
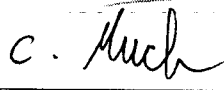
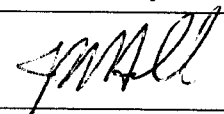

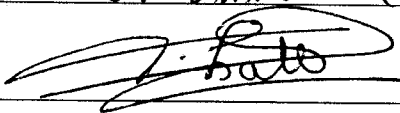
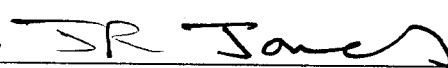
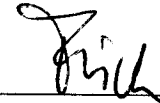


Title: **Herschel Satellite IST – Instruments Commissioning – S/C Configuration**

CI-No: **100000**

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Distribution: See Distribution List (last page)

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Issue	Date	Sheet	Description of Change	Release
1	01/07/2008		Initial version	

Table of Content

1	Scope	7
1.1	Objective	7
1.2	Operational Flow	7
2	Documents/Drawings	9
2.1	Applicable Documents	9
2.2	Reference Documents	9
2.3	Other Documents	9
2.4	Acronyms	9
3	Requirements to be verified	10
4	Configuration	11
4.1	Herschel S/C Configuration	11
4.1.1	Hardware Configuration	11
4.1.2	Software Configuration	11
4.1.3	Test Configuration	11
4.1.4	Simulated Equipments	11
4.2	Set-up	11
5	Conditions	12
5.1	Personnel	12
5.2	Environmental	12
5.3	General Precautions and Safety	12
5.3.1	General Safety Requirements, Precautions	12
5.3.2	ESD constraints	12
5.3.3	Special QA Requirements	12
5.4	GSE	12
5.4.1	MGSE	12
5.4.2	CVSE	13
5.4.3	EGSE	13
5.4.4	OGSE	13
5.4.5	Special Equipment	13

6	Verification Requirements and Test Criteria	14
7	Test Execution Step-by-Step Procedure	15
7.1	INSTRUMENT'S TEST CASE SELECTION	15
7.2	SPIRE COMMISSIONING	17
7.3	PACS COMMISSIONING	31
7.4	HIFI COMMISSIONING	45
8	Summary Sheets	59
8.1	Procedure Variation Summary	60
8.2	Non Conformance Report (NCR) Summary	61
8.3	Sign-off Sheet	62

Table of Figures

Figure 1: S/C Configuration for Instrument Commissioning.....8

List of Tables

Table 9.1-1: Procedure Variation Sheet60
Table 9.2-1: Non-Conformance Record Sheet61

1 Scope

1.1 Objective

This procedure provides the final part of the S/C configuration for IST Instrument Commissioning tests as defined in AD1 (note that the S/C configuration is different for each Instrument's commissioning test).

The initial basic S/C configuration for IST Instrument Commissioning will be performed using AD-2 prior to execution of this procedure.

Both this procedure and AD-2 are called from the corresponding Instrument specific commissioning procedure (refs. RD-5, RD-6 & RD-7).

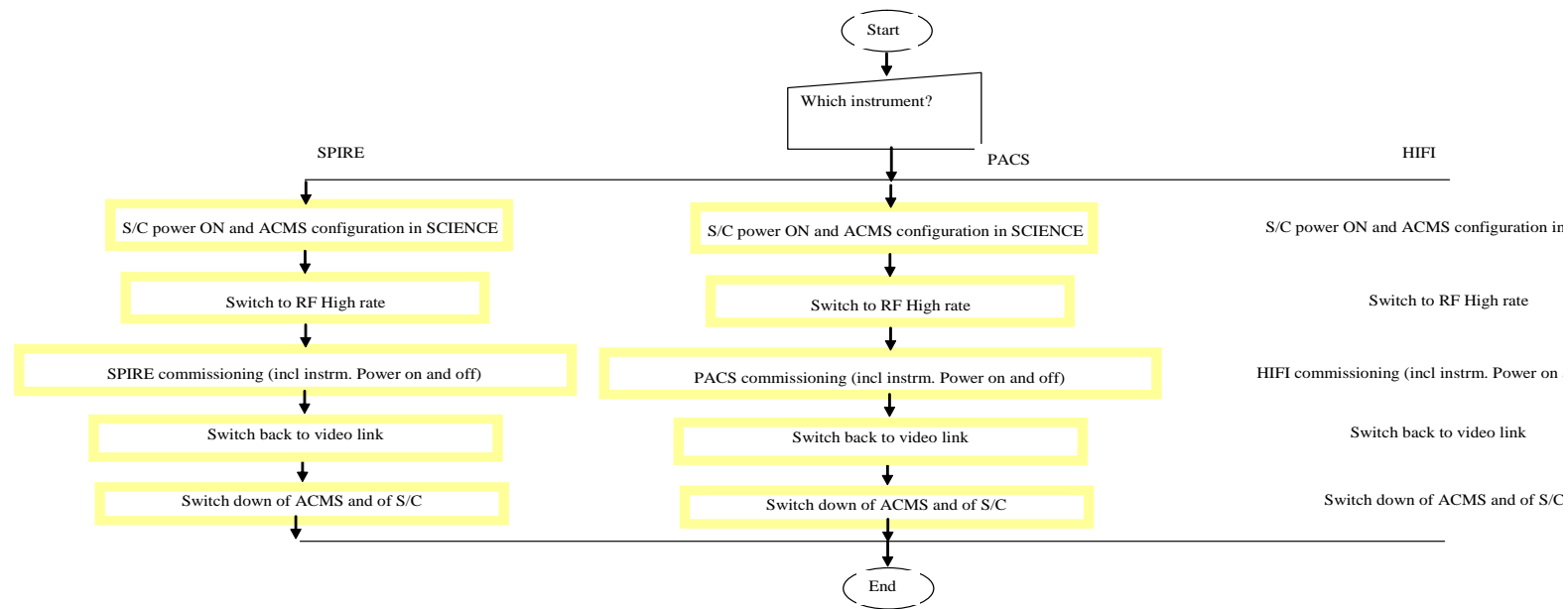
At the end of the commissioning procedure, this procedure is called again to re-establish the umbilical link and switch off the RF.

1.2 Operational Flow

The overall flow of the Instruments Commissioning is described in the following schema.

In chapter 7 the detailed step-by-step procedure is provided

Figure 1: S/C Specific Configuration for Instrument Commissioning



2 Documents/Drawings

This document incorporates, by dated or undated references, provisions from other publications. These normative references are cited at appropriate places in the text and publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these apply to this document only when incorporated into it by amendment or revision. For undated references, the latest edition of the publication referred to apply.

