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Block 2.0.0

Goddard Space Flight Center
Greenbelt, Maryland

National Aeronautics and
Space Administration

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Joint Polar Satellite System (JPSS) Algorithm Specification Volume II: Data Dictionary for the OMPS Nadir Profile RDR/SDR

JPSS Review/Approval Page

Prepared By:

_____

JPSS Ground System
(Electronic Approvals available online at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm)

Approved By:

_____

Robert M. Morgenstern Date
JPSS Ground Project Mission Systems Engineering Manager
(Electronic Approvals available online at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm)

Approved By:

_____

Daniel S. DeVito Date
JPSS Ground Project Manager
(Electronic Approvals available online at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm)

Goddard Space Flight Center
Greenbelt, Maryland

Preface

This document is under JPSS Ground ERB configuration control. Once this document is approved, JPSS approved changes are handled in accordance with Class I and Class II change control requirements as described in the JPSS Configuration Management Procedures, and changes to this document shall be made by complete revision.

Any questions should be addressed to:

JPSS Configuration Management Office
NASA/GSFC
Code 474
Greenbelt, MD 20771

Change History Log

Revision	Effective Date	Description of Changes (Reference the CCR & CCB/ERB Approve Date)	Sections Affected
0200-	Aug 22, 2013	This version incorporates 474-CCR-13-1124 which was approved by JPSS Ground ERB on the effective date shown.	All
0200A	Jan 9, 2014	This version incorporates 474-CCR-13-1350 which was approved by JPSS Ground ERB on the effective date shown.	All
0200A1	Oct 23, 2014	This version incorporates 474-CCR-14-2091 which was approved by the JPSS Ground ERB for CO10 on the effective date shown.	All
0200B	Mar 02, 2015	This version incorporates, 474-CCR-14-2110, 474-CCR-14-2168 and 474-CCR-14-2073, 474-CCR-14-2280 and 474-CCR-14-2288 which was approved by the JPSS Ground ERB on the effective date shown.	All
0200C	May 21, 2015	This version incorporates 474-CCR-15-2437 which was approved by the JPSS Ground ERB on the effective date shown.	All
0200D	Jul 28, 2015	This version incorporates 474-CCR-15-2506 which was approved by the JPSS Ground ERB on the effective date shown.	All
0200E	Mar 29, 2016	This version incorporates 474-CCR-15-2657, and 474-CCR-16-2818 which was approved by the JPSS Ground ERB on the effective date shown.	All
0200F	Jun 07, 2016	This version incorporates 474-CCR-16-2939 which was approved by the JPSS Ground ERB on the effective date shown.	All

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Table of TBDs/TBRs

TBx	Type	ID	Text	Action
1	TBD	SRS.02.05_90	The detailed structure and contents of the APs are documented in the Mission Data Format Control Book (MDFCB) for each mission, GSFC 429-05-02-42 for S-NPP, 472-00251 for JPSS-1, and 472-TBD2 for JPSS-2. For more information on AP formatting, see the Recommendations for Advanced Orbiting Systems, Networks and Data Links, CCSDS 701.0-B-2, Section 3.3.3.	Document numbers are TBD for the JPSS-2

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Table of Contents

1 Introduction 1
1.1 Scope 1
1.2 Organization 1
2 Related Documentation 2
2.1 Parent Documents 2
2.2 Applicable Documents 2
2.3 Information Documents 2
3 UML for HDF5 Products 4
3.1 RDR HDF5 Details 4
3.2 TDR/SDR HDF5 Details 7
3.3 Auxiliary Data Formats 9
4 JPSS Raw Data Records (RDRs) 11
4.1 Common RDR Structures 12
4.2 OMPS NP RDR Overview 16
4.3 OMPS NP Science RDR 17
4.3.1 OMPS NP Science RDR HDF5 Files 17
4.3.2 OMPS NP Science RDR Data Content Summary 18
4.4 OMPS NP Calibration RDR 19
4.4.1 OMPS NP Calibration RDR HDF5 Files 19
4.4.2 OMPC NP Calibration RDR Data Content Summary 19
4.5 OMPS NP Diagnostic Earth View RDR 21
4.5.1 OMPS NP Diagnostic Earth View RDR HDF5 Files 21
4.5.2 OMPS NP Diagnostic Earth View RDR Data Content Summary 21
4.6 OMPS NP Diagnostic Calibration RDR 23
4.6.1 OMPS NP Diagnostic Calibration RDR HDF5 Files 23
4.6.2 OMPS NP Diagnostic Calibration RDR Data Content Summary 23
4.7 OMPS Dwell RDR 24
4.7.1 OMPS Dwell RDR HDF5 Files 24
4.7.2 OMPS Dwell RDR Data Content Summary 24
4.8 OMPS Telemetry RDR 26
4.8.1 OMPS Telemetry RDR HDF5 Files 26
4.8.2 OMPS Telemetry RDR Data Content Summary 26
4.9 OMPS Memory Dump RDR 27
4.9.1 OMPS Memory Dump RDR HDF5 Files 27
4.9.2 OMPS Memory Dump RDR Data Content Summary 27

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

4.10 OMPS Flight Software (FSW) Boot-up Status RDR 29
4.10.1 OMPS FSW Boot-up RDR HDF5 Files 29
4.10.2 OMPS FSW Boot-up RDR Data Content Summary 29
5 Temperature Data Records (TDRs) 31
6 Sensor Data Records (SDRs) 32
6.1 SDR Granule Size 32
6.2 Ozone Mapping and Profiler Suite Nadir Profile SDRs 32
6.2.1 OMPS NP SDR Format 33
6.2.1.1 OMPS NP SDR Data Content Summary 34
6.2.1.2 OMPS NP SDR - Product Profile Data 35
6.2.1.3 OMPS NP SDR HDF5 Details 40
6.2.1.4 OMPS NP SDR HDF5 Metadata Details 40
6.2.1.5 OMPS NP SDR Geolocation Content Summary 41
6.2.1.6 OMPS NP SDR Geolocation Product Profile 43
6.2.1.7 OMPS NP SDR Geolocation HDF5 Details 49
6.2.1.8 OMPS NP SDR Geolocation Metadata Details 49
6.2.2 OMPS NP Calibration SDRs 49
6.2.2.1 OMPS NP Calibration SDR Data Content Summary 50
6.2.2.2 OMPS NP Calibration SDR Product Profile 54
6.2.2.3 OMPS NP Calibration SDR HDF5 Details 69
6.2.2.4 OMPS NP Calibration SDR Metadata Details 70
6.2.2.5 OMPS NP Calibration SDR Geolocation Content Summary 71
6.2.2.6 OMPS NP Calibration SDR Geolocation Product Profile 74
6.2.2.7 OMPS NP Calibration SDR Geolocation HDF5 Details 81
6.2.2.8 OMPS NP Calibration SDR Geolocation Metadata Details 81
6.3 OMPS NP Retained AUX 82
6.3.1 OMPS NP Lamp AUX 82
6.3.1.1 OMPS NP Lamp AUX 83
6.3.2 OMPS NP Wavelengths AUX Table 86
6.3.2.1 OMPS NP Wavelengths Ground Table Data Format 87
6.3.3 OMPS NP CF Earth AUX Table 89
6.3.3.1 OMPS NP CF Earth AUX Data Format 90
6.3.4 OMPS NP Linearity AUX 91
6.3.4.1 OMPS NP Linearity AUX Table Data Format 92
6.3.5 OMPS NP Linearity Proposed Upload AUX 94
6.3.5.1 OMPS NP Linearity Proposed Upload AUX Data Format 94
6.3.6 OMPS NP Flatfields Proposed Upload AUX 94

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

6.3.6.1 OMPS NP Flatfields Proposed Upload AUX Table Data Format . 95
6.3.7 OMPS NP Bad Pixels AUX....95
6.3.7.1 OMPS NP Bad Pixels Table Data Format.... 97
7 Look-up Tables and Processing Coefficient Tables 98
7.1 Look-up Tables 98
7.1.1 OMPS Nadir Profile RDR/SDR LUTs 98
7.2 Processing Coefficient Tables.... 99
7.2.1 Automated Processing Coefficients 99
7.2.1.1 OMPS NP Darks PC.... 99
7.2.1.2 OMPS NP SAA Darks PC.... 102
7.2.1.3 OMPS NP Bias PC 105
7.2.1.4 OMPS NP Flat Fields History PC 105
7.2.1.5 OMPS NP Wavmon PC 108
7.2.1.6 OMPS NP CF Solar PC.... 112
7.2.1.7 OMPS NP Flux PC.... 114
7.2.1.8 OMPS NP Raw Flux PC 118
7.2.1.9 OMPS NP Straylight PC 121
7.2.2 Manual Processing Coefficients 123
7.2.2.1 OMPS Nadir Profile RDR/SDR Initialization PCTs.... 123
7.2.2.2 OMPS NP Ephemeral PCT 153
8 Intermediate Products (IPs).... 158
Appendix A. Data Mnemonic to Interface Mapping.... 159
Appendix B. Common RDR Static Header Values.... 160
Appendix C. DQTT Quality Flag Mapping 161
Appendix D. Abbreviations and Acronyms 162
Attachment A XML Formats for Related Data Products 163

List of Figures

Figure: 3.1-1 Science and Diagnostic RDR Generalized UML Diagram.... 5
Figure: 3.1-2 Dwell, Dump, Telemetry, and Spacecraft Diary (when requested separately) RDR Generalized UML Diagram 6
Figure: 3.2-1 Generalized UML Diagram for HDF5 SDR/TDR Files 8
Figure: 3.3-1 Generalized UML Diagram for HDF5 Auxiliary Data Files 10
Figure: 4-1 Common RDR Layout 12
Figure: 6.2.1.3-1 OMPS NP SDR UML Diagram.... 40
Figure: 6.2.1.7-1 OMPS NP SDR Geolocation UML Diagram 49
Figure: 6.2.2.3-1 OMPS NP Calibration SDR UML Diagram.... 70

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Figure: 6.2.2.7-1 OMPS NP Calibration SDR Geolocation UML Diagram 81

List of Tables

Table: 4-1 Common RDR Structure 11
Table: 4.1-1 RDR Static Header 13
Table: 4.1-2 RDR APID List 14
Table: 4.1-3 RDR Packet Tracker 15
Table: 4.1-4 Application Packet Storage Area 15
Table: 4.1-5 Application Packet Tables 15
Table: 4.3.2-1 S-NPP OMPS NP Science RDR Application Packets 18
Table: 4.3.2-2 JPSS-1 OMPS NP Science RDR Application Packets 18
Table: 4.3.2-3 S-NPP OMPS NP Science RDR Structure 18
Table: 4.3.2-4 JPSS-1 OMPS NP Science RDR Structure 19
Table: 4.4.2-1 S-NPP OMPS NP Calibration RDR Application Packets 19
Table: 4.4.2-2 JPSS-1 OMPS NP Calibration RDR Application Packets 19
Table: 4.4.2-3 S-NPP OMPS NP Calibration RDR Maximum Sizes 20
Table: 4.4.2-4 JPSS-1 OMPS NP Calibration RDR Maximum Sizes 20
Table: 4.4.2-5 S-NPP OMPS NP Calibration RDR Structure 20
Table: 4.4.2-6 JPSS-1 OMPS NP Calibration RDR Structure 21
Table: 4.5.2-1 S-NPP OMPS NP Diagnostic Earth View RDR Application Packets 21
Table: 4.5.2-2 JPSS-1 OMPS NP Diagnostic Earth View RDR Application Packets 21
Table: 4.5.2-3 S-NPP OMPS NP Diagnostic Earth View RDR Structure 22
Table: 4.5.2-4 JPSS-1 OMPS NP Diagnostic Earth View RDR Structure 22
Table: 4.6.2-1 S-NPP OMPS NP Diagnostic Calibration RDR Application Packets 23
Table: 4.6.2-2 JPSS-1 OMPS NP Diagnostic Calibration RDR Application Packets 23
Table: 4.6.2-3 S-NPP OMPS NP Diagnostic Calibration RDR Structure 23
Table: 4.6.2-4 JPSS-1 OMPS NP Diagnostic Calibration RDR Structure 24
Table: 4.7.2-1 S-NPP OMPS Dwell RDR Application Packets 24
Table: 4.7.2-2 JPSS-1 OMPS Dwell RDR Application Packets 25
Table: 4.7.2-3 S-NPP OMPS Dwell RDR Structure 25
Table: 4.7.2-4 JPSS-1 OMPS Dwell RDR Structure 25
Table: 4.8.2-1 S-NPP OMPS Telemetry RDR Application Packets 26
Table: 4.8.2-2 JPSS-1 OMPS Telemetry RDR Application Packets 26
Table: 4.8.2-3 S-NPP OMPS Telemetry RDR Structure 26
Table: 4.8.2-4 JPSS-1 OMPS Telemetry RDR Structure 27
Table: 4.9.2-1 S-NPP OMPS Memory Dump RDR Application Packets 27
Table: 4.9.2-2 JPSS-1 OMPS Memory Dump RDR Application Packets 27
Table: 4.9.2-3 S-NPP OMPS Memory Dump RDR Structure 28
Table: 4.9.2-4 JPSS-1 OMPS Memory Dump RDR Structure 28
Table: 4.10.2-1 S-NPP OMPS FSW Boot-up RDR Application Packets 29
Table: 4.10.2-2 JPSS-1 OMPS FSW Boot-up RDR Application Packets 29
Table: 4.10.2-3 S-NPP OMPS FSW Boot-Up RDR Structure 29
Table: 4.10.2-4 JPSS-1 OMPS FSW Boot-Up RDR Structure 30

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Table: 6.2.1.1-1 OMPS NP SDR Data Content Summary 34
Table: 6.2.1.2-1 OMPS NP SDR Product Profile 35
Table: 6.2.1.5-1 OMPS NP SDR Geolocation Data Content Summary 41
Table: 6.2.1.6-1 OMPS NP SDR Geolocation Product Profile 43
Table: 6.2.2.1-1 OMPS NP Calibration SDR Data Content Summary 50
Table: 6.2.2.2-1 OMPS NP Calibration SDR Product Profile 54
Table: 6.2.2.5-1 OMPS NP Calibration SDR Geolocation Content Summary 71
Table: 6.2.2.6-1 OMPS NP Calibration SDR - Geolocation Product Profile 74
Table: 6.3.1.1-1 OMPS NP Lamp AUX Data Format 83
Table: 6.3.2.1-1 OMPS NP Wavelengths Ground Table Data Format 87
Table: 6.3.3.1-1 OMPS NP CF Earth Ground Table Data Format 90
Table: 6.3.4.1-1 OMPS NP Linearity AUX Table Data Format 92
Table: 6.3.5.1-1 OMPS NP Linearity Proposed Upload AUX Data Format 94
Table: 6.3.6.1-1 OMPS NP Flatfields Proposed Upload AUX Table Data Format 95
Table: 6.3.7.1-1 OMPS NP Bad Pixels Table Data Format 97
Table: 7.2.1.1-1 OMPS NP Darks PC Data Format 100
Table: 7.2.1.2-1 OMPS NP SAA Darks PC Data Format 103
Table: 7.2.1.3-1 OMPS NP Bias PC Data Format 105
Table: 7.2.1.4-1 OMPS NP Flat Fields History PC Data Format 107
Table: 7.2.1.5-1 OMPS NP Wavmon PC Data Format 109
Table: 7.2.1.6-1 OMPS NP CF Solar PC Data Format 113
Table: 7.2.1.7-1 OMPS NP Flux PC Data Format 115
Table: 7.2.1.8-1 OMPS NP Raw Flux PC Data Format 119
Table: 7.2.1.9-1 OMPS NP Straylight PC 122
Table: 7.2.2.1.1-1 OMPS NP Calibration Constant PC Data Format 123
Table: 7.2.2.1.2-1 OMPS NP Field Angles Map PC Data Format 124
Table: 7.2.2.1.3-1 OMPS NP Observed Solar PC Data Format 125
Table: 7.2.2.1.4-1 OMPS NP Predicted Solar PC Data Format 126
Table: 7.2.2.1.5-1 OMPS NP Solar Irradiance PC Data Format 126
Table: 7.2.2.1.6-1 OMPS NP Spectral Response Function PC Data Format 127
Table: 7.2.2.1.7-1 OMPS NP Wave Fitting Parameters PC Data Format 129
Table: 7.2.2.1.8-1 OMPS NP Solar Irradiance Calibration Constants Table Data Format 130
Table: 7.2.2.1.9-1 OMPS NP BRDF GRIDS Table Data Format 132
Table: 7.2.2.1.10-1 OMPS NP Line Shifts Table Data Format 135
Table: 7.2.2.1.11-1 OMPS NP Spectral Registration Pixel Map Table Data Format 136
Table: 7.2.2.1.12-1 OMPS NP Timing Pattern Ground Table Data Format 138
Table: 7.2.2.1.13-1 OMPS NP Linearity Ground Table Data Format 140
Table: 7.2.2.1.14-1 OMPS NP Earth View Sample Ground Table Data Format 141
Table: 7.2.2.1.15-1 OMPS NP Macropixel Ground Table Data Format 142
Table: 7.2.2.1.16-1 OMPS NP LED Sample Ground Table Data Format 143
Table: 7.2.2.1.17-1 OMPS NP Solar Sample Ground Table Data Format 143
Table: 7.2.2.1.18-1 OMPS NP Wavelengths Ground PC Data Format 145
Table: 7.2.2.1.19-1 OMPS NP CF Earth Ground PC Data Format 148
Table: 7.2.2.1.20-1 OMPS NP Version Ground PC Data Format 150
Table: 7.2.2.2-1 OMPS NP SDR Ephemeral PC 154

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Table: C-1 DQTT Quality Flag Mapping 161
Table: ATT-1 XML Formats for Related Products 163

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1 Introduction

1.1 Scope

The Joint Polar Satellite System (JPSS) Algorithm Specification for OMPS NP RDR/SDR - Volume II: Data Dictionary contains the specifications for the format of the OMPS NP Raw Data Records (RDRs) and Sensor Data Records (SDRs). This specification includes the format of the Hierarchical Data Format Release 5 (HDF5) files, as well as the product definitions. These formats are available to external users of the JPSS. For an overview of the data product formats, see 474-00001-01, JPSS CDFCB-X Vol I. For an overview of the metadata formats for data products, see 474-00448-02-01, JPSS Algorithm Specification Volume II: Data Dictionary for the Common Algorithms.

1.2 Organization

Section	Contents
Section 1	Provides information regarding the scope, and organization of this document, as reference material only.
Section 2	Lists parent documents and related documents that were used as sources of information for this document or that provide additional background information to aid understanding of the interface implementations.
Section 3	Provides an overview of the HDF5 UML for the data product types.
Section 4	Provides a description of the contents of each JPSS RDR.
Section 5	Provides a description of the contents of each JPSS TDR. (if applicable)
Section 6	Provides a description of the contents of each JPSS SDR.
Section 7	Provides a description of relevant Look-Up Tables (LUTs) and Processing Coefficient Tables (PCTs).
Section 8	Provides a description of each Intermediate Product if applicable.
Appendix A	Provides the Data Mnemonic to Interface Mapping for the data products in this volume.
Appendix B	Provides common RDR static header values in this volume.
Appendix C	Provides a mapping of the quality flags by sensor and product that are reportable to the associated data product quality flag Test ID used in the processing environment.
Appendix D	Provides reference to acronyms and glossary of terms found within the JPSS Program Lexicon (470-00041).
Attachment A	Provides the list of applicable xml files for this Data Dictionary.

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2 Related Documentation

The latest JPSS documents can be obtained from URL: https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm. JPSS Project documents have a document number starting with 470, 472 or 474 indicating the governing Configuration Control Board (CCB) (Program, Flight, or Ground) that has the control authority of the document.

2.1 Parent Documents

The following reference document(s) is (are) the Parent Document(s) from which this document has been derived. Any modification to a Parent Document will be reviewed to identify the impact upon this document. In the event of a conflict between a Parent Document and the content of this document, the JPSS Program Configuration Change Board has the final authority for conflict resolution.

Document Number	Title
474-00448-01-05	JPSS Algorithm Specification Volume I: Software Requirements Specification (SRS) for the OMPS Nadir Profile RDR/SDR

2.2 Applicable Documents

The following document(s) is (are) the Applicable Document(s) from which this document has been derived. Any modification to an Applicable Document will be reviewed to identify the impact upon this document. In the event of conflict between an Applicable Document and the content of this document, the JPSS Program Configuration Change Board has the final authority for conflict resolution.

Document Number	Title
NPR 7150.2A	NASA Software Engineering Requirements
474-00167	Joint Polar Satellite System (JPSS) Common Ground System (CGS) Requirements Document
474-00005	Joint Polar Satellite System (JPSS) Government Resource for Algorithm Verification, Independent Testing, and Evaluation (GRAVITE) Requirements Document
472-00251	Mission Data Format Control Book (MDFCB) Joint Polar Satellite Systems-1 (JPSS-1)
474-00448-04-05	Joint Polar Satellite System (JPSS) Algorithm Specification Volume IV: Software Requirements Specification Parameter File (SRSPF) for the OMPS Nadir Profile RDR/SDR
N/A	Hierarchical Data Format, Version 5 (HDF5), http://www.hdfgroup.org/HDF5/

2.3 Information Documents

The following documents are referenced herein and amplify or clarify the information presented in this document. These documents are not binding on the content of this document.

Document Number	Title
D0001-M01-S01-005	Joint Polar Satellite System (JPSS) Algorithm Specification for OMPS Nadir Profile Ozone Algorithm Theoretical Basis Document (ATBD)

Document Number	Title
474-00448-03-05	Joint Polar Satellite System (JPSS) Algorithm Specification Volume III: Operational Algorithm Description (OAD) for the OMPS Nadir Profile RDR/SDR
474-00333	Joint Polar Satellite System (JPSS) Ground System (GS) Architecture Description Document (ADD)
474-00054	Joint Polar Satellite System (JPSS) Ground System (GS) Concept of Operations (ConOps)
470-00041	Joint Polar Satellite System (JPSS) Program Lexicon
474-00001-01	Joint Polar Satellite System (JPSS) Common Data Format Control Book, Volume I - Overview
472-00331	Joint Polar Satellite System-1 (JPSS-1) Ozone Mapping and Profiler Suite (OMPS) Mission Data Packet Structures
474-00448-02-01	Joint Polar Satellite System (JPSS) Algorithm Specification Volume II: Data Dictionary for the Common Algorithms

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3 UML for HDF5 Products

3.1 RDR HDF5 Details

Figure 3.1-1, Science and Diagnostic RDR Generalized UML Diagram, depicts the HDF5 RDR file organization as a Unified Modeling Language (UML) class diagram for Science and Diagnostic RDRs. This also describes the science calibration RDRs generated by OMPS. Figure 3.1-2, Dwell, Dump, and Telemetry RDR Generalized UML Diagram, depicts the HDF5 RDR file organization as a UML Class Diagram for Dwell, Dump and Telemetry RDRs.

Each HDF5 RDR file contains an HDF5 Root Group, '/', a Data_Products Group, one or more Product Groups (CollectionShortName), and an All_Data Group containing one or more (CollectionShortName)_All groups. The latter group contains the Dataset_Array which holds the common RDR structures of Consultative Committee for Space Data Systems (CCSDS) structured APs. For Science and Diagnostic RDRs a Spacecraft Diary Group is also included in the Data_Products group. The Product Groups and Spacecraft Diary Group both contain datasets - an Aggregation Dataset (CollectionShortName_Aggr) and Granule Datasets (CollectionShortName_Gran_n - where n indicates the nth granule in a temporal aggregation of granules (0 .. n-1). A granule is a general term used to describe the minimum quanta of data collected per processing period, generally on the order of seconds. For the definition and organization of the metadata attributes contained in the HDF5 files, see 474-00448-02-01-B0200, JPSS Algorithm Specification Volume II: Data Dictionary for the Common Algorithms. Attributes that are specific to a particular RDR are listed with the specific RDR's data format definition. Note: In the UML diagrams, an '*' following the name of an attribute indicates an element with exceptions; see JPSS Algorithm Specification Volume II: Data Dictionary for the Common Algorithms, for the details of the exception.

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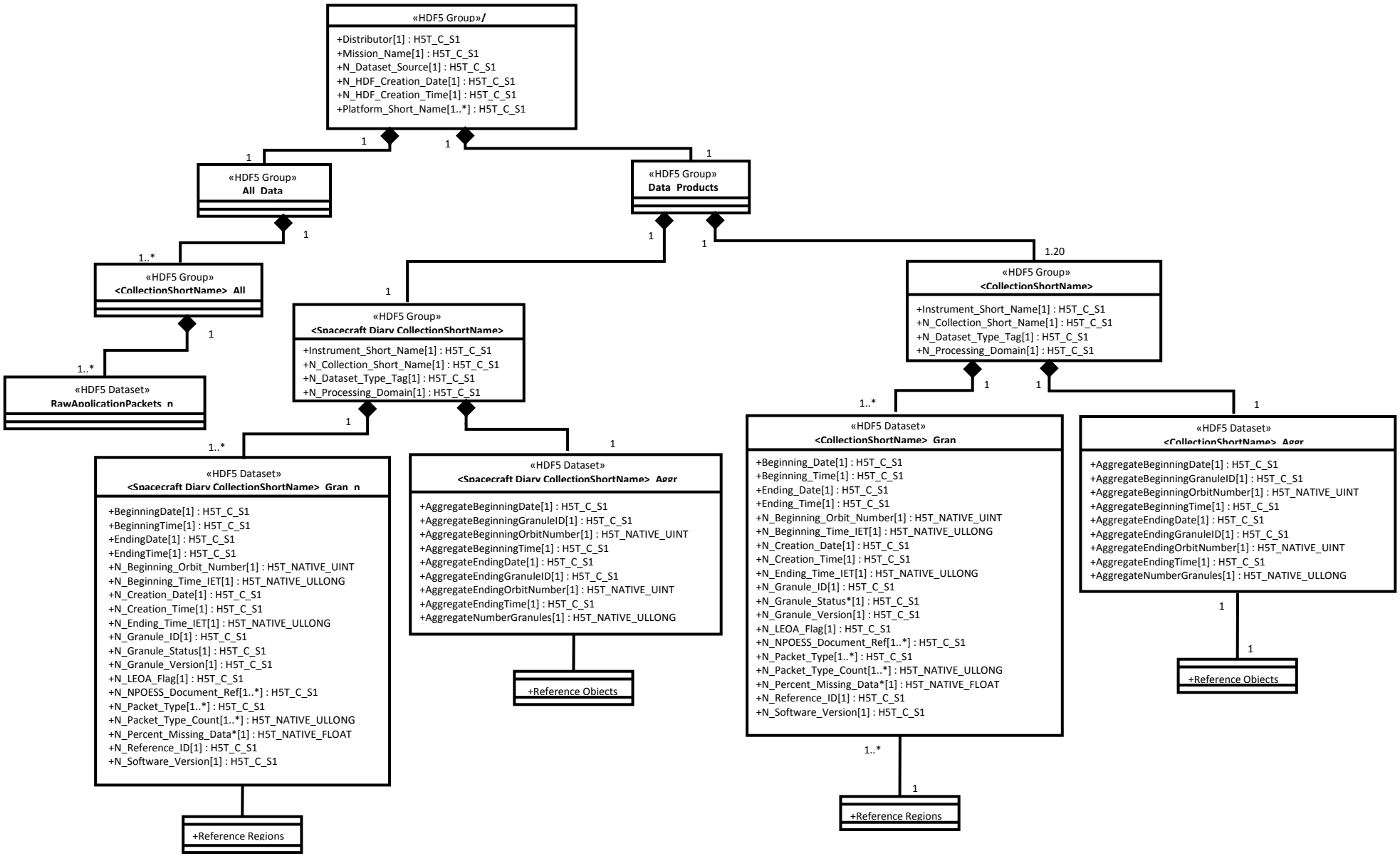

Figure: 3.1-1 Science and Diagnostic RDR Generalized UML Diagram

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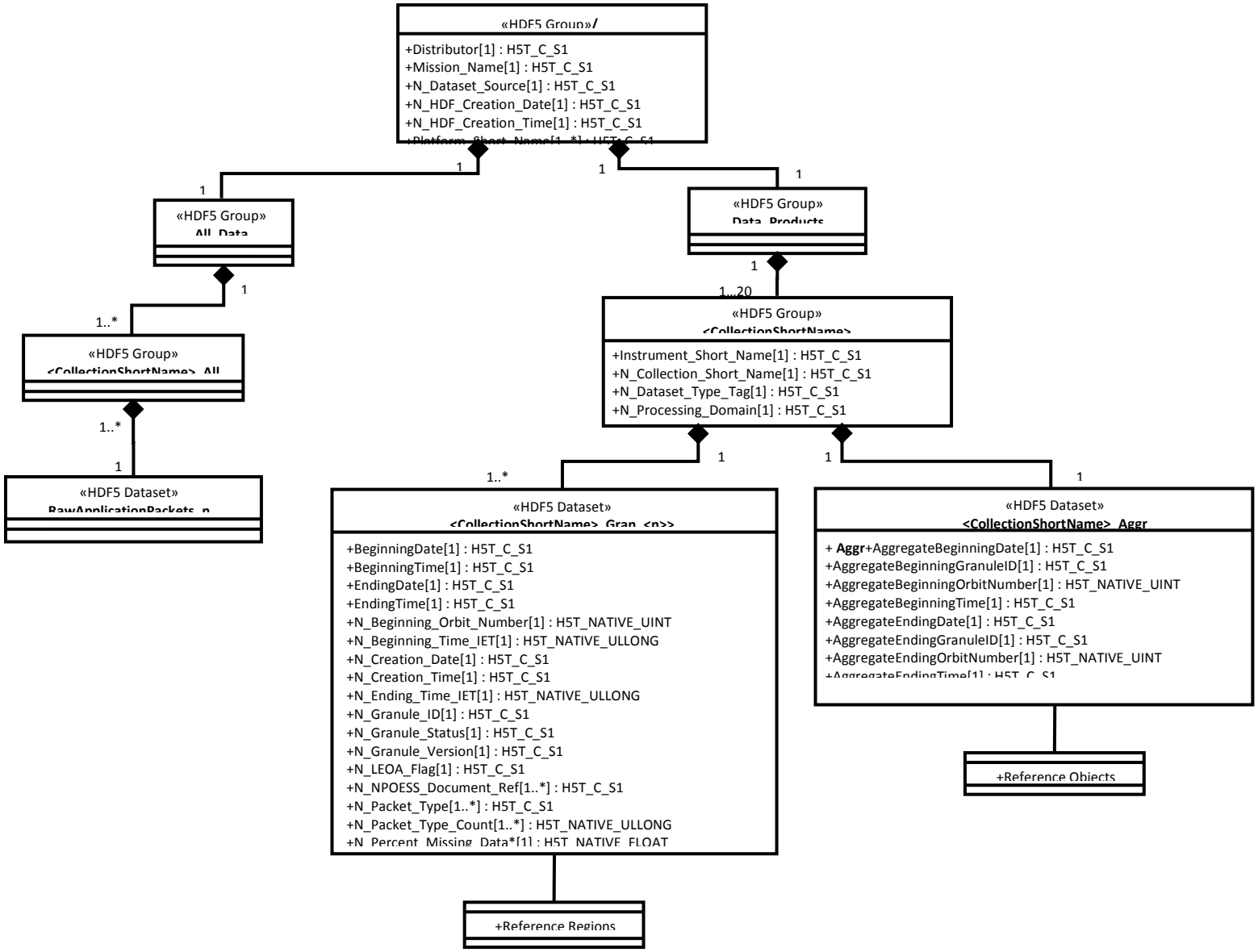

Figure: 3.1-2 Dwell, Dump, Telemetry, and Spacecraft Diary (when requested separately) RDR Generalized UML Diagram

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3.2 TDR/SDR HDF5 Details

Figure 3.2-1, Generalized UML Diagram for HDF5 SDR/TDR Files, depicts the HDF5 SDR/TDR organization as a Unified Modeling Language (UML) class diagram. Each HDF5 SDR/TDR file contains an HDF5 Root Group, '/', a Data Products Group, Product Groups (Collection Short Name), an optional Geolocation Group (depending upon packaging option, see the JPSS CDFCB-X Vol. I for a description of the geolocation packaging), and an All Data Group (dataset arrays). The Product Groups and Geolocation Group both contain datasets - an Aggregation Dataset (Collection Short Name_Aggr) and Granule Datasets (Collection Short Name_Gran_n) - where n indicates the nth granule in a temporal aggregation of granules (0 .. n-1). A granule is a general term used to describe the minimum quanta of data collected per processing period, generally on the order of seconds. For the definition and organization of the metadata attributes contained in the HDF5 files, see 474-00448-02-01, JPSS Algorithm Specification Volume II: Data Dictionary for the Common Algorithms. Attributes that are specific to a particular SDR/TDR are listed with the specific SDR/TDR's data format definition. For the generalized formats and packaging options for the Geolocation data, see the JPSS CDFCB-X Vol. I.

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

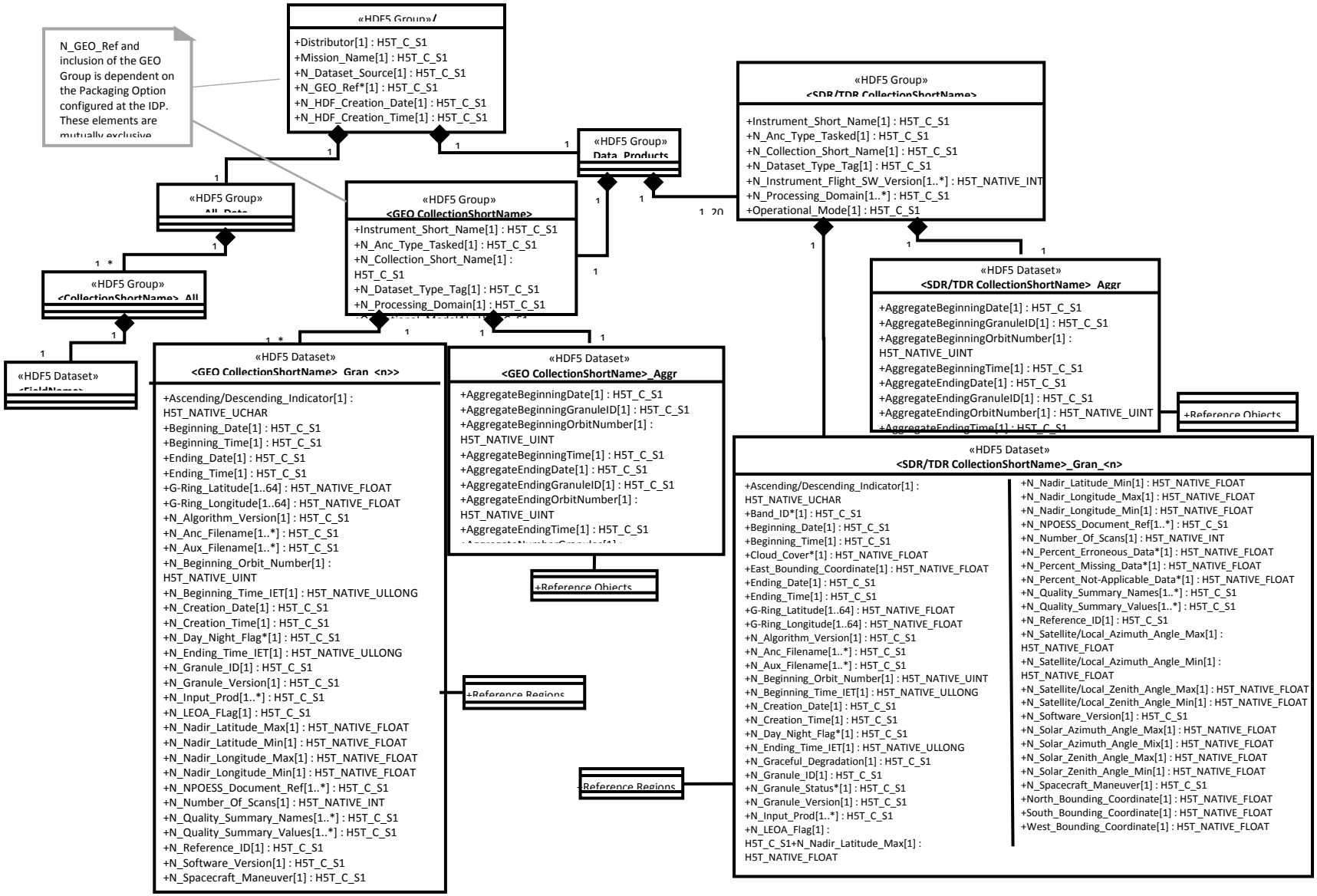

Figure: 3.2-1 Generalized UML Diagram for HDF5 SDR/TDR Files

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

3.3 Auxiliary Data Formats

Auxiliary data is data other than that included in the sensor application packets, which is produced internally by JPSS, and is used to produce the JPSS Data Products. The following information describes the HDF5 file's format via a UML diagram. The UML diagram indicates the attributes, groups, and datasets used in the HDF5 file to describe the Auxiliary Data files.

