNITS	CDF_CHAR	
FREQ	VAR_TYPE	CDF_CHAR	support_data
FREQ	VAR_NOTES	CDF_CHAR	Index to indicate the sampling frequency of the BP2 : F0, F1 or F2 in order to use only one skeleton for the 3 normal mode bp2 products of ICD.
FREQ	DEPEND_0	CDF_CHAR	Epoch
FREQ	FORMAT	CDF_CHAR	I3.3
FREQ	SCALETYPE	CDF_CHAR	linear
BIAS_MODE_MUX_SET	FIELDNAM	CDF_CHAR	BIAS multiplexer setting
BIAS_MODE_MUX_SET	CATDESC	CDF_CHAR	Copy of multiplexer setting.
BIAS_MODE_MUX_SET	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_MUX_SET	VALIDMIN	CDF_UINT1	0
BIAS_MODE_MUX_SET	VALIDMAX	CDF_UINT1	7
BIAS_MODE_MUX_SET	SCALEMIN	CDF_UINT1	0
BIAS_MODE_MUX_SET	SCALEMAX	CDF_UINT1	7
BIAS_MODE_MUX_SET	FILLVAL	CDF_UINT1	255
BIAS_MODE_MUX_SET	LABLAXIS	CDF_CHAR	BIAS_MODE_MUX_SET
BIAS_MODE_MUX_SET	UNITS	CDF_CHAR	
BIAS_MODE_MUX_SET	VAR_TYPE	CDF_CHAR	support_data

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 266

Tab. 4.38 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_MODE_MUX_SET	VAR_NOTES	CDF_CHAR	Indicates the mode of BIAS multiplexer for a set of BP2 parameters. Possible values are 0 : Standard operation. 1 : Probe 1 fails. 2 : Probe 2 fails. 3 : Probe 3 fails. 4 : Calibration mode 0. 5 : Calibration mode 1. 6 : Calibration mode 2. 7 : Calibration mode 3.
BIAS_MODE_MUX_SET	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_MUX_SET	FORMAT	CDF_CHAR	I3.3
BIAS_MODE_MUX_SET	SCALETYPE	CDF_CHAR	linear
BIAS_MODE_HV_ENABLED	FIELDNAM	CDF_CHAR	BIAS high voltage status
BIAS_MODE_HV_ENABLED	CATDESC	CDF_CHAR	Copy of enable/disable HV (+- 100V).
BIAS_MODE_HV_ENABLED	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_HV_ENABLED	VALIDMIN	CDF_UINT1	0
BIAS_MODE_HV_ENABLED	VALIDMAX	CDF_UINT1	1
BIAS_MODE_HV_ENABLED	SCALEMIN	CDF_UINT1	0
BIAS_MODE_HV_ENABLED	SCALEMAX	CDF_UINT1	1
BIAS_MODE_HV_ENABLED	FILLVAL	CDF_UINT1	255
BIAS_MODE_HV_ENABLED	LABLAXIS	CDF_CHAR	BIAS_MODE_HV_ENABLED
BIAS_MODE_HV_ENABLED	UNITS	CDF_CHAR	
BIAS_MODE_HV_ENABLED	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_HV_ENABLED	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS HV. Possible values are DISABLED = 0. ENABLED = 1.
BIAS_MODE_HV_ENABLED	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_HV_ENABLED	FORMAT	CDF_CHAR	I3.3
BIAS_MODE_HV_ENABLED	SCALETYPE	CDF_CHAR	linear
BIAS_MODE_BIAS1_ENABLED	FIELDNAM	CDF_CHAR	BIAS probe 1 status
BIAS_MODE_BIAS1_ENABLED	CATDESC	CDF_CHAR	Copy of enable/disable BIAS 1.
BIAS_MODE_BIAS1_ENABLED	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_BIAS1_ENABLED	VALIDMIN	CDF_UINT1	0
BIAS_MODE_BIAS1_ENABLED	VALIDMAX	CDF_UINT1	1
BIAS_MODE_BIAS1_ENABLED	SCALEMIN	CDF_UINT1	0
BIAS_MODE_BIAS1_ENABLED	SCALEMAX	CDF_UINT1	1
BIAS_MODE_BIAS1_ENABLED	FILLVAL	CDF_UINT1	255
BIAS_MODE_BIAS1_ENABLED	LABLAXIS	CDF_CHAR	BIAS_MODE_BIAS1_ENABLED
BIAS_MODE_BIAS1_ENABLED	UNITS	CDF_CHAR	

continues on next page



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **267**

Tab. 4.38 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_MODE_BIAS1_ENAB	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_BIAS1_ENAB	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS probe 1. Possible values are DISABLED = 0. ENABLED = 1.
BIAS_MODE_BIAS1_ENAB	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_BIAS1_ENAB	FORMAT	CDF_CHAR	I3.3
BIAS_MODE_BIAS1_ENAB	SCALETYPE	CDF_CHAR	linear
BIAS_MODE_BIAS2_ENAB	HELDNAM	CDF_CHAR	BIAS probe 2 status
BIAS_MODE_BIAS2_ENAB	CATDESC	CDF_CHAR	Copy of enable/disable BIAS 2.
BIAS_MODE_BIAS2_ENAB	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_BIAS2_ENAB	VALIDMIN	CDF_UINT1	0
BIAS_MODE_BIAS2_ENAB	VALIDMAX	CDF_UINT1	1
BIAS_MODE_BIAS2_ENAB	SCALEMIN	CDF_UINT1	0
BIAS_MODE_BIAS2_ENAB	SCALEMAX	CDF_UINT1	1
BIAS_MODE_BIAS2_ENAB	HELDVAL	CDF_UINT1	255
BIAS_MODE_BIAS2_ENAB	LABLAXIS	CDF_CHAR	BIAS_MODE_BIAS2_ENABLED
BIAS_MODE_BIAS2_ENAB	UNITS	CDF_CHAR	
BIAS_MODE_BIAS2_ENAB	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_BIAS2_ENAB	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS probe 2. Possible values are DISABLED = 0. ENABLED = 1.
BIAS_MODE_BIAS2_ENAB	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_BIAS2_ENAB	FORMAT	CDF_CHAR	I3.3
BIAS_MODE_BIAS2_ENAB	SCALETYPE	CDF_CHAR	linear
BIAS_MODE_BIAS3_ENAB	HELDNAM	CDF_CHAR	BIAS probe 3 status
BIAS_MODE_BIAS3_ENAB	CATDESC	CDF_CHAR	Copy of enable/disable BIAS 3.
BIAS_MODE_BIAS3_ENAB	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_BIAS3_ENAB	VALIDMIN	CDF_UINT1	0
BIAS_MODE_BIAS3_ENAB	VALIDMAX	CDF_UINT1	1
BIAS_MODE_BIAS3_ENAB	SCALEMIN	CDF_UINT1	0
BIAS_MODE_BIAS3_ENAB	SCALEMAX	CDF_UINT1	1
BIAS_MODE_BIAS3_ENAB	HELDVAL	CDF_UINT1	255
BIAS_MODE_BIAS3_ENAB	LABLAXIS	CDF_CHAR	BIAS_MODE_BIAS3_ENABLED
BIAS_MODE_BIAS3_ENAB	UNITS	CDF_CHAR	
BIAS_MODE_BIAS3_ENAB	VAR_TYPE	CDF_CHAR	support_data


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 268

Tab. 4.38 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_MODE_BIAS3_ENAB	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS probe 3. Possible values are DISABLED = 0. ENABLED = 1.
BIAS_MODE_BIAS3_ENAB	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_BIAS3_ENAB	FORMAT	CDF_CHAR	I3.3
BIAS_MODE_BIAS3_ENAB	SCALETYPE	CDF_CHAR	linear
BIAS_ON_OFF	FIELDNAM	CDF_CHAR	BIAS status
BIAS_ON_OFF	CATDESC	CDF_CHAR	Copy of BIAS status.
BIAS_ON_OFF	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_ON_OFF	VALIDMIN	CDF_UINT1	0
BIAS_ON_OFF	VALIDMAX	CDF_UINT1	1
BIAS_ON_OFF	SCALEMIN	CDF_UINT1	0
BIAS_ON_OFF	SCALEMAX	CDF_UINT1	1
BIAS_ON_OFF	FILLVAL	CDF_UINT1	255
BIAS_ON_OFF	LABLAXIS	CDF_CHAR	BIAS_ON_OFF
BIAS_ON_OFF	UNITS	CDF_CHAR	
BIAS_ON_OFF	VAR_TYPE	CDF_CHAR	support_data
BIAS_ON_OFF	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS. Possible values are OFF = 0 - Power line off. ON = 1 - Power line on.
BIAS_ON_OFF	DEPEND_0	CDF_CHAR	Epoch
BIAS_ON_OFF	FORMAT	CDF_CHAR	I3.3
BIAS_ON_OFF	SCALETYPE	CDF_CHAR	linear
BW	FIELDNAM	CDF_CHAR	BIAS Works/BIAS Fails configuration.
BW	CATDESC	CDF_CHAR	BIAS Works/BIAS Fails configuration.
BW	DISPLAY_TYPE	CDF_CHAR	time_series
BW	VALIDMIN	CDF_UINT1	0
BW	VALIDMAX	CDF_UINT1	1
BW	SCALEMIN	CDF_UINT1	0
BW	SCALEMAX	CDF_UINT1	1
BW	FILLVAL	CDF_UINT1	255
BW	LABLAXIS	CDF_CHAR	BW
BW	UNITS	CDF_CHAR	
BW	VAR_TYPE	CDF_CHAR	support_data
BW	VAR_NOTES	CDF_CHAR	
BW	DEPEND_0	CDF_CHAR	Epoch
BW	FORMAT	CDF_CHAR	I3.3


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 269

Tab. 4.38 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BW	SCALETYPE	CDF_CHAR	linear
SP0	FIELDNAM	CDF_CHAR	Shaping of electrical data parameter 0.
SP0	CATDESC	CDF_CHAR	Shaping of electrical data.
SP0	DISPLAY_TYPE	CDF_CHAR	time_series
SP0	VALIDMIN	CDF_UINT1	0
SP0	VALIDMAX	CDF_UINT1	1
SP0	SCALEMIN	CDF_UINT1	0
SP0	SCALEMAX	CDF_UINT1	1
SP0	FILLVAL	CDF_UINT1	255
SP0	LABLAXIS	CDF_CHAR	SP0
SP0	UNITS	CDF_CHAR	
SP0	VAR_TYPE	CDF_CHAR	support_data
SP0	VAR_NOTES	CDF_CHAR	
SP0	DEPEND_0	CDF_CHAR	Epoch
SP0	FORMAT	CDF_CHAR	I3.3
SP0	SCALETYPE	CDF_CHAR	linear
SP1	FIELDNAM	CDF_CHAR	Shaping of electrical data parameter 1.
SP1	CATDESC	CDF_CHAR	Shaping of electrical data.
SP1	DISPLAY_TYPE	CDF_CHAR	time_series
SP1	VALIDMIN	CDF_UINT1	0
SP1	VALIDMAX	CDF_UINT1	1
SP1	SCALEMIN	CDF_UINT1	0
SP1	SCALEMAX	CDF_UINT1	1
SP1	FILLVAL	CDF_UINT1	255
SP1	LABLAXIS	CDF_CHAR	SP1
SP1	UNITS	CDF_CHAR	
SP1	VAR_TYPE	CDF_CHAR	support_data
SP1	VAR_NOTES	CDF_CHAR	
SP1	DEPEND_0	CDF_CHAR	Epoch
SP1	FORMAT	CDF_CHAR	I3.3
SP1	SCALETYPE	CDF_CHAR	linear
R0	FIELDNAM	CDF_CHAR	Rooting of electrical data for F0.
R0	CATDESC	CDF_CHAR	Rooting of electrical data.
R0	DISPLAY_TYPE	CDF_CHAR	time_series
R0	VALIDMIN	CDF_UINT1	0
R0	VALIDMAX	CDF_UINT1	1
R0	SCALEMIN	CDF_UINT1	0
R0	SCALEMAX	CDF_UINT1	1


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 270

Tab. 4.38 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
R0	FILLVAL	CDF_UINT1	255
R0	LABLAXIS	CDF_CHAR	R0
R0	UNITS	CDF_CHAR	
R0	VAR_TYPE	CDF_CHAR	support_data
R0	VAR_NOTES	CDF_CHAR	
R0	DEPEND_0	CDF_CHAR	Epoch
R0	FORMAT	CDF_CHAR	I3.3
R0	SCALETYPE	CDF_CHAR	linear
R1	FIELDNAM	CDF_CHAR	Rooting of electrical data for F1.
R1	CATDESC	CDF_CHAR	Rooting of electrical data.
R1	DISPLAY_TYPE	CDF_CHAR	time_series
R1	VALIDMIN	CDF_UINT1	0
R1	VALIDMAX	CDF_UINT1	1
R1	SCALEMIN	CDF_UINT1	0
R1	SCALEMAX	CDF_UINT1	1
R1	FILLVAL	CDF_UINT1	255
R1	LABLAXIS	CDF_CHAR	R1
R1	UNITS	CDF_CHAR	
R1	VAR_TYPE	CDF_CHAR	support_data
R1	VAR_NOTES	CDF_CHAR	
R1	DEPEND_0	CDF_CHAR	Epoch
R1	FORMAT	CDF_CHAR	I3.3
R1	SCALETYPE	CDF_CHAR	linear
R2	FIELDNAM	CDF_CHAR	Rooting of electrical data for F2.
R2	CATDESC	CDF_CHAR	Rooting of electrical data.
R2	DISPLAY_TYPE	CDF_CHAR	time_series
R2	VALIDMIN	CDF_UINT1	0
R2	VALIDMAX	CDF_UINT1	1
R2	SCALEMIN	CDF_UINT1	0
R2	SCALEMAX	CDF_UINT1	1
R2	FILLVAL	CDF_UINT1	255
R2	LABLAXIS	CDF_CHAR	R2
R2	UNITS	CDF_CHAR	
R2	VAR_TYPE	CDF_CHAR	support_data
R2	VAR_NOTES	CDF_CHAR	
R2	DEPEND_0	CDF_CHAR	Epoch
R2	FORMAT	CDF_CHAR	I3.3
R2	SCALETYPE	CDF_CHAR	linear


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 271

Tab. 4.38 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BP2_CNT	FIELDNAM	CDF_CHAR	CCSDS CUC format LFR time, coarse and fine parts
BP2_CNT	CATDESC	CDF_CHAR	Number of BP2 sets read for a given sampling frequency(F0, F1 or F2).
BP2_CNT	DISPLAY_TYPE	CDF_CHAR	time_series
BP2_CNT	VALIDMIN	CDF_UINT1	0
BP2_CNT	VALIDMAX	CDF_UINT1	1
BP2_CNT	SCALEMIN	CDF_UINT1	0
BP2_CNT	SCALEMAX	CDF_UINT1	1
BP2_CNT	FILLVAL	CDF_UINT1	255
BP2_CNT	LABLAXIS	CDF_CHAR	BP2_CNT
BP2_CNT	UNITS	CDF_CHAR	
BP2_CNT	VAR_TYPE	CDF_CHAR	support_data
BP2_CNT	VAR_NOTES	CDF_CHAR	This indicates how many sets of BP1 have been read. Expected numbers for NORMAL MODE are 11 for F0, 13 for F1 and 12 for F2. Expected numbers for BURST MODE are 22 for F0 and 26 for F1.
BP2_CNT	DEPEND_0	CDF_CHAR	Epoch
BP2_CNT	FORMAT	CDF_CHAR	I3.3
BP2_CNT	SCALETYPE	CDF_CHAR	linear
AUTO	FIELDNAM	CDF_CHAR	Component of autovariances from the EM data stream
AUTO	CATDESC	CDF_CHAR	Component of autovariances from the EM data stream
AUTO	DISPLAY_TYPE	CDF_CHAR	time_series
AUTO	VALIDMIN	CDF_REAL8	-1.0e+30
AUTO	VALIDMAX	CDF_REAL8	1.0e+30
AUTO	SCALEMIN	CDF_REAL8	-1.0e+30
AUTO	SCALEMAX	CDF_REAL8	1.0e+30
AUTO	FILLVAL	CDF_REAL8	-1.0e+31
AUTO	LABLAXIS	CDF_CHAR	AUTO
AUTO	UNITS	CDF_CHAR	
AUTO	VAR_TYPE	CDF_CHAR	data
AUTO	VAR_NOTES	CDF_CHAR	
AUTO	DEPEND_0	CDF_CHAR	Epoch
AUTO	FORMAT	CDF_CHAR	F32.6


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 272

Tab. 4.38 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
AUTO	SCALETYPE	CDF_CHAR	linear
CROSS_RE	FIELDNAM	CDF_CHAR	CROSS_RE
CROSS_RE	CATDESC	CDF_CHAR	Real part of complex cross correlations from the EM data
CROSS_RE	DISPLAY_TYPE	CDF_CHAR	time_series
CROSS_RE	VALIDMIN	CDF_REAL4	0.0
CROSS_RE	VALIDMAX	CDF_REAL4	1.0
CROSS_RE	SCALEMIN	CDF_REAL4	0.0
CROSS_RE	SCALEMAX	CDF_REAL4	1.0
CROSS_RE	FILLVAL	CDF_REAL4	-1.0e+31
CROSS_RE	LABLAXIS	CDF_CHAR	CROSS_RE
CROSS_RE	UNITS	CDF_CHAR	
CROSS_RE	VAR_TYPE	CDF_CHAR	data
CROSS_RE	VAR_NOTES	CDF_CHAR	This variable contains the 10 real parts of complex values for a given BP2 set.
CROSS_RE	DEPEND_0	CDF_CHAR	Epoch
CROSS_RE	FORMAT	CDF_CHAR	F32.6
CROSS_RE	SCALETYPE	CDF_CHAR	linear
CROSS_IM	FIELDNAM	CDF_CHAR	CROSS_IM
CROSS_IM	CATDESC	CDF_CHAR	Imaginary part of complex cross correlations from the EM data
CROSS_IM	DISPLAY_TYPE	CDF_CHAR	time_series
CROSS_IM	VALIDMIN	CDF_REAL4	0.0
CROSS_IM	VALIDMAX	CDF_REAL4	1.0
CROSS_IM	SCALEMIN	CDF_REAL4	0.0
CROSS_IM	SCALEMAX	CDF_REAL4	1.0
CROSS_IM	FILLVAL	CDF_REAL4	-1.0e+31
CROSS_IM	LABLAXIS	CDF_CHAR	CROSS_IM
CROSS_IM	UNITS	CDF_CHAR	
CROSS_IM	VAR_TYPE	CDF_CHAR	data
CROSS_IM	VAR_NOTES	CDF_CHAR	This variable contains the 10 imaginary parts of complex values for a given BP2 set.
CROSS_IM	DEPEND_0	CDF_CHAR	Epoch
CROSS_IM	FORMAT	CDF_CHAR	F32.6
CROSS_IM	SCALETYPE	CDF_CHAR	linear
ACQUISITION_TIME_UNITS	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_UNITS


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 273

Tab. 4.38 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
ACQUISITION_TIME_UNITS	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME_UNIT_PTR attribute
ACQUISITION_TIME_UNITS	VAR_TYPE	CDF_CHAR	metadata
ACQUISITION_TIME_UNITS	FORMAT	CDF_CHAR	A16
ACQUISITION_TIME_LABEL	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME_LABEL	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME
ACQUISITION_TIME_LABEL	VAR_TYPE	CDF_CHAR	metadata
ACQUISITION_TIME_LABEL	FORMAT	CDF_CHAR	A32
SCET	FIELDNAM	CDF_CHAR	Spacecraft Elapsed Time
SCET	CATDESC	CDF_CHAR	Elapsed Time of the onboard clock
SCET	DISPLAY_TYPE	CDF_CHAR	time_series
SCET	VALIDMIN	CDF_REAL8	0.0
SCET	VALIDMAX	CDF_REAL8	1.0e+31
SCET	SCALEMIN	CDF_REAL8	0.0
SCET	SCALEMAX	CDF_REAL8	1.0e+31
SCET	FILLVAL	CDF_REAL8	-1.0e+31
SCET	LABLAXIS	CDF_CHAR	Spacecraft Elapsed Time (Ticks)
SCET	UNITS	CDF_CHAR	Ticks
SCET	VAR_TYPE	CDF_CHAR	support_data
SCET	SCALETYP	CDF_CHAR	linear
SCET	MONOTON	CDF_CHAR	INCREASE
SCET	TIME_BASE	CDF_CHAR	Spacecraft onboard clock
SCET	TIME_SCALE	CDF_CHAR	Spacecraft onboard clock
SCET	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
SCET	VAR_NOTES	CDF_CHAR	Spacecraft Elapsed Time
SCET	DEPEND_0	CDF_CHAR	Epoch
SYNCHRO_FLAG	FIELDNAM	CDF_CHAR	SYNCHRO_FLAG
SYNCHRO_FLAG	CATDESC	CDF_CHAR	Time synchronisation flag
SYNCHRO_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
SYNCHRO_FLAG	VALIDMIN	CDF_UINT1	0
SYNCHRO_FLAG	VALIDMAX	CDF_UINT1	1
SYNCHRO_FLAG	SCALEMIN	CDF_UINT1	0
SYNCHRO_FLAG	SCALEMAX	CDF_UINT1	1
SYNCHRO_FLAG	FILLVAL	CDF_UINT1	255
SYNCHRO_FLAG	LABLAXIS	CDF_CHAR	time sync. flag
SYNCHRO_FLAG	UNITS	CDF_CHAR	
SYNCHRO_FLAG	VAR_TYPE	CDF_CHAR	support_data

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 274

Tab. 4.38 – continued from previous page


Variable Name	Attribute Name	Data Type	Value
SYNCHRO_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate if the local time is synchronized with the RPW DPU clock or not. Possible values: synchronized=0, not synchronized=1. This flag is extracted from ACQUISITION_TIME in L0 packets, it is the MSB of the CUC time.
SYNCHRO_FLAG	DEPEND_0	CDF_CHAR	Epoch
SYNCHRO_FLAG	FORMAT	CDF_CHAR	I3.3
SYNCHRO_FLAG	SCALETYPE	CDF_CHAR	linear

4.1.2.18.6 Non-Record-Variant (NRV) Variables

Variable Name	Index	Value
ACQUISITION_TIME_UNITS	1	s
ACQUISITION_TIME_UNITS	2	s / 65536
ACQUISITION_TIME_LABEL	1	CUC coarse part time
ACQUISITION_TIME_LABEL	2	CUC fine part time

4.1.2.19 SOLO_L1_RPW-LFR-SURV-CWF data product

The “SOLO_L1_RPW-LFR-SURV-CWF” data product contains the uncalibrated LFR receiver Continuous Waveform survey data. The “SOLO_L1_RPW-LFR-SURV-CWF” data are written in CDF format files. There is a single file per day, generated from data in the corresponding SOLO_L0_RPW parent file.

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 275

4.1.2.19.1 Filename

solo_L1_rpw-lfr-surv-cwf_[YYYYMMDD]_V[version].cdf

4.1.2.19.2 Expected cadence and data volume


Nominal cadence: 1 file per day

Expected data volume: 150 MB per day

4.1.2.19.3 Global Attributes

Attribute Name	Entry Number	Data Type	Value
ACCESS_FORMAT	1	CDF_CHAR	CDF
ACCESS_URL	1	CDF_CHAR	
Acknowledgement	1	CDF_CHAR	The authors are pleased to acknowledge the Solar Orbiter/RPW Investigation (M. Maksimovic, PIs) for access to data.
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009 (2.4)
Data_type	1	CDF_CHAR	H0>High Resolution data
Data_version	1	CDF_CHAR	
Descriptor	1	CDF_CHAR	RPW-LFR-SURV-CWF> RPW Low Frequency Receiver Continuous Waveform data in survey mode
Discipline	1	CDF_CHAR	Space Physics>Interplanetary Studies
File_naming_convention	1	CDF_CHAR	<Source_name>_<LEVEL>_<Descriptor>_<Date>
File_ID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	RPW Operations Centre located at LESIA (Meudon, France)
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	https://rpw.lesia.obspm.fr
Instrument_type	1	CDF_CHAR	Radio and Plasma Waves (space)
LINK_TEXT	1	CDF_CHAR	RPW Web site at LESIA
LINK_TITLE	1	CDF_CHAR	RPW Web site
Logical_file_id	1	CDF_CHAR	
Logical_source	1	CDF_CHAR	solo_L1_rpw-lfr-surv-cwf
Logical_source_description	1	CDF_CHAR	Solar Orbiter Radio/Plasma Wave, LFR L1 parameters


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 276

Tab. 4.39 – continued from previous page


Attribute Name	Entry Number	Data Type	Value
Mission_group	1	CDF_CHAR	Solar Orbiter
SKELETON_MODS	1	CDF_CHAR	June 2015 : initial release, B. KATRA (CNRS-LPP)
SKELETON_MODS	2	CDF_CHAR	V04: Update for solo data definition, X. BONNIN (CNRS-LESIA), April 2019
SKELETON_MODS	3	CDF_CHAR	V05: Update to compliant with SOL-SGS-TN-0009 Issue 2, Rev 4 - X.Bonnin, 09/2019
SKELETON_MODS	4	CDF_CHAR	V06: March 2020 : Standardize SAMPLING_RATE and delete Test_* g.attrs - X.Bonnin (CNRS, LESIA)
SKELETON_MODS	5	CDF_CHAR	V07: Removing POST_GAP_FLAG zvar and UCD vattr. (X.Bonnin, 09/2020)
SKELETON_MODS	6	CDF_CHAR	V09: Jan. 2021 : Fix inconsistencies against the ISTP CDF guidelines, X.Bonnin (CNRS-LESIA)
Parent_version	1	CDF_CHAR	
Parents	1	CDF_CHAR	
PI_affiliation	1	CDF_CHAR	LESIA, Observatoire de Paris-CNRS
PI_name	1	CDF_CHAR	M.Maksimovic
Pipeline_version	1	CDF_CHAR	
Project	1	CDF_CHAR	SOLO>Solar Orbiter
Provider	1	CDF_CHAR	LESIA (Meudon, France)
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00006-LES (1.3)
Rules_of_use	1	CDF_CHAR	Data provided are publicly available. If used in presentations or publications, please acknowledge Solar Orbiter/RPW Investigation (M. Maksimovic, PIs). Please read carefully the caveats attached to the data. For reporting purposes, we request bibliography information for any publication, etc., using these data. Please send information on the use of this data to: M. Maksimovic (PI).
SKELETON_PARENT	1	CDF_CHAR	SOLO_L1_RPW-LFR-SURV-CWF_V09.cdf
Skeleton_version	1	CDF_CHAR	09
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 277

Tab. 4.39 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Source_name	1	CDF_CHAR	SOLO>Solar Orbiter
SPECTRAL_RANGE_MAX	1	CDF_CHAR	
SPECTRAL_RANGE_MIN	1	CDF_CHAR	
TEXT	1	CDF_CHAR	This file contains RPW LFR level 1 survey continuous waveform data for the current day.
TEXT_supplement_1	1	CDF_CHAR	
TIME_MAX	1	CDF_CHAR	
TIME_MIN	1	CDF_CHAR	
Validate	1	CDF_CHAR	
CAVEATS	1	CDF_CHAR	Engineering data. No good for publication.
Datetime	1	CDF_CHAR	
Free_field	1	CDF_CHAR	
Job_ID	1	CDF_CHAR	
LEVEL	1	CDF_CHAR	L1>Level 1 data processing
SOOP_TYPE	1	CDF_CHAR	
Data_product	1	CDF_CHAR	SURV-CWF>SURV-CWF
TARGET_NAME	1	CDF_CHAR	Sun
TARGET_CLASS	1	CDF_CHAR	Star
TARGET_REGION	1	CDF_CHAR	Solar Wind
Pipeline_name	1	CDF_CHAR	
Dataset_ID	1	CDF_CHAR	SOLO_L1_RPW-LFR-SURV-CWF
OBS_ID	1	CDF_CHAR	
MODS	1	CDF_CHAR	

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 278


4.1.2.19.4 zVariables

Variable Name	Data Type	Number El- ements	Dims	Sizes
Epoch	CDF_TIME_TT2000	1	0	
ACQUISITION_TIME	CDF_UINT4	1	1	2
QUALITY_FLAG	CDF_UINT1	1	0	
COMMON_BIA_STATUS_FLAG	CDF_UINT1	1	0	
QUALITY_BITMASK	CDF_UINT2	1	0	
SURVEY_MODE	CDF_UINT1	1	0	
FREQ	CDF_UINT1	1	0	
TYPE	CDF_UINT1	1	0	
BIAS_MODE_MUX_SET	CDF_UINT1	1	0	
BIAS_MODE_HV_ENABLED	CDF_UINT1	1	0	
BIAS_MODE_BIAS1_ENABLED	CDF_UINT1	1	0	
BIAS_MODE_BIAS2_ENABLED	CDF_UINT1	1	0	
BIAS_MODE_BIAS3_ENABLED	CDF_UINT1	1	0	
BIAS_ON_OFF	CDF_UINT1	1	0	
BW	CDF_UINT1	1	0	
SP0	CDF_UINT1	1	0	
SP1	CDF_UINT1	1	0	
R0	CDF_UINT1	1	0	
R1	CDF_UINT1	1	0	
R2	CDF_UINT1	1	0	
V	CDF_INT2	1	0	
E	CDF_INT2	1	1	2
B	CDF_INT2	1	1	3
ACQUISITION_TIME_UNITS	CDF_CHAR	16	1	2
ACQUISITION_TIME_LABEL	CDF_CHAR	32	1	2
SCET	CDF_REAL8	1	0	
SYNCHRO_FLAG	CDF_UINT1	1	0	
SAMPLING_RATE	CDF_REAL4	1	0	

4.1.2.19.5 Variable attributes

Variable Name	Attribute Name	Data Type	Value
Epoch	FIELDNAM	CDF_CHAR	Epoch
Epoch	CATDESC	CDF_CHAR	Default time
Epoch	DISPLAY_TYPE	CDF_CHAR	time_series


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 279

Tab. 4.40 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
Epoch	VALIDMIN	CDF_TIME_TT2000	2000-01-01T00:00:00.000000000
Epoch	VALIDMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch	SCALEMIN	CDF_TIME_TT2000	1990-01-01T00:00:00.000000000
Epoch	SCALEMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch	LABLAXIS	CDF_CHAR	Epoch
Epoch	UNITS	CDF_CHAR	ns
Epoch	VAR_TYPE	CDF_CHAR	support_data
Epoch	SCALETYP	CDF_CHAR	linear
Epoch	MONOTON	CDF_CHAR	INCREASE
Epoch	TIME_BASE	CDF_CHAR	J2000
Epoch	TIME_SCALE	CDF_CHAR	Terrestrial Time
Epoch	REFERENCE_POS	CDF_CHAR	Spacecraft barycenter
Epoch	Resolution	CDF_CHAR	15258 ns
Epoch	Bin_location	CDF_CHAR	0.5
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file. 1 Epoch time refers to the time of the samples in the file.
ACQUISITION_TIME	FIELDNAM	CDF_CHAR	CCSDS CUC Acquisition time as returned in TM packets
ACQUISITION_TIME	CATDESC	CDF_CHAR	CCSDS CUC format LFR time, coarse and fine parts of the samples of current file.
ACQUISITION_TIME	DISPLAY_TYPE	CDF_CHAR	time_series
ACQUISITION_TIME	VALIDMIN	CDF_UINT4	0
ACQUISITION_TIME	VALIDMAX	CDF_UINT4	4294967294
ACQUISITION_TIME	SCALEMIN	CDF_UINT4	0
ACQUISITION_TIME	SCALEMAX	CDF_UINT4	4294967294
ACQUISITION_TIME	FILLVAL	CDF_UINT4	4294967295
ACQUISITION_TIME	VAR_TYPE	CDF_CHAR	support_data
ACQUISITION_TIME	SCALETYP	CDF_CHAR	linear
ACQUISITION_TIME	MONOTON	CDF_CHAR	INCREASE
ACQUISITION_TIME	TIME_BASE	CDF_CHAR	2000-01-01T00:00:00
ACQUISITION_TIME	TIME_SCALE	CDF_CHAR	RPW DPU clock


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 280

Tab. 4.40 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
ACQUISITION_TIME	VAR_NOTES	CDF_CHAR	Local time measured by the RPW LFR receiver (Coarse and fine parts of the CUC format) of the samples of current file.
ACQUISITION_TIME	DEPEND_0	CDF_CHAR	Epoch
ACQUISITION_TIME	FORMAT	CDF_CHAR	I10.0
ACQUISITION_TIME	LABL_PTR_1	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME	UNIT_PTR	CDF_CHAR	ACQUISITION_TIME_UNITS
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	VALIDMIN	CDF_UINT1	0
QUALITY_FLAG	VALIDMAX	CDF_UINT1	4
QUALITY_FLAG	SCALEMIN	CDF_UINT1	0
QUALITY_FLAG	SCALEMAX	CDF_UINT1	4
QUALITY_FLAG	FILLVAL	CDF_UINT1	255
QUALITY_FLAG	LABLAXIS	CDF_CHAR	Quality flag
QUALITY_FLAG	UNITS	CDF_CHAR	
QUALITY_FLAG	VAR_TYPE	CDF_CHAR	support_data
QUALITY_FLAG	SCALETYP	CDF_CHAR	linear
QUALITY_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the quality of the data
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
COMMON_BIA_STATUS_FLAG	FIELDNAM	CDF_CHAR	COMMON_BIA_STATUS_FLAG
COMMON_BIA_STATUS_FLAG	CATDESC	CDF_CHAR	LFR common parameters and BIAS status info relevancy flag
COMMON_BIA_STATUS_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
COMMON_BIA_STATUS_FLAG	VALIDMIN	CDF_UINT1	0
COMMON_BIA_STATUS_FLAG	VALIDMAX	CDF_UINT1	1
COMMON_BIA_STATUS_FLAG	SCALEMIN	CDF_UINT1	0
COMMON_BIA_STATUS_FLAG	SCALEMAX	CDF_UINT1	1
COMMON_BIA_STATUS_FLAG	FILLVAL	CDF_UINT1	255
COMMON_BIA_STATUS_FLAG	LABLAXIS	CDF_CHAR	LFR common parameters + BIAS status flag
COMMON_BIA_STATUS_FLAG	UNITS	CDF_CHAR	
COMMON_BIA_STATUS_FLAG	VAR_TYPE	CDF_CHAR	support_data
COMMON_BIA_STATUS_FLAG	SCALETYP	CDF_CHAR	linear


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 281

Tab. 4.40 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
COMMON_BIA_STATUS_FLAG	LFR_NOTES	CDF_CHAR	Flag to indicate the relevancy of LFR common parameters (SP0/1, R0/1/2, BW) and BIAS STATUS INFO which can be non representative for the first packet following a change in those parameters.
COMMON_BIA_STATUS_FLAG	DEPEND_0	CDF_CHAR	Epoch
COMMON_BIA_STATUS_FLAG	FORMAT	CDF_CHAR	I1.1
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	UNITS	CDF_CHAR	
QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context information or status at the receiver or experiment level
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
SURVEY_MODE	FIELDNAM	CDF_CHAR	SURVEY_MODE
SURVEY_MODE	CATDESC	CDF_CHAR	LFR survey mode
SURVEY_MODE	DISPLAY_TYPE	CDF_CHAR	time_series
SURVEY_MODE	VALIDMIN	CDF_UINT1	0
SURVEY_MODE	VALIDMAX	CDF_UINT1	1
SURVEY_MODE	SCALEMIN	CDF_UINT1	0
SURVEY_MODE	SCALEMAX	CDF_UINT1	1
SURVEY_MODE	FILLVAL	CDF_UINT1	255
SURVEY_MODE	LABLAXIS	CDF_CHAR	LFR survey mode
SURVEY_MODE	UNITS	CDF_CHAR	
SURVEY_MODE	VAR_TYPE	CDF_CHAR	data
SURVEY_MODE	SCALETYP	CDF_CHAR	linear


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 282

Tab. 4.40 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SURVEY_MODE	VAR_NOTES	CDF_CHAR	Flag to indicate if the receiver in the SURVEY_BURST (=1) or SURVEY_NORMAL (=0) mode
SURVEY_MODE	DEPEND_0	CDF_CHAR	Epoch
SURVEY_MODE	FORMAT	CDF_CHAR	I1.1
FREQ	FIELDNAM	CDF_CHAR	FREQ
FREQ	CATDESC	CDF_CHAR	FREQ
FREQ	DISPLAY_TYPE	CDF_CHAR	time_series
FREQ	VALIDMIN	CDF_UINT1	0
FREQ	VALIDMAX	CDF_UINT1	2
FREQ	SCALEMIN	CDF_UINT1	0
FREQ	SCALEMAX	CDF_UINT1	2
FREQ	FILLVAL	CDF_UINT1	255
FREQ	LABLAXIS	CDF_CHAR	FREQ
FREQ	UNITS	CDF_CHAR	
FREQ	VAR_TYPE	CDF_CHAR	support_data
FREQ	SCALETYP	CDF_CHAR	
FREQ	VAR_NOTES	CDF_CHAR	Used to determine the frequency. 2 for F2 and 3 for F3
FREQ	DEPEND_0	CDF_CHAR	Epoch
FREQ	FORMAT	CDF_CHAR	I3.3
TYPE	FIELDNAM	CDF_CHAR	Type of continuous waveform : short(=0) or long(=1)
TYPE	CATDESC	CDF_CHAR	Type of continuous waveform : short(=0) or long(=1)
TYPE	DISPLAY_TYPE	CDF_CHAR	time_series
TYPE	VALIDMIN	CDF_UINT1	0
TYPE	VALIDMAX	CDF_UINT1	1
TYPE	SCALEMIN	CDF_UINT1	0
TYPE	SCALEMAX	CDF_UINT1	1
TYPE	FILLVAL	CDF_UINT1	255
TYPE	LABLAXIS	CDF_CHAR	TYPE
TYPE	UNITS	CDF_CHAR	
TYPE	VAR_TYPE	CDF_CHAR	support_data
TYPE	SCALETYP	CDF_CHAR	
TYPE	VAR_NOTES	CDF_CHAR	Indicates if it is a short continuous waveform product (only potential and electrical values) or long (potential, electrical and magnetic values)

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 283

Tab. 4.40 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
TYPE	DEPEND_0	CDF_CHAR	Epoch
TYPE	FORMAT	CDF_CHAR	I3.3
BIAS_MODE_MUX_SET	FIELDNAM	CDF_CHAR	BIAS multiplexer setting
BIAS_MODE_MUX_SET	CATDESC	CDF_CHAR	Copy of multiplexer setting.
BIAS_MODE_MUX_SET	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_MUX_SET	VALIDMIN	CDF_UINT1	0
BIAS_MODE_MUX_SET	VALIDMAX	CDF_UINT1	7
BIAS_MODE_MUX_SET	SCALEMIN	CDF_UINT1	0
BIAS_MODE_MUX_SET	SCALEMAX	CDF_UINT1	7
BIAS_MODE_MUX_SET	FILLVAL	CDF_UINT1	255
BIAS_MODE_MUX_SET	LABLAXIS	CDF_CHAR	BIAS_MODE_MUX_SET
BIAS_MODE_MUX_SET	UNITS	CDF_CHAR	
BIAS_MODE_MUX_SET	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_MUX_SET	SCALETYP	CDF_CHAR	linear
BIAS_MODE_MUX_SET	VAR_NOTES	CDF_CHAR	Indicates the mode of BIAS multiplexer for a waveform acquisition. Possible values are
BIAS_MODE_MUX_SET	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_MUX_SET	FORMAT	CDF_CHAR	I3.3
BIAS_MODE_HV_ENABLED	FIELDNAM	CDF_CHAR	BIAS high voltage status
BIAS_MODE_HV_ENABLED	CATDESC	CDF_CHAR	Copy of enable/disable HV (+- 100V).
BIAS_MODE_HV_ENABLED	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_HV_ENABLED	VALIDMIN	CDF_UINT1	0
BIAS_MODE_HV_ENABLED	VALIDMAX	CDF_UINT1	1
BIAS_MODE_HV_ENABLED	SCALEMIN	CDF_UINT1	0
BIAS_MODE_HV_ENABLED	SCALEMAX	CDF_UINT1	1
BIAS_MODE_HV_ENABLED	FILLVAL	CDF_UINT1	255
BIAS_MODE_HV_ENABLED	LABLAXIS	CDF_CHAR	BIAS_MODE_HV_ENABLED
BIAS_MODE_HV_ENABLED	UNITS	CDF_CHAR	
BIAS_MODE_HV_ENABLED	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_HV_ENABLED	SCALETYP	CDF_CHAR	linear
BIAS_MODE_HV_ENABLED	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS HV. Possible values are
BIAS_MODE_HV_ENABLED	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_HV_ENABLED	FORMAT	CDF_CHAR	I3.3
BIAS_MODE_BIAS1_ENABLED	FIELDNAM	CDF_CHAR	BIAS probe 1 status
BIAS_MODE_BIAS1_ENABLED	CATDESC	CDF_CHAR	Copy of enable/disable BIAS 1.
BIAS_MODE_BIAS1_ENABLED	DISPLAY_TYPE	CDF_CHAR	time_series

continues on next page



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03

Date: March 11, 2021

Page: **284**

Tab. 4.40 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_MODE_BIAS1_ENAB	VALIDMIN	CDF_UINT1	0
BIAS_MODE_BIAS1_ENAB	VALIDMAX	CDF_UINT1	1
BIAS_MODE_BIAS1_ENAB	SCALEMIN	CDF_UINT1	0
BIAS_MODE_BIAS1_ENAB	SCALEMAX	CDF_UINT1	1
BIAS_MODE_BIAS1_ENAB	DELVAL	CDF_UINT1	255
BIAS_MODE_BIAS1_ENAB	LABLAXIS	CDF_CHAR	BIAS_MODE_BIAS1_ENABLED
BIAS_MODE_BIAS1_ENAB	UNITS	CDF_CHAR	
BIAS_MODE_BIAS1_ENAB	MAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_BIAS1_ENAB	SCALETYP	CDF_CHAR	linear
BIAS_MODE_BIAS1_ENAB	MAR_NOTES	CDF_CHAR	Indicates the status of BIAS probe 1. Possible values are
BIAS_MODE_BIAS1_ENAB	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_BIAS1_ENAB	FORMAT	CDF_CHAR	I3.3
BIAS_MODE_BIAS2_ENAB	DELNAM	CDF_CHAR	BIAS probe 2 status
BIAS_MODE_BIAS2_ENAB	CATDESC	CDF_CHAR	Copy of enable/disable BIAS 2.
BIAS_MODE_BIAS2_ENAB	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_BIAS2_ENAB	VALIDMIN	CDF_UINT1	0
BIAS_MODE_BIAS2_ENAB	VALIDMAX	CDF_UINT1	1
BIAS_MODE_BIAS2_ENAB	SCALEMIN	CDF_UINT1	0
BIAS_MODE_BIAS2_ENAB	SCALEMAX	CDF_UINT1	1
BIAS_MODE_BIAS2_ENAB	DELVAL	CDF_UINT1	255
BIAS_MODE_BIAS2_ENAB	LABLAXIS	CDF_CHAR	BIAS_MODE_BIAS2_ENABLED
BIAS_MODE_BIAS2_ENAB	UNITS	CDF_CHAR	
BIAS_MODE_BIAS2_ENAB	MAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_BIAS2_ENAB	SCALETYP	CDF_CHAR	linear
BIAS_MODE_BIAS2_ENAB	MAR_NOTES	CDF_CHAR	Indicates the status of BIAS probe 2. Possible values are
BIAS_MODE_BIAS2_ENAB	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_BIAS2_ENAB	FORMAT	CDF_CHAR	I3.3
BIAS_MODE_BIAS3_ENAB	DELNAM	CDF_CHAR	BIAS probe 3 status
BIAS_MODE_BIAS3_ENAB	CATDESC	CDF_CHAR	Copy of enable/disable BIAS 3.
BIAS_MODE_BIAS3_ENAB	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_BIAS3_ENAB	VALIDMIN	CDF_UINT1	0
BIAS_MODE_BIAS3_ENAB	VALIDMAX	CDF_UINT1	1
BIAS_MODE_BIAS3_ENAB	SCALEMIN	CDF_UINT1	0
BIAS_MODE_BIAS3_ENAB	SCALEMAX	CDF_UINT1	1
BIAS_MODE_BIAS3_ENAB	DELVAL	CDF_UINT1	255
BIAS_MODE_BIAS3_ENAB	LABLAXIS	CDF_CHAR	BIAS_MODE_BIAS3_ENABLED
BIAS_MODE_BIAS3_ENAB	UNITS	CDF_CHAR	

continues on next page



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **285**

Tab. 4.40 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_MODE_BIAS3_ENAB	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_BIAS3_ENAB	SCALETYP	CDF_CHAR	linear
BIAS_MODE_BIAS3_ENAB	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS probe 3. Possible values are
BIAS_MODE_BIAS3_ENAB	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_BIAS3_ENAB	FORMAT	CDF_CHAR	I3.3
BIAS_ON_OFF	FIELDNAM	CDF_CHAR	BIAS status
BIAS_ON_OFF	CATDESC	CDF_CHAR	Copy of BIAS status.
BIAS_ON_OFF	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_ON_OFF	VALIDMIN	CDF_UINT1	0
BIAS_ON_OFF	VALIDMAX	CDF_UINT1	1
BIAS_ON_OFF	SCALEMIN	CDF_UINT1	0
BIAS_ON_OFF	SCALEMAX	CDF_UINT1	1
BIAS_ON_OFF	FILLVAL	CDF_UINT1	255
BIAS_ON_OFF	LABLAXIS	CDF_CHAR	BIAS_ON_OFF
BIAS_ON_OFF	UNITS	CDF_CHAR	
BIAS_ON_OFF	VAR_TYPE	CDF_CHAR	support_data
BIAS_ON_OFF	SCALETYP	CDF_CHAR	linear
BIAS_ON_OFF	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS. Possible values are
BIAS_ON_OFF	DEPEND_0	CDF_CHAR	Epoch
BIAS_ON_OFF	FORMAT	CDF_CHAR	I3.3
BW	FIELDNAM	CDF_CHAR	BIAS Works/BIAS Fails configuration.
BW	CATDESC	CDF_CHAR	BIAS Works/BIAS Fails configuration.
BW	DISPLAY_TYPE	CDF_CHAR	time_series
BW	VALIDMIN	CDF_UINT1	0
BW	VALIDMAX	CDF_UINT1	1
BW	SCALEMIN	CDF_UINT1	0
BW	SCALEMAX	CDF_UINT1	1
BW	FILLVAL	CDF_UINT1	255
BW	LABLAXIS	CDF_CHAR	BW
BW	UNITS	CDF_CHAR	
BW	VAR_TYPE	CDF_CHAR	support_data
BW	SCALETYP	CDF_CHAR	linear
BW	VAR_NOTES	CDF_CHAR	
BW	DEPEND_0	CDF_CHAR	Epoch
BW	FORMAT	CDF_CHAR	I3.3
SP0	FIELDNAM	CDF_CHAR	Shaping of electrical data parameter 0.


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 286

Tab. 4.40 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SP0	CATDESC	CDF_CHAR	Shaping of electrical data.
SP0	DISPLAY_TYPE	CDF_CHAR	time_series
SP0	VALIDMIN	CDF_UINT1	0
SP0	VALIDMAX	CDF_UINT1	1
SP0	SCALEMIN	CDF_UINT1	0
SP0	SCALEMAX	CDF_UINT1	1
SP0	FILLVAL	CDF_UINT1	255
SP0	LABLAXIS	CDF_CHAR	SP0
SP0	UNITS	CDF_CHAR	
SP0	VAR_TYPE	CDF_CHAR	support_data
SP0	SCALETYP	CDF_CHAR	linear
SP0	VAR_NOTES	CDF_CHAR	
SP0	DEPEND_0	CDF_CHAR	Epoch
SP0	FORMAT	CDF_CHAR	I3.3
SP1	FIELDNAM	CDF_CHAR	Shaping of electrical data parameter 1.
SP1	CATDESC	CDF_CHAR	Shaping of electrical data.
SP1	DISPLAY_TYPE	CDF_CHAR	time_series
SP1	VALIDMIN	CDF_UINT1	0
SP1	VALIDMAX	CDF_UINT1	1
SP1	SCALEMIN	CDF_UINT1	0
SP1	SCALEMAX	CDF_UINT1	1
SP1	FILLVAL	CDF_UINT1	255
SP1	LABLAXIS	CDF_CHAR	SP1
SP1	UNITS	CDF_CHAR	
SP1	VAR_TYPE	CDF_CHAR	support_data
SP1	SCALETYP	CDF_CHAR	linear
SP1	VAR_NOTES	CDF_CHAR	
SP1	DEPEND_0	CDF_CHAR	Epoch
SP1	FORMAT	CDF_CHAR	I3.3
R0	FIELDNAM	CDF_CHAR	Rooting of electrical data for F0.
R0	CATDESC	CDF_CHAR	Rooting of electrical data.
R0	DISPLAY_TYPE	CDF_CHAR	time_series
R0	VALIDMIN	CDF_UINT1	0
R0	VALIDMAX	CDF_UINT1	1
R0	SCALEMIN	CDF_UINT1	0
R0	SCALEMAX	CDF_UINT1	1
R0	FILLVAL	CDF_UINT1	255
R0	LABLAXIS	CDF_CHAR	R0
R0	UNITS	CDF_CHAR	


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 287

Tab. 4.40 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
R0	VAR_TYPE	CDF_CHAR	support_data
R0	SCALETYP	CDF_CHAR	linear
R0	VAR_NOTES	CDF_CHAR	
R0	DEPEND_0	CDF_CHAR	Epoch
R0	FORMAT	CDF_CHAR	I3.3
R1	FIELDNAM	CDF_CHAR	Rooting of electrical data for F1.
R1	CATDESC	CDF_CHAR	Rooting of electrical data.
R1	DISPLAY_TYPE	CDF_CHAR	time_series
R1	VALIDMIN	CDF_UINT1	0
R1	VALIDMAX	CDF_UINT1	1
R1	SCALEMIN	CDF_UINT1	0
R1	SCALEMAX	CDF_UINT1	1
R1	FILLVAL	CDF_UINT1	255
R1	LABLAXIS	CDF_CHAR	R1
R1	UNITS	CDF_CHAR	
R1	VAR_TYPE	CDF_CHAR	support_data
R1	SCALETYP	CDF_CHAR	linear
R1	VAR_NOTES	CDF_CHAR	
R1	DEPEND_0	CDF_CHAR	Epoch
R1	FORMAT	CDF_CHAR	I3.3
R2	FIELDNAM	CDF_CHAR	Rooting of electrical data for F2.
R2	CATDESC	CDF_CHAR	Rooting of electrical data.
R2	DISPLAY_TYPE	CDF_CHAR	time_series
R2	VALIDMIN	CDF_UINT1	0
R2	VALIDMAX	CDF_UINT1	1
R2	SCALEMIN	CDF_UINT1	0
R2	SCALEMAX	CDF_UINT1	1
R2	FILLVAL	CDF_UINT1	255
R2	LABLAXIS	CDF_CHAR	R2
R2	UNITS	CDF_CHAR	
R2	VAR_TYPE	CDF_CHAR	support_data
R2	SCALETYP	CDF_CHAR	linear
R2	VAR_NOTES	CDF_CHAR	
R2	DEPEND_0	CDF_CHAR	Epoch
R2	FORMAT	CDF_CHAR	I3.3
V	FIELDNAM	CDF_CHAR	Potential
V	CATDESC	CDF_CHAR	Potential value (V)
V	DISPLAY_TYPE	CDF_CHAR	time_series
V	VALIDMIN	CDF_INT2	-32767


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 288

Tab. 4.40 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
V	VALIDMAX	CDF_INT2	32767
V	SCALEMIN	CDF_INT2	-32767
V	SCALEMAX	CDF_INT2	32767
V	FILLVAL	CDF_INT2	-32768
V	LABLAXIS	CDF_CHAR	V
V	UNITS	CDF_CHAR	
V	VAR_TYPE	CDF_CHAR	data
V	SCALETYP	CDF_CHAR	linear
V	VAR_NOTES	CDF_CHAR	Potential value
V	DEPEND_0	CDF_CHAR	Epoch
V	FORMAT	CDF_CHAR	I6.5
E	FIELDNAM	CDF_CHAR	Electric field
E	CATDESC	CDF_CHAR	Electrical field values (E1 and E2)
E	DISPLAY_TYPE	CDF_CHAR	time_series
E	VALIDMIN	CDF_INT2	-32767
E	VALIDMAX	CDF_INT2	32767
E	SCALEMIN	CDF_INT2	-32767
E	SCALEMAX	CDF_INT2	32767
E	FILLVAL	CDF_INT2	-32768
E	LABLAXIS	CDF_CHAR	E
E	UNITS	CDF_CHAR	
E	VAR_TYPE	CDF_CHAR	data
E	SCALETYP	CDF_CHAR	linear
E	VAR_NOTES	CDF_CHAR	2 entry array with electrical field values (E1 and E2)
E	DEPEND_0	CDF_CHAR	Epoch
E	FORMAT	CDF_CHAR	I6.5
B	FIELDNAM	CDF_CHAR	Magnetic field
B	CATDESC	CDF_CHAR	Magnetic field values (B1, B2 and B3)
B	DISPLAY_TYPE	CDF_CHAR	time_series
B	VALIDMIN	CDF_INT2	-32767
B	VALIDMAX	CDF_INT2	32767
B	SCALEMIN	CDF_INT2	-32767
B	SCALEMAX	CDF_INT2	32767
B	FILLVAL	CDF_INT2	-32768
B	LABLAXIS	CDF_CHAR	B
B	UNITS	CDF_CHAR	
B	VAR_TYPE	CDF_CHAR	data
B	SCALETYP	CDF_CHAR	linear


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 289

Tab. 4.40 – continued from previous page


Variable Name	Attribute Name	Data Type	Value
B	VAR_NOTES	CDF_CHAR	3 entry array with magnetic field values (B1,B2 and B3). Only available for CWF_F3_LONG product e.g. Type=long
B	DEPEND_0	CDF_CHAR	Epoch
B	FORMAT	CDF_CHAR	I6.5
ACQUISITION_TIME_UNITS	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_UNITS
ACQUISITION_TIME_UNITS	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME_UNIT_PTR attribute
ACQUISITION_TIME_UNITS	VAR_TYPE	CDF_CHAR	metadata
ACQUISITION_TIME_UNITS	FORMAT	CDF_CHAR	A16
ACQUISITION_TIME_LABEL	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME_LABEL	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME
ACQUISITION_TIME_LABEL	VAR_TYPE	CDF_CHAR	metadata
ACQUISITION_TIME_LABEL	FORMAT	CDF_CHAR	A32
SCET	FIELDNAM	CDF_CHAR	Spacecraft Elapsed Time
SCET	CATDESC	CDF_CHAR	Elapsed Time of the onboard clock
SCET	DISPLAY_TYPE	CDF_CHAR	time_series
SCET	VALIDMIN	CDF_REAL8	0.0
SCET	VALIDMAX	CDF_REAL8	1.0e+31
SCET	SCALEMIN	CDF_REAL8	0.0
SCET	SCALEMAX	CDF_REAL8	1.0e+31
SCET	FILLVAL	CDF_REAL8	-1.0e+31
SCET	LABLAXIS	CDF_CHAR	Spacecraft Elapsed Time (Ticks)
SCET	UNITS	CDF_CHAR	Ticks
SCET	VAR_TYPE	CDF_CHAR	support_data
SCET	SCALETYP	CDF_CHAR	linear
SCET	MONOTON	CDF_CHAR	INCREASE
SCET	TIME_BASE	CDF_CHAR	Spacecraft onboard clock
SCET	TIME_SCALE	CDF_CHAR	Spacecraft onboard clock
SCET	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
SCET	VAR_NOTES	CDF_CHAR	Spacecraft Elapsed Time
SCET	DEPEND_0	CDF_CHAR	Epoch
SYNCHRO_FLAG	FIELDNAM	CDF_CHAR	SYNCHRO_FLAG
SYNCHRO_FLAG	CATDESC	CDF_CHAR	Time synchronisation flag
SYNCHRO_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 290

Tab. 4.40 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SYNCHRO_FLAG	VALIDMIN	CDF_UINT1	0
SYNCHRO_FLAG	VALIDMAX	CDF_UINT1	1
SYNCHRO_FLAG	SCALEMIN	CDF_UINT1	0
SYNCHRO_FLAG	SCALEMAX	CDF_UINT1	1
SYNCHRO_FLAG	FILLVAL	CDF_UINT1	255
SYNCHRO_FLAG	LABLAXIS	CDF_CHAR	time sync. flag
SYNCHRO_FLAG	UNITS	CDF_CHAR	
SYNCHRO_FLAG	VAR_TYPE	CDF_CHAR	support_data
SYNCHRO_FLAG	SCALETYP	CDF_CHAR	linear
SYNCHRO_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate if the local time is synchronized with the RPW DPU clock or not. Possible values: synchronized=0, not synchronized=1. This flag is extracted from ACQUISITION_TIME in L0 packets, it is the MSB of the CUC time.
SYNCHRO_FLAG	DEPEND_0	CDF_CHAR	Epoch
SYNCHRO_FLAG	FORMAT	CDF_CHAR	I3.3
SAMPLING_RATE	FIELDNAM	CDF_CHAR	Sampling rate
SAMPLING_RATE	CATDESC	CDF_CHAR	Sampling frequency of the waveform
SAMPLING_RATE	DISPLAY_TYPE	CDF_CHAR	time_series
SAMPLING_RATE	VALIDMIN	CDF_REAL4	16.0
SAMPLING_RATE	VALIDMAX	CDF_REAL4	24576.0
SAMPLING_RATE	SCALEMIN	CDF_REAL4	16.0
SAMPLING_RATE	SCALEMAX	CDF_REAL4	24576.0
SAMPLING_RATE	FILLVAL	CDF_REAL4	-1.0e+31
SAMPLING_RATE	LABLAXIS	CDF_CHAR	Fe
SAMPLING_RATE	UNITS	CDF_CHAR	Hz
SAMPLING_RATE	VAR_TYPE	CDF_CHAR	support_data
SAMPLING_RATE	SCALETYP	CDF_CHAR	linear
SAMPLING_RATE	VAR_NOTES	CDF_CHAR	sampling frequency of the waveform : F0, F1, F2 or F3
SAMPLING_RATE	DEPEND_0	CDF_CHAR	Epoch
SAMPLING_RATE	FORMAT	CDF_CHAR	F8.2

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 291

4.1.2.19.6 Non-Record-Variant (NRV) Variables

Variable Name	Index	Value
ACQUISITION_TIME_UNITS	1	s
ACQUISITION_TIME_UNITS	2	s / 65536
ACQUISITION_TIME_LABEL	1	CUC coarse part time
ACQUISITION_TIME_LABEL	2	CUC fine part time

4.1.2.20 SOLO_L1_RPW-LFR-SURV-SWF data product

The “SOLO_L1_RPW-LFR-SURV-SWF” data product contains the uncalibrated LFR receiver Snapshot Waveform survey data. The “SOLO_L1_RPW-LFR-SURV-SWF” data are written in CDF format files. There is a single file per day, generated from data in the corresponding SOLO_L0_RPW parent file.

4.1.2.20.1 Filename

```
solo_l1_rpw-lfr-surv-swf_[YYYYMMDD]_V[version].cdf
```

4.1.2.20.2 Expected cadence and data volume


Nominal cadence: 1 file per day

Expected data volume: 40 MB per day

4.1.2.20.3 Global Attributes

Attribute Name	Entry Number	Data Type	Value
ACCESS_URL	1	CDF_CHAR	
ACCESS_FORMAT	1	CDF_CHAR	CDF
Acknowledgement	1	CDF_CHAR	The authors are pleased to acknowledge the Solar Orbiter/RPW Investigation (M. Maksimovic, PIs) for access to data.
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009 (2.4)
Data_type	1	CDF_CHAR	H0>High Resolution data
Data_version	1	CDF_CHAR	


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 292

Tab. 4.41 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Descriptor	1	CDF_CHAR	RPW-LFR-SURV-SWF> RPW Low Frequency Receiver Snapshot Waveform data in survey mode
Discipline	1	CDF_CHAR	Space Physics>Interplanetary Studies
File_naming_convention	1	CDF_CHAR	<Source_name>_<LEVEL>_<Descriptor>_<Date>
File_ID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	RPW Operations Centre located at LESIA (Meudon, France)
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	https://rpw.lesia.obspm.fr
Instrument_type	1	CDF_CHAR	Radio and Plasma Waves (space)
LINK_TEXT	1	CDF_CHAR	RPW Web site at LESIA
LINK_TITLE	1	CDF_CHAR	RPW Web site
Logical_file_id	1	CDF_CHAR	
Logical_source	1	CDF_CHAR	solo_L1_rpw-lfr-surv-swf
Logical_source_description	1	CDF_CHAR	Solar Orbiter Radio/Plasma Wave, LFR L1 parameters
Mission_group	1	CDF_CHAR	Solar Orbiter
SKELETON_MODS	1	CDF_CHAR	June 2015 : initial release, B. KATRA (CNRS-LPP)
SKELETON_MODS	2	CDF_CHAR	V04: Update for solo data definition, X. BONNIN (CNRS-LESIA), April 2019
SKELETON_MODS	3	CDF_CHAR	V05: Update to compliant with SOL-SGS-TN-0009 Issue 2, Rev 4 - X.Bonnin, 09/2019
SKELETON_MODS	4	CDF_CHAR	V06: March 2020 : Harmonize SAMPLING_RATE zvar and Test_* g.attrs - X.Bonnin (CNRS, LESIA)
SKELETON_MODS	5	CDF_CHAR	V07: Removing POST_GAP_FLAG zvar and UCD vattr. (X.Bonnin, 09/2020)
SKELETON_MODS	6	CDF_CHAR	V09: Jan. 2021 : Fix inconsistencies against the ISTEP CDF guidelines, X.Bonnin (CNRS-LESIA)
Parent_version	1	CDF_CHAR	
Parents	1	CDF_CHAR	
PI_affiliation	1	CDF_CHAR	LESIA, Observatoire de Paris-CNRS
PI_name	1	CDF_CHAR	M.Maksimovic
Pipeline_version	1	CDF_CHAR	


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 293

Tab. 4.41 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Project	1	CDF_CHAR	SOLO>Solar Orbiter
Provider	1	CDF_CHAR	LESIA (Meudon, France)
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00006-LES (1.3)
Rules_of_use	1	CDF_CHAR	Data provided are publicly available. If used in presentations or publications, please acknowledge Solar Orbiter/RPW Investigation (M. Maksimovic, PIs). Please read carefully the caveats attached to the data. For reporting purposes, we request bibliography information for any publication, etc., using these data. Please send information on the use of this data to: M. Maksimovic (PI).
SKELETON_PARENT	1	CDF_CHAR	SOLO_L1_RPW-LFR-SURV-SWF_V09.cdf
Skeleton_version	1	CDF_CHAR	09
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	SOLO>Solar Orbiter
SPECTRAL_RANGE_MAX	1	CDF_CHAR	
SPECTRAL_RANGE_MIN	1	CDF_CHAR	
TEXT	1	CDF_CHAR	This file contains RPW LFR level 1 snapshot waveform data for the current day.
TEXT_supplement_1	1	CDF_CHAR	
TIME_MAX	1	CDF_CHAR	
TIME_MIN	1	CDF_CHAR	
Validate	1	CDF_CHAR	
CAVEATS	1	CDF_CHAR	Engineering data. No good for publication.
Datetime	1	CDF_CHAR	
Free_field	1	CDF_CHAR	
Job_ID	1	CDF_CHAR	
LEVEL	1	CDF_CHAR	L1>Level 1 data processing
SOOP_TYPE	1	CDF_CHAR	
Data_product	1	CDF_CHAR	SURV-SWF>SURV-SWF
TARGET_NAME	1	CDF_CHAR	Sun
TARGET_CLASS	1	CDF_CHAR	Star
TARGET_REGION	1	CDF_CHAR	Solar Wind

continues on next page


	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 294

Tab. 4.41 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Pipeline_name	1	CDF_CHAR	
Dataset_ID	1	CDF_CHAR	SOLO_L1_RPW-LFR-SURV-SWF
OBS_ID	1	CDF_CHAR	
MODS	1	CDF_CHAR	

4.1.2.20.4 zVariables


Variable Name	Data Type	Number Elements	Dims	Sizes
Epoch	CDF_TIME_TT2000	1	0	
ACQUISITION_TIME	CDF_UINT4	1	1	2
QUALITY_FLAG	CDF_UINT1	1	0	
COMMON_BIA_STATUS_FLAG	CDF_UINT1	1	0	
QUALITY_BITMASK	CDF_UINT2	1	0	
SURVEY_MODE	CDF_UINT1	1	0	
FREQ	CDF_UINT1	1	0	
BIAS_MODE_MUX_SET	CDF_UINT1	1	0	
BIAS_MODE_HV_ENABLED	CDF_UINT1	1	0	
BIAS_MODE_BIAS1_ENABLED	CDF_UINT1	1	0	
BIAS_MODE_BIAS2_ENABLED	CDF_UINT1	1	0	
BIAS_MODE_BIAS3_ENABLED	CDF_UINT1	1	0	
BIAS_ON_OFF	CDF_UINT1	1	0	
BW	CDF_UINT1	1	0	
SP0	CDF_UINT1	1	0	
SP1	CDF_UINT1	1	0	
R0	CDF_UINT1	1	0	
R1	CDF_UINT1	1	0	
R2	CDF_UINT1	1	0	
SAMPLING_RATE	CDF_REAL4	1	0	
V	CDF_INT2	1	1	2048
E	CDF_INT2	1	2	2 2048
B	CDF_INT2	1	2	3 2048
ACQUISITION_TIME_UNITS	CDF_CHAR	16	1	2
ACQUISITION_TIME_LABEL	CDF_CHAR	32	1	2
SCET	CDF_REAL8	1	0	
SYNCHRO_FLAG	CDF_UINT1	1	0	

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 295

4.1.2.20.5 Variable attributes

Variable Name	Attribute Name	Data Type	Value
Epoch	FIELDNAM	CDF_CHAR	Epoch
Epoch	CATDESC	CDF_CHAR	Default time
Epoch	DISPLAY_TYPE	CDF_CHAR	time_series
Epoch	VALIDMIN	CDF_TIME_TT2000	2000-01-01T00:00:00.000000000
Epoch	VALIDMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch	SCALEMIN	CDF_TIME_TT2000	1990-01-01T00:00:00.000000000
Epoch	SCALEMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch	LABLAXIS	CDF_CHAR	Epoch
Epoch	UNITS	CDF_CHAR	ns
Epoch	VAR_TYPE	CDF_CHAR	support_data
Epoch	SCALETYP	CDF_CHAR	linear
Epoch	MONOTON	CDF_CHAR	INCREASE
Epoch	TIME_BASE	CDF_CHAR	J2000
Epoch	TIME_SCALE	CDF_CHAR	Terrestrial Time
Epoch	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
Epoch	Resolution	CDF_CHAR	15258 ns
Epoch	Bin_location	CDF_CHAR	0.5
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file. 1 Epoch time refers to the time of the first sample of each science zVar in the file.
ACQUISITION_TIME	FIELDNAM	CDF_CHAR	CCSDS CUC Acquisition time as returned in TM packets
ACQUISITION_TIME	CATDESC	CDF_CHAR	CCSDS CUC format LFR time, coarse and fine parts of the first sample of each science zVar of current file.
ACQUISITION_TIME	DISPLAY_TYPE	CDF_CHAR	time_series
ACQUISITION_TIME	VALIDMIN	CDF_UINT4	0
ACQUISITION_TIME	VALIDMAX	CDF_UINT4	4294967294
ACQUISITION_TIME	SCALEMIN	CDF_UINT4	0


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 296

Tab. 4.42 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
ACQUISITION_TIME	SCALEMAX	CDF_UINT4	4294967294
ACQUISITION_TIME	FILLVAL	CDF_UINT4	4294967295
ACQUISITION_TIME	VAR_TYPE	CDF_CHAR	support_data
ACQUISITION_TIME	SCALETYP	CDF_CHAR	linear
ACQUISITION_TIME	MONOTON	CDF_CHAR	INCREASE
ACQUISITION_TIME	TIME_BASE	CDF_CHAR	2000-01-01T00:00:00
ACQUISITION_TIME	TIME_SCALE	CDF_CHAR	RPW DPU clock
ACQUISITION_TIME	VAR_NOTES	CDF_CHAR	Local time measured by the RPW LFR receiver (Coarse and fine parts of the CUC format) of the first sample of each science zVar of current file.
ACQUISITION_TIME	DEPEND_0	CDF_CHAR	Epoch
ACQUISITION_TIME	FORMAT	CDF_CHAR	I10.0
ACQUISITION_TIME	LABL_PTR_1	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME	UNIT_PTR	CDF_CHAR	ACQUISITION_TIME_UNITS
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	VALIDMIN	CDF_UINT1	0
QUALITY_FLAG	VALIDMAX	CDF_UINT1	4
QUALITY_FLAG	SCALEMIN	CDF_UINT1	0
QUALITY_FLAG	SCALEMAX	CDF_UINT1	4
QUALITY_FLAG	FILLVAL	CDF_UINT1	255
QUALITY_FLAG	LABLAXIS	CDF_CHAR	Quality flag
QUALITY_FLAG	UNITS	CDF_CHAR	
QUALITY_FLAG	VAR_TYPE	CDF_CHAR	support_data
QUALITY_FLAG	SCALETYP	CDF_CHAR	linear
QUALITY_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the quality of the data
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
COMMON_BIA_STATUS_FLAG	FIELDNAM	CDF_CHAR	COMMON_BIA_STATUS_FLAG
COMMON_BIA_STATUS_FLAG	CATDESC	CDF_CHAR	LFR common parameters and BIAS status info relevancy flag
COMMON_BIA_STATUS_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
COMMON_BIA_STATUS_FLAG	VALIDMIN	CDF_UINT1	0
COMMON_BIA_STATUS_FLAG	VALIDMAX	CDF_UINT1	1
COMMON_BIA_STATUS_FLAG	SCALEMIN	CDF_UINT1	0


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 297

Tab. 4.42 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
COMMON_BIA_STATUS_FLAG	SCALEMAX	CDF_UINT1	1
COMMON_BIA_STATUS_FLAG	FILLVAL	CDF_UINT1	255
COMMON_BIA_STATUS_FLAG	LABLAXIS	CDF_CHAR	LFR common parameters + BIAS status flag
COMMON_BIA_STATUS_FLAG	UNITS	CDF_CHAR	
COMMON_BIA_STATUS_FLAG	VAR_TYPE	CDF_CHAR	support_data
COMMON_BIA_STATUS_FLAG	SCALETYP	CDF_CHAR	linear
COMMON_BIA_STATUS_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the relevancy of LFR common parameters (SP0/1, R0/1/2, BW) and BIAS STATUS INFO which can be non representative for the first packet following a change in those parameters.
COMMON_BIA_STATUS_FLAG	DEPEND_0	CDF_CHAR	Epoch
COMMON_BIA_STATUS_FLAG	FORMAT	CDF_CHAR	I1.1
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	UNITS	CDF_CHAR	
QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context information or status at the receiver or experiment level
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
SURVEY_MODE	FIELDNAM	CDF_CHAR	SURVEY_MODE
SURVEY_MODE	CATDESC	CDF_CHAR	LFR survey mode
SURVEY_MODE	DISPLAY_TYPE	CDF_CHAR	time_series
SURVEY_MODE	VALIDMIN	CDF_UINT1	0
SURVEY_MODE	VALIDMAX	CDF_UINT1	1
SURVEY_MODE	SCALEMIN	CDF_UINT1	0
SURVEY_MODE	SCALEMAX	CDF_UINT1	1
SURVEY_MODE	FILLVAL	CDF_UINT1	255


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 298

Tab. 4.42 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SURVEY_MODE	LABLAXIS	CDF_CHAR	LFR survey mode
SURVEY_MODE	UNITS	CDF_CHAR	
SURVEY_MODE	VAR_TYPE	CDF_CHAR	data
SURVEY_MODE	SCALETYP	CDF_CHAR	linear
SURVEY_MODE	VAR_NOTES	CDF_CHAR	Flag to indicate if the receiver in the SURVEY_BURST (=1) or SURVEY_NORMAL (=0) mode
SURVEY_MODE	DEPEND_0	CDF_CHAR	Epoch
SURVEY_MODE	FORMAT	CDF_CHAR	I1.1
FREQ	FIELDNAM	CDF_CHAR	Sampling frequency of the snapshot
FREQ	CATDESC	CDF_CHAR	Sampling frequency of the snapshot
FREQ	DISPLAY_TYPE	CDF_CHAR	time_series
FREQ	VALIDMIN	CDF_UINT1	0
FREQ	VALIDMAX	CDF_UINT1	2
FREQ	SCALEMIN	CDF_UINT1	0
FREQ	SCALEMAX	CDF_UINT1	2
FREQ	FILLVAL	CDF_UINT1	255
FREQ	LABLAXIS	CDF_CHAR	FREQ
FREQ	UNITS	CDF_CHAR	
FREQ	VAR_TYPE	CDF_CHAR	support_data
FREQ	SCALETYP	CDF_CHAR	linear
FREQ	VAR_NOTES	CDF_CHAR	Index to indicate the sampling frequency of the snapshot : F0, F1 or F2 in order to use only one skeleton for the 3 normal mode swf products of ICD.
FREQ	DEPEND_0	CDF_CHAR	Epoch
FREQ	FORMAT	CDF_CHAR	I3.3
BIAS_MODE_MUX_SET	FIELDNAM	CDF_CHAR	BIAS multiplexer setting
BIAS_MODE_MUX_SET	CATDESC	CDF_CHAR	Copy of multiplexer setting.
BIAS_MODE_MUX_SET	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_MUX_SET	VALIDMIN	CDF_UINT1	0
BIAS_MODE_MUX_SET	VALIDMAX	CDF_UINT1	7
BIAS_MODE_MUX_SET	SCALEMIN	CDF_UINT1	0
BIAS_MODE_MUX_SET	SCALEMAX	CDF_UINT1	7
BIAS_MODE_MUX_SET	FILLVAL	CDF_UINT1	255
BIAS_MODE_MUX_SET	LABLAXIS	CDF_CHAR	BIAS mode mux set

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 299

Tab. 4.42 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_MODE_MUX_SET	UNITS	CDF_CHAR	
BIAS_MODE_MUX_SET	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_MUX_SET	SCALETYP	CDF_CHAR	linear
BIAS_MODE_MUX_SET	VAR_NOTES	CDF_CHAR	Indicates the mode of BIAS multiplexer for a full snapshot ([PA_LFR_PKT_CNT] number of packets). Possible values are
BIAS_MODE_MUX_SET	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_MUX_SET	FORMAT	CDF_CHAR	I3.0
BIAS_MODE_HV_ENABLED	FIELDNAM	CDF_CHAR	BIAS high voltage status
BIAS_MODE_HV_ENABLED	CATDESC	CDF_CHAR	Copy of enable/disable HV (+- 100V).
BIAS_MODE_HV_ENABLED	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_HV_ENABLED	VALIDMIN	CDF_UINT1	0
BIAS_MODE_HV_ENABLED	VALIDMAX	CDF_UINT1	1
BIAS_MODE_HV_ENABLED	SCALEMIN	CDF_UINT1	0
BIAS_MODE_HV_ENABLED	SCALEMAX	CDF_UINT1	1
BIAS_MODE_HV_ENABLED	FILLVAL	CDF_UINT1	255
BIAS_MODE_HV_ENABLED	LABLAXIS	CDF_CHAR	BIAS mode hv enabled
BIAS_MODE_HV_ENABLED	UNITS	CDF_CHAR	
BIAS_MODE_HV_ENABLED	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_HV_ENABLED	SCALETYP	CDF_CHAR	linear
BIAS_MODE_HV_ENABLED	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS HV. Possible values are
BIAS_MODE_HV_ENABLED	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_HV_ENABLED	FORMAT	CDF_CHAR	I3.0
BIAS_MODE_BIAS1_ENABLED	FIELDNAM	CDF_CHAR	BIAS probe 1 status
BIAS_MODE_BIAS1_ENABLED	CATDESC	CDF_CHAR	Copy of enable/disable BIAS 1.
BIAS_MODE_BIAS1_ENABLED	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_BIAS1_ENABLED	VALIDMIN	CDF_UINT1	0
BIAS_MODE_BIAS1_ENABLED	VALIDMAX	CDF_UINT1	1
BIAS_MODE_BIAS1_ENABLED	SCALEMIN	CDF_UINT1	0
BIAS_MODE_BIAS1_ENABLED	SCALEMAX	CDF_UINT1	1
BIAS_MODE_BIAS1_ENABLED	FILLVAL	CDF_UINT1	255
BIAS_MODE_BIAS1_ENABLED	LABLAXIS	CDF_CHAR	BIAS_MODE_BIAS1_ENABLED
BIAS_MODE_BIAS1_ENABLED	UNITS	CDF_CHAR	
BIAS_MODE_BIAS1_ENABLED	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_BIAS1_ENABLED	SCALETYP	CDF_CHAR	linear

continues on next page



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **300**

Tab. 4.42 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_MODE_BIAS1_ENAB	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS probe 1. Possible values are
BIAS_MODE_BIAS1_ENAB	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_BIAS1_ENAB	FORMAT	CDF_CHAR	I3.0
BIAS_MODE_BIAS2_ENAB	FIELDNAM	CDF_CHAR	BIAS probe 2 status
BIAS_MODE_BIAS2_ENAB	CATDESC	CDF_CHAR	Copy of enable/disable BIAS 2.
BIAS_MODE_BIAS2_ENAB	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_BIAS2_ENAB	VALIDMIN	CDF_UINT1	0
BIAS_MODE_BIAS2_ENAB	VALIDMAX	CDF_UINT1	1
BIAS_MODE_BIAS2_ENAB	SCALEMIN	CDF_UINT1	0
BIAS_MODE_BIAS2_ENAB	SCALEMAX	CDF_UINT1	1
BIAS_MODE_BIAS2_ENAB	DELVAL	CDF_UINT1	255
BIAS_MODE_BIAS2_ENAB	LABLAXIS	CDF_CHAR	BIAS_MODE_BIAS2_ENABLED
BIAS_MODE_BIAS2_ENAB	UNITS	CDF_CHAR	
BIAS_MODE_BIAS2_ENAB	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_BIAS2_ENAB	SCALETYP	CDF_CHAR	linear
BIAS_MODE_BIAS2_ENAB	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS probe 2. Possible values are
BIAS_MODE_BIAS2_ENAB	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_BIAS2_ENAB	FORMAT	CDF_CHAR	I3.0
BIAS_MODE_BIAS3_ENAB	FIELDNAM	CDF_CHAR	BIAS probe 3 status
BIAS_MODE_BIAS3_ENAB	CATDESC	CDF_CHAR	Copy of enable/disable BIAS 3.
BIAS_MODE_BIAS3_ENAB	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_BIAS3_ENAB	VALIDMIN	CDF_UINT1	0
BIAS_MODE_BIAS3_ENAB	VALIDMAX	CDF_UINT1	1
BIAS_MODE_BIAS3_ENAB	SCALEMIN	CDF_UINT1	0
BIAS_MODE_BIAS3_ENAB	SCALEMAX	CDF_UINT1	1
BIAS_MODE_BIAS3_ENAB	DELVAL	CDF_UINT1	255
BIAS_MODE_BIAS3_ENAB	LABLAXIS	CDF_CHAR	BIAS_MODE_BIAS3_ENABLED
BIAS_MODE_BIAS3_ENAB	UNITS	CDF_CHAR	
BIAS_MODE_BIAS3_ENAB	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_BIAS3_ENAB	SCALETYP	CDF_CHAR	linear
BIAS_MODE_BIAS3_ENAB	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS probe 3. Possible values are
BIAS_MODE_BIAS3_ENAB	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_BIAS3_ENAB	FORMAT	CDF_CHAR	I3.0
BIAS_ON_OFF	FIELDNAM	CDF_CHAR	BIAS status
BIAS_ON_OFF	CATDESC	CDF_CHAR	Copy of BIAS status.
BIAS_ON_OFF	DISPLAY_TYPE	CDF_CHAR	time_series


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 301

Tab. 4.42 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_ON_OFF	VALIDMIN	CDF_UINT1	0
BIAS_ON_OFF	VALIDMAX	CDF_UINT1	1
BIAS_ON_OFF	SCALEMIN	CDF_UINT1	0
BIAS_ON_OFF	SCALEMAX	CDF_UINT1	1
BIAS_ON_OFF	FILLVAL	CDF_UINT1	255
BIAS_ON_OFF	LABLAXIS	CDF_CHAR	BIAS_ON_OFF
BIAS_ON_OFF	UNITS	CDF_CHAR	
BIAS_ON_OFF	VAR_TYPE	CDF_CHAR	support_data
BIAS_ON_OFF	SCALETYP	CDF_CHAR	linear
BIAS_ON_OFF	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS. Possible values are
BIAS_ON_OFF	DEPEND_0	CDF_CHAR	Epoch
BIAS_ON_OFF	FORMAT	CDF_CHAR	I3.0
BW	FIELDNAM	CDF_CHAR	BIAS Works/BIAS Fails configuration.
BW	CATDESC	CDF_CHAR	BIAS Works/BIAS Fails configuration.
BW	DISPLAY_TYPE	CDF_CHAR	time_series
BW	VALIDMIN	CDF_UINT1	0
BW	VALIDMAX	CDF_UINT1	1
BW	SCALEMIN	CDF_UINT1	0
BW	SCALEMAX	CDF_UINT1	1
BW	FILLVAL	CDF_UINT1	255
BW	LABLAXIS	CDF_CHAR	BW
BW	UNITS	CDF_CHAR	
BW	VAR_TYPE	CDF_CHAR	support_data
BW	SCALETYP	CDF_CHAR	linear
BW	VAR_NOTES	CDF_CHAR	This variable should be filled once for each [PA_LFR_PKT_CNT] number of packets i.e. full snapshot because LFR FSW copy the same value for all sub packets.
BW	DEPEND_0	CDF_CHAR	Epoch
BW	FORMAT	CDF_CHAR	I3.0
SP0	FIELDNAM	CDF_CHAR	Shaping of electrical data parameter 0.
SP0	CATDESC	CDF_CHAR	Shaping of electrical data.
SP0	DISPLAY_TYPE	CDF_CHAR	time_series
SP0	VALIDMIN	CDF_UINT1	0


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 302

Tab. 4.42 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SP0	VALIDMAX	CDF_UINT1	1
SP0	SCALEMIN	CDF_UINT1	0
SP0	SCALEMAX	CDF_UINT1	1
SP0	FILLVAL	CDF_UINT1	255
SP0	LABLAXIS	CDF_CHAR	SP0
SP0	UNITS	CDF_CHAR	
SP0	VAR_TYPE	CDF_CHAR	support_data
SP0	SCALETYP	CDF_CHAR	linear
SP0	VAR_NOTES	CDF_CHAR	This variable should be filled once for each [PA_LFR_PKT_CNT] number of packets i.e. full snapshot because LFR FSW copy the same value for all sub packets.
SP0	DEPEND_0	CDF_CHAR	Epoch
SP0	FORMAT	CDF_CHAR	I3.0
SP1	FIELDNAM	CDF_CHAR	Shaping of electrical data parameter 1.
SP1	CATDESC	CDF_CHAR	Shaping of electrical data.
SP1	DISPLAY_TYPE	CDF_CHAR	time_series
SP1	VALIDMIN	CDF_UINT1	0
SP1	VALIDMAX	CDF_UINT1	1
SP1	SCALEMIN	CDF_UINT1	0
SP1	SCALEMAX	CDF_UINT1	1
SP1	FILLVAL	CDF_UINT1	255
SP1	LABLAXIS	CDF_CHAR	SP1
SP1	UNITS	CDF_CHAR	
SP1	VAR_TYPE	CDF_CHAR	support_data
SP1	SCALETYP	CDF_CHAR	linear
SP1	VAR_NOTES	CDF_CHAR	This variable should be filled once for each [PA_LFR_PKT_CNT] number of packets i.e. full snapshot because LFR FSW copy the same value for all sub packets.
SP1	DEPEND_0	CDF_CHAR	Epoch
SP1	FORMAT	CDF_CHAR	I3.0
R0	FIELDNAM	CDF_CHAR	Rooting of electrical data for F0.


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 303

Tab. 4.42 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
R0	CATDESC	CDF_CHAR	Rooting of electrical data.
R0	DISPLAY_TYPE	CDF_CHAR	time_series
R0	VALIDMIN	CDF_UINT1	0
R0	VALIDMAX	CDF_UINT1	1
R0	SCALEMIN	CDF_UINT1	0
R0	SCALEMAX	CDF_UINT1	1
R0	FILLVAL	CDF_UINT1	255
R0	LABLAXIS	CDF_CHAR	R0
R0	UNITS	CDF_CHAR	
R0	VAR_TYPE	CDF_CHAR	support_data
R0	SCALETYP	CDF_CHAR	linear
R0	VAR_NOTES	CDF_CHAR	This variable should be filled once for each [PA_LFR_PKT_CNT] number of packets i.e. full snapshot because LFR FSW copy the same value for all sub packets.
R0	DEPEND_0	CDF_CHAR	Epoch
R0	FORMAT	CDF_CHAR	I3.0
R1	FIELDNAM	CDF_CHAR	Rooting of electrical data for F1.
R1	CATDESC	CDF_CHAR	Rooting of electrical data.
R1	DISPLAY_TYPE	CDF_CHAR	time_series
R1	VALIDMIN	CDF_UINT1	0
R1	VALIDMAX	CDF_UINT1	1
R1	SCALEMIN	CDF_UINT1	0
R1	SCALEMAX	CDF_UINT1	1
R1	FILLVAL	CDF_UINT1	255
R1	LABLAXIS	CDF_CHAR	R1
R1	UNITS	CDF_CHAR	
R1	VAR_TYPE	CDF_CHAR	support_data
R1	SCALETYP	CDF_CHAR	linear
R1	VAR_NOTES	CDF_CHAR	This variable should be filled once for each [PA_LFR_PKT_CNT] number of packets i.e. full snapshot because LFR FSW copy the same value for all sub packets.
R1	DEPEND_0	CDF_CHAR	Epoch


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 304

Tab. 4.42 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
R1	FORMAT	CDF_CHAR	I3.0
R2	FIELDNAM	CDF_CHAR	Rooting of electrical data for F2.
R2	CATDESC	CDF_CHAR	Rooting of electrical data.
R2	DISPLAY_TYPE	CDF_CHAR	time_series
R2	VALIDMIN	CDF_UINT1	0
R2	VALIDMAX	CDF_UINT1	1
R2	SCALEMIN	CDF_UINT1	0
R2	SCALEMAX	CDF_UINT1	1
R2	FILLVAL	CDF_UINT1	255
R2	LABLAXIS	CDF_CHAR	R2
R2	UNITS	CDF_CHAR	
R2	VAR_TYPE	CDF_CHAR	support_data
R2	SCALETYP	CDF_CHAR	linear
R2	VAR_NOTES	CDF_CHAR	This variable should be filled once for each [PA_LFR_PKT_CNT] number of packets i.e. full snapshot because LFR FSW copy the same value for all sub packets.
R2	DEPEND_0	CDF_CHAR	Epoch
R2	FORMAT	CDF_CHAR	I3.0
SAMPLING_RATE	FIELDNAM	CDF_CHAR	Sampling rate
SAMPLING_RATE	CATDESC	CDF_CHAR	Sampling frequency of the snapshot
SAMPLING_RATE	DISPLAY_TYPE	CDF_CHAR	time_series
SAMPLING_RATE	VALIDMIN	CDF_REAL4	256.0
SAMPLING_RATE	VALIDMAX	CDF_REAL4	24576.0
SAMPLING_RATE	SCALEMIN	CDF_REAL4	256.0
SAMPLING_RATE	SCALEMAX	CDF_REAL4	24576.0
SAMPLING_RATE	FILLVAL	CDF_REAL4	-1.0e+31
SAMPLING_RATE	LABLAXIS	CDF_CHAR	Fe
SAMPLING_RATE	UNITS	CDF_CHAR	Hz
SAMPLING_RATE	VAR_TYPE	CDF_CHAR	support_data
SAMPLING_RATE	SCALETYP	CDF_CHAR	linear
SAMPLING_RATE	VAR_NOTES	CDF_CHAR	sampling frequency of the snapshot : F0, F1 or F2
SAMPLING_RATE	DEPEND_0	CDF_CHAR	Epoch
SAMPLING_RATE	FORMAT	CDF_CHAR	F8.2
V	FIELDNAM	CDF_CHAR	Potential


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 305

Tab. 4.42 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
V	CATDESC	CDF_CHAR	Potential value (V)
V	DISPLAY_TYPE	CDF_CHAR	time_series
V	VALIDMIN	CDF_INT2	-32767
V	VALIDMAX	CDF_INT2	32767
V	SCALEMIN	CDF_INT2	-32767
V	SCALEMAX	CDF_INT2	32767
V	FILLVAL	CDF_INT2	-32768
V	LABLAXIS	CDF_CHAR	V
V	UNITS	CDF_CHAR	
V	VAR_TYPE	CDF_CHAR	data
V	SCALETYP	CDF_CHAR	linear
V	VAR_NOTES	CDF_CHAR	2048 samples of Potential value
V	DEPEND_0	CDF_CHAR	Epoch
V	FORMAT	CDF_CHAR	I6.5
E	FIELDNAM	CDF_CHAR	Electric field
E	CATDESC	CDF_CHAR	Electrical field values (E1 and E2)
E	DISPLAY_TYPE	CDF_CHAR	time_series
E	VALIDMIN	CDF_INT2	-32767
E	VALIDMAX	CDF_INT2	32767
E	SCALEMIN	CDF_INT2	-32767
E	SCALEMAX	CDF_INT2	32767
E	FILLVAL	CDF_INT2	-32768
E	LABLAXIS	CDF_CHAR	E
E	UNITS	CDF_CHAR	
E	VAR_TYPE	CDF_CHAR	data
E	SCALETYP	CDF_CHAR	linear
E	VAR_NOTES	CDF_CHAR	2048 samples x 2 entry array with electrical field values (E1 and E2)
E	DEPEND_0	CDF_CHAR	Epoch
E	FORMAT	CDF_CHAR	I6.5
B	FIELDNAM	CDF_CHAR	Magnetic field
B	CATDESC	CDF_CHAR	Magnetic field values (B1, B2 and B3)
B	DISPLAY_TYPE	CDF_CHAR	time_series
B	VALIDMIN	CDF_INT2	-32767
B	VALIDMAX	CDF_INT2	32767
B	SCALEMIN	CDF_INT2	-32767
B	SCALEMAX	CDF_INT2	32767


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 306

Tab. 4.42 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
B	FILLVAL	CDF_INT2	-32768
B	LABLAXIS	CDF_CHAR	B
B	UNITS	CDF_CHAR	
B	VAR_TYPE	CDF_CHAR	data
B	SCALETYP	CDF_CHAR	linear
B	VAR_NOTES	CDF_CHAR	2048 samples x 3 entry array with magnetic field values (B1,B2 and B3)
B	DEPEND_0	CDF_CHAR	Epoch
B	FORMAT	CDF_CHAR	I6.5
ACQUISITION_TIME_UNITS	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_UNITS
ACQUISITION_TIME_UNITS	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME_UNIT_PTR attribute
ACQUISITION_TIME_UNITS	VAR_TYPE	CDF_CHAR	metadata
ACQUISITION_TIME_UNITS	FORMAT	CDF_CHAR	A16
ACQUISITION_TIME_LABEL	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME_LABEL	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME
ACQUISITION_TIME_LABEL	VAR_TYPE	CDF_CHAR	metadata
ACQUISITION_TIME_LABEL	FORMAT	CDF_CHAR	A32
SCET	FIELDNAM	CDF_CHAR	Spacecraft Elapsed Time
SCET	CATDESC	CDF_CHAR	Elapsed Time of the onboard clock
SCET	DISPLAY_TYPE	CDF_CHAR	time_series
SCET	VALIDMIN	CDF_REAL8	0.0
SCET	VALIDMAX	CDF_REAL8	1.0e+31
SCET	SCALEMIN	CDF_REAL8	0.0
SCET	SCALEMAX	CDF_REAL8	1.0e+31
SCET	FILLVAL	CDF_REAL8	-1.0e+31
SCET	LABLAXIS	CDF_CHAR	Spacecraft Elapsed Time (Ticks)
SCET	UNITS	CDF_CHAR	Ticks
SCET	VAR_TYPE	CDF_CHAR	support_data
SCET	SCALETYP	CDF_CHAR	linear
SCET	MONOTON	CDF_CHAR	INCREASE
SCET	TIME_BASE	CDF_CHAR	Spacecraft onboard clock
SCET	TIME_SCALE	CDF_CHAR	Spacecraft onboard clock
SCET	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
SCET	VAR_NOTES	CDF_CHAR	Spacecraft Elapsed Time
SCET	DEPEND_0	CDF_CHAR	Epoch

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 307

Tab. 4.42 – continued from previous page


Variable Name	Attribute Name	Data Type	Value
SYNCHRO_FLAG	FIELDNAM	CDF_CHAR	SYNCHRO_FLAG
SYNCHRO_FLAG	CATDESC	CDF_CHAR	Time synchronisation flag
SYNCHRO_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
SYNCHRO_FLAG	VALIDMIN	CDF_UINT1	0
SYNCHRO_FLAG	VALIDMAX	CDF_UINT1	1
SYNCHRO_FLAG	SCALEMIN	CDF_UINT1	0
SYNCHRO_FLAG	SCALEMAX	CDF_UINT1	1
SYNCHRO_FLAG	FILLVAL	CDF_UINT1	255
SYNCHRO_FLAG	LABLAXIS	CDF_CHAR	time sync. flag
SYNCHRO_FLAG	UNITS	CDF_CHAR	
SYNCHRO_FLAG	VAR_TYPE	CDF_CHAR	support_data
SYNCHRO_FLAG	SCALETYP	CDF_CHAR	linear
SYNCHRO_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate if the local time is synchronized with the RPW DPU clock or not. Possible values: synchronized=0, not synchronized=1. This flag is extracted from ACQUISITION_TIME in L0 packets, it is the MSB of the CUC time.
SYNCHRO_FLAG	DEPEND_0	CDF_CHAR	Epoch
SYNCHRO_FLAG	FORMAT	CDF_CHAR	I3.3

4.1.2.20.6 Non-Record-Variant (NRV) Variables

Variable Name	Index	Value
ACQUISITION_TIME_UNITS	1	s
ACQUISITION_TIME_UNITS	2	s / 65536
ACQUISITION_TIME_LABEL	1	CUC coarse part time
ACQUISITION_TIME_LABEL	2	CUC fine part time

4.1.2.21 SOLO_L1_RPW-LFR-SBM1-CWF data product

The “SOLO_L1_RPW-LFR-SBM1-CWF” data product contains the uncalibrated LFR receiver Continuous Waveform data for SBM1 events. The “SOLO_L1_RPW-LFR-SBM1-CWF” data are written in CDF format files. There is a single file per SBM1 event data downlinked on-ground. The file is generated from data in the corresponding SOLO_L0_RPW parent file.

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 308

4.1.2.21.1 Filename

```
solo_l1_rpw-lfr-sbm1-cwf_[YYYYMMDDThhmmss1- YYYYMMDDThhmmss2]_V[version].  
↪cdf
```


4.1.2.21.2 Expected cadence and data volume

Nominal cadence: 1 file per SBM1 event

Expected data volume: 150 MB per file

4.1.2.21.3 Global Attributes


Attribute Name	Entry Number	Data Type	Value
ACCESS_FORMAT	1	CDF_CHAR	CDF
ACCESS_URL	1	CDF_CHAR	
Acknowledgement	1	CDF_CHAR	The authors are pleased to acknowledge the Solar Orbiter/RPW Investigation (M. Maksimovic, PIs) for access to data.
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009 (2.4)
Data_type	1	CDF_CHAR	H0>High Resolution data
Data_version	1	CDF_CHAR	
Descriptor	1	CDF_CHAR	RPW-LFR-SBM1-CWF>RPW Low Frequency Receiver Continuous Waveform data in SBM1 mode
Discipline	1	CDF_CHAR	Space Physics>Interplanetary Studies
File_naming_convention	1	CDF_CHAR	<Source_name>_<LEVEL>_<Descriptor>_<Date>
File_ID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	RPW Operations Centre located at LESIA (Meudon, France)
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	https://rpw.lesia.obspm.fr
Instrument_type	1	CDF_CHAR	Radio and Plasma Waves (space)
LINK_TEXT	1	CDF_CHAR	RPW Web site at LESIA
LINK_TITLE	1	CDF_CHAR	RPW Web site
Logical_file_id	1	CDF_CHAR	
Logical_source	1	CDF_CHAR	solo_L1_rpw-lfr-sbm1-cwf
Logical_source_description	1	CDF_CHAR	Solar Orbiter Radio/Plasma Wave, LFR L1 parameters

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 309

Tab. 4.43 – continued from previous page


Attribute Name	Entry Number	Data Type	Value
Mission_group	1	CDF_CHAR	Solar Orbiter
SKELETON_MODS	1	CDF_CHAR	July 2015 : initial release, B. KATRA (CNRS-LPP)
SKELETON_MODS	2	CDF_CHAR	V04: Update for solo data definition, X. BONNIN (CNRS-LESIA), April 2019
SKELETON_MODS	3	CDF_CHAR	V05: Update to compliant with SOL-SGS-TN-0009 Issue 2, Rev 4 - X.Bonnin, 09/2019
SKELETON_MODS	4	CDF_CHAR	V06: March 2020 : Standardize SAMPLING_RATE and delete Test_* g.attrs - X.Bonnin (CNRS, LESIA)
SKELETON_MODS	5	CDF_CHAR	V07: Removing POST_GAP_FLAG zvar and UCD vattr. (X.Bonnin, 09/2020)
SKELETON_MODS	6	CDF_CHAR	V08: Jan. 2021 : Fix inconsistencies against the ISTP CDF guidelines, X.Bonnin (CNRS-LESIA)
PACKET_SRDB_ID	1	CDF_CHAR	
Parent_version	1	CDF_CHAR	
Parents	1	CDF_CHAR	
PI_affiliation	1	CDF_CHAR	LESIA, Observatoire de Paris-CNRS
PI_name	1	CDF_CHAR	M.Maksimovic
Pipeline_version	1	CDF_CHAR	
Project	1	CDF_CHAR	SOLO>Solar Orbiter
Provider	1	CDF_CHAR	LESIA (Meudon, France)
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00006-LES (1.3)
Rules_of_use	1	CDF_CHAR	Data provided are publicly available. If used in presentations or publications, please acknowledge Solar Orbiter/RPW Investigation (M. Maksimovic, PIs). Please read carefully the caveats attached to the data. For reporting purposes, we request bibliography information for any publication, etc., using these data. Please send information on the use of this data to: M. Maksimovic (PI).
SKELETON_PARENT	1	CDF_CHAR	SOLO_L1_RPW-LFR-SBM1-CWF_V08.cdf
Skeleton_version	1	CDF_CHAR	08
Software_name	1	CDF_CHAR	

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 310

Tab. 4.43 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	SOLO>Solar Orbiter
SPECTRAL_RANGE_MAX	1	CDF_CHAR	
SPECTRAL_RANGE_MIN	1	CDF_CHAR	
TEXT	1	CDF_CHAR	This file contains RPW LFR level 1 SBM1 continuous waveform data of the current SBM1 event.
TEXT_supplement_1	1	CDF_CHAR	
TIME_MAX	1	CDF_CHAR	
TIME_MIN	1	CDF_CHAR	
Validate	1	CDF_CHAR	
CAVEATS	1	CDF_CHAR	Engineering data. No good for publication.
Datetime	1	CDF_CHAR	
Free_field	1	CDF_CHAR	
Job_ID	1	CDF_CHAR	
LEVEL	1	CDF_CHAR	L1>Level 1 data processing
SOOP_TYPE	1	CDF_CHAR	
Data_product	1	CDF_CHAR	SBM1-CWF>SBM1-CWF
TARGET_NAME	1	CDF_CHAR	Sun
TARGET_CLASS	1	CDF_CHAR	Star
TARGET_REGION	1	CDF_CHAR	Solar Wind
Pipeline_name	1	CDF_CHAR	
Dataset_ID	1	CDF_CHAR	SOLO_L1_RPW-LFR-SBM1-CWF
OBS_ID	1	CDF_CHAR	
MODS	1	CDF_CHAR	

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 311


4.1.2.21.4 zVariables

Variable Name	Data Type	Number Elements	Dims	Sizes
Epoch	CDF_TIME_TT2000	1	0	
ACQUISITION_TIME	CDF_UINT4	1	1	2
QUALITY_FLAG	CDF_UINT1	1	0	
COMMON_BIA_STATUS_FLAG	CDF_UINT1	1	0	
QUALITY_BITMASK	CDF_UINT2	1	0	
BIAS_MODE_MUX_SET	CDF_UINT1	1	0	
BIAS_MODE_HV_ENABLED	CDF_UINT1	1	0	
BIAS_MODE_BIAS1_ENABLED	CDF_UINT1	1	0	
BIAS_MODE_BIAS2_ENABLED	CDF_UINT1	1	0	
BIAS_MODE_BIAS3_ENABLED	CDF_UINT1	1	0	
BIAS_ON_OFF	CDF_UINT1	1	0	
BW	CDF_UINT1	1	0	
SP0	CDF_UINT1	1	0	
SP1	CDF_UINT1	1	0	
R0	CDF_UINT1	1	0	
R1	CDF_UINT1	1	0	
R2	CDF_UINT1	1	0	
V	CDF_INT2	1	0	
E	CDF_INT2	1	1	2
B	CDF_INT2	1	1	3
ACQUISITION_TIME_UNITS	CDF_CHAR	16	1	2
ACQUISITION_TIME_LABEL	CDF_CHAR	32	1	2
SCET	CDF_REAL8	1	0	
SYNCHRO_FLAG	CDF_UINT1	1	0	
SAMPLING_RATE	CDF_REAL4	1	0	

4.1.2.21.5 Variable attributes

Variable Name	Attribute Name	Data Type	Value
Epoch	FIELDNAM	CDF_CHAR	Epoch
Epoch	CATDESC	CDF_CHAR	Default time
Epoch	DISPLAY_TYPE	CDF_CHAR	time_series
Epoch	VALIDMIN	CDF_TIME_TT2000	2000-01-01T00:00:00.000000000
Epoch	VALIDMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 312

Tab. 4.44 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
Epoch	SCALEMIN	CDF_TIME_TT2000	1990-01-01T00:00:00.000000000
Epoch	SCALEMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch	FILLVAL	CDF_TIME_TT2000	1999-12-31T23:59:59.999999999
Epoch	LABLAXIS	CDF_CHAR	Epoch
Epoch	UNITS	CDF_CHAR	ns
Epoch	VAR_TYPE	CDF_CHAR	support_data
Epoch	SCALETYP	CDF_CHAR	linear
Epoch	MONOTON	CDF_CHAR	INCREASE
Epoch	TIME_BASE	CDF_CHAR	J2000
Epoch	TIME_SCALE	CDF_CHAR	Terrestrial Time
Epoch	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
Epoch	Resolution	CDF_CHAR	15258 ns
Epoch	Bin_location	CDF_CHAR	0.5
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file. 1 Epoch time refers to the time of the samples in the file.
ACQUISITION_TIME	FIELDNAM	CDF_CHAR	CCSDS CUC Acquisition time as returned in TM packets
ACQUISITION_TIME	CATDESC	CDF_CHAR	CCSDS CUC format LFR time, coarse and fine parts of the samples of current file.
ACQUISITION_TIME	DISPLAY_TYPE	CDF_CHAR	time_series
ACQUISITION_TIME	VALIDMIN	CDF_UINT4	0
ACQUISITION_TIME	VALIDMAX	CDF_UINT4	4294967294
ACQUISITION_TIME	SCALEMIN	CDF_UINT4	0
ACQUISITION_TIME	SCALEMAX	CDF_UINT4	4294967294
ACQUISITION_TIME	FILLVAL	CDF_UINT4	4294967295
ACQUISITION_TIME	VAR_TYPE	CDF_CHAR	support_data
ACQUISITION_TIME	SCALETYP	CDF_CHAR	linear
ACQUISITION_TIME	MONOTON	CDF_CHAR	INCREASE
ACQUISITION_TIME	TIME_BASE	CDF_CHAR	2000-01-01T00:00:00
ACQUISITION_TIME	TIME_SCALE	CDF_CHAR	RPW DPU clock


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 313

Tab. 4.44 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
ACQUISITION_TIME	VAR_NOTES	CDF_CHAR	Local time measured by the RPW LFR receiver (Coarse and fine parts of the CUC format) of the samples of current file.
ACQUISITION_TIME	DEPEND_0	CDF_CHAR	Epoch
ACQUISITION_TIME	FORMAT	CDF_CHAR	I10.0
ACQUISITION_TIME	LABL_PTR_1	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME	UNIT_PTR	CDF_CHAR	ACQUISITION_TIME_UNITS
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	VALIDMIN	CDF_UINT1	0
QUALITY_FLAG	VALIDMAX	CDF_UINT1	4
QUALITY_FLAG	SCALEMIN	CDF_UINT1	0
QUALITY_FLAG	SCALEMAX	CDF_UINT1	4
QUALITY_FLAG	FILLVAL	CDF_UINT1	255
QUALITY_FLAG	LABLAXIS	CDF_CHAR	Quality flag
QUALITY_FLAG	UNITS	CDF_CHAR	
QUALITY_FLAG	VAR_TYPE	CDF_CHAR	support_data
QUALITY_FLAG	SCALETYP	CDF_CHAR	linear
QUALITY_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the quality of the data
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
COMMON_BIA_STATUS_FLAG	FIELDNAM	CDF_CHAR	COMMON_BIA_STATUS_FLAG
COMMON_BIA_STATUS_FLAG	CATDESC	CDF_CHAR	LFR common parameters and BIAS status info relevancy flag
COMMON_BIA_STATUS_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
COMMON_BIA_STATUS_FLAG	VALIDMIN	CDF_UINT1	0
COMMON_BIA_STATUS_FLAG	VALIDMAX	CDF_UINT1	1
COMMON_BIA_STATUS_FLAG	SCALEMIN	CDF_UINT1	0
COMMON_BIA_STATUS_FLAG	SCALEMAX	CDF_UINT1	1
COMMON_BIA_STATUS_FLAG	FILLVAL	CDF_UINT1	255
COMMON_BIA_STATUS_FLAG	LABLAXIS	CDF_CHAR	common bias status flag
COMMON_BIA_STATUS_FLAG	UNITS	CDF_CHAR	
COMMON_BIA_STATUS_FLAG	VAR_TYPE	CDF_CHAR	support_data
COMMON_BIA_STATUS_FLAG	SCALETYP	CDF_CHAR	linear


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 314

Tab. 4.44 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
COMMON_BIA_STATUS_FLAG	LFR_NOTES	CDF_CHAR	Flag to indicate the relevancy of LFR common parameters (SP0/1, R0/1/2, BW) and BIAS STATUS INFO which can be non representative for the first packet following a change in those parameters.
COMMON_BIA_STATUS_FLAG	DEPEND_0	CDF_CHAR	Epoch
COMMON_BIA_STATUS_FLAG	FORMAT	CDF_CHAR	I1.1
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	UNITS	CDF_CHAR	
QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context information or status at the receiver or experiment level
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
BIAS_MODE_MUX_SET	FIELDNAM	CDF_CHAR	BIAS multiplexer setting
BIAS_MODE_MUX_SET	CATDESC	CDF_CHAR	Copy of multiplexer setting.
BIAS_MODE_MUX_SET	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_MUX_SET	VALIDMIN	CDF_UINT1	0
BIAS_MODE_MUX_SET	VALIDMAX	CDF_UINT1	7
BIAS_MODE_MUX_SET	SCALEMIN	CDF_UINT1	0
BIAS_MODE_MUX_SET	SCALEMAX	CDF_UINT1	7
BIAS_MODE_MUX_SET	FILLVAL	CDF_UINT1	255
BIAS_MODE_MUX_SET	LABLAXIS	CDF_CHAR	BIAS_MODE_MUX_SET
BIAS_MODE_MUX_SET	UNITS	CDF_CHAR	
BIAS_MODE_MUX_SET	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_MUX_SET	SCALETYP	CDF_CHAR	linear

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 315

Tab. 4.44 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_MODE_MUX_SET	VAR_NOTES	CDF_CHAR	Indicates the mode of BIAS multiplexer for a waveform acquisition. Possible values are
BIAS_MODE_MUX_SET	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_MUX_SET	FORMAT	CDF_CHAR	I2.2
BIAS_MODE_HV_ENABLED	FIELDNAM	CDF_CHAR	BIAS high voltage status
BIAS_MODE_HV_ENABLED	CATDESC	CDF_CHAR	Copy of enable/disable HV (+- 100V).
BIAS_MODE_HV_ENABLED	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_HV_ENABLED	VALIDMIN	CDF_UINT1	0
BIAS_MODE_HV_ENABLED	VALIDMAX	CDF_UINT1	1
BIAS_MODE_HV_ENABLED	SCALEMIN	CDF_UINT1	0
BIAS_MODE_HV_ENABLED	SCALEMAX	CDF_UINT1	1
BIAS_MODE_HV_ENABLED	FILLVAL	CDF_UINT1	255
BIAS_MODE_HV_ENABLED	LABLAXIS	CDF_CHAR	BIAS_MODE_HV_ENABLED
BIAS_MODE_HV_ENABLED	UNITS	CDF_CHAR	
BIAS_MODE_HV_ENABLED	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_HV_ENABLED	SCALETYP	CDF_CHAR	linear
BIAS_MODE_HV_ENABLED	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS HV.
BIAS_MODE_HV_ENABLED	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_HV_ENABLED	FORMAT	CDF_CHAR	I2.2
BIAS_MODE_BIAS1_ENABLED	FIELDNAM	CDF_CHAR	BIAS probe 1 status
BIAS_MODE_BIAS1_ENABLED	CATDESC	CDF_CHAR	Copy of enable/disable BIAS 1.
BIAS_MODE_BIAS1_ENABLED	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_BIAS1_ENABLED	VALIDMIN	CDF_UINT1	0
BIAS_MODE_BIAS1_ENABLED	VALIDMAX	CDF_UINT1	1
BIAS_MODE_BIAS1_ENABLED	SCALEMIN	CDF_UINT1	0
BIAS_MODE_BIAS1_ENABLED	SCALEMAX	CDF_UINT1	1
BIAS_MODE_BIAS1_ENABLED	FILLVAL	CDF_UINT1	255
BIAS_MODE_BIAS1_ENABLED	LABLAXIS	CDF_CHAR	BIAS_MODE_BIAS1_ENABLED
BIAS_MODE_BIAS1_ENABLED	UNITS	CDF_CHAR	
BIAS_MODE_BIAS1_ENABLED	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_BIAS1_ENABLED	SCALETYP	CDF_CHAR	linear
BIAS_MODE_BIAS1_ENABLED	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS probe 1. Possible values are
BIAS_MODE_BIAS1_ENABLED	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_BIAS1_ENABLED	FORMAT	CDF_CHAR	I2.2
BIAS_MODE_BIAS2_ENABLED	FIELDNAM	CDF_CHAR	BIAS probe 2 status

continues on next page



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **316**

Tab. 4.44 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_MODE_BIAS2_ENAB	CATDESC	CDF_CHAR	Copy of enable/disable BIAS 2.
BIAS_MODE_BIAS2_ENAB	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_BIAS2_ENAB	VALIDMIN	CDF_UINT1	0
BIAS_MODE_BIAS2_ENAB	VALIDMAX	CDF_UINT1	1
BIAS_MODE_BIAS2_ENAB	SCALEMIN	CDF_UINT1	0
BIAS_MODE_BIAS2_ENAB	SCALEMAX	CDF_UINT1	1
BIAS_MODE_BIAS2_ENAB	FILLVAL	CDF_UINT1	255
BIAS_MODE_BIAS2_ENAB	FIELDNAM	CDF_CHAR	BIAS_MODE_BIAS2_ENABLED
BIAS_MODE_BIAS2_ENAB	UNITS	CDF_CHAR	
BIAS_MODE_BIAS2_ENAB	MAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_BIAS2_ENAB	SCALETYP	CDF_CHAR	linear
BIAS_MODE_BIAS2_ENAB	MAR_NOTES	CDF_CHAR	Indicates the status of BIAS probe 2. Possible values are
BIAS_MODE_BIAS2_ENAB	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_BIAS2_ENAB	FORMAT	CDF_CHAR	I2.2
BIAS_MODE_BIAS3_ENAB	FIELDNAM	CDF_CHAR	BIAS probe 3 status
BIAS_MODE_BIAS3_ENAB	CATDESC	CDF_CHAR	Copy of enable/disable BIAS 3.
BIAS_MODE_BIAS3_ENAB	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_BIAS3_ENAB	VALIDMIN	CDF_UINT1	0
BIAS_MODE_BIAS3_ENAB	VALIDMAX	CDF_UINT1	1
BIAS_MODE_BIAS3_ENAB	SCALEMIN	CDF_UINT1	0
BIAS_MODE_BIAS3_ENAB	SCALEMAX	CDF_UINT1	1
BIAS_MODE_BIAS3_ENAB	FILLVAL	CDF_UINT1	255
BIAS_MODE_BIAS3_ENAB	FIELDNAM	CDF_CHAR	BIAS_MODE_BIAS3_ENABLED
BIAS_MODE_BIAS3_ENAB	UNITS	CDF_CHAR	
BIAS_MODE_BIAS3_ENAB	MAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_BIAS3_ENAB	SCALETYP	CDF_CHAR	linear
BIAS_MODE_BIAS3_ENAB	MAR_NOTES	CDF_CHAR	Indicates the status of BIAS probe 3. Possible values are
BIAS_MODE_BIAS3_ENAB	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_BIAS3_ENAB	FORMAT	CDF_CHAR	I2.2
BIAS_ON_OFF	FIELDNAM	CDF_CHAR	BIAS status
BIAS_ON_OFF	CATDESC	CDF_CHAR	Copy of BIAS status.
BIAS_ON_OFF	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_ON_OFF	VALIDMIN	CDF_UINT1	0
BIAS_ON_OFF	VALIDMAX	CDF_UINT1	1
BIAS_ON_OFF	SCALEMIN	CDF_UINT1	0
BIAS_ON_OFF	SCALEMAX	CDF_UINT1	1
BIAS_ON_OFF	FILLVAL	CDF_UINT1	255


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 317

Tab. 4.44 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_ON_OFF	LABLAXIS	CDF_CHAR	BIAS_ON_OFF
BIAS_ON_OFF	UNITS	CDF_CHAR	
BIAS_ON_OFF	VAR_TYPE	CDF_CHAR	support_data
BIAS_ON_OFF	SCALETYP	CDF_CHAR	linear
BIAS_ON_OFF	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS. Possible values are
BIAS_ON_OFF	DEPEND_0	CDF_CHAR	Epoch
BIAS_ON_OFF	FORMAT	CDF_CHAR	I2.2
BW	FIELDNAM	CDF_CHAR	BIAS Works/BIAS Fails con- figuration.
BW	CATDESC	CDF_CHAR	BIAS Works/BIAS Fails con- figuration.
BW	DISPLAY_TYPE	CDF_CHAR	time_series
BW	VALIDMIN	CDF_UINT1	0
BW	VALIDMAX	CDF_UINT1	1
BW	SCALEMIN	CDF_UINT1	0
BW	SCALEMAX	CDF_UINT1	1
BW	FILLVAL	CDF_UINT1	255
BW	LABLAXIS	CDF_CHAR	BW
BW	UNITS	CDF_CHAR	
BW	VAR_TYPE	CDF_CHAR	support_data
BW	SCALETYP	CDF_CHAR	linear
BW	VAR_NOTES	CDF_CHAR	
BW	DEPEND_0	CDF_CHAR	Epoch
BW	FORMAT	CDF_CHAR	I2.2
SP0	FIELDNAM	CDF_CHAR	Shaping of electrical data pa- rameter 0.
SP0	CATDESC	CDF_CHAR	Shaping of electrical data.
SP0	DISPLAY_TYPE	CDF_CHAR	time_series
SP0	VALIDMIN	CDF_UINT1	0
SP0	VALIDMAX	CDF_UINT1	1
SP0	SCALEMIN	CDF_UINT1	0
SP0	SCALEMAX	CDF_UINT1	1
SP0	FILLVAL	CDF_UINT1	255
SP0	LABLAXIS	CDF_CHAR	SP0
SP0	UNITS	CDF_CHAR	
SP0	VAR_TYPE	CDF_CHAR	support_data
SP0	SCALETYP	CDF_CHAR	linear
SP0	VAR_NOTES	CDF_CHAR	
SP0	DEPEND_0	CDF_CHAR	Epoch
SP0	FORMAT	CDF_CHAR	I2.2


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 318

Tab. 4.44 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SP1	FIELDNAM	CDF_CHAR	Shaping of electrical data parameter 1.
SP1	CATDESC	CDF_CHAR	Shaping of electrical data.
SP1	DISPLAY_TYPE	CDF_CHAR	time_series
SP1	VALIDMIN	CDF_UINT1	0
SP1	VALIDMAX	CDF_UINT1	1
SP1	SCALEMIN	CDF_UINT1	0
SP1	SCALEMAX	CDF_UINT1	1
SP1	FILLVAL	CDF_UINT1	255
SP1	LABLAXIS	CDF_CHAR	SP1
SP1	UNITS	CDF_CHAR	
SP1	VAR_TYPE	CDF_CHAR	support_data
SP1	SCALETYP	CDF_CHAR	linear
SP1	VAR_NOTES	CDF_CHAR	
SP1	DEPEND_0	CDF_CHAR	Epoch
SP1	FORMAT	CDF_CHAR	I2.2
R0	FIELDNAM	CDF_CHAR	Rooting of electrical data for F0.
R0	CATDESC	CDF_CHAR	Rooting of electrical data.
R0	DISPLAY_TYPE	CDF_CHAR	time_series
R0	VALIDMIN	CDF_UINT1	0
R0	VALIDMAX	CDF_UINT1	1
R0	SCALEMIN	CDF_UINT1	0
R0	SCALEMAX	CDF_UINT1	1
R0	FILLVAL	CDF_UINT1	255
R0	LABLAXIS	CDF_CHAR	R0
R0	UNITS	CDF_CHAR	
R0	VAR_TYPE	CDF_CHAR	support_data
R0	SCALETYP	CDF_CHAR	linear
R0	VAR_NOTES	CDF_CHAR	
R0	DEPEND_0	CDF_CHAR	Epoch
R0	FORMAT	CDF_CHAR	I2.2
R1	FIELDNAM	CDF_CHAR	Rooting of electrical data for F1.
R1	CATDESC	CDF_CHAR	Rooting of electrical data.
R1	DISPLAY_TYPE	CDF_CHAR	time_series
R1	VALIDMIN	CDF_UINT1	0
R1	VALIDMAX	CDF_UINT1	1
R1	SCALEMIN	CDF_UINT1	0
R1	SCALEMAX	CDF_UINT1	1
R1	FILLVAL	CDF_UINT1	255


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 319

Tab. 4.44 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
R1	LABLAXIS	CDF_CHAR	R1
R1	UNITS	CDF_CHAR	
R1	VAR_TYPE	CDF_CHAR	support_data
R1	SCALETYP	CDF_CHAR	linear
R1	VAR_NOTES	CDF_CHAR	
R1	DEPEND_0	CDF_CHAR	Epoch
R1	FORMAT	CDF_CHAR	I2.2
R2	FIELDNAM	CDF_CHAR	Rooting of electrical data for F2.
R2	CATDESC	CDF_CHAR	Rooting of electrical data.
R2	DISPLAY_TYPE	CDF_CHAR	time_series
R2	VALIDMIN	CDF_UINT1	0
R2	VALIDMAX	CDF_UINT1	1
R2	SCALEMIN	CDF_UINT1	0
R2	SCALEMAX	CDF_UINT1	1
R2	FILLVAL	CDF_UINT1	255
R2	LABLAXIS	CDF_CHAR	R2
R2	UNITS	CDF_CHAR	
R2	VAR_TYPE	CDF_CHAR	support_data
R2	SCALETYP	CDF_CHAR	linear
R2	VAR_NOTES	CDF_CHAR	
R2	DEPEND_0	CDF_CHAR	Epoch
R2	FORMAT	CDF_CHAR	I2.2
V	FIELDNAM	CDF_CHAR	Potential
V	CATDESC	CDF_CHAR	Potential value (V)
V	DISPLAY_TYPE	CDF_CHAR	time_series
V	VALIDMIN	CDF_INT2	-32767
V	VALIDMAX	CDF_INT2	32767
V	SCALEMIN	CDF_INT2	-32767
V	SCALEMAX	CDF_INT2	32767
V	FILLVAL	CDF_INT2	-32768
V	LABLAXIS	CDF_CHAR	V
V	UNITS	CDF_CHAR	
V	VAR_TYPE	CDF_CHAR	data
V	SCALETYP	CDF_CHAR	linear
V	VAR_NOTES	CDF_CHAR	Potential value
V	DEPEND_0	CDF_CHAR	Epoch
V	FORMAT	CDF_CHAR	I6.5
E	FIELDNAM	CDF_CHAR	Electric field
E	CATDESC	CDF_CHAR	Electrical field values (E1 and E2)


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 320

Tab. 4.44 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
E	DISPLAY_TYPE	CDF_CHAR	time_series
E	VALIDMIN	CDF_INT2	-32767
E	VALIDMAX	CDF_INT2	32767
E	SCALEMIN	CDF_INT2	-32767
E	SCALEMAX	CDF_INT2	32767
E	FILLVAL	CDF_INT2	-32768
E	LABLAXIS	CDF_CHAR	E
E	UNITS	CDF_CHAR	
E	VAR_TYPE	CDF_CHAR	data
E	SCALETYP	CDF_CHAR	linear
E	VAR_NOTES	CDF_CHAR	2 entry array with electrical field values (E1 and E2)
E	DEPEND_0	CDF_CHAR	Epoch
E	FORMAT	CDF_CHAR	I6.5
B	FIELDNAM	CDF_CHAR	Magnetic field
B	CATDESC	CDF_CHAR	Magnetic field values (B1, B2 and B3)
B	DISPLAY_TYPE	CDF_CHAR	time_series
B	VALIDMIN	CDF_INT2	-32767
B	VALIDMAX	CDF_INT2	32767
B	SCALEMIN	CDF_INT2	-32767
B	SCALEMAX	CDF_INT2	32767
B	FILLVAL	CDF_INT2	-32768
B	LABLAXIS	CDF_CHAR	B
B	UNITS	CDF_CHAR	
B	VAR_TYPE	CDF_CHAR	data
B	SCALETYP	CDF_CHAR	linear
B	VAR_NOTES	CDF_CHAR	3 entry array with magnetic field values (B1,B2 and B3)
B	DEPEND_0	CDF_CHAR	Epoch
B	FORMAT	CDF_CHAR	I6.5
ACQUISITION_TIME_UNITS	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_UNITS
ACQUISITION_TIME_UNITS	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME UNIT_PTR attribute
ACQUISITION_TIME_UNITS	VAR_TYPE	CDF_CHAR	metadata
ACQUISITION_TIME_UNITS	FORMAT	CDF_CHAR	A16
ACQUISITION_TIME_LABEL	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME_LABEL	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME
ACQUISITION_TIME_LABEL	VAR_TYPE	CDF_CHAR	metadata


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 321

Tab. 4.44 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
ACQUISITION_TIME_LABEL	EORMAT	CDF_CHAR	A32
SCET	FIELDNAM	CDF_CHAR	Spacecraft Elapsed Time
SCET	CATDESC	CDF_CHAR	Elapsed Time of the onboard clock
SCET	DISPLAY_TYPE	CDF_CHAR	time_series
SCET	VALIDMIN	CDF_REAL8	0.0
SCET	VALIDMAX	CDF_REAL8	1.0e+31
SCET	SCALEMIN	CDF_REAL8	0.0
SCET	SCALEMAX	CDF_REAL8	1.0e+31
SCET	FILLVAL	CDF_REAL8	-1.0e+31
SCET	LABLAXIS	CDF_CHAR	Spacecraft Elapsed Time (Ticks)
SCET	UNITS	CDF_CHAR	Ticks
SCET	VAR_TYPE	CDF_CHAR	support_data
SCET	SCALETYP	CDF_CHAR	linear
SCET	MONOTON	CDF_CHAR	INCREASE
SCET	TIME_BASE	CDF_CHAR	Spacecraft onboard clock
SCET	TIME_SCALE	CDF_CHAR	Spacecraft onboard clock
SCET	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
SCET	VAR_NOTES	CDF_CHAR	Spacecraft Elapsed Time
SCET	DEPEND_0	CDF_CHAR	Epoch
SYNCHRO_FLAG	FIELDNAM	CDF_CHAR	SYNCHRO_FLAG
SYNCHRO_FLAG	CATDESC	CDF_CHAR	Time synchronisation flag
SYNCHRO_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
SYNCHRO_FLAG	VALIDMIN	CDF_UINT1	0
SYNCHRO_FLAG	VALIDMAX	CDF_UINT1	1
SYNCHRO_FLAG	SCALEMIN	CDF_UINT1	0
SYNCHRO_FLAG	SCALEMAX	CDF_UINT1	1
SYNCHRO_FLAG	FILLVAL	CDF_UINT1	255
SYNCHRO_FLAG	LABLAXIS	CDF_CHAR	time sync. flag
SYNCHRO_FLAG	UNITS	CDF_CHAR	
SYNCHRO_FLAG	VAR_TYPE	CDF_CHAR	support_data
SYNCHRO_FLAG	SCALETYP	CDF_CHAR	linear
SYNCHRO_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate if the local time is synchronized with the RPW DPU clock or not. Possible values: synchronized=0, not synchronized=1. This flag is extracted from ACQUISITION_TIME in L0 packets, it is the MSB of the CUC time.

continues on next page


	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 322

Tab. 4.44 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SYNCHRO_FLAG	DEPEND_0	CDF_CHAR	Epoch
SYNCHRO_FLAG	FORMAT	CDF_CHAR	I3.3
SAMPLING_RATE	FIELDNAM	CDF_CHAR	Sampling rate
SAMPLING_RATE	CATDESC	CDF_CHAR	Sampling frequency of the waveform
SAMPLING_RATE	DISPLAY_TYPE	CDF_CHAR	time_series
SAMPLING_RATE	VALIDMIN	CDF_REAL4	16.0
SAMPLING_RATE	VALIDMAX	CDF_REAL4	24576.0
SAMPLING_RATE	SCALEMIN	CDF_REAL4	16.0
SAMPLING_RATE	SCALEMAX	CDF_REAL4	24576.0
SAMPLING_RATE	FILLVAL	CDF_REAL4	-1.0e+31
SAMPLING_RATE	LABLAXIS	CDF_CHAR	Fe
SAMPLING_RATE	UNITS	CDF_CHAR	Hz
SAMPLING_RATE	VAR_TYPE	CDF_CHAR	support_data
SAMPLING_RATE	SCALETYP	CDF_CHAR	linear
SAMPLING_RATE	VAR_NOTES	CDF_CHAR	sampling frequency of the waveform : F0, F1, F2 or F3
SAMPLING_RATE	DEPEND_0	CDF_CHAR	Epoch
SAMPLING_RATE	FORMAT	CDF_CHAR	F8.2

4.1.2.21.6 Non-Record-Variant (NRV) Variables

Variable Name	Index	Value
ACQUISITION_TIME_UNITS	1	s
ACQUISITION_TIME_UNITS	2	s / 65536
ACQUISITION_TIME_LABEL	1	CUC coarse part time
ACQUISITION_TIME_LABEL	2	CUC fine part time

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 323

4.1.2.22 SOLO_L1_RPW-LFR-SBM1-BP1 data product

The “SOLO_L1_RPW-LFR-SBM1-BP1” data product contains the uncalibrated LFR receiver Basic Parameters 1 data for SBM1 events. The “SOLO_L1_RPW-LFR-SBM1-BP1” data are written in CDF format files. There is a single file per SBM1 event data downlinked on-ground. The file is generated from data in the corresponding SOLO_L0_RPW parent file.

4.1.2.22.1 Filename

```
solo_l1_rpw-lfr-sbm1-bp1_[YYYYMMDDThhmmss1- YYYYMMDDThhmmss2]_V[version].  
↪cdf
```

4.1.2.22.2 Expected cadence and data volume


Nominal cadence: 1 file per SBM1 event

Expected data volume: 90 MB per file

4.1.2.22.3 Global Attributes

Attribute Name	Entry Number	Data Type	Value
ACCESS_FORMAT	1	CDF_CHAR	CDF
ACCESS_URL	1	CDF_CHAR	
Acknowledgement	1	CDF_CHAR	The authors are pleased to acknowledge the Solar Orbiter/RPW Investigation (M. Maksimovic, PIs) for access to data.
Data_type	1	CDF_CHAR	H0>High Resolution data
Data_version	1	CDF_CHAR	
Descriptor	1	CDF_CHAR	RPW-LFR-SBM1-BP1> RPW Low Frequency Receiver Basic parameters set 1 data in SBM1 mode
Discipline	1	CDF_CHAR	Space Physics>Interplanetary Studies
File_naming_convention	1	CDF_CHAR	<Source_name>_<LEVEL>_<Descriptor>_<Date>
File_ID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	RPW Operations Centre located at LESIA (Meudon, France)
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	https://rpw.lesia.obspm.fr


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 324

Tab. 4.45 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Instrument_type	1	CDF_CHAR	Radio and Plasma Waves (space)
JOB_UUID	1	CDF_CHAR	
LINK_TEXT	1	CDF_CHAR	RPW Web site at LESIA
LINK_TITLE	1	CDF_CHAR	RPW Web site
Logical_file_id	1	CDF_CHAR	
Logical_source	1	CDF_CHAR	solo_L1_rpw-lfr-sbm1-bp1
Logical_source_description	1	CDF_CHAR	Solar Orbiter Radio/Plasma Wave, LFR L1 parameters
Mission_group	1	CDF_CHAR	Solar Orbiter
SKELETON_MODS	1	CDF_CHAR	July 2015 : initial release, B. KATRA (CNRS-LPP)
SKELETON_MODS	2	CDF_CHAR	october 2015 : fix of zVariable BP1 structure+attributes updates , B. KATRA (CNRS-LPP)
SKELETON_MODS	3	CDF_CHAR	Dec. 2015: Update to be compliant with the ROC-TST-GSE-SPC-00017-LES 1.3 doc.
SKELETON_MODS	4	CDF_CHAR	Dec. 2015 : fix of zVar dims for science data, B. KATRA (CNRS-LPP) + X.Bonnin (LESIA-CNRS)
SKELETON_MODS	5	CDF_CHAR	Sept. 2016 : upgrade to skt V02 + attributes updated for zVar EPOCH and ACQUISITION_TIME, B. KATRA (CNRS-LPP)
SKELETON_MODS	6	CDF_CHAR	Feb. 2019 : upgrade to skt V03 : add zVariable + change zVariable types to prepare decommutation, R. PIBERNE (X-LPP)
SKELETON_MODS	7	CDF_CHAR	V04: Update for solo data definition, X. BONNIN (CNRS-LESIA), April 2019
SKELETON_MODS	8	CDF_CHAR	V05: Update to compliant with SOL-SGS-TN-0009 Issue 2, Rev 4 - X.Bonnin, 09/2019
SKELETON_MODS	9	CDF_CHAR	V06: March 2020 : Delete Test_* g.attr - X.Bonnin (CNRS, LESIA)
SKELETON_MODS	10	CDF_CHAR	V07: Removing POST_GAP_FLAG zvar and UCD vattr. (X.Bonnin, 09/2020)


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 325

Tab. 4.45 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
SKELETON_MODS	11	CDF_CHAR	V09: Jan. 2021 : Fix inconsistencies against the ISTP CDF guidelines, X.Bonnin (CNRS-LESIA)
PACKET_SRDB_ID	1	CDF_CHAR	
Parent_version	1	CDF_CHAR	
Parents	1	CDF_CHAR	
PI_affiliation	1	CDF_CHAR	LESIA, Observatoire de Paris-CNRS
PI_name	1	CDF_CHAR	M.Maksimovic
Pipeline_version	1	CDF_CHAR	
Project	1	CDF_CHAR	SOLO>Solar Orbiter
Provider	1	CDF_CHAR	LESIA (Meudon, France)
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00006-LES (1.3)
ROC_REFERENCE	1	CDF_CHAR	ROC-TST-GSE-SPC-00017-LES_Issue02_Rev0(Data_format_and_metadata_data_ground_Data).pdf
Rules_of_use	1	CDF_CHAR	Data provided are publicly available. If used in presentations or publications, please acknowledge Solar Orbiter/RPW Investigation (M. Maksimovic, PIs). Please read carefully the caveats attached to the data. For reporting purposes, we request bibliography information for any publication, etc., using these data. Please send information on the use of this data to: M. Maksimovic (PI).
SKELETON_PARENT	1	CDF_CHAR	SOLO_L1_RPW-LFR-SBM1-BP1_V09.cdf
Skeleton_version	1	CDF_CHAR	09
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	SOLO>Solar Orbiter
SPECTRAL_RANGE_MAX	1	CDF_CHAR	
SPECTRAL_RANGE_MIN	1	CDF_CHAR	
Test_request_id	1	CDF_CHAR	
Test_temp_degrees	1	CDF_CHAR	
TEXT	1	CDF_CHAR	This file contains RPW LFR level 1 SBM1 BP1 data of the current test.
TEXT_supplement_1	1	CDF_CHAR	
TIME_MAX	1	CDF_CHAR	

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 326


Tab. 4.45 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
TIME_MIN	1	CDF_CHAR	
Validate	1	CDF_CHAR	
CAVEATS	1	CDF_CHAR	Engineering data. No good for publication.
Datetime	1	CDF_CHAR	
Free_field	1	CDF_CHAR	
Job_ID	1	CDF_CHAR	
LEVEL	1	CDF_CHAR	L1>Level 1 data processing
SOOP_TYPE	1	CDF_CHAR	
Data_product	1	CDF_CHAR	SBM1-BP1>SBM1-BP1
TARGET_NAME	1	CDF_CHAR	Sun
TARGET_CLASS	1	CDF_CHAR	Star
TARGET_REGION	1	CDF_CHAR	Solar Wind
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009 (2.4)
Pipeline_name	1	CDF_CHAR	
Dataset_ID	1	CDF_CHAR	SOLO_L1_RPW-LFR-SBM1-BP1
OBS_ID	1	CDF_CHAR	
MODS	1	CDF_CHAR	

4.1.2.22.4 zVariables

Variable Name	Data Type	Number Elements	Dims	Sizes
Epoch	CDF_TIME_TT2000	1	0	
ACQUISITION_TIME	CDF_UINT4	1	1	2
QUALITY_FLAG	CDF_UINT1	1	0	
COMMON_BIA_STATUS_FLAG	CDF_UINT1	1	0	
QUALITY_BITMASK	CDF_UINT2	1	0	
BIAS_MODE_MUX_SET	CDF_UINT1	1	0	
BIAS_MODE_HV_ENABLED	CDF_UINT1	1	0	
BIAS_MODE_BIAS1_ENABLED	CDF_UINT1	1	0	
BIAS_MODE_BIAS2_ENABLED	CDF_UINT1	1	0	
BIAS_MODE_BIAS3_ENABLED	CDF_UINT1	1	0	
BIAS_ON_OFF	CDF_UINT1	1	0	
BW	CDF_UINT1	1	0	
SP0	CDF_UINT1	1	0	
SP1	CDF_UINT1	1	0	

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 327


Tab. 4.46 – continued from previous page

Variable Name	Data Type	Number Elements	Dims	Sizes
R0	CDF_UINT1	1	0	
R1	CDF_UINT1	1	0	
R2	CDF_UINT1	1	0	
BP1_CNT	CDF_UINT1	1	0	
PE	CDF_REAL8	1	1	22
PB	CDF_REAL8	1	1	22
NVEC_V0	CDF_REAL4	1	1	22
NVEC_V1	CDF_REAL4	1	1	22
NVEC_V2	CDF_UINT1	1	1	22
ELLIP	CDF_REAL4	1	1	22
DOP	CDF_REAL4	1	1	22
SX_REA	CDF_REAL8	1	1	22
SX_ARG	CDF_UINT1	1	1	22
VPHI_REA	CDF_REAL8	1	1	22
VPHI_ARG	CDF_UINT1	1	1	22
ACQUISITION_TIME_UNITS	CDF_CHAR	16	1	2
ACQUISITION_TIME_LABEL	CDF_CHAR	32	1	2
SCET	CDF_REAL8	1	0	
SYNCHRO_FLAG	CDF_UINT1	1	0	

4.1.2.22.5 Variable attributes

Variable Name	Attribute Name	Data Type	Value
Epoch	FIELDNAM	CDF_CHAR	Epoch
Epoch	CATDESC	CDF_CHAR	Default time
Epoch	DISPLAY_TYPE	CDF_CHAR	time_series
Epoch	VALIDMIN	CDF_TIME_TT2000	2000-01-01T00:00:00.000000000
Epoch	VALIDMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch	SCALEMIN	CDF_TIME_TT2000	1990-01-01T00:00:00.000000000
Epoch	SCALEMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch	LABLAXIS	CDF_CHAR	Epoch
Epoch	UNITS	CDF_CHAR	ns


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 328

Tab. 4.47 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
Epoch	VAR_TYPE	CDF_CHAR	support_data
Epoch	SCALETYP	CDF_CHAR	linear
Epoch	MONOTON	CDF_CHAR	INCREASE
Epoch	TIME_BASE	CDF_CHAR	J2000
Epoch	TIME_SCALE	CDF_CHAR	Terrestrial Time
Epoch	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
Epoch	Resolution	CDF_CHAR	15258
Epoch	Bin_location	CDF_CHAR	0.5
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file.
ACQUISITION_TIME	FIELDNAM	CDF_CHAR	LFR acquisition time for set of BP1 at F0.
ACQUISITION_TIME	CATDESC	CDF_CHAR	CCSDS CUC format LFR time, coarse and fine parts
ACQUISITION_TIME	DISPLAY_TYPE	CDF_CHAR	time_series
ACQUISITION_TIME	VALIDMIN	CDF_UINT4	0
ACQUISITION_TIME	VALIDMAX	CDF_UINT4	4294967294
ACQUISITION_TIME	SCALEMIN	CDF_UINT4	0
ACQUISITION_TIME	SCALEMAX	CDF_UINT4	4294967294
ACQUISITION_TIME	FILLVAL	CDF_UINT4	4294967295
ACQUISITION_TIME	VAR_TYPE	CDF_CHAR	support_data
ACQUISITION_TIME	SCALETYP	CDF_CHAR	linear
ACQUISITION_TIME	MONOTON	CDF_CHAR	INCREASE
ACQUISITION_TIME	TIME_BASE	CDF_CHAR	LFR Time base
ACQUISITION_TIME	TIME_SCALE	CDF_CHAR	DPU clock
ACQUISITION_TIME	REFERENCE_POSITION	CDF_CHAR	Rotating Earth Geoid
ACQUISITION_TIME	VAR_NOTES	CDF_CHAR	Local time measured by the RPW LFR receiver (Coarse and fine parts of the CUC format).
ACQUISITION_TIME	DEPEND_0	CDF_CHAR	Epoch
ACQUISITION_TIME	FORMAT	CDF_CHAR	I10.0
ACQUISITION_TIME	LABL_PTR_1	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME	UNIT_PTR	CDF_CHAR	ACQUISITION_TIME_UNITS
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	VALIDMIN	CDF_UINT1	0
QUALITY_FLAG	VALIDMAX	CDF_UINT1	4
QUALITY_FLAG	SCALEMIN	CDF_UINT1	0
QUALITY_FLAG	SCALEMAX	CDF_UINT1	4


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 329

Tab. 4.47 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
QUALITY_FLAG	FILLVAL	CDF_UINT1	255
QUALITY_FLAG	LABLAXIS	CDF_CHAR	Quality flag
QUALITY_FLAG	UNITS	CDF_CHAR	
QUALITY_FLAG	VAR_TYPE	CDF_CHAR	support_data
QUALITY_FLAG	SCALETYP	CDF_CHAR	linear
QUALITY_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the quality of the data
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
COMMON_BIA_STATUS_FLAG	FIELDNAM	CDF_CHAR	COMMON_BIA_STATUS_FLAG
COMMON_BIA_STATUS_FLAG	CATDESC	CDF_CHAR	LFR common parameters and BIAS status info relevancy flag
COMMON_BIA_STATUS_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
COMMON_BIA_STATUS_FLAG	VALIDMIN	CDF_UINT1	0
COMMON_BIA_STATUS_FLAG	VALIDMAX	CDF_UINT1	1
COMMON_BIA_STATUS_FLAG	SCALEMIN	CDF_UINT1	0
COMMON_BIA_STATUS_FLAG	SCALEMAX	CDF_UINT1	1
COMMON_BIA_STATUS_FLAG	FILLVAL	CDF_UINT1	255
COMMON_BIA_STATUS_FLAG	LABLAXIS	CDF_CHAR	common bias status flag
COMMON_BIA_STATUS_FLAG	UNITS	CDF_CHAR	
COMMON_BIA_STATUS_FLAG	VAR_TYPE	CDF_CHAR	support_data
COMMON_BIA_STATUS_FLAG	SCALETYP	CDF_CHAR	linear
COMMON_BIA_STATUS_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the relevancy of LFR common parameters (SP0/1, R0/1/2, BW) and BIAS STATUS INFO which can be non representative for the first packet following a change in those parameters.
COMMON_BIA_STATUS_FLAG	DEPEND_0	CDF_CHAR	Epoch
COMMON_BIA_STATUS_FLAG	FORMAT	CDF_CHAR	I1.1
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Bitmask flag


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 330

Tab. 4.47 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
QUALITY_BITMASK	UNITS	CDF_CHAR	
QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context information or status at the receiver or experiment level
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
BIAS_MODE_MUX_SET	FIELDNAM	CDF_CHAR	BIAS multiplexer setting
BIAS_MODE_MUX_SET	CATDESC	CDF_CHAR	Copy of multiplexer setting.
BIAS_MODE_MUX_SET	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_MUX_SET	VALIDMIN	CDF_UINT1	0
BIAS_MODE_MUX_SET	VALIDMAX	CDF_UINT1	7
BIAS_MODE_MUX_SET	SCALEMIN	CDF_UINT1	0
BIAS_MODE_MUX_SET	SCALEMAX	CDF_UINT1	7
BIAS_MODE_MUX_SET	FILLVAL	CDF_UINT1	255
BIAS_MODE_MUX_SET	LABLAXIS	CDF_CHAR	BIAS_MODE_MUX_SET
BIAS_MODE_MUX_SET	UNITS	CDF_CHAR	
BIAS_MODE_MUX_SET	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_MUX_SET	SCALETYP	CDF_CHAR	linear
BIAS_MODE_MUX_SET	VAR_NOTES	CDF_CHAR	Indicates the mode of BIAS multiplexer for a set of BP1 parameters. Possible values are 0 : Standard operation. 1 : Probe 1 fails. 2 : Probe 2 fails. 3 : Probe 3 fails. 4 : Calibration mode 0. 5 : Calibration mode 1. 6 : Calibration mode 2. 7 : Calibration mode 3.
BIAS_MODE_MUX_SET	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_MUX_SET	FORMAT	CDF_CHAR	I2.2
BIAS_MODE_HV_ENABLED	FIELDNAM	CDF_CHAR	BIAS high voltage status
BIAS_MODE_HV_ENABLED	CATDESC	CDF_CHAR	Copy of enable/disable HV (+- 100V).
BIAS_MODE_HV_ENABLED	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_HV_ENABLED	VALIDMIN	CDF_UINT1	0
BIAS_MODE_HV_ENABLED	VALIDMAX	CDF_UINT1	1
BIAS_MODE_HV_ENABLED	SCALEMIN	CDF_UINT1	0
BIAS_MODE_HV_ENABLED	SCALEMAX	CDF_UINT1	1
BIAS_MODE_HV_ENABLED	FILLVAL	CDF_UINT1	255
BIAS_MODE_HV_ENABLED	LABLAXIS	CDF_CHAR	BIAS_MODE_HV_ENABLED


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 331

Tab. 4.47 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_MODE_HV_ENABLED	UNITS	CDF_CHAR	
BIAS_MODE_HV_ENABLED	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_HV_ENABLED	SCALETYP	CDF_CHAR	linear
BIAS_MODE_HV_ENABLED	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS HV. Possible values are DISABLED = 0. ENABLED = 1.
BIAS_MODE_HV_ENABLED	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_HV_ENABLED	FORMAT	CDF_CHAR	I2.2
BIAS_MODE_BIAS1_ENABLED	HELDNAM	CDF_CHAR	BIAS probe 1 status
BIAS_MODE_BIAS1_ENABLED	CATDESC	CDF_CHAR	Copy of enable/disable BIAS 1.
BIAS_MODE_BIAS1_ENABLED	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_BIAS1_ENABLED	VALIDMIN	CDF_UINT1	0
BIAS_MODE_BIAS1_ENABLED	VALIDMAX	CDF_UINT1	1
BIAS_MODE_BIAS1_ENABLED	SCALEMIN	CDF_UINT1	0
BIAS_MODE_BIAS1_ENABLED	SCALEMAX	CDF_UINT1	1
BIAS_MODE_BIAS1_ENABLED	HELDVAL	CDF_UINT1	255
BIAS_MODE_BIAS1_ENABLED	LABLAXIS	CDF_CHAR	BIAS_MODE_BIAS1_ENABLED
BIAS_MODE_BIAS1_ENABLED	UNITS	CDF_CHAR	
BIAS_MODE_BIAS1_ENABLED	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_BIAS1_ENABLED	SCALETYP	CDF_CHAR	linear
BIAS_MODE_BIAS1_ENABLED	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS probe 1. Possible values are DISABLED = 0. ENABLED = 1.
BIAS_MODE_BIAS1_ENABLED	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_BIAS1_ENABLED	FORMAT	CDF_CHAR	I2.2
BIAS_MODE_BIAS2_ENABLED	HELDNAM	CDF_CHAR	BIAS probe 2 status
BIAS_MODE_BIAS2_ENABLED	CATDESC	CDF_CHAR	Copy of enable/disable BIAS 2.
BIAS_MODE_BIAS2_ENABLED	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_BIAS2_ENABLED	VALIDMIN	CDF_UINT1	0
BIAS_MODE_BIAS2_ENABLED	VALIDMAX	CDF_UINT1	1
BIAS_MODE_BIAS2_ENABLED	SCALEMIN	CDF_UINT1	0
BIAS_MODE_BIAS2_ENABLED	SCALEMAX	CDF_UINT1	1
BIAS_MODE_BIAS2_ENABLED	HELDVAL	CDF_UINT1	255
BIAS_MODE_BIAS2_ENABLED	LABLAXIS	CDF_CHAR	BIAS_MODE_BIAS2_ENABLED
BIAS_MODE_BIAS2_ENABLED	UNITS	CDF_CHAR	
BIAS_MODE_BIAS2_ENABLED	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_BIAS2_ENABLED	SCALETYP	CDF_CHAR	linear


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 332

Tab. 4.47 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_MODE_BIAS2_ENAB	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS probe 2. Possible values are DISABLED = 0. ENABLED = 1.
BIAS_MODE_BIAS2_ENAB	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_BIAS2_ENAB	FORMAT	CDF_CHAR	I2.2
BIAS_MODE_BIAS3_ENAB	FIELDNAM	CDF_CHAR	BIAS probe 3 status
BIAS_MODE_BIAS3_ENAB	CATDESC	CDF_CHAR	Copy of enable/disable BIAS 3.
BIAS_MODE_BIAS3_ENAB	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_BIAS3_ENAB	VALIDMIN	CDF_UINT1	0
BIAS_MODE_BIAS3_ENAB	VALIDMAX	CDF_UINT1	1
BIAS_MODE_BIAS3_ENAB	SCALEMIN	CDF_UINT1	0
BIAS_MODE_BIAS3_ENAB	SCALEMAX	CDF_UINT1	1
BIAS_MODE_BIAS3_ENAB	FILLVAL	CDF_UINT1	255
BIAS_MODE_BIAS3_ENAB	LABLAXIS	CDF_CHAR	BIAS_MODE_BIAS3_ENABLED
BIAS_MODE_BIAS3_ENAB	UNITS	CDF_CHAR	
BIAS_MODE_BIAS3_ENAB	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_BIAS3_ENAB	SCALETYP	CDF_CHAR	linear
BIAS_MODE_BIAS3_ENAB	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS probe 3. Possible values are DISABLED = 0. ENABLED = 1.
BIAS_MODE_BIAS3_ENAB	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_BIAS3_ENAB	FORMAT	CDF_CHAR	I2.2
BIAS_ON_OFF	FIELDNAM	CDF_CHAR	BIAS status
BIAS_ON_OFF	CATDESC	CDF_CHAR	Copy of BIAS status.
BIAS_ON_OFF	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_ON_OFF	VALIDMIN	CDF_UINT1	0
BIAS_ON_OFF	VALIDMAX	CDF_UINT1	1
BIAS_ON_OFF	SCALEMIN	CDF_UINT1	0
BIAS_ON_OFF	SCALEMAX	CDF_UINT1	1
BIAS_ON_OFF	FILLVAL	CDF_UINT1	255
BIAS_ON_OFF	LABLAXIS	CDF_CHAR	BIAS_ON_OFF
BIAS_ON_OFF	UNITS	CDF_CHAR	
BIAS_ON_OFF	VAR_TYPE	CDF_CHAR	support_data
BIAS_ON_OFF	SCALETYP	CDF_CHAR	linear
BIAS_ON_OFF	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS. Possible values are OFF = 0 - Power line off. ON = 1 - Power line on.

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 333

Tab. 4.47 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_ON_OFF	DEPEND_0	CDF_CHAR	Epoch
BIAS_ON_OFF	FORMAT	CDF_CHAR	I2.2
BW	FIELDNAM	CDF_CHAR	BIAS Works/BIAS Fails configuration.
BW	CATDESC	CDF_CHAR	BIAS Works/BIAS Fails configuration.
BW	DISPLAY_TYPE	CDF_CHAR	time_series
BW	VALIDMIN	CDF_UINT1	0
BW	VALIDMAX	CDF_UINT1	1
BW	SCALEMIN	CDF_UINT1	0
BW	SCALEMAX	CDF_UINT1	1
BW	FILLVAL	CDF_UINT1	255
BW	LABLAXIS	CDF_CHAR	BW
BW	UNITS	CDF_CHAR	
BW	VAR_TYPE	CDF_CHAR	support_data
BW	SCALETYP	CDF_CHAR	linear
BW	VAR_NOTES	CDF_CHAR	
BW	DEPEND_0	CDF_CHAR	Epoch
BW	FORMAT	CDF_CHAR	I2.2
SP0	FIELDNAM	CDF_CHAR	Shaping of electrical data parameter 0.
SP0	CATDESC	CDF_CHAR	Shaping of electrical data.
SP0	DISPLAY_TYPE	CDF_CHAR	time_series
SP0	VALIDMIN	CDF_UINT1	0
SP0	VALIDMAX	CDF_UINT1	1
SP0	SCALEMIN	CDF_UINT1	0
SP0	SCALEMAX	CDF_UINT1	1
SP0	FILLVAL	CDF_UINT1	255
SP0	LABLAXIS	CDF_CHAR	SP0
SP0	UNITS	CDF_CHAR	
SP0	VAR_TYPE	CDF_CHAR	support_data
SP0	SCALETYP	CDF_CHAR	linear
SP0	VAR_NOTES	CDF_CHAR	
SP0	DEPEND_0	CDF_CHAR	Epoch
SP0	FORMAT	CDF_CHAR	I2.2
SP1	FIELDNAM	CDF_CHAR	Shaping of electrical data parameter 1.
SP1	CATDESC	CDF_CHAR	Shaping of electrical data.
SP1	DISPLAY_TYPE	CDF_CHAR	time_series
SP1	VALIDMIN	CDF_UINT1	0
SP1	VALIDMAX	CDF_UINT1	1

continues on next page



**RPW Data Product
Description Document**

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03

Date: March 11, 2021

Page: **334**

Tab. 4.47 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SP1	SCALEMIN	CDF_UINT1	0
SP1	SCALEMAX	CDF_UINT1	1
SP1	FILLVAL	CDF_UINT1	255
SP1	LABLAXIS	CDF_CHAR	SP1
SP1	UNITS	CDF_CHAR	
SP1	VAR_TYPE	CDF_CHAR	support_data
SP1	SCALETYP	CDF_CHAR	linear
SP1	VAR_NOTES	CDF_CHAR	
SP1	DEPEND_0	CDF_CHAR	Epoch
SP1	FORMAT	CDF_CHAR	I2.2
R0	FIELDNAM	CDF_CHAR	Rooting of electrical data for F0.
R0	CATDESC	CDF_CHAR	Rooting of electrical data.
R0	DISPLAY_TYPE	CDF_CHAR	time_series
R0	VALIDMIN	CDF_UINT1	0
R0	VALIDMAX	CDF_UINT1	1
R0	SCALEMIN	CDF_UINT1	0
R0	SCALEMAX	CDF_UINT1	1
R0	FILLVAL	CDF_UINT1	255
R0	LABLAXIS	CDF_CHAR	R0
R0	UNITS	CDF_CHAR	
R0	VAR_TYPE	CDF_CHAR	support_data
R0	SCALETYP	CDF_CHAR	linear
R0	VAR_NOTES	CDF_CHAR	
R0	DEPEND_0	CDF_CHAR	Epoch
R0	FORMAT	CDF_CHAR	I2.2
R1	FIELDNAM	CDF_CHAR	Rooting of electrical data for F1.
R1	CATDESC	CDF_CHAR	Rooting of electrical data.
R1	DISPLAY_TYPE	CDF_CHAR	time_series
R1	VALIDMIN	CDF_UINT1	0
R1	VALIDMAX	CDF_UINT1	1
R1	SCALEMIN	CDF_UINT1	0
R1	SCALEMAX	CDF_UINT1	1
R1	FILLVAL	CDF_UINT1	255
R1	LABLAXIS	CDF_CHAR	R1
R1	UNITS	CDF_CHAR	
R1	VAR_TYPE	CDF_CHAR	support_data
R1	SCALETYP	CDF_CHAR	linear
R1	VAR_NOTES	CDF_CHAR	
R1	DEPEND_0	CDF_CHAR	Epoch

continues on next page



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **335**

Tab. 4.47 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
R1	FORMAT	CDF_CHAR	I2.2
R2	FIELDNAM	CDF_CHAR	Rooting of electrical data for F2.
R2	CATDESC	CDF_CHAR	Rooting of electrical data.
R2	DISPLAY_TYPE	CDF_CHAR	time_series
R2	VALIDMIN	CDF_UINT1	0
R2	VALIDMAX	CDF_UINT1	1
R2	SCALEMIN	CDF_UINT1	0
R2	SCALEMAX	CDF_UINT1	1
R2	FILLVAL	CDF_UINT1	255
R2	LABLAXIS	CDF_CHAR	R2
R2	UNITS	CDF_CHAR	
R2	VAR_TYPE	CDF_CHAR	support_data
R2	SCALETYP	CDF_CHAR	linear
R2	VAR_NOTES	CDF_CHAR	
R2	DEPEND_0	CDF_CHAR	Epoch
R2	FORMAT	CDF_CHAR	I2.2
BP1_CNT	FIELDNAM	CDF_CHAR	Number of BP1 sets read at F0 sampling frequency.
BP1_CNT	CATDESC	CDF_CHAR	Number of BP1 sets read at F0 sampling frequency.
BP1_CNT	DISPLAY_TYPE	CDF_CHAR	time_series
BP1_CNT	VALIDMIN	CDF_UINT1	0
BP1_CNT	VALIDMAX	CDF_UINT1	22
BP1_CNT	SCALEMIN	CDF_UINT1	0
BP1_CNT	SCALEMAX	CDF_UINT1	22
BP1_CNT	FILLVAL	CDF_UINT1	255
BP1_CNT	LABLAXIS	CDF_CHAR	BP1_CNT
BP1_CNT	UNITS	CDF_CHAR	
BP1_CNT	VAR_TYPE	CDF_CHAR	support_data
BP1_CNT	SCALETYP	CDF_CHAR	linear
BP1_CNT	VAR_NOTES	CDF_CHAR	This indicates how many sets of BP1 have been read. Expected number is 22.
BP1_CNT	DEPEND_0	CDF_CHAR	Epoch
BP1_CNT	FORMAT	CDF_CHAR	I2.2
PE	FIELDNAM	CDF_CHAR	Spectral power of E field
PE	CATDESC	CDF_CHAR	Spectral power of E field
PE	DISPLAY_TYPE	CDF_CHAR	time_series
PE	VALIDMIN	CDF_REAL8	0.0
PE	VALIDMAX	CDF_REAL8	1.0e+30

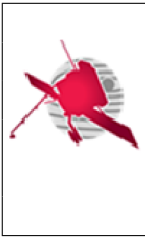
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	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 336

Tab. 4.47 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
PE	SCALEMIN	CDF_REAL8	0.0
PE	SCALEMAX	CDF_REAL8	1.0e+30
PE	FILLVAL	CDF_REAL8	-1.0e+31
PE	LABLAXIS	CDF_CHAR	PE
PE	UNITS	CDF_CHAR	
PE	VAR_TYPE	CDF_CHAR	data
PE	SCALETYP	CDF_CHAR	linear
PE	VAR_NOTES	CDF_CHAR	
PE	DEPEND_0	CDF_CHAR	Epoch
PE	FORMAT	CDF_CHAR	F32.6
PB	FIELDNAM	CDF_CHAR	Spectral power of B field
PB	CATDESC	CDF_CHAR	Spectral power of B field
PB	DISPLAY_TYPE	CDF_CHAR	time_series
PB	VALIDMIN	CDF_REAL8	0.0
PB	VALIDMAX	CDF_REAL8	1.0e+30
PB	SCALEMIN	CDF_REAL8	0.0
PB	SCALEMAX	CDF_REAL8	1.0e+30
PB	FILLVAL	CDF_REAL8	-1.0e+31
PB	LABLAXIS	CDF_CHAR	PB
PB	UNITS	CDF_CHAR	
PB	VAR_TYPE	CDF_CHAR	data
PB	SCALETYP	CDF_CHAR	linear
PB	VAR_NOTES	CDF_CHAR	
PB	DEPEND_0	CDF_CHAR	Epoch
PB	FORMAT	CDF_CHAR	F32.6
NVEC_V0	FIELDNAM	CDF_CHAR	NVEC_V0
NVEC_V0	CATDESC	CDF_CHAR	Component 0 of wave normal vector from magnetic field
NVEC_V0	DISPLAY_TYPE	CDF_CHAR	time_series
NVEC_V0	VALIDMIN	CDF_REAL4	-1.0
NVEC_V0	VALIDMAX	CDF_REAL4	1.0
NVEC_V0	SCALEMIN	CDF_REAL4	-1.0
NVEC_V0	SCALEMAX	CDF_REAL4	1.0
NVEC_V0	FILLVAL	CDF_REAL4	-1.0e+31
NVEC_V0	LABLAXIS	CDF_CHAR	NVEC_V0
NVEC_V0	UNITS	CDF_CHAR	
NVEC_V0	VAR_TYPE	CDF_CHAR	data
NVEC_V0	SCALETYP	CDF_CHAR	linear
NVEC_V0	VAR_NOTES	CDF_CHAR	
NVEC_V0	DEPEND_0	CDF_CHAR	Epoch
NVEC_V0	FORMAT	CDF_CHAR	F32.6

continues on next page



**RPW Data Product
Description Document**

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **337**

Tab. 4.47 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
NVEC_V1	FIELDNAM	CDF_CHAR	NVEC_V1
NVEC_V1	CATDESC	CDF_CHAR	Component 1 of wave normal vector from magnetic field
NVEC_V1	DISPLAY_TYPE	CDF_CHAR	time_series
NVEC_V1	VALIDMIN	CDF_REAL4	-1.0
NVEC_V1	VALIDMAX	CDF_REAL4	1.0
NVEC_V1	SCALEMIN	CDF_REAL4	-1.0
NVEC_V1	SCALEMAX	CDF_REAL4	1.0
NVEC_V1	FILLVAL	CDF_REAL4	-1.0e+31
NVEC_V1	LABLAXIS	CDF_CHAR	NVEC_V1
NVEC_V1	UNITS	CDF_CHAR	
NVEC_V1	VAR_TYPE	CDF_CHAR	data
NVEC_V1	SCALETYP	CDF_CHAR	linear
NVEC_V1	VAR_NOTES	CDF_CHAR	
NVEC_V1	DEPEND_0	CDF_CHAR	Epoch
NVEC_V1	FORMAT	CDF_CHAR	F32.6
NVEC_V2	FIELDNAM	CDF_CHAR	NVEC_V2
NVEC_V2	CATDESC	CDF_CHAR	Sign of component 2 of wave normal vector from magnetic field
NVEC_V2	DISPLAY_TYPE	CDF_CHAR	time_series
NVEC_V2	VALIDMIN	CDF_UINT1	0
NVEC_V2	VALIDMAX	CDF_UINT1	1
NVEC_V2	SCALEMIN	CDF_UINT1	0
NVEC_V2	SCALEMAX	CDF_UINT1	2
NVEC_V2	FILLVAL	CDF_UINT1	255
NVEC_V2	LABLAXIS	CDF_CHAR	NVEC_V2
NVEC_V2	UNITS	CDF_CHAR	
NVEC_V2	VAR_TYPE	CDF_CHAR	data
NVEC_V2	SCALETYP	CDF_CHAR	linear
NVEC_V2	VAR_NOTES	CDF_CHAR	0 == positive, 1 == negative
NVEC_V2	DEPEND_0	CDF_CHAR	Epoch
NVEC_V2	FORMAT	CDF_CHAR	I2.2
ELLIP	FIELDNAM	CDF_CHAR	Wave ellipticity from magnetic field
ELLIP	CATDESC	CDF_CHAR	Wave ellipticity from magnetic field
ELLIP	DISPLAY_TYPE	CDF_CHAR	time_series
ELLIP	VALIDMIN	CDF_REAL4	0.0
ELLIP	VALIDMAX	CDF_REAL4	1.0
ELLIP	SCALEMIN	CDF_REAL4	0.0

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 338

Tab. 4.47 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
ELLIP	SCALEMAX	CDF_REAL4	1.0
ELLIP	FILLVAL	CDF_REAL4	-1.0e+31
ELLIP	LABLAXIS	CDF_CHAR	ELLIP
ELLIP	UNITS	CDF_CHAR	
ELLIP	VAR_TYPE	CDF_CHAR	data
ELLIP	SCALETYP	CDF_CHAR	linear
ELLIP	VAR_NOTES	CDF_CHAR	
ELLIP	DEPEND_0	CDF_CHAR	Epoch
ELLIP	FORMAT	CDF_CHAR	F32.6
DOP	FIELDNAM	CDF_CHAR	degree of polarization from magnetic field
DOP	CATDESC	CDF_CHAR	degree of polarization from magnetic field
DOP	DISPLAY_TYPE	CDF_CHAR	time_series
DOP	VALIDMIN	CDF_REAL4	0.0
DOP	VALIDMAX	CDF_REAL4	1.0
DOP	SCALEMIN	CDF_REAL4	0.0
DOP	SCALEMAX	CDF_REAL4	1.0
DOP	FILLVAL	CDF_REAL4	-1.0e+31
DOP	LABLAXIS	CDF_CHAR	DOP
DOP	UNITS	CDF_CHAR	
DOP	VAR_TYPE	CDF_CHAR	data
DOP	SCALETYP	CDF_CHAR	linear
DOP	VAR_NOTES	CDF_CHAR	
DOP	DEPEND_0	CDF_CHAR	Epoch
DOP	FORMAT	CDF_CHAR	F32.6
SX_REA	FIELDNAM	CDF_CHAR	Real part of X Poynting flux
SX_REA	CATDESC	CDF_CHAR	Real part of the X component of the Poynting vector
SX_REA	DISPLAY_TYPE	CDF_CHAR	time_series
SX_REA	VALIDMIN	CDF_REAL8	-1.0e+30
SX_REA	VALIDMAX	CDF_REAL8	1.0e+30
SX_REA	SCALEMIN	CDF_REAL8	-1.0e+30
SX_REA	SCALEMAX	CDF_REAL8	1.0e+30
SX_REA	FILLVAL	CDF_REAL8	-1.0e+31
SX_REA	LABLAXIS	CDF_CHAR	SX_REA
SX_REA	UNITS	CDF_CHAR	
SX_REA	VAR_TYPE	CDF_CHAR	data
SX_REA	SCALETYP	CDF_CHAR	linear
SX_REA	VAR_NOTES	CDF_CHAR	
SX_REA	DEPEND_0	CDF_CHAR	Epoch

continues on next page



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **339**

Tab. 4.47 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SX_REA	FORMAT	CDF_CHAR	F32.6
SX_ARG	FIELDNAM	CDF_CHAR	Arg bit of X Poynting flux
SX_ARG	CATDESC	CDF_CHAR	Argument bit = 0 if $ \text{ARG}(\text{SX}) < \pi/4$ or $3\pi/4 < \text{ARG}(\text{SX}) < \pi$, bit arg = 1 elsewhere
SX_ARG	DISPLAY_TYPE	CDF_CHAR	time_series
SX_ARG	VALIDMIN	CDF_UINT1	0
SX_ARG	VALIDMAX	CDF_UINT1	1
SX_ARG	SCALEMIN	CDF_UINT1	0
SX_ARG	SCALEMAX	CDF_UINT1	1
SX_ARG	FILLVAL	CDF_UINT1	255
SX_ARG	LABLAXIS	CDF_CHAR	SX_ARG
SX_ARG	UNITS	CDF_CHAR	
SX_ARG	VAR_TYPE	CDF_CHAR	data
SX_ARG	SCALETYP	CDF_CHAR	linear
SX_ARG	VAR_NOTES	CDF_CHAR	
SX_ARG	DEPEND_0	CDF_CHAR	Epoch
SX_ARG	FORMAT	CDF_CHAR	I2.2
VPHI_REA	FIELDNAM	CDF_CHAR	Real part of phase velocity estimator
VPHI_REA	CATDESC	CDF_CHAR	Phase velocity estimated from the X projection of Maxwell-Faraday equation
VPHI_REA	DISPLAY_TYPE	CDF_CHAR	time_series
VPHI_REA	VALIDMIN	CDF_REAL8	-1.0e+30
VPHI_REA	VALIDMAX	CDF_REAL8	1.0e+30
VPHI_REA	SCALEMIN	CDF_REAL8	-1.0e+30
VPHI_REA	SCALEMAX	CDF_REAL8	1.0e+30
VPHI_REA	FILLVAL	CDF_REAL8	-1.0e+31
VPHI_REA	LABLAXIS	CDF_CHAR	VPHI_REA
VPHI_REA	UNITS	CDF_CHAR	
VPHI_REA	VAR_TYPE	CDF_CHAR	data
VPHI_REA	SCALETYP	CDF_CHAR	linear
VPHI_REA	VAR_NOTES	CDF_CHAR	
VPHI_REA	DEPEND_0	CDF_CHAR	Epoch
VPHI_REA	FORMAT	CDF_CHAR	F32.6
VPHI_ARG	FIELDNAM	CDF_CHAR	Arg bit of phase velocity estimator


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 340

Tab. 4.47 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
VPHI_ARG	CATDESC	CDF_CHAR	Argument bit = 0 if ARG(VPHI) < pi/4 or 3pi/4 < ARG(VPHI) < pi, bit arg = 1 elsewhere
VPHI_ARG	DISPLAY_TYPE	CDF_CHAR	time_series
VPHI_ARG	VALIDMIN	CDF_UINT1	0
VPHI_ARG	VALIDMAX	CDF_UINT1	1
VPHI_ARG	SCALEMIN	CDF_UINT1	0
VPHI_ARG	SCALEMAX	CDF_UINT1	1
VPHI_ARG	FILLVAL	CDF_UINT1	255
VPHI_ARG	LABLAXIS	CDF_CHAR	VPHI_ARG
VPHI_ARG	UNITS	CDF_CHAR	
VPHI_ARG	VAR_TYPE	CDF_CHAR	data
VPHI_ARG	SCALETYP	CDF_CHAR	linear
VPHI_ARG	VAR_NOTES	CDF_CHAR	
VPHI_ARG	DEPEND_0	CDF_CHAR	Epoch
VPHI_ARG	FORMAT	CDF_CHAR	I2.2
ACQUISITION_TIME_UNITS	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_UNITS
ACQUISITION_TIME_UNITS	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME_UNIT_PTR attribute
ACQUISITION_TIME_UNITS	VAR_TYPE	CDF_CHAR	metadata
ACQUISITION_TIME_UNITS	FORMAT	CDF_CHAR	A16
ACQUISITION_TIME_LABEL	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME_LABEL	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME
ACQUISITION_TIME_LABEL	VAR_TYPE	CDF_CHAR	metadata
ACQUISITION_TIME_LABEL	FORMAT	CDF_CHAR	A32
SCET	FIELDNAM	CDF_CHAR	Spacecraft Elapsed Time
SCET	CATDESC	CDF_CHAR	Elapsed Time of the onboard clock
SCET	DISPLAY_TYPE	CDF_CHAR	time_series
SCET	VALIDMIN	CDF_REAL8	0.0
SCET	VALIDMAX	CDF_REAL8	1.0e+31
SCET	SCALEMIN	CDF_REAL8	0.0
SCET	SCALEMAX	CDF_REAL8	1.0e+31
SCET	FILLVAL	CDF_REAL8	-1.0e+31
SCET	LABLAXIS	CDF_CHAR	Spacecraft Elapsed Time (Ticks)
SCET	UNITS	CDF_CHAR	Ticks
SCET	VAR_TYPE	CDF_CHAR	support_data

continues on next page


	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 341

Tab. 4.47 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SCET	SCALETYP	CDF_CHAR	linear
SCET	MONOTON	CDF_CHAR	INCREASE
SCET	TIME_BASE	CDF_CHAR	Spacecraft onboard clock
SCET	TIME_SCALE	CDF_CHAR	Spacecraft onboard clock
SCET	REFERENCE_POS	CDF_CHAR	Spacecraft barycenter
SCET	VAR_NOTES	CDF_CHAR	Spaceraft Elapsed Time
SCET	DEPEND_0	CDF_CHAR	Epoch
SYNCHRO_FLAG	FIELDNAM	CDF_CHAR	SYNCHRO_FLAG
SYNCHRO_FLAG	CATDESC	CDF_CHAR	Time synchronisation flag
SYNCHRO_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
SYNCHRO_FLAG	VALIDMIN	CDF_UINT1	0
SYNCHRO_FLAG	VALIDMAX	CDF_UINT1	1
SYNCHRO_FLAG	SCALEMIN	CDF_UINT1	0
SYNCHRO_FLAG	SCALEMAX	CDF_UINT1	1
SYNCHRO_FLAG	FILLVAL	CDF_UINT1	255
SYNCHRO_FLAG	LABLAXIS	CDF_CHAR	time sync. flag
SYNCHRO_FLAG	UNITS	CDF_CHAR	
SYNCHRO_FLAG	VAR_TYPE	CDF_CHAR	support_data
SYNCHRO_FLAG	SCALETYP	CDF_CHAR	linear
SYNCHRO_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate if the local time is synchronized with the RPW DPU clock or not. Possible values: synchronized=0, not synchronized=1. This flag is extracted from ACQUISITION_TIME in L0 packets, it is the MSB of the CUC time.
SYNCHRO_FLAG	DEPEND_0	CDF_CHAR	Epoch
SYNCHRO_FLAG	FORMAT	CDF_CHAR	I3.3

4.1.2.22.6 Non-Record-Variant (NRV) Variables

Variable Name	Index	Value
ACQUISITION_TIME_UNITS	1	s
ACQUISITION_TIME_UNITS	2	s / 65536
ACQUISITION_TIME_LABEL	1	CUC coarse part time
ACQUISITION_TIME_LABEL	2	CUC fine part time

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 342

4.1.2.23 SOLO_L1_RPW-LFR-SBM1-BP2 data product

The “SOLO_L1_RPW-LFR-SBM1-BP2” data product contains the uncalibrated LFR receiver Basic Parameters 2 data for SBM1 events. The “SOLO_L1_RPW-LFR-SBM1-BP2” data are written in CDF format files. There is a single file per SBM1 event data downlinked on-ground. The file is generated from data in the corresponding SOLO_L0_RPW parent file.

4.1.2.23.1 Filename

```
solo_L1_rpw-lfr-sbm1-bp2_[YYYYMMDDThhmmss1- YYYYMMDDThhmmss2]_V[version].  
↪cdf
```

4.1.2.23.2 Expected cadence and data volume


Nominal cadence: 1 file per SBM1 event

Expected data volume: 40 MB per file

4.1.2.23.3 Global Attributes

Attribute Name	Entry Number	Data Type	Value
ACCESS_FORMAT	1	CDF_CHAR	CDF
ACCESS_URL	1	CDF_CHAR	
Acknowledgement	1	CDF_CHAR	The authors are pleased to acknowledge the Solar Orbiter/RPW Investigation (M. Maksimovic, PIs) for access to data.
Data_type	1	CDF_CHAR	H0>High Resolution data
Data_version	1	CDF_CHAR	
Descriptor	1	CDF_CHAR	RPW-LFR-SBM1-BP2>RPW Low Frequency Receiver Basic Parameters set 2 data in SBM1 mode
Discipline	1	CDF_CHAR	Space Physics>Interplanetary Studies
File_naming_convention	1	CDF_CHAR	<Source_name>_<LEVEL>_<Descriptor>_<Date>
File_ID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	RPW Operations Centre located at LESIA (Meudon, France)
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	https://rpw.lesia.obspm.fr


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 343

Tab. 4.48 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Instrument_type	1	CDF_CHAR	Radio and Plasma Waves (space)
LINK_TEXT	1	CDF_CHAR	RPW Web site at LESIA
LINK_TITLE	1	CDF_CHAR	RPW Web site
Logical_file_id	1	CDF_CHAR	
Logical_source	1	CDF_CHAR	solo_L1_rpw-lfr-sbm1-bp2
Logical_source_description	1	CDF_CHAR	Solar Orbiter Radio/Plasma Wave, LFR L1 parameters
Mission_group	1	CDF_CHAR	Solar Orbiter
SKELETON_MODS	1	CDF_CHAR	July 2015 : initial release, B. KATRA (CNRS-LPP)
SKELETON_MODS	2	CDF_CHAR	october 2015 : fix of zVariable BP2 structure+attributes updates , B. KATRA (CNRS-LPP)
SKELETON_MODS	3	CDF_CHAR	Dec. 2015: Update to be compliant with the ROC-TST-GSE-SPC-00017-LES 1.3 doc.
SKELETON_MODS	4	CDF_CHAR	Dec. 2015 : fix of zVar dims for science data, B. KATRA (CNRS-LPP) + X.Bonnin (LESIA-CNRS)
SKELETON_MODS	5	CDF_CHAR	Sept. 2016 : upgrade to skt V02 + attributes updated for zVar EPOCH and ACQUISITION_TIME, B. KATRA (CNRS-LPP)
SKELETON_MODS	6	CDF_CHAR	Feb. 2019 : upgrade to skt V03 : change zVariable types to prepare decommutation, R. PIBERNE (X-LPP)
SKELETON_MODS	7	CDF_CHAR	V04: Update for solo data definition, X. BONNIN (CNRS-LESIA), April 2019
SKELETON_MODS	8	CDF_CHAR	V05: Update to compliant with SOL-SGS-TN-0009 Issue 2, Rev 4 - X.Bonnin, 09/2019
SKELETON_MODS	9	CDF_CHAR	V06: March 2020 : Delete Test_* g.attrs - X.Bonnin (CNRS, LESIA)
SKELETON_MODS	10	CDF_CHAR	V07: Removing POST_GAP_FLAG zvar and UCD vattr. (X.Bonnin, 09/2020)
SKELETON_MODS	11	CDF_CHAR	V09: Jan. 2021 : Fix inconsistencies against the ISTEP CDF guidelines, X.Bonnin (CNRS-LESIA)
PACKET_SRDB_ID	1	CDF_CHAR	


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 344

Tab. 4.48 – continued from previous page


Attribute Name	Entry Number	Data Type	Value
Parent_version	1	CDF_CHAR	
Parents	1	CDF_CHAR	
PI_affiliation	1	CDF_CHAR	LESIA, Observatoire de Paris-CNRS
PI_name	1	CDF_CHAR	M.Maksimovic
Pipeline_version	1	CDF_CHAR	
Project	1	CDF_CHAR	SOLO>Solar Orbiter
Provider	1	CDF_CHAR	LESIA (Meudon, France)
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00006-LES (1.3)
ROC_REFERENCE	1	CDF_CHAR	ROC-TST-GSE-SPC-00017-LES_Issue02_Rev0(Data_format_and_metadata_ground_Data).pdf
Rules_of_use	1	CDF_CHAR	Data provided are publicly available. If used in presentations or publications, please acknowledge Solar Orbiter/RPW Investigation (M. Maksimovic, PIs). Please read carefully the caveats attached to the data. For reporting purposes, we request bibliography information for any publication, etc., using these data. Please send information on the use of this data to: M. Maksimovic (PI).
SKELETON_PARENT	1	CDF_CHAR	SOLO_L1_RPW-LFR-SBM1-BP2_V09.cdf
Skeleton_version	1	CDF_CHAR	09
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	SOLO>Solar Orbiter
SPECTRAL_RANGE_MAX	1	CDF_CHAR	
SPECTRAL_RANGE_MIN	1	CDF_CHAR	
TEXT	1	CDF_CHAR	This file contains RPW LFR level 1 SBM1 BP2 data of the current test.
TEXT_supplement_1	1	CDF_CHAR	
TIME_MAX	1	CDF_CHAR	
TIME_MIN	1	CDF_CHAR	
Validate	1	CDF_CHAR	
CAVEATS	1	CDF_CHAR	Engineering data. No good for publication.
Datetime	1	CDF_CHAR	
Free_field	1	CDF_CHAR	

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 345

Tab. 4.48 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Job_ID	1	CDF_CHAR	
LEVEL	1	CDF_CHAR	L1>Level 1 data processing
SOOP_TYPE	1	CDF_CHAR	
Data_product	1	CDF_CHAR	SBM1-BP2>SBM1-BP2
TARGET_NAME	1	CDF_CHAR	Sun
TARGET_CLASS	1	CDF_CHAR	Star
TARGET_REGION	1	CDF_CHAR	Solar Wind
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009 (2.4)
Pipeline_name	1	CDF_CHAR	
Dataset_ID	1	CDF_CHAR	SOLO_L1_RPW-LFR-SBM1-BP2
OBS_ID	1	CDF_CHAR	
MODS	1	CDF_CHAR	

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 346


4.1.2.23.4 zVariables

Variable Name	Data Type	Number El- ements	Dims	Sizes
Epoch	CDF_TIME_TT2000	1	0	
ACQUISITION_TIME	CDF_UINT4	1	1	2
QUALITY_FLAG	CDF_UINT1	1	0	
COMMON_BIA_STATUS_FLAG	CDF_UINT1	1	0	
QUALITY_BITMASK	CDF_UINT2	1	0	
BIAS_MODE_MUX_SET	CDF_UINT1	1	0	
BIAS_MODE_HV_ENABLED	CDF_UINT1	1	0	
BIAS_MODE_BIAS1_ENABLED	CDF_UINT1	1	0	
BIAS_MODE_BIAS2_ENABLED	CDF_UINT1	1	0	
BIAS_MODE_BIAS3_ENABLED	CDF_UINT1	1	0	
BIAS_ON_OFF	CDF_UINT1	1	0	
BW	CDF_UINT1	1	0	
SP0	CDF_UINT1	1	0	
SP1	CDF_UINT1	1	0	
R0	CDF_UINT1	1	0	
R1	CDF_UINT1	1	0	
R2	CDF_UINT1	1	0	
BP2_CNT	CDF_UINT1	1	0	
AUTO	CDF_REAL8	1	2	22 5
CROSS_RE	CDF_REAL4	1	2	22 10
CROSS_IM	CDF_REAL4	1	2	22 10
ACQUISITION_TIME_UNITS	CDF_CHAR	16	1	2
ACQUISITION_TIME_LABEL	CDF_CHAR	32	1	2
SCET	CDF_REAL8	1	0	
SYNCHRO_FLAG	CDF_UINT1	1	0	

4.1.2.23.5 Variable attributes

Variable Name	Attribute Name	Data Type	Value
Epoch	FIELDNAM	CDF_CHAR	Epoch
Epoch	CATDESC	CDF_CHAR	Default time
Epoch	DISPLAY_TYPE	CDF_CHAR	time_series
Epoch	VALIDMIN	CDF_TIME_TT2000	2000-01-01T00:00:00.000000000
Epoch	VALIDMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 347

Tab. 4.49 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
Epoch	SCALEMIN	CDF_TIME_TT2000	1990-01-01T00:00:00.000000000
Epoch	SCALEMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch	LABLAXIS	CDF_CHAR	Epoch
Epoch	UNITS	CDF_CHAR	ns
Epoch	VAR_TYPE	CDF_CHAR	support_data
Epoch	SCALETYP	CDF_CHAR	linear
Epoch	MONOTON	CDF_CHAR	INCREASE
Epoch	TIME_BASE	CDF_CHAR	J2000
Epoch	TIME_SCALE	CDF_CHAR	Terrestrial Time
Epoch	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
Epoch	Resolution	CDF_CHAR	15258
Epoch	Bin_location	CDF_CHAR	0.5
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file.
ACQUISITION_TIME	FIELDNAM	CDF_CHAR	LFR acquisition time for set of BP2 at F0.
ACQUISITION_TIME	CATDESC	CDF_CHAR	CCSDS CUC format LFR time, coarse and fine parts
ACQUISITION_TIME	DISPLAY_TYPE	CDF_CHAR	time_series
ACQUISITION_TIME	VALIDMIN	CDF_UINT4	0
ACQUISITION_TIME	VALIDMAX	CDF_UINT4	4294967294
ACQUISITION_TIME	SCALEMIN	CDF_UINT4	0
ACQUISITION_TIME	SCALEMAX	CDF_UINT4	4294967294
ACQUISITION_TIME	FILLVAL	CDF_UINT4	4294967295
ACQUISITION_TIME	VAR_TYPE	CDF_CHAR	support_data
ACQUISITION_TIME	SCALETYP	CDF_CHAR	linear
ACQUISITION_TIME	MONOTON	CDF_CHAR	INCREASE
ACQUISITION_TIME	TIME_BASE	CDF_CHAR	LFR Time base
ACQUISITION_TIME	TIME_SCALE	CDF_CHAR	DPU clock
ACQUISITION_TIME	REFERENCE_POSITION	CDF_CHAR	Rotating Earth Geoid
ACQUISITION_TIME	VAR_NOTES	CDF_CHAR	Local time measured by the RPW LFR receiver (Coarse and fine parts of the CUC format).
ACQUISITION_TIME	DEPEND_0	CDF_CHAR	Epoch
ACQUISITION_TIME	FORMAT	CDF_CHAR	I10.0
ACQUISITION_TIME	LABL_PTR_1	CDF_CHAR	ACQUISITION_TIME_LABEL


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 348

Tab. 4.49 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
ACQUISITION_TIME	UNIT_PTR	CDF_CHAR	ACQUISITION_TIME_UNITS
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	VALIDMIN	CDF_UINT1	0
QUALITY_FLAG	VALIDMAX	CDF_UINT1	4
QUALITY_FLAG	SCALEMIN	CDF_UINT1	0
QUALITY_FLAG	SCALEMAX	CDF_UINT1	4
QUALITY_FLAG	FILLVAL	CDF_UINT1	255
QUALITY_FLAG	LABLAXIS	CDF_CHAR	Quality flag
QUALITY_FLAG	UNITS	CDF_CHAR	
QUALITY_FLAG	VAR_TYPE	CDF_CHAR	support_data
QUALITY_FLAG	SCALETYP	CDF_CHAR	linear
QUALITY_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the quality of the data
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
COMMON_BIA_STATUS_FLAG	FIELDNAM	CDF_CHAR	COMMON_BIA_STATUS_FLAG
COMMON_BIA_STATUS_FLAG	CATDESC	CDF_CHAR	LFR common parameters and BIAS status info relevancy flag
COMMON_BIA_STATUS_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
COMMON_BIA_STATUS_FLAG	VALIDMIN	CDF_UINT1	0
COMMON_BIA_STATUS_FLAG	VALIDMAX	CDF_UINT1	1
COMMON_BIA_STATUS_FLAG	SCALEMIN	CDF_UINT1	0
COMMON_BIA_STATUS_FLAG	SCALEMAX	CDF_UINT1	1
COMMON_BIA_STATUS_FLAG	FILLVAL	CDF_UINT1	255
COMMON_BIA_STATUS_FLAG	LABLAXIS	CDF_CHAR	common bias status flag
COMMON_BIA_STATUS_FLAG	UNITS	CDF_CHAR	
COMMON_BIA_STATUS_FLAG	VAR_TYPE	CDF_CHAR	support_data
COMMON_BIA_STATUS_FLAG	SCALETYP	CDF_CHAR	linear
COMMON_BIA_STATUS_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the relevancy of LFR common parameters (SP0/1, R0/1/2, BW) and BIAS STATUS INFO which can be non representative for the first packet following a change in those parameters.
COMMON_BIA_STATUS_FLAG	DEPEND_0	CDF_CHAR	Epoch
COMMON_BIA_STATUS_FLAG	FORMAT	CDF_CHAR	I1.1
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 349

Tab. 4.49 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	UNITS	CDF_CHAR	
QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context information or status at the receiver or experiment level
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
BIAS_MODE_MUX_SET	FIELDNAM	CDF_CHAR	BIAS multiplexer setting
BIAS_MODE_MUX_SET	CATDESC	CDF_CHAR	Copy of multiplexer setting.
BIAS_MODE_MUX_SET	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_MUX_SET	VALIDMIN	CDF_UINT1	0
BIAS_MODE_MUX_SET	VALIDMAX	CDF_UINT1	7
BIAS_MODE_MUX_SET	SCALEMIN	CDF_UINT1	0
BIAS_MODE_MUX_SET	SCALEMAX	CDF_UINT1	7
BIAS_MODE_MUX_SET	FILLVAL	CDF_UINT1	255
BIAS_MODE_MUX_SET	LABLAXIS	CDF_CHAR	BIAS_MODE_MUX_SET
BIAS_MODE_MUX_SET	UNITS	CDF_CHAR	
BIAS_MODE_MUX_SET	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_MUX_SET	SCALETYP	CDF_CHAR	linear
BIAS_MODE_MUX_SET	VAR_NOTES	CDF_CHAR	Indicates the mode of BIAS multiplexer for a set of BP2 parameters. Possible values are 0 : Standard operation. 1 : Probe 1 fails. 2 : Probe 2 fails. 3 : Probe 3 fails. 4 : Calibration mode 0. 5 : Calibration mode 1. 6 : Calibration mode 2. 7 : Calibration mode 3.
BIAS_MODE_MUX_SET	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_MUX_SET	FORMAT	CDF_CHAR	I2.2
BIAS_MODE_HV_ENABLED	FIELDNAM	CDF_CHAR	BIAS high voltage status

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 350

Tab. 4.49 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_MODE_HV_ENABLED	CATDESC	CDF_CHAR	Copy of enable/disable HV (+- 100V).
BIAS_MODE_HV_ENABLED	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_HV_ENABLED	VALIDMIN	CDF_UINT1	0
BIAS_MODE_HV_ENABLED	VALIDMAX	CDF_UINT1	1
BIAS_MODE_HV_ENABLED	SCALEMIN	CDF_UINT1	0
BIAS_MODE_HV_ENABLED	SCALEMAX	CDF_UINT1	1
BIAS_MODE_HV_ENABLED	FILLVAL	CDF_UINT1	255
BIAS_MODE_HV_ENABLED	LABLAXIS	CDF_CHAR	BIAS_MODE_HV_ENABLED
BIAS_MODE_HV_ENABLED	UNITS	CDF_CHAR	
BIAS_MODE_HV_ENABLED	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_HV_ENABLED	SCALETYP	CDF_CHAR	linear
BIAS_MODE_HV_ENABLED	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS HV. Possible values are DISABLED = 0. ENABLED = 1.
BIAS_MODE_HV_ENABLED	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_HV_ENABLED	FORMAT	CDF_CHAR	I2.2
BIAS_MODE_BIAS1_ENABLED	HELDNAM	CDF_CHAR	BIAS probe 1 status
BIAS_MODE_BIAS1_ENABLED	CATDESC	CDF_CHAR	Copy of enable/disable BIAS 1.
BIAS_MODE_BIAS1_ENABLED	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_BIAS1_ENABLED	VALIDMIN	CDF_UINT1	0
BIAS_MODE_BIAS1_ENABLED	VALIDMAX	CDF_UINT1	1
BIAS_MODE_BIAS1_ENABLED	SCALEMIN	CDF_UINT1	0
BIAS_MODE_BIAS1_ENABLED	SCALEMAX	CDF_UINT1	1
BIAS_MODE_BIAS1_ENABLED	FILLVAL	CDF_UINT1	255
BIAS_MODE_BIAS1_ENABLED	LABLAXIS	CDF_CHAR	BIAS_MODE_BIAS1_ENABLED
BIAS_MODE_BIAS1_ENABLED	UNITS	CDF_CHAR	
BIAS_MODE_BIAS1_ENABLED	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_BIAS1_ENABLED	SCALETYP	CDF_CHAR	linear
BIAS_MODE_BIAS1_ENABLED	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS probe 1. Possible values are DISABLED = 0. ENABLED = 1.
BIAS_MODE_BIAS1_ENABLED	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_BIAS1_ENABLED	FORMAT	CDF_CHAR	I2.2
BIAS_MODE_BIAS2_ENABLED	HELDNAM	CDF_CHAR	BIAS probe 2 status
BIAS_MODE_BIAS2_ENABLED	CATDESC	CDF_CHAR	Copy of enable/disable BIAS 2.
BIAS_MODE_BIAS2_ENABLED	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_BIAS2_ENABLED	VALIDMIN	CDF_UINT1	0

continues on next page



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **351**

Tab. 4.49 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_MODE_BIAS2_ENAB	VALIDMAX	CDF_UINT1	1
BIAS_MODE_BIAS2_ENAB	SCALEMIN	CDF_UINT1	0
BIAS_MODE_BIAS2_ENAB	SCALEMAX	CDF_UINT1	1
BIAS_MODE_BIAS2_ENAB	FILLVAL	CDF_UINT1	255
BIAS_MODE_BIAS2_ENAB	BLAXIS	CDF_CHAR	BIAS_MODE_BIAS2_ENABLED
BIAS_MODE_BIAS2_ENAB	UNITS	CDF_CHAR	
BIAS_MODE_BIAS2_ENAB	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_BIAS2_ENAB	SCALETYP	CDF_CHAR	linear
BIAS_MODE_BIAS2_ENAB	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS probe 2. Possible values are DISABLED = 0. ENABLED = 1.
BIAS_MODE_BIAS2_ENAB	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_BIAS2_ENAB	FORMAT	CDF_CHAR	I2.2
BIAS_MODE_BIAS3_ENAB	FIELDNAM	CDF_CHAR	BIAS probe 3 status
BIAS_MODE_BIAS3_ENAB	CATDESC	CDF_CHAR	Copy of enable/disable BIAS 3.
BIAS_MODE_BIAS3_ENAB	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_BIAS3_ENAB	VALIDMIN	CDF_UINT1	0
BIAS_MODE_BIAS3_ENAB	VALIDMAX	CDF_UINT1	1
BIAS_MODE_BIAS3_ENAB	SCALEMIN	CDF_UINT1	0
BIAS_MODE_BIAS3_ENAB	SCALEMAX	CDF_UINT1	1
BIAS_MODE_BIAS3_ENAB	FILLVAL	CDF_UINT1	255
BIAS_MODE_BIAS3_ENAB	BLAXIS	CDF_CHAR	BIAS_MODE_BIAS3_ENABLED
BIAS_MODE_BIAS3_ENAB	UNITS	CDF_CHAR	
BIAS_MODE_BIAS3_ENAB	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_BIAS3_ENAB	SCALETYP	CDF_CHAR	linear
BIAS_MODE_BIAS3_ENAB	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS probe 3. Possible values are DISABLED = 0. ENABLED = 1.
BIAS_MODE_BIAS3_ENAB	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_BIAS3_ENAB	FORMAT	CDF_CHAR	I2.2
BIAS_ON_OFF	FIELDNAM	CDF_CHAR	BIAS status
BIAS_ON_OFF	CATDESC	CDF_CHAR	Copy of BIAS status.
BIAS_ON_OFF	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_ON_OFF	VALIDMIN	CDF_UINT1	0
BIAS_ON_OFF	VALIDMAX	CDF_UINT1	1
BIAS_ON_OFF	SCALEMIN	CDF_UINT1	0
BIAS_ON_OFF	SCALEMAX	CDF_UINT1	1
BIAS_ON_OFF	FILLVAL	CDF_UINT1	255


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 352

Tab. 4.49 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_ON_OFF	LABLAXIS	CDF_CHAR	BIAS_ON_OFF
BIAS_ON_OFF	UNITS	CDF_CHAR	
BIAS_ON_OFF	VAR_TYPE	CDF_CHAR	support_data
BIAS_ON_OFF	SCALETYP	CDF_CHAR	linear
BIAS_ON_OFF	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS. Possible values are OFF = 0 - Power line off. ON = 1 - Power line on.
BIAS_ON_OFF	DEPEND_0	CDF_CHAR	Epoch
BIAS_ON_OFF	FORMAT	CDF_CHAR	I2.2
BW	FIELDNAM	CDF_CHAR	BIAS Works/BIAS Fails configuration.
BW	CATDESC	CDF_CHAR	BIAS Works/BIAS Fails configuration.
BW	DISPLAY_TYPE	CDF_CHAR	time_series
BW	VALIDMIN	CDF_UINT1	0
BW	VALIDMAX	CDF_UINT1	1
BW	SCALEMIN	CDF_UINT1	0
BW	SCALEMAX	CDF_UINT1	1
BW	FILLVAL	CDF_UINT1	255
BW	LABLAXIS	CDF_CHAR	BW
BW	UNITS	CDF_CHAR	
BW	VAR_TYPE	CDF_CHAR	support_data
BW	SCALETYP	CDF_CHAR	linear
BW	VAR_NOTES	CDF_CHAR	
BW	DEPEND_0	CDF_CHAR	Epoch
BW	FORMAT	CDF_CHAR	I2.2
SP0	FIELDNAM	CDF_CHAR	Shaping of electrical data parameter 0.
SP0	CATDESC	CDF_CHAR	Shaping of electrical data.
SP0	DISPLAY_TYPE	CDF_CHAR	time_series
SP0	VALIDMIN	CDF_UINT1	0
SP0	VALIDMAX	CDF_UINT1	1
SP0	SCALEMIN	CDF_UINT1	0
SP0	SCALEMAX	CDF_UINT1	1
SP0	FILLVAL	CDF_UINT1	255
SP0	LABLAXIS	CDF_CHAR	SP0
SP0	UNITS	CDF_CHAR	
SP0	VAR_TYPE	CDF_CHAR	support_data
SP0	SCALETYP	CDF_CHAR	linear
SP0	VAR_NOTES	CDF_CHAR	


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 353

Tab. 4.49 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SP0	DEPEND_0	CDF_CHAR	Epoch
SP0	FORMAT	CDF_CHAR	I2.2
SP1	FIELDNAM	CDF_CHAR	Shaping of electrical data parameter 1.
SP1	CATDESC	CDF_CHAR	Shaping of electrical data.
SP1	DISPLAY_TYPE	CDF_CHAR	time_series
SP1	VALIDMIN	CDF_UINT1	0
SP1	VALIDMAX	CDF_UINT1	1
SP1	SCALEMIN	CDF_UINT1	0
SP1	SCALEMAX	CDF_UINT1	1
SP1	FILLVAL	CDF_UINT1	255
SP1	LABLAXIS	CDF_CHAR	SP1
SP1	UNITS	CDF_CHAR	
SP1	VAR_TYPE	CDF_CHAR	support_data
SP1	SCALETYP	CDF_CHAR	linear
SP1	VAR_NOTES	CDF_CHAR	
SP1	DEPEND_0	CDF_CHAR	Epoch
SP1	FORMAT	CDF_CHAR	I2.2
R0	FIELDNAM	CDF_CHAR	Rooting of electrical data for F0.
R0	CATDESC	CDF_CHAR	Rooting of electrical data.
R0	DISPLAY_TYPE	CDF_CHAR	time_series
R0	VALIDMIN	CDF_UINT1	0
R0	VALIDMAX	CDF_UINT1	1
R0	SCALEMIN	CDF_UINT1	0
R0	SCALEMAX	CDF_UINT1	1
R0	FILLVAL	CDF_UINT1	255
R0	LABLAXIS	CDF_CHAR	R0
R0	UNITS	CDF_CHAR	
R0	VAR_TYPE	CDF_CHAR	support_data
R0	SCALETYP	CDF_CHAR	linear
R0	VAR_NOTES	CDF_CHAR	
R0	DEPEND_0	CDF_CHAR	Epoch
R0	FORMAT	CDF_CHAR	I2.2
R1	FIELDNAM	CDF_CHAR	Rooting of electrical data for F1.
R1	CATDESC	CDF_CHAR	Rooting of electrical data.
R1	DISPLAY_TYPE	CDF_CHAR	time_series
R1	VALIDMIN	CDF_UINT1	0
R1	VALIDMAX	CDF_UINT1	1
R1	SCALEMIN	CDF_UINT1	0


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 354

Tab. 4.49 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
R1	SCALEMAX	CDF_UINT1	1
R1	FILLVAL	CDF_UINT1	255
R1	LABLAXIS	CDF_CHAR	R1
R1	UNITS	CDF_CHAR	
R1	VAR_TYPE	CDF_CHAR	support_data
R1	SCALETYP	CDF_CHAR	linear
R1	VAR_NOTES	CDF_CHAR	
R1	DEPEND_0	CDF_CHAR	Epoch
R1	FORMAT	CDF_CHAR	I2.2
R2	FIELDNAM	CDF_CHAR	Rooting of electrical data for F2.
R2	CATDESC	CDF_CHAR	Rooting of electrical data.
R2	DISPLAY_TYPE	CDF_CHAR	time_series
R2	VALIDMIN	CDF_UINT1	0
R2	VALIDMAX	CDF_UINT1	1
R2	SCALEMIN	CDF_UINT1	0
R2	SCALEMAX	CDF_UINT1	1
R2	FILLVAL	CDF_UINT1	255
R2	LABLAXIS	CDF_CHAR	R2
R2	UNITS	CDF_CHAR	
R2	VAR_TYPE	CDF_CHAR	support_data
R2	SCALETYP	CDF_CHAR	linear
R2	VAR_NOTES	CDF_CHAR	
R2	DEPEND_0	CDF_CHAR	Epoch
R2	FORMAT	CDF_CHAR	I2.2
BP2_CNT	FIELDNAM	CDF_CHAR	Number of BP2 sets read at F0 sampling frequency.
BP2_CNT	CATDESC	CDF_CHAR	Number of BP2 sets read at F0 sampling frequency.
BP2_CNT	DISPLAY_TYPE	CDF_CHAR	time_series
BP2_CNT	VALIDMIN	CDF_UINT1	0
BP2_CNT	VALIDMAX	CDF_UINT1	22
BP2_CNT	SCALEMIN	CDF_UINT1	0
BP2_CNT	SCALEMAX	CDF_UINT1	22
BP2_CNT	FILLVAL	CDF_UINT1	255
BP2_CNT	LABLAXIS	CDF_CHAR	BP2_CNT
BP2_CNT	UNITS	CDF_CHAR	
BP2_CNT	VAR_TYPE	CDF_CHAR	support_data
BP2_CNT	SCALETYP	CDF_CHAR	linear


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 355

Tab. 4.49 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BP2_CNT	VAR_NOTES	CDF_CHAR	This indicates how many sets of BP1 have been read. Expected number is 22.
BP2_CNT	DEPEND_0	CDF_CHAR	Epoch
BP2_CNT	FORMAT	CDF_CHAR	I2.2
AUTO	FIELDNAM	CDF_CHAR	Component of autovariances from the EM data stream
AUTO	CATDESC	CDF_CHAR	Component of autovariances from the EM data stream
AUTO	DISPLAY_TYPE	CDF_CHAR	time_series
AUTO	VALIDMIN	CDF_REAL8	-1.0e+30
AUTO	VALIDMAX	CDF_REAL8	1.0e+30
AUTO	SCALEMIN	CDF_REAL8	-1.0e+30
AUTO	SCALEMAX	CDF_REAL8	1.0e+30
AUTO	FILLVAL	CDF_REAL8	-1.0e+31
AUTO	LABLAXIS	CDF_CHAR	Auto
AUTO	UNITS	CDF_CHAR	
AUTO	VAR_TYPE	CDF_CHAR	data
AUTO	SCALETYP	CDF_CHAR	linear
AUTO	VAR_NOTES	CDF_CHAR	This variable contains the 5 autovariances values for a given BP2 set.
AUTO	DEPEND_0	CDF_CHAR	Epoch
AUTO	FORMAT	CDF_CHAR	F32.6
CROSS_RE	FIELDNAM	CDF_CHAR	CROSS_RE
CROSS_RE	CATDESC	CDF_CHAR	Real part of complex cross correlations from the EM data
CROSS_RE	DISPLAY_TYPE	CDF_CHAR	time_series
CROSS_RE	VALIDMIN	CDF_REAL4	0.0
CROSS_RE	VALIDMAX	CDF_REAL4	1.0
CROSS_RE	SCALEMIN	CDF_REAL4	0.0
CROSS_RE	SCALEMAX	CDF_REAL4	1.0
CROSS_RE	FILLVAL	CDF_REAL4	-1.0e+31
CROSS_RE	LABLAXIS	CDF_CHAR	CROSS_RE
CROSS_RE	UNITS	CDF_CHAR	
CROSS_RE	VAR_TYPE	CDF_CHAR	data
CROSS_RE	SCALETYP	CDF_CHAR	linear
CROSS_RE	VAR_NOTES	CDF_CHAR	This variable contains the 10 real parts of complex values for a given BP2 set.
CROSS_RE	DEPEND_0	CDF_CHAR	Epoch


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 356

Tab. 4.49 – continued from previous page


Variable Name	Attribute Name	Data Type	Value
CROSS_RE	FORMAT	CDF_CHAR	F32.6
CROSS_IM	FIELDNAM	CDF_CHAR	CROSS_IM
CROSS_IM	CATDESC	CDF_CHAR	Imaginary part of complex cross correlations from the EM data
CROSS_IM	DISPLAY_TYPE	CDF_CHAR	time_series
CROSS_IM	VALIDMIN	CDF_REAL4	0.0
CROSS_IM	VALIDMAX	CDF_REAL4	1.0
CROSS_IM	SCALEMIN	CDF_REAL4	0.0
CROSS_IM	SCALEMAX	CDF_REAL4	1.0
CROSS_IM	FILLVAL	CDF_REAL4	-1.0e+31
CROSS_IM	LABLAXIS	CDF_CHAR	CROSS_IM
CROSS_IM	UNITS	CDF_CHAR	
CROSS_IM	VAR_TYPE	CDF_CHAR	data
CROSS_IM	SCALETYP	CDF_CHAR	linear
CROSS_IM	VAR_NOTES	CDF_CHAR	This variable contains the 10 imaginary parts of complex values for a given BP2 set.
CROSS_IM	DEPEND_0	CDF_CHAR	Epoch
CROSS_IM	FORMAT	CDF_CHAR	F32.6
ACQUISITION_TIME_UNITS	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_UNITS
ACQUISITION_TIME_UNITS	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME_UNIT_PTR attribute
ACQUISITION_TIME_UNITS	VAR_TYPE	CDF_CHAR	metadata
ACQUISITION_TIME_UNITS	FORMAT	CDF_CHAR	A16
ACQUISITION_TIME_LABEL	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME_LABEL	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME
ACQUISITION_TIME_LABEL	VAR_TYPE	CDF_CHAR	metadata
ACQUISITION_TIME_LABEL	FORMAT	CDF_CHAR	A32
SCET	FIELDNAM	CDF_CHAR	Spacecraft Elapsed Time
SCET	CATDESC	CDF_CHAR	Elapsed Time of the onboard clock
SCET	DISPLAY_TYPE	CDF_CHAR	time_series
SCET	VALIDMIN	CDF_REAL8	0.0
SCET	VALIDMAX	CDF_REAL8	1.0e+31
SCET	SCALEMIN	CDF_REAL8	0.0
SCET	SCALEMAX	CDF_REAL8	1.0e+31
SCET	FILLVAL	CDF_REAL8	-1.0e+31

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 357

Tab. 4.49 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SCET	LABLAXIS	CDF_CHAR	Spacecraft Elapsed Time (Ticks)
SCET	UNITS	CDF_CHAR	Ticks
SCET	VAR_TYPE	CDF_CHAR	support_data
SCET	SCALETYP	CDF_CHAR	linear
SCET	MONOTON	CDF_CHAR	INCREASE
SCET	TIME_BASE	CDF_CHAR	Spacecraft onboard clock
SCET	TIME_SCALE	CDF_CHAR	Spacecraft onboard clock
SCET	REFERENCE_POS	CDF_CHAR	Spacecraft barycenter
SCET	VAR_NOTES	CDF_CHAR	Spacecraft Elapsed Time
SCET	DEPEND_0	CDF_CHAR	Epoch
SYNCHRO_FLAG	FIELDNAM	CDF_CHAR	SYNCHRO_FLAG
SYNCHRO_FLAG	CATDESC	CDF_CHAR	Time synchronisation flag
SYNCHRO_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
SYNCHRO_FLAG	VALIDMIN	CDF_UINT1	0
SYNCHRO_FLAG	VALIDMAX	CDF_UINT1	1
SYNCHRO_FLAG	SCALEMIN	CDF_UINT1	0
SYNCHRO_FLAG	SCALEMAX	CDF_UINT1	1
SYNCHRO_FLAG	FILLVAL	CDF_UINT1	255
SYNCHRO_FLAG	LABLAXIS	CDF_CHAR	time sync. flag
SYNCHRO_FLAG	UNITS	CDF_CHAR	
SYNCHRO_FLAG	VAR_TYPE	CDF_CHAR	support_data
SYNCHRO_FLAG	SCALETYP	CDF_CHAR	linear
SYNCHRO_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate if the local time is synchronized with the RPW DPU clock or not. Possible values: synchronized=0, not synchronized=1. This flag is extracted from ACQUISITION_TIME in L0 packets, it is the MSB of the CUC time.
SYNCHRO_FLAG	DEPEND_0	CDF_CHAR	Epoch
SYNCHRO_FLAG	FORMAT	CDF_CHAR	I3.3

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 358

4.1.2.23.6 Non-Record-Variant (NRV) Variables

Variable Name	Index	Value
ACQUISITION_TIME_UNITS	1	s
ACQUISITION_TIME_UNITS	2	s / 65536
ACQUISITION_TIME_LABEL	1	CUC coarse part time
ACQUISITION_TIME_LABEL	2	CUC fine part time

4.1.2.24 SOLO_L1_RPW-LFR-SBM2-CWF data product

The “SOLO_L1_RPW-LFR-SBM2-CWF” data product contains the uncalibrated LFR receiver Continuous Waveform data for SBM1 events. The “SOLO_L1_RPW-LFR-SBM2-CWF” data are written in CDF format files. There is a single file per SBM2 event data downlinked on-ground. The file is generated from data in the corresponding SOLO_L0_RPW parent file.

