

Title: IST1 Instrument FDIR OBCP Test Report

CI-No: 100000

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## 1 Scope

This document reports on the Instrument FDIR OBCP Test dry-run performed as part of the Integrated System Test (IST) 1 Part 1 in Helium-1 conditions at ESTEC, Noordwijk, NL.

Due to the overall duration of the test and a number of initial problems occurring prior to the start of the test, the test itself was split in two. The first part covered HIFI and PACS OBCP FDIR (executed 29-30/04/2008), the second covered SPIRE FDIR OBCP (executed 21/05/2008).

### 1.1 Objective

The objective of the test was to functionally check the correct execution of instrument specific CMDU controlled FDIR OBCPs as per AD-1 section 5.8.13. This covers the following OBCPs:

#### SPIRE

- SPIRE\_OPE\_STOP
- SPIRE\_OPE\_RESUME
- SPIRE\_DRCU\_OFF
- SPIRE\_OFF\_CTRL
- SPIRE\_OFF

#### PACS

- PACS\_POWER\_CYCLE
- PACS\_NORMAL\_OFF
- PACS\_IMMEDIATE\_OFF

#### HIFI

- HIFI\_RESET

For PACS, one additional FDIR OBCP was also checked in attempt to avoid repeating this particular OBCP in PACS specific commissioning test.

- PACS\_SAFE

## 1.2 Summary Conclusion

All FDIR were successfully executed as planned. A number of NCRs & SPRs were raised (some during debug of the test), but none appear to have directly affected the objectives of the test. However, NCRs 4229 & 3512 should be reviewed in more detail to confirm that they were due to the trigger mechanism (bus jamming) rather than the OBCP itself. There were some deviations from the IST Specification (AD-1), however these were agreed prior to the start of test at the TRR, see section 4.6 for details.

One further consideration for the SPIRE OBCP FDIR (as already raised at the TRR) is that the current version of SPIRE OBSW release 2.2H does not fully implement FDIR. Therefore, for IST1, a workaround was necessary to initiate the SPIRE events that would trigger the respective OBCPs.

Further analysis of the detailed test data is also required for the HIFI Reset OBCP to confirm that the Soft Reset was handled correctly as this is not possible from the real-time HK TM generated during the test.

## 2 Documents / Drawings

### 2.1 Applicable Documents

AD-1	Herschel IST Specification, Issue 5 redlined	HP-2-ASP-SP-0939
AD-2	Herschel IST Test Case "Test of Instrument FDIR OBCP", Issue 1	HP-2-ASED-TP-0197
AD-3	Leading Procedure for Herschel IST, Issue 4	HP-2-ASED-TP-0134

### 2.2 Reference Documents

RD-1	As-Run (29-30/04/2008 HIFI PACS) Herschel IST Test Case "Test of Instrument FDIR OBCP", Annex 1a to this test report	HP-2-ASED-TP-0197
RD-2	As-Run (28-30/04/2008 HIFI PACS) Leading Procedure for Herschel IST", Annex 1b to this test report	HP-2-ASED-TP-0134
RD-3	As-Run (21/05/2008 SPIRE) Herschel IST Test Case "Test of Instrument FDIR OBCP", Annex 2a to this test report	HP-2-ASED-TP-0197
RD-4	As-Run (21/05/2008 SPIRE) Leading Procedure for Herschel IST", Annex 2b to this test report	HP-2-ASED-TP-0134
RD-5	CDs of Retrieved Test Data Annex 3 to this test report	HP-2-ASED-TR-0257-A3
RD-6	Payload Management & OBCP TN, Iss 6	H-P-1-ASP-TN-1072

### 2.3 Other Documents

OD-1	TRR for IST1 Instrument FDIR OBCP MoM, dated 28/04/2008	H-P-TASF-MN-10390
OD-2	Delta TRR for IST1 Instrument FDIR OBCP MoM, dated 29/04/2008	H-P-TASF-MN-10397
OD-3	Delta TRR for IST1 SPIRE FDIR OBCP MoM, dated 14/04/2008	H-P-TASF-MN-10439
OD-4	Delta TRR for IST1 SPIRE FDIR OBCP MoM, dated 20/05/2008	H-P-TASF-MN-10466
OD-5	PTS for IST1 Instrument FDIR OBCP MoM,	H-P-TASF-MN-10513

dated 23/05/2008

## 2.4 Acronyms & Abbreviations

See AD-3.



### 3 Test characteristics

#### 3.1 Title

Herschel IST Test Case "Test of Instrument FDIR OBCP"

#### 3.2 Unit tested

Spacecraft CDMS OBCP FDIR for Instruments

#### 3.3 Description

The tests performed functionally check the correct execution of instrument specific CMDU controlled FDIR OBCPs as per AD-1 section 5.8.13. This covers the following OBCPs:

##### SPIRE

- SPIRE\_OPE\_STOP
- SPIRE\_OPE\_RESUME
- SPIRE\_DRCU\_OFF
- SPIRE\_OFF\_CTRL
- SPIRE\_OFF

##### PACS

- PACS\_POWER\_CYCLE
- PACS\_NORMAL\_OFF
- PACS\_IMMEDIATE\_OFF

##### HIFI

- HIFI\_RESET

For PACS, one additional FDIR OBCP was also checked in attempt to avoid repeating this particular OBCP in PACS specific commissioning test, namely:

- PACS\_SAFE

#### 3.4 Applied procedures

See AD-2

### 3.5 Requirements to be verified

Not applicable

### 3.6 Corresponding minutes of meetings

[OD-1] through [OD-5]

### 3.7 General test flow

The test was executed in the following order:

#### **Session 1 (29-30/04/2008)**

- HIFI OBCP FDIR
- PACS OBCP FDIR

Test terminated early due to lack of time before next formal IST test

#### **Session 2 (21/05/2008)**

- SPIRE OBCP FDIR

## 4 Test execution

### 4.1 Date and time

#### Session 1 (HIFI & PACS)

Power ON and initial S/C configuration:

28/04/2008 21:17 – 22:33 UTC

Test configuration and actual test:

29/04/2008 15:10 UTC – 30/04/2008 01:47 UTC

Power OFF:

30/04/2008 02:24 – 03:10 UTC

#### Session 2 (SPIRE)

Power ON and initial S/C configuration:

21/05/2008 04:38 – 08:24 UTC

Test configuration and actual test:

21/05/2008 09:05 – 15:00 UTC

Power OFF

21/05/2008 16:49 – 17:21 UTC

### 4.2 Tag / session reference

#### Session 1 (HIFI & PACS)

2008\_04\_28\_21\_05\_hercdmu\_hpws22\_REALTIME\_INST\_FDIR

Start tag : IST1\_PART1\_TP-0197\_1\_1\_END\_001

End tag : IST1\_PART1\_TP-0197\_1\_1\_END\_001

#### Session 2 (SPIRE)

2008\_05\_21\_04\_38\_heracms\_hpws22\_REALTIME\_INST\_FDIR

Start tag : IST\_1\_PART1\_TP\_0197\_ISS1\_FDIR\_OBCP\_SPIRE\_END\_001

End tag : IST\_1\_PART1\_TP\_0197\_ISS1\_FDIR\_OBCP\_SPIRE\_END\_001

### 4.3 Personnel

Test Director: S. Mooney  
Test Conductor : S. Hamer  
HPCCS Operator : See As-Run  
AIT QA: See As-Run

### 4.4 Detailed test timeline

This section references the relevant documentation detailing the test execution timeline. For a summary of the main events of the test timeline refer to section 4.7.

#### 4.4.1 *Start of test / end of test*

See section 4.1.

Further details are provided in the as-run procedures annexed to this test report. The AIT logbooks covering the test are also attached for information.

#### 4.4.2 *Time of event as deviation*

Details are provided in the as-run procedures annexed to this test report. The AIT logbooks covering the test are also attached for information.

#### 4.4.3 *Time zone to be ignored in case of deviation*

Details are provided in the as-run procedures annexed to this test report. The AIT logbooks covering the test are also attached for information.

