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

Block 2.0.0

National Aeronautics and
Space Administration

Goddard Space Flight Center
Greenbelt, Maryland

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Joint Polar Satellite System (JPSS) Algorithm Specification Volume II: Data Dictionary for the CrIS RDR/SDR JPSS Review/Approval Page

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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:

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Change History Log

Revision	Effective Date	Description of Changes (Reference the CCR & CCB/ERB Approve Date)	Sections Affected
0200-	August 8, 2013	This version incorporates 474-CCR-13-1110 which was approved by the JPSS Ground ERB on the effective date shown.	All
0200A	Jan 16, 2014	This version incorporates 474-CCR-13-1337 which was approved by the 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	Nov 20, 2014	This version incorporates 474-CCR-14-2118, 474-CCR-14-2110 and 474-CCR-14-2168 which was approved by the JPSS Ground ERB on the effective date shown.	All
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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 31, 2016	This version incorporates 474-CCR-15-2657, and 474-CCR-16-2814 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
0200G	Jan 11, 2017	This version incorporates 474-CCR-16-3199 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.02.03_48	472-TBD - Joint Polar Satellite System (JPSS) Mission Data Format Control Book Joint Polar Satellite System-2 (JPSS-2) (MDFCB)	Define Document Number
2	TBD	SRS.02.03_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.	Define Document Number

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1 Introduction

1.1 Scope

The Joint Polar Satellite System (JPSS) Algorithm Specification for CrIS RDR/SDR - Volume II: Data Dictionary contains the specifications for the format of the CrIS 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 the JPSS Algorithm Specification Volume II: Data Dictionary for the Common Algorithms (474-00448-02-01).

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
474-00448-01-03	JPSS Algorithm Specification Volume I: Software Requirements Specification (SRS) for the CrIS 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
474-00448-04-03	Joint Polar Satellite System (JPSS) Algorithm Specification Volume IV: Software Requirements Specification Parameter File (SRSPF) for the CrIS 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-S01-002	JPSS Cross Track Infrared Sounder (CrIS) Sensor Data Records (SDR) Algorithm Theoretical Basis Document (ATBD)
474-00448-03-03	Joint Polar Satellite System (JPSS) Algorithm Specification Volume III: Operational Algorithm Description (OAD) for the CrIS RDR/SDR

Document Number	Title
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 - External Volume I - Overview
474-00448-02-01	Joint Polar Satellite System (JPSS) Algorithm Specification Volume II: Data Dictionary for the Common Algorithms
429-05-02-42	National Polar-Orbiting Operational Environmental Satellite System (NPOESS) Preparatory Project (NPP) Mission Data Format Control Book (MDFCB)
472-00251	Joint Polar Satellite System (JPSS) Mission Data Format Control Book Joint Polar Satellite System-1 (JPSS-1) (MDFCB)
472-TBD	Joint Polar Satellite System (JPSS) Mission Data Format Control Book Joint Polar Satellite System-2 (JPSS-2) (MDFCB)
CCSDS 701.0-B-2	Recommendations for Advanced Orbiting Systems, Networks and Data Links
472-00333	Joint Polar Satellite System-1 (JPSS-1) Cross-track Infrared Sounder (CrIS) Mission Data Packet Structures

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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 tens of seconds. 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). 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 the JPSS Algorithm Specification Volume II: Data Dictionary for the Common Algorithms (474-00448-02-01), for the details of the exception.

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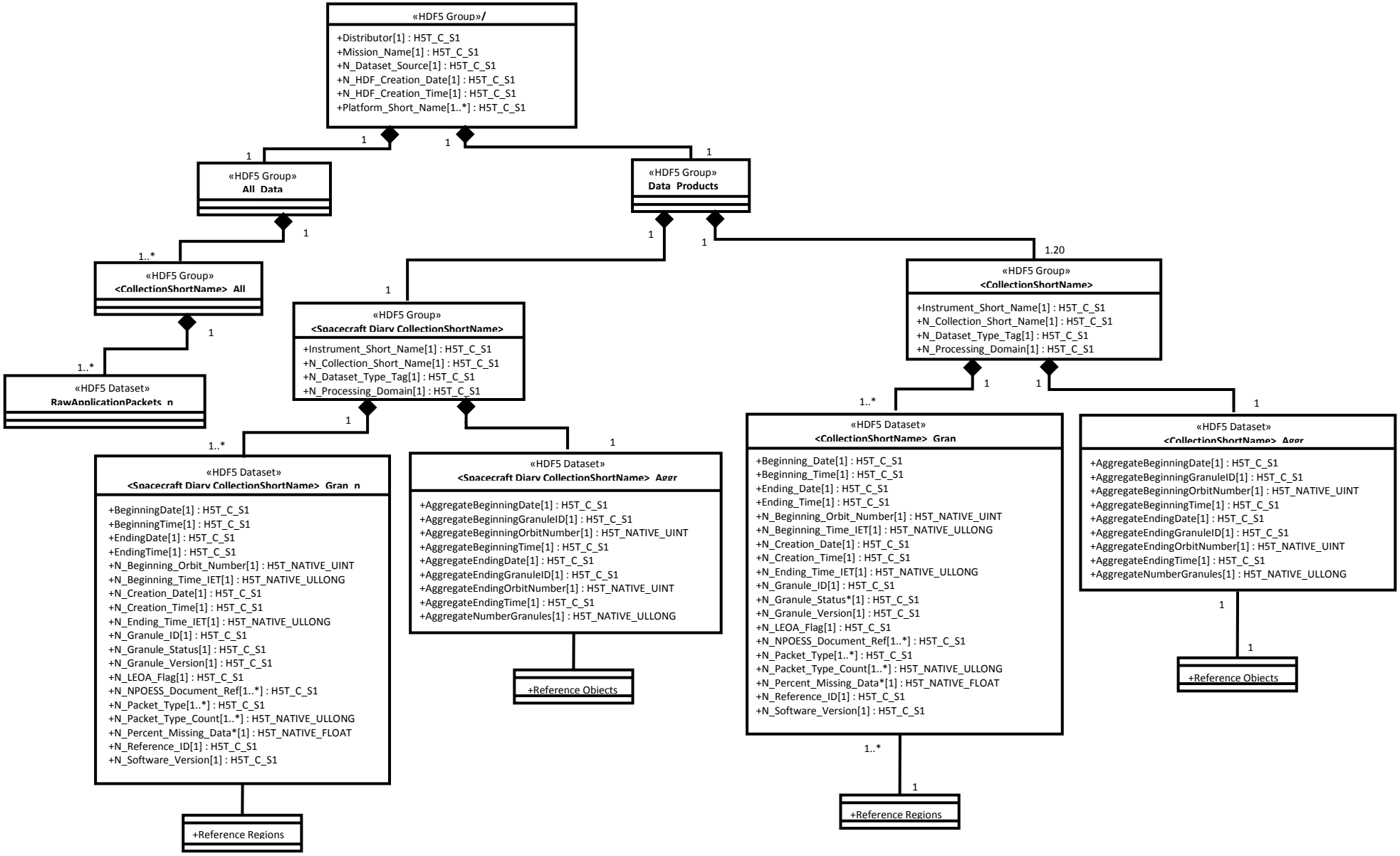

Figure: 3.1-1 Science and Diagnostic RDR Generalized UML Diagram

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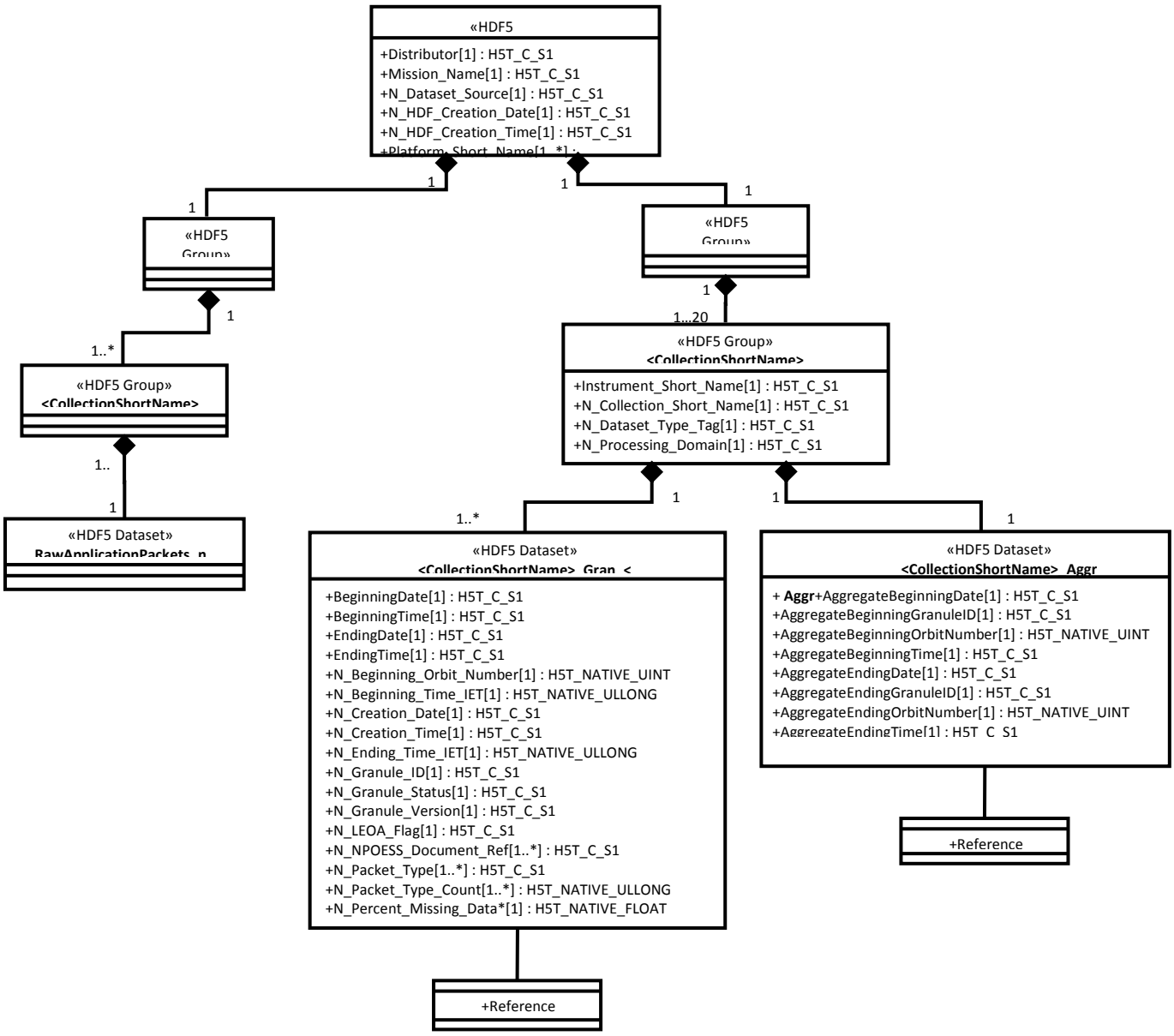

Figure: 3.1-2 Dwell, Dump, Telemetry, and Spacecraft Diary (when requested separately) RDR Generalized UML Diagram

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

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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 the JPSS Algorithm Specification Volume II: Data Dictionary for the Common Algorithms (474-00448-02-01). 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.

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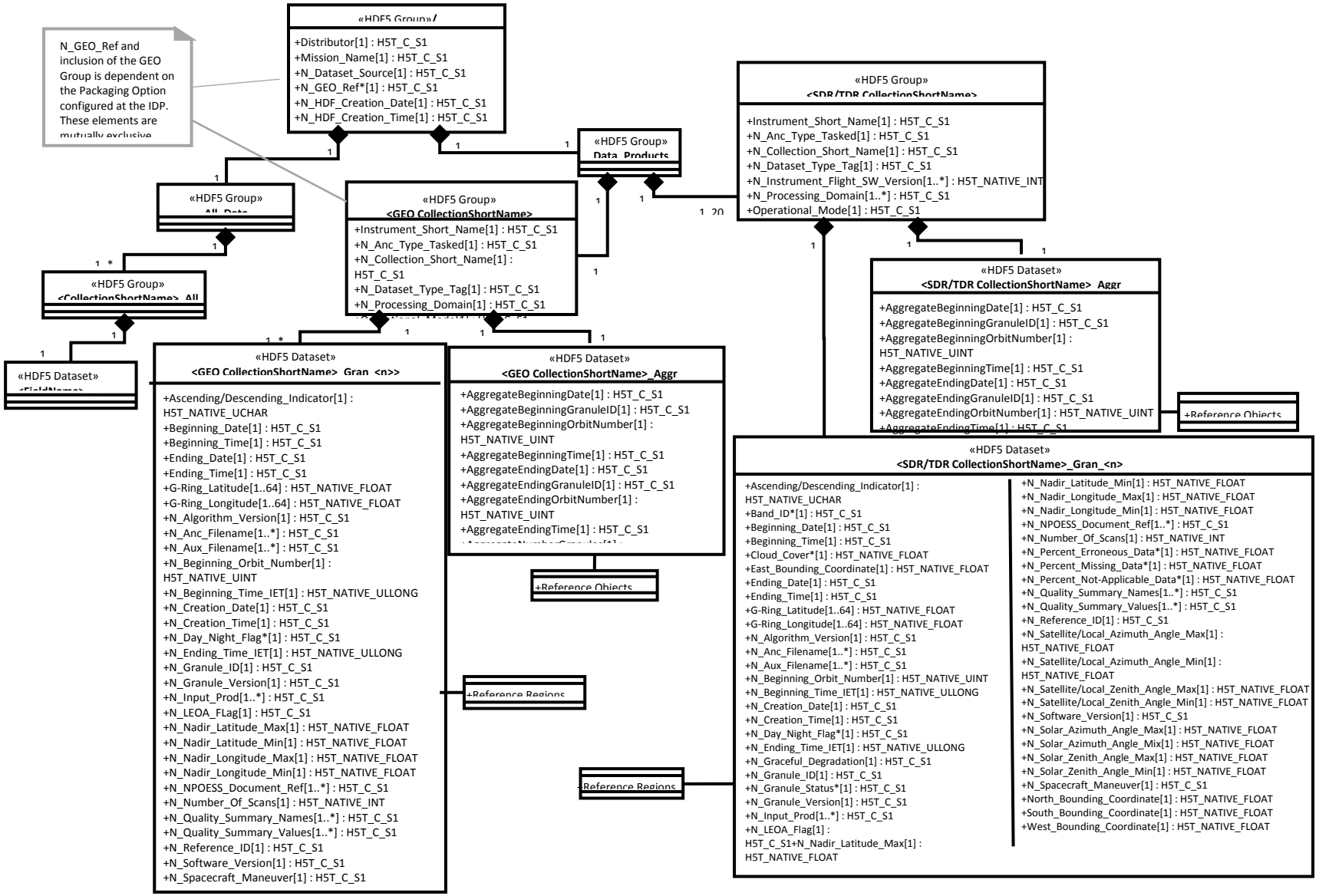

Figure: 3.2-1 Generalized UML Diagram for HDF5 SDR/TDR Files

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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).

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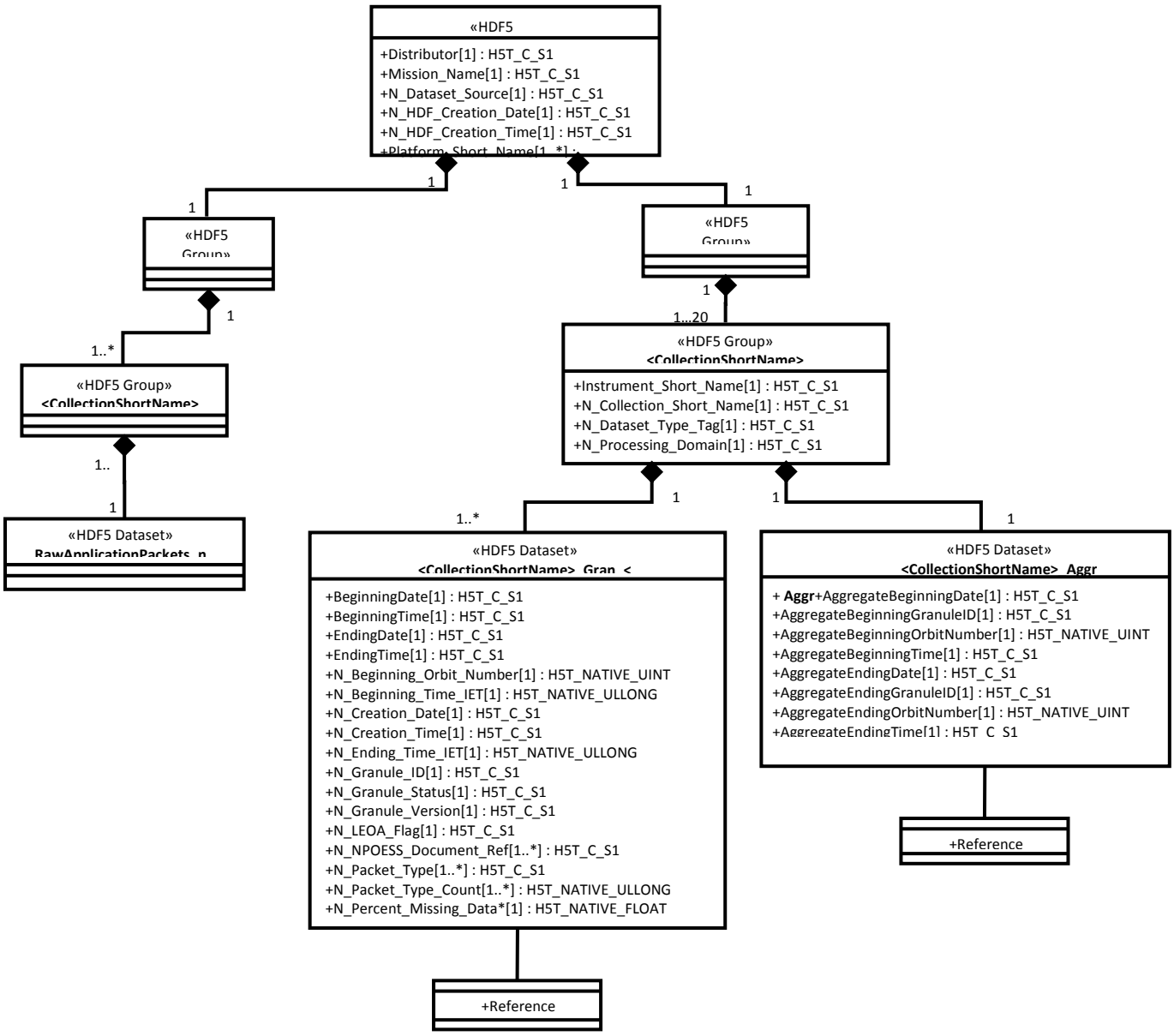

Figure: 3.3-1 Generalized UML Diagram for HDF5 Auxiliary Data Files

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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 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

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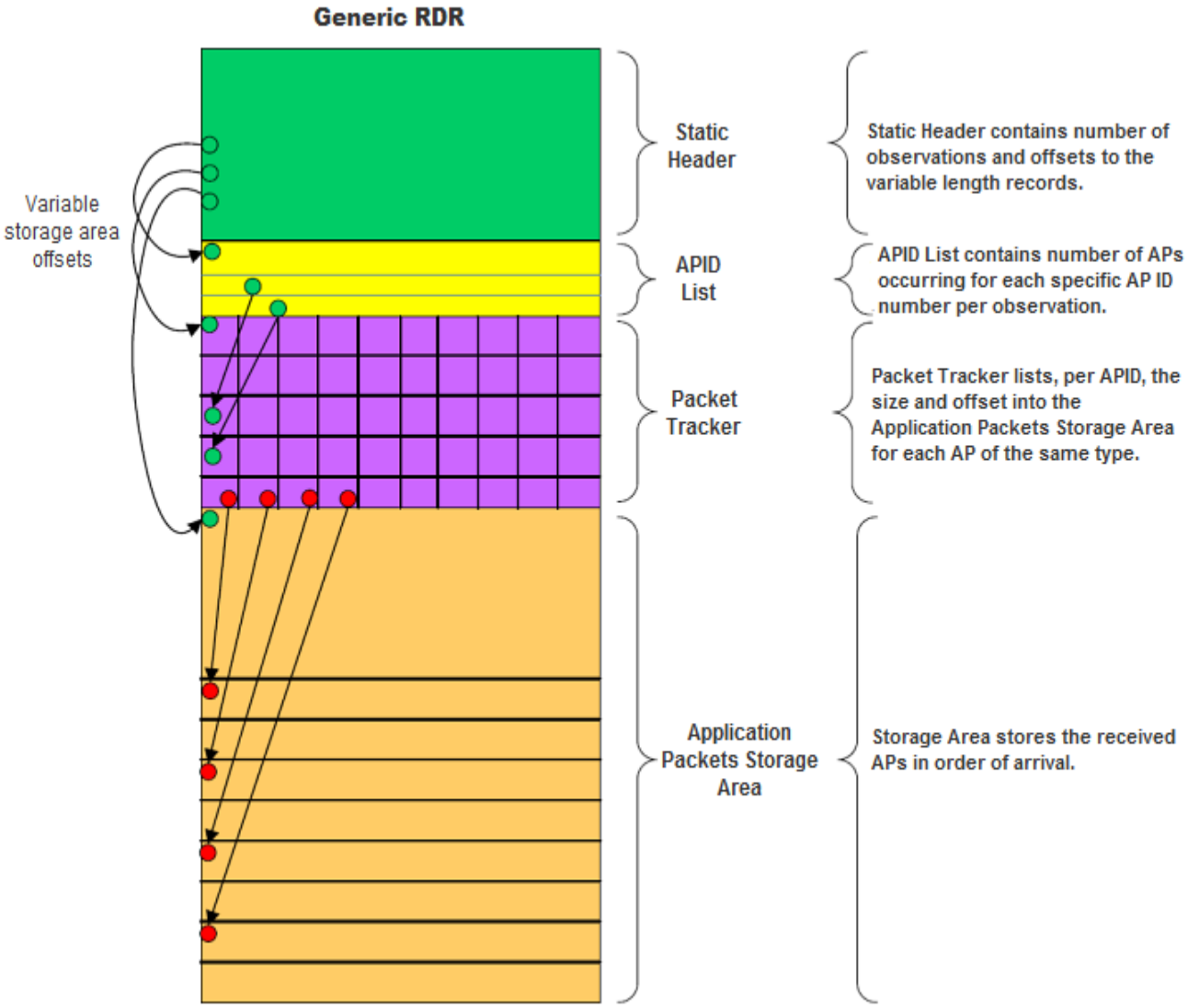

Figure: 4-1 Common RDR Layout

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

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	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. 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, 4.1-4 and 4.1-5 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 4.1-5, Application Packet Tables, provides explanations of the fields given for each RDR described in the following sections.

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	DataType	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).

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	DataType	Description
		The APID List starts immediately after the Generic RDR Static Header. Note: Always use this value to find the APID address.
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	DataType	Description
name	char[16]	Shortname 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

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.

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.

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.

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

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.

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
  - 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 CrIS RDR Overview

Data Mnemonic	Science: RDRE-CRIS-C0030 Diagnostic: RDRE-CRIS-C0032 Housekeeping (HSK) Dwell: RDRE-CRIS-C0036 Scene Selection Module (SSM) Dwell: RDRE-CRIS-C0046 Interferogram Module (IM) Dwell: RDRE-CRIS-C0056 Telemetry: RDRE-CRIS-C0031 Memory Dump: RDRE-CRIS-C0035
Description/ Purpose	The CrIS sensor provides cross-track measurements of scene radiance to permit the calculation of the vertical distribution of temperature and moisture in the Earth's atmosphere. It also provides supporting measurements for a variety of other geophysical parameters.
File-Naming Construct	See the JPSS CDFCB-X Vol. I, Section 3.0 for 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.

File Size	Science: See Table 4.3.2-3 CrIS Science RDR Structure for size Diagnostic: See Table 4.4.2-3 CrIS Diagnostic RDR Structure for size HSK Dwell: See Table 4.5.1.2-3 CrIS HSK Dwell RDR Structure for size SSM Dwell: See Table 4.5.2.2-3 CrIS SSM Dwell RDR Structure for size IM Dwell: See Table 4.5.3.2-3 CrIS IM Dwell RDR Structure for size Telemetry: See Table 4.6.2-3 CrIS Telemetry RDR Structure for size Memory Dump: See Table 4.7.2-3 CrIS Memory Dump RDR Structure for size All sizes are nominal per granule with duration specified in (). Sizes do not include HDF5 overhead.
File Format Type	HDF5
Data Content and Data Format	Section 4.3 describes the CrIS Science RDR Section 4.4 describes the CrIS Diagnostic RDR Section 4.5 describes the CrIS Dwell RDRs Section 4.6 describes the CrIS Telemetry RDR Section 4.7 describes the CrIS Memory Dump RDR

4.3 CrIS Science RDR

4.3.1 CrIS Science RDR HDF5 Files

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

4.3.2 CrIS Science RDR Data Content Summary

Table 4.3.2-1, S-NPP CrIS Science RDR Application Packets, lists the APs accumulated for the S-NPP CrIS Science RDR. Table 4.3.2-2, JPSS-1 CrIS Science RDR Application Packets, lists the APs accumulated for the JPSS-1 CrIS 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 CrIS Science RDR Application Packets

APID Short Name	Description	Value $APID_{10}$
NLW1	LW 1 Earth Scene	1315
NLW2	LW 2 Earth Scene	1316
NLW3	LW 3 Earth Scene	1317
NLW4	LW 4 Earth Scene	1318
NLW5	LW 5 Earth Scene	1319
NLW6	LW 6 Earth Scene	1320
NLW7	LW 7 Earth Scene	1321
NLW8	LW 8 Earth Scene	1322
NLW9	LW 9 Earth Scene	1323
NMW1	MW 1 Earth Scene	1324
NMW2	MW 2 Earth Scene	1325
NMW3	MW 3 Earth Scene	1326
NMW4	MW 4 Earth Scene	1327
NMW5	MW 5 Earth Scene	1328

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 $APID_{10}$
NMW6	MW 6 Earth Scene	1329
NMW7	MW 7 Earth Scene	1330
NMW8	MW 8 Earth Scene	1331
NMW9	MW 9 Earth Scene	1332
NSW1	SW 1 Earth Scene	1333
NSW2	SW 2 Earth Scene	1334
NSW3	SW 3 Earth Scene	1335
NSW4	SW 4 Earth Scene	1336
NSW5	SW 5 Earth Scene	1337
NSW6	SW 6 Earth Scene	1338
NSW7	SW 7 Earth Scene	1339
NSW8	SW 8 Earth Scene	1340
NSW9	SW 9 Earth Scene	1341
SLW1	LW 1 Deep Space	1342
SLW2	LW 2 Deep Space	1343
SLW3	LW 3 Deep Space	1344
SLW4	LW 4 Deep Space	1345
SLW5	LW 5 Deep Space	1346
SLW6	LW 6 Deep Space	1347
SLW7	LW 7 Deep Space	1348
SLW8	LW 8 Deep Space	1349
SLW9	LW 9 Deep Space	1350
SMW1	MW 1 Deep Space	1351
SMW2	MW 2 Deep Space	1352
SMW3	MW 3 Deep Space	1353
SMW4	MW 4 Deep Space	1354
SMW5	MW 5 Deep Space	1355
SMW6	MW 6 Deep Space	1356
SMW7	MW 7 Deep Space	1357
SMW8	MW 8 Deep Space	1358
SMW9	MW 9 Deep Space	1359
SSW1	SW 1 Deep Space	1360
SSW2	SW 2 Deep Space	1361
SSW3	SW 3 Deep Space	1362
SSW4	SW 4 Deep Space	1363
SSW5	SW 5 Deep Space	1364
SSW6	SW 6 Deep Space	1365
SSW7	SW 7 Deep Space	1366
SSW8	SW 8 Deep Space	1367
SSW9	SW 9 Deep Space	1368
CLW1	LW 1 Internal Cal Target	1369
CLW2	LW 2 Internal Cal Target	1370
CLW3	LW 3 Internal Cal Target	1371
CLW4	LW 4 Internal Cal Target	1372
CLW5	LW 5 Internal Cal Target	1373