4.1.2.24.1 Filename

```
solo_L1_rpw-lfr-sbm2-cwf_[YYYYMMDDThhmmss1- YYYYMMDDThhmmss2]_V[version].  
→cdf
```

4.1.2.24.2 Expected cadence and data volume


Nominal cadence: 1 file per SBM2 event

Expected data volume: 150 MB per file

4.1.2.24.3 Global Attributes

Attribute Name	Entry Number	Data Type	Value
ACCESS_FORMAT	1	CDF_CHAR	CDF
ACCESS_URL	1	CDF_CHAR	
Acknowledgement	1	CDF_CHAR	The authors are pleased to acknowledge the Solar Orbiter/RPW Investigation (M. Maksimovic, PIs) for access to data.
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009 (2.4)
Data_type	1	CDF_CHAR	H0>High Resolution data


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 359

Tab. 4.50 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Data_version	1	CDF_CHAR	
Descriptor	1	CDF_CHAR	RPW-LFR-SBM2-CWF> RPW Low Frequency Receiver Continuous Waveform data in SBM2 mode
Discipline	1	CDF_CHAR	Space Physics>Interplanetary Studies
File_naming_convention	1	CDF_CHAR	<Source_name>_<LEVEL>_<Descriptor>_<Date>
File_ID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	RPW Operations Centre located at LESIA (Meudon, France)
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	https://rpw.lesia.obspm.fr
Instrument_type	1	CDF_CHAR	Radio and Plasma Waves (space)
LINK_TEXT	1	CDF_CHAR	RPW Web site at LESIA
LINK_TITLE	1	CDF_CHAR	RPW Web site
Logical_file_id	1	CDF_CHAR	
Logical_source	1	CDF_CHAR	solo_L1_rpw-lfr-sbm2-cwf
Logical_source_description	1	CDF_CHAR	Solar Orbiter Radio/Plasma Wave, LFR L1 parameters
Mission_group	1	CDF_CHAR	Solar Orbiter
SKELETON_MODS	1	CDF_CHAR	July 2015 : initial release, B. KATRA (CNRS-LPP)
SKELETON_MODS	2	CDF_CHAR	V04: Update for solo data definition, X. BONNIN (CNRS-LESIA), April 2019
SKELETON_MODS	3	CDF_CHAR	V05: Update to compliant with SOL-SGS-TN-0009 Issue 2, Rev 4 - X.Bonnin, 09/2019
SKELETON_MODS	4	CDF_CHAR	V06: March 2020 : Standardize SAMPLING_RATE and delete Test_* g.attrs - X.Bonnin (CNRS, LESIA)
SKELETON_MODS	5	CDF_CHAR	V07: Removing POST_GAP_FLAG zvar and UCD vattr. (X.Bonnin, 09/2020)
SKELETON_MODS	6	CDF_CHAR	V08: Jan. 2021 : Fix inconsistencies against the ISTP CDF guidelines, X.Bonnin (CNRS-LESIA)
Parent_version	1	CDF_CHAR	
Parents	1	CDF_CHAR	
PI_affiliation	1	CDF_CHAR	LESIA, Observatoire de Paris-CNRS
PI_name	1	CDF_CHAR	M.Maksimovic


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 360

Tab. 4.50 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Pipeline_version	1	CDF_CHAR	
Project	1	CDF_CHAR	SOLO>Solar Orbiter
Provider	1	CDF_CHAR	LESIA (Meudon, France)
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00006-LES (1.3)
Rules_of_use	1	CDF_CHAR	Data provided are publicly available. If used in presentations or publications, please acknowledge Solar Orbiter/RPW Investigation (M. Maksimovic, PIs). Please read carefully the caveats attached to the data. For reporting purposes, we request bibliography information for any publication, etc., using these data. Please send information on the use of this data to: M. Maksimovic (PI).
SKELETON_PARENT	1	CDF_CHAR	SOLO_L1_RPW-LFR-SBM2-CWF_V08.cdf
Skeleton_version	1	CDF_CHAR	08
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	SOLO>Solar Orbiter
SPECTRAL_RANGE_MAX	1	CDF_CHAR	
SPECTRAL_RANGE_MIN	1	CDF_CHAR	
TEXT	1	CDF_CHAR	This file contains RPW LFR level 1 SBM2 continuous waveform data of the current SBM2 event.
TEXT_supplement_1	1	CDF_CHAR	
TIME_MAX	1	CDF_CHAR	
TIME_MIN	1	CDF_CHAR	
Validate	1	CDF_CHAR	
CAVEATS	1	CDF_CHAR	Engineering data. No good for publication.
Datetime	1	CDF_CHAR	
Free_field	1	CDF_CHAR	
Job_ID	1	CDF_CHAR	
LEVEL	1	CDF_CHAR	L1>Level 1 data processing
SOOP_TYPE	1	CDF_CHAR	
Data_product	1	CDF_CHAR	SBM2-CWF>SBM2-CWF
TARGET_NAME	1	CDF_CHAR	Sun
TARGET_CLASS	1	CDF_CHAR	Star

continues on next page


	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 361

Tab. 4.50 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
TARGET_REGION	1	CDF_CHAR	Solar Wind
Pipeline_name	1	CDF_CHAR	
Dataset_ID	1	CDF_CHAR	SOLO_L1_RPW-LFR-SBM2-CWF
OBS_ID	1	CDF_CHAR	
MODS	1	CDF_CHAR	

4.1.2.24.4 zVariables


Variable Name	Data Type	Number Elements	Dims	Sizes
Epoch	CDF_TIME_TT2000	1	0	
ACQUISITION_TIME	CDF_UINT4	1	1	2
QUALITY_FLAG	CDF_UINT1	1	0	
COMMON_BIA_STATUS_FLAG	CDF_UINT1	1	0	
QUALITY_BITMASK	CDF_UINT2	1	0	
BIAS_MODE_MUX_SET	CDF_UINT1	1	0	
BIAS_MODE_HV_ENABLED	CDF_UINT1	1	0	
BIAS_MODE_BIAS1_ENABLED	CDF_UINT1	1	0	
BIAS_MODE_BIAS2_ENABLED	CDF_UINT1	1	0	
BIAS_MODE_BIAS3_ENABLED	CDF_UINT1	1	0	
BIAS_ON_OFF	CDF_UINT1	1	0	
BW	CDF_UINT1	1	0	
SP0	CDF_UINT1	1	0	
SP1	CDF_UINT1	1	0	
R0	CDF_UINT1	1	0	
R1	CDF_UINT1	1	0	
R2	CDF_UINT1	1	0	
V	CDF_INT2	1	0	
E	CDF_INT2	1	1	2
B	CDF_INT2	1	1	3
ACQUISITION_TIME_UNITS	CDF_CHAR	16	1	2
ACQUISITION_TIME_LABEL	CDF_CHAR	32	1	2
SCET	CDF_REAL8	1	0	
SYNCHRO_FLAG	CDF_UINT1	1	0	
SAMPLING_RATE	CDF_REAL4	1	0	

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 362

4.1.2.24.5 Variable attributes

Variable Name	Attribute Name	Data Type	Value
Epoch	FIELDNAM	CDF_CHAR	Epoch
Epoch	CATDESC	CDF_CHAR	Default time
Epoch	DISPLAY_TYPE	CDF_CHAR	time_series
Epoch	VALIDMIN	CDF_TIME_TT2000	2000-01-01T00:00:00.000000000
Epoch	VALIDMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch	SCALEMIN	CDF_TIME_TT2000	1990-01-01T00:00:00.000000000
Epoch	SCALEMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch	LABLAXIS	CDF_CHAR	Epoch
Epoch	UNITS	CDF_CHAR	ns
Epoch	VAR_TYPE	CDF_CHAR	support_data
Epoch	SCALETYP	CDF_CHAR	linear
Epoch	MONOTON	CDF_CHAR	INCREASE
Epoch	TIME_BASE	CDF_CHAR	J2000
Epoch	TIME_SCALE	CDF_CHAR	Terrestrial Time
Epoch	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
Epoch	Resolution	CDF_CHAR	15258 ns
Epoch	Bin_location	CDF_CHAR	0.5
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file. 1 Epoch time refers to the time of the samples in the file.
ACQUISITION_TIME	FIELDNAM	CDF_CHAR	CCSDS CUC Acquisition time as returned in TM packets
ACQUISITION_TIME	CATDESC	CDF_CHAR	CCSDS CUC format LFR time, coarse and fine parts of the samples of current file.
ACQUISITION_TIME	DISPLAY_TYPE	CDF_CHAR	time_series
ACQUISITION_TIME	VALIDMIN	CDF_UINT4	0
ACQUISITION_TIME	VALIDMAX	CDF_UINT4	4294967294
ACQUISITION_TIME	SCALEMIN	CDF_UINT4	0
ACQUISITION_TIME	SCALEMAX	CDF_UINT4	4294967294
ACQUISITION_TIME	FILLVAL	CDF_UINT4	4294967295


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 363

Tab. 4.51 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
ACQUISITION_TIME	VAR_TYPE	CDF_CHAR	support_data
ACQUISITION_TIME	SCALETYP	CDF_CHAR	linear
ACQUISITION_TIME	MONOTON	CDF_CHAR	INCREASE
ACQUISITION_TIME	TIME_BASE	CDF_CHAR	2000-01-01T00:00:00
ACQUISITION_TIME	TIME_SCALE	CDF_CHAR	RPW DPU clock
ACQUISITION_TIME	VAR_NOTES	CDF_CHAR	Local time measured by the RPW LFR receiver (Coarse and fine parts of the CUC format) of the samples of current file.
ACQUISITION_TIME	DEPEND_0	CDF_CHAR	Epoch
ACQUISITION_TIME	FORMAT	CDF_CHAR	I10.0
ACQUISITION_TIME	LABL_PTR_1	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME	UNIT_PTR	CDF_CHAR	ACQUISITION_TIME_UNITS
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	VALIDMIN	CDF_UINT1	0
QUALITY_FLAG	VALIDMAX	CDF_UINT1	4
QUALITY_FLAG	SCALEMIN	CDF_UINT1	0
QUALITY_FLAG	SCALEMAX	CDF_UINT1	4
QUALITY_FLAG	FILLVAL	CDF_UINT1	255
QUALITY_FLAG	LABLAXIS	CDF_CHAR	Quality flag
QUALITY_FLAG	UNITS	CDF_CHAR	
QUALITY_FLAG	VAR_TYPE	CDF_CHAR	support_data
QUALITY_FLAG	SCALETYP	CDF_CHAR	linear
QUALITY_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the quality of the data
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
COMMON_BIA_STATUS_FLAG	FIELDNAM	CDF_CHAR	COMMON_BIA_STATUS_FLAG
COMMON_BIA_STATUS_FLAG	CATDESC	CDF_CHAR	LFR common parameters and BIAS status info relevancy flag
COMMON_BIA_STATUS_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
COMMON_BIA_STATUS_FLAG	VALIDMIN	CDF_UINT1	0
COMMON_BIA_STATUS_FLAG	VALIDMAX	CDF_UINT1	1
COMMON_BIA_STATUS_FLAG	SCALEMIN	CDF_UINT1	0
COMMON_BIA_STATUS_FLAG	SCALEMAX	CDF_UINT1	1
COMMON_BIA_STATUS_FLAG	FILLVAL	CDF_UINT1	255
COMMON_BIA_STATUS_FLAG	LABLAXIS	CDF_CHAR	common bias status flag


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 364

Tab. 4.51 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
COMMON_BIA_STATUS_FLAGS	UNITS	CDF_CHAR	
COMMON_BIA_STATUS_FLAGS	VAR_TYPE	CDF_CHAR	support_data
COMMON_BIA_STATUS_FLAGS	SCALETYP	CDF_CHAR	linear
COMMON_BIA_STATUS_FLAGS	VAR_NOTES	CDF_CHAR	Flag to indicate the relevancy of LFR common parameters (SP0/1, R0/1/2, BW) and BIAS STATUS INFO which can be non representative for the first packet following a change in those parameters.
COMMON_BIA_STATUS_FLAGS	DEPEND_0	CDF_CHAR	Epoch
COMMON_BIA_STATUS_FLAGS	FORMAT	CDF_CHAR	I1.1
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	UNITS	CDF_CHAR	
QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context information or status at the receiver or experiment level
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
BIAS_MODE_MUX_SET	FIELDNAM	CDF_CHAR	BIAS multiplexer setting
BIAS_MODE_MUX_SET	CATDESC	CDF_CHAR	Copy of multiplexer setting.
BIAS_MODE_MUX_SET	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_MUX_SET	VALIDMIN	CDF_UINT1	0
BIAS_MODE_MUX_SET	VALIDMAX	CDF_UINT1	7
BIAS_MODE_MUX_SET	SCALEMIN	CDF_UINT1	0
BIAS_MODE_MUX_SET	SCALEMAX	CDF_UINT1	7
BIAS_MODE_MUX_SET	FILLVAL	CDF_UINT1	255
BIAS_MODE_MUX_SET	LABLAXIS	CDF_CHAR	BIAS_MODE_MUX_SET
BIAS_MODE_MUX_SET	UNITS	CDF_CHAR	
BIAS_MODE_MUX_SET	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_MUX_SET	SCALETYP	CDF_CHAR	linear

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 365

Tab. 4.51 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_MODE_MUX_SET	VAR_NOTES	CDF_CHAR	Indicates the mode of BIAS multiplexer for a waveform acquisition. Possible values are
BIAS_MODE_MUX_SET	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_MUX_SET	FORMAT	CDF_CHAR	I3.3
BIAS_MODE_HV_ENABLED	FIELDNAM	CDF_CHAR	BIAS high voltage status
BIAS_MODE_HV_ENABLED	CATDESC	CDF_CHAR	Copy of enable/disable HV (+- 100V).
BIAS_MODE_HV_ENABLED	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_HV_ENABLED	VALIDMIN	CDF_UINT1	0
BIAS_MODE_HV_ENABLED	VALIDMAX	CDF_UINT1	1
BIAS_MODE_HV_ENABLED	SCALEMIN	CDF_UINT1	0
BIAS_MODE_HV_ENABLED	SCALEMAX	CDF_UINT1	1
BIAS_MODE_HV_ENABLED	FILLVAL	CDF_UINT1	255
BIAS_MODE_HV_ENABLED	LABLAXIS	CDF_CHAR	BIAS_MODE_HV_ENABLED
BIAS_MODE_HV_ENABLED	UNITS	CDF_CHAR	
BIAS_MODE_HV_ENABLED	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_HV_ENABLED	SCALETYP	CDF_CHAR	linear
BIAS_MODE_HV_ENABLED	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS HV. Possible values are
BIAS_MODE_HV_ENABLED	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_HV_ENABLED	FORMAT	CDF_CHAR	I3.3
BIAS_MODE_BIAS1_ENABLED	FIELDNAM	CDF_CHAR	BIAS probe 1 status
BIAS_MODE_BIAS1_ENABLED	CATDESC	CDF_CHAR	Copy of enable/disable BIAS 1.
BIAS_MODE_BIAS1_ENABLED	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_BIAS1_ENABLED	VALIDMIN	CDF_UINT1	0
BIAS_MODE_BIAS1_ENABLED	VALIDMAX	CDF_UINT1	1
BIAS_MODE_BIAS1_ENABLED	SCALEMIN	CDF_UINT1	0
BIAS_MODE_BIAS1_ENABLED	SCALEMAX	CDF_UINT1	1
BIAS_MODE_BIAS1_ENABLED	FILLVAL	CDF_UINT1	255
BIAS_MODE_BIAS1_ENABLED	LABLAXIS	CDF_CHAR	BIAS_MODE_BIAS1_ENABLED
BIAS_MODE_BIAS1_ENABLED	UNITS	CDF_CHAR	
BIAS_MODE_BIAS1_ENABLED	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_BIAS1_ENABLED	SCALETYP	CDF_CHAR	linear
BIAS_MODE_BIAS1_ENABLED	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS probe 1. Possible values are
BIAS_MODE_BIAS1_ENABLED	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_BIAS1_ENABLED	FORMAT	CDF_CHAR	I3.3
BIAS_MODE_BIAS2_ENABLED	FIELDNAM	CDF_CHAR	BIAS probe 2 status

continues on next page



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **366**

Tab. 4.51 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_MODE_BIAS2_ENAB	CATDESC	CDF_CHAR	Copy of enable/disable BIAS 2.
BIAS_MODE_BIAS2_ENAB	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_BIAS2_ENAB	VALIDMIN	CDF_UINT1	0
BIAS_MODE_BIAS2_ENAB	VALIDMAX	CDF_UINT1	1
BIAS_MODE_BIAS2_ENAB	SCALEMIN	CDF_UINT1	0
BIAS_MODE_BIAS2_ENAB	SCALEMAX	CDF_UINT1	1
BIAS_MODE_BIAS2_ENAB	FILLVAL	CDF_UINT1	255
BIAS_MODE_BIAS2_ENAB	BLAXIS	CDF_CHAR	BIAS_MODE_BIAS2_ENABLED
BIAS_MODE_BIAS2_ENAB	UNITS	CDF_CHAR	
BIAS_MODE_BIAS2_ENAB	MAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_BIAS2_ENAB	SCALETYP	CDF_CHAR	linear
BIAS_MODE_BIAS2_ENAB	MAR_NOTES	CDF_CHAR	Indicates the status of BIAS probe 2. Possible values are
BIAS_MODE_BIAS2_ENAB	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_BIAS2_ENAB	FORMAT	CDF_CHAR	I3.3
BIAS_MODE_BIAS3_ENAB	FIELDNAM	CDF_CHAR	BIAS probe 3 status
BIAS_MODE_BIAS3_ENAB	CATDESC	CDF_CHAR	Copy of enable/disable BIAS 3.
BIAS_MODE_BIAS3_ENAB	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_BIAS3_ENAB	VALIDMIN	CDF_UINT1	0
BIAS_MODE_BIAS3_ENAB	VALIDMAX	CDF_UINT1	1
BIAS_MODE_BIAS3_ENAB	SCALEMIN	CDF_UINT1	0
BIAS_MODE_BIAS3_ENAB	SCALEMAX	CDF_UINT1	1
BIAS_MODE_BIAS3_ENAB	FILLVAL	CDF_UINT1	255
BIAS_MODE_BIAS3_ENAB	BLAXIS	CDF_CHAR	BIAS_MODE_BIAS3_ENABLED
BIAS_MODE_BIAS3_ENAB	UNITS	CDF_CHAR	
BIAS_MODE_BIAS3_ENAB	MAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_BIAS3_ENAB	SCALETYP	CDF_CHAR	linear
BIAS_MODE_BIAS3_ENAB	MAR_NOTES	CDF_CHAR	Indicates the status of BIAS probe 3. Possible values are
BIAS_MODE_BIAS3_ENAB	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_BIAS3_ENAB	FORMAT	CDF_CHAR	I3.3
BIAS_ON_OFF	FIELDNAM	CDF_CHAR	BIAS status
BIAS_ON_OFF	CATDESC	CDF_CHAR	Copy of BIAS status.
BIAS_ON_OFF	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_ON_OFF	VALIDMIN	CDF_UINT1	0
BIAS_ON_OFF	VALIDMAX	CDF_UINT1	1
BIAS_ON_OFF	SCALEMIN	CDF_UINT1	0
BIAS_ON_OFF	SCALEMAX	CDF_UINT1	1
BIAS_ON_OFF	FILLVAL	CDF_UINT1	255


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 367

Tab. 4.51 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_ON_OFF	LABLAXIS	CDF_CHAR	BIAS_ON_OFF
BIAS_ON_OFF	UNITS	CDF_CHAR	
BIAS_ON_OFF	VAR_TYPE	CDF_CHAR	support_data
BIAS_ON_OFF	SCALETYP	CDF_CHAR	linear
BIAS_ON_OFF	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS. Possible values are
BIAS_ON_OFF	DEPEND_0	CDF_CHAR	Epoch
BIAS_ON_OFF	FORMAT	CDF_CHAR	I3.3
BW	FIELDNAM	CDF_CHAR	BIAS Works/BIAS Fails configuration.
BW	CATDESC	CDF_CHAR	BIAS Works/BIAS Fails configuration.
BW	DISPLAY_TYPE	CDF_CHAR	time_series
BW	VALIDMIN	CDF_UINT1	0
BW	VALIDMAX	CDF_UINT1	1
BW	SCALEMIN	CDF_UINT1	0
BW	SCALEMAX	CDF_UINT1	1
BW	FILLVAL	CDF_UINT1	255
BW	LABLAXIS	CDF_CHAR	BW
BW	UNITS	CDF_CHAR	
BW	VAR_TYPE	CDF_CHAR	support_data
BW	SCALETYP	CDF_CHAR	linear
BW	VAR_NOTES	CDF_CHAR	
BW	DEPEND_0	CDF_CHAR	Epoch
BW	FORMAT	CDF_CHAR	I3.3
SP0	FIELDNAM	CDF_CHAR	Shaping of electrical data parameter 0.
SP0	CATDESC	CDF_CHAR	Shaping of electrical data.
SP0	DISPLAY_TYPE	CDF_CHAR	time_series
SP0	VALIDMIN	CDF_UINT1	0
SP0	VALIDMAX	CDF_UINT1	1
SP0	SCALEMIN	CDF_UINT1	0
SP0	SCALEMAX	CDF_UINT1	1
SP0	FILLVAL	CDF_UINT1	255
SP0	LABLAXIS	CDF_CHAR	SP0
SP0	UNITS	CDF_CHAR	
SP0	VAR_TYPE	CDF_CHAR	support_data
SP0	SCALETYP	CDF_CHAR	linear
SP0	VAR_NOTES	CDF_CHAR	
SP0	DEPEND_0	CDF_CHAR	Epoch
SP0	FORMAT	CDF_CHAR	I3.3


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 368

Tab. 4.51 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SP1	FIELDNAM	CDF_CHAR	Shaping of electrical data parameter 1.
SP1	CATDESC	CDF_CHAR	Shaping of electrical data.
SP1	DISPLAY_TYPE	CDF_CHAR	time_series
SP1	VALIDMIN	CDF_UINT1	0
SP1	VALIDMAX	CDF_UINT1	1
SP1	SCALEMIN	CDF_UINT1	0
SP1	SCALEMAX	CDF_UINT1	1
SP1	FILLVAL	CDF_UINT1	255
SP1	LABLAXIS	CDF_CHAR	SP1
SP1	UNITS	CDF_CHAR	
SP1	VAR_TYPE	CDF_CHAR	support_data
SP1	SCALETYP	CDF_CHAR	linear
SP1	VAR_NOTES	CDF_CHAR	
SP1	DEPEND_0	CDF_CHAR	Epoch
SP1	FORMAT	CDF_CHAR	I3.3
R0	FIELDNAM	CDF_CHAR	Rooting of electrical data for F0.
R0	CATDESC	CDF_CHAR	Rooting of electrical data.
R0	DISPLAY_TYPE	CDF_CHAR	time_series
R0	VALIDMIN	CDF_UINT1	0
R0	VALIDMAX	CDF_UINT1	1
R0	SCALEMIN	CDF_UINT1	0
R0	SCALEMAX	CDF_UINT1	1
R0	FILLVAL	CDF_UINT1	255
R0	LABLAXIS	CDF_CHAR	R0
R0	UNITS	CDF_CHAR	
R0	VAR_TYPE	CDF_CHAR	support_data
R0	SCALETYP	CDF_CHAR	linear
R0	VAR_NOTES	CDF_CHAR	
R0	DEPEND_0	CDF_CHAR	Epoch
R0	FORMAT	CDF_CHAR	I3.3
R1	FIELDNAM	CDF_CHAR	Rooting of electrical data for F1.
R1	CATDESC	CDF_CHAR	Rooting of electrical data.
R1	DISPLAY_TYPE	CDF_CHAR	time_series
R1	VALIDMIN	CDF_UINT1	0
R1	VALIDMAX	CDF_UINT1	1
R1	SCALEMIN	CDF_UINT1	0
R1	SCALEMAX	CDF_UINT1	1
R1	FILLVAL	CDF_UINT1	255


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 369

Tab. 4.51 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
R1	LABLAXIS	CDF_CHAR	R1
R1	UNITS	CDF_CHAR	
R1	VAR_TYPE	CDF_CHAR	support_data
R1	SCALETYP	CDF_CHAR	linear
R1	VAR_NOTES	CDF_CHAR	
R1	DEPEND_0	CDF_CHAR	Epoch
R1	FORMAT	CDF_CHAR	I3.3
R2	FIELDNAM	CDF_CHAR	Rooting of electrical data for F2.
R2	CATDESC	CDF_CHAR	Rooting of electrical data.
R2	DISPLAY_TYPE	CDF_CHAR	time_series
R2	VALIDMIN	CDF_UINT1	0
R2	VALIDMAX	CDF_UINT1	1
R2	SCALEMIN	CDF_UINT1	0
R2	SCALEMAX	CDF_UINT1	1
R2	FILLVAL	CDF_UINT1	255
R2	LABLAXIS	CDF_CHAR	R2
R2	UNITS	CDF_CHAR	
R2	VAR_TYPE	CDF_CHAR	support_data
R2	SCALETYP	CDF_CHAR	linear
R2	VAR_NOTES	CDF_CHAR	
R2	DEPEND_0	CDF_CHAR	Epoch
R2	FORMAT	CDF_CHAR	I3.3
V	FIELDNAM	CDF_CHAR	Potential
V	CATDESC	CDF_CHAR	Potential value (V)
V	DISPLAY_TYPE	CDF_CHAR	time_series
V	VALIDMIN	CDF_INT2	-32767
V	VALIDMAX	CDF_INT2	32767
V	SCALEMIN	CDF_INT2	-32767
V	SCALEMAX	CDF_INT2	32767
V	FILLVAL	CDF_INT2	-32768
V	LABLAXIS	CDF_CHAR	V
V	UNITS	CDF_CHAR	
V	VAR_TYPE	CDF_CHAR	data
V	SCALETYP	CDF_CHAR	linear
V	VAR_NOTES	CDF_CHAR	Potential value
V	DEPEND_0	CDF_CHAR	Epoch
V	FORMAT	CDF_CHAR	I6.5
E	FIELDNAM	CDF_CHAR	Electric field
E	CATDESC	CDF_CHAR	Electrical field values (E1 and E2)


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 370

Tab. 4.51 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
E	DISPLAY_TYPE	CDF_CHAR	time_series
E	VALIDMIN	CDF_INT2	-32767
E	VALIDMAX	CDF_INT2	32767
E	SCALEMIN	CDF_INT2	-32767
E	SCALEMAX	CDF_INT2	32767
E	FILLVAL	CDF_INT2	-32768
E	LABLAXIS	CDF_CHAR	E
E	UNITS	CDF_CHAR	
E	VAR_TYPE	CDF_CHAR	data
E	SCALETYP	CDF_CHAR	linear
E	VAR_NOTES	CDF_CHAR	2 entry array with electrical field values (E1 and E2)
E	DEPEND_0	CDF_CHAR	Epoch
E	FORMAT	CDF_CHAR	I6.5
B	FIELDNAM	CDF_CHAR	Magnetic field
B	CATDESC	CDF_CHAR	Magnetic field values (B1, B2 and B3)
B	DISPLAY_TYPE	CDF_CHAR	time_series
B	VALIDMIN	CDF_INT2	-32767
B	VALIDMAX	CDF_INT2	32767
B	SCALEMIN	CDF_INT2	-32767
B	SCALEMAX	CDF_INT2	32767
B	FILLVAL	CDF_INT2	-32768
B	LABLAXIS	CDF_CHAR	B
B	UNITS	CDF_CHAR	
B	VAR_TYPE	CDF_CHAR	data
B	SCALETYP	CDF_CHAR	linear
B	VAR_NOTES	CDF_CHAR	3 entry array with magnetic field values (B1,B2 and B3)
B	DEPEND_0	CDF_CHAR	Epoch
B	FORMAT	CDF_CHAR	I6.5
ACQUISITION_TIME_UNITS	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_UNITS
ACQUISITION_TIME_UNITS	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME_UNIT_PTR attribute
ACQUISITION_TIME_UNITS	VAR_TYPE	CDF_CHAR	metadata
ACQUISITION_TIME_UNITS	FORMAT	CDF_CHAR	A16
ACQUISITION_TIME_LABEL	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME_LABEL	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME
ACQUISITION_TIME_LABEL	VAR_TYPE	CDF_CHAR	metadata


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 371

Tab. 4.51 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
ACQUISITION_TIME_LABEL	EORMAT	CDF_CHAR	A32
SCET	FIELDNAM	CDF_CHAR	Spacecraft Elapsed Time
SCET	CATDESC	CDF_CHAR	Elapsed Time of the onboard clock
SCET	DISPLAY_TYPE	CDF_CHAR	time_series
SCET	VALIDMIN	CDF_REAL8	0.0
SCET	VALIDMAX	CDF_REAL8	1.0e+31
SCET	SCALEMIN	CDF_REAL8	0.0
SCET	SCALEMAX	CDF_REAL8	1.0e+31
SCET	FILLVAL	CDF_REAL8	-1.0e+31
SCET	LABLAXIS	CDF_CHAR	Spacecraft Elapsed Time (Ticks)
SCET	UNITS	CDF_CHAR	Ticks
SCET	VAR_TYPE	CDF_CHAR	support_data
SCET	SCALETYP	CDF_CHAR	linear
SCET	MONOTON	CDF_CHAR	INCREASE
SCET	TIME_BASE	CDF_CHAR	Spacecraft onboard clock
SCET	TIME_SCALE	CDF_CHAR	Spacecraft onboard clock
SCET	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
SCET	VAR_NOTES	CDF_CHAR	Spacecraft Elapsed Time
SCET	DEPEND_0	CDF_CHAR	Epoch
SYNCHRO_FLAG	FIELDNAM	CDF_CHAR	SYNCHRO_FLAG
SYNCHRO_FLAG	CATDESC	CDF_CHAR	Time synchronisation flag
SYNCHRO_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
SYNCHRO_FLAG	VALIDMIN	CDF_UINT1	0
SYNCHRO_FLAG	VALIDMAX	CDF_UINT1	1
SYNCHRO_FLAG	SCALEMIN	CDF_UINT1	0
SYNCHRO_FLAG	SCALEMAX	CDF_UINT1	1
SYNCHRO_FLAG	FILLVAL	CDF_UINT1	255
SYNCHRO_FLAG	LABLAXIS	CDF_CHAR	time sync. flag
SYNCHRO_FLAG	UNITS	CDF_CHAR	
SYNCHRO_FLAG	VAR_TYPE	CDF_CHAR	support_data
SYNCHRO_FLAG	SCALETYP	CDF_CHAR	linear
SYNCHRO_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate if the local time is synchronized with the RPW DPU clock or not. Possible values: synchronized=0, not synchronized=1. This flag is extracted from ACQUISITION_TIME in L0 packets, it is the MSB of the CUC time.

continues on next page


	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 372

Tab. 4.51 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SYNCHRO_FLAG	DEPEND_0	CDF_CHAR	Epoch
SYNCHRO_FLAG	FORMAT	CDF_CHAR	I3.3
SAMPLING_RATE	FIELDNAM	CDF_CHAR	Sampling rate
SAMPLING_RATE	CATDESC	CDF_CHAR	Sampling frequency of the waveform
SAMPLING_RATE	DISPLAY_TYPE	CDF_CHAR	time_series
SAMPLING_RATE	VALIDMIN	CDF_REAL4	16.0
SAMPLING_RATE	VALIDMAX	CDF_REAL4	24576.0
SAMPLING_RATE	SCALEMIN	CDF_REAL4	16.0
SAMPLING_RATE	SCALEMAX	CDF_REAL4	24576.0
SAMPLING_RATE	FILLVAL	CDF_REAL4	-1.0e+31
SAMPLING_RATE	LABLAXIS	CDF_CHAR	Fe
SAMPLING_RATE	UNITS	CDF_CHAR	Hz
SAMPLING_RATE	VAR_TYPE	CDF_CHAR	support_data
SAMPLING_RATE	SCALETYP	CDF_CHAR	linear
SAMPLING_RATE	VAR_NOTES	CDF_CHAR	sampling frequency of the waveform : F0, F1, F2 or F3
SAMPLING_RATE	DEPEND_0	CDF_CHAR	Epoch
SAMPLING_RATE	FORMAT	CDF_CHAR	F8.2

4.1.2.24.6 Non-Record-Variant (NRV) Variables

Variable Name	Index	Value
ACQUISITION_TIME_UNITS	1	s
ACQUISITION_TIME_UNITS	2	s / 65536
ACQUISITION_TIME_LABEL	1	CUC coarse part time
ACQUISITION_TIME_LABEL	2	CUC fine part time

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 373

4.1.2.25 SOLO_L1_RPW-LFR-SBM2-BP1 data product

The “SOLO_L1_RPW-LFR-SBM2-BP1” data product contains the uncalibrated LFR receiver Basic Parameters 1 data for SBM2 events. The “SOLO_L1_RPW-LFR-SBM2-BP1” data are written in CDF format files. There is a single file per SBM2 event data downlinked on-ground. The file is generated from data in the corresponding RPW SOLO_L0_RPW parent file.

4.1.2.25.1 Filename

```
solo_l1_rpw-lfr-sbm2-bp1_[YYYYMMDDThhmmss1- YYYYMMDDThhmmss2]_V[version].  
↪cdf
```

4.1.2.25.2 Expected cadence and data volume


Nominal cadence: 1 file per SBM2 event

Expected data volume: 90 MB per file

4.1.2.25.3 Global Attributes

Attribute Name	Entry Number	Data Type	Value
ACCESS_FORMAT	1	CDF_CHAR	CDF
ACCESS_URL	1	CDF_CHAR	
Acknowledgement	1	CDF_CHAR	The authors are pleased to acknowledge the Solar Orbiter/RPW Investigation (M. Maksimovic, PIs) for access to data.
Data_type	1	CDF_CHAR	H0>High Resolution data
Data_version	1	CDF_CHAR	
Descriptor	1	CDF_CHAR	RPW-LFR-SBM2-BP1> RPW Low Frequency Receiver Basic parameters set 1 data in SBM2 mode
Discipline	1	CDF_CHAR	Space Physics>Interplanetary Studies
File_naming_convention	1	CDF_CHAR	<Source_name>_<LEVEL>_<Descriptor>_<Date>
File_ID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	RPW Operations Centre located at LESIA (Meudon, France)
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	https://rpw.lesia.obspm.fr


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 374

Tab. 4.52 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Instrument_type	1	CDF_CHAR	Radio and Plasma Waves (space)
LINK_TEXT	1	CDF_CHAR	RPW Web site at LESIA
LINK_TITLE	1	CDF_CHAR	RPW Web site
Logical_file_id	1	CDF_CHAR	
Logical_source	1	CDF_CHAR	solo_L1_rpw-lfr-sbm2-bp1
Logical_source_description	1	CDF_CHAR	Solar Orbiter Radio/Plasma Wave, LFR L1 parameters
Mission_group	1	CDF_CHAR	Solar Orbiter
SKELETON_MODS	1	CDF_CHAR	July 2015 : initial release, B. KATRA (CNRS-LPP)
SKELETON_MODS	2	CDF_CHAR	november 2015 : fix of zVariable BP1 structure+attributes updates , B. KATRA (CNRS-LPP)
SKELETON_MODS	3	CDF_CHAR	Dec. 2015: Update to be compliant with the ROC-TST-GSE-SPC-00017-LES 1.3 doc.
SKELETON_MODS	4	CDF_CHAR	Dec. 2015 : fix of zVar dims for science data, B. KATRA (CNRS-LPP) + X.Bonnin (LESIA-CNRS)
SKELETON_MODS	5	CDF_CHAR	Sept. 2016 : upgrade to skt V02 + attributes updated for zVar EPOCH and ACQUISITION_TIME, B. KATRA (CNRS-LPP)
SKELETON_MODS	6	CDF_CHAR	V04: Update for solo data definition, X. BONNIN (CNRS-LESIA), April 2019
SKELETON_MODS	7	CDF_CHAR	V05: Update to compliant with SOL-SGS-TN-0009 Issue 2, Rev 4 - X.Bonnin, 09/2019
SKELETON_MODS	8	CDF_CHAR	V06: March 2020 : Delete Test_* g.attr - X.Bonnin (CNRS, LESIA)
SKELETON_MODS	9	CDF_CHAR	V07: Removing POST_GAP_FLAG zvar and UCD vattr. (X.Bonnin, 09/2020)
SKELETON_MODS	10	CDF_CHAR	V09: Jan. 2021 : Fix inconsistencies against the ISTP CDF guidelines, X.Bonnin (CNRS-LESIA)
Parent_version	1	CDF_CHAR	
Parents	1	CDF_CHAR	
PI_affiliation	1	CDF_CHAR	LESIA, Observatoire de Paris-CNRS
PI_name	1	CDF_CHAR	M.Maksimovic


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 375

Tab. 4.52 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Pipeline_version	1	CDF_CHAR	
Project	1	CDF_CHAR	SOLO>Solar Orbiter
Provider	1	CDF_CHAR	LESIA (Meudon, France)
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00006-LES (1.3)
ROC_REFERENCE	1	CDF_CHAR	ROC-TST-GSE-SPC-00017-LES_Issue02_Rev0(Data_format_and_metadata_ground_Data).pdf
Rules_of_use	1	CDF_CHAR	Data provided are publicly available. If used in presentations or publications, please acknowledge Solar Orbiter/RPW Investigation (M. Maksimovic, PIs). Please read carefully the caveats attached to the data. For reporting purposes, we request bibliography information for any publication, etc., using these data. Please send information on the use of this data to: M. Maksimovic (PI).
SKELETON_PARENT	1	CDF_CHAR	SOLO_L1_RPW-LFR-SBM2-BP1_V09.cdf
Skeleton_version	1	CDF_CHAR	09
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	SOLO>Solar Orbiter
SPECTRAL_RANGE_MAX	1	CDF_CHAR	
SPECTRAL_RANGE_MIN	1	CDF_CHAR	
Test_config_id	1	CDF_CHAR	
Test_request_name	1	CDF_CHAR	
TEXT	1	CDF_CHAR	This file contains RPW LFR level 1 SBM2 BP1 data of the current test.
TEXT_supplement_1	1	CDF_CHAR	
TIME_MAX	1	CDF_CHAR	
TIME_MIN	1	CDF_CHAR	
Validate	1	CDF_CHAR	
CAVEATS	1	CDF_CHAR	Engineering data. No good for publication.
Datetime	1	CDF_CHAR	
Free_field	1	CDF_CHAR	
Job_ID	1	CDF_CHAR	
LEVEL	1	CDF_CHAR	L1>Level 1 data processing

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 376


Tab. 4.52 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
SOOP_TYPE	1	CDF_CHAR	
Data_product	1	CDF_CHAR	SBM2-BP1>SBM2-BP1
TARGET_NAME	1	CDF_CHAR	Sun
TARGET_CLASS	1	CDF_CHAR	Star
TARGET_REGION	1	CDF_CHAR	Solar Wind
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009 (2.4)
Pipeline_name	1	CDF_CHAR	
Dataset_ID	1	CDF_CHAR	SOLO_L1_RPW-LFR-SBM2-BP1
OBS_ID	1	CDF_CHAR	
MODS	1	CDF_CHAR	

4.1.2.25.4 zVariables

Variable Name	Data Type	Number Elements	Dims	Sizes
Epoch	CDF_TIME_TT2000	1	0	
ACQUISITION_TIME	CDF_UINT4	1	1	2
QUALITY_FLAG	CDF_UINT1	1	0	
COMMON_BIA_STATUS_FLAG	CDF_UINT1	1	0	
QUALITY_BITMASK	CDF_UINT2	1	0	
FREQ	CDF_UINT1	1	0	
BIAS_MODE_MUX_SET	CDF_UINT1	1	0	
BIAS_MODE_HV_ENABLED	CDF_UINT1	1	0	
BIAS_MODE_BIAS1_ENABLED	CDF_UINT1	1	0	
BIAS_MODE_BIAS2_ENABLED	CDF_UINT1	1	0	
BIAS_MODE_BIAS3_ENABLED	CDF_UINT1	1	0	
BIAS_ON_OFF	CDF_UINT1	1	0	
BW	CDF_UINT1	1	0	
SP0	CDF_UINT1	1	0	
SP1	CDF_UINT1	1	0	
R0	CDF_UINT1	1	0	
R1	CDF_UINT1	1	0	
R2	CDF_UINT1	1	0	
BP1_CNT	CDF_UINT1	1	0	
PE	CDF_REAL8	1	1	26
PB	CDF_REAL8	1	1	26
NVEC_V0	CDF_REAL4	1	1	26

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 377


Tab. 4.53 – continued from previous page

Variable Name	Data Type	Number Elements	Dims	Sizes
NVEC_V1	CDF_REAL4	1	1	26
NVEC_V2	CDF_UINT1	1	1	26
ELLIP	CDF_REAL4	1	1	26
DOP	CDF_REAL4	1	1	26
SX_REA	CDF_REAL8	1	1	26
SX_ARG	CDF_UINT1	1	1	26
VPHI_REA	CDF_REAL8	1	1	26
VPHI_ARG	CDF_UINT1	1	1	26
ACQUISITION_TIME_UNITS	CDF_CHAR	16	1	2
ACQUISITION_TIME_LABEL	CDF_CHAR	32	1	2
SCET	CDF_REAL8	1	0	
SYNCHRO_FLAG	CDF_UINT1	1	0	

4.1.2.25.5 Variable attributes

Variable Name	Attribute Name	Data Type	Value
Epoch	FIELDNAM	CDF_CHAR	Epoch
Epoch	CATDESC	CDF_CHAR	Default time
Epoch	DISPLAY_TYPE	CDF_CHAR	time_series
Epoch	VALIDMIN	CDF_TIME_TT2000	2000-01-01T00:00:00.000000000
Epoch	VALIDMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch	SCALEMIN	CDF_TIME_TT2000	1990-01-01T00:00:00.000000000
Epoch	SCALEMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch	LABLAXIS	CDF_CHAR	Epoch
Epoch	UNITS	CDF_CHAR	ns
Epoch	VAR_TYPE	CDF_CHAR	support_data
Epoch	SCALETYP	CDF_CHAR	linear
Epoch	MONOTON	CDF_CHAR	INCREASE
Epoch	TIME_BASE	CDF_CHAR	J2000
Epoch	TIME_SCALE	CDF_CHAR	Terrestrial Time
Epoch	REFERENCE_POS	CDF_CHAR	Spacecraft barycenter
Epoch	Resolution	CDF_CHAR	15258 ns


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 378

Tab. 4.54 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
Epoch	Bin_location	CDF_CHAR	0.5
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file. 1 Epoch time refers to the time of the samples in the file.
ACQUISITION_TIME	FIELDNAM	CDF_CHAR	ACQUISITION_TIME
ACQUISITION_TIME	CATDESC	CDF_CHAR	LFR acquisition time for set of BP2 at a given frequency (F0, F1 or F2)
ACQUISITION_TIME	DISPLAY_TYPE	CDF_CHAR	time_series
ACQUISITION_TIME	VALIDMIN	CDF_UINT4	0
ACQUISITION_TIME	VALIDMAX	CDF_UINT4	4294967294
ACQUISITION_TIME	SCALEMIN	CDF_UINT4	0
ACQUISITION_TIME	SCALEMAX	CDF_UINT4	4294967294
ACQUISITION_TIME	FILLVAL	CDF_UINT4	4294967295
ACQUISITION_TIME	VAR_TYPE	CDF_CHAR	support_data
ACQUISITION_TIME	SCALETYP	CDF_CHAR	linear
ACQUISITION_TIME	MONOTON	CDF_CHAR	INCREASE
ACQUISITION_TIME	TIME_BASE	CDF_CHAR	LFR Time base
ACQUISITION_TIME	TIME_SCALE	CDF_CHAR	DPU clock
ACQUISITION_TIME	REFERENCE_POSITION	CDF_CHAR	Rotating Earth Geoid
ACQUISITION_TIME	VAR_NOTES	CDF_CHAR	Local time measured by the RPW LFR receiver (Coarse and fine parts of the CUC format).
ACQUISITION_TIME	DEPEND_0	CDF_CHAR	Epoch
ACQUISITION_TIME	FORMAT	CDF_CHAR	I10.0
ACQUISITION_TIME	LABL_PTR_1	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME	UNIT_PTR	CDF_CHAR	ACQUISITION_TIME_UNITS
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	VALIDMIN	CDF_UINT1	0
QUALITY_FLAG	VALIDMAX	CDF_UINT1	4
QUALITY_FLAG	SCALEMIN	CDF_UINT1	0
QUALITY_FLAG	SCALEMAX	CDF_UINT1	4
QUALITY_FLAG	FILLVAL	CDF_UINT1	255
QUALITY_FLAG	LABLAXIS	CDF_CHAR	Quality flag
QUALITY_FLAG	UNITS	CDF_CHAR	
QUALITY_FLAG	VAR_TYPE	CDF_CHAR	support_data
QUALITY_FLAG	SCALETYP	CDF_CHAR	linear


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 379

Tab. 4.54 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
QUALITY_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the quality of the data
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
COMMON_BIA_STATUS_FLAG	FIELDNAM	CDF_CHAR	COMMON_BIA_STATUS_FLAG
COMMON_BIA_STATUS_FLAG	CATDESC	CDF_CHAR	LFR common parameters and BIAS status info relevancy flag
COMMON_BIA_STATUS_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
COMMON_BIA_STATUS_FLAG	VALIDMIN	CDF_UINT1	0
COMMON_BIA_STATUS_FLAG	VALIDMAX	CDF_UINT1	1
COMMON_BIA_STATUS_FLAG	SCALEMIN	CDF_UINT1	0
COMMON_BIA_STATUS_FLAG	SCALEMAX	CDF_UINT1	1
COMMON_BIA_STATUS_FLAG	FILLVAL	CDF_UINT1	255
COMMON_BIA_STATUS_FLAG	LABLAXIS	CDF_CHAR	common bias status flag
COMMON_BIA_STATUS_FLAG	UNITS	CDF_CHAR	
COMMON_BIA_STATUS_FLAG	VAR_TYPE	CDF_CHAR	support_data
COMMON_BIA_STATUS_FLAG	SCALETYP	CDF_CHAR	linear
COMMON_BIA_STATUS_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the relevancy of LFR common parameters (SP0/1, R0/1/2, BW) and BIAS STATUS INFO which can be non representative for the first packet following a change in those parameters.
COMMON_BIA_STATUS_FLAG	DEPEND_0	CDF_CHAR	Epoch
COMMON_BIA_STATUS_FLAG	FORMAT	CDF_CHAR	I1.1
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	UNITS	CDF_CHAR	
QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 380

Tab. 4.54 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context information or status at the receiver or experiment level
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
FREQ	FIELDNAM	CDF_CHAR	Sampling frequency of the BP1
FREQ	CATDESC	CDF_CHAR	Sampling frequency of the BP1
FREQ	DISPLAY_TYPE	CDF_CHAR	time_series
FREQ	VALIDMIN	CDF_UINT1	0
FREQ	VALIDMAX	CDF_UINT1	1
FREQ	SCALEMIN	CDF_UINT1	0
FREQ	SCALEMAX	CDF_UINT1	1
FREQ	FILLVAL	CDF_UINT1	255
FREQ	LABLAXIS	CDF_CHAR	FREQ
FREQ	UNITS	CDF_CHAR	
FREQ	VAR_TYPE	CDF_CHAR	support_data
FREQ	SCALETYP	CDF_CHAR	linear
FREQ	VAR_NOTES	CDF_CHAR	Index to indicate the sampling frequency of the SBM2 mode BP1 : F0 or F1 in order to use only one skeleton for the 2 sbm2 mode bp1 products of ICD.
FREQ	DEPEND_0	CDF_CHAR	Epoch
FREQ	FORMAT	CDF_CHAR	I3.3
BIAS_MODE_MUX_SET	FIELDNAM	CDF_CHAR	BIAS multiplexer setting
BIAS_MODE_MUX_SET	CATDESC	CDF_CHAR	Copy of multiplexer setting.
BIAS_MODE_MUX_SET	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_MUX_SET	VALIDMIN	CDF_UINT1	0
BIAS_MODE_MUX_SET	VALIDMAX	CDF_UINT1	7
BIAS_MODE_MUX_SET	SCALEMIN	CDF_UINT1	0
BIAS_MODE_MUX_SET	SCALEMAX	CDF_UINT1	7
BIAS_MODE_MUX_SET	FILLVAL	CDF_UINT1	255
BIAS_MODE_MUX_SET	LABLAXIS	CDF_CHAR	BIAS_MODE_MUX_SET
BIAS_MODE_MUX_SET	UNITS	CDF_CHAR	
BIAS_MODE_MUX_SET	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_MUX_SET	SCALETYP	CDF_CHAR	linear


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 381

Tab. 4.54 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_MODE_MUX_SET	VAR_NOTES	CDF_CHAR	Indicates the mode of BIAS multiplexer for a set of BP1 parameters. Possible values are 0 : Standard operation. 1 : Probe 1 fails. 2 : Probe 2 fails. 3 : Probe 3 fails. 4 : Calibration mode 0. 5 : Calibration mode 1. 6 : Calibration mode 2. 7 : Calibration mode 3.
BIAS_MODE_MUX_SET	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_MUX_SET	FORMAT	CDF_CHAR	I2.2
BIAS_MODE_HV_ENABLED	FIELDNAM	CDF_CHAR	BIAS high voltage status
BIAS_MODE_HV_ENABLED	CATDESC	CDF_CHAR	Copy of enable/disable HV (+- 100V).
BIAS_MODE_HV_ENABLED	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_HV_ENABLED	VALIDMIN	CDF_UINT1	0
BIAS_MODE_HV_ENABLED	VALIDMAX	CDF_UINT1	1
BIAS_MODE_HV_ENABLED	SCALEMIN	CDF_UINT1	0
BIAS_MODE_HV_ENABLED	SCALEMAX	CDF_UINT1	1
BIAS_MODE_HV_ENABLED	FILLVAL	CDF_UINT1	255
BIAS_MODE_HV_ENABLED	LABLAXIS	CDF_CHAR	BIAS_MODE_HV_ENABLED
BIAS_MODE_HV_ENABLED	UNITS	CDF_CHAR	
BIAS_MODE_HV_ENABLED	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_HV_ENABLED	SCALETYP	CDF_CHAR	linear
BIAS_MODE_HV_ENABLED	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS HV. Possible values are DISABLED = 0. ENABLED = 1.
BIAS_MODE_HV_ENABLED	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_HV_ENABLED	FORMAT	CDF_CHAR	I2.2
BIAS_MODE_BIAS1_ENABLED	FIELDNAM	CDF_CHAR	BIAS probe 1 status
BIAS_MODE_BIAS1_ENABLED	CATDESC	CDF_CHAR	Copy of enable/disable BIAS 1.
BIAS_MODE_BIAS1_ENABLED	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_BIAS1_ENABLED	VALIDMIN	CDF_UINT1	0
BIAS_MODE_BIAS1_ENABLED	VALIDMAX	CDF_UINT1	1
BIAS_MODE_BIAS1_ENABLED	SCALEMIN	CDF_UINT1	0
BIAS_MODE_BIAS1_ENABLED	SCALEMAX	CDF_UINT1	1
BIAS_MODE_BIAS1_ENABLED	FILLVAL	CDF_UINT1	255
BIAS_MODE_BIAS1_ENABLED	LABLAXIS	CDF_CHAR	BIAS_MODE_BIAS1_ENABLED
BIAS_MODE_BIAS1_ENABLED	UNITS	CDF_CHAR	
BIAS_MODE_BIAS1_ENABLED	VAR_TYPE	CDF_CHAR	support_data


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 382

Tab. 4.54 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_MODE_BIAS1_ENAB	SCALETYP	CDF_CHAR	linear
BIAS_MODE_BIAS1_ENAB	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS probe 1. Possible values are DISABLED = 0. ENABLED = 1.
BIAS_MODE_BIAS1_ENAB	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_BIAS1_ENAB	FORMAT	CDF_CHAR	I2.2
BIAS_MODE_BIAS2_ENAB	HELDNAM	CDF_CHAR	BIAS probe 2 status
BIAS_MODE_BIAS2_ENAB	ICATDESC	CDF_CHAR	Copy of enable/disable BIAS 2.
BIAS_MODE_BIAS2_ENAB	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_BIAS2_ENAB	VALIDMIN	CDF_UINT1	0
BIAS_MODE_BIAS2_ENAB	VALIDMAX	CDF_UINT1	1
BIAS_MODE_BIAS2_ENAB	SCALEMIN	CDF_UINT1	0
BIAS_MODE_BIAS2_ENAB	SCALEMAX	CDF_UINT1	1
BIAS_MODE_BIAS2_ENAB	HELDVAL	CDF_UINT1	255
BIAS_MODE_BIAS2_ENAB	LEBLAXIS	CDF_CHAR	BIAS_MODE_BIAS2_ENABLED
BIAS_MODE_BIAS2_ENAB	UNITS	CDF_CHAR	
BIAS_MODE_BIAS2_ENAB	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_BIAS2_ENAB	SCALETYP	CDF_CHAR	linear
BIAS_MODE_BIAS2_ENAB	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS probe 2. Possible values are DISABLED = 0. ENABLED = 1.
BIAS_MODE_BIAS2_ENAB	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_BIAS2_ENAB	FORMAT	CDF_CHAR	I2.2
BIAS_MODE_BIAS3_ENAB	HELDNAM	CDF_CHAR	BIAS probe 3 status
BIAS_MODE_BIAS3_ENAB	ICATDESC	CDF_CHAR	Copy of enable/disable BIAS 3.
BIAS_MODE_BIAS3_ENAB	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_BIAS3_ENAB	VALIDMIN	CDF_UINT1	0
BIAS_MODE_BIAS3_ENAB	VALIDMAX	CDF_UINT1	1
BIAS_MODE_BIAS3_ENAB	SCALEMIN	CDF_UINT1	0
BIAS_MODE_BIAS3_ENAB	SCALEMAX	CDF_UINT1	1
BIAS_MODE_BIAS3_ENAB	HELDVAL	CDF_UINT1	255
BIAS_MODE_BIAS3_ENAB	LEBLAXIS	CDF_CHAR	BIAS_MODE_BIAS3_ENABLED
BIAS_MODE_BIAS3_ENAB	UNITS	CDF_CHAR	
BIAS_MODE_BIAS3_ENAB	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_BIAS3_ENAB	SCALETYP	CDF_CHAR	linear


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 383

Tab. 4.54 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_MODE_BIAS3_ENAB	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS probe 3. Possible values are DISABLED = 0. ENABLED = 1.
BIAS_MODE_BIAS3_ENAB	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_BIAS3_ENAB	FORMAT	CDF_CHAR	I2.2
BIAS_ON_OFF	FIELDNAM	CDF_CHAR	BIAS status
BIAS_ON_OFF	CATDESC	CDF_CHAR	Copy of BIAS status.
BIAS_ON_OFF	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_ON_OFF	VALIDMIN	CDF_UINT1	0
BIAS_ON_OFF	VALIDMAX	CDF_UINT1	1
BIAS_ON_OFF	SCALEMIN	CDF_UINT1	0
BIAS_ON_OFF	SCALEMAX	CDF_UINT1	1
BIAS_ON_OFF	FILLVAL	CDF_UINT1	255
BIAS_ON_OFF	LABLAXIS	CDF_CHAR	BIAS_ON_OFF
BIAS_ON_OFF	UNITS	CDF_CHAR	
BIAS_ON_OFF	VAR_TYPE	CDF_CHAR	support_data
BIAS_ON_OFF	SCALETYP	CDF_CHAR	linear
BIAS_ON_OFF	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS. Possible values are OFF = 0 - Power line off. ON = 1 - Power line on.
BIAS_ON_OFF	DEPEND_0	CDF_CHAR	Epoch
BIAS_ON_OFF	FORMAT	CDF_CHAR	I2.2
BW	FIELDNAM	CDF_CHAR	BIAS Works/BIAS Fails configuration.
BW	CATDESC	CDF_CHAR	BIAS Works/BIAS Fails configuration.
BW	DISPLAY_TYPE	CDF_CHAR	time_series
BW	VALIDMIN	CDF_UINT1	0
BW	VALIDMAX	CDF_UINT1	1
BW	SCALEMIN	CDF_UINT1	0
BW	SCALEMAX	CDF_UINT1	1
BW	FILLVAL	CDF_UINT1	255
BW	LABLAXIS	CDF_CHAR	BW
BW	UNITS	CDF_CHAR	
BW	VAR_TYPE	CDF_CHAR	support_data
BW	SCALETYP	CDF_CHAR	linear
BW	VAR_NOTES	CDF_CHAR	
BW	DEPEND_0	CDF_CHAR	Epoch
BW	FORMAT	CDF_CHAR	I2.2


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 384

Tab. 4.54 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SP0	FIELDNAM	CDF_CHAR	Shaping of electrical data parameter 0.
SP0	CATDESC	CDF_CHAR	Shaping of electrical data.
SP0	DISPLAY_TYPE	CDF_CHAR	time_series
SP0	VALIDMIN	CDF_UINT1	0
SP0	VALIDMAX	CDF_UINT1	1
SP0	SCALEMIN	CDF_UINT1	0
SP0	SCALEMAX	CDF_UINT1	1
SP0	FILLVAL	CDF_UINT1	255
SP0	LABLAXIS	CDF_CHAR	SP0
SP0	UNITS	CDF_CHAR	
SP0	VAR_TYPE	CDF_CHAR	support_data
SP0	SCALETYP	CDF_CHAR	linear
SP0	VAR_NOTES	CDF_CHAR	
SP0	DEPEND_0	CDF_CHAR	Epoch
SP0	FORMAT	CDF_CHAR	I2.2
SP1	FIELDNAM	CDF_CHAR	Shaping of electrical data parameter 1.
SP1	CATDESC	CDF_CHAR	Shaping of electrical data.
SP1	DISPLAY_TYPE	CDF_CHAR	time_series
SP1	VALIDMIN	CDF_UINT1	0
SP1	VALIDMAX	CDF_UINT1	1
SP1	SCALEMIN	CDF_UINT1	0
SP1	SCALEMAX	CDF_UINT1	1
SP1	FILLVAL	CDF_UINT1	255
SP1	LABLAXIS	CDF_CHAR	SP1
SP1	UNITS	CDF_CHAR	
SP1	VAR_TYPE	CDF_CHAR	support_data
SP1	SCALETYP	CDF_CHAR	linear
SP1	VAR_NOTES	CDF_CHAR	
SP1	DEPEND_0	CDF_CHAR	Epoch
SP1	FORMAT	CDF_CHAR	I2.2
R0	FIELDNAM	CDF_CHAR	Rooting of electrical data for F0.
R0	CATDESC	CDF_CHAR	Rooting of electrical data.
R0	DISPLAY_TYPE	CDF_CHAR	time_series
R0	VALIDMIN	CDF_UINT1	0
R0	VALIDMAX	CDF_UINT1	1
R0	SCALEMIN	CDF_UINT1	0
R0	SCALEMAX	CDF_UINT1	1
R0	FILLVAL	CDF_UINT1	255


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 385

Tab. 4.54 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
R0	LABLAXIS	CDF_CHAR	R0
R0	UNITS	CDF_CHAR	
R0	VAR_TYPE	CDF_CHAR	support_data
R0	SCALETYP	CDF_CHAR	linear
R0	VAR_NOTES	CDF_CHAR	
R0	DEPEND_0	CDF_CHAR	Epoch
R0	FORMAT	CDF_CHAR	I2.2
R1	FIELDNAM	CDF_CHAR	Rooting of electrical data for F1.
R1	CATDESC	CDF_CHAR	Rooting of electrical data.
R1	DISPLAY_TYPE	CDF_CHAR	time_series
R1	VALIDMIN	CDF_UINT1	0
R1	VALIDMAX	CDF_UINT1	1
R1	SCALEMIN	CDF_UINT1	0
R1	SCALEMAX	CDF_UINT1	1
R1	FILLVAL	CDF_UINT1	255
R1	LABLAXIS	CDF_CHAR	R1
R1	UNITS	CDF_CHAR	
R1	VAR_TYPE	CDF_CHAR	support_data
R1	SCALETYP	CDF_CHAR	linear
R1	VAR_NOTES	CDF_CHAR	
R1	DEPEND_0	CDF_CHAR	Epoch
R1	FORMAT	CDF_CHAR	I2.2
R2	FIELDNAM	CDF_CHAR	Rooting of electrical data for F2.
R2	CATDESC	CDF_CHAR	Rooting of electrical data.
R2	DISPLAY_TYPE	CDF_CHAR	time_series
R2	VALIDMIN	CDF_UINT1	0
R2	VALIDMAX	CDF_UINT1	1
R2	SCALEMIN	CDF_UINT1	0
R2	SCALEMAX	CDF_UINT1	1
R2	FILLVAL	CDF_UINT1	255
R2	LABLAXIS	CDF_CHAR	R2
R2	UNITS	CDF_CHAR	
R2	VAR_TYPE	CDF_CHAR	support_data
R2	SCALETYP	CDF_CHAR	linear
R2	VAR_NOTES	CDF_CHAR	
R2	DEPEND_0	CDF_CHAR	Epoch
R2	FORMAT	CDF_CHAR	I2.2
BP1_CNT	FIELDNAM	CDF_CHAR	BP1_CNT

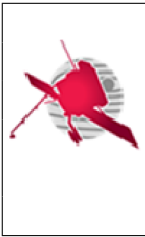
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	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 386

Tab. 4.54 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BP1_CNT	CATDESC	CDF_CHAR	Number of BP1 sets read for a given sampling frequency(F0 or F1).
BP1_CNT	DISPLAY_TYPE	CDF_CHAR	time_series
BP1_CNT	VALIDMIN	CDF_UINT1	0
BP1_CNT	VALIDMAX	CDF_UINT1	1
BP1_CNT	SCALEMIN	CDF_UINT1	0
BP1_CNT	SCALEMAX	CDF_UINT1	1
BP1_CNT	FILLVAL	CDF_UINT1	255
BP1_CNT	LABLAXIS	CDF_CHAR	BP1_CNT
BP1_CNT	UNITS	CDF_CHAR	
BP1_CNT	VAR_TYPE	CDF_CHAR	support_data
BP1_CNT	SCALETYP	CDF_CHAR	linear
BP1_CNT	VAR_NOTES	CDF_CHAR	This indicates how many sets of BP1 have been read. Expected numbers are 22 for F0 and 26 for F1.
BP1_CNT	DEPEND_0	CDF_CHAR	Epoch
BP1_CNT	FORMAT	CDF_CHAR	I3.3
PE	FIELDNAM	CDF_CHAR	Spectral power of E field
PE	CATDESC	CDF_CHAR	Spectral power of E field
PE	DISPLAY_TYPE	CDF_CHAR	time_series
PE	VALIDMIN	CDF_REAL8	0.0
PE	VALIDMAX	CDF_REAL8	1.0e+30
PE	SCALEMIN	CDF_REAL8	0.0
PE	SCALEMAX	CDF_REAL8	1.0e+30
PE	FILLVAL	CDF_REAL8	-1.0e+31
PE	LABLAXIS	CDF_CHAR	PE
PE	UNITS	CDF_CHAR	
PE	VAR_TYPE	CDF_CHAR	data
PE	SCALETYP	CDF_CHAR	linear
PE	VAR_NOTES	CDF_CHAR	
PE	DEPEND_0	CDF_CHAR	Epoch
PE	FORMAT	CDF_CHAR	F32.6
PB	FIELDNAM	CDF_CHAR	Spectral power of B field
PB	CATDESC	CDF_CHAR	Spectral power of B field
PB	DISPLAY_TYPE	CDF_CHAR	time_series
PB	VALIDMIN	CDF_REAL8	0.0
PB	VALIDMAX	CDF_REAL8	1.0e+30
PB	SCALEMIN	CDF_REAL8	0.0
PB	SCALEMAX	CDF_REAL8	1.0e+30

continues on next page



**RPW Data Product
Description Document**

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03

Date: March 11, 2021

Page: **387**

Tab. 4.54 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
PB	FILLVAL	CDF_REAL8	-1.0e+31
PB	LABLAXIS	CDF_CHAR	PB
PB	UNITS	CDF_CHAR	
PB	VAR_TYPE	CDF_CHAR	data
PB	SCALETYP	CDF_CHAR	linear
PB	VAR_NOTES	CDF_CHAR	
PB	DEPEND_0	CDF_CHAR	Epoch
PB	FORMAT	CDF_CHAR	F32.6
NVEC_V0	FIELDNAM	CDF_CHAR	NVEC_V0
NVEC_V0	CATDESC	CDF_CHAR	Component 0 of wave normal vector from magnetic field
NVEC_V0	DISPLAY_TYPE	CDF_CHAR	time_series
NVEC_V0	VALIDMIN	CDF_REAL4	-1.0
NVEC_V0	VALIDMAX	CDF_REAL4	1.0
NVEC_V0	SCALEMIN	CDF_REAL4	-1.0
NVEC_V0	SCALEMAX	CDF_REAL4	1.0
NVEC_V0	FILLVAL	CDF_REAL4	-1.0e+31
NVEC_V0	LABLAXIS	CDF_CHAR	NVEC_V0
NVEC_V0	UNITS	CDF_CHAR	
NVEC_V0	VAR_TYPE	CDF_CHAR	data
NVEC_V0	SCALETYP	CDF_CHAR	linear
NVEC_V0	VAR_NOTES	CDF_CHAR	
NVEC_V0	DEPEND_0	CDF_CHAR	Epoch
NVEC_V0	FORMAT	CDF_CHAR	F32.6
NVEC_V1	FIELDNAM	CDF_CHAR	NVEC_V1
NVEC_V1	CATDESC	CDF_CHAR	Component 1 of wave normal vector from magnetic field
NVEC_V1	DISPLAY_TYPE	CDF_CHAR	time_series
NVEC_V1	VALIDMIN	CDF_REAL4	-1.0
NVEC_V1	VALIDMAX	CDF_REAL4	1.0
NVEC_V1	SCALEMIN	CDF_REAL4	-1.0
NVEC_V1	SCALEMAX	CDF_REAL4	1.0
NVEC_V1	FILLVAL	CDF_REAL4	-1.0e+31
NVEC_V1	LABLAXIS	CDF_CHAR	NVEC_V1
NVEC_V1	UNITS	CDF_CHAR	
NVEC_V1	VAR_TYPE	CDF_CHAR	data
NVEC_V1	SCALETYP	CDF_CHAR	linear
NVEC_V1	VAR_NOTES	CDF_CHAR	
NVEC_V1	DEPEND_0	CDF_CHAR	Epoch
NVEC_V1	FORMAT	CDF_CHAR	F32.6
NVEC_V2	FIELDNAM	CDF_CHAR	NVEC_V2

continues on next page



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03

Date: March 11, 2021

Page: **388**

Tab. 4.54 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
NVEC_V2	CATDESC	CDF_CHAR	Sign of component 2 of wave normal vector from magnetic field
NVEC_V2	DISPLAY_TYPE	CDF_CHAR	time_series
NVEC_V2	VALIDMIN	CDF_UINT1	0
NVEC_V2	VALIDMAX	CDF_UINT1	1
NVEC_V2	SCALEMIN	CDF_UINT1	0
NVEC_V2	SCALEMAX	CDF_UINT1	2
NVEC_V2	FILLVAL	CDF_UINT1	255
NVEC_V2	LABLAXIS	CDF_CHAR	NVEC_V2
NVEC_V2	UNITS	CDF_CHAR	
NVEC_V2	VAR_TYPE	CDF_CHAR	data
NVEC_V2	SCALETYP	CDF_CHAR	linear
NVEC_V2	VAR_NOTES	CDF_CHAR	0 == positive, 1 == negative
NVEC_V2	DEPEND_0	CDF_CHAR	Epoch
NVEC_V2	FORMAT	CDF_CHAR	I3.3
ELLIP	FIELDNAM	CDF_CHAR	Wave ellipticity from magnetic field
ELLIP	CATDESC	CDF_CHAR	Wave ellipticity from magnetic field
ELLIP	DISPLAY_TYPE	CDF_CHAR	time_series
ELLIP	VALIDMIN	CDF_REAL4	0.0
ELLIP	VALIDMAX	CDF_REAL4	1.0
ELLIP	SCALEMIN	CDF_REAL4	0.0
ELLIP	SCALEMAX	CDF_REAL4	1.0
ELLIP	FILLVAL	CDF_REAL4	-1.0e+31
ELLIP	LABLAXIS	CDF_CHAR	ELLIP
ELLIP	UNITS	CDF_CHAR	
ELLIP	VAR_TYPE	CDF_CHAR	data
ELLIP	SCALETYP	CDF_CHAR	linear
ELLIP	VAR_NOTES	CDF_CHAR	
ELLIP	DEPEND_0	CDF_CHAR	Epoch
ELLIP	FORMAT	CDF_CHAR	F32.6
DOP	FIELDNAM	CDF_CHAR	degree of polarization from magnetic field
DOP	CATDESC	CDF_CHAR	degree of polarization from magnetic field
DOP	DISPLAY_TYPE	CDF_CHAR	time_series
DOP	VALIDMIN	CDF_REAL4	0.0
DOP	VALIDMAX	CDF_REAL4	1.0
DOP	SCALEMIN	CDF_REAL4	0.0

continues on next page



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03

Date: March 11, 2021

Page: **389**

Tab. 4.54 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
DOP	SCALEMAX	CDF_REAL4	1.0
DOP	FILLVAL	CDF_REAL4	-1.0e+31
DOP	LABLAXIS	CDF_CHAR	DOP
DOP	UNITS	CDF_CHAR	
DOP	VAR_TYPE	CDF_CHAR	data
DOP	SCALETYP	CDF_CHAR	linear
DOP	VAR_NOTES	CDF_CHAR	
DOP	DEPEND_0	CDF_CHAR	Epoch
DOP	FORMAT	CDF_CHAR	F32.6
SX_REA	FIELDNAM	CDF_CHAR	Real part of X Poynting flux
SX_REA	CATDESC	CDF_CHAR	Real part of the X component of the Poynting vector
SX_REA	DISPLAY_TYPE	CDF_CHAR	time_series
SX_REA	VALIDMIN	CDF_REAL8	-1.0e+30
SX_REA	VALIDMAX	CDF_REAL8	1.0e+30
SX_REA	SCALEMIN	CDF_REAL8	-1.0e+30
SX_REA	SCALEMAX	CDF_REAL8	1.0e+30
SX_REA	FILLVAL	CDF_REAL8	-1.0e+31
SX_REA	LABLAXIS	CDF_CHAR	SX_REA
SX_REA	UNITS	CDF_CHAR	
SX_REA	VAR_TYPE	CDF_CHAR	data
SX_REA	SCALETYP	CDF_CHAR	linear
SX_REA	VAR_NOTES	CDF_CHAR	
SX_REA	DEPEND_0	CDF_CHAR	Epoch
SX_REA	FORMAT	CDF_CHAR	F32.6
SX_ARG	FIELDNAM	CDF_CHAR	Arg bit of X Poynting flux
SX_ARG	CATDESC	CDF_CHAR	Argument bit = 0 if $ \text{ARG}(\text{VPHI}) < \pi/4$ or $3\pi/4 < \text{ARG}(\text{VPHI}) < \pi$, bit arg = 1 elsewhere
SX_ARG	DISPLAY_TYPE	CDF_CHAR	time_series
SX_ARG	VALIDMIN	CDF_UINT1	0
SX_ARG	VALIDMAX	CDF_UINT1	1
SX_ARG	SCALEMIN	CDF_UINT1	0
SX_ARG	SCALEMAX	CDF_UINT1	1
SX_ARG	FILLVAL	CDF_UINT1	255
SX_ARG	LABLAXIS	CDF_CHAR	SX_ARG
SX_ARG	UNITS	CDF_CHAR	
SX_ARG	VAR_TYPE	CDF_CHAR	data
SX_ARG	SCALETYP	CDF_CHAR	linear
SX_ARG	VAR_NOTES	CDF_CHAR	

continues on next page



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **390**

Tab. 4.54 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SX_ARG	DEPEND_0	CDF_CHAR	Epoch
SX_ARG	FORMAT	CDF_CHAR	I3.3
VPHI_REA	FIELDNAM	CDF_CHAR	Real part of phase velocity estimator
VPHI_REA	CATDESC	CDF_CHAR	Phase velocity estimated from the X projection of Maxwell-Faraday equation
VPHI_REA	DISPLAY_TYPE	CDF_CHAR	time_series
VPHI_REA	VALIDMIN	CDF_REAL8	-1.0e+30
VPHI_REA	VALIDMAX	CDF_REAL8	1.0e+30
VPHI_REA	SCALEMIN	CDF_REAL8	-1.0e+30
VPHI_REA	SCALEMAX	CDF_REAL8	1.0e+30
VPHI_REA	FILLVAL	CDF_REAL8	-1.0e+31
VPHI_REA	LABLAXIS	CDF_CHAR	VPHI_REA
VPHI_REA	UNITS	CDF_CHAR	
VPHI_REA	VAR_TYPE	CDF_CHAR	data
VPHI_REA	SCALETYP	CDF_CHAR	linear
VPHI_REA	VAR_NOTES	CDF_CHAR	
VPHI_REA	DEPEND_0	CDF_CHAR	Epoch
VPHI_REA	FORMAT	CDF_CHAR	F32.6
VPHI_ARG	FIELDNAM	CDF_CHAR	Arg bit of phase velocity estimator
VPHI_ARG	CATDESC	CDF_CHAR	Argument bit = 0 if $ \text{ARG}(\text{SX}) < \pi/4$ or $3\pi/4 < \text{ARG}(\text{SX}) < \pi$, bit arg = 1 elsewhere
VPHI_ARG	DISPLAY_TYPE	CDF_CHAR	time_series
VPHI_ARG	VALIDMIN	CDF_UINT1	0
VPHI_ARG	VALIDMAX	CDF_UINT1	1
VPHI_ARG	SCALEMIN	CDF_UINT1	0
VPHI_ARG	SCALEMAX	CDF_UINT1	1
VPHI_ARG	FILLVAL	CDF_UINT1	255
VPHI_ARG	LABLAXIS	CDF_CHAR	VPHI_ARG
VPHI_ARG	UNITS	CDF_CHAR	
VPHI_ARG	VAR_TYPE	CDF_CHAR	data
VPHI_ARG	SCALETYP	CDF_CHAR	linear
VPHI_ARG	VAR_NOTES	CDF_CHAR	
VPHI_ARG	DEPEND_0	CDF_CHAR	Epoch
VPHI_ARG	FORMAT	CDF_CHAR	I3.3
ACQUISITION_TIME_UNITS	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_UNITS


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 391

Tab. 4.54 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
ACQUISITION_TIME_UNITS	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME_UNIT_PTR attribute
ACQUISITION_TIME_UNITS	VAR_TYPE	CDF_CHAR	metadata
ACQUISITION_TIME_UNITS	FORMAT	CDF_CHAR	A16
ACQUISITION_TIME_LABEL	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME_LABEL	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME
ACQUISITION_TIME_LABEL	VAR_TYPE	CDF_CHAR	metadata
ACQUISITION_TIME_LABEL	FORMAT	CDF_CHAR	A32
SCET	FIELDNAM	CDF_CHAR	Spacecraft Elapsed Time
SCET	CATDESC	CDF_CHAR	Elapsed Time of the onboard clock
SCET	DISPLAY_TYPE	CDF_CHAR	time_series
SCET	VALIDMIN	CDF_REAL8	0.0
SCET	VALIDMAX	CDF_REAL8	1.0e+31
SCET	SCALEMIN	CDF_REAL8	0.0
SCET	SCALEMAX	CDF_REAL8	1.0e+31
SCET	FILLVAL	CDF_REAL8	-1.0e+31
SCET	LABLAXIS	CDF_CHAR	Spacecraft Elapsed Time (Ticks)
SCET	UNITS	CDF_CHAR	Ticks
SCET	VAR_TYPE	CDF_CHAR	support_data
SCET	SCALETYP	CDF_CHAR	linear
SCET	MONOTON	CDF_CHAR	INCREASE
SCET	TIME_BASE	CDF_CHAR	Spacecraft onboard clock
SCET	TIME_SCALE	CDF_CHAR	Spacecraft onboard clock
SCET	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
SCET	VAR_NOTES	CDF_CHAR	Spacecraft Elapsed Time
SCET	DEPEND_0	CDF_CHAR	Epoch
SYNCHRO_FLAG	FIELDNAM	CDF_CHAR	SYNCHRO_FLAG
SYNCHRO_FLAG	CATDESC	CDF_CHAR	Time synchronisation flag
SYNCHRO_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
SYNCHRO_FLAG	VALIDMIN	CDF_UINT1	0
SYNCHRO_FLAG	VALIDMAX	CDF_UINT1	1
SYNCHRO_FLAG	SCALEMIN	CDF_UINT1	0
SYNCHRO_FLAG	SCALEMAX	CDF_UINT1	1
SYNCHRO_FLAG	FILLVAL	CDF_UINT1	255
SYNCHRO_FLAG	LABLAXIS	CDF_CHAR	time sync. flag
SYNCHRO_FLAG	UNITS	CDF_CHAR	
SYNCHRO_FLAG	VAR_TYPE	CDF_CHAR	support_data

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 392

Tab. 4.54 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SYNCHRO_FLAG	SCALETYP	CDF_CHAR	linear
SYNCHRO_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate if the local time is synchronized with the RPW DPU clock or not. Possible values: synchronized=0, not synchronized=1. This flag is extracted from ACQUISITION_TIME in L0 packets, it is the MSB of the CUC time.
SYNCHRO_FLAG	DEPEND_0	CDF_CHAR	Epoch
SYNCHRO_FLAG	FORMAT	CDF_CHAR	I3.3

4.1.2.25.6 Non-Record-Variant (NRV) Variables


Variable Name	Index	Value
ACQUISITION_TIME_UNITS	1	s
ACQUISITION_TIME_UNITS	2	s / 65536
ACQUISITION_TIME_LABEL	1	CUC coarse part time
ACQUISITION_TIME_LABEL	2	CUC fine part time

4.1.2.26 SOLO_L1_RPW-LFR-SBM2-BP2 data product

The “SOLO_L1_RPW-LFR-SBM2-BP2” data product contains the uncalibrated LFR receiver Basic Parameters 1 data for SBM2 events. The “SOLO_L1_RPW-LFR-SBM2-BP2” data are written in CDF format files. There is a single file per SBM2 event data downlinked on-ground. The file is generated from data in the corresponding SOLO_L0_RPW parent file.

4.1.2.26.1 Filename

```
solo_l1_rpw-lfr-sbm2-bp2_[YYYYMMDDThhmmss1- YYYYMMDDThhmmss2]_V[version].  
↪cdf
```

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 393

4.1.2.26.2 Expected cadence and data volume


Nominal cadence: 1 file per SBM2 event

Expected data volume: 40 MB per file

4.1.2.26.3 Global Attributes

Attribute Name	Entry Number	Data Type	Value
ACCESS_FORMAT	1	CDF_CHAR	CDF
ACCESS_URL	1	CDF_CHAR	
Acknowledgement	1	CDF_CHAR	The authors are pleased to acknowledge the Solar Orbiter/RPW Investigation (M. Maksimovic, PIs) for access to data.
Data_type	1	CDF_CHAR	H0>High Resolution data
Data_version	1	CDF_CHAR	
Descriptor	1	CDF_CHAR	RPW-LFR-SBM2-BP2> RPW Low Frequency Receiver Basic parameters set 2 data in SBM2 mode
Discipline	1	CDF_CHAR	Space Physics>Interplanetary Studies
File_naming_convention	1	CDF_CHAR	<Source_name>_<LEVEL>_<Descriptor>_<Date>
File_ID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	RPW Operations Centre located at LESIA (Meudon, France)
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	https://rpw.lesia.obspm.fr
Instrument_type	1	CDF_CHAR	Radio and Plasma Waves (space)
LINK_TEXT	1	CDF_CHAR	RPW Web site at LESIA
LINK_TITLE	1	CDF_CHAR	RPW Web site
Logical_file_id	1	CDF_CHAR	
Logical_source	1	CDF_CHAR	solo_L1_rpw-lfr-sbm2-bp2
Logical_source_description	1	CDF_CHAR	Solar Orbiter Radio/Plasma Wave, LFR L1 parameters
Mission_group	1	CDF_CHAR	Solar Orbiter
SKELETON_MODS	1	CDF_CHAR	July 2015 : initial release, B. KATRA (CNRS-LPP)
SKELETON_MODS	2	CDF_CHAR	october 2015 : fix of zVariable BP2 structure +attributes updates, B. KATRA (CNRS-LPP)


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 394

Tab. 4.55 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
SKELETON_MODS	3	CDF_CHAR	Dec. 2015: Update to be compliant with the ROC-TST-GSE-SPC-00017-LES 1.3 doc.
SKELETON_MODS	4	CDF_CHAR	Dec. 2015 : fix of zVar dims for science data, B. KATRA (CNRS-LPP) + X.Bonnin (LESIA-CNRS)
SKELETON_MODS	5	CDF_CHAR	Sept. 2016 : upgrade to skt V02 + attributes updated for zVar EPOCH and ACQUISITION_TIME, B. KATRA (CNRS-LPP)
SKELETON_MODS	6	CDF_CHAR	Feb. 2019 : upgrade to skt V03 : change zVariable types to prepare decommutation, R. PIBERNE (X-LPP)
SKELETON_MODS	7	CDF_CHAR	V04: Update for solo data definition, X. BONNIN (CNRS-LESIA), April 2019
SKELETON_MODS	8	CDF_CHAR	V05: Update to compliant with SOL-SGS-TN-0009 Issue 2, Rev 4 - X.Bonnin, 09/2019
SKELETON_MODS	9	CDF_CHAR	V06: March 2020 : Delete Test_* g.attrs - X.Bonnin (CNRS, LESIA)
SKELETON_MODS	10	CDF_CHAR	V07: Removing POST_GAP_FLAG zvar and UCD vattr. (X.Bonnin, 09/2020)
SKELETON_MODS	11	CDF_CHAR	V09: Jan. 2021 : Fix inconsistencies against the ISTEP CDF guidelines, X.Bonnin (CNRS-LESIA)
Parent_version	1	CDF_CHAR	
Parents	1	CDF_CHAR	
PI_affiliation	1	CDF_CHAR	LESIA, Observatoire de Paris-CNRS
PI_name	1	CDF_CHAR	M.Maksimovic
Pipeline_version	1	CDF_CHAR	
Project	1	CDF_CHAR	SOLO>Solar Orbiter
Provider	1	CDF_CHAR	LESIA (Meudon, France)
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00006-LES (1.3)
ROC_REFERENCE	1	CDF_CHAR	ROC-TST-GSE-SPC-00017-LES_Issue02_Rev0(Data_format_and_metadata_data_ground_Data).pdf


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 395

Tab. 4.55 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Rules_of_use	1	CDF_CHAR	Data provided are publicly available. If used in presentations or publications, please acknowledge Solar Orbiter/RPW Investigation (M. Maksimovic, PIs). Please read carefully the caveats attached to the data. For reporting purposes, we request bibliography information for any publication, etc., using these data. Please send information on the use of this data to: M. Maksimovic (PI).
SKELETON_PARENT	1	CDF_CHAR	SOLO_L1_RPW-LFR-SBM2-BP2_V09.cdf
Skeleton_version	1	CDF_CHAR	09
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	SOLO>Solar Orbiter
SPECTRAL_RANGE_MAX	1	CDF_CHAR	
SPECTRAL_RANGE_MIN	1	CDF_CHAR	
TEXT	1	CDF_CHAR	This file contains RPW LFR level 1 SBM2 BP2 data of the current test.
TEXT_supplement_1	1	CDF_CHAR	
TIME_MAX	1	CDF_CHAR	
TIME_MIN	1	CDF_CHAR	
Validate	1	CDF_CHAR	
CAVEATS	1	CDF_CHAR	Engineering data. No good for publication.
Datetime	1	CDF_CHAR	
Free_field	1	CDF_CHAR	
Job_ID	1	CDF_CHAR	
LEVEL	1	CDF_CHAR	L1>Level 1 data processing
SOOP_TYPE	1	CDF_CHAR	
Data_product	1	CDF_CHAR	SBM2-BP2>SBM2-BP2
TARGET_NAME	1	CDF_CHAR	Sun
TARGET_CLASS	1	CDF_CHAR	Star
TARGET_REGION	1	CDF_CHAR	Solar Wind
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009 (2.4)
Pipeline_name	1	CDF_CHAR	
Dataset_ID	1	CDF_CHAR	SOLO_L1_RPW-LFR-SBM2-BP2
OBS_ID	1	CDF_CHAR	

continues on next page


	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 396

Tab. 4.55 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
MODS	1	CDF_CHAR	

4.1.2.26.4 zVariables


Variable Name	Data Type	Number Elements	Dims	Sizes
Epoch	CDF_TIME_TT2000	1	0	
ACQUISITION_TIME	CDF_UINT4	1	1	2
QUALITY_FLAG	CDF_UINT1	1	0	
COMMON_BIA_STATUS_FLAG	CDF_UINT1	1	0	
QUALITY_BITMASK	CDF_UINT2	1	0	
FREQ	CDF_UINT1	1	0	
BIAS_MODE_MUX_SET	CDF_UINT1	1	0	
BIAS_MODE_HV_ENABLED	CDF_UINT1	1	0	
BIAS_MODE_BIAS1_ENABLED	CDF_UINT1	1	0	
BIAS_MODE_BIAS2_ENABLED	CDF_UINT1	1	0	
BIAS_MODE_BIAS3_ENABLED	CDF_UINT1	1	0	
BIAS_ON_OFF	CDF_UINT1	1	0	
BW	CDF_UINT1	1	0	
SP0	CDF_UINT1	1	0	
SP1	CDF_UINT1	1	0	
R0	CDF_UINT1	1	0	
R1	CDF_UINT1	1	0	
R2	CDF_UINT1	1	0	
BP2_CNT	CDF_UINT1	1	0	
AUTO	CDF_REAL8	1	2	26 5
CROSS_RE	CDF_REAL4	1	2	26 10
CROSS_IM	CDF_REAL4	1	2	26 10
ACQUISITION_TIME_UNITS	CDF_CHAR	16	1	2
ACQUISITION_TIME_LABEL	CDF_CHAR	32	1	2
SCET	CDF_REAL8	1	0	
SYNCHRO_FLAG	CDF_UINT1	1	0	

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 397

4.1.2.26.5 Variable attributes

Variable Name	Attribute Name	Data Type	Value
Epoch	FIELDNAM	CDF_CHAR	Epoch
Epoch	CATDESC	CDF_CHAR	Default time
Epoch	DISPLAY_TYPE	CDF_CHAR	time_series
Epoch	VALIDMIN	CDF_TIME_TT2000	2000-01-01T00:00:00.000000000
Epoch	VALIDMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch	SCALEMIN	CDF_TIME_TT2000	1990-01-01T00:00:00.000000000
Epoch	SCALEMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch	LABLAXIS	CDF_CHAR	Epoch
Epoch	UNITS	CDF_CHAR	ns
Epoch	VAR_TYPE	CDF_CHAR	support_data
Epoch	SCALETYP	CDF_CHAR	linear
Epoch	MONOTON	CDF_CHAR	INCREASE
Epoch	TIME_BASE	CDF_CHAR	J2000
Epoch	TIME_SCALE	CDF_CHAR	Terrestrial Time
Epoch	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
Epoch	Resolution	CDF_CHAR	15258
Epoch	Bin_location	CDF_CHAR	0.5
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file.
ACQUISITION_TIME	FIELDNAM	CDF_CHAR	ACQUISITION_TIME
ACQUISITION_TIME	CATDESC	CDF_CHAR	CCSDS CUC format LFR time, coarse and fine parts
ACQUISITION_TIME	DISPLAY_TYPE	CDF_CHAR	time_series
ACQUISITION_TIME	VALIDMIN	CDF_UINT4	0
ACQUISITION_TIME	VALIDMAX	CDF_UINT4	4294967294
ACQUISITION_TIME	SCALEMIN	CDF_UINT4	0
ACQUISITION_TIME	SCALEMAX	CDF_UINT4	4294967294
ACQUISITION_TIME	FILLVAL	CDF_UINT4	4294967295
ACQUISITION_TIME	VAR_TYPE	CDF_CHAR	support_data
ACQUISITION_TIME	SCALETYP	CDF_CHAR	linear
ACQUISITION_TIME	MONOTON	CDF_CHAR	INCREASE
ACQUISITION_TIME	TIME_BASE	CDF_CHAR	LFR Time base
ACQUISITION_TIME	TIME_SCALE	CDF_CHAR	DPU clock


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 398

Tab. 4.56 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
ACQUISITION_TIME	REFERENCE_POS	CDF_CHAR	Rotating Earth Geoid
ACQUISITION_TIME	VAR_NOTES	CDF_CHAR	Local time measured by the RPW LFR receiver (Coarse and fine parts of the CUC format).
ACQUISITION_TIME	DEPEND_0	CDF_CHAR	Epoch
ACQUISITION_TIME	FORMAT	CDF_CHAR	I10.0
ACQUISITION_TIME	LABL_PTR_1	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME	UNIT_PTR	CDF_CHAR	ACQUISITION_TIME_UNITS
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	VALIDMIN	CDF_UINT1	0
QUALITY_FLAG	VALIDMAX	CDF_UINT1	4
QUALITY_FLAG	SCALEMIN	CDF_UINT1	0
QUALITY_FLAG	SCALEMAX	CDF_UINT1	4
QUALITY_FLAG	FILLVAL	CDF_UINT1	255
QUALITY_FLAG	LABLAXIS	CDF_CHAR	Quality flag
QUALITY_FLAG	UNITS	CDF_CHAR	
QUALITY_FLAG	VAR_TYPE	CDF_CHAR	support_data
QUALITY_FLAG	SCALETYP	CDF_CHAR	linear
QUALITY_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the quality of the data
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
COMMON_BIA_STATUS_FLAG	FIELDNAM	CDF_CHAR	COMMON_BIA_STATUS_FLAG
COMMON_BIA_STATUS_FLAG	CATDESC	CDF_CHAR	LFR common parameters and BIAS status info relevancy flag
COMMON_BIA_STATUS_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
COMMON_BIA_STATUS_FLAG	VALIDMIN	CDF_UINT1	0
COMMON_BIA_STATUS_FLAG	VALIDMAX	CDF_UINT1	1
COMMON_BIA_STATUS_FLAG	SCALEMIN	CDF_UINT1	0
COMMON_BIA_STATUS_FLAG	SCALEMAX	CDF_UINT1	1
COMMON_BIA_STATUS_FLAG	FILLVAL	CDF_UINT1	255
COMMON_BIA_STATUS_FLAG	LABLAXIS	CDF_CHAR	common bias status flag
COMMON_BIA_STATUS_FLAG	UNITS	CDF_CHAR	
COMMON_BIA_STATUS_FLAG	VAR_TYPE	CDF_CHAR	support_data
COMMON_BIA_STATUS_FLAG	SCALETYP	CDF_CHAR	linear


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 399

Tab. 4.56 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
COMMON_BIA_STATUS_FLAG	LFR_NOTES	CDF_CHAR	Flag to indicate the relevancy of LFR common parameters (SP0/1, R0/1/2, BW) and BIAS STATUS INFO which can be non representative for the first packet following a change in those parameters.
COMMON_BIA_STATUS_FLAG	DEPEND_0	CDF_CHAR	Epoch
COMMON_BIA_STATUS_FLAG	FORMAT	CDF_CHAR	I1.1
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	UNITS	CDF_CHAR	
QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context information or status at the receiver or experiment level
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
FREQ	FIELDNAM	CDF_CHAR	Sampling frequency of the BP2
FREQ	CATDESC	CDF_CHAR	Sampling frequency of the BP2
FREQ	DISPLAY_TYPE	CDF_CHAR	time_series
FREQ	VALIDMIN	CDF_UINT1	0
FREQ	VALIDMAX	CDF_UINT1	1
FREQ	SCALEMIN	CDF_UINT1	0
FREQ	SCALEMAX	CDF_UINT1	1
FREQ	FILLVAL	CDF_UINT1	255
FREQ	LABLAXIS	CDF_CHAR	FREQ
FREQ	UNITS	CDF_CHAR	
FREQ	VAR_TYPE	CDF_CHAR	support_data
FREQ	SCALETYP	CDF_CHAR	linear


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 400

Tab. 4.56 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
FREQ	VAR_NOTES	CDF_CHAR	Index to indicate the sampling frequency of the sbm2 mode BP2 : F0 or F1 in order to use only one skeleton for the 2 sbm2 mode bp2 products of ICD.
FREQ	DEPEND_0	CDF_CHAR	Epoch
FREQ	FORMAT	CDF_CHAR	I3.3
BIAS_MODE_MUX_SET	FIELDNAM	CDF_CHAR	BIAS multiplexer setting
BIAS_MODE_MUX_SET	CATDESC	CDF_CHAR	Copy of multiplexer setting.
BIAS_MODE_MUX_SET	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_MUX_SET	VALIDMIN	CDF_UINT1	0
BIAS_MODE_MUX_SET	VALIDMAX	CDF_UINT1	7
BIAS_MODE_MUX_SET	SCALEMIN	CDF_UINT1	0
BIAS_MODE_MUX_SET	SCALEMAX	CDF_UINT1	7
BIAS_MODE_MUX_SET	FILLVAL	CDF_UINT1	255
BIAS_MODE_MUX_SET	LABLAXIS	CDF_CHAR	BIAS_MODE_MUX_SET
BIAS_MODE_MUX_SET	UNITS	CDF_CHAR	
BIAS_MODE_MUX_SET	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_MUX_SET	SCALETYP	CDF_CHAR	linear
BIAS_MODE_MUX_SET	VAR_NOTES	CDF_CHAR	Indicates the mode of BIAS multiplexer for a set of BP2 parameters. Possible values are 0 : Standard operation. 1 : Probe 1 fails. 2 : Probe 2 fails. 3 : Probe 3 fails. 4 : Calibration mode 0. 5 : Calibration mode 1. 6 : Calibration mode 2. 7 : Calibration mode 3.
BIAS_MODE_MUX_SET	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_MUX_SET	FORMAT	CDF_CHAR	I3.3
BIAS_MODE_HV_ENABLED	FIELDNAM	CDF_CHAR	BIAS high voltage status
BIAS_MODE_HV_ENABLED	CATDESC	CDF_CHAR	Copy of enable/disable HV (+- 100V).
BIAS_MODE_HV_ENABLED	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_HV_ENABLED	VALIDMIN	CDF_UINT1	0
BIAS_MODE_HV_ENABLED	VALIDMAX	CDF_UINT1	1
BIAS_MODE_HV_ENABLED	SCALEMIN	CDF_UINT1	0
BIAS_MODE_HV_ENABLED	SCALEMAX	CDF_UINT1	1
BIAS_MODE_HV_ENABLED	FILLVAL	CDF_UINT1	255
BIAS_MODE_HV_ENABLED	LABLAXIS	CDF_CHAR	BIAS_MODE_HV_ENABLED

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 401

Tab. 4.56 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_MODE_HV_ENABLED	UNITS	CDF_CHAR	
BIAS_MODE_HV_ENABLED	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_HV_ENABLED	SCALETYP	CDF_CHAR	linear
BIAS_MODE_HV_ENABLED	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS HV. Possible values are DISABLED = 0. ENABLED = 1.
BIAS_MODE_HV_ENABLED	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_HV_ENABLED	FORMAT	CDF_CHAR	I3.3
BIAS_MODE_BIAS1_ENABLED	HELDNAM	CDF_CHAR	BIAS probe 1 status
BIAS_MODE_BIAS1_ENABLED	CATDESC	CDF_CHAR	Copy of enable/disable BIAS 1.
BIAS_MODE_BIAS1_ENABLED	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_BIAS1_ENABLED	VALIDMIN	CDF_UINT1	0
BIAS_MODE_BIAS1_ENABLED	VALIDMAX	CDF_UINT1	1
BIAS_MODE_BIAS1_ENABLED	SCALEMIN	CDF_UINT1	0
BIAS_MODE_BIAS1_ENABLED	SCALEMAX	CDF_UINT1	1
BIAS_MODE_BIAS1_ENABLED	HELDVAL	CDF_UINT1	255
BIAS_MODE_BIAS1_ENABLED	LABLAXIS	CDF_CHAR	BIAS_MODE_BIAS1_ENABLED
BIAS_MODE_BIAS1_ENABLED	UNITS	CDF_CHAR	
BIAS_MODE_BIAS1_ENABLED	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_BIAS1_ENABLED	SCALETYP	CDF_CHAR	linear
BIAS_MODE_BIAS1_ENABLED	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS probe 1. Possible values are DISABLED = 0. ENABLED = 1.
BIAS_MODE_BIAS1_ENABLED	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_BIAS1_ENABLED	FORMAT	CDF_CHAR	I3.3
BIAS_MODE_BIAS2_ENABLED	HELDNAM	CDF_CHAR	BIAS probe 2 status
BIAS_MODE_BIAS2_ENABLED	CATDESC	CDF_CHAR	Copy of enable/disable BIAS 2.
BIAS_MODE_BIAS2_ENABLED	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_BIAS2_ENABLED	VALIDMIN	CDF_UINT1	0
BIAS_MODE_BIAS2_ENABLED	VALIDMAX	CDF_UINT1	1
BIAS_MODE_BIAS2_ENABLED	SCALEMIN	CDF_UINT1	0
BIAS_MODE_BIAS2_ENABLED	SCALEMAX	CDF_UINT1	1
BIAS_MODE_BIAS2_ENABLED	HELDVAL	CDF_UINT1	255
BIAS_MODE_BIAS2_ENABLED	LABLAXIS	CDF_CHAR	BIAS_MODE_BIAS2_ENABLED
BIAS_MODE_BIAS2_ENABLED	UNITS	CDF_CHAR	
BIAS_MODE_BIAS2_ENABLED	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_BIAS2_ENABLED	SCALETYP	CDF_CHAR	linear

continues on next page



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **402**

Tab. 4.56 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_MODE_BIAS2_ENAB	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS probe 2. Possible values are DISABLED = 0. ENABLED = 1.
BIAS_MODE_BIAS2_ENAB	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_BIAS2_ENAB	FORMAT	CDF_CHAR	I3.3
BIAS_MODE_BIAS3_ENAB	FIELDNAM	CDF_CHAR	BIAS probe 3 status
BIAS_MODE_BIAS3_ENAB	CATDESC	CDF_CHAR	Copy of enable/disable BIAS 3.
BIAS_MODE_BIAS3_ENAB	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_BIAS3_ENAB	VALIDMIN	CDF_UINT1	0
BIAS_MODE_BIAS3_ENAB	VALIDMAX	CDF_UINT1	1
BIAS_MODE_BIAS3_ENAB	SCALEMIN	CDF_UINT1	0
BIAS_MODE_BIAS3_ENAB	SCALEMAX	CDF_UINT1	1
BIAS_MODE_BIAS3_ENAB	FILLVAL	CDF_UINT1	255
BIAS_MODE_BIAS3_ENAB	LABLAXIS	CDF_CHAR	BIAS_MODE_BIAS3_ENABLED
BIAS_MODE_BIAS3_ENAB	UNITS	CDF_CHAR	
BIAS_MODE_BIAS3_ENAB	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_BIAS3_ENAB	SCALETYP	CDF_CHAR	linear
BIAS_MODE_BIAS3_ENAB	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS probe 3. Possible values are DISABLED = 0. ENABLED = 1.
BIAS_MODE_BIAS3_ENAB	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_BIAS3_ENAB	FORMAT	CDF_CHAR	I3.3
BIAS_ON_OFF	FIELDNAM	CDF_CHAR	BIAS status
BIAS_ON_OFF	CATDESC	CDF_CHAR	Copy of BIAS status.
BIAS_ON_OFF	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_ON_OFF	VALIDMIN	CDF_UINT1	0
BIAS_ON_OFF	VALIDMAX	CDF_UINT1	1
BIAS_ON_OFF	SCALEMIN	CDF_UINT1	0
BIAS_ON_OFF	SCALEMAX	CDF_UINT1	1
BIAS_ON_OFF	FILLVAL	CDF_UINT1	255
BIAS_ON_OFF	LABLAXIS	CDF_CHAR	BIAS_ON_OFF
BIAS_ON_OFF	UNITS	CDF_CHAR	
BIAS_ON_OFF	VAR_TYPE	CDF_CHAR	support_data
BIAS_ON_OFF	SCALETYP	CDF_CHAR	linear
BIAS_ON_OFF	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS. Possible values are OFF = 0 - Power line off. ON = 1 - Power line on.

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 403

Tab. 4.56 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_ON_OFF	DEPEND_0	CDF_CHAR	Epoch
BIAS_ON_OFF	FORMAT	CDF_CHAR	I3.3
BW	FIELDNAM	CDF_CHAR	BIAS Works/BIAS Fails configuration.
BW	CATDESC	CDF_CHAR	BIAS Works/BIAS Fails configuration.
BW	DISPLAY_TYPE	CDF_CHAR	time_series
BW	VALIDMIN	CDF_UINT1	0
BW	VALIDMAX	CDF_UINT1	1
BW	SCALEMIN	CDF_UINT1	0
BW	SCALEMAX	CDF_UINT1	1
BW	FILLVAL	CDF_UINT1	255
BW	LABLAXIS	CDF_CHAR	BW
BW	UNITS	CDF_CHAR	
BW	VAR_TYPE	CDF_CHAR	support_data
BW	SCALETYP	CDF_CHAR	linear
BW	VAR_NOTES	CDF_CHAR	
BW	DEPEND_0	CDF_CHAR	Epoch
BW	FORMAT	CDF_CHAR	I3.3
SP0	FIELDNAM	CDF_CHAR	Shaping of electrical data parameter 0.
SP0	CATDESC	CDF_CHAR	Shaping of electrical data.
SP0	DISPLAY_TYPE	CDF_CHAR	time_series
SP0	VALIDMIN	CDF_UINT1	0
SP0	VALIDMAX	CDF_UINT1	1
SP0	SCALEMIN	CDF_UINT1	0
SP0	SCALEMAX	CDF_UINT1	1
SP0	FILLVAL	CDF_UINT1	255
SP0	LABLAXIS	CDF_CHAR	SP0
SP0	UNITS	CDF_CHAR	
SP0	VAR_TYPE	CDF_CHAR	support_data
SP0	SCALETYP	CDF_CHAR	linear
SP0	VAR_NOTES	CDF_CHAR	
SP0	DEPEND_0	CDF_CHAR	Epoch
SP0	FORMAT	CDF_CHAR	I3.3
SP1	FIELDNAM	CDF_CHAR	Shaping of electrical data parameter 1.
SP1	CATDESC	CDF_CHAR	Shaping of electrical data.
SP1	DISPLAY_TYPE	CDF_CHAR	time_series
SP1	VALIDMIN	CDF_UINT1	0
SP1	VALIDMAX	CDF_UINT1	1

continues on next page



**RPW Data Product
Description Document**

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **404**

Tab. 4.56 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SP1	SCALEMIN	CDF_UINT1	0
SP1	SCALEMAX	CDF_UINT1	1
SP1	FILLVAL	CDF_UINT1	255
SP1	LABLAXIS	CDF_CHAR	SP1
SP1	UNITS	CDF_CHAR	
SP1	VAR_TYPE	CDF_CHAR	support_data
SP1	SCALETYP	CDF_CHAR	linear
SP1	VAR_NOTES	CDF_CHAR	
SP1	DEPEND_0	CDF_CHAR	Epoch
SP1	FORMAT	CDF_CHAR	I3.3
R0	FIELDNAM	CDF_CHAR	Rooting of electrical data for F0.
R0	CATDESC	CDF_CHAR	Rooting of electrical data.
R0	DISPLAY_TYPE	CDF_CHAR	time_series
R0	VALIDMIN	CDF_UINT1	0
R0	VALIDMAX	CDF_UINT1	1
R0	SCALEMIN	CDF_UINT1	0
R0	SCALEMAX	CDF_UINT1	1
R0	FILLVAL	CDF_UINT1	255
R0	LABLAXIS	CDF_CHAR	R0
R0	UNITS	CDF_CHAR	
R0	VAR_TYPE	CDF_CHAR	support_data
R0	SCALETYP	CDF_CHAR	linear
R0	VAR_NOTES	CDF_CHAR	
R0	DEPEND_0	CDF_CHAR	Epoch
R0	FORMAT	CDF_CHAR	I3.3
R1	FIELDNAM	CDF_CHAR	Rooting of electrical data for F1.
R1	CATDESC	CDF_CHAR	Rooting of electrical data.
R1	DISPLAY_TYPE	CDF_CHAR	time_series
R1	VALIDMIN	CDF_UINT1	0
R1	VALIDMAX	CDF_UINT1	1
R1	SCALEMIN	CDF_UINT1	0
R1	SCALEMAX	CDF_UINT1	1
R1	FILLVAL	CDF_UINT1	255
R1	LABLAXIS	CDF_CHAR	R1
R1	UNITS	CDF_CHAR	
R1	VAR_TYPE	CDF_CHAR	support_data
R1	SCALETYP	CDF_CHAR	linear
R1	VAR_NOTES	CDF_CHAR	
R1	DEPEND_0	CDF_CHAR	Epoch


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 405

Tab. 4.56 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
R1	FORMAT	CDF_CHAR	I3.3
R2	FIELDNAM	CDF_CHAR	Rooting of electrical data for F2.
R2	CATDESC	CDF_CHAR	Rooting of electrical data.
R2	DISPLAY_TYPE	CDF_CHAR	time_series
R2	VALIDMIN	CDF_UINT1	0
R2	VALIDMAX	CDF_UINT1	1
R2	SCALEMIN	CDF_UINT1	0
R2	SCALEMAX	CDF_UINT1	1
R2	FILLVAL	CDF_UINT1	255
R2	LABLAXIS	CDF_CHAR	R2
R2	UNITS	CDF_CHAR	
R2	VAR_TYPE	CDF_CHAR	support_data
R2	SCALETYP	CDF_CHAR	linear
R2	VAR_NOTES	CDF_CHAR	
R2	DEPEND_0	CDF_CHAR	Epoch
R2	FORMAT	CDF_CHAR	I3.3
BP2_CNT	FIELDNAM	CDF_CHAR	BP2_CNT
BP2_CNT	CATDESC	CDF_CHAR	Number of BP2 sets read for a given sampling frequency(F0 or F1).
BP2_CNT	DISPLAY_TYPE	CDF_CHAR	time_series
BP2_CNT	VALIDMIN	CDF_UINT1	22
BP2_CNT	VALIDMAX	CDF_UINT1	26
BP2_CNT	SCALEMIN	CDF_UINT1	22
BP2_CNT	SCALEMAX	CDF_UINT1	26
BP2_CNT	FILLVAL	CDF_UINT1	255
BP2_CNT	LABLAXIS	CDF_CHAR	BP2_CNT
BP2_CNT	UNITS	CDF_CHAR	
BP2_CNT	VAR_TYPE	CDF_CHAR	support_data
BP2_CNT	SCALETYP	CDF_CHAR	linear
BP2_CNT	VAR_NOTES	CDF_CHAR	This indicates how many sets of BP2 have been read. Expected numbers are 22 for F0 and 26 for F1.
BP2_CNT	DEPEND_0	CDF_CHAR	Epoch
BP2_CNT	FORMAT	CDF_CHAR	I3.3
AUTO	FIELDNAM	CDF_CHAR	Component of autovariances from the EM data stream
AUTO	CATDESC	CDF_CHAR	Component of autovariances from the EM data stream


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 406

Tab. 4.56 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
AUTO	DISPLAY_TYPE	CDF_CHAR	time_series
AUTO	VALIDMIN	CDF_REAL8	-1.0e+30
AUTO	VALIDMAX	CDF_REAL8	1.0e+30
AUTO	SCALEMIN	CDF_REAL8	-1.0e+30
AUTO	SCALEMAX	CDF_REAL8	1.0e+30
AUTO	FILLVAL	CDF_REAL8	-1.0e+31
AUTO	LABLAXIS	CDF_CHAR	AUTO
AUTO	UNITS	CDF_CHAR	
AUTO	VAR_TYPE	CDF_CHAR	data
AUTO	SCALETYP	CDF_CHAR	linear
AUTO	VAR_NOTES	CDF_CHAR	
AUTO	DEPEND_0	CDF_CHAR	Epoch
AUTO	FORMAT	CDF_CHAR	F32.6
CROSS_RE	FIELDNAM	CDF_CHAR	CROSS_RE
CROSS_RE	CATDESC	CDF_CHAR	Real part of complex cross correlations from the EM data
CROSS_RE	DISPLAY_TYPE	CDF_CHAR	time_series
CROSS_RE	VALIDMIN	CDF_REAL4	0.0
CROSS_RE	VALIDMAX	CDF_REAL4	1.0
CROSS_RE	SCALEMIN	CDF_REAL4	0.0
CROSS_RE	SCALEMAX	CDF_REAL4	1.0
CROSS_RE	FILLVAL	CDF_REAL4	-1.0e+31
CROSS_RE	LABLAXIS	CDF_CHAR	CROSS_RE
CROSS_RE	UNITS	CDF_CHAR	
CROSS_RE	VAR_TYPE	CDF_CHAR	data
CROSS_RE	SCALETYP	CDF_CHAR	linear
CROSS_RE	VAR_NOTES	CDF_CHAR	This variable contains the 10 real parts of complex values for a given BP2 set.
CROSS_RE	DEPEND_0	CDF_CHAR	Epoch
CROSS_RE	FORMAT	CDF_CHAR	F32.6
CROSS_IM	FIELDNAM	CDF_CHAR	CROSS_IM
CROSS_IM	CATDESC	CDF_CHAR	Imaginary part of complex cross correlations from the EM data
CROSS_IM	DISPLAY_TYPE	CDF_CHAR	time_series
CROSS_IM	VALIDMIN	CDF_REAL4	0.0
CROSS_IM	VALIDMAX	CDF_REAL4	1.0
CROSS_IM	SCALEMIN	CDF_REAL4	0.0
CROSS_IM	SCALEMAX	CDF_REAL4	1.0
CROSS_IM	FILLVAL	CDF_REAL4	-1.0e+31


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 407

Tab. 4.56 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
CROSS_IM	LABLAXIS	CDF_CHAR	CROSS_IM
CROSS_IM	UNITS	CDF_CHAR	
CROSS_IM	VAR_TYPE	CDF_CHAR	data
CROSS_IM	SCALETYP	CDF_CHAR	linear
CROSS_IM	VAR_NOTES	CDF_CHAR	This variable contains the 10 imaginary parts of complex values for a given BP2 set.
CROSS_IM	DEPEND_0	CDF_CHAR	Epoch
CROSS_IM	FORMAT	CDF_CHAR	F32.6
ACQUISITION_TIME_UNITS	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_UNITS
ACQUISITION_TIME_UNITS	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME_UNIT_PTR attribute
ACQUISITION_TIME_UNITS	VAR_TYPE	CDF_CHAR	metadata
ACQUISITION_TIME_UNITS	FORMAT	CDF_CHAR	A16
ACQUISITION_TIME_LABEL	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME_LABEL	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME
ACQUISITION_TIME_LABEL	VAR_TYPE	CDF_CHAR	metadata
ACQUISITION_TIME_LABEL	FORMAT	CDF_CHAR	A32
SCET	FIELDNAM	CDF_CHAR	Spacecraft Elapsed Time
SCET	CATDESC	CDF_CHAR	Elapsed Time of the onboard clock
SCET	DISPLAY_TYPE	CDF_CHAR	time_series
SCET	VALIDMIN	CDF_REAL8	0.0
SCET	VALIDMAX	CDF_REAL8	1.0e+31
SCET	SCALEMIN	CDF_REAL8	0.0
SCET	SCALEMAX	CDF_REAL8	1.0e+31
SCET	FILLVAL	CDF_REAL8	-1.0e+31
SCET	LABLAXIS	CDF_CHAR	Spacecraft Elapsed Time (Ticks)
SCET	UNITS	CDF_CHAR	Ticks
SCET	VAR_TYPE	CDF_CHAR	support_data
SCET	SCALETYP	CDF_CHAR	linear
SCET	MONOTON	CDF_CHAR	INCREASE
SCET	TIME_BASE	CDF_CHAR	Spacecraft onboard clock
SCET	TIME_SCALE	CDF_CHAR	Spacecraft onboard clock
SCET	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
SCET	VAR_NOTES	CDF_CHAR	Spacecraft Elapsed Time
SCET	DEPEND_0	CDF_CHAR	Epoch
SYNCHRO_FLAG	FIELDNAM	CDF_CHAR	SYNCHRO_FLAG

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 408

Tab. 4.56 – continued from previous page


Variable Name	Attribute Name	Data Type	Value
SYNCHRO_FLAG	CATDESC	CDF_CHAR	Time synchronisation flag
SYNCHRO_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
SYNCHRO_FLAG	VALIDMIN	CDF_UINT1	0
SYNCHRO_FLAG	VALIDMAX	CDF_UINT1	1
SYNCHRO_FLAG	SCALEMIN	CDF_UINT1	0
SYNCHRO_FLAG	SCALEMAX	CDF_UINT1	1
SYNCHRO_FLAG	FILLVAL	CDF_UINT1	255
SYNCHRO_FLAG	LABLAXIS	CDF_CHAR	time sync. flag
SYNCHRO_FLAG	UNITS	CDF_CHAR	
SYNCHRO_FLAG	VAR_TYPE	CDF_CHAR	support_data
SYNCHRO_FLAG	SCALETYP	CDF_CHAR	linear
SYNCHRO_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate if the local time is synchronized with the RPW DPU clock or not. Possible values: synchronized=0, not synchronized=1. This flag is extracted from ACQUISITION_TIME in L0 packets, it is the MSB of the CUC time.
SYNCHRO_FLAG	DEPEND_0	CDF_CHAR	Epoch
SYNCHRO_FLAG	FORMAT	CDF_CHAR	I3.3

4.1.2.26.6 Non-Record-Variant (NRV) Variables

Variable Name	Index	Value
ACQUISITION_TIME_UNITS	1	s
ACQUISITION_TIME_UNITS	2	s / 65536
ACQUISITION_TIME_LABEL	1	CUC coarse part time
ACQUISITION_TIME_LABEL	2	CUC fine part time

4.1.2.27 SOLO_L1_RPW-BIA-SWEEP data product

The “SOLO_L1_RPW-BIA-SWEEP” data product contains the uncalibrated Bias unit sweeping data. The “SOLO_L1_RPW-BIA-SWEEP” data are written in CDF format files. There is a single file per Bias unit sweeping. The file is generated from data in the corresponding SOLO_L0_RPW parent file.

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 409

4.1.2.27.1 Filename

```
solo_L1_rpw-bia-sweep_[YYYYMMDDThhmmss1- YYYYMMDDThhmmss2]_V[version].cdf
```

4.1.2.27.2 Expected cadence and data volume


Nominal cadence: 1 file per Bias sweep

Expected data volume: 0.4 MB per file

4.1.2.27.3 Global Attributes

Attribute Name	Entry Number	Data Type	Value
ACCESS_FORMAT	1	CDF_CHAR	CDF
ACCESS_URL	1	CDF_CHAR	
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009 (2.4)
Data_type	1	CDF_CHAR	H0>High Resolution data
Data_version	1	CDF_CHAR	
Descriptor	1	CDF_CHAR	RPW-BIA-SWEEP>Radio and Plasma Waves instrument - Bias sweeping data
Discipline	1	CDF_CHAR	Space Physics>Interplanetary Studies
File_naming_convention	1	CDF_CHAR	<Source_name>_<LEVEL>_<Descriptor>_<Date>
File_ID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	RPW Operations Centre located at LESIA (Meudon, France)
Generation_date	1	CDF_CHAR	
Instrument_type	1	CDF_CHAR	Radio and Plasma Waves (space)
Logical_file_id	1	CDF_CHAR	
Logical_source	1	CDF_CHAR	solo_L1_rpw-bia-sweep
Logical_source_description	1	CDF_CHAR	Solar Orbiter Radio/Plasma Wave, L1 parameters
Mission_group	1	CDF_CHAR	Solar Orbiter
SKELETON_MODS	1	CDF_CHAR	June 2017 : initial release, X. BONNIN (CNRS-LESIA)
SKELETON_MODS	2	CDF_CHAR	V04: Update for solo data definition, X. BONNIN (CNRS-LESIA), April 2019
SKELETON_MODS	3	CDF_CHAR	V05: Update to compliant with SOL-SGS-TN-0009 Issue 2, Rev 4 - X.Bonnin, 09/2019


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 410

Tab. 4.57 – continued from previous page


Attribute Name	Entry Number	Data Type	Value
SKELETON_MODS	4	CDF_CHAR	V06: March 2020 : Delete Test_* g.attrs - X.Bonnin (CNRS, LESIA)
SKELETON_MODS	5	CDF_CHAR	V07: April 2020 : Add SPICE_KERNELS g.attr and fix V v.attrs Add BIAS_MODE_BYPASS_PROBEi zvariables – X.Bonnin (CNRS, LESIA)
SKELETON_MODS	6	CDF_CHAR	V08: June 2020 : Emphasize that currents are set currents; current VALIDMIN/-MAX: fix misc. typos - E.Johansson (IRF)
SKELETON_MODS	7	CDF_CHAR	V09: June 2020 : Revert mistaken changes V07->V08 due to modifying old commit - E.Johansson (IRF)
SKELETON_MODS	8	CDF_CHAR	V10: Nov 2020 : Compliance with SPDF-ISTP CDF guidelinescommit - X.Bonnin (LESIA)
SKELETON_MODS	9	CDF_CHAR	V11: Jan. 2021 : Fix inconsistencies against the ISTP CDF guidelines, X.Bonnin (CNRS-LESIA)
Parents	1	CDF_CHAR	
Parent_version	1	CDF_CHAR	
PI_affiliation	1	CDF_CHAR	LESIA, Observatoire de Paris-CNRS
PI_name	1	CDF_CHAR	M.Maksimovic
Pipeline_name	1	CDF_CHAR	
Pipeline_version	1	CDF_CHAR	
Project	1	CDF_CHAR	SOLO>Solar Orbiter
Provider	1	CDF_CHAR	LESIA (Meudon, France)
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00006-LES (1.3)
Rules_of_use	1	CDF_CHAR	Data provided are publicly available. If used in presentations or publications, please acknowledge Solar Orbiter/RPW Investigation (M. Maksimovic, PIs). Please read carefully the caveats attached to the data. For reporting purposes, we request bibliography information for any publication, etc., using these data. Please send information on the use of this data to: M. Maksimovic (PI).

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 411

Tab. 4.57 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
SKELETON_PARENT	1	CDF_CHAR	SOLO_L1_RPW-BIA-SWEEP_V11.cdf
Skeleton_version	1	CDF_CHAR	11
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	SOLO>Solar Orbiter
SPICE_KERNELS	1	CDF_CHAR	
TEXT	1	CDF_CHAR	This file contains RPW level 1 Bias sweeping data.
TEXT_supplement_1	1	CDF_CHAR	
TIME_MAX	1	CDF_CHAR	
TIME_MIN	1	CDF_CHAR	
Validate	1	CDF_CHAR	
CAVEATS	1	CDF_CHAR	Engineering data. No good for publication.
Datetime	1	CDF_CHAR	
Free_field	1	CDF_CHAR	
Job_ID	1	CDF_CHAR	
LEVEL	1	CDF_CHAR	L1>Level 1 data processing
SOOP_TYPE	1	CDF_CHAR	
Data_product	1	CDF_CHAR	SWEEP>SWEEP
TARGET_NAME	1	CDF_CHAR	Sun
TARGET_CLASS	1	CDF_CHAR	Star
TARGET_REGION	1	CDF_CHAR	Solar Wind
Acknowledgement	1	CDF_CHAR	The authors are pleased to acknowledge the Solar Orbiter/RPW Investigation (M. Maksimovic, PIs) for access to data.
HTTP_LINK	1	CDF_CHAR	https://rpw.lesia.obspm.fr
LINK_TEXT	1	CDF_CHAR	RPW Web site at LESIA
LINK_TITLE	1	CDF_CHAR	RPW Web site
SPECTRAL_RANGE_MIN	1	CDF_CHAR	
SPECTRAL_RANGE_MAX	1	CDF_CHAR	
Dataset_ID	1	CDF_CHAR	SOLO_L1_RPW-BIA-SWEEP
OBS_ID	1	CDF_CHAR	
MODS	1	CDF_CHAR	

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 412


4.1.2.27.4 zVariables

Variable Name	Data Type	Number Elements	Dims	Sizes
Epoch	CDF_TIME_TT2000	1	0	
ACQUISITION_TIME	CDF_UINT4	1	1	2
QUALITY_FLAG	CDF_UINT1	1	0	
QUALITY_BITMASK	CDF_UINT2	1	0	
BIAS_MODE_MUX_SET	CDF_UINT1	1	0	
BIAS_MODE_HV_ENABLED	CDF_UINT1	1	0	
BIAS_MODE_BIAS1_ENABLED	CDF_UINT1	1	0	
BIAS_MODE_BIAS2_ENABLED	CDF_UINT1	1	0	
BIAS_MODE_BIAS3_ENABLED	CDF_UINT1	1	0	
BIAS_ON_OFF	CDF_UINT1	1	0	
BIAS_MODE_BYPASS_PROBE1	CDF_UINT1	1	0	
BIAS_MODE_BYPASS_PROBE2	CDF_UINT1	1	0	
BIAS_MODE_BYPASS_PROBE3	CDF_UINT1	1	0	
BW	CDF_UINT1	1	0	
SP0	CDF_UINT1	1	0	
SP1	CDF_UINT1	1	0	
R0	CDF_UINT1	1	0	
R1	CDF_UINT1	1	0	
R2	CDF_UINT1	1	0	
SAMPLING_RATE	CDF_REAL4	1	0	
V	CDF_REAL4	1	1	3
ANT_FLAG	CDF_UINT1	1	0	
BIAS_SWEEP_CURRENT	CDF_REAL4	1	1	3
ACQUISITION_TIME_UNITS	CDF_CHAR	16	1	2
V_LABEL	CDF_CHAR	8	1	3
BIAS_SWEEP_CURRENT_LABEL	CDF_CHAR	32	1	3
ACQUISITION_TIME_LABEL	CDF_CHAR	32	1	2
SCET	CDF_REAL8	1	0	
SYNCHRO_FLAG	CDF_UINT1	1	0	

4.1.2.27.5 Variable attributes

Variable Name	Attribute Name	Data Type	Value
Epoch	FIELDNAM	CDF_CHAR	Epoch
Epoch	CATDESC	CDF_CHAR	Default time


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 413

Tab. 4.58 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
Epoch	VALIDMIN	CDF_TIME_TT2000	1990-01-01T00:00:00.000000000
Epoch	VALIDMAX	CDF_TIME_TT2000	2029-12-31T23:59:59.999000000
Epoch	SCALEMIN	CDF_TIME_TT2000	1990-01-01T00:00:00.000000000
Epoch	SCALEMAX	CDF_TIME_TT2000	2029-12-31T23:59:59.999000000
Epoch	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch	LABLAXIS	CDF_CHAR	Epoch
Epoch	UNITS	CDF_CHAR	ns
Epoch	VAR_TYPE	CDF_CHAR	support_data
Epoch	SCALETYP	CDF_CHAR	linear
Epoch	MONOTON	CDF_CHAR	INCREASE
Epoch	TIME_BASE	CDF_CHAR	J2000
Epoch	TIME_SCALE	CDF_CHAR	Terrestrial Time
Epoch	REFERENCE_POS	CDF_CHAR	Spacecraft barycenter
Epoch	Resolution	CDF_CHAR	15258 ns
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file
ACQUISITION_TIME	FIELDNAM	CDF_CHAR	ACQUISITION_TIME
ACQUISITION_TIME	CATDESC	CDF_CHAR	RPW acquisition time
ACQUISITION_TIME	VALIDMIN	CDF_UINT4	0
ACQUISITION_TIME	VALIDMAX	CDF_UINT4	4294967295
ACQUISITION_TIME	SCALEMIN	CDF_UINT4	0
ACQUISITION_TIME	SCALEMAX	CDF_UINT4	4294967295
ACQUISITION_TIME	FILLVAL	CDF_UINT4	4294967295
ACQUISITION_TIME	VAR_TYPE	CDF_CHAR	support_data
ACQUISITION_TIME	SCALETYP	CDF_CHAR	linear
ACQUISITION_TIME	TIME_BASE	CDF_CHAR	2000-01-01T00:00:00
ACQUISITION_TIME	TIME_SCALE	CDF_CHAR	RPW DPU clock
ACQUISITION_TIME	VAR_NOTES	CDF_CHAR	Acquisition time of the BIAS sweep in CUC format. It corresponds to the PA_DPU_BIA_SWEEP_TIME packet parameter.
ACQUISITION_TIME	DEPEND_0	CDF_CHAR	Epoch
ACQUISITION_TIME	DISPLAY_TYPE	CDF_CHAR	time_series
ACQUISITION_TIME	FORMAT	CDF_CHAR	I10.0
ACQUISITION_TIME	LABL_PTR_1	CDF_CHAR	ACQUISITION_TIME_LABEL


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 414

Tab. 4.58 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
ACQUISITION_TIME	UNIT_PTR	CDF_CHAR	ACQUISITION_TIME_UNITS
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	VALIDMIN	CDF_UINT1	0
QUALITY_FLAG	VALIDMAX	CDF_UINT1	4
QUALITY_FLAG	SCALEMIN	CDF_UINT1	0
QUALITY_FLAG	SCALEMAX	CDF_UINT1	4
QUALITY_FLAG	FILLVAL	CDF_UINT1	255
QUALITY_FLAG	LABLAXIS	CDF_CHAR	Quality flag
QUALITY_FLAG	UNITS	CDF_CHAR	
QUALITY_FLAG	VAR_TYPE	CDF_CHAR	support_data
QUALITY_FLAG	SCALETYP	CDF_CHAR	linear
QUALITY_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the quality of the data
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	UNITS	CDF_CHAR	
QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context information or status at the receiver or experiment level
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
BIAS_MODE_MUX_SET	FIELDNAM	CDF_CHAR	BIAS multiplexer setting
BIAS_MODE_MUX_SET	CATDESC	CDF_CHAR	Copy of multiplexer setting.
BIAS_MODE_MUX_SET	VALIDMIN	CDF_UINT1	0
BIAS_MODE_MUX_SET	VALIDMAX	CDF_UINT1	7
BIAS_MODE_MUX_SET	SCALEMIN	CDF_UINT1	0
BIAS_MODE_MUX_SET	SCALEMAX	CDF_UINT1	7
BIAS_MODE_MUX_SET	FILLVAL	CDF_UINT1	255


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 415

Tab. 4.58 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_MODE_MUX_SET	LABLAXIS	CDF_CHAR	MUX
BIAS_MODE_MUX_SET	UNITS	CDF_CHAR	
BIAS_MODE_MUX_SET	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_MUX_SET	SCALETYP	CDF_CHAR	linear
BIAS_MODE_MUX_SET	VAR_NOTES	CDF_CHAR	Indicates the mode of BIAS multiplexer for a full snapshot ([PA_LFR_PKT_CNT] number of packets). Possible values are 0 : Standard operation. 1 : Probe 1 fails. 2 : Probe 2 fails. 3 : Probe 3 fails. 4 : Calibration mode 0. 5 : Calibration mode 1. 6 : Calibration mode 2. 7 : Calibration mode 3. This variable should be filled once for each [PA_LFR_PKT_CNT] number of packets i.e. full snapshot because LFR FSW copy the same value for all sub packets.
BIAS_MODE_MUX_SET	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_MUX_SET	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_MUX_SET	FORMAT	CDF_CHAR	I3.3
BIAS_MODE_HV_ENABLED	FIELDNAM	CDF_CHAR	BIAS high voltage status
BIAS_MODE_HV_ENABLED	CATDESC	CDF_CHAR	Copy of enable/disable HV (+- 100V).
BIAS_MODE_HV_ENABLED	VALIDMIN	CDF_UINT1	0
BIAS_MODE_HV_ENABLED	VALIDMAX	CDF_UINT1	1
BIAS_MODE_HV_ENABLED	SCALEMIN	CDF_UINT1	0
BIAS_MODE_HV_ENABLED	SCALEMAX	CDF_UINT1	1
BIAS_MODE_HV_ENABLED	FILLVAL	CDF_UINT1	255
BIAS_MODE_HV_ENABLED	LABLAXIS	CDF_CHAR	HV
BIAS_MODE_HV_ENABLED	UNITS	CDF_CHAR	
BIAS_MODE_HV_ENABLED	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_HV_ENABLED	SCALETYP	CDF_CHAR	linear


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 416

Tab. 4.58 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_MODE_HV_ENABLED	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS HV. Possible values are DISABLED = 0. ENABLED = 1. This variable should be filled once for each [PA_LFR_PKT_CNT] number of packets i.e. full snapshot because LFR FSW copy the same value for all sub packets.
BIAS_MODE_HV_ENABLED	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_HV_ENABLED	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_HV_ENABLED	FORMAT	CDF_CHAR	I3.3
BIAS_MODE_BIAS1_ENABLED	HELDNAM	CDF_CHAR	BIAS probe 1 status
BIAS_MODE_BIAS1_ENABLED	HELDDESC	CDF_CHAR	Copy of enable/disable BIAS 1.
BIAS_MODE_BIAS1_ENABLED	VALIDMIN	CDF_UINT1	0
BIAS_MODE_BIAS1_ENABLED	VALIDMAX	CDF_UINT1	1
BIAS_MODE_BIAS1_ENABLED	SCALEMIN	CDF_UINT1	0
BIAS_MODE_BIAS1_ENABLED	SCALEMAX	CDF_UINT1	1
BIAS_MODE_BIAS1_ENABLED	HELDVAL	CDF_UINT1	255
BIAS_MODE_BIAS1_ENABLED	HELDLAXIS	CDF_CHAR	Bias1
BIAS_MODE_BIAS1_ENABLED	UNITS	CDF_CHAR	
BIAS_MODE_BIAS1_ENABLED	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_BIAS1_ENABLED	SCALETYP	CDF_CHAR	linear
BIAS_MODE_BIAS1_ENABLED	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS probe 1. Possible values are DISABLED = 0. ENABLED = 1. This variable should be filled once for each [PA_LFR_PKT_CNT] number of packets i.e. full snapshot because LFR FSW copy the same value for all sub packets.
BIAS_MODE_BIAS1_ENABLED	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_BIAS1_ENABLED	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_BIAS1_ENABLED	FORMAT	CDF_CHAR	I3.3
BIAS_MODE_BIAS2_ENABLED	HELDNAM	CDF_CHAR	BIAS probe 2 status
BIAS_MODE_BIAS2_ENABLED	HELDDESC	CDF_CHAR	Copy of enable/disable BIAS 2.
BIAS_MODE_BIAS2_ENABLED	VALIDMIN	CDF_UINT1	0


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 417

Tab. 4.58 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_MODE_BIAS2_ENAB	VALIDMAX	CDF_UINT1	1
BIAS_MODE_BIAS2_ENAB	SCALEMIN	CDF_UINT1	0
BIAS_MODE_BIAS2_ENAB	SCALEMAX	CDF_UINT1	1
BIAS_MODE_BIAS2_ENAB	HDLVAL	CDF_UINT1	255
BIAS_MODE_BIAS2_ENAB	BLBLAXIS	CDF_CHAR	Bias2
BIAS_MODE_BIAS2_ENAB	UNITS	CDF_CHAR	
BIAS_MODE_BIAS2_ENAB	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_BIAS2_ENAB	SCALETYP	CDF_CHAR	linear
BIAS_MODE_BIAS2_ENAB	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS probe 2. Possible values are DISABLED = 0. ENABLED = 1. This variable should be filled once for each [PA_LFR_PKT_CNT] number of packets i.e. full snapshot because LFR FSW copy the same value for all sub packets.
BIAS_MODE_BIAS2_ENAB	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_BIAS2_ENAB	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_BIAS2_ENAB	FORMAT	CDF_CHAR	I3.3
BIAS_MODE_BIAS3_ENAB	BLDNAM	CDF_CHAR	BIAS probe 3 status
BIAS_MODE_BIAS3_ENAB	CTDESC	CDF_CHAR	Copy of enable/disable BIAS 3.
BIAS_MODE_BIAS3_ENAB	VALIDMIN	CDF_UINT1	0
BIAS_MODE_BIAS3_ENAB	VALIDMAX	CDF_UINT1	1
BIAS_MODE_BIAS3_ENAB	SCALEMIN	CDF_UINT1	0
BIAS_MODE_BIAS3_ENAB	SCALEMAX	CDF_UINT1	1
BIAS_MODE_BIAS3_ENAB	HDLVAL	CDF_UINT1	255
BIAS_MODE_BIAS3_ENAB	BLBLAXIS	CDF_CHAR	Bias3
BIAS_MODE_BIAS3_ENAB	UNITS	CDF_CHAR	
BIAS_MODE_BIAS3_ENAB	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_BIAS3_ENAB	SCALETYP	CDF_CHAR	linear

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 418

Tab. 4.58 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_MODE_BIAS3_ENAB	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS probe 3. Possible values are DISABLED = 0. ENABLED = 1. This variable should be filled once for each [PA_LFR_PKT_CNT] number of packets i.e. full snapshot because LFR FSW copy the same value for all sub packets.
BIAS_MODE_BIAS3_ENAB	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_BIAS3_ENAB	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_BIAS3_ENAB	FORMAT	CDF_CHAR	I3.3
BIAS_ON_OFF	FIELDNAM	CDF_CHAR	BIAS status
BIAS_ON_OFF	CATDESC	CDF_CHAR	Copy of BIAS status.
BIAS_ON_OFF	VALIDMIN	CDF_UINT1	0
BIAS_ON_OFF	VALIDMAX	CDF_UINT1	1
BIAS_ON_OFF	SCALEMIN	CDF_UINT1	0
BIAS_ON_OFF	SCALEMAX	CDF_UINT1	1
BIAS_ON_OFF	FILLVAL	CDF_UINT1	255
BIAS_ON_OFF	LABLAXIS	CDF_CHAR	Bias on/off
BIAS_ON_OFF	UNITS	CDF_CHAR	
BIAS_ON_OFF	VAR_TYPE	CDF_CHAR	support_data
BIAS_ON_OFF	SCALETYP	CDF_CHAR	linear
BIAS_ON_OFF	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS. Possible values are OFF = 0 - Power line off. ON = 1 - Power line on. This variable should be filled once for each [PA_LFR_PKT_CNT] number of packets i.e. full snapshot because LFR FSW copy the same value for all sub packets.
BIAS_ON_OFF	DEPEND_0	CDF_CHAR	Epoch
BIAS_ON_OFF	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_ON_OFF	FORMAT	CDF_CHAR	I3.3
BIAS_MODE_BYPASS_PROB	FIELDNAM	CDF_CHAR	BIAS bypass switch probe 1
BIAS_MODE_BYPASS_PROB	CATDESC	CDF_CHAR	Copy of enable/disable BIAS bypass switch probe 1.
BIAS_MODE_BYPASS_PROB	VALIDMIN	CDF_UINT1	0
BIAS_MODE_BYPASS_PROB	VALIDMAX	CDF_UINT1	1

continues on next page



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03

Date: March 11, 2021

Page: **419**

Tab. 4.58 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_MODE_BYPASS_PROBE1	BEALEMIN	CDF_UINT1	0
BIAS_MODE_BYPASS_PROBE1	BEALEMAX	CDF_UINT1	1
BIAS_MODE_BYPASS_PROBE1	BH2LVAL	CDF_UINT1	255
BIAS_MODE_BYPASS_PROBE1	BABLAXIS	CDF_CHAR	Bias bypass 1
BIAS_MODE_BYPASS_PROBE1	BENITS	CDF_CHAR	
BIAS_MODE_BYPASS_PROBE1	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_BYPASS_PROBE1	BEALETYP	CDF_CHAR	linear
BIAS_MODE_BYPASS_PROBE1	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS bypass switch for probe 1. Possible values are DISABLED = 0. ENABLED = 1.
BIAS_MODE_BYPASS_PROBE1	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_BYPASS_PROBE1	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_BYPASS_PROBE1	FORMAT	CDF_CHAR	I3.3
BIAS_MODE_BYPASS_PROBE1	BH2LDNAM	CDF_CHAR	BIAS bypass switch probe 2
BIAS_MODE_BYPASS_PROBE1	BH2DESC	CDF_CHAR	Copy of enable/disable BIAS bypass switch probe 2.
BIAS_MODE_BYPASS_PROBE1	VALIDMIN	CDF_UINT1	0
BIAS_MODE_BYPASS_PROBE1	VALIDMAX	CDF_UINT1	1
BIAS_MODE_BYPASS_PROBE2	BEALEMIN	CDF_UINT1	0
BIAS_MODE_BYPASS_PROBE2	BEALEMAX	CDF_UINT1	1
BIAS_MODE_BYPASS_PROBE2	BH2LVAL	CDF_UINT1	255
BIAS_MODE_BYPASS_PROBE2	BABLAXIS	CDF_CHAR	Bias bypass 2
BIAS_MODE_BYPASS_PROBE2	BENITS	CDF_CHAR	
BIAS_MODE_BYPASS_PROBE2	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_BYPASS_PROBE2	BEALETYP	CDF_CHAR	linear
BIAS_MODE_BYPASS_PROBE2	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS bypass switch for probe 2. Possible values are DISABLED = 0. ENABLED = 1.
BIAS_MODE_BYPASS_PROBE2	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_BYPASS_PROBE2	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_BYPASS_PROBE2	FORMAT	CDF_CHAR	I3.3
BIAS_MODE_BYPASS_PROBE2	BH2LDNAM	CDF_CHAR	BIAS bypass switch probe 3
BIAS_MODE_BYPASS_PROBE2	BH2DESC	CDF_CHAR	Copy of enable/disable BIAS bypass switch probe 3.
BIAS_MODE_BYPASS_PROBE2	VALIDMIN	CDF_UINT1	0
BIAS_MODE_BYPASS_PROBE2	VALIDMAX	CDF_UINT1	1
BIAS_MODE_BYPASS_PROBE3	BEALEMIN	CDF_UINT1	0

continues on next page



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **420**

Tab. 4.58 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_MODE_BYPASS_PROBE3	SCALEMAX	CDF_UINT1	1
BIAS_MODE_BYPASS_PROBE3	FILLVAL	CDF_UINT1	255
BIAS_MODE_BYPASS_PROBE3	LABLAXIS	CDF_CHAR	Bias bypass 3
BIAS_MODE_BYPASS_PROBE3	UNITS	CDF_CHAR	
BIAS_MODE_BYPASS_PROBE3	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_BYPASS_PROBE3	SCALETYP	CDF_CHAR	linear
BIAS_MODE_BYPASS_PROBE3	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS bypass switch for probe 3. Possible values are DISABLED = 0. ENABLED = 1.
BIAS_MODE_BYPASS_PROBE3	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_BYPASS_PROBE3	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_BYPASS_PROBE3	FORMAT	CDF_CHAR	I3.3
BW	FIELDNAM	CDF_CHAR	BIAS Works/BIAS Fails configuration.
BW	CATDESC	CDF_CHAR	BIAS Works/BIAS Fails configuration.
BW	VALIDMIN	CDF_UINT1	0
BW	VALIDMAX	CDF_UINT1	1
BW	SCALEMIN	CDF_UINT1	0
BW	SCALEMAX	CDF_UINT1	1
BW	FILLVAL	CDF_UINT1	255
BW	LABLAXIS	CDF_CHAR	BW
BW	UNITS	CDF_CHAR	
BW	VAR_TYPE	CDF_CHAR	support_data
BW	SCALETYP	CDF_CHAR	linear
BW	VAR_NOTES	CDF_CHAR	This variable should be filled once for each [PA_LFR_PKT_CNT] number of packets i.e. full snapshot because LFR FSW copy the same value for all sub packets.
BW	DEPEND_0	CDF_CHAR	Epoch
BW	DISPLAY_TYPE	CDF_CHAR	time_series
BW	FORMAT	CDF_CHAR	I3.3
SP0	FIELDNAM	CDF_CHAR	Shaping of electrical data parameter 0.
SP0	CATDESC	CDF_CHAR	Shaping of electrical data.
SP0	VALIDMIN	CDF_UINT1	0


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 421

Tab. 4.58 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SP0	VALIDMAX	CDF_UINT1	1
SP0	SCALEMIN	CDF_UINT1	0
SP0	SCALEMAX	CDF_UINT1	1
SP0	FILLVAL	CDF_UINT1	255
SP0	LABLAXIS	CDF_CHAR	SP0
SP0	UNITS	CDF_CHAR	
SP0	VAR_TYPE	CDF_CHAR	support_data
SP0	SCALETYP	CDF_CHAR	linear
SP0	VAR_NOTES	CDF_CHAR	This variable should be filled once for each [PA_LFR_PKT_CNT] number of packets i.e. full snapshot because LFR FSW copy the same value for all sub packets.
SP0	DEPEND_0	CDF_CHAR	Epoch
SP0	DISPLAY_TYPE	CDF_CHAR	time_series
SP0	FORMAT	CDF_CHAR	I3.3
SP1	FIELDNAM	CDF_CHAR	Shaping of electrical data parameter 1.
SP1	CATDESC	CDF_CHAR	Shaping of electrical data.
SP1	VALIDMIN	CDF_UINT1	0
SP1	VALIDMAX	CDF_UINT1	1
SP1	SCALEMIN	CDF_UINT1	0
SP1	SCALEMAX	CDF_UINT1	1
SP1	FILLVAL	CDF_UINT1	255
SP1	LABLAXIS	CDF_CHAR	SP1
SP1	UNITS	CDF_CHAR	
SP1	VAR_TYPE	CDF_CHAR	support_data
SP1	SCALETYP	CDF_CHAR	linear
SP1	VAR_NOTES	CDF_CHAR	This variable should be filled once for each [PA_LFR_PKT_CNT] number of packets i.e. full snapshot because LFR FSW copy the same value for all sub packets.
SP1	DEPEND_0	CDF_CHAR	Epoch
SP1	DISPLAY_TYPE	CDF_CHAR	time_series
SP1	FORMAT	CDF_CHAR	I3.3


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 422

Tab. 4.58 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
R0	FIELDNAM	CDF_CHAR	Rooting of electrical data for F0.
R0	CATDESC	CDF_CHAR	Rooting of electrical data.
R0	VALIDMIN	CDF_UINT1	0
R0	VALIDMAX	CDF_UINT1	1
R0	SCALEMIN	CDF_UINT1	0
R0	SCALEMAX	CDF_UINT1	1
R0	FILLVAL	CDF_UINT1	255
R0	LABLAXIS	CDF_CHAR	R0
R0	UNITS	CDF_CHAR	
R0	VAR_TYPE	CDF_CHAR	support_data
R0	SCALETYP	CDF_CHAR	linear
R0	VAR_NOTES	CDF_CHAR	This variable should be filled once for each [PA_LFR_PKT_CNT] number of packets i.e. full snapshot because LFR FSW copy the same value for all sub packets.
R0	DEPEND_0	CDF_CHAR	Epoch
R0	DISPLAY_TYPE	CDF_CHAR	time_series
R0	FORMAT	CDF_CHAR	I3.3
R1	FIELDNAM	CDF_CHAR	Rooting of electrical data for F1.
R1	CATDESC	CDF_CHAR	Rooting of electrical data.
R1	VALIDMIN	CDF_UINT1	0
R1	VALIDMAX	CDF_UINT1	1
R1	SCALEMIN	CDF_UINT1	0
R1	SCALEMAX	CDF_UINT1	1
R1	FILLVAL	CDF_UINT1	255
R1	LABLAXIS	CDF_CHAR	R1
R1	UNITS	CDF_CHAR	
R1	VAR_TYPE	CDF_CHAR	support_data
R1	SCALETYP	CDF_CHAR	linear
R1	VAR_NOTES	CDF_CHAR	This variable should be filled once for each [PA_LFR_PKT_CNT] number of packets i.e. full snapshot because LFR FSW copy the same value for all sub packets.

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 423

Tab. 4.58 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
R1	DEPEND_0	CDF_CHAR	Epoch
R1	DISPLAY_TYPE	CDF_CHAR	time_series
R1	FORMAT	CDF_CHAR	I3.3
R2	FIELDNAM	CDF_CHAR	Rooting of electrical data for F2.
R2	CATDESC	CDF_CHAR	Rooting of electrical data.
R2	VALIDMIN	CDF_UINT1	0
R2	VALIDMAX	CDF_UINT1	1
R2	SCALEMIN	CDF_UINT1	0
R2	SCALEMAX	CDF_UINT1	1
R2	FILLVAL	CDF_UINT1	255
R2	LABLAXIS	CDF_CHAR	R2
R2	UNITS	CDF_CHAR	
R2	VAR_TYPE	CDF_CHAR	support_data
R2	SCALETYP	CDF_CHAR	linear
R2	VAR_NOTES	CDF_CHAR	This variable should be filled once for each [PA_LFR_PKT_CNT] number of packets i.e. full snapshot because LFR FSW copy the same value for all sub packets.
R2	DEPEND_0	CDF_CHAR	Epoch
R2	DISPLAY_TYPE	CDF_CHAR	time_series
R2	FORMAT	CDF_CHAR	I3.3
SAMPLING_RATE	FIELDNAM	CDF_CHAR	Sampling rate
SAMPLING_RATE	CATDESC	CDF_CHAR	Sampling frequency of the waveform
SAMPLING_RATE	VALIDMIN	CDF_REAL4	16.0
SAMPLING_RATE	VALIDMAX	CDF_REAL4	24576.0
SAMPLING_RATE	SCALEMIN	CDF_REAL4	16.0
SAMPLING_RATE	SCALEMAX	CDF_REAL4	24576.0
SAMPLING_RATE	FILLVAL	CDF_REAL4	-1.0e+31
SAMPLING_RATE	LABLAXIS	CDF_CHAR	Fe
SAMPLING_RATE	UNITS	CDF_CHAR	Hz
SAMPLING_RATE	VAR_TYPE	CDF_CHAR	support_data
SAMPLING_RATE	SCALETYP	CDF_CHAR	linear
SAMPLING_RATE	VAR_NOTES	CDF_CHAR	sampling rate of the data (should be F3=16Hz during Bias sweep)
SAMPLING_RATE	DEPEND_0	CDF_CHAR	Epoch

continues on next page



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **424**

Tab. 4.58 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SAMPLING_RATE	DISPLAY_TYPE	CDF_CHAR	time_series
SAMPLING_RATE	FORMAT	CDF_CHAR	F8.2
V	FIELDNAM	CDF_CHAR	Potential
V	CATDESC	CDF_CHAR	Potential value in Volts
V	VALIDMIN	CDF_REAL4	-1.0e+31
V	VALIDMAX	CDF_REAL4	1.0e+31
V	SCALEMIN	CDF_REAL4	-1.031
V	SCALEMAX	CDF_REAL4	1.0e+31
V	FILLVAL	CDF_REAL4	-1.0e+31
V	UNITS	CDF_CHAR	V
V	VAR_TYPE	CDF_CHAR	data
V	SCALETYP	CDF_CHAR	linear
V	VAR_NOTES	CDF_CHAR	Potential value V1, V2 and V3 as measured by LFR during sweep in Volts. (Applying $V_Volt = V_TM / (8000 * 1/17)$)
V	DEPEND_0	CDF_CHAR	Epoch
V	DISPLAY_TYPE	CDF_CHAR	time_series
V	FORMAT	CDF_CHAR	F16.4
V	LABL_PTR_1	CDF_CHAR	V_LABEL
ANT_FLAG	FIELDNAM	CDF_CHAR	Flag to indicate on which antenna the sweep is performed
ANT_FLAG	CATDESC	CDF_CHAR	Antenna flag
ANT_FLAG	VALIDMIN	CDF_UINT1	0
ANT_FLAG	VALIDMAX	CDF_UINT1	3
ANT_FLAG	SCALEMIN	CDF_UINT1	0
ANT_FLAG	SCALEMAX	CDF_UINT1	3
ANT_FLAG	FILLVAL	CDF_UINT1	255
ANT_FLAG	LABLAXIS	CDF_CHAR	ANT_FLAG
ANT_FLAG	UNITS	CDF_CHAR	
ANT_FLAG	VAR_TYPE	CDF_CHAR	support_data
ANT_FLAG	SCALETYP	CDF_CHAR	linear
ANT_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate on which antenna the sweep is performed. 1 = ANT_1, 2 = ANT_2, 3 = ANT_3
ANT_FLAG	DEPEND_0	CDF_CHAR	Epoch
ANT_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
ANT_FLAG	FORMAT	CDF_CHAR	I3.3
BIAS_SWEEP_CURRENT	FIELDNAM	CDF_CHAR	BIAS_SWEEP_CURRENT


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 425

Tab. 4.58 – continued from previous page


Variable Name	Attribute Name	Data Type	Value
BIAS_SWEEP_CURRENT	CATDESC	CDF_CHAR	BIAS set current value commanded on the 3 antennas
BIAS_SWEEP_CURRENT	VALIDMIN	CDF_REAL4	-60000.0
BIAS_SWEEP_CURRENT	VALIDMAX	CDF_REAL4	60000.0
BIAS_SWEEP_CURRENT	SCALEMIN	CDF_REAL4	-60000.0
BIAS_SWEEP_CURRENT	SCALEMAX	CDF_REAL4	60000.0
BIAS_SWEEP_CURRENT	FILLVAL	CDF_REAL4	-1.0e+31
BIAS_SWEEP_CURRENT	UNITS	CDF_CHAR	nA
BIAS_SWEEP_CURRENT	VAR_TYPE	CDF_CHAR	data
BIAS_SWEEP_CURRENT	SCALETYP	CDF_CHAR	linear
BIAS_SWEEP_CURRENT	VAR_NOTES	CDF_CHAR	BIAS set current value commanded on the 3 antennas in nA. ANT1=0, ANT2=1, ANT3=2. This value only approximates the physical value and has NOT been properly calibrated.
BIAS_SWEEP_CURRENT	DEPEND_0	CDF_CHAR	Epoch
BIAS_SWEEP_CURRENT	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_SWEEP_CURRENT	FORMAT	CDF_CHAR	F32.6
BIAS_SWEEP_CURRENT	LABL_PTR_1	CDF_CHAR	BIAS_SWEEP_CURRENT_LABEL
ACQUISITION_TIME_UNITS	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_UNITS
ACQUISITION_TIME_UNITS	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME_UNIT_PTR attribute
ACQUISITION_TIME_UNITS	VAR_TYPE	CDF_CHAR	metadata
ACQUISITION_TIME_UNITS	FORMAT	CDF_CHAR	A16
V_LABEL	FIELDNAM	CDF_CHAR	V_LABEL
V_LABEL	CATDESC	CDF_CHAR	Label for V
V_LABEL	VAR_TYPE	CDF_CHAR	metadata
V_LABEL	FORMAT	CDF_CHAR	A8
BIAS_SWEEP_CURRENT_LABEL	FIELDNAM	CDF_CHAR	ANT_LABEL
BIAS_SWEEP_CURRENT_LABEL	CATDESC	CDF_CHAR	Label for electrical antenna
BIAS_SWEEP_CURRENT_LABEL	VAR_TYPE	CDF_CHAR	metadata
BIAS_SWEEP_CURRENT_LABEL	FORMAT	CDF_CHAR	A32
ACQUISITION_TIME_LABEL	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME_LABEL	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME
ACQUISITION_TIME_LABEL	VAR_TYPE	CDF_CHAR	metadata
ACQUISITION_TIME_LABEL	FORMAT	CDF_CHAR	A32
SCET	FIELDNAM	CDF_CHAR	Spacecraft Elapsed Time

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 426

Tab. 4.58 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SCET	CATDESC	CDF_CHAR	Elapsed Time of the onboard clock
SCET	VALIDMIN	CDF_REAL8	0.0
SCET	VALIDMAX	CDF_REAL8	1.0e+31
SCET	SCALEMIN	CDF_REAL8	0.0
SCET	SCALEMAX	CDF_REAL8	1.0e+31
SCET	FILLVAL	CDF_REAL8	-1.0e+31
SCET	LABLAXIS	CDF_CHAR	Spacecraft Elapsed Time (Ticks)
SCET	UNITS	CDF_CHAR	Ticks
SCET	VAR_TYPE	CDF_CHAR	support_data
SCET	SCALETYP	CDF_CHAR	linear
SCET	MONOTON	CDF_CHAR	INCREASE
SCET	TIME_BASE	CDF_CHAR	Spacecraft onboard clock
SCET	TIME_SCALE	CDF_CHAR	Spacecraft onboard clock
SCET	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
SCET	VAR_NOTES	CDF_CHAR	Spaceraft Elapsed Time
SCET	DEPEND_0	CDF_CHAR	Epoch
SCET	DISPLAY_TYPE	CDF_CHAR	time_series
SCET	FORMAT	CDF_CHAR	F32.6
SYNCHRO_FLAG	FIELDNAM	CDF_CHAR	SYNCHRO_FLAG
SYNCHRO_FLAG	CATDESC	CDF_CHAR	Receiver time synchronisation flag
SYNCHRO_FLAG	VALIDMIN	CDF_UINT1	0
SYNCHRO_FLAG	VALIDMAX	CDF_UINT1	1
SYNCHRO_FLAG	SCALEMIN	CDF_UINT1	0
SYNCHRO_FLAG	SCALEMAX	CDF_UINT1	1
SYNCHRO_FLAG	FILLVAL	CDF_UINT1	255
SYNCHRO_FLAG	LABLAXIS	CDF_CHAR	Time sync. Flag
SYNCHRO_FLAG	UNITS	CDF_CHAR	
SYNCHRO_FLAG	VAR_TYPE	CDF_CHAR	support_data
SYNCHRO_FLAG	SCALETYP	CDF_CHAR	linear
SYNCHRO_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate if the receiver time is synchronised or not
SYNCHRO_FLAG	DEPEND_0	CDF_CHAR	Epoch
SYNCHRO_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
SYNCHRO_FLAG	FORMAT	CDF_CHAR	I1.1

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 427

4.1.2.27.6 Non-Record-Variant (NRV) Variables

Variable Name	Index	Value
ACQUISITION_TIME_UNITS	1	s
ACQUISITION_TIME_UNITS	2	s / 65536
V_LABEL	1	V1
V_LABEL	2	V2
V_LABEL	3	V3
BIAS_SWEEP_CURRENT_LABEL	1	ANT1 Bias sweep current
BIAS_SWEEP_CURRENT_LABEL	2	ANT2 Bias sweep current
BIAS_SWEEP_CURRENT_LABEL	3	ANT3 Bias sweep current
ACQUISITION_TIME_LABEL	1	CUC coarse part time
ACQUISITION_TIME_LABEL	2	CUC fine part time

4.1.2.28 SOLO_L1_RPW-BIA-CURRENT data product

The “SOLO_L1_RPW-BIA-CURRENT” data product contains the uncalibrated Bias unit current data. The “SOLO_L1_RPW-BIA-CURRENT” data are written in CDF format files. There is a single file per week (TBC). The file is generated from data in the corresponding SOLO_L0_RPW and SOLO_LL01_RPW-BIA parent files.

4.1.2.28.1 Filename

```
solo_L1_rpw-bia-current_[YYYYMMDD1- YYYYMMDD2]_V[version].cdf
```

4.1.2.28.2 Expected cadence and data volume


Nominal cadence: 1 file per month

Expected data volume: 0.1 MB per file

4.1.2.28.3 Global Attributes

Attribute Name	Entry Number	Data Type	Value
Project	1	CDF_CHAR	SOLO>Solar Orbiter
Source_name	1	CDF_CHAR	SOLO>Solar Orbiter


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 428

Tab. 4.59 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Provider	1	CDF_CHAR	LESIA (Meudon, France)
Discipline	1	CDF_CHAR	Space Physics>Interplanetary Studies
Data_type	1	CDF_CHAR	H0>High Resolution data
Descriptor	1	CDF_CHAR	RPW-BIA-CURRENT>Radio and Plasma Waves instrument - Bias current data
Data_version	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Skeleton_version	1	CDF_CHAR	07
File_naming_convention	1	CDF_CHAR	<Source_name>_<LEVEL>_<Descriptor>_<Date>
PI_name	1	CDF_CHAR	M.Maksimovic
PI_affiliation	1	CDF_CHAR	LESIA, Observatoire de Paris-CNRS
TEXT	1	CDF_CHAR	This file contains RPW level 1 Bias current data produced by the ROC.
TEXT_supplement_1	1	CDF_CHAR	
Instrument_type	1	CDF_CHAR	Radio and Plasma Waves (space)
Mission_group	1	CDF_CHAR	Solar Orbiter
Logical_source	1	CDF_CHAR	solo_L1_rpw-bia-current
Logical_file_id	1	CDF_CHAR	
Logical_source_description	1	CDF_CHAR	Solar Orbiter Radio/Plasma Wave, L01 parameters
Rules_of_use	1	CDF_CHAR	Data provided are publicly available. If used in presentations or publications, please acknowledge Solar Orbiter/RPW Investigation (M. Maksimovic, PIs). Please read carefully the caveats attached to the data. For reporting purposes, we request bibliography information for any publication, etc., using these data. Please send information on the use of this data to: M. Maksimovic (PI).
Generated_by	1	CDF_CHAR	RPW Operations Centre located at LESIA (Meudon, France)
Generation_date	1	CDF_CHAR	
SKELETON_MODS	1	CDF_CHAR	June 2017 : initial release, X. BONNIN (CNRS-LESIA)
SKELETON_MODS	2	CDF_CHAR	V04: Update for solo data definition, X. BONNIN (CNRS-LESIA), April 2019


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 429

Tab. 4.59 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
SKELETON_MODS	3	CDF_CHAR	V05: Update to compliant with SOL-SGS-TN-0009 Issue 2, Rev 4 - X.Bonnin, 09/2019
SKELETON_MODS	4	CDF_CHAR	V06: March 2020 : Delete Test_* g.attrs - X.Bonnin (CNRS, LESIA)
SKELETON_MODS	5	CDF_CHAR	V07: Jan. 2021 : Fix inconsistencies against the ISTP CDF guidelines, X.Bonnin (CNRS-LESIA)
Software_name	1	CDF_CHAR	
Pipeline_name	1	CDF_CHAR	
Pipeline_version	1	CDF_CHAR	
Parents	1	CDF_CHAR	
Parent_version	1	CDF_CHAR	
Validate	1	CDF_CHAR	
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00006-LES (1.3)
SKELETON_PARENT	1	CDF_CHAR	SOLO_L1_RPW-BIA-CURRENT_V07.cdf
ACCESS_FORMAT	1	CDF_CHAR	CDF
ACCESS_URL	1	CDF_CHAR	
TIME_MIN	1	CDF_CHAR	
TIME_MAX	1	CDF_CHAR	
File_ID	1	CDF_CHAR	
CAVEATS	1	CDF_CHAR	Engineering data. No good for publication.
Datetime	1	CDF_CHAR	
Free_field	1	CDF_CHAR	
Job_ID	1	CDF_CHAR	
LEVEL	1	CDF_CHAR	L1>Level 1 data processing
SOOP_TYPE	1	CDF_CHAR	
Data_product	1	CDF_CHAR	CURRENT>CURRENT
TARGET_NAME	1	CDF_CHAR	Sun
TARGET_CLASS	1	CDF_CHAR	Star
TARGET_REGION	1	CDF_CHAR	Solar Wind
Acknowledgement	1	CDF_CHAR	The authors are pleased to acknowledge the Solar Orbiter/RPW Investigation (M. Maksimovic, PIs) for access to data.
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009 (2.4)
HTTP_LINK	1	CDF_CHAR	https://rpw.lesia.obspm.fr
LINK_TEXT	1	CDF_CHAR	RPW Web site at LESIA

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 430

Tab. 4.59 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
LINK_TITLE	1	CDF_CHAR	RPW Web site
SPECTRAL_RANGE_MIN	1	CDF_CHAR	
SPECTRAL_RANGE_MAX	1	CDF_CHAR	
Dataset_ID	1	CDF_CHAR	SOLO_L1_RPW-BIA-CURRENT
OBS_ID	1	CDF_CHAR	
MODS	1	CDF_CHAR	

4.1.2.28.4 zVariables

Variable Name	Data Type	Number Elements	Dims	Sizes
Epoch	CDF_TIME_TT2000	1	0	
IBIAS_1	CDF_REAL4	1	0	
IBIAS_2	CDF_REAL4	1	0	
IBIAS_3	CDF_REAL4	1	0	

4.1.2.28.5 Variable attributes

Variable Name	Attribute Name	Data Type	Value
Epoch	FIELDNAM	CDF_CHAR	Epoch
Epoch	CATDESC	CDF_CHAR	Default time
Epoch	VALIDMIN	CDF_TIME_TT2000	1990-01-01T00:00:00.000000000
Epoch	VALIDMAX	CDF_TIME_TT2000	2029-12-31T23:59:59.999000000
Epoch	SCALEMIN	CDF_TIME_TT2000	1990-01-01T00:00:00.000000000
Epoch	SCALEMAX	CDF_TIME_TT2000	2029-12-31T23:59:59.999000000
Epoch	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch	LABLAXIS	CDF_CHAR	Epoch
Epoch	UNITS	CDF_CHAR	ns
Epoch	VAR_TYPE	CDF_CHAR	support_data
Epoch	SCALETYP	CDF_CHAR	linear
Epoch	MONOTON	CDF_CHAR	INCREASE

continues on next page



**RPW Data Product
Description Document**

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **431**

Tab. 4.60 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
Epoch	TIME_BASE	CDF_CHAR	J2000
Epoch	TIME_SCALE	CDF_CHAR	Terrestrial Time
Epoch	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
Epoch	VAR_NOTES	CDF_CHAR	Execution time of the TC_DPU_SET_BIAS _i , with i=[1,2,3]
IBIAS_1	FIELDNAM	CDF_CHAR	IBIAS_1
IBIAS_1	CATDESC	CDF_CHAR	BIAS set current on antenna 1
IBIAS_1	VALIDMIN	CDF_REAL4	-60.0
IBIAS_1	VALIDMAX	CDF_REAL4	60.0
IBIAS_1	SCALEMIN	CDF_REAL4	-60.0
IBIAS_1	SCALEMAX	CDF_REAL4	60.0
IBIAS_1	FILLVAL	CDF_REAL4	-1.0e+31
IBIAS_1	LABLAXIS	CDF_CHAR	IBIAS_1
IBIAS_1	UNITS	CDF_CHAR	nA
IBIAS_1	VAR_TYPE	CDF_CHAR	data
IBIAS_1	SCALETYP	CDF_CHAR	linear
IBIAS_1	VAR_NOTES	CDF_CHAR	BIAS set current commanded on antenna 1. This value only approximates the physical value and has NOT been properly calibrated.
IBIAS_1	DEPEND_0	CDF_CHAR	Epoch
IBIAS_1	DISPLAY_TYPE	CDF_CHAR	time_series
IBIAS_1	FORMAT	CDF_CHAR	F32.6
IBIAS_2	FIELDNAM	CDF_CHAR	IBIAS_2
IBIAS_2	CATDESC	CDF_CHAR	BIAS set current on antenna 2
IBIAS_2	VALIDMIN	CDF_REAL4	-60.0
IBIAS_2	VALIDMAX	CDF_REAL4	60.0
IBIAS_2	SCALEMIN	CDF_REAL4	-60.0
IBIAS_2	SCALEMAX	CDF_REAL4	60.0
IBIAS_2	FILLVAL	CDF_REAL4	-1.0e+31
IBIAS_2	LABLAXIS	CDF_CHAR	IBIAS_2
IBIAS_2	UNITS	CDF_CHAR	nA
IBIAS_2	VAR_TYPE	CDF_CHAR	data
IBIAS_2	SCALETYP	CDF_CHAR	linear
IBIAS_2	VAR_NOTES	CDF_CHAR	BIAS set current commanded on antenna 2. This value only approximates the physical value and has NOT been properly calibrated.

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 432

Tab. 4.60 – continued from previous page


Variable Name	Attribute Name	Data Type	Value
IBIAS_2	DEPEND_0	CDF_CHAR	Epoch
IBIAS_2	DISPLAY_TYPE	CDF_CHAR	time_series
IBIAS_2	FORMAT	CDF_CHAR	F32.6
IBIAS_3	FIELDNAM	CDF_CHAR	IBIAS_3
IBIAS_3	CATDESC	CDF_CHAR	BIAS set current on antenna 3
IBIAS_3	VALIDMIN	CDF_REAL4	-60.0
IBIAS_3	VALIDMAX	CDF_REAL4	60.0
IBIAS_3	SCALEMIN	CDF_REAL4	-60.0
IBIAS_3	SCALEMAX	CDF_REAL4	60.0
IBIAS_3	FILLVAL	CDF_REAL4	-1.0e+31
IBIAS_3	LABLAXIS	CDF_CHAR	IBIAS_3
IBIAS_3	UNITS	CDF_CHAR	nA
IBIAS_3	VAR_TYPE	CDF_CHAR	data
IBIAS_3	SCALETYP	CDF_CHAR	linear
IBIAS_3	VAR_NOTES	CDF_CHAR	BIAS set current commanded on antenna 3. This value only approximates the physical value and has NOT been properly calibrated.
IBIAS_3	DEPEND_0	CDF_CHAR	Epoch
IBIAS_3	DISPLAY_TYPE	CDF_CHAR	time_series
IBIAS_3	FORMAT	CDF_CHAR	F32.6

4.1.2.28.6 Non-Record-Variant (NRV) Variables

4.1.3 L2 - Science data products

The organization of the CDF zVariables in the RPW L2 data files is pretty similar to the L1, except that the values are given in physical units instead of engineering and vectors are expressed in the instrument as well as the RTN coordinate systems.

There is a single L2 data file for a given L1 data file (i.e., one-to-one), except for waveform data which is written into two L2 data files: one for the electrical components and one for the magnetic components. Additionally, the RPW TDS LFM PSD and SM L1 data files are merged into a single RPW TDS LFM PSDSM L2 data file (see section 4 for details).

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 433

4.1.3.1 RPW L2 data product common description


4.1.3.1.1 RPW L2 data product format

According to [AD.01], the RPW L2 data products are saved in Common Data format (CDF) files with the following options.


DATA ENCODING	NETWORK
MAJORITY	COLUMN
FORMAT	SINGLE
CDF_COMPRESSION	None
CDF_CHECKSUM	MD5
VAR_COMPRESSION	None
VAR_SPARESERECORDS	None
VAR_PADVALUE	None

4.1.3.1.2 RPW L2 data product metadata

Table below gives the CDF attributes which are specific to RPW L2 data products. All other attributes are defined in [AD.01].

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 434

Attribute name	Attribute category	Attribute data type	Attribute definition
APPLICABLE	Global	CDF_CHAR	Applicable document. It shall make reference to the [AD.01] issue applied to generate the CDF files.
CAL_ENTITY_NAME	Global	CDF_CHAR	Entity in charge of the calibration. (There must be as many as entries than number of CALIBRATION_TABLE attribute entries.)
CAL_ENTITY_AFFILIATION	Global	CDF_CHAR	Affiliation of the entity in charge of the calibration. (There must be as many as entries than number of CALIBRATION_TABLE attribute entries.)
CAL_EQUIPMENT	Global	CDF_CHAR	RPW equipment associated to the calibration table. The possible values are “SCM”, “ANT”, “PA_HF”, “BIAS”, “LFR”, “TDS” or “THR”. (There must be as many as entries than number of CALIBRATION_TABLE attribute entries.)
CALIBRATION_TABLE	Global	CDF_CHAR	Filename of the calibration table(s) used to generate L2 data.
CALIBRATION_VERSION	Global	CDF_CHAR	Version of the calibration table(s) used to generate L2 data. (There must be as many as entries than number of CALIBRATION_TABLE attribute entries.)
Parent_version	Global	CDF_CHAR	Version of the parent file(s).
Pipeline_version	Global	CDF_CHAR	Version of the RPW Data Pipeline.
Provider	Global	CDF_CHAR	Name of the data provider.
SKELETON_PARENT	Global	CDF_CHAR	Name of the CDF skeleton parent file (if any).
Software_name	Global	CDF_CHAR	Name of the software used to generate the CDF file (i.e., name of the pipeline module).
SPICE_KERNELS	Global	CDF_CHAR	Name of the Solar Orbiter SPICE kernels used to computed geometry data.
Validate	Global	CDF_CHAR	Data validation index (=0 not validate, 1=validate, -1=problem

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 435

4.1.3.2 SOLO_L2_RPW-TNR-SURV data product

The “SOLO_L2_RPW-TNR-SURV” data product contains the calibrated TNR receiver spectrum survey data.

The “SOLO_L2_RPW-TNR-SURV” data are written in CDF format files. There is a single file per day, generated from data in the corresponding SOLO_L1_RPW-TNR-SURV parent file.