#### 4.4.4 *Time of SPR / NCR*

Details are provided in the as-run procedures annexed to this test report. The AIT logbooks covering the test are also attached for information.

#### 4.4.5 *Time of milestone in test*

Details are provided in the as-run procedures annexed to this test report. The AIT logbooks covering the test are also attached for information.

#### 4.5 Problems found during the test

##### 4.5.1 Procedure Variations

###### 4.5.1.1 Lead Procedure for HIFI & PACS FDIR OBCP (TP-0134)

PVS No	Description and Impact on Test (If any)	Impacts Test Objectives (Y/N)
1.	Running of a standalone script for another activity	N
2.	Abort of Packet Store dump because taking too long (impacting on following test start)	N
3.		

###### 4.5.1.2 IST Procedure for HIFI & PACS FDIR OBCP (TP-0197)

PVS No	Description and Impact on Test (If any)	Impacts Test Objectives (Y/N)
1.	Procedure updates for next issue/run of the procedure	N
2.	Change of Downlink Data Rate (150Kbp ⇔ 1.5Mbps)	N
3.	Add missing call to script to switch HIFI from Standby1-Ops mode	N
4.	Add missing details from procedure for HIFI IEGSE (dis)connection & initial configuration	N
5.	Investigate NCR4181 problems (Script not able to see TM packets)	N but extended duration of test
6.	Workaround for script errors – SPR-502 refers	N
7.	Corrections if initial setup errors due to separate test activity performed between power on and FDIR OBCP test	N
8.	Skip switch on of PACS again after last OBCP triggering to overrun in test time. Step superfluous as S/C being switched off anyway. Also skip SPIRE FDIR OBCP	N

4.5.1.3 Lead Procedure for SPIRE FDIR OBCP (TP-0134)

PVS No	Description and Impact on Test (If any)	Impacts Test Objectives (Y/N)
1.	ACMS SCOE did not boot. SCOE restarted, Operator Notes updated. Delayed start of test but no impact on the test itself. SPR-535 raised.	N

4.5.1.4 IST Procedure for SPIRE FDIR OBCP (TP-0197)

PVS No	Description and Impact on Test (If any)	Impacts Test Objectives (Y/N)
1.	Steps to be performed for SPIRE FDIR OBCP as agreed at Delta TRR	N
2.	Procedure updates for next issue/run of the procedure	N
3.	Recovery from Unplanned SPIRE_OFF_CTRL OBCP Triggering	N
4.	Perform additional (non-test related) activity prior to switching OFF SPIRE (ACS SD-0344 – EEPROM memory dumps)	N

**4.5.2 NCR/SPR Summary**

4.5.2.1 NCRs Opened/Recurred/Closed

NCR No	Title	During	O/R/C
3512	SPIRE DPU reports missing Time Sync Pulse on MIL Bus 1553	HIFI Reset OBCP RD-1 Section 7.3 step 68	R
3958	IST PACS unexpected OBCP triggered before OBCP PACS SAFE completion	All OBCP FDIR where CDMU generates 5,4 events to report actions	R
4128	SPIRE goes to an improper status with jamming	SPIRE DRCU OFF OBCP RD-3 Section 7.5 step 225	R
4175	Unexplained behaviour of CCS	HIFI power ON RD-1 Section 7.2	O
4177	IST test Instrument FDIR OBCP stopped before end of test	End of PACS OBCP FDIR RD-1 Section 7.4 step163	O
4179	Transfers of RT 13, 16 (HIFI ICU Nominal) and PACS DPU Nominal are delayed	PACS power ON RD-1 Section 7.2	O
4181	CCS Reports no telemetry packet received	Various times during instrument power ON RD-1 & RD-3 Section 7.2	O
4228	SREM TLM DEF4W160	SVM Power on for SPIRE FDIR OBCP RD-3 Section 7.2 Step 25	O
4229	Unexpected ACMS 5,1 event	HIFI Reset OBCP and SPIRE OFF OBCP RD-1 Section 7.3 step 68 & RD-3 Section 7.5 step 270	O
4250	HIFI Generates many OBS runtime errors during RESET OBCP FDIR triggering	HIFI Reset OBCP RD-1 Section 7.3 step 68	O

## 4.5.2.2 SPRs Opened/Recurred/Closed

SPR No	Title	O/R/C
501	Removal of HIFI IEGSE related steps from script	O
502	Errors in calls to scripts	O
503	Incorrect info prompt in script	O
535	Start Tracker simulator failed to boot on first attempt	O
536	Unintentionally triggering of SPIRE_OFF_CTRL OBCP, procedure/script to be updated to warn operator prior to switching off SPIRE	O
537	Duplicated prompt in script to set CDMS SCOE offline	O



**4.5.3 List of NCRs and SPRs raised and what action was taken if any**

4.5.3.1 NCRs

NCR No	Action taken	Impacts Test Objectives (Y/N)
3512	SPIRE DPU reports missing Time Sync Pulse on MIL Bus 1553.  RAL still investigating with IFSI.	N
3958	IST PACS unexpected OBCP triggered before OBCP PACS SAFE completion  NCR believe corrected for in next CCS S/W release, currently pending formal delivery and installation on HPCCS at ESTEC.	N
4128	RAL investigating but are not unduly concerned by the 5,1 event,	N
4175	This is an HIFI HPSDB related problem which didn't directly affect the test, but the constant error messages for several minutes at a time during test configuration set up did make identifying other potential anomalies difficult. Typical message generated:  <i>BEHVLimC/MONTMdisk tasks reporting Operation overflow: uinteger (1356) - integer (32226). Results truncated to: 0.</i>  HIFI MIB and HPSDB to be updated accordingly. Recommend update to NCR title.	N  but could mask other problems therefore should be fixed as a matter of priority
4177	This was purely a NCR to cover the early termination of the test due to time constraints.  NCR to be closed	N
4179	Title may be misleading and should be updated to reflect actual observation.  Not clear whether this is actually a real anomaly (maybe normal behaviour of the CMDS bus monitor transfer reported as "pending" not actually reported as "delayed" as detailed in the NCR). Originally thought to may have been the cause of NCR-4181 but online analysis during the test showed this not to be the case.  TAS-I/TAS-F to analyse and verify	N
4181	Again title should be revised to be more accurate. In actual	N

NCR No	Action taken	Impacts Test Objectives (Y/N)
	<p>fact it is test scripts (and not the CCS) that are reporting that they cannot find packets. Analysis clearly shows the packets are being received on the HPCCS and in the right timeframe. (ref. also related NCR-3140 from TAS-I)</p> <p>NRB held, additional information supplied, currently under investigation by TERMA.</p> <p>Needs urgent attention as, currently, there is no 100% certain workaround for this problem and can have a major impact on test performance.</p>	<p>but extended duration of test, and has a potential impact on many other tests</p>
4228	<p>This appears to be a HPSDB calibration error identified during IST_START (RD-4) so will be common to all ISTs. It may have been introduced by the correction to NCR-3986 or masked by the anomaly reported in NCR3986.</p> <p>NRB required and correction implemented</p>	N
4229	<p>Unexpected ACMS TM(5.1) event packet TimeSync problem (2.1xe+09) on APIDs 512 &amp; 514 during triggering of SPIRE_OFF OBCP. This may have been due to the bus jamming affecting the ACMS packet transfer or the execution of the SPIRE_OFF OBCP.</p> <p>NB. Post test analysis shows this event packet was also reported during bus jamming for HIFI RESET OBCP on 29/04/2008. NCR needs to be updated</p> <p>NRB required and investigation into cause required (CDMU bus monitor logs required for the period of the OBCP triggering: 21/05/2008 14:53-14:55).</p>	Possibly
4250	<p>HIFI Generates many OBS runtime errors during RESET OBCP FDIR triggering.</p> <p>NRB to be held, HIFI to investigate, maybe related to</p>	N