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 $APID_{10}$
CLW6	LW 6 Internal Cal Target	1374
CLW7	LW 7 Internal Cal Target	1375
CLW8	LW 8 Internal Cal Target	1376
CLW9	LW 9 Internal Cal Target	1377
CMW1	MW 1 Internal Cal Target	1378
CMW2	MW 2 Internal Cal Target	1379
CMW3	MW 3 Internal Cal Target	1380
CMW4	MW 4 Internal Cal Target	1381
CMW5	MW 5 Internal Cal Target	1382
CMW6	MW 6 Internal Cal Target	1383
CMW7	MW 7 Internal Cal Target	1384
CMW8	MW 8 Internal Cal Target	1385
CMW9	MW 9 Internal Cal Target	1386
CSW1	SW 1 Internal Cal Target	1387
CSW2	SW 2 Internal Cal Target	1388
CSW3	SW 3 Internal Cal Target	1389
CSW4	SW 4 Internal Cal Target	1390
CSW5	SW 5 Internal Cal Target	1391
CSW6	SW 6 Internal Cal Target	1392
CSW7	SW 7 Internal Cal Target	1393
CSW8	SW 8 Internal Cal Target	1394
CSW9	SW 9 Internal Cal Target	1395
EIGHT_S_SCI	Eight Second Science Cal	1289
ENG	Four Minute Engineering - Not always present in RDR due to generation frequency	1290

Table: 4.3.2-2 JPPS-1 CrIS Science RDR Application Packets

APID Short Name	Description	Value $APID_{10}$
NLW1	LW 1 Earth Scene	1315
NLW2	LW 2 Earth Scene	1316
NLW3	LW 3 Earth Scene	1317
NLW4	LW 4 Earth Scene	1318
NLW5	LW 5 Earth Scene	1319
NLW6	LW 6 Earth Scene	1320
NLW7	LW 7 Earth Scene	1321
NLW8	LW 8 Earth Scene	1322
NLW9	LW 9 Earth Scene	1323
NMW1	MW 1 Earth Scene	1324
NMW2	MW 2 Earth Scene	1325
NMW3	MW 3 Earth Scene	1326
NMW4	MW 4 Earth Scene	1327
NMW5	MW 5 Earth Scene	1328
NMW6	MW 6 Earth Scene	1329
NMW7	MW 7 Earth Scene	1330

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 $APID_{10}$
NMW8	MW 8 Earth Scene	1331
NMW9	MW 9 Earth Scene	1332
NSW1	SW 1 Earth Scene	1333
NSW2	SW 2 Earth Scene	1334
NSW3	SW 3 Earth Scene	1335
NSW4	SW 4 Earth Scene	1336
NSW5	SW 5 Earth Scene	1337
NSW6	SW 6 Earth Scene	1338
NSW7	SW 7 Earth Scene	1339
NSW8	SW 8 Earth Scene	1340
NSW9	SW 9 Earth Scene	1341
SLW1	LW 1 Deep Space	1342
SLW2	LW 2 Deep Space	1343
SLW3	LW 3 Deep Space	1344
SLW4	LW 4 Deep Space	1345
SLW5	LW 5 Deep Space	1346
SLW6	LW 6 Deep Space	1347
SLW7	LW 7 Deep Space	1348
SLW8	LW 8 Deep Space	1349
SLW9	LW 9 Deep Space	1350
SMW1	MW 1 Deep Space	1351
SMW2	MW 2 Deep Space	1352
SMW3	MW 3 Deep Space	1353
SMW4	MW 4 Deep Space	1354
SMW5	MW 5 Deep Space	1355
SMW6	MW 6 Deep Space	1356
SMW7	MW 7 Deep Space	1357
SMW8	MW 8 Deep Space	1358
SMW9	MW 9 Deep Space	1359
SSW1	SW 1 Deep Space	1360
SSW2	SW 2 Deep Space	1361
SSW3	SW 3 Deep Space	1362
SSW4	SW 4 Deep Space	1363
SSW5	SW 5 Deep Space	1364
SSW6	SW 6 Deep Space	1365
SSW7	SW 7 Deep Space	1366
SSW8	SW 8 Deep Space	1367
SSW9	SW 9 Deep Space	1368
CLW1	LW 1 Internal Cal Target	1369
CLW2	LW 2 Internal Cal Target	1370
CLW3	LW 3 Internal Cal Target	1371
CLW4	LW 4 Internal Cal Target	1372
CLW5	LW 5 Internal Cal Target	1373
CLW6	LW 6 Internal Cal Target	1374
CLW7	LW 7 Internal Cal Target	1375

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 $APID_{10}$
CLW8	LW 8 Internal Cal Target	1376
CLW9	LW 9 Internal Cal Target	1377
CMW1	MW 1 Internal Cal Target	1378
CMW2	MW 2 Internal Cal Target	1379
CMW3	MW 3 Internal Cal Target	1380
CMW4	MW 4 Internal Cal Target	1381
CMW5	MW 5 Internal Cal Target	1382
CMW6	MW 6 Internal Cal Target	1383
CMW7	MW 7 Internal Cal Target	1384
CMW8	MW 8 Internal Cal Target	1385
CMW9	MW 9 Internal Cal Target	1386
CSW1	SW 1 Internal Cal Target	1387
CSW2	SW 2 Internal Cal Target	1388
CSW3	SW 3 Internal Cal Target	1389
CSW4	SW 4 Internal Cal Target	1390
CSW5	SW 5 Internal Cal Target	1391
CSW6	SW 6 Internal Cal Target	1392
CSW7	SW 7 Internal Cal Target	1393
CSW8	SW 8 Internal Cal Target	1394
CSW9	SW 9 Internal Cal Target	1395
EIGHT_S_SCI	Eight Second Science Cal	1289
ENG	Four Minute Engineering - Not always present in RDR due to generation frequency	1290

Table 4.3.2-3, S-NPP CrIS Science RDR Structure, shows the layout and static contents of the S-NPP CrIS Science RDR.

Table: 4.3.2-3 S-NPP CrIS Science RDR Structure

	Byte	Field	Type	Value
Static Header	0	satellite	char[4]	'NPP'
	4	sensor	char[16]	'CrIS'
	20	typeID	char[16]	'SCIENCE'
	36	numAPIDs	Uint32	83
	40	apidListOffset	Uint32	72
	44	pktTrackerOffset	Uint32	2728
	48	apStorageOffset	Uint32	92944
	52	nextPktPos	Uint32	Varies
	56	startBoundary	int64	Varies
	64	endBoundary	int64	Varies
Dynamic	72	APID List	IngSmdCommon_ApidDetailType [83]	Varies
	2728	Pkt Tracker List	IngSmdCommon_PktTrackerType [3759]	Varies
	92944	AP storage area	Uint8[14774832]	Varies
File Size	**14,867,776 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 4.3.2-4, JPSS-1 CrIS Science RDR Structure, shows the layout and static contents of the JPSS-1 CrIS Science RDR.

Table: 4.3.2-4 JPSS-1 CrIS Science RDR Structure

	Byte	Field	Type	Value
Static Header	0	satellite	char[4]	'J01'
	4	sensor	char[16]	'CrIS'
	20	typeID	char[16]	'SCIENCE'
	36	numAPIDs	Uint32	83
	40	apidListOffset	Uint32	72
	44	pktTrackerOffset	Uint32	2728
	48	apStorageOffset	Uint32	92944
	52	nextPktPos	Uint32	Varies
	56	startBoundary	int64	Varies
	64	endBoundary	int64	Varies
Dynamic	72	APID List	IngSmdCommon_ApidDetailType [83]	Varies
	2728	Pkt Tracker List	IngSmdCommon_PktTrackerType [3759]	Varies
	92944	AP storage area	Uint8[14774832]	Varies
File Size	**14,867,776 Bytes**			

4.4 CrIS Diagnostic RDR Application Packets

4.4.1 CrIS Diagnostic RDR HDF5 Files

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

4.4.2 CrIS Diagnostic RDR Data Content Summary

Table 4.4.2-1, S-NPP CrIS Diagnostic RDR Application Packets, lists the APs accumulated for the S-NPP CrIS Diagnostic RDR. Table 4.4.2-2, JPSS-1 CrIS Diagnostic RDR Application Packets, lists the APs accumulated for the JPSS-1 CrIS 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: 4.4.2-1 S-NPP CrIS Diagnostic RDR Application Packets

APID Short Name	Description	Value $APID_{10}$
DIA_LW	LW Diagnostic	1294
DIA_MW	MW Diagnostic	1295
DIA_SW	SW Diagnostic	1296

Table: 4.4.2-2 JPPS-1 CrIS Diagnostic RDR Application Packets

APID Short Name	Description	Value $APID_{10}$
DIA_LW	LW Diagnostic	1294
DIA_MW	MW Diagnostic	1295

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_SW	SW Diagnostic	1296

Table 4.4.2-3, S-NPP CrIS Diagnostic RDR Structure, shows the layout and static contents of the CrIS Diagnostic RDR.

Table: 4.4.2-3 S-NPP CrIS Diagnostic RDR Structure

	Byte	Field	Type	Value
Static Header	0	satellite	char[4]	'NPP'
	4	sensor	char[16]	'CrIS'
	20	typeID	char[16]	'DIAGNOSTIC'
	36	numAPIDs	Uint32	3
	40	apidListOffset	Uint32	72
	44	pktTrackerOffset	Uint32	168
	48	apStorageOffset	Uint32	11760
	52	nextPktPos	Uint32	Varies
	56	startBoundary	int64	Varies
	64	endBoundary	int64	Varies
Dynamic	72	APID List	IngSmdCommon_ApidDetailType[3]	Varies
	168	Pkt Tracker List	IngSmdCommon_PktTrackerType[483]	Varies
	11760	AP storage area	Uint8[20337198]	Varies
File Size	**20,348,958 Bytes**			

Table 4.4.2-4, JPSS-1 CrIS Diagnostic RDR Structure, shows the layout and static contents of the JPSS-1 CrIS Diagnostic RDR.

Table: 4.4.2-4 JPSS-1 CrIS Diagnostic RDR Structure

	Byte	Field	Type	Value
Static Header	0	satellite	char[4]	'J01'
	4	sensor	char[16]	'CrIS'
	20	typeID	char[16]	'DIAGNOSTIC'
	36	numAPIDs	Uint32	3
	40	apidListOffset	Uint32	72
	44	pktTrackerOffset	Uint32	168
	48	apStorageOffset	Uint32	11760
	52	nextPktPos	Uint32	Varies
	56	startBoundary	int64	Varies
	64	endBoundary	int64	Varies
Dynamic	72	APID List	IngSmdCommon_ApidDetailType[3]	Varies
	168	Pkt Tracker List	IngSmdCommon_PktTrackerType[483]	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
	11760	AP storage area	Uint8[20337198]	Varies
File Size	**20,348,958 Bytes**			

4.5 CrIS Dwell RDRs

4.5.1 CrIS Housekeeping Dwell RDR

4.5.1.1 CrIS Housekeeping Dwell RDR HDF5 Files

The CrIS Housekeeping (HSK) Dwell RDR HDF5 files are described in Section 3.0, Raw Data Records HDF5 Details.

4.5.1.2 CrIS HSK Dwell RDR Data Content Summery

Table 4.5.1.2-1, CrIS HSK Dwell RDR Application Packets lists the APs accumulated for the CrIS HSK Dwell 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: 4.5.1.2-1 S-NPP CrIS HSK Dwell RDR Application Packets

APID Short Name	Description	Value $APID_{10}$
HK_DWELL	HSK Telemetry Dwell	1291

Table: 4.5.1.2-2 JPSS-1 CrIS HSK Dwell RDR Application Packets

APID Short Name	Description	Value $APID_{10}$
HK_DWELL	HSK Telemetry Dwell	1291

Table 4.5.1.2-3, S-NPP CrIS HSK Dwell RDR Structure, shows the layout and static contents of the S-NPP CrIS Housekeeping Dwell RDR.

Table: 4.5.1.2-3 S-NPP CrIS HSK Dwell RDR Structure

	Byte	Field	Type	Value
Static Header	0	satellite	char[4]	'NPP'
	4	sensor	char[16]	'CrIS'
	20	typeID	char[16]	'HSK DWELL'
	36	numAPIDs	Uint32	1
	40	apidListOffset	Uint32	72
	44	pktTrackerOffset	Uint32	104
	48	apStorageOffset	Uint32	72104
	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[3000]	varies
	72104	AP storage area	Uint8[2964000]	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	**3,036,104 Bytes**			

Table 4.5.1.2-4, JPSS-1 CrIS HSK Dwell RDR Structure, shows the layout and static contents of the JPSS-1 CrIS Housekeeping Dwell RDR.

Table: 4.5.1.2-4 JPSS-1 CrIS HSK Dwell RDR Structure

	Byte	Field	Type	Value
Static Header	0	satellite	char[4]	'J01'
	4	sensor	char[16]	'CrIS'
	20	typeID	char[16]	'HSK DWELL'
	36	numAPIDs	Uint32	1
	40	apidListOffset	Uint32	72
	44	pktTrackerOffset	Uint32	104
	48	apStorageOffset	Uint32	72104
	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[3000]	varies
	72104	AP storage area	Uint8[2964000]	varies
File Size	**3,036,104 Bytes**			

4.5.2 CrIS Scene Selection Module (SSM) Dwell RDR

4.5.2.1 CrIS SSM Dwell RDR HDF5 Files

The CrIS SSM Dwell RDR HDF5 files are described in Section 3.0, Raw Data Records HD5F Details.

4.5.2.2 CrIS SSM Dwell RDR Data Content Summary

Table 4.5.2.2-1 S-NPP CrIS SSM Dwell RDR Application Packets lists the APs accumulated for the S-NPP CrIS SSM Dwell RDR. Table 4.5.2.2-2 JPSS-1 CrIS SSM Dwell RDR Application Packets lists the APs accumulated for the JPSS-1 CrIS SSM Dwell 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: 4.5.2.2-1 S-NPP CrIS SSM Dwell RDR Application Packets

APID Short Name	Description	Value $APID_{10}$
SSM_DWELL	SSM Telemetry Dwell	1292

Table: 4.5.2.2-2 JPSS-1 CrIS SSM Dwell RDR Application Packets

APID Short Name	Description	Value $APID_{10}$
SSM_DWELL	SSM Telemetry Dwell	1292

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 4.5.2.2-3, S-NPP CrIS SSM Dwell RDR Structure, shows the layout and static contents of the S-NPP CrIS Scene Selection Module Dwell RDR.

Table: 4.5.2.2-3 S-NPP CrIS SSM Dwell RDR Structure

	Byte	Field	Type	Value
Static Header	0	satellite	char[4]	'NPP'
	4	sensor	char[16]	'CrIS'
	20	typeID	char[16]	'SSM DWELL'
	36	numAPIDs	Uint32	1
	40	apidListOffset	Uint32	72
	44	pktTrackerOffset	Uint32	104
	48	apStorageOffset	Uint32	72104
	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 [3000]	varies
	72104	AP storage area	Uint8[3450000]	varies
File Size	**3,522,104 Bytes**			

Table 4.5.2.2-4, JPSS-1 CrIS SSM Dwell RDR Structure, shows the layout and static contents of the JPSS-1 CrIS Scene Selection Module Dwell RDR.

Table: 4.5.2.2-4 JPSS-1 CrIS SSM Dwell RDR Structure

	Byte	Field	Type	Value
Static Header	0	satellite	char[4]	'J01'
	4	sensor	char[16]	'CrIS'
	20	typeID	char[16]	'SSM DWELL'
	36	numAPIDs	Uint32	1
	40	apidListOffset	Uint32	72
	44	pktTrackerOffset	Uint32	104
	48	apStorageOffset	Uint32	72104
	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 [3000]	varies
	72104	AP storage area	Uint8[3450000]	varies
File Size	**3,522,104 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.

4.5.3 CrIS Interferogram Module (IM) Dwell RDR

4.5.3.1 CrIS IM Dwell RDR HDF5 Files

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

4.5.3.2 CrIS IM Dwell RDR Data Content Summary

Table 4.5.3.2-1, S-NPP CrIS IM Dwell RDR Application Packets, lists the APs accumulated for the S-NPP CrIS IM Dwell RDR. Table 4.5.3.2-2, JPSS-1 CrIS IM Dwell RDR Application Packets, lists the APs accumulated for the JPSS-1 CrIS IM Dwell 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: 4.5.3.2-1 S-NPP CrIS IM Dwell RDR Application Packets

APID Short Name	Description	Value $APID_{10}$
IM_DWELL	IM Telemetry Dwell	1293

Table: 4.5.3.2-2 JPSS-1 CrIS IM Dwell RDR Application Packets

APID Short Name	Description	Value $APID_{10}$
IM_DWELL	IM Telemetry Dwell	1293

Table 4.5.3.2-3, S-NPP CrIS IM Dwell RDR Structure, shows the layout and static contents of the S-NPP CrIS Interferogram Module Dwell RDR.

Table: 4.5.3.2-3 S-NPP CrIS IM Dwell RDR Structure

	Byte	Field	Type	Value
Static Header	0	satellite	char[4]	'NPP'
	4	sensor	char[16]	'CrIS'
	20	typeID	char[16]	'IM DWELL'
	36	numAPIDs	Uint32	1
	40	apidListOffset	Uint32	72
	44	pktTrackerOffset	Uint32	104
	48	apStorageOffset	Uint32	72104
	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 [3000]	varies
	72104	AP storage area	Uint8[3450000]	varies
File Size	**3,522,104 Bytes**			

Table 4.5.3.2-4, JPSS-1 CrIS IM Dwell RDR Structure, shows the layout and static contents of the JPSS-1 CrIS Interferogram Module Dwell RDR.

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: 4.5.3.2-4 JPSS-1 CrIS IM Dwell RDR Structure

	Byte	Field	Type	Value
Static Header	0	satellite	char[4]	'J01'
	4	sensor	char[16]	'CrIS'
	20	typeID	char[16]	'IM DWELL'
	36	numAPIDs	Uint32	1
	40	apidListOffset	Uint32	72
	44	pktTrackerOffset	Uint32	104
	48	apStorageOffset	Uint32	72104
	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 [3000]	varies
	72104	AP storage area	Uint8[3450000]	varies
File Size	**3,522,104 Bytes**			

4.6 CrIS Telemetry RDR

4.6.1 CrIS Telemetry RDR HDF5 Files

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

4.6.2 CrIS Telemetry RDR Data Content Summary

Table 4.6.2-1, S-NPP CrIS Telemetry RDR Application Packets, lists the APs accumulated for the S-NPP CrIS Telemetry RDR. Table 4.6.2-2, JPSS-1 CrIS Telemetry RDR Application Packets, lists the APs accumulated for the JPSS-1 CrIS Telemetry 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 CrIS Telemetry RDR Application Packets

APID Short Name	Description	Value $APID_{10}$
HK1	Housekeeping	1280
HK2	Housekeeping	1281
HK3	Housekeeping	1282
HK4	Housekeeping	1283
HK5	Housekeeping	1284
HK6	Housekeeping	1285
HK7	Housekeeping	1286
HK8	Housekeeping	1287

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: 4.6.2-2 JPSS-1 CrIS Telemetry RDR Application Packets

APID Short Name	Description	Value $APID_{10}$
HK1	Housekeeping	1280
HK2	Housekeeping	1281
HK3	Housekeeping	1282
HK4	Housekeeping	1283
HK5	Housekeeping	1284
HK6	Housekeeping	1285
HK7	Housekeeping	1286
HK8	Housekeeping	1287

Table 4.6.2-3, S-NPP CrIS Telemetry RDR Structure, shows the layout and static contents of the S-NPP CrIS Telemetry RDR.

Table: 4.6.2-3 S-NPP CrIS Telemetry RDR Structure

	Byte	Field	Type	Value
Static Header	0	satellite	char[4]	'NPP'
	4	sensor	char[16]	'CrIS'
	20	typeID	char[16]	'TELEMETRY'
	36	numAPIDs	Uint32	8
	40	apidListOffset	Uint32	72
	44	pktTrackerOffset	Uint32	328
	48	apStorageOffset	Uint32	1288
	52	nextPktPos	Uint32	Varies
	56	startBoundary	int64	Varies
	64	endBoundary	int64	Varies
Dynamic	72	APID List	IngSmdCommon_ApidDetailType [8]	Varies
	328	Pkt Tracker List	IngSmdCommon_PktTrackerType [40]	Varies
	1288	AP storage area	Uint8[10110]	Varies
File Size	**11,398 Bytes**			

Table 4.6.2-4, JPSS-1 CrIS Telemetry RDR Structure, shows the layout and static contents of the JPSS-1 CrIS Telemetry RDR.

Table: 4.6.2-4 JPSS-1 CrIS Telemetry RDR Structure

	Byte	Field	Type	Value
Static Header	0	satellite	char[4]	'J01'
	4	sensor	char[16]	'CrIS'
	20	typeID	char[16]	'TELEMETRY'
	36	numAPIDs	Uint32	8
	40	apidListOffset	Uint32	72
	44	pktTrackerOffset	Uint32	328
	48	apStorageOffset	Uint32	1288

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
	52	nextPktPos	Uint32	Varies
	56	startBoundary	int64	Varies
	64	endBoundary	int64	Varies
Dynamic	72	APID List	IngSmdCommon_ApidDetailType [8]	Varies
	328	Pkt Tracker List	IngSmdCommon_PktTrackerType [40]	Varies
	1288	AP storage area	Uint8[10110]	Varies
File Size	**11,398 Bytes**			

4.7 CrIS Memory Dump RDR

4.7.1 CrIS Memory Dump RDR HDF5 Files

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

4.7.2 CrIS Memory Dump RDR Data Content Summary

Table 4.7.2-1, S-NPP CrIS Memory Dump RDR Application Packets, lists the APs accumulated for the S-NPP CrIS Memory Dump RDR. Table 4.7.2-2, JPSS-1 CrIS Memory Dump RDR Application Packets, lists the APs accumulated for the JPSS-1 CrIS Memory Dump 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 CrIS Memory Dump RDR Application Packets

APID Short Name	Description	Value $APID_{10}$
DUMP	Memory Dump	1397

Table: 4.7.2-2 JPSS-1 CrIS Memory Dump RDR Application Packets

APID Short Name	Description	Value $APID_{10}$
DUMP	Memory Dump	1397

Table 4.7.2-3, S-NPP CrIS Memory Dump RDR Structure, shows the layout and static contents of the S-NPP CrIS Memory Dump RDR.

Table: 4.7.2-3 S-NPP CrIS Memory Dump RDR Structure

	Byte	Field	Type	Value
Static Header	0	satellite	char[4]	'NPP'
	4	sensor	char[16]	'CrIS'
	20	typeID	char[16]	'DUMP'
	36	numAPIDs	Uint32	3
	40	apidListOffset	Uint32	72
	44	pktTrackerOffset	Uint32	104
	48	apStorageOffset	Uint32	1064
	52	nextPktPos	Uint32	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
	56	startBoundary	int64	varies
	64	endBoundary	int64	varies
Dynamic	72	APID List	IngSmdCommon_ApidDetailType[1]	varies
	104	Pkt Tracker List	IngSmdCommon_PktTrackerType[40]	varies
	1064	AP storage area	Uint8[1311680]	varies
File Size	**1,312,744 Bytes**			

Table 4.7.2-4, JPSS-1 CrIS Memory Dump RDR Structure, shows the layout and static contents of the JPSS-1 CrIS Memory Dump RDR.

Table: 4.7.2-4 JPSS-1 CrIS Memory Dump RDR Structure

	Byte	Field	Type	Value
Static Header	0	satellite	char[4]	'J01'
	4	sensor	char[16]	'CrIS'
	20	typeID	char[16]	'DUMP'
	36	numAPIDs	Uint32	3
	40	apidListOffset	Uint32	72
	44	pktTrackerOffset	Uint32	104
	48	apStorageOffset	Uint32	1064
	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[40]	varies
	1064	AP storage area	Uint8[1311680]	varies
File Size	**1,312,744 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

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 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 Cross-Track Infrared Sounder (CrIS) SDR

Data Mnemonic	SDRE-CrIS-C0030 (CrIS-SDR) SDRE-CRIS-C0031 (CrIS-FS-SDR)
Description/ Purpose	CrIS is an infrared sounder (Michelson Interferometer) designed to measure scene radiance and calculate the vertical distribution of temperature, moisture, and pressure in the Earth's atmosphere. The CrIS SDR algorithms transform the scene interferograms into fully calibrated, unapodized, spectral information. For the radiance arrays dimensioned with wavenumber, the wavenumber is increasing, and the values are most representative of the wavelength bin center. For arrays dimensioned with "band" […3], the ordering is LW (Long-wave), MW (Middle-wave), SW (Short-wave). Raw data (earth view, internal calibration and space view) are preprocessed, undergo radiometric, spectral, and geometric calibrations, and are quality checked prior to SDR creation. This output is then used in subsequent atmospheric parameter calculations. As depicted in Figure 6.2-1, CrIS Field-of-Regard (FOR), the FOR is a 3 x 3 element detector field-of-view (FOV) array. Each FOV subtends slightly less than 1 degree with a 1.1 degree separation between FOVs.

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.

	The first element of data arrays with dimensions associated with FOV is from detector #1, and so on sequentially through 9. Although the Earth Scene (prefixed with ES_) data presented in the SDR is a contiguous array of FOVs and FORs, the SDR data should always be used with its respective geolocation in order to georeference the data. The CrIS SDR at truncated spectral resolution (TS) has a total 0f 1305 channels whereas the full spectral resolution (FS) has 2211. The NEdN (noise) of FS resolution SDR is higher because of the increase of data points and the effect of the self-apodization correction matrix. The same CrIS-SDR-GEO geolocation product applies to both the CrIS-SDR and CrIS-FS-SDR.
File-Naming Construct	See the JPSS CDFCB-X Vol. I, Section 3.0 for details.
File Size	See Table: 6.2.1-1 CrIS SDR Product Data Content Summary for size. See Table: 6.2.2-1 CrIS Full Spectral Resolution SDR Product Data Content Summary for size.
File Format Type	HDF5
Data Content and Data Format	See Section 6.2.1 CrIS SDR Product Data Content Summary See Section 6.2.5, CrIS SDR Geolocation Content Summary

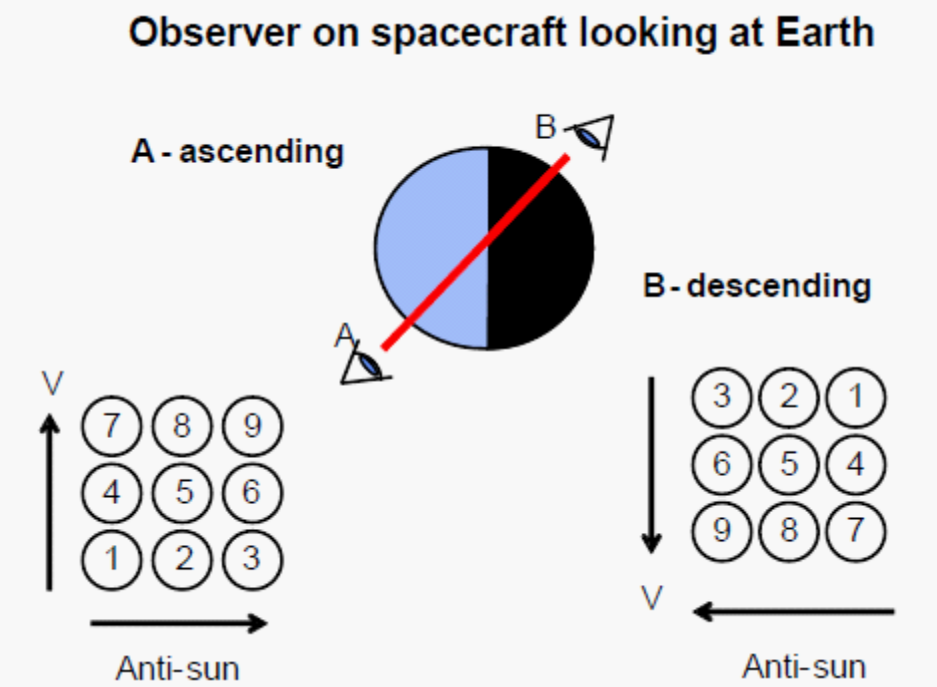

Figure: 6.2-1 CrIS Field of Regard

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 CrIS SDR (Truncated Spectral Resolution) Product Data Content Summary

Table: 6.2.1-1 CrIS SDR (Truncated Spectral Resolution) Product Data Content Summary

Name	Description	Data Type	Aggregate Dimensions (N = Number of Granules)	Granule Dimensions	Units
ES_RealLW	CrIS LW Band spectrally and radiometrically calibrated radiances (real part of spectra)	32-bit floating point	[N*4, 30, 9, 717]	[4, 30, 9, 717]	mW/(m^2 sr cm^-1)
ES_RealMW	CrIS MW Band spectrally and radiometrically calibrated data for mid-wave band (real part of spectra)	32-bit floating point	[N*4, 30, 9, 437]	[4, 30, 9, 437]	mW/(m^2 sr cm^-1)
ES_RealSW	CrIS SW Band spectrally and radiometrically calibrated data for short-wave band (real part of spectra)	32-bit floating point	[N*4, 30, 9, 163]	[4, 30, 9, 163]	mW/(m^2 sr cm^-1)
ES_ImaginaryLW	Imaginary part of spectra for long-wave band	32-bit floating point	[N*4, 30, 9, 717]	[4, 30, 9, 717]	mW/(m^2 sr cm^-1)
ES_ImaginaryMW	Imaginary part of spectra for mid-wave band	32-bit floating point	[N*4, 30, 9, 437]	[4, 30, 9, 437]	mW/(m^2 sr cm^-1)
ES_ImaginarySW	Imaginary part of spectra for short-wave band	32-bit floating point	[N*4, 30, 9, 163]	[4, 30, 9, 163]	mW/(m^2 sr cm^-1)
ES_NEdNLW	Spectral Noise Estimate - long-wave	32-bit floating point	[N*4, 30, 9, 717]	[4, 30, 9, 717]	mW/(m^2 sr cm^-1)
ES_NEdNMW	Spectral Noise Estimate - mid-wave	32-bit floating point	[N*4, 30, 9, 437]	[4, 30, 9, 437]	mW/(m^2 sr cm^-1)
ES_NEdNSW	Spectral Noise Estimate - short-wave	32-bit floating point	[N*4, 30, 9, 163]	[4, 30, 9, 163]	mW/(m2 sr cm^-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.

