GSFC JPSS CMO
October 11, 2016
Released

Effective Date: September 22, 2016
Block/Revision 0200F

Joint Polar Satellite System (JPSS) Ground Project
Code 474
474-00448-01-06-B0200

Joint Polar Satellite System (JPSS) Algorithm Specification Volume I: Software Requirement Specification (SRS) for the VIIRS RDR/SDR

Block 2.0.0

Goddard Space Flight Center
Greenbelt, Maryland

National Aeronautics and
Space Administration

Joint Polar Satellite System (JPSS) Algorithm Specification Volume I: Software Requirement Specification (SRS) for the VIIRS RDR/SDR JPSS Review/Approval Page

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Preface

This document is under JPSS Ground Project 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)
Rev -	July 26, 2013	This version incorporates 474-CCR-13-1104 which was approved by the JPSS Ground ERB on the effective day shown.
A	Jan 16, 2014	This version incorporates 474-CCR-13-1336 which was approved by JPSS Ground ERB on the effective date shown.
A1	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.
B	Jan 21, 2015	This version incorporates 474-CCR-14-1721, 474-CCR-14-1741, 474-CCR-14-1781, 474-CCR-14-2110 and 474-CCR-14-2203 which was approved by JPSS Ground ERB on the effective date shown.
C	Jul 23, 2015	This version incorporates 474-CCR-15-2452, 474-CCR-15-2480 and 474-CCR-15-2434 which was approved by JPSS Ground ERB on the effective date shown.
D	Aug 17, 2015	This version incorporates 474-CCR-15-2523 which was approved by JPSS Ground ERB on the effective date shown.
E	Feb 12, 2016	This version incorporates 474-CCR-15-2657 and 474-CCR-16-2768 which was approved by JPSS Ground ERB on the effective date shown.
0200F	Sep 22, 2016	This version incorporates 474-CCR-16-2939 and 474-CCR-16-3049 which was approved by JPSS Ground ERB on the effective date shown.

List of Waivers

Section / Requirement	Deviation / Waiver #	Date Approved	CCR #	Description	Mission
3.1.1 / SRS.01.06_952	RDW_VIIRS-W149A	August 17, 2015	474-CCR-15-2523	VIIRS Waiver RDW_VIIRS-W149A, J-1 Relief Against Reflective Band Absolute Radiometric Calibration Uncertainty Requirements for Band M11	JPSS-1

Table of TBDs/TBRs

TBx	Type	ID	Text	Action
None				

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1 Introduction

The Joint Polar Satellite System (JPSS) is the National Oceanic and Atmospheric Administration's (NOAA) next-generation operational Earth observation program that acquires and distributes global environmental data primarily from multiple polar-orbiting satellites. The program plays a critical role in NOAA's mission to understand and predict changes in weather, climate, oceans and coasts, and the space environment, which support the Nation's economy and protect lives and property. The first JPSS satellite mission, the Suomi National Polar-orbiting Partnership (S-NPP) satellite, successfully launched in October 2011. S-NPP, along with the legacy NOAA Polar Operational Environmental Satellites (POES), provides continuous environmental observations. Two JPSS satellites will follow S-NPP: JPSS-1, planned for launch in fiscal year (FY) 2017, with JPSS-2 to follow in FY2021. In the future, the JPSS Polar Follow-On (PFO) provides for two additional missions, JPSS-3 and JPSS-4, as follow-on to the JPSS-2 mission to extend the JPSS Program lifecycle out to 2038.

In addition to the JPSS Program's own satellites operating in the 1330 (±10) Local Time of the Ascending Node (LTAN) orbit, NOAA also leverages mission partner assets for complete global coverage. These partner assets include the Department of Defense (DoD) Defense Meteorological Satellite Program (DMSP) operational weather satellites (in the 1730 - 1930 LTAN orbit), the European Organisation for the Exploitation of Meteorological Satellites (EUMETSAT) Meteorological Operational (Metop) satellites (in the 2130 LTAN orbit) and the Japanese Aerospace Exploration Agency (JAXA) Global Change Observation Mission-Water (GCOM-W) satellite (in the 1330 LTAN orbit). JPSS routes Metop data from McMurdo Station, Antarctica to the EUMETSAT facility in Darmstadt, Germany and EUMETSAT, in turn, provides Metop data to NOAA. For GCOM, JPSS routes the GCOM-W data from Svalbard, Norway to the NOAA Satellite Operations Facility (NSOF) in Suitland, MD, processes GCOM-W data and delivers GCOM-W products to the JPSS users who have JAXA permissions.

Additionally, the JPSS Program provides data acquisition and routing support to the DMSP and the WindSat Coriolis Program. JPSS routes DMSP data from McMurdo Station to the 557th Weather Wing at Offutt Air Force Base in Omaha, NE. After processing, the 557th releases the DMSP data for public consumption over the Internet via the National Geophysical Data Center in Boulder, CO. The JPSS Program provides data routing support to the National Science Foundation (NSF), as well as the National Aeronautics and Space Administration (NASA) Space Communications and Navigation (SCaN)-supported missions, which include the Earth Observing System (EOS). As part of the agreements for the use of McMurdo Station, JPSS provides communications/network services for the NSF between McMurdo Station, Antarctica and Centennial, Colorado.

As a multi-mission ground infrastructure, the JPSS Ground System supports the heterogeneous constellation of the before-mentioned polar-orbiting satellites both within and outside the JPSS Program through a comprehensive set of services as listed in Table 1-1.

Table: 1-1 JPSS Ground System Services

Service	Description
Enterprise Management and Ground Operations	Provides mission management, mission operations, ground operations, contingency management and system sustainment
Flight Operations	Provides launch support and early orbit operations, telemetry and commanding, orbital operations, mission data playback, payload support, flight software upgrade, flight vehicle simulation, and disposal at the end of mission life
Data Acquisition	Provides space/ground communications for acquiring mission data
Data Routing	Provides routing of telemetry, mission and/or operations data through JPSS' global data network
Data Product Generation	Provides the processing of mission data to generate and distribute raw, sensor, environmental, and ancillary data products
Data Product Calibration and Validation	Provides calibration and validation of the data products
Field Terminal Support	Provides development and operational support to the Field Terminal customers

1.1 Identification

This SRS provides requirements for the Visible Infrared Imaging Radiometer Suite (VIIRS) Raw Data Records (RDRs) and Sensor Data Records (SDRs). VIIRS is a scanning radiometer that provides top-of-atmosphere radiances and reflectances at a range of visible and infrared frequencies. The telescope rotates from scan to scan, including calibration measurements of a blackbody, a solar diffuser, and cold space. There are 16 moderate-resolution M bands which provide 750 meter resolution, and 5 imagery-resolution I bands which provide 375 m resolution. There is also a CCD sensor for the day-night band (DNB). The bands are dominated by either reflection of solar radiation, or by thermal emission. The reflective M bands M1-M11 span 412-2250 nanometers (nm), and the reflective I bands I1-I3 span 640-1610 nm. The emissive M bands M12-M16 span 3700-12013 nm, and the emissive I bands I4-I5 span 3740-11450 nm. A sub-pixel aggregation scheme is used to maintain near-constant spatial resolution along scan. The swath width is 3040 km, with an along-track width of 12 km at nadir, and 26 km at edge of scan.

1.2 Algorithm Overview

Each of the VIIRS SDR products described in this document is necessary as an input to one or more of the VIIRS EDR algorithms. All VIIRS EDR algorithms use these data either directly or indirectly. These SDR products form the link between instrument measurements reported as digital counts and the collected photons at the instrument's aperture. Collected photons relate to radiance fields at the top of the atmosphere, which in turn are related via the EDR algorithms to surface and/or atmospheric properties.

In terms of radiometric calibration VIIRS has specific requirements in the areas of dynamic range, signal-to-noise ratio (SNR), and radiometric accuracy. In general these requirements are specified separately for reflective solar bands, thermal emissive bands, and the DNB. In order to have radiances that are within the required dynamic ranges for the VIIRS SDRs (and in most cases to avoid saturation while viewing earth), VIIRS is required to have the dynamic range. For reflective bands with multiple gain states, the gain switching will occur at the radiance levels within the tolerance of +10% and -0%. For emissive band with multiple gain states, M13, the gain switching will occur at the brightness temperature with a tolerance of +0.3K and -0.0K. The dynamic range of the panchromatic DNB is 3.0E-9 Watt cm-2 sr-1 to at least 2.0E-2 Watt cm-2 sr-1.

1.3 Document Overview

Section	Description
Section 1	Introduction - Provides a brief overview of the JPSS Ground System and the relevant algorithm, as reference material only.
Section 2	Related Documentation - Lists related documents and identifies them as Parent, Applicable, or Information Documents such as, MOAs, MOUs, technical implementation agreements, as well as Data Format specifications. This section also establishes an order of precedence in the event of conflict between two or more documents.
Section 3	Algorithm Requirements - Provides a summary of the science requirements for the products covered by this volume.
Appendix A	Requirements Attributes - Provides the mapping of requirements to verification methodology and attributes.

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.

Doc. No.	Document Title
470-00067	Joint Polar Satellite System (JPSS) Ground System Requirements Document (GSRD)
470-00067-02	Joint Polar Satellite System (JPSS) Ground System Requirements Document (GSRD) Volume 2
474-00448-01-01	Joint Polar Satellite System (JPSS) Algorithm Specification Volume I: Software Requirements Specification for the Common Algorithms

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.

Doc. No.	Document Title
D0001-M01-S01-003	Joint Polar Satellite System (JPSS) VIIRS Radiometric Calibration Algorithm Theoretical Basis Document (ATBD)
474-00448-02-06	Joint Polar Satellite System (JPSS) Algorithm Specification Volume II: Data Dictionary for VIIRS RDR/SDR
474-00448-04-06	Joint Polar Satellite System (JPSS) Algorithm Specification Volume IV: Software Requirements Specification Parameter File (SRSPF) for VIIRS RDR/SDR

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.

Doc. No.	Document 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

Doc. No.	Document Title
474-00448-03-06	Joint Polar Satellite System (JPSS) Algorithm Specification Volume III: Operational Algorithm Description (OAD) for VIIRS RDR/SDR
429-05-02-42	Joint Polar Satellite System (JPSS) Mission Data Format Control Book for NPP
472-00251	Joint Polar Satellite System (JPSS) Mission Data Format Control Book for JPSS-1
472-00335	Joint Polar Satellite System-1 (JPSS-1) Visible Infrared Imaging Radiometer Suite (VIIRS) Mission Data Packet Structures

3 Algorithm Requirements

3.1 States and Modes

3.1.1 Normal Mode Performance

SRS.01.06_71 The VIIRS DNB SDR top-of-atmosphere radiance algorithm shall calculate the top-of-atmosphere radiance with an accuracy of 5% for low-gain.

Rationale: The radiance accuracy values were flowed down from the Level 1 and Level 2 documents.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_959 The VIIRS DNB SDR top-of-atmosphere radiance algorithm shall calculate the top-of-atmosphere radiance with an accuracy of 10% for mid-gain.

Rationale: The radiance accuracy values were flowed down from the Level 1 and Level 2 documents.

Mission Effectivity: JPSS-1, JPSS-2

SRS.01.06_960 The VIIRS DNB SDR top-of-atmosphere radiance algorithm shall calculate the top-of-atmosphere radiance with an accuracy of 30% for high-gain.

Rationale: The radiance accuracy values were flowed down from the Level 1 and Level 2 documents.

Mission Effectivity: JPSS-1, JPSS-2

SRS.01.06_99 The VIIRS Reflective I-band SDR top-of-atmosphere reflectance algorithm shall calculate the I1 top-of-atmosphere reflectance to an accuracy of 2% at 22 watt m^-2 sr^-1 µm^-1.

Rationale: The reflectance accuracy was flowed down from the Level 1 and Level 2 documents.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_941 The VIIRS Reflective I-band SDR top-of-atmosphere reflectance algorithm shall calculate the I2 top-of-atmosphere reflectance to an accuracy of 2% at 25 watt m^-2 sr^-1 µm^-1.

Rationale: The reflectance accuracy was flowed down from the Level 1 and Level 2 documents.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_942 The VIIRS Reflective I-band SDR top-of-atmosphere reflectance algorithm shall calculate the I3 top-of-atmosphere reflectance to an accuracy of 2% at 7.3 watt m^-2 sr^-1 µm^-1.

Rationale: The reflectance accuracy was flowed down from the Level 1 and Level 2 documents.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_134 The VIIRS Emissive I-band SDR top-of-atmosphere radiance algorithm shall calculate the I4-band top-of-atmosphere radiance to an accuracy of 5% at 267 K.

Rationale: The radiance accuracy was flowed down from the Level 1 and Level 2 documents.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_381 The VIIRS Emissive I-band SDR top-of-atmosphere radiance algorithm shall calculate the I5-band top-of-atmosphere radiance to an accuracy of 2.5% at 267 K.

Rationale: The radiance accuracy was flowed down from the Level 1 and Level 2 documents.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_167 The VIIRS Reflective M-band SDR top-of-atmosphere reflectance algorithm shall calculate the M1 top-of-atmosphere reflectance to an accuracy of 2% at 44.9 watt m^-2 sr^-1 µm^-1 for high gain and 2% at 155 watt m^-2 sr^-1 µm^-1 for low gain for an unpolarized, no contrast scene.

Rationale: The reflectance accuracy was flowed down from the Level 1 and Level 2 documents.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_943 The VIIRS Reflective M-band SDR top-of-atmosphere reflectance algorithm shall calculate the M2 top-of-atmosphere reflectance to an accuracy of 2% at 40 watt m^-2 sr^-1 µm^-1 for high gain and 2% at 146 watt m^-2 sr^-1 µm^-1 for low gain for an unpolarized, no contrast scene.

Rationale: The reflectance accuracy was flowed down from the Level 1 and Level 2 documents.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_944 The VIIRS Reflective M-band SDR top-of-atmosphere reflectance algorithm shall calculate the M3 top-of-atmosphere reflectance to an accuracy of 2% at 32 watt m^-2 sr^-1 µm^-1 for high gain and 2% at 123 watt m^-2 sr^-1 µm^-1 for low gain for an unpolarized, no contrast scene.