Figure 3.3-1, Generalized UML Diagram for HDF5 Auxiliary Data Files, depicts the HDF5 Auxiliary Data organization as a UML class diagram. Each HDF5 Auxiliary Data file contains an HDF5 Root Group, '/', an Auxiliary Dataset, and an All Data Group (the actual data). For the definition and organization of the metadata attributes contained in the HDF5 files, see the JPSS Algorithm Specification Volume II: Data Dictionary for the Common Algorithms (474-00448-02-01).

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

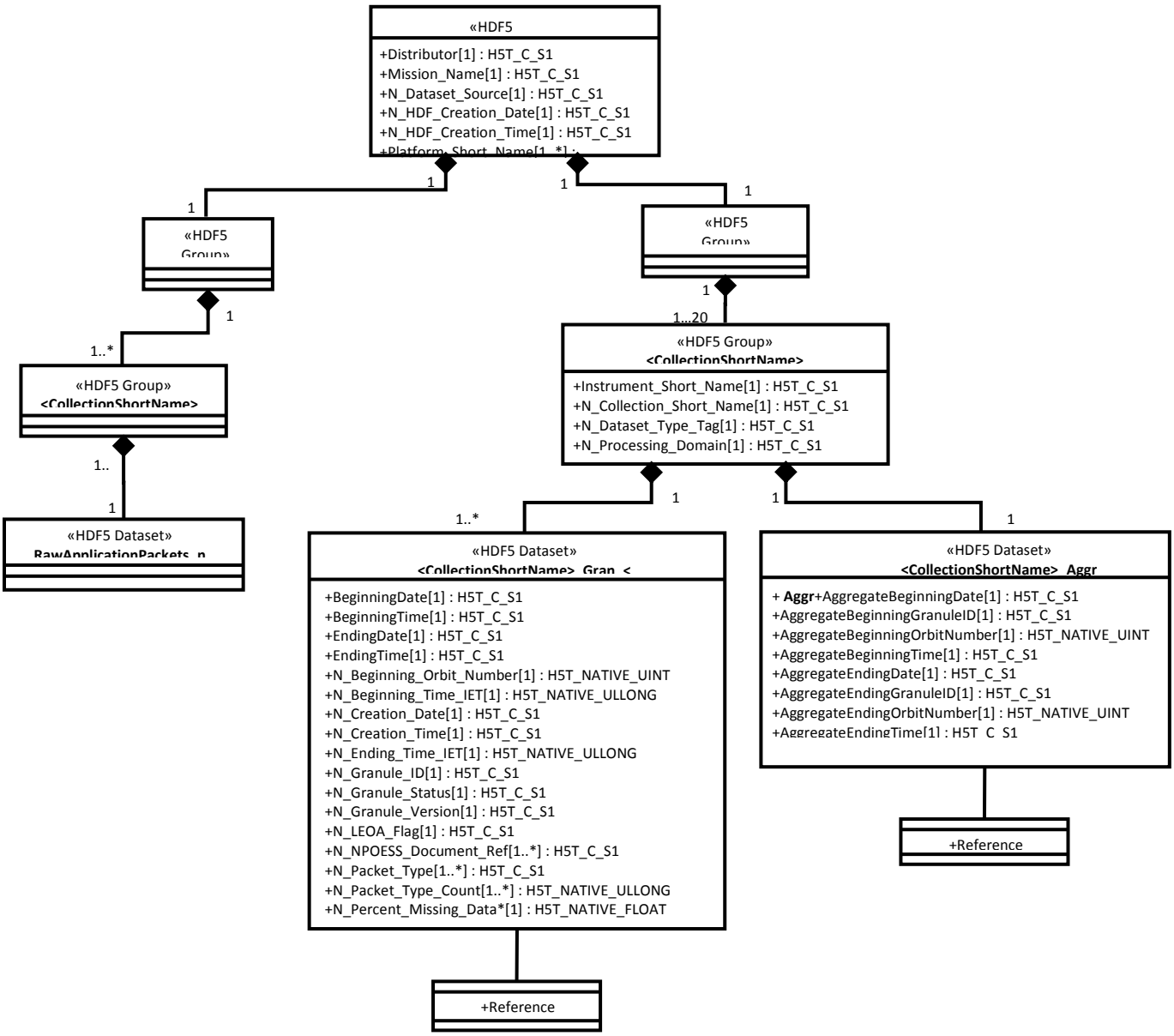

Figure: 3.3-1 Generalized UML Diagram for HDF5 Auxiliary Data Files

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

4 JPSS Raw Data Records (RDRs)

The following paragraphs describe the structure and contents of the RDR granules formed by the JPSS ground processing software. The ground processing software generates several RDRs for each sensor by accumulating one or more specific APs into a single collection. The accumulated Application Packets (Aps) are not byte-aligned or otherwise altered. They are merely collected and placed into storage in the order that they are received. The following paragraphs describe the binary packaging structure for these accumulated APs. Table 4-1, Common RDR Structure, shows the common JPSS RDR Structure. All JPSS RDRs are based on the same generic granule storage framework and is illustrated conceptually in Figure 4-1 Common RDR Layout.

The detailed structure and contents of the APs are documented in the Mission Data Format Control Book (MDFCB) for each mission, GSFC 429-05-02-42 for S-NPP, 472-00251 for JPSS-1, and 472-TBD2 for JPSS-2. For more information on AP formatting, see the Recommendations for Advanced Orbiting Systems, Networks and Data Links, CCSDS 701.0-B-2, Section 3.3.3.

Table: 4-1 Common RDR Structure

Field Name	Description
Static Header	Static header describing the RDR
APID List	Array of structures that contains information about each APID that is collected in the RDR
Packet Tracker	Array of structures that contains information about each AP that is in the RDR
AP Storage area	General buffer where the APs are stored back-to-back in the order that they are received

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

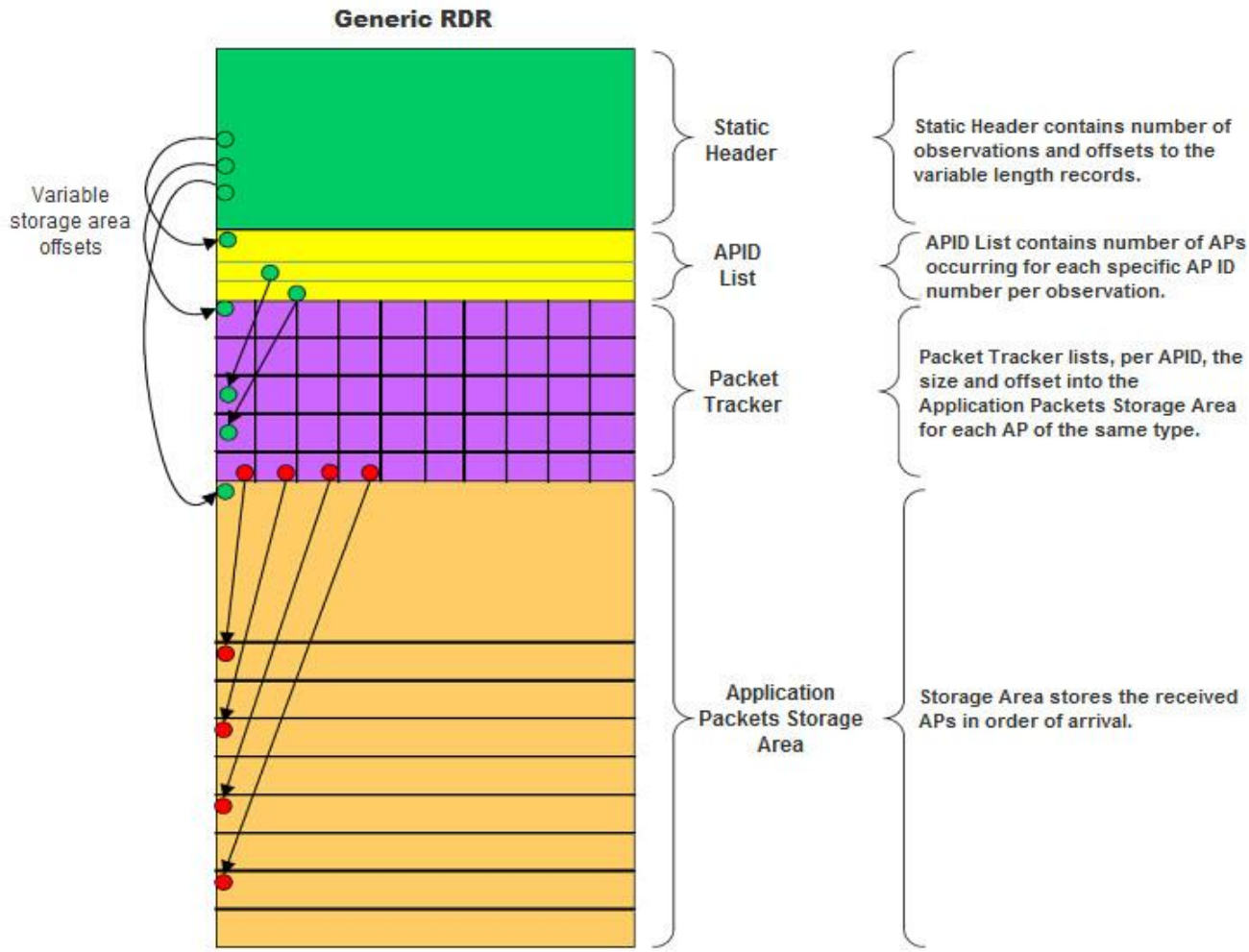

Figure: 4-1 Common RDR Layout

4.1 Common RDR Structures

The following section defines these structures and provides methods for determining the variable length RDR components.

Description/ Purpose	The following tables describe the four structures found in the common RDR Structure. The common RDR Structure granules are referenced by the HDF5 Object and Reference Region pointers in the CollectionShortName_Aggr and CollectionShortName_Gran_# datasets, respectively.
File-Naming Construct	See the JPSS CDFCB-X Vol. I-Overview, Section 3.0 for details.
File Size	Nominally specified per RDR
File Format Type	Big Endian Binary (structure stored within HDF5)
Production Frequency	Common structure created for each RDR granule Granule durations specified per RDR
Data Content and Data Format	Each RDR has a single RDR Static Header and a dynamic Application Packet content area with three major entries: 1) APID List, 2) Packet Tracker List, and 3) Application Packet Storage Area.

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Description/ Purpose	The following tables describe the four structures found in the common RDR Structure. The common RDR Structure granules are referenced by the HDF5 Object and Reference Region pointers in the CollectionShortName_Aggr and CollectionShortName_Gran_# datasets, respectively.
	Table 4.1-1, RDR Static Header, details the spacecraft and sensor that the RDR data originated from, the type of data the RDR contains, and the start and end boundary times of the RDR granule. It also provides byte offset information needed to access individual APs and the number of AP types that are contained in the RDR. Tables 4.1-2, 4.1-3, and 4.1-4 define the Dynamic Application Packet content area. Table 4.1-2, RDR APID List, defines the structure used to identify the AP data type and it provides information necessary for accessing the RDR Packet Tracker. The APID List has details for each APID including number expected and received. Table 4.1-3, RDR Packet Tracker provides information about individual APs. Table 4.1-4, Application Packet Storage Area, describes the storage area containing the APs.

Table 4.1-1, RDR Static Header, details the spacecraft and sensor that the data originated from, the type of the data the RDR contains, and the start and end boundary times of the RDR granule. The RDR contains APs that have observation times which are greater than or equal to the start boundary and less than the end boundary time. The total size of the RDR Static Header is 72 bytes.

Table: 4.1-1 RDR Static Header

Field Name	Data Type	Description
satellite	char[4]	Source satellite name as found in JPSS CDFCB-X Vol. I, Table 3.4.1-1, Spacecraft ID.
Sensor	char[16]	The RDR sensor name in a case-sensitive string (Example: “VIIRS”, “ATMS”, “CrIS”, etc. See Appendix B, Common Static Header Values, for specific values.)
typeID	char[16]	The RDR type in an upper case string (Example: “SCIENCE”, “DIAGNOSTIC”, “TELEMETRY”, “MEMORY DUMP”, “DWELL”. See Appendix B, Common Static Header Values, for specific values.)
numAPIDs	Uint32	The number of different types of expected APIDs that make the RDR. (numAPIDs is specific for each type of RDR, see Appendix B, Common Static Header Values, for specific values.)
apidListOffset	Uint32	Byte offset of the APID List (this is equivalent to the size of the static header: 72). The APID List starts immediately after the Generic RDR Static Header. Note: Always use this value to find the APID address.

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Field Name	Data Type	Description
pktTrackerOffset	Uint32	Byte offset from the beginning of the Common RDR to the Packet Tracker list Note: Always use this value to find the Packet Tracker list.
apStorageOffset	Uint32	Byte offset from the beginning of the Common RDR to the AP Storage Note: Always use this value to find the AP Storage.
nextPktPos	Uint32	Byte offset from the beginning of the Application Packet Storage Area (apStorageOffset) to the end of valid data within the Application Packet Storage Area
startBoundary	int64	All APs occur at or after this time in IDPS Epoch Time (IET) format. Note IET begins January 1, 1958 and is measured in microseconds. For more information on IET see JPSS CDFCB-X Vol. I, Section 3.3.1.
endBoundary	int64	The RDR non-inclusive boundary time in IET format. All APs occur before this time.

Table 4.1-2, RDR APID List, details the APIDs that are in the RDR. The number of elements in the list is equal to the numAPIDs field in the RDR Static Header. The size of a single RDR APID list element is 32 bytes.

Table: 4.1-2 RDR APID List

Field Name	Data Type	Description
name	char[16]	Short name describing the data type (Example: M01 for VIIRS. See individual RDR sections for specific values.)
value	Uint32	This field stores an APID that is in the RDR.
pktTrackerStartIndex	Uint32	The first index in the pktTracker array that will contain an AP of this APID. This index is zero based.
pktsReserved	Uint32	This field stores the number of APs reserved for this APID in this RDR. This value accounts for the worst case expected for the temporal granule period. Due to variability in scan rates, the actual number of packets received can be less than the "reserved" and still be 100% complete as shown in the metadata.
pktsReceived	Uint32	The number of APs of this APID that have been received for this RDR

Each RDR contains an array of Packet Trackers. Table 4.1-3, RDR Packet Tracker, details information about the AP and its location in the storage buffer. The number of elements in this array is equal to the total number of packets that are expected for all expected APIDs. The size of a single RDR Packet Tracker is 24 bytes.

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Table: 4.1-3 RDR Packet Tracker

Field Name	DataType	Description
obsTime	int64	The IET observation time of the AP as derived from the CCSDS Secondary Header of the AP or associated with the segmented group of the APID.
sequenceNumber	int32	The 14 bit sequence number extracted from the Primary Header's Packet Sequence Control word of the AP. This is used to track segmented packets and their location.
size	int32	The AP size in bytes as received
offset	int32	The AP begins at this offset from the beginning of the AP Storage Area. From the beginning of the RDR, the AP is at "offset" + apStorageOffset. (offset = -1 for packets not received).
fillPercent	int32	Percentage of fill data included in the AP. Based on received and expected bytes per AP with valid values being 0-100% reported to the nearest %. Any AP with fill data (even one byte) will be reported with at least 1% fill data. Under normal conditions the value is 0. In packets received at a Field Terminal, this value is always zero. If the primary AP header indicates a secondary AP header is present, and the time code of the secondary AP header is fill, the AP is not made available. In the event that an AP is repaired, resulting in less fillPercent, a repaired RDR granule may be produced. See JPSS CDFCB-X, Vol. I, Section 3.5.7 for more information on Repair Granules.

Table 4.1-4 Application Packet Storage Area, describes the AP storage area.

Table: 4.1-4 Application Packet Storage Area

Field Name	Data Type	Description
apStorage	Array of unsigned int8	Storage area where application packets are stored as they arrive in consecutive order

Table 4.1-5, Application Packet Tables, provides explanations of the fields given for each RDR described in the following sections. APIDs are listed in the JPSS Alg. Spec. Vol IV: SRSPF for OMPS NP (474-00448-04-05).

Table: 4.1-5 Application Packet Tables

APID Short Name	Description
Short name of this Application Packet as an upper-case string	Brief description of this application packet

Note: Grouped or segmented packets contain mission data exceeding the size of a single CCSDS packet.

Accessing APs can be achieved in two fashions; Random Access or Sequential Access.

To access APs in random order by AP type:

- Get the range for a specific type of data from the APID List
    - Find desired AP type using name field

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

  - Get pktTrackerStartIndex
  - Get pktsReserved
- Loop over the elements in Packet Tracker array starting at pktTrackerStartIndex
  - Get offset (if -1 stop processing no packet received)
  - Get size
  - Access the AP by adding the offset to the apStorageOffset value found in the Static Header
  - Extract size (the AP size in bytes) from the AP Storage Area
  - Repeat above for pktsReserved

To access APs in sequential order:

- Get the apStorageOffset from the Static Header to determine memory location for start of APs in AP Storage Area
- Get the nextPktPos from the Static Header (The nextPktPos value indicates the end of valid RDR data within the AP Storage Area)
- Parse AP's manually by reading the primary header, accessing the size of the packet, and accessing the user data section in the CCSDS packet

Repeat until nextPktPos equals current position.

4.2 OMPS NP RDR Overview

Data Mnemonic	Nadir Profile (NP) Science: RDRE-OMPS-C0030 Calibration: RDRE-OMPS-C0037 Diagnostic Earth View: RDRE-OMPS-C0052 Diagnostic Calibration: RDRE-OMPS-C0053 Dwell: RDRE-OMPS-C0036 Telemetry: RDRE-OMPS-C0034 Memory Dump: RDRE-OMPS-C0035 Flight Software (FSW) Boot-Up Status: RDRE-OMPS-C0057
Description/ Purpose	OMPS uses two primary sensors within a single instrument suite to perform complementary functions for atmospheric ozone monitoring. They are Nadir Total Column Mapper (NM) sensor to produce OMPS Total Column RDR and Nadir Profiler (NP) sensor to produce OMPS Nadir Profile RDR. Total column ozone is retrieved from backscattered UV radiance measurements, using a 2-D Charge-Coupled Device (CCD) system in the NM sensor, which points towards the nadir and simultaneously observes across the orbital track to provide daily global mapping. An additional CCD focal plane in the NP sensor collects nadir data at shorter wavelengths to create a non-EDR profile ozone product for continuity with previous instruments. When an OMPS Limb instrument is present, the OMPS measurements can be used to make (limb) ozone profile EDRs with high vertical resolution.

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Data Mnemonic	Nadir Profile (NP) Science: RDRE-OMPS-C0030 Calibration: RDRE-OMPS-C0037 Diagnostic Earth View: RDRE-OMPS-C0052 Diagnostic Calibration: RDRE-OMPS-C0053 Dwell: RDRE-OMPS-C0036 Telemetry: RDRE-OMPS-C0034 Memory Dump: RDRE-OMPS-C0035 Flight Software (FSW) Boot-Up Status: RDRE-OMPS-C0057
	Profile ozone data is obtained from limb-scattered UV and visible measurements, using a CCD array-based system.
File-Naming Construct	See the JPSS CDFCB-X Vol. I, Section 3.0 for details
File Size	NP Science: See Table 4.3.2-2 OMPS NP Science RDR Structure for size NP Calibration: See Table 4.4.2-3 OMPS NP Calibration RDR Structure for size NP Diagnostic Earth View: See Table 4.5.2-2 OMPS NP Diagnostic Earth View RDR Structure for size NP Diagnostic Calibration: See Table 4.6.2-2 OMPS NP Diagnostic Calibration RDR Structure for size Dwell: See Table: 4.7.2-1 OMPS Dwell RDR Application Packets for size Telemetry: See Table: 4.8.2-1 OMPS Telemetry RDR Application Packets for size Memory Dump: See Table: 4.9.2-2 OMPS Memory Dump RDR Structure for size FSW Boot-Up Status: See Table: 4.10.2-1 OMPS FSW Boot-up RDR Application Packets for size All sizes are per granule with durations given in (). HDF5 overhead is not included in sizing. Due to operational sensor configuration, actual delivered granule sizes may be significantly smaller for those RDRs specified as “Maximum”.
File Format Type	HDF5
Data Content and Data Format	Section 4.3 describes the OMPS NP Science RDR Section 4.4 describes the OMPS NP Calibration RDR Section 4.5 describes the OMPS NP Diagnostic Earth View RDR Section 4.6 describes the OMPS NP Diagnostic Calibration RDR Section 4.7 describes the OMPS Dwell RDR Section 4.8 describes the OMPS Telemetry RDR Section 4.9 describes the OMPS Memory Dump RDR Section 4.10 describes the OMPS FSW Boot-Up Status RDR

4.3 OMPS NP Science RDR

4.3.1 OMPS NP Science RDR HDF5 Files

The OMPS NP Science RDR HDF5 files are described in Section 3.0, Raw Data Records HDF5 Details.

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

4.3.2 OMPS NP Science RDR Data Content Summary

Table 4.3.2-1, S-NPP OMPS NP Science RDR Application Packets, lists the APs accumulated for the S-NPP OMPS NP Science RDR. Table 4.3.2-2, JPSS-1 OMPS NP Science RDR Application Packets, lists the APs accumulated for the JPSS-1 OMPS NP Science RDR. In the event of a discrepancy in the APIDs listed here, see the MDFCB, GSFC 429-05-02-42 for S-NPP, or 472-00251 for JPSS-1.

Table: 4.3.2-1 S-NPP OMPS NP Science RDR Application Packets

APID Short Name	Description	Value $APID_{10}$
NP	Science Nadir Profile Earth View	561

Table: 4.3.2-2 JPSS-1 OMPS NP Science RDR Application Packets

APID Short Name	Description	Value $APID_{10}$
NP	Science Nadir Profile Earth View	561
NP_RF	Science Nadir Profile Earth View Reduced Frame	593
NP_RF_CMP	Science Nadir Profile Earth View RF Compressed	609
NP_CMP	Science Nadir Profile Earth View Compressed	617

Packets in the NP Science RDR are collected into granules based on the actual observation time rather than the secondary header timestamp of each packet. This is accomplished by removing the integration time needed to create the packet when determining the granule boundary it belongs to. This means that packet timestamps in the RDRs will not necessarily fall within the granule boundary times in the metadata. Each observation is max-sized to accept at most a single segment (256 packets).

Table 4.3.2-3, S-NPP OMPS NP Science RDR Structure, shows the layout and static contents of the S-NPP OMPS NP Science RDR. Table 4.3.2-4, JPSS-1 OMPS NP Science RDR Structure, shows the layout and static contents of the JPSS-1 OMPS NP Science RDR.

Table: 4.3.2-3 S-NPP OMPS NP Science RDR Structure

	Byte	Field	Type	Value
Static Header	0	satellite	char[4]	‘NPP’
	4	sensor	char[16]	‘OMPS-NP’
	20	typeID	char[16]	‘SCIENCE’
	36	numAPIDs	Uint32	1
	40	apidListOffset	Uint32	72
	44	pktTrackerOffset	Uint32	104
	48	apStorageOffset	Uint32	6248
	52	nextPktPos	Uint32	varies
	56	startBoundary	int64	varies
	64	endBoundary	int64	varies
Dynamic	72	APID List	IngSmdCommon_ApidDetailType[1]	varies
	104	Pkt Tracker List	IngSmdCommon_PktTrackerType[256]	varies

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

	Byte	Field	Type	Value
	6248	AP storage area	Uint8[262144]	varies
File Size	268,392 Bytes			

Table: 4.3.2-4 JPSS-1 OMPS NP Science RDR Structure

	Byte	Field	Type	Value
Static Header	0	satellite	char[4]	'J01'
	4	sensor	char[16]	'OMPS-NP'
	20	typeID	char[16]	'SCIENCE'
	36	numAPIDs	Uint32	4
	40	apidListOffset	Uint32	72
	44	pktTrackerOffset	Uint32	200
	48	apStorageOffset	Uint32	98504
	52	nextPktPos	Uint32	varies
	56	startBoundary	int64	varies
	64	endBoundary	int64	varies
Dynamic	72	APID List	IngSmdCommon_ApidDetailType[4]	varies
	200	Pkt Tracker List	IngSmdCommon_PktTrackerType[4096]	varies
	98504	AP storage area	Uint8[4194304]	varies
File Size	4,292,808 Bytes			

4.4 OMPS NP Calibration RDR

4.4.1 OMPS NP Calibration RDR HDF5 Files

The OMPS NP Calibration RDR HDF5 files are described in Section 3.0, Raw Data Records HDF5 Details.

4.4.2 OMPC NP Calibration RDR Data Content Summary

Table 4.4.2-1, S-NPP OMPS NP Calibration RDR Application Packets, lists the APs accumulated for the OMPS NP Calibration RDR. Table 4.4.2-2, JPSS-1 OMPS NP Calibration RDR Application Packets, lists the APs accumulated for the JPSS-1 OMPS NP Calibration RDR. In the event of a discrepancy in the APIDs, see the MDFCB, GSFC 429-05-02-42 for S-NPP, or 472-00251 for JPSS-1.

Table: 4.4.2-1 S-NPP OMPS NP Calibration RDR Application Packets

APID Short Name	Description	Value $APID_{10}$
NP_CAL	Science Nadir Profile Calibration	565

Table: 4.4.2-2 JPSS-1 OMPS NP Calibration RDR Application Packets

APID Short Name	Description	Value $APID_{10}$
NP_CAL	Science Nadir Profile Calibration	565

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

APID Short Name	Description	Value $APID_{10}$
NP_CAL_CMP	Science Nadir Profile Calibration Compressed	625

OMPS NP Calibration RDRs contain all images for a single event. Each event is made up of a number of images. Each image can be made up of anywhere from 1 Standalone packet to a multiple segmented group. The S-NPP RDR is max sized to handle data based on the values provided in Table 4.4.2-3, S-NPP OMPS NP Calibration RDR Maximum Sizes. . The JPSS-1 RDR is max sized to handle data based on the values provided in Table 4.4.2-4, JPSS-1 OMPS NP Calibration RDR Maximum Sizes.

Table: 4.4.2-3 S-NPP OMPS NP Calibration RDR Maximum Sizes

Sizing Parameter	Value
Max Number of images	200
Maximum segments per image	5

Table: 4.4.2-4 JPSS-1 OMPS NP Calibration RDR Maximum Sizes

Sizing Parameter	Value
Max Number of images	200
Maximum segments per image	5

Table 4.4.2-5, S-NPP OMPS NP Calibration RDR Structure, shows the layout and static contents of the S-NPP OMPS NP Calibration RDR. Table 4.4.2-6, JPSS-1 OMPS NP Calibration RDR Structure, shows the layout and static contents of the JPSS-1 OMPS NP Calibration RDR.

Table: 4.4.2-5 S-NPP OMPS NP Calibration RDR Structure

	Byte	Field	Type	Value
Static Header	0	satellite	char[4]	‘NPP’
	4	sensor	char[16]	‘OMPS-NP’
	20	typeID	char[16]	‘CALIBRATION’
	36	numAPIDs	Uint32	1
	40	apidListOffset	Uint32	72
	44	pktTrackerOffset	Uint32	104
	48	apStorageOffset	Uint32	6144104
	52	nextPktPos	Uint32	varies
	56	startBoundary	int64	varies
	64	endBoundary	int64	varies
Dynamic	72	APID List	IngSmdCommon_ApidDetailType[1]	varies
	104	Pkt Tracker List	IngSmdCommon_PktTrackerType[256000]	varies
	6144104	AP storage area	Uint8[262144000]	varies
File Size	268,288,104 Bytes			

Table: 4.4.2-6 JPSS-1 OMPS NP Calibration RDR Structure

	Byte	Field	Type	Value
Static Header	0	satellite	char[4]	'J01'
	4	sensor	char[16]	'OMPS-NP'
	20	typeID	char[16]	'CALIBRATION'
	36	numAPIDs	Uint32	2
	40	apidListOffset	Uint32	72
	44	pktTrackerOffset	Uint32	136
	48	apStorageOffset	Uint32	12288136
	52	nextPktPos	Uint32	varies
	56	startBoundary	int64	varies
	64	endBoundary	int64	varies
Dynamic	72	APID List	IngSmdCommon_ApidDetailType[2]	varies
	136	Pkt Tracker List	IngSmdCommon_PktTrackerType[512000]	varies
	12288136	AP storage area	Uint8[524288000]	varies
File Size	536,576,136 Bytes			

4.5 OMPS NP Diagnostic Earth View RDR

4.5.1 OMPS NP Diagnostic Earth View RDR HDF5 Files

The OMPS NP Diagnostic RDR HDF5 files are described in Section 3.0, Raw Data Records HDF5 Details.

4.5.2 OMPS NP Diagnostic Earth View RDR Data Content Summary

Table 4.5.2-1, S-NPP OMPS NP Diagnostic RDR Application Packets, lists the APs accumulated for the S-NPP OMPS NP Diagnostic RDR. Table 4.5.2-2, JPSS-1 OMPS NP Diagnostic RDR Application Packets, lists the APs accumulated for the JPSS-1 OMPS NP Diagnostic RDR. In the event of a discrepancy in the APIDs listed here, see the MDFCB, GSFC 429-05-02-42 for S-NPP, or 472-00251 for JPSS-1.

Table: 4.5.2-1 S-NPP OMPS NP Diagnostic Earth View RDR Application Packets

APID Short Name	Description	Value $APID_{10}$
DIA_SCI	Nadir Profile Diagnostic Earth View	577

Table: 4.5.2-2 JPSS-1 OMPS NP Diagnostic Earth View RDR Application Packets

APID Short Name	Description	Value $APID_{10}$
DIA_SCI	Nadir Profile Diagnostic Earth View	577
DIA_SCI_RF	Nadir Profile Diagnostic Earth View Reduced Frame	597
DIA_SCI_RF_CMP	Nadir Profile Diagnostic Earth View RF Compressed	613

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

APID Short Name	Description	Value $APID_{10}$
DIA_SCI_CMP	Nadir Profile Diagnostic Earth View Compressed	621

OMPS NP Diagnostic Earth View RDRs are sized to expect one observation per granule. This observation is max-sized such that it can only be up to 5 segmented groups (5*256 packets) using the OMPS super segmentation approach. The data may be collected at a different rate than the granule size, so gaps between granule IDs can be expected (does not imply there are data gaps). The minimum granule size was chosen to support flexibility for Diagnostic activities.

Table 4.5.2-3, S-NPP OMPS NP Diagnostic Earth View RDR Structure, shows the layout and static contents of the S-NPP OMPS NP Diagnostic Earth View RDR. Table 4.5.2-4, JPSS-1 OMPS NP Diagnostic Earth View RDR Structure, shows the layout and static contents of the JPSS-1 OMPS NP Diagnostic Earth View RDR.

Table: 4.5.2-3 S-NPP OMPS NP Diagnostic Earth View RDR Structure

	Byte	Field	Type	Value
Static Header	0	satellite	char[4]	‘NPP’
	4	sensor	char[16]	‘OMPS-NP’
	20	typeID	char[16]	‘DIAG-SCI’
	36	numAPIDs	Uint32	1
	40	apidListOffset	Uint32	72
	44	pktTrackerOffset	Uint32	104
	48	apStorageOffset	Uint32	30824
	52	nextPktPos	Uint32	Varies
		startBoundary	int64	Varies
	64	endBoundary	int64	Varies
Dynamic	72	APID List	IngSmdCommon_ApidDetailType[1]	Varies
	104	Pkt Tracker List	IngSmdCommon_PktTrackerType[1280]	Varies
	30824	AP storage area	Uint8[1310720]	Varies
File Size	1,341,544 Bytes			

Table: 4.5.2-4 JPSS-1 OMPS NP Diagnostic Earth View RDR Structure

	Byte	Field	Type	Value
Static Header	0	satellite	char[4]	‘J01’
	4	sensor	char[16]	‘OMPS-NP’
	20	typeID	char[16]	‘DIAG-SCI’
	36	numAPIDs	Uint32	4
	40	apidListOffset	Uint32	72
	44	pktTrackerOffset	Uint32	200
	48	apStorageOffset	Uint32	123080
	52	nextPktPos	Uint32	Varies
		startBoundary	int64	Varies
	64	endBoundary	int64	Varies
Dynamic	72	APID List	IngSmdCommon_ApidDetailType[4]	Varies

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

	Byte	Field	Type	Value
	200	Pkt Tracker List	IngSmdCommon_PktTrackerType[5 120]	Varies
	123080	AP storage area	Uint8[5242880]	Varies
File Size	5,365,960 Bytes			

4.6 OMPS NP Diagnostic Calibration RDR

4.6.1 OMPS NP Diagnostic Calibration RDR HDF5 Files

The OMPS NP Diagnostic Calibration RDR HDF5 files are described in Section 3.0, Raw Data Records HDF5 Details.

4.6.2 OMPS NP Diagnostic Calibration RDR Data Content Summary

Table 4.6.2-1, S-NPP OMPS NP Diagnostic Calibration RDR Application Packets, lists the APs accumulated for the S-NPP OMPS NP Diagnostic Calibration RDR. Table 4.6.2-2, JPSS-1 OMPS NP Diagnostic Calibration RDR Application Packets, lists the APs accumulated for the JPSS-1 OMPS NP Diagnostic Calibration RDR. In the event of a discrepancy in the APIDs listed here, see the MDFCB, GSFC 429-05-02-42 for S-NPP, or 472-00251 for JPSS-1.

Table: 4.6.2-1 S-NPP OMPS NP Diagnostic Calibration RDR Application Packets

APID Short Name	Description	Value $APID_{10}$
DIA_CAL	Diagnostic Nadir Profile Calibration	581

Table: 4.6.2-2 JPSS-1 OMPS NP Diagnostic Calibration RDR Application Packets

APID Short Name	Description	Value $APID_{10}$
DIA_CAL	Diagnostic Nadir Profile Calibration	581
DIA_CAL_CMP	Diagnostic Nadir Profile Calibration Compression	628

OMPS NP Diagnostic Calibration RDRs are sized to expect one image per granule. This observation is max-sized such that it can only be up to 5 segmented groups (5*256 packets) using the OMPS super segmentation approach. The data may be collected at a different rate than the granule size, so gaps between granule IDs can be expected (does not imply there are data gaps). The minimum granule size was chosen to support flexibility for Diagnostic activities.