4.1.3.2.1 Filename

solo_L2_rpw-tnr-surv_[YYYYMMDD]_V[version].cdf

4.1.3.2.2 Expected cadence and data volume


Nominal cadence: 1 file per day

Expected data volume: 100 MB per file

4.1.3.2.3 Global Attributes

Attribute Name	Entry Number	Data Type	Value
ACCESS_FORMAT	1	CDF_CHAR	CDF
ACCESS_URL	1	CDF_CHAR	
Acknowledgement	1	CDF_CHAR	The authors are pleased to acknowledge the Solar Orbiter/RPW Investigation (M. Maksimovic, PIs) for access to data.
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009 (2.4)
Data_type	1	CDF_CHAR	H0>High Resolution data
Data_version	1	CDF_CHAR	
Descriptor	1	CDF_CHAR	RPW-TNR-SURV>RPW Thermal Noise Receiver in survey mode
Discipline	1	CDF_CHAR	Space Physics>Interplanetary Studies
File_naming_convention	1	CDF_CHAR	<Source_name>_<LEVEL>_<Descriptor>_<Date>
File_ID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	RPW Operations Centre located at LESIA (Meudon, France)
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	https://rpw.lesia.obspm.fr


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 436

Tab. 4.61 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Instrument_type	1	CDF_CHAR	Radio and Plasma Waves (space)
LINK_TEXT	1	CDF_CHAR	RPW Web site at LESIA
LINK_TITLE	1	CDF_CHAR	RPW Web site
Logical_file_id	1	CDF_CHAR	
Logical_source	1	CDF_CHAR	solo_L2_rpw-tnr-surv
Logical_source_description	1	CDF_CHAR	Solar Orbiter Radio/Plasma Wave, TNR L2 parameters
Mission_group	1	CDF_CHAR	Solar Orbiter
SKELETON_MODS	1	CDF_CHAR	July 2015: initial release, X.Bonnin (CNRS-LESIA)
SKELETON_MODS	2	CDF_CHAR	V04: Update for solo data definition, X. BONNIN (CNRS-LESIA), April 2019
SKELETON_MODS	3	CDF_CHAR	V05: Update to compliant with SOL-SGS-TN-0009 Issue 2, Rev 4 - X.Bonnin, 09/2019
SKELETON_MODS	4	CDF_CHAR	V06: March 2020 : Delete Test_* g.attr - X.Bonnin (CNRS, LESIA)
SKELETON_MODS	5	CDF_CHAR	V09: Remove UCD vattr and POST_GAP_FLAG zVar.
SKELETON_MODS	6	CDF_CHAR	V10: Jan. 2021 : Fix inconsistencies against the ISTP CDF guidelines, add FREQUENCY zVariable - X.Bonnin (CNRS-LESIA)
Parent_version	1	CDF_CHAR	
Parents	1	CDF_CHAR	
PI_affiliation	1	CDF_CHAR	LESIA, Observatoire de Paris-CNRS
PI_name	1	CDF_CHAR	M.Maksimovic
Pipeline_version	1	CDF_CHAR	
Project	1	CDF_CHAR	SOLO>Solar Orbiter
Provider	1	CDF_CHAR	LESIA (Meudon, France)
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00006-LES (1.3)


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 437

Tab. 4.61 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Rules_of_use	1	CDF_CHAR	Data provided are publicly available. If used in presentations or publications, please acknowledge Solar Orbiter/RPW Investigation (M. Maksimovic, PIs). Please read carefully the caveats attached to the data. For reporting purposes, we request bibliography information for any publication, etc., using these data. Please send information on the use of this data to: M. Maksimovic (PI).
SKELETON_PARENT	1	CDF_CHAR	SOLO_L2_RPW-TNR-SURV_V10.cdf
Skeleton_version	1	CDF_CHAR	10
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	SOLO>Solar Orbiter
SPECTRAL_RANGE_MAX	1	CDF_CHAR	
SPECTRAL_RANGE_MIN	1	CDF_CHAR	
TEXT	1	CDF_CHAR	This file contains RPW TNR level 2 science survey data for the current day.”
TEXT_supplement_1	1	CDF_CHAR	
TIME_MAX	1	CDF_CHAR	
TIME_MIN	1	CDF_CHAR	
Validate	1	CDF_CHAR	
CAVEATS	1	CDF_CHAR	
CAL_ENTITY_NAME	1	CDF_CHAR	A. Vecchio
CAL_ENTITY_AFFILIATION	1	CDF_CHAR	LESIA, Observatoire de Paris-CNRS/RRL-RU-Nijmegen
CAL_EQUIPMENT	1	CDF_CHAR	
CALIBRATION_TABLE	1	CDF_CHAR	
CALIBRATION_VERSION	1	CDF_CHAR	
Datetime	1	CDF_CHAR	
Free_field	1	CDF_CHAR	
Job_ID	1	CDF_CHAR	
LEVEL	1	CDF_CHAR	L2>Level 2 data processing
SOOP_TYPE	1	CDF_CHAR	
Data_product	1	CDF_CHAR	SURV>SURV
TARGET_NAME	1	CDF_CHAR	Sun

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 438


Tab. 4.61 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
TARGET_CLASS	1	CDF_CHAR	Star
TARGET_REGION	1	CDF_CHAR	Solar Wind
Pipeline_name	1	CDF_CHAR	
Dataset_ID	1	CDF_CHAR	SOLO_L2_RPW-TNR-SURV
OBS_ID	1	CDF_CHAR	
MODS	1	CDF_CHAR	

4.1.3.2.4 zVariables

Variable Name	Data Type	Number Elements	Dims	Sizes
Epoch	CDF_TIME_TT2000	1	0	
NUM	CDF_UINT4	1	0	
TIME_INTERPOL_FLAG	CDF_UINT1	1	0	
QUALITY_FLAG	CDF_UINT1	1	0	
QUALITY_BITMASK	CDF_UINT2	1	0	
SWEEP_NUM	CDF_UINT4	1	0	
MEASUREMENT_DURATION	CDF_DOUBLE	1	0	
TICKS_NR	CDF_UINT4	1	0	
DELTA_TIME	CDF_DOUBLE	1	0	
SURVEY_MODE	CDF_UINT1	1	0	
AVERAGE_NR	CDF_UINT1	1	0	
AUTO_CROSS_STATUS	CDF_UINT1	1	1	2
CHANNEL_STATUS	CDF_UINT1	1	1	2
FRONT_END	CDF_UINT1	1	0	
SENSOR_CONFIG	CDF_UINT1	1	1	2
RPW_STATUS	CDF_UINT1	1	1	15
TEMPERATURE	CDF_UINT1	1	1	4
TNR_BAND	CDF_UINT1	1	0	
FREQUENCY	CDF_UINT4	1	1	32
INTEGRATION_TIME	CDF_UINT1	1	1	4
BANDWIDTH	CDF_FLOAT	1	2	4 32
AUTO1	CDF_DOUBLE	1	1	32
AUTO2	CDF_DOUBLE	1	1	32
CROSS_R	CDF_DOUBLE	1	1	32
CROSS_I	CDF_DOUBLE	1	1	32
PHASE	CDF_DOUBLE	1	1	32

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 439


Tab. 4.62 – continued from previous page

Variable Name	Data Type	Number Elements	Dims	Sizes
BAND_LABEL	CDF_CHAR	1	1	4
CHANNEL_LABEL	CDF_CHAR	1	1	2
TEMPERATURE_LABEL	CDF_CHAR	8	1	4
RPW_STATUS_LABEL	CDF_CHAR	16	1	15
FLUX_DENSITY1	CDF_DOUBLE	1	1	32
FLUX_DENSITY2	CDF_DOUBLE	1	1	32
MAGNETIC_SPECTRAL_POWER1	CDF_DOUBLE	1	1	32
MAGNETIC_SPECTRAL_POWER2	CDF_DOUBLE	1	1	32
SYNCHRO_FLAG	CDF_UINT1	1	0	
TNR_BAND_FREQ	CDF_UINT4	1	2	4 32

4.1.3.2.5 Variable attributes

Variable Name	Attribute Name	Data Type	Value
Epoch	FIELDNAM	CDF_CHAR	Epoch
Epoch	CATDESC	CDF_CHAR	Default time
Epoch	VALIDMIN	CDF_TIME_TT2000	1990-01-01T00:00:00.000000000
Epoch	VALIDMAX	CDF_TIME_TT2000	2029-12-31T23:59:59.999000000
Epoch	SCALEMIN	CDF_TIME_TT2000	1990-01-01T00:00:00.000000000
Epoch	SCALEMAX	CDF_TIME_TT2000	2029-12-31T23:59:59.999000000
Epoch	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch	LABLAXIS	CDF_CHAR	Epoch
Epoch	UNITS	CDF_CHAR	ns
Epoch	VAR_TYPE	CDF_CHAR	support_data
Epoch	SCALETYP	CDF_CHAR	linear
Epoch	MONOTON	CDF_CHAR	INCREASE
Epoch	TIME_BASE	CDF_CHAR	J2000
Epoch	TIME_SCALE	CDF_CHAR	Terrestrial Time
Epoch	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
Epoch	Resolution	CDF_CHAR	15258 ns
Epoch	Bin_location	CDF_CHAR	0.5


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 440

Tab. 4.63 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file. Epoch is taken at the middle of the current TNR data sample measurement.
NUM	FIELDNAM	CDF_CHAR	NUM
NUM	CATDESC	CDF_CHAR	RPW TNR record index number
NUM	VALIDMIN	CDF_UINT4	1
NUM	VALIDMAX	CDF_UINT4	4294967294
NUM	SCALEMIN	CDF_UINT4	1
NUM	SCALEMAX	CDF_UINT4	4294967294
NUM	FILLVAL	CDF_UINT4	4294967295
NUM	LABLAXIS	CDF_CHAR	Record index
NUM	UNITS	CDF_CHAR	
NUM	VAR_TYPE	CDF_CHAR	support_data
NUM	SCALETYP	CDF_CHAR	linear
NUM	MONOTON	CDF_CHAR	INCREASE
NUM	VAR_NOTES	CDF_CHAR	Index number of the record in current file
NUM	DEPEND_0	CDF_CHAR	Epoch
NUM	DISPLAY_TYPE	CDF_CHAR	time_series
NUM	FORMAT	CDF_CHAR	I10.0
TIME_INTERPOL_FLAG	FIELDNAM	CDF_CHAR	TIME_INTERPOL_FLAG
TIME_INTERPOL_FLAG	CATDESC	CDF_CHAR	Time interpolation flag
TIME_INTERPOL_FLAG	VALIDMIN	CDF_UINT1	0
TIME_INTERPOL_FLAG	VALIDMAX	CDF_UINT1	1
TIME_INTERPOL_FLAG	SCALEMIN	CDF_UINT1	0
TIME_INTERPOL_FLAG	SCALEMAX	CDF_UINT1	1
TIME_INTERPOL_FLAG	FILLVAL	CDF_UINT1	255
TIME_INTERPOL_FLAG	LABLAXIS	CDF_CHAR	interpol. time flag
TIME_INTERPOL_FLAG	UNITS	CDF_CHAR	
TIME_INTERPOL_FLAG	VAR_TYPE	CDF_CHAR	support_data
TIME_INTERPOL_FLAG	SCALETYP	CDF_CHAR	linear
TIME_INTERPOL_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate if the current EPOCH value is computed from an interpolated time or actual time as returned in the packet (0=actual, 1=interpolated)
TIME_INTERPOL_FLAG	DEPEND_0	CDF_CHAR	Epoch


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 441

Tab. 4.63 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
TIME_INTERPOL_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
TIME_INTERPOL_FLAG	FORMAT	CDF_CHAR	I1.1
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	VALIDMIN	CDF_UINT1	0
QUALITY_FLAG	VALIDMAX	CDF_UINT1	4
QUALITY_FLAG	SCALEMIN	CDF_UINT1	0
QUALITY_FLAG	SCALEMAX	CDF_UINT1	4
QUALITY_FLAG	FILLVAL	CDF_UINT1	255
QUALITY_FLAG	LABLAXIS	CDF_CHAR	Quality flag
QUALITY_FLAG	UNITS	CDF_CHAR	
QUALITY_FLAG	VAR_TYPE	CDF_CHAR	support_data
QUALITY_FLAG	SCALETYP	CDF_CHAR	linear
QUALITY_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the quality of the data
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	UNITS	CDF_CHAR	
QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context information or status at the receiver or experiment level
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
SWEEP_NUM	FIELDNAM	CDF_CHAR	SWEEP_NUM
SWEEP_NUM	CATDESC	CDF_CHAR	TNR sweep index number in current file
SWEEP_NUM	VALIDMIN	CDF_UINT4	1
SWEEP_NUM	VALIDMAX	CDF_UINT4	4294967294
SWEEP_NUM	SCALEMIN	CDF_UINT4	1


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 442

Tab. 4.63 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SWEEP_NUM	SCALEMAX	CDF_UINT4	4294967294
SWEEP_NUM	FILLVAL	CDF_UINT4	4294967295
SWEEP_NUM	LABLAXIS	CDF_CHAR	TNR sweep index
SWEEP_NUM	UNITS	CDF_CHAR	
SWEEP_NUM	VAR_TYPE	CDF_CHAR	support_data
SWEEP_NUM	SCALETYP	CDF_CHAR	linear
SWEEP_NUM	VAR_NOTES	CDF_CHAR	TNR sweep index number in the current file
SWEEP_NUM	DEPEND_0	CDF_CHAR	Epoch
SWEEP_NUM	DISPLAY_TYPE	CDF_CHAR	time_series
SWEEP_NUM	FORMAT	CDF_CHAR	I10.0
MEASUREMENT_DURATION	FIELDNAM	CDF_CHAR	MEASUREMENT_DURATION
MEASUREMENT_DURATION	CATDESC	CDF_CHAR	Time duration of the current TNR band measurement
MEASUREMENT_DURATION	VALIDMIN	CDF_DOUBLE	0.0
MEASUREMENT_DURATION	VALIDMAX	CDF_DOUBLE	1.0e+30
MEASUREMENT_DURATION	SCALEMIN	CDF_DOUBLE	0.0
MEASUREMENT_DURATION	SCALEMAX	CDF_DOUBLE	1.0e+30
MEASUREMENT_DURATION	FILLVAL	CDF_DOUBLE	-1.0e+31
MEASUREMENT_DURATION	LABLAXIS	CDF_CHAR	TNR measurement duration
MEASUREMENT_DURATION	UNITS	CDF_CHAR	nsec
MEASUREMENT_DURATION	VAR_TYPE	CDF_CHAR	support_data
MEASUREMENT_DURATION	SCALETYP	CDF_CHAR	linear
MEASUREMENT_DURATION	MONOTON	CDF_CHAR	INCREASE
MEASUREMENT_DURATION	VAR_NOTES	CDF_CHAR	Time duration of the current TNR band measurement in nanoseconds.
MEASUREMENT_DURATION	DEPEND_0	CDF_CHAR	Epoch
MEASUREMENT_DURATION	DISPLAY_TYPE	CDF_CHAR	time_series
MEASUREMENT_DURATION	FORMAT	CDF_CHAR	F32.6
TICKS_NR	FIELDNAM	CDF_CHAR	TICKS_NR
TICKS_NR	CATDESC	CDF_CHAR	Number of ticks
TICKS_NR	VALIDMIN	CDF_UINT4	0
TICKS_NR	VALIDMAX	CDF_UINT4	4294967294
TICKS_NR	SCALEMIN	CDF_UINT4	0
TICKS_NR	SCALEMAX	CDF_UINT4	4294967294
TICKS_NR	FILLVAL	CDF_UINT4	4294967295
TICKS_NR	LABLAXIS	CDF_CHAR	TNR ticks
TICKS_NR	UNITS	CDF_CHAR	
TICKS_NR	VAR_TYPE	CDF_CHAR	support_data
TICKS_NR	SCALETYP	CDF_CHAR	linear


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 443

Tab. 4.63 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
TICKS_NR	REFERENCE_POS	CDF_CHAR	RPW
TICKS_NR	VAR_NOTES	CDF_CHAR	Number of ticks between two samples for the current TNR band
TICKS_NR	DEPEND_0	CDF_CHAR	Epoch
TICKS_NR	DISPLAY_TYPE	CDF_CHAR	time_series
TICKS_NR	FORMAT	CDF_CHAR	I10.0
DELTA_TIME	FIELDNAM	CDF_CHAR	DELTA_TIME
DELTA_TIME	CATDESC	CDF_CHAR	RPW TNR delta time
DELTA_TIME	VALIDMIN	CDF_DOUBLE	0.0
DELTA_TIME	VALIDMAX	CDF_DOUBLE	1.0e+30
DELTA_TIME	SCALEMIN	CDF_DOUBLE	0.0
DELTA_TIME	SCALEMAX	CDF_DOUBLE	1.0e+30
DELTA_TIME	FILLVAL	CDF_DOUBLE	-1.0e+31
DELTA_TIME	LABLAXIS	CDF_CHAR	TNR delta time
DELTA_TIME	UNITS	CDF_CHAR	microsec
DELTA_TIME	VAR_TYPE	CDF_CHAR	support_data
DELTA_TIME	SCALETYP	CDF_CHAR	linear
DELTA_TIME	REFERENCE_POS	CDF_CHAR	RPW
DELTA_TIME	VAR_NOTES	CDF_CHAR	Delta times of the current TNR band between two data samples in microseconds . Computed from TICKS_NR * (1 tick = 15.258 us)
DELTA_TIME	DEPEND_0	CDF_CHAR	Epoch
DELTA_TIME	DISPLAY_TYPE	CDF_CHAR	time_series
DELTA_TIME	FORMAT	CDF_CHAR	F32.6
SURVEY_MODE	FIELDNAM	CDF_CHAR	SURVEY_MODE
SURVEY_MODE	CATDESC	CDF_CHAR	THR survey mode
SURVEY_MODE	VALIDMIN	CDF_UINT1	0
SURVEY_MODE	VALIDMAX	CDF_UINT1	1
SURVEY_MODE	SCALEMIN	CDF_UINT1	0
SURVEY_MODE	SCALEMAX	CDF_UINT1	1
SURVEY_MODE	FILLVAL	CDF_UINT1	255
SURVEY_MODE	LABLAXIS	CDF_CHAR	THR survey mode
SURVEY_MODE	UNITS	CDF_CHAR	
SURVEY_MODE	VAR_TYPE	CDF_CHAR	support_data
SURVEY_MODE	SCALETYP	CDF_CHAR	linear


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 444

Tab. 4.63 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SURVEY_MODE	VAR_NOTES	CDF_CHAR	Flag to indicate if the receiver in the SURVEY_BURST (=1) or SURVEY_NORMAL (=0) mode
SURVEY_MODE	DEPEND_0	CDF_CHAR	Epoch
SURVEY_MODE	DISPLAY_TYPE	CDF_CHAR	time_series
SURVEY_MODE	FORMAT	CDF_CHAR	I1.1
AVERAGE_NR	FIELDNAM	CDF_CHAR	AVERAGE_NR
AVERAGE_NR	CATDESC	CDF_CHAR	Number of averages
AVERAGE_NR	VALIDMIN	CDF_UINT1	16
AVERAGE_NR	VALIDMAX	CDF_UINT1	128
AVERAGE_NR	SCALEMIN	CDF_UINT1	16
AVERAGE_NR	SCALEMAX	CDF_UINT1	128
AVERAGE_NR	FILLVAL	CDF_UINT1	255
AVERAGE_NR	LABLAXIS	CDF_CHAR	averages
AVERAGE_NR	UNITS	CDF_CHAR	
AVERAGE_NR	VAR_TYPE	CDF_CHAR	support_data
AVERAGE_NR	SCALETYP	CDF_CHAR	linear
AVERAGE_NR	VAR_NOTES	CDF_CHAR	Number of averages applied (16, 32, 64 or 128)
AVERAGE_NR	DEPEND_0	CDF_CHAR	Epoch
AVERAGE_NR	DISPLAY_TYPE	CDF_CHAR	time_series
AVERAGE_NR	FORMAT	CDF_CHAR	I3.3
AUTO_CROSS_STATUS	FIELDNAM	CDF_CHAR	AUTO_CROSS_STATUS
AUTO_CROSS_STATUS	CATDESC	CDF_CHAR	Auto cross computation computation status
AUTO_CROSS_STATUS	VALIDMIN	CDF_UINT1	0
AUTO_CROSS_STATUS	VALIDMAX	CDF_UINT1	1
AUTO_CROSS_STATUS	SCALEMIN	CDF_UINT1	0
AUTO_CROSS_STATUS	SCALEMAX	CDF_UINT1	1
AUTO_CROSS_STATUS	FILLVAL	CDF_UINT1	255
AUTO_CROSS_STATUS	LABLAXIS	CDF_CHAR	Auto/Cross comp. status
AUTO_CROSS_STATUS	UNITS	CDF_CHAR	
AUTO_CROSS_STATUS	VAR_TYPE	CDF_CHAR	support_data
AUTO_CROSS_STATUS	SCALETYP	CDF_CHAR	linear
AUTO_CROSS_STATUS	VAR_NOTES	CDF_CHAR	Flag to indicate if the auto and cross values are computed (=1) or not (=0)
AUTO_CROSS_STATUS	DEPEND_0	CDF_CHAR	Epoch
AUTO_CROSS_STATUS	DISPLAY_TYPE	CDF_CHAR	time_series
AUTO_CROSS_STATUS	FORMAT	CDF_CHAR	I1.1


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 445

Tab. 4.63 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
CHANNEL_STATUS	FIELDNAM	CDF_CHAR	CHANNEL_STATUS
CHANNEL_STATUS	CATDESC	CDF_CHAR	TNR channel status
CHANNEL_STATUS	VALIDMIN	CDF_UINT1	0
CHANNEL_STATUS	VALIDMAX	CDF_UINT1	1
CHANNEL_STATUS	SCALEMIN	CDF_UINT1	0
CHANNEL_STATUS	SCALEMAX	CDF_UINT1	1
CHANNEL_STATUS	FILLVAL	CDF_UINT1	255
CHANNEL_STATUS	UNITS	CDF_CHAR	
CHANNEL_STATUS	VAR_TYPE	CDF_CHAR	support_data
CHANNEL_STATUS	SCALETYP	CDF_CHAR	linear
CHANNEL_STATUS	VAR_NOTES	CDF_CHAR	TNR channel status of the current record. Possible values are: 1=OFF, 0=ON.
CHANNEL_STATUS	DEPEND_0	CDF_CHAR	Epoch
CHANNEL_STATUS	DISPLAY_TYPE	CDF_CHAR	time_series
CHANNEL_STATUS	FORMAT	CDF_CHAR	I1.1
CHANNEL_STATUS	LABL_PTR_1	CDF_CHAR	CHANNEL_LABEL
FRONT_END	FIELDNAM	CDF_CHAR	FRONT_END
FRONT_END	CATDESC	CDF_CHAR	Front end setting
FRONT_END	VALIDMIN	CDF_UINT1	0
FRONT_END	VALIDMAX	CDF_UINT1	1
FRONT_END	SCALEMIN	CDF_UINT1	0
FRONT_END	SCALEMAX	CDF_UINT1	1
FRONT_END	FILLVAL	CDF_UINT1	255
FRONT_END	LABLAXIS	CDF_CHAR	FRONT_END
FRONT_END	UNITS	CDF_CHAR	
FRONT_END	VAR_TYPE	CDF_CHAR	support_data
FRONT_END	SCALETYP	CDF_CHAR	linear
FRONT_END	VAR_NOTES	CDF_CHAR	Indicates the TNR front end setting (GND=0, PREAMP=1, CAL=2)
FRONT_END	DEPEND_0	CDF_CHAR	Epoch
FRONT_END	DISPLAY_TYPE	CDF_CHAR	time_series
FRONT_END	FORMAT	CDF_CHAR	I1.1
SENSOR_CONFIG	FIELDNAM	CDF_CHAR	SENSOR_CONFIG
SENSOR_CONFIG	CATDESC	CDF_CHAR	TNR sensor configuration
SENSOR_CONFIG	VALIDMIN	CDF_UINT1	0
SENSOR_CONFIG	VALIDMAX	CDF_UINT1	1
SENSOR_CONFIG	SCALEMIN	CDF_UINT1	0
SENSOR_CONFIG	SCALEMAX	CDF_UINT1	1
SENSOR_CONFIG	FILLVAL	CDF_UINT1	255


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 446

Tab. 4.63 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SENSOR_CONFIG	LABLAXIS	CDF_CHAR	THR sensor config.
SENSOR_CONFIG	UNITS	CDF_CHAR	
SENSOR_CONFIG	VAR_TYPE	CDF_CHAR	support_data
SENSOR_CONFIG	SCALETYP	CDF_CHAR	linear
SENSOR_CONFIG	VAR_NOTES	CDF_CHAR	Indicates the THR sensor configuration (V1=1, V2=2, V3=3, V1-V2=4, V2-V3=5, V3-V1=6, B_MF=7, HF_V1-V2=9, HF_V2-V3=10, HF_V3-V1=11)
SENSOR_CONFIG	DEPEND_0	CDF_CHAR	Epoch
SENSOR_CONFIG	DISPLAY_TYPE	CDF_CHAR	time_series
SENSOR_CONFIG	FORMAT	CDF_CHAR	I1.1
SENSOR_CONFIG	LABL_PTR_1	CDF_CHAR	CHANNEL_LABEL
RPW_STATUS	FIELDNAM	CDF_CHAR	RPW_STATUS
RPW_STATUS	CATDESC	CDF_CHAR	Status parameters of RPW sub-systems
RPW_STATUS	VALIDMIN	CDF_UINT1	0
RPW_STATUS	VALIDMAX	CDF_UINT1	1
RPW_STATUS	SCALEMIN	CDF_UINT1	0
RPW_STATUS	SCALEMAX	CDF_UINT1	1
RPW_STATUS	FILLVAL	CDF_UINT1	255
RPW_STATUS	LABLAXIS	CDF_CHAR	RPW sub-system status
RPW_STATUS	UNITS	CDF_CHAR	
RPW_STATUS	VAR_TYPE	CDF_CHAR	support_data
RPW_STATUS	SCALETYP	CDF_CHAR	linear
RPW_STATUS	VAR_NOTES	CDF_CHAR	Status of 15 RPW sub-systems.
RPW_STATUS	DEPEND_0	CDF_CHAR	Epoch
RPW_STATUS	DISPLAY_TYPE	CDF_CHAR	time_series
RPW_STATUS	FORMAT	CDF_CHAR	I1.1
RPW_STATUS	LABL_PTR_1	CDF_CHAR	RPW_STATUS_LABEL
TEMPERATURE	FIELDNAM	CDF_CHAR	TEMPERATURE
TEMPERATURE	CATDESC	CDF_CHAR	PA and analog temperature
TEMPERATURE	VALIDMIN	CDF_UINT1	0
TEMPERATURE	VALIDMAX	CDF_UINT1	254
TEMPERATURE	SCALEMIN	CDF_UINT1	0
TEMPERATURE	SCALEMAX	CDF_UINT1	254
TEMPERATURE	FILLVAL	CDF_UINT1	255
TEMPERATURE	LABLAXIS	CDF_CHAR	Temperature
TEMPERATURE	UNITS	CDF_CHAR	degrees


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 447

Tab. 4.63 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
TEMPERATURE	VAR_TYPE	CDF_CHAR	data
TEMPERATURE	SCALETYP	CDF_CHAR	linear
TEMPERATURE	VAR_NOTES	CDF_CHAR	Temperature of the 3 HF PAs and analog. in degrees. In the case of an internal calibration mode, it contains the PCB temperature and the 3 Voltages.
TEMPERATURE	DEPEND_0	CDF_CHAR	Epoch
TEMPERATURE	DISPLAY_TYPE	CDF_CHAR	time_series
TEMPERATURE	FORMAT	CDF_CHAR	I3.3
TEMPERATURE	LABL_PTR_1	CDF_CHAR	TEMPERATURE_LABEL
TNR_BAND	FIELDNAM	CDF_CHAR	TNR_BAND
TNR_BAND	CATDESC	CDF_CHAR	TNR band of the current record
TNR_BAND	VALIDMIN	CDF_UINT1	0
TNR_BAND	VALIDMAX	CDF_UINT1	1
TNR_BAND	SCALEMIN	CDF_UINT1	0
TNR_BAND	SCALEMAX	CDF_UINT1	1
TNR_BAND	FILLVAL	CDF_UINT1	255
TNR_BAND	LABLAXIS	CDF_CHAR	TNR_BAND
TNR_BAND	UNITS	CDF_CHAR	
TNR_BAND	VAR_TYPE	CDF_CHAR	data
TNR_BAND	SCALETYP	CDF_CHAR	linear
TNR_BAND	VAR_NOTES	CDF_CHAR	TNR band of the current record. Possible values are: 1=A, 2=B, 3=C, 4=D
TNR_BAND	DEPEND_0	CDF_CHAR	Epoch
TNR_BAND	DISPLAY_TYPE	CDF_CHAR	time_series
TNR_BAND	FORMAT	CDF_CHAR	I1.0
FREQUENCY	FIELDNAM	CDF_CHAR	FREQUENCY
FREQUENCY	CATDESC	CDF_CHAR	Frequencies of analysis of the current TNR band in Hz
FREQUENCY	VALIDMIN	CDF_UINT4	3992
FREQUENCY	VALIDMAX	CDF_UINT4	978572
FREQUENCY	SCALEMIN	CDF_UINT4	3992
FREQUENCY	SCALEMAX	CDF_UINT4	978572
FREQUENCY	FILLVAL	CDF_UINT4	4294967295
FREQUENCY	UNITS	CDF_CHAR	Hz
FREQUENCY	VAR_TYPE	CDF_CHAR	support_data
FREQUENCY	SCALETYP	CDF_CHAR	log


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 448

Tab. 4.63 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
FREQUENCY	VAR_NOTES	CDF_CHAR	Frequencies of analysis of the current TNR band in Hz
FREQUENCY	DEPEND_0	CDF_CHAR	Epoch
FREQUENCY	DISPLAY_TYPE	CDF_CHAR	time_series
FREQUENCY	FORMAT	CDF_CHAR	I6.0
INTEGRATION_TIME	FIELDNAM	CDF_CHAR	INTEGRATION_TIME
INTEGRATION_TIME	CATDESC	CDF_CHAR	Integration time of TNR bands
INTEGRATION_TIME	VALIDMIN	CDF_UINT1	10
INTEGRATION_TIME	VALIDMAX	CDF_UINT1	20
INTEGRATION_TIME	SCALEMIN	CDF_UINT1	0
INTEGRATION_TIME	SCALEMAX	CDF_UINT1	255
INTEGRATION_TIME	FILLVAL	CDF_UINT1	255
INTEGRATION_TIME	LABLAXIS	CDF_CHAR	Int. Time
INTEGRATION_TIME	UNITS	CDF_CHAR	ms
INTEGRATION_TIME	VAR_TYPE	CDF_CHAR	support_data
INTEGRATION_TIME	SCALETYP	CDF_CHAR	linear
INTEGRATION_TIME	VAR_NOTES	CDF_CHAR	Integration time of a single measurement in the TNR A, B,C and D bands in milliseconds. Total measurement duration T (ms) for a given TNR band is $T = INTEGRATION_TIME * AVERAGE_NR$, where $AVERAGE_NR$ is the number of averages (i.e., 16, 32, 64 or 128).
INTEGRATION_TIME	DEPEND_0	CDF_CHAR	Epoch
INTEGRATION_TIME	DISPLAY_TYPE	CDF_CHAR	time_series
INTEGRATION_TIME	FORMAT	CDF_CHAR	I2.2
BANDWIDTH	FIELDNAM	CDF_CHAR	BANDWIDTH
BANDWIDTH	CATDESC	CDF_CHAR	Frequency bandwidth
BANDWIDTH	VALIDMIN	CDF_FLOAT	0.0
BANDWIDTH	VALIDMAX	CDF_FLOAT	1.0e+30
BANDWIDTH	SCALEMIN	CDF_FLOAT	0.0
BANDWIDTH	SCALEMAX	CDF_FLOAT	1.0e+30
BANDWIDTH	FILLVAL	CDF_FLOAT	-1.0e+31
BANDWIDTH	LABLAXIS	CDF_CHAR	Bandwidth
BANDWIDTH	UNITS	CDF_CHAR	Hz
BANDWIDTH	VAR_TYPE	CDF_CHAR	support_data
BANDWIDTH	SCALETYP	CDF_CHAR	linear

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 449

Tab. 4.63 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BANDWIDTH	VAR_NOTES	CDF_CHAR	TNR frequency bandwidth in Hz
BANDWIDTH	DEPEND_0	CDF_CHAR	Epoch
BANDWIDTH	DISPLAY_TYPE	CDF_CHAR	time_series
BANDWIDTH	FORMAT	CDF_CHAR	F10.3
AUTO1	FIELDNAM	CDF_CHAR	AUTO1
AUTO1	CATDESC	CDF_CHAR	Receiver+PA power channel 1
AUTO1	VALIDMIN	CDF_DOUBLE	0.0
AUTO1	VALIDMAX	CDF_DOUBLE	1.0e+30
AUTO1	SCALEMIN	CDF_DOUBLE	0.0
AUTO1	SCALEMAX	CDF_DOUBLE	1.0e+30
AUTO1	FILLVAL	CDF_DOUBLE	-1.0e+31
AUTO1	LABLAXIS	CDF_CHAR	TNR auto 1
AUTO1	UNITS	CDF_CHAR	V ² /Hz
AUTO1	VAR_TYPE	CDF_CHAR	data
AUTO1	SCALETYP	CDF_CHAR	linear
AUTO1	VAR_NOTES	CDF_CHAR	Power spectral density at receiver+PA for channel 1 before applying antenna gain
AUTO1	DEPEND_0	CDF_CHAR	Epoch
AUTO1	DISPLAY_TYPE	CDF_CHAR	time_series
AUTO1	FORMAT	CDF_CHAR	F32.6
AUTO1	DEPEND_1	CDF_CHAR	FREQUENCY
AUTO2	FIELDNAM	CDF_CHAR	AUTO2
AUTO2	CATDESC	CDF_CHAR	Receiver+PA power channel 2
AUTO2	VALIDMIN	CDF_DOUBLE	0.0
AUTO2	VALIDMAX	CDF_DOUBLE	1.0e+30
AUTO2	SCALEMIN	CDF_DOUBLE	0.0
AUTO2	SCALEMAX	CDF_DOUBLE	1.0e+30
AUTO2	FILLVAL	CDF_DOUBLE	-1.0e+31
AUTO2	LABLAXIS	CDF_CHAR	TNR Auto2
AUTO2	UNITS	CDF_CHAR	V ² /Hz
AUTO2	VAR_TYPE	CDF_CHAR	data
AUTO2	SCALETYP	CDF_CHAR	linear
AUTO2	VAR_NOTES	CDF_CHAR	Power spectral density at receiver+PA for channel 2 before applying antenna gain
AUTO2	DEPEND_0	CDF_CHAR	Epoch
AUTO2	DISPLAY_TYPE	CDF_CHAR	time_series
AUTO2	FORMAT	CDF_CHAR	F32.6
AUTO2	DEPEND_1	CDF_CHAR	FREQUENCY

continues on next page



**RPW Data Product
Description Document**

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **450**

Tab. 4.63 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
CROSS_R	FIELDNAM	CDF_CHAR	CROSS_R
CROSS_R	CATDESC	CDF_CHAR	Real part of the cross-correlation between channel 1 and channel 2 signals
CROSS_R	VALIDMIN	CDF_DOUBLE	0.0
CROSS_R	VALIDMAX	CDF_DOUBLE	1.0e+30
CROSS_R	SCALEMIN	CDF_DOUBLE	0.0
CROSS_R	SCALEMAX	CDF_DOUBLE	1.0e+30
CROSS_R	FILLVAL	CDF_DOUBLE	-1.0e+31
CROSS_R	LABLAXIS	CDF_CHAR	TNR CROSS_R
CROSS_R	UNITS	CDF_CHAR	
CROSS_R	VAR_TYPE	CDF_CHAR	data
CROSS_R	SCALETYP	CDF_CHAR	linear
CROSS_R	VAR_NOTES	CDF_CHAR	Real part of the cross-correlation between channel 1 and channel 2 signals
CROSS_R	DEPEND_0	CDF_CHAR	Epoch
CROSS_R	DISPLAY_TYPE	CDF_CHAR	time_series
CROSS_R	FORMAT	CDF_CHAR	F32.6
CROSS_R	DEPEND_1	CDF_CHAR	FREQUENCY
CROSS_I	FIELDNAM	CDF_CHAR	CROSS_I
CROSS_I	CATDESC	CDF_CHAR	Imaginary part of the cross-correlation between channel 1 and channel 2 signals
CROSS_I	VALIDMIN	CDF_DOUBLE	0.0
CROSS_I	VALIDMAX	CDF_DOUBLE	1.0e+30
CROSS_I	SCALEMIN	CDF_DOUBLE	0.0
CROSS_I	SCALEMAX	CDF_DOUBLE	1.0e+30
CROSS_I	FILLVAL	CDF_DOUBLE	-1.0e+31
CROSS_I	LABLAXIS	CDF_CHAR	TNR CROSS_I
CROSS_I	UNITS	CDF_CHAR	
CROSS_I	VAR_TYPE	CDF_CHAR	data
CROSS_I	SCALETYP	CDF_CHAR	linear
CROSS_I	VAR_NOTES	CDF_CHAR	Imaginary part of the cross-correlation between channel 1 and channel 2 signals
CROSS_I	DEPEND_0	CDF_CHAR	Epoch
CROSS_I	DISPLAY_TYPE	CDF_CHAR	time_series
CROSS_I	FORMAT	CDF_CHAR	F32.6
CROSS_I	DEPEND_1	CDF_CHAR	FREQUENCY
PHASE	FIELDNAM	CDF_CHAR	PHASE


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 451

Tab. 4.63 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
PHASE	CATDESC	CDF_CHAR	TNR Phase in degrees
PHASE	VALIDMIN	CDF_DOUBLE	-180.0
PHASE	VALIDMAX	CDF_DOUBLE	180.0
PHASE	SCALEMIN	CDF_DOUBLE	-180.0
PHASE	SCALEMAX	CDF_DOUBLE	180.0
PHASE	FILLVAL	CDF_DOUBLE	-1.0e+31
PHASE	LABLAXIS	CDF_CHAR	TNR Phase
PHASE	UNITS	CDF_CHAR	degrees
PHASE	VAR_TYPE	CDF_CHAR	data
PHASE	SCALETYP	CDF_CHAR	linear
PHASE	VAR_NOTES	CDF_CHAR	TNR Phase in degrees, computed from the cross-correlation Im. And Real. Parts [PHASE=atan2(CROSS_I/CROSS_R) * 180/pi].
PHASE	DEPEND_0	CDF_CHAR	Epoch
PHASE	DISPLAY_TYPE	CDF_CHAR	time_series
PHASE	FORMAT	CDF_CHAR	F32.6
PHASE	DEPEND_1	CDF_CHAR	FREQUENCY
BAND_LABEL	FIELDNAM	CDF_CHAR	BAND_LABEL
BAND_LABEL	CATDESC	CDF_CHAR	Label for TNR band (A, B, C, D)
BAND_LABEL	VAR_TYPE	CDF_CHAR	metadata
BAND_LABEL	FORMAT	CDF_CHAR	A3
CHANNEL_LABEL	FIELDNAM	CDF_CHAR	CHANNEL_LABEL
CHANNEL_LABEL	CATDESC	CDF_CHAR	Label for channel (1, 2)
CHANNEL_LABEL	VAR_TYPE	CDF_CHAR	metadata
CHANNEL_LABEL	FORMAT	CDF_CHAR	A1
TEMPERATURE_LABEL	FIELDNAM	CDF_CHAR	TEMPERATURE_LABEL
TEMPERATURE_LABEL	CATDESC	CDF_CHAR	Label for PA temperature
TEMPERATURE_LABEL	VAR_TYPE	CDF_CHAR	metadata
TEMPERATURE_LABEL	FORMAT	CDF_CHAR	A8
RPW_STATUS_LABEL	FIELDNAM	CDF_CHAR	RPW_STATUS_LABEL
RPW_STATUS_LABEL	CATDESC	CDF_CHAR	Label for RPW status
RPW_STATUS_LABEL	VAR_TYPE	CDF_CHAR	metadata
RPW_STATUS_LABEL	FORMAT	CDF_CHAR	A16
FLUX_DENSITY1	FIELDNAM	CDF_CHAR	FLUX_DENSITY1
FLUX_DENSITY1	CATDESC	CDF_CHAR	Power density flux channel 1
FLUX_DENSITY1	VALIDMIN	CDF_DOUBLE	0.0
FLUX_DENSITY1	VALIDMAX	CDF_DOUBLE	1.0e+30


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 452

Tab. 4.63 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
FLUX_DENSITY1	SCALEMIN	CDF_DOUBLE	0.0
FLUX_DENSITY1	SCALEMAX	CDF_DOUBLE	1.0e+30
FLUX_DENSITY1	FILLVAL	CDF_DOUBLE	-1.0e+31
FLUX_DENSITY1	LABLAXIS	CDF_CHAR	TNR power 1
FLUX_DENSITY1	UNITS	CDF_CHAR	W/m^2/Hz
FLUX_DENSITY1	VAR_TYPE	CDF_CHAR	data
FLUX_DENSITY1	SCALETYP	CDF_CHAR	linear
FLUX_DENSITY1	VAR_NOTES	CDF_CHAR	Flux of the power spectral density for channel 1 with antenna gain
FLUX_DENSITY1	DEPEND_0	CDF_CHAR	Epoch
FLUX_DENSITY1	DISPLAY_TYPE	CDF_CHAR	time_series
FLUX_DENSITY1	FORMAT	CDF_CHAR	F32.6
FLUX_DENSITY1	DEPEND_1	CDF_CHAR	FREQUENCY
FLUX_DENSITY2	FIELDNAM	CDF_CHAR	FLUX_DENSITY2
FLUX_DENSITY2	CATDESC	CDF_CHAR	Power density flux channel 2
FLUX_DENSITY2	VALIDMIN	CDF_DOUBLE	0.0
FLUX_DENSITY2	VALIDMAX	CDF_DOUBLE	1.0e+30
FLUX_DENSITY2	SCALEMIN	CDF_DOUBLE	0.0
FLUX_DENSITY2	SCALEMAX	CDF_DOUBLE	1.0e+30
FLUX_DENSITY2	FILLVAL	CDF_DOUBLE	-1.0e+31
FLUX_DENSITY2	LABLAXIS	CDF_CHAR	TNR power 2
FLUX_DENSITY2	UNITS	CDF_CHAR	W/m^2/Hz
FLUX_DENSITY2	VAR_TYPE	CDF_CHAR	data
FLUX_DENSITY2	SCALETYP	CDF_CHAR	linear
FLUX_DENSITY2	VAR_NOTES	CDF_CHAR	Flux of the power spectral density for channel 1 with antenna gain
FLUX_DENSITY2	DEPEND_0	CDF_CHAR	Epoch
FLUX_DENSITY2	DISPLAY_TYPE	CDF_CHAR	time_series
FLUX_DENSITY2	FORMAT	CDF_CHAR	F32.6
FLUX_DENSITY2	DEPEND_1	CDF_CHAR	FREQUENCY
MAGNETIC_SPECTRAL_POWER1	FIELDNAM	CDF_CHAR	MAGNETIC_SPECTRAL_POWER1
MAGNETIC_SPECTRAL_POWER1	CATDESC	CDF_CHAR	Magnetic power spectral density
MAGNETIC_SPECTRAL_POWER1	VALIDMIN	CDF_DOUBLE	0.0
MAGNETIC_SPECTRAL_POWER1	VALIDMAX	CDF_DOUBLE	1.0e+30
MAGNETIC_SPECTRAL_POWER1	SCALEMIN	CDF_DOUBLE	0.0
MAGNETIC_SPECTRAL_POWER1	SCALEMAX	CDF_DOUBLE	1.0e+30
MAGNETIC_SPECTRAL_POWER1	FILLVAL	CDF_DOUBLE	-1.0e+31
MAGNETIC_SPECTRAL_POWER1	LABLAXIS	CDF_CHAR	B Power


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 453

Tab. 4.63 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
MAGNETIC_SPECTRAL_POWER1	UNITS	CDF_CHAR	nT/sqrt(Hz)
MAGNETIC_SPECTRAL_POWER1	VAR_TYPE	CDF_CHAR	data
MAGNETIC_SPECTRAL_POWER1	SCALETYP	CDF_CHAR	linear
MAGNETIC_SPECTRAL_POWER1	VAR_NOTES	CDF_CHAR	Magnetic power spectral density from 1 search coil axis in channel 1
MAGNETIC_SPECTRAL_POWER1	DEPEND_0	CDF_CHAR	Epoch
MAGNETIC_SPECTRAL_POWER1	MSRLEY_TYPE	CDF_CHAR	time_series
MAGNETIC_SPECTRAL_POWER1	FORMAT	CDF_CHAR	F32.6
MAGNETIC_SPECTRAL_POWER1	DEPEND_1	CDF_CHAR	FREQUENCY
MAGNETIC_SPECTRAL_POWER1	FIELDNAM	CDF_CHAR	MAGNETIC_SPECTRAL_POWER2
MAGNETIC_SPECTRAL_POWER1	CATDESC	CDF_CHAR	Magnetic power spectral density
MAGNETIC_SPECTRAL_POWER1	VALIDMIN	CDF_DOUBLE	0.0
MAGNETIC_SPECTRAL_POWER1	VALIDMAX	CDF_DOUBLE	1.0e+30
MAGNETIC_SPECTRAL_POWER1	SCALEMIN	CDF_DOUBLE	0.0
MAGNETIC_SPECTRAL_POWER1	SCALEMAX	CDF_DOUBLE	1.0e+30
MAGNETIC_SPECTRAL_POWER1	FIELDVAL	CDF_DOUBLE	-1.0e+31
MAGNETIC_SPECTRAL_POWER1	LABL2AXIS	CDF_CHAR	B Power
MAGNETIC_SPECTRAL_POWER2	UNITS	CDF_CHAR	nT/sqrt(Hz)
MAGNETIC_SPECTRAL_POWER2	VAR_TYPE	CDF_CHAR	data
MAGNETIC_SPECTRAL_POWER2	SCALETYP	CDF_CHAR	linear
MAGNETIC_SPECTRAL_POWER2	VAR_NOTES	CDF_CHAR	Magnetic power spectral density from 1 search coil axis in channel 2
MAGNETIC_SPECTRAL_POWER2	DEPEND_0	CDF_CHAR	Epoch
MAGNETIC_SPECTRAL_POWER2	MSRLEY_TYPE	CDF_CHAR	time_series
MAGNETIC_SPECTRAL_POWER2	FORMAT	CDF_CHAR	F32.6
MAGNETIC_SPECTRAL_POWER2	DEPEND_1	CDF_CHAR	FREQUENCY
SYNCHRO_FLAG	FIELDNAM	CDF_CHAR	SYNCHRO_FLAG
SYNCHRO_FLAG	CATDESC	CDF_CHAR	Receiver time synchronisation flag
SYNCHRO_FLAG	VALIDMIN	CDF_UINT1	0
SYNCHRO_FLAG	VALIDMAX	CDF_UINT1	1
SYNCHRO_FLAG	SCALEMIN	CDF_UINT1	0
SYNCHRO_FLAG	SCALEMAX	CDF_UINT1	1
SYNCHRO_FLAG	FILLVAL	CDF_UINT1	255
SYNCHRO_FLAG	LABLAXIS	CDF_CHAR	Time sync. Flag
SYNCHRO_FLAG	UNITS	CDF_CHAR	
SYNCHRO_FLAG	VAR_TYPE	CDF_CHAR	support_data
SYNCHRO_FLAG	SCALETYP	CDF_CHAR	linear

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 454

Tab. 4.63 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SYNCHRO_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate if the receiver time is synchronised or not
SYNCHRO_FLAG	DEPEND_0	CDF_CHAR	Epoch
SYNCHRO_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
SYNCHRO_FLAG	FORMAT	CDF_CHAR	I1.1
TNR_BAND_FREQ	FIELDNAM	CDF_CHAR	TNR_BAND_FREQ
TNR_BAND_FREQ	CATDESC	CDF_CHAR	Frequencies of analysis of the 4 TNR bands in Hz
TNR_BAND_FREQ	VALIDMIN	CDF_UINT4	3992
TNR_BAND_FREQ	VALIDMAX	CDF_UINT4	978572
TNR_BAND_FREQ	SCALEMIN	CDF_UINT4	3992
TNR_BAND_FREQ	SCALEMAX	CDF_UINT4	978572
TNR_BAND_FREQ	FILLVAL	CDF_UINT4	4294967295
TNR_BAND_FREQ	UNITS	CDF_CHAR	Hz
TNR_BAND_FREQ	VAR_TYPE	CDF_CHAR	support_data
TNR_BAND_FREQ	SCALETYP	CDF_CHAR	log
TNR_BAND_FREQ	VAR_NOTES	CDF_CHAR	Frequencies of analysis of the 4 TNR bands in Hz
TNR_BAND_FREQ	DEPEND_0	CDF_CHAR	Epoch
TNR_BAND_FREQ	DISPLAY_TYPE	CDF_CHAR	time_series
TNR_BAND_FREQ	FORMAT	CDF_CHAR	I6.0
TNR_BAND_FREQ	LABL_PTR_1	CDF_CHAR	BAND_LABEL

4.1.3.2.6 Non-Record-Variant (NRV) Variables

Variable Name	Index	Value
INTEGRATION_TIME	1	20
INTEGRATION_TIME	2	10
INTEGRATION_TIME	3	10
INTEGRATION_TIME	4	10
BANDWIDTH	1,1	180.063
BANDWIDTH	2,1	720.207
BANDWIDTH	3,1	2880.88
BANDWIDTH	4,1	11523.4
BANDWIDTH	1,2	188.047
BANDWIDTH	2,2	752.097
BANDWIDTH	3,2	3008.39
BANDWIDTH	4,2	12033.6
BANDWIDTH	1,3	196.346

continues on next page



**RPW Data Product
Description Document**

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03

Date: March 11, 2021

Page: **455**

Tab. 4.64 – continued from previous page

Variable Name	Index	Value
BANDWIDTH	2,3	785.386
BANDWIDTH	3,3	3141.59
BANDWIDTH	4,3	12566.4
BANDWIDTH	1,4	205.052
BANDWIDTH	2,4	820.162
BANDWIDTH	3,4	3280.69
BANDWIDTH	4,4	13122.7
BANDWIDTH	1,5	214.118
BANDWIDTH	2,5	856.473
BANDWIDTH	3,5	3425.94
BANDWIDTH	4,5	13703.7
BANDWIDTH	1,6	223.59
BANDWIDTH	2,6	894.407
BANDWIDTH	3,6	3577.63
BANDWIDTH	4,6	14310.5
BANDWIDTH	1,7	233.514
BANDWIDTH	2,7	934.01
BANDWIDTH	3,7	3735.99
BANDWIDTH	4,7	14944.0
BANDWIDTH	1,8	243.843
BANDWIDTH	2,8	975.372
BANDWIDTH	3,8	3901.4
BANDWIDTH	4,8	15605.6
BANDWIDTH	1,9	254.623
BANDWIDTH	2,9	1018.54
BANDWIDTH	3,9	4074.15
BANDWIDTH	4,9	16296.6
BANDWIDTH	1,10	265.9
BANDWIDTH	2,10	1063.64
BANDWIDTH	3,10	4254.53
BANDWIDTH	4,10	17018.1
BANDWIDTH	1,11	277.673
BANDWIDTH	2,11	1110.74
BANDWIDTH	3,11	4442.9
BANDWIDTH	4,11	17771.5
BANDWIDTH	1,12	289.986
BANDWIDTH	2,12	1159.9
BANDWIDTH	3,12	4639.6
BANDWIDTH	4,12	18558.4
BANDWIDTH	1,13	302.797
BANDWIDTH	2,13	1211.23

continues on next page



**RPW Data Product
Description Document**

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03

Date: March 11, 2021

Page: **456**

Tab. 4.64 – continued from previous page

Variable Name	Index	Value
BANDWIDTH	3,13	4845.02
BANDWIDTH	4,13	19380.0
BANDWIDTH	1,14	316.238
BANDWIDTH	2,14	1264.86
BANDWIDTH	3,14	5059.49
BANDWIDTH	4,14	20238.0
BANDWIDTH	1,15	330.221
BANDWIDTH	2,15	1320.88
BANDWIDTH	3,15	5283.49
BANDWIDTH	4,15	21134.1
BANDWIDTH	1,16	344.835
BANDWIDTH	2,16	1379.34
BANDWIDTH	3,16	5517.46
BANDWIDTH	4,16	22069.7
BANDWIDTH	1,17	360.126
BANDWIDTH	2,17	1440.41
BANDWIDTH	3,17	5761.71
BANDWIDTH	4,17	23046.9
BANDWIDTH	1,18	376.049
BANDWIDTH	2,18	1504.19
BANDWIDTH	3,18	6016.82
BANDWIDTH	4,18	24067.2
BANDWIDTH	1,19	392.693
BANDWIDTH	2,19	1570.82
BANDWIDTH	3,19	6283.18
BANDWIDTH	4,19	25132.7
BANDWIDTH	1,20	410.104
BANDWIDTH	2,20	1640.32
BANDWIDTH	3,20	6561.39
BANDWIDTH	4,20	26245.5
BANDWIDTH	1,21	428.236
BANDWIDTH	2,21	1712.95
BANDWIDTH	3,21	6851.87
BANDWIDTH	4,21	27407.5
BANDWIDTH	1,22	447.181
BANDWIDTH	2,22	1788.81
BANDWIDTH	3,22	7155.21
BANDWIDTH	4,22	28620.9
BANDWIDTH	1,23	466.982
BANDWIDTH	2,23	1868.02
BANDWIDTH	3,23	7472.03

continues on next page



**RPW Data Product
Description Document**

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03

Date: March 11, 2021

Page: **457**

Tab. 4.64 – continued from previous page

Variable Name	Index	Value
BANDWIDTH	4,23	29888.0
BANDWIDTH	1,24	487.686
BANDWIDTH	2,24	1950.7
BANDWIDTH	3,24	7802.84
BANDWIDTH	4,24	31211.3
BANDWIDTH	1,25	509.247
BANDWIDTH	2,25	2037.08
BANDWIDTH	3,25	8148.31
BANDWIDTH	4,25	32593.1
BANDWIDTH	1,26	531.8
BANDWIDTH	2,26	2127.24
BANDWIDTH	3,26	8509.07
BANDWIDTH	4,26	34036.2
BANDWIDTH	1,27	555.345
BANDWIDTH	2,27	2221.43
BANDWIDTH	3,27	8885.79
BANDWIDTH	4,27	35543.1
BANDWIDTH	1,28	579.928
BANDWIDTH	2,28	2319.8
BANDWIDTH	3,28	9279.16
BANDWIDTH	4,28	37116.7
BANDWIDTH	1,29	605.638
BANDWIDTH	2,29	2422.51
BANDWIDTH	3,29	9689.99
BANDWIDTH	4,29	38760.0
BANDWIDTH	1,30	632.431
BANDWIDTH	2,30	2529.77
BANDWIDTH	3,30	10119.0
BANDWIDTH	4,30	40476.1
BANDWIDTH	1,31	660.442
BANDWIDTH	2,31	2641.77
BANDWIDTH	3,31	10567.0
BANDWIDTH	4,31	42268.1
BANDWIDTH	1,32	689.671
BANDWIDTH	2,32	2758.73
BANDWIDTH	3,32	11034.9
BANDWIDTH	4,32	44139.5
BAND_LABEL	1	A
BAND_LABEL	2	B
BAND_LABEL	3	C
BAND_LABEL	4	D

continues on next page



**RPW Data Product
Description Document**

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03

Date: March 11, 2021

Page: **458**

Tab. 4.64 – continued from previous page

Variable Name	Index	Value
CHANNEL_LABEL	1	1
CHANNEL_LABEL	2	2
TEMPERATURE_LABEL	1	Analog
TEMPERATURE_LABEL	2	Preamp1
TEMPERATURE_LABEL	3	Preamp2
TEMPERATURE_LABEL	4	Preamp3
RPW_STATUS_LABEL	1	BIAS_ON_OFF
RPW_STATUS_LABEL	2	LFR_ON_OFF
RPW_STATUS_LABEL	3	TDS_ON_OFF
RPW_STATUS_LABEL	4	THR_ON_OFF
RPW_STATUS_LABEL	5	ANT1_ON_OFF
RPW_STATUS_LABEL	6	ANT2_ON_OFF
RPW_STATUS_LABEL	7	ANT3_ON_OFF
RPW_STATUS_LABEL	8	SCM_ON_OFF
RPW_STATUS_LABEL	9	BIAS3
RPW_STATUS_LABEL	10	BIAS2
RPW_STATUS_LABEL	11	BIAS1
RPW_STATUS_LABEL	12	HV
RPW_STATUS_LABEL	13	M_LFR
RPW_STATUS_LABEL	14	C_LFR
RPW_STATUS_LABEL	15	M_TDS
TNR_BAND_FREQ	1,1	3992
TNR_BAND_FREQ	2,1	15967
TNR_BAND_FREQ	3,1	63869
TNR_BAND_FREQ	4,1	255474
TNR_BAND_FREQ	1,2	4169
TNR_BAND_FREQ	2,2	16674
TNR_BAND_FREQ	3,2	66696
TNR_BAND_FREQ	4,2	266785
TNR_BAND_FREQ	1,3	4353
TNR_BAND_FREQ	2,3	17412
TNR_BAND_FREQ	3,3	69649
TNR_BAND_FREQ	4,3	278597
TNR_BAND_FREQ	1,4	4546
TNR_BAND_FREQ	2,4	18183
TNR_BAND_FREQ	3,4	72733
TNR_BAND_FREQ	4,4	290931
TNR_BAND_FREQ	1,5	4747
TNR_BAND_FREQ	2,5	18988
TNR_BAND_FREQ	3,5	75953
TNR_BAND_FREQ	4,5	303812

continues on next page



**RPW Data Product
Description Document**

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03

Date: March 11, 2021

Page: **459**

Tab. 4.64 – continued from previous page

Variable Name	Index	Value
TNR_BAND_FREQ	1,6	4957
TNR_BAND_FREQ	2,6	19829
TNR_BAND_FREQ	3,6	79316
TNR_BAND_FREQ	4,6	317263
TNR_BAND_FREQ	1,7	5177
TNR_BAND_FREQ	2,7	20707
TNR_BAND_FREQ	3,7	82827
TNR_BAND_FREQ	4,7	331309
TNR_BAND_FREQ	1,8	5406
TNR_BAND_FREQ	2,8	21624
TNR_BAND_FREQ	3,8	86494
TNR_BAND_FREQ	4,8	345977
TNR_BAND_FREQ	1,9	5645
TNR_BAND_FREQ	2,9	22581
TNR_BAND_FREQ	3,9	90324
TNR_BAND_FREQ	4,9	361295
TNR_BAND_FREQ	1,10	5895
TNR_BAND_FREQ	2,10	23581
TNR_BAND_FREQ	3,10	94323
TNR_BAND_FREQ	4,10	377291
TNR_BAND_FREQ	1,11	6156
TNR_BAND_FREQ	2,11	24625
TNR_BAND_FREQ	3,11	98499
TNR_BAND_FREQ	4,11	393995
TNR_BAND_FREQ	1,12	6429
TNR_BAND_FREQ	2,12	25715
TNR_BAND_FREQ	3,12	102860
TNR_BAND_FREQ	4,12	411439
TNR_BAND_FREQ	1,13	6713
TNR_BAND_FREQ	2,13	26853
TNR_BAND_FREQ	3,13	107414
TNR_BAND_FREQ	4,13	429655
TNR_BAND_FREQ	1,14	7011
TNR_BAND_FREQ	2,14	28042
TNR_BAND_FREQ	3,14	112169
TNR_BAND_FREQ	4,14	448677
TNR_BAND_FREQ	1,15	7321
TNR_BAND_FREQ	2,15	29284
TNR_BAND_FREQ	3,15	117135
TNR_BAND_FREQ	4,15	468542
TNR_BAND_FREQ	1,16	7645

continues on next page



**RPW Data Product
Description Document**

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **460**

Tab. 4.64 – continued from previous page

Variable Name	Index	Value
TNR_BAND_FREQ	2,16	30580
TNR_BAND_FREQ	3,16	122322
TNR_BAND_FREQ	4,16	489286
TNR_BAND_FREQ	1,17	7984
TNR_BAND_FREQ	2,17	31934
TNR_BAND_FREQ	3,17	127737
TNR_BAND_FREQ	4,17	510949
TNR_BAND_FREQ	1,18	8337
TNR_BAND_FREQ	2,18	33348
TNR_BAND_FREQ	3,18	133393
TNR_BAND_FREQ	4,18	533570
TNR_BAND_FREQ	1,19	8706
TNR_BAND_FREQ	2,19	34825
TNR_BAND_FREQ	3,19	139298
TNR_BAND_FREQ	4,19	557193
TNR_BAND_FREQ	1,20	9092
TNR_BAND_FREQ	2,20	36366
TNR_BAND_FREQ	3,20	145466
TNR_BAND_FREQ	4,20	581862
TNR_BAND_FREQ	1,21	9494
TNR_BAND_FREQ	2,21	37976
TNR_BAND_FREQ	3,21	151906
TNR_BAND_FREQ	4,21	607624
TNR_BAND_FREQ	1,22	9914
TNR_BAND_FREQ	2,22	39658
TNR_BAND_FREQ	3,22	158631
TNR_BAND_FREQ	4,22	634525
TNR_BAND_FREQ	1,23	10353
TNR_BAND_FREQ	2,23	41414
TNR_BAND_FREQ	3,23	165655
TNR_BAND_FREQ	4,23	662618
TNR_BAND_FREQ	1,24	10812
TNR_BAND_FREQ	2,24	43247
TNR_BAND_FREQ	3,24	172989
TNR_BAND_FREQ	4,24	691955
TNR_BAND_FREQ	1,25	11290
TNR_BAND_FREQ	2,25	45162
TNR_BAND_FREQ	3,25	180648
TNR_BAND_FREQ	4,25	722590
TNR_BAND_FREQ	1,26	11790
TNR_BAND_FREQ	2,26	47161

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 461


Tab. 4.64 – continued from previous page

Variable Name	Index	Value
TNR_BAND_FREQ	3,26	188646
TNR_BAND_FREQ	4,26	754582
TNR_BAND_FREQ	1,27	12312
TNR_BAND_FREQ	2,27	49249
TNR_BAND_FREQ	3,27	196998
TNR_BAND_FREQ	4,27	787990
TNR_BAND_FREQ	1,28	12857
TNR_BAND_FREQ	2,28	51430
TNR_BAND_FREQ	3,28	205719
TNR_BAND_FREQ	4,28	822878
TNR_BAND_FREQ	1,29	13427
TNR_BAND_FREQ	2,29	53707
TNR_BAND_FREQ	3,29	214827
TNR_BAND_FREQ	4,29	859310
TNR_BAND_FREQ	1,30	14021
TNR_BAND_FREQ	2,30	56085
TNR_BAND_FREQ	3,30	224339
TNR_BAND_FREQ	4,30	897355
TNR_BAND_FREQ	1,31	14642
TNR_BAND_FREQ	2,31	58568
TNR_BAND_FREQ	3,31	234271
TNR_BAND_FREQ	4,31	937084
TNR_BAND_FREQ	1,32	15290
TNR_BAND_FREQ	2,32	61161
TNR_BAND_FREQ	3,32	244643
TNR_BAND_FREQ	4,32	978572

4.1.3.3 SOLO_L2_RPW-HFR-SURV data product

The “SOLO_L2_RPW-HFR-SURV” data product contains the calibrated HFR receiver spectrum survey data.

The “SOLO_L2_RPW-HFR-SURV” data are written in CDF format files. There is a single file per day, generated from data in the corresponding SOLO_L1_RPW-HFR-SURV parent file.

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 462

4.1.3.3.1 Filename

solo_L2_rpw-hfr-surv_[YYYYMMDD]_V[version].cdf

4.1.3.3.2 Expected cadence and data volume


Nominal cadence: 1 file per day

Expected data volume: 100 MB per file

4.1.3.3.3 Global Attributes

Attribute Name	Entry Number	Data Type	Value
ACCESS_FORMAT	1	CDF_CHAR	CDF
ACCESS_URL	1	CDF_CHAR	
Acknowledgement	1	CDF_CHAR	The authors are pleased to acknowledge the Solar Orbiter/RPW Investigation (M. Maksimovic, PIs) for access to data.
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009 (2.4)
Data_type	1	CDF_CHAR	H0>High Resolution data
Data_version	1	CDF_CHAR	
Descriptor	1	CDF_CHAR	RPW-HFR-SURV>RPW High Frequency Receiver in survey mode
Discipline	1	CDF_CHAR	Space Physics>Interplanetary Studies
File_naming_convention	1	CDF_CHAR	<Source_name>_<LEVEL>_<Descriptor>_<Date>
File_ID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	RPW Operations Centre located at LESIA (Meudon, France)
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	https://rpw.lesia.obspm.fr
Instrument_type	1	CDF_CHAR	Radio and Plasma Waves (space)
LINK_TEXT	1	CDF_CHAR	RPW Web site at LESIA
LINK_TITLE	1	CDF_CHAR	RPW Web site
Logical_file_id	1	CDF_CHAR	
Logical_source	1	CDF_CHAR	solo_L2_rpw-hfr-surv
Logical_source_description	1	CDF_CHAR	Solar Orbiter Radio/Plasma Wave, HFR L2 parameters
Mission_group	1	CDF_CHAR	Solar Orbiter


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 463

Tab. 4.65 – continued from previous page


Attribute Name	Entry Number	Data Type	Value
SKELETON_MODS	1	CDF_CHAR	July 2015 : initial release, X. BONNIN (CNRS-LESIA)
SKELETON_MODS	2	CDF_CHAR	V04: Update for solo data definition, X. BONNIN (CNRS-LESIA), April 2019
SKELETON_MODS	3	CDF_CHAR	V05: Update to compliant with SOL-SGS-TN-0009 Issue 2, Rev 4 - X.Bonnin, 09/2019
SKELETON_MODS	4	CDF_CHAR	V06: March 2020 : Delete Test_* g.attrs - X.Bonnin (CNRS, LESIA)
SKELETON_MODS	5	CDF_CHAR	V09: Remove UCD vattr and POST_GAP_FLAG zVar.
SKELETON_MODS	6	CDF_CHAR	V10: Jan. 2021 : Fix inconsistencies against the ISTP CDF guidelines, X.Bonnin (CNRS-LESIA)
Parent_version	1	CDF_CHAR	
Parents	1	CDF_CHAR	
PI_affiliation	1	CDF_CHAR	LESIA, Observatoire de Paris-CNRS
PI_name	1	CDF_CHAR	M.Maksimovic
Pipeline_version	1	CDF_CHAR	
Project	1	CDF_CHAR	SOLO>Solar Orbiter
Provider	1	CDF_CHAR	LESIA (Meudon, France)
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00006-LES (1.3)
Rules_of_use	1	CDF_CHAR	Data provided are publicly available. If used in presentations or publications, please acknowledge Solar Orbiter/RPW Investigation (M. Maksimovic, PIs). Please read carefully the caveats attached to the data. For reporting purposes, we request bibliography information for any publication, etc., using these data. Please send information on the use of this data to: M. Maksimovic (PI).
SKELETON_PARENT	1	CDF_CHAR	SOLO_L2_RPW-HFR-SURV_V10.cdf
Skeleton_version	1	CDF_CHAR	10
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	SOLO>Solar Orbiter
SPECTRAL_RANGE_MAX	1	CDF_CHAR	
SPECTRAL_RANGE_MIN	1	CDF_CHAR	

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 464

Tab. 4.65 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
TEXT	1	CDF_CHAR	This file contains RPW HFR level 2 science survey data for the current day.
TEXT_supplement_1	1	CDF_CHAR	
TIME_MAX	1	CDF_CHAR	
TIME_MIN	1	CDF_CHAR	
Validate	1	CDF_CHAR	
CAVEATS	1	CDF_CHAR	
CAL_ENTITY_NAME	1	CDF_CHAR	A. Vecchio
CAL_ENTITY_AFFILIATION	1	CDF_CHAR	LESIA, Observatoire de Paris-CNRS/RRL-RU-Nijmegen
CAL_EQUIPMENT	1	CDF_CHAR	
CALIBRATION_TABLE	1	CDF_CHAR	
CALIBRATION_VERSION	1	CDF_CHAR	
Datetime	1	CDF_CHAR	
Free_field	1	CDF_CHAR	
Job_ID	1	CDF_CHAR	
LEVEL	1	CDF_CHAR	L2>Level 2 data processing
SOOP_TYPE	1	CDF_CHAR	
Data_product	1	CDF_CHAR	SURV>SURV
TARGET_NAME	1	CDF_CHAR	Sun
TARGET_CLASS	1	CDF_CHAR	Star
TARGET_REGION	1	CDF_CHAR	Solar Wind
Pipeline_name	1	CDF_CHAR	
Dataset_ID	1	CDF_CHAR	SOLO_L2_RPW-HFR-SURV
OBS_ID	1	CDF_CHAR	
MODS	1	CDF_CHAR	

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 465


4.1.3.3.4 zVariables

Variable Name	Data Type	Number Elements	Dims	Sizes
Epoch	CDF_TIME_TT2000	1	0	
NUM	CDF_UINT4	1	0	
TIME_INTERPOL_FLAG	CDF_UINT1	1	0	
QUALITY_FLAG	CDF_UINT1	1	0	
QUALITY_BITMASK	CDF_UINT2	1	0	
SWEEP_NUM	CDF_UINT4	1	0	
SAMPLE_TIME	CDF_REAL8	1	0	
TICKS_NR	CDF_UINT4	1	0	
DELTA_TIME	CDF_REAL8	1	0	
SWEEP_MODE	CDF_UINT1	1	0	
SURVEY_MODE	CDF_UINT1	1	0	
CHANNEL_STATUS	CDF_UINT1	1	1	2
AVERAGE_NR	CDF_UINT1	1	0	
FRONT_END	CDF_UINT1	1	0	
SENSOR_CONFIG	CDF_UINT1	1	1	2
RPW_STATUS	CDF_UINT1	1	1	15
TEMPERATURE	CDF_UINT1	1	1	4
HFR_BAND	CDF_UINT1	1	0	
INTEGRATION_TIME	CDF_UINT1	1	0	
BANDWIDTH	CDF_UINT1	1	0	
FREQUENCY	CDF_UINT2	1	0	
AGC1	CDF_DOUBLE	1	0	
AGC2	CDF_DOUBLE	1	0	
CHANNEL_LABEL	CDF_CHAR	8	1	2
RPW_STATUS_LABEL	CDF_CHAR	16	1	15
TEMPERATURE_LABEL	CDF_CHAR	8	1	4
FLUX_DENSITY1	CDF_DOUBLE	1	0	
FLUX_DENSITY2	CDF_DOUBLE	1	0	
SYNCHRO_FLAG	CDF_UINT1	1	0	

4.1.3.3.5 Variable attributes

Variable Name	Attribute Name	Data Type	Value
Epoch	FIELDNAM	CDF_CHAR	Epoch
Epoch	CATDESC	CDF_CHAR	Default time


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 466

Tab. 4.66 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
Epoch	VALIDMIN	CDF_TIME_TT2000	1990-01-01T00:00:00.000000000
Epoch	VALIDMAX	CDF_TIME_TT2000	2029-12-31T23:59:59.999000000
Epoch	SCALEMIN	CDF_TIME_TT2000	1990-01-01T00:00:00.000000000
Epoch	SCALEMAX	CDF_TIME_TT2000	2029-12-31T23:59:59.999000000
Epoch	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch	LABLAXIS	CDF_CHAR	Epoch
Epoch	UNITS	CDF_CHAR	ns
Epoch	VAR_TYPE	CDF_CHAR	support_data
Epoch	SCALETYP	CDF_CHAR	linear
Epoch	MONOTON	CDF_CHAR	INCREASE
Epoch	TIME_BASE	CDF_CHAR	J2000
Epoch	TIME_SCALE	CDF_CHAR	Terrestrial Time
Epoch	REFERENCE_POS	CDF_CHAR	Spacecraft barycenter
Epoch	Resolution	CDF_CHAR	15258 ns
Epoch	Bin_location	CDF_CHAR	0.5
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file. Epoch is taken at the middle of the current HFR data sample measurement.
NUM	FIELDNAM	CDF_CHAR	NUM
NUM	CATDESC	CDF_CHAR	RPW HFR record index number
NUM	VALIDMIN	CDF_UINT4	1
NUM	VALIDMAX	CDF_UINT4	4294967294
NUM	SCALEMIN	CDF_UINT4	1
NUM	SCALEMAX	CDF_UINT4	4294967294
NUM	FILLVAL	CDF_UINT4	4294967295
NUM	LABLAXIS	CDF_CHAR	Record index
NUM	UNITS	CDF_CHAR	
NUM	VAR_TYPE	CDF_CHAR	support_data
NUM	SCALETYP	CDF_CHAR	linear
NUM	MONOTON	CDF_CHAR	INCREASE
NUM	VAR_NOTES	CDF_CHAR	Index of record in current file
NUM	DEPEND_0	CDF_CHAR	Epoch
NUM	DISPLAY_TYPE	CDF_CHAR	time_series


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 467

Tab. 4.66 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
NUM	FORMAT	CDF_CHAR	I10.0
TIME_INTERPOL_FLAG	FIELDNAM	CDF_CHAR	TIME_INTERPOL_FLAG
TIME_INTERPOL_FLAG	CATDESC	CDF_CHAR	Time interpolation flag
TIME_INTERPOL_FLAG	VALIDMIN	CDF_UINT1	0
TIME_INTERPOL_FLAG	VALIDMAX	CDF_UINT1	1
TIME_INTERPOL_FLAG	SCALEMIN	CDF_UINT1	0
TIME_INTERPOL_FLAG	SCALEMAX	CDF_UINT1	1
TIME_INTERPOL_FLAG	FILLVAL	CDF_UINT1	255
TIME_INTERPOL_FLAG	LABLAXIS	CDF_CHAR	interpol. time flag
TIME_INTERPOL_FLAG	UNITS	CDF_CHAR	
TIME_INTERPOL_FLAG	VAR_TYPE	CDF_CHAR	support_data
TIME_INTERPOL_FLAG	SCALETYP	CDF_CHAR	linear
TIME_INTERPOL_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate if the current EPOCH value is computed from an interpolated time or actual time as returned in the packet (0=actual, 1=interpolated)
TIME_INTERPOL_FLAG	DEPEND_0	CDF_CHAR	Epoch
TIME_INTERPOL_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
TIME_INTERPOL_FLAG	FORMAT	CDF_CHAR	I1.1
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	VALIDMIN	CDF_UINT1	0
QUALITY_FLAG	VALIDMAX	CDF_UINT1	4
QUALITY_FLAG	SCALEMIN	CDF_UINT1	0
QUALITY_FLAG	SCALEMAX	CDF_UINT1	4
QUALITY_FLAG	FILLVAL	CDF_UINT1	255
QUALITY_FLAG	LABLAXIS	CDF_CHAR	Quality flag
QUALITY_FLAG	UNITS	CDF_CHAR	
QUALITY_FLAG	VAR_TYPE	CDF_CHAR	support_data
QUALITY_FLAG	SCALETYP	CDF_CHAR	linear
QUALITY_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the quality of the data
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 468

Tab. 4.66 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	UNITS	CDF_CHAR	
QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context information or status at the receiver or experiment level
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
SWEEP_NUM	FIELDNAM	CDF_CHAR	SWEEP_NUM
SWEEP_NUM	CATDESC	CDF_CHAR	HFR sweep index number
SWEEP_NUM	VALIDMIN	CDF_UINT4	1
SWEEP_NUM	VALIDMAX	CDF_UINT4	4294967294
SWEEP_NUM	SCALEMIN	CDF_UINT4	1
SWEEP_NUM	SCALEMAX	CDF_UINT4	4294967294
SWEEP_NUM	FILLVAL	CDF_UINT4	4294967295
SWEEP_NUM	LABLAXIS	CDF_CHAR	HFR sweep index
SWEEP_NUM	UNITS	CDF_CHAR	
SWEEP_NUM	VAR_TYPE	CDF_CHAR	data
SWEEP_NUM	SCALETYP	CDF_CHAR	linear
SWEEP_NUM	VAR_NOTES	CDF_CHAR	HFR sweep index number in the current file
SWEEP_NUM	DEPEND_0	CDF_CHAR	Epoch
SWEEP_NUM	DISPLAY_TYPE	CDF_CHAR	time_series
SWEEP_NUM	FORMAT	CDF_CHAR	I10.0
SAMPLE_TIME	FIELDNAM	CDF_CHAR	SAMPLE_TIME
SAMPLE_TIME	CATDESC	CDF_CHAR	Time in of the HFR data sample since the beginning of the current sweep
SAMPLE_TIME	VALIDMIN	CDF_REAL8	0.0
SAMPLE_TIME	VALIDMAX	CDF_REAL8	1.0e+30
SAMPLE_TIME	SCALEMIN	CDF_REAL8	0.0
SAMPLE_TIME	SCALEMAX	CDF_REAL8	1.0e+30
SAMPLE_TIME	FILLVAL	CDF_REAL8	-1.0e+31
SAMPLE_TIME	LABLAXIS	CDF_CHAR	HFR sample time
SAMPLE_TIME	UNITS	CDF_CHAR	us
SAMPLE_TIME	VAR_TYPE	CDF_CHAR	support_data

continues on next page



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **469**

Tab. 4.66 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SAMPLE_TIME	SCALETYP	CDF_CHAR	linear
SAMPLE_TIME	Bin_location	CDF_CHAR	0.5
SAMPLE_TIME	VAR_NOTES	CDF_CHAR	Time in of the HFR data sample since the beginning of the current sweep. Time is computed at the middle of the measurement.
SAMPLE_TIME	DEPEND_0	CDF_CHAR	Epoch
SAMPLE_TIME	DISPLAY_TYPE	CDF_CHAR	time_series
SAMPLE_TIME	FORMAT	CDF_CHAR	F32.6
TICKS_NR	FIELDNAM	CDF_CHAR	TICKS_NR
TICKS_NR	CATDESC	CDF_CHAR	Number of ticks
TICKS_NR	VALIDMIN	CDF_UINT4	0
TICKS_NR	VALIDMAX	CDF_UINT4	4294967294
TICKS_NR	SCALEMIN	CDF_UINT4	0
TICKS_NR	SCALEMAX	CDF_UINT4	4294967294
TICKS_NR	FILLVAL	CDF_UINT4	4294967295
TICKS_NR	LABLAXIS	CDF_CHAR	TNR ticks
TICKS_NR	UNITS	CDF_CHAR	
TICKS_NR	VAR_TYPE	CDF_CHAR	support_data
TICKS_NR	SCALETYP	CDF_CHAR	linear
TICKS_NR	REFERENCE_POSITION	CDF_CHAR	RPW
TICKS_NR	VAR_NOTES	CDF_CHAR	Number of ticks between two HFR samples
TICKS_NR	DEPEND_0	CDF_CHAR	Epoch
TICKS_NR	DISPLAY_TYPE	CDF_CHAR	time_series
TICKS_NR	FORMAT	CDF_CHAR	I10.0
DELTA_TIME	FIELDNAM	CDF_CHAR	DELTA_TIME
DELTA_TIME	CATDESC	CDF_CHAR	RPW HFR band delta time
DELTA_TIME	VALIDMIN	CDF_REAL8	0.0
DELTA_TIME	VALIDMAX	CDF_REAL8	1.0e+30
DELTA_TIME	SCALEMIN	CDF_REAL8	0.0
DELTA_TIME	SCALEMAX	CDF_REAL8	1.0e+30
DELTA_TIME	FILLVAL	CDF_REAL8	-1.0e+31
DELTA_TIME	LABLAXIS	CDF_CHAR	HFR delta time
DELTA_TIME	UNITS	CDF_CHAR	usec
DELTA_TIME	VAR_TYPE	CDF_CHAR	support_data
DELTA_TIME	SCALETYP	CDF_CHAR	linear
DELTA_TIME	MONOTON	CDF_CHAR	INCREASE
DELTA_TIME	REFERENCE_POSITION	CDF_CHAR	RPW


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 470

Tab. 4.66 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
DELTA_TIME	VAR_NOTES	CDF_CHAR	Delta time of the HF band between two data samples in microseconds. Computed from TICKS_NR * (1 tick = 15.258 us)
DELTA_TIME	DEPEND_0	CDF_CHAR	Epoch
DELTA_TIME	DISPLAY_TYPE	CDF_CHAR	time_series
DELTA_TIME	FORMAT	CDF_CHAR	F32.6
SWEEP_MODE	FIELDNAM	CDF_CHAR	SWEEP_MODE
SWEEP_MODE	CATDESC	CDF_CHAR	HFR sweep mode of the current record
SWEEP_MODE	VALIDMIN	CDF_UINT1	0
SWEEP_MODE	VALIDMAX	CDF_UINT1	1
SWEEP_MODE	SCALEMIN	CDF_UINT1	0
SWEEP_MODE	SCALEMAX	CDF_UINT1	1
SWEEP_MODE	FILLVAL	CDF_UINT1	255
SWEEP_MODE	LABLAXIS	CDF_CHAR	HFR sweep mode
SWEEP_MODE	UNITS	CDF_CHAR	
SWEEP_MODE	VAR_TYPE	CDF_CHAR	data
SWEEP_MODE	SCALETYP	CDF_CHAR	linear
SWEEP_MODE	VAR_NOTES	CDF_CHAR	HFR sweep mode of the current record. Possible values are: 0=Automatic sweep, 1=List sweep.
SWEEP_MODE	DEPEND_0	CDF_CHAR	Epoch
SWEEP_MODE	DISPLAY_TYPE	CDF_CHAR	time_series
SWEEP_MODE	FORMAT	CDF_CHAR	I1.1
SURVEY_MODE	FIELDNAM	CDF_CHAR	SURVEY_MODE
SURVEY_MODE	CATDESC	CDF_CHAR	THR survey mode
SURVEY_MODE	VALIDMIN	CDF_UINT1	0
SURVEY_MODE	VALIDMAX	CDF_UINT1	1
SURVEY_MODE	SCALEMIN	CDF_UINT1	0
SURVEY_MODE	SCALEMAX	CDF_UINT1	1
SURVEY_MODE	FILLVAL	CDF_UINT1	255
SURVEY_MODE	LABLAXIS	CDF_CHAR	THR survey mode
SURVEY_MODE	UNITS	CDF_CHAR	
SURVEY_MODE	VAR_TYPE	CDF_CHAR	data
SURVEY_MODE	SCALETYP	CDF_CHAR	linear


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 471

Tab. 4.66 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SURVEY_MODE	VAR_NOTES	CDF_CHAR	Flag to indicate if the receiver in the SURVEY_BURST (=1) or SURVEY_NORMAL (=0) mode
SURVEY_MODE	DEPEND_0	CDF_CHAR	Epoch
SURVEY_MODE	DISPLAY_TYPE	CDF_CHAR	time_series
SURVEY_MODE	FORMAT	CDF_CHAR	I1.1
CHANNEL_STATUS	FIELDNAM	CDF_CHAR	CHANNEL_STATUS
CHANNEL_STATUS	CATDESC	CDF_CHAR	HFR channel status of the current record
CHANNEL_STATUS	VALIDMIN	CDF_UINT1	0
CHANNEL_STATUS	VALIDMAX	CDF_UINT1	254
CHANNEL_STATUS	SCALEMIN	CDF_UINT1	0
CHANNEL_STATUS	SCALEMAX	CDF_UINT1	254
CHANNEL_STATUS	FILLVAL	CDF_UINT1	255
CHANNEL_STATUS	UNITS	CDF_CHAR	
CHANNEL_STATUS	VAR_TYPE	CDF_CHAR	support_data
CHANNEL_STATUS	SCALETYP	CDF_CHAR	linear
CHANNEL_STATUS	VAR_NOTES	CDF_CHAR	HFR channel status of the current record. Possible values are: 0=OFF, 1=ON.
CHANNEL_STATUS	DEPEND_0	CDF_CHAR	Epoch
CHANNEL_STATUS	DISPLAY_TYPE	CDF_CHAR	time_series
CHANNEL_STATUS	FORMAT	CDF_CHAR	I3.3
CHANNEL_STATUS	LABL_PTR_1	CDF_CHAR	CHANNEL_LABEL
AVERAGE_NR	FIELDNAM	CDF_CHAR	AVERAGE_NR
AVERAGE_NR	CATDESC	CDF_CHAR	Number of averages
AVERAGE_NR	VALIDMIN	CDF_UINT1	16
AVERAGE_NR	VALIDMAX	CDF_UINT1	128
AVERAGE_NR	SCALEMIN	CDF_UINT1	16
AVERAGE_NR	SCALEMAX	CDF_UINT1	128
AVERAGE_NR	FILLVAL	CDF_UINT1	255
AVERAGE_NR	LABLAXIS	CDF_CHAR	averages
AVERAGE_NR	UNITS	CDF_CHAR	
AVERAGE_NR	VAR_TYPE	CDF_CHAR	data
AVERAGE_NR	SCALETYP	CDF_CHAR	linear
AVERAGE_NR	VAR_NOTES	CDF_CHAR	Number of averages applied (16, 32, 64 or 128)
AVERAGE_NR	DEPEND_0	CDF_CHAR	Epoch
AVERAGE_NR	DISPLAY_TYPE	CDF_CHAR	time_series
AVERAGE_NR	FORMAT	CDF_CHAR	I3.3


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 472

Tab. 4.66 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
FRONT_END	FIELDNAM	CDF_CHAR	FRONT_END
FRONT_END	CATDESC	CDF_CHAR	Front end setting
FRONT_END	VALIDMIN	CDF_UINT1	0
FRONT_END	VALIDMAX	CDF_UINT1	2
FRONT_END	SCALEMIN	CDF_UINT1	0
FRONT_END	SCALEMAX	CDF_UINT1	2
FRONT_END	FILLVAL	CDF_UINT1	255
FRONT_END	LABLAXIS	CDF_CHAR	FRONT_END
FRONT_END	UNITS	CDF_CHAR	
FRONT_END	VAR_TYPE	CDF_CHAR	data
FRONT_END	SCALETYP	CDF_CHAR	linear
FRONT_END	VAR_NOTES	CDF_CHAR	Front end setting (0= GND, 1=PREAMP, 2=CAL)
FRONT_END	DEPEND_0	CDF_CHAR	Epoch
FRONT_END	DISPLAY_TYPE	CDF_CHAR	time_series
FRONT_END	FORMAT	CDF_CHAR	I1.1
SENSOR_CONFIG	FIELDNAM	CDF_CHAR	SENSOR_CONFIG
SENSOR_CONFIG	CATDESC	CDF_CHAR	THR sensor configuration
SENSOR_CONFIG	VALIDMIN	CDF_UINT1	0
SENSOR_CONFIG	VALIDMAX	CDF_UINT1	9
SENSOR_CONFIG	SCALEMIN	CDF_UINT1	0
SENSOR_CONFIG	SCALEMAX	CDF_UINT1	9
SENSOR_CONFIG	FILLVAL	CDF_UINT1	255
SENSOR_CONFIG	LABLAXIS	CDF_CHAR	THR sensor config.
SENSOR_CONFIG	UNITS	CDF_CHAR	
SENSOR_CONFIG	VAR_TYPE	CDF_CHAR	data
SENSOR_CONFIG	SCALETYP	CDF_CHAR	linear
SENSOR_CONFIG	VAR_NOTES	CDF_CHAR	Indicates the THR sensor configuration (V1=1, V2=2, V3=3, V1-V2=4, V2-V3=5, V3-V1=6, B_MF=7, HF_V1-V2=9, HF_V2-V3=10, HF_V3-V1=11)
SENSOR_CONFIG	DEPEND_0	CDF_CHAR	Epoch
SENSOR_CONFIG	DISPLAY_TYPE	CDF_CHAR	time_series
SENSOR_CONFIG	FORMAT	CDF_CHAR	I1.1
RPW_STATUS	FIELDNAM	CDF_CHAR	RPW_STATUS
RPW_STATUS	CATDESC	CDF_CHAR	RPW status
RPW_STATUS	VALIDMIN	CDF_UINT1	0
RPW_STATUS	VALIDMAX	CDF_UINT1	1
RPW_STATUS	SCALEMIN	CDF_UINT1	0


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 473

Tab. 4.66 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
RPW_STATUS	SCALEMAX	CDF_UINT1	1
RPW_STATUS	FILLVAL	CDF_UINT1	255
RPW_STATUS	LABLAXIS	CDF_CHAR	RPW status
RPW_STATUS	UNITS	CDF_CHAR	
RPW_STATUS	VAR_TYPE	CDF_CHAR	data
RPW_STATUS	SCALETYP	CDF_CHAR	linear
RPW_STATUS	VAR_NOTES	CDF_CHAR	Flag to indicate the status of 15 RPW sub-systems
RPW_STATUS	DEPEND_0	CDF_CHAR	Epoch
RPW_STATUS	DISPLAY_TYPE	CDF_CHAR	time_series
RPW_STATUS	FORMAT	CDF_CHAR	I1.1
TEMPERATURE	FIELDNAM	CDF_CHAR	TEMPERATURE
TEMPERATURE	CATDESC	CDF_CHAR	PA temperature
TEMPERATURE	VALIDMIN	CDF_UINT1	0
TEMPERATURE	VALIDMAX	CDF_UINT1	254
TEMPERATURE	SCALEMIN	CDF_UINT1	0
TEMPERATURE	SCALEMAX	CDF_UINT1	254
TEMPERATURE	FILLVAL	CDF_UINT1	255
TEMPERATURE	UNITS	CDF_CHAR	degrees
TEMPERATURE	VAR_TYPE	CDF_CHAR	data
TEMPERATURE	SCALETYP	CDF_CHAR	linear
TEMPERATURE	VAR_NOTES	CDF_CHAR	Temperature of the 3 HF PAs and analog. in degrees. In the case of an internal calibration mode, it contains the PCB temperature and the 3 Volt-ages.
TEMPERATURE	DEPEND_0	CDF_CHAR	Epoch
TEMPERATURE	DISPLAY_TYPE	CDF_CHAR	time_series
TEMPERATURE	FORMAT	CDF_CHAR	I3.3
TEMPERATURE	LABL_PTR_1	CDF_CHAR	TEMPERATURE_LABEL
HFR_BAND	FIELDNAM	CDF_CHAR	HFR_BAND
HFR_BAND	CATDESC	CDF_CHAR	HFR frequency band of the current record
HFR_BAND	VALIDMIN	CDF_UINT1	1
HFR_BAND	VALIDMAX	CDF_UINT1	2
HFR_BAND	SCALEMIN	CDF_UINT1	0
HFR_BAND	SCALEMAX	CDF_UINT1	254
HFR_BAND	FILLVAL	CDF_UINT1	255
HFR_BAND	LABLAXIS	CDF_CHAR	HFR band
HFR_BAND	UNITS	CDF_CHAR	


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 474

Tab. 4.66 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
HFR_BAND	VAR_TYPE	CDF_CHAR	support_data
HFR_BAND	SCALETYP	CDF_CHAR	linear
HFR_BAND	VAR_NOTES	CDF_CHAR	HFR frequency band of the current record. Possible values are: 1=HF1, 2=HF2.
HFR_BAND	DEPEND_0	CDF_CHAR	Epoch
HFR_BAND	DISPLAY_TYPE	CDF_CHAR	time_series
HFR_BAND	FORMAT	CDF_CHAR	I3.3
INTEGRATION_TIME	FIELDNAM	CDF_CHAR	INTEGRATION_TIME
INTEGRATION_TIME	CATDESC	CDF_CHAR	Integration time of HFR
INTEGRATION_TIME	VALIDMIN	CDF_UINT1	0
INTEGRATION_TIME	VALIDMAX	CDF_UINT1	1
INTEGRATION_TIME	SCALEMIN	CDF_UINT1	0
INTEGRATION_TIME	SCALEMAX	CDF_UINT1	2
INTEGRATION_TIME	FILLVAL	CDF_UINT1	255
INTEGRATION_TIME	LABLAXIS	CDF_CHAR	Int. Time
INTEGRATION_TIME	UNITS	CDF_CHAR	ms
INTEGRATION_TIME	VAR_TYPE	CDF_CHAR	support_data
INTEGRATION_TIME	SCALETYP	CDF_CHAR	linear
INTEGRATION_TIME	VAR_NOTES	CDF_CHAR	Integration time of a single measurement on HF band in milliseconds. Total measurement duration T (ms) over a sweep cycle is $T = \text{AVERAGE_NR} * \text{INTEGRATION_TIME} * \text{N_FREQ}$, where AVERAGE_NR is the number of averages (i.e., 16, 32, 64 or 128) and N_FREQ is the number of frequencies in the current sweep.
INTEGRATION_TIME	DEPEND_0	CDF_CHAR	Epoch
INTEGRATION_TIME	DISPLAY_TYPE	CDF_CHAR	time_series
INTEGRATION_TIME	FORMAT	CDF_CHAR	I1.1
BANDWIDTH	FIELDNAM	CDF_CHAR	BANDWIDTH
BANDWIDTH	CATDESC	CDF_CHAR	Frequency bandwidth
BANDWIDTH	VALIDMIN	CDF_UINT1	0
BANDWIDTH	VALIDMAX	CDF_UINT1	30
BANDWIDTH	SCALEMIN	CDF_UINT1	0
BANDWIDTH	SCALEMAX	CDF_UINT1	254


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 475

Tab. 4.66 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BANDWIDTH	FILLVAL	CDF_UINT1	255
BANDWIDTH	LABLAXIS	CDF_CHAR	Bandwidth
BANDWIDTH	UNITS	CDF_CHAR	kHz
BANDWIDTH	VAR_TYPE	CDF_CHAR	support_data
BANDWIDTH	SCALETYP	CDF_CHAR	linear
BANDWIDTH	VAR_NOTES	CDF_CHAR	HFR frequency bandwidth in kHz
BANDWIDTH	DEPEND_0	CDF_CHAR	Epoch
BANDWIDTH	DISPLAY_TYPE	CDF_CHAR	time_series
BANDWIDTH	FORMAT	CDF_CHAR	I3.3
FREQUENCY	FIELDNAM	CDF_CHAR	FREQUENCY
FREQUENCY	CATDESC	CDF_CHAR	Frequency of analysis
FREQUENCY	VALIDMIN	CDF_UINT2	4
FREQUENCY	VALIDMAX	CDF_UINT2	16400
FREQUENCY	SCALEMIN	CDF_UINT2	4
FREQUENCY	SCALEMAX	CDF_UINT2	16400
FREQUENCY	FILLVAL	CDF_UINT2	65535
FREQUENCY	LABLAXIS	CDF_CHAR	Frequency
FREQUENCY	UNITS	CDF_CHAR	kHz
FREQUENCY	VAR_TYPE	CDF_CHAR	support_data
FREQUENCY	SCALETYP	CDF_CHAR	linear
FREQUENCY	VAR_NOTES	CDF_CHAR	Frequency of analysis in kHz
FREQUENCY	DEPEND_0	CDF_CHAR	Epoch
FREQUENCY	DISPLAY_TYPE	CDF_CHAR	time_series
FREQUENCY	FORMAT	CDF_CHAR	I5.5
AGC1	FIELDNAM	CDF_CHAR	AGC1
AGC1	CATDESC	CDF_CHAR	Automatic Gain Control of the current record on channel 1
AGC1	VALIDMIN	CDF_DOUBLE	0.0
AGC1	VALIDMAX	CDF_DOUBLE	1.0e+30
AGC1	SCALEMIN	CDF_DOUBLE	0.0
AGC1	SCALEMAX	CDF_DOUBLE	1.0e+30
AGC1	FILLVAL	CDF_DOUBLE	-1.0e+31
AGC1	LABLAXIS	CDF_CHAR	AGC1
AGC1	UNITS	CDF_CHAR	V ² /Hz
AGC1	VAR_TYPE	CDF_CHAR	data
AGC1	SCALETYP	CDF_CHAR	linear
AGC1	VAR_NOTES	CDF_CHAR	Automatic Gain Control of the current record on channel 1
AGC1	DEPEND_0	CDF_CHAR	Epoch
AGC1	DISPLAY_TYPE	CDF_CHAR	time_series


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 476

Tab. 4.66 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
AGC1	FORMAT	CDF_CHAR	F32.6
AGC2	FIELDNAM	CDF_CHAR	AGC2
AGC2	CATDESC	CDF_CHAR	Automatic Gain Control of the current record on channel 2
AGC2	VALIDMIN	CDF_DOUBLE	0.0
AGC2	VALIDMAX	CDF_DOUBLE	1.0e+30
AGC2	SCALEMIN	CDF_DOUBLE	0.0
AGC2	SCALEMAX	CDF_DOUBLE	1.0e+30
AGC2	FILLVAL	CDF_DOUBLE	-1.0e+31
AGC2	LABLAXIS	CDF_CHAR	AGC2
AGC2	UNITS	CDF_CHAR	V ² /Hz
AGC2	VAR_TYPE	CDF_CHAR	data
AGC2	SCALETYP	CDF_CHAR	linear
AGC2	VAR_NOTES	CDF_CHAR	Automatic Gain Control of the current record on channel 2
AGC2	DEPEND_0	CDF_CHAR	Epoch
AGC2	DISPLAY_TYPE	CDF_CHAR	time_series
AGC2	FORMAT	CDF_CHAR	F32.6
CHANNEL_LABEL	FIELDNAM	CDF_CHAR	CHANNEL_LABEL
CHANNEL_LABEL	CATDESC	CDF_CHAR	Label for channel status
CHANNEL_LABEL	VAR_TYPE	CDF_CHAR	metadata
CHANNEL_LABEL	FORMAT	CDF_CHAR	A8
RPW_STATUS_LABEL	FIELDNAM	CDF_CHAR	RPW_STATUS_LABEL
RPW_STATUS_LABEL	CATDESC	CDF_CHAR	Label for RPW status
RPW_STATUS_LABEL	VAR_TYPE	CDF_CHAR	metadata
RPW_STATUS_LABEL	FORMAT	CDF_CHAR	A16
TEMPERATURE_LABEL	FIELDNAM	CDF_CHAR	TEMPERATURE_LABEL
TEMPERATURE_LABEL	CATDESC	CDF_CHAR	Label for PA temperature
TEMPERATURE_LABEL	VAR_TYPE	CDF_CHAR	metadata
TEMPERATURE_LABEL	FORMAT	CDF_CHAR	A8
FLUX_DENSITY1	FIELDNAM	CDF_CHAR	FLUX_DENSITY1
FLUX_DENSITY1	CATDESC	CDF_CHAR	Power density flux channel 1
FLUX_DENSITY1	VALIDMIN	CDF_DOUBLE	0.0
FLUX_DENSITY1	VALIDMAX	CDF_DOUBLE	1.0e+30
FLUX_DENSITY1	SCALEMIN	CDF_DOUBLE	0.0
FLUX_DENSITY1	SCALEMAX	CDF_DOUBLE	1.0e+30
FLUX_DENSITY1	FILLVAL	CDF_DOUBLE	-1.0e+31
FLUX_DENSITY1	LABLAXIS	CDF_CHAR	HFR power 1
FLUX_DENSITY1	UNITS	CDF_CHAR	W/m ² /Hz
FLUX_DENSITY1	VAR_TYPE	CDF_CHAR	data
FLUX_DENSITY1	SCALETYP	CDF_CHAR	linear


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 477

Tab. 4.66 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
FLUX_DENSITY1	VAR_NOTES	CDF_CHAR	Flux of the power spectral density for channel 1 with antenna gain
FLUX_DENSITY1	DEPEND_0	CDF_CHAR	Epoch
FLUX_DENSITY1	DISPLAY_TYPE	CDF_CHAR	time_series
FLUX_DENSITY1	FORMAT	CDF_CHAR	F32.6
FLUX_DENSITY2	FIELDNAM	CDF_CHAR	AGC2
FLUX_DENSITY2	CATDESC	CDF_CHAR	Power density flux channel 2
FLUX_DENSITY2	VALIDMIN	CDF_DOUBLE	0.0
FLUX_DENSITY2	VALIDMAX	CDF_DOUBLE	1.0e+30
FLUX_DENSITY2	SCALEMIN	CDF_DOUBLE	0.0
FLUX_DENSITY2	SCALEMAX	CDF_DOUBLE	1.0e+30
FLUX_DENSITY2	FILLVAL	CDF_DOUBLE	-1.0e+31
FLUX_DENSITY2	LABLAXIS	CDF_CHAR	HFR power 2
FLUX_DENSITY2	UNITS	CDF_CHAR	W/m ² /Hz
FLUX_DENSITY2	VAR_TYPE	CDF_CHAR	data
FLUX_DENSITY2	SCALETYP	CDF_CHAR	linear
FLUX_DENSITY2	VAR_NOTES	CDF_CHAR	Flux of the power spectral density for channel 2 with antenna gain
FLUX_DENSITY2	DEPEND_0	CDF_CHAR	Epoch
FLUX_DENSITY2	DISPLAY_TYPE	CDF_CHAR	time_series
FLUX_DENSITY2	FORMAT	CDF_CHAR	F32.6
SYNCHRO_FLAG	FIELDNAM	CDF_CHAR	SYNCHRO_FLAG
SYNCHRO_FLAG	CATDESC	CDF_CHAR	Receiver time synchronisation flag
SYNCHRO_FLAG	VALIDMIN	CDF_UINT1	0
SYNCHRO_FLAG	VALIDMAX	CDF_UINT1	1
SYNCHRO_FLAG	SCALEMIN	CDF_UINT1	0
SYNCHRO_FLAG	SCALEMAX	CDF_UINT1	1
SYNCHRO_FLAG	FILLVAL	CDF_UINT1	255
SYNCHRO_FLAG	LABLAXIS	CDF_CHAR	Time sync. Flag
SYNCHRO_FLAG	UNITS	CDF_CHAR	
SYNCHRO_FLAG	VAR_TYPE	CDF_CHAR	support_data
SYNCHRO_FLAG	SCALETYP	CDF_CHAR	linear
SYNCHRO_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate if the receiver time is synchronised or not (0=Not synchronized, 1=Synchronized)
SYNCHRO_FLAG	DEPEND_0	CDF_CHAR	Epoch
SYNCHRO_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 478

Tab. 4.66 – continued from previous page


Variable Name	Attribute Name	Data Type	Value
SYNCHRO_FLAG	FORMAT	CDF_CHAR	I1.1

4.1.3.3.6 Non-Record-Variant (NRV) Variables

Variable Name	Index	Value
INTEGRATION_TIME		1
BANDWIDTH		030
CHANNEL_LABEL	1.0	Ch1
CHANNEL_LABEL	2.0	Ch2
RPW_STATUS_LABEL	1.0	BIAS_ON_OFF
RPW_STATUS_LABEL	2.0	LFR_ON_OFF
RPW_STATUS_LABEL	3.0	TDS_ON_OFF
RPW_STATUS_LABEL	4.0	THR_ON_OFF
RPW_STATUS_LABEL	5.0	ANT1_ON_OFF
RPW_STATUS_LABEL	6.0	ANT2_ON_OFF
RPW_STATUS_LABEL	7.0	ANT3_ON_OFF
RPW_STATUS_LABEL	8.0	SCM_ON_OFF
RPW_STATUS_LABEL	9.0	BIAS3
RPW_STATUS_LABEL	10.0	BIAS2
RPW_STATUS_LABEL	11.0	BIAS1
RPW_STATUS_LABEL	12.0	HV
RPW_STATUS_LABEL	13.0	M_LFR
RPW_STATUS_LABEL	14.0	C_LFR
RPW_STATUS_LABEL	15.0	M_TDS
TEMPERATURE_LABEL	1.0	Analog
TEMPERATURE_LABEL	2.0	Preamp1
TEMPERATURE_LABEL	3.0	Preamp2
TEMPERATURE_LABEL	4.0	Preamp3

4.1.3.4 SOLO_L2_RPW-TDS-SURV-RSWF-E data product

The “SOLO_L2_RPW-TDS-SURV-RSWF-E” data product contains the calibrated TDS receiver Regular Snapshot Waveform survey data for electrical component only. The “SOLO_L2_RPW-TDS-SURV-RSWF-E” data are written in CDF format files. There is a single file per day, generated from data in the corresponding SOLO_L1_RPW-TDS-SURV-RSWF parent file.

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 479

4.1.3.4.1 Filename

solo_L2_rpw-tds-surv-rswf-e_[YYYYMMDD]_V[version].cdf

4.1.3.4.2 Expected cadence and data volume


Nominal cadence: 1 file per day

Expected data volume: 500 MB per file

4.1.3.4.3 Global Attributes

Attribute Name	Entry Number	Data Type	Value
ACCESS_URL	1	CDF_CHAR	
ACCESS_FORMAT	1	CDF_CHAR	CDF
Acknowledgement	1	CDF_CHAR	The authors are pleased to acknowledge the Solar Orbiter/RPW Investigation (M. Maksimovic, PIs) for access to data.
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009 (2.4)
Data_type	1	CDF_CHAR	H0>High Resolution data
Data_version	1	CDF_CHAR	
Descriptor	1	CDF_CHAR	RPW-TDS-SURV-RSWF> RPW Time Domain Sampler Regular Waveform Snapshot data in survey mode
Discipline	1	CDF_CHAR	Space Physics>Interplanetary Studies
File_naming_convention	1	CDF_CHAR	<Source_name>_<LEVEL>_<Descriptor>_<Date>
File_ID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	RPW Operations Centre located at LESIA (Meudon, France)
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	https://rpw.lesia.obspm.fr
Instrument_type	1	CDF_CHAR	Radio and Plasma Waves (space)
LINK_TEXT	1	CDF_CHAR	RPW Web site at LESIA
LINK_TITLE	1	CDF_CHAR	RPW Web site
Logical_file_id	1	CDF_CHAR	
Logical_source	1	CDF_CHAR	solo_L2_rpw-tds-surv-rswf-e
Logical_source_description	1	CDF_CHAR	Solar Orbiter Radio/Plasma Wave, TDS L2 parameters


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 480

Tab. 4.67 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Mission_group	1	CDF_CHAR	Solar Orbiter
MODS	1	CDF_CHAR	
Parent_version	1	CDF_CHAR	
Parents	1	CDF_CHAR	
PI_affiliation	1	CDF_CHAR	LESIA, Observatoire de Paris-CNRS
PI_name	1	CDF_CHAR	M.Maksimovic
Pipeline_version	1	CDF_CHAR	
Project	1	CDF_CHAR	SOLO>Solar Orbiter
Provider	1	CDF_CHAR	LESIA (Meudon, France)
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00006-LES (1.3)
Rules_of_use	1	CDF_CHAR	Data provided are publicly available. If used in presentations or publications, please acknowledge Solar Orbiter/RPW Investigation (M. Maksimovic, PIs). Please read carefully the caveats attached to the data. For reporting purposes, we request bibliography information for any publication, etc., using these data. Please send information on the use of this data to: M. Maksimovic (PI).
SKELETON_MODS	1	CDF_CHAR	January 2016: initial release
SKELETON_MODS	2	CDF_CHAR	October 2016 (ROC): Update to Issue 2 Rev 1
SKELETON_MODS	3	CDF_CHAR	January 2019 (IAP): CDF_NAME fixed, gAtts fixed.
SKELETON_MODS	4	CDF_CHAR	V04: Update for solo data definition, X. BONNIN (CNRS-LESIA), April 2019
SKELETON_MODS	5	CDF_CHAR	V05: Update to compliant with SOL-SGS-TN-0009 Issue 2, Rev 4 - X.Bonnin, 09/2019
SKELETON_MODS	6	CDF_CHAR	V06: Update zVars WAVEFORM_DATA_RTN and RPW_ANTENNA_RTN added. WAVEFORM_LABEL, SYNCHRO_FLAG, ACQUISITION_* and SCET removed. SAMPLING_RATE updated to Hz. Minor typos fixed. TEST_* gAtts removed.
SKELETON_MODS	7	CDF_CHAR	V07: g.Attribute SPICE_KERNELS added.


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 481

Tab. 4.67 – continued from previous page


Attribute Name	Entry Number	Data Type	Value
SKELETON_MODS	8	CDF_CHAR	V08: zVar TDS_CONFIG_LABEL added, D.Pisa (IAP-CAS), Jun 2020.
SKELETON_MODS	9	CDF_CHAR	V09: QUALITY_BITMASK type changed. CHANNEL_CONFIG dimensions reordered.
SKELETON_MODS	10	CDF_CHAR	V10: Remove UCD vattr and POST_GAP_FLAG zVar.
SKELETON_MODS	11	CDF_CHAR	V11: WAVEFORM_DATA_RTN replaced by WAVEFORM_DATA_VOLTAGE
SKELETON_MODS	12	CDF_CHAR	V12: NASA/SPDF compliance changes. MODS renamed to SKELETON_MODS. CHANNEL_CONFIG renamed to CHANNEL_REF. CHANNEL_REF changed from two elements vector to a number. RPW_ANTENNA_RTN_LABEL_1 and _2 zVars added. CHANNEL_LABEL set has NRV values.GAtt MODS added.
SKELETON_PARENT	1	CDF_CHAR	SOLO_L2_RPW-TDS-SURV-RSWF-E
Skeleton_version	1	CDF_CHAR	12
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	SOLO>Solar Orbiter
SPICE_KERNELS	1	CDF_CHAR	
SPECTRAL_RANGE_MAX	1	CDF_CHAR	
SPECTRAL_RANGE_MIN	1	CDF_CHAR	
TEXT	1	CDF_CHAR	This file contains RPW TDS level 2 regular snapshot E waveform data.
TEXT_supplement_1	1	CDF_CHAR	
TIME_MAX	1	CDF_CHAR	
TIME_MIN	1	CDF_CHAR	
Validate	1	CDF_CHAR	
CAVEATS	1	CDF_CHAR	
CAL_ENTITY_NAME	1	CDF_CHAR	
CAL_ENTITY_AFFILIATION	1	CDF_CHAR	
CAL_EQUIPMENT	1	CDF_CHAR	
CALIBRATION_TABLE	1	CDF_CHAR	

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 482

Tab. 4.67 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
CALIBRATION_VERSION	1	CDF_CHAR	
Datetime	1	CDF_CHAR	
Free_field	1	CDF_CHAR	
Job_ID	1	CDF_CHAR	
LEVEL	1	CDF_CHAR	L2>Level 2 data processing
SOOP_TYPE	1	CDF_CHAR	
Data_product	1	CDF_CHAR	SURV-RSWF-E>SURV-RSWF-E
TARGET_NAME	1	CDF_CHAR	Sun
TARGET_CLASS	1	CDF_CHAR	Star
TARGET_REGION	1	CDF_CHAR	Solar Wind
Pipeline_name	1	CDF_CHAR	
Dataset_ID	1	CDF_CHAR	SOLO_L2_RPW-TDS-SURV-RSWF-E
OBS_ID	1	CDF_CHAR	

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 483


4.1.3.4.4 zVariables

Variable Name	Data Type	Number Elements	Dims	Sizes
Epoch	CDF_TIME_TT2000	1	0	
QUALITY_FLAG	CDF_UINT1	1	0	
QUALITY_BITMASK	CDF_UINT2	1	0	
SURVEY_MODE	CDF_UINT1	1	0	
BIA_STATUS_INFO	CDF_UINT1	1	0	
BIA_STATUS_INFO_LABEL	CDF_CHAR	16	1	6
SAMPLING_RATE	CDF_FLOAT	1	0	
CHANNEL_OVERFLOW	CDF_UINT1	1	1	4
BUFFER_OVERFLOW	CDF_UINT1	1	0	
FILTER_COEFS	CDF_UINT1	1	0	
RPW_STATUS_INFO	CDF_UINT1	1	1	7
RPW_STATUS_INFO_LABEL	CDF_CHAR	16	1	7
INPUT_CONFIG	CDF_UINT4	1	0	
TDS_CONFIG_LABEL	CDF_CHAR	8	0	
SNAPSHOT_SEQ_NR	CDF_UINT2	1	0	
CHANNEL_REF	CDF_UINT1	1	1	4
CHANNEL_LABEL	CDF_CHAR	16	1	4
SAMPS_PER_CH	CDF_UINT4	1	0	
CHANNEL_ON	CDF_UINT1	1	1	4
WAVEFORM_DATA	CDF_FLOAT	1	2	4 65536
WAVEFORM_DATA_VOLTAGE	CDF_FLOAT	1	2	4 65536
RPW_ANTENNA_RTN	CDF_FLOAT	1	2	3 3
RPW_ANTENNA_RTN_LABEL	CDF_CHAR	8	1	3
RPW_ANTENNA_RTN_LABEL	CDF_CHAR	8	1	3

4.1.3.4.5 Variable attributes

Variable Name	Attribute Name	Data Type	Value
Epoch	FIELDNAM	CDF_CHAR	Epoch
Epoch	CATDESC	CDF_CHAR	Default time
Epoch	DISPLAY_TYPE	CDF_CHAR	time_series
Epoch	VALIDMIN	CDF_TIME_TT2000	2000-01-01T00:00:00.000000000
Epoch	VALIDMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 484

Tab. 4.68 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
Epoch	SCALEMIN	CDF_TIME_TT2000	1990-01-01T00:00:00.000000000
Epoch	SCALEMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch	LABLAXIS	CDF_CHAR	Epoch
Epoch	UNITS	CDF_CHAR	ns
Epoch	VAR_TYPE	CDF_CHAR	support_data
Epoch	SCALETYP	CDF_CHAR	linear
Epoch	MONOTON	CDF_CHAR	INCREASE
Epoch	TIME_BASE	CDF_CHAR	J2000
Epoch	TIME_SCALE	CDF_CHAR	Terrestrial Time
Epoch	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
Epoch	Resolution	CDF_CHAR	15258 ns
Epoch	Bin_location	CDF_CHAR	0.5
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file.
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	VALIDMIN	CDF_UINT1	0
QUALITY_FLAG	VALIDMAX	CDF_UINT1	4
QUALITY_FLAG	SCALEMIN	CDF_UINT1	0
QUALITY_FLAG	SCALEMAX	CDF_UINT1	4
QUALITY_FLAG	FILLVAL	CDF_UINT1	255
QUALITY_FLAG	LABLAXIS	CDF_CHAR	Quality flag
QUALITY_FLAG	UNITS	CDF_CHAR	
QUALITY_FLAG	VAR_TYPE	CDF_CHAR	support_data
QUALITY_FLAG	SCALETYP	CDF_CHAR	linear
QUALITY_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the quality of the data
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FLAG	FORMAT	CDF_CHAR	I1
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 485

Tab. 4.68 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	UNITS	CDF_CHAR	
QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context information or status at the receiver or experiment level
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
SURVEY_MODE	FIELDNAM	CDF_CHAR	SURVEY_MODE
SURVEY_MODE	CATDESC	CDF_CHAR	LFR survey mode
SURVEY_MODE	DISPLAY_TYPE	CDF_CHAR	time_series
SURVEY_MODE	VALIDMIN	CDF_UINT1	0
SURVEY_MODE	VALIDMAX	CDF_UINT1	1
SURVEY_MODE	SCALEMIN	CDF_UINT1	0
SURVEY_MODE	SCALEMAX	CDF_UINT1	1
SURVEY_MODE	FILLVAL	CDF_UINT1	255
SURVEY_MODE	LABLAXIS	CDF_CHAR	TDS survey mode
SURVEY_MODE	UNITS	CDF_CHAR	
SURVEY_MODE	VAR_TYPE	CDF_CHAR	support_data
SURVEY_MODE	SCALETYP	CDF_CHAR	linear
SURVEY_MODE	VAR_NOTES	CDF_CHAR	Flag to indicate if the receiver in the SURVEY_BURST (=1) or SURVEY_NORMAL (=0) mode
SURVEY_MODE	DEPEND_0	CDF_CHAR	Epoch
SURVEY_MODE	FORMAT	CDF_CHAR	I1
BIA_STATUS_INFO	FIELDNAM	CDF_CHAR	BIA_STATUS_INFO
BIA_STATUS_INFO	CATDESC	CDF_CHAR	BIAS status byte
BIA_STATUS_INFO	DISPLAY_TYPE	CDF_CHAR	time_series
BIA_STATUS_INFO	VALIDMIN	CDF_UINT1	0
BIA_STATUS_INFO	VALIDMAX	CDF_UINT1	1
BIA_STATUS_INFO	SCALEMIN	CDF_UINT1	0
BIA_STATUS_INFO	SCALEMAX	CDF_UINT1	1
BIA_STATUS_INFO	FILLVAL	CDF_UINT1	255
BIA_STATUS_INFO	LABLAXIS	CDF_CHAR	BIAS status
BIA_STATUS_INFO	UNITS	CDF_CHAR	
BIA_STATUS_INFO	VAR_TYPE	CDF_CHAR	support_data
BIA_STATUS_INFO	SCALETYP	CDF_CHAR	linear
BIA_STATUS_INFO	VAR_NOTES	CDF_CHAR	BIAS status byte

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 486

Tab. 4.68 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIA_STATUS_INFO	DEPEND_0	CDF_CHAR	Epoch
BIA_STATUS_INFO	FORMAT	CDF_CHAR	I1
BIA_STATUS_INFO_LABEL	FIELDNAM	CDF_CHAR	BIA_STATUS_INFO_LABEL
BIA_STATUS_INFO_LABEL	CATDESC	CDF_CHAR	Label for BIA_STATUS_INFO
BIA_STATUS_INFO_LABEL	VAR_TYPE	CDF_CHAR	metadata
BIA_STATUS_INFO_LABEL	FORMAT	CDF_CHAR	A8
SAMPLING_RATE	FIELDNAM	CDF_CHAR	SAMPLING_RATE
SAMPLING_RATE	CATDESC	CDF_CHAR	TDS sampling rate
SAMPLING_RATE	DISPLAY_TYPE	CDF_CHAR	time_series
SAMPLING_RATE	VALIDMIN	CDF_FLOAT	0.0
SAMPLING_RATE	VALIDMAX	CDF_FLOAT	2.0971e+06
SAMPLING_RATE	SCALEMIN	CDF_FLOAT	65534.0
SAMPLING_RATE	SCALEMAX	CDF_FLOAT	524275.0
SAMPLING_RATE	FILLVAL	CDF_FLOAT	-1.0e+31
SAMPLING_RATE	LABLAXIS	CDF_CHAR	Sampling rate code
SAMPLING_RATE	UNITS	CDF_CHAR	Hz
SAMPLING_RATE	VAR_TYPE	CDF_CHAR	support_data
SAMPLING_RATE	SCALETYP	CDF_CHAR	linear
SAMPLING_RATE	VAR_NOTES	CDF_CHAR	TDS sampling rate
SAMPLING_RATE	DEPEND_0	CDF_CHAR	Epoch
SAMPLING_RATE	FORMAT	CDF_CHAR	F9.1
CHANNEL_OVERFLOW	FIELDNAM	CDF_CHAR	CHANNEL_OVERFLOW
CHANNEL_OVERFLOW	CATDESC	CDF_CHAR	Channel overflow
CHANNEL_OVERFLOW	DISPLAY_TYPE	CDF_CHAR	time_series
CHANNEL_OVERFLOW	VALIDMIN	CDF_UINT1	0
CHANNEL_OVERFLOW	VALIDMAX	CDF_UINT1	1
CHANNEL_OVERFLOW	SCALEMIN	CDF_UINT1	0
CHANNEL_OVERFLOW	SCALEMAX	CDF_UINT1	1
CHANNEL_OVERFLOW	FILLVAL	CDF_UINT1	255
CHANNEL_OVERFLOW	LABLAXIS	CDF_CHAR	HF channel overflow
CHANNEL_OVERFLOW	UNITS	CDF_CHAR	
CHANNEL_OVERFLOW	VAR_TYPE	CDF_CHAR	support_data
CHANNEL_OVERFLOW	SCALETYP	CDF_CHAR	linear
CHANNEL_OVERFLOW	VAR_NOTES	CDF_CHAR	Channel overflow data
CHANNEL_OVERFLOW	DEPEND_0	CDF_CHAR	Epoch
CHANNEL_OVERFLOW	FORMAT	CDF_CHAR	I1
BUFFER_OVERFLOW	FIELDNAM	CDF_CHAR	BUFFER_OVERFLOW
BUFFER_OVERFLOW	CATDESC	CDF_CHAR	Buffer overflow
BUFFER_OVERFLOW	DISPLAY_TYPE	CDF_CHAR	time_series
BUFFER_OVERFLOW	VALIDMIN	CDF_UINT1	0

continues on next page



**RPW Data Product
Description Document**

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **487**

Tab. 4.68 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BUFFER_OVERFLOW	VALIDMAX	CDF_UINT1	1
BUFFER_OVERFLOW	SCALEMIN	CDF_UINT1	0
BUFFER_OVERFLOW	SCALEMAX	CDF_UINT1	1
BUFFER_OVERFLOW	FILLVAL	CDF_UINT1	255
BUFFER_OVERFLOW	LABLAXIS	CDF_CHAR	HF buffer overflow
BUFFER_OVERFLOW	UNITS	CDF_CHAR	
BUFFER_OVERFLOW	VAR_TYPE	CDF_CHAR	support_data
BUFFER_OVERFLOW	SCALETYP	CDF_CHAR	linear
BUFFER_OVERFLOW	VAR_NOTES	CDF_CHAR	Buffer overflow data
BUFFER_OVERFLOW	DEPEND_0	CDF_CHAR	Epoch
BUFFER_OVERFLOW	FORMAT	CDF_CHAR	I1
FILTER_COEFS	FIELDNAM	CDF_CHAR	FILTER_COEFS
FILTER_COEFS	CATDESC	CDF_CHAR	Index of filter coefficients used
FILTER_COEFS	DISPLAY_TYPE	CDF_CHAR	time_series
FILTER_COEFS	VALIDMIN	CDF_UINT1	0
FILTER_COEFS	VALIDMAX	CDF_UINT1	4
FILTER_COEFS	SCALEMIN	CDF_UINT1	0
FILTER_COEFS	SCALEMAX	CDF_UINT1	1
FILTER_COEFS	FILLVAL	CDF_UINT1	255
FILTER_COEFS	LABLAXIS	CDF_CHAR	Filter coeffs.
FILTER_COEFS	UNITS	CDF_CHAR	
FILTER_COEFS	VAR_TYPE	CDF_CHAR	support_data
FILTER_COEFS	SCALETYP	CDF_CHAR	linear
FILTER_COEFS	VAR_NOTES	CDF_CHAR	Index of filter coefficients used
FILTER_COEFS	DEPEND_0	CDF_CHAR	Epoch
FILTER_COEFS	FORMAT	CDF_CHAR	I1
RPW_STATUS_INFO	FIELDNAM	CDF_CHAR	RPW_STATUS_INFO
RPW_STATUS_INFO	CATDESC	CDF_CHAR	RPW status
RPW_STATUS_INFO	DISPLAY_TYPE	CDF_CHAR	time_series
RPW_STATUS_INFO	VALIDMIN	CDF_UINT1	0
RPW_STATUS_INFO	VALIDMAX	CDF_UINT1	1
RPW_STATUS_INFO	SCALEMIN	CDF_UINT1	0
RPW_STATUS_INFO	SCALEMAX	CDF_UINT1	1
RPW_STATUS_INFO	FILLVAL	CDF_UINT1	255
RPW_STATUS_INFO	UNITS	CDF_CHAR	
RPW_STATUS_INFO	VAR_TYPE	CDF_CHAR	support_data
RPW_STATUS_INFO	SCALETYP	CDF_CHAR	linear


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 488

Tab. 4.68 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
RPW_STATUS_INFO	VAR_NOTES	CDF_CHAR	RPW status (bitmask - received from DPU), 1 = sub-system ON
RPW_STATUS_INFO	DEPEND_0	CDF_CHAR	Epoch
RPW_STATUS_INFO	FORMAT	CDF_CHAR	I1
RPW_STATUS_INFO	LABL_PTR_1	CDF_CHAR	RPW_STATUS_INFO_LABEL
RPW_STATUS_INFO_LABEL	FIELDNAM	CDF_CHAR	RPW_STATUS_INFO_LABEL
RPW_STATUS_INFO_LABEL	CATDESC	CDF_CHAR	Label for RPW_STATUS_INFO
RPW_STATUS_INFO_LABEL	VAR_TYPE	CDF_CHAR	metadata
RPW_STATUS_INFO_LABEL	FORMAT	CDF_CHAR	A16
INPUT_CONFIG	FIELDNAM	CDF_CHAR	INPUT_CONFIG
INPUT_CONFIG	CATDESC	CDF_CHAR	Longword of TDS analog input configuration
INPUT_CONFIG	DISPLAY_TYPE	CDF_CHAR	time_series
INPUT_CONFIG	VALIDMIN	CDF_UINT4	0
INPUT_CONFIG	VALIDMAX	CDF_UINT4	4294967294
INPUT_CONFIG	SCALEMIN	CDF_UINT4	0
INPUT_CONFIG	SCALEMAX	CDF_UINT4	1
INPUT_CONFIG	FILLVAL	CDF_UINT4	4294967295
INPUT_CONFIG	LABLAXIS	CDF_CHAR	TDS input config.
INPUT_CONFIG	UNITS	CDF_CHAR	
INPUT_CONFIG	VAR_TYPE	CDF_CHAR	support_data
INPUT_CONFIG	SCALETYP	CDF_CHAR	linear
INPUT_CONFIG	VAR_NOTES	CDF_CHAR	Input TDS configuration
INPUT_CONFIG	DEPEND_0	CDF_CHAR	Epoch
INPUT_CONFIG	FORMAT	CDF_CHAR	I10
TDS_CONFIG_LABEL	FIELDNAM	CDF_CHAR	TDS_CONFIG_LABEL
TDS_CONFIG_LABEL	CATDESC	CDF_CHAR	Label for TDS Configuration
TDS_CONFIG_LABEL	VAR_TYPE	CDF_CHAR	metadata
TDS_CONFIG_LABEL	FORMAT	CDF_CHAR	A8
SNAPSHOT_SEQ_NR	FIELDNAM	CDF_CHAR	SNAPSHOT_SEQ_NR
SNAPSHOT_SEQ_NR	CATDESC	CDF_CHAR	Sequential number of a snapshot incremented with every snapshot
SNAPSHOT_SEQ_NR	DISPLAY_TYPE	CDF_CHAR	time_series
SNAPSHOT_SEQ_NR	VALIDMIN	CDF_UINT2	0
SNAPSHOT_SEQ_NR	VALIDMAX	CDF_UINT2	65534
SNAPSHOT_SEQ_NR	SCALEMIN	CDF_UINT2	0
SNAPSHOT_SEQ_NR	SCALEMAX	CDF_UINT2	65534
SNAPSHOT_SEQ_NR	FILLVAL	CDF_UINT2	65535


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 489

Tab. 4.68 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SNAPSHOT_SEQ_NR	LABLAXIS	CDF_CHAR	Snapshot seq. Num.
SNAPSHOT_SEQ_NR	UNITS	CDF_CHAR	
SNAPSHOT_SEQ_NR	VAR_TYPE	CDF_CHAR	support_data
SNAPSHOT_SEQ_NR	SCALETYP	CDF_CHAR	linear
SNAPSHOT_SEQ_NR	VAR_NOTES	CDF_CHAR	Sequential number of a snapshot incremented with every snapshot
SNAPSHOT_SEQ_NR	DEPEND_0	CDF_CHAR	Epoch
SNAPSHOT_SEQ_NR	FORMAT	CDF_CHAR	I5
CHANNEL_REF	FIELDNAM	CDF_CHAR	CHANNEL_REF
CHANNEL_REF	CATDESC	CDF_CHAR	Configuration of input signals for each channel
CHANNEL_REF	DISPLAY_TYPE	CDF_CHAR	time_series
CHANNEL_REF	VALIDMIN	CDF_UINT1	10
CHANNEL_REF	VALIDMAX	CDF_UINT1	32
CHANNEL_REF	SCALEMIN	CDF_UINT1	10
CHANNEL_REF	SCALEMAX	CDF_UINT1	32
CHANNEL_REF	FILLVAL	CDF_UINT1	255
CHANNEL_REF	UNITS	CDF_CHAR	
CHANNEL_REF	VAR_TYPE	CDF_CHAR	support_data
CHANNEL_REF	SCALETYP	CDF_CHAR	linear
CHANNEL_REF	VAR_NOTES	CDF_CHAR	Configuration of signal channels in the snapshot (0=GND 1=V1, 2=V2, 3=V3). The number AB indicates that the corresponding channel contains a difference of 2 channels A-B.
CHANNEL_REF	DEPEND_0	CDF_CHAR	Epoch
CHANNEL_REF	FORMAT	CDF_CHAR	I2
CHANNEL_REF	LABL_PTR_1	CDF_CHAR	CHANNEL_LABEL
CHANNEL_LABEL	FIELDNAM	CDF_CHAR	CHANNEL_LABEL
CHANNEL_LABEL	CATDESC	CDF_CHAR	Label for CHANNEL_INFO_STATUS
CHANNEL_LABEL	VAR_TYPE	CDF_CHAR	metadata
CHANNEL_LABEL	FORMAT	CDF_CHAR	A16
SAMPS_PER_CH	FIELDNAM	CDF_CHAR	SAMPS_PER_CH
SAMPS_PER_CH	CATDESC	CDF_CHAR	Number of samples per channel
SAMPS_PER_CH	DISPLAY_TYPE	CDF_CHAR	time_series
SAMPS_PER_CH	VALIDMIN	CDF_UINT4	0


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 490

Tab. 4.68 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SAMPS_PER_CH	VALIDMAX	CDF_UINT4	65536
SAMPS_PER_CH	SCALEMIN	CDF_UINT4	0
SAMPS_PER_CH	SCALEMAX	CDF_UINT4	65536
SAMPS_PER_CH	FILLVAL	CDF_UINT4	4294967295
SAMPS_PER_CH	LABLAXIS	CDF_CHAR	No. samps per CH
SAMPS_PER_CH	UNITS	CDF_CHAR	
SAMPS_PER_CH	VAR_TYPE	CDF_CHAR	support_data
SAMPS_PER_CH	SCALETYP	CDF_CHAR	linear
SAMPS_PER_CH	VAR_NOTES	CDF_CHAR	Number of samples per channel
SAMPS_PER_CH	DEPEND_0	CDF_CHAR	Epoch
SAMPS_PER_CH	FORMAT	CDF_CHAR	I5
CHANNEL_ON	FIELDNAM	CDF_CHAR	CHANNEL_ON
CHANNEL_ON	CATDESC	CDF_CHAR	Status of signal channels in the snapshot
CHANNEL_ON	DISPLAY_TYPE	CDF_CHAR	time_series
CHANNEL_ON	VALIDMIN	CDF_UINT1	0
CHANNEL_ON	VALIDMAX	CDF_UINT1	254
CHANNEL_ON	SCALEMIN	CDF_UINT1	0
CHANNEL_ON	SCALEMAX	CDF_UINT1	254
CHANNEL_ON	FILLVAL	CDF_UINT1	255
CHANNEL_ON	UNITS	CDF_CHAR	
CHANNEL_ON	VAR_TYPE	CDF_CHAR	support_data
CHANNEL_ON	SCALETYP	CDF_CHAR	linear
CHANNEL_ON	VAR_NOTES	CDF_CHAR	Status of signal channels in the snapshot (0=OFF, 1=ON)
CHANNEL_ON	DEPEND_0	CDF_CHAR	Epoch
CHANNEL_ON	FORMAT	CDF_CHAR	I3
CHANNEL_ON	LABL_PTR_1	CDF_CHAR	CHANNEL_LABEL
WAVEFORM_DATA	FIELDNAM	CDF_CHAR	WAVEFORM_DATA
WAVEFORM_DATA	CATDESC	CDF_CHAR	Calibrated electric waveform snapshot measured on the four high frequency channels of TDS system.
WAVEFORM_DATA	DISPLAY_TYPE	CDF_CHAR	time_series
WAVEFORM_DATA	VALIDMIN	CDF_FLOAT	-1.0e+30
WAVEFORM_DATA	VALIDMAX	CDF_FLOAT	1.0e+30
WAVEFORM_DATA	SCALEMIN	CDF_FLOAT	-1.0e+30
WAVEFORM_DATA	SCALEMAX	CDF_FLOAT	1.0e+30
WAVEFORM_DATA	FILLVAL	CDF_FLOAT	-1.0e+31
WAVEFORM_DATA	UNITS	CDF_CHAR	V/m


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 491

Tab. 4.68 – continued from previous page


Variable Name	Attribute Name	Data Type	Value
WAVEFORM_DATA	VAR_TYPE	CDF_CHAR	data
WAVEFORM_DATA	SCALETYP	CDF_CHAR	linear
WAVEFORM_DATA	VAR_NOTES	CDF_CHAR	HF TDS entry array with signal values in CH1-4
WAVEFORM_DATA	DEPEND_0	CDF_CHAR	Epoch
WAVEFORM_DATA	DEPEND_1	CDF_CHAR	CHANNEL_REF
WAVEFORM_DATA	DEPEND_2	CDF_CHAR	
WAVEFORM_DATA	FORMAT	CDF_CHAR	E10.2
WAVEFORM_DATA	LABL_PTR_1	CDF_CHAR	CHANNEL_LABEL
WAVEFORM_DATA	LABL_PTR_2	CDF_CHAR	
WAVEFORM_DATA_VOLTAGE	FIELDNAM	CDF_CHAR	Electric waveform data
WAVEFORM_DATA_VOLTAGE	CATDESC	CDF_CHAR	Calibrated electric waveform snapshot in volts measured on the four high frequency channels of TDS system.
WAVEFORM_DATA_VOLTAGE	DISPLAY_TYPE	CDF_CHAR	time_series
WAVEFORM_DATA_VOLTAGE	VALIDMIN	CDF_FLOAT	-1.0e+30
WAVEFORM_DATA_VOLTAGE	VALIDMAX	CDF_FLOAT	1.0e+30
WAVEFORM_DATA_VOLTAGE	SCALEMIN	CDF_FLOAT	-1.0e+30
WAVEFORM_DATA_VOLTAGE	SCALEMAX	CDF_FLOAT	1.0e+30
WAVEFORM_DATA_VOLTAGE	UNITS	CDF_CHAR	V
WAVEFORM_DATA_VOLTAGE	VAR_TYPE	CDF_CHAR	data
WAVEFORM_DATA_VOLTAGE	SCALETYP	CDF_CHAR	linear
WAVEFORM_DATA_VOLTAGE	VAR_NOTES	CDF_CHAR	1-4 entry array with signal values
WAVEFORM_DATA_VOLTAGE	DEPEND_0	CDF_CHAR	Epoch
WAVEFORM_DATA_VOLTAGE	DEPEND_1	CDF_CHAR	CHANNEL_REF
WAVEFORM_DATA_VOLTAGE	DEPEND_2	CDF_CHAR	
WAVEFORM_DATA_VOLTAGE	FORMAT	CDF_CHAR	E
WAVEFORM_DATA_VOLTAGE	LABL_PTR_1	CDF_CHAR	CHANNEL_LABEL
WAVEFORM_DATA_VOLTAGE	LABL_PTR_2	CDF_CHAR	
RPW_ANTENNA_RTN	FIELDNAM	CDF_CHAR	RPW antenna orientation
RPW_ANTENNA_RTN	CATDESC	CDF_CHAR	Three RPW electric antenna orientations in the RTN coordinate system.
RPW_ANTENNA_RTN	DISPLAY_TYPE	CDF_CHAR	time_series
RPW_ANTENNA_RTN	VALIDMIN	CDF_FLOAT	-1.0e+30
RPW_ANTENNA_RTN	VALIDMAX	CDF_FLOAT	1.0e+30
RPW_ANTENNA_RTN	SCALEMIN	CDF_FLOAT	-1.0e+30
RPW_ANTENNA_RTN	SCALEMAX	CDF_FLOAT	1.0e+30

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 492

Tab. 4.68 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
RPW_ANTENNA_RTN	FILLVAL	CDF_FLOAT	-1.0e+31
RPW_ANTENNA_RTN	UNITS	CDF_CHAR	
RPW_ANTENNA_RTN	VAR_TYPE	CDF_CHAR	support_data
RPW_ANTENNA_RTN	SCALETYP	CDF_CHAR	linear
RPW_ANTENNA_RTN	VAR_NOTES	CDF_CHAR	Matrix of unit vectors representing the three RPW antenna directions
RPW_ANTENNA_RTN	DEPEND_0	CDF_CHAR	Epoch
RPW_ANTENNA_RTN	FORMAT	CDF_CHAR	E10.3
RPW_ANTENNA_RTN	LABL_PTR_1	CDF_CHAR	RPW_ANTENNA_RTN_LABEL_1
RPW_ANTENNA_RTN	LABL_PTR_2	CDF_CHAR	RPW_ANTENNA_RTN_LABEL_2
RPW_ANTENNA_RTN_LABEL_1	EIEIDNAM	CDF_CHAR	RPW_ANTENNA_RTN_LABEL_1
RPW_ANTENNA_RTN_LABEL_1	EATDESC	CDF_CHAR	Label for RPW_ANTENNA_RTN
RPW_ANTENNA_RTN_LABEL_1	VAR_TYPE	CDF_CHAR	metadata
RPW_ANTENNA_RTN_LABEL_1	FORMAT	CDF_CHAR	A8
RPW_ANTENNA_RTN_LABEL_2	EIEIDNAM	CDF_CHAR	RPW_ANTENNA_RTN_LABEL_2
RPW_ANTENNA_RTN_LABEL_2	EATDESC	CDF_CHAR	Label for RPW_ANTENNA_RTN
RPW_ANTENNA_RTN_LABEL_2	VAR_TYPE	CDF_CHAR	metadata
RPW_ANTENNA_RTN_LABEL_2	FORMAT	CDF_CHAR	A8


	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 493

4.1.3.4.6 Non-Record-Variant (NRV) Variables

Variable Name	Index	Value
BIA_STATUS_INFO_LABEL	1	BIA ON
BIA_STATUS_INFO_LABEL	2	BIAS3 ON
BIA_STATUS_INFO_LABEL	3	BIAS2 ON
BIA_STATUS_INFO_LABEL	4	BIAS1 ON
BIA_STATUS_INFO_LABEL	5	BIA MODE HV ON
BIA_STATUS_INFO_LABEL	6	BIA MODE MUX
RPW_STATUS_INFO_LABEL	1	THR ON
RPW_STATUS_INFO_LABEL	2	LFR ON
RPW_STATUS_INFO_LABEL	3	ANT1 ON
RPW_STATUS_INFO_LABEL	4	ANT2 ON
RPW_STATUS_INFO_LABEL	5	ANT3 ON
RPW_STATUS_INFO_LABEL	6	SCM ON
RPW_STATUS_INFO_LABEL	7	SCM CALIB
CHANNEL_LABEL	1	WF in CH1
CHANNEL_LABEL	2	WF in CH2
CHANNEL_LABEL	3	WF in CH3
CHANNEL_LABEL	4	WF in CH4
RPW_ANTENNA_RTN_LABEL	11	ANT_R
RPW_ANTENNA_RTN_LABEL	21	ANT_T
RPW_ANTENNA_RTN_LABEL	31	ANT_N
RPW_ANTENNA_RTN_LABEL	12	ANT_1
RPW_ANTENNA_RTN_LABEL	22	ANT_2
RPW_ANTENNA_RTN_LABEL	32	ANT_3

4.1.3.5 SOLO_L2_RPW-TDS-SURV-RSWF-B data product

The “SOLO_L2_RPW-TDS-SURV-RSWF-B” data product contains the calibrated TDS receiver Regular Snapshot Waveform survey data for magnetic component only. The “SOLO_L2_RPW-TDS-SURV-RSWF-B” data are written in CDF format files. There is a single file per day, generated from data in the corresponding SOLO_L1_RPW-TDS-SURV-RSWF parent file.

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 494

4.1.3.5.1 Filename

```
solo_L2_rpw-tds-surv-rswf-b_[YYYYMMDD]_V[version].cdf
```

4.1.3.5.2 Expected cadence and data volume


Nominal cadence: 1 file per day

Expected data volume: 60 MB per file

4.1.3.5.3 Global Attributes

Attribute Name	Entry Number	Data Type	Value
CALIBRATION_TABLE	1	CDF_CHAR	
OBS_ID	1	CDF_CHAR	
Logical_file_id	1	CDF_CHAR	
TIME_MAX	1	CDF_CHAR	
Software_name	1	CDF_CHAR	
Free_field	1	CDF_CHAR	
Logical_source	1	CDF_CHAR	solo_L2_rpw-tds-surv-rswf-b
File_ID	1	CDF_CHAR	
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009 (2.4)
Project	1	CDF_CHAR	SOLO>Solar Orbiter
Generated_by	1	CDF_CHAR	RPW Operations Centre located at LESIA (Meudon, France)
LINK_TEXT	1	CDF_CHAR	RPW Web site at LESIA
Provider	1	CDF_CHAR	LESIA (Meudon, France)
Job_ID	1	CDF_CHAR	
SKELETON_PARENT	1	CDF_CHAR	SOLO_L2_RPW-TDS-SURV-RSWF-B_V12.cdf
CAL_EQUIPMENT	1	CDF_CHAR	SCM
CAL_ENTITY_AFFILIATION	1	CDF_CHAR	CNRS


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 495

Tab. 4.69 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Rules_of_use	1	CDF_CHAR	Data provided are publicly available. If used in presentations or publications, please acknowledge Solar Orbiter/RPW Investigation (M. Maksimovic, PIs). Please read carefully the caveats attached to the data. For reporting purposes, we request bibliography information for any publication, etc., using these data. Please send information on the use of this data to: M. Maksimovic (PI).
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00006-LES (1.3)
File_naming_convention	1	CDF_CHAR	<Source_name>_<LEVEL>_<Descriptor>_<Date>
Parents	1	CDF_CHAR	
Mission_group	1	CDF_CHAR	Solar Orbiter
CALIBRATION_VERSION	1	CDF_CHAR	
Parent_version	1	CDF_CHAR	
TIME_MIN	1	CDF_CHAR	
LINK_TITLE	1	CDF_CHAR	RPW Web site
Software_version	1	CDF_CHAR	
ACCESS_FORMAT	1	CDF_CHAR	CDF
Data_product	1	CDF_CHAR	SURV-RSWF-B>SURV-RSWF-B
TEXT	1	CDF_CHAR	This file contains RPW TDS level 2 regular snapshot waveform of magnetic data in survey mode
ACCESS_URL	1	CDF_CHAR	
SPECTRAL_RANGE_MIN	1	CDF_CHAR	
Skeleton_version	1	CDF_CHAR	12
SOOP_TYPE	1	CDF_CHAR	
CAVEATS	1	CDF_CHAR	
Data_version	1	CDF_CHAR	
TARGET_NAME	1	CDF_CHAR	Sun
Discipline	1	CDF_CHAR	Space Physics>Interplanetary Studies
TARGET_CLASS	1	CDF_CHAR	Star
Data_type	1	CDF_CHAR	H0>High Resolution data
SPICE_KERNELS	1	CDF_CHAR	
SKELETON_MODS	1	CDF_CHAR	2017-12-15, J-Y Brochot (CNRS-LPC2E), initial release
SKELETON_MODS	2	CDF_CHAR	V04: Update for solo data definition, X. BONNIN (CNRS-LESIA), April 2019


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 496

Tab. 4.69 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
SKELETON_MODS	3	CDF_CHAR	V05: Update to compliant with SOL-SGS-TN-0009 Issue 2, Rev 4 - X.Bonnin, 09/2019
SKELETON_MODS	4	CDF_CHAR	Uniformisation of the version, J-Y Brochot, 12/2019
SKELETON_MODS	5	CDF_CHAR	V07: March 2020 : Harmonize SAMPLING_RATE zvar and Test_* g.attrs - X.Bonnin (CNRS, LESIA)
SKELETON_MODS	6	CDF_CHAR	V07: Suppress zVars POST_GAP_FLAG, ACQUISITION_TIME, ACQUISITION_TIME_UNITS and ACQUISITION_TIME_LABEL - J-Y Brochot, March 2020
SKELETON_MODS	7	CDF_CHAR	V08: Add gAttr SPICE_KERNELS - J-Y Brochot, April 2020
SKELETON_MODS	8	CDF_CHAR	V09: Complete the zAttr of CALIBRATION_TABLE_INDEX - J-Y Brochot, May 2020
SKELETON_MODS	9	CDF_CHAR	V10: Add zVar L2_QUALITY_BITMASK - J-Y Brochot, Aug 2020
SKELETON_MODS	10	CDF_CHAR	V11: Suppress zVars CHANNEL_ON, RPW_STATUS_INFO, INPUT_CONFIG, SYNCHRO_FLAG, BUFFER_OVERFLOW, CHANNEL_OVERFLOW, RPW_STATUS_INFO_LABEL, SNAPSHOT_SEQ_NR, CHANNEL_CONFIG - J-Y Brochot, Sept 2020
SKELETON_MODS	11	CDF_CHAR	V12: Jan. 2021 : Fix inconsistencies against the ISTEP CDF guidelines, X.Bonnin (CNRS-LESIA)
TEXT_supplement_1	1	CDF_CHAR	
LEVEL	1	CDF_CHAR	L2>Level 2 data processing
PI_affiliation	1	CDF_CHAR	LESIA, Observatoire de Paris-CNRS
HTTP_LINK	1	CDF_CHAR	https://rpw.lesia.obspm.fr
Dataset_ID	1	CDF_CHAR	SOLO_L2_RPW-TDS-SURV-RSWF-B

continues on next page


	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 497

Tab. 4.69 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Descriptor	1	CDF_CHAR	RPW-TDS-SURV-RSWF-B> RPW Time Domain Sampler Regular Wave- form Snapshot magnetic data in survey mode
SPECTRAL_RANGE_MAX	1	CDF_CHAR	
TARGET_REGION	1	CDF_CHAR	Solar Wind
Validate	1	CDF_CHAR	
Pipeline_name	1	CDF_CHAR	
PI_name	1	CDF_CHAR	M.Maksimovic
Datetime	1	CDF_CHAR	
Instrument_type	1	CDF_CHAR	Radio and Plasma Waves (space)
Source_name	1	CDF_CHAR	SOLO>Solar Orbiter
Generation_date	1	CDF_CHAR	
Logical_source_description	1	CDF_CHAR	Solar Orbiter Radio/Plasma Wave, TDS L2 magnetic parameters
CAL_ENTITY_NAME	1	CDF_CHAR	LPC2E
Pipeline_version	1	CDF_CHAR	
Acknowledgement	1	CDF_CHAR	The authors are pleased to acknowledge the Solar Orbiter/RPW Investigation (M. Maksimovic, PIs) for access to data.
MODS	1	CDF_CHAR	

4.1.3.5.4 zVariables


Variable Name	Data Type	Number El- ements	Dims	Sizes
SAMPLING_RATE	CDF_REAL4	1	0	
Epoch	CDF_TIME_TT2000	1	0	
QUALITY_BITMASK	CDF_UINT2	1	0	
L2_QUALITY_BITMASK	CDF_UINT2	1	0	
SAMPS_PER_CH	CDF_UINT4	1	0	
QUALITY_FLAG	CDF_UINT1	1	0	
SURVEY_MODE	CDF_UINT1	1	0	
CALIBRATION_TABLE_INDEX	CDF_UINT1	1	2	2 2
B	CDF_REAL4	1	1	65536

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 498

4.1.3.5.5 Variable attributes

Variable Name	Attribute Name	Data Type	Value
SAMPLING_RATE	FIELDNAM	CDF_CHAR	Sampling rate
SAMPLING_RATE	VAR_TYPE	CDF_CHAR	support_data
SAMPLING_RATE	CATDESC	CDF_CHAR	Sampling frequency of the snapshot
SAMPLING_RATE	FORMAT	CDF_CHAR	F8.2
SAMPLING_RATE	LABLAXIS	CDF_CHAR	Fe
SAMPLING_RATE	SCALEMAX	CDF_REAL4	1.0e+30
SAMPLING_RATE	DISPLAY_TYPE	CDF_CHAR	time_series
SAMPLING_RATE	UNITS	CDF_CHAR	Hz
SAMPLING_RATE	SCALETYP	CDF_CHAR	linear
SAMPLING_RATE	DEPEND_0	CDF_CHAR	Epoch
SAMPLING_RATE	VALIDMIN	CDF_REAL4	1.0
SAMPLING_RATE	VAR_NOTES	CDF_CHAR	TDS sampling rate
SAMPLING_RATE	FILLVAL	CDF_REAL4	-1.0e+31
SAMPLING_RATE	SCALEMIN	CDF_REAL4	1.0
SAMPLING_RATE	VALIDMAX	CDF_REAL4	1.0e+30
Epoch	FIELDNAM	CDF_CHAR	Epoch
Epoch	VAR_TYPE	CDF_CHAR	support_data
Epoch	CATDESC	CDF_CHAR	Default time
Epoch	LABLAXIS	CDF_CHAR	Epoch
Epoch	SCALEMAX	CDF_TIME_TT2000	2029-12-31T23:59:59.999000000
Epoch	DISPLAY_TYPE	CDF_CHAR	time_series
Epoch	UNITS	CDF_CHAR	ns
Epoch	SCALETYP	CDF_CHAR	linear
Epoch	VALIDMIN	CDF_TIME_TT2000	2000-01-01T12:00:00.000000000
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file.
Epoch	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch	SCALEMIN	CDF_TIME_TT2000	2000-01-01T12:00:00.000000000
Epoch	VALIDMAX	CDF_TIME_TT2000	2029-12-31T23:59:59.999000000
Epoch	Bin_location	CDF_CHAR	0.5
Epoch	TIME_BASE	CDF_CHAR	J2000
Epoch	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
Epoch	MONOTON	CDF_CHAR	INCREASE


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 499

Tab. 4.70 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
Epoch	TIME_SCALE	CDF_CHAR	Terrestrial Time
Epoch	Resolution	CDF_CHAR	15258 ns
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	UNITS	CDF_CHAR	
QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context information or status at the receiver or experiment level
QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
L2_QUALITY_BITMASK	FIELDNAM	CDF_CHAR	L2_QUALITY_BITMASK
L2_QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
L2_QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
L2_QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
L2_QUALITY_BITMASK	LABLAXIS	CDF_CHAR	L2 Bitmask flag
L2_QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
L2_QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
L2_QUALITY_BITMASK	UNITS	CDF_CHAR	
L2_QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
L2_QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
L2_QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
L2_QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context or events that can alterate data -bit0: SCM outworking or unknown temperature -bit1: SCM heater on/off transition -bit2: LFR onboard calibration signal
L2_QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
L2_QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
L2_QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
SAMPS_PER_CH	FIELDNAM	CDF_CHAR	SAMPS_PER_CH

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 500

Tab. 4.70 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SAMPS_PER_CH	VAR_TYPE	CDF_CHAR	support_data
SAMPS_PER_CH	CATDESC	CDF_CHAR	Number of samples per channel
SAMPS_PER_CH	FORMAT	CDF_CHAR	I10
SAMPS_PER_CH	LABLAXIS	CDF_CHAR	Nsamps
SAMPS_PER_CH	SCALEMAX	CDF_UINT4	4294967295
SAMPS_PER_CH	DISPLAY_TYPE	CDF_CHAR	time_series
SAMPS_PER_CH	UNITS	CDF_CHAR	
SAMPS_PER_CH	SCALETYP	CDF_CHAR	linear
SAMPS_PER_CH	DEPEND_0	CDF_CHAR	Epoch
SAMPS_PER_CH	VALIDMIN	CDF_UINT4	0
SAMPS_PER_CH	VAR_NOTES	CDF_CHAR	Number of samples per channel
SAMPS_PER_CH	FILLVAL	CDF_UINT4	4294967295
SAMPS_PER_CH	SCALEMIN	CDF_UINT4	0
SAMPS_PER_CH	VALIDMAX	CDF_UINT4	4294967295
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	VAR_TYPE	CDF_CHAR	support_data
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
QUALITY_FLAG	LABLAXIS	CDF_CHAR	Quality flag
QUALITY_FLAG	SCALEMAX	CDF_UINT1	4
QUALITY_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	UNITS	CDF_CHAR	
QUALITY_FLAG	SCALETYP	CDF_CHAR	linear
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FLAG	VALIDMIN	CDF_UINT1	0
QUALITY_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the quality of the data
QUALITY_FLAG	FILLVAL	CDF_UINT1	255
QUALITY_FLAG	SCALEMIN	CDF_UINT1	0
QUALITY_FLAG	VALIDMAX	CDF_UINT1	4
SURVEY_MODE	FIELDNAM	CDF_CHAR	SURVEY_MODE
SURVEY_MODE	VAR_TYPE	CDF_CHAR	support_data
SURVEY_MODE	CATDESC	CDF_CHAR	TDS survey mode
SURVEY_MODE	FORMAT	CDF_CHAR	I1.1
SURVEY_MODE	LABLAXIS	CDF_CHAR	TDSsurvey mode
SURVEY_MODE	SCALEMAX	CDF_UINT1	1
SURVEY_MODE	DISPLAY_TYPE	CDF_CHAR	time_series
SURVEY_MODE	UNITS	CDF_CHAR	
SURVEY_MODE	SCALETYP	CDF_CHAR	linear

continues on next page



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **501**

Tab. 4.70 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SURVEY_MODE	DEPEND_0	CDF_CHAR	Epoch
SURVEY_MODE	VALIDMIN	CDF_UINT1	0
SURVEY_MODE	VAR_NOTES	CDF_CHAR	Flag to indicate if the receiver in the SURVEY_BURST (=1) or SURVEY_NORMAL (=0) mode
SURVEY_MODE	FILLVAL	CDF_UINT1	255
SURVEY_MODE	SCALEMIN	CDF_UINT1	0
SURVEY_MODE	VALIDMAX	CDF_UINT1	1
CALIBRATION_TABLE_INDEX	FIELDNAM	CDF_CHAR	CALIBRATION_TABLE_INDEX
CALIBRATION_TABLE_INDEX	VAR_TYPE	CDF_CHAR	support_data
CALIBRATION_TABLE_INDEX	CATDESC	CDF_CHAR	Informations about calibration tables used
CALIBRATION_TABLE_INDEX	FORMAT	CDF_CHAR	I3.3
CALIBRATION_TABLE_INDEX	LABLAXIS	CDF_CHAR	Calibration table index
CALIBRATION_TABLE_INDEX	SCALEMAX	CDF_UINT1	254
CALIBRATION_TABLE_INDEX	DISPLAY_TYPE	CDF_CHAR	time_series
CALIBRATION_TABLE_INDEX	UNITS	CDF_CHAR	
CALIBRATION_TABLE_INDEX	SCALETYP	CDF_CHAR	linear
CALIBRATION_TABLE_INDEX	DEPEND_0	CDF_CHAR	Epoch
CALIBRATION_TABLE_INDEX	VALIDMIN	CDF_UINT1	0
CALIBRATION_TABLE_INDEX	VAR_NOTES	CDF_CHAR	Indexes (i,j) giving gEntry of Global attribute 'CALIBRATION_TABLE', and record number in the Calibration Table.
CALIBRATION_TABLE_INDEX	FILLVAL	CDF_UINT1	255
CALIBRATION_TABLE_INDEX	SCALEMIN	CDF_UINT1	0
CALIBRATION_TABLE_INDEX	VALIDMAX	CDF_UINT1	254
B	FIELDNAM	CDF_CHAR	Magnetic waveform
B	VAR_TYPE	CDF_CHAR	data
B	CATDESC	CDF_CHAR	Magnetic component values of Bx
B	FORMAT	CDF_CHAR	F8.2
B	LABLAXIS	CDF_CHAR	Bx
B	SCALEMAX	CDF_REAL4	1.0e+30
B	DISPLAY_TYPE	CDF_CHAR	time_series
B	UNITS	CDF_CHAR	nT
B	SCALETYP	CDF_CHAR	linear
B	DEPEND_0	CDF_CHAR	Epoch
B	VALIDMIN	CDF_REAL4	-1.0e+30

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 502

Tab. 4.70 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
B	VAR_NOTES	CDF_CHAR	1 entry array with magnetic values of the component B4x
B	FILLVAL	CDF_REAL4	-1.0e+31
B	SCALEMIN	CDF_REAL4	-1.0e+30
B	VALIDMAX	CDF_REAL4	1.0e+30

4.1.3.5.6 Non-Record-Variant (NRV) Variables

4.1.3.6 SOLO_L2_RPW-TDS-SURV-TSWF-E data product

The “SOLO_L2_RPW-TDS-SURV-TSWF-E” data product contains the calibrated TDS receiver Triggered Snapshot Waveform survey data for electrical component only. The “SOLO_L2_RPW-TDS-SURV-TSWF-E” data are written in CDF format files. There is a single file per day, generated from data in the corresponding SOLO_L1_RPW-TDS-SURV-TSWF parent file.

4.1.3.6.1 Filename

```
solo_L2_rpw-tds-surv-tswf-e_[YYYYMMDD]_V[version].cdf
```

4.1.3.6.2 Expected cadence and data volume


Nominal cadence: 1 file per day

Expected data volume: 500 MB per file

4.1.3.6.3 Global Attributes

Attribute Name	Entry Number	Data Type	Value
ACCESS_URL	1	CDF_CHAR	
ACCESS_FORMAT	1	CDF_CHAR	CDF
Acknowledgement	1	CDF_CHAR	The authors are pleased to acknowledge the Solar Orbiter/RPW Investigation (M. Maksimovic, PIs) for access to data.
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009 (2.4)
Data_type	1	CDF_CHAR	H0>High Resolution data


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 503

Tab. 4.71 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Data_version	1	CDF_CHAR	
Descriptor	1	CDF_CHAR	RPW-TDS-SURV-TSWF> RPW Time Domain Sampler L2S Triggered Waveform Snapshot data in survey mode E components
Discipline	1	CDF_CHAR	Space Physics>Interplanetary Studies
File_naming_convention	1	CDF_CHAR	<Source_name>_<LEVEL>_<Descriptor>_<Date>
File_ID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	RPW Operations Centre located at LESIA (Meudon, France)
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	https://rpw.lesia.obspm.fr
Instrument_type	1	CDF_CHAR	Radio and Plasma Waves (space)
LINK_TEXT	1	CDF_CHAR	RPW Web site at LESIA
LINK_TITLE	1	CDF_CHAR	RPW Web site
Logical_file_id	1	CDF_CHAR	
Logical_source	1	CDF_CHAR	solo_L2_rpw-tds-surv-tswf-e
Logical_source_description	1	CDF_CHAR	Solar Orbiter Radio/Plasma Wave, TDS L2S parameters
Mission_group	1	CDF_CHAR	Solar Orbiter
MODS	1	CDF_CHAR	
Parents	1	CDF_CHAR	
Parent_version	1	CDF_CHAR	
PI_affiliation	1	CDF_CHAR	LESIA, Observatoire de Paris-CNRS
PI_name	1	CDF_CHAR	M.Maksimovic
Pipeline_version	1	CDF_CHAR	
Project	1	CDF_CHAR	SOLO>Solar Orbiter
Provider	1	CDF_CHAR	LESIA (Meudon, France)
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00006-LES (1.3)
Rules_of_use	1	CDF_CHAR	Data provided are publicly available. If used in presentations or publications, please acknowledge Solar Orbiter/RPW Investigation (M. Maksimovic, PIs). Please read carefully the caveats attached to the data. For reporting purposes, we request bibliography information for any publication, etc., using these data. Please send information on the use of this data to: M. Maksimovic (PI).


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 504

Tab. 4.71 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
SKELETON_MODS	1	CDF_CHAR	January 2016 : initial release
SKELETON_MODS	2	CDF_CHAR	October 2016 (ROC): Update to Issue 2 Rev 1
SKELETON_MODS	3	CDF_CHAR	January 2019 (IAP): CDF_NAME fixed, gAtts fixed.
SKELETON_MODS	4	CDF_CHAR	V04: Update for solo data definition, X. BONNIN (CNRS-LESIA), April 2019
SKELETON_MODS	5	CDF_CHAR	V05: Update to compliant with SOL-SGS-TN-0009 Issue 2, Rev 4 - X.Bonnin, 09/2019
SKELETON_MODS	6	CDF_CHAR	V06: Update zVars WAVEFORM_DATA_RTN and RPW_ANTENNA_RTN added. WAVEFORM_LABEL and WAVEFORM_UNITS, ACQUISITION_*, DSAMP_TIME, SYNCHRO_FLAG removed. SAMPLING_RATE updated to Hz. TEST_* gAtts removed. Minor typos fixed.
SKELETON_MODS	7	CDF_CHAR	V07: g.Attribute SPICE_KERNELS added.
SKELETON_MODS	8	CDF_CHAR	V08: zVar TDS_CONFIG_LABEL added, D.Pisa (IAP-CAS), Jun 2020.
SKELETON_MODS	9	CDF_CHAR	V08: QUALITY_BITMASK type changed. CHANNEL_CONFIG dimensions reordered.
SKELETON_MODS	10	CDF_CHAR	V10: Remove UCD vattr and POST_GAP_FLAG zVar.
SKELETON_MODS	11	CDF_CHAR	V11: Parent_version global attribute added. WAVEFORM_DATA_RTN replaced by WAVEFORM_DATA_VOLTAGE


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 505

Tab. 4.71 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
SKELETON_MODS	12	CDF_CHAR	V12: NASA/SPDF compliance changes. MODS renamed to SKELETON_MODS. CHANNEL_CONFIG renamed to CHANNEL_REF. CHANNEL_REF changed from two elements vector to a number. RPW_ANTENNA_RTN_LABEL_1 and _2 zVars added. CHANNEL_LABEL set has NRV values.GAtt MODS added.
SKELETON_PARENT	1	CDF_CHAR	SOLO_L2_RPW-TDS-SURV-TSWF-E
Skeleton_version	1	CDF_CHAR	12
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	SOLO>Solar Orbiter
SPICE_KERNELS	1	CDF_CHAR	
SPECTRAL_RANGE_MAX	1	CDF_CHAR	
SPECTRAL_RANGE_MIN	1	CDF_CHAR	
TEXT	1	CDF_CHAR	This file contains RPW TDS level 2 triggered snapshot E waveform data.
TEXT_supplement_1	1	CDF_CHAR	
TIME_MAX	1	CDF_CHAR	
TIME_MIN	1	CDF_CHAR	
Validate	1	CDF_CHAR	
CAVEATS	1	CDF_CHAR	
CAL_ENTITY_NAME	1	CDF_CHAR	
CAL_ENTITY_AFFILIATION	1	CDF_CHAR	
CAL_EQUIPMENT	1	CDF_CHAR	
CALIBRATION_TABLE	1	CDF_CHAR	
CALIBRATION_VERSION	1	CDF_CHAR	
Datetime	1	CDF_CHAR	
Free_field	1	CDF_CHAR	
Job_ID	1	CDF_CHAR	
LEVEL	1	CDF_CHAR	L2>Level 2 data processing
SOOP_TYPE	1	CDF_CHAR	
Data_product	1	CDF_CHAR	SURV-TSWF-E>SURV-TSWF-E
TARGET_NAME	1	CDF_CHAR	Sun
TARGET_CLASS	1	CDF_CHAR	Star
TARGET_REGION	1	CDF_CHAR	Solar Wind

continues on next page


	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 506

Tab. 4.71 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Pipeline_name	1	CDF_CHAR	
Dataset_ID	1	CDF_CHAR	SOLO_L2_RPW-TDS-SURV-TSWF-E
OBS_ID	1	CDF_CHAR	

4.1.3.6.4 zVariables


Variable Name	Data Type	Number Elements	Dims	Sizes
Epoch	CDF_TIME_TT2000	1	0	
QUALITY_FLAG	CDF_UINT1	1	0	
QUALITY_BITMASK	CDF_UINT2	1	0	
QUALITY_FACT	CDF_UINT2	1	0	
BIA_STATUS_INFO	CDF_UINT1	1	1	6
BIA_STATUS_INFO_LABEL	CDF_CHAR	16	1	6
RPW_STATUS_INFO	CDF_UINT1	1	1	7
RPW_STATUS_INFO_LABEL	CDF_CHAR	16	1	7
SAMPLING_RATE	CDF_FLOAT	1	0	
SURVEY_MODE	CDF_UINT1	1	0	
DOWNLINK_INFO	CDF_UINT1	1	1	2
FILTER_COEFS	CDF_UINT1	1	0	
INPUT_CONFIG	CDF_UINT4	1	0	
TDS_CONFIG_LABEL	CDF_CHAR	8	0	
SNAPSHOT_SEQ_NR	CDF_UINT2	1	0	
CHANNEL_ON	CDF_UINT1	1	1	4
CHANNEL_OVERFLOW	CDF_UINT1	1	1	4
BUFFER_OVERFLOW	CDF_UINT1	1	0	
CHANNEL_REF	CDF_UINT1	1	1	4
CHANNEL_LABEL	CDF_CHAR	16	1	4
SAMPS_PER_CH	CDF_UINT4	1	0	
WAVEFORM_DATA	CDF_FLOAT	1	2	4 65536
WAVEFORM_DATA_VOLTAGE	CDF_FLOAT	1	2	4 65536
RPW_ANTENNA_RTN	CDF_FLOAT	1	2	3 3
RPW_ANTENNA_RTN_LABEL	CDF_CHAR	8	1	3
RPW_ANTENNA_RTN_LABEL	CDF_CHAR	8	1	3

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 507

4.1.3.6.5 Variable attributes

Variable Name	Attribute Name	Data Type	Value
Epoch	FIELDNAM	CDF_CHAR	Epoch
Epoch	CATDESC	CDF_CHAR	Default time
Epoch	VALIDMIN	CDF_TIME_TT2000	2000-01-01T12:00:00.000000000
Epoch	VALIDMAX	CDF_TIME_TT2000	2029-12-31T23:59:59.999000000
Epoch	SCALEMIN	CDF_TIME_TT2000	2000-01-01T12:00:00.000000000
Epoch	SCALEMAX	CDF_TIME_TT2000	2029-12-31T23:59:59.999000000
Epoch	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch	LABLAXIS	CDF_CHAR	Epoch
Epoch	UNITS	CDF_CHAR	ns
Epoch	VAR_TYPE	CDF_CHAR	support_data
Epoch	SCALETYP	CDF_CHAR	linear
Epoch	MONOTON	CDF_CHAR	INCREASE
Epoch	TIME_BASE	CDF_CHAR	J2000
Epoch	TIME_SCALE	CDF_CHAR	Terrestrial Time
Epoch	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file
Epoch	Resolution	CDF_CHAR	15258 ns
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	VALIDMIN	CDF_UINT1	0
QUALITY_FLAG	VALIDMAX	CDF_UINT1	4
QUALITY_FLAG	SCALEMIN	CDF_UINT1	0
QUALITY_FLAG	SCALEMAX	CDF_UINT1	4
QUALITY_FLAG	FILLVAL	CDF_UINT1	255
QUALITY_FLAG	LABLAXIS	CDF_CHAR	Quality flag
QUALITY_FLAG	UNITS	CDF_CHAR	
QUALITY_FLAG	VAR_TYPE	CDF_CHAR	support_data
QUALITY_FLAG	SCALETYP	CDF_CHAR	linear
QUALITY_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the quality of the data
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	FORMAT	CDF_CHAR	I1


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 508

Tab. 4.72 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	UNITS	CDF_CHAR	
QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context information or status at the receiver or experiment level
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
QUALITY_FACT	FIELDNAM	CDF_CHAR	QUALITY_FACT
QUALITY_FACT	CATDESC	CDF_CHAR	Quality factor of the packet
QUALITY_FACT	VALIDMIN	CDF_UINT2	0
QUALITY_FACT	VALIDMAX	CDF_UINT2	65534
QUALITY_FACT	SCALEMIN	CDF_UINT2	0
QUALITY_FACT	SCALEMAX	CDF_UINT2	1
QUALITY_FACT	FILLVAL	CDF_UINT2	65535
QUALITY_FACT	LABLAXIS	CDF_CHAR	Quality factor
QUALITY_FACT	UNITS	CDF_CHAR	
QUALITY_FACT	VAR_TYPE	CDF_CHAR	support_data
QUALITY_FACT	SCALETYP	CDF_CHAR	linear
QUALITY_FACT	VAR_NOTES	CDF_CHAR	Quality factor
QUALITY_FACT	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FACT	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FACT	FORMAT	CDF_CHAR	I5
BIA_STATUS_INFO	FIELDNAM	CDF_CHAR	BIA_STATUS_INFO
BIA_STATUS_INFO	CATDESC	CDF_CHAR	BIAS status byte
BIA_STATUS_INFO	VALIDMIN	CDF_UINT1	0
BIA_STATUS_INFO	VALIDMAX	CDF_UINT1	1
BIA_STATUS_INFO	SCALEMIN	CDF_UINT1	0
BIA_STATUS_INFO	SCALEMAX	CDF_UINT1	1
BIA_STATUS_INFO	FILLVAL	CDF_UINT1	255
BIA_STATUS_INFO	UNITS	CDF_CHAR	
BIA_STATUS_INFO	VAR_TYPE	CDF_CHAR	support_data


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 509

Tab. 4.72 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIA_STATUS_INFO	SCALETYP	CDF_CHAR	linear
BIA_STATUS_INFO	VAR_NOTES	CDF_CHAR	BIAS status byte
BIA_STATUS_INFO	DEPEND_0	CDF_CHAR	Epoch
BIA_STATUS_INFO	DISPLAY_TYPE	CDF_CHAR	time_series
BIA_STATUS_INFO	FORMAT	CDF_CHAR	I1
BIA_STATUS_INFO	LABL_PTR_1	CDF_CHAR	BIA_STATUS_INFO_LABEL
BIA_STATUS_INFO_LABEL	FIELDNAM	CDF_CHAR	BIA_STATUS_INFO_LABEL
BIA_STATUS_INFO_LABEL	CATDESC	CDF_CHAR	Label for BIA_STATUS_INFO
BIA_STATUS_INFO_LABEL	VAR_TYPE	CDF_CHAR	metadata
BIA_STATUS_INFO_LABEL	FORMAT	CDF_CHAR	A8
RPW_STATUS_INFO	FIELDNAM	CDF_CHAR	RPW_STATUS_INFO
RPW_STATUS_INFO	CATDESC	CDF_CHAR	RPW status
RPW_STATUS_INFO	VALIDMIN	CDF_UINT1	0
RPW_STATUS_INFO	VALIDMAX	CDF_UINT1	1
RPW_STATUS_INFO	SCALEMIN	CDF_UINT1	0
RPW_STATUS_INFO	SCALEMAX	CDF_UINT1	1
RPW_STATUS_INFO	FILLVAL	CDF_UINT1	255
RPW_STATUS_INFO	UNITS	CDF_CHAR	
RPW_STATUS_INFO	VAR_TYPE	CDF_CHAR	support_data
RPW_STATUS_INFO	SCALETYP	CDF_CHAR	linear
RPW_STATUS_INFO	VAR_NOTES	CDF_CHAR	RPW status (bitmask - re- ceived from DPU)
RPW_STATUS_INFO	DEPEND_0	CDF_CHAR	Epoch
RPW_STATUS_INFO	DISPLAY_TYPE	CDF_CHAR	time_series
RPW_STATUS_INFO	FORMAT	CDF_CHAR	I1
RPW_STATUS_INFO	LABL_PTR_1	CDF_CHAR	RPW_STATUS_INFO_LABEL
RPW_STATUS_INFO_LABEL	FIELDNAM	CDF_CHAR	RPW_STATUS_INFO_LABEL
RPW_STATUS_INFO_LABEL	CATDESC	CDF_CHAR	Label for RPW_STATUS_INFO
RPW_STATUS_INFO_LABEL	VAR_TYPE	CDF_CHAR	metadata
RPW_STATUS_INFO_LABEL	FORMAT	CDF_CHAR	A16
SAMPLING_RATE	FIELDNAM	CDF_CHAR	SAMPLING_RATE
SAMPLING_RATE	CATDESC	CDF_CHAR	TDS sampling rate
SAMPLING_RATE	VALIDMIN	CDF_FLOAT	0.0
SAMPLING_RATE	VALIDMAX	CDF_FLOAT	2.0971e+06
SAMPLING_RATE	SCALEMIN	CDF_FLOAT	65534.0
SAMPLING_RATE	SCALEMAX	CDF_FLOAT	254275.0
SAMPLING_RATE	FILLVAL	CDF_FLOAT	-1.0e+31
SAMPLING_RATE	LABLAXIS	CDF_CHAR	Sampling rate code
SAMPLING_RATE	UNITS	CDF_CHAR	Hz


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 510

Tab. 4.72 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SAMPLING_RATE	VAR_TYPE	CDF_CHAR	support_data
SAMPLING_RATE	SCALETYP	CDF_CHAR	linear
SAMPLING_RATE	VAR_NOTES	CDF_CHAR	TDS sampling rate
SAMPLING_RATE	DEPEND_0	CDF_CHAR	Epoch
SAMPLING_RATE	DISPLAY_TYPE	CDF_CHAR	time_series
SAMPLING_RATE	FORMAT	CDF_CHAR	F9.1
SURVEY_MODE	FIELDNAM	CDF_CHAR	SURVEY_MODE
SURVEY_MODE	CATDESC	CDF_CHAR	Survey mode
SURVEY_MODE	VALIDMIN	CDF_UINT1	0
SURVEY_MODE	VALIDMAX	CDF_UINT1	1
SURVEY_MODE	SCALEMIN	CDF_UINT1	0
SURVEY_MODE	SCALEMAX	CDF_UINT1	1
SURVEY_MODE	FILLVAL	CDF_UINT1	255
SURVEY_MODE	LABLAXIS	CDF_CHAR	TDS survey mode
SURVEY_MODE	UNITS	CDF_CHAR	
SURVEY_MODE	VAR_TYPE	CDF_CHAR	support_data
SURVEY_MODE	SCALETYP	CDF_CHAR	linear
SURVEY_MODE	VAR_NOTES	CDF_CHAR	Flag to indicate if the receiver in the SURVEY_BURST (=1) or SURVEY_NORMAL (=0) mode
SURVEY_MODE	DEPEND_0	CDF_CHAR	Epoch
SURVEY_MODE	DISPLAY_TYPE	CDF_CHAR	time_series
SURVEY_MODE	FORMAT	CDF_CHAR	I1
DOWNLINK_INFO	FIELDNAM	CDF_CHAR	DOWNLINK_INFO
DOWNLINK_INFO	CATDESC	CDF_CHAR	Quality factor of the packet
DOWNLINK_INFO	VALIDMIN	CDF_UINT1	0
DOWNLINK_INFO	VALIDMAX	CDF_UINT1	254
DOWNLINK_INFO	SCALEMIN	CDF_UINT1	0
DOWNLINK_INFO	SCALEMAX	CDF_UINT1	254
DOWNLINK_INFO	FILLVAL	CDF_UINT1	255
DOWNLINK_INFO	LABLAXIS	CDF_CHAR	DOWNLINK_INFO
DOWNLINK_INFO	UNITS	CDF_CHAR	
DOWNLINK_INFO	VAR_TYPE	CDF_CHAR	support_data
DOWNLINK_INFO	SCALETYP	CDF_CHAR	linear
DOWNLINK_INFO	VAR_NOTES	CDF_CHAR	Algorithm code of the down-linked packet and selection code of the down-linked packet
DOWNLINK_INFO	DEPEND_0	CDF_CHAR	Epoch
DOWNLINK_INFO	DISPLAY_TYPE	CDF_CHAR	time_series


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 511

Tab. 4.72 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
DOWNLINK_INFO	FORMAT	CDF_CHAR	I3
FILTER_COEFS	FIELDNAM	CDF_CHAR	FILTER_COEFS
FILTER_COEFS	CATDESC	CDF_CHAR	Index of filter coefficients used
FILTER_COEFS	VALIDMIN	CDF_UINT1	0
FILTER_COEFS	VALIDMAX	CDF_UINT1	4
FILTER_COEFS	SCALEMIN	CDF_UINT1	0
FILTER_COEFS	SCALEMAX	CDF_UINT1	1
FILTER_COEFS	FILLVAL	CDF_UINT1	255
FILTER_COEFS	LABLAXIS	CDF_CHAR	Filter coeffs.
FILTER_COEFS	UNITS	CDF_CHAR	
FILTER_COEFS	VAR_TYPE	CDF_CHAR	support_data
FILTER_COEFS	SCALETYP	CDF_CHAR	linear
FILTER_COEFS	VAR_NOTES	CDF_CHAR	Index of filter coefficients used
FILTER_COEFS	DEPEND_0	CDF_CHAR	Epoch
FILTER_COEFS	DISPLAY_TYPE	CDF_CHAR	time_series
FILTER_COEFS	FORMAT	CDF_CHAR	I1
INPUT_CONFIG	FIELDNAM	CDF_CHAR	INPUT_CONFIG
INPUT_CONFIG	CATDESC	CDF_CHAR	Bitmask of TDS analog input configuration
INPUT_CONFIG	VALIDMIN	CDF_UINT4	0
INPUT_CONFIG	VALIDMAX	CDF_UINT4	4294967294
INPUT_CONFIG	SCALEMIN	CDF_UINT4	0
INPUT_CONFIG	SCALEMAX	CDF_UINT4	4294967294
INPUT_CONFIG	FILLVAL	CDF_UINT4	4294967295
INPUT_CONFIG	LABLAXIS	CDF_CHAR	TDS input config.
INPUT_CONFIG	UNITS	CDF_CHAR	
INPUT_CONFIG	VAR_TYPE	CDF_CHAR	support_data
INPUT_CONFIG	SCALETYP	CDF_CHAR	linear
INPUT_CONFIG	VAR_NOTES	CDF_CHAR	Input TDS configuration
INPUT_CONFIG	DEPEND_0	CDF_CHAR	Epoch
INPUT_CONFIG	DISPLAY_TYPE	CDF_CHAR	time_series
INPUT_CONFIG	FORMAT	CDF_CHAR	I10
TDS_CONFIG_LABEL	FIELDNAM	CDF_CHAR	TDS_CONFIG_LABEL
TDS_CONFIG_LABEL	CATDESC	CDF_CHAR	Label for TDS Configuration
TDS_CONFIG_LABEL	VAR_TYPE	CDF_CHAR	metadata
TDS_CONFIG_LABEL	FORMAT	CDF_CHAR	A8
SNAPSHOT_SEQ_NR	FIELDNAM	CDF_CHAR	SNAPSHOT_SEQ_NR

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 512

Tab. 4.72 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SNAPSHOT_SEQ_NR	CATDESC	CDF_CHAR	Sequential number of a snapshot incremented with every snapshot
SNAPSHOT_SEQ_NR	VALIDMIN	CDF_UINT2	0
SNAPSHOT_SEQ_NR	VALIDMAX	CDF_UINT2	65534
SNAPSHOT_SEQ_NR	SCALEMIN	CDF_UINT2	0
SNAPSHOT_SEQ_NR	SCALEMAX	CDF_UINT2	65534
SNAPSHOT_SEQ_NR	FILLVAL	CDF_UINT2	65535
SNAPSHOT_SEQ_NR	LABLAXIS	CDF_CHAR	Snapshot seq. Num.
SNAPSHOT_SEQ_NR	UNITS	CDF_CHAR	
SNAPSHOT_SEQ_NR	VAR_TYPE	CDF_CHAR	support_data
SNAPSHOT_SEQ_NR	SCALETYP	CDF_CHAR	linear
SNAPSHOT_SEQ_NR	VAR_NOTES	CDF_CHAR	Sequential number of a snapshot incremented with every snapshot
SNAPSHOT_SEQ_NR	DEPEND_0	CDF_CHAR	Epoch
SNAPSHOT_SEQ_NR	DISPLAY_TYPE	CDF_CHAR	time_series
SNAPSHOT_SEQ_NR	FORMAT	CDF_CHAR	I5
CHANNEL_ON	FIELDNAM	CDF_CHAR	CHANNEL_ON
CHANNEL_ON	CATDESC	CDF_CHAR	Status of signal channels in the snapshot
CHANNEL_ON	VALIDMIN	CDF_UINT1	0
CHANNEL_ON	VALIDMAX	CDF_UINT1	1
CHANNEL_ON	SCALEMIN	CDF_UINT1	0
CHANNEL_ON	SCALEMAX	CDF_UINT1	1
CHANNEL_ON	FILLVAL	CDF_UINT1	255
CHANNEL_ON	UNITS	CDF_CHAR	
CHANNEL_ON	VAR_TYPE	CDF_CHAR	support_data
CHANNEL_ON	SCALETYP	CDF_CHAR	linear
CHANNEL_ON	VAR_NOTES	CDF_CHAR	Status of signal channels in the snapshot (0=OFF, 1=ON). Indicates whether corresponding channel in waveform data contains valid data.
CHANNEL_ON	DEPEND_0	CDF_CHAR	Epoch
CHANNEL_ON	DISPLAY_TYPE	CDF_CHAR	time_series
CHANNEL_ON	FORMAT	CDF_CHAR	I1
CHANNEL_ON	LABL_PTR_1	CDF_CHAR	CHANNEL_LABEL
CHANNEL_OVERFLOW	FIELDNAM	CDF_CHAR	CHANNEL_OVERFLOW
CHANNEL_OVERFLOW	CATDESC	CDF_CHAR	Status of channel overflows in the snapshot

continues on next page



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **513**

Tab. 4.72 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
CHANNEL_OVERFLOW	VALIDMIN	CDF_UINT1	0
CHANNEL_OVERFLOW	VALIDMAX	CDF_UINT1	1
CHANNEL_OVERFLOW	SCALEMIN	CDF_UINT1	0
CHANNEL_OVERFLOW	SCALEMAX	CDF_UINT1	1
CHANNEL_OVERFLOW	FILLVAL	CDF_UINT1	255
CHANNEL_OVERFLOW	UNITS	CDF_CHAR	
CHANNEL_OVERFLOW	VAR_TYPE	CDF_CHAR	support_data
CHANNEL_OVERFLOW	SCALETYP	CDF_CHAR	linear
CHANNEL_OVERFLOW	VAR_NOTES	CDF_CHAR	Status of ADC overflow in the snapshot (1=OVERFLOW, 0=OK data)
CHANNEL_OVERFLOW	DEPEND_0	CDF_CHAR	Epoch
CHANNEL_OVERFLOW	DISPLAY_TYPE	CDF_CHAR	time_series
CHANNEL_OVERFLOW	FORMAT	CDF_CHAR	I1
CHANNEL_OVERFLOW	LABL_PTR_1	CDF_CHAR	CHANNEL_LABEL
BUFFER_OVERFLOW	FIELDNAM	CDF_CHAR	BUFFER_OVERFLOW
BUFFER_OVERFLOW	CATDESC	CDF_CHAR	Status of buffer
BUFFER_OVERFLOW	VALIDMIN	CDF_UINT1	0
BUFFER_OVERFLOW	VALIDMAX	CDF_UINT1	1
BUFFER_OVERFLOW	SCALEMIN	CDF_UINT1	0
BUFFER_OVERFLOW	SCALEMAX	CDF_UINT1	1
BUFFER_OVERFLOW	FILLVAL	CDF_UINT1	255
BUFFER_OVERFLOW	LABLAXIS	CDF_CHAR	Buffer overflow
BUFFER_OVERFLOW	UNITS	CDF_CHAR	
BUFFER_OVERFLOW	VAR_TYPE	CDF_CHAR	support_data
BUFFER_OVERFLOW	SCALETYP	CDF_CHAR	linear
BUFFER_OVERFLOW	VAR_NOTES	CDF_CHAR	Status of buffer overflow (1=OVERFLOW). Indicates instrument issue.
BUFFER_OVERFLOW	DEPEND_0	CDF_CHAR	Epoch
BUFFER_OVERFLOW	DISPLAY_TYPE	CDF_CHAR	time_series
BUFFER_OVERFLOW	FORMAT	CDF_CHAR	I1
CHANNEL_REF	FIELDNAM	CDF_CHAR	CHANNEL_REF
CHANNEL_REF	CATDESC	CDF_CHAR	Status of signal channels in the snapshot
CHANNEL_REF	VALIDMIN	CDF_UINT1	10
CHANNEL_REF	VALIDMAX	CDF_UINT1	32
CHANNEL_REF	SCALEMIN	CDF_UINT1	10
CHANNEL_REF	SCALEMAX	CDF_UINT1	32
CHANNEL_REF	FILLVAL	CDF_UINT1	255
CHANNEL_REF	UNITS	CDF_CHAR	


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 514

Tab. 4.72 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
CHANNEL_REF	VAR_TYPE	CDF_CHAR	support_data
CHANNEL_REF	SCALETYP	CDF_CHAR	linear
CHANNEL_REF	VAR_NOTES	CDF_CHAR	Configuration of signal channels in the snapshot (0=GND 1=V1, 2=V2, 3=V3). The number AB indicates that the corresponding channel contains a difference of 2 channels A-B.
CHANNEL_REF	DEPEND_0	CDF_CHAR	Epoch
CHANNEL_REF	DISPLAY_TYPE	CDF_CHAR	time_series
CHANNEL_REF	FORMAT	CDF_CHAR	I2
CHANNEL_REF	LABL_PTR_1	CDF_CHAR	CHANNEL_LABEL
CHANNEL_LABEL	FIELDNAM	CDF_CHAR	CHANNEL_LABEL
CHANNEL_LABEL	CATDESC	CDF_CHAR	Label for CHANNEL_ON
CHANNEL_LABEL	VAR_TYPE	CDF_CHAR	metadata
CHANNEL_LABEL	FORMAT	CDF_CHAR	A16
SAMPS_PER_CH	FIELDNAM	CDF_CHAR	SAMPS_PER_CH
SAMPS_PER_CH	CATDESC	CDF_CHAR	Number of samples per channel
SAMPS_PER_CH	VALIDMIN	CDF_UINT4	0
SAMPS_PER_CH	VALIDMAX	CDF_UINT4	4294967295
SAMPS_PER_CH	SCALEMIN	CDF_UINT4	0
SAMPS_PER_CH	SCALEMAX	CDF_UINT4	4294967295
SAMPS_PER_CH	FILLVAL	CDF_UINT4	4294967295
SAMPS_PER_CH	LABLAXIS	CDF_CHAR	Nsamps
SAMPS_PER_CH	UNITS	CDF_CHAR	
SAMPS_PER_CH	VAR_TYPE	CDF_CHAR	data
SAMPS_PER_CH	SCALETYP	CDF_CHAR	linear
SAMPS_PER_CH	VAR_NOTES	CDF_CHAR	Number of samples per channel
SAMPS_PER_CH	DEPEND_0	CDF_CHAR	Epoch
SAMPS_PER_CH	DISPLAY_TYPE	CDF_CHAR	time_series
SAMPS_PER_CH	FORMAT	CDF_CHAR	I10
WAVEFORM_DATA	FIELDNAM	CDF_CHAR	Electric waveform data
WAVEFORM_DATA	CATDESC	CDF_CHAR	Calibrated electric waveform snapshot measured on the four high frequency channels of TDS system.
WAVEFORM_DATA	VALIDMIN	CDF_FLOAT	-1.0e+30
WAVEFORM_DATA	VALIDMAX	CDF_FLOAT	1.0e+30


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 515

Tab. 4.72 – continued from previous page


Variable Name	Attribute Name	Data Type	Value
WAVEFORM_DATA	SCALEMIN	CDF_FLOAT	-1.0e+30
WAVEFORM_DATA	SCALEMAX	CDF_FLOAT	1.0e+30
WAVEFORM_DATA	FILLVAL	CDF_FLOAT	-1.0e+31
WAVEFORM_DATA	UNITS	CDF_CHAR	V/m
WAVEFORM_DATA	VAR_TYPE	CDF_CHAR	data
WAVEFORM_DATA	SCALETYP	CDF_CHAR	linear
WAVEFORM_DATA	VAR_NOTES	CDF_CHAR	1-4 entry array with signal values
WAVEFORM_DATA	DEPEND_0	CDF_CHAR	Epoch
WAVEFORM_DATA	DEPEND_1	CDF_CHAR	CHANNEL_REF
WAVEFORM_DATA	DISPLAY_TYPE	CDF_CHAR	time_series
WAVEFORM_DATA	FORMAT	CDF_CHAR	E10.3
WAVEFORM_DATA	LABL_PTR_1	CDF_CHAR	CHANNEL_LABEL
WAVEFORM_DATA	LABL_PTR_2	CDF_CHAR	
WAVEFORM_DATA_VOLTAGE	FIELDNAM	CDF_CHAR	Electric waveform data
WAVEFORM_DATA_VOLTAGE	CATDESC	CDF_CHAR	Calibrated electric waveform snapshot in volts measured on the four high frequency channels of TDS system.
WAVEFORM_DATA_VOLTAGE	VALIDMIN	CDF_FLOAT	-1.0e+30
WAVEFORM_DATA_VOLTAGE	VALIDMAX	CDF_FLOAT	1.0e+30
WAVEFORM_DATA_VOLTAGE	SCALEMIN	CDF_FLOAT	-1.0e+30
WAVEFORM_DATA_VOLTAGE	SCALEMAX	CDF_FLOAT	1.0e+30
WAVEFORM_DATA_VOLTAGE	FILLVAL	CDF_FLOAT	-1.0e+31
WAVEFORM_DATA_VOLTAGE	UNITS	CDF_CHAR	V
WAVEFORM_DATA_VOLTAGE	VAR_TYPE	CDF_CHAR	data
WAVEFORM_DATA_VOLTAGE	SCALETYP	CDF_CHAR	linear
WAVEFORM_DATA_VOLTAGE	VAR_NOTES	CDF_CHAR	1-4 entry array with signal values
WAVEFORM_DATA_VOLTAGE	DEPEND_0	CDF_CHAR	Epoch
WAVEFORM_DATA_VOLTAGE	DEPEND_1	CDF_CHAR	CHANNEL_REF
WAVEFORM_DATA_VOLTAGE	DEPEND_2	CDF_CHAR	
WAVEFORM_DATA_VOLTAGE	DISPLAY_TYPE	CDF_CHAR	time_series
WAVEFORM_DATA_VOLTAGE	FORMAT	CDF_CHAR	E10.3
WAVEFORM_DATA_VOLTAGE	LABL_PTR_1	CDF_CHAR	CHANNEL_LABEL
WAVEFORM_DATA_VOLTAGE	LABL_PTR_2	CDF_CHAR	
RPW_ANTENNA_RTN	FIELDNAM	CDF_CHAR	RPW antenna orientation
RPW_ANTENNA_RTN	CATDESC	CDF_CHAR	Three RPW electric antenna orientations in the RTN coordinate system.
RPW_ANTENNA_RTN	VALIDMIN	CDF_FLOAT	-1.0e+30

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 516

Tab. 4.72 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
RPW_ANTENNA_RTN	VALIDMAX	CDF_FLOAT	1.0e+30
RPW_ANTENNA_RTN	SCALEMIN	CDF_FLOAT	-1.0e+30
RPW_ANTENNA_RTN	SCALEMAX	CDF_FLOAT	1.0e+30
RPW_ANTENNA_RTN	FILLVAL	CDF_FLOAT	-1.0e+31
RPW_ANTENNA_RTN	UNITS	CDF_CHAR	
RPW_ANTENNA_RTN	VAR_TYPE	CDF_CHAR	support_data
RPW_ANTENNA_RTN	SCALETYP	CDF_CHAR	linear
RPW_ANTENNA_RTN	VAR_NOTES	CDF_CHAR	Matrix of unit vectors representing the three RPW antenna directions in RTN
RPW_ANTENNA_RTN	DEPEND_0	CDF_CHAR	Epoch
RPW_ANTENNA_RTN	DISPLAY_TYPE	CDF_CHAR	time_series
RPW_ANTENNA_RTN	FORMAT	CDF_CHAR	E10.3
RPW_ANTENNA_RTN	LABL_PTR_1	CDF_CHAR	RPW_ANTENNA_RTN_LABEL_1
RPW_ANTENNA_RTN	LABL_PTR_2	CDF_CHAR	RPW_ANTENNA_RTN_LABEL_2
RPW_ANTENNA_RTN_LABEL_1	EIEI1DNAM	CDF_CHAR	RPW_ANTENNA_RTN_LABEL_1
RPW_ANTENNA_RTN_LABEL_1	EATDESC	CDF_CHAR	Label for RPW_ANTENNA_RTN
RPW_ANTENNA_RTN_LABEL_1	VAR_TYPE	CDF_CHAR	metadata
RPW_ANTENNA_RTN_LABEL_1	FORMAT	CDF_CHAR	A8
RPW_ANTENNA_RTN_LABEL_2	EIEI2DNAM	CDF_CHAR	RPW_ANTENNA_RTN_LABEL_2
RPW_ANTENNA_RTN_LABEL_2	EATDESC	CDF_CHAR	Label for RPW_ANTENNA_RTN
RPW_ANTENNA_RTN_LABEL_2	VAR_TYPE	CDF_CHAR	metadata
RPW_ANTENNA_RTN_LABEL_2	FORMAT	CDF_CHAR	A8


	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 517

4.1.3.6.6 Non-Record-Variant (NRV) Variables

Variable Name	Index	Value
BIA_STATUS_INFO_LABEL	1	BIA ON
BIA_STATUS_INFO_LABEL	2	BIAS3 ON
BIA_STATUS_INFO_LABEL	3	BIAS2 ON
BIA_STATUS_INFO_LABEL	4	BIAS1 ON
BIA_STATUS_INFO_LABEL	5	BIA MODE HV ON
BIA_STATUS_INFO_LABEL	6	BIA MODE MUX
RPW_STATUS_INFO_LABEL	1	THR ON
RPW_STATUS_INFO_LABEL	2	LFR ON
RPW_STATUS_INFO_LABEL	3	ANT1 ON
RPW_STATUS_INFO_LABEL	4	ANT2 ON
RPW_STATUS_INFO_LABEL	5	ANT3 ON
RPW_STATUS_INFO_LABEL	6	SCM ON
RPW_STATUS_INFO_LABEL	7	SCM CALIB
CHANNEL_LABEL	1	WF in CH1
CHANNEL_LABEL	2	WF in CH2
CHANNEL_LABEL	3	WF in CH3
CHANNEL_LABEL	4	WF in CH4
RPW_ANTENNA_RTN_LABEL	11	ANT_R
RPW_ANTENNA_RTN_LABEL	21	ANT_T
RPW_ANTENNA_RTN_LABEL	31	ANT_N
RPW_ANTENNA_RTN_LABEL	12	ANT_1
RPW_ANTENNA_RTN_LABEL	22	ANT_2
RPW_ANTENNA_RTN_LABEL	32	ANT_3

4.1.3.7 SOLO_L2_RPW-TDS-SURV-TSWF-B data product

The “SOLO_L2_RPW-TDS-SURV-TSWF-B” data product contains the calibrated TDS receiver Triggered Snapshot Waveform survey data for magnetic component only. The “SOLO_L2_RPW-TDS-SURV-TSWF-B” data are written in CDF format files. There is a single file per day, generated from data in the corresponding SOLO_L1_RPW-TDS-SURV-TSWF parent file.

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 518

4.1.3.7.1 Filename

```
solo_L2_rpw-tds-surv-tswf-b_[YYYYMMDD]_V[version].cdf
```

4.1.3.7.2 Expected cadence and data volume


Nominal cadence: 1 file per day

Expected data volume: 70 MB per file

4.1.3.7.3 Global Attributes

Attribute Name	Entry Number	Data Type	Value
File_naming_convention	1	CDF_CHAR	<Source_name>_<LEVEL>_<Descriptor>_<Date>
Provider	1	CDF_CHAR	LESIA (Meudon, France)
Parents	1	CDF_CHAR	
TARGET_CLASS	1	CDF_CHAR	Star
TEXT	1	CDF_CHAR	This file contains RPW TDS level 2 triggered snapshot waveform of magnetic data in survey mode
Descriptor	1	CDF_CHAR	RPW-TDS-SURV-TSWF-B> RPW Time Domain Sampler Triggered Waveform Snapshot magnetic data in survey mode
Rules_of_use	1	CDF_CHAR	Data provided are publicly available. If used in presentations or publications, please acknowledge Solar Orbiter/RPW Investigation (M. Maksimovic, PIs). Please read carefully the caveats attached to the data. For reporting purposes, we request bibliography information for any publication, etc., using these data. Please send information on the use of this data to: M. Maksimovic (PI).
CAL_ENTITY_NAME	1	CDF_CHAR	LPC2E
Source_name	1	CDF_CHAR	SOLO>Solar Orbiter
SPECTRAL_RANGE_MAX	1	CDF_CHAR	
Logical_source	1	CDF_CHAR	solo_L2_rpw-tds-surv-tswf-b
Pipeline_name	1	CDF_CHAR	


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 519

Tab. 4.73 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Discipline	1	CDF_CHAR	Space Physics>Interplanetary Studies
Logical_source_description	1	CDF_CHAR	Solar Orbiter Radio/Plasma Wave, TDS L2 magnetic parameters
CALIBRATION_TABLE	1	CDF_CHAR	
Job_ID	1	CDF_CHAR	
Skeleton_version	1	CDF_CHAR	12
Parent_version	1	CDF_CHAR	
Logical_file_id	1	CDF_CHAR	
PI_affiliation	1	CDF_CHAR	LESIA, Observatoire de Paris-CNRS
LINK_TEXT	1	CDF_CHAR	RPW Web site at LESIA
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009 (2.4)
CALIBRATION_VERSION	1	CDF_CHAR	
Project	1	CDF_CHAR	SOLO>Solar Orbiter
File_ID	1	CDF_CHAR	
Software_name	1	CDF_CHAR	
Generation_date	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
TARGET_REGION	1	CDF_CHAR	Solar Wind
TIME_MIN	1	CDF_CHAR	
Data_version	1	CDF_CHAR	
CAL_EQUIPMENT	1	CDF_CHAR	SCM
PI_name	1	CDF_CHAR	M.Maksimovic
Datetime	1	CDF_CHAR	
TEXT_supplement_1	1	CDF_CHAR	
Data_product	1	CDF_CHAR	SURV-TSWF-B>SURV-TSWF-B
Pipeline_version	1	CDF_CHAR	
Data_type	1	CDF_CHAR	H0>High Resolution data
TARGET_NAME	1	CDF_CHAR	Sun
LEVEL	1	CDF_CHAR	L2>Level 2 data processing
SPICE_KERNELS	1	CDF_CHAR	
SKELETON_MODS	1	CDF_CHAR	2017-12-15, J-Y Brochot (CNRS-LPC2E), initial release
SKELETON_MODS	2	CDF_CHAR	V04: Update for solo data definition, X. BONNIN (CNRS-LESIA), April 2019
SKELETON_MODS	3	CDF_CHAR	V05: Update to compliant with SOL-SGS-TN-0009 Issue 2, Rev 4 - X.Bonnin, 09/2019
SKELETON_MODS	4	CDF_CHAR	V06: Uniformisation of the version, J-Y Brochot, 12/2019


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 520

Tab. 4.73 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
SKELETON_MODS	5	CDF_CHAR	V07: March 2020 : Harmonize SAMPLING_RATE zvar and Test_* g.attrs - X.Bonnin (CNRS, LESIA)
SKELETON_MODS	6	CDF_CHAR	V07: : Suppress zVars POST_GAP_FLAG, ACQUISITION_TIME, ACQUISITION_TIME_UNITS and ACQUISITION_TIME_LABEL - J-Y Brochot, March 2020
SKELETON_MODS	7	CDF_CHAR	V08: Add gAttr SPICE_KERNELS - J-Y Brochot, April 2020
SKELETON_MODS	8	CDF_CHAR	V09: Complete the zAttr of CALIBRATION_TABLE_INDEX - J-Y Brochot, May 2020
SKELETON_MODS	9	CDF_CHAR	V10: Add zVar L2_QUALITY_BITMASK - J-Y Brochot, Aug 2020
SKELETON_MODS	10	CDF_CHAR	V11: Suppress zVars CHANNEL_ON, RPW_STATUS_INFO, INPUT_CONFIG, SYNCHRO_FLAG, BUFFER_OVERFLOW, CHANNEL_OVERFLOW, RPW_STATUS_INFO_LABEL, SNAPSHOT_SEQ_NR, CHANNEL_CONFIG - J-Y Brochot, Sept 2020
SKELETON_MODS	11	CDF_CHAR	V12: Jan. 2021 : Fix inconsistencies against the ISTP CDF guidelines, X.Bonnin (CNRS-LESIA)
Dataset_ID	1	CDF_CHAR	SOLO_L2_RPW-TDS-SURV-TSWF-B
Generated_by	1	CDF_CHAR	RPW Operations Centre located at LESIA (Meudon, France)
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00006-LES (1.3)
SOOP_TYPE	1	CDF_CHAR	
CAVEATS	1	CDF_CHAR	
Acknowledgement	1	CDF_CHAR	The authors are pleased to acknowledge the Solar Orbiter/RPW Investigation (M. Maksimovic, PIs) for access to data.
TIME_MAX	1	CDF_CHAR	
ACCESS_URL	1	CDF_CHAR	

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 521

Tab. 4.73 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
HTTP_LINK	1	CDF_CHAR	https://rpw.lesia.obspm.fr
ACCESS_FORMAT	1	CDF_CHAR	CDF
OBS_ID	1	CDF_CHAR	
Validate	1	CDF_CHAR	
CAL_ENTITY_AFFILIATION	1	CDF_CHAR	CNRS
LINK_TITLE	1	CDF_CHAR	RPW Web site
Free_field	1	CDF_CHAR	
SPECTRAL_RANGE_MIN	1	CDF_CHAR	
Mission_group	1	CDF_CHAR	Solar Orbiter
Instrument_type	1	CDF_CHAR	Radio and Plasma Waves (space)
SKELETON_PARENT	1	CDF_CHAR	SOLO_L2_RPW-TDS-SURV-TSWF-B_V12.cdf
MODS	1	CDF_CHAR	


4.1.3.7.4 zVariables

Variable Name	Data Type	Number Elements	Dims	Sizes
QUALITY_FLAG	CDF_UINT1	1	0	
QUALITY_BITMASK	CDF_UINT2	1	0	
L2_QUALITY_BITMASK	CDF_UINT2	1	0	
CALIBRATION_TABLE_INDEX	CDF_UINT1	1	2	2 2
Epoch	CDF_TIME_TT2000	1	0	
SURVEY_MODE	CDF_UINT1	1	0	
SAMPLING_RATE	CDF_REAL4	1	0	
B	CDF_REAL4	1	1	65536
SAMPS_PER_CH	CDF_UINT4	1	0	

4.1.3.7.5 Variable attributes

Variable Name	Attribute Name	Data Type	Value
QUALITY_FLAG	VALIDMIN	CDF_UINT1	0
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FLAG	UNITS	CDF_CHAR	
QUALITY_FLAG	SCALETYP	CDF_CHAR	linear
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 522

Tab. 4.74 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
QUALITY_FLAG	SCALEMIN	CDF_UINT1	0
QUALITY_FLAG	LABLAXIS	CDF_CHAR	Quality flag
QUALITY_FLAG	FILLVAL	CDF_UINT1	255
QUALITY_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the quality of the data
QUALITY_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	VAR_TYPE	CDF_CHAR	support_data
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	VALIDMAX	CDF_UINT1	4
QUALITY_FLAG	SCALEMAX	CDF_UINT1	4
QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
QUALITY_BITMASK	UNITS	CDF_CHAR	
QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context information or status at the receiver or experiment level
QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
L2_QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
L2_QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
L2_QUALITY_BITMASK	UNITS	CDF_CHAR	
L2_QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
L2_QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
L2_QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
L2_QUALITY_BITMASK	LABLAXIS	CDF_CHAR	L2 Bitmask flag
L2_QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 523

Tab. 4.74 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
L2_QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context or events that can alterate data -bit0: SCM outworking or unknown temperature -bit1: SCM heater on/off transition -bit2: LFR onboard calibration signal
L2_QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
L2_QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
L2_QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
L2_QUALITY_BITMASK	FIELDNAM	CDF_CHAR	L2_QUALITY_BITMASK
L2_QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
L2_QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
CALIBRATION_TABLE_INDEX	VALIDMIN	CDF_UINT1	0
CALIBRATION_TABLE_INDEX	DEPEND_0	CDF_CHAR	Epoch
CALIBRATION_TABLE_INDEX	UNITS	CDF_CHAR	
CALIBRATION_TABLE_INDEX	SCALETYP	CDF_CHAR	linear
CALIBRATION_TABLE_INDEX	FORMAT	CDF_CHAR	I3.3
CALIBRATION_TABLE_INDEX	SCALEMIN	CDF_UINT1	0
CALIBRATION_TABLE_INDEX	LABLAXIS	CDF_CHAR	Calibration table index
CALIBRATION_TABLE_INDEX	IKLVAL	CDF_UINT1	255
CALIBRATION_TABLE_INDEX	VAR_NOTES	CDF_CHAR	Indexes (i,j) giving gEntry of Global attribute 'CALIBRATION_TABLE', and record number in the Calibration Table.
CALIBRATION_TABLE_INDEX	DISPLAY_TYPE	CDF_CHAR	time_series
CALIBRATION_TABLE_INDEX	VAR_TYPE	CDF_CHAR	support_data
CALIBRATION_TABLE_INDEX	CATDESC	CDF_CHAR	Informations about calibration tables used
CALIBRATION_TABLE_INDEX	FIELDNAM	CDF_CHAR	CALIBRATION_TABLE_INDEX
CALIBRATION_TABLE_INDEX	VALIDMAX	CDF_UINT1	254
CALIBRATION_TABLE_INDEX	SCALEMAX	CDF_UINT1	254
Epoch	VALIDMIN	CDF_TIME_TT2000	2000-01-01T12:00:00.000000000
Epoch	UNITS	CDF_CHAR	ns
Epoch	SCALETYP	CDF_CHAR	linear
Epoch	SCALEMIN	CDF_TIME_TT2000	2000-01-01T12:00:00.000000000
Epoch	LABLAXIS	CDF_CHAR	Epoch

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 524

Tab. 4.74 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
Epoch	FILLVAL	CDF_TIME_TT2000	1999-12-31T23:59:59.999999999
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file.
Epoch	DISPLAY_TYPE	CDF_CHAR	time_series
Epoch	VAR_TYPE	CDF_CHAR	support_data
Epoch	CATDESC	CDF_CHAR	Default time
Epoch	FIELDNAM	CDF_CHAR	Epoch
Epoch	VALIDMAX	CDF_TIME_TT2000	2029-12-31T23:59:59.999000000
Epoch	SCALEMAX	CDF_TIME_TT2000	2029-12-31T23:59:59.999000000
Epoch	TIME_BASE	CDF_CHAR	J2000
Epoch	TIME_SCALE	CDF_CHAR	Terrestrial Time
Epoch	MONOTON	CDF_CHAR	INCREASE
Epoch	Resolution	CDF_CHAR	15258 ns
Epoch	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
Epoch	Bin_location	CDF_CHAR	0.5
SURVEY_MODE	VALIDMIN	CDF_UINT1	0
SURVEY_MODE	DEPEND_0	CDF_CHAR	Epoch
SURVEY_MODE	UNITS	CDF_CHAR	
SURVEY_MODE	SCALETYP	CDF_CHAR	linear
SURVEY_MODE	FORMAT	CDF_CHAR	I1.1
SURVEY_MODE	SCALEMIN	CDF_UINT1	0
SURVEY_MODE	LABLAXIS	CDF_CHAR	TDSsurvey mode
SURVEY_MODE	FILLVAL	CDF_UINT1	255
SURVEY_MODE	VAR_NOTES	CDF_CHAR	Flag to indicate if the receiver in the SURVEY_BURST (=1) or SURVEY_NORMAL (=0) mode
SURVEY_MODE	DISPLAY_TYPE	CDF_CHAR	time_series
SURVEY_MODE	VAR_TYPE	CDF_CHAR	support_data
SURVEY_MODE	CATDESC	CDF_CHAR	TDS survey mode
SURVEY_MODE	FIELDNAM	CDF_CHAR	SURVEY_MODE
SURVEY_MODE	VALIDMAX	CDF_UINT1	1
SURVEY_MODE	SCALEMAX	CDF_UINT1	1
SAMPLING_RATE	VALIDMIN	CDF_REAL4	65534.0
SAMPLING_RATE	DEPEND_0	CDF_CHAR	Epoch
SAMPLING_RATE	UNITS	CDF_CHAR	Hz
SAMPLING_RATE	SCALETYP	CDF_CHAR	linear
SAMPLING_RATE	FORMAT	CDF_CHAR	F8.2

continues on next page



**RPW Data Product
Description Document**

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **525**

Tab. 4.74 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SAMPLING_RATE	SCALEMIN	CDF_REAL4	65534.0
SAMPLING_RATE	LABLAXIS	CDF_CHAR	Fe
SAMPLING_RATE	FILLVAL	CDF_REAL4	-1.0e+31
SAMPLING_RATE	VAR_NOTES	CDF_CHAR	TDS sampling rate
SAMPLING_RATE	DISPLAY_TYPE	CDF_CHAR	time_series
SAMPLING_RATE	VAR_TYPE	CDF_CHAR	support_data
SAMPLING_RATE	CATDESC	CDF_CHAR	Sampling frequency of the snapshot
SAMPLING_RATE	FIELDNAM	CDF_CHAR	Sampling rate
SAMPLING_RATE	VALIDMAX	CDF_REAL4	2.0971e+06
SAMPLING_RATE	SCALEMAX	CDF_REAL4	2.0971e+06
B	VALIDMIN	CDF_REAL4	-1.0e+30
B	DEPEND_0	CDF_CHAR	Epoch
B	UNITS	CDF_CHAR	nT
B	SCALETYP	CDF_CHAR	linear
B	FORMAT	CDF_CHAR	F8.2
B	SCALEMIN	CDF_REAL4	-1.0e+30
B	LABLAXIS	CDF_CHAR	Bx
B	FILLVAL	CDF_REAL4	-1.0e+31
B	VAR_NOTES	CDF_CHAR	1 entry array with magnetic values of the component B4x
B	DISPLAY_TYPE	CDF_CHAR	time_series
B	VAR_TYPE	CDF_CHAR	data
B	CATDESC	CDF_CHAR	Magnetic component values of Bx
B	FIELDNAM	CDF_CHAR	Magnetic waveform
B	VALIDMAX	CDF_REAL4	1.0e+30
B	SCALEMAX	CDF_REAL4	1.0e+30
SAMPS_PER_CH	VALIDMIN	CDF_UINT4	0
SAMPS_PER_CH	DEPEND_0	CDF_CHAR	Epoch
SAMPS_PER_CH	UNITS	CDF_CHAR	
SAMPS_PER_CH	SCALETYP	CDF_CHAR	linear
SAMPS_PER_CH	FORMAT	CDF_CHAR	I10
SAMPS_PER_CH	SCALEMIN	CDF_UINT4	0
SAMPS_PER_CH	LABLAXIS	CDF_CHAR	Nsamps
SAMPS_PER_CH	FILLVAL	CDF_UINT4	4294967295
SAMPS_PER_CH	VAR_NOTES	CDF_CHAR	Number of samples per channel
SAMPS_PER_CH	DISPLAY_TYPE	CDF_CHAR	time_series
SAMPS_PER_CH	VAR_TYPE	CDF_CHAR	support_data

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 526

Tab. 4.74 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SAMPS_PER_CH	CATDESC	CDF_CHAR	Number of samples per channel
SAMPS_PER_CH	FIELDNAM	CDF_CHAR	SAMPS_PER_CH
SAMPS_PER_CH	VALIDMAX	CDF_UINT4	4294967295
SAMPS_PER_CH	SCALEMAX	CDF_UINT4	4294967295

4.1.3.7.6 Non-Record-Variant (NRV) Variables

4.1.3.8 SOLO_L2_RPW-TDS-SURV-HIST1D data product

The “SOLO_L2_RPW-TDS-SURV-HIST1D” data product contains the calibrated TDS receiver 1D histogram survey data. The “SOLO_L2_RPW-TDS-SURV-HIST1D” data are written in CDF format files. There is a single file per day, generated from data in the corresponding SOLO_L1_RPW-TDS-SURV-HIST1D parent file.

4.1.3.8.1 Filename

```
solo_L2_rpw-tds-surv-hist1d_[YYYYMMDD]_V[version].cdf
```

4.1.3.8.2 Expected cadence and data volume


Nominal cadence: 1 file per day

Expected data volume: 1 MB per file

4.1.3.8.3 Global Attributes

Attribute Name	Entry Number	Data Type	Value
ACCESS_FORMAT	1	CDF_CHAR	CDF
ACCESS_URL	1	CDF_CHAR	
Acknowledgement	1	CDF_CHAR	The authors are pleased to acknowledge the Solar Orbiter/RPW Investigation (M. Maksimovic, PIs) for access to data.
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009 (2.4)
Data_type	1	CDF_CHAR	H0>High Resolution data


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 527

Tab. 4.75 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Data_version	1	CDF_CHAR	
Descriptor	1	CDF_CHAR	RPW-TDS-SURV-HIST1D> RPW Time Domain Sampler 1D Histogram data in survey mode
Discipline	1	CDF_CHAR	Space Physics>Interplanetary Studies
File_naming_convention	1	CDF_CHAR	<Source_name>_<LEVEL>_<Descriptor>_<Date>
File_ID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	RPW Operations Centre located at LESIA (Meudon, France)
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	https://rpw.lesia.obspm.fr
Instrument_type	1	CDF_CHAR	Radio and Plasma Waves (space)
LINK_TEXT	1	CDF_CHAR	RPW Web site at LESIA
LINK_TITLE	1	CDF_CHAR	RPW Web site
Logical_file_id	1	CDF_CHAR	
Logical_source	1	CDF_CHAR	solo_L2_rpw-tds-surv-hist1d
Logical_source_description	1	CDF_CHAR	Solar Orbiter Radio/Plasma Wave, TDS L2 parameters
Mission_group	1	CDF_CHAR	Solar Orbiter
MODS	1	CDF_CHAR	
Parent_version	1	CDF_CHAR	
Parents	1	CDF_CHAR	
PI_affiliation	1	CDF_CHAR	LESIA, Observatoire de Paris-CNRS
PI_name	1	CDF_CHAR	M.Maksimovic
Pipeline_version	1	CDF_CHAR	
Project	1	CDF_CHAR	SOLO>Solar Orbiter
Provider	1	CDF_CHAR	LESIA (Meudon, France)
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00006-LES (1.3)
ROC_REFERENCE	1	CDF_CHAR	
Rules_of_use	1	CDF_CHAR	Data provided are publicly available. If used in presentations or publications, please acknowledge Solar Orbiter/RPW Investigation (M. Maksimovic, PIs). Please read carefully the caveats attached to the data. For reporting purposes, we request bibliography information for any publication, etc., using these data. Please send information on the use of this data to: M. Maksimovic (PI).