Rationale: The reflectance accuracy was flowed down from the Level 1 and Level 2 documents.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_945 The VIIRS Reflective M-band SDR top-of-atmosphere reflectance algorithm shall calculate the M4 top-of-atmosphere reflectance to an accuracy of 2% at 21 watt m^-2 sr^-1 µm^-1 for high gain and 2% at 90 watt m^-2 sr^-1 µm^-1 for low gain for an unpolarized, no contrast scene.

Rationale: The reflectance accuracy was flowed down from the Level 1 and Level 2 documents.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_946 The VIIRS Reflective M-band SDR top-of-atmosphere reflectance algorithm shall calculate the M5 top-of-atmosphere reflectance to an accuracy of 2% at 10

watt m^-2 sr^-1 µm^-1 for high gain and 2% at 68 watt m^-2 sr^-1 µm^-1 for low gain for an unpolarized, no contrast scene.

Rationale: The reflectance accuracy was flowed down from the Level 1 and Level 2 documents.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_947 The VIIRS Reflective M-band SDR top-of-atmosphere reflectance algorithm shall calculate the M6 top-of-atmosphere reflectance to an accuracy of 2% at 9.6 watt m^-2 sr^-1 µm^-1 for an unpolarized, no contrast scene.

Rationale: The reflectance accuracy was flowed down from the Level 1 and Level 2 documents.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_948 The VIIRS Reflective M-band SDR top-of-atmosphere reflectance algorithm shall calculate the M7 top-of-atmosphere reflectance to an accuracy of 2% at 6.4 watt m^-2 sr^-1 µm^-1 for high gain and 2% at 33.4 watt m^-2 sr^-1 µm^-1 for low gain for an unpolarized, no contrast scene.

Rationale: The reflectance accuracy was flowed down from the Level 1 and Level 2 documents.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_949 The VIIRS Reflective M-band SDR top-of-atmosphere reflectance algorithm shall calculate the M8 top-of-atmosphere reflectance to an accuracy of 2% at 5.4 watt m^-2 sr^-1 µm^-1.3 for an unpolarized, no contrast scene.

Rationale: The reflectance accuracy was flowed down from the Level 1 and Level 2 documents.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_950 The VIIRS Reflective M-band SDR top-of-atmosphere reflectance algorithm shall calculate the M9 top-of-atmosphere reflectance to an accuracy of 2% at 6 watt m^-2 sr^-1 µm^-1 for an unpolarized, no contrast scene.

Rationale: The reflectance accuracy was flowed down from the Level 1 and Level 2 documents.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_951 The VIIRS Reflective M-band SDR top-of-atmosphere reflectance algorithm shall calculate the M10 top-of-atmosphere reflectance to an accuracy of 2% at 7.3 watt m^-2 sr^-1 µm^-1 for an unpolarized, no contrast scene.

Rationale: The reflectance accuracy was flowed down from the Level 1 and Level 2 documents.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_952 The VIIRS Reflective M-band SDR top-of-atmosphere reflectance algorithm shall calculate the M11 top-of-atmosphere reflectance to an accuracy of 2% at 0.12 watt m^-2 sr^-1 µm^-1 for an unpolarized, no contrast scene.

Waiver **474-CCR-15-2523**: Relief against Band M11 Absolute Radiometric Calibration Uncertainty Requirement from 2% (spec value) to 2.3% (waive-to value).

Rationale: The reflectance accuracy was flowed down from the Level 1 and Level 2 documents.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_202 The VIIRS Emissive M-band SDR top-of-atmosphere radiance algorithm shall calculate the M12-band top-of-atmosphere radiance to an accuracy of 0.7% at 270 K.

Rationale: The radiance accuracy was flowed down from the Level 1 and Level 2 documents.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_953 The VIIRS Emissive M-band SDR top-of-atmosphere radiance algorithm shall calculate the M13-band top-of-atmosphere radiance to an accuracy of 0.7% at 270 K.

Rationale: The radiance accuracy was flowed down from the Level 1 and Level 2 documents.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_388 The VIIRS Emissive M-band SDR top-of-atmosphere radiance algorithm shall calculate the M14-band top-of-atmosphere radiance to an accuracy of 0.6% at 270 K.

Rationale: The radiance accuracy was flowed down from the Level 1 and Level 2 documents.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_389 The VIIRS Emissive M-band SDR top-of-atmosphere radiance algorithm shall calculate the M15-band top-of-atmosphere radiance to an accuracy of 0.4% at 270 K.

Rationale: The radiance accuracy was flowed down from the Level 1 and Level 2 documents.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_954 The VIIRS Emissive M-band SDR top-of-atmosphere radiance algorithm shall calculate the M16-band top-of-atmosphere radiance to an accuracy of 0.4% at 270 K.

Rationale: The radiance accuracy was flowed down from the Level 1 and Level 2 documents.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_955 The VIIRS M-band SDR software shall provide a field-of-view at nadir of 0.75 km.

Rationale: The M-band field of view value is consistent with the instrument spec and maintains compliance to Level 1 and 2 specifications.

Mission Effectivity: JPSS-1, JPSS-2

SRS.01.06_956 The VIIRS M-band SDR software shall perform cross-track aggregation of calibrated samples for dual gain M-bands using the following aggregation factors: 3 for scan angle magnitude less than 31.59 degrees, 2 for scan angle

magnitudes between 31.59 degrees and 44.82 degrees, and 1 for scan angle magnitude greater than 44.82 degrees.

Rationale: The cross-track aggregation factor for dual gain M-bands are performed on the ground at the SDR processing level and maintains the compliance to ground FOV values specified in the Level 1 and 2 documents.

Mission Effectivity: JPSS-1, JPSS-2

SRS.01.06_248 The VIIRS SDR Geolocation software shall satisfy constraints specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <Mband_GEO><Performance>.

Rationale: Geolocation parameters need to be provided for each M-band pixels including latitude, longitude, terrain height, pixel-to-sensor range, solar zenith/azimuth angles, satellite zenith/azimuth angles, and lunar zenith/azimuth angles in degrees.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_939 The VIIRS SDR Geolocation software shall satisfy constraints specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <Iband_GEO><Performance>.

Rationale: Geolocation parameters need to be provided for each I-Band pixels including latitude, longitude, terrain height, pixel-to-sensor range, solar zenith/azimuth angles, satellite zenith/azimuth angles, and lunar zenith/azimuth angles in degrees.

Mission Effectivity: JPSS-1, JPSS-2

SRS.01.06_940 The VIIRS SDR Geolocation software shall satisfy constraints specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <DNB_GEO><Performance>.

Rationale: Geolocation parameters need to be provided for each DNB pixels including latitude, longitude, terrain height, pixel-to-sensor range, solar zenith/azimuth angles, satellite zenith/azimuth angles, and lunar zenith/azimuth angles in degrees.

Mission Effectivity: JPSS-1, JPSS-2

SRS.01.06_1144 The VIIRS I-band SDR Terrain-corrected Geolocation algorithm computation shall have a 3-sigma mapping uncertainty at nadir of 1 km.

Rationale: Accuracy is derived from L1RD requirements for VIIRS Imagery EDR.

Mission Effectivity: JPSS-1, JPSS-2

SRS.01.06_1145 The VIIRS I-band SDR Terrain-corrected Geolocation algorithm computation shall have a 3-sigma mapping uncertainty at edge of swath of 3 km.

Rationale: Accuracy is derived from L1RD requirements for VIIRS Imagery EDR.

Mission Effectivity: JPSS-1, JPSS-2

SRS.01.06_1146 The VIIRS M-band SDR Terrain-corrected Geolocation algorithm computation shall have a 3-sigma mapping uncertainty at nadir of 1 km.

Rationale: Accuracy is derived from L1RD requirements for VIIRS Imagery EDR. Covers other EDRs using M-band GEO.

Mission Effectivity: JPSS-1, JPSS-2

SRS.01.06_1147 The VIIRS M-band SDR Terrain-corrected Geolocation algorithm computation shall have a 3-sigma mapping uncertainty at edge of swath of 3 km.

Rationale: Accuracy is derived from L1RD requirements for VIIRS Imagery EDR.

Mission Effectivity: JPSS-1, JPSS-2

SRS.01.06_1148 The VIIRS Day Night-band SDR Terrain-corrected Geolocation algorithm computation shall have a 3-sigma mapping uncertainty at nadir of 1 km.

Rationale: Accuracy is derived from L1RD requirements for VIIRS Imagery EDR.

Mission Effectivity: JPSS-1, JPSS-2

SRS.01.06_1485 The VIIRS Day Night-band SDR Terrain-corrected Geolocation algorithm computation shall have a 3-sigma mapping uncertainty at edge of swath 3 km.

Rationale: Accuracy is derived from L1RD requirements for VIIRS Imagery EDR.

Mission Effectivity: JPSS-1, JPSS-2

3.1.2 Graceful Degradation Mode Performance

Not applicable.

3.2 Algorithm Functional Requirements

3.2.1 Product Production Requirements

Not applicable.

3.2.2 Algorithm Science Requirements

SRS.01.06_69 The VIIRS DNB SDR software shall incorporate a computing algorithm provided for calibrated, top of the atmosphere radiances.

Rationale: The VIIRS DNB is measured and calibrated in units of radiances, W/(sr-cm2). The VIIRS DNB SDR is computed in accordance with D0001-M01-S01-003, ATBD for VIIRS Radiometric Calibration, section 3.3.5.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_132 The VIIRS Emissive I-band SDR software shall incorporate a computing algorithm provided for calibrated top of atmosphere spectral radiances.

Rationale: The VIIRS Emissive I-band SDR is calibrated in units of spectral radiances, W/(sr-m2-um) and brightness temperature in Kelvin. The VIIRS Emissive I-Band SDRs are computed

in accordance with D0001-M01-S01-003, ATBD for VIIRS Radiometric Calibration, section 3.3.4.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_136 The VIIRS Emissive I-band SDR software shall incorporate a computing algorithm provided for calibrated top of atmosphere brightness temperatures.

Rationale: The VIIRS Emissive I-band SDR is calibrated in units of spectral radiances, W/(sr-m2-um) and brightness temperature in Kelvin. The VIIRS Emissive I-Band SDRs are computed in accordance with D0001-M01-S01-003, ATBD for VIIRS Radiometric Calibration, section 3.3.4.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_165 The VIIRS Reflective M-band SDR software shall incorporate a computing algorithm provided for calibrated top-of-atmosphere spectral radiances.

Rationale: The VIIRS Reflective M-band SDR is calibrated in units of spectral radiances, W/(sr-m2-um) and reflectance (unitless). The VIIRS Reflective M-Band SDRs are computed in accordance with D0001-M01-S01-003, ATBD for VIIRS Radiometric Calibration, section 3.3.3.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_169 The VIIRS Reflective M-band SDR software shall incorporate a computing algorithm provided for calibrated top-of-atmosphere reflectances.

Rationale: The VIIRS Reflective M-band SDR is calibrated in units of spectral radiances, W/(sr-m2-um) and reflectance (unitless). The VIIRS Reflective M-Band SDRs are computed in accordance with D0001-M01-S01-003, ATBD for VIIRS Radiometric Calibration, section 3.3.3.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_200 The VIIRS Emissive M-band SDR software shall incorporate a computing algorithm provided for calibrated top of atmosphere spectral radiances.

Rationale: The VIIRS Emissive M-band SDR is calibrated in units of spectral radiances, W/(sr-m2-um) and brightness temperature in Kelvin. The VIIRS Emissive M-Band SDRs are computed in accordance with D0001-M01-S01-003, ATBD for VIIRS Radiometric Calibration, section 3.3.4.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_204 The VIIRS Emissive M-band SDR software shall incorporate a computing algorithm provided for calibrated top of atmosphere brightness temperatures.

Rationale: The VIIRS Emissive M-band SDR is calibrated in units of spectral radiances, W/(sr-m2-um) and brightness temperature in Kelvin. The VIIRS Emissive M-Band SDRs are computed in accordance with D0001-M01-S01-003, ATBD for VIIRS Radiometric Calibration, section 3.3.4.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_233 The VIIRS Bright Pixel IP software shall incorporate a computing algorithm provided for determining bright pixels that may contaminate radiometric measurements from surrounding areas.

Rationale: Bright pixels that can potentially dominate or contaminate the radiometric uncertainty of nearby pixels need to be identified. This information can be used for the exclusion flags that can be used in the downstream processing.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_239 The VIIRS On-board Calibrator IP software shall extract a subset of the RDR data as specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <OnBoardCalIP><subsetRDR>.

Rationale: RDR from On-board Calibrators such as engineering and housekeeping data from SDSM, and sensor calibrator view data from space, blackbody, and solar diffuser are used in radiometric calibration process for VIIRS bands.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_268 The VIIRS Calibrated Dual Gain Band IP software shall incorporate a computing algorithm provided for dual-gain band top-of-atmosphere radiances and reflectance values.

Rationale: The Calibrated Dual Gain IPs are delivered intermediate products and contain unaggregated, calibrated TOA radiances from those subpixel samples that were aggregated along-scan during post-calibration ground processing as specified by the requirement SRS.01.06_956.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_1152 The VIIRS RSB AutoCal software shall incorporate a computing algorithm provided for automated calibration of the VIIRS science data.

Rationale: The VIIRS RSB AutoCal History data is a delivered product and contains a history of the filtered calibration values computed for the instrument.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_97 The VIIRS Reflective I-band SDR software shall incorporate a computing algorithm provided for calibrated top-of-atmosphere spectral radiances.

Rationale: Spectral radiances are one of the Reflective I-band SDR products. The SDR software through its computing algorithm must be able to compute calibrated TOA spectral radiances for Reflective I-bands. The VIIRS Reflective I-Band SDRs are computed in accordance with D0001-M01-S01-003, ATBD for VIIRS Radiometric Calibration, section 3.3.3.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_101 The VIIRS Reflective I-band SDR software shall incorporate a computing algorithm provided for calibrated top-of-atmosphere reflectances.