2.1 Applicable Documents

- AD-1 Herschel Integrated Satellite Test Specification
H-P-2-ASP-SP-0939, Issue 6 redmarked
- AD-2 Leading Procedure for Herschel Integrated Satellite Test 'IST'
HP-2-ASED-TP-0134 issue 4

2.2 Reference Documents

- RD-1 Herschel SVM User Manual
H-P-MA-AI-0001
- RD-2 Herschel/Planck List of Acronyms
H-P-ASP-LI-0077
- RD-3 Not Used
- RD-4 Not Used
- RD-5 HP-2-ASED-TP-0217 IST Instrument Commissioning: SPIRE Cold
Functional Test
- RD-6 HP-2-ASED-TP-0218 IST Instrument Commissioning: PACS FM FDIR & Full
Functional Test
- RD-7 HP-2-ASED-TP-0188 IST Instrument Commissioning: HIFI Performance &
Peak-Up Test

2.3 Other Documents

None

2.4 Acronyms

Acronyms are specified in RD-2 and are therefore not listed in this document.

3 Requirements to be verified

AD-1 chapter 5.8.4

4 Configuration

4.1 Herschel S/C Configuration

Refer to AD-2

4.1.1 Hardware Configuration

Refer to AD-2

4.1.2 Software Configuration

Refer to AD-2

4.1.3 Test Configuration

Refer to AD-2

4.1.4 Simulated Equipments

Refer to AD-2

4.2 Set-up

Refer to AD-2

5 Conditions

5.1 Personnel

Refer to AD-2

5.2 Environmental

Refer to AD-2

5.3 General Precautions and Safety

Refer to AD-2

5.3.1 *General Safety Requirements, Precautions*

Refer to AD-2

5.3.2 *ESD constraints*

Refer to AD-2

5.3.3 *Special QA Requirements*

Refer to AD-2

5.4 GSE

Refer to AD-2

5.4.1 *MGSE*

Refer to AD-2

5.4.2 CVSE

Refer to AD-2

5.4.3 EGSE

5.4.3.1 EGSE Hardware Configuration

Refer to AD-2

5.4.3.2 EGSE User Software

Refer to AD-2

5.4.3.3 Grounding Configuration

Refer to AD-2

5.4.3.4 Test Equipment

Refer to AD-2

5.4.3.5 Data Acquisition System

Refer to AD-2

5.4.4 OGSE

Refer to AD-2

5.4.5 Special Equipment

Refer to AD-2

6 Verification Requirements and Test Criteria

PASS/FAIL CRITERIA

At each test stage completion, the test success is determined comparing the results obtained against the expected values.

If the compliance between obtained and expected values has been met, and authorisation to proceed with the next stage of the test is given, then the actual test stage must be considered satisfactorily completed.

The success of the overall testing activities is determined from the satisfactory completion of all test stages.

Successful criteria to be satisfied in each test stage shall be:

- Test conditions according to specification requirement;
- Complete verification of the requirement aspects according to the test specification [AD-1];
- Fulfilment of test results with respect to required data;
- Verification that all the TM parameters used to monitor the SVM do not exceed the limit thresholds loaded in the HPSDB (OOL display);
- Verification that the TM(5,2), TM(5,4) and TM(1,8) received event reports are only those ones expected to fulfil the pass test criteria.

7 Test Execution Step-by-Step Procedure

7.1 INSTRUMENT'S TEST CASE SELECTION

Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
1.	Enter the following In the CCS Test Console: <i>callasync</i> Z010999MCVT130_IST_INSTR_COMMISSIONING	PASS					
2.	During Z010999MCVT130_IST_INSTR_COMMISSIONING STARTINSTRUMENTS COMMISSIONING, Section 5.8.4 ⇒ Click the button "YES" to proceed	YES			If NO, the sequence is terminated.		

Test location:	Operator	Product-Assurance:	Date:
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Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
3.	<p>Z010999MCVT130_IST_INSTR_COMMISSIONING Changes status to "PROMPTING" in test conductor console with the following message</p> <p>"Which Instruments commissioning test case?(HIFI/PAS/SPIRE)"</p> <p>⇒ type the desired instrument's name, then click button "OK"and proceed following the prompts in the master sequence window</p>				<p>For SPIRE: execute §7.2 For PACS: execute §7.3 For HIFI: execute §7.4</p> <p>of this procedure.</p>		

Test location:	Operator	Product-Assurance:	Date:
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7.2 SPIRE COMMISSIONING

Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
4.	<p><i>During</i> Z010999MCVT130_IST_INSTR_COMMISSIONING Configuration of the IST section 5.8.4.5.1 SPIRE COMMISSIONING “</p> <p><i>⇒ Click the button "Confirm" to proceed</i></p>	CONFIRM					
5.	<p><i>During</i> Z010999MCVT130_IST_INSTR_COMMISSIONING</p> <p>" TT&C SCOE CONNECTION"</p> <p><i>⇒ Click the button "Confirm" to proceed</i></p>	CONFIRM			Y102989ETVT021_TTC_SCOE_ON is called		
6.	<p><i>During</i> Z010999MCVT130_IST_INSTR_COMMISSIONING</p> <p>"CDMS setting for separation"</p> <p><i>⇒ Click the button "Confirm" to proceed</i></p>	CONFIRM			A102109SPVT202_ACM S_STATUS_H is called asynchronously and D102159SCVT138_IST_LAUNCH_SUNACQ synchronously		

Test location:	Operator	Product-Assurance:	Date:
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Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
7.	<p><i>During ...</i> <i>D103159SCVT138_IST_LAUNCH_SUNACQ</i></p> <p>⇒ <i>Wait, switch to script ...ACMS_CONFIG25</i></p>	PASS					
8.	<p><i>During A102109SPVT103_ACMS_CONFIG25</i></p> <p>⇒ <i>enter option 88, to go to Main Menu 3</i> ⇒ <i>Click the button "OK"</i> ⇒ <i>then press "Continue"</i></p>	88 OK CONTINUE					