Name	Description	Data Type	Aggregate Dimensions (N = Number of Granules)	Granule Dimensions	Units
DS_WindowSize	The number of Deep Space (DS) spectra used to calibrate the earth scene.	unsigned 16-bit integer	[N*4, 2, 9, 3]	[4, 2, 9, 3]	unitless
ICT_WindowSize	The number of Internal Calibration Target (ICT) spectra used to calibrate the earth scene.	unsigned 16-bit integer	[N*4, 2, 9, 3]	[4, 2, 9, 3]	unitless
ES_ZPDAmplitude	Interferogram amplitude at zero path difference	16-bit integer	[N*4, 30, 9, 3]	[4, 30, 9, 3]	unitless
ES_ZPDFringeCount	Interferogram fringe count at zero path difference before decimation	unsigned 16-bit integer	[N*4, 30, 9, 3]	[4, 30, 9, 3]	unitless
SDRFringeCount	The calculated number of fringes that the interferogram was advanced or delayed.	unsigned 16-bit integer	[N*4, 30, 9, 3]	[4, 30, 9, 3]	unitless
ES_RDRImpulseNoise	This flag represents the number of samples in an interferogram that exceeded the impulse noise mask and were set to zero; if > 1 the resultant spectrum is flagged as having excess noise.	unsigned 8-bit char	[N*4, 30, 9, 3]	[4, 30, 9, 3]	unitless
MonitoredLaserWavelength	This flag represents the monitored laser metrology wavelength, calculated using data from the 4-min engineering packets and Neon calibrated	64-bit floating point	[N*4]	[4]	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.

Name	Description	Data Type	Aggregate Dimensions (N = Number of Granules)	Granule Dimensions	Units
	laser metrology wavelength.				
MeasuredLaserWavelength	This quality flag represents the measured metrology laser wavelength with neon lamp calibration.	64-bit floating point	[N*4]	[4]	nm
ResamplingLaserWavelength	This flag represents the wavelength used for the spectral resampling, which is half of the current metrology laser wavelength.	64-bit floating point	[N*4]	[4]	nm
DS_Symmetry	This flag is intended to identify the asymmetry in the measured DS IGMs.	64-bit floating point	[N*4, 9, 3]	[4, 9, 3]	unitless
DS_SpectralStability	This flag monitors the spectral variability of the DS views within the moving window.	64-bit floating point	[N*4, 2, 9, 3]	[4, 2, 9, 3]	unitless
ICT_SpectralStability	This flag monitors the spectral variability of the ICT views within the moving window.	64-bit floating point	[N*4, 2, 9, 3]	[4, 2, 9, 3]	unitless
ICT_TemperatureStability	This flag measures the stability of the two Platinum Resistance Temperature measurements of the Internal Calibration Target.	32-bit floating point	[N*4, 2]	[4, 2]	Kelvin
ICT_TemperatureConsistency	This flag measures the consistency between the two Platinum	32-bit floating point	[N*4]	[4]	Kelvin

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
	Resistance Temperature measurements of the Internal Calibration Target.				
NumberOfValidPRTTemps	Number of valid PRT Temperatures used	unsigned 8-bit char	[N*4, 2]	[4, 2]	unitless
QF1_SCAN_CRISSDR	Scan-level Quality Flags	unsigned 8-bit char	[N*4]	[4]	unitless
QF2_CRISSDR	Calibration Quality Flags	unsigned 8-bit char	[N*4, 9, 3]	[4, 9, 3]	unitless
QF3_CRISSDR	FOV Quality Flags	unsigned 8-bit char	[N*4, 30, 9, 3]	[4, 30, 9, 3]	unitless
QF4_CRISSDR	FOV Quality Flags	unsigned 8-bit char	[N*4, 30, 9, 3]	[4, 30, 9, 3]	unitless
File Size	**17,102,928 Bytes**				

6.2.2 CrIS Full Spectral Resolution SDR Product Data Content Summary

Table: 6.2.2-1 CrIS Full Spectral Resolution SDR Product Data Content Summary

Name	Description	Data Type	Aggregate Dimensions (N = Number of Granules)	Granule Dimensions	Units
ES_RealLW	CrIS LW Band spectrally and radiometrically calibrated radiances (real part of spectra)	32-bit floating point	[N*4, 30, 9, 717]	[4, 30, 9, 717]	mW/(m^2 sr cm^-1)
ES_RealMW	CrIS MW Band spectrally and radiometrically calibrated data for mid-wave band (real part of spectra)	32-bit floating point	[N*4, 30, 9, 869]	[4, 30, 9, 869]	mW/(m^2 sr cm^-1)
ES_RealSW	CrIS SW Band spectrally and radiometrically calibrated data for	32-bit floating point	[N*4, 30, 9, 637]	[4, 30, 9, 637]	mW/(m^2 sr cm^-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.

Name	Description	Data Type	Aggregate Dimensions (N = Number of Granules)	Granule Dimensions	Units
	short-wave band (real part of spectra)				
ES_ImaginaryLW	Imaginary part of spectra for long-wave band	32-bit floating point	[N*4, 30, 9, 717]	[4, 30, 9, 717]	mW/(m^2 sr cm^-1)
ES_ImaginaryMW	Imaginary part of spectra for mid-wave band	32-bit floating point	[N*4, 30, 9, 869]	[4, 30, 9, 869]	mW/(m^2 sr cm^-1)
ES_ImaginarySW	Imaginary part of spectra for short-wave band	32-bit floating point	[N*4, 30, 9, 637]	[4, 30, 9, 637]	mW/(m^2 sr cm^-1)
ES_NEdNLW	Spectral Noise Estimate - long-wave	32-bit floating point	[N*4, 30, 9, 717]	[4, 30, 9, 717]	mW/(m^2 sr cm^-1)
ES_NEdNMW	Spectral Noise Estimate - mid-wave	32-bit floating point	[N*4, 30, 9, 869]	[4, 30, 9, 869]	mW/(m^2 sr cm^-1)
ES_NEdNSW	Spectral Noise Estimate - short-wave	32-bit floating point	[N*4, 30, 9, 637]	[4, 30, 9, 637]	mW/(m2 sr cm^-1)
DS_WindowSize	The number of Deep Space (DS) spectra used to calibrate the earth scene.	unsigned 16-bit integer	[N*4, 2, 9, 3]	[4, 2, 9, 3]	unitless
ICT_WindowSize	The number of Internal Calibration Target (ICT) spectra used to calibrate the earth scene.	unsigned 16-bit integer	[N*4, 2, 9, 3]	[4, 2, 9, 3]	unitless
ES_ZPDAmplitude	Interferogram amplitude at zero path difference	16-bit integer	[N*4, 30, 9, 3]	[4, 30, 9, 3]	unitless
ES_ZPDFringeCount	Interferogram fringe count at zero path difference before decimation	unsigned 16-bit integer	[N*4, 30, 9, 3]	[4, 30, 9, 3]	unitless
SDRFringeCount	The calculated number of fringes that the	unsigned 16-bit integer	[N*4, 30, 9, 3]	[4, 30, 9, 3]	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
	interferogram was advanced or delayed.				
ES_RDRImpulseNoise	This flag represents the number of samples in an interferogram that exceeded the impulse noise mask and were set to zero; if > 1 the resultant spectrum is flagged as having excess noise.	unsigned 8-bit char	[N*4, 30, 9, 3]	[4, 30, 9, 3]	unitless
MonitoredLaserWavelength	This flag represents the monitored laser metrology wavelength, calculated using data from the 4-min engineering packets and Neon calibrated laser metrology wavelength.	64-bit floating point	[N*4]	[4]	nm
MeasuredLaserWavelength	This quality flag represents the measured metrology laser wavelength with neon lamp calibration.	64-bit floating point	[N*4]	[4]	nm
ResamplingLaserWavelength	This flag represents the wavelength used for the spectral resampling, which is half of the current metrology laser wavelength.	64-bit floating point	[N*4]	[4]	nm
DS_Symmetry	This flag is intended to identify the asymmetry in the measured DS IGMs.	64-bit floating point	[N*4, 9, 3]	[4, 9, 3]	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
DS_SpectralStability	This flag monitors the spectral variability of the DS views within the moving window.	64-bit floating point	[N*4, 2, 9, 3]	[4, 2, 9, 3]	unitless
ICT_SpectralStability	This flag monitors the spectral variability of the ICT views within the moving window.	64-bit floating point	[N*4, 2, 9, 3]	[4, 2, 9, 3]	unitless
ICT_TemperatureStability	This flag measures the stability of the two Platinum Resistance Temperature measurements of the Internal Calibration Target.	32-bit floating point	[N*4, 2]	[4, 2]	Kelvin
ICT_TemperatureConsistency	This flag measures the consistency between the two Platinum Resistance Temperature measurements of the Internal Calibration Target.	32-bit floating point	[N*4]	[4]	Kelvin
NumberOfValidPRTTemps	Number of valid PRT Temperatures used	unsigned 8-bit char	[N*4, 2]	[4, 2]	unitless
QF1_SCAN_CRISSDR	Scan-level Quality Flags	unsigned 8-bit char	[N*4]	[4]	unitless
QF2_CRISSDR	Calibration Quality Flags	unsigned 8-bit char	[N*4, 9, 3]	[4, 9, 3]	unitless
QF3_CRISSDR	FOV Quality Flags	unsigned 8-bit char	[N*4, 30, 9, 3]	[4, 30, 9, 3]	unitless
QF4_CRISSDR	FOV Quality Flags	unsigned 8-bit char	[N*4, 30, 9, 3]	[4, 30, 9, 3]	unitless
File Size	**28,844,688 Bytes**				

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6.2.3 CrIS Truncated Spectral Resolution SDR Product Profile

Table: 6.2.3-1 CrIS Truncated Spectral Resolution SDR Product Profile

CrIS Truncated Spectral Resolution SDR Product Profile

Fields

ES_RealLW — 4byte(s)

Dimensions

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Scan	Yes	No	4	4
FOR	No	No	30	30
FOV	No	No	9	9
LWPoint	No	No	717	717

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values	Legend Entries
CrIS LW Band spectrally and radiometrically calibrated radiances (real part of spectra)	0	MIN_VAL	MAX_VAL	mW/(m^2 sr cm^-1)	No		32-bit floating point	Name: Value NA_FLOAT32_FILL: -999.9 MISS_FLOAT32_FILL: -999.8 ERR_FLOAT32_FILL: -999.5 VDNE_FLOAT32_FILL: -999.3	Name: Value

ES_RealMW — 4byte(s)

Dimensions

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Scan	Yes	No	4	4
FOR	No	No	30	30
FOV	No	No	9	9
MWPoint	No	No	437	437

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values	Legend Entries
CrIS MW Band spectrally and radiometrically calibrated data for mid-wave band (real part of spectra)	0	MIN_VAL	MAX_VAL	mW/(m^2 sr cm^-1)	No		32-bit floating point	Name: Value NA_FLOAT32_FILL: -999.9 MISS_FLOAT32_FILL: -999.8 ERR_FLOAT32_FILL: -999.5 VDNE_FLOAT32_FILL: -999.3	Name: Value

ES_RealSW — 4byte(s)

Dimensions

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Scan	Yes	No	4	4
FOR	No	No	30	30
FOV	No	No	9	9
SWPoint	No	No	163	163

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values	Legend Entries
CrIS SW Band spectrally and radiometrically calibrated data for short-wave band (real part of spectra)	0	MIN_VAL	MAX_VAL	mW/(m^2 sr cm^-1)	No		32-bit floating point	Name: Value NA_FLOAT32_FILL: -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.

												VDNE_FLOAT32_FILL	-999.3

ES_ImaginaryLW — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Scan	Yes	No	4	4
FOR	No	No	30	30
FOV	No	No	9	9
LWPoint	No	No	717	717

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Imaginary part of spectra for long-wave band	0	MIN_VAL	MAX_VAL	mW/(m^2 sr cm^-1)	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		

ES_ImaginaryMW — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Scan	Yes	No	4	4
FOR	No	No	30	30
FOV	No	No	9	9
MWPoint	No	No	437	437

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Imaginary part of spectra for mid-wave band	0	MIN_VAL	MAX_VAL	mW/(m^2 sr cm^-1)	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		

ES_ImaginarySW — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Scan	Yes	No	4	4
FOR	No	No	30	30
FOV	No	No	9	9
SWPoint	No	No	163	163

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Imaginary part of spectra for short-wave band	0	MIN_VAL	MAX_VAL	mW/(m^2 sr cm^-1)	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		

ES_NEdNLW — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Scan	Yes	No	4	4
FOR	No	No	30	30
FOV	No	No	9	9
LWPoint	No	No	717	717

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Spectral Noise Estimate - long-wave	0	MIN_VAL	MAX_VAL	mW/(m^2 sr cm^-1)	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		

ES_NEdNMW — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Scan	Yes	No	4	4
FOR	No	No	30	30
FOV	No	No	9	9
MWPoint	No	No	437	437

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.

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Spectral Noise Estimate - mid-wave	0	MIN_VAL	MAX_VAL	mW/(m^2 sr cm^-1)	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		

ES_NEdNSW — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Scan	Yes	No	4	4
FOR	No	No	30	30
FOV	No	No	9	9
SWPoint	No	No	163	163

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Spectral Noise Estimate - short-wave	0	MIN_VAL	MAX_VAL	mW/(m^2 sr cm^-1)	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		

DS_WindowSize — 2byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Scan	Yes	No	4	4
DS_View	No	No	2	2
FOV	No	No	9	9
Band	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	
The number of Deep Space (DS) spectra used to calibrate the earth scene.	0	MIN_VAL	MAX_VAL	unitless	No		unsigned 16-bit integer	Name	Value	Name	Value
								NA_UINT16_FILL	65535		
								MISS_UINT16_FILL	65534		
								ERR_UINT16_FILL	65531		
								VDNE_UINT16_FILL	65529		

ICT_WindowSize — 2byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Scan	Yes	No	4	4
ICT_View	No	No	2	2
FOV	No	No	9	9
Band	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	
The number of Internal Calibration Target (ICT) spectra used to calibrate the earth scene.	0	MIN_VAL	MAX_VAL	unitless	No		unsigned 16-bit integer	Name	Value	Name	Value
								NA_UINT16_FILL	65535		
								MISS_UINT16_FILL	65534		
								ERR_UINT16_FILL	65531		
								VDNE_UINT16_FILL	65529		

ES_ZPDAmplitude — 2byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Scan	Yes	No	4	4
FOR	No	No	30	30
FOV	No	No	9	9
Band	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	
Interferogram amplitude at zero path difference.	0	MIN_VAL	MAX_VAL	unitless	No		16-bit integer	Name	Value	Name	Value
								NA_INT16_FILL	-999		
								MISS_INT16_FILL	-998		

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										ERR_INT16_FILL -995 VDNE_INT16_FILL -993	

ES_ZPDFringeCount — 2byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Scan	Yes	No	4	4
FOR	No	No	30	30
FOV	No	No	9	9
Band	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	
Interferogram fringe count at zero path difference before decimation.	0	MIN_VAL	MAX_VAL	unitless	No		unsigned 16-bit integer	Name	Value	Name	Value
								NA_UINT16_FILL	65535		
								MISS_UINT16_FILL	65534		
								ERR_UINT16_FILL	65531		
								VDNE_UINT16_FILL	65529		

SDRFringeCount — 2byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Scan	Yes	No	4	4
FOR	No	No	30	30
FOV	No	No	9	9
Band	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	
The calculated number of fringes that the interferogram was advanced or delayed.	0	MIN_VAL	MAX_VAL	unitless	No		unsigned 16-bit integer	Name	Value	Name	Value
								NA_UINT16_FILL	65535		
								MISS_UINT16_FILL	65534		
								ERR_UINT16_FILL	65531		
								VDNE_UINT16_FILL	65529		

ES_RDRImpulseNoise — 1byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Scan	Yes	No	4	4
FOR	No	No	30	30
FOV	No	No	9	9
Band	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	
This flag represents the number of samples in an interferogram that exceeded the impulse noise mask and were set to zero; if > 1 the resultant spectrum is flagged as having excess noise.	0	MIN_VAL	MAX_VAL	unitless	No		unsigned 8-bit char	Name	Value	Name	Value
								NA_UINT8_FILL	255		
								MISS_UINT8_FILL	254		
								ERR_UINT8_FILL	251		
								VDNE_UINT8_FILL	249		

MonitoredLaserWavelength — 8byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Scan	Yes	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	
This flag represents the monitored laser metrology wavelength, calculated using data from the 4-min engineering packets and Neon calibrated laser metrology wavelength.	0	MIN_VAL	MAX_VAL	nm	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		

MeasuredLaserWavelength — 8byte(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.

		Scan	Yes	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	
This quality flag represents the measured metrology laser wavelength with neon lamp calibration.	0	MIN_VAL	MAX_VAL	nm	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		

ResamplingLaserWavelength 8byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Scan	Yes	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	
This flag represents the wavelength used for the spectral resampling, which is half of the current metrology laser wavelength.	0	MIN_VAL	MAX_VAL	nm	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		

DS_Symmetry 8byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Scan	Yes	No	4	4
FOV	No	No	9	9
Band	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	
This flag is intended to identify the asymmetry in the measured DS IGMs.	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		
								VDNE_FLOAT64_FILL	-999.3		

DS_SpectralStability 8byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Scan	Yes	No	4	4
Direction	No	No	2	2
FOV	No	No	9	9
Band	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	
This flag monitors the spectral variability of the DS views within the moving window.	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		

		VDNE_FLOAT64_FILL: -999.3

ICT_SpectralStability — 8byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Scan	Yes	No	4	4
Direction	No	No	2	2
FOV	No	No	9	9
Band	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
This flag monitors the spectral variability of the ICT views within the moving window.	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 VDNE_FLOAT64_FILL: -999.3	

ICT_TemperatureStability — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Scan	Yes	No	4	4
Direction	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
This flag measures the stability of the two Platinum Resistance Temperature measurements of the Internal Calibration Target.	0	MIN_VAL	MAX_VAL	Kelvin	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	

ICT_TemperatureConsistency — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Scan	Yes	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
This flag measures the consistency between the two Platinum Resistance Temperature measurements of the Internal Calibration Target.	0	MIN_VAL	MAX_VAL	Kelvin	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	

NumberOfValidPRTTemps — 1byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Scan	Yes	No	4	4
PRTType	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
Number of valid PRT Temperatures used.	0	MIN_VAL	MAX_VAL	unitless	No		unsigned 8-bit char	NA_UINT8_FILL: 255 MISS_UINT8_FILL: 254 ERR_UINT8_FILL: 251 VDNE_UINT8_FILL: 249	

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.

CrIS Truncated Spectral Resolution SDR Product Profile - Quality flags

Fields

Name	Data Size	Dimensions
QF1_SCAN_CRISSDR	1byte(s)	

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Scan	Yes	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
Data Gap - There is a data gap in the RDRs, i.e. missing scan(s), preceding or succeeding the current scan.	0	MIN_VAL	MAX_VAL	unitless	No		1 bit(s)	Name Value	Name Value False 0 True 1
Timing sequence Error - The QF is set if the time difference between a FOR packet and the corresponding FOR packet in the preceding or succeeding scan is not within 8 seconds plus or minus the timingSequenceErrorThreshold (CFG parameter in the PCT).	1	MIN_VAL	MAX_VAL	unitless	No		1 bit(s)	Name Value	Name Value False 0 True 1
Lambda Monitored Quality - Invalid laser wavelength calculation due to invalid diode current and/or temperature measurements.	2	MIN_VAL	MAX_VAL	unitless	No		1 bit(s)	Name Value	Name Value False 0 True 1
Invalid Instrument Temperatures - The measured temperature of any instrument components (e.g., beam-splitter, scan mirror, scan baffle, etc.) are out of allowable ranges. These temperatures are used to compute the "environmental" contribution to the ICT radiances. If this happens, the invalid temperatures are replaced with the validated temperature value of the ICT.	3	MIN_VAL	MAX_VAL	unitless	No		1 bit(s)	Name Value	Name Value False 0 True 1
Excess Thermal Drift (over threshold): At least one of the monitored instrument temperatures has drifted more than a specified tolerance value.	4	MIN_VAL	MAX_VAL	unitless	No		1 bit(s)	Name Value	Name Value False 0 True 1
Suspect neon calibration flag is set if the fraction of IFGMs with invalid neon calibrations exceeds the invalidNeonCalibrationPercentageThreshold value (CFG parameter in the PCT file)	5	MIN_VAL	MAX_VAL	unitless	No		1 bit(s)	Name Value	Name Value False 0 True 1
Spare	6	MIN_VAL	MAX_VAL	unitless	No		2 bit(s)	Name Value	Name Value

QF2_CRISSDR	1byte(s)	

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Scan	Yes	No	4	4
FOV	No	No	9	9
Band	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 Intrusion - If set at least one spectrum in the Deep Space moving average was invalidated due to a lunar intrusion.	0	MIN_VAL	MAX_VAL	unitless	No		2 bit(s)	Name Value	Name Value No intrusion 0 Lunar intrusion on first DS view 1 Lunar intrusion on second DS view 2 Intrusion on both DS views 3
Spare	2	MIN_VAL	MAX_VAL	unitless	No		6 bit(s)	Name Value	Name Value

QF3_CRISSDR	1byte(s)	

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Scan	Yes	No	4	4
FOR	No	No	30	30
FOV	No	No	9	9
Band	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
SDR Quality 3 (NA):	0	MIN_VAL	MAX_VAL	unitless	No		2 bit(s)	Name Value	Name Value

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		Fake spectra of a short granule 2 (Invalid): Bit Trim Failed (QF4 bit 4) = 1; OR FCE Detect (QF4 bit 3) = 1; OR Invalid RDR Data (QF4 bit 2) = 1; OR Invalid Radiometric Calibration (QF3 bits 4-5) = 2; OR Invalid Spectral Calibration (QF3 bits 6-7) = 2; OR Invalid Imaginary Radiance Flag (QF4 bit 5) = 1; OR Radiance Value is less than the minimum radiance threshold or greater than the maximum radiance threshold 1 (Degraded): Invalid Geolocation (QF3 bit 3) = 1; OR Invalid Spectral Calibration (QF3 bits 6-7) = 1; OR Invalid Radiometric Calibration (QF3 bits 4-5) = 1 0 (Good): None of the above									Good 0 Degraded 1 Invalid 2 N/A 3
		Invalid Geolocation - The geolocation information included in the SDR is invalid. Invalid Geolocation QF is set if: Exit vector from the instrument does not intersect the ellipsoid, OR Ephemeris and attitude data does not cover the granule time span (both on-board ephemeris and TLE derived ephemeris are unavailable), OR Granule times are bad	2	MIN_VAL	MAX_VAL	unitless	No		1 bit(s)	**Name** **Value**	**Name** **Value** False 0 True 1
		Invalid Radiometric Calibration – 2(invalid): Radiometric calibration is not performed (e.g., ES_RDRImpulseNoise (RDR Impulse Noise) is FILL) or performed with invalid calibration data (i.e., DS Window Size < 1 or ICT Window Size < 1) 1(Degraded): [DS Window Size (per band/FOV/DS View) < (CRIS_WINDOW_SIZE = 30)/2 AND DS Window Size > 1]; OR [ICT Window Size (per band/FOV/DS View) < (CRIS_WINDOW_SIZE = 30)/2 AND ICT Window Size > 1]; OExcess Thermal Drift (scan-level QF1 bit 5) = 1; OR Invalid Instrument Temperatures (scan-level QF1 bit 4) = 1; OR ICT Temperature Stability (per scan/ICT View) > ictTempStabilityThreshold (PCT parameter); OR ICT Temperature Consistency (per scan) > ictTempConsistencyThreshold (PCT parameter); OR Number of Valid PRT Temperatures (per scan/ICT View) < numOfValidPRTTempThreshold (PCT parameter); OR RDR Impulse Noise Count (per band/FOV/FOR/Scan) > impulseNoiseCountThreshold (PCT parameter) 0 (Good): None of the above.	3	MIN_VAL	MAX_VAL	unitless	No		2 bit(s)	**Name** **Value**	**Name** **Value** Good 0 Degraded 1 Invalid 2
		Invalid Spectral Calibration - 2 (Invalid): FCE Correction Failed (QF3 bit 8) = 1 (i.e., FCE failed correction); OR [Suspect Neon Calibration (scan-level QF1 bit 6) = 1 AND Lambda Monitored Quality (scan-level QF1 bit 3) = 1] 1 (Degraded): [Suspect Neon Calibration (scan-level QF1 bit 6) = 1 AND Lambda Monitored Quality (scan-level QF1 bit 3) = 0]; OR [Suspect Neon Calibration (scan-level QF1 bit 6) = 0 AND Lambda Monitored Quality (scan-level QF1 bit 3) = 1]; OR FCE Detection (QF4 bit 3) = 1 0 (Good): None of the above.	5	MIN_VAL	MAX_VAL	unitless	No		2 bit(s)	**Name** **Value**	**Name** **Value** Good 0 Degraded 1 Invalid 2
		Fringe Count Error Correction Failed	7	MIN_VAL	MAX_VAL	unitless	No		1 bit(s)	**Name** **Value**	**Name** **Value** False 0 True 1
QF4_CRISSDR	1byte(s)	**Name** **Granule Boundary** **Dynamic** **Min Array Size** **Max Array Size** Scan Yes No 4 4 FOR No No 30 30 FOV No No 9 9 Band No No 3 3 **Datum**									

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Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values	Legend Entries
Day/Night Indicator	0	MIN_VAL	MAX_VAL	unitless	No		1 bit(s)	Name / Value	Name / Value: Day (Solar Zenith Angle < 90) / 0; Night (Solar Zenith Angle >= 90) / 1
Invalid RDR Data – The flag is set when either the instrument exhibited operational errors (i.e., set by the CrIS instrument on-board and contained in the CrIS RDR data packet INF_<band><FOV><scene>_ScanStatFlg(Invld Interferogram Dat Exceed ZPD Sat Limit) (Start bit 32, Bit Size = 1)), OR, the pertaining ES packet for that band/FOV is missing. In either case, the associated interferogram(s) is excluded from SDR processing.	1	MIN_VAL	MAX_VAL	unitless	No		1 bit(s)	Name / Value	Name / Value: False / 0; True / 1
Fringe Count Error Detection - A significant number of fringes have been missed, shifting the interferogram ZPD outside of a window monitored by the instrument, and the interferogram is excluded from SDR processing.	2	MIN_VAL	MAX_VAL	unitless	No		1 bit(s)	Name / Value	Name / Value: False / 0; True / 1
Bit Trim Failed	3	MIN_VAL	MAX_VAL	unitless	No		1 bit(s)	Name / Value	Name / Value: False / 0; True / 1
Imaginary Radiance Invalid – The imaginary radiance for at least one channel falls outside of the valid range.	4	MIN_VAL	MAX_VAL	unitless	No		1 bit(s)	Name / Value	Name / Value: False / 0; True / 1
Spare	5	MIN_VAL	MAX_VAL	unitless	No		3 bit(s)	Name / Value	Name / Value

6.2.4 CrIS Full Spectral Resolution SDR Product Profile

Table: 6.2.4-1 CrIS Full Spectral Resolution SDR Product Profile

CrIS Full Spectral Resolution SDR Product Profile

Fields

Name	Data Size	Dimensions
ES_RealLW	4byte(s)	Name / Granule Boundary / Dynamic / Min Array Size / Max Array Size: Scan / Yes / No / 4 / 4; FOR / No / No / 30 / 30; FOV / No / No / 9 / 9; LWPoint / No / No / 717 / 717
		Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values	Legend Entries
CrIS LW Band spectrally and radiometrically calibrated radiances (real part of spectra)	0	MIN_VAL	MAX_VAL	mW/(m^2 sr cm^-1)	No		32-bit floating point	Name / Value: NA_FLOAT32_FILL / -999.9; MISS_FLOAT32_FILL / -999.8; ERR_FLOAT32_FILL / -999.5; VDNE_FLOAT32_FILL / -999.3	Name / Value