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 528

Tab. 4.75 – continued from previous page


Attribute Name	Entry Number	Data Type	Value
SKELETON_MODS	1	CDF_CHAR	January 2016 : initial release
SKELETON_MODS	2	CDF_CHAR	October 2016 (ROC): Update to Issue 2 Rev 1
SKELETON_MODS	3	CDF_CHAR	November 2017 (IAP): Added ACQUISITION_TIME_UNITS, ACQUISITION_TIME_LABEL, BIA_STATUS_INFO_LABEL, RPW_STATUS_INFO_LABEL, CHANNEL_ON
SKELETON_MODS	4	CDF_CHAR	January 2019 (IAP): SOLO L2 converted from ROC-SGSE skeleton.
SKELETON_MODS	5	CDF_CHAR	V04: Update for solo data definition, X. BONNIN (CNRS-LESIA), April 2019
SKELETON_MODS	6	CDF_CHAR	V05: Update to compliant with SOL-SGS-TN-0009 Issue 2, Rev 4 - X.Bonnin, 09/2019
SKELETON_MODS	7	CDF_CHAR	V06: Update zVar FILTER_COEFS, AQUISITION_*, SYNCHRO_FLAG removed. SAMPLING_RATE updated to Hz. TEST_* gAtts removed. NRV added.
SKELETON_MODS	8	CDF_CHAR	V07: g.Attribute SPICE_KERNELS added
SKELETON_MODS	9	CDF_CHAR	V08: zVar TDS_CONFIG_LABEL added, D.Pisa (IAP-CAS), Jun 2020.
SKELETON_MODS	10	CDF_CHAR	V09: QUALITY_BITMASK type changed.
SKELETON_MODS	11	CDF_CHAR	V10: CHANNEL_CONFIG and CHANNEL_LABEL added. CHANNEL_ON -> CHANNEL_REF
SKELETON_MODS	12	CDF_CHAR	V11: Remove UCD vattr and POST_GAP_FLAG zVar.
SKELETON_MODS	13	CDF_CHAR	V12: NASA/SPDF compliance changes. MODS renamed to SKELETON_MODS. GAtt MODS added. CHANNEL_CONFIG removed. CHANNEL_REF shows TDS MUX conf. as a number CHANNEL_LABEL removed.
SKELETON_PARENT	1	CDF_CHAR	SOLO_L2_RPW-TDS-SURV-HIST1D

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 529

Tab. 4.75 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Skeleton_version	1	CDF_CHAR	12
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	SOLO>Solar Orbiter
SPICE_KERNELS	1	CDF_CHAR	
SPECTRAL_RANGE_MAX	1	CDF_CHAR	
SPECTRAL_RANGE_MIN	1	CDF_CHAR	
TEXT	1	CDF_CHAR	This file contains RPW TDS level 2 regular snapshot Histogram 1D data.
TEXT_supplement_1	1	CDF_CHAR	
TIME_MAX	1	CDF_CHAR	
TIME_MIN	1	CDF_CHAR	
CAVEATS	1	CDF_CHAR	
CAL_ENTITY_NAME	1	CDF_CHAR	
CAL_ENTITY_AFFILIATION	1	CDF_CHAR	
CAL_EQUIPMENT	1	CDF_CHAR	
CALIBRATION_TABLE	1	CDF_CHAR	
CALIBRATION_VERSION	1	CDF_CHAR	
Datetime	1	CDF_CHAR	
Free_field	1	CDF_CHAR	
Job_ID	1	CDF_CHAR	
LEVEL	1	CDF_CHAR	L2>Level 2 data processing
SOOP_TYPE	1	CDF_CHAR	
Data_product	1	CDF_CHAR	SURV-HIST1D>SURV-HIST1D
TARGET_NAME	1	CDF_CHAR	Sun
TARGET_CLASS	1	CDF_CHAR	Star
TARGET_REGION	1	CDF_CHAR	Solar Wind
Pipeline_name	1	CDF_CHAR	
Dataset_ID	1	CDF_CHAR	SOLO_L2_RPW-TDS-SURV-HIST1D
OBS_ID	1	CDF_CHAR	
Validate	1	CDF_CHAR	

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 530


4.1.3.8.4 zVariables

Variable Name	Data Type	Number Elements	Dims	Sizes
Epoch	CDF_TIME_TT2000	1	0	
QUALITY_FLAG	CDF_UINT1	1	0	
QUALITY_BITMASK	CDF_UINT2	1	0	
BIA_STATUS_INFO	CDF_UINT1	1	1	6
BIA_STATUS_INFO_LABEL	CDF_CHAR	16	1	6
RPW_STATUS_INFO	CDF_UINT1	1	1	7
RPW_STATUS_INFO_LABEL	CDF_CHAR	16	1	7
SURVEY_MODE	CDF_UINT1	1	0	
SAMPLING_RATE	CDF_FLOAT	1	0	
INPUT_CONFIG	CDF_UINT4	1	0	
TDS_CONFIG_LABEL	CDF_CHAR	8	0	
SNAPSHOT_LEN	CDF_UINT4	1	0	
CHANNEL_REF	CDF_UINT1	1	0	
HIST1D_ID	CDF_UINT1	1	0	
HIST1D_PARAM	CDF_UINT1	1	0	
HIST1D_PARAM_LABEL	CDF_CHAR	32	0	
HIST1D_AXIS	CDF_FLOAT	1	1	256
HIST1D_COL_TIME	CDF_UINT2	1	0	
HIST1D_OUT	CDF_UINT2	1	0	
HIST1D_BINS	CDF_UINT2	1	0	
HIST1D_COUNTS	CDF_UINT2	1	1	256

4.1.3.8.5 Variable attributes

Variable Name	Attribute Name	Data Type	Value
Epoch	FIELDNAM	CDF_CHAR	Epoch
Epoch	CATDESC	CDF_CHAR	Default time
Epoch	VALIDMIN	CDF_TIME_TT2000	2000-01-01T12:00:00.000000000
Epoch	VALIDMAX	CDF_TIME_TT2000	2029-12-31T23:59:59.999000000
Epoch	SCALEMIN	CDF_TIME_TT2000	2000-01-01T12:00:00.000000000
Epoch	SCALEMAX	CDF_TIME_TT2000	2029-12-31T23:59:59.999000000


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 531

Tab. 4.76 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
Epoch	FILLVAL	CDF_TIME_TT2000	1999-12-31T23:59:59.999999999
Epoch	LABLAXIS	CDF_CHAR	Epoch
Epoch	UNITS	CDF_CHAR	ns
Epoch	VAR_TYPE	CDF_CHAR	support_data
Epoch	SCALETYP	CDF_CHAR	linear
Epoch	MONOTON	CDF_CHAR	INCREASE
Epoch	TIME_BASE	CDF_CHAR	J2000
Epoch	TIME_SCALE	CDF_CHAR	Terrestrial Time
Epoch	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file
Epoch	Resolution	CDF_CHAR	15258 ns
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	VALIDMIN	CDF_UINT1	0
QUALITY_FLAG	VALIDMAX	CDF_UINT1	4
QUALITY_FLAG	SCALEMIN	CDF_UINT1	0
QUALITY_FLAG	SCALEMAX	CDF_UINT1	4
QUALITY_FLAG	FILLVAL	CDF_UINT1	255
QUALITY_FLAG	LABLAXIS	CDF_CHAR	Quality flag
QUALITY_FLAG	UNITS	CDF_CHAR	
QUALITY_FLAG	VAR_TYPE	CDF_CHAR	support_data
QUALITY_FLAG	SCALETYP	CDF_CHAR	linear
QUALITY_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the quality of the data
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	FORMAT	CDF_CHAR	I1
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	UNITS	CDF_CHAR	
QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 532

Tab. 4.76 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context information or status at the receiver or experiment level
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
BIA_STATUS_INFO	FIELDNAM	CDF_CHAR	BIA_STATUS_INFO
BIA_STATUS_INFO	CATDESC	CDF_CHAR	BIAS status byte
BIA_STATUS_INFO	VALIDMIN	CDF_UINT1	0
BIA_STATUS_INFO	VALIDMAX	CDF_UINT1	1
BIA_STATUS_INFO	SCALEMIN	CDF_UINT1	0
BIA_STATUS_INFO	SCALEMAX	CDF_UINT1	1
BIA_STATUS_INFO	FILLVAL	CDF_UINT1	255
BIA_STATUS_INFO	LABLAXIS	CDF_CHAR	BIAS status
BIA_STATUS_INFO	UNITS	CDF_CHAR	
BIA_STATUS_INFO	VAR_TYPE	CDF_CHAR	support_data
BIA_STATUS_INFO	SCALETYP	CDF_CHAR	linear
BIA_STATUS_INFO	VAR_NOTES	CDF_CHAR	BIAS status byte
BIA_STATUS_INFO	DEPEND_0	CDF_CHAR	Epoch
BIA_STATUS_INFO	DISPLAY_TYPE	CDF_CHAR	time_series
BIA_STATUS_INFO	FORMAT	CDF_CHAR	I1
BIA_STATUS_INFO_LABEL	FIELDNAM	CDF_CHAR	BIA_STATUS_INFO_LABEL
BIA_STATUS_INFO_LABEL	CATDESC	CDF_CHAR	Label for BIA_STATUS_INFO
BIA_STATUS_INFO_LABEL	VAR_TYPE	CDF_CHAR	metadata
BIA_STATUS_INFO_LABEL	FORMAT	CDF_CHAR	A16
RPW_STATUS_INFO	FIELDNAM	CDF_CHAR	RPW_STATUS_INFO
RPW_STATUS_INFO	CATDESC	CDF_CHAR	RPW status
RPW_STATUS_INFO	VALIDMIN	CDF_UINT1	0
RPW_STATUS_INFO	VALIDMAX	CDF_UINT1	1
RPW_STATUS_INFO	SCALEMIN	CDF_UINT1	0
RPW_STATUS_INFO	SCALEMAX	CDF_UINT1	1
RPW_STATUS_INFO	FILLVAL	CDF_UINT1	255
RPW_STATUS_INFO	LABLAXIS	CDF_CHAR	RPW Status info
RPW_STATUS_INFO	UNITS	CDF_CHAR	
RPW_STATUS_INFO	VAR_TYPE	CDF_CHAR	support_data
RPW_STATUS_INFO	SCALETYP	CDF_CHAR	linear
RPW_STATUS_INFO	VAR_NOTES	CDF_CHAR	RPW status (bitmask - received from DPU)
RPW_STATUS_INFO	DEPEND_0	CDF_CHAR	Epoch
RPW_STATUS_INFO	DISPLAY_TYPE	CDF_CHAR	time_series

continues on next page



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03

Date: March 11, 2021

Page: **533**

Tab. 4.76 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
RPW_STATUS_INFO	FORMAT	CDF_CHAR	I1
RPW_STATUS_INFO_LABEL	FIELDNAM	CDF_CHAR	RPW_STATUS_INFO_LABEL
RPW_STATUS_INFO_LABEL	CATDESC	CDF_CHAR	Label for RPW_STATUS_INFO
RPW_STATUS_INFO_LABEL	VAR_TYPE	CDF_CHAR	metadata
RPW_STATUS_INFO_LABEL	FORMAT	CDF_CHAR	A16
SURVEY_MODE	FIELDNAM	CDF_CHAR	SURVEY_MODE
SURVEY_MODE	CATDESC	CDF_CHAR	TDS survey mode
SURVEY_MODE	VALIDMIN	CDF_UINT1	0
SURVEY_MODE	VALIDMAX	CDF_UINT1	1
SURVEY_MODE	SCALEMIN	CDF_UINT1	0
SURVEY_MODE	SCALEMAX	CDF_UINT1	1
SURVEY_MODE	FILLVAL	CDF_UINT1	255
SURVEY_MODE	LABLAXIS	CDF_CHAR	TDS survey mode
SURVEY_MODE	UNITS	CDF_CHAR	
SURVEY_MODE	VAR_TYPE	CDF_CHAR	support_data
SURVEY_MODE	SCALETYP	CDF_CHAR	linear
SURVEY_MODE	VAR_NOTES	CDF_CHAR	Flag to indicate if the receiver in the SURVEY_BURST (=1) or SURVEY_NORMAL (=0) mode
SURVEY_MODE	DEPEND_0	CDF_CHAR	Epoch
SURVEY_MODE	DISPLAY_TYPE	CDF_CHAR	time_series
SURVEY_MODE	FORMAT	CDF_CHAR	I1
SAMPLING_RATE	FIELDNAM	CDF_CHAR	SAMPLING_RATE
SAMPLING_RATE	CATDESC	CDF_CHAR	TDS sampling rate
SAMPLING_RATE	VALIDMIN	CDF_FLOAT	0.0
SAMPLING_RATE	VALIDMAX	CDF_FLOAT	2.0971e+06
SAMPLING_RATE	SCALEMIN	CDF_FLOAT	65534.0
SAMPLING_RATE	SCALEMAX	CDF_FLOAT	524275.0
SAMPLING_RATE	FILLVAL	CDF_FLOAT	-1.0e+31
SAMPLING_RATE	LABLAXIS	CDF_CHAR	Sampling rate code
SAMPLING_RATE	UNITS	CDF_CHAR	Hz
SAMPLING_RATE	VAR_TYPE	CDF_CHAR	support_data
SAMPLING_RATE	SCALETYP	CDF_CHAR	linear
SAMPLING_RATE	VAR_NOTES	CDF_CHAR	TDS sampling rate
SAMPLING_RATE	DEPEND_0	CDF_CHAR	Epoch
SAMPLING_RATE	DISPLAY_TYPE	CDF_CHAR	time_series
SAMPLING_RATE	FORMAT	CDF_CHAR	F9.1
INPUT_CONFIG	FIELDNAM	CDF_CHAR	INPUT_CONFIG

continues on next page



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03

Date: March 11, 2021

Page: **534**

Tab. 4.76 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
INPUT_CONFIG	CATDESC	CDF_CHAR	Bitmask of TDS analog input configuration
INPUT_CONFIG	VALIDMIN	CDF_UINT4	0
INPUT_CONFIG	VALIDMAX	CDF_UINT4	4294967294
INPUT_CONFIG	SCALEMIN	CDF_UINT4	0
INPUT_CONFIG	SCALEMAX	CDF_UINT4	1
INPUT_CONFIG	FILLVAL	CDF_UINT4	4294967295
INPUT_CONFIG	LABLAXIS	CDF_CHAR	TDS input config.
INPUT_CONFIG	UNITS	CDF_CHAR	
INPUT_CONFIG	VAR_TYPE	CDF_CHAR	support_data
INPUT_CONFIG	SCALETYP	CDF_CHAR	linear
INPUT_CONFIG	VAR_NOTES	CDF_CHAR	Input TDS configuration
INPUT_CONFIG	DEPEND_0	CDF_CHAR	Epoch
INPUT_CONFIG	DISPLAY_TYPE	CDF_CHAR	time_series
INPUT_CONFIG	FORMAT	CDF_CHAR	I10
TDS_CONFIG_LABEL	FIELDNAM	CDF_CHAR	TDS_CONFIG_LABEL
TDS_CONFIG_LABEL	CATDESC	CDF_CHAR	Label for TDS Configuration
TDS_CONFIG_LABEL	VAR_TYPE	CDF_CHAR	metadata
TDS_CONFIG_LABEL	FORMAT	CDF_CHAR	A8
SNAPSHOT_LEN	FIELDNAM	CDF_CHAR	SNAPSHOT_LEN
SNAPSHOT_LEN	CATDESC	CDF_CHAR	Length of snapshot
SNAPSHOT_LEN	VALIDMIN	CDF_UINT4	0
SNAPSHOT_LEN	VALIDMAX	CDF_UINT4	4294967294
SNAPSHOT_LEN	SCALEMIN	CDF_UINT4	512
SNAPSHOT_LEN	SCALEMAX	CDF_UINT4	262144
SNAPSHOT_LEN	FILLVAL	CDF_UINT4	4294967295
SNAPSHOT_LEN	LABLAXIS	CDF_CHAR	Length of snapshot
SNAPSHOT_LEN	UNITS	CDF_CHAR	samples
SNAPSHOT_LEN	VAR_TYPE	CDF_CHAR	support_data
SNAPSHOT_LEN	SCALETYP	CDF_CHAR	linear
SNAPSHOT_LEN	VAR_NOTES	CDF_CHAR	Length of snapshot in samples
SNAPSHOT_LEN	DEPEND_0	CDF_CHAR	Epoch
SNAPSHOT_LEN	DISPLAY_TYPE	CDF_CHAR	time_series
SNAPSHOT_LEN	FORMAT	CDF_CHAR	I8
CHANNEL_REF	FIELDNAM	CDF_CHAR	CHANNEL_REF
CHANNEL_REF	CATDESC	CDF_CHAR	Channel reference for the histogram counts.
CHANNEL_REF	VALIDMIN	CDF_UINT1	10
CHANNEL_REF	VALIDMAX	CDF_UINT1	40
CHANNEL_REF	SCALEMIN	CDF_UINT1	10
CHANNEL_REF	SCALEMAX	CDF_UINT1	40

continues on next page



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **535**

Tab. 4.76 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
CHANNEL_REF	FILLVAL	CDF_UINT1	255
CHANNEL_REF	LABLAXIS	CDF_CHAR	
CHANNEL_REF	UNITS	CDF_CHAR	
CHANNEL_REF	VAR_TYPE	CDF_CHAR	support_data
CHANNEL_REF	SCALETYP	CDF_CHAR	linear
CHANNEL_REF	VAR_NOTES	CDF_CHAR	Configuration of signal channels in the snapshot (0=GND 1=V1, 2=V2, 3=V3). The number AB indicates that the corresponding channel contains a difference of 2 channels A-B.
CHANNEL_REF	DEPEND_0	CDF_CHAR	Epoch
CHANNEL_REF	DISPLAY_TYPE	CDF_CHAR	time_series
CHANNEL_REF	FORMAT	CDF_CHAR	I2
HIST1D_ID	FIELDNAM	CDF_CHAR	HIST1D_ID
HIST1D_ID	CATDESC	CDF_CHAR	Histogram ID
HIST1D_ID	VALIDMIN	CDF_UINT1	1
HIST1D_ID	VALIDMAX	CDF_UINT1	4
HIST1D_ID	SCALEMIN	CDF_UINT1	1
HIST1D_ID	SCALEMAX	CDF_UINT1	4
HIST1D_ID	FILLVAL	CDF_UINT1	255
HIST1D_ID	LABLAXIS	CDF_CHAR	Histogram ID
HIST1D_ID	UNITS	CDF_CHAR	
HIST1D_ID	VAR_TYPE	CDF_CHAR	support_data
HIST1D_ID	SCALETYP	CDF_CHAR	linear
HIST1D_ID	VAR_NOTES	CDF_CHAR	An ID number of the histogram (1..4) indicating which of the four possible configured histograms is contained in the packet
HIST1D_ID	DEPEND_0	CDF_CHAR	Epoch
HIST1D_ID	DISPLAY_TYPE	CDF_CHAR	time_series
HIST1D_ID	FORMAT	CDF_CHAR	I1
HIST1D_PARAM	FIELDNAM	CDF_CHAR	HIST1D_PARAM
HIST1D_PARAM	CATDESC	CDF_CHAR	Histogram build parameters
HIST1D_PARAM	VALIDMIN	CDF_UINT1	0
HIST1D_PARAM	VALIDMAX	CDF_UINT1	14
HIST1D_PARAM	SCALEMIN	CDF_UINT1	0
HIST1D_PARAM	SCALEMAX	CDF_UINT1	14
HIST1D_PARAM	FILLVAL	CDF_UINT1	255


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 536

Tab. 4.76 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
HIST1D_PARAM	LABLAXIS	CDF_CHAR	Histogram parameter
HIST1D_PARAM	UNITS	CDF_CHAR	
HIST1D_PARAM	VAR_TYPE	CDF_CHAR	support_data
HIST1D_PARAM	SCALETYP	CDF_CHAR	linear
HIST1D_PARAM	VAR_NOTES	CDF_CHAR	The parameter used to build this histogram. Equal to the corresponding CP_TDS_N_1D_HISTx_TYPE Setting.
HIST1D_PARAM	DEPEND_0	CDF_CHAR	Epoch
HIST1D_PARAM	DISPLAY_TYPE	CDF_CHAR	time_series
HIST1D_PARAM	FORMAT	CDF_CHAR	I2
HIST1D_PARAM_LABEL	FIELDNAM	CDF_CHAR	HIST1D_PARAM_LABEL
HIST1D_PARAM_LABEL	CATDESC	CDF_CHAR	Label for HIST1D_PARAM
HIST1D_PARAM_LABEL	VAR_TYPE	CDF_CHAR	metadata
HIST1D_PARAM_LABEL	FORMAT	CDF_CHAR	A32
HIST1D_AXIS	FIELDNAM	CDF_CHAR	HIST1D_AXIS
HIST1D_AXIS	CATDESC	CDF_CHAR	Axis corresponding to the histogram
HIST1D_AXIS	VALIDMIN	CDF_FLOAT	-1.0e+30
HIST1D_AXIS	VALIDMAX	CDF_FLOAT	1.0e+30
HIST1D_AXIS	SCALEMIN	CDF_FLOAT	-1.0e+30
HIST1D_AXIS	SCALEMAX	CDF_FLOAT	1.0e+30
HIST1D_AXIS	FILLVAL	CDF_FLOAT	-1.0e+31
HIST1D_AXIS	LABLAXIS	CDF_CHAR	
HIST1D_AXIS	UNITS	CDF_CHAR	
HIST1D_AXIS	VAR_TYPE	CDF_CHAR	support_data
HIST1D_AXIS	SCALETYP	CDF_CHAR	linear
HIST1D_AXIS	VAR_NOTES	CDF_CHAR	Axis corresponding to this histogram
HIST1D_AXIS	DEPEND_0	CDF_CHAR	Epoch
HIST1D_AXIS	DISPLAY_TYPE	CDF_CHAR	time_series
HIST1D_AXIS	FORMAT	CDF_CHAR	F
HIST1D_COL_TIME	FIELDNAM	CDF_CHAR	HIST1D_COL_TIME
HIST1D_COL_TIME	CATDESC	CDF_CHAR	Histogram build duration
HIST1D_COL_TIME	VALIDMIN	CDF_UINT2	0
HIST1D_COL_TIME	VALIDMAX	CDF_UINT2	65534
HIST1D_COL_TIME	SCALEMIN	CDF_UINT2	0
HIST1D_COL_TIME	SCALEMAX	CDF_UINT2	65534
HIST1D_COL_TIME	FILLVAL	CDF_UINT2	65535
HIST1D_COL_TIME	LABLAXIS	CDF_CHAR	Histogram build duration


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 537

Tab. 4.76 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
HIST1D_COL_TIME	UNITS	CDF_CHAR	s
HIST1D_COL_TIME	VAR_TYPE	CDF_CHAR	support_data
HIST1D_COL_TIME	SCALETYP	CDF_CHAR	linear
HIST1D_COL_TIME	VAR_NOTES	CDF_CHAR	The duration of the time period (in seconds) over which this histogram has been built.
HIST1D_COL_TIME	DEPEND_0	CDF_CHAR	Epoch
HIST1D_COL_TIME	DISPLAY_TYPE	CDF_CHAR	time_series
HIST1D_COL_TIME	FORMAT	CDF_CHAR	I5
HIST1D_OUT	FIELDNAM	CDF_CHAR	HIST1D_OUT
HIST1D_OUT	CATDESC	CDF_CHAR	Histogram out values
HIST1D_OUT	VALIDMIN	CDF_UINT2	0
HIST1D_OUT	VALIDMAX	CDF_UINT2	65534
HIST1D_OUT	SCALEMIN	CDF_UINT2	0
HIST1D_OUT	SCALEMAX	CDF_UINT2	65534
HIST1D_OUT	FILLVAL	CDF_UINT2	65535
HIST1D_OUT	LABLAXIS	CDF_CHAR	Histogram out values
HIST1D_OUT	UNITS	CDF_CHAR	
HIST1D_OUT	VAR_TYPE	CDF_CHAR	support_data
HIST1D_OUT	SCALETYP	CDF_CHAR	linear
HIST1D_OUT	VAR_NOTES	CDF_CHAR	Number of out of range values which were out of the limit specified by the current axis configuration.
HIST1D_OUT	DEPEND_0	CDF_CHAR	Epoch
HIST1D_OUT	DISPLAY_TYPE	CDF_CHAR	time_series
HIST1D_OUT	FORMAT	CDF_CHAR	I5
HIST1D_BINS	FIELDNAM	CDF_CHAR	HIST1D_BINS
HIST1D_BINS	CATDESC	CDF_CHAR	Number of histogram bins
HIST1D_BINS	VALIDMIN	CDF_UINT2	32
HIST1D_BINS	VALIDMAX	CDF_UINT2	256
HIST1D_BINS	SCALEMIN	CDF_UINT2	32
HIST1D_BINS	SCALEMAX	CDF_UINT2	256
HIST1D_BINS	FILLVAL	CDF_UINT2	65535
HIST1D_BINS	LABLAXIS	CDF_CHAR	Number of bins
HIST1D_BINS	UNITS	CDF_CHAR	
HIST1D_BINS	VAR_TYPE	CDF_CHAR	support_data
HIST1D_BINS	SCALETYP	CDF_CHAR	linear
HIST1D_BINS	VAR_NOTES	CDF_CHAR	Number of bins in the histogram. Determines the length of the packet.

continues on next page


	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 538

Tab. 4.76 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
HIST1D_BINS	DEPEND_0	CDF_CHAR	Epoch
HIST1D_BINS	DISPLAY_TYPE	CDF_CHAR	time_series
HIST1D_BINS	FORMAT	CDF_CHAR	I3
HIST1D_COUNTS	FIELDNAM	CDF_CHAR	HIST1D_COUNTS
HIST1D_COUNTS	CATDESC	CDF_CHAR	Number of histogram bins
HIST1D_COUNTS	VALIDMIN	CDF_UINT2	0
HIST1D_COUNTS	VALIDMAX	CDF_UINT2	65534
HIST1D_COUNTS	SCALEMIN	CDF_UINT2	0
HIST1D_COUNTS	SCALEMAX	CDF_UINT2	65534
HIST1D_COUNTS	FILLVAL	CDF_UINT2	65535
HIST1D_COUNTS	UNITS	CDF_CHAR	Counts
HIST1D_COUNTS	VAR_TYPE	CDF_CHAR	data
HIST1D_COUNTS	SCALETYP	CDF_CHAR	linear
HIST1D_COUNTS	VAR_NOTES	CDF_CHAR	Counts corresponding to each bin in the histogram
HIST1D_COUNTS	DEPEND_0	CDF_CHAR	Epoch
HIST1D_COUNTS	DEPEND_1	CDF_CHAR	HIST1D_AXIS
HIST1D_COUNTS	DISPLAY_TYPE	CDF_CHAR	time_series
HIST1D_COUNTS	FORMAT	CDF_CHAR	I5
HIST1D_COUNTS	LABL_PTR_1	CDF_CHAR	

4.1.3.8.6 Non-Record-Variant (NRV) Variables

Variable Name	Index	Value
BIA_STATUS_INFO_LABEL	1	BIA ON
BIA_STATUS_INFO_LABEL	2	BIAS3 ON
BIA_STATUS_INFO_LABEL	3	BIAS2 ON
BIA_STATUS_INFO_LABEL	4	BIAS1 ON
BIA_STATUS_INFO_LABEL	5	BIA MODE HV ON
BIA_STATUS_INFO_LABEL	6	BIA MODE MUX
RPW_STATUS_INFO_LABEL	1	THR ON
RPW_STATUS_INFO_LABEL	2	LFR ON
RPW_STATUS_INFO_LABEL	3	ANT1 ON
RPW_STATUS_INFO_LABEL	4	ANT2 ON
RPW_STATUS_INFO_LABEL	5	ANT3 ON
RPW_STATUS_INFO_LABEL	6	SCM ON
RPW_STATUS_INFO_LABEL	7	SCM CALIB

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 539

4.1.3.9 SOLO_L2_RPW-TDS-SURV-HIST2D data product

The “SOLO_L2_RPW-TDS-SURV-HIST2D” data product contains the calibrated TDS receiver 2D histogram survey data. The “SOLO_L2_RPW-TDS-SURV-HIST2D” data are written in CDF format files. There is a single file per day, generated from data in the corresponding SOLO_L2_RPW-TDS-SURV-HIST2D parent file.

4.1.3.9.1 Filename

```
solo_L2_rpw-tds-surv-hist2d_[YYYYMMDD]_V[version].cdf
```

4.1.3.9.2 Expected cadence and data volume


Nominal cadence: 1 file per day

Expected data volume: 2 MB per file

4.1.3.9.3 Global Attributes

Attribute Name	Entry Number	Data Type	Value
ACCESS_FORMAT	1	CDF_CHAR	CDF
ACCESS_URL	1	CDF_CHAR	
Acknowledgement	1	CDF_CHAR	The authors are pleased to acknowledge the Solar Orbiter/RPW Investigation (M. Maksimovic, PIs) for access to data.
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009 (2.4)
Data_type	1	CDF_CHAR	H0>High Resolution data
Data_version	1	CDF_CHAR	
Descriptor	1	CDF_CHAR	RPW-TDS-SURV-HIST2D> RPW Time Domain Sampler 2D Histogram data in survey mode
Discipline	1	CDF_CHAR	Space Physics>Interplanetary Studies
File_naming_convention	1	CDF_CHAR	<Source_name>_<LEVEL>_<Descriptor>_<Date>
File_ID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	RPW Operations Centre located at LESIA (Meudon, France)
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	https://rpw.lesia.obspm.fr


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 540

Tab. 4.77 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Instrument_type	1	CDF_CHAR	Radio and Plasma Waves (space)
LINK_TEXT	1	CDF_CHAR	RPW Web site at LESIA
LINK_TITLE	1	CDF_CHAR	RPW Web site
Logical_file_id	1	CDF_CHAR	
Logical_source	1	CDF_CHAR	solo_L2_rpw-tds-surv-hist2d
Logical_source_description	1	CDF_CHAR	Solar Orbiter Radio/Plasma Wave, TDS L2 parameters
MODS	1	CDF_CHAR	
Mission_group	1	CDF_CHAR	Solar Orbiter
Parent_version	1	CDF_CHAR	
Parents	1	CDF_CHAR	
PI_affiliation	1	CDF_CHAR	LESIA, Observatoire de Paris-CNRS
PI_name	1	CDF_CHAR	M.Maksimovic
Pipeline_version	1	CDF_CHAR	
Project	1	CDF_CHAR	SOLO>Solar Orbiter
Provider	1	CDF_CHAR	LESIA (Meudon, France)
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00006-LES (1.3)
ROC_REFERENCE	1	CDF_CHAR	
Rules_of_use	1	CDF_CHAR	Data provided are publicly available. If used in presentations or publications, please acknowledge Solar Orbiter/RPW Investigation (M. Maksimovic, PIs). Please read carefully the caveats attached to the data. For reporting purposes, we request bibliography information for any publication, etc., using these data. Please send information on the use of this data to: M. Maksimovic (PI).
SKELETON_MODS	1	CDF_CHAR	January 2016 : initial release
SKELETON_MODS	2	CDF_CHAR	October 2016 (ROC): Update to Issue 2 Rev 1
SKELETON_MODS	3	CDF_CHAR	November 2017 (IAP): Added BIA_STATUS_INFO_LABEL, RPW_STATUS_INFO_LABEL,
SKELETON_MODS	4	CDF_CHAR	January 2019 (IAP): SOLO L2 converted from ROC-SGSE skeleton.
SKELETON_MODS	5	CDF_CHAR	V04: Update for solo data definition, X. BONNIN (CNRS-LESIA), April 2019


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 541

Tab. 4.77 – continued from previous page


Attribute Name	Entry Number	Data Type	Value
SKELETON_MODS	6	CDF_CHAR	V05: Update to compliant with SOL-SGS-TN-0009 Issue 2, Rev 4 - X.Bonnin, 09/2019
SKELETON_MODS	7	CDF_CHAR	V06: FILTER_COEFS, RPW_STATUS_INFO, RPW_STATUS_INFO_LABEL, SYNCHRO_FLAG, AQUISITION_* zVars removed. TEST_* gAtts removed. NRV added. SAMPLING_RATE updated to Hz.
SKELETON_MODS	8	CDF_CHAR	V07: g.attribute SPICE_KERNELS added
SKELETON_MODS	9	CDF_CHAR	V08: zVar TDS_CONFIG_LABEL added, D.Pisa (IAP-CAS), Jun 2020.
SKELETON_MODS	10	CDF_CHAR	V09: QUALITY_BITMASK type changed.
SKELETON_MODS	11	CDF_CHAR	V10: CHANNEL_CONFIG and CHANNEL_LABEL added. Dimensions of histogram shrunk to 128.
SKELETON_MODS	12	CDF_CHAR	V11: Remove UCD vattr and POST_GAP_FLAG zVar.
SKELETON_MODS	13	CDF_CHAR	V12: NASA/SPDF compliance changes. MODS renamed to SKELETON_MODS. GAtt MODS added. CHANNEL_CONFIG removed. CHANNEL_REF shows TDS MUX conf. as a number. CHANNEL_LABEL removed.
SKELETON_PARENT	1	CDF_CHAR	SOLO_L2_RPW-TDS-SURV-HIST2D
Skeleton_version	1	CDF_CHAR	12
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	SOLO>Solar Orbiter
SPICE_KERNELS	1	CDF_CHAR	
SPECTRAL_RANGE_MAX	1	CDF_CHAR	
SPECTRAL_RANGE_MIN	1	CDF_CHAR	
TEXT	1	CDF_CHAR	This file contains RPW TDS level 2 regular snapshot Histogram 2D data.
TEXT_supplement_1	1	CDF_CHAR	
TIME_MAX	1	CDF_CHAR	

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 542

Tab. 4.77 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
TIME_MIN	1	CDF_CHAR	
CAVEATS	1	CDF_CHAR	
CAL_ENTITY_NAME	1	CDF_CHAR	
CAL_ENTITY_AFFILIATION	1	CDF_CHAR	
CAL_EQUIPMENT	1	CDF_CHAR	
CALIBRATION_TABLE	1	CDF_CHAR	
CALIBRATION_VERSION	1	CDF_CHAR	
Datetime	1	CDF_CHAR	
Free_field	1	CDF_CHAR	
Job_ID	1	CDF_CHAR	
LEVEL	1	CDF_CHAR	L2>Level 2 data processing
SOOP_TYPE	1	CDF_CHAR	
Data_product	1	CDF_CHAR	SURV-HIST2D>SURV-HIST2D
TARGET_NAME	1	CDF_CHAR	Sun
TARGET_CLASS	1	CDF_CHAR	Star
TARGET_REGION	1	CDF_CHAR	Solar Wind
Pipeline_name	1	CDF_CHAR	
Dataset_ID	1	CDF_CHAR	SOLO_L2_RPW-TDS-SURV-HIST2D
OBS_ID	1	CDF_CHAR	
Validate	1	CDF_CHAR	

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 543


4.1.3.9.4 zVariables

Variable Name	Data Type	Number Elements	Dims	Sizes
Epoch	CDF_TIME_TT2000	1	0	
QUALITY_FLAG	CDF_UINT1	1	0	
QUALITY_BITMASK	CDF_UINT2	1	0	
BIA_STATUS_INFO	CDF_UINT1	1	1	6
BIA_STATUS_INFO_LABEL	CDF_CHAR	16	1	6
SURVEY_MODE	CDF_UINT1	1	0	
SAMPLING_RATE	CDF_FLOAT	1	0	
INPUT_CONFIG	CDF_UINT4	1	0	
TDS_CONFIG_LABEL	CDF_CHAR	8	0	
SNAPSHOT_LEN	CDF_UINT4	1	0	
CHANNEL_REF	CDF_UINT1	1	0	
HIST2D_ID	CDF_UINT1	1	0	
HIST2D_PARAMS	CDF_UINT1	1	0	
HIST2D_PARAMS_LABEL	CDF_CHAR	32	0	
HIST2D_COL_TIME	CDF_UINT2	1	0	
HIST2D_AXIS1	CDF_FLOAT	1	1	128
HIST2D_AXIS2	CDF_FLOAT	1	1	128
HIST2D_BINS1	CDF_UINT1	1	0	
HIST2D_BINS2	CDF_UINT1	1	0	
HIST2D_TOT_SNAPSHOT	CDF_UINT2	1	0	
HIST2D_COUNTS	CDF_UINT2	1	2	128 128

4.1.3.9.5 Variable attributes

Variable Name	Attribute Name	Data Type	Value
Epoch	FIELDNAM	CDF_CHAR	Epoch
Epoch	CATDESC	CDF_CHAR	Default time
Epoch	VALIDMIN	CDF_TIME_TT2000	1990-01-01T00:00:00.000000000
Epoch	VALIDMAX	CDF_TIME_TT2000	2029-12-31T23:59:59.999000000
Epoch	SCALEMIN	CDF_TIME_TT2000	1990-01-01T00:00:00.000000000
Epoch	SCALEMAX	CDF_TIME_TT2000	2029-12-31T23:59:59.999000000


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 544

Tab. 4.78 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
Epoch	FILLVAL	CDF_TIME_TT2000	1999-12-31T23:59:59.999999999
Epoch	LABLAXIS	CDF_CHAR	Epoch
Epoch	UNITS	CDF_CHAR	ns
Epoch	VAR_TYPE	CDF_CHAR	support_data
Epoch	SCALETYP	CDF_CHAR	linear
Epoch	MONOTON	CDF_CHAR	INCREASE
Epoch	TIME_BASE	CDF_CHAR	J2000
Epoch	TIME_SCALE	CDF_CHAR	Terrestrial Time
Epoch	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file
Epoch	Resolution	CDF_CHAR	15258 ns
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	VALIDMIN	CDF_UINT1	0
QUALITY_FLAG	VALIDMAX	CDF_UINT1	4
QUALITY_FLAG	SCALEMIN	CDF_UINT1	0
QUALITY_FLAG	SCALEMAX	CDF_UINT1	4
QUALITY_FLAG	FILLVAL	CDF_UINT1	255
QUALITY_FLAG	LABLAXIS	CDF_CHAR	Quality flag
QUALITY_FLAG	UNITS	CDF_CHAR	
QUALITY_FLAG	VAR_TYPE	CDF_CHAR	support_data
QUALITY_FLAG	SCALETYP	CDF_CHAR	linear
QUALITY_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the quality of the data
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	FORMAT	CDF_CHAR	I1
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	UNITS	CDF_CHAR	
QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 545

Tab. 4.78 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context information or status at the receiver or experiment level
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
BIA_STATUS_INFO	FIELDNAM	CDF_CHAR	BIA_STATUS_INFO
BIA_STATUS_INFO	CATDESC	CDF_CHAR	BIAS status byte
BIA_STATUS_INFO	VALIDMIN	CDF_UINT1	0
BIA_STATUS_INFO	VALIDMAX	CDF_UINT1	1
BIA_STATUS_INFO	SCALEMIN	CDF_UINT1	0
BIA_STATUS_INFO	SCALEMAX	CDF_UINT1	1
BIA_STATUS_INFO	FILLVAL	CDF_UINT1	255
BIA_STATUS_INFO	LABL_PTR_1	CDF_CHAR	BIA_STATUS_INFO_LABEL
BIA_STATUS_INFO	UNITS	CDF_CHAR	
BIA_STATUS_INFO	VAR_TYPE	CDF_CHAR	support_data
BIA_STATUS_INFO	SCALETYP	CDF_CHAR	linear
BIA_STATUS_INFO	VAR_NOTES	CDF_CHAR	BIAS status byte
BIA_STATUS_INFO	DEPEND_0	CDF_CHAR	Epoch
BIA_STATUS_INFO	DISPLAY_TYPE	CDF_CHAR	time_series
BIA_STATUS_INFO	FORMAT	CDF_CHAR	I1
BIA_STATUS_INFO_LABEL	FIELDNAM	CDF_CHAR	BIA_STATUS_INFO_LABEL
BIA_STATUS_INFO_LABEL	CATDESC	CDF_CHAR	Label for BIA_STATUS_INFO
BIA_STATUS_INFO_LABEL	VAR_TYPE	CDF_CHAR	metadata
BIA_STATUS_INFO_LABEL	FORMAT	CDF_CHAR	A16
SURVEY_MODE	FIELDNAM	CDF_CHAR	SURVEY_MODE
SURVEY_MODE	CATDESC	CDF_CHAR	TDS survey mode
SURVEY_MODE	VALIDMIN	CDF_UINT1	0
SURVEY_MODE	VALIDMAX	CDF_UINT1	1
SURVEY_MODE	SCALEMIN	CDF_UINT1	0
SURVEY_MODE	SCALEMAX	CDF_UINT1	1
SURVEY_MODE	FILLVAL	CDF_UINT1	255
SURVEY_MODE	LABLAXIS	CDF_CHAR	TDS survey mode
SURVEY_MODE	UNITS	CDF_CHAR	
SURVEY_MODE	VAR_TYPE	CDF_CHAR	support_data
SURVEY_MODE	SCALETYP	CDF_CHAR	linear
SURVEY_MODE	VAR_NOTES	CDF_CHAR	Flag to indicate if the receiver in the SURVEY_BURST (=1) or SURVEY_NORMAL (=0) mode

continues on next page



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **546**

Tab. 4.78 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SURVEY_MODE	DEPEND_0	CDF_CHAR	Epoch
SURVEY_MODE	DISPLAY_TYPE	CDF_CHAR	time_series
SURVEY_MODE	FORMAT	CDF_CHAR	I1
SAMPLING_RATE	FIELDNAM	CDF_CHAR	SAMPLING_RATE
SAMPLING_RATE	CATDESC	CDF_CHAR	TDS sampling rate
SAMPLING_RATE	VALIDMIN	CDF_FLOAT	0.0
SAMPLING_RATE	VALIDMAX	CDF_FLOAT	2.0971e+06
SAMPLING_RATE	SCALEMIN	CDF_FLOAT	65534.0
SAMPLING_RATE	SCALEMAX	CDF_FLOAT	524275.0
SAMPLING_RATE	FILLVAL	CDF_FLOAT	-1.0e+31
SAMPLING_RATE	LABLAXIS	CDF_CHAR	Sampling rate code
SAMPLING_RATE	UNITS	CDF_CHAR	Hz
SAMPLING_RATE	VAR_TYPE	CDF_CHAR	support_data
SAMPLING_RATE	SCALETYP	CDF_CHAR	linear
SAMPLING_RATE	VAR_NOTES	CDF_CHAR	TDS sampling rate
SAMPLING_RATE	DEPEND_0	CDF_CHAR	Epoch
SAMPLING_RATE	DISPLAY_TYPE	CDF_CHAR	time_series
SAMPLING_RATE	FORMAT	CDF_CHAR	F9.1
INPUT_CONFIG	FIELDNAM	CDF_CHAR	INPUT_CONFIG
INPUT_CONFIG	CATDESC	CDF_CHAR	Bitmask of TDS analog input configuration
INPUT_CONFIG	VALIDMIN	CDF_UINT4	0
INPUT_CONFIG	VALIDMAX	CDF_UINT4	4294967294
INPUT_CONFIG	SCALEMIN	CDF_UINT4	0
INPUT_CONFIG	SCALEMAX	CDF_UINT4	4294967294
INPUT_CONFIG	FILLVAL	CDF_UINT4	4294967295
INPUT_CONFIG	LABLAXIS	CDF_CHAR	TDS input config.
INPUT_CONFIG	UNITS	CDF_CHAR	
INPUT_CONFIG	VAR_TYPE	CDF_CHAR	support_data
INPUT_CONFIG	SCALETYP	CDF_CHAR	linear
INPUT_CONFIG	VAR_NOTES	CDF_CHAR	Input TDS configuration
INPUT_CONFIG	DEPEND_0	CDF_CHAR	Epoch
INPUT_CONFIG	DISPLAY_TYPE	CDF_CHAR	time_series
INPUT_CONFIG	FORMAT	CDF_CHAR	I10
TDS_CONFIG_LABEL	FIELDNAM	CDF_CHAR	TDS_CONFIG_LABEL
TDS_CONFIG_LABEL	CATDESC	CDF_CHAR	Label for TDS Configuration
TDS_CONFIG_LABEL	VAR_TYPE	CDF_CHAR	metadata
TDS_CONFIG_LABEL	FORMAT	CDF_CHAR	A8
SNAPSHOT_LEN	FIELDNAM	CDF_CHAR	SNAPSHOT_LEN
SNAPSHOT_LEN	CATDESC	CDF_CHAR	Length of snapshot
SNAPSHOT_LEN	VALIDMIN	CDF_UINT4	0


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 547

Tab. 4.78 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SNAPSHOT_LEN	VALIDMAX	CDF_UINT4	4294967294
SNAPSHOT_LEN	SCALEMIN	CDF_UINT4	512
SNAPSHOT_LEN	SCALEMAX	CDF_UINT4	262144
SNAPSHOT_LEN	FILLVAL	CDF_UINT4	4294967295
SNAPSHOT_LEN	LABLAXIS	CDF_CHAR	Length of snapshot
SNAPSHOT_LEN	UNITS	CDF_CHAR	samples
SNAPSHOT_LEN	VAR_TYPE	CDF_CHAR	support_data
SNAPSHOT_LEN	SCALETYP	CDF_CHAR	linear
SNAPSHOT_LEN	VAR_NOTES	CDF_CHAR	Length of snapshot in samples
SNAPSHOT_LEN	DEPEND_0	CDF_CHAR	Epoch
SNAPSHOT_LEN	DISPLAY_TYPE	CDF_CHAR	time_series
SNAPSHOT_LEN	FORMAT	CDF_CHAR	I6
CHANNEL_REF	FIELDNAM	CDF_CHAR	CHANNEL_REF
CHANNEL_REF	CATDESC	CDF_CHAR	Channel reference for the histogram counts.
CHANNEL_REF	VALIDMIN	CDF_UINT1	10
CHANNEL_REF	VALIDMAX	CDF_UINT1	40
CHANNEL_REF	SCALEMIN	CDF_UINT1	10
CHANNEL_REF	SCALEMAX	CDF_UINT1	40
CHANNEL_REF	FILLVAL	CDF_UINT1	255
CHANNEL_REF	LABLAXIS	CDF_CHAR	Channel ref.
CHANNEL_REF	UNITS	CDF_CHAR	
CHANNEL_REF	VAR_TYPE	CDF_CHAR	support_data
CHANNEL_REF	SCALETYP	CDF_CHAR	linear
CHANNEL_REF	VAR_NOTES	CDF_CHAR	Configuration of signal channels in the snapshot (0=GND 1=V1, 2=V2, 3=V3). The number AB indicates that the corresponding channel contains a difference of 2 channels A-B.
CHANNEL_REF	DEPEND_0	CDF_CHAR	Epoch
CHANNEL_REF	DISPLAY_TYPE	CDF_CHAR	time_series
CHANNEL_REF	FORMAT	CDF_CHAR	I2
HIST2D_ID	FIELDNAM	CDF_CHAR	HIST2D_ID
HIST2D_ID	CATDESC	CDF_CHAR	Histogram ID
HIST2D_ID	VALIDMIN	CDF_UINT1	1
HIST2D_ID	VALIDMAX	CDF_UINT1	2
HIST2D_ID	SCALEMIN	CDF_UINT1	1
HIST2D_ID	SCALEMAX	CDF_UINT1	2
HIST2D_ID	FILLVAL	CDF_UINT1	255


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 548

Tab. 4.78 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
HIST2D_ID	LABLAXIS	CDF_CHAR	Histogram ID
HIST2D_ID	UNITS	CDF_CHAR	
HIST2D_ID	VAR_TYPE	CDF_CHAR	support_data
HIST2D_ID	SCALETYP	CDF_CHAR	linear
HIST2D_ID	VAR_NOTES	CDF_CHAR	An ID number of the histogram (1 or 2) indicating which of the four possible configured histograms is contained in the packet
HIST2D_ID	DEPEND_0	CDF_CHAR	Epoch
HIST2D_ID	DISPLAY_TYPE	CDF_CHAR	time_series
HIST2D_ID	FORMAT	CDF_CHAR	I1
HIST2D_PARAMS	FIELDNAM	CDF_CHAR	HIST2D_PARAMS
HIST2D_PARAMS	CATDESC	CDF_CHAR	Histogram build parameters
HIST2D_PARAMS	VALIDMIN	CDF_UINT1	0
HIST2D_PARAMS	VALIDMAX	CDF_UINT1	8
HIST2D_PARAMS	SCALEMIN	CDF_UINT1	0
HIST2D_PARAMS	SCALEMAX	CDF_UINT1	8
HIST2D_PARAMS	FILLVAL	CDF_UINT1	255
HIST2D_PARAMS	LABLAXIS	CDF_CHAR	Histogram param
HIST2D_PARAMS	UNITS	CDF_CHAR	
HIST2D_PARAMS	VAR_TYPE	CDF_CHAR	support_data
HIST2D_PARAMS	SCALETYP	CDF_CHAR	linear
HIST2D_PARAMS	VAR_NOTES	CDF_CHAR	The parameter used to build this histogram. Equal to the corresponding CP_TDS_N_2D_HISTx_TYPE Setting.
HIST2D_PARAMS	DEPEND_0	CDF_CHAR	Epoch
HIST2D_PARAMS	DISPLAY_TYPE	CDF_CHAR	time_series
HIST2D_PARAMS	FORMAT	CDF_CHAR	I1
HIST2D_PARAMS_LABEL	FIELDNAM	CDF_CHAR	HIST2D_PARAMS_LABEL
HIST2D_PARAMS_LABEL	CATDESC	CDF_CHAR	Label for HIST2D_PARAMS
HIST2D_PARAMS_LABEL	VAR_TYPE	CDF_CHAR	metadata
HIST2D_PARAMS_LABEL	FORMAT	CDF_CHAR	A32
HIST2D_COL_TIME	FIELDNAM	CDF_CHAR	HIST2D_COL_TIME
HIST2D_COL_TIME	CATDESC	CDF_CHAR	Histogram build duration
HIST2D_COL_TIME	VALIDMIN	CDF_UINT2	0
HIST2D_COL_TIME	VALIDMAX	CDF_UINT2	65534
HIST2D_COL_TIME	SCALEMIN	CDF_UINT2	1
HIST2D_COL_TIME	SCALEMAX	CDF_UINT2	21600


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 549

Tab. 4.78 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
HIST2D_COL_TIME	FILLVAL	CDF_UINT2	65535
HIST2D_COL_TIME	LABLAXIS	CDF_CHAR	Histogram build duration
HIST2D_COL_TIME	UNITS	CDF_CHAR	s
HIST2D_COL_TIME	VAR_TYPE	CDF_CHAR	support_data
HIST2D_COL_TIME	SCALETYP	CDF_CHAR	linear
HIST2D_COL_TIME	VAR_NOTES	CDF_CHAR	The duration of the time period (in seconds) over which this histogram has been built.
HIST2D_COL_TIME	DEPEND_0	CDF_CHAR	Epoch
HIST2D_COL_TIME	DISPLAY_TYPE	CDF_CHAR	time_series
HIST2D_COL_TIME	FORMAT	CDF_CHAR	I5
HIST2D_AXIS1	FIELDNAM	CDF_CHAR	HIST2D_AXIS1
HIST2D_AXIS1	CATDESC	CDF_CHAR	Axis 1 for the histogram
HIST2D_AXIS1	VALIDMIN	CDF_FLOAT	-1.0e+30
HIST2D_AXIS1	VALIDMAX	CDF_FLOAT	1.0e+30
HIST2D_AXIS1	SCALEMIN	CDF_FLOAT	-1.0e+30
HIST2D_AXIS1	SCALEMAX	CDF_FLOAT	1.0e+30
HIST2D_AXIS1	FILLVAL	CDF_FLOAT	-1.0e+31
HIST2D_AXIS1	LABLAXIS	CDF_CHAR	AXIS1
HIST2D_AXIS1	UNITS	CDF_CHAR	
HIST2D_AXIS1	VAR_TYPE	CDF_CHAR	support_data
HIST2D_AXIS1	SCALETYP	CDF_CHAR	linear
HIST2D_AXIS1	VAR_NOTES	CDF_CHAR	The axis corresponding to this histogram. Equal to the corresponding CP_TDS_N_2D_HISTx_AXIS setting from NORMAL parameters
HIST2D_AXIS1	DEPEND_0	CDF_CHAR	Epoch
HIST2D_AXIS1	DISPLAY_TYPE	CDF_CHAR	time_series
HIST2D_AXIS1	FORMAT	CDF_CHAR	F
HIST2D_AXIS2	FIELDNAM	CDF_CHAR	HIST2D_AXIS2
HIST2D_AXIS2	CATDESC	CDF_CHAR	Axis 2 for the histogram
HIST2D_AXIS2	VALIDMIN	CDF_FLOAT	-1.0e+30
HIST2D_AXIS2	VALIDMAX	CDF_FLOAT	1.0e+30
HIST2D_AXIS2	SCALEMIN	CDF_FLOAT	-1.0e+30
HIST2D_AXIS2	SCALEMAX	CDF_FLOAT	1.0e+30
HIST2D_AXIS2	FILLVAL	CDF_FLOAT	-1.0e+31
HIST2D_AXIS2	LABLAXIS	CDF_CHAR	AXIS2
HIST2D_AXIS2	UNITS	CDF_CHAR	
HIST2D_AXIS2	VAR_TYPE	CDF_CHAR	support_data


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 550

Tab. 4.78 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
HIST2D_AXIS2	SCALETYP	CDF_CHAR	linear
HIST2D_AXIS2	VAR_NOTES	CDF_CHAR	The axis corresponding to this histogram. Equal to the corresponding CP_TDS_N_2D_HISTx_AXIS setting from NORMAL parameters
HIST2D_AXIS2	DEPEND_0	CDF_CHAR	Epoch
HIST2D_AXIS2	DISPLAY_TYPE	CDF_CHAR	time_series
HIST2D_AXIS2	FORMAT	CDF_CHAR	F
HIST2D_BINS1	FIELDNAM	CDF_CHAR	HIST2D_BINS1
HIST2D_BINS1	CATDESC	CDF_CHAR	Number of X bins
HIST2D_BINS1	VALIDMIN	CDF_UINT1	32
HIST2D_BINS1	VALIDMAX	CDF_UINT1	128
HIST2D_BINS1	SCALEMIN	CDF_UINT1	32
HIST2D_BINS1	SCALEMAX	CDF_UINT1	128
HIST2D_BINS1	FILLVAL	CDF_UINT1	255
HIST2D_BINS1	LABLAXIS	CDF_CHAR	Number of histogram bins on the X axis
HIST2D_BINS1	UNITS	CDF_CHAR	
HIST2D_BINS1	VAR_TYPE	CDF_CHAR	support_data
HIST2D_BINS1	SCALETYP	CDF_CHAR	linear
HIST2D_BINS1	VAR_NOTES	CDF_CHAR	Number of X bins in the histogram. Determines the length of the packet.
HIST2D_BINS1	DEPEND_0	CDF_CHAR	Epoch
HIST2D_BINS1	DISPLAY_TYPE	CDF_CHAR	time_series
HIST2D_BINS1	FORMAT	CDF_CHAR	I3
HIST2D_BINS2	FIELDNAM	CDF_CHAR	HIST2D_BINS2
HIST2D_BINS2	CATDESC	CDF_CHAR	Number of Y bins
HIST2D_BINS2	VALIDMIN	CDF_UINT1	32
HIST2D_BINS2	VALIDMAX	CDF_UINT1	128
HIST2D_BINS2	SCALEMIN	CDF_UINT1	32
HIST2D_BINS2	SCALEMAX	CDF_UINT1	128
HIST2D_BINS2	FILLVAL	CDF_UINT1	255
HIST2D_BINS2	LABLAXIS	CDF_CHAR	Number of histogram bins on the Y axis
HIST2D_BINS2	UNITS	CDF_CHAR	
HIST2D_BINS2	VAR_TYPE	CDF_CHAR	support_data
HIST2D_BINS2	SCALETYP	CDF_CHAR	linear


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 551

Tab. 4.78 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
HIST2D_BINS2	VAR_NOTES	CDF_CHAR	Number of Y bins in the histogram. Determines the length of the packet.
HIST2D_BINS2	DEPEND_0	CDF_CHAR	Epoch
HIST2D_BINS2	DISPLAY_TYPE	CDF_CHAR	time_series
HIST2D_BINS2	FORMAT	CDF_CHAR	I3
HIST2D_TOT_SNAPSHOT	FIELDNAM	CDF_CHAR	HIST2D_TOT_SNAPSHOT
HIST2D_TOT_SNAPSHOT	CATDESC	CDF_CHAR	Total number of snapshots
HIST2D_TOT_SNAPSHOT	VALIDMIN	CDF_UINT2	0
HIST2D_TOT_SNAPSHOT	VALIDMAX	CDF_UINT2	65534
HIST2D_TOT_SNAPSHOT	SCALEMIN	CDF_UINT2	0
HIST2D_TOT_SNAPSHOT	SCALEMAX	CDF_UINT2	65534
HIST2D_TOT_SNAPSHOT	FILLVAL	CDF_UINT2	65535
HIST2D_TOT_SNAPSHOT	LABLAXIS	CDF_CHAR	Total number of snapshots proceeded
HIST2D_TOT_SNAPSHOT	UNITS	CDF_CHAR	
HIST2D_TOT_SNAPSHOT	VAR_TYPE	CDF_CHAR	data
HIST2D_TOT_SNAPSHOT	SCALETYP	CDF_CHAR	linear
HIST2D_TOT_SNAPSHOT	VAR_NOTES	CDF_CHAR	Total number of snapshots processed when producing the histogram
HIST2D_TOT_SNAPSHOT	DEPEND_0	CDF_CHAR	Epoch
HIST2D_TOT_SNAPSHOT	DISPLAY_TYPE	CDF_CHAR	time_series
HIST2D_TOT_SNAPSHOT	FORMAT	CDF_CHAR	I5
HIST2D_COUNTS	FIELDNAM	CDF_CHAR	HIST2D_COUNTS
HIST2D_COUNTS	CATDESC	CDF_CHAR	Total number of counts
HIST2D_COUNTS	VALIDMIN	CDF_UINT2	0
HIST2D_COUNTS	VALIDMAX	CDF_UINT2	65534
HIST2D_COUNTS	SCALEMIN	CDF_UINT2	0
HIST2D_COUNTS	SCALEMAX	CDF_UINT2	65534
HIST2D_COUNTS	FILLVAL	CDF_UINT2	65535
HIST2D_COUNTS	LABLAXIS	CDF_CHAR	
HIST2D_COUNTS	UNITS	CDF_CHAR	Counts
HIST2D_COUNTS	VAR_TYPE	CDF_CHAR	data
HIST2D_COUNTS	SCALETYP	CDF_CHAR	linear
HIST2D_COUNTS	VAR_NOTES	CDF_CHAR	Counts corresponding to each bin in the histogram
HIST2D_COUNTS	DEPEND_0	CDF_CHAR	Epoch
HIST2D_COUNTS	DEPEND_1	CDF_CHAR	HIST2D_AXIS1
HIST2D_COUNTS	DEPEND_2	CDF_CHAR	HIST2D_AXIS2
HIST2D_COUNTS	DISPLAY_TYPE	CDF_CHAR	time_series

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 552

Tab. 4.78 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
HIST2D_COUNTS	FORMAT	CDF_CHAR	I5

4.1.3.9.6 Non-Record-Variant (NRV) Variables

Variable Name	Index	Value
BIA_STATUS_INFO_LABEL	1	BIA ON
BIA_STATUS_INFO_LABEL	2	BIAS3 ON
BIA_STATUS_INFO_LABEL	3	BIAS2 ON
BIA_STATUS_INFO_LABEL	4	BIAS1 ON
BIA_STATUS_INFO_LABEL	5	BIA MODE HV ON
BIA_STATUS_INFO_LABEL	6	BIA MODE MUX

4.1.3.10 SOLO_L2_RPW-TDS-SURV-STAT data product

The “SOLO_L2_RPW-TDS-SURV-STAT” data product contains the calibrated TDS receiver dust statistics survey data. The “SOLO_L2_RPW-TDS-SURV-STAT” data are written in CDF format files. There is a single file per day, generated from data in the corresponding SOLO_L1_RPW-TDS-SURV-STAT parent file.

4.1.3.10.1 Filename

```
solo_L2_rpw-tds-surv-stat_[YYYYMMDD]_V[version].cdf
```

4.1.3.10.2 Expected cadence and data volume


Nominal cadence: 1 file per day

Expected data volume: 0.5 MB per file

4.1.3.10.3 Global Attributes

Attribute Name	Entry Number	Data Type	Value
ACCESS_FORMAT	1	CDF_CHAR	CDF


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 553

Tab. 4.79 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
ACCESS_URL	1	CDF_CHAR	
Acknowledgement	1	CDF_CHAR	The authors are pleased to acknowledge the Solar Orbiter/RPW Investigation (M. Maksimovic, PIs) for access to data.
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009 (2.4)
Data_type	1	CDF_CHAR	H0>High Resolution data
Data_version	1	CDF_CHAR	
Descriptor	1	CDF_CHAR	RPW-TDS-SURV-STAT> RPW Time Domain Sampler the basic statistical parameters in survey mode
Discipline	1	CDF_CHAR	Space Physics>Interplanetary Studies
File_naming_convention	1	CDF_CHAR	<Source_name>_<LEVEL>_<Descriptor>_<Date>
File_ID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	RPW Operations Centre located at LESIA (Meudon, France)
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	https://rpw.lesia.obspm.fr
Instrument_type	1	CDF_CHAR	Radio and Plasma Waves (space)
LINK_TEXT	1	CDF_CHAR	RPW Web site at LESIA
LINK_TITLE	1	CDF_CHAR	RPW Web site
Logical_file_id	1	CDF_CHAR	
Logical_source	1	CDF_CHAR	solo_L2_rpw-tds-surv-stat
Logical_source_description	1	CDF_CHAR	Solar Orbiter Radio/Plasma Wave, TDS L2R parameters
Mission_group	1	CDF_CHAR	Solar Orbiter
MODS	1	CDF_CHAR	
Parent_version	1	CDF_CHAR	
Parents	1	CDF_CHAR	
PI_affiliation	1	CDF_CHAR	LESIA, Observatoire de Paris-CNRS
PI_name	1	CDF_CHAR	M.Maksimovic
Pipeline_version	1	CDF_CHAR	
Project	1	CDF_CHAR	SOLO>Solar Orbiter
Provider	1	CDF_CHAR	LESIA (Meudon, France)
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00006-LES (1.3)


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 554

Tab. 4.79 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Rules_of_use	1	CDF_CHAR	Data provided are publicly available. If used in presentations or publications, please acknowledge Solar Orbiter/RPW Investigation (M. Maksimovic, PIs). Please read carefully the caveats attached to the data. For reporting purposes, we request bibliography information for any publication, etc., using these data. Please send information on the use of this data to: M. Maksimovic (PI).
SKELETON_MODS	1	CDF_CHAR	January 2016 : initial release
SKELETON_MODS	2	CDF_CHAR	October 2016 (ROC): Update to Issue 2 Rev 1
SKELETON_MODS	3	CDF_CHAR	January 2019 (IAP): SOLO L2 converted from ROC-SGSE skeleton.
SKELETON_MODS	4	CDF_CHAR	V04: Update for solo data definition, X. BONNIN (CNRS-LESIA), April 2019
SKELETON_MODS	5	CDF_CHAR	V05: Update to compliant with SOL-SGS-TN-0009 Issue 2, Rev 4 - X.Bonnin, 09/2019
SKELETON_MODS	6	CDF_CHAR	V06: Update NRV filled. SYNCHRO_FLAG, AQUISITION_* zVars removed. SAMPLING_RATE updated to Hz. TEST_* gAtts removed.
SKELETON_MODS	7	CDF_CHAR	V07: g.Attribute SPICE_KERNELS added.
SKELETON_MODS	8	CDF_CHAR	V08: zVar TDS_CONFIG_LABEL added, D.Pisa (IAP-CAS), Jun 2020.
SKELETON_MODS	9	CDF_CHAR	V09: QUALITY_BITMASK type changed. CHANNEL_CONFIG dimensions reordered.
SKELETON_MODS	10	CDF_CHAR	V10: CHANNEL_ON -> CHANNEL_REF and dimensions shrunk.
SKELETON_MODS	11	CDF_CHAR	V11: Remove UCD vattr and POST_GAP_FLAG zVar.
SKELETON_MODS	12	CDF_CHAR	V12: SN_RMS_E atts added. Minor typos fixed.
SKELETON_MODS	13	CDF_CHAR	V13: Removed FILTER_COEFS zVar.


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 555

Tab. 4.79 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
SKELETON_MODS	14	CDF_CHAR	V14: Minor ISTP/PSD compliancefixed. MODS gAtt renamed to SKELETON_MODS. GAtt MODS added.All necessary units move to V or V/m. CHANNEL_ON and CHANNEL_LABEL removed.
SKELETON_MODS	15	CDF_CHAR	V15: Some typos in VATTR for Axis and Units fixed.
SKELETON_PARENT	1	CDF_CHAR	SOLO_L2_RPW-TDS-SURV-STAT
Skeleton_version	1	CDF_CHAR	15
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	SOLO>Solar Orbiter
SPICE_KERNELS	1	CDF_CHAR	
SPECTRAL_RANGE_MAX	1	CDF_CHAR	
SPECTRAL_RANGE_MIN	1	CDF_CHAR	
TEXT	1	CDF_CHAR	This file contains RPW TDS level 2 survey mode statistics.
TEXT_supplement_1	1	CDF_CHAR	
TIME_MAX	1	CDF_CHAR	
TIME_MIN	1	CDF_CHAR	
CAVEATS	1	CDF_CHAR	
CAL_ENTITY_NAME	1	CDF_CHAR	
CAL_ENTITY_AFFILIATION	1	CDF_CHAR	
CAL_EQUIPMENT	1	CDF_CHAR	
CALIBRATION_TABLE	1	CDF_CHAR	
CALIBRATION_VERSION	1	CDF_CHAR	
Datetime	1	CDF_CHAR	
Free_field	1	CDF_CHAR	
Job_ID	1	CDF_CHAR	
LEVEL	1	CDF_CHAR	L2>Level 2 data processing
SOOP_TYPE	1	CDF_CHAR	
Data_product	1	CDF_CHAR	SURV-STAT>SURV-STAT
TARGET_NAME	1	CDF_CHAR	Sun
TARGET_CLASS	1	CDF_CHAR	Star
TARGET_REGION	1	CDF_CHAR	Solar Wind
Pipeline_name	1	CDF_CHAR	
Dataset_ID	1	CDF_CHAR	SOLO_L2_RPW-TDS-SURV-STAT
OBS_ID	1	CDF_CHAR	

continues on next page


	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 556

Tab. 4.79 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Validate	1	CDF_CHAR	

4.1.3.10.4 zVariables


Variable Name	Data Type	Number Elements	Dims	Sizes
Epoch	CDF_TIME_TT2000	1	0	
QUALITY_FLAG	CDF_UINT1	1	0	
QUALITY_BITMASK	CDF_UINT2	1	0	
BIA_STATUS_INFO	CDF_UINT1	1	1	6
BIA_STATUS_INFO_LABEL	CDF_CHAR	16	1	6
RPW_STATUS_INFO	CDF_UINT1	1	1	7
RPW_STATUS_INFO_LABEL	CDF_CHAR	16	1	7
SAMPLING_RATE	CDF_FLOAT	1	0	
SURVEY_MODE	CDF_UINT1	1	0	
INPUT_CONFIG	CDF_UINT4	1	0	
TDS_CONFIG_LABEL	CDF_CHAR	8	0	
SNAPSHOT_LEN	CDF_UINT4	1	0	
CHANNEL_REF	CDF_UINT1	1	0	
SN_NR_EVENTS	CDF_UINT1	1	0	
SN_MAX_E	CDF_FLOAT	1	0	
SN_MED_MAX_E	CDF_FLOAT	1	0	
SN_RMS_E	CDF_FLOAT	1	0	
SN_THRESHOLD	CDF_UINT1	1	0	
DU_NR_IMPACT	CDF_UINT1	1	0	
DU_MED_AMP	CDF_FLOAT	1	0	
WA_AMP_MAX	CDF_FLOAT	1	0	
WA_AMP_MED	CDF_FLOAT	1	0	
WA_RMS	CDF_FLOAT	1	0	
WA_NR_EVENTS	CDF_UINT1	1	0	
WA_MED_FREQ	CDF_FLOAT	1	0	

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 557

4.1.3.10.5 Variable attributes

Variable Name	Attribute Name	Data Type	Value
Epoch	FIELDNAM	CDF_CHAR	Epoch
Epoch	CATDESC	CDF_CHAR	Default time
Epoch	VALIDMIN	CDF_TIME_TT2000	2000-01-01T12:00:00.000000000
Epoch	VALIDMAX	CDF_TIME_TT2000	2029-12-31T23:59:59.999000000
Epoch	SCALEMIN	CDF_TIME_TT2000	2000-01-01T12:00:00.000000000
Epoch	SCALEMAX	CDF_TIME_TT2000	2029-12-31T23:59:59.999000000
Epoch	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch	LABLAXIS	CDF_CHAR	Epoch
Epoch	UNITS	CDF_CHAR	ns
Epoch	VAR_TYPE	CDF_CHAR	support_data
Epoch	SCALETYP	CDF_CHAR	linear
Epoch	MONOTON	CDF_CHAR	INCREASE
Epoch	TIME_BASE	CDF_CHAR	J2000
Epoch	TIME_SCALE	CDF_CHAR	Terrestrial Time
Epoch	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file
Epoch	Resolution	CDF_CHAR	15258 ns
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	VALIDMIN	CDF_UINT1	0
QUALITY_FLAG	VALIDMAX	CDF_UINT1	4
QUALITY_FLAG	SCALEMIN	CDF_UINT1	0
QUALITY_FLAG	SCALEMAX	CDF_UINT1	4
QUALITY_FLAG	FILLVAL	CDF_UINT1	255
QUALITY_FLAG	LABLAXIS	CDF_CHAR	Quality flag
QUALITY_FLAG	UNITS	CDF_CHAR	
QUALITY_FLAG	VAR_TYPE	CDF_CHAR	support_data
QUALITY_FLAG	SCALETYP	CDF_CHAR	linear
QUALITY_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the quality of the data
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	FORMAT	CDF_CHAR	I1


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 558

Tab. 4.80 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	UNITS	CDF_CHAR	
QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context information or status at the receiver or experiment level
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
BIA_STATUS_INFO	FIELDNAM	CDF_CHAR	BIA_STATUS_INFO
BIA_STATUS_INFO	CATDESC	CDF_CHAR	BIAS status byte
BIA_STATUS_INFO	VALIDMIN	CDF_UINT1	0
BIA_STATUS_INFO	VALIDMAX	CDF_UINT1	1
BIA_STATUS_INFO	SCALEMIN	CDF_UINT1	0
BIA_STATUS_INFO	SCALEMAX	CDF_UINT1	1
BIA_STATUS_INFO	FILLVAL	CDF_UINT1	255
BIA_STATUS_INFO	UNITS	CDF_CHAR	
BIA_STATUS_INFO	VAR_TYPE	CDF_CHAR	support_data
BIA_STATUS_INFO	SCALETYP	CDF_CHAR	linear
BIA_STATUS_INFO	VAR_NOTES	CDF_CHAR	BIAS status byte
BIA_STATUS_INFO	DEPEND_0	CDF_CHAR	Epoch
BIA_STATUS_INFO	DISPLAY_TYPE	CDF_CHAR	time_series
BIA_STATUS_INFO	FORMAT	CDF_CHAR	I3
BIA_STATUS_INFO	LABL_PTR_1	CDF_CHAR	BIA_STATUS_INFO_LABEL
BIA_STATUS_INFO_LABEL	FIELDNAM	CDF_CHAR	BIA_STATUS_INFO_LABEL
BIA_STATUS_INFO_LABEL	CATDESC	CDF_CHAR	Label for BIA_STATUS_INFO
BIA_STATUS_INFO_LABEL	VAR_TYPE	CDF_CHAR	metadata
BIA_STATUS_INFO_LABEL	FORMAT	CDF_CHAR	A16
RPW_STATUS_INFO	FIELDNAM	CDF_CHAR	RPW_STATUS_INFO
RPW_STATUS_INFO	CATDESC	CDF_CHAR	RPW status
RPW_STATUS_INFO	VALIDMIN	CDF_UINT1	0
RPW_STATUS_INFO	VALIDMAX	CDF_UINT1	1


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 559

Tab. 4.80 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
RPW_STATUS_INFO	SCALEMIN	CDF_UINT1	0
RPW_STATUS_INFO	SCALEMAX	CDF_UINT1	1
RPW_STATUS_INFO	FILLVAL	CDF_UINT1	255
RPW_STATUS_INFO	UNITS	CDF_CHAR	
RPW_STATUS_INFO	VAR_TYPE	CDF_CHAR	support_data
RPW_STATUS_INFO	SCALETYP	CDF_CHAR	linear
RPW_STATUS_INFO	VAR_NOTES	CDF_CHAR	RPW status (bitmask - received from DPU)
RPW_STATUS_INFO	DEPEND_0	CDF_CHAR	Epoch
RPW_STATUS_INFO	DISPLAY_TYPE	CDF_CHAR	time_series
RPW_STATUS_INFO	FORMAT	CDF_CHAR	I3
RPW_STATUS_INFO	LABL_PTR_1	CDF_CHAR	RPW_STATUS_INFO_LABEL
RPW_STATUS_INFO_LABEL	FIELDNAM	CDF_CHAR	RPW_STATUS_INFO_LABEL
RPW_STATUS_INFO_LABEL	CATDESC	CDF_CHAR	Label for RPW_STATUS_INFO
RPW_STATUS_INFO_LABEL	VAR_TYPE	CDF_CHAR	metadata
RPW_STATUS_INFO_LABEL	FORMAT	CDF_CHAR	A16
SAMPLING_RATE	FIELDNAM	CDF_CHAR	SAMPLING_RATE
SAMPLING_RATE	CATDESC	CDF_CHAR	TDS sampling rate
SAMPLING_RATE	VALIDMIN	CDF_FLOAT	0.0
SAMPLING_RATE	VALIDMAX	CDF_FLOAT	2.0971e+06
SAMPLING_RATE	SCALEMIN	CDF_FLOAT	65534.4
SAMPLING_RATE	SCALEMAX	CDF_FLOAT	262138.0
SAMPLING_RATE	FILLVAL	CDF_FLOAT	-1.0e+31
SAMPLING_RATE	LABLAXIS	CDF_CHAR	Sampling rate
SAMPLING_RATE	UNITS	CDF_CHAR	Hz
SAMPLING_RATE	VAR_TYPE	CDF_CHAR	support_data
SAMPLING_RATE	SCALETYP	CDF_CHAR	linear
SAMPLING_RATE	VAR_NOTES	CDF_CHAR	TDS sampling rate
SAMPLING_RATE	DEPEND_0	CDF_CHAR	Epoch
SAMPLING_RATE	DISPLAY_TYPE	CDF_CHAR	time_series
SAMPLING_RATE	FORMAT	CDF_CHAR	F9.1
SURVEY_MODE	FIELDNAM	CDF_CHAR	SURVEY_MODE
SURVEY_MODE	CATDESC	CDF_CHAR	TDS survey mode
SURVEY_MODE	VALIDMIN	CDF_UINT1	0
SURVEY_MODE	VALIDMAX	CDF_UINT1	1
SURVEY_MODE	SCALEMIN	CDF_UINT1	0
SURVEY_MODE	SCALEMAX	CDF_UINT1	1
SURVEY_MODE	FILLVAL	CDF_UINT1	255
SURVEY_MODE	LABLAXIS	CDF_CHAR	survey mode
SURVEY_MODE	UNITS	CDF_CHAR	


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 560

Tab. 4.80 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SURVEY_MODE	VAR_TYPE	CDF_CHAR	support_data
SURVEY_MODE	SCALETYP	CDF_CHAR	linear
SURVEY_MODE	VAR_NOTES	CDF_CHAR	Flag to indicate if the receiver in the SURVEY_BURST (=1) or SURVEY_NORMAL (=0) mode
SURVEY_MODE	DEPEND_0	CDF_CHAR	Epoch
SURVEY_MODE	DISPLAY_TYPE	CDF_CHAR	time_series
SURVEY_MODE	FORMAT	CDF_CHAR	I1
INPUT_CONFIG	FIELDNAM	CDF_CHAR	INPUT_CONFIG
INPUT_CONFIG	CATDESC	CDF_CHAR	Bitmask of TDS analog input configuration
INPUT_CONFIG	VALIDMIN	CDF_UINT4	0
INPUT_CONFIG	VALIDMAX	CDF_UINT4	4294967294
INPUT_CONFIG	SCALEMIN	CDF_UINT4	0
INPUT_CONFIG	SCALEMAX	CDF_UINT4	1
INPUT_CONFIG	FILLVAL	CDF_UINT4	4294967295
INPUT_CONFIG	LABLAXIS	CDF_CHAR	TDS input config.
INPUT_CONFIG	UNITS	CDF_CHAR	
INPUT_CONFIG	VAR_TYPE	CDF_CHAR	support_data
INPUT_CONFIG	SCALETYP	CDF_CHAR	linear
INPUT_CONFIG	VAR_NOTES	CDF_CHAR	Input TDS configuration
INPUT_CONFIG	DEPEND_0	CDF_CHAR	Epoch
INPUT_CONFIG	DISPLAY_TYPE	CDF_CHAR	time_series
INPUT_CONFIG	FORMAT	CDF_CHAR	I10
TDS_CONFIG_LABEL	FIELDNAM	CDF_CHAR	TDS_CONFIG_LABEL
TDS_CONFIG_LABEL	CATDESC	CDF_CHAR	Label for TDS Configuration
TDS_CONFIG_LABEL	VAR_TYPE	CDF_CHAR	metadata
TDS_CONFIG_LABEL	FORMAT	CDF_CHAR	A8
SNAPSHOT_LEN	FIELDNAM	CDF_CHAR	SNAPSHOT_LEN
SNAPSHOT_LEN	CATDESC	CDF_CHAR	Length of snapshot
SNAPSHOT_LEN	VALIDMIN	CDF_UINT4	512
SNAPSHOT_LEN	VALIDMAX	CDF_UINT4	262144
SNAPSHOT_LEN	SCALEMIN	CDF_UINT4	512
SNAPSHOT_LEN	SCALEMAX	CDF_UINT4	262144
SNAPSHOT_LEN	FILLVAL	CDF_UINT4	4294967295
SNAPSHOT_LEN	LABLAXIS	CDF_CHAR	Length of snapshot
SNAPSHOT_LEN	UNITS	CDF_CHAR	samples
SNAPSHOT_LEN	VAR_TYPE	CDF_CHAR	support_data
SNAPSHOT_LEN	SCALETYP	CDF_CHAR	linear


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 561

Tab. 4.80 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SNAPSHOT_LEN	VAR_NOTES	CDF_CHAR	Length (in samples) of each snapshot processed by the TDS SW to build this statistics
SNAPSHOT_LEN	DEPEND_0	CDF_CHAR	Epoch
SNAPSHOT_LEN	DISPLAY_TYPE	CDF_CHAR	time_series
SNAPSHOT_LEN	FORMAT	CDF_CHAR	I6
CHANNEL_REF	FIELDNAM	CDF_CHAR	CHANNEL_REF
CHANNEL_REF	CATDESC	CDF_CHAR	Status of signal channels in the snapshot
CHANNEL_REF	VALIDMIN	CDF_UINT1	10
CHANNEL_REF	VALIDMAX	CDF_UINT1	40
CHANNEL_REF	SCALEMIN	CDF_UINT1	10
CHANNEL_REF	SCALEMAX	CDF_UINT1	40
CHANNEL_REF	FILLVAL	CDF_UINT1	255
CHANNEL_REF	LABLAXIS	CDF_CHAR	Channel ref.
CHANNEL_REF	UNITS	CDF_CHAR	
CHANNEL_REF	VAR_TYPE	CDF_CHAR	support_data
CHANNEL_REF	SCALETYP	CDF_CHAR	linear
CHANNEL_REF	VAR_NOTES	CDF_CHAR	Configuration of signal channel in the snapshot (0=GND 1=V1, 2=V2, 3=V3 4=BMF). The number AB indicates that the corresponding channel contains a difference of 2 channels A-B.
CHANNEL_REF	DEPEND_0	CDF_CHAR	Epoch
CHANNEL_REF	DISPLAY_TYPE	CDF_CHAR	time_series
CHANNEL_REF	FORMAT	CDF_CHAR	I2
SN_NR_EVENTS	FIELDNAM	CDF_CHAR	SN_NR_EVENTS
SN_NR_EVENTS	CATDESC	CDF_CHAR	Total number of valid snapshots processed
SN_NR_EVENTS	VALIDMIN	CDF_UINT1	0
SN_NR_EVENTS	VALIDMAX	CDF_UINT1	255
SN_NR_EVENTS	SCALEMIN	CDF_UINT1	0
SN_NR_EVENTS	SCALEMAX	CDF_UINT1	254
SN_NR_EVENTS	FILLVAL	CDF_UINT1	255
SN_NR_EVENTS	LABLAXIS	CDF_CHAR	Number of events
SN_NR_EVENTS	UNITS	CDF_CHAR	
SN_NR_EVENTS	VAR_TYPE	CDF_CHAR	data
SN_NR_EVENTS	SCALETYP	CDF_CHAR	linear


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 562

Tab. 4.80 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SN_NR_EVENTS	VAR_NOTES	CDF_CHAR	Total number of valid snapshots processed during the statistics collection period.
SN_NR_EVENTS	DEPEND_0	CDF_CHAR	Epoch
SN_NR_EVENTS	DISPLAY_TYPE	CDF_CHAR	time_series
SN_NR_EVENTS	FORMAT	CDF_CHAR	I3
SN_MAX_E	FIELDNAM	CDF_CHAR	SN_MAX_E
SN_MAX_E	CATDESC	CDF_CHAR	Maximum of maxima of the amplitude of snapshots
SN_MAX_E	VALIDMIN	CDF_FLOAT	-1.0e+30
SN_MAX_E	VALIDMAX	CDF_FLOAT	1.0e+30
SN_MAX_E	SCALEMIN	CDF_FLOAT	-1.0e+30
SN_MAX_E	SCALEMAX	CDF_FLOAT	1.0e+30
SN_MAX_E	FILLVAL	CDF_FLOAT	-1.0e+31
SN_MAX_E	LABLAXIS	CDF_CHAR	E_MAX
SN_MAX_E	UNITS	CDF_CHAR	V/m
SN_MAX_E	VAR_TYPE	CDF_CHAR	data
SN_MAX_E	SCALETYP	CDF_CHAR	linear
SN_MAX_E	VAR_NOTES	CDF_CHAR	For each snapshot a maximum absolute value from all samples is calculated. This value gives the maximum of these maxima For each snapshot a maximum absolute value from all samples is calculated. This value gives the maximum of these maxima from all snapshots.from all snapshots.
SN_MAX_E	DEPEND_0	CDF_CHAR	Epoch
SN_MAX_E	DISPLAY_TYPE	CDF_CHAR	time_series
SN_MAX_E	FORMAT	CDF_CHAR	e10.3
SN_MED_MAX_E	FIELDNAM	CDF_CHAR	SN_MED_MAX_E
SN_MED_MAX_E	CATDESC	CDF_CHAR	Median of maxima of the amplitude of snapshots
SN_MED_MAX_E	VALIDMIN	CDF_FLOAT	-1.0e+30
SN_MED_MAX_E	VALIDMAX	CDF_FLOAT	1.0e+30
SN_MED_MAX_E	SCALEMIN	CDF_FLOAT	-1.0e+30
SN_MED_MAX_E	SCALEMAX	CDF_FLOAT	1.0e+30
SN_MED_MAX_E	FILLVAL	CDF_FLOAT	-1.0e+31
SN_MED_MAX_E	LABLAXIS	CDF_CHAR	E_MAX
SN_MED_MAX_E	UNITS	CDF_CHAR	V/m


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 563

Tab. 4.80 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SN_MED_MAX_E	VAR_TYPE	CDF_CHAR	data
SN_MED_MAX_E	SCALETYP	CDF_CHAR	linear
SN_MED_MAX_E	VAR_NOTES	CDF_CHAR	For each snapshot a maximum absolute value from all samples is calculated. This value gives the median value of these maxima from all snapshots.
SN_MED_MAX_E	DEPEND_0	CDF_CHAR	Epoch
SN_MED_MAX_E	DISPLAY_TYPE	CDF_CHAR	time_series
SN_MED_MAX_E	FORMAT	CDF_CHAR	e10.3
SN_RMS_E	FIELDNAM	CDF_CHAR	SN_RMS_E
SN_RMS_E	CATDESC	CDF_CHAR	RMS of all proceeded snapshots.
SN_RMS_E	VALIDMIN	CDF_FLOAT	-1.0e+30
SN_RMS_E	VALIDMAX	CDF_FLOAT	1.0e+30
SN_RMS_E	SCALEMIN	CDF_FLOAT	-1.0e+30
SN_RMS_E	SCALEMAX	CDF_FLOAT	1.0e+30
SN_RMS_E	FILLVAL	CDF_FLOAT	-1.0e+31
SN_RMS_E	LABLAXIS	CDF_CHAR	RMS_E
SN_RMS_E	UNITS	CDF_CHAR	V/m
SN_RMS_E	VAR_TYPE	CDF_CHAR	data
SN_RMS_E	SCALETYP	CDF_CHAR	linear
SN_RMS_E	VAR_NOTES	CDF_CHAR	RMS of E field over all proceeded snapshots.
SN_RMS_E	DEPEND_0	CDF_CHAR	Epoch
SN_RMS_E	DISPLAY_TYPE	CDF_CHAR	time_series
SN_RMS_E	FORMAT	CDF_CHAR	e10.3
SN_THRESHOLD	FIELDNAM	CDF_CHAR	SN_THRESHOLD
SN_THRESHOLD	CATDESC	CDF_CHAR	Number of snapshots exceed the threshold
SN_THRESHOLD	VALIDMIN	CDF_UINT1	0
SN_THRESHOLD	VALIDMAX	CDF_UINT1	254
SN_THRESHOLD	SCALEMIN	CDF_UINT1	0
SN_THRESHOLD	SCALEMAX	CDF_UINT1	254
SN_THRESHOLD	FILLVAL	CDF_UINT1	255
SN_THRESHOLD	LABLAXIS	CDF_CHAR	SN Threshold
SN_THRESHOLD	UNITS	CDF_CHAR	
SN_THRESHOLD	VAR_TYPE	CDF_CHAR	data
SN_THRESHOLD	SCALETYP	CDF_CHAR	linear


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 564

Tab. 4.80 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SN_THRESHOLD	VAR_NOTES	CDF_CHAR	Number of snapshots in the covered period where the maximum amplitude (maximum absolute value) exceeded the threshold from all samples is calculated. This value gives the median value of these maxima from all snapshots.
SN_THRESHOLD	DEPEND_0	CDF_CHAR	Epoch
SN_THRESHOLD	DISPLAY_TYPE	CDF_CHAR	time_series
SN_THRESHOLD	FORMAT	CDF_CHAR	I3
DU_NR_IMPACT	FIELDNAM	CDF_CHAR	DU_NR_IMPACT
DU_NR_IMPACT	CATDESC	CDF_CHAR	Number of dust impact
DU_NR_IMPACT	VALIDMIN	CDF_UINT1	0
DU_NR_IMPACT	VALIDMAX	CDF_UINT1	254
DU_NR_IMPACT	SCALEMIN	CDF_UINT1	0
DU_NR_IMPACT	SCALEMAX	CDF_UINT1	254
DU_NR_IMPACT	FILLVAL	CDF_UINT1	255
DU_NR_IMPACT	LABLAXIS	CDF_CHAR	Dust impacts
DU_NR_IMPACT	UNITS	CDF_CHAR	counts
DU_NR_IMPACT	VAR_TYPE	CDF_CHAR	data
DU_NR_IMPACT	SCALETYP	CDF_CHAR	linear
DU_NR_IMPACT	VAR_NOTES	CDF_CHAR	Total number of valid snapshots processed during the statistics collection period and identified as dust impacts from all samples is calculated. This value gives the median value of these maxima from all snapshots.
DU_NR_IMPACT	DEPEND_0	CDF_CHAR	Epoch
DU_NR_IMPACT	DISPLAY_TYPE	CDF_CHAR	time_series
DU_NR_IMPACT	FORMAT	CDF_CHAR	I3
DU_MED_AMP	FIELDNAM	CDF_CHAR	DU_MED_AMP
DU_MED_AMP	CATDESC	CDF_CHAR	Median wave amplitude of dust impacts
DU_MED_AMP	VALIDMIN	CDF_FLOAT	-1.0e+30
DU_MED_AMP	VALIDMAX	CDF_FLOAT	1.0e+30
DU_MED_AMP	SCALEMIN	CDF_FLOAT	-1.0e+30
DU_MED_AMP	SCALEMAX	CDF_FLOAT	1.0e+30


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 565

Tab. 4.80 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
DU_MED_AMP	FILLVAL	CDF_FLOAT	-1.0e+31
DU_MED_AMP	LABLAXIS	CDF_CHAR	Median WA Ampl.
DU_MED_AMP	UNITS	CDF_CHAR	V/m
DU_MED_AMP	VAR_TYPE	CDF_CHAR	data
DU_MED_AMP	SCALETYP	CDF_CHAR	linear
DU_MED_AMP	VAR_NOTES	CDF_CHAR	Median amplitude of the dust spikes. For each snapshot identified as dust, TDS SW calculates the amplitude of the largest spike dust impacts from all samples is calculated. This value gives the median value of these maxima from all snapshots.
DU_MED_AMP	DEPEND_0	CDF_CHAR	Epoch
DU_MED_AMP	DISPLAY_TYPE	CDF_CHAR	time_series
DU_MED_AMP	FORMAT	CDF_CHAR	e10.3
WA_AMP_MAX	FIELDNAM	CDF_CHAR	WA_AMP_MAX
WA_AMP_MAX	CATDESC	CDF_CHAR	Maximum of detected wave amplitudes
WA_AMP_MAX	VALIDMIN	CDF_FLOAT	-1.0e+30
WA_AMP_MAX	VALIDMAX	CDF_FLOAT	1.0e+30
WA_AMP_MAX	SCALEMIN	CDF_FLOAT	-1.0e+30
WA_AMP_MAX	SCALEMAX	CDF_FLOAT	1.0e+30
WA_AMP_MAX	FILLVAL	CDF_FLOAT	-1.0e+31
WA_AMP_MAX	LABLAXIS	CDF_CHAR	Max. WA Ampl.
WA_AMP_MAX	UNITS	CDF_CHAR	V/m
WA_AMP_MAX	VAR_TYPE	CDF_CHAR	data
WA_AMP_MAX	SCALETYP	CDF_CHAR	linear
WA_AMP_MAX	VAR_NOTES	CDF_CHAR	Maximum of maxima of the amplitude of waves. For each snapshot identified as a wave, a maximum absolute value from all samples is calculated
WA_AMP_MAX	DEPEND_0	CDF_CHAR	Epoch
WA_AMP_MAX	DISPLAY_TYPE	CDF_CHAR	time_series
WA_AMP_MAX	FORMAT	CDF_CHAR	e10.3
WA_AMP_MED	FIELDNAM	CDF_CHAR	WA_AMP_MED
WA_AMP_MED	CATDESC	CDF_CHAR	Median of the peak wave amplitudes
WA_AMP_MED	VALIDMIN	CDF_FLOAT	-1.0e+30


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 566

Tab. 4.80 – continued from previous page


Variable Name	Attribute Name	Data Type	Value
WA_AMP_MED	VALIDMAX	CDF_FLOAT	1.0e+30
WA_AMP_MED	SCALEMIN	CDF_FLOAT	-1.0e+30
WA_AMP_MED	SCALEMAX	CDF_FLOAT	1.0e+30
WA_AMP_MED	FILLVAL	CDF_FLOAT	-1.0e+31
WA_AMP_MED	LABLAXIS	CDF_CHAR	Median WA Ampl.
WA_AMP_MED	UNITS	CDF_CHAR	V/m
WA_AMP_MED	VAR_TYPE	CDF_CHAR	data
WA_AMP_MED	SCALETYP	CDF_CHAR	linear
WA_AMP_MED	VAR_NOTES	CDF_CHAR	Median of the peak amplitudes of waves. For each snapshot identified as a wave, a maximum absolute value from all samples is calculated
WA_AMP_MED	DEPEND_0	CDF_CHAR	Epoch
WA_AMP_MED	DISPLAY_TYPE	CDF_CHAR	time_series
WA_AMP_MED	FORMAT	CDF_CHAR	e10.3
WA_RMS	FIELDNAM	CDF_CHAR	WA_RMS
WA_RMS	CATDESC	CDF_CHAR	RMS value calculated form all waves
WA_RMS	VALIDMIN	CDF_FLOAT	-1.0e+30
WA_RMS	VALIDMAX	CDF_FLOAT	1.0e+30
WA_RMS	SCALEMIN	CDF_FLOAT	-1.0e+30
WA_RMS	SCALEMAX	CDF_FLOAT	1.0e+30
WA_RMS	FILLVAL	CDF_FLOAT	-1.0e+31
WA_RMS	LABLAXIS	CDF_CHAR	RMS of WA Ampl.
WA_RMS	UNITS	CDF_CHAR	V/m
WA_RMS	VAR_TYPE	CDF_CHAR	data
WA_RMS	SCALETYP	CDF_CHAR	linear
WA_RMS	VAR_NOTES	CDF_CHAR	RMS value calculated form all waves
WA_RMS	DEPEND_0	CDF_CHAR	Epoch
WA_RMS	DISPLAY_TYPE	CDF_CHAR	time_series
WA_RMS	FORMAT	CDF_CHAR	e10.3
WA_NR_EVENTS	FIELDNAM	CDF_CHAR	WA_NR_EVENTS
WA_NR_EVENTS	CATDESC	CDF_CHAR	Total number of valid snapshots
WA_NR_EVENTS	VALIDMIN	CDF_UINT1	0
WA_NR_EVENTS	VALIDMAX	CDF_UINT1	254
WA_NR_EVENTS	SCALEMIN	CDF_UINT1	0
WA_NR_EVENTS	SCALEMAX	CDF_UINT1	254
WA_NR_EVENTS	FILLVAL	CDF_UINT1	255

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 567

Tab. 4.80 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
WA_NR_EVENTS	LABLAXIS	CDF_CHAR	WA Events
WA_NR_EVENTS	UNITS	CDF_CHAR	counts
WA_NR_EVENTS	VAR_TYPE	CDF_CHAR	data
WA_NR_EVENTS	SCALETYP	CDF_CHAR	linear
WA_NR_EVENTS	VAR_NOTES	CDF_CHAR	Total number of valid snapshots processed during the statistics collection period and identified as dust impacts from all samples is calculated. This value gives the median value of these maxima from all snapshots.
WA_NR_EVENTS	DEPEND_0	CDF_CHAR	Epoch
WA_NR_EVENTS	DISPLAY_TYPE	CDF_CHAR	time_series
WA_NR_EVENTS	FORMAT	CDF_CHAR	I3
WA_MED_FREQ	FIELDNAM	CDF_CHAR	WA_MED_FREQ
WA_MED_FREQ	CATDESC	CDF_CHAR	Median frequency of all identified waves
WA_MED_FREQ	VALIDMIN	CDF_FLOAT	0.0
WA_MED_FREQ	VALIDMAX	CDF_FLOAT	2.0971e+06
WA_MED_FREQ	SCALEMIN	CDF_FLOAT	0.0
WA_MED_FREQ	SCALEMAX	CDF_FLOAT	254275.0
WA_MED_FREQ	FILLVAL	CDF_FLOAT	-1.0e+31
WA_MED_FREQ	LABLAXIS	CDF_CHAR	Median Freq.
WA_MED_FREQ	UNITS	CDF_CHAR	Hz
WA_MED_FREQ	VAR_TYPE	CDF_CHAR	data
WA_MED_FREQ	SCALETYP	CDF_CHAR	linear
WA_MED_FREQ	VAR_NOTES	CDF_CHAR	Median frequency of all identified waves. This value is calculated from the largest peak in the averaged FFT and encoded logarithmically in an 8-bit value
WA_MED_FREQ	DEPEND_0	CDF_CHAR	Epoch
WA_MED_FREQ	DISPLAY_TYPE	CDF_CHAR	time_series
WA_MED_FREQ	FORMAT	CDF_CHAR	e10.2

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 568

4.1.3.10.6 Non-Record-Variant (NRV) Variables

Variable Name	Index	Value
BIA_STATUS_INFO_LABEL	1	BIA ON
BIA_STATUS_INFO_LABEL	2	BIAS3 ON
BIA_STATUS_INFO_LABEL	3	BIAS2 ON
BIA_STATUS_INFO_LABEL	4	BIAS1 ON
BIA_STATUS_INFO_LABEL	5	BIA MODE HV ON
BIA_STATUS_INFO_LABEL	6	BIA MODE MUX
RPW_STATUS_INFO_LABEL	1	THR ON
RPW_STATUS_INFO_LABEL	2	LFR ON
RPW_STATUS_INFO_LABEL	3	ANT1 ON
RPW_STATUS_INFO_LABEL	4	ANT2 ON
RPW_STATUS_INFO_LABEL	5	ANT3 ON
RPW_STATUS_INFO_LABEL	6	SCM ON
RPW_STATUS_INFO_LABEL	7	SCM CALIB

4.1.3.11 SOLO_L2_RPW-TDS-SURV-MAMP data product

The “SOLO_L2_RPW-TDS-SURV-MAMP” data product contains the calibrated TDS receiver continuous HF signal maximum data survey data. The “SOLO_L2_RPW-TDS-SURV-MAMP” data are written in CDF format files. There is a single file per day, generated from data in the corresponding SOLO_L1_RPW-TDS-SURV-MAMP parent file.


4.1.3.11.1 Filename

```
solo_L2_rpw-tds-surv-mamp_[YYYYMMDD]_V[version].cdf
```

4.1.3.11.2 Expected cadence and data volume

Nominal cadence: 1 file per day


Expected data volume: 200 MB per file

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 569

4.1.3.11.3 Global Attributes

Attribute Name	Entry Number	Data Type	Value
ACCESS_FORMAT	1	CDF_CHAR	CDF
ACCESS_URL	1	CDF_CHAR	
Acknowledgement	1	CDF_CHAR	The authors are pleased to acknowledge the Solar Orbiter/RPW Investigation (M. Maksimovic, PIs) for access to data.
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009 (2.4)
Data_type	1	CDF_CHAR	H0>High Resolution data
Data_version	1	CDF_CHAR	
Descriptor	1	CDF_CHAR	RPW-TDS-SURV-MAMP> RPW Time Domain Sampler continuous HF maximum amplitudes in survey mode
Discipline	1	CDF_CHAR	Space Physics>Interplanetary Studies
File_naming_convention	1	CDF_CHAR	<Source_name>_<LEVEL>_<Descriptor>_<Date>
File_ID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	RPW Operations Centre located at LESIA (Meudon, France)
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	https://rpw.lesia.obspm.fr
Instrument_type	1	CDF_CHAR	Radio and Plasma Waves (space)
LINK_TEXT	1	CDF_CHAR	RPW Web site at LESIA
LINK_TITLE	1	CDF_CHAR	RPW Web site
Logical_file_id	1	CDF_CHAR	
Logical_source	1	CDF_CHAR	solo_L2_rpw-tds-surv-mamp
Logical_source_description	1	CDF_CHAR	Solar Orbiter Radio/Plasma Wave, TDS L2 parameters
Mission_group	1	CDF_CHAR	Solar Orbiter
MODS	1	CDF_CHAR	
Parent_version	1	CDF_CHAR	
Parents	1	CDF_CHAR	
PI_affiliation	1	CDF_CHAR	LESIA, Observatoire de Paris-CNRS
PI_name	1	CDF_CHAR	M.Maksimovic
Pipeline_version	1	CDF_CHAR	
Project	1	CDF_CHAR	SOLO>Solar Orbiter
Provider	1	CDF_CHAR	LESIA (Meudon, France)
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00006-LES (1.3)
ROC_REFERENCE	1	CDF_CHAR	


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 570

Tab. 4.81 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Rules_of_use	1	CDF_CHAR	Data provided are publicly available. If used in presentations or publications, please acknowledge Solar Orbiter/RPW Investigation (M. Maksimovic, PIs). Please read carefully the caveats attached to the data. For reporting purposes, we request bibliography information for any publication, etc., using these data. Please send information on the use of this data to: M. Maksimovic (PI).
SKELETON_MODS	1	CDF_CHAR	January 2016 : initial release
SKELETON_MODS	2	CDF_CHAR	May 2017 (ROC): Update to Issue 2 Rev 1
SKELETON_MODS	3	CDF_CHAR	November 2017 (IAP): Added: Channel_on, channel_overflow, buffer_overflow, decimation_rate, zVar for Labels. Deleted HF_DATA_ARTEFACTS, SAMPLING_RATE.
SKELETON_MODS	4	CDF_CHAR	January 2019 (IAP): SOLO L2 converted from ROC-SGSE skeleton.
SKELETON_MODS	5	CDF_CHAR	V04: Update for solo data definition, X. BONNIN (CNRS-LESIA), April 2019
SKELETON_MODS	6	CDF_CHAR	V05: Update to compliant with SOL-SGS-TN-0009 Issue 2, Rev 4 - X.Bonnin, 09/2019
SKELETON_MODS	7	CDF_CHAR	duplicated gAtt Calibration_version fixed - D. Pisa (IAP), 10/2019
SKELETON_MODS	8	CDF_CHAR	V06: Update NRV filled. AQUISI-TION_*, SYNCHRO_FLAG zVars removed. TEST_* gAtts removed.
SKELETON_MODS	9	CDF_CHAR	V07: g.Attribute SPICE_KERNELS added.
SKELETON_MODS	10	CDF_CHAR	V08: zVar TDS_CONFIG_LABEL added, D.Pisa (IAP-CAS), Jun 2020.
SKELETON_MODS	11	CDF_CHAR	V09: QUALITY_BITMASK type changed. CHANNEL_CONFIG dimensions reordered.
SKELETON_MODS	12	CDF_CHAR	V10: Remove UCD vattr and POST_GAP_FLAG zVar.


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 571

Tab. 4.81 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
SKELETON_MODS	13	CDF_CHAR	V11: Minor ISTP/PSD compliance-fixed. MODS gAtt renamed to SKELETON_MODS. GAtt MODS added.
SKELETON_MODS	14	CDF_CHAR	V12: CHANNEL_CONFIG renamed to CHANNEL_REF and shows TDS MUX conf. as a number CHANNEL_LABEL, WAVEFORM_DATA_LABEL and WAVEFORM_DATA_UNITS removed.
SKELETON_MODS	15	CDF_CHAR	V13: DECIMATION_RATE and FILTER_COEFS removed.
SKELETON_PARENT	1	CDF_CHAR	SOLO_L2_RPW-TDS-SURV-MAMP
Skeleton_version	1	CDF_CHAR	13
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	SOLO>Solar Orbiter
SPICE_KERNELS	1	CDF_CHAR	
SPECTRAL_RANGE_MAX	1	CDF_CHAR	
SPECTRAL_RANGE_MIN	1	CDF_CHAR	
TEXT	1	CDF_CHAR	This file contains RPW TDS level 2 regular snapshot waveform data.
TEXT_supplement_1	1	CDF_CHAR	
TIME_MAX	1	CDF_CHAR	
TIME_MIN	1	CDF_CHAR	
CAVEATS	1	CDF_CHAR	
CAL_ENTITY_NAME	1	CDF_CHAR	
CAL_ENTITY_AFFILIATION	1	CDF_CHAR	
CAL_EQUIPMENT	1	CDF_CHAR	
CALIBRATION_TABLE	1	CDF_CHAR	
CALIBRATION_VERSION	1	CDF_CHAR	
Datetime	1	CDF_CHAR	
Free_field	1	CDF_CHAR	
Job_ID	1	CDF_CHAR	
LEVEL	1	CDF_CHAR	L2>Level 2 data processing
SOOP_TYPE	1	CDF_CHAR	
Data_product	1	CDF_CHAR	SURV-MAMP>SURV-MAMP
TARGET_NAME	1	CDF_CHAR	Sun
TARGET_CLASS	1	CDF_CHAR	Star
TARGET_REGION	1	CDF_CHAR	Solar Wind
Pipeline_name	1	CDF_CHAR	

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 572

Tab. 4.81 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Dataset_ID	1	CDF_CHAR	SOLO_L2_RPW-TDS-SURV-MAMP
OBS_ID	1	CDF_CHAR	
Validate	1	CDF_CHAR	


4.1.3.11.4 zVariables

Variable Name	Data Type	Number Elements	Dims	Sizes
Epoch	CDF_TIME_TT2000	1	0	
QUALITY_FLAG	CDF_UINT1	1	0	
QUALITY_BITMASK	CDF_UINT2	1	0	
BIA_STATUS_INFO	CDF_UINT1	1	1	6
BIA_STATUS_INFO_LABEL	CDF_CHAR	16	1	6
RPW_STATUS_INFO	CDF_UINT1	1	1	7
RPW_STATUS_INFO_LABEL	CDF_CHAR	16	1	7
SAMPLING_RATE	CDF_FLOAT	1	0	
SURVEY_MODE	CDF_UINT1	1	0	
INPUT_CONFIG	CDF_UINT4	1	0	
TDS_CONFIG_LABEL	CDF_CHAR	8	0	
SNAPSHOT_SEQ_NR	CDF_UINT2	1	0	
CHANNEL_ON	CDF_UINT1	1	1	4
CHANNEL_OVERFLOW	CDF_UINT1	1	1	4
BUFFER_OVERFLOW	CDF_UINT1	1	0	
CHANNEL_REF	CDF_UINT1	1	1	4
CHANNEL_LABEL	CDF_CHAR	16	1	4
WAVEFORM_DATA	CDF_FLOAT	1	1	4

4.1.3.11.5 Variable attributes

Variable Name	Attribute Name	Data Type	Value
Epoch	FIELDNAM	CDF_CHAR	Epoch
Epoch	CATDESC	CDF_CHAR	Default time
Epoch	VALIDMIN	CDF_TIME_TT2000	2000-01-01T12:00:00.000000000
Epoch	VALIDMAX	CDF_TIME_TT2000	2029-12-31T23:59:59.999000000


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 573

Tab. 4.82 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
Epoch	SCALEMIN	CDF_TIME_TT2000	2000-01-01T12:00:00.000000000
Epoch	SCALEMAX	CDF_TIME_TT2000	2029-12-31T23:59:59.999000000
Epoch	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch	LABLAXIS	CDF_CHAR	Epoch
Epoch	UNITS	CDF_CHAR	ns
Epoch	VAR_TYPE	CDF_CHAR	support_data
Epoch	SCALETYP	CDF_CHAR	linear
Epoch	MONOTON	CDF_CHAR	INCREASE
Epoch	TIME_BASE	CDF_CHAR	J2000
Epoch	TIME_SCALE	CDF_CHAR	Terrestrial Time
Epoch	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file
Epoch	Resolution	CDF_CHAR	15258 ns
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	VALIDMIN	CDF_UINT1	0
QUALITY_FLAG	VALIDMAX	CDF_UINT1	4
QUALITY_FLAG	SCALEMIN	CDF_UINT1	0
QUALITY_FLAG	SCALEMAX	CDF_UINT1	4
QUALITY_FLAG	FILLVAL	CDF_UINT1	255
QUALITY_FLAG	LABLAXIS	CDF_CHAR	Quality flag
QUALITY_FLAG	UNITS	CDF_CHAR	
QUALITY_FLAG	VAR_TYPE	CDF_CHAR	support_data
QUALITY_FLAG	SCALETYP	CDF_CHAR	linear
QUALITY_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the quality of the data
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	FORMAT	CDF_CHAR	I1
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Bitmask flag


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 574

Tab. 4.82 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
QUALITY_BITMASK	UNITS	CDF_CHAR	
QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context information or status at the receiver or experiment level
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
BIA_STATUS_INFO	FIELDNAM	CDF_CHAR	BIA_STATUS_INFO
BIA_STATUS_INFO	CATDESC	CDF_CHAR	BIAS status byte
BIA_STATUS_INFO	VALIDMIN	CDF_UINT1	0
BIA_STATUS_INFO	VALIDMAX	CDF_UINT1	1
BIA_STATUS_INFO	SCALEMIN	CDF_UINT1	0
BIA_STATUS_INFO	SCALEMAX	CDF_UINT1	1
BIA_STATUS_INFO	FILLVAL	CDF_UINT1	255
BIA_STATUS_INFO	LABLAXIS	CDF_CHAR	BIAS status
BIA_STATUS_INFO	UNITS	CDF_CHAR	
BIA_STATUS_INFO	VAR_TYPE	CDF_CHAR	support_data
BIA_STATUS_INFO	SCALETYP	CDF_CHAR	linear
BIA_STATUS_INFO	VAR_NOTES	CDF_CHAR	BIAS status byte
BIA_STATUS_INFO	DEPEND_0	CDF_CHAR	Epoch
BIA_STATUS_INFO	DISPLAY_TYPE	CDF_CHAR	time_series
BIA_STATUS_INFO	FORMAT	CDF_CHAR	I1
BIA_STATUS_INFO_LABEL	FIELDNAM	CDF_CHAR	BIA_STATUS_INFO_LABEL
BIA_STATUS_INFO_LABEL	CATDESC	CDF_CHAR	Label for BIA_STATUS_INFO
BIA_STATUS_INFO_LABEL	VAR_TYPE	CDF_CHAR	metadata
BIA_STATUS_INFO_LABEL	FORMAT	CDF_CHAR	A16
RPW_STATUS_INFO	FIELDNAM	CDF_CHAR	RPW_STATUS_INFO
RPW_STATUS_INFO	CATDESC	CDF_CHAR	RPW status
RPW_STATUS_INFO	VALIDMIN	CDF_UINT1	0
RPW_STATUS_INFO	VALIDMAX	CDF_UINT1	1
RPW_STATUS_INFO	SCALEMIN	CDF_UINT1	0
RPW_STATUS_INFO	SCALEMAX	CDF_UINT1	1
RPW_STATUS_INFO	FILLVAL	CDF_UINT1	255
RPW_STATUS_INFO	LABLAXIS	CDF_CHAR	RPW Status info
RPW_STATUS_INFO	UNITS	CDF_CHAR	
RPW_STATUS_INFO	VAR_TYPE	CDF_CHAR	support_data
RPW_STATUS_INFO	SCALETYP	CDF_CHAR	linear


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 575

Tab. 4.82 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
RPW_STATUS_INFO	VAR_NOTES	CDF_CHAR	RPW status (bitmask - received from DPU)
RPW_STATUS_INFO	DEPEND_0	CDF_CHAR	Epoch
RPW_STATUS_INFO	DISPLAY_TYPE	CDF_CHAR	time_series
RPW_STATUS_INFO	FORMAT	CDF_CHAR	I1
RPW_STATUS_INFO_LABEL	FIELDNAM	CDF_CHAR	RPW_STATUS_INFO_LABEL
RPW_STATUS_INFO_LABEL	CATDESC	CDF_CHAR	Label for RPW_STATUS_INFO
RPW_STATUS_INFO_LABEL	VAR_TYPE	CDF_CHAR	metadata
RPW_STATUS_INFO_LABEL	FORMAT	CDF_CHAR	A16
SAMPLING_RATE	FIELDNAM	CDF_CHAR	SAMPLING_RATE
SAMPLING_RATE	CATDESC	CDF_CHAR	TDS HF sampling rate of the MAMP data
SAMPLING_RATE	VALIDMIN	CDF_FLOAT	65534.4
SAMPLING_RATE	VALIDMAX	CDF_FLOAT	524275.0
SAMPLING_RATE	SCALEMIN	CDF_FLOAT	65534.4
SAMPLING_RATE	SCALEMAX	CDF_FLOAT	524275.0
SAMPLING_RATE	FILLVAL	CDF_FLOAT	-1.0e+31
SAMPLING_RATE	LABLAXIS	CDF_CHAR	Sampling rate
SAMPLING_RATE	UNITS	CDF_CHAR	Hz
SAMPLING_RATE	VAR_TYPE	CDF_CHAR	support_data
SAMPLING_RATE	SCALETYP	CDF_CHAR	linear
SAMPLING_RATE	VAR_NOTES	CDF_CHAR	TDS HK sampling rate of the MAMP data.
SAMPLING_RATE	DEPEND_0	CDF_CHAR	Epoch
SAMPLING_RATE	DISPLAY_TYPE	CDF_CHAR	time_series
SAMPLING_RATE	FORMAT	CDF_CHAR	F9.1
SURVEY_MODE	FIELDNAM	CDF_CHAR	SURVEY_MODE
SURVEY_MODE	CATDESC	CDF_CHAR	TDS survey mode
SURVEY_MODE	VALIDMIN	CDF_UINT1	0
SURVEY_MODE	VALIDMAX	CDF_UINT1	1
SURVEY_MODE	SCALEMIN	CDF_UINT1	0
SURVEY_MODE	SCALEMAX	CDF_UINT1	1
SURVEY_MODE	FILLVAL	CDF_UINT1	255
SURVEY_MODE	LABLAXIS	CDF_CHAR	TDS survey mode
SURVEY_MODE	UNITS	CDF_CHAR	
SURVEY_MODE	VAR_TYPE	CDF_CHAR	support_data
SURVEY_MODE	SCALETYP	CDF_CHAR	linear


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 576

Tab. 4.82 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SURVEY_MODE	VAR_NOTES	CDF_CHAR	Flag to indicate if the receiver in the SURVEY_BURST (=1) or SURVEY_NORMAL (=0) mode
SURVEY_MODE	DEPEND_0	CDF_CHAR	Epoch
SURVEY_MODE	DISPLAY_TYPE	CDF_CHAR	time_series
SURVEY_MODE	FORMAT	CDF_CHAR	I1
INPUT_CONFIG	FIELDNAM	CDF_CHAR	INPUT_CONFIG
INPUT_CONFIG	CATDESC	CDF_CHAR	Bitmask of TDS analog input configuration
INPUT_CONFIG	VALIDMIN	CDF_UINT4	0
INPUT_CONFIG	VALIDMAX	CDF_UINT4	4294967294
INPUT_CONFIG	SCALEMIN	CDF_UINT4	0
INPUT_CONFIG	SCALEMAX	CDF_UINT4	4294967294
INPUT_CONFIG	FILLVAL	CDF_UINT4	4294967295
INPUT_CONFIG	LABLAXIS	CDF_CHAR	TDS input config.
INPUT_CONFIG	UNITS	CDF_CHAR	
INPUT_CONFIG	VAR_TYPE	CDF_CHAR	support_data
INPUT_CONFIG	SCALETYP	CDF_CHAR	linear
INPUT_CONFIG	VAR_NOTES	CDF_CHAR	Input TDS configuration
INPUT_CONFIG	DEPEND_0	CDF_CHAR	Epoch
INPUT_CONFIG	DISPLAY_TYPE	CDF_CHAR	time_series
INPUT_CONFIG	FORMAT	CDF_CHAR	I10
TDS_CONFIG_LABEL	FIELDNAM	CDF_CHAR	TDS_CONFIG_LABEL
TDS_CONFIG_LABEL	CATDESC	CDF_CHAR	Label for TDS Configuration
TDS_CONFIG_LABEL	VAR_TYPE	CDF_CHAR	metadata
TDS_CONFIG_LABEL	FORMAT	CDF_CHAR	A8
SNAPSHOT_SEQ_NR	FIELDNAM	CDF_CHAR	SNAPSHOT_SEQ_NR
SNAPSHOT_SEQ_NR	CATDESC	CDF_CHAR	Sequential number of a snapshot incremented with every snapshot
SNAPSHOT_SEQ_NR	VALIDMIN	CDF_UINT2	0
SNAPSHOT_SEQ_NR	VALIDMAX	CDF_UINT2	65534
SNAPSHOT_SEQ_NR	SCALEMIN	CDF_UINT2	0
SNAPSHOT_SEQ_NR	SCALEMAX	CDF_UINT2	65534
SNAPSHOT_SEQ_NR	FILLVAL	CDF_UINT2	65535
SNAPSHOT_SEQ_NR	LABLAXIS	CDF_CHAR	Snapshot seq. Num.
SNAPSHOT_SEQ_NR	UNITS	CDF_CHAR	
SNAPSHOT_SEQ_NR	VAR_TYPE	CDF_CHAR	support_data
SNAPSHOT_SEQ_NR	SCALETYP	CDF_CHAR	linear


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 577

Tab. 4.82 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SNAPSHOT_SEQ_NR	VAR_NOTES	CDF_CHAR	Sequential number of a snapshot incremented with every snapshot
SNAPSHOT_SEQ_NR	DEPEND_0	CDF_CHAR	Epoch
SNAPSHOT_SEQ_NR	DISPLAY_TYPE	CDF_CHAR	time_series
SNAPSHOT_SEQ_NR	FORMAT	CDF_CHAR	I5
CHANNEL_ON	FIELDNAM	CDF_CHAR	CHANNEL_ON
CHANNEL_ON	CATDESC	CDF_CHAR	Status of signal channels in the snapshot
CHANNEL_ON	VALIDMIN	CDF_UINT1	0
CHANNEL_ON	VALIDMAX	CDF_UINT1	1
CHANNEL_ON	SCALEMIN	CDF_UINT1	0
CHANNEL_ON	SCALEMAX	CDF_UINT1	1
CHANNEL_ON	FILLVAL	CDF_UINT1	255
CHANNEL_ON	UNITS	CDF_CHAR	
CHANNEL_ON	VAR_TYPE	CDF_CHAR	support_data
CHANNEL_ON	SCALETYP	CDF_CHAR	linear
CHANNEL_ON	VAR_NOTES	CDF_CHAR	Status of signal channels in the snapshot (0=OFF, 1=ON). Indicates whether corresponding channel in waveform data contains valid data.
CHANNEL_ON	DEPEND_0	CDF_CHAR	Epoch
CHANNEL_ON	DISPLAY_TYPE	CDF_CHAR	time_series
CHANNEL_ON	FORMAT	CDF_CHAR	I1
CHANNEL_ON	LABL_PTR_1	CDF_CHAR	CHANNEL_LABEL
CHANNEL_OVERFLOW	FIELDNAM	CDF_CHAR	CHANNEL_OVERFLOW
CHANNEL_OVERFLOW	CATDESC	CDF_CHAR	ADC overflow per channel
CHANNEL_OVERFLOW	VALIDMIN	CDF_UINT1	0
CHANNEL_OVERFLOW	VALIDMAX	CDF_UINT1	1
CHANNEL_OVERFLOW	SCALEMIN	CDF_UINT1	0
CHANNEL_OVERFLOW	SCALEMAX	CDF_UINT1	1
CHANNEL_OVERFLOW	FILLVAL	CDF_UINT1	255
CHANNEL_OVERFLOW	UNITS	CDF_CHAR	
CHANNEL_OVERFLOW	VAR_TYPE	CDF_CHAR	support_data
CHANNEL_OVERFLOW	SCALETYP	CDF_CHAR	linear
CHANNEL_OVERFLOW	VAR_NOTES	CDF_CHAR	Indicates ADC saturation for the respective channel in the snapshot (1=OVERFLOW)
CHANNEL_OVERFLOW	DEPEND_0	CDF_CHAR	Epoch
CHANNEL_OVERFLOW	DISPLAY_TYPE	CDF_CHAR	time_series


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 578

Tab. 4.82 – continued from previous page


Variable Name	Attribute Name	Data Type	Value
CHANNEL_OVERFLOW	FORMAT	CDF_CHAR	I1
CHANNEL_OVERFLOW	LABL_PTR_1	CDF_CHAR	CHANNEL_LABEL
BUFFER_OVERFLOW	FIELDNAM	CDF_CHAR	BUFFER_OVERFLOW
BUFFER_OVERFLOW	CATDESC	CDF_CHAR	Status of buffer
BUFFER_OVERFLOW	VALIDMIN	CDF_UINT1	0
BUFFER_OVERFLOW	VALIDMAX	CDF_UINT1	1
BUFFER_OVERFLOW	SCALEMIN	CDF_UINT1	0
BUFFER_OVERFLOW	SCALEMAX	CDF_UINT1	1
BUFFER_OVERFLOW	FILLVAL	CDF_UINT1	255
BUFFER_OVERFLOW	LABLAXIS	CDF_CHAR	Buffer overflow
BUFFER_OVERFLOW	UNITS	CDF_CHAR	
BUFFER_OVERFLOW	VAR_TYPE	CDF_CHAR	support_data
BUFFER_OVERFLOW	SCALETYP	CDF_CHAR	linear
BUFFER_OVERFLOW	VAR_NOTES	CDF_CHAR	Status of buffer overflow (1=OVERFLOW)
BUFFER_OVERFLOW	DEPEND_0	CDF_CHAR	Epoch
BUFFER_OVERFLOW	DISPLAY_TYPE	CDF_CHAR	time_series
BUFFER_OVERFLOW	FORMAT	CDF_CHAR	I1
CHANNEL_REF	FIELDNAM	CDF_CHAR	CHANNEL_REF
CHANNEL_REF	CATDESC	CDF_CHAR	Status of signal channels in the snapshot
CHANNEL_REF	VALIDMIN	CDF_UINT1	10
CHANNEL_REF	VALIDMAX	CDF_UINT1	40
CHANNEL_REF	SCALEMIN	CDF_UINT1	10
CHANNEL_REF	SCALEMAX	CDF_UINT1	40
CHANNEL_REF	FILLVAL	CDF_UINT1	255
CHANNEL_REF	UNITS	CDF_CHAR	
CHANNEL_REF	VAR_TYPE	CDF_CHAR	support_data
CHANNEL_REF	SCALETYP	CDF_CHAR	linear
CHANNEL_REF	VAR_NOTES	CDF_CHAR	Configuration of signal chan- nels in the snapshot (0=GND 1=V1, 2=V2, 3=V3). The number AB indicates that the corresponding channel con- tains a difference of 2 chan- nels A-B.
CHANNEL_REF	DEPEND_0	CDF_CHAR	Epoch
CHANNEL_REF	DISPLAY_TYPE	CDF_CHAR	time_series
CHANNEL_REF	FORMAT	CDF_CHAR	I2
CHANNEL_REF	LABL_PTR_1	CDF_CHAR	CHANNEL_LABEL
CHANNEL_LABEL	FIELDNAM	CDF_CHAR	CHANNEL_LABEL

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 579

Tab. 4.82 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
CHANNEL_LABEL	CATDESC	CDF_CHAR	Label for CHANNEL_INFO_STATUS
CHANNEL_LABEL	VAR_TYPE	CDF_CHAR	metadata
CHANNEL_LABEL	FORMAT	CDF_CHAR	A16
WAVEFORM_DATA	FIELDNAM	CDF_CHAR	Maximum amplitude data (electric and magnetic)
WAVEFORM_DATA	CATDESC	CDF_CHAR	Maximum absolute value of a voltage measured on TDS input.
WAVEFORM_DATA	VALIDMIN	CDF_FLOAT	-1.0e+30
WAVEFORM_DATA	VALIDMAX	CDF_FLOAT	1.0e+30
WAVEFORM_DATA	SCALEMIN	CDF_FLOAT	-1.0e+30
WAVEFORM_DATA	SCALEMAX	CDF_FLOAT	1.0e+30
WAVEFORM_DATA	FILLVAL	CDF_FLOAT	-1.0e+31
WAVEFORM_DATA	UNITS	CDF_CHAR	
WAVEFORM_DATA	VAR_TYPE	CDF_CHAR	data
WAVEFORM_DATA	SCALETYP	CDF_CHAR	linear
WAVEFORM_DATA	VAR_NOTES	CDF_CHAR	1-4 entry array with signal values
WAVEFORM_DATA	DEPEND_0	CDF_CHAR	Epoch
WAVEFORM_DATA	DEPEND_1	CDF_CHAR	CHANNEL_REF
WAVEFORM_DATA	DISPLAY_TYPE	CDF_CHAR	time_series
WAVEFORM_DATA	FORMAT	CDF_CHAR	E10.3
WAVEFORM_DATA	LABL_PTR_1	CDF_CHAR	CHANNEL_LABEL

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 580

4.1.3.11.6 Non-Record-Variant (NRV) Variables

Variable Name	Index	Value
BIA_STATUS_INFO_LABEL	1	BIA ON
BIA_STATUS_INFO_LABEL	2	BIAS3 ON
BIA_STATUS_INFO_LABEL	3	BIAS2 ON
BIA_STATUS_INFO_LABEL	4	BIAS1 ON
BIA_STATUS_INFO_LABEL	5	BIA MODE HV ON
BIA_STATUS_INFO_LABEL	6	BIA MODE MUX
RPW_STATUS_INFO_LABEL	1	THR ON
RPW_STATUS_INFO_LABEL	2	LFR ON
RPW_STATUS_INFO_LABEL	3	ANT1 ON
RPW_STATUS_INFO_LABEL	4	ANT2 ON
RPW_STATUS_INFO_LABEL	5	ANT3 ON
RPW_STATUS_INFO_LABEL	6	SCM ON
RPW_STATUS_INFO_LABEL	7	SCM CALIB
CHANNEL_LABEL	1	WF in CH1
CHANNEL_LABEL	2	WF in CH2
CHANNEL_LABEL	3	WF in CH3
CHANNEL_LABEL	4	WF in CH4

4.1.3.12 SOLO_L2_RPW-TDS-LFM-RSWF-E data product

The “SOLO_L2_RPW-TDS-LFM-RSWF-E” data product contains the calibrated TDS receiver Regular Snapshot Waveform data in LFM mode for electrical component only. The “SOLO_L2_RPW-TDS-LFM-RSWF-E” data are written in CDF format files. There is a single file per day, generated from data in the corresponding SOLO_L1_RPW-TDS-LFM-RSWF parent file.


4.1.3.12.1 Filename

```
solo_L2_rpw-tds-lfm-rswf-e_[YYYYMMDD]_V[version].cdf
```

4.1.3.12.2 Expected cadence and data volume

Nominal cadence: 1 file per day (only when LFM backup mode is enabled)


Expected data volume: 200 MB per file

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 581

4.1.3.12.3 Global Attributes

Attribute Name	Entry Number	Data Type	Value
ACCESS_FORMAT	1	CDF_CHAR	CDF
ACCESS_URL	1	CDF_CHAR	
Acknowledgement	1	CDF_CHAR	The authors are pleased to acknowledge the Solar Orbiter/RPW Investigation (M. Maksimovic, PIs) for access to data.
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009 (2.4)
Calibration_version	1	CDF_CHAR	
Data_type	1	CDF_CHAR	H0>High Resolution data
Data_version	1	CDF_CHAR	
Descriptor	1	CDF_CHAR	RPW-TDS-LFM-RSWF-E>RPW Time Domain Sampler Regular Snapshot Waveform in low frequency mode. Electric component.
Discipline	1	CDF_CHAR	Space Physics>Interplanetary Studies
File_naming_convention	1	CDF_CHAR	<Source_name>_<LEVEL>_<Descriptor>_<Date>
File_ID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	RPW Operations Centre located at LESIA (Meudon, France)
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	https://rpw.lesia.obspm.fr
Instrument_type	1	CDF_CHAR	Radio and Plasma Waves (space)
LINK_TEXT	1	CDF_CHAR	RPW Web site at LESIA
LINK_TITLE	1	CDF_CHAR	RPW Web site
Logical_file_id	1	CDF_CHAR	
Logical_source	1	CDF_CHAR	solo_L2_rpw-tds-lfm-rswf-e
Logical_source_description	1	CDF_CHAR	Solar Orbiter Radio/Plasma Wave, TDS L2 electric parameters
Mission_group	1	CDF_CHAR	Solar Orbiter
SKELETON_MODS	1	CDF_CHAR	August 2016, IRF-U, initial release
SKELETON_MODS	2	CDF_CHAR	V04: Update for solo data definition, X. BONNIN (CNRS-LESIA), April 2019
SKELETON_MODS	3	CDF_CHAR	V05: Update to compliant with SOL-SGS-TN-0009 Issue 2, Rev 4 - X.Bonnin, 09/2019
SKELETON_MODS	4	CDF_CHAR	V06: March 2020 : Standardize SAMPLING_RATE and delete Test_* g.attrs - X.Bonnin (CNRS, LESIA)


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 582

Tab. 4.83 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
SKELETON_MODS	5	CDF_CHAR	V07: March 2020 : zVar name changes V->VDC and E->EDC and typos - E.Johansson (IRF)
SKELETON_MODS	6	CDF_CHAR	V08: March 2020 : zVar attribute name change DELTA_PLUS/MINUS->DELTA_PLUS/MINUS (ISTP compliant), L2S typo - E.Johansson (IRF)
SKELETON_MODS	7	CDF_CHAR	V09: July 2020 : zVars IBIAS1-3: attribute CATDESC corrected, UNITS A->nA. Glob.attr. MODS typos corrected. - E.Johansson (IRF)
SKELETON_MODS	8	CDF_CHAR	V10: Oct 2020 : zVars DELTA_PLUS_MINUS: set UNITS Add L2_QUALITY_BITMASK Add SPICE_KERNELS SAMPLING_RATE FIELDNAM typofix - E.Johansson (IRF)
SKELETON_MODS	9	CDF_CHAR	V11: Jan. 2021 : Fix inconsistencies against the ISTP CDF guidelines, X.Bonnin (CNRS-LESIA)
SKELETON_MODS	10	CDF_CHAR	V12: Feb. 2021 : Fix QUALITY_BITMASK type and its attributes. IBIAS1/2/3 changed to fitdata 1 sample/record. E.Johansson (IRF)
Parent_version	1	CDF_CHAR	
Parents	1	CDF_CHAR	
PI_affiliation	1	CDF_CHAR	LESIA, Observatoire de Paris-CNRS
PI_name	1	CDF_CHAR	M.Maksimovic
Pipeline_version	1	CDF_CHAR	
Project	1	CDF_CHAR	SOLO>Solar Orbiter
Provider	1	CDF_CHAR	LESIA (Meudon, France)
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00006-LES (1.3)


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 583

Tab. 4.83 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Rules_of_use	1	CDF_CHAR	Data provided are publicly available. If used in presentations or publications, please acknowledge Solar Orbiter/RPW Investigation (M. Maksimovic, PIs). Please read carefully the caveats attached to the data. For reporting purposes, we request bibliography information for any publication, etc., using these data. Please send information on the use of this data to: M. Maksimovic (PI).
SKELETON_PARENT	1	CDF_CHAR	SOLO_L2_RPW-TDS-LFM-RSWF-E_V11.cdf
Skeleton_version	1	CDF_CHAR	12
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	SOLO>Solar Orbiter
SPECTRAL_RANGE_MAX	1	CDF_CHAR	
SPECTRAL_RANGE_MIN	1	CDF_CHAR	
SPICE_KERNELS	1	CDF_CHAR	
TEXT	1	CDF_CHAR	This file contains RPW TDS level 2 regular snapshot waveform of electric data in low frequency mode.
TEXT_supplement_1	1	CDF_CHAR	
TIME_MAX	1	CDF_CHAR	
TIME_MIN	1	CDF_CHAR	
Validate	1	CDF_CHAR	
CAVEATS	1	CDF_CHAR	
CAL_ENTITY_NAME	1	CDF_CHAR	
CAL_ENTITY_AFFILIATION	1	CDF_CHAR	
CAL_EQUIPMENT	1	CDF_CHAR	
CALIBRATION_TABLE	1	CDF_CHAR	
CALIBRATION_VERSION	1	CDF_CHAR	
Datetime	1	CDF_CHAR	
Free_field	1	CDF_CHAR	
Job_ID	1	CDF_CHAR	
LEVEL	1	CDF_CHAR	L2>Level 2 data processing
SOOP_TYPE	1	CDF_CHAR	
Data_product	1	CDF_CHAR	LFM-RSWF-E>LFM-RSWF-E
TARGET_NAME	1	CDF_CHAR	Sun

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 584

Tab. 4.83 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
TARGET_CLASS	1	CDF_CHAR	Star
TARGET_REGION	1	CDF_CHAR	Solar Wind
Pipeline_name	1	CDF_CHAR	
Dataset_ID	1	CDF_CHAR	SOLO_L2_RPW-TDS-LFM-RSWF-E
OBS_ID	1	CDF_CHAR	
MODS	1	CDF_CHAR	


4.1.3.12.4 zVariables

Variable Name	Data Type	Number Elements	Dims	Sizes
Epoch	CDF_TIME_TT2000	1	0	
QUALITY_FLAG	CDF_UINT1	1	0	
QUALITY_BITMASK	CDF_UINT2	1	0	
L2_QUALITY_BITMASK	CDF_UINT2	1	0	
VDC_LABEL	CDF_CHAR	4	1	3
EDC_LABEL	CDF_CHAR	5	1	3
EAC_LABEL	CDF_CHAR	5	1	3
VDC	CDF_REAL4	1	2	32768 3
EDC	CDF_REAL4	1	2	32768 3
EAC	CDF_REAL4	1	2	32768 3
IBIAS1	CDF_REAL4	1	0	
IBIAS2	CDF_REAL4	1	0	
IBIAS3	CDF_REAL4	1	0	
DELTA_PLUS_MINUS	CDF_INT8	1	1	32768
SYNCHRO_FLAG	CDF_UINT1	1	0	
SAMPLING_RATE	CDF_REAL4	1	0	

4.1.3.12.5 Variable attributes

Variable Name	Attribute Name	Data Type	Value
Epoch	FIELDNAM	CDF_CHAR	Epoch
Epoch	CATDESC	CDF_CHAR	Default time
Epoch	DISPLAY_TYPE	CDF_CHAR	time_series
Epoch	VALIDMIN	CDF_TIME_TT2000	2000-01-01T00:00:00.000000000


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 585

Tab. 4.84 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
Epoch	VALIDMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch	SCALEMIN	CDF_TIME_TT2000	1990-01-01T00:00:00.000000000
Epoch	SCALEMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch	FILLVAL	CDF_TIME_TT2000	1999-12-31T23:59:59.999999999
Epoch	LABLAXIS	CDF_CHAR	Epoch
Epoch	UNITS	CDF_CHAR	ns
Epoch	VAR_TYPE	CDF_CHAR	support_data
Epoch	SCALETYP	CDF_CHAR	linear
Epoch	MONOTON	CDF_CHAR	INCREASE
Epoch	TIME_BASE	CDF_CHAR	J2000
Epoch	TIME_SCALE	CDF_CHAR	Terrestrial Time
Epoch	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
Epoch	Resolution	CDF_CHAR	15258 ns
Epoch	Bin_location	CDF_CHAR	0.5
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file.
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	VALIDMIN	CDF_UINT1	0
QUALITY_FLAG	VALIDMAX	CDF_UINT1	4
QUALITY_FLAG	SCALEMIN	CDF_UINT1	0
QUALITY_FLAG	SCALEMAX	CDF_UINT1	4
QUALITY_FLAG	FILLVAL	CDF_UINT1	255
QUALITY_FLAG	LABLAXIS	CDF_CHAR	Quality flag
QUALITY_FLAG	UNITS	CDF_CHAR	
QUALITY_FLAG	VAR_TYPE	CDF_CHAR	support_data
QUALITY_FLAG	SCALETYP	CDF_CHAR	linear
QUALITY_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the quality of the data
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 586

Tab. 4.84 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	UNITS	CDF_CHAR	
QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context information or status at the receiver or experiment level
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
L2_QUALITY_BITMASK	FIELDNAM	CDF_CHAR	L2_QUALITY_BITMASK
L2_QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
L2_QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
L2_QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
L2_QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
L2_QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
L2_QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
L2_QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
L2_QUALITY_BITMASK	LABLAXIS	CDF_CHAR	L2 Bitmask flag
L2_QUALITY_BITMASK	UNITS	CDF_CHAR	
L2_QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
L2_QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
L2_QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context or events that can alter data - bit0: partial saturation -bit1: full saturation
L2_QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
L2_QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
VDC_LABEL	FIELDNAM	CDF_CHAR	VDC label
VDC_LABEL	CATDESC	CDF_CHAR	Labels of the DC probe potentials
VDC_LABEL	VAR_TYPE	CDF_CHAR	metadata
VDC_LABEL	FORMAT	CDF_CHAR	A4
EDC_LABEL	FIELDNAM	CDF_CHAR	EDC label
EDC_LABEL	CATDESC	CDF_CHAR	Labels of the DC potential differences
EDC_LABEL	VAR_TYPE	CDF_CHAR	metadata
EDC_LABEL	FORMAT	CDF_CHAR	A5
EAC_LABEL	FIELDNAM	CDF_CHAR	EAC label

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 587

Tab. 4.84 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
EAC_LABEL	CATDESC	CDF_CHAR	Labels of the AC potential differences
EAC_LABEL	VAR_TYPE	CDF_CHAR	metadata
EAC_LABEL	FORMAT	CDF_CHAR	A5
VDC	FIELDNAM	CDF_CHAR	Probe to spacecraft potential
VDC	CATDESC	CDF_CHAR	Probe to spacecraft potential (probes 1,2,3)
VDC	DISPLAY_TYPE	CDF_CHAR	time_series
VDC	VALIDMIN	CDF_REAL4	-1.0e+30
VDC	VALIDMAX	CDF_REAL4	1.0e+30
VDC	SCALEMIN	CDF_REAL4	-1.0e+30
VDC	SCALEMAX	CDF_REAL4	1.0e+30
VDC	FILLVAL	CDF_REAL4	-1.0e+31
VDC	LABLAXIS	CDF_CHAR	VDC
VDC	UNITS	CDF_CHAR	V
VDC	VAR_TYPE	CDF_CHAR	data
VDC	SCALETYP	CDF_CHAR	linear
VDC	VAR_NOTES	CDF_CHAR	
VDC	DEPEND_0	CDF_CHAR	Epoch
VDC	FORMAT	CDF_CHAR	F8.2
VDC	LABL_PTR_1	CDF_CHAR	VDC_LABEL
VDC	DELTA_PLUS_VAR	CDF_CHAR	DELTA_PLUS_MINUS
VDC	DELTA_MINUS_VAR	CDF_CHAR	DELTA_PLUS_MINUS
VDC	SI_CONVERSION	CDF_CHAR	V>V
EDC	FIELDNAM	CDF_CHAR	Probe potential difference
EDC	CATDESC	CDF_CHAR	Probe to probe voltages (probes V1-V2, V1-V3, V2-V3)
EDC	DISPLAY_TYPE	CDF_CHAR	time_series
EDC	VALIDMIN	CDF_REAL4	-1.0e+30
EDC	VALIDMAX	CDF_REAL4	1.0e+30
EDC	SCALEMIN	CDF_REAL4	-1.0e+30
EDC	SCALEMAX	CDF_REAL4	1.0e+30
EDC	FILLVAL	CDF_REAL4	-1.0e+31
EDC	LABLAXIS	CDF_CHAR	EDC
EDC	UNITS	CDF_CHAR	V
EDC	VAR_TYPE	CDF_CHAR	data
EDC	SCALETYP	CDF_CHAR	linear
EDC	VAR_NOTES	CDF_CHAR	
EDC	DEPEND_0	CDF_CHAR	Epoch
EDC	FORMAT	CDF_CHAR	F8.2

continues on next page



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **588**

Tab. 4.84 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
EDC	LABL_PTR_1	CDF_CHAR	EDC_LABEL
EDC	DELTA_PLUS_VAR	CDF_CHAR	DELTA_PLUS_MINUS
EDC	DELTA_MINUS_VAR	CDF_CHAR	DELTA_PLUS_MINUS
EDC	SI_CONVERSION	CDF_CHAR	V>V
EAC	FIELDNAM	CDF_CHAR	AC probe potential difference
EAC	CATDESC	CDF_CHAR	AC probe to probe voltages (probes V1-V2, V1-V3, V2-V3)
EAC	DISPLAY_TYPE	CDF_CHAR	time_series
EAC	VALIDMIN	CDF_REAL4	-1.0e+30
EAC	VALIDMAX	CDF_REAL4	1.0e+30
EAC	SCALEMIN	CDF_REAL4	-1.0e+30
EAC	SCALEMAX	CDF_REAL4	1.0e+30
EAC	FILLVAL	CDF_REAL4	-1.0e+31
EAC	LABLAXIS	CDF_CHAR	EAC
EAC	UNITS	CDF_CHAR	V
EAC	VAR_TYPE	CDF_CHAR	data
EAC	SCALETYP	CDF_CHAR	linear
EAC	VAR_NOTES	CDF_CHAR	
EAC	DEPEND_0	CDF_CHAR	Epoch
EAC	FORMAT	CDF_CHAR	F8.2
EAC	LABL_PTR_1	CDF_CHAR	EAC_LABEL
EAC	DELTA_PLUS_VAR	CDF_CHAR	DELTA_PLUS_MINUS
EAC	DELTA_MINUS_VAR	CDF_CHAR	DELTA_PLUS_MINUS
EAC	SI_CONVERSION	CDF_CHAR	V>V
IBIAS1	FIELDNAM	CDF_CHAR	Bias current 1
IBIAS1	CATDESC	CDF_CHAR	Calibrated bias current on probe 1.
IBIAS1	DISPLAY_TYPE	CDF_CHAR	time_series
IBIAS1	VALIDMIN	CDF_REAL4	-1.0e+30
IBIAS1	VALIDMAX	CDF_REAL4	1.0e+30
IBIAS1	SCALEMIN	CDF_REAL4	-1.0e+30
IBIAS1	SCALEMAX	CDF_REAL4	1.0e+30
IBIAS1	FILLVAL	CDF_REAL4	-1.0e+31
IBIAS1	LABLAXIS	CDF_CHAR	I_bias_1
IBIAS1	UNITS	CDF_CHAR	nA
IBIAS1	VAR_TYPE	CDF_CHAR	data
IBIAS1	SCALETYP	CDF_CHAR	linear
IBIAS1	VAR_NOTES	CDF_CHAR	
IBIAS1	DEPEND_0	CDF_CHAR	Epoch
IBIAS1	FORMAT	CDF_CHAR	F32.6


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 589

Tab. 4.84 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
IBIAS1	SI_CONVERSION	CDF_CHAR	1.0>A
IBIAS2	FIELDNAM	CDF_CHAR	Bias current 2
IBIAS2	CATDESC	CDF_CHAR	Calibrated bias current on probe 2.
IBIAS2	DISPLAY_TYPE	CDF_CHAR	time_series
IBIAS2	VALIDMIN	CDF_REAL4	-1.0e+30
IBIAS2	VALIDMAX	CDF_REAL4	1.0e+30
IBIAS2	SCALEMIN	CDF_REAL4	-1.0e+30
IBIAS2	SCALEMAX	CDF_REAL4	1.0e+30
IBIAS2	FILLVAL	CDF_REAL4	-1.0e+31
IBIAS2	LABLAXIS	CDF_CHAR	I_bias_2
IBIAS2	UNITS	CDF_CHAR	nA
IBIAS2	VAR_TYPE	CDF_CHAR	data
IBIAS2	SCALETYP	CDF_CHAR	linear
IBIAS2	VAR_NOTES	CDF_CHAR	
IBIAS2	DEPEND_0	CDF_CHAR	Epoch
IBIAS2	FORMAT	CDF_CHAR	F32.6
IBIAS2	SI_CONVERSION	CDF_CHAR	1.0>A
IBIAS3	FIELDNAM	CDF_CHAR	Bias current 3
IBIAS3	CATDESC	CDF_CHAR	Calibrated bias current on probe 3.
IBIAS3	DISPLAY_TYPE	CDF_CHAR	time_series
IBIAS3	VALIDMIN	CDF_REAL4	-1.0e+30
IBIAS3	VALIDMAX	CDF_REAL4	1.0e+30
IBIAS3	SCALEMIN	CDF_REAL4	-1.0e+30
IBIAS3	SCALEMAX	CDF_REAL4	1.0e+30
IBIAS3	FILLVAL	CDF_REAL4	-1.0e+31
IBIAS3	LABLAXIS	CDF_CHAR	I_bias_3
IBIAS3	UNITS	CDF_CHAR	nA
IBIAS3	VAR_TYPE	CDF_CHAR	data
IBIAS3	SCALETYP	CDF_CHAR	linear
IBIAS3	VAR_NOTES	CDF_CHAR	
IBIAS3	DEPEND_0	CDF_CHAR	Epoch
IBIAS3	FORMAT	CDF_CHAR	F32.6
IBIAS3	SI_CONVERSION	CDF_CHAR	1.0>A
DELTA_PLUS_MINUS	FIELDNAM	CDF_CHAR	DELTA_PLUS_MINUS
DELTA_PLUS_MINUS	CATDESC	CDF_CHAR	Time between sample times-tamp and beginning/end of integration. Total integration time is twice this value.
DELTA_PLUS_MINUS	DISPLAY_TYPE	CDF_CHAR	time_series


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 590

Tab. 4.84 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
DELTA_PLUS_MINUS	VALIDMIN	CDF_INT8	0
DELTA_PLUS_MINUS	VALIDMAX	CDF_INT8	4
DELTA_PLUS_MINUS	SCALEMIN	CDF_INT8	0
DELTA_PLUS_MINUS	SCALEMAX	CDF_INT8	4
DELTA_PLUS_MINUS	FILLVAL	CDF_INT8	-9223372036854775808
DELTA_PLUS_MINUS	LABLAXIS	CDF_CHAR	Delta plus minus
DELTA_PLUS_MINUS	UNITS	CDF_CHAR	ns
DELTA_PLUS_MINUS	VAR_TYPE	CDF_CHAR	support_data
DELTA_PLUS_MINUS	SCALETYP	CDF_CHAR	linear
DELTA_PLUS_MINUS	VAR_NOTES	CDF_CHAR	
DELTA_PLUS_MINUS	DEPEND_0	CDF_CHAR	Epoch
DELTA_PLUS_MINUS	FORMAT	CDF_CHAR	I1.1
SYNCHRO_FLAG	FIELDNAM	CDF_CHAR	SYNCHRO_FLAG
SYNCHRO_FLAG	CATDESC	CDF_CHAR	Time synchronisation flag
SYNCHRO_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
SYNCHRO_FLAG	VALIDMIN	CDF_UINT1	0
SYNCHRO_FLAG	VALIDMAX	CDF_UINT1	1
SYNCHRO_FLAG	SCALEMIN	CDF_UINT1	0
SYNCHRO_FLAG	SCALEMAX	CDF_UINT1	1
SYNCHRO_FLAG	FILLVAL	CDF_UINT1	255
SYNCHRO_FLAG	LABLAXIS	CDF_CHAR	time sync. flag
SYNCHRO_FLAG	UNITS	CDF_CHAR	
SYNCHRO_FLAG	VAR_TYPE	CDF_CHAR	support_data
SYNCHRO_FLAG	SCALETYP	CDF_CHAR	linear
SYNCHRO_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate if the local time is synchronized with the RPW DPU clock or not. Possible values: synchronized=0, not synchronized=1. This flag is extracted from ACQUISITION_TIME in L0 packets, it is the MSB of the CUC time.
SYNCHRO_FLAG	DEPEND_0	CDF_CHAR	Epoch
SYNCHRO_FLAG	FORMAT	CDF_CHAR	I3.3
SAMPLING_RATE	FIELDNAM	CDF_CHAR	Sampling rate
SAMPLING_RATE	CATDESC	CDF_CHAR	TDS sampling rate
SAMPLING_RATE	DISPLAY_TYPE	CDF_CHAR	time_series
SAMPLING_RATE	VALIDMIN	CDF_REAL4	0.0
SAMPLING_RATE	VALIDMAX	CDF_REAL4	32768.0
SAMPLING_RATE	SCALEMIN	CDF_REAL4	0.0
SAMPLING_RATE	SCALEMAX	CDF_REAL4	32768.0

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 591

Tab. 4.84 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SAMPLING_RATE	FILLVAL	CDF_REAL4	-1.0e+31
SAMPLING_RATE	LABLAXIS	CDF_CHAR	Sampling rate code
SAMPLING_RATE	UNITS	CDF_CHAR	Hz
SAMPLING_RATE	VAR_TYPE	CDF_CHAR	data
SAMPLING_RATE	SCALETYP	CDF_CHAR	linear
SAMPLING_RATE	VAR_NOTES	CDF_CHAR	TDS sampling rate
SAMPLING_RATE	DEPEND_0	CDF_CHAR	Epoch
SAMPLING_RATE	FORMAT	CDF_CHAR	F8.2

4.1.3.12.6 Non-Record-Variant (NRV) Variables


Variable Name	Index	Value
VDC_LABEL	1	Vdc1
VDC_LABEL	2	Vdc2
VDC_LABEL	3	Vdc3
EDC_LABEL	1	Vdc12
EDC_LABEL	2	Vdc13
EDC_LABEL	3	Vdc23
EAC_LABEL	1	Vac12
EAC_LABEL	2	Vac13
EAC_LABEL	3	Vac23

4.1.3.13 SOLO_L2_RPW-TDS-LFM-RSWF-B data product

The “SOLO_L2_RPW-TDS-LFM-RSWF-B” data product contains the calibrated TDS receiver Regular Snapshot Waveform data in LFM mode for magnetic component only. The “SOLO_L2_RPW-TDS-LFM-RSWF-B” data are written in CDF format files. There is a single file per day, generated from data in the corresponding SOLO_L1_RPW-TDS-LFM-RSWF parent file.

4.1.3.13.1 Filename

```
solo_L2_rpw-tds-lfm-rswf-b_[YYYYMMDD]_V[version].cdf
```


	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 592

4.1.3.13.2 Expected cadence and data volume


Nominal cadence: 1 file per day (only when LFM backup mode is enabled)

Expected data volume: 100 MB per file

4.1.3.13.3 Global Attributes

Attribute Name	Entry Number	Data Type	Value
CAL_EQUIPMENT	1	CDF_CHAR	SCM
Logical_source_description	1	CDF_CHAR	Solar Orbiter Radio/Plasma Wave, TDS L2 magnetic parameters
SPECTRAL_RANGE_MAX	1	CDF_CHAR	
Project	1	CDF_CHAR	SOLO>Solar Orbiter
TARGET_NAME	1	CDF_CHAR	Sun
Instrument_type	1	CDF_CHAR	Radio and Plasma Waves (space)
Data_type	1	CDF_CHAR	H0>High Resolution data
Generated_by	1	CDF_CHAR	RPW Operations Centre located at LESIA (Meudon, France)
TIME_MIN	1	CDF_CHAR	
Dataset_ID	1	CDF_CHAR	SOLO_L2_RPW-TDS-LFM-RSWF-B
Logical_source	1	CDF_CHAR	solo_L2_rpw-tds-lfm-rswf-b
CALIBRATION_TABLE	1	CDF_CHAR	
TARGET_REGION	1	CDF_CHAR	Solar Wind
Validate	1	CDF_CHAR	
TEXT	1	CDF_CHAR	This file contains RPW TDS level 2 regular snapshot waveform of magnetic data in LFM mode
LEVEL	1	CDF_CHAR	L2>Level 2 data processing
Job_ID	1	CDF_CHAR	
ACCESS_FORMAT	1	CDF_CHAR	CDF
CALIBRATION_VERSION	1	CDF_CHAR	
PI_name	1	CDF_CHAR	M.Maksimovic
Datetime	1	CDF_CHAR	


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 593

Tab. 4.85 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Rules_of_use	1	CDF_CHAR	Data provided are publicly available. If used in presentations or publications, please acknowledge Solar Orbiter/RPW Investigation (M. Maksimovic, PIs). Please read carefully the caveats attached to the data. For reporting purposes, we request bibliography information for any publication, etc., using these data. Please send information on the use of this data to: M. Maksimovic (PI).
Generation_date	1	CDF_CHAR	
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009 (2.4)
Descriptor	1	CDF_CHAR	RPW-TDS-LFM-RSWF-B> RPW Time Domain Sampler Regular Waveform Snapshot magnetic data in LFM mode
PI_affiliation	1	CDF_CHAR	LESIA, Observatoire de Paris-CNRS
CAL_ENTITY_NAME	1	CDF_CHAR	LPC2E
File_ID	1	CDF_CHAR	
Parent_version	1	CDF_CHAR	
OBS_ID	1	CDF_CHAR	
TARGET_CLASS	1	CDF_CHAR	Star
Data_version	1	CDF_CHAR	
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00006-LES (1.3)
SPICE_KERNELS	1	CDF_CHAR	
SKELETON_MODS	1	CDF_CHAR	2017-12-15, J-Y Brochot (CNRS-LPC2E), initial release
SKELETON_MODS	2	CDF_CHAR	V04: Update for solo data definition, X. BONNIN (CNRS-LESIA), April 2019
SKELETON_MODS	3	CDF_CHAR	V05: Update to compliant with SOL-SGS-TN-0009 Issue 2, Rev 4 - X.Bonnin, 09/2019
SKELETON_MODS	4	CDF_CHAR	V06: add B_RTN and MAG_LABEL_RTN variables, J-Y Brochot, 12/2019
SKELETON_MODS	5	CDF_CHAR	V07: March 2020 : Harmonize SAMPLING_RATE zvar and Test_* g.attrs - X.Bonnin (CNRS, LESIA)


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 594

Tab. 4.85 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
SKELETON_MODS	6	CDF_CHAR	V07: Suppress zVars POST_GAP_FLAG, ACQUISITION_TIME, ACQUISITION_TIME_UNITS and ACQUISITION_TIME_LABEL - J-Y Brochot, March 2020
SKELETON_MODS	7	CDF_CHAR	V08: Add gAttr SPICE_KERNELS - J-Y Brochot, April 2020
SKELETON_MODS	8	CDF_CHAR	V09: Complete the zAttr of CALIBRATION_TABLE_INDEX - J-Y Brochot, May 2020
SKELETON_MODS	9	CDF_CHAR	V10: Add zVar L2_QUALITY_BITMASK - J-Y Brochot, Aug 2020
SKELETON_MODS	10	CDF_CHAR	V11: Suppress zVars CHANNEL_ON, RPW_STATUS_INFO, INPUT_CONFIG, SYNCHRO_FLAG, BUFFER_OVERFLOW, CHANNEL_OVERFLOW, RPW_STATUS_INFO_LABEL, SNAPSHOT_SEQ_NR, CHANNEL_LABEL - J-Y Brochot, Sept 2020
SKELETON_MODS	11	CDF_CHAR	V12: Jan. 2021 : Fix inconsistencies against the ISTEP CDF guidelines, X.Bonnin (CNRS-LESIA)
ACCESS_URL	1	CDF_CHAR	
SPECTRAL_RANGE_MIN	1	CDF_CHAR	
Mission_group	1	CDF_CHAR	Solar Orbiter
LINK_TEXT	1	CDF_CHAR	RPW Web site at LESIA
Software_name	1	CDF_CHAR	
LINK_TITLE	1	CDF_CHAR	RPW Web site
TEXT_supplement_1	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Parents	1	CDF_CHAR	
Data_product	1	CDF_CHAR	LFM-RSWF-B>LFM-RSWF-B
CAL_ENTITY_AFFILIATION	1	CDF_CHAR	CNRS
SKELETON_PARENT	1	CDF_CHAR	SOLO_L2_RPW-TDS-LFM-RSWF-B_V12.cdf
Discipline	1	CDF_CHAR	Space Physics>Interplanetary Studies
HTTP_LINK	1	CDF_CHAR	https://rpw.lesia.obspm.fr

continues on next page


	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 595

Tab. 4.85 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Source_name	1	CDF_CHAR	SOLO>Solar Orbiter
Pipeline_version	1	CDF_CHAR	
Provider	1	CDF_CHAR	LESIA (Meudon, France)
File_naming_convention	1	CDF_CHAR	<Source_name>_<LEVEL>_<Descriptor>_<Date>
Acknowledgement	1	CDF_CHAR	The authors are pleased to acknowledge the Solar Orbiter/RPW Investigation (M. Maksimovic, PIs) for access to data.
CAVEATS	1	CDF_CHAR	
Logical_file_id	1	CDF_CHAR	
Skeleton_version	1	CDF_CHAR	12
Pipeline_name	1	CDF_CHAR	
Free_field	1	CDF_CHAR	
SOOP_TYPE	1	CDF_CHAR	
TIME_MAX	1	CDF_CHAR	
MODS	1	CDF_CHAR	

4.1.3.13.4 zVariables


Variable Name	Data Type	Number Elements	Dims	Sizes
QUALITY_FLAG	CDF_UINT1	1	0	
B_RTN	CDF_REAL4	1	2	3 32768
SAMPS_PER_CH	CDF_UINT4	1	0	
SAMPLING_RATE	CDF_REAL4	1	0	
MAG_LABEL	CDF_CHAR	2	1	3
Epoch	CDF_TIME_TT2000	1	0	
MAG_LABEL_RTN	CDF_CHAR	5	1	3
B	CDF_REAL4	1	2	3 32768
CALIBRATION_TABLE_INDEX	CDF_UINT1	1	2	2 2
QUALITY_BITMASK	CDF_UINT2	1	0	
L2_QUALITY_BITMASK	CDF_UINT2	1	0	
SURVEY_MODE	CDF_UINT1	1	0	

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 596

4.1.3.13.5 Variable attributes

Variable Name	Attribute Name	Data Type	Value
QUALITY_FLAG	FILLVAL	CDF_UINT1	255
QUALITY_FLAG	VALIDMIN	CDF_UINT1	0
QUALITY_FLAG	VAR_TYPE	CDF_CHAR	support_data
QUALITY_FLAG	SCALEMIN	CDF_UINT1	0
QUALITY_FLAG	VALIDMAX	CDF_UINT1	4
QUALITY_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the quality of the data
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
QUALITY_FLAG	UNITS	CDF_CHAR	
QUALITY_FLAG	SCALETYP	CDF_CHAR	linear
QUALITY_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	LABLAXIS	CDF_CHAR	Quality flag
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FLAG	SCALEMAX	CDF_UINT1	4
B_RTN	FILLVAL	CDF_REAL4	-1.0e+31
B_RTN	VALIDMIN	CDF_REAL4	-1.0e+30
B_RTN	VAR_TYPE	CDF_CHAR	data
B_RTN	SCALEMIN	CDF_REAL4	-1.0e+30
B_RTN	VALIDMAX	CDF_REAL4	1.0e+30
B_RTN	VAR_NOTES	CDF_CHAR	3 entry array with magnetic field values (Bxrtn, Byrtn, Bzrtn)
B_RTN	CATDESC	CDF_CHAR	Magnetic field values (Bxrtn, Byrtn, Bzrtn)
B_RTN	FORMAT	CDF_CHAR	F8.2
B_RTN	UNITS	CDF_CHAR	nT
B_RTN	SCALETYP	CDF_CHAR	linear
B_RTN	DISPLAY_TYPE	CDF_CHAR	time_series
B_RTN	FIELDNAM	CDF_CHAR	Magnetic field in RTN frame
B_RTN	DEPEND_0	CDF_CHAR	Epoch
B_RTN	SCALEMAX	CDF_REAL4	1.0e+30
B_RTN	LABL_PTR_1	CDF_CHAR	MAG_LABEL_RTN
SAMPS_PER_CH	FILLVAL	CDF_UINT4	4294967295
SAMPS_PER_CH	VALIDMIN	CDF_UINT4	0
SAMPS_PER_CH	VAR_TYPE	CDF_CHAR	support_data
SAMPS_PER_CH	SCALEMIN	CDF_UINT4	0
SAMPS_PER_CH	VALIDMAX	CDF_UINT4	4294967295


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 597

Tab. 4.86 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SAMPS_PER_CH	VAR_NOTES	CDF_CHAR	Number of samples per channel
SAMPS_PER_CH	CATDESC	CDF_CHAR	Number of samples per channel
SAMPS_PER_CH	FORMAT	CDF_CHAR	I10
SAMPS_PER_CH	UNITS	CDF_CHAR	
SAMPS_PER_CH	SCALETYP	CDF_CHAR	linear
SAMPS_PER_CH	DISPLAY_TYPE	CDF_CHAR	time_series
SAMPS_PER_CH	FIELDNAM	CDF_CHAR	SAMPS_PER_CH
SAMPS_PER_CH	LABLAXIS	CDF_CHAR	Nsamps
SAMPS_PER_CH	DEPEND_0	CDF_CHAR	Epoch
SAMPS_PER_CH	SCALEMAX	CDF_UINT4	4294967295
SAMPLING_RATE	FILLVAL	CDF_REAL4	-1.0e+31
SAMPLING_RATE	VALIDMIN	CDF_REAL4	1.0
SAMPLING_RATE	VAR_TYPE	CDF_CHAR	support_data
SAMPLING_RATE	SCALEMIN	CDF_REAL4	1.0
SAMPLING_RATE	VALIDMAX	CDF_REAL4	32768.0
SAMPLING_RATE	VAR_NOTES	CDF_CHAR	TDS sampling rate
SAMPLING_RATE	CATDESC	CDF_CHAR	Sampling frequency of the snapshot
SAMPLING_RATE	FORMAT	CDF_CHAR	F8.2
SAMPLING_RATE	UNITS	CDF_CHAR	Hz
SAMPLING_RATE	SCALETYP	CDF_CHAR	linear
SAMPLING_RATE	DISPLAY_TYPE	CDF_CHAR	time_series
SAMPLING_RATE	FIELDNAM	CDF_CHAR	Sampling rate
SAMPLING_RATE	LABLAXIS	CDF_CHAR	Fe
SAMPLING_RATE	DEPEND_0	CDF_CHAR	Epoch
SAMPLING_RATE	SCALEMAX	CDF_REAL4	32768.0
MAG_LABEL	VAR_TYPE	CDF_CHAR	metadata
MAG_LABEL	CATDESC	CDF_CHAR	Labels of the Magnetic fields components
MAG_LABEL	FORMAT	CDF_CHAR	A2
MAG_LABEL	FIELDNAM	CDF_CHAR	MAG_LABEL
Epoch	FILLVAL	CDF_TIME_TT2000	1999-12-31T23:59:59.999999999
Epoch	VALIDMIN	CDF_TIME_TT2000	2000-01-01T12:00:00.000000000
Epoch	VAR_TYPE	CDF_CHAR	support_data
Epoch	SCALEMIN	CDF_TIME_TT2000	2000-01-01T12:00:00.000000000

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 598

Tab. 4.86 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
Epoch	VALIDMAX	CDF_TIME_TT2000	2029-12-31T23:59:59.999000000
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file.
Epoch	CATDESC	CDF_CHAR	Default time
Epoch	UNITS	CDF_CHAR	ns
Epoch	SCALETYP	CDF_CHAR	linear
Epoch	DISPLAY_TYPE	CDF_CHAR	time_series
Epoch	FIELDNAM	CDF_CHAR	Epoch
Epoch	LABLAXIS	CDF_CHAR	Epoch
Epoch	SCALEMAX	CDF_TIME_TT2000	2029-12-31T23:59:59.999000000
Epoch	TIME_SCALE	CDF_CHAR	Terrestrial Time
Epoch	TIME_BASE	CDF_CHAR	J2000
Epoch	MONOTON	CDF_CHAR	INCREASE
Epoch	Bin_location	CDF_CHAR	0.5
Epoch	Resolution	CDF_CHAR	15258 ns
Epoch	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
MAG_LABEL_RTN	VAR_TYPE	CDF_CHAR	metadata
MAG_LABEL_RTN	CATDESC	CDF_CHAR	Labels of the Magnetic fields components in the RTN frame
MAG_LABEL_RTN	FORMAT	CDF_CHAR	A5
MAG_LABEL_RTN	FIELDNAM	CDF_CHAR	MAG_LABEL_RTN
B	FILLVAL	CDF_REAL4	-1.0e+31
B	VALIDMIN	CDF_REAL4	-1.0e+30
B	VAR_TYPE	CDF_CHAR	data
B	SCALEMIN	CDF_REAL4	-1.0e+30
B	VALIDMAX	CDF_REAL4	1.0e+30
B	VAR_NOTES	CDF_CHAR	1 entry array with magnetic values of the component B4x
B	CATDESC	CDF_CHAR	Magnetic component values of Bx
B	FORMAT	CDF_CHAR	F8.2
B	UNITS	CDF_CHAR	nT
B	SCALETYP	CDF_CHAR	linear
B	DISPLAY_TYPE	CDF_CHAR	time_series
B	FIELDNAM	CDF_CHAR	Magnetic waveform
B	DEPEND_0	CDF_CHAR	Epoch
B	SCALEMAX	CDF_REAL4	1.0e+30
B	LABL_PTR_1	CDF_CHAR	MAG_LABEL
CALIBRATION_TABLE_INDEX	FILLVAL	CDF_UINT1	255

continues on next page



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **599**

Tab. 4.86 – continued from previous page


Variable Name	Attribute Name	Data Type	Value
CALIBRATION_TABLE_INDEX	VALIDMIN	CDF_UINT1	0
CALIBRATION_TABLE_INDEX	VAR_TYPE	CDF_CHAR	support_data
CALIBRATION_TABLE_INDEX	SCALEMIN	CDF_UINT1	0
CALIBRATION_TABLE_INDEX	VALIDMAX	CDF_UINT1	254
CALIBRATION_TABLE_INDEX	VAR_NOTES	CDF_CHAR	Indexes (i,j) giving gEntry of Global attribute 'CALIBRATION_TABLE', and record number in the Calibration Table.
CALIBRATION_TABLE_INDEX	CATDESC	CDF_CHAR	Informations about calibration tables used
CALIBRATION_TABLE_INDEX	FORMAT	CDF_CHAR	I3.3
CALIBRATION_TABLE_INDEX	UNITS	CDF_CHAR	
CALIBRATION_TABLE_INDEX	SCALETYP	CDF_CHAR	linear
CALIBRATION_TABLE_INDEX	DISPLAY_TYPE	CDF_CHAR	time_series
CALIBRATION_TABLE_INDEX	FIELDNAM	CDF_CHAR	CALIBRATION_TABLE_INDEX
CALIBRATION_TABLE_INDEX	LABLAXIS	CDF_CHAR	Calibration table index
CALIBRATION_TABLE_INDEX	DEPEND_0	CDF_CHAR	Epoch
CALIBRATION_TABLE_INDEX	SCALEMAX	CDF_UINT1	254
QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context information or status at the receiver or experiment level
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
QUALITY_BITMASK	UNITS	CDF_CHAR	
QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
L2_QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
L2_QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
L2_QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
L2_QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
L2_QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 600

Tab. 4.86 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
L2_QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context or events that can alterate data -bit0: SCM outworking or unknown temperature -bit1: SCM heater on/off transition -bit2: LFR onboard calibration signal
L2_QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
L2_QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
L2_QUALITY_BITMASK	UNITS	CDF_CHAR	
L2_QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
L2_QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
L2_QUALITY_BITMASK	FIELDNAM	CDF_CHAR	L2_QUALITY_BITMASK
L2_QUALITY_BITMASK	LABLAXIS	CDF_CHAR	L2 Bitmask flag
L2_QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
L2_QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
SURVEY_MODE	FILLVAL	CDF_UINT1	255
SURVEY_MODE	VALIDMIN	CDF_UINT1	0
SURVEY_MODE	VAR_TYPE	CDF_CHAR	support_data
SURVEY_MODE	SCALEMIN	CDF_UINT1	0
SURVEY_MODE	VALIDMAX	CDF_UINT1	1
SURVEY_MODE	VAR_NOTES	CDF_CHAR	Flag to indicate if the receiver in the SURVEY_BURST (=1) or SURVEY_NORMAL (=0) mode
SURVEY_MODE	CATDESC	CDF_CHAR	TDS survey mode
SURVEY_MODE	FORMAT	CDF_CHAR	I1.1
SURVEY_MODE	UNITS	CDF_CHAR	
SURVEY_MODE	SCALETYP	CDF_CHAR	linear
SURVEY_MODE	DISPLAY_TYPE	CDF_CHAR	time_series
SURVEY_MODE	FIELDNAM	CDF_CHAR	SURVEY_MODE
SURVEY_MODE	LABLAXIS	CDF_CHAR	TDSsurvey mode
SURVEY_MODE	DEPEND_0	CDF_CHAR	Epoch
SURVEY_MODE	SCALEMAX	CDF_UINT1	1

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 601

4.1.3.13.6 Non-Record-Variant (NRV) Variables

Variable Name	Index	Value
MAG_LABEL	1	Bx
MAG_LABEL	2	By
MAG_LABEL	3	Bz
MAG_LABEL_RTN	1	Bxrtn
MAG_LABEL_RTN	2	Byrtn
MAG_LABEL_RTN	3	Bzrtn

4.1.3.14 SOLO_L2_RPW-TDS-LFM-CWF-E data product

The “SOLO_L2_RPW-TDS-LFM-CWF-E” data product contains the calibrated TDS receiver Continuous Waveform data in the LFM mode for electrical component only. The “SOLO_L2_RPW-TDS-LFM-CWF-E” data are written in CDF format files. There is a single file per day, generated from data in the corresponding SOLO_L1_RPW-TDS-LFM-CWF parent file.

4.1.3.14.1 Filename

```
solo_L2_rpw-tds-lfm-cwf-e_[YYYYMMDD]_V[version].cdf
```

4.1.3.14.2 Expected cadence and data volume


Nominal cadence: 1 file per day (only when LFM backup mode is enabled)

Expected data volume: 50 MB per file

4.1.3.14.3 Global Attributes

Attribute Name	Entry Number	Data Type	Value
ACCESS_FORMAT	1	CDF_CHAR	CDF
ACCESS_URL	1	CDF_CHAR	
Acknowledgement	1	CDF_CHAR	The authors are pleased to acknowledge the Solar Orbiter/RPW Investigation (M. Maksimovic, PIs) for access to data.
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009 (2.4)


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 602

Tab. 4.87 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Calibration_version	1	CDF_CHAR	
Data_type	1	CDF_CHAR	H0>High Resolution data
Data_version	1	CDF_CHAR	
Descriptor	1	CDF_CHAR	RPW-TDS-LFM-CWF-E>RPW Time Domain Sampler Continuous Waveform in low frequency mode. Electric component.
Discipline	1	CDF_CHAR	Space Physics>Interplanetary Studies
File_naming_convention	1	CDF_CHAR	<Source_name>_<LEVEL>_<Descriptor>_<Date>
File_ID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	RPW Operations Centre located at LESIA (Meudon, France)
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	https://rpw.lesia.obspm.fr
Instrument_type	1	CDF_CHAR	Radio and Plasma Waves (space)
LINK_TEXT	1	CDF_CHAR	RPW Web site at LESIA
LINK_TITLE	1	CDF_CHAR	RPW Web site
Logical_file_id	1	CDF_CHAR	
Logical_source	1	CDF_CHAR	solo_L2_rpw-tds-lfm-cwf-e
Logical_source_description	1	CDF_CHAR	Solar Orbiter Radio/Plasma Wave, TDS L2 electric parameters
Mission_group	1	CDF_CHAR	Solar Orbiter
SKELETON_MODS	1	CDF_CHAR	July 2016, IRF-U, initial release
SKELETON_MODS	2	CDF_CHAR	V04: Update for solo data definition, X. BONNIN (CNRS-LESIA), April 2019
SKELETON_MODS	3	CDF_CHAR	V05: Update to compliant with SOL-SGS-TN-0009 Issue 2, Rev 4 - X.Bonnin, 09/2019
SKELETON_MODS	4	CDF_CHAR	V06: March 2020 : Standardize SAMPLING_RATE and delete Test_* g.attrs - X.Bonnin (CNRS, LESIA)
SKELETON_MODS	5	CDF_CHAR	V07: March 2020 : zVar name changes V->VDC and E->EDC and typos - E.Johansson (IRF)
SKELETON_MODS	6	CDF_CHAR	V08: March 2020 : zVar attribute name change DELTA_PLUS/MINUS->DELTA_PLUS/MINUS_ (ISTP compliant), L2S typo, removed zVars ACQUISITION_TIME*- - E.Johansson (IRF)


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 603

Tab. 4.87 – continued from previous page


Attribute Name	Entry Number	Data Type	Value
SKELETON_MODS	7	CDF_CHAR	V09: July 2020 : zVars IBIAS1-3: attribute CATDESC corrected, UNITS A->nA. Glob.attr. MODS typos corrected. - E.Johansson (IRF)
SKELETON_MODS	8	CDF_CHAR	V10: Oct 2020 : zVars DELTA_PLUS_MINUS: set UNITS Add L2_QUALITY_BITMASK Add SPICE_KERNELS - E.Johansson (IRF)
SKELETON_MODS	9	CDF_CHAR	V11: Jan. 2021 : Fix inconsistencies against the ISTP CDF guidelines, X.Bonnin (CNRS-LESIA)
SKELETON_MODS	10	CDF_CHAR	V12: Feb. 2021 : Fix QUALITY_BITMASK type and its attributes, E.Johansson (IRF)
Parent_version	1	CDF_CHAR	
Parents	1	CDF_CHAR	
PI_affiliation	1	CDF_CHAR	LESIA, Observatoire de Paris-CNRS
PI_name	1	CDF_CHAR	M.Maksimovic
Pipeline_version	1	CDF_CHAR	
Project	1	CDF_CHAR	SOLO>Solar Orbiter
Provider	1	CDF_CHAR	LESIA (Meudon, France)
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00006-LES (1.3)
Rules_of_use	1	CDF_CHAR	Data provided are publicly available. If used in presentations or publications, please acknowledge Solar Orbiter/RPW Investigation (M. Maksimovic, PIs). Please read carefully the caveats attached to the data. For reporting purposes, we request bibliography information for any publication, etc., using these data. Please send information on the use of this data to: M. Maksimovic (PI).
SKELETON_PARENT	1	CDF_CHAR	SOLO_L2_RPW-TDS-LFM-CWF-E_V11.cdf
Skeleton_version	1	CDF_CHAR	12
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	SOLO>Solar Orbiter
SPECTRAL_RANGE_MAX	1	CDF_CHAR	
SPECTRAL_RANGE_MIN	1	CDF_CHAR	

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 604

Tab. 4.87 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
SPICE_KERNELS	1	CDF_CHAR	
TEXT	1	CDF_CHAR	This file contains RPW TDS level 2 continuous waveform of electric data in low frequency mode.
TEXT_supplement_1	1	CDF_CHAR	
TIME_MAX	1	CDF_CHAR	
TIME_MIN	1	CDF_CHAR	
Validate	1	CDF_CHAR	
CAVEATS	1	CDF_CHAR	
CAL_ENTITY_NAME	1	CDF_CHAR	
CAL_ENTITY_AFFILIATION	1	CDF_CHAR	
CAL_EQUIPMENT	1	CDF_CHAR	
CALIBRATION_TABLE	1	CDF_CHAR	
CALIBRATION_VERSION	1	CDF_CHAR	
Datetime	1	CDF_CHAR	
Free_field	1	CDF_CHAR	
Job_ID	1	CDF_CHAR	
LEVEL	1	CDF_CHAR	L2>Level 2 data processing
SOOP_TYPE	1	CDF_CHAR	
Data_product	1	CDF_CHAR	LFM-CWF-E>LFM-CWF-E
TARGET_NAME	1	CDF_CHAR	Sun
TARGET_CLASS	1	CDF_CHAR	Star
TARGET_REGION	1	CDF_CHAR	Solar Wind
Pipeline_name	1	CDF_CHAR	
Dataset_ID	1	CDF_CHAR	SOLO_L2_RPW-TDS-LFM-CWF-E
OBS_ID	1	CDF_CHAR	
MODS	1	CDF_CHAR	

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 605


4.1.3.14.4 zVariables

Variable Name	Data Type	Number Elements	Dims	Sizes
Epoch	CDF_TIME_TT2000	1	0	
QUALITY_FLAG	CDF_UINT1	1	0	
QUALITY_BITMASK	CDF_UINT2	1	0	
L2_QUALITY_BITMASK	CDF_UINT2	1	0	
VDC_LABEL	CDF_CHAR	4	1	3
EDC_LABEL	CDF_CHAR	5	1	3
EAC_LABEL	CDF_CHAR	5	1	3
VDC	CDF_REAL4	1	1	3
EDC	CDF_REAL4	1	1	3
EAC	CDF_REAL4	1	1	3
IBIAS1	CDF_REAL4	1	0	
IBIAS2	CDF_REAL4	1	0	
IBIAS3	CDF_REAL4	1	0	
DELTA_PLUS_MINUS	CDF_INT8	1	0	
SYNCHRO_FLAG	CDF_UINT1	1	0	
SAMPLING_RATE	CDF_REAL4	1	0	

4.1.3.14.5 Variable attributes

Variable Name	Attribute Name	Data Type	Value
Epoch	FIELDNAM	CDF_CHAR	Epoch
Epoch	CATDESC	CDF_CHAR	Default time
Epoch	DISPLAY_TYPE	CDF_CHAR	time_series
Epoch	VALIDMIN	CDF_TIME_TT2000	2000-01-01T00:00:00.000000000
Epoch	VALIDMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch	SCALEMIN	CDF_TIME_TT2000	1990-01-01T00:00:00.000000000
Epoch	SCALEMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch	LABLAXIS	CDF_CHAR	Epoch
Epoch	UNITS	CDF_CHAR	ns
Epoch	VAR_TYPE	CDF_CHAR	support_data


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 606

Tab. 4.88 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
Epoch	SCALETYP	CDF_CHAR	linear
Epoch	MONOTON	CDF_CHAR	INCREASE
Epoch	TIME_BASE	CDF_CHAR	J2000
Epoch	TIME_SCALE	CDF_CHAR	Terrestrial Time
Epoch	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
Epoch	Resolution	CDF_CHAR	15258 ns
Epoch	Bin_location	CDF_CHAR	0.5
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file.
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	VALIDMIN	CDF_UINT1	0
QUALITY_FLAG	VALIDMAX	CDF_UINT1	4
QUALITY_FLAG	SCALEMIN	CDF_UINT1	0
QUALITY_FLAG	SCALEMAX	CDF_UINT1	4
QUALITY_FLAG	FILLVAL	CDF_UINT1	255
QUALITY_FLAG	LABLAXIS	CDF_CHAR	Quality flag
QUALITY_FLAG	UNITS	CDF_CHAR	
QUALITY_FLAG	VAR_TYPE	CDF_CHAR	support_data
QUALITY_FLAG	SCALETYP	CDF_CHAR	linear
QUALITY_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the quality of the data
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	UNITS	CDF_CHAR	
QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context information or status at the receiver or experiment level
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 607

Tab. 4.88 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
L2_QUALITY_BITMASK	FIELDNAM	CDF_CHAR	L2_QUALITY_BITMASK
L2_QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
L2_QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
L2_QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
L2_QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
L2_QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
L2_QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
L2_QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
L2_QUALITY_BITMASK	LABLAXIS	CDF_CHAR	L2 Bitmask flag
L2_QUALITY_BITMASK	UNITS	CDF_CHAR	
L2_QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
L2_QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
L2_QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context or events that can alter data - bit0: partial saturation -bit1: full saturation
L2_QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
L2_QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
VDC_LABEL	FIELDNAM	CDF_CHAR	VDC label
VDC_LABEL	CATDESC	CDF_CHAR	Labels of the DC probe potentials
VDC_LABEL	VAR_TYPE	CDF_CHAR	metadata
VDC_LABEL	FORMAT	CDF_CHAR	A4
EDC_LABEL	FIELDNAM	CDF_CHAR	EDC label
EDC_LABEL	CATDESC	CDF_CHAR	Labels of the DC potential differences
EDC_LABEL	VAR_TYPE	CDF_CHAR	metadata
EDC_LABEL	FORMAT	CDF_CHAR	A5
EAC_LABEL	FIELDNAM	CDF_CHAR	EAC label
EAC_LABEL	CATDESC	CDF_CHAR	Labels of the AC potential differences
EAC_LABEL	VAR_TYPE	CDF_CHAR	metadata
EAC_LABEL	FORMAT	CDF_CHAR	A5
VDC	FIELDNAM	CDF_CHAR	Probe to spacecraft potential
VDC	CATDESC	CDF_CHAR	Probe to spacecraft potential (probes 1,2,3)
VDC	DISPLAY_TYPE	CDF_CHAR	time_series
VDC	VALIDMIN	CDF_REAL4	-1.0e+30
VDC	VALIDMAX	CDF_REAL4	1.0e+30
VDC	SCALEMIN	CDF_REAL4	-1.0e+30

continues on next page



**RPW Data Product
Description Document**

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03

Date: March 11, 2021

Page: **608**

Tab. 4.88 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
VDC	SCALEMAX	CDF_REAL4	1.0e+30
VDC	FILLVAL	CDF_REAL4	-1.0e+31
VDC	LABLAXIS	CDF_CHAR	VDC
VDC	UNITS	CDF_CHAR	V
VDC	VAR_TYPE	CDF_CHAR	data
VDC	SCALETYP	CDF_CHAR	linear
VDC	VAR_NOTES	CDF_CHAR	
VDC	DEPEND_0	CDF_CHAR	Epoch
VDC	FORMAT	CDF_CHAR	F8.2
VDC	LABL_PTR_1	CDF_CHAR	VDC_LABEL
VDC	DELTA_PLUS_VAR	CDF_CHAR	DELTA_PLUS_MINUS
VDC	DELTA_MINUS_VAR	CDF_CHAR	DELTA_PLUS_MINUS
VDC	SI_CONVERSION	CDF_CHAR	V>V
EDC	FIELDNAM	CDF_CHAR	Probe potential difference
EDC	CATDESC	CDF_CHAR	Probe to probe voltages (probes V1-V2, V1-V3, V2-V3)
EDC	DISPLAY_TYPE	CDF_CHAR	time_series
EDC	VALIDMIN	CDF_REAL4	-1.0e+30
EDC	VALIDMAX	CDF_REAL4	1.0e+30
EDC	SCALEMIN	CDF_REAL4	-1.0e+30
EDC	SCALEMAX	CDF_REAL4	1.0e+30
EDC	FILLVAL	CDF_REAL4	-1.0e+31
EDC	LABLAXIS	CDF_CHAR	EDC
EDC	UNITS	CDF_CHAR	V
EDC	VAR_TYPE	CDF_CHAR	data
EDC	SCALETYP	CDF_CHAR	linear
EDC	VAR_NOTES	CDF_CHAR	
EDC	DEPEND_0	CDF_CHAR	Epoch
EDC	FORMAT	CDF_CHAR	F8.2
EDC	LABL_PTR_1	CDF_CHAR	EDC_LABEL
EDC	DELTA_PLUS_VAR	CDF_CHAR	DELTA_PLUS_MINUS
EDC	DELTA_MINUS_VAR	CDF_CHAR	DELTA_PLUS_MINUS
EDC	SI_CONVERSION	CDF_CHAR	V>V
EAC	FIELDNAM	CDF_CHAR	AC probe potential difference
EAC	CATDESC	CDF_CHAR	AC probe to probe voltages (probes V1-V2, V1-V3, V2- V3)
EAC	DISPLAY_TYPE	CDF_CHAR	time_series
EAC	VALIDMIN	CDF_REAL4	-1.0e+30
EAC	VALIDMAX	CDF_REAL4	1.0e+30

continues on next page



**RPW Data Product
Description Document**

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **609**

Tab. 4.88 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
EAC	SCALEMIN	CDF_REAL4	-1.0e+30
EAC	SCALEMAX	CDF_REAL4	1.0e+30
EAC	FILLVAL	CDF_REAL4	-1.0e+31
EAC	LABLAXIS	CDF_CHAR	EAC
EAC	UNITS	CDF_CHAR	V
EAC	VAR_TYPE	CDF_CHAR	data
EAC	SCALETYP	CDF_CHAR	linear
EAC	VAR_NOTES	CDF_CHAR	
EAC	DEPEND_0	CDF_CHAR	Epoch
EAC	FORMAT	CDF_CHAR	F8.2
EAC	LABL_PTR_1	CDF_CHAR	EAC_LABEL
EAC	DELTA_PLUS_VAR	CDF_CHAR	DELTA_PLUS_MINUS
EAC	DELTA_MINUS_VAR	CDF_CHAR	DELTA_PLUS_MINUS
EAC	SI_CONVERSION	CDF_CHAR	V>V
IBIAS1	FIELDNAM	CDF_CHAR	Bias current 1
IBIAS1	CATDESC	CDF_CHAR	Calibrated bias current on probe 1.
IBIAS1	DISPLAY_TYPE	CDF_CHAR	time_series
IBIAS1	VALIDMIN	CDF_REAL4	-1.0e+30
IBIAS1	VALIDMAX	CDF_REAL4	1.0e+30
IBIAS1	SCALEMIN	CDF_REAL4	-1.0e+30
IBIAS1	SCALEMAX	CDF_REAL4	1.0e+30
IBIAS1	FILLVAL	CDF_REAL4	-1.0e+31
IBIAS1	LABLAXIS	CDF_CHAR	I_bias_1
IBIAS1	UNITS	CDF_CHAR	nA
IBIAS1	VAR_TYPE	CDF_CHAR	data
IBIAS1	SCALETYP	CDF_CHAR	linear
IBIAS1	VAR_NOTES	CDF_CHAR	
IBIAS1	DEPEND_0	CDF_CHAR	Epoch
IBIAS1	FORMAT	CDF_CHAR	F32.6
IBIAS1	SI_CONVERSION	CDF_CHAR	1.0>A
IBIAS2	FIELDNAM	CDF_CHAR	Bias current 2
IBIAS2	CATDESC	CDF_CHAR	Calibrated bias current on probe 2.
IBIAS2	DISPLAY_TYPE	CDF_CHAR	time_series
IBIAS2	VALIDMIN	CDF_REAL4	-1.0e+30
IBIAS2	VALIDMAX	CDF_REAL4	1.0e+30
IBIAS2	SCALEMIN	CDF_REAL4	-1.0e+30
IBIAS2	SCALEMAX	CDF_REAL4	1.0e+30
IBIAS2	FILLVAL	CDF_REAL4	-1.0e+31
IBIAS2	LABLAXIS	CDF_CHAR	I_bias_2

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 610

Tab. 4.88 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
IBIAS2	UNITS	CDF_CHAR	nA
IBIAS2	VAR_TYPE	CDF_CHAR	data
IBIAS2	SCALETYP	CDF_CHAR	linear
IBIAS2	VAR_NOTES	CDF_CHAR	
IBIAS2	DEPEND_0	CDF_CHAR	Epoch
IBIAS2	FORMAT	CDF_CHAR	F32.6
IBIAS2	SI_CONVERSION	CDF_CHAR	1.0>A
IBIAS3	FIELDNAM	CDF_CHAR	Bias current 3
IBIAS3	CATDESC	CDF_CHAR	Calibrated bias current on probe 3.
IBIAS3	DISPLAY_TYPE	CDF_CHAR	time_series
IBIAS3	VALIDMIN	CDF_REAL4	-1.0e+30
IBIAS3	VALIDMAX	CDF_REAL4	1.0e+30
IBIAS3	SCALEMIN	CDF_REAL4	-1.0e+30
IBIAS3	SCALEMAX	CDF_REAL4	1.0e+30
IBIAS3	FILLVAL	CDF_REAL4	-1.0e+31
IBIAS3	LABLAXIS	CDF_CHAR	I_bias_3
IBIAS3	UNITS	CDF_CHAR	nA
IBIAS3	VAR_TYPE	CDF_CHAR	data
IBIAS3	SCALETYP	CDF_CHAR	linear
IBIAS3	VAR_NOTES	CDF_CHAR	
IBIAS3	DEPEND_0	CDF_CHAR	Epoch
IBIAS3	FORMAT	CDF_CHAR	F32.6
IBIAS3	SI_CONVERSION	CDF_CHAR	1.0>A
DELTA_PLUS_MINUS	FIELDNAM	CDF_CHAR	DELTA_PLUS_MINUS
DELTA_PLUS_MINUS	CATDESC	CDF_CHAR	Time between sample timestamp and beginning/end of integration. Total integration time is twice this value.
DELTA_PLUS_MINUS	DISPLAY_TYPE	CDF_CHAR	time_series
DELTA_PLUS_MINUS	VALIDMIN	CDF_INT8	0
DELTA_PLUS_MINUS	VALIDMAX	CDF_INT8	4
DELTA_PLUS_MINUS	SCALEMIN	CDF_INT8	0
DELTA_PLUS_MINUS	SCALEMAX	CDF_INT8	4
DELTA_PLUS_MINUS	FILLVAL	CDF_INT8	-9223372036854775808
DELTA_PLUS_MINUS	LABLAXIS	CDF_CHAR	Delta plus minus
DELTA_PLUS_MINUS	UNITS	CDF_CHAR	ns
DELTA_PLUS_MINUS	VAR_TYPE	CDF_CHAR	support_data
DELTA_PLUS_MINUS	SCALETYP	CDF_CHAR	linear
DELTA_PLUS_MINUS	VAR_NOTES	CDF_CHAR	
DELTA_PLUS_MINUS	DEPEND_0	CDF_CHAR	Epoch

continues on next page



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01


Revision
03

Date: March 11, 2021

Page: **611**

Tab. 4.88 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
DELTA_PLUS_MINUS	FORMAT	CDF_CHAR	I1.1
SYNCHRO_FLAG	FIELDNAM	CDF_CHAR	SYNCHRO_FLAG
SYNCHRO_FLAG	CATDESC	CDF_CHAR	Time synchronisation flag
SYNCHRO_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
SYNCHRO_FLAG	VALIDMIN	CDF_UINT1	0
SYNCHRO_FLAG	VALIDMAX	CDF_UINT1	1
SYNCHRO_FLAG	SCALEMIN	CDF_UINT1	0
SYNCHRO_FLAG	SCALEMAX	CDF_UINT1	1
SYNCHRO_FLAG	FILLVAL	CDF_UINT1	255
SYNCHRO_FLAG	LABLAXIS	CDF_CHAR	time sync. flag
SYNCHRO_FLAG	UNITS	CDF_CHAR	
SYNCHRO_FLAG	VAR_TYPE	CDF_CHAR	support_data
SYNCHRO_FLAG	SCALETYP	CDF_CHAR	linear
SYNCHRO_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate if the local time is synchronized with the RPW DPU clock or not. Possible values: synchronized=0, not synchronized=1. This flag is extracted from ACQUISITION_TIME in L0 packets, it is the MSB of the CUC time.
SYNCHRO_FLAG	DEPEND_0	CDF_CHAR	Epoch
SYNCHRO_FLAG	FORMAT	CDF_CHAR	I3.3
SAMPLING_RATE	FIELDNAM	CDF_CHAR	Sampling rate
SAMPLING_RATE	CATDESC	CDF_CHAR	Sampling frequency of the snapshot
SAMPLING_RATE	DISPLAY_TYPE	CDF_CHAR	time_series
SAMPLING_RATE	VALIDMIN	CDF_REAL4	1.0
SAMPLING_RATE	VALIDMAX	CDF_REAL4	128.0
SAMPLING_RATE	SCALEMIN	CDF_REAL4	1.0
SAMPLING_RATE	SCALEMAX	CDF_REAL4	128.0
SAMPLING_RATE	FILLVAL	CDF_REAL4	-1.0e+31
SAMPLING_RATE	LABLAXIS	CDF_CHAR	Fe
SAMPLING_RATE	UNITS	CDF_CHAR	Hz
SAMPLING_RATE	VAR_TYPE	CDF_CHAR	metadata
SAMPLING_RATE	SCALETYP	CDF_CHAR	linear
SAMPLING_RATE	VAR_NOTES	CDF_CHAR	TDS sampling rate
SAMPLING_RATE	DEPEND_0	CDF_CHAR	Epoch
SAMPLING_RATE	FORMAT	CDF_CHAR	F8.2

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 612

4.1.3.14.6 Non-Record-Variant (NRV) Variables

Variable Name	Index	Value
VDC_LABEL	1	Vdc1
VDC_LABEL	2	Vdc2
VDC_LABEL	3	Vdc3
EDC_LABEL	1	Vdc12
EDC_LABEL	2	Vdc13
EDC_LABEL	3	Vdc23
EAC_LABEL	1	Vac12
EAC_LABEL	2	Vac13
EAC_LABEL	3	Vac23

4.1.3.15 SOLO_L2_RPW-TDS-LFM-CWF-B data product

The “SOLO_L2_RPW-TDS-LFM-CWF-B” data product contains the calibrated TDS receiver Continuous Waveform data in the LFM mode for magnetic component only. The “SOLO_L2_RPW-TDS-LFM-CWF-B” data are written in CDF format files. There is a single file per day, generated from data in the corresponding SOLO_L1_RPW-TDS-LFM-CWF parent file.

4.1.3.15.1 Filename

```
solo_L2_rpw-tds-lfm-cwf-b_[YYYYMMDD]_V[version].cdf
```

4.1.3.15.2 Expected cadence and data volume


Nominal cadence: 1 file per day (only when LFM backup mode is enabled)

Expected data volume: 30 MB per file

4.1.3.15.3 Global Attributes

Attribute Name	Entry Number	Data Type	Value
ACCESS_FORMAT	1	CDF_CHAR	CDF
LEVEL	1	CDF_CHAR	L2>Level 2 data processing
SPECTRAL_RANGE_MIN	1	CDF_CHAR	


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 613

Tab. 4.89 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Software_name	1	CDF_CHAR	
CALIBRATION_VERSION	1	CDF_CHAR	
LINK_TITLE	1	CDF_CHAR	RPW Web site
PI_affiliation	1	CDF_CHAR	LESIA, Observatoire de Paris-CNRS
Parents	1	CDF_CHAR	
TEXT	1	CDF_CHAR	This file contains RPW TDS level 2 continuous waveform of magnetic data in LFM mode
TIME_MIN	1	CDF_CHAR	
Source_name	1	CDF_CHAR	SOLO>Solar Orbiter
TIME_MAX	1	CDF_CHAR	
Logical_source_description	1	CDF_CHAR	Solar Orbiter Radio/Plasma Wave, TDS L2 magnetic parameters
Data_version	1	CDF_CHAR	
Parent_version	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	https://rpw.lesia.obspm.fr
Data_product	1	CDF_CHAR	LFM-CWF-B>LFM-CWF-B
TARGET_REGION	1	CDF_CHAR	Solar Wind
Rules_of_use	1	CDF_CHAR	Data provided are publicly available. If used in presentations or publications, please acknowledge Solar Orbiter/RPW Investigation (M. Maksimovic, PIs). Please read carefully the caveats attached to the data. For reporting purposes, we request bibliography information for any publication, etc., using these data. Please send information on the use of this data to: M. Maksimovic (PI).
Instrument_type	1	CDF_CHAR	Radio and Plasma Waves (space)
Skeleton_version	1	CDF_CHAR	12
SPECTRAL_RANGE_MAX	1	CDF_CHAR	
CAVEATS	1	CDF_CHAR	
Acknowledgement	1	CDF_CHAR	The authors are pleased to acknowledge the Solar Orbiter/RPW Investigation (M. Maksimovic, PIs) for access to data.
ACCESS_URL	1	CDF_CHAR	
TARGET_CLASS	1	CDF_CHAR	Star
Logical_source	1	CDF_CHAR	solo_L2_rpw-tds-lfm-cwf-b
SPICE_KERNELS	1	CDF_CHAR	


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 614

Tab. 4.89 – continued from previous page


Attribute Name	Entry Number	Data Type	Value
SKELETON_MODS	1	CDF_CHAR	2017-12-15, J-Y Brochot (CNRS-LPC2E), initial release
SKELETON_MODS	2	CDF_CHAR	V04: Update for solo data definition, X. BONNIN (CNRS-LESIA), April 2019
SKELETON_MODS	3	CDF_CHAR	V05: Update to compliant with SOL-SGS-TN-0009 Issue 2, Rev 4 - X.Bonnin, 09/2019
SKELETON_MODS	4	CDF_CHAR	V06: add B_RTN and MAG_LABEL_RTN variables, J-Y Brochot, 12/2019
SKELETON_MODS	5	CDF_CHAR	V07: March 2020 : Standardize SAMPLING_RATE and delete Test_* g.attr - X.Bonnin (CNRS, LESIA)
SKELETON_MODS	6	CDF_CHAR	V07: Suppress zVars POST_GAP_FLAG, ACQUISITION_TIME, ACQUISITION_TIME_UNITS and ACQUISITION_TIME_LABEL - J-Y Brochot, March 2020
SKELETON_MODS	7	CDF_CHAR	V08: Add gAttr SPICE_KERNELS - J-Y Brochot, April 2020
SKELETON_MODS	8	CDF_CHAR	V09: Complete the zAttr of CALIBRATION_TABLE_INDEX - J-Y Brochot, May 2020
SKELETON_MODS	9	CDF_CHAR	V10: Add zVar L2_QUALITY_BITMASK - J-Y Brochot, Aug 2020
SKELETON_MODS	10	CDF_CHAR	V11: Suppress zVars CHANNEL_ON, RPW_STATUS_INFO, INPUT_CONFIG, SYNCHRO_FLAG, BUFFER_OVERFLOW, CHANNEL_OVERFLOW, RPW_STATUS_INFO_LABEL, SURVEY_MODE, CHANNEL_LABEL - J-Y Brochot, Sept 2020
SKELETON_MODS	11	CDF_CHAR	V12: Jan. 2021 : Fix inconsistencies against the ISTP CDF guidelines, X.Bonnin (CNRS-LESIA)
Logical_file_id	1	CDF_CHAR	

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 615

Tab. 4.89 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
SKELETON_PARENT	1	CDF_CHAR	SOLO_L2_RPW-TDS-LFM-CWF-B_V12.cdf
CAL_ENTITY_NAME	1	CDF_CHAR	LPC2E
SOOP_TYPE	1	CDF_CHAR	
Dataset_ID	1	CDF_CHAR	SOLO_L2_RPW-TDS-LFM-CWF-B
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009 (2.4)
Validate	1	CDF_CHAR	
Descriptor	1	CDF_CHAR	RPW-TDS-LFM-CWF-B> RPW Time Domain Sampler Continuous Waveform magnetic data in LFM mode
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00006-LES (1.3)
Datetime	1	CDF_CHAR	
Discipline	1	CDF_CHAR	Space Physics>Interplanetary Studies
CALIBRATION_TABLE	1	CDF_CHAR	
File_naming_convention	1	CDF_CHAR	<Source_name>_<LEVEL>_<Descriptor>_<Datetime>
File_ID	1	CDF_CHAR	
Mission_group	1	CDF_CHAR	Solar Orbiter
Project	1	CDF_CHAR	SOLO>Solar Orbiter
TARGET_NAME	1	CDF_CHAR	Sun
Generated_by	1	CDF_CHAR	RPW Operations Centre located at LESIA (Meudon, France)
Pipeline_name	1	CDF_CHAR	
Provider	1	CDF_CHAR	LESIA (Meudon, France)
TEXT_supplement_1	1	CDF_CHAR	
Data_type	1	CDF_CHAR	H0>High Resolution data
CAL_ENTITY_AFFILIATION	1	CDF_CHAR	CNRS
CAL_EQUIPMENT	1	CDF_CHAR	SCM
PI_name	1	CDF_CHAR	M.Maksimovic
OBS_ID	1	CDF_CHAR	
Job_ID	1	CDF_CHAR	
Generation_date	1	CDF_CHAR	
Free_field	1	CDF_CHAR	
Pipeline_version	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
LINK_TEXT	1	CDF_CHAR	RPW Web site at LESIA
MODS	1	CDF_CHAR	

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 616


4.1.3.15.4 zVariables

Variable Name	Data Type	Number Elements	Dims	Sizes
B_RTN	CDF_REAL4	1	1	3
Epoch	CDF_TIME_TT2000	1	0	
MAG_LABEL	CDF_CHAR	2	1	3
MAG_LABEL_RTN	CDF_CHAR	5	1	3
QUALITY_FLAG	CDF_UINT1	1	0	
SAMPLING_RATE	CDF_REAL4	1	0	
QUALITY_BITMASK	CDF_UINT2	1	0	
L2_QUALITY_BITMASK	CDF_UINT2	1	0	
CALIBRATION_TABLE_INDEX	CDF_UINT1	1	2	2 2
B	CDF_REAL4	1	1	3

4.1.3.15.5 Variable attributes

Variable Name	Attribute Name	Data Type	Value
B_RTN	FILLVAL	CDF_REAL4	-1.0e+31
B_RTN	VAR_TYPE	CDF_CHAR	data
B_RTN	CATDESC	CDF_CHAR	Magnetic field values (Bxrtn, Byrtn, Bzrtn)
B_RTN	VAR_NOTES	CDF_CHAR	3 entry array with magnetic field values (Bxrtn, Byrtn, Bzrtn)
B_RTN	SCALETYP	CDF_CHAR	linear
B_RTN	DISPLAY_TYPE	CDF_CHAR	time_series
B_RTN	SCALEMIN	CDF_REAL4	-1.0e+30
B_RTN	SCALEMAX	CDF_REAL4	1.0e+30
B_RTN	FIELDNAM	CDF_CHAR	Magnetic field in RTN frame
B_RTN	FORMAT	CDF_CHAR	F8.2
B_RTN	DEPEND_0	CDF_CHAR	Epoch
B_RTN	VALIDMAX	CDF_REAL4	1.0e+30
B_RTN	VALIDMIN	CDF_REAL4	-1.0e+30
B_RTN	UNITS	CDF_CHAR	nT
B_RTN	LABL_PTR_1	CDF_CHAR	MAG_LABEL_RTN
Epoch	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch	VAR_TYPE	CDF_CHAR	support_data
Epoch	CATDESC	CDF_CHAR	Default time


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 617

Tab. 4.90 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file.
Epoch	SCALETYP	CDF_CHAR	linear
Epoch	DISPLAY_TYPE	CDF_CHAR	time_series
Epoch	SCALEMIN	CDF_TIME_TT2000	2000-01-01T12:00:00.000000000
Epoch	SCALEMAX	CDF_TIME_TT2000	2029-12-31T23:59:59.999000000
Epoch	FIELDNAM	CDF_CHAR	Epoch
Epoch	VALIDMAX	CDF_TIME_TT2000	2029-12-31T23:59:59.999000000
Epoch	LABLAXIS	CDF_CHAR	Epoch
Epoch	VALIDMIN	CDF_TIME_TT2000	2000-01-01T12:00:00.000000000
Epoch	UNITS	CDF_CHAR	ns
Epoch	MONOTON	CDF_CHAR	INCREASE
Epoch	Resolution	CDF_CHAR	15258 ns
Epoch	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
Epoch	Bin_location	CDF_CHAR	0.5
Epoch	TIME_BASE	CDF_CHAR	J2000
Epoch	TIME_SCALE	CDF_CHAR	Terrestrial Time
MAG_LABEL	VAR_TYPE	CDF_CHAR	metadata
MAG_LABEL	CATDESC	CDF_CHAR	Labels of the Magnetic fields components
MAG_LABEL	FIELDNAM	CDF_CHAR	MAG_LABEL
MAG_LABEL	FORMAT	CDF_CHAR	A2
MAG_LABEL_RTN	VAR_TYPE	CDF_CHAR	metadata
MAG_LABEL_RTN	CATDESC	CDF_CHAR	Labels of the Magnetic fields components in the RTN frame
MAG_LABEL_RTN	FIELDNAM	CDF_CHAR	MAG_LABEL_RTN
MAG_LABEL_RTN	FORMAT	CDF_CHAR	A5
QUALITY_FLAG	FILLVAL	CDF_UINT1	255
QUALITY_FLAG	VAR_TYPE	CDF_CHAR	support_data
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the quality of the data
QUALITY_FLAG	SCALETYP	CDF_CHAR	linear
QUALITY_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	SCALEMIN	CDF_UINT1	0
QUALITY_FLAG	SCALEMAX	CDF_UINT1	4
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 618

Tab. 4.90 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FLAG	VALIDMAX	CDF_UINT1	4
QUALITY_FLAG	LABLAXIS	CDF_CHAR	Quality flag
QUALITY_FLAG	VALIDMIN	CDF_UINT1	0
QUALITY_FLAG	UNITS	CDF_CHAR	
SAMPLING_RATE	FILLVAL	CDF_REAL4	-1.0e+31
SAMPLING_RATE	VAR_TYPE	CDF_CHAR	metadata
SAMPLING_RATE	CATDESC	CDF_CHAR	Sampling frequency of the snapshot
SAMPLING_RATE	VAR_NOTES	CDF_CHAR	TDS sampling rate
SAMPLING_RATE	SCALETYP	CDF_CHAR	linear
SAMPLING_RATE	DISPLAY_TYPE	CDF_CHAR	time_series
SAMPLING_RATE	SCALEMIN	CDF_REAL4	1.0
SAMPLING_RATE	SCALEMAX	CDF_REAL4	128.0
SAMPLING_RATE	FIELDNAM	CDF_CHAR	Sampling rate
SAMPLING_RATE	FORMAT	CDF_CHAR	F8.2
SAMPLING_RATE	DEPEND_0	CDF_CHAR	Epoch
SAMPLING_RATE	VALIDMAX	CDF_REAL4	128.0
SAMPLING_RATE	LABLAXIS	CDF_CHAR	Fe
SAMPLING_RATE	VALIDMIN	CDF_REAL4	1.0
SAMPLING_RATE	UNITS	CDF_CHAR	Hz
QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context information or status at the receiver or experiment level
QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
QUALITY_BITMASK	UNITS	CDF_CHAR	
L2_QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
L2_QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 619

Tab. 4.90 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
L2_QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
L2_QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context or events that can alterate data -bit0: SCM outworking or unknown temperature -bit1: SCM heater on/off transition -bit2: LFR onboard calibration signal
L2_QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
L2_QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
L2_QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
L2_QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
L2_QUALITY_BITMASK	FIELDNAM	CDF_CHAR	L2_QUALITY_BITMASK
L2_QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
L2_QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
L2_QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
L2_QUALITY_BITMASK	LABLAXIS	CDF_CHAR	L2 Bitmask flag
L2_QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
L2_QUALITY_BITMASK	UNITS	CDF_CHAR	
CALIBRATION_TABLE_INDEX	FILLVAL	CDF_UINT1	255
CALIBRATION_TABLE_INDEX	VAR_TYPE	CDF_CHAR	support_data
CALIBRATION_TABLE_INDEX	CATDESC	CDF_CHAR	Informations about calibration tables used
CALIBRATION_TABLE_INDEX	VAR_NOTES	CDF_CHAR	Indexes (i,j) giving gEntry of Global attribute 'CALIBRATION_TABLE', and record number in the Calibration Table.
CALIBRATION_TABLE_INDEX	SCALETYP	CDF_CHAR	linear
CALIBRATION_TABLE_INDEX	DISPLAY_TYPE	CDF_CHAR	time_series
CALIBRATION_TABLE_INDEX	SCALEMIN	CDF_UINT1	0
CALIBRATION_TABLE_INDEX	SCALEMAX	CDF_UINT1	254
CALIBRATION_TABLE_INDEX	FIELDNAM	CDF_CHAR	CALIBRATION_TABLE_INDEX
CALIBRATION_TABLE_INDEX	FORMAT	CDF_CHAR	I3.3
CALIBRATION_TABLE_INDEX	DEPEND_0	CDF_CHAR	Epoch
CALIBRATION_TABLE_INDEX	VALIDMAX	CDF_UINT1	254
CALIBRATION_TABLE_INDEX	LABLAXIS	CDF_CHAR	Calibration table index
CALIBRATION_TABLE_INDEX	VALIDMIN	CDF_UINT1	0
CALIBRATION_TABLE_INDEX	UNITS	CDF_CHAR	
B	FILLVAL	CDF_REAL4	-1.0e+31
B	VAR_TYPE	CDF_CHAR	data

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 620

Tab. 4.90 – continued from previous page


Variable Name	Attribute Name	Data Type	Value
B	CATDESC	CDF_CHAR	Magnetic component values of Bx
B	VAR_NOTES	CDF_CHAR	1 entry array with magnetic values of the component B4x
B	SCALETYP	CDF_CHAR	linear
B	DISPLAY_TYPE	CDF_CHAR	time_series
B	SCALEMIN	CDF_REAL4	-1.0e+30
B	SCALEMAX	CDF_REAL4	1.0e+30
B	FIELDNAM	CDF_CHAR	Magnetic waveform
B	FORMAT	CDF_CHAR	F8.2
B	DEPEND_0	CDF_CHAR	Epoch
B	VALIDMAX	CDF_REAL4	1.0e+30
B	VALIDMIN	CDF_REAL4	-1.0e+30
B	UNITS	CDF_CHAR	nT
B	LABL_PTR_1	CDF_CHAR	MAG_LABEL

4.1.3.15.6 Non-Record-Variant (NRV) Variables

Variable Name	Index	Value
MAG_LABEL	1	Bx
MAG_LABEL	2	By
MAG_LABEL	3	Bz
MAG_LABEL_RTN	1	Bxrtn
MAG_LABEL_RTN	2	Byrtn
MAG_LABEL_RTN	3	Bzrtn

4.1.3.16 SOLO_L2_RPW-TDS-LFM-PSDSM data product

The “SOLO_L2_RPW-TDS-LFM-PSDSM” data product contains the calibrated TDS receiver spectral matrix data in the LFM mode. The “SOLO_L2_RPW-TDS-LFM-PSDSM” data are written in CDF format files. There is a single file per day, generated from data in the corresponding SOLO_L1_RPW-TDS-LFM-PSD and SOLO_L1_RPW-TDS-LFM-SM parent files.