Test location:	Operator	Product-Assurance:	Date:
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Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
9.	<p>During A102109SPVT103_ACMS_CONFIG25 (1,6,4,5,20,99,88)</p> <p>SEPARATION (open separation straps) Main Menu 3.0: option 2</p> <p>⇒ Click the button "OK" and then ⇒ Click the button "Continue"</p>	<p>2 OK CONTINUE</p>					
10.	<p>During A102109SPVT034_ACMS_SAM_MON</p> <p>Do you want to continue to monitor SAM Sun Pointing mode?</p> <p>⇒ Enter your choice: no</p>	NO					
11.	<p>At end of D102159SCVT138_IST_LAUNCH_SUNACQ</p> <p>⇒ Click the button "End TS!" to proceed</p>	ENDTS					
12.	<p>Back to Master Script, Z010999MCVT130_IST_INSTR_COMMISSIONING</p> <p>TRANSITION TO NOMINAL</p> <p>⇒ Click the button "Confirm" to proceed</p>	CONFIRM					

Test location:	Operator	Product-Assurance:	Date:
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Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
13.	Script D102159SCVT137_IST_SUNACQ_NOM shall pop-up. Check that script ends without any 'No-Go' ⇒ Click the button "End TS!" to proceed	ENDTS					
14.	During Z010999MCVT130_IST_INSTR_COMMISSIONING At the prompt "Command ACMS (via OCM/Earth) to SCM/Earth. In parallel, continue with the master " ⇒ Click the button "OK" to proceed ⇒ Perform steps 15 to 25 (ACMS in SCM) in parallel with the following ones 26 –28 (PCDU transition, SREM)	OK					
15.	During A102109SPVT103_ACMS_CONFIG25 Select Transition to OCM. Main Menu 4.0 SAM Phase: Option 6 ⇒ Click the button "OK" and then ⇒ Click the button "Continue" to proceed	6 OK CONTINUE					
16.	During A102109SPVT036_ACMS_STR_ON Do you want to change the current STR in use? Type no ⇒ Click the button "OK" to proceed	NO					

Test location:	Operator	Product-Assurance:	Date:
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Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
17.	<p><i>During A102109SPVT043_TRANSITION_TO_OCM</i></p> <p><i>Only for info:</i></p> <p>⇒ <i>Verify after ca.7 min if ACMS mode is = OCM point fine (Earth pointing)</i></p> <p>⇒ <i>Verify in AND: ZAA00999 if Est Attitude Q1..Q4 is close to Target (absolute value)</i></p> <p>⇒ <i>Verify AESM3002 = OCM point fine or in synoptic SAT – ACMS – ACC – Mode Nominal</i></p>	<p>PASS</p> <p>PASS</p> <p>PASS</p>			<p>Check in seq. TRANSITION IN OCM Might fail. Check attitude in AND ZAA01999 until mode is OCM point fine. Then click repeat TM.</p>		
18.	<p><i>During A102109SPVT043_TRANSITION_TO_OCM</i></p> <p><i>If the sequence prompts as SUSPENDED (fcv duty cycle higher than 0.01)</i></p> <p>⇒ <i>click on script name in Test Console</i></p> <p>⇒ <i>Click the button "RESUME" to proceed</i></p>	<p>RESUME</p>					

Test location:	Operator	Product-Assurance:	Date:
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Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
19.	<p>During A102109SPVT103_ACMS_CONFIG25</p> <p>Main Menu 7.0: Option 3 Select Transition to SCM (Science mode).</p> <p>⇒ Click the button "OK" and then ⇒ Click the button "Continue" to proceed</p>	<p>3 OK CONTINUE</p>					
20.	<p>During A102109SPVT038_RWL_ON</p> <p>"Do you want to change actual on-board wheel set selected in the nominal configuration? RWL 1-2-3-4 selected</p> <p>⇒ Click the button "NO" to proceed ?</p>				<p>AEW1A002, AEW2A002, AEW3A002, AEW4A002 LOW expected until wheels are spun up.</p>		
21.	<p>During A102109SPVT042_RWL_SPINUP</p> <p>"Change actual Angular Momentum (initial values)?" Option: no</p> <p>⇒ Wait for about 10 minutes</p>	<p>RWL-1 ang momentum 10.6999999 RWL-2 ang momentum 10.6999999 RWL-3 ang momentum 10.6999999 RWL-4 ang momentum 10.6999999</p> <p>NO</p>					

Test location:	Operator	Product-Assurance:	Date:
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Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
22.	<p>Only for info:</p> <p>⇒ Verify RWL speed in plotting window</p> <p>1. Select REALTIME => DESKTOP => MONITORING => TM Plotting Tool</p> <p>2. Select Directory: Home/heracms/plotting</p> <p>3. Select FILE => LOAD => /home/heracms/plotter/RWLsSPEED.txt</p>						

Test location:	Operator	Product-Assurance:	Date:
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Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
23.	<p>Only for info:</p> <p>⇒ Verify 4x RWL momentum parameters are within +/-20%</p> <p>AEWMA002 = 10.7 (RWL1 momentum) AEWMB002 = 10.7 (RWL2 momentum) AEWMC002 = 10.7 (RWL3 momentum) AEWMD002 = 10.7 (RWL4 momentum)</p> <p>⇒ Verify in SAT synoptic SAT – ACMS – ACC – Mode Nominal = OCM Point Fine</p> <p>⇒ Verify in Telemetry window ZAAF0999 (diagnostic TM)</p> <p>As long as the ACMS is switched On the Menu Box has to be present !!!</p>	<p>PASS</p> <p>PASS</p> <p>PASS</p>			Values in IST_RMS1 file		
24.	<p>During A102109SPVT042_RWL_SPINUP</p> <p>SUSPEND</p> <p>⇒ Click the button “RESUME” in the test sequence console to proceed</p>	RESUME					

Test location:	Operator	Product-Assurance:	Date:
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Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
25.	At end of A102109SPVT042_RWL_SPINUP ⇒ Click the button "End TS!" to proceed	ENDTS			During transition to SCM for ACMS, ACZ2T109 may timeout because of slew time too short.		
26.	During Z010999MCVT130_IST_INSTR_COMMISSIONING "Transition from SAS 900W and BS 24V to SAS 1475W and BS full charged" ⇒ Click the button "Confirm" to proceed	CONFIRM					
27.	During Z010999MCVT130_IST_INSTR_COMMISSIONING "Switch on SREM" ⇒ Click the button "Confirm" to continue	CONFIRM					
28.	During Z102999SCVT003_SREM_ACQ_START ⇒ Click the button "End TS!" to proceed	ENDTS			SPR-290		

