



**Herschel Integrated Satellite Test
Procedure: Instruments FDIR OBCP**

Herschel

Title: **Herschel IST Test Case 'Test of Instrument FDIR OBCP'**

CI-No: *100 000*

| | | |
|------------------------|----------------------------------|-------------------------------------|
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| Issue | Date | Sheet | Description of Change | Release |
|--------|-----------------------------|-------|--|---------|
| 1 2 | 28 April 2008 28.08.2008 | | <p>Initial version</p> <p>Between steps 21 and 22 of section 7.2: added step to resume script for reaction wheels spin up, in case it times out and script suspends.</p> <p>Step 207 of section 7.5: corrected typo 0x116 to 0x1106</p> <p>Step 233 of section 7.5: added remark to state that WM42L565 = OFF is expected. Also WM408565 = 0.0A</p> <p>Step 243 of section 7.5 & in Table 3: corrected typo to execute script SPIRE_OBCPTest_StopHK</p> <p>Step 268 of section 7.5: reformulated text "And after" into "within"</p> <p>Section 5.4.5 page 25: Deleted blank page</p> <p>Section 2.2: RD3 is issue 1.2</p> <p>Section 7.2 step 8: added "and then click OK"</p> <p>Section 7.2 step 9 and 11: script name corrected</p> <p>Section 7.2 step 10: added TM check in remark for CDMS FDIR mode</p> <p>Section 7.2 step 16: step deleted</p> <p>Section 7.2 step 18: added AND in comment</p> <p>Section 7.2 step 19: added "click OK and"</p> <p>Section 7.2 step 20: corrected typo "plotter" into "plotting"</p> <p>Section 7.2 step 23: clarified comment. Added text " After pressing EndTS"</p> <p>Section 7.2 step 36: corrected typo "RX" to "RX2"</p> <p>Section 7.3 steps 44, 80: steps deleted, because already performed in HIFI power on script.</p> <p>Section 7.3 step 66: reformulated text into "within 8 seconds..."</p> <p>Section 7.2, after step 25: added step to configure the IEGSEs for the intended instrument's test</p> <p>Section 7.3 before step 58: added step to check downlink rate</p> <p>Section 7.3 during step 59: added call to script to switch from standby to OPS mode</p> <p>Section 7.3 after step 68: inserted step with prompt "If hard reset happened and you intend to leave HIFI off, switch off the cooling in cleanroom"</p> <p>Section 7 deleted steps that involve prompts during power on/off/science of instruments. Inserted a reference to the corresponding chapter of RD3</p> <p>Section 7.4, step 165, updated prompt</p> <p>Section 7.6: changed the numbering to follow the previous ones.</p> <p>Section 7.6 after step 10: added step to reset IEGSEs</p> <p>Section 8: script hierarchy update.</p> | |

| | | | | |
|---|------------|--|---|--|
| 3 | 12.01.2009 | | Update of reference/applicable document issues plus minor typographical corrections | |
|---|------------|--|---|--|

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1 Scope

1.1 Objective

This Procedure represents the instruments FDIR OBCP part of the S/C IST. In this test case we trigger some specific FDIR actions during the operation day (Autonomy period) of each of the three instruments. It has been agreed to keep the date of the CC S to the current UTC and that the execution of the three tests (one per instrument) can be compacted in one session, thus with the same starting condition. The starting configuration chosen for this sequential test is the end of the CDMS management test case, with S/C link in umbilical.

According to the IST specification (AD1) and following agreements (RD2, RD3), the following OBCPs will be tested:

Table 1 - HIFI OBCPs

| HIFI OBCP (refer to chapter 7.3) | APID | TM | Event ID | type | trigger |
|----------------------------------|------|-----|----------|-------------|---------|
| DB_OBCP_H_HIFI_RESET 16 | | 5,x | 151 | DLL FDIR | jamming |

Table 2 - PACS OBCPs

| PACS OBCPs (refer to chapter 7.4) | APID | TM | Event ID | type | trigger |
|-----------------------------------|-----------|-----|-----------------------------|---|--|
| DB_OBCP_H_PACS_SAFE | 1152/1153 | 5,2 | 4 | | PACS_StartAutonomy_ Function_14_OBS_Shell.tcl |
| DB_OBCP_H_PACS_POWER_CYCLE | 1152/1153 | 5,2 | 6 | | OBCP Start TC |
| DB_OBCP_H_PACS_NORMAL_OFF | 1152/1153 | 5,2 | 25 | | PACS_StartAutonomy_ Function_17_OBS_Shell.tcl |
| DB_OBCP_H_PACS_IMMEDIATE_OFF | 16 | 5,x | 153 ⇔ replaced by 186 | DLL FDIR ⇔ replaced by TFL TM | PACS_Disable_HK_OBS_Shell.tcl |

Table 3 - SPIRE OBCPs

| SPIRE OBCPs (refer to chapter 7.5) | APID | TM | Event ID | type | trigger |
|------------------------------------|------|-----|----------|----------------|--|
| DB_OBCP_H_SPIRE_DRCU_OFF 1280/1 | 281 | 5,2 | xC000 | | SPIRE-OBCPTest-DRCUAnomaly.tcl |
| DB_OBCP_H_SPIRE_OPE_STOP 1280/1 | 281 | 5,2 | xC100 | | SPIRE-OBCPTest-ObservationAnomaly.tcl |
| DB_OBCP_H_SPIRE_OPE_RESUME 1280/1 | 281 | 5,2 | xC110 | | SPIRE-OBCPTest-ObservationAnomalyCorrected.tcl |
| DB_OBCP_H_SPIRE_OFF 16 | | 5,x | 152 | DLL | jamming |
| DB_OBCP_H_SPIRE_OFF_CTRL 16 | | 5,x | 185 | TFL TM FDIR | SPIRE provided TCs to clear HK. SPIRE_OBCPTest_StopHK.tcl |

Note:

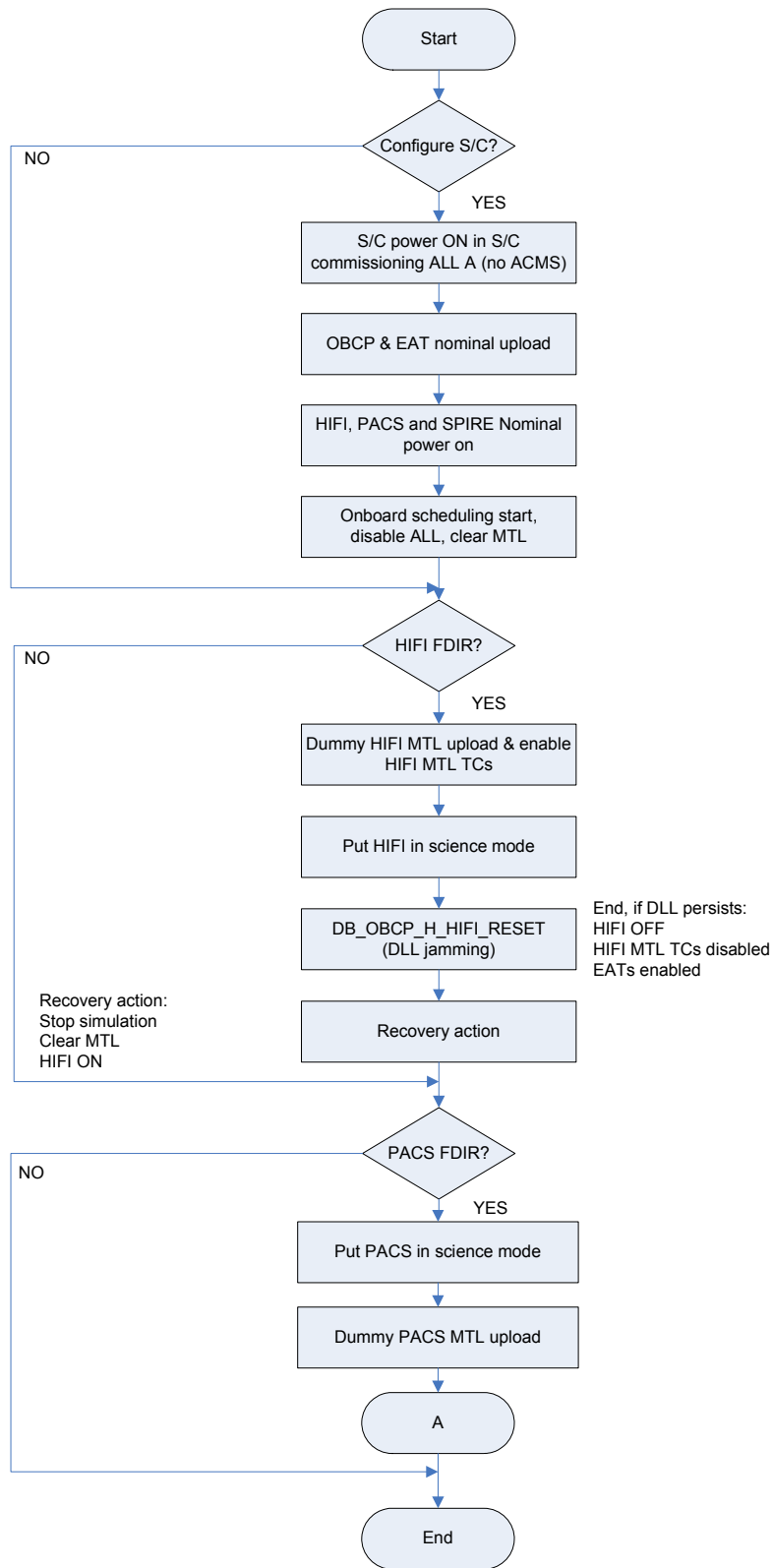
DB_OBCP_H_PACS_BOLC_OFF has been eliminated from the test because never called by PACS S/W of NC-3981(RD-7)

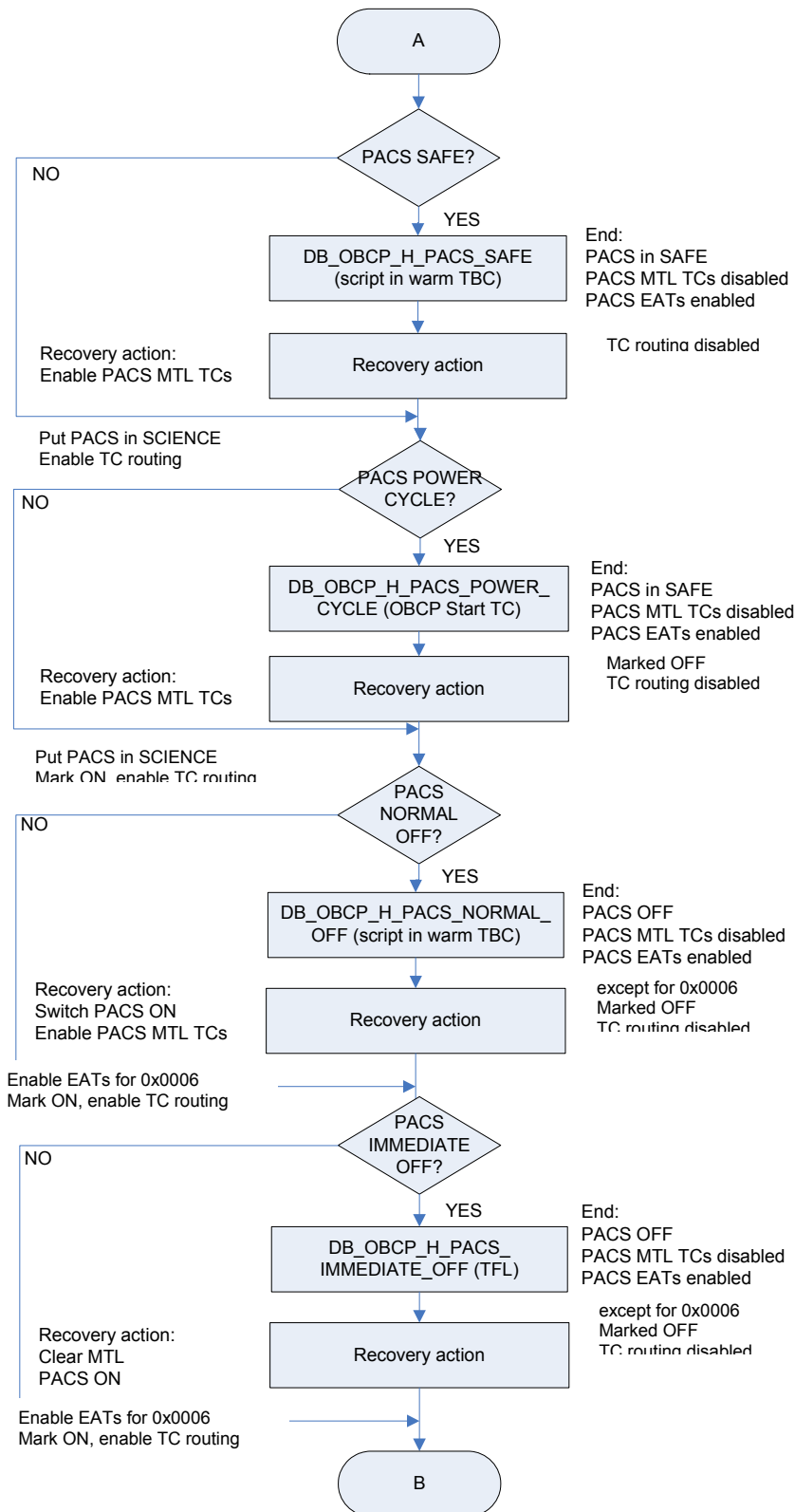
DB_OBCP_H_PACS_IMMEDIATE_OFF DLL has been replaced by TFL (RD-8).

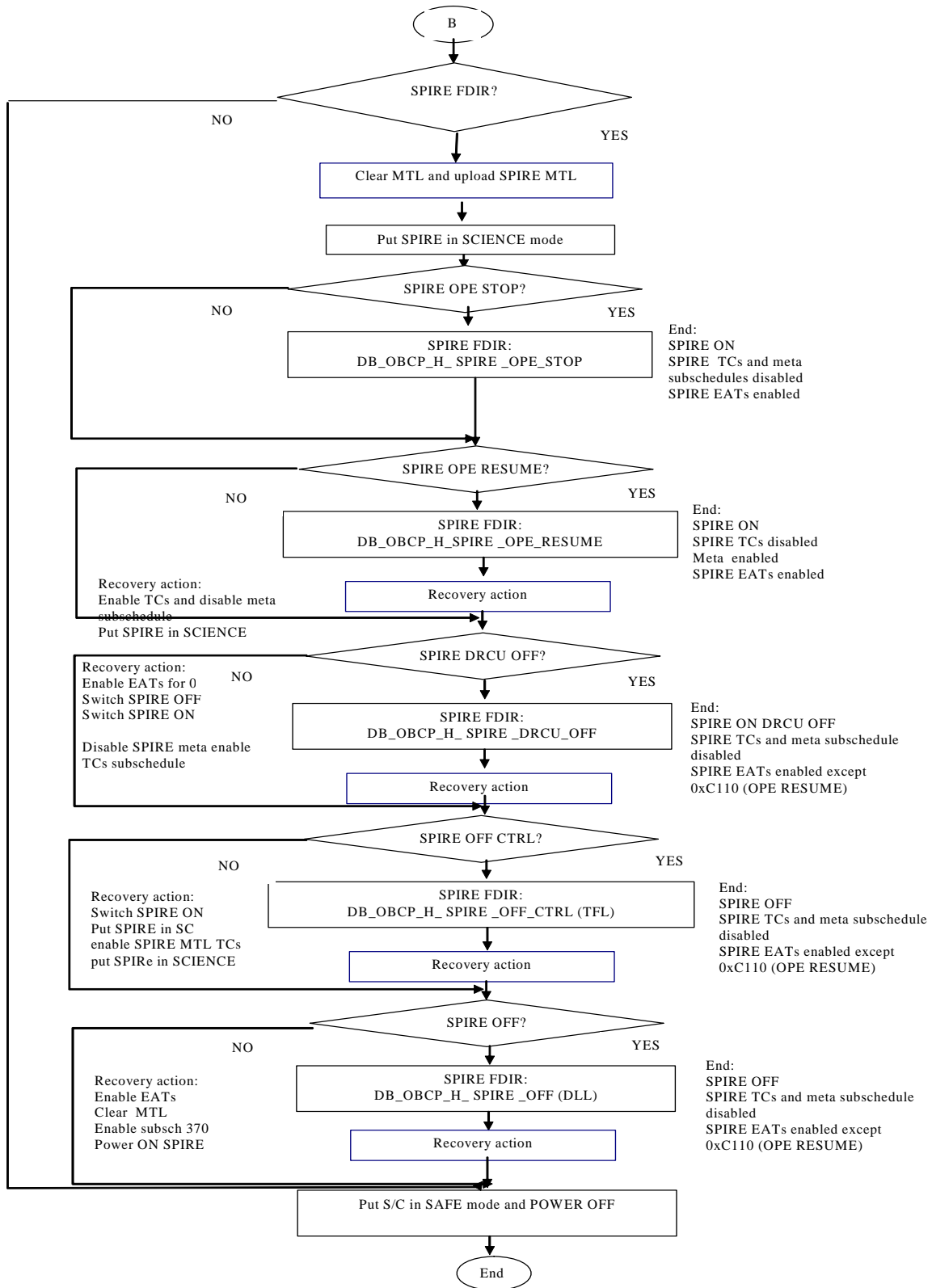
PACS and SPIRE TFL TM tests (PACS IMMEDIATE_OFF and SPIRE OFF_CTRL) will be started with the instrument in STANBY instead of science (RD-5)

1.2 Operational Flow

The overall flow of the Instruments FDIR is shown in the schemas of the following pages.