4.5.3.2 SPRs

SPR No	Action taken	Impacts Test Objectives (Y/N)
501	Corrected, awaiting closure verification, IST2	N
502	Corrected, awaiting closure verification, IST2	N
502	Corrected, awaiting closure verification, IST2	N
535	<p>Star Tracker SCOE doesn't boot sometimes (this is a known problem). Initially the wrong operator note was used to try and recover but failed. Subsequently recovery with the correct operator note (No.4) was successful. The incorrect operator note (No. 3) has now been removed to avoid repetition.</p> <p>SPR to be closed.</p>	<p>N</p> <p>Delayed start of test execution only</p>
536	<p>The SPIRE_OFF_CTRL OBCP was unintentionally triggered when switching SPIRE OFF after triggering SPIRE_DRCU_OFF OBCP. During switch-off the test script suspends generation of HKTM on both APIDs (1280 &amp; 1282) for SPIRE and prompts the operator to continue when packets have been stopped. However, at the time a PVS was being written, which delayed continuing the script. This resulted in the CMDS reporting TMSick (as SPIRE was On but no TM being generated) and consequently initiating the SPIRE_OFF_CTRL OBCP).</p> <p>Procedure to be updated to warn the operator of this prior to switching OFF SPIRE, and possibly script.</p>	<p>N</p> <p>Delayed recovery for next OBCP test</p>
537	Corrected, awaiting closure verification, IST2	N

#### 4.5.4 Procedure changes

See PVS sheets in section 8 of the “as-run” procedures and summarised in 4.5.1.

#### 4.6 Deviations from Test Requirements

<b>Specification</b>	<b>Test Procedure</b>	<b>Agreed at TRR</b>
Tests to be performed at the end of other IST test cases (APs) with specific. See section 5.8.13.3 of AD-1	Specific nominal IST_START configuration used for IST1. For IST2 tests can be appended to the end of other IST test cases as per AD-1	Yes – see OD-1
See section 5.8.13.5 of AD-1 for list of instrument OBCP FDIR to be tested	Additional PACS OBCP FDIR tested:  These additional tests could be skipped for IST2	Yes – see OD-1
Not a requirement	Recovery of PACS after final PACS OBCP FDIR triggering not performed in order to save time switching off at the end of the test	No – See PVS
Section 5.7.1.3 of AD-1	SSMM dump aborted due to time constraints (switching off to allow following formal test to be performed on schedule	No – See PVS

#### 4.7 Test Execution Summary

The test was successfully performed, but had to be performed in two parts due to time constraints, however, neither this nor any of the PVSs raised directly affected the test objectives. A brief timeline summary of the main events is given below.

##### 4.7.1 HIFI/PACS FDIR OBCP IST 29-30/04/2008

Date(DoY) & Time UTC	Event	NCR
29/04/2008 (120) 20:42	S/C in required configuration for first Instrument FDIR OBCP (HIFI)	
29/04/2008 (120) 21:55:00	Triggering of DB_OBCP_H_HIFI_RESET (via DLL)  Jamming start/stop times required from CDMU SCOE	
29/04/2008 (120) 21:55:00	Unexpected 5,1 event from SPIRE (NO_TIMESYNC_ID)	3512
29/04/2008 (120) 21:55:00	Unexpected event from ACMS during bus jamming	4229 (raised during SPIRE FDIR OBCP)
29/04/2008 (120) 21:55:15	Subschedule Status Change 5,1 event	
29/04/2008 (120) 21:55:18	HIFI OBS Runtime errors reported	4250
29/04/2008 (120) 21:55:23.089	"SDB HIFI Failed TC First" 5,1 event reported	
29/04/2008 (120) 21:55:23.339	"SDB HIFI Failed TC Second" 5,1 event reported	
29/04/2008 (120) 21:55:24	Hifi Soft Reset 5,4 event reported (0x3001)	3958 (Text reports OBCP_Evt Hifi Off)
29/04/2008 (120) 21:55:50	OBCP_Evt Hifi Off 5,4 event reported (0x3000)	

Date(DoY) & Time UTC	Event	NCR
29/04/2008 (120) 21:56:30	Completion of DB_OBCP_H_HIFI_RESET	
End Condition	HIFI OFF	

**Table 4.7.1-1 DB\_OBCP\_H\_HIFI\_RESET Timeline**

Date(DoY) & Time UTC	Event	NCR
30/04/2008 (121) 00:02:00	Triggering of DB_OBCP_H_PACS_SAFE via PACS test script	
30/04/2008 (121) 00:02:32	3 x 5,2 PACS Events (2_22) + 3 x 5,1 PACS Exception Report Events (0_4)	
30/04/2008 (121) 00:02:33	OBCP Start 5,1 Event	
30/04/2008 (121) 00:02:38	Subschedule Status Change 5,1 event	
30/04/2008 (121) 00:02:38	3 x 5,2 PACS Events (2_22) + 3 x 5,1 PACS Exception Report Events (0_4)	
30/04/2008 (121) 00:02:54	Completion of DB_OBCP_H_PACS_SAFE OBCP Ended 5,1 Event	
End Condition	PACS SAFE	

**Table 4.7.1-2 DB\_OBCP\_H\_PACS\_SAFE Timeline**

Date(DoY) & Time UTC	Event	NCR
30/04/2008 (121) 00:18:22	Triggering of DB_OBCP_H_PACS_POWER_CYCLE via CMDU command DCAST185	
30/04/2008 (121) 00:18:22	OBCP Start 5,1 Event	
30/04/2008 (121)	Subschedule Status Change 5,1 event	

Date(DoY) & Time UTC	Event	NCR
00:18:25		
30/04/2008 (121) 00:18:34	Class A Temperature Anomaly 5,1 event reported	
30/04/2008 (121) 00:19:11	PACS BOLC Bias Reset 5,4 event reported (0x2001)	3958 (Text reports OBCP_Evt Hifi Off)
30/04/2008 (121) 00:19:32	PACS OFF 5,4 event reported (0x2000)	3958 (Text reports OBCP_Evt Hifi Off)
30/04/2008 (121) 00:19:34	Class A Temperature Anomaly Ended 5,1 event reported	
30/04/2008 (121) 00:21:34	Class A Temperature Anomaly 5,1 event reported	
30/04/2008 (121) 00:23:34	Class A Temperature Anomaly Ended 5,1 event reported	
30/04/2008 (121) 00:23:47 – 00:25:53	5 x 5,1 events reported by PACS (3_32776, 3_33041, 0_20, 2x 5_28, 0_14 & 0_10)	
30/04/2008 (121) 00:26:26	PACS FPU ON 5,4 event reported (0x2002) – Not clear why there should be a 5,4 event when nominal switch on of a unit has occurred.	3958 (Text reports OBCP_Evt Hifi Off)
30/04/2008 (121) 00:26:50	Completion of DB_OBCP_H_PACS_POWER_CYCLE OBCP Ended 5,1 event	
End Condition	PACS SAFE	

**Table 4.7.1-3 DB\_OBCP\_H\_PACS\_POWER\_CYCLE Timeline**

Date(DoY) & Time UTC	Event	NCR
30/04/2008 (121) 00:45:00	Triggering of DB_OBCP_H_PACS_NORMAL_OFF via PACS	

Date(DoY) & Time UTC	Event	NCR
	test script	
30/04/2008 (121) 00:45:45	3 x 5,2 PACS Events (2_22) + 3 x 5,1 PACS Exception Report Events (0_25)	
30/04/2008 (121) 00:45:45	OBCP Start 5,1 Event	
30/04/2008 (121) 00:45:47	Subschedule Status Change 5,1 event	
30/04/2008 (121) 00:45:51	17 x 5,2 PACS Events (2_22) + 17 x 5,1 PACS Exception Report Events (0_25)	
30/04/2008 (121) 00:46:34	PACS BOLC Bias Reset 5,4 event reported (0x2001)	3958 (Text reports OBCP_Evt Hifi Off)
30/04/2008 (121) 00:46:54	PACS OFF 5,4 event reported (0x2000)	3958 (Text reports OBCP_Evt Hifi Off)
30/04/2008 (121) 00:46:57	Completion of DB_OBCP_H_PACS_NORMAL_OFF OBCP Ended 5,1 event	
End Condition	PACS OFF	