Rationale: Reflectances are one of Reflective I-band SDR products. The SDR software through its computing algorithm must be able to compute calibrated TOA reflectances for Reflective I-bands. The VIIRS Reflective I-Band SDRs are computed in accordance with D0001-M01-S01-003, ATBD for VIIRS Radiometric Calibration, section 3.3.3.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

3.2.3 Algorithm Exception Handling

SRS.01.06_90 The VIIRS DNB SDR software shall set the <FillField> values to <FillValue> for <FillCondition> specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <DNB_SDR><fill>.

Rationale: The SDR software through its computing algorithm must fill the VIIRS DNB values based on the established fill conditions to satisfy exclusion and fill conditions.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_122 The VIIRS Reflective I-band SDR software shall set the <FillField> values to <FillValue> for <FillCondition> specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <Refl_I1-3_SDR><fill>.

Rationale: The SDR software through its computing algorithm must fill the VIIRS Reflective I-band values based on the established fill conditions to satisfy exclusion and fill conditions.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_157 The VIIRS Emissive I-band SDR software shall set the <FillField> values to <FillValue> for <FillCondition> specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <Emiss_I4-5_SDR><fill>.

Rationale: The SDR software through its computing algorithm must fill the VIIRS Emissive I-band values based on the established fill conditions to satisfy exclusion and fill conditions.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_190 The VIIRS Reflective M-band SDR software shall set the <FillField> values to <FillValue> for <FillCondition> specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <Refl_M1-11_SDR><fill>.

Rationale: The SDR software through its computing algorithm must fill the VIIRS Reflective M-band values based on the established fill conditions to satisfy exclusion and fill conditions.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_225 The VIIRS Emissive M-band SDR software shall set the <FillField> values to <FillValue> for <FillCondition> specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <Emiss_M12-16_SDR><fill>.

Rationale: The SDR software through its computing algorithm must fill the VIIRS Emissive M-band values based on the established fill conditions to satisfy exclusion and fill conditions.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_238 The VIIRS Bright Pixel IP software shall set the <FillField> values to <FillValue> for <FillCondition> specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <BrightPixelIP><fill>.

Rationale: The SDR software through its computing algorithm must fill the VIIRS Bright Pixel IP values based on the established fill conditions to satisfy exclusion and fill conditions.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_249 The VIIRS SDR Geolocation software shall set the <FillField> values to <FillValue> for <FillCondition> specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <Mband_GEO><fill>.

Rationale: The SDR Geolocation software through its computing algorithm must fill the VIIRS M-band geolocation values based on the established fill conditions to satisfy exclusion and fill conditions.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_937 The VIIRS SDR Geolocation software shall set the <FillField> values to <FillValue> for <FillCondition> specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <Iband_GEO><fill>.

Rationale: The SDR Geolocation software through its computing algorithm must fill the VIIRS I-band geolocation values based on the established fill conditions to satisfy exclusion and fill conditions.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_938 The VIIRS SDR Geolocation software shall set the <FillField> values to <FillValue> for <FillCondition> specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <DNB_GEO><fill>.

Rationale: The SDR Geolocation software through its computing algorithm must fill the VIIRS DNB geolocation values based on the established fill conditions to satisfy exclusion and fill conditions.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_269 The VIIRS Calibrated Dual Gain Band IP software shall set the <FillField> values to <FillValue> for <FillCondition> specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <CalDGB_IP><fill>.

Rationale: The SDR software through its computing algorithm must fill the VIIRS Calibrated Dual Gain Band IP values based on the established fill conditions to satisfy exclusion and fill conditions.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

3.3 External Interfaces

3.3.1 Inputs

SRS.01.06_73 The VIIRS DNB SDR software shall incorporate inputs specified in Table 3-1.

Rationale: The SDR generation software must be able to receive and process the resource interaction items shown in Table 3-1 in order to produce the intended VIIRS DNB SDR products.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_103 The VIIRS Reflective I-band SDR software shall incorporate inputs specified in Table 3-1.

Rationale: The SDR generation software must be able to receive and process the resource interaction items shown in Table 3-1 in order to produce the intended VIIRS Reflective I-band SDR products.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_138 The VIIRS Emissive I-band SDR software shall incorporate inputs specified in Table 3-1.

Rationale: The SDR generation software must be able to receive and process the resource interaction items shown in Table 3-1 in order to produce the intended VIIRS Emissive I-band SDR products.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_171 The VIIRS Reflective M-band SDR software shall incorporate inputs specified in Table 3-1.

Rationale: The SDR generation software must be able to receive and process the resource interaction items shown in Table 3-1 in order to produce the intended VIIRS Reflective M-band SDR products.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_206 The VIIRS Emissive M-band SDR software shall incorporate inputs specified in Table 3-1.

Rationale: The SDR generation software must be able to receive and process the resource interaction items shown in Table 3-1 in order to produce the intended VIIRS Emissive M-band SDR products.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_236 The VIIRS Bright Pixel IP software shall incorporate inputs specified in Table 3-1.

Rationale: The SDR generation software must be able to receive and process the resource interaction items shown in Table 3-1 in order to produce the intended VIIRS Bright Pixel IP products.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_241 The VIIRS On-board Calibrator IP software shall incorporate inputs specified in Table 3-1.

Rationale: The SDR generation software must be able to receive and process the resource interaction items shown in Table 3-1 in order to produce the intended VIIRS On-board Calibrator IP products.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_961 The VIIRS Calibrated Dual Gain Band IP software shall incorporate inputs specified in Table 3-1.

Rationale: The SDR generation software must be able to receive and process the resource interaction items shown in Table 3-1 in order to produce the intended VIIRS Calibrated Dual Gain Band IP products.

Mission Effectivity: JPSS-1, JPSS-2

SRS.01.06_247 The VIIRS SDR Geolocation software shall incorporate inputs specified in Table 3-1.

Rationale: The SDR geolocation software must be able to receive and process the resource interaction items shown in Table 3-1 in order to produce the intended VIIRS SDR geolocation products.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_1149 The VIIRS SDR software shall input tables and coefficients specified in Table 3-1 formatted in accordance with JPSS Algorithm Specification for VIIRS RDR/SDR Vol II - Data Dictionary (474-00448-02-06), Section 7.

Rationale: This defines the formats for Lookup Tables, and Processing Coefficients for input into the algorithm module.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_1150 The VIIRS SDR geolocation software shall input tables and coefficients specified in Table 3-1 formatted in accordance with JPSS Algorithm Specification for VIIRS RDR/SDR Vol II - Data Dictionary (474-00448-02-06), Section 7.

Rationale: This defines the formats for Lookup Tables, and Processing Coefficients for input into the algorithm module.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

Table 3-1 and Figure 3-1 are best viewed together since they describe the processes governed by this SRS in different ways. The figure diagrams the data flowing into, out of, and within the

code governed by this SRS. The table lists these same data interactions as well as all downstream dependencies for outputs from this SRS.

Each row in the table describes a single software interaction - data flowing from one software item to another. The data is listed in the first column. The second and third columns include the short name and mnemonic for the data. Blanks indicate there is no mnemonic. The fourth and fifth columns contain the SRS that generates the data product(s) in the first column, and the SRS that receives those products. The final two columns contain the actual function name in Algorithm Development Library (ADL) that produces those products, and the function that inputs those products. The SRS's titled "Ingest MSD" and "Store/Retrieve" are non-existent SRS's functioning as data handling for the IDPS. The software functions "Store Products" and "Retrieve Products" are similar non-existent functions that operate as IDPS data handling.

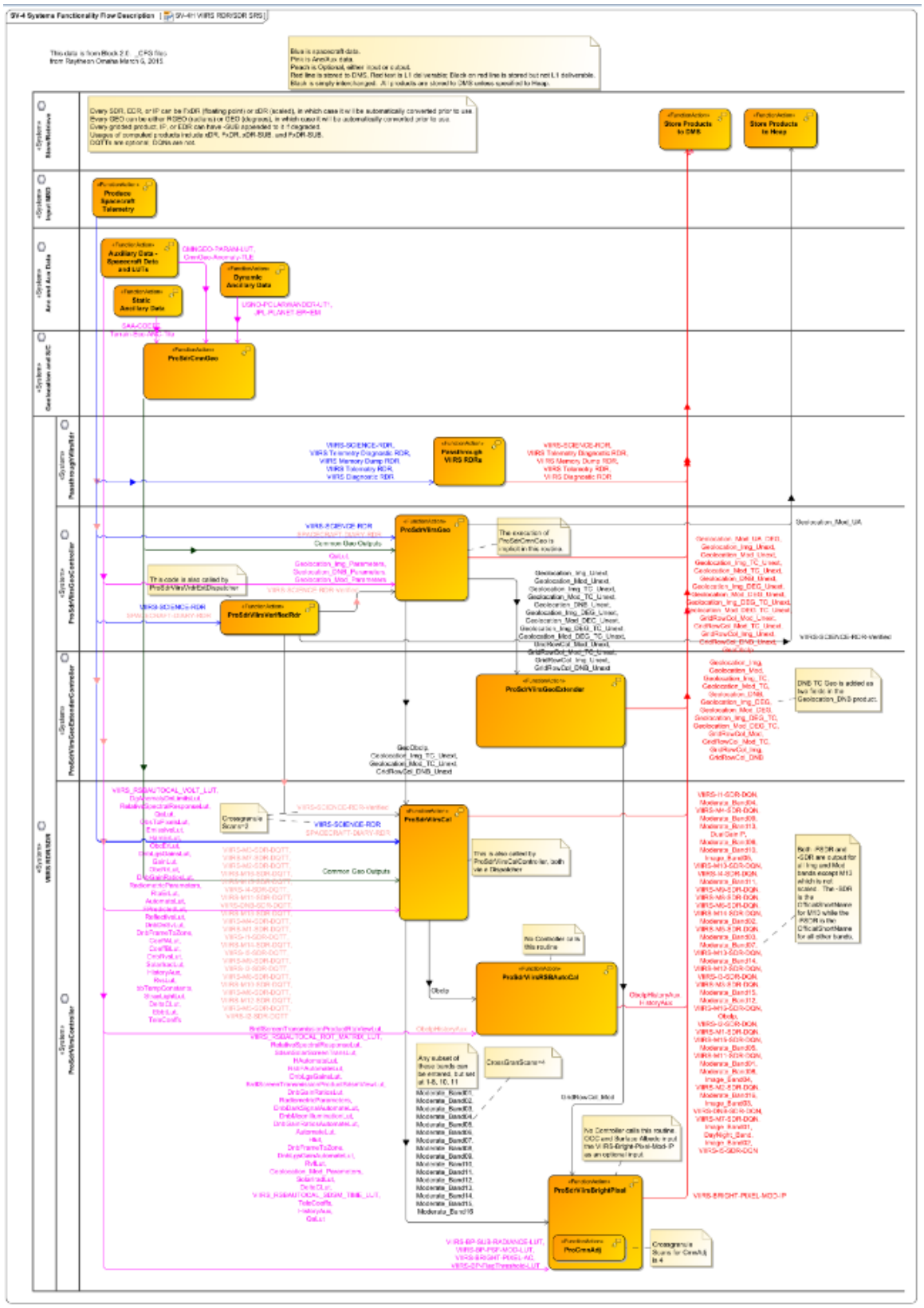

Figure: 3-1 VIIRS RDR/SDR Data Flows

Table: 3-1 Systems Resource Flow Matrix: VIIRS RDR/SDR

	Data Product Name	Collection Short Name	Mnemonic	Sending SRS	Receiving SRS	Sending Function	Receiving Function
1	•VIIRS-SCIENCE-RDR	•VIIRS-SCIENCE-RDR	•RDRE-VIRS-C0030	Input MSD	VIIRS RDR/SDR	Produce Spacecraft Telemetry	ProSdrViirs VerifiedRdr
2	•VIIRS-SCIENCE-RDR •VIIRS Telemetry Diagnostic RDR •VIIRS Memory Dump RDR •VIIRS Telemetry RDR •VIIRS Diagnostic RDR	•VIIRS-SCIENCE-RDR •VIIRS-TELDIAG-RDR •VIIRS-DUMP-RDR •VIIRS-TELEMETRY-RDR •VIIRS-DIAGNOSTIC-RDR	•RDRE-VIRS-C0030 •RDRE-VIRS-C0036 •RDRE-VIRS-C0035 •RDRE-VIRS-C0031 •RDRE-VIRS-C0032	Input MSD	VIIRS RDR/SDR	Produce Spacecraft Telemetry	Passthrough VIIRS RDRs
3	•VIIRS-SCIENCE-RDR	•VIIRS-SCIENCE-RDR	•RDRE-VIRS-C0030	Input MSD	VIIRS RDR/SDR	Produce Spacecraft Telemetry	ProSdrViirs Geo
4	•VIIRS-SCIENCE-RDR	•VIIRS-SCIENCE-RDR	•RDRE-VIRS-C0030	Input MSD	VIIRS RDR/SDR	Produce Spacecraft Telemetry	ProSdrViirs Cal
5	•SPACECRAFT-DIARY-RDR	•SPACECRAFT-DIARY-RDR	•RDRE-SCAE-C0030	Input MSD	VIIRS RDR/SDR	Produce Spacecraft Telemetry	ProSdrViirs Cal
6	•VIIRS-M3-SDR-DQTT •VIIRS-M7-SDR-DQTT •VIIRS-M2-SDR-DQTT •VIIRS-M16-SDR-DQTT •VIIRS-M15-SDR-DQTT •VIIRS-I4-SDR-DQTT	•VIIRS-M3-SDR-DQTT •VIIRS-M7-SDR-DQTT •VIIRS-M2-SDR-DQTT •VIIRS-M16-SDR-DQTT •VIIRS-M15-SDR-DQTT •VIIRS-I4-SDR-DQTT	•DP_NU-LM2030-000 •DP_NU-LM2030-000 •DP_NU-LM2030-000 •DP_NU-LM2030-000 •DP_NU-LM2030-000 •DP_NU-LM2030-000	Anc and Aux Data	VIIRS RDR/SDR	Auxiliary Data - Spacecraft Data and LUTs	ProSdrViirs Cal