Test location:	Operator	Product-Assurance:	Date:
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Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
29.	Back to Master, Z010999MCVT130_IST_INSTR_COMMISSIONING Reply to the prompt: " Final Setting to test start" ⇒ Click the button "Confirm" to continue	CONFIRM			ACMS shall be already in SCM mode		
30.	At the end of the step check that the following have been applied: STR 1 LCL B is ON, RX-2 is 125 bps, GYRO and STR 1 I/F on BUS B	PASS					
31.	Back to Master, Z010999MCVT130_IST_INSTR_COMMISSIONING SET BUS PROFILE TO SPIRE PRIME ⇒ Click the button "Confirm" to continue	CONFIRM					
32.	During Z010999MCVT130_IST_INSTR_COMMISSIONING "Setting TM/TC DFE for AD mode commanding" ⇒ Click the button "Confirm" to continue	CONFIRM					

Test location:	Operator	Product-Assurance:	Date:
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Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
33.	<i>During</i> Z010999MCVT130_IST_INSTR_COMMISSIONING “switching to RF for SPIRE Photometer Commissioning” ⇨ Click the button "Confirm" to continue	CONFIRM					
34.	<i>Back to Master,</i> Z010999MCVT130_IST_INSTR_COMMISSIONING “CEL DOWNLINK” ⇨ Click the button "Confirm" to continue	CONFIRM					

Test location:	Operator	Product-Assurance:	Date:
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Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
35.	<p>Back to Master, D102159SCVT080_CEL_DOWNLINK</p> <p>“CEL DOWNLINK”</p> <p>⇒ Click the button "EndTS" to continue</p>	ENDTS			<p>IF CEL is not empty, send following TCs to clear it:</p> <p>DC167160 with parameters: DH002160 1 DH003160 0x7F</p> <p>DC167160 with parameters: DH002160 1 DH003160 0xFF</p>		
36.	<p>Back to Master, Z010999MCVT130_IST_INSTR_COMMISSIONING</p> <p>“Initial S/C status check ”</p> <p>⇒ Click the button "Confirm" to continue</p>	Confirm					

Test location:	Operator	Product-Assurance:	Date:
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Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
37.	<p><i>During</i> Z010999MCVT153_IST_STATUS At prompt "Do you want to Stop for each failure"</p> <p>⇒ Click the button "NO" to continue</p>	NO					
38.	<p><i>During</i> Z010999MCVT153_IST_STATUS</p> <p>⇒ CHECK STATUS then click the button "OK" to continue</p>	OK					
39.	<p><i>Back to Master,</i> Z010999MCVT130_IST_INSTR_COMMISSIONING</p> <p>"SPIRE COMMISSIONING"</p> <p>⇒ Click the button "Confirm" to continue</p>	CONFIRM					
40.	<p>Z010999MCVT130_IST_INSTR_COMMISSIONING</p> <p>"Start specific SPIRE COMMISSIONING sequences"</p> <p>When prompted as above Return to calling procedure.</p>				Instruments power ON/OFF are not included in this procedure.		

Test location:	Operator	Product-Assurance:	Date:
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Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
41.	Z010999MCVT130_IST_INSTR_COMMISSIONING Once SPIRE specific commissioning test completed and SPIRE switched off, click "Confirm" and continue from the next step	CONFIRM					
42.	Z010999MCVT130_IST_INSTR_COMMISSIONING "Switch S/C control (TC and TM) from RF link to umbilical" ⇒ Click the button "Confirm" to continue	CONFIRM					
43.	Z010999MCVT130_IST_INSTR_COMMISSIONING "Switching off TT&C Chain" ⇒ Click the button "Confirm" to continue	CONFIRM					
44.	Z010999MCVT130_IST_INSTR_COMMISSIONING "TT&C SCOE OFF" ⇒ Click the button "Confirm" to continue	CONFIRM					
45.	Return to calling procedure						

Test location:	Operator	Product-Assurance:	Date:
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7.3 PACS COMMISSIONING

Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
46.	<p><i>During</i> Z010999MCVT130_IST_INSTR_COMMISSIONING Configuration of the IST section 5.8.4.6 PACS COMMISSIONING“ ⇒ Click the button "Confirm" to proceed</p>	CONFIRM					
47.	<p><i>During</i> Z010999MCVT130_IST_INSTR_COMMISSIONING " TT&C SCOE CONNECTION" ⇒ Click the button "Confirm" to proceed</p>	CONFIRM			Y102989ETVT021_TTC _SCOE_ON is called		
48.	<p><i>During</i> Z010999MCVT130_IST_INSTR_COMMISSIONING "CDMS setting for separation" ⇒ Click the button "Confirm" to proceed</p>	CONFIRM			A102109SPVT202_ACM S_STATUS_H is called asynchronously and D102159SCVT138_IST _LAUNCH_SUNACQ synchronously		

Test location:	Operator	Product-Assurance:	Date:
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Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
49.	<p><i>During ...</i> <i>D103159SCVT138_IST_LAUNCH_SUNACQ</i></p> <p>⇒ <i>Wait, switch to script ...ACMS_CONFIG25</i></p>	PASS					
50.	<p><i>During A102109SPVT103_ACMS_CONFIG25</i></p> <p>⇒ <i>enter option 88, to go to Main Menu 3</i> ⇒ <i>Click the button "OK"</i> ⇒ <i>then press "Continue"</i></p>	88 OK CONTINUE					
51.	<p><i>During A102109SPVT103_ACMS_CONFIG25</i></p> <p><i>(1,6,4,5,20,99,88)</i></p> <p><i>SEPARATION (open separation straps)</i> <i>Main Menu 3.0: option 2</i></p> <p>⇒ <i>Click the button "OK" and then</i> ⇒ <i>Click the button "Continue"</i></p>	2 OK CONTINUE					

Test location:	Operator	Product-Assurance:	Date:
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Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
52.	<p><i>During A102109SPVT034_ACMS_SAM_MON</i></p> <p><i>Do you want to continue to monitor SAM Sun Pointing mode?</i></p> <p><i>⇒ Enter your choice: no</i></p>	NO					
53.	<p><i>At end of D102159SCVT138_IST_LAUNCH_SUNACQ</i></p> <p><i>⇒ Click the button "End TS!" to proceed</i></p>	ENDTS					
54.	<p><i>Back to Master Script, Z010999MCVT130_IST_INSTR_COMMISSIONING</i></p> <p><i>TRANSITION TO NOMINAL</i></p> <p><i>⇒ Click the button "Confirm" to proceed</i></p>	CONFIRM					
55.	<p><i>Script D102159SCVT137_IST_SUNACQ_NOM shall pop-up. Check that script ends without any 'No-Go'</i></p> <p><i>⇒ Click the button "End TS!" to proceed</i></p>	ENDTS					

