	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	



RPW Data Product Description Document

ROC-PRO-DAT-NTT-00075-LES

Iss.01, Rev.00

Prepared by	Date	Signature
Xavier Bonnin RPW Ground Segment Project Manager		
Verified by	Date	Signature
Jan Soucek RPW Instrument Scientist		
Approved by	Date	Signature
Milan Maksimovic RPW Principal Investigator		

CLASSIFICATION

PUBLIC

RESTRICTED



Laboratoire d'Études Spatiales et d'Instrumentation en Astrophysique

CNRS-Observatoire de PARIS
Section de MEUDON-LESIA
5, Place Jules Janssen
92195 Meudon Cedex - France



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

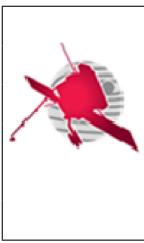
Page: **i**

Change Record

Issue	Rev.	Date	Authors	Modifications
1	0	DD/MM/YYYY	X.Bonnin	First issue

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

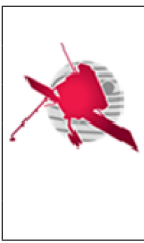
Revision
00

Date: January 18, 2019

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
3	DATA GENERATION AND ANALYSIS PROCESS	7
3.1	Scientific Measurements	7
3.1.1	Overview	7
3.1.2	LFR measurements	7
3.1.3	TDS measurements	8
3.1.4	TNR-HFR measurements	9
3.2	Data flow overview	10
3.3	Data Generation	12
3.3.1	L0 - Raw Data	12
3.3.2	L1 - Engineering data (uncalibrated)	12
3.3.3	L2 - Science Data (calibrated)	13
3.3.4	L3 - Higher level data	13
3.3.5	CAL- Calibration data	13
3.3.6	ANC - Ancillary data	13
3.4	Validation	13
3.4.1	Instrument Team Validation	14
3.4.2	SOC Validation	14
4	DATA PRODUCT DESCRIPTIONS	15
4.1	Primary Products Formats	15
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
00

Date: January 18, 2019

Page: **iii**

4.1.1.1.1	Filename	16
4.1.1.1.2	Expected cadence and data volume	16
4.1.1.1.3	File structure description	16
4.1.2	L1 - Engineering data products	19
4.1.2.1	RPW L1 data product common description	19
4.1.2.1.1	RPW L1 data product format	19
4.1.2.1.2	RPW L1 data product metadata	20
4.1.2.2	SOLO_L1_RPW-TNR-SURV data product	20
4.1.2.2.1	Filename	20
4.1.2.2.2	Expected cadence and data volume	21
4.1.2.2.3	Global Attributes	21
4.1.2.2.4	zVariables	23
4.1.2.2.5	Variable attributes	24
4.1.2.2.6	Non-Record-Variant (NRV) Variables	40
4.1.2.3	SOLO_L1_RPW-HFR-SURV data product	44
4.1.2.3.1	Filename	44
4.1.2.3.2	Expected cadence and data volume	44
4.1.2.3.3	Global Attributes	44
4.1.2.3.4	zVariables	46
4.1.2.3.5	Variable attributes	47
4.1.2.3.6	Non-Record-Variant (NRV) Variables	62
4.1.2.4	SOLO_L1_RPW-TDS-SURV-RSWF data product	62
4.1.2.4.1	Filename	63
4.1.2.4.2	Expected cadence and data volume	63
4.1.2.4.3	Global Attributes	63
4.1.2.4.4	zVariables	65
4.1.2.4.5	Variable attributes	66
4.1.2.4.6	Non-Record-Variant (NRV) Variables	75
4.1.2.5	SOLO_L1_RPW-TDS-SURV-TSWF data product	75
4.1.2.5.1	Filename	75
4.1.2.5.2	Expected cadence and data volume	75
4.1.2.5.3	Global Attributes	75
4.1.2.5.4	zVariables	78
4.1.2.5.5	Variable attributes	78
4.1.2.5.6	Non-Record-Variant (NRV) Variables	89
4.1.2.6	SOLO_L1_RPW-TDS-SURV-HIST1D data product	89
4.1.2.6.1	Filename	89
4.1.2.6.2	Expected cadence and data volume	89
4.1.2.6.3	Global Attributes	89
4.1.2.6.4	zVariables	92
4.1.2.6.5	Variable attributes	92
4.1.2.6.6	Non-Record-Variant (NRV) Variables	102
4.1.2.7	SOLO_L1_RPW-TDS-SURV-HIST2D data product	102
4.1.2.7.1	Filename	102
4.1.2.7.2	Expected cadence and data volume	102



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **iv**

4.1.2.7.3	Global Attributes	103
4.1.2.7.4	zVariables	105
4.1.2.7.5	Variable attributes	105
4.1.2.7.6	Non-Record-Variant (NRV) Variables	116
4.1.2.8	SOLO_L1_RPW-TDS-SURV-STAT data product	116
4.1.2.8.1	Filename	116
4.1.2.8.2	Expected cadence and data volume	116
4.1.2.8.3	Global Attributes	116
4.1.2.8.4	zVariables	119
4.1.2.8.5	Variable attributes	119
4.1.2.8.6	Non-Record-Variant (NRV) Variables	133
4.1.2.9	SOLO_L1_RPW-TDS-SURV-MAMP data product	133
4.1.2.9.1	Filename	133
4.1.2.9.2	Expected cadence and data volume	133
4.1.2.9.3	Global Attributes	133
4.1.2.9.4	zVariables	136
4.1.2.9.5	Variable attributes	136
4.1.2.9.6	Non-Record-Variant (NRV) Variables	144
4.1.2.10	SOLO_L1_RPW-TDS-LFM-RSWF data product	144
4.1.2.10.1	Filename	144
4.1.2.10.2	Expected cadence and data volume	144
4.1.2.10.3	Global Attributes	144
4.1.2.10.4	zVariables	147
4.1.2.10.5	Variable attributes	147
4.1.2.10.6	Non-Record-Variant (NRV) Variables	156
4.1.2.11	SOLO_L1_RPW-TDS-LFM-CWF data product	156
4.1.2.11.1	Filename	156
4.1.2.11.2	Expected cadence and data volume	156
4.1.2.11.3	Global Attributes	157
4.1.2.11.4	zVariables	159
4.1.2.11.5	Variable attributes	159
4.1.2.11.6	Non-Record-Variant (NRV) Variables	167
4.1.2.12	SOLO_L1_RPW-TDS-LFM-SM data product	167
4.1.2.12.1	Filename	167
4.1.2.12.2	Expected cadence and data volume	167
4.1.2.12.3	Global Attributes	168
4.1.2.12.4	zVariables	170
4.1.2.12.5	Variable attributes	170
4.1.2.12.6	Non-Record-Variant (NRV) Variables	178
4.1.2.13	SOLO_L1_RPW-TDS-LFM-PSD data product	179
4.1.2.13.1	Filename	179
4.1.2.13.2	Expected cadence and data volume	179
4.1.2.13.3	Global Attributes	179
4.1.2.13.4	zVariables	181
4.1.2.13.5	Variable attributes	182



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **v**

4.1.2.13.6 Non-Record-Variant (NRV) Variables 189

4.1.2.14 SOLO_L1_RPW-TDS-SBM1-RSWF data product 189

4.1.2.14.1 Filename 190

4.1.2.14.2 Expected cadence and data volume 190

4.1.2.14.3 Global Attributes 190

4.1.2.14.4 zVariables 192

4.1.2.14.5 Variable attributes 193

4.1.2.14.6 Non-Record-Variant (NRV) Variables 203

4.1.2.15 SOLO_L1_RPW-TDS-SBM2-TSWF data product 203

4.1.2.15.1 Filename 203

4.1.2.15.2 Expected cadence and data volume 203

4.1.2.15.3 Global Attributes 203

4.1.2.15.4 zVariables 206

4.1.2.15.5 Variable attributes 206

4.1.2.15.6 Non-Record-Variant (NRV) Variables 217

4.1.2.16 SOLO_L1_RPW-LFR-SURV-ASM data product 217

4.1.2.16.1 Filename 217

4.1.2.16.2 Expected cadence and data volume 217

4.1.2.16.3 Global Attributes 217

4.1.2.16.4 zVariables 220

4.1.2.16.5 Variable attributes 220

4.1.2.16.6 Non-Record-Variant (NRV) Variables 234

4.1.2.17 SOLO_L1_RPW-LFR-SURV-BP1 data product 234

4.1.2.17.1 Filename 235

4.1.2.17.2 Expected cadence and data volume 235

4.1.2.17.3 Global Attributes 235

4.1.2.17.4 zVariables 237

4.1.2.17.5 Variable attributes 238

4.1.2.17.6 Non-Record-Variant (NRV) Variables 253

4.1.2.18 SOLO_L1_RPW-LFR-SURV-BP2 data product 253

4.1.2.18.1 Filename 254

4.1.2.18.2 Expected cadence and data volume 254

4.1.2.18.3 Global Attributes 254

4.1.2.18.4 zVariables 257

4.1.2.18.5 Variable attributes 257

4.1.2.18.6 Non-Record-Variant (NRV) Variables 270

4.1.2.19 SOLO_L1_RPW-LFR-SURV-CWF data product 271

4.1.2.19.1 Filename 271

4.1.2.19.2 Expected cadence and data volume 271

4.1.2.19.3 Global Attributes 271

4.1.2.19.4 zVariables 274

4.1.2.19.5 Variable attributes 274

4.1.2.19.6 Non-Record-Variant (NRV) Variables 287

4.1.2.20 SOLO_L1_RPW-LFR-SURV-SWF data product 287

4.1.2.20.1 Filename 287



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **vi**

4.1.2.20.2	Expected cadence and data volume	288
4.1.2.20.3	Global Attributes	288
4.1.2.20.4	zVariables	290
4.1.2.20.5	Variable attributes	291
4.1.2.20.6	Non-Record-Variant (NRV) Variables	305
4.1.2.21	SOLO_L1_RPW-LFR-SBM1-CWF data product	305
4.1.2.21.1	Filename	306
4.1.2.21.2	Expected cadence and data volume	306
4.1.2.21.3	Global Attributes	306
4.1.2.21.4	zVariables	308
4.1.2.21.5	Variable attributes	309
4.1.2.21.6	Non-Record-Variant (NRV) Variables	320
4.1.2.22	SOLO_L1_RPW-LFR-SBM1-BP1 data product	320
4.1.2.22.1	Filename	320
4.1.2.22.2	Expected cadence and data volume	320
4.1.2.22.3	Global Attributes	320
4.1.2.22.4	zVariables	322
4.1.2.22.5	Variable attributes	323
4.1.2.22.6	Non-Record-Variant (NRV) Variables	338
4.1.2.23	SOLO_L1_RPW-LFR-SBM1-BP2 data product	338
4.1.2.23.1	Filename	338
4.1.2.23.2	Expected cadence and data volume	338
4.1.2.23.3	Global Attributes	338
4.1.2.23.4	zVariables	341
4.1.2.23.5	Variable attributes	341
4.1.2.23.6	Non-Record-Variant (NRV) Variables	353
4.1.2.24	SOLO_L1_RPW-LFR-SBM2-CWF data product	353
4.1.2.24.1	Filename	353
4.1.2.24.2	Expected cadence and data volume	353
4.1.2.24.3	Global Attributes	353
4.1.2.24.4	zVariables	356
4.1.2.24.5	Variable attributes	356
4.1.2.24.6	Non-Record-Variant (NRV) Variables	367
4.1.2.25	SOLO_L1_RPW-LFR-SBM2-BP1 data product	368
4.1.2.25.1	Filename	368
4.1.2.25.2	Expected cadence and data volume	368
4.1.2.25.3	Global Attributes	368
4.1.2.25.4	zVariables	370
4.1.2.25.5	Variable attributes	371
4.1.2.25.6	Non-Record-Variant (NRV) Variables	386
4.1.2.26	SOLO_L1_RPW-LFR-SBM2-BP2 data product	386
4.1.2.26.1	Filename	386
4.1.2.26.2	Expected cadence and data volume	386
4.1.2.26.3	Global Attributes	386
4.1.2.26.4	zVariables	389



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **vii**

4.1.2.26.5	Variable attributes	389
4.1.2.26.6	Non-Record-Variant (NRV) Variables	402
4.1.2.27	SOLO_L1_RPW-BIA-SWEEP data product	402
4.1.2.27.1	Filename	402
4.1.2.27.2	Expected cadence and data volume	402
4.1.2.27.3	Global Attributes	402
4.1.2.27.4	zVariables	404
4.1.2.27.5	Variable attributes	404
4.1.2.27.6	Non-Record-Variant (NRV) Variables	417
4.1.2.28	SOLO_L1_RPW-BIA-CURRENT data product	417
4.1.2.28.1	Filename	417
4.1.2.28.2	Expected cadence and data volume	417
4.1.2.28.3	Global Attributes	417
4.1.2.28.4	zVariables	418
4.1.2.28.5	Variable attributes	418
4.1.2.28.6	Non-Record-Variant (NRV) Variables	418
4.1.3	L2 - Science data products	418
4.1.3.1	RPW L2 data product common description	418
4.1.3.1.1	RPW L2 data product format	418
4.1.3.1.2	RPW L2 data product metadata	419
4.1.3.2	SOLO_L2_RPW-TNR-SURV data product	420
4.1.3.2.1	Filename	420
4.1.3.3	SOLO_L2_RPW-HFR-SURV data product	420
4.1.3.3.1	Filename	420
4.1.3.4	SOLO_L2_RPW-TDS-SURV-RSWF-E data product	420
4.1.3.4.1	Filename	420
4.1.3.5	SOLO_L2_RPW-TDS-SURV-RSWF-B data product	420
4.1.3.5.1	Filename	421
4.1.3.6	SOLO_L2_RPW-TDS-SURV-TSWF-E data product	421
4.1.3.6.1	Filename	421
4.1.3.7	SOLO_L2_RPW-TDS-SURV-TSWF-B data product	421
4.1.3.7.1	Filename	421
4.1.3.8	SOLO_L2_RPW-TDS-SURV-HIST1D data product	421
4.1.3.8.1	Filename	422
4.1.3.9	SOLO_L2_RPW-TDS-SURV-HIST2D data product	422
4.1.3.9.1	Filename	422
4.1.3.10	SOLO_L2_RPW-TDS-SURV-STAT data product	422
4.1.3.10.1	Filename	422
4.1.3.11	SOLO_L2_RPW-TDS-SURV-MAMP data product	422
4.1.3.11.1	Filename	422
4.1.3.12	SOLO_L2_RPW-TDS-LFM-RSWF-E data product	423
4.1.3.12.1	Filename	423
4.1.3.13	SOLO_L2_RPW-TDS-LFM-RSWF-B data product	423
4.1.3.13.1	Filename	423
4.1.3.14	SOLO_L2_RPW-TDS-LFM-CWF-E data product	423



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **viii**

4.1.3.14.1	Filename	423
4.1.3.15	SOLO_L2_RPW-TDS-LFM-CWF-B data product	423
4.1.3.15.1	Filename	424
4.1.3.16	SOLO_L2_RPW-TDS-LFM-PSDSM data product	424
4.1.3.16.1	Filename	424
4.1.3.17	SOLO_L2_RPW-TDS-SBM1-RSWF-E data product	424
4.1.3.17.1	Filename	424
4.1.3.18	SOLO_L2_RPW-TDS-SBM1-RSWF-B data product	424
4.1.3.18.1	Filename	425
4.1.3.19	SOLO_L2_RPW-TDS-SBM2-TSWF-E data product	425
4.1.3.19.1	Filename	425
4.1.3.20	SOLO_L2_RPW-TDS-SBM2-TSWF-B data product	425
4.1.3.20.1	Filename	425
4.1.3.21	SOLO_L2_RPW-LFR-SURV-ASM data product	425
4.1.3.21.1	Filename	426
4.1.3.22	SOLO_L2_RPW-LFR-SURV-BP1 data product	426
4.1.3.22.1	Filename	426
4.1.3.23	SOLO_L2_RPW-LFR-SURV-BP2 data product	426
4.1.3.23.1	Filename	426
4.1.3.24	SOLO_L2_RPW-LFR-SURV-CWF-E data product	426
4.1.3.24.1	Filename	426
4.1.3.25	SOLO_L2_RPW-LFR-SURV-CWF-B data product	427
4.1.3.25.1	Filename	427
4.1.3.26	SOLO_L2_RPW-LFR-SURV-SWF-E data product	427
4.1.3.26.1	Filename	427
4.1.3.27	SOLO_L2_RPW-LFR-SURV-SWF-B data product	427
4.1.3.27.1	Filename	427
4.1.3.28	SOLO_L2_RPW-LFR-SBM1-CWF-E data product	427
4.1.3.28.1	Filename	428
4.1.3.29	SOLO_L2_RPW-LFR-SBM1-CWF-B data product	428
4.1.3.29.1	Filename	428
4.1.3.30	SOLO_L2_RPW-LFR-SBM1-BP1 data product	428
4.1.3.30.1	Filename	428
4.1.3.31	SOLO_L2_RPW-LFR-SBM1-BP2 data product	428
4.1.3.31.1	Filename	429
4.1.3.32	SOLO_L2_RPW-LFR-SBM2-CWF-E data product	429
4.1.3.32.1	Filename	429
4.1.3.33	SOLO_L2_RPW-LFR-SBM2-CWF-B data product	429
4.1.3.33.1	Filename	429
4.1.3.34	SOLO_L2_RPW-LFR-SBM2-BP1 data product	429
4.1.3.34.1	Filename	430
4.1.3.35	SOLO_L2_RPW-LFR-SBM2-BP2 data product	430
4.1.3.35.1	Filename	430
4.1.4	L3 - Higher level data products	430
4.1.5	CAL - Calibration data products	430



RPW Data Product Description Document

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

Issue
01

Revision
00

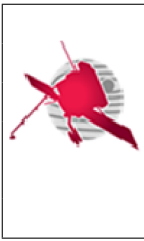
Date: January 18, 2019

Page: **ix**

4.1.5.1	RPW CAL data product common description	430
4.1.5.1.1	RPW CAL data product format	430
4.1.5.1.2	RPW CAL data product metadata	431
4.1.5.2	SOLO_CAL_RPW-THR data product	431
4.1.5.2.1	Filename	431
4.1.5.3	SOLO_CAL_RPW-TDS data product	431
4.1.5.3.1	Filename	431
4.1.5.4	SOLO_CAL_RPW-LFR data product	432
4.1.5.4.1	Filename	432
4.1.5.5	SOLO_CAL_RPW-SCM data product	432
4.1.5.5.1	Filename	432
4.1.5.6	SOLO_CAL_RPW-ANT-PA-HF data product	432
4.1.5.6.1	Filename	432
4.1.5.7	SOLO_CAL_RPW-ANT-HF data product	433
4.1.5.7.1	Filename	433
4.1.5.8	SOLO_CAL_RPW-BIA data product	433
4.1.5.8.1	Filename	433
4.1.6	ANC - Ancillary data products	433

5 APPENDIX - DATA PRODUCTS MATRIX 434

6 SAMPLE FILES 446



**RPW Data Product
Description Document**

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

Issue
01

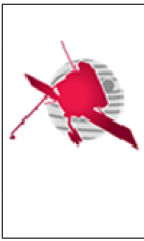
Revision
00

Date: January 18, 2019

Page: **x**

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	RPW L0 data file structure	17



**RPW Data Product
Description Document**

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


Issue
01

Revision
00

Date: January 18, 2019

Page: **xi**

List of Tables

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	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

	<p style="text-align: center;">RPW Data Product Description Document</p>	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 2


[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

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 00
		Date: January 18, 2019	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.

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 4

- Study of the energy balance between electron beams, Langmuir waves and e.m. radio waves at several radial distances

Solar wind microphysics and turbulence

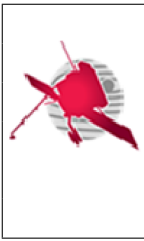
- Measure of the waves associated with the plasma instabilities that are generated by temperature anisotropies in the solar wind.
- First DC/LF electric field measurements in the inner heliosphere and over a large radial distance in the solar.

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



2.2 Operational Modes

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

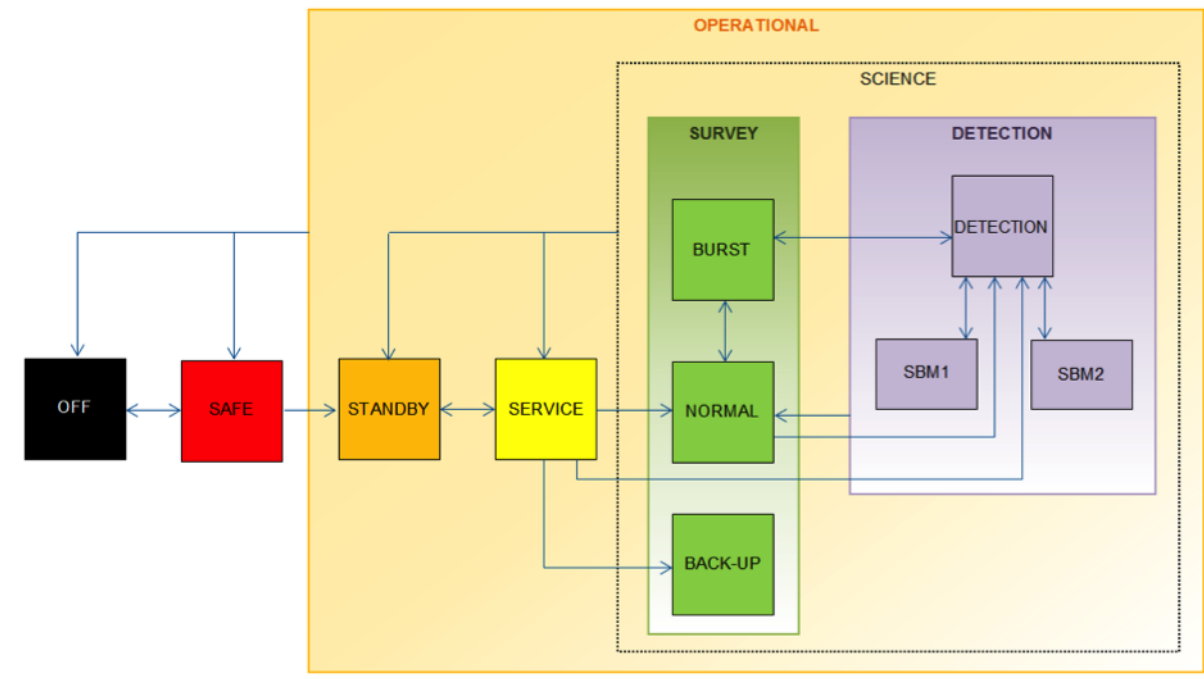



Fig. 2.1: RPW operational modes

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 00
		Date: January 18, 2019	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 given in the Calibration test Report [RD.08].

2.3.2 In-Flight Calibration

TBW

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 7

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.

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 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

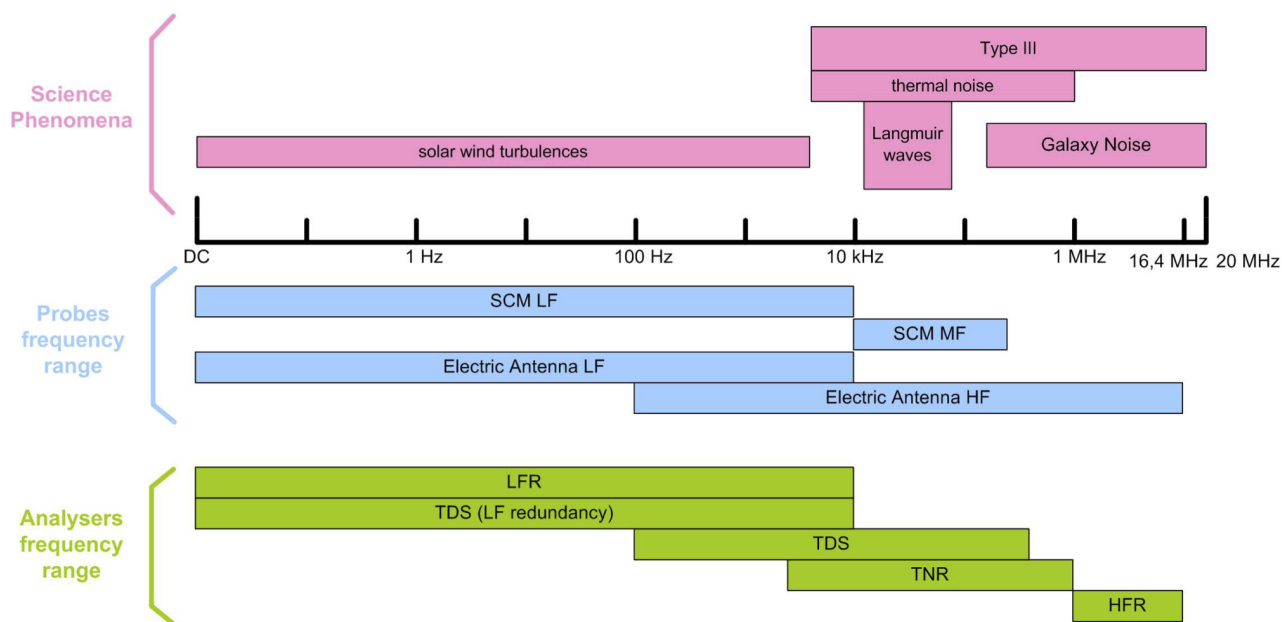



Fig. 3.1: RPW measurement frequency allocation

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

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 9

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:

- 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.

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 10

3.2 Data flow overview

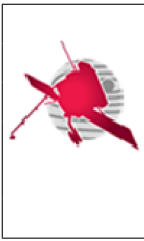
The RPW science data processing is performed by the RPW Operations Centre (ROC), which is located at the Laboratoire d'Etudes Spatiales et d'Instrumentation en Astrophysique (LESIA) in Meudon, France. Figure below gives an overview of the RPW data processing workflow.

The main steps are:

1. RPW telemetry raw data available at the MOC are requested as XML files after downlink. In the same time, the ROC retrieves latest mission ancillary data delivered by SOC, i.e., SPICE kernels and CDF “digest” files [RD.09], as well as RPW Low Latency data products.
2. A first pre-processing of the incoming RPW telemetry raw data is performed by the RPW Data Pipeline at ROC. It mainly consists of: (i) identifying, (ii) verifying the integrity, (iii) and creation time sorting the telemetry packets from the header. The packet creation time is converted from On-Board Time (OBT) to UTC time using the SOC-provided spacecraft clock kernels.
3. Pre-processed telemetry raw binary data and the associated packet header parameters are then uniquely saved into the ROC Mission Database . Additionally RPW telemetry raw data are saved into daily XML format file, hereafter named “LZ” file.
4. RPW L0 daily file in HDF5 format are generated from the parent daily LZ file.
5. RPW L1 files in CDF are written from the parent L0 file. Some L1 files require LL01 data to be generated; the RPW LL01 data [RD.10] are retrieved as CDF files from dedicated SOC Web site. Internal CDF files are also saved at this stage to store RPW HK data in engineering units.
6. 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 software delivered by the RPW Lead CoI analyser/sensor teams.
7. Except quick-look products that are generated by the ROC, 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 sweeping and 1 CDF file every month (TBD) containing the Biased intensity currents applied on each RPW electrical antenna.
- RPW LZ, L0, L1 and L2 preliminary files will be accessible to the RPW and Solar Orbiter teams within 24 hours after their production at ROC. The L3 data files will be available within 24 hours after the ROC reception.
- RPW L0, L1, L2 and L3 definitive files will be made publicly available at SOAR, within 3 months (TBC) after their production.
- The Low Latency data production and distribution are operated by SOC.



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **11**

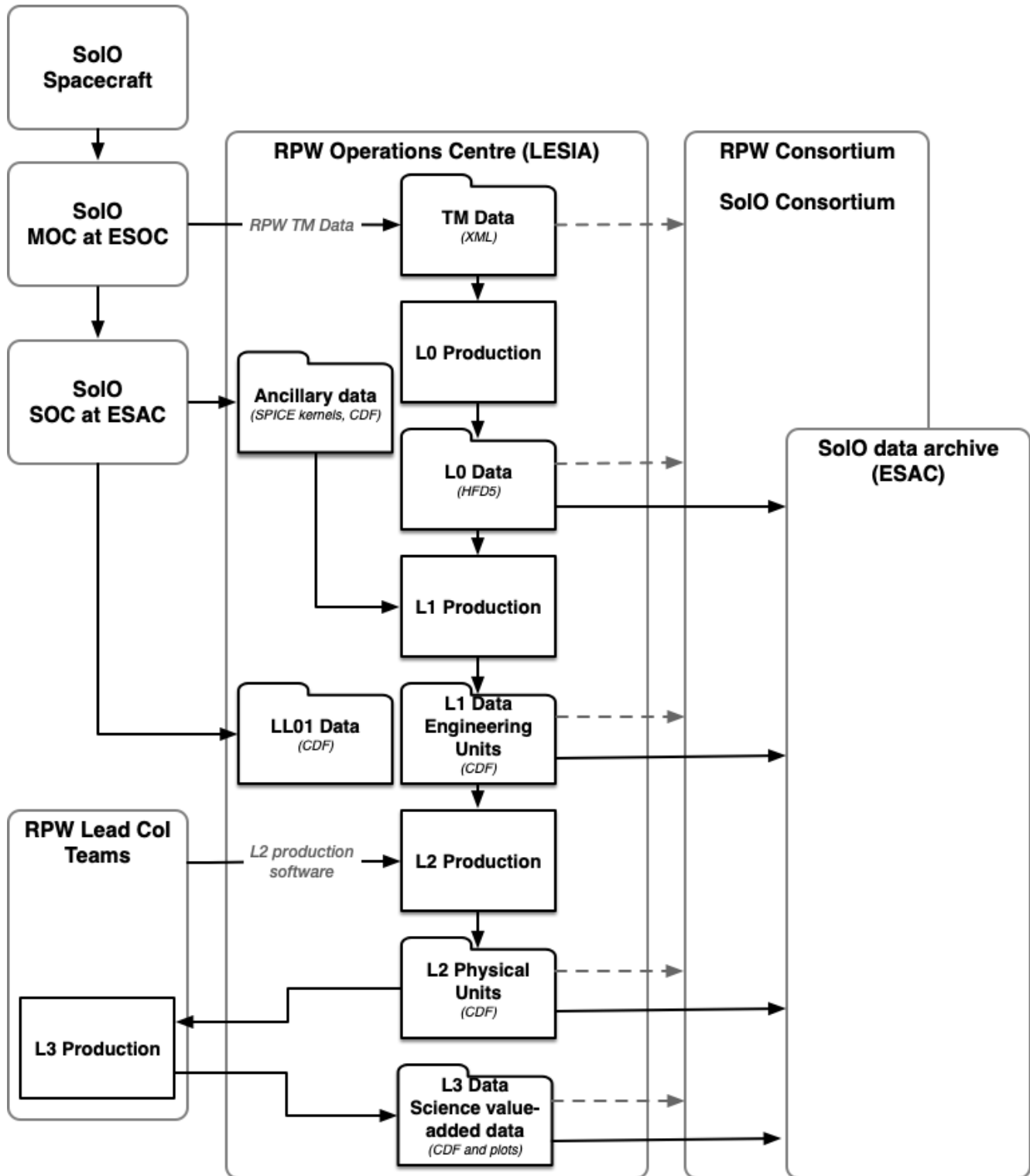



Fig. 3.2: RPW science data processing overview

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 12

- At this stage, the ROC does not plan to produce specific ancillary data for RPW. Especially, the way the effective antenna vectors (i.e., length and direction) will be supplied is TBD.

3.3 Data Generation

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

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 operational version of the RPW instrument database (IDB), which contains the instrument telemetry/command packet definitions. The RPW IDB is delivered by the Solar Orbiter Mission Operation Centre (MOC) via its Mission information Base (MIB).

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


1. Regularly check that a new RPW LZ daily file is available in the input directory
2. If a LZ file is found, its content is read and the telemetry data inside is extracted and analyzed packet per 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 (count).

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:

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 13

- 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)

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.

TBW

3.3.4 L3 - Higher level data

TBW

3.3.5 CAL- Calibration data


TBW

3.3.6 ANC - Ancillary data

TBW

3.4 Validation

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


	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 14

3.4.1 Instrument Team Validation

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

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 00
		Date: January 18, 2019	Page: 15

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.

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 16

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 TM raw data parent file.

4.1.1.1.1 Filename

```
solo_L1_RPW-TNR-SURV_[YYYYMMDD]_V[version].cdf
```

4.1.1.1.2 Expected cadence and data volume

Nominal cadence: One file per day

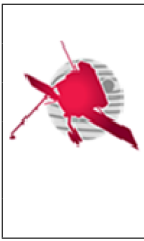
Expected data volume: 60 MB per file

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 items:

- */root*, the top-level HDF5 file group, which has the following attributes:
 - Project, a mandatory attribute giving the “Project” entries. See “Project” CDF global attribute definition in [AD.01]
 - Source_name, a mandatory attribute giving the “Source_name” entries. See “Source_name” CDF global attribute definition in [AD.01].
 - Level, a mandatory attribute giving the data processing level. It must be “L0”.
 - Descriptor, a mandatory attribute giving the “Descriptor” entries. See “Descriptor” CDF global attribute definition in [AD.01]. It must be “RPW”.
 - Data_version, a mandatory attribute giving the “Data_version” entries. See “Data_version” CDF global attribute definition in [AD.01].
 - Dataset_ID, a mandatory attribute giving the RPW dataset identifier (ID) in the ROC Mission Database. It must be “SOLO_L0_RPW”.



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **17**

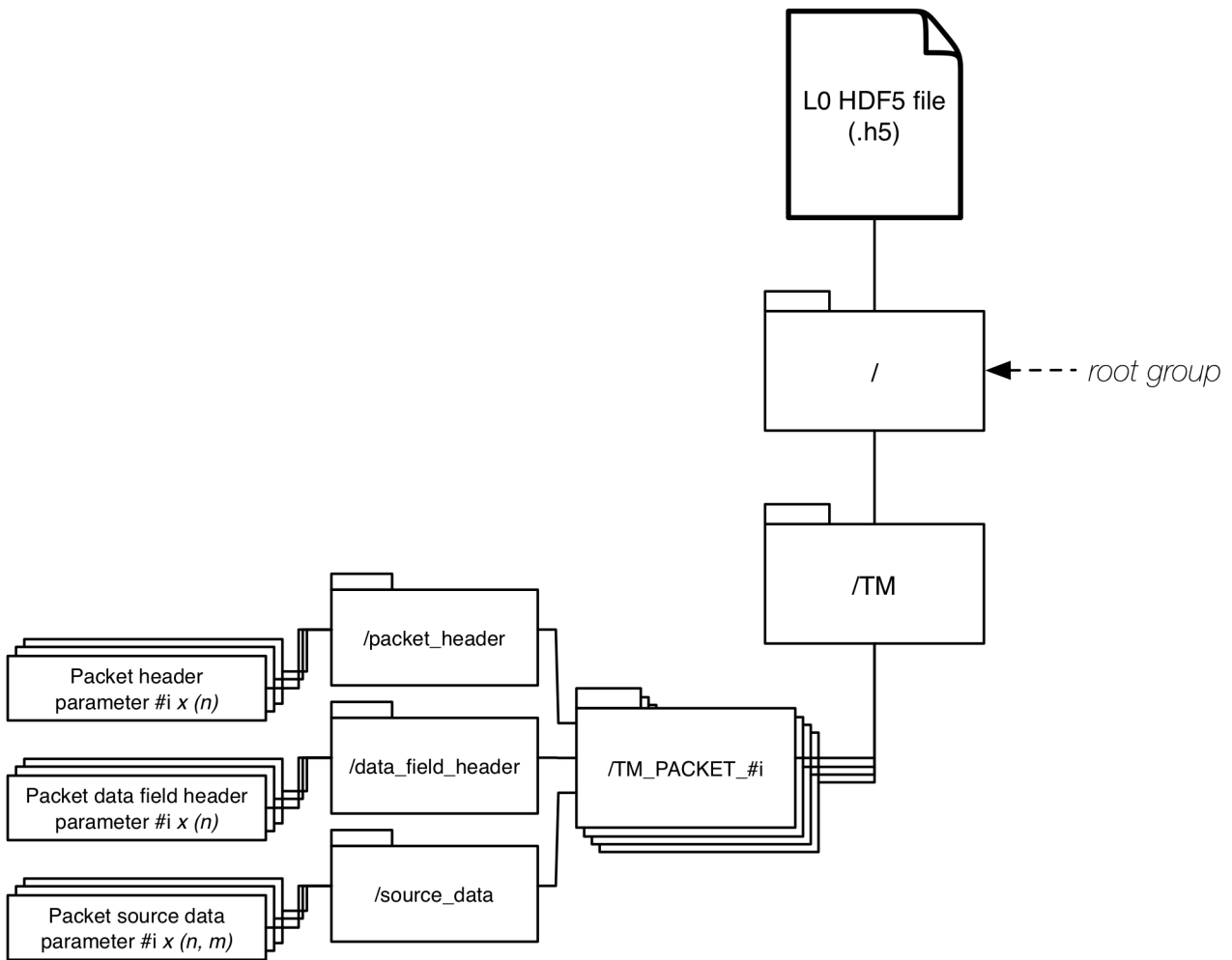



Fig. 4.1: RPW L0 data file structure


	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 18

- File_ID, a mandatory attribute giving the ID of the file. Generated by the RPW Data Pipeline at the file creation.
- Generation_date, a mandatory attribute giving the date of file generation. See “Generation_date” CDF global attribute definition in [AD.01].
- Software_name, a mandatory attribute giving the name of the software that produces the file. It must be “FILM”.
- Software_version, a mandatory attribute giving the version of the software that produces the file.
- Pipeline_name, a mandatory attribute giving the name of the pipeline that produces the file. It must be “RODP”.
- Pipeline_version, a mandatory attribute giving the version of the pipeline that produces the file.
- IDB_version, a mandatory attribute giving the version of the RPW Instrument Database (IDB) used to unpack/uncompress the RPW TM raw data.
- IDB_source, a mandatory attribute giving the source of the RPW IDB. For mission data, it must be “MIB”.

Additionally, */root* has only one sub-group named */TM* that gathers the RPW TM data generated for a given day. Inside */TM*, there is one group per TM packet name (e.g. “TM_DPU_BIA_HK”, “TM_TDS_SCIENCE_LFM_CWF”, etc.). This set of groups is illustrated by the */[TM_PACKET_#i]* boxes on the figure *above*.

Each */[TM_PACKET_#i]* group contains:

- PACKET_SRDB_ID, a mandatory attribute providing the SRDB ID of the TM packet.
- */packet_header*, a group storing the TM CCSDS PACKET_HEADER parameters as datasets:
 - */[Packet_header_parameter_#i]*, 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_#i]* 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_#i]* 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).

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 19

- */source_data*, a group storing the TM CCSDS SOURCE_DATA parameters as datasets:
 - */[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.). There is one dataset per TM parameter, which contains:
 - * PARAM_SRDB_ID, a mandatory attribute providing the SRDB ID of the TM packet parameter [RD.??].
 - * ENUM_SRDB_ID, an optional dataset attribute providing the SRDB ID of the enumeration [RD.??], when it exists.
 - * TF_SRDB_ID, an optional dataset attribute providing the SRDB ID of the transfer function [RD.??], when it exists.
 - * PARAM_MIN, an optional dataset attribute providing the minimal value of the parameter, when it exists.
 - * PARAM_MAX, an optional dataset attribute providing the maximal value of the parameter, when it exists.
 - * PARAM_DEF, an optional dataset attribute providing the default value of the parameter, when it exists. - An [n, m] array, where n is the number of [TM_PACKET_#i] packets in the current file, and m the number of parameter values for the [Packet_source_data_parameter_#i] parameter in a given packet.


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 00
		Date: January 18, 2019	Page: 20

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.
IDB_version	Global	CDF_CHAR	Version of the RPW Instrument Database used to unpack the RPW TM data.
PACKET_CATEGORY	Global	CDF_CHAR	RPW TM packet category.
PACKET_PID	Global	CDF_CHAR	RPW TM packet PID.
PACKET_SERVICE_SUBTYPE	Global	CDF_CHAR	RPW TM packet service subtype.
PACKET_SERVICE_TYPE	Global	CDF_CHAR	RPW TM packet service type.
PACKET_SID	Global	CDF_CHAR	RPW TM packet SID.
PACKET_SRBD_ID	Global	CDF_CHAR	RPW TM packet SRBD name.
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).


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.

4.1.2.2.1 Filename

```
solo_l1_rpw-tnr-surv_[YYYYMMDD]_v[version].cdf
```


	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 21

4.1.2.2.2 Expected cadence and data volume


Nominal cadence: 1 TNR spectrum every 12 seconds

Expected data volume: 2 MB per day

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 RPW Operation Centre (ROC) and Solar Orbiter/RPW teams for access to data.”
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009
CAVEAT	1	CDF_CHAR	
Data_type	1	CDF_CHAR	“H0>High Resolution data”
Data_version	1	CDF_CHAR	
DATASET_ID	1	CDF_CHAR	SOLO_L1_RPW-TNR-SURV
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_UUID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	The RPW Operation Centre (ROC)
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	
IDB_version	1	CDF_CHAR	
Instrument_type	1	CDF_CHAR	“Radio and Plasma Waves (space)”
Level	1	CDF_CHAR	“L1>Level 1”
LINK_TEXT	1	CDF_CHAR	
LINK_TITLE	1	CDF_CHAR	
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”
MODS	1	CDF_CHAR	“July 2015: initial release, X.Bonnin (CNRS-LESIA)”

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 22

Tab. 4.1 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
PACKET_CATEGORY	1	CDF_CHAR	
PACKET_PID	1	CDF_CHAR	
PACKET_SERVICE_SUBTYPE	1	CDF_CHAR	
PACKET_SERVICE_TYPE	1	CDF_CHAR	
PACKET_SID	1	CDF_CHAR	
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	“RPW>Radio and Plasma Waves instrument”
Provider	1	CDF_CHAR	
REFERENCE	1	CDF_CHAR	ROC-PRO-DATA-NTT-00075-LES
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
Skeleton_version	1	CDF_CHAR	1
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	“SOLO>Solar Orbiter”
SPECTRAL_RANGE_MAX	1	CDF_DOUBLE	0.0
SPECTRAL_RANGE_MIN	1	CDF_DOUBLE	0.0
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_DOUBLE	0.0
TIME_MIN	1	CDF_DOUBLE	0.0
Validate	1	CDF_CHAR	



RPW Data Product Description Document

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

Issue
01

Revision
00


Date: January 18, 2019

Page: **23**

4.1.2.2.4 zVariables

Variable Name	Data Type	Number Elements	Dims	Sizes	Record Variance	Dimension Variances
Epoch	CDF_TIME_TT2000	1	0		T	
NUM	CDF_UINT4	1	0		T	
ACQUISITION_TIME	CDF_UINT4	1	1	2	T	T
TIME_SYNCHRO_FLAG	CDF_UINT1	1	0		T	
TIME_INTERPOL_FLAG	CDF_UINT1	1	0		T	
POST_GAP_FLAG	CDF_UINT1	1	0		T	
QUALITY_FLAG	CDF_UINT1	1	0		T	
QUALITY_BITMASK	CDF_UINT1	1	0		T	
SWEEP_NUM	CDF_UINT4	1	0		T	
MEASUREMENT_DURATION	CDF_DOUBLE	1	0		T	
TICKS_NR	CDF_UINT4	1	0		T	
DELTA_TIME	CDF_DOUBLE	1	0		T	
SURVEY_MODE	CDF_UINT1	1	0		T	
CALIBRATION_LEVEL	CDF_UINT1	1	0		T	
AVERAGE_NR	CDF_UINT1	1	0		T	
AUTO_CROSS_STATUS	CDF_UINT1	1	1	2	T	T
CHANNEL_STATUS	CDF_UINT1	1	1	2	T	T
FRONT_END	CDF_UINT1	1	0		T	
SENSOR_CONFIG	CDF_UINT1	1	1	2	T	T
RPW_STATUS	CDF_UINT1	1	1	15	T	T
TEMPERATURE	CDF_UINT1	1	1	4	T	T
TNR_BAND	CDF_UINT1	1	0		T	
TNR_BAND_FREQ	CDF_UINT4	1	2	4 32	F	T T
INTEGRATION_TIME	CDF_DOUBLE	1	1	32	T	T
BANDWIDTH	CDF_UINT2	1	1	32	T	T
AGC1	CDF_UINT2	1	0		T	
AGC2	CDF_UINT2	1	0		T	
AUTO1	CDF_UINT2	1	1	32	T	T
AUTO2	CDF_UINT2	1	1	32	T	T
CROSS_R	CDF_UINT2	1	1	32	T	T
CROSS_I	CDF_UINT2	1	1	32	T	T
PHASE	CDF_FLOAT	1	1	32	T	T
ACQUISITION_TIME_UNITS	CDF_CHAR	16	1	2	F	T
ACQUISITION_TIME_LABEL	CDF_CHAR	32	1	2	F	T
BAND_LABEL	CDF_CHAR	1	1	4	F	T
CHANNEL_LABEL	CDF_CHAR	1	1	2	F	T
FRONT_END_LABEL	CDF_CHAR	8	1	3	F	T

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 24


Tab. 4.2 – continued from previous page

Variable Name	Data Type	Number Ele- ments	Dims	Sizes	Record Vari- ance	Dimension Variances
TEMPERATURE_LABEL	CDF_CHAR	8	1	4	F	T
RPW_STATUS_LABEL	CDF_CHAR	16	1	15	F	T

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
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	RPW TNR clock
Epoch	REFERENCE_POSITION	CDF_CHAR	Solar Orbiter
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.
NUM	FIELDNAM	CDF_CHAR	NUM
NUM	CATDESC	CDF_CHAR	RPW TNR record index number
NUM	DEPEND_0	CDF_CHAR	Epoch
NUM	VALIDMIN	CDF_UINT4	1

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 25

Tab. 4.3 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
NUM	VALIDMAX	CDF_UINT4	4294967294
NUM	SCALEMIN	CDF_UINT4	1
NUM	SCALEMAX	CDF_UINT4	4294967294
NUM	FILLVAL	CDF_UINT4	4294967295
NUM	DISPLAY_TYPE	CDF_CHAR	time_series
NUM	FORMAT	CDF_CHAR	I10.0
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	UCD	CDF_CHAR	meta.record
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	DEPEND_0	CDF_CHAR	Epoch
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	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	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 TNR clock
ACQUISITION_TIME	VAR_NOTES	CDF_CHAR	Acquisition time of the first sample contained in the packet. (CUC format)
ACQUISITION_TIME	UCD	CDF_CHAR	time.epoch
TIME_SYNCHRO_FLAG	FIELDNAM	CDF_CHAR	TIME_SYNCHRO_FLAG
TIME_SYNCHRO_FLAG	CATDESC	CDF_CHAR	Receiver time synchronisation flag
TIME_SYNCHRO_FLAG	DEPEND_0	CDF_CHAR	Epoch
TIME_SYNCHRO_FLAG	VALIDMIN	CDF_UINT1	0

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **26**

Tab. 4.3 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
TIME_SYNCHRO_FLAG	VALIDMAX	CDF_UINT1	1
TIME_SYNCHRO_FLAG	SCALEMIN	CDF_UINT1	0
TIME_SYNCHRO_FLAG	SCALEMAX	CDF_UINT1	1
TIME_SYNCHRO_FLAG	FILLVAL	CDF_UINT1	255
TIME_SYNCHRO_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
TIME_SYNCHRO_FLAG	FORMAT	CDF_CHAR	I1.1
TIME_SYNCHRO_FLAG	LABLAXIS	CDF_CHAR	Time sync. Flag
TIME_SYNCHRO_FLAG	UNITS	CDF_CHAR	
TIME_SYNCHRO_FLAG	VAR_TYPE	CDF_CHAR	support_data
TIME_SYNCHRO_FLAG	SCALETYP	CDF_CHAR	linear
TIME_SYNCHRO_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate if the receiver time is synchronised or not
TIME_SYNCHRO_FLAG	UCD	CDF_CHAR	meta.code
TIME_INTERPOL_FLAG	FIELDNAM	CDF_CHAR	TIME_INTERPOL_FLAG
TIME_INTERPOL_FLAG	CATDESC	CDF_CHAR	Time interpolation flag
TIME_INTERPOL_FLAG	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
TIME_INTERPOL_FLAG	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
POST_GAP_FLAG	FIELDNAM	CDF_CHAR	POST_GAP_FLAG
POST_GAP_FLAG	CATDESC	CDF_CHAR	Post gap flag
POST_GAP_FLAG	DEPEND_0	CDF_CHAR	Epoch
POST_GAP_FLAG	VALIDMIN	CDF_UINT1	0
POST_GAP_FLAG	VALIDMAX	CDF_UINT1	255
POST_GAP_FLAG	SCALEMIN	CDF_UINT1	0
POST_GAP_FLAG	SCALEMAX	CDF_UINT1	255

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **27**

Tab. 4.3 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
POST_GAP_FLAG	FILLVAL	CDF_UINT1	255
POST_GAP_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
POST_GAP_FLAG	FORMAT	CDF_CHAR	I3.3
POST_GAP_FLAG	LABLAXIS	CDF_CHAR	Post gap flag
POST_GAP_FLAG	UNITS	CDF_CHAR	
POST_GAP_FLAG	VAR_TYPE	CDF_CHAR	support_data
POST_GAP_FLAG	SCALETYP	CDF_CHAR	linear
POST_GAP_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the reason why there is gap in the data preceding the current record. If no gap then POST_GAP_FLAG=0.
POST_GAP_FLAG	UCD	CDF_CHAR	meta.code
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	FORMAT	CDF_CHAR	I3.3
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Bitmask flag

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00


Date: January 18, 2019

Page: **28**

Tab. 4.3 – 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	UCD	CDF_CHAR	meta.code
SWEEP_NUM	FIELDNAM	CDF_CHAR	SWEEP_NUM
SWEEP_NUM	CATDESC	CDF_CHAR	TNR sweep index number in current file
SWEEP_NUM	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
SWEEP_NUM	FORMAT	CDF_CHAR	I10.0
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	UCD	CDF_CHAR	meta.record
MEASUREMENT_DURATION	FIELDNAM	CDF_CHAR	MEASUREMENT_DURATION
MEASUREMENT_DURATION	CATDESC	CDF_CHAR	Time duration of the current TNR band measurement
MEASUREMENT_DURATION	DEPEND_0	CDF_CHAR	Epoch
MEASUREMENT_DURATION	VALIDMIN	CDF_DOUBLE	0
MEASUREMENT_DURATION	VALIDMAX	CDF_DOUBLE	1.0e30
MEASUREMENT_DURATION	SCALEMIN	CDF_DOUBLE	0
MEASUREMENT_DURATION	SCALEMAX	CDF_DOUBLE	1.0e30
MEASUREMENT_DURATION	FILLVAL	CDF_DOUBLE	-1.0e31
MEASUREMENT_DURATION	DISPLAY_TYPE	CDF_CHAR	time_series
MEASUREMENT_DURATION	FORMAT	CDF_CHAR	I10.0
MEASUREMENT_DURATION	LABLAXIS	CDF_CHAR	TNR measurement duration
MEASUREMENT_DURATION	UNITS	CDF_CHAR	μ s
MEASUREMENT_DURATION	VAR_TYPE	CDF_CHAR	support_data
MEASUREMENT_DURATION	SCALETYP	CDF_CHAR	linear
MEASUREMENT_DURATION	MONOTON	CDF_CHAR	INCREASE

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 29

Tab. 4.3 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
MEASUREMENT_DURATION	MAR_NOTES	CDF_CHAR	Time duration of the current TNR band measurement in nanoseconds.
MEASUREMENT_DURATION	NCD	CDF_CHAR	time.duration
TICKS_NR	FIELDNAM	CDF_CHAR	TICKS_NR
TICKS_NR	CATDESC	CDF_CHAR	Number of ticks since the ACQUISITION_TIME
TICKS_NR	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
TICKS_NR	FORMAT	CDF_CHAR	I10.0
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	TIME_BASE	CDF_CHAR	ACQUISITION_TIME
TICKS_NR	TIME_SCALE	CDF_CHAR	RPW TNR clock
TICKS_NR	REFERENCE_POSITION	CDF_CHAR	RPW
TICKS_NR	VAR_NOTES	CDF_CHAR	Number of ticks since ACQUISITION_TIME for the current TNR band data sample
TICKS_NR	UCD	CDF_CHAR	time.epoch
DELTA_TIME	FIELDNAM	CDF_CHAR	DELTA_TIME
DELTA_TIME	CATDESC	CDF_CHAR	RPW TNR delta time
DELTA_TIME	DEPEND_0	CDF_CHAR	Epoch
DELTA_TIME	VALIDMIN	CDF_DOUBLE	0
DELTA_TIME	VALIDMAX	CDF_DOUBLE	1.0e30
DELTA_TIME	SCALEMIN	CDF_DOUBLE	0
DELTA_TIME	SCALEMAX	CDF_DOUBLE	1.0e30
DELTA_TIME	FILLVAL	CDF_DOUBLE	-1.0e31
DELTA_TIME	DISPLAY_TYPE	CDF_CHAR	time_series
DELTA_TIME	FORMAT	CDF_CHAR	I10.0
DELTA_TIME	LABLAXIS	CDF_CHAR	TNR delta time
DELTA_TIME	UNITS	CDF_CHAR	μ s
DELTA_TIME	VAR_TYPE	CDF_CHAR	support_data
DELTA_TIME	SCALETYP	CDF_CHAR	linear
DELTA_TIME	TIME_BASE	CDF_CHAR	ACQUISITION_TIME

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **30**

Tab. 4.3 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
DELTA_TIME	TIME_SCALE	CDF_CHAR	RPW TNR clock
DELTA_TIME	REFERENCE_POS	CDF_CHAR	RPW
DELTA_TIME	VAR_NOTES	CDF_CHAR	Delta times of the current TNR band data sample in microseconds since ACQUISITION_TIME. Computed from TICKS_NR * (1 tick = 15.258 μ s)
DELTA_TIME	UCD	CDF_CHAR	time.epoch
SURVEY_MODE	FIELDNAM	CDF_CHAR	SURVEY_MODE
SURVEY_MODE	CATDESC	CDF_CHAR	THR survey mode
SURVEY_MODE	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
SURVEY_MODE	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
CALIBRATION_LEVEL	FIELDNAM	CDF_CHAR	CALIBRATION_LEVEL
CALIBRATION_LEVEL	CATDESC	CDF_CHAR	receiver calibration level
CALIBRATION_LEVEL	DEPEND_0	CDF_CHAR	Epoch
CALIBRATION_LEVEL	VALIDMIN	CDF_UINT1	0
CALIBRATION_LEVEL	VALIDMAX	CDF_UINT1	1
CALIBRATION_LEVEL	SCALEMIN	CDF_UINT1	0
CALIBRATION_LEVEL	SCALEMAX	CDF_UINT1	1
CALIBRATION_LEVEL	FILLVAL	CDF_UINT1	255
CALIBRATION_LEVEL	DISPLAY_TYPE	CDF_CHAR	time_series
CALIBRATION_LEVEL	FORMAT	CDF_CHAR	I1.1
CALIBRATION_LEVEL	LABLAXIS	CDF_CHAR	TNR Cal. Level
CALIBRATION_LEVEL	UNITS	CDF_CHAR	
CALIBRATION_LEVEL	VAR_TYPE	CDF_CHAR	support_data

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **31**

Tab. 4.3 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
CALIBRATION_LEVEL	SCALETYP	CDF_CHAR	linear
CALIBRATION_LEVEL	VAR_NOTES	CDF_CHAR	Internal calibration level (0=no calibration)
CALIBRATION_LEVEL	UCD	CDF_CHAR	meta.code
AVERAGE_NR	FIELDNAM	CDF_CHAR	AVERAGE_NR
AVERAGE_NR	CATDESC	CDF_CHAR	Number of averages
AVERAGE_NR	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
AVERAGE_NR	FORMAT	CDF_CHAR	I3.3
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	UCD	CDF_CHAR	meta.code
AUTO_CROSS_STATUS	FIELDNAM	CDF_CHAR	AUTO_CROSS_STATUS
AUTO_CROSS_STATUS	CATDESC	CDF_CHAR	Auto cross computation computation status
AUTO_CROSS_STATUS	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
AUTO_CROSS_STATUS	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
CHANNEL_STATUS	FIELDNAM	CDF_CHAR	CHANNEL_STATUS

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **32**

Tab. 4.3 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
CHANNEL_STATUS	CATDESC	CDF_CHAR	TNR channel status
CHANNEL_STATUS	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
CHANNEL_STATUS	FORMAT	CDF_CHAR	I1.1
CHANNEL_STATUS	LABL_PTR_1	CDF_CHAR	CHANNEL_LABEL
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: 0=OFF, 1=ON.
CHANNEL_STATUS	UCD	CDF_CHAR	meta.code
FRONT_END	FIELDNAM	CDF_CHAR	FRONT_END
FRONT_END	CATDESC	CDF_CHAR	Front end setting
FRONT_END	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
FRONT_END	FORMAT	CDF_CHAR	I1.1
FRONT_END	LABL_PTR_1	CDF_CHAR	FRONT_END_LABEL
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	UCD	CDF_CHAR	meta.code
SENSOR_CONFIG	FIELDNAM	CDF_CHAR	SENSOR_CONFIG
SENSOR_CONFIG	CATDESC	CDF_CHAR	TNR sensor configuration
SENSOR_CONFIG	DEPEND_0	CDF_CHAR	Epoch
SENSOR_CONFIG	LABL_PTR_1	CDF_CHAR	CHANNEL_LABEL
SENSOR_CONFIG	VALIDMIN	CDF_UINT1	0
SENSOR_CONFIG	VALIDMAX	CDF_UINT1	1

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **33**

Tab. 4.3 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SENSOR_CONFIG	SCALEMIN	CDF_UINT1	0
SENSOR_CONFIG	SCALEMAX	CDF_UINT1	1
SENSOR_CONFIG	FILLVAL	CDF_UINT1	255
SENSOR_CONFIG	DISPLAY_TYPE	CDF_CHAR	time_series
SENSOR_CONFIG	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
RPW_STATUS	FIELDNAM	CDF_CHAR	RPW_STATUS
RPW_STATUS	CATDESC	CDF_CHAR	Status parameters of RPW sub-systems
RPW_STATUS	DEPEND_0	CDF_CHAR	Epoch
RPW_STATUS	LABL_PTR_1	CDF_CHAR	RPW_STATUS_LABEL
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	DISPLAY_TYPE	CDF_CHAR	time_series
RPW_STATUS	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
TEMPERATURE	FIELDNAM	CDF_CHAR	TEMPERATURE
TEMPERATURE	CATDESC	CDF_CHAR	PA and analog temperature
TEMPERATURE	DEPEND_0	CDF_CHAR	Epoch
TEMPERATURE	LABL_PTR_1	CDF_CHAR	TEMPERATURE_LABEL
TEMPERATURE	VALIDMIN	CDF_UINT1	0
TEMPERATURE	VALIDMAX	CDF_UINT1	254

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00


Date: January 18, 2019

Page: **34**

Tab. 4.3 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
TEMPERATURE	SCALEMIN	CDF_UINT1	0
TEMPERATURE	SCALEMAX	CDF_UINT1	254
TEMPERATURE	FILLVAL	CDF_UINT1	255
TEMPERATURE	DISPLAY_TYPE	CDF_CHAR	time_series
TEMPERATURE	FORMAT	CDF_CHAR	I3.3
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 Volt-ages.
TEMPERATURE	UCD	CDF_CHAR	phys.temperature
TNR_BAND	FIELDNAM	CDF_CHAR	TNR_BAND
TNR_BAND	CATDESC	CDF_CHAR	TNR band of the current record
TNR_BAND	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
TNR_BAND	FORMAT	CDF_CHAR	I1.0
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	UCD	CDF_CHAR	meta.code
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	DEPEND_0	CDF_CHAR	Epoch
TNR_BAND_FREQ	VALIDMIN	CDF_UINT4	3992
TNR_BAND_FREQ	VALIDMAX	CDF_UINT4	978572
TNR_BAND_FREQ	SCALEMIN	CDF_UINT4	3992

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 35

Tab. 4.3 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
TNR_BAND_FREQ	SCALEMAX	CDF_UINT4	978572
TNR_BAND_FREQ	FILLVAL	CDF_UINT4	4294967295
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
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	UCD	CDF_CHAR	em.freq
INTEGRATION_TIME	FIELDNAM	CDF_CHAR	INTEGRATION_TIME
INTEGRATION_TIME	CATDESC	CDF_CHAR	Integration time of the current data samples
INTEGRATION_TIME	DEPEND_0	CDF_CHAR	Epoch
INTEGRATION_TIME	VALIDMIN	CDF_DOUBLE	0
INTEGRATION_TIME	VALIDMAX	CDF_DOUBLE	-1.0E31'
INTEGRATION_TIME	SCALEMIN	CDF_DOUBLE	0
INTEGRATION_TIME	SCALEMAX	CDF_DOUBLE	-1.0E31'
INTEGRATION_TIME	FILLVAL	CDF_DOUBLE	-1.0E31'
INTEGRATION_TIME	DISPLAY_TYPE	CDF_CHAR	time_series
INTEGRATION_TIME	FORMAT	CDF_CHAR	I10.0
INTEGRATION_TIME	LABLAXIS	CDF_CHAR	Int. Time
INTEGRATION_TIME	UNITS	CDF_CHAR	ns
INTEGRATION_TIME	VAR_TYPE	CDF_CHAR	support_data
INTEGRATION_TIME	SCALETYP	CDF_CHAR	linear
INTEGRATION_TIME	VAR_NOTES	CDF_CHAR	Integration time of the current data samples
INTEGRATION_TIME	UCD	CDF_CHAR	time.epoch
BANDWIDTH	FIELDNAM	CDF_CHAR	BANDWIDTH
BANDWIDTH	CATDESC	CDF_CHAR	Frequency bandwidth
BANDWIDTH	DEPEND_0	CDF_CHAR	Epoch
BANDWIDTH	VALIDMIN	CDF_UINT2	0
BANDWIDTH	VALIDMAX	CDF_UINT2	65534
BANDWIDTH	SCALEMIN	CDF_UINT2	0
BANDWIDTH	SCALEMAX	CDF_UINT2	65534
BANDWIDTH	FILLVAL	CDF_UINT2	65535
BANDWIDTH	DISPLAY_TYPE	CDF_CHAR	time_series
BANDWIDTH	FORMAT	CDF_CHAR	I5.5
BANDWIDTH	LABLAXIS	CDF_CHAR	Bandwidth
BANDWIDTH	UNITS	CDF_CHAR	kHz

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **36**

Tab. 4.3 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BANDWIDTH	VAR_TYPE	CDF_CHAR	support_data
BANDWIDTH	SCALETYP	CDF_CHAR	linear
BANDWIDTH	VAR_NOTES	CDF_CHAR	Frequency bandwidth in kHz
BANDWIDTH	UCD	CDF_CHAR	em.freq
AGC1	FIELDNAM	CDF_CHAR	AGC1
AGC1	CATDESC	CDF_CHAR	Automatic Gain Control on channel 1
AGC1	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
AGC1	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	
AGC2	FIELDNAM	CDF_CHAR	AGC2
AGC2	CATDESC	CDF_CHAR	Automatic Gain Control on channel 2
AGC2	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
AGC2	FORMAT	CDF_CHAR	I1.1
AGC2	LABLAXIS	CDF_CHAR	TNR AGC2
AGC2	UNITS	CDF_CHAR	count
AGC2	VAR_TYPE	CDF_CHAR	data
AGC2	SCALETYP	CDF_CHAR	linear
AGC2	VAR_NOTES	CDF_CHAR	Automatic Gain Control measured on channel 2
AGC2	UCD	CDF_CHAR	
AUTO1	FIELDNAM	CDF_CHAR	AUTO1

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00


Date: January 18, 2019

Page: **37**

Tab. 4.3 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
AUTO1	CATDESC	CDF_CHAR	Auto-correlation on channel 1
AUTO1	DEPEND_0	CDF_CHAR	Epoch
AUTO1	DEPEND_1	CDF_CHAR	FREQUENCY
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	DISPLAY_TYPE	CDF_CHAR	time_series
AUTO1	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	
AUTO2	FIELDNAM	CDF_CHAR	AUTO2
AUTO2	CATDESC	CDF_CHAR	Auto-correlation on channel 2
AUTO2	DEPEND_0	CDF_CHAR	Epoch
AUTO2	DEPEND_1	CDF_CHAR	FREQUENCY
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	DISPLAY_TYPE	CDF_CHAR	time_series
AUTO2	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	
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	DEPEND_0	CDF_CHAR	Epoch
CROSS_R	DEPEND_1	CDF_CHAR	FREQUENCY
CROSS_R	VALIDMIN	CDF_UINT2	0
CROSS_R	VALIDMAX	CDF_UINT2	65534