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 621

4.1.3.16.1 Filename

solo_L2_rpw-tds-lfm-psdsm_[YYYYMMDD]_V[version].cdf

4.1.3.16.2 Expected cadence and data volume


Nominal cadence: 1 file per day (only when LFM backup mode is enabled)

Expected data volume: 120 MB per file

4.1.3.16.3 Global Attributes

Attribute Name	Entry Number	Data Type	Value
ACCESS_FORMAT	1	CDF_CHAR	CDF
ACCESS_URL	1	CDF_CHAR	
Acknowledgement	1	CDF_CHAR	The authors are pleased to acknowledge the Solar Orbiter/RPW Investigation (M. Maksimovic, PIs) for access to data.
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009 (2.4)
Data_type	1	CDF_CHAR	H0>High Resolution data
Data_version	1	CDF_CHAR	
Descriptor	1	CDF_CHAR	RPW-TDS-LFM-PSDSM> RPW Time Domain Sampler averaged power spectra and spectral matrixes
Discipline	1	CDF_CHAR	Space Physics>Interplanetary Studies
File_naming_convention	1	CDF_CHAR	<Source_name>_<LEVEL>_<Descriptor>_<Date>
File_ID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	RPW Operations Centre located at LESIA (Meudon, France)
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	https://rpw.lesia.obspm.fr
Instrument_type	1	CDF_CHAR	Radio and Plasma Waves (space)
LINK_TEXT	1	CDF_CHAR	RPW Web site at LESIA
LINK_TITLE	1	CDF_CHAR	RPW Web site
Logical_file_id	1	CDF_CHAR	
Logical_source	1	CDF_CHAR	solo_L2_rpw-tds-lfm-psdsm
Logical_source_description	1	CDF_CHAR	Solar Orbiter Radio/Plasma Wave, TDS L2 parameters


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 622

Tab. 4.91 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Mission_group	1	CDF_CHAR	Solar Orbiter
SKELETON_MODS	1	CDF_CHAR	January 2016 : initial release
SKELETON_MODS	2	CDF_CHAR	October 2016 (ROC): Update to Issue 2 Rev 1
SKELETON_MODS	3	CDF_CHAR	November 2017 (IAP): Added gAtt Calibration_version and Roc_reference. Added CHANNEL_ON, CHANNEL_OVERFLOW, CHANNEL_CONFIG, RPW_STATUS_INFO (replacing LF_DATA_ARTEFACTS)
SKELETON_MODS	4	CDF_CHAR	January 2019 (IAP): SOLO L2 converted from ROC-SGSE skeleton.
SKELETON_MODS	5	CDF_CHAR	V04: Update for solo data definition, X. BONNIN (CNRS-LESIA), April 2019
SKELETON_MODS	6	CDF_CHAR	V05: Update to compliant with SOL-SGS-TN-0009 Issue 2, Rev 4 - X.Bonnin, 09/2019
SKELETON_MODS	7	CDF_CHAR	V06: March 2020 : Delete Test_* g.attrs - X.Bonnin (CNRS, LESIA)
SKELETON_MODS	8	CDF_CHAR	V07: g.Attribute SPICE_KERNELS added.
SKELETON_MODS	9	CDF_CHAR	V08: QUALITY_BITMASK type changed.
SKELETON_MODS	10	CDF_CHAR	V09: Remove UCD vattr and POST_GAP_FLAG zVar.
SKELETON_MODS	11	CDF_CHAR	V10: Jan. 2021 : Fix inconsistencies against the ISTP CDF guidelines, X.Bonnin (CNRS-LESIA)
Parent_version	1	CDF_CHAR	
Parents	1	CDF_CHAR	
PI_affiliation	1	CDF_CHAR	LESIA, Observatoire de Paris-CNRS
PI_name	1	CDF_CHAR	M.Maksimovic
Pipeline_version	1	CDF_CHAR	
Project	1	CDF_CHAR	SOLO>Solar Orbiter
Provider	1	CDF_CHAR	LESIA (Meudon, France)
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00006-LES (1.3)
ROC_REFERENCE	1	CDF_CHAR	


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 623

Tab. 4.91 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Rules_of_use	1	CDF_CHAR	Data provided are publicly available. If used in presentations or publications, please acknowledge Solar Orbiter/RPW Investigation (M. Maksimovic, PIs). Please read carefully the caveats attached to the data. For reporting purposes, we request bibliography information for any publication, etc., using these data. Please send information on the use of this data to: M. Maksimovic (PI).
SKELETON_PARENT	1	CDF_CHAR	SOLO_L2_RPW-TDS-LFM-PSDSM_V10.cdf
Skeleton_version	1	CDF_CHAR	10
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	SOLO>Solar Orbiter
SPICE_KERNELS	1	CDF_CHAR	
SPECTRAL_RANGE_MAX	1	CDF_CHAR	
SPECTRAL_RANGE_MIN	1	CDF_CHAR	
TEXT	1	CDF_CHAR	This file contains RPW TDS level 2 power spectra and spectral matrixes.
TEXT_supplement_1	1	CDF_CHAR	
TIME_MAX	1	CDF_CHAR	
TIME_MIN	1	CDF_CHAR	
CAVEATS	1	CDF_CHAR	
CAL_ENTITY_NAME	1	CDF_CHAR	
CAL_ENTITY_AFFILIATION	1	CDF_CHAR	
CAL_EQUIPMENT	1	CDF_CHAR	
CALIBRATION_TABLE	1	CDF_CHAR	
CALIBRATION_VERSION	1	CDF_CHAR	
Datetime	1	CDF_CHAR	
Free_field	1	CDF_CHAR	
Job_ID	1	CDF_CHAR	
LEVEL	1	CDF_CHAR	L2>Level 2 data processing
SOOP_TYPE	1	CDF_CHAR	
Data_product	1	CDF_CHAR	LFM-PSDSM>LFM-PSDSM
TARGET_NAME	1	CDF_CHAR	Sun
TARGET_CLASS	1	CDF_CHAR	Star
TARGET_REGION	1	CDF_CHAR	Solar Wind

continues on next page


	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 624

Tab. 4.91 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Pipeline_name	1	CDF_CHAR	
Dataset_ID	1	CDF_CHAR	SOLO_L2_RPW-TDS-LFM-PSDSM
OBS_ID	1	CDF_CHAR	
MODS	1	CDF_CHAR	
Validate	1	CDF_CHAR	

4.1.3.16.4 zVariables


Variable Name	Data Type	Number Elements	Dims	Sizes
Epoch	CDF_TIME_TT2000	1	0	
ACQUISITION_TIME	CDF_UINT4	1	1	2
ACQUISITION_TIME_UNITS	CDF_CHAR	16	1	2
ACQUISITION_TIME_LABEL	CDF_CHAR	32	1	2
QUALITY_FLAG	CDF_UINT1	1	0	
QUALITY_BITMASK	CDF_UINT2	1	0	
BIA_STATUS_INFO	CDF_UINT1	1	1	6
BIA_STATUS_INFO_LABEL	CDF_CHAR	16	1	6
RPW_STATUS_INFO	CDF_UINT1	1	1	7
RPW_STATUS_INFO_LABEL	CDF_CHAR	16	1	7
SURVEY_MODE	CDF_UINT1	1	0	
CHANNEL_ON	CDF_UINT1	1	1	6
CHANNEL_OVERFLOW	CDF_UINT1	1	1	6
CHANNEL_CONFIG	CDF_UINT1	1	1	6
CHANNEL_LABEL	CDF_CHAR	8	1	6
PSDSM_SRCLEN	CDF_UINT2	1	0	
PSD_DATA	CDF_FLOAT	1	2	6 200
PSDSM_TYPE	CDF_UINT1	1	0	
PSDSM_FREQ_NR	CDF_UINT2	1	0	
PSDSM_FREQ_AXIS	CDF_FLOAT	1	1	200
CROSS_RE	CDF_FLOAT	1	2	10 200
CROSS_IM	CDF_FLOAT	1	2	10 200
SYNCHRO_FLAG	CDF_UINT1	1	0	

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 625

4.1.3.16.5 Variable attributes

Variable Name	Attribute Name	Data Type	Value
Epoch	FIELDNAM	CDF_CHAR	Epoch
Epoch	CATDESC	CDF_CHAR	Default time
Epoch	VALIDMIN	CDF_TIME_TT2000	2000-01-01T12:00:00.000000000
Epoch	VALIDMAX	CDF_TIME_TT2000	2029-12-31T23:59:59.999000000
Epoch	SCALEMIN	CDF_TIME_TT2000	2000-01-01T12:00:00.000000000
Epoch	SCALEMAX	CDF_TIME_TT2000	2029-12-31T23:59:59.999000000
Epoch	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch	LABLAXIS	CDF_CHAR	Epoch
Epoch	UNITS	CDF_CHAR	ns
Epoch	VAR_TYPE	CDF_CHAR	support_data
Epoch	SCALETYP	CDF_CHAR	linear
Epoch	MONOTON	CDF_CHAR	INCREASE
Epoch	TIME_BASE	CDF_CHAR	J2000
Epoch	TIME_SCALE	CDF_CHAR	Terrestrial Time
Epoch	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file
Epoch	Resolution	CDF_CHAR	15258 ns
ACQUISITION_TIME	FIELDNAM	CDF_CHAR	CCSDS CUC Acquisition time as returned in TM packets
ACQUISITION_TIME	CATDESC	CDF_CHAR	CCSDS CUC format TDS time, coarse and fine parts
ACQUISITION_TIME	VALIDMIN	CDF_UINT4	0
ACQUISITION_TIME	VALIDMAX	CDF_UINT4	4294967294
ACQUISITION_TIME	SCALEMIN	CDF_UINT4	0
ACQUISITION_TIME	SCALEMAX	CDF_UINT4	4294967294
ACQUISITION_TIME	FILLVAL	CDF_UINT4	4294967295
ACQUISITION_TIME	VAR_TYPE	CDF_CHAR	support_data
ACQUISITION_TIME	SCALETYP	CDF_CHAR	linear
ACQUISITION_TIME	MONOTON	CDF_CHAR	INCREASE
ACQUISITION_TIME	TIME_BASE	CDF_CHAR	2000-01-01T00:00:00
ACQUISITION_TIME	TIME_SCALE	CDF_CHAR	DPU clock


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 626

Tab. 4.92 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
ACQUISITION_TIME	VAR_NOTES	CDF_CHAR	Local time measured by the RPW TDS receiver (Coarse and fine parts of the CUC format) of the first sample of the packet
ACQUISITION_TIME	DEPEND_0	CDF_CHAR	Epoch
ACQUISITION_TIME	DISPLAY_TYPE	CDF_CHAR	time_series
ACQUISITION_TIME	FORMAT	CDF_CHAR	I10.0
ACQUISITION_TIME	LABL_PTR_1	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME	UNIT_PTR	CDF_CHAR	ACQUISITION_TIME_UNITS
ACQUISITION_TIME_UNITS	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_UNITS
ACQUISITION_TIME_UNITS	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME UNIT_PTR attribute
ACQUISITION_TIME_UNITS	VAR_TYPE	CDF_CHAR	metadata
ACQUISITION_TIME_UNITS	FORMAT	CDF_CHAR	A16
ACQUISITION_TIME_LABEL	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME_LABEL	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME
ACQUISITION_TIME_LABEL	VAR_TYPE	CDF_CHAR	metadata
ACQUISITION_TIME_LABEL	FORMAT	CDF_CHAR	A32
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	VALIDMIN	CDF_UINT1	0
QUALITY_FLAG	VALIDMAX	CDF_UINT1	4
QUALITY_FLAG	SCALEMIN	CDF_UINT1	0
QUALITY_FLAG	SCALEMAX	CDF_UINT1	4
QUALITY_FLAG	FILLVAL	CDF_UINT1	255
QUALITY_FLAG	LABLAXIS	CDF_CHAR	Quality flag
QUALITY_FLAG	UNITS	CDF_CHAR	
QUALITY_FLAG	VAR_TYPE	CDF_CHAR	support_data
QUALITY_FLAG	SCALETYP	CDF_CHAR	linear
QUALITY_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the quality of the data
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 627

Tab. 4.92 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	UNITS	CDF_CHAR	
QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context information or status at the receiver or experiment level
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
BIA_STATUS_INFO	FIELDNAM	CDF_CHAR	BIA_STATUS_INFO
BIA_STATUS_INFO	CATDESC	CDF_CHAR	BIAS status byte
BIA_STATUS_INFO	VALIDMIN	CDF_UINT1	0
BIA_STATUS_INFO	VALIDMAX	CDF_UINT1	255
BIA_STATUS_INFO	SCALEMIN	CDF_UINT1	0
BIA_STATUS_INFO	SCALEMAX	CDF_UINT1	1
BIA_STATUS_INFO	FILLVAL	CDF_UINT1	255
BIA_STATUS_INFO	LABLAXIS	CDF_CHAR	BIAS status
BIA_STATUS_INFO	UNITS	CDF_CHAR	
BIA_STATUS_INFO	VAR_TYPE	CDF_CHAR	data
BIA_STATUS_INFO	SCALETYP	CDF_CHAR	linear
BIA_STATUS_INFO	VAR_NOTES	CDF_CHAR	BIAS status byte
BIA_STATUS_INFO	DEPEND_0	CDF_CHAR	Epoch
BIA_STATUS_INFO	DISPLAY_TYPE	CDF_CHAR	time_series
BIA_STATUS_INFO	FORMAT	CDF_CHAR	I1.1
BIA_STATUS_INFO_LABEL	FIELDNAM	CDF_CHAR	BIA_STATUS_INFO_LABEL
BIA_STATUS_INFO_LABEL	CATDESC	CDF_CHAR	Label for BIA_STATUS_INFO
BIA_STATUS_INFO_LABEL	VAR_TYPE	CDF_CHAR	metadata
BIA_STATUS_INFO_LABEL	FORMAT	CDF_CHAR	A16
RPW_STATUS_INFO	FIELDNAM	CDF_CHAR	RPW_STATUS_INFO
RPW_STATUS_INFO	CATDESC	CDF_CHAR	RPW status
RPW_STATUS_INFO	VALIDMIN	CDF_UINT1	0
RPW_STATUS_INFO	VALIDMAX	CDF_UINT1	1
RPW_STATUS_INFO	SCALEMIN	CDF_UINT1	0
RPW_STATUS_INFO	SCALEMAX	CDF_UINT1	1
RPW_STATUS_INFO	FILLVAL	CDF_UINT1	255
RPW_STATUS_INFO	LABLAXIS	CDF_CHAR	RPW Status info

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 628

Tab. 4.92 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
RPW_STATUS_INFO	UNITS	CDF_CHAR	
RPW_STATUS_INFO	VAR_TYPE	CDF_CHAR	data
RPW_STATUS_INFO	SCALETYP	CDF_CHAR	linear
RPW_STATUS_INFO	VAR_NOTES	CDF_CHAR	RPW status (bitmask - received from DPU), LF_DATA_ARTEFACTS
RPW_STATUS_INFO	DEPEND_0	CDF_CHAR	Epoch
RPW_STATUS_INFO	DISPLAY_TYPE	CDF_CHAR	time_series
RPW_STATUS_INFO	FORMAT	CDF_CHAR	I1.1
RPW_STATUS_INFO_LABEL	FIELDNAM	CDF_CHAR	RPW_STATUS_INFO_LABEL
RPW_STATUS_INFO_LABEL	CATDESC	CDF_CHAR	Label for RPW_STATUS_INFO
RPW_STATUS_INFO_LABEL	VAR_TYPE	CDF_CHAR	metadata
RPW_STATUS_INFO_LABEL	FORMAT	CDF_CHAR	A16
SURVEY_MODE	FIELDNAM	CDF_CHAR	SURVEY_MODE
SURVEY_MODE	CATDESC	CDF_CHAR	LFR survey mode
SURVEY_MODE	VALIDMIN	CDF_UINT1	0
SURVEY_MODE	VALIDMAX	CDF_UINT1	1
SURVEY_MODE	SCALEMIN	CDF_UINT1	0
SURVEY_MODE	SCALEMAX	CDF_UINT1	1
SURVEY_MODE	FILLVAL	CDF_UINT1	255
SURVEY_MODE	LABLAXIS	CDF_CHAR	TDSsurvey mode
SURVEY_MODE	UNITS	CDF_CHAR	
SURVEY_MODE	VAR_TYPE	CDF_CHAR	data
SURVEY_MODE	SCALETYP	CDF_CHAR	linear
SURVEY_MODE	VAR_NOTES	CDF_CHAR	Flag to indicate if the receiver in the SURVEY_BURST (=1) or SURVEY_NORMAL (=0) mode
SURVEY_MODE	DEPEND_0	CDF_CHAR	Epoch
SURVEY_MODE	DISPLAY_TYPE	CDF_CHAR	time_series
SURVEY_MODE	FORMAT	CDF_CHAR	I1.1
CHANNEL_ON	FIELDNAM	CDF_CHAR	CHANNEL_ON
CHANNEL_ON	CATDESC	CDF_CHAR	Status channel providing the spectra
CHANNEL_ON	VALIDMIN	CDF_UINT1	0
CHANNEL_ON	VALIDMAX	CDF_UINT1	1
CHANNEL_ON	SCALEMIN	CDF_UINT1	0
CHANNEL_ON	SCALEMAX	CDF_UINT1	1
CHANNEL_ON	FILLVAL	CDF_UINT1	255
CHANNEL_ON	UNITS	CDF_CHAR	

continues on next page



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **629**

Tab. 4.92 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
CHANNEL_ON	VAR_TYPE	CDF_CHAR	support_data
CHANNEL_ON	SCALETYP	CDF_CHAR	linear
CHANNEL_ON	VAR_NOTES	CDF_CHAR	Status of signal channels in the spectra (1=INCLUDED). Indicates what channels are included in the spectra.
CHANNEL_ON	DEPEND_0	CDF_CHAR	Epoch
CHANNEL_ON	DISPLAY_TYPE	CDF_CHAR	time_series
CHANNEL_ON	FORMAT	CDF_CHAR	I6.5
CHANNEL_ON	LABL_PTR_1	CDF_CHAR	CHANNEL_LABEL
CHANNEL_OVERFLOW	FIELDNAM	CDF_CHAR	CHANNEL_OVERFLOW
CHANNEL_OVERFLOW	CATDESC	CDF_CHAR	ADC overflow per channel
CHANNEL_OVERFLOW	VALIDMIN	CDF_UINT1	0
CHANNEL_OVERFLOW	VALIDMAX	CDF_UINT1	1
CHANNEL_OVERFLOW	SCALEMIN	CDF_UINT1	0
CHANNEL_OVERFLOW	SCALEMAX	CDF_UINT1	1
CHANNEL_OVERFLOW	FILLVAL	CDF_UINT1	255
CHANNEL_OVERFLOW	UNITS	CDF_CHAR	
CHANNEL_OVERFLOW	VAR_TYPE	CDF_CHAR	support_data
CHANNEL_OVERFLOW	SCALETYP	CDF_CHAR	linear
CHANNEL_OVERFLOW	VAR_NOTES	CDF_CHAR	Indicates ADC saturation for the respective channel in the snapshot (1=OVERFLOW)
CHANNEL_OVERFLOW	DEPEND_0	CDF_CHAR	Epoch
CHANNEL_OVERFLOW	DISPLAY_TYPE	CDF_CHAR	time_series
CHANNEL_OVERFLOW	FORMAT	CDF_CHAR	I6.5
CHANNEL_OVERFLOW	LABL_PTR_1	CDF_CHAR	CHANNEL_LABEL
CHANNEL_CONFIG	FIELDNAM	CDF_CHAR	CHANNEL_CONFIG
CHANNEL_CONFIG	CATDESC	CDF_CHAR	Status channel
CHANNEL_CONFIG	VALIDMIN	CDF_UINT1	0
CHANNEL_CONFIG	VALIDMAX	CDF_UINT1	1
CHANNEL_CONFIG	SCALEMIN	CDF_UINT1	0
CHANNEL_CONFIG	SCALEMAX	CDF_UINT1	1
CHANNEL_CONFIG	FILLVAL	CDF_UINT1	255
CHANNEL_CONFIG	UNITS	CDF_CHAR	
CHANNEL_CONFIG	VAR_TYPE	CDF_CHAR	support_data
CHANNEL_CONFIG	SCALETYP	CDF_CHAR	linear
CHANNEL_CONFIG	VAR_NOTES	CDF_CHAR	Status of signal channels (1=ON). Indicates what channels are switched on.
CHANNEL_CONFIG	DEPEND_0	CDF_CHAR	Epoch

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 630

Tab. 4.92 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
CHANNEL_CONFIG	DISPLAY_TYPE	CDF_CHAR	time_series
CHANNEL_CONFIG	FORMAT	CDF_CHAR	I6.5
CHANNEL_CONFIG	LABL_PTR_1	CDF_CHAR	CHANNEL_LABEL
CHANNEL_LABEL	FIELDNAM	CDF_CHAR	CHANNEL_LABEL
CHANNEL_LABEL	CATDESC	CDF_CHAR	Label for CHANNEL
CHANNEL_LABEL	VAR_TYPE	CDF_CHAR	metadata
CHANNEL_LABEL	FORMAT	CDF_CHAR	A8
PSDSM_SRCLLEN	FIELDNAM	CDF_CHAR	PSDSM_SRCLLEN
PSDSM_SRCLLEN	CATDESC	CDF_CHAR	Length of the snapshot in samples
PSDSM_SRCLLEN	VALIDMIN	CDF_UINT2	0
PSDSM_SRCLLEN	VALIDMAX	CDF_UINT2	65534
PSDSM_SRCLLEN	SCALEMIN	CDF_UINT2	4096
PSDSM_SRCLLEN	SCALEMAX	CDF_UINT2	32768
PSDSM_SRCLLEN	FILLVAL	CDF_UINT2	65535
PSDSM_SRCLLEN	LABLAXIS	CDF_CHAR	Length of snapshot
PSDSM_SRCLLEN	UNITS	CDF_CHAR	samples
PSDSM_SRCLLEN	VAR_TYPE	CDF_CHAR	data
PSDSM_SRCLLEN	SCALETYP	CDF_CHAR	linear
PSDSM_SRCLLEN	VAR_NOTES	CDF_CHAR	Length of the snapshot in samples which was used to calculate the spectra transmitted in this packet
PSDSM_SRCLLEN	DEPEND_0	CDF_CHAR	Epoch
PSDSM_SRCLLEN	DISPLAY_TYPE	CDF_CHAR	time_series
PSDSM_SRCLLEN	FORMAT	CDF_CHAR	I5
PSD_DATA	FIELDNAM	CDF_CHAR	PSD_DATA
PSD_DATA	CATDESC	CDF_CHAR	Auto spectral PSD values
PSD_DATA	VALIDMIN	CDF_FLOAT	-1.0e+30
PSD_DATA	VALIDMAX	CDF_FLOAT	1.0e+30
PSD_DATA	SCALEMIN	CDF_FLOAT	-1.0e+30
PSD_DATA	SCALEMAX	CDF_FLOAT	1.0e+30
PSD_DATA	FILLVAL	CDF_FLOAT	-1.0e+31
PSD_DATA	LABLAXIS	CDF_CHAR	PSD
PSD_DATA	UNITS	CDF_CHAR	V ² /Hz
PSD_DATA	VAR_TYPE	CDF_CHAR	data
PSD_DATA	SCALETYP	CDF_CHAR	linear
PSD_DATA	VAR_NOTES	CDF_CHAR	Auto spectral PSD values
PSD_DATA	DEPEND_0	CDF_CHAR	Epoch
PSD_DATA	DISPLAY_TYPE	CDF_CHAR	time_series
PSD_DATA	FORMAT	CDF_CHAR	F8.3

continues on next page



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03

Date: March 11, 2021

Page: **631**

Tab. 4.92 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
PSDSM_TYPE	FIELDNAM	CDF_CHAR	PSDSM_TYPE
PSDSM_TYPE	CATDESC	CDF_CHAR	Status of signal channels in the snapshot
PSDSM_TYPE	VALIDMIN	CDF_UINT1	0
PSDSM_TYPE	VALIDMAX	CDF_UINT1	1
PSDSM_TYPE	SCALEMIN	CDF_UINT1	0
PSDSM_TYPE	SCALEMAX	CDF_UINT1	1
PSDSM_TYPE	FILLVAL	CDF_UINT1	255
PSDSM_TYPE	LABLAXIS	CDF_CHAR	PSDSM_TYPE
PSDSM_TYPE	UNITS	CDF_CHAR	
PSDSM_TYPE	VAR_TYPE	CDF_CHAR	data
PSDSM_TYPE	SCALETYP	CDF_CHAR	linear
PSDSM_TYPE	VAR_NOTES	CDF_CHAR	Status of signal channels in the snapshot (0=OFF, 1=ON)
PSDSM_TYPE	DEPEND_0	CDF_CHAR	Epoch
PSDSM_TYPE	DISPLAY_TYPE	CDF_CHAR	time_series
PSDSM_TYPE	FORMAT	CDF_CHAR	I1.1
PSDSM_TYPE	LABL_PTR_1	CDF_CHAR	CHANNEL_LABEL
PSDSM_FREQ_NR	FIELDNAM	CDF_CHAR	PSDSM_FREQ_NR
PSDSM_FREQ_NR	CATDESC	CDF_CHAR	Status of signal channels in the snapshot
PSDSM_FREQ_NR	VALIDMIN	CDF_UINT2	0
PSDSM_FREQ_NR	VALIDMAX	CDF_UINT2	254
PSDSM_FREQ_NR	SCALEMIN	CDF_UINT2	16
PSDSM_FREQ_NR	SCALEMAX	CDF_UINT2	200
PSDSM_FREQ_NR	FILLVAL	CDF_UINT2	65535
PSDSM_FREQ_NR	LABLAXIS	CDF_CHAR	Number of frequency
PSDSM_FREQ_NR	UNITS	CDF_CHAR	
PSDSM_FREQ_NR	VAR_TYPE	CDF_CHAR	data
PSDSM_FREQ_NR	SCALETYP	CDF_CHAR	linear
PSDSM_FREQ_NR	VAR_NOTES	CDF_CHAR	Number of frequency bins
PSDSM_FREQ_NR	DEPEND_0	CDF_CHAR	Epoch
PSDSM_FREQ_NR	DISPLAY_TYPE	CDF_CHAR	time_series
PSDSM_FREQ_NR	FORMAT	CDF_CHAR	I3
PSDSM_FREQ_AXIS	FIELDNAM	CDF_CHAR	PSDSM_FREQ_AXIS
PSDSM_FREQ_AXIS	CATDESC	CDF_CHAR	Status of signal channels in the snapshot
PSDSM_FREQ_AXIS	VALIDMIN	CDF_FLOAT	-1.0e+30
PSDSM_FREQ_AXIS	VALIDMAX	CDF_FLOAT	1.0e+30
PSDSM_FREQ_AXIS	SCALEMIN	CDF_FLOAT	0.0
PSDSM_FREQ_AXIS	SCALEMAX	CDF_FLOAT	1.0e+30

continues on next page



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **632**

Tab. 4.92 – continued from previous page


Variable Name	Attribute Name	Data Type	Value
PSDSM_FREQ_AXIS	FILLVAL	CDF_FLOAT	-1.0e+31
PSDSM_FREQ_AXIS	LABLAXIS	CDF_CHAR	Frequency
PSDSM_FREQ_AXIS	UNITS	CDF_CHAR	kHz
PSDSM_FREQ_AXIS	VAR_TYPE	CDF_CHAR	data
PSDSM_FREQ_AXIS	SCALETYP	CDF_CHAR	linear
PSDSM_FREQ_AXIS	VAR_NOTES	CDF_CHAR	Frequency axis
PSDSM_FREQ_AXIS	DEPEND_0	CDF_CHAR	Epoch
PSDSM_FREQ_AXIS	DISPLAY_TYPE	CDF_CHAR	time_series
CROSS_RE	FIELDNAM	CDF_CHAR	CROSS_RE
CROSS_RE	CATDESC	CDF_CHAR	Real part of complex cross correlations from the EM data
CROSS_RE	VALIDMIN	CDF_FLOAT	-1.0e+30
CROSS_RE	VALIDMAX	CDF_FLOAT	1.0e+30
CROSS_RE	SCALEMIN	CDF_FLOAT	-1.0e+30
CROSS_RE	SCALEMAX	CDF_FLOAT	1.0e+30
CROSS_RE	FILLVAL	CDF_FLOAT	-1.0e+31
CROSS_RE	LABLAXIS	CDF_CHAR	CROSS_RE
CROSS_RE	UNITS	CDF_CHAR	V ² /Hz
CROSS_RE	VAR_TYPE	CDF_CHAR	data
CROSS_RE	SCALETYP	CDF_CHAR	linear
CROSS_RE	VAR_NOTES	CDF_CHAR	This variable contains the 3 (10) real parts of complex values for TDS LFM data.
CROSS_RE	DEPEND_0	CDF_CHAR	Epoch
CROSS_RE	DISPLAY_TYPE	CDF_CHAR	time_series
CROSS_RE	FORMAT	CDF_CHAR	F8.3
CROSS_IM	FIELDNAM	CDF_CHAR	CROSS_IM
CROSS_IM	CATDESC	CDF_CHAR	Imaginary part of complex cross correlations from the TDS LFM data
CROSS_IM	VALIDMIN	CDF_FLOAT	-1.0e+30
CROSS_IM	VALIDMAX	CDF_FLOAT	1.0e+30
CROSS_IM	SCALEMIN	CDF_FLOAT	-1.0e+30
CROSS_IM	SCALEMAX	CDF_FLOAT	1.0e+30
CROSS_IM	FILLVAL	CDF_FLOAT	-1.0e+31
CROSS_IM	LABLAXIS	CDF_CHAR	CROSS_IM
CROSS_IM	UNITS	CDF_CHAR	V ² /Hz
CROSS_IM	VAR_TYPE	CDF_CHAR	data
CROSS_IM	SCALETYP	CDF_CHAR	linear

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 633

Tab. 4.92 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
CROSS_IM	VAR_NOTES	CDF_CHAR	This variable contains the 3 (10) imaginary parts of complex values for TDS LFM data.
CROSS_IM	DEPEND_0	CDF_CHAR	Epoch
CROSS_IM	DISPLAY_TYPE	CDF_CHAR	time_series
CROSS_IM	FORMAT	CDF_CHAR	F8.3
SYNCHRO_FLAG	FIELDNAM	CDF_CHAR	SYNCHRO_FLAG
SYNCHRO_FLAG	CATDESC	CDF_CHAR	Time synchronisation flag
SYNCHRO_FLAG	VALIDMIN	CDF_UINT1	0
SYNCHRO_FLAG	VALIDMAX	CDF_UINT1	1
SYNCHRO_FLAG	SCALEMIN	CDF_UINT1	0
SYNCHRO_FLAG	SCALEMAX	CDF_UINT1	1
SYNCHRO_FLAG	FILLVAL	CDF_UINT1	255
SYNCHRO_FLAG	LABLAXIS	CDF_CHAR	time sync. flag
SYNCHRO_FLAG	UNITS	CDF_CHAR	
SYNCHRO_FLAG	VAR_TYPE	CDF_CHAR	support_data
SYNCHRO_FLAG	SCALETYP	CDF_CHAR	linear
SYNCHRO_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate if the local time is synchronized with the RPW DPU clock or not. Possible values: synchronized=0, not synchronized=1. This flag is extracted from ACQUISITION_TIME in L0 packets, it is the MSB of the CUC time.
SYNCHRO_FLAG	DEPEND_0	CDF_CHAR	Epoch
SYNCHRO_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
SYNCHRO_FLAG	FORMAT	CDF_CHAR	I3.3


	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 634

4.1.3.16.6 Non-Record-Variant (NRV) Variables

Variable Name	Index	Value
BIA_STATUS_INFO_LABEL	1	BIA ON
BIA_STATUS_INFO_LABEL	2	BIAS3 ON
BIA_STATUS_INFO_LABEL	3	BIAS2 ON
BIA_STATUS_INFO_LABEL	4	BIAS1 ON
BIA_STATUS_INFO_LABEL	5	BIA MODE HV ON
BIA_STATUS_INFO_LABEL	6	BIA MODE MUX
RPW_STATUS_INFO_LABEL	1	THR ON
RPW_STATUS_INFO_LABEL	2	LFR ON
RPW_STATUS_INFO_LABEL	3	ANT1 ON
RPW_STATUS_INFO_LABEL	4	ANT2 ON
RPW_STATUS_INFO_LABEL	5	ANT3 ON
RPW_STATUS_INFO_LABEL	6	SCM ON
RPW_STATUS_INFO_LABEL	7	SCM CALIB
CHANNEL_LABEL	1	BIAS1
CHANNEL_LABEL	2	BIAS2
CHANNEL_LABEL	3	BIAS3
CHANNEL_LABEL	4	B_LF1
CHANNEL_LABEL	5	B_LF2
CHANNEL_LABEL	6	B_LF3

4.1.3.17 SOLO_L2_RPW-TDS-SBM1-RSWF-E data product

The “SOLO_L2_RPW-TDS-SBM1-RSWF-E” data product contains the calibrated TDS receiver Regular Snapshot Waveform data for SBM1 events for electrical component only. The “SOLO_L2_RPW-TDS-SBM1-RSWF-E” data are written in CDF format files. There is a single file per SBM1 event data effectively downlinked on-ground. The file is generated from data in the corresponding SOLO_L1_RPW-TDS-SBM1-RSWF parent file.

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 635

4.1.3.17.1 Filename

solo_L2_rpw-tds-sbm1-rswf-e_[YYYYMMDDThhmmss1- YYYYMMDDThhmmss2]_
↪V[version].cdf


4.1.3.17.2 Expected cadence and data volume

Nominal cadence: 1 file per SBM1 event

Expected data volume: TBD MB per file

4.1.3.17.3 Global Attributes


Attribute Name	Entry Number	Data Type	Value
ACCESS_URL	1	CDF_CHAR	
ACCESS_FORMAT	1	CDF_CHAR	CDF
Acknowledgement	1	CDF_CHAR	The authors are pleased to acknowledge the Solar Orbiter/RPW Investigation (M. Maksimovic, PIs) for access to data.
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009 (2.4)
Data_type	1	CDF_CHAR	H0>High Resolution data
Data_version	1	CDF_CHAR	
Descriptor	1	CDF_CHAR	RPW-TDS-SURV-RSWF> RPW Time Domain Sampler Regular Waveform Snapshot data in survey mode
Discipline	1	CDF_CHAR	Space Physics>Interplanetary Studies
File_naming_convention	1	CDF_CHAR	<Source_name>_<LEVEL>_<Descriptor>_<Date>
File_ID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	RPW Operations Centre located at LESIA (Meudon, France)
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	https://rpw.lesia.obspm.fr
Instrument_type	1	CDF_CHAR	Radio and Plasma Waves (space)
LINK_TEXT	1	CDF_CHAR	RPW Web site at LESIA
LINK_TITLE	1	CDF_CHAR	RPW Web site
Logical_file_id	1	CDF_CHAR	
Logical_source	1	CDF_CHAR	solo_L2_rpw-tds-sbm1-rswf-e
Logical_source_description	1	CDF_CHAR	Solar Orbiter Radio/Plasma Wave, TDS L2 parameters

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 636

Tab. 4.93 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Mission_group	1	CDF_CHAR	Solar Orbiter
MODS	1	CDF_CHAR	
Parent_version	1	CDF_CHAR	
Parents	1	CDF_CHAR	
PI_affiliation	1	CDF_CHAR	LESIA, Observatoire de Paris-CNRS
PI_name	1	CDF_CHAR	M.Maksimovic
Pipeline_version	1	CDF_CHAR	
Project	1	CDF_CHAR	SOLO>Solar Orbiter
Provider	1	CDF_CHAR	LESIA (Meudon, France)
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00006-LES (1.3)
Rules_of_use	1	CDF_CHAR	Data provided are publicly available. If used in presentations or publications, please acknowledge Solar Orbiter/RPW Investigation (M. Maksimovic, PIs). Please read carefully the caveats attached to the data. For reporting purposes, we request bibliography information for any publication, etc., using these data. Please send information on the use of this data to: M. Maksimovic (PI).
SKELETON_MODS	1	CDF_CHAR	January 2016: initial release
SKELETON_MODS	2	CDF_CHAR	October 2016 (ROC): Update to Issue 2 Rev 1
SKELETON_MODS	3	CDF_CHAR	January 2019 (IAP): CDF_NAME fixed, gAtts fixed.
SKELETON_MODS	4	CDF_CHAR	V04: Update for solo data definition, X. BONNIN (CNRS-LESIA), April 2019
SKELETON_MODS	5	CDF_CHAR	V05: Update to compliant with SOL-SGS-TN-0009 Issue 2, Rev 4 - X.Bonnin, 09/2019
SKELETON_MODS	6	CDF_CHAR	V06: Update zVars WAVEFORM_DATA_RTN and RPW_ANTENNA_RTN added. WAVEFORM_LABEL, SYNCHRO_FLAG, ACQUISITION_* and SCET removed. SAMPLING_RATE updated to Hz. Minor typos fixed. TEST_* gAtts removed.
SKELETON_MODS	7	CDF_CHAR	V07: g.Attribute SPICE_KERNELS added.


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 637

Tab. 4.93 – continued from previous page


Attribute Name	Entry Number	Data Type	Value
SKELETON_MODS	8	CDF_CHAR	V08: zVar TDS_CONFIG_LABEL added, D.Pisa (IAP-CAS), Jun 2020.
SKELETON_MODS	9	CDF_CHAR	V09: QUALITY_BITMASK type changed. CHANNEL_CONFIG dimensions reordered.
SKELETON_MODS	10	CDF_CHAR	V10: Remove UCD vattr and POST_GAP_FLAG zVar.
SKELETON_MODS	11	CDF_CHAR	V11: WAVEFORM_DATA_RTN replaced by WAVEFORM_DATA_VOLTAGE
SKELETON_MODS	12	CDF_CHAR	V12: NASA/SPDF compliance changes. MODS renamed to SKELETON_MODS. CHANNEL_CONFIG renamed to CHANNEL_REF. CHANNEL_REF changed from two elements vector to a number. RPW_ANTENNA_RTN_LABEL_1 and _2 zVars added. CHANNEL_LABEL set has NRV values.GAtt MODS added.
SKELETON_PARENT	1	CDF_CHAR	SOLO_L2_RPW-TDS-SBM1-RSWF-E
Skeleton_version	1	CDF_CHAR	12
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	SOLO>Solar Orbiter
SPICE_KERNELS	1	CDF_CHAR	
SPECTRAL_RANGE_MAX	1	CDF_CHAR	
SPECTRAL_RANGE_MIN	1	CDF_CHAR	
TEXT	1	CDF_CHAR	This file contains RPW TDS level 2 regular snapshot E waveform data.
TEXT_supplement_1	1	CDF_CHAR	
TIME_MAX	1	CDF_CHAR	
TIME_MIN	1	CDF_CHAR	
Validate	1	CDF_CHAR	
CAVEATS	1	CDF_CHAR	
CAL_ENTITY_NAME	1	CDF_CHAR	
CAL_ENTITY_AFFILIATION	1	CDF_CHAR	
CAL_EQUIPMENT	1	CDF_CHAR	
CALIBRATION_TABLE	1	CDF_CHAR	

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 638

Tab. 4.93 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
CALIBRATION_VERSION	1	CDF_CHAR	
Datetime	1	CDF_CHAR	
Free_field	1	CDF_CHAR	
Job_ID	1	CDF_CHAR	
LEVEL	1	CDF_CHAR	L2>Level 2 data processing
SOOP_TYPE	1	CDF_CHAR	
Data_product	1	CDF_CHAR	SBM1-RSWF-E>SBM1-RSWF-E
TARGET_NAME	1	CDF_CHAR	Sun
TARGET_CLASS	1	CDF_CHAR	Star
TARGET_REGION	1	CDF_CHAR	Solar Wind
Pipeline_name	1	CDF_CHAR	
Dataset_ID	1	CDF_CHAR	SOLO_L2_RPW-TDS-SBM1-RSWF-E
OBS_ID	1	CDF_CHAR	

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 639


4.1.3.17.4 zVariables

Variable Name	Data Type	Number Elements	Dims	Sizes
Epoch	CDF_TIME_TT2000	1	0	
QUALITY_FLAG	CDF_UINT1	1	0	
QUALITY_BITMASK	CDF_UINT2	1	0	
QUALITY_FACT	CDF_UINT2	1	0	
SURVEY_MODE	CDF_UINT1	1	0	
BIA_STATUS_INFO	CDF_UINT1	1	1	6
BIA_STATUS_INFO_LABEL	CDF_CHAR	16	1	6
RPW_STATUS_INFO	CDF_UINT1	1	1	7
RPW_STATUS_INFO_LABEL	CDF_CHAR	16	1	7
SAMPLING_RATE	CDF_FLOAT	1	0	
FILTER_COEFS	CDF_UINT1	1	0	
INPUT_CONFIG	CDF_UINT4	1	0	
TDS_CONFIG_LABEL	CDF_CHAR	8	0	
SNAPSHOT_SEQ_NR	CDF_UINT2	1	0	
CHANNEL_ON	CDF_UINT1	1	1	4
CHANNEL_OVERFLOW	CDF_UINT1	1	1	4
BUFFER_OVERFLOW	CDF_UINT1	1	0	
CHANNEL_REF	CDF_UINT1	1	1	4
CHANNEL_LABEL	CDF_CHAR	16	1	4
SAMPS_PER_CH	CDF_UINT4	1	0	
WAVEFORM_DATA	CDF_FLOAT	1	2	4 65536
WAVEFORM_DATA_VOLTAGE	CDF_FLOAT	1	2	4 65536
RPW_ANTENNA_RTN	CDF_FLOAT	1	2	3 3
RPW_ANTENNA_RTN_LABEL	CDF_CHAR	8	1	3
RPW_ANTENNA_RTN_LABEL	CDF_CHAR	8	1	3

4.1.3.17.5 Variable attributes

Variable Name	Attribute Name	Data Type	Value
Epoch	FIELDNAM	CDF_CHAR	Epoch
Epoch	CATDESC	CDF_CHAR	Default time
Epoch	VALIDMIN	CDF_TIME_TT2000	2000-01-01T12:00:00.000000000
Epoch	VALIDMAX	CDF_TIME_TT2000	2029-12-31T23:59:59.999000000


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 640

Tab. 4.94 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
Epoch	SCALEMIN	CDF_TIME_TT2000	2000-01-01T12:00:00.000000000
Epoch	SCALEMAX	CDF_TIME_TT2000	2029-12-31T23:59:59.999000000
Epoch	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch	LABLAXIS	CDF_CHAR	Epoch
Epoch	UNITS	CDF_CHAR	ns
Epoch	VAR_TYPE	CDF_CHAR	support_data
Epoch	SCALETYP	CDF_CHAR	linear
Epoch	MONOTON	CDF_CHAR	INCREASE
Epoch	TIME_BASE	CDF_CHAR	J2000
Epoch	TIME_SCALE	CDF_CHAR	Terrestrial Time
Epoch	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
Epoch	Resolution	CDF_CHAR	15258 ns
Epoch	Bin_location	CDF_CHAR	0.5
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	VALIDMIN	CDF_UINT1	0
QUALITY_FLAG	VALIDMAX	CDF_UINT1	4
QUALITY_FLAG	SCALEMIN	CDF_UINT1	0
QUALITY_FLAG	SCALEMAX	CDF_UINT1	4
QUALITY_FLAG	FILLVAL	CDF_UINT1	255
QUALITY_FLAG	LABLAXIS	CDF_CHAR	Quality flag
QUALITY_FLAG	UNITS	CDF_CHAR	
QUALITY_FLAG	VAR_TYPE	CDF_CHAR	support_data
QUALITY_FLAG	SCALETYP	CDF_CHAR	linear
QUALITY_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the quality of the data
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FLAG	FORMAT	CDF_CHAR	I1
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 641

Tab. 4.94 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	UNITS	CDF_CHAR	
QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context information or status at the receiver or experiment level
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
QUALITY_FACT	FIELDNAM	CDF_CHAR	QUALITY_FACT
QUALITY_FACT	CATDESC	CDF_CHAR	Quality factor of the packet
QUALITY_FACT	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FACT	VALIDMIN	CDF_UINT2	0
QUALITY_FACT	VALIDMAX	CDF_UINT2	65534
QUALITY_FACT	SCALEMIN	CDF_UINT2	0
QUALITY_FACT	SCALEMAX	CDF_UINT2	1
QUALITY_FACT	FILLVAL	CDF_UINT2	65535
QUALITY_FACT	LABLAXIS	CDF_CHAR	Quality factor
QUALITY_FACT	UNITS	CDF_CHAR	
QUALITY_FACT	VAR_TYPE	CDF_CHAR	support_data
QUALITY_FACT	SCALETYP	CDF_CHAR	linear
QUALITY_FACT	VAR_NOTES	CDF_CHAR	Quality factor
QUALITY_FACT	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FACT	FORMAT	CDF_CHAR	I5
SURVEY_MODE	FIELDNAM	CDF_CHAR	SURVEY_MODE
SURVEY_MODE	CATDESC	CDF_CHAR	LFR survey mode
SURVEY_MODE	DISPLAY_TYPE	CDF_CHAR	time_series
SURVEY_MODE	VALIDMIN	CDF_UINT1	0
SURVEY_MODE	VALIDMAX	CDF_UINT1	1
SURVEY_MODE	SCALEMIN	CDF_UINT1	0
SURVEY_MODE	SCALEMAX	CDF_UINT1	1
SURVEY_MODE	FILLVAL	CDF_UINT1	255
SURVEY_MODE	LABLAXIS	CDF_CHAR	TDSsurvey mode
SURVEY_MODE	UNITS	CDF_CHAR	
SURVEY_MODE	VAR_TYPE	CDF_CHAR	data
SURVEY_MODE	SCALETYP	CDF_CHAR	linear
SURVEY_MODE	VAR_NOTES	CDF_CHAR	Flag to indicate if the receiver in the SURVEY_BURST (=1) or SURVEY_NORMAL (=0) mode


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 642

Tab. 4.94 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SURVEY_MODE	DEPEND_0	CDF_CHAR	Epoch
SURVEY_MODE	FORMAT	CDF_CHAR	I1
BIA_STATUS_INFO	FIELDNAM	CDF_CHAR	BIA_STATUS_INFO
BIA_STATUS_INFO	CATDESC	CDF_CHAR	BIAS status byte
BIA_STATUS_INFO	DISPLAY_TYPE	CDF_CHAR	time_series
BIA_STATUS_INFO	VALIDMIN	CDF_UINT1	0
BIA_STATUS_INFO	VALIDMAX	CDF_UINT1	1
BIA_STATUS_INFO	SCALEMIN	CDF_UINT1	0
BIA_STATUS_INFO	SCALEMAX	CDF_UINT1	1
BIA_STATUS_INFO	FILLVAL	CDF_UINT1	255
BIA_STATUS_INFO	UNITS	CDF_CHAR	
BIA_STATUS_INFO	VAR_TYPE	CDF_CHAR	support_data
BIA_STATUS_INFO	SCALETYP	CDF_CHAR	linear
BIA_STATUS_INFO	VAR_NOTES	CDF_CHAR	BIAS status byte
BIA_STATUS_INFO	DEPEND_0	CDF_CHAR	Epoch
BIA_STATUS_INFO	FORMAT	CDF_CHAR	I1
BIA_STATUS_INFO	LABL_PTR_1	CDF_CHAR	BIA_STATUS_INFO_LABEL
BIA_STATUS_INFO_LABEL	FIELDNAM	CDF_CHAR	BIA_STATUS_INFO_LABEL
BIA_STATUS_INFO_LABEL	CATDESC	CDF_CHAR	Label for BIA_STATUS_INFO
BIA_STATUS_INFO_LABEL	VAR_TYPE	CDF_CHAR	metadata
BIA_STATUS_INFO_LABEL	FORMAT	CDF_CHAR	A8
RPW_STATUS_INFO	FIELDNAM	CDF_CHAR	RPW_STATUS_INFO
RPW_STATUS_INFO	CATDESC	CDF_CHAR	RPW status
RPW_STATUS_INFO	DISPLAY_TYPE	CDF_CHAR	time_series
RPW_STATUS_INFO	VALIDMIN	CDF_UINT1	0
RPW_STATUS_INFO	VALIDMAX	CDF_UINT1	1
RPW_STATUS_INFO	SCALEMIN	CDF_UINT1	0
RPW_STATUS_INFO	SCALEMAX	CDF_UINT1	1
RPW_STATUS_INFO	FILLVAL	CDF_UINT1	255
RPW_STATUS_INFO	UNITS	CDF_CHAR	
RPW_STATUS_INFO	VAR_TYPE	CDF_CHAR	support_data
RPW_STATUS_INFO	SCALETYP	CDF_CHAR	linear
RPW_STATUS_INFO	VAR_NOTES	CDF_CHAR	RPW status (bitmask - re- ceived from DPU)
RPW_STATUS_INFO	DEPEND_0	CDF_CHAR	Epoch
RPW_STATUS_INFO	FORMAT	CDF_CHAR	I1
RPW_STATUS_INFO	LABL_PTR_1	CDF_CHAR	RPW_STATUS_INFO_LABEL
RPW_STATUS_INFO_LABEL	FIELDNAM	CDF_CHAR	RPW_STATUS_INFO_LABEL
RPW_STATUS_INFO_LABEL	CATDESC	CDF_CHAR	Label for RPW_STATUS_INFO


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 643

Tab. 4.94 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
RPW_STATUS_INFO_LABEL	VAR_TYPE	CDF_CHAR	metadata
RPW_STATUS_INFO_LABEL	FORMAT	CDF_CHAR	A8
SAMPLING_RATE	FIELDNAM	CDF_CHAR	SAMPLING_RATE
SAMPLING_RATE	CATDESC	CDF_CHAR	TDS sampling rate
SAMPLING_RATE	DISPLAY_TYPE	CDF_CHAR	time_series
SAMPLING_RATE	VALIDMIN	CDF_FLOAT	0.0
SAMPLING_RATE	VALIDMAX	CDF_FLOAT	2.0971e+06
SAMPLING_RATE	SCALEMIN	CDF_FLOAT	65534.0
SAMPLING_RATE	SCALEMAX	CDF_FLOAT	524275.0
SAMPLING_RATE	FILLVAL	CDF_FLOAT	-1.0e+31
SAMPLING_RATE	LABLAXIS	CDF_CHAR	Sampling rate code
SAMPLING_RATE	UNITS	CDF_CHAR	Hz
SAMPLING_RATE	VAR_TYPE	CDF_CHAR	data
SAMPLING_RATE	SCALETYP	CDF_CHAR	linear
SAMPLING_RATE	VAR_NOTES	CDF_CHAR	TDS sampling rate
SAMPLING_RATE	DEPEND_0	CDF_CHAR	Epoch
SAMPLING_RATE	FORMAT	CDF_CHAR	F9.1
FILTER_COEFS	FIELDNAM	CDF_CHAR	FILTER_COEFS
FILTER_COEFS	CATDESC	CDF_CHAR	Index of filter coefficients used
FILTER_COEFS	DISPLAY_TYPE	CDF_CHAR	time_series
FILTER_COEFS	VALIDMIN	CDF_UINT1	0
FILTER_COEFS	VALIDMAX	CDF_UINT1	4
FILTER_COEFS	SCALEMIN	CDF_UINT1	0
FILTER_COEFS	SCALEMAX	CDF_UINT1	1
FILTER_COEFS	FILLVAL	CDF_UINT1	255
FILTER_COEFS	LABLAXIS	CDF_CHAR	Filter coeffs.
FILTER_COEFS	UNITS	CDF_CHAR	
FILTER_COEFS	VAR_TYPE	CDF_CHAR	support_data
FILTER_COEFS	SCALETYP	CDF_CHAR	linear
FILTER_COEFS	VAR_NOTES	CDF_CHAR	Index of filter coefficients used
FILTER_COEFS	DEPEND_0	CDF_CHAR	Epoch
FILTER_COEFS	FORMAT	CDF_CHAR	I1
INPUT_CONFIG	FIELDNAM	CDF_CHAR	INPUT_CONFIG
INPUT_CONFIG	CATDESC	CDF_CHAR	Bitmask of TDS analog input configuration
INPUT_CONFIG	DISPLAY_TYPE	CDF_CHAR	time_series
INPUT_CONFIG	VALIDMIN	CDF_UINT4	0
INPUT_CONFIG	VALIDMAX	CDF_UINT4	4294967294
INPUT_CONFIG	SCALEMIN	CDF_UINT4	0


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 644

Tab. 4.94 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
INPUT_CONFIG	SCALEMAX	CDF_UINT4	4294967294
INPUT_CONFIG	FILLVAL	CDF_UINT4	4294967295
INPUT_CONFIG	LABLAXIS	CDF_CHAR	TDS input config.
INPUT_CONFIG	UNITS	CDF_CHAR	
INPUT_CONFIG	VAR_TYPE	CDF_CHAR	support_data
INPUT_CONFIG	SCALETYP	CDF_CHAR	linear
INPUT_CONFIG	VAR_NOTES	CDF_CHAR	Input TDS configuration
INPUT_CONFIG	DEPEND_0	CDF_CHAR	Epoch
INPUT_CONFIG	FORMAT	CDF_CHAR	I10
TDS_CONFIG_LABEL	FIELDNAM	CDF_CHAR	TDS_CONFIG_LABEL
TDS_CONFIG_LABEL	CATDESC	CDF_CHAR	Label for TDS Configuration
TDS_CONFIG_LABEL	VAR_TYPE	CDF_CHAR	metadata
TDS_CONFIG_LABEL	FORMAT	CDF_CHAR	A8
SNAPSHOT_SEQ_NR	FIELDNAM	CDF_CHAR	SNAPSHOT_SEQ_NR
SNAPSHOT_SEQ_NR	CATDESC	CDF_CHAR	Sequential number of a snapshot incremented with every snapshot
SNAPSHOT_SEQ_NR	DISPLAY_TYPE	CDF_CHAR	time_series
SNAPSHOT_SEQ_NR	VALIDMIN	CDF_UINT2	0
SNAPSHOT_SEQ_NR	VALIDMAX	CDF_UINT2	65534
SNAPSHOT_SEQ_NR	SCALEMIN	CDF_UINT2	0
SNAPSHOT_SEQ_NR	SCALEMAX	CDF_UINT2	65534
SNAPSHOT_SEQ_NR	FILLVAL	CDF_UINT2	65535
SNAPSHOT_SEQ_NR	LABLAXIS	CDF_CHAR	Snapshot seq. Num.
SNAPSHOT_SEQ_NR	UNITS	CDF_CHAR	
SNAPSHOT_SEQ_NR	VAR_TYPE	CDF_CHAR	data
SNAPSHOT_SEQ_NR	SCALETYP	CDF_CHAR	linear
SNAPSHOT_SEQ_NR	VAR_NOTES	CDF_CHAR	Sequential number of a snapshot incremented with every snapshot
SNAPSHOT_SEQ_NR	DEPEND_0	CDF_CHAR	Epoch
SNAPSHOT_SEQ_NR	FORMAT	CDF_CHAR	I5
CHANNEL_ON	FIELDNAM	CDF_CHAR	CHANNEL_ON
CHANNEL_ON	CATDESC	CDF_CHAR	Status of signal channels in the snapshot
CHANNEL_ON	DISPLAY_TYPE	CDF_CHAR	time_series
CHANNEL_ON	VALIDMIN	CDF_UINT1	0
CHANNEL_ON	VALIDMAX	CDF_UINT1	1
CHANNEL_ON	SCALEMIN	CDF_UINT1	0
CHANNEL_ON	SCALEMAX	CDF_UINT1	1
CHANNEL_ON	FILLVAL	CDF_UINT1	255


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 645

Tab. 4.94 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
CHANNEL_ON	UNITS	CDF_CHAR	
CHANNEL_ON	VAR_TYPE	CDF_CHAR	support_data
CHANNEL_ON	SCALETYP	CDF_CHAR	linear
CHANNEL_ON	VAR_NOTES	CDF_CHAR	Status of signal channels in the snapshot (0=OFF, 1=ON). Indicates whether corresponding channel in waveform data contains valid data.
CHANNEL_ON	DEPEND_0	CDF_CHAR	Epoch
CHANNEL_ON	FORMAT	CDF_CHAR	I1
CHANNEL_ON	LABL_PTR_1	CDF_CHAR	CHANNEL_LABEL
CHANNEL_OVERFLOW	FIELDNAM	CDF_CHAR	CHANNEL_OVERFLOW
CHANNEL_OVERFLOW	CATDESC	CDF_CHAR	Status of channel overflows in the snapshot
CHANNEL_OVERFLOW	DISPLAY_TYPE	CDF_CHAR	time_series
CHANNEL_OVERFLOW	VALIDMIN	CDF_UINT1	0
CHANNEL_OVERFLOW	VALIDMAX	CDF_UINT1	1
CHANNEL_OVERFLOW	SCALEMIN	CDF_UINT1	0
CHANNEL_OVERFLOW	SCALEMAX	CDF_UINT1	1
CHANNEL_OVERFLOW	FILLVAL	CDF_UINT1	255
CHANNEL_OVERFLOW	UNITS	CDF_CHAR	
CHANNEL_OVERFLOW	VAR_TYPE	CDF_CHAR	support_data
CHANNEL_OVERFLOW	SCALETYP	CDF_CHAR	linear
CHANNEL_OVERFLOW	VAR_NOTES	CDF_CHAR	Indicates ADC saturation for the respective channel in the snapshot (1=OVERFLOW)
CHANNEL_OVERFLOW	DEPEND_0	CDF_CHAR	Epoch
CHANNEL_OVERFLOW	FORMAT	CDF_CHAR	I1
CHANNEL_OVERFLOW	LABL_PTR_1	CDF_CHAR	CHANNEL_LABEL
BUFFER_OVERFLOW	FIELDNAM	CDF_CHAR	BUFFER_OVERFLOW
BUFFER_OVERFLOW	CATDESC	CDF_CHAR	Status of buffer
BUFFER_OVERFLOW	DISPLAY_TYPE	CDF_CHAR	time_series
BUFFER_OVERFLOW	VALIDMIN	CDF_UINT1	0
BUFFER_OVERFLOW	VALIDMAX	CDF_UINT1	1
BUFFER_OVERFLOW	SCALEMIN	CDF_UINT1	0
BUFFER_OVERFLOW	SCALEMAX	CDF_UINT1	1
BUFFER_OVERFLOW	FILLVAL	CDF_UINT1	255
BUFFER_OVERFLOW	LABLAXIS	CDF_CHAR	Buffer overflow
BUFFER_OVERFLOW	UNITS	CDF_CHAR	
BUFFER_OVERFLOW	VAR_TYPE	CDF_CHAR	support_data
BUFFER_OVERFLOW	SCALETYP	CDF_CHAR	linear

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 646

Tab. 4.94 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BUFFER_OVERFLOW	VAR_NOTES	CDF_CHAR	Status of buffer overflow (1=OVERFLOW)
BUFFER_OVERFLOW	DEPEND_0	CDF_CHAR	Epoch
BUFFER_OVERFLOW	FORMAT	CDF_CHAR	I1
CHANNEL_REF	FIELDNAM	CDF_CHAR	CHANNEL_REF
CHANNEL_REF	CATDESC	CDF_CHAR	Status of signal channels in the snapshot
CHANNEL_REF	DISPLAY_TYPE	CDF_CHAR	time_series
CHANNEL_REF	VALIDMIN	CDF_UINT1	10
CHANNEL_REF	VALIDMAX	CDF_UINT1	32
CHANNEL_REF	SCALEMIN	CDF_UINT1	10
CHANNEL_REF	SCALEMAX	CDF_UINT1	32
CHANNEL_REF	FILLVAL	CDF_UINT1	255
CHANNEL_REF	UNITS	CDF_CHAR	
CHANNEL_REF	VAR_TYPE	CDF_CHAR	support_data
CHANNEL_REF	SCALETYP	CDF_CHAR	linear
CHANNEL_REF	VAR_NOTES	CDF_CHAR	Configuration of signal channels in the snapshot (0=GND 1=V1, 2=V2, 3=V3). The number AB indicates that the corresponding channel contains a difference of 2 channels A-B.
CHANNEL_REF	DEPEND_0	CDF_CHAR	Epoch
CHANNEL_REF	FORMAT	CDF_CHAR	I1
CHANNEL_REF	LABL_PTR_1	CDF_CHAR	CHANNEL_LABEL
CHANNEL_LABEL	FIELDNAM	CDF_CHAR	CHANNEL_LABEL
CHANNEL_LABEL	CATDESC	CDF_CHAR	Label for CHANNEL_ON
CHANNEL_LABEL	VAR_TYPE	CDF_CHAR	metadata
CHANNEL_LABEL	FORMAT	CDF_CHAR	A16
SAMPS_PER_CH	FIELDNAM	CDF_CHAR	SAMPS_PER_CH
SAMPS_PER_CH	CATDESC	CDF_CHAR	Number of samples per channel
SAMPS_PER_CH	DISPLAY_TYPE	CDF_CHAR	time_series
SAMPS_PER_CH	VALIDMIN	CDF_UINT4	0
SAMPS_PER_CH	VALIDMAX	CDF_UINT4	4294967295
SAMPS_PER_CH	SCALEMIN	CDF_UINT4	0
SAMPS_PER_CH	SCALEMAX	CDF_UINT4	4294967295
SAMPS_PER_CH	FILLVAL	CDF_UINT4	4294967295
SAMPS_PER_CH	LABLAXIS	CDF_CHAR	Nsamps
SAMPS_PER_CH	UNITS	CDF_CHAR	

continues on next page



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **647**

Tab. 4.94 – continued from previous page


Variable Name	Attribute Name	Data Type	Value
SAMPS_PER_CH	VAR_TYPE	CDF_CHAR	support_data
SAMPS_PER_CH	SCALETYP	CDF_CHAR	linear
SAMPS_PER_CH	VAR_NOTES	CDF_CHAR	Number of samples per channel
SAMPS_PER_CH	DEPEND_0	CDF_CHAR	Epoch
SAMPS_PER_CH	FORMAT	CDF_CHAR	I10
WAVEFORM_DATA	FIELDNAM	CDF_CHAR	Electric waveform data
WAVEFORM_DATA	CATDESC	CDF_CHAR	Calibrated electric waveform snapshot measured on the four high frequency channels of TDS in the antenna coordinate system.
WAVEFORM_DATA	DISPLAY_TYPE	CDF_CHAR	time_series
WAVEFORM_DATA	VALIDMIN	CDF_FLOAT	-1.0e+30
WAVEFORM_DATA	VALIDMAX	CDF_FLOAT	1.0e+30
WAVEFORM_DATA	SCALEMIN	CDF_FLOAT	-1.0e+30
WAVEFORM_DATA	SCALEMAX	CDF_FLOAT	1.0e+30
WAVEFORM_DATA	FILLVAL	CDF_FLOAT	-1.0e+31
WAVEFORM_DATA	UNITS	CDF_CHAR	V/m
WAVEFORM_DATA	VAR_TYPE	CDF_CHAR	data
WAVEFORM_DATA	SCALETYP	CDF_CHAR	linear
WAVEFORM_DATA	VAR_NOTES	CDF_CHAR	1-4 entry array with signal values
WAVEFORM_DATA	DEPEND_0	CDF_CHAR	Epoch
WAVEFORM_DATA	DEPEND_1	CDF_CHAR	CHANNEL_ON
WAVEFORM_DATA	DEPEND_2	CDF_CHAR	
WAVEFORM_DATA	FORMAT	CDF_CHAR	E10.3
WAVEFORM_DATA	LABL_PTR_1	CDF_CHAR	CHANNEL_LABEL
WAVEFORM_DATA	LABL_PTR_2	CDF_CHAR	
WAVEFORM_DATA_VOLTAGE	FIELDNAM	CDF_CHAR	Electric waveform data
WAVEFORM_DATA_VOLTAGE	CATDESC	CDF_CHAR	Calibrated electric waveform snapshot in volts measured on the four high frequency channels of TDS system.
WAVEFORM_DATA_VOLTAGE	DISPLAY_TYPE	CDF_CHAR	time_series
WAVEFORM_DATA_VOLTAGE	VALIDMIN	CDF_FLOAT	-1.0e+30
WAVEFORM_DATA_VOLTAGE	VALIDMAX	CDF_FLOAT	1.0e+30
WAVEFORM_DATA_VOLTAGE	SCALEMIN	CDF_FLOAT	-1.0e+30
WAVEFORM_DATA_VOLTAGE	SCALEMAX	CDF_FLOAT	1.0e+30
WAVEFORM_DATA_VOLTAGE	FILLVAL	CDF_FLOAT	-1.0e+31
WAVEFORM_DATA_VOLTAGE	UNITS	CDF_CHAR	V

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 648

Tab. 4.94 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
WAVEFORM_DATA_VOLTAGE	VAR_TYPE	CDF_CHAR	data
WAVEFORM_DATA_VOLTAGE	SCALETYP	CDF_CHAR	linear
WAVEFORM_DATA_VOLTAGE	VAR_NOTES	CDF_CHAR	1-4 entry array with signal values
WAVEFORM_DATA_VOLTAGE	DEPEND_0	CDF_CHAR	Epoch
WAVEFORM_DATA_VOLTAGE	DEPEND_1	CDF_CHAR	CHANNEL_ON
WAVEFORM_DATA_VOLTAGE	DEPEND_2	CDF_CHAR	
WAVEFORM_DATA_VOLTAGE	FORMAT	CDF_CHAR	E10.3
WAVEFORM_DATA_VOLTAGE	LABL_PTR_1	CDF_CHAR	CHANNEL_LABEL
WAVEFORM_DATA_VOLTAGE	LABL_PTR_2	CDF_CHAR	
RPW_ANTENNA_RTN	FIELDNAM	CDF_CHAR	RPW antenna orientation
RPW_ANTENNA_RTN	CATDESC	CDF_CHAR	Three RPW electric antenna orientations in the RTN coordinate system.
RPW_ANTENNA_RTN	DISPLAY_TYPE	CDF_CHAR	time_series
RPW_ANTENNA_RTN	VALIDMIN	CDF_FLOAT	-1.0e+30
RPW_ANTENNA_RTN	VALIDMAX	CDF_FLOAT	1.0e+30
RPW_ANTENNA_RTN	SCALEMIN	CDF_FLOAT	-1.0e+30
RPW_ANTENNA_RTN	SCALEMAX	CDF_FLOAT	1.0e+30
RPW_ANTENNA_RTN	FILLVAL	CDF_FLOAT	-1.0e+31
RPW_ANTENNA_RTN	UNITS	CDF_CHAR	
RPW_ANTENNA_RTN	VAR_TYPE	CDF_CHAR	support_data
RPW_ANTENNA_RTN	SCALETYP	CDF_CHAR	linear
RPW_ANTENNA_RTN	VAR_NOTES	CDF_CHAR	Matrix of unit vectors representing the three RPW antenna directions
RPW_ANTENNA_RTN	DEPEND_0	CDF_CHAR	Epoch
RPW_ANTENNA_RTN	FORMAT	CDF_CHAR	E10.3
RPW_ANTENNA_RTN	LABL_PTR_1	CDF_CHAR	RPW_ANTENNA_RTN_LABEL_1
RPW_ANTENNA_RTN	LABL_PTR_2	CDF_CHAR	RPW_ANTENNA_RTN_LABEL_2
RPW_ANTENNA_RTN_LABEL_1	FIELDNAM	CDF_CHAR	RPW_ANTENNA_RTN_LABEL_1
RPW_ANTENNA_RTN_LABEL_1	CATDESC	CDF_CHAR	Label for RPW_ANTENNA_RTN
RPW_ANTENNA_RTN_LABEL_1	VAR_TYPE	CDF_CHAR	metadata
RPW_ANTENNA_RTN_LABEL_1	FORMAT	CDF_CHAR	A8
RPW_ANTENNA_RTN_LABEL_2	FIELDNAM	CDF_CHAR	RPW_ANTENNA_RTN_LABEL_2
RPW_ANTENNA_RTN_LABEL_2	CATDESC	CDF_CHAR	Label for RPW_ANTENNA_RTN
RPW_ANTENNA_RTN_LABEL_2	VAR_TYPE	CDF_CHAR	metadata
RPW_ANTENNA_RTN_LABEL_2	FORMAT	CDF_CHAR	A8


	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 649

4.1.3.17.6 Non-Record-Variant (NRV) Variables

Variable Name	Index	Value
BIA_STATUS_INFO_LABEL	1	BIA ON
BIA_STATUS_INFO_LABEL	2	BIAS3 ON
BIA_STATUS_INFO_LABEL	3	BIAS2 ON
BIA_STATUS_INFO_LABEL	4	BIAS1 ON
BIA_STATUS_INFO_LABEL	5	BIA MODE HV ON
BIA_STATUS_INFO_LABEL	6	BIA MODE MUX
RPW_STATUS_INFO_LABEL	1	THR ON
RPW_STATUS_INFO_LABEL	2	LFR ON
RPW_STATUS_INFO_LABEL	3	ANT1 ON
RPW_STATUS_INFO_LABEL	4	ANT2 ON
RPW_STATUS_INFO_LABEL	5	ANT3 ON
RPW_STATUS_INFO_LABEL	6	SCM ON
RPW_STATUS_INFO_LABEL	7	SCM CALIB
CHANNEL_LABEL	1	WF in CH1
CHANNEL_LABEL	2	WF in CH2
CHANNEL_LABEL	3	WF in CH3
CHANNEL_LABEL	4	WF in CH4
RPW_ANTENNA_RTN_LABEL	11	ANT_R
RPW_ANTENNA_RTN_LABEL	21	ANT_T
RPW_ANTENNA_RTN_LABEL	31	ANT_N
RPW_ANTENNA_RTN_LABEL	12	ANT_1
RPW_ANTENNA_RTN_LABEL	22	ANT_2
RPW_ANTENNA_RTN_LABEL	32	ANT_3

4.1.3.18 SOLO_L2_RPW-TDS-SBM1-RSWF-B data product

The “SOLO_L2_RPW-TDS-SBM1-RSWF-B” data product contains the calibrated TDS receiver Regular Snapshot Waveform data for SBM1 events for magnetic component only. The “SOLO_L2_RPW-TDS-SBM1-RSWF-B” data are written in CDF format files. There is a single file per SBM1 event data effectively downlinked on-ground. The file is generated from data in the corresponding SOLO_L1_RPW-TDS-SBM1-RSWF parent file.

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 650

4.1.3.18.1 Filename

```
solo_L2_rpw-tds-sbm1-rswf-b_[YYYYMMDDThhmmss1- YYYYMMDDThhmmss2]_
↪V[version].cdf
```

4.1.3.18.2 Expected cadence and data volume


Nominal cadence: 1 file per SBM1 event

Expected data volume: TBD MB per file

4.1.3.18.3 Global Attributes

Attribute Name	Entry Number	Data Type	Value
CAL_EQUIPMENT	1	CDF_CHAR	SCM
TARGET_CLASS	1	CDF_CHAR	Star
Software_name	1	CDF_CHAR	
File_ID	1	CDF_CHAR	
Datetime	1	CDF_CHAR	
CAL_ENTITY_NAME	1	CDF_CHAR	LPC2E
CALIBRATION_TABLE	1	CDF_CHAR	
Logical_source	1	CDF_CHAR	solo_L2_rpw-tds-sbm1-rswf-b
Rules_of_use	1	CDF_CHAR	Data provided are publicly available. If used in presentations or publications, please acknowledge Solar Orbiter/RPW Investigation (M. Maksimovic, PIs). Please read carefully the caveats attached to the data. For reporting purposes, we request bibliography information for any publication, etc., using these data. Please send information on the use of this data to: M. Maksimovic (PI).
TEXT_supplement_1	1	CDF_CHAR	
Project	1	CDF_CHAR	SOLO>Solar Orbiter
LINK_TITLE	1	CDF_CHAR	RPW Web site
SPICE_KERNELS	1	CDF_CHAR	
SKELETON_MODS	1	CDF_CHAR	2017-12-15, J-Y Brochot (CNRS-LPC2E), initial release


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 651

Tab. 4.95 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
SKELETON_MODS	2	CDF_CHAR	V04: Update for solo data definition, X. BONNIN (CNRS-LESIA), April 2019
SKELETON_MODS	3	CDF_CHAR	V05: Update to compliant with SOL-SGS-TN-0009 Issue 2, Rev 4 - X.Bonnin, 09/2019
SKELETON_MODS	4	CDF_CHAR	V06: Uniformisation of the version, J-Y Brochot, 12/2019
SKELETON_MODS	5	CDF_CHAR	V07: March 2020 : Harmonize SAMPLING_RATE zvar and Test_* g.attrs - X.Bonnin (CNRS, LESIA)
SKELETON_MODS	6	CDF_CHAR	V07: Suppress zVars POST_GAP_FLAG, ACQUISITION_TIME, ACQUISITION_TIME_UNITS and ACQUISITION_TIME_LABEL - J-Y Brochot, March 2020
SKELETON_MODS	7	CDF_CHAR	V08: Add gAttr SPICE_KERNELS - J-Y Brochot, April 2020
SKELETON_MODS	8	CDF_CHAR	V09: Complete the zAttr of CALIBRATION_TABLE_INDEX - J-Y Brochot, May 2020
SKELETON_MODS	9	CDF_CHAR	V10: Add zVar L2_QUALITY_BITMASK - J-Y Brochot, Aug 2020
SKELETON_MODS	10	CDF_CHAR	V11: Suppress zVars CHANNEL_ON, RPW_STATUS_INFO, INPUT_CONFIG, SYNCHRO_FLAG, BUFFER_OVERFLOW, CHANNEL_OVERFLOW, RPW_STATUS_INFO_LABEL, SNAPSHOT_SEQ_NR, CHANNEL_CONFIG - J-Y Brochot, Sept 2020
SKELETON_MODS	11	CDF_CHAR	V12: Jan. 2021 : Fix inconsistencies against the ISTEP CDF guidelines, X.Bonnin (CNRS-LESIA)
LINK_TEXT	1	CDF_CHAR	RPW Web site at LESIA
LEVEL	1	CDF_CHAR	L2>Level 2 data processing
Parents	1	CDF_CHAR	
CAL_ENTITY_AFFILIATION	1	CDF_CHAR	CNRS


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 652

Tab. 4.95 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
TIME_MIN	1	CDF_CHAR	
ACCESS_FORMAT	1	CDF_CHAR	CDF
SOOP_TYPE	1	CDF_CHAR	
TARGET_NAME	1	CDF_CHAR	Sun
Free_field	1	CDF_CHAR	
File_naming_convention	1	CDF_CHAR	<Source_name>_<LEVEL>_<Descriptor>_<Date>
Data_type	1	CDF_CHAR	H0>High Resolution data
Discipline	1	CDF_CHAR	Space Physics>Interplanetary Studies
HTTP_LINK	1	CDF_CHAR	https://rpw.lesia.obspm.fr
Logical_file_id	1	CDF_CHAR	
Dataset_ID	1	CDF_CHAR	SOLO_L2_RPW-TDS-SBM1-RSWF-B
Mission_group	1	CDF_CHAR	Solar Orbiter
CAVEATS	1	CDF_CHAR	
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00006-LES (1.3)
TIME_MAX	1	CDF_CHAR	
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009 (2.4)
Parent_version	1	CDF_CHAR	
TARGET_REGION	1	CDF_CHAR	Solar Wind
Data_version	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	RPW Operations Centre located at LESIA (Meudon, France)
Pipeline_name	1	CDF_CHAR	
Data_product	1	CDF_CHAR	SBM1-RSWF-B>SBM1-RSWF-B
SKELETON_PARENT	1	CDF_CHAR	SOLO_L2_RPW-TDS-SBM1-RSWF-B_V12.cdf
Job_ID	1	CDF_CHAR	
PI_name	1	CDF_CHAR	M.Maksimovic
Logical_source_description	1	CDF_CHAR	Solar Orbiter Radio/Plasma Wave, TDS L2 magnetic parameters
SPECTRAL_RANGE_MAX	1	CDF_CHAR	
ACCESS_URL	1	CDF_CHAR	
CALIBRATION_VERSION	1	CDF_CHAR	
Skeleton_version	1	CDF_CHAR	12
Software_version	1	CDF_CHAR	
OBS_ID	1	CDF_CHAR	
Acknowledgement	1	CDF_CHAR	The authors are pleased to acknowledge the Solar Orbiter/RPW Investigation (M. Maksimovic, PIs) for access to data.
Pipeline_version	1	CDF_CHAR	

continues on next page


	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 653

Tab. 4.95 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Generation_date	1	CDF_CHAR	
PI_affiliation	1	CDF_CHAR	LESIA, Observatoire de Paris-CNRS
Descriptor	1	CDF_CHAR	RPW-TDS-SBM1-RSWF-B> RPW Time Domain Sampler Regular Wave- form Snapshot magnetic data in SBM1 mode
Validate	1	CDF_CHAR	
Provider	1	CDF_CHAR	LESIA (Meudon, France)
Instrument_type	1	CDF_CHAR	Radio and Plasma Waves (space)
TEXT	1	CDF_CHAR	This file contains RPW TDS level 2 reg- ular snapshot waveform of magnetic data in SBM1 mode
Source_name	1	CDF_CHAR	SOLO>Solar Orbiter
SPECTRAL_RANGE_MIN	1	CDF_CHAR	
MODS	1	CDF_CHAR	

4.1.3.18.4 zVariables


Variable Name	Data Type	Number El- ements	Dims	Sizes
CALIBRATION_TABLE_INDEX	CDF_UINT1	1	2	2 2
QUALITY_BITMASK	CDF_UINT2	1	0	
L2_QUALITY_BITMASK	CDF_UINT2	1	0	
B	CDF_REAL4	1	1	65536
SURVEY_MODE	CDF_UINT1	1	0	
SAMPS_PER_CH	CDF_UINT4	1	0	
SAMPLING_RATE	CDF_REAL4	1	0	
QUALITY_FLAG	CDF_UINT1	1	0	
Epoch	CDF_TIME_TT2000	1	0	

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 654

4.1.3.18.5 Variable attributes

Variable Name	Attribute Name	Data Type	Value
CALIBRATION_TABLE_INDEX	UNITS	CDF_CHAR	
CALIBRATION_TABLE_INDEX	FIELDNAM	CDF_CHAR	CALIBRATION_TABLE_INDEX
CALIBRATION_TABLE_INDEX	DEPEND_0	CDF_CHAR	Epoch
CALIBRATION_TABLE_INDEX	VAR_TYPE	CDF_CHAR	support_data
CALIBRATION_TABLE_INDEX	VALIDMAX	CDF_UINT1	254
CALIBRATION_TABLE_INDEX	VALIDMIN	CDF_UINT1	0
CALIBRATION_TABLE_INDEX	SCALEMAX	CDF_UINT1	254
CALIBRATION_TABLE_INDEX	SCALEMIN	CDF_UINT1	0
CALIBRATION_TABLE_INDEX	SCALETYP	CDF_CHAR	linear
CALIBRATION_TABLE_INDEX	CATDESC	CDF_CHAR	Informations about calibration tables used
CALIBRATION_TABLE_INDEX	VAR_NOTES	CDF_CHAR	Indexes (i,j) giving gEntry of Global attribute 'CALIBRATION_TABLE', and record number in the Calibration Table.
CALIBRATION_TABLE_INDEX	FORMAT	CDF_CHAR	I3.3
CALIBRATION_TABLE_INDEX	FILLVAL	CDF_UINT1	255
CALIBRATION_TABLE_INDEX	DISPLAY_TYPE	CDF_CHAR	time_series
CALIBRATION_TABLE_INDEX	LABLAXIS	CDF_CHAR	Calibration table index
QUALITY_BITMASK	UNITS	CDF_CHAR	
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context information or status at the receiver or experiment level
QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Bitmask flag
L2_QUALITY_BITMASK	UNITS	CDF_CHAR	
L2_QUALITY_BITMASK	FIELDNAM	CDF_CHAR	L2_QUALITY_BITMASK

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 655

Tab. 4.96 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
L2_QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
L2_QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
L2_QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
L2_QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
L2_QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
L2_QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
L2_QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
L2_QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
L2_QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context or events that can alterate data -bit0: SCM outworking or unknown temperature -bit1: SCM heater on/off transition -bit2: LFR onboard calibration signal
L2_QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
L2_QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
L2_QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
L2_QUALITY_BITMASK	LABLAXIS	CDF_CHAR	L2 Bitmask flag
B	UNITS	CDF_CHAR	nT
B	FIELDNAM	CDF_CHAR	Magnetic waveform
B	DEPEND_0	CDF_CHAR	Epoch
B	VAR_TYPE	CDF_CHAR	data
B	VALIDMAX	CDF_REAL4	1.0e+30
B	VALIDMIN	CDF_REAL4	-1.0e+30
B	SCALEMAX	CDF_REAL4	1.0e+30
B	SCALEMIN	CDF_REAL4	-1.0e+30
B	SCALETYP	CDF_CHAR	linear
B	CATDESC	CDF_CHAR	Magnetic component values of Bx
B	VAR_NOTES	CDF_CHAR	1 entry array with magnetic values of the compoent B4x
B	FORMAT	CDF_CHAR	F8.2
B	FILLVAL	CDF_REAL4	-1.0e+31
B	DISPLAY_TYPE	CDF_CHAR	time_series
B	LABLAXIS	CDF_CHAR	Bx
SURVEY_MODE	UNITS	CDF_CHAR	
SURVEY_MODE	FIELDNAM	CDF_CHAR	SURVEY_MODE
SURVEY_MODE	DEPEND_0	CDF_CHAR	Epoch
SURVEY_MODE	VAR_TYPE	CDF_CHAR	support_data
SURVEY_MODE	VALIDMAX	CDF_UINT1	1

continues on next page



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **656**

Tab. 4.96 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SURVEY_MODE	VALIDMIN	CDF_UINT1	0
SURVEY_MODE	SCALEMAX	CDF_UINT1	1
SURVEY_MODE	SCALEMIN	CDF_UINT1	0
SURVEY_MODE	SCALETYP	CDF_CHAR	linear
SURVEY_MODE	CATDESC	CDF_CHAR	TDS survey mode
SURVEY_MODE	VAR_NOTES	CDF_CHAR	Flag to indicate if the receiver in the SURVEY_BURST (=1) or SURVEY_NORMAL (=0) mode
SURVEY_MODE	FORMAT	CDF_CHAR	I1.1
SURVEY_MODE	FILLVAL	CDF_UINT1	255
SURVEY_MODE	DISPLAY_TYPE	CDF_CHAR	time_series
SURVEY_MODE	LABLAXIS	CDF_CHAR	TDSsurvey mode
SAMPS_PER_CH	UNITS	CDF_CHAR	
SAMPS_PER_CH	FIELDNAM	CDF_CHAR	SAMPS_PER_CH
SAMPS_PER_CH	DEPEND_0	CDF_CHAR	Epoch
SAMPS_PER_CH	VAR_TYPE	CDF_CHAR	support_data
SAMPS_PER_CH	VALIDMAX	CDF_UINT4	4294967295
SAMPS_PER_CH	VALIDMIN	CDF_UINT4	0
SAMPS_PER_CH	SCALEMAX	CDF_UINT4	4294967295
SAMPS_PER_CH	SCALEMIN	CDF_UINT4	0
SAMPS_PER_CH	SCALETYP	CDF_CHAR	linear
SAMPS_PER_CH	CATDESC	CDF_CHAR	Number of samples per channel
SAMPS_PER_CH	VAR_NOTES	CDF_CHAR	Number of samples per channel
SAMPS_PER_CH	FORMAT	CDF_CHAR	I10
SAMPS_PER_CH	FILLVAL	CDF_UINT4	4294967295
SAMPS_PER_CH	DISPLAY_TYPE	CDF_CHAR	time_series
SAMPS_PER_CH	LABLAXIS	CDF_CHAR	Nsamps
SAMPLING_RATE	UNITS	CDF_CHAR	Hz
SAMPLING_RATE	FIELDNAM	CDF_CHAR	Sampling rate
SAMPLING_RATE	DEPEND_0	CDF_CHAR	Epoch
SAMPLING_RATE	VAR_TYPE	CDF_CHAR	support_data
SAMPLING_RATE	VALIDMAX	CDF_REAL4	1.0e+30
SAMPLING_RATE	VALIDMIN	CDF_REAL4	1.0
SAMPLING_RATE	SCALEMAX	CDF_REAL4	1.0e+30
SAMPLING_RATE	SCALEMIN	CDF_REAL4	1.0
SAMPLING_RATE	SCALETYP	CDF_CHAR	linear
SAMPLING_RATE	CATDESC	CDF_CHAR	Sampling frequency of the snapshot


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 657

Tab. 4.96 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SAMPLING_RATE	VAR_NOTES	CDF_CHAR	TDS sampling rate
SAMPLING_RATE	FORMAT	CDF_CHAR	F8.2
SAMPLING_RATE	FILLVAL	CDF_REAL4	-1.0e+31
SAMPLING_RATE	DISPLAY_TYPE	CDF_CHAR	time_series
SAMPLING_RATE	LABLAXIS	CDF_CHAR	Fe
QUALITY_FLAG	UNITS	CDF_CHAR	
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FLAG	VAR_TYPE	CDF_CHAR	support_data
QUALITY_FLAG	VALIDMAX	CDF_UINT1	4
QUALITY_FLAG	VALIDMIN	CDF_UINT1	0
QUALITY_FLAG	SCALEMAX	CDF_UINT1	4
QUALITY_FLAG	SCALEMIN	CDF_UINT1	0
QUALITY_FLAG	SCALETYP	CDF_CHAR	linear
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the quality of the data
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
QUALITY_FLAG	FILLVAL	CDF_UINT1	255
QUALITY_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	LABLAXIS	CDF_CHAR	Quality flag
Epoch	UNITS	CDF_CHAR	ns
Epoch	FIELDNAM	CDF_CHAR	Epoch
Epoch	VAR_TYPE	CDF_CHAR	support_data
Epoch	VALIDMAX	CDF_TIME_TT2000	2029-12-31T23:59:59.999000000
Epoch	VALIDMIN	CDF_TIME_TT2000	2000-01-01T12:00:00.000000000
Epoch	SCALEMAX	CDF_TIME_TT2000	2029-12-31T23:59:59.999000000
Epoch	SCALEMIN	CDF_TIME_TT2000	2000-01-01T12:00:00.000000000
Epoch	SCALETYP	CDF_CHAR	linear
Epoch	CATDESC	CDF_CHAR	Default time
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file.
Epoch	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch	DISPLAY_TYPE	CDF_CHAR	time_series
Epoch	LABLAXIS	CDF_CHAR	Epoch
Epoch	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 658

Tab. 4.96 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
Epoch	MONOTON	CDF_CHAR	INCREASE
Epoch	Resolution	CDF_CHAR	15258 ns
Epoch	TIME_BASE	CDF_CHAR	J2000
Epoch	TIME_SCALE	CDF_CHAR	Terrestrial Time
Epoch	Bin_location	CDF_CHAR	0.5

4.1.3.18.6 Non-Record-Variant (NRV) Variables

4.1.3.19 SOLO_L2_RPW-TDS-SBM2-TSWF-E data product

The “SOLO_L2_RPW-TDS-SBM2-TSWF-E” data product contains the calibrated TDS receiver Regular Snapshot Waveform data for SBM2 events for electrical components only. The “SOLO_L2_RPW-TDS-SBM2-TSWF-E” data are written in CDF format files. There is a single file per SBM2 event data effectively downlinked on-ground. The file is generated from data in the corresponding SOLO_L1_RPW-TDS-SBM2-TSWF parent file.

4.1.3.19.1 Filename

```
solo_L2_rpw-tds-sbm2-tswf-e_[YYYYMMDDThhmmss1- YYYYMMDDThhmmss2]_
↪V[version].cdf
```

4.1.3.19.2 Expected cadence and data volume


Nominal cadence: 1 file per SBM2 event

Expected data volume: TBD MB per file

4.1.3.19.3 Global Attributes

Attribute Name	Entry Number	Data Type	Value
ACCESS_FORMAT	1	CDF_CHAR	CDF
ACCESS_URL	1	CDF_CHAR	
Acknowledgement	1	CDF_CHAR	The authors are pleased to acknowledge the Solar Orbiter/RPW Investigation (M. Maksimovic, PIs) for access to data.


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 659

Tab. 4.97 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009 (2.4)
CALIBRATION_TABLE	1	CDF_CHAR	
CALIBRATION_VERSION	1	CDF_CHAR	
Data_type	1	CDF_CHAR	H0>High Resolution data
Data_version	1	CDF_CHAR	
Descriptor	1	CDF_CHAR	RPW-TDS-SBM2-TSWF-E> RPW Time Domain Sampler Triggered Waveform Snapshot data in SBM2 mode for E components
Discipline	1	CDF_CHAR	Space Physics>Interplanetary Studies
File_naming_convention	1	CDF_CHAR	<Source_name>_<LEVEL>_<Descriptor>_<Date>
File_ID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	RPW Operations Centre located at LESIA (Meudon, France)
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	https://rpw.lesia.obspm.fr
Instrument_type	1	CDF_CHAR	Radio and Plasma Waves (space)
LINK_TEXT	1	CDF_CHAR	RPW Web site at LESIA
LINK_TITLE	1	CDF_CHAR	RPW Web site
Logical_file_id	1	CDF_CHAR	
Logical_source	1	CDF_CHAR	solo_L2_rpw-tds-sbm2-tswf-e
Logical_source_description	1	CDF_CHAR	Solar Orbiter Radio/Plasma Wave, TDS L2 parameters
Mission_group	1	CDF_CHAR	Solar Orbiter
MODS	1	CDF_CHAR	
Parent_version	1	CDF_CHAR	
Parents	1	CDF_CHAR	
PI_affiliation	1	CDF_CHAR	LESIA, Observatoire de Paris-CNRS
PI_name	1	CDF_CHAR	M.Maksimovic
Pipeline_version	1	CDF_CHAR	
Project	1	CDF_CHAR	SOLO>Solar Orbiter
Provider	1	CDF_CHAR	LESIA (Meudon, France)
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00006-LES (1.3)


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 660

Tab. 4.97 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Rules_of_use	1	CDF_CHAR	Data provided are publicly available. If used in presentations or publications, please acknowledge Solar Orbiter/RPW Investigation (M. Maksimovic, PIs). Please read carefully the caveats attached to the data. For reporting purposes, we request bibliography information for any publication, etc., using these data. Please send information on the use of this data to: M. Maksimovic (PI).
SKELETON_MODS	1	CDF_CHAR	July 2016 : data organization by snapshots, time vector added
SKELETON_MODS	2	CDF_CHAR	October 2016 (ROC): Update to Issue 2 Rev 1
SKELETON_MODS	3	CDF_CHAR	May 2017 (IAP): Converted to L1R product
SKELETON_MODS	4	CDF_CHAR	June 2017 (IAP): BIA_STATUS_INFO_LABEL added, RPW_STATUS_INFO revised and RPW_STATUS_INFO_LABEL added, CHANNEL_OVERFLOW and BUFFER_OVERFLOW added
SKELETON_MODS	5	CDF_CHAR	October 2017 (IAP): gAtts CALIBRATION_TABLE and VERSION added, dimensions for CALIBRATION_TABLE_INDEX fixed
SKELETON_MODS	6	CDF_CHAR	January 2019 (IAP): SOLO L2 converted from ROC-SGSE data.
SKELETON_MODS	7	CDF_CHAR	V04: Update for solo data definition, X. BONNIN (CNRS-LESIA), April 2019
SKELETON_MODS	8	CDF_CHAR	V05: Update to compliant with SOL-SGS-TN-0009 Issue 2, Rev 4 - X.Bonnin, 09/2019


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 661

Tab. 4.97 – continued from previous page


Attribute Name	Entry Number	Data Type	Value
SKELETON_MODS	9	CDF_CHAR	V06: Update zVars WAVEFORM_DATA_RTN and RPW_ANTENNA_RTN added. WAVEFORM_LABEL, WAVEFORM_UNITS, SYNCHROM_FLAG, AQUISITION_*, and SAMPS_DTIME zVars removed. SAMPLING_RATE updated to Hz. TEST_* gAtts removed. Minor typos fixed. NRV filled.
SKELETON_MODS	10	CDF_CHAR	V07: g.Attribute SPICE_KERNELS added.
SKELETON_MODS	11	CDF_CHAR	V08: zVar TDS_CONFIG_LABEL added, D.Pisa (IAP-CAS), Jun 2020.
SKELETON_MODS	12	CDF_CHAR	V09: QUALITY_BITMASK type changed.CHANNEL_CONFIG dimensions reordered.
SKELETON_MODS	13	CDF_CHAR	V11: WAVEFORM_DATA_RTN replaced by WAVEFORM_DATA_VOLTAGE
SKELETON_MODS	14	CDF_CHAR	V12: NASA/SPDF compliance changes. MODS renamed to SKELETON_MODS. CHANNEL_CONFIG renamed to CHANNEL_REF. CHANNEL_REF changed from two elements vector to a number. RPW_ANTENNA_RTN_LABEL_1 and _2 zVars added. CHANNEL_LABEL set has NRV values.GAtt MODS added.
SKELETON_PARENT	1	CDF_CHAR	SOLO_L2_RPW-TDS-SBM2-TSWF-E
Skeleton_version	1	CDF_CHAR	12
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	SOLO>Solar Orbiter
SPICE_KERNELS	1	CDF_CHAR	
SPECTRAL_RANGE_MAX	1	CDF_CHAR	
SPECTRAL_RANGE_MIN	1	CDF_CHAR	
TEXT	1	CDF_CHAR	This file contains RPW TDS level 2 triggered snapshot electric waveform data in the SBM2 mode.

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 662

Tab. 4.97 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
TEXT_supplement_1	1	CDF_CHAR	
TIME_MAX	1	CDF_CHAR	
TIME_MIN	1	CDF_CHAR	
CAVEATS	1	CDF_CHAR	
CAL_ENTITY_NAME	1	CDF_CHAR	
CAL_ENTITY_AFFILIATION	1	CDF_CHAR	
CAL_EQUIPMENT	1	CDF_CHAR	
Datetime	1	CDF_CHAR	
Free_field	1	CDF_CHAR	
Job_ID	1	CDF_CHAR	
LEVEL	1	CDF_CHAR	L2>Level 2 data processing
SOOP_TYPE	1	CDF_CHAR	
Data_product	1	CDF_CHAR	SBM2-TSWF-E>SBM2-TSWF-E
TARGET_NAME	1	CDF_CHAR	Sun
TARGET_CLASS	1	CDF_CHAR	Star
TARGET_REGION	1	CDF_CHAR	Solar Wind
Pipeline_name	1	CDF_CHAR	
Dataset_ID	1	CDF_CHAR	SOLO_L2_RPW-TDS-SBM2-TSWF-E
OBS_ID	1	CDF_CHAR	
Validate	1	CDF_CHAR	

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 663


4.1.3.19.4 zVariables

Variable Name	Data Type	Number El- ements	Dims	Sizes
Epoch	CDF_TIME_TT2000	1	0	
QUALITY_FLAG	CDF_UINT1	1	0	
QUALITY_BITMASK	CDF_UINT2	1	0	
QUALITY_FACT	CDF_UINT2	1	0	
BIA_STATUS_INFO	CDF_UINT1	1	1	6
BIA_STATUS_INFO_LABEL	CDF_CHAR	16	1	6
RPW_STATUS_INFO	CDF_UINT1	1	1	7
RPW_STATUS_INFO_LABEL	CDF_CHAR	16	1	7
SAMPLING_RATE	CDF_FLOAT	1	0	
SURVEY_MODE	CDF_UINT1	1	0	
DOWNLINK_INFO	CDF_UINT1	1	1	2
FILTER_COEFS	CDF_UINT1	1	0	
INPUT_CONFIG	CDF_UINT4	1	0	
TDS_CONFIG_LABEL	CDF_CHAR	8	0	
SNAPSHOT_SEQ_NR	CDF_UINT2	1	0	
CHANNEL_ON	CDF_UINT1	1	1	4
CHANNEL_OVERFLOW	CDF_UINT1	1	1	4
BUFFER_OVERFLOW	CDF_UINT1	1	0	
CHANNEL_REF	CDF_UINT1	1	1	4
CHANNEL_LABEL	CDF_CHAR	16	1	4
SAMPS_PER_CH	CDF_UINT4	1	0	
WAVEFORM_DATA	CDF_FLOAT	1	2	4 65536
WAVEFORM_DATA_VOLTAGE	CDF_FLOAT	1	2	4 65536
RPW_ANTENNA_RTN	CDF_FLOAT	1	2	3 3
RPW_ANTENNA_RTN_LABEL	CDF_CHAR	8	1	3
RPW_ANTENNA_RTN_LABEL	CDF_CHAR	8	1	3

4.1.3.19.5 Variable attributes

Variable Name	Attribute Name	Data Type	Value
Epoch	FIELDNAM	CDF_CHAR	Epoch
Epoch	CATDESC	CDF_CHAR	Default time
Epoch	VALIDMIN	CDF_TIME_TT2000	2000-01-01T12:00:00.000000000
Epoch	VALIDMAX	CDF_TIME_TT2000	2029-12-31T23:59:59.999000000


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 664

Tab. 4.98 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
Epoch	SCALEMIN	CDF_TIME_TT2000	2000-01-01T12:00:00.000000000
Epoch	SCALEMAX	CDF_TIME_TT2000	2029-12-31T23:59:59.999000000
Epoch	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch	LABLAXIS	CDF_CHAR	Epoch
Epoch	UNITS	CDF_CHAR	ns
Epoch	VAR_TYPE	CDF_CHAR	support_data
Epoch	SCALETYP	CDF_CHAR	linear
Epoch	MONOTON	CDF_CHAR	INCREASE
Epoch	TIME_BASE	CDF_CHAR	J2000
Epoch	TIME_SCALE	CDF_CHAR	Terrestrial Time
Epoch	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file
Epoch	Resolution	CDF_CHAR	15258 ns
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	VALIDMIN	CDF_UINT1	0
QUALITY_FLAG	VALIDMAX	CDF_UINT1	4
QUALITY_FLAG	SCALEMIN	CDF_UINT1	0
QUALITY_FLAG	SCALEMAX	CDF_UINT1	4
QUALITY_FLAG	FILLVAL	CDF_UINT1	255
QUALITY_FLAG	LABLAXIS	CDF_CHAR	Quality flag
QUALITY_FLAG	UNITS	CDF_CHAR	
QUALITY_FLAG	VAR_TYPE	CDF_CHAR	support_data
QUALITY_FLAG	SCALETYP	CDF_CHAR	linear
QUALITY_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the quality of the data
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	FORMAT	CDF_CHAR	I1
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Bitmask flag


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 665

Tab. 4.98 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
QUALITY_BITMASK	UNITS	CDF_CHAR	
QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context information or status at the receiver or experiment level
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
QUALITY_FACT	FIELDNAM	CDF_CHAR	QUALITY_FACT
QUALITY_FACT	CATDESC	CDF_CHAR	Quality factor of the packet
QUALITY_FACT	VALIDMIN	CDF_UINT2	0
QUALITY_FACT	VALIDMAX	CDF_UINT2	65534
QUALITY_FACT	SCALEMIN	CDF_UINT2	0
QUALITY_FACT	SCALEMAX	CDF_UINT2	1
QUALITY_FACT	FILLVAL	CDF_UINT2	65535
QUALITY_FACT	LABLAXIS	CDF_CHAR	Quality factor
QUALITY_FACT	UNITS	CDF_CHAR	
QUALITY_FACT	VAR_TYPE	CDF_CHAR	support_data
QUALITY_FACT	SCALETYP	CDF_CHAR	linear
QUALITY_FACT	VAR_NOTES	CDF_CHAR	Quality factor
QUALITY_FACT	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FACT	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FACT	FORMAT	CDF_CHAR	I5
BIA_STATUS_INFO	FIELDNAM	CDF_CHAR	BIA_STATUS_INFO
BIA_STATUS_INFO	CATDESC	CDF_CHAR	BIAS status byte
BIA_STATUS_INFO	VALIDMIN	CDF_UINT1	0
BIA_STATUS_INFO	VALIDMAX	CDF_UINT1	1
BIA_STATUS_INFO	SCALEMIN	CDF_UINT1	0
BIA_STATUS_INFO	SCALEMAX	CDF_UINT1	1
BIA_STATUS_INFO	FILLVAL	CDF_UINT1	255
BIA_STATUS_INFO	UNITS	CDF_CHAR	
BIA_STATUS_INFO	VAR_TYPE	CDF_CHAR	support_data
BIA_STATUS_INFO	SCALETYP	CDF_CHAR	linear
BIA_STATUS_INFO	VAR_NOTES	CDF_CHAR	BIAS status byte
BIA_STATUS_INFO	DEPEND_0	CDF_CHAR	Epoch
BIA_STATUS_INFO	DISPLAY_TYPE	CDF_CHAR	time_series
BIA_STATUS_INFO	FORMAT	CDF_CHAR	I1
BIA_STATUS_INFO	LABL_PTR_1	CDF_CHAR	BIA_STATUS_INFO_LABEL
BIA_STATUS_INFO_LABEL	FIELDNAM	CDF_CHAR	BIA_STATUS_INFO_LABEL


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 666

Tab. 4.98 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIA_STATUS_INFO_LABEL	CATDESC	CDF_CHAR	Label for BIA_STATUS_INFO
BIA_STATUS_INFO_LABEL	VAR_TYPE	CDF_CHAR	metadata
BIA_STATUS_INFO_LABEL	FORMAT	CDF_CHAR	A8
RPW_STATUS_INFO	FIELDNAM	CDF_CHAR	RPW_STATUS_INFO
RPW_STATUS_INFO	CATDESC	CDF_CHAR	RPW status
RPW_STATUS_INFO	VALIDMIN	CDF_UINT1	0
RPW_STATUS_INFO	VALIDMAX	CDF_UINT1	1
RPW_STATUS_INFO	SCALEMIN	CDF_UINT1	0
RPW_STATUS_INFO	SCALEMAX	CDF_UINT1	1
RPW_STATUS_INFO	FILLVAL	CDF_UINT1	255
RPW_STATUS_INFO	UNITS	CDF_CHAR	
RPW_STATUS_INFO	VAR_TYPE	CDF_CHAR	support_data
RPW_STATUS_INFO	SCALETYP	CDF_CHAR	linear
RPW_STATUS_INFO	VAR_NOTES	CDF_CHAR	RPW status (bitmask - re- ceived from DPU)
RPW_STATUS_INFO	DEPEND_0	CDF_CHAR	Epoch
RPW_STATUS_INFO	DISPLAY_TYPE	CDF_CHAR	time_series
RPW_STATUS_INFO	FORMAT	CDF_CHAR	I1
RPW_STATUS_INFO	LABL_PTR_1	CDF_CHAR	RPW_STATUS_INFO_LABEL
RPW_STATUS_INFO_LABEL	FIELDNAM	CDF_CHAR	RPW_STATUS_INFO_LABEL
RPW_STATUS_INFO_LABEL	CATDESC	CDF_CHAR	Label for RPW_STATUS_INFO
RPW_STATUS_INFO_LABEL	VAR_TYPE	CDF_CHAR	metadata
RPW_STATUS_INFO_LABEL	FORMAT	CDF_CHAR	A8
SAMPLING_RATE	FIELDNAM	CDF_CHAR	SAMPLING_RATE
SAMPLING_RATE	CATDESC	CDF_CHAR	TDS sampling rate
SAMPLING_RATE	VALIDMIN	CDF_FLOAT	0.0
SAMPLING_RATE	VALIDMAX	CDF_FLOAT	2.0971e+06
SAMPLING_RATE	SCALEMIN	CDF_FLOAT	65534.0
SAMPLING_RATE	SCALEMAX	CDF_FLOAT	254275.0
SAMPLING_RATE	FILLVAL	CDF_FLOAT	-1.0e+31
SAMPLING_RATE	LABLAXIS	CDF_CHAR	Sampling rate code
SAMPLING_RATE	UNITS	CDF_CHAR	Hz
SAMPLING_RATE	VAR_TYPE	CDF_CHAR	support_data
SAMPLING_RATE	SCALETYP	CDF_CHAR	linear
SAMPLING_RATE	VAR_NOTES	CDF_CHAR	TDS sampling rate
SAMPLING_RATE	DEPEND_0	CDF_CHAR	Epoch
SAMPLING_RATE	DISPLAY_TYPE	CDF_CHAR	time_series
SAMPLING_RATE	FORMAT	CDF_CHAR	F9.1
SURVEY_MODE	FIELDNAM	CDF_CHAR	SURVEY_MODE


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 667

Tab. 4.98 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SURVEY_MODE	CATDESC	CDF_CHAR	LFR survey mode
SURVEY_MODE	VALIDMIN	CDF_UINT1	0
SURVEY_MODE	VALIDMAX	CDF_UINT1	1
SURVEY_MODE	SCALEMIN	CDF_UINT1	0
SURVEY_MODE	SCALEMAX	CDF_UINT1	1
SURVEY_MODE	FILLVAL	CDF_UINT1	255
SURVEY_MODE	LABLAXIS	CDF_CHAR	TDS survey mode
SURVEY_MODE	UNITS	CDF_CHAR	
SURVEY_MODE	VAR_TYPE	CDF_CHAR	support_data
SURVEY_MODE	SCALETYP	CDF_CHAR	linear
SURVEY_MODE	VAR_NOTES	CDF_CHAR	Flag to indicate if the receiver in the SURVEY_BURST (=1) or SURVEY_NORMAL (=0) mode
SURVEY_MODE	DEPEND_0	CDF_CHAR	Epoch
SURVEY_MODE	DISPLAY_TYPE	CDF_CHAR	time_series
SURVEY_MODE	FORMAT	CDF_CHAR	I1
DOWNLINK_INFO	FIELDNAM	CDF_CHAR	DOWNLINK_INFO
DOWNLINK_INFO	CATDESC	CDF_CHAR	Quality factor of the packet
DOWNLINK_INFO	VALIDMIN	CDF_UINT1	0
DOWNLINK_INFO	VALIDMAX	CDF_UINT1	254
DOWNLINK_INFO	SCALEMIN	CDF_UINT1	0
DOWNLINK_INFO	SCALEMAX	CDF_UINT1	254
DOWNLINK_INFO	FILLVAL	CDF_UINT1	255
DOWNLINK_INFO	LABLAXIS	CDF_CHAR	DOWNLINK_INFO
DOWNLINK_INFO	UNITS	CDF_CHAR	
DOWNLINK_INFO	VAR_TYPE	CDF_CHAR	support_data
DOWNLINK_INFO	SCALETYP	CDF_CHAR	linear
DOWNLINK_INFO	VAR_NOTES	CDF_CHAR	Algorithm code of the down-linked packet and selection code of the down-linked packet
DOWNLINK_INFO	DEPEND_0	CDF_CHAR	Epoch
DOWNLINK_INFO	DISPLAY_TYPE	CDF_CHAR	time_series
DOWNLINK_INFO	FORMAT	CDF_CHAR	I3
FILTER_COEFS	FIELDNAM	CDF_CHAR	FILTER_COEFS
FILTER_COEFS	CATDESC	CDF_CHAR	Index of filter coefficients used
FILTER_COEFS	VALIDMIN	CDF_UINT1	0
FILTER_COEFS	VALIDMAX	CDF_UINT1	4
FILTER_COEFS	SCALEMIN	CDF_UINT1	0


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 668

Tab. 4.98 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
FILTER_COEFS	SCALEMAX	CDF_UINT1	1
FILTER_COEFS	FILLVAL	CDF_UINT1	255
FILTER_COEFS	LABLAXIS	CDF_CHAR	Filter coeffs.
FILTER_COEFS	UNITS	CDF_CHAR	
FILTER_COEFS	VAR_TYPE	CDF_CHAR	support_data
FILTER_COEFS	SCALETYP	CDF_CHAR	linear
FILTER_COEFS	VAR_NOTES	CDF_CHAR	Index of filter coefficients used
FILTER_COEFS	DEPEND_0	CDF_CHAR	Epoch
FILTER_COEFS	DISPLAY_TYPE	CDF_CHAR	time_series
FILTER_COEFS	FORMAT	CDF_CHAR	I1
INPUT_CONFIG	FIELDNAM	CDF_CHAR	INPUT_CONFIG
INPUT_CONFIG	CATDESC	CDF_CHAR	Bitmask of TDS analog input configuration
INPUT_CONFIG	VALIDMIN	CDF_UINT4	0
INPUT_CONFIG	VALIDMAX	CDF_UINT4	4294967294
INPUT_CONFIG	SCALEMIN	CDF_UINT4	0
INPUT_CONFIG	SCALEMAX	CDF_UINT4	1
INPUT_CONFIG	FILLVAL	CDF_UINT4	4294967295
INPUT_CONFIG	LABLAXIS	CDF_CHAR	TDS input config.
INPUT_CONFIG	UNITS	CDF_CHAR	
INPUT_CONFIG	VAR_TYPE	CDF_CHAR	support_data
INPUT_CONFIG	SCALETYP	CDF_CHAR	linear
INPUT_CONFIG	VAR_NOTES	CDF_CHAR	Input TDS configuration
INPUT_CONFIG	DEPEND_0	CDF_CHAR	Epoch
INPUT_CONFIG	DISPLAY_TYPE	CDF_CHAR	time_series
INPUT_CONFIG	FORMAT	CDF_CHAR	I10
TDS_CONFIG_LABEL	FIELDNAM	CDF_CHAR	TDS_CONFIG_LABEL
TDS_CONFIG_LABEL	CATDESC	CDF_CHAR	Label for TDS Configuration
TDS_CONFIG_LABEL	VAR_TYPE	CDF_CHAR	metadata
TDS_CONFIG_LABEL	FORMAT	CDF_CHAR	A8
SNAPSHOT_SEQ_NR	FIELDNAM	CDF_CHAR	SNAPSHOT_SEQ_NR
SNAPSHOT_SEQ_NR	CATDESC	CDF_CHAR	Sequential number of a snapshot incremented with every snapshot
SNAPSHOT_SEQ_NR	VALIDMIN	CDF_UINT2	0
SNAPSHOT_SEQ_NR	VALIDMAX	CDF_UINT2	65534
SNAPSHOT_SEQ_NR	SCALEMIN	CDF_UINT2	0
SNAPSHOT_SEQ_NR	SCALEMAX	CDF_UINT2	1
SNAPSHOT_SEQ_NR	FILLVAL	CDF_UINT2	65535
SNAPSHOT_SEQ_NR	LABLAXIS	CDF_CHAR	Snapshot seq. Num.


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 669

Tab. 4.98 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SNAPSHOT_SEQ_NR	UNITS	CDF_CHAR	
SNAPSHOT_SEQ_NR	VAR_TYPE	CDF_CHAR	support_data
SNAPSHOT_SEQ_NR	SCALETYP	CDF_CHAR	linear
SNAPSHOT_SEQ_NR	VAR_NOTES	CDF_CHAR	Sequential number of a snapshot incremented with every snapshot
SNAPSHOT_SEQ_NR	DEPEND_0	CDF_CHAR	Epoch
SNAPSHOT_SEQ_NR	DISPLAY_TYPE	CDF_CHAR	time_series
SNAPSHOT_SEQ_NR	FORMAT	CDF_CHAR	I5
CHANNEL_ON	FIELDNAM	CDF_CHAR	CHANNEL_ON
CHANNEL_ON	CATDESC	CDF_CHAR	Status of signal channels in the snapshot
CHANNEL_ON	VALIDMIN	CDF_UINT1	0
CHANNEL_ON	VALIDMAX	CDF_UINT1	1
CHANNEL_ON	SCALEMIN	CDF_UINT1	0
CHANNEL_ON	SCALEMAX	CDF_UINT1	1
CHANNEL_ON	FILLVAL	CDF_UINT1	255
CHANNEL_ON	UNITS	CDF_CHAR	
CHANNEL_ON	VAR_TYPE	CDF_CHAR	support_data
CHANNEL_ON	SCALETYP	CDF_CHAR	linear
CHANNEL_ON	VAR_NOTES	CDF_CHAR	Status of signal channels in the snapshot (0=OFF, 1=ON). Indicates whether corresponding channel in waveform data contains valid data.
CHANNEL_ON	DEPEND_0	CDF_CHAR	Epoch
CHANNEL_ON	DISPLAY_TYPE	CDF_CHAR	time_series
CHANNEL_ON	FORMAT	CDF_CHAR	I1
CHANNEL_ON	LABL_PTR_1	CDF_CHAR	CHANNEL_LABEL
CHANNEL_OVERFLOW	FIELDNAM	CDF_CHAR	CHANNEL_OVERFLOW
CHANNEL_OVERFLOW	CATDESC	CDF_CHAR	Status of channel overflows in the snapshot
CHANNEL_OVERFLOW	VALIDMIN	CDF_UINT1	0
CHANNEL_OVERFLOW	VALIDMAX	CDF_UINT1	1
CHANNEL_OVERFLOW	SCALEMIN	CDF_UINT1	0
CHANNEL_OVERFLOW	SCALEMAX	CDF_UINT1	1
CHANNEL_OVERFLOW	FILLVAL	CDF_UINT1	255
CHANNEL_OVERFLOW	UNITS	CDF_CHAR	
CHANNEL_OVERFLOW	VAR_TYPE	CDF_CHAR	support_data
CHANNEL_OVERFLOW	SCALETYP	CDF_CHAR	linear


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 670

Tab. 4.98 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
CHANNEL_OVERFLOW	VAR_NOTES	CDF_CHAR	Status of ADC overflow in the snapshot (1=OVERFLOW, 0=OK data)
CHANNEL_OVERFLOW	DEPEND_0	CDF_CHAR	Epoch
CHANNEL_OVERFLOW	DISPLAY_TYPE	CDF_CHAR	time_series
CHANNEL_OVERFLOW	FORMAT	CDF_CHAR	I1
CHANNEL_OVERFLOW	LABL_PTR_1	CDF_CHAR	CHANNEL_LABEL
BUFFER_OVERFLOW	FIELDNAM	CDF_CHAR	BUFFER_OVERFLOW
BUFFER_OVERFLOW	CATDESC	CDF_CHAR	Status of buffer
BUFFER_OVERFLOW	VALIDMIN	CDF_UINT1	0
BUFFER_OVERFLOW	VALIDMAX	CDF_UINT1	1
BUFFER_OVERFLOW	SCALEMIN	CDF_UINT1	0
BUFFER_OVERFLOW	SCALEMAX	CDF_UINT1	1
BUFFER_OVERFLOW	FILLVAL	CDF_UINT1	255
BUFFER_OVERFLOW	LABLAXIS	CDF_CHAR	Buffer overflow
BUFFER_OVERFLOW	UNITS	CDF_CHAR	
BUFFER_OVERFLOW	VAR_TYPE	CDF_CHAR	support_data
BUFFER_OVERFLOW	SCALETYP	CDF_CHAR	linear
BUFFER_OVERFLOW	VAR_NOTES	CDF_CHAR	Status of buffer overflow (1=OVERFLOW). Indicates instrument issue.
BUFFER_OVERFLOW	DEPEND_0	CDF_CHAR	Epoch
BUFFER_OVERFLOW	DISPLAY_TYPE	CDF_CHAR	time_series
BUFFER_OVERFLOW	FORMAT	CDF_CHAR	I1
CHANNEL_REF	FIELDNAM	CDF_CHAR	CHANNEL_REF
CHANNEL_REF	CATDESC	CDF_CHAR	Status of signal channels in the snapshot
CHANNEL_REF	VALIDMIN	CDF_UINT1	10
CHANNEL_REF	VALIDMAX	CDF_UINT1	32
CHANNEL_REF	SCALEMIN	CDF_UINT1	10
CHANNEL_REF	SCALEMAX	CDF_UINT1	32
CHANNEL_REF	FILLVAL	CDF_UINT1	255
CHANNEL_REF	UNITS	CDF_CHAR	
CHANNEL_REF	VAR_TYPE	CDF_CHAR	support_data
CHANNEL_REF	SCALETYP	CDF_CHAR	linear


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 671

Tab. 4.98 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
CHANNEL_REF	VAR_NOTES	CDF_CHAR	Configuration of signal channels in the snapshot (0=GND 1=V1, 2=V2, 3=V3). The 2-element vector (A,B) indicates that the corresponding channel contains a difference of 2 channels A-B.
CHANNEL_REF	DEPEND_0	CDF_CHAR	Epoch
CHANNEL_REF	DISPLAY_TYPE	CDF_CHAR	time_series
CHANNEL_REF	FORMAT	CDF_CHAR	I2
CHANNEL_REF	LABL_PTR_1	CDF_CHAR	CHANNEL_LABEL
CHANNEL_LABEL	FIELDNAM	CDF_CHAR	CHANNEL_LABEL
CHANNEL_LABEL	CATDESC	CDF_CHAR	Label for CHANNEL_ON
CHANNEL_LABEL	VAR_TYPE	CDF_CHAR	metadata
CHANNEL_LABEL	FORMAT	CDF_CHAR	A16
SAMPS_PER_CH	FIELDNAM	CDF_CHAR	SAMPS_PER_CH
SAMPS_PER_CH	CATDESC	CDF_CHAR	Number of samples per channel
SAMPS_PER_CH	VALIDMIN	CDF_UINT4	0
SAMPS_PER_CH	VALIDMAX	CDF_UINT4	4294967295
SAMPS_PER_CH	SCALEMIN	CDF_UINT4	0
SAMPS_PER_CH	SCALEMAX	CDF_UINT4	4294967295
SAMPS_PER_CH	FILLVAL	CDF_UINT4	4294967295
SAMPS_PER_CH	LABLAXIS	CDF_CHAR	Nsamps
SAMPS_PER_CH	UNITS	CDF_CHAR	
SAMPS_PER_CH	VAR_TYPE	CDF_CHAR	data
SAMPS_PER_CH	SCALETYP	CDF_CHAR	linear
SAMPS_PER_CH	VAR_NOTES	CDF_CHAR	Number of samples per channel
SAMPS_PER_CH	DEPEND_0	CDF_CHAR	Epoch
SAMPS_PER_CH	DISPLAY_TYPE	CDF_CHAR	time_series
SAMPS_PER_CH	FORMAT	CDF_CHAR	I10
WAVEFORM_DATA	FIELDNAM	CDF_CHAR	Electric waveform data
WAVEFORM_DATA	CATDESC	CDF_CHAR	Calibrated electric waveform snapshot measured on the four high frequency channels of TDS system.
WAVEFORM_DATA	VALIDMIN	CDF_FLOAT	-1.0e+30
WAVEFORM_DATA	VALIDMAX	CDF_FLOAT	1.0e+30
WAVEFORM_DATA	SCALEMIN	CDF_FLOAT	-1.0e+30
WAVEFORM_DATA	SCALEMAX	CDF_FLOAT	1.0e+30


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 672

Tab. 4.98 – continued from previous page


Variable Name	Attribute Name	Data Type	Value
WAVEFORM_DATA	FILLVAL	CDF_FLOAT	-1.0e+31
WAVEFORM_DATA	UNITS	CDF_CHAR	V/m
WAVEFORM_DATA	VAR_TYPE	CDF_CHAR	data
WAVEFORM_DATA	SCALETYP	CDF_CHAR	linear
WAVEFORM_DATA	VAR_NOTES	CDF_CHAR	1-4 entry array with signal values
WAVEFORM_DATA	DEPEND_0	CDF_CHAR	Epoch
WAVEFORM_DATA	DEPEND_1	CDF_CHAR	CHANNEL_ON
WAVEFORM_DATA	DISPLAY_TYPE	CDF_CHAR	time_series
WAVEFORM_DATA	FORMAT	CDF_CHAR	E10.3
WAVEFORM_DATA	LABL_PTR_1	CDF_CHAR	CHANNEL_LABEL
WAVEFORM_DATA_VOLTAGE	FIELDNAM	CDF_CHAR	Electric waveform data
WAVEFORM_DATA_VOLTAGE	CATDESC	CDF_CHAR	Calibrated electric waveform snapshot in volts measured on the four high frequency channels of TDS system.
WAVEFORM_DATA_VOLTAGE	VALIDMIN	CDF_FLOAT	-1.0e+30
WAVEFORM_DATA_VOLTAGE	VALIDMAX	CDF_FLOAT	1.0e+30
WAVEFORM_DATA_VOLTAGE	SCALEMIN	CDF_FLOAT	-1.0e+30
WAVEFORM_DATA_VOLTAGE	SCALEMAX	CDF_FLOAT	1.0e+30
WAVEFORM_DATA_VOLTAGE	FILLVAL	CDF_FLOAT	-1.0e+31
WAVEFORM_DATA_VOLTAGE	UNITS	CDF_CHAR	V
WAVEFORM_DATA_VOLTAGE	VAR_TYPE	CDF_CHAR	data
WAVEFORM_DATA_VOLTAGE	SCALETYP	CDF_CHAR	linear
WAVEFORM_DATA_VOLTAGE	VAR_NOTES	CDF_CHAR	1-4 entry array with signal values
WAVEFORM_DATA_VOLTAGE	DEPEND_0	CDF_CHAR	Epoch
WAVEFORM_DATA_VOLTAGE	DEPEND_1	CDF_CHAR	CHANNEL_ON
WAVEFORM_DATA_VOLTAGE	DEPEND_2	CDF_CHAR	
WAVEFORM_DATA_VOLTAGE	DISPLAY_TYPE	CDF_CHAR	time_series
WAVEFORM_DATA_VOLTAGE	FORMAT	CDF_CHAR	E10.3
WAVEFORM_DATA_VOLTAGE	LABL_PTR_1	CDF_CHAR	CHANNEL_LABEL
WAVEFORM_DATA_VOLTAGE	LABL_PTR_2	CDF_CHAR	
RPW_ANTENNA_RTN	FIELDNAM	CDF_CHAR	RPW antenna orientation
RPW_ANTENNA_RTN	CATDESC	CDF_CHAR	Three RPW electric antenna orientations in the RTN coordinate system.
RPW_ANTENNA_RTN	VALIDMIN	CDF_FLOAT	-1.0e+30
RPW_ANTENNA_RTN	VALIDMAX	CDF_FLOAT	1.0e+30
RPW_ANTENNA_RTN	SCALEMIN	CDF_FLOAT	-1.0e+30
RPW_ANTENNA_RTN	SCALEMAX	CDF_FLOAT	1.0e+30

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 673

Tab. 4.98 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
RPW_ANTENNA_RTN	FILLVAL	CDF_FLOAT	-1.0e+31
RPW_ANTENNA_RTN	UNITS	CDF_CHAR	
RPW_ANTENNA_RTN	VAR_TYPE	CDF_CHAR	support_data
RPW_ANTENNA_RTN	SCALETYP	CDF_CHAR	linear
RPW_ANTENNA_RTN	VAR_NOTES	CDF_CHAR	Matrix of unit vectors representing the three RPW antenna directions
RPW_ANTENNA_RTN	DEPEND_0	CDF_CHAR	Epoch
RPW_ANTENNA_RTN	DISPLAY_TYPE	CDF_CHAR	time_series
RPW_ANTENNA_RTN	FORMAT	CDF_CHAR	E10.3
RPW_ANTENNA_RTN	LABL_PTR_1	CDF_CHAR	RPW_ANTENNA_RTN_LABEL_1
RPW_ANTENNA_RTN	LABL_PTR_2	CDF_CHAR	RPW_ANTENNA_RTN_LABEL_2
RPW_ANTENNA_RTN_LABEL_1	EIEIDNAM	CDF_CHAR	RPW_ANTENNA_RTN_LABEL_1
RPW_ANTENNA_RTN_LABEL_1	EIATDESC	CDF_CHAR	Label for RPW_ANTENNA_RTN
RPW_ANTENNA_RTN_LABEL_1	VAR_TYPE	CDF_CHAR	metadata
RPW_ANTENNA_RTN_LABEL_1	FORMAT	CDF_CHAR	A8
RPW_ANTENNA_RTN_LABEL_2	EIEIDNAM	CDF_CHAR	RPW_ANTENNA_RTN_LABEL_2
RPW_ANTENNA_RTN_LABEL_2	EIATDESC	CDF_CHAR	Label for RPW_ANTENNA_RTN
RPW_ANTENNA_RTN_LABEL_2	VAR_TYPE	CDF_CHAR	metadata
RPW_ANTENNA_RTN_LABEL_2	FORMAT	CDF_CHAR	A8


	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 674

4.1.3.19.6 Non-Record-Variant (NRV) Variables

Variable Name	Index	Value
BIA_STATUS_INFO_LABEL	1	BIA ON
BIA_STATUS_INFO_LABEL	2	BIAS3 ON
BIA_STATUS_INFO_LABEL	3	BIAS2 ON
BIA_STATUS_INFO_LABEL	4	BIAS1 ON
BIA_STATUS_INFO_LABEL	5	BIA MODE HV ON
BIA_STATUS_INFO_LABEL	6	BIA MODE MUX
RPW_STATUS_INFO_LABEL	1	THR ON
RPW_STATUS_INFO_LABEL	2	LFR ON
RPW_STATUS_INFO_LABEL	3	ANT1 ON
RPW_STATUS_INFO_LABEL	4	ANT2 ON
RPW_STATUS_INFO_LABEL	5	ANT3 ON
RPW_STATUS_INFO_LABEL	6	SCM ON
RPW_STATUS_INFO_LABEL	7	SCM CALIB
CHANNEL_LABEL	1	WF in CH1
CHANNEL_LABEL	2	WF in CH2
CHANNEL_LABEL	3	WF in CH3
CHANNEL_LABEL	4	WF in CH4
RPW_ANTENNA_RTN_LABEL	11	ANT_R
RPW_ANTENNA_RTN_LABEL	21	ANT_T
RPW_ANTENNA_RTN_LABEL	31	ANT_N
RPW_ANTENNA_RTN_LABEL	12	ANT_1
RPW_ANTENNA_RTN_LABEL	22	ANT_2
RPW_ANTENNA_RTN_LABEL	32	ANT_3

4.1.3.20 SOLO_L2_RPW-TDS-SBM2-TSWF-B data product

The “SOLO_L2_RPW-TDS-SBM2-TSWF-B” data product contains the calibrated TDS receiver Regular Snapshot Waveform data for SBM2 events for magnetic components only. The “SOLO_L2_RPW-TDS-SBM2-TSWF-B” data are written in CDF format files. There is a single file per SBM2 event data effectively downlinked on-ground. The file is generated from data in the corresponding SOLO_L1_RPW-TDS-SBM2-TSWF parent file.

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 675

4.1.3.20.1 Filename

```
solo_L2_rpw-tds-sbm2-tswf-b_[YYYYMMDDThhmmss1- YYYYMMDDThhmmss2]_
↪V[version].cdf
```


4.1.3.20.2 Expected cadence and data volume

Nominal cadence: 1 file per SBM2 event

Expected data volume: TBD MB per file

4.1.3.20.3 Global Attributes


Attribute Name	Entry Number	Data Type	Value
Pipeline_name	1	CDF_CHAR	
Project	1	CDF_CHAR	SOLO>Solar Orbiter
CALIBRATION_VERSION	1	CDF_CHAR	
Logical_source	1	CDF_CHAR	solo_L2_rpw-tds-sbm2-tswf-b
Parent_version	1	CDF_CHAR	
Datetime	1	CDF_CHAR	
TIME_MIN	1	CDF_CHAR	
SPECTRAL_RANGE_MAX	1	CDF_CHAR	
Free_field	1	CDF_CHAR	
OBS_ID	1	CDF_CHAR	
File_naming_convention	1	CDF_CHAR	<Source_name>_<LEVEL>_<Descriptor>_<Dateti
Data_type	1	CDF_CHAR	H0>High Resolution data
Rules_of_use	1	CDF_CHAR	Data provided are publicly available. If used in presentations or publications, please acknowledge Solar Orbiter/RPW Investigation (M. Maksimovic, PIs). Please read carefully the caveats attached to the data. For reporting purposes, we request bibliography information for any publication, etc., using these data. Please send information on the use of this data to: M. Maksimovic (PI).
SOOP_TYPE	1	CDF_CHAR	
TEXT_supplement_1	1	CDF_CHAR	
TIME_MAX	1	CDF_CHAR	

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 676

Tab. 4.99 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Data_product	1	CDF_CHAR	SBM2-TSWF-B>SBM2-TSWF-B
Software_name	1	CDF_CHAR	
ACCESS_FORMAT	1	CDF_CHAR	CDF
Mission_group	1	CDF_CHAR	Solar Orbiter
Dataset_ID	1	CDF_CHAR	SOLO_L2_RPW-TDS-SBM2-TSWF-B
Discipline	1	CDF_CHAR	Space Physics>Interplanetary Studies
LINK_TEXT	1	CDF_CHAR	RPW Web site at LESIA
TARGET_CLASS	1	CDF_CHAR	Star
Data_version	1	CDF_CHAR	
ACCESS_URL	1	CDF_CHAR	
Provider	1	CDF_CHAR	LESIA (Meudon, France)
File_ID	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	https://rpw.lesia.obspm.fr
SPECTRAL_RANGE_MIN	1	CDF_CHAR	
Acknowledgement	1	CDF_CHAR	The authors are pleased to acknowledge the Solar Orbiter/RPW Investigation (M. Maksimovic, PIs) for access to data.
CALIBRATION_TABLE	1	CDF_CHAR	
Generation_date	1	CDF_CHAR	
Descriptor	1	CDF_CHAR	RPW-TDS-SBM2-TSWF-B> RPW Time Domain Sampler Triggered Waveform Snapshot magnetic data in SBM2 mode
Generated_by	1	CDF_CHAR	RPW Operations Centre located at LESIA (Meudon, France)
Logical_file_id	1	CDF_CHAR	
Instrument_type	1	CDF_CHAR	Radio and Plasma Waves (space)
Parents	1	CDF_CHAR	
TARGET_REGION	1	CDF_CHAR	Solar Wind
Logical_source_description	1	CDF_CHAR	Solar Orbiter Radio/Plasma Wave, TDS L2 magnetic parameters
SPICE_KERNELS	1	CDF_CHAR	
SKELETON_MODS	1	CDF_CHAR	2017-12-15, J-Y Brochot (CNRS-LPC2E), initial release
SKELETON_MODS	2	CDF_CHAR	V04: Update for solo data definition, X. BONNIN (CNRS-LESIA), April 2019


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 677

Tab. 4.99 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
SKELETON_MODS	3	CDF_CHAR	V05: Update to compliant with SOL-SGS-TN-0009 Issue 2, Rev 4 - X.Bonnin, 09/2019
SKELETON_MODS	4	CDF_CHAR	V06: Uniformisation of the version, J-Y Brochot, 12/2019
SKELETON_MODS	5	CDF_CHAR	V07: March 2020 : Harmonize SAMPLING_RATE zvar and Test_* g.attrs - X.Bonnin (CNRS, LESIA)
SKELETON_MODS	6	CDF_CHAR	V07: Suppress zVars POST_GAP_FLAG, ACQUISITION_TIME, ACQUISITION_TIME_UNITS and ACQUISITION_TIME_LABEL - J-Y Brochot, March 2020
SKELETON_MODS	7	CDF_CHAR	V08: Add gAttr SPICE_KERNELS - J-Y Brochot, April 2020
SKELETON_MODS	8	CDF_CHAR	V09: Complete the zAttr of CALIBRATION_TABLE_INDEX - J-Y Brochot, May 2020
SKELETON_MODS	9	CDF_CHAR	V10: Add zVar L2_QUALITY_BITMASK - J-Y Brochot, Aug 2020
SKELETON_MODS	10	CDF_CHAR	V11: Suppress zVars CHANNEL_ON, RPW_STATUS_INFO, INPUT_CONFIG, SYNCHRO_FLAG, BUFFER_OVERFLOW, CHANNEL_OVERFLOW, RPW_STATUS_INFO_LABEL, SNAPSHOT_SEQ_NR, CHANNEL_CONFIG - J-Y Brochot, Sept 2020
SKELETON_MODS	11	CDF_CHAR	V12: Jan. 2021 : Fix inconsistencies against the ISTP CDF guidelines, X.Bonnin (CNRS-LESIA)
Validate	1	CDF_CHAR	
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009 (2.4)
PI_affiliation	1	CDF_CHAR	LESIA, Observatoire de Paris-CNRS
Pipeline_version	1	CDF_CHAR	
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00006-LES (1.3)
LINK_TITLE	1	CDF_CHAR	RPW Web site

continues on next page


	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 678

Tab. 4.99 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Skeleton_version	1	CDF_CHAR	12
TARGET_NAME	1	CDF_CHAR	Sun
Job_ID	1	CDF_CHAR	
CAL_EQUIPMENT	1	CDF_CHAR	SCM
TEXT	1	CDF_CHAR	This file contains RPW TDS level 2 triggered snapshot waveform of magnetic data in SBM2 mode
PI_name	1	CDF_CHAR	M.Maksimovic
CAVEATS	1	CDF_CHAR	
CAL_ENTITY_NAME	1	CDF_CHAR	LPC2E
SKELETON_PARENT	1	CDF_CHAR	SOLO_L2_RPW-TDS-SBM2-TSWF-B_V12.cdf
CAL_ENTITY_AFFILIATION	1	CDF_CHAR	CNRS
LEVEL	1	CDF_CHAR	L2>Level 2 data processing
Source_name	1	CDF_CHAR	SOLO>Solar Orbiter
MODS	1	CDF_CHAR	

4.1.3.20.4 zVariables


Variable Name	Data Type	Number Elements	Dims	Sizes
CALIBRATION_TABLE_INDEX	CDF_UINT1	1	2	2 2
QUALITY_BITMASK	CDF_UINT2	1	0	
L2_QUALITY_BITMASK	CDF_UINT2	1	0	
B	CDF_REAL4	1	1	65536
SAMPLING_RATE	CDF_REAL4	1	0	
SURVEY_MODE	CDF_UINT1	1	0	
SAMPS_PER_CH	CDF_UINT4	1	0	
QUALITY_FLAG	CDF_UINT1	1	0	
Epoch	CDF_TIME_TT2000	1	0	

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 679

4.1.3.20.5 Variable attributes

Variable Name	Attribute Name	Data Type	Value
CALIBRATION_TABLE_INDEX	DEPEND_0	CDF_CHAR	Epoch
CALIBRATION_TABLE_INDEX	FORMAT	CDF_CHAR	I3.3
CALIBRATION_TABLE_INDEX	VAR_TYPE	CDF_CHAR	support_data
CALIBRATION_TABLE_INDEX	DISPLAY_TYPE	CDF_CHAR	time_series
CALIBRATION_TABLE_INDEX	FIELDNAM	CDF_CHAR	CALIBRATION_TABLE_INDEX
CALIBRATION_TABLE_INDEX	VAR_NOTES	CDF_CHAR	Indexes (i,j) giving gEntry of Global attribute 'CALIBRATION_TABLE', and record number in the Calibration Table.
CALIBRATION_TABLE_INDEX	FILLVAL	CDF_UINT1	255
CALIBRATION_TABLE_INDEX	CATDESC	CDF_CHAR	Informations about calibration tables used
CALIBRATION_TABLE_INDEX	LABLAXIS	CDF_CHAR	Calibration table index
CALIBRATION_TABLE_INDEX	SCALEMIN	CDF_UINT1	0
CALIBRATION_TABLE_INDEX	SCALEMAX	CDF_UINT1	254
CALIBRATION_TABLE_INDEX	SCALETYP	CDF_CHAR	linear
CALIBRATION_TABLE_INDEX	UNITS	CDF_CHAR	
CALIBRATION_TABLE_INDEX	VALIDMAX	CDF_UINT1	254
CALIBRATION_TABLE_INDEX	VALIDMIN	CDF_UINT1	0
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context information or status at the receiver or experiment level
QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
QUALITY_BITMASK	UNITS	CDF_CHAR	
QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
L2_QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
L2_QUALITY_BITMASK	FORMAT	CDF_CHAR	I5

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 680

Tab. 4.100 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
L2_QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
L2_QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
L2_QUALITY_BITMASK	FIELDNAM	CDF_CHAR	L2_QUALITY_BITMASK
L2_QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context or events that can alterate data -bit0: SCM outworking or unknown temperature -bit1: SCM heater on/off transition -bit2: LFR onboard calibration signal
L2_QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
L2_QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
L2_QUALITY_BITMASK	LABLAXIS	CDF_CHAR	L2 Bitmask flag
L2_QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
L2_QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
L2_QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
L2_QUALITY_BITMASK	UNITS	CDF_CHAR	
L2_QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
L2_QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
B	DEPEND_0	CDF_CHAR	Epoch
B	FORMAT	CDF_CHAR	F8.2
B	VAR_TYPE	CDF_CHAR	data
B	DISPLAY_TYPE	CDF_CHAR	time_series
B	FIELDNAM	CDF_CHAR	Magnetic waveform
B	VAR_NOTES	CDF_CHAR	1 entry array with magnetic values of the compoent B4x
B	FILLVAL	CDF_REAL4	-1.0e+31
B	CATDESC	CDF_CHAR	Magnetic component values of Bx
B	LABLAXIS	CDF_CHAR	Bx
B	SCALEMIN	CDF_REAL4	-1.0e+30
B	SCALEMAX	CDF_REAL4	1.0e+30
B	SCALETYP	CDF_CHAR	linear
B	UNITS	CDF_CHAR	nT
B	VALIDMAX	CDF_REAL4	1.0e+30
B	VALIDMIN	CDF_REAL4	-1.0e+30
SAMPLING_RATE	DEPEND_0	CDF_CHAR	Epoch
SAMPLING_RATE	FORMAT	CDF_CHAR	F8.2
SAMPLING_RATE	VAR_TYPE	CDF_CHAR	support_data
SAMPLING_RATE	DISPLAY_TYPE	CDF_CHAR	time_series
SAMPLING_RATE	FIELDNAM	CDF_CHAR	Sampling rate

continues on next page



**RPW Data Product
Description Document**

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **681**

Tab. 4.100 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SAMPLING_RATE	VAR_NOTES	CDF_CHAR	TDS sampling rate
SAMPLING_RATE	FILLVAL	CDF_REAL4	-1.0e+31
SAMPLING_RATE	CATDESC	CDF_CHAR	Sampling frequency of the snapshot
SAMPLING_RATE	LABLAXIS	CDF_CHAR	Fe
SAMPLING_RATE	SCALEMIN	CDF_REAL4	1.0
SAMPLING_RATE	SCALEMAX	CDF_REAL4	1.0e+30
SAMPLING_RATE	SCALETYP	CDF_CHAR	linear
SAMPLING_RATE	UNITS	CDF_CHAR	Hz
SAMPLING_RATE	VALIDMAX	CDF_REAL4	1.0e+30
SAMPLING_RATE	VALIDMIN	CDF_REAL4	1.0
SURVEY_MODE	DEPEND_0	CDF_CHAR	Epoch
SURVEY_MODE	FORMAT	CDF_CHAR	I1.1
SURVEY_MODE	VAR_TYPE	CDF_CHAR	support_data
SURVEY_MODE	DISPLAY_TYPE	CDF_CHAR	time_series
SURVEY_MODE	FIELDNAM	CDF_CHAR	SURVEY_MODE
SURVEY_MODE	VAR_NOTES	CDF_CHAR	Flag to indicate if the receiver in the SURVEY_BURST (=1) or SURVEY_NORMAL (=0) mode
SURVEY_MODE	FILLVAL	CDF_UINT1	255
SURVEY_MODE	CATDESC	CDF_CHAR	TDS survey mode
SURVEY_MODE	LABLAXIS	CDF_CHAR	TDSsurvey mode
SURVEY_MODE	SCALEMIN	CDF_UINT1	0
SURVEY_MODE	SCALEMAX	CDF_UINT1	1
SURVEY_MODE	SCALETYP	CDF_CHAR	linear
SURVEY_MODE	UNITS	CDF_CHAR	
SURVEY_MODE	VALIDMAX	CDF_UINT1	1
SURVEY_MODE	VALIDMIN	CDF_UINT1	0
SAMPS_PER_CH	DEPEND_0	CDF_CHAR	Epoch
SAMPS_PER_CH	FORMAT	CDF_CHAR	I10
SAMPS_PER_CH	VAR_TYPE	CDF_CHAR	support_data
SAMPS_PER_CH	DISPLAY_TYPE	CDF_CHAR	time_series
SAMPS_PER_CH	FIELDNAM	CDF_CHAR	SAMPS_PER_CH
SAMPS_PER_CH	VAR_NOTES	CDF_CHAR	Number of samples per channel
SAMPS_PER_CH	FILLVAL	CDF_UINT4	4294967295
SAMPS_PER_CH	CATDESC	CDF_CHAR	Number of samples per channel
SAMPS_PER_CH	LABLAXIS	CDF_CHAR	Nsamps
SAMPS_PER_CH	SCALEMIN	CDF_UINT4	0


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 682

Tab. 4.100 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SAMPS_PER_CH	SCALEMAX	CDF_UINT4	4294967295
SAMPS_PER_CH	SCALETYP	CDF_CHAR	linear
SAMPS_PER_CH	UNITS	CDF_CHAR	
SAMPS_PER_CH	VALIDMAX	CDF_UINT4	4294967295
SAMPS_PER_CH	VALIDMIN	CDF_UINT4	0
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
QUALITY_FLAG	VAR_TYPE	CDF_CHAR	support_data
QUALITY_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the quality of the data
QUALITY_FLAG	FILLVAL	CDF_UINT1	255
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	LABLAXIS	CDF_CHAR	Quality flag
QUALITY_FLAG	SCALEMIN	CDF_UINT1	0
QUALITY_FLAG	SCALEMAX	CDF_UINT1	4
QUALITY_FLAG	SCALETYP	CDF_CHAR	linear
QUALITY_FLAG	UNITS	CDF_CHAR	
QUALITY_FLAG	VALIDMAX	CDF_UINT1	4
QUALITY_FLAG	VALIDMIN	CDF_UINT1	0
Epoch	VAR_TYPE	CDF_CHAR	support_data
Epoch	DISPLAY_TYPE	CDF_CHAR	time_series
Epoch	FIELDNAM	CDF_CHAR	Epoch
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file.
Epoch	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch	CATDESC	CDF_CHAR	Default time
Epoch	LABLAXIS	CDF_CHAR	Epoch
Epoch	SCALEMIN	CDF_TIME_TT2000	2000-01-01T12:00:00.000000000
Epoch	SCALEMAX	CDF_TIME_TT2000	2029-12-31T23:59:59.999000000
Epoch	SCALETYP	CDF_CHAR	linear
Epoch	UNITS	CDF_CHAR	ns
Epoch	VALIDMAX	CDF_TIME_TT2000	2029-12-31T23:59:59.999000000
Epoch	VALIDMIN	CDF_TIME_TT2000	2000-01-01T12:00:00.000000000
Epoch	Bin_location	CDF_CHAR	0.5

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 683

Tab. 4.100 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
Epoch	TIME_SCALE	CDF_CHAR	Terrestrial Time
Epoch	Resolution	CDF_CHAR	15258 ns
Epoch	TIME_BASE	CDF_CHAR	J2000
Epoch	MONOTON	CDF_CHAR	INCREASE
Epoch	REFERENCE_POSI	CDF_CHAR	Spacecraft barycenter

4.1.3.20.6 Non-Record-Variant (NRV) Variables

4.1.3.21 SOLO_L2_RPW-LFR-SURV-ASM data product

The “SOLO_L2_RPW-LFR-SURV-ASM” data product contains the calibrated LFR receiver Averaged Spectral Matrix survey data. The “SOLO_L2_RPW-LFR-SURV-ASM” data are written in CDF format files. There is a single file per day, generated from data in the corresponding SOLO_L1_RPW-LFR-SURV-ASM parent file.

4.1.3.21.1 Filename

```
solo_L2_rpw-lfr-surv-asm_[YYYYMMDD]_V[version].cdf
```

4.1.3.21.2 Expected cadence and data volume


Nominal cadence: 1 file per day

Expected data volume: 10 MB per file

4.1.3.21.3 Global Attributes

Attribute Name	Entry Number	Data Type	Value
Project	1	CDF_CHAR	SOLO>Solar Orbiter
Source_name	1	CDF_CHAR	SOLO>Solar Orbiter
Provider	1	CDF_CHAR	LESIA (Meudon, France)
Discipline	1	CDF_CHAR	Space Physics>Interplanetary Studies
Data_type	1	CDF_CHAR	H0>High Resolution data


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 684

Tab. 4.101 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Descriptor	1	CDF_CHAR	RPW-LFR-SURV-ASM>RPW Low Frequency Receiver Average Spectral Matrices data in survey mode
Data_version	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Skeleton_version	1	CDF_CHAR	09
Parent_version	1	CDF_CHAR	
File_naming_convention	1	CDF_CHAR	<Source_name>_<LEVEL>_<Descriptor>_<Date>
PI_name	1	CDF_CHAR	M.Maksimovic
PI_affiliation	1	CDF_CHAR	LESIA, Observatoire de Paris-CNRS
TEXT	1	CDF_CHAR	This file contains RPW LFR level 2R survey ASM data of the current test.
Instrument_type	1	CDF_CHAR	Radio and Plasma Waves (space)
Mission_group	1	CDF_CHAR	Solar Orbiter
Logical_source	1	CDF_CHAR	solo_L2_rpw-lfr-surv-asm
Logical_file_id	1	CDF_CHAR	
Logical_source_description	1	CDF_CHAR	Solar Orbiter Radio/Plasma Wave, LFR L2 parameters
Rules_of_use	1	CDF_CHAR	Data provided are publicly available. If used in presentations or publications, please acknowledge Solar Orbiter/RPW Investigation (M. Maksimovic, PIs). Please read carefully the caveats attached to the data. For reporting purposes, we request bibliography information for any publication, etc., using these data. Please send information on the use of this data to: M. Maksimovic (PI).
Generated_by	1	CDF_CHAR	RPW Operations Centre located at LESIA (Meudon, France)
Generation_date	1	CDF_CHAR	
Acknowledgement	1	CDF_CHAR	The authors are pleased to acknowledge the Solar Orbiter/RPW Investigation (M. Maksimovic, PIs) for access to data.
SKELETON_MODS	1	CDF_CHAR	
SKELETON_MODS	2	CDF_CHAR	V04: Update for solo data definition, X. BONNIN (CNRS-LESIA), April 2019
SKELETON_MODS	3	CDF_CHAR	V05: Update to compliant with SOL-SGS-TN-0009 Issue 2, Rev 4 - X.Bonnin, 09/2019


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 685

Tab. 4.101 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
SKELETON_MODS	4	CDF_CHAR	V06: March 2020 : Delete Test_* g.attrs - X.Bonnin (CNRS, LESIA)
SKELETON_MODS	5	CDF_CHAR	V07: April 2020 : Delete Acquisition_time* zvariables – R.Piberne (X, LPP)
SKELETON_MODS	6	CDF_CHAR	V08: Remove UCD vattr and POST_GAP_FLAG zVar.
SKELETON_MODS	7	CDF_CHAR	V09: Jan. 2021 : Fix inconsistencies against the ISTP CDF guidelines, X.Bonnin (CNRS-LESIA)
LINK_TEXT	1	CDF_CHAR	RPW Web site at LESIA
LINK_TITLE	1	CDF_CHAR	RPW Web site
HTTP_LINK	1	CDF_CHAR	https://rpw.lesia.obspm.fr
ACCESS_URL	1	CDF_CHAR	
TEXT_supplement_1	1	CDF_CHAR	
Software_name	1	CDF_CHAR	
Parents	1	CDF_CHAR	
Validate	1	CDF_CHAR	
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00006-LES (1.3)
ROC_REFERENCE	1	CDF_CHAR	ROC-TST-GSE-SPC-00017-LES_Issue02_Rev0(Data_format_and_metadata_ground_Data).pdf
SKELETON_PARENT	1	CDF_CHAR	SOLO_L2_RPW-LFR-SURV-ASM_V09.cdf
ACCESS_FORMAT	1	CDF_CHAR	CDF
TIME_MIN	1	CDF_CHAR	
TIME_MAX	1	CDF_CHAR	
SPECTRAL_RANGE_MIN	1	CDF_CHAR	
SPECTRAL_RANGE_MAX	1	CDF_CHAR	
File_ID	1	CDF_CHAR	
CAVEATS	1	CDF_CHAR	
CAL_ENTITY_NAME	1	CDF_CHAR	
CAL_ENTITY_AFFILIATION	1	CDF_CHAR	
CAL_EQUIPMENT	1	CDF_CHAR	
CALIBRATION_TABLE	1	CDF_CHAR	
CALIBRATION_VERSION	1	CDF_CHAR	
Datetime	1	CDF_CHAR	
Free_field	1	CDF_CHAR	
Job_ID	1	CDF_CHAR	

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 686


Tab. 4.101 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
LEVEL	1	CDF_CHAR	L2>Level 2 data processing
SOOP_TYPE	1	CDF_CHAR	
Data_product	1	CDF_CHAR	SURV-ASM>SURV-ASM
TARGET_NAME	1	CDF_CHAR	Sun
TARGET_CLASS	1	CDF_CHAR	Star
TARGET_REGION	1	CDF_CHAR	Solar Wind
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009 (2.4)
Pipeline_name	1	CDF_CHAR	
Pipeline_version	1	CDF_CHAR	
Dataset_ID	1	CDF_CHAR	SOLO_L2_RPW-LFR-SURV-ASM
OBS_ID	1	CDF_CHAR	
MODS	1	CDF_CHAR	

4.1.3.21.4 zVariables

Variable Name	Data Type	Number Elements	Dims	Sizes
Epoch	CDF_TIME_TT2000	1	0	
Epoch_F0	CDF_TIME_TT2000	1	0	
Epoch_F1	CDF_TIME_TT2000	1	0	
Epoch_F2	CDF_TIME_TT2000	1	0	
QUALITY_FLAG	CDF_UINT1	1	0	
COMMON_BIA_STATUS_FLAG	CDF_UINT1	1	0	
QUALITY_BITMASK	CDF_UINT2	1	0	
SURVEY_MODE	CDF_UINT1	1	0	
FREQ	CDF_UINT1	1	0	
F0	CDF_REAL4	1	1	88
F1	CDF_REAL4	1	1	104
F2	CDF_REAL4	1	1	96
BIAS_MODE_MUX_SET	CDF_UINT1	1	0	
BIAS_MODE_HV_ENABLED	CDF_UINT1	1	0	
BIAS_MODE_BIAS1_ENABLED	CDF_UINT1	1	0	
BIAS_MODE_BIAS2_ENABLED	CDF_UINT1	1	0	
BIAS_MODE_BIAS3_ENABLED	CDF_UINT1	1	0	
BIAS_ON_OFF	CDF_UINT1	1	0	
BW	CDF_UINT1	1	0	
SP0	CDF_UINT1	1	0	

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 687


Tab. 4.102 – continued from previous page

Variable Name	Data Type	Number Elements	Dims	Sizes
SP1	CDF_UINT1	1	0	
R0	CDF_UINT1	1	0	
R1	CDF_UINT1	1	0	
R2	CDF_UINT1	1	0	
ASM_CNT	CDF_UINT1	1	0	
ASM_RE_F0	CDF_REAL4	1	3	88 5 5
ASM_IM_F0	CDF_REAL4	1	3	88 5 5
ASM_RE_F1	CDF_REAL4	1	3	104 5 5
ASM_IM_F1	CDF_REAL4	1	3	104 5 5
ASM_RE_F2	CDF_REAL4	1	3	96 5 5
ASM_IM_F2	CDF_REAL4	1	3	96 5 5
SYNCHRO_FLAG	CDF_UINT1	1	0	

4.1.3.21.5 Variable attributes

Variable Name	Attribute Name	Data Type	Value
Epoch	FIELDNAM	CDF_CHAR	Epoch
Epoch	CATDESC	CDF_CHAR	Default time
Epoch	DISPLAY_TYPE	CDF_CHAR	time_series
Epoch	VALIDMIN	CDF_TIME_TT2000	2000-01-01T00:00:00.000000000
Epoch	VALIDMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch	SCALEMIN	CDF_TIME_TT2000	1990-01-01T00:00:00.000000000
Epoch	SCALEMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch	LABLAXIS	CDF_CHAR	Epoch
Epoch	UNITS	CDF_CHAR	ns
Epoch	VAR_TYPE	CDF_CHAR	support_data
Epoch	SCALETYP	CDF_CHAR	linear
Epoch	MONOTON	CDF_CHAR	INCREASE
Epoch	TIME_BASE	CDF_CHAR	J2000
Epoch	TIME_SCALE	CDF_CHAR	Terrestrial Time
Epoch	REFERENCE_POS	CDF_CHAR	Spacecraft barycenter
Epoch	Resolution	CDF_CHAR	15258


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 688

Tab. 4.103 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
Epoch	Bin_location	CDF_CHAR	0.5
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file.
Epoch_F0	FIELDNAM	CDF_CHAR	Epoch_F0
Epoch_F0	CATDESC	CDF_CHAR	Time for F0 frequencies
Epoch_F0	DISPLAY_TYPE	CDF_CHAR	time_series
Epoch_F0	VALIDMIN	CDF_TIME_TT2000	2000-01-01T00:00:00.000000000
Epoch_F0	VALIDMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch_F0	SCALEMIN	CDF_TIME_TT2000	1990-01-01T00:00:00.000000000
Epoch_F0	SCALEMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch_F0	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch_F0	LABLAXIS	CDF_CHAR	Epoch_F0
Epoch_F0	UNITS	CDF_CHAR	ns
Epoch_F0	VAR_TYPE	CDF_CHAR	support_data
Epoch_F0	SCALETYP	CDF_CHAR	linear
Epoch_F0	MONOTON	CDF_CHAR	INCREASE
Epoch_F0	TIME_BASE	CDF_CHAR	Spacecraft clock
Epoch_F0	TIME_SCALE	CDF_CHAR	Spacecraft clock
Epoch_F0	REFERENCE_POSITION	CDF_CHAR	MEB GSE
Epoch_F0	Resolution	CDF_CHAR	15258
Epoch_F0	Bin_location	CDF_CHAR	0.5
Epoch_F0	VAR_NOTES	CDF_CHAR	Time extracted from epoch.
Epoch_F1	FIELDNAM	CDF_CHAR	Epoch_F1
Epoch_F1	CATDESC	CDF_CHAR	Time for F1 frequencies
Epoch_F1	DISPLAY_TYPE	CDF_CHAR	time_series
Epoch_F1	VALIDMIN	CDF_TIME_TT2000	2000-01-01T00:00:00.000000000
Epoch_F1	VALIDMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch_F1	SCALEMIN	CDF_TIME_TT2000	1990-01-01T00:00:00.000000000
Epoch_F1	SCALEMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch_F1	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch_F1	LABLAXIS	CDF_CHAR	Epoch_F1


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 689

Tab. 4.103 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
Epoch_F1	UNITS	CDF_CHAR	ns
Epoch_F1	VAR_TYPE	CDF_CHAR	support_data
Epoch_F1	SCALETYP	CDF_CHAR	linear
Epoch_F1	MONOTON	CDF_CHAR	INCREASE
Epoch_F1	TIME_BASE	CDF_CHAR	Spacecraft clock
Epoch_F1	TIME_SCALE	CDF_CHAR	Spacecraft clock
Epoch_F1	REFERENCE_POSITION	CDF_CHAR	MEB GSE
Epoch_F1	Resolution	CDF_CHAR	15258
Epoch_F1	Bin_location	CDF_CHAR	0.5
Epoch_F1	VAR_NOTES	CDF_CHAR	Time extracted from epoch.
Epoch_F2	FIELDNAM	CDF_CHAR	Epoch_F2
Epoch_F2	CATDESC	CDF_CHAR	Time for F2 frequencies
Epoch_F2	DISPLAY_TYPE	CDF_CHAR	time_series
Epoch_F2	VALIDMIN	CDF_TIME_TT2000	2000-01-01T00:00:00.000000000
Epoch_F2	VALIDMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch_F2	SCALEMIN	CDF_TIME_TT2000	1990-01-01T00:00:00.000000000
Epoch_F2	SCALEMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch_F2	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch_F2	LABLAXIS	CDF_CHAR	Epoch_F2
Epoch_F2	UNITS	CDF_CHAR	ns
Epoch_F2	VAR_TYPE	CDF_CHAR	support_data
Epoch_F2	SCALETYP	CDF_CHAR	linear
Epoch_F2	MONOTON	CDF_CHAR	INCREASE
Epoch_F2	TIME_BASE	CDF_CHAR	Spacecraft clock
Epoch_F2	TIME_SCALE	CDF_CHAR	Spacecraft clock
Epoch_F2	REFERENCE_POSITION	CDF_CHAR	MEB GSE
Epoch_F2	Resolution	CDF_CHAR	15258
Epoch_F2	Bin_location	CDF_CHAR	0.5
Epoch_F2	VAR_NOTES	CDF_CHAR	Time extracted from epoch.
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	VALIDMIN	CDF_UINT1	0
QUALITY_FLAG	VALIDMAX	CDF_UINT1	4
QUALITY_FLAG	SCALEMIN	CDF_UINT1	0
QUALITY_FLAG	SCALEMAX	CDF_UINT1	4


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 690

Tab. 4.103 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
QUALITY_FLAG	FILLVAL	CDF_UINT1	255
QUALITY_FLAG	LABLAXIS	CDF_CHAR	Quality flag
QUALITY_FLAG	UNITS	CDF_CHAR	
QUALITY_FLAG	VAR_TYPE	CDF_CHAR	support_data
QUALITY_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the quality of the data
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
QUALITY_FLAG	SCALETYP	CDF_CHAR	linear
COMMON_BIA_STATUS_FLAG	FIELDNAM	CDF_CHAR	COMMON_BIA_STATUS_FLAG
COMMON_BIA_STATUS_FLAG	CATDESC	CDF_CHAR	LFR common parameters and BIAS status info relevancy flag
COMMON_BIA_STATUS_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
COMMON_BIA_STATUS_FLAG	VALIDMIN	CDF_UINT1	0
COMMON_BIA_STATUS_FLAG	VALIDMAX	CDF_UINT1	1
COMMON_BIA_STATUS_FLAG	SCALEMIN	CDF_UINT1	0
COMMON_BIA_STATUS_FLAG	SCALEMAX	CDF_UINT1	1
COMMON_BIA_STATUS_FLAG	FILLVAL	CDF_UINT1	255
COMMON_BIA_STATUS_FLAG	LABLAXIS	CDF_CHAR	Common bias status flag
COMMON_BIA_STATUS_FLAG	UNITS	CDF_CHAR	
COMMON_BIA_STATUS_FLAG	VAR_TYPE	CDF_CHAR	support_data
COMMON_BIA_STATUS_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the relevancy of LFR common parameters (SP0/1, R0/1/2, BW) and BIAS STATUS INFO which can be non representative for the first packet following a change in those parameters.
COMMON_BIA_STATUS_FLAG	DEPEND_0	CDF_CHAR	Epoch
COMMON_BIA_STATUS_FLAG	FORMAT	CDF_CHAR	I1.1
COMMON_BIA_STATUS_FLAG	SCALETYP	CDF_CHAR	linear
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Bitmask flag


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 691

Tab. 4.103 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
QUALITY_BITMASK	UNITS	CDF_CHAR	
QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context information or status at the receiver or experiment level
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
SURVEY_MODE	FIELDNAM	CDF_CHAR	SURVEY_MODE
SURVEY_MODE	CATDESC	CDF_CHAR	LFR survey mode
SURVEY_MODE	DISPLAY_TYPE	CDF_CHAR	time_series
SURVEY_MODE	VALIDMIN	CDF_UINT1	0
SURVEY_MODE	VALIDMAX	CDF_UINT1	1
SURVEY_MODE	SCALEMIN	CDF_UINT1	0
SURVEY_MODE	SCALEMAX	CDF_UINT1	1
SURVEY_MODE	FILLVAL	CDF_UINT1	255
SURVEY_MODE	LABLAXIS	CDF_CHAR	LFR survey mode
SURVEY_MODE	UNITS	CDF_CHAR	
SURVEY_MODE	VAR_TYPE	CDF_CHAR	data
SURVEY_MODE	VAR_NOTES	CDF_CHAR	Flag to indicate if the receiver in the SURVEY_BURST (=1) or SURVEY_NORMAL (=0) mode
SURVEY_MODE	DEPEND_0	CDF_CHAR	Epoch
SURVEY_MODE	FORMAT	CDF_CHAR	I1.1
SURVEY_MODE	SCALETYPE	CDF_CHAR	linear
FREQ	FIELDNAM	CDF_CHAR	Sampling frequency of ASM
FREQ	CATDESC	CDF_CHAR	Sampling frequency of ASM
FREQ	DISPLAY_TYPE	CDF_CHAR	time_series
FREQ	VALIDMIN	CDF_UINT1	0
FREQ	VALIDMAX	CDF_UINT1	2
FREQ	SCALEMIN	CDF_UINT1	0
FREQ	SCALEMAX	CDF_UINT1	1
FREQ	FILLVAL	CDF_UINT1	255
FREQ	LABLAXIS	CDF_CHAR	ASM sampling frequency
FREQ	UNITS	CDF_CHAR	
FREQ	VAR_TYPE	CDF_CHAR	support_data


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 692

Tab. 4.103 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
FREQ	VAR_NOTES	CDF_CHAR	Index to indicate the sampling frequency of the snapshot : F0, F1 or F2 in order to use only one skeleton for the 3 normal mode asm products of ICD.
FREQ	DEPEND_0	CDF_CHAR	Epoch
FREQ	FORMAT	CDF_CHAR	I3.3
FREQ	SCALETYPE	CDF_CHAR	linear
F0	FIELDNAM	CDF_CHAR	Sampling frequency of ASM at F0
F0	CATDESC	CDF_CHAR	Sampling frequency of ASM at F0
F0	DISPLAY_TYPE	CDF_CHAR	time_series
F0	VALIDMIN	CDF_REAL4	0.0
F0	VALIDMAX	CDF_REAL4	1.0e+30
F0	SCALEMIN	CDF_REAL4	0.0
F0	SCALEMAX	CDF_REAL4	1.0e+30
F0	FILLVAL	CDF_REAL4	-1.0e+31
F0	LABLAXIS	CDF_CHAR	ASM sampling frequency
F0	UNITS	CDF_CHAR	
F0	VAR_TYPE	CDF_CHAR	support_data
F0	VAR_NOTES	CDF_CHAR	
F0	FORMAT	CDF_CHAR	F32.6
F0	SCALETYPE	CDF_CHAR	linear
F1	FIELDNAM	CDF_CHAR	Sampling frequency of ASM at F1
F1	CATDESC	CDF_CHAR	Sampling frequency of ASM at F1
F1	DISPLAY_TYPE	CDF_CHAR	time_series
F1	VALIDMIN	CDF_REAL4	0.0
F1	VALIDMAX	CDF_REAL4	1.0e+30
F1	SCALEMIN	CDF_REAL4	0.0
F1	SCALEMAX	CDF_REAL4	1.0e+30
F1	FILLVAL	CDF_REAL4	-1.0e+31
F1	LABLAXIS	CDF_CHAR	ASM sampling frequency
F1	UNITS	CDF_CHAR	
F1	VAR_TYPE	CDF_CHAR	support_data


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 693

Tab. 4.103 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
F1	VAR_NOTES	CDF_CHAR	Index to indicate the sampling frequency of the snapshot : F0, F1 or F2 in order to use only one skeleton for the 3 normal mode asm products of ICD.
F1	FORMAT	CDF_CHAR	F32.6
F1	SCALETYPE	CDF_CHAR	linear
F2	FIELDNAM	CDF_CHAR	Sampling frequency of ASM at F2
F2	CATDESC	CDF_CHAR	Sampling frequency of ASM at F2
F2	DISPLAY_TYPE	CDF_CHAR	time_series
F2	VALIDMIN	CDF_REAL4	0.0
F2	VALIDMAX	CDF_REAL4	1.0e+30
F2	SCALEMIN	CDF_REAL4	0.0
F2	SCALEMAX	CDF_REAL4	1.0e+30
F2	FILLVAL	CDF_REAL4	-1.0e+31
F2	LABLAXIS	CDF_CHAR	ASM sampling frequency
F2	UNITS	CDF_CHAR	
F2	VAR_TYPE	CDF_CHAR	support_data
F2	VAR_NOTES	CDF_CHAR	Index to indicate the sampling frequency of the snapshot : F0, F1 or F2 in order to use only one skeleton for the 3 normal mode asm products of ICD.
F2	FORMAT	CDF_CHAR	F32.6
F2	SCALETYPE	CDF_CHAR	linear
BIAS_MODE_MUX_SET	FIELDNAM	CDF_CHAR	BIAS multiplexer setting
BIAS_MODE_MUX_SET	CATDESC	CDF_CHAR	Copy of multiplexer setting.
BIAS_MODE_MUX_SET	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_MUX_SET	VALIDMIN	CDF_UINT1	0
BIAS_MODE_MUX_SET	VALIDMAX	CDF_UINT1	7
BIAS_MODE_MUX_SET	SCALEMIN	CDF_UINT1	0
BIAS_MODE_MUX_SET	SCALEMAX	CDF_UINT1	7
BIAS_MODE_MUX_SET	FILLVAL	CDF_UINT1	255
BIAS_MODE_MUX_SET	LABLAXIS	CDF_CHAR	BIAS_MODE_MUX_SET
BIAS_MODE_MUX_SET	UNITS	CDF_CHAR	
BIAS_MODE_MUX_SET	VAR_TYPE	CDF_CHAR	support_data


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 694

Tab. 4.103 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_MODE_MUX_SET	VAR_NOTES	CDF_CHAR	Indicates the mode of BIAS multiplexer for a full snapshot ([PA_LFR_PKT_CNT_ASM] number of packets). Possible values are 0 : Standard operation. 1 : Probe 1 fails. 2 : Probe 2 fails. 3 : Probe 3 fails. 4 : Calibration mode 0. 5 : Calibration mode 1. 6 : Calibration mode 2. 7 : Calibration mode 3. This variable should be filled once for each [PA_LFR_PKT_CNT_ASM] number of packets i.e. full snapshot because LFR FSW copy the same value for all sub packets.
BIAS_MODE_MUX_SET	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_MUX_SET	FORMAT	CDF_CHAR	I3.3
BIAS_MODE_MUX_SET	SCALETYP	CDF_CHAR	linear
BIAS_MODE_HV_ENABLED	FIELDNAM	CDF_CHAR	BIAS high voltage status
BIAS_MODE_HV_ENABLED	CATDESC	CDF_CHAR	Copy of enable/disable HV (+- 100V).
BIAS_MODE_HV_ENABLED	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_HV_ENABLED	VALIDMIN	CDF_UINT1	0
BIAS_MODE_HV_ENABLED	VALIDMAX	CDF_UINT1	1
BIAS_MODE_HV_ENABLED	SCALEMIN	CDF_UINT1	0
BIAS_MODE_HV_ENABLED	SCALEMAX	CDF_UINT1	1
BIAS_MODE_HV_ENABLED	FILLVAL	CDF_UINT1	255
BIAS_MODE_HV_ENABLED	LABLAXIS	CDF_CHAR	BIAS_MODE_HV_ENABLED
BIAS_MODE_HV_ENABLED	UNITS	CDF_CHAR	
BIAS_MODE_HV_ENABLED	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_HV_ENABLED	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS HV. Possible values are DISABLED = 0. ENABLED = 1. This variable should be filled once for each [PA_LFR_PKT_CNT_ASM] number of packets i.e. full snapshot because LFR FSW copy the same value for all sub packets.


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 695

Tab. 4.103 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_MODE_HV_ENABLED	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_HV_ENABLED	FORMAT	CDF_CHAR	I3.3
BIAS_MODE_HV_ENABLED	SCALETYPE	CDF_CHAR	linear
BIAS_MODE_BIAS1_ENABLED	HELDDNAM	CDF_CHAR	BIAS probe 1 status
BIAS_MODE_BIAS1_ENABLED	HELDDESC	CDF_CHAR	Copy of enable/disable BIAS 1.
BIAS_MODE_BIAS1_ENABLED	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_BIAS1_ENABLED	VALIDMIN	CDF_UINT1	0
BIAS_MODE_BIAS1_ENABLED	VALIDMAX	CDF_UINT1	1
BIAS_MODE_BIAS1_ENABLED	SCALEMIN	CDF_UINT1	0
BIAS_MODE_BIAS1_ENABLED	SCALEMAX	CDF_UINT1	1
BIAS_MODE_BIAS1_ENABLED	HELDVAL	CDF_UINT1	255
BIAS_MODE_BIAS1_ENABLED	HELDLAXIS	CDF_CHAR	BIAS_MODE_BIAS1_ENABLED
BIAS_MODE_BIAS1_ENABLED	HELDTS	CDF_CHAR	
BIAS_MODE_BIAS1_ENABLED	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_BIAS1_ENABLED	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS probe 1. Possible values are DISABLED = 0. ENABLED = 1. This variable should be filled once for each [PA_LFR_PKT_CNT_ASM] number of packets i.e. full snapshot because LFR FSW copy the same value for all sub packets.
BIAS_MODE_BIAS1_ENABLED	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_BIAS1_ENABLED	FORMAT	CDF_CHAR	I3.3
BIAS_MODE_BIAS1_ENABLED	SCALETYPE	CDF_CHAR	linear
BIAS_MODE_BIAS2_ENABLED	HELDDNAM	CDF_CHAR	BIAS probe 2 status
BIAS_MODE_BIAS2_ENABLED	HELDDESC	CDF_CHAR	Copy of enable/disable BIAS 2.
BIAS_MODE_BIAS2_ENABLED	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_BIAS2_ENABLED	VALIDMIN	CDF_UINT1	0
BIAS_MODE_BIAS2_ENABLED	VALIDMAX	CDF_UINT1	1
BIAS_MODE_BIAS2_ENABLED	SCALEMIN	CDF_UINT1	0
BIAS_MODE_BIAS2_ENABLED	SCALEMAX	CDF_UINT1	1
BIAS_MODE_BIAS2_ENABLED	HELDVAL	CDF_UINT1	255
BIAS_MODE_BIAS2_ENABLED	HELDLAXIS	CDF_CHAR	BIAS_MODE_BIAS2_ENABLED
BIAS_MODE_BIAS2_ENABLED	HELDTS	CDF_CHAR	
BIAS_MODE_BIAS2_ENABLED	VAR_TYPE	CDF_CHAR	support_data


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 696

Tab. 4.103 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_MODE_BIAS2_ENAB	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS probe 2. Possible values are DISABLED = 0. ENABLED = 1. This variable should be filled once for each [PA_LFR_PKT_CNT_ASM] number of packets i.e. full snapshot because LFR FSW copy the same value for all sub packets.
BIAS_MODE_BIAS2_ENAB	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_BIAS2_ENAB	FORMAT	CDF_CHAR	I3.3
BIAS_MODE_BIAS2_ENAB	SCALETYPE	CDF_CHAR	linear
BIAS_MODE_BIAS3_ENAB	FIELDNAM	CDF_CHAR	BIAS probe 3 status
BIAS_MODE_BIAS3_ENAB	CATDESC	CDF_CHAR	Copy of enable/disable BIAS 3.
BIAS_MODE_BIAS3_ENAB	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_BIAS3_ENAB	VALIDMIN	CDF_UINT1	0
BIAS_MODE_BIAS3_ENAB	VALIDMAX	CDF_UINT1	1
BIAS_MODE_BIAS3_ENAB	SCALEMIN	CDF_UINT1	0
BIAS_MODE_BIAS3_ENAB	SCALEMAX	CDF_UINT1	1
BIAS_MODE_BIAS3_ENAB	DELVAL	CDF_UINT1	255
BIAS_MODE_BIAS3_ENAB	LABLAXIS	CDF_CHAR	BIAS_MODE_BIAS3_ENABLED
BIAS_MODE_BIAS3_ENAB	UNITS	CDF_CHAR	
BIAS_MODE_BIAS3_ENAB	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_BIAS3_ENAB	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS probe 3. Possible values are DISABLED = 0. ENABLED = 1. This variable should be filled once for each [PA_LFR_PKT_CNT_ASM] number of packets i.e. full snapshot because LFR FSW copy the same value for all sub packets.
BIAS_MODE_BIAS3_ENAB	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_BIAS3_ENAB	FORMAT	CDF_CHAR	I3.3
BIAS_MODE_BIAS3_ENAB	SCALETYPE	CDF_CHAR	linear
BIAS_ON_OFF	FIELDNAM	CDF_CHAR	BIAS status
BIAS_ON_OFF	CATDESC	CDF_CHAR	Copy of BIAS status.
BIAS_ON_OFF	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_ON_OFF	VALIDMIN	CDF_UINT1	0


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 697

Tab. 4.103 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_ON_OFF	VALIDMAX	CDF_UINT1	1
BIAS_ON_OFF	SCALEMIN	CDF_UINT1	0
BIAS_ON_OFF	SCALEMAX	CDF_UINT1	1
BIAS_ON_OFF	FILLVAL	CDF_UINT1	255
BIAS_ON_OFF	LABLAXIS	CDF_CHAR	BIAS_ON_OFF
BIAS_ON_OFF	UNITS	CDF_CHAR	
BIAS_ON_OFF	VAR_TYPE	CDF_CHAR	support_data
BIAS_ON_OFF	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS. Possible values are OFF = 0 - Power line off. ON = 1 - Power line on. This variable should be filled once for each [PA_LFR_PKT_CNT_ASM] number of packets i.e. full snapshot because LFR FSW copy the same value for all sub packets.
BIAS_ON_OFF	DEPEND_0	CDF_CHAR	Epoch
BIAS_ON_OFF	FORMAT	CDF_CHAR	I3.3
BIAS_ON_OFF	SCALETYPE	CDF_CHAR	linear
BW	FIELDNAM	CDF_CHAR	BIAS Works/BIAS Fails configuration.
BW	CATDESC	CDF_CHAR	BIAS Works/BIAS Fails configuration.
BW	DISPLAY_TYPE	CDF_CHAR	time_series
BW	VALIDMIN	CDF_UINT1	0
BW	VALIDMAX	CDF_UINT1	1
BW	SCALEMIN	CDF_UINT1	0
BW	SCALEMAX	CDF_UINT1	1
BW	FILLVAL	CDF_UINT1	255
BW	LABLAXIS	CDF_CHAR	BW
BW	UNITS	CDF_CHAR	
BW	VAR_TYPE	CDF_CHAR	support_data
BW	VAR_NOTES	CDF_CHAR	This variable should be filled once for each [PA_LFR_PKT_CNT_ASM] number of packets i.e. full snapshot because LFR FSW copy the same value for all sub packets.
BW	DEPEND_0	CDF_CHAR	Epoch


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 698

Tab. 4.103 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BW	FORMAT	CDF_CHAR	I3.3
BW	SCALETYPE	CDF_CHAR	linear
SP0	FIELDNAM	CDF_CHAR	Shaping of electrical data parameter 0.
SP0	CATDESC	CDF_CHAR	Shaping of electrical data.
SP0	DISPLAY_TYPE	CDF_CHAR	time_series
SP0	VALIDMIN	CDF_UINT1	0
SP0	VALIDMAX	CDF_UINT1	1
SP0	SCALEMIN	CDF_UINT1	0
SP0	SCALEMAX	CDF_UINT1	1
SP0	FILLVAL	CDF_UINT1	255
SP0	LABLAXIS	CDF_CHAR	SP0
SP0	UNITS	CDF_CHAR	
SP0	VAR_TYPE	CDF_CHAR	support_data
SP0	VAR_NOTES	CDF_CHAR	This variable should be filled once for each [PA_LFR_PKT_CNT_ASM] number of packets i.e. full snapshot because LFR FSW copy the same value for all sub packets.
SP0	DEPEND_0	CDF_CHAR	Epoch
SP0	FORMAT	CDF_CHAR	I3.3
SP0	SCALETYPE	CDF_CHAR	linear
SP1	FIELDNAM	CDF_CHAR	Shaping of electrical data parameter 1.
SP1	CATDESC	CDF_CHAR	Shaping of electrical data.
SP1	DISPLAY_TYPE	CDF_CHAR	time_series
SP1	VALIDMIN	CDF_UINT1	0
SP1	VALIDMAX	CDF_UINT1	1
SP1	SCALEMIN	CDF_UINT1	0
SP1	SCALEMAX	CDF_UINT1	1
SP1	FILLVAL	CDF_UINT1	255
SP1	LABLAXIS	CDF_CHAR	SP1
SP1	UNITS	CDF_CHAR	
SP1	VAR_TYPE	CDF_CHAR	support_data


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 699

Tab. 4.103 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SP1	VAR_NOTES	CDF_CHAR	This variable should be filled once for each [PA_LFR_PKT_CNT_ASM] number of packets i.e. full snapshot because LFR FSW copy the same value for all sub packets.
SP1	DEPEND_0	CDF_CHAR	Epoch
SP1	FORMAT	CDF_CHAR	I3.3
SP1	SCALETYPE	CDF_CHAR	linear
R0	FIELDNAM	CDF_CHAR	Rooting of electrical data for F0.
R0	CATDESC	CDF_CHAR	Rooting of electrical data.
R0	DISPLAY_TYPE	CDF_CHAR	time_series
R0	VALIDMIN	CDF_UINT1	0
R0	VALIDMAX	CDF_UINT1	1
R0	SCALEMIN	CDF_UINT1	0
R0	SCALEMAX	CDF_UINT1	1
R0	FILLVAL	CDF_UINT1	255
R0	LABLAXIS	CDF_CHAR	R0
R0	UNITS	CDF_CHAR	
R0	VAR_TYPE	CDF_CHAR	support_data
R0	VAR_NOTES	CDF_CHAR	This variable should be filled once for each [PA_LFR_PKT_CNT_ASM] number of packets i.e. full snapshot because LFR FSW copy the same value for all sub packets.
R0	DEPEND_0	CDF_CHAR	Epoch
R0	FORMAT	CDF_CHAR	I3.3
R0	SCALETYPE	CDF_CHAR	linear
R1	FIELDNAM	CDF_CHAR	Rooting of electrical data for F1.
R1	CATDESC	CDF_CHAR	Rooting of electrical data.
R1	DISPLAY_TYPE	CDF_CHAR	time_series
R1	VALIDMIN	CDF_UINT1	0
R1	VALIDMAX	CDF_UINT1	1
R1	SCALEMIN	CDF_UINT1	0
R1	SCALEMAX	CDF_UINT1	1
R1	FILLVAL	CDF_UINT1	255


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 700

Tab. 4.103 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
R1	LABLAXIS	CDF_CHAR	R1
R1	UNITS	CDF_CHAR	
R1	VAR_TYPE	CDF_CHAR	support_data
R1	VAR_NOTES	CDF_CHAR	This variable should be filled once for each [PA_LFR_PKT_CNT_ASM] number of packets i.e. full snapshot because LFR FSW copy the same value for all sub packets.
R1	DEPEND_0	CDF_CHAR	Epoch
R1	FORMAT	CDF_CHAR	I3.3
R1	SCALETYPE	CDF_CHAR	linear
R2	FIELDNAM	CDF_CHAR	Rooting of electrical data for F2.
R2	CATDESC	CDF_CHAR	Rooting of electrical data.
R2	DISPLAY_TYPE	CDF_CHAR	time_series
R2	VALIDMIN	CDF_UINT1	0
R2	VALIDMAX	CDF_UINT1	1
R2	SCALEMIN	CDF_UINT1	0
R2	SCALEMAX	CDF_UINT1	1
R2	FILLVAL	CDF_UINT1	255
R2	LABLAXIS	CDF_CHAR	R2
R2	UNITS	CDF_CHAR	
R2	VAR_TYPE	CDF_CHAR	support_data
R2	VAR_NOTES	CDF_CHAR	This variable should be filled once for each [PA_LFR_PKT_CNT_ASM] number of packets i.e. full snapshot because LFR FSW copy the same value for all sub packets.
R2	DEPEND_0	CDF_CHAR	Epoch
R2	FORMAT	CDF_CHAR	I3.3
R2	SCALETYPE	CDF_CHAR	linear
ASM_CNT	FIELDNAM	CDF_CHAR	Number of matrices read for a given sampling frequency.
ASM_CNT	CATDESC	CDF_CHAR	Number of matrices read for a given sampling frequency (F0, F1 or F2).
ASM_CNT	DISPLAY_TYPE	CDF_CHAR	time_series


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 701

Tab. 4.103 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
ASM_CNT	VALIDMIN	CDF_UINT1	0
ASM_CNT	VALIDMAX	CDF_UINT1	104
ASM_CNT	SCALEMIN	CDF_UINT1	0
ASM_CNT	SCALEMAX	CDF_UINT1	104
ASM_CNT	FILLVAL	CDF_UINT1	255
ASM_CNT	LABLAXIS	CDF_CHAR	ASM_CNT
ASM_CNT	UNITS	CDF_CHAR	
ASM_CNT	VAR_TYPE	CDF_CHAR	support_data
ASM_CNT	VAR_NOTES	CDF_CHAR	This variable should be filled once for each [PA_LFR_PKT_CNT_ASM_ASM] number of packets i.e. full asm set. Expected numbers are 88 for F0, 104 for F1 and 96 for F2.
ASM_CNT	DEPEND_0	CDF_CHAR	Epoch
ASM_CNT	FORMAT	CDF_CHAR	I3.3
ASM_CNT	SCALETYPE	CDF_CHAR	linear
ASM_RE_F0	FIELDNAM	CDF_CHAR	Real part of the spectral matrices for F0
ASM_RE_F0	CATDESC	CDF_CHAR	All the real part of the 5x5 calibrated matrices for all bins of F0 sampling frequency.
ASM_RE_F0	DISPLAY_TYPE	CDF_CHAR	time_series
ASM_RE_F0	VALIDMIN	CDF_REAL4	-1.0e+30
ASM_RE_F0	VALIDMAX	CDF_REAL4	1.0e+30
ASM_RE_F0	SCALEMIN	CDF_REAL4	-1.0e+30
ASM_RE_F0	SCALEMAX	CDF_REAL4	1.0e+30
ASM_RE_F0	FILLVAL	CDF_REAL4	-1.0e+31
ASM_RE_F0	LABLAXIS	CDF_CHAR	ASM_RE_F0
ASM_RE_F0	UNITS	CDF_CHAR	
ASM_RE_F0	VAR_TYPE	CDF_CHAR	data
ASM_RE_F0	VAR_NOTES	CDF_CHAR	
ASM_RE_F0	DEPEND_0	CDF_CHAR	Epoch_F0
ASM_RE_F0	FORMAT	CDF_CHAR	F32.6
ASM_RE_F0	SCALETYPE	CDF_CHAR	linear
ASM_RE_F0	DEPEND_1	CDF_CHAR	F0
ASM_IM_F0	FIELDNAM	CDF_CHAR	Imaginary part of the spectral matrices for F0


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 702

Tab. 4.103 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
ASM_IM_F0	CATDESC	CDF_CHAR	All the imaginary part of the 5x5 calibrated matrices for all bins of F0 sampling frequency.
ASM_IM_F0	DISPLAY_TYPE	CDF_CHAR	time_series
ASM_IM_F0	VALIDMIN	CDF_REAL4	-1.0e+30
ASM_IM_F0	VALIDMAX	CDF_REAL4	1.0e+30
ASM_IM_F0	SCALEMIN	CDF_REAL4	-1.0e+30
ASM_IM_F0	SCALEMAX	CDF_REAL4	1.0e+30
ASM_IM_F0	FILLVAL	CDF_REAL4	-1.0e+31
ASM_IM_F0	LABLAXIS	CDF_CHAR	ASM_IM_F0
ASM_IM_F0	UNITS	CDF_CHAR	
ASM_IM_F0	VAR_TYPE	CDF_CHAR	data
ASM_IM_F0	VAR_NOTES	CDF_CHAR	
ASM_IM_F0	DEPEND_0	CDF_CHAR	Epoch_F0
ASM_IM_F0	FORMAT	CDF_CHAR	F32.6
ASM_IM_F0	SCALETYPE	CDF_CHAR	linear
ASM_IM_F0	DEPEND_1	CDF_CHAR	F0
ASM_RE_F1	FIELDNAM	CDF_CHAR	Real part of the spectral matrices for F1
ASM_RE_F1	CATDESC	CDF_CHAR	All the real part of the 5x5 calibrated matrices for all bins of F1 sampling frequency.
ASM_RE_F1	DISPLAY_TYPE	CDF_CHAR	time_series
ASM_RE_F1	VALIDMIN	CDF_REAL4	-1.0e+30
ASM_RE_F1	VALIDMAX	CDF_REAL4	1.0e+30
ASM_RE_F1	SCALEMIN	CDF_REAL4	-1.0e+30
ASM_RE_F1	SCALEMAX	CDF_REAL4	1.0e+30
ASM_RE_F1	FILLVAL	CDF_REAL4	-1.0e+31
ASM_RE_F1	LABLAXIS	CDF_CHAR	ASM_RE_F1
ASM_RE_F1	UNITS	CDF_CHAR	
ASM_RE_F1	VAR_TYPE	CDF_CHAR	data
ASM_RE_F1	VAR_NOTES	CDF_CHAR	
ASM_RE_F1	DEPEND_0	CDF_CHAR	Epoch_F1
ASM_RE_F1	FORMAT	CDF_CHAR	F32.6
ASM_RE_F1	SCALETYPE	CDF_CHAR	linear
ASM_RE_F1	DEPEND_1	CDF_CHAR	F1
ASM_IM_F1	FIELDNAM	CDF_CHAR	Real imaginary of the spectral matrices for F1


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 703

Tab. 4.103 – continued from previous page


Variable Name	Attribute Name	Data Type	Value
ASM_IM_F1	CATDESC	CDF_CHAR	All the imaginary part of the 5x5 calibrated matrices for all bins of F1 sampling frequency.
ASM_IM_F1	DISPLAY_TYPE	CDF_CHAR	time_series
ASM_IM_F1	VALIDMIN	CDF_REAL4	-1.0e+30
ASM_IM_F1	VALIDMAX	CDF_REAL4	1.0e+30
ASM_IM_F1	SCALEMIN	CDF_REAL4	-1.0e+30
ASM_IM_F1	SCALEMAX	CDF_REAL4	1.0e+30
ASM_IM_F1	FILLVAL	CDF_REAL4	-1.0e+31
ASM_IM_F1	LABLAXIS	CDF_CHAR	ASM_IM_F1
ASM_IM_F1	UNITS	CDF_CHAR	
ASM_IM_F1	VAR_TYPE	CDF_CHAR	data
ASM_IM_F1	VAR_NOTES	CDF_CHAR	
ASM_IM_F1	DEPEND_0	CDF_CHAR	Epoch_F1
ASM_IM_F1	FORMAT	CDF_CHAR	F32.6
ASM_IM_F1	SCALETYPE	CDF_CHAR	linear
ASM_IM_F1	DEPEND_1	CDF_CHAR	F1
ASM_RE_F2	FIELDNAM	CDF_CHAR	Real part of the spectral matrices for F2
ASM_RE_F2	CATDESC	CDF_CHAR	All the real part of the 5x5 calibrated matrices for all bins of F2 sampling frequency.
ASM_RE_F2	DISPLAY_TYPE	CDF_CHAR	time_series
ASM_RE_F2	VALIDMIN	CDF_REAL4	-1.0e+30
ASM_RE_F2	VALIDMAX	CDF_REAL4	1.0e+30
ASM_RE_F2	SCALEMIN	CDF_REAL4	-1.0e+30
ASM_RE_F2	SCALEMAX	CDF_REAL4	1.0e+30
ASM_RE_F2	FILLVAL	CDF_REAL4	-1.0e+31
ASM_RE_F2	LABLAXIS	CDF_CHAR	ASM_RE_F2
ASM_RE_F2	UNITS	CDF_CHAR	
ASM_RE_F2	VAR_TYPE	CDF_CHAR	data
ASM_RE_F2	VAR_NOTES	CDF_CHAR	
ASM_RE_F2	DEPEND_0	CDF_CHAR	Epoch_F2
ASM_RE_F2	FORMAT	CDF_CHAR	F32.6
ASM_RE_F2	SCALETYPE	CDF_CHAR	linear
ASM_RE_F2	DEPEND_1	CDF_CHAR	F2
ASM_IM_F2	FIELDNAM	CDF_CHAR	Imaginary part of the spectral matrices for F2

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 704

Tab. 4.103 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
ASM_IM_F2	CATDESC	CDF_CHAR	All the imaginary part of the 5x5 calibrated matrices for all bins of F0 sampling frequency.
ASM_IM_F2	DISPLAY_TYPE	CDF_CHAR	time_series
ASM_IM_F2	VALIDMIN	CDF_REAL4	-1.0e+30
ASM_IM_F2	VALIDMAX	CDF_REAL4	1.0e+30
ASM_IM_F2	SCALEMIN	CDF_REAL4	-1.0e+30
ASM_IM_F2	SCALEMAX	CDF_REAL4	1.0e+30
ASM_IM_F2	FILLVAL	CDF_REAL4	-1.0e+31
ASM_IM_F2	LABLAXIS	CDF_CHAR	ASM_IM_F2
ASM_IM_F2	UNITS	CDF_CHAR	
ASM_IM_F2	VAR_TYPE	CDF_CHAR	data
ASM_IM_F2	VAR_NOTES	CDF_CHAR	
ASM_IM_F2	DEPEND_0	CDF_CHAR	Epoch_F2
ASM_IM_F2	FORMAT	CDF_CHAR	F32.6
ASM_IM_F2	SCALETYPE	CDF_CHAR	linear
ASM_IM_F2	DEPEND_1	CDF_CHAR	F2
SYNCHRO_FLAG	FIELDNAM	CDF_CHAR	SYNCHRO_FLAG
SYNCHRO_FLAG	CATDESC	CDF_CHAR	Time synchronisation flag
SYNCHRO_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
SYNCHRO_FLAG	VALIDMIN	CDF_UINT1	0
SYNCHRO_FLAG	VALIDMAX	CDF_UINT1	1
SYNCHRO_FLAG	SCALEMIN	CDF_UINT1	0
SYNCHRO_FLAG	SCALEMAX	CDF_UINT1	1
SYNCHRO_FLAG	FILLVAL	CDF_UINT1	255
SYNCHRO_FLAG	LABLAXIS	CDF_CHAR	time sync. flag
SYNCHRO_FLAG	UNITS	CDF_CHAR	
SYNCHRO_FLAG	VAR_TYPE	CDF_CHAR	support_data
SYNCHRO_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate if the local time is synchronized with the RPW DPU clock or not. Possible values: synchronized=0, not synchronized=1. This flag is extracted from ACQUISITION_TIME in L0 packets, it is the MSB of the CUC time.
SYNCHRO_FLAG	DEPEND_0	CDF_CHAR	Epoch
SYNCHRO_FLAG	FORMAT	CDF_CHAR	I3.3
SYNCHRO_FLAG	SCALETYPE	CDF_CHAR	linear

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 705

4.1.3.21.6 Non-Record-Variant (NRV) Variables

4.1.3.22 SOLO_L2_RPW-LFR-SURV-BP1 data product

The “SOLO_L2_RPW-LFR-SURV-BP1” data product contains the calibrated LFR receiver Basic Parameters 1 survey data. The “SOLO_L2_RPW-LFR-SURV-BP1” data are written in CDF format files. There is a single file per day, generated from data in the corresponding SOLO_L1_RPW-LFR-SURV-BP1 parent file.