Table 4.6.2-3, S-NPP OMPS NP Diagnostic Calibration RDR Structure, shows the layout and static contents of the S-NPP OMPS NP Diagnostic Calibration RDR. Table 4.6.2-4, JPSS-1 OMPS NP Diagnostic Calibration RDR Structure, shows the layout and static contents of the JPSS-1 OMPS NP Diagnostic Calibration RDR.

Table: 4.6.2-3 S-NPP OMPS NP Diagnostic Calibration RDR Structure

	Byte	Field	Type	Value
Static Header	0	satellite	char[4]	‘NPP’
	4	sensor	char[16]	‘OMPS-NP’
	20	typeID	char[16]	‘DIA-CAL’
	36	numAPIDs	Uint32	1
	40	apidListOffset	Uint32	72

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

	Byte	Field	Type	Value
	44	pktTrackerOffset	Uint32	104
	48	apStorageOffset	Uint32	30824
	52	nextPktPos	Uint32	Varies
	56	startBoundary	int64	Varies
	64	endBoundary	int64	Varies
Dynamic	72	APID List	IngSmdCommon_ApidDetailType[1]	Varies
	104	Pkt Tracker List	IngSmdCommon_PktTrackerType[1 280]	Varies
	30824	AP storage area	Uint8[1310720]	Varies
File Size	1,341,544 Bytes			

Table: 4.6.2-4 JPSS-1 OMPS NP Diagnostic Calibration RDR Structure

	Byte	Field	Type	Value
Static Header	0	satellite	char[4]	'J01'
	4	sensor	char[16]	'OMPS-NP'
	20	typeID	char[16]	'DIA-CAL'
	36	numAPIDs	Uint32	2
	40	apidListOffset	Uint32	72
	44	pktTrackerOffset	Uint32	136
	48	apStorageOffset	Uint32	61576
	52	nextPktPos	Uint32	Varies
	56	startBoundary	int64	Varies
	64	endBoundary	int64	Varies
Dynamic	72	APID List	IngSmdCommon_ApidDetailType[2]	Varies
	136	Pkt Tracker List	IngSmdCommon_PktTrackerType[2 560]	Varies
	61576	AP storage area	Uint8[2621440]	Varies
File Size	2,683,016 Bytes			

4.7 OMPS Dwell RDR

4.7.1 OMPS Dwell RDR HDF5 Files

The OMPS Dwell RDR HDF5 files are described in Section 3.0, Raw Data Records HDF5 Details.

4.7.2 OMPS Dwell RDR Data Content Summary

Table 4.7.2-1, OMPS Dwell RDR Application Packets, lists the APs accumulated for the OMPS Dwell RDR. In the event of a discrepancy in the APIDs listed here, see the MDFCB, GSFC 429-05-02-42 for S-NPP, or 472-00251 for JPSS-1.

Table: 4.7.2-1 S-NPP OMPS Dwell RDR Application Packets

APID Short Name	Description	Value $APID_{10}$
DWELL	Dwell Telemetry	549

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Table: 4.7.2-2 JPSS-1 OMPS Dwell RDR Application Packets

APID Short Name	Description	Value $APID_{10}$
DWELL	Dwell Telemetry	549

Table 4.7.2-3, S-NPP OMPS Dwell RDR Structure, shows the layout and static contents of the S-NPP OMPS Dwell RDR. Table 4.7.2-4, JPSS-1 OMPS Dwell RDR Structure, shows the layout and static contents of the JPSS-1 OMPS Dwell RDR.

Table: 4.7.2-3 S-NPP OMPS Dwell RDR Structure

	Byte	Field	Type	Value
Static Header	0	satellite	char[4]	'NPP'
	4	sensor	char[16]	'OMPS'
	20	typeID	char[16]	'DWELL'
	36	numAPIDs	Uint32	1
	40	apidListOffset	Uint32	72
	44	pktTrackerOffset	Uint32	104
	48	apStorageOffset	Uint32	14504
	52	nextPktPos	Uint32	Varies
	56	startBoundary	int64	Varies
	64	endBoundary	int64	Varies
Dynamic	72	APID List	IngSmdCommon_ApidDetailType[1]	Varies
	104	Pkt Tracker List	IngSmdCommon_PktTrackerType[600]	Varies
	14504	AP storage area	Uint8[146400]	Varies
File Size	160,904 Bytes			

Table: 4.7.2-4 JPSS-1 OMPS Dwell RDR Structure

	Byte	Field	Type	Value
Static Header	0	satellite	char[4]	'J01'
	4	sensor	char[16]	'OMPS'
	20	typeID	char[16]	'DWELL'
	36	numAPIDs	Uint32	1
	40	apidListOffset	Uint32	72
	44	pktTrackerOffset	Uint32	104
	48	apStorageOffset	Uint32	14504
	52	nextPktPos	Uint32	Varies
	56	startBoundary	int64	Varies
	64	endBoundary	int64	Varies
Dynamic	72	APID List	IngSmdCommon_ApidDetailType[1]	Varies

	Byte	Field	Type	Value
	104	Pkt Tracker List	IngSmdCommon_PktTrackerType[600]	Varies
	14504	AP storage area	Uint8[146400]	Varies
File Size	160,904 Bytes			

4.8 OMPS Telemetry RDR

4.8.1 OMPS Telemetry RDR HDF5 Files

The OMPS Telemetry RDR HDF5 files are described in Section 3.0, Raw Data Records HDF5 Details.

4.8.2 OMPS Telemetry RDR Data Content Summary

Table 4.8.2-1, S-NPP OMPS Telemetry RDR Application Packets, lists the APs accumulated for the S-NPP OMPS Telemetry RDR. Table 4.8.2-2, JPSS-1 OMPS Telemetry RDR Application Packets, lists the APs accumulated for the JPSS-1 OMPS Telemetry RDR. In the event of a discrepancy in APIDs listed here, see MDFCB, GSFC 429-05-02-42 for S-NPP, or 472-00251 for JPSS-1.

Table: 4.8.2-1 S-NPP OMPS Telemetry RDR Application Packets

APID Short name	Description	Value $APID_{10}$
HK	Housekeeping	544

Table: 4.8.2-2 JPSS-1 OMPS Telemetry RDR Application Packets

APID Short name	Description	Value $APID_{10}$
HK	Housekeeping	544

Table 4.8.2-3, S-NPP OMPS Telemetry RDR Structure, shows the layout and static contents of the S-NPP OMPS Telemetry RDR. Table 4.8.2-4, JPSS-1 OMPS Telemetry RDR Structure, shows the layout and static contents of the JPSS-1 OMPS Telemetry RDR.

Table: 4.8.2-3 S-NPP OMPS Telemetry RDR Structure

	Byte	Field	Type	Value
Static Header	0	satellite	char[4]	‘NPP’
	4	sensor	char[16]	‘OMPS’
	20	typeID	char[16]	‘TELEMETRY’
	36	numAPIDs	Uint32	1
	40	apidListOffset	Uint32	72
	44	pktTrackerOffset	Uint32	104
	48	apStorageOffset	Uint32	296
	52	nextPktPos	Uint32	varies
	56	startBoundary	int64	varies
	64	endBoundary	int64	varies
Dynamic	72	APID List	IngSmdCommon_ApidDetailType[1]	varies

	Byte	Field	Type	Value
	104	Pkt Tracker List	IngSmdCommon_PktTrackerType[8]	varies
	296	AP storage area	Uint8[7760]	varies
File Size	8,056 Bytes			

Table: 4.8.2-4 JPSS-1 OMPS Telemetry RDR Structure

	Byte	Field	Type	Value
Static Header	0	satellite	char[4]	'J01'
	4	sensor	char[16]	'OMPS'
	20	typeID	char[16]	'TELEMETRY'
	36	numAPIDs	Uint32	1
	40	apidListOffset	Uint32	72
	44	pktTrackerOffset	Uint32	104
	48	apStorageOffset	Uint32	296
	52	nextPktPos	Uint32	varies
	56	startBoundary	int64	varies
	64	endBoundary	int64	varies
Dynamic	72	APID List	IngSmdCommon_ApidDetailType[1]	varies
	104	Pkt Tracker List	IngSmdCommon_PktTrackerType[8]	varies
	296	AP storage area	Uint8[7760]	varies
File Size	8,056 Bytes			

4.9 OMPS Memory Dump RDR

4.9.1 OMPS Memory Dump RDR HDF5 Files

The OMPS Memory Dump RDR HDF5 files are described in Section 3.0, Raw Data Records HDF5 Details.

4.9.2 OMPS Memory Dump RDR Data Content Summary

Table 4.9.2-1, S-NPP OMPS Memory Dump RDR Application Packets, lists the APs accumulated for the S-NPP OMPS Memory Dump RDR. Table 4.9.2-2, JPSS-1 OMPS Memory Dump RDR Application Packets, lists the APs accumulated for the JPSS-1 OMPS Memory Dump RDR. In the event of a discrepancy in APIDs listed here, see the MDFCB, GSFC 429-05-02-42 for S-NPP, or 472-00251 for JPSS-1.

Table: 4.9.2-1 S-NPP OMPS Memory Dump RDR Application Packets

APID Short Name	Description	Value $APID_{10}$
DUMP	Memory Dump	556

Table: 4.9.2-2 JPSS-1 OMPS Memory Dump RDR Application Packets

APID Short Name	Description	Value $APID_{10}$
DUMP	Memory Dump	556

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Table 4.9.2-3, S-NPP OMPS Memory Dump RDR Structure, shows the layout and static contents of the S-NPP OMPS Memory Dump RDR. Table 4.9.2-4, JPSS-1 OMPS Memory Dump RDR Structure, shows the layout and static contents of the JPSS-1 OMPS Memory Dump RDR.

Table: 4.9.2-3 S-NPP OMPS Memory Dump RDR Structure

	Byte	Field	Type	Value
Static Header	0	satellite	char[4]	'NPP'
	4	sensor	char[16]	'OMPS'
	20	typeID	char[16]	'DUMP'
	36	numAPIDs	Uint32	1
	40	apidListOffset	Uint32	72
	44	pktTrackerOffset	Uint32	104
	48	apStorageOffset	Uint32	104552
	52	nextPktPos	Uint32	Varies
	56	startBoundary	int64	Varies
	64	endBoundary	int64	Varies
Dynamic	72	APID List	IngSmdCommon_ApidDetailType[1]	Varies
	104	Pkt Tracker List	IngSmdCommon_PktTrackerType[4352]	Varies
	104552	AP storage area	Uint8[4456448]	Varies
File Size	4,561,000 Bytes			

Table: 4.9.2-4 JPSS-1 OMPS Memory Dump RDR Structure

	Byte	Field	Type	Value
Static Header	0	satellite	char[4]	'J01'
	4	sensor	char[16]	'OMPS'
	20	typeID	char[16]	'DUMP'
	36	numAPIDs	Uint32	1
	40	apidListOffset	Uint32	72
	44	pktTrackerOffset	Uint32	104
	48	apStorageOffset	Uint32	104552
	52	nextPktPos	Uint32	Varies
	56	startBoundary	int64	Varies
	64	endBoundary	int64	Varies
Dynamic	72	APID List	IngSmdCommon_ApidDetailType[1]	Varies
	104	Pkt Tracker List	IngSmdCommon_PktTrackerType[4352]	Varies
	104552	AP storage area	Uint8[4456448]	Varies

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

	Byte	Field	Type	Value
File Size	4,561,000 Bytes			

4.10 OMPS Flight Software (FSW) Boot-up Status RDR

4.10.1 OMPS FSW Boot-up RDR HDF5 Files

The OMPS FSW Boot-Up RDR HDF5 files are described in Section 3.0, Raw Data Records HDF5 Details.

4.10.2 OMPS FSW Boot-up RDR Data Content Summary

Table 4.10.2-1, S-NPP OMPS FSW Boot-Up RDR Application Packets, lists the APs accumulated for the S-NPP OMPS FSW Boot-Up RDR. Table 4.10.2-2, JPSS-1 OMPS FSW Boot-Up RDR Application Packets, lists the APs accumulated for the JPSS-1 OMPS FSW Boot-Up RDR. In the event of a discrepancy in the APIDs listed here, see the MDFCB, GSFC 429-05-02-42 for S-NPP, or 472-00251 for JPSS-1.

Table: 4.10.2-1 S-NPP OMPS FSW Boot-up RDR Application Packets

APID Short Name	Description	Value $APID_{10}$
DIA_BU	Diagnostic - Flight Software Boot-up Status	550

Table: 4.10.2-2 JPSS-1 OMPS FSW Boot-up RDR Application Packets

APID Short Name	Description	Value $APID_{10}$
DIA_BU	Diagnostic - Flight Software Boot-up Status	550

Table 4.10.2-3, S-NPP OMPS FSW Boot-Up RDR Structure, shows the layout and static contents of the S-NPP OMPS FSW Boot-Up RDR. Table 4.10.2-4, JPSS-1 OMPS FSW Boot-Up RDR Structure, shows the layout and static contents of the JPSS-1 OMPS FSW Boot-Up RDR.

Table: 4.10.2-3 S-NPP OMPS FSW Boot-Up RDR Structure

	Byte	Field	Type	Value
Static Header	0	satellite	char[4]	‘NPP’
	4	sensor	char[16]	‘OMPS’
	20	typeID	char[16]	’FSW BOOTUP’
	36	numAPIDs	Uint32	1
	40	apidListOffset	Uint32	72
	44	pktTrackerOffset	Uint32	104
	48	apStorageOffset	Uint32	128
	52	nextPktPos	Uint32	varies
	56	startBoundary	int64	varies
	64	endBoundary	int64	varies
Dynamic	72	APID List	IngSmdCommon_ApidDetailType[1]	varies
	104	Pkt Tracker List	IngSmdCommon_PktTrackerType[1]	varies

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

	Byte	Field	Type	Value
	128	AP storage area	Uint8[193]	varies
File Size	321 Bytes			

Table: 4.10.2-4 JPSS-1 OMPS FSW Boot-Up RDR Structure

	Byte	Field	Type	Value
Static Header	0	satellite	char[4]	‘J01’
	4	sensor	char[16]	‘OMPS’
	20	typeID	char[16]	FSW BOOTUP’
	36	numAPIDs	Uint32	1
	40	apidListOffset	Uint32	72
	44	pktTrackerOffset	Uint32	104
	48	apStorageOffset	Uint32	128
	52	nextPktPos	Uint32	varies
	56	startBoundary	int64	varies
	64	endBoundary	int64	varies
Dynamic	72	APID List	IngSmdCommon_ApidDetailType[1]	varies
	104	Pkt Tracker List	IngSmdCommon_PktTrackerType[1]	varies
	128	AP storage area	Uint8[193]	varies
File Size	321 Bytes			

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

5 Temperature Data Records (TDRs)

Not Applicable

6 Sensor Data Records (SDRs)

SDR processing is instrument-specific and is an event-driven process. All instrument data required to create an SDR granule is contained within relevant Raw Data Record (RDR) granule(s). Processing an RDR into an SDR involves unpacking and de-commutating the Application Packet (AP) data, as necessary, applying calibration (radiometric, geometric, engineering), and finally geo-locating, as needed, using ephemeris and attitude information and earth model information.

An SDR contains the following:

- Calibrated sensor data
- Geolocation data (where applicable)
- Quality flags
- Metadata at the granule and aggregation level

6.1 SDR Granule Size

The granule sizes for SDRs given below are not absolute over the life of the sensor. Application software will need to determine the SDR array size by using the HDF5 software API.

The SDR granule is the smallest component of an HDF5 aggregation. Each HDF5 file will be composed of an aggregation of contiguous granules covering the time period specified in a request (the range being from one granule to the total number of granules in one orbit). To correctly use the HDF5 SDR files, operational software will need to determine the SDR array size by examining the appropriate HDF5 API's returned values per granule, or aggregation, as desired. The estimated size for each SDR granule is given in the SDR Data Unit Format.

6.2 Ozone Mapping and Profiler Suite Nadir Profile SDRs

Data Mnemonic	SDRE-OMPS-C0030 Nadir Profile (Science) SDRE-OMPS-C0031 Calibration GEOE-OMPS-C0030 Geolocation - ellipsoid
Description/ Purpose	The OMPS raw sensor data is decommutated, corrected, and calibrated by the SDR software and then stored in the Nadir Profile (NP) SDR product. In addition to the data needed to support IP/EDR generation, the NP SDR includes a number of other parameters described in more detail in Section 6.2.1, OMPS Nadir Profile SDR Format. In addition to the production of the NP SDR, the generation of special Calibration SDRs supports the on-going, continuous calibration of the NP sensor. The Calibration SDR is described in Section 6.2.2, OMPS Nadir Profile Calibration SDR Format. All requirements for OMPS Calibration products are allocated to GRAVITE, thus the information is maintained by GRAVITE. The OMPS nadir sensor uses a wide field-of-view push-broom telescope to feed two separate spectrometers. The nadir profile spectrometer measures the scene radiance between approximately 250 and 310 nanometers (nm) with a resolution of 1 nm sampled every 0.42 nm.

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Data Mnemonic	SDRE-OMPS-C0030 Nadir Profile (Science) SDRE-OMPS-C0031 Calibration GEOE-OMPS-C0030 Geolocation - ellipsoid
	In the parameters described below certain array dimensions are sized to a maximum expected value to allow some flexibility in sensor and algorithm configuration. For example, the actual number of Integrated Field of Views (IFOVs), Swaths, and Spectral Pixels could change based on the configuration. In the case where actual data does not complete the array, fill values (Does Not Exist) are used. For these three dimensions, parameters available in the product indicate the number of actual values to be interpreted. Example geospatial coverage: The across-track pixels are binned into a single IFOV within a single swath (time integration), per granule. The IFOV is 250 km cross track with a 250 km along track. The 250km along track interval is a result of the pixel extent combined with the spacecraft motion during the 37.44 second integration time. The OMPS NP SDR is used in the generation of the Ozone EDR/IPs.
File-Naming Construct	See the JPSS CDFCB-X Vol. I, Section 3.0 for details.
File Size	Science: See Table 6.2.1.1-1 OMPS NP SDR Data Content Summary for size Science Geolocation: See Table 6.2.1.5-1 OMPS NP SDR Geolocation Data Content Summary for size Calibration: See Table 6.2.2.1-1 OMPS NP Calibration SDR Data Content Summary for size Calibration Geolocation: See Table 6.2.2.5-1 OMPS NP Calibration SDR Geolocation Content Summary for size Sizes are for a single granule without HDF5 overhead.
File Format Type	HDF5
Data Content and Data Format	The NP SDR format is described in Section 6.2.1, OMPS NP SDR Format, and the NP Calibration SDR format is described in Section 6.2.2, OMPS NP Calibration SDR Format.

6.2.1 OMPS NP SDR Format

The OMPS NP SDR format is described in the following subparagraphs.

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

6.2.1.1 OMPS NP SDR Data Content Summary

The OMPS NP SDR product structure contains the data arrays shown below in Table 6.2.1.1-1, OMPS NP SDR Data Content Summary.

Table: 6.2.1.1-1 OMPS NP SDR Data Content Summary

Name	Description	Data Type	Aggregate Dimensions (N = Number of Granules)	Granule Dimensions	Units
SmearDataEarth	Raw smear counts of Earth image	32-bit floating point	[N*5, 1, 200]	[5, 1, 200]	count
RadianceEarth	Calibrated Earth View Radiances	32-bit floating point	[N*5, 5, 200]	[5, 5, 200]	W/(cm^3*sr)
Wavelengths	Wavelengths used in SDR processing (wref)	64-bit floating point	[N*5, 200]	[5, 200]	nanometer
SolarFlux	Reference solar flux from calibration database (rsf_piece)	32-bit floating point	[N*5, 200]	[5, 200]	W/cm^3
Bias1	Average electronics bias CCD Side 1	32-bit floating point	[N*1]	[1]	count
DarkCurrentEarth	Averaged dark current in earth data (dark_piece)	32-bit floating point	[N*6, 200]	[6, 200]	count
DarkExposeEarth	Averaged integration time for dark data (expose_dark)	64-bit floating point	[N*1]	[1]	second
Cal	Radiometric calibration	32-bit floating point	[N*5, 200]	[5, 200]	W/(cm^3*sr)
NumberOfSwaths	Number of actual swaths in granule	16-bit integer	[N*1]	[1]	unitless
NumberOfIFOVs	Number of actual IFOVs	16-bit integer	[N*1]	[1]	unitless
NumberOfSpectralPixels	Number of actual spectral pixels	16-bit integer	[N*1]	[1]	unitless
LinearityTblVersion	Version and Profile ID of on-board Linearity Table from RDR	unsigned 16-bit integer	[N*2]	[2]	unitless
GainTblVersion	Version and Profile ID of on-board Gain Table from RDR	unsigned 16-bit integer	[N*2]	[2]	unitless

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Name	Description	Data Type	Aggregate Dimensions (N = Number of Granules)	Granule Dimensions	Units
OutDatedCal	Wavelength and/or CF_Earth cal factor is out of date (greater than 29 days old)	unsigned 8-bit char	[N*1]	[1]	unitless
SunGlint	Sun glint indication (scattering angle and surface type thresholds)	unsigned 8-bit char	[N*5, 5]	[5, 5]	unitless
SolarEclipse	All or part of the IFOV is affected by a solar eclipse, umbra or penumbra viewing.	unsigned 8-bit char	[N*5, 5]	[5, 5]	unitless
WaveFlag	This data field is obsolete	unsigned 8-bit char	[N*5, 5]	[5, 5]	unitless
RadFlag	This data field is obsolete	32-bit floating point	[N*5, 5]	[5, 5]	unitless
NPLinearCorrection	Indicates Linearity Correction performed inflight	unsigned 8-bit char	[N*5]	[5]	unitless
SAA	Spacecraft within South Atlantic Anomaly (extent in percent based on Climatological data)	unsigned 8-bit char	[N*5]	[5]	unitless
QualityEarth	Earth processing reliability (cumulative relative quality indicator count)	16-bit integer	[N*5]	[5]	unitless
File Size	45,022 Bytes				

6.2.1.2 OMPS NP SDR - Product Profile Data

Table: 6.2.1.2-1 OMPS NP SDR Product Profile

OMPS NP SDR Product Profile

Fields						
Name	**Data Size**	**Dimensions**				
SmearDataEarth	4byte(s)	**Name**	**Granule Boundary**	**Dynamic**	**Min Array Size**	**Max Array Size**

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Fields

		Swath	Yes	No	5	5
		CCD	No	No	1	1
		SpectralPixel	No	No	200	200

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
								Name	Value	Name	Value
Raw smear counts of Earth image	0	MIN_VAL	MAX_VAL	count	No		32-bit floating point	NA_FLOAT32_FILL	-999.9		
								MISS_FLOAT32_FILL	-999.8		
								ERR_FLOAT32_FILL	-999.5		
								VDNE_FLOAT32_FILL	-999.3		

		Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
RadianceEarth	4byte(s)	Swath	Yes	No	5	5
		IFOV	No	No	5	5
		SpectralPixel	No	No	200	200

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
								Name	Value	Name	Value
Calibrated Earth View Radiances	0	MIN_VAL	MAX_VAL	W/(cm^3*sr)	No		32-bit floating point	NA_FLOAT32_FILL	-999.9		
								MISS_FLOAT32_FILL	-999.8		
								ERR_FLOAT32_FILL	-999.5		
								VDNE_FLOAT32_FILL	-999.3		

		Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Wavelengths	8byte(s)	IFOV	Yes	No	5	5
		SpectralPixel	No	No	200	200

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
								Name	Value	Name	Value
Wavelengths used in SDR processing (wref)	0	MIN_VAL	MAX_VAL	nanometer	No		64-bit floating point	NA_FLOAT64_FILL	-999.9		
								MISS_FLOAT64_FILL	-999.8		
								ERR_FLOAT64_FILL	-999.5		
								VDNE_FLOAT64_FILL	-999.3		

		Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
SolarFlux	4byte(s)	IFOV	Yes	No	5	5
		SpectralPixel	No	No	200	200

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
								Name	Value	Name	Value
Reference solar flux (rsf_piece)	0	MIN_VAL	MAX_VAL	W/cm^3	No		32-bit floating point	NA_FLOAT32_FILL	-999.9		
								MISS_FLOAT32_FILL	-999.8		
								ERR_FLOAT32_FILL	-999.5		
								VDNE_FLOAT32_FILL	-999.3		

		Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Bias1	4byte(s)	Granule	Yes	No	1	1

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
								Name	Value	Name	Value
Average electronics bias CCD Side 1	0	MIN_VAL	MAX_VAL	count	No		32-bit floating point	NA_FLOAT32_FILL	-999.9		
								MISS_FLOAT32_FILL	-999.8		
								ERR_FLOAT32_FILL	-999.5		
								VDNE_FLOAT32_FILL	-999.3		

		Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
DarkCurrentEarth	4byte(s)	IFOV	Yes	No	6	6
		SpectralPixel	No	No	200	200

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Fields

		Datum											
		Description	**Datum Offset**	**Unscaled Valid Range Min**	**Unscaled Valid Range Max**	**Measurement Units**	**Scaled**	**Scale Factor Name**	**Data Type**	**Fill Values**		**Legend Entries**	
		Averaged dark current in earth data (dark_piece)	0	MIN_VAL	MAX_VAL	count	No		32-bit floating point	**Name**	**Value**	**Name**	**Value**
										NA_FLOAT32_FILL	-999.9		
										MISS_FLOAT32_FILL	-999.8		
										ERR_FLOAT32_FILL	-999.5		
										VDNE_FLOAT32_FILL	-999.3		

		Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
DarkExposeEarth	8byte(s)					

Datum											
Description	**Datum Offset**	**Unscaled Valid Range Min**	**Unscaled Valid Range Max**	**Measurement Units**	**Scaled**	**Scale Factor Name**	**Data Type**	**Fill Values**		**Legend Entries**	
Averaged integration time for dark data (expose_dark)	0	MIN_VAL	MAX_VAL	second	No		64-bit floating point	**Name**	**Value**	**Name**	**Value**
								NA_FLOAT64_FILL	-999.9		
								MISS_FLOAT64_FILL	-999.8		
								ERR_FLOAT64_FILL	-999.5		
								VDNE_FLOAT64_FILL	-999.3		

		Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Cal	4byte(s)	IFOV	Yes	No	5	5
		SpectralPixel	No	No	200	200

Datum											
Description	**Datum Offset**	**Unscaled Valid Range Min**	**Unscaled Valid Range Max**	**Measurement Units**	**Scaled**	**Scale Factor Name**	**Data Type**	**Fill Values**		**Legend Entries**	
Radiometric calibration	0	MIN_VAL	MAX_VAL	W/(cm^3*sr)	No		32-bit floating point	**Name**	**Value**	**Name**	**Value**
								NA_FLOAT32_FILL	-999.9		
								MISS_FLOAT32_FILL	-999.8		
								ERR_FLOAT32_FILL	-999.5		
								VDNE_FLOAT32_FILL	-999.3		

		Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
NumberOfSwaths	2byte(s)					

Datum											
Description	**Datum Offset**	**Unscaled Valid Range Min**	**Unscaled Valid Range Max**	**Measurement Units**	**Scaled**	**Scale Factor Name**	**Data Type**	**Fill Values**		**Legend Entries**	
Number of actual swaths in granule	0	MIN_VAL	MAX_VAL	unitless	No		16-bit integer	**Name**	**Value**	**Name**	**Value**
								NA_INT16_FILL	-999		
								MISS_INT16_FILL	-998		
								ERR_INT16_FILL	-995		
								VDNE_INT16_FILL	-993		

		Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
NumberOfIFOVs	2byte(s)					

Datum											
Description	**Datum Offset**	**Unscaled Valid Range Min**	**Unscaled Valid Range Max**	**Measurement Units**	**Scaled**	**Scale Factor Name**	**Data Type**	**Fill Values**		**Legend Entries**	
Number of actual IFOVs	0	MIN_VAL	MAX_VAL	unitless	No		16-bit integer	**Name**	**Value**	**Name**	**Value**
								NA_INT16_FILL	-999		
								MISS_INT16_FILL	-998		
								ERR_INT16_FILL	-995		
								VDNE_INT16_FILL	-993		

		Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
NumberOfSpectralPixels	2byte(s)					

Datum											
Description	**Datum Offset**	**Unscaled Valid Range Min**	**Unscaled Valid Range Max**	**Measurement Units**	**Scaled**	**Scale Factor Name**	**Data Type**	**Fill Values**		**Legend Entries**	
Number of actual spectral pixels	0	MIN_VAL	MAX_VAL	unitless	No		16-bit integer	**Name**	**Value**	**Name**	**Value**
								NA_INT16_FILL	-999		
								MISS_INT16_FILL	-998		
								ERR_INT16_FILL	-995		
								VDNE_INT16_FILL	-993		

		Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
LinearityTblVersion	2byte(s)	Granule	Yes	No	2	2

Datum

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Fields

		Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values	Legend Entries
		Version and Profile ID of on-board Linearity Table from RDR	0	MIN_VAL	MAX_VAL	unitless	No		unsigned 16-bit integer	Name: NA_UINT16_FILL, Value: 65535 Name: MISS_UINT16_FILL, Value: 65534 Name: ERR_UINT16_FILL, Value: 65531 Name: VDNE_UINT16_FILL, Value: 65529	Name: Value:

GainTblVersion — 2byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Granule	Yes	No	2	2

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values	Legend Entries
Version and Profile ID of on-board Gain Table from RDR	0	MIN_VAL	MAX_VAL	unitless	No		unsigned 16-bit integer	Name: NA_UINT16_FILL, Value: 65535 Name: MISS_UINT16_FILL, Value: 65534 Name: ERR_UINT16_FILL, Value: 65531 Name: VDNE_UINT16_FILL, Value: 65529	Name: Value:

OutDatedCal — 1byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values	Legend Entries
Wavelength cal factor is out of date (greater than 29 days old)	0	MIN_VAL	MAX_VAL	unitless	No		1 bit(s)	Name: Value:	Name: False, Value: 0 Name: True, Value: 1
CF Earth cal factor is out of date (greater than 29 days old)	1	MIN_VAL	MAX_VAL	unitless	No		1 bit(s)	Name: Value:	Name: False, Value: 0 Name: True, Value: 1
Spare	2	MIN_VAL	MAX_VAL	unitless	No		6 bit(s)	Name: Value:	Name: Value:

SunGlint — 1byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Swath	Yes	No	5	5
IFOV	No	No	5	5

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values	Legend Entries
Sun glint indication (scattering angle and surface type thresholds)	0	MIN_VAL	MAX_VAL	unitless	No		unsigned 8-bit char	Name: Value:	Name: False, Value: 0 Name: True, Value: 1

SolarEclipse — 1byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Swath	Yes	No	5	5
IFOV	No	No	5	5

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values	Legend Entries
All or part of the IFOV is affected by a solar eclipse, umbra or penumbra viewing	0	MIN_VAL	MAX_VAL	unitless	No		unsigned 8-bit char	Name: Value:	Name: False, Value: 0 Name: True, Value: 1

WaveFlag — 1byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Swath	Yes	No	5	5
IFOV	No	No	5	5

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values	Legend Entries
This data field is obsolete	0	MIN_VAL	MAX_VAL	unitless	No		unsigned 8-bit char	Name: NA_UINT8_FILL, Value: 255 Name: MISS_UINT8_FILL, Value: 254 Name: ERR_UINT8_FILL, Value: 251	Name: False, Value: 0 Name: True, Value: 1

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Fields

												VDNE_UINT8_FILL	249

RadFlag — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Swath	Yes	No	5	5
IFOV	No	No	5	5

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
This data field is obsolete	0	MIN_VAL	MAX_VAL	unitless	No		32-bit floating point	Name	Value	Name	Value
								NA_FLOAT32_FILL	-999.9		
								MISS_FLOAT32_FILL	-999.8		
								ERR_FLOAT32_FILL	-999.5		
								VDNE_FLOAT32_FILL	-999.3		

NPLinearCorrection — 1byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Swath	Yes	No	5	5

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Linearity Correction performed inflight	0	MIN_VAL	MAX_VAL	unitless	No		unsigned 8-bit char	Name	Value	Name	Value
								NA_UINT8_FILL	255	False	0
								MISS_UINT8_FILL	254	True	1
								ERR_UINT8_FILL	251		
								VDNE_UINT8_FILL	249		

SAA — 1byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Swath	Yes	No	5	5

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Spacecraft within South Atlantic Anomaly (extent in percent based on Climatological data)	0	MIN_VAL	MAX_VAL	unitless	No		unsigned 8-bit char	Name	Value	Name	Value
										0% <= SAA <= 10%	0
										10% < SAA <= 20%	1
										20% < SAA <= 30%	2
										30% < SAA <= 40%	3
										40% < SAA <= 50%	4
										50% < SAA <= 60%	5
										60% < SAA <= 70%	6
										70% < SAA <= 80%	7
										80% < SAA	8

QualityEarth — 2byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Swath	Yes	No	5	5

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Earth processing reliability (cumulative relative quality indicator count)	0	MIN_VAL	MAX_VAL	unitless	No		16-bit integer	Name	Value	Name	Value
								NA_INT16_FILL	-999		
								MISS_INT16_FILL	-998		
								ERR_INT16_FILL	-995		
								VDNE_INT16_FILL	-993		

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6.2.1.3 OMPS NP SDR HDF5 Details

Figure 6.2.1.3-1, OMPS NP SDR UML Diagram, provides the details on the content and data types of the OMPS NP SDR. This UML diagram provides details at the granule level only. In addition to this UML diagram, refer to Section 3, Sensor Data Records and Temperature Data Records HDF5 Details, Figure 3.2-1, Generalized UML Diagram for HDF5 SDR/TDR Files, for a complete UML rendering of this product.

The OMPS NP SDR within the HDF5 files can be found within the Data Products group with the group name of OMPS-NP-SDR. The aggregation and granule(s) contain the data fields listed in the UML diagrams. The corresponding HDF5 data type for each field is also provided.

OMPS-NP-SDR
+SmearDataEarth : H5T_NATIVE_FLOAT
+RadianceEarth : H5T_NATIVE_FLOAT
+Wavelengths : H5T_NATIVE_DOUBLE
+SolarFlux : H5T_NATIVE_FLOAT
+Bias1 : H5T_NATIVE_FLOAT
+DarkCurrentEarth : H5T_NATIVE_FLOAT
+DarkExposeEarth : H5T_NATIVE_DOUBLE
+Cal : H5T_NATIVE_FLOAT
+NumberOfSwaths : H5T_NATIVE_SHORT
+NumberOfIFOVs : H5T_NATIVE_SHORT
+NumberOfSpectralPixels : H5T_NATIVE_SHORT
+LinearityTblVersion : H5T_NATIVE_USHORT
+GainTblVersion : H5T_NATIVE_USHORT
+OutDatedCal : H5T_NATIVE_UCHAR
+SunGlint : H5T_NATIVE_UCHAR
+SolarEclipse : H5T_NATIVE_UCHAR
+WaveFlag : H5T_NATIVE_UCHAR
+RadFlag : H5T_NATIVE_FLOAT
+NPLinearCorrection : H5T_NATIVE_UCHAR
+SAA : H5T_NATIVE_UCHAR
+QualityEarth : H5T_NATIVE_SHORT

Figure: 6.2.1.3-1 OMPS NP SDR UML Diagram

6.2.1.4 OMPS NP SDR HDF5 Metadata Details

The HDF5 metadata elements associated with the OMPS NP SDR are listed in the JPSS Algorithm Specification Volume II: Data Dictionary for the Common Algorithms (474-00448-02-01). The OMPS NP SDR metadata includes all common metadata at the root, product, aggregation, and granule levels. No summary level metadata is produced for OMPS NP SDR.