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 38

Tab. 4.3 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
CROSS_R	SCALEMIN	CDF_UINT2	0
CROSS_R	SCALEMAX	CDF_UINT2	65534
CROSS_R	FILLVAL	CDF_UINT2	65535
CROSS_R	DISPLAY_TYPE	CDF_CHAR	time_series
CROSS_R	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	
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	DEPEND_0	CDF_CHAR	Epoch
CROSS_I	DEPEND_1	CDF_CHAR	FREQUENCY
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	DISPLAY_TYPE	CDF_CHAR	time_series
CROSS_I	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	
PHASE	FIELDNAM	CDF_CHAR	PHASE
PHASE	CATDESC	CDF_CHAR	TNR Phase in degrees
PHASE	DEPEND_0	CDF_CHAR	Epoch
PHASE	DEPEND_1	CDF_CHAR	FREQUENCY
PHASE	VALIDMIN	CDF_FLOAT	-180.0
PHASE	VALIDMAX	CDF_FLOAT	180.0
PHASE	SCALEMIN	CDF_FLOAT	-180.0

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **39**

Tab. 4.3 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
PHASE	SCALEMAX	CDF_FLOAT	180.0
PHASE	FILLVAL	CDF_FLOAT	-1.0e31
PHASE	DISPLAY_TYPE	CDF_CHAR	time_series
PHASE	FORMAT	CDF_CHAR	f8.2
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	UCD	CDF_CHAR	
ACQUISITION_TIME_LABEL	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME_LABEL	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME
ACQUISITION_TIME_LABEL	FORMAT	CDF_CHAR	A32
ACQUISITION_TIME_LABEL	VAR_TYPE	CDF_CHAR	metadata
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	FORMAT	CDF_CHAR	A16
ACQUISITION_TIME_UNITS	VAR_TYPE	CDF_CHAR	metadata
BAND_LABEL	FIELDNAM	CDF_CHAR	BAND_LABEL
BAND_LABEL	CATDESC	CDF_CHAR	Label for TNR band (A, B, C, D)
BAND_LABEL	FORMAT	CDF_CHAR	A3
BAND_LABEL	VAR_TYPE	CDF_CHAR	metadata
CHANNEL_LABEL	FIELDNAM	CDF_CHAR	CHANNEL_LABEL
CHANNEL_LABEL	CATDESC	CDF_CHAR	Label for channel (1, 2)
CHANNEL_LABEL	FORMAT	CDF_CHAR	A1
CHANNEL_LABEL	VAR_TYPE	CDF_CHAR	metadata
FRONT_END_LABEL	FIELDNAM	CDF_CHAR	FRONT_END_LABEL
FRONT_END_LABEL	CATDESC	CDF_CHAR	Label for FRONT_END
FRONT_END_LABEL	FORMAT	CDF_CHAR	A8
FRONT_END_LABEL	VAR_TYPE	CDF_CHAR	metadata
TEMPERATURE_LABEL	FIELDNAM	CDF_CHAR	TEMPERATURE_LABEL
TEMPERATURE_LABEL	CATDESC	CDF_CHAR	Label for PA temperature

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **40**

Tab. 4.3 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
TEMPERATURE_LABEL	FORMAT	CDF_CHAR	A8
TEMPERATURE_LABEL	VAR_TYPE	CDF_CHAR	metadata
RPW_STATUS_LABEL	FIELDNAM	CDF_CHAR	RPW_STATUS_LABEL
RPW_STATUS_LABEL	CATDESC	CDF_CHAR	Label for RPW status
RPW_STATUS_LABEL	FORMAT	CDF_CHAR	A16
RPW_STATUS_LABEL	VAR_TYPE	CDF_CHAR	metadata

4.1.2.2.6 Non-Record-Variant (NRV) Variables

Variable Name	Index	Value
ACQUISITION_TIME_LABEL	1	CUC coarse part time
ACQUISITION_TIME_LABEL	2	CUC fine part time
ACQUISITION_TIME_UNITS	1	s
ACQUISITION_TIME_UNITS	2	s / 65536
BAND_LABEL	1	A
BAND_LABEL	2	B
BAND_LABEL	3	C
BAND_LABEL	4	D
CHANNEL_LABEL	1	1
CHANNEL_LABEL	2	2
FRONT_END_LABEL	1	GND
FRONT_END_LABEL	2	PREAMP
FRONT_END_LABEL	3	CAL
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

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **41**

Tab. 4.4 – continued from previous page

Variable Name	Index	Value
RPW_STATUS_LABEL	14	C_LFR
RPW_STATUS_LABEL	15	M_TDS
TNR_BAND_FREQ	1,1	3992
TNR_BAND_FREQ	1,2	4169
TNR_BAND_FREQ	1,3	4353
TNR_BAND_FREQ	1,4	4546
TNR_BAND_FREQ	1,5	4747
TNR_BAND_FREQ	1,6	4957
TNR_BAND_FREQ	1,7	5177
TNR_BAND_FREQ	1,8	5406
TNR_BAND_FREQ	1,9	5645
TNR_BAND_FREQ	1,10	5895
TNR_BAND_FREQ	1,11	6156
TNR_BAND_FREQ	1,12	6429
TNR_BAND_FREQ	1,13	6713
TNR_BAND_FREQ	1,14	7011
TNR_BAND_FREQ	1,15	7321
TNR_BAND_FREQ	1,16	7645
TNR_BAND_FREQ	1,17	7984
TNR_BAND_FREQ	1,18	8337
TNR_BAND_FREQ	1,19	8706
TNR_BAND_FREQ	1,20	9092
TNR_BAND_FREQ	1,21	9494
TNR_BAND_FREQ	1,22	9914
TNR_BAND_FREQ	1,23	10353
TNR_BAND_FREQ	1,24	10812
TNR_BAND_FREQ	1,25	11290
TNR_BAND_FREQ	1,26	11790
TNR_BAND_FREQ	1,27	12312
TNR_BAND_FREQ	1,28	12857
TNR_BAND_FREQ	1,29	13427
TNR_BAND_FREQ	1,30	14021
TNR_BAND_FREQ	1,31	14642
TNR_BAND_FREQ	1,32	15290
TNR_BAND_FREQ	2,1	15967
TNR_BAND_FREQ	2,2	16674
TNR_BAND_FREQ	2,3	17412
TNR_BAND_FREQ	2,4	18183
TNR_BAND_FREQ	2,5	18988
TNR_BAND_FREQ	2,6	19829
TNR_BAND_FREQ	2,7	20707

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **42**

Tab. 4.4 – continued from previous page

Variable Name	Index	Value
TNR_BAND_FREQ	2,8	21624
TNR_BAND_FREQ	2,9	22581
TNR_BAND_FREQ	2,10	23581
TNR_BAND_FREQ	2,11	24625
TNR_BAND_FREQ	2,12	25715
TNR_BAND_FREQ	2,13	26853
TNR_BAND_FREQ	2,14	28042
TNR_BAND_FREQ	2,15	29284
TNR_BAND_FREQ	2,16	30580
TNR_BAND_FREQ	2,17	31934
TNR_BAND_FREQ	2,18	33348
TNR_BAND_FREQ	2,19	34825
TNR_BAND_FREQ	2,20	36366
TNR_BAND_FREQ	2,21	37976
TNR_BAND_FREQ	2,22	39658
TNR_BAND_FREQ	2,23	41414
TNR_BAND_FREQ	2,24	43247
TNR_BAND_FREQ	2,25	45162
TNR_BAND_FREQ	2,26	47161
TNR_BAND_FREQ	2,27	49249
TNR_BAND_FREQ	2,28	51430
TNR_BAND_FREQ	2,29	53707
TNR_BAND_FREQ	2,30	56085
TNR_BAND_FREQ	2,31	58568
TNR_BAND_FREQ	2,32	61161
TNR_BAND_FREQ	3,1	63869
TNR_BAND_FREQ	3,2	66696
TNR_BAND_FREQ	3,3	69649
TNR_BAND_FREQ	3,4	72733
TNR_BAND_FREQ	3,5	75953
TNR_BAND_FREQ	3,6	79316
TNR_BAND_FREQ	3,7	82827
TNR_BAND_FREQ	3,8	86494
TNR_BAND_FREQ	3,9	90324
TNR_BAND_FREQ	3,10	94323
TNR_BAND_FREQ	3,11	98499
TNR_BAND_FREQ	3,12	102860
TNR_BAND_FREQ	3,13	107414
TNR_BAND_FREQ	3,14	112169
TNR_BAND_FREQ	3,15	117135
TNR_BAND_FREQ	3,16	122322

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00


Date: January 18, 2019

Page: **43**

Tab. 4.4 – continued from previous page

Variable Name	Index	Value
TNR_BAND_FREQ	3,17	127737
TNR_BAND_FREQ	3,18	133393
TNR_BAND_FREQ	3,19	139298
TNR_BAND_FREQ	3,20	145466
TNR_BAND_FREQ	3,21	151906
TNR_BAND_FREQ	3,22	158631
TNR_BAND_FREQ	3,23	165655
TNR_BAND_FREQ	3,24	172989
TNR_BAND_FREQ	3,25	180648
TNR_BAND_FREQ	3,26	188646
TNR_BAND_FREQ	3,27	196998
TNR_BAND_FREQ	3,28	205719
TNR_BAND_FREQ	3,29	214827
TNR_BAND_FREQ	3,30	224339
TNR_BAND_FREQ	3,31	234271
TNR_BAND_FREQ	3,32	244643
TNR_BAND_FREQ	4,1	255474
TNR_BAND_FREQ	4,2	266785
TNR_BAND_FREQ	4,3	278597
TNR_BAND_FREQ	4,4	290931
TNR_BAND_FREQ	4,5	303812
TNR_BAND_FREQ	4,6	317263
TNR_BAND_FREQ	4,7	331309
TNR_BAND_FREQ	4,8	345977
TNR_BAND_FREQ	4,9	361295
TNR_BAND_FREQ	4,10	377291
TNR_BAND_FREQ	4,11	393995
TNR_BAND_FREQ	4,12	411439
TNR_BAND_FREQ	4,13	429655
TNR_BAND_FREQ	4,14	448677
TNR_BAND_FREQ	4,15	468542
TNR_BAND_FREQ	4,16	489286
TNR_BAND_FREQ	4,17	510949
TNR_BAND_FREQ	4,18	533570
TNR_BAND_FREQ	4,19	557193
TNR_BAND_FREQ	4,20	581862
TNR_BAND_FREQ	4,21	607624
TNR_BAND_FREQ	4,22	634525
TNR_BAND_FREQ	4,23	662618
TNR_BAND_FREQ	4,24	691955
TNR_BAND_FREQ	4,25	722590

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 44

Tab. 4.4 – continued from previous page

Variable Name	Index	Value
TNR_BAND_FREQ	4,26	754582
TNR_BAND_FREQ	4,27	787990
TNR_BAND_FREQ	4,28	822878
TNR_BAND_FREQ	4,29	859310
TNR_BAND_FREQ	4,30	897355
TNR_BAND_FREQ	4,31	937084
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 HFR spectrum every TBD seconds

Expected data volume: TBD MB per day

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 RPW Operation Centre (ROC) and Solar Orbiter/RPW teams for access to data.”
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009


Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 45

Tab. 4.5 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
CAVEAT	1	CDF_CHAR	
Data_type	1	CDF_CHAR	“H0>High Resolution data”
Data_version	1	CDF_CHAR	
DATASET_ID	1	CDF_CHAR	SOLO_L1_RPW-HFR-SURV
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_UUID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	The RPW Operation Centre (ROC)
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	
IDB_version	1	CDF_CHAR	
Instrument_type	1	CDF_CHAR	“Radio and Plasma Waves (space)”
Level	1	CDF_CHAR	“L1>Level 1”
LINK_TEXT	1	CDF_CHAR	
LINK_TITLE	1	CDF_CHAR	
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”
MODS	1	CDF_CHAR	“July 2015 : initial release, X. BONNIN (CNRS-LESIA)”
PACKET_CATEGORY	1	CDF_CHAR	
PACKET_PID	1	CDF_CHAR	
PACKET_SERVICE_SUBTYPE	1	CDF_CHAR	
PACKET_SERVICE_TYPE	1	CDF_CHAR	
PACKET_SID	1	CDF_CHAR	
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	“RPW>Radio and Plasma Waves instrument”
Provider	1	CDF_CHAR	
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00075-LES

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 46

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
Skeleton_version	1	CDF_CHAR	1
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	“SOLO>Solar Orbiter”
SPECTRAL_RANGE_MAX	1	CDF_DOUBLE	0.0
SPECTRAL_RANGE_MIN	1	CDF_DOUBLE	0.0
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_DOUBLE	0.0
TIME_MIN	1	CDF_DOUBLE	0.0
Validate	1	CDF_CHAR	

4.1.2.3.4 zVariables

Variable Name	Data Type	Number Elements	Dims	Sizes	Record Variance	Dimension Variances
Epoch	CDF_TIME_TT2000	1	0		T	
NUM	CDF_UINT4	1	0		T	
ACQUISITION_TIME	CDF_UINT4	1	1	2.0	T	T
TIME_SYNCHRO_FLAG	CDF_UINT1	1	0		T	
TIME_INTERPOL_FLAG	CDF_UINT1	1	0		T	
POST_GAP_FLAG	CDF_UINT1	1	0		T	
QUALITY_FLAG	CDF_UINT1	1	0		T	
QUALITY_BITMASK	CDF_UINT1	1	0		T	
SWEEP_NUM	CDF_UINT4	1	0		T	

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **47**

Tab. 4.6 – continued from previous page

Variable Name	Data Type	Number Elements	Dims	Sizes	Record Variance	Dimension Variances
SAMPLE_TIME	CDF_REAL8	1	0		T	
TICKS_NR	CDF_UINT4	1	0		T	
DELTA_TIME	CDF_REAL8	1	0		T	
SWEEP_MODE	CDF_UINT1	1	0		T	
SURVEY_MODE	CDF_UINT1	1	0		T	
CHANNEL_STATUS	CDF_UINT1	1	1	2.0	T	T
CALIBRATION_LEVEL	CDF_UINT1	1	0		T	
AVERAGE_NR	CDF_UINT1	1	0		T	
FRONT_END	CDF_UINT1	1	0		T	
SENSOR_CONFIG	CDF_UINT1	1	1	2.0	T	T
RPW_STATUS	CDF_UINT1	1	1	15.0	T	T
TEMPERATURE	CDF_UINT1	1	1	4.0	T	T
HFR_BAND	CDF_UINT1	1	0		T	
INTEGRATION_TIME	CDF_REAL8	1	0		T	
BANDWIDTH	CDF_UINT2	1	0		T	
FREQUENCY	CDF_UINT2	1	0		T	
AGC1	CDF_UINT2	1	0		T	
AGC2	CDF_UINT2	1	0		T	
ACQUISITION_TIME_UNITS	CDF_CHAR	16	1	2.0	F	T
ACQUISITION_TIME_LABEL	CDF_CHAR	32	1	2.0	F	T
CHANNEL_LABEL	CDF_CHAR	8	1	2.0	F	T
RPW_STATUS_LABEL	CDF_CHAR	16	1	15.0	F	T
TEMPERATURE_LABEL	CDF_CHAR	8	1	4.0	F	T
FRONT_END_LABEL	CDF_CHAR	8	1	3.0	F	T

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

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **48**

Tab. 4.7 – 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	RPW HFR clock
Epoch	REFERENCE_POS	CDF_CHAR	Solar Orbiter
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.
Epoch	UCD	CDF_CHAR	time.epoch
NUM	FIELDNAM	CDF_CHAR	NUM
NUM	CATDESC	CDF_CHAR	RPW HFR record index number
NUM	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
NUM	FORMAT	CDF_CHAR	I10.0
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	UCD	CDF_CHAR	meta.record
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	DEPEND_0	CDF_CHAR	Epoch

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **49**

Tab. 4.7 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
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	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	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 HFR clock
ACQUISITION_TIME	VAR_NOTES	CDF_CHAR	Acquisition time of the first sample contained in the packet. (CUC format)
ACQUISITION_TIME	UCD	CDF_CHAR	time.epoch
TIME_SYNCHRO_FLAG	FIELDNAM	CDF_CHAR	TIME_SYNCHRO_FLAG
TIME_SYNCHRO_FLAG	CATDESC	CDF_CHAR	Receiver time synchronisation flag
TIME_SYNCHRO_FLAG	DEPEND_0	CDF_CHAR	Epoch
TIME_SYNCHRO_FLAG	VALIDMIN	CDF_UINT1	0
TIME_SYNCHRO_FLAG	VALIDMAX	CDF_UINT1	1
TIME_SYNCHRO_FLAG	SCALEMIN	CDF_UINT1	0
TIME_SYNCHRO_FLAG	SCALEMAX	CDF_UINT1	1
TIME_SYNCHRO_FLAG	FILLVAL	CDF_UINT1	255
TIME_SYNCHRO_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
TIME_SYNCHRO_FLAG	FORMAT	CDF_CHAR	I1.1
TIME_SYNCHRO_FLAG	LABLAXIS	CDF_CHAR	Time sync. Flag
TIME_SYNCHRO_FLAG	UNITS	CDF_CHAR	
TIME_SYNCHRO_FLAG	VAR_TYPE	CDF_CHAR	support_data
TIME_SYNCHRO_FLAG	SCALETYP	CDF_CHAR	linear
TIME_SYNCHRO_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate if the receiver time is synchronised or not (0=Not synchronized, 1=Synchronized)
TIME_SYNCHRO_FLAG	UCD	CDF_CHAR	meta.code
TIME_INTERPOL_FLAG	FIELDNAM	CDF_CHAR	TIME_INTERPOL_FLAG
TIME_INTERPOL_FLAG	CATDESC	CDF_CHAR	Time interpolation flag
TIME_INTERPOL_FLAG	DEPEND_0	CDF_CHAR	Epoch
TIME_INTERPOL_FLAG	VALIDMIN	CDF_UINT1	0

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **50**

Tab. 4.7 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
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	DISPLAY_TYPE	CDF_CHAR	time_series
TIME_INTERPOL_FLAG	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
POST_GAP_FLAG	FIELDNAM	CDF_CHAR	POST_GAP_FLAG
POST_GAP_FLAG	CATDESC	CDF_CHAR	Post gap flag
POST_GAP_FLAG	DEPEND_0	CDF_CHAR	Epoch
POST_GAP_FLAG	VALIDMIN	CDF_UINT1	0
POST_GAP_FLAG	VALIDMAX	CDF_UINT1	255
POST_GAP_FLAG	SCALEMIN	CDF_UINT1	0
POST_GAP_FLAG	SCALEMAX	CDF_UINT1	255
POST_GAP_FLAG	FILLVAL	CDF_UINT1	255
POST_GAP_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
POST_GAP_FLAG	FORMAT	CDF_CHAR	I3.3
POST_GAP_FLAG	LABLAXIS	CDF_CHAR	Post gap flag
POST_GAP_FLAG	UNITS	CDF_CHAR	
POST_GAP_FLAG	VAR_TYPE	CDF_CHAR	support_data
POST_GAP_FLAG	SCALETYP	CDF_CHAR	linear
POST_GAP_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the reason why there is gap in the data preceding the current record. If no gap then POST_GAP_FLAG=0.
POST_GAP_FLAG	UCD	CDF_CHAR	meta.code
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FLAG	VALIDMIN	CDF_UINT1	0

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **51**

Tab. 4.7 – 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	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	FORMAT	CDF_CHAR	I3.3
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	UCD	CDF_CHAR	meta.code
SWEEP_NUM	FIELDNAM	CDF_CHAR	SWEEP_NUM
SWEEP_NUM	CATDESC	CDF_CHAR	HFR sweep index number
SWEEP_NUM	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
SWEEP_NUM	FORMAT	CDF_CHAR	I10.0

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00


Date: January 18, 2019

Page: **52**

Tab. 4.7 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
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	UCD	CDF_CHAR	meta.record
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	DEPEND_0	CDF_CHAR	Epoch
SAMPLE_TIME	VALIDMIN	CDF_REAL8	0
SAMPLE_TIME	VALIDMAX	CDF_REAL8	1.0e30
SAMPLE_TIME	SCALEMIN	CDF_REAL8	0
SAMPLE_TIME	SCALEMAX	CDF_REAL8	1.0e30
SAMPLE_TIME	FILLVAL	CDF_REAL8	-1.0e31
SAMPLE_TIME	DISPLAY_TYPE	CDF_CHAR	time_series
SAMPLE_TIME	FORMAT	CDF_CHAR	I10.0
SAMPLE_TIME	LABLAXIS	CDF_CHAR	HFR sample time
SAMPLE_TIME	UNITS	CDF_CHAR	μ s
SAMPLE_TIME	VAR_TYPE	CDF_CHAR	support_data
SAMPLE_TIME	SCALETYP	CDF_CHAR	linear
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	UCD	CDF_CHAR	time.duration
SAMPLE_TIME	Bin_location	CDF_CHAR	0.5
TICKS_NR	FIELDNAM	CDF_CHAR	TICKS_NR
TICKS_NR	CATDESC	CDF_CHAR	Number of ticks since the ACQUISITION_TIME
TICKS_NR	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
TICKS_NR	FORMAT	CDF_CHAR	I10.0

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 53

Tab. 4.7 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
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	TIME_BASE	CDF_CHAR	ACQUISITION_TIME
TICKS_NR	TIME_SCALE	CDF_CHAR	RPW HFR clock
TICKS_NR	REFERENCE_POSITION	CDF_CHAR	RPW
TICKS_NR	VAR_NOTES	CDF_CHAR	Number of ticks since ACQUISITION_TIME for the current HFR data sample
TICKS_NR	UCD	CDF_CHAR	time.epoch
DELTA_TIME	FIELDNAM	CDF_CHAR	DELTA_TIME
DELTA_TIME	CATDESC	CDF_CHAR	RPW HFR band delta time
DELTA_TIME	DEPEND_0	CDF_CHAR	Epoch
DELTA_TIME	VALIDMIN	CDF_REAL8	0
DELTA_TIME	VALIDMAX	CDF_REAL8	1.0e30
DELTA_TIME	SCALEMIN	CDF_REAL8	0
DELTA_TIME	SCALEMAX	CDF_REAL8	1.0e30
DELTA_TIME	FILLVAL	CDF_REAL8	-1.0e31
DELTA_TIME	DISPLAY_TYPE	CDF_CHAR	time_series
DELTA_TIME	FORMAT	CDF_CHAR	I10.0
DELTA_TIME	LABLAXIS	CDF_CHAR	HFR delta time
DELTA_TIME	UNITS	CDF_CHAR	μ s
DELTA_TIME	VAR_TYPE	CDF_CHAR	support_data
DELTA_TIME	SCALETYP	CDF_CHAR	linear
DELTA_TIME	MONOTON	CDF_CHAR	INCREASE
DELTA_TIME	TIME_BASE	CDF_CHAR	ACQUISITION_TIME
DELTA_TIME	TIME_SCALE	CDF_CHAR	RPW TNR-HFR clock
DELTA_TIME	REFERENCE_POSITION	CDF_CHAR	RPW
DELTA_TIME	VAR_NOTES	CDF_CHAR	Delta time of the HF band data sample in microseconds since ACQUISITION_TIME. Computed from TICKS_NR * (1 tick = 15.258 μ s)
DELTA_TIME	UCD	CDF_CHAR	time.epoch
SWEEP_MODE	FIELDNAM	CDF_CHAR	SWEEP_MODE
SWEEP_MODE	CATDESC	CDF_CHAR	HFR sweep mode of the current record
SWEEP_MODE	DEPEND_0	CDF_CHAR	Epoch
SWEEP_MODE	VALIDMIN	CDF_UINT1	0
SWEEP_MODE	VALIDMAX	CDF_UINT1	1

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **54**

Tab. 4.7 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SWEEP_MODE	SCALEMIN	CDF_UINT1	0
SWEEP_MODE	SCALEMAX	CDF_UINT1	1
SWEEP_MODE	FILLVAL	CDF_UINT1	255
SWEEP_MODE	DISPLAY_TYPE	CDF_CHAR	time_series
SWEEP_MODE	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
SURVEY_MODE	FIELDNAM	CDF_CHAR	SURVEY_MODE
SURVEY_MODE	CATDESC	CDF_CHAR	THR survey mode
SURVEY_MODE	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
SURVEY_MODE	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
CHANNEL_STATUS	FIELDNAM	CDF_CHAR	CHANNEL_STATUS
CHANNEL_STATUS	CATDESC	CDF_CHAR	HFR channel status of the current record
CHANNEL_STATUS	DEPEND_0	CDF_CHAR	Epoch
CHANNEL_STATUS	VALIDMIN	CDF_UINT1	0
CHANNEL_STATUS	VALIDMAX	CDF_UINT1	254
CHANNEL_STATUS	SCALEMIN	CDF_UINT1	0
CHANNEL_STATUS	SCALEMAX	CDF_UINT1	254

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

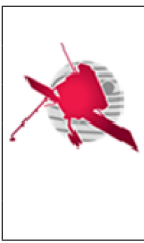
Date: January 18, 2019

Page: **55**

Tab. 4.7 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
CHANNEL_STATUS	FILLVAL	CDF_UINT1	255
CHANNEL_STATUS	DISPLAY_TYPE	CDF_CHAR	time_series
CHANNEL_STATUS	FORMAT	CDF_CHAR	I3.3
CHANNEL_STATUS	LABL_PTR_1	CDF_CHAR	CHANNEL_LABEL
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	UCD	CDF_CHAR	meta.code
CALIBRATION_LEVEL	FIELDNAM	CDF_CHAR	CALIBRATION_LEVEL
CALIBRATION_LEVEL	CATDESC	CDF_CHAR	receiver calibration level
CALIBRATION_LEVEL	DEPEND_0	CDF_CHAR	Epoch
CALIBRATION_LEVEL	VALIDMIN	CDF_UINT1	0
CALIBRATION_LEVEL	VALIDMAX	CDF_UINT1	1
CALIBRATION_LEVEL	SCALEMIN	CDF_UINT1	0
CALIBRATION_LEVEL	SCALEMAX	CDF_UINT1	1
CALIBRATION_LEVEL	FILLVAL	CDF_UINT1	255
CALIBRATION_LEVEL	DISPLAY_TYPE	CDF_CHAR	time_series
CALIBRATION_LEVEL	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
AVERAGE_NR	FIELDNAM	CDF_CHAR	AVERAGE_NR
AVERAGE_NR	CATDESC	CDF_CHAR	Number of averages
AVERAGE_NR	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
AVERAGE_NR	FORMAT	CDF_CHAR	I3.3
AVERAGE_NR	LABLAXIS	CDF_CHAR	averages
AVERAGE_NR	UNITS	CDF_CHAR	
AVERAGE_NR	VAR_TYPE	CDF_CHAR	data

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **56**

Tab. 4.7 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
AVERAGE_NR	SCALETYP	CDF_CHAR	linear
AVERAGE_NR	VAR_NOTES	CDF_CHAR	Number of averages (16, 32, 64 or 128) applied
AVERAGE_NR	UCD	CDF_CHAR	meta.code
FRONT_END	FIELDNAM	CDF_CHAR	FRONT_END
FRONT_END	CATDESC	CDF_CHAR	Front end setting
FRONT_END	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
FRONT_END	FORMAT	CDF_CHAR	I1.1
FRONT_END	LABL_PTR_1	CDF_CHAR	FRONT_END_LABEL
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	UCD	CDF_CHAR	meta.code
SENSOR_CONFIG	FIELDNAM	CDF_CHAR	SENSOR_CONFIG
SENSOR_CONFIG	CATDESC	CDF_CHAR	THR sensor configuration
SENSOR_CONFIG	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
SENSOR_CONFIG	FORMAT	CDF_CHAR	I1.1
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

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **57**

Tab. 4.7 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SENSOR_CONFIG	VAR_NOTES	CDF_CHAR	Indicates the THR sensor configuration. Possible values are: 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	UCD	CDF_CHAR	meta.code
RPW_STATUS	FIELDNAM	CDF_CHAR	RPW_STATUS
RPW_STATUS	CATDESC	CDF_CHAR	RPW status
RPW_STATUS	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
RPW_STATUS	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
TEMPERATURE	FIELDNAM	CDF_CHAR	TEMPERATURE
TEMPERATURE	CATDESC	CDF_CHAR	PA temperature
TEMPERATURE	DEPEND_0	CDF_CHAR	Epoch
TEMPERATURE	LABL_PTR_1	CDF_CHAR	TEMPERATURE_LABEL
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	DISPLAY_TYPE	CDF_CHAR	time_series
TEMPERATURE	FORMAT	CDF_CHAR	I3.3
TEMPERATURE	UNITS	CDF_CHAR	degrees
TEMPERATURE	VAR_TYPE	CDF_CHAR	data
TEMPERATURE	SCALETYP	CDF_CHAR	linear

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **58**

Tab. 4.7 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
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	UCD	CDF_CHAR	phys.temperature
HFR_BAND	FIELDNAM	CDF_CHAR	HFR_BAND
HFR_BAND	CATDESC	CDF_CHAR	HFR frequency band of the current record
HFR_BAND	DEPEND_0	CDF_CHAR	Epoch
HFR_BAND	VALIDMIN	CDF_UINT1	0
HFR_BAND	VALIDMAX	CDF_UINT1	254
HFR_BAND	SCALEMIN	CDF_UINT1	0
HFR_BAND	SCALEMAX	CDF_UINT1	254
HFR_BAND	FILLVAL	CDF_UINT1	255
HFR_BAND	DISPLAY_TYPE	CDF_CHAR	time_series
HFR_BAND	FORMAT	CDF_CHAR	I3.3
HFR_BAND	LABLAXIS	CDF_CHAR	HFR band
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	UCD	CDF_CHAR	meta.code
INTEGRATION_TIME	FIELDNAM	CDF_CHAR	INTEGRATION_TIME
INTEGRATION_TIME	CATDESC	CDF_CHAR	Integration time of the current record
INTEGRATION_TIME	DEPEND_0	CDF_CHAR	Epoch
INTEGRATION_TIME	VALIDMIN	CDF_REAL8	0
INTEGRATION_TIME	VALIDMAX	CDF_REAL8	-1.0E31'
INTEGRATION_TIME	SCALEMIN	CDF_REAL8	0
INTEGRATION_TIME	SCALEMAX	CDF_REAL8	-1.0E31'
INTEGRATION_TIME	FILLVAL	CDF_REAL8	-1.0E31'
INTEGRATION_TIME	DISPLAY_TYPE	CDF_CHAR	time_series
INTEGRATION_TIME	FORMAT	CDF_CHAR	I10.0
INTEGRATION_TIME	LABLAXIS	CDF_CHAR	Int. Time
INTEGRATION_TIME	UNITS	CDF_CHAR	ns
INTEGRATION_TIME	VAR_TYPE	CDF_CHAR	support_data
INTEGRATION_TIME	SCALETYP	CDF_CHAR	linear

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **59**

Tab. 4.7 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
INTEGRATION_TIME	VAR_NOTES	CDF_CHAR	Integration time of the current record
INTEGRATION_TIME	UCD	CDF_CHAR	time.epoch
BANDWIDTH	FIELDNAM	CDF_CHAR	BANDWIDTH
BANDWIDTH	CATDESC	CDF_CHAR	Frequency bandwidth
BANDWIDTH	DEPEND_0	CDF_CHAR	Epoch
BANDWIDTH	VALIDMIN	CDF_UINT2	0
BANDWIDTH	VALIDMAX	CDF_UINT2	65534
BANDWIDTH	SCALEMIN	CDF_UINT2	0
BANDWIDTH	SCALEMAX	CDF_UINT2	65534
BANDWIDTH	FILLVAL	CDF_UINT2	65535
BANDWIDTH	DISPLAY_TYPE	CDF_CHAR	time_series
BANDWIDTH	FORMAT	CDF_CHAR	I5.5
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	Frequency bandwidth in kHz
BANDWIDTH	UCD	CDF_CHAR	em.freq
FREQUENCY	FIELDNAM	CDF_CHAR	FREQUENCY
FREQUENCY	CATDESC	CDF_CHAR	Frequency of analysis
FREQUENCY	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
FREQUENCY	FORMAT	CDF_CHAR	I5.5
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	UCD	CDF_CHAR	em.freq
AGC1	FIELDNAM	CDF_CHAR	AGC1
AGC1	CATDESC	CDF_CHAR	Automatic Gain Control of the current record on channel 1
AGC1	DEPEND_0	CDF_CHAR	Epoch
AGC1	VALIDMIN	CDF_UINT2	0
AGC1	VALIDMAX	CDF_UINT2	65534

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **60**

Tab. 4.7 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
AGC1	SCALEMIN	CDF_UINT2	0
AGC1	SCALEMAX	CDF_UINT2	65534
AGC1	FILLVAL	CDF_UINT2	65535
AGC1	DISPLAY_TYPE	CDF_CHAR	time_series
AGC1	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	
AGC2	FIELDNAM	CDF_CHAR	AGC2
AGC2	CATDESC	CDF_CHAR	Automatic Gain Control of the current record on channel 2
AGC2	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
AGC2	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	
ACQUISITION_TIME_LABEL	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME_LABEL	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME
ACQUISITION_TIME_LABEL	FORMAT	CDF_CHAR	A32
ACQUISITION_TIME_LABEL	VAR_TYPE	CDF_CHAR	metadata
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	FORMAT	CDF_CHAR	A16
ACQUISITION_TIME_UNITS	VAR_TYPE	CDF_CHAR	metadata

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **61**

Tab. 4.7 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
CHANNEL_LABEL	FIELDNAM	CDF_CHAR	CHANNEL_LABEL
CHANNEL_LABEL	CATDESC	CDF_CHAR	Label for channel status
CHANNEL_LABEL	FORMAT	CDF_CHAR	A8
CHANNEL_LABEL	VAR_TYPE	CDF_CHAR	metadata
RPW_STATUS_LABEL	FIELDNAM	CDF_CHAR	RPW_STATUS_LABEL
RPW_STATUS_LABEL	CATDESC	CDF_CHAR	Label for RPW status
RPW_STATUS_LABEL	FORMAT	CDF_CHAR	A16
RPW_STATUS_LABEL	VAR_TYPE	CDF_CHAR	metadata
TEMPERATURE_LABEL	FIELDNAM	CDF_CHAR	TEMPERATURE_LABEL
TEMPERATURE_LABEL	CATDESC	CDF_CHAR	Label for PA temperature
TEMPERATURE_LABEL	FORMAT	CDF_CHAR	A8
TEMPERATURE_LABEL	VAR_TYPE	CDF_CHAR	metadata
FRONT_END_LABEL	FIELDNAM	CDF_CHAR	FRONT_END_LABEL
FRONT_END_LABEL	CATDESC	CDF_CHAR	Label for FRONT_END
FRONT_END_LABEL	FORMAT	CDF_CHAR	A8
FRONT_END_LABEL	VAR_TYPE	CDF_CHAR	metadata



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019


Page: **62**

4.1.2.3.6 Non-Record-Variant (NRV) Variables

Variable Name	Index	Value
ACQUISITION_TIME_LABEL	1	CUC coarse part time
ACQUISITION_TIME_LABEL	2	CUC fine part time
ACQUISITION_TIME_UNITS	1	s
ACQUISITION_TIME_UNITS	2	s / 65536
CHANNEL_LABEL	1	Ch1
CHANNEL_LABEL	2	Ch2
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
FRONT_END_LABEL	1	GND
FRONT_END_LABEL	2	PREAMP
FRONT_END_LABEL	3	CAL

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 00
		Date: January 18, 2019	Page: 63

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 TDS RSWF every 300 seconds

Expected data volume: TBD MB per day

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 RPW Operation Centre (ROC) and Solar Orbiter/RPW teams for access to data.”
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009
CAVEAT	1	CDF_CHAR	
Data_type	1	CDF_CHAR	“H0>High Resolution data”
Data_version	1	CDF_CHAR	
DATASET_ID	1	CDF_CHAR	SOLO_L1_RPW-TDS-SURV-RSWF
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_UUID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	
IDB_version	1	CDF_CHAR	
Instrument_type	1	CDF_CHAR	“Radio and Plasma Waves (space)”
Level	1	CDF_CHAR	“L1>Level 1”
LINK_TEXT	1	CDF_CHAR	
LINK_TITLE	1	CDF_CHAR	

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 64

Tab. 4.8 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
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”
Mission_group	1	CDF_CHAR	“Solar Orbiter”
MODS	1	CDF_CHAR	“July 2016: data organization by snapshots, time vector added”
PACKET_CATEGORY	1	CDF_CHAR	“12”
PACKET_PID	1	CDF_CHAR	“77”
PACKET_SERVICE_SUBTYPE	1	CDF_CHAR	“6”
PACKET_SERVICE_TYPE	1	CDF_CHAR	“21”
PACKET_SID	1	CDF_CHAR	“51”
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	“RPW>Radio and Plasma Waves instrument”
Provider	1	CDF_CHAR	
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00075-LES
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
Skeleton_version	1	CDF_CHAR	1
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	“SOLO>Solar Orbiter”
SPECTRAL_RANGE_MAX	1	CDF_DOUBLE	0.0
SPECTRAL_RANGE_MIN	1	CDF_DOUBLE	0.0

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019


Page: **65**

Tab. 4.8 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
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_DOUBLE	0.0
TIME_MIN	1	CDF_DOUBLE	0.0
Validate	1	CDF_CHAR	

4.1.2.4.4 zVariables

Variable Name	Data Type	Number Elements	Dims	Sizes	Record Variance	Dimension Variances
Epoch	CDF_TIME_TT2000	1	0		T	
ACQUISITION_TIME	CDF_UINT4	1	1	2	T	T
TIME_SYNCHRO_FLAG	CDF_UINT1	1	0		T	
POST_GAP_FLAG	CDF_UINT1	1	0		T	
QUALITY_FLAG	CDF_UINT1	1	0		T	
QUALITY_BITMASK	CDF_UINT1	1	0		T	
SURVEY_MODE	CDF_UINT1	1	0		T	
BIA_STATUS_INFO	CDF_UINT1	1	1	6	T	T
SAMPLING_RATE	CDF_FLOAT	1	0		T	
HF_DATA_ARTEFACTS	CDF_UINT1	1	1	5	T	T
FILTER_COEFS	CDF_UINT1	1	0		T	
RPW_STATUS_INFO	CDF_UINT1	1	1	8	T	T
INPUT_CONFIG	CDF_UINT4	1	0		T	
SNAPSHOT_SEQ_NR	CDF_UINT2	1	0		T	
ACQUISITION_TIME_UNITS	CDF_CHAR	16	1	2	F	T
ACQUISITION_TIME_LABEL	CDF_CHAR	32	1	2	F	T
CHANNEL_STATUS_INFO	CDF_UINT1	1	1	4	T	T
SAMPS_PER_CH	CDF_UINT4	1	0		T	
SAMP_DTIME	CDF_UINT4	1	1	65536	T	T
WAVEFORM_DATA	CDF_INT2	1	2	4 65536	T	T T
CHANNEL_LABEL	CDF_CHAR	8	1	4	F	T
WAVEFORM_LABEL	CDF_CHAR	16	1	4	F	T

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 66

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
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	RPW TDS clock
Epoch	REFERENCE_POS	CDF_CHAR	Solar Orbiter
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file
Epoch	UCD	CDF_CHAR	time.Epoch
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
ACQUISITION_TIME	FORMAT	CDF_CHAR	E12.2
ACQUISITION_TIME	LABL_PTR_1	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME	UNIT_PTR	CDF_CHAR	ACQUISITION_TIME_UNITS

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **67**

Tab. 4.9 – 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 TDS 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	UCD	CDF_CHAR	time.Epoch
TIME_SYNCHRO_FLAG	FIELDNAM	CDF_CHAR	Time synchronisation flag
TIME_SYNCHRO_FLAG	CATDESC	CDF_CHAR	Time synchronisation flag
TIME_SYNCHRO_FLAG	DEPEND_0	CDF_CHAR	Epoch
TIME_SYNCHRO_FLAG	VALIDMIN	CDF_UINT1	0
TIME_SYNCHRO_FLAG	VALIDMAX	CDF_UINT1	1
TIME_SYNCHRO_FLAG	SCALEMIN	CDF_UINT1	0
TIME_SYNCHRO_FLAG	SCALEMAX	CDF_UINT1	1
TIME_SYNCHRO_FLAG	FILLVAL	CDF_UINT1	255
TIME_SYNCHRO_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
TIME_SYNCHRO_FLAG	FORMAT	CDF_CHAR	I3.3
TIME_SYNCHRO_FLAG	LABLAXIS	CDF_CHAR	time sync. flag
TIME_SYNCHRO_FLAG	UNITS	CDF_CHAR	
TIME_SYNCHRO_FLAG	VAR_TYPE	CDF_CHAR	support_data
TIME_SYNCHRO_FLAG	SCALETYP	CDF_CHAR	linear
TIME_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.
TIME_SYNCHRO_FLAG	UCD	CDF_CHAR	meta.code
POST_GAP_FLAG	FIELDNAM	CDF_CHAR	POST_GAP_FLAG
POST_GAP_FLAG	CATDESC	CDF_CHAR	Post gap flag
POST_GAP_FLAG	DEPEND_0	CDF_CHAR	Epoch
POST_GAP_FLAG	VALIDMIN	CDF_UINT1	0
POST_GAP_FLAG	VALIDMAX	CDF_UINT1	255
POST_GAP_FLAG	SCALEMIN	CDF_UINT1	0
POST_GAP_FLAG	SCALEMAX	CDF_UINT1	255

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **68**

Tab. 4.9 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
POST_GAP_FLAG	FILLVAL	CDF_UINT1	255
POST_GAP_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
POST_GAP_FLAG	FORMAT	CDF_CHAR	I3.3
POST_GAP_FLAG	LABLAXIS	CDF_CHAR	Post gap flag
POST_GAP_FLAG	UNITS	CDF_CHAR	
POST_GAP_FLAG	VAR_TYPE	CDF_CHAR	support_data
POST_GAP_FLAG	SCALETYP	CDF_CHAR	linear
POST_GAP_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the reason why there is gap in the data preceding the current record. If no gap then POST_GAP_FLAG=0.
POST_GAP_FLAG	UCD	CDF_CHAR	meta.code
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	FORMAT	CDF_CHAR	I3.3
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Bitmask flag

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00


Date: January 18, 2019

Page: **69**

Tab. 4.9 – 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	UCD	CDF_CHAR	meta.code
SURVEY_MODE	FIELDNAM	CDF_CHAR	SURVEY_MODE
SURVEY_MODE	CATDESC	CDF_CHAR	TDS survey mode
SURVEY_MODE	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
SURVEY_MODE	FORMAT	CDF_CHAR	II.1
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	UCD	CDF_CHAR	meta.code
BIA_STATUS_INFO	FIELDNAM	CDF_CHAR	BIA_STATUS_INFO
BIA_STATUS_INFO	CATDESC	CDF_CHAR	BIAS status byte
BIA_STATUS_INFO	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
BIA_STATUS_INFO	FORMAT	CDF_CHAR	II.1
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

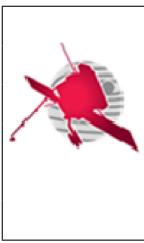
Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 70

Tab. 4.9 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIA_STATUS_INFO	UCD	CDF_CHAR	meta.code
SAMPLING_RATE	FIELDNAM	CDF_CHAR	SAMPLING_RATE
SAMPLING_RATE	CATDESC	CDF_CHAR	TDS sampling rate
SAMPLING_RATE	DEPEND_0	CDF_CHAR	Epoch
SAMPLING_RATE	VALIDMIN	CDF_FLOAT	-1.0e31
SAMPLING_RATE	VALIDMAX	CDF_FLOAT	1.0e30
SAMPLING_RATE	SCALEMIN	CDF_FLOAT	-1.0e31
SAMPLING_RATE	SCALEMAX	CDF_FLOAT	1.0e30
SAMPLING_RATE	FILLVAL	CDF_FLOAT	-1.0e31
SAMPLING_RATE	DISPLAY_TYPE	CDF_CHAR	time_series
SAMPLING_RATE	FORMAT	CDF_CHAR	F8.3
SAMPLING_RATE	LABLAXIS	CDF_CHAR	Sampling rate code
SAMPLING_RATE	UNITS	CDF_CHAR	kHz
SAMPLING_RATE	VAR_TYPE	CDF_CHAR	data
SAMPLING_RATE	SCALETYP	CDF_CHAR	linear
SAMPLING_RATE	VAR_NOTES	CDF_CHAR	TDS sampling rate
SAMPLING_RATE	UCD	CDF_CHAR	meta.code
HF_DATA_ARTEFACTS	FIELDNAM	CDF_CHAR	HF_DATA_ARTEFACTS
HF_DATA_ARTEFACTS	CATDESC	CDF_CHAR	Bitmask of data artefacts (overflows etc)
HF_DATA_ARTEFACTS	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
HF_DATA_ARTEFACTS	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
FILTER_COEFS	FIELDNAM	CDF_CHAR	FILTER_COEFS
FILTER_COEFS	CATDESC	CDF_CHAR	Index of filter coefficients used
FILTER_COEFS	DEPEND_0	CDF_CHAR	Epoch
FILTER_COEFS	VALIDMIN	CDF_UINT1	0
FILTER_COEFS	VALIDMAX	CDF_UINT1	4

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **71**

Tab. 4.9 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
FILTER_COEFS	SCALEMIN	CDF_UINT1	0
FILTER_COEFS	SCALEMAX	CDF_UINT1	1
FILTER_COEFS	FILLVAL	CDF_UINT1	255
FILTER_COEFS	DISPLAY_TYPE	CDF_CHAR	time_series
FILTER_COEFS	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
RPW_STATUS_INFO	FIELDNAM	CDF_CHAR	RPW_STATUS_INFO
RPW_STATUS_INFO	CATDESC	CDF_CHAR	RPW status
RPW_STATUS_INFO	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
RPW_STATUS_INFO	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
INPUT_CONFIG	FIELDNAM	CDF_CHAR	INPUT_CONFIG
INPUT_CONFIG	CATDESC	CDF_CHAR	Bitmask of TDS analog input configuration
INPUT_CONFIG	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
INPUT_CONFIG	FORMAT	CDF_CHAR	I1.1
INPUT_CONFIG	LABLAXIS	CDF_CHAR	TDS input config.

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **72**

Tab. 4.9 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
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	UCD	CDF_CHAR	meta.code
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
SNAPSHOT_SEQ_NR	FORMAT	CDF_CHAR	I6.5
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	UCD	CDF_CHAR	meta.code
ACQUISITION_TIME_LABEL	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME_LABEL	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME
ACQUISITION_TIME_LABEL	FORMAT	CDF_CHAR	A32
ACQUISITION_TIME_LABEL	VAR_TYPE	CDF_CHAR	metadata
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	FORMAT	CDF_CHAR	A16
ACQUISITION_TIME_UNITS	VAR_TYPE	CDF_CHAR	metadata
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	DEPEND_0	CDF_CHAR	Epoch
CHANNEL_STATUS_INFO	VALIDMIN	CDF_UINT1	0

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00


Date: January 18, 2019

Page: **73**

Tab. 4.9 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
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	DISPLAY_TYPE	CDF_CHAR	time_series
CHANNEL_STATUS_INFO	FORMAT	CDF_CHAR	I1
CHANNEL_STATUS_INFO	LABL_PTR_1	CDF_CHAR	CHANNEL_LABEL
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	UCD	CDF_CHAR	
SAMPS_PER_CH	FIELDNAM	CDF_CHAR	SAMPS_PER_CH
SAMPS_PER_CH	CATDESC	CDF_CHAR	Number of samples per channel
SAMPS_PER_CH	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
SAMPS_PER_CH	FORMAT	CDF_CHAR	I10
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	UCD	CDF_CHAR	
SAMP_DTIME	FIELDNAM	CDF_CHAR	SAMP_DTIME
SAMP_DTIME	CATDESC	CDF_CHAR	Delta time of the sample
SAMP_DTIME	DEPEND_0	CDF_CHAR	Epoch
SAMP_DTIME	VALIDMIN	CDF_UINT4	0
SAMP_DTIME	VALIDMAX	CDF_UINT4	4294967294
SAMP_DTIME	SCALEMIN	CDF_UINT4	0
SAMP_DTIME	SCALEMAX	CDF_UINT4	4294967294
SAMP_DTIME	FILLVAL	CDF_UINT4	4294967295
SAMP_DTIME	DISPLAY_TYPE	CDF_CHAR	time_series

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 74

Tab. 4.9 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SAMP_DTIME	FORMAT	CDF_CHAR	I10
SAMP_DTIME	LABLAXIS	CDF_CHAR	Delta time
SAMP_DTIME	UNITS	CDF_CHAR	ns
SAMP_DTIME	VAR_TYPE	CDF_CHAR	support_data
SAMP_DTIME	SCALETYP	CDF_CHAR	linear
SAMP_DTIME	VAR_NOTES	CDF_CHAR	Delta time of the sample in ns from Epoch
SAMP_DTIME	UCD	CDF_CHAR	
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
WAVEFORM_DATA	FORMAT	CDF_CHAR	I6.6
WAVEFORM_DATA	LABL_PTR_1	CDF_CHAR	WAVEFORM_LABEL
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	UCD	CDF_CHAR	
CHANNEL_LABEL	FIELDNAM	CDF_CHAR	CHANNEL_LABEL
CHANNEL_LABEL	CATDESC	CDF_CHAR	Label for CHANNEL_INFO_STATUS
CHANNEL_LABEL	FORMAT	CDF_CHAR	A8
CHANNEL_LABEL	VAR_TYPE	CDF_CHAR	metadata
WAVEFORM_LABEL	FIELDNAM	CDF_CHAR	WAVEFORM_LABEL
WAVEFORM_LABEL	CATDESC	CDF_CHAR	Label for WAVEFORM_DATA
WAVEFORM_LABEL	FORMAT	CDF_CHAR	A16
WAVEFORM_LABEL	VAR_TYPE	CDF_CHAR	metdata



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **75**

4.1.2.4.6 Non-Record-Variant (NRV) Variables

Variable Name	Index	Value
ACQUISITION_TIME_LABEL	1	CUC coarse part time
ACQUISITION_TIME_LABEL	2	CUC fine part time
ACQUISITION_TIME_UNITS	1	s
ACQUISITION_TIME_UNITS	2	s / 65536
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 TDS TSWF every TBD seconds

Expected data volume: TBD MB per day

4.1.2.5.3 Global Attributes



RPW Data Product Description Document

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

Issue
01


Revision
00

Date: January 18, 2019

Page: **76**

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 RPW Operation Centre (ROC) and Solar Orbiter/RPW teams for access to data.”
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009
CAVEAT	1	CDF_CHAR	
Data_type	1	CDF_CHAR	“H0>High Resolution data”
Data_version	1	CDF_CHAR	
DATASET_ID	1	CDF_CHAR	SOLO_L1_RPW-TDS-SURV-TSWF
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_UUID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	
IDB_version	1	CDF_CHAR	
Instrument_type	1	CDF_CHAR	“Radio and Plasma Waves (space)”
Level	1	CDF_CHAR	“L1>Level 1”
LINK_TEXT	1	CDF_CHAR	
LINK_TITLE	1	CDF_CHAR	
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”
MODS	1	CDF_CHAR	“July 2016: data organization by snapshots, time vector added”
PACKET_CATEGORY	1	CDF_CHAR	“12”
PACKET_PID	1	CDF_CHAR	“77”
PACKET_SERVICE_SUBTYPE	1	CDF_CHAR	“6”
PACKET_SERVICE_TYPE	1	CDF_CHAR	“21”
PACKET_SID	1	CDF_CHAR	“52”
PACKET_SRDB_ID	1	CDF_CHAR	
Parent_version	1	CDF_CHAR	
Parents	1	CDF_CHAR	

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 77

Tab. 4.10 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
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	“RPW>Radio and Plasma Waves instrument”
Provider	1	CDF_CHAR	
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00075-LES
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
Skeleton_version	1	CDF_CHAR	1
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	“SOLO>Solar Orbiter”
SPECTRAL_RANGE_MAX	1	CDF_DOUBLE	0.0
SPECTRAL_RANGE_MIN	1	CDF_DOUBLE	0.0
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_DOUBLE	0.0
TIME_MIN	1	CDF_DOUBLE	0.0
Validate	1	CDF_CHAR	



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **78**


4.1.2.5.4 zVariables

Variable Name	Data Type	Number Elements	Dims	Sizes	Record Variance	Dimension Variances
Epoch	CDF_TIME_TT2000	1	0		T	
ACQUISITION_TIME	CDF_UINT4	1	1	2	T	T
TIME_SYNCHRO_FLAG	CDF_UINT1	1	0		T	
POST_GAP_FLAG	CDF_UINT1	1	0		T	
QUALITY_FLAG	CDF_UINT1	1	0		T	
QUALITY_BITMASK	CDF_UINT1	1	0		T	
SURVEY_MODE	CDF_UINT1	1	0		T	
BIA_STATUS_INFO	CDF_UINT1	1	1	6	T	T
SAMPLING_RATE	CDF_FLOAT	1	0		T	
HF_DATA_ARTEFACTS	CDF_UINT1	1	1	5	T	T
FILTER_COEFS	CDF_UINT1	1	0		T	
RPW_STATUS_INFO	CDF_UINT1	1	1	8	T	T
INPUT_CONFIG	CDF_UINT4	1	0		T	
SNAPSHOT_SEQ_NR	CDF_UINT2	1	0		T	
ACQUISITION_TIME_UNITS	CDF_CHAR	16	1	2	F	T
ACQUISITION_TIME_LABEL	CDF_CHAR	32	1	2	F	T
CHANNEL_STATUS_INFO	CDF_UINT1	1	1	4	T	T
QUALITY_FACT	CDF_UINT2	1	0		T	
DOWNLINK_INFO	CDF_UINT1	1	1	2	T	T
SAMPS_PER_CH	CDF_UINT4	1	0		T	
SAMP_DTIME	CDF_UINT4	1	1	65536	T	T
WAVEFORM_DATA	CDF_FLOAT	1	2	4 65536	T	T T
CHANNEL_LABEL	CDF_CHAR	8	1	4	F	T
WAVEFORM_LABEL	CDF_CHAR	16	1	4	F	T

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

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 79

Tab. 4.11 – 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	RPW TDS clock
Epoch	REFERENCE_POSITION	CDF_CHAR	Solar Orbiter
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file
Epoch	UCD	CDF_CHAR	time.epoch
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
ACQUISITION_TIME	FORMAT	CDF_CHAR	E12.2
ACQUISITION_TIME	LABL_PTR_1	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME	UNIT_PTR	CDF_CHAR	ACQUISITION_TIME_UNITS
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 TDS clock

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **80**

Tab. 4.11 – 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	UCD	CDF_CHAR	time.epoch
TIME_SYNCHRO_FLAG	FIELDNAM	CDF_CHAR	Time synchronisation flag
TIME_SYNCHRO_FLAG	CATDESC	CDF_CHAR	Time synchronisation flag
TIME_SYNCHRO_FLAG	DEPEND_0	CDF_CHAR	Epoch
TIME_SYNCHRO_FLAG	VALIDMIN	CDF_UINT1	0
TIME_SYNCHRO_FLAG	VALIDMAX	CDF_UINT1	1
TIME_SYNCHRO_FLAG	SCALEMIN	CDF_UINT1	0
TIME_SYNCHRO_FLAG	SCALEMAX	CDF_UINT1	1
TIME_SYNCHRO_FLAG	FILLVAL	CDF_UINT1	255
TIME_SYNCHRO_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
TIME_SYNCHRO_FLAG	FORMAT	CDF_CHAR	I3.3
TIME_SYNCHRO_FLAG	LABLAXIS	CDF_CHAR	time sync. flag
TIME_SYNCHRO_FLAG	UNITS	CDF_CHAR	
TIME_SYNCHRO_FLAG	VAR_TYPE	CDF_CHAR	support_data
TIME_SYNCHRO_FLAG	SCALETYP	CDF_CHAR	linear
TIME_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.
TIME_SYNCHRO_FLAG	UCD	CDF_CHAR	meta.code
POST_GAP_FLAG	FIELDNAM	CDF_CHAR	POST_GAP_FLAG
POST_GAP_FLAG	CATDESC	CDF_CHAR	Post gap flag
POST_GAP_FLAG	DEPEND_0	CDF_CHAR	Epoch
POST_GAP_FLAG	VALIDMIN	CDF_UINT1	0
POST_GAP_FLAG	VALIDMAX	CDF_UINT1	255
POST_GAP_FLAG	SCALEMIN	CDF_UINT1	0
POST_GAP_FLAG	SCALEMAX	CDF_UINT1	255
POST_GAP_FLAG	FILLVAL	CDF_UINT1	255
POST_GAP_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
POST_GAP_FLAG	FORMAT	CDF_CHAR	I3.3
POST_GAP_FLAG	LABLAXIS	CDF_CHAR	Post gap flag
POST_GAP_FLAG	UNITS	CDF_CHAR	

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **81**

Tab. 4.11 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
POST_GAP_FLAG	VAR_TYPE	CDF_CHAR	support_data
POST_GAP_FLAG	SCALETYP	CDF_CHAR	linear
POST_GAP_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the reason why there is gap in the data preceding the current record. If no gap then POST_GAP_FLAG=0.
POST_GAP_FLAG	UCD	CDF_CHAR	meta.code
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	FORMAT	CDF_CHAR	I3.3
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

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **82**

Tab. 4.11 – 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	UCD	CDF_CHAR	meta.code
SURVEY_MODE	FIELDNAM	CDF_CHAR	SURVEY_MODE
SURVEY_MODE	CATDESC	CDF_CHAR	TDS survey mode
SURVEY_MODE	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
SURVEY_MODE	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
BIA_STATUS_INFO	FIELDNAM	CDF_CHAR	BIA_STATUS_INFO
BIA_STATUS_INFO	CATDESC	CDF_CHAR	BIAS status byte
BIA_STATUS_INFO	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
BIA_STATUS_INFO	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
SAMPLING_RATE	FIELDNAM	CDF_CHAR	SAMPLING_RATE
SAMPLING_RATE	CATDESC	CDF_CHAR	TDS sampling rate

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **83**

Tab. 4.11 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SAMPLING_RATE	DEPEND_0	CDF_CHAR	Epoch
SAMPLING_RATE	VALIDMIN	CDF_FLOAT	-1.0e30
SAMPLING_RATE	VALIDMAX	CDF_FLOAT	1.0e30
SAMPLING_RATE	SCALEMIN	CDF_FLOAT	65.534
SAMPLING_RATE	SCALEMAX	CDF_FLOAT	2097.100
SAMPLING_RATE	FILLVAL	CDF_FLOAT	-1.0e31
SAMPLING_RATE	DISPLAY_TYPE	CDF_CHAR	time_series
SAMPLING_RATE	FORMAT	CDF_CHAR	F8.3
SAMPLING_RATE	LABLAXIS	CDF_CHAR	Sampling rate code
SAMPLING_RATE	UNITS	CDF_CHAR	kHz
SAMPLING_RATE	VAR_TYPE	CDF_CHAR	data
SAMPLING_RATE	SCALETYP	CDF_CHAR	linear
SAMPLING_RATE	VAR_NOTES	CDF_CHAR	TDS sampling rate
SAMPLING_RATE	UCD	CDF_CHAR	meta.code
HF_DATA_ARTEFACTS	FIELDNAM	CDF_CHAR	HF_DATA_ARTEFACTS
HF_DATA_ARTEFACTS	CATDESC	CDF_CHAR	Bitmask of data artefacts (overflows etc)
HF_DATA_ARTEFACTS	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
HF_DATA_ARTEFACTS	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
FILTER_COEFS	FIELDNAM	CDF_CHAR	FILTER_COEFS
FILTER_COEFS	CATDESC	CDF_CHAR	Index of filter coefficients used
FILTER_COEFS	DEPEND_0	CDF_CHAR	Epoch
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

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **84**

Tab. 4.11 – 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
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	UCD	CDF_CHAR	meta.code
RPW_STATUS_INFO	FIELDNAM	CDF_CHAR	RPW_STATUS_INFO
RPW_STATUS_INFO	CATDESC	CDF_CHAR	RPW status
RPW_STATUS_INFO	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
RPW_STATUS_INFO	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
INPUT_CONFIG	FIELDNAM	CDF_CHAR	INPUT_CONFIG
INPUT_CONFIG	CATDESC	CDF_CHAR	Bitmask of TDS analog input configuration
INPUT_CONFIG	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
INPUT_CONFIG	FORMAT	CDF_CHAR	I1.1
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

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00


Date: January 18, 2019

Page: **85**

Tab. 4.11 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
INPUT_CONFIG	VAR_NOTES	CDF_CHAR	Input TDS configuration
INPUT_CONFIG	UCD	CDF_CHAR	meta.code
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
SNAPSHOT_SEQ_NR	FORMAT	CDF_CHAR	I6.5
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	UCD	CDF_CHAR	meta.code
ACQUISITION_TIME_LABEL	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME_LABEL	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME
ACQUISITION_TIME_LABEL	FORMAT	CDF_CHAR	A32
ACQUISITION_TIME_LABEL	VAR_TYPE	CDF_CHAR	metadata
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	FORMAT	CDF_CHAR	A16
ACQUISITION_TIME_UNITS	VAR_TYPE	CDF_CHAR	metadata
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	DEPEND_0	CDF_CHAR	Epoch
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


Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 86

Tab. 4.11 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
CHANNEL_STATUS_INFO	FILLVAL	CDF_UINT1	255
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_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	UCD	CDF_CHAR	meta.code
QUALITY_FACT	FIELDNAM	CDF_CHAR	QUALITY_FACT
QUALITY_FACT	CATDESC	CDF_CHAR	Quality factor of the packet
QUALITY_FACT	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FACT	FORMAT	CDF_CHAR	I5.5
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	UCD	CDF_CHAR	meta.code
DOWNLINK_INFO	FIELDNAM	CDF_CHAR	DOWNLINK_INFO
DOWNLINK_INFO	CATDESC	CDF_CHAR	Quality factor of the packet
DOWNLINK_INFO	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
DOWNLINK_INFO	FORMAT	CDF_CHAR	I3.3
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

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 87

Tab. 4.11 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
DOWNLINK_INFO	VAR_NOTES	CDF_CHAR	Algorithm code of the down-linked packet and selection code of the down-linked packet
DOWNLINK_INFO	UCD	CDF_CHAR	meta.code
SAMPS_PER_CH	FIELDNAM	CDF_CHAR	SAMPS_PER_CH
SAMPS_PER_CH	CATDESC	CDF_CHAR	Number of samples per channel
SAMPS_PER_CH	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
SAMPS_PER_CH	FORMAT	CDF_CHAR	I10
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	UCD	CDF_CHAR	
SAMP_DTIME	FIELDNAM	CDF_CHAR	SAMP_DTIME
SAMP_DTIME	CATDESC	CDF_CHAR	Delta time of the sample
SAMP_DTIME	DEPEND_0	CDF_CHAR	Epoch
SAMP_DTIME	VALIDMIN	CDF_UINT4	0
SAMP_DTIME	VALIDMAX	CDF_UINT4	4294967294
SAMP_DTIME	SCALEMIN	CDF_UINT4	0
SAMP_DTIME	SCALEMAX	CDF_UINT4	4294967294
SAMP_DTIME	FILLVAL	CDF_UINT4	4294967295
SAMP_DTIME	DISPLAY_TYPE	CDF_CHAR	time_series
SAMP_DTIME	FORMAT	CDF_CHAR	I10
SAMP_DTIME	LABLAXIS	CDF_CHAR	Delta time
SAMP_DTIME	UNITS	CDF_CHAR	ns
SAMP_DTIME	VAR_TYPE	CDF_CHAR	support_data
SAMP_DTIME	SCALETYP	CDF_CHAR	linear
SAMP_DTIME	VAR_NOTES	CDF_CHAR	Delta time of the sample in ns from Epoch
SAMP_DTIME	UCD	CDF_CHAR	

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

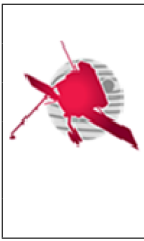
Revision
00

Date: January 18, 2019

Page: **88**

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	DEPEND_0	CDF_CHAR	Epoch
WAVEFORM_DATA	VALIDMIN	CDF_FLOAT	-1.0e30
WAVEFORM_DATA	VALIDMAX	CDF_FLOAT	1.0e30
WAVEFORM_DATA	SCALEMIN	CDF_FLOAT	-1.0e30
WAVEFORM_DATA	SCALEMAX	CDF_FLOAT	1.0e30
WAVEFORM_DATA	FILLVAL	CDF_FLOAT	-1.0e31
WAVEFORM_DATA	DISPLAY_TYPE	CDF_CHAR	time_series
WAVEFORM_DATA	FORMAT	CDF_CHAR	F9.3
WAVEFORM_DATA	LABL_PTR_1	CDF_CHAR	WAVEFORM_LABEL
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	UCD	CDF_CHAR	
CHANNEL_LABEL	FIELDNAM	CDF_CHAR	CHANNEL_LABEL
CHANNEL_LABEL	CATDESC	CDF_CHAR	Label for CHANNEL_INFO_STATUS
CHANNEL_LABEL	FORMAT	CDF_CHAR	A8
CHANNEL_LABEL	VAR_TYPE	CDF_CHAR	metadata
WAVEFORM_LABEL	FIELDNAM	CDF_CHAR	WAVEFORM_LABEL
WAVEFORM_LABEL	CATDESC	CDF_CHAR	Label for WAVEFORM_DATA
WAVEFORM_LABEL	FORMAT	CDF_CHAR	A16
WAVEFORM_LABEL	VAR_TYPE	CDF_CHAR	metadata



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **89**

4.1.2.5.6 Non-Record-Variant (NRV) Variables

Variable Name	Index	Value
ACQUISITION_TIME_LABEL	1	CUC coarse part time
ACQUISITION_TIME_LABEL	2	CUC fine part time
ACQUISITION_TIME_UNITS	1	s
ACQUISITION_TIME_UNITS	2	s / 65536
CHANNEL_LABEL	1	TDS CH1
CHANNEL_LABEL	2	TDS CH2
CHANNEL_LABEL	3	TDS CH3
CHANNEL_LABEL	4	TDS CH4
WAVEFORM_LABEL	1	WF of voltage in CH1
WAVEFORM_LABEL	2	WF of voltage in CH2
WAVEFORM_LABEL	3	WF of voltage in CH3
WAVEFORM_LABEL	4	WF of voltage 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 TDS 1D histogram every TBD seconds

Expected data volume: TBD MB per day

4.1.2.6.3 Global Attributes



RPW Data Product Description Document

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

Issue
01


Revision
00

Date: January 18, 2019

Page: **90**

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 RPW Operation Centre (ROC) and Solar Orbiter/RPW teams for access to data.”
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009
CAVEAT	1	CDF_CHAR	
Data_type	1	CDF_CHAR	“H0>High Resolution data”
Data_version	1	CDF_CHAR	
DATASET_ID	1	CDF_CHAR	SOLO_L1_RPW-TDS-SURV-HIST1D
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_UUID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	
IDB_version	1	CDF_CHAR	
Instrument_type	1	CDF_CHAR	“Radio and Plasma Waves (space)”
Level	1	CDF_CHAR	“L1>Level 1”
LINK_TEXT	1	CDF_CHAR	
LINK_TITLE	1	CDF_CHAR	
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”
Mission_group	1	CDF_CHAR	“Solar Orbiter”
MODS	1	CDF_CHAR	“November 2018 : initial release”
PACKET_CATEGORY	1	CDF_CHAR	“12”
PACKET_PID	1	CDF_CHAR	“77”
PACKET_SERVICE_SUBTYPE	1	CDF_CHAR	“6”
PACKET_SERVICE_TYPE	1	CDF_CHAR	“21”
PACKET_SID	1	CDF_CHAR	“55”
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”

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 91

Tab. 4.12 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
PI_name	1	CDF_CHAR	“M. Maksimovic”
Pipeline_version	1	CDF_CHAR	
Project	1	CDF_CHAR	“RPW>Radio and Plasma Waves instrument”
Provider	1	CDF_CHAR	
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_PARENT	1	CDF_CHAR	SOLO_L1_RPW-TDS-SURV-HIST1D
Skeleton_version	1	CDF_CHAR	1
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	“SOLO>Solar Orbiter”
SPECTRAL_RANGE_MAX	1	CDF_DOUBLE	0.0
SPECTRAL_RANGE_MIN	1	CDF_DOUBLE	0.0
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_DOUBLE	0.0
TIME_MIN	1	CDF_DOUBLE	0.0
Validate	1	CDF_CHAR	



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **92**


4.1.2.6.4 zVariables

Variable Name	Data Type	Number Elements	Dims	Sizes	Record Variance	Dimension Variances
Epoch	CDF_TIME_TT2000	1	0		T	
ACQUISITION_TIME	CDF_UINT4	1	1	2.0	T	T
TIME_SYNCHRO_FLAG	CDF_UINT1	1	0		T	
POST_GAP_FLAG	CDF_UINT1	1	0		T	
QUALITY_FLAG	CDF_UINT1	1	0		T	
QUALITY_BITMASK	CDF_UINT1	1	0		T	
SURVEY_MODE	CDF_UINT1	1	0		T	
BIA_STATUS_INFO	CDF_UINT1	1	1	6.0	T	T
SAMPLING_RATE	CDF_UINT1	1	0		T	
FILTER_COEFS	CDF_UINT1	1	0		T	
RPW_STATUS_INFO	CDF_UINT1	1	1	8.0	T	T
INPUT_CONFIG	CDF_UINT4	1	0		T	
SNAPSHOT_LEN	CDF_UINT1	1	0		T	
HIST1D_ID	CDF_UINT1	1	0		T	
HIST1D_PARAM	CDF_UINT1	1	0		T	
HIST1D_AXIS	CDF_UINT1	1	0		T	
HIST1D_COL_TIME	CDF_UINT2	1	0		T	
HIST1D_OUT	CDF_UINT2	1	0		T	
HIST1D_BINS	CDF_UINT2	1	0		T	
HIST1D_COUNTS	CDF_UINT2	1	1	256.0	T	T

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

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 93

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	RPW TDS clock
Epoch	REFERENCE_POSITION	CDF_CHAR	Solar Orbiter
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file
Epoch	UCD	CDF_CHAR	time.epoch
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
ACQUISITION_TIME	FORMAT	CDF_CHAR	E12.2
ACQUISITION_TIME	LABL_PTR_1	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME	UNIT_PTR	CDF_CHAR	ACQUISITION_TIME_UNITS
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 TDS 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	UCD	CDF_CHAR	time.epoch
TIME_SYNCHRO_FLAG	FIELDNAM	CDF_CHAR	Time synchronisation flag

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

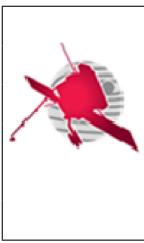
Date: January 18, 2019

Page: **94**

Tab. 4.13 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
TIME_SYNCHRO_FLAG	CATDESC	CDF_CHAR	Time synchronisation flag
TIME_SYNCHRO_FLAG	DEPEND_0	CDF_CHAR	Epoch
TIME_SYNCHRO_FLAG	VALIDMIN	CDF_UINT1	0
TIME_SYNCHRO_FLAG	VALIDMAX	CDF_UINT1	1
TIME_SYNCHRO_FLAG	SCALEMIN	CDF_UINT1	0
TIME_SYNCHRO_FLAG	SCALEMAX	CDF_UINT1	1
TIME_SYNCHRO_FLAG	FILLVAL	CDF_UINT1	255
TIME_SYNCHRO_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
TIME_SYNCHRO_FLAG	FORMAT	CDF_CHAR	I3.3
TIME_SYNCHRO_FLAG	LABLAXIS	CDF_CHAR	time sync. flag
TIME_SYNCHRO_FLAG	UNITS	CDF_CHAR	
TIME_SYNCHRO_FLAG	VAR_TYPE	CDF_CHAR	support_data
TIME_SYNCHRO_FLAG	SCALETYP	CDF_CHAR	linear
TIME_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.
TIME_SYNCHRO_FLAG	UCD	CDF_CHAR	meta.code
POST_GAP_FLAG	FIELDNAM	CDF_CHAR	POST_GAP_FLAG
POST_GAP_FLAG	CATDESC	CDF_CHAR	Post gap flag
POST_GAP_FLAG	DEPEND_0	CDF_CHAR	Epoch
POST_GAP_FLAG	VALIDMIN	CDF_UINT1	0
POST_GAP_FLAG	VALIDMAX	CDF_UINT1	255
POST_GAP_FLAG	SCALEMIN	CDF_UINT1	0
POST_GAP_FLAG	SCALEMAX	CDF_UINT1	255
POST_GAP_FLAG	FILLVAL	CDF_UINT1	255
POST_GAP_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
POST_GAP_FLAG	FORMAT	CDF_CHAR	I3.3
POST_GAP_FLAG	LABLAXIS	CDF_CHAR	Post gap flag
POST_GAP_FLAG	UNITS	CDF_CHAR	
POST_GAP_FLAG	VAR_TYPE	CDF_CHAR	support_data
POST_GAP_FLAG	SCALETYP	CDF_CHAR	linear
POST_GAP_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the reason why there is gap in the data preceding the current record. If no gap then POST_GAP_FLAG=0.