Test location:	Operator	Product-Assurance:	Date:
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Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
56.	<p><i>During Z010999MCVT130_IST_INSTR_COMMISSIONING</i></p> <p><i>At the prompt "Command ACMS (via OCM/Earth) to SCM/Earth. In parallel, continue with the master "</i></p> <p><i>⇒ Click the button "OK" to proceed</i></p> <p><i>⇒ Perform steps 55 to 65 (ACMS in SCM) in parallel with the following ones 66-68 (PCDU transition, SREM)</i></p>	OK					
57.	<p><i>During A102109SPVT103_ACMS_CONFIG25</i></p> <p><i>Select Transition to OCM.</i></p> <p><i>Main Menu 4.0 SAM Phase: Option 6</i></p> <p><i>⇒ Click the button "OK" and then</i></p> <p><i>⇒ Click the button "Continue" to proceed</i></p>	6 OK CONTINUE					
58.	<p><i>During A102109SPVT036_ACMS_STR_ON</i></p> <p><i>Do you want to change the current STR in use? Type no</i></p> <p><i>⇒ Click the button "OK" to proceed</i></p>	NO					

Test location:	Operator	Product-Assurance:	Date:
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Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
59.	<p><i>During A102109SPVT043_TRANSITION_TO_OCM</i></p> <p><i>Only for info:</i></p> <p><i>⇒ Verify after ca.7 min if ACMS mode is = OCM point fine (Earth pointing)</i></p> <p><i>⇒ Verify in AND: ZAA00999 if Est Attitude Q1..Q4 is close to Target (absolute value)</i></p> <p><i>⇒ Verify AESM3002 = OCM point fine or in synoptic SAT – ACMS – ACC – Mode Nominal</i></p>	<p>PASS</p> <p>PASS</p> <p>PASS</p>			<p>Check in seq. TRANSITION IN OCM Might fail. Check attitude in AND ZAA01999 until mode is OCM point fine. Then click repeat TM.</p>		
60.	<p><i>During A102109SPVT043_TRANSITION_TO_OCM</i></p> <p><i>If the sequence prompts as SUSPENDED (fcv duty cycle higher than 0.01)</i></p> <p><i>⇒ click on script name in Test Console</i></p> <p><i>⇒ Click the button "RESUME" to proceed</i></p>	<p>RESUME</p>					

Test location:	Operator	Product-Assurance:	Date:
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Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
61.	<p>During A102109SPVT103_ACMS_CONFIG25</p> <p>Main Menu 7.0: Option 3 Select Transition to SCM (Science mode).</p> <p>⇒ Click the button "OK" and then ⇒ Click the button "Continue" to proceed</p>	<p>3 OK CONTINUE</p>					
62.	<p>During A102109SPVT038_RWL_ON</p> <p>"Do you want to change actual on-board wheel set selected in the nominal configuration? RWL 2-3-4 selected</p> <p>⇒ Click the button "NO" to proceed ?</p>				<p>AEW2A002, AEW3A002, AEW4A002 LOW expected until wheels are spun up.</p>		
63.	<p>During A102109SPVT042_RWL_SPINUP</p> <p>"Change actual Angular Momentum (initial values)?" Option: no</p> <p>⇒ Wait for about 10 minutes</p>	<p>RWL-2 ang momentum 10.6999999 RWL-3 ang momentum 10.6999999 RWL-4 ang momentum 10.6999999</p> <p>NO</p>					

Test location:	Operator	Product-Assurance:	Date:
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Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
64.	<p>Only for info:</p> <p>⇒ Verify RWL speed in plotting window</p> <p>1. Select REALTIME => DESKTOP => MONITORING => TM Plotting Tool</p> <p>2. Select Directory: Home/heracms/plotting</p> <p>3. Select FILE => LOAD => /home/heracms/plotter/RWLsSPEED.txt</p>						

Test location:	Operator	Product-Assurance:	Date:
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Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
65.	<p>Only for info:</p> <p>⇒ Verify 3x RWL momentum parameters are within +/-20%</p> <p>AEWMB002 = 10.7 (RWL2 momentum) AEWMC002 = 10.7 (RWL3 momentum) AEWMD002 = 10.7 (RWL4 momentum)</p> <p>⇒ Verify in SAT synoptic SAT – ACMS – ACC – Mode Nominal = OCM Point Fine</p> <p>⇒ Verify in Telemetry window ZAAF0999 (diagnostic TM)</p> <p>As long as the ACMS is switched On the Menu Box has to be present !!!</p>	<p>PASS</p> <p>PASS</p> <p>PASS</p>			Values in IST_RMS1 file		
66.	<p>During A102109SPVT042_RWL_SPINUP</p> <p>SUSPEND</p> <p>⇒ Click the button “RESUME” in the test sequence console to proceed</p>	RESUME					

Test location:	Operator	Product-Assurance:	Date:
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Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
67.	At end of A102109SPVT042_RWL_SPINUP ⇒ Click the button "End TS!" to proceed	ENDTS			During transition to SCM for ACMS, ACZ2T109 may timeout because of slew time too short.		
68.	During Z010999MCVT130_IST_INSTR_COMMISSIONING "Transition from SAS 900W and BS 24V to SAS 1475W and BS full charged" ⇒ Click the button "Confirm" to proceed	CONFIRM					
69.	During Z010999MCVT130_IST_INSTR_COMMISSIONING "Switch on SREM" ⇒ Click the button "Confirm" to continue	CONFIRM					
70.	During Z102999SCVT003_SREM_ACQ_START ⇒ Click the button "End TS!" to proceed	ENDTS			SPR-290		

Test location:	Operator	Product-Assurance:	Date:
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Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
71.	Back to Master, Z010999MCVT130_IST_INSTR_COMMISSIONING Reply to the prompt: " Final Setting to test start" ⇒ Click the button "Confirm" to continue	CONFIRM			ACMS shall be already in SCM mode		
72.	At the end of the step check that the following have been applied: STR 2 LCL A is ON, RX-1 is 125 bps, GYRO and STR 2 I/F on BUS B	PASS					
73.	Back to Master, Z010999MCVT130_IST_INSTR_COMMISSIONING COMMAND THE S/C BUS PROFILE TO PACS PRIME ⇒ Click the button "Confirm" to continue	CONFIRM					
74.	During Z010999MCVT130_IST_INSTR_COMMISSIONING "Setting TM/TC DFE for AD mode commanding" ⇒ Click the button "Confirm" to continue	CONFIRM					

