

Project	Software Baseline
Name: SMOS_L1OP	Identity: L1OP
Acronym: SMOS_L1OP	Version: V07.0.0
Project Manager	PA Verification
Name: Jose Barbosa	Name: Antonio Gutierrez
Signature:	Signature:

Changes implemented in this release:

- Implemented the ALL-LICEF mode for PMS Gain calibration in Unoise
- Implemented ALL-LICEF mode for visibility denormalization in L1a
- Implemented ALL-LICEF mode for Antenna Temperature estimation
- Implemented Gkj correction factor
- Updated ADFs to support ALL-LICEF mode and Gkj correction
- Updated UAV, CRS and all Science Product formats to support ALL-LICEF mode
- Updated the Task Tables for FTTgen (PLM ADF is now mandatory input)
- PR solving:
 - L1P-PR-0573 – The annotated estimated SUN brightness temperature has negative value, which is not a physical value. The origin of the negative value should be investigated and a correction should be proposed / discussed.
 - After discussion at Cal Team Meetings, it was decided that in case of Sun BT with negative values, they will be set to 0.
 - L1P-PR-0574 – The bit-16 in the FLAG field of the L1C shall be set in case of BT outside the physical range [below 0K or above 350K]. The snapshot ID 67632816 in the attached TDS has BT values outside the physical range but bit-16 is not set (the maximum value for the flag is 29909 binary as 0111010011010101 (LSb on the right)).
 - The RFI pixel flag for this threshold comparison should be set independently of the presence of RFI from the RFI List, so the test on unphysical temperatures was moved to a different position in the L1c processor.
 - L1P-PR-0576 – In case L1b snapshots are discarded due to consolidation of the L1c DGG measurements the log level shall be INFO. There is no need of a specific TDS because the problem is systematic and it happens for any run of the L1C executable (L1OP V620).
 - The logging of Discarded Scenes will now be at log level INFO and not WARNING
 - L1P-PR-0577 – The List_of_Reference_Data_Sets_L0_HKTM is missing in the HDR of the TLM1A data type. The data set structure shall be added in agreement with the L1 product specification v5.31
 - DME has implemented the new schema format and the modification in the L1OP. This was included in the formal schema release and product specification for v700
 - L1P-PR-0579 – L1C v620 output product contains DGGs points with zero BT Records.
 - The problem was caused by an anomaly, when all the thermistors in ARM B failed during most of an orbit. Solution agreed with ESA is to discard all scenes at L1a which had all the thermistors in one section failing. Added warning for the number of scenes discarded in L1c processor.

SPR/NCR(s) Closed	L1P-PR-572, L1P-PR-573, L1P-PR-574, L1OP-PR-575, L1P-PR-0576, L1P-PR-0577, L1P-PR-0578, L1P-PR-0579
Legacy PRs closed	
ECR(s) Closed	N/A

COTS/CFI that must be present in the system:

Red Hat Linux	ES 5.0
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COTS/CFI version for this release:		
Earth Explorer CFI Software		3.7.4, 04/June/2012
GNU C++ Compiler		4.1.2
SMOS DPGS XML Schemas		V7-00-00
XML R/W API		4.2.1
GSL		1.8.0
Applicable documents this release:		
Code	Title	Issue
SO-SOW-ESA-GS-6647	Statement of Work	1.2, 10/12/09
SO-TN-IDR-GS-0003	SMOS Level 0 Product specification	3.5
PE-TN-ESA-GS-0001	Earth Explorer File Format Standard	1.4, 13/06/03
XSMS-GSEG-EOPG-TN-05-0006	Tailoring of the Earth Explorer File Format Standard for the SMOS Ground Segment	1.0
SO-ID-IDR-GS-0016	SMOS DGPS Master ICD	3.6
SO-TN-IDR-GS-0005	SMOS Level 1 and Auxiliary Data Products Specification	5.35, 30/06/2015
SO-MA-IDR-GS-0004	SMOS DPGS XML Schema Guidelines	2.1
SO-TN-IDR-GS-0011	SMOS DPGS Reports Specification	2.5, 19/02/10
ECSS-E-40 Part 1B	Space Engineering – Software – Part 1: Principles and Requirements	-
ECSS-E-40 Part 2B	Space Engineering – Software – Part 2: Document Requirements Definition	-
ESA-ID-ACS-GS-0001	PDS-IPF ICD Generic Interface Guidelines	1.1
Reference documents this release:		
Code	Title	Issue
SO-DS-DME-L1OP-0007	SMOS L0 to L1a Data Processing Model	2.19, 09/07/15
SO-DS-DME-L1OP-0008	SMOS L1a to L1b Data Processing Model	2.20, 09/07/15
SO-DS-DME-L1OP-0009	SMOS L1b to L1c Data Processing Model	2.14, 25/03/14
XSMS-GSEG-EOPG-TN-09-0004	SMOS L1OP-V3 Orchestration Baseline	12.7, 12/02/10
SO-RS-ESA-SYS-0555	SMOS System Requirements Document	4.2
SO-ID-IDR-GS-0009	XML R/W API Software User Manual	2.1, 09/07/10
XSMS-GSEG-EOPG-TN-09-0004	SMOS L1OP V3 Orchestration Baseline	2.8 20/06/13
SO-ID-IDR-GS-0008	SMOS DPGS Level 1 Processor ICD	4.16 (Not fully applicable)
Release Contents:		

- L1OP installer: SMOS_L1OP_Proc_07_00_FPC_201506052245.sh
- L1OP uninstaller: uninstall_L1OP_pkg.sh
- TDS 700: L1OP_TDS_v700 (containing also ADFs used)
- Validation Plans & Reports:
 - SO-SVVP-AT-DME-L1OP-0313_Specific-and-System-Validation-and-Verification-Plan-Acceptance-Tests-E1-R1.doc
 - SO-SVVR-AT-DME-L1OP-0315_Specific-and-System-Validation-and-Verification-Report-Acceptance-Tests_E1_R1.doc
 - SO-SVVP-ST-DME-L1OP-0312_Specific-and-System-Validation-and-Verification-Plan-System-Tests_E1_R1.doc
 - SO-SVVR-ST-DME-L1OP-0314_Specific-and-System-Validation-and-Verification-Report-System-Tests_E1_R1.doc
- Test Data Set Description
 - SO-TDSD-DME-L1OP-0316-TDS-700-Description-E1-R0.doc
- SUM
 - SO-SUM-DME-L1OP-0278-v700-Software-Users-Manual_E1_R5.doc
- DPMs:
 - SO-DS-DME-L1OP-0008_DPML1b-Data-Processing-Models_E2_R19.doc
 - SO-DS-DME-L1OP-0008_DPML1b-Data-Processing-Models_E2_R20.doc
 - SO-DS-DME-L1OP-0009_DPML1c-Data-Processing-Models_E2_R14.doc
- Table Generation Requirements Document:
 - SO-TGRD-DME-L1OP-0023_Table-Generation-Requirements-Document-E3-R8.doc
- L1 Product Specification
 - SO-TN-IDR-GS-0005_v5.34_L1 Spec_2015-06-05.doc