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **95**

Tab. 4.13 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
POST_GAP_FLAG	UCD	CDF_CHAR	meta.code
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	FORMAT	CDF_CHAR	I3.3
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	UCD	CDF_CHAR	meta.code
SURVEY_MODE	FIELDNAM	CDF_CHAR	SURVEY_MODE
SURVEY_MODE	CATDESC	CDF_CHAR	TDS survey mode
SURVEY_MODE	DEPEND_0	CDF_CHAR	Epoch
SURVEY_MODE	VALIDMIN	CDF_UINT1	0
SURVEY_MODE	VALIDMAX	CDF_UINT1	1

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **96**

Tab. 4.13 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SURVEY_MODE	SCALEMIN	CDF_UINT1	0
SURVEY_MODE	SCALEMAX	CDF_UINT1	1
SURVEY_MODE	FILLVAL	CDF_UINT1	255
SURVEY_MODE	DISPLAY_TYPE	CDF_CHAR	time_series
SURVEY_MODE	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
BIA_STATUS_INFO	FIELDNAM	CDF_CHAR	BIA_STATUS_INFO
BIA_STATUS_INFO	CATDESC	CDF_CHAR	BIAS status byte
BIA_STATUS_INFO	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
BIA_STATUS_INFO	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
SAMPLING_RATE	FIELDNAM	CDF_CHAR	SAMPLING_RATE
SAMPLING_RATE	CATDESC	CDF_CHAR	TDS sampling rate
SAMPLING_RATE	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
SAMPLING_RATE	FORMAT	CDF_CHAR	I1.1
SAMPLING_RATE	LABLAXIS	CDF_CHAR	Sampling rate code

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00


Date: January 18, 2019

Page: **97**

Tab. 4.13 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
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	UCD	CDF_CHAR	meta.code
FILTER_COEFS	FIELDNAM	CDF_CHAR	FILTER_COEFS
FILTER_COEFS	CATDESC	CDF_CHAR	Index of filter coefficients used
FILTER_COEFS	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
FILTER_COEFS	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
RPW_STATUS_INFO	FIELDNAM	CDF_CHAR	RPW_STATUS_INFO
RPW_STATUS_INFO	CATDESC	CDF_CHAR	RPW status
RPW_STATUS_INFO	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
RPW_STATUS_INFO	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
INPUT_CONFIG	FIELDNAM	CDF_CHAR	INPUT_CONFIG

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 98

Tab. 4.13 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
INPUT_CONFIG	CATDESC	CDF_CHAR	Bitmask of TDS analog input configuration
INPUT_CONFIG	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
INPUT_CONFIG	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
ACQUISITION_TIME_LABEL	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME_LABEL	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME
ACQUISITION_TIME_LABEL	EORFORMAT	CDF_CHAR	A32
ACQUISITION_TIME_LABEL	VAR_TYPE	CDF_CHAR	metadata
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	FORMAT	CDF_CHAR	A16
ACQUISITION_TIME_UNITS	VAR_TYPE	CDF_CHAR	metadata
SNAPSHOT_LEN	FIELDNAM	CDF_CHAR	SNAPSHOT_LEN
SNAPSHOT_LEN	CATDESC	CDF_CHAR	Length of snapshot
SNAPSHOT_LEN	DEPEND_0	CDF_CHAR	Epoch
SNAPSHOT_LEN	VALIDMIN	CDF_UINT4	9
SNAPSHOT_LEN	VALIDMAX	CDF_UINT4	18
SNAPSHOT_LEN	SCALEMIN	CDF_UINT4	9
SNAPSHOT_LEN	SCALEMAX	CDF_UINT4	18
SNAPSHOT_LEN	FILLVAL	CDF_UINT4	255
SNAPSHOT_LEN	DISPLAY_TYPE	CDF_CHAR	time_series
SNAPSHOT_LEN	FORMAT	CDF_CHAR	I2
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

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **99**

Tab. 4.13 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SNAPSHOT_LEN	VAR_NOTES	CDF_CHAR	Length of snapshot, 2^N where N = 9..18
SNAPSHOT_LEN	UCD	CDF_CHAR	meta.code
HIST1D_ID	FIELDNAM	CDF_CHAR	HIST1D_ID
HIST1D_ID	CATDESC	CDF_CHAR	Histogram ID
HIST1D_ID	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
HIST1D_ID	FORMAT	CDF_CHAR	I1.1
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 histogram (1..4) indicating which of the four possible configured histograms is contained in the packet
HIST1D_ID	UCD	CDF_CHAR	meta.code
HIST1D_PARAM	FIELDNAM	CDF_CHAR	HIST1D_PARAM
HIST1D_PARAM	CATDESC	CDF_CHAR	Histogram build parameters
HIST1D_PARAM	DEPEND_0	CDF_CHAR	Epoch
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
HIST1D_PARAM	DISPLAY_TYPE	CDF_CHAR	time_series
HIST1D_PARAM	FORMAT	CDF_CHAR	I2.2
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

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **100**

Tab. 4.13 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
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	UCD	CDF_CHAR	meta.code
HIST1D_AXIS	FIELDNAM	CDF_CHAR	HIST1D_AXIS
HIST1D_AXIS	CATDESC	CDF_CHAR	Axis corresponding to the histogram
HIST1D_AXIS	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
HIST1D_AXIS	FORMAT	CDF_CHAR	I2.2
HIST1D_AXIS	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	meta.code
HIST1D_COL_TIME	FIELDNAM	CDF_CHAR	HIST1D_COL_TIME
HIST1D_COL_TIME	CATDESC	CDF_CHAR	Histogram build duration
HIST1D_COL_TIME	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
HIST1D_COL_TIME	FORMAT	CDF_CHAR	I5
HIST1D_COL_TIME	LABLAXIS	CDF_CHAR	Histogram dur
HIST1D_COL_TIME	UNITS	CDF_CHAR	s
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.

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00


Date: January 18, 2019

Page: **101**

Tab. 4.13 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
HIST1D_COL_TIME	UCD	CDF_CHAR	meta.code
HIST1D_OUT	FIELDNAM	CDF_CHAR	HIST1D_OUT
HIST1D_OUT	CATDESC	CDF_CHAR	Histogram out values
HIST1D_OUT	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
HIST1D_OUT	FORMAT	CDF_CHAR	I5
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	UCD	CDF_CHAR	meta.code
HIST1D_BINS	FIELDNAM	CDF_CHAR	HIST1D_BINS
HIST1D_BINS	CATDESC	CDF_CHAR	Number of histogram bins
HIST1D_BINS	DEPEND_0	CDF_CHAR	Epoch
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	128
HIST1D_BINS	DISPLAY_TYPE	CDF_CHAR	time_series
HIST1D_BINS	FORMAT	CDF_CHAR	I3.3
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	UCD	CDF_CHAR	meta.code
HIST1D_COUNTS	FIELDNAM	CDF_CHAR	HIST1D_COUNTS
HIST1D_COUNTS	CATDESC	CDF_CHAR	Number of histogram bins
HIST1D_COUNTS	DEPEND_0	CDF_CHAR	Epoch

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 102

Tab. 4.13 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
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	DISPLAY_TYPE	CDF_CHAR	time_series
HIST1D_COUNTS	FORMAT	CDF_CHAR	I5
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	UCD	CDF_CHAR	meta.code

4.1.2.6.6 Non-Record-Variant (NRV) Variables

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

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 TDS 2D histogram every TBD seconds


Expected data volume: TBD MB per day

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 103

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 RPW Operation Centre (ROC) and Solar Orbiter/RPW teams for access to data.”
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009
CAVEAT	1	CDF_CHAR	
Data_type	1	CDF_CHAR	“H0>High Resolution data”
Data_version	1	CDF_CHAR	
DATASET_ID	1	CDF_CHAR	SOLO_L1_RPW-TDS-SURV-HIST2D
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_UUID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	
IDB_version	1	CDF_CHAR	
Instrument_type	1	CDF_CHAR	“Radio and Plasma Waves (space)”
Level	1	CDF_CHAR	“L1>Level 1”
LINK_TEXT	1	CDF_CHAR	
LINK_TITLE	1	CDF_CHAR	
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”
Mission_group	1	CDF_CHAR	“Solar Orbiter”
MODS	1	CDF_CHAR	“November 2018 : initial release”
PACKET_CATEGORY	1	CDF_CHAR	“12”
PACKET_PID	1	CDF_CHAR	“77”
PACKET_SERVICE_SUBTYPE	1	CDF_CHAR	“6”
PACKET_SERVICE_TYPE	1	CDF_CHAR	“21”
PACKET_SID	1	CDF_CHAR	“56”
PACKET_SRDB_ID	1	CDF_CHAR	

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 104

Tab. 4.14 – 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	“RPW>Radio and Plasma Waves instrument”
Provider	1	CDF_CHAR	
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00075-LES
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
Skeleton_version	1	CDF_CHAR	1
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	“SOLO>Solar Orbiter”
SPECTRAL_RANGE_MAX	1	CDF_DOUBLE	0.0
SPECTRAL_RANGE_MIN	1	CDF_DOUBLE	0.0
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_DOUBLE	0.0
TIME_MIN	1	CDF_DOUBLE	0.0
Validate	1	CDF_CHAR	



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **105**


4.1.2.7.4 zVariables

Variable Name	Data Type	Number Elements	Dims	Sizes	Record Variance	Dimension Variances
Epoch	CDF_TIME_TT2000	1	0		T	
ACQUISITION_TIME	CDF_UINT4	1	1	2	T	T
TIME_SYNCHRO_FLAG	CDF_UINT1	1	0		T	
POST_GAP_FLAG	CDF_UINT1	1	0		T	
QUALITY_FLAG	CDF_UINT1	1	0		T	
QUALITY_BITMASK	CDF_UINT1	1	0		T	
SURVEY_MODE	CDF_UINT1	1	0		T	
BIA_STATUS_INFO	CDF_UINT1	1	1	6	T	T
SAMPLING_RATE	CDF_UINT1	1	0		T	
FILTER_COEFS	CDF_UINT1	1	0		T	
RPW_STATUS_INFO	CDF_UINT1	1	1	8	T	T
INPUT_CONFIG	CDF_UINT4	1	0		T	
SNAPSHOT_LEN	CDF_UINT1	1	0		T	
HIST2D_ID	CDF_UINT1	1	0		T	
HIST2D_PARAMS	CDF_UINT1	1	0		T	
HIST2D_COL_TIME	CDF_UINT2	1	0		T	
HIST2D_AXIS1	CDF_UINT1	1	0		T	
HIST2D_AXIS2	CDF_UINT1	1	0		T	
HIST2D_BINS1	CDF_UINT1	1	0		T	
HIST2D_BINS2	CDF_UINT1	1	0		T	
HIST2D_TOT_PTS	CDF_UINT2	1	0		T	
HIST2D_COUNTS	CDF_UINT2	1	2	128 128	T	T T

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

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 106

Tab. 4.15 – 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	RPW TDS clock
Epoch	REFERENCE_POSITION	CDF_CHAR	Solar Orbiter
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file
Epoch	UCD	CDF_CHAR	time.epoch
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
ACQUISITION_TIME	FORMAT	CDF_CHAR	E12.2
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 TDS 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

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **107**

Tab. 4.15 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
ACQUISITION_TIME	UCD	CDF_CHAR	time.epoch
TIME_SYNCHRO_FLAG	FIELDNAM	CDF_CHAR	Time synchronisation flag
TIME_SYNCHRO_FLAG	CATDESC	CDF_CHAR	Time synchronisation flag
TIME_SYNCHRO_FLAG	DEPEND_0	CDF_CHAR	Epoch
TIME_SYNCHRO_FLAG	VALIDMIN	CDF_UINT1	0
TIME_SYNCHRO_FLAG	VALIDMAX	CDF_UINT1	1
TIME_SYNCHRO_FLAG	SCALEMIN	CDF_UINT1	0
TIME_SYNCHRO_FLAG	SCALEMAX	CDF_UINT1	1
TIME_SYNCHRO_FLAG	FILLVAL	CDF_UINT1	255
TIME_SYNCHRO_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
TIME_SYNCHRO_FLAG	FORMAT	CDF_CHAR	I3.3
TIME_SYNCHRO_FLAG	LABLAXIS	CDF_CHAR	time sync. flag
TIME_SYNCHRO_FLAG	UNITS	CDF_CHAR	
TIME_SYNCHRO_FLAG	VAR_TYPE	CDF_CHAR	support_data
TIME_SYNCHRO_FLAG	SCALETYP	CDF_CHAR	linear
TIME_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.
TIME_SYNCHRO_FLAG	UCD	CDF_CHAR	meta.code
POST_GAP_FLAG	FIELDNAM	CDF_CHAR	POST_GAP_FLAG
POST_GAP_FLAG	CATDESC	CDF_CHAR	Post gap flag
POST_GAP_FLAG	DEPEND_0	CDF_CHAR	Epoch
POST_GAP_FLAG	VALIDMIN	CDF_UINT1	0
POST_GAP_FLAG	VALIDMAX	CDF_UINT1	255
POST_GAP_FLAG	SCALEMIN	CDF_UINT1	0
POST_GAP_FLAG	SCALEMAX	CDF_UINT1	255
POST_GAP_FLAG	FILLVAL	CDF_UINT1	255
POST_GAP_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
POST_GAP_FLAG	FORMAT	CDF_CHAR	I3.3
POST_GAP_FLAG	LABLAXIS	CDF_CHAR	Post gap flag
POST_GAP_FLAG	UNITS	CDF_CHAR	
POST_GAP_FLAG	VAR_TYPE	CDF_CHAR	support_data
POST_GAP_FLAG	SCALETYP	CDF_CHAR	linear

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **108**

Tab. 4.15 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
POST_GAP_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the reason why there is gap in the data preceding the current record. If no gap then POST_GAP_FLAG=0.
POST_GAP_FLAG	UCD	CDF_CHAR	meta.code
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	FORMAT	CDF_CHAR	I3.3
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	UCD	CDF_CHAR	meta.code

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **109**

Tab. 4.15 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SURVEY_MODE	FIELDNAM	CDF_CHAR	SURVEY_MODE
SURVEY_MODE	CATDESC	CDF_CHAR	TDS survey mode
SURVEY_MODE	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
SURVEY_MODE	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
BIA_STATUS_INFO	FIELDNAM	CDF_CHAR	BIA_STATUS_INFO
BIA_STATUS_INFO	CATDESC	CDF_CHAR	BIAS status byte
BIA_STATUS_INFO	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
BIA_STATUS_INFO	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
SAMPLING_RATE	FIELDNAM	CDF_CHAR	SAMPLING_RATE
SAMPLING_RATE	CATDESC	CDF_CHAR	TDS sampling rate
SAMPLING_RATE	DEPEND_0	CDF_CHAR	Epoch
SAMPLING_RATE	VALIDMIN	CDF_UINT1	0
SAMPLING_RATE	VALIDMAX	CDF_UINT1	4
SAMPLING_RATE	SCALEMIN	CDF_UINT1	0

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

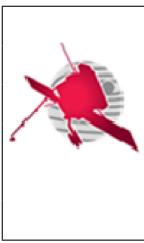
Date: January 18, 2019

Page: **110**

Tab. 4.15 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SAMPLING_RATE	SCALEMAX	CDF_UINT1	1
SAMPLING_RATE	FILLVAL	CDF_UINT1	255
SAMPLING_RATE	DISPLAY_TYPE	CDF_CHAR	time_series
SAMPLING_RATE	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
FILTER_COEFS	FIELDNAM	CDF_CHAR	FILTER_COEFS
FILTER_COEFS	CATDESC	CDF_CHAR	Index of filter coefficients used
FILTER_COEFS	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
FILTER_COEFS	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
RPW_STATUS_INFO	FIELDNAM	CDF_CHAR	RPW_STATUS_INFO
RPW_STATUS_INFO	CATDESC	CDF_CHAR	RPW status
RPW_STATUS_INFO	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
RPW_STATUS_INFO	FORMAT	CDF_CHAR	I1.1
RPW_STATUS_INFO	LABLAXIS	CDF_CHAR	RPW Status info
RPW_STATUS_INFO	UNITS	CDF_CHAR	
RPW_STATUS_INFO	VAR_TYPE	CDF_CHAR	data

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **111**

Tab. 4.15 – 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	UCD	CDF_CHAR	meta.code
INPUT_CONFIG	FIELDNAM	CDF_CHAR	INPUT_CONFIG
INPUT_CONFIG	CATDESC	CDF_CHAR	Bitmask of TDS analog input configuration
INPUT_CONFIG	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
INPUT_CONFIG	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
HIST2D_ID	FIELDNAM	CDF_CHAR	HIST2D_ID
HIST2D_ID	CATDESC	CDF_CHAR	Histogram ID
HIST2D_ID	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
HIST2D_ID	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00


Date: January 18, 2019

Page: **112**

Tab. 4.15 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
HIST2D_PARAMS	FIELDNAM	CDF_CHAR	HIST2D_PARAMS
HIST2D_PARAMS	CATDESC	CDF_CHAR	Histogram build parameters
HIST2D_PARAMS	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
HIST2D_PARAMS	FORMAT	CDF_CHAR	I2.2
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	UCD	CDF_CHAR	meta.code
HIST2D_COL_TIME	FIELDNAM	CDF_CHAR	HIST2D_COL_TIME
HIST2D_COL_TIME	CATDESC	CDF_CHAR	Histogram build duration
HIST2D_COL_TIME	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
HIST2D_COL_TIME	FORMAT	CDF_CHAR	I5
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	UCD	CDF_CHAR	meta.code
HIST2D_AXIS1	FIELDNAM	CDF_CHAR	HIST2D_AXIS1
HIST2D_AXIS1	CATDESC	CDF_CHAR	Axis 1 for the histogram
HIST2D_AXIS1	DEPEND_0	CDF_CHAR	Epoch

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 113

Tab. 4.15 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
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	DISPLAY_TYPE	CDF_CHAR	time_series
HIST2D_AXIS1	FORMAT	CDF_CHAR	I1.1
HIST2D_AXIS1	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	meta.code
HIST2D_AXIS2	FIELDNAM	CDF_CHAR	HIST2D_AXIS2
HIST2D_AXIS2	CATDESC	CDF_CHAR	Axis 2 for the histogram
HIST2D_AXIS2	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
HIST2D_AXIS2	FORMAT	CDF_CHAR	I3.3
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
			CP_TDS_N_2D_HISTx_AXIS setting from NORMAL parameters
HIST2D_AXIS2	UCD	CDF_CHAR	meta.code
HIST2D_BINS1	FIELDNAM	CDF_CHAR	HIST2D_BINS1
HIST2D_BINS1	CATDESC	CDF_CHAR	Number of X bins

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **114**

Tab. 4.15 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
HIST2D_BINS1	DEPEND_0	CDF_CHAR	Epoch
HIST2D_BINS1	VALIDMIN	CDF_UINT2	32
HIST2D_BINS1	VALIDMAX	CDF_UINT2	256
HIST2D_BINS1	SCALEMIN	CDF_UINT2	32
HIST2D_BINS1	SCALEMAX	CDF_UINT2	256
HIST2D_BINS1	FILLVAL	CDF_UINT2	128
HIST2D_BINS1	DISPLAY_TYPE	CDF_CHAR	time_series
HIST2D_BINS1	FORMAT	CDF_CHAR	I3.3
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	UCD	CDF_CHAR	meta.code
HIST2D_BINS2	FIELDNAM	CDF_CHAR	HIST2D_BINS2
HIST2D_BINS2	CATDESC	CDF_CHAR	Number of Y bins
HIST2D_BINS2	DEPEND_0	CDF_CHAR	Epoch
HIST2D_BINS2	VALIDMIN	CDF_UINT2	32
HIST2D_BINS2	VALIDMAX	CDF_UINT2	256
HIST2D_BINS2	SCALEMIN	CDF_UINT2	32
HIST2D_BINS2	SCALEMAX	CDF_UINT2	256
HIST2D_BINS2	FILLVAL	CDF_UINT2	128
HIST2D_BINS2	DISPLAY_TYPE	CDF_CHAR	time_series
HIST2D_BINS2	FORMAT	CDF_CHAR	I3.3
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	UCD	CDF_CHAR	meta.code
HIST2D_TOT_SNAPSHOT	FIELDNAM	CDF_CHAR	HIST2D_TOT_SNAPSHOT
HIST2D_TOT_SNAPSHOT	CATDESC	CDF_CHAR	Total number of snapshots
HIST2D_TOT_SNAPSHOT	DEPEND_0	CDF_CHAR	Epoch
HIST2D_TOT_SNAPSHOT	VALIDMIN	CDF_UINT2	0
HIST2D_TOT_SNAPSHOT	VALIDMAX	CDF_UINT2	65534

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01


Revision
00

Date: January 18, 2019

Page: **115**

Tab. 4.15 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
HIST2D_TOT_SNAPSHOT	SCALEMIN	CDF_UINT2	0
HIST2D_TOT_SNAPSHOT	SCALEMAX	CDF_UINT2	65534
HIST2D_TOT_SNAPSHOT	FILLVAL	CDF_UINT2	65535
HIST2D_TOT_SNAPSHOT	DISPLAY_TYPE	CDF_CHAR	time_series
HIST2D_TOT_SNAPSHOT	FORMAT	CDF_CHAR	I5
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	UCD	CDF_CHAR	meta.code
HIST2D_COUNTS	FIELDNAM	CDF_CHAR	HIST2D_COUNTS
HIST2D_COUNTS	CATDESC	CDF_CHAR	Total number of counts
HIST2D_COUNTS	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
HIST2D_COUNTS	FORMAT	CDF_CHAR	I5
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	UCD	CDF_CHAR	
ACQUISITION_TIME_LABEL	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME_LABEL	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME
ACQUISITION_TIME_LABEL	FORMAT	CDF_CHAR	A32
ACQUISITION_TIME_LABEL	VAR_TYPE	CDF_CHAR	metadata
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	FORMAT	CDF_CHAR	A16
ACQUISITION_TIME_UNITS	VAR_TYPE	CDF_CHAR	metadata

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 116

4.1.2.7.6 Non-Record-Variant (NRV) Variables

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

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.

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 TDS dust statistics record every TBD seconds

Expected data volume: TBD MB per day

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 RPW Operation Centre (ROC) and Solar Orbiter/RPW teams for access to data.”
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009
CAVEAT	1	CDF_CHAR	
Data_type	1	CDF_CHAR	“H0>High Resolution data”


Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 117

Tab. 4.16 – continued from previous page

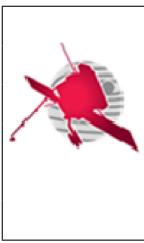
Attribute Name	Entry Number	Data Type	Value
Data_version	1	CDF_CHAR	
DATASET_ID	1	CDF_CHAR	SOLO_L1_RPW-TDS-SURV-STAT
Descriptor	1	CDF_CHAR	“RPW-TDS-SURV-STAT> RPW Time Domain Sampler the basic statistical parameters in survey mode”
Discipline	1	CDF_CHAR	“Space Physics>Interplanetary Studies”
File_naming_convention	1	CDF_CHAR	“Source_name_Level_Descriptor_Date”
FILE_UUID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	
IDB_version	1	CDF_CHAR	
Instrument_type	1	CDF_CHAR	“Radio and Plasma Waves (space)”
Level	1	CDF_CHAR	“L1>Level 1”
LINK_TEXT	1	CDF_CHAR	
LINK_TITLE	1	CDF_CHAR	
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”
Mission_group	1	CDF_CHAR	“Solar Orbiter”
MODS	1	CDF_CHAR	“November 2018 : initial release”
PACKET_CATEGORY	1	CDF_CHAR	“12”
PACKET_PID	1	CDF_CHAR	“77”
PACKET_SERVICE_SUBTYPE	1	CDF_CHAR	“3”
PACKET_SERVICE_TYPE	1	CDF_CHAR	“21”
PACKET_SID	1	CDF_CHAR	“57”
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	“RPW>Radio and Plasma Waves instrument”
Provider	1	CDF_CHAR	
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00075-LES

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 118

Tab. 4.16 – 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-SURV-STAT
Skeleton_version	1	CDF_CHAR	1
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	“SOLO>Solar Orbiter”
SPECTRAL_RANGE_MAX	1	CDF_DOUBLE	0.0
SPECTRAL_RANGE_MIN	1	CDF_DOUBLE	0.0
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_DOUBLE	0.0
TIME_MIN	1	CDF_DOUBLE	0.0
Validate	1	CDF_CHAR	



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **119**


4.1.2.8.4 zVariables

Variable Name	Data Type	Number Elements	Dims	Sizes	Record Variance	Dimension Variances
Epoch	CDF_TIME_TT2000	1	0		T	
ACQUISITION_TIME	CDF_UINT4	1	1	2.0	T	T
TIME_SYNCHRO_FLAG	CDF_UINT1	1	0		T	
POST_GAP_FLAG	CDF_UINT1	1	0		T	
QUALITY_FLAG	CDF_UINT1	1	0		T	
QUALITY_BITMASK	CDF_UINT1	1	0		T	
SURVEY_MODE	CDF_UINT1	1	0		T	
BIA_STATUS_INFO	CDF_UINT1	1	1	6.0	T	T
SAMPLING_RATE	CDF_UINT1	1	0		T	
RPW_STATUS_INFO	CDF_UINT1	1	1	8.0	T	T
INPUT_CONFIG	CDF_UINT4	1	0		T	
SNAPSHOT_LEN	CDF_UINT1	1	0		T	
SN_NR_EVENTS	CDF_UINT1	1	0		T	
SN_MAX_E	CDF_UINT2	1	0		T	
SN_MED_MAX_E	CDF_UINT2	1	0		T	
SN_RMS_E	CDF_UINT2	1	0		T	
SN_THRESHOLD	CDF_UINT1	1	0		T	
DU_NR_IMPACT	CDF_UINT1	1	0		T	
DU_MED_IMP	CDF_UINT2	1	0		T	
WA_AMP_MAX	CDF_UINT2	1	0		T	
WA_AMP_MED	CDF_UINT2	1	0		T	
WA_RMS	CDF_UINT2	1	0		T	
WA_NR_EVENTS	CDF_UINT1	1	0		T	
WA_MED_FREQ	CDF_UINT1	1	0		T	
ACQUISITION_TIME_UNITS	CDF_CHAR	16	1	2.0	F	T
ACQUISITION_TIME_LABEL	CDF_CHAR	32	1	2.0	F	T
CHANNEL_STATUS_INFO	CDF_UINT1	1	1	4.0	T	T
CHANNEL_LABEL	CDF_CHAR	8	1	4.0	F	T

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

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 120

Tab. 4.17 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
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	RPW TDS clock
Epoch	REFERENCE_POSITION	CDF_CHAR	Solar Orbiter
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	DEPEND_0	CDF_CHAR	Epoch
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	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	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 TDS clock

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00


Date: January 18, 2019

Page: **121**

Tab. 4.17 – 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
TIME_SYNCHRO_FLAG	FIELDNAM	CDF_CHAR	Time synchronisation flag
TIME_SYNCHRO_FLAG	CATDESC	CDF_CHAR	Time synchronisation flag
TIME_SYNCHRO_FLAG	DEPEND_0	CDF_CHAR	Epoch
TIME_SYNCHRO_FLAG	VALIDMIN	CDF_UINT1	0
TIME_SYNCHRO_FLAG	VALIDMAX	CDF_UINT1	1
TIME_SYNCHRO_FLAG	SCALEMIN	CDF_UINT1	0
TIME_SYNCHRO_FLAG	SCALEMAX	CDF_UINT1	1
TIME_SYNCHRO_FLAG	FILLVAL	CDF_UINT1	255
TIME_SYNCHRO_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
TIME_SYNCHRO_FLAG	FORMAT	CDF_CHAR	I3.3
TIME_SYNCHRO_FLAG	LABLAXIS	CDF_CHAR	time sync. flag
TIME_SYNCHRO_FLAG	UNITS	CDF_CHAR	
TIME_SYNCHRO_FLAG	VAR_TYPE	CDF_CHAR	support_data
TIME_SYNCHRO_FLAG	SCALETYP	CDF_CHAR	linear
TIME_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.
TIME_SYNCHRO_FLAG	UCD	CDF_CHAR	meta.code
POST_GAP_FLAG	FIELDNAM	CDF_CHAR	POST_GAP_FLAG
POST_GAP_FLAG	CATDESC	CDF_CHAR	Post gap flag
POST_GAP_FLAG	DEPEND_0	CDF_CHAR	Epoch
POST_GAP_FLAG	VALIDMIN	CDF_UINT1	0
POST_GAP_FLAG	VALIDMAX	CDF_UINT1	255
POST_GAP_FLAG	SCALEMIN	CDF_UINT1	0
POST_GAP_FLAG	SCALEMAX	CDF_UINT1	255
POST_GAP_FLAG	FILLVAL	CDF_UINT1	255
POST_GAP_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
POST_GAP_FLAG	FORMAT	CDF_CHAR	I3.3
POST_GAP_FLAG	LABLAXIS	CDF_CHAR	Post gap flag
POST_GAP_FLAG	UNITS	CDF_CHAR	
POST_GAP_FLAG	VAR_TYPE	CDF_CHAR	support_data

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 122

Tab. 4.17 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
POST_GAP_FLAG	SCALETYP	CDF_CHAR	linear
POST_GAP_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the reason why there is gap in the data preceding the current record. If no gap then POST_GAP_FLAG=0.
POST_GAP_FLAG	UCD	CDF_CHAR	meta.code
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	FORMAT	CDF_CHAR	I3.3
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

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **123**

Tab. 4.17 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
QUALITY_BITMASK	UCD	CDF_CHAR	meta.code
SURVEY_MODE	FIELDNAM	CDF_CHAR	SURVEY_MODE
SURVEY_MODE	CATDESC	CDF_CHAR	TDS survey mode
SURVEY_MODE	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
SURVEY_MODE	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
BIA_STATUS_INFO	FIELDNAM	CDF_CHAR	BIA_STATUS_INFO
BIA_STATUS_INFO	CATDESC	CDF_CHAR	BIAS status byte
BIA_STATUS_INFO	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
BIA_STATUS_INFO	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
SAMPLING_RATE	FIELDNAM	CDF_CHAR	SAMPLING_RATE
SAMPLING_RATE	CATDESC	CDF_CHAR	TDS sampling rate
SAMPLING_RATE	DEPEND_0	CDF_CHAR	Epoch
SAMPLING_RATE	VALIDMIN	CDF_UINT1	0
SAMPLING_RATE	VALIDMAX	CDF_UINT1	4

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **124**

Tab. 4.17 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SAMPLING_RATE	SCALEMIN	CDF_UINT1	0
SAMPLING_RATE	SCALEMAX	CDF_UINT1	1
SAMPLING_RATE	FILLVAL	CDF_UINT1	255
SAMPLING_RATE	DISPLAY_TYPE	CDF_CHAR	time_series
SAMPLING_RATE	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
RPW_STATUS_INFO	FIELDNAM	CDF_CHAR	RPW_STATUS_INFO
RPW_STATUS_INFO	CATDESC	CDF_CHAR	RPW status
RPW_STATUS_INFO	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
RPW_STATUS_INFO	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
INPUT_CONFIG	FIELDNAM	CDF_CHAR	INPUT_CONFIG
INPUT_CONFIG	CATDESC	CDF_CHAR	Bitmask of TDS analog input configuration
INPUT_CONFIG	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
INPUT_CONFIG	FORMAT	CDF_CHAR	I1.1
INPUT_CONFIG	LABLAXIS	CDF_CHAR	TDS input config.
INPUT_CONFIG	UNITS	CDF_CHAR	

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **125**

Tab. 4.17 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
INPUT_CONFIG	VAR_TYPE	CDF_CHAR	data
INPUT_CONFIG	SCALETYP	CDF_CHAR	linear
INPUT_CONFIG	VAR_NOTES	CDF_CHAR	Input TDS configuration
INPUT_CONFIG	UCD	CDF_CHAR	meta.code
ACQUISITION_TIME_LABEL	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME_LABEL	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME
ACQUISITION_TIME_LABEL	FORMAT	CDF_CHAR	A32
ACQUISITION_TIME_LABEL	VAR_TYPE	CDF_CHAR	metadata
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	FORMAT	CDF_CHAR	A16
ACQUISITION_TIME_UNITS	VAR_TYPE	CDF_CHAR	metadata
SNAPSHOT_LEN	FIELDNAM	CDF_CHAR	SNAPSHOT_LEN
SNAPSHOT_LEN	CATDESC	CDF_CHAR	Length of snapshot
SNAPSHOT_LEN	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
SNAPSHOT_LEN	FORMAT	CDF_CHAR	I3
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	UCD	CDF_CHAR	meta.code
SN_NR_EVENTS	FIELDNAM	CDF_CHAR	SN_NR_EVENTS
SN_NR_EVENTS	CATDESC	CDF_CHAR	Total number of valid snapshots processed
SN_NR_EVENTS	DEPEND_0	CDF_CHAR	Epoch
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

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **126**

Tab. 4.17 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SN_NR_EVENTS	FILLVAL	CDF_UINT1	255
SN_NR_EVENTS	DISPLAY_TYPE	CDF_CHAR	time_series
SN_NR_EVENTS	FORMAT	CDF_CHAR	I3
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	UCD	CDF_CHAR	meta.code
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
SN_MAX_E	FORMAT	CDF_CHAR	I5
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
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	UCD	CDF_CHAR	meta.code
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	DEPEND_0	CDF_CHAR	Epoch

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00


Date: January 18, 2019

Page: **127**

Tab. 4.17 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
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	DISPLAY_TYPE	CDF_CHAR	time_series
SN_MED_MAX_E	FORMAT	CDF_CHAR	I5
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
			from all samples is calculated. This value gives the median value of these maxima from all snapshots.
SN_MED_MAX_E	UCD	CDF_CHAR	meta.code
SN_MED_RMS_E	FIELDNAM	CDF_CHAR	SN_MED_RMS_E
SN_MED_RMS_E	CATDESC	CDF_CHAR	RMS value calculated form all snapshots
SN_MED_RMS_E	DEPEND_0	CDF_CHAR	Epoch
SN_MED_RMS_E	VALIDMIN	CDF_UINT2	0
SN_MED_RMS_E	VALIDMAX	CDF_UINT2	65535
SN_MED_RMS_E	SCALEMIN	CDF_UINT2	0
SN_MED_RMS_E	SCALEMAX	CDF_UINT2	65534
SN_MED_RMS_E	FILLVAL	CDF_UINT2	65535
SN_MED_RMS_E	DISPLAY_TYPE	CDF_CHAR	time_series
SN_MED_RMS_E	FORMAT	CDF_CHAR	I5
SN_MED_RMS_E	LABLAXIS	CDF_CHAR	E_RMS
SN_MED_RMS_E	UNITS	CDF_CHAR	
SN_MED_RMS_E	VAR_TYPE	CDF_CHAR	data
SN_MED_RMS_E	SCALETYP	CDF_CHAR	linear
SN_MED_RMS_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_RMS_E	UCD	CDF_CHAR	meta.code
SN_THRESHOLD	FIELDNAM	CDF_CHAR	SN_THRESHOLD


Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 128

Tab. 4.17 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SN_THRESHOLD	CATDESC	CDF_CHAR	RMS value calculated form all snapshots
SN_THRESHOLD	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
SN_THRESHOLD	FORMAT	CDF_CHAR	I3.3
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
			from all samples is calculated. This value gives the median value of these maxima from all snapshots.
SN_THRESHOLD	UCD	CDF_CHAR	meta.code
DU_NR_IMPACT	FIELDNAM	CDF_CHAR	DU_NR_IMPACT
DU_NR_IMPACT	CATDESC	CDF_CHAR	Number of dust impact
DU_NR_IMPACT	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
DU_NR_IMPACT	FORMAT	CDF_CHAR	I3.3
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


Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 129

Tab. 4.17 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
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	UCD	CDF_CHAR	meta.code
DU_MED_IMP	FIELDNAM	CDF_CHAR	DU_MED_IMP
DU_MED_IMP	CATDESC	CDF_CHAR	Median ampl of dust impacts
DU_MED_IMP	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
DU_MED_IMP	FORMAT	CDF_CHAR	I5
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
			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_IMP	UCD	CDF_CHAR	meta.code
WA_AMP_MAX	FIELDNAM	CDF_CHAR	WA_AMP_MAX
WA_AMP_MAX	CATDESC	CDF_CHAR	Maximum of detected wave amplitudes
WA_AMP_MAX	DEPEND_0	CDF_CHAR	Epoch
WA_AMP_MAX	VALIDMIN	CDF_UINT2	0
WA_AMP_MAX	VALIDMAX	CDF_UINT2	65534

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 130

Tab. 4.17 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
WA_AMP_MAX	SCALEMIN	CDF_UINT2	0
WA_AMP_MAX	SCALEMAX	CDF_UINT2	65534
WA_AMP_MAX	FILLVAL	CDF_UINT2	65535
WA_AMP_MAX	DISPLAY_TYPE	CDF_CHAR	time_series
WA_AMP_MAX	FORMAT	CDF_CHAR	I5
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
			absolute value from all samples is calculated
WA_AMP_MAX	UCD	CDF_CHAR	meta.code
WA_AMP_MED	FIELDNAM	CDF_CHAR	WA_AMP_MED
WA_AMP_MED	CATDESC	CDF_CHAR	Median of the peak wave amplitudes
WA_AMP_MED	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
WA_AMP_MED	FORMAT	CDF_CHAR	I5
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	UCD	CDF_CHAR	meta.code
WA_RMS	FIELDNAM	CDF_CHAR	WA_RMS
WA_RMS	CATDESC	CDF_CHAR	RMS value calculated form all waves
WA_RMS	DEPEND_0	CDF_CHAR	Epoch

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00


Date: January 18, 2019

Page: **131**

Tab. 4.17 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
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	DISPLAY_TYPE	CDF_CHAR	time_series
WA_RMS	FORMAT	CDF_CHAR	I5
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	UCD	CDF_CHAR	meta.code
WA_NR_EVENTS	FIELDNAM	CDF_CHAR	WA_NR_EVENTS
WA_NR_EVENTS	CATDESC	CDF_CHAR	Total number of valid snapshots
WA_NR_EVENTS	DEPEND_0	CDF_CHAR	Epoch
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
WA_NR_EVENTS	DISPLAY_TYPE	CDF_CHAR	time_series
WA_NR_EVENTS	FORMAT	CDF_CHAR	I3
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	UCD	CDF_CHAR	meta.code
WA_MED_FREQ	FIELDNAM	CDF_CHAR	WA_MED_FREQ
WA_MED_FREQ	CATDESC	CDF_CHAR	Median frequency of all identified waves

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 132

Tab. 4.17 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
WA_MED_FREQ	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
WA_MED_FREQ	FORMAT	CDF_CHAR	I3
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	UCD	CDF_CHAR	meta.code
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
CHANNEL_STATUS_INFO	FORMAT	CDF_CHAR	I1
CHANNEL_STATUS_INFO	LABL_PTR_1	CDF_CHAR	CHANNEL_LABEL
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_LABEL	FIELDNAM	CDF_CHAR	CHANNEL_LABEL
CHANNEL_LABEL	CATDESC	CDF_CHAR	Label for CHANNEL_INFO_STATUS
CHANNEL_LABEL	FORMAT	CDF_CHAR	A8
CHANNEL_LABEL	VAR_TYPE	CDF_CHAR	metadata



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **133**

4.1.2.8.6 Non-Record-Variant (NRV) Variables

Variable Name	Index	Value
ACQUISITION_TIME_LABEL	1	CUC coarse part time
ACQUISITION_TIME_LABEL	2	CUC fine part time
ACQUISITION_TIME_UNITS	1	s
ACQUISITION_TIME_UNITS	2	s / 65536
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 TDS MAMP record every TBD seconds

Expected data volume: TBD MB per day

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”


Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 134

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 RPW Operation Centre (ROC) and Solar Orbiter/RPW teams for access to data.”
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009
CAVEAT	1	CDF_CHAR	
Data_type	1	CDF_CHAR	“H0>High Resolution data”
Data_version	1	CDF_CHAR	
DATASET_ID	1	CDF_CHAR	SOLO_L1_RPW-TDS-SURV-MAMP
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_UUID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	
IDB_version	1	CDF_CHAR	
Instrument_type	1	CDF_CHAR	“Radio and Plasma Waves (space)”
Level	1	CDF_CHAR	“L1>Level 1”
LINK_TEXT	1	CDF_CHAR	
LINK_TITLE	1	CDF_CHAR	
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”
MODS	1	CDF_CHAR	“November 2018 : initial release”
PACKET_CATEGORY	1	CDF_CHAR	“12”
PACKET_PID	1	CDF_CHAR	“77”
PACKET_SERVICE_SUBTYPE	1	CDF_CHAR	“6”
PACKET_SERVICE_TYPE	1	CDF_CHAR	“21”
PACKET_SID	1	CDF_CHAR	“68”
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”

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 135

Tab. 4.18 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Pipeline_version	1	CDF_CHAR	
Project	1	CDF_CHAR	“RPW>Radio and Plasma Waves instrument”
Provider	1	CDF_CHAR	
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00075-LES
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
Skeleton_version	1	CDF_CHAR	1
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	“SOLO>Solar Orbiter”
SPECTRAL_RANGE_MAX	1	CDF_DOUBLE	0.0
SPECTRAL_RANGE_MIN	1	CDF_DOUBLE	0.0
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_DOUBLE	0.0
TIME_MIN	1	CDF_DOUBLE	0.0
Validate	1	CDF_CHAR	



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **136**


4.1.2.9.4 zVariables

Variable Name	Data Type	Number Elements	Dims	Sizes	Record Variance	Dimension Variances
Epoch	CDF_TIME_TT2000	1	0		T	
ACQUISITION_TIME	CDF_UINT4	1	1	2.0	T	T
TIME_SYNCHRO_FLAG	CDF_UINT1	1	0		T	
POST_GAP_FLAG	CDF_UINT1	1	0		T	
QUALITY_FLAG	CDF_UINT1	1	0		T	
QUALITY_BITMASK	CDF_UINT1	1	0		T	
SURVEY_MODE	CDF_UINT1	1	0		T	
BIA_STATUS_INFO	CDF_UINT1	1	1	6.0	T	T
DEC_RATE	CDF_UINT1	1	0		T	
HF_DATA_ARTEFACTS	CDF_UINT1	1	1	5.0	T	T
RPW_STATUS_INFO	CDF_UINT1	1	1	8.0	T	T
INPUT_CONFIG	CDF_UINT4	1	0		T	
SNAPSHOT_SEQ_NR	CDF_UINT2	1	0		T	
ACQUISITION_TIME_UNITS	CDF_CHAR	16	1	2.0	F	T
ACQUISITION_TIME_LABEL	CDF_CHAR	32	1	2.0	F	T
CHANNEL_STATUS_INFO	CDF_UINT1	1	1	4.0	T	T
WAVEFORM_DATA	CDF_UINT2	1	1	4.0	T	T
CHANNEL_LABEL	CDF_CHAR	8	1	4.0	F	T
WAVEFORM_LABEL	CDF_CHAR	16	1	4.0	F	T

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

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 137

Tab. 4.19 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
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	RPW TDS clock
Epoch	REFERENCE_POSITION	CDF_CHAR	Solar Orbiter
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file
Epoch	UCD	CDF_CHAR	time.epoch
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
ACQUISITION_TIME	FORMAT	CDF_CHAR	E12.2
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 TDS 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	UCD	CDF_CHAR	time.epoch
TIME_SYNCHRO_FLAG	FIELDNAM	CDF_CHAR	Time synchronisation flag
TIME_SYNCHRO_FLAG	CATDESC	CDF_CHAR	Time synchronisation flag
TIME_SYNCHRO_FLAG	DEPEND_0	CDF_CHAR	Epoch

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **138**

Tab. 4.19 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
TIME_SYNCHRO_FLAG	VALIDMIN	CDF_UINT1	0
TIME_SYNCHRO_FLAG	VALIDMAX	CDF_UINT1	1
TIME_SYNCHRO_FLAG	SCALEMIN	CDF_UINT1	0
TIME_SYNCHRO_FLAG	SCALEMAX	CDF_UINT1	1
TIME_SYNCHRO_FLAG	FILLVAL	CDF_UINT1	255
TIME_SYNCHRO_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
TIME_SYNCHRO_FLAG	FORMAT	CDF_CHAR	I3.3
TIME_SYNCHRO_FLAG	LABLAXIS	CDF_CHAR	time sync. flag
TIME_SYNCHRO_FLAG	UNITS	CDF_CHAR	
TIME_SYNCHRO_FLAG	VAR_TYPE	CDF_CHAR	support_data
TIME_SYNCHRO_FLAG	SCALETYP	CDF_CHAR	linear
TIME_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.
TIME_SYNCHRO_FLAG	UCD	CDF_CHAR	meta.code
POST_GAP_FLAG	FIELDNAM	CDF_CHAR	POST_GAP_FLAG
POST_GAP_FLAG	CATDESC	CDF_CHAR	Post gap flag
POST_GAP_FLAG	DEPEND_0	CDF_CHAR	Epoch
POST_GAP_FLAG	VALIDMIN	CDF_UINT1	0
POST_GAP_FLAG	VALIDMAX	CDF_UINT1	255
POST_GAP_FLAG	SCALEMIN	CDF_UINT1	0
POST_GAP_FLAG	SCALEMAX	CDF_UINT1	255
POST_GAP_FLAG	FILLVAL	CDF_UINT1	255
POST_GAP_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
POST_GAP_FLAG	FORMAT	CDF_CHAR	I3.3
POST_GAP_FLAG	LABLAXIS	CDF_CHAR	Post gap flag
POST_GAP_FLAG	UNITS	CDF_CHAR	
POST_GAP_FLAG	VAR_TYPE	CDF_CHAR	support_data
POST_GAP_FLAG	SCALETYP	CDF_CHAR	linear
POST_GAP_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the reason why there is gap in the data preceding the current record. If no gap then POST_GAP_FLAG=0.
POST_GAP_FLAG	UCD	CDF_CHAR	meta.code
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **139**

Tab. 4.19 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	FORMAT	CDF_CHAR	I3.3
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	UCD	CDF_CHAR	meta.code
SURVEY_MODE	FIELDNAM	CDF_CHAR	SURVEY_MODE
SURVEY_MODE	CATDESC	CDF_CHAR	TDS survey mode
SURVEY_MODE	DEPEND_0	CDF_CHAR	Epoch
SURVEY_MODE	VALIDMIN	CDF_UINT1	0
SURVEY_MODE	VALIDMAX	CDF_UINT1	1
SURVEY_MODE	SCALEMIN	CDF_UINT1	0
SURVEY_MODE	SCALEMAX	CDF_UINT1	1

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **140**

Tab. 4.19 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SURVEY_MODE	FILLVAL	CDF_UINT1	255
SURVEY_MODE	DISPLAY_TYPE	CDF_CHAR	time_series
SURVEY_MODE	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
BIA_STATUS_INFO	FIELDNAM	CDF_CHAR	BIA_STATUS_INFO
BIA_STATUS_INFO	CATDESC	CDF_CHAR	BIAS status byte
BIA_STATUS_INFO	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
BIA_STATUS_INFO	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
DEC_RATE	FIELDNAM	CDF_CHAR	DEC_RATE
DEC_RATE	CATDESC	CDF_CHAR	Decimation rate of the MAMP data
DEC_RATE	DEPEND_0	CDF_CHAR	Epoch
DEC_RATE	VALIDMIN	CDF_UINT1	0
DEC_RATE	VALIDMAX	CDF_UINT1	5
DEC_RATE	SCALEMIN	CDF_UINT1	0
DEC_RATE	SCALEMAX	CDF_UINT1	5
DEC_RATE	FILLVAL	CDF_UINT1	255
DEC_RATE	DISPLAY_TYPE	CDF_CHAR	time_series
DEC_RATE	FORMAT	CDF_CHAR	I1.1
DEC_RATE	LABLAXIS	CDF_CHAR	Decimation rate of the MAMP data

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **141**

Tab. 4.19 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
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	UCD	CDF_CHAR	meta.code
RPW_STATUS_INFO	FIELDNAM	CDF_CHAR	RPW_STATUS_INFO
RPW_STATUS_INFO	CATDESC	CDF_CHAR	RPW status
RPW_STATUS_INFO	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
RPW_STATUS_INFO	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
INPUT_CONFIG	FIELDNAM	CDF_CHAR	INPUT_CONFIG
INPUT_CONFIG	CATDESC	CDF_CHAR	Bitmask of TDS analog input configuration
INPUT_CONFIG	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
INPUT_CONFIG	FORMAT	CDF_CHAR	I1.1
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

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00


Date: January 18, 2019

Page: **142**

Tab. 4.19 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
INPUT_CONFIG	VAR_NOTES	CDF_CHAR	Input TDS configuration
INPUT_CONFIG	UCD	CDF_CHAR	meta.code
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
SNAPSHOT_SEQ_NR	FORMAT	CDF_CHAR	I6.5
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	UCD	CDF_CHAR	meta.code
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
CHANNEL_STATUS_INFO	FORMAT	CDF_CHAR	I3
CHANNEL_STATUS_INFO	LABL_PTR_1	CDF_CHAR	CHANNEL_LABEL
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	UCD	CDF_CHAR	meta.code

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 143

Tab. 4.19 – 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	DEPEND_0	CDF_CHAR	Epoch
WAVEFORM_DATA	VALIDMIN	CDF_INT2	0
WAVEFORM_DATA	VALIDMAX	CDF_INT2	16384
WAVEFORM_DATA	SCALEMIN	CDF_INT2	0
WAVEFORM_DATA	SCALEMAX	CDF_INT2	16384
WAVEFORM_DATA	FILLVAL	CDF_INT2	65535
WAVEFORM_DATA	DISPLAY_TYPE	CDF_CHAR	time_series
WAVEFORM_DATA	FORMAT	CDF_CHAR	I6.5
WAVEFORM_DATA	LABL_PTR_1	CDF_CHAR	WAVEFORM_LABEL
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	UCD	CDF_CHAR	
CHANNEL_LABEL	FIELDNAM	CDF_CHAR	CHANNEL_LABEL
CHANNEL_LABEL	CATDESC	CDF_CHAR	Label for CHANNEL_INFO_STATUS
CHANNEL_LABEL	FORMAT	CDF_CHAR	A8
CHANNEL_LABEL	VAR_TYPE	CDF_CHAR	metadata
WAVEFORM_LABEL	FIELDNAM	CDF_CHAR	WAVEFORM_LABEL
WAVEFORM_LABEL	CATDESC	CDF_CHAR	Label for WAVEFORM_DATA
WAVEFORM_LABEL	FORMAT	CDF_CHAR	A16
WAVEFORM_LABEL	VAR_TYPE	CDF_CHAR	metdata



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **144**

4.1.2.9.6 Non-Record-Variant (NRV) Variables

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

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 TDS LFM RSWF every TBD seconds

Expected data volume: TBD MB per day

4.1.2.10.3 Global Attributes



RPW Data Product Description Document

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

Issue
01


Revision
00

Date: January 18, 2019

Page: **145**

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 RPW Operation Centre (ROC) and Solar Orbiter/RPW teams for access to data.”
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009
CAVEAT	1	CDF_CHAR	
Data_type	1	CDF_CHAR	“H0>High Resolution data”
Data_version	1	CDF_CHAR	
DATASET_ID	1	CDF_CHAR	SOLO_L1_RPW-TDS-SURV-RSWF
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_UUID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	
IDB_version	1	CDF_CHAR	
Instrument_type	1	CDF_CHAR	“Radio and Plasma Waves (space)”
Level	1	CDF_CHAR	“L1>Level 1”
LINK_TEXT	1	CDF_CHAR	
LINK_TITLE	1	CDF_CHAR	
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”
MODS	1	CDF_CHAR	“July 2016 : data organization by snapshots, time vector added”
PACKET_CATEGORY	1	CDF_CHAR	“12”
PACKET_PID	1	CDF_CHAR	“77”
PACKET_SERVICE_SUBTYPE	1	CDF_CHAR	“6”
PACKET_SERVICE_TYPE	1	CDF_CHAR	“21”
PACKET_SID	1	CDF_CHAR	“62”
PACKET_SRDB_ID	1	CDF_CHAR	
Parent_version	1	CDF_CHAR	
Parents	1	CDF_CHAR	

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 146

Tab. 4.20 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
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	“RPW>Radio and Plasma Waves instrument”
Provider	1	CDF_CHAR	
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00075-LES
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
Skeleton_version	1	CDF_CHAR	1
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	“SOLO>Solar Orbiter”
SPECTRAL_RANGE_MAX	1	CDF_DOUBLE	0.0
SPECTRAL_RANGE_MIN	1	CDF_DOUBLE	0.0
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_DOUBLE	0.0
TIME_MIN	1	CDF_DOUBLE	0.0
Validate	1	CDF_CHAR	



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **147**


4.1.2.10.4 zVariables

Variable Name	Data Type	Number Elements	Dims	Sizes	Record Variance	Dimension Variances
Epoch	CDF_TIME_TT2000	1	0		T	
ACQUISITION_TIME	CDF_UINT4	1	1	2	T	T
TIME_SYNCHRO_FLAG	CDF_UINT1	1	0		T	
POST_GAP_FLAG	CDF_UINT1	1	0		T	
QUALITY_FLAG	CDF_UINT1	1	0		T	
QUALITY_BITMASK	CDF_UINT1	1	0		T	
SURVEY_MODE	CDF_UINT1	1	0		T	
BIA_STATUS_INFO	CDF_UINT1	1	1	6	T	T
SAMPLING_RATE	CDF_UINT2	1	0		T	
LF_DATA_ARTEFACTS	CDF_UINT1	1	1	16	T	T
INPUT_CONFIG	CDF_UINT1	1	1	8	T	T
SNAPSHOT_SEQ_NR	CDF_UINT2	1	0		T	
ACQUISITION_TIME_UNITS	CDF_CHAR	16	1	2	F	T
ACQUISITION_TIME_LABEL	CDF_CHAR	32	1	2	F	T
CHANNEL_STATUS_INFO	CDF_UINT1	1	1	8	T	T
SAMPS_PER_CH	CDF_UINT4	1	0		T	
SAMP_DTIME	CDF_UINT4	1	1	32768	T	T
WAVEFORM_DATA	CDF_FLOAT	1	2	8 32768	T	T T
CHANNEL_LABEL	CDF_CHAR	8	1	8	F	T
WAVEFORM_LABEL	CDF_CHAR	16	1	8	F	T

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
Epoch	SCALEMIN	CDF_TIME_TT2000	2000-01-01T12:00:00.000000000
Epoch	SCALEMAX	CDF_TIME_TT2000	2029-12-31T23:59:59.999000000

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 148

Tab. 4.21 – 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	RPW TDS time
Epoch	REFERENCE_POS	CDF_CHAR	Solar Orbiter
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file
Epoch	UCD	CDF_CHAR	time.epoch
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
ACQUISITION_TIME	FORMAT	CDF_CHAR	E12.2
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 TDS 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	UCD	CDF_CHAR	time.epoch
TIME_SYNCHRO_FLAG	FIELDNAM	CDF_CHAR	Time synchronisation flag

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **149**

Tab. 4.21 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
TIME_SYNCHRO_FLAG	CATDESC	CDF_CHAR	Time synchronisation flag
TIME_SYNCHRO_FLAG	DEPEND_0	CDF_CHAR	Epoch
TIME_SYNCHRO_FLAG	VALIDMIN	CDF_UINT1	0
TIME_SYNCHRO_FLAG	VALIDMAX	CDF_UINT1	1
TIME_SYNCHRO_FLAG	SCALEMIN	CDF_UINT1	0
TIME_SYNCHRO_FLAG	SCALEMAX	CDF_UINT1	1
TIME_SYNCHRO_FLAG	FILLVAL	CDF_UINT1	255
TIME_SYNCHRO_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
TIME_SYNCHRO_FLAG	FORMAT	CDF_CHAR	I3.3
TIME_SYNCHRO_FLAG	LABLAXIS	CDF_CHAR	time sync. flag
TIME_SYNCHRO_FLAG	UNITS	CDF_CHAR	
TIME_SYNCHRO_FLAG	VAR_TYPE	CDF_CHAR	support_data
TIME_SYNCHRO_FLAG	SCALETYP	CDF_CHAR	linear
TIME_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.
TIME_SYNCHRO_FLAG	UCD	CDF_CHAR	meta.code
POST_GAP_FLAG	FIELDNAM	CDF_CHAR	POST_GAP_FLAG
POST_GAP_FLAG	CATDESC	CDF_CHAR	Post gap flag
POST_GAP_FLAG	DEPEND_0	CDF_CHAR	Epoch
POST_GAP_FLAG	VALIDMIN	CDF_UINT1	0
POST_GAP_FLAG	VALIDMAX	CDF_UINT1	255
POST_GAP_FLAG	SCALEMIN	CDF_UINT1	0
POST_GAP_FLAG	SCALEMAX	CDF_UINT1	255
POST_GAP_FLAG	FILLVAL	CDF_UINT1	255
POST_GAP_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
POST_GAP_FLAG	FORMAT	CDF_CHAR	I3.3
POST_GAP_FLAG	LABLAXIS	CDF_CHAR	Post gap flag
POST_GAP_FLAG	UNITS	CDF_CHAR	
POST_GAP_FLAG	VAR_TYPE	CDF_CHAR	support_data
POST_GAP_FLAG	SCALETYP	CDF_CHAR	linear
POST_GAP_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the reason why there is gap in the data preceding the current record. If no gap then POST_GAP_FLAG=0.