	Data Product Name	Collection Short Name	Mnemonic	Sending SRS	Receiving SRS	Sending Function	Receiving Function
	•VIIRS-M11-SDR-DQTT •VIIRS-DNB-SDR-DQTT •VIIRS-M13-SDR-DQTT •VIIRS-M4-SDR-DQTT •VIIRS-M1-SDR-DQTT •VIIRS-I1-SDR-DQTT •VIIRS-M14-SDR-DQTT •VIIRS-I5-SDR-DQTT •VIIRS-M9-SDR-DQTT •VIIRS-I3-SDR-DQTT •VIIRS-M8-SDR-DQTT •VIIRS-M10-SDR-DQTT •VIIRS-M6-SDR-DQTT •VIIRS-M12-SDR-DQTT •VIIRS-M5-SDR-DQTT •VIIRS-I2-SDR-DQTT	•VIIRS-M11-SDR-DQTT •VIIRS-DNB-SDR-DQTT •VIIRS-M13-SDR-DQTT •VIIRS-M4-SDR-DQTT •VIIRS-M1-SDR-DQTT •VIIRS-I1-SDR-DQTT •VIIRS-M14-SDR-DQTT •VIIRS-I5-SDR-DQTT •VIIRS-M9-SDR-DQTT •VIIRS-I3-SDR-DQTT •VIIRS-M8-SDR-DQTT •VIIRS-M10-SDR-DQTT •VIIRS-M6-SDR-DQTT •VIIRS-M12-SDR-DQTT •VIIRS-M5-SDR-DQTT •VIIRS-I2-SDR-DQTT	•DP_NU-LM2030-000 •DP_NU-LM2030-000 •DP_NU-LM2030-000 •DP_NU-LM2030-000 •DP_NU-LM2030-000 •DP_NU-LM2030-000 •DP_NU-LM2030-000 •DP_NU-LM2030-000 •DP_NU-LM2030-000 •DP_NU-LM2030-000 •DP_NU-LM2030-000 •DP_NU-LM2030-000 •DP_NU-LM2030-000 •DP_NU-LM2030-000 •DP_NU-LM2030-000 •DP_NU-LM2030-000				
7	•QaLut •Geolocation_Img_Parameters •Geolocation_DNB_P	•VIIRS-SDR-QA-LUT •VIIRS-SDR-GEO-IMG-PARAM-LUT	•NP_NU-LM0233-040 •NP_NU-LM0233-211	Anc and Aux Data	VIIRS RDR/SDR	Auxiliary Data - Spacecraft Data and LUTs	ProSdrViirs Geo

	Data Product Name	Collection Short Name	Mnemonic	Sending SRS	Receiving SRS	Sending Function	Receiving Function
	arameters •Geolocation_Mod_Parameters	•VIIRS-SDR-GEO-DNB-PARAM-LUT •VIIRS-SDR-GEO-MOD-PARAM-LUT	•NP_NU-LM0233-213 •NP_NU-LM0233-212				
8	•VIIRS-BP-SUB-RADIANCE-LUT •VIIRS-BP-PSF-MOD-LUT •VIIRS-BRIGHT-PIXEL-AC •VIIRS-BP-FlagThreshold-LUT	•VIIRS-BP-SUB-RADIANCE-LUT •VIIRS-BP-PSF-MOD-LUT •VIIRS-Bright-Pixel-AC •VIIRS-BP-FlagThreshold-LUT	•NP-NU-LM0235-001 •NP_NU-LM-235-000 •DP-NU-LM2020-011 •NP_NU-LM0235-002	Anc and Aux Data	VIIRS RDR/SDR	Auxiliary Data - Spacecraft Data and LUTs	ProSdrViirs BrightPixel
9	•VIIRS_RSBAUTOCAL_VOLT_LUT •DgAnomalyDnLimitsLut •RelativeSpectralResponseLut •QaLut •ObsToPixelsLut •EmissiveLut •HamErLut •ObcErLut •DnbLgsGainsLut •GainLut •ObcRrLut •DnbGainRatiosLut •RadiometricParameters •RtaErLut •AutomateLut •FPredictedLut •ReflectiveLut •DnbDnSvLut •DnbFrameToZone •CoeffALut	•VIIRS-SOLAR-DIFF-VOLT-LUT •VIIRS-SDR-DG-ANOMALY-DN-LIMITS-LUT •VIIRS-SDR-RELATIVE-SPECTRAL-RESPONSE-LUT •VIIRS-SDR-QA-LUT •VIIRS-SDR-OBS-TO-PIXELS-LUT •VIIRS-SDR-EMISSIVE-LUT •VIIRS-SDR-HAM-ER-LUT •VIIRS-SDR-OBC-ER-LUT •VIIRS-SDR-DNB-LGS-GAINS-LUT •VIIRS-SDR-GAIN-LUT •VIIRS-SDR-OBC-	•NP_NU-LM0233-084 •NP_NU-LM0233-033 •NP_NU-LM0233-090 •NP_NU-LM0233-040 •NP_NU-LM0233-039 •NP_NU-LM0233-030 •NP_NU-LM0233-036 •NP_NU-LM0233-037 •NP_NU-LM0233-097 •NP_NU-LM0233-032 •NP_NU-LM0233-038 •NP_NU-LM0233-096	Anc and Aux Data	VIIRS RDR/SDR	Auxiliary Data - Spacecraft Data and LUTs	ProSdrViirs Cal

	Data Product Name	Collection Short Name	Mnemonic	Sending SRS	Receiving SRS	Sending Function	Receiving Function
	•CoeffBLut •DnbRvsLut •SolarIradLut •HistoryAux •RvsLut •bbTempConstants •StrayLightLut •DeltaCLut •EbbtLut •TeleCoeffs	RR-LUT •VIIRS-SDR-DNB-GAIN-RATIOS-LUT •VIIRS-SDR-RADIOMETRIC-PARAM-V3-LUT •VIIRS-SDR-RTA-ER-LUT •VIIRS-SDR-CAL-AUTOMATE-LUT •VIIRS-SDR-F-PREDICTED-LUT •VIIRS-SDR-REFLECTIVE-LUT •VIIRS-SDR-DNB-DN0-LUT •VIIRS-SDR-DNB-FRAME-TO-ZONE-LUT •VIIRS-SDR-COEFF-A-LUT •VIIRS-SDR-COEFF-B-LUT •VIIRS-SDR-DNB-RVF-LUT •VIIRS-SDR-SOLAR-IRAD-LUT •VIIRS-RSBAUTOCAL-HISTORY-AUX •VIIRS-SDR-RVF-LUT •VIIRS-SDR-BB-TEMP-COEFFS-LUT •VIIRS-SDR-DNB-STRAY-LIGHT-	•NP_NU-LM0233-041 •NP_NU-LM0233-044 •NP_NU-LM0233-095 •NP_NU-LM0233-086 •NP_NU-LM0233-042 •NP_NU-LM0233-026 •NP_NU-LM0233-027 •NP_NU-LM0233-022 •NP_NU-LM0233-023 •NP_NU-LM0233-028 •NP_NU-LM0233-047 •IMPI_VRAC_R0100 •NP_NU-LM0233-045 •NP_NU-LM0233-021 •NP_NU-LM0233-035 •NP_NU-LM0233-024 •NP_NU-LM0233-029 •NP_NU-LM0233-048				

	Data Product Name	Collection Short Name	Mnemonic	Sending SRS	Receiving SRS	Sending Function	Receiving Function
		CORRECTION-LUT •VIIRS-SDR-DELTA-C-LUT •VIIRS-SDR-EBBT-LUT •VIIRS-SDR-TELE-COEFFS-LUT					
10	•ObcIpHistoryAux	•VIIRS-RSBAUTOCAL-OBCIP-HISTORY-AUX	•None	Anc and Aux Data	VIIRS RDR/SDR	Auxiliary Data - Spacecraft Data and LUTs	ProSdrViirsRSBAutoCal
11	•BrdfScreenTransmissionProductRtaViewLut •VIIRS_RSBAUTOCAL_ROT_MATRIX_LUT •RelativeSpectralResponseLut •SdsmSolarScreenTransLut •HAutomateLut •RsbFAutomateLut •DnbLgsGainsLut •BrdfScreenTransmissionProductSdsmViewLut •DnbGainRatiosLut •RadiometricParameters •DnbDarkSignalAutomateLut •DnbMoonIlluminationLut •DnbGainRatiosAutomateLut	•VIIRS-RSBAUTOCAL-BRDF-SCREEN-TRANSMISSION-PRODUCT-RTA-VIEW-LUT •VIIRS-RSBAUTOCAL-ROT-MATRIX-LUT •VIIRS-SDR-RELATIVE-SPECTRAL-RESPONSE-LUT •VIIRS-RSBAUTOCAL-SDSM-SOLAR-SCREEN-TRANS-LUT •VIIRS-RSBAUTOCAL-H-AUTOMATE-LUT •VIIRS-RSBAUTOCAL-RSB-F-AUTOMATE-LUT	•NP_NU-LM0233-092 •NP_NU-LM0233-080 •NP_NU-LM0233-090 •NP_NU-LM0233-091 •NP_NU-LM0233-099 •NP_NU-LM0233-098 •NP_NU-LM0233-097 •NP_NU-LM0233-093 •NP_NU-LM0233-096 •NP_NU-LM0233-041 •NP_NU-LM0233-101 •NP_NU-LM0233-103 •NP_NU-LM0233-	Anc and Aux Data	VIIRS RDR/SDR	Auxiliary Data - Spacecraft Data and LUTs	ProSdrViirsRSBAutoCal

	Data Product Name	Collection Short Name	Mnemonic	Sending SRS	Receiving SRS	Sending Function	Receiving Function
	•AutomateLut •Hlut •DnbFrameToZone •DnbLgsGainAutomateLut •RvfLut •Geolocation_Mod_Parameters •SolarIradLut •DeltaCLut •VIIRS_RSBAUTOCAL_SDSM_TIME_LUT •TeleCoeffs •HistoryAux •QaLut	•VIIRS-SDR-DNB-LGS-GAINS-LUT •VIIRS-RSBAUTOCAL-BRDF-SCREEN-TRANSMISSION-PRODUCT-SDSM-VIEW-LUT •VIIRS-SDR-DNB-GAIN-RATIOS-LUT •VIIRS-SDR-RADIOMETRIC-PARAM-V3-LUT •VIIRS-RSBAUTOCAL-DNB-DARK-SIGNAL-AUTOMATE-LUT •VIIRS-RSBAUTOCAL-DNB-MOON-ILLUMINATION-LUT •VIIRS-RSBAUTOCAL-DNB-GAIN-RATIOS-AUTOMATE-LUT •VIIRS-SDR-CAL-AUTOMATE-LUT •VIIRS-RSBAUTOCAL-H-LUT •VIIRS-SDR-DNB-FRAME-TO-ZONE-LUT	102 •NP_NU-LM0233-095 •NP_NU-LM0233-104 •NP_NU-LM0233-027 •NP_NU-LM0233-100 •NP_NU-LM0233-094 •NP_NU-LM0233-212 •NP_NU-LM0233-047 •NP_NU-LM0233-024 •NP_NU-LM0233-082 •NP_NU-LM0233-048 •IMPI_VRAC_R0100 •NP_NU-LM0233-040				

	Data Product Name	Collection Short Name	Mnemonic	Sending SRS	Receiving SRS	Sending Function	Receiving Function
		•VIIRS-RSBAUTOCAL-DNB-LGS-GAIN-AUTOMATE-LUT •VIIRS-RSBAUTOCAL-RVF-LUT •VIIRS-SDR-GEO-MOD-PARAM-LUT •VIIRS-SDR-SOLAR-IRAD-LUT •VIIRS-SDR-DELTA-C-LUT •VIIRS-RSBAUTOCAL-SDSM-TIME-LUT •VIIRS-SDR-TELE-COEFFS-LUT •VIIRS-RSBAUTOCAL-HISTORY-AUX •VIIRS-SDR-QA-LUT					
12	•Common Geo Outputs	•None	•None	Geolocation and S/C	VIIRS RDR/SDR	ProSdrCmnGeo	ProSdrViirs Cal
13	•Common Geo Outputs	•None	•None	Geolocation and S/C	VIIRS RDR/SDR	ProSdrCmnGeo	ProSdrViirs Geo
14	•VIIRS-SCIENCE-RDR-Verified	•VIIRS-SCIENCE-RDR-Verified	•None	VIIRS RDR/SDR	VIIRS RDR/SDR	ProSdrViirsVerifiedRdr	ProSdrViirs Cal
15	•GeoObcIp •Geolocation_Img_TC_Unext •Geolocation_Mod_TC_Unext •GridRowCol_DNB_Unext	•GEO-VIIRS-OBC-IP •VIIRS-IMG-RGEO-TC-UNEXT •VIIRS-MOD-RGEO-TC-UNEXT •VIIRS-DNB-GRC-UNEXT	•None • • •	VIIRS RDR/SDR	VIIRS RDR/SDR	ProSdrViirsGeo	ProSdrViirs Cal