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

6.2.1.5 OMPS NP SDR Geolocation Content Summary

The OMPS NP SDR geolocation data arrays structures are summarized below in Table 6.2.1.5-1, OMPS NP SDR Geolocation Content Summary.

Table: 6.2.1.5-1 OMPS NP SDR Geolocation Data Content Summary

Name	Description	Data Type	Aggregate Dimensions (N = Number of Granules)	Granule Dimensions	Units
StartTime	Starting Time of Swath in IET (1/1/1958)	64-bit integer	[N*5]	[5]	microsecond
MidTime	Mid Time of Swath in IET (1/1/1958)	64-bit integer	[N*5]	[5]	microsecond
Latitude	Latitude of each IFOV (positive North)	32-bit floating point	[N*5, 5]	[5, 5]	degree
Longitude	Longitude of each IFOV (positive East)	32-bit floating point	[N*5, 5]	[5, 5]	degree
LatitudeCorners	Latitude of each IFOV Corner - Array starts at upper right and proceeds clockwise	32-bit floating point	[N*5, 5, 4]	[5, 5, 4]	degree
LongitudeCorners	Longitude of each IFOV Corner - Array starts at upper right and proceeds clockwise	32-bit floating point	[N*5, 5, 4]	[5, 5, 4]	degree
SolarZenithAngle	Zenith angle of sun at each IFOV position	32-bit floating point	[N*5, 5]	[5, 5]	degree
SolarAzimuthAngle	Azimuth angle of sun (measured clockwise positive from North) at each IFOV position	32-bit floating point	[N*5, 5]	[5, 5]	degree
SatelliteZenithAngle	Zenith angle to satellite at each IFOV position	32-bit floating point	[N*5, 5]	[5, 5]	degree
SatelliteAzimuthAngle	Azimuth angle (measured clockwise positive from North) to Satellite at each IFOV position	32-bit floating point	[N*5, 5]	[5, 5]	degree

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Name	Description	Data Type	Aggregate Dimensions (N = Number of Granules)	Granule Dimensions	Units
RelativeAzimuthAngle	Difference between solar and satellite azimuth angles at each IFOV position (solar - satellite)	32-bit floating point	[N*5, 5]	[5, 5]	degree
Height	Ellipsoid-Geoid separation	32-bit floating point	[N*5, 5]	[5, 5]	meter
SatelliteRange	Line of sight distance from the ellipsoid intersection to the satellite	32-bit floating point	[N*5, 5]	[5, 5]	meter
MoonVector	Lunar position in Spacecraft Coordinates at MidTime	32-bit floating point	[N*5, 3]	[5, 3]	meter
SunVector	Solar position in Spacecraft Coordinates at MidTime	32-bit floating point	[N*5, 3]	[5, 3]	meter
SCPosition	Spacecraft position in ECR Coordinates (X, Y, Z) at MidTime	32-bit floating point	[N*5, 3]	[5, 3]	meter
SCVelocity	Spacecraft velocity in ECR Coordinates (dx/dt, dy/dt, dz/dt) at MidTime	32-bit floating point	[N*5, 3]	[5, 3]	m/s
SCAttitude	Spacecraft attitude with respect to the Geodetic Reference Frame (roll, pitch, yaw) at MidTime	32-bit floating point	[N*5, 3]	[5, 3]	arcsecond
NumberOfSwaths	Number of actual swaths in granule	16-bit integer	[N*1]	[1]	unitless
NumberOfIFOVs	Number of actual IFOVs	16-bit integer	[N*1]	[1]	unitless
QF1_OMPSNPGEO	Attitude/Ephemeris availability status	unsigned 8-bit char	[N*5]	[5]	unitless
File Size	**2,089 Bytes**				

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

6.2.1.6 OMPS NP SDR Geolocation Product Profile

Table: 6.2.1.6-1 OMPS NP SDR Geolocation Product Profile

OMPS NP SDR Geolocation Product Profile

Fields

Name	Data Size	Dimensions
StartTime	8byte(s)	
MidTime	8byte(s)	
Latitude	4byte(s)	
Longitude	4byte(s)	
LatitudeCorners	4byte(s)	

StartTime — Dimensions

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Swath	Yes	No	5	5

StartTime — Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
								Name	Value	Name	Value
Starting Time of Swath in IET (1/1/1958)	0	MIN_VAL	MAX_VAL	microsecond	No		64-bit integer	NA_INT64_FILL	-999		
								MISS_INT64_FILL	-998		
								ERR_INT64_FILL	-995		
								VDNE_INT64_FILL	-993		

MidTime — Dimensions

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Swath	Yes	No	5	5

MidTime — Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
								Name	Value	Name	Value
Mid Time of Swath in IET (1/1/1958)	0	MIN_VAL	MAX_VAL	microsecond	No		64-bit integer	NA_INT64_FILL	-999		
								MISS_INT64_FILL	-998		
								ERR_INT64_FILL	-995		
								VDNE_INT64_FILL	-993		

Latitude — Dimensions

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Swath	Yes	No	5	5
IFOV	No	No	5	5

Latitude — Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
								Name	Value	Name	Value
Latitude of each IFOV (positive North)	0	-90	90	degree	No		32-bit floating point	NA_FLOAT32_FILL	-999.9		
								MISS_FLOAT32_FILL	-999.8		
								ERR_FLOAT32_FILL	-999.5		
								ELLIPSOID_FLOAT32_FILL	-999.4		
								VDNE_FLOAT32_FILL	-999.3		

Longitude — Dimensions

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Swath	Yes	No	5	5
IFOV	No	No	5	5

Longitude — Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
								Name	Value	Name	Value
Longitude of each IFOV (positive East)	0	-180	180	degree	No		32-bit floating point	NA_FLOAT32_FILL	-999.9		
								MISS_FLOAT32_FILL	-999.8		
								ERR_FLOAT32_FILL	-999.5		
								ELLIPSOID_FLOAT32_FILL	-999.4		
								VDNE_FLOAT32_FILL	-999.3		

LatitudeCorners — Dimensions

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Swath	Yes	No	5	5
IFOV	No	No	5	5
Corner	No	No	4	4

LatitudeCorners — Datum

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Fields

		Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
		Latitude of each IFOV corner - Array starts at upper right and proceeds clockwise	0	-90	90	degree	No		32-bit floating point	**Name**	**Value**	**Name**	**Value**
										NA_FLOAT32_FILL	-999.9		
										MISS_FLOAT32_FILL	-999.8		
										ERR_FLOAT32_FILL	-999.5		
										ELLIPSOID_FLOAT32_FILL	-999.4		
										VDNE_FLOAT32_FILL	-999.3		

LongitudeCorners — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Swath	Yes	No	5	5
IFOV	No	No	5	5
Corner	No	No	4	4

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Longitude of each IFOV corner - Array starts at upper right and proceeds clockwise	0	-180	180	degree	No		32-bit floating point	**Name**	**Value**	**Name**	**Value**
								NA_FLOAT32_FILL	-999.9		
								MISS_FLOAT32_FILL	-999.8		
								ERR_FLOAT32_FILL	-999.5		
								ELLIPSOID_FLOAT32_FILL	-999.4		
								VDNE_FLOAT32_FILL	-999.3		

SolarZenithAngle — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Swath	Yes	No	5	5
IFOV	No	No	5	5

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Zenith angle of sun at each IFOV position	0	0	180	degree	No		32-bit floating point	**Name**	**Value**	**Name**	**Value**
								NA_FLOAT32_FILL	-999.9		
								MISS_FLOAT32_FILL	-999.8		
								ERR_FLOAT32_FILL	-999.5		
								ELLIPSOID_FLOAT32_FILL	-999.4		
								VDNE_FLOAT32_FILL	-999.3		

SolarAzimuthAngle — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Swath	Yes	No	5	5
IFOV	No	No	5	5

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Azimuth angle of sun (measured clockwise positive from North) at each IFOV position	0	-180	180	degree	No		32-bit floating point	**Name**	**Value**	**Name**	**Value**
								NA_FLOAT32_FILL	-999.9		
								MISS_FLOAT32_FILL	-999.8		
								ERR_FLOAT32_FILL	-999.5		
								ELLIPSOID_FLOAT32_FILL	-999.4		

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Fields

												VDNE_FLOAT32_FILL	-999.3

SatelliteZenithAngle — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Swath	Yes	No	5	5
IFOV	No	No	5	5

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
								Name	Value	Name	Value
Zenith angle to satellite at each IFOV position	0	0	Approx. 70	degree	No		32-bit floating point	NA_FLOAT32_FILL	-999.9		
								MISS_FLOAT32_FILL	-999.8		
								ERR_FLOAT32_FILL	-999.5		
								ELLIPSOID_FLOAT32_FILL	-999.4		
								VDNE_FLOAT32_FILL	-999.3		

SatelliteAzimuthAngle — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Swath	Yes	No	5	5
IFOV	No	No	5	5

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
								Name	Value	Name	Value
Azimuth angle (measured clockwise positive from North) to Satellite at each IFOV position	0	-180	180	degree	No		32-bit floating point	NA_FLOAT32_FILL	-999.9		
								MISS_FLOAT32_FILL	-999.8		
								ERR_FLOAT32_FILL	-999.5		
								ELLIPSOID_FLOAT32_FILL	-999.4		
								VDNE_FLOAT32_FILL	-999.3		

RelativeAzimuthAngle — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Swath	Yes	No	5	5
IFOV	No	No	5	5

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
								Name	Value	Name	Value
Difference between solar and satellite azimuth angles at each IFOV position (solar - satellite)	0	-180	180	degree	No		32-bit floating point	NA_FLOAT32_FILL	-999.9		
								MISS_FLOAT32_FILL	-999.8		
								ERR_FLOAT32_FILL	-999.5		
								ELLIPSOID_FLOAT32_FILL	-999.4		
								VDNE_FLOAT32_FILL	-999.3		

Height — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Swath	Yes	No	5	5
IFOV	No	No	5	5

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
								Name	Value	Name	Value
Ellipsoid-Geoid separation	0	MIN_VAL	MAX_VAL	meter	No		32-bit floating point	NA_FLOAT32_FILL	-999.9		
								MISS_FLOAT32_FILL	-999.8		
								ERR_FLOAT32_FILL	-999.5		

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Fields

												ELLIPSOID_FLOAT32_FILL	-999.4	
												VDNE_FLOAT32_FILL	-999.3	

SatelliteRange — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Swath	Yes	No	5	5
IFOV	No	No	5	5

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
								Name	Value	Name	Value
Line of sight distance from the ellipsoid intersection to the satellite	0	MIN_VAL	MAX_VAL	meter	No		32-bit floating point	NA_FLOAT32_FILL	-999.9		
								MISS_FLOAT32_FILL	-999.8		
								ERR_FLOAT32_FILL	-999.5		
								ELLIPSOID_FLOAT32_FILL	-999.4		
								VDNE_FLOAT32_FILL	-999.3		

MoonVector — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Swath	Yes	No	5	5
SCCoordinate	No	No	3	3

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
								Name	Value	Name	Value
Lunar Position in Spacecraft Coordinates at MidTime	0	MIN_VAL	MAX_VAL	meter	No		32-bit floating point	NA_FLOAT32_FILL	-999.9		
								MISS_FLOAT32_FILL	-999.8		
								ERR_FLOAT32_FILL	-999.5		
								VDNE_FLOAT32_FILL	-999.3		

SunVector — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Swath	Yes	No	5	5
SCCoordinate	No	No	3	3

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
								Name	Value	Name	Value
Solar position in Spacecraft Coordinates at MidTime	0	MIN_VAL	MAX_VAL	meter	No		32-bit floating point	NA_FLOAT32_FILL	-999.9		
								MISS_FLOAT32_FILL	-999.8		
								ERR_FLOAT32_FILL	-999.5		
								VDNE_FLOAT32_FILL	-999.3		

SCPosition — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Swath	Yes	No	5	5
ECRCoordinate	No	No	3	3

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
								Name	Value	Name	Value
Spacecraft position in ECR Coordinates (X, Y, Z) at MidTime	0	MIN_VAL	MAX_VAL	meter	No		32-bit floating point	NA_FLOAT32_FILL	-999.9		
								MISS_FLOAT32_FILL	-999.8		
								ERR_FLOAT32_FILL	-999.5		
								VDNE_FLOAT32_FILL	-999.3		

SCVelocity — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Swath	Yes	No	5	5
ECRCoordinate	No	No	3	3

Datum

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Fields

		Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
		Spacecraft velocity in ECR Coordinates (dx/dt, dy/dt, dz/dt) at MidTime	0	MIN_VAL	MAX_VAL	m/s	No		32-bit floating point	Name	Value	Name	Value
										NA_FLOAT32_FILL	-999.9		
										MISS_FLOAT32_FILL	-999.8		
										ERR_FLOAT32_FILL	-999.5		
										VDNE_FLOAT32_FILL	-999.3		

SCAttitude — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Swath	Yes	No	5	5
GRFCoordinate	No	No	3	3

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Spacecraft attitude with respect to the Geodetic Reference Frame (roll, pitch, yaw) at MidTime	0	MIN_VAL	MAX_VAL	arcsecond	No		32-bit floating point	Name	Value	Name	Value
								NA_FLOAT32_FILL	-999.9		
								MISS_FLOAT32_FILL	-999.8		
								ERR_FLOAT32_FILL	-999.5		
								VDNE_FLOAT32_FILL	-999.3		

NumberOfSwaths — 2byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Number of actual swaths in granule	0	MIN_VAL	MAX_VAL	unitless	No		16-bit integer	Name	Value	Name	Value
								NA_INT16_FILL	-999		
								MISS_INT16_FILL	-998		
								ERR_INT16_FILL	-995		
								ELLIPSOID_INT16_FILL	-994		
								VDNE_INT16_FILL	-993		

NumberOfIFOVs — 2byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Number of actual IFOVs	0	MIN_VAL	MAX_VAL	unitless	No		16-bit integer	Name	Value	Name	Value
								NA_INT16_FILL	-999		
								MISS_INT16_FILL	-998		
								ERR_INT16_FILL	-995		
								ELLIPSOID_INT16_FILL	-994		
								VDNE_INT16_FILL	-993		

OMPS NP SDR Geolocation Product Profile - Quality Flags

Fields

Name	Data Size	Dimensions
QF1_OMPSNPGEO	1byte(s)	

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Swath	Yes	No	5	5

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Attitude and Ephemeris availability status	0	MIN_VAL	MAX_VAL	unitless	No		2 bit(s)	Name	Value	Name	Value
										Nominal - E&A data available	0
										Missing Data <= Small Gap	1

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Fields													
												Small Gap < Missing Data < Granule Boundary	2
												Missing Data >= Granule Boundary	3
		Spare	2	MIN_VAL	MAX_VAL	unitless	No		6 bit(s)	**Name** **Value**	**Name** **Value**		

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

6.2.1.7 OMPS NP SDR Geolocation HDF5 Details

The OMPS NP SDR Geolocation is based on a simple spatial average over the geometric cell bounds, regardless of pixel sampling. Geolocation is reported on the ellipsoid. Figure 6.2.1.7-1, OMPS NP SDR Geolocation UML Diagram, provides details on the contents and data types of the OMPS NP SDR geolocation.

OMPS-NP-GEO
+StartTime : H5T_NATIVE_LLONG
+MidTime : H5T_NATIVE_LLONG
+Latitude : H5T_NATIVE_FLOAT
+Longitude : H5T_NATIVE_FLOAT
+LatitudeCorners : H5T_NATIVE_FLOAT
+LongitudeCorners : H5T_NATIVE_FLOAT
+SolarZenithAngle : H5T_NATIVE_FLOAT
+SolarAzimuthAngle : H5T_NATIVE_FLOAT
+SatelliteZenithAngle : H5T_NATIVE_FLOAT
+SatelliteAzimuthAngle : H5T_NATIVE_FLOAT
+RelativeAzimuthAngle : H5T_NATIVE_FLOAT
+Height : H5T_NATIVE_FLOAT
+SatelliteRange : H5T_NATIVE_FLOAT
+MoonVector : H5T_NATIVE_FLOAT
+SunVector : H5T_NATIVE_FLOAT
+SCPosition : H5T_NATIVE_FLOAT
+SCVelocity : H5T_NATIVE_FLOAT
+SCAttitude : H5T_NATIVE_FLOAT
+NumberOfSwaths : H5T_NATIVE_SHORT
+NumberOfIFOVs : H5T_NATIVE_SHORT
+QF1_OMPSNPGEO : H5T_NATIVE_UCHAR

Figure: 6.2.1.7-1 OMPS NP SDR Geolocation UML Diagram

6.2.1.8 OMPS NP SDR Geolocation Metadata Details

The HDF5 metadata elements associated with the OMPS NP SDR Geolocation are listed in the JPSS Algorithm Specification Volume II: Data Dictionary for the Common Algorithms (474-00448-02-01). There are no additional metadata elements or granule level quality flags for this geolocation.

6.2.2 OMPS NP Calibration SDRs

The OMPS NP calibration SDR dataset and metadata formats are described in the following subparagraphs. All requirements for OMPS Calibration products are allocated to GRAVITE, thus the information is maintained by GRAVITE.

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

6.2.2.1 OMPS NP Calibration SDR Data Content Summary

The OMPS NP Calibration SDR product structure contains the data arrays shown below in Table 6.2.2.1-1, OMPS NP Calibration SDR Content Summary.

Table: 6.2.2.1-1 OMPS NP Calibration SDR Data Content Summary

Name	Description	Data Type	Aggregate Dimensions (N = Number of Granules)	Granule Dimensions	Units
Bias1	Average electronics bias CCD side 1	32-bit floating point	[N*1]	[1]	count
DarkData	Dark current corrected coadded counts	32-bit floating point	[N*364, 390]	[364, 390]	count
DarkCurrentExpose	Exposure time of dark current (expose_dark)	64-bit floating point	[N*1]	[1]	second
LampExpose	Exposure time of lamp counts (expose_lamp)	64-bit floating point	[N*1]	[1]	second
BadPixelMap	Map of pixels used for solar data (badpix)	32-bit floating point	[N*200, 370]	[200, 370]	unitless
WavelengthMap	Wavelength map (wmap)	64-bit floating point	[N*200, 370]	[200, 370]	unitless
Flat	Local relative normalized radiometric sensitivities	32-bit floating point	[N*200, 370]	[200, 370]	unitless
NumberOfWorkingSolar	Number of solar frames from working diffuser	16-bit integer	[N*1]	[1]	unitless
NumberOfReferenceSolar	Number of solar frames from reference diffuser	16-bit integer	[N*1]	[1]	unitless
NumberOfDark	Number of dark frames (images)	16-bit integer	[N*1]	[1]	unitless
NumberOfLamp	Number of lamp frames (images)	16-bit integer	[N*1]	[1]	unitless
NumberOfCoaddsSolar	Number of Co-adds during solar calibration	16-bit integer	[N*1]	[1]	unitless
NumberOfCoaddsDark	Number of coadds during Dark calibration	16-bit integer	[N*1]	[1]	unitless

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Name	Description	Data Type	Aggregate Dimensions (N = Number of Granules)	Granule Dimensions	Units
NumberOfCoaddsLamp	Number of coadds during Lamp calibration.	16-bit integer	[N*1]	[1]	unitless
CCD	Count rate of sun (ccd)	64-bit floating point	[N*200, 370]	[200, 370]	count/second
TotalSolarExpose	Total Solar Exposure time (total_sol_expose)	64-bit floating point	[N*1]	[1]	second
RSFCounts	Reference solar irradiance (rsf_data)	32-bit floating point	[N*200, 370]	[200, 370]	W/cm^3/sterad
RSFExpose	Reference solar exposure time (rsf_expose)	32-bit floating point	[N*1]	[1]	second
RawSolar	Raw Solar Radiances	32-bit floating point	[N*27, 364, 390]	[27, 364, 390]	count
SmearDataSolar	Smear Data Solar Radiances	32-bit floating point	[N*27, 200]	[27, 200]	count
SolarBeta1	Angle between orbital plane and sun at start of solar observation	32-bit floating point	[N*27]	[27]	degree
SolarBeta2	Angle between orbital plane and sun at end of solar observation	32-bit floating point	[N*27]	[27]	degree
DiffIncinAngle	Angle from normal of incident solar flux	32-bit floating point	[N*27]	[27]	degree
DiffuserPositionSolar	Starting and ending pixel column for each solar measurement	16-bit integer	[N*27, 2]	[27, 2]	unitless
YearSolar	Year of Solar Observation	32-bit integer	[N*27]	[27]	year
DaySolar	Day of Year for Solar Observation	32-bit integer	[N*27]	[27]	day
DiffuserSurfaceSolar	Diffuser Surface used for Solar Calibration	32-bit integer	[N*27]	[27]	unitless
TccdNPSolar	CCD Temperature	16-bit integer	[N*27]	[27]	count
TmotnadSolar	Motor Temperature at Nadir	16-bit integer	[N*27]	[27]	count

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Name	Description	Data Type	Aggregate Dimensions (N = Number of Granules)	Granule Dimensions	Units
TlmpnadSolar	Lamp Temperature at Nadir	16-bit integer	[N*27]	[27]	count
TradnadSolar	Radiator Temperature at Nadir	16-bit integer	[N*27]	[27]	count
Tel1nadSolar	Electronics 1 Temperature at Nadir	16-bit integer	[N*27]	[27]	count
Tel2nadSolar	Electronics 2 Temperature at Nadir	16-bit integer	[N*27]	[27]	count
PccdNPSolar	Profile of CCD	16-bit integer	[N*27]	[27]	count
VtecNPSolar	Voltage of Electronics	16-bit integer	[N*27]	[27]	count
CtecNPSolar	Electronics current	16-bit integer	[N*27]	[27]	count
GonPar	Goniometric correction to solar counts	32-bit floating point	[N*27, 200, 200]	[27, 200, 200]	unitless
FluxData	Final corrected solar counts of individual solar observation	32-bit floating point	[N*27, 364, 200]	[27, 364, 200]	W/cm3
TccdNPDark	CCD Temperature	16-bit integer	[N*5]	[5]	count
TmotnadDark	Motor Temperature at Nadir	16-bit integer	[N*5]	[5]	count
TlmpnadDark	Lamp Temperature at Nadir	16-bit integer	[N*5]	[5]	count
TradnadDark	Radiator Temperature at Nadir	16-bit integer	[N*5]	[5]	count
Tel1nadDark	Electronics 1 Temperature at Nadir	16-bit integer	[N*5]	[5]	count
Tel2nadDark	Electronics 2 Temperature at Nadir	16-bit integer	[N*5]	[5]	count
PccdNPDark	Profile of CCD	16-bit integer	[N*5]	[5]	count
VtecNPDark	Voltage of Electronics	16-bit integer	[N*5]	[5]	count
CtecNPDark	Current of Electronics	16-bit integer	[N*5]	[5]	count
DarkArray	Correct counts of an individual dark current image.	32-bit floating point	[N*5, 364, 390]	[5, 364, 390]	count
TccdNPLamp	CCD Temperature	16-bit integer	[N*150]	[150]	count

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Name	Description	Data Type	Aggregate Dimensions (N = Number of Granules)	Granule Dimensions	Units
TmotnadLamp	Motor Temperature at Nadir	16-bit integer	[N*150]	[150]	count
TlmpnadLamp	Lamp Temperature at Nadir	16-bit integer	[N*150]	[150]	count
TradnadLamp	Radiator Temperature at Nadir	16-bit integer	[N*150]	[150]	count
Tel1nadLamp	Electronics 1 Temperature at Nadir	16-bit integer	[N*150]	[150]	count
Tel2nadLamp	Electronics 2 Temperature at Nadir	16-bit integer	[N*150]	[150]	count
PccdNPLamp	Profile of CCD	16-bit integer	[N*150]	[150]	count
VtecNPLamp	Voltage of Electronics	16-bit integer	[N*150]	[150]	count
CtecNPLamp	Current of Electronics	16-bit integer	[N*150]	[150]	count
LampData	Correct counts of an individual lamp image	32-bit floating point	[N*150, 364, 390]	[150, 364, 390]	count
QualityLamp	Reliability of lamp processing	16-bit integer	[N*150]	[150]	unitless
QualitySolar	Reliability of solar processing	16-bit integer	[N*27]	[27]	unitless
QualityDark	Reliability of dark processing	16-bit integer	[N*5]	[5]	unitless
MedianDark	Median dark current	32-bit floating point	[N*1]	[1]	count
Fitness	Chi-squared goodness of fit for wavelengths	64-bit floating point	[N*5]	[5]	unitless
CompleteFlag	Completeness of solar calibration data	16-bit integer	[N*1]	[1]	unitless
SAALamp	Spacecraft within South Atlantic Anomaly during lamp calibration (extent in percent based on Climatological data)	unsigned 8-bit char	[N*150]	[150]	unitless
SAASolar	Spacecraft within South Atlantic Anomaly during solar calibration	unsigned 8-bit char	[N*27]	[27]	unitless

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Name	Description	Data Type	Aggregate Dimensions (N = Number of Granules)	Granule Dimensions	Units
	(extent in percent based on Climatological data)				
SAADark	Spacecraft within South Atlantic Anomaly during dark calibration (extent in percent based on Climatological data)	unsigned 8-bit char	[N*5]	[5]	unitless
Eclipse	Eclipse - All or part of the S/C is affected by a solar eclipse, umbra or penumbra viewing.	unsigned 8-bit char	[N*27]	[27]	unitless
OccultationFlag	Occultation of the diffuser during solar observation	unsigned 8-bit char	[N*27]	[27]	unitless
File Size	**118,195,444 Bytes**				

6.2.2.2 OMPS NP Calibration SDR Product Profile

Table: 6.2.2.2-1 OMPS NP Calibration SDR Product Profile

OMPS NP Calibration SDR Product Profile

Fields

Name	Data Size	Dimensions
Bias1	4byte(s)	

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Average electronics bias CCD side 1	0	MIN_VAL	MAX_VAL	count	No		32-bit floating point	Name	Value	Name	Value
								NA_FLOAT32_FILL	-999.9		
								MISS_FLOAT32_FILL	-999.8		
								ERR_FLOAT32_FILL	-999.5		
								ELLIPSOID_FLOAT32_FILL	-999.4		
								VDNE_FLOAT32_FILL	-999.3		

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
SpectralPixel	Yes	No	364	364
SpatialPixel	No	No	390	390

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Dark current corrected coadded counts	0	MIN_VAL	MAX_VAL	count	No		32-bit floating point	Name	Value	Name	Value
								NA_FLOAT32_FILL	-999.9		
								MISS_FLOAT32_FILL	-999.8		
								ERR_FLOAT32_FILL	-999.5		

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Fields

												ELLIPSOID_FLOAT32_FILL	-999.4	
												VDNE_FLOAT32_FILL	-999.3	

DarkCurrentExpose — 8byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Exposure time of dark current (expose_dark)	0	MIN_VAL	MAX_VAL	second	No		64-bit floating point	Name	Value	Name	Value
								NA_FLOAT64_FILL	-999.9		
								MISS_FLOAT64_FILL	-999.8		
								ERR_FLOAT64_FILL	-999.5		
								ELLIPSOID_FLOAT64_FILL	-999.4		
								VDNE_FLOAT64_FILL	-999.3		

LampExpose — 8byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Exposure time of lamp counts (expose_lamp)	0	MIN_VAL	MAX_VAL	second	No		64-bit floating point	Name	Value	Name	Value
								NA_FLOAT64_FILL	-999.9		
								MISS_FLOAT64_FILL	-999.8		
								ERR_FLOAT64_FILL	-999.5		
								ELLIPSOID_FLOAT64_FILL	-999.4		
								VDNE_FLOAT64_FILL	-999.3		

BadPixelMap — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
SpectralPixel	Yes	No	200	200
SpatialPixel	No	No	370	370

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Map of pixels used for solar data (badpix)	0	MIN_VAL	MAX_VAL	unitless	No		32-bit floating point	Name	Value	Name	Value
								NA_FLOAT32_FILL	-999.9		
								MISS_FLOAT32_FILL	-999.8		
								ERR_FLOAT32_FILL	-999.5		
								ELLIPSOID_FLOAT32_FILL	-999.4		
								VDNE_FLOAT32_FILL	-999.3		

WavelengthMap — 8byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
SpectralPixel	Yes	No	200	200
SpatialPixel	No	No	370	370

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Wavelength map (wmap)	0	MIN_VAL	MAX_VAL	unitless	No		64-bit floating point	Name	Value	Name	Value
								NA_FLOAT64_FILL	-999.9		
								MISS_FLOAT64_FILL	-999.8		
								ERR_FLOAT64_FILL	-999.5		
								ELLIPSOID_FLOAT64_FILL	-999.4		
								VDNE_FLOAT64_FILL	-999.3		

Flat — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
SpectralPixel	Yes	No	200	200
SpatialPixel	No	No	370	370

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Local relative normalized radiometric sensitivities	0	MIN_VAL	MAX_VAL	unitless	No		32-bit floating point	Name	Value	Name	Value
								NA_FLOAT32_FILL	-999.9		
								MISS_FLOAT32_FILL	-999.8		
								ERR_FLOAT32_FILL	-999.5		
								ELLIPSOID_FLOAT32_FILL	-999.4		
								VDNE_FLOAT32_FILL	-999.3		

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Fields

		Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
NumberOfWorkingSolar	2byte(s)					
NumberOfReferenceSolar	2byte(s)					
NumberOfDark	2byte(s)					
NumberOfLamp	2byte(s)					
NumberOfCoaddsSolar	2byte(s)					
NumberOfCoaddsDark	2byte(s)					

NumberOfWorkingSolar — Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
								Name	Value	Name	Value
Number of solar frames from the working diffuser	0	MIN_VAL	MAX_VAL	unitless	No		16-bit integer	NA_INT16_FILL	-999		
								MISS_INT16_FILL	-998		
								ERR_INT16_FILL	-995		
								ELLIPSOID_INT16_FILL	-994		
								VDNE_INT16_FILL	-993		

NumberOfReferenceSolar — Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
								Name	Value	Name	Value
Number of solar frames from the reference diffuser	0	MIN_VAL	MAX_VAL	unitless	No		16-bit integer	NA_INT16_FILL	-999		
								MISS_INT16_FILL	-998		
								ERR_INT16_FILL	-995		
								ELLIPSOID_INT16_FILL	-994		
								VDNE_INT16_FILL	-993		

NumberOfDark — Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
								Name	Value	Name	Value
Number of dark frames (images)	0	MIN_VAL	MAX_VAL	unitless	No		16-bit integer	NA_INT16_FILL	-999		
								MISS_INT16_FILL	-998		
								ERR_INT16_FILL	-995		
								ELLIPSOID_INT16_FILL	-994		
								VDNE_INT16_FILL	-993		

NumberOfLamp — Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
								Name	Value	Name	Value
Number of lamp frames (images)	0	MIN_VAL	MAX_VAL	unitless	No		16-bit integer	NA_INT16_FILL	-999		
								MISS_INT16_FILL	-998		
								ERR_INT16_FILL	-995		
								ELLIPSOID_INT16_FILL	-994		
								VDNE_INT16_FILL	-993		

NumberOfCoaddsSolar — Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
								Name	Value	Name	Value
Number of co-adds during solar calibration	0	MIN_VAL	MAX_VAL	unitless	No		16-bit integer	NA_INT16_FILL	-999		
								MISS_INT16_FILL	-998		
								ERR_INT16_FILL	-995		
								ELLIPSOID_INT16_FILL	-994		
								VDNE_INT16_FILL	-993		

NumberOfCoaddsDark — Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
								Name	Value	Name	Value
Number of co-adds during dark calibration	0	MIN_VAL	MAX_VAL	unitless	No		16-bit integer	NA_INT16_FILL	-999		
								MISS_INT16_FILL	-998		
								ERR_INT16_FILL	-995		
								ELLIPSOID_INT16_FILL	-994		

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Fields

										VDNE_INT16_FILL	-993

NumberOfCoaddsLamp — 2byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
								Name	Value	Name	Value
Number of co-adds during lamp calibration	0	MIN_VAL	MAX_VAL	unitless	No		16-bit integer	NA_INT16_FILL	-999		
								MISS_INT16_FILL	-998		
								ERR_INT16_FILL	-995		
								ELLIPSOID_INT16_FILL	-994		
								VDNE_INT16_FILL	-993		

CCD — 8byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
SpectralPixel	Yes	No	200	200
SpatialPixel	No	No	370	370

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
								Name	Value	Name	Value
Count rate of sun (ccd)	0	MIN_VAL	MAX_VAL	count/second	No		64-bit floating point	NA_FLOAT64_FILL	-999.9		
								MISS_FLOAT64_FILL	-999.8		
								ERR_FLOAT64_FILL	-999.5		
								ELLIPSOID_FLOAT64_FILL	-999.4		
								VDNE_FLOAT64_FILL	-999.3		

TotalSolarExpose — 8byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
								Name	Value	Name	Value
Total Solar Exposure time (total_sol_expose)	0	MIN_VAL	MAX_VAL	second	No		64-bit floating point	NA_FLOAT64_FILL	-999.9		
								MISS_FLOAT64_FILL	-999.8		
								ERR_FLOAT64_FILL	-999.5		
								ELLIPSOID_FLOAT64_FILL	-999.4		
								VDNE_FLOAT64_FILL	-999.3		

RSFCounts — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
SpectralPixel	Yes	No	200	200
SpatialPixel	No	No	370	370

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
								Name	Value	Name	Value
Reference solar irradiance (rsf_data)	0	MIN_VAL	MAX_VAL	W/cm^3/sterad	No		32-bit floating point	NA_FLOAT32_FILL	-999.9		
								MISS_FLOAT32_FILL	-999.8		
								ERR_FLOAT32_FILL	-999.5		
								ELLIPSOID_FLOAT32_FILL	-999.4		
								VDNE_FLOAT32_FILL	-999.3		

RSFExpose — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
								Name	Value	Name	Value
Reference solar exposure time (rsf_expose)	0	MIN_VAL	MAX_VAL	second	No		32-bit floating point	NA_FLOAT32_FILL	-999.9		
								MISS_FLOAT32_FILL	-999.8		
								ERR_FLOAT32_FILL	-999.5		
								ELLIPSOID_FLOAT32_FILL	-999.4		
								VDNE_FLOAT32_FILL	-999.3		

RawSolar — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Solar	Yes	No	27	27
SpectralPixel	No	No	364	364

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Fields

SpatialPixel	No	No	390	390

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Raw Solar Radiances	0	MIN_VAL	MAX_VAL	count	No		32-bit floating point	**Name**	**Value**	**Name**	**Value**
								NA_FLOAT32_FILL	-999.9		
								MISS_FLOAT32_FILL	-999.8		
								ERR_FLOAT32_FILL	-999.5		
								ELLIPSOID_FLOAT32_FILL	-999.4		
								VDNE_FLOAT32_FILL	-999.3		

SmearDataSolar (4byte(s))

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Solar	Yes	No	27	27
SpectralPixel	No	No	200	200

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Smear Data Solar Radiances	0	MIN_VAL	MAX_VAL	count	No		32-bit floating point	**Name**	**Value**	**Name**	**Value**
								NA_FLOAT32_FILL	-999.9		
								MISS_FLOAT32_FILL	-999.8		
								ERR_FLOAT32_FILL	-999.5		
								ELLIPSOID_FLOAT32_FILL	-999.4		
								VDNE_FLOAT32_FILL	-999.3		

SolarBeta1 (4byte(s))

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Solar	Yes	No	27	27

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Angle between orbital plane and sun at start of solar observation	0	MIN_VAL	MAX_VAL	degree	No		32-bit floating point	**Name**	**Value**	**Name**	**Value**
								NA_FLOAT32_FILL	-999.9		
								MISS_FLOAT32_FILL	-999.8		
								ERR_FLOAT32_FILL	-999.5		
								ELLIPSOID_FLOAT32_FILL	-999.4		
								VDNE_FLOAT32_FILL	-999.3		