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **150**

Tab. 4.21 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
POST_GAP_FLAG	UCD	CDF_CHAR	meta.code
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	FORMAT	CDF_CHAR	I3.3
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	UCD	CDF_CHAR	meta.code
SURVEY_MODE	FIELDNAM	CDF_CHAR	SURVEY_MODE
SURVEY_MODE	CATDESC	CDF_CHAR	TDS survey mode
SURVEY_MODE	DEPEND_0	CDF_CHAR	Epoch
SURVEY_MODE	VALIDMIN	CDF_UINT1	0
SURVEY_MODE	VALIDMAX	CDF_UINT1	1

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00


Date: January 18, 2019

Page: **151**

Tab. 4.21 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SURVEY_MODE	SCALEMIN	CDF_UINT1	0
SURVEY_MODE	SCALEMAX	CDF_UINT1	1
SURVEY_MODE	FILLVAL	CDF_UINT1	255
SURVEY_MODE	DISPLAY_TYPE	CDF_CHAR	time_series
SURVEY_MODE	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
BIA_STATUS_INFO	FIELDNAM	CDF_CHAR	BIA_STATUS_INFO
BIA_STATUS_INFO	CATDESC	CDF_CHAR	BIAS status byte
BIA_STATUS_INFO	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
BIA_STATUS_INFO	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
SAMPLING_RATE	FIELDNAM	CDF_CHAR	SAMPLING_RATE
SAMPLING_RATE	CATDESC	CDF_CHAR	TDS sampling rate
SAMPLING_RATE	DEPEND_0	CDF_CHAR	Epoch
SAMPLING_RATE	VALIDMIN	CDF_UINT2	0
SAMPLING_RATE	VALIDMAX	CDF_UINT2	32768
SAMPLING_RATE	SCALEMIN	CDF_UINT2	0
SAMPLING_RATE	SCALEMAX	CDF_UINT2	32768
SAMPLING_RATE	FILLVAL	CDF_UINT2	65535
SAMPLING_RATE	DISPLAY_TYPE	CDF_CHAR	time_series
SAMPLING_RATE	FORMAT	CDF_CHAR	I1.1
SAMPLING_RATE	LABLAXIS	CDF_CHAR	Sampling rate code

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 152

Tab. 4.21 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SAMPLING_RATE	UNITS	CDF_CHAR	kHz
SAMPLING_RATE	VAR_TYPE	CDF_CHAR	data
SAMPLING_RATE	SCALETYP	CDF_CHAR	linear
SAMPLING_RATE	VAR_NOTES	CDF_CHAR	TDS sampling rate
SAMPLING_RATE	UCD	CDF_CHAR	meta.code
LF_DATA_ARTEFACTS	FIELDNAM	CDF_CHAR	LF_DATA_ARTEFACTS
LF_DATA_ARTEFACTS	CATDESC	CDF_CHAR	Bitmask of data artefacts (overflows etc)
LF_DATA_ARTEFACTS	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
LF_DATA_ARTEFACTS	FORMAT	CDF_CHAR	I5
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	UCD	CDF_CHAR	meta.code
INPUT_CONFIG	FIELDNAM	CDF_CHAR	INPUT_CONFIG
INPUT_CONFIG	CATDESC	CDF_CHAR	Bitmask of TDS analog input configuration
INPUT_CONFIG	DEPEND_0	CDF_CHAR	Epoch
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
INPUT_CONFIG	DISPLAY_TYPE	CDF_CHAR	time_series
INPUT_CONFIG	FORMAT	CDF_CHAR	I3.3
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	UCD	CDF_CHAR	meta.code
SNAPSHOT_SEQ_NR	FIELDNAM	CDF_CHAR	SNAPSHOT_SEQ_NR

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **153**

Tab. 4.21 – 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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
SNAPSHOT_SEQ_NR	FORMAT	CDF_CHAR	I6.5
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	UCD	CDF_CHAR	meta.code
ACQUISITION_TIME_LABEL	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME_LABEL	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME
ACQUISITION_TIME_LABEL	EORMAT	CDF_CHAR	A32
ACQUISITION_TIME_LABEL	VAR_TYPE	CDF_CHAR	metadata
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	FORMAT	CDF_CHAR	A16
ACQUISITION_TIME_UNITS	VAR_TYPE	CDF_CHAR	metadata
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
CHANNEL_STATUS_INFO	FORMAT	CDF_CHAR	I6.5

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **154**

Tab. 4.21 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
CHANNEL_STATUS_INFO	LABL_PTR_1	CDF_CHAR	CHANNEL_LABEL
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	UCD	CDF_CHAR	meta.code
SAMPS_PER_CH	FIELDNAM	CDF_CHAR	SAMPS_PER_CH
SAMPS_PER_CH	CATDESC	CDF_CHAR	Number of samples per channel
SAMPS_PER_CH	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
SAMPS_PER_CH	FORMAT	CDF_CHAR	I10
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	UCD	CDF_CHAR	
SAMP_DTIME	FIELDNAM	CDF_CHAR	SAMP_DTIME
SAMP_DTIME	CATDESC	CDF_CHAR	Delta time of the sample
SAMP_DTIME	DEPEND_0	CDF_CHAR	Epoch
SAMP_DTIME	VALIDMIN	CDF_UINT4	0
SAMP_DTIME	VALIDMAX	CDF_UINT4	4294967294
SAMP_DTIME	SCALEMIN	CDF_UINT4	0
SAMP_DTIME	SCALEMAX	CDF_UINT4	4294967294
SAMP_DTIME	FILLVAL	CDF_UINT4	4294967295
SAMP_DTIME	DISPLAY_TYPE	CDF_CHAR	time_series
SAMP_DTIME	FORMAT	CDF_CHAR	I10
SAMP_DTIME	LABLAXIS	CDF_CHAR	Delta time
SAMP_DTIME	UNITS	CDF_CHAR	ns
SAMP_DTIME	VAR_TYPE	CDF_CHAR	support_data
SAMP_DTIME	SCALETYP	CDF_CHAR	linear
SAMP_DTIME	VAR_NOTES	CDF_CHAR	Delta time of the sample in ns from Epoch

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **155**

Tab. 4.21 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SAMP_DTIME	UCD	CDF_CHAR	
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	DEPEND_0	CDF_CHAR	Epoch
WAVEFORM_DATA	VALIDMIN	CDF_FLOAT	-1.0e30
WAVEFORM_DATA	VALIDMAX	CDF_FLOAT	1.0e30
WAVEFORM_DATA	SCALEMIN	CDF_FLOAT	-1.0e30
WAVEFORM_DATA	SCALEMAX	CDF_FLOAT	1.0e30
WAVEFORM_DATA	FILLVAL	CDF_FLOAT	-1.0e31
WAVEFORM_DATA	DISPLAY_TYPE	CDF_CHAR	time_series
WAVEFORM_DATA	FORMAT	CDF_CHAR	F9.3
WAVEFORM_DATA	LABL_PTR_1	CDF_CHAR	WAVEFORM_LABEL
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	UCD	CDF_CHAR	
CHANNEL_LABEL	FIELDNAM	CDF_CHAR	CHANNEL_LABEL
CHANNEL_LABEL	CATDESC	CDF_CHAR	Label for CHANNEL_INFO_STATUS
CHANNEL_LABEL	FORMAT	CDF_CHAR	A8
CHANNEL_LABEL	VAR_TYPE	CDF_CHAR	metadata
WAVEFORM_LABEL	FIELDNAM	CDF_CHAR	WAVEFORM_LABEL
WAVEFORM_LABEL	CATDESC	CDF_CHAR	Label for WAVEFORM_DATA
WAVEFORM_LABEL	FORMAT	CDF_CHAR	A16
WAVEFORM_LABEL	VAR_TYPE	CDF_CHAR	metdata



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **156**

4.1.2.10.6 Non-Record-Variant (NRV) Variables

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


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 TDS LFM CWF sample every TBD seconds


Expected data volume: TBD MB per day

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 157

4.1.2.11.3 Global Attributes

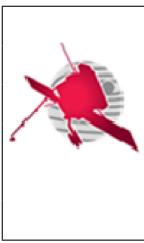
Attribute Name	Entry Number	Data Type	Value
ACCESS_URL	1	CDF_CHAR	
ACCESS_FORMAT	1	CDF_CHAR	“CDF”
Acknowledgement	1	CDF_CHAR	“The authors are pleased to acknowledge the RPW Operation Centre (ROC) and Solar Orbiter/RPW teams for access to data.”
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009
CAVEAT	1	CDF_CHAR	
Data_type	1	CDF_CHAR	“H0>High Resolution data”
Data_version	1	CDF_CHAR	
DATASET_ID	1	CDF_CHAR	SOLO_L1_RPW-TDS-LFM-CWF
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_UUID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	
IDB_version	1	CDF_CHAR	
Instrument_type	1	CDF_CHAR	“Radio and Plasma Waves (space)”
Level	1	CDF_CHAR	“L1>Level 1”
LINK_TEXT	1	CDF_CHAR	
LINK_TITLE	1	CDF_CHAR	
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”
Mission_group	1	CDF_CHAR	“Solar Orbiter”
MODS	1	CDF_CHAR	“November 2018 : initial release”
PACKET_CATEGORY	1	CDF_CHAR	“12”
PACKET_PID	1	CDF_CHAR	“77”
PACKET_SERVICE_SUBTYPE	1	CDF_CHAR	“6”
PACKET_SERVICE_TYPE	1	CDF_CHAR	“21”
PACKET_SID	1	CDF_CHAR	“63”
PACKET_SRDB_ID	1	CDF_CHAR	

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 158

Tab. 4.22 – 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	“RPW>Radio and Plasma Waves instrument”
Provider	1	CDF_CHAR	
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00075-LES
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
Skeleton_version	1	CDF_CHAR	1
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	“SOLO>Solar Orbiter”
SPECTRAL_RANGE_MAX	1	CDF_DOUBLE	0.0
SPECTRAL_RANGE_MIN	1	CDF_DOUBLE	0.0
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_DOUBLE	0.0
TIME_MIN	1	CDF_DOUBLE	0.0
Validate	1	CDF_CHAR	



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **159**

4.1.2.11.4 zVariables

Variable Name	Data Type	Number Elements	Dims	Sizes	Record Variance	Dimension Variances
Epoch	CDF_TIME_TT2000	1	0		T	
ACQUISITION_TIME	CDF_UINT4	1	1	2.0	T	T
TIME_SYNCHRO_FLAG	CDF_UINT1	1	0		T	
POST_GAP_FLAG	CDF_UINT1	1	0		T	
QUALITY_FLAG	CDF_UINT1	1	0		T	
QUALITY_BITMASK	CDF_UINT1	1	0		T	
SURVEY_MODE	CDF_UINT1	1	0		T	
BIA_STATUS_INFO	CDF_UINT1	1	1	6.0	T	T
SAMPLING_RATE	CDF_UINT1	1	0		T	
CWF_DATA_ARTEFACTS	CDF_UINT1	1	1	8.0	T	T
INPUT_CONFIG	CDF_UINT1	1	1	8.0	T	T
CHANNEL_STATUS_INFO	CDF_UINT1	1	1	8.0	T	T
WAVEFORM_DATA	CDF_INT2	1	1	8.0	T	T
CHANNEL_LABEL	CDF_CHAR	8	1	8.0	F	T
WAVEFORM_LABEL	CDF_CHAR	16	1	8.0	F	T
ACQUISITION_TIME_UNITS	CDF_CHAR	16	1	2.0	F	T
ACQUISITION_TIME_LABEL	CDF_CHAR	32	1	2.0	F	T

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

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **160**

Tab. 4.23 – 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	RPW TDS clock
Epoch	REFERENCE_POS	CDF_CHAR	Solar Orbiter
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	DEPEND_0	CDF_CHAR	Epoch
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	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	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 TDS 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
TIME_SYNCHRO_FLAG	FIELDNAM	CDF_CHAR	Time synchronisation flag
TIME_SYNCHRO_FLAG	CATDESC	CDF_CHAR	Time synchronisation flag
TIME_SYNCHRO_FLAG	DEPEND_0	CDF_CHAR	Epoch
TIME_SYNCHRO_FLAG	VALIDMIN	CDF_UINT1	0
TIME_SYNCHRO_FLAG	VALIDMAX	CDF_UINT1	1
TIME_SYNCHRO_FLAG	SCALEMIN	CDF_UINT1	0
TIME_SYNCHRO_FLAG	SCALEMAX	CDF_UINT1	1

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **161**

Tab. 4.23 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
TIME_SYNCHRO_FLAG	FILLVAL	CDF_UINT1	255
TIME_SYNCHRO_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
TIME_SYNCHRO_FLAG	FORMAT	CDF_CHAR	I3.3
TIME_SYNCHRO_FLAG	LABLAXIS	CDF_CHAR	time sync. flag
TIME_SYNCHRO_FLAG	UNITS	CDF_CHAR	
TIME_SYNCHRO_FLAG	VAR_TYPE	CDF_CHAR	support_data
TIME_SYNCHRO_FLAG	SCALETYP	CDF_CHAR	linear
TIME_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.
TIME_SYNCHRO_FLAG	UCD	CDF_CHAR	meta.code
POST_GAP_FLAG	FIELDNAM	CDF_CHAR	POST_GAP_FLAG
POST_GAP_FLAG	CATDESC	CDF_CHAR	Post gap flag
POST_GAP_FLAG	DEPEND_0	CDF_CHAR	Epoch
POST_GAP_FLAG	VALIDMIN	CDF_UINT1	0
POST_GAP_FLAG	VALIDMAX	CDF_UINT1	255
POST_GAP_FLAG	SCALEMIN	CDF_UINT1	0
POST_GAP_FLAG	SCALEMAX	CDF_UINT1	255
POST_GAP_FLAG	FILLVAL	CDF_UINT1	255
POST_GAP_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
POST_GAP_FLAG	FORMAT	CDF_CHAR	I3.3
POST_GAP_FLAG	LABLAXIS	CDF_CHAR	Post gap flag
POST_GAP_FLAG	UNITS	CDF_CHAR	
POST_GAP_FLAG	VAR_TYPE	CDF_CHAR	support_data
POST_GAP_FLAG	SCALETYP	CDF_CHAR	linear
POST_GAP_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the reason why there is gap in the data preceding the current record. If no gap then POST_GAP_FLAG=0.
POST_GAP_FLAG	UCD	CDF_CHAR	meta.code
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
QUALITY_FLAG	VALIDMIN	CDF_UINT1	0
QUALITY_FLAG	VALIDMAX	CDF_UINT1	4

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00


Date: January 18, 2019

Page: **162**

Tab. 4.23 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
QUALITY_FLAG	SCALEMIN	CDF_UINT1	0
QUALITY_FLAG	SCALEMAX	CDF_UINT1	4
QUALITY_FLAG	FILLVAL	CDF_UINT1	255
QUALITY_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	FORMAT	CDF_CHAR	I3.3
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	UCD	CDF_CHAR	meta.code
SURVEY_MODE	FIELDNAM	CDF_CHAR	SURVEY_MODE
SURVEY_MODE	CATDESC	CDF_CHAR	TDS survey mode
SURVEY_MODE	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
SURVEY_MODE	FORMAT	CDF_CHAR	I1.1
SURVEY_MODE	LABLAXIS	CDF_CHAR	TDS survey mode

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 163

Tab. 4.23 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
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	UCD	CDF_CHAR	meta.code
BIA_STATUS_INFO	FIELDNAM	CDF_CHAR	BIA_STATUS_INFO
BIA_STATUS_INFO	CATDESC	CDF_CHAR	BIAS status byte
BIA_STATUS_INFO	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
BIA_STATUS_INFO	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
SAMPLING_RATE	FIELDNAM	CDF_CHAR	SAMPLING_RATE
SAMPLING_RATE	CATDESC	CDF_CHAR	TDS sampling rate
SAMPLING_RATE	DEPEND_0	CDF_CHAR	Epoch
SAMPLING_RATE	VALIDMIN	CDF_UINT1	1
SAMPLING_RATE	VALIDMAX	CDF_UINT1	128
SAMPLING_RATE	SCALEMIN	CDF_UINT1	1
SAMPLING_RATE	SCALEMAX	CDF_UINT1	128
SAMPLING_RATE	FILLVAL	CDF_UINT1	255
SAMPLING_RATE	DISPLAY_TYPE	CDF_CHAR	time_series
SAMPLING_RATE	FORMAT	CDF_CHAR	I3.3
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	UCD	CDF_CHAR	meta.code
CWF_DATA_ARTEFACTS	FIELDNAM	CDF_CHAR	CWF_DATA_ARTEFACTS

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **164**

Tab. 4.23 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
CWF_DATA_ARTEFACTS	CATDESC	CDF_CHAR	Bitmask of data artefacts (overflows etc)
CWF_DATA_ARTEFACTS	DEPEND_0	CDF_CHAR	Epoch
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
CWF_DATA_ARTEFACTS	DISPLAY_TYPE	CDF_CHAR	time_series
CWF_DATA_ARTEFACTS	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
RPW_STATUS_INFO	FIELDNAM	CDF_CHAR	RPW_STATUS_INFO
RPW_STATUS_INFO	CATDESC	CDF_CHAR	RPW status
RPW_STATUS_INFO	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
RPW_STATUS_INFO	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
INPUT_CONFIG	FIELDNAM	CDF_CHAR	INPUT_CONFIG
INPUT_CONFIG	CATDESC	CDF_CHAR	Bitmask of TDS analog input configuration
INPUT_CONFIG	DEPEND_0	CDF_CHAR	Epoch
INPUT_CONFIG	VALIDMIN	CDF_UINT1	0
INPUT_CONFIG	VALIDMAX	CDF_UINT1	1
INPUT_CONFIG	SCALEMIN	CDF_UINT1	0

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **165**

Tab. 4.23 – 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	DISPLAY_TYPE	CDF_CHAR	time_series
INPUT_CONFIG	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
ACQUISITION_TIME_LABEL	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME_LABEL	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME
ACQUISITION_TIME_LABEL	EIFORMAT	CDF_CHAR	A32
ACQUISITION_TIME_LABEL	VAR_TYPE	CDF_CHAR	metadata
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	FORMAT	CDF_CHAR	A16
ACQUISITION_TIME_UNITS	VAR_TYPE	CDF_CHAR	metadata
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
CHANNEL_STATUS_INFO	FORMAT	CDF_CHAR	I1.1
CHANNEL_STATUS_INFO	LABL_PTR_1	CDF_CHAR	CHANNEL_LABEL
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	UCD	CDF_CHAR	meta.code
WAVEFORM_DATA	FIELDNAM	CDF_CHAR	Waveform data (electric and magnetic)

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

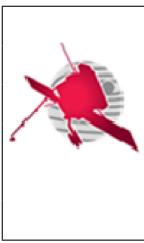
Revision
00

Date: January 18, 2019

Page: **166**

Tab. 4.23 – 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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
WAVEFORM_DATA	FORMAT	CDF_CHAR	I6.5
WAVEFORM_DATA	LABL_PTR_1	CDF_CHAR	WAVEFORM_LABEL
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	UCD	CDF_CHAR	
CHANNEL_LABEL	FIELDNAM	CDF_CHAR	CHANNEL_LABEL
CHANNEL_LABEL	CATDESC	CDF_CHAR	Label for CHANNEL_INFO_STATUS
CHANNEL_LABEL	FORMAT	CDF_CHAR	A8
CHANNEL_LABEL	VAR_TYPE	CDF_CHAR	metadata
WAVEFORM_LABEL	FIELDNAM	CDF_CHAR	WAVEFORM_LABEL
WAVEFORM_LABEL	CATDESC	CDF_CHAR	Label for WAVEFORM_DATA
WAVEFORM_LABEL	FORMAT	CDF_CHAR	A16
WAVEFORM_LABEL	VAR_TYPE	CDF_CHAR	metdata



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **167**

4.1.2.11.6 Non-Record-Variant (NRV) Variables

Variable Name	Index	Value
ACQUISITION_TIME_LABEL	1	CUC coarse part time
ACQUISITION_TIME_LABEL	2	CUC fine part time
ACQUISITION_TIME_UNITS	1	s
ACQUISITION_TIME_UNITS	2	s / 65536
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 16bit
CHANNEL_LABEL	8	Fine time
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

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.


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 TDS LFM SM every TBD seconds


Expected data volume: TBD MB per day

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 168

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 RPW Operation Centre (ROC) and Solar Orbiter/RPW teams for access to data.”
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009
CAVEAT	1	CDF_CHAR	
Data_type	1	CDF_CHAR	“H0>High Resolution data”
Data_version	1	CDF_CHAR	
DATASET_ID	1	CDF_CHAR	SOLO_L1_RPW-TDS-SURV-SM
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_UUID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	
IDB_version	1	CDF_CHAR	
Instrument_type	1	CDF_CHAR	“Radio and Plasma Waves (space)”
Level	1	CDF_CHAR	“L1>Level 1”
LINK_TEXT	1	CDF_CHAR	
LINK_TITLE	1	CDF_CHAR	
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”
Mission_group	1	CDF_CHAR	“Solar Orbiter”
MODS	1	CDF_CHAR	“January 2016 : initial release”
PACKET_CATEGORY	1	CDF_CHAR	“12”
PACKET_PID	1	CDF_CHAR	“77”
PACKET_SERVICE_SUBTYPE	1	CDF_CHAR	“6”
PACKET_SERVICE_TYPE	1	CDF_CHAR	“21”
PACKET_SID	1	CDF_CHAR	“67”
PACKET_SRDB_ID	1	CDF_CHAR	

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 169

Tab. 4.24 – 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	“RPW>Radio and Plasma Waves instrument”
Provider	1	CDF_CHAR	
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00075-LES
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
Skeleton_version	1	CDF_CHAR	1
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	“SOLO>Solar Orbiter”
SPECTRAL_RANGE_MAX	1	CDF_DOUBLE	0.0
SPECTRAL_RANGE_MIN	1	CDF_DOUBLE	0.0
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_DOUBLE	0.0
TIME_MIN	1	CDF_DOUBLE	0.0
Validate	1	CDF_CHAR	



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **170**


4.1.2.12.4 zVariables

Variable Name	Data Type	Number Elements	Dims	Sizes	Record Variance	Dimension Variances
Epoch	CDF_TIME_TT2000	1	0		T	
ACQUISITION_TIME	CDF_UINT4	1	1	2	T	T
TIME_SYNCHRO_FLAG	CDF_UINT1	1	0		T	
POST_GAP_FLAG	CDF_UINT1	1	0		T	
QUALITY_FLAG	CDF_UINT1	1	0		T	
QUALITY_BITMASK	CDF_UINT1	1	0		T	
SURVEY_MODE	CDF_UINT1	1	0		T	
BIA_STATUS_INFO	CDF_UINT1	1	1	6	T	T
LF_DATA_ARTEFACTS	CDF_UINT1	1	1	16	T	T
ACQUISITION_TIME_UNITS	CDF_CHAR	16	1	2	F	T
ACQUISITION_TIME_LABEL	CDF_CHAR	32	1	2	F	T
INPUT_CONFIG	CDF_UINT1	1	1	6	T	T
SM_SRCLLEN	CDF_UINT1	1	0		T	
SM_TYPE	CDF_UINT1	1	0		T	
SM_FREQ_NR	CDF_UINT2	1	0		T	
SM_FREQ_AXIS	CDF_UINT1	1	0		T	
CROSS_RE	CDF_INT1	1	2	10 200	T	T T
CROSS_IM	CDF_INT1	1	2	10 200	T	T T
CHANNEL_LABEL	CDF_CHAR	8	1	6	F	T

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

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 171

Tab. 4.25 – 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	RPW TDS clock
Epoch	REFERENCE_POS	CDF_CHAR	Solar Orbiter
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file
Epoch	UCD	CDF_CHAR	time.epoch
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
ACQUISITION_TIME	FORMAT	CDF_CHAR	E12.2
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 TDS 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	UCD	CDF_CHAR	time.epoch
TIME_SYNCHRO_FLAG	FIELDNAM	CDF_CHAR	Time synchronisation flag

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **172**

Tab. 4.25 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
TIME_SYNCHRO_FLAG	CATDESC	CDF_CHAR	Time synchronisation flag
TIME_SYNCHRO_FLAG	DEPEND_0	CDF_CHAR	Epoch
TIME_SYNCHRO_FLAG	VALIDMIN	CDF_UINT1	0
TIME_SYNCHRO_FLAG	VALIDMAX	CDF_UINT1	1
TIME_SYNCHRO_FLAG	SCALEMIN	CDF_UINT1	0
TIME_SYNCHRO_FLAG	SCALEMAX	CDF_UINT1	1
TIME_SYNCHRO_FLAG	FILLVAL	CDF_UINT1	255
TIME_SYNCHRO_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
TIME_SYNCHRO_FLAG	FORMAT	CDF_CHAR	I3.3
TIME_SYNCHRO_FLAG	LABLAXIS	CDF_CHAR	time sync. flag
TIME_SYNCHRO_FLAG	UNITS	CDF_CHAR	
TIME_SYNCHRO_FLAG	VAR_TYPE	CDF_CHAR	support_data
TIME_SYNCHRO_FLAG	SCALETYP	CDF_CHAR	linear
TIME_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.
TIME_SYNCHRO_FLAG	UCD	CDF_CHAR	meta.code
POST_GAP_FLAG	FIELDNAM	CDF_CHAR	POST_GAP_FLAG
POST_GAP_FLAG	CATDESC	CDF_CHAR	Post gap flag
POST_GAP_FLAG	DEPEND_0	CDF_CHAR	Epoch
POST_GAP_FLAG	VALIDMIN	CDF_UINT1	0
POST_GAP_FLAG	VALIDMAX	CDF_UINT1	255
POST_GAP_FLAG	SCALEMIN	CDF_UINT1	0
POST_GAP_FLAG	SCALEMAX	CDF_UINT1	255
POST_GAP_FLAG	FILLVAL	CDF_UINT1	255
POST_GAP_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
POST_GAP_FLAG	FORMAT	CDF_CHAR	I3.3
POST_GAP_FLAG	LABLAXIS	CDF_CHAR	Post gap flag
POST_GAP_FLAG	UNITS	CDF_CHAR	
POST_GAP_FLAG	VAR_TYPE	CDF_CHAR	support_data
POST_GAP_FLAG	SCALETYP	CDF_CHAR	linear
POST_GAP_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the reason why there is gap in the data preceding the current record. If no gap then POST_GAP_FLAG=0.

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **173**

Tab. 4.25 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
POST_GAP_FLAG	UCD	CDF_CHAR	meta.code
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	FORMAT	CDF_CHAR	I3.3
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	UCD	CDF_CHAR	meta.code
SURVEY_MODE	FIELDNAM	CDF_CHAR	SURVEY_MODE
SURVEY_MODE	CATDESC	CDF_CHAR	TDS survey mode
SURVEY_MODE	DEPEND_0	CDF_CHAR	Epoch
SURVEY_MODE	VALIDMIN	CDF_UINT1	0
SURVEY_MODE	VALIDMAX	CDF_UINT1	1

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **174**

Tab. 4.25 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SURVEY_MODE	SCALEMIN	CDF_UINT1	0
SURVEY_MODE	SCALEMAX	CDF_UINT1	1
SURVEY_MODE	FILLVAL	CDF_UINT1	255
SURVEY_MODE	DISPLAY_TYPE	CDF_CHAR	time_series
SURVEY_MODE	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
BIA_STATUS_INFO	FIELDNAM	CDF_CHAR	BIA_STATUS_INFO
BIA_STATUS_INFO	CATDESC	CDF_CHAR	BIAS status byte
BIA_STATUS_INFO	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
BIA_STATUS_INFO	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
LF_DATA_ARTEFACTS	FIELDNAM	CDF_CHAR	LF_DATA_ARTEFACTS
LF_DATA_ARTEFACTS	CATDESC	CDF_CHAR	Bitmask of data artefacts (overflows etc)
LF_DATA_ARTEFACTS	DEPEND_0	CDF_CHAR	Epoch
LF_DATA_ARTEFACTS	VALIDMIN	CDF_UINT2	0
LF_DATA_ARTEFACTS	VALIDMAX	CDF_UINT2	1
LF_DATA_ARTEFACTS	SCALEMIN	CDF_UINT2	0
LF_DATA_ARTEFACTS	SCALEMAX	CDF_UINT2	1
LF_DATA_ARTEFACTS	FILLVAL	CDF_UINT2	255
LF_DATA_ARTEFACTS	DISPLAY_TYPE	CDF_CHAR	time_series
LF_DATA_ARTEFACTS	FORMAT	CDF_CHAR	I1

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

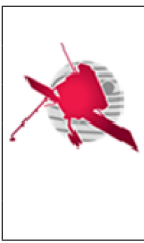
Date: January 18, 2019

Page: **175**

Tab. 4.25 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
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	UCD	CDF_CHAR	meta.code
ACQUISITION_TIME_LABEL	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME_LABEL	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME
ACQUISITION_TIME_LABEL	EORMAT	CDF_CHAR	A32
ACQUISITION_TIME_LABEL	VAR_TYPE	CDF_CHAR	metadata
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	FORMAT	CDF_CHAR	A16
ACQUISITION_TIME_UNITS	VAR_TYPE	CDF_CHAR	metadata
INPUT_CONFIG	FIELDNAM	CDF_CHAR	INPUT_CONFIG
INPUT_CONFIG	CATDESC	CDF_CHAR	Bitmask of TDS analog input configuration
INPUT_CONFIG	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
INPUT_CONFIG	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
SM_SRCLLEN	FIELDNAM	CDF_CHAR	SM_SRCLLEN
SM_SRCLLEN	CATDESC	CDF_CHAR	Length of the snapshot in samples
SM_SRCLLEN	DEPEND_0	CDF_CHAR	Epoch
SM_SRCLLEN	VALIDMIN	CDF_UINT1	0
SM_SRCLLEN	VALIDMAX	CDF_UINT1	3

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **176**

Tab. 4.25 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SM_SRCLEN	SCALEMIN	CDF_UINT1	0
SM_SRCLEN	SCALEMAX	CDF_UINT1	3
SM_SRCLEN	FILLVAL	CDF_UINT1	255
SM_SRCLEN	DISPLAY_TYPE	CDF_CHAR	time_series
SM_SRCLEN	FORMAT	CDF_CHAR	I1.1
SM_SRCLEN	LABLAXIS	CDF_CHAR	
SM_SRCLEN	UNITS	CDF_CHAR	
SM_SRCLEN	VAR_TYPE	CDF_CHAR	data
SM_SRCLEN	SCALETYP	CDF_CHAR	linear
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	UCD	CDF_CHAR	meta.code
SM_TYPE	FIELDNAM	CDF_CHAR	SM_TYPE
SM_TYPE	CATDESC	CDF_CHAR	Status of signal channels in the snapshot
SM_TYPE	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
SM_TYPE	FORMAT	CDF_CHAR	I1.1
SM_TYPE	LABL_PTR_1	CDF_CHAR	CHANNEL_LABEL
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	UCD	CDF_CHAR	meta.code
SM_FREQ_NR	FIELDNAM	CDF_CHAR	SM_FREQ_NR
SM_FREQ_NR	CATDESC	CDF_CHAR	Number of frequency bins
SM_FREQ_NR	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00


Date: January 18, 2019

Page: **177**

Tab. 4.25 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SM_FREQ_NR	FORMAT	CDF_CHAR	I3.3
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	UCD	CDF_CHAR	meta.code
SM_FREQ_AXIS	FIELDNAM	CDF_CHAR	SM_FREQ_AXIS
SM_FREQ_AXIS	CATDESC	CDF_CHAR	Index of the frequency axis
SM_FREQ_AXIS	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
SM_FREQ_AXIS	FORMAT	CDF_CHAR	I3.3
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	UCD	CDF_CHAR	meta.code
CROSS_RE	FIELDNAM	CDF_CHAR	CROSS_RE
CROSS_RE	CATDESC	CDF_CHAR	Real part of complex cross correlations from the EM data
CROSS_RE	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
CROSS_RE	FORMAT	CDF_CHAR	
CROSS_RE	LABLAXIS	CDF_CHAR	
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.

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 178

Tab. 4.25 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
CROSS_RE	UCD	CDF_CHAR	
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
CROSS_IM	FORMAT	CDF_CHAR	
CROSS_IM	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
CHANNEL_LABEL	FIELDNAM	CDF_CHAR	CHANNEL_LABEL
CHANNEL_LABEL	CATDESC	CDF_CHAR	Label for CHANNEL_INFO_STATUS
CHANNEL_LABEL	FORMAT	CDF_CHAR	A8
CHANNEL_LABEL	VAR_TYPE	CDF_CHAR	metadata

4.1.2.12.6 Non-Record-Variant (NRV) Variables

Variable Name	Index	Value
ACQUISITION_TIME_LABEL	1	CUC coarse part time
ACQUISITION_TIME_LABEL	2	CUC fine part time
ACQUISITION_TIME_UNITS	1	s
ACQUISITION_TIME_UNITS	2	s / 65536
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
00

Date: January 18, 2019

Page: **179**

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.

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 TDS LFM PSD every TBD seconds

Expected data volume: TBD 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 RPW Operation Centre (ROC) and Solar Orbiter/RPW teams for access to data.”
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009
CAVEAT	1	CDF_CHAR	
Data_type	1	CDF_CHAR	“H0>High Resolution data”
Data_version	1	CDF_CHAR	
DATASET_ID	1	CDF_CHAR	SOLO_L1_RPW-TDS-LFM-PSD
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_Test_Date”
FILE_UUID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	


Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 180

Tab. 4.26 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	
IDB_version	1	CDF_CHAR	
Instrument_type	1	CDF_CHAR	“Radio and Plasma Waves (space)”
Level	1	CDF_CHAR	“L1>Level 1”
LINK_TEXT	1	CDF_CHAR	
LINK_TITLE	1	CDF_CHAR	
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”
Mission_group	1	CDF_CHAR	“Solar Orbiter”
MODS	1	CDF_CHAR	“January 2016 : initial release”
PACKET_CATEGORY	1	CDF_CHAR	“12”
PACKET_PID	1	CDF_CHAR	“77”
PACKET_SERVICE_SUBTYPE	1	CDF_CHAR	“6”
PACKET_SERVICE_TYPE	1	CDF_CHAR	“21”
PACKET_SID	1	CDF_CHAR	“66”
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	“RPW>Radio and Plasma Waves instrument”
Provider	1	CDF_CHAR	
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00075-LES
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

Continued on next page


	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 181

Tab. 4.26 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Skeleton_version	1	CDF_CHAR	1
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	“SOLO>Solar Orbiter”
SPECTRAL_RANGE_MAX	1	CDF_DOUBLE	0.0
SPECTRAL_RANGE_MIN	1	CDF_DOUBLE	0.0
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_DOUBLE	0.0
TIME_MIN	1	CDF_DOUBLE	0.0
Validate	1	CDF_CHAR	

4.1.2.13.4 zVariables

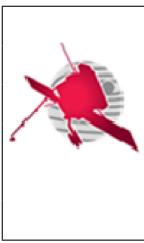
Variable Name	Data Type	Number Elements	Dims	Sizes	Record Variance	Dimension Variances
Epoch	CDF_TIME_TT2000	1	0		T	
ACQUISITION_TIME	CDF_UINT4	1	1	2	T	T
TIME_SYNCHRO_FLAG	CDF_UINT1	1	0		T	
POST_GAP_FLAG	CDF_UINT1	1	0		T	
QUALITY_FLAG	CDF_UINT1	1	0		T	
QUALITY_BITMASK	CDF_UINT1	1	0		T	
SURVEY_MODE	CDF_UINT1	1	0		T	
BIA_STATUS_INFO	CDF_UINT1	1	1	6	T	T
LF_DATA_ARTEFACTS	CDF_UINT1	1	1	16	T	T
INPUT_CONFIG	CDF_UINT1	1	1	6	T	T
ACQUISITION_TIME_UNITS	CDF_CHAR	16	1	2	F	T
ACQUISITION_TIME_LABEL	CDF_CHAR	32	1	2	F	T
PSD_SRCLLEN	CDF_UINT1	1	0		T	
CHANNEL_STATUS_INFO	CDF_UINT1	1	1	6	T	T
PSD_FREQ_AXIS	CDF_UINT1	1	0		T	
PSD_FREQ_NR	CDF_UINT2	1	0		T	
PSD_DATA	CDF_UINT2	1	2	6 200	T	T T
CHANNEL_LABEL	CDF_CHAR	8	1	6	F	T

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 182

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
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	RPW TDS clock
Epoch	REFERENCE_POS	CDF_CHAR	Solar Orbiter
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file
Epoch	UCD	CDF_CHAR	time.epoch
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
ACQUISITION_TIME	FORMAT	CDF_CHAR	E12.2
ACQUISITION_TIME	LABLAXIS	CDF_CHAR	TDS acquisition time
ACQUISITION_TIME	UNITS	CDF_CHAR	s

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **183**

Tab. 4.27 – 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 TDS 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	UCD	CDF_CHAR	time.epoch
TIME_SYNCHRO_FLAG	FIELDNAM	CDF_CHAR	Time synchronisation flag
TIME_SYNCHRO_FLAG	CATDESC	CDF_CHAR	Time synchronisation flag
TIME_SYNCHRO_FLAG	DEPEND_0	CDF_CHAR	Epoch
TIME_SYNCHRO_FLAG	VALIDMIN	CDF_UINT1	0
TIME_SYNCHRO_FLAG	VALIDMAX	CDF_UINT1	1
TIME_SYNCHRO_FLAG	SCALEMIN	CDF_UINT1	0
TIME_SYNCHRO_FLAG	SCALEMAX	CDF_UINT1	1
TIME_SYNCHRO_FLAG	FILLVAL	CDF_UINT1	255
TIME_SYNCHRO_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
TIME_SYNCHRO_FLAG	FORMAT	CDF_CHAR	I3.3
TIME_SYNCHRO_FLAG	LABLAXIS	CDF_CHAR	time sync. flag
TIME_SYNCHRO_FLAG	UNITS	CDF_CHAR	
TIME_SYNCHRO_FLAG	VAR_TYPE	CDF_CHAR	support_data
TIME_SYNCHRO_FLAG	SCALETYP	CDF_CHAR	linear
TIME_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.
TIME_SYNCHRO_FLAG	UCD	CDF_CHAR	meta.code
POST_GAP_FLAG	FIELDNAM	CDF_CHAR	POST_GAP_FLAG
POST_GAP_FLAG	CATDESC	CDF_CHAR	Post gap flag
POST_GAP_FLAG	DEPEND_0	CDF_CHAR	Epoch
POST_GAP_FLAG	VALIDMIN	CDF_UINT1	0
POST_GAP_FLAG	VALIDMAX	CDF_UINT1	255
POST_GAP_FLAG	SCALEMIN	CDF_UINT1	0
POST_GAP_FLAG	SCALEMAX	CDF_UINT1	255

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **184**

Tab. 4.27 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
POST_GAP_FLAG	FILLVAL	CDF_UINT1	255
POST_GAP_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
POST_GAP_FLAG	FORMAT	CDF_CHAR	I3.3
POST_GAP_FLAG	LABLAXIS	CDF_CHAR	Post gap flag
POST_GAP_FLAG	UNITS	CDF_CHAR	
POST_GAP_FLAG	VAR_TYPE	CDF_CHAR	support_data
POST_GAP_FLAG	SCALETYP	CDF_CHAR	linear
POST_GAP_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the reason why there is gap in the data preceding the current record. If no gap then POST_GAP_FLAG=0.
POST_GAP_FLAG	UCD	CDF_CHAR	meta.code
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	FORMAT	CDF_CHAR	I3.3
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Bitmask flag

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **185**

Tab. 4.27 – 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	UCD	CDF_CHAR	meta.code
SURVEY_MODE	FIELDNAM	CDF_CHAR	SURVEY_MODE
SURVEY_MODE	CATDESC	CDF_CHAR	TDS survey mode
SURVEY_MODE	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
SURVEY_MODE	FORMAT	CDF_CHAR	II.1
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	UCD	CDF_CHAR	meta.code
BIA_STATUS_INFO	FIELDNAM	CDF_CHAR	BIA_STATUS_INFO
BIA_STATUS_INFO	CATDESC	CDF_CHAR	BIAS status byte
BIA_STATUS_INFO	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
BIA_STATUS_INFO	FORMAT	CDF_CHAR	II.1
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

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **186**

Tab. 4.27 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIA_STATUS_INFO	UCD	CDF_CHAR	meta.code
LF_DATA_ARTEFACTS	FIELDNAM	CDF_CHAR	LF_DATA_ARTEFACTS
LF_DATA_ARTEFACTS	CATDESC	CDF_CHAR	Bitmask of data artefacts (overflows etc)
LF_DATA_ARTEFACTS	DEPEND_0	CDF_CHAR	Epoch
LF_DATA_ARTEFACTS	VALIDMIN	CDF_UINT2	0
LF_DATA_ARTEFACTS	VALIDMAX	CDF_UINT2	1
LF_DATA_ARTEFACTS	SCALEMIN	CDF_UINT2	0
LF_DATA_ARTEFACTS	SCALEMAX	CDF_UINT2	1
LF_DATA_ARTEFACTS	FILLVAL	CDF_UINT2	255
LF_DATA_ARTEFACTS	DISPLAY_TYPE	CDF_CHAR	time_series
LF_DATA_ARTEFACTS	FORMAT	CDF_CHAR	I1
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	UCD	CDF_CHAR	meta.code
INPUT_CONFIG	FIELDNAM	CDF_CHAR	INPUT_CONFIG
INPUT_CONFIG	CATDESC	CDF_CHAR	Bitmask of TDS analog input configuration
INPUT_CONFIG	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
INPUT_CONFIG	FORMAT	CDF_CHAR	I1
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	UCD	CDF_CHAR	meta.code
ACQUISITION_TIME_LABEL	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME_LABEL	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME
ACQUISITION_TIME_LABEL	FORMAT	CDF_CHAR	A32
ACQUISITION_TIME_LABEL	VAR_TYPE	CDF_CHAR	metadata

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **187**

Tab. 4.27 – 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	FORMAT	CDF_CHAR	A16
ACQUISITION_TIME_UNITS	VAR_TYPE	CDF_CHAR	metadata
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
CHANNEL_STATUS_INFO	FORMAT	CDF_CHAR	I6.5
CHANNEL_STATUS_INFO	LABL_PTR_1	CDF_CHAR	CHANNEL_LABEL
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	UCD	CDF_CHAR	meta.code
PSD_SRCLLEN	FIELDNAM	CDF_CHAR	PSD_SRCLLEN
PSD_SRCLLEN	CATDESC	CDF_CHAR	Length of the snapshot in samples
PSD_SRCLLEN	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
PSD_SRCLLEN	FORMAT	CDF_CHAR	I1.1
PSD_SRCLLEN	LABLAXIS	CDF_CHAR	
PSD_SRCLLEN	UNITS	CDF_CHAR	
PSD_SRCLLEN	VAR_TYPE	CDF_CHAR	data
PSD_SRCLLEN	SCALETYP	CDF_CHAR	linear

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00


Date: January 18, 2019

Page: **188**

Tab. 4.27 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
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	UCD	CDF_CHAR	meta.code
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
PSD_FREQ_AXIS	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	meta.code
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
PSD_FREQ_NR	FORMAT	CDF_CHAR	I6.5
PSD_FREQ_NR	LABLAXIS	CDF_CHAR	
PSD_FREQ_NR	UNITS	CDF_CHAR	
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	UCD	CDF_CHAR	meta.code
PSD_DATA	FIELDNAM	CDF_CHAR	PSD_DATA
PSD_DATA	CATDESC	CDF_CHAR	Auto spectral PSD values
PSD_DATA	DEPEND_0	CDF_CHAR	Epoch

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 189

Tab. 4.27 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
PSD_DATA	VALIDMIN	CDF_INT2	0
PSD_DATA	VALIDMAX	CDF_INT2	65534
PSD_DATA	SCALEMIN	CDF_INT2	0
PSD_DATA	SCALEMAX	CDF_INT2	65534
PSD_DATA	FILLVAL	CDF_INT2	65535
PSD_DATA	DISPLAY_TYPE	CDF_CHAR	time_series
PSD_DATA	FORMAT	CDF_CHAR	I6.5
PSD_DATA	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
CHANNEL_LABEL	FIELDNAM	CDF_CHAR	CHANNEL_LABEL
CHANNEL_LABEL	CATDESC	CDF_CHAR	Label for CHANNEL_INFO_STATUS
CHANNEL_LABEL	FORMAT	CDF_CHAR	A8
CHANNEL_LABEL	VAR_TYPE	CDF_CHAR	metadata

4.1.2.13.6 Non-Record-Variant (NRV) Variables

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

4.1.2.14 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.



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **190**

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 TDS SBM1 RSWF every TBD seconds

Expected data volume: TBD MB per TDS SBM1 RSWF 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 RPW Operation Centre (ROC) and Solar Orbiter/RPW teams for access to data.”
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009
CAVEAT	1	CDF_CHAR	
Data_type	1	CDF_CHAR	“H0>High Resolution data”
Data_version	1	CDF_CHAR	
DATASET_ID	1	CDF_CHAR	SOLO_L1_RPW-TDS-SBM1-RSWF
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_DateTime1- Date2”
FILE_UUID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	
IDB_version	1	CDF_CHAR	
Instrument_type	1	CDF_CHAR	“Radio and Plasma Waves (space)”
Level	1	CDF_CHAR	“L1>Level 1”
LINK_TEXT	1	CDF_CHAR	


Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 191

Tab. 4.28 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
LINK_TITLE	1	CDF_CHAR	
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”
MODS	1	CDF_CHAR	“July 2016 : data organization by snapshots, time vector added”
PACKET_CATEGORY	1	CDF_CHAR	“12”
PACKET_PID	1	CDF_CHAR	“80”
PACKET_SERVICE_SUBTYPE	1	CDF_CHAR	“6”
PACKET_SERVICE_TYPE	1	CDF_CHAR	“21”
PACKET_SID	1	CDF_CHAR	“58”
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	“RPW>Radio and Plasma Waves instrument”
Provider	1	CDF_CHAR	
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00075-LES
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
Skeleton_version	1	CDF_CHAR	1
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	“SOLO>Solar Orbiter”
SPECTRAL_RANGE_MAX	1	CDF_DOUBLE	0.0

Continued on next page


	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 192

Tab. 4.28 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
SPECTRAL_RANGE_MIN	1	CDF_DOUBLE	0.0
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_DOUBLE	0.0
TIME_MIN	1	CDF_DOUBLE	0.0
Validate	1	CDF_CHAR	

4.1.2.14.4 zVariables

Variable Name	Data Type	Number Elements	Dims	Sizes	Record Variance	Dimension Variances
Epoch	CDF_TIME_TT2000	1	0		T	
ACQUISITION_TIME	CDF_UINT4	1	1	2	T	T
TIME_SYNCHRO_FLAG	CDF_UINT1	1	0		T	
POST_GAP_FLAG	CDF_UINT1	1	0		T	
QUALITY_FLAG	CDF_UINT1	1	0		T	
QUALITY_BITMASK	CDF_UINT1	1	0		T	
SURVEY_MODE	CDF_UINT1	1	0		T	
BIA_STATUS_INFO	CDF_UINT1	1	1	6	T	T
SAMPLING_RATE	CDF_FLOAT	1	0		T	
HF_DATA_ARTEFACTS	CDF_UINT1	1	1	5	T	T
FILTER_COEFS	CDF_UINT1	1	0		T	
RPW_STATUS_INFO	CDF_UINT1	1	1	8	T	T
INPUT_CONFIG	CDF_UINT4	1	0		T	
SNAPSHOT_SEQ_NR	CDF_UINT2	1	0		T	
ACQUISITION_TIME_UNITS	CDF_CHAR	16	1	2	F	T
ACQUISITION_TIME_LABEL	CDF_CHAR	32	1	2	F	T
CHANNEL_STATUS_INFO	CDF_UINT1	1	1	4	T	T
QUALITY_FACT	CDF_UINT2	1	0		T	
DOWNLINK_INFO	CDF_UINT1	1	1	2	T	T
SAMPS_PER_CH	CDF_UINT4	1	0		T	
SAMP_DTIME	CDF_UINT4	1	1	65536	T	T
WAVEFORM_DATA	CDF_FLOAT	1	2	4 65536	T	T T
CHANNEL_LABEL	CDF_CHAR	8	1	4	F	T
WAVEFORM_LABEL	CDF_CHAR	16	1	4	F	T

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 193

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	RPW TDS clock
Epoch	REFERENCE_POS	CDF_CHAR	Solar Orbiter
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file
Epoch	UCD	CDF_CHAR	time.epoch
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	DEPEND_0	CDF_CHAR	Epoch
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	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

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **194**

Tab. 4.29 – 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 TDS 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	UCD	CDF_CHAR	time.epoch
TIME_SYNCHRO_FLAG	FIELDNAM	CDF_CHAR	Time synchronisation flag
TIME_SYNCHRO_FLAG	CATDESC	CDF_CHAR	Time synchronisation flag
TIME_SYNCHRO_FLAG	DEPEND_0	CDF_CHAR	Epoch
TIME_SYNCHRO_FLAG	VALIDMIN	CDF_UINT1	0
TIME_SYNCHRO_FLAG	VALIDMAX	CDF_UINT1	1
TIME_SYNCHRO_FLAG	SCALEMIN	CDF_UINT1	0
TIME_SYNCHRO_FLAG	SCALEMAX	CDF_UINT1	1
TIME_SYNCHRO_FLAG	FILLVAL	CDF_UINT1	255
TIME_SYNCHRO_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
TIME_SYNCHRO_FLAG	FORMAT	CDF_CHAR	I3.3
TIME_SYNCHRO_FLAG	LABLAXIS	CDF_CHAR	time sync. flag
TIME_SYNCHRO_FLAG	UNITS	CDF_CHAR	
TIME_SYNCHRO_FLAG	VAR_TYPE	CDF_CHAR	support_data
TIME_SYNCHRO_FLAG	SCALETYP	CDF_CHAR	linear
TIME_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.
TIME_SYNCHRO_FLAG	UCD	CDF_CHAR	meta.code
POST_GAP_FLAG	FIELDNAM	CDF_CHAR	POST_GAP_FLAG
POST_GAP_FLAG	CATDESC	CDF_CHAR	Post gap flag
POST_GAP_FLAG	DEPEND_0	CDF_CHAR	Epoch
POST_GAP_FLAG	VALIDMIN	CDF_UINT1	0
POST_GAP_FLAG	VALIDMAX	CDF_UINT1	255
POST_GAP_FLAG	SCALEMIN	CDF_UINT1	0
POST_GAP_FLAG	SCALEMAX	CDF_UINT1	255

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **195**

Tab. 4.29 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
POST_GAP_FLAG	FILLVAL	CDF_UINT1	255
POST_GAP_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
POST_GAP_FLAG	FORMAT	CDF_CHAR	I3.3
POST_GAP_FLAG	LABLAXIS	CDF_CHAR	Post gap flag
POST_GAP_FLAG	UNITS	CDF_CHAR	
POST_GAP_FLAG	VAR_TYPE	CDF_CHAR	support_data
POST_GAP_FLAG	SCALETYP	CDF_CHAR	linear
POST_GAP_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the reason why there is gap in the data preceding the current record. If no gap then POST_GAP_FLAG=0.
POST_GAP_FLAG	UCD	CDF_CHAR	meta.code
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	FORMAT	CDF_CHAR	I3.3
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Bitmask flag

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00


Date: January 18, 2019

Page: **196**

Tab. 4.29 – 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	UCD	CDF_CHAR	meta.code
SURVEY_MODE	FIELDNAM	CDF_CHAR	SURVEY_MODE
SURVEY_MODE	CATDESC	CDF_CHAR	TDS HF survey mode
SURVEY_MODE	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
SURVEY_MODE	FORMAT	CDF_CHAR	II.1
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	UCD	CDF_CHAR	meta.code
BIA_STATUS_INFO	FIELDNAM	CDF_CHAR	BIA_STATUS_INFO
BIA_STATUS_INFO	CATDESC	CDF_CHAR	BIAS status byte
BIA_STATUS_INFO	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
BIA_STATUS_INFO	FORMAT	CDF_CHAR	II.1
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

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 197

Tab. 4.29 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIA_STATUS_INFO	UCD	CDF_CHAR	meta.code
SAMPLING_RATE	FIELDNAM	CDF_CHAR	SAMPLING_RATE
SAMPLING_RATE	CATDESC	CDF_CHAR	TDS sampling rate
SAMPLING_RATE	DEPEND_0	CDF_CHAR	Epoch
SAMPLING_RATE	VALIDMIN	CDF_FLOAT	1.0e30
SAMPLING_RATE	VALIDMAX	CDF_FLOAT	-1.0e30
SAMPLING_RATE	SCALEMIN	CDF_FLOAT	1.0e30
SAMPLING_RATE	SCALEMAX	CDF_FLOAT	-1.0e30
SAMPLING_RATE	FILLVAL	CDF_FLOAT	-1.0Ee31
SAMPLING_RATE	DISPLAY_TYPE	CDF_CHAR	time_series
SAMPLING_RATE	FORMAT	CDF_CHAR	F8.3
SAMPLING_RATE	LABLAXIS	CDF_CHAR	Sampling rate code
SAMPLING_RATE	UNITS	CDF_CHAR	kHz
SAMPLING_RATE	VAR_TYPE	CDF_CHAR	data
SAMPLING_RATE	SCALETYP	CDF_CHAR	linear
SAMPLING_RATE	VAR_NOTES	CDF_CHAR	TDS sampling rate
SAMPLING_RATE	UCD	CDF_CHAR	meta.code
HF_DATA_ARTEFACTS	FIELDNAM	CDF_CHAR	HF_DATA_ARTEFACTS
HF_DATA_ARTEFACTS	CATDESC	CDF_CHAR	Bitmask of data artefacts (overflows etc)
HF_DATA_ARTEFACTS	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
HF_DATA_ARTEFACTS	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
FILTER_COEFS	FIELDNAM	CDF_CHAR	FILTER_COEFS
FILTER_COEFS	CATDESC	CDF_CHAR	Index of filter coefficients used
FILTER_COEFS	DEPEND_0	CDF_CHAR	Epoch
FILTER_COEFS	VALIDMIN	CDF_UINT1	0
FILTER_COEFS	VALIDMAX	CDF_UINT1	4

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **198**

Tab. 4.29 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
FILTER_COEFS	SCALEMIN	CDF_UINT1	0
FILTER_COEFS	SCALEMAX	CDF_UINT1	1
FILTER_COEFS	FILLVAL	CDF_UINT1	255
FILTER_COEFS	DISPLAY_TYPE	CDF_CHAR	time_series
FILTER_COEFS	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
RPW_STATUS_INFO	FIELDNAM	CDF_CHAR	RPW_STATUS_INFO
RPW_STATUS_INFO	CATDESC	CDF_CHAR	RPW status
RPW_STATUS_INFO	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
RPW_STATUS_INFO	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
INPUT_CONFIG	FIELDNAM	CDF_CHAR	INPUT_CONFIG
INPUT_CONFIG	CATDESC	CDF_CHAR	Bitmask of TDS analog input configuration
INPUT_CONFIG	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
INPUT_CONFIG	FORMAT	CDF_CHAR	I10
INPUT_CONFIG	LABLAXIS	CDF_CHAR	TDS input config.