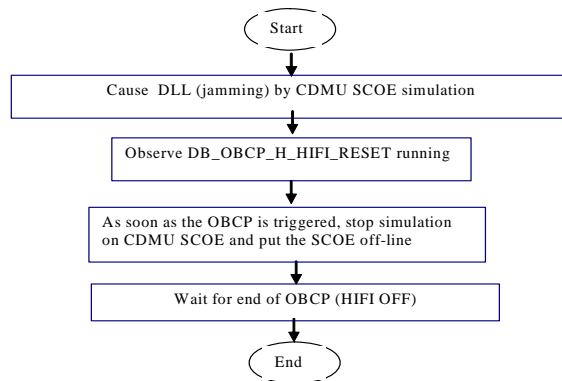






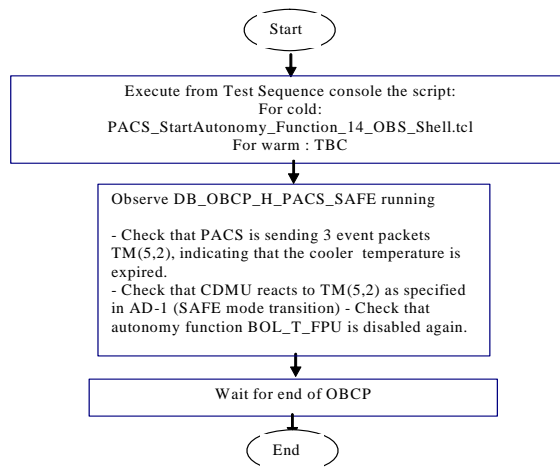
DB_OBCP_H_HIFI_RESET

DB_OBCP_H_HIFI_RESET (DLL)



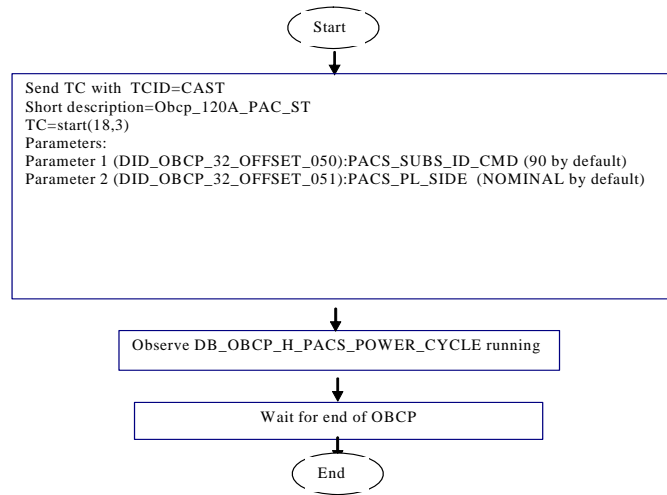
DB_OBCP_H_PACS_SAFE

DB_OBCP_H_PACS_SAFE



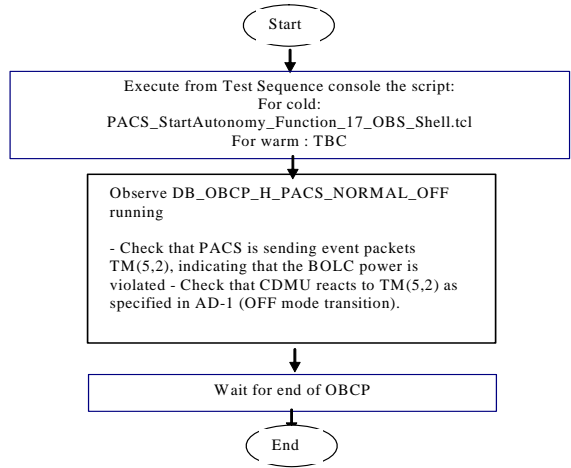
DB_OBCP_H_PACS_POWER_CYCLE (OBCP Start TC)

DB_OBCP_H_PACS_POWER_CYCLE



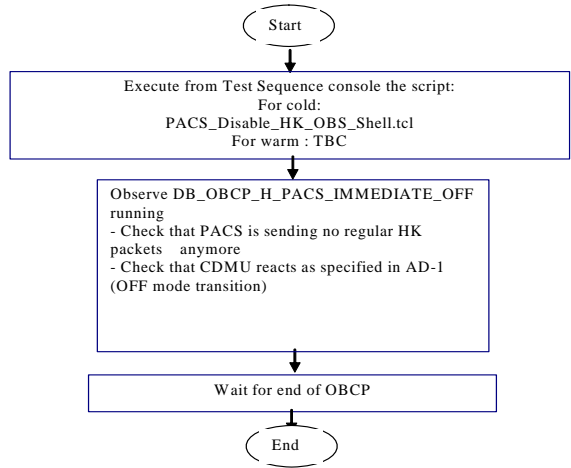
DB_OBCP_H_PACS_NORMAL_OFF

DB_OBCP_H_PACS_NORMAL_OFF



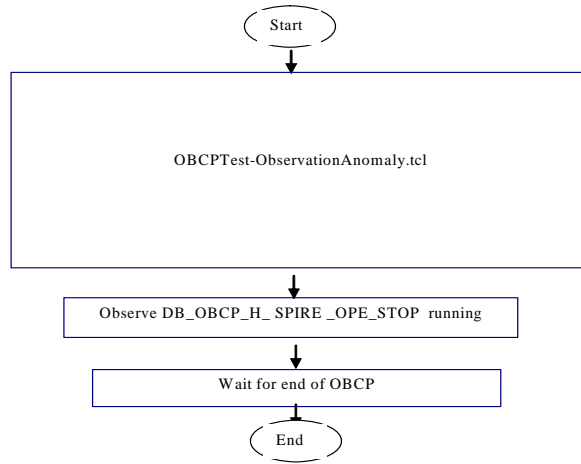
DB_OBCP_H_PACS_IMMEDIATE_OFF (TFL)

DB_OBCP_H_PACS_IMMEDIATE_OFF



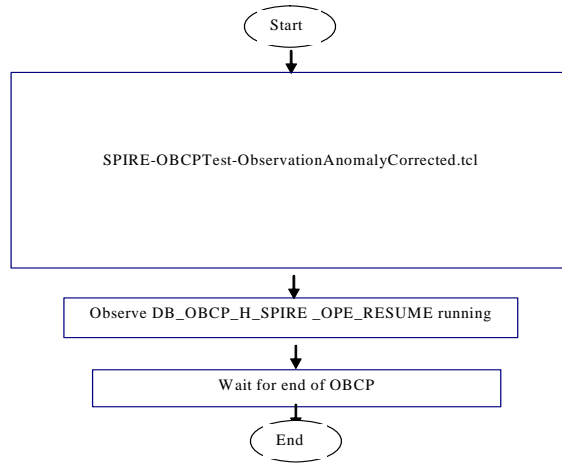
DB_OBCP_H_SPIRE_OPE_STOP

DB_OBCP_H_SPIRE_OPE_STOP



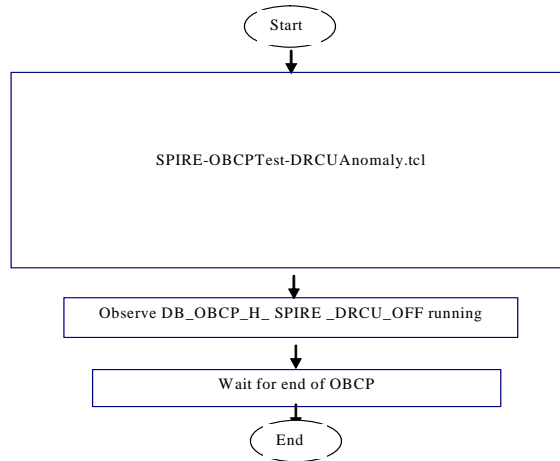
DB_OBCP_H_SPIRE_OPE_RESUME

DB_OBCP_H_SPIRE_OPE_RESUME



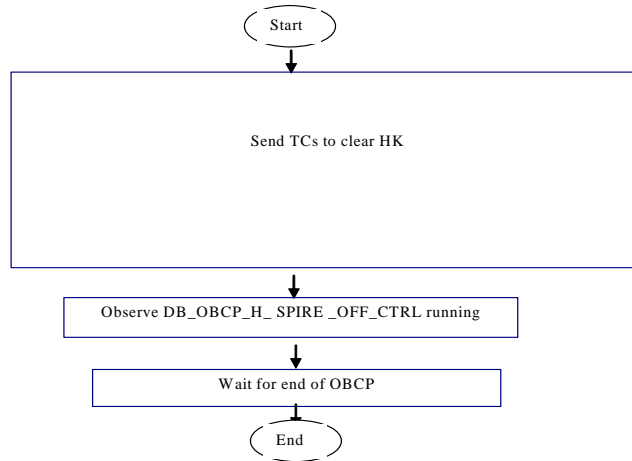
DB_OBCP_H_SPIRE_DRCU_OFF

DB_OBCP_H_SPIRE_DRCU_OFF



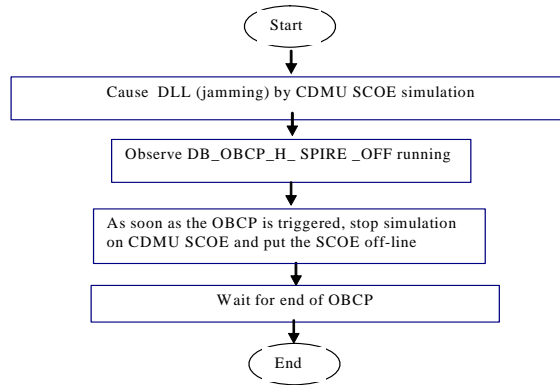
DB_OBCP_H_SPIRE_OFF_CTRL (TFL)

DB_OBCP_H_SPIRE_OFF_CTRL (TFL)



DB_OBCP_H_SPIRE_OFF (DLL)

DB_OBCP_H_SPIRE_OFF (DLL)



2 Documents/Drawings

This section contains the list of documents originator of the test procedure, the list of documents filled with the requirement applicable to the activities explained in this procedure, the list of documents used to define the activities on the items (like design reports)

2.1 Applicable Documents

- AD-1 Herschel Integrated Satellite Test Specification
H-P-2-ASP-SP-0939, Issue 7
- AD-2 Payload management and OBCP
H-P-ASPI-TN-1072, issue 8
- AD-3 Test Specification for Herschel Instruments AVM and FM T tests performed at Satellite Level
HP-2-ASP-TS-1083 Issue 2

2.2 Reference Documents

This section contains a list of documents filled with statements necessary to organise and to detail the operative execution of the test activities

- 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 Herschel Instruments power ON-OFF and Mode Switching Procedure for functional Testing
HP-2-ASED-TP-0206, Issue 3
- RD-4 Leading Procedure for Herschel Integrated Satellite Test 'IST'
HP-2-ASED-TP-0134 iss 7
- RD-5 H-P-TASF- MN-10377
- RD-6 H-P-TASF- MN-10378
- RD-7 H-P-TASF-MN-10199
- RD-8 Mail to S. Hamer



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

The requirements of AD-1, chapter 5.8.13 "TEST OF INSTRUMENT FDIR", are to be verified.

4 Configuration

4.1 Herschel S/C Configuration

Refer to RD4, for IST specifications chapter 5.8.13 "TEST OF INSTRUMENT FDIR",

4.1.1 *Hardware Configuration*

Refer to RD4, for IST specifications chapter 5.8.13 "TEST OF INSTRUMENT FDIR",

4.1.2 *Software Configuration*

Refer to RD4

4.1.3 *Test Configuration*

Refer to RD4

4.1.4 *Simulated Equipments*

Refer to RD4

4.2 Set-up

Refer to RD4

5 Conditions

5.1 Personnel

Refer to RD4

5.2 Environmental

Refer to RD4

5.3 General Precautions and Safety

Refer to RD4

5.3.1 *General Safety Requirements, Precautions*

Refer to RD4

5.3.2 *ESD constraints*

Refer to RD4

5.3.3 *Special QA Requirements*

Refer to RD4

5.4 GSE

Refer to RD4

5.4.1 *MGSE*

Refer to RD4

5.4.2 CVSE

Refer to RD4

5.4.3 EGSE

5.4.3.1 EGSE Hardware Configuration

Refer to RD4

NOTE: for HIFI and PACS OBCP tests, IEGSEs shall be running !

5.4.3.2 EGSE User Software

Refer to RD4

5.4.3.3 Grounding Configuration

Refer to RD4

5.4.3.4 Test Equipment

Refer to RD4

5.4.3.5 Data Acquisition System

Refer to RD4

5.4.4 OGSE

Refer to RD4

5.4.5 *Special Equipment*

Refer to RD4

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 satisfactory.

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 unexpected 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 S/C Initialization

Follow the steps in the power ON procedure of RD4, selecting the Test Case Instruments FDIR (5.8.13).

If the test case is run after the CDMS management (5.8.7), the S/C is already configured for an Autonomy Period and the mastr GUI will already be available:

- on the master GUI, select Test Case Instruments FDIR (5.8.13)
- SKIP the step to launch the IST_START
- Continue with step 1 §7.2 of this procedure calling the master script Z010999MCVT131_IST_INSTR_FDIR

NOTE: In this sequence, SKIP the step 3 of §7.2 “Configure for Instrument FDIR test”, because this is meant to configure the S/C in the Autonomy Period status.

If the test case is run stand-alone (e.g. during debugging), the S/C will be off at the beginning, so it will need to be switched on and then configured as in Autonomy Period.