ES_RealMW	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

		Scan	Yes	No	4	4															
		FOR	No	No	30	30															
		FOV	No	No	9	9															
		MWPoint	No	No	869	869															
		Datum																			
		Description					**Datum Offset**	**Unscaled Valid Range Min**	**Unscaled Valid Range Max**	**Measurement Units**	**Scaled**	**Scale Factor Name**	**Data Type**	**Fill Values**		**Legend Entries**	
		CrIS MW Band spectrally and radiometrically calibrated data for mid-wave band (real part of spectra)					0	MIN_VAL	MAX_VAL	mW/(m^2 sr cm^-1)	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		
ES_RealSW	4byte(s)	**Name**	**Granule Boundary**	**Dynamic**	**Min Array Size**	**Max Array Size**											
		Scan	Yes	No	4	4											
		FOR	No	No	30	30											
		FOV	No	No	9	9											
		SWPoint	No	No	637	637											
		Datum															
		Description					**Datum Offset**	**Unscaled Valid Range Min**	**Unscaled Valid Range Max**	**Measurement Units**	**Scaled**	**Scale Factor Name**	**Data Type**	**Fill Values**		**Legend Entries**	
		CrIS SW Band spectrally and radiometrically calibrated data for short-wave band (real part of spectra)					0	MIN_VAL	MAX_VAL	mW/(m^2 sr cm^-1)	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		
ES_ImaginaryLW	4byte(s)	**Name**	**Granule Boundary**	**Dynamic**	**Min Array Size**	**Max Array Size**											
		Scan	Yes	No	4	4											
		FOR	No	No	30	30											
		FOV	No	No	9	9											
		LWPoint	No	No	717	717											
		Datum															
		Description					**Datum Offset**	**Unscaled Valid Range Min**	**Unscaled Valid Range Max**	**Measurement Units**	**Scaled**	**Scale Factor Name**	**Data Type**	**Fill Values**		**Legend Entries**	
		Imaginary part of spectra for long-wave band					0	MIN_VAL	MAX_VAL	mW/(m^2 sr cm^-1)	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		
ES_ImaginaryMW	4byte(s)	**Name**	**Granule Boundary**	**Dynamic**	**Min Array Size**	**Max Array Size**											
		Scan	Yes	No	4	4											
		FOR	No	No	30	30											
		FOV	No	No	9	9											
		MWPoint	No	No	869	869											
		Datum															
		Description					**Datum Offset**	**Unscaled Valid Range Min**	**Unscaled Valid Range Max**	**Measurement Units**	**Scaled**	**Scale Factor Name**	**Data Type**	**Fill Values**		**Legend Entries**	
		Imaginary part of spectra for mid-wave band					0	MIN_VAL	MAX_VAL	mW/(m^2 sr cm^-1)	No		32-bit floating point	**Name**	**Value**	**Name**	**Value**
														NA_FLOAT32_FILL	-999.9		
														MISS_FLOAT32_FILL	-999.8		
														ERR_FLOAT32_FILL	-999.5		

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Fields

										VDNE_FLOAT32_FILL	-999.3	

ES_ImaginarySW — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Scan	Yes	No	4	4
FOR	No	No	30	30
FOV	No	No	9	9
SWPoint	No	No	637	637

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Imaginary part of spectra for short-wave band	0	MIN_VAL	MAX_VAL	mW/(m^2 sr cm^-1)	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		

ES_NEdNLW — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Scan	Yes	No	4	4
FOR	No	No	30	30
FOV	No	No	9	9
LWPoint	No	No	717	717

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Spectral Noise Estimate - long-wave	0	MIN_VAL	MAX_VAL	mW/(m^2 sr cm^-1)	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		

ES_NEdNMW — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Scan	Yes	No	4	4
FOR	No	No	30	30
FOV	No	No	9	9
MWPoint	No	No	869	869

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Spectral Noise Estimate - mid-wave	0	MIN_VAL	MAX_VAL	mW/(m^2 sr cm^-1)	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		

ES_NEdNSW — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Scan	Yes	No	4	4
FOR	No	No	30	30
FOV	No	No	9	9
SWPoint	No	No	637	637

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Spectral Noise Estimate - short-wave	0	MIN_VAL	MAX_VAL	mW/(m^2 sr cm^-1)	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		

DS_WindowSize — 2byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Scan	Yes	No	4	4
DS_View	No	No	2	2
FOV	No	No	9	9

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

		Band | 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
The number of Deep Space (DS) spectra used to calibrate the earth scene.	0	MIN_VAL	MAX_VAL	unitless	No		unsigned 16-bit integer	Name: Value NA_UINT16_FILL: 65535 MISS_UINT16_FILL: 65534 ERR_UINT16_FILL: 65531 VDNE_UINT16_FILL: 65529	Name: Value

ICT_WindowSize — 2byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Scan	Yes	No	4	4
ICT_View	No	No	2	2
FOV	No	No	9	9
Band	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
The number of Internal Calibration Target (ICT) spectra used to calibrate the earth scene.	0	MIN_VAL	MAX_VAL	unitless	No		unsigned 16-bit integer	Name: Value NA_UINT16_FILL: 65535 MISS_UINT16_FILL: 65534 ERR_UINT16_FILL: 65531 VDNE_UINT16_FILL: 65529	Name: Value

ES_ZPDAmplitude — 2byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Scan	Yes	No	4	4
FOR	No	No	30	30
FOV	No	No	9	9
Band	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
Interferogram amplitude at zero path difference.	0	MIN_VAL	MAX_VAL	unitless	No		16-bit integer	Name: Value NA_INT16_FILL: -999 MISS_INT16_FILL: -998 ERR_INT16_FILL: -995 VDNE_INT16_FILL: -993	Name: Value

ES_ZPDFringeCount — 2byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Scan	Yes	No	4	4
FOR	No	No	30	30
FOV	No	No	9	9
Band	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
Interferogram fringe count at zero path difference before decimation.	0	MIN_VAL	MAX_VAL	unitless	No		unsigned 16-bit integer	Name: Value NA_UINT16_FILL: 65535 MISS_UINT16_FILL: 65534 ERR_UINT16_FILL: 65531 VDNE_UINT16_FILL: 65529	Name: Value

SDRFringeCount — 2byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Scan	Yes	No	4	4
FOR	No	No	30	30
FOV	No	No	9	9
Band	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

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Fields

		The calculated number of fringes that the interferogram was advanced or delayed.	0	MIN_VAL	MAX_VAL	unitless	No		unsigned 16-bit integer	Name / Value: NA_UINT16_FILL 65535; MISS_UINT16_FILL 65534; ERR_UINT16_FILL 65531; VDNE_UINT16_FILL 65529			
ES_RDRImpulseNoise	1byte(s)												

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Scan	Yes	No	4	4
FOR	No	No	30	30
FOV	No	No	9	9
Band	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
This flag represents the number of samples in an interferogram that exceeded the impulse noise mask and were set to zero; if > 1 the resultant spectrum is flagged as having excess noise.	0	MIN_VAL	MAX_VAL	unitless	No		unsigned 8-bit char	Name / Value: NA_UINT8_FILL 255; MISS_UINT8_FILL 254; ERR_UINT8_FILL 251; VDNE_UINT8_FILL 249	Name / Value

MonitoredLaserWavelength — 8byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Scan	Yes	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
This flag represents the monitored laser metrology wavelength, calculated using data from the 4-min engineering packets and Neon calibrated laser metrology wavelength.	0	MIN_VAL	MAX_VAL	nm	No		64-bit floating point	Name / Value: NA_FLOAT64_FILL -999.9; MISS_FLOAT64_FILL -999.8; ERR_FLOAT64_FILL -999.5; VDNE_FLOAT64_FILL -999.3	Name / Value

MeasuredLaserWavelength — 8byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Scan	Yes	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
This quality flag represents the measured metrology laser wavelength with neon lamp calibration.	0	MIN_VAL	MAX_VAL	nm	No		64-bit floating point	Name / Value: NA_FLOAT64_FILL -999.9; MISS_FLOAT64_FILL -999.8; ERR_FLOAT64_FILL -999.5; VDNE_FLOAT64_FILL -999.3	Name / Value

ResamplingLaserWavelength — 8byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Scan	Yes	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
This flag represents the wavelength used for the spectral resampling, which is half of the current metrology laser wavelength.	0	MIN_VAL	MAX_VAL	nm	No		64-bit floating point	Name / Value: NA_FLOAT64_FILL -999.9; MISS_FLOAT64_FILL -999.8	Name / Value

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Fields

											ERR_FLOAT64_FILL	-999.5
											VDNE_FLOAT64_FILL	-999.3

DS_Symmetry — 8byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Scan	Yes	No	4	4
FOV	No	No	9	9
Band	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	
This flag is intended to identify the asymmetry in the measured DS IGMs.	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		
								VDNE_FLOAT64_FILL	-999.3		

DS_SpectralStability — 8byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Scan	Yes	No	4	4
Direction	No	No	2	2
FOV	No	No	9	9
Band	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	
This flag monitors the spectral variability of the DS views within the moving window.	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		
								VDNE_FLOAT64_FILL	-999.3		

ICT_SpectralStability — 8byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Scan	Yes	No	4	4
Direction	No	No	2	2
FOV	No	No	9	9
Band	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	
This flag monitors the spectral variability of the ICT views within the moving window.	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		
								VDNE_FLOAT64_FILL	-999.3		

ICT_TemperatureStability — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Scan	Yes	No	4	4
Direction	No	No	2	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.

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	
								Name	Value	Name	Value
This flag measures the stability of the two Platinum Resistance Temperature measurements of the Internal Calibration Target.	0	MIN_VAL	MAX_VAL	Kelvin	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		

ICT_TemperatureConsistency	4byte(s)	**Name**	**Granule Boundary**	**Dynamic**	**Min Array Size**	**Max Array Size**
		Scan	Yes	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	
								Name	Value	Name	Value
This flag measures the consistency between the two Platinum Resistance Temperature measurements of the Internal Calibration Target.	0	MIN_VAL	MAX_VAL	Kelvin	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		

NumberOfValidPRTTemps	1byte(s)	**Name**	**Granule Boundary**	**Dynamic**	**Min Array Size**	**Max Array Size**
		Scan	Yes	No	4	4
		PRTType	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	
								Name	Value	Name	Value
Number of valid PRT Temperatures used.	0	MIN_VAL	MAX_VAL	unitless	No		unsigned 8-bit char	NA_UINT8_FILL	255		
								MISS_UINT8_FILL	254		
								ERR_UINT8_FILL	251		
								VDNE_UINT8_FILL	249		

CrIS Full Spectral Resolution SDR Product Profile - Quality flags

Fields

Name	Data Size	Dimensions
QF1_SCAN_CRISSDR	1byte(s)	

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Scan	Yes	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	
								Name	Value	Name	Value
Data Gap - There is a data gap in the RDRs, i.e. missing scan(s), preceding the current scan.	0	MIN_VAL	MAX_VAL	unitless	No		1 bit(s)			False	0
										True	1
Timing sequence Error - The recorded time is not in sequence. Set if scan start time is out of sequence.	1	MIN_VAL	MAX_VAL	unitless	No		1 bit(s)			False	0
										True	1

Fields

		Lambda Monitored Quality - Invalid laser wavelength calculation due to invalid diode current and/or temperature measurements.	2	MIN_VAL	MAX_VAL	unitless	No		1 bit(s)	Name Value	Name Value: False 0; True 1
		Invalid Instrument Temperatures - The measured temperature of any instrument components (e.g., beam-splitter, scan mirror, scan baffle, etc.) are out of allowable ranges. These temperatures are used to compute the "environmental" contribution to the ICT radiances. If this happens, the invalid temperatures are replaced with the validated temperature value of the ICT.	3	MIN_VAL	MAX_VAL	unitless	No		1 bit(s)	Name Value	Name Value: False 0; True 1
		Excess Thermal Drift (over threshold): At least one of the monitored instrument temperatures has drifted more than a specified tolerance value.	4	MIN_VAL	MAX_VAL	unitless	No		1 bit(s)	Name Value	Name Value: False 0; True 1
		Suspect neon calibration flag is set	5	MIN_VAL	MAX_VAL	unitless	No		1 bit(s)	Name Value	Name Value: False 0; True 1
		Spare	6	MIN_VAL	MAX_VAL	unitless	No		2 bit(s)	Name Value	Name Value

QF2_CRISSDR — 1byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Scan	Yes	No	4	4
FOV	No	No	9	9
Band	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 Intrusion - If set at least one spectrum in the Deep Space moving average was invalidated due to a lunar intrusion.	0	MIN_VAL	MAX_VAL	unitless	No		2 bit(s)	Name Value	Name Value: No intrusion 0; Lunar intrusion on first DS view 1; Lunar intrusion on second DS view 2; Intrusion on both DS views 3
Spare	2	MIN_VAL	MAX_VAL	unitless	No		6 bit(s)	Name Value	Name Value

QF3_CRISSDR — 1byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Scan	Yes	No	4	4
FOR	No	No	30	30
FOV	No	No	9	9
Band	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
SDR Quality 3 (NA): Fake spectra of a short granule 2 (Invalid): Bit Trim Failed (QF4 bit 4) = 1; OR FCE Detect (QF4 bit 3) = 1; OR Invalid RDR Data (QF4 bit 2) = 1; OR Invalid Radiometric Calibration (QF3 bits 4-5) = 2; OR Invalid Spectral Calibration (QF3 bits 6-7) = 2; OR Imaginary Radiance Flag (QF4 bit 5) = 1; OR Radiance Value is less than the minimum radiance threshold or	0	MIN_VAL	MAX_VAL	unitless	No		2 bit(s)	Name Value	Name Value: Good 0; Degraded 1; Invalid 2; N/A 3

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Fields											
		greater than the maximum radiance threshold 1 (Degraded): Invalid Geolocation (QF3 bit 3) = 1; OR Invalid Spectral Calibration (QF3 bits 6-7) = 1; OR Invalid Radiometric Calibration (QF3 bits 4-5) = 1 0 (Good): None of the above										
		Invalid Geolocation - The geolocation information included in the SDR is invalid	2	MIN_VAL	MAX_VAL	unitless	No		1 bit(s)	**Name** **Value**	**Name** **Value** False 0 True 1
		Invalid Radiometric Calibration - 2(invalid): Radiometric calibration is not performed or performed with invalid calibration data (i.e., DS Window Size = 0 or ICT Window Size = 0) 1(Degraded): [DS Window Size <= 14 AND DS Window Size >=1]; OR [ICT Window Size <= 14 AND ICT Window Size >= 1]; OR Excess Thermal Drift (scan-level QF1 bit 5) = 1; OR Invalid Instrument Temperatures (scan-level QF1 bit 4) = 1; OR ICT Temperature Stability (per scan/ICT View) > ictTempStabilityThreshold (PCT parameter); OR ICT Temperature Consistency (per scan) > ictTempConsistencyThreshold (PCT parameter); OR Number of Valid PRT Temperatures (per scan/ICT View) < numOfValidPRTTempThreshold (PCT parameter); OR RDR Impulse Noise Count (per band/FOV/FOR/Scan) > impulseNoiseCountThreshold (PCT parameter) 0 (Good): None of the above.	3	MIN_VAL	MAX_VAL	unitless	No		2 bit(s)	**Name** **Value**	**Name** **Value** Good 0 Degraded 1 Invalid 2
		Invalid Spectral Calibration - 2 (invalid): if FCE corrected	5	MIN_VAL	MAX_VAL	unitless	No		2 bit(s)	**Name** **Value**	**Name** **Value** Good 0 Degraded 1

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Fields

		= 1; or if Suspect Neon Calibration = 1 AND Lambda Monitored Quality = 1									Invalid 2
		Fringe Count Error Correction Failed	7	MIN_VAL	MAX_VAL	unitless	No		1 bit(s)	Name Value	Name Value False 0 True 1

QF4_CRISSDR — 1byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Scan	Yes	No	4	4
FOR	No	No	30	30
FOV	No	No	9	9
Band	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
Day/Night Indicator	0	MIN_VAL	MAX_VAL	unitless	No		1 bit(s)	Name Value	Name Value Day (Solar Zenith Angle < 90) 0 Night (Solar Zenith Angle >= 90) 1
Invalid RDR Data – The flag is set when either the instrument exhibited operational errors (i.e., set by the CrIS instrument on-board and contained in the CrIS RDR data packet INF_<band><FOV><scene>_ScanStatFlg(Invld Interferogram Dat Exceed ZPD Sat Limit) (Start bit 32, Bit Size = 1)), OR, the pertaining ES packet for that band/FOV is missing. In either case, the associated interferogram(s) is excluded from SDR processing.	1	MIN_VAL	MAX_VAL	unitless	No		1 bit(s)	Name Value	Name Value False 0 True 1
Fringe Count Error Detection - A significant number of fringes have been missed, shifting the interferogram ZPD outside of a window monitored by the instrument, and the interferogram is excluded from SDR processing.	2	MIN_VAL	MAX_VAL	unitless	No		1 bit(s)	Name Value	Name Value False 0 True 1
Bit Trim Failed	3	MIN_VAL	MAX_VAL	unitless	No		1 bit(s)	Name Value	Name Value False 0 True 1
Imaginary Radiance Invalid – The imaginary radiance for at least one channel falls outside of the valid range.	4	MIN_VAL	MAX_VAL	unitless	No		1 bit(s)	Name Value	Name Value False 0 True 1
Spare	5	MIN_VAL	MAX_VAL	unitless	No		3 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.

6.2.5 CrIS SDR HDF5 Details

Figure 6.2.3-1 provides the details on the content and data types of the CrIS SDR. This UML diagram provides details at the product level only. In addition to this UML diagram, refer to Figure 3.2-1, Generalized UML Diagram for HDF5 SDR/TDR Files, for a complete UML rendering of this product. This applies to both the CrIS-SDR and CrIS-FS-SDR.

CrIS-SDR
+ES_RealLW : H5T_NATIVE_FLOAT
+ES_RealMW : H5T_NATIVE_FLOAT
+ES_RealSW : H5T_NATIVE_FLOAT
+ES_ImaginaryLW : H5T_NATIVE_FLOAT
+ES_ImaginaryMW : H5T_NATIVE_FLOAT
+ES_ImaginarySW : H5T_NATIVE_FLOAT
+ES_NEdNLW : H5T_NATIVE_FLOAT
+ES_NEdNMW : H5T_NATIVE_FLOAT
+ES_NEdNSW : H5T_NATIVE_FLOAT
+DS_WindowSize : H5T_NATIVE_USHORT
+ICT_WindowSize : H5T_NATIVE_USHORT
+ES_ZPDAmplitude : H5T_NATIVE_USHORT
+ES_ZPDFringeCount : H5T_NATIVE_USHORT
+SDRFringeCount : H5T_NATIVE_USHORT
+ES_RDRImpulseNoise : H5T_NATIVE_UCHAR
+MonitoredLaserWavelength : H5T_NATIVE_DOUBLE
+MeasuredLaserWavelength : H5T_NATIVE_DOUBLE
+ResamplingLaserWavelength : H5T_NATIVE_DOUBLE
+DS_Symmetry : H5T_NATIVE_DOUBLE
+DS_SpectralStability : H5T_NATIVE_DOUBLE
+ICT_SpectralStability : H5T_NATIVE_DOUBLE
+ICT_TemperatureStability : H5T_NATIVE_FLOAT
+ICT_TemperatureConsistency : H5T_NATIVE_FLOAT
+NumberOfValidPRTTemps : H5T_NATIVE_UCHAR
+QF1_SCAN_CRISSDR : H5T_NATIVE_UCHAR
+QF2_CRISSDR : H5T_NATIVE_UCHAR
+QF3_CRISSDR : H5T_NATIVE_UCHAR
+QF4_CRISSDR : H5T_NATIVE_UCHAR

Figure: 6.2.5-1 CrIS SDR UML Diagram

6.2.6 CrIS SDR Metadata Details

The HDF5 metadata elements associated with the CrIS SDR are listed in the JPSS Algorithm Specification Volume II: Data Dictionary for the Common Algorithms (474-00448-02-01). The CrIS SDR metadata includes all common metadata at the root, product, aggregation, and granule level.

In addition to the common metadata items for the CrIS SDR, the items listed in Table 6.2.6-1, CrIS SDR Quality Summary Metadata are included as name/value pair items under the granule level metadata attribute “N_Quality_Summary”. The listed name/value pair items in the table are

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the granule level quality summary flags for the CrIS SDR and CrIS Full Spectral Resolution SDR.

Table: 6.2.6-1 CrIS SDR and CrIS-FS-SDR Quality Summary Metadata Values

N_Quality_Summary			
Name	**Value**	**Description**	**Comments**
Invalid Radiometric Calibration Yield	0 - 100 %	Percentage of calibrations that are invalid - Indicates the quality of the radiometric calibration	
Summary CrIS RDR Quality	0 - 100 %	Percentage of good quality earth view observations in granule	
Summary CrIS SDR Quality	0 - 100 %	Percentage of good quality earth view observations in granule	

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6.2.7 CrIS SDR Geolocation Content Summary

Table: 6.2.7-1 CrIS SDR Geolocation Data Content Summary

Name	Description	Data Type	Aggregate Dimension (N = Number of Granules)	Granule Dimension	Units
FORTime	Time for each FOR in IET (1/1/1958)	64-bit integer	[N*4, 30]	[4, 30]	microsecond
StartTime	Starting time of scan in IET (1/1/1958)	64-bit integer	[N*4]	[4]	microsecond
MidTime	Mid time of scan in IET (1/1/1958)	64-bit integer	[N*4]	[4]	microsecond
Latitude	Latitude (positive North) of the geolocated FOV center	32-bit floating point	[N*4, 30, 9]	[4, 30, 9]	degree
Longitude	Longitude (positive East) of the geolocated FOV center	32-bit floating point	[N*4,30, 9]	[4, 30, 9]	degree
SolarZenithAngle	Zenith angle of sun at the geolocated FOV center	32-bit floating point	[N*4, 30, 9]	[4, 30, 9]	degree
SolarAzimuthAngle	Azimuth angle of sun (measured clockwise positive from North) at the geolocated FOV center	32-bit floating point	[N*4, 30, 9]	[4, 30, 9]	degree
SatelliteZenithAngle	Zenith angle to satellite at the geolocated FOV center	32-bit floating point	[N*4, 30, 9]	[4, 30, 9]	degree
SatelliteAzimuthAngle	Azimuth angle (measured clockwise positive from North) to satellite at the geolocated FOV center	32-bit floating point	[N*4, 30, 9]	[4, 30, 9]	degree
Height	Ellipsoid-Geoid separation	32-bit floating point	[N*4, 30, 9]	[4, 30, 9]	meter

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 Dimension (N = Number of Granules)	Granule Dimension	Units
SatelliteRange	Line of sight distance from the ellipsoid intersection to the satellite	32-bit floating point	[N*4, 30, 9]	[4, 30, 9]	meter
SCPosition	Spacecraft position in ECR Coordinates (X, Y, Z) at the mid-time of scan	32-bit floating point	[N*4, 3]	[4, 3]	meter
SCVelocity	Spacecraft velocity in ECR Coordinates (dx/dt, dy/dt, dz/dt) at the mid-time of scan	32-bit floating point	[N*4, 3]	[4, 3]	m/s
SCAttitude	Spacecraft attitude with respect to the Geodetic Reference Frame Coordinates (roll, pitch, yaw) at the mid-time of scan	32-bit floating point	[N*4, 3]	[4, 3]	arcsecond
QF1_CRISSDRGEO	Attitude and Ephemeris availability status	unsigned 8-bit char	[N*4]	[4]	unitless
PadByte1	Pad byte	unsigned 8-bit char	[N*4]	[4]	unitless
File Size	**35,736 Bytes**				

6.2.8 CrIS SDR Geolocation Product Profile

Table: 6.2.8-1 CrIS SDR Geolocation Product Profile

CrIS SDR Geolocation Product Profile

Fields

Name	Data Size	Dimensions
FORTime	8byte(s)	Name: Scan, Granule Boundary: Yes, Dynamic: No, Min Array Size: 4, Max Array Size: 4 Name: FOR, Granule Boundary: No, Dynamic: No, Min Array Size: 30, Max Array Size: 30 **Datum** Description: Time for each FOR in IET (1/1/1958); Datum Offset: 0; Unscaled Valid Range Min: MIN_VAL; Unscaled Valid Range Max: MAX_VAL; Measurement Units: microsecond; Scaled: No; Scale Factor Name: ; Data Type: 64-bit integer Fill Values: NA_INT64_FILL = -999; MISS_INT64_FILL = -998 Legend Entries: Name, Value

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									ERR_INT64_FILL	-995
									VDNE_INT64_FILL	-993

StartTime — 8byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Scan	Yes	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	
Starting time of scan in IET (1/1/1958)	0	MIN_VAL	MAX_VAL	microsecond	No		64-bit integer	Name	Value	Name	Value
								NA_INT64_FILL	-999		
								MISS_INT64_FILL	-998		
								ERR_INT64_FILL	-995		
								VDNE_INT64_FILL	-993		

MidTime — 8byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Scan	Yes	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	
Mid time of scan in IET (1/1/1958)	0	MIN_VAL	MAX_VAL	microsecond	No		64-bit integer	Name	Value	Name	Value
								NA_INT64_FILL	-999		
								MISS_INT64_FILL	-998		
								ERR_INT64_FILL	-995		
								VDNE_INT64_FILL	-993		

Latitude — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Scan	Yes	No	4	4
FOR	No	No	30	30
FOV	No	No	9	9

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Latitude (positive North) of the geolocated FOV center	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		

Longitude — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Scan	Yes	No	4	4
FOR	No	No	30	30
FOV	No	No	9	9

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 (positive East) of the geolocated FOV center	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
Scan	Yes	No	4	4
FOR	No	No	30	30
FOV	No	No	9	9

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 the geolocated FOV center	0	0	180	degree	No		32-bit floating point	Name	Value	Name	Value
								NA_FLOAT32_FILL	-999.9		

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										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
Scan	Yes	No	4	4
FOR	No	No	30	30
FOV	No	No	9	9

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 the geolocated FOV center	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	

SatelliteZenithAngle — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Scan	Yes	No	4	4
FOR	No	No	30	30
FOV	No	No	9	9

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 to satellite at the geolocated FOV center	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
Scan	Yes	No	4	4
FOR	No	No	30	30
FOV	No	No	9	9

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 (measured clockwise positive from North) to satellite at the geolocated FOV center	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
Scan	Yes	No	4	4
FOR	No	No	30	30
FOV	No	No	9	9

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.

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Ellipsoid-Geoid separation	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		
								ELLIPSOID_FLOAT32_FILL	-999.4		
								VDNE_FLOAT32_FILL	-999.3		

SatelliteRange — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Scan	Yes	No	4	4
FOR	No	No	30	30
FOV	No	No	9	9

Datum

Description	Datum Offset	Unscaled Valid Range Min	Unscaled Valid Range Max	Measurement Units	Scaled	Scale Factor Name	Data Type	Fill Values		Legend Entries	
Line of sight distance from the ellipsoid intersection to the satellite	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		
								ELLIPSOID_FLOAT32_FILL	-999.4		
								VDNE_FLOAT32_FILL	-999.3		

SCPosition — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Scan	Yes	No	4	4
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 the mid-time of scan	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 — 4byte(s)

Name	Granule Boundary	Dynamic	Min Array Size	Max Array Size
Scan	Yes	No	4	4
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 the mid-time of scan	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
Scan	Yes	No	4	4
GRFCoordinate	No	No	3	3

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		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 Coordinates (roll, pitch, yaw) at the mid-time of scan	0	MIN_VAL	MAX_VAL	arcsecond	No		32-bit floating point	Name / Value: NA_FLOAT32_FILL / -999.9; MISS_FLOAT32_FILL / -999.8; ERR_FLOAT32_FILL / -999.5; VDNE_FLOAT32_FILL / -999.3		Name / Value

CrIS SDR Geolocation Product Profile - Quality Flags

Fields

Name	Data Size	Dimensions
QF1_CRISSDRGEO	1byte(s)	Name: Scan; Granule Boundary: Yes; Dynamic: No; Min Array Size: 4; Max Array Size: 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
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:

Name	Data Size	Dimensions
PadByte1	1byte(s)	Name: Granule; Granule Boundary: Yes; Dynamic: No; Min Array Size: 4; Max Array Size: 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
Pad byte	0	MIN_VAL	MAX_VAL	unitless	No		unsigned 8-bit char	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.

6.2.9 CrIS SDR Geolocation HDF5 Details

Figure 6.2.9-1 provides the details on the content and data types of the CrIS SDR Geolocation. This UML diagram provides details at the product level only. In addition to this UML diagram, refer to Figure 3.2-1, Generalized UML Diagram for HDF5 SDR/TDR Files, for a complete UML rendering of this product.