4.1.3.22.1 Filename

solo_L2_rpw-lfr-surv-bp1_[YYYYMMDD]_V[version].cdf

4.1.3.22.2 Expected cadence and data volume


Nominal cadence: 1 file per day

Expected data volume: 70 MB per file

4.1.3.22.3 Global Attributes

Attribute Name	Entry Number	Data Type	Value
Project	1	CDF_CHAR	SOLO>Solar Orbiter
Source_name	1	CDF_CHAR	SOLO>Solar Orbiter
Provider	1	CDF_CHAR	LESIA (Meudon, France)
Discipline	1	CDF_CHAR	Space Physics>Interplanetary Studies
Data_type	1	CDF_CHAR	H0>High Resolution data
Descriptor	1	CDF_CHAR	RPW-LFR-SURV-BP1> RPW Low Frequency Receiver Basic parameters set 1 data in Survey mode
Data_version	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Skeleton_version	1	CDF_CHAR	10
Parent_version	1	CDF_CHAR	
File_naming_convention	1	CDF_CHAR	<Source_name>_<LEVEL>_<Descriptor>_<Date>
PI_name	1	CDF_CHAR	M.Maksimovic
PI_affiliation	1	CDF_CHAR	LESIA, Observatoire de Paris-CNRS


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 706

Tab. 4.104 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
TEXT	1	CDF_CHAR	This file contains RPW LFR level 2R Survey BP1 data of the current test.
Instrument_type	1	CDF_CHAR	Radio and Plasma Waves (space)
Mission_group	1	CDF_CHAR	Solar Orbiter
Logical_source	1	CDF_CHAR	solo_L2_rpw-lfr-surv-bp1
Logical_file_id	1	CDF_CHAR	
Logical_source_description	1	CDF_CHAR	Solar Orbiter Radio/Plasma Wave, LFR L2 parameters
Rules_of_use	1	CDF_CHAR	Data provided are publicly available. If used in presentations or publications, please acknowledge Solar Orbiter/RPW Investigation (M. Maksimovic, PIs). Please read carefully the caveats attached to the data. For reporting purposes, we request bibliography information for any publication, etc., using these data. Please send information on the use of this data to: M. Maksimovic (PI).
Generated_by	1	CDF_CHAR	RPW Operations Centre located at LESIA (Meudon, France)
Generation_date	1	CDF_CHAR	
Acknowledgement	1	CDF_CHAR	The authors are pleased to acknowledge the Solar Orbiter/RPW Investigation (M. Maksimovic, PIs) for access to data.
SKELETON_MODS	1	CDF_CHAR	
SKELETON_MODS	2	CDF_CHAR	V04: Update for solo data definition, X. BONNIN (CNRS-LESIA), April 2019
SKELETON_MODS	3	CDF_CHAR	V05: Update to compliant with SOL-SGS-TN-0009 Issue 2, Rev 4 - X.Bonnin, 09/2019
SKELETON_MODS	4	CDF_CHAR	V06: March 2020 : Delete Test_* g.attr - X.Bonnin (CNRS, LESIA)
SKELETON_MODS	5	CDF_CHAR	V07: April 2020 : Delete Acquisition_time* zvariables - R.Piberne (X, LPP)
SKELETON_MODS	6	CDF_CHAR	V08: Remove UCD vattr and POST_GAP_FLAG zVar.
SKELETON_MODS	7	CDF_CHAR	V10: Jan. 2021 : Fix inconsistencies against the ISTP CDF guidelines, X.Bonnin (CNRS-LESIA)


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 707

Tab. 4.104 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
LINK_TEXT	1	CDF_CHAR	RPW Web site at LESIA
LINK_TITLE	1	CDF_CHAR	RPW Web site
HTTP_LINK	1	CDF_CHAR	https://rpw.lesia.obspm.fr
ACCESS_URL	1	CDF_CHAR	
TEXT_supplement_1	1	CDF_CHAR	
Software_name	1	CDF_CHAR	
Parents	1	CDF_CHAR	
Validate	1	CDF_CHAR	
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00006-LES (1.3)
ROC_REFERENCE	1	CDF_CHAR	ROC-TST-GSE-SPC-00017-LES_Issue02_Rev0(Data_format_and_metadata_of_ground_Data).pdf
SKELETON_PARENT	1	CDF_CHAR	SOLO_L2_RPW-LFR-SURV-BP1_V10.cdf
ACCESS_FORMAT	1	CDF_CHAR	CDF
TIME_MIN	1	CDF_CHAR	
TIME_MAX	1	CDF_CHAR	
SPECTRAL_RANGE_MIN	1	CDF_CHAR	
SPECTRAL_RANGE_MAX	1	CDF_CHAR	
File_ID	1	CDF_CHAR	
CAVEATS	1	CDF_CHAR	
CAL_ENTITY_NAME	1	CDF_CHAR	
CAL_ENTITY_AFFILIATION	1	CDF_CHAR	
CAL_EQUIPMENT	1	CDF_CHAR	
CALIBRATION_TABLE	1	CDF_CHAR	
CALIBRATION_VERSION	1	CDF_CHAR	
Datetime	1	CDF_CHAR	
Free_field	1	CDF_CHAR	
Job_ID	1	CDF_CHAR	
LEVEL	1	CDF_CHAR	L2>Level 2 data processing
SOOP_TYPE	1	CDF_CHAR	
Data_product	1	CDF_CHAR	SURV-BP1>SURV-BP1
TARGET_NAME	1	CDF_CHAR	Sun
TARGET_CLASS	1	CDF_CHAR	Star
TARGET_REGION	1	CDF_CHAR	Solar Wind
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009 (2.4)
Pipeline_name	1	CDF_CHAR	
Pipeline_version	1	CDF_CHAR	
Dataset_ID	1	CDF_CHAR	SOLO_L2_RPW-LFR-SURV-BP1

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 708

Tab. 4.104 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
OBS_ID	1	CDF_CHAR	
MODS	1	CDF_CHAR	

4.1.3.22.4 zVariables

Variable Name	Data Type	Number Elements	Dims	Sizes
Epoch	CDF_TIME_TT2000	1	0	
Epoch_N_F0	CDF_TIME_TT2000	1	0	
Epoch_N_F1	CDF_TIME_TT2000	1	0	
Epoch_N_F2	CDF_TIME_TT2000	1	0	
Epoch_B_F0	CDF_TIME_TT2000	1	0	
Epoch_B_F1	CDF_TIME_TT2000	1	0	
QUALITY_FLAG	CDF_UINT1	1	0	
COMMON_BIA_STATUS_FLAG	CDF_UINT1	1	0	
QUALITY_BITMASK	CDF_UINT2	1	0	
SURVEY_MODE	CDF_UINT1	1	0	
FREQ	CDF_UINT1	1	0	
N_F0	CDF_REAL4	1	1	11
N_F1	CDF_REAL4	1	1	13
N_F2	CDF_REAL4	1	1	12
B_F0	CDF_REAL4	1	1	22
B_F1	CDF_REAL4	1	1	26
BIAS_MODE_MUX_SET	CDF_UINT1	1	0	
BIAS_MODE_HV_ENABLED	CDF_UINT1	1	0	
BIAS_MODE_BIAS1_ENABLED	CDF_UINT1	1	0	
BIAS_MODE_BIAS2_ENABLED	CDF_UINT1	1	0	
BIAS_MODE_BIAS3_ENABLED	CDF_UINT1	1	0	
BIAS_ON_OFF	CDF_UINT1	1	0	
BW	CDF_UINT1	1	0	
SP0	CDF_UINT1	1	0	
SP1	CDF_UINT1	1	0	
R0	CDF_UINT1	1	0	
R1	CDF_UINT1	1	0	
R2	CDF_UINT1	1	0	
BP1_CNT	CDF_UINT1	1	0	
PE_N_F0	CDF_REAL8	1	1	11

continues on next page



**RPW Data Product
Description Document**

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **709**

Tab. 4.105 – continued from previous page

Variable Name	Data Type	Number El- ements	Dims	Sizes
PE_N_F1	CDF_REAL8	1	1	13
PE_N_F2	CDF_REAL8	1	1	12
PE_B_F0	CDF_REAL8	1	1	22
PE_B_F1	CDF_REAL8	1	1	26
PB_N_F0	CDF_REAL8	1	1	11
PB_N_F1	CDF_REAL8	1	1	13
PB_N_F2	CDF_REAL8	1	1	12
PB_B_F0	CDF_REAL8	1	1	22
PB_B_F1	CDF_REAL8	1	1	26
NVEC_N_F0	CDF_REAL4	1	2	11 3
NVEC_N_F1	CDF_REAL4	1	2	13 3
NVEC_N_F2	CDF_REAL4	1	2	12 3
NVEC_B_F0	CDF_REAL4	1	2	22 3
NVEC_B_F1	CDF_REAL4	1	2	26 3
ELLIP_N_F0	CDF_REAL4	1	1	11
ELLIP_N_F1	CDF_REAL4	1	1	13
ELLIP_N_F2	CDF_REAL4	1	1	12
ELLIP_B_F0	CDF_REAL4	1	1	22
ELLIP_B_F1	CDF_REAL4	1	1	26
DOP_N_F0	CDF_REAL4	1	1	11
DOP_N_F1	CDF_REAL4	1	1	13
DOP_N_F2	CDF_REAL4	1	1	12
DOP_B_F0	CDF_REAL4	1	1	22
DOP_B_F1	CDF_REAL4	1	1	26
SX_REA_N_F0	CDF_REAL8	1	1	11
SX_REA_N_F1	CDF_REAL8	1	1	13
SX_REA_N_F2	CDF_REAL8	1	1	12
SX_REA_B_F0	CDF_REAL8	1	1	22
SX_REA_B_F1	CDF_REAL8	1	1	26
SX_ARG_N_F0	CDF_UINT1	1	1	11
SX_ARG_N_F1	CDF_UINT1	1	1	13
SX_ARG_N_F2	CDF_UINT1	1	1	12
SX_ARG_B_F0	CDF_UINT1	1	1	22
SX_ARG_B_F1	CDF_UINT1	1	1	26
VPHI_REA_N_F0	CDF_REAL8	1	1	11
VPHI_REA_N_F1	CDF_REAL8	1	1	13
VPHI_REA_N_F2	CDF_REAL8	1	1	12
VPHI_REA_B_F0	CDF_REAL8	1	1	22
VPHI_REA_B_F1	CDF_REAL8	1	1	26
VPHI_ARG_N_F0	CDF_UINT1	1	1	11

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 710


Tab. 4.105 – continued from previous page

Variable Name	Data Type	Number Elements	El-Dims	Sizes
VPHI_ARG_N_F1	CDF_UINT1	1	1	13
VPHI_ARG_N_F2	CDF_UINT1	1	1	12
VPHI_ARG_B_F0	CDF_UINT1	1	1	22
VPHI_ARG_B_F1	CDF_UINT1	1	1	26
SYNCHRO_FLAG	CDF_UINT1	1	0	

4.1.3.22.5 Variable attributes

Variable Name	Attribute Name	Data Type	Value
Epoch	FIELDNAM	CDF_CHAR	Epoch
Epoch	CATDESC	CDF_CHAR	Default time
Epoch	DISPLAY_TYPE	CDF_CHAR	time_series
Epoch	VALIDMIN	CDF_TIME_TT2000	2000-01-01T00:00:00.000000000
Epoch	VALIDMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch	SCALEMIN	CDF_TIME_TT2000	1990-01-01T00:00:00.000000000
Epoch	SCALEMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch	LABLAXIS	CDF_CHAR	Epoch
Epoch	UNITS	CDF_CHAR	ns
Epoch	VAR_TYPE	CDF_CHAR	support_data
Epoch	SCALETYP	CDF_CHAR	linear
Epoch	MONOTON	CDF_CHAR	INCREASE
Epoch	TIME_BASE	CDF_CHAR	J2000
Epoch	TIME_SCALE	CDF_CHAR	Terrestrial Time
Epoch	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
Epoch	Resolution	CDF_CHAR	15258
Epoch	Bin_location	CDF_CHAR	0.5
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file.
Epoch_N_F0	FIELDNAM	CDF_CHAR	Epoch_N_F0
Epoch_N_F0	CATDESC	CDF_CHAR	Time for F0 frequencies in normal mode
Epoch_N_F0	DISPLAY_TYPE	CDF_CHAR	time_series


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 711

Tab. 4.106 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
Epoch_N_F0	VALIDMIN	CDF_TIME_TT2000	2000-01-01T00:00:00.000000000
Epoch_N_F0	VALIDMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch_N_F0	SCALEMIN	CDF_TIME_TT2000	1990-01-01T00:00:00.000000000
Epoch_N_F0	SCALEMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch_N_F0	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch_N_F0	LABLAXIS	CDF_CHAR	Epoch_N_F0
Epoch_N_F0	UNITS	CDF_CHAR	ns
Epoch_N_F0	VAR_TYPE	CDF_CHAR	support_data
Epoch_N_F0	SCALETYP	CDF_CHAR	linear
Epoch_N_F0	MONOTON	CDF_CHAR	INCREASE
Epoch_N_F0	TIME_BASE	CDF_CHAR	Spacecraft clock
Epoch_N_F0	TIME_SCALE	CDF_CHAR	Spacecraft clock
Epoch_N_F0	REFERENCE_POS	CDF_CHAR	MEB GSE
Epoch_N_F0	Resolution	CDF_CHAR	15258
Epoch_N_F0	Bin_location	CDF_CHAR	0.5
Epoch_N_F0	VAR_NOTES	CDF_CHAR	Time extracted from epoch.
Epoch_N_F1	FIELDNAM	CDF_CHAR	Epoch_N_F1
Epoch_N_F1	CATDESC	CDF_CHAR	Time for F1 frequencies in normal mode
Epoch_N_F1	DISPLAY_TYPE	CDF_CHAR	time_series
Epoch_N_F1	VALIDMIN	CDF_TIME_TT2000	2000-01-01T00:00:00.000000000
Epoch_N_F1	VALIDMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch_N_F1	SCALEMIN	CDF_TIME_TT2000	1990-01-01T00:00:00.000000000
Epoch_N_F1	SCALEMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch_N_F1	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch_N_F1	LABLAXIS	CDF_CHAR	Epoch_N_F1
Epoch_N_F1	UNITS	CDF_CHAR	ns
Epoch_N_F1	VAR_TYPE	CDF_CHAR	support_data
Epoch_N_F1	SCALETYP	CDF_CHAR	linear
Epoch_N_F1	MONOTON	CDF_CHAR	INCREASE
Epoch_N_F1	TIME_BASE	CDF_CHAR	Spacecraft clock


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 712

Tab. 4.106 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
Epoch_N_F1	TIME_SCALE	CDF_CHAR	Spacecraft clock
Epoch_N_F1	REFERENCE_POSITION	CDF_CHAR	MEB GSE
Epoch_N_F1	Resolution	CDF_CHAR	15258
Epoch_N_F1	Bin_location	CDF_CHAR	0.5
Epoch_N_F1	VAR_NOTES	CDF_CHAR	Time extracted from epoch.
Epoch_N_F2	FIELDNAM	CDF_CHAR	Epoch_N_F2
Epoch_N_F2	CATDESC	CDF_CHAR	Time for F2 frequencies in normal mode
Epoch_N_F2	DISPLAY_TYPE	CDF_CHAR	time_series
Epoch_N_F2	VALIDMIN	CDF_TIME_TT2000	2000-01-01T00:00:00.000000000
Epoch_N_F2	VALIDMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch_N_F2	SCALEMIN	CDF_TIME_TT2000	1990-01-01T00:00:00.000000000
Epoch_N_F2	SCALEMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch_N_F2	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch_N_F2	LABLAXIS	CDF_CHAR	Epoch_N_F2
Epoch_N_F2	UNITS	CDF_CHAR	ns
Epoch_N_F2	VAR_TYPE	CDF_CHAR	support_data
Epoch_N_F2	SCALETYP	CDF_CHAR	linear
Epoch_N_F2	MONOTON	CDF_CHAR	INCREASE
Epoch_N_F2	TIME_BASE	CDF_CHAR	Spacecraft clock
Epoch_N_F2	TIME_SCALE	CDF_CHAR	Spacecraft clock
Epoch_N_F2	REFERENCE_POSITION	CDF_CHAR	MEB GSE
Epoch_N_F2	Resolution	CDF_CHAR	15258
Epoch_N_F2	Bin_location	CDF_CHAR	0.5
Epoch_N_F2	VAR_NOTES	CDF_CHAR	Time extracted from epoch.
Epoch_B_F0	FIELDNAM	CDF_CHAR	Epoch_B_F0
Epoch_B_F0	CATDESC	CDF_CHAR	Time for F0 frequencies in burst mode
Epoch_B_F0	DISPLAY_TYPE	CDF_CHAR	time_series
Epoch_B_F0	VALIDMIN	CDF_TIME_TT2000	2000-01-01T00:00:00.000000000
Epoch_B_F0	VALIDMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch_B_F0	SCALEMIN	CDF_TIME_TT2000	1990-01-01T00:00:00.000000000


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 713

Tab. 4.106 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
Epoch_B_F0	SCALEMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch_B_F0	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch_B_F0	LABLAXIS	CDF_CHAR	Epoch_B_F0
Epoch_B_F0	UNITS	CDF_CHAR	ns
Epoch_B_F0	VAR_TYPE	CDF_CHAR	support_data
Epoch_B_F0	SCALETYP	CDF_CHAR	linear
Epoch_B_F0	MONOTON	CDF_CHAR	INCREASE
Epoch_B_F0	TIME_BASE	CDF_CHAR	Spacecraft clock
Epoch_B_F0	TIME_SCALE	CDF_CHAR	Spacecraft clock
Epoch_B_F0	REFERENCE_POSITION	CDF_CHAR	MEB GSE
Epoch_B_F0	Resolution	CDF_CHAR	15258
Epoch_B_F0	Bin_location	CDF_CHAR	0.5
Epoch_B_F0	VAR_NOTES	CDF_CHAR	Time extracted from epoch.
Epoch_B_F1	FIELDNAM	CDF_CHAR	Epoch_B_F1
Epoch_B_F1	CATDESC	CDF_CHAR	Time for F1 frequencies in burst mode
Epoch_B_F1	DISPLAY_TYPE	CDF_CHAR	time_series
Epoch_B_F1	VALIDMIN	CDF_TIME_TT2000	2000-01-01T00:00:00.000000000
Epoch_B_F1	VALIDMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch_B_F1	SCALEMIN	CDF_TIME_TT2000	1990-01-01T00:00:00.000000000
Epoch_B_F1	SCALEMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch_B_F1	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch_B_F1	LABLAXIS	CDF_CHAR	Epoch_B_F1
Epoch_B_F1	UNITS	CDF_CHAR	ns
Epoch_B_F1	VAR_TYPE	CDF_CHAR	support_data
Epoch_B_F1	SCALETYP	CDF_CHAR	linear
Epoch_B_F1	MONOTON	CDF_CHAR	INCREASE
Epoch_B_F1	TIME_BASE	CDF_CHAR	Spacecraft clock
Epoch_B_F1	TIME_SCALE	CDF_CHAR	Spacecraft clock
Epoch_B_F1	REFERENCE_POSITION	CDF_CHAR	MEB GSE
Epoch_B_F1	Resolution	CDF_CHAR	15258
Epoch_B_F1	Bin_location	CDF_CHAR	0.5
Epoch_B_F1	VAR_NOTES	CDF_CHAR	Time extracted from epoch.
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 714

Tab. 4.106 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	VALIDMIN	CDF_UINT1	0
QUALITY_FLAG	VALIDMAX	CDF_UINT1	4
QUALITY_FLAG	SCALEMIN	CDF_UINT1	0
QUALITY_FLAG	SCALEMAX	CDF_UINT1	4
QUALITY_FLAG	FILLVAL	CDF_UINT1	255
QUALITY_FLAG	LABLAXIS	CDF_CHAR	Quality flag
QUALITY_FLAG	UNITS	CDF_CHAR	
QUALITY_FLAG	VAR_TYPE	CDF_CHAR	support_data
QUALITY_FLAG	SCALETYP	CDF_CHAR	linear
QUALITY_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the quality of the data
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FLAG	FORMAT	CDF_CHAR	II.1
COMMON_BIA_STATUS_FLAG	FIELDNAM	CDF_CHAR	COMMON_BIA_STATUS_FLAG
COMMON_BIA_STATUS_FLAG	CATDESC	CDF_CHAR	LFR common parameters and BIAS status info relevancy flag
COMMON_BIA_STATUS_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
COMMON_BIA_STATUS_FLAG	VALIDMIN	CDF_UINT1	0
COMMON_BIA_STATUS_FLAG	VALIDMAX	CDF_UINT1	1
COMMON_BIA_STATUS_FLAG	SCALEMIN	CDF_UINT1	0
COMMON_BIA_STATUS_FLAG	SCALEMAX	CDF_UINT1	1
COMMON_BIA_STATUS_FLAG	FILLVAL	CDF_UINT1	255
COMMON_BIA_STATUS_FLAG	LABLAXIS	CDF_CHAR	Common bias status flag
COMMON_BIA_STATUS_FLAG	UNITS	CDF_CHAR	
COMMON_BIA_STATUS_FLAG	VAR_TYPE	CDF_CHAR	support_data
COMMON_BIA_STATUS_FLAG	SCALETYP	CDF_CHAR	linear
COMMON_BIA_STATUS_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the relevancy of LFR common parameters (SP0/1, R0/1/2, BW) and BIAS STATUS INFO which can be non representative for the first packet following a change in those parameters.
COMMON_BIA_STATUS_FLAG	DEPEND_0	CDF_CHAR	Epoch
COMMON_BIA_STATUS_FLAG	FORMAT	CDF_CHAR	II.1
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 715

Tab. 4.106 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	UNITS	CDF_CHAR	
QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context information or status at the receiver or experiment level
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
SURVEY_MODE	FIELDNAM	CDF_CHAR	SURVEY_MODE
SURVEY_MODE	CATDESC	CDF_CHAR	LFR survey mode
SURVEY_MODE	DISPLAY_TYPE	CDF_CHAR	time_series
SURVEY_MODE	VALIDMIN	CDF_UINT1	0
SURVEY_MODE	VALIDMAX	CDF_UINT1	1
SURVEY_MODE	SCALEMIN	CDF_UINT1	0
SURVEY_MODE	SCALEMAX	CDF_UINT1	1
SURVEY_MODE	FILLVAL	CDF_UINT1	255
SURVEY_MODE	LABLAXIS	CDF_CHAR	LFR survey mode
SURVEY_MODE	UNITS	CDF_CHAR	
SURVEY_MODE	VAR_TYPE	CDF_CHAR	data
SURVEY_MODE	SCALETYP	CDF_CHAR	linear
SURVEY_MODE	VAR_NOTES	CDF_CHAR	Flag to indicate if the receiver in the SURVEY_BURST (=1) or SURVEY_NORMAL (=0) mode
SURVEY_MODE	DEPEND_0	CDF_CHAR	Epoch
SURVEY_MODE	FORMAT	CDF_CHAR	I1.1
FREQ	FIELDNAM	CDF_CHAR	Sampling frequency of the BP1
FREQ	CATDESC	CDF_CHAR	Sampling frequency of the BP1
FREQ	DISPLAY_TYPE	CDF_CHAR	time_series
FREQ	VALIDMIN	CDF_UINT1	0
FREQ	VALIDMAX	CDF_UINT1	2
FREQ	SCALEMIN	CDF_UINT1	0
FREQ	SCALEMAX	CDF_UINT1	1


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 716

Tab. 4.106 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
FREQ	FILLVAL	CDF_UINT1	255
FREQ	LABLAXIS	CDF_CHAR	FREQ
FREQ	UNITS	CDF_CHAR	
FREQ	VAR_TYPE	CDF_CHAR	support_data
FREQ	SCALETYP	CDF_CHAR	linear
FREQ	VAR_NOTES	CDF_CHAR	Index to indicate the sampling frequency of the BP1 : F0, F1 or F2 in order to use only one skeleton for the 3 normal mode bp1 products of ICD.
FREQ	DEPEND_0	CDF_CHAR	Epoch
FREQ	FORMAT	CDF_CHAR	I3.3
N_F0	FIELDNAM	CDF_CHAR	Sampling frequencies at F0 in normal mode
N_F0	CATDESC	CDF_CHAR	Sampling frequency of BP1 at F0 in normal mode
N_F0	DISPLAY_TYPE	CDF_CHAR	time_series
N_F0	VALIDMIN	CDF_REAL4	0.0
N_F0	VALIDMAX	CDF_REAL4	1.0e+30
N_F0	SCALEMIN	CDF_REAL4	0.0
N_F0	SCALEMAX	CDF_REAL4	1.0e+30
N_F0	FILLVAL	CDF_REAL4	-1.0e+31
N_F0	LABLAXIS	CDF_CHAR	BP1 sampling frequency
N_F0	UNITS	CDF_CHAR	
N_F0	VAR_TYPE	CDF_CHAR	support_data
N_F0	VAR_NOTES	CDF_CHAR	
N_F0	FORMAT	CDF_CHAR	F32.6
N_F0	SCALETYPE	CDF_CHAR	linear
N_F1	FIELDNAM	CDF_CHAR	Sampling frequencies at F1 in normal mode
N_F1	CATDESC	CDF_CHAR	Sampling frequency of BP1 at F1 in normal mode
N_F1	DISPLAY_TYPE	CDF_CHAR	time_series
N_F1	VALIDMIN	CDF_REAL4	0.0
N_F1	VALIDMAX	CDF_REAL4	1.0e+30
N_F1	SCALEMIN	CDF_REAL4	0.0
N_F1	SCALEMAX	CDF_REAL4	1.0e+30
N_F1	FILLVAL	CDF_REAL4	-1.0e+31
N_F1	LABLAXIS	CDF_CHAR	BP1 sampling frequency
N_F1	UNITS	CDF_CHAR	
N_F1	VAR_TYPE	CDF_CHAR	support_data


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 717

Tab. 4.106 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
N_F1	VAR_NOTES	CDF_CHAR	Index to indicate the sampling frequency of the snapshot : F0, F1 or F2 in order to use only one skeleton for the 3 normal mode BP1 products of ICD.
N_F1	FORMAT	CDF_CHAR	F32.6
N_F1	SCALETYPE	CDF_CHAR	linear
N_F2	FIELDNAM	CDF_CHAR	Sampling frequencies at F2 in normal mode
N_F2	CATDESC	CDF_CHAR	Sampling frequency of BP1 at F2 in normal mode
N_F2	DISPLAY_TYPE	CDF_CHAR	time_series
N_F2	VALIDMIN	CDF_REAL4	0.0
N_F2	VALIDMAX	CDF_REAL4	1.0e+30
N_F2	SCALEMIN	CDF_REAL4	0.0
N_F2	SCALEMAX	CDF_REAL4	1.0e+30
N_F2	FILLVAL	CDF_REAL4	-1.0e+31
N_F2	LABLAXIS	CDF_CHAR	BP1 sampling frequency
N_F2	UNITS	CDF_CHAR	
N_F2	VAR_TYPE	CDF_CHAR	support_data
N_F2	VAR_NOTES	CDF_CHAR	Index to indicate the sampling frequency of the snapshot : F0, F1 or F2 in order to use only one skeleton for the 3 normal mode BP1 products of ICD.
N_F2	FORMAT	CDF_CHAR	F32.6
N_F2	SCALETYPE	CDF_CHAR	linear
B_F0	FIELDNAM	CDF_CHAR	Sampling frequencies at F0 in burst mode
B_F0	CATDESC	CDF_CHAR	Sampling frequency of BP1 at F0 in burst mode
B_F0	DISPLAY_TYPE	CDF_CHAR	time_series
B_F0	VALIDMIN	CDF_REAL4	0.0
B_F0	VALIDMAX	CDF_REAL4	1.0e+30
B_F0	SCALEMIN	CDF_REAL4	0.0
B_F0	SCALEMAX	CDF_REAL4	1.0e+30
B_F0	FILLVAL	CDF_REAL4	-1.0e+31
B_F0	LABLAXIS	CDF_CHAR	BP1 sampling frequency
B_F0	UNITS	CDF_CHAR	


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 718

Tab. 4.106 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
B_F0	VAR_TYPE	CDF_CHAR	support_data
B_F0	VAR_NOTES	CDF_CHAR	
B_F0	FORMAT	CDF_CHAR	F32.6
B_F0	SCALETYPE	CDF_CHAR	linear
B_F1	FIELDNAM	CDF_CHAR	Sampling frequencies at F1 in burst mode
B_F1	CATDESC	CDF_CHAR	Sampling frequency of BP1 at F1 in burst mode
B_F1	DISPLAY_TYPE	CDF_CHAR	time_series
B_F1	VALIDMIN	CDF_REAL4	0.0
B_F1	VALIDMAX	CDF_REAL4	1.0e+30
B_F1	SCALEMIN	CDF_REAL4	0.0
B_F1	SCALEMAX	CDF_REAL4	1.0e+30
B_F1	FILLVAL	CDF_REAL4	-1.0e+31
B_F1	LABLAXIS	CDF_CHAR	BP1 sampling frequency
B_F1	UNITS	CDF_CHAR	
B_F1	VAR_TYPE	CDF_CHAR	support_data
B_F1	VAR_NOTES	CDF_CHAR	Index to indicate the sampling frequency of the snapshot : F0, F1 or F2 in order to use only one skeleton for the 3 normal mode BP1 products of ICD.
B_F1	FORMAT	CDF_CHAR	F32.6
B_F1	SCALETYPE	CDF_CHAR	linear
BIAS_MODE_MUX_SET	FIELDNAM	CDF_CHAR	BIAS multiplexer setting
BIAS_MODE_MUX_SET	CATDESC	CDF_CHAR	Copy of multiplexer setting.
BIAS_MODE_MUX_SET	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_MUX_SET	VALIDMIN	CDF_UINT1	0
BIAS_MODE_MUX_SET	VALIDMAX	CDF_UINT1	7
BIAS_MODE_MUX_SET	SCALEMIN	CDF_UINT1	0
BIAS_MODE_MUX_SET	SCALEMAX	CDF_UINT1	7
BIAS_MODE_MUX_SET	FILLVAL	CDF_UINT1	255
BIAS_MODE_MUX_SET	LABLAXIS	CDF_CHAR	BIAS_MODE_MUX_SET
BIAS_MODE_MUX_SET	UNITS	CDF_CHAR	
BIAS_MODE_MUX_SET	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_MUX_SET	SCALETYP	CDF_CHAR	linear

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 719

Tab. 4.106 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_MODE_MUX_SET	VAR_NOTES	CDF_CHAR	Indicates the mode of BIAS multiplexer for a set of BP1 parameters. Possible values are 0 : Standard operation. 1 : Probe 1 fails. 2 : Probe 2 fails. 3 : Probe 3 fails. 4 : Calibration mode 0. 5 : Calibration mode 1. 6 : Calibration mode 2. 7 : Calibration mode 3.
BIAS_MODE_MUX_SET	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_MUX_SET	FORMAT	CDF_CHAR	I3.3
BIAS_MODE_HV_ENABLED	FIELDNAM	CDF_CHAR	BIAS high voltage status
BIAS_MODE_HV_ENABLED	CATDESC	CDF_CHAR	Copy of enable/disable HV (+- 100V).
BIAS_MODE_HV_ENABLED	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_HV_ENABLED	VALIDMIN	CDF_UINT1	0
BIAS_MODE_HV_ENABLED	VALIDMAX	CDF_UINT1	1
BIAS_MODE_HV_ENABLED	SCALEMIN	CDF_UINT1	0
BIAS_MODE_HV_ENABLED	SCALEMAX	CDF_UINT1	1
BIAS_MODE_HV_ENABLED	FILLVAL	CDF_UINT1	255
BIAS_MODE_HV_ENABLED	LABLAXIS	CDF_CHAR	BIAS_MODE_HV_ENABLED
BIAS_MODE_HV_ENABLED	UNITS	CDF_CHAR	
BIAS_MODE_HV_ENABLED	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_HV_ENABLED	SCALETYP	CDF_CHAR	linear
BIAS_MODE_HV_ENABLED	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS HV. Possible values are DISABLED = 0. ENABLED = 1.
BIAS_MODE_HV_ENABLED	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_HV_ENABLED	FORMAT	CDF_CHAR	I3.3
BIAS_MODE_BIAS1_ENABLED	FIELDNAM	CDF_CHAR	BIAS probe 1 status
BIAS_MODE_BIAS1_ENABLED	CATDESC	CDF_CHAR	Copy of enable/disable BIAS 1.
BIAS_MODE_BIAS1_ENABLED	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_BIAS1_ENABLED	VALIDMIN	CDF_UINT1	0
BIAS_MODE_BIAS1_ENABLED	VALIDMAX	CDF_UINT1	1
BIAS_MODE_BIAS1_ENABLED	SCALEMIN	CDF_UINT1	0
BIAS_MODE_BIAS1_ENABLED	SCALEMAX	CDF_UINT1	1
BIAS_MODE_BIAS1_ENABLED	FILLVAL	CDF_UINT1	255
BIAS_MODE_BIAS1_ENABLED	LABLAXIS	CDF_CHAR	BIAS_MODE_BIAS1_ENABLED
BIAS_MODE_BIAS1_ENABLED	UNITS	CDF_CHAR	
BIAS_MODE_BIAS1_ENABLED	VAR_TYPE	CDF_CHAR	support_data

continues on next page



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **720**

Tab. 4.106 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_MODE_BIAS1_ENAB	SCALETYP	CDF_CHAR	linear
BIAS_MODE_BIAS1_ENAB	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS probe 1. Possible values are DISABLED = 0. ENABLED = 1.
BIAS_MODE_BIAS1_ENAB	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_BIAS1_ENAB	FORMAT	CDF_CHAR	I3.3
BIAS_MODE_BIAS2_ENAB	HELDNAM	CDF_CHAR	BIAS probe 2 status
BIAS_MODE_BIAS2_ENAB	ICATDESC	CDF_CHAR	Copy of enable/disable BIAS 2.
BIAS_MODE_BIAS2_ENAB	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_BIAS2_ENAB	VALIDMIN	CDF_UINT1	0
BIAS_MODE_BIAS2_ENAB	VALIDMAX	CDF_UINT1	1
BIAS_MODE_BIAS2_ENAB	SCALEMIN	CDF_UINT1	0
BIAS_MODE_BIAS2_ENAB	SCALEMAX	CDF_UINT1	1
BIAS_MODE_BIAS2_ENAB	HELDVAL	CDF_UINT1	255
BIAS_MODE_BIAS2_ENAB	LEBLAXIS	CDF_CHAR	BIAS_MODE_BIAS2_ENABLED
BIAS_MODE_BIAS2_ENAB	UNITS	CDF_CHAR	
BIAS_MODE_BIAS2_ENAB	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_BIAS2_ENAB	SCALETYP	CDF_CHAR	linear
BIAS_MODE_BIAS2_ENAB	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS probe 2. Possible values are DISABLED = 0. ENABLED = 1.
BIAS_MODE_BIAS2_ENAB	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_BIAS2_ENAB	FORMAT	CDF_CHAR	I3.3
BIAS_MODE_BIAS3_ENAB	HELDNAM	CDF_CHAR	BIAS probe 3 status
BIAS_MODE_BIAS3_ENAB	ICATDESC	CDF_CHAR	Copy of enable/disable BIAS 3.
BIAS_MODE_BIAS3_ENAB	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_BIAS3_ENAB	VALIDMIN	CDF_UINT1	0
BIAS_MODE_BIAS3_ENAB	VALIDMAX	CDF_UINT1	1
BIAS_MODE_BIAS3_ENAB	SCALEMIN	CDF_UINT1	0
BIAS_MODE_BIAS3_ENAB	SCALEMAX	CDF_UINT1	1
BIAS_MODE_BIAS3_ENAB	HELDVAL	CDF_UINT1	255
BIAS_MODE_BIAS3_ENAB	LEBLAXIS	CDF_CHAR	BIAS_MODE_BIAS3_ENABLED
BIAS_MODE_BIAS3_ENAB	UNITS	CDF_CHAR	
BIAS_MODE_BIAS3_ENAB	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_BIAS3_ENAB	SCALETYP	CDF_CHAR	linear


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 721

Tab. 4.106 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_MODE_BIAS3_ENAB	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS probe 3. Possible values are DISABLED = 0. ENABLED = 1.
BIAS_MODE_BIAS3_ENAB	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_BIAS3_ENAB	FORMAT	CDF_CHAR	I3.3
BIAS_ON_OFF	FIELDNAM	CDF_CHAR	BIAS status
BIAS_ON_OFF	CATDESC	CDF_CHAR	Copy of BIAS status.
BIAS_ON_OFF	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_ON_OFF	VALIDMIN	CDF_UINT1	0
BIAS_ON_OFF	VALIDMAX	CDF_UINT1	1
BIAS_ON_OFF	SCALEMIN	CDF_UINT1	0
BIAS_ON_OFF	SCALEMAX	CDF_UINT1	1
BIAS_ON_OFF	FILLVAL	CDF_UINT1	255
BIAS_ON_OFF	LABLAXIS	CDF_CHAR	BIAS_ON_OFF
BIAS_ON_OFF	UNITS	CDF_CHAR	
BIAS_ON_OFF	VAR_TYPE	CDF_CHAR	support_data
BIAS_ON_OFF	SCALETYP	CDF_CHAR	linear
BIAS_ON_OFF	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS. Possible values are OFF = 0 - Power line off. ON = 1 - Power line on.
BIAS_ON_OFF	DEPEND_0	CDF_CHAR	Epoch
BIAS_ON_OFF	FORMAT	CDF_CHAR	I3.3
BW	FIELDNAM	CDF_CHAR	BIAS Works/BIAS Fails configuration.
BW	CATDESC	CDF_CHAR	BIAS Works/BIAS Fails configuration.
BW	DISPLAY_TYPE	CDF_CHAR	time_series
BW	VALIDMIN	CDF_UINT1	0
BW	VALIDMAX	CDF_UINT1	1
BW	SCALEMIN	CDF_UINT1	0
BW	SCALEMAX	CDF_UINT1	1
BW	FILLVAL	CDF_UINT1	255
BW	LABLAXIS	CDF_CHAR	BW
BW	UNITS	CDF_CHAR	
BW	VAR_TYPE	CDF_CHAR	support_data
BW	SCALETYP	CDF_CHAR	linear
BW	VAR_NOTES	CDF_CHAR	
BW	DEPEND_0	CDF_CHAR	Epoch
BW	FORMAT	CDF_CHAR	I3.3


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 722

Tab. 4.106 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SP0	FIELDNAM	CDF_CHAR	Shaping of electrical data parameter 0.
SP0	CATDESC	CDF_CHAR	Shaping of electrical data.
SP0	DISPLAY_TYPE	CDF_CHAR	time_series
SP0	VALIDMIN	CDF_UINT1	0
SP0	VALIDMAX	CDF_UINT1	1
SP0	SCALEMIN	CDF_UINT1	0
SP0	SCALEMAX	CDF_UINT1	1
SP0	FILLVAL	CDF_UINT1	255
SP0	LABLAXIS	CDF_CHAR	SP0
SP0	UNITS	CDF_CHAR	
SP0	VAR_TYPE	CDF_CHAR	support_data
SP0	SCALETYP	CDF_CHAR	linear
SP0	VAR_NOTES	CDF_CHAR	
SP0	DEPEND_0	CDF_CHAR	Epoch
SP0	FORMAT	CDF_CHAR	I3.3
SP1	FIELDNAM	CDF_CHAR	Shaping of electrical data parameter 1.
SP1	CATDESC	CDF_CHAR	Shaping of electrical data.
SP1	DISPLAY_TYPE	CDF_CHAR	time_series
SP1	VALIDMIN	CDF_UINT1	0
SP1	VALIDMAX	CDF_UINT1	1
SP1	SCALEMIN	CDF_UINT1	0
SP1	SCALEMAX	CDF_UINT1	1
SP1	FILLVAL	CDF_UINT1	255
SP1	LABLAXIS	CDF_CHAR	SP1
SP1	UNITS	CDF_CHAR	
SP1	VAR_TYPE	CDF_CHAR	support_data
SP1	SCALETYP	CDF_CHAR	linear
SP1	VAR_NOTES	CDF_CHAR	
SP1	DEPEND_0	CDF_CHAR	Epoch
SP1	FORMAT	CDF_CHAR	I3.3
R0	FIELDNAM	CDF_CHAR	Rooting of electrical data for F0.
R0	CATDESC	CDF_CHAR	Rooting of electrical data.
R0	DISPLAY_TYPE	CDF_CHAR	time_series
R0	VALIDMIN	CDF_UINT1	0
R0	VALIDMAX	CDF_UINT1	1
R0	SCALEMIN	CDF_UINT1	0
R0	SCALEMAX	CDF_UINT1	1
R0	FILLVAL	CDF_UINT1	255


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 723

Tab. 4.106 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
R0	LABLAXIS	CDF_CHAR	R0
R0	UNITS	CDF_CHAR	
R0	VAR_TYPE	CDF_CHAR	support_data
R0	SCALETYP	CDF_CHAR	linear
R0	VAR_NOTES	CDF_CHAR	
R0	DEPEND_0	CDF_CHAR	Epoch
R0	FORMAT	CDF_CHAR	I3.3
R1	FIELDNAM	CDF_CHAR	Rooting of electrical data for F1.
R1	CATDESC	CDF_CHAR	Rooting of electrical data.
R1	DISPLAY_TYPE	CDF_CHAR	time_series
R1	VALIDMIN	CDF_UINT1	0
R1	VALIDMAX	CDF_UINT1	1
R1	SCALEMIN	CDF_UINT1	0
R1	SCALEMAX	CDF_UINT1	1
R1	FILLVAL	CDF_UINT1	255
R1	LABLAXIS	CDF_CHAR	R1
R1	UNITS	CDF_CHAR	
R1	VAR_TYPE	CDF_CHAR	support_data
R1	SCALETYP	CDF_CHAR	linear
R1	VAR_NOTES	CDF_CHAR	
R1	DEPEND_0	CDF_CHAR	Epoch
R1	FORMAT	CDF_CHAR	I3.3
R2	FIELDNAM	CDF_CHAR	Rooting of electrical data for F2.
R2	CATDESC	CDF_CHAR	Rooting of electrical data.
R2	DISPLAY_TYPE	CDF_CHAR	time_series
R2	VALIDMIN	CDF_UINT1	0
R2	VALIDMAX	CDF_UINT1	1
R2	SCALEMIN	CDF_UINT1	0
R2	SCALEMAX	CDF_UINT1	1
R2	FILLVAL	CDF_UINT1	255
R2	LABLAXIS	CDF_CHAR	R2
R2	UNITS	CDF_CHAR	
R2	VAR_TYPE	CDF_CHAR	support_data
R2	SCALETYP	CDF_CHAR	linear
R2	VAR_NOTES	CDF_CHAR	
R2	DEPEND_0	CDF_CHAR	Epoch
R2	FORMAT	CDF_CHAR	I3.3
BP1_CNT	FIELDNAM	CDF_CHAR	BP1_CNT

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 724

Tab. 4.106 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BP1_CNT	CATDESC	CDF_CHAR	Number of BP1 sets read for a given sampling frequency(F0, F1 or F2).
BP1_CNT	DISPLAY_TYPE	CDF_CHAR	time_series
BP1_CNT	VALIDMIN	CDF_UINT1	11
BP1_CNT	VALIDMAX	CDF_UINT1	26
BP1_CNT	SCALEMIN	CDF_UINT1	11
BP1_CNT	SCALEMAX	CDF_UINT1	26
BP1_CNT	FILLVAL	CDF_UINT1	255
BP1_CNT	LABLAXIS	CDF_CHAR	BP1_CNT
BP1_CNT	UNITS	CDF_CHAR	
BP1_CNT	VAR_TYPE	CDF_CHAR	support_data
BP1_CNT	SCALETYP	CDF_CHAR	linear
BP1_CNT	VAR_NOTES	CDF_CHAR	This indicates how many sets of BP1 have been read. Expected numbers for NORMAL MODE are 11 for F0, 13 for F1 and 12 for F2. Expected numbers for BURST MODE are 22 for F0 and 26 for F1.
BP1_CNT	DEPEND_0	CDF_CHAR	Epoch
BP1_CNT	FORMAT	CDF_CHAR	I3.3
PE_N_F0	FIELDNAM	CDF_CHAR	Spectral power of E field (N, F0)
PE_N_F0	CATDESC	CDF_CHAR	Spectral power of E field in normal mode at F0
PE_N_F0	DISPLAY_TYPE	CDF_CHAR	time_series
PE_N_F0	VALIDMIN	CDF_REAL8	-1.0e+30
PE_N_F0	VALIDMAX	CDF_REAL8	1.0e+30
PE_N_F0	SCALEMIN	CDF_REAL8	-1.0e+30
PE_N_F0	SCALEMAX	CDF_REAL8	1.0e+30
PE_N_F0	FILLVAL	CDF_REAL8	-1.0e+31
PE_N_F0	LABLAXIS	CDF_CHAR	PE_N_F0
PE_N_F0	UNITS	CDF_CHAR	
PE_N_F0	VAR_TYPE	CDF_CHAR	data
PE_N_F0	SCALETYP	CDF_CHAR	linear
PE_N_F0	VAR_NOTES	CDF_CHAR	
PE_N_F0	DEPEND_0	CDF_CHAR	Epoch_N_F0
PE_N_F0	FORMAT	CDF_CHAR	F32.6

continues on next page



**RPW Data Product
Description Document**

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03

Date: March 11, 2021

Page: **725**

Tab. 4.106 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
PE_N_F1	FIELDNAM	CDF_CHAR	Spectral power of E field (N, F1)
PE_N_F1	CATDESC	CDF_CHAR	Spectral power of E field in normal mode at F1
PE_N_F1	DISPLAY_TYPE	CDF_CHAR	time_series
PE_N_F1	VALIDMIN	CDF_REAL8	-1.0e+30
PE_N_F1	VALIDMAX	CDF_REAL8	1.0e+30
PE_N_F1	SCALEMIN	CDF_REAL8	-1.0e+30
PE_N_F1	SCALEMAX	CDF_REAL8	1.0e+30
PE_N_F1	FILLVAL	CDF_REAL8	-1.0e+31
PE_N_F1	LABLAXIS	CDF_CHAR	PE_N_F1
PE_N_F1	UNITS	CDF_CHAR	
PE_N_F1	VAR_TYPE	CDF_CHAR	data
PE_N_F1	SCALETYP	CDF_CHAR	linear
PE_N_F1	VAR_NOTES	CDF_CHAR	
PE_N_F1	DEPEND_0	CDF_CHAR	Epoch_N_F1
PE_N_F1	FORMAT	CDF_CHAR	F32.6
PE_N_F2	FIELDNAM	CDF_CHAR	Spectral power of E field (N, F2)
PE_N_F2	CATDESC	CDF_CHAR	Spectral power of E field in normal mode at F2
PE_N_F2	DISPLAY_TYPE	CDF_CHAR	time_series
PE_N_F2	VALIDMIN	CDF_REAL8	-1.0e+30
PE_N_F2	VALIDMAX	CDF_REAL8	1.0e+30
PE_N_F2	SCALEMIN	CDF_REAL8	-1.0e+30
PE_N_F2	SCALEMAX	CDF_REAL8	1.0e+30
PE_N_F2	FILLVAL	CDF_REAL8	-1.0e+31
PE_N_F2	LABLAXIS	CDF_CHAR	PE_N_F2
PE_N_F2	UNITS	CDF_CHAR	
PE_N_F2	VAR_TYPE	CDF_CHAR	data
PE_N_F2	SCALETYP	CDF_CHAR	linear
PE_N_F2	VAR_NOTES	CDF_CHAR	
PE_N_F2	DEPEND_0	CDF_CHAR	Epoch_N_F2
PE_N_F2	FORMAT	CDF_CHAR	F32.6
PE_B_F0	FIELDNAM	CDF_CHAR	Spectral power of E field (B, F0)
PE_B_F0	CATDESC	CDF_CHAR	Spectral power of E field in burst mode at F0
PE_B_F0	DISPLAY_TYPE	CDF_CHAR	time_series
PE_B_F0	VALIDMIN	CDF_REAL8	-1.0e+30
PE_B_F0	VALIDMAX	CDF_REAL8	1.0e+30

continues on next page



**RPW Data Product
Description Document**

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **726**

Tab. 4.106 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
PE_B_F0	SCALEMIN	CDF_REAL8	-1.0e+30
PE_B_F0	SCALEMAX	CDF_REAL8	1.0e+30
PE_B_F0	FILLVAL	CDF_REAL8	-1.0e+31
PE_B_F0	LABLAXIS	CDF_CHAR	PE_B_F0
PE_B_F0	UNITS	CDF_CHAR	
PE_B_F0	VAR_TYPE	CDF_CHAR	data
PE_B_F0	SCALETYP	CDF_CHAR	linear
PE_B_F0	VAR_NOTES	CDF_CHAR	
PE_B_F0	DEPEND_0	CDF_CHAR	Epoch_B_F0
PE_B_F0	FORMAT	CDF_CHAR	F32.6
PE_B_F1	FIELDNAM	CDF_CHAR	Spectral power of E field (B, F1)
PE_B_F1	CATDESC	CDF_CHAR	Spectral power of E field in burst mode at F1
PE_B_F1	DISPLAY_TYPE	CDF_CHAR	time_series
PE_B_F1	VALIDMIN	CDF_REAL8	-1.0e+30
PE_B_F1	VALIDMAX	CDF_REAL8	1.0e+30
PE_B_F1	SCALEMIN	CDF_REAL8	-1.0e+30
PE_B_F1	SCALEMAX	CDF_REAL8	1.0e+30
PE_B_F1	FILLVAL	CDF_REAL8	-1.0e+31
PE_B_F1	LABLAXIS	CDF_CHAR	PE_B_F1
PE_B_F1	UNITS	CDF_CHAR	
PE_B_F1	VAR_TYPE	CDF_CHAR	data
PE_B_F1	SCALETYP	CDF_CHAR	linear
PE_B_F1	VAR_NOTES	CDF_CHAR	
PE_B_F1	DEPEND_0	CDF_CHAR	Epoch_B_F1
PE_B_F1	FORMAT	CDF_CHAR	F32.6
PB_N_F0	FIELDNAM	CDF_CHAR	Spectral power of B field (N, F0)
PB_N_F0	CATDESC	CDF_CHAR	Spectral power of B field in normal mode at F0
PB_N_F0	DISPLAY_TYPE	CDF_CHAR	time_series
PB_N_F0	VALIDMIN	CDF_REAL8	-1.0e+30
PB_N_F0	VALIDMAX	CDF_REAL8	1.0e+30
PB_N_F0	SCALEMIN	CDF_REAL8	-1.0e+30
PB_N_F0	SCALEMAX	CDF_REAL8	1.0e+30
PB_N_F0	FILLVAL	CDF_REAL8	-1.0e+31
PB_N_F0	LABLAXIS	CDF_CHAR	PB_N_F0
PB_N_F0	UNITS	CDF_CHAR	
PB_N_F0	VAR_TYPE	CDF_CHAR	data
PB_N_F0	SCALETYP	CDF_CHAR	linear


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 727

Tab. 4.106 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
PB_N_F0	VAR_NOTES	CDF_CHAR	
PB_N_F0	DEPEND_0	CDF_CHAR	Epoch_N_F0
PB_N_F0	FORMAT	CDF_CHAR	F32.6
PB_N_F1	FIELDNAM	CDF_CHAR	Spectral power of B field (N, F1)
PB_N_F1	CATDESC	CDF_CHAR	Spectral power of B field in normal mode at F1
PB_N_F1	DISPLAY_TYPE	CDF_CHAR	time_series
PB_N_F1	VALIDMIN	CDF_REAL8	-1.0e+30
PB_N_F1	VALIDMAX	CDF_REAL8	1.0e+30
PB_N_F1	SCALEMIN	CDF_REAL8	-1.0e+30
PB_N_F1	SCALEMAX	CDF_REAL8	1.0e+30
PB_N_F1	FILLVAL	CDF_REAL8	-1.0e+31
PB_N_F1	LABLAXIS	CDF_CHAR	PB_N_F1
PB_N_F1	UNITS	CDF_CHAR	
PB_N_F1	VAR_TYPE	CDF_CHAR	data
PB_N_F1	SCALETYP	CDF_CHAR	linear
PB_N_F1	VAR_NOTES	CDF_CHAR	
PB_N_F1	DEPEND_0	CDF_CHAR	Epoch_N_F1
PB_N_F1	FORMAT	CDF_CHAR	F32.6
PB_N_F2	FIELDNAM	CDF_CHAR	Spectral power of B field (N, F2)
PB_N_F2	CATDESC	CDF_CHAR	Spectral power of B field in normal mode at F2
PB_N_F2	DISPLAY_TYPE	CDF_CHAR	time_series
PB_N_F2	VALIDMIN	CDF_REAL8	-1.0e+30
PB_N_F2	VALIDMAX	CDF_REAL8	1.0e+30
PB_N_F2	SCALEMIN	CDF_REAL8	-1.0e+30
PB_N_F2	SCALEMAX	CDF_REAL8	1.0e+30
PB_N_F2	FILLVAL	CDF_REAL8	-1.0e+31
PB_N_F2	LABLAXIS	CDF_CHAR	PB_N_F2
PB_N_F2	UNITS	CDF_CHAR	
PB_N_F2	VAR_TYPE	CDF_CHAR	data
PB_N_F2	SCALETYP	CDF_CHAR	linear
PB_N_F2	VAR_NOTES	CDF_CHAR	
PB_N_F2	DEPEND_0	CDF_CHAR	Epoch_N_F2
PB_N_F2	FORMAT	CDF_CHAR	F32.6
PB_B_F0	FIELDNAM	CDF_CHAR	Spectral power of B field (B, F0)
PB_B_F0	CATDESC	CDF_CHAR	Spectral power of B field in burst mode at F0

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 728

Tab. 4.106 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
PB_B_F0	DISPLAY_TYPE	CDF_CHAR	time_series
PB_B_F0	VALIDMIN	CDF_REAL8	-1.0e+30
PB_B_F0	VALIDMAX	CDF_REAL8	1.0e+30
PB_B_F0	SCALEMIN	CDF_REAL8	-1.0e+30
PB_B_F0	SCALEMAX	CDF_REAL8	1.0e+30
PB_B_F0	FILLVAL	CDF_REAL8	-1.0e+31
PB_B_F0	LABLAXIS	CDF_CHAR	PB_B_F0
PB_B_F0	UNITS	CDF_CHAR	
PB_B_F0	VAR_TYPE	CDF_CHAR	data
PB_B_F0	SCALETYP	CDF_CHAR	linear
PB_B_F0	VAR_NOTES	CDF_CHAR	
PB_B_F0	DEPEND_0	CDF_CHAR	Epoch_B_F0
PB_B_F0	FORMAT	CDF_CHAR	F32.6
PB_B_F1	FIELDNAM	CDF_CHAR	Spectral power of B field (B, F1)
PB_B_F1	CATDESC	CDF_CHAR	Spectral power of B field in burst mode at F1
PB_B_F1	DISPLAY_TYPE	CDF_CHAR	time_series
PB_B_F1	VALIDMIN	CDF_REAL8	-1.0e+30
PB_B_F1	VALIDMAX	CDF_REAL8	1.0e+30
PB_B_F1	SCALEMIN	CDF_REAL8	-1.0e+30
PB_B_F1	SCALEMAX	CDF_REAL8	1.0e+30
PB_B_F1	FILLVAL	CDF_REAL8	-1.0e+31
PB_B_F1	LABLAXIS	CDF_CHAR	PB_B_F1
PB_B_F1	UNITS	CDF_CHAR	
PB_B_F1	VAR_TYPE	CDF_CHAR	data
PB_B_F1	SCALETYP	CDF_CHAR	linear
PB_B_F1	VAR_NOTES	CDF_CHAR	
PB_B_F1	DEPEND_0	CDF_CHAR	Epoch_B_F1
PB_B_F1	FORMAT	CDF_CHAR	F32.6
NVEC_N_F0	FIELDNAM	CDF_CHAR	NVEC_N_F0
NVEC_N_F0	CATDESC	CDF_CHAR	Component 0 of wave normal vector from magnetic field in normal mode at F0
NVEC_N_F0	DISPLAY_TYPE	CDF_CHAR	time_series
NVEC_N_F0	VALIDMIN	CDF_REAL4	-1.0
NVEC_N_F0	VALIDMAX	CDF_REAL4	1.0
NVEC_N_F0	SCALEMIN	CDF_REAL4	-1.0
NVEC_N_F0	SCALEMAX	CDF_REAL4	1.0
NVEC_N_F0	FILLVAL	CDF_REAL4	-1.0e+31
NVEC_N_F0	LABLAXIS	CDF_CHAR	NVEC_N_F0

continues on next page



**RPW Data Product
Description Document**

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **729**

Tab. 4.106 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
NVEC_N_F0	UNITS	CDF_CHAR	
NVEC_N_F0	VAR_TYPE	CDF_CHAR	data
NVEC_N_F0	SCALETYP	CDF_CHAR	linear
NVEC_N_F0	VAR_NOTES	CDF_CHAR	
NVEC_N_F0	DEPEND_0	CDF_CHAR	Epoch_N_F0
NVEC_N_F0	FORMAT	CDF_CHAR	F32.6
NVEC_N_F1	FIELDNAM	CDF_CHAR	NVEC_N_F1
NVEC_N_F1	CATDESC	CDF_CHAR	Component 0 of wave normal vector from magnetic field in normal mode at F1
NVEC_N_F1	DISPLAY_TYPE	CDF_CHAR	time_series
NVEC_N_F1	VALIDMIN	CDF_REAL4	-1.0
NVEC_N_F1	VALIDMAX	CDF_REAL4	1.0
NVEC_N_F1	SCALEMIN	CDF_REAL4	-1.0
NVEC_N_F1	SCALEMAX	CDF_REAL4	1.0
NVEC_N_F1	FILLVAL	CDF_REAL4	-1.0e+31
NVEC_N_F1	LABLAXIS	CDF_CHAR	NVEC_N_F1
NVEC_N_F1	UNITS	CDF_CHAR	
NVEC_N_F1	VAR_TYPE	CDF_CHAR	data
NVEC_N_F1	SCALETYP	CDF_CHAR	linear
NVEC_N_F1	VAR_NOTES	CDF_CHAR	
NVEC_N_F1	DEPEND_0	CDF_CHAR	Epoch_N_F1
NVEC_N_F1	FORMAT	CDF_CHAR	F32.6
NVEC_N_F2	FIELDNAM	CDF_CHAR	NVEC_N_F2
NVEC_N_F2	CATDESC	CDF_CHAR	Component 0 of wave normal vector from magnetic field in normal mode at F2
NVEC_N_F2	DISPLAY_TYPE	CDF_CHAR	time_series
NVEC_N_F2	VALIDMIN	CDF_REAL4	-1.0
NVEC_N_F2	VALIDMAX	CDF_REAL4	1.0
NVEC_N_F2	SCALEMIN	CDF_REAL4	-1.0
NVEC_N_F2	SCALEMAX	CDF_REAL4	1.0
NVEC_N_F2	FILLVAL	CDF_REAL4	-1.0e+31
NVEC_N_F2	LABLAXIS	CDF_CHAR	NVEC_N_F2
NVEC_N_F2	UNITS	CDF_CHAR	
NVEC_N_F2	VAR_TYPE	CDF_CHAR	data
NVEC_N_F2	SCALETYP	CDF_CHAR	linear
NVEC_N_F2	VAR_NOTES	CDF_CHAR	
NVEC_N_F2	DEPEND_0	CDF_CHAR	Epoch_N_F2
NVEC_N_F2	FORMAT	CDF_CHAR	F32.6
NVEC_B_F0	FIELDNAM	CDF_CHAR	NVEC_B_F0


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 730

Tab. 4.106 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
NVEC_B_F0	CATDESC	CDF_CHAR	Component 0 of wave normal vector from magnetic field in burst mode at F0
NVEC_B_F0	DISPLAY_TYPE	CDF_CHAR	time_series
NVEC_B_F0	VALIDMIN	CDF_REAL4	-1.0
NVEC_B_F0	VALIDMAX	CDF_REAL4	1.0
NVEC_B_F0	SCALEMIN	CDF_REAL4	-1.0
NVEC_B_F0	SCALEMAX	CDF_REAL4	1.0
NVEC_B_F0	FILLVAL	CDF_REAL4	-1.0e+31
NVEC_B_F0	LABLAXIS	CDF_CHAR	NVEC_B_F0
NVEC_B_F0	UNITS	CDF_CHAR	
NVEC_B_F0	VAR_TYPE	CDF_CHAR	data
NVEC_B_F0	SCALETYP	CDF_CHAR	linear
NVEC_B_F0	VAR_NOTES	CDF_CHAR	
NVEC_B_F0	DEPEND_0	CDF_CHAR	Epoch_B_F0
NVEC_B_F0	FORMAT	CDF_CHAR	F32.6
NVEC_B_F1	FIELDNAM	CDF_CHAR	NVEC_B_F1
NVEC_B_F1	CATDESC	CDF_CHAR	Component 0 of wave normal vector from magnetic field in burst mode at F0
NVEC_B_F1	DISPLAY_TYPE	CDF_CHAR	time_series
NVEC_B_F1	VALIDMIN	CDF_REAL4	-1.0
NVEC_B_F1	VALIDMAX	CDF_REAL4	1.0
NVEC_B_F1	SCALEMIN	CDF_REAL4	-1.0
NVEC_B_F1	SCALEMAX	CDF_REAL4	1.0
NVEC_B_F1	FILLVAL	CDF_REAL4	-1.0e+31
NVEC_B_F1	LABLAXIS	CDF_CHAR	NVEC_B_F1
NVEC_B_F1	UNITS	CDF_CHAR	
NVEC_B_F1	VAR_TYPE	CDF_CHAR	data
NVEC_B_F1	SCALETYP	CDF_CHAR	linear
NVEC_B_F1	VAR_NOTES	CDF_CHAR	
NVEC_B_F1	DEPEND_0	CDF_CHAR	Epoch_B_F1
NVEC_B_F1	FORMAT	CDF_CHAR	F32.6
ELLIP_N_F0	FIELDNAM	CDF_CHAR	Wave ellipticity from magnetic field (N, F0)
ELLIP_N_F0	CATDESC	CDF_CHAR	Wave ellipticity from magnetic field in normal mode at F0
ELLIP_N_F0	DISPLAY_TYPE	CDF_CHAR	time_series
ELLIP_N_F0	VALIDMIN	CDF_REAL4	0.0
ELLIP_N_F0	VALIDMAX	CDF_REAL4	1.0

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 731

Tab. 4.106 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
ELLIP_N_F0	SCALEMIN	CDF_REAL4	0.0
ELLIP_N_F0	SCALEMAX	CDF_REAL4	1.0
ELLIP_N_F0	FILLVAL	CDF_REAL4	-1.0e+31
ELLIP_N_F0	LABLAXIS	CDF_CHAR	ELLIP_N_F0
ELLIP_N_F0	UNITS	CDF_CHAR	
ELLIP_N_F0	VAR_TYPE	CDF_CHAR	data
ELLIP_N_F0	SCALETYP	CDF_CHAR	linear
ELLIP_N_F0	VAR_NOTES	CDF_CHAR	
ELLIP_N_F0	DEPEND_0	CDF_CHAR	Epoch_N_F0
ELLIP_N_F0	FORMAT	CDF_CHAR	F32.6
ELLIP_N_F1	FIELDNAM	CDF_CHAR	Wave ellipticity from mag- netic field (N, F1)
ELLIP_N_F1	CATDESC	CDF_CHAR	Wave ellipticity from mag- netic field in normal mode at F1
ELLIP_N_F1	DISPLAY_TYPE	CDF_CHAR	time_series
ELLIP_N_F1	VALIDMIN	CDF_REAL4	0.0
ELLIP_N_F1	VALIDMAX	CDF_REAL4	1.0
ELLIP_N_F1	SCALEMIN	CDF_REAL4	0.0
ELLIP_N_F1	SCALEMAX	CDF_REAL4	1.0
ELLIP_N_F1	FILLVAL	CDF_REAL4	-1.0e+31
ELLIP_N_F1	LABLAXIS	CDF_CHAR	ELLIP_N_F1
ELLIP_N_F1	UNITS	CDF_CHAR	
ELLIP_N_F1	VAR_TYPE	CDF_CHAR	data
ELLIP_N_F1	SCALETYP	CDF_CHAR	linear
ELLIP_N_F1	VAR_NOTES	CDF_CHAR	
ELLIP_N_F1	DEPEND_0	CDF_CHAR	Epoch_N_F1
ELLIP_N_F1	FORMAT	CDF_CHAR	F32.6
ELLIP_N_F2	FIELDNAM	CDF_CHAR	Wave ellipticity from mag- netic field (N, F2)
ELLIP_N_F2	CATDESC	CDF_CHAR	Wave ellipticity from mag- netic field in normal mode at F2
ELLIP_N_F2	DISPLAY_TYPE	CDF_CHAR	time_series
ELLIP_N_F2	VALIDMIN	CDF_REAL4	0.0
ELLIP_N_F2	VALIDMAX	CDF_REAL4	1.0
ELLIP_N_F2	SCALEMIN	CDF_REAL4	0.0
ELLIP_N_F2	SCALEMAX	CDF_REAL4	1.0
ELLIP_N_F2	FILLVAL	CDF_REAL4	-1.0e+31
ELLIP_N_F2	LABLAXIS	CDF_CHAR	ELLIP_N_F2
ELLIP_N_F2	UNITS	CDF_CHAR	

continues on next page



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03

Date: March 11, 2021

Page: **732**

Tab. 4.106 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
ELLIP_N_F2	VAR_TYPE	CDF_CHAR	data
ELLIP_N_F2	SCALETYP	CDF_CHAR	linear
ELLIP_N_F2	VAR_NOTES	CDF_CHAR	
ELLIP_N_F2	DEPEND_0	CDF_CHAR	Epoch_N_F2
ELLIP_N_F2	FORMAT	CDF_CHAR	F32.6
ELLIP_B_F0	FIELDNAM	CDF_CHAR	Wave ellipticity from mag- netic field (B, F0)
ELLIP_B_F0	CATDESC	CDF_CHAR	Wave ellipticity from mag- netic field in burst mode at F0
ELLIP_B_F0	DISPLAY_TYPE	CDF_CHAR	time_series
ELLIP_B_F0	VALIDMIN	CDF_REAL4	0.0
ELLIP_B_F0	VALIDMAX	CDF_REAL4	1.0
ELLIP_B_F0	SCALEMIN	CDF_REAL4	0.0
ELLIP_B_F0	SCALEMAX	CDF_REAL4	1.0
ELLIP_B_F0	FILLVAL	CDF_REAL4	-1.0e+31
ELLIP_B_F0	LABLAXIS	CDF_CHAR	ELLIP_B_F0
ELLIP_B_F0	UNITS	CDF_CHAR	
ELLIP_B_F0	VAR_TYPE	CDF_CHAR	data
ELLIP_B_F0	SCALETYP	CDF_CHAR	linear
ELLIP_B_F0	VAR_NOTES	CDF_CHAR	
ELLIP_B_F0	DEPEND_0	CDF_CHAR	Epoch_B_F0
ELLIP_B_F0	FORMAT	CDF_CHAR	F32.6
ELLIP_B_F1	FIELDNAM	CDF_CHAR	Wave ellipticity from mag- netic field (B, F1)
ELLIP_B_F1	CATDESC	CDF_CHAR	Wave ellipticity from mag- netic field in burst mode at F1
ELLIP_B_F1	DISPLAY_TYPE	CDF_CHAR	time_series
ELLIP_B_F1	VALIDMIN	CDF_REAL4	0.0
ELLIP_B_F1	VALIDMAX	CDF_REAL4	1.0
ELLIP_B_F1	SCALEMIN	CDF_REAL4	0.0
ELLIP_B_F1	SCALEMAX	CDF_REAL4	1.0
ELLIP_B_F1	FILLVAL	CDF_REAL4	-1.0e+31
ELLIP_B_F1	LABLAXIS	CDF_CHAR	ELLIP_B_F1
ELLIP_B_F1	UNITS	CDF_CHAR	
ELLIP_B_F1	VAR_TYPE	CDF_CHAR	data
ELLIP_B_F1	SCALETYP	CDF_CHAR	linear
ELLIP_B_F1	VAR_NOTES	CDF_CHAR	
ELLIP_B_F1	DEPEND_0	CDF_CHAR	Epoch_B_F1
ELLIP_B_F1	FORMAT	CDF_CHAR	F32.6
DOP_N_F0	FIELDNAM	CDF_CHAR	degree of polarization from magnetic field (N, F0)

continues on next page



**RPW Data Product
Description Document**

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03

Date: March 11, 2021

Page: **733**

Tab. 4.106 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
DOP_N_F0	CATDESC	CDF_CHAR	degree of polarization from magnetic field in normal mode at F0
DOP_N_F0	DISPLAY_TYPE	CDF_CHAR	time_series
DOP_N_F0	VALIDMIN	CDF_REAL4	0.0
DOP_N_F0	VALIDMAX	CDF_REAL4	1.0
DOP_N_F0	SCALEMIN	CDF_REAL4	0.0
DOP_N_F0	SCALEMAX	CDF_REAL4	1.0
DOP_N_F0	FILLVAL	CDF_REAL4	-1.0e+31
DOP_N_F0	LABLAXIS	CDF_CHAR	DOP_N_F0
DOP_N_F0	UNITS	CDF_CHAR	
DOP_N_F0	VAR_TYPE	CDF_CHAR	data
DOP_N_F0	SCALETYP	CDF_CHAR	linear
DOP_N_F0	VAR_NOTES	CDF_CHAR	
DOP_N_F0	DEPEND_0	CDF_CHAR	Epoch_N_F0
DOP_N_F0	FORMAT	CDF_CHAR	F32.6
DOP_N_F1	FIELDNAM	CDF_CHAR	degree of polarization from magnetic field (N, F1)
DOP_N_F1	CATDESC	CDF_CHAR	degree of polarization from magnetic field in normal mode at F1
DOP_N_F1	DISPLAY_TYPE	CDF_CHAR	time_series
DOP_N_F1	VALIDMIN	CDF_REAL4	0.0
DOP_N_F1	VALIDMAX	CDF_REAL4	1.0
DOP_N_F1	SCALEMIN	CDF_REAL4	0.0
DOP_N_F1	SCALEMAX	CDF_REAL4	1.0
DOP_N_F1	FILLVAL	CDF_REAL4	-1.0e+31
DOP_N_F1	LABLAXIS	CDF_CHAR	DOP_N_F1
DOP_N_F1	UNITS	CDF_CHAR	
DOP_N_F1	VAR_TYPE	CDF_CHAR	data
DOP_N_F1	SCALETYP	CDF_CHAR	linear
DOP_N_F1	VAR_NOTES	CDF_CHAR	
DOP_N_F1	DEPEND_0	CDF_CHAR	Epoch_N_F1
DOP_N_F1	FORMAT	CDF_CHAR	F32.6
DOP_N_F2	FIELDNAM	CDF_CHAR	degree of polarization from magnetic field (N, F2)
DOP_N_F2	CATDESC	CDF_CHAR	degree of polarization from magnetic field in normal mode at F2
DOP_N_F2	DISPLAY_TYPE	CDF_CHAR	time_series
DOP_N_F2	VALIDMIN	CDF_REAL4	0.0

continues on next page



**RPW Data Product
Description Document**

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **734**

Tab. 4.106 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
DOP_N_F2	VALIDMAX	CDF_REAL4	1.0
DOP_N_F2	SCALEMIN	CDF_REAL4	0.0
DOP_N_F2	SCALEMAX	CDF_REAL4	1.0
DOP_N_F2	FILLVAL	CDF_REAL4	-1.0e+31
DOP_N_F2	LABLAXIS	CDF_CHAR	DOP_N_F2
DOP_N_F2	UNITS	CDF_CHAR	
DOP_N_F2	VAR_TYPE	CDF_CHAR	data
DOP_N_F2	SCALETYP	CDF_CHAR	linear
DOP_N_F2	VAR_NOTES	CDF_CHAR	
DOP_N_F2	DEPEND_0	CDF_CHAR	Epoch_N_F2
DOP_N_F2	FORMAT	CDF_CHAR	F32.6
DOP_B_F0	FIELDNAM	CDF_CHAR	degree of polarization from magnetic field (B, F0)
DOP_B_F0	CATDESC	CDF_CHAR	degree of polarization from magnetic field in burst mode at F0
DOP_B_F0	DISPLAY_TYPE	CDF_CHAR	time_series
DOP_B_F0	VALIDMIN	CDF_REAL4	0.0
DOP_B_F0	VALIDMAX	CDF_REAL4	1.0
DOP_B_F0	SCALEMIN	CDF_REAL4	0.0
DOP_B_F0	SCALEMAX	CDF_REAL4	1.0
DOP_B_F0	FILLVAL	CDF_REAL4	-1.0e+31
DOP_B_F0	LABLAXIS	CDF_CHAR	DOP_B_F0
DOP_B_F0	UNITS	CDF_CHAR	
DOP_B_F0	VAR_TYPE	CDF_CHAR	data
DOP_B_F0	SCALETYP	CDF_CHAR	linear
DOP_B_F0	VAR_NOTES	CDF_CHAR	
DOP_B_F0	DEPEND_0	CDF_CHAR	Epoch_B_F0
DOP_B_F0	FORMAT	CDF_CHAR	F32.6
DOP_B_F1	FIELDNAM	CDF_CHAR	degree of polarization from magnetic field (B, F1)
DOP_B_F1	CATDESC	CDF_CHAR	degree of polarization from magnetic field in burst mode at F1
DOP_B_F1	DISPLAY_TYPE	CDF_CHAR	time_series
DOP_B_F1	VALIDMIN	CDF_REAL4	0.0
DOP_B_F1	VALIDMAX	CDF_REAL4	1.0
DOP_B_F1	SCALEMIN	CDF_REAL4	0.0
DOP_B_F1	SCALEMAX	CDF_REAL4	1.0
DOP_B_F1	FILLVAL	CDF_REAL4	-1.0e+31
DOP_B_F1	LABLAXIS	CDF_CHAR	DOP_B_F1


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 735

Tab. 4.106 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
DOP_B_F1	UNITS	CDF_CHAR	
DOP_B_F1	VAR_TYPE	CDF_CHAR	data
DOP_B_F1	SCALETYP	CDF_CHAR	linear
DOP_B_F1	VAR_NOTES	CDF_CHAR	
DOP_B_F1	DEPEND_0	CDF_CHAR	Epoch_B_F1
DOP_B_F1	FORMAT	CDF_CHAR	F32.6
SX_REA_N_F0	FIELDNAM	CDF_CHAR	Real part of X Poynting flux (N, F0)
SX_REA_N_F0	CATDESC	CDF_CHAR	Real part of the X component of the Poynting vector in normal mode at F0
SX_REA_N_F0	DISPLAY_TYPE	CDF_CHAR	time_series
SX_REA_N_F0	VALIDMIN	CDF_REAL8	-1.0e+30
SX_REA_N_F0	VALIDMAX	CDF_REAL8	1.0e+30
SX_REA_N_F0	SCALEMIN	CDF_REAL8	-1.0e+30
SX_REA_N_F0	SCALEMAX	CDF_REAL8	1.0e+30
SX_REA_N_F0	FILLVAL	CDF_REAL8	-1.0e+31
SX_REA_N_F0	LABLAXIS	CDF_CHAR	SX_REA_N_F0
SX_REA_N_F0	UNITS	CDF_CHAR	
SX_REA_N_F0	VAR_TYPE	CDF_CHAR	data
SX_REA_N_F0	SCALETYP	CDF_CHAR	linear
SX_REA_N_F0	VAR_NOTES	CDF_CHAR	
SX_REA_N_F0	DEPEND_0	CDF_CHAR	Epoch_N_F0
SX_REA_N_F0	FORMAT	CDF_CHAR	F32.6
SX_REA_N_F1	FIELDNAM	CDF_CHAR	Real part of X Poynting flux (N, F1)
SX_REA_N_F1	CATDESC	CDF_CHAR	Real part of the X component of the Poynting vector in normal mode at F1
SX_REA_N_F1	DISPLAY_TYPE	CDF_CHAR	time_series
SX_REA_N_F1	VALIDMIN	CDF_REAL8	-1.0e+30
SX_REA_N_F1	VALIDMAX	CDF_REAL8	1.0e+30
SX_REA_N_F1	SCALEMIN	CDF_REAL8	-1.0e+30
SX_REA_N_F1	SCALEMAX	CDF_REAL8	1.0e+30
SX_REA_N_F1	FILLVAL	CDF_REAL8	-1.0e+31
SX_REA_N_F1	LABLAXIS	CDF_CHAR	SX_REA_N_F1
SX_REA_N_F1	UNITS	CDF_CHAR	
SX_REA_N_F1	VAR_TYPE	CDF_CHAR	data
SX_REA_N_F1	SCALETYP	CDF_CHAR	linear
SX_REA_N_F1	VAR_NOTES	CDF_CHAR	
SX_REA_N_F1	DEPEND_0	CDF_CHAR	Epoch_N_F1


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 736

Tab. 4.106 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SX_REA_N_F1	FORMAT	CDF_CHAR	F32.6
SX_REA_N_F2	FIELDNAM	CDF_CHAR	Real part of X Poynting flux (N, F2)
SX_REA_N_F2	CATDESC	CDF_CHAR	Real part of the X component of the Poynting vector in normal mode at F2
SX_REA_N_F2	DISPLAY_TYPE	CDF_CHAR	time_series
SX_REA_N_F2	VALIDMIN	CDF_REAL8	-1.0e+30
SX_REA_N_F2	VALIDMAX	CDF_REAL8	1.0e+30
SX_REA_N_F2	SCALEMIN	CDF_REAL8	-1.0e+30
SX_REA_N_F2	SCALEMAX	CDF_REAL8	1.0e+30
SX_REA_N_F2	FILLVAL	CDF_REAL8	-1.0e+31
SX_REA_N_F2	LABLAXIS	CDF_CHAR	SX_REA_N_F2
SX_REA_N_F2	UNITS	CDF_CHAR	
SX_REA_N_F2	VAR_TYPE	CDF_CHAR	data
SX_REA_N_F2	SCALETYP	CDF_CHAR	linear
SX_REA_N_F2	VAR_NOTES	CDF_CHAR	
SX_REA_N_F2	DEPEND_0	CDF_CHAR	Epoch_N_F2
SX_REA_N_F2	FORMAT	CDF_CHAR	F32.6
SX_REA_B_F0	FIELDNAM	CDF_CHAR	Real part of X Poynting flux (B, F0)
SX_REA_B_F0	CATDESC	CDF_CHAR	Real part of the X component of the Poynting vector in burst mode at F0
SX_REA_B_F0	DISPLAY_TYPE	CDF_CHAR	time_series
SX_REA_B_F0	VALIDMIN	CDF_REAL8	-1.0e+30
SX_REA_B_F0	VALIDMAX	CDF_REAL8	1.0e+30
SX_REA_B_F0	SCALEMIN	CDF_REAL8	-1.0e+30
SX_REA_B_F0	SCALEMAX	CDF_REAL8	1.0e+30
SX_REA_B_F0	FILLVAL	CDF_REAL8	-1.0e+31
SX_REA_B_F0	LABLAXIS	CDF_CHAR	SX_REA_B_F0
SX_REA_B_F0	UNITS	CDF_CHAR	
SX_REA_B_F0	VAR_TYPE	CDF_CHAR	data
SX_REA_B_F0	SCALETYP	CDF_CHAR	linear
SX_REA_B_F0	VAR_NOTES	CDF_CHAR	
SX_REA_B_F0	DEPEND_0	CDF_CHAR	Epoch_B_F0
SX_REA_B_F0	FORMAT	CDF_CHAR	F32.6
SX_REA_B_F1	FIELDNAM	CDF_CHAR	Real part of X Poynting flux (B, F1)

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 737

Tab. 4.106 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SX_REA_B_F1	CATDESC	CDF_CHAR	Real part of the X component of the Poynting vector in burst mode at F1
SX_REA_B_F1	DISPLAY_TYPE	CDF_CHAR	time_series
SX_REA_B_F1	VALIDMIN	CDF_REAL8	-1.0e+30
SX_REA_B_F1	VALIDMAX	CDF_REAL8	1.0e+30
SX_REA_B_F1	SCALEMIN	CDF_REAL8	-1.0e+30
SX_REA_B_F1	SCALEMAX	CDF_REAL8	1.0e+30
SX_REA_B_F1	FILLVAL	CDF_REAL8	-1.0e+31
SX_REA_B_F1	LABLAXIS	CDF_CHAR	SX_REA_B_F1
SX_REA_B_F1	UNITS	CDF_CHAR	
SX_REA_B_F1	VAR_TYPE	CDF_CHAR	data
SX_REA_B_F1	SCALETYP	CDF_CHAR	linear
SX_REA_B_F1	VAR_NOTES	CDF_CHAR	
SX_REA_B_F1	DEPEND_0	CDF_CHAR	Epoch_B_F1
SX_REA_B_F1	FORMAT	CDF_CHAR	F32.6
SX_ARG_N_F0	FIELDNAM	CDF_CHAR	Arg bit of X Poynting flux (N, F0)
SX_ARG_N_F0	CATDESC	CDF_CHAR	Argument bit = 0 if $ \text{ARG}(\text{SX}) < \pi/4$ or $3\pi/4 < \text{ARG}(\text{SX}) < \pi$, bit arg = 1 elsewhere in normal mode at F0
SX_ARG_N_F0	DISPLAY_TYPE	CDF_CHAR	time_series
SX_ARG_N_F0	VALIDMIN	CDF_UINT1	255
SX_ARG_N_F0	VALIDMAX	CDF_UINT1	1
SX_ARG_N_F0	SCALEMIN	CDF_UINT1	255
SX_ARG_N_F0	SCALEMAX	CDF_UINT1	1
SX_ARG_N_F0	FILLVAL	CDF_UINT1	255
SX_ARG_N_F0	LABLAXIS	CDF_CHAR	SX_ARG_N_F0
SX_ARG_N_F0	UNITS	CDF_CHAR	
SX_ARG_N_F0	VAR_TYPE	CDF_CHAR	data
SX_ARG_N_F0	SCALETYP	CDF_CHAR	linear
SX_ARG_N_F0	VAR_NOTES	CDF_CHAR	
SX_ARG_N_F0	DEPEND_0	CDF_CHAR	Epoch_N_F0
SX_ARG_N_F0	FORMAT	CDF_CHAR	I3.3
SX_ARG_N_F1	FIELDNAM	CDF_CHAR	Arg bit of X Poynting flux (N, F1)

continues on next page



RPW Data Product
Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **738**

Tab. 4.106 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SX_ARG_N_F1	CATDESC	CDF_CHAR	Argument bit = 0 if $ \text{ARG}(\text{SX}) < \pi/4$ or $3\pi/4 < \text{ARG}(\text{SX}) < \pi$, bit arg = 1 elsewhere in normal mode at F1
SX_ARG_N_F1	DISPLAY_TYPE	CDF_CHAR	time_series
SX_ARG_N_F1	VALIDMIN	CDF_UINT1	255
SX_ARG_N_F1	VALIDMAX	CDF_UINT1	1
SX_ARG_N_F1	SCALEMIN	CDF_UINT1	255
SX_ARG_N_F1	SCALEMAX	CDF_UINT1	1
SX_ARG_N_F1	FILLVAL	CDF_UINT1	255
SX_ARG_N_F1	LABLAXIS	CDF_CHAR	SX_ARG_N_F1
SX_ARG_N_F1	UNITS	CDF_CHAR	
SX_ARG_N_F1	VAR_TYPE	CDF_CHAR	data
SX_ARG_N_F1	SCALETYP	CDF_CHAR	linear
SX_ARG_N_F1	VAR_NOTES	CDF_CHAR	
SX_ARG_N_F1	DEPEND_0	CDF_CHAR	Epoch_N_F1
SX_ARG_N_F1	FORMAT	CDF_CHAR	I3.3
SX_ARG_N_F2	FIELDNAM	CDF_CHAR	Arg bit of X Poynting flux (N, F2)
SX_ARG_N_F2	CATDESC	CDF_CHAR	Argument bit = 0 if $ \text{ARG}(\text{SX}) < \pi/4$ or $3\pi/4 < \text{ARG}(\text{SX}) < \pi$, bit arg = 1 elsewhere in normal mode at F2
SX_ARG_N_F2	DISPLAY_TYPE	CDF_CHAR	time_series
SX_ARG_N_F2	VALIDMIN	CDF_UINT1	255
SX_ARG_N_F2	VALIDMAX	CDF_UINT1	1
SX_ARG_N_F2	SCALEMIN	CDF_UINT1	255
SX_ARG_N_F2	SCALEMAX	CDF_UINT1	1
SX_ARG_N_F2	FILLVAL	CDF_UINT1	255
SX_ARG_N_F2	LABLAXIS	CDF_CHAR	SX_ARG_N_F2
SX_ARG_N_F2	UNITS	CDF_CHAR	
SX_ARG_N_F2	VAR_TYPE	CDF_CHAR	data
SX_ARG_N_F2	SCALETYP	CDF_CHAR	linear
SX_ARG_N_F2	VAR_NOTES	CDF_CHAR	
SX_ARG_N_F2	DEPEND_0	CDF_CHAR	Epoch_N_F2
SX_ARG_N_F2	FORMAT	CDF_CHAR	I3.3
SX_ARG_B_F0	FIELDNAM	CDF_CHAR	Arg bit of X Poynting flux (B, F0)


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 739

Tab. 4.106 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SX_ARG_B_F0	CATDESC	CDF_CHAR	Argument bit = 0 if $ \text{ARG}(\text{SX}) < \pi/4$ or $3\pi/4 < \text{ARG}(\text{SX}) < \pi$, bit arg = 1 elsewhere in burst mode at F0
SX_ARG_B_F0	DISPLAY_TYPE	CDF_CHAR	time_series
SX_ARG_B_F0	VALIDMIN	CDF_UINT1	255
SX_ARG_B_F0	VALIDMAX	CDF_UINT1	1
SX_ARG_B_F0	SCALEMIN	CDF_UINT1	255
SX_ARG_B_F0	SCALEMAX	CDF_UINT1	1
SX_ARG_B_F0	FILLVAL	CDF_UINT1	255
SX_ARG_B_F0	LABLAXIS	CDF_CHAR	SX_ARG_B_F0
SX_ARG_B_F0	UNITS	CDF_CHAR	
SX_ARG_B_F0	VAR_TYPE	CDF_CHAR	data
SX_ARG_B_F0	SCALETYP	CDF_CHAR	linear
SX_ARG_B_F0	VAR_NOTES	CDF_CHAR	
SX_ARG_B_F0	DEPEND_0	CDF_CHAR	Epoch_B_F0
SX_ARG_B_F0	FORMAT	CDF_CHAR	I3.3
SX_ARG_B_F1	FIELDNAM	CDF_CHAR	Arg bit of X Poynting flux (B, F1)
SX_ARG_B_F1	CATDESC	CDF_CHAR	Argument bit = 0 if $ \text{ARG}(\text{SX}) < \pi/4$ or $3\pi/4 < \text{ARG}(\text{SX}) < \pi$, bit arg = 1 elsewhere in burst mode at F1
SX_ARG_B_F1	DISPLAY_TYPE	CDF_CHAR	time_series
SX_ARG_B_F1	VALIDMIN	CDF_UINT1	255
SX_ARG_B_F1	VALIDMAX	CDF_UINT1	1
SX_ARG_B_F1	SCALEMIN	CDF_UINT1	255
SX_ARG_B_F1	SCALEMAX	CDF_UINT1	1
SX_ARG_B_F1	FILLVAL	CDF_UINT1	255
SX_ARG_B_F1	LABLAXIS	CDF_CHAR	SX_ARG_B_F1
SX_ARG_B_F1	UNITS	CDF_CHAR	
SX_ARG_B_F1	VAR_TYPE	CDF_CHAR	data
SX_ARG_B_F1	SCALETYP	CDF_CHAR	linear
SX_ARG_B_F1	VAR_NOTES	CDF_CHAR	
SX_ARG_B_F1	DEPEND_0	CDF_CHAR	Epoch_B_F1
SX_ARG_B_F1	FORMAT	CDF_CHAR	I3.3
VPHI_REA_N_F0	FIELDNAM	CDF_CHAR	Real part of phase velocity estimator (N, F0)


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 740

Tab. 4.106 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
VPHI_REA_N_F0	CATDESC	CDF_CHAR	Phase velocity estimated from the X projection of Maxwell-Faraday equation in normal mode at F0
VPHI_REA_N_F0	DISPLAY_TYPE	CDF_CHAR	time_series
VPHI_REA_N_F0	VALIDMIN	CDF_REAL8	-1.0e+30
VPHI_REA_N_F0	VALIDMAX	CDF_REAL8	1.0e+30
VPHI_REA_N_F0	SCALEMIN	CDF_REAL8	-1.0e+30
VPHI_REA_N_F0	SCALEMAX	CDF_REAL8	1.0e+30
VPHI_REA_N_F0	FILLVAL	CDF_REAL8	-1.0e+31
VPHI_REA_N_F0	LABLAXIS	CDF_CHAR	VPHI_REA_N_F0
VPHI_REA_N_F0	UNITS	CDF_CHAR	
VPHI_REA_N_F0	VAR_TYPE	CDF_CHAR	data
VPHI_REA_N_F0	SCALETYP	CDF_CHAR	linear
VPHI_REA_N_F0	VAR_NOTES	CDF_CHAR	
VPHI_REA_N_F0	DEPEND_0	CDF_CHAR	Epoch_N_F0
VPHI_REA_N_F0	FORMAT	CDF_CHAR	F32.6
VPHI_REA_N_F1	FIELDNAM	CDF_CHAR	Phase speed from the EM data stream (N, F1)
VPHI_REA_N_F1	CATDESC	CDF_CHAR	Phase speed from the EM data stream in normal mode at F1
VPHI_REA_N_F1	DISPLAY_TYPE	CDF_CHAR	time_series
VPHI_REA_N_F1	VALIDMIN	CDF_REAL8	-1.0e+30
VPHI_REA_N_F1	VALIDMAX	CDF_REAL8	1.0e+30
VPHI_REA_N_F1	SCALEMIN	CDF_REAL8	-1.0e+30
VPHI_REA_N_F1	SCALEMAX	CDF_REAL8	1.0e+30
VPHI_REA_N_F1	FILLVAL	CDF_REAL8	-1.0e+31
VPHI_REA_N_F1	LABLAXIS	CDF_CHAR	VPHI_REA_N_F1
VPHI_REA_N_F1	UNITS	CDF_CHAR	
VPHI_REA_N_F1	VAR_TYPE	CDF_CHAR	data
VPHI_REA_N_F1	SCALETYP	CDF_CHAR	linear
VPHI_REA_N_F1	VAR_NOTES	CDF_CHAR	
VPHI_REA_N_F1	DEPEND_0	CDF_CHAR	Epoch_N_F1
VPHI_REA_N_F1	FORMAT	CDF_CHAR	F32.6
VPHI_REA_N_F2	FIELDNAM	CDF_CHAR	Phase speed from the EM data stream (N, F2)
VPHI_REA_N_F2	CATDESC	CDF_CHAR	Phase speed from the EM data stream in normal mode at F2
VPHI_REA_N_F2	DISPLAY_TYPE	CDF_CHAR	time_series
VPHI_REA_N_F2	VALIDMIN	CDF_REAL8	-1.0e+30
VPHI_REA_N_F2	VALIDMAX	CDF_REAL8	1.0e+30


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 741

Tab. 4.106 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
VPHI_REA_N_F2	SCALEMIN	CDF_REAL8	-1.0e+30
VPHI_REA_N_F2	SCALEMAX	CDF_REAL8	1.0e+30
VPHI_REA_N_F2	FILLVAL	CDF_REAL8	-1.0e+31
VPHI_REA_N_F2	LABLAXIS	CDF_CHAR	VPHI_REA_N_F2
VPHI_REA_N_F2	UNITS	CDF_CHAR	
VPHI_REA_N_F2	VAR_TYPE	CDF_CHAR	data
VPHI_REA_N_F2	SCALETYP	CDF_CHAR	linear
VPHI_REA_N_F2	VAR_NOTES	CDF_CHAR	
VPHI_REA_N_F2	DEPEND_0	CDF_CHAR	Epoch_N_F2
VPHI_REA_N_F2	FORMAT	CDF_CHAR	F32.6
VPHI_REA_B_F0	FIELDNAM	CDF_CHAR	Phase speed from the EM data stream (B, F0)
VPHI_REA_B_F0	CATDESC	CDF_CHAR	Phase speed from the EM data stream in burst mode at F0
VPHI_REA_B_F0	DISPLAY_TYPE	CDF_CHAR	time_series
VPHI_REA_B_F0	VALIDMIN	CDF_REAL8	-1.0e+30
VPHI_REA_B_F0	VALIDMAX	CDF_REAL8	1.0e+30
VPHI_REA_B_F0	SCALEMIN	CDF_REAL8	-1.0e+30
VPHI_REA_B_F0	SCALEMAX	CDF_REAL8	1.0e+30
VPHI_REA_B_F0	FILLVAL	CDF_REAL8	-1.0e+31
VPHI_REA_B_F0	LABLAXIS	CDF_CHAR	VPHI_REA_B_F0
VPHI_REA_B_F0	UNITS	CDF_CHAR	
VPHI_REA_B_F0	VAR_TYPE	CDF_CHAR	data
VPHI_REA_B_F0	SCALETYP	CDF_CHAR	linear
VPHI_REA_B_F0	VAR_NOTES	CDF_CHAR	
VPHI_REA_B_F0	DEPEND_0	CDF_CHAR	Epoch_B_F0
VPHI_REA_B_F0	FORMAT	CDF_CHAR	F32.6
VPHI_REA_B_F1	FIELDNAM	CDF_CHAR	Phase speed from the EM data stream (B, F1)
VPHI_REA_B_F1	CATDESC	CDF_CHAR	Phase speed from the EM data stream in burst mode at F1
VPHI_REA_B_F1	DISPLAY_TYPE	CDF_CHAR	time_series
VPHI_REA_B_F1	VALIDMIN	CDF_REAL8	-1.0e+30
VPHI_REA_B_F1	VALIDMAX	CDF_REAL8	1.0e+30
VPHI_REA_B_F1	SCALEMIN	CDF_REAL8	-1.0e+30
VPHI_REA_B_F1	SCALEMAX	CDF_REAL8	1.0e+30
VPHI_REA_B_F1	FILLVAL	CDF_REAL8	-1.0e+31
VPHI_REA_B_F1	LABLAXIS	CDF_CHAR	VPHI_REA_B_F1
VPHI_REA_B_F1	UNITS	CDF_CHAR	
VPHI_REA_B_F1	VAR_TYPE	CDF_CHAR	data
VPHI_REA_B_F1	SCALETYP	CDF_CHAR	linear


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 742

Tab. 4.106 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
VPHI_REA_B_F1	VAR_NOTES	CDF_CHAR	
VPHI_REA_B_F1	DEPEND_0	CDF_CHAR	Epoch_B_F1
VPHI_REA_B_F1	FORMAT	CDF_CHAR	F32.6
VPHI_ARG_N_F0	FIELDNAM	CDF_CHAR	Arg bit of phase velocity estimator (N, F0)
VPHI_ARG_N_F0	CATDESC	CDF_CHAR	Argument bit = 0 if $ \text{ARG}(\text{VPHI}) < \pi/4$ or $3\pi/4 < \text{ARG}(\text{VPHI}) < \pi$, bit arg = 1 elsewhere in normal mode at F0
VPHI_ARG_N_F0	DISPLAY_TYPE	CDF_CHAR	time_series
VPHI_ARG_N_F0	VALIDMIN	CDF_UINT1	1
VPHI_ARG_N_F0	VALIDMAX	CDF_UINT1	254
VPHI_ARG_N_F0	SCALEMIN	CDF_UINT1	1
VPHI_ARG_N_F0	SCALEMAX	CDF_UINT1	254
VPHI_ARG_N_F0	FILLVAL	CDF_UINT1	255
VPHI_ARG_N_F0	LABLAXIS	CDF_CHAR	VPHI_ARG_N_F0
VPHI_ARG_N_F0	UNITS	CDF_CHAR	
VPHI_ARG_N_F0	VAR_TYPE	CDF_CHAR	data
VPHI_ARG_N_F0	SCALETYP	CDF_CHAR	linear
VPHI_ARG_N_F0	VAR_NOTES	CDF_CHAR	
VPHI_ARG_N_F0	DEPEND_0	CDF_CHAR	Epoch_N_F0
VPHI_ARG_N_F0	FORMAT	CDF_CHAR	I3.3
VPHI_ARG_N_F1	FIELDNAM	CDF_CHAR	Argument of VPHI (N, F1)
VPHI_ARG_N_F1	CATDESC	CDF_CHAR	Argument of VPHI in normal mode at F1
VPHI_ARG_N_F1	DISPLAY_TYPE	CDF_CHAR	time_series
VPHI_ARG_N_F1	VALIDMIN	CDF_UINT1	1
VPHI_ARG_N_F1	VALIDMAX	CDF_UINT1	254
VPHI_ARG_N_F1	SCALEMIN	CDF_UINT1	1
VPHI_ARG_N_F1	SCALEMAX	CDF_UINT1	254
VPHI_ARG_N_F1	FILLVAL	CDF_UINT1	255
VPHI_ARG_N_F1	LABLAXIS	CDF_CHAR	VPHI_ARG_N_F1
VPHI_ARG_N_F1	UNITS	CDF_CHAR	
VPHI_ARG_N_F1	VAR_TYPE	CDF_CHAR	data
VPHI_ARG_N_F1	SCALETYP	CDF_CHAR	linear
VPHI_ARG_N_F1	VAR_NOTES	CDF_CHAR	
VPHI_ARG_N_F1	DEPEND_0	CDF_CHAR	Epoch_N_F1
VPHI_ARG_N_F1	FORMAT	CDF_CHAR	I3.3
VPHI_ARG_N_F2	FIELDNAM	CDF_CHAR	Argument of VPHI (N, F2)


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 743

Tab. 4.106 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
VPHI_ARG_N_F2	CATDESC	CDF_CHAR	Argument of VPHI in normal mode at F2
VPHI_ARG_N_F2	DISPLAY_TYPE	CDF_CHAR	time_series
VPHI_ARG_N_F2	VALIDMIN	CDF_UINT1	1
VPHI_ARG_N_F2	VALIDMAX	CDF_UINT1	254
VPHI_ARG_N_F2	SCALEMIN	CDF_UINT1	1
VPHI_ARG_N_F2	SCALEMAX	CDF_UINT1	254
VPHI_ARG_N_F2	FILLVAL	CDF_UINT1	255
VPHI_ARG_N_F2	LABLAXIS	CDF_CHAR	VPHI_ARG_N_F2
VPHI_ARG_N_F2	UNITS	CDF_CHAR	
VPHI_ARG_N_F2	VAR_TYPE	CDF_CHAR	data
VPHI_ARG_N_F2	SCALETYP	CDF_CHAR	linear
VPHI_ARG_N_F2	VAR_NOTES	CDF_CHAR	
VPHI_ARG_N_F2	DEPEND_0	CDF_CHAR	Epoch_N_F2
VPHI_ARG_N_F2	FORMAT	CDF_CHAR	I3.3
VPHI_ARG_B_F0	FIELDNAM	CDF_CHAR	Argument of VPHI (N, F0)
VPHI_ARG_B_F0	CATDESC	CDF_CHAR	Argument of VPHI in burst mode at F0
VPHI_ARG_B_F0	DISPLAY_TYPE	CDF_CHAR	time_series
VPHI_ARG_B_F0	VALIDMIN	CDF_UINT1	1
VPHI_ARG_B_F0	VALIDMAX	CDF_UINT1	254
VPHI_ARG_B_F0	SCALEMIN	CDF_UINT1	1
VPHI_ARG_B_F0	SCALEMAX	CDF_UINT1	254
VPHI_ARG_B_F0	FILLVAL	CDF_UINT1	255
VPHI_ARG_B_F0	LABLAXIS	CDF_CHAR	VPHI_ARG_B_F0
VPHI_ARG_B_F0	UNITS	CDF_CHAR	
VPHI_ARG_B_F0	VAR_TYPE	CDF_CHAR	data
VPHI_ARG_B_F0	SCALETYP	CDF_CHAR	linear
VPHI_ARG_B_F0	VAR_NOTES	CDF_CHAR	
VPHI_ARG_B_F0	DEPEND_0	CDF_CHAR	Epoch_B_F0
VPHI_ARG_B_F0	FORMAT	CDF_CHAR	I3.3
VPHI_ARG_B_F1	FIELDNAM	CDF_CHAR	Argument of VPHI (N, F1)
VPHI_ARG_B_F1	CATDESC	CDF_CHAR	Argument of VPHI in burst mode at F1
VPHI_ARG_B_F1	DISPLAY_TYPE	CDF_CHAR	time_series
VPHI_ARG_B_F1	VALIDMIN	CDF_UINT1	1
VPHI_ARG_B_F1	VALIDMAX	CDF_UINT1	254
VPHI_ARG_B_F1	SCALEMIN	CDF_UINT1	1
VPHI_ARG_B_F1	SCALEMAX	CDF_UINT1	254
VPHI_ARG_B_F1	FILLVAL	CDF_UINT1	255
VPHI_ARG_B_F1	LABLAXIS	CDF_CHAR	VPHI_ARG_B_F1

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 744


Tab. 4.106 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
VPHI_ARG_B_F1	UNITS	CDF_CHAR	
VPHI_ARG_B_F1	VAR_TYPE	CDF_CHAR	data
VPHI_ARG_B_F1	SCALETYP	CDF_CHAR	linear
VPHI_ARG_B_F1	VAR_NOTES	CDF_CHAR	
VPHI_ARG_B_F1	DEPEND_0	CDF_CHAR	Epoch_B_F1
VPHI_ARG_B_F1	FORMAT	CDF_CHAR	I3.3
SYNCHRO_FLAG	FIELDNAM	CDF_CHAR	SYNCHRO_FLAG
SYNCHRO_FLAG	CATDESC	CDF_CHAR	Time synchronisation flag
SYNCHRO_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
SYNCHRO_FLAG	VALIDMIN	CDF_UINT1	0
SYNCHRO_FLAG	VALIDMAX	CDF_UINT1	1
SYNCHRO_FLAG	SCALEMIN	CDF_UINT1	0
SYNCHRO_FLAG	SCALEMAX	CDF_UINT1	1
SYNCHRO_FLAG	FILLVAL	CDF_UINT1	255
SYNCHRO_FLAG	LABLAXIS	CDF_CHAR	time sync. flag
SYNCHRO_FLAG	UNITS	CDF_CHAR	
SYNCHRO_FLAG	VAR_TYPE	CDF_CHAR	support_data
SYNCHRO_FLAG	SCALETYP	CDF_CHAR	linear
SYNCHRO_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate if the local time is synchronized with the RPW DPU clock or not. Possible values: synchronized=0, not synchronized=1. This flag is extracted from ACQUISITION_TIME in L0 packets, it is the MSB of the CUC time.
SYNCHRO_FLAG	DEPEND_0	CDF_CHAR	Epoch
SYNCHRO_FLAG	FORMAT	CDF_CHAR	I3.3

4.1.3.22.6 Non-Record-Variant (NRV) Variables

4.1.3.23 SOLO_L2_RPW-LFR-SURV-BP2 data product

The “SOLO_L2_RPW-LFR-SURV-BP2” data product contains the calibrated LFR receiver Basic Parameters 2 survey data. The “SOLO_L2_RPW-LFR-SURV-BP2” data are written in CDF format files. There is a single file per day, generated from data in the corresponding SOLO_L1_RPW-LFR-SURV-BP2 parent file.

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 745

4.1.3.23.1 Filename

solo_L2_rpw-lfr-surv-bp2_[YYYYMMDD]_V[version].cdf

4.1.3.23.2 Expected cadence and data volume


Nominal cadence: 1 file per day

Expected data volume: 100 MB per file

4.1.3.23.3 Global Attributes

Attribute Name	Entry Number	Data Type	Value
Project	1	CDF_CHAR	SOLO>Solar Orbiter
Source_name	1	CDF_CHAR	SOLO>Solar Orbiter
Provider	1	CDF_CHAR	LESIA (Meudon, France)
Discipline	1	CDF_CHAR	Space Physics>Interplanetary Studies
Data_type	1	CDF_CHAR	H0>High Resolution data
Descriptor	1	CDF_CHAR	RPW-LFR-SURV-BP2> RPW Low Frequency Receiver Basic parameters set 2 data in Survey mode
Data_version	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Skeleton_version	1	CDF_CHAR	08
Parent_version	1	CDF_CHAR	
File_naming_convention	1	CDF_CHAR	<Source_name>_<LEVEL>_<Descriptor>_<Date>
PI_name	1	CDF_CHAR	M.Maksimovic
PI_affiliation	1	CDF_CHAR	LESIA, Observatoire de Paris-CNRS
TEXT	1	CDF_CHAR	This file contains RPW LFR level 2R Survey BP2 data of the current test.
Instrument_type	1	CDF_CHAR	Radio and Plasma Waves (space)
Mission_group	1	CDF_CHAR	Solar Orbiter
Logical_source	1	CDF_CHAR	solo_L2_rpw-lfr-surv-bp2
Logical_file_id	1	CDF_CHAR	
Logical_source_description	1	CDF_CHAR	Solar Orbiter Radio/Plasma Wave, LFR L2 parameters


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 746

Tab. 4.107 – continued from previous page


Attribute Name	Entry Number	Data Type	Value
Rules_of_use	1	CDF_CHAR	Data provided are publicly available. If used in presentations or publications, please acknowledge Solar Orbiter/RPW Investigation (M. Maksimovic, PIs). Please read carefully the caveats attached to the data. For reporting purposes, we request bibliography information for any publication, etc., using these data. Please send information on the use of this data to: M. Maksimovic (PI).
Generated_by	1	CDF_CHAR	RPW Operations Centre located at LESIA (Meudon, France)
Generation_date	1	CDF_CHAR	
Acknowledgement	1	CDF_CHAR	The authors are pleased to acknowledge the Solar Orbiter/RPW Investigation (M. Maksimovic, PIs) for access to data.
SKELETON_MODS	1	CDF_CHAR	
SKELETON_MODS	2	CDF_CHAR	V04: Update for solo data definition, X. BONNIN (CNRS-LESIA), April 2019
SKELETON_MODS	3	CDF_CHAR	V05: Update to compliant with SOL-SGS-TN-0009 Issue 2, Rev 4 - X.Bonnin, 09/2019
SKELETON_MODS	4	CDF_CHAR	V06: March 2020 : Delete Test_* g.attrs - X.Bonnin (CNRS, LESIA)
SKELETON_MODS	5	CDF_CHAR	V07: April 2020 : Delete Acquisition_time* zvariables – R.Piberne (X, LPP)
SKELETON_MODS	6	CDF_CHAR	V08: Jan. 2021 : Fix inconsistencies against the ISTEP CDF guidelines, X.Bonnin (CNRS-LESIA)
LINK_TEXT	1	CDF_CHAR	RPW Web site at LESIA
LINK_TITLE	1	CDF_CHAR	RPW Web site
HTTP_LINK	1	CDF_CHAR	https://rpw.lesia.obspm.fr
ACCESS_URL	1	CDF_CHAR	
TEXT_supplement_1	1	CDF_CHAR	
Software_name	1	CDF_CHAR	
Parents	1	CDF_CHAR	
Validate	1	CDF_CHAR	
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00006-LES (1.3)

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 747

Tab. 4.107 – continued from previous page


Attribute Name	Entry Number	Data Type	Value
ROC_REFERENCE	1	CDF_CHAR	ROC-TST-GSE-SPC-00017-LES_Issue02_Rev0(Data_format_and_metadata_data_ground_Data).pdf
SKELETON_PARENT	1	CDF_CHAR	SOLO_L2_RPW-LFR-SURV-BP2_V08.cdf
ACCESS_FORMAT	1	CDF_CHAR	CDF
TIME_MIN	1	CDF_CHAR	
TIME_MAX	1	CDF_CHAR	
SPECTRAL_RANGE_MIN	1	CDF_CHAR	
SPECTRAL_RANGE_MAX	1	CDF_CHAR	
File_ID	1	CDF_CHAR	
CAVEATS	1	CDF_CHAR	
CAL_ENTITY_NAME	1	CDF_CHAR	
CAL_ENTITY_AFFILIATION	1	CDF_CHAR	
CAL_EQUIPMENT	1	CDF_CHAR	
CALIBRATION_TABLE	1	CDF_CHAR	
CALIBRATION_VERSION	1	CDF_CHAR	
Datetime	1	CDF_CHAR	
Free_field	1	CDF_CHAR	
Job_ID	1	CDF_CHAR	
LEVEL	1	CDF_CHAR	L2>Level 2 data processing
SOOP_TYPE	1	CDF_CHAR	
Data_product	1	CDF_CHAR	SURV-BP2>SURV-BP2
TARGET_NAME	1	CDF_CHAR	Sun
TARGET_CLASS	1	CDF_CHAR	Star
TARGET_REGION	1	CDF_CHAR	Solar Wind
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009 (2.4)
Pipeline_name	1	CDF_CHAR	
Pipeline_version	1	CDF_CHAR	
Dataset_ID	1	CDF_CHAR	SOLO_L2_RPW-LFR-SURV-BP2
OBS_ID	1	CDF_CHAR	
MODS	1	CDF_CHAR	

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 748

4.1.3.23.4 zVariables

Variable Name	Data Type	Number El- ements	Dims	Sizes
Epoch	CDF_TIME_TT2000	1	0	
Epoch_N_F0	CDF_TIME_TT2000	1	0	
Epoch_N_F1	CDF_TIME_TT2000	1	0	
Epoch_N_F2	CDF_TIME_TT2000	1	0	
Epoch_B_F0	CDF_TIME_TT2000	1	0	
Epoch_B_F1	CDF_TIME_TT2000	1	0	
QUALITY_FLAG	CDF_UINT1	1	0	
QUALITY_BITMASK	CDF_UINT1	1	0	
COMMON_BIA_STATUS_FLAG	CDF_UINT1	1	0	
SURVEY_MODE	CDF_UINT1	1	0	
FREQ	CDF_UINT1	1	0	
N_F0	CDF_REAL4	1	1	11
N_F1	CDF_REAL4	1	1	13
N_F2	CDF_REAL4	1	1	12
B_F0	CDF_REAL4	1	1	22
B_F1	CDF_REAL4	1	1	26
BIAS_MODE_MUX_SET	CDF_UINT1	1	0	
BIAS_MODE_HV_ENABLED	CDF_UINT1	1	0	
BIAS_MODE_BIAS1_ENABLED	CDF_UINT1	1	0	
BIAS_MODE_BIAS2_ENABLED	CDF_UINT1	1	0	
BIAS_MODE_BIAS3_ENABLED	CDF_UINT1	1	0	
BIAS_ON_OFF	CDF_UINT1	1	0	
BW	CDF_UINT1	1	0	
SP0	CDF_UINT1	1	0	
SP1	CDF_UINT1	1	0	
R0	CDF_UINT1	1	0	
R1	CDF_UINT1	1	0	
R2	CDF_UINT1	1	0	
BP2_CNT	CDF_UINT1	1	0	
BP2_RE_N_F0	CDF_REAL8	1	3	11 5 5
BP2_RE_N_F1	CDF_REAL8	1	3	13 5 5
BP2_RE_N_F2	CDF_REAL8	1	3	12 5 5
BP2_IM_N_F0	CDF_REAL8	1	3	11 5 5
BP2_IM_N_F1	CDF_REAL8	1	3	13 5 5
BP2_IM_N_F2	CDF_REAL8	1	3	12 5 5
BP2_RE_B_F0	CDF_REAL8	1	3	22 5 5
BP2_RE_B_F1	CDF_REAL8	1	3	26 5 5
BP2_IM_B_F0	CDF_REAL8	1	3	22 5 5

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 749

Tab. 4.108 – continued from previous page

Variable Name	Data Type	Number Elements	El-Dims	Sizes
BP2_IM_B_F1	CDF_REAL8	1	3	26 5 5
SYNCHRO_FLAG	CDF_UINT1	1	0	

4.1.3.23.5 Variable attributes

Variable Name	Attribute Name	Data Type	Value
Epoch	FIELDNAM	CDF_CHAR	Epoch
Epoch	CATDESC	CDF_CHAR	Default time
Epoch	DISPLAY_TYPE	CDF_CHAR	time_series
Epoch	VALIDMIN	CDF_TIME_TT2000	2000-01-01T00:00:00.000000000
Epoch	VALIDMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch	SCALEMIN	CDF_TIME_TT2000	1990-01-01T00:00:00.000000000
Epoch	SCALEMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch	LABLAXIS	CDF_CHAR	Epoch
Epoch	UNITS	CDF_CHAR	ns
Epoch	VAR_TYPE	CDF_CHAR	support_data
Epoch	SCALETYP	CDF_CHAR	linear
Epoch	MONOTON	CDF_CHAR	INCREASE
Epoch	TIME_BASE	CDF_CHAR	J2000
Epoch	TIME_SCALE	CDF_CHAR	Terrestrial Time
Epoch	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
Epoch	Resolution	CDF_CHAR	15258
Epoch	Bin_location	CDF_CHAR	0.5
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file.
Epoch_N_F0	FIELDNAM	CDF_CHAR	Epoch_N_F0
Epoch_N_F0	CATDESC	CDF_CHAR	Time for F0 frequencies in normal mode
Epoch_N_F0	DISPLAY_TYPE	CDF_CHAR	time_series
Epoch_N_F0	VALIDMIN	CDF_TIME_TT2000	2000-01-01T00:00:00.000000000

continues on next page



**RPW Data Product
Description Document**

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **750**

Tab. 4.109 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
Epoch_N_F0	VALIDMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch_N_F0	SCALEMIN	CDF_TIME_TT2000	1990-01-01T00:00:00.000000000
Epoch_N_F0	SCALEMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch_N_F0	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch_N_F0	LABLAXIS	CDF_CHAR	Epoch_N_F0
Epoch_N_F0	UNITS	CDF_CHAR	ns
Epoch_N_F0	VAR_TYPE	CDF_CHAR	support_data
Epoch_N_F0	SCALETYP	CDF_CHAR	linear
Epoch_N_F0	MONOTON	CDF_CHAR	INCREASE
Epoch_N_F0	TIME_BASE	CDF_CHAR	Spacecraft clock
Epoch_N_F0	TIME_SCALE	CDF_CHAR	Spacecraft clock
Epoch_N_F0	REFERENCE_POSITION	CDF_CHAR	MEB GSE
Epoch_N_F0	Resolution	CDF_CHAR	15258
Epoch_N_F0	Bin_location	CDF_CHAR	0.5
Epoch_N_F0	VAR_NOTES	CDF_CHAR	Time extracted from epoch.
Epoch_N_F1	FIELDNAM	CDF_CHAR	Epoch_N_F1
Epoch_N_F1	CATDESC	CDF_CHAR	Time for F1 frequencies in normal mode
Epoch_N_F1	DISPLAY_TYPE	CDF_CHAR	time_series
Epoch_N_F1	VALIDMIN	CDF_TIME_TT2000	2000-01-01T00:00:00.000000000
Epoch_N_F1	VALIDMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch_N_F1	SCALEMIN	CDF_TIME_TT2000	1990-01-01T00:00:00.000000000
Epoch_N_F1	SCALEMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch_N_F1	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch_N_F1	LABLAXIS	CDF_CHAR	Epoch_N_F1
Epoch_N_F1	UNITS	CDF_CHAR	ns
Epoch_N_F1	VAR_TYPE	CDF_CHAR	support_data
Epoch_N_F1	SCALETYP	CDF_CHAR	linear
Epoch_N_F1	MONOTON	CDF_CHAR	INCREASE
Epoch_N_F1	TIME_BASE	CDF_CHAR	Spacecraft clock
Epoch_N_F1	TIME_SCALE	CDF_CHAR	Spacecraft clock
Epoch_N_F1	REFERENCE_POSITION	CDF_CHAR	MEB GSE


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 751

Tab. 4.109 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
Epoch_N_F1	Resolution	CDF_CHAR	15258
Epoch_N_F1	Bin_location	CDF_CHAR	0.5
Epoch_N_F1	VAR_NOTES	CDF_CHAR	Time extracted from epoch.
Epoch_N_F2	FIELDNAM	CDF_CHAR	Epoch_N_F2
Epoch_N_F2	CATDESC	CDF_CHAR	Time for F2 frequencies in normal mode
Epoch_N_F2	DISPLAY_TYPE	CDF_CHAR	time_series
Epoch_N_F2	VALIDMIN	CDF_TIME_TT2000	2000-01-01T00:00:00.000000000
Epoch_N_F2	VALIDMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch_N_F2	SCALEMIN	CDF_TIME_TT2000	1990-01-01T00:00:00.000000000
Epoch_N_F2	SCALEMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch_N_F2	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch_N_F2	LABLAXIS	CDF_CHAR	Epoch_N_F2
Epoch_N_F2	UNITS	CDF_CHAR	ns
Epoch_N_F2	VAR_TYPE	CDF_CHAR	support_data
Epoch_N_F2	SCALETYP	CDF_CHAR	linear
Epoch_N_F2	MONOTON	CDF_CHAR	INCREASE
Epoch_N_F2	TIME_BASE	CDF_CHAR	Spacecraft clock
Epoch_N_F2	TIME_SCALE	CDF_CHAR	Spacecraft clock
Epoch_N_F2	REFERENCE_POSITION	CDF_CHAR	MEB GSE
Epoch_N_F2	Resolution	CDF_CHAR	15258
Epoch_N_F2	Bin_location	CDF_CHAR	0.5
Epoch_N_F2	VAR_NOTES	CDF_CHAR	Time extracted from epoch.
Epoch_B_F0	FIELDNAM	CDF_CHAR	Epoch_B_F0
Epoch_B_F0	CATDESC	CDF_CHAR	Time for F0 frequencies in burst mode
Epoch_B_F0	DISPLAY_TYPE	CDF_CHAR	time_series
Epoch_B_F0	VALIDMIN	CDF_TIME_TT2000	2000-01-01T00:00:00.000000000
Epoch_B_F0	VALIDMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch_B_F0	SCALEMIN	CDF_TIME_TT2000	1990-01-01T00:00:00.000000000
Epoch_B_F0	SCALEMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000

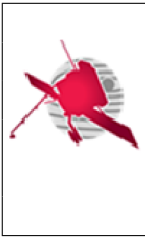
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	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 752

Tab. 4.109 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
Epoch_B_F0	FILLVAL	CDF_TIME_TT2000	1999-12-31T23:59:59.999999999
Epoch_B_F0	LABLAXIS	CDF_CHAR	Epoch_B_F0
Epoch_B_F0	UNITS	CDF_CHAR	ns
Epoch_B_F0	VAR_TYPE	CDF_CHAR	support_data
Epoch_B_F0	SCALETYP	CDF_CHAR	linear
Epoch_B_F0	MONOTON	CDF_CHAR	INCREASE
Epoch_B_F0	TIME_BASE	CDF_CHAR	Spacecraft clock
Epoch_B_F0	TIME_SCALE	CDF_CHAR	Spacecraft clock
Epoch_B_F0	REFERENCE_POSITION	CDF_CHAR	MEB GSE
Epoch_B_F0	Resolution	CDF_CHAR	15258
Epoch_B_F0	Bin_location	CDF_CHAR	0.5
Epoch_B_F0	VAR_NOTES	CDF_CHAR	Time extracted from epoch.
Epoch_B_F1	FIELDNAM	CDF_CHAR	Epoch_B_F1
Epoch_B_F1	CATDESC	CDF_CHAR	Time for F1 frequencies in burst mode
Epoch_B_F1	DISPLAY_TYPE	CDF_CHAR	time_series
Epoch_B_F1	VALIDMIN	CDF_TIME_TT2000	2000-01-01T00:00:00.000000000
Epoch_B_F1	VALIDMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch_B_F1	SCALEMIN	CDF_TIME_TT2000	1990-01-01T00:00:00.000000000
Epoch_B_F1	SCALEMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch_B_F1	FILLVAL	CDF_TIME_TT2000	1999-12-31T23:59:59.999999999
Epoch_B_F1	LABLAXIS	CDF_CHAR	Epoch_B_F1
Epoch_B_F1	UNITS	CDF_CHAR	ns
Epoch_B_F1	VAR_TYPE	CDF_CHAR	support_data
Epoch_B_F1	SCALETYP	CDF_CHAR	linear
Epoch_B_F1	MONOTON	CDF_CHAR	INCREASE
Epoch_B_F1	TIME_BASE	CDF_CHAR	Spacecraft clock
Epoch_B_F1	TIME_SCALE	CDF_CHAR	Spacecraft clock
Epoch_B_F1	REFERENCE_POSITION	CDF_CHAR	MEB GSE
Epoch_B_F1	Resolution	CDF_CHAR	15258
Epoch_B_F1	Bin_location	CDF_CHAR	0.5
Epoch_B_F1	VAR_NOTES	CDF_CHAR	Time extracted from epoch.
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series

continues on next page



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03

Date: March 11, 2021

Page: **753**

Tab. 4.109 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
QUALITY_FLAG	VALIDMIN	CDF_UINT1	0
QUALITY_FLAG	VALIDMAX	CDF_UINT1	4
QUALITY_FLAG	SCALEMIN	CDF_UINT1	0
QUALITY_FLAG	SCALEMAX	CDF_UINT1	4
QUALITY_FLAG	FILLVAL	CDF_UINT1	255
QUALITY_FLAG	LABLAXIS	CDF_CHAR	Quality flag
QUALITY_FLAG	UNITS	CDF_CHAR	
QUALITY_FLAG	VAR_TYPE	CDF_CHAR	support_data
QUALITY_FLAG	SCALETYP	CDF_CHAR	linear
QUALITY_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the quality of the data
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	VALIDMIN	CDF_UINT1	0
QUALITY_BITMASK	VALIDMAX	CDF_UINT1	100
QUALITY_BITMASK	SCALEMIN	CDF_UINT1	0
QUALITY_BITMASK	SCALEMAX	CDF_UINT1	100
QUALITY_BITMASK	FILLVAL	CDF_UINT1	255
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	UNITS	CDF_CHAR	
QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context information or status at the receiver or experiment level
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
QUALITY_BITMASK	FORMAT	CDF_CHAR	I3.3
COMMON_BIA_STATUS_FLAG	FIELDNAM	CDF_CHAR	COMMON_BIA_STATUS_FLAG
COMMON_BIA_STATUS_FLAG	CATDESC	CDF_CHAR	LFR common parameters and BIAS status info relevancy flag
COMMON_BIA_STATUS_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
COMMON_BIA_STATUS_FLAG	VALIDMIN	CDF_UINT1	0
COMMON_BIA_STATUS_FLAG	VALIDMAX	CDF_UINT1	1
COMMON_BIA_STATUS_FLAG	SCALEMIN	CDF_UINT1	0
COMMON_BIA_STATUS_FLAG	SCALEMAX	CDF_UINT1	1
COMMON_BIA_STATUS_FLAG	FILLVAL	CDF_UINT1	255
COMMON_BIA_STATUS_FLAG	LABLAXIS	CDF_CHAR	Common bias status flag

continues on next page



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **754**

Tab. 4.109 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
COMMON_BIA_STATUS_FLAG	UNITS	CDF_CHAR	
COMMON_BIA_STATUS_FLAG	VAR_TYPE	CDF_CHAR	support_data
COMMON_BIA_STATUS_FLAG	SCALETYP	CDF_CHAR	linear
COMMON_BIA_STATUS_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the relevancy of LFR common parameters (SP0/1, R0/1/2, BW) and BIAS STATUS INFO which can be non representative for the first packet following a change in those parameters.
COMMON_BIA_STATUS_FLAG	DEPEND_0	CDF_CHAR	Epoch
COMMON_BIA_STATUS_FLAG	FORMAT	CDF_CHAR	I1.1
SURVEY_MODE	FIELDNAM	CDF_CHAR	SURVEY_MODE
SURVEY_MODE	CATDESC	CDF_CHAR	LFR survey mode
SURVEY_MODE	DISPLAY_TYPE	CDF_CHAR	time_series
SURVEY_MODE	VALIDMIN	CDF_UINT1	0
SURVEY_MODE	VALIDMAX	CDF_UINT1	1
SURVEY_MODE	SCALEMIN	CDF_UINT1	0
SURVEY_MODE	SCALEMAX	CDF_UINT1	1
SURVEY_MODE	FILLVAL	CDF_UINT1	255
SURVEY_MODE	LABLAXIS	CDF_CHAR	LFR survey mode
SURVEY_MODE	UNITS	CDF_CHAR	
SURVEY_MODE	VAR_TYPE	CDF_CHAR	data
SURVEY_MODE	SCALETYP	CDF_CHAR	linear
SURVEY_MODE	VAR_NOTES	CDF_CHAR	Flag to indicate if the receiver in the SURVEY_BURST (=1) or SURVEY_NORMAL (=0) mode
SURVEY_MODE	DEPEND_0	CDF_CHAR	Epoch
SURVEY_MODE	FORMAT	CDF_CHAR	I1.1
FREQ	FIELDNAM	CDF_CHAR	Sampling frequency of the BP2
FREQ	CATDESC	CDF_CHAR	Sampling frequency of the BP2
FREQ	DISPLAY_TYPE	CDF_CHAR	time_series
FREQ	VALIDMIN	CDF_UINT1	0
FREQ	VALIDMAX	CDF_UINT1	2
FREQ	SCALEMIN	CDF_UINT1	0
FREQ	SCALEMAX	CDF_UINT1	2
FREQ	FILLVAL	CDF_UINT1	255
FREQ	LABLAXIS	CDF_CHAR	FREQ


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 755

Tab. 4.109 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
FREQ	UNITS	CDF_CHAR	
FREQ	VAR_TYPE	CDF_CHAR	support_data
FREQ	SCALETYP	CDF_CHAR	linear
FREQ	VAR_NOTES	CDF_CHAR	Index to indicate the sampling frequency of the BP2 : F0, F1 or F2 in order to use only one skeleton for the 3 normal mode bp2 products of ICD.
FREQ	DEPEND_0	CDF_CHAR	Epoch
FREQ	FORMAT	CDF_CHAR	I3.3
N_F0	FIELDNAM	CDF_CHAR	Sampling frequencies at F0 in normal mode
N_F0	CATDESC	CDF_CHAR	Sampling frequency of BP2 at F0 in normal mode
N_F0	DISPLAY_TYPE	CDF_CHAR	time_series
N_F0	VALIDMIN	CDF_REAL4	0.0
N_F0	VALIDMAX	CDF_REAL4	1.0e+30
N_F0	SCALEMIN	CDF_REAL4	0.0
N_F0	SCALEMAX	CDF_REAL4	1.0e+30
N_F0	FILLVAL	CDF_REAL4	-1.0e+31
N_F0	LABLAXIS	CDF_CHAR	BP2 sampling frequency
N_F0	UNITS	CDF_CHAR	
N_F0	VAR_TYPE	CDF_CHAR	support_data
N_F0	VAR_NOTES	CDF_CHAR	
N_F0	FORMAT	CDF_CHAR	F32.6
N_F0	SCALETYPE	CDF_CHAR	linear
N_F1	FIELDNAM	CDF_CHAR	Sampling frequencies at F1 in normal mode
N_F1	CATDESC	CDF_CHAR	Sampling frequency of BP2 at F1 in normal mode
N_F1	DISPLAY_TYPE	CDF_CHAR	time_series
N_F1	VALIDMIN	CDF_REAL4	0.0
N_F1	VALIDMAX	CDF_REAL4	1.0e+30
N_F1	SCALEMIN	CDF_REAL4	0.0
N_F1	SCALEMAX	CDF_REAL4	1.0e+30
N_F1	FILLVAL	CDF_REAL4	-1.0e+31
N_F1	LABLAXIS	CDF_CHAR	BP2 sampling frequency
N_F1	UNITS	CDF_CHAR	
N_F1	VAR_TYPE	CDF_CHAR	support_data


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 756

Tab. 4.109 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
N_F1	VAR_NOTES	CDF_CHAR	Index to indicate the sampling frequency of the snapshot : F0, F1 or F2 in order to use only one skeleton for the 3 normal mode BP2 products of ICD.
N_F1	FORMAT	CDF_CHAR	F32.6
N_F1	SCALETYPE	CDF_CHAR	linear
N_F2	FIELDNAM	CDF_CHAR	Sampling frequencies at F2 in normal mode
N_F2	CATDESC	CDF_CHAR	Sampling frequency of BP2 at F2 in normal mode
N_F2	DISPLAY_TYPE	CDF_CHAR	time_series
N_F2	VALIDMIN	CDF_REAL4	0.0
N_F2	VALIDMAX	CDF_REAL4	1.0e+30
N_F2	SCALEMIN	CDF_REAL4	0.0
N_F2	SCALEMAX	CDF_REAL4	1.0e+30
N_F2	FILLVAL	CDF_REAL4	-1.0e+31
N_F2	LABLAXIS	CDF_CHAR	BP2 sampling frequency
N_F2	UNITS	CDF_CHAR	
N_F2	VAR_TYPE	CDF_CHAR	support_data
N_F2	VAR_NOTES	CDF_CHAR	Index to indicate the sampling frequency of the snapshot : F0, F1 or F2 in order to use only one skeleton for the 3 normal mode BP2 products of ICD.
N_F2	FORMAT	CDF_CHAR	F32.6
N_F2	SCALETYPE	CDF_CHAR	linear
B_F0	FIELDNAM	CDF_CHAR	Sampling frequencies at F0 in burst mode
B_F0	CATDESC	CDF_CHAR	Sampling frequency of BP2 at F0 in burst mode
B_F0	DISPLAY_TYPE	CDF_CHAR	time_series
B_F0	VALIDMIN	CDF_REAL4	0.0
B_F0	VALIDMAX	CDF_REAL4	1.0e+30
B_F0	SCALEMIN	CDF_REAL4	0.0
B_F0	SCALEMAX	CDF_REAL4	1.0e+30
B_F0	FILLVAL	CDF_REAL4	-1.0e+31
B_F0	LABLAXIS	CDF_CHAR	BP2 sampling frequency
B_F0	UNITS	CDF_CHAR	


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 757

Tab. 4.109 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
B_F0	VAR_TYPE	CDF_CHAR	support_data
B_F0	VAR_NOTES	CDF_CHAR	
B_F0	FORMAT	CDF_CHAR	F32.6
B_F0	SCALETYPE	CDF_CHAR	linear
B_F1	FIELDNAM	CDF_CHAR	Sampling frequencies at F1 in burst mode
B_F1	CATDESC	CDF_CHAR	Sampling frequency of BP2 at F1 in burst mode
B_F1	DISPLAY_TYPE	CDF_CHAR	time_series
B_F1	VALIDMIN	CDF_REAL4	0.0
B_F1	VALIDMAX	CDF_REAL4	1.0e+30
B_F1	SCALEMIN	CDF_REAL4	0.0
B_F1	SCALEMAX	CDF_REAL4	1.0e+30
B_F1	FILLVAL	CDF_REAL4	-1.0e+31
B_F1	LABLAXIS	CDF_CHAR	BP2 sampling frequency
B_F1	UNITS	CDF_CHAR	
B_F1	VAR_TYPE	CDF_CHAR	support_data
B_F1	VAR_NOTES	CDF_CHAR	Index to indicate the sampling frequency of the snapshot : F0, F1 or F2 in order to use only one skeleton for the 3 normal mode BP2 products of ICD.
B_F1	FORMAT	CDF_CHAR	F32.6
B_F1	SCALETYPE	CDF_CHAR	linear
BIAS_MODE_MUX_SET	FIELDNAM	CDF_CHAR	BIAS multiplexer setting
BIAS_MODE_MUX_SET	CATDESC	CDF_CHAR	Copy of multiplexer setting.
BIAS_MODE_MUX_SET	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_MUX_SET	VALIDMIN	CDF_UINT1	0
BIAS_MODE_MUX_SET	VALIDMAX	CDF_UINT1	7
BIAS_MODE_MUX_SET	SCALEMIN	CDF_UINT1	0
BIAS_MODE_MUX_SET	SCALEMAX	CDF_UINT1	7
BIAS_MODE_MUX_SET	FILLVAL	CDF_UINT1	255
BIAS_MODE_MUX_SET	LABLAXIS	CDF_CHAR	BIAS_MODE_MUX_SET
BIAS_MODE_MUX_SET	UNITS	CDF_CHAR	
BIAS_MODE_MUX_SET	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_MUX_SET	SCALETYP	CDF_CHAR	linear


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 758

Tab. 4.109 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_MODE_MUX_SET	VAR_NOTES	CDF_CHAR	Indicates the mode of BIAS multiplexer for a set of BP2 parameters. Possible values are 0 : Standard operation. 1 : Probe 1 fails. 2 : Probe 2 fails. 3 : Probe 3 fails. 4 : Calibration mode 0. 5 : Calibration mode 1. 6 : Calibration mode 2. 7 : Calibration mode 3.
BIAS_MODE_MUX_SET	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_MUX_SET	FORMAT	CDF_CHAR	I3.3
BIAS_MODE_HV_ENABLED	FIELDNAM	CDF_CHAR	BIAS high voltage status
BIAS_MODE_HV_ENABLED	CATDESC	CDF_CHAR	Copy of enable/disable HV (+- 100V).
BIAS_MODE_HV_ENABLED	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_HV_ENABLED	VALIDMIN	CDF_UINT1	0
BIAS_MODE_HV_ENABLED	VALIDMAX	CDF_UINT1	1
BIAS_MODE_HV_ENABLED	SCALEMIN	CDF_UINT1	0
BIAS_MODE_HV_ENABLED	SCALEMAX	CDF_UINT1	1
BIAS_MODE_HV_ENABLED	FILLVAL	CDF_UINT1	255
BIAS_MODE_HV_ENABLED	LABLAXIS	CDF_CHAR	BIAS_MODE_HV_ENABLED
BIAS_MODE_HV_ENABLED	UNITS	CDF_CHAR	
BIAS_MODE_HV_ENABLED	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_HV_ENABLED	SCALETYP	CDF_CHAR	linear
BIAS_MODE_HV_ENABLED	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS HV. Possible values are DISABLED = 0. ENABLED = 1.
BIAS_MODE_HV_ENABLED	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_HV_ENABLED	FORMAT	CDF_CHAR	I3.3
BIAS_MODE_BIAS1_ENABLED	FIELDNAM	CDF_CHAR	BIAS probe 1 status
BIAS_MODE_BIAS1_ENABLED	CATDESC	CDF_CHAR	Copy of enable/disable BIAS 1.
BIAS_MODE_BIAS1_ENABLED	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_BIAS1_ENABLED	VALIDMIN	CDF_UINT1	0
BIAS_MODE_BIAS1_ENABLED	VALIDMAX	CDF_UINT1	1
BIAS_MODE_BIAS1_ENABLED	SCALEMIN	CDF_UINT1	0
BIAS_MODE_BIAS1_ENABLED	SCALEMAX	CDF_UINT1	1
BIAS_MODE_BIAS1_ENABLED	FILLVAL	CDF_UINT1	255
BIAS_MODE_BIAS1_ENABLED	LABLAXIS	CDF_CHAR	BIAS_MODE_BIAS1_ENABLED
BIAS_MODE_BIAS1_ENABLED	UNITS	CDF_CHAR	
BIAS_MODE_BIAS1_ENABLED	VAR_TYPE	CDF_CHAR	support_data


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 759

Tab. 4.109 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_MODE_BIAS1_ENAB	SCALETYP	CDF_CHAR	linear
BIAS_MODE_BIAS1_ENAB	MAR_NOTES	CDF_CHAR	Indicates the status of BIAS probe 1. Possible values are DISABLED = 0. ENABLED = 1.
BIAS_MODE_BIAS1_ENAB	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_BIAS1_ENAB	FORMAT	CDF_CHAR	I3.3
BIAS_MODE_BIAS2_ENAB	HELDNAM	CDF_CHAR	BIAS probe 2 status
BIAS_MODE_BIAS2_ENAB	ICATDESC	CDF_CHAR	Copy of enable/disable BIAS 2.
BIAS_MODE_BIAS2_ENAB	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_BIAS2_ENAB	VALIDMIN	CDF_UINT1	0
BIAS_MODE_BIAS2_ENAB	VALIDMAX	CDF_UINT1	1
BIAS_MODE_BIAS2_ENAB	SCALEMIN	CDF_UINT1	0
BIAS_MODE_BIAS2_ENAB	SCALEMAX	CDF_UINT1	1
BIAS_MODE_BIAS2_ENAB	HELDVAL	CDF_UINT1	255
BIAS_MODE_BIAS2_ENAB	LEADBLAXIS	CDF_CHAR	BIAS_MODE_BIAS2_ENABLED
BIAS_MODE_BIAS2_ENAB	UNITS	CDF_CHAR	
BIAS_MODE_BIAS2_ENAB	MAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_BIAS2_ENAB	SCALETYP	CDF_CHAR	linear
BIAS_MODE_BIAS2_ENAB	MAR_NOTES	CDF_CHAR	Indicates the status of BIAS probe 2. Possible values are DISABLED = 0. ENABLED = 1.
BIAS_MODE_BIAS2_ENAB	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_BIAS2_ENAB	FORMAT	CDF_CHAR	I3.3
BIAS_MODE_BIAS3_ENAB	HELDNAM	CDF_CHAR	BIAS probe 3 status
BIAS_MODE_BIAS3_ENAB	ICATDESC	CDF_CHAR	Copy of enable/disable BIAS 3.
BIAS_MODE_BIAS3_ENAB	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_BIAS3_ENAB	VALIDMIN	CDF_UINT1	0
BIAS_MODE_BIAS3_ENAB	VALIDMAX	CDF_UINT1	1
BIAS_MODE_BIAS3_ENAB	SCALEMIN	CDF_UINT1	0
BIAS_MODE_BIAS3_ENAB	SCALEMAX	CDF_UINT1	1
BIAS_MODE_BIAS3_ENAB	HELDVAL	CDF_UINT1	255
BIAS_MODE_BIAS3_ENAB	LEADBLAXIS	CDF_CHAR	BIAS_MODE_BIAS3_ENABLED
BIAS_MODE_BIAS3_ENAB	UNITS	CDF_CHAR	
BIAS_MODE_BIAS3_ENAB	MAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_BIAS3_ENAB	SCALETYP	CDF_CHAR	linear


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 760

Tab. 4.109 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_MODE_BIAS3_ENAB	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS probe 3. Possible values are DISABLED = 0. ENABLED = 1.
BIAS_MODE_BIAS3_ENAB	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_BIAS3_ENAB	FORMAT	CDF_CHAR	I3.3
BIAS_ON_OFF	FIELDNAM	CDF_CHAR	BIAS status
BIAS_ON_OFF	CATDESC	CDF_CHAR	Copy of BIAS status.
BIAS_ON_OFF	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_ON_OFF	VALIDMIN	CDF_UINT1	0
BIAS_ON_OFF	VALIDMAX	CDF_UINT1	1
BIAS_ON_OFF	SCALEMIN	CDF_UINT1	0
BIAS_ON_OFF	SCALEMAX	CDF_UINT1	1
BIAS_ON_OFF	FILLVAL	CDF_UINT1	255
BIAS_ON_OFF	LABLAXIS	CDF_CHAR	BIAS_ON_OFF
BIAS_ON_OFF	UNITS	CDF_CHAR	
BIAS_ON_OFF	VAR_TYPE	CDF_CHAR	support_data
BIAS_ON_OFF	SCALETYP	CDF_CHAR	linear
BIAS_ON_OFF	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS. Possible values are OFF = 0 - Power line off. ON = 1 - Power line on.
BIAS_ON_OFF	DEPEND_0	CDF_CHAR	Epoch
BIAS_ON_OFF	FORMAT	CDF_CHAR	I3.3
BW	FIELDNAM	CDF_CHAR	BIAS Works/BIAS Fails configuration.
BW	CATDESC	CDF_CHAR	BIAS Works/BIAS Fails configuration.
BW	DISPLAY_TYPE	CDF_CHAR	time_series
BW	VALIDMIN	CDF_UINT1	0
BW	VALIDMAX	CDF_UINT1	1
BW	SCALEMIN	CDF_UINT1	0
BW	SCALEMAX	CDF_UINT1	1
BW	FILLVAL	CDF_UINT1	255
BW	LABLAXIS	CDF_CHAR	BW
BW	UNITS	CDF_CHAR	
BW	VAR_TYPE	CDF_CHAR	support_data
BW	SCALETYP	CDF_CHAR	linear
BW	VAR_NOTES	CDF_CHAR	
BW	DEPEND_0	CDF_CHAR	Epoch
BW	FORMAT	CDF_CHAR	I3.3


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 761

Tab. 4.109 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SP0	FIELDNAM	CDF_CHAR	Shaping of electrical data parameter 0.
SP0	CATDESC	CDF_CHAR	Shaping of electrical data.
SP0	DISPLAY_TYPE	CDF_CHAR	time_series
SP0	VALIDMIN	CDF_UINT1	0
SP0	VALIDMAX	CDF_UINT1	1
SP0	SCALEMIN	CDF_UINT1	0
SP0	SCALEMAX	CDF_UINT1	1
SP0	FILLVAL	CDF_UINT1	255
SP0	LABLAXIS	CDF_CHAR	SP0
SP0	UNITS	CDF_CHAR	
SP0	VAR_TYPE	CDF_CHAR	support_data
SP0	SCALETYP	CDF_CHAR	linear
SP0	VAR_NOTES	CDF_CHAR	
SP0	DEPEND_0	CDF_CHAR	Epoch
SP0	FORMAT	CDF_CHAR	I3.3
SP1	FIELDNAM	CDF_CHAR	Shaping of electrical data parameter 1.
SP1	CATDESC	CDF_CHAR	Shaping of electrical data.
SP1	DISPLAY_TYPE	CDF_CHAR	time_series
SP1	VALIDMIN	CDF_UINT1	0
SP1	VALIDMAX	CDF_UINT1	1
SP1	SCALEMIN	CDF_UINT1	0
SP1	SCALEMAX	CDF_UINT1	1
SP1	FILLVAL	CDF_UINT1	255
SP1	LABLAXIS	CDF_CHAR	SP1
SP1	UNITS	CDF_CHAR	
SP1	VAR_TYPE	CDF_CHAR	support_data
SP1	SCALETYP	CDF_CHAR	linear
SP1	VAR_NOTES	CDF_CHAR	
SP1	DEPEND_0	CDF_CHAR	Epoch
SP1	FORMAT	CDF_CHAR	I3.3
R0	FIELDNAM	CDF_CHAR	Rooting of electrical data for F0.
R0	CATDESC	CDF_CHAR	Rooting of electrical data.
R0	DISPLAY_TYPE	CDF_CHAR	time_series
R0	VALIDMIN	CDF_UINT1	0
R0	VALIDMAX	CDF_UINT1	1
R0	SCALEMIN	CDF_UINT1	0
R0	SCALEMAX	CDF_UINT1	1
R0	FILLVAL	CDF_UINT1	255

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 762

Tab. 4.109 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
R0	LABLAXIS	CDF_CHAR	R0
R0	UNITS	CDF_CHAR	
R0	VAR_TYPE	CDF_CHAR	support_data
R0	SCALETYP	CDF_CHAR	linear
R0	VAR_NOTES	CDF_CHAR	
R0	DEPEND_0	CDF_CHAR	Epoch
R0	FORMAT	CDF_CHAR	I3.3
R1	FIELDNAM	CDF_CHAR	Rooting of electrical data for F1.
R1	CATDESC	CDF_CHAR	Rooting of electrical data.
R1	DISPLAY_TYPE	CDF_CHAR	time_series
R1	VALIDMIN	CDF_UINT1	0
R1	VALIDMAX	CDF_UINT1	1
R1	SCALEMIN	CDF_UINT1	0
R1	SCALEMAX	CDF_UINT1	1
R1	FILLVAL	CDF_UINT1	255
R1	LABLAXIS	CDF_CHAR	R1
R1	UNITS	CDF_CHAR	
R1	VAR_TYPE	CDF_CHAR	support_data
R1	SCALETYP	CDF_CHAR	linear
R1	VAR_NOTES	CDF_CHAR	
R1	DEPEND_0	CDF_CHAR	Epoch
R1	FORMAT	CDF_CHAR	I3.3
R2	FIELDNAM	CDF_CHAR	Rooting of electrical data for F2.
R2	CATDESC	CDF_CHAR	Rooting of electrical data.
R2	DISPLAY_TYPE	CDF_CHAR	time_series
R2	VALIDMIN	CDF_UINT1	0
R2	VALIDMAX	CDF_UINT1	1
R2	SCALEMIN	CDF_UINT1	0
R2	SCALEMAX	CDF_UINT1	1
R2	FILLVAL	CDF_UINT1	255
R2	LABLAXIS	CDF_CHAR	R2
R2	UNITS	CDF_CHAR	
R2	VAR_TYPE	CDF_CHAR	support_data
R2	SCALETYP	CDF_CHAR	linear
R2	VAR_NOTES	CDF_CHAR	
R2	DEPEND_0	CDF_CHAR	Epoch
R2	FORMAT	CDF_CHAR	I3.3
BP2_CNT	FIELDNAM	CDF_CHAR	Number of BP2 sets read for a given frequency.

continues on next page



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03

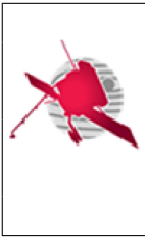
Date: March 11, 2021

Page: **763**

Tab. 4.109 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BP2_CNT	CATDESC	CDF_CHAR	Number of BP2 sets read for a given sampling frequency(F0, F1 or F2).
BP2_CNT	DISPLAY_TYPE	CDF_CHAR	time_series
BP2_CNT	VALIDMIN	CDF_UINT1	0
BP2_CNT	VALIDMAX	CDF_UINT1	1
BP2_CNT	SCALEMIN	CDF_UINT1	0
BP2_CNT	SCALEMAX	CDF_UINT1	1
BP2_CNT	FILLVAL	CDF_UINT1	255
BP2_CNT	LABLAXIS	CDF_CHAR	BP2_CNT
BP2_CNT	UNITS	CDF_CHAR	
BP2_CNT	VAR_TYPE	CDF_CHAR	support_data
BP2_CNT	SCALETYP	CDF_CHAR	linear
BP2_CNT	VAR_NOTES	CDF_CHAR	This indicates how many sets of BP1 have been read. Expected numbers for NORMAL MODE are 11 for F0, 13 for F1 and 12 for F2. Expected numbers for BURST MODE are 22 for F0 and 26 for F1.
BP2_CNT	DEPEND_0	CDF_CHAR	Epoch
BP2_CNT	FORMAT	CDF_CHAR	I3.3
BP2_RE_N_F0	FIELDNAM	CDF_CHAR	Real part of the spectral matrices for F0
BP2_RE_N_F0	CATDESC	CDF_CHAR	All the real part of the 5x5 calibrated matrices for all bins of F0 sampling frequency.
BP2_RE_N_F0	DISPLAY_TYPE	CDF_CHAR	time_series
BP2_RE_N_F0	VALIDMIN	CDF_REAL8	-1.0e+30
BP2_RE_N_F0	VALIDMAX	CDF_REAL8	1.0e+30
BP2_RE_N_F0	SCALEMIN	CDF_REAL8	-1.0e+30
BP2_RE_N_F0	SCALEMAX	CDF_REAL8	1.0e+30
BP2_RE_N_F0	FILLVAL	CDF_REAL8	-1.0e+31
BP2_RE_N_F0	LABLAXIS	CDF_CHAR	BP2_RE_N_F0
BP2_RE_N_F0	UNITS	CDF_CHAR	
BP2_RE_N_F0	VAR_TYPE	CDF_CHAR	data
BP2_RE_N_F0	VAR_NOTES	CDF_CHAR	
BP2_RE_N_F0	DEPEND_0	CDF_CHAR	Epoch_N_F0
BP2_RE_N_F0	FORMAT	CDF_CHAR	F32.6
BP2_RE_N_F0	SCALETYPE	CDF_CHAR	linear

continues on next page



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **764**

Tab. 4.109 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BP2_RE_N_F0	DEPEND_1	CDF_CHAR	F0
BP2_RE_N_F1	FIELDNAM	CDF_CHAR	Real part of the spectral matrices for F1
BP2_RE_N_F1	CATDESC	CDF_CHAR	All the real part of the 5x5 calibrated matrices for all bins of F1 sampling frequency.
BP2_RE_N_F1	DISPLAY_TYPE	CDF_CHAR	time_series
BP2_RE_N_F1	VALIDMIN	CDF_REAL8	-1.0e+30
BP2_RE_N_F1	VALIDMAX	CDF_REAL8	1.0e+30
BP2_RE_N_F1	SCALEMIN	CDF_REAL8	-1.0e+30
BP2_RE_N_F1	SCALEMAX	CDF_REAL8	1.0e+30
BP2_RE_N_F1	FILLVAL	CDF_REAL8	-1.0e+31
BP2_RE_N_F1	LABLAXIS	CDF_CHAR	BP2_RE_N_F1
BP2_RE_N_F1	UNITS	CDF_CHAR	
BP2_RE_N_F1	VAR_TYPE	CDF_CHAR	data
BP2_RE_N_F1	VAR_NOTES	CDF_CHAR	
BP2_RE_N_F1	DEPEND_0	CDF_CHAR	Epoch_N_F1
BP2_RE_N_F1	FORMAT	CDF_CHAR	F32.6
BP2_RE_N_F1	SCALETYPE	CDF_CHAR	linear
BP2_RE_N_F1	DEPEND_1	CDF_CHAR	F1
BP2_RE_N_F2	FIELDNAM	CDF_CHAR	Real part of the spectral matrices for F2
BP2_RE_N_F2	CATDESC	CDF_CHAR	All the real part of the 5x5 calibrated matrices for all bins of F2 sampling frequency.
BP2_RE_N_F2	DISPLAY_TYPE	CDF_CHAR	time_series
BP2_RE_N_F2	VALIDMIN	CDF_REAL8	-1.0e+30
BP2_RE_N_F2	VALIDMAX	CDF_REAL8	1.0e+30
BP2_RE_N_F2	SCALEMIN	CDF_REAL8	-1.0e+30
BP2_RE_N_F2	SCALEMAX	CDF_REAL8	1.0e+30
BP2_RE_N_F2	FILLVAL	CDF_REAL8	-1.0e+31
BP2_RE_N_F2	LABLAXIS	CDF_CHAR	BP2_RE_N_F2
BP2_RE_N_F2	UNITS	CDF_CHAR	
BP2_RE_N_F2	VAR_TYPE	CDF_CHAR	data
BP2_RE_N_F2	VAR_NOTES	CDF_CHAR	
BP2_RE_N_F2	DEPEND_0	CDF_CHAR	Epoch_N_F2
BP2_RE_N_F2	FORMAT	CDF_CHAR	F32.6
BP2_RE_N_F2	SCALETYPE	CDF_CHAR	linear
BP2_RE_N_F2	DEPEND_1	CDF_CHAR	F2
BP2_IM_N_F0	FIELDNAM	CDF_CHAR	Imaginary part of the spectral matrices for F0


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 765

Tab. 4.109 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BP2_IM_N_F0	CATDESC	CDF_CHAR	All the real part of the 5x5 calibrated matrices for all bins of F0 sampling frequency.
BP2_IM_N_F0	DISPLAY_TYPE	CDF_CHAR	time_series
BP2_IM_N_F0	VALIDMIN	CDF_REAL8	-1.0e+30
BP2_IM_N_F0	VALIDMAX	CDF_REAL8	1.0e+30
BP2_IM_N_F0	SCALEMIN	CDF_REAL8	-1.0e+30
BP2_IM_N_F0	SCALEMAX	CDF_REAL8	1.0e+30
BP2_IM_N_F0	FILLVAL	CDF_REAL8	-1.0e+31
BP2_IM_N_F0	LABLAXIS	CDF_CHAR	BP2_IM_N_F0
BP2_IM_N_F0	UNITS	CDF_CHAR	
BP2_IM_N_F0	VAR_TYPE	CDF_CHAR	data
BP2_IM_N_F0	VAR_NOTES	CDF_CHAR	
BP2_IM_N_F0	DEPEND_0	CDF_CHAR	Epoch_N_F0
BP2_IM_N_F0	FORMAT	CDF_CHAR	F32.6
BP2_IM_N_F0	SCALETYP	CDF_CHAR	linear
BP2_IM_N_F0	DEPEND_1	CDF_CHAR	F0
BP2_IM_N_F1	FIELDNAM	CDF_CHAR	Imaginary part of the spectral matrices for F1
BP2_IM_N_F1	CATDESC	CDF_CHAR	All the real part of the 5x5 calibrated matrices for all bins of F1 sampling frequency.
BP2_IM_N_F1	DISPLAY_TYPE	CDF_CHAR	time_series
BP2_IM_N_F1	VALIDMIN	CDF_REAL8	-1.0e+30
BP2_IM_N_F1	VALIDMAX	CDF_REAL8	1.0e+30
BP2_IM_N_F1	SCALEMIN	CDF_REAL8	-1.0e+30
BP2_IM_N_F1	SCALEMAX	CDF_REAL8	1.0e+30
BP2_IM_N_F1	FILLVAL	CDF_REAL8	-1.0e+31
BP2_IM_N_F1	LABLAXIS	CDF_CHAR	BP2_IM_N_F1
BP2_IM_N_F1	UNITS	CDF_CHAR	
BP2_IM_N_F1	VAR_TYPE	CDF_CHAR	data
BP2_IM_N_F1	VAR_NOTES	CDF_CHAR	
BP2_IM_N_F1	DEPEND_0	CDF_CHAR	Epoch_N_F1
BP2_IM_N_F1	FORMAT	CDF_CHAR	F32.6
BP2_IM_N_F1	SCALETYP	CDF_CHAR	linear
BP2_IM_N_F1	DEPEND_1	CDF_CHAR	F1
BP2_IM_N_F2	FIELDNAM	CDF_CHAR	Imaginary part of the spectral matrices for F2


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 766

Tab. 4.109 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BP2_IM_N_F2	CATDESC	CDF_CHAR	All the imaginary part of the 5x5 calibrated matrices for all bins of F2 sampling frequency.
BP2_IM_N_F2	DISPLAY_TYPE	CDF_CHAR	time_series
BP2_IM_N_F2	VALIDMIN	CDF_REAL8	-1.0e+30
BP2_IM_N_F2	VALIDMAX	CDF_REAL8	1.0e+30
BP2_IM_N_F2	SCALEMIN	CDF_REAL8	-1.0e+30
BP2_IM_N_F2	SCALEMAX	CDF_REAL8	1.0e+30
BP2_IM_N_F2	FILLVAL	CDF_REAL8	-1.0e+31
BP2_IM_N_F2	LABLAXIS	CDF_CHAR	BP2_IM_N_F2
BP2_IM_N_F2	UNITS	CDF_CHAR	
BP2_IM_N_F2	VAR_TYPE	CDF_CHAR	data
BP2_IM_N_F2	VAR_NOTES	CDF_CHAR	
BP2_IM_N_F2	DEPEND_0	CDF_CHAR	Epoch_N_F2
BP2_IM_N_F2	FORMAT	CDF_CHAR	F32.6
BP2_IM_N_F2	SCALETYPE	CDF_CHAR	linear
BP2_IM_N_F2	DEPEND_1	CDF_CHAR	F2
BP2_RE_B_F0	FIELDNAM	CDF_CHAR	Real part of the spectral matrices for F0
BP2_RE_B_F0	CATDESC	CDF_CHAR	All the real part of the 5x5 calibrated matrices for all bins of F0 sampling frequency.
BP2_RE_B_F0	DISPLAY_TYPE	CDF_CHAR	time_series
BP2_RE_B_F0	VALIDMIN	CDF_REAL8	-1.0e+30
BP2_RE_B_F0	VALIDMAX	CDF_REAL8	1.0e+30
BP2_RE_B_F0	SCALEMIN	CDF_REAL8	-1.0e+30
BP2_RE_B_F0	SCALEMAX	CDF_REAL8	1.0e+30
BP2_RE_B_F0	FILLVAL	CDF_REAL8	-1.0e+31
BP2_RE_B_F0	LABLAXIS	CDF_CHAR	BP2_RE_B_F0
BP2_RE_B_F0	UNITS	CDF_CHAR	
BP2_RE_B_F0	VAR_TYPE	CDF_CHAR	data
BP2_RE_B_F0	VAR_NOTES	CDF_CHAR	
BP2_RE_B_F0	DEPEND_0	CDF_CHAR	Epoch_B_F0
BP2_RE_B_F0	FORMAT	CDF_CHAR	F32.6
BP2_RE_B_F0	SCALETYPE	CDF_CHAR	linear
BP2_RE_B_F0	DEPEND_1	CDF_CHAR	F0
BP2_RE_B_F1	FIELDNAM	CDF_CHAR	Real part of the spectral matrices for F1


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 767

Tab. 4.109 – continued from previous page


Variable Name	Attribute Name	Data Type	Value
BP2_RE_B_F1	CATDESC	CDF_CHAR	All the real part of the 5x5 calibrated matrices for all bins of F1 sampling frequency.
BP2_RE_B_F1	DISPLAY_TYPE	CDF_CHAR	time_series
BP2_RE_B_F1	VALIDMIN	CDF_REAL8	-1.0e+30
BP2_RE_B_F1	VALIDMAX	CDF_REAL8	1.0e+30
BP2_RE_B_F1	SCALEMIN	CDF_REAL8	-1.0e+30
BP2_RE_B_F1	SCALEMAX	CDF_REAL8	1.0e+30
BP2_RE_B_F1	FILLVAL	CDF_REAL8	-1.0e+31
BP2_RE_B_F1	LABLAXIS	CDF_CHAR	BP2_RE_B_F1
BP2_RE_B_F1	UNITS	CDF_CHAR	
BP2_RE_B_F1	VAR_TYPE	CDF_CHAR	data
BP2_RE_B_F1	VAR_NOTES	CDF_CHAR	
BP2_RE_B_F1	DEPEND_0	CDF_CHAR	Epoch_B_F1
BP2_RE_B_F1	FORMAT	CDF_CHAR	F32.6
BP2_RE_B_F1	SCALETYP	CDF_CHAR	linear
BP2_RE_B_F1	DEPEND_1	CDF_CHAR	F1
BP2_IM_B_F0	FIELDNAM	CDF_CHAR	Imaginary part of the spectral matrices for F0
BP2_IM_B_F0	CATDESC	CDF_CHAR	All the imaginary part of the 5x5 calibrated matrices for all bins of F0 sampling frequency.
BP2_IM_B_F0	DISPLAY_TYPE	CDF_CHAR	time_series
BP2_IM_B_F0	VALIDMIN	CDF_REAL8	-1.0e+30
BP2_IM_B_F0	VALIDMAX	CDF_REAL8	1.0e+30
BP2_IM_B_F0	SCALEMIN	CDF_REAL8	-1.0e+30
BP2_IM_B_F0	SCALEMAX	CDF_REAL8	1.0e+30
BP2_IM_B_F0	FILLVAL	CDF_REAL8	-1.0e+31
BP2_IM_B_F0	LABLAXIS	CDF_CHAR	BP2_IM_B_F0
BP2_IM_B_F0	UNITS	CDF_CHAR	
BP2_IM_B_F0	VAR_TYPE	CDF_CHAR	data
BP2_IM_B_F0	VAR_NOTES	CDF_CHAR	
BP2_IM_B_F0	DEPEND_0	CDF_CHAR	Epoch_B_F0
BP2_IM_B_F0	FORMAT	CDF_CHAR	F32.6
BP2_IM_B_F0	SCALETYP	CDF_CHAR	linear
BP2_IM_B_F0	DEPEND_1	CDF_CHAR	F0
BP2_IM_B_F1	FIELDNAM	CDF_CHAR	Imaginary part of the spectral matrices for F1

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 768

Tab. 4.109 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BP2_IM_B_F1	CATDESC	CDF_CHAR	All the imaginary part of the 5x5 calibrated matrices for all bins of F1 sampling frequency.
BP2_IM_B_F1	DISPLAY_TYPE	CDF_CHAR	time_series
BP2_IM_B_F1	VALIDMIN	CDF_REAL8	-1.0e+30
BP2_IM_B_F1	VALIDMAX	CDF_REAL8	1.0e+30
BP2_IM_B_F1	SCALEMIN	CDF_REAL8	-1.0e+30
BP2_IM_B_F1	SCALEMAX	CDF_REAL8	1.0e+30
BP2_IM_B_F1	FILLVAL	CDF_REAL8	-1.0e+31
BP2_IM_B_F1	LABLAXIS	CDF_CHAR	BP2_IM_B_F1
BP2_IM_B_F1	UNITS	CDF_CHAR	
BP2_IM_B_F1	VAR_TYPE	CDF_CHAR	data
BP2_IM_B_F1	VAR_NOTES	CDF_CHAR	
BP2_IM_B_F1	DEPEND_0	CDF_CHAR	Epoch_B_F1
BP2_IM_B_F1	FORMAT	CDF_CHAR	F32.6
BP2_IM_B_F1	SCALETYPE	CDF_CHAR	linear
BP2_IM_B_F1	DEPEND_1	CDF_CHAR	F1
SYNCHRO_FLAG	FIELDNAM	CDF_CHAR	SYNCHRO_FLAG
SYNCHRO_FLAG	CATDESC	CDF_CHAR	Time synchronisation flag
SYNCHRO_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
SYNCHRO_FLAG	VALIDMIN	CDF_UINT1	0
SYNCHRO_FLAG	VALIDMAX	CDF_UINT1	1
SYNCHRO_FLAG	SCALEMIN	CDF_UINT1	0
SYNCHRO_FLAG	SCALEMAX	CDF_UINT1	1
SYNCHRO_FLAG	FILLVAL	CDF_UINT1	255
SYNCHRO_FLAG	LABLAXIS	CDF_CHAR	time sync. flag
SYNCHRO_FLAG	UNITS	CDF_CHAR	
SYNCHRO_FLAG	VAR_TYPE	CDF_CHAR	support_data
SYNCHRO_FLAG	SCALETYP	CDF_CHAR	linear
SYNCHRO_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate if the local time is synchronized with the RPW DPU clock or not. Possible values: synchronized=0, not synchronized=1. This flag is extracted from ACQUISITION_TIME in L0 packets, it is the MSB of the CUC time.
SYNCHRO_FLAG	DEPEND_0	CDF_CHAR	Epoch
SYNCHRO_FLAG	FORMAT	CDF_CHAR	I3.3

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 769

4.1.3.23.6 Non-Record-Variant (NRV) Variables

4.1.3.24 SOLO_L2_RPW-LFR-SURV-CWF-E data product

The “SOLO_L2_RPW-LFR-SURV-CWF-E” data product contains the calibrated LFR receiver Continuous Waveform survey data for electrical component only. The “SOLO_L2_RPW-LFR-SURV-CWF-E” data are written in CDF format files. There is a single file per day, generated from data in the corresponding SOLO_L1_RPW-LFR-SURV-CWF parent file.

4.1.3.24.1 Filename

```
solo_L2_rpw-lfr-surv-cwf-e_[YYYYMMDD]_V[version].cdf
```

4.1.3.24.2 Expected cadence and data volume


Nominal cadence: 1 file per day

Expected data volume: 300 MB per file

4.1.3.24.3 Global Attributes

Attribute Name	Entry Number	Data Type	Value
ACCESS_FORMAT	1	CDF_CHAR	CDF
ACCESS_URL	1	CDF_CHAR	
Acknowledgement	1	CDF_CHAR	The authors are pleased to acknowledge the Solar Orbiter/RPW Investigation (M. Maksimovic, PIs) for access to data.
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009 (2.4)
Calibration_version	1	CDF_CHAR	
Data_type	1	CDF_CHAR	H0>High Resolution data
Data_version	1	CDF_CHAR	
Descriptor	1	CDF_CHAR	RPW-LFR-SURV-CWF-E>RPW Low Frequency Receiver Continuous Waveform in survey mode. Electric component.
Discipline	1	CDF_CHAR	Space Physics>Interplanetary Studies
File_naming_convention	1	CDF_CHAR	<Source_name>_<LEVEL>_<Descriptor>_<Date>
File_ID	1	CDF_CHAR	


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 770

Tab. 4.110 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Generated_by	1	CDF_CHAR	RPW Operations Centre located at LESIA (Meudon, France)
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	https://rpw.lesia.obspm.fr
Instrument_type	1	CDF_CHAR	Radio and Plasma Waves (space)
LINK_TEXT	1	CDF_CHAR	RPW Web site at LESIA
LINK_TITLE	1	CDF_CHAR	RPW Web site
Logical_file_id	1	CDF_CHAR	
Logical_source	1	CDF_CHAR	solo_L2_rpw-lfr-surv-cwf-e
Logical_source_description	1	CDF_CHAR	Solar Orbiter Radio/Plasma Wave, LFR L2 electric parameters
Mission_group	1	CDF_CHAR	Solar Orbiter
SKELETON_MODS	1	CDF_CHAR	June 2016, IRF-U, initial release
SKELETON_MODS	2	CDF_CHAR	V04: Update for solo data definition, X. BONNIN (CNRS-LESIA), April 2019
SKELETON_MODS	3	CDF_CHAR	V05: Update to compliant with SOL-SGS-TN-0009 Issue 2, Rev 4 - X.Bonnin, 09/2019
SKELETON_MODS	4	CDF_CHAR	V06: March 2020 : Standardize SAMPLING_RATE and delete Test_* g.attr - X.Bonnin (CNRS, LESIA)
SKELETON_MODS	5	CDF_CHAR	V07: March 2020 : zVar name changes V->VDC and E->EDC and typos - E.Johansson (IRF)
SKELETON_MODS	6	CDF_CHAR	V08: March 2020 : zVar attribute name change DELTA_PLUS/MINUS->DELTA_PLUS/MINUS_ (ISTP compliant), L2S typo, removed zVars ACQUISITION_TIME* - E.Johansson (IRF)
SKELETON_MODS	7	CDF_CHAR	V09: July 2020 : zVars IBIAS1-3: attribute CATDESC corrected, UNITS A->nA. Glob.attr. MODS typos corrected. New zVar BW copied from L1 & L1R - E.Johansson (IRF)
SKELETON_MODS	8	CDF_CHAR	V10: Oct 2020 : zVars DELTA_PLUS_MINUS: set UNITS Add L2_QUALITY_BITMASK Add SPICE_KERNELS - E.Johansson (IRF)


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 771

Tab. 4.110 – continued from previous page


Attribute Name	Entry Number	Data Type	Value
SKELETON_MODS	9	CDF_CHAR	V11: Jan. 2021 : Fix inconsistencies against the ISTP CDF guidelines, X.Bonnin (CNRS-LESIA)
SKELETON_MODS	10	CDF_CHAR	V12: Feb. 2021 : Fix QUALITY_BITMASK type and its attributes, E.Johansson (IRF)
Parent_version	1	CDF_CHAR	
Parents	1	CDF_CHAR	
PI_affiliation	1	CDF_CHAR	LESIA, Observatoire de Paris-CNRS
PI_name	1	CDF_CHAR	M.Maksimovic
Pipeline_version	1	CDF_CHAR	
Project	1	CDF_CHAR	SOLO>Solar Orbiter
Provider	1	CDF_CHAR	LESIA (Meudon, France)
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00006-LES (1.3)
Rules_of_use	1	CDF_CHAR	Data provided are publicly available. If used in presentations or publications, please acknowledge Solar Orbiter/RPW Investigation (M. Maksimovic, PIs). Please read carefully the caveats attached to the data. For reporting purposes, we request bibliography information for any publication, etc., using these data. Please send information on the use of this data to: M. Maksimovic (PI).
SKELETON_PARENT	1	CDF_CHAR	SOLO_L2_RPW-LFR-SURV-CWF-E_V11.cdf
Skeleton_version	1	CDF_CHAR	12
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	SOLO>Solar Orbiter
SPECTRAL_RANGE_MAX	1	CDF_CHAR	
SPECTRAL_RANGE_MIN	1	CDF_CHAR	
SPICE_KERNELS	1	CDF_CHAR	
TEXT	1	CDF_CHAR	This file contains RPW LFR level 2 continuous waveform of electric data in survey mode.
TEXT_supplement_1	1	CDF_CHAR	
TIME_MAX	1	CDF_CHAR	
TIME_MIN	1	CDF_CHAR	

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 772

Tab. 4.110 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Validate	1	CDF_CHAR	
CAVEATS	1	CDF_CHAR	
CAL_ENTITY_NAME	1	CDF_CHAR	
CAL_ENTITY_AFFILIATION	1	CDF_CHAR	
CAL_EQUIPMENT	1	CDF_CHAR	
CALIBRATION_TABLE	1	CDF_CHAR	
CALIBRATION_VERSION	1	CDF_CHAR	
Datetime	1	CDF_CHAR	
Free_field	1	CDF_CHAR	
Job_ID	1	CDF_CHAR	
LEVEL	1	CDF_CHAR	L2>Level 2 data processing
SOOP_TYPE	1	CDF_CHAR	
Data_product	1	CDF_CHAR	SURV-CWF-E>SURV-CWF-E
TARGET_NAME	1	CDF_CHAR	Sun
TARGET_CLASS	1	CDF_CHAR	Star
TARGET_REGION	1	CDF_CHAR	Solar Wind
Pipeline_name	1	CDF_CHAR	
Dataset_ID	1	CDF_CHAR	SOLO_L2_RPW-LFR-SURV-CWF-E
OBS_ID	1	CDF_CHAR	
MODS	1	CDF_CHAR	

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 773


4.1.3.24.4 zVariables

Variable Name	Data Type	Number Elements	Dims	Sizes
Epoch	CDF_TIME_TT2000	1	0	
QUALITY_FLAG	CDF_UINT1	1	0	
QUALITY_BITMASK	CDF_UINT2	1	0	
L2_QUALITY_BITMASK	CDF_UINT2	1	0	
BW	CDF_UINT1	1	0	
VDC_LABEL	CDF_CHAR	4	1	3
EDC_LABEL	CDF_CHAR	5	1	3
EAC_LABEL	CDF_CHAR	5	1	3
VDC	CDF_REAL4	1	1	3
EDC	CDF_REAL4	1	1	3
EAC	CDF_REAL4	1	1	3
IBIAS1	CDF_REAL4	1	0	
IBIAS2	CDF_REAL4	1	0	
IBIAS3	CDF_REAL4	1	0	
DELTA_PLUS_MINUS	CDF_INT8	1	0	
SYNCHRO_FLAG	CDF_UINT1	1	0	
SAMPLING_RATE	CDF_REAL4	1	0	

4.1.3.24.5 Variable attributes

Variable Name	Attribute Name	Data Type	Value
Epoch	FIELDNAM	CDF_CHAR	Epoch
Epoch	CATDESC	CDF_CHAR	Default time
Epoch	DISPLAY_TYPE	CDF_CHAR	time_series
Epoch	VALIDMIN	CDF_TIME_TT2000	2000-01-01T00:00:00.000000000
Epoch	VALIDMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch	SCALEMIN	CDF_TIME_TT2000	1990-01-01T00:00:00.000000000
Epoch	SCALEMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch	LABLAXIS	CDF_CHAR	Epoch
Epoch	UNITS	CDF_CHAR	ns

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 774

Tab. 4.111 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
Epoch	VAR_TYPE	CDF_CHAR	support_data
Epoch	SCALETYP	CDF_CHAR	linear
Epoch	MONOTON	CDF_CHAR	INCREASE
Epoch	TIME_BASE	CDF_CHAR	J2000
Epoch	TIME_SCALE	CDF_CHAR	Terrestrial Time
Epoch	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
Epoch	Resolution	CDF_CHAR	15258 ns
Epoch	Bin_location	CDF_CHAR	0.5
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file.
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	VALIDMIN	CDF_UINT1	0
QUALITY_FLAG	VALIDMAX	CDF_UINT1	4
QUALITY_FLAG	SCALEMIN	CDF_UINT1	0
QUALITY_FLAG	SCALEMAX	CDF_UINT1	4
QUALITY_FLAG	FILLVAL	CDF_UINT1	255
QUALITY_FLAG	LABLAXIS	CDF_CHAR	Quality flag
QUALITY_FLAG	UNITS	CDF_CHAR	
QUALITY_FLAG	VAR_TYPE	CDF_CHAR	support_data
QUALITY_FLAG	SCALETYP	CDF_CHAR	linear
QUALITY_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the quality of the data
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	UNITS	CDF_CHAR	
QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context information or status at the receiver or experiment level

continues on next page



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **775**

Tab. 4.111 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
L2_QUALITY_BITMASK	FIELDNAM	CDF_CHAR	L2_QUALITY_BITMASK
L2_QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
L2_QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
L2_QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
L2_QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
L2_QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
L2_QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
L2_QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
L2_QUALITY_BITMASK	LABLAXIS	CDF_CHAR	L2 Bitmask flag
L2_QUALITY_BITMASK	UNITS	CDF_CHAR	
L2_QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
L2_QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
L2_QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context or events that can alter data - bit0: partial saturation -bit1: full saturation
L2_QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
L2_QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
BW	FIELDNAM	CDF_CHAR	BIAS Works/BIAS Fails configuration.
BW	CATDESC	CDF_CHAR	BIAS Works/BIAS Fails configuration.
BW	DISPLAY_TYPE	CDF_CHAR	time_series
BW	VALIDMIN	CDF_UINT1	0
BW	VALIDMAX	CDF_UINT1	1
BW	SCALEMIN	CDF_UINT1	0
BW	SCALEMAX	CDF_UINT1	1
BW	FILLVAL	CDF_UINT1	255
BW	LABLAXIS	CDF_CHAR	BW
BW	UNITS	CDF_CHAR	
BW	VAR_TYPE	CDF_CHAR	support_data
BW	SCALETYP	CDF_CHAR	linear
BW	VAR_NOTES	CDF_CHAR	
BW	DEPEND_0	CDF_CHAR	Epoch
BW	FORMAT	CDF_CHAR	I3.3
VDC_LABEL	FIELDNAM	CDF_CHAR	VDC label
VDC_LABEL	CATDESC	CDF_CHAR	Labels of the DC probe potentials
VDC_LABEL	VAR_TYPE	CDF_CHAR	metadata

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 776

Tab. 4.111 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
VDC_LABEL	FORMAT	CDF_CHAR	A4
EDC_LABEL	FIELDNAM	CDF_CHAR	EDC label
EDC_LABEL	CATDESC	CDF_CHAR	Labels of the DC potential differences
EDC_LABEL	VAR_TYPE	CDF_CHAR	metadata
EDC_LABEL	FORMAT	CDF_CHAR	A5
EAC_LABEL	FIELDNAM	CDF_CHAR	EAC label
EAC_LABEL	CATDESC	CDF_CHAR	Labels of the AC potential differences
EAC_LABEL	VAR_TYPE	CDF_CHAR	metadata
EAC_LABEL	FORMAT	CDF_CHAR	A5
VDC	FIELDNAM	CDF_CHAR	Probe to spacecraft potential
VDC	CATDESC	CDF_CHAR	Probe to spacecraft potential (probes 1,2,3)
VDC	DISPLAY_TYPE	CDF_CHAR	time_series
VDC	VALIDMIN	CDF_REAL4	-1.0e+30
VDC	VALIDMAX	CDF_REAL4	1.0e+30
VDC	SCALEMIN	CDF_REAL4	-1.0e+30
VDC	SCALEMAX	CDF_REAL4	1.0e+30
VDC	FILLVAL	CDF_REAL4	-1.0e+31
VDC	LABLAXIS	CDF_CHAR	VDC
VDC	UNITS	CDF_CHAR	V
VDC	VAR_TYPE	CDF_CHAR	data
VDC	SCALETYP	CDF_CHAR	linear
VDC	VAR_NOTES	CDF_CHAR	
VDC	DEPEND_0	CDF_CHAR	Epoch
VDC	FORMAT	CDF_CHAR	F8.2
VDC	DELTA_PLUS_VAR	CDF_CHAR	DELTA_PLUS_MINUS
VDC	DELTA_MINUS_VAR	CDF_CHAR	DELTA_PLUS_MINUS
VDC	LABL_PTR_1	CDF_CHAR	VDC_LABEL
VDC	SI_CONVERSION	CDF_CHAR	V>V
EDC	FIELDNAM	CDF_CHAR	Probe potential difference
EDC	CATDESC	CDF_CHAR	Probe to probe voltages (probes V1-V2, V1-V3, V2-V3)
EDC	DISPLAY_TYPE	CDF_CHAR	time_series
EDC	VALIDMIN	CDF_REAL4	-1.0e+30
EDC	VALIDMAX	CDF_REAL4	1.0e+30
EDC	SCALEMIN	CDF_REAL4	-1.0e+30
EDC	SCALEMAX	CDF_REAL4	1.0e+30
EDC	FILLVAL	CDF_REAL4	-1.0e+31

continues on next page



**RPW Data Product
Description Document**

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03

Date: March 11, 2021

Page: **777**

Tab. 4.111 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
EDC	LABLAXIS	CDF_CHAR	EDC
EDC	UNITS	CDF_CHAR	V
EDC	VAR_TYPE	CDF_CHAR	data
EDC	SCALETYP	CDF_CHAR	linear
EDC	VAR_NOTES	CDF_CHAR	
EDC	DEPEND_0	CDF_CHAR	Epoch
EDC	FORMAT	CDF_CHAR	F8.2
EDC	DELTA_PLUS_VAR	CDF_CHAR	DELTA_PLUS_MINUS
EDC	DELTA_MINUS_VAR	CDF_CHAR	DELTA_PLUS_MINUS
EDC	LABL_PTR_1	CDF_CHAR	EDC_LABEL
EDC	SI_CONVERSION	CDF_CHAR	V>V
EAC	FIELDNAM	CDF_CHAR	AC probe potential difference
EAC	CATDESC	CDF_CHAR	AC probe to probe voltages (probes V1-V2, V1-V3, V2-V3)
EAC	DISPLAY_TYPE	CDF_CHAR	time_series
EAC	VALIDMIN	CDF_REAL4	-1.0e+30
EAC	VALIDMAX	CDF_REAL4	1.0e+30
EAC	SCALEMIN	CDF_REAL4	-1.0e+30
EAC	SCALEMAX	CDF_REAL4	1.0e+30
EAC	FILLVAL	CDF_REAL4	-1.0e+31
EAC	LABLAXIS	CDF_CHAR	EAC
EAC	UNITS	CDF_CHAR	V
EAC	VAR_TYPE	CDF_CHAR	data
EAC	SCALETYP	CDF_CHAR	linear
EAC	VAR_NOTES	CDF_CHAR	
EAC	DEPEND_0	CDF_CHAR	Epoch
EAC	FORMAT	CDF_CHAR	F8.2
EAC	DELTA_PLUS_VAR	CDF_CHAR	DELTA_PLUS_MINUS
EAC	DELTA_MINUS_VAR	CDF_CHAR	DELTA_PLUS_MINUS
EAC	LABL_PTR_1	CDF_CHAR	EAC_LABEL
EAC	SI_CONVERSION	CDF_CHAR	V>V
IBIAS1	FIELDNAM	CDF_CHAR	Bias current 1
IBIAS1	CATDESC	CDF_CHAR	Calibrated bias current on probe 1.
IBIAS1	DISPLAY_TYPE	CDF_CHAR	time_series
IBIAS1	VALIDMIN	CDF_REAL4	-1.0e+30
IBIAS1	VALIDMAX	CDF_REAL4	1.0e+30
IBIAS1	SCALEMIN	CDF_REAL4	-1.0e+30
IBIAS1	SCALEMAX	CDF_REAL4	1.0e+30
IBIAS1	FILLVAL	CDF_REAL4	-1.0e+31

continues on next page



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **778**

Tab. 4.111 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
IBIAS1	LABLAXIS	CDF_CHAR	I_bias_1
IBIAS1	UNITS	CDF_CHAR	nA
IBIAS1	VAR_TYPE	CDF_CHAR	data
IBIAS1	SCALETYP	CDF_CHAR	linear
IBIAS1	VAR_NOTES	CDF_CHAR	
IBIAS1	DEPEND_0	CDF_CHAR	Epoch
IBIAS1	FORMAT	CDF_CHAR	F32.6
IBIAS1	SI_CONVERSION	CDF_CHAR	1.0>A
IBIAS2	FIELDNAM	CDF_CHAR	Bias current 2
IBIAS2	CATDESC	CDF_CHAR	Calibrated bias current on probe 2.
IBIAS2	DISPLAY_TYPE	CDF_CHAR	time_series
IBIAS2	VALIDMIN	CDF_REAL4	-1.0e+30
IBIAS2	VALIDMAX	CDF_REAL4	1.0e+30
IBIAS2	SCALEMIN	CDF_REAL4	-1.0e+30
IBIAS2	SCALEMAX	CDF_REAL4	1.0e+30
IBIAS2	FILLVAL	CDF_REAL4	-1.0e+31
IBIAS2	LABLAXIS	CDF_CHAR	I_bias_2
IBIAS2	UNITS	CDF_CHAR	nA
IBIAS2	VAR_TYPE	CDF_CHAR	data
IBIAS2	SCALETYP	CDF_CHAR	linear
IBIAS2	VAR_NOTES	CDF_CHAR	
IBIAS2	DEPEND_0	CDF_CHAR	Epoch
IBIAS2	FORMAT	CDF_CHAR	F32.6
IBIAS2	SI_CONVERSION	CDF_CHAR	1.0>A
IBIAS3	FIELDNAM	CDF_CHAR	Bias current 3
IBIAS3	CATDESC	CDF_CHAR	Calibrated bias current on probe 3.
IBIAS3	DISPLAY_TYPE	CDF_CHAR	time_series
IBIAS3	VALIDMIN	CDF_REAL4	-1.0e+30
IBIAS3	VALIDMAX	CDF_REAL4	1.0e+30
IBIAS3	SCALEMIN	CDF_REAL4	-1.0e+30
IBIAS3	SCALEMAX	CDF_REAL4	1.0e+30
IBIAS3	FILLVAL	CDF_REAL4	-1.0e+31
IBIAS3	LABLAXIS	CDF_CHAR	I_bias_3
IBIAS3	UNITS	CDF_CHAR	nA
IBIAS3	VAR_TYPE	CDF_CHAR	data
IBIAS3	SCALETYP	CDF_CHAR	linear
IBIAS3	VAR_NOTES	CDF_CHAR	
IBIAS3	DEPEND_0	CDF_CHAR	Epoch
IBIAS3	FORMAT	CDF_CHAR	F32.6


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 779

Tab. 4.111 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
IBIAS3	SI_CONVERSION	CDF_CHAR	1.0>A
DELTA_PLUS_MINUS	FIELDNAM	CDF_CHAR	DELTA_PLUS_MINUS
DELTA_PLUS_MINUS	CATDESC	CDF_CHAR	Time between sample times-tamp and beginning/end of integration. Total integration time is twice this value.
DELTA_PLUS_MINUS	DISPLAY_TYPE	CDF_CHAR	time_series
DELTA_PLUS_MINUS	VALIDMIN	CDF_INT8	0
DELTA_PLUS_MINUS	VALIDMAX	CDF_INT8	4
DELTA_PLUS_MINUS	SCALEMIN	CDF_INT8	0
DELTA_PLUS_MINUS	SCALEMAX	CDF_INT8	4
DELTA_PLUS_MINUS	FILLVAL	CDF_INT8	-9223372036854775808
DELTA_PLUS_MINUS	LABLAXIS	CDF_CHAR	Delta plus minus
DELTA_PLUS_MINUS	UNITS	CDF_CHAR	ns
DELTA_PLUS_MINUS	VAR_TYPE	CDF_CHAR	support_data
DELTA_PLUS_MINUS	SCALETYP	CDF_CHAR	linear
DELTA_PLUS_MINUS	VAR_NOTES	CDF_CHAR	
DELTA_PLUS_MINUS	DEPEND_0	CDF_CHAR	Epoch
DELTA_PLUS_MINUS	FORMAT	CDF_CHAR	I1.1
SYNCHRO_FLAG	FIELDNAM	CDF_CHAR	SYNCHRO_FLAG
SYNCHRO_FLAG	CATDESC	CDF_CHAR	Time synchronisation flag
SYNCHRO_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
SYNCHRO_FLAG	VALIDMIN	CDF_UINT1	0
SYNCHRO_FLAG	VALIDMAX	CDF_UINT1	1
SYNCHRO_FLAG	SCALEMIN	CDF_UINT1	0
SYNCHRO_FLAG	SCALEMAX	CDF_UINT1	1
SYNCHRO_FLAG	FILLVAL	CDF_UINT1	255
SYNCHRO_FLAG	LABLAXIS	CDF_CHAR	time sync. flag
SYNCHRO_FLAG	UNITS	CDF_CHAR	
SYNCHRO_FLAG	VAR_TYPE	CDF_CHAR	support_data
SYNCHRO_FLAG	SCALETYP	CDF_CHAR	linear
SYNCHRO_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate if the local time is synchronized with the RPW DPU clock or not. Possible values: synchronized=0, not synchronized=1. This flag is extracted from ACQUISITION_TIME in L0 packets, it is the MSB of the CUC time.
SYNCHRO_FLAG	DEPEND_0	CDF_CHAR	Epoch
SYNCHRO_FLAG	FORMAT	CDF_CHAR	I3.3

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 780

Tab. 4.111 – continued from previous page


Variable Name	Attribute Name	Data Type	Value
SAMPLING_RATE	FIELDNAM	CDF_CHAR	Sampling rate
SAMPLING_RATE	CATDESC	CDF_CHAR	Sampling frequency of the waveform
SAMPLING_RATE	DISPLAY_TYPE	CDF_CHAR	time_series
SAMPLING_RATE	VALIDMIN	CDF_REAL4	16.0
SAMPLING_RATE	VALIDMAX	CDF_REAL4	24576.0
SAMPLING_RATE	SCALEMIN	CDF_REAL4	16.0
SAMPLING_RATE	SCALEMAX	CDF_REAL4	24576.0
SAMPLING_RATE	FILLVAL	CDF_REAL4	-1.0e+31
SAMPLING_RATE	LABLAXIS	CDF_CHAR	Fe
SAMPLING_RATE	UNITS	CDF_CHAR	Hz
SAMPLING_RATE	VAR_TYPE	CDF_CHAR	support_data
SAMPLING_RATE	SCALETYP	CDF_CHAR	linear
SAMPLING_RATE	VAR_NOTES	CDF_CHAR	sampling frequency of the waveform : F0, F1, F2 or F3
SAMPLING_RATE	DEPEND_0	CDF_CHAR	Epoch
SAMPLING_RATE	FORMAT	CDF_CHAR	F8.2

4.1.3.24.6 Non-Record-Variant (NRV) Variables

Variable Name	Index	Value
VDC_LABEL	1	Vdc1
VDC_LABEL	2	Vdc2
VDC_LABEL	3	Vdc3
EDC_LABEL	1	Vdc12
EDC_LABEL	2	Vdc13
EDC_LABEL	3	Vdc23
EAC_LABEL	1	Vac12
EAC_LABEL	2	Vac13
EAC_LABEL	3	Vac23

4.1.3.25 SOLO_L2_RPW-LFR-SURV-CWF-B data product

The “SOLO_L2_RPW-LFR-SURV-CWF-B” data product contains the calibrated LFR receiver Continuous Waveform survey data for magnetic component only. The “SOLO_L2_RPW-LFR-SURV-CWF-B” data are written in CDF format files. There is a single file per day, generated from data in the corresponding SOLO_L1_RPW-LFR-SURV-CWF parent file.

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 781

4.1.3.25.1 Filename

```
solo_L2_rpw-lfr-surv-cwf-b_[YYYYMMDD]_V[version].cdf
```

4.1.3.25.2 Expected cadence and data volume


Nominal cadence: 1 file per day

Expected data volume: 200 MB per file

4.1.3.25.3 Global Attributes

Attribute Name	Entry Number	Data Type	Value
Logical_source_description	1	CDF_CHAR	Solar Orbiter Radio/Plasma Wave, LFR L2 magnetic parameters
Instrument_type	1	CDF_CHAR	Radio and Plasma Waves (space)
SOOP_TYPE	1	CDF_CHAR	
Discipline	1	CDF_CHAR	Space Physics>Interplanetary Studies
Descriptor	1	CDF_CHAR	LFR>Low Frequency Receiver
CAL_ENTITY_NAME	1	CDF_CHAR	LPC2E
SPECTRAL_RANGE_MAX	1	CDF_CHAR	
Datetime	1	CDF_CHAR	
SPECTRAL_RANGE_MIN	1	CDF_CHAR	
PI_affiliation	1	CDF_CHAR	LESIA, Observatoire de Paris-CNRS
TEXT_supplement_1	1	CDF_CHAR	
LINK_TEXT	1	CDF_CHAR	RPW Web site at LESIA
CALIBRATION_TABLE	1	CDF_CHAR	
Data_type	1	CDF_CHAR	H0>High Resolution data
TEXT	1	CDF_CHAR	This file contains RPW LFR level 2 continuous waveform of magnetic data in survey mode
Generated_by	1	CDF_CHAR	RPW Operations Centre located at LESIA (Meudon, France)
CAL_ENTITY_AFFILIATION	1	CDF_CHAR	CNRS
Software_name	1	CDF_CHAR	
CALIBRATION_VERSION	1	CDF_CHAR	
TARGET_NAME	1	CDF_CHAR	Sun
TIME_MAX	1	CDF_CHAR	


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 782

Tab. 4.112 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
CAVEATS	1	CDF_CHAR	
ACCESS_FORMAT	1	CDF_CHAR	CDF
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00006-LES (1.3)
Pipeline_name	1	CDF_CHAR	
File_naming_convention	1	CDF_CHAR	<Source_name>_<LEVEL>_<Descriptor>_<Date>
LEVEL	1	CDF_CHAR	L2>Level 2 data processing
Data_product	1	CDF_CHAR	SURV-CWF-B>SURV-CWF-B
Mission_group	1	CDF_CHAR	Solar Orbiter
TIME_MIN	1	CDF_CHAR	
TARGET_CLASS	1	CDF_CHAR	Star
Logical_source	1	CDF_CHAR	solo_L2_rpw-lfr-surv-cwf-b
Skeleton_version	1	CDF_CHAR	12
Data_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	SOLO>Solar Orbiter
File_ID	1	CDF_CHAR	
OBS_ID	1	CDF_CHAR	
SKELETON_PARENT	1	CDF_CHAR	SOLO_L2_RPW-LFR-SURV-CWF-B_V12.cdf
LINK_TITLE	1	CDF_CHAR	RPW Web site
Free_field	1	CDF_CHAR	
Logical_file_id	1	CDF_CHAR	
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009 (2.4)
Validate	1	CDF_CHAR	
Provider	1	CDF_CHAR	LESIA (Meudon, France)
SPICE_KERNELS	1	CDF_CHAR	
SKELETON_MODS	1	CDF_CHAR	2017-12-15, J-Y Brochot (CNRS-LPC2E), initial release
SKELETON_MODS	2	CDF_CHAR	V04: Update for solo data definition, X. BONNIN (CNRS-LESIA), April 2019
SKELETON_MODS	3	CDF_CHAR	V05: Update to compliant with SOL-SGS-TN-0009 Issue 2, Rev 4 - X.Bonnin, 09/2019
SKELETON_MODS	4	CDF_CHAR	V06: add B_RTN and MAG_LABEL_RTN variables, J-Y Brochot, 12/2019
SKELETON_MODS	5	CDF_CHAR	V07: March 2020 : Standardize SAMPLING_RATE and delete Test_* g.attrs - X.Bonnin (CNRS, LESIA)


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 783

Tab. 4.112 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
SKELETON_MODS	6	CDF_CHAR	V07: Suppress zVars POST_GAP_FLAG, ACQUISITION_TIME, ACQUISITION_TIME_UNITS and ACQUISITION_TIME_LABEL - J-Y Brochot, March 2020
SKELETON_MODS	7	CDF_CHAR	V08: Add gAttr SPICE_KERNELS - J-Y Brochot, April 2020
SKELETON_MODS	8	CDF_CHAR	V09: Complete the zAttr of CALIBRATION_TABLE_INDEX - J-Y Brochot, May 2020
SKELETON_MODS	9	CDF_CHAR	V10: Add zVar L2_QUALITY_BITMASK - J-Y Brochot, Aug 2020
SKELETON_MODS	10	CDF_CHAR	V11: Suppress zVar SYNCHRO_FLAG - J-Y Brochot, Sept 2020
SKELETON_MODS	11	CDF_CHAR	V12: Jan. 2021 : Fix inconsistencies against the ISTP CDF guidelines, X.Bonnin (CNRS-LESIA)
ACCESS_URL	1	CDF_CHAR	
Pipeline_version	1	CDF_CHAR	
Project	1	CDF_CHAR	SOLO>Solar Orbiter
Generation_date	1	CDF_CHAR	
Parents	1	CDF_CHAR	
Dataset_ID	1	CDF_CHAR	SOLO_L2_RPW-LFR-SURV-CWF-B
Acknowledgement	1	CDF_CHAR	The authors are pleased to acknowledge the Solar Orbiter/RPW Investigation (M. Maksimovic, PIs) for access to data.
CAL_EQUIPMENT	1	CDF_CHAR	SCM
Job_ID	1	CDF_CHAR	
PI_name	1	CDF_CHAR	M.Maksimovic

continues on next page


	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 784

Tab. 4.112 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Rules_of_use	1	CDF_CHAR	Data provided are publicly available. If used in presentations or publications, please acknowledge Solar Orbiter/RPW Investigation (M. Maksimovic, PIs). Please read carefully the caveats attached to the data. For reporting purposes, we request bibliography information for any publication, etc., using these data. Please send information on the use of this data to: M. Maksimovic (PI).
TARGET_REGION	1	CDF_CHAR	Solar Wind
Software_version	1	CDF_CHAR	
Parent_version	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	https://rpw.lesia.obspm.fr
MODS	1	CDF_CHAR	

4.1.3.25.4 zVariables

Variable Name	Data Type	Number Elements	Dims	Sizes
QUALITY_FLAG	CDF_UINT1	1	0	
SURVEY_MODE	CDF_UINT1	1	0	
MAG_LABEL	CDF_CHAR	2	1	3
CALIBRATION_TABLE_INDEX	CDF_UINT1	1	2	2 2
B	CDF_REAL4	1	1	3
SAMPLING_RATE	CDF_REAL4	1	0	
Epoch	CDF_TIME_TT2000	1	0	
QUALITY_BITMASK	CDF_UINT2	1	0	
L2_QUALITY_BITMASK	CDF_UINT2	1	0	
B_RTN	CDF_REAL4	1	1	3
MAG_LABEL_RTN	CDF_CHAR	5	1	3

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 785

4.1.3.25.5 Variable attributes

Variable Name	Attribute Name	Data Type	Value
QUALITY_FLAG	VALIDMIN	CDF_UINT1	0
QUALITY_FLAG	VALIDMAX	CDF_UINT1	4
QUALITY_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the quality of the data
QUALITY_FLAG	SCALEMAX	CDF_UINT1	4
QUALITY_FLAG	UNITS	CDF_CHAR	
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	SCALEMIN	CDF_UINT1	0
QUALITY_FLAG	VAR_TYPE	CDF_CHAR	support_data
QUALITY_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	SCALETYP	CDF_CHAR	linear
QUALITY_FLAG	FILLVAL	CDF_UINT1	255
QUALITY_FLAG	LABLAXIS	CDF_CHAR	Quality flag
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
SURVEY_MODE	VALIDMIN	CDF_UINT1	0
SURVEY_MODE	VALIDMAX	CDF_UINT1	1
SURVEY_MODE	VAR_NOTES	CDF_CHAR	Flag to indicate if the receiver in the SURVEY_BURST (=1) or SURVEY_NORMAL (=0) mode
SURVEY_MODE	SCALEMAX	CDF_UINT1	1
SURVEY_MODE	UNITS	CDF_CHAR	
SURVEY_MODE	FIELDNAM	CDF_CHAR	SURVEY_MODE
SURVEY_MODE	SCALEMIN	CDF_UINT1	0
SURVEY_MODE	VAR_TYPE	CDF_CHAR	data
SURVEY_MODE	DISPLAY_TYPE	CDF_CHAR	time_series
SURVEY_MODE	CATDESC	CDF_CHAR	LFR survey mode
SURVEY_MODE	SCALETYP	CDF_CHAR	linear
SURVEY_MODE	FILLVAL	CDF_UINT1	255
SURVEY_MODE	LABLAXIS	CDF_CHAR	LFR survey mode
SURVEY_MODE	DEPEND_0	CDF_CHAR	Epoch
SURVEY_MODE	FORMAT	CDF_CHAR	I1.1
MAG_LABEL	FIELDNAM	CDF_CHAR	MAG_LABEL
MAG_LABEL	VAR_TYPE	CDF_CHAR	metadata
MAG_LABEL	CATDESC	CDF_CHAR	Labels of the Magnetic fields components
MAG_LABEL	FORMAT	CDF_CHAR	A2

continues on next page



**RPW Data Product
Description Document**

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **786**

Tab. 4.113 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
CALIBRATION_TABLE_INDEX	VALIDMIN	CDF_UINT1	0
CALIBRATION_TABLE_INDEX	VALIDMAX	CDF_UINT1	254
CALIBRATION_TABLE_INDEX	VAR_NOTES	CDF_CHAR	Indexes (i,j) giving gEntry of Global attribute 'CALIBRATION_TABLE', and record number in the Calibration Table.
CALIBRATION_TABLE_INDEX	SCALEMAX	CDF_UINT1	254
CALIBRATION_TABLE_INDEX	UNITS	CDF_CHAR	
CALIBRATION_TABLE_INDEX	FIELDNAM	CDF_CHAR	CALIBRATION_TABLE_INDEX
CALIBRATION_TABLE_INDEX	SCALEMIN	CDF_UINT1	0
CALIBRATION_TABLE_INDEX	VAR_TYPE	CDF_CHAR	support_data
CALIBRATION_TABLE_INDEX	DISPLAY_TYPE	CDF_CHAR	time_series
CALIBRATION_TABLE_INDEX	CATDESC	CDF_CHAR	Informations about calibration tables used
CALIBRATION_TABLE_INDEX	SCALETYP	CDF_CHAR	linear
CALIBRATION_TABLE_INDEX	FILLVAL	CDF_UINT1	255
CALIBRATION_TABLE_INDEX	EXBLAXIS	CDF_CHAR	Calibration table index
CALIBRATION_TABLE_INDEX	DEPEND_0	CDF_CHAR	Epoch
CALIBRATION_TABLE_INDEX	FORMAT	CDF_CHAR	I3.3
B	VALIDMIN	CDF_REAL4	-1.0e+30
B	VALIDMAX	CDF_REAL4	1.0e+30
B	VAR_NOTES	CDF_CHAR	3 entry array with magnetic field values (B3x, B1y, B2z)
B	SCALEMAX	CDF_REAL4	1.0e+30
B	UNITS	CDF_CHAR	nT
B	FIELDNAM	CDF_CHAR	Magnetic field
B	SCALEMIN	CDF_REAL4	-1.0e+30
B	VAR_TYPE	CDF_CHAR	data
B	DISPLAY_TYPE	CDF_CHAR	time_series
B	CATDESC	CDF_CHAR	Magnetic field values (Bx, By, Bz)
B	SCALETYP	CDF_CHAR	linear
B	FILLVAL	CDF_REAL4	-1.0e+31
B	DEPEND_0	CDF_CHAR	Epoch
B	FORMAT	CDF_CHAR	F8.2
B	LABL_PTR_1	CDF_CHAR	MAG_LABEL
SAMPLING_RATE	VALIDMIN	CDF_REAL4	256.0
SAMPLING_RATE	VALIDMAX	CDF_REAL4	24576.0
SAMPLING_RATE	VAR_NOTES	CDF_CHAR	sampling frequency of the snapshot : F0, F1 or F2


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 787

Tab. 4.113 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SAMPLING_RATE	SCALEMAX	CDF_REAL4	24576.0
SAMPLING_RATE	UNITS	CDF_CHAR	Hz
SAMPLING_RATE	FIELDNAM	CDF_CHAR	Sampling rate
SAMPLING_RATE	SCALEMIN	CDF_REAL4	256.0
SAMPLING_RATE	VAR_TYPE	CDF_CHAR	support_data
SAMPLING_RATE	DISPLAY_TYPE	CDF_CHAR	time_series
SAMPLING_RATE	CATDESC	CDF_CHAR	Sampling frequency of the snapshot
SAMPLING_RATE	SCALETYP	CDF_CHAR	linear
SAMPLING_RATE	FILLVAL	CDF_REAL4	-1.0e+31
SAMPLING_RATE	LABLAXIS	CDF_CHAR	Fe
SAMPLING_RATE	DEPEND_0	CDF_CHAR	Epoch
SAMPLING_RATE	FORMAT	CDF_CHAR	F8.2
Epoch	VALIDMIN	CDF_TIME_TT2000	2000-01-01T00:00:00.000000000
Epoch	VALIDMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch	Resolution	CDF_CHAR	15258 ns
Epoch	TIME_SCALE	CDF_CHAR	Terrestrial Time
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file.
Epoch	TIME_BASE	CDF_CHAR	J2000
Epoch	SCALEMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
Epoch	UNITS	CDF_CHAR	ns
Epoch	Bin_location	CDF_CHAR	0.5
Epoch	MONOTON	CDF_CHAR	INCREASE
Epoch	FIELDNAM	CDF_CHAR	Epoch
Epoch	SCALEMIN	CDF_TIME_TT2000	1990-01-01T00:00:00.000000000
Epoch	VAR_TYPE	CDF_CHAR	support_data
Epoch	DISPLAY_TYPE	CDF_CHAR	time_series
Epoch	CATDESC	CDF_CHAR	Default time
Epoch	SCALETYP	CDF_CHAR	linear
Epoch	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch	LABLAXIS	CDF_CHAR	Epoch
QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 788

Tab. 4.113 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context information or status at the receiver or experiment level
QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
QUALITY_BITMASK	UNITS	CDF_CHAR	
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
L2_QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
L2_QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
L2_QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context or events that can alterate data -bit0: SCM outworking or unknown temperature -bit1: SCM heater on/off transition -bit2: LFR onboard calibration signal
L2_QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
L2_QUALITY_BITMASK	UNITS	CDF_CHAR	
L2_QUALITY_BITMASK	FIELDNAM	CDF_CHAR	L2_QUALITY_BITMASK
L2_QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
L2_QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
L2_QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
L2_QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
L2_QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
L2_QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
L2_QUALITY_BITMASK	LABLAXIS	CDF_CHAR	L2 Bitmask flag
L2_QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
L2_QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
B_RTN	VALIDMIN	CDF_REAL4	-1.0e+30
B_RTN	VALIDMAX	CDF_REAL4	1.0e+30
B_RTN	VAR_NOTES	CDF_CHAR	3 entry array with magnetic field values (Bxrtn, Byrtn, Bzrtn)

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 789

Tab. 4.113 – continued from previous page


Variable Name	Attribute Name	Data Type	Value
B_RTN	SCALEMAX	CDF_REAL4	1.0e+30
B_RTN	UNITS	CDF_CHAR	nT
B_RTN	FIELDNAM	CDF_CHAR	Magnetic field in RTN frame
B_RTN	SCALEMIN	CDF_REAL4	-1.0e+30
B_RTN	VAR_TYPE	CDF_CHAR	data
B_RTN	DISPLAY_TYPE	CDF_CHAR	time_series
B_RTN	CATDESC	CDF_CHAR	Magnetic field values (Bxrtn, Byrtn, Bzrtn)
B_RTN	SCALETYP	CDF_CHAR	linear
B_RTN	FILLVAL	CDF_REAL4	-1.0e+31
B_RTN	DEPEND_0	CDF_CHAR	Epoch
B_RTN	FORMAT	CDF_CHAR	F8.2
B_RTN	LABL_PTR_1	CDF_CHAR	MAG_LABEL_RTN
MAG_LABEL_RTN	FIELDNAM	CDF_CHAR	MAG_LABEL_RTN
MAG_LABEL_RTN	VAR_TYPE	CDF_CHAR	metadata
MAG_LABEL_RTN	CATDESC	CDF_CHAR	Labels of the Magnetic fields components in the RTN frame
MAG_LABEL_RTN	FORMAT	CDF_CHAR	A5

4.1.3.25.6 Non-Record-Variant (NRV) Variables

Variable Name	Index	Value
MAG_LABEL	1	Bx
MAG_LABEL	2	By
MAG_LABEL	3	Bz
MAG_LABEL_RTN	1	Bxrtn
MAG_LABEL_RTN	2	Byrtn
MAG_LABEL_RTN	3	Bzrtn

4.1.3.26 SOLO_L2_RPW-LFR-SURV-SWF-E data product

The “SOLO_L2_RPW-LFR-SURV-SWF-E” data product contains the calibrated LFR receiver Snapshot Waveform survey data for electrical components only. The “SOLO_L2_RPW-LFR-SURV-SWF-E” data are written in CDF format files. There is a single file per day, generated from data in the corresponding SOLO_L1_RPW-LFR-SURV-SWF parent file.