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **199**

Tab. 4.29 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
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	UCD	CDF_CHAR	meta.code
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
SNAPSHOT_SEQ_NR	FORMAT	CDF_CHAR	I6.5
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	UCD	CDF_CHAR	meta.code
ACQUISITION_TIME_LABEL	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME_LABEL	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME
ACQUISITION_TIME_LABEL	FORMAT	CDF_CHAR	A32
ACQUISITION_TIME_LABEL	VAR_TYPE	CDF_CHAR	metadata
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	FORMAT	CDF_CHAR	A16
ACQUISITION_TIME_UNITS	VAR_TYPE	CDF_CHAR	metadata
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	DEPEND_0	CDF_CHAR	Epoch
CHANNEL_STATUS_INFO	VALIDMIN	CDF_UINT1	0

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00


Date: January 18, 2019

Page: **200**

Tab. 4.29 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
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	DISPLAY_TYPE	CDF_CHAR	time_series
CHANNEL_STATUS_INFO	FORMAT	CDF_CHAR	I1
CHANNEL_STATUS_INFO	LABL_PTR_1	CDF_CHAR	CHANNEL_LABEL
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	UCD	CDF_CHAR	meta.code
QUALITY_FACT	FIELDNAM	CDF_CHAR	QUALITY_FACT
QUALITY_FACT	CATDESC	CDF_CHAR	Quality factor of the packet
QUALITY_FACT	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FACT	FORMAT	CDF_CHAR	I6.5
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	UCD	CDF_CHAR	meta.code
DOWNLINK_INFO	FIELDNAM	CDF_CHAR	DOWNLINK_INFO
DOWNLINK_INFO	CATDESC	CDF_CHAR	Quality factor of the packet
DOWNLINK_INFO	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
DOWNLINK_INFO	FORMAT	CDF_CHAR	I6.5
DOWNLINK_INFO	LABLAXIS	CDF_CHAR	DOWNLINK_INFO


Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 201

Tab. 4.29 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
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	UCD	CDF_CHAR	meta.code
SAMPS_PER_CH	FIELDNAM	CDF_CHAR	SAMPS_PER_CH
SAMPS_PER_CH	CATDESC	CDF_CHAR	Number of samples per channel
SAMPS_PER_CH	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
SAMPS_PER_CH	FORMAT	CDF_CHAR	I10
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	UCD	CDF_CHAR	
SAMP_DTIME	FIELDNAM	CDF_CHAR	SAMP_DTIME
SAMP_DTIME	CATDESC	CDF_CHAR	Delta time of the sample
SAMP_DTIME	DEPEND_0	CDF_CHAR	Epoch
SAMP_DTIME	VALIDMIN	CDF_UINT4	0
SAMP_DTIME	VALIDMAX	CDF_UINT4	4294967294
SAMP_DTIME	SCALEMIN	CDF_UINT4	0
SAMP_DTIME	SCALEMAX	CDF_UINT4	4294967294
SAMP_DTIME	FILLVAL	CDF_UINT4	4294967295
SAMP_DTIME	DISPLAY_TYPE	CDF_CHAR	time_series
SAMP_DTIME	FORMAT	CDF_CHAR	I10
SAMP_DTIME	LABLAXIS	CDF_CHAR	Delta time
SAMP_DTIME	UNITS	CDF_CHAR	ns
SAMP_DTIME	VAR_TYPE	CDF_CHAR	support_data
SAMP_DTIME	SCALETYP	CDF_CHAR	linear

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 202

Tab. 4.29 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SAMP_DTIME	VAR_NOTES	CDF_CHAR	Delta time of the sample in ns from Epoch
SAMP_DTIME	UCD	CDF_CHAR	
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	DEPEND_0	CDF_CHAR	Epoch
WAVEFORM_DATA	VALIDMIN	CDF_FLOAT	-1.0e30
WAVEFORM_DATA	VALIDMAX	CDF_FLOAT	1.0e30
WAVEFORM_DATA	SCALEMIN	CDF_FLOAT	-1.0e30
WAVEFORM_DATA	SCALEMAX	CDF_FLOAT	1.0e30
WAVEFORM_DATA	FILLVAL	CDF_FLOAT	-1.0e31
WAVEFORM_DATA	DISPLAY_TYPE	CDF_CHAR	time_series
WAVEFORM_DATA	FORMAT	CDF_CHAR	I6.5
WAVEFORM_DATA	LABL_PTR_1	CDF_CHAR	WAVEFORM_LABEL
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	UCD	CDF_CHAR	
CHANNEL_LABEL	FIELDNAM	CDF_CHAR	CHANNEL_LABEL
CHANNEL_LABEL	CATDESC	CDF_CHAR	Label for CHANNEL_INFO_STATUS
CHANNEL_LABEL	FORMAT	CDF_CHAR	A8
CHANNEL_LABEL	VAR_TYPE	CDF_CHAR	metadata
WAVEFORM_LABEL	FIELDNAM	CDF_CHAR	WAVEFORM_LABEL
WAVEFORM_LABEL	CATDESC	CDF_CHAR	Label for WAVEFORM_DATA
WAVEFORM_LABEL	FORMAT	CDF_CHAR	A16
WAVEFORM_LABEL	VAR_TYPE	CDF_CHAR	metadata



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **203**

4.1.2.14.6 Non-Record-Variant (NRV) Variables

Variable Name	Index	Value
ACQUISITION_TIME_LABEL	1	CUC coarse part time
ACQUISITION_TIME_LABEL	2	CUC fine part time
ACQUISITION_TIME_UNITS	1	s
ACQUISITION_TIME_UNITS	2	s / 65536
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 TDS SBM2 TSWF every TBD seconds

Expected data volume: TBD MB per TDS SBM2 TSWF file

4.1.2.15.3 Global Attributes



RPW Data Product Description Document

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

Issue
01


Revision
00

Date: January 18, 2019

Page: **204**

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 RPW Operation Centre (ROC) and Solar Orbiter/RPW teams for access to data.”
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009
CAVEAT	1	CDF_CHAR	
Data_type	1	CDF_CHAR	“H0>High Resolution data”
Data_version	1	CDF_CHAR	
DATASET_ID	1	CDF_CHAR	SOLO_L1_RPW-TDS-SBM2-TSWF
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_DateTime1-Date2”
FILE_UUID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	
IDB_version	1	CDF_CHAR	
Instrument_type	1	CDF_CHAR	“Radio and Plasma Waves (space)”
Level	1	CDF_CHAR	“L1>Level 1”
LINK_TEXT	1	CDF_CHAR	
LINK_TITLE	1	CDF_CHAR	
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”
MODS	1	CDF_CHAR	“July 2016 : data organization by snapshots, time vector added”
PACKET_CATEGORY	1	CDF_CHAR	“12”
PACKET_PID	1	CDF_CHAR	“80”
PACKET_SERVICE_SUBTYPE	1	CDF_CHAR	“6”
PACKET_SERVICE_TYPE	1	CDF_CHAR	“21”
PACKET_SID	1	CDF_CHAR	“59”
PACKET_SRDB_ID	1	CDF_CHAR	
Parent_version	1	CDF_CHAR	

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 205

Tab. 4.30 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
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	“RPW>Radio and Plasma Waves instrument”
Provider	1	CDF_CHAR	
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00075-LES
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
Skeleton_version	1	CDF_CHAR	1
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	“SOLO>Solar Orbiter”
SPECTRAL_RANGE_MAX	1	CDF_DOUBLE	0.0
SPECTRAL_RANGE_MIN	1	CDF_DOUBLE	0.0
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_DOUBLE	0.0
TIME_MIN	1	CDF_DOUBLE	0.0
Validate	1	CDF_CHAR	



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **206**


4.1.2.15.4 zVariables

Variable Name	Data Type	Number Elements	Dims	Sizes	Record Variance	Dimension Variances
Epoch	CDF_TIME_TT2000	1	0		T	
ACQUISITION_TIME	CDF_UINT4	1	1	2	T	T
TIME_SYNCHRO_FLAG	CDF_UINT1	1	0		T	
POST_GAP_FLAG	CDF_UINT1	1	0		T	
QUALITY_FLAG	CDF_UINT1	1	0		T	
QUALITY_BITMASK	CDF_UINT1	1	0		T	
SURVEY_MODE	CDF_UINT1	1	0		T	
BIA_STATUS_INFO	CDF_UINT1	1	1	6	T	T
SAMPLING_RATE	CDF_FLOAT	1	0		T	
HF_DATA_ARTEFACTS	CDF_UINT1	1	1	5	T	T
FILTER_COEFS	CDF_UINT1	1	0		T	
RPW_STATUS_INFO	CDF_UINT1	1	1	8	T	T
INPUT_CONFIG	CDF_UINT4	1	0		T	
SNAPSHOT_SEQ_NR	CDF_UINT2	1	0		T	
ACQUISITION_TIME_UNITS	CDF_CHAR	16	1	2	F	T
ACQUISITION_TIME_LABEL	CDF_CHAR	32	1	2	F	T
CHANNEL_STATUS_INFO	CDF_UINT1	1	1	4	T	T
QUALITY_FACT	CDF_UINT2	1	0		T	
DOWNLINK_INFO	CDF_UINT1	1	1	2	T	T
SAMPS_PER_CH	CDF_UINT4	1	0		T	
SAMP_DTIME	CDF_UINT4	1	1	65536	T	T
WAVEFORM_DATA	CDF_FLOAT	1	2	4 65536	T	T T
CHANNEL_LABEL	CDF_CHAR	8	1	4	F	T
WAVEFORM_LABEL	CDF_CHAR	16	1	4	F	T

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

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 207

Tab. 4.31 – 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	RPW TDS clock
Epoch	REFERENCE_POSITION	CDF_CHAR	Solar Orbiter
Epoch	VAR_NOTES	CDF_CHAR	Primary time used as a reference in the file
Epoch	UCD	CDF_CHAR	time.epoch
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	DEPEND_0	CDF_CHAR	Epoch
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	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	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 TDS clock

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **208**

Tab. 4.31 – 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	UCD	CDF_CHAR	time.epoch
TIME_SYNCHRO_FLAG	FIELDNAM	CDF_CHAR	Time synchronisation flag
TIME_SYNCHRO_FLAG	CATDESC	CDF_CHAR	Time synchronisation flag
TIME_SYNCHRO_FLAG	DEPEND_0	CDF_CHAR	Epoch
TIME_SYNCHRO_FLAG	VALIDMIN	CDF_UINT1	0
TIME_SYNCHRO_FLAG	VALIDMAX	CDF_UINT1	1
TIME_SYNCHRO_FLAG	SCALEMIN	CDF_UINT1	0
TIME_SYNCHRO_FLAG	SCALEMAX	CDF_UINT1	1
TIME_SYNCHRO_FLAG	FILLVAL	CDF_UINT1	255
TIME_SYNCHRO_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
TIME_SYNCHRO_FLAG	FORMAT	CDF_CHAR	I3.3
TIME_SYNCHRO_FLAG	LABLAXIS	CDF_CHAR	time sync. flag
TIME_SYNCHRO_FLAG	UNITS	CDF_CHAR	
TIME_SYNCHRO_FLAG	VAR_TYPE	CDF_CHAR	support_data
TIME_SYNCHRO_FLAG	SCALETYP	CDF_CHAR	linear
TIME_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.
TIME_SYNCHRO_FLAG	UCD	CDF_CHAR	meta.code
POST_GAP_FLAG	FIELDNAM	CDF_CHAR	POST_GAP_FLAG
POST_GAP_FLAG	CATDESC	CDF_CHAR	Post gap flag
POST_GAP_FLAG	DEPEND_0	CDF_CHAR	Epoch
POST_GAP_FLAG	VALIDMIN	CDF_UINT1	0
POST_GAP_FLAG	VALIDMAX	CDF_UINT1	255
POST_GAP_FLAG	SCALEMIN	CDF_UINT1	0
POST_GAP_FLAG	SCALEMAX	CDF_UINT1	255
POST_GAP_FLAG	FILLVAL	CDF_UINT1	255
POST_GAP_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
POST_GAP_FLAG	FORMAT	CDF_CHAR	I3.3
POST_GAP_FLAG	LABLAXIS	CDF_CHAR	Post gap flag
POST_GAP_FLAG	UNITS	CDF_CHAR	

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **209**

Tab. 4.31 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
POST_GAP_FLAG	VAR_TYPE	CDF_CHAR	support_data
POST_GAP_FLAG	SCALETYP	CDF_CHAR	linear
POST_GAP_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the reason why there is gap in the data preceding the current record. If no gap then POST_GAP_FLAG=0.
POST_GAP_FLAG	UCD	CDF_CHAR	meta.code
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	FORMAT	CDF_CHAR	I3.3
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

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00


Date: January 18, 2019

Page: **210**

Tab. 4.31 – 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	UCD	CDF_CHAR	meta.code
SURVEY_MODE	FIELDNAM	CDF_CHAR	SURVEY_MODE
SURVEY_MODE	CATDESC	CDF_CHAR	TDS survey mode
SURVEY_MODE	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
SURVEY_MODE	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
BIA_STATUS_INFO	FIELDNAM	CDF_CHAR	BIA_STATUS_INFO
BIA_STATUS_INFO	CATDESC	CDF_CHAR	BIAS status byte
BIA_STATUS_INFO	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
BIA_STATUS_INFO	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
SAMPLING_RATE	FIELDNAM	CDF_CHAR	SAMPLING_RATE
SAMPLING_RATE	CATDESC	CDF_CHAR	TDS sampling rate

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 211

Tab. 4.31 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SAMPLING_RATE	DEPEND_0	CDF_CHAR	Epoch
SAMPLING_RATE	VALIDMIN	CDF_FLOAT	1.0e30
SAMPLING_RATE	VALIDMAX	CDF_FLOAT	-1.0e30
SAMPLING_RATE	SCALEMIN	CDF_FLOAT	1.0e30
SAMPLING_RATE	SCALEMAX	CDF_FLOAT	-1.0e30
SAMPLING_RATE	FILLVAL	CDF_FLOAT	-1.0e31
SAMPLING_RATE	DISPLAY_TYPE	CDF_CHAR	time_series
SAMPLING_RATE	FORMAT	CDF_CHAR	F8.3
SAMPLING_RATE	LABLAXIS	CDF_CHAR	Sampling rate code
SAMPLING_RATE	UNITS	CDF_CHAR	kHz
SAMPLING_RATE	VAR_TYPE	CDF_CHAR	data
SAMPLING_RATE	SCALETYP	CDF_CHAR	linear
SAMPLING_RATE	VAR_NOTES	CDF_CHAR	TDS sampling rate
SAMPLING_RATE	UCD	CDF_CHAR	meta.code
HF_DATA_ARTEFACTS	FIELDNAM	CDF_CHAR	HF_DATA_ARTEFACTS
HF_DATA_ARTEFACTS	CATDESC	CDF_CHAR	Bitmask of data artefacts (overflows etc)
HF_DATA_ARTEFACTS	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
HF_DATA_ARTEFACTS	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
FILTER_COEFS	FIELDNAM	CDF_CHAR	FILTER_COEFS
FILTER_COEFS	CATDESC	CDF_CHAR	Index of filter coefficients used
FILTER_COEFS	DEPEND_0	CDF_CHAR	Epoch
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

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **212**

Tab. 4.31 – 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
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	UCD	CDF_CHAR	meta.code
RPW_STATUS_INFO	FIELDNAM	CDF_CHAR	RPW_STATUS_INFO
RPW_STATUS_INFO	CATDESC	CDF_CHAR	RPW status
RPW_STATUS_INFO	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
RPW_STATUS_INFO	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
INPUT_CONFIG	FIELDNAM	CDF_CHAR	INPUT_CONFIG
INPUT_CONFIG	CATDESC	CDF_CHAR	Bitmask of TDS analog input configuration
INPUT_CONFIG	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
INPUT_CONFIG	FORMAT	CDF_CHAR	I10
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

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **213**

Tab. 4.31 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
INPUT_CONFIG	VAR_NOTES	CDF_CHAR	Input TDS configuration
INPUT_CONFIG	UCD	CDF_CHAR	meta.code
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
SNAPSHOT_SEQ_NR	FORMAT	CDF_CHAR	I6.5
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	UCD	CDF_CHAR	meta.code
ACQUISITION_TIME_LABEL	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME_LABEL	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME
ACQUISITION_TIME_LABEL	FORMAT	CDF_CHAR	A32
ACQUISITION_TIME_LABEL	VAR_TYPE	CDF_CHAR	metadata
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	FORMAT	CDF_CHAR	A16
ACQUISITION_TIME_UNITS	VAR_TYPE	CDF_CHAR	metadata
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	DEPEND_0	CDF_CHAR	Epoch
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

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00


Date: January 18, 2019

Page: **214**

Tab. 4.31 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
CHANNEL_STATUS_INFO	FILLVAL	CDF_UINT1	255
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
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	UCD	CDF_CHAR	meta.code
QUALITY_FACT	FIELDNAM	CDF_CHAR	QUALITY_FACT
QUALITY_FACT	CATDESC	CDF_CHAR	Quality factor of the packet
QUALITY_FACT	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FACT	FORMAT	CDF_CHAR	I6.5
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	UCD	CDF_CHAR	meta.code
DOWNLINK_INFO	FIELDNAM	CDF_CHAR	DOWNLINK_INFO
DOWNLINK_INFO	CATDESC	CDF_CHAR	Quality factor of the packet
DOWNLINK_INFO	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
DOWNLINK_INFO	FORMAT	CDF_CHAR	I6.5
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


Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 215

Tab. 4.31 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
DOWNLINK_INFO	VAR_NOTES	CDF_CHAR	Algorithm code of the down-linked packet and selection code of the down-linked packet
DOWNLINK_INFO	UCD	CDF_CHAR	meta.code
SAMPS_PER_CH	FIELDNAM	CDF_CHAR	SAMPS_PER_CH
SAMPS_PER_CH	CATDESC	CDF_CHAR	Number of samples per channel
SAMPS_PER_CH	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
SAMPS_PER_CH	FORMAT	CDF_CHAR	I10
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	UCD	CDF_CHAR	
SAMP_DTIME	FIELDNAM	CDF_CHAR	SAMP_DTIME
SAMP_DTIME	CATDESC	CDF_CHAR	Delta time of the sample
SAMP_DTIME	DEPEND_0	CDF_CHAR	Epoch
SAMP_DTIME	VALIDMIN	CDF_UINT4	0
SAMP_DTIME	VALIDMAX	CDF_UINT4	4294967294
SAMP_DTIME	SCALEMIN	CDF_UINT4	0
SAMP_DTIME	SCALEMAX	CDF_UINT4	4294967294
SAMP_DTIME	FILLVAL	CDF_UINT4	4294967295
SAMP_DTIME	DISPLAY_TYPE	CDF_CHAR	time_series
SAMP_DTIME	FORMAT	CDF_CHAR	I10
SAMP_DTIME	LABLAXIS	CDF_CHAR	Delta time
SAMP_DTIME	UNITS	CDF_CHAR	ns
SAMP_DTIME	VAR_TYPE	CDF_CHAR	support_data
SAMP_DTIME	SCALETYP	CDF_CHAR	linear
SAMP_DTIME	VAR_NOTES	CDF_CHAR	Delta time of the sample in ns from Epoch
SAMP_DTIME	UCD	CDF_CHAR	

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 216

Tab. 4.31 – 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	DEPEND_0	CDF_CHAR	Epoch
WAVEFORM_DATA	VALIDMIN	CDF_FLOAT	-1.0e30
WAVEFORM_DATA	VALIDMAX	CDF_FLOAT	1.0e30
WAVEFORM_DATA	SCALEMIN	CDF_FLOAT	-1.0e30
WAVEFORM_DATA	SCALEMAX	CDF_FLOAT	1.0e30
WAVEFORM_DATA	FILLVAL	CDF_FLOAT	-1.0e31
WAVEFORM_DATA	DISPLAY_TYPE	CDF_CHAR	time_series
WAVEFORM_DATA	FORMAT	CDF_CHAR	I6.5
WAVEFORM_DATA	LABL_PTR_1	CDF_CHAR	WAVEFORM_LABEL
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	UCD	CDF_CHAR	
CHANNEL_LABEL	FIELDNAM	CDF_CHAR	CHANNEL_LABEL
CHANNEL_LABEL	CATDESC	CDF_CHAR	Label for CHANNEL_INFO_STATUS
CHANNEL_LABEL	FORMAT	CDF_CHAR	A8
CHANNEL_LABEL	VAR_TYPE	CDF_CHAR	metadata
WAVEFORM_LABEL	FIELDNAM	CDF_CHAR	WAVEFORM_LABEL
WAVEFORM_LABEL	CATDESC	CDF_CHAR	Label for WAVEFORM_DATA
WAVEFORM_LABEL	FORMAT	CDF_CHAR	A16
WAVEFORM_LABEL	VAR_TYPE	CDF_CHAR	metadata



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **217**

4.1.2.15.6 Non-Record-Variant (NRV) Variables

Variable Name	Index	Value
ACQUISITION_TIME_LABEL	1	CUC coarse part time
ACQUISITION_TIME_LABEL	2	CUC fine part time
ACQUISITION_TIME_UNITS	1	s
ACQUISITION_TIME_UNITS	2	s / 65536
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 LFR ASM record every TBD seconds

Expected data volume: TBD MB per day

4.1.2.16.3 Global Attributes



RPW Data Product Description Document

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

Issue
01


Revision
00

Date: January 18, 2019

Page: **218**

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 RPW Operation Centre (ROC) and Solar Orbiter/RPW teams for access to data.”
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009
CAVEAT	1	CDF_CHAR	
Data_type	1	CDF_CHAR	“H0>High Resolution data”
Data_version	1	CDF_CHAR	
DATASET_ID	1	CDF_CHAR	SOLO_L1_RPW-LFR-SURV-ASM
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_UUID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	The RPW Operation Centre (ROC)
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	
IDB_version	1	CDF_CHAR	
Instrument_type	1	CDF_CHAR	“Radio and Plasma Waves (space)”
Level	1	CDF_CHAR	“L1>Level 1”
LINK_TEXT	1	CDF_CHAR	
LINK_TITLE	1	CDF_CHAR	
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”
MODS	1	CDF_CHAR	“July 2015 : initial release, B. KATRA (CNRS-LPP)”
PACKET_CATEGORY	1	CDF_CHAR	“12”
PACKET_PID	1	CDF_CHAR	“76”
PACKET_SERVICE_SUBTYPE	1	CDF_CHAR	“3”
PACKET_SERVICE_SUBTYPE	2	CDF_CHAR	“6”
PACKET_SERVICE_TYPE	1	CDF_CHAR	“21”
PACKET_SID	1	CDF_CHAR	“11”
PACKET_SID	2	CDF_CHAR	“12”
PACKET_SID	3	CDF_CHAR	“13”

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 219

Tab. 4.32 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
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	“RPW>Radio and Plasma Waves instrument”
Provider	1	CDF_CHAR	
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00075-LES
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
Skeleton_version	1	CDF_CHAR	1
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	“SOLO>Solar Orbiter”
SPECTRAL_RANGE_MAX	1	CDF_DOUBLE	0.0
SPECTRAL_RANGE_MIN	1	CDF_DOUBLE	0.0
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_DOUBLE	0.0
TIME_MIN	1	CDF_DOUBLE	0.0
Validate	1	CDF_CHAR	



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **220**


4.1.2.16.4 zVariables

Variable Name	Data Type	Number Elements	Dims	Sizes	Record Variance	Dimension Variances
Epoch	CDF_TIME_TT2000	1	0		T	
ACQUISITION_TIME	CDF_UINT4	1	1	2	T	T
TIME_SYNCHRO_FLAG	CDF_UINT1	1	0		T	
POST_GAP_FLAG	CDF_UINT1	1	0		T	
QUALITY_FLAG	CDF_UINT1	1	0		T	
COMMON_BIA_STATUS_FLAG	CDF_UINT1	1	0		T	
QUALITY_BITMASK	CDF_UINT1	1	0		T	
SURVEY_MODE	CDF_UINT1	1	0		T	
FREQ	CDF_UINT1	1	0		T	
BIAS_MODE_MUX_SET	CDF_UINT1	1	0		T	
BIAS_MODE_HV_ENABLED	CDF_UINT1	1	0		T	
BIAS_MODE_BIAS1_ENABLED	CDF_UINT1	1	0		T	
BIAS_MODE_BIAS2_ENABLED	CDF_UINT1	1	0		T	
BIAS_MODE_BIAS3_ENABLED	CDF_UINT1	1	0		T	
BIAS_ON_OFF	CDF_UINT1	1	0		T	
BW	CDF_UINT1	1	0		T	
SP0	CDF_UINT1	1	0		T	
SP1	CDF_UINT1	1	0		T	
R0	CDF_UINT1	1	0		T	
R1	CDF_UINT1	1	0		T	
R2	CDF_UINT1	1	0		T	
ASM_CNT	CDF_UINT1	1	0		T	
ASM	CDF_REAL4	1	2	128 25	T	T T
ACQUISITION_TIME_UNITS	CDF_CHAR	16	1	2	F	T
ACQUISITION_TIME_LABEL	CDF_CHAR	32	1	2	F	T

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

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 221

Tab. 4.33 – 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	RPW LFR clock
Epoch	REFERENCE_POSITION	CDF_CHAR	Solar Orbiter
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	DEPEND_0	CDF_CHAR	Epoch
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	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	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 LFR clock

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

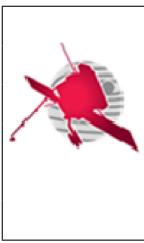
Date: January 18, 2019

Page: **222**

Tab. 4.33 – 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).
ACQUISITION_TIME	UCD	CDF_CHAR	time.epoch
TIME_SYNCHRO_FLAG	FIELDNAM	CDF_CHAR	Time synchronisation flag
TIME_SYNCHRO_FLAG	CATDESC	CDF_CHAR	Time synchronisation flag
TIME_SYNCHRO_FLAG	DEPEND_0	CDF_CHAR	Epoch
TIME_SYNCHRO_FLAG	VALIDMIN	CDF_UINT1	0
TIME_SYNCHRO_FLAG	VALIDMAX	CDF_UINT1	1
TIME_SYNCHRO_FLAG	SCALEMIN	CDF_UINT1	0
TIME_SYNCHRO_FLAG	SCALEMAX	CDF_UINT1	1
TIME_SYNCHRO_FLAG	FILLVAL	CDF_UINT1	255
TIME_SYNCHRO_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
TIME_SYNCHRO_FLAG	FORMAT	CDF_CHAR	I3.3
TIME_SYNCHRO_FLAG	LABLAXIS	CDF_CHAR	time sync. flag
TIME_SYNCHRO_FLAG	UNITS	CDF_CHAR	
TIME_SYNCHRO_FLAG	VAR_TYPE	CDF_CHAR	support_data
TIME_SYNCHRO_FLAG	SCALETYP	CDF_CHAR	linear
TIME_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.
TIME_SYNCHRO_FLAG	UCD	CDF_CHAR	meta.code
POST_GAP_FLAG	FIELDNAM	CDF_CHAR	POST_GAP_FLAG
POST_GAP_FLAG	CATDESC	CDF_CHAR	Post gap flag
POST_GAP_FLAG	DEPEND_0	CDF_CHAR	Epoch
POST_GAP_FLAG	VALIDMIN	CDF_UINT1	0
POST_GAP_FLAG	VALIDMAX	CDF_UINT1	254
POST_GAP_FLAG	SCALEMIN	CDF_UINT1	0
POST_GAP_FLAG	SCALEMAX	CDF_UINT1	254
POST_GAP_FLAG	FILLVAL	CDF_UINT1	255
POST_GAP_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
POST_GAP_FLAG	FORMAT	CDF_CHAR	I3.3
POST_GAP_FLAG	LABLAXIS	CDF_CHAR	Post gap flag
POST_GAP_FLAG	UNITS	CDF_CHAR	
POST_GAP_FLAG	VAR_TYPE	CDF_CHAR	support_data

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **223**

Tab. 4.33 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
POST_GAP_FLAG	SCALETYP	CDF_CHAR	linear
POST_GAP_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the reason why there is gap in the data preceding the current record. If no gap then POST_GAP_FLAG=0.
POST_GAP_FLAG	UCD	CDF_CHAR	meta.code
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
COMMON_BIA_STATUS_FLAG	FORMAT	CDF_CHAR	I1.1
COMMON_BIA_STATUS_FLAG	LABLAXIS	CDF_CHAR	LFR common parameters and BIAS status info relevancy flag
COMMON_BIA_STATUS_FLAG	UNITS	CDF_CHAR	
COMMON_BIA_STATUS_FLAG	VAR_TYPE	CDF_CHAR	support_data

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **224**

Tab. 4.33 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
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	UCD	CDF_CHAR	meta.code
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	FORMAT	CDF_CHAR	I3.3
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	UCD	CDF_CHAR	meta.code
SURVEY_MODE	FIELDNAM	CDF_CHAR	SURVEY_MODE
SURVEY_MODE	CATDESC	CDF_CHAR	LFR survey mode
SURVEY_MODE	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
SURVEY_MODE	FORMAT	CDF_CHAR	II.1
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

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **225**

Tab. 4.33 – 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	UCD	CDF_CHAR	meta.code
FREQ	FIELDNAM	CDF_CHAR	Sampling frequency of ASM
FREQ	CATDESC	CDF_CHAR	Sampling frequency of ASM
FREQ	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
FREQ	FORMAT	CDF_CHAR	
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	UCD	CDF_CHAR	
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
BIAS_MODE_MUX_SET	FORMAT	CDF_CHAR	
BIAS_MODE_MUX_SET	LABLAXIS	CDF_CHAR	
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

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **226**

Tab. 4.33 – 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	UCD	CDF_CHAR	This variable should be filled once for each
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
BIAS_MODE_HV_ENABLED	FORMAT	CDF_CHAR	
BIAS_MODE_HV_ENABLED	LABLAXIS	CDF_CHAR	
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.

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **227**

Tab. 4.33 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
			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_HV_ENABLED	UCD	CDF_CHAR	
BIAS_MODE_BIAS1_ENAB	HELDNAM	CDF_CHAR	BIAS probe 1 status
BIAS_MODE_BIAS1_ENAB	ICATDESC	CDF_CHAR	Copy of enable/disable BIAS 1.
BIAS_MODE_BIAS1_ENAB	DEPEND_0	CDF_CHAR	Epoch
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	HELDVAL	CDF_UINT1	255
BIAS_MODE_BIAS1_ENAB	DISPLAY_TYPE	CDF_CHAR	
BIAS_MODE_BIAS1_ENAB	FORMAT	CDF_CHAR	
BIAS_MODE_BIAS1_ENAB	LEBLAXIS	CDF_CHAR	
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.
			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_ENAB	UCD	CDF_CHAR	
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	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_BIAS2_ENAB	VALIDMIN	CDF_UINT1	0
BIAS_MODE_BIAS2_ENAB	VALIDMAX	CDF_UINT1	1

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **228**

Tab. 4.33 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_MODE_BIAS2_ENAB	SCALEMIN	CDF_UINT1	0
BIAS_MODE_BIAS2_ENAB	SCALEMAX	CDF_UINT1	1
BIAS_MODE_BIAS2_ENAB	LEVEL	CDF_UINT1	255
BIAS_MODE_BIAS2_ENAB	DISPLAY_TYPE	CDF_CHAR	
BIAS_MODE_BIAS2_ENAB	FORMAT	CDF_CHAR	
BIAS_MODE_BIAS2_ENAB	LEBLAXIS	CDF_CHAR	
BIAS_MODE_BIAS2_ENAB	LELITS	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_ASM] number of packets i.e. full snapshot because LFR FSW copy the same value for all sub packets.
BIAS_MODE_BIAS2_ENAB	UCD	CDF_CHAR	
BIAS_MODE_BIAS3_ENAB	LELDNAM	CDF_CHAR	BIAS probe 3 status
BIAS_MODE_BIAS3_ENAB	LELDESC	CDF_CHAR	Copy of enable/disable BIAS 3.
BIAS_MODE_BIAS3_ENAB	LEPEND_0	CDF_CHAR	Epoch
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	LEVEL	CDF_UINT1	255
BIAS_MODE_BIAS3_ENAB	DISPLAY_TYPE	CDF_CHAR	
BIAS_MODE_BIAS3_ENAB	FORMAT	CDF_CHAR	
BIAS_MODE_BIAS3_ENAB	LEBLAXIS	CDF_CHAR	
BIAS_MODE_BIAS3_ENAB	LELITS	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.

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **229**

Tab. 4.33 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
			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	UCD	CDF_CHAR	
BIAS_ON_OFF	FIELDNAM	CDF_CHAR	BIAS status
BIAS_ON_OFF	CATDESC	CDF_CHAR	Copy of BIAS status.
BIAS_ON_OFF	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
BIAS_ON_OFF	FORMAT	CDF_CHAR	
BIAS_ON_OFF	LABLAXIS	CDF_CHAR	
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_ASM] number of packets i.e. full snapshot because LFR FSW copy the same value for all sub packets.
BIAS_ON_OFF	UCD	CDF_CHAR	
BW	FIELDNAM	CDF_CHAR	BIAS Works/BIAS Fails configuration.
BW	CATDESC	CDF_CHAR	BIAS Works/BIAS Fails configuration.
BW	DEPEND_0	CDF_CHAR	Epoch
BW	VALIDMIN	CDF_UINT1	0
BW	VALIDMAX	CDF_UINT1	1

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00


Date: January 18, 2019

Page: **230**

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	DISPLAY_TYPE	CDF_CHAR	
BW	FORMAT	CDF_CHAR	
BW	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
SP0	FIELDNAM	CDF_CHAR	Shaping of electrical data parameter 0.
SP0	CATDESC	CDF_CHAR	Shaping of electrical data.
SP0	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
SP0	FORMAT	CDF_CHAR	
SP0	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 231

Tab. 4.33 – 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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
SP1	FORMAT	CDF_CHAR	
SP1	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
R0	FIELDNAM	CDF_CHAR	Rooting of electrical data for F0.
R0	CATDESC	CDF_CHAR	Rooting of electrical data.
R0	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
R0	FORMAT	CDF_CHAR	
R0	LABLAXIS	CDF_CHAR	
R0	UNITS	CDF_CHAR	
R0	VAR_TYPE	CDF_CHAR	support_data
R0	SCALETYP	CDF_CHAR	linear

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **232**

Tab. 4.33 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
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	UCD	CDF_CHAR	
R1	FIELDNAM	CDF_CHAR	Rooting of electrical data for F1.
R1	CATDESC	CDF_CHAR	Rooting of electrical data.
R1	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
R1	FORMAT	CDF_CHAR	
R1	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
R2	FIELDNAM	CDF_CHAR	Rooting of electrical data for F2.
R2	CATDESC	CDF_CHAR	Rooting of electrical data.
R2	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00


Date: January 18, 2019

Page: **233**

Tab. 4.33 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
R2	FORMAT	CDF_CHAR	
R2	LABLAXIS	CDF_CHAR	
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_ASM] number of packets i.e. full snapshot because LFR FSW copy the same value for all sub packets.
R2	UCD	CDF_CHAR	
ASM_CNT	FIELDNAM	CDF_CHAR	Number of matrices read for a given sampling frequency (F0, F1 or F2).
ASM_CNT	CATDESC	CDF_CHAR	
ASM_CNT	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
ASM_CNT	FORMAT	CDF_CHAR	
ASM_CNT	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
ASM	FIELDNAM	CDF_CHAR	All the 5x5 matrices for all bins of a given sampling frequency. Number of matrices is [ASM_CNT]

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 234

Tab. 4.33 – continued from previous page


Variable Name	Attribute Name	Data Type	Value
ASM	CATDESC	CDF_CHAR	5x5 Average spectral matrices
ASM	DEPEND_0	CDF_CHAR	Epoch
ASM	VALIDMIN	CDF_REAL4	-1.0e30
ASM	VALIDMAX	CDF_REAL4	1.0e30
ASM	SCALEMIN	CDF_REAL4	-1.0e30
ASM	SCALEMAX	CDF_REAL4	1.0e30
ASM	FILLVAL	CDF_REAL4	-1.0e31
ASM	DISPLAY_TYPE	CDF_CHAR	time_series
ASM	FORMAT	CDF_CHAR	I6.5
ASM	LABLAXIS	CDF_CHAR	
ASM	UNITS	CDF_CHAR	
ASM	VAR_TYPE	CDF_CHAR	data
ASM	SCALETYP	CDF_CHAR	linear
ASM	VAR_NOTES	CDF_CHAR	
ASM	UCD	CDF_CHAR	
ACQUISITION_TIME_LABEL	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME_LABEL	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME
ACQUISITION_TIME_LABEL	EFORMAT	CDF_CHAR	A32
ACQUISITION_TIME_LABEL	VAR_TYPE	CDF_CHAR	metadata
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	FORMAT	CDF_CHAR	A16
ACQUISITION_TIME_UNITS	VAR_TYPE	CDF_CHAR	metadata

4.1.2.16.6 Non-Record-Variant (NRV) Variables

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

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

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 235

file.

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 LFR BP1 record every TBD seconds

Expected data volume: TBD 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 RPW Operation Centre (ROC) and Solar Orbiter/RPW teams for access to data.”
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009
CAVEAT	1	CDF_CHAR	
Data_type	1	CDF_CHAR	“H0>High Resolution data”
Data_version	1	CDF_CHAR	
DATASET_ID	1	CDF_CHAR	SOLO_L1_RPW-LFR-SURV-BP1
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_UUID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	The RPW Operation Centre (ROC)
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	
IDB_version	1	CDF_CHAR	
Instrument_type	1	CDF_CHAR	“Radio and Plasma Waves (space)”
Level	1	CDF_CHAR	“L1>Level 1”


Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 236

Tab. 4.34 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
LINK_TEXT	1	CDF_CHAR	
LINK_TITLE	1	CDF_CHAR	
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”
MODS	1	CDF_CHAR	“July 2015 : initial release, B. KATRA (CNRS-LPP)”
PACKET_CATEGORY	1	CDF_CHAR	“12”
PACKET_PID	1	CDF_CHAR	“76”
PACKET_SERVICE_SUBTYPE	1	CDF_CHAR	“3”
PACKET_SERVICE_TYPE	1	CDF_CHAR	“21”
PACKET_SID	1	CDF_CHAR	“14”
PACKET_SID	2	CDF_CHAR	“15”
PACKET_SID	3	CDF_CHAR	“16”
PACKET_SID	4	CDF_CHAR	“17”
PACKET_SID	5	CDF_CHAR	“18”
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	“RPW>Radio and Plasma Waves instrument”
Provider	1	CDF_CHAR	
REFERENCE	1	CDF_CHAR	ROC-DAT-PRO-NTT-00075-LES
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

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 237


Tab. 4.34 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Skeleton_version	1	CDF_CHAR	1
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	“SOLO>Solar Orbiter”
SPECTRAL_RANGE_MAX	1	CDF_DOUBLE	0.0
SPECTRAL_RANGE_MIN	1	CDF_DOUBLE	0.0
TEXT	1	CDF_CHAR	“This file contains RPW LFR level 1 Survey BP1 data of the current day.”
TEXT_supplement_1	1	CDF_CHAR	
TIME_MAX	1	CDF_DOUBLE	0.0
TIME_MIN	1	CDF_DOUBLE	0.0
Validate	1	CDF_CHAR	

4.1.2.17.4 zVariables

Variable Name	Data Type	Number Elements	Dims	Sizes	Record Variance	Dimension Variances
Epoch	CDF_TIME_TT2000	1	0		T	
ACQUISITION_TIME	CDF_UINT4	1	1	2.0	T	T
TIME_SYNCHRO_FLAG	CDF_UINT1	1	0		T	
POST_GAP_FLAG	CDF_UINT1	1	0		T	
QUALITY_FLAG	CDF_UINT1	1	0		T	
COMMON_BIA_STATUS_FLAG	CDF_UINT1	1	0		T	
QUALITY_BITMASK	CDF_UINT1	1	0		T	
SURVEY_MODE	CDF_UINT1	1	0		T	
FREQ	CDF_UINT1	1	0		T	
BIAS_MODE_MUX_SET	CDF_UINT1	1	0		T	
BIAS_MODE_HV_ENABLED	CDF_UINT1	1	0		T	
BIAS_MODE_BIAS1_ENABLED	CDF_UINT1	1	0		T	
BIAS_MODE_BIAS2_ENABLED	CDF_UINT1	1	0		T	
BIAS_MODE_BIAS3_ENABLED	CDF_UINT1	1	0		T	
BIAS_ON_OFF	CDF_UINT1	1	0		T	
BW	CDF_UINT1	1	0		T	
SP0	CDF_UINT1	1	0		T	
SP1	CDF_UINT1	1	0		T	
R0	CDF_UINT1	1	0		T	
R1	CDF_UINT1	1	0		T	

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 238


Tab. 4.35 – continued from previous page

Variable Name	Data Type	Number Ele- ments	Dims	Sizes	Record Vari- ance	Dimension Variances
R2	CDF_UINT1	1	0		T	
BP1_CNT	CDF_UINT1	1	0		T	
PE	CDF_UINT2	1	1	26.0	T	T
PB	CDF_UINT2	1	1	26.0	T	T
NVEC_V0	CDF_UINT1	1	1	26.0	T	T
NVEC_V1	CDF_UINT1	1	1	26.0	T	T
NVEC	CDF_UINT1	1	1	26.0	T	T
ELLIP	CDF_UINT1	1	1	26.0	T	T
DOP	CDF_UINT2	1	1	26.0	T	T
SX	CDF_UINT2	1	1	26.0	T	T
VPHI	CDF_UINT2	1	1	26.0	T	T
ACQUISITION_TIME_UNITS	CDF_CHAR	16	1	2.0	F	T
ACQUISITION_TIME_LABEL	CDF_CHAR	32	1	2.0	F	T

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	RPW LFR clock
Epoch	REFERENCE_POS	CDF_CHAR	Solar Orbiter

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 239

Tab. 4.36 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
ACQUISITION_TIME	FORMAT	CDF_CHAR	E12.2
ACQUISITION_TIME	LABL_PTR_1	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME	UNIT_PTR	CDF_CHAR	ACQUISITION_TIME_UNITS
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 LFR clock
ACQUISITION_TIME	REFERENCE_POSITION	CDF_CHAR	Local time measured by the RPW LFR receiver (Coarse and fine parts of the CUC format).
ACQUISITION_TIME	VAR_NOTES	CDF_CHAR	time.epoch
ACQUISITION_TIME	UCD	CDF_CHAR	Time synchronisation flag
TIME_SYNCHRO_FLAG	FIELDNAM	CDF_CHAR	Time synchronisation flag
TIME_SYNCHRO_FLAG	CATDESC	CDF_CHAR	Epoch
TIME_SYNCHRO_FLAG	DEPEND_0	CDF_CHAR	0
TIME_SYNCHRO_FLAG	VALIDMIN	CDF_UINT1	1
TIME_SYNCHRO_FLAG	VALIDMAX	CDF_UINT1	0
TIME_SYNCHRO_FLAG	SCALEMIN	CDF_UINT1	1
TIME_SYNCHRO_FLAG	SCALEMAX	CDF_UINT1	255
TIME_SYNCHRO_FLAG	FILLVAL	CDF_UINT1	time_series
TIME_SYNCHRO_FLAG	DISPLAY_TYPE	CDF_CHAR	I3.3
TIME_SYNCHRO_FLAG	FORMAT	CDF_CHAR	time sync. flag
TIME_SYNCHRO_FLAG	LABLAXIS	CDF_CHAR	

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **240**

Tab. 4.36 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
TIME_SYNCHRO_FLAG	UNITS	CDF_CHAR	support_data
TIME_SYNCHRO_FLAG	VAR_TYPE	CDF_CHAR	linear
TIME_SYNCHRO_FLAG	SCALETYP	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.
TIME_SYNCHRO_FLAG	VAR_NOTES	CDF_CHAR	meta.code
TIME_SYNCHRO_FLAG	UCD	CDF_CHAR	POST_GAP_FLAG
POST_GAP_FLAG	FIELDNAM	CDF_CHAR	Post gap flag
POST_GAP_FLAG	CATDESC	CDF_CHAR	Epoch
POST_GAP_FLAG	DEPEND_0	CDF_CHAR	0
POST_GAP_FLAG	VALIDMIN	CDF_UINT1	254
POST_GAP_FLAG	VALIDMAX	CDF_UINT1	0
POST_GAP_FLAG	SCALEMIN	CDF_UINT1	254
POST_GAP_FLAG	SCALEMAX	CDF_UINT1	255
POST_GAP_FLAG	FILLVAL	CDF_UINT1	time_series
POST_GAP_FLAG	DISPLAY_TYPE	CDF_CHAR	I3.3
POST_GAP_FLAG	FORMAT	CDF_CHAR	Post gap flag
POST_GAP_FLAG	LABLAXIS	CDF_CHAR	
POST_GAP_FLAG	UNITS	CDF_CHAR	support_data
POST_GAP_FLAG	VAR_TYPE	CDF_CHAR	linear
POST_GAP_FLAG	SCALETYP	CDF_CHAR	Flag to indicate the reason why there is gap in the data preceding the current record. If no gap then POST_GAP_FLAG=0.
POST_GAP_FLAG	VAR_NOTES	CDF_CHAR	meta.code
POST_GAP_FLAG	UCD	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	FIELDNAM	CDF_CHAR	Quality flag
QUALITY_FLAG	CATDESC	CDF_CHAR	Epoch
QUALITY_FLAG	DEPEND_0	CDF_CHAR	0
QUALITY_FLAG	VALIDMIN	CDF_UINT1	4
QUALITY_FLAG	VALIDMAX	CDF_UINT1	0
QUALITY_FLAG	SCALEMIN	CDF_UINT1	4
QUALITY_FLAG	SCALEMAX	CDF_UINT1	255
QUALITY_FLAG	FILLVAL	CDF_UINT1	time_series
QUALITY_FLAG	DISPLAY_TYPE	CDF_CHAR	I1.1

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00


Date: January 18, 2019

Page: **241**

Tab. 4.36 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
QUALITY_FLAG	FORMAT	CDF_CHAR	Quality flag
QUALITY_FLAG	LABLAXIS	CDF_CHAR	
QUALITY_FLAG	UNITS	CDF_CHAR	support_data
QUALITY_FLAG	VAR_TYPE	CDF_CHAR	linear
QUALITY_FLAG	SCALETYP	CDF_CHAR	Flag to indicate the quality of the data
QUALITY_FLAG	VAR_NOTES	CDF_CHAR	meta.code
QUALITY_FLAG	UCD	CDF_CHAR	meta.code
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	DEPEND_0	CDF_CHAR	Epoch
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	AGLVAL	CDF_UINT1	255
COMMON_BIA_STATUS_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
COMMON_BIA_STATUS_FLAG	FORMAT	CDF_CHAR	I1.1
COMMON_BIA_STATUS_FLAG	LABLAXIS	CDF_CHAR	LFR common parameters and BIAS status info relevancy 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	AGD	CDF_CHAR	meta.code
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
QUALITY_BITMASK	VALIDMIN	CDF_UINT1	0
QUALITY_BITMASK	VALIDMAX	CDF_UINT1	100
QUALITY_BITMASK	SCALEMIN	CDF_UINT1	0
QUALITY_BITMASK	SCALEMAX	CDF_UINT1	100

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 242

Tab. 4.36 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
QUALITY_BITMASK	FILLVAL	CDF_UINT1	255
QUALITY_BITMASK	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	FORMAT	CDF_CHAR	I3.3
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	UCD	CDF_CHAR	meta.code
SURVEY_MODE	FIELDNAM	CDF_CHAR	SURVEY_MODE
SURVEY_MODE	CATDESC	CDF_CHAR	LFR survey mode
SURVEY_MODE	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
SURVEY_MODE	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
FREQ	FIELDNAM	CDF_CHAR	Sampling frequency of the BP1
FREQ	CATDESC	CDF_CHAR	Sampling frequency of the BP1
FREQ	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **243**

Tab. 4.36 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
FREQ	FORMAT	CDF_CHAR	
FREQ	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
BIAS_MODE_MUX_SET	FORMAT	CDF_CHAR	
BIAS_MODE_MUX_SET	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
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	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_HV_ENABLED	VALIDMIN	CDF_UINT1	0
BIAS_MODE_HV_ENABLED	VALIDMAX	CDF_UINT1	1

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **244**

Tab. 4.36 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
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	DISPLAY_TYPE	CDF_CHAR	
BIAS_MODE_HV_ENABLED	FORMAT	CDF_CHAR	
BIAS_MODE_HV_ENABLED	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
BIAS_MODE_BIAS1_ENABLED	FORMAT	CDF_CHAR	
BIAS_MODE_BIAS1_ENABLED	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
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	DEPEND_0	CDF_CHAR	Epoch
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

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **245**

Tab. 4.36 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_MODE_BIAS2_ENAB	FILLVAL	CDF_UINT1	255
BIAS_MODE_BIAS2_ENAB	DISPLAY_TYPE	CDF_CHAR	
BIAS_MODE_BIAS2_ENAB	FORMAT	CDF_CHAR	
BIAS_MODE_BIAS2_ENAB	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
BIAS_MODE_BIAS3_ENAB	FORMAT	CDF_CHAR	
BIAS_MODE_BIAS3_ENAB	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
BIAS_ON_OFF	FIELDNAM	CDF_CHAR	BIAS status
BIAS_ON_OFF	CATDESC	CDF_CHAR	Copy of BIAS status.
BIAS_ON_OFF	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **246**

Tab. 4.36 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_ON_OFF	FORMAT	CDF_CHAR	
BIAS_ON_OFF	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
BW	FIELDNAM	CDF_CHAR	BIAS Works/BIAS Fails configuration.
BW	CATDESC	CDF_CHAR	BIAS Works/BIAS Fails configuration.
BW	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
BW	FORMAT	CDF_CHAR	
BW	LABLAXIS	CDF_CHAR	
BW	UNITS	CDF_CHAR	
BW	VAR_TYPE	CDF_CHAR	support_data
BW	SCALETYP	CDF_CHAR	linear
BW	VAR_NOTES	CDF_CHAR	
BW	UCD	CDF_CHAR	
SP0	FIELDNAM	CDF_CHAR	Shaping of electrical data parameter 0.
SP0	CATDESC	CDF_CHAR	Shaping of electrical data.
SP0	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
SP0	FORMAT	CDF_CHAR	
SP0	LABLAXIS	CDF_CHAR	
SP0	UNITS	CDF_CHAR	

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00


Date: January 18, 2019

Page: **247**

Tab. 4.36 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SP0	VAR_TYPE	CDF_CHAR	support_data
SP0	SCALETYP	CDF_CHAR	linear
SP0	VAR_NOTES	CDF_CHAR	
SP0	UCD	CDF_CHAR	
SP1	FIELDNAM	CDF_CHAR	Shaping of electrical data parameter 1.
SP1	CATDESC	CDF_CHAR	Shaping of electrical data.
SP1	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
SP1	FORMAT	CDF_CHAR	
SP1	LABLAXIS	CDF_CHAR	
SP1	UNITS	CDF_CHAR	
SP1	VAR_TYPE	CDF_CHAR	support_data
SP1	SCALETYP	CDF_CHAR	linear
SP1	VAR_NOTES	CDF_CHAR	
SP1	UCD	CDF_CHAR	
R0	FIELDNAM	CDF_CHAR	Rooting of electrical data for F0.
R0	CATDESC	CDF_CHAR	Rooting of electrical data.
R0	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
R0	FORMAT	CDF_CHAR	
R0	LABLAXIS	CDF_CHAR	
R0	UNITS	CDF_CHAR	
R0	VAR_TYPE	CDF_CHAR	support_data
R0	SCALETYP	CDF_CHAR	linear
R0	VAR_NOTES	CDF_CHAR	
R0	UCD	CDF_CHAR	
R1	FIELDNAM	CDF_CHAR	Rooting of electrical data for F1.
R1	CATDESC	CDF_CHAR	Rooting of electrical data.


Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 248

Tab. 4.36 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
R1	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
R1	FORMAT	CDF_CHAR	
R1	LABLAXIS	CDF_CHAR	
R1	UNITS	CDF_CHAR	
R1	VAR_TYPE	CDF_CHAR	support_data
R1	SCALETYP	CDF_CHAR	linear
R1	VAR_NOTES	CDF_CHAR	
R1	UCD	CDF_CHAR	
R2	FIELDNAM	CDF_CHAR	Rooting of electrical data for F2.
R2	CATDESC	CDF_CHAR	Rooting of electrical data.
R2	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
R2	FORMAT	CDF_CHAR	
R2	LABLAXIS	CDF_CHAR	
R2	UNITS	CDF_CHAR	
R2	VAR_TYPE	CDF_CHAR	support_data
R2	SCALETYP	CDF_CHAR	linear
R2	VAR_NOTES	CDF_CHAR	
R2	UCD	CDF_CHAR	
BP1_CNT	FIELDNAM	CDF_CHAR	Number of BP1 sets read for a given sampling frequency(F0, F1 or F2).
BP1_CNT	CATDESC	CDF_CHAR	Number of BP1 sets read for a given sampling frequency(F0, F1 or F2).
BP1_CNT	DEPEND_0	CDF_CHAR	Epoch
BP1_CNT	VALIDMIN	CDF_UINT1	11
BP1_CNT	VALIDMAX	CDF_UINT1	26
BP1_CNT	SCALEMIN	CDF_UINT1	11

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 249

Tab. 4.36 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BP1_CNT	SCALEMAX	CDF_UINT1	26
BP1_CNT	FILLVAL	CDF_UINT1	255
BP1_CNT	DISPLAY_TYPE	CDF_CHAR	
BP1_CNT	FORMAT	CDF_CHAR	
BP1_CNT	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
PE	FIELDNAM	CDF_CHAR	Spectral power of E field
PE	CATDESC	CDF_CHAR	Spectral power of E field
PE	DEPEND_0	CDF_CHAR	Epoch
PE	VALIDMIN	CDF_UINT2	0
PE	VALIDMAX	CDF_UINT2	65534
PE	SCALEMIN	CDF_UINT2	0
PE	SCALEMAX	CDF_UINT2	65534
PE	FILLVAL	CDF_UINT2	65535
PE	DISPLAY_TYPE	CDF_CHAR	time_series
PE	FORMAT	CDF_CHAR	
PE	LABLAXIS	CDF_CHAR	
PE	UNITS	CDF_CHAR	
PE	VAR_TYPE	CDF_CHAR	data
PE	SCALETYP	CDF_CHAR	linear
PE	VAR_NOTES	CDF_CHAR	
PE	UCD	CDF_CHAR	
PB	FIELDNAM	CDF_CHAR	Spectral power of B field
PB	CATDESC	CDF_CHAR	Spectral power of B field
PB	DEPEND_0	CDF_CHAR	Epoch
PB	VALIDMIN	CDF_UINT2	0
PB	VALIDMAX	CDF_UINT2	65534
PB	SCALEMIN	CDF_UINT2	0
PB	SCALEMAX	CDF_UINT2	65534
PB	FILLVAL	CDF_UINT2	65535

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **250**

Tab. 4.36 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
PB	DISPLAY_TYPE	CDF_CHAR	time_series
PB	FORMAT	CDF_CHAR	
PB	LABLAXIS	CDF_CHAR	
PB	UNITS	CDF_CHAR	
PB	VAR_TYPE	CDF_CHAR	data
PB	SCALETYP	CDF_CHAR	linear
PB	VAR_NOTES	CDF_CHAR	
PB	UCD	CDF_CHAR	
NVEC_V0	FIELDNAM	CDF_CHAR	Component 0 of wave normal vector from magnetic field
NVEC_V0	CATDESC	CDF_CHAR	Component 0 of wave normal vector from magnetic field
NVEC_V0	DEPEND_0	CDF_CHAR	Epoch
NVEC_V0	VALIDMIN	CDF_UINT1	0
NVEC_V0	VALIDMAX	CDF_UINT1	254
NVEC_V0	SCALEMIN	CDF_UINT1	0
NVEC_V0	SCALEMAX	CDF_UINT1	254
NVEC_V0	FILLVAL	CDF_UINT1	255
NVEC_V0	DISPLAY_TYPE	CDF_CHAR	time_series
NVEC_V0	FORMAT	CDF_CHAR	
NVEC_V0	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
NVEC_V1	FIELDNAM	CDF_CHAR	Component 1 of wave normal vector from magnetic field
NVEC_V1	CATDESC	CDF_CHAR	Component 1 of wave normal vector from magnetic field
NVEC_V1	DEPEND_0	CDF_CHAR	Epoch
NVEC_V1	VALIDMIN	CDF_UINT1	0
NVEC_V1	VALIDMAX	CDF_UINT1	254
NVEC_V1	SCALEMIN	CDF_UINT1	0
NVEC_V1	SCALEMAX	CDF_UINT1	254
NVEC_V1	FILLVAL	CDF_UINT1	255
NVEC_V1	DISPLAY_TYPE	CDF_CHAR	time_series
NVEC_V1	FORMAT	CDF_CHAR	
NVEC_V1	LABLAXIS	CDF_CHAR	
NVEC_V1	UNITS	CDF_CHAR	
NVEC_V1	VAR_TYPE	CDF_CHAR	data

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00


Date: January 18, 2019

Page: **251**

Tab. 4.36 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
NVEC_V1	SCALETYP	CDF_CHAR	linear
NVEC_V1	VAR_NOTES	CDF_CHAR	
NVEC_V1	UCD	CDF_CHAR	
NVEC	FIELDNAM	CDF_CHAR	Component 2 (sign) of wave normal vector from magnetic field
NVEC	CATDESC	CDF_CHAR	Component 2 (sign) of wave normal vector from magnetic field
NVEC	DEPEND_0	CDF_CHAR	Epoch
NVEC	VALIDMIN	CDF_UINT1	0
NVEC	VALIDMAX	CDF_UINT1	1
NVEC	SCALEMIN	CDF_UINT1	0
NVEC	SCALEMAX	CDF_UINT1	1
NVEC	FILLVAL	CDF_UINT1	255
NVEC	DISPLAY_TYPE	CDF_CHAR	time_series
NVEC	FORMAT	CDF_CHAR	
NVEC	LABLAXIS	CDF_CHAR	
NVEC	UNITS	CDF_CHAR	
NVEC	VAR_TYPE	CDF_CHAR	data
NVEC	SCALETYP	CDF_CHAR	linear
NVEC	VAR_NOTES	CDF_CHAR	
NVEC	UCD	CDF_CHAR	
ELLIP	FIELDNAM	CDF_CHAR	Wave ellipticity from magnetic field
ELLIP	CATDESC	CDF_CHAR	Wave ellipticity from magnetic field
ELLIP	DEPEND_0	CDF_CHAR	Epoch
ELLIP	VALIDMIN	CDF_UINT1	0
ELLIP	VALIDMAX	CDF_UINT1	15
ELLIP	SCALEMIN	CDF_UINT1	0
ELLIP	SCALEMAX	CDF_UINT1	15
ELLIP	FILLVAL	CDF_UINT1	255
ELLIP	DISPLAY_TYPE	CDF_CHAR	time_series
ELLIP	FORMAT	CDF_CHAR	
ELLIP	LABLAXIS	CDF_CHAR	
ELLIP	UNITS	CDF_CHAR	
ELLIP	VAR_TYPE	CDF_CHAR	data
ELLIP	SCALETYP	CDF_CHAR	linear
ELLIP	VAR_NOTES	CDF_CHAR	
ELLIP	UCD	CDF_CHAR	


Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 252

Tab. 4.36 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
DOP	FIELDNAM	CDF_CHAR	degree of polarization from magnetic field
DOP	CATDESC	CDF_CHAR	degree of polarization from magnetic field
DOP	DEPEND_0	CDF_CHAR	ACQUISTION_TIME
DOP	VALIDMIN	CDF_UINT1	0
DOP	VALIDMAX	CDF_UINT1	7
DOP	SCALEMIN	CDF_UINT1	0
DOP	SCALEMAX	CDF_UINT1	7
DOP	FILLVAL	CDF_UINT1	255
DOP	DISPLAY_TYPE	CDF_CHAR	time_series
DOP	FORMAT	CDF_CHAR	
DOP	LABLAXIS	CDF_CHAR	
DOP	UNITS	CDF_CHAR	
DOP	VAR_TYPE	CDF_CHAR	data
DOP	SCALETYP	CDF_CHAR	linear
DOP	VAR_NOTES	CDF_CHAR	
DOP	UCD	CDF_CHAR	
SX	FIELDNAM	CDF_CHAR	Normalized z-poynting from the EM data stream
SX	CATDESC	CDF_CHAR	Normalized z-poynting from the EM data stream
SX	DEPEND_0	CDF_CHAR	Epoch
SX	VALIDMIN	CDF_UINT2	0
SX	VALIDMAX	CDF_UINT2	65534
SX	SCALEMIN	CDF_UINT2	0
SX	SCALEMAX	CDF_UINT2	65534
SX	FILLVAL	CDF_UINT2	65535
SX	DISPLAY_TYPE	CDF_CHAR	time_series
SX	FORMAT	CDF_CHAR	
SX	LABLAXIS	CDF_CHAR	
SX	UNITS	CDF_CHAR	
SX	VAR_TYPE	CDF_CHAR	data
SX	SCALETYP	CDF_CHAR	linear
SX	VAR_NOTES	CDF_CHAR	
SX	UCD	CDF_CHAR	
VPHI	FIELDNAM	CDF_CHAR	Phase speed from the EM data stream
VPHI	CATDESC	CDF_CHAR	Phase speed from the EM data stream
VPHI	DEPEND_0	CDF_CHAR	Epoch

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 253

Tab. 4.36 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
VPHI	VALIDMIN	CDF_UINT2	0
VPHI	VALIDMAX	CDF_UINT2	65534
VPHI	SCALEMIN	CDF_UINT2	0
VPHI	SCALEMAX	CDF_UINT2	65534
VPHI	FILLVAL	CDF_UINT2	65535
VPHI	DISPLAY_TYPE	CDF_CHAR	time_series
VPHI	FORMAT	CDF_CHAR	
VPHI	LABLAXIS	CDF_CHAR	
VPHI	UNITS	CDF_CHAR	
VPHI	VAR_TYPE	CDF_CHAR	data
VPHI	SCALETYP	CDF_CHAR	linear
VPHI	VAR_NOTES	CDF_CHAR	
VPHI	UCD	CDF_CHAR	
ACQUISITION_TIME_LABEL	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME_LABEL	CATEDESC	CDF_CHAR	Label for ACQUISITION_TIME
ACQUISITION_TIME_LABEL	EORFORMAT	CDF_CHAR	A32
ACQUISITION_TIME_LABEL	VAR_TYPE	CDF_CHAR	metadata
ACQUISITION_TIME_UNITS	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_UNITS
ACQUISITION_TIME_UNITS	CATEDESC	CDF_CHAR	Label for ACQUISITION_TIME UNIT_PTR attribute
ACQUISITION_TIME_UNITS	FORMAT	CDF_CHAR	A16
ACQUISITION_TIME_UNITS	VAR_TYPE	CDF_CHAR	metadata

4.1.2.17.6 Non-Record-Variant (NRV) Variables

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

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
00

Date: January 18, 2019

Page: **254**

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 LFR BP2 record every TBD seconds

Expected data volume: TBD 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 RPW Operation Centre (ROC) and Solar Orbiter/RPW teams for access to data.”
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009
CAVEAT	1	CDF_CHAR	
Data_type	1	CDF_CHAR	“H0>High Resolution data”
Data_version	1	CDF_CHAR	
DATASET_ID	1	CDF_CHAR	SOLO_L1_RPW-LFR-SURV-BP2
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_UUID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	The RPW Operation Centre (ROC)
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	
IDB_version	1	CDF_CHAR	
Instrument_type	1	CDF_CHAR	“Radio and Plasma Waves (space)”
Level	1	CDF_CHAR	“L1>Level 1”
LINK_TEXT	1	CDF_CHAR	
LINK_TITLE	1	CDF_CHAR	


Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 255

Tab. 4.37 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
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”
MODS	1	CDF_CHAR	“July 2015 : initial release, B. KATRA (CNRS-LPP)”
PACKET_CATEGORY	1	CDF_CHAR	“12”
PACKET_PID	1	CDF_CHAR	“76”
PACKET_SERVICE_SUBTYPE	1	CDF_CHAR	“3”
PACKET_SERVICE_TYPE	1	CDF_CHAR	“21”
PACKET_SID	1	CDF_CHAR	“19”
PACKET_SID	2	CDF_CHAR	“20”
PACKET_SID	3	CDF_CHAR	“21”
PACKET_SID	4	CDF_CHAR	“22”
PACKET_SID	5	CDF_CHAR	“23”
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	“RPW>Radio and Plasma Waves instrument”
Provider	1	CDF_CHAR	
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00075-LES
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
Skeleton_version	1	CDF_CHAR	1
Software_name	1	CDF_CHAR	

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 256

Tab. 4.37 – 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_DOUBLE	0.0
SPECTRAL_RANGE_MIN	1	CDF_DOUBLE	0.0
TEXT	1	CDF_CHAR	“This file contains RPW LFR level 1 Survey BP2 data of the current day.”
TEXT_supplement_1	1	CDF_CHAR	
TIME_MAX	1	CDF_DOUBLE	0.0
TIME_MIN	1	CDF_DOUBLE	0.0
Validate	1	CDF_CHAR	



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **257**


4.1.2.18.4 zVariables

Variable Name	Data Type	Number Elements	Dims	Sizes	Record Variance	Dimension Variances
Epoch	CDF_TIME_TT2000	1	0		T	
ACQUISITION_TIME	CDF_UINT4	1	1	2	T	T
TIME_SYNCHRO_FLAG	CDF_UINT1	1	0		T	
POST_GAP_FLAG	CDF_UINT1	1	0		T	
QUALITY_FLAG	CDF_UINT1	1	0		T	
COMMON_BIA_STATUS_FLAG	CDF_UINT1	1	0		T	
BITMASK	CDF_UINT1	1	0		T	
SURVEY_MODE	CDF_UINT1	1	0		T	
FREQ	CDF_UINT1	1	0		T	
BIAS_MODE_MUX_SET	CDF_UINT1	1	0		T	
BIAS_MODE_HV_ENABLED	CDF_UINT1	1	0		T	
BIAS_MODE_BIAS1_ENABLED	CDF_UINT1	1	0		T	
BIAS_MODE_BIAS2_ENABLED	CDF_UINT1	1	0		T	
BIAS_MODE_BIAS3_ENABLED	CDF_UINT1	1	0		T	
BIAS_ON_OFF	CDF_UINT1	1	0		T	
BW	CDF_UINT1	1	0		T	
SP0	CDF_UINT1	1	0		T	
SP1	CDF_UINT1	1	0		T	
R0	CDF_UINT1	1	0		T	
R1	CDF_UINT1	1	0		T	
R2	CDF_UINT1	1	0		T	
BP2_CNT	CDF_UINT1	1	0		T	
AUTO	CDF_UINT2	1	2	26 5	T	T T
CROSS_RE	CDF_UINT2	1	2	26 10	T	T T
CROSS_IM	CDF_UINT2	1	2	26 10	T	T T
ACQUISITION_TIME_UNITS	CDF_CHAR	16	1	2	F	T
ACQUISITION_TIME_LABEL	CDF_CHAR	32	1	2	F	T

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

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 258

Tab. 4.38 – 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	RPW LFR clock
Epoch	REFERENCE_POSITION	CDF_CHAR	Solar Orbiter
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
ACQUISITION_TIME	FORMAT	CDF_CHAR	E12.2
ACQUISITION_TIME	LABL_PTR_1	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME	UNIT_PTR	CDF_CHAR	ACQUISITION_TIME_UNITS
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

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **259**

Tab. 4.38 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
ACQUISITION_TIME	TIME_SCALE	CDF_CHAR	RPW LFR 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	UCD	CDF_CHAR	time.epoch
TIME_SYNCHRO_FLAG	FIELDNAM	CDF_CHAR	Time synchronisation flag
TIME_SYNCHRO_FLAG	CATDESC	CDF_CHAR	Time synchronisation flag
TIME_SYNCHRO_FLAG	DEPEND_0	CDF_CHAR	Epoch
TIME_SYNCHRO_FLAG	VALIDMIN	CDF_UINT1	0
TIME_SYNCHRO_FLAG	VALIDMAX	CDF_UINT1	1
TIME_SYNCHRO_FLAG	SCALEMIN	CDF_UINT1	0
TIME_SYNCHRO_FLAG	SCALEMAX	CDF_UINT1	1
TIME_SYNCHRO_FLAG	FILLVAL	CDF_UINT1	255
TIME_SYNCHRO_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
TIME_SYNCHRO_FLAG	FORMAT	CDF_CHAR	I3.3
TIME_SYNCHRO_FLAG	LABLAXIS	CDF_CHAR	time sync. flag
TIME_SYNCHRO_FLAG	UNITS	CDF_CHAR	
TIME_SYNCHRO_FLAG	VAR_TYPE	CDF_CHAR	support_data
TIME_SYNCHRO_FLAG	SCALETYP	CDF_CHAR	linear
TIME_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.
TIME_SYNCHRO_FLAG	UCD	CDF_CHAR	meta.code
POST_GAP_FLAG	FIELDNAM	CDF_CHAR	POST_GAP_FLAG
POST_GAP_FLAG	CATDESC	CDF_CHAR	Post gap flag
POST_GAP_FLAG	DEPEND_0	CDF_CHAR	Epoch
POST_GAP_FLAG	VALIDMIN	CDF_UINT1	0
POST_GAP_FLAG	VALIDMAX	CDF_UINT1	254
POST_GAP_FLAG	SCALEMIN	CDF_UINT1	0
POST_GAP_FLAG	SCALEMAX	CDF_UINT1	254
POST_GAP_FLAG	FILLVAL	CDF_UINT1	255
POST_GAP_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
POST_GAP_FLAG	FORMAT	CDF_CHAR	I3.3
POST_GAP_FLAG	LABLAXIS	CDF_CHAR	Post gap flag
POST_GAP_FLAG	UNITS	CDF_CHAR	

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **260**

Tab. 4.38 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
POST_GAP_FLAG	VAR_TYPE	CDF_CHAR	support_data
POST_GAP_FLAG	SCALETYP	CDF_CHAR	linear
POST_GAP_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the reason why there is gap in the data preceding the current record. If no gap then POST_GAP_FLAG=0.
POST_GAP_FLAG	UCD	CDF_CHAR	meta.code
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
COMMON_BIA_STATUS_FLAG	FORMAT	CDF_CHAR	I1.1
COMMON_BIA_STATUS_FLAG	LABLAXIS	CDF_CHAR	LFR common parameters and BIAS status info relevancy flag
COMMON_BIA_STATUS_FLAG	UNITS	CDF_CHAR	

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00


Date: January 18, 2019

Page: **261**

Tab. 4.38 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
COMMON_BIA_STATUS_FL	VAR_TYPE	CDF_CHAR	support_data
COMMON_BIA_STATUS_FL	SCALETYP	CDF_CHAR	linear
COMMON_BIA_STATUS_FL	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_FL	UCD	CDF_CHAR	meta.code
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	FORMAT	CDF_CHAR	I3.3
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	UCD	CDF_CHAR	meta.code
SURVEY_MODE	FIELDNAM	CDF_CHAR	SURVEY_MODE
SURVEY_MODE	CATDESC	CDF_CHAR	LFR survey mode
SURVEY_MODE	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
SURVEY_MODE	FORMAT	CDF_CHAR	I1.1
SURVEY_MODE	LABLAXIS	CDF_CHAR	LFR survey mode
SURVEY_MODE	UNITS	CDF_CHAR	
SURVEY_MODE	VAR_TYPE	CDF_CHAR	data

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 262

Tab. 4.38 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
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	UCD	CDF_CHAR	meta.code
FREQ	FIELDNAM	CDF_CHAR	Sampling frequency of the BP2
FREQ	CATDESC	CDF_CHAR	Sampling frequency of the BP2
FREQ	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
FREQ	FORMAT	CDF_CHAR	
FREQ	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
BIAS_MODE_MUX_SET	FORMAT	CDF_CHAR	
BIAS_MODE_MUX_SET	LABLAXIS	CDF_CHAR	
BIAS_MODE_MUX_SET	UNITS	CDF_CHAR	
BIAS_MODE_MUX_SET	VAR_TYPE	CDF_CHAR	support_data

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **263**

Tab. 4.38 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
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	UCD	CDF_CHAR	
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
BIAS_MODE_HV_ENABLED	FORMAT	CDF_CHAR	
BIAS_MODE_HV_ENABLED	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
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	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_BIAS1_ENABLED	VALIDMIN	CDF_UINT1	0
BIAS_MODE_BIAS1_ENABLED	VALIDMAX	CDF_UINT1	1
BIAS_MODE_BIAS1_ENABLED	SCALEMIN	CDF_UINT1	0

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **264**

Tab. 4.38 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_MODE_BIAS1_ENAB	SCALEMAX	CDF_UINT1	1
BIAS_MODE_BIAS1_ENAB	HEADVAL	CDF_UINT1	255
BIAS_MODE_BIAS1_ENAB	DISPLAY_TYPE	CDF_CHAR	
BIAS_MODE_BIAS1_ENAB	FORMAT	CDF_CHAR	
BIAS_MODE_BIAS1_ENAB	LABLAXIS	CDF_CHAR	
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	HEAD	CDF_CHAR	
BIAS_MODE_BIAS2_ENAB	HEADNAM	CDF_CHAR	BIAS probe 2 status
BIAS_MODE_BIAS2_ENAB	HEADDESC	CDF_CHAR	Copy of enable/disable BIAS 2.
BIAS_MODE_BIAS2_ENAB	DEPEND_0	CDF_CHAR	Epoch
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	HEADVAL	CDF_UINT1	255
BIAS_MODE_BIAS2_ENAB	DISPLAY_TYPE	CDF_CHAR	
BIAS_MODE_BIAS2_ENAB	FORMAT	CDF_CHAR	
BIAS_MODE_BIAS2_ENAB	LABLAXIS	CDF_CHAR	
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	HEAD	CDF_CHAR	
BIAS_MODE_BIAS3_ENAB	HEADNAM	CDF_CHAR	BIAS probe 3 status
BIAS_MODE_BIAS3_ENAB	HEADDESC	CDF_CHAR	Copy of enable/disable BIAS 3.
BIAS_MODE_BIAS3_ENAB	DEPEND_0	CDF_CHAR	Epoch
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

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **265**

Tab. 4.38 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_MODE_BIAS3_ENAB	FILLVAL	CDF_UINT1	255
BIAS_MODE_BIAS3_ENAB	DISPLAY_TYPE	CDF_CHAR	
BIAS_MODE_BIAS3_ENAB	FORMAT	CDF_CHAR	
BIAS_MODE_BIAS3_ENAB	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
BIAS_ON_OFF	FIELDNAM	CDF_CHAR	BIAS status
BIAS_ON_OFF	CATDESC	CDF_CHAR	Copy of BIAS status.
BIAS_ON_OFF	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
BIAS_ON_OFF	FORMAT	CDF_CHAR	
BIAS_ON_OFF	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
BW	FIELDNAM	CDF_CHAR	BIAS Works/BIAS Fails configuration.
BW	CATDESC	CDF_CHAR	BIAS Works/BIAS Fails configuration.
BW	DEPEND_0	CDF_CHAR	Epoch
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

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **266**

Tab. 4.38 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BW	DISPLAY_TYPE	CDF_CHAR	
BW	FORMAT	CDF_CHAR	
BW	LABLAXIS	CDF_CHAR	
BW	UNITS	CDF_CHAR	
BW	VAR_TYPE	CDF_CHAR	support_data
BW	SCALETYP	CDF_CHAR	linear
BW	VAR_NOTES	CDF_CHAR	
BW	UCD	CDF_CHAR	
SP0	FIELDNAM	CDF_CHAR	Shaping of electrical data parameter 0.
SP0	CATDESC	CDF_CHAR	Shaping of electrical data.
SP0	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
SP0	FORMAT	CDF_CHAR	
SP0	LABLAXIS	CDF_CHAR	
SP0	UNITS	CDF_CHAR	
SP0	VAR_TYPE	CDF_CHAR	support_data
SP0	SCALETYP	CDF_CHAR	linear
SP0	VAR_NOTES	CDF_CHAR	
SP0	UCD	CDF_CHAR	
SP1	FIELDNAM	CDF_CHAR	Shaping of electrical data parameter 1.
SP1	CATDESC	CDF_CHAR	Shaping of electrical data.
SP1	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
SP1	FORMAT	CDF_CHAR	
SP1	LABLAXIS	CDF_CHAR	
SP1	UNITS	CDF_CHAR	
SP1	VAR_TYPE	CDF_CHAR	support_data
SP1	SCALETYP	CDF_CHAR	linear
SP1	VAR_NOTES	CDF_CHAR	

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **267**

Tab. 4.38 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SP1	UCD	CDF_CHAR	
R0	FIELDNAM	CDF_CHAR	Rooting of electrical data for F0.
R0	CATDESC	CDF_CHAR	Rooting of electrical data.
R0	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
R0	FORMAT	CDF_CHAR	
R0	LABLAXIS	CDF_CHAR	
R0	UNITS	CDF_CHAR	
R0	VAR_TYPE	CDF_CHAR	support_data
R0	SCALETYP	CDF_CHAR	linear
R0	VAR_NOTES	CDF_CHAR	
R0	UCD	CDF_CHAR	
R1	FIELDNAM	CDF_CHAR	Rooting of electrical data for F1.
R1	CATDESC	CDF_CHAR	Rooting of electrical data.
R1	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
R1	FORMAT	CDF_CHAR	
R1	LABLAXIS	CDF_CHAR	
R1	UNITS	CDF_CHAR	
R1	VAR_TYPE	CDF_CHAR	support_data
R1	SCALETYP	CDF_CHAR	linear
R1	VAR_NOTES	CDF_CHAR	
R1	UCD	CDF_CHAR	
R2	FIELDNAM	CDF_CHAR	Rooting of electrical data for F2.
R2	CATDESC	CDF_CHAR	Rooting of electrical data.
R2	DEPEND_0	CDF_CHAR	Epoch
R2	VALIDMIN	CDF_UINT1	0
R2	VALIDMAX	CDF_UINT1	1

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **268**

Tab. 4.38 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
R2	SCALEMIN	CDF_UINT1	0
R2	SCALEMAX	CDF_UINT1	1
R2	FILLVAL	CDF_UINT1	255
R2	DISPLAY_TYPE	CDF_CHAR	
R2	FORMAT	CDF_CHAR	
R2	LABLAXIS	CDF_CHAR	
R2	UNITS	CDF_CHAR	
R2	VAR_TYPE	CDF_CHAR	support_data
R2	SCALETYP	CDF_CHAR	linear
R2	VAR_NOTES	CDF_CHAR	
R2	UCD	CDF_CHAR	
BP2_CNT	FIELDNAM	CDF_CHAR	Number of BP2 sets read for a given sampling frequency(F0, F1 or F2).
BP2_CNT	CATDESC	CDF_CHAR	Number of BP2 sets read for a given frequency(F0, F1 or F2).
BP2_CNT	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
BP2_CNT	FORMAT	CDF_CHAR	
BP2_CNT	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
AUTO	FIELDNAM	CDF_CHAR	Component of autovariances from the EM data stream

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00


Date: January 18, 2019

Page: **269**

Tab. 4.38 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
AUTO	CATDESC	CDF_CHAR	Component of autovariances from the EM data stream
AUTO	DEPEND_0	CDF_CHAR	Epoch
AUTO	VALIDMIN	CDF_UINT2	0
AUTO	VALIDMAX	CDF_UINT2	65534
AUTO	SCALEMIN	CDF_UINT2	0
AUTO	SCALEMAX	CDF_UINT2	65534
AUTO	FILLVAL	CDF_UINT2	65535
AUTO	DISPLAY_TYPE	CDF_CHAR	time_series
AUTO	FORMAT	CDF_CHAR	
AUTO	LABLAXIS	CDF_CHAR	
AUTO	UNITS	CDF_CHAR	
AUTO	VAR_TYPE	CDF_CHAR	data
AUTO	SCALETYP	CDF_CHAR	linear
AUTO	VAR_NOTES	CDF_CHAR	
AUTO	UCD	CDF_CHAR	This variable contains the 5 autovariances values for a given BP2 set.
CROSS_RE	FIELDNAM	CDF_CHAR	Real part of complex cross correlations from the EM data
CROSS_RE	CATDESC	CDF_CHAR	Real part of complex cross correlations from the EM data
CROSS_RE	DEPEND_0	CDF_CHAR	Epoch
CROSS_RE	VALIDMIN	CDF_UINT2	0
CROSS_RE	VALIDMAX	CDF_UINT2	65534
CROSS_RE	SCALEMIN	CDF_UINT2	0
CROSS_RE	SCALEMAX	CDF_UINT2	65534
CROSS_RE	FILLVAL	CDF_UINT2	65535
CROSS_RE	DISPLAY_TYPE	CDF_CHAR	time_series
CROSS_RE	FORMAT	CDF_CHAR	
CROSS_RE	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
CROSS_IM	FIELDNAM	CDF_CHAR	Imaginary part of complex cross correlations from the EM data

Continued on next page

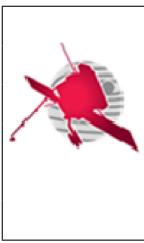
	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 270

Tab. 4.38 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
CROSS_IM	CATDESC	CDF_CHAR	Imaginary part of complex cross correlations from the EM data
CROSS_IM	DEPEND_0	CDF_CHAR	Epoch
CROSS_IM	VALIDMIN	CDF_UINT2	0
CROSS_IM	VALIDMAX	CDF_UINT2	65534
CROSS_IM	SCALEMIN	CDF_UINT2	0
CROSS_IM	SCALEMAX	CDF_UINT2	65534
CROSS_IM	FILLVAL	CDF_UINT2	65535
CROSS_IM	DISPLAY_TYPE	CDF_CHAR	time_series
CROSS_IM	FORMAT	CDF_CHAR	
CROSS_IM	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
ACQUISITION_TIME_LABEL	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME_LABEL	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME
ACQUISITION_TIME_LABEL	EORMAT	CDF_CHAR	A32
ACQUISITION_TIME_LABEL	VAR_TYPE	CDF_CHAR	metadata
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	FORMAT	CDF_CHAR	A16
ACQUISITION_TIME_UNITS	VAR_TYPE	CDF_CHAR	metadata

4.1.2.18.6 Non-Record-Variant (NRV) Variables

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



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **271**

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.