	Data Product Name	Collection Short Name	Mnemonic	Sending SRS	Receiving SRS	Sending Function	Receiving Function
16	•VIIRS-SCIENCE-RDR-Verified	•VIIRS-SCIENCE-RDR-Verified	•None	VIIRS RDR/SDR	VIIRS RDR/SDR	ProSdrViirsVerifiedRdr	ProSdrViirsGeo
17	•ObcIp	•VIIRS-OBC-IP	•IMPI_VOBC_R0100	VIIRS RDR/SDR	VIIRS RDR/SDR	ProSdrViirsCal	ProSdrViirsRSBAutoCal
18	•Geolocation_Mod_UA_DEG •Geolocation_Img_Unext •Geolocation_Mod_Unext •Geolocation_Img_TC_Unext •Geolocation_Mod_TC_Unext •Geolocation_DNB_Unext •Geolocation_Img_DEG_Unext •Geolocation_Mod_DEG_Unext •Geolocation_Img_DEG_TC_Unext •Geolocation_Mod_DEG_TC_Unext •GridRowCol_Mod_Unext •GridRowCol_Mod_TC_Unext •GridRowCol_Img_Unext •GridRowCol_DNB_Unext •GeoObcIp	•VIIRS-MOD-UNAGG-GEO •VIIRS-IMG-RGEO_UNEXT •VIIRS-MOD-RGEO-UNEXT •VIIRS-IMG-RGEO-TC-UNEXT •VIIRS-MOD-RGEO-TC-UNEXT •VIIRS-DNB-GEO-UNEXT •VIIRS-IMG-GEO-UNEXT •VIIRS-MOD-GEO-UNEXT •VIIRS-IMG-GEO-TC-UNEXT •VIIRS-MOD-GEO-TC-UNEXT •VIIRS-MOD-GRC-UNEXT •VIIRS-MOD-GRC-TC-UNEXT •VIIRS-IMG-GRC-UNEXT •VIIRS-DNB-GRC-UNEXT •GEO-VIIRS-OBC-IP	•None • • • • • • • • • • • •None	VIIRS RDR/SDR	Store/Retrieve	ProSdrViirsGeo	Store Products to DMS
19	•VIIRS-I1-SDR-DQN •Moderate_Band04	•VIIRS-I1-SDR-DQN •VIIRS-M4-SDR	•DP_NU-L00510-000 •SDRE-VM04-C0030	VIIRS RDR/SDR	Store/Retrieve	ProSdrViirsCal	Store Products to

	Data Product Name	Collection Short Name	Mnemonic	Sending SRS	Receiving SRS	Sending Function	Receiving Function
	•VIIRS-M4-SDR-DQN •Moderate_Band09 •Moderate_Band13 •DualGainIP •Moderate_Band06 •Moderate_Band10 •Image_Band05 •VIIRS-M10-SDR-DQN •VIIRS-I4-SDR-DQN •Moderate_Band11 •VIIRS-M9-SDR-DQN •VIIRS-M8-SDR-DQN •VIIRS-M6-SDR-DQN •VIIRS-M14-SDR-DQN •Moderate_Band02 •VIIRS-M5-SDR-DQN •Moderate_Band03 •Moderate_Band07 •VIIRS-M13-SDR-DQN •Moderate_Band14 •VIIRS-M12-SDR-DQN •VIIRS-I3-SDR-DQN •VIIRS-M3-SDR-DQN •Moderate_Band15 •Moderate_Band12 •VIIRS-M16-SDR-	•VIIRS-M4-SDR-DQN •VIIRS-M9-SDR •VIIRS-M13-SDR •VIIRS-DualGain-Cal-IP •VIIRS-M6-SDR •VIIRS-M10-SDR •VIIRS-I5-SDR •VIIRS-M10-SDR-DQN •VIIRS-I4-SDR-DQN •VIIRS-M11-SDR •VIIRS-M9-SDR-DQN •VIIRS-M8-SDR-DQN •VIIRS-M6-SDR-DQN •VIIRS-M14-SDR-DQN •VIIRS-M2-SDR •VIIRS-M5-SDR-DQN •VIIRS-M3-SDR •VIIRS-M7-SDR •VIIRS-M13-SDR-DQN •VIIRS-M14-SDR •VIIRS-M12-SDR-DQN •VIIRS-I3-SDR-DQN •VIIRS-M3-SDR-DQN •VIIRS-M15-SDR •VIIRS-M12-SDR	•DP_NU-L00510-000 •SDRE-VM09-C0030 •SDRE-VM13-C0030 •IMPI_VCDB_R0100 •SDRE-VM06-C0030 •SDRE-VM10-C0030 •SDRE-VI05-C0030 •DP_NU-L00510-000 •DP_NU-L00510-000 •SDRE-VM11-C0030 •DP_NU-L00510-000 •DP_NU-L00510-000 •DP_NU-L00510-000 •DP_NU-L00510-000 •SDRE-VM02-C0030 •DP_NU-L00510-000 •SDRE-VM03-C0030 •SDRE-VM07-C0030 •DP_NU-L00510-000 •SDRE-VM14-C0030 •DP_NU-L00510-000 •DP_NU-L00510-000 • DP_NU-L00510-000 •SDRE-VM15-C0030 •SDRE-VM12-C0030 •DP_NU-L00510-000 •IMPI_VOBC_R0100 •DP_NU-L00510-000 •DP_NU-L00510-000 •DP_NU-L00510-000 •SDRE-VM05-C0030 •DP_NU-L00510-000 •SDRE-VM01-C0030 •SDRE-VM08-C0030 •SDRE-VI04-C0030				DMS

	Data Product Name	Collection Short Name	Mnemonic	Sending SRS	Receiving SRS	Sending Function	Receiving Function
	DQN •ObcIp •VIIRS-I2-SDR-DQN •VIIRS-M1-SDR-DQN •VIIRS-M15-SDR-DQN •Moderate_Band05 •VIIRS-M11-SDR-DQN •Moderate_Band01 •Moderate_Band08 •Image_Band04 •VIIRS-M2-SDR-DQN •Moderate_Band16 •Image_Band03 •VIIRS-DNB-SDR-DQN •VIIRS-M7-SDR-DQN •Image_Band01 •DayNight_Band •Image_Band02 •VIIRS-I5-SDR-DQN	•VIIRS-M16-SDR-DQN •VIIRS-OBC-IP •VIIRS-I2-SDR-DQN •VIIRS-M1-SDR-DQN •VIIRS-M15-SDR-DQN •VIIRS-M5-SDR •VIIRS-M11-SDR-DQN •VIIRS-M1-SDR •VIIRS-M8-SDR •VIIRS-I4-SDR •VIIRS-M2-SDR-DQN •VIIRS-M16-SDR •VIIRS-I3-SDR •VIIRS-DNB-SDR-DQN •VIIRS-M7-SDR-DQN •VIIRS-I1-SDR •VIIRS-DNB-SDR •VIIRS-I2-SDR •VIIRS-I5-SDR-DQN	•DP_NU-L00510-000 •SDRE-VM16-C0030 •SDRE-VI03-C0030 •DP_NU-L00510-000 •DP_NU-L00510-000 •SDRE-VI01-C0030 •SDRE-VDNB-C0030 •SDRE-VI02-C0030 •DP_NU-L00510-000				
20	•VIIRS-SCIENCE-RDR •VIIRS Telemetry Diagnostic RDR •VIIRS Memory Dump RDR •VIIRS Telemetry RDR •VIIRS Diagnostic RDR	•VIIRS-SCIENCE-RDR •VIIRS-TELDIAG-RDR •VIIRS-DUMP-RDR •VIIRS-TELEMETRY-RDR •VIIRS-DIAGNOSTIC-RDR	•RDRE-VIRS-C0030 •RDRE-VIRS-C0036 •RDRE-VIRS-C0035 •RDRE-VIRS-C0031 •RDRE-VIRS-C0032	VIIRS RDR/SDR	Store/Retrieve	Passthrough VIIRS RDRs	Store Products to DMS

	Data Product Name	Collection Short Name	Mnemonic	Sending SRS	Receiving SRS	Sending Function	Receiving Function
21	•ObcIpHistoryAux •HistoryAux	•VIIRS-RSBAUTOCAL-OBCIP-HISTORY-AUX •VIIRS-RSBAUTOCAL-HISTORY-AUX	•None •IMPI_VRAC_R0100	VIIRS RDR/SDR	Store/Retrieve	ProSdrViirsRSBAutoCal	Store Products to DMS

3.3.2 Outputs

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_64 The VIIRS RDR software shall generate the VIIRS Diagnostic RDR from mission data packet APIDs specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <RDR><Diagnostic>.

Rationale: The VIIRS Diagnostic RDR is generated from the specified mission data packet APIDs. APIDs associated with the Spacecraft Diary, as defined in the JPSS Algorithm Specification Vol IV: SRS Parameter File for Geolocation and Spacecraft Orientation (474-00448-04-08), are included in the deliverable RDR.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_65 The VIIRS RDR software shall generate the VIIRS Telemetry Diagnostic RDR from mission data packet APIDs specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <RDR><TelemetryDiagnostic>.

Rationale: The VIIRS Telemetry Diagnostic RDR is generated from the specified mission data packet APIDs. APIDs associated with the Spacecraft Diary, as defined in the JPSS Algorithm Specification Vol IV: SRS Parameter File for Geolocation and Spacecraft Orientation (474-00448-04-08), are included in the deliverable RDR.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_66 The VIIRS RDR software shall generate the VIIRS Memory Dump RDR from mission data packet APIDs specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <RDR><MemoryDump>.

Rationale: The VIIRS Memory Dump RDR is generated from the specified mission data packet APIDs. APIDs associated with the Spacecraft Diary, as defined in the JPSS Algorithm Specification Vol IV: SRS Parameter File for Geolocation and Spacecraft Orientation (474-00448-04-08), are included in the deliverable RDR.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_67 The VIIRS RDR software shall generate the VIIRS Telemetry RDR from mission data packet APIDs specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <RDR><Telemetry>.

Rationale: The VIIRS Telemetry RDR is generated from the specified mission data packet APIDs. APIDs associated with the Spacecraft Diary, as defined in the JPSS Algorithm Specification Vol IV: SRS Parameter File for Geolocation and Spacecraft Orientation (474-00448-04-08), are included in the deliverable RDR.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_68 The VIIRS RDR software shall generate the VIIRS Science RDR from mission data packet APIDs specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <RDR><Science>.

Rationale: The VIIRS Science RDR is generated from the specified mission data packet APIDs. APIDs associated with the Spacecraft Diary, as defined in the JPSS Algorithm Specification Vol IV: SRS Parameter File for Geolocation and Spacecraft Orientation (474-00448-04-08), are included in the deliverable RDR.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_72 The VIIRS DNB SDR software shall generate the VIIRS Day Night Band SDR in conformance with the XML format file in Attachment A.2 of the JPSS Algorithm Specification Vol II: Data Dictionary for VIIRS RDR/SDR (474-00448-02-06).

Rationale: The product profile must conform to the XML format file.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_100 The VIIRS Reflective I-band SDR software shall generate the VIIRS Reflective I-Band SDR for I-bands 1, 2, and 3, conforming with the XML format file in Attachments A.3, A.4, A.5, of the JPSS Algorithm Specification Vol II: Data Dictionary for VIIRS RDR/SDR (474-00448-02-06).

Rationale: The product profile must conform to the XML format file.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_135 The VIIRS Emissive I-band SDR software shall generate the VIIRS I Band SDR for bands I4 and I5, conforming with the XML format file in Attachments A.6 and A.7 of the JPSS Algorithm Specification Vol II: Data Dictionary for VIIRS RDR/SDR (474-00448-02-06).

Rationale: The product profile must conform to the XML format file.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_168 The VIIRS Reflective M-band SDR software shall generate the VIIRS Reflective M-band SDR for M bands 1-11, conforming with the XML format file in Attachments A.9-A.19 of the JPSS Algorithm Specification Vol II: Data Dictionary for VIIRS RDR/SDR (474-00448-02-06).

Rationale: The product profile must conform to the XML format file.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_203 The VIIRS Emissive M-band SDR software shall generate the VIIRS Emissive M-Band SDR for M bands 12-16, conforming with the XML format file in Attachments A.20-A.24 of the JPSS Algorithm Specification Vol II: Data Dictionary for VIIRS RDR/SDR (474-00448-02-06).

Rationale: The product profile must conform to the XML format file.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_235 The VIIRS Bright Pixel IP software shall generate the VIIRS Bright Pixel IP conforming with the XML format file in Attachments A.28 of the JPSS Algorithm Specification Vol II: Data Dictionary for VIIRS RDR/SDR (474-00448-02-06).

Rationale: The product profile must conform to the XML format file.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_240 The VIIRS On-board Calibrator IP software shall generate the VIIRS On-board Calibrator IP, conforming with the XML format file in Attachments A.29 of the JPSS Algorithm Specification Vol II: Data Dictionary for VIIRS RDR/SDR (474-00448-02-06).

Rationale: The product profile must conform to the XML format file.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_242 The VIIRS M-band SDR geolocation software shall generate the M-band SDR geolocation product in conformance with the XML format file in Attachment A.25 of the JPSS Algorithm Specification Vol II: Data Dictionary for VIIRS RDR/SDR (474-00448-02-06).

Rationale: The product profile must conform to the XML format file.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_243 The VIIRS I-band SDR geolocation software shall generate the I-band SDR geolocation product in conformance with the XML format file in Attachment A.8 of VIIRS RDR/SDR Algorithm Specification Vol II: Data Dictionary for VIIRS RDR/SDR (474-00448-02-06).

Rationale: The product profile must conform to the XML format file.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_244 The VIIRS DNB SDR geolocation software shall generate the DNB SDR geolocation product in conformance with the XML format file in Attachment A.1 of the JPSS Algorithm Specification Vol II: Data Dictionary for VIIRS RDR/SDR (474-00448-02-06).

Rationale: The product profile must conform to the XML format file.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_245 The VIIRS M-band SDR geolocation software shall generate the terrain corrected M-band SDR geolocation in conformance with the XML format file in Attachment A.27 of JPSS Algorithm Specification Vol II: Data Dictionary for VIIRS RDR/SDR (474-00448-02-06).

Rationale: The product profile must conform to the XML format file.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_246 The VIIRS I-band SDR geolocation software shall generate the terrain-corrected I-band SDR geolocation in conformance with the XML format file in Attachment A.26 of the JPSS Algorithm Specification Vol II: Data Dictionary for VIIRS RDR/SDR (474-00448-02-06).