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 790

4.1.3.26.1 Filename

```
solo_L2_rpw-lfr-surv-swf-e_[YYYYMMDD]_V[version].cdf
```


4.1.3.26.2 Expected cadence and data volume

Nominal cadence: 1 file per day

Expected data volume: 150 MB per file

4.1.3.26.3 Global Attributes


Attribute Name	Entry Number	Data Type	Value
ACCESS_FORMAT	1	CDF_CHAR	CDF
ACCESS_URL	1	CDF_CHAR	
Acknowledgement	1	CDF_CHAR	The authors are pleased to acknowledge the Solar Orbiter/RPW Investigation (M. Maksimovic, PIs) for access to data.
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009 (2.4)
Calibration_version	1	CDF_CHAR	
Data_type	1	CDF_CHAR	H0>High Resolution data
Data_version	1	CDF_CHAR	
Descriptor	1	CDF_CHAR	RPW-LFR-SURV-SWF-E>RPW Low Frequency Receiver Snapshot Waveform in survey mode. Electric component.
Discipline	1	CDF_CHAR	Space Physics>Interplanetary Studies
File_naming_convention	1	CDF_CHAR	<Source_name>_<LEVEL>_<Descriptor>_<Date>
File_ID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	RPW Operations Centre located at LESIA (Meudon, France)
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	https://rpw.lesia.obspm.fr
Instrument_type	1	CDF_CHAR	Radio and Plasma Waves (space)
LINK_TEXT	1	CDF_CHAR	RPW Web site at LESIA
LINK_TITLE	1	CDF_CHAR	RPW Web site
Logical_file_id	1	CDF_CHAR	
Logical_source	1	CDF_CHAR	solo_L2_rpw-lfr-surv-swf-e
Logical_source_description	1	CDF_CHAR	Solar Orbiter Radio/Plasma Wave, LFR L2 electric parameters

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 791

Tab. 4.114 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Mission_group	1	CDF_CHAR	Solar Orbiter
SKELETON_MODS	1	CDF_CHAR	July 2016, IRF-U, initial release
SKELETON_MODS	2	CDF_CHAR	V04: Update for solo data definition, X. BONNIN (CNRS-LESIA), April 2019
SKELETON_MODS	3	CDF_CHAR	V05: Update to compliant with SOL-SGS-TN-0009 Issue 2, Rev 4 - X.Bonnin, 09/2019
SKELETON_MODS	4	CDF_CHAR	V06: March 2020 : Standardize SAMPLING_RATE and delete Test_* g.attrs - X.Bonnin (CNRS, LESIA)
SKELETON_MODS	5	CDF_CHAR	V07: March 2020 : zVar name changes V->VDC and E->EDC and typos - E.Johansson (IRF)
SKELETON_MODS	6	CDF_CHAR	V08: March 2020 : zVar attribute name change DELTA_PLUS/MINUS->DELTA_PLUS/MINUS_ (ISTP compliant), L2S typo - E.Johansson (IRF)
SKELETON_MODS	7	CDF_CHAR	V09: July 2020 : zVars IBIAS1-3: attribute CATDESC corrected, UNITS A->nA. Glob.attr. MODS typos corrected. New zVar BW copied from L1 & L1R - E.Johansson (IRF)
SKELETON_MODS	8	CDF_CHAR	V10: Oct 2020 : zVars DELTA_PLUS_MINUS: set UNITS Add L2_QUALITY_BITMASK Add SPICE_KERNELS - E.Johansson (IRF)
SKELETON_MODS	9	CDF_CHAR	V11: Jan. 2021 : Fix inconsistencies against the ISTP CDF guidelines, X.Bonnin (CNRS-LESIA)
SKELETON_MODS	10	CDF_CHAR	V12: Feb. 2021 : Fix QUALITY_BITMASK type and its attributes. IBIAS1/2/3 changed to fitdata 1 sample/record. E.Johansson (IRF)
Parent_version	1	CDF_CHAR	
Parents	1	CDF_CHAR	
PI_affiliation	1	CDF_CHAR	LESIA, Observatoire de Paris-CNRS
PI_name	1	CDF_CHAR	M.Maksimovic
Pipeline_version	1	CDF_CHAR	
Project	1	CDF_CHAR	SOLO>Solar Orbiter


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 792

Tab. 4.114 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Provider	1	CDF_CHAR	LESIA (Meudon, France)
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00006-LES (1.3)
Rules_of_use	1	CDF_CHAR	Data provided are publicly available. If used in presentations or publications, please acknowledge Solar Orbiter/RPW Investigation (M. Maksimovic, PIs). Please read carefully the caveats attached to the data. For reporting purposes, we request bibliography information for any publication, etc., using these data. Please send information on the use of this data to: M. Maksimovic (PI).
SKELETON_PARENT	1	CDF_CHAR	SOLO_L2_RPW-LFR-SURV-SWF-E_V11.cdf
Skeleton_version	1	CDF_CHAR	12
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	SOLO>Solar Orbiter
SPECTRAL_RANGE_MAX	1	CDF_CHAR	
SPECTRAL_RANGE_MIN	1	CDF_CHAR	
SPICE_KERNELS	1	CDF_CHAR	
TEXT	1	CDF_CHAR	This file contains RPW LFR level 2 snapshot waveform of electric data in survey mode.
TEXT_supplement_1	1	CDF_CHAR	
TIME_MAX	1	CDF_CHAR	
TIME_MIN	1	CDF_CHAR	
Validate	1	CDF_CHAR	
CAVEATS	1	CDF_CHAR	
CAL_ENTITY_NAME	1	CDF_CHAR	
CAL_ENTITY_AFFILIATION	1	CDF_CHAR	
CAL_EQUIPMENT	1	CDF_CHAR	
CALIBRATION_TABLE	1	CDF_CHAR	
CALIBRATION_VERSION	1	CDF_CHAR	
Datetime	1	CDF_CHAR	
Free_field	1	CDF_CHAR	
Job_ID	1	CDF_CHAR	
LEVEL	1	CDF_CHAR	L2>Level 2 data processing
SOOP_TYPE	1	CDF_CHAR	

continues on next page


	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 793

Tab. 4.114 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Data_product	1	CDF_CHAR	SURV-SWF-E>SURV-SWF-E
TARGET_NAME	1	CDF_CHAR	Sun
TARGET_CLASS	1	CDF_CHAR	Star
TARGET_REGION	1	CDF_CHAR	Solar Wind
Pipeline_name	1	CDF_CHAR	
Dataset_ID	1	CDF_CHAR	SOLO_L2_RPW-LFR-SURV-SWF-E
OBS_ID	1	CDF_CHAR	
MODS	1	CDF_CHAR	

4.1.3.26.4 zVariables


Variable Name	Data Type	Number Elements	Dims	Sizes
Epoch	CDF_TIME_TT2000	1	0	
QUALITY_FLAG	CDF_UINT1	1	0	
QUALITY_BITMASK	CDF_UINT2	1	0	
L2_QUALITY_BITMASK	CDF_UINT2	1	0	
BW	CDF_UINT1	1	0	
VDC_LABEL	CDF_CHAR	4	1	3
EDC_LABEL	CDF_CHAR	5	1	3
EAC_LABEL	CDF_CHAR	5	1	3
VDC	CDF_REAL4	1	2	2048 3
EDC	CDF_REAL4	1	2	2048 3
EAC	CDF_REAL4	1	2	2048 3
IBIAS1	CDF_REAL4	1	0	
IBIAS2	CDF_REAL4	1	0	
IBIAS3	CDF_REAL4	1	0	
DELTA_PLUS_MINUS	CDF_INT8	1	1	2048
SAMPLING_RATE	CDF_REAL4	1	0	
SYNCHRO_FLAG	CDF_UINT1	1	0	

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 794

4.1.3.26.5 Variable attributes

Variable Name	Attribute Name	Data Type	Value
Epoch	FIELDNAM	CDF_CHAR	Epoch
Epoch	CATDESC	CDF_CHAR	Default time
Epoch	DISPLAY_TYPE	CDF_CHAR	time_series
Epoch	VALIDMIN	CDF_TIME_TT2000	2000-01-01T00:00:00.000000000
Epoch	VALIDMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch	SCALEMIN	CDF_TIME_TT2000	1990-01-01T00:00:00.000000000
Epoch	SCALEMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch	LABLAXIS	CDF_CHAR	Epoch
Epoch	UNITS	CDF_CHAR	ns
Epoch	VAR_TYPE	CDF_CHAR	support_data
Epoch	SCALETYP	CDF_CHAR	linear
Epoch	MONOTON	CDF_CHAR	INCREASE
Epoch	TIME_BASE	CDF_CHAR	J2000
Epoch	TIME_SCALE	CDF_CHAR	Terrestrial Time
Epoch	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
Epoch	Resolution	CDF_CHAR	15258 ns
Epoch	Bin_location	CDF_CHAR	0.5
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file.
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	VALIDMIN	CDF_UINT1	0
QUALITY_FLAG	VALIDMAX	CDF_UINT1	4
QUALITY_FLAG	SCALEMIN	CDF_UINT1	0
QUALITY_FLAG	SCALEMAX	CDF_UINT1	4
QUALITY_FLAG	FILLVAL	CDF_UINT1	255
QUALITY_FLAG	LABLAXIS	CDF_CHAR	Quality flag
QUALITY_FLAG	UNITS	CDF_CHAR	
QUALITY_FLAG	VAR_TYPE	CDF_CHAR	support_data
QUALITY_FLAG	SCALETYP	CDF_CHAR	linear
QUALITY_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the quality of the data


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 795

Tab. 4.115 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	UNITS	CDF_CHAR	
QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context information or status at the receiver or experiment level
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
L2_QUALITY_BITMASK	FIELDNAM	CDF_CHAR	L2_QUALITY_BITMASK
L2_QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
L2_QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
L2_QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
L2_QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
L2_QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
L2_QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
L2_QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
L2_QUALITY_BITMASK	LABLAXIS	CDF_CHAR	L2 Bitmask flag
L2_QUALITY_BITMASK	UNITS	CDF_CHAR	
L2_QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
L2_QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
L2_QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context or events that can alter data - bit0: partial saturation -bit1: full saturation
L2_QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
L2_QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
BW	FIELDNAM	CDF_CHAR	BIAS Works/BIAS Fails configuration.
BW	CATDESC	CDF_CHAR	BIAS Works/BIAS Fails configuration.

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 796

Tab. 4.115 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BW	DISPLAY_TYPE	CDF_CHAR	time_series
BW	VALIDMIN	CDF_UINT1	0
BW	VALIDMAX	CDF_UINT1	1
BW	SCALEMIN	CDF_UINT1	0
BW	SCALEMAX	CDF_UINT1	1
BW	FILLVAL	CDF_UINT1	255
BW	LABLAXIS	CDF_CHAR	BW
BW	UNITS	CDF_CHAR	
BW	VAR_TYPE	CDF_CHAR	support_data
BW	SCALETYP	CDF_CHAR	linear
BW	VAR_NOTES	CDF_CHAR	
BW	DEPEND_0	CDF_CHAR	Epoch
BW	FORMAT	CDF_CHAR	I3.3
VDC_LABEL	FIELDNAM	CDF_CHAR	VDC label
VDC_LABEL	CATDESC	CDF_CHAR	Labels of the DC probe potentials
VDC_LABEL	VAR_TYPE	CDF_CHAR	metadata
VDC_LABEL	FORMAT	CDF_CHAR	A4
EDC_LABEL	FIELDNAM	CDF_CHAR	EDC label
EDC_LABEL	CATDESC	CDF_CHAR	Labels of the DC potential differences
EDC_LABEL	VAR_TYPE	CDF_CHAR	metadata
EDC_LABEL	FORMAT	CDF_CHAR	A5
EAC_LABEL	FIELDNAM	CDF_CHAR	EAC label
EAC_LABEL	CATDESC	CDF_CHAR	Labels of the AC potential differences
EAC_LABEL	VAR_TYPE	CDF_CHAR	metadata
EAC_LABEL	FORMAT	CDF_CHAR	A5
VDC	FIELDNAM	CDF_CHAR	Probe to spacecraft potential
VDC	CATDESC	CDF_CHAR	Probe to spacecraft potential (probes 1,2,3)
VDC	DISPLAY_TYPE	CDF_CHAR	time_series
VDC	VALIDMIN	CDF_REAL4	-1.0e+30
VDC	VALIDMAX	CDF_REAL4	1.0e+30
VDC	SCALEMIN	CDF_REAL4	-1.0e+30
VDC	SCALEMAX	CDF_REAL4	1.0e+30
VDC	FILLVAL	CDF_REAL4	-1.0e+31
VDC	LABLAXIS	CDF_CHAR	VDC
VDC	UNITS	CDF_CHAR	V
VDC	VAR_TYPE	CDF_CHAR	data
VDC	SCALETYP	CDF_CHAR	linear

continues on next page



**RPW Data Product
Description Document**

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03

Date: March 11, 2021

Page: **797**

Tab. 4.115 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
VDC	VAR_NOTES	CDF_CHAR	
VDC	DEPEND_0	CDF_CHAR	Epoch
VDC	FORMAT	CDF_CHAR	F8.2
VDC	DELTA_PLUS_VAR	CDF_CHAR	DELTA_PLUS_MINUS
VDC	DELTA_MINUS_VAR	CDF_CHAR	DELTA_PLUS_MINUS
VDC	LABL_PTR_1	CDF_CHAR	VDC_LABEL
VDC	SI_CONVERSION	CDF_CHAR	V>V
EDC	FIELDNAM	CDF_CHAR	Probe potential difference
EDC	CATDESC	CDF_CHAR	Probe to probe voltages (probes V1-V2, V1-V3, V2-V3)
EDC	DISPLAY_TYPE	CDF_CHAR	time_series
EDC	VALIDMIN	CDF_REAL4	-1.0e+30
EDC	VALIDMAX	CDF_REAL4	1.0e+30
EDC	SCALEMIN	CDF_REAL4	-1.0e+30
EDC	SCALEMAX	CDF_REAL4	1.0e+30
EDC	FILLVAL	CDF_REAL4	-1.0e+31
EDC	LABLAXIS	CDF_CHAR	EDC
EDC	UNITS	CDF_CHAR	V
EDC	VAR_TYPE	CDF_CHAR	data
EDC	SCALETYP	CDF_CHAR	linear
EDC	VAR_NOTES	CDF_CHAR	
EDC	DEPEND_0	CDF_CHAR	Epoch
EDC	FORMAT	CDF_CHAR	F8.2
EDC	DELTA_PLUS_VAR	CDF_CHAR	DELTA_PLUS_MINUS
EDC	DELTA_MINUS_VAR	CDF_CHAR	DELTA_PLUS_MINUS
EDC	LABL_PTR_1	CDF_CHAR	EDC_LABEL
EDC	SI_CONVERSION	CDF_CHAR	V>V
EAC	FIELDNAM	CDF_CHAR	AC probe potential difference
EAC	CATDESC	CDF_CHAR	AC probe to probe voltages (probes V1-V2, V1-V3, V2- V3)
EAC	DISPLAY_TYPE	CDF_CHAR	time_series
EAC	VALIDMIN	CDF_REAL4	-1.0e+30
EAC	VALIDMAX	CDF_REAL4	1.0e+30
EAC	SCALEMIN	CDF_REAL4	-1.0e+30
EAC	SCALEMAX	CDF_REAL4	1.0e+30
EAC	FILLVAL	CDF_REAL4	-1.0e+31
EAC	LABLAXIS	CDF_CHAR	EAC
EAC	UNITS	CDF_CHAR	V
EAC	VAR_TYPE	CDF_CHAR	data

continues on next page



**RPW Data Product
Description Document**

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **798**

Tab. 4.115 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
EAC	SCALETYP	CDF_CHAR	linear
EAC	VAR_NOTES	CDF_CHAR	
EAC	DEPEND_0	CDF_CHAR	Epoch
EAC	FORMAT	CDF_CHAR	F8.2
EAC	DELTA_PLUS_VAR	CDF_CHAR	DELTA_PLUS_MINUS
EAC	DELTA_MINUS_VAR	CDF_CHAR	DELTA_PLUS_MINUS
EAC	LABL_PTR_1	CDF_CHAR	EAC_LABEL
EAC	SI_CONVERSION	CDF_CHAR	V>V
IBIAS1	FIELDNAM	CDF_CHAR	Bias current 1
IBIAS1	CATDESC	CDF_CHAR	Calibrated bias current on probe 1.
IBIAS1	DISPLAY_TYPE	CDF_CHAR	time_series
IBIAS1	VALIDMIN	CDF_REAL4	-1.0e+30
IBIAS1	VALIDMAX	CDF_REAL4	1.0e+30
IBIAS1	SCALEMIN	CDF_REAL4	-1.0e+30
IBIAS1	SCALEMAX	CDF_REAL4	1.0e+30
IBIAS1	FILLVAL	CDF_REAL4	-1.0e+31
IBIAS1	LABLAXIS	CDF_CHAR	I_bias_1
IBIAS1	UNITS	CDF_CHAR	nA
IBIAS1	VAR_TYPE	CDF_CHAR	data
IBIAS1	SCALETYP	CDF_CHAR	linear
IBIAS1	VAR_NOTES	CDF_CHAR	
IBIAS1	DEPEND_0	CDF_CHAR	Epoch
IBIAS1	FORMAT	CDF_CHAR	F32.6
IBIAS1	SI_CONVERSION	CDF_CHAR	1.0>A
IBIAS2	FIELDNAM	CDF_CHAR	Bias current 2
IBIAS2	CATDESC	CDF_CHAR	Calibrated bias current on probe 2.
IBIAS2	DISPLAY_TYPE	CDF_CHAR	time_series
IBIAS2	VALIDMIN	CDF_REAL4	-1.0e+30
IBIAS2	VALIDMAX	CDF_REAL4	1.0e+30
IBIAS2	SCALEMIN	CDF_REAL4	-1.0e+30
IBIAS2	SCALEMAX	CDF_REAL4	1.0e+30
IBIAS2	FILLVAL	CDF_REAL4	-1.0e+31
IBIAS2	LABLAXIS	CDF_CHAR	I_bias_2
IBIAS2	UNITS	CDF_CHAR	nA
IBIAS2	VAR_TYPE	CDF_CHAR	data
IBIAS2	SCALETYP	CDF_CHAR	linear
IBIAS2	VAR_NOTES	CDF_CHAR	
IBIAS2	DEPEND_0	CDF_CHAR	Epoch
IBIAS2	FORMAT	CDF_CHAR	F32.6


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 799

Tab. 4.115 – continued from previous page


Variable Name	Attribute Name	Data Type	Value
IBIAS2	SI_CONVERSION	CDF_CHAR	1.0>A
IBIAS3	FIELDNAM	CDF_CHAR	Bias current 3
IBIAS3	CATDESC	CDF_CHAR	Calibrated bias current on probe 3.
IBIAS3	DISPLAY_TYPE	CDF_CHAR	time_series
IBIAS3	VALIDMIN	CDF_REAL4	-1.0e+30
IBIAS3	VALIDMAX	CDF_REAL4	1.0e+30
IBIAS3	SCALEMIN	CDF_REAL4	-1.0e+30
IBIAS3	SCALEMAX	CDF_REAL4	1.0e+30
IBIAS3	FILLVAL	CDF_REAL4	-1.0e+31
IBIAS3	LABLAXIS	CDF_CHAR	I_bias_3
IBIAS3	UNITS	CDF_CHAR	nA
IBIAS3	VAR_TYPE	CDF_CHAR	data
IBIAS3	SCALETYP	CDF_CHAR	linear
IBIAS3	VAR_NOTES	CDF_CHAR	
IBIAS3	DEPEND_0	CDF_CHAR	Epoch
IBIAS3	FORMAT	CDF_CHAR	F32.6
IBIAS3	SI_CONVERSION	CDF_CHAR	1.0>A
DELTA_PLUS_MINUS	FIELDNAM	CDF_CHAR	DELTA_PLUS_MINUS
DELTA_PLUS_MINUS	CATDESC	CDF_CHAR	Time between sample times-tamp and beginning/end of integration. Total integration time is twice this value.
DELTA_PLUS_MINUS	DISPLAY_TYPE	CDF_CHAR	time_series
DELTA_PLUS_MINUS	VALIDMIN	CDF_INT8	0
DELTA_PLUS_MINUS	VALIDMAX	CDF_INT8	4
DELTA_PLUS_MINUS	SCALEMIN	CDF_INT8	0
DELTA_PLUS_MINUS	SCALEMAX	CDF_INT8	4
DELTA_PLUS_MINUS	FILLVAL	CDF_INT8	-9223372036854775808
DELTA_PLUS_MINUS	LABLAXIS	CDF_CHAR	Delta plus minus
DELTA_PLUS_MINUS	UNITS	CDF_CHAR	ns
DELTA_PLUS_MINUS	VAR_TYPE	CDF_CHAR	support_data
DELTA_PLUS_MINUS	SCALETYP	CDF_CHAR	linear
DELTA_PLUS_MINUS	VAR_NOTES	CDF_CHAR	
DELTA_PLUS_MINUS	DEPEND_0	CDF_CHAR	Epoch
DELTA_PLUS_MINUS	FORMAT	CDF_CHAR	I1.1
SAMPLING_RATE	FIELDNAM	CDF_CHAR	Sampling rate
SAMPLING_RATE	CATDESC	CDF_CHAR	Sampling frequency of the waveform
SAMPLING_RATE	DISPLAY_TYPE	CDF_CHAR	time_series
SAMPLING_RATE	VALIDMIN	CDF_REAL4	16.0

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 800

Tab. 4.115 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SAMPLING_RATE	VALIDMAX	CDF_REAL4	24576.0
SAMPLING_RATE	SCALEMIN	CDF_REAL4	16.0
SAMPLING_RATE	SCALEMAX	CDF_REAL4	24576.0
SAMPLING_RATE	FILLVAL	CDF_REAL4	-1.0e+31
SAMPLING_RATE	LABLAXIS	CDF_CHAR	Fe
SAMPLING_RATE	UNITS	CDF_CHAR	Hz
SAMPLING_RATE	VAR_TYPE	CDF_CHAR	support_data
SAMPLING_RATE	SCALETYP	CDF_CHAR	linear
SAMPLING_RATE	VAR_NOTES	CDF_CHAR	sampling frequency of the waveform : F0, F1, F2 or F3
SAMPLING_RATE	DEPEND_0	CDF_CHAR	Epoch
SAMPLING_RATE	FORMAT	CDF_CHAR	F8.2
SYNCHRO_FLAG	FIELDNAM	CDF_CHAR	SYNCHRO_FLAG
SYNCHRO_FLAG	CATDESC	CDF_CHAR	Time synchronisation flag
SYNCHRO_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
SYNCHRO_FLAG	VALIDMIN	CDF_UINT1	0
SYNCHRO_FLAG	VALIDMAX	CDF_UINT1	1
SYNCHRO_FLAG	SCALEMIN	CDF_UINT1	0
SYNCHRO_FLAG	SCALEMAX	CDF_UINT1	1
SYNCHRO_FLAG	FILLVAL	CDF_UINT1	255
SYNCHRO_FLAG	LABLAXIS	CDF_CHAR	time sync. flag
SYNCHRO_FLAG	UNITS	CDF_CHAR	
SYNCHRO_FLAG	VAR_TYPE	CDF_CHAR	support_data
SYNCHRO_FLAG	SCALETYP	CDF_CHAR	linear
SYNCHRO_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate if the local time is synchronized with the RPW DPU clock or not. Possible values: synchronized=0, not synchronized=1. This flag is extracted from ACQUISITION_TIME in L0 packets, it is the MSB of the CUC time.
SYNCHRO_FLAG	DEPEND_0	CDF_CHAR	Epoch
SYNCHRO_FLAG	FORMAT	CDF_CHAR	I3.3

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 801

4.1.3.26.6 Non-Record-Variant (NRV) Variables

Variable Name	Index	Value
VDC_LABEL	1	Vdc1
VDC_LABEL	2	Vdc2
VDC_LABEL	3	Vdc3
EDC_LABEL	1	Vdc12
EDC_LABEL	2	Vdc13
EDC_LABEL	3	Vdc23
EAC_LABEL	1	Vac12
EAC_LABEL	2	Vac13
EAC_LABEL	3	Vac23

4.1.3.27 SOLO_L2_RPW-LFR-SURV-SWF-B data product

The “SOLO_L2_RPW-LFR-SURV-SWF-B” data product contains the calibrated LFR receiver Snapshot Waveform survey data for magnetic components only. The “SOLO_L2_RPW-LFR-SURV-SWF-B” data are written in CDF format files. There is a single file per day, generated from data in the corresponding SOLO_L1_RPW-LFR-SURV-SWF-B parent file.

4.1.3.27.1 Filename

```
solo_L2_rpw-lfr-surv-swf-b_[YYYYMMDD]_V[version].cdf
```

4.1.3.27.2 Expected cadence and data volume


Nominal cadence: 1 file per day

Expected data volume: 90 MB per file

4.1.3.27.3 Global Attributes

Attribute Name	Entry Number	Data Type	Value
Logical_source_description	1	CDF_CHAR	Solar Orbiter Radio/Plasma Wave, LFR L2 magnetic parameters
CALIBRATION_VERSION	1	CDF_CHAR	


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 802

Tab. 4.116 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Free_field	1	CDF_CHAR	
Rules_of_use	1	CDF_CHAR	Data provided are publicly available. If used in presentations or publications, please acknowledge Solar Orbiter/RPW Investigation (M. Maksimovic, PIs). Please read carefully the caveats attached to the data. For reporting purposes, we request bibliography information for any publication, etc., using these data. Please send information on the use of this data to: M. Maksimovic (PI).
Parents	1	CDF_CHAR	
SOOP_TYPE	1	CDF_CHAR	
Dataset_ID	1	CDF_CHAR	SOLO_L2_RPW-LFR-SURV-SWF-B
Data_type	1	CDF_CHAR	H0>High Resolution data
ACCESS_URL	1	CDF_CHAR	
PI_affiliation	1	CDF_CHAR	LESIA, Observatoire de Paris-CNRS
Mission_group	1	CDF_CHAR	Solar Orbiter
HTTP_LINK	1	CDF_CHAR	https://rpw.lesia.obspm.fr
Parent_version	1	CDF_CHAR	
Software_name	1	CDF_CHAR	
Data_version	1	CDF_CHAR	
SPICE_KERNELS	1	CDF_CHAR	
SKELETON_MODS	1	CDF_CHAR	2017-12-15, J-Y Brochot (CNRS-LPC2E), initial release
SKELETON_MODS	2	CDF_CHAR	V04: Update for solo data definition, X. BONNIN (CNRS-LESIA), April 2019
SKELETON_MODS	3	CDF_CHAR	V05: Update to compliant with SOL-SGS-TN-0009 Issue 2, Rev 4 - X.Bonnin, 09/2019
SKELETON_MODS	4	CDF_CHAR	V06: add B_RTN and MAG_LABEL_RTN variables, J-Y Brochot, 12/2019
SKELETON_MODS	5	CDF_CHAR	V07: March 2020 : Harmonize SAMPLING_RATE zvar and Test_* g.attrs - X.Bonnin (CNRS, LESIA)


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 803

Tab. 4.116 – continued from previous page


Attribute Name	Entry Number	Data Type	Value
SKELETON_MODS	6	CDF_CHAR	V07: Suppress zVars POST_GAP_FLAG, ACQUISITION_TIME, ACQUISITION_TIME_UNITS and ACQUISITION_TIME_LABEL - J-Y Brochot, March 2020
SKELETON_MODS	7	CDF_CHAR	V08: Add gAttr SPICE_KERNELS - J-Y Brochot, April 2020
SKELETON_MODS	8	CDF_CHAR	V09: Complete the zAttr of CALIBRATION_TABLE_INDEX - J-Y Brochot, May 2020
SKELETON_MODS	9	CDF_CHAR	V10: Add zVar L2_QUALITY_BITMASK - J-Y Brochot, Aug 2020
SKELETON_MODS	10	CDF_CHAR	V11: Suppress zVar SYNCHRO_FLAG - J-Y Brochot, Sept 2020
SKELETON_MODS	11	CDF_CHAR	V12: Jan. 2021 : Fix inconsistencies against the ISTP CDF guidelines, X.Bonnin (CNRS-LESIA)
Logical_file_id	1	CDF_CHAR	
Datetime	1	CDF_CHAR	
TARGET_REGION	1	CDF_CHAR	Solar Wind
Generation_date	1	CDF_CHAR	
TARGET_NAME	1	CDF_CHAR	Sun
CAL_ENTITY_NAME	1	CDF_CHAR	LPC2E
Source_name	1	CDF_CHAR	SOLO>Solar Orbiter
LINK_TEXT	1	CDF_CHAR	RPW Web site at LESIA
Generated_by	1	CDF_CHAR	RPW Operations Centre located at LESIA (Meudon, France)
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009 (2.4)
Validate	1	CDF_CHAR	
TARGET_CLASS	1	CDF_CHAR	Star
OBS_ID	1	CDF_CHAR	
TIME_MIN	1	CDF_CHAR	
Job_ID	1	CDF_CHAR	
Pipeline_name	1	CDF_CHAR	
Skeleton_version	1	CDF_CHAR	12
LEVEL	1	CDF_CHAR	L2>Level 2 data processing
CAL_EQUIPMENT	1	CDF_CHAR	SCM

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 804

Tab. 4.116 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
File_naming_convention	1	CDF_CHAR	<Source_name>_<LEVEL>_<Descriptor>_<Date>
CAVEATS	1	CDF_CHAR	
Acknowledgement	1	CDF_CHAR	The authors are pleased to acknowledge the Solar Orbiter/RPW Investigation (M. Maksimovic, PIs) for access to data.
Logical_source	1	CDF_CHAR	solo_L2_rpw-lfr-surv-swf-b
TEXT_supplement_1	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Discipline	1	CDF_CHAR	Space Physics>Interplanetary Studies
PI_name	1	CDF_CHAR	M.Maksimovic
CALIBRATION_TABLE	1	CDF_CHAR	
TEXT	1	CDF_CHAR	This file contains RPW LFR level 2 snapshot waveform of magnetic data in survey mode
File_ID	1	CDF_CHAR	
Instrument_type	1	CDF_CHAR	Radio and Plasma Waves (space)
SPECTRAL_RANGE_MIN	1	CDF_CHAR	
Data_product	1	CDF_CHAR	SURV-SWF-B>SURV-SWF-B
SPECTRAL_RANGE_MAX	1	CDF_CHAR	
ACCESS_FORMAT	1	CDF_CHAR	CDF
Project	1	CDF_CHAR	SOLO>Solar Orbiter
Provider	1	CDF_CHAR	LESIA (Meudon, France)
LINK_TITLE	1	CDF_CHAR	RPW Web site
Pipeline_version	1	CDF_CHAR	
Descriptor	1	CDF_CHAR	LFR>Low Frequency Receiver
CAL_ENTITY_AFFILIATION	1	CDF_CHAR	CNRS
SKELETON_PARENT	1	CDF_CHAR	SOLO_L2_RPW-LFR-SURV-SWF-B_V12.cdf
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00006-LES (1.3)
TIME_MAX	1	CDF_CHAR	
MODS	1	CDF_CHAR	

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 805


4.1.3.27.4 zVariables

Variable Name	Data Type	Number Elements	Dims	Sizes
Epoch	CDF_TIME_TT2000	1	0	
B	CDF_REAL4	1	2	3 2048
B_RTN	CDF_REAL4	1	2	3 2048
QUALITY_FLAG	CDF_UINT1	1	0	
QUALITY_BITMASK	CDF_UINT2	1	0	
L2_QUALITY_BITMASK	CDF_UINT2	1	0	
SAMPLING_RATE	CDF_REAL4	1	0	
MAG_LABEL	CDF_CHAR	2	1	3
MAG_LABEL_RTN	CDF_CHAR	5	1	3
SURVEY_MODE	CDF_UINT1	1	0	
CALIBRATION_TABLE_INDEX	CDF_UINT1	1	2	2 2

4.1.3.27.5 Variable attributes

Variable Name	Attribute Name	Data Type	Value
Epoch	SCALEMIN	CDF_TIME_TT2000	1990-01-01T00:00:00.000000000
Epoch	FIELDNAM	CDF_CHAR	Epoch
Epoch	SCALEMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch	VALIDMIN	CDF_TIME_TT2000	2000-01-01T00:00:00.000000000
Epoch	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch	DISPLAY_TYPE	CDF_CHAR	time_series
Epoch	LABLAXIS	CDF_CHAR	Epoch
Epoch	UNITS	CDF_CHAR	ns
Epoch	VALIDMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch	SCALETYP	CDF_CHAR	linear
Epoch	CATDESC	CDF_CHAR	Default time
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file.
Epoch	VAR_TYPE	CDF_CHAR	support_data
Epoch	Resolution	CDF_CHAR	15258 ns
Epoch	TIME_SCALE	CDF_CHAR	Terrestrial Time


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 806

Tab. 4.117 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
Epoch	TIME_BASE	CDF_CHAR	J2000
Epoch	Bin_location	CDF_CHAR	0.5
Epoch	MONOTON	CDF_CHAR	INCREASE
Epoch	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
B	FORMAT	CDF_CHAR	F8.2
B	SCALEMIN	CDF_REAL4	-1.0e+30
B	FIELDNAM	CDF_CHAR	Magnetic field
B	SCALEMAX	CDF_REAL4	1.0e+30
B	VALIDMIN	CDF_REAL4	-1.0e+30
B	FILLVAL	CDF_REAL4	-1.0e+31
B	DISPLAY_TYPE	CDF_CHAR	time_series
B	UNITS	CDF_CHAR	nT
B	VALIDMAX	CDF_REAL4	1.0e+30
B	DEPEND_0	CDF_CHAR	Epoch
B	SCALETYP	CDF_CHAR	linear
B	CATDESC	CDF_CHAR	Magnetic field values (Bx, By, Bz)
B	VAR_NOTES	CDF_CHAR	3 entry array with magnetic field values (B3x, B1y, B2z)
B	VAR_TYPE	CDF_CHAR	data
B	LABL_PTR_1	CDF_CHAR	MAG_LABEL
B_RTN	FORMAT	CDF_CHAR	F8.2
B_RTN	SCALEMIN	CDF_REAL4	-1.0e+30
B_RTN	FIELDNAM	CDF_CHAR	Magnetic field in RTN frame
B_RTN	SCALEMAX	CDF_REAL4	1.0e+30
B_RTN	VALIDMIN	CDF_REAL4	-1.0e+30
B_RTN	FILLVAL	CDF_REAL4	-1.0e+31
B_RTN	DISPLAY_TYPE	CDF_CHAR	time_series
B_RTN	UNITS	CDF_CHAR	nT
B_RTN	VALIDMAX	CDF_REAL4	1.0e+30
B_RTN	DEPEND_0	CDF_CHAR	Epoch
B_RTN	SCALETYP	CDF_CHAR	linear
B_RTN	CATDESC	CDF_CHAR	Magnetic field values (Bxrtn, Byrtn, Bzrtn)
B_RTN	VAR_NOTES	CDF_CHAR	3 entry array with magnetic field values (Bxrtn, Byrtn, Bzrtn)
B_RTN	VAR_TYPE	CDF_CHAR	data
B_RTN	LABL_PTR_1	CDF_CHAR	MAG_LABEL_RTN
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
QUALITY_FLAG	SCALEMIN	CDF_UINT1	0


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 807

Tab. 4.117 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	SCALEMAX	CDF_UINT1	4
QUALITY_FLAG	VALIDMIN	CDF_UINT1	0
QUALITY_FLAG	FILLVAL	CDF_UINT1	255
QUALITY_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	LABLAXIS	CDF_CHAR	Quality flag
QUALITY_FLAG	UNITS	CDF_CHAR	
QUALITY_FLAG	VALIDMAX	CDF_UINT1	4
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FLAG	SCALETYP	CDF_CHAR	linear
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the quality of the data
QUALITY_FLAG	VAR_TYPE	CDF_CHAR	support_data
QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	UNITS	CDF_CHAR	
QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context information or status at the receiver or experiment level
QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
L2_QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
L2_QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
L2_QUALITY_BITMASK	FIELDNAM	CDF_CHAR	L2_QUALITY_BITMASK
L2_QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
L2_QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
L2_QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
L2_QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
L2_QUALITY_BITMASK	LABLAXIS	CDF_CHAR	L2 Bitmask flag
L2_QUALITY_BITMASK	UNITS	CDF_CHAR	
L2_QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 808

Tab. 4.117 – continued from previous page


Variable Name	Attribute Name	Data Type	Value
L2_QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
L2_QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
L2_QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
L2_QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context or events that can alterate data -bit0: SCM outworking or unknown temperature -bit1: SCM heater on/off transition -bit2: LFR onboard calibration signal
L2_QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
SAMPLING_RATE	FORMAT	CDF_CHAR	F8.2
SAMPLING_RATE	SCALEMIN	CDF_REAL4	256.0
SAMPLING_RATE	FIELDNAM	CDF_CHAR	Sampling rate
SAMPLING_RATE	SCALEMAX	CDF_REAL4	24576.0
SAMPLING_RATE	VALIDMIN	CDF_REAL4	256.0
SAMPLING_RATE	FILLVAL	CDF_REAL4	-1.0e+31
SAMPLING_RATE	DISPLAY_TYPE	CDF_CHAR	time_series
SAMPLING_RATE	LABLAXIS	CDF_CHAR	Fe
SAMPLING_RATE	UNITS	CDF_CHAR	Hz
SAMPLING_RATE	VALIDMAX	CDF_REAL4	24576.0
SAMPLING_RATE	DEPEND_0	CDF_CHAR	Epoch
SAMPLING_RATE	SCALETYP	CDF_CHAR	linear
SAMPLING_RATE	CATDESC	CDF_CHAR	Sampling frequency of the snapshot
SAMPLING_RATE	VAR_NOTES	CDF_CHAR	sampling frequency of the snapshot : F0, F1 or F2
SAMPLING_RATE	VAR_TYPE	CDF_CHAR	support_data
MAG_LABEL	FORMAT	CDF_CHAR	A2
MAG_LABEL	FIELDNAM	CDF_CHAR	MAG_LABEL
MAG_LABEL	CATDESC	CDF_CHAR	Labels of the Magnetic fields components
MAG_LABEL	VAR_NOTES	CDF_CHAR	
MAG_LABEL	VAR_TYPE	CDF_CHAR	metadata
MAG_LABEL_RTN	FORMAT	CDF_CHAR	A5
MAG_LABEL_RTN	FIELDNAM	CDF_CHAR	MAG_LABEL_RTN
MAG_LABEL_RTN	CATDESC	CDF_CHAR	Labels of the Magnetic fields components in the RTN frame
MAG_LABEL_RTN	VAR_TYPE	CDF_CHAR	metadata
SURVEY_MODE	FORMAT	CDF_CHAR	I1.1
SURVEY_MODE	SCALEMIN	CDF_UINT1	0

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 809

Tab. 4.117 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SURVEY_MODE	FIELDNAM	CDF_CHAR	SURVEY_MODE
SURVEY_MODE	SCALEMAX	CDF_UINT1	1
SURVEY_MODE	VALIDMIN	CDF_UINT1	0
SURVEY_MODE	FILLVAL	CDF_UINT1	255
SURVEY_MODE	DISPLAY_TYPE	CDF_CHAR	time_series
SURVEY_MODE	LABLAXIS	CDF_CHAR	LFR survey mode
SURVEY_MODE	UNITS	CDF_CHAR	
SURVEY_MODE	VALIDMAX	CDF_UINT1	1
SURVEY_MODE	DEPEND_0	CDF_CHAR	Epoch
SURVEY_MODE	SCALETYP	CDF_CHAR	linear
SURVEY_MODE	CATDESC	CDF_CHAR	LFR survey mode
SURVEY_MODE	VAR_NOTES	CDF_CHAR	Flag to indicate if the receiver in the SURVEY_BURST (=1) or SURVEY_NORMAL (=0) mode
SURVEY_MODE	VAR_TYPE	CDF_CHAR	data
CALIBRATION_TABLE_INDEX	FORMAT	CDF_CHAR	I3.3
CALIBRATION_TABLE_INDEX	SCALEMIN	CDF_UINT1	0
CALIBRATION_TABLE_INDEX	FIELDNAM	CDF_CHAR	CALIBRATION_TABLE_INDEX
CALIBRATION_TABLE_INDEX	SCALEMAX	CDF_UINT1	254
CALIBRATION_TABLE_INDEX	VALIDMIN	CDF_UINT1	0
CALIBRATION_TABLE_INDEX	FILLVAL	CDF_UINT1	255
CALIBRATION_TABLE_INDEX	DISPLAY_TYPE	CDF_CHAR	time_series
CALIBRATION_TABLE_INDEX	LABLAXIS	CDF_CHAR	Calibration table index
CALIBRATION_TABLE_INDEX	UNITS	CDF_CHAR	
CALIBRATION_TABLE_INDEX	VALIDMAX	CDF_UINT1	254
CALIBRATION_TABLE_INDEX	DEPEND_0	CDF_CHAR	Epoch
CALIBRATION_TABLE_INDEX	SCALETYP	CDF_CHAR	linear
CALIBRATION_TABLE_INDEX	CATDESC	CDF_CHAR	Informations about calibration tables used
CALIBRATION_TABLE_INDEX	VAR_NOTES	CDF_CHAR	Indexes (i,j) giving gEntry of Global attribute 'CALIBRATION_TABLE', and record number in the Calibration Table.
CALIBRATION_TABLE_INDEX	VAR_TYPE	CDF_CHAR	support_data

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 810

4.1.3.27.6 Non-Record-Variant (NRV) Variables

Variable Name	Index	Value
MAG_LABEL	1	Bx
MAG_LABEL	2	By
MAG_LABEL	3	Bz
MAG_LABEL_RTN	1	Bxrtn
MAG_LABEL_RTN	2	Byrtn
MAG_LABEL_RTN	3	Bzrtn

4.1.3.28 SOLO_L2_RPW-LFR-SBM1-CWF-E data product

The “SOLO_L2_RPW-LFR-SBM1-CWF-E” data product contains the calibrated LFR receiver Continuous Waveform data for SBM1 events for electrical components only. The “SOLO_L2_RPW-LFR-SBM1-CWF-E” data are written in CDF format files. There is a single file per SBM1 event data down-linked on-ground. The file is generated from data in the corresponding SOLO_L1_RPW-LFR-SBM1-CWF parent file.

4.1.3.28.1 Filename

```
solo_l2_rpw-lfr-sbm1-cwf-e_[YYYYMMDDThhmmss1-YYYYMMDDThhmmss2]_V[version].  
↪cdf
```

4.1.3.28.2 Expected cadence and data volume


Nominal cadence: 1 file per SBM1 event

Expected data volume: TBD MB per file

4.1.3.28.3 Global Attributes

Attribute Name	Entry Number	Data Type	Value
ACCESS_FORMAT	1	CDF_CHAR	CDF
ACCESS_URL	1	CDF_CHAR	


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 811

Tab. 4.118 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Acknowledgement	1	CDF_CHAR	The authors are pleased to acknowledge the Solar Orbiter/RPW Investigation (M. Maksimovic, PIs) for access to data.
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009 (2.4)
Calibration_version	1	CDF_CHAR	
Data_type	1	CDF_CHAR	H0>High Resolution data
Data_version	1	CDF_CHAR	
Descriptor	1	CDF_CHAR	RPW-LFR-SBM1-CWF-E>RPW Low Frequency Receiver Continuous Waveform in selective burst mode 1. Electric component.
Discipline	1	CDF_CHAR	Space Physics>Interplanetary Studies
File_naming_convention	1	CDF_CHAR	<Source_name>_<LEVEL>_<Descriptor>_<Date>
File_ID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	RPW Operations Centre located at LESIA (Meudon, France)
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	https://rpw.lesia.obspm.fr
Instrument_type	1	CDF_CHAR	Radio and Plasma Waves (space)
LINK_TEXT	1	CDF_CHAR	RPW Web site at LESIA
LINK_TITLE	1	CDF_CHAR	RPW Web site
Logical_file_id	1	CDF_CHAR	
Logical_source	1	CDF_CHAR	solo_L2_rpw-lfr-sbm1-cwf-e
Logical_source_description	1	CDF_CHAR	Solar Orbiter Radio/Plasma Wave, LFR L2 electric parameters
Mission_group	1	CDF_CHAR	Solar Orbiter
SKELETON_MODS	1	CDF_CHAR	July 2016, IRF-U, initial release
SKELETON_MODS	2	CDF_CHAR	V04: Update for solo data definition, X. BONNIN (CNRS-LESIA), April 2019
SKELETON_MODS	3	CDF_CHAR	V05: Update to compliant with SOL-SGS-TN-0009 Issue 2, Rev 4 - X.Bonnin, 09/2019
SKELETON_MODS	4	CDF_CHAR	V06: March 2020 : Standardize SAMPLING_RATE and delete Test_* g.attrs - X.Bonnin (CNRS, LESIA)
SKELETON_MODS	5	CDF_CHAR	V07: March 2020 : zVar name changes V->VDC and E->EDC and typos - E.Johansson (IRF)


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 812

Tab. 4.118 – continued from previous page


Attribute Name	Entry Number	Data Type	Value
SKELETON_MODS	6	CDF_CHAR	V08: March 2020 : zVar attribute name change DELTA_PLUS/MINUS->DELTA_PLUS/MINUS (ISTP compliant), L2S typo, removed zVars ACQUISITION_TIME* - E.Johansson (IRF)
SKELETON_MODS	7	CDF_CHAR	V09: July 2020 : zVars IBIAS1-3: attribute CATDESC corrected, UNITS A->nA. Glob.attr. MODS typos corrected. New zVar BW copied from L1 & L1R - E.Johansson (IRF)
SKELETON_MODS	8	CDF_CHAR	V10: Oct 2020 : zVars DELTA_PLUS_MINUS: set UNITS Add L2_QUALITY_BITMASK Add SPICE_KERNELS - E.Johansson (IRF)
SKELETON_MODS	9	CDF_CHAR	V11: Jan. 2021 : Fix inconsistencies against the ISTP CDF guidelines, X.Bonnin (CNRS-LESIA)
SKELETON_MODS	10	CDF_CHAR	V12: Feb. 2021 : Fix QUALITY_BITMASK type and its attributes, E.Johansson (IRF)
Parent_version	1	CDF_CHAR	
Parents	1	CDF_CHAR	
PI_affiliation	1	CDF_CHAR	LESIA, Observatoire de Paris-CNRS
PI_name	1	CDF_CHAR	M.Maksimovic
Pipeline_version	1	CDF_CHAR	
Project	1	CDF_CHAR	SOLO>Solar Orbiter
Provider	1	CDF_CHAR	LESIA (Meudon, France)
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00006-LES (1.3)
Rules_of_use	1	CDF_CHAR	Data provided are publicly available. If used in presentations or publications, please acknowledge Solar Orbiter/RPW Investigation (M. Maksimovic, PIs). Please read carefully the caveats attached to the data. For reporting purposes, we request bibliography information for any publication, etc., using these data. Please send information on the use of this data to: M. Maksimovic (PI).

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 813

Tab. 4.118 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
SKELETON_PARENT	1	CDF_CHAR	SOLO_L2_RPW-LFR-SBM1-CWF-E_V11.cdf
Skeleton_version	1	CDF_CHAR	12
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	SOLO>Solar Orbiter
SPECTRAL_RANGE_MAX	1	CDF_CHAR	
SPECTRAL_RANGE_MIN	1	CDF_CHAR	
SPICE_KERNELS	1	CDF_CHAR	
TEXT	1	CDF_CHAR	This file contains RPW LFR level 2 continuous waveform of electric data in selective burst mode 1.
TEXT_supplement_1	1	CDF_CHAR	
TIME_MAX	1	CDF_CHAR	
TIME_MIN	1	CDF_CHAR	
Validate	1	CDF_CHAR	
CAVEATS	1	CDF_CHAR	
CAL_ENTITY_NAME	1	CDF_CHAR	
CAL_ENTITY_AFFILIATION	1	CDF_CHAR	
CAL_EQUIPMENT	1	CDF_CHAR	
CALIBRATION_TABLE	1	CDF_CHAR	
CALIBRATION_VERSION	1	CDF_CHAR	
Datetime	1	CDF_CHAR	
Free_field	1	CDF_CHAR	
Job_ID	1	CDF_CHAR	
LEVEL	1	CDF_CHAR	L2>Level 2 data processing
SOOP_TYPE	1	CDF_CHAR	
Data_product	1	CDF_CHAR	SBM1-CWF-E>SBM1-CWF-E
TARGET_NAME	1	CDF_CHAR	Sun
TARGET_CLASS	1	CDF_CHAR	Star
TARGET_REGION	1	CDF_CHAR	Solar Wind
Pipeline_name	1	CDF_CHAR	
Dataset_ID	1	CDF_CHAR	SOLO_L2_RPW-LFR-SBM1-CWF-E
OBS_ID	1	CDF_CHAR	
MODS	1	CDF_CHAR	

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 814


4.1.3.28.4 zVariables

Variable Name	Data Type	Number Elements	Dims	Sizes
Epoch	CDF_TIME_TT2000	1	0	
QUALITY_FLAG	CDF_UINT1	1	0	
QUALITY_BITMASK	CDF_UINT2	1	0	
L2_QUALITY_BITMASK	CDF_UINT2	1	0	
BW	CDF_UINT1	1	0	
VDC_LABEL	CDF_CHAR	4	1	3
EDC_LABEL	CDF_CHAR	5	1	3
EAC_LABEL	CDF_CHAR	5	1	3
VDC	CDF_REAL4	1	1	3
EDC	CDF_REAL4	1	1	3
EAC	CDF_REAL4	1	1	3
IBIAS1	CDF_REAL4	1	0	
IBIAS2	CDF_REAL4	1	0	
IBIAS3	CDF_REAL4	1	0	
DELTA_PLUS_MINUS	CDF_INT8	1	0	
SYNCHRO_FLAG	CDF_UINT1	1	0	
SAMPLING_RATE	CDF_REAL4	1	0	

4.1.3.28.5 Variable attributes

Variable Name	Attribute Name	Data Type	Value
Epoch	FIELDNAM	CDF_CHAR	Epoch
Epoch	CATDESC	CDF_CHAR	Default time
Epoch	DISPLAY_TYPE	CDF_CHAR	time_series
Epoch	VALIDMIN	CDF_TIME_TT2000	2000-01-01T00:00:00.000000000
Epoch	VALIDMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch	SCALEMIN	CDF_TIME_TT2000	1990-01-01T00:00:00.000000000
Epoch	SCALEMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch	LABLAXIS	CDF_CHAR	Epoch
Epoch	UNITS	CDF_CHAR	ns


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 815

Tab. 4.119 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
Epoch	VAR_TYPE	CDF_CHAR	support_data
Epoch	SCALETYP	CDF_CHAR	linear
Epoch	MONOTON	CDF_CHAR	INCREASE
Epoch	TIME_BASE	CDF_CHAR	J2000
Epoch	TIME_SCALE	CDF_CHAR	Terrestrial Time
Epoch	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
Epoch	Resolution	CDF_CHAR	15258 ns
Epoch	Bin_location	CDF_CHAR	0.5
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file.
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	VALIDMIN	CDF_UINT1	0
QUALITY_FLAG	VALIDMAX	CDF_UINT1	4
QUALITY_FLAG	SCALEMIN	CDF_UINT1	0
QUALITY_FLAG	SCALEMAX	CDF_UINT1	4
QUALITY_FLAG	FILLVAL	CDF_UINT1	255
QUALITY_FLAG	LABLAXIS	CDF_CHAR	Quality flag
QUALITY_FLAG	UNITS	CDF_CHAR	
QUALITY_FLAG	VAR_TYPE	CDF_CHAR	support_data
QUALITY_FLAG	SCALETYP	CDF_CHAR	linear
QUALITY_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the quality of the data
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	UNITS	CDF_CHAR	
QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context information or status at the receiver or experiment level


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 816

Tab. 4.119 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
L2_QUALITY_BITMASK	FIELDNAM	CDF_CHAR	L2_QUALITY_BITMASK
L2_QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
L2_QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
L2_QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
L2_QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
L2_QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
L2_QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
L2_QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
L2_QUALITY_BITMASK	LABLAXIS	CDF_CHAR	L2 Bitmask flag
L2_QUALITY_BITMASK	UNITS	CDF_CHAR	
L2_QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
L2_QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
L2_QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context or events that can alter data - bit0: partial saturation -bit1: full saturation
L2_QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
L2_QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
BW	FIELDNAM	CDF_CHAR	BIAS Works/BIAS Fails configuration.
BW	CATDESC	CDF_CHAR	BIAS Works/BIAS Fails configuration.
BW	DISPLAY_TYPE	CDF_CHAR	time_series
BW	VALIDMIN	CDF_UINT1	0
BW	VALIDMAX	CDF_UINT1	1
BW	SCALEMIN	CDF_UINT1	0
BW	SCALEMAX	CDF_UINT1	1
BW	FILLVAL	CDF_UINT1	255
BW	LABLAXIS	CDF_CHAR	BW
BW	UNITS	CDF_CHAR	
BW	VAR_TYPE	CDF_CHAR	support_data
BW	SCALETYP	CDF_CHAR	linear
BW	VAR_NOTES	CDF_CHAR	
BW	DEPEND_0	CDF_CHAR	Epoch
BW	FORMAT	CDF_CHAR	I3.3
VDC_LABEL	FIELDNAM	CDF_CHAR	VDC label
VDC_LABEL	CATDESC	CDF_CHAR	Labels of the DC probe potentials
VDC_LABEL	VAR_TYPE	CDF_CHAR	metadata

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 817

Tab. 4.119 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
VDC_LABEL	FORMAT	CDF_CHAR	A4
EDC_LABEL	FIELDNAM	CDF_CHAR	EDC label
EDC_LABEL	CATDESC	CDF_CHAR	Labels of the DC potential differences
EDC_LABEL	VAR_TYPE	CDF_CHAR	metadata
EDC_LABEL	FORMAT	CDF_CHAR	A5
EAC_LABEL	FIELDNAM	CDF_CHAR	EAC label
EAC_LABEL	CATDESC	CDF_CHAR	Labels of the AC potential differences
EAC_LABEL	VAR_TYPE	CDF_CHAR	metadata
EAC_LABEL	FORMAT	CDF_CHAR	A5
VDC	FIELDNAM	CDF_CHAR	Probe to spacecraft potential
VDC	CATDESC	CDF_CHAR	Probe to spacecraft potential (probes 1,2,3)
VDC	DISPLAY_TYPE	CDF_CHAR	time_series
VDC	VALIDMIN	CDF_REAL4	-1.0e+30
VDC	VALIDMAX	CDF_REAL4	1.0e+30
VDC	SCALEMIN	CDF_REAL4	-1.0e+30
VDC	SCALEMAX	CDF_REAL4	1.0e+30
VDC	FILLVAL	CDF_REAL4	-1.0e+31
VDC	LABLAXIS	CDF_CHAR	VDC
VDC	UNITS	CDF_CHAR	V
VDC	VAR_TYPE	CDF_CHAR	data
VDC	SCALETYP	CDF_CHAR	linear
VDC	VAR_NOTES	CDF_CHAR	
VDC	DEPEND_0	CDF_CHAR	Epoch
VDC	FORMAT	CDF_CHAR	F8.2
VDC	DELTA_PLUS_VAR	CDF_CHAR	DELTA_PLUS_MINUS
VDC	DELTA_MINUS_VAR	CDF_CHAR	DELTA_PLUS_MINUS
VDC	LABL_PTR_1	CDF_CHAR	VDC_LABEL
VDC	SI_CONVERSION	CDF_CHAR	V>V
EDC	FIELDNAM	CDF_CHAR	Probe potential difference
EDC	CATDESC	CDF_CHAR	Probe to probe voltages (probes V1-V2, V1-V3, V2-V3)
EDC	DISPLAY_TYPE	CDF_CHAR	time_series
EDC	VALIDMIN	CDF_REAL4	-1.0e+30
EDC	VALIDMAX	CDF_REAL4	1.0e+30
EDC	SCALEMIN	CDF_REAL4	-1.0e+30
EDC	SCALEMAX	CDF_REAL4	1.0e+30
EDC	FILLVAL	CDF_REAL4	-1.0e+31

continues on next page



**RPW Data Product
Description Document**

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03

Date: March 11, 2021

Page: **818**

Tab. 4.119 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
EDC	LABLAXIS	CDF_CHAR	EDC
EDC	UNITS	CDF_CHAR	V
EDC	VAR_TYPE	CDF_CHAR	data
EDC	SCALETYP	CDF_CHAR	linear
EDC	VAR_NOTES	CDF_CHAR	
EDC	DEPEND_0	CDF_CHAR	Epoch
EDC	FORMAT	CDF_CHAR	F8.2
EDC	DELTA_PLUS_VAR	CDF_CHAR	DELTA_PLUS_MINUS
EDC	DELTA_MINUS_VAR	CDF_CHAR	DELTA_PLUS_MINUS
EDC	LABL_PTR_1	CDF_CHAR	EDC_LABEL
EDC	SI_CONVERSION	CDF_CHAR	V>V
EAC	FIELDNAM	CDF_CHAR	AC probe potential difference
EAC	CATDESC	CDF_CHAR	AC probe to probe voltages (probes V1-V2, V1-V3, V2-V3)
EAC	DISPLAY_TYPE	CDF_CHAR	time_series
EAC	VALIDMIN	CDF_REAL4	-1.0e+30
EAC	VALIDMAX	CDF_REAL4	1.0e+30
EAC	SCALEMIN	CDF_REAL4	-1.0e+30
EAC	SCALEMAX	CDF_REAL4	1.0e+30
EAC	FILLVAL	CDF_REAL4	-1.0e+31
EAC	LABLAXIS	CDF_CHAR	EAC
EAC	UNITS	CDF_CHAR	V
EAC	VAR_TYPE	CDF_CHAR	data
EAC	SCALETYP	CDF_CHAR	linear
EAC	VAR_NOTES	CDF_CHAR	
EAC	DEPEND_0	CDF_CHAR	Epoch
EAC	FORMAT	CDF_CHAR	F8.2
EAC	DELTA_PLUS_VAR	CDF_CHAR	DELTA_PLUS_MINUS
EAC	DELTA_MINUS_VAR	CDF_CHAR	DELTA_PLUS_MINUS
EAC	LABL_PTR_1	CDF_CHAR	EAC_LABEL
EAC	SI_CONVERSION	CDF_CHAR	V>V
IBIAS1	FIELDNAM	CDF_CHAR	Bias current 1
IBIAS1	CATDESC	CDF_CHAR	Calibrated bias current on probe 1.
IBIAS1	DISPLAY_TYPE	CDF_CHAR	time_series
IBIAS1	VALIDMIN	CDF_REAL4	-1.0e+30
IBIAS1	VALIDMAX	CDF_REAL4	1.0e+30
IBIAS1	SCALEMIN	CDF_REAL4	-1.0e+30
IBIAS1	SCALEMAX	CDF_REAL4	1.0e+30
IBIAS1	FILLVAL	CDF_REAL4	-1.0e+31

continues on next page



**RPW Data Product
Description Document**

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **819**

Tab. 4.119 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
IBIAS1	LABLAXIS	CDF_CHAR	I_bias_1
IBIAS1	UNITS	CDF_CHAR	nA
IBIAS1	VAR_TYPE	CDF_CHAR	data
IBIAS1	SCALETYP	CDF_CHAR	linear
IBIAS1	VAR_NOTES	CDF_CHAR	
IBIAS1	DEPEND_0	CDF_CHAR	Epoch
IBIAS1	FORMAT	CDF_CHAR	F32.6
IBIAS1	SI_CONVERSION	CDF_CHAR	1.0>A
IBIAS2	FIELDNAM	CDF_CHAR	Bias current 2
IBIAS2	CATDESC	CDF_CHAR	Calibrated bias current on probe 2.
IBIAS2	DISPLAY_TYPE	CDF_CHAR	time_series
IBIAS2	VALIDMIN	CDF_REAL4	-1.0e+30
IBIAS2	VALIDMAX	CDF_REAL4	1.0e+30
IBIAS2	SCALEMIN	CDF_REAL4	-1.0e+30
IBIAS2	SCALEMAX	CDF_REAL4	1.0e+30
IBIAS2	FILLVAL	CDF_REAL4	-1.0e+31
IBIAS2	LABLAXIS	CDF_CHAR	I_bias_2
IBIAS2	UNITS	CDF_CHAR	nA
IBIAS2	VAR_TYPE	CDF_CHAR	data
IBIAS2	SCALETYP	CDF_CHAR	linear
IBIAS2	VAR_NOTES	CDF_CHAR	
IBIAS2	DEPEND_0	CDF_CHAR	Epoch
IBIAS2	FORMAT	CDF_CHAR	F32.6
IBIAS2	SI_CONVERSION	CDF_CHAR	1.0>A
IBIAS3	FIELDNAM	CDF_CHAR	Bias current 3
IBIAS3	CATDESC	CDF_CHAR	Calibrated bias current on probe 3.
IBIAS3	DISPLAY_TYPE	CDF_CHAR	time_series
IBIAS3	VALIDMIN	CDF_REAL4	-1.0e+30
IBIAS3	VALIDMAX	CDF_REAL4	1.0e+30
IBIAS3	SCALEMIN	CDF_REAL4	-1.0e+30
IBIAS3	SCALEMAX	CDF_REAL4	1.0e+30
IBIAS3	FILLVAL	CDF_REAL4	-1.0e+31
IBIAS3	LABLAXIS	CDF_CHAR	I_bias_3
IBIAS3	UNITS	CDF_CHAR	nA
IBIAS3	VAR_TYPE	CDF_CHAR	data
IBIAS3	SCALETYP	CDF_CHAR	linear
IBIAS3	VAR_NOTES	CDF_CHAR	
IBIAS3	DEPEND_0	CDF_CHAR	Epoch
IBIAS3	FORMAT	CDF_CHAR	F32.6


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 820

Tab. 4.119 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
IBIAS3	SI_CONVERSION	CDF_CHAR	1.0>A
DELTA_PLUS_MINUS	FIELDNAM	CDF_CHAR	DELTA_PLUS_MINUS
DELTA_PLUS_MINUS	CATDESC	CDF_CHAR	Time between sample times- tamp and beginning/end of in- tegration. Total integration time is twice this value.
DELTA_PLUS_MINUS	DISPLAY_TYPE	CDF_CHAR	time_series
DELTA_PLUS_MINUS	VALIDMIN	CDF_INT8	0
DELTA_PLUS_MINUS	VALIDMAX	CDF_INT8	4
DELTA_PLUS_MINUS	SCALEMIN	CDF_INT8	0
DELTA_PLUS_MINUS	SCALEMAX	CDF_INT8	4
DELTA_PLUS_MINUS	FILLVAL	CDF_INT8	-9223372036854775808
DELTA_PLUS_MINUS	LABLAXIS	CDF_CHAR	Delta plus minus
DELTA_PLUS_MINUS	UNITS	CDF_CHAR	ns
DELTA_PLUS_MINUS	VAR_TYPE	CDF_CHAR	support_data
DELTA_PLUS_MINUS	SCALETYP	CDF_CHAR	linear
DELTA_PLUS_MINUS	VAR_NOTES	CDF_CHAR	
DELTA_PLUS_MINUS	DEPEND_0	CDF_CHAR	Epoch
DELTA_PLUS_MINUS	FORMAT	CDF_CHAR	I1.1
SYNCHRO_FLAG	FIELDNAM	CDF_CHAR	SYNCHRO_FLAG
SYNCHRO_FLAG	CATDESC	CDF_CHAR	Time synchronisation flag
SYNCHRO_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
SYNCHRO_FLAG	VALIDMIN	CDF_UINT1	0
SYNCHRO_FLAG	VALIDMAX	CDF_UINT1	1
SYNCHRO_FLAG	SCALEMIN	CDF_UINT1	0
SYNCHRO_FLAG	SCALEMAX	CDF_UINT1	1
SYNCHRO_FLAG	FILLVAL	CDF_UINT1	255
SYNCHRO_FLAG	LABLAXIS	CDF_CHAR	time sync. flag
SYNCHRO_FLAG	UNITS	CDF_CHAR	
SYNCHRO_FLAG	VAR_TYPE	CDF_CHAR	support_data
SYNCHRO_FLAG	SCALETYP	CDF_CHAR	linear
SYNCHRO_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate if the local time is synchronized with the RPW DPU clock or not. Pos- sible values: synchronized=0, not synchronized=1. This flag is extracted from ACQUIISI- TION_TIME in L0 packets, it is the MSB of the CUC time.
SYNCHRO_FLAG	DEPEND_0	CDF_CHAR	Epoch
SYNCHRO_FLAG	FORMAT	CDF_CHAR	I3.3

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 821

Tab. 4.119 – continued from previous page


Variable Name	Attribute Name	Data Type	Value
SAMPLING_RATE	FIELDNAM	CDF_CHAR	Sampling rate
SAMPLING_RATE	CATDESC	CDF_CHAR	Sampling frequency of the waveform
SAMPLING_RATE	DISPLAY_TYPE	CDF_CHAR	time_series
SAMPLING_RATE	VALIDMIN	CDF_REAL4	16.0
SAMPLING_RATE	VALIDMAX	CDF_REAL4	24576.0
SAMPLING_RATE	SCALEMIN	CDF_REAL4	16.0
SAMPLING_RATE	SCALEMAX	CDF_REAL4	24576.0
SAMPLING_RATE	FILLVAL	CDF_REAL4	-1.0e+31
SAMPLING_RATE	LABLAXIS	CDF_CHAR	Fe
SAMPLING_RATE	UNITS	CDF_CHAR	Hz
SAMPLING_RATE	VAR_TYPE	CDF_CHAR	support_data
SAMPLING_RATE	SCALETYP	CDF_CHAR	linear
SAMPLING_RATE	VAR_NOTES	CDF_CHAR	sampling frequency of the waveform : F0, F1, F2 or F3
SAMPLING_RATE	DEPEND_0	CDF_CHAR	Epoch
SAMPLING_RATE	FORMAT	CDF_CHAR	F8.2

4.1.3.28.6 Non-Record-Variant (NRV) Variables

Variable Name	Index	Value
VDC_LABEL	1	Vdc1
VDC_LABEL	2	Vdc2
VDC_LABEL	3	Vdc3
EDC_LABEL	1	Vdc12
EDC_LABEL	2	Vdc13
EDC_LABEL	3	Vdc23
EAC_LABEL	1	Vac12
EAC_LABEL	2	Vac13
EAC_LABEL	3	Vac23

4.1.3.29 SOLO_L2_RPW-LFR-SBM1-CWF-B data product

The “SOLO_L2_RPW-LFR-SBM1-CWF-B” data product contains the calibrated LFR receiver Continuous Waveform data for SBM1 events for magnetic components only. The “SOLO_L2_RPW-LFR-SBM1-CWF-B” data are written in CDF format files. There is a single file per SBM1 event data down-linked on-ground. The file is generated from data in the corresponding SOLO_L1_RPW-LFR-SBM1-CWF parent file.

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 822

4.1.3.29.1 Filename

```
solo_L2_rpw-lfr-sbm1-cwf-b_[YYYYMMDDThhmmss1-YYYYMMDDThhmmss2]_V[version].  
↪cdf
```

4.1.3.29.2 Expected cadence and data volume


Nominal cadence: 1 file per SBM1 event

Expected data volume: TBD MB per file

4.1.3.29.3 Global Attributes

Attribute Name	Entry Number	Data Type	Value
Free_field	1	CDF_CHAR	
TARGET_NAME	1	CDF_CHAR	Sun
SPECTRAL_RANGE_MAX	1	CDF_CHAR	
Data_type	1	CDF_CHAR	H0>High Resolution data
Validate	1	CDF_CHAR	
TARGET_CLASS	1	CDF_CHAR	Star
CALIBRATION_TABLE	1	CDF_CHAR	
Pipeline_version	1	CDF_CHAR	
CALIBRATION_VERSION	1	CDF_CHAR	
TIME_MAX	1	CDF_CHAR	
Logical_file_id	1	CDF_CHAR	
Instrument_type	1	CDF_CHAR	Radio and Plasma Waves (space)
LEVEL	1	CDF_CHAR	L2>Level 2 data processing
TEXT_supplement_1	1	CDF_CHAR	
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00006-LES (1.3)
CAL_ENTITY_NAME	1	CDF_CHAR	LPC2E
TARGET_REGION	1	CDF_CHAR	Solar Wind
LINK_TEXT	1	CDF_CHAR	RPW Web site at LESIA
TIME_MIN	1	CDF_CHAR	
Logical_source	1	CDF_CHAR	solo_L2_rpw-lfr-sbm1-cwf-b
Software_version	1	CDF_CHAR	
LINK_TITLE	1	CDF_CHAR	RPW Web site
OBS_ID	1	CDF_CHAR	
File_ID	1	CDF_CHAR	


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 823

Tab. 4.120 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
SOOP_TYPE	1	CDF_CHAR	
CAL_ENTITY_AFFILIATION	1	CDF_CHAR	CNRS
SKELETON_PARENT	1	CDF_CHAR	SOLO_L2_RPW-LFR-SBM1-CWF-B_V12.cdf
Parents	1	CDF_CHAR	
PI_name	1	CDF_CHAR	M.Maksimovic
ACCESS_FORMAT	1	CDF_CHAR	CDF
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009 (2.4)
Project	1	CDF_CHAR	SOLO>Solar Orbiter
Data_product	1	CDF_CHAR	SBM1-CWF-B>SBM1-CWF-B
HTTP_LINK	1	CDF_CHAR	https://rpw.lesia.obspm.fr
Dataset_ID	1	CDF_CHAR	SOLO_L2_RPW-LFR-SBM1-CWF-B
Skeleton_version	1	CDF_CHAR	12
Pipeline_name	1	CDF_CHAR	
CAL_EQUIPMENT	1	CDF_CHAR	SCM
Acknowledgement	1	CDF_CHAR	The authors are pleased to acknowledge the Solar Orbiter/RPW Investigation (M. Maksimovic, PIs) for access to data.
PI_affiliation	1	CDF_CHAR	LESIA, Observatoire de Paris-CNRS
Parent_version	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	RPW Operations Centre located at LESIA (Meudon, France)
Provider	1	CDF_CHAR	LESIA (Meudon, France)
SPICE_KERNELS	1	CDF_CHAR	
SKELETON_MODS	1	CDF_CHAR	2017-12-15, J-Y Brochot (CNRS-LPC2E), initial release
SKELETON_MODS	2	CDF_CHAR	V04: Update for solo data definition, X. BONNIN (CNRS-LESIA), April 2019
SKELETON_MODS	3	CDF_CHAR	V05: Update to compliant with SOL-SGS-TN-0009 Issue 2, Rev 4 - X.Bonnin, 09/2019
SKELETON_MODS	4	CDF_CHAR	V06: add B_RTN and MAG_LABEL_RTN variables, J-Y Brochot, 12/2019
SKELETON_MODS	5	CDF_CHAR	V07: March 2020 : Standardize SAMPLING_RATE and delete Test_* g.attrs - X.Bonnin (CNRS, LESIA)


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 824

Tab. 4.120 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
SKELETON_MODS	6	CDF_CHAR	V07: Suppress zVars POST_GAP_FLAG, ACQUISITION_TIME, ACQUISITION_TIME_UNITS and ACQUISITION_TIME_LABEL - J-Y Brochot, March 2020
SKELETON_MODS	7	CDF_CHAR	V08: Add gAttr SPICE_KERNELS - J-Y Brochot, April 2020
SKELETON_MODS	8	CDF_CHAR	V09: Complete the zAttr of CALIBRATION_TABLE_INDEX - J-Y Brochot, May 2020
SKELETON_MODS	9	CDF_CHAR	V10: Add zVar L2_QUALITY_BITMASK - J-Y Brochot, Aug 2020
SKELETON_MODS	10	CDF_CHAR	V11: Suppress zVar SYNCHRO_FLAG - J-Y Brochot, Sept 2020
SKELETON_MODS	11	CDF_CHAR	V12: Jan. 2021 : Fix inconsistencies against the ISTP CDF guidelines, X.Bonnin (CNRS-LESIA)
Source_name	1	CDF_CHAR	SOLO>Solar Orbiter
Software_name	1	CDF_CHAR	
TEXT	1	CDF_CHAR	This file contains RPW LFR level 2 continuous waveform of magnetic data in SMB1 mode
Logical_source_description	1	CDF_CHAR	Solar Orbiter Radio/Plasma Wave, LFR L2 magnetic parameters
Discipline	1	CDF_CHAR	Space Physics>Interplanetary Studies
Generation_date	1	CDF_CHAR	
CAVEATS	1	CDF_CHAR	
Data_version	1	CDF_CHAR	
Job_ID	1	CDF_CHAR	

continues on next page


	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 825

Tab. 4.120 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Rules_of_use	1	CDF_CHAR	Data provided are publicly available. If used in presentations or publications, please acknowledge Solar Orbiter/RPW Investigation (M. Maksimovic, PIs). Please read carefully the caveats attached to the data. For reporting purposes, we request bibliography information for any publication, etc., using these data. Please send information on the use of this data to: M. Maksimovic (PI).
File_naming_convention	1	CDF_CHAR	<Source_name>_<LEVEL>_<Descriptor>_<Datetime>
SPECTRAL_RANGE_MIN	1	CDF_CHAR	
Mission_group	1	CDF_CHAR	Solar Orbiter
ACCESS_URL	1	CDF_CHAR	
Descriptor	1	CDF_CHAR	LFR>Low Frequency Receiver
Datetime	1	CDF_CHAR	
MODS	1	CDF_CHAR	

4.1.3.29.4 zVariables


Variable Name	Data Type	Number Elements	Dims	Sizes
B	CDF_REAL4	1	1	3
MAG_LABEL_RTN	CDF_CHAR	5	1	3
Epoch	CDF_TIME_TT2000	1	0	
QUALITY_FLAG	CDF_UINT1	1	0	
QUALITY_BITMASK	CDF_UINT2	1	0	
L2_QUALITY_BITMASK	CDF_UINT2	1	0	
SAMPLING_RATE	CDF_REAL4	1	0	
MAG_LABEL	CDF_CHAR	2	1	3
B_RTN	CDF_REAL4	1	1	3
CALIBRATION_TABLE_INDEX	CDF_UINT1	1	2	2 2

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 826

4.1.3.29.5 Variable attributes

Variable Name	Attribute Name	Data Type	Value
B	FORMAT	CDF_CHAR	F8.2
B	SCALEMIN	CDF_REAL4	-1.0e+30
B	SCALETYP	CDF_CHAR	linear
B	VAR_NOTES	CDF_CHAR	3 entry array with magnetic field values (B3x, B1y, B2z)
B	UNITS	CDF_CHAR	nT
B	VAR_TYPE	CDF_CHAR	data
B	DISPLAY_TYPE	CDF_CHAR	time_series
B	DEPEND_0	CDF_CHAR	Epoch
B	FIELDNAM	CDF_CHAR	Magnetic field
B	SCALEMAX	CDF_REAL4	1.0e+30
B	VALIDMAX	CDF_REAL4	1.0e+30
B	CATDESC	CDF_CHAR	Magnetic field values (Bx, By, Bz)
B	VALIDMIN	CDF_REAL4	-1.0e+30
B	FILLVAL	CDF_REAL4	-1.0e+31
B	LABL_PTR_1	CDF_CHAR	MAG_LABEL
MAG_LABEL_RTN	FORMAT	CDF_CHAR	A5
MAG_LABEL_RTN	VAR_TYPE	CDF_CHAR	metadata
MAG_LABEL_RTN	FIELDNAM	CDF_CHAR	MAG_LABEL_RTN
MAG_LABEL_RTN	CATDESC	CDF_CHAR	Labels of the Magnetic fields components in the RTN frame
Epoch	SCALEMIN	CDF_TIME_TT2000	1990-01-01T00:00:00.000000000
Epoch	SCALETYP	CDF_CHAR	linear
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file.
Epoch	LABLAXIS	CDF_CHAR	Epoch
Epoch	UNITS	CDF_CHAR	ns
Epoch	VAR_TYPE	CDF_CHAR	support_data
Epoch	DISPLAY_TYPE	CDF_CHAR	time_series
Epoch	FIELDNAM	CDF_CHAR	Epoch
Epoch	SCALEMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch	VALIDMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch	CATDESC	CDF_CHAR	Default time
Epoch	VALIDMIN	CDF_TIME_TT2000	2000-01-01T00:00:00.000000000


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 827

Tab. 4.121 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
Epoch	FILLVAL	CDF_TIME_TT2000	1999-12-31T23:59:59.999999999
Epoch	TIME_SCALE	CDF_CHAR	Terrestrial Time
Epoch	TIME_BASE	CDF_CHAR	J2000
Epoch	MONOTON	CDF_CHAR	INCREASE
Epoch	Resolution	CDF_CHAR	15258 ns
Epoch	Bin_location	CDF_CHAR	0.5
Epoch	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
QUALITY_FLAG	SCALEMIN	CDF_UINT1	0
QUALITY_FLAG	SCALETYP	CDF_CHAR	linear
QUALITY_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the quality of the data
QUALITY_FLAG	LABLAXIS	CDF_CHAR	Quality flag
QUALITY_FLAG	UNITS	CDF_CHAR	
QUALITY_FLAG	VAR_TYPE	CDF_CHAR	support_data
QUALITY_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	SCALEMAX	CDF_UINT1	4
QUALITY_FLAG	VALIDMAX	CDF_UINT1	4
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	VALIDMIN	CDF_UINT1	0
QUALITY_FLAG	FILLVAL	CDF_UINT1	255
QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context information or status at the receiver or experiment level
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	UNITS	CDF_CHAR	
QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 828

Tab. 4.121 – continued from previous page


Variable Name	Attribute Name	Data Type	Value
L2_QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
L2_QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
L2_QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
L2_QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context or events that can alterate data -bit0: SCM outworking or unknown temperature -bit1: SCM heater on/off transition -bit2: LFR onboard calibration signal
L2_QUALITY_BITMASK	LABLAXIS	CDF_CHAR	L2 Bitmask flag
L2_QUALITY_BITMASK	UNITS	CDF_CHAR	
L2_QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
L2_QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
L2_QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
L2_QUALITY_BITMASK	FIELDNAM	CDF_CHAR	L2_QUALITY_BITMASK
L2_QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
L2_QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
L2_QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
L2_QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
L2_QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
SAMPLING_RATE	FORMAT	CDF_CHAR	F8.2
SAMPLING_RATE	SCALEMIN	CDF_REAL4	256.0
SAMPLING_RATE	SCALETYP	CDF_CHAR	linear
SAMPLING_RATE	VAR_NOTES	CDF_CHAR	sampling frequency of the snapshot : F0, F1 or F2
SAMPLING_RATE	LABLAXIS	CDF_CHAR	Fe
SAMPLING_RATE	UNITS	CDF_CHAR	Hz
SAMPLING_RATE	VAR_TYPE	CDF_CHAR	support_data
SAMPLING_RATE	DISPLAY_TYPE	CDF_CHAR	time_series
SAMPLING_RATE	DEPEND_0	CDF_CHAR	Epoch
SAMPLING_RATE	FIELDNAM	CDF_CHAR	Sampling rate
SAMPLING_RATE	SCALEMAX	CDF_REAL4	24576.0
SAMPLING_RATE	VALIDMAX	CDF_REAL4	24576.0
SAMPLING_RATE	CATDESC	CDF_CHAR	Sampling frequency of the snapshot
SAMPLING_RATE	VALIDMIN	CDF_REAL4	256.0
SAMPLING_RATE	FILLVAL	CDF_REAL4	-1.0e+31
MAG_LABEL	FORMAT	CDF_CHAR	A2
MAG_LABEL	VAR_TYPE	CDF_CHAR	metadata
MAG_LABEL	FIELDNAM	CDF_CHAR	MAG_LABEL

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 829

Tab. 4.121 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
MAG_LABEL	CATDESC	CDF_CHAR	Labels of the Magnetic fields components
B_RTN	FORMAT	CDF_CHAR	F8.2
B_RTN	SCALEMIN	CDF_REAL4	-1.0e+30
B_RTN	SCALETYP	CDF_CHAR	linear
B_RTN	VAR_NOTES	CDF_CHAR	3 entry array with magnetic field values (Bxrtn, Byrtn, Bzrtn)
B_RTN	UNITS	CDF_CHAR	nT
B_RTN	VAR_TYPE	CDF_CHAR	data
B_RTN	DISPLAY_TYPE	CDF_CHAR	time_series
B_RTN	DEPEND_0	CDF_CHAR	Epoch
B_RTN	FIELDNAM	CDF_CHAR	Magnetic field in RTN frame
B_RTN	SCALEMAX	CDF_REAL4	1.0e+30
B_RTN	VALIDMAX	CDF_REAL4	1.0e+30
B_RTN	CATDESC	CDF_CHAR	Magnetic field values (Bxrtn, Byrtn, Bzrtn)
B_RTN	VALIDMIN	CDF_REAL4	-1.0e+30
B_RTN	FILLVAL	CDF_REAL4	-1.0e+31
B_RTN	LABL_PTR_1	CDF_CHAR	MAG_LABEL_RTN
CALIBRATION_TABLE_INDEX	FORMAT	CDF_CHAR	I3.3
CALIBRATION_TABLE_INDEX	SCALEMIN	CDF_UINT1	0
CALIBRATION_TABLE_INDEX	SCALETYP	CDF_CHAR	linear
CALIBRATION_TABLE_INDEX	VAR_NOTES	CDF_CHAR	Indexes (i,j) giving gEntry of Global attribute 'CALIBRATION_TABLE', and record number in the Calibration Table.
CALIBRATION_TABLE_INDEX	BLAXIS	CDF_CHAR	Calibration table index
CALIBRATION_TABLE_INDEX	UNITS	CDF_CHAR	
CALIBRATION_TABLE_INDEX	VAR_TYPE	CDF_CHAR	support_data
CALIBRATION_TABLE_INDEX	DISPLAY_TYPE	CDF_CHAR	time_series
CALIBRATION_TABLE_INDEX	DEPEND_0	CDF_CHAR	Epoch
CALIBRATION_TABLE_INDEX	FIELDNAM	CDF_CHAR	CALIBRATION_TABLE_INDEX
CALIBRATION_TABLE_INDEX	SCALEMAX	CDF_UINT1	254
CALIBRATION_TABLE_INDEX	VALIDMAX	CDF_UINT1	254
CALIBRATION_TABLE_INDEX	CATDESC	CDF_CHAR	Informations about calibration tables used
CALIBRATION_TABLE_INDEX	VALIDMIN	CDF_UINT1	0
CALIBRATION_TABLE_INDEX	FILLVAL	CDF_UINT1	255

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 830

4.1.3.29.6 Non-Record-Variant (NRV) Variables

Variable Name	Index	Value
MAG_LABEL_RTN	1	Bxrtn
MAG_LABEL_RTN	2	Byrtn
MAG_LABEL_RTN	3	Bzrtn
MAG_LABEL	1	Bx
MAG_LABEL	2	By
MAG_LABEL	3	Bz

4.1.3.30 SOLO_L2_RPW-LFR-SBM1-BP1 data product

The “SOLO_L2_RPW-LFR-SBM1-BP1” data product contains the calibrated LFR receiver Basic Parameters 1 data for SBM1 events. The “SOLO_L2_RPW-LFR-SBM1-BP1” data are written in CDF format files. There is a single file per SBM1 event data downlinked on-ground. The file is generated from data in the corresponding SOLO_L1_RPW-LFR-SBM1-BP1 parent file.

4.1.3.30.1 Filename

```
solo_L2_RPW-LFR-SBM1-BP1_[YYYYMMDDThhmmss1-YYYYMMDDThhmmss2]_V[version].cdf
```

4.1.3.30.2 Expected cadence and data volume


Nominal cadence: 1 file per SBM1 event

Expected data volume: TBD MB per file

4.1.3.30.3 Global Attributes

Attribute Name	Entry Number	Data Type	Value
Project	1	CDF_CHAR	SOLO>Solar Orbiter
Source_name	1	CDF_CHAR	SOLO>Solar Orbiter
Provider	1	CDF_CHAR	LESIA (Meudon, France)
Discipline	1	CDF_CHAR	Space Physics>Interplanetary Studies
Data_type	1	CDF_CHAR	H0>High Resolution data


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 831

Tab. 4.122 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Descriptor	1	CDF_CHAR	RPW-LFR-SBM1-BP1> RPW Low Frequency Receiver Basic parameters set 1 data in SBM1 mode
Data_version	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Skeleton_version	1	CDF_CHAR	10
Parent_version	1	CDF_CHAR	
File_naming_convention	1	CDF_CHAR	<Source_name>_<LEVEL>_<Descriptor>_<Date>
PI_name	1	CDF_CHAR	M.Maksimovic
PI_affiliation	1	CDF_CHAR	LESIA, Observatoire de Paris-CNRS
TEXT	1	CDF_CHAR	This file contains RPW LFR level 2 SBM1 BP1 data of the current test.
Instrument_type	1	CDF_CHAR	Radio and Plasma Waves (space)
Mission_group	1	CDF_CHAR	Solar Orbiter
Logical_source	1	CDF_CHAR	solo_L2_rpw-lfr-sbm1-bp1
Logical_file_id	1	CDF_CHAR	
Logical_source_description	1	CDF_CHAR	Solar Orbiter Radio/Plasma Wave, LFR L2 parameters
Rules_of_use	1	CDF_CHAR	Data provided are publicly available. If used in presentations or publications, please acknowledge Solar Orbiter/RPW Investigation (M. Maksimovic, PIs). Please read carefully the caveats attached to the data. For reporting purposes, we request bibliography information for any publication, etc., using these data. Please send information on the use of this data to: M. Maksimovic (PI).
Generated_by	1	CDF_CHAR	RPW Operations Centre located at LESIA (Meudon, France)
Generation_date	1	CDF_CHAR	
Acknowledgement	1	CDF_CHAR	The authors are pleased to acknowledge the Solar Orbiter/RPW Investigation (M. Maksimovic, PIs) for access to data.
SKELETON_MODS	1	CDF_CHAR	
SKELETON_MODS	2	CDF_CHAR	V04: Update for solo data definition, X. BONNIN (CNRS-LESIA), April 2019
SKELETON_MODS	3	CDF_CHAR	V05: Update to compliant with SOL-SGS-TN-0009 Issue 2, Rev 4 - X.Bonnin, 09/2019


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 832

Tab. 4.122 – continued from previous page


Attribute Name	Entry Number	Data Type	Value
SKELETON_MODS	4	CDF_CHAR	V06: March 2020 : Delete Test_* g.attrs - X.Bonnin (CNRS, LESIA)
SKELETON_MODS	5	CDF_CHAR	V07: April 2020 : Delete Acquisition_time* zvariables - R.Piberne (X, LPP)
SKELETON_MODS	6	CDF_CHAR	V08: May 2020 : Add SX_REA_F0 and VPHI_REA_F0 attributes - R.Piberne (X, LPP)
SKELETON_MODS	7	CDF_CHAR	V09: Remove UCD vattr and POST_GAP_FLAG zVar.
SKELETON_MODS	8	CDF_CHAR	V10: Jan. 2021 : Fix inconsistencies against the ISTP CDF guidelines, X.Bonnin (CNRS-LESIA)
LINK_TEXT	1	CDF_CHAR	RPW Web site at LESIA
LINK_TITLE	1	CDF_CHAR	RPW Web site
HTTP_LINK	1	CDF_CHAR	https://rpw.lesia.obspm.fr
ACCESS_URL	1	CDF_CHAR	
TEXT_supplement_1	1	CDF_CHAR	
Software_name	1	CDF_CHAR	
Parents	1	CDF_CHAR	
Validate	1	CDF_CHAR	
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00006-LES (1.3)
ROC_REFERENCE	1	CDF_CHAR	ROC-TST-GSE-SPC-00017-LES_Issue02_Rev0(Data_format_and_metadata_data_ground_Data).pdf
SKELETON_PARENT	1	CDF_CHAR	SOLO_L2_RPW-LFR-SBM1-BP1_V10.cdf
ACCESS_FORMAT	1	CDF_CHAR	CDF
TIME_MIN	1	CDF_CHAR	
TIME_MAX	1	CDF_CHAR	
SPECTRAL_RANGE_MIN	1	CDF_CHAR	
SPECTRAL_RANGE_MAX	1	CDF_CHAR	
JOB_UUID	1	CDF_CHAR	
File_ID	1	CDF_CHAR	
CAVEATS	1	CDF_CHAR	
CAL_ENTITY_NAME	1	CDF_CHAR	
CAL_ENTITY_AFFILIATION	1	CDF_CHAR	
CAL_EQUIPMENT	1	CDF_CHAR	
CALIBRATION_TABLE	1	CDF_CHAR	

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 833

Tab. 4.122 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
CALIBRATION_VERSION	1	CDF_CHAR	
Datetime	1	CDF_CHAR	
Free_field	1	CDF_CHAR	
Job_ID	1	CDF_CHAR	
LEVEL	1	CDF_CHAR	L2>Level 2 data processing
SOOP_TYPE	1	CDF_CHAR	
Data_product	1	CDF_CHAR	SBM1-BP1>SBM1-BP1
TARGET_NAME	1	CDF_CHAR	Sun
TARGET_CLASS	1	CDF_CHAR	Star
TARGET_REGION	1	CDF_CHAR	Solar Wind
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009 (2.4)
Pipeline_name	1	CDF_CHAR	
Pipeline_version	1	CDF_CHAR	
Dataset_ID	1	CDF_CHAR	SOLO_L2_RPW-LFR-SBM1-BP1
OBS_ID	1	CDF_CHAR	
MODS	1	CDF_CHAR	

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 834


4.1.3.30.4 zVariables

Variable Name	Data Type	Number El- ements	Dims	Sizes
Epoch	CDF_TIME_TT2000	1	0	
QUALITY_FLAG	CDF_UINT1	1	0	
COMMON_BIA_STATUS_FLAG	CDF_UINT1	1	0	
QUALITY_BITMASK	CDF_UINT2	1	0	
F0	CDF_REAL4	1	1	22
BIAS_MODE_MUX_SET	CDF_UINT1	1	0	
BIAS_MODE_HV_ENABLED	CDF_UINT1	1	0	
BIAS_MODE_BIAS1_ENABLED	CDF_UINT1	1	0	
BIAS_MODE_BIAS2_ENABLED	CDF_UINT1	1	0	
BIAS_MODE_BIAS3_ENABLED	CDF_UINT1	1	0	
BIAS_ON_OFF	CDF_UINT1	1	0	
BW	CDF_UINT1	1	0	
SP0	CDF_UINT1	1	0	
SP1	CDF_UINT1	1	0	
R0	CDF_UINT1	1	0	
R1	CDF_UINT1	1	0	
R2	CDF_UINT1	1	0	
BP1_CNT	CDF_UINT1	1	0	
PE_F0	CDF_REAL8	1	1	22
PB_F0	CDF_REAL8	1	1	22
NVEC_F0	CDF_REAL4	1	2	22 3
ELLIP_F0	CDF_REAL4	1	1	22
DOP_F0	CDF_REAL4	1	1	22
SX_REA_F0	CDF_REAL8	1	1	22
SX_ARG_F0	CDF_UINT1	1	1	22
VPHI_REA_F0	CDF_REAL8	1	1	22
VPHI_ARG_F0	CDF_UINT1	1	1	22
SYNCHRO_FLAG	CDF_UINT1	1	0	

4.1.3.30.5 Variable attributes

Variable Name	Attribute Name	Data Type	Value
Epoch	FIELDNAM	CDF_CHAR	Epoch
Epoch	CATDESC	CDF_CHAR	Default time
Epoch	DISPLAY_TYPE	CDF_CHAR	time_series

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 835

Tab. 4.123 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
Epoch	VALIDMIN	CDF_TIME_TT2000	2000-01-01T00:00:00.000000000
Epoch	VALIDMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch	SCALEMIN	CDF_TIME_TT2000	1990-01-01T00:00:00.000000000
Epoch	SCALEMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch	LABLAXIS	CDF_CHAR	Epoch
Epoch	UNITS	CDF_CHAR	ns
Epoch	VAR_TYPE	CDF_CHAR	support_data
Epoch	SCALETYP	CDF_CHAR	linear
Epoch	MONOTON	CDF_CHAR	INCREASE
Epoch	TIME_BASE	CDF_CHAR	J2000
Epoch	TIME_SCALE	CDF_CHAR	Terrestrial Time
Epoch	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
Epoch	Resolution	CDF_CHAR	15258
Epoch	Bin_location	CDF_CHAR	0.5
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file.
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	VALIDMIN	CDF_UINT1	0
QUALITY_FLAG	VALIDMAX	CDF_UINT1	4
QUALITY_FLAG	SCALEMIN	CDF_UINT1	0
QUALITY_FLAG	SCALEMAX	CDF_UINT1	4
QUALITY_FLAG	FILLVAL	CDF_UINT1	255
QUALITY_FLAG	LABLAXIS	CDF_CHAR	Quality flag
QUALITY_FLAG	UNITS	CDF_CHAR	
QUALITY_FLAG	VAR_TYPE	CDF_CHAR	support_data
QUALITY_FLAG	SCALETYP	CDF_CHAR	linear
QUALITY_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the quality of the data
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
COMMON_BIA_STATUS_FLAG	FIELDNAM	CDF_CHAR	COMMON_BIA_STATUS_FLAG

continues on next page



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **836**

Tab. 4.123 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
COMMON_BIA_STATUS_FLAG	CATDESC	CDF_CHAR	LFR common parameters and BIAS status info relevancy flag
COMMON_BIA_STATUS_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
COMMON_BIA_STATUS_FLAG	VALIDMIN	CDF_UINT1	0
COMMON_BIA_STATUS_FLAG	VALIDMAX	CDF_UINT1	1
COMMON_BIA_STATUS_FLAG	SCALEMIN	CDF_UINT1	0
COMMON_BIA_STATUS_FLAG	SCALEMAX	CDF_UINT1	1
COMMON_BIA_STATUS_FLAG	FILLVAL	CDF_UINT1	255
COMMON_BIA_STATUS_FLAG	LABLAXIS	CDF_CHAR	common bias status flag
COMMON_BIA_STATUS_FLAG	UNITS	CDF_CHAR	
COMMON_BIA_STATUS_FLAG	VAR_TYPE	CDF_CHAR	support_data
COMMON_BIA_STATUS_FLAG	SCALETYP	CDF_CHAR	linear
COMMON_BIA_STATUS_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the relevancy of LFR common parameters (SP0/1, R0/1/2, BW) and BIAS STATUS INFO which can be non representative for the first packet following a change in those parameters.
COMMON_BIA_STATUS_FLAG	DEPEND_0	CDF_CHAR	Epoch
COMMON_BIA_STATUS_FLAG	FORMAT	CDF_CHAR	I1.1
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	UNITS	CDF_CHAR	
QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context information or status at the receiver or experiment level
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
F0	FIELDNAM	CDF_CHAR	Sampling frequencies at F0 in normal mode


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 837

Tab. 4.123 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
F0	CATDESC	CDF_CHAR	Sampling frequency of BP1 at F0 in normal mode
F0	DISPLAY_TYPE	CDF_CHAR	time_series
F0	VALIDMIN	CDF_REAL4	0.0
F0	VALIDMAX	CDF_REAL4	1.0e+30
F0	SCALEMIN	CDF_REAL4	0.0
F0	SCALEMAX	CDF_REAL4	1.0e+30
F0	FILLVAL	CDF_REAL4	-1.0e+31
F0	LABLAXIS	CDF_CHAR	BP1 sampling frequency
F0	UNITS	CDF_CHAR	
F0	VAR_TYPE	CDF_CHAR	support_data
F0	VAR_NOTES	CDF_CHAR	
F0	FORMAT	CDF_CHAR	F32.6
F0	SCALETYPE	CDF_CHAR	linear
BIAS_MODE_MUX_SET	FIELDNAM	CDF_CHAR	BIAS multiplexer setting
BIAS_MODE_MUX_SET	CATDESC	CDF_CHAR	Copy of multiplexer setting.
BIAS_MODE_MUX_SET	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_MUX_SET	VALIDMIN	CDF_UINT1	0
BIAS_MODE_MUX_SET	VALIDMAX	CDF_UINT1	7
BIAS_MODE_MUX_SET	SCALEMIN	CDF_UINT1	0
BIAS_MODE_MUX_SET	SCALEMAX	CDF_UINT1	7
BIAS_MODE_MUX_SET	FILLVAL	CDF_UINT1	255
BIAS_MODE_MUX_SET	LABLAXIS	CDF_CHAR	BIAS_MODE_MUX_SET
BIAS_MODE_MUX_SET	UNITS	CDF_CHAR	
BIAS_MODE_MUX_SET	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_MUX_SET	SCALETYP	CDF_CHAR	linear
BIAS_MODE_MUX_SET	VAR_NOTES	CDF_CHAR	Indicates the mode of BIAS multiplexer for a set of BP1 parameters. Possible values are 0 : Standard operation. 1 : Probe 1 fails. 2 : Probe 2 fails. 3 : Probe 3 fails. 4 : Calibration mode 0. 5 : Calibration mode 1. 6 : Calibration mode 2. 7 : Calibration mode 3.
BIAS_MODE_MUX_SET	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_MUX_SET	FORMAT	CDF_CHAR	I3.3
BIAS_MODE_HV_ENABLED	FIELDNAM	CDF_CHAR	BIAS high voltage status
BIAS_MODE_HV_ENABLED	CATDESC	CDF_CHAR	Copy of enable/disable HV (+- 100V).
BIAS_MODE_HV_ENABLED	DISPLAY_TYPE	CDF_CHAR	time_series


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 838

Tab. 4.123 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_MODE_HV_ENABLED	VALIDMIN	CDF_UINT1	0
BIAS_MODE_HV_ENABLED	VALIDMAX	CDF_UINT1	1
BIAS_MODE_HV_ENABLED	SCALEMIN	CDF_UINT1	0
BIAS_MODE_HV_ENABLED	SCALEMAX	CDF_UINT1	1
BIAS_MODE_HV_ENABLED	FILLVAL	CDF_UINT1	255
BIAS_MODE_HV_ENABLED	LABLAXIS	CDF_CHAR	BIAS_MODE_HV_ENABLED
BIAS_MODE_HV_ENABLED	UNITS	CDF_CHAR	
BIAS_MODE_HV_ENABLED	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_HV_ENABLED	SCALETYP	CDF_CHAR	linear
BIAS_MODE_HV_ENABLED	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS HV. Possible values are DISABLED = 0. ENABLED = 1.
BIAS_MODE_HV_ENABLED	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_HV_ENABLED	FORMAT	CDF_CHAR	I3.3
BIAS_MODE_BIAS1_ENABLED	HELDNAM	CDF_CHAR	BIAS probe 1 status
BIAS_MODE_BIAS1_ENABLED	HELDDESC	CDF_CHAR	Copy of enable/disable BIAS 1.
BIAS_MODE_BIAS1_ENABLED	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_BIAS1_ENABLED	VALIDMIN	CDF_UINT1	0
BIAS_MODE_BIAS1_ENABLED	VALIDMAX	CDF_UINT1	1
BIAS_MODE_BIAS1_ENABLED	SCALEMIN	CDF_UINT1	0
BIAS_MODE_BIAS1_ENABLED	SCALEMAX	CDF_UINT1	1
BIAS_MODE_BIAS1_ENABLED	FILLVAL	CDF_UINT1	255
BIAS_MODE_BIAS1_ENABLED	LABLAXIS	CDF_CHAR	BIAS_MODE_BIAS1_ENABLED
BIAS_MODE_BIAS1_ENABLED	UNITS	CDF_CHAR	
BIAS_MODE_BIAS1_ENABLED	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_BIAS1_ENABLED	SCALETYP	CDF_CHAR	linear
BIAS_MODE_BIAS1_ENABLED	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS probe 1. Possible values are DISABLED = 0. ENABLED = 1.
BIAS_MODE_BIAS1_ENABLED	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_BIAS1_ENABLED	FORMAT	CDF_CHAR	I3.3
BIAS_MODE_BIAS2_ENABLED	HELDNAM	CDF_CHAR	BIAS probe 2 status
BIAS_MODE_BIAS2_ENABLED	HELDDESC	CDF_CHAR	Copy of enable/disable BIAS 2.
BIAS_MODE_BIAS2_ENABLED	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_BIAS2_ENABLED	VALIDMIN	CDF_UINT1	0
BIAS_MODE_BIAS2_ENABLED	VALIDMAX	CDF_UINT1	1
BIAS_MODE_BIAS2_ENABLED	SCALEMIN	CDF_UINT1	0
BIAS_MODE_BIAS2_ENABLED	SCALEMAX	CDF_UINT1	1


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 839

Tab. 4.123 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_MODE_BIAS2_ENAB	FILLVAL	CDF_UINT1	255
BIAS_MODE_BIAS2_ENAB	LABLAXIS	CDF_CHAR	BIAS_MODE_BIAS2_ENABLED
BIAS_MODE_BIAS2_ENAB	UNITS	CDF_CHAR	
BIAS_MODE_BIAS2_ENAB	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_BIAS2_ENAB	SCALETYP	CDF_CHAR	linear
BIAS_MODE_BIAS2_ENAB	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS probe 2. Possible values are DISABLED = 0. ENABLED = 1.
BIAS_MODE_BIAS2_ENAB	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_BIAS2_ENAB	FORMAT	CDF_CHAR	I3.3
BIAS_MODE_BIAS3_ENAB	FIELDNAM	CDF_CHAR	BIAS probe 3 status
BIAS_MODE_BIAS3_ENAB	CATDESC	CDF_CHAR	Copy of enable/disable BIAS 3.
BIAS_MODE_BIAS3_ENAB	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_BIAS3_ENAB	VALIDMIN	CDF_UINT1	0
BIAS_MODE_BIAS3_ENAB	VALIDMAX	CDF_UINT1	1
BIAS_MODE_BIAS3_ENAB	SCALEMIN	CDF_UINT1	0
BIAS_MODE_BIAS3_ENAB	SCALEMAX	CDF_UINT1	1
BIAS_MODE_BIAS3_ENAB	FILLVAL	CDF_UINT1	255
BIAS_MODE_BIAS3_ENAB	LABLAXIS	CDF_CHAR	BIAS_MODE_BIAS3_ENABLED
BIAS_MODE_BIAS3_ENAB	UNITS	CDF_CHAR	
BIAS_MODE_BIAS3_ENAB	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_BIAS3_ENAB	SCALETYP	CDF_CHAR	linear
BIAS_MODE_BIAS3_ENAB	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS probe 3. Possible values are DISABLED = 0. ENABLED = 1.
BIAS_MODE_BIAS3_ENAB	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_BIAS3_ENAB	FORMAT	CDF_CHAR	I3.3
BIAS_ON_OFF	FIELDNAM	CDF_CHAR	BIAS status
BIAS_ON_OFF	CATDESC	CDF_CHAR	Copy of BIAS status.
BIAS_ON_OFF	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_ON_OFF	VALIDMIN	CDF_UINT1	0
BIAS_ON_OFF	VALIDMAX	CDF_UINT1	1
BIAS_ON_OFF	SCALEMIN	CDF_UINT1	0
BIAS_ON_OFF	SCALEMAX	CDF_UINT1	1
BIAS_ON_OFF	FILLVAL	CDF_UINT1	255
BIAS_ON_OFF	LABLAXIS	CDF_CHAR	BIAS_ON_OFF
BIAS_ON_OFF	UNITS	CDF_CHAR	
BIAS_ON_OFF	VAR_TYPE	CDF_CHAR	support_data


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 840

Tab. 4.123 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_ON_OFF	SCALETYP	CDF_CHAR	linear
BIAS_ON_OFF	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS. Possible values are OFF = 0 - Power line off. ON = 1 - Power line on.
BIAS_ON_OFF	DEPEND_0	CDF_CHAR	Epoch
BIAS_ON_OFF	FORMAT	CDF_CHAR	I3.3
BW	FIELDNAM	CDF_CHAR	BIAS Works/BIAS Fails configuration.
BW	CATDESC	CDF_CHAR	BIAS Works/BIAS Fails configuration.
BW	DISPLAY_TYPE	CDF_CHAR	time_series
BW	VALIDMIN	CDF_UINT1	0
BW	VALIDMAX	CDF_UINT1	1
BW	SCALEMIN	CDF_UINT1	0
BW	SCALEMAX	CDF_UINT1	1
BW	FILLVAL	CDF_UINT1	255
BW	LABLAXIS	CDF_CHAR	BW
BW	UNITS	CDF_CHAR	
BW	VAR_TYPE	CDF_CHAR	support_data
BW	SCALETYP	CDF_CHAR	linear
BW	VAR_NOTES	CDF_CHAR	
BW	DEPEND_0	CDF_CHAR	Epoch
BW	FORMAT	CDF_CHAR	I3.3
SP0	FIELDNAM	CDF_CHAR	Shaping of electrical data parameter 0.
SP0	CATDESC	CDF_CHAR	Shaping of electrical data.
SP0	DISPLAY_TYPE	CDF_CHAR	time_series
SP0	VALIDMIN	CDF_UINT1	0
SP0	VALIDMAX	CDF_UINT1	1
SP0	SCALEMIN	CDF_UINT1	0
SP0	SCALEMAX	CDF_UINT1	1
SP0	FILLVAL	CDF_UINT1	255
SP0	LABLAXIS	CDF_CHAR	SP0
SP0	UNITS	CDF_CHAR	
SP0	VAR_TYPE	CDF_CHAR	support_data
SP0	SCALETYP	CDF_CHAR	linear
SP0	VAR_NOTES	CDF_CHAR	
SP0	DEPEND_0	CDF_CHAR	Epoch
SP0	FORMAT	CDF_CHAR	I3.3

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 841

Tab. 4.123 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SP1	FIELDNAM	CDF_CHAR	Shaping of electrical data parameter 1.
SP1	CATDESC	CDF_CHAR	Shaping of electrical data.
SP1	DISPLAY_TYPE	CDF_CHAR	time_series
SP1	VALIDMIN	CDF_UINT1	0
SP1	VALIDMAX	CDF_UINT1	1
SP1	SCALEMIN	CDF_UINT1	0
SP1	SCALEMAX	CDF_UINT1	1
SP1	FILLVAL	CDF_UINT1	255
SP1	LABLAXIS	CDF_CHAR	SP1
SP1	UNITS	CDF_CHAR	
SP1	VAR_TYPE	CDF_CHAR	support_data
SP1	SCALETYP	CDF_CHAR	linear
SP1	VAR_NOTES	CDF_CHAR	
SP1	DEPEND_0	CDF_CHAR	Epoch
SP1	FORMAT	CDF_CHAR	I3.3
R0	FIELDNAM	CDF_CHAR	Rooting of electrical data for F0.
R0	CATDESC	CDF_CHAR	Rooting of electrical data.
R0	DISPLAY_TYPE	CDF_CHAR	time_series
R0	VALIDMIN	CDF_UINT1	0
R0	VALIDMAX	CDF_UINT1	1
R0	SCALEMIN	CDF_UINT1	0
R0	SCALEMAX	CDF_UINT1	1
R0	FILLVAL	CDF_UINT1	255
R0	LABLAXIS	CDF_CHAR	R0
R0	UNITS	CDF_CHAR	
R0	VAR_TYPE	CDF_CHAR	support_data
R0	SCALETYP	CDF_CHAR	linear
R0	VAR_NOTES	CDF_CHAR	
R0	DEPEND_0	CDF_CHAR	Epoch
R0	FORMAT	CDF_CHAR	I3.3
R1	FIELDNAM	CDF_CHAR	Rooting of electrical data for F1.
R1	CATDESC	CDF_CHAR	Rooting of electrical data.
R1	DISPLAY_TYPE	CDF_CHAR	time_series
R1	VALIDMIN	CDF_UINT1	0
R1	VALIDMAX	CDF_UINT1	1
R1	SCALEMIN	CDF_UINT1	0
R1	SCALEMAX	CDF_UINT1	1
R1	FILLVAL	CDF_UINT1	255

continues on next page



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03

Date: March 11, 2021

Page: **842**

Tab. 4.123 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
R1	LABLAXIS	CDF_CHAR	R1
R1	UNITS	CDF_CHAR	
R1	VAR_TYPE	CDF_CHAR	support_data
R1	SCALETYP	CDF_CHAR	linear
R1	VAR_NOTES	CDF_CHAR	
R1	DEPEND_0	CDF_CHAR	Epoch
R1	FORMAT	CDF_CHAR	I3.3
R2	FIELDNAM	CDF_CHAR	Rooting of electrical data for F2.
R2	CATDESC	CDF_CHAR	Rooting of electrical data.
R2	DISPLAY_TYPE	CDF_CHAR	time_series
R2	VALIDMIN	CDF_UINT1	0
R2	VALIDMAX	CDF_UINT1	1
R2	SCALEMIN	CDF_UINT1	0
R2	SCALEMAX	CDF_UINT1	1
R2	FILLVAL	CDF_UINT1	255
R2	LABLAXIS	CDF_CHAR	R2
R2	UNITS	CDF_CHAR	
R2	VAR_TYPE	CDF_CHAR	support_data
R2	SCALETYP	CDF_CHAR	linear
R2	VAR_NOTES	CDF_CHAR	
R2	DEPEND_0	CDF_CHAR	Epoch
R2	FORMAT	CDF_CHAR	I3.3
BP1_CNT	FIELDNAM	CDF_CHAR	Number of BP1 sets read at F0 sampling frequency.
BP1_CNT	CATDESC	CDF_CHAR	Number of BP1 sets read at F0 sampling frequency.
BP1_CNT	DISPLAY_TYPE	CDF_CHAR	time_series
BP1_CNT	VALIDMIN	CDF_UINT1	0
BP1_CNT	VALIDMAX	CDF_UINT1	22
BP1_CNT	SCALEMIN	CDF_UINT1	0
BP1_CNT	SCALEMAX	CDF_UINT1	22
BP1_CNT	FILLVAL	CDF_UINT1	255
BP1_CNT	LABLAXIS	CDF_CHAR	BP1_CNT
BP1_CNT	UNITS	CDF_CHAR	
BP1_CNT	VAR_TYPE	CDF_CHAR	support_data
BP1_CNT	SCALETYP	CDF_CHAR	linear
BP1_CNT	VAR_NOTES	CDF_CHAR	This indicates how many sets of BP1 have been read. Expected number is 22.
BP1_CNT	DEPEND_0	CDF_CHAR	Epoch

continues on next page



**RPW Data Product
Description Document**

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03

Date: March 11, 2021

Page: **843**

Tab. 4.123 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BP1_CNT	FORMAT	CDF_CHAR	I3.3
PE_F0	FIELDNAM	CDF_CHAR	Spectral power of E field
PE_F0	CATDESC	CDF_CHAR	Spectral power of E field
PE_F0	DISPLAY_TYPE	CDF_CHAR	time_series
PE_F0	VALIDMIN	CDF_REAL8	-1.0e+30
PE_F0	VALIDMAX	CDF_REAL8	1.0e+30
PE_F0	SCALEMIN	CDF_REAL8	-1.0e+30
PE_F0	SCALEMAX	CDF_REAL8	1.0e+30
PE_F0	FILLVAL	CDF_REAL8	-1.0e+31
PE_F0	LABLAXIS	CDF_CHAR	PE_F0
PE_F0	UNITS	CDF_CHAR	
PE_F0	VAR_TYPE	CDF_CHAR	data
PE_F0	SCALETYP	CDF_CHAR	linear
PE_F0	VAR_NOTES	CDF_CHAR	
PE_F0	DEPEND_0	CDF_CHAR	Epoch
PE_F0	FORMAT	CDF_CHAR	F32.6
PB_F0	FIELDNAM	CDF_CHAR	Spectral power of B field
PB_F0	CATDESC	CDF_CHAR	Spectral power of B field
PB_F0	DISPLAY_TYPE	CDF_CHAR	time_series
PB_F0	VALIDMIN	CDF_REAL8	-1.0e+30
PB_F0	VALIDMAX	CDF_REAL8	1.0e+30
PB_F0	SCALEMIN	CDF_REAL8	-1.0e+30
PB_F0	SCALEMAX	CDF_REAL8	1.0e+30
PB_F0	FILLVAL	CDF_REAL8	-1.0e+31
PB_F0	LABLAXIS	CDF_CHAR	PB_F0
PB_F0	UNITS	CDF_CHAR	
PB_F0	VAR_TYPE	CDF_CHAR	data
PB_F0	SCALETYP	CDF_CHAR	linear
PB_F0	VAR_NOTES	CDF_CHAR	
PB_F0	DEPEND_0	CDF_CHAR	Epoch
PB_F0	FORMAT	CDF_CHAR	F32.6
NVEC_F0	FIELDNAM	CDF_CHAR	Component 0 of wave normal vector from magnetic field
NVEC_F0	CATDESC	CDF_CHAR	Component 0 of wave normal vector from magnetic field
NVEC_F0	DISPLAY_TYPE	CDF_CHAR	time_series
NVEC_F0	VALIDMIN	CDF_REAL4	-1.0e+30
NVEC_F0	VALIDMAX	CDF_REAL4	1.0e+30
NVEC_F0	SCALEMIN	CDF_REAL4	-1.0e+30
NVEC_F0	SCALEMAX	CDF_REAL4	1.0e+30
NVEC_F0	FILLVAL	CDF_REAL4	-1.0e+31

continues on next page



**RPW Data Product
Description Document**

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **844**

Tab. 4.123 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
NVEC_F0	LABLAXIS	CDF_CHAR	NVEC_F0
NVEC_F0	UNITS	CDF_CHAR	
NVEC_F0	VAR_TYPE	CDF_CHAR	data
NVEC_F0	SCALETYP	CDF_CHAR	linear
NVEC_F0	VAR_NOTES	CDF_CHAR	
NVEC_F0	DEPEND_0	CDF_CHAR	Epoch
NVEC_F0	FORMAT	CDF_CHAR	F32.6
ELLIP_F0	FIELDNAM	CDF_CHAR	Wave ellipticity from mag- netic field
ELLIP_F0	CATDESC	CDF_CHAR	Wave ellipticity from mag- netic field
ELLIP_F0	DISPLAY_TYPE	CDF_CHAR	time_series
ELLIP_F0	VALIDMIN	CDF_REAL4	-1.0
ELLIP_F0	VALIDMAX	CDF_REAL4	1.0
ELLIP_F0	SCALEMIN	CDF_REAL4	-1.0
ELLIP_F0	SCALEMAX	CDF_REAL4	1.0
ELLIP_F0	FILLVAL	CDF_REAL4	-1.0e+31
ELLIP_F0	LABLAXIS	CDF_CHAR	ELLIP_F0
ELLIP_F0	UNITS	CDF_CHAR	
ELLIP_F0	VAR_TYPE	CDF_CHAR	data
ELLIP_F0	SCALETYP	CDF_CHAR	linear
ELLIP_F0	VAR_NOTES	CDF_CHAR	
ELLIP_F0	DEPEND_0	CDF_CHAR	Epoch
ELLIP_F0	FORMAT	CDF_CHAR	F32.6
DOP_F0	FIELDNAM	CDF_CHAR	degree of polarization from magnetic field
DOP_F0	CATDESC	CDF_CHAR	degree of polarization from magnetic field
DOP_F0	DISPLAY_TYPE	CDF_CHAR	time_series
DOP_F0	VALIDMIN	CDF_REAL4	-1.0
DOP_F0	VALIDMAX	CDF_REAL4	1.0
DOP_F0	SCALEMIN	CDF_REAL4	-1.0
DOP_F0	SCALEMAX	CDF_REAL4	1.0
DOP_F0	FILLVAL	CDF_REAL4	-1.0e+31
DOP_F0	LABLAXIS	CDF_CHAR	DOP_F0
DOP_F0	UNITS	CDF_CHAR	
DOP_F0	VAR_TYPE	CDF_CHAR	data
DOP_F0	SCALETYP	CDF_CHAR	linear
DOP_F0	VAR_NOTES	CDF_CHAR	
DOP_F0	DEPEND_0	CDF_CHAR	Epoch
DOP_F0	FORMAT	CDF_CHAR	F32.6


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 845

Tab. 4.123 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SX_REA_F0	FIELDNAM	CDF_CHAR	Real part of X Poynting flux (F0)
SX_REA_F0	CATDESC	CDF_CHAR	Real part of the X component of the Poynting vector in normal mode at F0
SX_REA_F0	DISPLAY_TYPE	CDF_CHAR	time_series
SX_REA_F0	VALIDMIN	CDF_REAL8	-1.0e+30
SX_REA_F0	VALIDMAX	CDF_REAL8	1.0e+30
SX_REA_F0	SCALEMIN	CDF_REAL8	-1.0e+30
SX_REA_F0	SCALEMAX	CDF_REAL8	1.0e+30
SX_REA_F0	FILLVAL	CDF_REAL8	-1.0e+31
SX_REA_F0	LABLAXIS	CDF_CHAR	SX_REA_F0
SX_REA_F0	UNITS	CDF_CHAR	
SX_REA_F0	VAR_TYPE	CDF_CHAR	data
SX_REA_F0	SCALETYP	CDF_CHAR	linear
SX_REA_F0	VAR_NOTES	CDF_CHAR	
SX_REA_F0	DEPEND_0	CDF_CHAR	Epoch
SX_REA_F0	FORMAT	CDF_CHAR	F32.6
SX_ARG_F0	FIELDNAM	CDF_CHAR	Arg bit of X Poynting flux (F0)
SX_ARG_F0	CATDESC	CDF_CHAR	Argument bit = 0 if $ \text{ARG}(\text{SX}) < \pi/4$ or $3\pi/4 < \text{ARG}(\text{SX}) < \pi$, bit arg = 1 elsewhere at F0
SX_ARG_F0	DISPLAY_TYPE	CDF_CHAR	time_series
SX_ARG_F0	VALIDMIN	CDF_UINT1	1
SX_ARG_F0	VALIDMAX	CDF_UINT1	254
SX_ARG_F0	SCALEMIN	CDF_UINT1	1
SX_ARG_F0	SCALEMAX	CDF_UINT1	254
SX_ARG_F0	FILLVAL	CDF_UINT1	255
SX_ARG_F0	LABLAXIS	CDF_CHAR	SX_ARG_F0
SX_ARG_F0	UNITS	CDF_CHAR	
SX_ARG_F0	VAR_TYPE	CDF_CHAR	data
SX_ARG_F0	SCALETYP	CDF_CHAR	linear
SX_ARG_F0	VAR_NOTES	CDF_CHAR	
SX_ARG_F0	DEPEND_0	CDF_CHAR	Epoch
SX_ARG_F0	FORMAT	CDF_CHAR	I3.3
VPHI_REA_F0	FIELDNAM	CDF_CHAR	Real part of phase velocity estimator (F0)


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 846

Tab. 4.123 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
VPHI_REA_F0	CATDESC	CDF_CHAR	Phase velocity estimated from the X projection of Maxwell-Faraday equation in normal mode at F0
VPHI_REA_F0	DISPLAY_TYPE	CDF_CHAR	time_series
VPHI_REA_F0	VALIDMIN	CDF_REAL8	-1.0e+30
VPHI_REA_F0	VALIDMAX	CDF_REAL8	1.0e+30
VPHI_REA_F0	SCALEMIN	CDF_REAL8	-1.0e+30
VPHI_REA_F0	SCALEMAX	CDF_REAL8	1.0e+30
VPHI_REA_F0	FILLVAL	CDF_REAL8	-1.0e+31
VPHI_REA_F0	LABLAXIS	CDF_CHAR	VPHI_REA_F0
VPHI_REA_F0	UNITS	CDF_CHAR	
VPHI_REA_F0	VAR_TYPE	CDF_CHAR	data
VPHI_REA_F0	SCALETYP	CDF_CHAR	linear
VPHI_REA_F0	VAR_NOTES	CDF_CHAR	
VPHI_REA_F0	DEPEND_0	CDF_CHAR	Epoch
VPHI_REA_F0	FORMAT	CDF_CHAR	F32.6
VPHI_ARG_F0	FIELDNAM	CDF_CHAR	Arg bit of phase velocity estimator (F0)
VPHI_ARG_F0	CATDESC	CDF_CHAR	Argument bit = 0 if $ \text{ARG}(\text{VPHI}) < \pi/4$ or $3\pi/4 < \text{ARG}(\text{VPHI}) < \pi$, bit arg = 1 elsewhere at F0
VPHI_ARG_F0	DISPLAY_TYPE	CDF_CHAR	time_series
VPHI_ARG_F0	VALIDMIN	CDF_UINT1	1
VPHI_ARG_F0	VALIDMAX	CDF_UINT1	254
VPHI_ARG_F0	SCALEMIN	CDF_UINT1	1
VPHI_ARG_F0	SCALEMAX	CDF_UINT1	254
VPHI_ARG_F0	FILLVAL	CDF_UINT1	255
VPHI_ARG_F0	LABLAXIS	CDF_CHAR	VPHI_ARG_F0
VPHI_ARG_F0	UNITS	CDF_CHAR	
VPHI_ARG_F0	VAR_TYPE	CDF_CHAR	data
VPHI_ARG_F0	SCALETYP	CDF_CHAR	linear
VPHI_ARG_F0	VAR_NOTES	CDF_CHAR	
VPHI_ARG_F0	DEPEND_0	CDF_CHAR	Epoch
VPHI_ARG_F0	FORMAT	CDF_CHAR	I3.3
SYNCHRO_FLAG	FIELDNAM	CDF_CHAR	SYNCHRO_FLAG
SYNCHRO_FLAG	CATDESC	CDF_CHAR	Time synchronisation flag
SYNCHRO_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
SYNCHRO_FLAG	VALIDMIN	CDF_UINT1	0
SYNCHRO_FLAG	VALIDMAX	CDF_UINT1	1

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 847

Tab. 4.123 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SYNCHRO_FLAG	SCALEMIN	CDF_UINT1	0
SYNCHRO_FLAG	SCALEMAX	CDF_UINT1	1
SYNCHRO_FLAG	FILLVAL	CDF_UINT1	255
SYNCHRO_FLAG	LABLAXIS	CDF_CHAR	time sync. flag
SYNCHRO_FLAG	UNITS	CDF_CHAR	
SYNCHRO_FLAG	VAR_TYPE	CDF_CHAR	support_data
SYNCHRO_FLAG	SCALETYP	CDF_CHAR	linear
SYNCHRO_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate if the local time is synchronized with the RPW DPU clock or not. Possible values: synchronized=0, not synchronized=1. This flag is extracted from ACQUISITION_TIME in L0 packets, it is the MSB of the CUC time.
SYNCHRO_FLAG	DEPEND_0	CDF_CHAR	Epoch
SYNCHRO_FLAG	FORMAT	CDF_CHAR	I3.3

4.1.3.30.6 Non-Record-Variant (NRV) Variables

4.1.3.31 SOLO_L2_RPW-LFR-SBM1-BP2 data product

The “SOLO_L2_RPW-LFR-SBM1-BP2” data product contains the calibrated LFR receiver Basic Parameters 2 data for SBM1 events. The “SOLO_L2_RPW-LFR-SBM2-BP1” data are written in CDF format files. There is a single file per SBM1 event data downlinked on-ground. The file is generated from data in the corresponding SOLO_L1_RPW-LFR-SBM2-BP1 parent file.


4.1.3.31.1 Filename

```
solo_L1_rpw-lfr-sbm1-bp2_[YYYYMMDDThhmmss1-YYYYMMDDThhmmss2]_V[version].cdf
```

4.1.3.31.2 Expected cadence and data volume

Nominal cadence: 1 file per SBM1 event


Expected data volume: TBD MB per file

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 848

4.1.3.31.3 Global Attributes

Attribute Name	Entry Number	Data Type	Value
Project	1	CDF_CHAR	SOLO>Solar Orbiter
Source_name	1	CDF_CHAR	SOLO>Solar Orbiter
Provider	1	CDF_CHAR	LESIA (Meudon, France)
Discipline	1	CDF_CHAR	Space Physics>Interplanetary Studies
Data_type	1	CDF_CHAR	H0>High Resolution data
Descriptor	1	CDF_CHAR	RPW-LFR-SBM1-BP2>RPW Low Frequency Receiver Basic Parameters set 2 data in SBM1 mode
Data_version	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Skeleton_version	1	CDF_CHAR	09
Parent_version	1	CDF_CHAR	
File_naming_convention	1	CDF_CHAR	<Source_name>_<LEVEL>_<Descriptor>_<Date>
PI_name	1	CDF_CHAR	M.Maksimovic
PI_affiliation	1	CDF_CHAR	LESIA, Observatoire de Paris-CNRS
TEXT	1	CDF_CHAR	This file contains RPW LFR level 2 SBM1 BP2 data of the current test.
Instrument_type	1	CDF_CHAR	Radio and Plasma Waves (space)
Mission_group	1	CDF_CHAR	Solar Orbiter
Logical_source	1	CDF_CHAR	solo_L2_rpw-lfr-sbm1-bp2
Logical_file_id	1	CDF_CHAR	
Logical_source_description	1	CDF_CHAR	Solar Orbiter Radio/Plasma Wave, LFR L2 parameters
Rules_of_use	1	CDF_CHAR	Data provided are publicly available. If used in presentations or publications, please acknowledge Solar Orbiter/RPW Investigation (M. Maksimovic, PIs). Please read carefully the caveats attached to the data. For reporting purposes, we request bibliography information for any publication, etc., using these data. Please send information on the use of this data to: M. Maksimovic (PI).
Generated_by	1	CDF_CHAR	RPW Operations Centre located at LESIA (Meudon, France)
Generation_date	1	CDF_CHAR	


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 849

Tab. 4.124 – continued from previous page


Attribute Name	Entry Number	Data Type	Value
Acknowledgement	1	CDF_CHAR	The authors are pleased to acknowledge the Solar Orbiter/RPW Investigation (M. Maksimovic, PIs) for access to data.
SKELETON_MODS	1	CDF_CHAR	
SKELETON_MODS	2	CDF_CHAR	V04: Update for solo data definition, X. BONNIN (CNRS-LESIA), April 2019
SKELETON_MODS	3	CDF_CHAR	V05: Update to compliant with SOL-SGS-TN-0009 Issue 2, Rev 4 - X.Bonnin, 09/2019
SKELETON_MODS	4	CDF_CHAR	V06: March 2020 : Delete Test_* g.attrs - X.Bonnin (CNRS, LESIA)
SKELETON_MODS	5	CDF_CHAR	V07: April 2020 : Delete Acquisition_time* zvariables - R.Piberne (X, LPP)
SKELETON_MODS	6	CDF_CHAR	V08: Remove UCD vattr and POST_GAP_FLAG zVar.
SKELETON_MODS	7	CDF_CHAR	V09: Jan. 2021 : Fix inconsistencies against the ISTP CDF guidelines, X.Bonnin (CNRS-LESIA)
LINK_TEXT	1	CDF_CHAR	RPW Web site at LESIA
LINK_TITLE	1	CDF_CHAR	RPW Web site
HTTP_LINK	1	CDF_CHAR	https://rpw.lesia.obspm.fr
ACCESS_URL	1	CDF_CHAR	
TEXT_supplement_1	1	CDF_CHAR	
Software_name	1	CDF_CHAR	
Parents	1	CDF_CHAR	
Validate	1	CDF_CHAR	
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00006-LES (1.3)
ROC_REFERENCE	1	CDF_CHAR	ROC-TST-GSE-SPC-00017-LES_Issue02_Rev0(Data_format_and_metadata_ground_Data).pdf
SKELETON_PARENT	1	CDF_CHAR	SOLO_L2_RPW-LFR-SBM1-BP2_V09.cdf
ACCESS_FORMAT	1	CDF_CHAR	CDF
TIME_MIN	1	CDF_CHAR	
TIME_MAX	1	CDF_CHAR	
SPECTRAL_RANGE_MIN	1	CDF_CHAR	
SPECTRAL_RANGE_MAX	1	CDF_CHAR	
File_ID	1	CDF_CHAR	

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 850

Tab. 4.124 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
CAVEATS	1	CDF_CHAR	
CAL_ENTITY_NAME	1	CDF_CHAR	
CAL_ENTITY_AFFILIATION	1	CDF_CHAR	
CAL_EQUIPMENT	1	CDF_CHAR	
CALIBRATION_TABLE	1	CDF_CHAR	
CALIBRATION_VERSION	1	CDF_CHAR	
Datetime	1	CDF_CHAR	
Free_field	1	CDF_CHAR	
Job_ID	1	CDF_CHAR	
LEVEL	1	CDF_CHAR	L2>Level 2 data processing
SOOP_TYPE	1	CDF_CHAR	
Data_product	1	CDF_CHAR	SBM1-BP2>SBM1-BP2
TARGET_NAME	1	CDF_CHAR	Sun
TARGET_CLASS	1	CDF_CHAR	Star
TARGET_REGION	1	CDF_CHAR	Solar Wind
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009 (2.4)
Pipeline_name	1	CDF_CHAR	
Pipeline_version	1	CDF_CHAR	
Dataset_ID	1	CDF_CHAR	SOLO_L2_RPW-LFR-SBM1-BP2
OBS_ID	1	CDF_CHAR	
MODS	1	CDF_CHAR	

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 851


4.1.3.31.4 zVariables

Variable Name	Data Type	Number Elements	Dims	Sizes
Epoch	CDF_TIME_TT2000	1	0	
QUALITY_FLAG	CDF_UINT1	1	0	
COMMON_BIA_STATUS_FLAG	CDF_UINT1	1	0	
QUALITY_BITMASK	CDF_UINT2	1	0	
F0	CDF_REAL4	1	1	22
BIAS_MODE_MUX_SET	CDF_UINT1	1	0	
BIAS_MODE_HV_ENABLED	CDF_UINT1	1	0	
BIAS_MODE_BIAS1_ENABLED	CDF_UINT1	1	0	
BIAS_MODE_BIAS2_ENABLED	CDF_UINT1	1	0	
BIAS_MODE_BIAS3_ENABLED	CDF_UINT1	1	0	
BIAS_ON_OFF	CDF_UINT1	1	0	
BW	CDF_UINT1	1	0	
SP0	CDF_UINT1	1	0	
SP1	CDF_UINT1	1	0	
R0	CDF_UINT1	1	0	
R1	CDF_UINT1	1	0	
R2	CDF_UINT1	1	0	
BP2_CNT	CDF_UINT1	1	0	
BP2_RE_F0	CDF_REAL8	1	3	22 5 5
BP2_IM_F0	CDF_REAL8	1	3	22 5 5
SYNCHRO_FLAG	CDF_UINT1	1	0	

4.1.3.31.5 Variable attributes

Variable Name	Attribute Name	Data Type	Value
Epoch	FIELDNAM	CDF_CHAR	Epoch
Epoch	CATDESC	CDF_CHAR	Default time
Epoch	DISPLAY_TYPE	CDF_CHAR	time_series
Epoch	VALIDMIN	CDF_TIME_TT2000	2000-01-01T00:00:00.000000000
Epoch	VALIDMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch	SCALEMIN	CDF_TIME_TT2000	1990-01-01T00:00:00.000000000
Epoch	SCALEMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 852

Tab. 4.125 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
Epoch	FILLVAL	CDF_TIME_TT2000	1999-12-31T23:59:59.999999999
Epoch	LABLAXIS	CDF_CHAR	Epoch
Epoch	UNITS	CDF_CHAR	ns
Epoch	VAR_TYPE	CDF_CHAR	support_data
Epoch	SCALETYP	CDF_CHAR	linear
Epoch	MONOTON	CDF_CHAR	INCREASE
Epoch	TIME_BASE	CDF_CHAR	J2000
Epoch	TIME_SCALE	CDF_CHAR	Terrestrial Time
Epoch	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
Epoch	Resolution	CDF_CHAR	15258
Epoch	Bin_location	CDF_CHAR	0.5
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file.
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	VALIDMIN	CDF_UINT1	0
QUALITY_FLAG	VALIDMAX	CDF_UINT1	4
QUALITY_FLAG	SCALEMIN	CDF_UINT1	0
QUALITY_FLAG	SCALEMAX	CDF_UINT1	4
QUALITY_FLAG	FILLVAL	CDF_UINT1	255
QUALITY_FLAG	LABLAXIS	CDF_CHAR	Quality flag
QUALITY_FLAG	UNITS	CDF_CHAR	
QUALITY_FLAG	VAR_TYPE	CDF_CHAR	support_data
QUALITY_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the quality of the data
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
QUALITY_FLAG	SCALETYPE	CDF_CHAR	linear
COMMON_BIA_STATUS_FLAG	FIELDNAM	CDF_CHAR	COMMON_BIA_STATUS_FLAG
COMMON_BIA_STATUS_FLAG	CATDESC	CDF_CHAR	LFR common parameters and BIAS status info relevancy flag
COMMON_BIA_STATUS_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
COMMON_BIA_STATUS_FLAG	VALIDMIN	CDF_UINT1	0
COMMON_BIA_STATUS_FLAG	VALIDMAX	CDF_UINT1	1
COMMON_BIA_STATUS_FLAG	SCALEMIN	CDF_UINT1	0
COMMON_BIA_STATUS_FLAG	SCALEMAX	CDF_UINT1	1
COMMON_BIA_STATUS_FLAG	FILLVAL	CDF_UINT1	255
COMMON_BIA_STATUS_FLAG	LABLAXIS	CDF_CHAR	common bias status flag


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 853

Tab. 4.125 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
COMMON_BIA_STATUS_FLAGS	UNITS	CDF_CHAR	
COMMON_BIA_STATUS_FLAGS	VAR_TYPE	CDF_CHAR	support_data
COMMON_BIA_STATUS_FLAGS	VAR_NOTES	CDF_CHAR	Flag to indicate the relevancy of LFR common parameters (SP0/1, R0/1/2, BW) and BIAS STATUS INFO which can be non representative for the first packet following a change in those parameters.
COMMON_BIA_STATUS_FLAGS	DEPEND_0	CDF_CHAR	Epoch
COMMON_BIA_STATUS_FLAGS	FORMAT	CDF_CHAR	I1.1
COMMON_BIA_STATUS_FLAGS	SCALETYPE	CDF_CHAR	linear
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	UNITS	CDF_CHAR	
QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context information or status at the receiver or experiment level
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
F0	FIELDNAM	CDF_CHAR	Sampling frequency of BP2 at F0
F0	CATDESC	CDF_CHAR	Sampling frequency of BP2 at F0
F0	DISPLAY_TYPE	CDF_CHAR	time_series
F0	VALIDMIN	CDF_REAL4	0.0
F0	VALIDMAX	CDF_REAL4	1.0e+30
F0	SCALEMIN	CDF_REAL4	0.0
F0	SCALEMAX	CDF_REAL4	1.0e+30
F0	FILLVAL	CDF_REAL4	-1.0e+31
F0	LABLAXIS	CDF_CHAR	BP2 sampling frequency
F0	UNITS	CDF_CHAR	

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 854

Tab. 4.125 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
F0	VAR_TYPE	CDF_CHAR	support_data
F0	VAR_NOTES	CDF_CHAR	
F0	FORMAT	CDF_CHAR	F32.6
F0	SCALETYPE	CDF_CHAR	linear
BIAS_MODE_MUX_SET	FIELDNAM	CDF_CHAR	BIAS multiplexer setting
BIAS_MODE_MUX_SET	CATDESC	CDF_CHAR	Copy of multiplexer setting.
BIAS_MODE_MUX_SET	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_MUX_SET	VALIDMIN	CDF_UINT1	0
BIAS_MODE_MUX_SET	VALIDMAX	CDF_UINT1	7
BIAS_MODE_MUX_SET	SCALEMIN	CDF_UINT1	0
BIAS_MODE_MUX_SET	SCALEMAX	CDF_UINT1	7
BIAS_MODE_MUX_SET	FILLVAL	CDF_UINT1	255
BIAS_MODE_MUX_SET	LABLAXIS	CDF_CHAR	BIAS_MODE_MUX_SET
BIAS_MODE_MUX_SET	UNITS	CDF_CHAR	
BIAS_MODE_MUX_SET	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_MUX_SET	VAR_NOTES	CDF_CHAR	Indicates the mode of BIAS multiplexer for a set of BP2 parameters. Possible values are 0 : Standard operation. 1 : Probe 1 fails. 2 : Probe 2 fails. 3 : Probe 3 fails. 4 : Calibration mode 0. 5 : Calibration mode 1. 6 : Calibration mode 2. 7 : Calibration mode 3.
BIAS_MODE_MUX_SET	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_MUX_SET	FORMAT	CDF_CHAR	I3.3
BIAS_MODE_MUX_SET	SCALETYPE	CDF_CHAR	linear
BIAS_MODE_HV_ENABLED	FIELDNAM	CDF_CHAR	BIAS high voltage status
BIAS_MODE_HV_ENABLED	CATDESC	CDF_CHAR	Copy of enable/disable HV (+- 100V).
BIAS_MODE_HV_ENABLED	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_HV_ENABLED	VALIDMIN	CDF_UINT1	0
BIAS_MODE_HV_ENABLED	VALIDMAX	CDF_UINT1	1
BIAS_MODE_HV_ENABLED	SCALEMIN	CDF_UINT1	0
BIAS_MODE_HV_ENABLED	SCALEMAX	CDF_UINT1	1
BIAS_MODE_HV_ENABLED	FILLVAL	CDF_UINT1	255
BIAS_MODE_HV_ENABLED	LABLAXIS	CDF_CHAR	BIAS_MODE_HV_ENABLED
BIAS_MODE_HV_ENABLED	UNITS	CDF_CHAR	
BIAS_MODE_HV_ENABLED	VAR_TYPE	CDF_CHAR	support_data

continues on next page



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03

Date: March 11, 2021

Page: **855**

Tab. 4.125 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_MODE_HV_ENABLED	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS HV. Possible values are DISABLED = 0. ENABLED = 1.
BIAS_MODE_HV_ENABLED	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_HV_ENABLED	FORMAT	CDF_CHAR	I3.3
BIAS_MODE_HV_ENABLED	SCALETYPE	CDF_CHAR	linear
BIAS_MODE_BIAS1_ENABLED	FIELDNAM	CDF_CHAR	BIAS probe 1 status
BIAS_MODE_BIAS1_ENABLED	FIELDDESC	CDF_CHAR	Copy of enable/disable BIAS 1.
BIAS_MODE_BIAS1_ENABLED	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_BIAS1_ENABLED	VALIDMIN	CDF_UINT1	0
BIAS_MODE_BIAS1_ENABLED	VALIDMAX	CDF_UINT1	1
BIAS_MODE_BIAS1_ENABLED	SCALEMIN	CDF_UINT1	0
BIAS_MODE_BIAS1_ENABLED	SCALEMAX	CDF_UINT1	1
BIAS_MODE_BIAS1_ENABLED	FIELDVAL	CDF_UINT1	255
BIAS_MODE_BIAS1_ENABLED	FIELDBLAXIS	CDF_CHAR	BIAS_MODE_BIAS1_ENABLED
BIAS_MODE_BIAS1_ENABLED	UNITS	CDF_CHAR	
BIAS_MODE_BIAS1_ENABLED	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_BIAS1_ENABLED	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS probe 1. Possible values are DISABLED = 0. ENABLED = 1.
BIAS_MODE_BIAS1_ENABLED	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_BIAS1_ENABLED	FORMAT	CDF_CHAR	I3.3
BIAS_MODE_BIAS1_ENABLED	SCALETYPE	CDF_CHAR	linear
BIAS_MODE_BIAS2_ENABLED	FIELDNAM	CDF_CHAR	BIAS probe 2 status
BIAS_MODE_BIAS2_ENABLED	FIELDDESC	CDF_CHAR	Copy of enable/disable BIAS 2.
BIAS_MODE_BIAS2_ENABLED	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_BIAS2_ENABLED	VALIDMIN	CDF_UINT1	0
BIAS_MODE_BIAS2_ENABLED	VALIDMAX	CDF_UINT1	1
BIAS_MODE_BIAS2_ENABLED	SCALEMIN	CDF_UINT1	0
BIAS_MODE_BIAS2_ENABLED	SCALEMAX	CDF_UINT1	1
BIAS_MODE_BIAS2_ENABLED	FIELDVAL	CDF_UINT1	255
BIAS_MODE_BIAS2_ENABLED	FIELDBLAXIS	CDF_CHAR	BIAS_MODE_BIAS2_ENABLED
BIAS_MODE_BIAS2_ENABLED	UNITS	CDF_CHAR	
BIAS_MODE_BIAS2_ENABLED	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_BIAS2_ENABLED	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS probe 2. Possible values are DISABLED = 0. ENABLED = 1.

continues on next page



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **856**

Tab. 4.125 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_MODE_BIAS2_ENAB	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_BIAS2_ENAB	FORMAT	CDF_CHAR	I3.3
BIAS_MODE_BIAS2_ENAB	SCALETYPE	CDF_CHAR	linear
BIAS_MODE_BIAS3_ENAB	FIELDNAM	CDF_CHAR	BIAS probe 3 status
BIAS_MODE_BIAS3_ENAB	CATDESC	CDF_CHAR	Copy of enable/disable BIAS 3.
BIAS_MODE_BIAS3_ENAB	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_BIAS3_ENAB	VALIDMIN	CDF_UINT1	0
BIAS_MODE_BIAS3_ENAB	VALIDMAX	CDF_UINT1	1
BIAS_MODE_BIAS3_ENAB	SCALEMIN	CDF_UINT1	0
BIAS_MODE_BIAS3_ENAB	SCALEMAX	CDF_UINT1	1
BIAS_MODE_BIAS3_ENAB	FILLVAL	CDF_UINT1	255
BIAS_MODE_BIAS3_ENAB	LABLAXIS	CDF_CHAR	BIAS_MODE_BIAS3_ENABLED
BIAS_MODE_BIAS3_ENAB	UNITS	CDF_CHAR	
BIAS_MODE_BIAS3_ENAB	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_BIAS3_ENAB	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS probe 3. Possible values are DISABLED = 0. ENABLED = 1.
BIAS_MODE_BIAS3_ENAB	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_BIAS3_ENAB	FORMAT	CDF_CHAR	I3.3
BIAS_MODE_BIAS3_ENAB	SCALETYPE	CDF_CHAR	linear
BIAS_ON_OFF	FIELDNAM	CDF_CHAR	BIAS status
BIAS_ON_OFF	CATDESC	CDF_CHAR	Copy of BIAS status.
BIAS_ON_OFF	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_ON_OFF	VALIDMIN	CDF_UINT1	0
BIAS_ON_OFF	VALIDMAX	CDF_UINT1	1
BIAS_ON_OFF	SCALEMIN	CDF_UINT1	0
BIAS_ON_OFF	SCALEMAX	CDF_UINT1	1
BIAS_ON_OFF	FILLVAL	CDF_UINT1	255
BIAS_ON_OFF	LABLAXIS	CDF_CHAR	BIAS_ON_OFF
BIAS_ON_OFF	UNITS	CDF_CHAR	
BIAS_ON_OFF	VAR_TYPE	CDF_CHAR	support_data
BIAS_ON_OFF	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS. Possible values are OFF = 0 - Power line off. ON = 1 - Power line on.
BIAS_ON_OFF	DEPEND_0	CDF_CHAR	Epoch
BIAS_ON_OFF	FORMAT	CDF_CHAR	I3.3
BIAS_ON_OFF	SCALETYPE	CDF_CHAR	linear

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 857

Tab. 4.125 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BW	FIELDNAM	CDF_CHAR	BIAS Works/BIAS Fails configuration.
BW	CATDESC	CDF_CHAR	BIAS Works/BIAS Fails configuration.
BW	DISPLAY_TYPE	CDF_CHAR	time_series
BW	VALIDMIN	CDF_UINT1	0
BW	VALIDMAX	CDF_UINT1	1
BW	SCALEMIN	CDF_UINT1	0
BW	SCALEMAX	CDF_UINT1	1
BW	FILLVAL	CDF_UINT1	255
BW	LABLAXIS	CDF_CHAR	BW
BW	UNITS	CDF_CHAR	
BW	VAR_TYPE	CDF_CHAR	support_data
BW	VAR_NOTES	CDF_CHAR	
BW	DEPEND_0	CDF_CHAR	Epoch
BW	FORMAT	CDF_CHAR	I3.3
BW	SCALETYPE	CDF_CHAR	linear
SP0	FIELDNAM	CDF_CHAR	Shaping of electrical data parameter 0.
SP0	CATDESC	CDF_CHAR	Shaping of electrical data.
SP0	DISPLAY_TYPE	CDF_CHAR	time_series
SP0	VALIDMIN	CDF_UINT1	0
SP0	VALIDMAX	CDF_UINT1	1
SP0	SCALEMIN	CDF_UINT1	0
SP0	SCALEMAX	CDF_UINT1	1
SP0	FILLVAL	CDF_UINT1	255
SP0	LABLAXIS	CDF_CHAR	SP0
SP0	UNITS	CDF_CHAR	
SP0	VAR_TYPE	CDF_CHAR	support_data
SP0	VAR_NOTES	CDF_CHAR	
SP0	DEPEND_0	CDF_CHAR	Epoch
SP0	FORMAT	CDF_CHAR	I3.3
SP0	SCALETYPE	CDF_CHAR	linear
SP1	FIELDNAM	CDF_CHAR	Shaping of electrical data parameter 1.
SP1	CATDESC	CDF_CHAR	Shaping of electrical data.
SP1	DISPLAY_TYPE	CDF_CHAR	time_series
SP1	VALIDMIN	CDF_UINT1	0
SP1	VALIDMAX	CDF_UINT1	1
SP1	SCALEMIN	CDF_UINT1	0
SP1	SCALEMAX	CDF_UINT1	1

continues on next page



**RPW Data Product
Description Document**

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03

Date: March 11, 2021

Page: **858**

Tab. 4.125 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SP1	FILLVAL	CDF_UINT1	255
SP1	LABLAXIS	CDF_CHAR	SP1
SP1	UNITS	CDF_CHAR	
SP1	VAR_TYPE	CDF_CHAR	support_data
SP1	VAR_NOTES	CDF_CHAR	
SP1	DEPEND_0	CDF_CHAR	Epoch
SP1	FORMAT	CDF_CHAR	I3.3
SP1	SCALETYPE	CDF_CHAR	linear
R0	FIELDNAM	CDF_CHAR	Rooting of electrical data for F0.
R0	CATDESC	CDF_CHAR	Rooting of electrical data.
R0	DISPLAY_TYPE	CDF_CHAR	time_series
R0	VALIDMIN	CDF_UINT1	0
R0	VALIDMAX	CDF_UINT1	1
R0	SCALEMIN	CDF_UINT1	0
R0	SCALEMAX	CDF_UINT1	1
R0	FILLVAL	CDF_UINT1	255
R0	LABLAXIS	CDF_CHAR	R0
R0	UNITS	CDF_CHAR	
R0	VAR_TYPE	CDF_CHAR	support_data
R0	VAR_NOTES	CDF_CHAR	
R0	DEPEND_0	CDF_CHAR	Epoch
R0	FORMAT	CDF_CHAR	I3.3
R0	SCALETYPE	CDF_CHAR	linear
R1	FIELDNAM	CDF_CHAR	Rooting of electrical data for F1.
R1	CATDESC	CDF_CHAR	Rooting of electrical data.
R1	DISPLAY_TYPE	CDF_CHAR	time_series
R1	VALIDMIN	CDF_UINT1	0
R1	VALIDMAX	CDF_UINT1	1
R1	SCALEMIN	CDF_UINT1	0
R1	SCALEMAX	CDF_UINT1	1
R1	FILLVAL	CDF_UINT1	255
R1	LABLAXIS	CDF_CHAR	R1
R1	UNITS	CDF_CHAR	
R1	VAR_TYPE	CDF_CHAR	support_data
R1	VAR_NOTES	CDF_CHAR	
R1	DEPEND_0	CDF_CHAR	Epoch
R1	FORMAT	CDF_CHAR	I3.3
R1	SCALETYPE	CDF_CHAR	linear

continues on next page



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03

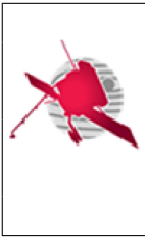
Date: March 11, 2021

Page: **859**

Tab. 4.125 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
R2	FIELDNAM	CDF_CHAR	Rooting of electrical data for F2.
R2	CATDESC	CDF_CHAR	Rooting of electrical data.
R2	DISPLAY_TYPE	CDF_CHAR	time_series
R2	VALIDMIN	CDF_UINT1	0
R2	VALIDMAX	CDF_UINT1	1
R2	SCALEMIN	CDF_UINT1	0
R2	SCALEMAX	CDF_UINT1	1
R2	FILLVAL	CDF_UINT1	255
R2	LABLAXIS	CDF_CHAR	R2
R2	UNITS	CDF_CHAR	
R2	VAR_TYPE	CDF_CHAR	support_data
R2	VAR_NOTES	CDF_CHAR	
R2	DEPEND_0	CDF_CHAR	Epoch
R2	FORMAT	CDF_CHAR	I3.3
R2	SCALETYP	CDF_CHAR	linear
BP2_CNT	FIELDNAM	CDF_CHAR	Number of BP2 sets read at F0 sampling frequency.
BP2_CNT	CATDESC	CDF_CHAR	Number of BP2 sets read at F0 sampling frequency.
BP2_CNT	DISPLAY_TYPE	CDF_CHAR	time_series
BP2_CNT	VALIDMIN	CDF_UINT1	0
BP2_CNT	VALIDMAX	CDF_UINT1	22
BP2_CNT	SCALEMIN	CDF_UINT1	0
BP2_CNT	SCALEMAX	CDF_UINT1	22
BP2_CNT	FILLVAL	CDF_UINT1	255
BP2_CNT	LABLAXIS	CDF_CHAR	BP2_CNT
BP2_CNT	UNITS	CDF_CHAR	
BP2_CNT	VAR_TYPE	CDF_CHAR	support_data
BP2_CNT	VAR_NOTES	CDF_CHAR	This indicates how many sets of BP1 have been read. Expected number is 22.
BP2_CNT	DEPEND_0	CDF_CHAR	Epoch
BP2_CNT	FORMAT	CDF_CHAR	I3.3
BP2_CNT	SCALETYP	CDF_CHAR	linear
BP2_RE_F0	FIELDNAM	CDF_CHAR	5x5 real part of the spectral matrices for F0
BP2_RE_F0	CATDESC	CDF_CHAR	All the real part of the 5x5 calibrated matrices for all bins of F0 sampling frequency.
BP2_RE_F0	DISPLAY_TYPE	CDF_CHAR	time_series

continues on next page



**RPW Data Product
Description Document**

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **860**

Tab. 4.125 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BP2_RE_F0	VALIDMIN	CDF_REAL8	-1.0e+30
BP2_RE_F0	VALIDMAX	CDF_REAL8	1.0e+30
BP2_RE_F0	SCALEMIN	CDF_REAL8	-1.0e+30
BP2_RE_F0	SCALEMAX	CDF_REAL8	1.0e+30
BP2_RE_F0	FILLVAL	CDF_REAL8	-1.0e+31
BP2_RE_F0	LABLAXIS	CDF_CHAR	BP2_RE_F0
BP2_RE_F0	UNITS	CDF_CHAR	
BP2_RE_F0	VAR_TYPE	CDF_CHAR	data
BP2_RE_F0	VAR_NOTES	CDF_CHAR	
BP2_RE_F0	DEPEND_0	CDF_CHAR	Epoch
BP2_RE_F0	FORMAT	CDF_CHAR	F32.6
BP2_RE_F0	SCALETYPE	CDF_CHAR	linear
BP2_RE_F0	DEPEND_1	CDF_CHAR	F0
BP2_IM_F0	FIELDNAM	CDF_CHAR	5x5 imaginary part of the spectral matrices for F0
BP2_IM_F0	CATDESC	CDF_CHAR	All the imaginary part of the 5x5 calibrated matrices for all bins of F0 sampling frequency.
BP2_IM_F0	DISPLAY_TYPE	CDF_CHAR	time_series
BP2_IM_F0	VALIDMIN	CDF_REAL8	-1.0e+30
BP2_IM_F0	VALIDMAX	CDF_REAL8	1.0e+30
BP2_IM_F0	SCALEMIN	CDF_REAL8	-1.0e+30
BP2_IM_F0	SCALEMAX	CDF_REAL8	1.0e+30
BP2_IM_F0	FILLVAL	CDF_REAL8	-1.0e+31
BP2_IM_F0	LABLAXIS	CDF_CHAR	BP2_IM_F0
BP2_IM_F0	UNITS	CDF_CHAR	
BP2_IM_F0	VAR_TYPE	CDF_CHAR	data
BP2_IM_F0	VAR_NOTES	CDF_CHAR	
BP2_IM_F0	DEPEND_0	CDF_CHAR	Epoch
BP2_IM_F0	FORMAT	CDF_CHAR	F32.6
BP2_IM_F0	SCALETYPE	CDF_CHAR	linear
BP2_IM_F0	DEPEND_1	CDF_CHAR	F0
SYNCHRO_FLAG	FIELDNAM	CDF_CHAR	SYNCHRO_FLAG
SYNCHRO_FLAG	CATDESC	CDF_CHAR	Time synchronisation flag
SYNCHRO_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
SYNCHRO_FLAG	VALIDMIN	CDF_UINT1	0
SYNCHRO_FLAG	VALIDMAX	CDF_UINT1	1
SYNCHRO_FLAG	SCALEMIN	CDF_UINT1	0
SYNCHRO_FLAG	SCALEMAX	CDF_UINT1	1
SYNCHRO_FLAG	FILLVAL	CDF_UINT1	255

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 861

Tab. 4.125 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SYNCHRO_FLAG	LABLAXIS	CDF_CHAR	time sync. flag
SYNCHRO_FLAG	UNITS	CDF_CHAR	
SYNCHRO_FLAG	VAR_TYPE	CDF_CHAR	support_data
SYNCHRO_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate if the local time is synchronized with the RPW DPU clock or not. Possible values: synchronized=0, not synchronized=1. This flag is extracted from ACQUISITION_TIME in L0 packets, it is the MSB of the CUC time.
SYNCHRO_FLAG	DEPEND_0	CDF_CHAR	Epoch
SYNCHRO_FLAG	FORMAT	CDF_CHAR	I3.3
SYNCHRO_FLAG	SCALETYPE	CDF_CHAR	linear

4.1.3.31.6 Non-Record-Variant (NRV) Variables

4.1.3.32 SOLO_L2_RPW-LFR-SBM2-CWF-E data product

The “SOLO_L2_RPW-LFR-SBM2-CWF-E” data product contains the calibrated LFR receiver Continuous Waveform data for SBM1 events for electrical components only. The “SOLO_L2_RPW-LFR-SBM2-CWF-E ” data are written in CDF format files. There is a single file per SBM2 event data downlinked on-ground. The file is generated from data in the corresponding SOLO_L1_RPW-LFR-SBM2-CWF parent file.


4.1.3.32.1 Filename

```
solo_L2_rpw-lfr-sbm2-cwf-e_[YYYYMMDDThhmmss1-YYYYMMDDThhmmss2]_V[version].  
↪cdf
```

4.1.3.32.2 Expected cadence and data volume

Nominal cadence: 1 file per SBM2 event


Expected data volume: TBD MB per file

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 862

4.1.3.32.3 Global Attributes

Attribute Name	Entry Number	Data Type	Value
ACCESS_FORMAT	1	CDF_CHAR	CDF
ACCESS_URL	1	CDF_CHAR	
Acknowledgement	1	CDF_CHAR	The authors are pleased to acknowledge the Solar Orbiter/RPW Investigation (M. Maksimovic, PIs) for access to data.
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009 (2.4)
Calibration_version	1	CDF_CHAR	
Data_type	1	CDF_CHAR	H0>High Resolution data
Data_version	1	CDF_CHAR	
Descriptor	1	CDF_CHAR	RPW-LFR-SBM2-CWF-E>RPW Low Frequency Receiver Continuous Waveform in selective burst mode 2. Electric component.
Discipline	1	CDF_CHAR	Space Physics>Interplanetary Studies
File_naming_convention	1	CDF_CHAR	<Source_name>_<LEVEL>_<Descriptor>_<Date>
File_ID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	RPW Operations Centre located at LESIA (Meudon, France)
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	https://rpw.lesia.obspm.fr
Instrument_type	1	CDF_CHAR	Radio and Plasma Waves (space)
LINK_TEXT	1	CDF_CHAR	RPW Web site at LESIA
LINK_TITLE	1	CDF_CHAR	RPW Web site
Logical_file_id	1	CDF_CHAR	
Logical_source	1	CDF_CHAR	solo_L2_rpw-lfr-sbm2-cwf-e
Logical_source_description	1	CDF_CHAR	Solar Orbiter Radio/Plasma Wave, LFR L2 electric parameters
Mission_group	1	CDF_CHAR	Solar Orbiter
SKELETON_MODS	1	CDF_CHAR	July 2016, IRF-U, initial release
SKELETON_MODS	2	CDF_CHAR	V04: Update for solo data definition, X. BONNIN (CNRS-LESIA), April 2019
SKELETON_MODS	3	CDF_CHAR	V05: Update to compliant with SOL-SGS-TN-0009 Issue 2, Rev 4 - X.Bonnin, 09/2019
SKELETON_MODS	4	CDF_CHAR	V06: March 2020 : Standardize SAMPLING_RATE and delete Test_* g.attrs - X.Bonnin (CNRS, LESIA)


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 863

Tab. 4.126 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
SKELETON_MODS	5	CDF_CHAR	V07: March 2020 : zVar name changes V->VDC and E->EDC and typos - E.Johansson (IRF)
SKELETON_MODS	6	CDF_CHAR	V08: March 2020 : zVar attribute name change DELTA_PLUS/MINUS->DELTA_PLUS/MINUS (ISTP compliant), L2S typo, removed zVars ACQUISITION_TIME* - E.Johansson (IRF)
SKELETON_MODS	7	CDF_CHAR	V09: July 2020 : zVars IBIAS1-3: attribute CATDESC corrected, UNITS A->nA. Glob.attr. MODS typos corrected. New zVar BW copied from L1 & L1R - E.Johansson (IRF)
SKELETON_MODS	8	CDF_CHAR	V10: Oct 2020 : zVars DELTA_PLUS_MINUS: set UNITS Add L2_QUALITY_BITMASK Add SPICE_KERNELS - E.Johansson (IRF)
SKELETON_MODS	9	CDF_CHAR	V11: Jan. 2021 : Fix inconsistencies against the ISTP CDF guidelines, X.Bonnin (CNRS-LESIA)
SKELETON_MODS	10	CDF_CHAR	V12: Feb. 2021 : Fix QUALITY_BITMASK type and its attributes, E.Johansson (IRF)
Parent_version	1	CDF_CHAR	
Parents	1	CDF_CHAR	
PI_affiliation	1	CDF_CHAR	LESIA, Observatoire de Paris-CNRS
PI_name	1	CDF_CHAR	M.Maksimovic
Pipeline_version	1	CDF_CHAR	
Project	1	CDF_CHAR	SOLO>Solar Orbiter
Provider	1	CDF_CHAR	LESIA (Meudon, France)
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00006-LES (1.3)


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 864

Tab. 4.126 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Rules_of_use	1	CDF_CHAR	Data provided are publicly available. If used in presentations or publications, please acknowledge Solar Orbiter/RPW Investigation (M. Maksimovic, PIs). Please read carefully the caveats attached to the data. For reporting purposes, we request bibliography information for any publication, etc., using these data. Please send information on the use of this data to: M. Maksimovic (PI).
SKELETON_PARENT	1	CDF_CHAR	SOLO_L2_RPW-LFR-SBM2-CWF-E_V11.cdf
Skeleton_version	1	CDF_CHAR	12
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	SOLO>Solar Orbiter
SPECTRAL_RANGE_MAX	1	CDF_CHAR	
SPECTRAL_RANGE_MIN	1	CDF_CHAR	
SPICE_KERNELS	1	CDF_CHAR	
TEXT	1	CDF_CHAR	This file contains RPW LFR level 2 continuous waveform of electric data in selective burst mode 2.
TEXT_supplement_1	1	CDF_CHAR	
TIME_MAX	1	CDF_CHAR	
TIME_MIN	1	CDF_CHAR	
Validate	1	CDF_CHAR	
CAVEATS	1	CDF_CHAR	
CAL_ENTITY_NAME	1	CDF_CHAR	
CAL_ENTITY_AFFILIATION	1	CDF_CHAR	
CAL_EQUIPMENT	1	CDF_CHAR	
CALIBRATION_TABLE	1	CDF_CHAR	
CALIBRATION_VERSION	1	CDF_CHAR	
Datetime	1	CDF_CHAR	
Free_field	1	CDF_CHAR	
Job_ID	1	CDF_CHAR	
LEVEL	1	CDF_CHAR	L2>Level 2 data processing
SOOP_TYPE	1	CDF_CHAR	
Data_product	1	CDF_CHAR	SBM2-CWF-E>SBM2-CWF-E
TARGET_NAME	1	CDF_CHAR	Sun

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 865

Tab. 4.126 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
TARGET_CLASS	1	CDF_CHAR	Star
TARGET_REGION	1	CDF_CHAR	Solar Wind
Pipeline_name	1	CDF_CHAR	
Dataset_ID	1	CDF_CHAR	SOLO_L2_RPW-LFR-SBM2-CWF-E
OBS_ID	1	CDF_CHAR	
MODS	1	CDF_CHAR	


4.1.3.32.4 zVariables

Variable Name	Data Type	Number Elements	Dims	Sizes
Epoch	CDF_TIME_TT2000	1	0	
QUALITY_FLAG	CDF_UINT1	1	0	
QUALITY_BITMASK	CDF_UINT2	1	0	
L2_QUALITY_BITMASK	CDF_UINT2	1	0	
BW	CDF_UINT1	1	0	
VDC_LABEL	CDF_CHAR	4	1	3
EDC_LABEL	CDF_CHAR	5	1	3
EAC_LABEL	CDF_CHAR	5	1	3
VDC	CDF_REAL4	1	1	3
EDC	CDF_REAL4	1	1	3
EAC	CDF_REAL4	1	1	3
IBIAS1	CDF_REAL4	1	0	
IBIAS2	CDF_REAL4	1	0	
IBIAS3	CDF_REAL4	1	0	
DELTA_PLUS_MINUS	CDF_INT8	1	0	
SYNCHRO_FLAG	CDF_UINT1	1	0	
SAMPLING_RATE	CDF_REAL4	1	0	

4.1.3.32.5 Variable attributes

Variable Name	Attribute Name	Data Type	Value
Epoch	FIELDNAM	CDF_CHAR	Epoch
Epoch	CATDESC	CDF_CHAR	Default time
Epoch	DISPLAY_TYPE	CDF_CHAR	time_series


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 866

Tab. 4.127 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
Epoch	VALIDMIN	CDF_TIME_TT2000	2000-01-01T00:00:00.000000000
Epoch	VALIDMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch	SCALEMIN	CDF_TIME_TT2000	1990-01-01T00:00:00.000000000
Epoch	SCALEMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch	LABLAXIS	CDF_CHAR	Epoch
Epoch	UNITS	CDF_CHAR	ns
Epoch	VAR_TYPE	CDF_CHAR	support_data
Epoch	SCALETYP	CDF_CHAR	linear
Epoch	MONOTON	CDF_CHAR	INCREASE
Epoch	TIME_BASE	CDF_CHAR	J2000
Epoch	TIME_SCALE	CDF_CHAR	Terrestrial Time
Epoch	REFERENCE_POS	CDF_CHAR	Spacecraft barycenter
Epoch	Resolution	CDF_CHAR	15258 ns
Epoch	Bin_location	CDF_CHAR	0.5
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file.
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	VALIDMIN	CDF_UINT1	0
QUALITY_FLAG	VALIDMAX	CDF_UINT1	4
QUALITY_FLAG	SCALEMIN	CDF_UINT1	0
QUALITY_FLAG	SCALEMAX	CDF_UINT1	4
QUALITY_FLAG	FILLVAL	CDF_UINT1	255
QUALITY_FLAG	LABLAXIS	CDF_CHAR	Quality flag
QUALITY_FLAG	UNITS	CDF_CHAR	
QUALITY_FLAG	VAR_TYPE	CDF_CHAR	support_data
QUALITY_FLAG	SCALETYP	CDF_CHAR	linear
QUALITY_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the quality of the data
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 867

Tab. 4.127 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	UNITS	CDF_CHAR	
QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context information or status at the receiver or experiment level
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
L2_QUALITY_BITMASK	FIELDNAM	CDF_CHAR	L2_QUALITY_BITMASK
L2_QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
L2_QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
L2_QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
L2_QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
L2_QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
L2_QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
L2_QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
L2_QUALITY_BITMASK	LABLAXIS	CDF_CHAR	L2 Bitmask flag
L2_QUALITY_BITMASK	UNITS	CDF_CHAR	
L2_QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
L2_QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
L2_QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context or events that can alter data - bit0: partial saturation -bit1: full saturation
L2_QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
L2_QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
BW	FIELDNAM	CDF_CHAR	BIAS Works/BIAS Fails configuration.
BW	CATDESC	CDF_CHAR	BIAS Works/BIAS Fails configuration.
BW	DISPLAY_TYPE	CDF_CHAR	time_series
BW	VALIDMIN	CDF_UINT1	0
BW	VALIDMAX	CDF_UINT1	1
BW	SCALEMIN	CDF_UINT1	0
BW	SCALEMAX	CDF_UINT1	1

continues on next page



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03

Date: March 11, 2021

Page: **868**

Tab. 4.127 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BW	FILLVAL	CDF_UINT1	255
BW	LABLAXIS	CDF_CHAR	BW
BW	UNITS	CDF_CHAR	
BW	VAR_TYPE	CDF_CHAR	support_data
BW	SCALETYP	CDF_CHAR	linear
BW	VAR_NOTES	CDF_CHAR	
BW	DEPEND_0	CDF_CHAR	Epoch
BW	FORMAT	CDF_CHAR	I3.3
VDC_LABEL	FIELDNAM	CDF_CHAR	VDC label
VDC_LABEL	CATDESC	CDF_CHAR	Labels of the DC probe potentials
VDC_LABEL	VAR_TYPE	CDF_CHAR	metadata
VDC_LABEL	FORMAT	CDF_CHAR	A4
EDC_LABEL	FIELDNAM	CDF_CHAR	EDC label
EDC_LABEL	CATDESC	CDF_CHAR	Labels of the DC potential differences
EDC_LABEL	VAR_TYPE	CDF_CHAR	metadata
EDC_LABEL	FORMAT	CDF_CHAR	A5
EAC_LABEL	FIELDNAM	CDF_CHAR	EAC label
EAC_LABEL	CATDESC	CDF_CHAR	Labels of the AC potential differences
EAC_LABEL	VAR_TYPE	CDF_CHAR	metadata
EAC_LABEL	FORMAT	CDF_CHAR	A5
VDC	FIELDNAM	CDF_CHAR	Probe to spacecraft potential
VDC	CATDESC	CDF_CHAR	Probe to spacecraft potential (probes 1,2,3)
VDC	DISPLAY_TYPE	CDF_CHAR	time_series
VDC	VALIDMIN	CDF_REAL4	-1.0e+30
VDC	VALIDMAX	CDF_REAL4	1.0e+30
VDC	SCALEMIN	CDF_REAL4	-1.0e+30
VDC	SCALEMAX	CDF_REAL4	1.0e+30
VDC	FILLVAL	CDF_REAL4	-1.0e+31
VDC	LABLAXIS	CDF_CHAR	VDC
VDC	UNITS	CDF_CHAR	V
VDC	VAR_TYPE	CDF_CHAR	data
VDC	SCALETYP	CDF_CHAR	linear
VDC	VAR_NOTES	CDF_CHAR	
VDC	DEPEND_0	CDF_CHAR	Epoch
VDC	FORMAT	CDF_CHAR	F8.2
VDC	DELTA_PLUS_VAR	CDF_CHAR	DELTA_PLUS_MINUS
VDC	DELTA_MINUS_VAR	CDF_CHAR	DELTA_PLUS_MINUS

continues on next page



**RPW Data Product
Description Document**

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03

Date: March 11, 2021

Page: **869**

Tab. 4.127 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
VDC	LABL_PTR_1	CDF_CHAR	VDC_LABEL
VDC	SI_CONVERSION	CDF_CHAR	V>V
EDC	FIELDNAM	CDF_CHAR	Probe potential difference
EDC	CATDESC	CDF_CHAR	Probe to probe voltages (probes V1-V2, V1-V3, V2-V3)
EDC	DISPLAY_TYPE	CDF_CHAR	time_series
EDC	VALIDMIN	CDF_REAL4	-1.0e+30
EDC	VALIDMAX	CDF_REAL4	1.0e+30
EDC	SCALEMIN	CDF_REAL4	-1.0e+30
EDC	SCALEMAX	CDF_REAL4	1.0e+30
EDC	FILLVAL	CDF_REAL4	-1.0e+31
EDC	LABLAXIS	CDF_CHAR	EDC
EDC	UNITS	CDF_CHAR	V
EDC	VAR_TYPE	CDF_CHAR	data
EDC	SCALETYP	CDF_CHAR	linear
EDC	VAR_NOTES	CDF_CHAR	
EDC	DEPEND_0	CDF_CHAR	Epoch
EDC	FORMAT	CDF_CHAR	F8.2
EDC	DELTA_PLUS_VAR	CDF_CHAR	DELTA_PLUS_MINUS
EDC	DELTA_MINUS_VAR	CDF_CHAR	DELTA_PLUS_MINUS
EDC	LABL_PTR_1	CDF_CHAR	EDC_LABEL
EDC	SI_CONVERSION	CDF_CHAR	V>V
EAC	FIELDNAM	CDF_CHAR	AC probe potential difference
EAC	CATDESC	CDF_CHAR	AC probe to probe voltages (probes V1-V2, V1-V3, V2- V3)
EAC	DISPLAY_TYPE	CDF_CHAR	time_series
EAC	VALIDMIN	CDF_REAL4	-1.0e+30
EAC	VALIDMAX	CDF_REAL4	1.0e+30
EAC	SCALEMIN	CDF_REAL4	-1.0e+30
EAC	SCALEMAX	CDF_REAL4	1.0e+30
EAC	FILLVAL	CDF_REAL4	-1.0e+31
EAC	LABLAXIS	CDF_CHAR	EAC
EAC	UNITS	CDF_CHAR	V
EAC	VAR_TYPE	CDF_CHAR	data
EAC	SCALETYP	CDF_CHAR	linear
EAC	VAR_NOTES	CDF_CHAR	
EAC	DEPEND_0	CDF_CHAR	Epoch
EAC	FORMAT	CDF_CHAR	F8.2
EAC	DELTA_PLUS_VAR	CDF_CHAR	DELTA_PLUS_MINUS

continues on next page



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **870**

Tab. 4.127 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
EAC	DELTA_MINUS_VA	CDF_CHAR	DELTA_PLUS_MINUS
EAC	LABL_PTR_1	CDF_CHAR	EAC_LABEL
EAC	SI_CONVERSION	CDF_CHAR	V>V
IBIAS1	FIELDNAM	CDF_CHAR	Bias current 1
IBIAS1	CATDESC	CDF_CHAR	Calibrated bias current on probe 1.
IBIAS1	DISPLAY_TYPE	CDF_CHAR	time_series
IBIAS1	VALIDMIN	CDF_REAL4	-1.0e+30
IBIAS1	VALIDMAX	CDF_REAL4	1.0e+30
IBIAS1	SCALEMIN	CDF_REAL4	-1.0e+30
IBIAS1	SCALEMAX	CDF_REAL4	1.0e+30
IBIAS1	FILLVAL	CDF_REAL4	-1.0e+31
IBIAS1	LABLAXIS	CDF_CHAR	I_bias_1
IBIAS1	UNITS	CDF_CHAR	nA
IBIAS1	VAR_TYPE	CDF_CHAR	data
IBIAS1	SCALETYP	CDF_CHAR	linear
IBIAS1	VAR_NOTES	CDF_CHAR	
IBIAS1	DEPEND_0	CDF_CHAR	Epoch
IBIAS1	FORMAT	CDF_CHAR	F32.6
IBIAS1	SI_CONVERSION	CDF_CHAR	1.0>A
IBIAS2	FIELDNAM	CDF_CHAR	Bias current 2
IBIAS2	CATDESC	CDF_CHAR	Calibrated bias current on probe 2.
IBIAS2	DISPLAY_TYPE	CDF_CHAR	time_series
IBIAS2	VALIDMIN	CDF_REAL4	-1.0e+30
IBIAS2	VALIDMAX	CDF_REAL4	1.0e+30
IBIAS2	SCALEMIN	CDF_REAL4	-1.0e+30
IBIAS2	SCALEMAX	CDF_REAL4	1.0e+30
IBIAS2	FILLVAL	CDF_REAL4	-1.0e+31
IBIAS2	LABLAXIS	CDF_CHAR	I_bias_2
IBIAS2	UNITS	CDF_CHAR	nA
IBIAS2	VAR_TYPE	CDF_CHAR	data
IBIAS2	SCALETYP	CDF_CHAR	linear
IBIAS2	VAR_NOTES	CDF_CHAR	
IBIAS2	DEPEND_0	CDF_CHAR	Epoch
IBIAS2	FORMAT	CDF_CHAR	F32.6
IBIAS2	SI_CONVERSION	CDF_CHAR	1.0>A
IBIAS3	FIELDNAM	CDF_CHAR	Bias current 3
IBIAS3	CATDESC	CDF_CHAR	Calibrated bias current on probe 3.
IBIAS3	DISPLAY_TYPE	CDF_CHAR	time_series


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 871

Tab. 4.127 – continued from previous page


Variable Name	Attribute Name	Data Type	Value
IBIAS3	VALIDMIN	CDF_REAL4	-1.0e+30
IBIAS3	VALIDMAX	CDF_REAL4	1.0e+30
IBIAS3	SCALEMIN	CDF_REAL4	-1.0e+30
IBIAS3	SCALEMAX	CDF_REAL4	1.0e+30
IBIAS3	FILLVAL	CDF_REAL4	-1.0e+31
IBIAS3	LABLAXIS	CDF_CHAR	I_bias_3
IBIAS3	UNITS	CDF_CHAR	nA
IBIAS3	VAR_TYPE	CDF_CHAR	data
IBIAS3	SCALETYP	CDF_CHAR	linear
IBIAS3	VAR_NOTES	CDF_CHAR	
IBIAS3	DEPEND_0	CDF_CHAR	Epoch
IBIAS3	FORMAT	CDF_CHAR	F32.6
IBIAS3	SI_CONVERSION	CDF_CHAR	1.0>A
DELTA_PLUS_MINUS	FIELDNAM	CDF_CHAR	DELTA_PLUS_MINUS
DELTA_PLUS_MINUS	CATDESC	CDF_CHAR	Time between sample times- tamp and beginning/end of in- tegration. Total integration time is twice this value.
DELTA_PLUS_MINUS	DISPLAY_TYPE	CDF_CHAR	time_series
DELTA_PLUS_MINUS	VALIDMIN	CDF_INT8	0
DELTA_PLUS_MINUS	VALIDMAX	CDF_INT8	4
DELTA_PLUS_MINUS	SCALEMIN	CDF_INT8	0
DELTA_PLUS_MINUS	SCALEMAX	CDF_INT8	4
DELTA_PLUS_MINUS	FILLVAL	CDF_INT8	-9223372036854775808
DELTA_PLUS_MINUS	LABLAXIS	CDF_CHAR	Delta plus minus
DELTA_PLUS_MINUS	UNITS	CDF_CHAR	ns
DELTA_PLUS_MINUS	VAR_TYPE	CDF_CHAR	support_data
DELTA_PLUS_MINUS	SCALETYP	CDF_CHAR	linear
DELTA_PLUS_MINUS	VAR_NOTES	CDF_CHAR	
DELTA_PLUS_MINUS	DEPEND_0	CDF_CHAR	Epoch
DELTA_PLUS_MINUS	FORMAT	CDF_CHAR	I1.1
SYNCHRO_FLAG	FIELDNAM	CDF_CHAR	SYNCHRO_FLAG
SYNCHRO_FLAG	CATDESC	CDF_CHAR	Time synchronisation flag
SYNCHRO_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
SYNCHRO_FLAG	VALIDMIN	CDF_UINT1	0
SYNCHRO_FLAG	VALIDMAX	CDF_UINT1	1
SYNCHRO_FLAG	SCALEMIN	CDF_UINT1	0
SYNCHRO_FLAG	SCALEMAX	CDF_UINT1	1
SYNCHRO_FLAG	FILLVAL	CDF_UINT1	255
SYNCHRO_FLAG	LABLAXIS	CDF_CHAR	time sync. flag
SYNCHRO_FLAG	UNITS	CDF_CHAR	

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 872

Tab. 4.127 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SYNCHRO_FLAG	VAR_TYPE	CDF_CHAR	support_data
SYNCHRO_FLAG	SCALETYP	CDF_CHAR	linear
SYNCHRO_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate if the local time is synchronized with the RPW DPU clock or not. Possible values: synchronized=0, not synchronized=1. This flag is extracted from ACQUISITION_TIME in L0 packets, it is the MSB of the CUC time.
SYNCHRO_FLAG	DEPEND_0	CDF_CHAR	Epoch
SYNCHRO_FLAG	FORMAT	CDF_CHAR	I3.3
SAMPLING_RATE	FIELDNAM	CDF_CHAR	Sampling rate
SAMPLING_RATE	CATDESC	CDF_CHAR	Sampling frequency of the waveform
SAMPLING_RATE	DISPLAY_TYPE	CDF_CHAR	time_series
SAMPLING_RATE	VALIDMIN	CDF_REAL4	16.0
SAMPLING_RATE	VALIDMAX	CDF_REAL4	24576.0
SAMPLING_RATE	SCALEMIN	CDF_REAL4	16.0
SAMPLING_RATE	SCALEMAX	CDF_REAL4	24576.0
SAMPLING_RATE	FILLVAL	CDF_REAL4	-1.0e+31
SAMPLING_RATE	LABLAXIS	CDF_CHAR	Fe
SAMPLING_RATE	UNITS	CDF_CHAR	Hz
SAMPLING_RATE	VAR_TYPE	CDF_CHAR	support_data
SAMPLING_RATE	SCALETYP	CDF_CHAR	linear
SAMPLING_RATE	VAR_NOTES	CDF_CHAR	sampling frequency of the waveform : F0, F1, F2 or F3
SAMPLING_RATE	DEPEND_0	CDF_CHAR	Epoch
SAMPLING_RATE	FORMAT	CDF_CHAR	F8.2

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 873

4.1.3.32.6 Non-Record-Variant (NRV) Variables

Variable Name	Index	Value
VDC_LABEL	1	Vdc1
VDC_LABEL	2	Vdc2
VDC_LABEL	3	Vdc3
EDC_LABEL	1	Vdc12
EDC_LABEL	2	Vdc13
EDC_LABEL	3	Vdc23
EAC_LABEL	1	Vac12
EAC_LABEL	2	Vac13
EAC_LABEL	3	Vac23

4.1.3.33 SOLO_L2_RPW-LFR-SBM2-CWF-B data product

The “SOLO_L2_RPW-LFR-SBM2-CWF-B” data product contains the calibrated LFR receiver Continuous Waveform data for SBM1 events for magnetic components only. The “SOLO_L2_RPW-LFR-SBM2-CWF-B” data are written in CDF format files. There is a single file per SBM2 event data down-linked on-ground. The file is generated from data in the corresponding SOLO_L1_RPW-LFR-SBM2-CWF parent file.

4.1.3.33.1 Filename

```
solo_L2_rpw-lfr-sbm2-cwf-b_[YYYYMMDDThhmmss1-YYYYMMDDThhmmss2]_V[version].  
↪cdf
```

4.1.3.33.2 Expected cadence and data volume


Nominal cadence: 1 file per SBM2 event

Expected data volume: TBD MB per file

4.1.3.33.3 Global Attributes

Attribute Name	Entry Number	Data Type	Value
CALIBRATION_VERSION	1	CDF_CHAR	


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 874

Tab. 4.128 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Data_type	1	CDF_CHAR	H0>High Resolution data
Data_product	1	CDF_CHAR	SBM2-CWF-B>SBM2-CWF-B
Datetime	1	CDF_CHAR	
Job_ID	1	CDF_CHAR	
Descriptor	1	CDF_CHAR	LFR>Low Frequency Receiver
PI_affiliation	1	CDF_CHAR	LESIA, Observatoire de Paris-CNRS
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009 (2.4)
SPECTRAL_RANGE_MAX	1	CDF_CHAR	
Free_field	1	CDF_CHAR	
OBS_ID	1	CDF_CHAR	
SPECTRAL_RANGE_MIN	1	CDF_CHAR	
Logical_source_description	1	CDF_CHAR	Solar Orbiter Radio/Plasma Wave, LFR L2 magnetic parameters
TEXT	1	CDF_CHAR	This file contains RPW LFR level 2 continuous waveform of magnetic data in SMB2 mode
TARGET_CLASS	1	CDF_CHAR	Star
TEXT_supplement_1	1	CDF_CHAR	
File_ID	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Logical_source	1	CDF_CHAR	solo_L2_rpw-lfr-sbm2-cwf-b
TARGET_REGION	1	CDF_CHAR	Solar Wind
SPICE_KERNELS	1	CDF_CHAR	
SKELETON_MODS	1	CDF_CHAR	2017-12-15, J-Y Brochot (CNRS-LPC2E), initial release
SKELETON_MODS	2	CDF_CHAR	V04: Update for solo data definition, X. BONNIN (CNRS-LESIA), April 2019
SKELETON_MODS	3	CDF_CHAR	V05: Update to compliant with SOL-SGS-TN-0009 Issue 2, Rev 4 - X.Bonnin, 09/2019
SKELETON_MODS	4	CDF_CHAR	V06: add B_RTN and MAG_LABEL_RTN variables, J-Y Brochot, 12/2019
SKELETON_MODS	5	CDF_CHAR	V07: March 2020 : Standardize SAMPLING_RATE and delete Test_* g.attrs - X.Bonnin (CNRS, LESIA)


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 875

Tab. 4.128 – continued from previous page


Attribute Name	Entry Number	Data Type	Value
SKELETON_MODS	6	CDF_CHAR	V07: Suppress zVars POST_GAP_FLAG, ACQUISITION_TIME, ACQUISITION_TIME_UNITS and ACQUISITION_TIME_LABEL - J-Y Brochot, March 2020
SKELETON_MODS	7	CDF_CHAR	V08: Add gAttr SPICE_KERNELS - J-Y Brochot, April 2020
SKELETON_MODS	8	CDF_CHAR	V09: Complete the zAttr of CALIBRATION_TABLE_INDEX - J-Y Brochot, May 2020
SKELETON_MODS	9	CDF_CHAR	V10: Add zVar L2_QUALITY_BITMASK - J-Y Brochot, Aug 2020
SKELETON_MODS	10	CDF_CHAR	V11: Suppress zVar SYNCHRO_FLAG - J-Y Brochot, Sept 2020
SKELETON_MODS	11	CDF_CHAR	V12: Jan. 2021 : Fix inconsistencies against the ISTP CDF guidelines, X.Bonnin (CNRS-LESIA)
Rules_of_use	1	CDF_CHAR	Data provided are publicly available. If used in presentations or publications, please acknowledge Solar Orbiter/RPW Investigation (M. Maksimovic, PIs). Please read carefully the caveats attached to the data. For reporting purposes, we request bibliography information for any publication, etc., using these data. Please send information on the use of this data to: M. Maksimovic (PI).
CAL_EQUIPMENT	1	CDF_CHAR	SCM
Source_name	1	CDF_CHAR	SOLO>Solar Orbiter
TARGET_NAME	1	CDF_CHAR	Sun
LEVEL	1	CDF_CHAR	L2>Level 2 data processing
Data_version	1	CDF_CHAR	
PI_name	1	CDF_CHAR	M.Maksimovic
Dataset_ID	1	CDF_CHAR	SOLO_L2_RPW-LFR-SBM2-CWF-B
ACCESS_URL	1	CDF_CHAR	
SKELETON_PARENT	1	CDF_CHAR	SOLO_L2_RPW-LFR-SBM2-CWF-B_V12.cdf

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 876

Tab. 4.128 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Acknowledgement	1	CDF_CHAR	The authors are pleased to acknowledge the Solar Orbiter/RPW Investigation (M. Maksimovic, PIs) for access to data.
HTTP_LINK	1	CDF_CHAR	https://rpw.lesia.obspm.fr
Generated_by	1	CDF_CHAR	RPW Operations Centre located at LESIA (Meudon, France)
Generation_date	1	CDF_CHAR	
TIME_MAX	1	CDF_CHAR	
Provider	1	CDF_CHAR	LESIA (Meudon, France)
Pipeline_name	1	CDF_CHAR	
SOOP_TYPE	1	CDF_CHAR	
Discipline	1	CDF_CHAR	Space Physics>Interplanetary Studies
Logical_file_id	1	CDF_CHAR	
Parent_version	1	CDF_CHAR	
Parents	1	CDF_CHAR	
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00006-LES (1.3)
Skeleton_version	1	CDF_CHAR	12
LINK_TITLE	1	CDF_CHAR	RPW Web site
CALIBRATION_TABLE	1	CDF_CHAR	
Project	1	CDF_CHAR	SOLO>Solar Orbiter
Instrument_type	1	CDF_CHAR	Radio and Plasma Waves (space)
Software_name	1	CDF_CHAR	
LINK_TEXT	1	CDF_CHAR	RPW Web site at LESIA
Validate	1	CDF_CHAR	
TIME_MIN	1	CDF_CHAR	
Mission_group	1	CDF_CHAR	Solar Orbiter
ACCESS_FORMAT	1	CDF_CHAR	CDF
Pipeline_version	1	CDF_CHAR	
File_naming_convention	1	CDF_CHAR	<Source_name>_<LEVEL>_<Descriptor>_<Date>
CAVEATS	1	CDF_CHAR	
CAL_ENTITY_NAME	1	CDF_CHAR	LPC2E
CAL_ENTITY_AFFILIATION	1	CDF_CHAR	CNRS
MODS	1	CDF_CHAR	

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 877


4.1.3.33.4 zVariables

Variable Name	Data Type	Number Elements	Dims	Sizes
SAMPLING_RATE	CDF_REAL4	1	0	
Epoch	CDF_TIME_TT2000	1	0	
CALIBRATION_TABLE_INDEX	CDF_UINT1	1	2	2 2
MAG_LABEL_RTN	CDF_CHAR	5	1	3
QUALITY_BITMASK	CDF_UINT1	1	0	
L2_QUALITY_BITMASK	CDF_UINT2	1	0	
QUALITY_FLAG	CDF_UINT2	1	0	
B_RTN	CDF_REAL4	1	1	3
B	CDF_REAL4	1	1	3
MAG_LABEL	CDF_CHAR	2	1	3

4.1.3.33.5 Variable attributes

Variable Name	Attribute Name	Data Type	Value
SAMPLING_RATE	VALIDMIN	CDF_REAL4	256.0
SAMPLING_RATE	VAR_TYPE	CDF_CHAR	support_data
SAMPLING_RATE	VAR_NOTES	CDF_CHAR	sampling frequency of the snapshot : F0, F1 or F2
SAMPLING_RATE	VALIDMAX	CDF_REAL4	24576.0
SAMPLING_RATE	SCALETYP	CDF_CHAR	linear
SAMPLING_RATE	SCALEMAX	CDF_REAL4	24576.0
SAMPLING_RATE	DEPEND_0	CDF_CHAR	Epoch
SAMPLING_RATE	FORMAT	CDF_CHAR	F8.2
SAMPLING_RATE	SCALEMIN	CDF_REAL4	256.0
SAMPLING_RATE	CATDESC	CDF_CHAR	Sampling frequency of the snapshot
SAMPLING_RATE	FIELDNAM	CDF_CHAR	Sampling rate
SAMPLING_RATE	FILLVAL	CDF_REAL4	-1.0e+31
SAMPLING_RATE	DISPLAY_TYPE	CDF_CHAR	time_series
SAMPLING_RATE	UNITS	CDF_CHAR	Hz
SAMPLING_RATE	LABLAXIS	CDF_CHAR	Fe
Epoch	VALIDMIN	CDF_TIME_TT2000	2000-01-01T00:00:00.000000000
Epoch	VAR_TYPE	CDF_CHAR	support_data
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file.


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 878

Tab. 4.129 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
Epoch	VALIDMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch	SCALETYP	CDF_CHAR	linear
Epoch	SCALEMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch	SCALEMIN	CDF_TIME_TT2000	1990-01-01T00:00:00.000000000
Epoch	CATDESC	CDF_CHAR	Default time
Epoch	FIELDNAM	CDF_CHAR	Epoch
Epoch	FILLVAL	CDF_TIME_TT2000	1999-12-31T23:59:59.999999999
Epoch	DISPLAY_TYPE	CDF_CHAR	time_series
Epoch	UNITS	CDF_CHAR	ns
Epoch	LABLAXIS	CDF_CHAR	Epoch
Epoch	TIME_SCALE	CDF_CHAR	Terrestrial Time
Epoch	MONOTON	CDF_CHAR	INCREASE
Epoch	TIME_BASE	CDF_CHAR	J2000
Epoch	Resolution	CDF_CHAR	15258 ns
Epoch	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
Epoch	Bin_location	CDF_CHAR	0.5
CALIBRATION_TABLE_INDEX	VALIDMIN	CDF_UINT1	0
CALIBRATION_TABLE_INDEX	VAR_TYPE	CDF_CHAR	support_data
CALIBRATION_TABLE_INDEX	VAR_NOTES	CDF_CHAR	Indexes (i,j) giving gEntry of Global attribute 'CALIBRATION_TABLE', and record number in the Calibration Table.
CALIBRATION_TABLE_INDEX	VALIDMAX	CDF_UINT1	254
CALIBRATION_TABLE_INDEX	SCALETYP	CDF_CHAR	linear
CALIBRATION_TABLE_INDEX	SCALEMAX	CDF_UINT1	254
CALIBRATION_TABLE_INDEX	DEPEND_0	CDF_CHAR	Epoch
CALIBRATION_TABLE_INDEX	FORMAT	CDF_CHAR	I3.3
CALIBRATION_TABLE_INDEX	SCALEMIN	CDF_UINT1	0
CALIBRATION_TABLE_INDEX	CATDESC	CDF_CHAR	Informations about calibration tables used
CALIBRATION_TABLE_INDEX	FIELDNAM	CDF_CHAR	CALIBRATION_TABLE_INDEX
CALIBRATION_TABLE_INDEX	FILLVAL	CDF_UINT1	255
CALIBRATION_TABLE_INDEX	DISPLAY_TYPE	CDF_CHAR	time_series
CALIBRATION_TABLE_INDEX	UNITS	CDF_CHAR	
CALIBRATION_TABLE_INDEX	LABLAXIS	CDF_CHAR	Calibration table index
MAG_LABEL_RTN	VAR_TYPE	CDF_CHAR	metadata


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 879

Tab. 4.129 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
MAG_LABEL_RTN	FORMAT	CDF_CHAR	A5
MAG_LABEL_RTN	CATDESC	CDF_CHAR	Labels of the Magnetic fields components in the RTN frame
MAG_LABEL_RTN	FIELDNAM	CDF_CHAR	MAG_LABEL_RTN
QUALITY_BITMASK	VALIDMIN	CDF_UINT1	0
QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context information or status at the receiver or experiment level
QUALITY_BITMASK	VALIDMAX	CDF_UINT1	100
QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
QUALITY_BITMASK	SCALEMAX	CDF_UINT1	100
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
QUALITY_BITMASK	FORMAT	CDF_CHAR	I3.3
QUALITY_BITMASK	SCALEMIN	CDF_UINT1	0
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	FILLVAL	CDF_UINT1	255
QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	UNITS	CDF_CHAR	
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Bitmask flag
L2_QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
L2_QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
L2_QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context or events that can alterate data -bit0: SCM outworking or unknown temperature -bit1: SCM heater on/off transition -bit2: LFR onboard calibration signal
L2_QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
L2_QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
L2_QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
L2_QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
L2_QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
L2_QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
L2_QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
L2_QUALITY_BITMASK	FIELDNAM	CDF_CHAR	L2_QUALITY_BITMASK
L2_QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
L2_QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
L2_QUALITY_BITMASK	UNITS	CDF_CHAR	


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 880

Tab. 4.129 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
L2_QUALITY_BITMASK	LABLAXIS	CDF_CHAR	L2 Bitmask flag
QUALITY_FLAG	VALIDMIN	CDF_UINT2	0
QUALITY_FLAG	VAR_TYPE	CDF_CHAR	support_data
QUALITY_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the quality of the data
QUALITY_FLAG	VALIDMAX	CDF_UINT2	65534
QUALITY_FLAG	SCALETYP	CDF_CHAR	linear
QUALITY_FLAG	SCALEMAX	CDF_UINT2	65534
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FLAG	FORMAT	CDF_CHAR	I5
QUALITY_FLAG	SCALEMIN	CDF_UINT2	0
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	FILLVAL	CDF_UINT2	65535
QUALITY_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	UNITS	CDF_CHAR	
QUALITY_FLAG	LABLAXIS	CDF_CHAR	Quality flag
B_RTN	VALIDMIN	CDF_REAL4	-1.0e+30
B_RTN	VAR_TYPE	CDF_CHAR	data
B_RTN	VAR_NOTES	CDF_CHAR	3 entry array with magnetic field values (Bxrtn, Byrtn, Bzrtn)
B_RTN	VALIDMAX	CDF_REAL4	1.0e+30
B_RTN	SCALETYP	CDF_CHAR	linear
B_RTN	SCALEMAX	CDF_REAL4	1.0e+30
B_RTN	DEPEND_0	CDF_CHAR	Epoch
B_RTN	FORMAT	CDF_CHAR	F8.2
B_RTN	SCALEMIN	CDF_REAL4	-1.0e+30
B_RTN	CATDESC	CDF_CHAR	Magnetic field values (Bxrtn, Byrtn, Bzrtn)
B_RTN	FIELDNAM	CDF_CHAR	Magnetic field in RTN frame
B_RTN	FILLVAL	CDF_REAL4	-1.0e+31
B_RTN	DISPLAY_TYPE	CDF_CHAR	time_series
B_RTN	UNITS	CDF_CHAR	nT
B_RTN	LABL_PTR_1	CDF_CHAR	MAG_LABEL_RTN
B	VALIDMIN	CDF_REAL4	-1.0e+30
B	VAR_TYPE	CDF_CHAR	data
B	VAR_NOTES	CDF_CHAR	3 entry array with magnetic field values (B3x, B1y, B2z)
B	VALIDMAX	CDF_REAL4	1.0e+30
B	SCALETYP	CDF_CHAR	linear

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 881

Tab. 4.129 – continued from previous page


Variable Name	Attribute Name	Data Type	Value
B	SCALEMAX	CDF_REAL4	1.0e+30
B	DEPEND_0	CDF_CHAR	Epoch
B	FORMAT	CDF_CHAR	F8.2
B	SCALEMIN	CDF_REAL4	-1.0e+30
B	CATDESC	CDF_CHAR	Magnetic field values (Bx, By, Bz)
B	FIELDNAM	CDF_CHAR	Magnetic field
B	FILLVAL	CDF_REAL4	-1.0e+31
B	DISPLAY_TYPE	CDF_CHAR	time_series
B	UNITS	CDF_CHAR	nT
B	LABL_PTR_1	CDF_CHAR	MAG_LABEL
MAG_LABEL	VAR_TYPE	CDF_CHAR	metadata
MAG_LABEL	FORMAT	CDF_CHAR	A2
MAG_LABEL	CATDESC	CDF_CHAR	Labels of the Magnetic fields components
MAG_LABEL	FIELDNAM	CDF_CHAR	MAG_LABEL

4.1.3.33.6 Non-Record-Variant (NRV) Variables

Variable Name	Index	Value
MAG_LABEL_RTN	1	Bxrtn
MAG_LABEL_RTN	2	Byrtn
MAG_LABEL_RTN	3	Bzrtn
MAG_LABEL	1	Bx
MAG_LABEL	2	By
MAG_LABEL	3	Bz

4.1.3.34 SOLO_L2_RPW-LFR-SBM2-BP1 data product

The “SOLO_L2_RPW-LFR-SBM2-BP1” data product contains the calibrated LFR receiver Basic Parameters 1 data for SBM2 events. The “SOLO_L2_RPW-LFR-SBM2-BP1” data are written in CDF format files. There is a single file per SBM2 event data downlinked on-ground. The file is generated from data in the corresponding SOLO_L1_RPW-LFR-SBM2-BP1 parent file.