**Table 4.7.1-4 DB\_OBCP\_H\_PACS\_NORMAL\_OFF Timeline**

Date(DoY) & Time UTC	Event	NCR
30/04/2008 (121) 01:10:00	Triggering of DB_OBCP_H_PACS_IMMEDIATE_OFF via TM DFL	
30/04/2008 (121) 01:10:11	OBCP Start 5,1 Event	
30/04/2008 (121) 01:10:13	Subschedule Status Change 5,1 event	



Date(DoY) & Time UTC	Event	NCR
30/04/2008 (121) 01:10:45	Completion of DB_OBCP_H_PACS_IMMEDIATE_OFF OBCP Ended 5,1 event	
End Condition	PACS OFF	

**Table 4.7.1-5 DB\_OBCP\_H\_PACS\_IMMEDIATE\_OFF Timeline**

**4.7.2 SPIRE FDIR OBCP IST 21/05/2008**

<b>Date(DoY) &amp; Time UTC</b>	<b>Event</b>	<b>NCR</b>
21/05/2008 (142) 11:17	S/C in required configuration for first Instrument FDIR OBCP (SPIRE)	
21/05/2008 (142) 11:21:51	Triggering of DB_OBCP_H_SPIRE_OPE_STOP via SPIRE test script	
21/05/2008 (142) 11:21:52	OBCP Start 5,1 Event	
21/05/2008 (142) 11:21:54	Subschedule Status Change 5,1 event	
21/05/2008 (142) 11:21:56	SPIRE Operations Stopped 5,4 event reported (0x1003)	3958 (Text reports OBCP_Evt Hifi Off)
21/05/2008 (142) 11:17	Completion of DB_OBCP_H_SPIRE_OPE_STOP OBCP Ended 5,1 event	
End Condition	SPIRE Operations Stopped	

**Table 4.7.1-1 DB\_OBCP\_H\_SPIRE\_OPE\_STOP Timeline**

Date(DoY) & Time UTC	Event	NCR
21/05/2008 (142) 11:44:05	Triggering of DB_OBCP_H_SPIRE_OPE_RESUME via SPIRE test script	
21/05/2008 (142) 11:44:06	OBCP Start 5,1 Event	
21/05/2008 (142) 11:44:09	Subschedule Status Change 5,1 event	
21/05/2008 (142) 11:44:10	SPIRE Operations Resumed 5,4 event reported (0x1004)	3958 (Text reports OBCP_Evt Hifi Off)
21/05/2008 (142) 11:44.13	Completion of DB_OBCP_H_SPIRE_OPE_RESUME OBCP Ended 5,1 event	
End Condition	SPIRE Operations Stopped	

**Table 4.7.1-2 DB\_OBCP\_H\_SPIRE\_OPE\_RESUME Timeline**

<b>Date(DoY) &amp; Time UTC</b>	<b>Event</b>	<b>NCR</b>
21/05/2008 (142) 12:06:02	Triggering of DB_OBCP_H_SPIRE_DRCU_OFF via SPIRE test script	
21/05/2008 (142) 12:06:03	OBCP Start 5,1 Event	
21/05/2008 (142) 12:06:06	Subschedule Status Change 5,1 event	
21/05/2008 (142) 12:06:07	5,1 & 5,4 events from SPIRE reporting loss of DRCU (DCU, MCU, SCU)	
21/05/2008 (142) 12:06:07	SPIRE VM_COPYTABLE_FAULT 5,1 event	4128
21/05/2008 (142) 12:06:09	SPIRE DRCU OFF 5,4 event reported (0x1000)	3958 (Text reports OBCP_Evt Hifi Off)
21/05/2008 (142) 12:06:12	Completion of DB_OBCP_H_SPIRE_DRCU_OFF OBCP Ended 5,1 event	
End Condition	SPIRE DRCU OFF	

**Table 4.7.1-3 DB\_OBCP\_H\_SPIRE\_DRCU\_OFF Timeline**

Date(DoY) & Time UTC	Event	NCR
21/05/2008 (142) 13:57:54	Triggering of DB_OBCP_H_SPIRE_OFF_CTRL via SPIRE test script	
21/05/2008 (142) 13:57:54	OBCP Start 5,1 Event	
21/05/2008 (142) 13:57:58	Subschedule Status Change 5,1 event	
21/05/2008 (142) 13:58:22	SPIRE Shutdown 5,4 event reported (0x1002)	3958 (Text reports OBCP_Evt Hifi Off)
21/05/2008 (142) 13:58:24	Completion of DB_OBCP_H_SPIRE_OFF_CTRL OBCP Ended 5,1 event	
End Condition	SPIRE OFF	

**Table 4.7.1-4 DB\_OBCP\_H\_SPIRE\_OFF\_CTRL Timeline**

Date(DoY) & Time UTC	Event	NCR
21/05/2008 (142) 14:53:45	Triggering of DB_OBCP_H_SPIRE_OFF via bus jamming (DLL)	
21/05/2008 (142) 14:53:49	OBCP Start 5,1 Event	
21/05/2008 (142) 14:53:49	Unexpected event from ACMS during bus jamming	4229
21/05/2008 (142) 14:53:50	Subschedule Status Change 5,1 event	
21/05/2008 (142) 14:54:06	SPIRE Switched OFF 5,4 event reported (0x1001)	3958 (Text reports OBCP_Evt Hifi Off)
21/05/2008 (142) 14:54:10	Completion of DB_OBCP_H_SPIRE_OFF OBCP Ended 5,1 event	
End Condition	SPIRE OFF	

**Table 4.7.1-5 DB\_OBCP\_H\_SPIRE\_OFF Timeline**

#### 4.8 Summary conclusion

All FDIR were successfully executed as planned. A number of NCRs & SPRs were raised (some during debug of the test), but none appear to have directly affected the objectives of the test. However, NCRs 4229 & 3512 should be reviewed in more detail to confirm that they were due to the trigger mechanism (bus jamming) rather than the OBCP itself. There were some deviations from the IST Specification (AD-1), however these were agreed prior to the start of test at the TRR, see section 4.6 for details.

One further consideration for the SPIRE OBCP FDIR (as already raised at the TRR) is that the current version of SPIRE OBSW release 2.2H does not fully implement FDIR. Therefore, for IST1, a workaround was necessary to initiate the SPIRE events that would trigger the respective OBCPs.

Further analysis of the detailed test data is also required for the HIFI Reset OBCP to confirm that the Soft Reset was handled correctly as this is not possible from the real-time HK TM generated during the test.

The test procedure (AD-2) will be updated inline with the PVSs raised specifically for documentation corrections.

#### 4.9 Open issues

Those NCRs still open that were raised during the test.

Test with flight version of SPIRE DPU OBSW.

## 5 Post-Test Data Retrieval

Post test data is stored in a common location on the Astrium-EADS FTP server at Friedrichshafen. The directory structure is common to all IST tests with only the top level directory name changing to reflect the test concerned. In this instance the top level directory <Session Name> s are:

### Session 1 (HIFI & PACS):

2008\_04\_28\_21\_05\_hercdmu\_hpws22\_REALTIME\_INST\_FDIR

### Session 2 (SPIRE):

2008\_05\_21\_04\_38\_heracms\_hpws22\_REALTIME\_INST\_FDIR

The Common structure is as follows:

#### <Session Name>

- sub-directory >> Session\_archive
- sub-directory >> SSMM\_dump\_data
- sub-directory >> TM\_Pkt\_history
- sub-directory >> TM\_history
- sub-directory >> TC\_Pkt\_history
- sub-directory >> TMTC\_DFE\_data
  - sub-directory >> CLTU
  - sub-directory >> Tc\_packets
  - sub-directory >> Tm\_packets
  - sub-directory >> Tm\_frame
- sub-directory >> 1553\_DFE\_data (if data has been extracted for this session)
- sub-directory >> ACMS\_SCOE\_data (if data has been extracted for this session)
- sub-directory >> TTC\_SCOE data (if data has been extracted for this session)
- sub-directory >> Cleanliness\_data

### 5.1 Engineering values stored during test

See data on attached CD.

### 5.2 Raw values stored during test

See data on attached CD.



## **6 Attachments – Supporting Documentation**

### **6.1 Contamination control report**

See CD containing test data.