SolarBeta2 (4byte(s))

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Solar	Yes	No	27	27

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Angle between orbital plane and sun at end of solar observation	0	MIN_VAL	MAX_VAL	degree	No		32-bit floating point	**Name**	**Value**	**Name**	**Value**
								NA_FLOAT32_FILL	-999.9		
								MISS_FLOAT32_FILL	-999.8		
								ERR_FLOAT32_FILL	-999.5		
								ELLIPSOID_FLOAT32_FILL	-999.4		
								VDNE_FLOAT32_FILL	-999.3		

DiffIncinAngle (4byte(s))

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Solar	Yes	No	27	27

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values	Legend Entries

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Fields

		Angle from normal of incident solar flux	0	MIN_VAL	MAX_VAL	degree	No		32-bit floating point	**Name** / **Value**: NA_FLOAT32_FILL -999.9; MISS_FLOAT32_FILL -999.8; ERR_FLOAT32_FILL -999.5; ELLIPSOID_FLOAT32_FILL -999.4; VDNE_FLOAT32_FILL -999.3	**Name** / **Value**		

DiffuserPositionSolar — 2byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Solar	Yes	No	27	27
Time	No	No	2	2

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values	Legend Entries
Starting and Ending pixel column for each solar measurement	0	MIN_VAL	MAX_VAL	unitless	No		16-bit integer	**Name** / **Value**: NA_INT16_FILL -999; MISS_INT16_FILL -998; ERR_INT16_FILL -995; ELLIPSOID_INT16_FILL -994; VDNE_INT16_FILL -993	**Name** / **Value**

YearSolar — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Solar	Yes	No	27	27

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values	Legend Entries
Year of Solar Observation	0	MIN_VAL	MAX_VAL	year	No		32-bit integer	**Name** / **Value**: NA_INT32_FILL -999; MISS_INT32_FILL -998; ERR_INT32_FILL -995; ELLIPSOID_INT32_FILL -994; VDNE_INT32_FILL -993	**Name** / **Value**

DaySolar — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Solar	Yes	No	27	27

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values	Legend Entries
Day of Year for Solar Observation	0	MIN_VAL	MAX_VAL	day	No		32-bit integer	**Name** / **Value**: NA_INT32_FILL -999; MISS_INT32_FILL -998; ERR_INT32_FILL -995; ELLIPSOID_INT32_FILL -994; VDNE_INT32_FILL -993	**Name** / **Value**

DiffuserSurfaceSolar — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Solar	Yes	No	27	27

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values	Legend Entries
Diffuser Surface used for Solar Calibration	0	MIN_VAL	MAX_VAL	unitless	No		32-bit integer	**Name** / **Value**: NA_INT32_FILL -999; MISS_INT32_FILL -998; ERR_INT32_FILL -995; ELLIPSOID_INT32_FILL -994; VDNE_INT32_FILL -993	**Name** / **Value**

TccdNPSolar — 2byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Solar	Yes	No	27	27

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values	Legend Entries
CCD Temperature	0	MIN_VAL	MAX_VAL	count	No		16-bit integer	**Name** / **Value**	**Name** / **Value**

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Fields

														NA_INT16_FILL	-999		
														MISS_INT16_FILL	-998		
														ERR_INT16_FILL	-995		
														ELLIPSOID_INT16_FILL	-994		
														VDNE_INT16_FILL	-993		
TmotnadSolar	2byte(s)	Solar	Yes	No	27	27											
		Motor Temperature at Nadir	0	MIN_VAL	MAX_VAL	count	No		16-bit integer	NA_INT16_FILL	-999						
										MISS_INT16_FILL	-998						
										ERR_INT16_FILL	-995						
										ELLIPSOID_INT16_FILL	-994						
										VDNE_INT16_FILL	-993						
TlmpnadSolar	2byte(s)	Solar	Yes	No	27	27											
		Lamp Temperature at Nadir	0	MIN_VAL	MAX_VAL	count	No		16-bit integer	NA_INT16_FILL	-999						
										MISS_INT16_FILL	-998						
										ERR_INT16_FILL	-995						
										ELLIPSOID_INT16_FILL	-994						
										VDNE_INT16_FILL	-993						
TradnadSolar	2byte(s)	Solar	Yes	No	27	27											
		Radiator Temperature at Nadir	0	MIN_VAL	MAX_VAL	count	No		16-bit integer	NA_INT16_FILL	-999						
										MISS_INT16_FILL	-998						
										ERR_INT16_FILL	-995						
										ELLIPSOID_INT16_FILL	-994						
										VDNE_INT16_FILL	-993						
Tel1nadSolar	2byte(s)	Solar	Yes	No	27	27											
		Electronics 1 Temperature at Nadir	0	MIN_VAL	MAX_VAL	count	No		16-bit integer	NA_INT16_FILL	-999						
										MISS_INT16_FILL	-998						
										ERR_INT16_FILL	-995						
										ELLIPSOID_INT16_FILL	-994						
										VDNE_INT16_FILL	-993						
Tel2nadSolar	2byte(s)	Solar	Yes	No	27	27											
		Electronics 2 Temperature at Nadir	0	MIN_VAL	MAX_VAL	count	No		16-bit integer	NA_INT16_FILL	-999						
										MISS_INT16_FILL	-998						
										ERR_INT16_FILL	-995						

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Fields

										ELLIPSOID_INT16_FILL	-994	
										VDNE_INT16_FILL	-993	

PccdNPSolar — 2byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Solar	Yes	No	27	27

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Profile of CCD	0	MIN_VAL	MAX_VAL	count	No		16-bit integer	Name	Value	Name	Value
								NA_INT16_FILL	-999		
								MISS_INT16_FILL	-998		
								ERR_INT16_FILL	-995		
								ELLIPSOID_INT16_FILL	-994		
								VDNE_INT16_FILL	-993		

VtecNPSolar — 2byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Solar	Yes	No	27	27

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Voltage of Electronics	0	MIN_VAL	MAX_VAL	count	No		16-bit integer	Name	Value	Name	Value
								NA_INT16_FILL	-999		
								MISS_INT16_FILL	-998		
								ERR_INT16_FILL	-995		
								ELLIPSOID_INT16_FILL	-994		
								VDNE_INT16_FILL	-993		

CtecNPSolar — 2byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Solar	Yes	No	27	27

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Electronics current	0	MIN_VAL	MAX_VAL	count	No		16-bit integer	Name	Value	Name	Value
								NA_INT16_FILL	-999		
								MISS_INT16_FILL	-998		
								ERR_INT16_FILL	-995		
								ELLIPSOID_INT16_FILL	-994		
								VDNE_INT16_FILL	-993		

GonPar — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Solar	Yes	No	27	27
SpectralPixel	No	No	200	200
SpatialPixel	No	No	200	200

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Goniometric correction to solar counts	0	MIN_VAL	MAX_VAL	unitless	No		32-bit floating point	Name	Value	Name	Value
								NA_FLOAT32_FILL	-999.9		
								MISS_FLOAT32_FILL	-999.8		
								ERR_FLOAT32_FILL	-999.5		
								ELLIPSOID_FLOAT32_FILL	-999.4		
								VDNE_FLOAT32_FILL	-999.3		

FluxData — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Solar	Yes	No	27	27
SpectralPixel	No	No	364	364
SpatialPixel	No	No	200	200

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Final corrected solar counts of individual solar observation	0	MIN_VAL	MAX_VAL	W/cm^3	No		32-bit floating point	Name	Value	Name	Value

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Fields

										NA_FLOAT32_FILL	-999.9
										MISS_FLOAT32_FILL	-999.8
										ERR_FLOAT32_FILL	-999.5
										ELLIPSOID_FLOAT32_FILL	-999.4
										VDNE_FLOAT32_FILL	-999.3

TccdNPDark — 2byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Dark	Yes	No	5	5

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
CCD Temperature	0	MIN_VAL	MAX_VAL	count	No		16-bit integer	Name	Value	Name	Value
								NA_INT16_FILL	-999		
								MISS_INT16_FILL	-998		
								ERR_INT16_FILL	-995		
								ELLIPSOID_INT16_FILL	-994		
								VDNE_INT16_FILL	-993		

TmotnadDark — 2byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Dark	Yes	No	5	5

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Motor Temperature at Nadir	0	MIN_VAL	MAX_VAL	count	No		16-bit integer	Name	Value	Name	Value
								NA_INT16_FILL	-999		
								MISS_INT16_FILL	-998		
								ERR_INT16_FILL	-995		
								ELLIPSOID_INT16_FILL	-994		
								VDNE_INT16_FILL	-993		

TlmpnadDark — 2byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Dark	Yes	No	5	5

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Lamp Temperature at Nadir	0	MIN_VAL	MAX_VAL	count	No		16-bit integer	Name	Value	Name	Value
								NA_INT16_FILL	-999		
								MISS_INT16_FILL	-998		
								ERR_INT16_FILL	-995		
								ELLIPSOID_INT16_FILL	-994		
								VDNE_INT16_FILL	-993		

TradnadDark — 2byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Dark	Yes	No	5	5

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Radiator Temperature at Nadir	0	MIN_VAL	MAX_VAL	count	No		16-bit integer	Name	Value	Name	Value
								NA_INT16_FILL	-999		
								MISS_INT16_FILL	-998		
								ERR_INT16_FILL	-995		
								ELLIPSOID_INT16_FILL	-994		
								VDNE_INT16_FILL	-993		

Tel1nadDark — 2byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Dark	Yes	No	5	5

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values	Legend Entries

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Fields

		Electronics 1 Temperature at Nadir	0	MIN_VAL	MAX_VAL	count	No		16-bit integer	**Name**	**Value**	**Name**	**Value**
										NA_INT16_FILL	-999		
										MISS_INT16_FILL	-998		
										ERR_INT16_FILL	-995		
										ELLIPSOID_INT16_FILL	-994		
										VDNE_INT16_FILL	-993		

Tel2nadDark — 2byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Dark	Yes	No	5	5

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Electronics 2 Temperature at Nadir	0	MIN_VAL	MAX_VAL	count	No		16-bit integer	**Name**	**Value**	**Name**	**Value**
								NA_INT16_FILL	-999		
								MISS_INT16_FILL	-998		
								ERR_INT16_FILL	-995		
								ELLIPSOID_INT16_FILL	-994		
								VDNE_INT16_FILL	-993		

PccdNPDark — 2byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Dark	Yes	No	5	5

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Profile of CCD	0	MIN_VAL	MAX_VAL	count	No		16-bit integer	**Name**	**Value**	**Name**	**Value**
								NA_INT16_FILL	-999		
								MISS_INT16_FILL	-998		
								ERR_INT16_FILL	-995		
								ELLIPSOID_INT16_FILL	-994		
								VDNE_INT16_FILL	-993		

VtecNPDark — 2byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Dark	Yes	No	5	5

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Voltage of Electronics	0	MIN_VAL	MAX_VAL	count	No		16-bit integer	**Name**	**Value**	**Name**	**Value**
								NA_INT16_FILL	-999		
								MISS_INT16_FILL	-998		
								ERR_INT16_FILL	-995		
								ELLIPSOID_INT16_FILL	-994		
								VDNE_INT16_FILL	-993		

CtecNPDark — 2byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Dark	Yes	No	5	5

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Current of Electronics	0	MIN_VAL	MAX_VAL	count	No		16-bit integer	**Name**	**Value**	**Name**	**Value**
								NA_INT16_FILL	-999		
								MISS_INT16_FILL	-998		
								ERR_INT16_FILL	-995		
								ELLIPSOID_INT16_FILL	-994		
								VDNE_INT16_FILL	-993		

DarkArray — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Dark	Yes	No	5	5
SpectralPixel	No	No	364	364
SpatialPixel	No	No	390	390

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Correct counts of an individual dark current image	0	MIN_VAL	MAX_VAL	count	No		32-bit floating point	**Name**	**Value**	**Name**	**Value**

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Fields

											NA_FLOAT32_FILL	-999.9
											MISS_FLOAT32_FILL	-999.8
											ERR_FLOAT32_FILL	-999.5
											ELLIPSOID_FLOAT32_FILL	-999.4
											VDNE_FLOAT32_FILL	-999.3

TccdNPLamp (2byte(s))

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Lamp	Yes	No	150	150

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
CCD Temperature	0	MIN_VAL	MAX_VAL	count	No		16-bit integer	Name	Value	Name	Value
								NA_INT16_FILL	-999		
								MISS_INT16_FILL	-998		
								ERR_INT16_FILL	-995		
								ELLIPSOID_INT16_FILL	-994		
								VDNE_INT16_FILL	-993		

TmotnadLamp (2byte(s))

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Lamp	Yes	No	150	150

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Motor Temperature at Nadir	0	MIN_VAL	MAX_VAL	count	No		16-bit integer	Name	Value	Name	Value
								NA_INT16_FILL	-999		
								MISS_INT16_FILL	-998		
								ERR_INT16_FILL	-995		
								ELLIPSOID_INT16_FILL	-994		
								VDNE_INT16_FILL	-993		

TlmpnadLamp (2byte(s))

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Lamp	Yes	No	150	150

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Lamp Temperature at Nadir	0	MIN_VAL	MAX_VAL	count	No		16-bit integer	Name	Value	Name	Value
								NA_INT16_FILL	-999		
								MISS_INT16_FILL	-998		
								ERR_INT16_FILL	-995		
								ELLIPSOID_INT16_FILL	-994		
								VDNE_INT16_FILL	-993		

TradnadLamp (2byte(s))

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Lamp	Yes	No	150	150

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Radiator Temperature at Nadir	0	MIN_VAL	MAX_VAL	count	No		16-bit integer	Name	Value	Name	Value
								NA_INT16_FILL	-999		
								MISS_INT16_FILL	-998		
								ERR_INT16_FILL	-995		
								ELLIPSOID_INT16_FILL	-994		
								VDNE_INT16_FILL	-993		

Tel1nadLamp (2byte(s))

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Lamp	Yes	No	150	150

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Electronics 1 Temperature at Nadir	0	MIN_VAL	MAX_VAL	count	No		16-bit integer	Name	Value	Name	Value
								NA_INT16_FILL	-999		
								MISS_INT16_FILL	-998		
								ERR_INT16_FILL	-995		

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Fields

											ELLIPSOID_INT16_FILL	-994
											VDNE_INT16_FILL	-993

Tel2nadLamp — 2byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Lamp	Yes	No	150	150

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Electronics 2 Temperature at Nadir	0	MIN_VAL	MAX_VAL	count	No		16-bit integer	Name	Value	Name	Value
								NA_INT16_FILL	-999		
								MISS_INT16_FILL	-998		
								ERR_INT16_FILL	-995		
								ELLIPSOID_INT16_FILL	-994		
								VDNE_INT16_FILL	-993		

PccdNPLamp — 2byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Lamp	Yes	No	150	150

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Profile of CCD	0	MIN_VAL	MAX_VAL	count	No		16-bit integer	Name	Value	Name	Value
								NA_INT16_FILL	-999		
								MISS_INT16_FILL	-998		
								ERR_INT16_FILL	-995		
								ELLIPSOID_INT16_FILL	-994		
								VDNE_INT16_FILL	-993		

VtecNPLamp — 2byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Lamp	Yes	No	150	150

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Voltage of Electronics	0	MIN_VAL	MAX_VAL	count	No		16-bit integer	Name	Value	Name	Value
								NA_INT16_FILL	-999		
								MISS_INT16_FILL	-998		
								ERR_INT16_FILL	-995		
								ELLIPSOID_INT16_FILL	-994		
								VDNE_INT16_FILL	-993		

CtecNPLamp — 2byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Lamp	Yes	No	150	150

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Electronics current	0	MIN_VAL	MAX_VAL	count	No		16-bit integer	Name	Value	Name	Value
								NA_INT16_FILL	-999		
								MISS_INT16_FILL	-998		
								ERR_INT16_FILL	-995		
								ELLIPSOID_INT16_FILL	-994		
								VDNE_INT16_FILL	-993		

LampData — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Lamp	Yes	No	150	150
SpectralPixel	No	No	364	364
SpatialPixel	No	No	390	390

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Correct counts of an individual lamp image	0	MIN_VAL	MAX_VAL	count	No		32-bit floating point	Name	Value	Name	Value
								NA_FLOAT32_FILL	-999.9		
								MISS_FLOAT32_FILL	-999.8		
								ERR_FLOAT32_FILL	-999.5		
								ELLIPSOID_FLOAT32_FILL	-999.4		

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Fields

												VDNE_FLOAT32_FILL	-999.3	

QualityLamp — 2byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Lamp	Yes	No	150	150

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
								Name	Value	Name	Value
Reliability of lamp processing	0	MIN_VAL	MAX_VAL	unitless	No		16-bit integer	NA_INT16_FILL	-999		
								MISS_INT16_FILL	-998		
								ERR_INT16_FILL	-995		
								ELLIPSOID_INT16_FILL	-994		
								VDNE_INT16_FILL	-993		

QualitySolar — 2byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Solar	Yes	No	27	27

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
								Name	Value	Name	Value
Reliability of solar processing	0	MIN_VAL	MAX_VAL	unitless	No		16-bit integer	NA_INT16_FILL	-999		
								MISS_INT16_FILL	-998		
								ERR_INT16_FILL	-995		
								ELLIPSOID_INT16_FILL	-994		
								VDNE_INT16_FILL	-993		

QualityDark — 2byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Dark	Yes	No	5	5

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
								Name	Value	Name	Value
Reliability of dark processing	0	MIN_VAL	MAX_VAL	unitless	No		16-bit integer	NA_INT16_FILL	-999		
								MISS_INT16_FILL	-998		
								ERR_INT16_FILL	-995		
								ELLIPSOID_INT16_FILL	-994		
								VDNE_INT16_FILL	-993		

MedianDark — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
								Name	Value	Name	Value
Median dark current	0	MIN_VAL	MAX_VAL	count	No		32-bit floating point	NA_FLOAT32_FILL	-999.9		
								MISS_FLOAT32_FILL	-999.8		
								ERR_FLOAT32_FILL	-999.5		
								ELLIPSOID_FLOAT32_FILL	-999.4		
								VDNE_FLOAT32_FILL	-999.3		

Fitness — 8byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
IFOV	Yes	No	5	5

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
								Name	Value	Name	Value
Chi-squared goodness of fit for wavelengths	0	MIN_VAL	MAX_VAL	unitless	No		64-bit floating point	NA_FLOAT64_FILL	-999.9		
								MISS_FLOAT64_FILL	-999.8		
								ERR_FLOAT64_FILL	-999.5		
								ELLIPSOID_FLOAT64_FILL	-999.4		
								VDNE_FLOAT64_FILL	-999.3		

CompleteFlag — 2byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size

Datum

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Fields

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
								Name	Value	Name	Value
Completeness of solar calibration data	0	MIN_VAL	MAX_VAL	unitless	No		16-bit integer	NA_INT16_FILL	-999		
								MISS_INT16_FILL	-998		
								ERR_INT16_FILL	-995		
								ELLIPSOID_INT16_FILL	-994		
								VDNE_INT16_FILL	-993		

OMPS NP Calibration SDR Product Profile - Quality Flags

Fields

Name	Data Size	Dimensions
SAALamp	1byte(s)	
SAASolar	1byte(s)	

SAALamp — Dimensions

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Lamp	Yes	No	150	150

SAALamp — Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
								Name	Value	Name	Value
Spacecraft within South Atlantic Anomaly during lamp calibration (extent in percent based on Climatological data)	0	MIN_VAL	MAX_VAL	unitless	No		unsigned 8-bit char			0% <= SAA <= 10%	0
										10% < SAA <= 20%	1
										20% < SAA <= 30%	2
										30% < SAA <= 40%	3
										40% < SAA <= 50%	4
										50% < SAA <= 60%	5
										60% < SAA <= 70%	6
										70% < SAA <= 80%	7
										80% < SAA	8

SAASolar — Dimensions

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Solar	Yes	No	27	27

SAASolar — Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
								Name	Value	Name	Value
Spacecraft within South Atlantic Anomaly during solar calibration (extent in percent based on Climatological data)	0	MIN_VAL	MAX_VAL	unitless	No		unsigned 8-bit char			0% <= SAA <= 10%	0
										10% < SAA <= 20%	1
										20% < SAA <= 30%	2
										30% < SAA <= 40%	3
										40% < SAA <= 50%	4
										50% < SAA <= 60%	5
										60% < SAA <= 70%	6
										70% < SAA <= 80%	7
										80% < SAA	8

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Fields

SAADark — 1byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Dark	Yes	No	5	5

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values	Legend Entries
Spacecraft within South Atlantic Anomaly during dark calibration (extent in percent based on Climatological data)	0	MIN_VAL	MAX_VAL	unitless	No		unsigned 8-bit char		

Fill Values:

Name	Value

Legend Entries:

Name	Value
0% <= SAA <= 10%	0
10% < SAA <= 20%	1
20% < SAA <= 30%	2
30% < SAA <= 40%	3
40% < SAA <= 50%	4
50% < SAA <= 60%	5
60% < SAA <= 70%	6
70% < SAA <= 80%	7
80% < SAA	8

Eclipse — 1byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Solar	Yes	No	27	27

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values	Legend Entries
Eclipse - All or part of the S/C is affected by a solar eclipse, umbra or penumbra viewing	0	MIN_VAL	MAX_VAL	unitless	No		unsigned 8-bit char		

Fill Values:

Name	Value

Legend Entries:

Name	Value
False	0
True	1

OccultationFlag — 1byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Solar	Yes	No	27	27

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values	Legend Entries
Occultation of the diffuser has occurred during solar observation	0	MIN_VAL	MAX_VAL	unitless	No		unsigned 8-bit char		

Fill Values:

Name	Value

Legend Entries:

Name	Value
False	0
True	1

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

6.2.2.3 OMPS NP Calibration SDR HDF5 Details

Figure 6.2.2.3-1, OMPS NP Calibration SDR UML Diagram, provides the details on the content and data types of the OMPS NP Calibration SDR. These UML diagrams provide details at the granule level only. In addition to these UML diagrams, refer to Section 2.2, Sensor Data Records and Temperature Data Records HDF5 Details, Figure 3.2-1, Generalized UML Diagram for HDF5 SDR/TDR Files, for a complete UML rendering of this product.

The OMPS NP Calibration SDR within the HDF5 files can be found within the Data Products group with the group name of OMPS-NP-Cal-SDR. The aggregation and granule(s) contain the data fields listed in the UML diagrams. The corresponding HDF5 data type for each field is also provided.

OMPS-NP-Cal-SDR
+Bias1 : H5T_NATIVE_FLOAT
+DarkData : H5T_NATIVE_FLOAT
+DarkCurrentExpose : H5T_NATIVE_DOUBLE
+LampExpose : H5T_NATIVE_DOUBLE
+BadPixelMap : H5T_NATIVE_FLOAT
+WavelengthMap : H5T_NATIVE_DOUBLE
+Flat : H5T_NATIVE_FLOAT
+NumberOfWorkingSolar : H5T_NATIVE_SHORT
+NumberOfReferenceSolar : H5T_NATIVE_SHORT
+NumberOfDark : H5T_NATIVE_SHORT
+NumberOfLamp : H5T_NATIVE_SHORT
+NumberOfCoaddsSolar : H5T_NATIVE_SHORT
+NumberOfCoaddsDark : H5T_NATIVE_SHORT
+NumberOfCoaddsLamp : H5T_NATIVE_SHORT
+CCD : H5T_NATIVE_DOUBLE
+TotalSolarExpose : H5T_NATIVE_DOUBLE
+RSFCounts : H5T_NATIVE_FLOAT
+RSFExpose : H5T_NATIVE_FLOAT
+RawSolar : H5T_NATIVE_FLOAT
+SmearDataSolar : H5T_NATIVE_FLOAT
+SolarBeta1 : H5T_NATIVE_FLOAT
+SolarBeta2 : H5T_NATIVE_FLOAT
+DiffIncinAngle : H5T_NATIVE_FLOAT
+DiffuserPositionSolar : H5T_NATIVE_SHORT
+YearSolar : H5T_NATIVE_INT
+DaySolar : H5T_NATIVE_INT
+DiffuserSurfaceSolar : H5T_NATIVE_INT
+TccdNPSolar : H5T_NATIVE_SHORT
+TmotnadSolar : H5T_NATIVE_SHORT
+TlmpnadSolar : H5T_NATIVE_SHORT
+TradnadSolar : H5T_NATIVE_SHORT
+Tel1nadSolar : H5T_NATIVE_SHORT
+Tel2nadSolar : H5T_NATIVE_SHORT
+PccdNPSolar : H5T_NATIVE_SHORT
+VtecNPSolar : H5T_NATIVE_SHORT
+CtecNPSolar : H5T_NATIVE_SHORT

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

OMPS-NP-Cal-SDR
+GonPar : H5T_NATIVE_FLOAT +FluxData : H5T_NATIVE_FLOAT +TccdNPDark : H5T_NATIVE_SHORT +TmotnadDark : H5T_NATIVE_SHORT +TlmpnadDark : H5T_NATIVE_SHORT +TradnadDark : H5T_NATIVE_SHORT +Tel1nadDark : H5T_NATIVE_SHORT +Tel2nadDark : H5T_NATIVE_SHORT +PccdNPDark : H5T_NATIVE_SHORT +VtecNPDark : H5T_NATIVE_SHORT +CtecNPDark : H5T_NATIVE_SHORT +DarkArray : H5T_NATIVE_FLOAT +TccdNPLamp : H5T_NATIVE_SHORT +TmotnadLamp : H5T_NATIVE_SHORT +TlmpnadLamp : H5T_NATIVE_SHORT +TradnadLamp : H5T_NATIVE_SHORT +Tel1nadLamp : H5T_NATIVE_SHORT +Tel2nadLamp : H5T_NATIVE_SHORT +PccdNPLamp : H5T_NATIVE_SHORT +VtecNPLamp : H5T_NATIVE_SHORT +CtecNPLamp : H5T_NATIVE_SHORT +LampData : H5T_NATIVE_FLOAT +QualityLamp : H5T_NATIVE_SHORT +QualitySolar : H5T_NATIVE_SHORT +QualityDark : H5T_NATIVE_SHORT +MedianDark : H5T_NATIVE_FLOAT +Fitness : H5T_NATIVE_DOUBLE +CompleteFlag : H5T_NATIVE_SHORT +SAALamp : H5T_NATIVE_UCHAR +SAASolar : H5T_NATIVE_UCHAR +SAADark : H5T_NATIVE_UCHAR +Eclipse : H5T_NATIVE_UCHAR +OccultationFlag : H5T_NATIVE_UCHAR

Figure: 6.2.2.3-1 OMPS NP Calibration SDR UML Diagram

6.2.2.4 OMPS NP Calibration SDR Metadata Details

The HDF5 metadata elements associated with the OMPS NP Calibration SDR are listed in the JPSS Algorithm Specification Volume II: Data Dictionary for the Common Algorithms (474-00448-02-01). The OMPS NP Calibration SDR metadata includes all common metadata at the root, product, aggregation, and granule levels. No summary level metadata is produced for OMPS NP Calibration SDRs.

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

6.2.2.5 OMPS NP Calibration SDR Geolocation Content Summary

The OMPS NP calibration SDR geolocation datasets are summarized below in Table 6.2.2.5-1 OMPS NP Calibration SDR Geolocation Content Summary.

Table: 6.2.2.5-1 OMPS NP Calibration SDR Geolocation Content Summary

Name	Description	Data Type	Aggregate Dimensions (N = Number of Granules)	Granule Dimensions	Units
StartTime_Solar	Start time of solar frame in IET (1/1/1958)	64-bit integer	[N*27]	[27]	microsecond
MidTime_Solar	Mid-Time of solar frame in IET (1/1/1958)	64-bit integer	[N*27]	[27]	microsecond
EndTime_Solar	End time of solar frame in IET (1/1/1958)	64-bit integer	[N*27]	[27]	microsecond
Latitude_Solar	Sub-Satellite Latitude (positive North) at midTime_Solar	32-bit floating point	[N*27, 1]	[27, 1]	degree
Longitude_Solar	Sub-Satellite Longitude (positive East) at MidTime_Solar	32-bit floating point	[N*27, 1]	[27, 1]	degree
MoonVector_Solar	Lunar Position in Spacecraft Coordinates at MidTime_Solar	32-bit floating point	[N*27, 3]	[27, 3]	meter
SunVector_Solar	Solar position in Spacecraft Coordinate System at MidTime_Solar	32-bit floating point	[N*27, 3]	[27, 3]	meter
SCPosition_Solar	Spacecraft position in ECR Coordinates (X, Y, Z) at MidTime_Solar	32-bit floating point	[N*27, 3]	[27, 3]	meter
SCVelocity_Solar	Spacecraft velocity in ECR Coordinates (dx/dt, dy/dt, dz/dt) at MidTime_Solar	32-bit floating point	[N*27, 3]	[27, 3]	m/s
SCAttitude_Solar	Spacecraft attitude with respect to Geodetic	32-bit floating point	[N*27, 3]	[27, 3]	arcsecond

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Name	Description	Data Type	Aggregate Dimensions (N = Number of Granules)	Granule Dimensions	Units
	Reference Frame Coordinates (roll, pitch, yaw) at MidTime_Solar				
StartTime_Dark	Start time of dark frame in IET (1/1/1958)	64-bit integer	[N*5]	[5]	microsecond
MidTime_Dark	Mid-Time of dark frame in IET (1/1/1958)	64-bit integer	[N*5]	[5]	microsecond
EndTime_Dark	End time of dark frame in IET (1/1/1958)	64-bit integer	[N*5]	[5]	microsecond
Latitude_Dark	Sub-Satellite Latitude (positive North) at MidTime_Dark	32-bit floating point	[N*5, 1]	[5, 1]	degree
Longitude_Dark	Sub-Satellite Longitude (positive East) at MidTime_Dark	32-bit floating point	[N*5, 1]	[5, 1]	degree
SCPosition_Dark	Spacecraft position in ECR Coordinates (X, Y, Z) at MidTime_Dark	32-bit floating point	[N*5, 3]	[5, 3]	meter
SCVelocity_Dark	Spacecraft velocity in ECR Coordinates (dx/dt, dy/dt, dz/dt) at MidTime_Dark	32-bit floating point	[N*5, 3]	[5, 3]	m/s
SCAttitude_Dark	Spacecraft attitude with respect to Geodetic Reference Frame Coordinates (roll, pitch, yaw) at MidTime_Dark	32-bit floating point	[N*5, 3]	[5, 3]	arcsecond
StartTime_Lamp	Start time of lamp frame in IET (1/1/1958)	64-bit integer	[N*150]	[150]	microsecond
MidTime_Lamp	Mid-Time of lamp frame in IET (1/1/1958)	64-bit integer	[N*150]	[150]	microsecond
EndTime_Lamp	End time of lamp frame in IET (1/1/1958)	64-bit integer	[N*150]	[150]	microsecond

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Name	Description	Data Type	Aggregate Dimensions (N = Number of Granules)	Granule Dimensions	Units
Latitude_Lamp	Sub-Satellite Latitude (positive North) at MidTime_Lamp	32-bit floating point	[N*150, 1]	[150, 1]	degree
Longitude_Lamp	Sub-Satellite Longitude (positive East) at MidTime_Lamp	32-bit floating point	[N*150, 1]	[150, 1]	degree
SCPosition_Lamp	Spacecraft position in ECR Coordinates (X, Y, Z) at MidTime_Lamp	32-bit floating point	[N*150, 3]	[150, 3]	meter
SCVelocity_Lamp	Spacecraft velocity in ECR Coordinates (dx/dt, dy/dt, dz/dt) at MidTime_Lamp	32-bit floating point	[N*150, 3]	[150, 3]	m/s
SCAttitude_Lamp	Spacecraft attitude with respect to Geodetic Reference Frame Coordinates (roll, pitch, yaw) at MidTime_Lamp	32-bit floating point	[N*150, 3]	[150, 3]	arcsecond
NumberOfSolar	Actual number of solar frames (images)	16-bit integer	[N*1]	[1]	unitless
NumberOfDark	Actual number of dark frames (images)	16-bit integer	[N*1]	[1]	unitless
NumberOfLamp	Actual number of lamp frames (images)	16-bit integer	[N*1]	[1]	unitless
QF1_GEOSOLAR	Attitude/Ephemeris availability status during Solar Calibration	unsigned 8-bit char	[N*27]	[27]	unitless
QF2_GEODARK	Attitude/Ephemeris availability status during Dark Calibration	unsigned 8-bit char	[N*5]	[5]	unitless
QF3_GEOLAMP	Attitude/Ephemeris availability status	unsigned 8-bit char	[N*150]	[150]	unitless

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Name	Description	Data Type	Aggregate Dimensions (N = Number of Granules)	Granule Dimensions	Units
	during Lamp Calibration				
File Size	**13,212 Bytes**				

6.2.2.6 OMPS NP Calibration SDR Geolocation Product Profile

Table: 6.2.2.6-1 OMPS NP Calibration SDR - Geolocation Product Profile

OMPS NP Calibration SDR Geolocation Product Profile

Fields

Name	Data Size	Dimensions
StartTime_Solar	8byte(s)	
MidTime_Solar	8byte(s)	
EndTime_Solar	8byte(s)	
Latitude_Solar	4byte(s)	

StartTime_Solar

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Solar	Yes	No	27	27

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
								Name	Value	Name	Value
Start time of solar frame in IET (1/1/1958)	0	MIN_VAL	MAX_VAL	microsecond	No		64-bit integer	NA_INT64_FILL	-999		
								MISS_INT64_FILL	-998		
								ERR_INT64_FILL	-995		
								VDNE_INT64_FILL	-993		

MidTime_Solar

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Solar	Yes	No	27	27

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
								Name	Value	Name	Value
Mid-Time of solar frame in IET (1/1/1958)	0	MIN_VAL	MAX_VAL	microsecond	No		64-bit integer	NA_INT64_FILL	-999		
								MISS_INT64_FILL	-998		
								ERR_INT64_FILL	-995		
								VDNE_INT64_FILL	-993		

EndTime_Solar

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Solar	Yes	No	27	27

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
								Name	Value	Name	Value
End time of solar frame in IET (1/1/1958)	0	MIN_VAL	MAX_VAL	microsecond	No		64-bit integer	NA_INT64_FILL	-999		
								MISS_INT64_FILL	-998		
								ERR_INT64_FILL	-995		
								VDNE_INT64_FILL	-993		

Latitude_Solar

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Solar	Yes	No	27	27
SpatialPixel	No	No	1	1

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
								Name	Value	Name	Value
Sub-Satellite Latitude (positive North) at MidTime_Solar	0	-90	90	degree	No		32-bit floating point	NA_FLOAT32_FILL	-999.9		
								MISS_FLOAT32_FILL	-999.8		

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Fields

												ERR_FLOAT32_FILL	-999.5
												ELLIPSOID_FLOAT32_FILL	-999.4
												VDNE_FLOAT32_FILL	-999.3

Longitude_Solar 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Solar	Yes	No	27	27
SpatialPixel	No	No	1	1

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Sub-Satellite Longitude (positive East) at MidTime_Solar	0	-180	180	degree	No		32-bit floating point	Name	Value	Name	Value
								NA_FLOAT32_FILL	-999.9		
								MISS_FLOAT32_FILL	-999.8		
								ERR_FLOAT32_FILL	-999.5		
								ELLIPSOID_FLOAT32_FILL	-999.4		
								VDNE_FLOAT32_FILL	-999.3		

MoonVector_Solar 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Solar	Yes	No	27	27
SCCoordinate	No	No	3	3