Rationale: The product profile must conform to the XML format file.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_265 The VIIRS RSB Auto Cal software shall generate the VIIRS-RSBAUTOCAL History, conforming with the XML format file in Attachments A.30 the JPSS Algorithm Specification Vol II: Data Dictionary for VIIRS RDR/SDR (474-00448-02-06).

Rationale: The product profile must conform to the XML format file.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_266 The VIIRS Calibrated Dual Gain Band IP software shall generate the VIIRS Calibrated Dual Gain Band IP conforming with the XML format file in Attachments A.31 of the JPSS Algorithm Specification Vol II: Data Dictionary for VIIRS RDR/SDR (474-00448-02-06).

Rationale: The product profile must conform to the XML format file.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_474 The VIIRS SDR software shall generate the VIIRS Un-Aggregated M-band Dual-Gain Band Geolocation product in conformance with the XML format file in Attachment A.32 of the JPSS Algorithm Specification Vol II: Data Dictionary for VIIRS RDR/SDR (474-00448-02-06).

Rationale: The product profile must conform to the XML format file.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_2209 The VIIRS DNB SDR software shall process SDRs for sensor day or night modes as specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <DNB_SDR><dayNight>.

Rationale: The product output is per the VIIRS sensor operational mode.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_2210 The VIIRS Reflective I-band SDR software shall process SDRs for sensor day or night modes as specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <Refl_I1-3_SDR><dayNight>.

Rationale: The product output is per the VIIRS sensor operational mode.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_2211 The VIIRS Emissive I-band SDR software shall process SDRs for sensor day or night modes as specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <Emiss_I4-5_SDR><dayNight>.

Rationale: The product output is per the VIIRS sensor operational mode.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_2212 The VIIRS Reflective M-band SDR software shall process SDRs for sensor day or night modes as specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <Refl_M1-11_SDR><dayNight>.

Rationale: The product output is per the VIIRS sensor operational mode.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_2213 The VIIRS Emissive M-band SDR software shall process SDRs for sensor day or night modes as specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <Emiss_M12-16_SDR><dayNight>.

Rationale: The product output is per the VIIRS sensor operational mode.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

3.4 Science Standards

Not applicable.

3.5 Metadata Output

Not applicable.

3.6 Quality Flag Content Requirements

SRS.01.06_96 The VIIRS DNB SDR software shall report for each <FlagScope> quality flags using <FlagLogic> as specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <DNB_SDR><QF>.

Rationale: Quality Flags must be generated based on the established flag conditions, logic, and format.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_131 The VIIRS Reflective I-band SDR software shall report for each <FlagScope> quality flags using <FlagLogic> as specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <Refl_I1-3_SDR><QF>.

Rationale: Quality Flags must be generated based on the established flag conditions, logic, and format.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_164 The VIIRS Emissive I-band SDR software shall report for each <FlagScope> quality flags using <FlagLogic> as specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <Emiss_I4-5_SDR><QF>.

Rationale: Quality Flags must be generated based on the established flag conditions, logic, and format.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_199 The VIIRS Reflective M-band SDR software shall report for each <FlagScope> quality flags using <FlagLogic> as specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <Refl_M1-11_SDR><QF>.

Rationale: Quality Flags must be generated based on the established flag conditions, logic, and format.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_232 The VIIRS Emissive M-band SDR software shall report for each <FlagScope> quality flags using <FlagLogic> as specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <Emiss_M12-16_SDR><QF>.

Rationale: Quality Flags must be generated based on the established flag conditions, logic, and format.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_237 The VIIRS Bright Pixel IP software shall report for each <FlagScope> quality flags using <FlagLogic> as specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <BrightPixelIP><QF>.

Rationale: Quality Flags must be generated based on the established flag conditions, logic, and format.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_264 The VIIRS SDR geolocation software shall report for each <FlagScope> quality flags using <FlagLogic> as specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <Mband_GEO><QF>.

Rationale: Quality Flags must be generated based on the established flag conditions, logic, and format.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_957 The VIIRS SDR geolocation software shall report for each <FlagScope> quality flags using <FlagLogic> as specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <Iband_GEO><QF>.

Rationale: Quality Flags must be generated based on the established flag conditions, logic, and format.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_958 The VIIRS SDR geolocation software shall report for each <FlagScope> quality flags using <FlagLogic> as specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <DNB_GEO><QF>.

Rationale: Quality Flags must be generated based on the established flag conditions, logic, and format.

Mission Effectivity: JPSS-1, JPSS-2

3.7 Data Quality Notification Requirements

SRS.01.06_89 The VIIRS DNB SDR software shall send data quality notifications to the operator for conditions specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <DNB_SDR><Notifications>.

Rationale: Notifications must be generated and sent based on the established logic and conditions.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_121 The VIIRS Reflective I-band SDR software shall send data quality notifications to the operator for conditions specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <Refl_I1-3_SDR><Notifications>.

Rationale: Notifications must be generated and sent based on the established logic and conditions.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_156 The VIIRS Emissive I-band SDR software shall send data quality notifications to the operator for conditions specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <Emiss_I4-5_SDR><Notifications>.

Rationale: Notifications must be generated and sent based on the established logic and conditions.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_189 The VIIRS Reflective M-band SDR software shall send data quality notifications to the operator for conditions specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <Refl_M1-11_SDR><Notifications>.

Rationale: Notifications must be generated and sent based on the established logic and conditions.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_224 The VIIRS Emissive M-band SDR software shall send data quality notifications to the operator for conditions specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <Emiss_M12-16_SDR><Notifications>.

Rationale: Notifications must be generated and sent based on the established logic and conditions.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

3.8 Adaptation

Not applicable.

3.9 Provenance Requirements

Not applicable.

3.10 Computer Software Requirements

Not applicable.

3.11 Software Quality Characteristics

Not applicable.

3.12 Design and Implementation Constraints

SRS.01.06_929 The JPSS Common Ground System shall execute the DNB radiance algorithm.

Rationale: The CGS must incorporate algorithm changes that are supplied by the algorithm vendor.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_962 The Common Ground System shall execute the Bright Pixel algorithm.

Rationale: The CGS must incorporate algorithm changes that are supplied by the algorithm vendor.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_963 The Common Ground System shall execute the Dual Gain Band calibration algorithm.

Rationale: The CGS must incorporate algorithm changes that are supplied by the algorithm vendor.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_964 The Common Ground System shall execute the on-board calibration algorithm.

Rationale: The CGS must incorporate algorithm changes that are supplied by the algorithm vendor.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_1153 The JPSS Common Ground System shall execute the RSB auto calibration algorithm.

Rationale: The CGS must incorporate algorithm changes that are supplied by the algorithm vendor.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_930 The JPSS Common Ground System shall execute the reflective I-band SDR algorithm.

Rationale: The CGS must incorporate algorithm changes that are supplied by the algorithm vendor.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_931 The JPSS Common Ground System shall execute the emissive I-band SDR algorithm.

Rationale: The CGS must incorporate algorithm changes that are supplied by the algorithm vendor.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_932 The JPSS Common Ground System shall execute the reflective M-band SDR algorithm.

Rationale: The CGS must incorporate algorithm changes that are supplied by the algorithm vendor.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_933 The JPSS Common Ground System shall execute the emissive M-band SDR algorithm.

Rationale: The CGS must incorporate algorithm changes that are supplied by the algorithm vendor.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_934 The JPSS Common Ground System shall execute the M-band geolocation algorithms.

Rationale: The CGS must incorporate algorithm changes that are supplied by the algorithm vendor.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_935 The JPSS Common Ground System shall execute the I-band geolocation algorithms.

Rationale: The CGS must incorporate algorithm changes that are supplied by the algorithm vendor.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

SRS.01.06_936 The JPSS Common Ground System shall execute the VIIRS DNB geolocation algorithm.

Rationale: The CGS must incorporate algorithm changes that are supplied by the algorithm vendor.

Mission Effectivity: S-NPP, JPSS-1, JPSS-2

3.13 Personnel Related Requirements

Not applicable.

3.14 Training Requirements

Not applicable.

3.15 Logistics Related requirements

Not applicable.

3.16 Other Requirements

Not applicable.

3.17 Packaging Requirements

Not applicable.

3.18 Precedence and Criticality

Not applicable.

Appendix A. Requirements Attributes

The Requirements Attributes Table lists each requirement with CM-controlled attributes including requirement type, mission effectivity, requirement allocation(s), block start and end, method(s) for verifying each requirement, etc.

Req ID	SRS 06 - Visible Infrared Imager Radiometer Suite	Level 3 Type	Product Type	Mission Effectivity	Allocated To	Block Start	Block End	Block 2.0.0 VM	Block 2.1.0 VM	Block 2.2.0 VM
SRS.01.06_71	The VIIRS DNB SDR top-of-atmosphere radiance algorithm shall calculate the top-of-atmosphere radiance with an accuracy of 5% for low-gain.	P	SDR	S-NPP JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Test	NA	NA
SRS.01.06_959	The VIIRS DNB SDR top-of-atmosphere radiance algorithm shall calculate the top-of-atmosphere radiance with an accuracy of 10% for mid-gain.	P	SDR	JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Test	NA	NA
SRS.01.06_960	The VIIRS DNB SDR top-of-atmosphere radiance algorithm shall calculate the top-of-atmosphere radiance with an accuracy of 30% for high-gain.	P	SDR	JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Test	NA	NA
SRS.01.06_99	The VIIRS Reflective I-band SDR top-of-atmosphere reflectance algorithm shall calculate the I1 top-of-atmosphere reflectance to an accuracy of 2% at 22 watt m^-2 sr^-1 µm^-1.	P	SDR	S-NPP JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Test	NA	NA
SRS.01.06_941	The VIIRS Reflective I-band SDR top-of-atmosphere reflectance algorithm shall calculate the I2 top-of-atmosphere reflectance to an accuracy of 2% at 25 watt m^-2 sr^-1 µm^-1.	P	SDR	S-NPP JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Test	NA	NA
SRS.01.06_942	The VIIRS Reflective I-band SDR	P	SDR	S-NPP	algorithm	2.0.0	3.0.0	Test	NA	NA

Req ID	SRS 06 - Visible Infrared Imager Radiometer Suite	Level 3 Type	Product Type	Mission Effectivity	Allocated To	Block Start	Block End	Block 2.0.0 VM	Block 2.1.0 VM	Block 2.2.0 VM
	top-of-atmosphere reflectance algorithm shall calculate the I3 top-of-atmosphere reflectance to an accuracy of 2% at 7.3 watt m^-2 sr^-1 µm^-1.			JPSS-1 JPSS-2	provider					
SRS.01.06_134	The VIIRS Emissive I-band SDR top-of-atmosphere radiance algorithm shall calculate the I4-band top-of-atmosphere radiance to an accuracy of 5% at 267 K.	P	SDR	S-NPP JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Test	NA	NA
SRS.01.06_381	The VIIRS Emissive I-band SDR top-of-atmosphere radiance algorithm shall calculate the I5-band top-of-atmosphere radiance to an accuracy of 2.5% at 267 K.	P	SDR	S-NPP JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Test	NA	NA
SRS.01.06_167	The VIIRS Reflective M-band SDR top-of-atmosphere reflectance algorithm shall calculate the M1 top-of-atmosphere reflectance to an accuracy of 2% at 44.9 watt m^-2 sr^-1 µm^-1 for high gain and 2% at 155 watt m^-2 sr^-1 µm^-1 for low gain for an unpolarized, no contrast scene.	P	SDR	S-NPP JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Test	NA	NA
SRS.01.06_943	The VIIRS Reflective M-band SDR top-of-atmosphere reflectance algorithm shall calculate the M2 top-of-atmosphere reflectance to an accuracy of 2% at 40 watt m^-2 sr^-1 µm^-1 for high gain and 2%	P	SDR	S-NPP JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Test	NA	NA

Req ID	SRS 06 - Visible Infrared Imager Radiometer Suite	Level 3 Type	Product Type	Mission Effectivity	Allocated To	Block Start	Block End	Block 2.0.0 VM	Block 2.1.0 VM	Block 2.2.0 VM
	at 146 watt m^-2 sr^-1 µm^-1 for low gain for an unpolarized, no contrast scene.									
SRS.01.06_944	The VIIRS Reflective M-band SDR top-of-atmosphere reflectance algorithm shall calculate the M3 top-of-atmosphere reflectance to an accuracy of 2% at 32 watt m^-2 sr^-1 µm^-1 for high gain and 2% at 123 watt m^-2 sr^-1 µm^-1 for low gain for an unpolarized, no contrast scene.	P	SDR	S-NPP JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Test	NA	NA
SRS.01.06_945	The VIIRS Reflective M-band SDR top-of-atmosphere reflectance algorithm shall calculate the M4 top-of-atmosphere reflectance to an accuracy of 2% at 21 watt m^-2 sr^-1 µm^-1 for high gain and 2% at 90 watt m^-2 sr^-1 µm^-1 for low gain for an unpolarized, no contrast scene.	P	SDR	S-NPP JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Test	NA	NA
SRS.01.06_946	The VIIRS Reflective M-band SDR top-of-atmosphere reflectance algorithm shall calculate the M5 top-of-atmosphere reflectance to an accuracy of 2% at 10 watt m^-2 sr^-1 µm^-1 for high gain and 2% at 68 watt m^-2 sr^-1 µm^-1 for low gain for an unpolarized, no	P	SDR	S-NPP JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Test	NA	NA