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 LFR CWF sample every TBD seconds

Expected data volume: TBD 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 RPW Operation Centre (ROC) and Solar Orbiter/RPW teams for access to data.”
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009
CAVEAT	1	CDF_CHAR	
Data_type	1	CDF_CHAR	“H0>High Resolution data”
Data_version	1	CDF_CHAR	
DATASET_ID	1	CDF_CHAR	SOLO_L1_RPW-LFR-SURV-CWF
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_UUID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	The RPW Operation Centre (ROC)


Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 272

Tab. 4.39 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	
IDB_version	1	CDF_CHAR	
Instrument_type	1	CDF_CHAR	“Radio and Plasma Waves (space)”
Level	1	CDF_CHAR	“L1>Level 1”
LINK_TEXT	1	CDF_CHAR	
LINK_TITLE	1	CDF_CHAR	
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”
Mission_group	1	CDF_CHAR	“Solar Orbiter”
MODS	1	CDF_CHAR	“June 2015 : initial release, B. KATRA (CNRS-LPP)”
PACKET_CATEGORY	1	CDF_CHAR	“12”
PACKET_PID	1	CDF_CHAR	“76”
PACKET_SERVICE_SUBTYPE	1	CDF_CHAR	“6”
PACKET_SERVICE_TYPE	1	CDF_CHAR	“21”
PACKET_SID	1	CDF_CHAR	“1”
PACKET_SID	2	CDF_CHAR	“2”
PACKET_SID	3	CDF_CHAR	“34”
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	“RPW>Radio and Plasma Waves instrument”
Provider	1	CDF_CHAR	
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00075-LES

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 273

Tab. 4.39 – 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-SURV-CWF
Skeleton_version	1	CDF_CHAR	1
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	“SOLO>Solar Orbiter”
SPECTRAL_RANGE_MAX	1	CDF_DOUBLE	0.0
SPECTRAL_RANGE_MIN	1	CDF_DOUBLE	0.0
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_DOUBLE	0.0
TIME_MIN	1	CDF_DOUBLE	0.0
Validate	1	CDF_CHAR	



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **274**


4.1.2.19.4 zVariables

Variable Name	Data Type	Number Elements	Dims	Sizes	Record Variance	Dimension Variances
Epoch	CDF_TIME_TT2000	1	0		T	
ACQUISITION_TIME	CDF_UINT4	1	1	2.0	T	T
TIME_SYNCHRO_FLAG	CDF_UINT1	1	0		T	
POST_GAP_FLAG	CDF_UINT1	1	0		T	
QUALITY_FLAG	CDF_UINT1	1	0		T	
COMMON_BIA_STATUS_FLAG	CDF_UINT1	1	0		T	
QUALITY_BITMASK	CDF_UINT1	1	0		T	
SURVEY_MODE	CDF_UINT1	1	0		T	
FREQ	CDF_UINT1	1	0		T	
TYPE	CDF_UINT1	1	0		T	
BIAS_MODE_MUX_SET	CDF_UINT1	1	0		T	
BIAS_MODE_HV_ENABLED	CDF_UINT1	1	0		T	
BIAS_MODE_BIAS1_ENABLED	CDF_UINT1	1	0		T	
BIAS_MODE_BIAS2_ENABLED	CDF_UINT1	1	0		T	
BIAS_MODE_BIAS3_ENABLED	CDF_UINT1	1	0		T	
BIAS_ON_OFF	CDF_UINT1	1	0		T	
BW	CDF_UINT1	1	0		T	
SP0	CDF_UINT1	1	0		T	
SP1	CDF_UINT1	1	0		T	
R0	CDF_UINT1	1	0		T	
R1	CDF_UINT1	1	0		T	
R2	CDF_UINT1	1	0		T	
V	CDF_INT2	1	0		T	
E	CDF_INT2	1	1	2.0	T	T
B	CDF_INT2	1	1	3.0	T	T
ACQUISITION_TIME_UNITS	CDF_CHAR	16	1	2.0	F	T
ACQUISITION_TIME_LABEL	CDF_CHAR	32	1	2.0	F	T

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

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 275

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	RPW LFR clock
Epoch	REFERENCE_POSITION	CDF_CHAR	Solar Orbiter
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
ACQUISITION_TIME	FORMAT	CDF_CHAR	E12.2
ACQUISITION_TIME	LABL_PTR_1	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME	UNIT_PTR	CDF_CHAR	ACQUISITION_TIME_UNITS
ACQUISITION_TIME	VAR_TYPE	CDF_CHAR	support_data

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **276**

Tab. 4.40 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
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 LFR 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	UCD	CDF_CHAR	time.epoch
TIME_SYNCHRO_FLAG	FIELDNAM	CDF_CHAR	Time synchronisation flag
TIME_SYNCHRO_FLAG	CATDESC	CDF_CHAR	Time synchronisation flag
TIME_SYNCHRO_FLAG	DEPEND_0	CDF_CHAR	Epoch
TIME_SYNCHRO_FLAG	VALIDMIN	CDF_UINT1	0
TIME_SYNCHRO_FLAG	VALIDMAX	CDF_UINT1	1
TIME_SYNCHRO_FLAG	SCALEMIN	CDF_UINT1	0
TIME_SYNCHRO_FLAG	SCALEMAX	CDF_UINT1	1
TIME_SYNCHRO_FLAG	FILLVAL	CDF_UINT1	255
TIME_SYNCHRO_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
TIME_SYNCHRO_FLAG	FORMAT	CDF_CHAR	I3.3
TIME_SYNCHRO_FLAG	LABLAXIS	CDF_CHAR	time sync. flag
TIME_SYNCHRO_FLAG	UNITS	CDF_CHAR	
TIME_SYNCHRO_FLAG	VAR_TYPE	CDF_CHAR	support_data
TIME_SYNCHRO_FLAG	SCALETYP	CDF_CHAR	linear
TIME_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.
TIME_SYNCHRO_FLAG	UCD	CDF_CHAR	meta.code
POST_GAP_FLAG	FIELDNAM	CDF_CHAR	POST_GAP_FLAG
POST_GAP_FLAG	CATDESC	CDF_CHAR	Post gap flag
POST_GAP_FLAG	DEPEND_0	CDF_CHAR	Epoch
POST_GAP_FLAG	VALIDMIN	CDF_UINT1	0
POST_GAP_FLAG	VALIDMAX	CDF_UINT1	254
POST_GAP_FLAG	SCALEMIN	CDF_UINT1	0
POST_GAP_FLAG	SCALEMAX	CDF_UINT1	254
POST_GAP_FLAG	FILLVAL	CDF_UINT1	255

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **277**

Tab. 4.40 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
POST_GAP_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
POST_GAP_FLAG	FORMAT	CDF_CHAR	I3.3
POST_GAP_FLAG	LABLAXIS	CDF_CHAR	Post gap flag
POST_GAP_FLAG	UNITS	CDF_CHAR	
POST_GAP_FLAG	VAR_TYPE	CDF_CHAR	support_data
POST_GAP_FLAG	SCALETYP	CDF_CHAR	linear
POST_GAP_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the reason why there is gap in the data preceding the current record. If no gap then POST_GAP_FLAG=0.
POST_GAP_FLAG	UCD	CDF_CHAR	meta.code
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
COMMON_BIA_STATUS_FLAG	FORMAT	CDF_CHAR	I1.1

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **278**

Tab. 4.40 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
COMMON_BIA_STATUS_FLAG	LABLAXIS	CDF_CHAR	LFR common parameters and BIAS status info relevancy 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	UCD	CDF_CHAR	meta.code
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	FORMAT	CDF_CHAR	I3.3
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	UCD	CDF_CHAR	meta.code
SURVEY_MODE	FIELDNAM	CDF_CHAR	SURVEY_MODE
SURVEY_MODE	CATDESC	CDF_CHAR	LFR survey mode
SURVEY_MODE	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **279**

Tab. 4.40 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SURVEY_MODE	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
FREQ	FIELDNAM	CDF_CHAR	FREQ
FREQ	CATDESC	CDF_CHAR	FREQ
FREQ	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
FREQ	FORMAT	CDF_CHAR	
FREQ	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
TYPE	FORMAT	CDF_CHAR	
TYPE	LABLAXIS	CDF_CHAR	
TYPE	UNITS	CDF_CHAR	

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **280**

Tab. 4.40 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
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)
TYPE	UCD	CDF_CHAR	
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
BIAS_MODE_MUX_SET	FORMAT	CDF_CHAR	
BIAS_MODE_MUX_SET	LABLAXIS	CDF_CHAR	
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
			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	UCD	CDF_CHAR	
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	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_HV_ENABLED	VALIDMIN	CDF_UINT1	0
BIAS_MODE_HV_ENABLED	VALIDMAX	CDF_UINT1	1

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **281**

Tab. 4.40 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
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	DISPLAY_TYPE	CDF_CHAR	
BIAS_MODE_HV_ENABLED	FORMAT	CDF_CHAR	
BIAS_MODE_HV_ENABLED	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
BIAS_MODE_BIAS1_ENABLED	FORMAT	CDF_CHAR	
BIAS_MODE_BIAS1_ENABLED	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
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	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_BIAS2_ENABLED	VALIDMIN	CDF_UINT1	0
BIAS_MODE_BIAS2_ENABLED	VALIDMAX	CDF_UINT1	1
BIAS_MODE_BIAS2_ENABLED	SCALEMIN	CDF_UINT1	0

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **282**

Tab. 4.40 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_MODE_BIAS2_ENAB	SCALEMAX	CDF_UINT1	1
BIAS_MODE_BIAS2_ENAB	FILLVAL	CDF_UINT1	255
BIAS_MODE_BIAS2_ENAB	DISPLAY_TYPE	CDF_CHAR	
BIAS_MODE_BIAS2_ENAB	FORMAT	CDF_CHAR	
BIAS_MODE_BIAS2_ENAB	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
BIAS_MODE_BIAS3_ENAB	FORMAT	CDF_CHAR	
BIAS_MODE_BIAS3_ENAB	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
BIAS_ON_OFF	FIELDNAM	CDF_CHAR	BIAS status
BIAS_ON_OFF	CATDESC	CDF_CHAR	Copy of BIAS status.
BIAS_ON_OFF	DEPEND_0	CDF_CHAR	Epoch
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

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **283**

Tab. 4.40 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_ON_OFF	DISPLAY_TYPE	CDF_CHAR	
BIAS_ON_OFF	FORMAT	CDF_CHAR	
BIAS_ON_OFF	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
BW	FIELDNAM	CDF_CHAR	BIAS Works/BIAS Fails configuration.
BW	CATDESC	CDF_CHAR	BIAS Works/BIAS Fails configuration.
BW	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
BW	FORMAT	CDF_CHAR	
BW	LABLAXIS	CDF_CHAR	
BW	UNITS	CDF_CHAR	
BW	VAR_TYPE	CDF_CHAR	support_data
BW	SCALETYP	CDF_CHAR	linear
BW	VAR_NOTES	CDF_CHAR	
BW	UCD	CDF_CHAR	
SP0	FIELDNAM	CDF_CHAR	Shaping of electrical data parameter 0.
SP0	CATDESC	CDF_CHAR	Shaping of electrical data.
SP0	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
SP0	FORMAT	CDF_CHAR	
SP0	LABLAXIS	CDF_CHAR	

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **284**

Tab. 4.40 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SP0	UNITS	CDF_CHAR	
SP0	VAR_TYPE	CDF_CHAR	support_data
SP0	SCALETYP	CDF_CHAR	linear
SP0	VAR_NOTES	CDF_CHAR	
SP0	UCD	CDF_CHAR	
SP1	FIELDNAM	CDF_CHAR	Shaping of electrical data parameter 1.
SP1	CATDESC	CDF_CHAR	Shaping of electrical data.
SP1	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
SP1	FORMAT	CDF_CHAR	
SP1	LABLAXIS	CDF_CHAR	
SP1	UNITS	CDF_CHAR	
SP1	VAR_TYPE	CDF_CHAR	support_data
SP1	SCALETYP	CDF_CHAR	linear
SP1	VAR_NOTES	CDF_CHAR	
SP1	UCD	CDF_CHAR	
R0	FIELDNAM	CDF_CHAR	Rooting of electrical data for F0.
R0	CATDESC	CDF_CHAR	Rooting of electrical data.
R0	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
R0	FORMAT	CDF_CHAR	
R0	LABLAXIS	CDF_CHAR	
R0	UNITS	CDF_CHAR	
R0	VAR_TYPE	CDF_CHAR	support_data
R0	SCALETYP	CDF_CHAR	linear
R0	VAR_NOTES	CDF_CHAR	
R0	UCD	CDF_CHAR	
R1	FIELDNAM	CDF_CHAR	Rooting of electrical data for F1.

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **285**

Tab. 4.40 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
R1	CATDESC	CDF_CHAR	Rooting of electrical data.
R1	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
R1	FORMAT	CDF_CHAR	
R1	LABLAXIS	CDF_CHAR	
R1	UNITS	CDF_CHAR	
R1	VAR_TYPE	CDF_CHAR	support_data
R1	SCALETYP	CDF_CHAR	linear
R1	VAR_NOTES	CDF_CHAR	
R1	UCD	CDF_CHAR	
R2	FIELDNAM	CDF_CHAR	Rooting of electrical data for F2.
R2	CATDESC	CDF_CHAR	Rooting of electrical data.
R2	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
R2	FORMAT	CDF_CHAR	
R2	LABLAXIS	CDF_CHAR	
R2	UNITS	CDF_CHAR	
R2	VAR_TYPE	CDF_CHAR	support_data
R2	SCALETYP	CDF_CHAR	linear
R2	VAR_NOTES	CDF_CHAR	
R2	UCD	CDF_CHAR	
V	FIELDNAM	CDF_CHAR	Potential
V	CATDESC	CDF_CHAR	Potential value (V)
V	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00


Date: January 18, 2019

Page: **286**

Tab. 4.40 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
V	FORMAT	CDF_CHAR	I6.5
V	LABLAXIS	CDF_CHAR	
V	UNITS	CDF_CHAR	
V	VAR_TYPE	CDF_CHAR	data
V	SCALETYP	CDF_CHAR	linear
V	VAR_NOTES	CDF_CHAR	Potential value
V	UCD	CDF_CHAR	
E	FIELDNAM	CDF_CHAR	Electric field
E	CATDESC	CDF_CHAR	Electrical field values (E1 and E2)
E	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
E	FORMAT	CDF_CHAR	I6.5
E	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
B	FIELDNAM	CDF_CHAR	Magnetic field
B	CATDESC	CDF_CHAR	Magnetic field values (B1, B2 and B3)
B	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
B	FORMAT	CDF_CHAR	I6.5
B	LABLAXIS	CDF_CHAR	
B	UNITS	CDF_CHAR	
B	VAR_TYPE	CDF_CHAR	data
B	SCALETYP	CDF_CHAR	linear

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 287

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	UCD	CDF_CHAR	
ACQUISITION_TIME_LABEL	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME_LABEL	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME
ACQUISITION_TIME_LABEL	FORMAT	CDF_CHAR	A32
ACQUISITION_TIME_LABEL	VAR_TYPE	CDF_CHAR	metadata
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	FORMAT	CDF_CHAR	A16
ACQUISITION_TIME_UNITS	VAR_TYPE	CDF_CHAR	metadata