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Lunar Position in Spacecraft Coordinates at MidTime_Solar	0	MIN_VAL	MAX_VAL	meter	No		32-bit floating point	Name	Value	Name	Value
								NA_FLOAT32_FILL	-999.9		
								MISS_FLOAT32_FILL	-999.8		
								ERR_FLOAT32_FILL	-999.5		
								VDNE_FLOAT32_FILL	-999.3		

SunVector_Solar 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Solar	Yes	No	27	27
SCCoordinate	No	No	3	3

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Solar position in Spacecraft Coordinate System at MidTime_Solar	0	MIN_VAL	MAX_VAL	meter	No		32-bit floating point	Name	Value	Name	Value
								NA_FLOAT32_FILL	-999.9		
								MISS_FLOAT32_FILL	-999.8		
								ERR_FLOAT32_FILL	-999.5		
								VDNE_FLOAT32_FILL	-999.3		

SCPosition_Solar 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Solar	Yes	No	27	27
ECRCoordinate	No	No	3	3

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Spacecraft position in ECR Coordinates (X, Y, Z) at MidTime_Solar	0	MIN_VAL	MAX_VAL	meter	No		32-bit floating point	Name	Value	Name	Value
								NA_FLOAT32_FILL	-999.9		
								MISS_FLOAT32_FILL	-999.8		
								ERR_FLOAT32_FILL	-999.5		
								VDNE_FLOAT32_FILL	-999.3		

SCVelocity_Solar 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Solar	Yes	No	27	27
ECRCoordinate	No	No	3	3

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Spacecraft velocity in ECR Coordinates (dx/dt, dy/dt, dz/dt) at MidTime_Solar	0	MIN_VAL	MAX_VAL	m/s	No		32-bit floating point	Name	Value	Name	Value

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Fields

													NA_FLOAT32_FILL	-999.9	
													MISS_FLOAT32_FILL	-999.8	
													ERR_FLOAT32_FILL	-999.5	
													VDNE_FLOAT32_FILL	-999.3	

SCAttitude_Solar — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Solar	Yes	No	27	27
GRFCoordinate	No	No	3	3

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Spacecraft attitude with respect to Geodetic Reference Frame Coordinates (roll, pitch, yaw) at MidTime_Solar	0	MIN_VAL	MAX_VAL	arcsecond	No		32-bit floating point	NA_FLOAT32_FILL	-999.9		
								MISS_FLOAT32_FILL	-999.8		
								ERR_FLOAT32_FILL	-999.5		
								VDNE_FLOAT32_FILL	-999.3		

StartTime_Dark — 8byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Dark	Yes	No	5	5

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Start time of dark frame in IET (1/1/1958)	0	MIN_VAL	MAX_VAL	microsecond	No		64-bit integer	NA_INT64_FILL	-999		
								MISS_INT64_FILL	-998		
								ERR_INT64_FILL	-995		
								VDNE_INT64_FILL	-993		

MidTime_Dark — 8byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Dark	Yes	No	5	5

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Mid-Time of dark frame in IET (1/1/1958)	0	MIN_VAL	MAX_VAL	microsecond	No		64-bit integer	NA_INT64_FILL	-999		
								MISS_INT64_FILL	-998		
								ERR_INT64_FILL	-995		
								VDNE_INT64_FILL	-993		

EndTime_Dark — 8byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Dark	Yes	No	5	5

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
End time of dark frame in IET (1/1/1958)	0	MIN_VAL	MAX_VAL	microsecond	No		64-bit integer	NA_INT64_FILL	-999		
								MISS_INT64_FILL	-998		
								ERR_INT64_FILL	-995		
								VDNE_INT64_FILL	-993		

Latitude_Dark — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Dark	Yes	No	5	5
SpatialPixel	No	No	1	1

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values	Legend Entries

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Fields

		Sub-Satellite Latitude (positive North) at MidTime_Dark	0	-90	90	degree	No		32-bit floating point	Name: NA_FLOAT32_FILL, Value: -999.9 MISS_FLOAT32_FILL: -999.8 ERR_FLOAT32_FILL: -999.5 ELLIPSOID_FLOAT32_FILL: -999.4 VDNE_FLOAT32_FILL: -999.3	Name, Value	

Longitude_Dark — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Dark	Yes	No	5	5
SpatialPixel	No	No	1	1

Datum	Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values	Legend Entries
	Sub-Satellite Longitude (positive East) at MidTime_Dark	0	-180	180	degree	No		32-bit floating point	Name: NA_FLOAT32_FILL, Value: -999.9 MISS_FLOAT32_FILL: -999.8 ERR_FLOAT32_FILL: -999.5 ELLIPSOID_FLOAT32_FILL: -999.4 VDNE_FLOAT32_FILL: -999.3	Name, Value

SCPosition_Dark — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Dark	Yes	No	5	5
ECRCoordinate	No	No	3	3

Datum	Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values	Legend Entries
	Spacecraft position in ECR Coordinates (X, Y, Z) at MidTime_Dark	0	MIN_VAL	MAX_VAL	meter	No		32-bit floating point	Name: NA_FLOAT32_FILL, Value: -999.9 MISS_FLOAT32_FILL: -999.8 ERR_FLOAT32_FILL: -999.5 VDNE_FLOAT32_FILL: -999.3	Name, Value

SCVelocity_Dark — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Dark	Yes	No	5	5
ECRCoordinate	No	No	3	3

Datum	Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values	Legend Entries
	Spacecraft velocity in ECR Coordinates (dx/dt, dy/dt, dz/dt) at MidTime_Dark	0	MIN_VAL	MAX_VAL	m/s	No		32-bit floating point	Name: NA_FLOAT32_FILL, Value: -999.9 MISS_FLOAT32_FILL: -999.8 ERR_FLOAT32_FILL: -999.5 VDNE_FLOAT32_FILL: -999.3	Name, Value

SCAttitude_Dark — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Dark	Yes	No	5	5
GRFCoordinate	No	No	3	3

Datum	Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values	Legend Entries
	Spacecraft attitude with respect to Geodetic Reference Frame Coordinates (roll, pitch, yaw) at MidTime_Dark	0	MIN_VAL	MAX_VAL	arcsecond	No		32-bit floating point	Name: NA_FLOAT32_FILL, Value: -999.9 MISS_FLOAT32_FILL: -999.8 ERR_FLOAT32_FILL: -999.5	Name, Value

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Fields

													VDNE_FLOAT32_FILL	-999.3

StartTime_Lamp — 8byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Lamp	Yes	No	150	150

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
								Name	Value	Name	Value
Start time of lamp frame in IET (1/1/1958)	0	MIN_VAL	MAX_VAL	microsecond	No		64-bit integer	NA_INT64_FILL	-999		
								MISS_INT64_FILL	-998		
								ERR_INT64_FILL	-995		
								VDNE_INT64_FILL	-993		

MidTime_Lamp — 8byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Lamp	Yes	No	150	150

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
								Name	Value	Name	Value
Mid-Time of lamp frame in IET (1/1/1958)	0	MIN_VAL	MAX_VAL	microsecond	No		64-bit integer	NA_INT64_FILL	-999		
								MISS_INT64_FILL	-998		
								ERR_INT64_FILL	-995		
								VDNE_INT64_FILL	-993		

EndTime_Lamp — 8byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Lamp	Yes	No	150	150

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
								Name	Value	Name	Value
End time of lamp frame in IET (1/1/1958)	0	MIN_VAL	MAX_VAL	microsecond	No		64-bit integer	NA_INT64_FILL	-999		
								MISS_INT64_FILL	-998		
								ERR_INT64_FILL	-995		
								VDNE_INT64_FILL	-993		

Latitude_Lamp — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Lamp	Yes	No	150	150
SpatialPixel	No	No	1	1

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
								Name	Value	Name	Value
Sub-Satellite Latitude (positive North) at MidTime_Lamp	0	-90	90	degree	No		32-bit floating point	NA_FLOAT32_FILL	-999.9		
								MISS_FLOAT32_FILL	-999.8		
								ERR_FLOAT32_FILL	-999.5		
								ELLIPSOID_FLOAT32_FILL	-999.4		
								VDNE_FLOAT32_FILL	-999.3		

Longitude_Lamp — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Lamp	Yes	No	150	150
SpatialPixel	No	No	1	1

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
								Name	Value	Name	Value
Sub-Satellite Longitude (positive East) at MidTime_Lamp	0	-180	180	degree	No		32-bit floating point	NA_FLOAT32_FILL	-999.9		
								MISS_FLOAT32_FILL	-999.8		
								ERR_FLOAT32_FILL	-999.5		
								ELLIPSOID_FLOAT32_FILL	-999.4		
								VDNE_FLOAT32_FILL	-999.3		

SCPosition_Lamp — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Fields

Lamp	Yes	No	150	150	
ECRCoordinate	No	No	3	3	

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values	Legend Entries
Spacecraft position in ECR Coordinates (X, Y, Z) at MidTime_Lamp	0	MIN_VAL	MAX_VAL	meter	No		32-bit floating point	Name: NA_FLOAT32_FILL, Value: -999.9 Name: MISS_FLOAT32_FILL, Value: -999.8 Name: ERR_FLOAT32_FILL, Value: -999.5 Name: VDNE_FLOAT32_FILL, Value: -999.3	Name: Value:

SCVelocity_Lamp 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Lamp	Yes	No	150	150
ECRCoordinate	No	No	3	3

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values	Legend Entries
Spacecraft velocity in ECR Coordinates (dx/dt, dy/dt, dz/dt) at MidTime_Lamp	0	MIN_VAL	MAX_VAL	m/s	No		32-bit floating point	Name: NA_FLOAT32_FILL, Value: -999.9 Name: MISS_FLOAT32_FILL, Value: -999.8 Name: ERR_FLOAT32_FILL, Value: -999.5 Name: VDNE_FLOAT32_FILL, Value: -999.3	Name: Value:

SCAttitude_Lamp 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Lamp	Yes	No	150	150
GRFCoordinate	No	No	3	3

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values	Legend Entries
Spacecraft attitude with respect to Geodetic Reference Frame Coordinates (roll, pitch, yaw) at MidTime_Lamp	0	MIN_VAL	MAX_VAL	arcsecond	No		32-bit floating point	Name: NA_FLOAT32_FILL, Value: -999.9 Name: MISS_FLOAT32_FILL, Value: -999.8 Name: ERR_FLOAT32_FILL, Value: -999.5 Name: VDNE_FLOAT32_FILL, Value: -999.3	Name: Value:

NumberOfSolar 2byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values	Legend Entries
Actual number of solar frames (images)	0	MIN_VAL	MAX_VAL	unitless	No		16-bit integer	Name: NA_INT16_FILL, Value: -999 Name: MISS_INT16_FILL, Value: -998 Name: ERR_INT16_FILL, Value: -995 Name: ELLIPSOID_INT16_FILL, Value: -994 Name: VDNE_INT16_FILL, Value: -993	Name: Value:

NumberOfDark 2byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values	Legend Entries
Actual number of dark frames (images)	0	MIN_VAL	MAX_VAL	unitless	No		16-bit integer	Name: NA_INT16_FILL, Value: -999 Name: MISS_INT16_FILL, Value: -998 Name: ERR_INT16_FILL, Value: -995	Name: Value:

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Fields													
											ELLIPSOID_INT16_FILL	-994	
											VDNE_INT16_FILL	-993	
NumberOfLamp	2byte(s)	Name: Granule Boundary: Dynamic: Min Array Size: Max Array Size											
		Datum											
		Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
		Actual number of lamp frames (images)	0	MIN_VAL	MAX_VAL	unitless	No		16-bit integer	Name	Value	Name	Value
										NA_INT16_FILL	-999		
										MISS_INT16_FILL	-998		
										ERR_INT16_FILL	-995		
										ELLIPSOID_INT16_FILL	-994		
										VDNE_INT16_FILL	-993		

OMPS NP Calibration SDR Geolocation Product Profile - Quality Flags

Fields													
Name	Data Size	Dimensions											
QF1_GEOSOLAR	1byte(s)	Name: Granule Boundary: Dynamic: Min Array Size: Max Array Size											
		Solar: Yes: No: 27: 27											
		Datum											
		Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
		Attitude and Ephemeris availability status	0	MIN_VAL	MAX_VAL	unitless	No		2 bit(s)	Name	Value	Name	Value
												Nominal - E&A data available	0
												Missing Data <= Small Gap	1
												Small Gap < Missing Data < Granule Boundary	2
												Missing Data >= Granule Boundary	3
		Spare	2	MIN_VAL	MAX_VAL	unitless	No		6 bit(s)	Name	Value	Name	Value
QF2_GEODARK	1byte(s)	Name: Granule Boundary: Dynamic: Min Array Size: Max Array Size											
		Dark: Yes: No: 5: 5											
		Datum											
		Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
		Attitude and Ephemeris availability status	0	MIN_VAL	MAX_VAL	unitless	No		2 bit(s)	Name	Value	Name	Value
												Nominal - E&A data available	0
												Missing Data <= Small Gap	1
												Small Gap < Missing Data < Granule Boundary	2
												Missing Data >= Granule Boundary	3
		Spare	2	MIN_VAL	MAX_VAL	unitless	No		6 bit(s)	Name	Value	Name	Value
QF3_GEOLAMP	1byte(s)	Name: Granule Boundary: Dynamic: Min Array Size: Max Array Size											
		Lamp: Yes: No: 150: 150											
		Datum											
		Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
		Attitude and Ephemeris availability status	0	MIN_VAL	MAX_VAL	unitless	No		2 bit(s)	Name	Value	Name	Value
												Nominal - E&A data available	0
												Missing Data <= Small Gap	1
												Small Gap < Missing Data < Granule Boundary	2
												Missing Data >= Granule Boundary	3
		Spare	2	MIN_VAL	MAX_VAL	unitless	No		6 bit(s)	Name	Value	Name	Value

6.2.2.7 OMPS NP Calibration SDR Geolocation HDF5 Details

The OMPS NP Calibration SDR Geolocation is based on a simple spatial average over the geometric cell bounds, regardless of pixel sampling. Geolocation is reported on the ellipsoid. Figure 6.2.2.7-1, OMPS NP Calibration SDR Geolocation UML Diagram, provides details on the contents and data types of the OMPS NP SDR geolocation.

OMPS-NP-Cal-GEO
+StartTime_Solar : H5T_NATIVE_LLONG
+MidTime_Solar : H5T_NATIVE_LLONG
+EndTime_Solar : H5T_NATIVE_LLONG
+Latitude_Solar : H5T_NATIVE_FLOAT
+Longitude_Solar : H5T_NATIVE_FLOAT
+MoonVector_Solar : H5T_NATIVE_FLOAT
+SunVector_Solar : H5T_NATIVE_FLOAT
+SCPosition_Solar : H5T_NATIVE_FLOAT
+SCVelocity_Solar : H5T_NATIVE_FLOAT
+SCAttitude_Solar : H5T_NATIVE_FLOAT
+StartTime_Dark : H5T_NATIVE_LLONG
+MidTime_Dark : H5T_NATIVE_LLONG
+EndTime_Dark : H5T_NATIVE_LLONG
+Latitude_Dark : H5T_NATIVE_FLOAT
+Longitude_Dark : H5T_NATIVE_FLOAT
+SCPosition_Dark : H5T_NATIVE_FLOAT
+SCVelocity_Dark : H5T_NATIVE_FLOAT
+SCAttitude_Dark : H5T_NATIVE_FLOAT
+StartTime_Lamp : H5T_NATIVE_LLONG
+MidTime_Lamp : H5T_NATIVE_LLONG
+EndTime_Lamp : H5T_NATIVE_LLONG
+Latitude_Lamp : H5T_NATIVE_FLOAT
+Longitude_Lamp : H5T_NATIVE_FLOAT
+SCPosition_Lamp : H5T_NATIVE_FLOAT
+SCVelocity_Lamp : H5T_NATIVE_FLOAT
+SCAttitude_Lamp : H5T_NATIVE_FLOAT
+NumberOfSolar : H5T_NATIVE_SHORT
+NumbrOfDark : H5T_NATIVE_SHORT
+NumberOfLamp : H5T_NATIVE_SHORT
+QF1_GEOSOLAR : H5T_NATIVE_UCHAR
+QF2_GEODARK : H5T_NATIVE_UCHAR
+QF3_GEOLAMP : H5T_NATIVE_UCHAR

Figure: 6.2.2.7-1 OMPS NP Calibration SDR Geolocation UML Diagram

6.2.2.8 OMPS NP Calibration SDR Geolocation Metadata Details

The HDF5 metadata elements associated with the OMPS NP Calibration SDR Geolocation are listed in the JPSS Algorithm Specification Volume II: Data Dictionary for the Common Algorithms (474-00448-02-01). There are no additional metadata elements or granule level quality flags for this geolocation.

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

6.3 OMPS NP Retained AUX

6.3.1 OMPS NP Lamp AUX

Data Mnemonic	NP_NU-LM0260-000
Description/ Purpose	The OMPS NP Lamp AUX table contains the raw counts for the LAMP frames (Raw Counts for all of the lamp frame exposures not the mapping). This file is used in the OMPS SDR algorithm. All requirements for OMPS Calibration products are allocated to GRAVITE, thus the information is maintained by GRAVITE.
File-Naming Construct	See the File-Naming Convention for Auxiliary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4. The Collection Short Name used in the filename is based on the Data Mnemonic to Interface Mapping table - refer to Appendix A of this document. The version for this table is set to a default "-" in the AUX filename.
File Size	Data Size: See Table 6.3.1.1-1, OMPS NP Lamp AUX Data Format for size
File Format Type	Binary
Production Frequency	As needed
Data Content and Data Format	For details see Table 6.3.1.1-1, OMPS NP Lamp AUX Data Format

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

6.3.1.1 OMPS NP Lamp AUX

Table: 6.3.1.1-1 OMPS NP Lamp AUX Data Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
no_lamp_frames	4	32-bit integer	4 - 88	unitless	Number of lamp observations
recid_lamp	352	32-bit integer	0 - MAX_VAL	unitless	Record identification number 1 Dimensional Array: np::MAX_COADDS_L Size of Dimension(s): 88
lseq_lamp	352	32-bit integer	0 - MAX_VAL	unitless	Logical sequence number 1 Dimensional Array: np::MAX_COADDS_L Size of Dimension(s): 88
iyear_lamp	352	32-bit integer	2000 - 2050	years	Year of observation 1 Dimensional Array: np::MAX_COADDS_L Size of Dimension(s): 88
iday_lamp	352	32-bit integer	1 - 366	days	Day of observation 1 Dimensional Array: Size of Dimension(s): 88
time_start_lamp	704	64-bit floating point	0 - MAX_VAL	second	Time start of observation 1 Dimensional Array: np::MAX_COADDS_L Size of Dimension(s): 88
time_end_lamp	704	64-bit floating point	0 - MAX_VAL	second	Time end of observation 1 Dimensional Array:

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
					np::MAX_COADDS_L Size of Dimension(s): 88
delta_time_lamp	704	64-bit floating point	0 - MAX_VAL	second	Integration time during observation 1 Dimensional Array: np::MAX_COADDS_L Size of Dimension(s): 88
qual_lamp	176	16-bit integer	MIN_VAL - MAX_VAL	unitless	Quality of processing 1 Dimensional Array: np::MAX_COADDS_L Size of Dimension(s): 88
istat_lamp	176	16-bit integer	MIN_VAL - MAX_VAL	unitless	Instrument/data record status 1 Dimensional Array: np::MAX_COADDS_L Size of Dimension(s): 88
analog_lamp	352	32-bit floating point	MIN_VAL - MAX_VAL	unitless	Instrument/data record status 1 Dimensional Array: np::MAX_COADDS_L Size of Dimension(s): 88
saa_lamp	352	32-bit floating point	0 - 100	percent	1 Dimensional Array: np::MAX_COADDS_L Size of Dimension(s): 88
lamp_data	49,969,920	32-bit floating point	0 - MAX_VAL	counts	Raw individual lamp image in Raw Counts 3 Dimensional Array: tc::MAX_COADDS_L x tc::MAX_NSPEC_CCD x tc::NO_SPAT_CCD

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
					Size of Dimension(s): 88 x 364 x 390
File Size	**49,974,500 Bytes**				

6.3.2 OMPS NP Wavelengths AUX Table

Data Mnemonic	NP_NU-LM0260-001
Description/ Purpose	The OMPS NP Wavelengths AUX table contains band center wavelengths of each macropixel for current day. This file is used in the OMPS SDR algorithm. All requirements for OMPS Calibration products are allocated to GRAVITE, thus the information is maintained by GRAVITE.
File-Naming Construct	See the File-Naming Convention for Auxiliary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4. The Collection Short Name used in the filename is based on the Data Mnemonic to Interface Mapping table - refer to Appendix A of this document. The version for this table is set to a default "-" in the AUX filename.
File Size	Data Size: See Table 6.3.2.1-1, OMPS NP Wavelengths Ground Table Data Format for size. This size includes output related fields only. Metadata attributes are not included. Additional size added by HDF5 packaging is also not included.
File Format Type	Binary
Production Frequency	As needed
Data Content and Data Format	The format of the OMPS NP Wavelengths AUX Table is identical to that of the OMPS NP Wavelengths Ground Table. For details see Table 6.3.2.1-1, OMPS NP Wavelengths Ground Table Data Format.

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

6.3.2.1 OMPS NP Wavelengths Ground Table Data Format

Table: 6.3.2.1-1 OMPS NP Wavelengths Ground Table Data Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
obs_year	290	16-bit Integer	2000 - 2050	years	2 Dimensional Array np::NP_CAL_DAYS x np::MAXCTPX Size of Dimension(s): 29 x 5
obs_day	290	16-bit Integer	1 - 366	days	2 Dimensional Array np::NP_CAL_DAYS x np::MAXCTPX Size of Dimension(s): 29 x 5
resolution	580	32-bit floating point	0 - MAX_VAL	nanometers	2 Dimensional Array np::NP_CAL_DAYS x np::MAXCTPX Size of Dimension(s): 29 x 5
spatial	290	16-bit Integer	1 - MAX_VAL	unitless	2 Dimensional Array np::NP_CAL_DAYS x np::MAXCTPX Size of Dimension(s): 29 x 5
intercept	1160	64-bit floating point	MIN_VAL - MAX_VAL	nanometers	2 Dimensional Array np::NP_CAL_DAYS x np::MAXCTPX Size of Dimension(s): 29 x 5
slope	1160	64-bit floating point	MIN_VAL - MAX_VAL	unitless	2 Dimensional Array np::NP_CAL_DAYS x np::MAXCTPX Size of Dimension(s): 29 x 5
straight	1160	64-bit floating point	>=0 Only valid if nmonitor > 0	unitless	2 Dimensional Array np::NP_CAL_DAYS x np::MAXCTPX

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
					Size of Dimension(s): 29 x 5
nmonitor	580	32-bit integer	0 - MAX_VAL	unitless	2 Dimensional Array np::NP_CAL_DAYS x np::MAXCTPX Size of Dimension(s): 29 x 5
year	290	16-bit Integer	2000 - 2050	years	2 Dimensional Array np::NP_CAL_DAYS x np::MAXCTPX Size of Dimension(s): 29 x 5
day	290	16-bit Integer	1 - 366	days	2 Dimensional Array np::NP_CAL_DAYS x np::MAXCTPX Size of Dimension(s): 29 x 5
wbands	422240	64-bit floating point	230 - 380	nanometers	3 Dimensional Array np::NP_CAL_DAYS x np::MAX_NSPEC_CCD x np::MAXCTPX Size of Dimension(s): 29 x 364 x 5
File Size	**428,330 Bytes**				

6.3.3 OMPS NP CF Earth AUX Table

Data Mnemonic	NP_NU-LM0260-002
Description/ Purpose	The OMPS NP CF Earth AUX table contains radiometric calibration factors for the Earth scene spatial cells. This file is used in the OMPS SDR algorithm. All requirements for OMPS Calibration products are allocated to GRAVITE, thus the information is maintained by GRAVITE.
File-Naming Construct	See the File-Naming Convention for Auxiliary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4. The Collection Short Name used in the filename is based on the Data Mnemonic to Interface Mapping table - refer to Appendix A of this document. The version for this table is set to a default "-" in the AUX filename.
File Size	Data Size: See Table 4.5.3.3.1-1, OMPS NP CF Earth Ground Table Data Format for size This size includes output related fields only. Metadata attributes are not included. Additional size added by HDF5 packaging is also not included.
File Format Type	Binary
Production Frequency	As needed
Data Content and Data Format	For details see Table 4.5.3.3.1-1, OMPS NP CF Earth Ground Table Data Format

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

6.3.3.1 OMPS NP CF Earth AUX Data Format

Table: 6.3.3.1-1 OMPS NP CF Earth Ground Table Data Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
obs_year	116	32-bit integer	2000 - 2050	years	Year 1 Dimensional Array np::NP_CAL_DAYS Size of Dimension(s): 29
obs_day	116	32-bit integer	1 - 366	days	Day 1 Dimensional Array np::NP_CAL_DAYS Size of Dimension(s): 29
old_nmonitor	116	32-bit integer	0 - MAX_VAL	unitless	1 Dimensional Array np::NP_CAL_DAYS Size of Dimension(s): 29
monitor_year	116	32-bit integer	2000 - 2050	years	1 Dimensional Array np::NP_CAL_DAYS Size of Dimension(s): 29
monitor_day	116	32-bit integer	1 - 366	days	1 Dimensional Array np::NP_CAL_DAYS Size of Dimension(s): 29
cfearth	211120	32-bit floating point	0 - MAX_VAL	unitless	3 Dimensional Array np::NP_CAL_DAYS x np:: MAX_NSPEC_CCD x np::MAXCTPX Size of Dimension(s): 29 x 364 x 5
File Size	**211,700 Bytes**				

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

6.3.4 OMPS NP Linearity AUX

Data Mnemonic	NP_NU-LM0260-003
Description/ Purpose	The OMPS NP Linearity AUX table contains the detector linearity functional fit corrections to solar and dark data. This file is used in the OMPS SDR algorithm. All requirements for OMPS Calibration products are allocated to GRAVITE, thus the information is maintained by GRAVITE.
File-Naming Construct	See the File-Naming Convention for Auxiliary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4. The Collection Short Name used in the filename is based on the Data Mnemonic to Interface Mapping table - refer to Appendix A of this document. The version for this table is set to a default "-" in the AUX filename.
File Size	Data Size: See Table 6.3.4.1-1, OMPS NP Linearity AUX Table Data Format for size This size includes output related fields only. Metadata attributes are not included. Additional size added by HDF5 packaging is also not included.
File Format Type	Binary
Production Frequency	As needed
Data Content and Data Format	For details see Table 6.3.4.1-1, OMPS NP Linearity AUX Table Data Format

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

6.3.4.1 OMPS NP Linearity AUX Table Data Format

Table: 6.3.4.1-1 OMPS NP Linearity AUX Table Data Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
iyear_lamp	600	32-bit integer	2000 - 2050		1 Dimensional Array NO_LAMP_IMAGES Size of Dimension(s): 150
iday_lamp	600	32-bit integer	1 - 366	days	1 Dimensional Array NO_LAMP_IMAGES Size of Dimension(s): 150
no_lamp_frames	4	32-bit integer	4 - 88	unitless	Number of lamp observations
tref	4	32-bit floating point	0 - MAX_VAL	seconds	Time length of reference frames
lamp_integration	600	32-bit floating point	0 - MAX_VAL	seconds	Lamp integration times - Tie points used in the calculation 1 Dimensional Array NO_LAMP_IMAGES Size of Dimension(s): 150
qup	16	64-bit floating point	0 - MAX_VAL	unitless	Tie points used in the calculation 1 Dimensional Array Size of Dimension(s): 2
nramp	4	32-bit integer	2 - 88	unitless	Number of ramp observations
nref	4	32-bit integer	2 - 88	unitless	Number of reference observations
	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	
lamp_uc_ramp	600	32-bit floating point	0 - MAX_VAL	counts	Uncorrected lamp averages used in

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
					calculations with upper tie point value 1 Dimensional Array: NO_LAMP_IMAGES Size of Dimension(s): 150
qideal	1200	64-bit floating point	0 - MAX_VAL	counts	Ideal linearized count levels 1 Dimensional Array: NO_LAMP_IMAGES Size of Dimension(s): 150
File Size	**3,640 Bytes**				

6.3.5 OMPS NP Linearity Proposed Upload AUX

Data Mnemonic	NP_NU-LM0260-004
Description/ Purpose	The OMPS NP Linearity Proposed Upload AUX Table contains the LUT linearity corrections to solar and dark data for upload. All requirements for OMPS Calibration products are allocated to GRAVITE, thus the information is maintained by GRAVITE.
File-Naming Construct	See the File-Naming Convention for Auxiliary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4. The Collection Short Name used in the filename is based on the Data Mnemonic to Interface Mapping table - refer to Appendix A of this document. The version for this table is set to a default "-" in the AUX filename.
File Size	Data Size: See Table 6.3.5.1-1, OMPS NP Linearity Proposed Upload AUX Data Format for size. This size includes output related fields only. Metadata attributes are not included. Additional size added by HDF5 packaging is also not included.
File Format Type	Binary
Production Frequency	As needed
Data Content and Data Format	Data Content and format is identical to the OMPS NP Linearity Table. For details see Table 6.3.5.1-1, OMPS NP Linearity Proposed Upload AUX Data Format

6.3.5.1 OMPS NP Linearity Proposed Upload AUX Data Format

Table: 6.3.5.1-1 OMPS NP Linearity Proposed Upload AUX Data Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
linearity_table	131072	32-bit floating point	>0 - 2^14	counts	2 Dimensional Array np::NUM_ELECTRONICS x np::LAMPLUTSIZE Size of Dimension(s): 2 x 16384
File Size	**131,072 Bytes**				

6.3.6 OMPS NP Flatfields Proposed Upload AUX

Data Mnemonic	NP_NU-LM0260-005
Description/ Purpose	The OMPS NP Flatfields Proposed Upload AUX table contains relative multiplication factors for each pixel used in binning for an Earth spatial cell for upload. All requirements for OMPS Calibration products are allocated to GRAVITE, thus the information is maintained by GRAVITE.

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Data Mnemonic	NP_NU-LM0260-005
File-Naming Construct	See the File-Naming Convention for Auxiliary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4. The Collection Short Name used in the filename is based on the Data Mnemonic to Interface Mapping table - refer to Appendix A of this document. The version for this table is set to a default "-" in the AUX filename.
File Size	Data Size: See Table 6.3.6.1-1, OMPS NP Flatfields Proposed Upload AUX Table Data Format for size. This size includes output related fields only. Metadata attributes are not included. Additional size added by HDF5 packaging is also not included.
File Format Type	Binary
Production Frequency	As needed
Data Content and Data Format	For details see Table 6.3.6.1-1, OMPS NP Flatfields Proposed Upload AUX Table Data Format

6.3.6.1 OMPS NP Flatfields Proposed Upload AUX Table Data Format

Table: 6.3.6.1-1 OMPS NP Flatfields Proposed Upload AUX Table Data Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
flat	567840	32-bit floating point	Variable, but 0.5 - 1.5 is usual		Local relative normalized pixel radiometric sensitivities 2 Dimensional Array np::MAX_NSPEC_CCD x np::NO_SPAT_CCD Size of Dimension(s): 364 x 390
File Size	**567,840 Bytes**				

6.3.7 OMPS NP Bad Pixels AUX

Data Mnemonic	NP_NU-LM0260-007
Description/ Purpose	The OMPS NP Bad Pixels AUX Table contains the bad pixel severity for each pixel on detector. All requirements for OMPS Calibration products are allocated to GRAVITE, thus the information is maintained by GRAVITE.
File-Naming Construct	See the File-Naming Convention for Auxiliary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4. The Collection Short Name used in the filename is based on the Data Mnemonic to Interface Mapping table - refer to Appendix A of this document. The version for this table is set to a default "-" in the AUX filename.

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Data Mnemonic	NP_NU-LM0260-007
File Size	Data Size: See Table 6.3.7.1-1, OMPS NP Bad Pixels Table Data Format for size. This size includes output related fields only. Metadata attributes are not included. Additional size added by HDF5 packaging is also not included.
File Format Type	Binary
Production Frequency	As needed
Data Content and Data Format	For details see Table 6.3.7.1-1, OMPS NP Bad Pixels Table Data Format

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

6.3.7.1 OMPS NP Bad Pixels Table Data Format

Table: 6.3.7.1-1 OMPS NP Bad Pixels Table Data Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
bad_pixels	567840	32-bit integer	1 = Good Pixel 0 = Bad Pixel	unitless	Array that indicates good/bad pixels 2 Dimensional Array MAX_NSPEC_CCD xNO_SPAT_CCD Size of Dimension(s): 364 x 370
dark_data	567840	32-bit floating point	MIN_VAL - MAX_VAL	counts	Dark current corrected coadded counts 2 Dimensional Array MAX_NSPEC_CCD xNO_SPAT_CCD Size of Dimension(s): 364 x 390
File Size	**1,135,680 Bytes**				

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

7 Look-up Tables and Processing Coefficient Tables

The template used for these formats in this document is described below.

Data Mnemonic: This is a unique identifier. JPSS CDFCB-X Vol. I, 474-00001-01 describes the data mnemonic definition methodology.

Description/Purpose: A brief description of the data format and its purpose.

Instrument: Identification of the Instrument associated with the table.

File-Naming Construct: A description of the file-naming constructs for those data units that apply. JPSS CDFCB-X Vol. I, 474-00001-01 defines file-naming conventions.

File Size: The size of the data file.

File Format Type: The format type of the data file.

Production Frequency: Production frequency is the interval of time for data generation. A production frequency equal to dynamic implies that it is only as requested or as needed.

Data Format/Structure: This defines the actual data format. The definitions provide information for every data element in the data unit.

The following rules apply to all tables:

1. All field names mandatory, unless specified otherwise.
2. Fill data is specified, where applicable.
3. Strings are left-aligned and integers are right-aligned, unless specified otherwise.
4. For information regarding Coordinated Universal Time (UTC) and IDPS Epoch Time (IET) conventions, see the JPSS CDFCB-X Vol. I, 474-00001-01.
5. For all references of the ASCII Standard, the corresponding International Standards Organization (ISO) standard is ISO/IEC 10646. The specific Unicode is UTF8, unless stated otherwise.
6. The fields are presented in order (either top - down or most significant first), unless stated otherwise.

7.1 Look-up Tables

Algorithm Look-up Table (LUT) files contain tables of pre-computed values used in lieu of real-time algorithm computations to reduce processing resource demands. Table values are typically the result of RTM executions and other environmental model simulations. These data generally cover broad, multi-dimensional parameter spaces which are unique to each algorithm.

7.1.1 OMPS Nadir Profile RDR/SDR LUTs

OMPS Nadir Profile RDR/SDR Data production currently uses no LUTs.

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

7.2 Processing Coefficient Tables

The S-NPP/JPSS-1 ground system data product generation subsystem uses Processing Coefficient Table (PCT) file parameters. PCT files can be either Automated or Manual coefficient tables. Within the Manual table type are two coefficient classes: Initial and Ephemeral. Sections below describe all three and any tables of that type for the product.

7.2.1 Automated Processing Coefficients

Automated Processing Coefficient (PC) files contain parameters updated and/or created during the processing of the S-NPP/JPSS Data Products by the processing algorithms. The processing environment subsequently uses these files without human review of their contents. Files can be used immediately after creation or in future processing such as the next granule in the production data stream processing.