### **6.2 Pictures taken on the specimen in test configuration**

Not applicable.

### **6.3 Record (CD-ROM) of all acquired data during test**

See CD containing test data.

6.4 Test measurements devices calibration reports

EGSE	UNIT NAME	Manufacturer	P/N or Model	S/N	TAS-I C.I	TAS-I ID & Calibration		
						Instrument n. (SSS)	Calibration performed	Calibration expires
BCE SCOE	DC electronic load simulator	Agilent	6050A	3620A04731	3A2140-23.1.06	6344	30.01.2008	30.01.2009
BCE SCOE	DC power supply	Agilent	6654A	MY40001318	3A2140-23.1.05	6819	30.01.2008	30.01.2009
BS SCOE	DC electronic load simulator	Agilent	6060B	US37350708	3A2140-22.1.11	4002	30.01.2008	30.01.2009
BS SCOE	DC power supply	Agilent	6674A	3637A01524	3A2140-22.1.10	301	30.01.2008	30.01.2009
TT&C SCOE	Signal generator 9KHz - 3.3GHz SML03	Rhode & Schwarz	1090.3000.13	101398	3A2150.1.13	6297	31.01.2008	31.01.2009
TT&C SCOE	Signal generator 9KHz - 3.3GHz SML03	Rhode & Schwarz	1090.3000.13	101399	3A2150.1.8	6295	31.01.2008	31.01.2009
TT&C SCOE	Signal generator 9KHz - 3.3GHz SML03	Rhode & Schwarz	1090.3000.13	101400	3A2150.1.14	6296	31.01.2008	31.01.2009
TT&C SCOE	ESG series signal generator 250MHz - 4GHZ	Agilent	E4422B	MY43350106	3A2150.1.12	6290	31.01.2008	31.01.2009
TT&C SCOE	Network analyser 10KHz-180MHz	Agilent	E5100A	MY40500710	3A2150.1.11	6288	01.02.2008	01.02.2009
TT&C SCOE	EPM Series Power Meter	Agilent	E4416B	GB43313104	3A2150.1.5	6287	01.02.2008	01.02.2009
TT&C SCOE	20MHz Function/Arbitrary Waveform Generator	Agilent	33220A	MY40500710	3A2150.1.6	6948	01.02.2008	01.02.2009
TT&C SCOE	FSP Spectrum analyser 9KHz - 13.6GHz	Rhode & Schwarz	1164.4391.13	100018	3A2150.1.4	6294	01.02.2008	01.02.2009

## 6.5 Logbook Extracts from Test

Note the following logbook extracts are for information only and do not necessarily represent a complete and accurate sequence of events. All essential information is provided in the signed off “as-run” procedures appended to this report.

### 6.5.1.1 Logbook Extract for HIFI & PACS OBCP FDIR

Date	28/04/2008	
Operator	S. Elsley	
QA	B. Hogg	
EGSE	E. Hanka	
Test Case	PACS-HIFI FDIR OBCP – HP-2-ASED-TP-0197	
OBSW	CDMS 3.4.0.9, ACMS 3.7	
HPSDB	H-P-2-ASP-LI-1441 issue 10	
HPCCS Release	Hpccs_2.0-1219	
Test Environment / Version	IST1_PART_1_TP_0197_1_1_END_001	
Session ID	2008_04_28_21_05_hercdmu_hpws22_REALTIME_INST_FDIR	
Purpose of test	Debugging	
	NCR investigation	
	Calibration	
	Unit integration testing	
	FORMAL	X

Time (UTC)	Test Procedure / Step / Script / Command / Event / Anomaly	Remarks / Cause of anomaly / Corrective action	C/A type (T/P)	NCR ref. (PA)
21:05	Session Started			
21:15	IST_START for FDIR OBCP started			
	Error in leading procedure for Acms config file procedure states IST_CDMS, but IST_START states IST_IFDR	IST_IFDR loaded		
22:46	Power up complete			

Time (UTC)	Test Procedure / Step / Script / Command / Event / Anomaly	Remarks / Cause of anomaly / Corrective action	C/A type (T/P)	NCR ref. (PA)
<b>29/04/08</b>				
07:56	Start of HIFI Mode Transition debug ACS-SD-0320			
09:01	Table Load blocked waiting for YM028962, 0 time value indicates packet (SPID 250040962 HIFI_G_0040) never received this session			
09:31	Restarted autonomously!!!	SPR to be raised 497		
10:01	Connect to Spire I-EGSE for merged MIB check			
12:00	ACS SD-320 completed			
15:08	<b>START OF FORMAL INST FDIR OBCP DRY RUN</b> (Simon, Ian, Rien, Uwe)	HP-2-ASED-TP-0197 Iss 1		
16:11	RWL4 momentum is below -10.0 +/- 20%			
16:13	At step 22 of section 7.2 the script RWL_SPINUP should reach END_TS but we found it suspended. Resumed it then it finished.	Unknow sofar why the script is suspended (not in procedure_197)		
16:30	At section 7.2 step 22 the "SCM pnt F rdy" is not reached!!	It was not commanded, just to OCM. Not understood		
16:31	After we pressed END_TS for RWL_SPINUP the ACMS started transition to SCM automaically. Missing step or note in procedure	In fact misleading because in the previous step it was stated that the status would be "SCM pnt F rdy" PVS 1.11 issued to add a wait for transition to SCM...		
16:50	TM failure during SREM_ACQ_START: TM DEF4W160 Accumulation expected Yes actual NO	Repeated once: Still NO. Known SPR-290		NCR-3986 re-occurrence
17:16	HIGH HIGH reported briefly for HIFI parameter HM258194 HL_mode_S value = failure then back in limits	To be added to TP-0206 – done		
17:15	BEHVLimC/MONTMdisk tasks reporting Operation overflow: uinteger (1356) – integer (32226). Result truncated to : 0	EGSE support (Luigi to investigate)		NCR-
17:23	HIGH HIGH reported briefly for HIFI parameter HM259194	To be added to TP-0206 – done		

Time (UTC)	Test Procedure / Step / Script / Command / Event / Anomaly	Remarks / Cause of anomaly / Corrective action	C/A type (T/P)	NCR ref. (PA)
	HL_error_word_S value = 170 then back in limits			
17:53	SPIRE IEGSE disconnect (connect earlier in the day during HIFI Modes debug			
18:21	After step 32 of section 7.2 an error was signalled on TM PM020380 (DP_SPS_LINK) No telemetry packet received (telemetry parameter isn't validated). The same problem occurred for the PM024380 (DP_SPUL_CMD) and other TM parameters.  Script P102999SCVT905_ASDISTPACS_PWR_ON_N.tcl.  It was recognized that transfers of RT 13, 16 (HIFI ICU Nominal) and 25 (PACS DPU Nominal) are delayed, i.e. the CDMU as the BC seems to be overloaded.	According to Simon this problem is as for SPR-497 raised today		NCR-4181  New NCR-xxxx
19:06	The first command of PVS#5 (set PACS(4) as active bus profile) was sent			
19:11	The second command of PVS#5 (set HIFI(2) as active bus profile) was sent			
19:27	The third command of PVS#5 (set bus profile 5) was sent			
19:44	Finally PACS nominal is powered			
19:54	Same problem for SPIRE as for PACS at 18:21 UTC			
19:59	SPIRE nominal is powered			
20:01	A102109SPVT211_ACMS_THERMISTOR_LOG started			
20:34	Shift handover to night shift (Simon, Brian, Stephen, Erhard)			
20:50	HIFI FDIR started Script calls IEGSE scripts etc that are already running from HIFI power on. SPR raised to remove			SPR501
21:05	Incorrect call of MTL PING (script contained .tcl)			SPR502
21:55	Jamming performed on RT 16			