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 882

4.1.3.34.1 Filename

```
solo_L2_rpw-lfr-sbm2-bp1_[YYYYMMDDThhmmss1-YYYYMMDDThhmmss2]_V[version].cdf
```

4.1.3.34.2 Expected cadence and data volume


Nominal cadence: 1 file per SBM2 event

Expected data volume: TBD MB per file

4.1.3.34.3 Global Attributes

Attribute Name	Entry Number	Data Type	Value
Project	1	CDF_CHAR	SOLO>Solar Orbiter
Source_name	1	CDF_CHAR	SOLO>Solar Orbiter
Provider	1	CDF_CHAR	LESIA (Meudon, France)
Discipline	1	CDF_CHAR	Space Physics>Interplanetary Studies
Data_type	1	CDF_CHAR	H0>High Resolution data
Descriptor	1	CDF_CHAR	RPW-LFR-SBM2-BP1> RPW Low Frequency Receiver Basic parameters set 1 data in SBM2 mode
Data_version	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Skeleton_version	1	CDF_CHAR	11
Parent_version	1	CDF_CHAR	
File_naming_convention	1	CDF_CHAR	<Source_name>_<LEVEL>_<Descriptor>_<Date>
PI_name	1	CDF_CHAR	M.Maksimovic
PI_affiliation	1	CDF_CHAR	LESIA, Observatoire de Paris-CNRS
TEXT	1	CDF_CHAR	This file contains RPW LFR level 2R SBM2 BP1 data of the current test.
Instrument_type	1	CDF_CHAR	Radio and Plasma Waves (space)
Mission_group	1	CDF_CHAR	Solar Orbiter
Logical_source	1	CDF_CHAR	solo_L2_rpw-lfr-sbm2-bp1
Logical_file_id	1	CDF_CHAR	
Logical_source_description	1	CDF_CHAR	Solar Orbiter Radio/Plasma Wave, LFR L2 parameters


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 883

Tab. 4.130 – continued from previous page


Attribute Name	Entry Number	Data Type	Value
Rules_of_use	1	CDF_CHAR	Data provided are publicly available. If used in presentations or publications, please acknowledge Solar Orbiter/RPW Investigation (M. Maksimovic, PIs). Please read carefully the caveats attached to the data. For reporting purposes, we request bibliography information for any publication, etc., using these data. Please send information on the use of this data to: M. Maksimovic (PI).
Generated_by	1	CDF_CHAR	RPW Operations Centre located at LESIA (Meudon, France)
Generation_date	1	CDF_CHAR	
Acknowledgement	1	CDF_CHAR	The authors are pleased to acknowledge the Solar Orbiter/RPW Investigation (M. Maksimovic, PIs) for access to data.
SKELETON_MODS	1	CDF_CHAR	
SKELETON_MODS	2	CDF_CHAR	V04: Update for solo data definition, X. BONNIN (CNRS-LESIA), April 2019
SKELETON_MODS	3	CDF_CHAR	V05: Update to compliant with SOL-SGS-TN-0009 Issue 2, Rev 4 - X.Bonnin, 09/2019
SKELETON_MODS	4	CDF_CHAR	V06: March 2020 : Delete Test_* g.attrs - X.Bonnin (CNRS, LESIA)
SKELETON_MODS	5	CDF_CHAR	V07: April 2020 : Delete Acquisition_time* zvariables - R.Piberne (X, LPP)
SKELETON_MODS	6	CDF_CHAR	V08: May 2020 : Change VPHI_F* into VPHI_REA_F* - R.Piberne (X, LPP)
SKELETON_MODS	7	CDF_CHAR	V09: Remove UCD vattr and POST_GAP_FLAG zVar.
SKELETON_MODS	8	CDF_CHAR	V11: Jan. 2021 : Fix inconsistencies against the ISTEP CDF guidelines, X.Bonnin (CNRS-LESIA)
LINK_TEXT	1	CDF_CHAR	RPW Web site at LESIA
LINK_TITLE	1	CDF_CHAR	RPW Web site
HTTP_LINK	1	CDF_CHAR	https://rpw.lesia.obspm.fr
ACCESS_URL	1	CDF_CHAR	
TEXT_supplement_1	1	CDF_CHAR	
Software_name	1	CDF_CHAR	

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 884

Tab. 4.130 – continued from previous page


Attribute Name	Entry Number	Data Type	Value
Parents	1	CDF_CHAR	
Validate	1	CDF_CHAR	
Test_request_name	1	CDF_CHAR	
Test_config_id	1	CDF_CHAR	
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00006-LES (1.3)
ROC_REFERENCE	1	CDF_CHAR	ROC-TST-GSE-SPC-00017-LES_Issue02_Rev0(Data_format_and_metadata_ground_Data).pdf
SKELETON_PARENT	1	CDF_CHAR	SOLO_L2_RPW-LFR-SBM2-BP1_V11.cdf
ACCESS_FORMAT	1	CDF_CHAR	CDF
TIME_MIN	1	CDF_CHAR	
TIME_MAX	1	CDF_CHAR	
SPECTRAL_RANGE_MIN	1	CDF_CHAR	
SPECTRAL_RANGE_MAX	1	CDF_CHAR	
File_ID	1	CDF_CHAR	
CAVEATS	1	CDF_CHAR	
CAL_ENTITY_NAME	1	CDF_CHAR	
CAL_ENTITY_AFFILIATION	1	CDF_CHAR	
CAL_EQUIPMENT	1	CDF_CHAR	
CALIBRATION_TABLE	1	CDF_CHAR	
CALIBRATION_VERSION	1	CDF_CHAR	
Datetime	1	CDF_CHAR	
Free_field	1	CDF_CHAR	
Job_ID	1	CDF_CHAR	
LEVEL	1	CDF_CHAR	L2>Level 2 data processing
SOOP_TYPE	1	CDF_CHAR	
Data_product	1	CDF_CHAR	SBM2-BP1>SBM2-BP1
TARGET_NAME	1	CDF_CHAR	Sun
TARGET_CLASS	1	CDF_CHAR	Star
TARGET_REGION	1	CDF_CHAR	Solar Wind
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009 (2.4)
Pipeline_name	1	CDF_CHAR	
Pipeline_version	1	CDF_CHAR	
Dataset_ID	1	CDF_CHAR	SOLO_L2_RPW-LFR-SBM2-BP1
OBS_ID	1	CDF_CHAR	
MODS	1	CDF_CHAR	

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 885

4.1.3.34.4 zVariables

Variable Name	Data Type	Number El- ements	Dims	Sizes
Epoch	CDF_TIME_TT2000	1	0	
Epoch_F0	CDF_TIME_TT2000	1	0	
Epoch_F1	CDF_TIME_TT2000	1	0	
QUALITY_FLAG	CDF_UINT1	1	0	
COMMON_BIA_STATUS_FLAG	CDF_UINT1	1	0	
QUALITY_BITMASK	CDF_UINT2	1	0	
FREQ	CDF_UINT1	1	0	
F0	CDF_REAL4	1	1	22
F1	CDF_REAL4	1	1	26
BIAS_MODE_MUX_SET	CDF_UINT1	1	0	
BIAS_MODE_HV_ENABLED	CDF_UINT1	1	0	
BIAS_MODE_BIAS1_ENABLED	CDF_UINT1	1	0	
BIAS_MODE_BIAS2_ENABLED	CDF_UINT1	1	0	
BIAS_MODE_BIAS3_ENABLED	CDF_UINT1	1	0	
BIAS_ON_OFF	CDF_UINT1	1	0	
BW	CDF_UINT1	1	0	
SP0	CDF_UINT1	1	0	
SP1	CDF_UINT1	1	0	
R0	CDF_UINT1	1	0	
R1	CDF_UINT1	1	0	
R2	CDF_UINT1	1	0	
BP1_CNT	CDF_UINT1	1	0	
PE_F0	CDF_REAL8	1	1	22
PE_F1	CDF_REAL8	1	1	26
PB_F0	CDF_REAL8	1	1	22
PB_F1	CDF_REAL8	1	1	26
NVEC_F0	CDF_REAL4	1	2	22 3
NVEC_F1	CDF_REAL4	1	2	26 3
ELLIP_F0	CDF_REAL4	1	1	22
ELLIP_F1	CDF_REAL4	1	1	26
DOP_F0	CDF_REAL4	1	1	22
DOP_F1	CDF_REAL4	1	1	26
SX_REA_F0	CDF_REAL8	1	1	22
SX_REA_F1	CDF_REAL8	1	1	26
SX_ARG_F0	CDF_UINT1	1	1	22
SX_ARG_F1	CDF_UINT1	1	1	26
VPHI_REA_F0	CDF_REAL8	1	1	22
VPHI_REA_F1	CDF_REAL8	1	1	26

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 886


Tab. 4.131 – continued from previous page

Variable Name	Data Type	Number Elements	El- Dims	Sizes
VPHI_ARG_F0	CDF_UINT1	1	1	22
VPHI_ARG_F1	CDF_UINT1	1	1	26
SYNCHRO_FLAG	CDF_UINT1	1	0	

4.1.3.34.5 Variable attributes

Variable Name	Attribute Name	Data Type	Value
Epoch	FIELDNAM	CDF_CHAR	Epoch
Epoch	CATDESC	CDF_CHAR	Default time
Epoch	DISPLAY_TYPE	CDF_CHAR	time_series
Epoch	VALIDMIN	CDF_TIME_TT2000	2000-01-01T00:00:00.000000000
Epoch	VALIDMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch	SCALEMIN	CDF_TIME_TT2000	1990-01-01T00:00:00.000000000
Epoch	SCALEMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch	LABLAXIS	CDF_CHAR	Epoch
Epoch	UNITS	CDF_CHAR	ns
Epoch	VAR_TYPE	CDF_CHAR	support_data
Epoch	SCALETYP	CDF_CHAR	linear
Epoch	MONOTON	CDF_CHAR	INCREASE
Epoch	TIME_BASE	CDF_CHAR	J2000
Epoch	TIME_SCALE	CDF_CHAR	Terrestrial Time
Epoch	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
Epoch	Resolution	CDF_CHAR	15258
Epoch	Bin_location	CDF_CHAR	0.5
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file.
Epoch_F0	FIELDNAM	CDF_CHAR	Epoch_F0
Epoch_F0	CATDESC	CDF_CHAR	Time for F0 frequencies in normal mode
Epoch_F0	DISPLAY_TYPE	CDF_CHAR	time_series
Epoch_F0	VALIDMIN	CDF_TIME_TT2000	2000-01-01T00:00:00.000000000


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 887

Tab. 4.132 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
Epoch_F0	VALIDMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch_F0	SCALEMIN	CDF_TIME_TT2000	1990-01-01T00:00:00.000000000
Epoch_F0	SCALEMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch_F0	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch_F0	LABLAXIS	CDF_CHAR	Epoch_F0
Epoch_F0	UNITS	CDF_CHAR	ns
Epoch_F0	VAR_TYPE	CDF_CHAR	support_data
Epoch_F0	SCALETYP	CDF_CHAR	linear
Epoch_F0	MONOTON	CDF_CHAR	INCREASE
Epoch_F0	TIME_BASE	CDF_CHAR	Spacecraft clock
Epoch_F0	TIME_SCALE	CDF_CHAR	Spacecraft clock
Epoch_F0	REFERENCE_POSITION	CDF_CHAR	MEB GSE
Epoch_F0	Resolution	CDF_CHAR	15258
Epoch_F0	Bin_location	CDF_CHAR	0.5
Epoch_F0	VAR_NOTES	CDF_CHAR	Time extracted from epoch.
Epoch_F1	FIELDNAM	CDF_CHAR	Epoch_F1
Epoch_F1	CATDESC	CDF_CHAR	Time for F1 frequencies in normal mode
Epoch_F1	DISPLAY_TYPE	CDF_CHAR	time_series
Epoch_F1	VALIDMIN	CDF_TIME_TT2000	2000-01-01T00:00:00.000000000
Epoch_F1	VALIDMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch_F1	SCALEMIN	CDF_TIME_TT2000	1990-01-01T00:00:00.000000000
Epoch_F1	SCALEMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch_F1	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch_F1	LABLAXIS	CDF_CHAR	Epoch_F1
Epoch_F1	UNITS	CDF_CHAR	ns
Epoch_F1	VAR_TYPE	CDF_CHAR	support_data
Epoch_F1	SCALETYP	CDF_CHAR	linear
Epoch_F1	MONOTON	CDF_CHAR	INCREASE
Epoch_F1	TIME_BASE	CDF_CHAR	Spacecraft clock
Epoch_F1	TIME_SCALE	CDF_CHAR	Spacecraft clock
Epoch_F1	REFERENCE_POSITION	CDF_CHAR	MEB GSE

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 888

Tab. 4.132 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
Epoch_F1	Resolution	CDF_CHAR	15258
Epoch_F1	Bin_location	CDF_CHAR	0.5
Epoch_F1	VAR_NOTES	CDF_CHAR	Time extracted from epoch.
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	VALIDMIN	CDF_UINT1	0
QUALITY_FLAG	VALIDMAX	CDF_UINT1	4
QUALITY_FLAG	SCALEMIN	CDF_UINT1	0
QUALITY_FLAG	SCALEMAX	CDF_UINT1	4
QUALITY_FLAG	FILLVAL	CDF_UINT1	255
QUALITY_FLAG	LABLAXIS	CDF_CHAR	Quality flag
QUALITY_FLAG	UNITS	CDF_CHAR	
QUALITY_FLAG	VAR_TYPE	CDF_CHAR	support_data
QUALITY_FLAG	SCALETYP	CDF_CHAR	linear
QUALITY_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the quality of the data
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
COMMON_BIA_STATUS_FLAG	FIELDNAM	CDF_CHAR	COMMON_BIA_STATUS_FLAG
COMMON_BIA_STATUS_FLAG	CATDESC	CDF_CHAR	LFR common parameters and BIAS status info relevancy flag
COMMON_BIA_STATUS_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
COMMON_BIA_STATUS_FLAG	VALIDMIN	CDF_UINT1	0
COMMON_BIA_STATUS_FLAG	VALIDMAX	CDF_UINT1	1
COMMON_BIA_STATUS_FLAG	SCALEMIN	CDF_UINT1	0
COMMON_BIA_STATUS_FLAG	SCALEMAX	CDF_UINT1	1
COMMON_BIA_STATUS_FLAG	FILLVAL	CDF_UINT1	255
COMMON_BIA_STATUS_FLAG	LABLAXIS	CDF_CHAR	common bias status flag
COMMON_BIA_STATUS_FLAG	UNITS	CDF_CHAR	
COMMON_BIA_STATUS_FLAG	VAR_TYPE	CDF_CHAR	support_data
COMMON_BIA_STATUS_FLAG	SCALETYP	CDF_CHAR	linear
COMMON_BIA_STATUS_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the relevancy of LFR common parameters (SP0/1, R0/1/2, BW) and BIAS STATUS INFO which can be non representative for the first packet following a change in those parameters.
COMMON_BIA_STATUS_FLAG	DEPEND_0	CDF_CHAR	Epoch

continues on next page



**RPW Data Product
Description Document**

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **889**

Tab. 4.132 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
COMMON_BIA_STATUS_FILE	FORMAT	CDF_CHAR	I1.1
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	UNITS	CDF_CHAR	
QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context information or status at the receiver or experiment level
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
FREQ	FIELDNAM	CDF_CHAR	Sampling frequency of the BP1
FREQ	CATDESC	CDF_CHAR	Sampling frequency of the BP1
FREQ	DISPLAY_TYPE	CDF_CHAR	time_series
FREQ	VALIDMIN	CDF_UINT1	0
FREQ	VALIDMAX	CDF_UINT1	1
FREQ	SCALEMIN	CDF_UINT1	0
FREQ	SCALEMAX	CDF_UINT1	1
FREQ	FILLVAL	CDF_UINT1	255
FREQ	LABLAXIS	CDF_CHAR	FREQ
FREQ	UNITS	CDF_CHAR	
FREQ	VAR_TYPE	CDF_CHAR	support_data
FREQ	SCALETYP	CDF_CHAR	linear
FREQ	VAR_NOTES	CDF_CHAR	Index to indicate the sampling frequency of the SBM2 mode BP1 : F0 or F1 in order to use only one skeleton for the 2 sbm2 mode bp1 products of ICD.
FREQ	DEPEND_0	CDF_CHAR	Epoch
FREQ	FORMAT	CDF_CHAR	I3.3


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 890

Tab. 4.132 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
F0	FIELDNAM	CDF_CHAR	Sampling frequencies at F0 in normal mode
F0	CATDESC	CDF_CHAR	Sampling frequency of BP1 at F0 in normal mode
F0	DISPLAY_TYPE	CDF_CHAR	time_series
F0	VALIDMIN	CDF_REAL4	0.0
F0	VALIDMAX	CDF_REAL4	1.0e+30
F0	SCALEMIN	CDF_REAL4	0.0
F0	SCALEMAX	CDF_REAL4	1.0e+30
F0	FILLVAL	CDF_REAL4	-1.0e+31
F0	LABLAXIS	CDF_CHAR	BP1 sampling frequency
F0	UNITS	CDF_CHAR	
F0	VAR_TYPE	CDF_CHAR	support_data
F0	VAR_NOTES	CDF_CHAR	
F0	FORMAT	CDF_CHAR	F32.6
F0	SCALETYPE	CDF_CHAR	linear
F1	FIELDNAM	CDF_CHAR	Sampling frequencies at F1 in normal mode
F1	CATDESC	CDF_CHAR	Sampling frequency of BP1 at F1 in normal mode
F1	DISPLAY_TYPE	CDF_CHAR	time_series
F1	VALIDMIN	CDF_REAL4	0.0
F1	VALIDMAX	CDF_REAL4	1.0e+30
F1	SCALEMIN	CDF_REAL4	0.0
F1	SCALEMAX	CDF_REAL4	1.0e+30
F1	FILLVAL	CDF_REAL4	-1.0e+31
F1	LABLAXIS	CDF_CHAR	BP1 sampling frequency
F1	UNITS	CDF_CHAR	
F1	VAR_TYPE	CDF_CHAR	support_data
F1	VAR_NOTES	CDF_CHAR	Index to indicate the sampling frequency of the snapshot : F0, F1 or F2 in order to use only one skeleton for the 3 normal mode BP1 products of ICD.
F1	FORMAT	CDF_CHAR	F32.6
F1	SCALETYPE	CDF_CHAR	linear
BIAS_MODE_MUX_SET	FIELDNAM	CDF_CHAR	BIAS multiplexer setting
BIAS_MODE_MUX_SET	CATDESC	CDF_CHAR	Copy of multiplexer setting.
BIAS_MODE_MUX_SET	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_MUX_SET	VALIDMIN	CDF_UINT1	0

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 891

Tab. 4.132 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_MODE_MUX_SET	VALIDMAX	CDF_UINT1	7
BIAS_MODE_MUX_SET	SCALEMIN	CDF_UINT1	0
BIAS_MODE_MUX_SET	SCALEMAX	CDF_UINT1	7
BIAS_MODE_MUX_SET	FILLVAL	CDF_UINT1	255
BIAS_MODE_MUX_SET	LABLAXIS	CDF_CHAR	BIAS_MODE_MUX_SET
BIAS_MODE_MUX_SET	UNITS	CDF_CHAR	
BIAS_MODE_MUX_SET	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_MUX_SET	SCALETYP	CDF_CHAR	linear
BIAS_MODE_MUX_SET	VAR_NOTES	CDF_CHAR	Indicates the mode of BIAS multiplexer for a set of BP1 parameters. Possible values are 0 : Standard operation. 1 : Probe 1 fails. 2 : Probe 2 fails. 3 : Probe 3 fails. 4 : Calibration mode 0. 5 : Calibration mode 1. 6 : Calibration mode 2. 7 : Calibration mode 3.
BIAS_MODE_MUX_SET	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_MUX_SET	FORMAT	CDF_CHAR	I3.3
BIAS_MODE_HV_ENABLED	FIELDNAM	CDF_CHAR	BIAS high voltage status
BIAS_MODE_HV_ENABLED	CATDESC	CDF_CHAR	Copy of enable/disable HV (+- 100V).
BIAS_MODE_HV_ENABLED	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_HV_ENABLED	VALIDMIN	CDF_UINT1	0
BIAS_MODE_HV_ENABLED	VALIDMAX	CDF_UINT1	1
BIAS_MODE_HV_ENABLED	SCALEMIN	CDF_UINT1	0
BIAS_MODE_HV_ENABLED	SCALEMAX	CDF_UINT1	1
BIAS_MODE_HV_ENABLED	FILLVAL	CDF_UINT1	255
BIAS_MODE_HV_ENABLED	LABLAXIS	CDF_CHAR	BIAS_MODE_HV_ENABLED
BIAS_MODE_HV_ENABLED	UNITS	CDF_CHAR	
BIAS_MODE_HV_ENABLED	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_HV_ENABLED	SCALETYP	CDF_CHAR	linear
BIAS_MODE_HV_ENABLED	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS HV. Possible values are DISABLED = 0. ENABLED = 1.
BIAS_MODE_HV_ENABLED	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_HV_ENABLED	FORMAT	CDF_CHAR	I3.3
BIAS_MODE_BIAS1_ENABLED	FIELDNAM	CDF_CHAR	BIAS probe 1 status
BIAS_MODE_BIAS1_ENABLED	CATDESC	CDF_CHAR	Copy of enable/disable BIAS 1.
BIAS_MODE_BIAS1_ENABLED	DISPLAY_TYPE	CDF_CHAR	time_series

continues on next page



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **892**

Tab. 4.132 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_MODE_BIAS1_ENAB	VALIDMIN	CDF_UINT1	0
BIAS_MODE_BIAS1_ENAB	VALIDMAX	CDF_UINT1	1
BIAS_MODE_BIAS1_ENAB	SCALEMIN	CDF_UINT1	0
BIAS_MODE_BIAS1_ENAB	SCALEMAX	CDF_UINT1	1
BIAS_MODE_BIAS1_ENAB	DELVAL	CDF_UINT1	255
BIAS_MODE_BIAS1_ENAB	DEBLAXIS	CDF_CHAR	BIAS_MODE_BIAS1_ENABLED
BIAS_MODE_BIAS1_ENAB	UNITS	CDF_CHAR	
BIAS_MODE_BIAS1_ENAB	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_BIAS1_ENAB	SCALETYP	CDF_CHAR	linear
BIAS_MODE_BIAS1_ENAB	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS probe 1. Possible values are DISABLED = 0. ENABLED = 1.
BIAS_MODE_BIAS1_ENAB	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_BIAS1_ENAB	FORMAT	CDF_CHAR	I3.3
BIAS_MODE_BIAS2_ENAB	DELNAM	CDF_CHAR	BIAS probe 2 status
BIAS_MODE_BIAS2_ENAB	CATDESC	CDF_CHAR	Copy of enable/disable BIAS 2.
BIAS_MODE_BIAS2_ENAB	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_BIAS2_ENAB	VALIDMIN	CDF_UINT1	0
BIAS_MODE_BIAS2_ENAB	VALIDMAX	CDF_UINT1	1
BIAS_MODE_BIAS2_ENAB	SCALEMIN	CDF_UINT1	0
BIAS_MODE_BIAS2_ENAB	SCALEMAX	CDF_UINT1	1
BIAS_MODE_BIAS2_ENAB	DELVAL	CDF_UINT1	255
BIAS_MODE_BIAS2_ENAB	DEBLAXIS	CDF_CHAR	BIAS_MODE_BIAS2_ENABLED
BIAS_MODE_BIAS2_ENAB	UNITS	CDF_CHAR	
BIAS_MODE_BIAS2_ENAB	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_BIAS2_ENAB	SCALETYP	CDF_CHAR	linear
BIAS_MODE_BIAS2_ENAB	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS probe 2. Possible values are DISABLED = 0. ENABLED = 1.
BIAS_MODE_BIAS2_ENAB	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_BIAS2_ENAB	FORMAT	CDF_CHAR	I3.3
BIAS_MODE_BIAS3_ENAB	DELNAM	CDF_CHAR	BIAS probe 3 status
BIAS_MODE_BIAS3_ENAB	CATDESC	CDF_CHAR	Copy of enable/disable BIAS 3.
BIAS_MODE_BIAS3_ENAB	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_BIAS3_ENAB	VALIDMIN	CDF_UINT1	0
BIAS_MODE_BIAS3_ENAB	VALIDMAX	CDF_UINT1	1
BIAS_MODE_BIAS3_ENAB	SCALEMIN	CDF_UINT1	0


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 893

Tab. 4.132 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_MODE_BIAS3_ENAB	SCALEMAX	CDF_UINT1	1
BIAS_MODE_BIAS3_ENAB	FILLVAL	CDF_UINT1	255
BIAS_MODE_BIAS3_ENAB	LABLAXIS	CDF_CHAR	BIAS_MODE_BIAS3_ENABLED
BIAS_MODE_BIAS3_ENAB	UNITS	CDF_CHAR	
BIAS_MODE_BIAS3_ENAB	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_BIAS3_ENAB	SCALETYP	CDF_CHAR	linear
BIAS_MODE_BIAS3_ENAB	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS probe 3. Possible values are DISABLED = 0. ENABLED = 1.
BIAS_MODE_BIAS3_ENAB	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_BIAS3_ENAB	FORMAT	CDF_CHAR	I3.3
BIAS_ON_OFF	FIELDNAM	CDF_CHAR	BIAS status
BIAS_ON_OFF	CATDESC	CDF_CHAR	Copy of BIAS status.
BIAS_ON_OFF	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_ON_OFF	VALIDMIN	CDF_UINT1	0
BIAS_ON_OFF	VALIDMAX	CDF_UINT1	1
BIAS_ON_OFF	SCALEMIN	CDF_UINT1	0
BIAS_ON_OFF	SCALEMAX	CDF_UINT1	1
BIAS_ON_OFF	FILLVAL	CDF_UINT1	255
BIAS_ON_OFF	LABLAXIS	CDF_CHAR	BIAS_ON_OFF
BIAS_ON_OFF	UNITS	CDF_CHAR	
BIAS_ON_OFF	VAR_TYPE	CDF_CHAR	support_data
BIAS_ON_OFF	SCALETYP	CDF_CHAR	linear
BIAS_ON_OFF	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS. Possible values are OFF = 0 - Power line off. ON = 1 - Power line on.
BIAS_ON_OFF	DEPEND_0	CDF_CHAR	Epoch
BIAS_ON_OFF	FORMAT	CDF_CHAR	I3.3
BW	FIELDNAM	CDF_CHAR	BIAS Works/BIAS Fails configuration.
BW	CATDESC	CDF_CHAR	BIAS Works/BIAS Fails configuration.
BW	DISPLAY_TYPE	CDF_CHAR	time_series
BW	VALIDMIN	CDF_UINT1	0
BW	VALIDMAX	CDF_UINT1	1
BW	SCALEMIN	CDF_UINT1	0
BW	SCALEMAX	CDF_UINT1	1
BW	FILLVAL	CDF_UINT1	255
BW	LABLAXIS	CDF_CHAR	BW

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 894

Tab. 4.132 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BW	UNITS	CDF_CHAR	
BW	VAR_TYPE	CDF_CHAR	support_data
BW	SCALETYP	CDF_CHAR	linear
BW	VAR_NOTES	CDF_CHAR	
BW	DEPEND_0	CDF_CHAR	Epoch
BW	FORMAT	CDF_CHAR	I3.3
SP0	FIELDNAM	CDF_CHAR	Shaping of electrical data parameter 0.
SP0	CATDESC	CDF_CHAR	Shaping of electrical data.
SP0	DISPLAY_TYPE	CDF_CHAR	time_series
SP0	VALIDMIN	CDF_UINT1	0
SP0	VALIDMAX	CDF_UINT1	1
SP0	SCALEMIN	CDF_UINT1	0
SP0	SCALEMAX	CDF_UINT1	1
SP0	FILLVAL	CDF_UINT1	255
SP0	LABLAXIS	CDF_CHAR	SP0
SP0	UNITS	CDF_CHAR	
SP0	VAR_TYPE	CDF_CHAR	support_data
SP0	SCALETYP	CDF_CHAR	linear
SP0	VAR_NOTES	CDF_CHAR	
SP0	DEPEND_0	CDF_CHAR	Epoch
SP0	FORMAT	CDF_CHAR	I3.3
SP1	FIELDNAM	CDF_CHAR	Shaping of electrical data parameter 1.
SP1	CATDESC	CDF_CHAR	Shaping of electrical data.
SP1	DISPLAY_TYPE	CDF_CHAR	time_series
SP1	VALIDMIN	CDF_UINT1	0
SP1	VALIDMAX	CDF_UINT1	1
SP1	SCALEMIN	CDF_UINT1	0
SP1	SCALEMAX	CDF_UINT1	1
SP1	FILLVAL	CDF_UINT1	255
SP1	LABLAXIS	CDF_CHAR	SP1
SP1	UNITS	CDF_CHAR	
SP1	VAR_TYPE	CDF_CHAR	support_data
SP1	SCALETYP	CDF_CHAR	linear
SP1	VAR_NOTES	CDF_CHAR	
SP1	DEPEND_0	CDF_CHAR	Epoch
SP1	FORMAT	CDF_CHAR	I3.3
R0	FIELDNAM	CDF_CHAR	Rooting of electrical data for F0.
R0	CATDESC	CDF_CHAR	Rooting of electrical data.

continues on next page



**RPW Data Product
Description Document**

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03

Date: March 11, 2021

Page: **895**

Tab. 4.132 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
R0	DISPLAY_TYPE	CDF_CHAR	time_series
R0	VALIDMIN	CDF_UINT1	0
R0	VALIDMAX	CDF_UINT1	1
R0	SCALEMIN	CDF_UINT1	0
R0	SCALEMAX	CDF_UINT1	1
R0	FILLVAL	CDF_UINT1	255
R0	LABLAXIS	CDF_CHAR	R0
R0	UNITS	CDF_CHAR	
R0	VAR_TYPE	CDF_CHAR	support_data
R0	SCALETYP	CDF_CHAR	linear
R0	VAR_NOTES	CDF_CHAR	
R0	DEPEND_0	CDF_CHAR	Epoch
R0	FORMAT	CDF_CHAR	I3.3
R1	FIELDNAM	CDF_CHAR	Rooting of electrical data for F1.
R1	CATDESC	CDF_CHAR	Rooting of electrical data.
R1	DISPLAY_TYPE	CDF_CHAR	time_series
R1	VALIDMIN	CDF_UINT1	0
R1	VALIDMAX	CDF_UINT1	1
R1	SCALEMIN	CDF_UINT1	0
R1	SCALEMAX	CDF_UINT1	1
R1	FILLVAL	CDF_UINT1	255
R1	LABLAXIS	CDF_CHAR	R1
R1	UNITS	CDF_CHAR	
R1	VAR_TYPE	CDF_CHAR	support_data
R1	SCALETYP	CDF_CHAR	linear
R1	VAR_NOTES	CDF_CHAR	
R1	DEPEND_0	CDF_CHAR	Epoch
R1	FORMAT	CDF_CHAR	I3.3
R2	FIELDNAM	CDF_CHAR	Rooting of electrical data for F2.
R2	CATDESC	CDF_CHAR	Rooting of electrical data.
R2	DISPLAY_TYPE	CDF_CHAR	time_series
R2	VALIDMIN	CDF_UINT1	0
R2	VALIDMAX	CDF_UINT1	1
R2	SCALEMIN	CDF_UINT1	0
R2	SCALEMAX	CDF_UINT1	1
R2	FILLVAL	CDF_UINT1	255
R2	LABLAXIS	CDF_CHAR	R2
R2	UNITS	CDF_CHAR	
R2	VAR_TYPE	CDF_CHAR	support_data

continues on next page



**RPW Data Product
Description Document**

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **896**

Tab. 4.132 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
R2	SCALETYP	CDF_CHAR	linear
R2	VAR_NOTES	CDF_CHAR	
R2	DEPEND_0	CDF_CHAR	Epoch
R2	FORMAT	CDF_CHAR	I3.3
BP1_CNT	FIELDNAM	CDF_CHAR	BP1_CNT
BP1_CNT	CATDESC	CDF_CHAR	Number of BP1 sets read for a given sampling frequency(F0 or F1).
BP1_CNT	DISPLAY_TYPE	CDF_CHAR	time_series
BP1_CNT	VALIDMIN	CDF_UINT1	0
BP1_CNT	VALIDMAX	CDF_UINT1	1
BP1_CNT	SCALEMIN	CDF_UINT1	0
BP1_CNT	SCALEMAX	CDF_UINT1	1
BP1_CNT	FILLVAL	CDF_UINT1	255
BP1_CNT	LABLAXIS	CDF_CHAR	BP1_CNT
BP1_CNT	UNITS	CDF_CHAR	
BP1_CNT	VAR_TYPE	CDF_CHAR	support_data
BP1_CNT	SCALETYP	CDF_CHAR	linear
BP1_CNT	VAR_NOTES	CDF_CHAR	This indicates how many sets of BP1 have been read. Expected numbers are 22 for F0 and 26 for F1.
BP1_CNT	DEPEND_0	CDF_CHAR	Epoch
BP1_CNT	FORMAT	CDF_CHAR	I3.3
PE_F0	FIELDNAM	CDF_CHAR	Spectral power of E field (F0)
PE_F0	CATDESC	CDF_CHAR	Spectral power of E field at F0
PE_F0	DISPLAY_TYPE	CDF_CHAR	time_series
PE_F0	VALIDMIN	CDF_REAL8	-1.0e+30
PE_F0	VALIDMAX	CDF_REAL8	1.0e+30
PE_F0	SCALEMIN	CDF_REAL8	-1.0e+30
PE_F0	SCALEMAX	CDF_REAL8	1.0e+30
PE_F0	FILLVAL	CDF_REAL8	-1.0e+31
PE_F0	LABLAXIS	CDF_CHAR	PE_F0
PE_F0	UNITS	CDF_CHAR	
PE_F0	VAR_TYPE	CDF_CHAR	data
PE_F0	SCALETYP	CDF_CHAR	linear
PE_F0	VAR_NOTES	CDF_CHAR	
PE_F0	DEPEND_0	CDF_CHAR	Epoch_F0
PE_F0	FORMAT	CDF_CHAR	F32.6
PE_F1	FIELDNAM	CDF_CHAR	Spectral power of E field (F1)
PE_F1	CATDESC	CDF_CHAR	Spectral power of E field at F1


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 897

Tab. 4.132 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
PE_F1	DISPLAY_TYPE	CDF_CHAR	time_series
PE_F1	VALIDMIN	CDF_REAL8	-1.0e+30
PE_F1	VALIDMAX	CDF_REAL8	1.0e+30
PE_F1	SCALEMIN	CDF_REAL8	-1.0e+30
PE_F1	SCALEMAX	CDF_REAL8	1.0e+30
PE_F1	FILLVAL	CDF_REAL8	-1.0e+31
PE_F1	LABLAXIS	CDF_CHAR	PE_F1
PE_F1	UNITS	CDF_CHAR	
PE_F1	VAR_TYPE	CDF_CHAR	data
PE_F1	SCALETYP	CDF_CHAR	linear
PE_F1	VAR_NOTES	CDF_CHAR	
PE_F1	DEPEND_0	CDF_CHAR	Epoch_F1
PE_F1	FORMAT	CDF_CHAR	F32.6
PB_F0	FIELDNAM	CDF_CHAR	Spectral power of B field (F0)
PB_F0	CATDESC	CDF_CHAR	Spectral power of B field at F0
PB_F0	DISPLAY_TYPE	CDF_CHAR	time_series
PB_F0	VALIDMIN	CDF_REAL8	-1.0e+30
PB_F0	VALIDMAX	CDF_REAL8	1.0e+30
PB_F0	SCALEMIN	CDF_REAL8	-1.0e+30
PB_F0	SCALEMAX	CDF_REAL8	1.0e+30
PB_F0	FILLVAL	CDF_REAL8	-1.0e+31
PB_F0	LABLAXIS	CDF_CHAR	PB_F0
PB_F0	UNITS	CDF_CHAR	
PB_F0	VAR_TYPE	CDF_CHAR	data
PB_F0	SCALETYP	CDF_CHAR	linear
PB_F0	VAR_NOTES	CDF_CHAR	
PB_F0	DEPEND_0	CDF_CHAR	Epoch_F0
PB_F0	FORMAT	CDF_CHAR	F32.6
PB_F1	FIELDNAM	CDF_CHAR	Spectral power of B field (F1)
PB_F1	CATDESC	CDF_CHAR	Spectral power of B field at F1
PB_F1	DISPLAY_TYPE	CDF_CHAR	time_series
PB_F1	VALIDMIN	CDF_REAL8	-1.0e+30
PB_F1	VALIDMAX	CDF_REAL8	1.0e+30
PB_F1	SCALEMIN	CDF_REAL8	-1.0e+30
PB_F1	SCALEMAX	CDF_REAL8	1.0e+30
PB_F1	FILLVAL	CDF_REAL8	-1.0e+31
PB_F1	LABLAXIS	CDF_CHAR	PB_F1
PB_F1	UNITS	CDF_CHAR	
PB_F1	VAR_TYPE	CDF_CHAR	data
PB_F1	SCALETYP	CDF_CHAR	linear
PB_F1	VAR_NOTES	CDF_CHAR	

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 898

Tab. 4.132 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
PB_F1	DEPEND_0	CDF_CHAR	Epoch_F1
PB_F1	FORMAT	CDF_CHAR	F32.6
NVEC_F0	FIELDNAM	CDF_CHAR	Component 0 of wave normal vector from magnetic field (F0)
NVEC_F0	CATDESC	CDF_CHAR	Component 0 of wave normal vector from magnetic field at F0
NVEC_F0	DISPLAY_TYPE	CDF_CHAR	time_series
NVEC_F0	VALIDMIN	CDF_REAL4	-1.0
NVEC_F0	VALIDMAX	CDF_REAL4	1.0
NVEC_F0	SCALEMIN	CDF_REAL4	-1.0
NVEC_F0	SCALEMAX	CDF_REAL4	1.0
NVEC_F0	FILLVAL	CDF_REAL4	-1.0e+31
NVEC_F0	LABLAXIS	CDF_CHAR	NVEC_F0
NVEC_F0	UNITS	CDF_CHAR	
NVEC_F0	VAR_TYPE	CDF_CHAR	data
NVEC_F0	SCALETYP	CDF_CHAR	linear
NVEC_F0	VAR_NOTES	CDF_CHAR	
NVEC_F0	DEPEND_0	CDF_CHAR	Epoch_F0
NVEC_F0	FORMAT	CDF_CHAR	F32.6
NVEC_F1	FIELDNAM	CDF_CHAR	Component 0 of wave normal vector from magnetic field (F1)
NVEC_F1	CATDESC	CDF_CHAR	Component 0 of wave normal vector from magnetic field at F1
NVEC_F1	DISPLAY_TYPE	CDF_CHAR	time_series
NVEC_F1	VALIDMIN	CDF_REAL4	-1.0
NVEC_F1	VALIDMAX	CDF_REAL4	1.0
NVEC_F1	SCALEMIN	CDF_REAL4	-1.0
NVEC_F1	SCALEMAX	CDF_REAL4	1.0
NVEC_F1	FILLVAL	CDF_REAL4	-1.0e+31
NVEC_F1	LABLAXIS	CDF_CHAR	NVEC_F1
NVEC_F1	UNITS	CDF_CHAR	
NVEC_F1	VAR_TYPE	CDF_CHAR	data
NVEC_F1	SCALETYP	CDF_CHAR	linear
NVEC_F1	VAR_NOTES	CDF_CHAR	
NVEC_F1	DEPEND_0	CDF_CHAR	Epoch_F1
NVEC_F1	FORMAT	CDF_CHAR	F32.6

continues on next page



**RPW Data Product
Description Document**

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **899**

Tab. 4.132 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
ELLIP_F0	FIELDNAM	CDF_CHAR	Wave ellipticity from magnetic field (F0)
ELLIP_F0	CATDESC	CDF_CHAR	Wave ellipticity from magnetic field at F0
ELLIP_F0	DISPLAY_TYPE	CDF_CHAR	time_series
ELLIP_F0	VALIDMIN	CDF_REAL4	0.0
ELLIP_F0	VALIDMAX	CDF_REAL4	1.0
ELLIP_F0	SCALEMIN	CDF_REAL4	0.0
ELLIP_F0	SCALEMAX	CDF_REAL4	1.0
ELLIP_F0	FILLVAL	CDF_REAL4	-1.0e+31
ELLIP_F0	LABLAXIS	CDF_CHAR	ELLIP_F0
ELLIP_F0	UNITS	CDF_CHAR	
ELLIP_F0	VAR_TYPE	CDF_CHAR	data
ELLIP_F0	SCALETYP	CDF_CHAR	linear
ELLIP_F0	VAR_NOTES	CDF_CHAR	
ELLIP_F0	DEPEND_0	CDF_CHAR	Epoch_F0
ELLIP_F0	FORMAT	CDF_CHAR	F32.6
ELLIP_F1	FIELDNAM	CDF_CHAR	Wave ellipticity from magnetic field (F1)
ELLIP_F1	CATDESC	CDF_CHAR	Wave ellipticity from magnetic field at F1
ELLIP_F1	DISPLAY_TYPE	CDF_CHAR	time_series
ELLIP_F1	VALIDMIN	CDF_REAL4	0.0
ELLIP_F1	VALIDMAX	CDF_REAL4	1.0
ELLIP_F1	SCALEMIN	CDF_REAL4	0.0
ELLIP_F1	SCALEMAX	CDF_REAL4	1.0
ELLIP_F1	FILLVAL	CDF_REAL4	-1.0e+31
ELLIP_F1	LABLAXIS	CDF_CHAR	ELLIP_F1
ELLIP_F1	UNITS	CDF_CHAR	
ELLIP_F1	VAR_TYPE	CDF_CHAR	data
ELLIP_F1	SCALETYP	CDF_CHAR	linear
ELLIP_F1	VAR_NOTES	CDF_CHAR	
ELLIP_F1	DEPEND_0	CDF_CHAR	Epoch_F1
ELLIP_F1	FORMAT	CDF_CHAR	F32.6
DOP_F0	FIELDNAM	CDF_CHAR	degree of polarization from magnetic field (F0)
DOP_F0	CATDESC	CDF_CHAR	degree of polarization from magnetic field at F0
DOP_F0	DISPLAY_TYPE	CDF_CHAR	time_series
DOP_F0	VALIDMIN	CDF_REAL4	0.0
DOP_F0	VALIDMAX	CDF_REAL4	1.0

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 900

Tab. 4.132 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
DOP_F0	SCALEMIN	CDF_REAL4	0.0
DOP_F0	SCALEMAX	CDF_REAL4	1.0
DOP_F0	FILLVAL	CDF_REAL4	-1.0e+31
DOP_F0	LABLAXIS	CDF_CHAR	DOP_F0
DOP_F0	UNITS	CDF_CHAR	
DOP_F0	VAR_TYPE	CDF_CHAR	data
DOP_F0	SCALETYP	CDF_CHAR	linear
DOP_F0	VAR_NOTES	CDF_CHAR	
DOP_F0	DEPEND_0	CDF_CHAR	Epoch_F0
DOP_F0	FORMAT	CDF_CHAR	F32.6
DOP_F1	FIELDNAM	CDF_CHAR	degree of polarization from magnetic field (F1)
DOP_F1	CATDESC	CDF_CHAR	degree of polarization from magnetic field at F1
DOP_F1	DISPLAY_TYPE	CDF_CHAR	time_series
DOP_F1	VALIDMIN	CDF_REAL4	0.0
DOP_F1	VALIDMAX	CDF_REAL4	1.0
DOP_F1	SCALEMIN	CDF_REAL4	0.0
DOP_F1	SCALEMAX	CDF_REAL4	1.0
DOP_F1	FILLVAL	CDF_REAL4	-1.0e+31
DOP_F1	LABLAXIS	CDF_CHAR	DOP_F1
DOP_F1	UNITS	CDF_CHAR	
DOP_F1	VAR_TYPE	CDF_CHAR	data
DOP_F1	SCALETYP	CDF_CHAR	linear
DOP_F1	VAR_NOTES	CDF_CHAR	
DOP_F1	DEPEND_0	CDF_CHAR	Epoch_F1
DOP_F1	FORMAT	CDF_CHAR	F32.6
SX_REA_F0	FIELDNAM	CDF_CHAR	Real part of X Poynting flux (F0)
SX_REA_F0	CATDESC	CDF_CHAR	Real part of the X component of the Poynting vector F0
SX_REA_F0	DISPLAY_TYPE	CDF_CHAR	time_series
SX_REA_F0	VALIDMIN	CDF_REAL8	-1.0e+30
SX_REA_F0	VALIDMAX	CDF_REAL8	1.0e+30
SX_REA_F0	SCALEMIN	CDF_REAL8	-1.0e+30
SX_REA_F0	SCALEMAX	CDF_REAL8	1.0e+30
SX_REA_F0	FILLVAL	CDF_REAL8	-1.0e+31
SX_REA_F0	LABLAXIS	CDF_CHAR	SX_REA_F0
SX_REA_F0	UNITS	CDF_CHAR	
SX_REA_F0	VAR_TYPE	CDF_CHAR	data
SX_REA_F0	SCALETYP	CDF_CHAR	linear

continues on next page



RPW Data Product
Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **901**

Tab. 4.132 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SX_REA_F0	VAR_NOTES	CDF_CHAR	
SX_REA_F0	DEPEND_0	CDF_CHAR	Epoch_F0
SX_REA_F0	FORMAT	CDF_CHAR	F32.6
SX_REA_F1	FIELDNAM	CDF_CHAR	Real part of X Poynting flux (F1)
SX_REA_F1	CATDESC	CDF_CHAR	Real part of the X component of the Poynting vector F1
SX_REA_F1	DISPLAY_TYPE	CDF_CHAR	time_series
SX_REA_F1	VALIDMIN	CDF_REAL8	-1.0e+30
SX_REA_F1	VALIDMAX	CDF_REAL8	1.0e+30
SX_REA_F1	SCALEMIN	CDF_REAL8	-1.0e+30
SX_REA_F1	SCALEMAX	CDF_REAL8	1.0e+30
SX_REA_F1	FILLVAL	CDF_REAL8	-1.0e+31
SX_REA_F1	LABLAXIS	CDF_CHAR	SX_REA_F1
SX_REA_F1	UNITS	CDF_CHAR	
SX_REA_F1	VAR_TYPE	CDF_CHAR	data
SX_REA_F1	SCALETYP	CDF_CHAR	linear
SX_REA_F1	VAR_NOTES	CDF_CHAR	
SX_REA_F1	DEPEND_0	CDF_CHAR	Epoch_F1
SX_REA_F1	FORMAT	CDF_CHAR	F32.6
SX_ARG_F0	FIELDNAM	CDF_CHAR	Arg bit of X Poynting flux (F0)
SX_ARG_F0	CATDESC	CDF_CHAR	Argument bit = 0 if $ \text{ARG}(\text{SX}) < \pi/4$ or $3\pi/4 < \text{ARG}(\text{SX}) < \pi$, bit arg = 1 elsewhere at F0
SX_ARG_F0	DISPLAY_TYPE	CDF_CHAR	time_series
SX_ARG_F0	VALIDMIN	CDF_UINT1	1
SX_ARG_F0	VALIDMAX	CDF_UINT1	254
SX_ARG_F0	SCALEMIN	CDF_UINT1	1
SX_ARG_F0	SCALEMAX	CDF_UINT1	254
SX_ARG_F0	FILLVAL	CDF_UINT1	255
SX_ARG_F0	LABLAXIS	CDF_CHAR	SX_ARG_F0
SX_ARG_F0	UNITS	CDF_CHAR	
SX_ARG_F0	VAR_TYPE	CDF_CHAR	data
SX_ARG_F0	SCALETYP	CDF_CHAR	linear
SX_ARG_F0	VAR_NOTES	CDF_CHAR	
SX_ARG_F0	DEPEND_0	CDF_CHAR	Epoch_F0
SX_ARG_F0	FORMAT	CDF_CHAR	I3.3
SX_ARG_F1	FIELDNAM	CDF_CHAR	Arg bit of X Poynting flux (F1)


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 902

Tab. 4.132 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SX_ARG_F1	CATDESC	CDF_CHAR	Argument bit = 0 if $ \text{ARG}(\text{SX}) < \pi/4$ or $3\pi/4 < \text{ARG}(\text{SX}) < \pi$, bit arg = 1 elsewhere at F1
SX_ARG_F1	DISPLAY_TYPE	CDF_CHAR	time_series
SX_ARG_F1	VALIDMIN	CDF_UINT1	1
SX_ARG_F1	VALIDMAX	CDF_UINT1	254
SX_ARG_F1	SCALEMIN	CDF_UINT1	1
SX_ARG_F1	SCALEMAX	CDF_UINT1	254
SX_ARG_F1	FILLVAL	CDF_UINT1	255
SX_ARG_F1	LABLAXIS	CDF_CHAR	SX_ARG_F1
SX_ARG_F1	UNITS	CDF_CHAR	
SX_ARG_F1	VAR_TYPE	CDF_CHAR	data
SX_ARG_F1	SCALETYP	CDF_CHAR	linear
SX_ARG_F1	VAR_NOTES	CDF_CHAR	
SX_ARG_F1	DEPEND_0	CDF_CHAR	Epoch_F1
SX_ARG_F1	FORMAT	CDF_CHAR	I3.3
VPHI_REA_F0	FIELDNAM	CDF_CHAR	Real part of phase velocity estimator (F0)
VPHI_REA_F0	CATDESC	CDF_CHAR	Phase velocity estimated from the X projection of Maxwell-Faraday equation at F0
VPHI_REA_F0	DISPLAY_TYPE	CDF_CHAR	time_series
VPHI_REA_F0	VALIDMIN	CDF_REAL8	-1.0e+30
VPHI_REA_F0	VALIDMAX	CDF_REAL8	1.0e+30
VPHI_REA_F0	SCALEMIN	CDF_REAL8	-1.0e+30
VPHI_REA_F0	SCALEMAX	CDF_REAL8	1.0e+30
VPHI_REA_F0	FILLVAL	CDF_REAL8	-1.0e+31
VPHI_REA_F0	LABLAXIS	CDF_CHAR	VPHI_REA_F0
VPHI_REA_F0	UNITS	CDF_CHAR	
VPHI_REA_F0	VAR_TYPE	CDF_CHAR	data
VPHI_REA_F0	SCALETYP	CDF_CHAR	linear
VPHI_REA_F0	VAR_NOTES	CDF_CHAR	
VPHI_REA_F0	DEPEND_0	CDF_CHAR	Epoch_F0
VPHI_REA_F0	FORMAT	CDF_CHAR	F32.6
VPHI_REA_F1	FIELDNAM	CDF_CHAR	Real part of phase velocity estimator (F1)
VPHI_REA_F1	CATDESC	CDF_CHAR	Phase velocity estimated from the X projection of Maxwell-Faraday equation at F1
VPHI_REA_F1	DISPLAY_TYPE	CDF_CHAR	time_series


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 903

Tab. 4.132 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
VPHI_REA_F1	VALIDMIN	CDF_REAL8	-1.0e+30
VPHI_REA_F1	VALIDMAX	CDF_REAL8	1.0e+30
VPHI_REA_F1	SCALEMIN	CDF_REAL8	-1.0e+30
VPHI_REA_F1	SCALEMAX	CDF_REAL8	1.0e+30
VPHI_REA_F1	FILLVAL	CDF_REAL8	-1.0e+31
VPHI_REA_F1	LABLAXIS	CDF_CHAR	VPHI_REA_F1
VPHI_REA_F1	UNITS	CDF_CHAR	
VPHI_REA_F1	VAR_TYPE	CDF_CHAR	data
VPHI_REA_F1	SCALETYP	CDF_CHAR	linear
VPHI_REA_F1	VAR_NOTES	CDF_CHAR	
VPHI_REA_F1	DEPEND_0	CDF_CHAR	Epoch_F1
VPHI_REA_F1	FORMAT	CDF_CHAR	F32.6
VPHI_ARG_F0	FIELDNAM	CDF_CHAR	Arg bit of phase velocity estimator (F0)
VPHI_ARG_F0	CATDESC	CDF_CHAR	Argument bit = 0 if $ \text{ARG}(\text{VPHI}) < \pi/4$ or $3\pi/4 < \text{ARG}(\text{VPHI}) < \pi$, bit arg = 1 elsewhere at F0
VPHI_ARG_F0	DISPLAY_TYPE	CDF_CHAR	time_series
VPHI_ARG_F0	VALIDMIN	CDF_UINT1	1
VPHI_ARG_F0	VALIDMAX	CDF_UINT1	254
VPHI_ARG_F0	SCALEMIN	CDF_UINT1	1
VPHI_ARG_F0	SCALEMAX	CDF_UINT1	254
VPHI_ARG_F0	FILLVAL	CDF_UINT1	255
VPHI_ARG_F0	LABLAXIS	CDF_CHAR	VPHI_ARG_F0
VPHI_ARG_F0	UNITS	CDF_CHAR	
VPHI_ARG_F0	VAR_TYPE	CDF_CHAR	data
VPHI_ARG_F0	SCALETYP	CDF_CHAR	linear
VPHI_ARG_F0	VAR_NOTES	CDF_CHAR	
VPHI_ARG_F0	DEPEND_0	CDF_CHAR	Epoch_F0
VPHI_ARG_F0	FORMAT	CDF_CHAR	I3.3
VPHI_ARG_F1	FIELDNAM	CDF_CHAR	Arg bit of phase velocity estimator (F1)
VPHI_ARG_F1	CATDESC	CDF_CHAR	Argument bit = 0 if $ \text{ARG}(\text{VPHI}) < \pi/4$ or $3\pi/4 < \text{ARG}(\text{VPHI}) < \pi$, bit arg = 1 elsewhere at F1
VPHI_ARG_F1	DISPLAY_TYPE	CDF_CHAR	time_series
VPHI_ARG_F1	VALIDMIN	CDF_UINT1	1
VPHI_ARG_F1	VALIDMAX	CDF_UINT1	254
VPHI_ARG_F1	SCALEMIN	CDF_UINT1	1

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 904


Tab. 4.132 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
VPHI_ARG_F1	SCALEMAX	CDF_UINT1	254
VPHI_ARG_F1	FILLVAL	CDF_UINT1	255
VPHI_ARG_F1	LABLAXIS	CDF_CHAR	VPHI_ARG_F1
VPHI_ARG_F1	UNITS	CDF_CHAR	
VPHI_ARG_F1	VAR_TYPE	CDF_CHAR	data
VPHI_ARG_F1	SCALETYP	CDF_CHAR	linear
VPHI_ARG_F1	VAR_NOTES	CDF_CHAR	
VPHI_ARG_F1	DEPEND_0	CDF_CHAR	Epoch_F1
VPHI_ARG_F1	FORMAT	CDF_CHAR	I3.3
SYNCHRO_FLAG	FIELDNAM	CDF_CHAR	SYNCHRO_FLAG
SYNCHRO_FLAG	CATDESC	CDF_CHAR	Time synchronisation flag
SYNCHRO_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
SYNCHRO_FLAG	VALIDMIN	CDF_UINT1	0
SYNCHRO_FLAG	VALIDMAX	CDF_UINT1	1
SYNCHRO_FLAG	SCALEMIN	CDF_UINT1	0
SYNCHRO_FLAG	SCALEMAX	CDF_UINT1	1
SYNCHRO_FLAG	FILLVAL	CDF_UINT1	255
SYNCHRO_FLAG	LABLAXIS	CDF_CHAR	time sync. flag
SYNCHRO_FLAG	UNITS	CDF_CHAR	
SYNCHRO_FLAG	VAR_TYPE	CDF_CHAR	support_data
SYNCHRO_FLAG	SCALETYP	CDF_CHAR	linear
SYNCHRO_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate if the local time is synchronized with the RPW DPU clock or not. Possible values: synchronized=0, not synchronized=1. This flag is extracted from ACQUISITION_TIME in L0 packets, it is the MSB of the CUC time.
SYNCHRO_FLAG	DEPEND_0	CDF_CHAR	Epoch
SYNCHRO_FLAG	FORMAT	CDF_CHAR	I3.3

4.1.3.34.6 Non-Record-Variant (NRV) Variables

4.1.3.35 SOLO_L2_RPW-LFR-SBM2-BP2 data product

The “SOLO_L2_RPW-LFR-SBM2-BP2” data product contains the calibrated LFR receiver Basic Parameters 1 data for SBM2 events. The “SOLO_L2_RPW-LFR-SBM2-BP2” data are written in CDF format files. There is a single file per SBM2 event data downlinked on-ground. The file is generated from data in the corresponding SOLO_L1_RPW-LFR-SBM2-BP2 parent file.

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 905

4.1.3.35.1 Filename

```
solo_L2_rpw-lfr-sbm2-bp2_[YYYYMMDDThhmmss1-YYYYMMDDThhmmss2]_V[version].cdf
```

4.1.3.35.2 Expected cadence and data volume


Nominal cadence: 1 file per SBM2 event

Expected data volume: TBD MB per file

4.1.3.35.3 Global Attributes

Attribute Name	Entry Number	Data Type	Value
Project	1	CDF_CHAR	SOLO>Solar Orbiter
Source_name	1	CDF_CHAR	SOLO>Solar Orbiter
Provider	1	CDF_CHAR	LESIA (Meudon, France)
Discipline	1	CDF_CHAR	Space Physics>Interplanetary Studies
Data_type	1	CDF_CHAR	H0>High Resolution data
Descriptor	1	CDF_CHAR	RPW-LFR-SBM2-BP1> RPW Low Frequency Receiver Basic parameters set 1 data in SBM2 mode
Data_version	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Skeleton_version	1	CDF_CHAR	10
Parent_version	1	CDF_CHAR	
File_naming_convention	1	CDF_CHAR	<Source_name>_<LEVEL>_<Descriptor>_<Date>
PI_name	1	CDF_CHAR	M.Maksimovic
PI_affiliation	1	CDF_CHAR	LESIA, Observatoire de Paris-CNRS
TEXT	1	CDF_CHAR	This file contains RPW LFR level 2R SBM2 BP2 data of the current test.
Instrument_type	1	CDF_CHAR	Radio and Plasma Waves (space)
Mission_group	1	CDF_CHAR	Solar Orbiter
Logical_source	1	CDF_CHAR	solo_L2_rpw-lfr-sbm2-bp2
Logical_file_id	1	CDF_CHAR	
Logical_source_description	1	CDF_CHAR	Solar Orbiter Radio/Plasma Wave, LFR L2 parameters


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 906

Tab. 4.133 – continued from previous page


Attribute Name	Entry Number	Data Type	Value
Rules_of_use	1	CDF_CHAR	Data provided are publicly available. If used in presentations or publications, please acknowledge Solar Orbiter/RPW Investigation (M. Maksimovic, PIs). Please read carefully the caveats attached to the data. For reporting purposes, we request bibliography information for any publication, etc., using these data. Please send information on the use of this data to: M. Maksimovic (PI).
Generated_by	1	CDF_CHAR	RPW Operations Centre located at LESIA (Meudon, France)
Generation_date	1	CDF_CHAR	
Acknowledgement	1	CDF_CHAR	The authors are pleased to acknowledge the Solar Orbiter/RPW Investigation (M. Maksimovic, PIs) for access to data.
SKELETON_MODS	1	CDF_CHAR	
SKELETON_MODS	2	CDF_CHAR	V04: Update for solo data definition, X. BONNIN (CNRS-LESIA), April 2019
SKELETON_MODS	3	CDF_CHAR	V05: Update to compliant with SOL-SGS-TN-0009 Issue 2, Rev 4 - X.Bonnin, 09/2019
SKELETON_MODS	4	CDF_CHAR	V06: March 2020 : Delete Test_* g.attrs - X.Bonnin (CNRS, LESIA)
SKELETON_MODS	5	CDF_CHAR	V07: April 2020 : Delete Acquisition_time* zvariables – R.Piberne (X, LPP)
SKELETON_MODS	6	CDF_CHAR	V08: Remove UCD vattr and POST_GAP_FLAG zVar.
SKELETON_MODS	7	CDF_CHAR	V10: Jan. 2021 : Fix inconsistencies against the ISTP CDF guidelines, X.Bonnin (CNRS-LESIA)
LINK_TEXT	1	CDF_CHAR	RPW Web site at LESIA
LINK_TITLE	1	CDF_CHAR	RPW Web site
HTTP_LINK	1	CDF_CHAR	https://rpw.lesia.obspm.fr
ACCESS_URL	1	CDF_CHAR	
TEXT_supplement_1	1	CDF_CHAR	
Software_name	1	CDF_CHAR	
Parents	1	CDF_CHAR	
Validate	1	CDF_CHAR	

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 907

Tab. 4.133 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00006-LES (1.3)
ROC_REFERENCE	1	CDF_CHAR	ROC-TST-GSE-SPC-00017-LES_Issue02_Rev0(Data_format_and_metadata_data_ground_Data).pdf
SKELETON_PARENT	1	CDF_CHAR	SOLO_L2_RPW-LFR-SBM2-BP2_V10.cdf
ACCESS_FORMAT	1	CDF_CHAR	CDF
TIME_MIN	1	CDF_CHAR	
TIME_MAX	1	CDF_CHAR	
SPECTRAL_RANGE_MIN	1	CDF_CHAR	
SPECTRAL_RANGE_MAX	1	CDF_CHAR	
File_ID	1	CDF_CHAR	
CAVEATS	1	CDF_CHAR	
CAL_ENTITY_NAME	1	CDF_CHAR	
CAL_ENTITY_AFFILIATION	1	CDF_CHAR	
CAL_EQUIPMENT	1	CDF_CHAR	
CALIBRATION_TABLE	1	CDF_CHAR	
CALIBRATION_VERSION	1	CDF_CHAR	
Datetime	1	CDF_CHAR	
Free_field	1	CDF_CHAR	
Job_ID	1	CDF_CHAR	
LEVEL	1	CDF_CHAR	L2>Level 2 data processing
SOOP_TYPE	1	CDF_CHAR	
Data_product	1	CDF_CHAR	SBM2-BP2>SBM2-BP2
TARGET_NAME	1	CDF_CHAR	Sun
TARGET_CLASS	1	CDF_CHAR	Star
TARGET_REGION	1	CDF_CHAR	Solar Wind
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009 (2.4)
Pipeline_name	1	CDF_CHAR	
Pipeline_version	1	CDF_CHAR	
Dataset_ID	1	CDF_CHAR	SOLO_L2_RPW-LFR-SBM2-BP2
OBS_ID	1	CDF_CHAR	
MODS	1	CDF_CHAR	

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 908


4.1.3.35.4 zVariables

Variable Name	Data Type	Number Elements	Dims	Sizes
Epoch	CDF_TIME_TT2000	1	0	
Epoch_F0	CDF_TIME_TT2000	1	0	
Epoch_F1	CDF_TIME_TT2000	1	0	
QUALITY_FLAG	CDF_UINT1	1	0	
COMMON_BIA_STATUS_FLAG	CDF_UINT1	1	0	
QUALITY_BITMASK	CDF_UINT2	1	0	
FREQ	CDF_UINT1	1	0	
F0	CDF_REAL4	1	1	22
F1	CDF_REAL4	1	1	26
BIAS_MODE_MUX_SET	CDF_UINT1	1	0	
BIAS_MODE_HV_ENABLED	CDF_UINT1	1	0	
BIAS_MODE_BIAS1_ENABLED	CDF_UINT1	1	0	
BIAS_MODE_BIAS2_ENABLED	CDF_UINT1	1	0	
BIAS_MODE_BIAS3_ENABLED	CDF_UINT1	1	0	
BIAS_ON_OFF	CDF_UINT1	1	0	
BW	CDF_UINT1	1	0	
SP0	CDF_UINT1	1	0	
SP1	CDF_UINT1	1	0	
R0	CDF_UINT1	1	0	
R1	CDF_UINT1	1	0	
R2	CDF_UINT1	1	0	
BP2_CNT	CDF_UINT1	1	0	
BP2_RE_F0	CDF_REAL8	1	3	22 5 5
BP2_RE_F1	CDF_REAL8	1	3	26 5 5
BP2_IM_F0	CDF_REAL8	1	3	22 5 5
BP2_IM_F1	CDF_REAL8	1	3	26 5 5
SYNCHRO_FLAG	CDF_UINT1	1	0	

4.1.3.35.5 Variable attributes

Variable Name	Attribute Name	Data Type	Value
Epoch	FIELDNAM	CDF_CHAR	Epoch
Epoch	CATDESC	CDF_CHAR	Default time
Epoch	DISPLAY_TYPE	CDF_CHAR	time_series
Epoch	VALIDMIN	CDF_TIME_TT2000	2000-01-01T00:00:00.000000000


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 909

Tab. 4.134 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
Epoch	VALIDMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch	SCALEMIN	CDF_TIME_TT2000	1990-01-01T00:00:00.000000000
Epoch	SCALEMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch	LABLAXIS	CDF_CHAR	Epoch
Epoch	UNITS	CDF_CHAR	ns
Epoch	VAR_TYPE	CDF_CHAR	support_data
Epoch	SCALETYP	CDF_CHAR	linear
Epoch	MONOTON	CDF_CHAR	INCREASE
Epoch	TIME_BASE	CDF_CHAR	J2000
Epoch	TIME_SCALE	CDF_CHAR	Terrestrial Time
Epoch	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
Epoch	Resolution	CDF_CHAR	15258
Epoch	Bin_location	CDF_CHAR	0.5
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file.
Epoch_F0	FIELDNAM	CDF_CHAR	Epoch_F0
Epoch_F0	CATDESC	CDF_CHAR	Time for F0 frequencies
Epoch_F0	DISPLAY_TYPE	CDF_CHAR	time_series
Epoch_F0	VALIDMIN	CDF_TIME_TT2000	2000-01-01T00:00:00.000000000
Epoch_F0	VALIDMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch_F0	SCALEMIN	CDF_TIME_TT2000	1990-01-01T00:00:00.000000000
Epoch_F0	SCALEMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch_F0	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch_F0	LABLAXIS	CDF_CHAR	Epoch_F0
Epoch_F0	UNITS	CDF_CHAR	ns
Epoch_F0	VAR_TYPE	CDF_CHAR	support_data
Epoch_F0	SCALETYP	CDF_CHAR	linear
Epoch_F0	MONOTON	CDF_CHAR	INCREASE
Epoch_F0	TIME_BASE	CDF_CHAR	Spacecraft clock
Epoch_F0	TIME_SCALE	CDF_CHAR	Spacecraft clock
Epoch_F0	REFERENCE_POSITION	CDF_CHAR	MEB GSE


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 910

Tab. 4.134 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
Epoch_F0	Resolution	CDF_CHAR	15258
Epoch_F0	Bin_location	CDF_CHAR	0.5
Epoch_F0	VAR_NOTES	CDF_CHAR	Time extracted from epoch.
Epoch_F1	FIELDNAM	CDF_CHAR	Epoch_F1
Epoch_F1	CATDESC	CDF_CHAR	Time for F1 frequencies
Epoch_F1	DISPLAY_TYPE	CDF_CHAR	time_series
Epoch_F1	VALIDMIN	CDF_TIME_TT2000	2000-01-01T00:00:00.000000000
Epoch_F1	VALIDMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch_F1	SCALEMIN	CDF_TIME_TT2000	1990-01-01T00:00:00.000000000
Epoch_F1	SCALEMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch_F1	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch_F1	LABLAXIS	CDF_CHAR	Epoch_F1
Epoch_F1	UNITS	CDF_CHAR	ns
Epoch_F1	VAR_TYPE	CDF_CHAR	support_data
Epoch_F1	SCALETYP	CDF_CHAR	linear
Epoch_F1	MONOTON	CDF_CHAR	INCREASE
Epoch_F1	TIME_BASE	CDF_CHAR	Spacecraft clock
Epoch_F1	TIME_SCALE	CDF_CHAR	Spacecraft clock
Epoch_F1	REFERENCE_POSITION	CDF_CHAR	MEB GSE
Epoch_F1	Resolution	CDF_CHAR	15258
Epoch_F1	Bin_location	CDF_CHAR	0.5
Epoch_F1	VAR_NOTES	CDF_CHAR	Time extracted from epoch.
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	VALIDMIN	CDF_UINT1	0
QUALITY_FLAG	VALIDMAX	CDF_UINT1	4
QUALITY_FLAG	SCALEMIN	CDF_UINT1	0
QUALITY_FLAG	SCALEMAX	CDF_UINT1	4
QUALITY_FLAG	FILLVAL	CDF_UINT1	255
QUALITY_FLAG	LABLAXIS	CDF_CHAR	Quality flag
QUALITY_FLAG	UNITS	CDF_CHAR	
QUALITY_FLAG	VAR_TYPE	CDF_CHAR	support_data
QUALITY_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the quality of the data
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 911

Tab. 4.134 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
QUALITY_FLAG	SCALETYPE	CDF_CHAR	linear
COMMON_BIA_STATUS_FLAG	FIELDNAM	CDF_CHAR	COMMON_BIA_STATUS_FLAG
COMMON_BIA_STATUS_FLAG	CATDESC	CDF_CHAR	LFR common parameters and BIAS status info relevancy flag
COMMON_BIA_STATUS_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
COMMON_BIA_STATUS_FLAG	VALIDMIN	CDF_UINT1	0
COMMON_BIA_STATUS_FLAG	VALIDMAX	CDF_UINT1	1
COMMON_BIA_STATUS_FLAG	SCALEMIN	CDF_UINT1	0
COMMON_BIA_STATUS_FLAG	SCALEMAX	CDF_UINT1	1
COMMON_BIA_STATUS_FLAG	FILLVAL	CDF_UINT1	255
COMMON_BIA_STATUS_FLAG	LABLAXIS	CDF_CHAR	common bias status flag
COMMON_BIA_STATUS_FLAG	UNITS	CDF_CHAR	
COMMON_BIA_STATUS_FLAG	VAR_TYPE	CDF_CHAR	support_data
COMMON_BIA_STATUS_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the relevancy of LFR common parameters (SP0/1, R0/1/2, BW) and BIAS STATUS INFO which can be non representative for the first packet following a change in those parameters.
COMMON_BIA_STATUS_FLAG	DEPEND_0	CDF_CHAR	Epoch
COMMON_BIA_STATUS_FLAG	FORMAT	CDF_CHAR	I1.1
COMMON_BIA_STATUS_FLAG	SCALETYPE	CDF_CHAR	linear
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	UNITS	CDF_CHAR	
QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context information or status at the receiver or experiment level
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 912

Tab. 4.134 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
FREQ	FIELDNAM	CDF_CHAR	Sampling frequency of the BP2
FREQ	CATDESC	CDF_CHAR	Sampling frequency of the BP2
FREQ	DISPLAY_TYPE	CDF_CHAR	time_series
FREQ	VALIDMIN	CDF_UINT1	0
FREQ	VALIDMAX	CDF_UINT1	1
FREQ	SCALEMIN	CDF_UINT1	0
FREQ	SCALEMAX	CDF_UINT1	1
FREQ	FILLVAL	CDF_UINT1	255
FREQ	LABLAXIS	CDF_CHAR	FREQ
FREQ	UNITS	CDF_CHAR	
FREQ	VAR_TYPE	CDF_CHAR	support_data
FREQ	VAR_NOTES	CDF_CHAR	Index to indicate the sampling frequency of the sbm2 mode BP2 : F0 or F1 in order to use only one skeleton for the 2 sbm2 mode bp2 products of ICD.
FREQ	DEPEND_0	CDF_CHAR	Epoch
FREQ	FORMAT	CDF_CHAR	I3.3
FREQ	SCALETYPE	CDF_CHAR	linear
F0	FIELDNAM	CDF_CHAR	Sampling frequency of BP2 at F0
F0	CATDESC	CDF_CHAR	Sampling frequency of BP2 at F0
F0	DISPLAY_TYPE	CDF_CHAR	time_series
F0	VALIDMIN	CDF_REAL4	0.0
F0	VALIDMAX	CDF_REAL4	1.0e+30
F0	SCALEMIN	CDF_REAL4	0.0
F0	SCALEMAX	CDF_REAL4	1.0e+30
F0	FILLVAL	CDF_REAL4	-1.0e+31
F0	LABLAXIS	CDF_CHAR	BP2 sampling frequency
F0	UNITS	CDF_CHAR	
F0	VAR_TYPE	CDF_CHAR	support_data
F0	VAR_NOTES	CDF_CHAR	
F0	FORMAT	CDF_CHAR	F32.6
F0	SCALETYPE	CDF_CHAR	linear
F1	FIELDNAM	CDF_CHAR	Sampling frequency of BP2 at F1


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 913

Tab. 4.134 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
F1	CATDESC	CDF_CHAR	Sampling frequency of BP2 at F1
F1	DISPLAY_TYPE	CDF_CHAR	time_series
F1	VALIDMIN	CDF_REAL4	0.0
F1	VALIDMAX	CDF_REAL4	1.0e+30
F1	SCALEMIN	CDF_REAL4	0.0
F1	SCALEMAX	CDF_REAL4	1.0e+30
F1	FILLVAL	CDF_REAL4	-1.0e+31
F1	LABLAXIS	CDF_CHAR	BP2 sampling frequency
F1	UNITS	CDF_CHAR	
F1	VAR_TYPE	CDF_CHAR	support_data
F1	VAR_NOTES	CDF_CHAR	Index to indicate the sampling frequency of the snapshot : F0, F1 or F2 in order to use only one skeleton for the 3 normal mode BP2 products of ICD.
F1	FORMAT	CDF_CHAR	F32.6
F1	SCALETYPE	CDF_CHAR	linear
BIAS_MODE_MUX_SET	FIELDNAM	CDF_CHAR	BIAS multiplexer setting
BIAS_MODE_MUX_SET	CATDESC	CDF_CHAR	Copy of multiplexer setting.
BIAS_MODE_MUX_SET	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_MUX_SET	VALIDMIN	CDF_UINT1	0
BIAS_MODE_MUX_SET	VALIDMAX	CDF_UINT1	7
BIAS_MODE_MUX_SET	SCALEMIN	CDF_UINT1	0
BIAS_MODE_MUX_SET	SCALEMAX	CDF_UINT1	7
BIAS_MODE_MUX_SET	FILLVAL	CDF_UINT1	255
BIAS_MODE_MUX_SET	LABLAXIS	CDF_CHAR	BIAS_MODE_MUX_SET
BIAS_MODE_MUX_SET	UNITS	CDF_CHAR	
BIAS_MODE_MUX_SET	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_MUX_SET	VAR_NOTES	CDF_CHAR	Indicates the mode of BIAS multiplexer for a set of BP2 parameters. Possible values are 0 : Standard operation. 1 : Probe 1 fails. 2 : Probe 2 fails. 3 : Probe 3 fails. 4 : Calibration mode 0. 5 : Calibration mode 1. 6 : Calibration mode 2. 7 : Calibration mode 3.
BIAS_MODE_MUX_SET	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_MUX_SET	FORMAT	CDF_CHAR	I3.3

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 914

Tab. 4.134 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_MODE_MUX_SET	SCALETYPE	CDF_CHAR	linear
BIAS_MODE_HV_ENABLED	FIELDNAM	CDF_CHAR	BIAS high voltage status
BIAS_MODE_HV_ENABLED	CATDESC	CDF_CHAR	Copy of enable/disable HV (+- 100V).
BIAS_MODE_HV_ENABLED	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_HV_ENABLED	VALIDMIN	CDF_UINT1	0
BIAS_MODE_HV_ENABLED	VALIDMAX	CDF_UINT1	1
BIAS_MODE_HV_ENABLED	SCALEMIN	CDF_UINT1	0
BIAS_MODE_HV_ENABLED	SCALEMAX	CDF_UINT1	1
BIAS_MODE_HV_ENABLED	FILLVAL	CDF_UINT1	255
BIAS_MODE_HV_ENABLED	LABLAXIS	CDF_CHAR	BIAS_MODE_HV_ENABLED
BIAS_MODE_HV_ENABLED	UNITS	CDF_CHAR	
BIAS_MODE_HV_ENABLED	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_HV_ENABLED	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS HV. Possible values are DISABLED = 0. ENABLED = 1.
BIAS_MODE_HV_ENABLED	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_HV_ENABLED	FORMAT	CDF_CHAR	I3.3
BIAS_MODE_HV_ENABLED	SCALETYPE	CDF_CHAR	linear
BIAS_MODE_BIAS1_ENABLED	FIELDNAM	CDF_CHAR	BIAS probe 1 status
BIAS_MODE_BIAS1_ENABLED	CATDESC	CDF_CHAR	Copy of enable/disable BIAS 1.
BIAS_MODE_BIAS1_ENABLED	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_BIAS1_ENABLED	VALIDMIN	CDF_UINT1	0
BIAS_MODE_BIAS1_ENABLED	VALIDMAX	CDF_UINT1	1
BIAS_MODE_BIAS1_ENABLED	SCALEMIN	CDF_UINT1	0
BIAS_MODE_BIAS1_ENABLED	SCALEMAX	CDF_UINT1	1
BIAS_MODE_BIAS1_ENABLED	FILLVAL	CDF_UINT1	255
BIAS_MODE_BIAS1_ENABLED	LABLAXIS	CDF_CHAR	BIAS_MODE_BIAS1_ENABLED
BIAS_MODE_BIAS1_ENABLED	UNITS	CDF_CHAR	
BIAS_MODE_BIAS1_ENABLED	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_BIAS1_ENABLED	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS probe 1. Possible values are DISABLED = 0. ENABLED = 1.
BIAS_MODE_BIAS1_ENABLED	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_BIAS1_ENABLED	FORMAT	CDF_CHAR	I3.3
BIAS_MODE_BIAS1_ENABLED	SCALETYPE	CDF_CHAR	linear
BIAS_MODE_BIAS2_ENABLED	FIELDNAM	CDF_CHAR	BIAS probe 2 status
BIAS_MODE_BIAS2_ENABLED	CATDESC	CDF_CHAR	Copy of enable/disable BIAS 2.

continues on next page



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **915**

Tab. 4.134 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_MODE_BIAS2_ENAB	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_BIAS2_ENAB	VALIDMIN	CDF_UINT1	0
BIAS_MODE_BIAS2_ENAB	VALIDMAX	CDF_UINT1	1
BIAS_MODE_BIAS2_ENAB	SCALEMIN	CDF_UINT1	0
BIAS_MODE_BIAS2_ENAB	SCALEMAX	CDF_UINT1	1
BIAS_MODE_BIAS2_ENAB	DELVAL	CDF_UINT1	255
BIAS_MODE_BIAS2_ENAB	BLAXIS	CDF_CHAR	BIAS_MODE_BIAS2_ENABLED
BIAS_MODE_BIAS2_ENAB	UNITS	CDF_CHAR	
BIAS_MODE_BIAS2_ENAB	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_BIAS2_ENAB	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS probe 2. Possible values are DISABLED = 0. ENABLED = 1.
BIAS_MODE_BIAS2_ENAB	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_BIAS2_ENAB	FORMAT	CDF_CHAR	I3.3
BIAS_MODE_BIAS2_ENAB	SCALETYPE	CDF_CHAR	linear
BIAS_MODE_BIAS3_ENAB	FIELDNAM	CDF_CHAR	BIAS probe 3 status
BIAS_MODE_BIAS3_ENAB	CATDESC	CDF_CHAR	Copy of enable/disable BIAS 3.
BIAS_MODE_BIAS3_ENAB	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_BIAS3_ENAB	VALIDMIN	CDF_UINT1	0
BIAS_MODE_BIAS3_ENAB	VALIDMAX	CDF_UINT1	1
BIAS_MODE_BIAS3_ENAB	SCALEMIN	CDF_UINT1	0
BIAS_MODE_BIAS3_ENAB	SCALEMAX	CDF_UINT1	1
BIAS_MODE_BIAS3_ENAB	DELVAL	CDF_UINT1	255
BIAS_MODE_BIAS3_ENAB	BLAXIS	CDF_CHAR	BIAS_MODE_BIAS3_ENABLED
BIAS_MODE_BIAS3_ENAB	UNITS	CDF_CHAR	
BIAS_MODE_BIAS3_ENAB	VAR_TYPE	CDF_CHAR	support_data
BIAS_MODE_BIAS3_ENAB	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS probe 3. Possible values are DISABLED = 0. ENABLED = 1.
BIAS_MODE_BIAS3_ENAB	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_BIAS3_ENAB	FORMAT	CDF_CHAR	I3.3
BIAS_MODE_BIAS3_ENAB	SCALETYPE	CDF_CHAR	linear
BIAS_ON_OFF	FIELDNAM	CDF_CHAR	BIAS status
BIAS_ON_OFF	CATDESC	CDF_CHAR	Copy of BIAS status.
BIAS_ON_OFF	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_ON_OFF	VALIDMIN	CDF_UINT1	0
BIAS_ON_OFF	VALIDMAX	CDF_UINT1	1
BIAS_ON_OFF	SCALEMIN	CDF_UINT1	0


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 916

Tab. 4.134 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_ON_OFF	SCALEMAX	CDF_UINT1	1
BIAS_ON_OFF	FILLVAL	CDF_UINT1	255
BIAS_ON_OFF	LABLAXIS	CDF_CHAR	BIAS_ON_OFF
BIAS_ON_OFF	UNITS	CDF_CHAR	
BIAS_ON_OFF	VAR_TYPE	CDF_CHAR	support_data
BIAS_ON_OFF	VAR_NOTES	CDF_CHAR	Indicates the status of BIAS. Possible values are OFF = 0 - Power line off. ON = 1 - Power line on.
BIAS_ON_OFF	DEPEND_0	CDF_CHAR	Epoch
BIAS_ON_OFF	FORMAT	CDF_CHAR	I3.3
BIAS_ON_OFF	SCALETYPE	CDF_CHAR	linear
BW	FIELDNAM	CDF_CHAR	BIAS Works/BIAS Fails configuration.
BW	CATDESC	CDF_CHAR	BIAS Works/BIAS Fails configuration.
BW	DISPLAY_TYPE	CDF_CHAR	time_series
BW	VALIDMIN	CDF_UINT1	0
BW	VALIDMAX	CDF_UINT1	1
BW	SCALEMIN	CDF_UINT1	0
BW	SCALEMAX	CDF_UINT1	1
BW	FILLVAL	CDF_UINT1	255
BW	LABLAXIS	CDF_CHAR	BW
BW	UNITS	CDF_CHAR	
BW	VAR_TYPE	CDF_CHAR	support_data
BW	VAR_NOTES	CDF_CHAR	
BW	DEPEND_0	CDF_CHAR	Epoch
BW	FORMAT	CDF_CHAR	I3.3
BW	SCALETYPE	CDF_CHAR	linear
SP0	FIELDNAM	CDF_CHAR	Shaping of electrical data parameter 0.
SP0	CATDESC	CDF_CHAR	Shaping of electrical data.
SP0	DISPLAY_TYPE	CDF_CHAR	time_series
SP0	VALIDMIN	CDF_UINT1	0
SP0	VALIDMAX	CDF_UINT1	1
SP0	SCALEMIN	CDF_UINT1	0
SP0	SCALEMAX	CDF_UINT1	1
SP0	FILLVAL	CDF_UINT1	255
SP0	LABLAXIS	CDF_CHAR	SP0
SP0	UNITS	CDF_CHAR	
SP0	VAR_TYPE	CDF_CHAR	support_data


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 917

Tab. 4.134 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SP0	VAR_NOTES	CDF_CHAR	
SP0	DEPEND_0	CDF_CHAR	Epoch
SP0	FORMAT	CDF_CHAR	I3.3
SP0	SCALETYPE	CDF_CHAR	linear
SP1	FIELDNAM	CDF_CHAR	Shaping of electrical data parameter 1.
SP1	CATDESC	CDF_CHAR	Shaping of electrical data.
SP1	DISPLAY_TYPE	CDF_CHAR	time_series
SP1	VALIDMIN	CDF_UINT1	0
SP1	VALIDMAX	CDF_UINT1	1
SP1	SCALEMIN	CDF_UINT1	0
SP1	SCALEMAX	CDF_UINT1	1
SP1	FILLVAL	CDF_UINT1	255
SP1	LABLAXIS	CDF_CHAR	SP1
SP1	UNITS	CDF_CHAR	
SP1	VAR_TYPE	CDF_CHAR	support_data
SP1	VAR_NOTES	CDF_CHAR	
SP1	DEPEND_0	CDF_CHAR	Epoch
SP1	FORMAT	CDF_CHAR	I3.3
SP1	SCALETYPE	CDF_CHAR	linear
R0	FIELDNAM	CDF_CHAR	Rooting of electrical data for F0.
R0	CATDESC	CDF_CHAR	Rooting of electrical data.
R0	DISPLAY_TYPE	CDF_CHAR	time_series
R0	VALIDMIN	CDF_UINT1	0
R0	VALIDMAX	CDF_UINT1	1
R0	SCALEMIN	CDF_UINT1	0
R0	SCALEMAX	CDF_UINT1	1
R0	FILLVAL	CDF_UINT1	255
R0	LABLAXIS	CDF_CHAR	R0
R0	UNITS	CDF_CHAR	
R0	VAR_TYPE	CDF_CHAR	support_data
R0	VAR_NOTES	CDF_CHAR	
R0	DEPEND_0	CDF_CHAR	Epoch
R0	FORMAT	CDF_CHAR	I3.3
R0	SCALETYPE	CDF_CHAR	linear
R1	FIELDNAM	CDF_CHAR	Rooting of electrical data for F1.
R1	CATDESC	CDF_CHAR	Rooting of electrical data.
R1	DISPLAY_TYPE	CDF_CHAR	time_series
R1	VALIDMIN	CDF_UINT1	0


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 918

Tab. 4.134 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
R1	VALIDMAX	CDF_UINT1	1
R1	SCALEMIN	CDF_UINT1	0
R1	SCALEMAX	CDF_UINT1	1
R1	FILLVAL	CDF_UINT1	255
R1	LABLAXIS	CDF_CHAR	R1
R1	UNITS	CDF_CHAR	
R1	VAR_TYPE	CDF_CHAR	support_data
R1	VAR_NOTES	CDF_CHAR	
R1	DEPEND_0	CDF_CHAR	Epoch
R1	FORMAT	CDF_CHAR	I3.3
R1	SCALETYPE	CDF_CHAR	linear
R2	FIELDNAM	CDF_CHAR	Rooting of electrical data for F2.
R2	CATDESC	CDF_CHAR	Rooting of electrical data.
R2	DISPLAY_TYPE	CDF_CHAR	time_series
R2	VALIDMIN	CDF_UINT1	0
R2	VALIDMAX	CDF_UINT1	1
R2	SCALEMIN	CDF_UINT1	0
R2	SCALEMAX	CDF_UINT1	1
R2	FILLVAL	CDF_UINT1	255
R2	LABLAXIS	CDF_CHAR	R2
R2	UNITS	CDF_CHAR	
R2	VAR_TYPE	CDF_CHAR	support_data
R2	VAR_NOTES	CDF_CHAR	
R2	DEPEND_0	CDF_CHAR	Epoch
R2	FORMAT	CDF_CHAR	I3.3
R2	SCALETYPE	CDF_CHAR	linear
BP2_CNT	FIELDNAM	CDF_CHAR	Number of BP2 sets read for a given frequency.
BP2_CNT	CATDESC	CDF_CHAR	Number of BP2 sets read for a given sampling frequency(F0 or F1).
BP2_CNT	DISPLAY_TYPE	CDF_CHAR	time_series
BP2_CNT	VALIDMIN	CDF_UINT1	22
BP2_CNT	VALIDMAX	CDF_UINT1	26
BP2_CNT	SCALEMIN	CDF_UINT1	22
BP2_CNT	SCALEMAX	CDF_UINT1	26
BP2_CNT	FILLVAL	CDF_UINT1	255
BP2_CNT	LABLAXIS	CDF_CHAR	BP2_CNT
BP2_CNT	UNITS	CDF_CHAR	
BP2_CNT	VAR_TYPE	CDF_CHAR	support_data

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 919

Tab. 4.134 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BP2_CNT	VAR_NOTES	CDF_CHAR	This indicates how many sets of BP2 have been read. Expected numbers are 22 for F0 and 26 for F1.
BP2_CNT	DEPEND_0	CDF_CHAR	Epoch
BP2_CNT	FORMAT	CDF_CHAR	I3.3
BP2_CNT	SCALETYPE	CDF_CHAR	linear
BP2_RE_F0	FIELDNAM	CDF_CHAR	Real part of the spectral matrices for F0
BP2_RE_F0	CATDESC	CDF_CHAR	All the real part of the 5x5 calibrated matrices for all bins of F0 sampling frequency.
BP2_RE_F0	DISPLAY_TYPE	CDF_CHAR	time_series
BP2_RE_F0	VALIDMIN	CDF_REAL8	-1.0e+30
BP2_RE_F0	VALIDMAX	CDF_REAL8	1.0e+30
BP2_RE_F0	SCALEMIN	CDF_REAL8	-1.0e+30
BP2_RE_F0	SCALEMAX	CDF_REAL8	1.0e+30
BP2_RE_F0	FILLVAL	CDF_REAL8	-1.0e+31
BP2_RE_F0	LABLAXIS	CDF_CHAR	BP2_RE_F0
BP2_RE_F0	UNITS	CDF_CHAR	
BP2_RE_F0	VAR_TYPE	CDF_CHAR	data
BP2_RE_F0	VAR_NOTES	CDF_CHAR	
BP2_RE_F0	DEPEND_0	CDF_CHAR	Epoch_F0
BP2_RE_F0	FORMAT	CDF_CHAR	F32.6
BP2_RE_F0	SCALETYPE	CDF_CHAR	linear
BP2_RE_F0	DEPEND_1	CDF_CHAR	F0
BP2_RE_F1	FIELDNAM	CDF_CHAR	Real part of the spectral matrices for F1
BP2_RE_F1	CATDESC	CDF_CHAR	All the real part of the 5x5 calibrated matrices for all bins of F1 sampling frequency.
BP2_RE_F1	DISPLAY_TYPE	CDF_CHAR	time_series
BP2_RE_F1	VALIDMIN	CDF_REAL8	-1.0e+30
BP2_RE_F1	VALIDMAX	CDF_REAL8	1.0e+30
BP2_RE_F1	SCALEMIN	CDF_REAL8	-1.0e+30
BP2_RE_F1	SCALEMAX	CDF_REAL8	1.0e+30
BP2_RE_F1	FILLVAL	CDF_REAL8	-1.0e+31
BP2_RE_F1	LABLAXIS	CDF_CHAR	BP2_RE_F1
BP2_RE_F1	UNITS	CDF_CHAR	
BP2_RE_F1	VAR_TYPE	CDF_CHAR	data
BP2_RE_F1	VAR_NOTES	CDF_CHAR	

continues on next page



**RPW Data Product
Description Document**

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **920**

Tab. 4.134 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BP2_RE_F1	DEPEND_0	CDF_CHAR	Epoch_F1
BP2_RE_F1	FORMAT	CDF_CHAR	F32.6
BP2_RE_F1	SCALETYP	CDF_CHAR	linear
BP2_RE_F1	DEPEND_1	CDF_CHAR	F1
BP2_IM_F0	FIELDNAM	CDF_CHAR	Imaginary part of the spectral matrices for F0
BP2_IM_F0	CATDESC	CDF_CHAR	All the imaginary part of the 5x5 calibrated matrices for all bins of F0 sampling frequency.
BP2_IM_F0	DISPLAY_TYPE	CDF_CHAR	time_series
BP2_IM_F0	VALIDMIN	CDF_REAL8	-1.0e+30
BP2_IM_F0	VALIDMAX	CDF_REAL8	1.0e+30
BP2_IM_F0	SCALEMIN	CDF_REAL8	-1.0e+30
BP2_IM_F0	SCALEMAX	CDF_REAL8	1.0e+30
BP2_IM_F0	FILLVAL	CDF_REAL8	-1.0e+31
BP2_IM_F0	LABLAXIS	CDF_CHAR	BP2_IM_F0
BP2_IM_F0	UNITS	CDF_CHAR	
BP2_IM_F0	VAR_TYPE	CDF_CHAR	data
BP2_IM_F0	VAR_NOTES	CDF_CHAR	
BP2_IM_F0	DEPEND_0	CDF_CHAR	Epoch_F0
BP2_IM_F0	FORMAT	CDF_CHAR	F32.6
BP2_IM_F0	SCALETYP	CDF_CHAR	linear
BP2_IM_F0	DEPEND_1	CDF_CHAR	F0
BP2_IM_F1	FIELDNAM	CDF_CHAR	Imaginary part of the spectral matrices for F1
BP2_IM_F1	CATDESC	CDF_CHAR	All the imaginary part of the 5x5 calibrated matrices for all bins of F1 sampling frequency.
BP2_IM_F1	DISPLAY_TYPE	CDF_CHAR	time_series
BP2_IM_F1	VALIDMIN	CDF_REAL8	-1.0e+30
BP2_IM_F1	VALIDMAX	CDF_REAL8	1.0e+30
BP2_IM_F1	SCALEMIN	CDF_REAL8	-1.0e+30
BP2_IM_F1	SCALEMAX	CDF_REAL8	1.0e+30
BP2_IM_F1	FILLVAL	CDF_REAL8	-1.0e+31
BP2_IM_F1	LABLAXIS	CDF_CHAR	BP2_IM_F1
BP2_IM_F1	UNITS	CDF_CHAR	
BP2_IM_F1	VAR_TYPE	CDF_CHAR	data
BP2_IM_F1	VAR_NOTES	CDF_CHAR	
BP2_IM_F1	DEPEND_0	CDF_CHAR	Epoch_F1

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 921

Tab. 4.134 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BP2_IM_F1	FORMAT	CDF_CHAR	F32.6
BP2_IM_F1	SCALETYPE	CDF_CHAR	linear
BP2_IM_F1	DEPEND_1	CDF_CHAR	F1
SYNCHRO_FLAG	FIELDNAM	CDF_CHAR	SYNCHRO_FLAG
SYNCHRO_FLAG	CATDESC	CDF_CHAR	Time synchronisation flag
SYNCHRO_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
SYNCHRO_FLAG	VALIDMIN	CDF_UINT1	0
SYNCHRO_FLAG	VALIDMAX	CDF_UINT1	1
SYNCHRO_FLAG	SCALEMIN	CDF_UINT1	0
SYNCHRO_FLAG	SCALEMAX	CDF_UINT1	1
SYNCHRO_FLAG	FILLVAL	CDF_UINT1	255
SYNCHRO_FLAG	LABLAXIS	CDF_CHAR	time sync. flag
SYNCHRO_FLAG	UNITS	CDF_CHAR	
SYNCHRO_FLAG	VAR_TYPE	CDF_CHAR	support_data
SYNCHRO_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate if the local time is synchronized with the RPW DPU clock or not. Possible values: synchronized=0, not synchronized=1. This flag is extracted from ACQUISITION_TIME in L0 packets, it is the MSB of the CUC time.
SYNCHRO_FLAG	DEPEND_0	CDF_CHAR	Epoch
SYNCHRO_FLAG	FORMAT	CDF_CHAR	I3.3
SYNCHRO_FLAG	SCALETYPE	CDF_CHAR	linear


4.1.3.35.6 Non-Record-Variant (NRV) Variables

4.1.4 L3 - Higher level data products

4.1.4.1 RPW L3 data product common description

4.1.4.1.1 RPW L3 data product format

According to [AD.01], the RPW L3 data products are saved in Common Data format (CDF) files with the following options.

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 922

DATA ENCODING	NETWORK
MAJORITY	COLUMN
FORMAT	SINGLE
CDF_COMPRESSION	None
CDF_CHECKSUM	MD5
VAR_COMPRESSION	None
VAR_SPARESERECORDS	None
VAR_PADVALUE	None

4.1.4.1.2 RPW L3 data product metadata

There is no attribute specific to RPW L3 data products. All L3 attributes are defined in [AD.01] or in the present document (see L2 description).

4.1.4.2 SOLO_L3_RPW-TNR-FP data product

The SOLO_L3_RPW-TNR-FP data product contains the results of the local plasma frequency peak tracking, performed by the RPW TNR-HFR team at LESIA (Meudon, France) on the TNR spectra. The tracking algorithm is run on the SOLO_L2_RPW-TNR-SURV data.

4.1.4.2.1 Filename

```
solo_L3_rpw-tnr-fp_[YYYYMMDD]_V[version].cdf
```

4.1.4.2.2 Expected cadence and data volume


Nominal cadence: 1 file per day

Expected data volume: 100 kB per file

4.1.4.2.3 Global Attributes

Attribute Name	Entry Number	Data Type	Value
ACCESS_FORMAT	1	CDF_CHAR	CDF
ACCESS_URL	1	CDF_CHAR	


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 923

Tab. 4.135 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Acknowledgement	1	CDF_CHAR	The authors are pleased to acknowledge the Solar Orbiter/RPW Investigation (M. Maksimovic, PIs) for access to data.
APPLICABLE	1	CDF_CHAR	
Data_type	1	CDF_CHAR	H0>High Resolution data
Data_version	1	CDF_CHAR	
Dataset_ID	1	CDF_CHAR	SOLO_L3_RPW-TNR-FP
Descriptor	1	CDF_CHAR	Plasma plasma frequency value from the plasma peak position
Discipline	1	CDF_CHAR	Space Physics>Interplanetary Studies
File_naming_convention	1	CDF_CHAR	<Source_name>_<LEVEL>_<Descriptor>_<Dataset_ID>
File_ID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	RPW Operations Centre located at LESIA (Meudon, France)
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	https://rpw.lesia.obspm.fr
Instrument_type	1	CDF_CHAR	Radio and Plasma Waves (space)
LINK_TEXT	1	CDF_CHAR	RPW Web site at LESIA
LINK_TITLE	1	CDF_CHAR	RPW Web site
Logical_file_id	1	CDF_CHAR	
Logical_source	1	CDF_CHAR	solo_L3_rpw-tnr-fp
Logical_source_description	1	CDF_CHAR	Solar Orbiter Radio/Plasma Wave, data from plasma peak tracking L3
Mission_group	1	CDF_CHAR	Solar Orbiter
MODS	1	CDF_CHAR	October 2020 : initial release, A. Vecchio (LESIA, Observatoire de Paris-CNRS/RRL-RU-Nijmegen)
Parent_version	1	CDF_CHAR	
Parents	1	CDF_CHAR	
PI_affiliation	1	CDF_CHAR	LESIA, Observatoire de Paris-CNRS
PI_name	1	CDF_CHAR	M.Maksimovic
Project	1	CDF_CHAR	SOLO>Solar Orbiter
Provider	1	CDF_CHAR	LESIA (Meudon, France)
REFERENCE	1	CDF_CHAR	

continues on next page


	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 924

Tab. 4.135 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Rules_of_use	1	CDF_CHAR	Data provided are publicly available. If used in presentations or publications, please acknowledge Solar Orbiter/RPW Investigation (M. Maksimovic, PIs). Please read carefully the caveats attached to the data. For reporting purposes, we request bibliography information for any publication, etc., using these data. Please send information on the use of this data to: M. Maksimovic (PI).
SKELETON_PARENT	1	CDF_CHAR	SOLO_L3_RPW-TNR-FP
Skeleton_version	1	CDF_CHAR	1
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	SOLO>Solar Orbiter
TEXT	1	CDF_CHAR	This file contains RPW plasma frequency data for the current day.
TIME_MAX	1	CDF_CHAR	
TIME_MIN	1	CDF_CHAR	
Validate	1	CDF_CHAR	
CAVEATS	1	CDF_CHAR	
Datetime	1	CDF_CHAR	
Free_field	1	CDF_CHAR	
Job_ID	1	CDF_CHAR	
LEVEL	1	CDF_CHAR	L3>Level 3 data processing
Data_product	1	CDF_CHAR	FP> Plasma frequency peak
TARGET_NAME	1	CDF_CHAR	Sun
TARGET_CLASS	1	CDF_CHAR	Star
TARGET_REGION	1	CDF_CHAR	Solar Wind

4.1.4.2.4 zVariables


Variable Name	Data Type	Number Elements	Dims	Sizes
Epoch	CDF_TIME_TT2000	1	0	
TIME_INTERPOL_FLAG	CDF_UINT1	1	0	
SENSOR_CONFIG	CDF_UINT1	1	0	
PLASMA_FREQ	CDF_DOUBLE	1	0	
QUALITY_FACTOR	CDF_DOUBLE	1	0	

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 925

4.1.4.2.5 Variable attributes

Variable Name	Attribute Name	Data Type	Value
Epoch	FIELDNAM	CDF_CHAR	Epoch
Epoch	CATDESC	CDF_CHAR	Default time
Epoch	VALIDMIN	CDF_TIME_TT2000	1990-01-01T00:00:00.000000000
Epoch	VALIDMAX	CDF_TIME_TT2000	2029-12-31T23:59:59.999000000
Epoch	SCALEMIN	CDF_TIME_TT2000	1990-01-01T00:00:00.000000000
Epoch	SCALEMAX	CDF_TIME_TT2000	2029-12-31T23:59:59.999000000
Epoch	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch	LABLAXIS	CDF_CHAR	Epoch
Epoch	UNITS	CDF_CHAR	ns
Epoch	VAR_TYPE	CDF_CHAR	support_data
Epoch	SCALETYP	CDF_CHAR	linear
Epoch	MONOTON	CDF_CHAR	INCREASE
Epoch	TIME_BASE	CDF_CHAR	J2000
Epoch	TIME_SCALE	CDF_CHAR	Terrestrial Time
Epoch	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
Epoch	Resolution	CDF_CHAR	15258 ns
Epoch	Bin_location	CDF_CHAR	0.5
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file. Epoch is taken at the middle of the current HFR data sample measurement.
TIME_INTERPOL_FLAG	FIELDNAM	CDF_CHAR	TIME_INTERPOL_FLAG
TIME_INTERPOL_FLAG	CATDESC	CDF_CHAR	Time interpolation flag
TIME_INTERPOL_FLAG	VALIDMIN	CDF_UINT1	0
TIME_INTERPOL_FLAG	VALIDMAX	CDF_UINT1	1
TIME_INTERPOL_FLAG	SCALEMIN	CDF_UINT1	0
TIME_INTERPOL_FLAG	SCALEMAX	CDF_UINT1	1
TIME_INTERPOL_FLAG	FILLVAL	CDF_UINT1	255
TIME_INTERPOL_FLAG	LABLAXIS	CDF_CHAR	interpol. time flag
TIME_INTERPOL_FLAG	UNITS	CDF_CHAR	
TIME_INTERPOL_FLAG	VAR_TYPE	CDF_CHAR	support_data
TIME_INTERPOL_FLAG	SCALETYP	CDF_CHAR	linear


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 926

Tab. 4.136 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
TIME_INTERPOL_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate if the current EPOCH value is computed from an interpolated time or actual time as returned in the packet (0=actual, 1=interpolated)
TIME_INTERPOL_FLAG	DEPEND_0	CDF_CHAR	Epoch
TIME_INTERPOL_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
TIME_INTERPOL_FLAG	FORMAT	CDF_CHAR	I1.1
SENSOR_CONFIG	FIELDNAM	CDF_CHAR	SENSOR_CONFIG
SENSOR_CONFIG	CATDESC	CDF_CHAR	THR sensor configuration
SENSOR_CONFIG	VALIDMIN	CDF_UINT1	0
SENSOR_CONFIG	VALIDMAX	CDF_UINT1	9
SENSOR_CONFIG	SCALEMIN	CDF_UINT1	0
SENSOR_CONFIG	SCALEMAX	CDF_UINT1	9
SENSOR_CONFIG	FILLVAL	CDF_UINT1	255
SENSOR_CONFIG	LABLAXIS	CDF_CHAR	TNR sensor config.
SENSOR_CONFIG	UNITS	CDF_CHAR	
SENSOR_CONFIG	VAR_TYPE	CDF_CHAR	data
SENSOR_CONFIG	SCALETYP	CDF_CHAR	linear
SENSOR_CONFIG	VAR_NOTES	CDF_CHAR	Indicates the TNR sensor configuration used to calculate the plasma peak (V1=1, V2=2, V3=3, V1-V2=4, V2-V3=5, V3-V1=6)
SENSOR_CONFIG	DEPEND_0	CDF_CHAR	Epoch
SENSOR_CONFIG	DISPLAY_TYPE	CDF_CHAR	time_series
SENSOR_CONFIG	FORMAT	CDF_CHAR	I1.1
PLASMA_FREQ	FIELDNAM	CDF_CHAR	PLASMA_FREQ
PLASMA_FREQ	CATDESC	CDF_CHAR	Plasma frequency value derived by the plasma peak tracking
PLASMA_FREQ	VALIDMIN	CDF_DOUBLE	0.0
PLASMA_FREQ	VALIDMAX	CDF_DOUBLE	1.0e+30
PLASMA_FREQ	SCALEMIN	CDF_DOUBLE	0.0
PLASMA_FREQ	SCALEMAX	CDF_DOUBLE	1.0e+30
PLASMA_FREQ	FILLVAL	CDF_DOUBLE	-1.0e+31
PLASMA_FREQ	LABLAXIS	CDF_CHAR	PLASMA FREQUENCY
PLASMA_FREQ	UNITS	CDF_CHAR	kHz
PLASMA_FREQ	VAR_TYPE	CDF_CHAR	data
PLASMA_FREQ	SCALETYP	CDF_CHAR	linear

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 927


Tab. 4.136 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
PLASMA_FREQ	VAR_NOTES	CDF_CHAR	Plasma frequency value derived by the plasma peak tracking
PLASMA_FREQ	DEPEND_0	CDF_CHAR	Epoch
PLASMA_FREQ	DISPLAY_TYPE	CDF_CHAR	time_series
PLASMA_FREQ	FORMAT	CDF_CHAR	F16.3
QUALITY_FACTOR	FIELDNAM	CDF_CHAR	QUALITY_FACTOR
QUALITY_FACTOR	CATDESC	CDF_CHAR	Quality factor for the plasma frequency data
QUALITY_FACTOR	VALIDMIN	CDF_DOUBLE	0.0
QUALITY_FACTOR	VALIDMAX	CDF_DOUBLE	1.0e+30
QUALITY_FACTOR	SCALEMIN	CDF_DOUBLE	0.0
QUALITY_FACTOR	SCALEMAX	CDF_DOUBLE	1.0e+30
QUALITY_FACTOR	FILLVAL	CDF_DOUBLE	-1.0e+31
QUALITY_FACTOR	LABLAXIS	CDF_CHAR	QUALITY_FACTOR
QUALITY_FACTOR	UNITS	CDF_CHAR	
QUALITY_FACTOR	VAR_TYPE	CDF_CHAR	data
QUALITY_FACTOR	SCALETYP	CDF_CHAR	linear
QUALITY_FACTOR	VAR_NOTES	CDF_CHAR	Quality factor for the plasma frequency data
QUALITY_FACTOR	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FACTOR	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FACTOR	FORMAT	CDF_CHAR	F16.3

4.1.4.2.6 Non-Record-Variant (NRV) Variables

4.1.4.3 SOLO_L3_RPW-BIA-SCPOT data product

Calibrated spacecraft potential with respect to plasma, and average probe-to-spacecraft potential. Generated from data in the corresponding SOLO_L2_RPW-LFR-SURV-CWF-E parent file.

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 928

4.1.4.3.1 Filename

```
solo_L3_rpw-bia-scpot_[YYYYMMDD]_V[version].cdf
```

4.1.4.3.2 Expected cadence and data volume


Nominal cadence: 1 file per day

Expected data volume: 50 MB per file

4.1.4.3.3 Global Attributes

Attribute Name	Entry Number	Data Type	Value
ACCESS_FORMAT	1	CDF_CHAR	CDF
ACCESS_URL	1	CDF_CHAR	
Acknowledgement	1	CDF_CHAR	The authors are pleased to acknowledge the Solar Orbiter/RPW Investigation (M. Maksimovic, PIs) for access to data.
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009_Issue2_Rev3
Data_type	1	CDF_CHAR	H0>High Resolution data
Data_version	1	CDF_CHAR	
Descriptor	1	CDF_CHAR	RPW-LFR-BIA-SCPOT>RPW Low Frequency Receiver Spacecraft potential
Discipline	1	CDF_CHAR	Space Physics>Interplanetary Studies
File_naming_convention	1	CDF_CHAR	<Source_name>_<LEVEL>_<Descriptor>_<Date>
File_ID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	RPW Operations Centre located at LESIA (Meudon, France)
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	https://rpw.lesia.obspm.fr
Instrument_type	1	CDF_CHAR	Radio and Plasma Waves (space)
LINK_TEXT	1	CDF_CHAR	RPW Web site at LESIA
LINK_TITLE	1	CDF_CHAR	RPW Web site
Logical_file_id	1	CDF_CHAR	
Logical_source	1	CDF_CHAR	solo_L3_rpw-lfr-bia-scpot
Logical_source_description	1	CDF_CHAR	Solar Orbiter Radio/Plasma Wave, LFR L3 spacecraft potential
Misc_calibration_versions	1	CDF_CHAR	


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 929

Tab. 4.137 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Mission_group	1	CDF_CHAR	Solar Orbiter
MODS	1	CDF_CHAR	
Parent_version	1	CDF_CHAR	
Parents	1	CDF_CHAR	
PI_affiliation	1	CDF_CHAR	LESIA, Observatoire de Paris-CNRS
PI_name	1	CDF_CHAR	M.Maksimovic
Pipeline_version	1	CDF_CHAR	
Project	1	CDF_CHAR	SOLO>Solar Orbiter
Provider	1	CDF_CHAR	
REFERENCE	1	CDF_CHAR	ROC-DAT-PRO-NTT-00075-LES_Issue1_Rev0
Rules_of_use	1	CDF_CHAR	Data provided are publicly available. If used in presentations or publications, please acknowledge Solar Orbiter/RPW Investigation (M. Maksimovic, PIs). Please read carefully the caveats attached to the data. For reporting purposes, we request bibliography information for any publication, etc., using these data. Please send information on the use of this data to: M. Maksimovic (PI).
SKELETON_MODS	1	CDF_CHAR	V01: Dec 2020: initial release - E.Johansson (IRF)
SKELETON_MODS	2	CDF_CHAR	V02: Feb 2021: Corrections after SOAR review. Adjusted VALIDMIN, SCALEMIN; DELTA_PLUS_MINUS: VALID*, SCALE* zv.attrs.; LABL_PTR1 removed; Removed duplicate g.attr. Calibration_version - E.Johansson (IRF)
SKELETON_PARENT	1	CDF_CHAR	SOLO_L3_RPW-LFR-BIA-SCPOT
Skeleton_version	1	CDF_CHAR	02
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	SOLO>Solar Orbiter
SPECTRAL_RANGE_MAX	1	CDF_CHAR	
SPECTRAL_RANGE_MIN	1	CDF_CHAR	
TEXT	1	CDF_CHAR	This file contains RPW LFR level 3 spacecraft potential.
TEXT_supplement_1	1	CDF_CHAR	

continues on next page


	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 930

Tab. 4.137 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
TIME_MAX	1	CDF_CHAR	
TIME_MIN	1	CDF_CHAR	
Validate	1	CDF_CHAR	
CAVEATS	1	CDF_CHAR	
CAL_ENTITY_NAME	1	CDF_CHAR	
CAL_ENTITY_AFFILIATION	1	CDF_CHAR	
CAL_EQUIPMENT	1	CDF_CHAR	
CALIBRATION_TABLE	1	CDF_CHAR	
CALIBRATION_VERSION	1	CDF_CHAR	
Datetime	1	CDF_CHAR	
Free_field	1	CDF_CHAR	
Job_ID	1	CDF_CHAR	
LEVEL	1	CDF_CHAR	L3>Level 3 data processing
SOOP_TYPE	1	CDF_CHAR	
Data_product	1	CDF_CHAR	BIA-SCPOT>Spacecraft potential
TARGET_NAME	1	CDF_CHAR	Sun
TARGET_CLASS	1	CDF_CHAR	Star
TARGET_REGION	1	CDF_CHAR	Solar Wind
Pipeline_name	1	CDF_CHAR	
Dataset_ID	1	CDF_CHAR	SOLO_L3_RPW-LFR-BIA-SCPOT
OBS_ID	1	CDF_CHAR	

4.1.4.3.4 zVariables


Variable Name	Data Type	Number Elements	Dims	Sizes
Epoch	CDF_TIME_TT2000	1	0	
QUALITY_FLAG	CDF_UINT1	1	0	
QUALITY_BITMASK	CDF_UINT2	1	0	
L2_QUALITY_BITMASK	CDF_UINT2	1	0	
SCPOT	CDF_REAL4	1	0	
PSP	CDF_REAL4	1	0	
DELTA_PLUS_MINUS	CDF_INT8	1	0	

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 931

4.1.4.3.5 Variable attributes

Variable Name	Attribute Name	Data Type	Value
Epoch	FIELDNAM	CDF_CHAR	Epoch
Epoch	CATDESC	CDF_CHAR	Default time
Epoch	DISPLAY_TYPE	CDF_CHAR	time_series
Epoch	VALIDMIN	CDF_TIME_TT2000	2000-01-01T00:00:00.000000000
Epoch	VALIDMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch	SCALEMIN	CDF_TIME_TT2000	1990-01-01T00:00:00.000000000
Epoch	SCALEMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch	LABLAXIS	CDF_CHAR	Epoch
Epoch	UNITS	CDF_CHAR	ns
Epoch	VAR_TYPE	CDF_CHAR	support_data
Epoch	SCALETYP	CDF_CHAR	linear
Epoch	MONOTON	CDF_CHAR	INCREASE
Epoch	TIME_BASE	CDF_CHAR	J2000
Epoch	TIME_SCALE	CDF_CHAR	Terrestrial Time
Epoch	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
Epoch	Resolution	CDF_CHAR	15258 ns
Epoch	Bin_location	CDF_CHAR	0.5
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file.
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	VALIDMIN	CDF_UINT1	0
QUALITY_FLAG	VALIDMAX	CDF_UINT1	4
QUALITY_FLAG	SCALEMIN	CDF_UINT1	0
QUALITY_FLAG	SCALEMAX	CDF_UINT1	4
QUALITY_FLAG	FILLVAL	CDF_UINT1	255
QUALITY_FLAG	LABLAXIS	CDF_CHAR	Quality flag
QUALITY_FLAG	UNITS	CDF_CHAR	
QUALITY_FLAG	VAR_TYPE	CDF_CHAR	support_data
QUALITY_FLAG	SCALETYP	CDF_CHAR	linear
QUALITY_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the quality of the data


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 932

Tab. 4.138 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
QUALITY_FLAG	UCD	CDF_CHAR	meta.code
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
QUALITY_BITMASK	SCALEMAX	CDF_UINT2	100
QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	UNITS	CDF_CHAR	
QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context information or status at the receiver or experiment level
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
QUALITY_BITMASK	UCD	CDF_CHAR	meta.code
L2_QUALITY_BITMASK	FIELDNAM	CDF_CHAR	L2_QUALITY_BITMASK
L2_QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
L2_QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
L2_QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
L2_QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
L2_QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
L2_QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
L2_QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
L2_QUALITY_BITMASK	LABLAXIS	CDF_CHAR	L2 Bitmask flag
L2_QUALITY_BITMASK	UNITS	CDF_CHAR	
L2_QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
L2_QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
L2_QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context or events that can alter data - bit0: partial saturation -bit1: full saturation
L2_QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
L2_QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
SCPOT	FIELDNAM	CDF_CHAR	Spacecraft potential


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 933

Tab. 4.138 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SCPOT	CATDESC	CDF_CHAR	Spacecraft potential with respect to plasma
SCPOT	DISPLAY_TYPE	CDF_CHAR	time_series
SCPOT	VALIDMIN	CDF_REAL4	-1.0e+30
SCPOT	VALIDMAX	CDF_REAL4	1.0e+30
SCPOT	SCALEMIN	CDF_REAL4	-1.0e+30
SCPOT	SCALEMAX	CDF_REAL4	1.0e+30
SCPOT	FILLVAL	CDF_REAL4	-1.0e+31
SCPOT	LABLAXIS	CDF_CHAR	S/c pot.
SCPOT	UNITS	CDF_CHAR	V
SCPOT	VAR_TYPE	CDF_CHAR	data
SCPOT	SCALETYP	CDF_CHAR	linear
SCPOT	VAR_NOTES	CDF_CHAR	
SCPOT	DEPEND_0	CDF_CHAR	Epoch
SCPOT	FORMAT	CDF_CHAR	G12.5
SCPOT	UCD	CDF_CHAR	
SCPOT	DELTA_PLUS_VAR	CDF_CHAR	DELTA_PLUS_MINUS
SCPOT	DELTA_MINUS_VAR	CDF_CHAR	DELTA_PLUS_MINUS
SCPOT	SI_CONVERSION	CDF_CHAR	1>V
PSP	FIELDNAM	CDF_CHAR	Probe-to-spacecraft potential
PSP	CATDESC	CDF_CHAR	Average probe-to-spacecraft potential
PSP	DISPLAY_TYPE	CDF_CHAR	time_series
PSP	VALIDMIN	CDF_REAL4	-1.0e+30
PSP	VALIDMAX	CDF_REAL4	1.0e+30
PSP	SCALEMIN	CDF_REAL4	-1.0e+30
PSP	SCALEMAX	CDF_REAL4	1.0e+30
PSP	FILLVAL	CDF_REAL4	-1.0e+31
PSP	LABLAXIS	CDF_CHAR	Avg. PSP
PSP	UNITS	CDF_CHAR	V
PSP	VAR_TYPE	CDF_CHAR	data
PSP	SCALETYP	CDF_CHAR	linear
PSP	VAR_NOTES	CDF_CHAR	Averaged over the antennas.
PSP	DEPEND_0	CDF_CHAR	Epoch
PSP	FORMAT	CDF_CHAR	G12.5
PSP	UCD	CDF_CHAR	
PSP	DELTA_PLUS_VAR	CDF_CHAR	DELTA_PLUS_MINUS
PSP	DELTA_MINUS_VAR	CDF_CHAR	DELTA_PLUS_MINUS
PSP	SI_CONVERSION	CDF_CHAR	1>V
DELTA_PLUS_MINUS	FIELDNAM	CDF_CHAR	DELTA_PLUS_MINUS

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 934


Tab. 4.138 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
DELTA_PLUS_MINUS	CATDESC	CDF_CHAR	Time between sample timestamp and beginning/end of integration. Total integration time is twice this value.
DELTA_PLUS_MINUS	DISPLAY_TYPE	CDF_CHAR	time_series
DELTA_PLUS_MINUS	VALIDMIN	CDF_INT8	3700
DELTA_PLUS_MINUS	VALIDMAX	CDF_INT8	70000000
DELTA_PLUS_MINUS	SCALEMIN	CDF_INT8	3700
DELTA_PLUS_MINUS	SCALEMAX	CDF_INT8	70000000
DELTA_PLUS_MINUS	FILLVAL	CDF_INT8	-9223372036854775808
DELTA_PLUS_MINUS	LABLAXIS	CDF_CHAR	Delta plus minus
DELTA_PLUS_MINUS	UNITS	CDF_CHAR	ns
DELTA_PLUS_MINUS	VAR_TYPE	CDF_CHAR	support_data
DELTA_PLUS_MINUS	SCALETYP	CDF_CHAR	linear
DELTA_PLUS_MINUS	VAR_NOTES	CDF_CHAR	
DELTA_PLUS_MINUS	DEPEND_0	CDF_CHAR	Epoch
DELTA_PLUS_MINUS	FORMAT	CDF_CHAR	I1.1
DELTA_PLUS_MINUS	UCD	CDF_CHAR	

4.1.4.3.6 Non-Record-Variant (NRV) Variables

4.1.4.4 SOLO_L3_RPW-BIA-SCPOT-10-SECONDS data product

Calibrated spacecraft potential with respect to plasma, and average probe-to-spacecraft potential. The data has been downsampled to uninterrupted 10 second time resolution (median), with fill values for all data gaps and standard deviation for each bin. Generated from data in the corresponding SOLO_L2_RPW-LFR-SURV-CWF-E parent file.

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 935

4.1.4.4.1 Filename

solo_L3_rpw-bia-scpot-10-seconds_[YYYYMMDD]_V[version].cdf

4.1.4.4.2 Expected cadence and data volume


Nominal cadence: 1 file per day

Expected data volume: 350 kB per file

4.1.4.4.3 Global Attributes

Attribute Name	Entry Number	Data Type	Value
ACCESS_FORMAT	1	CDF_CHAR	CDF
ACCESS_URL	1	CDF_CHAR	
Acknowledgement	1	CDF_CHAR	The authors are pleased to acknowledge the Solar Orbiter/RPW Investigation (M. Maksimovic, PIs) for access to data.
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009_Issue2_Rev3
Data_type	1	CDF_CHAR	H0>High Resolution data
Data_version	1	CDF_CHAR	
Descriptor	1	CDF_CHAR	RPW-LFR-BIA-SCPOT-10-SECONDS>RPW Low Frequency Receiver Spacecraft potential, down-sampled
Discipline	1	CDF_CHAR	Space Physics>Interplanetary Studies
File_naming_convention	1	CDF_CHAR	<Source_name>_<LEVEL>_<Descriptor>_<Date>
File_ID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	RPW Operations Centre located at LESIA (Meudon, France)
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	https://rpw.lesia.obspm.fr
Instrument_type	1	CDF_CHAR	Radio and Plasma Waves (space)
LINK_TEXT	1	CDF_CHAR	RPW Web site at LESIA
LINK_TITLE	1	CDF_CHAR	RPW Web site
Logical_file_id	1	CDF_CHAR	
Logical_source	1	CDF_CHAR	solo_L3_rpw-lfr-bia-scpot-10-seconds
Logical_source_description	1	CDF_CHAR	Solar Orbiter Radio/Plasma Wave, LFR L3 spacecraft potential, downsampled


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 936

Tab. 4.139 – continued from previous page


Attribute Name	Entry Number	Data Type	Value
Misc_calibration_versions	1	CDF_CHAR	
Mission_group	1	CDF_CHAR	Solar Orbiter
MODS	1	CDF_CHAR	
Parent_version	1	CDF_CHAR	
Parents	1	CDF_CHAR	
PI_affiliation	1	CDF_CHAR	LESIA, Observatoire de Paris-CNRS
PI_name	1	CDF_CHAR	M.Maksimovic
Pipeline_version	1	CDF_CHAR	
Project	1	CDF_CHAR	SOLO>Solar Orbiter
Provider	1	CDF_CHAR	
REFERENCE	1	CDF_CHAR	ROC-DAT-PRO-NTT-00075-LES_Issue1_Rev0
Rules_of_use	1	CDF_CHAR	Data provided are publicly available. If used in presentations or publications, please acknowledge Solar Orbiter/RPW Investigation (M. Maksimovic, PIs). Please read carefully the caveats attached to the data. For reporting purposes, we request bibliography information for any publication, etc., using these data. Please send information on the use of this data to: M. Maksimovic (PI).
SKELETON_MODS	1	CDF_CHAR	V01: Dec 2020: initial release - E.Johansson (IRF)
SKELETON_MODS	2	CDF_CHAR	V02: Feb 2021: Corrections after SOAR review. Adjusted VALIDMIN, SCALEMIN; typosfix SI_CONVERSION, FIELDNAM; DELTA_PLUS_MINUS: VALID*, SCALE* zv.attrs.; LABL_PTR1 removed; Removed duplicate g.attr. Calibration_version - E.Johansson (IRF)
SKELETON_PARENT	1	CDF_CHAR	SOLO_L3_RPW-LFR-BIA-SCPOT-10-SECONDS
Skeleton_version	1	CDF_CHAR	02
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	SOLO>Solar Orbiter
SPECTRAL_RANGE_MAX	1	CDF_CHAR	
SPECTRAL_RANGE_MIN	1	CDF_CHAR	

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 937

Tab. 4.139 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
TEXT	1	CDF_CHAR	This file contains RPW LFR level 3 spacecraft potential, downsampled.
TEXT_supplement_1	1	CDF_CHAR	
TIME_MAX	1	CDF_CHAR	
TIME_MIN	1	CDF_CHAR	
Validate	1	CDF_CHAR	
CAVEATS	1	CDF_CHAR	
CAL_ENTITY_NAME	1	CDF_CHAR	
CAL_ENTITY_AFFILIATION	1	CDF_CHAR	
CAL_EQUIPMENT	1	CDF_CHAR	
CALIBRATION_TABLE	1	CDF_CHAR	
CALIBRATION_VERSION	1	CDF_CHAR	
Datetime	1	CDF_CHAR	
Free_field	1	CDF_CHAR	
Job_ID	1	CDF_CHAR	
LEVEL	1	CDF_CHAR	L3>Level 3 data processing
SOOP_TYPE	1	CDF_CHAR	
Data_product	1	CDF_CHAR	BIA-SCPOT>Spacecraft potential
TARGET_NAME	1	CDF_CHAR	Sun
TARGET_CLASS	1	CDF_CHAR	Star
TARGET_REGION	1	CDF_CHAR	Solar Wind
Pipeline_name	1	CDF_CHAR	
Dataset_ID	1	CDF_CHAR	SOLO_L3_RPW-LFR-BIA-SCPOT-10-SECONDS
OBS_ID	1	CDF_CHAR	

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 938


4.1.4.4.4 zVariables

Variable Name	Data Type	Number Elements	Dims	Sizes
Epoch	CDF_TIME_TT2000	1	0	
QUALITY_FLAG	CDF_UINT1	1	0	
QUALITY_BITMASK	CDF_UINT2	1	0	
L2_QUALITY_BITMASK	CDF_UINT2	1	0	
SCPOT	CDF_REAL4	1	0	
SCPOTSTD	CDF_REAL4	1	0	
PSP	CDF_REAL4	1	0	
PSPSTD	CDF_REAL4	1	0	
DELTA_PLUS_MINUS	CDF_INT8	1	0	

4.1.4.4.5 Variable attributes

Variable Name	Attribute Name	Data Type	Value
Epoch	FIELDNAM	CDF_CHAR	Epoch
Epoch	CATDESC	CDF_CHAR	Default time
Epoch	DISPLAY_TYPE	CDF_CHAR	time_series
Epoch	VALIDMIN	CDF_TIME_TT2000	2000-01-01T00:00:00.000000000
Epoch	VALIDMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch	SCALEMIN	CDF_TIME_TT2000	1990-01-01T00:00:00.000000000
Epoch	SCALEMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch	LABLAXIS	CDF_CHAR	Epoch
Epoch	UNITS	CDF_CHAR	ns
Epoch	VAR_TYPE	CDF_CHAR	support_data
Epoch	SCALETYP	CDF_CHAR	linear
Epoch	MONOTON	CDF_CHAR	INCREASE
Epoch	TIME_BASE	CDF_CHAR	J2000
Epoch	TIME_SCALE	CDF_CHAR	Terrestrial Time
Epoch	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
Epoch	Resolution	CDF_CHAR	15258 ns
Epoch	Bin_location	CDF_CHAR	0.5


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 939

Tab. 4.140 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file.
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	VALIDMIN	CDF_UINT1	0
QUALITY_FLAG	VALIDMAX	CDF_UINT1	4
QUALITY_FLAG	SCALEMIN	CDF_UINT1	0
QUALITY_FLAG	SCALEMAX	CDF_UINT1	4
QUALITY_FLAG	FILLVAL	CDF_UINT1	255
QUALITY_FLAG	LABLAXIS	CDF_CHAR	Quality flag
QUALITY_FLAG	UNITS	CDF_CHAR	
QUALITY_FLAG	VAR_TYPE	CDF_CHAR	support_data
QUALITY_FLAG	SCALETYP	CDF_CHAR	linear
QUALITY_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the quality of the data
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
QUALITY_FLAG	UCD	CDF_CHAR	meta.code
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
QUALITY_BITMASK	SCALEMAX	CDF_UINT2	100
QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	UNITS	CDF_CHAR	
QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context information or status at the receiver or experiment level
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
QUALITY_BITMASK	UCD	CDF_CHAR	meta.code
L2_QUALITY_BITMASK	FIELDNAM	CDF_CHAR	L2_QUALITY_BITMASK
L2_QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
L2_QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
L2_QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 940

Tab. 4.140 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
L2_QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
L2_QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
L2_QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
L2_QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
L2_QUALITY_BITMASK	LABLAXIS	CDF_CHAR	L2 Bitmask flag
L2_QUALITY_BITMASK	UNITS	CDF_CHAR	
L2_QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
L2_QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
L2_QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context or events that can alter data - bit0: partial saturation -bit1: full saturation
L2_QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
L2_QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
SCPOT	FIELDNAM	CDF_CHAR	S/c potential, downsampled
SCPOT	CATDESC	CDF_CHAR	Spacecraft potential with respect to plasma. Median value over 10 s interval.
SCPOT	DISPLAY_TYPE	CDF_CHAR	time_series
SCPOT	VALIDMIN	CDF_REAL4	-1.0e+30
SCPOT	VALIDMAX	CDF_REAL4	1.0e+30
SCPOT	SCALEMIN	CDF_REAL4	-1.0e+30
SCPOT	SCALEMAX	CDF_REAL4	1.0e+30
SCPOT	FILLVAL	CDF_REAL4	-1.0e+31
SCPOT	LABLAXIS	CDF_CHAR	S/c pot med
SCPOT	UNITS	CDF_CHAR	V
SCPOT	VAR_TYPE	CDF_CHAR	data
SCPOT	SCALETYP	CDF_CHAR	linear
SCPOT	VAR_NOTES	CDF_CHAR	
SCPOT	DEPEND_0	CDF_CHAR	Epoch
SCPOT	FORMAT	CDF_CHAR	G12.5
SCPOT	UCD	CDF_CHAR	
SCPOT	DELTA_PLUS_VAR	CDF_CHAR	DELTA_PLUS_MINUS
SCPOT	DELTA_MINUS_VAR	CDF_CHAR	DELTA_PLUS_MINUS
SCPOT	SI_CONVERSION	CDF_CHAR	1>V
SCPOTSTD	FIELDNAM	CDF_CHAR	S/c potential, std. deviation
SCPOTSTD	CATDESC	CDF_CHAR	Std. deviation of the s/c potential with respect to plasma over 10 s interval.
SCPOTSTD	DISPLAY_TYPE	CDF_CHAR	time_series
SCPOTSTD	VALIDMIN	CDF_REAL4	0.0

continues on next page



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **941**

Tab. 4.140 – continued from previous page


Variable Name	Attribute Name	Data Type	Value
SCPOTSTD	VALIDMAX	CDF_REAL4	1.0e+30
SCPOTSTD	SCALEMIN	CDF_REAL4	0.0
SCPOTSTD	SCALEMAX	CDF_REAL4	1.0e+30
SCPOTSTD	FILLVAL	CDF_REAL4	-1.0e+31
SCPOTSTD	LABLAXIS	CDF_CHAR	S/c pot std
SCPOTSTD	UNITS	CDF_CHAR	V
SCPOTSTD	VAR_TYPE	CDF_CHAR	data
SCPOTSTD	SCALETYP	CDF_CHAR	linear
SCPOTSTD	VAR_NOTES	CDF_CHAR	Standard deviation is counted from the median value.
SCPOTSTD	DEPEND_0	CDF_CHAR	Epoch
SCPOTSTD	FORMAT	CDF_CHAR	G12.5
SCPOTSTD	UCD	CDF_CHAR	
SCPOTSTD	DELTA_PLUS_VAR	CDF_CHAR	DELTA_PLUS_MINUS
SCPOTSTD	DELTA_MINUS_VAR	CDF_CHAR	DELTA_PLUS_MINUS
SCPOTSTD	SI_CONVERSION	CDF_CHAR	1>V
PSP	FIELDNAM	CDF_CHAR	Probe-to-spacecraft potential, downsampled
PSP	CATDESC	CDF_CHAR	Average probe-to-spacecraft potential. Median over 10 s interval.
PSP	DISPLAY_TYPE	CDF_CHAR	time_series
PSP	VALIDMIN	CDF_REAL4	-1.0e+30
PSP	VALIDMAX	CDF_REAL4	1.0e+30
PSP	SCALEMIN	CDF_REAL4	-1.0e+30
PSP	SCALEMAX	CDF_REAL4	1.0e+30
PSP	FILLVAL	CDF_REAL4	-1.0e+31
PSP	LABLAXIS	CDF_CHAR	Avg PSP med
PSP	UNITS	CDF_CHAR	V
PSP	VAR_TYPE	CDF_CHAR	data
PSP	SCALETYP	CDF_CHAR	linear
PSP	VAR_NOTES	CDF_CHAR	Averaged over the antennas.
PSP	DEPEND_0	CDF_CHAR	Epoch
PSP	FORMAT	CDF_CHAR	G12.5
PSP	UCD	CDF_CHAR	
PSP	DELTA_PLUS_VAR	CDF_CHAR	DELTA_PLUS_MINUS
PSP	DELTA_MINUS_VAR	CDF_CHAR	DELTA_PLUS_MINUS
PSP	SI_CONVERSION	CDF_CHAR	1>V
PSPSTD	FIELDNAM	CDF_CHAR	Probe-to-spacecraft potential, std. deviation

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 942

Tab. 4.140 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
PSPSTD	CATDESC	CDF_CHAR	Std. deviation of the average probe-to-spacecraft potential over 10 s interval.
PSPSTD	DISPLAY_TYPE	CDF_CHAR	time_series
PSPSTD	VALIDMIN	CDF_REAL4	0.0
PSPSTD	VALIDMAX	CDF_REAL4	1.0e+30
PSPSTD	SCALEMIN	CDF_REAL4	0.0
PSPSTD	SCALEMAX	CDF_REAL4	1.0e+30
PSPSTD	FILLVAL	CDF_REAL4	-1.0e+31
PSPSTD	LABLAXIS	CDF_CHAR	Avg PSP std
PSPSTD	UNITS	CDF_CHAR	V
PSPSTD	VAR_TYPE	CDF_CHAR	data
PSPSTD	SCALETYP	CDF_CHAR	linear
PSPSTD	VAR_NOTES	CDF_CHAR	Standard deviation is counted from the median value.
PSPSTD	DEPEND_0	CDF_CHAR	Epoch
PSPSTD	FORMAT	CDF_CHAR	G12.5
PSPSTD	UCD	CDF_CHAR	
PSPSTD	DELTA_PLUS_VAR	CDF_CHAR	DELTA_PLUS_MINUS
PSPSTD	DELTA_MINUS_VAR	CDF_CHAR	DELTA_PLUS_MINUS
PSPSTD	SI_CONVERSION	CDF_CHAR	1>V
DELTA_PLUS_MINUS	FIELDNAM	CDF_CHAR	DELTA_PLUS_MINUS
DELTA_PLUS_MINUS	CATDESC	CDF_CHAR	Time between sample timestamp and beginning/end of integration. Total integration time is twice this value.
DELTA_PLUS_MINUS	DISPLAY_TYPE	CDF_CHAR	time_series
DELTA_PLUS_MINUS	VALIDMIN	CDF_INT8	3700
DELTA_PLUS_MINUS	VALIDMAX	CDF_INT8	70000000
DELTA_PLUS_MINUS	SCALEMIN	CDF_INT8	3700
DELTA_PLUS_MINUS	SCALEMAX	CDF_INT8	70000000
DELTA_PLUS_MINUS	FILLVAL	CDF_INT8	-9223372036854775808
DELTA_PLUS_MINUS	LABLAXIS	CDF_CHAR	Delta plus minus
DELTA_PLUS_MINUS	UNITS	CDF_CHAR	ns
DELTA_PLUS_MINUS	VAR_TYPE	CDF_CHAR	support_data
DELTA_PLUS_MINUS	SCALETYP	CDF_CHAR	linear
DELTA_PLUS_MINUS	VAR_NOTES	CDF_CHAR	
DELTA_PLUS_MINUS	DEPEND_0	CDF_CHAR	Epoch
DELTA_PLUS_MINUS	FORMAT	CDF_CHAR	I1.1
DELTA_PLUS_MINUS	UCD	CDF_CHAR	

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 943

4.1.4.4.6 Non-Record-Variant (NRV) Variables

4.1.4.5 SOLO_L3_RPW-BIA-EFIELD data product

Calibrated electric vector field in SRF. Generated from data in the corresponding SOLO_L2_RPW-LFR-SURV-CWF-E parent file.

4.1.4.5.1 Filename

```
solo_L3_rpw-bia-efield_[YYYYMMDD]_V[version].cdf
```

4.1.4.5.2 Expected cadence and data volume


Nominal cadence: 1 file per day

Expected data volume: 50 MB per file

4.1.4.5.3 Global Attributes

Attribute Name	Entry Number	Data Type	Value
ACCESS_FORMAT	1	CDF_CHAR	CDF
ACCESS_URL	1	CDF_CHAR	
Acknowledgement	1	CDF_CHAR	The authors are pleased to acknowledge the Solar Orbiter/RPW Investigation (M. Maksimovic, PIs) for access to data.
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009_Issue2_Rev3
Data_type	1	CDF_CHAR	H0>High Resolution data
Data_version	1	CDF_CHAR	
Descriptor	1	CDF_CHAR	RPW-LFR-BIA-EFIELD>RPW Low Frequency Receiver Electric field vector
Discipline	1	CDF_CHAR	Space Physics>Interplanetary Studies
File_naming_convention	1	CDF_CHAR	<Source_name>_<LEVEL>_<Descriptor>_<Date>
File_ID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	RPW Operations Centre located at LESIA (Meudon, France)
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	https://rpw.lesia.obspm.fr
Instrument_type	1	CDF_CHAR	Radio and Plasma Waves (space)


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 944

Tab. 4.141 – continued from previous page


Attribute Name	Entry Number	Data Type	Value
LINK_TEXT	1	CDF_CHAR	RPW Web site at LESIA
LINK_TITLE	1	CDF_CHAR	RPW Web site
Logical_file_id	1	CDF_CHAR	
Logical_source	1	CDF_CHAR	solo_L3_rpw-lfr-bia-efield
Logical_source_description	1	CDF_CHAR	Solar Orbiter Radio/Plasma Wave, LFR L3 electric field vector
Misc_calibration_versions	1	CDF_CHAR	
Mission_group	1	CDF_CHAR	Solar Orbiter
MODS	1	CDF_CHAR	
Parent_version	1	CDF_CHAR	
Parents	1	CDF_CHAR	
PI_affiliation	1	CDF_CHAR	LESIA, Observatoire de Paris-CNRS
PI_name	1	CDF_CHAR	M.Maksimovic
Pipeline_version	1	CDF_CHAR	
Project	1	CDF_CHAR	SOLO>Solar Orbiter
Provider	1	CDF_CHAR	
REFERENCE	1	CDF_CHAR	ROC-DAT-PRO-NTT-00075-LES_Issue1_Rev0
Rules_of_use	1	CDF_CHAR	Data provided are publicly available. If used in presentations or publications, please acknowledge Solar Orbiter/RPW Investigation (M. Maksimovic, PIs). Please read carefully the caveats attached to the data. For reporting purposes, we request bibliography information for any publication, etc., using these data. Please send information on the use of this data to: M. Maksimovic (PI).
SKELETON_MODS	1	CDF_CHAR	V01: Dec 2020: initial release - E.Johansson (IRF)
SKELETON_MODS	2	CDF_CHAR	V02: Feb 2021: Corrections after SOAR review. Adjusted VALIDMIN, SCALEMIN; DELTA_PLUS_MINUS: VALID*, SCALE* zv.attrs.; Removed duplicate g.attr. Calibration_version - E.Johansson (IRF)
SKELETON_PARENT	1	CDF_CHAR	SOLO_L3_RPW-LFR-BIA-EFIELD
Skeleton_version	1	CDF_CHAR	02
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 945

Tab. 4.141 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Source_name	1	CDF_CHAR	SOLO>Solar Orbiter
SPECTRAL_RANGE_MAX	1	CDF_CHAR	
SPECTRAL_RANGE_MIN	1	CDF_CHAR	
TEXT	1	CDF_CHAR	This file contains RPW LFR level 3 electric vector field data in SRF.
TEXT_supplement_1	1	CDF_CHAR	
TIME_MAX	1	CDF_CHAR	
TIME_MIN	1	CDF_CHAR	
Validate	1	CDF_CHAR	
CAVEATS	1	CDF_CHAR	
CAL_ENTITY_NAME	1	CDF_CHAR	
CAL_ENTITY_AFFILIATION	1	CDF_CHAR	
CAL_EQUIPMENT	1	CDF_CHAR	
CALIBRATION_TABLE	1	CDF_CHAR	
CALIBRATION_VERSION	1	CDF_CHAR	
Datetime	1	CDF_CHAR	
Free_field	1	CDF_CHAR	
Job_ID	1	CDF_CHAR	
LEVEL	1	CDF_CHAR	L3>Level 3 data processing
SOOP_TYPE	1	CDF_CHAR	
Data_product	1	CDF_CHAR	BIA-EFIELD>Electric field
TARGET_NAME	1	CDF_CHAR	Sun
TARGET_CLASS	1	CDF_CHAR	Star
TARGET_REGION	1	CDF_CHAR	Solar Wind
Pipeline_name	1	CDF_CHAR	
Dataset_ID	1	CDF_CHAR	SOLO_L3_RPW-LFR-BIA-EFIELD
OBS_ID	1	CDF_CHAR	

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 946


4.1.4.5.4 zVariables

Variable Name	Data Type	Number Elements	Dims	Sizes
Epoch	CDF_TIME_TT2000	1	0	
QUALITY_FLAG	CDF_UINT1	1	0	
QUALITY_BITMASK	CDF_UINT2	1	0	
L2_QUALITY_BITMASK	CDF_UINT2	1	0	
EDC_SRF_LABEL	CDF_CHAR	9	1	3
EDC_SRF	CDF_REAL4	1	1	3
DELTA_PLUS_MINUS	CDF_INT8	1	0	

4.1.4.5.5 Variable attributes

Variable Name	Attribute Name	Data Type	Value
Epoch	FIELDNAM	CDF_CHAR	Epoch
Epoch	CATDESC	CDF_CHAR	Default time
Epoch	DISPLAY_TYPE	CDF_CHAR	time_series
Epoch	VALIDMIN	CDF_TIME_TT2000	2000-01-01T00:00:00.000000000
Epoch	VALIDMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch	SCALEMIN	CDF_TIME_TT2000	1990-01-01T00:00:00.000000000
Epoch	SCALEMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch	LABLAXIS	CDF_CHAR	Epoch
Epoch	UNITS	CDF_CHAR	ns
Epoch	VAR_TYPE	CDF_CHAR	support_data
Epoch	SCALETYP	CDF_CHAR	linear
Epoch	MONOTON	CDF_CHAR	INCREASE
Epoch	TIME_BASE	CDF_CHAR	J2000
Epoch	TIME_SCALE	CDF_CHAR	Terrestrial Time
Epoch	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
Epoch	Resolution	CDF_CHAR	15258 ns
Epoch	Bin_location	CDF_CHAR	0.5
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file.


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 947

Tab. 4.142 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	VALIDMIN	CDF_UINT1	0
QUALITY_FLAG	VALIDMAX	CDF_UINT1	4
QUALITY_FLAG	SCALEMIN	CDF_UINT1	0
QUALITY_FLAG	SCALEMAX	CDF_UINT1	4
QUALITY_FLAG	FILLVAL	CDF_UINT1	255
QUALITY_FLAG	LABLAXIS	CDF_CHAR	Quality flag
QUALITY_FLAG	UNITS	CDF_CHAR	
QUALITY_FLAG	VAR_TYPE	CDF_CHAR	support_data
QUALITY_FLAG	SCALETYP	CDF_CHAR	linear
QUALITY_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the quality of the data
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
QUALITY_FLAG	UCD	CDF_CHAR	meta.code
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
QUALITY_BITMASK	SCALEMAX	CDF_UINT2	100
QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	UNITS	CDF_CHAR	
QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context information or status at the receiver or experiment level
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
QUALITY_BITMASK	UCD	CDF_CHAR	meta.code
L2_QUALITY_BITMASK	FIELDNAM	CDF_CHAR	L2_QUALITY_BITMASK
L2_QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
L2_QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
L2_QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
L2_QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
L2_QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 948

Tab. 4.142 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
L2_QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
L2_QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
L2_QUALITY_BITMASK	LABLAXIS	CDF_CHAR	L2 Bitmask flag
L2_QUALITY_BITMASK	UNITS	CDF_CHAR	
L2_QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
L2_QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
L2_QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context or events that can alter data - bit0: partial saturation -bit1: full saturation
L2_QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
L2_QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
EDC_SRF_LABEL	FIELDNAM	CDF_CHAR	EDC_SRF label
EDC_SRF_LABEL	CATDESC	CDF_CHAR	Labels of the E-field components
EDC_SRF_LABEL	VAR_TYPE	CDF_CHAR	metadata
EDC_SRF_LABEL	FORMAT	CDF_CHAR	A9
EDC_SRF	FIELDNAM	CDF_CHAR	Electric field
EDC_SRF	CATDESC	CDF_CHAR	Electric field vector in SRF
EDC_SRF	DISPLAY_TYPE	CDF_CHAR	time_series
EDC_SRF	VALIDMIN	CDF_REAL4	-1.0e+30
EDC_SRF	VALIDMAX	CDF_REAL4	1.0e+30
EDC_SRF	SCALEMIN	CDF_REAL4	-1.0e+30
EDC_SRF	SCALEMAX	CDF_REAL4	1.0e+30
EDC_SRF	FILLVAL	CDF_REAL4	-1.0e+31
EDC_SRF	LABLAXIS	CDF_CHAR	EDC_SRF
EDC_SRF	UNITS	CDF_CHAR	mV/m
EDC_SRF	VAR_TYPE	CDF_CHAR	data
EDC_SRF	SCALETYP	CDF_CHAR	linear
EDC_SRF	VAR_NOTES	CDF_CHAR	Uses SRF coordinates as vector basis.
EDC_SRF	DEPEND_0	CDF_CHAR	Epoch
EDC_SRF	FORMAT	CDF_CHAR	G12.5
EDC_SRF	UCD	CDF_CHAR	
EDC_SRF	DELTA_PLUS_VAR	CDF_CHAR	DELTA_PLUS_MINUS
EDC_SRF	DELTA_MINUS_VAR	CDF_CHAR	DELTA_PLUS_MINUS
EDC_SRF	LABL_PTR_1	CDF_CHAR	EDC_SRF_LABEL
EDC_SRF	SI_CONVERSION	CDF_CHAR	1.0e-3>V/m
DELTA_PLUS_MINUS	FIELDNAM	CDF_CHAR	DELTA_PLUS_MINUS

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 949

Tab. 4.142 – continued from previous page


Variable Name	Attribute Name	Data Type	Value
DELTA_PLUS_MINUS	CATDESC	CDF_CHAR	Time between sample timestamp and beginning/end of integration. Total integration time is twice this value.
DELTA_PLUS_MINUS	DISPLAY_TYPE	CDF_CHAR	time_series
DELTA_PLUS_MINUS	VALIDMIN	CDF_INT8	3700
DELTA_PLUS_MINUS	VALIDMAX	CDF_INT8	70000000
DELTA_PLUS_MINUS	SCALEMIN	CDF_INT8	3700
DELTA_PLUS_MINUS	SCALEMAX	CDF_INT8	70000000
DELTA_PLUS_MINUS	FILLVAL	CDF_INT8	-9223372036854775808
DELTA_PLUS_MINUS	LABLAXIS	CDF_CHAR	Delta plus minus
DELTA_PLUS_MINUS	UNITS	CDF_CHAR	ns
DELTA_PLUS_MINUS	VAR_TYPE	CDF_CHAR	support_data
DELTA_PLUS_MINUS	SCALETYP	CDF_CHAR	linear
DELTA_PLUS_MINUS	VAR_NOTES	CDF_CHAR	
DELTA_PLUS_MINUS	DEPEND_0	CDF_CHAR	Epoch
DELTA_PLUS_MINUS	FORMAT	CDF_CHAR	I1.1
DELTA_PLUS_MINUS	UCD	CDF_CHAR	

4.1.4.5.6 Non-Record-Variant (NRV) Variables

Variable Name	Index	Value
EDC_SRF_LABEL	1	EDC_SRF_X
EDC_SRF_LABEL	2	EDC_SRF_Y
EDC_SRF_LABEL	3	EDC_SRF_Z

4.1.4.6 SOLO_L3_RPW-BIA-EFIELD-10-SECONDS data product

Calibrated electric vector field in SRF. The data has been downsampled to uninterrupted 10 second time resolution (median), with fill values for all data gaps and standard deviation for each bin. Generated from data in the corresponding SOLO_L2_RPW-LFR-SURV-CWF-E parent file.

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 950

4.1.4.6.1 Filename

solo_L3_rpw-bia-efield-10-seconds_[YYYYMMDD]_V[version].cdf

4.1.4.6.2 Expected cadence and data volume


Nominal cadence: 1 file per day

Expected data volume: 500 kB per file

4.1.4.6.3 Global Attributes

Attribute Name	Entry Number	Data Type	Value
ACCESS_FORMAT	1	CDF_CHAR	CDF
ACCESS_URL	1	CDF_CHAR	
Acknowledgement	1	CDF_CHAR	The authors are pleased to acknowledge the Solar Orbiter/RPW Investigation (M. Maksimovic, PIs) for access to data.
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009_Issue2_Rev3
Data_type	1	CDF_CHAR	H0>High Resolution data
Data_version	1	CDF_CHAR	
Descriptor	1	CDF_CHAR	RPW-LFR-BIA-EFIELD-10-SECONDS>RPW Low Frequency Receiver Electric field vector, downsampled
Discipline	1	CDF_CHAR	Space Physics>Interplanetary Studies
File_naming_convention	1	CDF_CHAR	<Source_name>_<LEVEL>_<Descriptor>_<Date>
File_ID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	RPW Operations Centre located at LESIA (Meudon, France)
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	https://rpw.lesia.obspm.fr
Instrument_type	1	CDF_CHAR	Radio and Plasma Waves (space)
LINK_TEXT	1	CDF_CHAR	RPW Web site at LESIA
LINK_TITLE	1	CDF_CHAR	RPW Web site
Logical_file_id	1	CDF_CHAR	
Logical_source	1	CDF_CHAR	solo_L3_rpw-lfr-bia-efield-10-seconds
Logical_source_description	1	CDF_CHAR	Solar Orbiter Radio/Plasma Wave, LFR L3 electric field vector, downsampled


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 951

Tab. 4.143 – continued from previous page


Attribute Name	Entry Number	Data Type	Value
Misc_calibration_versions	1	CDF_CHAR	
Mission_group	1	CDF_CHAR	Solar Orbiter
MODS	1	CDF_CHAR	
Parent_version	1	CDF_CHAR	
Parents	1	CDF_CHAR	
PI_affiliation	1	CDF_CHAR	LESIA, Observatoire de Paris-CNRS
PI_name	1	CDF_CHAR	M.Maksimovic
Pipeline_version	1	CDF_CHAR	
Project	1	CDF_CHAR	SOLO>Solar Orbiter
Provider	1	CDF_CHAR	
REFERENCE	1	CDF_CHAR	ROC-DAT-PRO-NTT-00075-LES_Issue1_Rev0
Rules_of_use	1	CDF_CHAR	Data provided are publicly available. If used in presentations or publications, please acknowledge Solar Orbiter/RPW Investigation (M. Maksimovic, PIs). Please read carefully the caveats attached to the data. For reporting purposes, we request bibliography information for any publication, etc., using these data. Please send information on the use of this data to: M. Maksimovic (PI).
SKELETON_MODS	1	CDF_CHAR	V01: Dec 2020: initial release - E.Johansson (IRF)
SKELETON_MODS	2	CDF_CHAR	V02: Feb 2021: Corrections after SOAR review. Adjusted VALIDMIN, SCALEMIN; DELTA_PLUS_MINUS: VALID*, SCALE* zv.attrs.; Removed duplicate g.attr. Calibration_version - E.Johansson (IRF)
SKELETON_PARENT	1	CDF_CHAR	SOLO_L3_RPW-LFR-BIA-EFIELD-10-SECONDS
Skeleton_version	1	CDF_CHAR	02
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	SOLO>Solar Orbiter
SPECTRAL_RANGE_MAX	1	CDF_CHAR	
SPECTRAL_RANGE_MIN	1	CDF_CHAR	

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 952

Tab. 4.143 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
TEXT	1	CDF_CHAR	This file contains RPW LFR level 3 electric vector field data in SRF, downsampled.
TEXT_supplement_1	1	CDF_CHAR	
TIME_MAX	1	CDF_CHAR	
TIME_MIN	1	CDF_CHAR	
Validate	1	CDF_CHAR	
CAVEATS	1	CDF_CHAR	
CAL_ENTITY_NAME	1	CDF_CHAR	
CAL_ENTITY_AFFILIATION	1	CDF_CHAR	
CAL_EQUIPMENT	1	CDF_CHAR	
CALIBRATION_TABLE	1	CDF_CHAR	
CALIBRATION_VERSION	1	CDF_CHAR	
Datetime	1	CDF_CHAR	
Free_field	1	CDF_CHAR	
Job_ID	1	CDF_CHAR	
LEVEL	1	CDF_CHAR	L3>Level 3 data processing
SOOP_TYPE	1	CDF_CHAR	
Data_product	1	CDF_CHAR	BIA-EFIELD>Electric field
TARGET_NAME	1	CDF_CHAR	Sun
TARGET_CLASS	1	CDF_CHAR	Star
TARGET_REGION	1	CDF_CHAR	Solar Wind
Pipeline_name	1	CDF_CHAR	
Dataset_ID	1	CDF_CHAR	SOLO_L3_RPW-LFR-BIA-EFIELD-10-SECONDS
OBS_ID	1	CDF_CHAR	

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 953


4.1.4.6.4 zVariables

Variable Name	Data Type	Number Elements	Dims	Sizes
Epoch	CDF_TIME_TT2000	1	0	
QUALITY_FLAG	CDF_UINT1	1	0	
QUALITY_BITMASK	CDF_UINT2	1	0	
L2_QUALITY_BITMASK	CDF_UINT2	1	0	
EDC_SRF_LABEL	CDF_CHAR	9	1	3
EDC_SRF	CDF_REAL4	1	1	3
EDCSTD_SRF_LABEL	CDF_CHAR	12	1	3
EDCSTD_SRF	CDF_REAL4	1	1	3
DELTA_PLUS_MINUS	CDF_INT8	1	0	

4.1.4.6.5 Variable attributes

Variable Name	Attribute Name	Data Type	Value
Epoch	FIELDNAM	CDF_CHAR	Epoch
Epoch	CATDESC	CDF_CHAR	Default time
Epoch	DISPLAY_TYPE	CDF_CHAR	time_series
Epoch	VALIDMIN	CDF_TIME_TT2000	2000-01-01T00:00:00.000000000
Epoch	VALIDMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch	SCALEMIN	CDF_TIME_TT2000	1990-01-01T00:00:00.000000000
Epoch	SCALEMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch	LABLAXIS	CDF_CHAR	Epoch
Epoch	UNITS	CDF_CHAR	ns
Epoch	VAR_TYPE	CDF_CHAR	support_data
Epoch	SCALETYP	CDF_CHAR	linear
Epoch	MONOTON	CDF_CHAR	INCREASE
Epoch	TIME_BASE	CDF_CHAR	J2000
Epoch	TIME_SCALE	CDF_CHAR	Terrestrial Time
Epoch	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
Epoch	Resolution	CDF_CHAR	15258 ns
Epoch	Bin_location	CDF_CHAR	0.5

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 954

Tab. 4.144 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file.
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	VALIDMIN	CDF_UINT1	0
QUALITY_FLAG	VALIDMAX	CDF_UINT1	4
QUALITY_FLAG	SCALEMIN	CDF_UINT1	0
QUALITY_FLAG	SCALEMAX	CDF_UINT1	4
QUALITY_FLAG	FILLVAL	CDF_UINT1	255
QUALITY_FLAG	LABLAXIS	CDF_CHAR	Quality flag
QUALITY_FLAG	UNITS	CDF_CHAR	
QUALITY_FLAG	VAR_TYPE	CDF_CHAR	support_data
QUALITY_FLAG	SCALETYP	CDF_CHAR	linear
QUALITY_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the quality of the data
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
QUALITY_FLAG	UCD	CDF_CHAR	meta.code
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
QUALITY_BITMASK	SCALEMAX	CDF_UINT2	100
QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	UNITS	CDF_CHAR	
QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context information or status at the receiver or experiment level
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
QUALITY_BITMASK	UCD	CDF_CHAR	meta.code
L2_QUALITY_BITMASK	FIELDNAM	CDF_CHAR	L2_QUALITY_BITMASK
L2_QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
L2_QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
L2_QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0

continues on next page



RPW Data Product Description Document

Ref: **ROC-PRO-DAT-NTT-00075-LES**

Issue
01

Revision
03


Date: March 11, 2021

Page: **955**

Tab. 4.144 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
L2_QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
L2_QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
L2_QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
L2_QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
L2_QUALITY_BITMASK	LABLAXIS	CDF_CHAR	L2 Bitmask flag
L2_QUALITY_BITMASK	UNITS	CDF_CHAR	
L2_QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
L2_QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
L2_QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context or events that can alter data - bit0: partial saturation -bit1: full saturation
L2_QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
L2_QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
EDC_SRF_LABEL	FIELDNAM	CDF_CHAR	EDC_SRF label
EDC_SRF_LABEL	CATDESC	CDF_CHAR	Labels of the E-field median components
EDC_SRF_LABEL	VAR_TYPE	CDF_CHAR	metadata
EDC_SRF_LABEL	FORMAT	CDF_CHAR	A9
EDC_SRF	FIELDNAM	CDF_CHAR	Electric field, downsampled
EDC_SRF	CATDESC	CDF_CHAR	Electric field vector in SRF. Median value over 10 s interval.
EDC_SRF	DISPLAY_TYPE	CDF_CHAR	time_series
EDC_SRF	VALIDMIN	CDF_REAL4	-1.0e+30
EDC_SRF	VALIDMAX	CDF_REAL4	1.0e+30
EDC_SRF	SCALEMIN	CDF_REAL4	-1.0e+30
EDC_SRF	SCALEMAX	CDF_REAL4	1.0e+30
EDC_SRF	FILLVAL	CDF_REAL4	-1.0e+31
EDC_SRF	LABLAXIS	CDF_CHAR	EDC_SRF med
EDC_SRF	UNITS	CDF_CHAR	mV/m
EDC_SRF	VAR_TYPE	CDF_CHAR	data
EDC_SRF	SCALETYP	CDF_CHAR	linear
EDC_SRF	VAR_NOTES	CDF_CHAR	Uses SRF coordinates as vector basis.
EDC_SRF	DEPEND_0	CDF_CHAR	Epoch
EDC_SRF	FORMAT	CDF_CHAR	G12.5
EDC_SRF	UCD	CDF_CHAR	
EDC_SRF	DELTA_PLUS_VAR	CDF_CHAR	DELTA_PLUS_MINUS
EDC_SRF	DELTA_MINUS_VAR	CDF_CHAR	DELTA_PLUS_MINUS
EDC_SRF	LABL_PTR_1	CDF_CHAR	EDC_SRF_LABEL


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 956

Tab. 4.144 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
EDC_SRF	SI_CONVERSION	CDF_CHAR	1.0e-3>V/m
EDCSTD_SRF_LABEL	FIELDNAM	CDF_CHAR	EDC_SRF label
EDCSTD_SRF_LABEL	CATDESC	CDF_CHAR	Labels of the standard deviation of E-field components
EDCSTD_SRF_LABEL	VAR_TYPE	CDF_CHAR	metadata
EDCSTD_SRF_LABEL	FORMAT	CDF_CHAR	A12
EDCSTD_SRF	FIELDNAM	CDF_CHAR	Electric field, std. deviation
EDCSTD_SRF	CATDESC	CDF_CHAR	Std. deviation of electric field vector in SRF over 10 s interval.
EDCSTD_SRF	DISPLAY_TYPE	CDF_CHAR	time_series
EDCSTD_SRF	VALIDMIN	CDF_REAL4	0.0
EDCSTD_SRF	VALIDMAX	CDF_REAL4	1.0e+30
EDCSTD_SRF	SCALEMIN	CDF_REAL4	0.0
EDCSTD_SRF	SCALEMAX	CDF_REAL4	1.0e+30
EDCSTD_SRF	FILLVAL	CDF_REAL4	-1.0e+31
EDCSTD_SRF	LABLAXIS	CDF_CHAR	EDC_SRF std
EDCSTD_SRF	UNITS	CDF_CHAR	mV/m
EDCSTD_SRF	VAR_TYPE	CDF_CHAR	data
EDCSTD_SRF	SCALETYP	CDF_CHAR	linear
EDCSTD_SRF	VAR_NOTES	CDF_CHAR	Uses SRF coordinates as vector basis. Standard deviation is counted from the median value.
EDCSTD_SRF	DEPEND_0	CDF_CHAR	Epoch
EDCSTD_SRF	FORMAT	CDF_CHAR	G12.5
EDCSTD_SRF	UCD	CDF_CHAR	
EDCSTD_SRF	DELTA_PLUS_VAR	CDF_CHAR	DELTA_PLUS_MINUS
EDCSTD_SRF	DELTA_MINUS_VAR	CDF_CHAR	DELTA_PLUS_MINUS
EDCSTD_SRF	LABL_PTR_1	CDF_CHAR	EDCSTD_SRF_LABEL
EDCSTD_SRF	SI_CONVERSION	CDF_CHAR	1.0e-3>V/m
DELTA_PLUS_MINUS	FIELDNAM	CDF_CHAR	DELTA_PLUS_MINUS
DELTA_PLUS_MINUS	CATDESC	CDF_CHAR	Time between sample timestamp and beginning/end of integration. Total integration time is twice this value.
DELTA_PLUS_MINUS	DISPLAY_TYPE	CDF_CHAR	time_series
DELTA_PLUS_MINUS	VALIDMIN	CDF_INT8	3700
DELTA_PLUS_MINUS	VALIDMAX	CDF_INT8	70000000
DELTA_PLUS_MINUS	SCALEMIN	CDF_INT8	3700
DELTA_PLUS_MINUS	SCALEMAX	CDF_INT8	70000000

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 957

Tab. 4.144 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
DELTA_PLUS_MINUS	FILLVAL	CDF_INT8	-9223372036854775808
DELTA_PLUS_MINUS	LABLAXIS	CDF_CHAR	Delta plus minus
DELTA_PLUS_MINUS	UNITS	CDF_CHAR	ns
DELTA_PLUS_MINUS	VAR_TYPE	CDF_CHAR	support_data
DELTA_PLUS_MINUS	SCALETYP	CDF_CHAR	linear
DELTA_PLUS_MINUS	VAR_NOTES	CDF_CHAR	
DELTA_PLUS_MINUS	DEPEND_0	CDF_CHAR	Epoch
DELTA_PLUS_MINUS	FORMAT	CDF_CHAR	I1.1
DELTA_PLUS_MINUS	UCD	CDF_CHAR	

4.1.4.6.6 Non-Record-Variant (NRV) Variables

Variable Name	Index	Value
EDC_SRF_LABEL	1	EDC_SRF_X
EDC_SRF_LABEL	2	EDC_SRF_Y
EDC_SRF_LABEL	3	EDC_SRF_Z
EDCSTD_SRF_LABEL	1	EDCSTD_SRF_X
EDCSTD_SRF_LABEL	2	EDCSTD_SRF_Y
EDCSTD_SRF_LABEL	3	EDCSTD_SRF_Z

4.1.4.7 SOLO_L3_RPW-BIA-DENSITY data product

Calibrated plasma density, derived from the spacecraft potential. Generated from data in the corresponding SOLO_L2_RPW-LFR-SURV-CWF-E parent file.


4.1.4.7.1 Filename

```
solo_L3_rpw-bia-density_[YYYYMMDD]_V[version].cdf
```

4.1.4.7.2 Expected cadence and data volume

Nominal cadence: 1 file per day


Expected data volume: 50 MB per file

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 958

4.1.4.7.3 Global Attributes

Attribute Name	Entry Number	Data Type	Value
ACCESS_FORMAT	1	CDF_CHAR	CDF
ACCESS_URL	1	CDF_CHAR	
Acknowledgement	1	CDF_CHAR	The authors are pleased to acknowledge the Solar Orbiter/RPW Investigation (M. Maksimovic, PIs) for access to data.
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009_Issue2_Rev3
Data_type	1	CDF_CHAR	H0>High Resolution data
Data_version	1	CDF_CHAR	
Descriptor	1	CDF_CHAR	RPW-LFR-BIA-DENSITY>RPW Low Frequency Receiver Plasma density
Discipline	1	CDF_CHAR	Space Physics>Interplanetary Studies
File_naming_convention	1	CDF_CHAR	<Source_name>_<LEVEL>_<Descriptor>_<Date>
File_ID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	RPW Operations Centre located at LESIA (Meudon, France)
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	https://rpw.lesia.obspm.fr
Instrument_type	1	CDF_CHAR	Radio and Plasma Waves (space)
LINK_TEXT	1	CDF_CHAR	RPW Web site at LESIA
LINK_TITLE	1	CDF_CHAR	RPW Web site
Logical_file_id	1	CDF_CHAR	
Logical_source	1	CDF_CHAR	solo_L3_rpw-lfr-bia-density
Logical_source_description	1	CDF_CHAR	Solar Orbiter Radio/Plasma Wave, LFR L3 plasma density derived from the spacecraft potential
Misc_calibration_versions	1	CDF_CHAR	
Mission_group	1	CDF_CHAR	Solar Orbiter
MODS	1	CDF_CHAR	
Parent_version	1	CDF_CHAR	
Parents	1	CDF_CHAR	
PI_affiliation	1	CDF_CHAR	LESIA, Observatoire de Paris-CNRS
PI_name	1	CDF_CHAR	M.Maksimovic
Pipeline_version	1	CDF_CHAR	
Project	1	CDF_CHAR	SOLO>Solar Orbiter
Provider	1	CDF_CHAR	
REFERENCE	1	CDF_CHAR	ROC-DAT-PRO-NTT-00075-LES_Issue1_Rev0


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 959

Tab. 4.145 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Rules_of_use	1	CDF_CHAR	Data provided are publicly available. If used in presentations or publications, please acknowledge Solar Orbiter/RPW Investigation (M. Maksimovic, PIs). Please read carefully the caveats attached to the data. For reporting purposes, we request bibliography information for any publication, etc., using these data. Please send information on the use of this data to: M. Maksimovic (PI).
SKELETON_MODS	1	CDF_CHAR	V01: Dec 2020: initial release - E.Johansson (IRF)
SKELETON_MODS	2	CDF_CHAR	V02: Feb 2021: Corrections after SOAR review. Adjusted VALIDMIN, SCALEMIN; typosfix SI_CONVERSION, FIELDNAM; DELTA_PLUS_MINUS: VALID*, SCALE* zv.attrs.; LABL_PTR1 removed; Removed duplicate g.attr. Calibration_version - E.Johansson (IRF)
SKELETON_PARENT	1	CDF_CHAR	SOLO_L3_RPW-LFR-BIA-DENSITY
Skeleton_version	1	CDF_CHAR	02
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	SOLO>Solar Orbiter
SPECTRAL_RANGE_MAX	1	CDF_CHAR	
SPECTRAL_RANGE_MIN	1	CDF_CHAR	
TEXT	1	CDF_CHAR	This file contains RPW LFR level 3 plasma density derived from the spacecraft potential.
TEXT_supplement_1	1	CDF_CHAR	
TIME_MAX	1	CDF_CHAR	
TIME_MIN	1	CDF_CHAR	
Validate	1	CDF_CHAR	
CAVEATS	1	CDF_CHAR	
CAL_ENTITY_NAME	1	CDF_CHAR	
CAL_ENTITY_AFFILIATION	1	CDF_CHAR	
CAL_EQUIPMENT	1	CDF_CHAR	
CALIBRATION_TABLE	1	CDF_CHAR	
CALIBRATION_VERSION	1	CDF_CHAR	

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 960

Tab. 4.145 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Datetime	1	CDF_CHAR	
Free_field	1	CDF_CHAR	
Job_ID	1	CDF_CHAR	
LEVEL	1	CDF_CHAR	L3>Level 3 data processing
SOOP_TYPE	1	CDF_CHAR	
Data_product	1	CDF_CHAR	BIA-DENSITY>BIA-DENSITY
TARGET_NAME	1	CDF_CHAR	Sun
TARGET_CLASS	1	CDF_CHAR	Star
TARGET_REGION	1	CDF_CHAR	Solar Wind
Pipeline_name	1	CDF_CHAR	
Dataset_ID	1	CDF_CHAR	SOLO_L3_RPW-LFR-BIA-DENSITY
OBS_ID	1	CDF_CHAR	


4.1.4.7.4 zVariables

Variable Name	Data Type	Number Elements	Dims	Sizes
Epoch	CDF_TIME_TT2000	1	0	
QUALITY_FLAG	CDF_UINT1	1	0	
QUALITY_BITMASK	CDF_UINT2	1	0	
L2_QUALITY_BITMASK	CDF_UINT2	1	0	
DENSITY	CDF_REAL4	1	0	
DELTA_PLUS_MINUS	CDF_INT8	1	0	

4.1.4.7.5 Variable attributes

Variable Name	Attribute Name	Data Type	Value
Epoch	FIELDNAM	CDF_CHAR	Epoch
Epoch	CATDESC	CDF_CHAR	Default time
Epoch	DISPLAY_TYPE	CDF_CHAR	time_series
Epoch	VALIDMIN	CDF_TIME_TT2000	2000-01-01T00:00:00.000000000
Epoch	VALIDMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch	SCALEMIN	CDF_TIME_TT2000	1990-01-01T00:00:00.000000000


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 961

Tab. 4.146 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
Epoch	SCALEMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch	LABLAXIS	CDF_CHAR	Epoch
Epoch	UNITS	CDF_CHAR	ns
Epoch	VAR_TYPE	CDF_CHAR	support_data
Epoch	SCALETYP	CDF_CHAR	linear
Epoch	MONOTON	CDF_CHAR	INCREASE
Epoch	TIME_BASE	CDF_CHAR	J2000
Epoch	TIME_SCALE	CDF_CHAR	Terrestrial Time
Epoch	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
Epoch	Resolution	CDF_CHAR	15258 ns
Epoch	Bin_location	CDF_CHAR	0.5
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file.
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	VALIDMIN	CDF_UINT1	0
QUALITY_FLAG	VALIDMAX	CDF_UINT1	4
QUALITY_FLAG	SCALEMIN	CDF_UINT1	0
QUALITY_FLAG	SCALEMAX	CDF_UINT1	4
QUALITY_FLAG	FILLVAL	CDF_UINT1	255
QUALITY_FLAG	LABLAXIS	CDF_CHAR	Quality flag
QUALITY_FLAG	UNITS	CDF_CHAR	
QUALITY_FLAG	VAR_TYPE	CDF_CHAR	support_data
QUALITY_FLAG	SCALETYP	CDF_CHAR	linear
QUALITY_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the quality of the data
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
QUALITY_FLAG	UCD	CDF_CHAR	meta.code
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
QUALITY_BITMASK	SCALEMAX	CDF_UINT2	100
QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 962

Tab. 4.146 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	UNITS	CDF_CHAR	
QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context information or status at the receiver or experiment level
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
QUALITY_BITMASK	UCD	CDF_CHAR	meta.code
L2_QUALITY_BITMASK	FIELDNAM	CDF_CHAR	L2_QUALITY_BITMASK
L2_QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
L2_QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
L2_QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
L2_QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
L2_QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
L2_QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
L2_QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
L2_QUALITY_BITMASK	LABLAXIS	CDF_CHAR	L2 Bitmask flag
L2_QUALITY_BITMASK	UNITS	CDF_CHAR	
L2_QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
L2_QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
L2_QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context or events that can alter data - bit0: partial saturation -bit1: full saturation
L2_QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
L2_QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
DENSITY	FIELDNAM	CDF_CHAR	Plasma density
DENSITY	CATDESC	CDF_CHAR	Plasma density derived from probe-to-spacecraft potential and electron plasma frequency.
DENSITY	DISPLAY_TYPE	CDF_CHAR	time_series
DENSITY	VALIDMIN	CDF_REAL4	0.0
DENSITY	VALIDMAX	CDF_REAL4	1.0e+30
DENSITY	SCALEMIN	CDF_REAL4	0.0
DENSITY	SCALEMAX	CDF_REAL4	1.0e+30
DENSITY	FILLVAL	CDF_REAL4	-1.0e+31
DENSITY	LABLAXIS	CDF_CHAR	N
DENSITY	UNITS	CDF_CHAR	cm^-3

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 963


Tab. 4.146 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
DENSITY	VAR_TYPE	CDF_CHAR	data
DENSITY	SCALETYP	CDF_CHAR	linear
DENSITY	VAR_NOTES	CDF_CHAR	
DENSITY	DEPEND_0	CDF_CHAR	Epoch
DENSITY	FORMAT	CDF_CHAR	G12.5
DENSITY	UCD	CDF_CHAR	
DENSITY	DELTA_PLUS_VAR	CDF_CHAR	DELTA_PLUS_MINUS
DENSITY	DELTA_MINUS_VAR	CDF_CHAR	DELTA_PLUS_MINUS
DENSITY	SI_CONVERSION	CDF_CHAR	1.0e6>m^-3
DELTA_PLUS_MINUS	FIELDNAM	CDF_CHAR	DELTA_PLUS_MINUS
DELTA_PLUS_MINUS	CATDESC	CDF_CHAR	Time between sample times- tamp and beginning/end of in- tegration. Total integration time is twice this value.
DELTA_PLUS_MINUS	DISPLAY_TYPE	CDF_CHAR	time_series
DELTA_PLUS_MINUS	VALIDMIN	CDF_INT8	3700
DELTA_PLUS_MINUS	VALIDMAX	CDF_INT8	70000000
DELTA_PLUS_MINUS	SCALEMIN	CDF_INT8	3700
DELTA_PLUS_MINUS	SCALEMAX	CDF_INT8	70000000
DELTA_PLUS_MINUS	FILLVAL	CDF_INT8	-9223372036854775808
DELTA_PLUS_MINUS	LABLAXIS	CDF_CHAR	Delta plus minus
DELTA_PLUS_MINUS	UNITS	CDF_CHAR	ns
DELTA_PLUS_MINUS	VAR_TYPE	CDF_CHAR	support_data
DELTA_PLUS_MINUS	SCALETYP	CDF_CHAR	linear
DELTA_PLUS_MINUS	VAR_NOTES	CDF_CHAR	
DELTA_PLUS_MINUS	DEPEND_0	CDF_CHAR	Epoch
DELTA_PLUS_MINUS	FORMAT	CDF_CHAR	I1.1
DELTA_PLUS_MINUS	UCD	CDF_CHAR	

4.1.4.7.6 Non-Record-Variant (NRV) Variables

4.1.4.8 SOLO_L3_RPW-BIA-DENSITY-10-SECONDS data product

Calibrated plasma density, derived from the spacecraft potential. The data has been downsampled to uninterrupted 10 second time resolution (median), with fill values for all data gaps and standard deviation for each bin. Generated from data in the corresponding SOLO_L2_RPW-LFR-SURV-CWF-E parent file.

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 964

4.1.4.8.1 Filename

```
solo_L3_rpw-bia-density-10-seconds_[YYYYMMDD]_V[version].cdf
```

4.1.4.8.2 Expected cadence and data volume


Nominal cadence: 1 file per day

Expected data volume: 300 kB per file

4.1.4.8.3 Global Attributes

Attribute Name	Entry Number	Data Type	Value
ACCESS_FORMAT	1	CDF_CHAR	CDF
ACCESS_URL	1	CDF_CHAR	
Acknowledgement	1	CDF_CHAR	The authors are pleased to acknowledge the Solar Orbiter/RPW Investigation (M. Maksimovic, PIs) for access to data.
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009_Issue2_Rev3
Data_type	1	CDF_CHAR	H0>High Resolution data
Data_version	1	CDF_CHAR	
Descriptor	1	CDF_CHAR	RPW-LFR-BIA-DENSITY-10-SECONDS>RPW Low Frequency Receiver Plasma density, downsampled
Discipline	1	CDF_CHAR	Space Physics>Interplanetary Studies
File_naming_convention	1	CDF_CHAR	<Source_name>_<LEVEL>_<Descriptor>_<Date>
File_ID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	RPW Operations Centre located at LESIA (Meudon, France)
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	https://rpw.lesia.obspm.fr
Instrument_type	1	CDF_CHAR	Radio and Plasma Waves (space)
LINK_TEXT	1	CDF_CHAR	RPW Web site at LESIA
LINK_TITLE	1	CDF_CHAR	RPW Web site
Logical_file_id	1	CDF_CHAR	
Logical_source	1	CDF_CHAR	solo_L3_rpw-lfr-bia-density-10-seconds
Logical_source_description	1	CDF_CHAR	Solar Orbiter Radio/Plasma Wave, LFR L3 plasma density derived from the spacecraft potential, downsampled


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 965

Tab. 4.147 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Misc_calibration_versions	1	CDF_CHAR	
Mission_group	1	CDF_CHAR	Solar Orbiter
MODS	1	CDF_CHAR	
Parent_version	1	CDF_CHAR	
Parents	1	CDF_CHAR	
PI_affiliation	1	CDF_CHAR	LESIA, Observatoire de Paris-CNRS
PI_name	1	CDF_CHAR	M.Maksimovic
Pipeline_version	1	CDF_CHAR	
Project	1	CDF_CHAR	SOLO>Solar Orbiter
Provider	1	CDF_CHAR	
REFERENCE	1	CDF_CHAR	ROC-DAT-PRO-NTT-00075-LES_Issue1_Rev0
Rules_of_use	1	CDF_CHAR	Data provided are publicly available. If used in presentations or publications, please acknowledge Solar Orbiter/RPW Investigation (M. Maksimovic, PIs). Please read carefully the caveats attached to the data. For reporting purposes, we request bibliography information for any publication, etc., using these data. Please send information on the use of this data to: M. Maksimovic (PI).
SKELETON_MODS	1	CDF_CHAR	V01: Dec 2020: initial release - E.Johansson (IRF)
SKELETON_MODS	2	CDF_CHAR	V02: Feb 2021: Corrections after SOAR review. Adjusted VALIDMIN, SCALEMIN; typosfix SI_CONVERSION, FIELDNAM; DELTA_PLUS_MINUS: VALID*, SCALE* zv.attrs.; LABL_PTR1 removed; Removed duplicate g.attr. Calibration_version - E.Johansson (IRF)
SKELETON_PARENT	1	CDF_CHAR	SOLO_L3_RPW-LFR-BIA-DENSITY-10-SECONDS
Skeleton_version	1	CDF_CHAR	02
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	SOLO>Solar Orbiter
SPECTRAL_RANGE_MAX	1	CDF_CHAR	
SPECTRAL_RANGE_MIN	1	CDF_CHAR	

continues on next page


	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 966

Tab. 4.147 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
TEXT	1	CDF_CHAR	This file contains RPW LFR level 3 plasma density derived from the spacecraft potential, downsampled.
TEXT_supplement_1	1	CDF_CHAR	
TIME_MAX	1	CDF_CHAR	
TIME_MIN	1	CDF_CHAR	
Validate	1	CDF_CHAR	
CAVEATS	1	CDF_CHAR	
CAL_ENTITY_NAME	1	CDF_CHAR	
CAL_ENTITY_AFFILIATION	1	CDF_CHAR	
CAL_EQUIPMENT	1	CDF_CHAR	
CALIBRATION_TABLE	1	CDF_CHAR	
CALIBRATION_VERSION	1	CDF_CHAR	
Datetime	1	CDF_CHAR	
Free_field	1	CDF_CHAR	
Job_ID	1	CDF_CHAR	
LEVEL	1	CDF_CHAR	L3>Level 3 data processing
SOOP_TYPE	1	CDF_CHAR	
Data_product	1	CDF_CHAR	BIA-DENSITY>BIA-DENSITY
TARGET_NAME	1	CDF_CHAR	Sun
TARGET_CLASS	1	CDF_CHAR	Star
TARGET_REGION	1	CDF_CHAR	Solar Wind
Pipeline_name	1	CDF_CHAR	
Dataset_ID	1	CDF_CHAR	SOLO_L3_RPW-LFR-BIA-DENSITY-10-SECONDS
OBS_ID	1	CDF_CHAR	

4.1.4.8.4 zVariables


Variable Name	Data Type	Number Elements	Dims	Sizes
Epoch	CDF_TIME_TT2000	1	0	
QUALITY_FLAG	CDF_UINT1	1	0	
QUALITY_BITMASK	CDF_UINT2	1	0	
L2_QUALITY_BITMASK	CDF_UINT2	1	0	
DENSITY	CDF_REAL4	1	0	
DENSITYSTD	CDF_REAL4	1	0	
DELTA_PLUS_MINUS	CDF_INT8	1	0	

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 967

4.1.4.8.5 Variable attributes

Variable Name	Attribute Name	Data Type	Value
Epoch	FIELDNAM	CDF_CHAR	Epoch
Epoch	CATDESC	CDF_CHAR	Default time
Epoch	DISPLAY_TYPE	CDF_CHAR	time_series
Epoch	VALIDMIN	CDF_TIME_TT2000	2000-01-01T00:00:00.000000000
Epoch	VALIDMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch	SCALEMIN	CDF_TIME_TT2000	1990-01-01T00:00:00.000000000
Epoch	SCALEMAX	CDF_TIME_TT2000	2050-12-31T23:59:59.999000000
Epoch	FILLVAL	CDF_TIME_TT2000	9999-12-31T23:59:59.999999999
Epoch	LABLAXIS	CDF_CHAR	Epoch
Epoch	UNITS	CDF_CHAR	ns
Epoch	VAR_TYPE	CDF_CHAR	support_data
Epoch	SCALETYP	CDF_CHAR	linear
Epoch	MONOTON	CDF_CHAR	INCREASE
Epoch	TIME_BASE	CDF_CHAR	J2000
Epoch	TIME_SCALE	CDF_CHAR	Terrestrial Time
Epoch	REFERENCE_POSITION	CDF_CHAR	Spacecraft barycenter
Epoch	Resolution	CDF_CHAR	15258 ns
Epoch	Bin_location	CDF_CHAR	0.5
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file.
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	VALIDMIN	CDF_UINT1	0
QUALITY_FLAG	VALIDMAX	CDF_UINT1	4
QUALITY_FLAG	SCALEMIN	CDF_UINT1	0
QUALITY_FLAG	SCALEMAX	CDF_UINT1	4
QUALITY_FLAG	FILLVAL	CDF_UINT1	255
QUALITY_FLAG	LABLAXIS	CDF_CHAR	Quality flag
QUALITY_FLAG	UNITS	CDF_CHAR	
QUALITY_FLAG	VAR_TYPE	CDF_CHAR	support_data
QUALITY_FLAG	SCALETYP	CDF_CHAR	linear
QUALITY_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the quality of the data


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 968

Tab. 4.148 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
QUALITY_FLAG	UCD	CDF_CHAR	meta.code
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
QUALITY_BITMASK	SCALEMAX	CDF_UINT2	100
QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	UNITS	CDF_CHAR	
QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context information or status at the receiver or experiment level
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
QUALITY_BITMASK	UCD	CDF_CHAR	meta.code
L2_QUALITY_BITMASK	FIELDNAM	CDF_CHAR	L2_QUALITY_BITMASK
L2_QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
L2_QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
L2_QUALITY_BITMASK	VALIDMIN	CDF_UINT2	0
L2_QUALITY_BITMASK	VALIDMAX	CDF_UINT2	65534
L2_QUALITY_BITMASK	SCALEMIN	CDF_UINT2	0
L2_QUALITY_BITMASK	SCALEMAX	CDF_UINT2	65534
L2_QUALITY_BITMASK	FILLVAL	CDF_UINT2	65535
L2_QUALITY_BITMASK	LABLAXIS	CDF_CHAR	L2 Bitmask flag
L2_QUALITY_BITMASK	UNITS	CDF_CHAR	
L2_QUALITY_BITMASK	VAR_TYPE	CDF_CHAR	support_data
L2_QUALITY_BITMASK	SCALETYP	CDF_CHAR	linear
L2_QUALITY_BITMASK	VAR_NOTES	CDF_CHAR	Flag to indicate any context or events that can alter data - bit0: partial saturation -bit1: full saturation
L2_QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
L2_QUALITY_BITMASK	FORMAT	CDF_CHAR	I5
DENSITY	FIELDNAM	CDF_CHAR	Plasma density, downsampled


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 969

Tab. 4.148 – continued from previous page


Variable Name	Attribute Name	Data Type	Value
DENSITY	CATDESC	CDF_CHAR	Plasma density derived from probe-to-spacecraft potential and electron plasma frequency. Median value over 10 s interval.
DENSITY	DISPLAY_TYPE	CDF_CHAR	time_series
DENSITY	VALIDMIN	CDF_REAL4	0.0
DENSITY	VALIDMAX	CDF_REAL4	1.0e+30
DENSITY	SCALEMIN	CDF_REAL4	0.0
DENSITY	SCALEMAX	CDF_REAL4	1.0e+30
DENSITY	FILLVAL	CDF_REAL4	-1.0e+31
DENSITY	LABLAXIS	CDF_CHAR	N median
DENSITY	UNITS	CDF_CHAR	cm ⁻³
DENSITY	VAR_TYPE	CDF_CHAR	data
DENSITY	SCALETYP	CDF_CHAR	linear
DENSITY	VAR_NOTES	CDF_CHAR	
DENSITY	DEPEND_0	CDF_CHAR	Epoch
DENSITY	FORMAT	CDF_CHAR	G12.5
DENSITY	UCD	CDF_CHAR	
DENSITY	DELTA_PLUS_VAR	CDF_CHAR	DELTA_PLUS_MINUS
DENSITY	DELTA_MINUS_VAR	CDF_CHAR	DELTA_PLUS_MINUS
DENSITY	SI_CONVERSION	CDF_CHAR	1.0e6>m ⁻³
DENSITYSTD	FIELDNAM	CDF_CHAR	Plasma density, std. deviation
DENSITYSTD	CATDESC	CDF_CHAR	Standard deviation of the plasma density over 10 s interval.
DENSITYSTD	DISPLAY_TYPE	CDF_CHAR	time_series
DENSITYSTD	VALIDMIN	CDF_REAL4	0.0
DENSITYSTD	VALIDMAX	CDF_REAL4	1.0e+30
DENSITYSTD	SCALEMIN	CDF_REAL4	0.0
DENSITYSTD	SCALEMAX	CDF_REAL4	1.0e+30
DENSITYSTD	FILLVAL	CDF_REAL4	-1.0e+31
DENSITYSTD	LABLAXIS	CDF_CHAR	N std
DENSITYSTD	UNITS	CDF_CHAR	cm ⁻³
DENSITYSTD	VAR_TYPE	CDF_CHAR	data
DENSITYSTD	SCALETYP	CDF_CHAR	linear

continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 970

Tab. 4.148 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
DENSITYSTD	VAR_NOTES	CDF_CHAR	Standard deviation of plasma density derived from probe-to-spacecraft potential and electron plasma frequency. Standard deviation is counted from the median value.
DENSITYSTD	DEPEND_0	CDF_CHAR	Epoch
DENSITYSTD	FORMAT	CDF_CHAR	G12.5
DENSITYSTD	UCD	CDF_CHAR	
DENSITYSTD	DELTA_PLUS_VAR	CDF_CHAR	DELTA_PLUS_MINUS
DENSITYSTD	DELTA_MINUS_VAR	CDF_CHAR	DELTA_PLUS_MINUS
DENSITYSTD	SI_CONVERSION	CDF_CHAR	1.0e6>m^-3
DELTA_PLUS_MINUS	FIELDNAM	CDF_CHAR	DELTA_PLUS_MINUS
DELTA_PLUS_MINUS	CATDESC	CDF_CHAR	Time between sample timestamp and beginning/end of integration. Total integration time is twice this value.
DELTA_PLUS_MINUS	DISPLAY_TYPE	CDF_CHAR	time_series
DELTA_PLUS_MINUS	VALIDMIN	CDF_INT8	3700
DELTA_PLUS_MINUS	VALIDMAX	CDF_INT8	70000000
DELTA_PLUS_MINUS	SCALEMIN	CDF_INT8	3700
DELTA_PLUS_MINUS	SCALEMAX	CDF_INT8	70000000
DELTA_PLUS_MINUS	FILLVAL	CDF_INT8	-9223372036854775808
DELTA_PLUS_MINUS	LABLAXIS	CDF_CHAR	Delta plus minus
DELTA_PLUS_MINUS	UNITS	CDF_CHAR	ns
DELTA_PLUS_MINUS	VAR_TYPE	CDF_CHAR	support_data
DELTA_PLUS_MINUS	SCALETYP	CDF_CHAR	linear
DELTA_PLUS_MINUS	VAR_NOTES	CDF_CHAR	
DELTA_PLUS_MINUS	DEPEND_0	CDF_CHAR	Epoch
DELTA_PLUS_MINUS	FORMAT	CDF_CHAR	I1.1
DELTA_PLUS_MINUS	UCD	CDF_CHAR	

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 971

4.1.4.8.6 Non-Record-Variant (NRV) Variables

4.1.5 CAL - Calibration data products

4.1.5.1 RPW CAL data product common description

4.1.5.1.1 RPW CAL data product format

According to [AD.01], the RPW CAL data products are saved in Common Data format (CDF) files with the following options.

DATA ENCODING	NETWORK
MAJORITY	COLUMN
FORMAT	SINGLE
CDF_COMPRESSION	None
CDF_CHECKSUM	MD5
VAR_COMPRESSION	None
VAR_SPARESERECORDS	None
VAR_PADVALUE	None


4.1.5.1.2 RPW CAL data product metadata

Table below gives the CDF attributes which are specific to RPW CAL data products. All other attributes are defined in [AD.01].

Attribute name	Attribute category	Attribute data type	Attribute definition
APPLICABLE	Global	CDF_CHAR	Applicable document.
Provider	Global	CDF_CHAR	Name of the data provider.
SKELETON_PARENT	Global	CDF_CHAR	Name of the CDF skeleton parent file (if any).

4.1.5.2 SOLO_CAL_RPW-THR-HFR data product

The “SOLO_CAL_RPW-THR-HFR” data product contains the calibration tables for the RPW HFR receiver. The “SOLO_CAL_RPW-THR-HFR” data are written in CDF format files. A new file is generated each time new calibration tables are available for HFR.

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 972

4.1.5.2.1 Filename

SOLO_CAL_RPW-THR-HFR_V[version].cdf

Where:

- [version] is the date and time of calibration table release (format is YYYYMMDDHHMMSS).

4.1.5.3 SOLO_CAL_RPW-THR-TNR data product

The “SOLO_CAL_RPW-THR-TNR” data product contains the calibration tables for the RPW TNR receiver. This product is used to calibrate electrical measurements acquired by the receiver when a channel is connected to electrical antenna sensors. It includes HF pre-amplifier contribution. The “SOLO_CAL_RPW-THR-TNR” data are written in CDF format files. A new file is generated each time new calibration tables are available for TNR.

4.1.5.3.1 Filename

SOLO_CAL_RPW-THR-TNRSA_V[version].cdf

Where:

- [version] is the date and time of calibration table release (format is YYYYMMDDHHMMSS).

4.1.5.4 SOLO_CAL_RPW-THR-TNRSA data product


The “SOLO_CAL_RPW-THR-TNRSA” data product contains the calibration tables for the RPW TNR receiver, but obtained from “stand-alone” calibrations performed on-ground without the pre-amplifiers. This product is used to calibrate magnetic measurements acquired by the receiver when a channel is connected to the SCM sensor. The “SOLO_CAL_RPW-THR-TNRSA” data are written in CDF format files. A new file is generated each time new calibration tables are available for TNR.

4.1.5.4.1 Filename

SOLO_CAL_RPW-THR-TNRSA_V[version].cdf

Where:

- [version] is the date and time of calibration table release (format is YYYYMMDDHHMMSS).

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 973

4.1.5.5 SOLO_CAL_RPW-THR-ANT-HF_PARAMS data product

The “SOLO_CAL_RPW-THR-ANT-HF_PARAMS” data product contains calibration tables for the RPW HF Pre-amplifiers + antennas. The “SOLO_CAL_RPW-THR-ANT-HF_PARAMS” data are written in CDF format files. A new file is generated each time new calibration tables are available for HFR.

4.1.5.5.1 Filename

SOLO_CAL_RPW-THR-ANT-HF_PARAMS_V[version].cdf

Where:

- [version] is the date and time of calibration table release (format is YYYYMMDDHHMMSS).

4.1.5.6 SOLO_CAL_RPW-TDS-LFM-CWF-B data product

The “SOLO_CAL_RPW-TDS-LFM-CWF-B” data product contains calibration tables for the TDS receiver. This product is used to calibrate magnetic CWF data in LFM mode. The “SOLO_CAL_RPW-TDS-LFM-CWF-B” data are written in CDF format files. A new file is generated each time new calibration tables are available for TDS.

4.1.5.6.1 Filename


SOLO_CAL_RPW-TDS-LFM-CWF-B_V[version].cdf

Where:

- [version] is the date and time of calibration table release (format is YYYYMMDDHHMMSS).

4.1.5.7 SOLO_CAL_RPW-TDS-LFM-CWF-E data product

The “SOLO_CAL_RPW-TDS-LFM-CWF-E” data product contains calibration tables for the TDS receiver. It is used by the BICAS software to make SOLO_L2_RPW-TDS-LFM-CWF-E data product. The “SOLO_CAL_RPW-TDS-LFM-CWF-E” data are written in CDF format files. A new file is generated each time new calibration tables are available for TDS.

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 974

4.1.5.7.1 Filename

```
SOLO_CAL_RPW-TDS-LFM-CWF-E_V[version].cdf
```

Where:

- [version] is the date and time of calibration table release (format is YYYYMMDDHHMMSS).

4.1.5.8 SOLO_CAL_RPW-TDS-LFM-RSWF-B data product

The “SOLO_CAL_RPW-TDS-LFM-RSWF-B” data product contains calibration tables for the TDS receiver. This product is used to calibrate magnetic RSWF data in LFM mode. The “SOLO_CAL_RPW-TDS-LFM-RSWF-B” data are written in CDF format files. A new file is generated each time new calibration tables are available for TDS.

4.1.5.8.1 Filename

```
SOLO_CAL_RPW-TDS-LFM-RSWF-B_V[version].cdf
```

Where:

- [version] is the date and time of calibration table release (format is YYYYMMDDHHMMSS).

4.1.5.9 SOLO_CAL_RPW-TDS-LFM-RSWF-E data product


The “SOLO_CAL_RPW-TDS-LFM-RSWF-E” data product contains calibration tables for the TDS receiver. It used by the BICAS software to generate RPW L2 LF electrical RSWF data products. The “SOLO_CAL_RPW-TDS-LFM-RSWF-E” data are written in CDF format files. A new file is generated each time new calibration tables are available for TDS.

4.1.5.9.1 Filename

```
SOLO_CAL_RPW-TDS-LFM-RSWF-E_V[version].cdf
```

Where:

- [version] is the date and time of calibration table release (format is YYYYMMDDHHMMSS).

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 975

4.1.5.10 SOLO_CAL_RPW-TDS-SURV-MAMP data product

The “SOLO_CAL_RPW-TDS-SURV-MAMP” data product contains calibration tables for the TDS receiver. This product is used to calibrate MAMP data in survey mode. The “SOLO_CAL_RPW-TDS-SURV-MAMP” data are written in CDF format files. A new file is generated each time new calibration tables are available for TDS.

4.1.5.10.1 Filename

SOLO_CAL_RPW-TDS-SURV-MAMP_V[version].cdf

Where:

- [version] is the date and time of calibration table release (format is YYYYMMDDHHMMSS).

4.1.5.11 SOLO_CAL_RPW-TDS-SURV-STAT data product

The “SOLO_CAL_RPW-TDS-SURV-STAT” data product contains calibration tables for the TDS receiver. This product is used to calibrate STAT data in survey mode. The “SOLO_CAL_RPW-TDS-SURV-STAT” data are written in CDF format files. A new file is generated each time new calibration tables are available for TDS.

4.1.5.11.1 Filename


SOLO_CAL_RPW-TDS-SURV-STAT_V[version].cdf

Where:

- [version] is the date and time of calibration table release (format is YYYYMMDDHHMMSS).

4.1.5.12 SOLO_CAL_RPW-TDS-SURV-SWF-E data product

The “SOLO_CAL_RPW-TDS-SURV-SWF-E” data product contains calibration tables for the TDS receiver. This product is used to calibrate electrical SWF E data in survey mode. The “SOLO_CAL_RPW-TDS-SURV-SWF-E” data are written in CDF format files. A new file is generated each time new calibration tables are available for TDS.

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 976

4.1.5.12.1 Filename

```
SOLO_CAL_RPW-TDS-SURV-SWF-E_V[version].cdf
```

Where:

- [version] is the date and time of calibration table release (format is YYYYMMDDHHMMSS).

4.1.5.13 SOLO_CAL_RCT-LFR-VHF data product

The “SOLO_CAL_RCT-LFR-VHF” data product contains the calibration tables for LFR receiver. It uses to calibrate HF electrical measurements at LFR receiver level. The “SOLO_CAL_RCT-LFR-VHF” data are written in CDF format files. A new file is generated each time new calibration tables are available for LFR.

4.1.5.13.1 Filename

```
SOLO_CAL_RCT-LFR-VHF_V[version].cdf
```

Where:

- [version] is the date and time of calibration table release (format is YYYYMMDDHHMMSS).

4.1.5.14 SOLO_CAL_RCT-LFR-SCM data product


The “SOLO_CAL_RCT-LFR-SCM” data product contains the calibration tables for LFR receiver. It uses to by SCMCAL software to generate RPW L2 LFR magnetic data products at SCM sensor level. The “SOLO_CAL_RCT-LFR-SCM” data are written in CDF format files. A new file is generated each time new calibration tables are available for LFR.

4.1.5.14.1 Filename

```
SOLO_CAL_RCT-LFR-SCM_V[version].cdf
```

Where:

- [version] is the date and time of calibration table release (format is YYYYMMDDHHMMSS).

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 977

4.1.5.15 SOLO_CAL_RCT-LFR-BIAS data product

The “SOLO_CAL_RCT-LFR-BIAS” data product contains calibration tables for LFR receiver. It used by the BICAS software to generate RPW L2 LF electrical data products. The “SOLO_CAL_RCT-LFR-BIAS” data are written in CDF format files. A new file is generated each time new calibration tables are available for LFR.

4.1.5.15.1 Filename

SOLO_CAL_RCT-LFR-BIAS_V[version].cdf

Where:

- [version] is the date and time of calibration table release (format is YYYYMMDDHHMMSS).

4.1.5.16 SOLO_CAL_RPW-SCM_SCM-FS-MEB-PFM data product

The “SOLO_CAL_RPW-SCM_SCM-FS-MEB-PFM” data product contains the tables to calibrate the RPW magnetic data as measured by the SCM sensor. The “SOLO_CAL_RPW-SCM_SCM-FS-MEB-PFM” data are written in CDF format files. A new file is generated each time new calibration tables are available for SCM.

4.1.5.16.1 Filename


SOLO_CAL_RPW-SCM_SCM-FS-MEB-PFM_V[version].cdf
--

Where:

- [version] is the date and time of calibration table release (format is YYYYMMDDHHMMSS).

4.1.5.17 SOLO_CAL_RPW-BIA data product

The “SOLO_CAL_RPW-BIA” data product contains the calibration tables for the electrical measurements at low frequencies involving the RPW Bias unit. It is used by the BICAS software to generate RPW L2 LF electrical data products. The “SOLO_CAL_RPW-BIA” data are written in CDF format files. A new file is generated each time new calibration tables are available.

	<p style="text-align: center;">RPW Data Product Description Document</p>	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 978

4.1.5.17.1 Filename


SOLO_CAL_RPW-BIAS_V[version].cdf

Where:

- [version] is the date and time of calibration table release (format is YYYYMMDDHHMMSS).

4.1.6 ANC - Ancillary data products


No ancillary data product is generated for RPW.

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 979

5 APPENDIX - DATA PRODUCTS MATRIX

Product name	Description	Descriptor	Free_field	Level
SOLO_L3_RPW-LFR-BIA-DENSITY-10-SECONDS	This file contains RPW LFR level 3 plasma density derived from the spacecraft potential, downsampled.	RPW-LFR-BIA-DENSITY-10-SECONDS>RPW Low Frequency Receiver Plasma density, down-sampled		L3>Level 3 data processing
SOLO_L3_RPW-LFR-BIA-DENSITY-10-SECONDS	This file contains RPW LFR level 3 plasma density derived from the spacecraft potential, downsampled.	RPW-LFR-BIA-DENSITY-10-SECONDS>RPW Low Frequency Receiver Plasma density, down-sampled		L3>Level 3 data processing
SOLO_L3_RPW-LFR-BIA-DENSITY	This file contains RPW LFR level 3 plasma density derived from the spacecraft potential.	RPW-LFR-BIA-DENSITY>RPW Low Frequency Receiver Plasma density		L3>Level 3 data processing
SOLO_L3_RPW-LFR-BIA-DENSITY	This file contains RPW LFR level 3 plasma density derived from the spacecraft potential.	RPW-LFR-BIA-DENSITY>RPW Low Frequency Receiver Plasma density		L3>Level 3 data processing
SOLO_L3_RPW-LFR-BIA-EFIELD-10-SECONDS	This file contains RPW LFR level 3 electric vector field data in SRF, downsampled.	RPW-LFR-BIA-EFIELD-10-SECONDS>RPW Low Frequency Receiver Electric field vector, downsampled		L3>Level 3 data processing


continues on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 980

Tab. 5.1 – continued from previous page


Product name	Description	Descriptor	Free_field	Level
SOLO_L3_RPW-LFR-BIA-EFIELD-10-SECONDS	This file contains RPW LFR level 3 electric vector field data in SRF, downsampled.	RPW-LFR-BIA-EFIELD-10-SECONDS>RPW Low Frequency Receiver Electric field vector, downsampled		L3>Level 3 data processing
SOLO_L3_RPW-LFR-BIA-EFIELD	This file contains RPW LFR level 3 electric vector field data in SRF.	RPW-LFR-BIA-EFIELD>RPW Low Frequency Receiver Electric field vector		L3>Level 3 data processing
SOLO_L3_RPW-LFR-BIA-EFIELD	This file contains RPW LFR level 3 electric vector field data in SRF.	RPW-LFR-BIA-EFIELD>RPW Low Frequency Receiver Electric field vector		L3>Level 3 data processing
SOLO_L3_RPW-LFR-BIA-SCPOT-10-SECONDS	This file contains RPW LFR level 3 spacecraft potential, downsampled.	RPW-LFR-BIA-SCPOT-10-SECONDS>RPW Low Frequency Receiver Spacecraft potential, downsampled		L3>Level 3 data processing
SOLO_L3_RPW-LFR-BIA-SCPOT-10-SECONDS	This file contains RPW LFR level 3 spacecraft potential, downsampled.	RPW-LFR-BIA-SCPOT-10-SECONDS>RPW Low Frequency Receiver Spacecraft potential, downsampled		L3>Level 3 data processing
SOLO_L3_RPW-LFR-BIA-SCPOT	This file contains RPW LFR level 3 spacecraft potential.	RPW-LFR-BIA-SCPOT>RPW Low Frequency Receiver Spacecraft potential		L3>Level 3 data processing
SOLO_L3_RPW-LFR-BIA-SCPOT	This file contains RPW LFR level 3 spacecraft potential.	RPW-LFR-BIA-SCPOT>RPW Low Frequency Receiver Spacecraft potential		L3>Level 3 data processing

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	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 03
		Date: March 11, 2021	Page: 981

Tab. 5.1 – continued from previous page

Product name	Description	Descriptor	Free_field	Level
SOLO_L3_RPW-TNR-FP	This file contains RPW plasma frequency data for the current day.	Plasma plasma frequency value from the plasma peak position		L3>Level 3 data processing

	<p>RPW Data Product Description Document</p>	<p>Ref: ROC-PRO-DAT-NTT-00075-LES</p> <table><tr><td>Issue 01</td><td>Revision 03</td></tr><tr><td>Date: March 11, 2021</td><td>Page: 982</td></tr></table>	Issue 01	Revision 03	Date: March 11, 2021	Page: 982
Issue 01	Revision 03					
Date: March 11, 2021	Page: 982					

6 SAMPLE FILES