Steps:

- Follow AD 4 selecting Test Case Instruments FDIR (5.8.13) from the GUI
- PERFORM the IST_START step
- Continue with step 1 §7.2 of this procedure calling the master script Z010999MCVT131_IST_INSTR_FDIR

NOTE: In this sequence, PERFORM the step “Configure for Instrument FDIR test”

7.2 Test Specific Initialization

| Step No. | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
|----------|---|---------------|-----------|--------------|--|---|---|
| 1. | <p>Enter the following In the CCS Test Console:</p> <p><i>callasync</i> <i>Z010999MCVT131_IST_INSTR_FDIR.tcl</i></p> | PASS | | | | | |
| 2. | <p>During <i>Z010999MCVT131_IST_INSTR_FDIR.tcl</i></p> <p><i>START HERSCHEL INSTRUMENTS FDIR, SECTION 5.8.13</i></p> <p>⇒ Click the button "YES" to proceed</p> | YES | | | If NO, the sequence is terminated. | | |
| 3. | <p>During <i>Z010999MCVT131_IST_INSTR_FDIR.tcl</i></p> <p><i>Configure for Instruments FDIR test? - SKIP if S/C already on and configured by CMDS MGMT</i></p> <p>⇒ Click the button "Confirm" to proceed</p> | CONFIRM | | | <p>If "SKIP" the sequence continues from step 37.</p> <p>NOTE: SKIP this step, if test follows cdms management and S/C already in A.P.</p> | | |

| | | | |
|----------------|----------|--------------------|-------|
| Test location: | Operator | Product-Assurance: | Date: |
|----------------|----------|--------------------|-------|

| Step No. | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
|----------|---|-------------------------------------|-----------|--------------|---------|---|---|
| 4. | <p>During Z010999MCVT131_IST_INSTR_FDIR</p> <p>"CDMS setting for separation"</p> <p>⇒ Click the button "Confirm" to proceed</p> | CONFIRM | | | | | |
| 5. | <p>During ... D103159SCVT138_IST_LAUNCH_SUNACQ</p> <p>⇒ Wait, go to script ...ACMS_CONFIG25</p> | PASS | | | | | |
| 6. | <p>During A102109SPVT103_ACMS_CONFIG25</p> <p>⇒ enter option 88, to go to Main Menu 3</p> <p>⇒ Click the button "OK"</p> <p>⇒ then press "Continue"</p> | <p>88</p> <p>OK</p> <p>CONTINUE</p> | | | | | |

| | | | |
|----------------|----------|--------------------|-------|
| Test location: | Operator | Product-Assurance: | Date: |
|----------------|----------|--------------------|-------|

| Step No. | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
|----------|--|------------------------------|-----------|--------------|--|---|---|
| 7. | <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> | | | | | |
| 8. | <p>During Z010999MCVT089_ACMS_SAM_MON</p> <p>Do you want to continue to monitor SAM Sun Pointing mode?</p> <p>⇒ Enter your choice: no and then click OK</p> | <p>NO</p> | | | | | |
| 9. | <p>At end of D102159SCVT138_IST_LAUNCH_SUNACQ</p> <p>⇒ Click the button "End TS!" to proceed</p> | <p>ENDTS</p> | | | | | |
| 10. | <p>During Z010999MCVT131_IST_INSTR_FDIR</p> <p>Transition to Nominal</p> <p>⇒ Click the button "Confirm" to proceed</p> | <p>CONFIRM</p> | | | <p>At the end check, from SAT.ilv, that CDMS FDIR mode (DE81D170) is AFO before switching instruments on</p> | | |

| | | | |
|----------------|----------|--------------------|-------|
| Test location: | Operator | Product-Assurance: | Date: |
|----------------|----------|--------------------|-------|

| Step No. | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
|----------|--|---------------------|-----------|--------------|---------|---|---|
| 11. | During <i>D102159SCVT138_IST_LAUNCH_SUNACQ</i> ⇒ Click the button "End TS!" to proceed | ENDTS | | | | | |
| 12. | During <i>Z010999MCVT131_IST_INSTR_FDIR</i> At the prompt "Command ACMS (via OCM/Earth) to SCM/Earth" ⇒ Click the button "OK" to proceed | OK | | | | | |
| 13. | During <i>A102109SPVT103_ACMS_CONFIG25</i> 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 | | | | | |
| 14. | During <i>A102109SPVT036_ACMS_STR_ON</i> Do you want to change the current STR in use ? Answer no ⇒ Click the button "NO" to proceed | NO | | | | | |

| | | | |
|----------------|----------|--------------------|-------|
| Test location: | Operator | Product-Assurance: | Date: |
|----------------|----------|--------------------|-------|

| Step No. | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
|----------|--|---------------------|-----------|--------------|---------|---|---|
| 15. | <p><i>During A102109SPVT043_TRANSITION_TO_OCM</i></p> <p><i>Only for info:</i> ⇒ <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</i></p> <p>⇒ <i>Verify AESM3002 = OCM point fine or in synoptic SAT – ACMS – ACC – Mode Nominal</i></p> | PASS | | | | | |
| 16. | <p><i>During A102109SPVT103_ACMS_CONFIG25</i></p> <p><i>Select Transition to SCM (Science mode). Main Menu 7.0: Option 3</i></p> <p>⇒ <i>Click the button "OK" and then</i> ⇒ <i>Click the button "Continue" to proceed</i></p> | 3 OK CONTINUE | | | | | |

| | | | |
|----------------|----------|--------------------|-------|
| Test location: | Operator | Product-Assurance: | Date: |
|----------------|----------|--------------------|-------|

| Step No. | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
|----------|--|--|-----------|--------------|---|---|---|
| 17. | <p><i>During A102109SPVT038_RWL_ON</i></p> <p><i>"Do you want to change actual on-board wheel set selected in the nominal configuration? RWL 1-2-3-4 selected</i></p> <p><i>⇒ Click the button "NO" to proceed ?</i></p> | NO | | | AEW1A002, AEW2A002, AEW3A002, AEW4A002 LOW expected until wheels are spun up on AND AA01W109 | | |
| 18. | <p><i>During A102109SPVT042_RWL_SPINUP</i></p> <p><i>"Change actual Angular Momentum (initial values)?" Option: no</i></p> <p><i>⇒ click OK and wait for about 10 minutes</i></p> | NO RWL-1 ang momentum 10.0 RWL-2 ang momentum -10.0 RWL-3 ang momentum 10.0 RWL-4 ang momentum -10.0 | | | | | |

| | | | |
|----------------|----------|--------------------|-------|
| Test location: | Operator | Product-Assurance: | Date: |
|----------------|----------|--------------------|-------|



| Step No. | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
|----------|---|---------------|-----------|--------------|---------|---|---|
| 19. | <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> | PASS | | | | | |

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| Test location: | Operator | Product-Assurance: | Date: |
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| Step No. | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
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| 20. | <p>Only for info:</p> <p>⇒ Verify 4x RWL momentum parameters are within +/-20%</p> <p>AEWMA002 = 10.0 (RWL1 momentum) AEWMB002 = -10.0 (RWL2 momentum) AEWMC002 = 10.0 (RWL3 momentum) AEWMD002 = -10.0 (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> | PASS | | | | | |
| 21. | <p>During A102109SPVT042_RWL_SPINUP If script SUSPENDs because of reaction wheels spin up time out</p> <p>⇒ Resume sequence from the conductor console</p> | | | | ACZ2T109 may timeout because of slew time too short. | | |

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| Test location: | Operator | Product-Assurance: | Date: |
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| Step No. | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
|----------|--|---------------|-----------|--------------|---|---|---|
| 22. | At end of A102109SPVT042_RWL_SPINUP ⇒ Click the button "End TS!" to proceed | ENDTS | | | After pressing EndTS wait until AESM3002 is "SCM pnt F rdy" | | |
| 23. | During Z010999MCVT131_IST_INSTR_FDIR "Transition from SAS 900W and BS 24V to SAS 1475W and BS full charged" ⇒ Click the button "Confirm" to proceed | CONFIRM | | | | | |
| 24. | During Z010999MCVT131_IST_INSTR_FDIR "Switch on SREM and start acquisition service" ⇒ Click the button "Confirm" to continue | CONFIRM | | | | | |
| 25. | During Z102999SCVT003_SREM_ACQ_START ⇒ Click the button "End TS!" to proceed | ENDTS | | | SPR-290 | | |

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| Test location: | Operator | Product-Assurance: | Date: |
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| Step No. | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
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| 26. | <p>Configure the instruments IEGSEs to support the specific test.</p> <p>For HIFI, perform §7.3.1 of RD3 (mandatory for HIFI power ON and FDIR test)</p> <p>For PACS, perform §7.1.1 of RD3 (mandatory for PACS FDIR test)</p> <p>For SPIRE, perform §7.2.1of RD3 (optional for SPIRE FDIR test, mandatory if instruments want to follow the test on IEGSEs)</p> <p>Then continue with the next step.</p> | <p>PASS</p> <p>PASS</p> <p>PASS</p> | | | <p>If planning to switch HIFI ON, switch the cooling on in cleanroom</p> | | |
| 27. | <p>During Z010999MCVT131_IST_INSTR_FDIR</p> <p>"POWER ON HIFI PRIMARY"</p> <p>⇒ Click the button "Confirm" to continue</p> | <p>CONFIRM</p> | | | <p>Conditions may change so check on RD-3 §7.3.2 for current prompts and expected OOL.</p> <p>At the end of it choose to reset the previous bus profile.</p> | | |
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| Test location: | Operator | Product-Assurance: | Date: |
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| Step No. | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
|----------|--|---------------|-----------|--------------|---|---|---|
| 28. | <p><i>During</i> Z010999MCVT131_IST_INSTR_FDIR</p> <p>"POWER ON PACS PRIMARY"</p> <p>⇒ <i>Click the button " Confirm" to continue</i></p> | CONFIRM | | | <p>Conditions may change so check on RD-3 §7.1.2 for current prompts and expected OOL.</p> <p>At the end of it choose to reset the previous bus profile.</p> | | |
| 29. | <p><i>During</i> Z010999MCVT131_IST_INSTR_FDIR</p> <p>"POWER ON SPIRE PRIMARY"</p> <p>⇒ <i>Click the button " confirm" to continue</i></p> | CONFIRM | | | <p>Conditions may change, so check on RD-3 §7.2.2 for current prompts and expected OOL.</p> <p>At the end of it choose to reset the previous bus profile.</p> | | |
| 30. | <p><i>During</i> Z010999MCVT131_IST_INSTR_FDIR</p> <p>At the prompt "SET RX2" RATE FROM 4000 to 125 BPS?"</p> <p>⇒ <i>Click the button "Confirm" to continue</i></p> | CONFIRM | | | | | |

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| Test location: | Operator | Product-Assurance: | Date: |
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| Step No. | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
|----------|---|-----------------------|-----------|--------------|--|---|---|
| 31. | <p><i>During</i> Z010999MCVT131_IST_INSTR_FDIR</p> <p>"SAVING ORIGINAL SCBP"</p> <p>⇒ Click the button "Confirm" to continue</p> | YES | | | | | |
| 32. | <p><i>During</i> Z010999MCVT131_IST_INSTR_FDIR</p> <p>"Clear MTL and start ON BOARD SCHEDULING?"</p> <p>⇒ Click the button "Confirm" to proceed</p> | CONFIRM | | | <p>The following TM parameters are related to the MTL and might be of importance in case of problems:</p> <ul style="list-style-type: none"> - DE82F170 - DEA74170 - DEH26170 <p>Open also the OnBoardQueue</p> | | |
| 33. | <p><i>During</i> Z010999MCVT131_IST_INSTR_FDIR</p> <p>"Check that all subschedules from 1 to 256, plus the 370 are enabled"</p> <p>⇒ Perform activity then click the button "OK" to proceed</p> | <p>PASS</p> <p>OK</p> | | | | | |

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| Test location: | Operator | Product-Assurance: | Date: |
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| Step No. | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
|----------|---|---|-----------|--------------|------------------------------------|---|---|
| 34. | <p><i>During</i> Z010999MCVT131_IST_INSTR_FDIR</p> <p><i>"Start the instrument specific FDIR sequence"</i></p> <p>⇒ 'callasync' the specific instrument FDIR sequence from test console and</p> <p>⇒ only at the END of it click the "OK" button.</p> | <p>Callasync proper sequence and continue from</p> <ul style="list-style-type: none"> - chapter 7.3 for HIFI - chapter 7.4 for PACS - chapter 7.5 for SPIRE <p>Sequences can be performed also one after the other.</p> <p>Otherwise continue from §7.6 for end of test activities</p> | | | Note down: chapter - time stamp | | |

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| Test location: | Operator | Product-Assurance: | Date: |
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7.3 HIFI

Note: HHIFIEGSEs shall be already running and set up as per step 27!!

| Step- | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
|-------|--|---------------|-----------|--------------|------------------------------|---|---|
| 35. | <p>Callasync Z010999MCVT134_IST_HIFI_FDIR</p> <p>to perform the HIFI related part of the Instruments FDIR IST</p> | PASS | | | | | |
| 36. | <p>During Z010999MCVT134_IST_HIFI_FDIR</p> <p>"Perform HIFI FDIR PRIMARY?"</p> <p>⇒ Click the button "Confirm" to continue</p> | CONFIRM | | | If SKIP, it exits the script | | |
| 37. | <p>During Z010999MCVT134_IST_HIFI_FDIR</p> <p>"Starting condition check"</p> <p>⇒ Click the button "Confirm" to continue</p> | CONFIRM | | | | | |

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| Test location: | Operator | Product-Assurance: | Date: |
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| Step- | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
|-------|---|---------------|-----------|--------------|---|---|---|
| 38. | <p><i>During</i> Z010999MCVT134_IST_HIFI_FDIR</p> <p>"Please check that no instrument is in science. If so, put it in standby"</p> <p>⇒ Click the button "OK" to continue</p> | OK | | | RD-3 for details. | | |
| 39. | <p><i>During</i> Z010999MCVT134_IST_HIFI_FDIR</p> <p>"INITIAL S/C STATUS CHECK"</p> <p>⇒ Click the button "confirm" to continue</p> | CONFIRM | | | | | |
| 40. | <p><i>During</i> Z010999MCVT153_IST_STATUS</p> <p>"Do you want to stop and notice each failure"</p> <p>⇒ Click the button "NO" to continue</p> | NO | | | | | |
| 41. | <p><i>During</i> Z010999MCVT153_IST_STATUS</p> <p>⇒ Check the Satellite State</p> <p>⇒ Click the button "OK" to continue</p> | OK | | | Compare with AD-1 for chapter 5.8.7 of IST specifications | | |

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| Test location: | Operator | Product-Assurance: | Date: |
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| Step- | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
|-------|---|---------------|-----------|--------------|---------|---|---|
| 42. | <p><i>During</i> Z010999MCVT134_IST_HIFI_FDIR</p> <p>"Set SCBP to HIFI Prime (2)"</p> <p>⇒ Click the button " Confirm" to continue</p> | CONFIRM | | | | | |
| 43. | <p><i>During</i> Z010999MCVT134_IST_HIFI_FDIR</p> <p>"upload dummy MTL with HIFI connection test in subschedule 70"</p> <p>⇒ Click the button "Confirm to continue"</p> | CONFIRM | | | | | |
| 44. | <p><i>During</i> D102159SCVT214_IST_HIFI_MTL_PING</p> <p>"Check the parameters"</p> <p>⇒ Check that there is 1 HIFI PING TC every 5 minutes starting within 15 minutes for 10 hours</p> <p>⇒ Click the button "OK" to confirm</p> | PASS OK | | | | | |
| 45. | <p><i>During</i> D102159SCVT214_IST_HIFI_MTL_PING</p> <p>⇒ Click the button "EndTS!" to continue</p> | ENDTS | | | | | |

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| Test location: | Operator | Product-Assurance: | Date: |
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| Step- | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
|-------|---|-----------------------|-----------|--------------|---------|---|---|
| 46. | <p><i>During</i> Z010999MCVT134_IST_HIFI_FDIR</p> <p>"Check that subschedule 60 (meta-HIFI) is disabled and 70 (HIFI TCs) are enabled, then press OK"</p> <p>⇒ Perform activity and then press the button "OK" to proceed</p> | <p>PASS</p> <p>OK</p> | | | | | |
| 47. | <p><i>During</i> Z010999MCVT134_IST_HIFI_FDIR</p> <p>"Wait for execution of the first command, then press OK"</p> <p>⇒ Click the button "OK" to confirm</p> | <p>PASS</p> <p>OK</p> | | | | | |
| 48. | <p><i>During</i> Z010999MCVT134_IST_HIFI_FDIR</p> <p>"Put HIFI Primary in science mode"</p> <p>⇒ Click the button "Confirm" to continue</p> | <p>CONFIRM</p> | | | | | |
| 49. | <p>Check if the downlink rate is set to 1.5 mbps, if not, send to change</p> <p style="text-align: right;">DC27F170</p> | | | | | | |