Test location:	Operator	Product-Assurance:	Date:
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Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
75.	<i>During</i> <i>Z010999MCVT130_IST_INSTR_COMMISSIONING</i> <i>“switching to RF for PACS Commissioning”</i> ⇨ Click the button "Confirm" to continue	CONFIRM					
76.	<i>Back to Master,</i> <i>Z010999MCVT130_IST_INSTR_COMMISSIONING</i> <i>“CEL DOWNLINK”</i> ⇨ Click the button "Confirm" to continue	CONFIRM					

Test location:	Operator	Product-Assurance:	Date:
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Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
77.	<p>Back to Master, D102159SCVT080_CEL_DOWNLINK</p> <p>"CEL DOWNLINK"</p> <p>⇒ Click the button "EndTS" to continue</p>	ENDTS			<p>IF CEL is not empty, send following TCs to clear it:</p> <p>DC167160 with parameters: DH002160 1 DH003160 0x7F</p> <p>DC167160 with parameters: DH002160 1 DH003160 0xFF</p>		
78.	<p>Back to Master, Z010999MCVT130_IST_INSTR_COMMISSIONING</p> <p>"Initial S/C status check "</p> <p>⇒ Click the button "Confirm" to continue</p>	Confirm					

Test location:	Operator	Product-Assurance:	Date:
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Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
79.	<p>During IST_STATUS At prompt "Do you want to Stop for each failure"</p> <p>⇒ Click the button "NO" to continue</p>	NO					
80.	<p>During Z010999MCVT153_IST_STATUS</p> <p>⇒ CHECK STATUS then click the button "OK" to continue</p>	OK					
81.	<p>Back to Master, Z010999MCVT130_IST_INSTR_COMMISSIONING</p> <p>"PACS COMMISSIONING"</p> <p>⇒ Click the button "Confirm" to continue</p>	CONFIRM					
82.	<p>Z010999MCVT130_IST_INSTR_COMMISSIONING</p> <p>"Start specific PACS COMMISSIONING sequences"</p> <p>When prompted as above Return to calling procedure.</p>				Instruments power ON/OFF are not included in this procedure.		

Test location:	Operator	Product-Assurance:	Date:
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Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
83.	Z010999MCVT130_IST_INSTR_COMMISSIONING Once PACS specific commissioning test completed and PACS switched off, click "Confirm" and continue from the next step	CONFIRM					
84.	Z010999MCVT130_IST_INSTR_COMMISSIONING "Switch S/C control (TC and TM) from RF link to umbilical" ⇒ Click the button "Confirm" to continue	CONFIRM					
85.	Z010999MCVT130_IST_INSTR_COMMISSIONING "Switching off TT&C Chain" ⇒ Click the button "Confirm" to continue	CONFIRM					
85.5	Z010999MCVT130_IST_INSTR_COMMISSIONING "TT&C SCOE OFF" ⇒ Click the button "Confirm" to continue	CONFIRM					
86.	Return to calling procedure						

Test location:	Operator	Product-Assurance:	Date:
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7.4 HIFI COMMISSIONING

Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
87.	<p><i>During</i> Z010999MCVT130_IST_INSTR_COMMISSIONING Configuration of the IST section 5.8.4.7 HIFI COMMISSIONING “</p> <p>⇒ Click the button "Confirm" to proceed</p>	CONFIRM					
88.	<p><i>During</i> Z010999MCVT130_IST_INSTR_COMMISSIONING " TT&C SCOE CONNECTION"</p> <p>⇒ Click the button "Confirm" to proceed</p>	CONFIRM			Y102989ETVT021_TTC_SCOE_ON is called		
89.	<p><i>During</i> Z010999MCVT130_IST_INSTR_COMMISSIONING "CDMS setting for separation"</p> <p>⇒ Click the button "Confirm" to proceed</p>	CONFIRM			A102109SPVT202_ACM_S_STATUS_H is called asynchronously and D102159SCVT138_IST_LAUNCH_SUNACQ synchronously		

Test location:	Operator	Product-Assurance:	Date:
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Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
90.	<p><i>During ...</i> <i>D103159SCVT138_IST_LAUNCH_SUNACQ</i></p> <p>⇒ <i>Wait, switch to script ...ACMS_CONFIG25</i></p>	PASS					
91.	<p><i>During A102109SPVT103_ACMS_CONFIG25</i></p> <p>⇒ <i>enter option 88, to go to Main Menu 3</i> ⇒ <i>Click the button "OK"</i> ⇒ <i>then press "Continue"</i></p>	88 OK CONTINUE					

Test location:	Operator	Product-Assurance:	Date:
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Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
92.	<p>During A102109SPVT103_ACMS_CONFIG25 (1,6,4,5,20,99,88)</p> <p>SEPARATION (open separation straps) Main Menu 3.0: option 2</p> <p>⇒ Click the button "OK" and then ⇒ Click the button "Continue"</p>	<p>2 OK CONTINUE</p>					
93.	<p>During A102109SPVT034_ACMS_SAM_MON</p> <p>Do you want to continue to monitor SAM Sun Pointing mode?</p> <p>⇒ Enter your choice: no</p>	NO					
94.	<p>At end of D102159SCVT138_IST_LAUNCH_SUNACQ</p> <p>⇒ Click the button "End TS!" to proceed</p>	ENDTS					
95.	<p>Back to Master Script, Z010999MCVT130_IST_INSTR_COMMISSIONING</p> <p>TRANSITION TO NOMINAL</p> <p>⇒ Click the button "Confirm" to proceed</p>	CONFIRM					