Time (UTC)	Test Procedure / Step / Script / Command / Event / Anomaly	Remarks / Cause of anomaly / Corrective action	C/A type (T/P)	NCR ref. (PA)
21:55:24	Many OBS Runtime error observed during OBCP			
21:55:50	HIFI soft Reset			
	HIFI OFF			
	Cooling switched OFF			
23:30	Starting PACS FDIR			
30/04/08				
00:10	HIFI Cooling switched ON			
00:18:22	PACS Power Cycle started			
00:19:11	PACS Bolc OFF			
00:19:32	PACS OFF			
00:26:26	PACS FPU ON – unexpected event			
00:45	PACS Normal OFF started			
00:46:34	PACS Bolc OFF			
00:46:54	PACS OFF			
	At Step 161 after PACS immediate OFF, It is unclear what the sub schedules status should be – to be reviewed offline	Result was correct, procedure update required see PVS1		
01:40	PVS8 Switching off Instruments and have turned off the cooling HiFi			
	S/C Switch off			
	Dump Pkt Store taking a very long time, PVS raised to terminate sequence so that we can get switched OFF then ON again asap			
	S/C OFF			

6.5.1.2 Logbook Extract for SPIRE OBCP FDIR

Date	21/05/2008	
Operator	D. Liberatore / M. Koelle	
QA	B. Hogg	
EGSE	I. Luck	
Test Case	IST Instrument FDIR OBCP	
OBSW	CDMS 3.4.0.9, ACMS 3.7	
HPSDB	H-P-2-ASP-LI-1441 issue 10	
HPCCS Release	Hpccs_2.0-1219	
Test Environment / Version	Head	
Session ID	2008_05_21_04_38_heracms_hpws22_REALTIME_INST_FDIR	
Purpose of test	Debugging	
	NCR investigation	
	Calibration	
	Unit integration testing	
	FORMAL	X

Time	Test Procedure / Step / Script / Command / Event / Anomaly(UTC)	Remarks / Cause of anomaly / Corrective action	C/A type (T/P)	NCR ref. (P)
	New SAT AIT Constraints Sheet (20/05/08, 19:05) & Skin Connector Configuration List verified and signed	OK for IST SPIRE FDIR OBCP		
04:35	Start Session			
	Formal Run of IST Test Case "Instrument FDIR OBCP" for SPIRE started according to Leading Procedure HP-2-ASED-TP-0134, iss 4 and Instrument FDIR OBCP Test Procedure HP-2-ASED-TP-0197, iss.1			
5:00	Z010999MCVT201_IST_GUI started			

Time	Test Procedure / Step / Script / Command / Event / Anomaly(UTC)	Remarks / Cause of anomaly / Corrective action	C/A type (T/P)	NCR ref. (P)
	(calling Z010999MCVT003_IST_START)			
05:50	PVS 1: Select ACMS Config File "IST_IFDIR" in step 4 of ACMS Configuration Procedure, 7.2.4.2 of Leading Procedure, (A102109SPVT003_ACMS_CONFIG25.tcl)			
05:58	A102109SPVT010_ACMS_SCOE_CONFIG1.tcl ACMS SCOE did not boot: parameter check YMASE939 failed. Seems to be problem already observed and documented in Operator Note #3	PVS 2 raised on step 7 in chapter 7.2.4.2 of leading procedure TP-0134		
06:10	Applications were actually running on STR UCE EGSE, so Operator Note #3 wasn't the right one, but Operator Note #4. Therefore Manual Command Stack "ACMSscoeABORTKILLhpws23" performed and	Raised as SPR-0535		SPR-0535
07:40	ACMS_CONFIG1 aborted and restarted (within ACMS_CONFIG25)			
08:24	Leading Procedure TP_0134 finished, i.e. S/C is On and configured for Instrument FDIR OBCP			
09:05	Start TP-197 Section 7.2			
09:47	Resume A102109SPVT042_RWL_SPINUP (PVS2)	Procedure update required		
09:58:00	SREM DEF4W160 value = NO (Raw=1) when YES expected.  Occurred during Script Z102999SCVT003_SREM_ACQ-START  (section 7.2 step 25)	NCR To Be raised  20080521_090507_0072_Z010999MCVT131_IST_I NSTR_FDIR time 09.58  ESOC raised NCR 4045 however this was the opposite way round.		NCR-4228
11:20	SPIRE OBP_STOP OBCP ran as per procedure	OK		
11:40	SPIRE OBP_RESUME OBCP ran as per procedure	OK		
12:20	Step 233 Unintentional triggering of another OBCP due to investigating TLM and did not continue sequence quick enough.	SPR 0536 raised		SPR-0536



Time	Test Procedure / Step / Script / Command / Event / Anomaly(UTC)	Remarks / Cause of anomaly / Corrective action	C/A type (T/P)	NCR ref. (P)
	HKTM had been stopped, hence delay causing another OBCP			
13:05	Start Recovery Action to the OCBP i.a.w PVS #3 of TP0197	Recovery ok		
13:58	Continue TP 0197 from step 235			
13:31	Started from step 241 " trigger OBCP"			
13:57	At step 243 a PVS (#2-4) was raised on a call to the wrong script: Was: SPIRE_OBCPTest_OFFCTRL Should have been: SPIRE_OBCPTest_StopHK			
14:53:00	Unexpected ACMS TM(5.1) event packet TimeSync problem (2.1xe+09) on APIDs 512 & 514	NCR to be raised (SDB sync timeout)		NCR-4229
15:32:00	Script error: prompt to set CDMS SCOE Offline is done twice	SPR-0537		SPR-0537
15:00:00	Perform SD-0344 : SPIRE NCR-4086 EEPROM Memory Dump	PVS#4 issued because ACS will be run before switching off SPIRE (ACS call for power-up SPIRE)		
16:26:00	S/c handed over to I.Luck for switch-off			
16:27:00	IST-END started per TP_134 iss 4			
18:00:00	S/c powered-off !!!	Well timed <i>lan !!</i>		
18:04:00	Session ended			

## 6.6 Copy of the raised SPRs / NCRs

For NCRs, reference should be made to PRISMA for an accurate and detailed status of each, see section 4.5.2.1 & 4.5.3.1 for a summary of the NCRs related to this test.

A copy of SPRs raised during the test are attached (pdf copy of this report only).

# Attachment to Section 6.6 : SPRs Raised During Instrument FDIR OBCP

# SPR Formsheet

Nr.: <u>SC1</u>	Date: <u>29/4/08</u>	Author: <u>S. Ewery</u>	Classification:
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Test: <u>INDT FDIR</u>	Session ID: <u>2008-04-28-2LOS - random hpw22 - REALTIME - INDT - FDIR</u>	Subsystem:
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Title: REMOVE HIFI/IECX RELATED SCRIPTS (ALREADY PERFORMED)  
SPIRE

Type: (Script/Picture /Test structure):	Name: <u>ZC10999MOUT135-IST-PACS-FDIR ZC10999MOUT134-IST-HIFI-FDIR</u>	Version: <u>1.3 1.8</u>
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**Problem description (to be filled by Test conductor (TC) / Test operator (TO)):**  
 Time (UTC): 2055 Step no: 44 of 1011  
REMOVE HIFI/IECX RELATED SCRIPTS AS THEY ARE ALREADY PERFORMED DURING HIFI POWER ON,

**Proposed solution (to be filled by TC / TO):**  
AS ABOVE

**Review board decision (to be filled by TC, TO, QA plus Engineering / experts if required):**

Implement as proposed:       Reject:

Other: \_\_\_\_\_

Proposed rerun (Date / Test case): \_\_\_\_\_

Date: <u>29/4/08</u>	Participants: <u>S-HAMER S-EWERY</u>
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Implemented: <u>29/05/08</u>	<input checked="" type="checkbox"/> <u>S</u> <u>Wef</u>	Code inspected: <input type="checkbox"/>
Confirmed by Test Conductor(s) / Experts to check-in:		<input type="checkbox"/>

Date: <u>29/4/08</u>	Name: <u>S-HAMER</u>
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Close out (Functional team member & QA): [Signature]

Verified during test case / ID: \_\_\_\_\_

Date:	Version:	Func. Team Name:
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Date:	QA:
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# SPR Formsheet