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| Test location: | Operator | Product-Assurance: | Date: |
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| Step- | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
|-------|--|--|-----------|--------------|--|---|---|
| 50. | <p><i>During</i> Z010999MCVT134_IST_HIFI_FDIR</p> <p><i>"Insert call to science mode sequence"</i></p> <p>⇒ <i>Click the button "OK" to confirm</i></p> <p><i>Execute: Z102999SCVT020_ASDGEN_HIFISTBY_2OPS_P.tcl</i></p> | <p>Callasync sequence according to RD-3 and current condition.</p> <p>At the end of it, press OK</p> | | | Note down chapter of RD-3 that has been executed: | | |
| 51. | <p><i>During</i> Z010999MCVT134_IST_HIFI_FDIR</p> <p><i>"Perform HIFI RESET OBCP (DLL)?"</i></p> <p>⇒ <i>Click the button "Confirm" to continue</i></p> | CONFIRM | | | <p>If SKIP, it continues at step 70.</p> <p>DB_OBCP_H_HIFI_RESET is the OBCP under test.</p> | | |
| 52. | <p><i>During</i> Z010999MCVT134_IST_HIFI_FDIR</p> <p><i>"HIFI RESET DLL FDIR triggering"</i></p> <p>⇒ <i>Click the button "confirm" to continue</i></p> | CONFIRM | | | | | |

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| Test location: | Operator | Product-Assurance: | Date: |
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| Step- | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
|-------|--|-----------------------|-----------|--------------|--|---|---|
| 53. | <p><i>During</i> Z010999MCVT134_IST_HIFI_FDIR</p> <p>"Please filter one TMPKT History for TM(5,4) and one for TM(5,1)"</p> <p>⇒ Click the button "OK" to continue</p> | <p>PASS</p> <p>OK</p> | | | | | |
| 54. | <p><i>During</i> Z010999MCVT134_IST_HIFI_FDIR</p> <p>"Please start the HIFI (RT 16) simulation on the CDMU SCOE to create jamming"</p> <p>⇒ Click the button "OK" to proceed</p> | OK | | | OK, then move to the CDMU SCOE desktop | | |
| 55. | <p><i>On CDMS SCOE</i></p> <p>Double-click on the link "StartSCOE.bat" on the desktop to start the CDMU SCOE workstation.</p> | PASS | | | | | |
| 56. | <p><i>On CDMS SCOE</i></p> <p>Select Menu: Mode ⇒ Local Mode Password: H-P</p> | PASS | | | | | |
| 57. | <p><i>On CDMS SCOE</i></p> <p>Select from menu: Setup ⇒ RTSim Configuration</p> | PASS | | | | | |

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| Test location: | Operator | Product-Assurance: | Date: |
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| Step- | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
|-------|--|---------------|-----------|--------------|---|---|---|
| 58. | <p>On CDMS SCOE</p> <p>Select file: R:\(192.168.90.32)\Herschel.rtc</p> <p>and then click the button "OK"</p> | PASS | | | | | |
| 59. | <p>On CDMS SCOE</p> <p>Select from menu: Mode⇒ On Line</p> | PASS | | | | | |
| 60. | <p>On CDMS SCOE</p> <p>In window: "System Control/RT controls" ⇒ Select RT 16 ⇒ Click the button "Enable" for:</p> <ul style="list-style-type: none"> - control - TM queue - TC queue <p>Within 8 seconds perform next step</p> | PASS | | | <p>JAMMING STARTED!!!!!!</p> <p>Very important to stop within 8 sec, to avoid subsequent reconfigurations!! CAN BE STOPPED AS SOON AS THE OBCP STARTED EVENT IS RECEIVED.</p> | | |

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| Test location: | Operator | Product-Assurance: | Date: |
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| Step- | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
|-------|--|----------------|-----------|--------------|---|---|---|
| 61. | <p>On CDMS SCOE</p> <p>In window: "System Control/RT controls" Click the button "Disable" for:</p> <ul style="list-style-type: none"> - control - TM queue - TC queue | PASS | | | Very important to stop within 8 sec, to avoid subsequent reconfigurations!! | | |
| 62. | <p>During Z010999MCVT134_IST_HIFI_FDIR</p> <p>At the prompt "Wait until the end of the OBCP TM(5,1) with SPID 40145170 proclD 0x130D"</p> <p>Check that</p> <ul style="list-style-type: none"> ⇒ OBCP HIFI_RESET has been triggered -TM(5,1) with SPID 4014817 proclD 0x130D ⇒ events TM(5,4) have been sent with EvID 0x3001 (SOFT RESET) 0x3000 (HARD RESET) ⇒ TM(5,1) with SPID 40145170 proclD 0x130D has been received <p>⇒ Click the button "OK" to confirm</p> | PASS OK | | | If soft reset, HIFI is left ON If hard reset HIFI is left OFF. | | |
| 63. | <p>If hard reset happened and you intend to leave HIFI off, switch off the cooling in cleanroom</p> | PASS | | | | | |

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| Test location: | Operator | Product-Assurance: | Date: |
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| Step- | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
|-------------------------|---|-----------------------|-----------|--------------|---------|---|---|
| 64. | <p><i>During</i> Z010999MCVT134_IST_HIFI_FDIR</p> <p>"RECOVERY ACTION"</p> <p>⇒ Click the button "Confirm to continue"</p> | CONFIRM | | | | | |
| 65. If HARD RESET | <p><i>During</i> Z010999MCVT134_IST_HIFI_FDIR</p> <p>"please check subschedules 60 and 70 are disabled"</p> <p>⇒ Perform activity and then click the "OK" button to confirm</p> | <p>PASS</p> <p>OK</p> | | | | | |
| 66. If SOFT RESET | <p><i>During</i> Z010999MCVT134_IST_HIFI_FDIR</p> <p>"please check subschedules 60 is disabled and 70 is enabled"</p> <p>⇒ Perform activity and then click the "OK" button to confirm</p> | <p>PASS</p> <p>OK</p> | | | | | |

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| Test location: | Operator | Product-Assurance: | Date: |
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| Step- | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
|-------|---|-----------------------|-----------|--------------|---------|---|---|
| 67. | <p><i>During</i> Z010999MCVT134_IST_HIFI_FDIR</p> <p>" Set the CDMU SCOE OFF LINE"</p> <p><i>On CDMS SCOE, select from menu:</i> Mode → Off Line</p> <p>⇒ Perform activity and then click the button "OK" to proceed</p> | <p>PASS</p> <p>OK</p> | | | | | |
| 68. | <p><i>During</i> Z010999MCVT134_IST_HIFI_FDIR</p> <p>"End of HIFI RESET OBCP (DLL)" "check that all EATs are enabled"</p> <p>⇒ Perform activity through D102159SCVT192_GET_EAT_REPORT and then click the "OK" button to confirm</p> | <p>PASS</p> <p>OK</p> | | | | | |
| 69. | <p><i>During</i> D102159SCVT192_GET_EAT_REPORT</p> <p>⇒ Click the button "EndTS!" to proceed</p> | <p>ENDTS</p> | | | | | |

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| Test location: | Operator | Product-Assurance: | Date: |
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| Step- | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
|----------------------------|---|---------------|-----------|--------------|---|---|---|
| 70. | <p>During Z010999MCVT134_IST_HIFI_FDIR</p> <p>"RESET starting conditions"</p> <p>⇒ click the "confirm" to continue</p> | CONFIRM | | | | | |
| 71. | <p>During Z010999MCVT131_IST_INSTR_FDIR</p> <p>"Check that all subschedules from 1 to 256, plus the 370 are enabled"</p> <p>⇒ Click the "OK" button to continue</p> | OK | | | | | |
| 72. If HARD RESET | <p>During Z010999MCVT134_IST_HIFI_FDIR</p> <p>"Switching HIFI ON"</p> <p>⇒ click the "CONFIRM" button to confirm</p> | CONFIRM | | | <p>Conditions may change, so check on RD-3 §7.3.2 for current prompts and expected OOL.</p> <p>At the end of it choose to reset the previous bus profile.</p> | | |

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| Test location: | Operator | Product-Assurance: | Date: |
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| Step- | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
|-------|--|---------------|-----------|--------------|---------|---|---|
| 73. | <p>During Z010999MCVT134_IST_HIFI_FDIR</p> <p>"End of HIFI Test" "check that all EATs are enabled"</p> <p>⇒ Perform activity through D102159SCVT192_GET_EAT_REPORT and then click the "OK" button to confirm</p> | PASS OK | | | | | |
| 74. | <p>During D102159SCVT192_GET_EAT_REPORT</p> <p>⇒ Click the button "EndTS!" to proceed</p> | ENDTS | | | | | |
| 75. | <p>At end of Z010999MCVT134_IST_HIFI_FDIR</p> <p>⇒ Click the button "End TS!" to proceed</p> | ENDTS | | | | | |

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| Test location: | Operator | Product-Assurance: | Date: |
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7.4 PACS

Note: HPACSEGSE shall be already running and set up as per step 27!!

| Step- | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
|-------|--|---------------|-----------|--------------|------------------------------|---|---|
| 76. | <i>Callasync</i> Z010999MCVT135_IST_PACS_FDIR <i>to perform the PACS related part of the Instruments FDIR IST</i> | PASS | | | | | |
| 77. | <i>During</i> Z010999MCVT135_IST_PACS_FDIR <i>"PERFORM PACS FDIR TEST (PRIMARY)?"</i> <i>⇒ Click the button "Confirm" to continue</i> | CONFIRM | | | If SKIP, it exits the script | | |
| 78. | <i>During</i> Z010999MCVT135_IST_PACS_FDIR <i>"Starting condition check"</i> <i>⇒ Click the button "Confirm" to proceed</i> | CONFIRM | | | | | |

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|----------------|----------|--------------------|-------|
| Test location: | Operator | Product-Assurance: | Date: |
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| Step- | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
|-------|---|---------------|-----------|--------------|---|---|---|
| 79. | <p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</p> <p>"Please check that no instrument is in science. If so put it in standby"</p> <p>⇒ Perform the activity and then click the button "OK" to confirm</p> | OK | | | RD-3 for details. | | |
| 80. | <p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</p> <p>"INITIAL S/C STATUS CHECK"</p> <p>⇒ Click the button "Confirm" to continue</p> | PASS | | | | | |
| 81. | <p><i>During</i> Z010999MCVT153_IST_STATUS</p> <p>"Do you want to stop and notice each failure"</p> <p>⇒ Click the button "NO" to continue</p> | NO | | | | | |
| 82. | <p><i>During</i> Z010999MCVT153_IST_STATUS</p> <p>⇒ Check the Satellite State</p> <p>⇒ Click the button "OK" to continue</p> | PASS OK | | | Compare with AD-1 for chapter 5.8.13 of IST specification | | |

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| Test location: | Operator | Product-Assurance: | Date: |
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| Step- | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
|-------|--|---------------|-----------|--------------|--|---|---|
| 83. | <p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</p> <p>"Set SCBP to PACS Prime (4)"</p> <p>⇒ Click the button "Confirm" to continue</p> | CONFIRM | | | | | |
| 84. | <p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</p> <p>"upload and enable dummy MTL with PACS connection test in subschedule 90"</p> <p>⇒ Click the button "Confirm" to continue</p> | CONFIRM | | | Open an On-Board Queue Display for monitoring the MTL status | | |
| 85. | <p><i>During</i> D102159SCVT125_IST_PACS_MTL_PING</p> <p>"Check MTL parameters"</p> <p>⇒ Check that there is 1 PACS PING TC every 5 minutes starting within 15 minutes for 10 hours</p> <p>⇒ Click the button "OK" to continue</p> | PASS OK | | | | | |
| 86. | <p><i>During</i> D102159SCVT125_IST_PACS_MTL_PING</p> <p>⇒ Click the button "EndTS!" to continue</p> | ENDTS | | | | | |

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| Step- | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
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| 87. | <p><i>During Z010999MCVT135_IST_PACS_FDIR</i></p> <p><i>"Check that the MTL contains one PC023280 (DPU_TEST_CONN) every 5 minutes for 10 hours in subshcedule 90"</i></p> <p><i>⇒ Click the button "OK" to continue</i></p> | PASS OK | | | 120 TC's are put in the MTL. | | |
| 88. | <p><i>During Z010999MCVT135_IST_PACS_FDIR</i></p> <p><i>"Check that subschedule 80 (meta-PACS) is disabled and 90 (PACS TCs) is enabled, then press OK"</i></p> <p><i>⇒ Perform activity and then click the "OK" button to confirm</i></p> | OK | | | | | |
| 89. | <p><i>During Z010999MCVT135_IST_PACS_FDIR</i></p> <p><i>"Wait for execution of the first command, then press OK"</i></p> <p><i>⇒ Click the button "OK" to continue</i></p> | OK | | | | | |

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| Step- | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
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| 90. | <p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</p> <p>"Put PACS in SCIENCE"</p> <p>⇒ Click the button "Confirm" to continue</p> | CONFIRM | | | <p>Refer to RD-3 §7.1.6 for current message and expected OOL.</p> <p>When PC012380 is sent proceed to next step</p> <p>Note: TC will remain pending until end of science</p> | | |
| 91. | <p>Check that file in /HPCCS/VARIABLE/RESULTS/ <test_session>/TMDUMP/ /<date-time>VC1.txt is increasing.</p> | PASS | | | | | |
| 92. | <p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</p> <p>"TEST the PACS SAFE FDIR?"</p> <p>⇒ Click the button "Confirm to continue"</p> | CONFIRM | | | <p>If SKIP, it continues at step 108.</p> <p>DB_OBCP_H_PACS_SAFE is the OBCP under test.</p> | | |

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| Step- | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
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| 93. | <p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</p> <p>"Execute PACS SCRIPT FOR AUTONOMY FUNCTION 14?"</p> <p>⇒ Click the button "Confirm" to continue</p> | CONFIRM | | | | | |
| 94. | <p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</p> <p>"Filter a TMPKT history for TM(5,2) and one for TM(5,1)"</p> <p>⇒ Check the script name and click the "OK" button to confirm</p> | OK | | | | | |
| 95. | <p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</p> <p>"check that BOL_T_FPU is disabled"</p> <p>⇒ Perform activity and then click the "OK" button to confirm</p> | PM165380 (DP_EV_BOL_T_FPU) = Disabled | | | Leave TQD of PM165380 open to monitor during OBCP | | |

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| Step- | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
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| 96. | <p><i>During</i> Z010999MCVT135_IST_PACS_FDIR <i>At the prompt:</i> "Wait until the end of the OBCP TM(5,1) with SPID 40145170 proclD 0x1208"</p> <p><i>Check that:</i></p> <p>⇒ PACS (AP ID=1152) is sending 3 event packets TM(5,2) EXCEPTION_REPO RT_04 before OBCP Started event</p> <p>⇒ 2x TM(1,8) from APID 16 prior to OBCP start</p> <p>⇒ PM165380 (DP_EV_BOL_T_FPU) is enabled</p> <p>⇒ OBCP P ACS_SAFE has been triggered – TM(5,1) with SPID 40148170 proclD 0x1208</p> <p>⇒ PM165380 (DP_EV_BOL_T_FPU) BOL_T_FPU is disabled again</p> <p>⇒ OBCP is OVER: TM(5,1) with SPID 40145170 proclD 0x1208</p> <p>⇒ Click the "OK" button to confirm</p> | PASS OK | | | Apart from checking the OBCP start and end events against the Proc ID, the other checks can be done off-line. | | |

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| Step- | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
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| 97. | <p><i>During Z010999MCVT135_IST_PACS_FDIR</i></p> <p><i>"please check that PACS is in SAFE mode and that its MTL commands have been disabled"</i></p> <p><i>⇒ Perform activity and then click the "OK" button to confirm</i></p> | <p>Subschedule</p> <p>80 OFF</p> <p>90 OFF</p> <p>OK</p> | | | | | |
| 98. | <p><i>During Z010999MCVT135_IST_PACS_FDIR</i></p> <p><i>"RECOVERY ACTION"</i></p> <p><i>⇒ Click the button "Confirm" to continue</i></p> | <p>CONFIRM</p> | | | | | |
| 99. | <p><i>During Z010999MCVT135_IST_PACS_FDIR</i></p> <p><i>"If still running, please terminate the sequence that keeps PACS in SCIENCE"</i></p> <p><i>⇒ Perform activity and then click the "OK" button to confirm</i></p> | <p>PASS</p> <p>OK</p> | | | | | |