CrIS-SDR-GEO
+FORTime : H5T_NATIVE_LLONG
+StartTime : H5T_NATIVE_LLONG
+MidTime : H5T_NATIVE_LLONG
+Latitude : H5T_NATIVE_FLOAT
+Longitude : H5T_NATIVE_FLOAT
+SolarZenithAngle : H5T_NATIVE_FLOAT
+SolarAzimuthAngle : H5T_NATIVE_FLOAT
+SatelliteZenithAngle : H5T_NATIVE_FLOAT
+SatelliteAzimuthAngle : H5T_NATIVE_FLOAT
+Height : H5T_NATIVE_FLOAT
+SatelliteRange : H5T_NATIVE_FLOAT
+SCPosition : H5T_NATIVE_FLOAT
+SCVelocity : H5T_NATIVE_FLOAT
+SCAttitude : H5T_NATIVE_FLOAT
+QF1_CRISSDRGEO : H5T_NATIVE_UCHAR
+PadByte1 : H5T_NATIVE_UCHAR

Figure: 6.2.9-1 CrIS SDR Geolocation UML Diagram

6.2.10 CrIS SDR Geolocation Metadata Details

There are no quality summary metadata items in the CrIS SDR Geolocation.

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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 CrIS RDR and SDR LUTs

CrIS RDRs and SDRs currently use no LUTs.

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

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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 CrIS Correction Matrix Automated PC

Data Mnemonic	NP_NU-LM0130-000 (CrIS-Correct-Matrix-AUX) NP_NU-LM0130-002 (CrIS-FS-Correct-Matrix-AUX)
Description/ Purpose	The Cross-track Infrared Sounder (CrIS) Correction Matrix PC is applied to spectra as they are ejected from a sliding window. The 4-minute Engineering packet is used as input to create it. It is created at least once an orbit, estimated. The neon lamp measurements provide the measured laser wavelength that is stored in the Engineering packet binary file (CrIS-SDR-ENGPKT-BACKUP-AUX) or CrIS-FS-SDR-ENGPKT-BACKUP-AUX. The corresponding updated CMO matrix is stored in the CMO binary file (CrIS-Correct-Matrix-AUX) or CrIS-FS-Correct-Matrix-AUX. The FSR contains 2711 channels whereas the TSR has 1592.
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, CrIS Correction Matrix PC Data Format for size. See Table 7.2.1.1-2, CrIS Full Spectral Resolution Correction Matrix PC Data Format for size.
File Format Type	Big Endian Binary (structure stored within HDF5)
Production Frequency	As needed
Data Content and Data Format	For details see Table 7.2.1.1-1, CrIS Correction Matrix PC Data Format and see Table: 7.2.1.1-2, CrIS Full Spectral Resolution Correction Matrix PC Data Format

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Table: 7.2.1.1-1 CrIS Correction Matrix PC Data Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
padding	2	16-bit integer	MIN_VAL - MAX_VAL	unitless	
Version	2	16-bit integer	MIN_VAL - MAX_VAL	unitless	
lowestWavenumber_LW_FOV_1	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	
deltaSigma_LW_FOV_1	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	Specifies wavenumber spacing for Resampling for LW
theMatrix_LW_FOV_1	5971968	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Correction Matrix Operator (CMO) 2 Dimensional Array: LW_POINTS_DECIMATED_INTERFEROGRAM x LW_POINTS_DECIMATED_INTERFEROGRAM Size of Dimension(s): 864 x 864
lowestWavenumber_LW_FOV_2	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	
deltaSigma_LW_FOV_2	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	Specifies wavenumber spacing for Resampling for LW for FOV 2
theMatrix_LW_FOV_2	5971968	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Correction Matrix Operator (CMO) 2 Dimensional Array: LW_POINTS_DECIMATED_INTERFEROGRAM x LW_POINTS_DECIMATED_INTERFEROGRAM Size of Dimension(s): 864 x 864
lowestWavenumber_LW_FOV_3	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	
deltaSigma_LW_FOV_3	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	Specifies wavenumber spacing for Resampling for LW for FOV 3
theMatrix_LW_FOV_3	5971968	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Correction Matrix Operator (CMO) 2 Dimensional Array: LW_POINTS_DECIMATED_INTERFEROGRAM x

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Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
					LW_POINTS_DECIMATED_INTERFEROGRAM Size of Dimension(s): 864 x 864
lowestWavenumber_LW_FOV_4	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	
deltaSigma_LW_FOV_4	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	Specifies wavenumber spacing for Resampling for LW for FOV 4
theMatrix_LW_FOV_4	5971968	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Correction Matrix Operator (CMO) 2 Dimensional Array: LW_POINTS_DECIMATED_INTERFEROGRAM x LW_POINTS_DECIMATED_INTERFEROGRAM Size of Dimension(s): 864 x 864
lowestWavenumber_LW_FOV_5	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	
deltaSigma_LW_FOV_5	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	Specifies wavenumber spacing for Resampling for LW for FOV 5
theMatrix_LW_FOV_5	5971968	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Correction Matrix Operator (CMO) 2 Dimensional Array: LW_POINTS_DECIMATED_INTERFEROGRAM x LW_POINTS_DECIMATED_INTERFEROGRAM Size of Dimension(s): 864 x 864
lowestWavenumber_LW_FOV_6	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	
deltaSigma_LW_FOV_6	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	Specifies wavenumber spacing for Resampling for LW for FOV 6
theMatrix_LW_FOV_6	5971968	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Correction Matrix Operator (CMO) 2 Dimensional Array: LW_POINTS_DECIMATED_INTERFEROGRAM x LW_POINTS_DECIMATED_INTERFEROGRAM Size of Dimension(s): 864 x 864

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Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
lowestWavenumber_LW_FOV_7	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	
deltaSigma_LW_FOV_7	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	Specifies wavenumber spacing for Resampling for LW for FOV 7
theMatrix_LW_FOV_7	5971968	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Correction Matrix Operator (CMO) 2 Dimensional Array: LW_POINTS_DECIMATED_INTERFEROGRAM x LW_POINTS_DECIMATED_INTERFEROGRAM Size of Dimension(s): 864 x 864
lowestWavenumber_LW_FOV_8	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	
deltaSigma_LW_FOV_8	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	Specifies wavenumber spacing for Resampling for LW for FOV 8
theMatrix_LW_FOV_8	5971968	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Correction Matrix Operator (CMO) 2 Dimensional Array: LW_POINTS_DECIMATED_INTERFEROGRAM x LW_POINTS_DECIMATED_INTERFEROGRAM Size of Dimension(s): 864 x 864
lowestWavenumber_LW_FOV_9	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	
deltaSigma_LW_FOV_9	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	Specifies wavenumber spacing for Resampling for LW for FOV 9
theMatrix_LW_FOV_9	5971968	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Correction Matrix Operator (CMO) 2 Dimensional Array: LW_POINTS_DECIMATED_INTERFEROGRAM x LW_POINTS_DECIMATED_INTERFEROGRAM Size of Dimension(s): 864 x 864
lowestWavenumber_MW_FOV_1	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-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.

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
deltaSigma_MW_FOV_1	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	Specifies wavenumber spacing for Resampling for MW for FOV 1
theMatrix_MW_FOV_1	2230272	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Correction Matrix Operator (CMO) 2 Dimensional Array: MW_POINTS_DECIMATED_INTERFEROGRAM x MW_POINTS_DECIMATED_INTERFEROGRAM Size of Dimension(s): 528 x 528
lowestWavenumber_MW_FOV_2	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	
deltaSigma_MW_FOV_2	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	Specifies wavenumber spacing for Resampling for MW for FOV 2
theMatrix_MW_FOV_2	2230272	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Correction Matrix Operator (CMO) 2 Dimensional Array: MW_POINTS_DECIMATED_INTERFEROGRAM x MW_POINTS_DECIMATED_INTERFEROGRAM Size of Dimension(s): 528 x 528
lowestWavenumber_MW_FOV_3	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	
deltaSigma_MW_FOV_3	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	Specifies wavenumber spacing for Resampling for MW for FOV 3
theMatrix_MW_FOV_3	2230272	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Correction Matrix Operator (CMO) 2 Dimensional Array: MW_POINTS_DECIMATED_INTERFEROGRAM x MW_POINTS_DECIMATED_INTERFEROGRAM Size of Dimension(s): 528 x 528
lowestWavenumber_MW_FOV_4	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	
deltaSigma_MW_FOV_4	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	Specifies wavenumber spacing for Resampling for MW for FOV 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.

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
theMatrix_MW_FOV_4	2230272	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Correction Matrix Operator (CMO) 2 Dimensional Array: MW_POINTS_DECIMATED_INTERFEROGRAM x MW_POINTS_DECIMATED_INTERFEROGRAM Size of Dimension(s): 528 x 528
lowestWavenumber_MW_FOV_5	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	
deltaSigma_MW_FOV_5	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	Specifies wavenumber spacing for Resampling for MW for FOV 5
theMatrix_MW_FOV_5	2230272	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Correction Matrix Operator (CMO) 2 Dimensional Array: MW_POINTS_DECIMATED_INTERFEROGRAM x MW_POINTS_DECIMATED_INTERFEROGRAM Size of Dimension(s): 528 x 528
lowestWavenumber_MW_FOV_6	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	
deltaSigma_MW_FOV_6	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	Specifies wavenumber spacing for Resampling for MW for FOV 6
theMatrix_MW_FOV_6	2230272	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Correction Matrix Operator (CMO) 2 Dimensional Array: MW_POINTS_DECIMATED_INTERFEROGRAM x MW_POINTS_DECIMATED_INTERFEROGRAM Size of Dimension(s): 528 x 528
lowestWavenumber_MW_FOV_7	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	
deltaSigma_MW_FOV_7	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	Specifies wavenumber spacing for Resampling for MW for FOV 7
theMatrix_MW_FOV_7	2230272	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Correction Matrix Operator (CMO) 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
					MW_POINTS_DECIMATED_INTERFEROGRAM x MW_POINTS_DECIMATED_INTERFEROGRAM Size of Dimension(s): 528 x 528
lowestWavenumber_MW_FOV_8	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	
deltaSigma_MW_FOV_8	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	Specifies wavenumber spacing for Resampling for MW for FOV 8
theMatrix_MW_FOV_8	2230272	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Correction Matrix Operator (CMO) 2 Dimensional Array: MW_POINTS_DECIMATED_INTERFEROGRAM x MW_POINTS_DECIMATED_INTERFEROGRAM Size of Dimension(s): 528 x 528
lowestWavenumber_MW_FOV_9	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	
deltaSigma_MW_FOV_9	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	Specifies wavenumber spacing for Resampling for MW for FOV 9
theMatrix_MW_FOV_9	2230272	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Correction Matrix Operator (CMO) 2 Dimensional Array: MW_POINTS_DECIMATED_INTERFEROGRAM x MW_POINTS_DECIMATED_INTERFEROGRAM Size of Dimension(s): 528 x 528
lowestWavenumber_SW_FOV_1	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	
deltaSigma_SW_FOV_1	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	Specifies wavenumber spacing for Resampling for SW for FOV 1
theMatrix_SW_FOV_1	320000	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Correction Matrix Operator (CMO) 2 Dimensional Array: SW_POINTS_DECIMATED_INTERFEROGRAM x

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Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
					SW_POINTS_DECIMATED_INTERFEROGRAM Size of Dimension(s): 200 x 200
lowestWavenumber_SW_FOV_2	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	
deltaSigma_SW_FOV_2	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	Specifies wavenumber spacing for Resampling for SW for FOV 2
theMatrix_SW_FOV_2	320000	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Correction Matrix Operator (CMO) 2 Dimensional Array: SW_POINTS_DECIMATED_INTERFEROGRAM x SW_POINTS_DECIMATED_INTERFEROGRAM Size of Dimension(s): 200 x 200
lowestWavenumber_SW_FOV_3	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	
deltaSigma_SW_FOV_3	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	Specifies wavenumber spacing for Resampling for SW for FOV 3
theMatrix_SW_FOV_3	320000	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Correction Matrix Operator (CMO) 2 Dimensional Array: SW_POINTS_DECIMATED_INTERFEROGRAM x SW_POINTS_DECIMATED_INTERFEROGRAM Size of Dimension(s): 200 x 200
lowestWavenumber_SW_FOV_4	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	
deltaSigma_SW_FOV_4	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	Specifies wavenumber spacing for Resampling for SW for FOV 4
theMatrix_SW_FOV_4	320000	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Correction Matrix Operator (CMO) 2 Dimensional Array: SW_POINTS_DECIMATED_INTERFEROGRAM x SW_POINTS_DECIMATED_INTERFEROGRAM Size of Dimension(s): 200 x 200

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Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
lowestWavenumber_SW_FOV_5	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	
deltaSigma_SW_FOV_5	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	Specifies wavenumber spacing for Resampling for SW for FOV 5
theMatrix_SW_FOV_5	320000	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Correction Matrix Operator (CMO) 2 Dimensional Array: SW_POINTS_DECIMATED_INTERFEROGRAM x SW_POINTS_DECIMATED_INTERFEROGRAM Size of Dimension(s): 200 x 200
lowestWavenumber_SW_FOV_6	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	
deltaSigma_SW_FOV_6	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	Specifies wavenumber spacing for Resampling for SW for FOV 6
theMatrix_SW_FOV_6	320000	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Correction Matrix Operator (CMO) 2 Dimensional Array: SW_POINTS_DECIMATED_INTERFEROGRAM x SW_POINTS_DECIMATED_INTERFEROGRAM Size of Dimension(s): 200 x 200
lowestWavenumber_SW_FOV_7	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	
deltaSigma_SW_FOV_7	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	Specifies wavenumber spacing for Resampling for SW for FOV 7
theMatrix_SW_FOV_7	320000	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Correction Matrix Operator (CMO) 2 Dimensional Array: SW_POINTS_DECIMATED_INTERFEROGRAM x SW_POINTS_DECIMATED_INTERFEROGRAM Size of Dimension(s): 200 x 200
lowestWavenumber_SW_FOV_8	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-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.

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
deltaSigma_SW_FOV_8	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	Specifies wavenumber spacing for Resampling for SW for FOV 8
theMatrix_SW_FOV_8	320000	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Correction Matrix Operator (CMO) 2 Dimensional Array: SW_POINTS_DECIMATED_INTERFEROGRAM x SW_POINTS_DECIMATED_INTERFEROGRAM Size of Dimension(s): 200 x 200
lowestWavenumber_SW_FOV_9	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	
deltaSigma_SW_FOV_9	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	Specifies wavenumber spacing for Resampling for SW for FOV 9
theMatrix_SW_FOV_9	320000	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Correction Matrix Operator (CMO) 2 Dimensional Array: SW_POINTS_DECIMATED_INTERFEROGRAM x SW_POINTS_DECIMATED_INTERFEROGRAM Size of Dimension(s): 200 x 200
pad	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	
Pad Version 2	2	unsigned 16-bit integer	0	Unitless	
Version 2	2	unsigned 16-bit integer	0	Unitless	
Curve Fit Params	3240	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	4 Dimensional Array: CRIS_TOTAL_BANDS x CRIS_MAX_FOV x ILS_CURVE_FIT_PARAMS_MAX_BAND_EDGE x MAX_ILS_CURVE_FIT_PARAM_ITEMS Size of Dimension(s): 3 x 9 x 3 x 5
Pad Version 3	2	16-bit integer	0	Unitless	
Version 3	2	16-bit integer	0	Unitless	
FOR Params	324	32-bit integer	MIN_VAL - MAX_VAL	Unitless	3 Dimensional Array: CRIS_TOTAL_BANDS 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
					MAX_ILS_FOV_PARAM_ITEMS x CRIS_MAX_FOV Size of Dimension(s): 3 x 3 x 9
FOV 5 Cross Track Misalignment	12	32-bit integer	MIN_VAL - MAX_VAL	Unitless	1 Dimensional Array: CRIS_TOTAL_BANDS Size of Dimension(s): 3
FOV 5 In Track misalignment	12	32-bit integer	MIN_VAL - MAX_VAL	Unitless	1 Dimensional Array: CRIS_TOTAL_BANDS Size of Dimension(s): 3
padding1	4	32-bit integer	0 - 1	Unitless	
File Size	**76,704,200 Bytes**				

Table: 7.2.1.1-2 CrIS Full Spectral Resolution Correction Matrix PC Data Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
padding	2	16-bit integer	MIN_VAL - MAX_VAL	unitless	
Version	2	16-bit integer	MIN_VAL - MAX_VAL	unitless	
lowestWavenumber_LW_FOV_1	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	
deltaSigma_LW_FOV_1	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	Specifies wavenumber spacing for Resampling for LW
theMatrix_LW_FOV_1	5971968	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Correction Matrix Operator (CMO) 2 Dimensional Array: LW_POINTS_DECIMATED_INTERFEROGRAM x LW_POINTS_DECIMATED_INTERFEROGRAM Size of Dimension(s): 864 x 864
lowestWavenumber_LW_FOV_2	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	
deltaSigma_LW_FOV_2	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	Specifies wavenumber spacing for Resampling for LW for FOV 2
theMatrix_LW_FOV_2	5971968	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Correction Matrix Operator (CMO) 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
					LW_POINTS_DECIMATED_INTERFEROGRAM x LW_POINTS_DECIMATED_INTERFEROGRAM Size of Dimension(s): 864 x 864
lowestWavenumber_LW_FOV_3	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	
deltaSigma_LW_FOV_3	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	Specifies wavenumber spacing for Resampling for LW for FOV 3
theMatrix_LW_FOV_3	5971968	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Correction Matrix Operator (CMO) 2 Dimensional Array: LW_POINTS_DECIMATED_INTERFEROGRAM x LW_POINTS_DECIMATED_INTERFEROGRAM Size of Dimension(s): 864 x 864
lowestWavenumber_LW_FOV_4	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	
deltaSigma_LW_FOV_4	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	Specifies wavenumber spacing for Resampling for LW for FOV 4
theMatrix_LW_FOV_4	5971968	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Correction Matrix Operator (CMO) 2 Dimensional Array: LW_POINTS_DECIMATED_INTERFEROGRAM x LW_POINTS_DECIMATED_INTERFEROGRAM Size of Dimension(s): 864 x 864
lowestWavenumber_LW_FOV_5	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	
deltaSigma_LW_FOV_5	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	Specifies wavenumber spacing for Resampling for LW for FOV 5
theMatrix_LW_FOV_5	5971968	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Correction Matrix Operator (CMO) 2 Dimensional Array: LW_POINTS_DECIMATED_INTERFEROGRAM x

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
					LW_POINTS_DECIMATED_INTERFEROGRAM Size of Dimension(s): 864 x 864
lowestWavenumber_LW_FOV_6	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	
deltaSigma_LW_FOV_6	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	Specifies wavenumber spacing for Resampling for LW for FOV 6
theMatrix_LW_FOV_6	5971968	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Correction Matrix Operator (CMO) 2 Dimensional Array: LW_POINTS_DECIMATED_INTERFEROGRAM x LW_POINTS_DECIMATED_INTERFEROGRAM Size of Dimension(s): 864 x 864
lowestWavenumber_LW_FOV_7	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	
deltaSigma_LW_FOV_7	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	Specifies wavenumber spacing for Resampling for LW for FOV 7
theMatrix_LW_FOV_7	5971968	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Correction Matrix Operator (CMO) 2 Dimensional Array: LW_POINTS_DECIMATED_INTERFEROGRAM x LW_POINTS_DECIMATED_INTERFEROGRAM Size of Dimension(s): 864 x 864
lowestWavenumber_LW_FOV_8	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	
deltaSigma_LW_FOV_8	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	Specifies wavenumber spacing for Resampling for LW for FOV 8
theMatrix_LW_FOV_8	5971968	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Correction Matrix Operator (CMO) 2 Dimensional Array: LW_POINTS_DECIMATED_INTERFEROGRAM x LW_POINTS_DECIMATED_INTERFEROGRAM Size of Dimension(s): 864 x 864

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Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
lowestWavenumber_LW_FOV_9	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	
deltaSigma_LW_FOV_9	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	Specifies wavenumber spacing for Resampling for LW for FOV 9
theMatrix_LW_FOV_9	5971968	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Correction Matrix Operator (CMO) 2 Dimensional Array: LW_POINTS_DECIMATED_INTERFEROGRAM x LW_POINTS_DECIMATED_INTERFEROGRAM Size of Dimension(s): 864 x 864
lowestWavenumber_MW_FOV_1	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	
deltaSigma_MW_FOV_1	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	Specifies wavenumber spacing for Resampling for MW for FOV 1
theMatrix_MW_FOV_1	8820000	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Correction Matrix Operator (CMO) 2 Dimensional Array: MW_FR_POINTS_DECIMATED_INTERFEROGRAM x MW_FR_POINTS_DECIMATED_INTERFEROGRAM Size of Dimension(s): 1050 x 1050
lowestWavenumber_MW_FOV_2	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	
deltaSigma_MW_FOV_2	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	Specifies wavenumber spacing for Resampling for MW for FOV 2
theMatrix_MW_FOV_2	8820000	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Correction Matrix Operator (CMO) 2 Dimensional Array: MW_FR_POINTS_DECIMATED_INTERFEROGRAM x MW_FR_POINTS_DECIMATED_INTERFEROGRAM Size of Dimension(s): 1050 x 1050
lowestWavenumber_MW_FOV_3	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	

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Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
deltaSigma_MW_FOV_3	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	Specifies wavenumber spacing for Resampling for MW for FOV 3
theMatrix_MW_FOV_3	8820000	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Correction Matrix Operator (CMO) 2 Dimensional Array: MW_FR_POINTS_DECIMATED_INTERFEROGRAM x MW_FR_POINTS_DECIMATED_INTERFEROGRAM Size of Dimension(s): 1050 x 1050
lowestWavenumber_MW_FOV_4	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	
deltaSigma_MW_FOV_4	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	Specifies wavenumber spacing for Resampling for MW for FOV 4
theMatrix_MW_FOV_4	8820000	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Correction Matrix Operator (CMO) 2 Dimensional Array: MW_FR_POINTS_DECIMATED_INTERFEROGRAM x MW_FR_POINTS_DECIMATED_INTERFEROGRAM Size of Dimension(s): 1050 x 1050
lowestWavenumber_MW_FOV_5	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	
deltaSigma_MW_FOV_5	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	Specifies wavenumber spacing for Resampling for MW for FOV 5
theMatrix_MW_FOV_5	8820000	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Correction Matrix Operator (CMO) 2 Dimensional Array: MW_FR_POINTS_DECIMATED_INTERFEROGRAM x MW_FR_POINTS_DECIMATED_INTERFEROGRAM Size of Dimension(s): 1050 x 1050
lowestWavenumber_MW_FOV_6	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	
deltaSigma_MW_FOV_6	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	Specifies wavenumber spacing for Resampling for MW for FOV 6

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Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
theMatrix_MW_FOV_6	8820000	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Correction Matrix Operator (CMO) 2 Dimensional Array: MW_FR_POINTS_DECIMATED_INTERFEROGRAM x MW_FR_POINTS_DECIMATED_INTERFEROGRAM Size of Dimension(s): 1050 x 1050
lowestWavenumber_MW_FOV_7	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	
deltaSigma_MW_FOV_7	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	Specifies wavenumber spacing for Resampling for MW for FOV 7
theMatrix_MW_FOV_7	8820000	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Correction Matrix Operator (CMO) 2 Dimensional Array: MW_FR_POINTS_DECIMATED_INTERFEROGRAM x MW_FR_POINTS_DECIMATED_INTERFEROGRAM Size of Dimension(s): 1050 x 1050
lowestWavenumber_MW_FOV_8	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	
deltaSigma_MW_FOV_8	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	Specifies wavenumber spacing for Resampling for MW for FOV 8
theMatrix_MW_FOV_8	8820000	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Correction Matrix Operator (CMO) 2 Dimensional Array: MW_FR_POINTS_DECIMATED_INTERFEROGRAM x MW_FR_POINTS_DECIMATED_INTERFEROGRAM Size of Dimension(s): 1050 x 1050
lowestWavenumber_MW_FOV_9	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	
deltaSigma_MW_FOV_9	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	Specifies wavenumber spacing for Resampling for MW for FOV 9
theMatrix_MW_FOV_9	8820000		MIN_VAL - MAX_VAL	unitless	Correction Matrix Operator (CMO) 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
					MW_FR_POINTS_DECIMATED_INTERFEROGRAM x MW_FR_POINTS_DECIMATED_INTERFEROGRAM Size of Dimension(s): 1050 x 1050
lowestWavenumber_SW_FOV_1	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	
deltaSigma_SW_FOV_1	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	Specifies wavenumber spacing for Resampling for SW for FOV 1
theMatrix_SW_FOV_1	5081672	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Correction Matrix Operator (CMO) 2 Dimensional Array: SW_FR_POINTS_DECIMATED_INTERFEROGRAM x SW_FR_POINTS_DECIMATED_INTERFEROGRAM Size of Dimension(s): 797 x 797
lowestWavenumber_SW_FOV_2	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	
deltaSigma_SW_FOV_2	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	Specifies wavenumber spacing for Resampling for SW for FOV 2
theMatrix_SW_FOV_2	5081672	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Correction Matrix Operator (CMO) 2 Dimensional Array: SW_FR_POINTS_DECIMATED_INTERFEROGRAM x SW_FR_POINTS_DECIMATED_INTERFEROGRAM Size of Dimension(s): 797 x 797
lowestWavenumber_SW_FOV_3	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	
deltaSigma_SW_FOV_3	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	Specifies wavenumber spacing for Resampling for SW for FOV 3
theMatrix_SW_FOV_3	5081672	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Correction Matrix Operator (CMO) 2 Dimensional Array: SW_FR_POINTS_DECIMATED_INTERFEROGRAM x

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Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
					SW_FR_POINTS_DECIMATED_INTERFEROGRAM Size of Dimension(s): 797 x 797
lowestWavenumber_SW_FOV_4	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	
deltaSigma_SW_FOV_4	8	64-bit floating point	MIN_VAL - MAX_VAL		Specifies wavenumber spacing for Resampling for SW for FOV 4
theMatrix_SW_FOV_4	5081672	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Correction Matrix Operator (CMO) 2 Dimensional Array: SW_FR_POINTS_DECIMATED_INTERFEROGRAM x SW_FR_POINTS_DECIMATED_INTERFEROGRAM Size of Dimension(s): 797 x 797
lowestWavenumber_SW_FOV_5	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	
deltaSigma_SW_FOV_5	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	Specifies wavenumber spacing for Resampling for SW for FOV 5
theMatrix_SW_FOV_5	5081672	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Correction Matrix Operator (CMO) 2 Dimensional Array: SW_FR_POINTS_DECIMATED_INTERFEROGRAM x SW_FR_POINTS_DECIMATED_INTERFEROGRAM Size of Dimension(s): 797 x 797
lowestWavenumber_SW_FOV_6	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	
deltaSigma_SW_FOV_6	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	Specifies wavenumber spacing for Resampling for SW for FOV 6
theMatrix_SW_FOV_6	5081672	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Correction Matrix Operator (CMO) 2 Dimensional Array: SW_FR_POINTS_DECIMATED_INTERFEROGRAM x SW_FR_POINTS_DECIMATED_INTERFEROGRAM Size of Dimension(s): 797 x 797

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Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
lowestWavenumber_SW_FOV_7	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	
deltaSigma_SW_FOV_7	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	Specifies wavenumber spacing for Resampling for SW for FOV 7
theMatrix_SW_FOV_7	5081672	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Correction Matrix Operator (CMO) 2 Dimensional Array: SW_FR_POINTS_DECIMATED_INTERFEROGRAM x SW_FR_POINTS_DECIMATED_INTERFEROGRAM Size of Dimension(s): 797 x 797
lowestWavenumber_SW_FOV_8	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	
deltaSigma_SW_FOV_8	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	Specifies wavenumber spacing for Resampling for SW for FOV 8
theMatrix_SW_FOV_8	5081672	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Correction Matrix Operator (CMO) 2 Dimensional Array: SW_FR_POINTS_DECIMATED_INTERFEROGRAM x SW_FR_POINTS_DECIMATED_INTERFEROGRAM Size of Dimension(s): 797 x 797
lowestWavenumber_SW_FOV_9	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	
deltaSigma_SW_FOV_9	8	64-bit floating point	MIN_VAL - MAX_VAL	cm-1	Specifies wavenumber spacing for Resampling for SW for FOV 9
theMatrix_SW_FOV_9	5081672	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Correction Matrix Operator (CMO) 2 Dimensional Array: SW_FR_POINTS_DECIMATED_INTERFEROGRAM x SW_FR_POINTS_DECIMATED_INTERFEROGRAM Size of Dimension(s): 797 x 797
pad	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	
Pad Version 2	2	unsigned 16-bit integer	0	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.