Test location:	Operator	Product-Assurance:	Date:
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Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
96.	Script D102159SCVT137_IST_SUNACQ_NOM shall pop-up. Check that script ends without any 'No-Go' ⇒ Click the button "End TS!" to proceed	ENDTS					
97.	During Z010999MCVT130_IST_INSTR_COMMISSIONING At the prompt "Command ACMS (via OCM/Earth) to SCM/Earth. In parallel, continue with the master " ⇒ Click the button "OK" to proceed ⇒ Perform steps 95 to 105 (ACMS in SCM) in parallel with the following ones 106 –108 (PCDU transition, SREM)	OK					
98.	During A102109SPVT103_ACMS_CONFIG25 Select Transition to OCM. Main Menu 4.0 SAM Phase: Option 6 ⇒ Click the button "OK" and then ⇒ Click the button "Continue" to proceed	6 OK CONTINUE					
99.	During A102109SPVT036_ACMS_STR_ON Do you want to change the current STR in use? Type no ⇒ Click the button "OK" to proceed	NO					

Test location:	Operator	Product-Assurance:	Date:
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Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
100.	<p><i>During A102109SPVT043_TRANSITION_TO_OCM</i></p> <p><i>Only for info:</i></p> <p><i>⇒ Verify after ca.7 min if ACMS mode is = OCM point fine (Earth pointing)</i></p> <p><i>⇒ Verify in AND: ZAA00999 if Est Attitude Q1..Q4 is close to Target (absolute value)</i></p> <p><i>⇒ Verify AESM3002 = OCM point fine or in synoptic SAT – ACMS – ACC – Mode Nominal</i></p>	<p>PASS</p> <p>PASS</p> <p>PASS</p>			<p>Check in seq. TRANSITION IN OCM Might fail. Check attitude in AND ZAA01999 until mode is OCM point fine. Then click repeat TM.</p>		
101.	<p><i>During A102109SPVT043_TRANSITION_TO_OCM</i></p> <p><i>If the sequence prompts as SUSPENDED (fcv duty cycle higher than 0.01)</i></p> <p><i>⇒ click on script name in Test Console</i></p> <p><i>⇒ Click the button "RESUME" to proceed</i></p>	<p>RESUME</p>					

Test location:	Operator	Product-Assurance:	Date:
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Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
102.	<p>During A102109SPVT103_ACMS_CONFIG25</p> <p>Main Menu 7.0: Option 3 Select Transition to SCM (Science mode).</p> <p>⇒ Click the button "OK" and then ⇒ Click the button "Continue" to proceed</p>	<p>3 OK CONTINUE</p>					
103.	<p>During A102109SPVT038_RWL_ON</p> <p>"Do you want to change actual on-board wheel set selected in the nominal configuration? RWL 1-2-3-4 selected</p> <p>⇒ Click the button "NO" to proceed ?</p>				<p>AEW1A002, AEW2A002, AEW3A002, AEW4A002 LOW expected until wheels are spun up.</p>		
104.	<p>During A102109SPVT042_RWL_SPINUP</p> <p>"Change actual Angular Momentum (initial values)?" Option: no</p> <p>⇒ Wait for about 10 minutes</p>	<p>RWL-1 ang momentum 10.6999999 RWL-2 ang momentum 10.6999999 RWL-3 ang momentum 10.6999999 RWL-4 ang momentum 10.6999999</p> <p>NO</p>					

Test location:	Operator	Product-Assurance:	Date:
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Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
105.	<p>Only for info:</p> <p>⇒ Verify RWL speed in plotting window</p> <p>1. Select REALTIME => DESKTOP => MONITORING => TM Plotting Tool</p> <p>2. Select Directory: Home/heracms/plotting</p> <p>3. Select FILE => LOAD => /home/heracms/plotter/RWLsSPEED.txt</p>						

Test location:	Operator	Product-Assurance:	Date:
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Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
106.	<p>Only for info:</p> <p>⇒ Verify 4x RWL momentum parameters are within +/-20%</p> <p>AEWMA002 = 10.7 (RWL1 momentum) AEWMB002 = 10.7 (RWL2 momentum) AEWMC002 = 10.7 (RWL3 momentum) AEWMD002 = 10.7 (RWL4 momentum)</p> <p>⇒ Verify in SAT synoptic SAT – ACMS – ACC – Mode Nominal = OCM Point Fine</p> <p>⇒ Verify in Telemetry window ZAAF0999 (diagnostic TM)</p> <p>As long as the ACMS is switched On the Menu Box has to be present !!!</p>	<p>PASS</p> <p>PASS</p> <p>PASS</p>			Values in IST_RMS1 file		
107.	<p>During A102109SPVT042_RWL_SPINUP</p> <p>SUSPEND</p> <p>⇒ Click the button “RESUME” in the test sequence console to proceed</p>	RESUME					

Test location:	Operator	Product-Assurance:	Date:
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Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
108.	At end of A102109SPVT042_RWL_SPINUP ⇒ Click the button "End TS!" to proceed	ENDTS			During transition to SCM for ACMS, ACZ2T109 may timeout because of slew time too short.		
109.	During Z010999MCVT130_IST_INSTR_COMMISSIONING "Transition from SAS 900W and BS 24V to SAS 1475W and BS full charged" ⇒ Click the button "Confirm" to proceed	CONFIRM					
110.	During Z010999MCVT130_IST_INSTR_COMMISSIONING "Switch on SREM" ⇒ Click the button "Confirm" to continue	CONFIRM					
111.	During Z102999SCVT003_SREM_ACQ_START ⇒ Click the button "End TS!" to proceed	ENDTS			SPR-290		

Test location:	Operator	Product-Assurance:	Date:
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Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
112.	Back to Master, Z010999MCVT130_IST_INSTR_COMMISSIONING Reply to the prompt: " Final Setting to test start" ⇒ Click the button "Confirm" to continue	CONFIRM			ACMS shall be already in SCM mode		
113.	At the end of the step check that the following have been applied: STR 1 LCL B is ON, RX-2 is 125 bps	PASS					
114.	Back to Master, Z010999MCVT130_IST_INSTR_COMMISSIONING SET BUS PROFILE TO HIFI PRIME ⇒ Click the button "Confirm" to continue	CONFIRM					
115.	During Z010999MCVT130_IST_INSTR_COMMISSIONING "Setting TM/TC DFE for AD mode commanding" ⇒ Click the button "Confirm" to continue	CONFIRM					

Test location:	Operator	Product-Assurance:	Date:
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Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
116.	<i>During</i> Z010999MCVT130_IST_INSTR_COMMISSIONING "switching to RF for HIFI Commissioning" ⇒ Click the button "Confirm" to continue	CONFIRM					
117.	<i>Back to Master,</i> Z010999MCVT130_IST_INSTR_COMMISSIONING "CEL DOWNLINK" ⇒ Click the button "Confirm" to continue	CONFIRM					