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| Step- | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
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| 100. | <p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</p> <p>"Please filter TMPKT History for TM(8,6)"</p> <p>⇒ Perform activity and then click the "OK" button to confirm</p> | <p>PASS</p> <p>OK</p> | | | | | |
| 101. | <p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</p> <p>"Please check in the report that PACS TC Routing is disabled"</p> <p>⇒ Perform activity and then click the "OK" button to confirm</p> | <p>PACS</p> <p>Gnd-LoPrio</p> <p>DISABLED</p> | | | | | |
| 102. | <p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</p> <p>"Please filter TMPKT History for TM(8,6)"</p> <p>⇒ Perform activity and then click the "OK" button to confirm</p> | <p>PASS</p> <p>OK</p> | | | | | |

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| Step- | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
|-------|--|--|-----------|--------------|---------|---|---|
| 103. | <p><i>During Z010999MCVT135_IST_PACS_FDIR</i></p> <p><i>"Please check in the report that PACS TC Routing is enabled"</i></p> <p><i>⇒ Perform activity and then click the "OK" button to confirm</i></p> | <p>PACS Gnd-LoPrio ENABLED</p> | | | | | |
| 104. | <p><i>During Z010999MCVT135_IST_PACS_FDIR</i></p> <p><i>"Check that subschedule 80 (meta-PACS) is disabled and 90 (PACS TCs) is enabled, then press OK"</i></p> <p><i>⇒ Perform activity and then click the "OK" button to confirm</i></p> | <p>subschedules 80 OFF 90 ON</p> | | | | | |
| 105. | <p><i>During Z010999MCVT135_IST_PACS_FDIR</i></p> <p><i>"End of PACS SAFE OBCP TEST"</i> <i>"check that all EATs are enabled"</i></p> <p><i>⇒ Perform activity through D102159SCVT192_GET_EAT_REPORT and then click the "OK" button to confirm</i></p> | <p>PASS OK</p> | | | | | |

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| Step- | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
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| 106. | <p><i>During</i> D102159SCVT192_GET_EAT_REPORT</p> <p>⇒ Click the button "EndTS!" to proceed</p> | ENDTS | | | | | |
| 107. | <p><i>During</i> P102999SCVT904_ASDGENPACS_NomSpect</p> <p>(called asynchronously by the master) PACS will be put in prime mode.</p> <p>Check that file in /HPCCS/VARIABLE/RESULTS/ <test_session>/TMDUMP/ /<date-time>VC1.txt is increasing.</p> | YES | | | <p>Refer to RD-3 §7.1.6 for current message and expected OOL.</p> <p>When PC012380 is sent proceed to next step</p> <p>Note: TC will remain pending until end of science</p> | | |
| 108. | <p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</p> <p>"TEST the PACS POWER CYCLE OBCP?"</p> <p>⇒ Click the button "Confirm" to continue</p> | CONFIRM | | | <p>If SKIP, it continues at step 124.</p> <p>DB_OBCP_H_PACS_POWER_CYCLE is the OBCP under test.</p> | | |

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| Step- | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
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| 109. | <p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</p> <p>"TRIGGER OBCP WITH START TC"</p> <p>⇒ Click the button "Confirm to continue"</p> | CONFIRM | | | | | |
| 110. | <p>Z010999MCVT135_IST_PACS_FDIR</p> <p>"Filter a TMPKT history for TM(5,1)"</p> <p>⇒ Check script name and then click the button "OK" to confirm</p> | PASS OK | | | | | |
| 111. | <p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</p> <p>"sending EGSE_tcsend_CEV DCAST185 { DPV32185 90 } { DPV32185 0}"</p> <p>⇒ click the "OK" button to confirm</p> | OK | | | | | |

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| Step- | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
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| 112. | <p><i>During</i> Z010999MCVT135_IST_PACS_FDIR <i>At the prompt:</i> "Wait until the end of the OBCP TM(5,1) with SPID 40145170 proclD 0x120A" <i>Check that:</i> ⇒ OBCP PACS_POWER_CYCLE has been triggered – TM(5,1) with SPID 40148170 proclD 0x120A</p> <p>⇒ TM(5,4) with Event ID = 0x2001, SID = 0 (as a result of the called-up "PACS normal off" OBCP)</p> <p>⇒ TM(5,4) with Event ID = 0x2000, SID = 0 (as a result of the called-up "PACS normal off" OBCP)</p> <p>⇒ TM(5,4) with Event ID = 0x2002, SID = 0</p> <p>⇒ OBCP is OVER: TM(5,1) with SPID 40145170 proclD 0x120A</p> <p>⇒ click the "OK" button to continue</p> | PASS OK | | | Please note that the execution time of the OBCP takes about 9 minutes and that after OK there will be another waiting time of 5 minutes for safety | | |

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| Step- | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
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| 113. | <p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</p> <p><i>"please check that PACS is in SAFE mode and that its MTL commands have been disabled"</i></p> <p><i>⇒ Perform activity and then click the "OK" button to confirm</i></p> | <p>Subschedule</p> <p>80 (meta-PACS) OFF</p> <p>90 (PACS TCs) OFF</p> <p>OK</p> | | | | | |
| 114. | <p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</p> <p><i>"RECOVERY ACTION"</i></p> <p><i>⇒ Click the button "Confirm to continue"</i></p> | <p>CONFIRM</p> | | | | | |
| 115. | <p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</p> <p><i>"if still running, please terminate the sequence that keeps PACS in SCIENCE"</i></p> <p><i>⇒ Perform activity and then click the "OK" button to confirm</i></p> | <p>PASS</p> <p>OK</p> | | | | | |

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| Step- | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
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| 116. | <p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</p> <p><i>"Please filter TMPKT History for TM(8,6)"</i></p> <p><i>⇒ Perform activity and then click the "OK" button to confirm</i></p> | <p>PASS</p> <p>OK</p> | | | | | |
| 117. | <p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</p> <p><i>"Please check in the report that PACS TC Routing is disabled"</i></p> <p><i>⇒ Perform activity and then click the "OK" button to confirm</i></p> | <p>PACS</p> <p>Gnd-LoPrio</p> <p>DISABLED</p> <p>OK</p> | | | | | |
| 118. | <p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</p> <p><i>"Please filter TMPKT History for TM(8,6)"</i></p> <p><i>⇒ Perform activity and then click the "OK" button to confirm</i></p> | <p>PASS</p> <p>OK</p> | | | | | |

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| Step- | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
|-------|--|---|-----------|--------------|---------|---|---|
| 119. | <p><i>During Z010999MCVT135_IST_PACS_FDIR</i></p> <p><i>"Please check in the report that PACS TC Routing is enabled"</i></p> <p><i>⇒ Perform activity and then click the "OK" button to confirm</i></p> | <p>PACS Gnd-LoPrio ENABLED OK</p> | | | | | |
| 120. | <p><i>During Z010999MCVT135_IST_PACS_FDIR</i></p> <p><i>"Check that subschedule 80 (meta-PACS) is disabled and 90 (PACS TCs) is enabled, then press OK"</i></p> <p><i>⇒ Perform activity and then click the "OK" button to confirm</i></p> | <p>Subschedules 80 OFF 90 ON OK</p> | | | | | |
| 121. | <p><i>During Z010999MCVT135_IST_PACS_FDIR</i></p> <p><i>"End of PACS POWER CYCLE TEST. check that all EATs are enabled"</i></p> <p><i>⇒ Perform activity through D102159SCVT192_GET_EAT_REPORT and then click the "OK" button to confirm</i></p> | <p>PASS OK</p> | | | | | |

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| Step- | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
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| 122. | <p><i>During</i> D102159SCVT192_GET_EAT_REPORT</p> <p>⇒ Click the button "EndTS!" to proceed</p> | ENDTS | | | | | |
| 123. | <p><i>During</i> P102999SCVT904_ASDGENPACS_NomSpect</p> <p>(called asynchronously by the master) PACS will be put in prime mode.</p> <p>Check that file in /HPCCS/VARIABLE/RESULTS/ <test_session>/TMDUMP/ /<date-time>VC1.txt is increasing.</p> | PASS | | | <p>Refer to RD-3 §7.1.6 for current message and expected OOL.</p> <p>When PC012380 is sent proceed to next step</p> <p>Note: TC will remain pending until end of science</p> | | |
| 124. | <p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</p> <p>"PACS NORMAL OFF OBCP"</p> <p>⇒ Click the button "Confirm" to continue</p> | CONFIRM | | | <p>If SKIP, it continues at step 143.</p> <p>DB_OBCP_H_PACS_NORMAL_OFF is the OBCP under test.</p> | | |

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| Step- | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
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| 125. | <p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</p> <p>"Execute PACS SCRIPT FOR AUTONOMY FUNCTION 17?"</p> <p>⇒ Click the button "Confirm" to continue</p> | CONFIRM | | | | | |
| 126. | <p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</p> <p>"Calling script PACS_StartAutonomy_Function_17_OBS_Shell.tcl"</p> <p>⇒ Perform activity and then click the "OK" button to confirm</p> | OK | | | If script is not correct, abort the test sequence | | |

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| Step- | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
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| 127. | <p><i>During</i> Z010999MCVT135_IST_PACS_FDIR <i>At the prompt:</i></p> <p><i>"Wait until the end of the OBCP TM(5,1) with SPID 40145170 proclD 0x120C"</i> <i>Check that:</i></p> <p>⇒ PACS is sending event packets TM(5,2) - BOLC power violated EXCEPTION_REPORT_0_25</p> <p>⇒ OBCP PACS_NORMAL_OFF has been triggered TM(5,1) with SPID 40148170 proclD 0x120C</p> <p>⇒ TM(5,4) with Event ID = 0x2001, SID = 0</p> <p>⇒ TM(5,4) with Event ID = 0x2000, SID = 0</p> <p>⇒ PACS goes OFF</p> <p>⇒ OBCP is OVER: TM(5,1) with SPID 40145170 proclD 0x120C</p> <p>⇒ then click the "OK" button to confirm</p> | <p>PASS</p> <p>OK</p> | | | <p>Apart from start and end events checks, the other can be done offline.</p> | | |

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| Step- | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
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| 128. | <p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</p> <p><i>"Check that PACS is OFF and MTL TCs are disabled"</i></p> <p>⇒ <i>Perform activity and then click the "OK" button to confirm</i></p> | <p>Subschedules 80 OFF 90 OFF All PACS LCLs (27,41,35,65) OFF OK</p> | | | | | |
| 129. | <p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</p> <p><i>"check that all EATs are enabled except 0x006 for APIDs 0x0480 and 0x0481"</i></p> <p>⇒ <i>Perform activity from</i> D102159SCVT192_GET_EAT_REPORT <i>Then press OK</i></p> | <p>PASS OK</p> | | | | | |
| 130. | <p><i>During</i> D102159SCVT192_GET_EAT_REPORT</p> <p>⇒ <i>Click EndTS to continue</i></p> | <p>ENDTS</p> | | | | | |

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| Step- | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
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| 131. | <p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</p> <p>"RECOVERY ACTION"</p> <p>⇒ Click the "Confirm" button to continue</p> | CONFIRM | | | | | |
| 132. | <p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</p> <p>"If still running, please terminate the sequence to keep PACS in SCIENCE"</p> <p>⇒ Perform activity and then click the "OK" button to confirm</p> | OK | | | | | |
| 133. | <p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</p> <p>"Please filter TMPKT History for TM(8,6)"</p> <p>⇒ Perform activity and then click the "OK" button to confirm</p> | <p>PASS</p> <p>OK</p> | | | | | |

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| Step- | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
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| 134. | <p><i>During Z010999MCVT135_IST_PACS_FDIR</i></p> <p><i>"Please check in the report that PACS TC Routing is disabled"</i></p> <p><i>⇒ Perform activity and then click the "OK" button to confirm</i></p> | <p>PACS Gnd-LoPrio DISABLED</p> <p>OK</p> | | | | | |
| 135. | <p><i>During Z010999MCVT135_IST_PACS_FDIR</i></p> <p><i>"Please filter TMPKT History for TM(8,6)"</i></p> <p><i>⇒ Perform activity and then click the "OK" button to confirm</i></p> | <p>PASS</p> <p>OK</p> | | | | | |
| 136. | <p><i>During Z010999MCVT135_IST_PACS_FDIR</i></p> <p><i>"Please check in the report that PACS TC Routing is enabled"</i></p> <p><i>⇒ Perform activity and then click the "OK" button to confirm</i></p> | <p>PACS Gnd-LoPrio ENABLED</p> <p>OK</p> | | | | | |

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| Step- | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
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| 137. | <p><i>During</i> Z010999MCVT135_IST_PACS_FDIR "check that all EATs are enabled"</p> <p>⇒ Perform activity from D102159SCVT192_GET_EAT_REPORT Then press OK</p> | PASS OK | | | | | |
| 138. | <p><i>During</i> D102159SCVT192_GET_EAT_REPORT</p> <p>⇒ Click EndTS to continue</p> | ENDTS | | | | | |
| 139. | <p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</p> <p>"Switching PACS ON"</p> <p>⇒ Click the "OK" button to confirm</p> | OK | | | <p>Conditions may change, so check on RD-3 §7.1.2 for current prompts and expected OOL.</p> <p>At the end of it choose to reset the previous bus profile.</p> | | |
| 140. | <p><i>During</i> P102999SCVT918_ASDISTPACS_MarkON</p> <p>"Mark PACS Units ON?"</p> <p>⇒ click "confirm" to continue</p> | CONFIRM | | | | | |

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| Step- | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
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| 141. | <p><i>During Z010999MCVT135_IST_PACS_FDIR</i></p> <p><i>"Please check that subschedule 80 (meta-PACS) is disabled and 90 (PACS TCs) is enabled Then press OK"</i></p> <p><i>⇒ Perform activity and then click the "OK" button to confirm</i></p> | <p>Subschedules</p> <p>80 OFF</p> <p>90 ON</p> <p>OK</p> | | | | | |
| 142. | <p><i>During Z010999MCVT135_IST_PACS_FDIR</i></p> <p><i>"End of PACS NORMAL OFF TEST."</i></p> <p><i>⇒ click the "OK" button to confirm</i></p> | OK | | | | | |
| 143. | <p><i>During Z010999MCVT135_IST_PACS_FDIR</i></p> <p><i>"PACS IMMEDIATE OFF OBCP?"</i></p> <p><i>⇒ Click the button "Confirm" to continue</i></p> | CONFIRM | | | <p>If SKIP, it continues at step 165.</p> <p>DB_OBCP_H_PACS_IMMEDIATE_OFF is the OBCP under test.</p> | | |

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| Step- | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
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| 144. | <p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</p> <p>"Execute PACS script for clearing HK?"</p> <p>⇒ click the "Confirm" button to continue</p> | CONFIRM | | | | | |
| 145. | <p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</p> <p>"Filter one TMPKT History for PACS HK and one for TM(5,1)"</p> <p>⇒ Perform activity and then click the "OK" button to confirm</p> | PASS OK | | | PACS APID 1152/1154 | | |
| 146. | <p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</p> <p>"check that PACS is sending no regular packets any more"</p> <p>⇒ Perform activity and then click the "OK" button to confirm</p> | PASS OK | | | | | |