Nr.: 502	Date: 29/4/08	Author: S. EISEN	Classification:
Test: INST FOER	Session ID: 2008-04-28-21-05-Heizbra Nplus22_REALTIME_INST-FOER	Subsystem:	
Title: CALL OF SCRIPT ERROR, ".ECL" NOT RECORDED			
Type: (Script/Picture /Test structure):	Name: 2010999MOUT134-IST-HIFI-FOER	Version:	
Problem description (to be filled by Test conductor (TC) / Test operator (TO)): Time (UTC): 21 05 Step no: 50 of TP197 ERROR CALLING MTL P.508, CALL CONTAINS ".ECL". ALSO MORE IEEESE CALLS (RELATED TO SPR 501) SHOULD BE REMOVED. AND CALL TO GET ENT REPORT CONTAINS .ECL			
Proposed solution (to be filled by TC / TO): REMOVE .ECL FROM BOTH CALLS REMOVE THE RELATED IEEESE COMMANDING			
Review board decision (to be filled by TC, TO, QA plus Engineering / experts if required): Implement as proposed: <input checked="" type="checkbox"/> Reject: <input type="checkbox"/> Other: _____ Proposed rerun (Date / Test case): _____			
Date: 29/4/08	Participants: S. HAMER S. EISEN		
Implemented: <input checked="" type="checkbox"/>	Code inspected: <input type="checkbox"/>		
Confirmed by Test Conductor(s) / Experts to check-in: <input type="checkbox"/>			
Date: 29/4/08	Name: S. HAMER		
Close out (Functional team member & QA): Verified during test case / ID: _____			
Date:	Version:	Func. Team Name:	
Date:	QA:		

# SPR Formsheet

Nr.: 503	Date: 30/4/08	Author: S. ELSLEY	Classification:
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Test: INST FDIR	Session ID: 2008-04-28-21-05 - h2idmu hpws22 REALTIME - INST - FDIR	Subsystem:
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Title: INCORRECT INFO PROMPT IN PACS FDIR

Type: (Script/Picture /Test structure):	Name: 2010999 MCVT - INST - PACS - FDIR	Version:
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Problem description (to be filled by Test conductor (TC) / Test operator (TO)):  
Time (UTC): 01:11 Step no: 160  
INCORRECT INFORMATION PROMPT , AFTER PACS IMMEDIATE OFF  
SPID 40145170 0x120B NOT 0x120C

Proposed solution (to be filled by TC / TO):  
CHANGE AS ABOVE

Review board decision (to be filled by TC, TO, QA plus Engineering / experts if required):  
Implement as proposed:  Reject:   
Other: \_\_\_\_\_  
Proposed rerun (Date / Test case): \_\_\_\_\_

Date: 30/4/08	Participants: S. ELSLEY S. HAMER
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Implemented: <input checked="" type="checkbox"/>	Code inspected: <input type="checkbox"/>
Confirmed by Test Conductor(s) / Experts to check-in:	<input type="checkbox"/>

Date: 30/4/08	Name: S. HAMER
---------------	----------------

Close out (Functional team member & QA):  
Verified during test case / ID: \_\_\_\_\_

Date:	Version:	Func. Team Name:
-------	----------	------------------

Date:	QA:
-------	-----

# SPR Formsheet

Nr.: <u>535</u>	Date: <u>21/05/08</u>	Author: <u>B.HOGG</u>	Classification: <u>MINOR</u>
-----------------	-----------------------	-----------------------	------------------------------

Test: <u>SPURE</u> <u>FDIR OBCP</u>	Session ID: <u>2008-05-21-04-38-heracms-</u> <u>WPLUS 22-<del>REALTIME</del>-INST-FDIR</u>	Subsystem:
--	---	------------

Title: STR SIMULATOR FAILED TO BOOT DURING 1ST START

Type: (Script/Picture /Test structure):	Name: <u>A102109SPU TO<del>DO</del>-ACMS-SCOE-CONFIG1</u>	Version:
---	---	----------

Problem description (to be filled by Test conductor (TC) / Test operator (TO)):  
 Time (UTC): 05.58 Step no: SECTION

TLM YMASE939 FAILED STATUS - FAILED TO BOOT.  
OP NOTE 3 REFERS TO THIS PROBLEM HOWEVER WHEN VERIFYING  
THE OP NOTE ALL THE APPLICATIONS ARE <sup>APPEAR TO BE</sup> RUNNING OK.

Proposed solution (to be filled by TC/TO):

NOTE 1ST TIME THE SCOE IS IN USE SINCE  
MOVE

USED OP NOTE 4 - OP NOTES 3 & 4 ~~NEED~~  
TO BE REVIEWED.

Review board decision (to be filled by TC, TO, QA plus Engineering / experts if required):

Implement as proposed:       Reject:

Other: \_\_\_\_\_

Proposed rerun (Date / Test case): \_\_\_\_\_

Date:	Participants:
-------	---------------

Implemented: <input type="checkbox"/>	Code inspected: <input type="checkbox"/>
Confirmed by Test Conductor(s) / Experts to check-in: <input type="checkbox"/>	

Date:	Name:
-------	-------

Close out (Functional team member & QA):

Verified during test case / ID: \_\_\_\_\_

Date:	Version:	Func. Team Name:
-------	----------	------------------

Date:	QA:
-------	-----

# SPR Formsheet

Nr.: <b>536</b>	Date: <b>21/05/08</b>	Author: <b>B. HOGG</b>	Classification: <b>MINOR</b>
-----------------	-----------------------	------------------------	------------------------------

Test: <b>SPIRE FDIR OBCP</b>	Session ID: <b>2008-05-21-04-38-hercules- hpws22 - (WATIME - INST - FDIR)</b>	Subsystem:
----------------------------------	---	------------

Title: **ADDITIONAL OBCP GENERATED DUE TO RESPONSE TIME OF  
REPLYING TO THE TEST SEQUENCE**

Type: (Script/Picture / Test structure):	Name: <b>S102999CUTO19_ASDGENSPR_PWR_OFF_P</b>	Version:
--	--	----------

Problem description (to be filled by Test conductor (TC) / Test operator (TO)):  
 Time (UTC): **12:25**      Step no: **2.3.3 of TP 0197**      **SEE ATTACHED LOG PRINT.**

**AN EVENT WAS CAUSED DUE TO NOT CONTINUING THE SEQUENCE QUICK ENOUGH. HOUSE KEEPING TLM WAS STOPPED IN THE PREVIOUS STEP AND THE DELAY CAUSED THE OBCP.**

Proposed solution (to be filled by TC / TO):

**UPDATE THE PROCEDURE TO INSERT A WARNING THAT  
DELAYS IN THE SEQUENCE RUNNING CAN CAUSE OBCP  
DURING THIS TEST STEP.**

Review board decision (to be filled by TC, TO, QA plus Engineering / experts if required):

Implement as proposed:       Reject:

Other: \_\_\_\_\_

Proposed rerun (Date / Test case): \_\_\_\_\_

Date:	Participants:
-------	---------------

Implemented: <input type="checkbox"/>	Code inspected: <input type="checkbox"/>
Confirmed by Test Conductor(s) / Experts to check-in: <input type="checkbox"/>	

Date:	Name:
-------	-------

Close out (Functional team member & QA):

Verified during test case / ID: \_\_\_\_\_

Date:	Version:	Func. Team Name:
-------	----------	------------------

Date:	QA:
-------	-----



# SPR Formsheet

Nr.: 537	Date: 21/05/08	Author: S. HAMER	Classification: MINOR
----------	----------------	------------------	-----------------------

Test: SPIRE FDIR OSCP	Session ID:	Subsystem: SPIRE
-----------------------	-------------	------------------

Title: Prompt to Set CDMS SCOE offline done twice

Type: (Script/Picture /Test structure):	Name: 2010999MCVTT37-IST-SPIRE-FDIR-formal	Version: 1.09
---	--	---------------

Problem description (to be filled by Test conductor (TC) / Test operator (TO)):  
Time (UTC): 15:32 Step no: 282 Section 7.5 of TP-0197  
As title

Proposed solution (to be filled by TC / TO):  
Remove 2nd prompt

Review board decision (to be filled by TC, TO, QA plus Engineering / experts if required):  
Implement as proposed:  Reject:   
Other: \_\_\_\_\_  
Proposed rerun (Date / Test case): Next SPIRE OSCP FDIR (EST 2)

Date: 21/05/08	Participants: S. HAMER
----------------	------------------------

Implemented:  Code inspected:   
Confirmed by Test Conductor(s) / Experts to check-in:

Date: 21/05/08	Name: S. HAMER
----------------	----------------

Close out (Functional team member & QA):  
Verified during test case / ID: \_\_\_\_\_

Date:	Version:	Func. Team Name:
-------	----------	------------------

Date:	QA:
-------	-----

## **6.7 As-Run Procedures**

A copy of the “as-run” procedures follow (pdf copy of this report only).

