

SMOS L10P

Specific and System Validation and Verification Plan - Acceptance Tests

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1. INTRODUCTION

1.1. Purpose and Scope

This document describes the tests planned to be executed at the L1OP FAT, in the presence of ESA. The tests are a subset of the tests described in [AD 04].

The intended readership for this document is ESA/ESRIN.

1.2. Acronyms and Abbreviations

The acronyms and abbreviations used in this document are the following ones:

Acronym	Description
ADF	Auxiliary Data File
BT	Brightness Temperature
DME	DEIMOS Engenharia
L1OP	Level 1 Operational Processor
L1PP	Level 1 Prototype Processor
PFW	Processing Frame Work
SOM	System Operations Manual
SPR	Software Problem Report
TDS	Test Data Set
TEC	Total Electron Content
LO	Local Oscillator
JO	Job Order

2. RELATED DOCUMENTS

2.1. Applicable Documents

Table 1: Applicable documents

Reference	Code	Title	Issue	Date
[AD 01]	SO-DS-DME-L1PP-0008	SMOS L1 Processor L1a to L1b Data Processing Model	2.19	09/07/15
[AD 02]	SO-DS-DME-L1PP-0009	SMOS L1 Processor L1c Data Processing Model	2.14	25/03/14
[AD 03]	SO-TN-IDR-GS-0005	SMOS Level 1 and Auxiliary Data Products Specifications	5.35	30/06/15
[AD 04]	SO-SVVP-ST-DME-L1OP-0312	L1OP v600 Specific and System Validation and Verification Plan System Tests	1.0	05/06/14

2.2. Reference Documents

Table 2: Reference documents

Reference	Code/Author	Title	Issue	Date
[RD 01]	R.Oliva	Mapping Equations	4.0	17/09/12
[RD02]	J. Tenerelli	Email: List of Reference Pacific Orbits		20/03/12

3. ACCEPTANCE TESTS

The tests selected to be ran at L1OP v700 FAT are presented in this section and their specification has been extracted from the Specific and System Validation and Verification Plan. For more details on how to execute the tests, please refer to [AD 4].

3.1. L1OP Installation Tests and code stability

Identifier:	test-installation
Purpose	The purpose of this test is to verify that the L1OP v700 can be correctly installed through the delivered installation script.
Test Items	1)L1OP v700 installation script
Pre-requisites	- Availability of the installation script - Availability of the smosnrt SVN repository
Test Type	Installation

3.2. genCalFiles-LSC

Identifier:	genCalFiles-LSC
Purpose	Generate the calibration files to be used in science data processing for Land Sea Contamination scientific tests.
Test Items	Input files taken from Calibration Repository from smos-exchange FTP. The manoeuvres used are: <ul style="list-style-type: none"> - 20110113T154400_20110113T181520_LONG - 20110309T150553_20110309T162806_NIR - 20110310T021924_20110310T045048_LONG - 20110504T025753_20110504T042006_NIR
Pre-requisites	- ANIR files generated with L1PP v600 for the 02-Feb-2010 manoeuvre, SM_TEST_MIR_ANIR1A_20100202T171837_20100202T172009_600_002_0 Note: this product does not contain leakage and cross-coupling information. - L1OP Processors are correctly installed.
Test Type	Telemetry and Calibration

3.3. test-LSC

Identifier:	test-LSC
Purpose	<p>Test processing from L0 to L1c data acquired in measurement mode in Full polarisation with LO injection every 10 minutes.</p> <p>The All-LICEF data consists of a descending orbit over the Pacific Ocean for land-sea contamination assessments.</p>
Test Items	<p>Input files provided by DPGS Rolling FTP Archive and compiled by DME.</p> <p>The products used are:</p> <ul style="list-style-type: none"> - SM_OPER_MIR_CORD0__20110502T015500_20110502T023501_302_001_1 - SM_OPER_MIR_CORD0__20110502T024500_20110502T032501_302_001_1 - SM_OPER_MIR_CORD0__20110502T033500_20110502T041501_302_001_1 - SM_REPR_MIR_SC_F0__20110502T024042_20110502T033444_305_001_3 - SM_OPER_TLM_MIRA0__20110502T014030_20110502T024441_302_001_1 - SM_OPER_TLM_MIRA0__20110502T023033_20110502T033444_302_001_1 - SM_OPER_TLM_MIRA0__20110502T032035_20110502T042446_302_001_1
Pre-requisites	<ul style="list-style-type: none"> - L1OP genCalFiles-LSC scenario output: <ul style="list-style-type: none"> o SM_TEST_MIR_ANIR1A_20110504T033207_20110504T034552_700_001_1 o SM_TEST_MIR_CRSD1A_20110310T021924_20110310T044842_700_001_1 o SM_TEST_MIR_UAVD1A_20110310T021942_20110310T045040_700_001_1 - L1OP scenario prepared. - L1OP Processors are correctly installed.
Test Type	Scientific

3.4. SPR Verification Tests

3.4.1. L1P-PR-0576, L1P-PR-0577

Identifier:	L1P-PR-0576, L1P-PR-0577
Purpose	To check that PRs are corrected
Test Items	TDS of the PR, taken from the Scientific-Test: 3.3
Pre-requisites	<ul style="list-style-type: none"> - L1OP Processors correctly installed. - Test successfully deployed. <p>A successful execution of the Scientific-Test: 3.3.</p>

Test Type	SPR verification
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3.4.2. L1P-PR-0573

Identifier:	L1P-PR-0573
Purpose	To check that PR-0573 is corrected.
Test Items	TDS of the PR, taken from the ideas-nas server
Pre-requisites	<ul style="list-style-type: none"> - L1OP Processors correctly installed. - Test successfully deployed. A successful execution of the test L1P-PR-0573.
Test Type	SPR verification

3.4.3. L1P-PR-0574

Identifier:	L1P-PR-0574
Purpose	To check that PR-0574 is corrected.
Test Items	TDS of the PR, taken from the ideas-nas server
Pre-requisites	<ul style="list-style-type: none"> - L1OP Processors correctly installed. - Test successfully deployed. A successful execution of the test L1P-PR-0574.
Test Type	SPR verification

3.4.4. L1P-PR-0579

Identifier:	L1P-PR-0579
Purpose	To check that PR-0579 is corrected.
Test Items	TDS of the PR, taken from the ideas-nas server
Pre-requisites	<ul style="list-style-type: none"> - L1OP Processors correctly installed. - Test successfully deployed. A successful execution of the test L1P-PR-0579.
Test Type	SPR verification

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