Test location:	Operator	Product-Assurance:	Date:
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Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
118.	<p><i>Back to Master,</i> <i>D102159SCVT080_CEL_DOWNLINK</i></p> <p><i>"CEL_DOWNLINK"</i></p> <p>⇒ Click the button "EndTS" to continue</p>	ENDTS			<p>IF CEL is not empty, send following TCs to clear it:</p> <p>DC167160 with parameters: DH002160 1 DH003160 0x7F</p> <p>DC167160 with parameters: DH002160 1 DH003160 0xFF</p>		
119.	<p><i>Back to Master,</i> <i>Z010999MCVT130_IST_INSTR_COMMISSIONING</i></p> <p><i>"Initial S/C status check "</i></p> <p>⇒ Click the button "Confirm" to continue</p>	Confirm					

Test location:	Operator	Product-Assurance:	Date:
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Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
120.	<p><i>During</i> Z010999MCVT153_IST_STATUS <i>At prompt</i> "Do you want to Stop for each failure"</p> <p>⇒ Click the button "NO" to continue</p>	NO					
121.	<p><i>During</i> Z010999MCVT153_IST_STATUS</p> <p>⇒ CHECK STATUS then click the button "OK" to continue</p>	OK					
122.	<p><i>Back to Master,</i> Z010999MCVT130_IST_INSTR_COMMISSIONING</p> <p>"HIFI COMMISSIONING"</p> <p>⇒ Click the button "Confirm" to continue</p>	CONFIRM					
123.	<p>Z010999MCVT130_IST_INSTR_COMMISSIONING</p> <p>"Start specific HIFI COMMISSIONING sequences"</p> <p>When prompted as above Return to calling procedure.</p>				Instruments power ON/OFF are not included in this procedure.		

Test location:	Operator	Product-Assurance:	Date:
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Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
124.	Z010999MCVT130_IST_INSTR_COMMISSIONING Once HIFI specific commissioning test completed and HIFI switched off, click "Confirm" and continue from the next step	CONFIRM					
125.	Z010999MCVT130_IST_INSTR_COMMISSIONING "Switch S/C control (TC and TM) from RF link to umbilical" ⇒ Click the button "Confirm" to continue	CONFIRM					
126.	Z010999MCVT130_IST_INSTR_COMMISSIONING "Switching off TT&C Chain" ⇒ Click the button "Confirm" to continue	CONFIRM					
127.	Z010999MCVT130_IST_INSTR_COMMISSIONING "TT&C SCOE OFF" ⇒ Click the button "Confirm" to continue	CONFIRM					
128.	Return to calling procedure						

Test location:	Operator	Product-Assurance:	Date:
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8 Summary Sheets

8.1 Procedure Variation Summary

	Test Change	Curr. No.:	
		Date	
		Page	of
Test designation	Test Procedure	Issue	Rev.
Test step changed	Reason for Change		
Prepared by:	Resp. Test Leader	Project Engineer	
PA/QA	Prime	Customer	

Table 8.1-1: Procedure Variation Sheet

8.2 Non Conformance Report (NCR) Summary

NCR - No.	NCR – Title	Date	Open Closed	PA sig.

Table 8.2-1: Non-Conformance Record Sheet

8.3 Sign-off Sheet

	Date	Signature
Test Director		
Test Conductor		
Test operator		
PA Responsible		
ESA Representative		

END OF DOCUMENT

	Name	Dep./Comp.		Name	Dep./Comp.
	Baldock Richard	FAE12	X	Sonn Nico	ASG51
	Barlage Bernhard	AED13		Steininger Eric	AED321
	Bayer Thomas	ASA42	X	Stritter Rene	AED11
	Brune Holger	ASA45		Suess Rudi	OTN/ASA44
X	Chen Bing	HE Space		Theunissen Martijn	DSSA
X	Davis William	Captec		Vascotto Riccardo	HE Space
	Edelhoff Dirk	AED21		Wagner Klaus	ASG23
	Fehringer Alexander	ASG15	X	Wietbrock Walter	AET12
X	Fricke Wolfgang Dr.	AED 65		Wöhler Hans	ASG23
	Geiger Hermann	ASA42		Wössner Ulrich	ASE252
	Grasl Andreas	OTN/ASA44		Zumstein Armin	AED15
X	Grasshoff Brigitte	AET12			
X	Hamer Simon	Terma			
	Hanka, Erhard	FI522			
X	Hendrikse Jeffrey	HE Space			
X	Hendry David	Terma			
	Hengstler Reinhold	ASA42			
	Hinger Jürgen	ASG23			
X	Hohn Rüdiger	AED65			
	Hopfgarten Michael	AET32			
	Huber Johann	ASA42			
	Hund Walter	ASE252			
X	Idler Siegmund	AED312			
	Ivány von András	FAE12			
	Jahn Gerd Dr.	ASG23			
	Jolk Matthias	AET1	X	ESA/ESTEC	ESA
X	Klenke Uwe	ASG72	X	Thales Alenia Space Cannes	TAS-F
	Kölle Markus	ASA43		Thales Alenia Space Torino	TAS-I
	König Werner	AET32			
X	Koppe Axel	AED312			
X	Kroeker Jürgen	AED65		Instruments:	
X	La Gioia Valentina	Terma	X	MPE (PACS)	MPE
	Lang Jürgen	ASE252	X	RAL (SPIRE)	RAL
	Langenstein Rolf	AED15	X	SRON (HIFI)	SRON
	Langfermann Michael	ASA41			
	Leitermann Stefan	AET12			
X	Liberatore Danilo	Rhea		Subcontractors:	
X	Martin Olivier	Altec		Austrian Aerospace	AAE
X	Maukisch Jan	ASA43		Austrian Aerospace	AAEM
X	Much Christoph	ASA43		BOC Edwards	BOCE
X	Müller Martin	ASA43		Dutch Space Solar Arrays	DSSA
	Pietroboni Karin	AED65		EADS Astrium Sub-Subsyst. & Equipment	ASSE
	Reichle Konrad	ASA42		EADS CASA Espacio	CASA
	Runge Axel	OTN/ASA44		EADS CASA Espacio	ECAS
	Saal Christoph	External		European Test Services	ETS
	Schink Dietmar	AED321		Patria New Technologies Oy	PANT
	Schmidt Thomas	AED15		SENER Ingenieria SA	SEN
	Schweickert Gunn	ASG23		Thales Alenia Space, Antwerp	TAS-ETCA