4.1.2.19.6 Non-Record-Variant (NRV) Variables


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

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
```

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 288

4.1.2.20.2 Expected cadence and data volume


Nominal cadence: 1 LFR SWF every TBD seconds

Expected data volume: TBD 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 RPW Operation Centre (ROC) and Solar Orbiter/RPW teams for access to data.”
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009
CAVEAT	1	CDF_CHAR	
Data_type	1	CDF_CHAR	“H0>High Resolution data”
Data_version	1	CDF_CHAR	
DATASET_ID	1	CDF_CHAR	SOLO_L1_RPW-LFR-SURV-SWF
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_UUID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	The RPW Operation Centre (ROC)
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	
IDB_version	1	CDF_CHAR	
Instrument_type	1	CDF_CHAR	“Radio and Plasma Waves (space)”
Level	1	CDF_CHAR	“L1>Level 1”
LINK_TEXT	1	CDF_CHAR	
LINK_TITLE	1	CDF_CHAR	
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”

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 289

Tab. 4.41 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
MODS	1	CDF_CHAR	“June 2015 : initial release, B. KATRA (CNRS-LPP)”
PACKET_CATEGORY	1	CDF_CHAR	“12”
PACKET_PID	1	CDF_CHAR	“76”
PACKET_SERVICE_SUBTYPE	1	CDF_CHAR	“6”
PACKET_SERVICE_TYPE	1	CDF_CHAR	“21”
PACKET_SID	1	CDF_CHAR	“3”
PACKET_SID	2	CDF_CHAR	“4”
PACKET_SID	3	CDF_CHAR	“5”
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	“RPW>Radio and Plasma Waves instrument”
Provider	1	CDF_CHAR	
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00075-LES
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
Skeleton_version	1	CDF_CHAR	1
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	“SOLO>Solar Orbiter”
SPECTRAL_RANGE_MAX	1	CDF_DOUBLE	0.0
SPECTRAL_RANGE_MIN	1	CDF_DOUBLE	0.0
TEXT	1	CDF_CHAR	“This file contains RPW LFR level 1 snapshot waveform data for the current day.”

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019


Page: **290**

Tab. 4.41 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
TEXT_supplement_1	1	CDF_CHAR	
TIME_MAX	1	CDF_DOUBLE	0.0
TIME_MIN	1	CDF_DOUBLE	0.0
Validate	1	CDF_CHAR	

4.1.2.20.4 zVariables

Variable Name	Data Type	Number Elements	Dims	Sizes	Record Variance	Dimension Variances
Epoch	CDF_TIME_TT2000	1	0		T	
ACQUISITION_TIME	CDF_UINT4	1	1	2	T	T
TIME_SYNCHRO_FLAG	CDF_UINT1	1	0		T	
POST_GAP_FLAG	CDF_UINT1	1	0		T	
QUALITY_FLAG	CDF_UINT1	1	0		T	
COMMON_BIA_STATUS_FLAG	CDF_UINT1	1	0		T	
QUALITY_BITMASK	CDF_UINT1	1	0		T	
SURVEY_MODE	CDF_UINT1	1	0		T	
FREQ	CDF_UINT1	1	0		T	
BIAS_MODE_MUX_SET	CDF_UINT1	1	0		T	
BIAS_MODE_HV_ENABLED	CDF_UINT1	1	0		T	
BIAS_MODE_BIAS1_ENABLED	CDF_UINT1	1	0		T	
BIAS_MODE_BIAS2_ENABLED	CDF_UINT1	1	0		T	
BIAS_MODE_BIAS3_ENABLED	CDF_UINT1	1	0		T	
BIAS_ON_OFF	CDF_UINT1	1	0		T	
BW	CDF_UINT1	1	0		T	
SP0	CDF_UINT1	1	0		T	
SP1	CDF_UINT1	1	0		T	
R0	CDF_UINT1	1	0		T	
R1	CDF_UINT1	1	0		T	
R2	CDF_UINT1	1	0		T	
SAMP_DTIME	CDF_UINT4	1	1	2048	T	T
V	CDF_INT2	1	1	2048	T	T
E	CDF_INT2	1	2	2 2048	T	T T
B	CDF_INT2	1	2	3 2048	T	T T
ACQUISITION_TIME_UNITS	CDF_CHAR	16	1	2	F	T
ACQUISITION_TIME_LABEL	CDF_CHAR	32	1	2	F	T

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 291

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	RPW LFR clock
Epoch	REFERENCE_POSITION	CDF_CHAR	Solar Orbiter
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	DEPEND_0	CDF_CHAR	Epoch
ACQUISITION_TIME	VALIDMIN	CDF_UINT4	0
ACQUISITION_TIME	VALIDMAX	CDF_UINT4	4294967294
ACQUISITION_TIME	SCALEMIN	CDF_UINT4	0

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **292**

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	DISPLAY_TYPE	CDF_CHAR	time_series
ACQUISITION_TIME	FORMAT	CDF_CHAR	E12.2
ACQUISITION_TIME	LABL_PTR_1	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME	UNIT_PTR	CDF_CHAR	ACQUISITION_TIME_UNITS
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 LFR 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	UCD	CDF_CHAR	time.epoch
TIME_SYNCHRO_FLAG	FIELDNAM	CDF_CHAR	Time synchronisation flag
TIME_SYNCHRO_FLAG	CATDESC	CDF_CHAR	Time synchronisation flag
TIME_SYNCHRO_FLAG	DEPEND_0	CDF_CHAR	Epoch
TIME_SYNCHRO_FLAG	VALIDMIN	CDF_UINT1	0
TIME_SYNCHRO_FLAG	VALIDMAX	CDF_UINT1	1
TIME_SYNCHRO_FLAG	SCALEMIN	CDF_UINT1	0
TIME_SYNCHRO_FLAG	SCALEMAX	CDF_UINT1	1
TIME_SYNCHRO_FLAG	FILLVAL	CDF_UINT1	255
TIME_SYNCHRO_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
TIME_SYNCHRO_FLAG	FORMAT	CDF_CHAR	I3.3
TIME_SYNCHRO_FLAG	LABLAXIS	CDF_CHAR	time sync. flag
TIME_SYNCHRO_FLAG	UNITS	CDF_CHAR	
TIME_SYNCHRO_FLAG	VAR_TYPE	CDF_CHAR	support_data
TIME_SYNCHRO_FLAG	SCALETYP	CDF_CHAR	linear
TIME_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.
TIME_SYNCHRO_FLAG	UCD	CDF_CHAR	meta.code

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **293**

Tab. 4.42 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
POST_GAP_FLAG	FIELDNAM	CDF_CHAR	POST_GAP_FLAG
POST_GAP_FLAG	CATDESC	CDF_CHAR	Post gap flag
POST_GAP_FLAG	DEPEND_0	CDF_CHAR	Epoch
POST_GAP_FLAG	VALIDMIN	CDF_UINT1	0
POST_GAP_FLAG	VALIDMAX	CDF_UINT1	254
POST_GAP_FLAG	SCALEMIN	CDF_UINT1	0
POST_GAP_FLAG	SCALEMAX	CDF_UINT1	254
POST_GAP_FLAG	FILLVAL	CDF_UINT1	255
POST_GAP_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
POST_GAP_FLAG	FORMAT	CDF_CHAR	I3.3
POST_GAP_FLAG	LABLAXIS	CDF_CHAR	Post gap flag
POST_GAP_FLAG	UNITS	CDF_CHAR	
POST_GAP_FLAG	VAR_TYPE	CDF_CHAR	support_data
POST_GAP_FLAG	SCALETYP	CDF_CHAR	linear
POST_GAP_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the reason why there is gap in the data preceding the current record. If no gap then POST_GAP_FLAG=0.
POST_GAP_FLAG	UCD	CDF_CHAR	meta.code
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
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

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **294**

Tab. 4.42 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
COMMON_BIA_STATUS_FLAG	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
COMMON_BIA_STATUS_FLAG	FORMAT	CDF_CHAR	I1.1
COMMON_BIA_STATUS_FLAG	LABLAXIS	CDF_CHAR	LFR common parameters and BIAS status info relevancy 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	UCD	CDF_CHAR	meta.code
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	FORMAT	CDF_CHAR	I3.3
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 re- ceiver or experiment level
QUALITY_BITMASK	UCD	CDF_CHAR	meta.code
SURVEY_MODE	FIELDNAM	CDF_CHAR	SURVEY_MODE

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

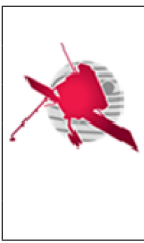
Date: January 18, 2019

Page: **295**

Tab. 4.42 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SURVEY_MODE	CATDESC	CDF_CHAR	LFR survey mode
SURVEY_MODE	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
SURVEY_MODE	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
FREQ	FIELDNAM	CDF_CHAR	Sampling frequency of the snapshot
FREQ	CATDESC	CDF_CHAR	Sampling frequency of the snapshot
FREQ	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
FREQ	FORMAT	CDF_CHAR	
FREQ	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **296**

Tab. 4.42 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_MUX_SET	FORMAT	CDF_CHAR	I3.0
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] 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	UCD	CDF_CHAR	This variable should be filled once for each
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	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_HV_ENABLED	VALIDMIN	CDF_UINT1	0

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **297**

Tab. 4.42 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
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	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_HV_ENABLED	FORMAT	CDF_CHAR	I3.0
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.
			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	UCD	CDF_CHAR	
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_BIAS1_ENABLED	FORMAT	CDF_CHAR	I3.0
BIAS_MODE_BIAS1_ENABLED	LABLAXIS	CDF_CHAR	
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.

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **298**

Tab. 4.42 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
			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_ENAB	UICD	CDF_CHAR	
BIAS_MODE_BIAS2_ENAB	HELDDNAM	CDF_CHAR	BIAS probe 2 status
BIAS_MODE_BIAS2_ENAB	ICATDESC	CDF_CHAR	Copy of enable/disable BIAS 2.
BIAS_MODE_BIAS2_ENAB	DEPEND_0	CDF_CHAR	Epoch
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	HLVAL	CDF_UINT1	255
BIAS_MODE_BIAS2_ENAB	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_BIAS2_ENAB	FORMAT	CDF_CHAR	I3.0
BIAS_MODE_BIAS2_ENAB	LEBLAXIS	CDF_CHAR	
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	UICD	CDF_CHAR	
BIAS_MODE_BIAS3_ENAB	HELDDNAM	CDF_CHAR	BIAS probe 3 status
BIAS_MODE_BIAS3_ENAB	ICATDESC	CDF_CHAR	Copy of enable/disable BIAS 3.
BIAS_MODE_BIAS3_ENAB	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_BIAS3_ENAB	VALIDMIN	CDF_UINT1	0
BIAS_MODE_BIAS3_ENAB	VALIDMAX	CDF_UINT1	1

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **299**

Tab. 4.42 – 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	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_MODE_BIAS3_ENAB	FORMAT	CDF_CHAR	I3.0
BIAS_MODE_BIAS3_ENAB	LABLAXIS	CDF_CHAR	
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.
			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	LCDD	CDF_CHAR	
BIAS_ON_OFF	FIELDNAM	CDF_CHAR	BIAS status
BIAS_ON_OFF	CATDESC	CDF_CHAR	Copy of BIAS status.
BIAS_ON_OFF	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_ON_OFF	FORMAT	CDF_CHAR	I3.0
BIAS_ON_OFF	LABLAXIS	CDF_CHAR	
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.

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **300**

Tab. 4.42 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
			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	UCD	CDF_CHAR	
BW	FIELDNAM	CDF_CHAR	BIAS Works/BIAS Fails configuration.
BW	CATDESC	CDF_CHAR	BIAS Works/BIAS Fails configuration.
BW	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
BW	FORMAT	CDF_CHAR	I3.0
BW	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
SP0	FIELDNAM	CDF_CHAR	Shaping of electrical data parameter 0.
SP0	CATDESC	CDF_CHAR	Shaping of electrical data.
SP0	DEPEND_0	CDF_CHAR	Epoch
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

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **301**

Tab. 4.42 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SP0	DISPLAY_TYPE	CDF_CHAR	time_series
SP0	FORMAT	CDF_CHAR	I3.0
SP0	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
SP1	FIELDNAM	CDF_CHAR	Shaping of electrical data parameter 1.
SP1	CATDESC	CDF_CHAR	Shaping of electrical data.
SP1	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
SP1	FORMAT	CDF_CHAR	I3.0
SP1	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
R0	FIELDNAM	CDF_CHAR	Rooting of electrical data for F0.
R0	CATDESC	CDF_CHAR	Rooting of electrical data.
R0	DEPEND_0	CDF_CHAR	Epoch

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00


Date: January 18, 2019

Page: **302**

Tab. 4.42 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
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	DISPLAY_TYPE	CDF_CHAR	time_series
R0	FORMAT	CDF_CHAR	I3.0
R0	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
R1	FIELDNAM	CDF_CHAR	Rooting of electrical data for F1.
R1	CATDESC	CDF_CHAR	Rooting of electrical data.
R1	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
R1	FORMAT	CDF_CHAR	I3.0
R1	LABLAXIS	CDF_CHAR	
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.

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 303

Tab. 4.42 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
R1	UCD	CDF_CHAR	
R2	FIELDNAM	CDF_CHAR	Rooting of electrical data for F2.
R2	CATDESC	CDF_CHAR	Rooting of electrical data.
R2	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
R2	FORMAT	CDF_CHAR	I3.0
R2	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
SAMP_DTIME	FIELDNAM	CDF_CHAR	SAMP_DTIME
SAMP_DTIME	CATDESC	CDF_CHAR	Delta time of the SWF sample
SAMP_DTIME	DEPEND_0	CDF_CHAR	Epoch
SAMP_DTIME	VALIDMIN	CDF_UINT4	0
SAMP_DTIME	VALIDMAX	CDF_UINT4	4294967294
SAMP_DTIME	SCALEMIN	CDF_UINT4	0
SAMP_DTIME	SCALEMAX	CDF_UINT4	4294967294
SAMP_DTIME	FILLVAL	CDF_UINT4	4294967295
SAMP_DTIME	DISPLAY_TYPE	CDF_CHAR	time_series
SAMP_DTIME	FORMAT	CDF_CHAR	I10
SAMP_DTIME	LABLAXIS	CDF_CHAR	Delta time
SAMP_DTIME	UNITS	CDF_CHAR	ns
SAMP_DTIME	VAR_TYPE	CDF_CHAR	support_data
SAMP_DTIME	SCALETYP	CDF_CHAR	linear
SAMP_DTIME	VAR_NOTES	CDF_CHAR	Delta time of the sample in ns from Epoch zVar of the record
SAMP_DTIME	UCD	CDF_CHAR	

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00


Date: January 18, 2019

Page: **304**

Tab. 4.42 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
V	FIELDNAM	CDF_CHAR	Potential
V	CATDESC	CDF_CHAR	Potential value (V)
V	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
V	FORMAT	CDF_CHAR	I6.5
V	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
E	FIELDNAM	CDF_CHAR	Electric field
E	CATDESC	CDF_CHAR	Electrical field values (E1 and E2)
E	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
E	FORMAT	CDF_CHAR	I6.5
E	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
B	FIELDNAM	CDF_CHAR	Magnetic field
B	CATDESC	CDF_CHAR	Magnetic field values (B1, B2 and B3)
B	DEPEND_0	CDF_CHAR	Epoch
B	VALIDMIN	CDF_INT2	-32767

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 305

Tab. 4.42 – continued from previous page


Variable Name	Attribute Name	Data Type	Value
B	VALIDMAX	CDF_INT2	32767
B	SCALEMIN	CDF_INT2	-32767
B	SCALEMAX	CDF_INT2	32767
B	FILLVAL	CDF_INT2	-32768
B	DISPLAY_TYPE	CDF_CHAR	time_series
B	FORMAT	CDF_CHAR	I6.5
B	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
ACQUISITION_TIME_LABEL	EIELDNAM	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME_LABEL	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME
ACQUISITION_TIME_LABEL	EIFORMAT	CDF_CHAR	A32
ACQUISITION_TIME_LABEL	VAR_TYPE	CDF_CHAR	metadata
ACQUISITION_TIME_UNITS	EIELDNAM	CDF_CHAR	ACQUISITION_TIME_UNITS
ACQUISITION_TIME_UNITS	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME UNIT_PTR attribute
ACQUISITION_TIME_UNITS	FORMAT	CDF_CHAR	A16
ACQUISITION_TIME_UNITS	VAR_TYPE	CDF_CHAR	metadata

4.1.2.20.6 Non-Record-Variant (NRV) Variables

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

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 00
		Date: January 18, 2019	Page: 306

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 LFR SBM1 CWF sample every TBD seconds

Expected data volume: TBD MB per LFR SBM1 CWF 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 RPW Operation Centre (ROC) and Solar Orbiter/RPW teams for access to data.”
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009
CAVEAT	1	CDF_CHAR	
Data_type	1	CDF_CHAR	“H0>High Resolution data”
Data_version	1	CDF_CHAR	
DATASET_ID	1	CDF_CHAR	SOLO_L1_RPW-LFR-SBM1-CWF
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_UUID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	The RPW Operation Centre (ROC)
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	
IDB_version	1	CDF_CHAR	
Instrument_type	1	CDF_CHAR	“Radio and Plasma Waves (space)”
Level	1	CDF_CHAR	“L1>Level 1”
LINK_TEXT	1	CDF_CHAR	
LINK_TITLE	1	CDF_CHAR	


Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 307

Tab. 4.43 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
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”
Mission_group	1	CDF_CHAR	“Solar Orbiter”
MODS	1	CDF_CHAR	“July 2015 : initial release, B. KATRA (CNRS-LPP)”
PACKET_CATEGORY	1	CDF_CHAR	“12”
PACKET_PID	1	CDF_CHAR	“79”
PACKET_SERVICE_SUBTYPE	1	CDF_CHAR	“6”
PACKET_SERVICE_TYPE	1	CDF_CHAR	“21”
PACKET_SID	1	CDF_CHAR	“24”
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	“RPW>Radio and Plasma Waves instrument”
Provider	1	CDF_CHAR	
REFERENCE	1	CDF_CHAR	ROC-DAT-PRO-NTT-00075-LES
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
Skeleton_version	1	CDF_CHAR	1
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	“SOLO>Solar Orbiter”
SPECTRAL_RANGE_MAX	1	CDF_DOUBLE	0.0
SPECTRAL_RANGE_MIN	1	CDF_DOUBLE	0.0

Continued on next page


	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 308

Tab. 4.43 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
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_DOUBLE	0.0
TIME_MIN	1	CDF_DOUBLE	0.0
Validate	1	CDF_CHAR	

4.1.2.21.4 zVariables


Variable Name	Data Type	Number Elements	Dims	Sizes	Record Variance	Dimension Variances
Epoch	CDF_TIME_TT2000	1	0		T	
ACQUISITION_TIME	CDF_UINT4	1	1	2.0	T	T
TIME_SYNCHRO_FLAG	CDF_UINT1	1	0		T	
POST_GAP_FLAG	CDF_UINT1	1	0		T	
QUALITY_FLAG	CDF_UINT1	1	0		T	
COMMON_BIA_STATUS_FLAG	CDF_UINT1	1	0		T	
QUALITY_BITMASK	CDF_UINT1	1	0		T	
BIAS_MODE_MUX_SET	CDF_UINT1	1	0		T	
BIAS_MODE_HV_ENABLED	CDF_UINT1	1	0		T	
BIAS_MODE_BIAS1_ENABLED	CDF_UINT1	1	0		T	
BIAS_MODE_BIAS2_ENABLED	CDF_UINT1	1	0		T	
BIAS_MODE_BIAS3_ENABLED	CDF_UINT1	1	0		T	
BIAS_ON_OFF	CDF_UINT1	1	0		T	
BW	CDF_UINT1	1	0		T	
SP0	CDF_UINT1	1	0		T	
SP1	CDF_UINT1	1	0		T	
R0	CDF_UINT1	1	0		T	
R1	CDF_UINT1	1	0		T	
R2	CDF_UINT1	1	0		T	
V	CDF_INT2	1	0		T	
E	CDF_INT2	1	1	2.0	T	T
B	CDF_INT2	1	1	3.0	T	T
ACQUISITION_TIME_UNITS	CDF_CHAR	16	1	2.0	F	T
ACQUISITION_TIME_LABEL	CDF_CHAR	32	1	2.0	F	T

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 309

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
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	RPW LFR clock
Epoch	REFERENCE_POSITION	CDF_CHAR	Solar Orbiter
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	DEPEND_0	CDF_CHAR	Epoch
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

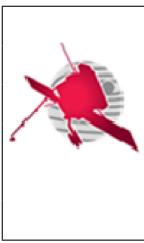
Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 310

Tab. 4.44 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
ACQUISITION_TIME	DISPLAY_TYPE	CDF_CHAR	time_series
ACQUISITION_TIME	FORMAT	CDF_CHAR	E12.2
ACQUISITION_TIME	LABL_PTR_1	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME	UNIT_PTR	CDF_CHAR	ACQUISITION_TIME_UNITS
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 LFR 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	UCD	CDF_CHAR	time.epoch
TIME_SYNCHRO_FLAG	FIELDNAM	CDF_CHAR	Time synchronisation flag
TIME_SYNCHRO_FLAG	CATDESC	CDF_CHAR	Time synchronisation flag
TIME_SYNCHRO_FLAG	DEPEND_0	CDF_CHAR	Epoch
TIME_SYNCHRO_FLAG	VALIDMIN	CDF_UINT1	0
TIME_SYNCHRO_FLAG	VALIDMAX	CDF_UINT1	1
TIME_SYNCHRO_FLAG	SCALEMIN	CDF_UINT1	0
TIME_SYNCHRO_FLAG	SCALEMAX	CDF_UINT1	1
TIME_SYNCHRO_FLAG	FILLVAL	CDF_UINT1	255
TIME_SYNCHRO_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
TIME_SYNCHRO_FLAG	FORMAT	CDF_CHAR	I3.3
TIME_SYNCHRO_FLAG	LABLAXIS	CDF_CHAR	time sync. flag
TIME_SYNCHRO_FLAG	UNITS	CDF_CHAR	
TIME_SYNCHRO_FLAG	VAR_TYPE	CDF_CHAR	support_data
TIME_SYNCHRO_FLAG	SCALETYP	CDF_CHAR	linear
TIME_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.
POST_GAP_FLAG	FIELDNAM	CDF_CHAR	POST_GAP_FLAG
POST_GAP_FLAG	CATDESC	CDF_CHAR	Post gap flag
POST_GAP_FLAG	DEPEND_0	CDF_CHAR	Epoch
POST_GAP_FLAG	VALIDMIN	CDF_UINT1	0

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **311**

Tab. 4.44 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
POST_GAP_FLAG	VALIDMAX	CDF_UINT1	255
POST_GAP_FLAG	SCALEMIN	CDF_UINT1	0
POST_GAP_FLAG	SCALEMAX	CDF_UINT1	255
POST_GAP_FLAG	FILLVAL	CDF_UINT1	255
POST_GAP_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
POST_GAP_FLAG	FORMAT	CDF_CHAR	I3.3
POST_GAP_FLAG	LABLAXIS	CDF_CHAR	Post gap flag
POST_GAP_FLAG	UNITS	CDF_CHAR	
POST_GAP_FLAG	VAR_TYPE	CDF_CHAR	support_data
POST_GAP_FLAG	SCALETYP	CDF_CHAR	linear
POST_GAP_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the reason why there is gap in the data preceding the current record. If no gap then POST_GAP_FLAG=0.
POST_GAP_FLAG	UCD	CDF_CHAR	meta.code
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
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	DEPEND_0	CDF_CHAR	Epoch
COMMON_BIA_STATUS_FLAG	VALIDMIN	CDF_UINT1	0
COMMON_BIA_STATUS_FLAG	VALIDMAX	CDF_UINT1	1
COMMON_BIA_STATUS_FLAG	SCALEMIN	CDF_UINT1	0

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **312**

Tab. 4.44 – 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	DISPLAY_TYPE	CDF_CHAR	time_series
COMMON_BIA_STATUS_FLAG	FORMAT	CDF_CHAR	I1.1
COMMON_BIA_STATUS_FLAG	LABLAXIS	CDF_CHAR	LFR common parameters and BIAS status info relevancy 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	UCD	CDF_CHAR	meta.code
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	FORMAT	CDF_CHAR	I3.3
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	UCD	CDF_CHAR	meta.code
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	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_MUX_SET	VALIDMIN	CDF_UINT1	0
BIAS_MODE_MUX_SET	VALIDMAX	CDF_UINT1	7

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **313**

Tab. 4.44 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
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	DISPLAY_TYPE	CDF_CHAR	
BIAS_MODE_MUX_SET	FORMAT	CDF_CHAR	
BIAS_MODE_MUX_SET	LABLAXIS	CDF_CHAR	
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
			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	UCD	CDF_CHAR	
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
BIAS_MODE_HV_ENABLED	FORMAT	CDF_CHAR	
BIAS_MODE_HV_ENABLED	LABLAXIS	CDF_CHAR	
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.

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **314**

Tab. 4.44 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_MODE_HV_ENABLED	UCD	CDF_CHAR	
BIAS_MODE_BIAS1_ENAB	HELDNAM	CDF_CHAR	BIAS probe 1 status
BIAS_MODE_BIAS1_ENAB	ICATDESC	CDF_CHAR	Copy of enable/disable BIAS 1.
BIAS_MODE_BIAS1_ENAB	DEPEND_0	CDF_CHAR	Epoch
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	HELDVAL	CDF_UINT1	255
BIAS_MODE_BIAS1_ENAB	DISPLAY_TYPE	CDF_CHAR	
BIAS_MODE_BIAS1_ENAB	FORMAT	CDF_CHAR	
BIAS_MODE_BIAS1_ENAB	LEBLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
BIAS_MODE_BIAS2_ENAB	FORMAT	CDF_CHAR	
BIAS_MODE_BIAS2_ENAB	LEBLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **315**

Tab. 4.44 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
BIAS_MODE_BIAS3_ENAB	FORMAT	CDF_CHAR	
BIAS_MODE_BIAS3_ENAB	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
BIAS_ON_OFF	FIELDNAM	CDF_CHAR	BIAS status
BIAS_ON_OFF	CATDESC	CDF_CHAR	Copy of BIAS status.
BIAS_ON_OFF	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
BIAS_ON_OFF	FORMAT	CDF_CHAR	
BIAS_ON_OFF	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
BW	FIELDNAM	CDF_CHAR	BIAS Works/BIAS Fails configuration.

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **316**

Tab. 4.44 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BW	CATDESC	CDF_CHAR	BIAS Works/BIAS Fails configuration.
BW	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
BW	FORMAT	CDF_CHAR	
BW	LABLAXIS	CDF_CHAR	
BW	UNITS	CDF_CHAR	
BW	VAR_TYPE	CDF_CHAR	support_data
BW	SCALETYP	CDF_CHAR	linear
BW	VAR_NOTES	CDF_CHAR	
BW	UCD	CDF_CHAR	
SP0	FIELDNAM	CDF_CHAR	Shaping of electrical data parameter 0.
SP0	CATDESC	CDF_CHAR	Shaping of electrical data.
SP0	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
SP0	FORMAT	CDF_CHAR	
SP0	LABLAXIS	CDF_CHAR	
SP0	UNITS	CDF_CHAR	
SP0	VAR_TYPE	CDF_CHAR	support_data
SP0	SCALETYP	CDF_CHAR	linear
SP0	VAR_NOTES	CDF_CHAR	
SP0	UCD	CDF_CHAR	
SP1	FIELDNAM	CDF_CHAR	Shaping of electrical data parameter 1.
SP1	CATDESC	CDF_CHAR	Shaping of electrical data.
SP1	DEPEND_0	CDF_CHAR	Epoch
SP1	VALIDMIN	CDF_UINT1	0
SP1	VALIDMAX	CDF_UINT1	1
SP1	SCALEMIN	CDF_UINT1	0
SP1	SCALEMAX	CDF_UINT1	1

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **317**

Tab. 4.44 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SP1	FILLVAL	CDF_UINT1	255
SP1	DISPLAY_TYPE	CDF_CHAR	
SP1	FORMAT	CDF_CHAR	
SP1	LABLAXIS	CDF_CHAR	
SP1	UNITS	CDF_CHAR	
SP1	VAR_TYPE	CDF_CHAR	support_data
SP1	SCALETYP	CDF_CHAR	linear
SP1	VAR_NOTES	CDF_CHAR	
SP1	UCD	CDF_CHAR	
R0	FIELDNAM	CDF_CHAR	Rooting of electrical data for F0.
R0	CATDESC	CDF_CHAR	Rooting of electrical data.
R0	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
R0	FORMAT	CDF_CHAR	
R0	LABLAXIS	CDF_CHAR	
R0	UNITS	CDF_CHAR	
R0	VAR_TYPE	CDF_CHAR	support_data
R0	SCALETYP	CDF_CHAR	linear
R0	VAR_NOTES	CDF_CHAR	
R0	UCD	CDF_CHAR	
R1	FIELDNAM	CDF_CHAR	Rooting of electrical data for F1.
R1	CATDESC	CDF_CHAR	Rooting of electrical data.
R1	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
R1	FORMAT	CDF_CHAR	
R1	LABLAXIS	CDF_CHAR	
R1	UNITS	CDF_CHAR	
R1	VAR_TYPE	CDF_CHAR	support_data
R1	SCALETYP	CDF_CHAR	linear

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00


Date: January 18, 2019

Page: **318**

Tab. 4.44 – continued from previous page


Variable Name	Attribute Name	Data Type	Value
R1	VAR_NOTES	CDF_CHAR	
R1	UCD	CDF_CHAR	
R2	FIELDNAM	CDF_CHAR	Rooting of electrical data for F2.
R2	CATDESC	CDF_CHAR	Rooting of electrical data.
R2	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
R2	FORMAT	CDF_CHAR	
R2	LABLAXIS	CDF_CHAR	
R2	UNITS	CDF_CHAR	
R2	VAR_TYPE	CDF_CHAR	support_data
R2	SCALETYP	CDF_CHAR	linear
R2	VAR_NOTES	CDF_CHAR	
R2	UCD	CDF_CHAR	
V	FIELDNAM	CDF_CHAR	Potential
V	CATDESC	CDF_CHAR	Potential value (V)
V	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
V	FORMAT	CDF_CHAR	I6.5
V	LABLAXIS	CDF_CHAR	
V	UNITS	CDF_CHAR	
V	VAR_TYPE	CDF_CHAR	data
V	SCALETYP	CDF_CHAR	linear
V	VAR_NOTES	CDF_CHAR	Potential value
V	UCD	CDF_CHAR	
E	FIELDNAM	CDF_CHAR	Electric field
E	CATDESC	CDF_CHAR	Electrical field values (E1 and E2)
E	DEPEND_0	CDF_CHAR	Epoch
E	VALIDMIN	CDF_INT2	-32767
E	VALIDMAX	CDF_INT2	32767

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 319

Tab. 4.44 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
E	SCALEMIN	CDF_INT2	-32767
E	SCALEMAX	CDF_INT2	32767
E	FILLVAL	CDF_INT2	-32768
E	DISPLAY_TYPE	CDF_CHAR	time_series
E	FORMAT	CDF_CHAR	I6.5
E	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
B	FIELDNAM	CDF_CHAR	Magnetic field
B	CATDESC	CDF_CHAR	Magnetic field values (B1, B2 and B3)
B	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
B	FORMAT	CDF_CHAR	I6.5
B	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
ACQUISITION_TIME_LABEL	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME_LABEL	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME
ACQUISITION_TIME_LABEL	FORMAT	CDF_CHAR	A32
ACQUISITION_TIME_LABEL	VAR_TYPE	CDF_CHAR	metadata
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	FORMAT	CDF_CHAR	A16
ACQUISITION_TIME_UNITS	VAR_TYPE	CDF_CHAR	metadata

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 320

4.1.2.21.6 Non-Record-Variant (NRV) Variables

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

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 LFR SBM1 BP1 record every TBD seconds

Expected data volume: TBD MB per LFR SBM1 BP1 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 RPW Operation Centre (ROC) and Solar Orbiter/RPW teams for access to data.”
CAVEAT	1	CDF_CHAR	


Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 321

Tab. 4.45 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Data_type	1	CDF_CHAR	“H0>High Resolution data”
Data_version	1	CDF_CHAR	
DATASET_ID	1	CDF_CHAR	SOLO_L1_RPW-LFR-SBM1-BP1
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_DateTime1-Date2”
FILE_UUID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	The RPW Operation Centre (ROC)
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	
IDB_version	1	CDF_CHAR	
Instrument_type	1	CDF_CHAR	“Radio and Plasma Waves (space)”
JOB_UUID	1	CDF_CHAR	
Level	1	CDF_CHAR	“L1>Level 1”
LINK_TEXT	1	CDF_CHAR	
LINK_TITLE	1	CDF_CHAR	
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”
MODS	1	CDF_CHAR	“July 2015 : initial release, B. KATRA (CNRS-LPP)”
PACKET_CATEGORY	1	CDF_CHAR	“12”
PACKET_PID	1	CDF_CHAR	“79”
PACKET_SERVICE_SUBTYPE	1	CDF_CHAR	“3”
PACKET_SERVICE_TYPE	1	CDF_CHAR	“21”
PACKET_SID	1	CDF_CHAR	“28”
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	“RPW>Radio and Plasma Waves instrument”

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 322

Tab. 4.45 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Provider	1	CDF_CHAR	
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00075-LES
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009
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
Skeleton_version	1	CDF_CHAR	1
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	“SOLO>Solar Orbiter”
SPECTRAL_RANGE_MAX	1	CDF_DOUBLE	0.0
SPECTRAL_RANGE_MIN	1	CDF_DOUBLE	0.0
TEXT	1	CDF_CHAR	“This file contains RPW LFR level 1 SBM1 BP1 data of the current SBM1 event.”
TEXT_supplement_1	1	CDF_CHAR	
TIME_MAX	1	CDF_DOUBLE	0.0
TIME_MIN	1	CDF_DOUBLE	0.0
Validate	1	CDF_CHAR	

4.1.2.22.4 zVariables

Variable Name	Data Type	Number Elements	Dims	Sizes	Record Variance	Dimension Variances
Epoch	CDF_TIME_TT2000	1	0		T	
ACQUISITION_TIME	CDF_UINT4	1	1	2.0	T	T
TIME_SYNCHRO_FLAG	CDF_UINT1	1	0		T	
POST_GAP_FLAG	CDF_UINT1	1	0		T	
QUALITY_FLAG	CDF_UINT1	1	0		T	

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **323**


Tab. 4.46 – continued from previous page

Variable Name	Data Type	Number Elements	Dims	Sizes	Record Variance	Dimension Variances
COMMON_BIA_STATUS_FLAG	CDF_UINT1	1	0		T	
QUALITY_BITMASK	CDF_UINT1	1	0		T	
BIAS_MODE_MUX_SET	CDF_UINT1	1	0		T	
BIAS_MODE_HV_ENABLED	CDF_UINT1	1	0		T	
BIAS_MODE_BIAS1_ENABLED	CDF_UINT1	1	0		T	
BIAS_MODE_BIAS2_ENABLED	CDF_UINT1	1	0		T	
BIAS_MODE_BIAS3_ENABLED	CDF_UINT1	1	0		T	
BIAS_ON_OFF	CDF_UINT1	1	0		T	
BW	CDF_UINT1	1	0		T	
SP0	CDF_UINT1	1	0		T	
SP1	CDF_UINT1	1	0		T	
R0	CDF_UINT1	1	0		T	
R1	CDF_UINT1	1	0		T	
R2	CDF_UINT1	1	0		T	
BP1_CNT	CDF_UINT1	1	0		T	
PE	CDF_UINT2	1	1	22.0	T	T
PB	CDF_UINT2	1	1	22.0	T	T
NVEC_V0	CDF_UINT1	1	1	22.0	T	T
NVEC_V1	CDF_UINT1	1	1	22.0	T	T
NVEC	CDF_UINT1	1	1	22.0	T	T
ELLIP	CDF_UINT1	1	1	22.0	T	T
DOP	CDF_UINT1	1	1	22.0	T	T
SX	CDF_UINT2	1	1	22.0	T	T
VPHI	CDF_UINT2	1	1	22.0	T	T
ACQUISITION_TIME_UNITS	CDF_CHAR	16	1	2.0	F	T
ACQUISITION_TIME_LABEL	CDF_CHAR	32	1	2.0	F	T

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

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 324

Tab. 4.47 – 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	RPW LFR clock
Epoch	REFERENCE_POSITION	CDF_CHAR	Solar Orbiter
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
ACQUISITION_TIME	FORMAT	CDF_CHAR	E12.2
ACQUISITION_TIME	LABL_PTR_1	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME	UNIT_PTR	CDF_CHAR	ACQUISITION_TIME_UNITS
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 LFR clock

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **325**

Tab. 4.47 – 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).
ACQUISITION_TIME	UCD	CDF_CHAR	time.epoch
TIME_SYNCHRO_FLAG	FIELDNAM	CDF_CHAR	Time synchronisation flag
TIME_SYNCHRO_FLAG	CATDESC	CDF_CHAR	Time synchronisation flag
TIME_SYNCHRO_FLAG	DEPEND_0	CDF_CHAR	Epoch
TIME_SYNCHRO_FLAG	VALIDMIN	CDF_UINT1	0
TIME_SYNCHRO_FLAG	VALIDMAX	CDF_UINT1	1
TIME_SYNCHRO_FLAG	SCALEMIN	CDF_UINT1	0
TIME_SYNCHRO_FLAG	SCALEMAX	CDF_UINT1	1
TIME_SYNCHRO_FLAG	FILLVAL	CDF_UINT1	255
TIME_SYNCHRO_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
TIME_SYNCHRO_FLAG	FORMAT	CDF_CHAR	I3.3
TIME_SYNCHRO_FLAG	LABLAXIS	CDF_CHAR	time sync. flag
TIME_SYNCHRO_FLAG	UNITS	CDF_CHAR	
TIME_SYNCHRO_FLAG	VAR_TYPE	CDF_CHAR	support_data
TIME_SYNCHRO_FLAG	SCALETYP	CDF_CHAR	linear
TIME_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.
TIME_SYNCHRO_FLAG	UCD	CDF_CHAR	meta.code
POST_GAP_FLAG	FIELDNAM	CDF_CHAR	POST_GAP_FLAG
POST_GAP_FLAG	CATDESC	CDF_CHAR	Post gap flag
POST_GAP_FLAG	DEPEND_0	CDF_CHAR	Epoch
POST_GAP_FLAG	VALIDMIN	CDF_UINT1	0
POST_GAP_FLAG	VALIDMAX	CDF_UINT1	255
POST_GAP_FLAG	SCALEMIN	CDF_UINT1	0
POST_GAP_FLAG	SCALEMAX	CDF_UINT1	255
POST_GAP_FLAG	FILLVAL	CDF_UINT1	255
POST_GAP_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
POST_GAP_FLAG	FORMAT	CDF_CHAR	I3.3
POST_GAP_FLAG	LABLAXIS	CDF_CHAR	Post gap flag
POST_GAP_FLAG	UNITS	CDF_CHAR	
POST_GAP_FLAG	VAR_TYPE	CDF_CHAR	support_data

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **326**

Tab. 4.47 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
POST_GAP_FLAG	SCALETYP	CDF_CHAR	linear
POST_GAP_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the reason why there is gap in the data preceding the current record. If no gap then POST_GAP_FLAG=0.
POST_GAP_FLAG	UCD	CDF_CHAR	meta.code
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
COMMON_BIA_STATUS_FLAG	FORMAT	CDF_CHAR	I1.1
COMMON_BIA_STATUS_FLAG	LABLAXIS	CDF_CHAR	LFR common parameters and BIAS status info relevancy flag
COMMON_BIA_STATUS_FLAG	UNITS	CDF_CHAR	
COMMON_BIA_STATUS_FLAG	VAR_TYPE	CDF_CHAR	support_data

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **327**

Tab. 4.47 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
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	UCD	CDF_CHAR	meta.code
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	FORMAT	CDF_CHAR	I3.3
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	UCD	CDF_CHAR	meta.code
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
BIAS_MODE_MUX_SET	FORMAT	CDF_CHAR	
BIAS_MODE_MUX_SET	LABLAXIS	CDF_CHAR	
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

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **328**

Tab. 4.47 – 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	UCD	CDF_CHAR	
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
BIAS_MODE_HV_ENABLED	FORMAT	CDF_CHAR	
BIAS_MODE_HV_ENABLED	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
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	DEPEND_0	CDF_CHAR	Epoch
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

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **329**

Tab. 4.47 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_MODE_BIAS1_ENAB	HELDVAL	CDF_UINT1	255
BIAS_MODE_BIAS1_ENAB	DISPLAY_TYPE	CDF_CHAR	
BIAS_MODE_BIAS1_ENAB	FORMAT	CDF_CHAR	
BIAS_MODE_BIAS1_ENAB	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
BIAS_MODE_BIAS2_ENAB	FORMAT	CDF_CHAR	
BIAS_MODE_BIAS2_ENAB	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
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	DEPEND_0	CDF_CHAR	Epoch
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

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **330**

Tab. 4.47 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_MODE_BIAS3_ENAB	DISPLAY_TYPE	CDF_CHAR	
BIAS_MODE_BIAS3_ENAB	FORMAT	CDF_CHAR	
BIAS_MODE_BIAS3_ENAB	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
BIAS_ON_OFF	FIELDNAM	CDF_CHAR	BIAS status
BIAS_ON_OFF	CATDESC	CDF_CHAR	Copy of BIAS status.
BIAS_ON_OFF	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
BIAS_ON_OFF	FORMAT	CDF_CHAR	
BIAS_ON_OFF	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
BW	FIELDNAM	CDF_CHAR	BIAS Works/BIAS Fails configuration.
BW	CATDESC	CDF_CHAR	BIAS Works/BIAS Fails configuration.
BW	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **331**

Tab. 4.47 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BW	FORMAT	CDF_CHAR	
BW	LABLAXIS	CDF_CHAR	
BW	UNITS	CDF_CHAR	
BW	VAR_TYPE	CDF_CHAR	support_data
BW	SCALETYP	CDF_CHAR	linear
BW	VAR_NOTES	CDF_CHAR	
BW	UCD	CDF_CHAR	
SP0	FIELDNAM	CDF_CHAR	Shaping of electrical data parameter 0.
SP0	CATDESC	CDF_CHAR	Shaping of electrical data.
SP0	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
SP0	FORMAT	CDF_CHAR	
SP0	LABLAXIS	CDF_CHAR	
SP0	UNITS	CDF_CHAR	
SP0	VAR_TYPE	CDF_CHAR	support_data
SP0	SCALETYP	CDF_CHAR	linear
SP0	VAR_NOTES	CDF_CHAR	
SP0	UCD	CDF_CHAR	
SP1	FIELDNAM	CDF_CHAR	Shaping of electrical data parameter 1.
SP1	CATDESC	CDF_CHAR	Shaping of electrical data.
SP1	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
SP1	FORMAT	CDF_CHAR	
SP1	LABLAXIS	CDF_CHAR	
SP1	UNITS	CDF_CHAR	
SP1	VAR_TYPE	CDF_CHAR	support_data
SP1	SCALETYP	CDF_CHAR	linear
SP1	VAR_NOTES	CDF_CHAR	
SP1	UCD	CDF_CHAR	

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00


Date: January 18, 2019

Page: **332**

Tab. 4.47 – 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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
R0	FORMAT	CDF_CHAR	
R0	LABLAXIS	CDF_CHAR	
R0	UNITS	CDF_CHAR	
R0	VAR_TYPE	CDF_CHAR	support_data
R0	SCALETYP	CDF_CHAR	linear
R0	VAR_NOTES	CDF_CHAR	
R0	UCD	CDF_CHAR	
R1	FIELDNAM	CDF_CHAR	Rooting of electrical data for F1.
R1	CATDESC	CDF_CHAR	Rooting of electrical data.
R1	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
R1	FORMAT	CDF_CHAR	
R1	LABLAXIS	CDF_CHAR	
R1	UNITS	CDF_CHAR	
R1	VAR_TYPE	CDF_CHAR	support_data
R1	SCALETYP	CDF_CHAR	linear
R1	VAR_NOTES	CDF_CHAR	
R1	UCD	CDF_CHAR	
R2	FIELDNAM	CDF_CHAR	Rooting of electrical data for F2.
R2	CATDESC	CDF_CHAR	Rooting of electrical data.
R2	DEPEND_0	CDF_CHAR	Epoch
R2	VALIDMIN	CDF_UINT1	0
R2	VALIDMAX	CDF_UINT1	1
R2	SCALEMIN	CDF_UINT1	0

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 333

Tab. 4.47 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
R2	SCALEMAX	CDF_UINT1	1
R2	FILLVAL	CDF_UINT1	255
R2	DISPLAY_TYPE	CDF_CHAR	
R2	FORMAT	CDF_CHAR	
R2	LABLAXIS	CDF_CHAR	
R2	UNITS	CDF_CHAR	
R2	VAR_TYPE	CDF_CHAR	support_data
R2	SCALETYP	CDF_CHAR	linear
R2	VAR_NOTES	CDF_CHAR	
R2	UCD	CDF_CHAR	
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
BP1_CNT	FORMAT	CDF_CHAR	
BP1_CNT	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
PE	FIELDNAM	CDF_CHAR	Spectral power of E field
PE	CATDESC	CDF_CHAR	Spectral power of E field
PE	DEPEND_0	CDF_CHAR	Epoch
PE	VALIDMIN	CDF_UINT2	0
PE	VALIDMAX	CDF_UINT2	65534
PE	SCALEMIN	CDF_UINT2	0
PE	SCALEMAX	CDF_UINT2	65534
PE	FILLVAL	CDF_UINT2	65535
PE	DISPLAY_TYPE	CDF_CHAR	time_series
PE	FORMAT	CDF_CHAR	
PE	LABLAXIS	CDF_CHAR	

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00


Date: January 18, 2019

Page: **334**

Tab. 4.47 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
PE	UNITS	CDF_CHAR	
PE	VAR_TYPE	CDF_CHAR	data
PE	SCALETYP	CDF_CHAR	linear
PE	VAR_NOTES	CDF_CHAR	
PE	UCD	CDF_CHAR	
PB	FIELDNAM	CDF_CHAR	Spectral power of B field
PB	CATDESC	CDF_CHAR	Spectral power of B field
PB	DEPEND_0	CDF_CHAR	Epoch
PB	VALIDMIN	CDF_UINT2	0
PB	VALIDMAX	CDF_UINT2	65534
PB	SCALEMIN	CDF_UINT2	0
PB	SCALEMAX	CDF_UINT2	65534
PB	FILLVAL	CDF_UINT2	65535
PB	DISPLAY_TYPE	CDF_CHAR	time_series
PB	FORMAT	CDF_CHAR	
PB	LABLAXIS	CDF_CHAR	
PB	UNITS	CDF_CHAR	
PB	VAR_TYPE	CDF_CHAR	data
PB	SCALETYP	CDF_CHAR	linear
PB	VAR_NOTES	CDF_CHAR	
PB	UCD	CDF_CHAR	
NVEC_V0	FIELDNAM	CDF_CHAR	Component 0 of wave normal vector from magnetic field
NVEC_V0	CATDESC	CDF_CHAR	Component 0 of wave normal vector from magnetic field
NVEC_V0	DEPEND_0	CDF_CHAR	Epoch
NVEC_V0	VALIDMIN	CDF_UINT1	0
NVEC_V0	VALIDMAX	CDF_UINT1	254
NVEC_V0	SCALEMIN	CDF_UINT1	0
NVEC_V0	SCALEMAX	CDF_UINT1	254
NVEC_V0	FILLVAL	CDF_UINT1	255
NVEC_V0	DISPLAY_TYPE	CDF_CHAR	time_series
NVEC_V0	FORMAT	CDF_CHAR	
NVEC_V0	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
NVEC_V1	FIELDNAM	CDF_CHAR	Component 1 of wave normal vector from magnetic field

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 335

Tab. 4.47 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
NVEC_V1	CATDESC	CDF_CHAR	Component 1 of wave normal vector from magnetic field
NVEC_V1	DEPEND_0	CDF_CHAR	Epoch
NVEC_V1	VALIDMIN	CDF_UINT1	0
NVEC_V1	VALIDMAX	CDF_UINT1	254
NVEC_V1	SCALEMIN	CDF_UINT1	0
NVEC_V1	SCALEMAX	CDF_UINT1	254
NVEC_V1	FILLVAL	CDF_UINT1	255
NVEC_V1	DISPLAY_TYPE	CDF_CHAR	time_series
NVEC_V1	FORMAT	CDF_CHAR	
NVEC_V1	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
NVEC	FIELDNAM	CDF_CHAR	Component 2 (sign) of wave normal vector from magnetic field
NVEC	CATDESC	CDF_CHAR	Component 2 (sign) of wave normal vector from magnetic field
NVEC	DEPEND_0	CDF_CHAR	Epoch
NVEC	VALIDMIN	CDF_UINT1	0
NVEC	VALIDMAX	CDF_UINT1	254
NVEC	SCALEMIN	CDF_UINT1	0
NVEC	SCALEMAX	CDF_UINT1	254
NVEC	FILLVAL	CDF_UINT1	255
NVEC	DISPLAY_TYPE	CDF_CHAR	time_series
NVEC	FORMAT	CDF_CHAR	
NVEC	LABLAXIS	CDF_CHAR	
NVEC	UNITS	CDF_CHAR	
NVEC	VAR_TYPE	CDF_CHAR	data
NVEC	SCALETYP	CDF_CHAR	linear
NVEC	VAR_NOTES	CDF_CHAR	
NVEC	UCD	CDF_CHAR	
ELLIP	FIELDNAM	CDF_CHAR	Wave ellipticity from magnetic field
ELLIP	CATDESC	CDF_CHAR	Wave ellipticity from magnetic field
ELLIP	DEPEND_0	CDF_CHAR	ACQUISTION_TIME

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00


Date: January 18, 2019

Page: **336**

Tab. 4.47 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
ELLIP	VALIDMIN	CDF_UINT1	0
ELLIP	VALIDMAX	CDF_UINT1	15
ELLIP	SCALEMIN	CDF_UINT1	0
ELLIP	SCALEMAX	CDF_UINT1	15
ELLIP	FILLVAL	CDF_UINT1	255
ELLIP	DISPLAY_TYPE	CDF_CHAR	time_series
ELLIP	FORMAT	CDF_CHAR	
ELLIP	LABLAXIS	CDF_CHAR	
ELLIP	UNITS	CDF_CHAR	
ELLIP	VAR_TYPE	CDF_CHAR	data
ELLIP	SCALETYP	CDF_CHAR	linear
ELLIP	VAR_NOTES	CDF_CHAR	
ELLIP	UCD	CDF_CHAR	
DOP	FIELDNAM	CDF_CHAR	degree of polarization from magnetic field
DOP	CATDESC	CDF_CHAR	degree of polarization from magnetic field
DOP	DEPEND_0	CDF_CHAR	Epoch
DOP	VALIDMIN	CDF_UINT1	0
DOP	VALIDMAX	CDF_UINT1	7
DOP	SCALEMIN	CDF_UINT1	0
DOP	SCALEMAX	CDF_UINT1	7
DOP	FILLVAL	CDF_UINT1	255
DOP	DISPLAY_TYPE	CDF_CHAR	time_series
DOP	FORMAT	CDF_CHAR	
DOP	LABLAXIS	CDF_CHAR	
DOP	UNITS	CDF_CHAR	
DOP	VAR_TYPE	CDF_CHAR	data
DOP	SCALETYP	CDF_CHAR	linear
DOP	VAR_NOTES	CDF_CHAR	
DOP	UCD	CDF_CHAR	
SX	FIELDNAM	CDF_CHAR	Normalized z-poynting from the EM data stream
SX	CATDESC	CDF_CHAR	Normalized z-poynting from the EM data stream
SX	DEPEND_0	CDF_CHAR	Epoch
SX	VALIDMIN	CDF_UINT2	0
SX	VALIDMAX	CDF_UINT2	65534
SX	SCALEMIN	CDF_UINT2	0
SX	SCALEMAX	CDF_UINT2	65534
SX	FILLVAL	CDF_UINT2	65535

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 337

Tab. 4.47 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SX	DISPLAY_TYPE	CDF_CHAR	time_series
SX	FORMAT	CDF_CHAR	
SX	LABLAXIS	CDF_CHAR	
SX	UNITS	CDF_CHAR	
SX	VAR_TYPE	CDF_CHAR	data
SX	SCALETYP	CDF_CHAR	linear
SX	VAR_NOTES	CDF_CHAR	
SX	UCD	CDF_CHAR	
VPHI	FIELDNAM	CDF_CHAR	Phase speed from the EM data stream
VPHI	CATDESC	CDF_CHAR	Phase speed from the EM data stream
VPHI	DEPEND_0	CDF_CHAR	Epoch
VPHI	VALIDMIN	CDF_UINT2	0
VPHI	VALIDMAX	CDF_UINT2	65534
VPHI	SCALEMIN	CDF_UINT2	0
VPHI	SCALEMAX	CDF_UINT2	65534
VPHI	FILLVAL	CDF_UINT2	65535
VPHI	DISPLAY_TYPE	CDF_CHAR	time_series
VPHI	FORMAT	CDF_CHAR	
VPHI	LABLAXIS	CDF_CHAR	
VPHI	UNITS	CDF_CHAR	
VPHI	VAR_TYPE	CDF_CHAR	data
VPHI	SCALETYP	CDF_CHAR	linear
VPHI	VAR_NOTES	CDF_CHAR	
VPHI	UCD	CDF_CHAR	
ACQUISITION_TIME_LABEL	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME_LABEL	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME
ACQUISITION_TIME_LABEL	EORFORMAT	CDF_CHAR	A32
ACQUISITION_TIME_LABEL	VAR_TYPE	CDF_CHAR	metadata
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	FORMAT	CDF_CHAR	A16
ACQUISITION_TIME_UNITS	VAR_TYPE	CDF_CHAR	metadata



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **338**

4.1.2.22.6 Non-Record-Variant (NRV) Variables

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

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 LFR SBM1 BP2 record every TBD seconds

Expected data volume: TBD MB per LFR SBM1 BP2 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 RPW Operation Centre (ROC) and Solar Orbiter/RPW teams for access to data.”
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009


Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 339

Tab. 4.48 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
CAVEAT	1	CDF_CHAR	
Data_type	1	CDF_CHAR	“H0>High Resolution data”
Data_version	1	CDF_CHAR	
DATASET_ID	1	CDF_CHAR	SOLO_L1_RPW-LFR-SBM1-BP2
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_DateTime1-Date2”
FILE_UUID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	The RPW Operation Centre (ROC)
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	
IDB_version	1	CDF_CHAR	
Instrument_type	1	CDF_CHAR	“Radio and Plasma Waves (space)”
Level	1	CDF_CHAR	“L1>Level 1”
LINK_TEXT	1	CDF_CHAR	
LINK_TITLE	1	CDF_CHAR	
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”
MODS	1	CDF_CHAR	“July 2015 : initial release, B. KATRA (CNRS-LPP)”
PACKET_CATEGORY	1	CDF_CHAR	“12”
PACKET_PID	1	CDF_CHAR	“79”
PACKET_SERVICE_SUBTYPE	1	CDF_CHAR	“3”
PACKET_SERVICE_TYPE	1	CDF_CHAR	“21”
PACKET_SID	1	CDF_CHAR	“31”
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	“RPW>Radio and Plasma Waves instrument”

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 340

Tab. 4.48 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Provider	1	CDF_CHAR	
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00075-LES
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
Skeleton_version	1	CDF_CHAR	1
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	“SOLO>Solar Orbiter”
SPECTRAL_RANGE_MAX	1	CDF_DOUBLE	0.0
SPECTRAL_RANGE_MIN	1	CDF_DOUBLE	0.0
TEXT	1	CDF_CHAR	“This file contains RPW LFR level 1 SBM1 BP2 data of the current SBM1 event.”
TEXT_supplement_1	1	CDF_CHAR	
TIME_MAX	1	CDF_DOUBLE	0.0
TIME_MIN	1	CDF_DOUBLE	0.0
Validate	1	CDF_CHAR	



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **341**


4.1.2.23.4 zVariables

Variable Name	Data Type	Number Elements	Dims	Sizes	Record Variance	Dimension Variances
Epoch	CDF_TIME_TT2000	1	0		T	
ACQUISITION_TIME	CDF_UINT4	1	1	2	T	T
TIME_SYNCHRO_FLAG	CDF_UINT1	1	0		T	
POST_GAP_FLAG	CDF_UINT1	1	0		T	
QUALITY_FLAG	CDF_UINT1	1	0		T	
COMMON_BIA_STATUS_FLAG	CDF_UINT1	1	0		T	
QUALITY_BITMASK	CDF_UINT1	1	0		T	
BIAS_MODE_MUX_SET	CDF_UINT1	1	0		T	
BIAS_MODE_HV_ENABLED	CDF_UINT1	1	0		T	
BIAS_MODE_BIAS1_ENABLED	CDF_UINT1	1	0		T	
BIAS_MODE_BIAS2_ENABLED	CDF_UINT1	1	0		T	
BIAS_MODE_BIAS3_ENABLED	CDF_UINT1	1	0		T	
BIAS_ON_OFF	CDF_UINT1	1	0		T	
BW	CDF_UINT1	1	0		T	
SP0	CDF_UINT1	1	0		T	
SP1	CDF_UINT1	1	0		T	
R0	CDF_UINT1	1	0		T	
R1	CDF_UINT1	1	0		T	
R2	CDF_UINT1	1	0		T	
BP2_CNT	CDF_UINT1	1	0		T	
AUTO	CDF_UINT2	1	2	22 5	T	T T
CROSS_RE	CDF_UINT2	1	2	22 10	T	T T
CROSS_IM	CDF_UINT2	1	2	22 10	T	T T
ACQUISITION_TIME_UNITS	CDF_CHAR	16	1	2	F	T
ACQUISITION_TIME_LABEL	CDF_CHAR	32	1	2	F	T

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


Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 342

Tab. 4.49 – 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	RPW LFR clock
Epoch	REFERENCE_POSITION	CDF_CHAR	Solar Orbiter
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
ACQUISITION_TIME	FORMAT	CDF_CHAR	E12.2
ACQUISITION_TIME	LABL_PTR_1	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME	UNIT_PTR	CDF_CHAR	ACQUISITION_TIME_UNITS
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 LFR clock

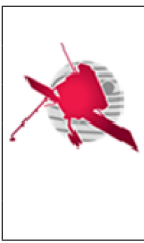
Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 343

Tab. 4.49 – 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).
ACQUISITION_TIME	UCD	CDF_CHAR	time.epoch
TIME_SYNCHRO_FLAG	FIELDNAM	CDF_CHAR	Time synchronisation flag
TIME_SYNCHRO_FLAG	CATDESC	CDF_CHAR	Time synchronisation flag
TIME_SYNCHRO_FLAG	DEPEND_0	CDF_CHAR	Epoch
TIME_SYNCHRO_FLAG	VALIDMIN	CDF_UINT1	0
TIME_SYNCHRO_FLAG	VALIDMAX	CDF_UINT1	1
TIME_SYNCHRO_FLAG	SCALEMIN	CDF_UINT1	0
TIME_SYNCHRO_FLAG	SCALEMAX	CDF_UINT1	1
TIME_SYNCHRO_FLAG	FILLVAL	CDF_UINT1	255
TIME_SYNCHRO_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
TIME_SYNCHRO_FLAG	FORMAT	CDF_CHAR	I3.3
TIME_SYNCHRO_FLAG	LABLAXIS	CDF_CHAR	time sync. flag
TIME_SYNCHRO_FLAG	UNITS	CDF_CHAR	
TIME_SYNCHRO_FLAG	VAR_TYPE	CDF_CHAR	support_data
TIME_SYNCHRO_FLAG	SCALETYP	CDF_CHAR	linear
TIME_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.
TIME_SYNCHRO_FLAG	UCD	CDF_CHAR	meta.code
POST_GAP_FLAG	FIELDNAM	CDF_CHAR	POST_GAP_FLAG
POST_GAP_FLAG	CATDESC	CDF_CHAR	Post gap flag
POST_GAP_FLAG	DEPEND_0	CDF_CHAR	Epoch
POST_GAP_FLAG	VALIDMIN	CDF_UINT1	0
POST_GAP_FLAG	VALIDMAX	CDF_UINT1	255
POST_GAP_FLAG	SCALEMIN	CDF_UINT1	0
POST_GAP_FLAG	SCALEMAX	CDF_UINT1	255
POST_GAP_FLAG	FILLVAL	CDF_UINT1	255
POST_GAP_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
POST_GAP_FLAG	FORMAT	CDF_CHAR	I3.3
POST_GAP_FLAG	LABLAXIS	CDF_CHAR	Post gap flag
POST_GAP_FLAG	UNITS	CDF_CHAR	
POST_GAP_FLAG	VAR_TYPE	CDF_CHAR	support_data

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **344**

Tab. 4.49 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
POST_GAP_FLAG	SCALETYP	CDF_CHAR	linear
POST_GAP_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the reason why there is gap in the data preceding the current record. If no gap then POST_GAP_FLAG=0.
POST_GAP_FLAG	UCD	CDF_CHAR	meta.code
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
COMMON_BIA_STATUS_FLAG	FORMAT	CDF_CHAR	I1.1
COMMON_BIA_STATUS_FLAG	LABLAXIS	CDF_CHAR	LFR common parameters and BIAS status info relevancy flag
COMMON_BIA_STATUS_FLAG	UNITS	CDF_CHAR	
COMMON_BIA_STATUS_FLAG	VAR_TYPE	CDF_CHAR	support_data

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **345**

Tab. 4.49 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
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	UCD	CDF_CHAR	meta.code
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	FORMAT	CDF_CHAR	I3.3
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	UCD	CDF_CHAR	meta.code
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
BIAS_MODE_MUX_SET	FORMAT	CDF_CHAR	
BIAS_MODE_MUX_SET	LABLAXIS	CDF_CHAR	
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

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **346**

Tab. 4.49 – 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	UCD	CDF_CHAR	
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
BIAS_MODE_HV_ENABLED	FORMAT	CDF_CHAR	
BIAS_MODE_HV_ENABLED	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
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	DEPEND_0	CDF_CHAR	Epoch
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

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **347**

Tab. 4.49 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_MODE_BIAS1_ENAB	HELDVAL	CDF_UINT1	255
BIAS_MODE_BIAS1_ENAB	DISPLAY_TYPE	CDF_CHAR	
BIAS_MODE_BIAS1_ENAB	FORMAT	CDF_CHAR	
BIAS_MODE_BIAS1_ENAB	LEBLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
BIAS_MODE_BIAS2_ENAB	FORMAT	CDF_CHAR	
BIAS_MODE_BIAS2_ENAB	LEBLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
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	DEPEND_0	CDF_CHAR	Epoch
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

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **348**

Tab. 4.49 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_MODE_BIAS3_ENAB	DISPLAY_TYPE	CDF_CHAR	
BIAS_MODE_BIAS3_ENAB	FORMAT	CDF_CHAR	
BIAS_MODE_BIAS3_ENAB	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
BIAS_ON_OFF	FIELDNAM	CDF_CHAR	BIAS status
BIAS_ON_OFF	CATDESC	CDF_CHAR	Copy of BIAS status.
BIAS_ON_OFF	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
BIAS_ON_OFF	FORMAT	CDF_CHAR	
BIAS_ON_OFF	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
BW	FIELDNAM	CDF_CHAR	BIAS Works/BIAS Fails configuration.
BW	CATDESC	CDF_CHAR	BIAS Works/BIAS Fails configuration.
BW	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **349**

Tab. 4.49 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BW	FORMAT	CDF_CHAR	
BW	LABLAXIS	CDF_CHAR	
BW	UNITS	CDF_CHAR	
BW	VAR_TYPE	CDF_CHAR	support_data
BW	SCALETYP	CDF_CHAR	linear
BW	VAR_NOTES	CDF_CHAR	
BW	UCD	CDF_CHAR	
SP0	FIELDNAM	CDF_CHAR	Shaping of electrical data parameter 0.
SP0	CATDESC	CDF_CHAR	Shaping of electrical data.
SP0	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
SP0	FORMAT	CDF_CHAR	
SP0	LABLAXIS	CDF_CHAR	
SP0	UNITS	CDF_CHAR	
SP0	VAR_TYPE	CDF_CHAR	support_data
SP0	SCALETYP	CDF_CHAR	linear
SP0	VAR_NOTES	CDF_CHAR	
SP0	UCD	CDF_CHAR	
SP1	FIELDNAM	CDF_CHAR	Shaping of electrical data parameter 1.
SP1	CATDESC	CDF_CHAR	Shaping of electrical data.
SP1	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
SP1	FORMAT	CDF_CHAR	
SP1	LABLAXIS	CDF_CHAR	
SP1	UNITS	CDF_CHAR	
SP1	VAR_TYPE	CDF_CHAR	support_data
SP1	SCALETYP	CDF_CHAR	linear
SP1	VAR_NOTES	CDF_CHAR	
SP1	UCD	CDF_CHAR	

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

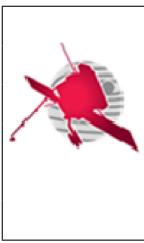
Date: January 18, 2019

Page: **350**

Tab. 4.49 – 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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
R0	FORMAT	CDF_CHAR	
R0	LABLAXIS	CDF_CHAR	
R0	UNITS	CDF_CHAR	
R0	VAR_TYPE	CDF_CHAR	support_data
R0	SCALETYP	CDF_CHAR	linear
R0	VAR_NOTES	CDF_CHAR	
R0	UCD	CDF_CHAR	
R1	FIELDNAM	CDF_CHAR	Rooting of electrical data for F1.
R1	CATDESC	CDF_CHAR	Rooting of electrical data.
R1	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
R1	FORMAT	CDF_CHAR	
R1	LABLAXIS	CDF_CHAR	
R1	UNITS	CDF_CHAR	
R1	VAR_TYPE	CDF_CHAR	support_data
R1	SCALETYP	CDF_CHAR	linear
R1	VAR_NOTES	CDF_CHAR	
R1	UCD	CDF_CHAR	
R2	FIELDNAM	CDF_CHAR	Rooting of electrical data for F2.
R2	CATDESC	CDF_CHAR	Rooting of electrical data.
R2	DEPEND_0	CDF_CHAR	Epoch
R2	VALIDMIN	CDF_UINT1	0
R2	VALIDMAX	CDF_UINT1	1
R2	SCALEMIN	CDF_UINT1	0

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **351**

Tab. 4.49 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
R2	SCALEMAX	CDF_UINT1	1
R2	FILLVAL	CDF_UINT1	255
R2	DISPLAY_TYPE	CDF_CHAR	
R2	FORMAT	CDF_CHAR	
R2	LABLAXIS	CDF_CHAR	
R2	UNITS	CDF_CHAR	
R2	VAR_TYPE	CDF_CHAR	support_data
R2	SCALETYP	CDF_CHAR	linear
R2	VAR_NOTES	CDF_CHAR	
R2	UCD	CDF_CHAR	
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
BP2_CNT	FORMAT	CDF_CHAR	
BP2_CNT	LABLAXIS	CDF_CHAR	
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 number is 22.
BP2_CNT	UCD	CDF_CHAR	
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	DEPEND_0	CDF_CHAR	Epoch
AUTO	VALIDMIN	CDF_UINT2	0
AUTO	VALIDMAX	CDF_UINT2	65534
AUTO	SCALEMIN	CDF_UINT2	0
AUTO	SCALEMAX	CDF_UINT2	65534
AUTO	FILLVAL	CDF_UINT2	65535
AUTO	DISPLAY_TYPE	CDF_CHAR	time_series

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **352**

Tab. 4.49 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
AUTO	FORMAT	CDF_CHAR	
AUTO	LABLAXIS	CDF_CHAR	
AUTO	UNITS	CDF_CHAR	
AUTO	VAR_TYPE	CDF_CHAR	data
AUTO	SCALETYP	CDF_CHAR	linear
AUTO	VAR_NOTES	CDF_CHAR	
AUTO	UCD	CDF_CHAR	This variable contains the 5 autovariances values for a given BP2 set.
CROSS_RE	FIELDNAM	CDF_CHAR	Real part of complex cross correlations from the EM data
CROSS_RE	CATDESC	CDF_CHAR	Real part of complex cross correlations from the EM data
CROSS_RE	DEPEND_0	CDF_CHAR	Epoch
CROSS_RE	VALIDMIN	CDF_UINT2	0
CROSS_RE	VALIDMAX	CDF_UINT2	65534
CROSS_RE	SCALEMIN	CDF_UINT2	0
CROSS_RE	SCALEMAX	CDF_UINT2	65534
CROSS_RE	FILLVAL	CDF_UINT2	65535
CROSS_RE	DISPLAY_TYPE	CDF_CHAR	time_series
CROSS_RE	FORMAT	CDF_CHAR	
CROSS_RE	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
CROSS_IM	FIELDNAM	CDF_CHAR	Imaginary part of complex cross correlations from the EM data
CROSS_IM	CATDESC	CDF_CHAR	Imaginary part of complex cross correlations from the EM data
CROSS_IM	DEPEND_0	CDF_CHAR	Epoch
CROSS_IM	VALIDMIN	CDF_UINT2	0
CROSS_IM	VALIDMAX	CDF_UINT2	65534
CROSS_IM	SCALEMIN	CDF_UINT2	0



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **353**

4.1.2.23.6 Non-Record-Variant (NRV) Variables

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

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 LFR SBM2 CWF sample every TBD seconds

Expected data volume: TBD MB per LFR SBM2 CWF 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 RPW Operation Centre (ROC) and Solar Orbiter/RPW teams for access to data.”
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009


Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 354

Tab. 4.50 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
CAVEAT	1	CDF_CHAR	
Data_type	1	CDF_CHAR	“H0>High Resolution data”
Data_version	1	CDF_CHAR	
DATASET_ID	1	CDF_CHAR	SOLO_L1_RPW-LFR-SBM2-CWF
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_DateTime1_Date
FILE_UUID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	The RPW Operation Centre (ROC)
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	
IDB_version	1	CDF_CHAR	
Instrument_type	1	CDF_CHAR	“Radio and Plasma Waves (space)”
Level	1	CDF_CHAR	“L1>Level 1”
LINK_TEXT	1	CDF_CHAR	
LINK_TITLE	1	CDF_CHAR	
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”
MODS	1	CDF_CHAR	“July 2015 : initial release, B. KATRA (CNRS-LPP)”
PACKET_CATEGORY	1	CDF_CHAR	“12”
PACKET_PID	1	CDF_CHAR	“79”
PACKET_SERVICE_SUBTYPE	1	CDF_CHAR	“6”
PACKET_SERVICE_TYPE	1	CDF_CHAR	“21”
PACKET_SID	1	CDF_CHAR	“25”
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	“RPW>Radio and Plasma Waves instrument”
Provider	1	CDF_CHAR	

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 355

Tab. 4.50 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00075-LES
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
Skeleton_version	1	CDF_CHAR	1
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	“SOLO>Solar Orbiter”
SPECTRAL_RANGE_MAX	1	CDF_DOUBLE	0.0
SPECTRAL_RANGE_MIN	1	CDF_DOUBLE	0.0
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_DOUBLE	0.0
TIME_MIN	1	CDF_DOUBLE	0.0
Validate	1	CDF_CHAR	



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **356**


4.1.2.24.4 zVariables

Variable Name	Data Type	Number Elements	Dims	Sizes	Record Variance	Dimension Variances
Epoch	CDF_TIME_TT2000	1	0		T	
ACQUISITION_TIME	CDF_UINT4	1	1	2.0	T	T
TIME_SYNCHRO_FLAG	CDF_UINT1	1	0		T	
POST_GAP_FLAG	CDF_UINT1	1	0		T	
QUALITY_FLAG	CDF_UINT1	1	0		T	
COMMON_BIA_STATUS_FLAG	CDF_UINT1	1	0		T	
QUALITY_BITMASK	CDF_UINT1	1	0		T	
BIAS_MODE_MUX_SET	CDF_UINT1	1	0		T	
BIAS_MODE_HV_ENABLED	CDF_UINT1	1	0		T	
BIAS_MODE_BIAS1_ENABLED	CDF_UINT1	1	0		T	
BIAS_MODE_BIAS2_ENABLED	CDF_UINT1	1	0		T	
BIAS_MODE_BIAS3_ENABLED	CDF_UINT1	1	0		T	
BIAS_ON_OFF	CDF_UINT1	1	0		T	
BW	CDF_UINT1	1	0		T	
SP0	CDF_UINT1	1	0		T	
SP1	CDF_UINT1	1	0		T	
R0	CDF_UINT1	1	0		T	
R1	CDF_UINT1	1	0		T	
R2	CDF_UINT1	1	0		T	
V	CDF_INT2	1	0		T	
E	CDF_INT2	1	1	2.0	T	T
B	CDF_INT2	1	1	3.0	T	T
ACQUISITION_TIME_UNITS	CDF_CHAR	16	1	2.0	F	T
ACQUISITION_TIME_LABEL	CDF_CHAR	32	1	2.0	F	T

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


Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 357

Tab. 4.51 – 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	RPW LFR clock
Epoch	REFERENCE_POSITION	CDF_CHAR	Solar Orbiter
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
ACQUISITION_TIME	FORMAT	CDF_CHAR	E12.2
ACQUISITION_TIME	LABL_PTR_1	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME	UNIT_PTR	CDF_CHAR	ACQUISITION_TIME_UNITS
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 LFR clock

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 358

Tab. 4.51 – 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	UCD	CDF_CHAR	time.epoch
TIME_SYNCHRO_FLAG	FIELDNAM	CDF_CHAR	Time synchronisation flag
TIME_SYNCHRO_FLAG	CATDESC	CDF_CHAR	Time synchronisation flag
TIME_SYNCHRO_FLAG	DEPEND_0	CDF_CHAR	Epoch
TIME_SYNCHRO_FLAG	VALIDMIN	CDF_UINT1	0
TIME_SYNCHRO_FLAG	VALIDMAX	CDF_UINT1	1
TIME_SYNCHRO_FLAG	SCALEMIN	CDF_UINT1	0
TIME_SYNCHRO_FLAG	SCALEMAX	CDF_UINT1	1
TIME_SYNCHRO_FLAG	FILLVAL	CDF_UINT1	255
TIME_SYNCHRO_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
TIME_SYNCHRO_FLAG	FORMAT	CDF_CHAR	I3.3
TIME_SYNCHRO_FLAG	LABLAXIS	CDF_CHAR	time sync. flag
TIME_SYNCHRO_FLAG	UNITS	CDF_CHAR	
TIME_SYNCHRO_FLAG	VAR_TYPE	CDF_CHAR	support_data
TIME_SYNCHRO_FLAG	SCALETYP	CDF_CHAR	linear
TIME_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.
TIME_SYNCHRO_FLAG	UCD	CDF_CHAR	meta.code
POST_GAP_FLAG	FIELDNAM	CDF_CHAR	POST_GAP_FLAG
POST_GAP_FLAG	CATDESC	CDF_CHAR	Post gap flag
POST_GAP_FLAG	DEPEND_0	CDF_CHAR	Epoch
POST_GAP_FLAG	VALIDMIN	CDF_UINT1	0
POST_GAP_FLAG	VALIDMAX	CDF_UINT1	254
POST_GAP_FLAG	SCALEMIN	CDF_UINT1	0
POST_GAP_FLAG	SCALEMAX	CDF_UINT1	254
POST_GAP_FLAG	FILLVAL	CDF_UINT1	255
POST_GAP_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
POST_GAP_FLAG	FORMAT	CDF_CHAR	I3.3
POST_GAP_FLAG	LABLAXIS	CDF_CHAR	Post gap flag
POST_GAP_FLAG	UNITS	CDF_CHAR	

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

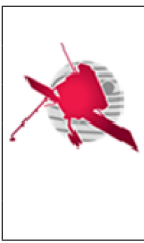
Date: January 18, 2019

Page: **359**

Tab. 4.51 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
POST_GAP_FLAG	VAR_TYPE	CDF_CHAR	support_data
POST_GAP_FLAG	SCALETYP	CDF_CHAR	linear
POST_GAP_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the reason why there is gap in the data preceding the current record. If no gap then POST_GAP_FLAG=0.
POST_GAP_FLAG	UCD	CDF_CHAR	meta.code
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
COMMON_BIA_STATUS_FLAG	FORMAT	CDF_CHAR	I1.1
COMMON_BIA_STATUS_FLAG	LABLAXIS	CDF_CHAR	LFR common parameters and BIAS status info relevancy flag
COMMON_BIA_STATUS_FLAG	UNITS	CDF_CHAR	

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **360**

Tab. 4.51 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
COMMON_BIA_STATUS_FL	VAR_TYPE	CDF_CHAR	support_data
COMMON_BIA_STATUS_FL	SCALETYP	CDF_CHAR	linear
COMMON_BIA_STATUS_FL	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_FL	UCD	CDF_CHAR	meta.code
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	FORMAT	CDF_CHAR	I3.3
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	UCD	CDF_CHAR	meta.code
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
BIAS_MODE_MUX_SET	FORMAT	CDF_CHAR	
BIAS_MODE_MUX_SET	LABLAXIS	CDF_CHAR	
BIAS_MODE_MUX_SET	UNITS	CDF_CHAR	
BIAS_MODE_MUX_SET	VAR_TYPE	CDF_CHAR	support_data

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **361**

Tab. 4.51 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
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
			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	UCD	CDF_CHAR	
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
BIAS_MODE_HV_ENABLED	FORMAT	CDF_CHAR	
BIAS_MODE_HV_ENABLED	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
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	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_BIAS1_ENABLED	VALIDMIN	CDF_UINT1	0
BIAS_MODE_BIAS1_ENABLED	VALIDMAX	CDF_UINT1	1
BIAS_MODE_BIAS1_ENABLED	SCALEMIN	CDF_UINT1	0

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **362**

Tab. 4.51 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_MODE_BIAS1_ENAB	SCALEMAX	CDF_UINT1	1
BIAS_MODE_BIAS1_ENAB	HEADVAL	CDF_UINT1	255
BIAS_MODE_BIAS1_ENAB	DISPLAY_TYPE	CDF_CHAR	
BIAS_MODE_BIAS1_ENAB	FORMAT	CDF_CHAR	
BIAS_MODE_BIAS1_ENAB	LABLAXIS	CDF_CHAR	
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	HEAD	CDF_CHAR	
BIAS_MODE_BIAS2_ENAB	HEADNAM	CDF_CHAR	BIAS probe 2 status
BIAS_MODE_BIAS2_ENAB	HEADDESC	CDF_CHAR	Copy of enable/disable BIAS 2.
BIAS_MODE_BIAS2_ENAB	DEPEND_0	CDF_CHAR	Epoch
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	HEADVAL	CDF_UINT1	255
BIAS_MODE_BIAS2_ENAB	DISPLAY_TYPE	CDF_CHAR	
BIAS_MODE_BIAS2_ENAB	FORMAT	CDF_CHAR	
BIAS_MODE_BIAS2_ENAB	LABLAXIS	CDF_CHAR	
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	HEAD	CDF_CHAR	
BIAS_MODE_BIAS3_ENAB	HEADNAM	CDF_CHAR	BIAS probe 3 status
BIAS_MODE_BIAS3_ENAB	HEADDESC	CDF_CHAR	Copy of enable/disable BIAS 3.
BIAS_MODE_BIAS3_ENAB	DEPEND_0	CDF_CHAR	Epoch
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

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **363**

Tab. 4.51 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_MODE_BIAS3_ENAB	FILLVAL	CDF_UINT1	255
BIAS_MODE_BIAS3_ENAB	DISPLAY_TYPE	CDF_CHAR	
BIAS_MODE_BIAS3_ENAB	FORMAT	CDF_CHAR	
BIAS_MODE_BIAS3_ENAB	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
BIAS_ON_OFF	FIELDNAM	CDF_CHAR	BIAS status
BIAS_ON_OFF	CATDESC	CDF_CHAR	Copy of BIAS status.
BIAS_ON_OFF	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
BIAS_ON_OFF	FORMAT	CDF_CHAR	
BIAS_ON_OFF	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
BW	FIELDNAM	CDF_CHAR	BIAS Works/BIAS Fails configuration.
BW	CATDESC	CDF_CHAR	BIAS Works/BIAS Fails configuration.
BW	DEPEND_0	CDF_CHAR	Epoch
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

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **364**

Tab. 4.51 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BW	DISPLAY_TYPE	CDF_CHAR	
BW	FORMAT	CDF_CHAR	
BW	LABLAXIS	CDF_CHAR	
BW	UNITS	CDF_CHAR	
BW	VAR_TYPE	CDF_CHAR	support_data
BW	SCALETYP	CDF_CHAR	linear
BW	VAR_NOTES	CDF_CHAR	
BW	UCD	CDF_CHAR	
SP0	FIELDNAM	CDF_CHAR	Shaping of electrical data parameter 0.
SP0	CATDESC	CDF_CHAR	Shaping of electrical data.
SP0	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
SP0	FORMAT	CDF_CHAR	
SP0	LABLAXIS	CDF_CHAR	
SP0	UNITS	CDF_CHAR	
SP0	VAR_TYPE	CDF_CHAR	support_data
SP0	SCALETYP	CDF_CHAR	linear
SP0	VAR_NOTES	CDF_CHAR	
SP0	UCD	CDF_CHAR	
SP1	FIELDNAM	CDF_CHAR	Shaping of electrical data parameter 1.
SP1	CATDESC	CDF_CHAR	Shaping of electrical data.
SP1	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
SP1	FORMAT	CDF_CHAR	
SP1	LABLAXIS	CDF_CHAR	
SP1	UNITS	CDF_CHAR	
SP1	VAR_TYPE	CDF_CHAR	support_data
SP1	SCALETYP	CDF_CHAR	linear
SP1	VAR_NOTES	CDF_CHAR	

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **365**

Tab. 4.51 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SP1	UCD	CDF_CHAR	
R0	FIELDNAM	CDF_CHAR	Rooting of electrical data for F0.
R0	CATDESC	CDF_CHAR	Rooting of electrical data.
R0	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
R0	FORMAT	CDF_CHAR	
R0	LABLAXIS	CDF_CHAR	
R0	UNITS	CDF_CHAR	
R0	VAR_TYPE	CDF_CHAR	support_data
R0	SCALETYP	CDF_CHAR	linear
R0	VAR_NOTES	CDF_CHAR	
R0	UCD	CDF_CHAR	
R1	FIELDNAM	CDF_CHAR	Rooting of electrical data for F1.
R1	CATDESC	CDF_CHAR	Rooting of electrical data.
R1	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
R1	FORMAT	CDF_CHAR	
R1	LABLAXIS	CDF_CHAR	
R1	UNITS	CDF_CHAR	
R1	VAR_TYPE	CDF_CHAR	support_data
R1	SCALETYP	CDF_CHAR	linear
R1	VAR_NOTES	CDF_CHAR	
R1	UCD	CDF_CHAR	
R2	FIELDNAM	CDF_CHAR	Rooting of electrical data for F2.
R2	CATDESC	CDF_CHAR	Rooting of electrical data.
R2	DEPEND_0	CDF_CHAR	Epoch
R2	VALIDMIN	CDF_UINT1	0
R2	VALIDMAX	CDF_UINT1	1

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00


Date: January 18, 2019

Page: **366**

Tab. 4.51 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
R2	SCALEMIN	CDF_UINT1	0
R2	SCALEMAX	CDF_UINT1	1
R2	FILLVAL	CDF_UINT1	255
R2	DISPLAY_TYPE	CDF_CHAR	
R2	FORMAT	CDF_CHAR	
R2	LABLAXIS	CDF_CHAR	
R2	UNITS	CDF_CHAR	
R2	VAR_TYPE	CDF_CHAR	support_data
R2	SCALETYP	CDF_CHAR	linear
R2	VAR_NOTES	CDF_CHAR	
R2	UCD	CDF_CHAR	
V	FIELDNAM	CDF_CHAR	Potential
V	CATDESC	CDF_CHAR	Potential value (V)
V	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
V	FORMAT	CDF_CHAR	I6.5
V	LABLAXIS	CDF_CHAR	
V	UNITS	CDF_CHAR	
V	VAR_TYPE	CDF_CHAR	data
V	SCALETYP	CDF_CHAR	linear
V	VAR_NOTES	CDF_CHAR	Potential value
V	UCD	CDF_CHAR	
E	FIELDNAM	CDF_CHAR	Electric field
E	CATDESC	CDF_CHAR	Electrical field values (E1 and E2)
E	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
E	FORMAT	CDF_CHAR	I6.5
E	LABLAXIS	CDF_CHAR	
E	UNITS	CDF_CHAR	
E	VAR_TYPE	CDF_CHAR	data

Continued on next page


	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 367

Tab. 4.51 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
E	SCALETYP	CDF_CHAR	linear
E	VAR_NOTES	CDF_CHAR	2 entry array with electrical field values (E1 and E2)
E	UCD	CDF_CHAR	
B	FIELDNAM	CDF_CHAR	Magnetic field
B	CATDESC	CDF_CHAR	Magnetic field values (B1, B2 and B3)
B	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
B	FORMAT	CDF_CHAR	I6.5
B	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
ACQUISITION_TIME_LABEL	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME_LABEL	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME
ACQUISITION_TIME_LABEL	FORMAT	CDF_CHAR	A32
ACQUISITION_TIME_LABEL	VAR_TYPE	CDF_CHAR	metadata
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	FORMAT	CDF_CHAR	A16
ACQUISITION_TIME_UNITS	VAR_TYPE	CDF_CHAR	metadata

4.1.2.24.6 Non-Record-Variant (NRV) Variables

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

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 368

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 LFR SBM2 BP1 record every TBD seconds

Expected data volume: TBD MB per LFR SBM2 BP1 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 RPW Operation Centre (ROC) and Solar Orbiter/RPW teams for access to data.”
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009
CAVEAT	1	CDF_CHAR	
Data_type	1	CDF_CHAR	“H0>High Resolution data”
Data_version	1	CDF_CHAR	
DATASET_ID	1	CDF_CHAR	SOLO_L1_RPW-LFR-SBM2-BP1
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_DateTime1- Date2”


Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 369

Tab. 4.52 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
FILE_UUID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	The RPW Operation Centre (ROC)
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	
IDB_version	1	CDF_CHAR	
Instrument_type	1	CDF_CHAR	“Radio and Plasma Waves (space)”
Level	1	CDF_CHAR	“L1>Level 1”
LINK_TEXT	1	CDF_CHAR	
LINK_TITLE	1	CDF_CHAR	
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”
MODS	1	CDF_CHAR	“July 2015 : initial release, B. KATRA (CNRS-LPP)”
PACKET_CATEGORY	1	CDF_CHAR	“12”
PACKET_PID	1	CDF_CHAR	“79”
PACKET_SERVICE_SUBTYPE	1	CDF_CHAR	“3”
PACKET_SERVICE_TYPE	1	CDF_CHAR	“21”
PACKET_SID	1	CDF_CHAR	“29”
PACKET_SID	2	CDF_CHAR	“30”
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	“RPW>Radio and Plasma Waves instrument”
Provider	1	CDF_CHAR	
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00075-LES

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 370

Tab. 4.52 – 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-BP1
Skeleton_version	1	CDF_CHAR	1
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	“SOLO>Solar Orbiter”
SPECTRAL_RANGE_MAX	1	CDF_DOUBLE	0.0
SPECTRAL_RANGE_MIN	1	CDF_DOUBLE	0.0
TEXT	1	CDF_CHAR	“This file contains RPW LFR level 1 SBM2 BP1 data of the current SBM2 event.”
TEXT_supplement_1	1	CDF_CHAR	
TIME_MAX	1	CDF_DOUBLE	0.0
TIME_MIN	1	CDF_DOUBLE	0.0
Validate	1	CDF_CHAR	

4.1.2.25.4 zVariables

Variable Name	Data Type	Number Elements	Dims	Sizes	Record Variance	Dimension Variances
EPOCH	CDF_TIME_TT2000	1	0		T	
ACQUISITION_TIME	CDF_UINT4	1	1	2.0	T	T
TIME_SYNCHRO_FLAG	CDF_UINT1	1	0		T	
POST_GAP_FLAG	CDF_UINT1	1	0		T	
QUALITY_FLAG	CDF_UINT1	1	0		T	
COMMON_BIA_STATUS_FLAG	CDF_UINT1	1	0		T	
QUALITY_BITMASK	CDF_UINT1	1	0		T	
FREQ	CDF_UINT1	1	0		T	

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **371**


Tab. 4.53 – continued from previous page

Variable Name	Data Type	Number Elements	Dims	Sizes	Record Variance	Dimension Variances
BIAS_MODE_MUX_SET	CDF_UINT1	1	0		T	
BIAS_MODE_HV_ENABLED	CDF_UINT1	1	0		T	
BIAS_MODE_BIAS1_ENABLED	CDF_UINT1	1	0		T	
BIAS_MODE_BIAS2_ENABLED	CDF_UINT1	1	0		T	
BIAS_MODE_BIAS3_ENABLED	CDF_UINT1	1	0		T	
BIAS_ON_OFF	CDF_UINT1	1	0		T	
BW	CDF_UINT1	1	0		T	
SP0	CDF_UINT1	1	0		T	
SP1	CDF_UINT1	1	0		T	
R0	CDF_UINT1	1	0		T	
R1	CDF_UINT1	1	0		T	
R2	CDF_UINT1	1	0		T	
BP1_CNT	CDF_UINT1	1	0		T	
PE	CDF_UINT2	1	1	26.0	T	T
PB	CDF_UINT2	1	1	26.0	T	T
NVEC_V0	CDF_UINT1	1	1	26.0	T	T
NVEC_V1	CDF_UINT1	1	1	26.0	T	T
NVEC	CDF_UINT1	1	1	26.0	T	T
ELLIP	CDF_UINT1	1	1	26.0	T	T
DOP	CDF_UINT1	1	1	26.0	T	T
SX	CDF_UINT2	1	1	26.0	T	T
VPHI	CDF_UINT2	1	1	26.0	T	T
ACQUISITION_TIME_UNITS	CDF_CHAR	16	1	2.0	F	T
ACQUISITION_TIME_LABEL	CDF_CHAR	32	1	2.0	F	T

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

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 372

Tab. 4.54 – 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	RPW LFR clock
Epoch	REFERENCE_POSITION	CDF_CHAR	Solar Orbiter
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
ACQUISITION_TIME	FORMAT	CDF_CHAR	E12.2
ACQUISITION_TIME	LABL_PTR_1	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME	UNIT_PTR	CDF_CHAR	ACQUISITION_TIME_UNITS
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 LFR 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	UCD	CDF_CHAR	time.epoch

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **373**

Tab. 4.54 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
TIME_SYNCHRO_FLAG	FIELDNAM	CDF_CHAR	Time synchronisation flag
TIME_SYNCHRO_FLAG	CATDESC	CDF_CHAR	Time synchronisation flag
TIME_SYNCHRO_FLAG	DEPEND_0	CDF_CHAR	Epoch
TIME_SYNCHRO_FLAG	VALIDMIN	CDF_UINT1	0
TIME_SYNCHRO_FLAG	VALIDMAX	CDF_UINT1	1
TIME_SYNCHRO_FLAG	SCALEMIN	CDF_UINT1	0
TIME_SYNCHRO_FLAG	SCALEMAX	CDF_UINT1	1
TIME_SYNCHRO_FLAG	FILLVAL	CDF_UINT1	255
TIME_SYNCHRO_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
TIME_SYNCHRO_FLAG	FORMAT	CDF_CHAR	I3.3
TIME_SYNCHRO_FLAG	LABLAXIS	CDF_CHAR	time sync. flag
TIME_SYNCHRO_FLAG	UNITS	CDF_CHAR	
TIME_SYNCHRO_FLAG	VAR_TYPE	CDF_CHAR	support_data
TIME_SYNCHRO_FLAG	SCALETYP	CDF_CHAR	linear
TIME_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.
TIME_SYNCHRO_FLAG	UCD	CDF_CHAR	meta.code
POST_GAP_FLAG	FIELDNAM	CDF_CHAR	POST_GAP_FLAG
POST_GAP_FLAG	CATDESC	CDF_CHAR	Post gap flag
POST_GAP_FLAG	DEPEND_0	CDF_CHAR	Epoch
POST_GAP_FLAG	VALIDMIN	CDF_UINT1	0
POST_GAP_FLAG	VALIDMAX	CDF_UINT1	255
POST_GAP_FLAG	SCALEMIN	CDF_UINT1	0
POST_GAP_FLAG	SCALEMAX	CDF_UINT1	255
POST_GAP_FLAG	FILLVAL	CDF_UINT1	255
POST_GAP_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
POST_GAP_FLAG	FORMAT	CDF_CHAR	I3.3
POST_GAP_FLAG	LABLAXIS	CDF_CHAR	Post gap flag
POST_GAP_FLAG	UNITS	CDF_CHAR	
POST_GAP_FLAG	VAR_TYPE	CDF_CHAR	support_data
POST_GAP_FLAG	SCALETYP	CDF_CHAR	linear

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00


Date: January 18, 2019

Page: **374**

Tab. 4.54 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
POST_GAP_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the reason why there is gap in the data preceding the current record. If no gap then POST_GAP_FLAG=0.
POST_GAP_FLAG	UCD	CDF_CHAR	meta.code
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
COMMON_BIA_STATUS_FLAG	FORMAT	CDF_CHAR	I1.1
COMMON_BIA_STATUS_FLAG	LABLAXIS	CDF_CHAR	LFR common parameters and BIAS status info relevancy 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


Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 375

Tab. 4.54 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
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	UCD	CDF_CHAR	meta.code
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	FORMAT	CDF_CHAR	I3.3
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	UCD	CDF_CHAR	meta.code
FREQ	FIELDNAM	CDF_CHAR	Sampling frequency of the BP1
FREQ	CATDESC	CDF_CHAR	Sampling frequency of the BP1
FREQ	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
FREQ	FORMAT	CDF_CHAR	
FREQ	LABLAXIS	CDF_CHAR	
FREQ	UNITS	CDF_CHAR	
FREQ	VAR_TYPE	CDF_CHAR	support_data

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 376

Tab. 4.54 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
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	UCD	CDF_CHAR	
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
BIAS_MODE_MUX_SET	FORMAT	CDF_CHAR	
BIAS_MODE_MUX_SET	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
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	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_HV_ENABLED	VALIDMIN	CDF_UINT1	0
BIAS_MODE_HV_ENABLED	VALIDMAX	CDF_UINT1	1

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **377**

Tab. 4.54 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
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	DISPLAY_TYPE	CDF_CHAR	
BIAS_MODE_HV_ENABLED	FORMAT	CDF_CHAR	
BIAS_MODE_HV_ENABLED	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
BIAS_MODE_BIAS1_ENABLED	FORMAT	CDF_CHAR	
BIAS_MODE_BIAS1_ENABLED	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
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	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_BIAS2_ENABLED	VALIDMIN	CDF_UINT1	0
BIAS_MODE_BIAS2_ENABLED	VALIDMAX	CDF_UINT1	1
BIAS_MODE_BIAS2_ENABLED	SCALEMIN	CDF_UINT1	0

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **378**

Tab. 4.54 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_MODE_BIAS2_ENAB	SCALEMAX	CDF_UINT1	1
BIAS_MODE_BIAS2_ENAB	FILLVAL	CDF_UINT1	255
BIAS_MODE_BIAS2_ENAB	DISPLAY_TYPE	CDF_CHAR	
BIAS_MODE_BIAS2_ENAB	FORMAT	CDF_CHAR	
BIAS_MODE_BIAS2_ENAB	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
BIAS_MODE_BIAS3_ENAB	FORMAT	CDF_CHAR	
BIAS_MODE_BIAS3_ENAB	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
BIAS_ON_OFF	FIELDNAM	CDF_CHAR	BIAS status
BIAS_ON_OFF	CATDESC	CDF_CHAR	Copy of BIAS status.
BIAS_ON_OFF	DEPEND_0	CDF_CHAR	Epoch
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

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **379**

Tab. 4.54 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_ON_OFF	DISPLAY_TYPE	CDF_CHAR	
BIAS_ON_OFF	FORMAT	CDF_CHAR	
BIAS_ON_OFF	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
BW	FIELDNAM	CDF_CHAR	BIAS Works/BIAS Fails configuration.
BW	CATDESC	CDF_CHAR	BIAS Works/BIAS Fails configuration.
BW	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
BW	FORMAT	CDF_CHAR	
BW	LABLAXIS	CDF_CHAR	
BW	UNITS	CDF_CHAR	
BW	VAR_TYPE	CDF_CHAR	support_data
BW	SCALETYP	CDF_CHAR	linear
BW	VAR_NOTES	CDF_CHAR	
BW	UCD	CDF_CHAR	
SP0	FIELDNAM	CDF_CHAR	Shaping of electrical data parameter 0.
SP0	CATDESC	CDF_CHAR	Shaping of electrical data.
SP0	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
SP0	FORMAT	CDF_CHAR	
SP0	LABLAXIS	CDF_CHAR	

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **380**

Tab. 4.54 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SP0	UNITS	CDF_CHAR	
SP0	VAR_TYPE	CDF_CHAR	support_data
SP0	SCALETYP	CDF_CHAR	linear
SP0	VAR_NOTES	CDF_CHAR	
SP0	UCD	CDF_CHAR	
SP1	FIELDNAM	CDF_CHAR	Shaping of electrical data parameter 1.
SP1	CATDESC	CDF_CHAR	Shaping of electrical data.
SP1	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
SP1	FORMAT	CDF_CHAR	
SP1	LABLAXIS	CDF_CHAR	
SP1	UNITS	CDF_CHAR	
SP1	VAR_TYPE	CDF_CHAR	support_data
SP1	SCALETYP	CDF_CHAR	linear
SP1	VAR_NOTES	CDF_CHAR	
SP1	UCD	CDF_CHAR	
R0	FIELDNAM	CDF_CHAR	Rooting of electrical data for F0.
R0	CATDESC	CDF_CHAR	Rooting of electrical data.
R0	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
R0	FORMAT	CDF_CHAR	
R0	LABLAXIS	CDF_CHAR	
R0	UNITS	CDF_CHAR	
R0	VAR_TYPE	CDF_CHAR	support_data
R0	SCALETYP	CDF_CHAR	linear
R0	VAR_NOTES	CDF_CHAR	
R0	UCD	CDF_CHAR	
R1	FIELDNAM	CDF_CHAR	Rooting of electrical data for F1.

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **381**

Tab. 4.54 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
R1	CATDESC	CDF_CHAR	Rooting of electrical data.
R1	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
R1	FORMAT	CDF_CHAR	
R1	LABLAXIS	CDF_CHAR	
R1	UNITS	CDF_CHAR	
R1	VAR_TYPE	CDF_CHAR	support_data
R1	SCALETYP	CDF_CHAR	linear
R1	VAR_NOTES	CDF_CHAR	
R1	UCD	CDF_CHAR	
R2	FIELDNAM	CDF_CHAR	Rooting of electrical data for F2.
R2	CATDESC	CDF_CHAR	Rooting of electrical data.
R2	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
R2	FORMAT	CDF_CHAR	
R2	LABLAXIS	CDF_CHAR	
R2	UNITS	CDF_CHAR	
R2	VAR_TYPE	CDF_CHAR	support_data
R2	SCALETYP	CDF_CHAR	linear
R2	VAR_NOTES	CDF_CHAR	
R2	UCD	CDF_CHAR	
BP1_CNT	FIELDNAM	CDF_CHAR	Number of BP1 sets read for a given sampling frequency(F0 or F1).
BP1_CNT	CATDESC	CDF_CHAR	Number of BP1 sets read for a given sampling frequency(F0 or F1).
BP1_CNT	DEPEND_0	CDF_CHAR	Epoch
BP1_CNT	VALIDMIN	CDF_UINT1	0
BP1_CNT	VALIDMAX	CDF_UINT1	1

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

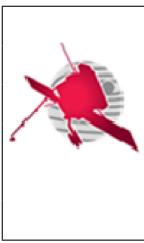
Date: January 18, 2019

Page: **382**

Tab. 4.54 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BP1_CNT	SCALEMIN	CDF_UINT1	0
BP1_CNT	SCALEMAX	CDF_UINT1	1
BP1_CNT	FILLVAL	CDF_UINT1	255
BP1_CNT	DISPLAY_TYPE	CDF_CHAR	
BP1_CNT	FORMAT	CDF_CHAR	
BP1_CNT	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
PE	FIELDNAM	CDF_CHAR	Spectral power of E field
PE	CATDESC	CDF_CHAR	Spectral power of E field
PE	DEPEND_0	CDF_CHAR	Epoch
PE	VALIDMIN	CDF_UINT2	0
PE	VALIDMAX	CDF_UINT2	65534
PE	SCALEMIN	CDF_UINT2	0
PE	SCALEMAX	CDF_UINT2	65534
PE	FILLVAL	CDF_UINT2	65535
PE	DISPLAY_TYPE	CDF_CHAR	time_series
PE	FORMAT	CDF_CHAR	
PE	LABLAXIS	CDF_CHAR	
PE	UNITS	CDF_CHAR	
PE	VAR_TYPE	CDF_CHAR	data
PE	SCALETYP	CDF_CHAR	linear
PE	VAR_NOTES	CDF_CHAR	
PE	UCD	CDF_CHAR	
PB	FIELDNAM	CDF_CHAR	Spectral power of B field
PB	CATDESC	CDF_CHAR	Spectral power of B field
PB	DEPEND_0	CDF_CHAR	Epoch
PB	VALIDMIN	CDF_UINT2	0
PB	VALIDMAX	CDF_UINT2	65534
PB	SCALEMIN	CDF_UINT2	0
PB	SCALEMAX	CDF_UINT2	65534
PB	FILLVAL	CDF_UINT2	65535
PB	DISPLAY_TYPE	CDF_CHAR	time_series
PB	FORMAT	CDF_CHAR	
PB	LABLAXIS	CDF_CHAR	

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **383**

Tab. 4.54 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
PB	UNITS	CDF_CHAR	
PB	VAR_TYPE	CDF_CHAR	data
PB	SCALETYP	CDF_CHAR	linear
PB	VAR_NOTES	CDF_CHAR	
PB	UCD	CDF_CHAR	
NVEC_V0	FIELDNAM	CDF_CHAR	Component 0 of wave normal vector from magnetic field
NVEC_V0	CATDESC	CDF_CHAR	Component 0 of wave normal vector from magnetic field
NVEC_V0	DEPEND_0	CDF_CHAR	Epoch
NVEC_V0	VALIDMIN	CDF_UINT1	0
NVEC_V0	VALIDMAX	CDF_UINT1	254
NVEC_V0	SCALEMIN	CDF_UINT1	0
NVEC_V0	SCALEMAX	CDF_UINT1	254
NVEC_V0	FILLVAL	CDF_UINT1	255
NVEC_V0	DISPLAY_TYPE	CDF_CHAR	time_series
NVEC_V0	FORMAT	CDF_CHAR	
NVEC_V0	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
NVEC_V1	FIELDNAM	CDF_CHAR	Component 1 of wave normal vector from magnetic field
NVEC_V1	CATDESC	CDF_CHAR	Component 1 of wave normal vector from magnetic field
NVEC_V1	DEPEND_0	CDF_CHAR	Epoch
NVEC_V1	VALIDMIN	CDF_UINT1	0
NVEC_V1	VALIDMAX	CDF_UINT1	254
NVEC_V1	SCALEMIN	CDF_UINT1	0
NVEC_V1	SCALEMAX	CDF_UINT1	254
NVEC_V1	FILLVAL	CDF_UINT1	255
NVEC_V1	DISPLAY_TYPE	CDF_CHAR	time_series
NVEC_V1	FORMAT	CDF_CHAR	
NVEC_V1	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00


Date: January 18, 2019

Page: **384**

Tab. 4.54 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
NVEC	FIELDNAM	CDF_CHAR	Component 2 (sign) of wave normal vector from magnetic field
NVEC	CATDESC	CDF_CHAR	Component 2 (sign) of wave normal vector from magnetic field
NVEC	DEPEND_0	CDF_CHAR	Epoch
NVEC	VALIDMIN	CDF_UINT1	0
NVEC	VALIDMAX	CDF_UINT1	254
NVEC	SCALEMIN	CDF_UINT1	0
NVEC	SCALEMAX	CDF_UINT1	254
NVEC	FILLVAL	CDF_UINT1	255
NVEC	DISPLAY_TYPE	CDF_CHAR	time_series
NVEC	FORMAT	CDF_CHAR	
NVEC	LABLAXIS	CDF_CHAR	
NVEC	UNITS	CDF_CHAR	
NVEC	VAR_TYPE	CDF_CHAR	data
NVEC	SCALETYP	CDF_CHAR	linear
NVEC	VAR_NOTES	CDF_CHAR	
NVEC	UCD	CDF_CHAR	
ELLIP	FIELDNAM	CDF_CHAR	Wave ellipticity from magnetic field
ELLIP	CATDESC	CDF_CHAR	Wave ellipticity from magnetic field
ELLIP	DEPEND_0	CDF_CHAR	Epoch
ELLIP	VALIDMIN	CDF_UINT1	0
ELLIP	VALIDMAX	CDF_UINT1	254
ELLIP	SCALEMIN	CDF_UINT1	0
ELLIP	SCALEMAX	CDF_UINT1	254
ELLIP	FILLVAL	CDF_UINT1	255
ELLIP	DISPLAY_TYPE	CDF_CHAR	time_series
ELLIP	FORMAT	CDF_CHAR	
ELLIP	LABLAXIS	CDF_CHAR	
ELLIP	UNITS	CDF_CHAR	
ELLIP	VAR_TYPE	CDF_CHAR	data
ELLIP	SCALETYP	CDF_CHAR	linear
ELLIP	VAR_NOTES	CDF_CHAR	
ELLIP	UCD	CDF_CHAR	
DOP	FIELDNAM	CDF_CHAR	degree of polarization from magnetic field


Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 385

Tab. 4.54 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
DOP	CATDESC	CDF_CHAR	degree of polarization from magnetic field
DOP	DEPEND_0	CDF_CHAR	ACQUISTION_TIME
DOP	VALIDMIN	CDF_CHAR	Epoch
DOP	VALIDMAX	CDF_UINT1	0
DOP	SCALEMIN	CDF_UINT1	254
DOP	SCALEMAX	CDF_UINT1	0
DOP	FILLVAL	CDF_UINT1	254
DOP	DISPLAY_TYPE	CDF_UINT1	255
DOP	FORMAT	CDF_CHAR	
DOP	LABLAXIS	CDF_CHAR	
DOP	UNITS	CDF_CHAR	
DOP	VAR_TYPE	CDF_CHAR	data
DOP	SCALETYP	CDF_CHAR	linear
DOP	VAR_NOTES	CDF_CHAR	
DOP	UCD	CDF_CHAR	
SX	FIELDNAM	CDF_CHAR	Normalized z-poynting from the EM data stream
SX	CATDESC	CDF_CHAR	Normalized z-poynting from the EM data stream
SX	DEPEND_0	CDF_CHAR	Epoch
SX	VALIDMIN	CDF_UINT2	0
SX	VALIDMAX	CDF_UINT2	65534
SX	SCALEMIN	CDF_UINT2	0
SX	SCALEMAX	CDF_UINT2	65534
SX	FILLVAL	CDF_UINT2	65535
SX	DISPLAY_TYPE	CDF_CHAR	time_series
SX	FORMAT	CDF_CHAR	
SX	LABLAXIS	CDF_CHAR	
SX	UNITS	CDF_CHAR	
SX	VAR_TYPE	CDF_CHAR	data
SX	SCALETYP	CDF_CHAR	linear
SX	VAR_NOTES	CDF_CHAR	
SX	UCD	CDF_CHAR	
VPHI	FIELDNAM	CDF_CHAR	Phase speed from the EM data stream
VPHI	CATDESC	CDF_CHAR	Phase speed from the EM data stream
VPHI	DEPEND_0	CDF_CHAR	Epoch
VPHI	VALIDMIN	CDF_UINT2	0
VPHI	VALIDMAX	CDF_UINT2	65534

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 386

Tab. 4.54 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
VPHI	SCALEMIN	CDF_UINT2	0

4.1.2.25.6 Non-Record-Variant (NRV) Variables

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

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
```