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| Step- | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
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| 147. | <p><i>During</i> Z010999MCVT135_IST_PACS_FDIR <i>At the prompt:</i> "Wait until the end of the OBCP - TM(5,1) with SPID 40145170 proclD 0x120B <i>Check that:</i> ⇒ OBCP PACS IMMEDIATE OFF has been triggered - TM(5,1) with SPID 40148170 proclD 0x120B ⇒ PACS goes OFF ⇒ OBCP is OVER: TM(5,1) with SPID 40145170 proclD 0x120B ⇒ then click the "OK" button to confirm</p> | <p>PASS OK</p> | | | <p>NC3958 (evt Hifi Off) Expected: TM(5,1)- 0579 SDB PACS failed TM TM(5,2)-0586 SDB PACS non vital RT Sick TM TM(5,1) OBCP Started TM(5,1)-48 subschedule status changed 3x TM(5,1) Unit already marked OFF TM(5,1) OBCP ended</p> | | |
| 148. | <p><i>During</i> Z010999MCVT135_IST_PACS_FDIR "Check that subschedule 80 (meta-PACS) and 90 (PACS TCs) are disabled. Then press OK" ⇒ Perform activity and then click the "OK" button to confirm</p> | <p>Subschedules 80 OFF 90 OFF OK</p> | | | | | |

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| Test location: | Operator | Product-Assurance: | Date: |
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| Step- | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
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| 149. | <p><i>During</i> Z010999MCVT135_IST_PACS_FDIR "check that all EATs are enabled except 0x006 for APIDs 0x0480 and 0x0481"</p> <p>⇒ Perform activity from D102159SCVT192_GET_EAT_REPORT Then press OK</p> | <p>PASS</p> <p>OK</p> | | | | | |
| 150. | <p><i>During</i> D102159SCVT192_GET_EAT_REPORT</p> <p>⇒ Click EndTS to continue</p> | <p>ENDTS</p> | | | | | |
| 151. | <p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</p> <p>"RECOVERY ACTION"</p> <p>⇒ click Confirm to continue</p> | <p>CONFIRM</p> | | | | | |
| 152. | <p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</p> <p>"If still running, please terminate the sequence to keep PACS in SCIENCE"</p> <p>⇒ Perform activity and then click the "OK" button to confirm</p> | <p>OK</p> | | | <p>PACS SHOULD NOT BE IN SCIENCE</p> | | |

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| Step- | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
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| 153. | <p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</p> <p><i>"Please filter TMPKT History for TM(8,6)"</i></p> <p><i>⇒ Perform activity and then click the "OK" button to confirm</i></p> | <p>PASS</p> <p>OK</p> | | | | | |
| 154. | <p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</p> <p><i>"Please check in the report that PACS TC Routing is disabled"</i></p> <p><i>⇒ Perform activity and then click the "OK" button to confirm</i></p> | <p>PACS</p> <p>Gnd-LoPrio</p> <p>DISABLED</p> <p>OK</p> | | | | | |
| 155. | <p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</p> <p><i>"Please filter TMPKT History for TM(8,6)"</i></p> <p><i>⇒ Perform activity and then click the "OK" button to confirm</i></p> | <p>PASS</p> <p>OK</p> | | | | | |

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| Step- | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
|-------|---|--|-----------|--------------|--|---|---|
| 156. | <p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</p> <p><i>"Please check in the report that PACS TC Routing is enabled"</i></p> <p><i>⇒ Perform activity and then click the "OK" button to confirm</i></p> | <p>PACS Gnd-LoPrio ENABLED</p> <p>OK</p> | | | | | |
| 157. | <p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</p> <p><i>"check that all EATs are enabled"</i></p> <p><i>⇒ Perform activity from D102159SCVT192_GET_EAT_REPORT Then press OK</i></p> | <p>PASS</p> <p>OK</p> | | | | | |
| 158. | <p><i>During</i> D102159SCVT192_GET_EAT_REPORT</p> <p><i>⇒ Click EndTS to continue</i></p> | <p>ENDTS</p> | | | | | |
| 159. | <p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</p> <p><i>"Switching PACS ON"</i></p> <p><i>⇒ Click the "OK" button to confirm</i></p> | <p>OK</p> | | | <p>Conditions may change, so check on RD-3 §7.1.2 or current prompts and expected OOL.</p> <p>At the end of it choose to reset the previous bus profile.</p> | | |

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| Step- | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
|-------|--|--|-----------|--------------|------------------|---|---|
| 160. | <p><i>During</i> <i>P102999SCVT918_ASDISTPACS_MarkON</i></p> <p>"Mark PACS Units ON?"</p> <p>⇒ click "confirm" to continue</p> | CONFIRM | | | Monitor ZAD1E999 | | |
| 161. | <p><i>During</i> <i>Z010999MCVT135_IST_PACS_FDIR</i></p> <p>"Please check that subschedule 80 (meta-PACS) is disabled and 90 (PACS TCs) is enabled Then press OK"</p> <p>⇒ Perform activity and then click the "OK" button to confirm</p> | <p>80 OFF 90 ON</p> <p>OK</p> | | | | | |
| 162. | <p><i>During</i> <i>Z010999MCVT135_IST_PACS_FDIR</i></p> <p>"End of PACS IMMEDIATE OFF TEST"</p> <p>⇒ click the "OK" button to confirm</p> | OK | | | | | |

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| Step- | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
|-------|--|-----------------------|-----------|--------------|---------|---|---|
| 163. | <p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</p> <p>"End of PACS FDIR TEST (PRIMARY) check that all EATs are enabled"</p> <p>⇒ Perform activity through D102159SCVT192_GET_EAT_REPORT and then click the "OK" button to confirm</p> | <p>PASS</p> <p>OK</p> | | | | | |
| 164. | <p><i>During</i> D102159SCVT192_GET_EAT_REPORT</p> <p>⇒ Click the button "EndTS!" to proceed</p> | <p>ENDTS</p> | | | | | |
| 165. | <p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</p> <p>"RESET the starting condition"</p> <p>⇒ Click the button "Confirm" to continue</p> | <p>CONFIRM</p> | | | | | |
| 166. | <p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</p> <p>" Terminate ALL_SubscribeParams.tcl"</p> <p>⇒ perform §7.1.9 of RD3 then click the "OK" button to confirm</p> | <p>PASS</p> <p>OK</p> | | | | | |

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| Step- | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
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| 167. | <p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</p> <p>"Check that PACS is ON but in no prime (STDBY)"</p> <p>⇒ Click the "OK" button to confirm</p> | <p>PASS</p> <p>OK</p> | | | | | |
| 168. | <p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</p> <p>"Check that all subschedules from 1 to 256, plus 370 are enabled"</p> <p>⇒ Click the button "OK" to confirm</p> | <p>PASS</p> <p>OK</p> | | | | | |
| 169. | <p><i>At end of</i> Z010999MCVT135_IST_PACS_FDIR</p> <p>⇒ Click the button "End TS!" to proceed</p> | <p>ENDTS</p> | | | | | |

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7.5 SPIRE

| Step -No. | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
|-----------|---|---------------|-----------|--------------|------------------------------|---|---|
| 170. | <p><i>Callasync</i></p> <p><i>Z010999MCVT137_IST_SPIRE_FDIR_formal</i></p> <p><i>to perform the SPIRE related part of the Instruments FDIR IST</i></p> | PASS | | | | | |
| 171. | <p><i>During</i></p> <p><i>Z010999MCVT137_IST_SPIRE_FDIR_formal</i></p> <p><i>"PERFORM SPIRE FDIR TEST (PRIMARY)?"</i></p> <p><i>⇒ Click the button "Confirm" to continue</i></p> | CONFIRM | | | If SKIP, it exits the script | | |
| 172. | <p><i>During</i></p> <p><i>Z010999MCVT137_IST_SPIRE_FDIR_formal</i></p> <p><i>"Starting condition check"</i></p> <p><i>⇒ Click the button "Confirm" to continue</i></p> | CONFIRM | | | | | |

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| Test location: | Operator | Product-Assurance: | Date: |
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| Step -No. | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
|-----------|--|-----------------------|-----------|--------------|---|---|---|
| 173. | <p><i>During</i> Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"Please check that no instrument is in science. If so, put it in standby"</p> <p>⇒ Click the button "OK" to confirm</p> | <p>PASS</p> <p>OK</p> | | | RD-3 for details | | |
| 174. | <p><i>During</i> Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"INITIAL S/C STATUS CHECK"</p> <p>⇒ Click the button "Confirm" to continue</p> | <p>CONFIRM</p> | | | | | |
| 175. | <p><i>During</i> Z010999MCVT153_IST_STATUS</p> <p>"Do you want to stop and notice each failure"</p> <p>⇒ Click the button "NO" to continue</p> | <p>NO</p> | | | | | |
| 176. | <p><i>During</i> Z010999MCVT153_IST_STATUS</p> <p>⇒ Check the Satellite State</p> <p>⇒ Click the button "OK" to continue</p> | <p>PASS</p> <p>OK</p> | | | Compare with AD-1 for chapter 5.8.13 of IST specification | | |

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| Step -No. | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
|-----------|--|-----------------------|-----------|--------------|-----------------------|---|---|
| 177. | <p><i>During</i> Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"Set SCBP to SPIRE Prime (3)"</p> <p>⇒ Click the button "confirm" to continue</p> | CONFIRM | | | | | |
| 178. | <p><i>During</i> Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"Upload and enable dummy MTL with SPIRE connection test in subschedule 370"</p> <p>⇒ Click the button "Confirm" to continue</p> | CONFIRM | | | | | |
| 179. | <p><i>During</i> D102159SCVT218_IST_SPIRE_MTL_PING</p> <p>"Check the parameters"</p> <p>⇒ Check that there is 1 SPIRE PING TC every 5 minutes starting within 15' for 10 hours</p> <p>⇒ Click the button "OK" to confirm</p> | <p>PASS</p> <p>OK</p> | | | 120 TCs are expected. | | |
| 180. | <p><i>During</i> D102159SCVT218_IST_SPIRE_MTL_PING</p> <p>⇒ Click the button "EndTS!" to continue</p> | ENDTS | | | | | |

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| Step -No. | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
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| 181. | Check that the MTL contains one SCL00500 (TEST CONNECTION) every 5 minutes for 10 hours in subschedule 370 | PASS OK | | | | | |
| 182. | During Z010999MCVT137_IST_SPIRE_FDIR_formal "Check that subschedule 100 (meta-SPIRE) is disabled and 370 (SPIRE TCs) is enabled, then press OK" ⇒ Perform activity and then click the "OK" button to confirm | Subschedules 100 OFF 370 ON OK | | | | | |
| 183. | During Z010999MCVT137_IST_SPIRE_FDIR_formal "Wait for execution of the first command, then press OK" ⇒ Click the button "OK" to continue | PASS OK | | | | | |
| 184. | During Z010999MCVT137_IST_SPIRE_FDIR_formal "Put SPIRE Primary in science" ⇒ Click the button "Confirm" to continue | CONFIRM | | | Refer to RD3 §7.2.6 for prompts and expected OOLs. | | |

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| Step -No. | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
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| 185. | <p><i>During</i> <i>Z010999MCVT137_IST_SPIRE_FDIR_formal</i></p> <p><i>" Check that SPIRE is producing science packets"</i></p> <p><i>⇒ Click the button "OK" to continue</i></p> | <p>PASS</p> <p>OK</p> | | | <p>Check that file in /HPCCS/VARIABLE/RESULTS/<test_session>/TMDUMP/ /<date-time>VC1.txt is increasing. With TM from APID 1284</p> | | |
| 186. | <p><i>During</i> <i>Z010999MCVT137_IST_SPIRE_FDIR_formal</i></p> <p><i>"TEST the SPIRE OPE STOP FDIR?"</i></p> <p><i>⇒ Click the button "Confirm" to continue</i></p> | <p>CONFIRM</p> | | | <p>If SKIP, it continues at step 194.</p> <p>DB_OBCP_H_SPIRE_OPE_STOP is the OBCP under test.</p> <p>IMPORTANT NOTE: If the test of the SPIRE OPE STOP is executed the n the SPIRE RESUME OBCP M UST be executed afterwards, too.</p> | | |
| 187. | <p><i>During</i> <i>Z010999MCVT137_IST_SPIRE_FDIR_formal</i></p> <p><i>"TRIGGER OBCP WITH SPIRE SCRIPT"</i></p> <p><i>⇒ Click the button "Confirm" to continue</i></p> | <p>CONFIRM</p> | | | | | |

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| Step -No. | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
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| 188. | <p><i>During</i> <i>Z010999MCVT137_IST_SPIRE_FDIR_formal</i></p> <p><i>"Please filter one TMPKT History for APID 16 and type 5 and one for APID 1280 Type 5"</i></p> <p><i>⇒ Click the button "OK" to continue</i></p> | <p>PASS</p> <p>OK</p> | | | | | |
| 189. | <p><i>During</i> <i>Z010999MCVT137_IST_SPIRE_FDIR_formal</i></p> <p><i>"executing script SPIRE-OBCPTest-ObservationAnomaly.tcl"</i></p> <p><i>⇒ Click the button "OK" to confirm</i></p> | <p>OK</p> | | | | | |

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| Step -No. | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
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| 190. | <p><i>During</i> Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p><i>at the prompt:</i> "Wait until the end of the OBCP TM(5,1) with SPID 40145170 proclD 0x1106"</p> <p>⇒ Wait for ~5 seconds for the reception of TM(5,2) event report with APID 1280 Event ID 0xC100 and SID 0x5200</p> <p>⇒ check that OBCP SPIRE OPE STOP has been triggered - TM(5,1) with APID 16, SPID 40148170 proclD 0x1106</p> <p>⇒ TM(5,4) with APID 16 EvID 0x1003 SPIRE Operations Stopped" is received</p> <p>⇒ check th at TM(5,1) with APID 16, SPID 40145170 proclD 0x1106 is received</p> <p>⇒ <i>Click the "OK" button to confirm</i></p> | <p>PASS</p> <p>OK</p> | | | | | |

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| Test location: | Operator | Product-Assurance: | Date: |
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| Step -No. | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
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| 191. | <p><i>During</i> Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p><i>At the prompt:</i> "please check SPIRE status and that subschedule 370 (SPIRE TCs) and 100 (meta-SPIRE) are disabled":</p> <p>⇒ check that SPIRE DRCU is ON</p> <p>⇒ check that SPIRE DPU is ON and generating nominal and critical HK</p> <p>⇒ check that subschedule 370 (SPIRE TCs) and 100 (meta-SPIRE) are disabled</p> <p>⇒ Click the "OK" button to confirm</p> | <p>LCL11 ON LCL51 ON</p> <p>TM (3,25) with APID 1280 = CRIT HK 1282 = NOM HK</p> <p>OK</p> | | | | | |
| 192. | <p><i>During</i> Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"End of SPIRE OPE STOP TEST" "check that all EATs are enabled"</p> <p>⇒ Perform activity through D102159SCVT192_GET_EAT_REPORT and click the "OK" button to confirm</p> | <p>PASS</p> <p>OK</p> | | | | | |

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| Test location: | Operator | Product-Assurance: | Date: |
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| Step -No. | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
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| 193. | <p><i>During</i> <i>D102159SCVT192_GET_EAT_REPORT</i></p> <p>⇒ <i>Click the button "EndTS!" to proceed</i></p> | ENDTS | | | | | |
| 194. | <p><i>During</i> <i>Z010999MCVT137_IST_SPIRE_FDIR_formal</i></p> <p><i>"Test SPIRE OPE RESUME OBCP?"</i></p> <p>⇒ <i>Click the button "Confirm" to continue</i></p> | CONFIRM | | | <p>If SKIP, it continues at step 204.</p> <p>DB_OBCP_H_SPIRE_OPE_RESUME is the OBCP under test.</p> <p>WARNING: if OPE STOP is performed, OPE RESUME MUST be performed before carrying on.</p> | | |
| 195. | <p><i>During</i> <i>Z010999MCVT137_IST_SPIRE_FDIR_formal</i></p> <p><i>"Trigger OBCP with SPIRE script"</i></p> <p>⇒ <i>click the button "Confirm" to continue</i></p> | CONFIRM | | | | | |

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| Step -No. | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
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| 196. | <p><i>During</i> <i>Z010999MCVT137_IST_SPIRE_FDIR_formal</i></p> <p><i>"Please filter one TMPKT History for TM type 5"</i></p> <p><i>⇒ Perform activity then click the button "OK" to continue</i></p> | <p>PASS</p> <p>OK</p> | | | | | |
| 197. | <p><i>During</i> <i>Z010999MCVT137_IST_SPIRE_FDIR_formal</i></p> <p><i>"executing script SPIRE-OBCPTest-ObservationAnomalyCorrected.tcl "</i></p> <p><i>⇒ Click the button "OK" to confirm</i></p> | <p>OK</p> | | | | | |