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
Version 2	2	unsigned 16-bit integer	0	Unitless	
Curve Fit Params	3240	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	4 Dimensional Array: CRIS_TOTAL_BANDS x CRIS_MAX_FOV x ILS_CURVE_FIT_PARAMS_MAX_BAND_EDGE x MAX_ILS_CURVE_FIT_PARAM_ITEMS Size of Dimension(s): 3 x 9 x 3 x 5
Pad Version 3	2	16-bit integer	0	Unitless	
Version 3	2	16-bit integer	0	Unitless	
FOR Params	324	32-bit integer	MIN_VAL - MAX_VAL	Unitless	3 Dimensional Array: CRIS_TOTAL_BANDS x MAX_ILS_FOV_PARAM_ITEMS x CRIS_MAX_FOV Size of Dimension(s): 3 x 3 x 9
FOV 5 Cross Track Misalignment	12	32-bit integer	MIN_VAL - MAX_VAL	Unitless	1 Dimensional Array: CRIS_TOTAL_BANDS Size of Dimension(s): 3
FOV 5 In Track misalignment	12	32-bit integer	MIN_VAL - MAX_VAL	Unitless	1 Dimensional Array: CRIS_TOTAL_BANDS Size of Dimension(s): 3
padding1	4	32-bit integer	0 - 1	Unitless	
File Size	**178,866,800 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.

7.2.1.2 CrIS SDR Engineering Packet Backup

Data Mnemonic	NP_NU-LM0130-001 (CrIS-SDR-ENGPKT-BACKUP-AUX) NP_NU-LM0130-003 (CrIS-FS-SDR-ENGPKT-BACKUP-AUX)
Description/ Purpose	The Cross-track Infrared Sounder (CrIS) SDR Engineering Packet Backup 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. The TSR and FSR files have the same fields. Some fields have greater array size for FSR. Other fields, such as threshold parameters, have different values.
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 7.2.1.2-1, CrIS SDR Engineering Packet Backup PC Data Format for size See Table 7.2.1.2-2, CrIS Full Spectral Resolution SDR Engineering Packet Backup 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, CrIS SDR Engineering Packet Backup PC Data Format and Table 7.2.1.2-2, CrIS Full Spectral Resolution SDR Engineering Packet Backup 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 CrIS SDR Engineering Packet Backup PC

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
IET_Time	8	64-bit integer	0 - 5.68E+15	Unitless	
Check_Sum	4	32-bit integer	0 - 2147483647	Unitless	
padding1	2	16-bit integer	0	Unitless	
versionInfo1	2	16-bit integer	0 - 32766	Unitless	
Effective Emissivity	12736	64-bit floating point	0 - 1	Unitless	1 Dimensional Array: NUM_DECIMATED_POINTS_INTERFEROGRAM Size of Dimension(s): 1592
Pad Version 2	2	unsigned 16-bit integer	0	Unitless	
Version 2	2	unsigned 16-bit integer	0	Unitless	
Curve Fit Params	3240	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	4 Dimensional Array: CRIS_TOTAL_BANDS x CRIS_MAX_FOV x ILS_CURVE_FIT_PARAMS_MAX_BAND_EDGE x MAX_ILS_CURVE_FIT_PARAM_ITEMS Size of Dimension(s): 3 x 9 x 3 x 5
Pad Version 3	2	16-bit integer	0	Unitless	
Version 3	2	16-bit integer	0	Unitless	
FOR Params	324	32-bit integer	MIN_VAL - MAX_VAL	Unitless	3 Dimensional Array: CRIS_TOTAL_BANDS x MAX_ILS_FOV_PARAM_ITEMS x CRIS_MAX_FOV Size of Dimension(s): 3 x 3 x 9
FOV 5 Cross Track Misalignment	12	32-bit integer	MIN_VAL - MAX_VAL	Unitless	1 Dimensional Array: CRIS_TOTAL_BANDS Size of Dimension(s): 3
FOV 5 In Track misalignment	12	32-bit integer	MIN_VAL - MAX_VAL	Unitless	1 Dimensional Array: CRIS_TOTAL_BANDS Size of Dimension(s): 3
Pad Version 4	2	16-bit integer	0	Unitless	
Version 4	2	16-bit integer	0	Unitless	
Beam Splitter Emissivity	24	64-bit floating point	0 - 1	Unitless	1 Dimensional Array: CRIS_TOTAL_BANDS

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): 3
Scan Mirror Emissivity	24	64-bit floating point	0 - 1	Unitless	1 Dimensional Array: CRIS_TOTAL_BANDS Size of Dimension(s): 3
Scan Baffle Emissivity	24	64-bit floating point	0 - 1	Unitless	1 Dimensional Array: CRIS_TOTAL_BANDS Size of Dimension(s): 3
Interferometer Housing Emissivity	24	64-bit floating point	0 - 1	Unitless	1 Dimensional Array: CRIS_TOTAL_BANDS Size of Dimension(s): 3
Ict Baffle Emissivity	24	64-bit floating point	0 - 1	Unitless	1 Dimensional Array: CRIS_TOTAL_BANDS Size of Dimension(s): 3
Ssm Target Emissivity	24	64-bit floating point	0 - 1	Unitless	1 Dimensional Array: CRIS_TOTAL_BANDS Size of Dimension(s): 3
Warm Beam Splitter View Factor	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Cold Beam Splitter View Factor	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Scan Baffle View Factor	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Ict Baffle View Factor	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Frame View Factor	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Space View Factor	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Ssm Target Temp	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Orbital Period	4	32-bit integer	MIN_VAL - MAX_VAL	Unitless	
Baffle Temperature Offset Decimated X	84	32-bit floating point	0 - 1	Unitless	1 Dimensional Array: NUM_ECM_BAFFLE_PTS Size of Dimension(s): 21

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
Baffle Temperature Offset Decimated Y	84	32-bit floating point	0 - 1	Unitless	1 Dimensional Array: NUM_ECM_BAFFLE_PTS Size of Dimension(s): 21
Pad Version 5	2	16-bit integer	0	Unitless	
Version 5	2	16-bit integer	0	Unitless	
ictPrt1Ro	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
ictPrt1A	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
ictPrt2B	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
ictPrt2Ro	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
ictPrt2A	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
ictPrt2Ba	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Ict Low Range Calibration Resistor Ro	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
ict Low Range Calibration Resistor A	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
ict High Range Calibration Resistor Ro	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
ict High Range Calibration ResistorA	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
ict Calibration Resistor RTD RO	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
ict Calibration Resistor RTD A	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Laser Diode Temp Slope	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Laser Diode Bias Current Slope	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Beam Splitter Temp Intercept	8	64-bit floating point	MIN_VAL - MAX_VAL	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.

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
Beam Splitter Temp Slope	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Scan Mirror Temp Intercept	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Scan Mirror Temp Slope	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Scan Baffle Temp Intercept	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Scan Baffle Temp Slope	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
omaStructureTemp1intercept	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
omaStructureTemp1Slope	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
omaStructureTemp2intercept	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
omaStructureTemp2Slope	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Telescope Temp Slope	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Stage 1 Cooler Temp Slope	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Stage 2 Cooler Temp Slope	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Stage 3 Cooler Temp Slope	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Stage 4 Cooler Temp Slope	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Cross Track Ssm Pointing Error Intercept	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Cross Track Ssm Pointing Error Slope	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
In Track Ssm Pointing Error Intercept	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
In Track Ssm Pointing Error Slope	8	64-bit floating point	MIN_VAL - MAX_VAL	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.

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
Pad Version 6	2	unsigned 16-bit integer	0	Unitless	
Version 6	2	unsigned 16-bit integer	0	Unitless	
Polarization Change	2232	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	3 Dimensional Array: MAX_SCAN_POSITION x CRIS_TOTAL_BANDS x MAX_WAVENUMBER_POSITION Size of Dimension(s): 31 x 3 x 3
Wavenumber Position	72	64-bit floating point	1000 - 8500	Unitless	2 Dimensional Array: CRIS_TOTAL_BANDS x MAX_WAVENUMBER_POSITION Size of Dimension(s): 3 x 3
Pad Version 7	2	unsigned 16-bit integer	0	Unitless	
Version 7	2	unsigned 16-bit integer	0	Unitless	
Neon Cal Starting Count	512	unsigned 32-bit integer	MIN_VAL - MAX_VAL	Unitless	1 Dimensional Array: MAX_SWEEP_NUMBER Size of Dimension(s): 128
Neon Cal Starting Partial Count	512	unsigned 32-bit integer	MIN_VAL - MAX_VAL	Unitless	1 Dimensional Array: MAX_SWEEP_NUMBER Size of Dimension(s): 128
Neon Cal Fringe Count	512	unsigned 32-bit integer	MIN_VAL - MAX_VAL	Unitless	1 Dimensional Array: MAX_SWEEP_NUMBER Size of Dimension(s): 128
Neon Cal Ending Partial Count	512	unsigned 32-bit integer	MIN_VAL - MAX_VAL	Unitless	1 Dimensional Array: MAX_SWEEP_NUMBER Size of Dimension(s): 128
Neon Cal Ending Count	512	unsigned 32-bit integer	MIN_VAL - MAX_VAL	Unitless	1 Dimensional Array: MAX_SWEEP_NUMBER Size of Dimension(s): 128
Pad Version 8	2	unsigned 16-bit integer	0	Unitless	
Version 8	2	unsigned 16-bit integer	0	Unitless	
Laser Fringe Count	4	unsigned 32-bit integer	MIN_VAL - MAX_VAL	Unitless	
Number Designated Calibration Sweeps	4	unsigned 32-bit integer	MIN_VAL - MAX_VAL	Unitless	
Neon Gas Wave Length	8	64-bit floating point	MIN_VAL - MAX_VAL	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.

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
Laser Wave Length	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Time Stamp Days	4	unsigned 32-bit integer	MIN_VAL - MAX_VAL	Unitless	
Time Stamp Milliseconds	4	unsigned 32-bit integer	MIN_VAL - MAX_VAL	Unitless	
Repeat Calibration Time Interval	4	unsigned 32-bit integer	MIN_VAL - MAX_VAL	Unitless	
Pad Version 9	2	unsigned 16-bit integer	0	Unitless	
Version 9	2	unsigned 16-bit integer	0	Unitless	
ict Temp 1 Drift Limit	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
ict Temp 2 Drift Limit	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Beamsplitter Temp 1 Drift Limit	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Scan Mirror Temp Drift Limt	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Scan Baffle Temp Drift Limit	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
oma Struct 1 Temp Drift Limit	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
oma Struct 2 Temp Drift Limit	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Telescope Temp Drift Limit	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Stage 1 Cooler Temp Drift Limit	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Stage 2 Cooler Temp Drift Limit	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Stage 3 Cooler Temp Drift Limit	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Stage 4 Cooler Temp Drift Limit	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Laser Diode Wavelength Drift Limit	8	64-bit floating point	MIN_VAL - MAX_VAL	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.

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
Pad Version 10	2	unsigned 16-bit integer	0	Unitless	
Version 10	2	unsigned 16-bit integer	0	Unitless	
Commanded Cross Track Angle ES	240	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	1 Dimensional Array: EV_FOR_PER_SCAN Size of Dimension(s): 30
Commanded Cross Track Angle Nadir	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
ssm Mirror Mount Misalignment Pitch	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
ssm Mirror Mount Misalignment Yaw	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Commanded In Track-Angle	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
ssmr To SSMF Angle Roll	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
ssmr To SSMF Angle Pitch	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
ssmr To SSMF Angle Yaw	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
iar To SSMF Angle Roll	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
iar To SSMF Angle Pitch	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
iar To SSMF Angle Yaw	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Interferometer Borsight Yaw	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Interferometer Borsight Pitch	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
sbf To IAR Angle Roll	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
sbf To IAR Angle Pitch	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
sbf To IAR Angle Yaw	8	64-bit floating point	MIN_VAL - MAX_VAL	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.

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
FOR Time Stamp Bias	4	32-bit integer	MIN_VAL - MAX_VAL	Unitless	
Pad Version 11	2	unsigned 16-bit integer	0	Unitless	
Version 11	2	unsigned 16-bit integer	0	Unitless	
a2	108	32-bit floating point	MIN_VAL - MAX_VAL	Unitless	2 Dimensional Array: CRIS_MAX_FOV x CRIS_TOTAL_BANDS Size of Dimension(s): 9 x 3
Vinst	108	32-bit floating point	MIN_VAL - MAX_VAL	Unitless	2 Dimensional Array: CRIS_MAX_FOV x CRIS_TOTAL_BANDS Size of Dimension(s): 9 x 3
ModEff	108	32-bit floating point	MIN_VAL - MAX_VAL	Unitless	2 Dimensional Array: CRIS_MAX_FOV x CRIS_TOTAL_BANDS Size of Dimension(s): 9 x 3
Gain Setting	108	32-bit integer	MIN_VAL - MAX_VAL	Unitless	2 Dimensional Array: CRIS_MAX_FOV x CRIS_TOTAL_BANDS Size of Dimension(s): 9 x 3
Eff Gain	108	32-bit floating point	MIN_VAL - MAX_VAL	Unitless	2 Dimensional Array: CRIS_MAX_FOV x CRIS_TOTAL_BANDS Size of Dimension(s): 9 x 3
Effective Gain Map	192	32-bit floating point	MIN_VAL - MAX_VAL	Unitless	2 Dimensional Array: CRIS_TOTAL_BANDS x MAX_EFFECTIVE_GAIN Size of Dimension(s): 3 x 16
Fir Filter Scale	24	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	1 Dimensional Array: CRIS_TOTAL_BANDS Size of Dimension(s): 3
Fir Start Bit	24	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	1 Dimensional Array: CRIS_TOTAL_BANDS Size of Dimension(s): 3
Pad Version 12	2	unsigned 16-bit integer	0	Unitless	
Version 12	2	unsigned 16-bit integer	0	Unitless	
trimIndex	192	unsigned 32-bit integer	MIN_VAL - MAX_VAL	Unitless	2 Dimensional Array: CRIS_TOTAL_BANDS x TRIM_ELEMENTS Size of Dimension(s): 3 x 16

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
Trim	192	unsigned 32-bit integer	MIN_VAL - MAX_VAL	Unitless	2 Dimensional Array: CRIS_TOTAL_BANDS x TRIM_ELEMENTS Size of Dimension(s): 3 x 16
decimationRate	12	unsigned 32-bit integer	MIN_VAL - MAX_VAL	Unitless	1 Dimensional Array: CRIS_TOTAL_BANDS Size of Dimension(s): 3
collectedSamples	12	unsigned 32-bit integer	MIN_VAL - MAX_VAL	Unitless	1 Dimensional Array: CRIS_TOTAL_BANDS Size of Dimension(s): 3
complexSamples	12	unsigned 32-bit integer	MIN_VAL - MAX_VAL	Unitless	1 Dimensional Array: CRIS_TOTAL_BANDS Size of Dimension(s): 3
iWordTotal	12	unsigned 32-bit integer	MIN_VAL - MAX_VAL	Unitless	1 Dimensional Array: CRIS_TOTAL_BANDS Size of Dimension(s): 3
FRstartBit	192	unsigned 32-bit integer	MIN_VAL - MAX_VAL	Unitless	2 Dimensional Array: CRIS_TOTAL_BANDS x TRIM_ELEMENTS Size of Dimension(s): 3 x 16
FRstopBit	192	unsigned 32-bit integer	MIN_VAL - MAX_VAL	Unitless	2 Dimensional Array: CRIS_TOTAL_BANDS x TRIM_ELEMENTS Size of Dimension(s): 3 x 16
FRtrimIndex	192	unsigned 32-bit integer	MIN_VAL - MAX_VAL	Unitless	2 Dimensional Array: CRIS_TOTAL_BANDS x TRIM_ELEMENTS Size of Dimension(s): 3 x 16
File Size	**24,176 Bytes**				

Table: 7.2.1.2-2 CrIS Full Spectral Resolution SDR Engineering Packet Backup PC

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
IET_Time	8	64-bit integer	0 - 5.68E+15	Unitless	
Check_Sum	4	32-bit integer	0 - 2147483647	Unitless	
padding1	2	16-bit integer	0	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.

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
versionInfo1	2	16-bit integer	0 - 32766	Unitless	
Effective Emissivity	21688	64-bit floating point	0 - 1	Unitless	1 Dimensional Array: NUM_FR_DECIMATED_POINTS_INTERFEROGRAM Size of Dimension(s): 2711
Pad Version 2	2	unsigned 16-bit integer	0	Unitless	
Version 2	2	unsigned 16-bit integer	0	Unitless	
Curve Fit Params	3240	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	4 Dimensional Array: CRIS_TOTAL_BANDS x CRIS_MAX_FOV x ILS_CURVE_FIT_PARAMS_MAX_BAND_EDGE x MAX_ILS_CURVE_FIT_PARAM_ITEMS Size of Dimension(s): 3 x 9 x 3 x 5
Pad Version 3	2	16-bit integer	0	Unitless	
Version 3	2	16-bit integer	0	Unitless	
FOR Params	324	32-bit integer	MIN_VAL - MAX_VAL	Unitless	3 Dimensional Array: CRIS_TOTAL_BANDS x MAX_ILS_FOV_PARAM_ITEMS x CRIS_MAX_FOV Size of Dimension(s): 3 x 3 x 9
FOV 5 Cross Track Misalignment	12	32-bit integer	MIN_VAL - MAX_VAL	Unitless	1 Dimensional Array: CRIS_TOTAL_BANDS Size of Dimension(s): 3
FOV 5 In Track misalignment	12	32-bit integer	MIN_VAL - MAX_VAL	Unitless	1 Dimensional Array: CRIS_TOTAL_BANDS Size of Dimension(s): 3
Pad Version 4	2	16-bit integer	0	Unitless	
Version 4	2	16-bit integer	0	Unitless	
Beam Splitter Emissivity	24	64-bit floating point	0 - 1	Unitless	1 Dimensional Array: CRIS_TOTAL_BANDS Size of Dimension(s): 3
Scan Mirror Emissivity	24	64-bit floating point	0 - 1	Unitless	1 Dimensional Array: CRIS_TOTAL_BANDS Size of Dimension(s): 3
Scan Baffle Emissivity	24	64-bit floating point	0 - 1	Unitless	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
					CRIS_TOTAL_BANDS Size of Dimension(s): 3
Interferometer Housing Emissivity	24	64-bit floating point	0 - 1	Unitless	1 Dimensional Array: CRIS_TOTAL_BANDS Size of Dimension(s): 3
Ict Baffle Emissivity	24	64-bit floating point	0 - 1	Unitless	1 Dimensional Array: CRIS_TOTAL_BANDS Size of Dimension(s): 3
Ssm Target Emissivity	24	64-bit floating point	0 - 1	Unitless	1 Dimensional Array: CRIS_TOTAL_BANDS Size of Dimension(s): 3
Warm Beam Splitter View Factor	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Cold Beam Splitter View Factor	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Scan Baffle View Factor	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Ict Baffle View Factor	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Frame View Factor	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Space View Factor	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Ssm Target Temp	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Orbital Period	4	32-bit integer	MIN_VAL - MAX_VAL	Unitless	
Baffle Temperature Offset Decimated X	84	32-bit floating point	0 - 1	Unitless	1 Dimensional Array: NUM_ECM_BAFFLE_PTS Size of Dimension(s): 21
Baffle Temperature Offset Decimated Y	84	32-bit floating point	0 - 1	Unitless	1 Dimensional Array: NUM_ECM_BAFFLE_PTS Size of Dimension(s): 21
Pad Version 5	2	16-bit integer	0	Unitless	
Version 5	2	16-bit integer	0	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.

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
ictPrt1Ro	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
ictPrt1A	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
ictPrt2B	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
ictPrt2Ro	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
ictPrt2A	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
ictPrt2Ba	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Ict Low Range Calibration Resistor Ro	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
ict Low Range Calibration Resistor A	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
ict High Range Calibration Resistor Ro	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
ict High Range Calibration ResistorA	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
ict Calibration Resistor RTD RO	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
ict Calibration Resistor RTD A	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Laser Diode Temp Slope	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Laser Diode Bias Current Slope	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Beam Splitter Temp Intercept	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Beam Splitter Temp Slope	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Scan Mirror Temp Intercept	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Scan Mirror Temp Slope	8	64-bit floating point	MIN_VAL - MAX_VAL	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.

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
Scan Baffle Temp Intercept	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Scan Baffle Temp Slope	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
omaStructureTemp1intercept	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
omaStructureTemp1Slope	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
omaStructureTemp2intercept	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
omaStructureTemp2Slope	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Telescope Temp Slope	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Stage 1 Cooler Temp Slope	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Stage 2 Cooler Temp Slope	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Stage 3 Cooler Temp Slope	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Stage 4 Cooler Temp Slope	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Cross Track Ssm Pointing Error Intercept	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Cross Track Ssm Pointing Error Slope	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
In Track Ssm Pointing Error Intercept	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
In Track Ssm Pointing Error Slope	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Pad Version 6	2	unsigned 16-bit integer	0	Unitless	
Version 6	2	unsigned 16-bit integer	0	Unitless	
Polarization Change	2232	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	3 Dimensional Array: MAX_SCAN_POSITION x CRIS_TOTAL_BANDS x MAX_WAVENUMBER_POSITION

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): 31 x 3 x 3
Wavenumber Position	72	64-bit floating point	1000 - 8500	Unitless	2 Dimensional Array: CRIS_TOTAL_BANDS x MAX_WAVENUMBER_POSITION Size of Dimension(s): 3 x 3
Pad Version 7	2	unsigned 16-bit integer	0	Unitless	
Version 7	2	unsigned 16-bit integer	0	Unitless	
Neon Cal Starting Count	512	unsigned 32-bit integer	MIN_VAL - MAX_VAL	Unitless	1 Dimensional Array: MAX_SWEEP_NUMBER Size of Dimension(s): 128
Neon Cal Starting Partial Count	512	unsigned 32-bit integer	MIN_VAL - MAX_VAL	Unitless	1 Dimensional Array: MAX_SWEEP_NUMBER Size of Dimension(s): 128
Neon Cal Fringe Count	512	unsigned 32-bit integer	MIN_VAL - MAX_VAL	Unitless	1 Dimensional Array: MAX_SWEEP_NUMBER Size of Dimension(s): 128
Neon Cal Ending Partial Count	512	unsigned 32-bit integer	MIN_VAL - MAX_VAL	Unitless	1 Dimensional Array: MAX_SWEEP_NUMBER Size of Dimension(s): 128
Neon Cal Ending Count	512	unsigned 32-bit integer	MIN_VAL - MAX_VAL	Unitless	1 Dimensional Array: MAX_SWEEP_NUMBER Size of Dimension(s): 128
Pad Version 8	2	unsigned 16-bit integer	0	Unitless	
Version 8	2	unsigned 16-bit integer	0	Unitless	
Laser Fringe Count	4	unsigned 32-bit integer	MIN_VAL - MAX_VAL	Unitless	
Number Designated Calibration Sweeps	4	unsigned 32-bit integer	MIN_VAL - MAX_VAL	Unitless	
Neon Gas Wave Length	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Laser Wave Length	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Time Stamp Days	4	unsigned 32-bit integer	MIN_VAL - MAX_VAL	Unitless	
Time Stamp Milliseconds	4	unsigned 32-bit integer	MIN_VAL - MAX_VAL	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.

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
Repeat Calibration Time Interval	4	unsigned 32-bit integer	MIN_VAL - MAX_VAL	Unitless	
Pad Version 9	2	unsigned 16-bit integer	0	Unitless	
Version 9	2	unsigned 16-bit integer	0	Unitless	
ict Temp 1 Drift Limit	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
ict Temp 2 Drift Limit	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Beamsplitter Temp 1 Drift Limit	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Scan Mirror Temp Drift Limt	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Scan Baffle Temp Drift Limit	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
oma Struct 1 Temp Drift Limit	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
oma Struct 2 Temp Drift Limit	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Telescope Temp Drift Limit	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Stage 1 Cooler Temp Drift Limit	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Stage 2 Cooler Temp Drift Limit	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Stage 3 Cooler Temp Drift Limit	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Stage 4 Cooler Temp Drift Limit	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Laser Diode Wavelength Drift Limit	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Pad Version 10	2	unsigned 16-bit integer	0	Unitless	
Version 10	2	unsigned 16-bit integer	0	Unitless	
Commanded Cross Track Angle ES	240	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	1 Dimensional Array: EV_FOR_PER_SCAN 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
Commanded Cross Track Angle Nadir	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
ssm Mirror Mount Misalignment Pitch	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
ssm Mirror Mount Misalignment Yaw	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Commanded In Track Angle	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
ssmr To SSMF Angle Roll	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
ssmr To SSMF Angle Pitch	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
ssmr To SSMF Angle Yaw	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
iar To SSMF Angle Roll	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
iar To SSMF Angle Pitch	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
iar To SSMF Angle Yaw	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Interferometer Borsight Yaw	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
Interferometer Borsight Pitch	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
sbf To IAR Angle Roll	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
sbf To IAR Angle Pitch	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
sbf To IAR Angle Yaw	8	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	
FOR Time Stamp Bias	4	32-bit integer	MIN_VAL - MAX_VAL	Unitless	
Pad Version 11	2	unsigned 16-bit integer	0	Unitless	
Version 11	2	unsigned 16-bit integer	0	Unitless	
a2	108	32-bit floating point	MIN_VAL - MAX_VAL	Unitless	2 Dimensional Array: CRIS_MAX_FOV x CRIS_TOTAL_BANDS

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): 9 x 3
Vinst	108	32-bit floating point	MIN_VAL - MAX_VAL	Unitless	2 Dimensional Array: CRIS_MAX_FOV x CRIS_TOTAL_BANDS Size of Dimension(s): 9 x 3
ModEff	108	32-bit floating point	MIN_VAL - MAX_VAL	Unitless	2 Dimensional Array: CRIS_MAX_FOV x CRIS_TOTAL_BANDS Size of Dimension(s): 9 x 3
Gain Setting	108	32-bit integer	MIN_VAL - MAX_VAL	Unitless	2 Dimensional Array: CRIS_MAX_FOV x CRIS_TOTAL_BANDS Size of Dimension(s): 9 x 3
Eff Gain	108	32-bit floating point	MIN_VAL - MAX_VAL	Unitless	2 Dimensional Array: CRIS_MAX_FOV x CRIS_TOTAL_BANDS Size of Dimension(s): 9 x 3
Effective Gain Map	192	32-bit floating point	MIN_VAL - MAX_VAL	Unitless	2 Dimensional Array: CRIS_TOTAL_BANDS x MAX_EFFECTIVE_GAIN Size of Dimension(s): 3 x 16
Fir Filter Scale	24	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	1 Dimensional Array: CRIS_TOTAL_BANDS Size of Dimension(s): 3
Fir Start Bit	24	64-bit floating point	MIN_VAL - MAX_VAL	Unitless	1 Dimensional Array: CRIS_TOTAL_BANDS Size of Dimension(s): 3
Pad Version 12	2	unsigned 16-bit integer	0	Unitless	
Version 12	2	unsigned 16-bit integer	0	Unitless	
trimIndex	192	unsigned 32-bit integer	MIN_VAL - MAX_VAL	Unitless	2 Dimensional Array: CRIS_TOTAL_BANDS x TRIM_ELEMENTS Size of Dimension(s): 3 x 16
Trim	192	unsigned 32-bit integer	MIN_VAL - MAX_VAL	Unitless	2 Dimensional Array: CRIS_TOTAL_BANDS x TRIM_ELEMENTS Size of Dimension(s): 3 x 16
decimationRate	12	unsigned 32-bit integer	MIN_VAL - MAX_VAL	Unitless	1 Dimensional Array: CRIS_TOTAL_BANDS Size of Dimension(s): 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.