7.2.1.1 OMPS NP Darks PC

Data Mnemonic	NP_NU-LM0240-100
Description/ Purpose	The OMPS NP Darks PC table contains averaged detector dark signal in linearity corrected counts This file is used in the OMPS SDR algorithm, except for Earth View. All requirements for OMPS Calibration products are allocated to GRAVITE, thus the information is maintained by GRAVITE.
File-Naming Construct	See the File-Naming Convention for Auxiliary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4. The Collection Short Name used in the filename is based on the table - see the JPSS CDFCB-X Vol. I, 474-00001-01, for the applicable Collection Short Names.
File Size	See Table 7.2.1.1-1, OMPS NP Darks PC Data Format for size
File Format Type	Binary (structure stored within HDF5)
Production Frequency	As needed
Data Content and Data Format	For details see Table 7.2.1.1-1, OMPS NP Darks PC Data Format

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Table: 7.2.1.1-1 OMPS NP Darks PC Data Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
orbit_number	20	32-bit integer	0 - MAX_VAL	unitless	Orbit Number 1 Dimensional Array np::NO_COADDS_D Size of Dimension(s): 5
profile_id	20	32-bit integer	0 - MAX_VAL	unitless	Profile ID 1 Dimensional Array np::NO_COADDS_D Size of Dimension(s): 5
iyear_dark	20	32-bit integer	2000 - 2050	years	1 Dimensional Array np::NO_COADDS_D Size of Dimension(s): 5
iday_dark	20	32-bit integer	1 - 366	Days	1 Dimensional Array np::NO_COADDS_D Size of Dimension(s): 5
time_start_dark	40	64-bit floating point	0 - MAX_VAL	seconds	1 Dimensional Array np::NO_COADDS_D Size of Dimension(s): 5
time_end_dark	40	64-bit floating point	0 - MAX_VAL	seconds	1 Dimensional Array np::NO_COADDS_D Size of Dimension(s): 5
expose_dark	8	64-bit floating point	0 - MAX_VAL	seconds	Average exposure time of dark current frames (expose_dark)
good_darks	4	32-bit integer	0 - MAX_VAL	unitless	Number of good dark frames that made up the average dark data
qual_dark	10	16-bit integer	-13 - MAX_VAL	unitless	1 Dimensional Array np::NO_COADDS_D

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
					Size of Dimension(s): 5
istat_dark	10	16-bit integer	MIN_VAL - MAX_VAL	unitless	1 Dimensional Array np::NO_COADDS_D Size of Dimension(s): 5
analog_dark	20	32-bit floating point	MIN_VAL - MAX_VAL	unitless	1 Dimensional Array np::NO_COADDS_D Size of Dimension(s): 5
saa_dark	20	32-bit floating point	0 - 100	percent	Spacecraft within South Atlantic Anomaly during dark calibration (extent in percent based on a Gaussian Distribution Model) 1 Dimensional Array np::NO_COADDS_D Size of Dimension(s): 5
dark_data	567840	32-bit floating point	0 - MAX_VAL	Counts	Average linearity corrected dark counts - 2 Dimensional Array np::MAX_NSPEC_CCD x np::NO_SPAT_CCD Size of Dimension(s): 364 x 390
File Size	**568,072 Bytes**				

7.2.1.2 OMPS NP SAA Darks PC

Data Mnemonic	NP_NU-LM0240-101
Description/ Purpose	The OMPS NP SAA Darks PC table contains detected average linearity corrected dark signal in counts during South Atlantic Anomaly This file is used in the OMPS SDR algorithm, except for Earth View. All requirements for OMPS Calibration products are allocated to GRAVITE, thus the information is maintained by GRAVITE.
File-Naming Construct	See the File-Naming Convention for Auxiliary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4. The Collection Short Name used in the filename is based on the table - see the JPSS CDFCB-X Vol. I, 474-00001-01, for the applicable Collection Short Names.
File Size	See Table 7.2.1.2-1, OMPS NP SAA Darks PC Data Format for size
File Format Type	Binary
Production Frequency	As needed
Data Content and Data Format	For details see Table 7.2.1.2-1, OMPS NP SAA Darks PC Data Format

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Table: 7.2.1.2-1 OMPS NP SAA Darks PC Data Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
orbit_numbersaa	20	32-bit integer	0 - MAX_VAL	unitless	Orbit Number 1 Dimensional Array np::NO_COADDS_D Size of Dimension(s): 5
profile_dsaa	20	32-bit integer	0 - MAX_VAL	unitless	Profile_ID 1 Dimensional Array np::NO_COADDS_D Size of Dimension(s): 5
iyear_darksaa	20	32-bit integer	2000 - 2050	years	1 Dimensional Array np::NO_COADDS_D Size of Dimension(s): 5
iday_darksaa	20	32-bit integer	1 - 366	days	1 Dimensional Array np::NO_COADDS_D Size of Dimension(s): 5
time_start_darksaa	40	64-bit floating point	0 - MAX_VAL	seconds	1 Dimensional Array np::NO_COADDS_D Size of Dimension(s): 5
time_end_darksaa	40	64-bit floating point	0 - MAX_VAL	seconds	1 Dimensional Array np::NO_COADDS_D Size of Dimension(s): 5
delta_time_darksaa	40	64-bit floating point	>=0 - MAX_VAL	seconds	1 Dimensional Array np::NO_COADDS_D Size of Dimension(s): 5
SAA_darksaa	20	32-bit floating point	0 - 100	percent	Spacecraft within South Atlantic Anomaly during dark calibration (on a Gaussian Distribution Model) 1 Dimensional Array:

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
					np::NO_COADDS_D Size of Dimension(s): 5
istat_darksaa	10	16-bit integer	MIN_VAL - MAX_VAL	unitless	1 Dimensional Array np::NO_COADDS_D Size of Dimension(s): 5
analog_darksaa	20	32-bit floating point	MIN_VAL - MAX_VAL	unitless	1 Dimensional Array np::NO_COADDS_D Size of Dimension(s): 5
darksaa_array	567840	32-bit floating point	0 - MAX_VAL	Counts	Average linearity corrected dark counts 2 Dimensional Array np::MAX_NSPEC_CCD x np::NO_SPAT_CCD Size of Dimension(s): 364 x 390
File Size	**568,090 Bytes**				

7.2.1.3 OMPS NP Bias PC

Data Mnemonic	NP_NU-LM0240-102
Description/ Purpose	The OMPS NP Bias PC table contains detector electronic offset in counts. This file is used in the OMPS SDR algorithm, except for Earth View. All requirements for OMPS Calibration products are allocated to GRAVITE, thus the information is maintained by GRAVITE.
File-Naming Construct	See the File-Naming Convention for Auxiliary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4. The Collection Short Name used in the filename is based on the table - see the JPSS CDFCB-X Vol. I, 474-00001-01, for the applicable Collection Short Names.
File Size	See Table 7.2.1.3-1, OMPS NP Bias PC Data Format for size
File Format Type	Binary (structure stored within HDF5)
Production Frequency	As needed
Data Content and Data Format	For details see Table 7.2.1.3-1, OMPS NP Bias PC Data Format

Table: 7.2.1.3-1 OMPS NP Bias PC Data Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
bias1	4	32-bit floating point	0 - 1.00E+05	counts	bias electronics 2_{nd} CCD
File Size	**4 Bytes**				

7.2.1.4 OMPS NP Flat Fields History PC

Data Mnemonic	NP_NU-LM0240-103
Description/ Purpose	The OMPS NP Flat Fields History PC table contains relative multiplication factors for each pixel used in binning for an Earth spatial cell. This file is used in the OMPS SDR algorithm. All requirements for OMPS Calibration products are allocated to GRAVITE, thus the information is maintained by GRAVITE.
File-Naming Construct	See the File-Naming Convention for Auxiliary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4. The Collection Short Name used in the filename is based on the table - see the JPSS CDFCB-X Vol. I, 474-00001-01, for the applicable Collection Short Names.
File Size	See Table 7.2.1.4-1, OMPS NP Flat Fields History PC Data Format for size
File Format Type	Binary (structure stored within HDF5)
Production Frequency	As needed

Data Mnemonic	NP_NU-LM0240-103
Data Content and Data Format	For details see Table 7.2.1.4-1, OMPS NP Flat Fields History PC Data Format

Table: 7.2.1.4-1 OMPS NP Flat Fields History PC Data Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
present_year	116	32-bit integer	2000 - 2050	years	1 Dimensional Array np::NP_CAL_DAYS Size of Dimension(s): 29
present_day	116	32-bit integer	1 - 366	days	1 Dimensional Array np::NP_CAL_DAYS Size of Dimension(s): 29
nmonitor	116	32-bit integer	1 - 20	unitless	1 Dimensional Array np::NP_CAL_DAYS Size of Dimension(s): 29
history_year	116	32-bit integer	2000 - 2050	years	1 Dimensional Array np::NP_CAL_DAYS Size of Dimension(s): 29
history_day	116	32-bit integer	1 - 366	days	1 Dimensional Array np::NP_CAL_DAYS Size of Dimension(s): 29
Flat	16467360	32-bit floating point	MIN_VAL - MAX_VAL	unitless	Local relative normalized radiometric sensitivities 3 Dimensional Array np::NP_CAL_DAYS x np::MAX_NSPEC_CCD x np::NO_SPAT_CCD Size of Dimension(s): 29 x 364 x 390
File Size	**16,467,940 Bytes**				

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

7.2.1.5 OMPS NP Wavmon PC

Data Mnemonic	NP_NU-LM0240-104
Description/ Purpose	The OMPS NP Wavmon PC table contains band center wavelength shifts relative to the baseline solar measurement This file is used in the OMPS SDR algorithm. All requirements for OMPS Calibration products are allocated to GRAVITE, thus the information is maintained by GRAVITE.
File-Naming Construct	See the File-Naming Convention for Auxiliary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4. The Collection Short Name used in the filename is based on the table - see the JPSS CDFCB-X Vol. I, 474-00001-01, for the applicable Collection Short Names.
File Size	See Table 7.2.1.5-1, OMPS NP Wavmon PC Data Format for size
File Format Type	Binary (structure stored within HDF5)
Production Frequency	As needed
Data Content and Data Format	For details see Table 7.2.1.5-1, OMPS NP Wavmon PC Data Format

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Table: 7.2.1.5-1 OMPS NP Wavmon PC Data Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
Wmin	4	32-bit floating point	240 - 320	nanometers	
Wmax	4	32-bit floating point	240 - 320	nanometers	
Nlines	2	16-bit Integer	1 - 10	unitless	
line_locates	20	16-bit Integer	1 - 145	unitless	1 Dimensional Array np::MAXLINES Size of Dimension(s): 10
Offset	2	16-bit Integer	1 - 3	pixels	
wlines	40	32-bit floating point	240 - 320	nanometers	1 Dimensional Array np::MAXLINES Size of Dimension(s): 30
iyear_solar	40	32-bit integer	2000 - 2050	years	1 Dimensional Array np::MAX_TREND_POINTS Size of Dimension(s): 10
iday_solar	40	32-bit integer	1 - 366	days	1 Dimensional Array np::MAX_TREND_POINTS Size of Dimension(s): 10
avg_solar_beta	40	32-bit floating point	-180 - 180	degrees	1 Dimensional Array np::MAX_TREND_POINTS Size of Dimension(s): 10
diffuser_surface_solar	20	16-bit Integer	1 - 2	unitless	1 Dimensional Array np::MAX_TREND_POINTS Size of Dimension(s): 10
no_solar_frames	40	32-bit integer	1 - 28	unitless	1 Dimensional Array np::MAX_TREND_POINTS

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
					Size of Dimension(s): 10
resolution	40	32-bit floating point	0 - MAX_VAL	nanometers	1 Dimensional Array np::MAX_TREND_POINTS Size of Dimension(s): 10
c_shifts	400	64-bit floating point	MIN_VAL - MAX_VAL	nanometers	2 Dimensional Array np::MAX_TREND_POINTS x np::MAXCTPX Size of Dimension(s): 10 x 5
c_scales	400	64-bit floating point	MIN_VAL - MAX_VAL	unitless	2 Dimensional Array np::MAX_TREND_POINTS x np::MAXCTPX Size of Dimension(s): 10 x 5
fitness	400	64-bit floating point	0 - MAX_VAL	unitless	2 Dimensional Array np::MAX_TREND_POINTS x np::MAXCTPX Size of Dimension(s): 10 x 5
l_shift	400	64-bit floating point	MIN_VAL - MAX_VAL	nanometers	2 Dimensional Array np::MAX_TREND_POINTS x np::MAXCTPX Size of Dimension(s): 10 x 5
L_shift_err	400	64-bit floating point	0 - MAX_VAL > 0	nanometers	2 Dimensional Array np::MAX_TREND_POINTS x np::MAXCTPX Size of Dimension(s): 10 x 5

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
l_add	400	64-bit floating point	MIN_VAL - MAX_VAL	nanometers	2 Dimensional Array np::MAX_TREND_POINTS x np::MAXCTPX Size of Dimension(s): 10 x 5
l_stretches	400	64-bit floating point	MIN_VAL - MAX_VAL	unitless	2 Dimensional Array np::MAX_TREND_POINTS x np::MAXCTPX Size of Dimension(s): 10 x 5
Linear	400	64-bit floating point	-1 - 1	unitless	2 Dimensional Array np::MAX_TREND_POINTS x np::MAXCTPX Size of Dimension(s): 10 x 5
Shift	2000	32-bit floating point	MIN_VAL - MAX_VAL	nanometers	3 Dimensional Array np::MAX_TREND_POINTS x np::MAXLINES x np::MAXCTPX Size of Dimension(s): 10 x 10 x 5
no_observations	4	32-bit integer	1 - MAX_VAL	unitless	
File Size	**5,496 Bytes**				

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

7.2.1.6 OMPS NP CF Solar PC

Data Mnemonic	NP_NU-LM0240-105
Description/ Purpose	The OMPS NP CF Solar PC table contains radiometric calibration factors for the solar illuminated pixels This file is used in the OMPS SDR algorithm. All requirements for OMPS Calibration products are allocated to GRAVITE, thus the information is maintained by GRAVITE.
File-Naming Construct	See the File-Naming Convention for Auxiliary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4. The Collection Short Name used in the filename is based on the table - see the JPSS CDFCB-X Vol. I, 474-00001-01, for the applicable Collection Short Names.
File Size	See Table 7.2.1.6-1, OMPS NP CF Solar PC Data Format for size
File Format Type	Binary (structure stored within HDF5)
Production Frequency	As needed
Data Content and Data Format	For details see Table 7.2.1.6-1, OMPS NP CF Solar PC Data Format

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Table: 7.2.1.6-1 OMPS NP CF Solar PC Data Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
obs_year	116	32-bit integer	2000 - 2050	years	1 Dimensional Array np::NP_CAL_DAYS Size of Dimension(s): 29
obs_day	116	32-bit integer	1 - 366	days	1 Dimensional Array np::NP_CAL_DAYS Size of Dimension(s): 29
old_nmonitor	116	32-bit integer	1 - 20	unitless	1 Dimensional Array np::NP_CAL_DAYS Size of Dimension(s): 29
monitor_year	116	32-bit integer	2000 - 2050	years	1 Dimensional Array np::NP_CAL_DAYS Size of Dimension(s): 29
monitor_day	116	32-bit integer	1 - 366	days	1 Dimensional Array np::NP_CAL_DAYS Size of Dimension(s): 29
extrap_cfsolar	14778400	32-bit floating point	0 - MAX_VAL	unitless	3 Dimensional Array np::NP_CAL_DAYS x np::MAX_NSPEC_CCD x np::NOSPACE Size of Dimension(s): 29 x 364 x 350
File Size	**14,778,980 Bytes**				

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

7.2.1.7 OMPS NP Flux PC

Data Mnemonic	NP_NU-LM0240-106
Description/ Purpose	The OMPS NP Flux PC table contains solar signal corrected for detector spectral shifts. This file is used in the OMPS SDR algorithm. All requirements for OMPS Calibration products are allocated to GRAVITE, thus the information is maintained by GRAVITE.
File-Naming Construct	See the File-Naming Convention for Auxiliary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4. The Collection Short Name used in the filename is based on the table - see the JPSS CDFCB-X Vol. I, 474-00001-01, for the applicable Collection Short Names.
File Size	See Table 7.2.1.7-1, OMPS NP Flux PC Data Format for size
File Format Type	Binary (structure stored within HDF5)
Production Frequency	As needed
Data Content and Data Format	For details see Table 7.2.1.7-1, OMPS NP Flux PC Data Format

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Table: 7.2.1.7-1 OMPS NP Flux PC Data Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
rsf_iyear	4	32-bit integer	2000 - 2050	years	Reference solar flux observation year
rsf_iday	4	32-bit integer	1 - 366	days	Reference solar flux observation day
rsf_solar_beta	4	32-bit floating point	-180 - 180	degrees	Angle between orbital plane and sun vector
rsf_diffuser_surface	2	16-bit Integer	1 - 2	unitless	Diffuser surface number
rsf_number_coadds	4	32-bit integer	1 - 28	unitless	Number of solar observations constituting reference flux
rsf_avg_scan_time	8	64-bit floating point	0 - MAX_VAL	second	Average exposure time of reference solar flux observations
rsf_expose	8	64-bit floating point	0 - MAX_VAL	second	Total exposure time of reference solar flux
rsf_data	567840	32-bit floating point	MIN_VAL - MAX_VAL	W/cm/sterad	2 Dimensional Array np::MAX_NSPEC_CCD x np::NO_SPAT_CCD Size of Dimension(s): 364 x 390
rsf_counts	567840	32-bit floating point	MIN_VAL - MAX_VAL	Counts	2 Dimensional Array np::MAX_NSPEC_CCD x np::NO_SPAT_CCD Size of Dimension(s): 364 x 390
no_observations	4	32-bit integer	1 - MAX_VAL	unitless	
iyear_solar	40	32-bit integer	2000 - 2050	years	1 Dimensional Array

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
					np::MAX_TREND_POINTS x Size of Dimension(s): 10
iday_solar	40	32-bit integer	1 - 366	days	1 Dimensional Array np::MAX_TREND_POINTS x Size of Dimension(s): 10
avg_solar_beta	40	32-bit floating point	-180 - 180	degrees	1 Dimensional Array np::MAX_TREND_POINTS x Size of Dimension(s): 10
diffuser_surface_num	40	32-bit integer	1	unitless	1 Dimensional Array np::MAX_TREND_POINTS x Size of Dimension(s): 10
no_work_frames	40	32-bit integer	0 - MAX_VAL	unitless	1 Dimensional Array np::MAX_TREND_POINTS x Size of Dimension(s): 10
avg_sol_scan_time	80	64-bit floating point	0 - MAX_VAL	seconds	1 Dimensional Array np::MAX_TREND_POINTS x Size of Dimension(s): 10
total_sol_expose	80	64-bit floating point	0 - MAX_VAL	seconds	1 Dimensional Array np::MAX_TREND_POINTS x Size of Dimension(s): 10
shift_flux	5678400	32-bit floating point	MIN_VAL - MAX_VAL	unitless	3 Dimensional Array np::MAX_TREND_POINTS x

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
					np::MAX_NSPEC_CCD x np::NO_SPAT_CCD Size of Dimension(s): 10 x 364 x 390
File Size	**6,814,478 Bytes**				

7.2.1.8 OMPS NP Raw Flux PC

Data Mnemonic	NP_NU-LM0240-107
Description/ Purpose	The OMPS NP Raw Flux PC table contains solar signals corrected for detector and normalized by the baseline solar signals This file is used in the OMPS SDR algorithm. All requirements for OMPS Calibration products are allocated to GRAVITE, thus the information is maintained by GRAVITE.
File-Naming Construct	See the File-Naming Convention for Auxiliary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4. The Collection Short Name used in the filename is based on the table - see the JPSS CDFCB-X Vol. I, 474-00001-01, for the applicable Collection Short Names.
File Size	See Table7.2.1.8-1, OMPS NP Raw Flux PC Data Format for size
File Format Type	Binary (structure stored within HDF5)
Production Frequency	As needed
Data Content and Data Format	For details see Table7.2.1.8-1, OMPS NP Raw Flux PC Data Format

Table: 7.2.1.8-1 OMPS NP Raw Flux PC Data Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
rsf_iyear	4	32-bit integer	2000 - 2050	years	
rsf_iday	4	32-bit integer	1 - 366	days	
rsf_solar_beta	4	32-bit floating point	-180 - 180	degrees	
rsf_diffuser_surface	2	16-bit Integer	1 - 2	unitless	
rsf_number_coadds	4	32-bit integer	1 - 28	unitless	
spat_dim	4	32-bit integer	0 - MAX_VAL	pixels	
spec_dim	4	32-bit integer	0 - MAX_VAL	pixels	
rsf_avg_scan_time	8	64-bit floating point	0 - MAX_VAL	second	
rsf_expose	8	64-bit floating point	0 - MAX_VAL	second	
rsf_data	567840	32-bit floating point	0 - 1800	W/cm^3	2 Dimensional Array np::MAX_NSPEC_CCD x np::NO_SPAT_CCD Size of Dimension(s): 364 x 390
rsf_counts	567840	32-bit floating point	MIN_VAL - MAX_VAL	Counts	2 Dimensional Array np::MAX_NSPEC_CCD x np::NO_SPAT_CCD Size of Dimension(s): 364 x 390
iyear_solar	40	32-bit integer	2000 - 2050	years	1 Dimensional Array np::MAX_TREND_POINTS Size of Dimension(s): 10
iday_solar	40	32-bit integer	1 - 366	days	1 Dimensional Array np::MAX_TREND_POINTS Size of Dimension(s): 10
avg_solar_beta	4	32-bit floating point	-180 - 180	degrees	
diffuser_surface_num	4	32-bit integer	1	unitless	
no_work_frames	4	32-bit integer	0 - MAX_VAL	unitless	
avg_sol_scan_time	8	64-bit floating point	0 - MAX_VAL	second	

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
total_sol_expose	8	64-bit floating point	0 - MAX_VAL	second	
rawflx_data	567840	32-bit floating point	MIN_VAL - MAX_VAL	unitless	2 Dimensional Array np::MAX_NSPEC_CCD x np::NO_SPAT_CCD Size of Dimension(s): 364 x 390
File Size	**1,703,670 Bytes**				

7.2.1.9 OMPS NP Straylight PC

Data Mnemonic	**NP_NU-LM0240-137**
Description/ Purpose	The OMPS Nadir Profiler Straylight LUT are stray light coefficients used in corrections by the OMPS NP Earthview SDR algorithm
File-Naming Construct	See the File Naming Convention for Auxiliary Data Formats, JPSS CDFCB -X- Vol. l, 474-00001-01, Section 3.4. The Collection Short Name used in the filename is based on the tables - See the JPSS CDFCB X Vol. l for the applicable Collection Short Names.
File Size	See Table 7.2.1.9-1 OMPS Nadir Profiler Straylight PC Data Format for size
File Format Type	Little Endian Binary
Production Frequency	As needed
Data Content and Data Format	For details see Table 7.2.1.9-1 OMPS Nadir Profiler Straylight PC Data Format

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Table: 7.2.1.9-1 OMPS NP Straylight PC

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
nblock	4	32-bit integer	1-200	unitless	Number of regions
nfov	4	32-bit integer	1-5	unitless	Number of spatial macropixels
nchan	4	32-bit integer	1-200	unitless	Number of spectral channels
indx_blck	112	32-bit integer	1-200	unitless	Spectral block boundaries: nchan is divided into nblock regions 2 Dimensional Array: 2 x np::SLC_NBLOCK Size of Dimension(s): 2 x 14
indx_oor	16	32-bit integer	1-200	unitless	Gives the super channels used in the OOR calculation 1 Dimensional Array: 4 Size of Dimension(s): 4
c300	4	32-bit floating point	0-200	unitless	
C290	4	32-bit floating point	0-200	unitless	
c_power	4	32-bit floating point	0-200	unitless	
sl_cor_oor	4000	32-bit floating point	MIN_VAL - MAX_VAL	unitless	2 Dimensional Array: np::MAX_SPEC_ALLOCATION x np::MAXCTPX Size of Dimension(s): 200 x 5
sl_cor_coef	280000	32-bit floating point	MIN_VAL - MAX_VAL	unitless	4 Dimensional Array: np::SLC_NBLOCK x np::MAXCTPX x np::no_spec_pix x np::MAXCTPX Size of Dimension(s): 14 x 5 x 200 x 5
File Size	**284,152 Bytes**				

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

7.2.2 Manual Processing Coefficients

Manual Processing Coefficient (PC) files contain parameters used for S-NPP/JPSS Data Product generation which require human review prior to operational processing environment insertion. Manual Processing Coefficients have two classes:

- Initialization PCTs contain infrequently updated initial parameters sets S-NPP/JPSS uses for data product generation.
- Ephemeral PCTs contain frequently updated parameters sets S-NPP/JPSS uses for data product generation.

7.2.2.1 OMPS Nadir Profile RDR/SDR Initialization PCTs

7.2.2.1.1 OMPS NP Calibration Constant PC

Data Mnemonic	NP_NU-LM0240-108
Description/ Purpose	The OMPS NP Calibration Constant PC contains radiance calibration constant (from pre-launch calibration). This file is used in the OMPS NP SDR algorithm.
File-Naming Construct	See the File-Naming Convention for Auxiliary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4. The Collection Short Name used in the filename is based on the table - see the JPSS CDFCB-X Vol. I, 474-00001-01, for the applicable Collection Short Names.
File Size	See Table 7.2.2.1.1-1, OMPS NP Calibration Constant PC Data Format for size
File Format Type	Little Endian Binary
Production Frequency	As needed
Data Content and Data Format	For details see Table 7.2.2.1.1-1, OMPS NP Calibration Constant PC Data Format

Table: 7.2.2.1.1-1 OMPS NP Calibration Constant PC Data Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
radevresp	1135680	32-bit floating point	2.89661 - 3299.13	counts/W/cm^3/sterad	3 Dimensional Array np::NUM_ELECTRONICS x np::MAX_NSPEC_CCD x np::NO_SPAT_CCD Size of Dimension(s): 2 x 364 x 390
File Size	**1,135,680 Bytes**				

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

7.2.2.1.2 OMPS NP Field Angles Map PC

Data Mnemonic	NP_NU-LM0240-109
Description/ Purpose	The OMPS NP Field Angles Map PC contains the detector map of pixel optical angles This file is used in the OMPS NP SDR algorithm.
File-Naming Construct	See the File-Naming Convention for Auxiliary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4. The Collection Short Name used in the filename is based on the table - see the JPSS CDFCB-X Vol. I, 474-00001-01, for the applicable Collection Short Names.
File Size	See Table 7.2.2.1.2-1, OMPS NP Field Angles Map PC Data Format for size
File Format Type	Little Endian Binary
Production Frequency	As needed
Data Content and Data Format	For details see Table 7.2.2.1.2-1, OMPS NP Field Angles Map PC Data Format

Table: 7.2.2.1.2-1 OMPS NP Field Angles Map PC Data Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
angles	6240	64-bit floating point	-1 - 8.6044729E	radians	Note: OPTICAL_ANGLE_TYPE refers to the azimuth angle (0) and elevation angle (1) 2 Dimensional Array: np::NO_SPAT_CCD x np::OPTICAL_ANGLE_TYPE Size of Dimension(s): 390 x 2
File Size	**6,240 Bytes**				

7.2.2.1.3 OMPS NP Observed Solar PC

Data Mnemonic	NP_NU-LM0240-110
Description/ Purpose	The OMPS NP Observed Solar PC contains observed reference solar irradiances. This file is used in the OMPS NP SDR algorithm.
File-Naming Construct	See the File-Naming Convention for Auxiliary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4. The Collection Short Name used in the filename is based on the table - see the JPSS CDFCB-X Vol. I, 474-00001-01, for the applicable Collection Short Names.

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Data Mnemonic	NP_NU-LM0240-110
File Size	See Table 7.2.2.1.3-1, OMPS NP Observed Solar PC Data Format for size
File Format Type	Little Endian Binary
Production Frequency	As needed
Data Content and Data Format	For details see Table 7.2.2.1.3-1, OMPS NP Observed Solar PC Data Format

Table: 7.2.2.1.3-1 OMPS NP Observed Solar PC Data Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
osol_data	567840	32-bit floating point	0 - ~656	W/cm^3/sterad	2 Dimensional Array np::MAX_NSPEC_CCD x np::NO_SPAT_CCD Size of Dimension(s): 364 x 390
osol_count	567840	32-bit floating point	9520.00 - 485757.0	counts	2 Dimensional Array np::MAX_NSPEC_CCD x np::NO_SPAT_CCD Size of Dimension(s): 364 x 390
File Size	**1,135,680 Bytes**				

7.2.2.1.4 OMPS NP Predicted Solar PC

Data Mnemonic	NP_NU-LM0240-111
Description/ Purpose	The OMPS NP Predicted Solar PC contains solar irradiances and solar wavelengths predicted from spectral functions. This file is used in the OMPS NP SDR algorithm.
File-Naming Construct	See the File-Naming Convention for Auxiliary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4. The Collection Short Name used in the filename is based on the table - see the JPSS CDFCB-X Vol. I, 474-00001-01, for the applicable Collection Short Names.
File Size	See Table 7.2.2.1.4-1, OMPS NP Predicted Solar PC Data Format for size
File Format Type	Little Endian Binary
Production Frequency	As needed
Data Content and Data Format	For details see Table 7.2.2.1.4-1, OMPS NP Predicted Solar PC Data Format

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Table: 7.2.2.1.4-1 OMPS NP Predicted Solar PC Data Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
womps	32000	64-bit floating point	~249 - ~315	nanometers	1 Dimensional Array np::MAXPTS_SPEC Size of Dimension(s): 4000
fomps	32000	64-bit floating point	0 - ~800	W/cm^3/sterad	1 Dimensional Array np::MAXPTS_SPEC Size of Dimension(s): 4000
File Size	**64,000 Bytes**				

7.2.2.1.5 OMPS NP Solar Irradiance PC

Data Mnemonic	NP_NU-LM0240-112
Description/ Purpose	The OMPS NP Solar Irradiance PC contains solar wavelengths and irradiances of calibration standard. This file is used in the OMPS NP SDR algorithm. All requirements for OMPS Calibration products are allocated to GRAVITE, thus the information is maintained by GRAVITE.
File-Naming Construct	See the File-Naming Convention for Auxiliary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4. The Collection Short Name used in the filename is based on the table - see the JPSS CDFCB-X Vol. I, 474-00001-01, for the applicable Collection Short Names.
File Size	See Table 7.2.2.1.5-1, OMPS NP Solar Irradiance PC Data Format for size
File Format Type	Binary
Production Frequency	As needed
Data Content and Data Format	For details see Table 7.2.2.1.5-1, OMPS NP Solar Irradiance PC Data Format

Table: 7.2.2.1.5-1 OMPS NP Solar Irradiance PC Data Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
wsun	32000	64-bit floating point	~250 - ~314	nanometers	1 Dimensional Array np::SOL_NP_COUNT Size of Dimension(s): 4000

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
fsun	32000	64-bit floating point	0 - ~750	W/cm^3/sterad	1 Dimensional Array np::SOL_NP_COUNT Size of Dimension(s): 4000
File Size	**64,000 Bytes**				

7.2.2.1.6 OMPS NP Spectral Response Function Table

Data Mnemonic	NP_NU-LM0240-113
Description/ Purpose	The OMPS NP Spectral Response function Table contains Spectral Response Functions. This file is used in the OMPS NP SDR algorithm.
File-Naming Construct	See the File-Naming Convention for Auxiliary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4. The Collection Short Name used in the filename is based on the table - see the JPSS CDFCB-X Vol. I, 474-00001-01, for the applicable Collection Short Names.
File Size	See Table 7.2.2.1.6-1, OMPS NP Spectral Response Function Table Data Format for size
File Format Type	Little Endian Binary
Production Frequency	As needed
Data Content and Data Format	For details see Table 7.2.2.1.6-1, OMPS NP Spectral Response Function Table Data Format

Table: 7.2.2.1.6-1 OMPS NP Spectral Response Function PC Data Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
offsetw	2008	64-bit floating point	-1.5 - 1.5	nanometers	1 Dimensional Array: NSAMP Size of Dimension(s): 251
wavefunc	2008	64-bit floating point	0 - 1	unitless	1 Dimensional Array NSAMP Size of Dimension(s): 251
File Size	**4,016 Bytes**				

7.2.2.1.7 OMPS NP Wave Fitting Parameters Table

Data Mnemonic	NP_NU-LM0240-114
Description/ Purpose	The OMPS NP Wave Fitting Parameters Table contains the Wavelength fitting parameters This file is used in the OMPS NP SDR algorithm. All requirements for OMPS Calibration products are allocated to GRAVITE, thus the information is maintained by GRAVITE.
File-Naming Construct	See the File-Naming Convention for Auxiliary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4. The Collection Short Name used in the filename is based on the table - see the JPSS CDFCB-X Vol. I, 474-00001-01, for the applicable Collection Short Names.
File Size	See Table 7.2.2.1.7-1, OMPS NP Wave Fitting Parameters Table Data Format for size
File Format Type	Binary
Production Frequency	As needed
Data Content and Data Format	For details see Table 7.2.2.1.7-1, OMPS NP Wave Fitting Parameters Table Data Format

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Table: 7.2.2.1.7-1 OMPS NP Wave Fitting Parameters PC Data Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
Iterate	4	32-bit integer	0 - MAX_VAL	unitless	
write_fit	4	32-bit integer	0 - MAX_VAL	unitless	
Weight	4	32-bit integer	0 - MAX_VAL	unitless	
Mirror	4	32-bit integer	0 - MAX_VAL	unitless	
autodiff	4	32-bit integer	0 - MAX_VAL	unitless	
Wavlo	8	64-bit floating point	255.83 - 308.58	nanometers	
Wavhi	8	64-bit floating point	255.83 - 308.58	nanometers	
Delchi	8	64-bit floating point	1.00E-12	unitless	
Provar	8	64-bit floating point	1.00E-12	unitless	
Var	512	64-bit floating point	1.00E-12	unitless	1 Dimensional Array np::MMAX Size of Dimension(s): 64
if_varied	256	32-bit integer	0 - MAX_VAL	unitless	1 Dimensional Array np::MMAX Size of Dimension(s): 64
Diff	512	64-bit floating point	0 - MAX_VAL	unitless	1 Dimensional Array np::MMAX Size of Dimension(s): 64
lock	256	32-bit integer	0	unitless	1 Dimensional Array np::MMAX Size of Dimension(s): 64
block	512	64-bit floating point	0	unitless	1 Dimensional Array np::MMAX Size of Dimension(s): 64
alock	512	64-bit floating point	0	unitless	1 Dimensional Array np::MMAX Size of Dimension(s): 64
File Size	**2,612 Bytes**				

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

7.2.2.1.8 OMPS NP Solar Irradiance Calibration Constants Table

Data Mnemonic	NP_NU-LM0240-115
Description/ Purpose	The OMPS NP Solar Irradiance Calibration Constants Table contains the solar irradiance calibration constants. This file is used in the OMPS NP SDR algorithm. All requirements for OMPS Calibration products are allocated to GRAVITE, thus the information is maintained by GRAVITE.
File-Naming Construct	See the File-Naming Convention for Auxiliary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4. The Collection Short Name used in the filename is based on the table - see the JPSS CDFCB-X Vol. I, 474-00001-01, for the applicable Collection Short Names.
File Size	See Table 7.2.2.1.8-1, OMPS NP Solar Irradiance Calibration Constants Table Data Format for size
File Format Type	Binary
Production Frequency	As needed
Data Content and Data Format	For details see Table 7.2.2.1.8-1, OMPS NP Solar Irradiance Calibration Constants Table Data Format

Table: 7.2.2.1.8-1 OMPS NP Solar Irradiance Calibration Constants Table Data Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
iradsolresp	1135680	32-bit floating point	~2 - ~1110	counts/(W/cm ^3/sterad)	3 Dimensional Array np::NUM_ELECTRONICS x np::MAX_NSPEC_CCD x np::NO_SPAT_CCD Size of Dimension(s): 2 x 364 x 390
File Size	**1,135,680 Bytes**				

7.2.2.1.9 OMPS NP BRDF GRIDS Table

Data Mnemonic	NP_NU-LM0240-116
Description/ Purpose	The OMPS NP BRDF GRIDS Table contains Sensor diffuser irradiance goniometry characteristics. This file is used in the OMPS NP SDR algorithm. All requirements for OMPS Calibration products are allocated to GRAVITE, thus the information is maintained by GRAVITE.
File-Naming Construct	See the File-Naming Convention for Auxiliary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4.