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| Test location: | Operator | Product-Assurance: | Date: |
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| Step -No. | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
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| 198. | <p><i>During</i> Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p><i>At the prompt:</i> "Wait until the end of the OBCP TM(5,1) with SPID 40145170 proclD 0x1107"</p> <p>⇒ Wait for ~5 seconds for the reception of TM(5,2) event report with Event ID 0xC110 and SID 0x5200</p> <p>⇒ check that OBCP SPIRE OPE RESUME has been triggered - TM(5,1) with APID 16, SPID 40148170 proclD 0x1107</p> <p>⇒ TM(5,4) with EvID 0x1004 "SPIRE Operations Resumed" is received</p> <p>⇒ check that TM(5,1) with APID 16, SPID 40145170 proclD 0x1107 is received"</p> <p>⇒ <i>Perform activities and then click the "OK" button to confirm</i></p> | PASS OK | | | | | |

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| Step -No. | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
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| 199. | <p><i>During</i> Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p><i>At the prompt:</i> "please check the SPIRE status and that subschedule 370 (SPIRE TCs) is DISABLED and 100 (meta-SPIRE) is ENABLED"</p> <p>⇒ check that SPIRE DRCU is ON</p> <p>⇒ check that SPIRE DPU is ON and generating nominal and critical HK</p> <p>⇒ check that SPIRE is in PHOTOPS mode</p> <p>⇒ check that Photometer science data are being generated</p> <p>⇒ check that subschedule 370 (SPIRE TCs) is disabled and 100 (meta-SPIRE) is enabled "</p> <p>⇒ <i>Click the "OK" button to confirm</i></p> | <p>LCL11 ON LCL51 OFF File in /HPCCS/VARIABLE/RESULTS/ <test_session>/TMDUMP/ /<date-time>VC1.txt is increasing. With TM from APID 1284 Subschedules 370 OFF 100 ON</p> <p>OK</p> | | | | | |

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| Step -No. | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
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| 200. | <p><i>During</i> Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"RECOVERY ACTION"</p> <p>⇒ Click Confirm to continue</p> | CONFIRM | | | | | |
| 201. | <p><i>During</i> Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>At the prompt: "please check status of SPIRE, that subschedule 370 (SPIRE TCs) is enabled and 100 (meta-SPIRE) is disabled"</p> <p>⇒ perform activity and then click the "OK" button to confirm</p> | <p>Subschedules 370 ON 100 OFF</p> <p>OK</p> | | | | | |

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| Step -No. | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
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| 202. | <p><i>During</i> Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p><i>"End of SPIRE OPE RESUME TEST"</i> <i>"check that all EATs are enabled"</i></p> <p>⇒ <i>Perform activity through</i> <i>D102159SCVT192_GET_EAT_REPORT</i> <i>then click the "OK" button to confirm</i></p> | <p>PASS</p> <p>OK</p> | | | | | |
| 203. | <p><i>During</i> D102159SCVT192_GET_EAT_REPORT</p> <p>⇒ <i>Click the button "EndTS!" to proceed</i></p> | <p>ENDTS</p> | | | | | |
| 204. | <p><i>During</i> Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p><i>"TEST the SPIRE DRCU OFF OBCP?"</i></p> <p>⇒ <i>Click the button "Confirm" to continue</i></p> | <p>CONFIRM</p> | | | <p>If SKIP, it continues at step 219.</p> <p>DB_OBCP_H_SPIRE_DRCU_OFF is the OBCP under test.</p> | | |

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| Step -No. | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
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| 205. | <p><i>During</i> <i>Z010999MCVT137_IST_SPIRE_FDIR_formal</i></p> <p><i>"TRIGGER OBCP WITH SPIRE SCRIPT"</i></p> <p><i>⇒ Click the button "confirm" to continue</i></p> | CONFIRM | | | | | |
| 206. | <p><i>During</i> <i>Z010999MCVT137_IST_SPIRE_FDIR_formal</i></p> <p><i>"Please filter one TMPKT History for APID 16 and type 5 and one for APID 1280 Type 5 subtype 2"</i></p> <p><i>⇒ Click the button "OK" to continue</i></p> | <p>PASS</p> <p>OK</p> | | | | | |
| 207. | <p><i>During</i> <i>Z010999MCVT137_IST_SPIRE_FDIR_formal</i></p> <p><i>"executing script SPIRE-OBCPTest-DRCUAnomaly.tcl "</i></p> <p><i>⇒ Click the "OK" button to confirm</i></p> | OK | | | | | |

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| Step -No. | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
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| 208. | <p><i>During</i> Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p><i>At the prompt:</i> "Wait until the end of the OBCP TM(5,1) with SPID 40145170 proclD 0x1102"</p> <p>⇒ Wait for ~5 seconds for the reception of TM(5,2) event report with APID 1280 , Event ID 0xC000 and SID 0x5200</p> <p>⇒ check that OBCP SPIRE DRCU OFF has been triggered - TM(5,1) with APID 16 SPID 40148170 proclD 0x1102</p> <p>⇒ TM(5,4) with APID 16, EvID 0x1000 SPIRE DRCU OFF" is received</p> <p>⇒ check that TM(5,1) with SPID 40145170 proclD 0x1102 is received</p> <p>⇒ <i>click the "OK" button to confirm</i></p> | PASS OK | | | <p>Expected : TM(5,4) for</p> <ul style="list-style-type: none"> o MCU o SCU o DCU <p>At DRCU OFF, also TM(5,4) with SID 5420.</p> <p>SVMCOPYTBLFAULT TM(5,1) and many OOLs also expected (TBD)</p> | | |

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| Step -No. | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
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| 209. | <p><i>During</i> Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p><i>At the prompt:</i> "please check SPIRE status and that subschedules 370 (SPIRE TCs) and 100 (meta-SPIRE) are disabled"</p> <p>⇒ Check that the DRCU has been powered off</p> <p>⇒ Check that the DPU is on an d gene rating nominal and critical HK</p> <p>⇒ subschedules 370 (SPIRE TCs) and 100 (meta-SPIRE) are disabled"</p> <p>⇒ Click the "OK" button to confirm</p> | <p>LCL51 OFF</p> <p>LCL11 ON</p> <p>1282 producing NOMHK</p> <p>1280 producing CRITHK</p> <p>Subschedules</p> <p>370 OFF</p> <p>100 OFF</p> <p>OK</p> | | | | | |

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| Step -No. | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
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| 210. | <p><i>During</i> Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p><i>At the prompt:</i> "check that all EATs are enabled except 0xC110 for APIDs 0x0500 and 0x0501"</p> <p>⇒ Perform activity through D102159SCVT192_GET_EAT_REPORT then click the "OK" button to confirm</p> | <p>PASS</p> <p>OK</p> | | | | | |
| 211. | <p><i>During</i> D102159SCVT192_GET_EAT_REPORT</p> <p>⇒ click the "EndTS" button to continue</p> | <p>ENDTS</p> | | | | | |
| 212. | <p><i>During</i> Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"RECOVERY ACTION"</p> <p>⇒ Click the button "confirm" to continue</p> | <p>CONFIRM</p> | | | | | |

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| Step -No. | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
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| 213. | <p><i>During</i> Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p><i>At the prompt:</i> "check that all EATs are enabled"</p> <p>⇒ Perform activity through D102159SCVT192_GET_EAT_REPORT then click the "OK" button to confirm</p> | <p>PASS</p> <p>OK</p> | | | | | |
| 214. | <p><i>During</i> D102159SCVT192_GET_EAT_REPORT</p> <p>⇒ click the "EndTS" button to continue</p> | <p>ENDTS</p> | | | | | |
| 215. | <p><i>During</i> Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"Switching SPIRE OFF"</p> <p>⇒ Click the button "OK" to confirm</p> | <p>OK</p> | | | See RD-3 §7.2.3 for exact messages and expected OOLs. | | |

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| Step -No. | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
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| 216. | <p><i>During</i> Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"Switching SPIRE ON"</p> <p>⇒ Click the button "OK" to confirm</p> | OK | | | <p>Conditions may change, so check on RD-3 §7.2.2 for current prompts and expected OOL.</p> <p>At the end of it choose to reset the previous bus profile.</p> | | |
| 217. | <p><i>During</i> Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"Please check that subschedule 370 (SPIRE TCs) is enabled and 100 (meta-SPIRE) is disabled"</p> <p>⇒ Perform activity and then click the "OK" button to confirm</p> | <p>Subschedules 370 ON 100 OFF</p> <p>OK</p> | | | | | |
| 218. | <p><i>During</i> Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"End of SPIRE DRCU OFF TEST "</p> <p>⇒ click the "OK" button to confirm</p> | OK | | | | | |

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| Step -No. | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
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| 219. | <p><i>During</i> Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"TEST the SPIRE OFF CONTROLLED OBCP?"</p> <p>⇒ Click the button "Confirm to continue"</p> | CONFIRM | | | <p>If SKIP, it continues at step 235.</p> <p>DB_OBCP_H_SPIRE_OFF_CTRL is the OBCP under test.</p> | | |
| 220. | <p><i>During</i> Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"TRIGGER OBCP "</p> <p>⇒ Click the button "Confirm" to continue</p> | CONFIRM | | | | | |
| 221. | <p><i>During</i> Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"Please filter one TMPKT History for TM(5,1) and one for TM(5,4)"</p> <p>⇒ Click the button "OK" to continue</p> | <p>PASS</p> <p>OK</p> | | | | | |
| 222. | <p><i>During</i> Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"Please callasync the sequence to trigger SPIRE OFF CONTROLLED"</p> <p>⇒ Click the button "OK" to confirm</p> | <p>PASS</p> <p>OK</p> | | | <p>Callasync SPIRE_OBCPTest_StopHK</p> <p>And wait for end of NOM and CRIT HK.</p> | | |

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| Step -No. | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
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| 223. | <p><i>During</i> Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p><i>At the prompt:</i> "Wait until the end of the OBCP -TM(5,1) with SPID 40145170 proclD 0x1104"</p> <p>⇒ check that OBCP SPIRE OFF CONTROLLED has been triggered - TM(5,1) with SPID 40148170 proclD 0x1104,</p> <p>⇒ TM(5,4) EvID0x1002 SPIRE Shutdown" is received</p> <p>⇒ check that TM(5,1) with SPID 40145170 proclD 0x1104 is received</p> <p>⇒ Click the "OK" button to confirm</p> | <p>PASS</p> <p>OK</p> | | | <p>Expected: TM(5,1)-0578 SDB SPIRE Failed TM TM(5,2)-0585 SDB SPIRE nom RT sick TM TM(5,1) – su bschedule status changed</p> | | |

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| Step -No. | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
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| 224. | <p><i>During</i> Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p><i>At the prompt:</i> "Please check SPIRE status and that subschedules 370 (SPIRE TCs) and 100 (meta-SPIRE) are disabled"</p> <p>⇒ Check that both the SPIRE DRCU and DPU have been switched off</p> <p>⇒ Check that subschedules 370 (SPIRE TCs) and 100 (meta-SPIRE) are disabled</p> <p>⇒ Click the "OK" button to confirm</p> | <p>LCL 51 and 11 OFF</p> <p>Subschedules 370 OFF</p> <p>100 OFF</p> <p>OK</p> | | | | | |
| 225. | <p><i>During</i> Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p><i>At the prompt:</i> "check that all EATs are enabled except 0xC110 for APIDs 0x0500 and 0x0501"</p> <p>⇒ Perform activity through D102159SCVT192_GET_EAT_REPORT then click the "OK" button to confirm</p> | <p>PASS</p> <p>OK</p> | | | | | |

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| Step -No. | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
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| 226. | <p><i>During</i> <i>D102159SCVT192_GET_EAT_REPORT</i></p> <p>⇒ <i>click the "EndTS" button to continue</i></p> | ENDTS | | | | | |
| 227. | <p><i>During</i> <i>Z010999MCVT137_IST_SPIRE_FDIR_formal</i></p> <p>"RECOVERY ACTION"</p> <p>⇒ <i>Click the button "Confirm" to continue</i></p> | CONFIRM | | | | | |
| 228. | <p><i>During</i> <i>Z010999MCVT137_IST_SPIRE_FDIR_formal</i></p> <p><i>At the prompt:</i> <i>"check that all EATs are enabled"</i></p> <p>⇒ <i>Perform activity through</i> <i>D102159SCVT192_GET_EAT_REPORT</i> <i>then click the "OK" button to confirm</i></p> | PASS OK | | | | | |

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| Step -No. | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
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| 229. | <p><i>During</i> <i>D102159SCVT192_GET_EAT_REPORT</i></p> <p>⇒ <i>click the "EndTS" button to continue</i></p> | ENDTS | | | | | |
| 230. | <p><i>During</i> <i>Z010999MCVT137_IST_SPIRE_FDIR_formal</i></p> <p><i>"Switching SPIRE ON"</i></p> <p>⇒ <i>click "OK" to confirm</i></p> | OK | | | <p>Conditions may change, so check on RD-3 §7.2.2 for current prompts and expected OOL.</p> <p>At the end of it choose to reset the previous bus profile.</p> | | |
| 231. | <p><i>During</i> <i>Z010999MCVT137_IST_SPIRE_FDIR_formal</i></p> <p><i>"Please check that subschedule 370 (SPIRE TCs) is enabled and 100 (meta-SPIRE) is disabled and then press OK"</i></p> <p>⇒ <i>Perform activity and then click the "OK" button to confirm</i></p> | <p>Subschedules</p> <p>370 ON</p> <p>100 OFF</p> <p>OK</p> | | | | | |

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| Step -No. | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
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| 232. | <p><i>During</i> Z102999SCVT008_ASDGEN_SPIRESTBY2OPS</p> <p><i>(called asynchronously by the master) SPIRE will be put into simulated science.</i> ⇒ perform §7.2.6 of RD3 then go to next step</p> | YES | | | | | |
| 233. | <p><i>During</i> Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p><i>"Check that SPIRE is producing Science packets"</i> ⇒ Perform the activity and click the button "OK" to continue</p> | PASS OK | | | <p>Check that file in /HPCCS/VARIABLE/RESULTS/<test_session>/TMDUMP/<date-time>VC1.txt is increasing. With TM from APID 1284</p> | | |
| 234. | <p><i>During</i> Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p><i>"End of SPIRE OFF CONTROL TEST "</i> ⇒ click the "OK" button to confirm</p> | OK | | | | | |

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| Step -No. | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
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| 235. | <p><i>During</i> Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"TEST the SPIRE OFF (DLL) OBCP?"</p> <p>⇒ Click the button "Confirm" to continue</p> | CONFIRM | | | <p>If SKIP, it continues at step 258.</p> <p>DB_OBCP_H_SPIRE_OFF is the OBCP under test.</p> | | |
| 236. | <p><i>During</i> Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"SPIRE OFF DLL FDIR triggering</p> <p>⇒ Click the button "Confirm" to continue</p> | CONFIRM | | | | | |
| 237. | <p><i>During</i> Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"Please filter one TMPKT History for TM(5,1) and one for TM(5,4)"</p> <p>⇒ Perform activity, then click the button "OK" to continue</p> | <p>PASS</p> <p>OK</p> | | | | | |

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| Test location: | Operator | Product-Assurance: | Date: |
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| Step -No. | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
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| 238. | <p><i>During</i> <i>Z010999MCVT137_IST_SPIRE_FDIR_formal</i></p> <p><i>"start the SPIRE (RT 21) simulation on the CDMU SCOE to create jamming"</i></p> <p><i>⇒ Click the button "OK" to proceed</i></p> | OK | | | | | |
| 239. | <p><i>On CDMS SCOE</i></p> <p><i>Double-click on the link "StartSCOE.bat" on the desktop to start the CDMU SCOE application.</i></p> | PASS | | | | | |
| 240. | <p><i>On CDMS SCOE</i></p> <p><i>Select Menu:</i> <i>Mode ⇒ Local Mode</i> <i>Password: H-P</i></p> | PASS | | | | | |
| 241. | <p><i>On CDMS SCOE</i></p> <p><i>Select from menu:</i> <i>Setup ⇒ RTSim Configuration</i></p> | PASS | | | | | |
| 242. | <p><i>On CDMS SCOE</i></p> <p><i>Select file:</i> <i>R:\(192.168.90.32)\Herschel.rtc</i></p> <p><i>and then click the button "OK"</i></p> | PASS | | | | | |