Req ID	SRS 06 - Visible Infrared Imager Radiometer Suite	Level 3 Type	Product Type	Mission Effectivity	Allocated To	Block Start	Block End	Block 2.0.0 VM	Block 2.1.0 VM	Block 2.2.0 VM
	contrast scene.									
SRS.01.06_947	The VIIRS Reflective M-band SDR top-of-atmosphere reflectance algorithm shall calculate the M6 top-of-atmosphere reflectance to an accuracy of 2% at 9.6 watt m^-2 sr^-1 µm^-1 for an unpolarized, no contrast scene.	P	SDR	S-NPP JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Test	NA	NA
SRS.01.06_948	The VIIRS Reflective M-band SDR top-of-atmosphere reflectance algorithm shall calculate the M7 top-of-atmosphere reflectance to an accuracy of 2% at 6.4 watt m^-2 sr^-1 µm^-1 for high gain and 2% at 33.4 watt m^-2 sr^-1 µm^-1 for low gain for an unpolarized, no contrast scene.	P	SDR	S-NPP JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Test	NA	NA
SRS.01.06_949	The VIIRS Reflective M-band SDR top-of-atmosphere reflectance algorithm shall calculate the M8 top-of-atmosphere reflectance to an accuracy of 2% at 5.4 watt m^-2 sr^-1 µm^-1.3 for an unpolarized, no contrast scene.	P	SDR	S-NPP JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Test	NA	NA
SRS.01.06_950	The VIIRS Reflective M-band SDR top-of-atmosphere reflectance algorithm shall calculate the M9 top-of-atmosphere reflectance to an	P	SDR	S-NPP JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Test	NA	NA

Req ID	SRS 06 - Visible Infrared Imager Radiometer Suite	Level 3 Type	Product Type	Mission Effectivity	Allocated To	Block Start	Block End	Block 2.0.0 VM	Block 2.1.0 VM	Block 2.2.0 VM
	accuracy of 2% at 6 watt m^-2 sr^-1 µm^-1 for an unpolarized, no contrast scene.									
SRS.01.06_951	The VIIRS Reflective M-band SDR top-of-atmosphere reflectance algorithm shall calculate the M10 top-of-atmosphere reflectance to an accuracy of 2% at 7.3 watt m^-2 sr^-1 µm^-1 for an unpolarized, no contrast scene.	P	SDR	S-NPP JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Test	NA	NA
SRS.01.06_952	The VIIRS Reflective M-band SDR top-of-atmosphere reflectance algorithm shall calculate the M11 top-of-atmosphere reflectance to an accuracy of 2% at 0.12 watt m^-2 sr^-1 µm^-1 for an unpolarized, no contrast scene.	P	SDR	S-NPP JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Test	NA	NA
SRS.01.06_202	The VIIRS Emissive M-band SDR top-of-atmosphere radiance algorithm shall calculate the M12-band top-of-atmosphere radiance to an accuracy of 0.7% at 270 K.	P	SDR	S-NPP JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Test	NA	NA
SRS.01.06_953	The VIIRS Emissive M-band SDR top-of-atmosphere radiance algorithm shall calculate the M13-band top-of-atmosphere radiance to an accuracy of 0.7% at 270 K.	P	SDR	S-NPP JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Test	NA	NA
SRS.01.06_388	The VIIRS Emissive M-band SDR top-of-atmosphere radiance algorithm shall calculate the M14-	P	SDR	S-NPP JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Test	NA	NA

Req ID	SRS 06 - Visible Infrared Imager Radiometer Suite	Level 3 Type	Product Type	Mission Effectivity	Allocated To	Block Start	Block End	Block 2.0.0 VM	Block 2.1.0 VM	Block 2.2.0 VM
	band top-of-atmosphere radiance to an accuracy of 0.6% at 270 K.									
SRS.01.06_389	The VIIRS Emissive M-band SDR top-of-atmosphere radiance algorithm shall calculate the M15-band top-of-atmosphere radiance to an accuracy of 0.4% at 270 K.	P	SDR	S-NPP JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Test	NA	NA
SRS.01.06_954	The VIIRS Emissive M-band SDR top-of-atmosphere radiance algorithm shall calculate the M16-band top-of-atmosphere radiance to an accuracy of 0.4% at 270 K.	P	SDR	S-NPP JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Test	NA	NA
SRS.01.06_955	The VIIRS M-band SDR software shall provide a field-of-view at nadir of 0.75 km.	P	SDR	JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Test	NA	NA
SRS.01.06_956	The VIIRS M-band SDR software shall perform cross-track aggregation of calibrated samples for dual gain M-bands using the following aggregation factors: 3 for scan angle magnitude less than 31.59 degrees, 2 for scan angle magnitudes between 31.59 degrees and 44.82 degrees, and 1 for scan angle magnitude greater than 44.82 degrees.	P	SDR	JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Test	NA	NA
SRS.01.06_248	The VIIRS SDR Geolocation software shall satisfy constraints specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06)	P	GEO	S-NPP JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Test	NA	NA

Req ID	SRS 06 - Visible Infrared Imager Radiometer Suite	Level 3 Type	Product Type	Mission Effectivity	Allocated To	Block Start	Block End	Block 2.0.0 VM	Block 2.1.0 VM	Block 2.2.0 VM
	<Mband_GEO><Performance>.									
SRS.01.06_939	The VIIRS SDR Geolocation software shall satisfy constraints specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <Iband_GEO><Performance>.	P	GEO	JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Test	NA	NA
SRS.01.06_940	The VIIRS SDR Geolocation software shall satisfy constraints specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <DNB_GEO><Performance>.	P	GEO	JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Test	NA	NA
SRS.01.06_1144	The VIIRS I-band SDR Terrain-corrected Geolocation algorithm computation shall have a 3-sigma mapping uncertainty at nadir of 1 km.	P	GEO	JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Test	NA	NA
SRS.01.06_1145	The VIIRS I-band SDR Terrain-corrected Geolocation algorithm computation shall have a 3-sigma mapping uncertainty at edge of swath of 3 km.	P	GEO	JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Test	NA	NA
SRS.01.06_1146	The VIIRS M-band SDR Terrain-corrected Geolocation algorithm computation shall have a 3-sigma mapping uncertainty at nadir of 1 km.	P	GEO	JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Test	NA	NA
SRS.01.06_1147	The VIIRS M-band SDR Terrain-corrected Geolocation algorithm computation shall have a 3-sigma	P	GEO	JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Test	NA	NA

Req ID	SRS 06 - Visible Infrared Imager Radiometer Suite	Level 3 Type	Product Type	Mission Effectivity	Allocated To	Block Start	Block End	Block 2.0.0 VM	Block 2.1.0 VM	Block 2.2.0 VM
	mapping uncertainty at edge of swath of 3 km.									
SRS.01.06_1148	The VIIRS Day Night-band SDR Terrain-corrected Geolocation algorithm computation shall have a 3-sigma mapping uncertainty at nadir of 1 km.	P	GEO	JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Test	NA	NA
SRS.01.06_1485	The VIIRS Day Night-band SDR Terrain-corrected Geolocation algorithm computation shall have a 3-sigma mapping uncertainty at edge of swath 3 km.	P	GEO	JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Test	NA	NA
SRS.01.06_69	The VIIRS DNB SDR software shall incorporate a computing algorithm provided for calibrated, top of the atmosphere radiances.	Ap	SDR	S-NPP JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.06_132	The VIIRS Emissive I-band SDR software shall incorporate a computing algorithm provided for calibrated top of atmosphere spectral radiances.	Ap	SDR	S-NPP JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.06_136	The VIIRS Emissive I-band SDR software shall incorporate a computing algorithm provided for calibrated top of atmosphere brightness temperatures.	Ap	SDR	S-NPP JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.06_165	The VIIRS Reflective M-band SDR software shall incorporate a computing algorithm provided for calibrated top-of-atmosphere spectral radiances.	Ap	SDR	S-NPP JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.06_169	The VIIRS Reflective M-band	Ap	SDR	S-NPP	algorithm	2.0.0	3.0.0	Inspection	NA	NA

Req ID	SRS 06 - Visible Infrared Imager Radiometer Suite	Level 3 Type	Product Type	Mission Effectivity	Allocated To	Block Start	Block End	Block 2.0.0 VM	Block 2.1.0 VM	Block 2.2.0 VM
	SDR software shall incorporate a computing algorithm provided for calibrated top-of-atmosphere reflectances.			JPSS-1 JPSS-2	provider					
SRS.01.06_200	The VIIRS Emissive M-band SDR software shall incorporate a computing algorithm provided for calibrated top of atmosphere spectral radiances.	Ap	SDR	S-NPP JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.06_204	The VIIRS Emissive M-band SDR software shall incorporate a computing algorithm provided for calibrated top of atmosphere brightness temperatures.	Ap	SDR	S-NPP JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.06_233	The VIIRS Bright Pixel IP software shall incorporate a computing algorithm provided for determining bright pixels that may contaminate radiometric measurements from surrounding areas.	Ap	IP	S-NPP JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.06_239	The VIIRS On-board Calibrator IP software shall extract a subset of the RDR data as specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <OnBoardCalIP><subsetRDR>.	Ap	IP	S-NPP JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.06_268	The VIIRS Calibrated Dual Gain Band IP software shall incorporate a computing algorithm provided for dual-gain	Ap	IP	S-NPP JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Inspection	NA	NA

Req ID	SRS 06 - Visible Infrared Imager Radiometer Suite	Level 3 Type	Product Type	Mission Effectivity	Allocated To	Block Start	Block End	Block 2.0.0 VM	Block 2.1.0 VM	Block 2.2.0 VM
	band top-of-atmosphere radiances and reflectance values.									
SRS.01.06_1152	The VIIRS RSB AutoCal software shall incorporate a computing algorithm provided for automated calibration of the VIIRS science data.	Ap	AUX	S-NPP JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.06_97	The VIIRS Reflective I-band SDR software shall incorporate a computing algorithm provided for calibrated top-of-atmosphere spectral radiances.	Ap	SDR	S-NPP JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.06_101	The VIIRS Reflective I-band SDR software shall incorporate a computing algorithm provided for calibrated top-of-atmosphere reflectances.	Ap	SDR	S-NPP JPSS-1 JPSS-2	algorithm provider	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.06_90	The VIIRS DNB SDR software shall set the <FillField> values to <FillValue> for <FillCondition> specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <DNB_SDR><fill>.	E	SDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.06_122	The VIIRS Reflective I-band SDR software shall set the <FillField> values to <FillValue> for <FillCondition> specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <Refl_I1-3_SDR><fill>.	E	SDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA

Req ID	SRS 06 - Visible Infrared Imager Radiometer Suite	Level 3 Type	Product Type	Mission Effectivity	Allocated To	Block Start	Block End	Block 2.0.0 VM	Block 2.1.0 VM	Block 2.2.0 VM
SRS.01.06_157	The VIIRS Emissive I-band SDR software shall set the <FillField> values to <FillValue> for <FillCondition> specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <Emiss_I4-5_SDR><fill>.	E	SDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.06_190	The VIIRS Reflective M-band SDR software shall set the <FillField> values to <FillValue> for <FillCondition> specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <Refl_M1-11_SDR><fill>.	E	SDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.06_225	The VIIRS Emissive M-band SDR software shall set the <FillField> values to <FillValue> for <FillCondition> specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <Emiss_M12-16_SDR><fill>.	E	SDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.06_238	The VIIRS Bright Pixel IP software shall set the <FillField> values to <FillValue> for <FillCondition> specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <BrightPixelIP><fill>.	E	IP	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA

Req ID	SRS 06 - Visible Infrared Imager Radiometer Suite	Level 3 Type	Product Type	Mission Effectivity	Allocated To	Block Start	Block End	Block 2.0.0 VM	Block 2.1.0 VM	Block 2.2.0 VM
SRS.01.06_249	The VIIRS SDR Geolocation software shall set the <FillField> values to <FillValue> for <FillCondition> specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <Mband_GEO><fill>.	E	GEO	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.06_937	The VIIRS SDR Geolocation software shall set the <FillField> values to <FillValue> for <FillCondition> specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <Iband_GEO><fill>.	E	GEO	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.06_938	The VIIRS SDR Geolocation software shall set the <FillField> values to <FillValue> for <FillCondition> specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <DNB_GEO><fill>.	E	GEO	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.06_269	The VIIRS Calibrated Dual Gain Band IP software shall set the <FillField> values to <FillValue> for <FillCondition> specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <CalDGB_IP><fill>.	E	SDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA

Req ID	SRS 06 - Visible Infrared Imager Radiometer Suite	Level 3 Type	Product Type	Mission Effectivity	Allocated To	Block Start	Block End	Block 2.0.0 VM	Block 2.1.0 VM	Block 2.2.0 VM
SRS.01.06_73	The VIIRS DNB SDR software shall incorporate inputs specified in Table 3-1.	I	SDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.06_103	The VIIRS Reflective I-band SDR software shall incorporate inputs specified in Table 3-1.	I	SDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.06_138	The VIIRS Emissive I-band SDR software shall incorporate inputs specified in Table 3-1.	I	SDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.06_171	The VIIRS Reflective M-band SDR software shall incorporate inputs specified in Table 3-1.	I	SDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.06_206	The VIIRS Emissive M-band SDR software shall incorporate inputs specified in Table 3-1.	I	SDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.06_236	The VIIRS Bright Pixel IP software shall incorporate inputs specified in Table 3-1.	I	IP	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.06_241	The VIIRS On-board Calibrator IP software shall incorporate inputs specified in Table 3-1.	I	IP	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.06_961	The VIIRS Calibrated Dual Gain Band IP software shall incorporate inputs specified in Table 3-1.	I	IP	JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.06_247	The VIIRS SDR Geolocation software shall incorporate inputs specified in Table 3-1.	I	GEO	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.06_1149	The VIIRS SDR software shall input tables and coefficients specified in Table 3-1 formatted in accordance with JPSS	Ft	SDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA