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
collectedSamples	12	unsigned 32-bit integer	MIN_VAL - MAX_VAL	Unitless	1 Dimensional Array: CRIS_TOTAL_BANDS Size of Dimension(s): 3
complexSamples	12	unsigned 32-bit integer	MIN_VAL - MAX_VAL	Unitless	1 Dimensional Array: CRIS_TOTAL_BANDS Size of Dimension(s): 3
iWordTotal	12	unsigned 32-bit integer	MIN_VAL - MAX_VAL	Unitless	1 Dimensional Array: CRIS_TOTAL_BANDS Size of Dimension(s): 3
FRstartBit	192	unsigned 32-bit integer	MIN_VAL - MAX_VAL	Unitless	2 Dimensional Array: CRIS_TOTAL_BANDS x TRIM_ELEMENTS Size of Dimension(s): 3 x 16
FRstopBit	192	unsigned 32-bit integer	MIN_VAL - MAX_VAL	Unitless	2 Dimensional Array: CRIS_TOTAL_BANDS x TRIM_ELEMENTS Size of Dimension(s): 3 x 16
FRtrimIndex	192	unsigned 32-bit integer	MIN_VAL - MAX_VAL	Unitless	2 Dimensional Array: CRIS_TOTAL_BANDS x TRIM_ELEMENTS Size of Dimension(s): 3 x 16
File Size	**33,128 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 CrIS Fill Packet Initialization PCT

Data Mnemonic	NP_NU-LM0230-016 (CrIS-SDR-FILL-PACKET-LUT) NP_NU-LM0230-017 (CrIS-FS-SDR-FILL-PACKET-LUT)
Description/ Purpose	The CrIS Fill Packet PC contains templates of each of the Earth Scene, Deep Space, and Internal Calibration Target Interferogram packets (APIDs 1315-1395). These templates are used to create "fill" packets that are used to replace packets missing from the CrIS RDR inputs, in order to minimize the effect of missing packets to the CrIS sliding window processing. This file is used in the CrIS 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 CrIS Fill Packet PC Data Format for size See Table: 7.2.2.1-2 CrIS Table: 7.2.2.2-1 CrIS Full Spectral Resolution Fill Packet 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, CrIS Fill Packet PC Data Format and Table: 7.2.2.1-2 CrIS Full Spectral Resolution Fill Packet 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: 7.2.2.1-1 CrIS Fill Packet PC Data Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
ApidID	324	unsigned 32-bit integer	1315 - 1395	unitless (Application Packet ID)	Collection of application packet identifiers for each of the 81 unique types of application packets which will be stored in this PC. 1 Dimensional Array Size of Dimension(s): 81
PacketSize	324	unsigned 32-bit integer	0 - 2494	Bytes	Collection of application packet sizes (in bytes) for each of the 81 unique types of application packets which will be stored in this PC. 1 Dimensional Array Size of Dimension(s): 81
PacketOffset	324	unsigned 32-bit integer	0-126521	Bytes	Collection of offsets into the application packet storage area for each of the 81 unique types of application packets which will be stored in this PC. 1 Dimensional Array Size of Dimension(s): 81
PacketStorage	126522	unsigned 8-bit char	0-255	Unitless	Storage area for each of the 81 unique types of application packets which will be stored in this PC. Refer to CrIS Mission Data Packet Structures (472-00333) for the internal format of each application packet (APIDs 1315-1395). 1 Dimensional Array: PacketBytes Size of Dimension(s): 126522
Pad0	2	unsigned 8-bit char	MIN_VAL - MAX_VAL	Unitless	Pad bytes. 1 Dimensional Array: Size of Dimension(s): 2
File Size	**127,496 Bytes**				

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Table: 7.2.2.1-2 CrIS Full Spectral Resolution Fill Packet PC Data Format

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
ApidID	324	unsigned 32-bit integer	1315 - 1395	unitless (Application Packet ID)	Collection of application packet identifiers for each of the 81 unique types of application packets which will be stored in this PC. 1 Dimensional Array Size of Dimension(s): 81
PacketSize	324	unsigned 32-bit integer	0 - 3010	Bytes	Collection of application packet sizes (in bytes) for each of the 81 unique types of application packets which will be stored in this PC. 1 Dimensional Array Size of Dimension(s): 81
PacketOffset	324	unsigned 32-bit integer	0-203633	Bytes	Collection of offsets into the application packet storage area for each of the 81 unique types of application packets which will be stored in this PC. 1 Dimensional Array Size of Dimension(s): 81
PacketStorage	203634	unsigned 8-bit char	0-255	Unitless	Storage area for each of the 81 unique types of application packets which will be stored in this PC. Refer to CrIS Mission Data Packet Structures (472-00333) for the internal format of each application packet (APIDs 1315-1395). 1 Dimensional Array: PacketBytes Size of Dimension(s): 126522
Pad0	2	unsigned 8-bit char	0-0	Unitless	Pad bytes. 1 Dimensional Array: Size of Dimension(s): 2
File Size	**204,608 Bytes**				

7.2.2.2 CrIS SDR Ephemeral PCT

Data Mnemonic	DP_NU-LM2020-003 (CrIS-SDR-CC) DP_NU-LM2020-006 (CrIS-FS-SDR-CC)

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 Cross-track Infrared Sounder (CrIS) 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 CrIS SDR Ephemeral PC Data Format for CrIS SDR Ephemeral PC size See Table: 7.2.2.2-2 CrIS Full Spectral Resolution SDR Ephemeral PC Data Format for CrIS Full Resolution SDR Ephemeral 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, CrIS SDR Ephemeral PC Data Format and Table: 7.2.2.2-2 CrIS Full Spectral Resolution SDR Ephemeral PC Data Format

Table: 7.2.2.2-1 CrIS SDR Ephemeral PC

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
hammingParameter	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Hamming apodization
ictPrt1Bias	8	64-bit floating point	MIN_VAL - MAX_VAL	Kelvin	Used to calculate ICT Temperature
ictPrt2Bias	8	64-bit floating point	MIN_VAL - MAX_VAL	Kelvin	Used to calculate ICT Temperature
laserWavelengthDriftTolerance	8	64-bit floating point	MIN_VAL - MAX_VAL	ppm	Used to determine if calculated laser wavelength should replace existing laser wavelength.
fceParamLwAmpThreshRejectLimit	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Fringe count validation
fceParamMwAmpThreshRejectLimit	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Fringe count validation
fceParamSwAmpThreshRejectLimit	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Fringe count validation
fceParamLwDimensionThresholdLimit	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Fringe count validation
fceParamMwDimensionThresholdLimit	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Fringe count validation

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
fceParamSwDimension ThresholdLimit	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Fringe count validation
fceParamLwFractional FceThresholdLimit	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Fringe count validation
fceParamMwFractional FceThresholdLimit	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Fringe count validation
fceParamSwFractional FceThresholdLimit	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Fringe count validation
fceParamMwGoodLine arFittingThreshLimit	8	64-bit floating point	MIN_VAL - MAX_VAL	rad2	Fringe count validation
fceParamLwGoodLinea rFittingThreshLimit	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Fringe count validation
fceParamSwGoodLinea rFittingThreshLimit	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Fringe count validation
fceParamLwMaxFceTh reshLimit	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Fringe count validation
fceParamMwMaxFceT hreshLimit	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Fringe count validation
fceParamSwMaxFceTh reshLimit	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Fringe count validation
postCalibrationSwA2	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	SW Parameter used to calculate Post Calibration correction matrix
postCalibrationMwA2	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	MW Parameter used to calculate Post Calibration correction mat
postCalibrationLwA2	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	LW Parameter used to calculate Post Calibration correction matrix
postCalibrationSwA4	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	SW Parameter used to calculate Post Calibration correction matrix
postCalibrationMwA4	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	MW Parameter used to calculate Post Calibration correction matrix
postCalibrationLwA4	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	LW Parameter used to calculate Post Calibration correction matrix
maximumFractionReje ctions	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Fringe count validation
blackmanHarrisParam A0	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Parameter used to calculate User Apodization correction matrix

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
blackmanHarrisParam A1	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Parameter used to calculate User Apodization correction matrix
blackmanHarrisParam A2	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Parameter used to calculate User Apodization correction matrix
blackmanHarrisParam A3	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Parameter used to calculate User Apodization correction matrix
computedWavelengthRejectionThreshold	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	Threshold used to reject laser wavelengths during Neon Calibration
fceParamMwMaxIndex	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	Max index used in FCE detection
fceParamLwMaxIndex	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	Max index used in FCE detection
fceParamSwMaxIndex	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	Max index used in FCE detection
fceParamLwMinIndex	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	Min index used in FCE detection
fceParamMwMinIndex	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	Min index used in FCE detection
fceParamSwMinIndex	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	Min index used in FCE detection
fceParamDefaultDetectorBand	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	FCE default detector band
fceParamDefaultDetectorFOV	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	FCE default detector FOV
polarizationCorrectionFitOrder	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	Order of Polynomial fit used to calculate Polarization Curve
postCalibrationLwA1	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	LW Parameter used to calculate Post Calibration correction matrix
postCalibrationMwA1	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	MW Parameter used to calculate Post Calibration correction matrix
postCalibrationSwA1	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	SW Parameter used to calculate Post Calibration correction matrix
postCalibrationLwA3	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	LW Parameter used to calculate Post Calibration correction matrix
postCalibrationMwA3	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	MW Parameter used to calculate Post Calibration correction matrix

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Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
postCalibrationSwA3	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	SW Parameter used to calculate Post Calibration correction matrix
postCalibrationLwK	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	LW Parameter used to calculate Post Calibration correction matrix
postCalibrationLwK0	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	LW Parameter used to calculate Post Calibration correction matrix
postCalibrationLwK1	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	LW Parameter used to calculate Post Calibration correction matrix
postCalibrationMwK	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	MW Parameter used to calculate Post Calibration correction matrix
postCalibrationMwK0	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	MW Parameter used to calculate Post Calibration correction matrix
postCalibrationMwK1	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	MW Parameter used to calculate Post Calibration correction matrix
postCalibrationSwK	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	SW Parameter used to calculate Post Calibration correction matrix
postCalibrationSwK0	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	SW Parameter used to calculate Post Calibration correction matrix
postCalibrationSwK1	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	SW Parameter used to calculate Post Calibration correction matrix
numberOpdOverscanSamples	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	Number of samples of trim from each end of the interferogram
calibrationTargetDataValidityDuration	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Absolute temporal displacement to ES under calibration
calibrationTargetDataValidityDurationTolerance	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Max temporal displacement of FOR under calibration
elapsedTimeForValidScienceTlmData	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Absolute temporal displacement to ES under calibration
elapsedTimeForValidSpaceTargetTemperature	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Max temporal displacement of FOR under calibration
scienceTlmTimeDifferenceTolerance	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Absolute temporal displacement
spaceTargetTemperatureTimeDifferenceTolerance	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Max temporal displacement for temperature correlation

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
maxLunarRadiance	4	32-bit floating point	MIN_VAL - MAX_VAL	unitless	Discards DS measurements above this threshold
movingAverageWindowSize	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	Specifies the reference window size (ES are half that)
maximumNumberOfFceTriesDuringIctDsSynchronization	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	Max fringe counts to try in both directions
maximumNumberOfIctDsSynchronizationTries	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	Max ES window depth to seek valid measurement
dsTemperatureOrigin	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	Specifies origin for file
instrumentTemperatureOrigin	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	Specifies source of value
ictEmissivityOrigin	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	Specifies emissivities are used from main configuration file
allowCalibrationTargetDataMissing	1	8-bit char	0 - 1	unitless	Allows for missing ICT/DS references measurements
allowEngineeringDataPacketsMissing	1	8-bit char	0 - 1	unitless	Allows for missing reference measurements
allowSpaceTargetTemperatureDataMissing	1	8-bit char	0 - 1	unitless	Allows for missing reference measurements
disableTimeStampBasedMovingWindow	1	8-bit char	0 - 1	unitless	Adds additional constrains for packet timing
performRadiometricCalibration	1	8-bit char	0 - 1	unitless	Allows for radiometric calibration
skipIctDsPhaseSynchronization	1	8-bit char	0 - 1	unitless	Phase aligns initial ICT/DS reference window
useDeepSpaceRadiance	1	8-bit char	0 - 1	unitless	Specifies calibration equation to consider cold target
useIctEnvironmentalCorrectionModel	1	8-bit char	0 - 1	unitless	Sets ICT temp to include component contributions
useWavenumberDependentDsEmissivity	1	8-bit char	0 - 1	unitless	Specifies emissivities are used from main config file
useWavenumberDependentIctEmissivity	1	8-bit char	0 - 1	unitless	Specifies emissivities are used from main config file

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Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
allowScienceTlmDataMissing	1	8-bit char	0 - 1	unitless	Allows for missing reference measurement
monitorLunarIntrusion	1	8-bit char	0 - 1	unitless	Discards DS measurements about a threshold
edrMwDeltaSigma	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Specifies wavenumber spacing for Resampling for MW
edrLwDeltaSigma	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Specifies wavenumber spacing for Resampling for LW
edrSwDeltaSigma	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Specifies wavenumber spacing for Resampling for SW
edrSwMinimumWavenumber	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Specifies the low clipping range for SW
edrLwMaximumWavenumber	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Specifies the high clipping range for LW
edrMwMaximumWavenumber	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Specifies the high clipping range for MW
edrSwMaximumWavenumber	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Specifies the high clipping range for SW
edrMwMinimumWavenumber	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Specifies the low clipping range for MW
edrLwMinimumWavenumber	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Specifies the low clipping range for LW
impulseNoiseCountThreshold	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	Specifies limit to flag
edrSwNumberOfPoints	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	Specifies the number of points in range for SW
edrMwNumberOfPoints	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	Specifies the number of points in range for MW
edrLwNumberOfPoints	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	Specifies the number of points in range for LW
apodizationType	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	Choice of apodization
CalibrationOrder	4	32-bit integer	0-12	unitless	Selects calibration order
laserDiodeWavelengthOrigin	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	Identifies the source for measurement (telemetry or config)

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Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
applyPolarizationCorrections	1	8-bit char	0 - 1	unitless	Specifies the application of scene specific correction
applyPostCalibrationFilterMatrixCorrection	1	8-bit char	0 - 1	unitless	Specifies the application of matrix correction
applyIlsFovEffectsCorrection	1	8-bit char	0 - 1	unitless	Specifies the application of ILS corrections
applyIlsResidualEffectCorrection	1	8-bit char	0 - 1	unitless	Specifies the application of ILS residual correction
applyResamplingMatrix	1	8-bit char	0 - 1	unitless	Specifies the application of resampling corrections
disableLaserMonitoring	1	8-bit char	0 - 1	unitless	Specifies the monitoring for laser drift
performFringeCountErrorHandling	1	8-bit char	0 - 1	unitless	Enables FCE Handling
performPolarizationCorrection	1	8-bit char	0 - 1	unitless	Allows for polarization correction
performSpectralAndSpatialCorrection	1	8-bit char	0 - 1	unitless	Allows spectral and spatial corrections
useSavedMatrices	1	8-bit char	0 - 1	unitless	Allows for use of saved matrices
userSelectedClipping	1	8-bit char	0 - 1	unitless	Set up clip guard bands
implicit_pad_0	1	unsigned 8-bit char	0 - 255	unitless	Pad byte for natural alignment 1 Dimensional Array: PAD_BYTES_1 Size of Dimension(s): 1
calibrationWindowSize	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	Calibration window size
outputStyle	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	Output style
calibrationType	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	Calibration type
maxBufferDepth	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	Maximum buffer depth
windowManagementStyle	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	Window management style
instrumentLocation	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	Instrument location

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
detector	27	8-bit char	0 - 1	unitless	Detector 2 Dimensional Array: CRIS_MAX_FOV x CRIS_TOTAL_BANDS Size of Dimension(s): 9 x 3
fieldOfRegard	34	8-bit char	0 - 1	unitless	Field of regard 1 Dimensional Array: Size of Dimension(s): 34
requestNEdN	1	8-bit char	0 - 1	unitless	Request
outputStyle_All	1	8-bit char	0 - 1	unitless	Output style for all
outputStyle_Discard	1	8-bit char	0 - 1	unitless	Output style for discard
implicit_pad_1	4	unsigned 8-bit char	0 - 255	unitless	Pad bytes for natural alignment 1 Dimensional Array: PAD_BYTES_4 Size of Dimension(s): 4
dsTempBench	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Deep space temperature bench testing value
beamsplitterTempBench	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Beamsplitter temperature bench testing value
beamsplitterTempChamber	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Beamsplitter temperature chamber value
dsTempChamber	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Deep space temperature chamber value
ictTempBench	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Internal calibration target temperature bench testing value
ictTempChamber	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Internal calibration target temperature chamber value
meanDsEmissivityBench	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Mean deep space emissivity bench testing value
meanDsEmissivityChamber	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Mean deep space emissivity chamber testing value
omaTempBench	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	OMA temperature value for bench testing
omaTempChamber	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	OMA temperature value for chamber testing

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
scanBaffleTempBench	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Scan baffle temperature for bench testing
scanBaffleTempChamber	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Scan baffle temperature for the chamber
dsEffectiveEmissivityLW	6912	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Deep space effective emissivity long wave value 1 Dimensional Array Size of Dimension(s): 864
dsEffectiveEmissivityMW	4224	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Deep space effective emissivity medium wave value 1 Dimensional Array Size of Dimension(s): 528
dsEffectiveEmissivitySW	1600	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Deep space effective emissivity small wave value 1 Dimensional Array Size of Dimension(s): 200
laserDiodeWavelength	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Laser frequency used in absence of measurement
spaceTargetTemperatureDriftLimit	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Specifies limit to flag
lwBenchMeanIctEmissivity	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	LW ICT Emissivity (Instrument Location = Bench)
lwChamberMeanIctEmissivity	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	LW ICT Emissivity (Instrument Location = Chamber)
mwChamberMeanIctEmissivity	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	MW ICT Emissivity (Instrument Location = Chamber)
swChamberMeanIctEmissivity	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	SW ICT Emissivity (Instrument Location = Chamber)
swBenchMeanIctEmissivity	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	SW ICT Emissivity (Instrument Location = Bench)
mwBenchMeanIctEmisivity	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	MW ICT Emissivity (Instrument Location = Bench)
benchMeanIctEmissivity	4	32-bit floating point	MIN_VAL - MAX_VAL	unitless	
chamberMeanIctEmissivity	4	32-bit floating point	MIN_VAL - MAX_VAL	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.

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
forIdentifierDs	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	Specifies the DS of the ICT reference measurement
forIdentifierIct	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	Specifies the FOR of the ICT reference measurement
forwardSweepDirectionIdentifier	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	"0" by convention
lwDataPointsUndecimatedInterferogram	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	LW data points undecimated
lwDecimationFactor	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	LW decimation factor
mwDataPointsDecimatedInterferogram	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	MW data points decimated
mwDataPointsUndecimatedInterferogram	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	MW data points undecimated
swDataPointsDecimatedInterferogram	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	SW data points decimated
swDataPointsUndecimatedInterferogram	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	SW data points undecimated
mwDecimationFactor	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	MW decimation factor
numberFOR	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	Number of FOR
numberSpectralBands	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	Number of spectral bands
numberSamplesPerLaserWavelength	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	Number of samples per wavelength
numberFOV	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	Number of FOV
reverseSweepDirectionIdentifier	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	"1" by convention
swDecimationFactor	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	SW decimation factor
lwDataPointsDecimatedInterferogram	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	LW data points decimated
dataPointsUndecimatedInterferogram	12	32-bit integer	MIN_VAL - MAX_VAL	unitless	Dimensions Correspond to Bands in this order:

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Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
					'LW', 'MW', 'SW' 1 Dimensional Array: Size of Dimension(s): 3
decimationFactor	12	32-bit integer	MIN_VAL - MAX_VAL	unitless	Dimensions Correspond to Bands in this order: 'LW', 'MW', 'SW' 1 Dimensional Array: Size of Dimension(s): 3
engineeringPacketAPID	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	
sciencePacketAPID	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	
forwardSweepDirectionLabel	2	8-bit char	"F"	unitless	'F' for forward 1 Dimensional Array: Size of Dimension(s): 2
lwBandLabel	3	8-bit char	'LW'	unitless	'LW' 1 Dimensional Array: Size of Dimension(s): 3
mwBandLabel	3	8-bit char	'MW'	unitless	'MW' 1 Dimensional Array: Size of Dimension(s): 3
reverseSweepDirectionLabel	2	8-bit char	'R'	unitless	'R' for reverse 1 Dimensional Array: Size of Dimension(s): 3
swBandLabel	3	8-bit char	'SW'	unitless	'SW' 1 Dimensional Array: Size of Dimension(s): 3
implicit_pad_2	7	unsigned 8-bit char	0 - 255	unitless	Pad bytes for natural alignment 1 Dimensional Array: PAD_BYTES_7 Size of Dimension(s): 7
rotationMatrix	72	64-bit floating point	MinDouble-MaxDouble	unitless	Rotation matrix for sensor to spacecraft projection 2 Dimensional Array:

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Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
					CC_VEC_SIZE x CC_VEC_SIZE Size of Dimension(s): 3 x 3
timingSequenceErrorThreshold	8	64-bit integer	0 - MAX_VAL	seconds	Amount of time scan start times are allowed to vary from eight seconds with respect to adjacent scans' start times
invalidNeonCalibrationPercentageThreshold	8	64-bit floating point	0 - 100	percent	Percentage of the number of scans by the number of EV FORs by the number of FOVs by the number of bands neon calibration values are allowed to change
numOfValidPRTTempThreshold	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	Number of valid PRT temperature threshold
ictTempLowThreshold	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	ICT low temperature threshold
ictTempHighThreshold	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	ICT high temperature threshold
ictTempStabilityThreshold	4	32-bit floating point	MIN_VAL - MAX_VAL	unitless	ICT temperature stability threshold
ictTempConsistencyThreshold	4	32-bit floating point	MIN_VAL - MAX_VAL	unitless	ICT temperature consistency threshold
surfaceEmissivityCoeff	32	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Surface Emissivity Coefficients 1 Dimensional Array: SURF_EMISS_COEFF_CMAX Size of Dimension(s): 4
suppressSsmBaffleProfile	1	8-bit char	0-1	unitless	Suppress the SSM Baffle Profile
implicit_pad_3	7	unsigned 8-bit char	0 - 255	unitless	Pad bytes for natural alignment 1 Dimensional Array: PAD_BYTES_7 Size of Dimension(s): 7
earthTargetTempBench	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Earth Target Temperature Bench
earthTargetTempChamber	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Earth Target Temperature Chamber

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
ictBaffleViewFactor	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	ICT Baffle View Factor
scanBaffleViewFactor	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Scan Baffle View Factor
omaFrameViewFactor	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	OMA Frame View Factor
warmBeamsplitterViewFactor	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Warm Beam Splitter View Factor
coldBeamsplitterViewFactor	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Cold Beam Splitter View Factor
earthTargetViewFactor	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Earth Target View Factor
overrideEarthTargetTemp	1	8-bit char	0-1	unitless	Overrides the SSM Target Emissivity
implicit_pad_4	3	unsigned 8-bit char	0 - 255	unitless	Pad bytes for natural alignment 1 Dimensional Array: PAD_BYTES_3 Size of Dimension(s): 3
durationOfOrbit	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	Duration of the satellite orbit
ictBaffleEmissivity	24	64-bit floating point	MIN_VAL - MAX_VAL	unitless	ICT Baffle Emissivity 1 Dimensional Array: CRIS_TOTAL_BANDS Size of Dimension(s): 3
scanBaffleEmissivity	24	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Scan Baffle Emissivity 1 Dimensional Array: CRIS_TOTAL_BANDS Size of Dimension(s): 3
omaFrameEmissivity	24	64-bit floating point	MIN_VAL - MAX_VAL	unitless	OMA Frame Emissivity 1 Dimensional Array: CRIS_TOTAL_BANDS Size of Dimension(s): 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.

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
earthTargetEmissivity	24	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Earth Target Emissivity 1 Dimensional Array: CRIS_TOTAL_BANDS Size of Dimension(s): 3
scanBaffleTempOffset	84	32-bit floating point	MIN_VAL - MAX_VAL	unitless	Scan Baffle Temperature Offset 1 Dimensional Array: NUM_ECM_BAFFLE_PTS Size of Dimension(s): 21
implicit_pad_5	4	unsigned 8-bit char	0 - 255	unitless	Pad bytes for natural alignment 1 Dimensional Array: PAD_BYTES_4 Size of Dimension(s): 4
linearityCorrectionParameter_a2	216	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Linearity Correction A2 Parameters 2 Dimensional Array: CRIS_TOTAL_BANDS x CRIS_MAX_FOV Size of Dimension(s): 3 x 9
linearityCorrectionVinstParameters	216	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Linearity Correction Voltage Parameters 2 Dimensional Array: CRIS_TOTAL_BANDS x CRIS_MAX_FOV Size of Dimension(s): 3 x 9
linearityCorrectionParameter_ModEff	216	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Linearity Correction Mod Effectivity Parameters 2 Dimensional Array: CRIS_TOTAL_BANDS x CRIS_MAX_FOV Size of Dimension(s): 3 x 9
linearityCorrectionControlParam	12	32-bit integer	MIN_VAL - MAX_VAL	unitless	Linearity Correction Control Parameters

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Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
					1 Dimensional Array: CRIS_TOTAL_BANDS Size of Dimension(s): 3
performLinearityCorrectionControl	3	8-bit char	0-1	unitless	Flag indicating whether linearity correction control is performed 1 Dimensional Array: CRIS_TOTAL_BANDS Size of Dimension(s): 3
implicit_pad_6	1	unsigned 8-bit char	0 - 255	unitless	Pad byte for natural alignment 1 Dimensional Array: PAD_BYTES_1 Size of Dimension(s): 1
firAccumulatorStartBit	12	32-bit integer	MIN_VAL - MAX_VAL	unitless	FIR Accumulator start bits 1 Dimensional Array: CRIS_TOTAL_BANDS Size of Dimension(s): 3
implicit_pad_7	4	unsigned 8-bit char	0 - 255	unitless	Pad bytes for natural alignment 1 Dimensional Array: PAD_BYTES_4 Size of Dimension(s): 4
firFilterScaleFactor	24	64-bit floating point	MIN_VAL - MAX_VAL	unitless	FIR Filter Scale Factor 1 Dimensional Array: CRIS_TOTAL_BANDS Size of Dimension(s): 3
firPassBandStartValues	24	64-bit floating point	MIN_VAL - MAX_VAL	unitless	FIR Pass Band Start Values 1 Dimensional Array: CRIS_TOTAL_BANDS Size of Dimension(s): 3
firPassBandStopValues	24	64-bit floating point	MIN_VAL - MAX_VAL	unitless	FIR Pass Band Stop Values

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Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
					1 Dimensional Array: CRIS_TOTAL_BANDS Size of Dimension(s): 3
firFilterResponse_Real	6120	64-bit floating point	MIN_VAL - MAX_VAL	unitless	FIR Filter Response Real Values 2 Dimensional Array: CRIS_TOTAL_BANDS x NUM_FIR_FILTER_RESP_PTS Size of Dimension(s): 3 x 255
firFilterResponse_Imag	6120	64-bit floating point	MIN_VAL - MAX_VAL	unitless	FIR Filter Response Imaginary Values 2 Dimensional Array: CRIS_TOTAL_BANDS x NUM_FIR_FILTER_RESP_PTS Size of Dimension(s): 3 x 255
firEffectiveGainSetting	12	32-bit integer	MIN_VAL - MAX_VAL	unitless	FIR Effective Gain Setting 1 Dimensional Array: CRIS_TOTAL_BANDS Size of Dimension(s): 3
implicit_pad_8	4	unsigned 8-bit char	0 - 255	unitless	Pad bytes for natural alignment 1 Dimensional Array: PAD_BYTES_4 Size of Dimension(s): 4
firGainMapping	384	64-bit floating point	MIN_VAL - MAX_VAL	unitless	FIR Gain Mapping 2 Dimensional Array: CRIS_TOTAL_BANDS x NUM_FIR_GAIN_MAPPING_PTS Size of Dimension(s): 3 x 16
laserDiodeWavelength MW	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Midwave Laser Diode Wavelength
laserDiodeWavelength SW	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Shortwave Laser Diode Wavelength

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
fceParamLwRefAmpThreshRejectLimit	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	FCE longwave Amp threshold rejection limit
fceParamMwRefAmpThreshRejectLimit	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	FCE midwave Amp threshold rejection limit
fceParamSwRefAmpThreshRejectLimit	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	FCE shortwave Amp threshold rejection limit
appShiftFactorFlag	1	8-bit char	0-1	unitless	Shift factor flag
implicit_pad_9	7	unsigned 8-bit char	0 - 255	unitless	Pad bytes for natural alignment 1 Dimensional Array: PAD_BYTES_7 Size of Dimension(s): 7
shiftFactor	72	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Shift factor 1 Dimensional Array: NUM_SHIFT_FACTOR_PTS Size of Dimension(s): 9
foldIndexOffset	4	32-bit integer	MIN_ VAL - MAX_VAL	unitless	fold Index Offset 1 Dimensional Array: CRIS_TOTAL_BANDS Size of Dimension(s):3
saExpansionFactor	8	64-bit floating point	MIN_VAL- MAX_VAL	unitless	SA Expansion Factor 1 Dimensional array: CRIS_TOTAL_BANDS Size of Dimension(s):3
endPktOutputTimeStep	8	64-bit integer	0 - 5.68E+15	unitless	Engineering packet Output timestep
lwImagRadCheckStart	4	unsigned 32-bit integer	0 - MAX_VAL	unitless	Beginning LW channel to check for imaginary radiance within threshold
lwImagRadCheckEnd	4	unsigned 32-bit integer	0 - MAX_VAL	unitless	Ending LW channel to check for imaginary radiance within threshold
lwImagRadUpperThresh	8	64-bit floating point	MIN_VAL - MAX_VAL	mW/(m2 sr cm-1)	Upper LW imaginary radiance threshold
lwImagRadLowerThresh	8	64-bit floating point	MIN_VAL - MAX_VAL	mW/(m2 sr cm-1)	Lower LW imaginary radiance threshold