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| Step -No. | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
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| 243. | On CDMS SCOE Select from menu: Mode ⇒ On Line | PASS | | | | | |
| 244. | On CDMS SCOE In window: "System Control/RT controls": ⇒ Select RT21 ⇒ Click the button "Enable" for: - control - TM queue - TC queue Within 8 seconds proceed immediately with next step | PASS | | | Don't stay longer than 8 seconds, since the FDIR might keep on triggering and reconfigure the spacecraft. Can be stopped as soon as the OBCP started TM is received | | |
| 245. | On CDMS SCOE In window: "System Control/RT controls" Click the button "DISABLE" for: - control - TM queue - TC queue | PASS | | | To be performed within 8 seconds!!! | | |

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| Step -No. | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
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| 246. | <p><i>During</i> Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p><i>At the prompt:</i> "Wait until the end of the OBCP -TM(5,1) with SPID 40145170 proclD 0x1103"</p> <p>⇒ check that OBCP SPIRE OFF has been triggered - TM(5,1) with SPID 40148170 proclD 0x1103,</p> <p>⇒ TM(5,4) EvID 0x1001 SPIRE Switched OFF" is received</p> <p>⇒ check that TM(5,1) with SPID 40145170 proclD 0x1103 is received</p> <p>⇒ Click the "OK" button to confirm</p> | <p>PASS</p> <p>OK</p> | | | <p>Expected: TM(5,1) SDB unhealthy TM(5,2)-0552 SPIRE non vital RT Invalid TM(5,1) subschedule status changed</p> | | |

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| Step -No. | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
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| 247. | <p><i>During</i> Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p><i>At the prompt:</i> "Please check SPIRE status and that subschedules 370 (SPIRE TCs) and 100 (meta-SPIRE) are disabled"</p> <p>⇒ check that SPIRE is OFF</p> <p>⇒ check that subschedules 370 (SPIRE TCs) and 100 (meta-SPIRE) are disabled</p> <p>⇒ Click the "OK" button to confirm</p> | <p>LCL 51 and 11 OFF</p> <p>Subschedules 370 OFF 100 OFF</p> <p>OK</p> | | | | | |
| 248. | <p><i>During</i> Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p><i>At the prompt:</i> "check that all EATs are enabled except 0xC110 for APIDs 0x0500 and 0x0501"</p> <p>⇒ Perform activity through D102159SCVT192_GET_EAT_REPORT then click the "OK" button to confirm</p> | <p>PASS</p> <p>OK</p> | | | | | |

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|----------------|----------|--------------------|-------|
| Test location: | Operator | Product-Assurance: | Date: |
|----------------|----------|--------------------|-------|

| Step -No. | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
|-----------|---|-----------------------|-----------|--------------|---------|---|---|
| 249. | <p><i>During</i> <i>D102159SCVT192_GET_EAT_REPORT</i></p> <p>⇒ <i>click the "EndTS" button to continue</i></p> | ENDTS | | | | | |
| 250. | <p><i>During</i> <i>Z010999MCVT137_IST_SPIRE_FDIR_formal</i></p> <p><i>"RECOVERY ACTION"</i></p> <p>⇒ <i>Click the button " confirm" to continue</i></p> | | | | | | |
| 251. | <p><i>During</i> <i>Z010999MCVT137_IST_SPIRE_FDIR_formal</i></p> <p><i>At the prompt:</i> <i>"check that all EATs are enabled"</i></p> <p>⇒ <i>Perform activity through</i> <i>D102159SCVT192_GET_EAT_REPORT</i> <i>then click the "OK" button to confirm</i></p> | <p>PASS</p> <p>OK</p> | | | | | |

| | | | |
|----------------|----------|--------------------|-------|
| Test location: | Operator | Product-Assurance: | Date: |
|----------------|----------|--------------------|-------|

| Step -No. | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
|-----------|--|-----------------------|-----------|--------------|---------|---|---|
| 252. | <p><i>During</i> <i>D102159SCVT192_GET_EAT_REPORT</i></p> <p><i>⇒ click the "EndTS" button to continue</i></p> | ENDTS | | | | | |
| 253. | <p><i>During</i> <i>Z010999MCVT137_IST_SPIRE_FDIR_formal</i></p> <p><i>"set the CDMS SCOE OFF LINE"</i></p> <p><i>⇒ Perform the activities of the next step, then click the button "OK"</i></p> | <p>PASS</p> <p>OK</p> | | | | | |
| 254. | <p><i>On CDMS SCOE</i></p> <p><i>Select from menu:</i></p> <p><i>Mode ⇒ Off Line</i></p> | PASS | | | | | |

| | | | |
|----------------|----------|--------------------|-------|
| Test location: | Operator | Product-Assurance: | Date: |
|----------------|----------|--------------------|-------|



| Step -No. | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
|-----------|--|--|-----------|--------------|---|---|---|
| 255. | <p><i>During</i> Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"Switching SPIRE ON"</p> <p>⇒ Click the button "OK" to continue</p> | OK | | | <p>Conditions may change, so check on RD-3 §7.2.2 for current prompts and expected OOL.</p> <p>At the end of it choose to reset the previous bus profile.</p> | | |
| 256. | <p><i>During</i> Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"Please check that subschedule 370 (SPIRE TCs) is enabled and 100 (meta-SPIRE) is disabled and then press OK"</p> <p>⇒ Perform activity and then click the "OK" button to confirm</p> | <p>Subschedules 370 ON 100 OFF</p> <p>OK</p> | | | | | |
| 257. | <p><i>During</i> Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"End of SPIRE FDIR TEST "</p> <p>⇒ click the "OK" button to continue</p> | OK | | | | | |

| | | | |
|----------------|----------|--------------------|-------|
| Test location: | Operator | Product-Assurance: | Date: |
|----------------|----------|--------------------|-------|

| Step -No. | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
|-----------|--|---|-----------|--------------|---------|---|---|
| 258. | <p><i>During</i> <i>Z010999MCVT137_IST_SPIRE_FDIR_formal</i></p> <p><i>"RESET the STARTING CONDITION"</i></p> <p>⇒ <i>Click the button "Confirm" to continue</i></p> | CONFIRM | | | | | |
| 259. | <p><i>During</i> <i>Z010999MCVT137_IST_SPIRE_FDIR_formal</i></p> <p><i>"Check that all subschedules from 1 to 256 plus the 370 are enabled"</i></p> <p>⇒ <i>Click the button "OK" to continue</i></p> | <p>Subschedules 1-256 ON 370 ON Others OFF</p> <p>OK</p> | | | | | |

| | | | |
|----------------|----------|--------------------|-------|
| Test location: | Operator | Product-Assurance: | Date: |
|----------------|----------|--------------------|-------|

7.6 Specific Post-Test Activities

| Step-No. | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
|----------|---|----------------|-----------|--------------|--|---|---|
| 260. | <p><i>During Z010999MCVT131_IST_INSTR_FDIR</i></p> <p>"Start the instrument specific FDIR sequence"</p> <p>⇒ click the "OK" button to proceed</p> | OK | | | | | |
| 261. | <p><i>During Z010999MCVT131_IST_INSTR_FDIR</i></p> <p>"End of INSTRUMENTS FDIR Tests. Select OK to switch off"</p> <p>⇒ click the "OK" button to proceed</p> | OK | | | Perform this test step AFTER ALL the relevant FDIR tests have been performed | | |
| 262. | <p><i>During Z010999MCVT131_IST_INSTR_FDIR</i></p> <p>"Check that all EATs are enabled"</p> <p>⇒ perform activity through D102159SCVT192_GET_EAT_REPORT then click the "OK" button to proceed</p> | PASS OK | | | | | |

| | | | |
|----------------|----------|--------------------|-------|
| Test location: | Operator | Product-Assurance: | Date: |
|----------------|----------|--------------------|-------|

| Step-No. | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
|----------|---|---------------|-----------|--------------|---|---|---|
| 263. | <p><i>During</i> D102159SCVT192_GET_EAT_REPORT</p> <p>⇒ Click the button "EndTS!" to proceed</p> | ENDTS | | | | | |
| 264. | <p><i>During</i> Z010999MCVT131_IST_INSTR_FDIR</p> <p>"RESET to the original SCBP?"</p> <p>⇒ Click the button "Confirm to continue"</p> | CONFIRM | | | | | |
| 265. | <p><i>During</i> Z010999MCVT131_IST_INSTR_FDIR</p> <p>"POWER OFF HIFI PRIMARY"</p> <p>⇒ Click the button "Confirm" to continue</p> | CONFIRM | | | <p>Conditions may change, so check on RD-3 §7.3.3 for current prompts and expected OOL.</p> <p>At the end of it choose to reset the previous bus profile.</p> | | |
| 266. | <p><i>During</i> Z010999MCVT131_IST_INSTR_FDIR</p> <p>"POWER OFF PACS PRIMARY"</p> <p>⇒ Click the button "Confirm" to continue</p> | CONFIRM | | | <p>Conditions may change, so check on RD-3 § 7.1.3 for current prompts and expected OOL.</p> | | |

| | | | |
|----------------|----------|--------------------|-------|
| Test location: | Operator | Product-Assurance: | Date: |
|----------------|----------|--------------------|-------|

| Step-No. | Test-Step-Description | Nominal Value | Tolerance | Actual Value | Remarks | P | N |
|----------|---|---------------|-----------|--------------|---|---|---|
| | | | | | At the end of it choose to reset the previous bus profile. | | |
| 267. | <p><i>During</i> Z010999MCVT131_IST_INSTR_FDIR</p> <p>"POWER OFF SPIRE PRIMARY"</p> <p>⇒ Click the button "Confirm" to continue</p> | | | | <p>Conditions may change, so check on RD-3 §7.2.3 for current prompts and expected OOL.</p> <p>At the end of it choose to reset the previous bus profile.</p> | | |
| 268. | <p><i>Reset to initial conditions the IEGSEs to revert what done at step 27.</i></p> <p><i>For HIFI, perform §7.3.8 of RD3</i></p> <p><i>For PACS, perform §7.1.9 of RD3</i></p> <p><i>For SPIRE, perform §7.2.8 of RD3</i></p> | | | | If HIFI cooling is ON, and HIFI is OFF, switch the cooling off in cleanroom | | |
| 269. | <p><i>During</i> Z010999MCVT131_IST_INSTR_FDIR</p> <p>"Bring the S/C into a SAFE mode and switch OFF"</p> <p>⇒ Click the button "OK" to continue</p> | OK | | | <p>The IST_END sequence shall be called-up.</p> <p>Therefore, continue with chapter 7.4 of RD4. step 1.</p> | | |

| | | | |
|----------------|----------|--------------------|-------|
| Test location: | Operator | Product-Assurance: | Date: |
|----------------|----------|--------------------|-------|

7.7 S/C Power OFF

Follow the steps in the power OFF procedure of RD4, 7.4 - step 1.

| | | | |
|----------------|----------|--------------------|-------|
| Test location: | Operator | Product-Assurance: | Date: |
|----------------|----------|--------------------|-------|

8 Script Hierarchy

8.1 Master script

```
Z010999MCVT131_IST_INSTR_FDIR
  A102109SPVT202_ACMS_STATUS_H
  D102159SCVT138_IST_LAUNCH_SUNACQ
  D102159SCVT137_IST_SUNACQ_NOM
  W102584SPVT101_PCDU_TRANSITION_FDIR
  Z102999SCVT001_SREM_ON
  Z102999SCVT014_ASDGEN_HIFIPWRON_P
  Z102999SCVT010_ASDGEN_PACSPWRON_P
  Z102999SCVT004_ASDGEN_SPIREPWRON_P
  D102159SCVT193_IST_UPLOAD_OBCP
  D102159SCVT192_IST_UPLOAD_EAT
  D102159SCVT192_GET_EAT_REPORT.tcl
  Z010999MCVT004_IST_END
```

8.2 HIFI script

```
Z010999MCVT134_IST_HIFI_FDIR
  Z010999MCVT153_IST_STATUS
  D102159SCVT214_IST_HIFI_MTL_PING
  D102159SCVT192_GET_EAT_REPORT
  Z102999SCVT014_ASDGEN_HIFIPWRON_P
```

8.3 PACS script

```
Z010999MCVT135_IST_PACS_FDIR
  Z010999MCVT153_IST_STATUS
  D102159SCVT215_IST_PACS_MTL_PING
  Z102999SCVT019_ASDGEN_PACSNomSpect
  D102159SCVT192_GET_EAT_REPORT
  D102159SCVT192_GET_EAT_REPORT
  Z102999SCVT011_ASDGEN_PACSPWROFF_P
  Z102999SCVT010_ASDGEN_PACSPWRON_P
  PACS_Disable_HK_OBS_Shell
```

8.4 SPIRE script

```
Z010999MCVT137_IST_SPIRE_FDIR_formal
Z010999MCVT153_IST_STATUS
D102159SCVT218_IST_SPIRE_MTL_PING
Z102999SCVT008_ASDGEN_SPIRESTBY2OPS
D102159SCVT192_GET_EAT_REPORT
Z102999SCVT005_ASDGEN_SPIREPWROFF_P
Z102999SCVT004_ASDGEN_SPIREPWRON_P
```

9 Summary Sheets

9.1 Procedure Variation Summary

| | | | |
|-------------------|-------------------------------------|------------------|------|
| | Test Change | Curr. No.: | |
| | | Date | |
| | | Page of | |
| Test designation | Test Procedure HP-2-ASED-TP-0197 | Issue 1 | Rev. |
| Test step changed | Reason for Change | | |
| | | | |
| Prepared by: | Resp. Test Leader | Project Engineer | |
| PA/QA | Prime | Customer | |

Table 9.1-1: Procedure Variation Sheet

9.3 Sign-off Sheet

To finalise the test campaign, all responsible personnel shall sign-off the filled-in procedure in the following table:

| | Date | Signature |
|-----------------------|------|-----------|
| Test Director | | |
| Test Conductor | | |
| PA Responsible | | |

10 Session Record

| | |
|------------------------------|--|
| Test Description | |
| Session ID | |
| Start Time: | |
| End Time | |
| CVS Tag for Test | |
| Applicable IST Specification | |
| Test conductor | |
| QA Approval | |

| | |
|------------------------------|--|
| Test Description | |
| Session ID | |
| Start Time: | |
| End Time | |
| CVS Tag for Test | |
| Applicable IST Specification | |
| Test conductor | |
| QA Approval | |

| | |
|------------------------------|--|
| Test Description | |
| Session ID | |
| Start Time: | |
| End Time | |
| CVS Tag for Test | |
| Applicable IST Specification | |
| Test conductor | |
| QA Approval | |

END OF DOCUMENT

Distribution List

| 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 | X | Theunissen Martijn | DSSA |
| X Davis William | Captec | X | 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 |
| Gras Andreas | OTN/ASA44 | | Zumstein Armin | AED15 |
| X Grasshoff Brigitte | AET12 | | | |
| X Hamer Simon | Terma | | | |
| X Hanka, Erhard | FI522 | | | |
| X Hendrikse Jeffrey | HE Space | | | |
| X Hendry David | Terma | | | |
| Hengstler Reinhold | ASA42 | | | |
| Hininger 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 |
| X Kölle Markus | ASA43 | | Thales Alenia Space Torino | TAS-I |
| König Werner | AET32 | | | |
| X Koppe Axel | AED312 | | | |
| X Kroeker Jürgen | AED65 | | Instruments: | |
| 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 | AS SE |
| 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 |
| Schwabeckert Gunn | ASG23 | | Thales Alenia Space, Antwerp | TAS-ETCA |