Req ID	SRS 06 - Visible Infrared Imager Radiometer Suite	Level 3 Type	Product Type	Mission Effectivity	Allocated To	Block Start	Block End	Block 2.0.0 VM	Block 2.1.0 VM	Block 2.2.0 VM
	Algorithm Specification for VIIRS RDR/SDR Vol II - Data Dictionary (474-00448-02-06), Section 7.									
SRS.01.06_1150	The VIIRS SDR geolocation software shall input tables and coefficients specified in Table 3-1 formatted in accordance with JPSS Algorithm Specification for VIIRS RDR/SDR Vol II - Data Dictionary (474-00448-02-06), Section 7.	Ft	GEO	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.06_64	The VIIRS RDR software shall generate the VIIRS Diagnostic RDR from mission data packet APIDs specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <RDR><Diagnostic>.	F	RDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.06_65	The VIIRS RDR software shall generate the VIIRS Telemetry Diagnostic RDR from mission data packet APIDs specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <RDR><TelemetryDiagnostic>.	F	RDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.06_66	The VIIRS RDR software shall generate the VIIRS Memory Dump RDR from mission data packet APIDs specified in the	F	RDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA

Req ID	SRS 06 - Visible Infrared Imager Radiometer Suite	Level 3 Type	Product Type	Mission Effectivity	Allocated To	Block Start	Block End	Block 2.0.0 VM	Block 2.1.0 VM	Block 2.2.0 VM
	JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <RDR><MemoryDump>.									
SRS.01.06_67	The VIIRS RDR software shall generate the VIIRS Telemetry RDR from mission data packet APIDs specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <RDR><Telemetry>.	F	RDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.06_68	The VIIRS RDR software shall generate the VIIRS Science RDR from mission data packet APIDs specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <RDR><Science>.	F	RDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.06_72	The VIIRS DNB SDR software shall generate the VIIRS Day Night Band SDR in conformance with the XML format file in Attachment A.2 of the JPSS Algorithm Specification Vol II: Data Dictionary for VIIRS RDR/SDR (474-00448-02-06).	F	SDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.06_100	The VIIRS Reflective I-band SDR software shall generate the VIIRS Reflective I-Band SDR for I-bands 1, 2, and 3, conforming with the XML format file in	F	SDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA

Req ID	SRS 06 - Visible Infrared Imager Radiometer Suite	Level 3 Type	Product Type	Mission Effectivity	Allocated To	Block Start	Block End	Block 2.0.0 VM	Block 2.1.0 VM	Block 2.2.0 VM
	Attachments A.3, A.4, A.5, of the JPSS Algorithm Specification Vol II: Data Dictionary for VIIRS RDR/SDR (474-00448-02-06).									
SRS.01.06_135	The VIIRS Emissive I-band SDR software shall generate the VIIRS I Band SDR for bands I4 and I5, conforming with the XML format file in Attachments A.6 and A.7 of the JPSS Algorithm Specification Vol II: Data Dictionary for VIIRS RDR/SDR (474-00448-02-06).	F	SDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.06_168	The VIIRS Reflective M-band SDR software shall generate the VIIRS Reflective M-band SDR for M bands 1-11, conforming with the XML format file in Attachments A.9-A.19 of the JPSS Algorithm Specification Vol II: Data Dictionary for VIIRS RDR/SDR (474-00448-02-06).	F	SDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.06_203	The VIIRS Emissive M-band SDR software shall generate the VIIRS Emissive M-Band SDR for M bands 12-16, conforming with the XML format file in Attachments A.20-A.24 of the JPSS Algorithm Specification Vol II: Data Dictionary for VIIRS RDR/SDR (474-00448-02-06).	F	SDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.06_235	The VIIRS Bright Pixel IP	F	IP	S-NPP	CGS	2.0.0	3.0.0	Inspection	NA	NA

Req ID	SRS 06 - Visible Infrared Imager Radiometer Suite	Level 3 Type	Product Type	Mission Effectivity	Allocated To	Block Start	Block End	Block 2.0.0 VM	Block 2.1.0 VM	Block 2.2.0 VM
	software shall generate the VIIRS Bright Pixel IP conforming with the XML format file in Attachments A.28 of the JPSS Algorithm Specification Vol II: Data Dictionary for VIIRS RDR/SDR (474-00448-02-06).			JPSS-1 JPSS-2						
SRS.01.06_240	The VIIRS On-board Calibrator IP software shall generate the VIIRS On-board Calibrator IP, conforming with the XML format file in Attachments A.29 of the JPSS Algorithm Specification Vol II: Data Dictionary for VIIRS RDR/SDR (474-00448-02-06).	F	IP	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.06_242	The VIIRS M-band SDR geolocation software shall generate the M-band SDR geolocation product in conformance with the XML format file in Attachment A.25 of the JPSS Algorithm Specification Vol II: Data Dictionary for VIIRS RDR/SDR (474-00448-02-06).	Fg	GEO	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.06_243	The VIIRS I-band SDR geolocation software shall generate the I-band SDR geolocation product in conformance with the XML format file in Attachment A.8 of VIIRS RDR/SDR Algorithm Specification Vol II: Data	Fg	GEO	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA

Req ID	SRS 06 - Visible Infrared Imager Radiometer Suite	Level 3 Type	Product Type	Mission Effectivity	Allocated To	Block Start	Block End	Block 2.0.0 VM	Block 2.1.0 VM	Block 2.2.0 VM
	Dictionary for VIIRS RDR/SDR (474-00448-02-06).									
SRS.01.06_244	The VIIRS DNB SDR geolocation software shall generate the DNB SDR geolocation product in conformance with the XML format file in Attachment A.1 of the JPSS Algorithm Specification Vol II: Data Dictionary for VIIRS RDR/SDR (474-00448-02-06).	Fg	GEO	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.06_245	The VIIRS M-band SDR geolocation software shall generate the terrain corrected M-band SDR geolocation in conformance with the XML format file in Attachment A.27 of JPSS Algorithm Specification Vol II: Data Dictionary for VIIRS RDR/SDR (474-00448-02-06).	Fg	GEO	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.06_246	The VIIRS I-band SDR geolocation software shall generate the terrain-corrected I-band SDR geolocation in conformance with the XML format file in Attachment A.26 of the JPSS Algorithm Specification Vol II: Data Dictionary for VIIRS RDR/SDR (474-00448-02-06).	Fg	GEO	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.06_265	The VIIRS RSB Auto Cal software shall generate the VIIRS-RSBAUTOCAL History,	F	AUX	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA

Req ID	SRS 06 - Visible Infrared Imager Radiometer Suite	Level 3 Type	Product Type	Mission Effectivity	Allocated To	Block Start	Block End	Block 2.0.0 VM	Block 2.1.0 VM	Block 2.2.0 VM
	conforming with the XML format file in Attachments A.30 the JPSS Algorithm Specification Vol II: Data Dictionary for VIIRS RDR/SDR (474-00448-02-06).									
SRS.01.06_266	The VIIRS Calibrated Dual Gain Band IP software shall generate the VIIRS Calibrated Dual Gain Band IP conforming with the XML format file in Attachments A.31 of the JPSS Algorithm Specification Vol II: Data Dictionary for VIIRS RDR/SDR (474-00448-02-06).	F	IP	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.06_474	The VIIRS SDR software shall generate the VIIRS Un-Aggregated M-band Dual-Gain Band Geolocation product in conformance with the XML format file in Attachment A.32 of the JPSS Algorithm Specification Vol II: Data Dictionary for VIIRS RDR/SDR (474-00448-02-06).	F	GEO	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.06_2209	The VIIRS DNB SDR software shall process SDRs for sensor day or night modes as specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <DNB_SDR><dayNight>.	Fm	SDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.06_2210	The VIIRS Reflective I-band SDR software shall process SDRs for	Fm	SDR	S-NPP JPSS-1	CGS	2.0.0	3.0.0	Inspection	NA	NA

Req ID	SRS 06 - Visible Infrared Imager Radiometer Suite	Level 3 Type	Product Type	Mission Effectivity	Allocated To	Block Start	Block End	Block 2.0.0 VM	Block 2.1.0 VM	Block 2.2.0 VM
	sensor day or night modes as specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <Refl_I1-3_SDR><dayNight>.			JPSS-2						
SRS.01.06_2211	The VIIRS Emissive I-band SDR software shall process SDRs for sensor day or night modes as specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <Emiss_I4-5_SDR><dayNight>.	Fm	SDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.06_2212	The VIIRS Reflective M-band SDR software shall process SDRs for sensor day or night modes as specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <Refl_M1-11_SDR><dayNight>.	Fm	SDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.06_2213	The VIIRS Emissive M-band SDR software shall process SDRs for sensor day or night modes as specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <Emiss_M12-16_SDR><dayNight>.	Fm	SDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.06_96	The VIIRS DNB SDR software shall report for each <FlagScope>	Q	SDR	S-NPP JPSS-1	CGS	2.0.0	3.0.0	Inspection	NA	NA

Req ID	SRS 06 - Visible Infrared Imager Radiometer Suite	Level 3 Type	Product Type	Mission Effectivity	Allocated To	Block Start	Block End	Block 2.0.0 VM	Block 2.1.0 VM	Block 2.2.0 VM
	quality flags using <FlagLogic> as specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <DNB_SDR><QF>.			JPSS-2						
SRS.01.06_131	The VIIRS Reflective I-band SDR software shall report for each <FlagScope> quality flags using <FlagLogic> as specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <Refl_I1-3_SDR><QF>.	Q	SDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.06_164	The VIIRS Emissive I-band SDR software shall report for each <FlagScope> quality flags using <FlagLogic> as specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <Emiss_I4-5_SDR><QF>.	Q	SDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.06_199	The VIIRS Reflective M-band SDR software shall report for each <FlagScope> quality flags using <FlagLogic> as specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <Refl_M1-11_SDR><QF>.	Q	SDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.06_232	The VIIRS Emissive M-band SDR software shall report for	Q	SDR	S-NPP JPSS-1	CGS	2.0.0	3.0.0	Inspection	NA	NA

Req ID	SRS 06 - Visible Infrared Imager Radiometer Suite	Level 3 Type	Product Type	Mission Effectivity	Allocated To	Block Start	Block End	Block 2.0.0 VM	Block 2.1.0 VM	Block 2.2.0 VM
	each <FlagScope> quality flags using <FlagLogic> as specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <Emiss_M12-16_SDR><QF>.			JPSS-2						
SRS.01.06_237	The VIIRS Bright Pixel IP software shall report for each <FlagScope> quality flags using <FlagLogic> as specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <BrightPixelIP><QF>.	Q	IP	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.06_264	The VIIRS SDR geolocation software shall report for each <FlagScope> quality flags using <FlagLogic> as specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <Mband_GEO><QF>.	Q	GEO	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.06_957	The VIIRS SDR geolocation software shall report for each <FlagScope> quality flags using <FlagLogic> as specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <Iband_GEO><QF>.	Q	GEO	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.06_958	The VIIRS SDR geolocation software shall report for each	Q	GEO	JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA

Req ID	SRS 06 - Visible Infrared Imager Radiometer Suite	Level 3 Type	Product Type	Mission Effectivity	Allocated To	Block Start	Block End	Block 2.0.0 VM	Block 2.1.0 VM	Block 2.2.0 VM
	<FlagScope> quality flags using <FlagLogic> as specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <DNB_GEO><QF>.									
SRS.01.06_89	The VIIRS DNB SDR software shall send data quality notifications to the operator for conditions specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <DNB_SDR><Notifications>.	N	SDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.06_121	The VIIRS Reflective I-band SDR software shall send data quality notifications to the operator for conditions specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <Refl_I1-3_SDR><Notifications>.	N	SDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.06_156	The VIIRS Emissive I-band SDR software shall send data quality notifications to the operator for conditions specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <Emiss_I4-5_SDR><Notifications>.	N	SDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.06_189	The VIIRS Reflective M-band SDR software shall send data	N	SDR	S-NPP JPSS-1	CGS	2.0.0	3.0.0	Inspection	NA	NA

Req ID	SRS 06 - Visible Infrared Imager Radiometer Suite	Level 3 Type	Product Type	Mission Effectivity	Allocated To	Block Start	Block End	Block 2.0.0 VM	Block 2.1.0 VM	Block 2.2.0 VM
	quality notifications to the operator for conditions specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <Refl_M1-11_SDR><Notifications>.			JPSS-2						
SRS.01.06_224	The VIIRS Emissive M-band SDR software shall send data quality notifications to the operator for conditions specified in the JPSS Algorithm Specification Vol IV: SRSPF for VIIRS RDR/SDR (474-00448-04-06) <Emiss_M12-16_SDR><Notifications>.	N	SDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.06_929	The JPSS Common Ground System shall execute the DNB radiance algorithm.	Ai	SDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.06_962	The Common Ground System shall execute the Bright Pixel algorithm.	Ai	IP	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.06_963	The Common Ground System shall execute the Dual Gain Band calibration algorithm.	Ai	IP	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.06_964	The Common Ground System shall execute the on-board calibration algorithm.	Ai	IP	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.06_1153	The JPSS Common Ground System shall execute the RSB auto calibration algorithm.	Ai	AUX	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.06_930	The JPSS Common Ground	Ai	SDR	S-NPP	CGS	2.0.0	3.0.0	Inspection	NA	NA

Req ID	SRS 06 - Visible Infrared Imager Radiometer Suite	Level 3 Type	Product Type	Mission Effectivity	Allocated To	Block Start	Block End	Block 2.0.0 VM	Block 2.1.0 VM	Block 2.2.0 VM
	System shall execute the reflective I-band SDR algorithm.			JPSS-1 JPSS-2						
SRS.01.06_931	The JPSS Common Ground System shall execute the emissive I-band SDR algorithm.	Ai	SDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.06_932	The JPSS Common Ground System shall execute the reflective M-band SDR algorithm.	Ai	SDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.06_933	The JPSS Common Ground System shall execute the emissive M-band SDR algorithm.	Ai	SDR	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.06_934	The JPSS Common Ground System shall execute the M-band geolocation algorithms.	Ai	GEO	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.06_935	The JPSS Common Ground System shall execute the I-band geolocation algorithms.	Ai	GEO	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA
SRS.01.06_936	The JPSS Common Ground System shall execute the VIIRS DNB geolocation algorithm.	Ai	GEO	S-NPP JPSS-1 JPSS-2	CGS	2.0.0	3.0.0	Inspection	NA	NA