4.1.2.26.2 Expected cadence and data volume


Nominal cadence: 1 LFR SBM2 BP2 record every TBD seconds

Expected data volume: TBD MB per LFR SBM2 BP2 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	


Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 387

Tab. 4.55 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
Acknowledgement	1	CDF_CHAR	“The authors are pleased to acknowledge the RPW Operation Centre (ROC) and Solar Orbiter/RPW teams for access to data.”
APPLICABLE	1	CDF_CHAR	SOL-SGS-TN-0009
CAVEAT	1	CDF_CHAR	
Data_type	1	CDF_CHAR	“H0>High Resolution data”
Data_version	1	CDF_CHAR	
DATASET_ID	1	CDF_CHAR	SOLO_L1_RPW-LFR-SBM2-BP2
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_DateTime1-Date2”
FILE_UUID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	The RPW Operation Centre (ROC)
Generation_date	1	CDF_CHAR	
HTTP_LINK	1	CDF_CHAR	
IDB_version	1	CDF_CHAR	
Instrument_type	1	CDF_CHAR	“Radio and Plasma Waves (space)”
Level	1	CDF_CHAR	“L1>Level 1”
LINK_TEXT	1	CDF_CHAR	
LINK_TITLE	1	CDF_CHAR	
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”
MODS	1	CDF_CHAR	“July 2015 : initial release, B. KATRA (CNRS-LPP)”
PACKET_CATEGORY	1	CDF_CHAR	“12”
PACKET_PID	1	CDF_CHAR	“76”
PACKET_SERVICE_SUBTYPE	1	CDF_CHAR	“3”
PACKET_SERVICE_TYPE	1	CDF_CHAR	“21”
PACKET_SID	1	CDF_CHAR	“32”
PACKET_SID	2	CDF_CHAR	“33”
PACKET_SRDB_ID	1	CDF_CHAR	
Parent_version	1	CDF_CHAR	

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 388

Tab. 4.55 – continued from previous page

Attribute Name	Entry Number	Data Type	Value
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	“RPW>Radio and Plasma Waves instrument”
Provider	1	CDF_CHAR	
REFERENCE	1	CDF_CHAR	ROC-PRO-DAT-NTT-00075-LES
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
Skeleton_version	1	CDF_CHAR	1
Software_name	1	CDF_CHAR	
Software_version	1	CDF_CHAR	
Source_name	1	CDF_CHAR	“SOLO>Solar Orbiter”
SPECTRAL_RANGE_MAX	1	CDF_DOUBLE	0.0
SPECTRAL_RANGE_MIN	1	CDF_DOUBLE	0.0
TEXT	1	CDF_CHAR	“This file contains RPW LFR level 1 SBM2 BP2 data of the current SBM2 event.”
TEXT_supplement_1	1	CDF_CHAR	
TIME_MAX	1	CDF_DOUBLE	0.0
TIME_MIN	1	CDF_DOUBLE	0.0
Validate	1	CDF_CHAR	



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **389**


4.1.2.26.4 zVariables

Variable Name	Data Type	Number Elements	Dims	Sizes	Record Variance	Dimension Variances
Epoch	CDF_TIME_TT2000	1	0		T	
ACQUISITION_TIME	CDF_UINT4	1	1	2	T	T
TIME_SYNCHRO_FLAG	CDF_UINT1	1	0		T	
POST_GAP_FLAG	CDF_UINT1	1	0		T	
QUALITY_FLAG	CDF_UINT1	1	0		T	
COMMON_BIA_STATUS_FLAG	CDF_UINT1	1	0		T	
QUALITY_BITMASK	CDF_UINT1	1	0		T	
FREQ	CDF_UINT1	1	0		T	
BIAS_MODE_MUX_SET	CDF_UINT1	1	0		T	
BIAS_MODE_HV_ENABLED	CDF_UINT1	1	0		T	
BIAS_MODE_BIAS1_ENABLED	CDF_UINT1	1	0		T	
BIAS_MODE_BIAS2_ENABLED	CDF_UINT1	1	0		T	
BIAS_MODE_BIAS3_ENABLED	CDF_UINT1	1	0		T	
BIAS_ON_OFF	CDF_UINT1	1	0		T	
BW	CDF_UINT1	1	0		T	
SP0	CDF_UINT1	1	0		T	
SP1	CDF_UINT1	1	0		T	
R0	CDF_UINT1	1	0		T	
R1	CDF_UINT1	1	0		T	
R2	CDF_UINT1	1	0		T	
BP2_CNT	CDF_UINT1	1	0		T	
AUTO	CDF_UINT2	1	2	26 5	T	T T
CROSS_RE	CDF_UINT2	1	2	26 10	T	T T
CROSS_IM	CDF_UINT2	1	2	26 10	T	T T
ACQUISITION_TIME_UNITS	CDF_CHAR	16	1	2	F	T
ACQUISITION_TIME_LABEL	CDF_CHAR	32	1	2	F	T

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


Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 390

Tab. 4.56 – 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	RPW LFR clock
Epoch	REFERENCE_POSITION	CDF_CHAR	Solar Orbiter
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
ACQUISITION_TIME	FORMAT	CDF_CHAR	E12.2
ACQUISITION_TIME	LABL_PTR_1	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME	UNIT_PTR	CDF_CHAR	ACQUISITION_TIME_UNITS
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 LFR clock

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 391

Tab. 4.56 – 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).
ACQUISITION_TIME	UCD	CDF_CHAR	time.epoch
TIME_SYNCHRO_FLAG	FIELDNAM	CDF_CHAR	Time synchronisation flag
TIME_SYNCHRO_FLAG	CATDESC	CDF_CHAR	Time synchronisation flag
TIME_SYNCHRO_FLAG	DEPEND_0	CDF_CHAR	Epoch
TIME_SYNCHRO_FLAG	VALIDMIN	CDF_UINT1	0
TIME_SYNCHRO_FLAG	VALIDMAX	CDF_UINT1	1
TIME_SYNCHRO_FLAG	SCALEMIN	CDF_UINT1	0
TIME_SYNCHRO_FLAG	SCALEMAX	CDF_UINT1	1
TIME_SYNCHRO_FLAG	FILLVAL	CDF_UINT1	255
TIME_SYNCHRO_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
TIME_SYNCHRO_FLAG	FORMAT	CDF_CHAR	I3.3
TIME_SYNCHRO_FLAG	LABLAXIS	CDF_CHAR	time sync. flag
TIME_SYNCHRO_FLAG	UNITS	CDF_CHAR	
TIME_SYNCHRO_FLAG	VAR_TYPE	CDF_CHAR	support_data
TIME_SYNCHRO_FLAG	SCALETYP	CDF_CHAR	linear
TIME_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.
TIME_SYNCHRO_FLAG	UCD	CDF_CHAR	meta.code
POST_GAP_FLAG	FIELDNAM	CDF_CHAR	POST_GAP_FLAG
POST_GAP_FLAG	CATDESC	CDF_CHAR	Post gap flag
POST_GAP_FLAG	DEPEND_0	CDF_CHAR	Epoch
POST_GAP_FLAG	VALIDMIN	CDF_UINT1	0
POST_GAP_FLAG	VALIDMAX	CDF_UINT1	254
POST_GAP_FLAG	SCALEMIN	CDF_UINT1	0
POST_GAP_FLAG	SCALEMAX	CDF_UINT1	254
POST_GAP_FLAG	FILLVAL	CDF_UINT1	255
POST_GAP_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
POST_GAP_FLAG	FORMAT	CDF_CHAR	I3.3
POST_GAP_FLAG	LABLAXIS	CDF_CHAR	Post gap flag
POST_GAP_FLAG	UNITS	CDF_CHAR	
POST_GAP_FLAG	VAR_TYPE	CDF_CHAR	support_data

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00


Date: January 18, 2019

Page: **392**

Tab. 4.56 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
POST_GAP_FLAG	SCALETYP	CDF_CHAR	linear
POST_GAP_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the reason why there is gap in the data preceding the current record. If no gap then POST_GAP_FLAG=0.
POST_GAP_FLAG	UCD	CDF_CHAR	meta.code
QUALITY_FLAG	FIELDNAM	CDF_CHAR	QUALITY_FLAG
QUALITY_FLAG	CATDESC	CDF_CHAR	Quality flag
QUALITY_FLAG	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
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	UCD	CDF_CHAR	meta.code
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
COMMON_BIA_STATUS_FLAG	FORMAT	CDF_CHAR	I1.1
COMMON_BIA_STATUS_FLAG	LABLAXIS	CDF_CHAR	LFR common parameters and BIAS status info relevancy flag
COMMON_BIA_STATUS_FLAG	UNITS	CDF_CHAR	
COMMON_BIA_STATUS_FLAG	VAR_TYPE	CDF_CHAR	support_data

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 393

Tab. 4.56 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
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	UCD	CDF_CHAR	meta.code
QUALITY_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Bitmask flag
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	FORMAT	CDF_CHAR	I3.3
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	UCD	CDF_CHAR	meta.code
FREQ	FIELDNAM	CDF_CHAR	Sampling frequency of the BP2
FREQ	CATDESC	CDF_CHAR	Sampling frequency of the BP2
FREQ	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
FREQ	FORMAT	CDF_CHAR	
FREQ	LABLAXIS	CDF_CHAR	
FREQ	UNITS	CDF_CHAR	

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **394**

Tab. 4.56 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
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 BP2 : F0 or F1 in order to use only one skeleton for the 2 sbm2 mode bp2 products of ICD.
FREQ	UCD	CDF_CHAR	
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
BIAS_MODE_MUX_SET	FORMAT	CDF_CHAR	
BIAS_MODE_MUX_SET	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
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	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_HV_ENABLED	VALIDMIN	CDF_UINT1	0

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **395**

Tab. 4.56 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
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	DISPLAY_TYPE	CDF_CHAR	
BIAS_MODE_HV_ENABLED	FORMAT	CDF_CHAR	
BIAS_MODE_HV_ENABLED	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
BIAS_MODE_BIAS1_ENABLED	FORMAT	CDF_CHAR	
BIAS_MODE_BIAS1_ENABLED	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
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	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_BIAS2_ENABLED	VALIDMIN	CDF_UINT1	0
BIAS_MODE_BIAS2_ENABLED	VALIDMAX	CDF_UINT1	1

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **396**

Tab. 4.56 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
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	DISPLAY_TYPE	CDF_CHAR	
BIAS_MODE_BIAS2_ENAB	FORMAT	CDF_CHAR	
BIAS_MODE_BIAS2_ENAB	LBLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
BIAS_MODE_BIAS3_ENAB	FORMAT	CDF_CHAR	
BIAS_MODE_BIAS3_ENAB	LBLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
BIAS_ON_OFF	FIELDNAM	CDF_CHAR	BIAS status
BIAS_ON_OFF	CATDESC	CDF_CHAR	Copy of BIAS status.
BIAS_ON_OFF	DEPEND_0	CDF_CHAR	Epoch
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

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **397**

Tab. 4.56 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_ON_OFF	FILLVAL	CDF_UINT1	255
BIAS_ON_OFF	DISPLAY_TYPE	CDF_CHAR	
BIAS_ON_OFF	FORMAT	CDF_CHAR	
BIAS_ON_OFF	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
BW	FIELDNAM	CDF_CHAR	BIAS Works/BIAS Fails configuration.
BW	CATDESC	CDF_CHAR	BIAS Works/BIAS Fails configuration.
BW	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
BW	FORMAT	CDF_CHAR	
BW	LABLAXIS	CDF_CHAR	
BW	UNITS	CDF_CHAR	
BW	VAR_TYPE	CDF_CHAR	support_data
BW	SCALETYP	CDF_CHAR	linear
BW	VAR_NOTES	CDF_CHAR	
BW	UCD	CDF_CHAR	
SP0	FIELDNAM	CDF_CHAR	Shaping of electrical data parameter 0.
SP0	CATDESC	CDF_CHAR	Shaping of electrical data.
SP0	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
SP0	FORMAT	CDF_CHAR	

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **398**

Tab. 4.56 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
SP0	LABLAXIS	CDF_CHAR	
SP0	UNITS	CDF_CHAR	
SP0	VAR_TYPE	CDF_CHAR	support_data
SP0	SCALETYP	CDF_CHAR	linear
SP0	VAR_NOTES	CDF_CHAR	
SP0	UCD	CDF_CHAR	
SP1	FIELDNAM	CDF_CHAR	Shaping of electrical data parameter 1.
SP1	CATDESC	CDF_CHAR	Shaping of electrical data.
SP1	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
SP1	FORMAT	CDF_CHAR	
SP1	LABLAXIS	CDF_CHAR	
SP1	UNITS	CDF_CHAR	
SP1	VAR_TYPE	CDF_CHAR	support_data
SP1	SCALETYP	CDF_CHAR	linear
SP1	VAR_NOTES	CDF_CHAR	
SP1	UCD	CDF_CHAR	
R0	FIELDNAM	CDF_CHAR	Rooting of electrical data for F0.
R0	CATDESC	CDF_CHAR	Rooting of electrical data.
R0	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
R0	FORMAT	CDF_CHAR	
R0	LABLAXIS	CDF_CHAR	
R0	UNITS	CDF_CHAR	
R0	VAR_TYPE	CDF_CHAR	support_data
R0	SCALETYP	CDF_CHAR	linear
R0	VAR_NOTES	CDF_CHAR	
R0	UCD	CDF_CHAR	

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **399**

Tab. 4.56 – 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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
R1	FORMAT	CDF_CHAR	
R1	LABLAXIS	CDF_CHAR	
R1	UNITS	CDF_CHAR	
R1	VAR_TYPE	CDF_CHAR	support_data
R1	SCALETYP	CDF_CHAR	linear
R1	VAR_NOTES	CDF_CHAR	
R1	UCD	CDF_CHAR	
R2	FIELDNAM	CDF_CHAR	Rooting of electrical data for F2.
R2	CATDESC	CDF_CHAR	Rooting of electrical data.
R2	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
R2	FORMAT	CDF_CHAR	
R2	LABLAXIS	CDF_CHAR	
R2	UNITS	CDF_CHAR	
R2	VAR_TYPE	CDF_CHAR	support_data
R2	SCALETYP	CDF_CHAR	linear
R2	VAR_NOTES	CDF_CHAR	
R2	UCD	CDF_CHAR	
BP2_CNT	FIELDNAM	CDF_CHAR	Number of BP2 sets read for a given sampling frequency(F0 or F1).
BP2_CNT	CATDESC	CDF_CHAR	Number of BP2 sets read for a given sampling frequency(F0 or F1).
BP2_CNT	DEPEND_0	CDF_CHAR	Epoch

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **400**

Tab. 4.56 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
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	DISPLAY_TYPE	CDF_CHAR	
BP2_CNT	FORMAT	CDF_CHAR	
BP2_CNT	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
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	DEPEND_0	CDF_CHAR	Epoch
AUTO	VALIDMIN	CDF_UINT2	0
AUTO	VALIDMAX	CDF_UINT2	65534
AUTO	SCALEMIN	CDF_UINT2	0
AUTO	SCALEMAX	CDF_UINT2	65534
AUTO	FILLVAL	CDF_UINT2	65535
AUTO	DISPLAY_TYPE	CDF_CHAR	time_series
AUTO	FORMAT	CDF_CHAR	
AUTO	LABLAXIS	CDF_CHAR	
AUTO	UNITS	CDF_CHAR	
AUTO	VAR_TYPE	CDF_CHAR	data
AUTO	SCALETYP	CDF_CHAR	linear
AUTO	VAR_NOTES	CDF_CHAR	
AUTO	UCD	CDF_CHAR	This variable contains the 5 autovariances values for a given BP2 set.
CROSS_RE	FIELDNAM	CDF_CHAR	Real part of complex cross correlations from the EM data
CROSS_RE	CATDESC	CDF_CHAR	Real part of complex cross correlations from the EM data
CROSS_RE	DEPEND_0	CDF_CHAR	Epoch

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00


Date: January 18, 2019

Page: **401**

Tab. 4.56 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
CROSS_RE	VALIDMIN	CDF_UINT2	0
CROSS_RE	VALIDMAX	CDF_UINT2	65534
CROSS_RE	SCALEMIN	CDF_UINT2	0
CROSS_RE	SCALEMAX	CDF_UINT2	65534
CROSS_RE	FILLVAL	CDF_UINT2	65535
CROSS_RE	DISPLAY_TYPE	CDF_CHAR	time_series
CROSS_RE	FORMAT	CDF_CHAR	
CROSS_RE	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
CROSS_IM	FIELDNAM	CDF_CHAR	Imaginary part of complex cross correlations from the EM data
CROSS_IM	CATDESC	CDF_CHAR	Imaginary part of complex cross correlations from the EM data
CROSS_IM	DEPEND_0	CDF_CHAR	Epoch
CROSS_IM	VALIDMIN	CDF_UINT2	0
CROSS_IM	VALIDMAX	CDF_UINT2	65534
CROSS_IM	SCALEMIN	CDF_UINT2	0
CROSS_IM	SCALEMAX	CDF_UINT2	65534
CROSS_IM	FILLVAL	CDF_UINT2	65535
CROSS_IM	DISPLAY_TYPE	CDF_CHAR	time_series
CROSS_IM	FORMAT	CDF_CHAR	
CROSS_IM	LABLAXIS	CDF_CHAR	
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	UCD	CDF_CHAR	
ACQUISITION_TIME_LABEL	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME_LABEL	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME
ACQUISITION_TIME_LABEL	EFORMAT	CDF_CHAR	A32

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 402

Tab. 4.56 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
ACQUISITION_TIME_LABEL	MAR_TYPE	CDF_CHAR	metadata
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	FORMAT	CDF_CHAR	A16
ACQUISITION_TIME_UNITS	VAR_TYPE	CDF_CHAR	metadata

4.1.2.26.6 Non-Record-Variant (NRV) Variables

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

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.

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 Bias sweeping every week

Expected data volume: TBD MB per Bias sweeping

4.1.2.27.3 Global Attributes



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **403**

Attribute Name	Entry Number	Data Type	Value
ACCESS_FORMAT	1	CDF_CHAR	“CDF”
Data_type	1	CDF_CHAR	“H0>High Resolution data”
Data_version	1	CDF_CHAR	
DATASET_ID	1	CDF_CHAR	SOLO_L1_RPW-BIA-SWEEP
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_EPOCH_MIN-EPOCH_MAX”
FILE_UUID	1	CDF_CHAR	
Generated_by	1	CDF_CHAR	
Generation_date	1	CDF_CHAR	
IDB_version	1	CDF_CHAR	
Instrument_type	1	CDF_CHAR	“Radio and Plasma Waves (space)”
Level	1	CDF_CHAR	“L1>Level 1”
Logical_file_id	1	CDF_CHAR	
Logical_source	1	CDF_CHAR	“solo_L01_RPW-BIA-SWEEP”
Logical_source_description	1	CDF_CHAR	“Solar Orbiter Radio/Plasma Wave, L1 parameters”
Mission_group	1	CDF_CHAR	“Solar Orbiter”
MODS	1	CDF_CHAR	“June 2017 : initial release, X. BONNIN (CNRS-LESIA)”
Parents	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	RODP
Project	1	CDF_CHAR	“Solar Orbiter”
Provider	1	CDF_CHAR	“ROC”
REFERENCE	1	CDF_CHAR	
Rules_of_use	1	CDF_CHAR	“Data provided are private. The data users shall contact the Solar Orbiter/RPW team before any use in presentations or publications.”
SKELETON_PARENT	1	CDF_CHAR	“SOLO_L1_RPW-BIA-SWEEP_V01”
Skeleton_version	1	CDF_CHAR	“01”
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 level 1 Bias sweeping data produced by the ROC.”

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **404**

Tab. 4.57 – 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	

4.1.2.27.4 zVariables

Variable Name	Data Type	Number Elements	Dims	Sizes	Record Variance	Dimension Variances
Epoch	CDF_REAL8	1	0		T	
ACQUISITION_TIME	CDF_UINT4	1	1	2	T	T
TIME_SYNCHRO_FLAG	CDF_UINT1	1	0		T	
POST_GAP_FLAG	CDF_UINT1	1	0		T	
QUALITY_FLAG	CDF_UINT1	1	0		T	
QUALITY_BITMASK	CDF_UINT1	1	0		T	
BIAS_MODE_MUX_SET	CDF_UINT1	1	0		T	
BIAS_MODE_HV_ENABLED	CDF_UINT1	1	0		T	
BIAS_MODE_BIAS1_ENABLED	CDF_UINT1	1	0		T	
BIAS_MODE_BIAS2_ENABLED	CDF_UINT1	1	0		T	
BIAS_MODE_BIAS3_ENABLED	CDF_UINT1	1	0		T	
BIAS_ON_OFF	CDF_UINT1	1	0		T	
BW	CDF_UINT1	1	0		T	
SP0	CDF_UINT1	1	0		T	
SP1	CDF_UINT1	1	0		T	
R0	CDF_UINT1	1	0		T	
R1	CDF_UINT1	1	0		T	
R2	CDF_UINT1	1	0		T	
BLK_NR	CDF_UINT2	1	0		T	
V	CDF_INT2	1	1	672	T	T
E	CDF_INT2	1	2	672 2	T	T T
B	CDF_INT2	1	2	672 3	T	T T
BIAS_SWEEP_CURRENT	CDF_REAL4	1	1	64	T	T
ACQUISITION_TIME_UNITS	CDF_CHAR	16	1	2	F	T
ACQUISITION_TIME_LABEL	CDF_CHAR	32	1	2	F	T

4.1.2.27.5 Variable attributes



RPW Data Product Description Document

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

Issue
01


Revision
00

Date: January 18, 2019

Page: **405**

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	RPW DPU clock
Epoch	REFERENCE_POSITION	CDF_CHAR	SOLO
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	DEPEND_0	CDF_CHAR	Epoch
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	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	VAR_TYPE	CDF_CHAR	support_data
ACQUISITION_TIME	SCALETYP	CDF_CHAR	linear
ACQUISITION_TIME	TIME_BASE	CDF_CHAR	RPW DPU clock
ACQUISITION_TIME	TIME_SCALE	CDF_CHAR	RPW DPU clock

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 406

Tab. 4.58 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
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.
TIME_SYNCHRO_FLAG	FIELDNAM	CDF_CHAR	TIME_SYNCHRO_FLAG
TIME_SYNCHRO_FLAG	CATDESC	CDF_CHAR	Receiver time synchronisation flag
TIME_SYNCHRO_FLAG	DEPEND_0	CDF_CHAR	Epoch
TIME_SYNCHRO_FLAG	VALIDMIN	CDF_UINT1	0
TIME_SYNCHRO_FLAG	VALIDMAX	CDF_UINT1	1
TIME_SYNCHRO_FLAG	SCALEMIN	CDF_UINT1	0
TIME_SYNCHRO_FLAG	SCALEMAX	CDF_UINT1	1
TIME_SYNCHRO_FLAG	FILLVAL	CDF_UINT1	255
TIME_SYNCHRO_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
TIME_SYNCHRO_FLAG	FORMAT	CDF_CHAR	I1.1
TIME_SYNCHRO_FLAG	LABLAXIS	CDF_CHAR	Time sync. Flag
TIME_SYNCHRO_FLAG	UNITS	CDF_CHAR	
TIME_SYNCHRO_FLAG	VAR_TYPE	CDF_CHAR	support_data
TIME_SYNCHRO_FLAG	SCALETYP	CDF_CHAR	linear
TIME_SYNCHRO_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate if the receiver time is synchronised or not
POST_GAP_FLAG	FIELDNAM	CDF_CHAR	POST_GAP_FLAG
POST_GAP_FLAG	CATDESC	CDF_CHAR	Post gap flag
POST_GAP_FLAG	DEPEND_0	CDF_CHAR	Epoch
POST_GAP_FLAG	VALIDMIN	CDF_UINT1	0
POST_GAP_FLAG	VALIDMAX	CDF_UINT1	255
POST_GAP_FLAG	SCALEMIN	CDF_UINT1	0
POST_GAP_FLAG	SCALEMAX	CDF_UINT1	255
POST_GAP_FLAG	FILLVAL	CDF_UINT1	255
POST_GAP_FLAG	DISPLAY_TYPE	CDF_CHAR	time_series
POST_GAP_FLAG	FORMAT	CDF_CHAR	I3.3
POST_GAP_FLAG	LABLAXIS	CDF_CHAR	Post gap flag
POST_GAP_FLAG	UNITS	CDF_CHAR	
POST_GAP_FLAG	VAR_TYPE	CDF_CHAR	support_data
POST_GAP_FLAG	SCALETYP	CDF_CHAR	linear
POST_GAP_FLAG	VAR_NOTES	CDF_CHAR	Flag to indicate the reason why there is gap in the data preceding the current record. If no gap then POST_GAP_FLAG=0.

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **407**

Tab. 4.58 – 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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_FLAG	FORMAT	CDF_CHAR	I1.1
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_BITMASK	FIELDNAM	CDF_CHAR	QUALITY_BITMASK
QUALITY_BITMASK	CATDESC	CDF_CHAR	Quality Bitmask flag
QUALITY_BITMASK	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
QUALITY_BITMASK	FORMAT	CDF_CHAR	I3.3
QUALITY_BITMASK	LABLAXIS	CDF_CHAR	Quality 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
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	DEPEND_0	CDF_CHAR	Epoch
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

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **408**

Tab. 4.58 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_MODE_MUX_SET	DISPLAY_TYPE	CDF_CHAR	
BIAS_MODE_MUX_SET	FORMAT	CDF_CHAR	
BIAS_MODE_MUX_SET	LABLAXIS	CDF_CHAR	
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_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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
BIAS_MODE_HV_ENABLED	FORMAT	CDF_CHAR	
BIAS_MODE_HV_ENABLED	LABLAXIS	CDF_CHAR	
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

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **409**

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_BIAS1_ENABLED	HELDNAM	CDF_CHAR	BIAS probe 1 status
BIAS_MODE_BIAS1_ENABLED	ICATDESC	CDF_CHAR	Copy of enable/disable BIAS 1.
BIAS_MODE_BIAS1_ENABLED	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
BIAS_MODE_BIAS1_ENABLED	FORMAT	CDF_CHAR	
BIAS_MODE_BIAS1_ENABLED	LABLAXIS	CDF_CHAR	
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_BIAS2_ENABLED	HELDNAM	CDF_CHAR	BIAS probe 2 status
BIAS_MODE_BIAS2_ENABLED	ICATDESC	CDF_CHAR	Copy of enable/disable BIAS 2.
BIAS_MODE_BIAS2_ENABLED	DEPEND_0	CDF_CHAR	Epoch
BIAS_MODE_BIAS2_ENABLED	VALIDMIN	CDF_UINT1	0
BIAS_MODE_BIAS2_ENABLED	VALIDMAX	CDF_UINT1	1
BIAS_MODE_BIAS2_ENABLED	SCALEMIN	CDF_UINT1	0

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **410**

Tab. 4.58 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BIAS_MODE_BIAS2_ENAB	SCALEMAX	CDF_UINT1	1
BIAS_MODE_BIAS2_ENAB	HEADVAL	CDF_UINT1	255
BIAS_MODE_BIAS2_ENAB	DISPLAY_TYPE	CDF_CHAR	
BIAS_MODE_BIAS2_ENAB	FORMAT	CDF_CHAR	
BIAS_MODE_BIAS2_ENAB	LABLAXIS	CDF_CHAR	
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_BIAS3_ENAB	HEADNAM	CDF_CHAR	BIAS probe 3 status
BIAS_MODE_BIAS3_ENAB	HEADDESC	CDF_CHAR	Copy of enable/disable BIAS 3.
BIAS_MODE_BIAS3_ENAB	DEPEND_0	CDF_CHAR	Epoch
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	HEADVAL	CDF_UINT1	255
BIAS_MODE_BIAS3_ENAB	DISPLAY_TYPE	CDF_CHAR	
BIAS_MODE_BIAS3_ENAB	FORMAT	CDF_CHAR	
BIAS_MODE_BIAS3_ENAB	LABLAXIS	CDF_CHAR	
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

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **411**

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_ON_OFF	FIELDNAM	CDF_CHAR	BIAS status
BIAS_ON_OFF	CATDESC	CDF_CHAR	Copy of BIAS status.
BIAS_ON_OFF	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
BIAS_ON_OFF	FORMAT	CDF_CHAR	
BIAS_ON_OFF	LABLAXIS	CDF_CHAR	
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.
BW	FIELDNAM	CDF_CHAR	BIAS Works/BIAS Fails configuration.
BW	CATDESC	CDF_CHAR	BIAS Works/BIAS Fails configuration.
BW	DEPEND_0	CDF_CHAR	Epoch
BW	VALIDMIN	CDF_UINT1	0
BW	VALIDMAX	CDF_UINT1	1
BW	SCALEMIN	CDF_UINT1	0

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **412**

Tab. 4.58 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
BW	SCALEMAX	CDF_UINT1	1
BW	FILLVAL	CDF_UINT1	255
BW	DISPLAY_TYPE	CDF_CHAR	
BW	FORMAT	CDF_CHAR	
BW	LABLAXIS	CDF_CHAR	
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.
SP0	FIELDNAM	CDF_CHAR	Shaping of electrical data parameter 0.
SP0	CATDESC	CDF_CHAR	Shaping of electrical data.
SP0	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
SP0	FORMAT	CDF_CHAR	
SP0	LABLAXIS	CDF_CHAR	
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.
SP1	FIELDNAM	CDF_CHAR	Shaping of electrical data parameter 1.
SP1	CATDESC	CDF_CHAR	Shaping of electrical data.
SP1	DEPEND_0	CDF_CHAR	Epoch

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **413**

Tab. 4.58 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
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	DISPLAY_TYPE	CDF_CHAR	
SP1	FORMAT	CDF_CHAR	
SP1	LABLAXIS	CDF_CHAR	
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.
R0	FIELDNAM	CDF_CHAR	Rooting of electrical data for F0.
R0	CATDESC	CDF_CHAR	Rooting of electrical data.
R0	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
R0	FORMAT	CDF_CHAR	
R0	LABLAXIS	CDF_CHAR	
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.

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **414**

Tab. 4.58 – 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	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
R1	FORMAT	CDF_CHAR	
R1	LABLAXIS	CDF_CHAR	
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.
R2	FIELDNAM	CDF_CHAR	Rooting of electrical data for F2.
R2	CATDESC	CDF_CHAR	Rooting of electrical data.
R2	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	
R2	FORMAT	CDF_CHAR	
R2	LABLAXIS	CDF_CHAR	
R2	UNITS	CDF_CHAR	
R2	VAR_TYPE	CDF_CHAR	support_data
R2	SCALETYP	CDF_CHAR	linear

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **415**

Tab. 4.58 – 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] number of packets i.e. full snapshot because LFR FSW copy the same value for all sub packets.
V	FIELDNAM	CDF_CHAR	Potential
V	CATDESC	CDF_CHAR	Potential value (V)
V	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
V	FORMAT	CDF_CHAR	I6.5
V	LABLAXIS	CDF_CHAR	
V	UNITS	CDF_CHAR	
V	VAR_TYPE	CDF_CHAR	data
V	SCALETYPE	CDF_CHAR	linear
V	VAR_NOTES	CDF_CHAR	Potential value
V	UCD	CDF_CHAR	
E	FIELDNAM	CDF_CHAR	Electric field
E	CATDESC	CDF_CHAR	Electrical field values (E1 and E2)
E	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
E	FORMAT	CDF_CHAR	I6.5
E	LABLAXIS	CDF_CHAR	
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)
B	FIELDNAM	CDF_CHAR	Magnetic field

Continued on next page



RPW Data Product Description Document

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

Issue
01

Revision
00


Date: January 18, 2019

Page: **416**

Tab. 4.58 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
B	CATDESC	CDF_CHAR	Magnetic field values (B1, B2 and B3)
B	DEPEND_0	CDF_CHAR	Epoch
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	DISPLAY_TYPE	CDF_CHAR	time_series
B	FORMAT	CDF_CHAR	I6.5
B	LABLAXIS	CDF_CHAR	
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)
BIAS_SWEEP_CURRENT	FIELDNAM	CDF_CHAR	BIAS_SWEEP_CURRENT
BIAS_SWEEP_CURRENT	CATDESC	CDF_CHAR	BIAS current value of each step, common to the 3 antennas.
BIAS_SWEEP_CURRENT	DEPEND_0	CDF_CHAR	Epoch
BIAS_SWEEP_CURRENT	VALIDMIN	CDF_INT2	0
BIAS_SWEEP_CURRENT	VALIDMAX	CDF_INT2	1.0e31
BIAS_SWEEP_CURRENT	SCALEMIN	CDF_INT2	0
BIAS_SWEEP_CURRENT	SCALEMAX	CDF_INT2	1.0e31
BIAS_SWEEP_CURRENT	FILLVAL	CDF_INT2	-1.0e31
BIAS_SWEEP_CURRENT	DISPLAY_TYPE	CDF_CHAR	time_series
BIAS_SWEEP_CURRENT	FORMAT	CDF_CHAR	f6.5
BIAS_SWEEP_CURRENT	LABLAXIS	CDF_CHAR	BIAS sweep currents
BIAS_SWEEP_CURRENT	UNITS	CDF_CHAR	
BIAS_SWEEP_CURRENT	VAR_TYPE	CDF_CHAR	data
BIAS_SWEEP_CURRENT	SCALETYP	CDF_CHAR	linear
BIAS_SWEEP_CURRENT	VAR_NOTES	CDF_CHAR	BIAS current value of each sweep step, common to the 3 antennas.
ACQUISITION_TIME_LABEL	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_LABEL
ACQUISITION_TIME_LABEL	CATDESC	CDF_CHAR	Label for ACQUISITION_TIME
ACQUISITION_TIME_LABEL	FORMAT	CDF_CHAR	A32
ACQUISITION_TIME_LABEL	VAR_TYPE	CDF_CHAR	metadata
ACQUISITION_TIME_UNITS	FIELDNAM	CDF_CHAR	ACQUISITION_TIME_UNITS

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 417

Tab. 4.58 – continued from previous page

Variable Name	Attribute Name	Data Type	Value
ACQUISITION_TIME_UNITS	CATEDESC	CDF_CHAR	Label for ACQUISITION_TIME UNIT_PTR attribute
ACQUISITION_TIME_UNITS	FORMAT	CDF_CHAR	A16
ACQUISITION_TIME_UNITS	VAR_TYPE	CDF_CHAR	metadata

4.1.2.27.6 Non-Record-Variant (NRV) Variables

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

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_[YYYYMMDDThhmmss1- YYYYMMDDThhmmss2]_V[version].cdf
```

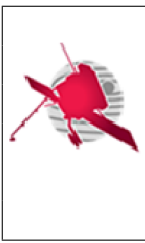
4.1.2.28.2 Expected cadence and data volume

Nominal cadence: 1 Bias current file every week

Expected data volume: TBD MB per file

4.1.2.28.3 Global Attributes

TBW



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **418**

4.1.2.28.4 zVariables

TBW

4.1.2.28.5 Variable attributes

TBW

4.1.2.28.6 Non-Record-Variant (NRV) Variables

TBW

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).

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



RPW Data Product Description Document

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

Issue
01

Revision
00


Date: January 18, 2019

Page: **419**

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].

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).

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 420

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
```

4.1.3.3 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.

4.1.3.3.1 Filename

```
solo_L2_RPW-HFR-SURV_[YYYYMMDD]_V[version].cdf
```

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.

4.1.3.4.1 Filename

```
solo_L2_RPW-TDS-SURV-RSWF-E_[YYYYMMDD]_V[version].cdf
```

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-

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 421

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.

4.1.3.5.1 Filename

solo_L2_RPW-TDS-SURV-RSWF-B_[YYYYMMDD]_V[version].cdf

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-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-TSWF parent file.

4.1.3.6.1 Filename

solo_L2_RPW-TDS-SURV-TSWF-E_[YYYYMMDD]_V[version].cdf

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-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-TSWF parent file.

4.1.3.7.1 Filename

solo_L2_RPW-TDS-SURV-TSWF-B_[YYYYMMDD]_V[version].cdf

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.

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 422

4.1.3.8.1 Filename

```
solo_L2_RPW-TDS-SURV-HIST1D_[YYYYMMDD]_V[version].cdf
```

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
```

4.1.3.10 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
```

4.1.3.11 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
```

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 423

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
```

4.1.3.13 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
```

4.1.3.14 SOLO_L2_RPW-TDS-LFM-CWF-E data product

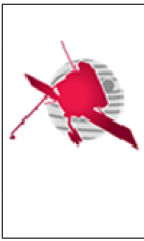
The “SOLO_L2_RPW-TDS-LFM-CWF-E” data product contains the calibrated TDS receiver Continuous Waveform data in the LFM mode for electrical component only. The “SOLO_L2_RPW-TDS-LFM-CWF-E” data are written in CDF format files. There is a single file per day, generated from data in the corresponding SOLO_L1_RPW-TDS-LFM-CWF parent file.

4.1.3.14.1 Filename

```
solo_L2_RPW-TDS-LFM-CWF-E_[YYYYMMDD]_V[version].cdf
```

4.1.3.15 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.



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **424**

4.1.3.15.1 Filename

```
solo_L2_RPW-TDS-LFM-CWF-B_[YYYYMMDD]_V[version].cdf
```

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.

4.1.3.16.1 Filename

```
solo_L2_RPW-TDS-LFM-PSDSM_[YYYYMMDD]_V[version].cdf
```

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.

4.1.3.17.1 Filename

```
solo_L2_RPW-TDS-SBM1-RSWF-E_[YYYYMMDDThhmmss1- YYYYMMDDThhmmss2]_  
↪V[version].cdf
```

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 00
		Date: January 18, 2019	Page: 425

4.1.3.18.1 Filename

```
solo_L2_RPW-TDS-SBM1-RSWF-B_[YYYYMMDDThhmmss1- YYYYMMDDThhmmss2]_
↪V[version].cdf
```

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
```

4.1.3.20 SOLO_L2_RPW-TDS-SBM2-TSWF-B data product

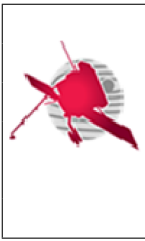
The “SOLO_L2_RPW-TDS-SBM2-TSWF-B” data product contains the calibrated TDS receiver Regular Snapshot Waveform data for SBM2 events for magnetic components only. The “SOLO_L2_RPW-TDS-SBM2-TSWF-B” data are written in CDF format files. There is a single file per SBM2 event data effectively downlinked on-ground. The file is generated from data in the corresponding SOLO_L1_RPW-TDS-SBM2-TSWF parent file.

4.1.3.20.1 Filename

```
solo_L2_RPW-TDS-SBM2-TSWF-B_[YYYYMMDDThhmmss1- YYYYMMDDThhmmss2]_
↪V[version].cdf
```

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.



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **426**

4.1.3.21.1 Filename

```
solo_L2_RPW-LFR-SURV-ASM_[YYYYMMDD]_V[version].cdf
```

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
```

4.1.3.23 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.

4.1.3.23.1 Filename


```
solo_L2_RPW-LFR-SURV-BP2_[YYYYMMDD]_V[version].cdf
```

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
```

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 427

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.

4.1.3.25.1 Filename

```
solo_L2_RPW-LFR-SURV-CWF-B_[YYYYMMDD]_V[version].cdf
```

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.

4.1.3.26.1 Filename

```
solo_L2_RPW-LFR-SURV-SWF-E_[YYYYMMDD]_V[version].cdf
```

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
```

4.1.3.28 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-

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 428

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
```

4.1.3.29 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 downlinked on-ground. The file is generated from data in the corresponding SOLO_L1_RPW-LFR-SBM1-CWF parent file.

4.1.3.29.1 Filename

```
solo_L2_RPW-LFR-SBM1-CWF-B_[YYYYMMDDThhmmss1-YYYYMMDDThhmmss2]_V[version].cdf
```

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
```

4.1.3.31 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.

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 429

4.1.3.31.1 Filename

```
solo_L1_RPW-LFR-SBM1-BP2_[YYYYMMDDThhmmss1-YYYYMMDDThhmmss2]_V[version].cdf
```

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
```

4.1.3.33 SOLO_L2_RPW-LFR-SBM2-CWF-B data product

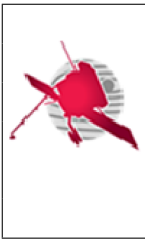
The “SOLO_L2_RPW-LFR-SBM2-CWF-B” data product contains the calibrated LFR receiver Continuous Waveform data for SBM1 events for magnetic components only. The “SOLO_L2_RPW-LFR-SBM2-CWF-B” data are written in CDF format files. There is a single file per SBM2 event data downlinked on-ground. The file is 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
```

4.1.3.34 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
00

Date: January 18, 2019

Page: **430**

4.1.3.34.1 Filename

```
solo_L2_RPW-LFR-SBM2-BP1_[YYYYMMDDThhmmss1-YYYYMMDDThhmmss2]_V[version].cdf
```

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.

4.1.3.35.1 Filename

```
solo_L2_RPW-LFR-SBM2-BP2_[YYYYMMDDThhmmss1-YYYYMMDDThhmmss2]_V[version].cdf
```

4.1.4 L3 - Higher level data products

TBW

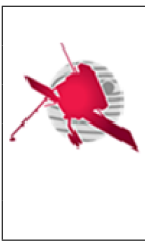
4.1.5 CAL - Calibration data products

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



RPW Data Product Description Document

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **431**

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 data product

The “SOLO_CAL_RPW-THR” data product contains the calibration tables for the TNR-HFR receiver. The “SOLO_CAL_RPW-THR” data are written in CDF format files. A new file is generated each time new calibration tables are available for THR.

4.1.5.2.1 Filename

```
solo_CAL_RPW-THR_[YYYYMMDD]_V[version].cdf
```

Where:

- [YYYYMMDD] is the calibration table file generation date, using the convention defined in [AD.01]
- [version] is the data version as defined in [AD.01]


4.1.5.3 SOLO_CAL_RPW-TDS data product

The “SOLO_CAL_RPW-TDS” data product contains the calibration tables for the TDS receiver. The “SOLO_CAL_RPW-TDS” data are written in CDF format files. A new file is generated each time new calibration tables are available for TDS.

4.1.5.3.1 Filename

```
solo_CAL_RPW-TDS_[YYYYMMDD]_V[version].cdf
```

- [YYYYMMDD] is the calibration table file generation date, using the convention defined in [AD.01]
- [version] is the data version as defined in [AD.01]

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 432

4.1.5.4 SOLO_CAL_RPW-LFR data product

The “SOLO_CAL_RPW-LFR” data product contains the calibration tables for the LFR receiver. The “SOLO_CAL_RPW-LFR” data are written in CDF format files. A new file is generated each time new calibration tables are available for LFR.

4.1.5.4.1 Filename

```
solo_CAL_RPW-LFR_[YYYYMMDD]_V[version].cdf
```

- [YYYYMMDD] is the calibration table file generation date, using the convention defined in [AD.01]
- [version] is the data version as defined in [AD.01]

4.1.5.5 SOLO_CAL_RPW-SCM data product

The “SOLO_CAL_RPW-SCM” data product contains the calibration tables for the SCM sensor. The “SOLO_CAL_RPW-SCM” data are written in CDF format files. A new file is generated each time new calibration tables are available for SCM.

4.1.5.5.1 Filename

```
solo_CAL_RPW-SCM_[YYYYMMDD]_V[version].cdf
```


- [YYYYMMDD] is the calibration table file generation date, using the convention defined in [AD.01]
- [version] is the data version as defined in [AD.01]

4.1.5.6 SOLO_CAL_RPW-ANT-PA-HF data product

The “SOLO_CAL_RPW-ANT-PA-HF” data product contains the calibration tables for the RPW electrical antenna pre-amplifiers at high frequency. The “SOLO_CAL_RPW-ANT-PA-HF” data are written in CDF format files. A new file is generated each time new calibration tables are available for the RPW electrical antenna pre-amplifiers at high frequency.

4.1.5.6.1 Filename

```
solo_CAL_RPW-ANT-PA-HF_[YYYYMMDD]_V[version].cdf
```

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 433

- [YYYYMMDD] is the calibration table file generation date, using the convention defined in [AD.01]
- [version] is the data version as defined in [AD.01]

4.1.5.7 SOLO_CAL_RPW-ANT-HF data product

The “SOLO_CAL_RPW-ANT-HF” data product contains the calibration tables for the RPW electrical antenna at high frequency. The “SOLO_CAL_RPW-ANT-HF” data are written in CDF format files. A new file is generated each time new calibration tables are available for the RPW electrical antennas at high frequency.

4.1.5.7.1 Filename

```
solo_CAL_RPW-ANT-HF_[YYYYMMDD]_V[version].cdf
```

- [YYYYMMDD] is the calibration table file generation date, using the convention defined in [AD.01]
- [version] is the data version as defined in [AD.01]

4.1.5.8 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. The “SOLO_CAL_RPW-BIA” data are written in CDF format files. A new file is generated each time new calibration tables are available.

4.1.5.8.1 Filename

```
solo_CAL_RPW-BIA_[YYYYMMDD]_V[version].cdf
```

- [YYYYMMDD] is the calibration table file generation date, using the convention defined in [AD.01]
- [version] is the data version as defined in [AD.01]

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
00


Date: January 18, 2019

Page: **434**

5 APPENDIX - DATA PRODUCTS MATRIX

Product name	Description	Descriptor	Free_field	Level
SOLO_L1_RPW-BIA-SWEEP	“This file contains RPW level 1 Bias sweeping data produced by the ROC.”	“RPW-BIA-SWEEP>Radio and Plasma Waves instrument - Bias sweeping data “		“L1>Level 1”
SOLO_L1_RPW-HFR-SURV	“This file contains RPW TNR level 1 science survey data for the current day.”	“RPW-HFR-SURV>RPW High Frequency Receiver in survey mode”		“L1>Level 1”
SOLO_L1_RPW-LFR-SBM1-BP1	“This file contains RPW LFR level 1 SBM1 BP1 data of the current SBM1 event.”	“RPW-LFR-SBM1-BP1>RPW Low Frequency Receiver Basic parameters set 1 data in SBM1 mode”		“L1>Level 1”
SOLO_L1_RPW-LFR-SBM1-BP2	“This file contains RPW LFR level 1 SBM1 BP2 data of the current SBM1 event.”	“RPW-LFR-SBM1-BP2>RPW Low Frequency Receiver Basic Parameters set 2 data in SBM1 mode”		“L1>Level 1”

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 435

Tab. 5.1 – continued from previous page

Product name	Description	Descriptor	Free_field	Level
SOLO_L1_RPW-LFR-SBM1-CWF	“This file contains RPW LFR level 1 SBM1 continuous waveform data of the current SBM1 event.”	“RPW-LFR-SBM1-CWF>RPW Low Frequency Receiver Continuous Waveform data in SBM1 mode”		“L1>Level 1”
SOLO_L1_RPW-LFR-SBM2-BP1	“This file contains RPW LFR level 1 SBM2 BP1 data of the current SBM2 event.”	“RPW-LFR-SBM2-BP1>RPW Low Frequency Receiver Basic parameters set 1 data in SBM2 mode”		“L1>Level 1”
SOLO_L1_RPW-LFR-SBM2-BP2	“This file contains RPW LFR level 1 SBM2 BP2 data of the current SBM2 event.”	“RPW-LFR-SBM2-BP1>RPW Low Frequency Receiver Basic parameters set 1 data in SBM2 mode”		“L1>Level 1”
SOLO_L1_RPW-LFR-SBM2-CWF	“This file contains RPW LFR level 1 SBM2 continuous waveform data of the current SBM2 event.”	“RPW-LFR-SBM2-CWF>RPW Low Frequency Receiver Continuous Waveform data in SBM2 mode”		“L1>Level 1”
SOLO_L1_RPW-LFR-SURV-ASM	“This file contains RPW LFR level 1 survey ASM data of the current day.”	“RPW-LFR-SURV-ASM>RPW Low Frequency Receiver Average Spectral Matrices data in survey mode”		“L1>Level 1”

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **436**

Tab. 5.1 – continued from previous page

Product name	Description	Descriptor	Free_field	Level
SOLO_L1_RPW-LFR-SURV-BP1	“This file contains RPW LFR level 1 Survey BP1 data of the current day.”	“RPW-LFR-SURV-BP1> RPW Low Frequency Receiver Basic parameters set 1 data in Survey mode”		“L1>Level 1”
SOLO_L1_RPW-LFR-SURV-BP2	“This file contains RPW LFR level 1 Survey BP2 data of the current day.”	“RPW-LFR-SURV-BP2> RPW Low Frequency Receiver Basic parameters set 2 data in Survey mode”		“L1>Level 1”
SOLO_L1_RPW-LFR-SURV-CWF	“This file contains RPW LFR level 1 survey continuous waveform data for the current day.”	“RPW-LFR-SURV-CWF> RPW Low Frequency Receiver Continuous Waveform data in survey mode”		“L1>Level 1”
SOLO_L1_RPW-LFR-SURV-SWF	“This file contains RPW LFR level 1 snapshot waveform data for the current day.”	“RPW-LFR-SURV-SWF> RPW Low Frequency Receiver Snapshot Waveform data in survey mode”		“L1>Level 1”
SOLO_L1_RPW-TDS-LFM-CWF	“This file contains RPW TDS level 1 continuous waveform data in LFM mode for the current day.”	“RPW-TDS-LFM-CWF> RPW Time Domain Sampler continuous waveform LFM data”		“L1>Level 1”
SOLO_L1_RPW-TDS-LFM-PSD	“This file contains RPW TDS level 1 regular snapshot waveform data in LFM mode for the current day.”	“RPW-TDS-LFM-PSD> RPW Time Domain Sampler LFM averaged power spectra”		“L1>Level 1”

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00


Date: January 18, 2019

Page: **437**

Tab. 5.1 – continued from previous page

Product name	Description	Descriptor	Free_field	Level
SOLO_L1_RPW-TDS-SURV-RSWF	“This file contains RPW TDS level 1 regular snapshot waveform data in LFM mode for the current day.”	“RPW-TDS-LFM-RSWF> RPW Time Domain Sampler Regular Waveform Snapshot data in LFM mode”		“L1>Level 1”
SOLO_L1_RPW-TDS-SURV-SM	“This file contains RPW TDS level 1 regular snapshot waveform data in LFM mode for the current day.”	“RPW-TDS-LFM-SM> RPW Time Domain Sampler Spectral Matrix data in LFM mode”		“L1>Level 1”
SOLO_L1_RPW-TDS-SBM1-RSWF	“This file contains RPW TDS level 1 snapshot waveform data in SBM1 mode for the current SBM1 event.”	“RPW-TDS-SBM1-RSWF> RPW Time Domain Sampler Waveform Snapshot data in SBM1 mode”		“L1>Level 1”
SOLO_L1_RPW-TDS-SBM2-TSWF	“This file contains RPW TDS level 1 triggered snapshot waveform data in SBM2 mode for the current SBM2 event.”	“RPW-TDS-SBM2-TSWF> RPW Time Domain Sampler Triggered Waveform Snapshot data in SBM2 mode”		“L1>Level 1”
SOLO_L1_RPW-TDS-SURV-HIST1D	“This file contains RPW TDS level 1 regular snapshot Histogram 1D survey data for the current day.”	“RPW-TDS-SURV-HIST1D> RPW Time Domain Sampler 1D Histogram data in survey mode”		“L1>Level 1”
SOLO_L1_RPW-TDS-SURV-HIST2D	“This file contains RPW TDS level 1 regular snapshot Histogram 2D survey data for the current day.”	“RPW-TDS-SURV-HIST2D> RPW Time Domain Sampler 2D Histogram data in survey mode”		“L1>Level 1”


Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 438

Tab. 5.1 – continued from previous page

Product name	Description	Descriptor	Free_field	Level
SOLO_L1_RPW-TDS-SURV-MAMP	“This file contains RPW TDS level 1 regular snapshot waveform survey data for the current day.”	“RPW-TDS-SURV-MAMP> RPW Time Domain Sampler continuous HF maximum amplitudes in survey mode”		“L1>Level 1”
SOLO_L1_RPW-TDS-SURV-RSWF	“This file contains RPW TDS level 1 regular snapshot waveform survey data for the current day.”	“RPW-TDS-SURV-RSWF> RPW Time Domain Sampler Regular Waveform Snapshot data in survey mode”		“L1>Level 1”
SOLO_L1_RPW-TDS-SURV-STAT	“This file contains RPW TDS level 1 regular snapshot waveform survey data for the current day.”	“RPW-TDS-SURV-STAT> RPW Time Domain Sampler the basic statistical parameters in survey mode”		“L1>Level 1”
SOLO_L1_RPW-TDS-SURV-TSWF	“This file contains RPW TDS level 1 triggered snapshot waveform survey data for the current day.”	“RPW-TDS-SURV-TSWF> RPW Time Domain Sampler Triggered Waveform Snapshot data in survey mode”		“L1>Level 1”
SOLO_L1_RPW-TNR-SURV	“This file contains RPW TNR level 1 science survey data for the current day.”	“RPW-TNR-SURV>RPW Thermal Noise Receiver in survey mode”		“L1>Level 1”

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 439

Tab. 5.1 – continued from previous page

Product name	Description	Descriptor	Free_field	Level
ROC-SGSE_L2s_RPW-LFR-SBM1-BP1	“This file contains RPW LFR level 2 SBM1 BP1 data of the current test.”	“RPW-LFR-SBM1-BP1>RPW Low Frequency Receiver Basic parameters set 1 data in SBM1 mode”		“L2s>Level 2s”
ROC-SGSE_L2s_RPW-LFR-SBM1-BP2	“This file contains RPW LFR level 2s SBM1 BP2 data of the current test.”	“RPW-LFR-SBM1-BP2>RPW Low Frequency Receiver Basic Parameters set 2 data in SBM1 mode”		“L2s>Level 2s”
SOLO_L2_RPW-LFR-SBM1-CWF-B	“This file contains RPW LFR level 2 continuous waveform of magnetic data in SMB1 mode”	“LFR>Low Frequency Receiver”		“L2>Level 2 data processing”
SOLO_L2_RPW-LFR-SBM1-CWF-E	“This file contains RPW LFR level 2 continuous waveform of electric data in selective burst mode 1.”	“RPW-LFR-SBM1-CWF-E>RPW Low Frequency Receiver Continuous Waveform in selective burst mode 1. Electric component.”		“L2>Level 2”
ROC-SGSE_L2s_RPW-LFR-SBM2-BP1	“This file contains RPW LFR level 2s SBM2 BP1 data of the current test.”	“RPW-LFR-SBM2-BP1>RPW Low Frequency Receiver Basic parameters set 1 data in SBM2 mode”		“L2s>Level 2s”

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00


Date: January 18, 2019

Page: **440**

Tab. 5.1 – continued from previous page

Product name	Description	Descriptor	Free_field	Level
ROC-SGSE_L2s_RPW-LFR-SBM2-BP2	“This file contains RPW LFR level 2s SBM2 BP2 data of the current test.”	“RPW-LFR-SBM2-BP1>RPW Low Frequency Receiver Basic parameters set 1 data in SBM2 mode”		“L2s>Level 2s”
SOLO_L2_RPW-LFR-SBM2-CWF-B	“This file contains RPW LFR level 2 continuous waveform of magnetic data in SMB2 mode”	“LFR>Low Frequency Receiver”		“L2>Level 2 data processing”
SOLO_L2_RPW-LFR-SBM2-CWF-E	“This file contains RPW LFR level 2 continuous waveform of electric data in selective burst mode 2.”	“RPW-LFR-SBM2-CWF-E>RPW Low Frequency Receiver Continuous Waveform in selective burst mode 2. Electric component.”		“L2>Level 2”
ROC-SGSE_L2s_RPW-LFR-SURV-ASM	“This file contains RPW LFR level 2s survey ASM data of the current test.”	“RPW-LFR-SURV-ASM>RPW Low Frequency Receiver Average Spectral Matrices data in survey mode”		“L2s>Level 2s”
ROC-SGSE_L2s_RPW-LFR-SURV-BP1	“This file contains RPW LFR level 2s Survey BP1 data of the current test.”	“RPW-LFR-SURV-BP1>RPW Low Frequency Receiver Basic parameters set 1 data in Survey mode”		“L2s>Level 2s”

Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 441

Tab. 5.1 – continued from previous page

Product name	Description	Descriptor	Free_field	Level
ROC-SGSE_L2s_RPW-LFR-SURV-BP2	“This file contains RPW LFR level 2s Survey BP2 data of the current test.”	“RPW-LFR-SURV-BP2>RPW Low Frequency Receiver Basic parameters set 2 data in Survey mode”		“L2s>Level 2s”
SOLO_L2_RPW-LFR-SURV-CWF-B	“This file contains RPW LFR level 2 continous waveform of magnetic data in survey mode”	“LFR>Low Frequency Receiver”		“L2>Level 2 data processing”
SOLO_L2_RPW-LFR-SURV-CWF-E	“This file contains RPW LFR level 2 continuous waveform of electric data in survey mode.”	“RPW-LFR-SURV-CWF-E>RPW Low Frequency Receiver Continuous Waveform in survey mode. Electric component.”		“L2>Level 2”
SOLO_L2_RPW-LFR-SURV-SWF-B	“This file contains RPW LFR level 2 snapshot waveform of magnetic data in survey mode”	“LFR>Low Frequency Receiver”		“L2>Level 2 data processing”
SOLO_L2_RPW-LFR-SURV-SWF-E	“This file contains RPW LFR level 2 snapshot waveform of electric data in survey mode.”	“RPW-LFR-SURV-SWF-E>RPW Low Frequency Receiver Snapshot Waveform in survey mode. Electric component.”		“L2>Level 2”

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00


Date: January 18, 2019

Page: **442**

Tab. 5.1 – continued from previous page

Product name	Description	Descriptor	Free_field	Level
SOLO_L2_RPW-TDS-LFM-CWF-B	“This file contains RPW TDS level 2 continuous waveform of magnetic data in LFM mode”	“RPW-TDS-LFM-CWF-B> RPW Time Domain Sampler Continuous Waveform magnetic data in LFM mode”		“L2>Level 2 data processing”
SOLO_L2_RPW-TDS-LFM-CWF-E	“This file contains RPW TDS level 2 continuous waveform of electric data in low frequency mode.”	“RPW-TDS-LFM-CWF-E>RPW Time Domain Sampler Continuous Waveform in low frequency mode. Electric component.		“L2>Level 2”
SOLO_L2_RPW-TDS-LFM-RSWF-B	“This file contains RPW TDS level 2 regular snapshot waveform of magnetic data in LFM mode”	“RPW-TDS-LFM-RSWF-B> RPW Time Domain Sampler Regular Waveform Snapshot magnetic data in LFM mode”		“L2>Level 2 data processing”
SOLO_L2_RPW-TDS-LFM-RSWF-E	“This file contains RPW TDS level 2 regular snapshot waveform of electric data in low frequency mode.”	“RPW-TDS-LFM-RSWF-E>RPW Time Domain Sampler Regular Snapshot Waveform in low frequency mode. Electric component.		“L2>Level 2”
SOLO_L2_RPW-TDS-SBM1-RSWF-B	“This file contains RPW TDS level 2 regular snapshot waveform of magnetic data in SBM1 mode”	“RPW-TDS-SBM1-RSWF-B> RPW Time Domain Sampler Regular Waveform Snapshot magnetic data in SBM1 mode”		“L2>Level 2 data processing”


Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 443

Tab. 5.1 – continued from previous page

Product name	Description	Descriptor	Free_field	Level
“SOLO_L2_RPW-TDS-SBM1-RSWF-E”	“This file contains RPW TDS level 2 snapshot waveform data in SBM1 mode for E components.”	“RPW-TDS-SBM1-RSWF-E> RPW Time Domain Sampler Waveform Snapshot data in SBM1 mode for E components”		“L2>Level 2”
SOLO_L2_RPW-TDS-SBM2-TSWF-B	“This file contains RPW TDS level 2 triggered snapshot waveform of magnetic data in SBM2 mode”	“RPW-TDS-SBM2-TSWF-B> RPW Time Domain Sampler Triggered Waveform Snapshot magnetic data in SBM2 mode”		“L2>Level 2 data processing”
SOLO_L2_RPW-TDS-SBM2-TSWF-E	“This file contains RPW TDS level 2 triggered snapshot electric waveform data in the SBM2 mode.”	“RPW-TDS-SBM2-TSWF-E> RPW Time Domain Sampler Triggered Waveform Snapshot data in SBM2 mode for E components”		“L2>Level 2”
“SOLO_L2_RPW-TDS-SURV-HIST1D”	“This file contains RPW TDS level 2 regular snapshot Histogram 1D data.”	“RPW-TDS-SURV-HIST1D> RPW Time Domain Sampler 1D Histogram data in survey mode”		“L2>Level 2”
“SOLO_L2_RPW-TDS-SURV-HIST2D”	“This file contains RPW TDS level 2 regular snapshot Histogram 2D data.”	“RPW-TDS-SURV-HIST2D> RPW Time Domain Sampler 2D Histogram data in survey mode”		“L2>Level 2”

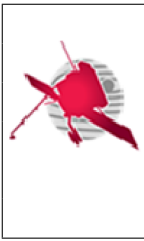
Continued on next page

	RPW Data Product Description Document	Ref: ROC-PRO-DAT-NTT-00075-LES	
		Issue 01	Revision 00
		Date: January 18, 2019	Page: 444

Tab. 5.1 – continued from previous page

Product name	Description	Descriptor	Free_field	Level
“SOLO_L2_RPW-TDS-SURV-MAMP”	“This file contains RPW TDS level 2 regular snapshot waveform data.”	“RPW-TDS-SURV-MAMP> RPW Time Domain Sampler continuous HF maximum amplitudes in survey mode”		“L2>Level 2”
SOLO_L2_RPW-TDS-SURV-RSWF-B	“This file contains RPW TDS level 2 regular snapshot waveform of magnetic data in survey mode”	“RPW-TDS-SURV-RSWF-B> RPW Time Domain Sampler Regular Waveform Snapshot magnetic data in survey mode”		“L2>Level 2 data processing”
SOLO_L2_RPW-TDS-SURV-RSWF-E	“This file contains RPW TDS level 2S regular snapshot E waveform data.”	“RPW-TDS-SURV-RSWF> RPW Time Domain Sampler Regular Waveform Snapshot data in survey mode”		“L2S>Level 2S”
“SOLO_L2_RPW-TDS-SURV-STAT”	“This file contains RPW TDS level 2 survey mode statistics.”	“RPW-TDS-SURV-STAT> RPW Time Domain Sampler the basic statistical parameters in survey mode”		“L2>Level 2”
SOLO_L2_RPW-TDS-SURV-TSWF-B	“This file contains RPW TDS level 2 triggered snapshot waveform of magnetic data in survey mode”	“RPW-TDS-SURV-TSWF-B> RPW Time Domain Sampler Triggered Waveform Snapshot magnetic data in survey mode”		“L2>Level 2 data processing”

Continued on next page



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **445**

Tab. 5.1 – continued from previous page

Product name	Description	Descriptor	Free_field	Level
SOLO_L2_RPW-TDS-SURV-TSWF-E	“This file contains RPW TDS level 2 triggered snapshot E waveform data.”	“RPW-TDS-SURV-TSWF> RPW Time Domain Sampler L2 Triggered Waveform Snapshot data in survey mode E components”		“L2>Level 2”



**RPW Data Product
Description Document**

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

Issue
01

Revision
00

Date: January 18, 2019

Page: **446**

6 SAMPLE FILES