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Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
mwImagRadCheckStart	4	unsigned 32-bit integer	0 - MAX_VAL	unitless	Beginning MW channel to check for imaginary radiance within threshold
mwImagRadCheckEnd	4	unsigned 32-bit integer	0 - MAX_VAL	unitless	Ending MW channel to check for imaginary radiance within threshold
mwImagRadUpperThresh	8	64-bit floating point	MIN_VAL - MAX_VAL	mW/(m2 sr cm-1)	Upper MW imaginary radiance threshold
mwImagRadLowerThresh	8	64-bit floating point	MIN_VAL - MAX_VAL	mW/(m2 sr cm-1)	Lower MW imaginary radiance threshold
swImagRadCheckStart	4	unsigned 32-bit integer	0 - MAX_VAL	unitless	Beginning SW channel to check for imaginary radiance within threshold
swImagRadCheckEnd	4	unsigned 32-bit integer	0 - MAX_VAL	unitless	Ending SW channel to check for imaginary radiance within threshold
swImagRadUpperThresh	8	64-bit floating point	MIN_VAL - MAX_VAL	mW/(m2 sr cm-1)	Upper SW imaginary radiance threshold
swImagRadLowerThresh	8	64-bit floating point	MIN_VAL - MAX_VAL	mW/(m2 sr cm-1)	Lower SW imaginary radiance threshold
File Size	**27,692 Bytes**				

Table: 7.2.2.2-2 CrIS Full Spectral Resolution SDR Ephemeral PC

Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
hammingParameter	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Hamming apodization
ictPrt1Bias	8	64-bit floating point	MIN_VAL - MAX_VAL	Kelvin	Used to calculate ICT Temperature
ictPrt2Bias	8	64-bit floating point	MIN_VAL - MAX_VAL	Kelvin	Used to calculate ICT Temperature
laserWavelengthDriftTolerance	8	64-bit floating point	MIN_VAL - MAX_VAL	ppm	Used to determine if calculated laser wavelength should replace existing laser wavelength.
fceParamLwAmpThreshRejectLimit	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Fringe count validation
fceParamMwAmpThreshRejectLimit	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Fringe count validation
fceParamSwAmpThreshRejectLimit	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Fringe count validation

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Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
fceParamLwDimensionThresholdLimit	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Fringe count validation
fceParamMwDimensionThresholdLimit	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Fringe count validation
fceParamSwDimensionThresholdLimit	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Fringe count validation
fceParamLwFractionalFceThresholdLimit	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Fringe count validation
fceParamMwFractionalFceThresholdLimit	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Fringe count validation
fceParamSwFractionalFceThresholdLimit	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Fringe count validation
fceParamMwGoodLinearFittingThreshLimit	8	64-bit floating point	MIN_VAL - MAX_VAL	rad2	Fringe count validation
fceParamLwGoodLinearFittingThreshLimit	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Fringe count validation
fceParamSwGoodLinearFittingThreshLimit	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Fringe count validation
fceParamLwMaxFceThreshLimit	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Fringe count validation
fceParamMwMaxFceThreshLimit	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Fringe count validation
fceParamSwMaxFceThreshLimit	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Fringe count validation
postCalibrationSwA2	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	SW Parameter used to calculate Post Calibration correction matrix
postCalibrationMwA2	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	MW Parameter used to calculate Post Calibration correction mat
postCalibrationLwA2	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	LW Parameter used to calculate Post Calibration correction matrix
postCalibrationSwA4	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	SW Parameter used to calculate Post Calibration correction matrix
postCalibrationMwA4	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	MW Parameter used to calculate Post Calibration correction matrix
postCalibrationLwA4	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	LW Parameter used to calculate Post Calibration correction matrix

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
maximumFractionRejections	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Fringe count validation
blackmanHarrisParamA0	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Parameter used to calculate User Apodization correction matrix
blackmanHarrisParamA1	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Parameter used to calculate User Apodization correction matrix
blackmanHarrisParamA2	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Parameter used to calculate User Apodization correction matrix
blackmanHarrisParamA3	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Parameter used to calculate User Apodization correction matrix
computedWavelengthRejectionThreshold	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	Threshold used to reject laser wavelengths during Neon Calibration
fceParamMwMaxIndex	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	Max index used in FCE detection
fceParamLwMaxIndex	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	Max index used in FCE detection
fceParamSwMaxIndex	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	Max index used in FCE detection
fceParamLwMinIndex	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	Min index used in FCE detection
fceParamMwMinIndex	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	Min index used in FCE detection
fceParamSwMinIndex	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	Min index used in FCE detection
fceParamDefaultDetectorBand	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	FCE default detector band
fceParamDefaultDetectorFOV	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	FCE default detector FOV
polarizationCorrectionFitOrder	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	Order of Polynomial fit used to calculate Polarization Curve
postCalibrationLwA1	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	LW Parameter used to calculate Post Calibration correction matrix
postCalibrationMwA1	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	MW Parameter used to calculate Post Calibration correction matrix
postCalibrationSwA1	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	SW Parameter used to calculate Post Calibration correction matrix

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Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
postCalibrationLwA3	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	LW Parameter used to calculate Post Calibration correction matrix
postCalibrationMwA3	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	MW Parameter used to calculate Post Calibration correction matrix
postCalibrationSwA3	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	SW Parameter used to calculate Post Calibration correction matrix
postCalibrationLwK	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	LW Parameter used to calculate Post Calibration correction matrix
postCalibrationLwK0	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	LW Parameter used to calculate Post Calibration correction matrix
postCalibrationLwK1	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	LW Parameter used to calculate Post Calibration correction matrix
postCalibrationMwK	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	MW Parameter used to calculate Post Calibration correction matrix
postCalibrationMwK0	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	MW Parameter used to calculate Post Calibration correction matrix
postCalibrationMwK1	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	MW Parameter used to calculate Post Calibration correction matrix
postCalibrationSwK	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	SW Parameter used to calculate Post Calibration correction matrix
postCalibrationSwK0	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	SW Parameter used to calculate Post Calibration correction matrix
postCalibrationSwK1	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	SW Parameter used to calculate Post Calibration correction matrix
numberOpdOverscanSamples	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	Number of samples of trim from each end of the interferogram
calibrationTargetDataValidityDuration	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Absolute temporal displacement to ES under calibration
calibrationTargetDataValidityDurationTolerance	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Max temporal displacement of FOR under calibration
elapsedTimeForValidScienceTlmData	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Absolute temporal displacement to ES under calibration
elapsedTimeForValidSpaceTargetTemperature	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Max temporal displacement of FOR under calibration
scienceTlmTimeDifferenceTolerance	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Absolute temporal displacement

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
spaceTargetTemperatureTimeDifferenceTolerance	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Max temporal displacement for temperature correlation
maxLunarRadiance	4	32-bit floating point	MIN_VAL - MAX_VAL	unitless	Discards DS measurements above this threshold
movingAverageWindowSize	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	Specifies the reference window size (ES are half that)
maximumNumberOfFceTriesDuringIctDsSynchronization	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	Max fringe counts to try in both directions
maximumNumberOfIctDsSynchronizationTries	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	Max ES window depth to seek valid measurement
dsTemperatureOrigin	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	Specifies origin for file
instrumentTemperatureOrigin	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	Specifies source of value
ictEmissivityOrigin	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	Specifies emissivities are used from main configuration file
allowCalibrationTargetDataMissing	1	8-bit char	0 - 1	unitless	Allows for missing ICT/DS references measurements
allowEngineeringDataPacketsMissing	1	8-bit char	0 - 1	unitless	Allows for missing reference measurements
allowSpaceTargetTemperatureDataMissing	1	8-bit char	0 - 1	unitless	Allows for missing reference measurements
disableTimeStampBasedMovingWindow	1	8-bit char	0 - 1	unitless	Adds additional constrains for packet timing
performRadiometricCalibration	1	8-bit char	0 - 1	unitless	Allows for radiometric calibration
skipIctDsPhaseSynchronization	1	8-bit char	0 - 1	unitless	Phase aligns initial ICT/DS reference window
useDeepSpaceRadiance	1	8-bit char	0 - 1	unitless	Specifies calibration equation to consider cold target
useIctEnvironmentalCorrectionModel	1	8-bit char	0 - 1	unitless	Sets ICT temp to include component contributions
useWavenumberDependentDsEmissivity	1	8-bit char	0 - 1	unitless	Specifies emissivities are used from main config file

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
useWavenumberDependentIctEmissivity	1	8-bit char	0 - 1	unitless	Specifies emissivities are used from main config file
allowScienceTlmDataMissing	1	8-bit char	0 - 1	unitless	Allows for missing reference measurement
monitorLunarIntrusion	1	8-bit char	0 - 1	unitless	Discards DS measurements about a threshold
edrMwDeltaSigma	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Specifies wavenumber spacing for Resampling for MW
edrLwDeltaSigma	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Specifies wavenumber spacing for Resampling for LW
edrSwDeltaSigma	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Specifies wavenumber spacing for Resampling for SW
edrSwMinimumWavenumber	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Specifies the low clipping range for SW
edrLwMaximumWavenumber	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Specifies the high clipping range for LW
edrMwMaximumWavenumber	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Specifies the high clipping range for MW
edrSwMaximumWavenumber	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Specifies the high clipping range for SW
edrMwMinimumWavenumber	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Specifies the low clipping range for MW
edrLwMinimumWavenumber	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Specifies the low clipping range for LW
impulseNoiseCountThreshold	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	Specifies limit to flag
edrSwNumberOfPoints	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	Specifies the number of points in range for SW
edrMwNumberOfPoints	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	Specifies the number of points in range for MW
edrLwNumberOfPoints	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	Specifies the number of points in range for LW
apodizationType	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	Choice of apodization
CalibrationOrder	4	32-bit integer	0-12	Unitless	Selects calibration order
laserDiodeWavelengthOrigin	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	Identifies the source for measurement (telemetry or config)

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Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
applyPolarizationCorrections	1	8-bit char	0 - 1	unitless	Specifies the application of scene specific correction
applyPostCalibrationFilterMatrixCorrection	1	8-bit char	0 - 1	unitless	Specifies the application of matrix correction
applyIlsFovEffectsCorrection	1	8-bit char	0 - 1	unitless	Specifies the application of ILS corrections
applyIlsResidualEffectCorrection	1	8-bit char	0 - 1	unitless	Specifies the application of ILS residual correction
applyResamplingMatrix	1	8-bit char	0 - 1	unitless	Specifies the application of resampling corrections
disableLaserMonitoring	1	8-bit char	0 - 1	unitless	Specifies the monitoring for laser drift
performFringeCountErrorHandling	1	8-bit char	0 - 1	unitless	Enables FCE Handling
performPolarizationCorrection	1	8-bit char	0 - 1	unitless	Allows for polarization correction
performSpectralAndSpatialCorrection	1	8-bit char	0 - 1	unitless	Allows spectral and spatial corrections
useSavedMatrices	1	8-bit char	0 - 1	unitless	Allows for use of saved matrices
userSelectedClipping	1	8-bit char	0 - 1	unitless	Set up clip guard bands
implicit_pad_0	1	unsigned 8-bit char	0 - 255	unitless	Pad byte for natural alignment 1 Dimensional Array: PAD_BYTES_1 Size of Dimension(s): 1
calibrationWindowSize	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	Calibration window size
outputStyle	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	Output style
calibrationType	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	Calibration type
maxBufferDepth	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	Maximum buffer depth
windowManagementStyle	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	Window management style
instrumentLocation	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	Instrument location
detector	27	8-bit char	0 - 1	unitless	Detector

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Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
					2 Dimensional Array: CRIS_MAX_FOV x CRIS_TOTAL_BANDS Size of Dimension(s): 9 x 3
fieldOfRegard	34	8-bit char	0 - 1	unitless	Field of regard 1 Dimensional Array: Size of Dimension(s): 34
requestNEdN	1	8-bit char	0 - 1	unitless	Request
outputStyle_All	1	8-bit char	0 - 1	unitless	Output style for all
outputStyle_Discard	1	8-bit char	0 - 1	unitless	Output style for discard
implicit_pad_1	4	unsigned 8-bit char	0 - 255	unitless	Pad bytes for natural alignment 1 Dimensional Array: PAD_BYTES_4 Size of Dimension(s): 4
dsTempBench	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Deep space temperature bench testing value
beamsplitterTempBench	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Beamsplitter temperature bench testing value
beamsplitterTempChamber	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Beamsplitter temperature chamber value
dsTempChamber	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Deep space temperature chamber value
ictTempBench	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Internal calibration target temperature bench testing value
ictTempChamber	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Internal calibration target temperature chamber value
meanDsEmissivityBench	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Mean deep space emissivity bench testing value
meanDsEmissivityChamber	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Mean deep space emissivity chamber testing value
omaTempBench	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	OMA temperature value for bench testing
omaTempChamber	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	OMA temperature value for chamber testing
scanBaffleTempBench	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Scan baffle temperature for bench testing

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Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
scanBaffleTempChamber	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Scan baffle temperature for the chamber
dsEffectiveEmissivityLW	6912	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Deep space effective emissivity long wave value 1 Dimensional Array Size of Dimension(s): 864
dsEffectiveEmissivityMW	4224	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Deep space effective emissivity medium wave value 1 Dimensional Array Size of Dimension(s): 1050
dsEffectiveEmissivitySW	1600	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Deep space effective emissivity small wave value 1 Dimensional Array Size of Dimension(s): 797
laserDiodeWavelength	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Laser frequency used in absence of measurement
spaceTargetTemperatureDriftLimit	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Specifies limit to flag
lwBenchMeanIctEmissivity	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	LW ICT Emissivity (Instrument Location = Bench)
lwChamberMeanIctEmissivity	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	LW ICT Emissivity (Instrument Location = Chamber)
mwChamberMeanIctEmissivity	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	MW ICT Emissivity (Instrument Location = Chamber)
swChamberMeanIctEmissivity	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	SW ICT Emissivity (Instrument Location = Chamber)
swBenchMeanIctEmissivity	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	SW ICT Emissivity (Instrument Location = Bench)
mwBenchMeanIctEmissivity	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	MW ICT Emissivity (Instrument Location = Bench)
benchMeanIctEmissivity	4	32-bit floating point	MIN_VAL - MAX_VAL	unitless	
chamberMeanIctEmissivity	4	32-bit floating point	MIN_VAL - MAX_VAL	unitless	
forIdentifierDs	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	Specifies the DS of the ICT reference measurement

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Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
forIdentifierIct	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	Specifies the FOR of the ICT reference measurement
forwardSweepDirectionIdentifier	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	"0" by convention
lwDataPointsUndecimatedInterferogram	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	LW data points undecimated
lwDecimationFactor	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	LW decimation factor
mwDataPointsDecimatedInterferogram	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	MW data points decimated
mwDataPointsUndecimatedInterferogram	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	MW data points undecimated
swDataPointsDecimatedInterferogram	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	SW data points decimated
swDataPointsUndecimated Interferogram	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	SW data points undecimated
mwDecimationFactor	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	MW decimation factor
numberFOR	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	Number of FOR
numberSpectralBands	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	Number of spectral bands
numberSamplesPerLaserWavelength	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	Number of samples per wavelength
numberFOV	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	Number of FOV
reverseSweepDirectionIdentifier	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	"1" by convention
swDecimationFactor	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	SW decimation factor
lwDataPointsDecimatedInterferogram	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	LW data points decimated
dataPointsUndecimatedInterferogram	12	32-bit integer	MIN_VAL - MAX_VAL	unitless	Dimensions Correspond to Bands in this order: ‘LW’, ‘MW’, ‘SW’ 1 Dimensional Array: Size of Dimension(s): 3

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Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
decimationFactor	12	32-bit integer	MIN_VAL - MAX_VAL	unitless	Dimensions Correspond to Bands in this order: 'LW', 'MW', 'SW' 1 Dimensional Array: Size of Dimension(s): 3
engineeringPacketAPID	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	
sciencePacketAPID	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	
forwardSweepDirectionLabel	2	8-bit char	"F"	unitless	'F' for forward 1 Dimensional Array: Size of Dimension(s): 2
lwBandLabel	3	8-bit char	'LW'	unitless	'LW' 1 Dimensional Array: Size of Dimension(s): 3
mwBandLabel	3	8-bit char	'MW'	unitless	'MW' 1 Dimensional Array: Size of Dimension(s): 3
reverseSweepDirectionLabel	2	8-bit char	'R'	unitless	'R' for reverse 1 Dimensional Array: Size of Dimension(s): 3
swBandLabel	3	8-bit char	'SW'	unitless	'SW' 1 Dimensional Array: Size of Dimension(s): 3
implicit_pad_2	7	unsigned 8-bit char	0 - 255	unitless	Pad bytes for natural alignment 1 Dimensional Array: PAD_BYTES_7 Size of Dimension(s): 7
rotationMatrix	72	64-bit floating point	MinDouble-MaxDouble	unitless	Rotation matrix for sensor to spacecraft projection 2 Dimensional Array: CC_VEC_SIZE x CC_VEC_SIZE Size of Dimension(s): 3 x 3
timingSequenceErrorThreshold	8	64-bit integer	0 - MAX_VAL	seconds	Amount of time scan start times are allowed to vary from eight seconds with respect to adjacent scans' start times

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Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
invalidNeonCalibrationPercentageThreshold	8	64-bit floating point	0 - 100	percent	Percentage of the number of scans by the number of EV FORs by the number of FOVs by the number of bands neon calibration values are allowed to change
numOfValidPRTTempThreshold	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	Number of valid PRT temperature threshold
ictTempLowThreshold	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	ICT low temperature threshold
ictTempHighThreshold	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	ICT high temperature threshold
ictTempStabilityThreshold	4	32-bit floating point	MIN_VAL - MAX_VAL	unitless	ICT temperature stability threshold
ictTempConsistencyThreshold	4	32-bit floating point	MIN_VAL - MAX_VAL	unitless	ICT temperature consistency threshold
surfaceEmissivityCoeff	32	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Surface Emissivity Coefficients 1 Dimensional Array: SURF_EMISS_COEFF_CMAX Size of Dimension(s): 4
suppressSsmBaffleProfile	1	8-bit char	0-1	unitless	Suppress the SSM Baffle Profile
implicit_pad_3	7	unsigned 8-bit char	0 - 255	unitless	Pad bytes for natural alignment 1 Dimensional Array: PAD_BYTES_7 Size of Dimension(s): 7
earthTargetTempBench	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Earth Target Temperature Bench
earthTargetTempChamber	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Earth Target Temperature Chamber
ictBaffleViewFactor	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	ICT Baffle View Factor
scanBaffleViewFactor	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Scan Baffle View Factor
omaFrameViewFactor	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	OMA Frame View Factor
warmBeamsplitterViewFactor	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Warm Beam Splitter View Factor

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
coldBeamsplitterViewFactor	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Cold Beam Splitter View Factor
earthTargetViewFactor	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Earth Target View Factor
overrideEarthTargetTemp	1	8-bit char	0-1	unitless	Overrides the SSM Target Emissivity
implicit_pad_4	3	unsigned 8-bit char	0 - 255	unitless	Pad bytes for natural alignment 1 Dimensional Array: PAD_BYTES_3 Size of Dimension(s): 3
durationOfOrbit	4	32-bit integer	MIN_VAL - MAX_VAL	unitless	Duration of the satellite orbit
ictBaffleEmissivity	24	64-bit floating point	MIN_VAL - MAX_VAL	unitless	ICT Baffle Emissivity 1 Dimensional Array: CRIS_TOTAL_BANDS Size of Dimension(s): 3
scanBaffleEmissivity	24	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Scan Baffle Emissivity 1 Dimensional Array: CRIS_TOTAL_BANDS Size of Dimension(s): 3
omaFrameEmissivity	24	64-bit floating point	MIN_VAL - MAX_VAL	unitless	OMA Frame Emissivity 1 Dimensional Array: CRIS_TOTAL_BANDS Size of Dimension(s): 3
earthTargetEmissivity	24	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Earth Target Emissivity 1 Dimensional Array: CRIS_TOTAL_BANDS Size of Dimension(s): 3
scanBaffleTempOffset	84	32-bit floating point	MIN_VAL - MAX_VAL	unitless	Scan Baffle Temperature Offset 1 Dimensional Array: NUM_ECM_BAFFLE_PTS Size of Dimension(s): 21
implicit_pad_5	4	unsigned 8-bit char	0 - 255	unitless	Pad bytes for natural alignment 1 Dimensional Array: PAD_BYTES_4 Size of Dimension(s): 4

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Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
linearityCorrectionParameter_a2	216	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Linearity Correction A2 Parameters 2 Dimensional Array: CRIS_TOTAL_BANDS x CRIS_MAX_FOV Size of Dimension(s): 3 x 9
linearityCorrectionVinstParameters	216	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Linearity Correction Voltage Parameters 2 Dimensional Array: CRIS_TOTAL_BANDS x CRIS_MAX_FOV Size of Dimension(s): 3 x 9
linearityCorrectionParameter_ModEff	216	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Linearity Correction Mod Effectivity Parameters 2 Dimensional Array: CRIS_TOTAL_BANDS x CRIS_MAX_FOV Size of Dimension(s): 3 x 9
linearityCorrectionControlParam	12	32-bit integer	MIN_VAL - MAX_VAL	unitless	Linearity Correction Control Parameters 1 Dimensional Array: CRIS_TOTAL_BANDS Size of Dimension(s): 3
performLinearityCorrectionControl	3	8-bit char	0-1	unitless	Flag indicating whether linearity correction control is performed 1 Dimensional Array: CRIS_TOTAL_BANDS Size of Dimension(s): 3
implicit_pad_6	1	unsigned 8-bit char	0 - 255	unitless	Pad byte for natural alignment 1 Dimensional Array: PAD_BYTES_1 Size of Dimension(s): 1
firAccumulatorStartBit	12	32-bit integer	MIN_VAL - MAX_VAL	unitless	FIR Accumulator start bits 1 Dimensional Array: CRIS_TOTAL_BANDS Size of Dimension(s): 3
implicit_pad_7	4	unsigned 8-bit char	0 - 255	unitless	Pad bytes for natural alignment 1 Dimensional Array: PAD_BYTES_4 Size of Dimension(s): 4
firFilterScaleFactor	24	64-bit floating point	MIN_VAL - MAX_VAL	unitless	FIR Filter Scale Factor 1 Dimensional Array:

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Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
					CRIS_TOTAL_BANDS Size of Dimension(s): 3
firPassBandStartValues	24	64-bit floating point	MIN_VAL - MAX_VAL	unitless	FIR Pass Band Start Values 1 Dimensional Array: CRIS_TOTAL_BANDS Size of Dimension(s): 3
firPassBandStopValues	24	64-bit floating point	MIN_VAL - MAX_VAL	unitless	FIR Pass Band Stop Values 1 Dimensional Array: CRIS_TOTAL_BANDS Size of Dimension(s): 3
firFilterResponse_Real	6120	64-bit floating point	MIN_VAL - MAX_VAL	unitless	FIR Filter Response Real Values 2 Dimensional Array: CRIS_TOTAL_BANDS x NUM_FIR_FILTER_RESP_PTS Size of Dimension(s): 3 x 255
firFilterResponse_Imag	6120	64-bit floating point	MIN_VAL - MAX_VAL	unitless	FIR Filter Response Imaginary Values 2 Dimensional Array: CRIS_TOTAL_BANDS x NUM_FIR_FILTER_RESP_PTS Size of Dimension(s): 3 x 255
firEffectiveGainSetting	12	32-bit integer	MIN_VAL - MAX_VAL	unitless	FIR Effective Gain Setting 1 Dimensional Array: CRIS_TOTAL_BANDS Size of Dimension(s): 3
implicit_pad_8	4	unsigned 8-bit char	0 - 255	unitless	Pad bytes for natural alignment 1 Dimensional Array: PAD_BYTES_4 Size of Dimension(s): 4
firGainMapping	384	64-bit floating point	MIN_VAL - MAX_VAL	unitless	FIR Gain Mapping 2 Dimensional Array: CRIS_TOTAL_BANDS x NUM_FIR_GAIN_MAPPING_PTS Size of Dimension(s): 3 x 16
laserDiodeWavelengthMW	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Midwave Laser Diode Wavelength

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Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
laserDiodeWavelengthSW	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Shortwave Laser Diode Wavelength
fceParamLwRefAmpThreshRejectLimit	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	FCE longwave Amp threshold rejection limit
fceParamMwRefAmpThreshRejectLimit	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	FCE midwave Amp threshold rejection limit
fceParamSwRefAmpThreshRejectLimit	8	64-bit floating point	MIN_VAL - MAX_VAL	unitless	FCE shortwave Amp threshold rejection limit
appShiftFactorFlag	1	8-bit char	0-1	unitless	Shift factor flag
implicit_pad_9	7	unsigned 8-bit char	0 - 255	unitless	Pad bytes for natural alignment 1 Dimensional Array: PAD_BYTES_7 Size of Dimension(s): 7
shiftFactor	72	64-bit floating point	MIN_VAL - MAX_VAL	unitless	Shift factor 1 Dimensional Array: NUM_SHIFT_FACTOR_PTS Size of Dimension(s): 9
foldIndexOffset	4	32-bit integer	MIN_ VAL - MAX_VAL	Unitless	fold Index Offset 1 Dimensional Array: CRIS_TOTAL_BANDS Size of Dimension(s):3
saExpansionFactor	8	64-bit floating point	MIN_VAL- MAX_VAL	Unitless	SA Expansion Factor 1 Dimensional array: CRIS_TOTAL_BANDS Size of Dimension(s):3
endPktOutputTimeStep	8	64-bit integer	0 - 5.68E+15	Unitless	Engineering packet Output timestep
lwImagRadCheckStart	4	unsigned 32-bit integer	0 - MAX_VAL	unitless	Beginning LW channel to check for imaginary radiance within threshold
lwImagRadCheckEnd	4	unsigned 32-bit integer	0 - MAX_VAL	unitless	Ending LW channel to check for imaginary radiance within threshold
lwImagRadUpperThresh	8	64-bit floating point	MIN_VAL - MAX_VAL	mW/(m2 sr cm-1)	Upper LW imaginary radiance threshold
lwImagRadLowerThresh	8	64-bit floating point	MIN_VAL - MAX_VAL	mW/(m2 sr cm-1)	Lower LW imaginary radiance threshold
mwImagRadCheckStart	4	unsigned 32-bit integer	0 - MAX_VAL	unitless	Beginning MW channel to check for imaginary radiance within threshold

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Field Name	Length (Bytes)	Data Type	Range of Values	Units	Comments
mwImagRadCheckEnd	4	unsigned 32-bit integer	0 - MAX_VAL	unitless	Ending MW channel to check for imaginary radiance within threshold
mwImagRadUpperThresh	8	64-bit floating point	MIN_VAL - MAX_VAL	mW/(m2 sr cm-1)	Upper MW imaginary radiance threshold
mwImagRadLowerThresh	8	64-bit floating point	MIN_VAL - MAX_VAL	mW/(m2 sr cm-1)	Lower MW imaginary radiance threshold
swImagRadCheckStart	4	unsigned 32-bit integer	0 - MAX_VAL	unitless	Beginning SW channel to check for imaginary radiance within threshold
swImagRadCheckEnd	4	unsigned 32-bit integer	0 - MAX_VAL	unitless	Ending SW channel to check for imaginary radiance within threshold
swImagRadUpperThresh	8	64-bit floating point	MIN_VAL - MAX_VAL	mW/(m2 sr cm-1)	Upper SW imaginary radiance threshold
swImagRadLowerThresh	8	64-bit floating point	MIN_VAL - MAX_VAL	mW/(m2 sr cm-1)	Lower SW imaginary radiance threshold
File Size	**36,644 Bytes**				

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8 Intermediate Products (IPs)

Not Applicable

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 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

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

Table: B-1 Common RDR Static Header Values

RDR Name	Sensor	TypeID	numAPIDs
CrIS Science	CrIS	SCIENCE	83
CrIS Diagnostic	CrIS	DIAGNOSTIC	3
CrIS HSK Dwell	CrIS	HSK DWELL	1
CrIS SSM Dwell	CrIS	SSM DWELL	1
CrIS IM Dwell	CrIS	IM DWELL	1
CrIS Telemetry	CrIS	TELEMETRY	8
CrIS Memory Dump	CrIS	DUMP	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	Test ID	Quality Flag
CrIS SDR	CrIS-SDR	1400	CrIS RDR Yield
CrIS SDR	CrIS-SDR	1401	CrIS SDR Yield
CrIS SDR	CrIS-SDR	1402	Invalid Radiometric Calibration Yield
CrIS SDR	CrIS-FS-SDR	1400	CrIS RDR Yield
CrIS SDR	CrIS-FS-SDR	1401	CrIS SDR Yield
CrIS SDR	CrIS-FS-SDR	1402	Invalid Radiometric Calibration Yield

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.

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.

Attachment A. XML Formats for Related Data Products

Table: ATT-1 XML Formats for Related Data Products

File Number	XML Filename
1	474-00448-02-03_JPSS-CrIS-SDR-DD-Part-3_0200G_CrIS-SDR-PP.xml
2	474-00448-02-03_JPSS-CrIS-SDR-DD-Part-3_0200G_CrIS-SDR-GEO-PP.xml
3	474-00448-02-03_JPSS-CrIS-SDR-DD-Part-3_0200G_CrIS-FS-SDR-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.