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Data Mnemonic	NP_NU-LM0240-116
	The Collection Short Name used in the filename is based on the table - see the JPSS CDFCB-X Vol. I, 474-00001-01, for the applicable Collection Short Names.
File Size	see Table 7.2.2.1.9-1, OMPS NP BRDF GRIDS Table Data Format for size
File Format Type	Binary
Production Frequency	As needed
Data Content and Data Format	For details see Table 7.2.2.1.9-1, OMPS NP BRDF GRIDS Table Data Format

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Table: 7.2.2.1.9-1 OMPS NP BRDF GRIDS Table Data Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
BRDF_grid	297600000	32-bit floating point	MIN_VAL - MAX_VAL	unitless	5 Dimensional Array np::NO_BRDF x np::NO_SPEC_PIX x np::NO_SOL_PIX x np::GRID_SIZE x np::GRID_SIZE Size of Dimension(s): 2 x 150 x 155 x 40 x 40
minAzim	8	32-bit floating point	MIN_VAL - MAX_VAL	degrees	1 Dimensional Array np::NO_BRDF Size of Dimension(s): 2
maxAzim	8	32-bit floating point	MIN_VAL - MAX_VAL	degrees	1 Dimensional Array np::NO_BRDF Size of Dimension(s): 2
minElev	8	32-bit floating point	MIN_VAL - MAX_VAL	degrees	1 Dimensional Array np::NO_BRDF Size of Dimension(s): 2
maxElev	8	32-bit floating point	MIN_VAL - MAX_VAL	degrees	1 Dimensional Array np::NO_BRDF Size of Dimension(s): 2
gspat_offset	8	32-bit integer	MIN_VAL - MAX_VAL	unitless	1 Dimensional Array np::NO_BRDF Size of Dimension(s): 2
gspec_offset	8	32-bit integer	MIN_VAL - MAX_VAL	unitless	1 Dimensional Array np::NO_BRDF Size of Dimension(s): 2
gspat_size	8	32-bit integer	MIN_VAL - MAX_VAL	unitless	1 Dimensional Array np::NO_BRDF Size of Dimension(s): 2
gspec_size	8	32-bit integer	MIN_VAL - MAX_VAL	unitless	1 Dimensional Array np::NO_BRDF Size of Dimension(s): 2
gazim_size	8	32-bit integer	MIN_VAL - MAX_VAL	unitless	1 Dimensional Array np::NO_BRDF Size of Dimension(s): 2

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
gelev_size	8	32-bit integer	MIN_VAL - MAX_VAL	unitless	1 Dimensional Array np::NO_BRDF Size of Dimension(s): 2
File Size	**297,600,080 Bytes**				

7.2.2.1.10 OMPS NP Line Shifts Table

Data Mnemonic	NP_NU-LM0240-117
Description/ Purpose	The OMPS NP Line Shifts Table contains band center spectral shift information for calibration/wavelength registration. This file is used in the OMPS NP SDR algorithm. All requirements for OMPS Calibration products are allocated to GRAVITE, thus the information is maintained by GRAVITE.
File-Naming Construct	See the File-Naming Convention for Auxiliary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4. The Collection Short Name used in the filename is based on the table - see the JPSS CDFCB-X Vol. I, 474-00001-01, for the applicable Collection Short Names.
File Size	See Table 7.2.2.1.10-1, OMPS NP Line Shifts Table Data Format for size
File Format Type	Binary
Production Frequency	As needed
Data Content and Data Format	For details see Table 7.2.2.1.10-1, OMPS NP Line Shifts Table Data Format

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Table: 7.2.2.1.10-1 OMPS NP Line Shifts Table Data Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
nlines	2	16-bit Integer	10	unitless	
indexes	20	16-bit Integer	37 - 136	Pixels	1 Dimensional Array np::MAXLINES Size of Dimension(s): 10
offset	2	16-bit Integer	1	Pixels	
nshift	2	16-bit Integer	169	unitless	
wlines	80	64-bit floating point	265.0 - 306.2	nanometers	1 Dimensional Array np::MAXLINES Size of Dimension(s): 10
refshifts	13520	64-bit floating point	MIN_VAL - MAX_VAL	nanometers	2 Dimensional Array np::MAXLINES x np::MAXSHIFTS Size of Dimension(s): 10 x 169
irraddiff	13520	64-bit floating point	MIN_VAL - MAX_VAL	unitless	2 Dimensional Array np::MAXLINES x np::MAXSHIFTS Size of Dimension(s): 10 x 169
wref_l	2912	64-bit floating point	250 - 310	nanometers	1 Dimensional Array np::MAX_NSPEC_CCD Size of Dimension(s): 364
File Size	**30,058 Bytes**				

7.2.2.1.11 OMPS NP Spectral Registration Pixel Map Table

Data Mnemonic	NP_NU-LM0240-118
Description/ Purpose	The OMPS NP Spectral Registration Pixel Map Table contains the wavelength mapping of the CCD for spatial and spectral dimensions. This file is used in the OMPS NP SDR algorithm.
File-Naming Construct	See the File-Naming Convention for Auxiliary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4. The Collection Short Name used in the filename is based on the table - see the JPSS CDFCB-X Vol. I, 474-00001-01, for the applicable Collection Short Names.
File Size	See Table 7.2.2.1.11-1, OMPS NP Spectral Registration Pixel Map Table Data Format for size
File Format Type	Little Endian Binary
Production Frequency	As needed
Data Content and Data Format	For details see Table 7.2.2.1.11-1, OMPS NP Spectral Registration Pixel Map Table Data Format

Table: 7.2.2.1.11-1 OMPS NP Spectral Registration Pixel Map Table Data Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
wmap	1135680	64-bit floating point	240 - 320	nanometers	2 Dimensional Array np::MAX_NSPEC_CCD x np::NO_SPAT_CCD Size of Dimension(s): 364 x 390
File Size	**1,135,680 Bytes**				

7.2.2.1.12 OMPS NP Timing Pattern Ground Table

Data Mnemonic	NP_NU-LM0240-119
Description/ Purpose	The OMPS NP Timing Pattern Ground Table contains integration times and offsets for Earth View, Solar, LED and Dark. This file is used in the OMPS NP SDR algorithm.
File-Naming Construct	See the File-Naming Convention for Auxiliary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4. The following version information will be appended to the Provenance Version in the Version Number field of the File-Naming Convention for OMPS Automatic PCs: Vxxx-yyy Where xxx and-yyy are the major and minor version numbers of the table. The Collection Short Name used in the filename is based on the table - see the JPSS CDFCB-X Vol. I, 474-00001-01, for the applicable Collection Short Names.

Data Mnemonic	NP_NU-LM0240-119
File Size	See Table 7.2.2.1.12-1, OMPS NP Timing Pattern Ground Table Data Format for size
File Format Type	Little Endian Binary
Production Frequency	As needed
Data Content and Data Format	For details see Table 7.2.2.1.12-1, OMPS NP Timing Pattern Ground Table Data Format

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Table: 7.2.2.1.12-1 OMPS NP Timing Pattern Ground Table Data Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
TPev_num	4	32-bit integer	1 - np::NO_SCANS_PER_GRANULE	unitless	
TPsol_num	4	32-bit integer	1 - np::NO_SOLAR_IMAGES	unitless	
TPdark_num	4	32-bit integer	1 - np::NO_DARK_IMAGES	unitless	
TPled_num	4	32-bit integer	1 - np::NO_LAMP_IMAGES	unitless	
TPev_conum	4	32-bit integer	1 - np::NO_COADDS_E	unitless	
TPsol_conum	4	32-bit integer	1 - np::NO_COADDS_S	unitless	
TPdark_conum	4	32-bit integer	1 - np::NO_COADDS_D	unitless	
TPled_conum	4	32-bit integer	1 - np::NO_COADDS_L	unitless	
TPev_time	40	64-bit floating point	1 - MAX_VAL	seconds	1 Dimensional Array np::NO_SCANS_PER_GRANULE Size of Dimension(s): 5
TPsol_time	216	64-bit floating point	MIN_VAL - MAX_VAL	seconds	1 Dimensional Array np::NO_SOLAR_IMAGES Size of Dimension(s): 27
TPdark_time	40	64-bit floating point	1 - MAX_VAL	seconds	1 Dimensional Array np::NO_DARK_IMAGES Size of Dimension(s): 5

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
TPled_time	1200	64-bit floating point	0.1 - MAX_VAL	seconds	1 Dimensional Array np::NO_LAMP_IMAGES Size of Dimension(s): 150
ev_time_offset	8	64-bit integer	MIN_VAL - MAX_VAL	microseconds	
sol_time_offset	8	64-bit integer	MIN_VAL - MAX_VAL	microseconds	
dark_time_offset	8	64-bit integer	MIN_VAL - MAX_VAL	microseconds	
led_time_offset	1200	64-bit integer	MIN_VAL - MAX_VAL	microseconds	1 Dimensional Array: NO_LAMP_IMAGES Size of Dimension(s): 150
File Size	**2,752 Bytes**				

7.2.2.1.13 OMPS NP Linearity Ground Table

Data Mnemonic	NP_NU-LM0240-120
Description/ Purpose	The OMPS NP Linearity Ground Table contains linearity coefficients for primary and redundant electronics. This file is used in the OMPS NP SDR algorithm.
File-Naming Construct	See the File-Naming Convention for Auxiliary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4. The following version information will be appended to the Provenance Version in the Version Number field of the File-Naming Convention for OMPS Automatic PCs: Vxxx-yyy Where xxx and-yyy are the major and minor version numbers of the table The Collection Short Name used in the filename is based on the table - see the JPSS CDFCB-X Vol. I, 474-00001-01, for the applicable Collection Short Names.
File Size	See Table 7.2.2.1.13-1, OMPS NP Linearity Ground Table Data Format for size
File Format Type	Little Endian Binary
Production Frequency	As needed
Data Content and Data Format	For details see Table 7.2.2.1.13-1, OMPS NP Linearity Ground Table Data Format

Table: 7.2.2.1.13-1 OMPS NP Linearity Ground Table Data Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
linearity_table	131072	32-bit floating point	1 - 16384	unitless	2 Dimensional Array np::NUM_ELECTRONICS x np::LAMPLUTSIZE Size of Dimension(s): 2 x 16384
File Size	**131,072 Bytes**				

7.2.2.1.14 OMPS NP Earth View Sample Ground Table

Data Mnemonic	NP_NU-LM0240-121
Description/ Purpose	The OMPS NP Earth View Sample Ground Table contains the BATC generated database of utilized pixels. This file is used in the OMPS NP SDR algorithm.
File-Naming Construct	See the File-Naming Convention for Auxiliary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4.

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Data Mnemonic	NP_NU-LM0240-121
	The following version information will be appended to the Provenance Version in the Version Number field of the File-Naming Convention for OMPS Automatic PCs: Vxxx-yyy Where xxx and-yyy are the major and minor version numbers of the table. The Collection Short Name used in the filename is based on the table - see the JPSS CDFCB-X Vol. I, 474-00001-01, for the applicable Collection Short Names.
File Size	See Table 7.2.2.1.14-1, OMPS NP Earth View Sample Ground Table Data Format for size
File Format Type	Little Endian Binary
Production Frequency	As needed
Data Content and Data Format	See Table 7.2.2.1.14-1, OMPS NP Earth View Sample Ground Table Data Format for size

Table: 7.2.2.1.14-1 OMPS NP Earth View Sample Ground Table Data Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
badpixBATC	567840	32-bit integer	0 - 3	unitless	2 Dimensional Array np::MAX_NSPEC_CCD x np::NO_SPAT_CCD Size of Dimension(s): 364 x 390
File Size	**567,840 Bytes**				

7.2.2.1.15 OMPS NP Macropixel Ground Table

Data Mnemonic	NP_NU-LM0240-122
Description/ Purpose	The OMPS NP Macropixel Ground Table contains the ccd map of EV macropixels This file is used in the OMPS NP SDR algorithm.
File-Naming Construct	See the File-Naming Convention for Auxiliary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4. The following version information will be appended to the Provenance Version in the Version Number field of the File-Naming Convention for OMPS Automatic PCs: Vxxx-yyy Where xxx and-yyy are the major and minor version numbers of the table. The Collection Short Name used in the filename is based on the table - see the JPSS CDFCB-X Vol. I, 474-00001-01, for the applicable Collection Short Names.

Data Mnemonic	NP_NU-LM0240-122
File Size	See Table 7.2.2.1.15-1, OMPS NP Macropixel Ground Table Data Format for size
File Format Type	Little Endian Binary
Production Frequency	As needed
Data Content and Data Format	For details see Table 7.2.2.1.15-1, OMPS NP Macropixel Ground Table Data Format

Table: 7.2.2.1.15-1 OMPS NP Macropixel Ground Table Data Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
macrot	567840	32-bit integer	MIN_VAL - MAX_VAL	unitless	2 Dimensional Array np::MAX_NSPEC_CCD x np::NO_SPAT_CCD Size of Dimension(s): 364 x 390
File Size	**567,840 Bytes**				

7.2.2.1.16 OMPS NP LED Sample Ground Table

Data Mnemonic	NP_NU-LM0240-123
Description/ Purpose	The OMPS NP LED Sample Table contains the ccd map of LAMP pixels. This file is used in the OMPS NP SDR algorithm. All requirements for OMPS Calibration products are allocated to GRAVITE, thus the information is maintained by GRAVITE.
File-Naming Construct	See the File-Naming Convention for Auxiliary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4. The following version information will be appended to the Provenance Version in the Version Number field of the File-Naming Convention for OMPS Automatic PCs: Vxxx-yyy Where xxx and-yyy are the major and minor version numbers of the table. The Collection Short Name used in the filename is based on the table - see the JPSS CDFCB-X Vol. I, 474-00001-01, for the applicable Collection Short Names.
File Size	See Table 7.2.2.1.16-1, OMPS NP LED Sample Ground Table Data Format for size
File Format Type	Binary
Production Frequency	As needed
Data Content and Data Format	For details see Table 7.2.2.1.16-1, OMPS NP LED Sample Ground Table Data Format

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Table: 7.2.2.1.16-1 OMPS NP LED Sample Ground Table Data Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
lampsample	567840	32-bit integer	0 - 2	unitless	2 Dimensional Array np::MAX_NSPEC_CCD x np::NO_SPAT_CCD Size of Dimension(s): 364 x 390
File Size	**567,840 Bytes**				

7.2.2.1.17 OMPS NP Solar Sample Ground Table

Data Mnemonic	NP_NU-LM0240-124
Description/ Purpose	The OMPS NP Solar Sample Ground Table contains the sample table array for each of 7 solar diffuser positions. This file is used in the OMPS NP SDR algorithm. All requirements for OMPS Calibration products are allocated to GRAVITE, thus the information is maintained by GRAVITE.
File-Naming Construct	See the File-Naming Convention for Auxiliary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4. The following version information will be appended to the Provenance Version in the Version Number field of the File-Naming Convention for OMPS Automatic PCs: Vxxx-yyy Where xxx and-yyy are the major and minor version numbers of the table. The Collection Short Name used in the filename is based on the table - see the JPSS CDFCB-X Vol. I, 474-00001-01, for the applicable Collection Short Names.
File Size	See Table 7.2.2.1.17-1, OMPS NP Solar Sample Ground Table Data Format for size
File Format Type	Binary
Production Frequency	As needed
Data Content and Data Format	For details see Table 7.2.2.1.17-1, OMPS NP Solar Sample Ground Table Data Format

Table: 7.2.2.1.17-1 OMPS NP Solar Sample Ground Table Data Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
macrot	567840	32-bit integer	0 - 2	unitless	2 Dimensional Array np::MAX_NSPEC_CCD x np::NO_SPAT_CCD

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
					Size of Dimension(s): 364 x 390
File Size	**567,840 Bytes**				

7.2.2.1.18 OMPS NP Wavelengths Ground Table

Data Mnemonic	NP_NU-LM0240-125
Description/ Purpose	The OMPS NP Wavelengths Ground Table contains band center wavelengths of each macropixel for the current day. This file is used in the OMPS NP SDR algorithm.
File-Naming Construct	See the File-Naming Convention for Auxiliary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4. The following version information will be appended to the Provenance Version in the Version Number field of the File-Naming Convention: Vxxx-yyy Where xxx and-yyy are the major and minor version numbers of the table. The Collection Short Name used in the filename is based on the table - see the JPSS CDFCB-X Vol. I, 474-00001-01, for the applicable Collection Short Names.
File Size	See Table 7.2.2.1.18-1, OMPS NP Wavelengths Ground PC Data Format for size
File Format Type	Little Endian Binary
Production Frequency	As needed
Data Content and Data Format	For details see Table 7.2.2.1.18-1, OMPS NP Wavelengths Ground PC Data Format

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Table: 7.2.2.1.18-1 OMPS NP Wavelengths Ground PC Data Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
obs_year	290	16-bit Integer	2000 - 2050	years	2 Dimensional Array np::NP_CAL_DAYS x np::MAXCTPX Size of Dimension(s): 29 x 5
obs_day	290	16-bit Integer	1 - 366	days	2 Dimensional Array np::NP_CAL_DAYS x np::MAXCTPX Size of Dimension(s): 29 x 5
resolution	580	32-bit floating point	0 - MAX_VAL	nanometers	2 Dimensional Array np::NP_CAL_DAYS x np::MAXCTPX Size of Dimension(s): 29 x 5
spatial	290	16-bit Integer	1 - MAX_VAL	unitless	2 Dimensional Array np::NP_CAL_DAYS x np::MAXCTPX Size of Dimension(s): 29 x 5
intercept	1160	64-bit floating point	MIN_VAL - MAX_VAL	nanometers	2 Dimensional Array np::NP_CAL_DAYS x np::MAXCTPX Size of Dimension(s): 29 x 5
slope	1160	64-bit floating point	MIN_VAL - MAX_VAL	unitless	2 Dimensional Array np::NP_CAL_DAYS x np::MAXCTPX Size of Dimension(s): 29 x 5
straight	1160	64-bit floating point	0 - MAX_VAL	unitless	2 Dimensional Array np::NP_CAL_DAYS x np::MAXCTPX Size of Dimension(s): 29 x 5
nmonitor	580	32-bit integer	3 - MAX_VAL	unitless	2 Dimensional Array

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
					np::NP_CAL_DAYS x np::MAXCTPX Size of Dimension(s): 29 x 5
year	290	16-bit Integer	2000 - 2050	years	2 Dimensional Array np::NP_CAL_DAYS x np::MAXCTPX Size of Dimension(s): 29 x 5
day	290	16-bit Integer	1 - 366	days	2 Dimensional Array np::NP_CAL_DAYS x np::MAXCTPX Size of Dimension(s): 29 x 5
wbands	422240	64-bit floating point	240 - 320	nanometers	3 Dimensional Array np::NP_CAL_DAYS x np::MAX_NSPEC_CCD x np::MAXCTPX Size of Dimension(s): 29 x 364 x 5
File Size	**428,330 Bytes**				

7.2.2.1.19 OMPS NP CF Earth Ground Table

Data Mnemonic	NP_NU-LM0240-127
Description/ Purpose	The OMPS NP CF Earth Ground Table contains radiometric calibration factors for the Earth scene spatial cells. This file is used in the OMPS SDR algorithm.
File-Naming Construct	See the File-Naming Convention for Auxiliary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4. The following version information will be appended to the Provenance Version in the Version Number field of the File-Naming Convention for OMPS Automatic PCs: Vxxx-yyy Where xxx and-yyy are the major and minor version numbers of the table. The Collection Short Name used in the filename is based on the table - see the JPSS CDFCB-X Vol. I, 474-00001-01, for the applicable Collection Short Names.
File Size	See Table 7.2.2.1.19-1, OMPS NP CF Earth Ground PC Data Format for size
File Format Type	Little Endian Binary
Production Frequency	As needed
Data Content and Data Format	For details see Table 7.2.2.1.19-1, OMPS NP CF Earth Ground PC Data Format

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Table: 7.2.2.1.19-1 OMPS NP CF Earth Ground PC Data Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
obs_year	116	32-bit integer	2000 - 2050	years	1 Dimensional Array np::NP_CAL_DAYS Size of Dimension(s): 29
obs_day	116	32-bit integer	1 - 366	days	1 Dimensional Array np::NP_CAL_DAYS Size of Dimension(s): 29
old_nmonitor	116	32-bit integer	0 - MAX_VAL	unitless	1 Dimensional Array np::NP_CAL_DAYS Size of Dimension(s): 29
monitor_year	116	32-bit integer	2000 - 2050	years	1 Dimensional Array np::NP_CAL_DAYS Size of Dimension(s): 29
monitor_day	116	32-bit integer	1 - 366	days	1 Dimensional Array np::NP_CAL_DAYS Size of Dimension(s): 29
cfearth	211120	32-bit floating point	0 - MAX_VAL	unitless	3 Dimensional Array np::NP_CAL_DAYS x np::MAX_NSPEC_CCD x np::MAXCTPX Size of Dimension(s): 29 x 364 x 5
File Size	**211,700 Bytes**				

7.2.2.1.20 OMPS NP Table Version Ground Table

Data Mnemonic	NP_NU-LM0240-130
Description/ Purpose	The OMPS Table Version Ground Table contains information to track table and version identification of the following OMPS NP tables: OMPS NP Solar Sample Table OMPS NP Timing Pattern Table OMPS NP Linearity Table versions OMPS NP Lamp Sample Table OMPS NP Earth View Sample This tracking is necessary to coordinate the IDPS versions of these tables to their equivalents uploaded to the spacecraft. This file is used by all OMPS SDR algorithms.
File-Naming Construct	See the File-Naming Convention for Auxiliary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4. The Collection Short Name used in the filename is based on the table - see the JPSS CDFCB-X Vol. I, 474-00001-01, for the applicable Collection Short Names.
File Size	See Table 7.2.2.1.20-1, OMPS Table Version Ground PC Data Format for size
File Format Type	Little Endian Binary
Production Frequency	As needed
Data Content and Data Format	For details see Table 7.2.2.1.20-1, OMPS Table Version Ground PC Data Format

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Table: 7.2.2.1.20-1 OMPS NP Version Ground PC Data Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
numEntries Used	4	32-bit integer	1 - 30	unitless	Number of version entries used in subsequent fields of the structure.
flightTableIds	44	unsigned 16-bit integer	0 - MAX_VAL	unitless	List of flight table IDs. 1 Dimensional array: OMPS_NUM_TABLE_IDS Size of Dimension(s): 22
flightTable Versions	1,320	unsigned 16-bit integer	0 - MAX_VAL	unitless	List of flight table versions, up to 30 per flight table ID 2 Dimensional array: OMPS_NUM_VER_ENTRIES × OMPS_NUM_TABLE_IDS Size of Dimension(s): 30 × 22
tcSolSampVer	60	unsigned 16-bit integer	0 - MAX_VAL	unitless	List of up to 30 OMPS TC Solar Sample table versions 1 Dimensional array: OMPS_NUM_VER_ENTRIES Size of Dimension(s): 30
tcTimPatVer	60	unsigned 16-bit integer	0 - MAX_VAL	unitless	List of up to 30 OMPS TC Timing Pattern table versions 1 Dimensional array: OMPS_NUM_VER_ENTRIES Size of Dimension(s): 30
tcLinearityVer	60	unsigned 16-bit integer	0 - MAX_VAL	unitless	List of up to 30 OMPS TC Linearity table versions 1 Dimensional array: OMPS_NUM_VER_ENTRIES Size of Dimension(s): 30
tcLampSampVer	60	unsigned 16-bit integer	0 - MAX_VAL	unitless	List of up to 30 OMPS TC Lamp Sample table versions 1 Dimensional array: OMPS_NUM_VER_ENTRIES Size of Dimension(s): 30
tcEvSampVer	60	unsigned 16-bit integer	0 - MAX_VAL	unitless	List of up to 30 OMPS TC Earth View Sample table versions 1 Dimensional array: OMPS_NUM_VER_ENTRIES Size of Dimension(s): 30
npSolSampVer	60	unsigned 16-bit integer	0 - MAX_VAL	unitless	List of up to 30 OMPS NP Solar Sample table versions 1 Dimensional array: OMPS_NUM_VER_ENTRIES Size of Dimension(s): 30

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
npTimPatVer	60	unsigned integer	0 - MAX_VAL	unitless	List of up to 30 OMPS NP Timing Pattern table versions 1 Dimensional array: OMPS_NUM_VER_ENTRIES Size of Dimension(s): 30
npLinearityVer	60	unsigned integer	0 - MAX_VAL	unitless	List of up to 30 OMPS NP Linearity table versions 1 Dimensional array: OMPS_NUM_VER_ENTRIES Size of Dimension(s): 30
npLampSampVer	60	unsigned integer	0 - MAX_VAL	unitless	List of up to 30 OMPS NP Lamp Sample table versions 1 Dimensional array: OMPS_NUM_VER_ENTRIES Size of Dimension(s): 30
npEvSampVer	60	unsigned integer	0 - MAX_VAL	unitless	List of up to 30 OMPS NP Earth View Sample table versions 1 Dimensional array: OMPS_NUM_VER_ENTRIES Size of Dimension(s): 30
File Size	**1,968 Bytes**				

7.2.2.1.21 OMPS NP Darks Manual PC

Data Mnemonic	NP_NU-LM0240-134
Description/ Purpose	The OMPS NP Darks PC table contains averaged detector dark signal in linearity corrected counts This file is used in the OMPS NP Earth View SDR algorithm.
File-Naming Construct	See the File-Naming Convention for Auxiliary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4. The Collection Short Name used in the filename is based on the table - see the JPSS CDFCB-X Vol. I, 474-0001-01, for the applicable Collection Short Names.
File Size	See Table 7.2.1.1-1, OMPS NP Darks PC Data Format for size
File Format Type	Little Endian Binary
Production Frequency	As needed
Data Content and Data Format	For details see Table 7.2.1.1-1, OMPS NP Darks PC Data Format

7.2.2.1.22 OMPS NP SAA Darks Manual PC

Data Mnemonic	NP_NU-LM0240-135
Description/ Purpose	The OMPS NP SAA Darks PC table contains detected average linearity corrected dark signal in counts during South Atlantic Anomaly This file is used in the OMPS NP Earth View SDR algorithm.
File-Naming Construct	See the File-Naming Convention for Auxiliary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4. The Collection Short Name used in the filename is based on the table - see the JPSS CDFCB-X Vol. I, 474-00001-01, for the applicable Collection Short Names.
File Size	See Table 7.2.1.2-1, OMPS NP SAA Darks PC Data Format for size
File Format Type	Little Endian Binary
Production Frequency	As needed
Data Content and Data Format	For details see Table 7.2.1.2-1, OMPS NP SAA Darks PC Data Format

7.2.2.1.23 OMPS NP Bias Manual PC

Data Mnemonic	NP_NU-LM0240-136
Description/ Purpose	The OMPS NP Bias PC table contains detector electronic offset in counts. This file is used in the OMPS NP Earth View SDR algorithm.
File-Naming Construct	See the File-Naming Convention for Auxiliary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4. The Collection Short Name used in the filename is based on the table - see the JPSS CDFCB-X Vol. I, 474-00001-01, for the applicable Collection Short Names.

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Data Mnemonic	NP_NU-LM0240-136
File Size	See Table 7.2.1.3-1, OMPS NP Bias PC Data Format for size
File Format Type	Little Endian Binary
Production Frequency	As needed
Data Content and Data Format	For details see Table 7.2.1.3-1, OMPS NP Bias PC Data Format

7.2.2.2 OMPS NP Ephemeral PCT

Data Mnemonic	DP_NU-LM2020-004
Description/ Purpose	The OMPS NP SDR Ephemeral PC provides tunable processing coefficients for use by the algorithm during execution. The coefficients can be modified (tuned) through a configuration control process in response to algorithm, performance, inputs, sensitivity, etc. changes..
File-Naming Construct	See the File-Naming Convention for Auxiliary Data Formats, JPSS CDFCB-X Vol. I, 474-00001-01, Section 3.4. The Collection Short Name used in the filename is based on the table - see the JPSS CDFCB-X Vol. I, 474-00001-01, Table B-1 for the applicable Collection Short Names.
File Size	See Table 7.2.2.2-1, OMPS NP SDR PC Data Format for size
File Format Type	Little Endian Binary
Production Frequency	As needed
Data Content and Data Format	For details see Table 7.2.2.2-1, OMPS NP SDR PC Data Format

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Table: 7.2.2.2-1 OMPS NP SDR Ephemeral PC

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
deviate	8	64-bit floating point	0 - 1000	unitless	Correlation threshold for identifying deviations
deviateWidth	8	64-bit floating point	0 - 1000	unitless	Correlation threshold for identifying deviations
qUpPrimaryElec	8	64-bit floating point	0 - 12050	unitless	Upper tie point for primary electronics (for Linearity use)
qUpRedundantElec	8	64-bit floating point	0 - 12050	unitless	Upper tie point for redundant electronics (for Linearity use)
mountMatrix	72	64-bit floating point	-1 - +1	unitless	Matrix of mounting errors describing the rotation from sensor frame to spacecraft frame. 2 Dimensional Array: MOUNT_MATRIX_DIM x MOUNT_MATRIX_DIM Size of Dimension(s):3 x 3
flopdownAngle	8	64-bit floating point	0 - 1000	unitless	Flopdown angle used in goniometric corrections. Y rotation in addition to orbital motion in degrees.
xAngle	8	64-bit floating point	-70 - 1000	unitless	X rotation takes into account diffuser rotation in the rotor plane. Its sign corresponds to counterclockwise direction if viewed

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
					from motor side of assembly.
chiTol	4	32-bit floating point	0 - 1000	unitless	Threshold reduced Chi-square for line wavelength use.
fullWidth	4	32-bit floating point	0 - 1000	unitless	The expected nominal spectral FWHM (Full Width at Half Maximum).
Edge	4	32-bit floating point	0 - 1000	unitless	Extra bandpass in nm around wave min and max
motorRate	4	32-bit floating point	0 - 1000	unitless	Motor counts/degree
diffusersOffset	4	32-bit floating point	0 - 1000	unitless	Angle between reference diffuser stowed position and mid position.
diffuserSep	4	32-bit floating point	0 - 1000	unitless	Separation angle between nominal diffuser positions.
radHigh	4	32-bit floating point	0 - 3.00000064E8	unitless	Maximum expected radiance.
badSaa	4	32-bit floating point	0 - 1000	unitless	Bad SAA range
waveStdTol	4	32-bit floating point	0 - 1000	unitless	Threshold wavelength precision to adjust calibration fluxes
biasDefault	4	32-bit floating point	0 - 1000	unitless	Default electronics bias value in counts.
solarSize	4	32-bit floating point	0 - 1000	unitless	Sun disk diameter
diffEdgeAngle	4	32-bit floating point	0 - 1000	unitless	Tolerance angle from diffuser edge (degrees)
wmonInterval	4	32-bit integer	0 - 1000	unitless	Number of solar calibrations to trend wavelengths.
cfInterval	4	32-bit integer	0 - 1000	unitless	Calibration Factor Interval: number of

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Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
					days between calibration events
badPixLowerThreshold	4	32-bit integer	0 - 1000	unitless	The lower threshold for bad pixels. Values below this number are considered bad.
badPixUpperThreshold	4	32-bit integer	0 - 1000	unitless	The upper threshold for bad pixels. Values above this number are considered bad.
biasIndex	16	32-bit integer	0 - 1000	unitless	The lower and upper bounds of the serial overclock pixels to be used in the bias estimate. 1 Dimensional Array: Size of Dimension(s):4
smearSpatCcdIndex	8	32-bit integer	0 - 1000	unitless	Beginning and Ending spatial pixel index in the Smear Region of the CCD 1 Dimensional Array: Size of Dimension(s):2
viewSpatCcdIndex	8	32-bit integer	0 - 1000	unitless	Beginning and Ending spatial pixel index in the View Region of the CCD 1 Dimensional Array: Size of Dimension(s):2
specCcdIndex	8	32-bit integer	0 - 1000	unitless	Beginning and Ending spectral pixel index of the CCD. To account for the spectral bias region, the no_bias_pix value needs to be added and subtracted from these indices

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
					1 Dimensional Array: Size of Dimension(s):2
Offset	2	16-bit integer	0 - 1000	unitless	The number of pixels on both sides of a line to monitor
trendGapMax	2	16-bit integer	0 - 1000	unitless	How many days are tolerated between cal events before you cannot do trending.
goniometryOn	1	boolean	MIN_VAL - MAX_VAL	unitless	Switch for processing goniometry during execution.
cfSolarCorrect	1	boolean	MIN_VAL - MAX_VAL	unitless	Switch determining if CF solar correction should be performed
Padbytes	2	16-bit integer	MIN_VAL - MAX_VAL	unitless	Pad bytes added by the compiler to memory align the structure.
File Size	**232 Bytes**				

8 Intermediate Products (IPs)

Not Applicable

Appendix A. Data Mnemonic to Interface Mapping

For a complete list of Data Mnemonic to Interface Mapping, see 474-00001-01, JPSS CDFCB-X Vol I. The CDFCB contains Data Mnemonics, Identifiers, Collection Short Names, Interface Documents, and Collection Long Names for each JPSS Data Product and for Geolocation data

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Appendix B. Common RDR Static Header Values

Common RDR Static Header Values lists pre-defined unique values for the fields from the static header for each of the RDRs defined.

RDR Name	Sensor	TypeID	numAPIDS
OMPS NP Science	OMPS-NP	SCIENCE	1
OMPS NP Calibration	OMPS-NP	CALIBRATION	1
OMPS NP Diagnostic Earth View	OMPS-NP	DIAG-SCI	1
OMPS NP Diagnostic Calibration	OMPS-NP	DIA-CAL	1
OMPS Dwell	OMPS	DWELL	1
OMPS Telemetry	OMPS	TELEMETRY	1
OMPS Memory Dump	OMPS	DUMP	1
OMPS Flight Software Boot-up	OMPS	FSW BOOTUP	1

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Appendix C. DQTT Quality Flag Mapping

The following table maps the quality flags by sensor and product that are reportable to the associated data product quality flag Test ID used in the processing environment.

Table: C-1 DQTT Quality Flag Mapping

Algorithm	Product	TestID	Quality Flag
OMPS NP SDR	OMPS-NP-SDR	1700	None

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.

Appendix D. Abbreviations and Acronyms

See 470-00041 JPSS Program Lexicon for abbreviations and acronyms.

Attachment A XML Formats for Related Data Products

Table: ATT-1 XML Formats for Related Products

File Number	XML Filename
1	474-00448-02-05_JPSS-OMPS-NP-SDR-DD-Part-5_0200F_OMPS-NP-SDR-PP.xml
2	474-00448-02-05_JPSS-OMPS-NP-SDR-DD-Part-5_0200F_OMPS-NP-Cal-SDR-PP.xml
3	474-00448-02-05_JPSS-OMPS-NP-SDR-DD-Part-5_0200F_OMPS-NP-Cal-GEO-PP.xml
4	474-00448-02-05_JPSS-OMPS-NP-SDR-DD-Part-5_0200F_OMPS-NP-GEO-PP.xml

Check the JPSS MIS Server at https://jpssmis.gsfc.nasa.gov/frontmenu_dsp.cfm to verify that this is the correct version prior to use.