## Attachment 1 to Section 6.7:

# As-Run Procedure HP-2-ASED-TP-0134 for HIFI/PACS FDIR OBCP

Title: **Leading Procedure for Herschel Integrated Satellite Test**

AS RUN

FOR ALIGNMENT + ACS 320  
+ DEY RUN OF INST FOIR  
OBCP. (TP197)

CI-No:

2008\_04\_28\_2LOS\_herschel\_hpw522\_REALTIME\_INST\_FOIR

*D. Logg*  
28/04/08

Prepared by:	Functional Team	Date:
Checked by:	C. Much <i>[Signature]</i>	25/4/2008
Product Assurance:	J. Hall <i>[Signature]</i>	25/4/2008
Configuration Control:	W. Wietbrock	
TASF Engineering	G. Beaufile <i>[Signature]</i>	25 APR 08
TASF Test Director	S. Mooney <i>[Signature]</i>	25/4/2008
Project Management:	Dr. W. Fricke	
Project Management	Denis Montet <i>[Signature]</i>	28/4/08

Distribution: See Distribution List (last page)

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Change Record:

Issue	Date	Sheet	Description of Change	Release
1	11.01.2008		Initial version	1
1.1	04.02.2008		- see change bar	
1.2	27.02.2008		Update IST START step description according to AS RUN procedures, Add Operator note in Annex D, Add IST_GUI pictures, Update Hierarchy Script	
2.0	11.03.2008		5.4.3.1 Add CCS Light in EGSE Hardware Configuration 7.1.2 change all RFDN SM values from BBBB to ABBB (See procedure variations) 7.1.2 change value of "Bat.SCOE in table for launch clean run 7.1.2 change value of "TTR in SM" in table for "FDIR" and "Nom mode Robustness" 7.1.2 Correct SSMM configuration for ACMS commissioning 7.1.3 Step 1 add script name 7.1.3 Step 2 describe how to open window 7.1.3 Step 4 additional remark N/A for "Launch Clean Run" 7.1.3 Step 5 additional remark N/A for "Launch Clean Run" 7.1.3 Step 7 additional remark N/A for "Launch Clean Run" 7.1.3 Move Step 7b as 9b 7.1.3 Step 8-9 appears always (not only for launch cases) 7.1.3 step 20 add Operator Note 11 reference 7.1.3 step 22 deleted 7.1.3 step 23 added "Satellite state displayed" 7.1.3 step 29 remark deleted 7.1.3 step 33-34 Remark moved from step 34 to step 33 7.1.3 step 39 additional remark 7.1.4.1 step 9 add SPR 282 7.1.4.2 step 4 correct script name 7.1.4.2 step 5-6-7 clarify N/A 7.1.4.2 step 8 move remark to step 10 7.1.4.2 step 10 add SPR and NCR and expected TM(5,1) 7.1.4.2 step 13 add PM_reset TC Not Acknowledged 7.3 step 2 change YES to Confirm	

			<p>7.3 step 2 add "RWL ON" condition          7.3 step 5 correct typo          7.3 step 7 add out of limit comment          7.3 add step 12a          7.3 remove step24          7.3 move step21 after WRITE_CROME step 23          7.3.1 4th Step 31 Add event TM(5,1) expected during ACC OFF          Annex D add Operator Note 11</p> <p>Rename Chapter 7 as IST Test          Create new subchapters              7.1 HPCCS configuration for IST Test              7.1.1 Apply Tag on test files</p>	
3	17.04.08		<p>Update IST START procedure according to the AS RUN procedure for Nominal Mode Robstness (minor changes),</p> <p>4.3.1 &amp; 4.3.2 to include SCOE Sk01J04 and to correct hcu connector ident Typo's</p> <p>7.2.1 Insert IST Start overview test flow diagram</p> <p>7.2.2 update table 5.8.12 Nom Mode Robustness table to be i.a.w. the IST Specification</p>	
4	24.04.08		<p>Update IST START procedure according to the AS RUN procedure for minor updates,</p> <p>Include step 21 in Section 7.2.4 - start a CCU log file to monitor temperature TLM's</p>	

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## 1 Scope

This Test Procedure contains the overall IST start-up and shutdown procedures for the satellite covering all the defined test cases as well as being the entry point for calling the appropriate test configuration.

It also contains the supporting definition of the relevant supporting infrastructure and pre test conditions required for the IST tests to be performed correctly.

All pre-requisites for the Helium II procedures shall be incorporated into a future issue of this document.

## 1.1 Objective

This document is the entry point for the Integrated Satellite Test - IST - test cases to be executed as part of the overall IST campaign for the Herschel project.

This document shall act as the leading procedure, to become 'as run' procedure for each IST test case that is executed, and shall be identified on the front sheet in 'Red' before start of test. A new 'as run' copy of the procedure shall be used for each test run, and will become an accurate history of the test performed. All activities will be recorded, with results obtained. Any anomalies found will be noted in the step by step section as they arise, and where applicable an SPR (Software Problem reports) will be raised.

The identification of hazardous conditions associated with the test article and the operations, which might damage equipment, cause injury or invalidate test data, will be herein provided. Precautions to be observed, with correlation to the specific areas of applicability, will be provided as well in the descriptions of the test set-up to be adopted.

## 1.2 Flow

The test flow is divided into two main areas: IST1 pre-environmental testing and IST2 which will be performed post environmental testing. For IST1 the tests will be grouped into 3 main test groups: Warm Case, He I, and He II condition. (See list below). For IST2 all testing shall be performed in He II condition.

### IST 1

#### ➤ Warm case

- Launch clean run
- Launch phase, separation and post separation
- Satellite Commissioning warm case
- ACMS commissioning
- Launch sequence robustness
- Mode transitions Warm case

#### ➤ He I

- Mode transitions He I or He II
- S/C reconfiguration
- NOM mode robustness
- Test of Instrument FDIR OBCP

---

#### ➤ He II

- Instruments commissioning and performance verification
- CDMS management
- DTCP worst case scenario
- Satellite/ CCU Commissioning He II only
- Reference Mission Scenario

### IST 2

All tests will be performed in He II

Tests may be run in any order

**2 Documents**

## 2.1 Applicable Documents

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)

AD 2.1.1 Herschel Integrated Satellite Test Specification H-P-2-ASP-0939

## 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 2.2.1.a.	Herschel/Planck Reference Mission Scenario	SCI-PT-12759
RD 2.2.1.b.	H/P ACMS S/S AVM SIT Specification	H-P-SP-AI-0059
RD 2.2.1.c.	H CDMS SIT Specification	H-P-SP-AI-0065
RD 2.2.1.d.	H TT&C SIT Specification	H-P-SP-AI-0078
RD 2.2.1.e.	H PCS SIT Specification	H-P-SP-AI-0079
RD 2.2.1.f.	Packet Store Usage on H/P 6603	PT-CMOC-OPS-TN-
RD 2.2.1.g.	Software user's Manual	P-HPL-NOT-0029-SE
RD 2.2.1.h.	CDMU ASW Requirement Specification	H-P-SP-AI-0031
RD 2.2.1.i.	Basic Software Requirement Specification	H-P-SP-AI-0006
RD 2.2.1.m.	H/P ACMS Requirement Specification	H-P-SP-AI-0011
RD 2.2.1.n.	SVM FDIR Design Specification	H-P-TN-AI-0024
RD 2.2.1.o.	Herschel Planck PSICD	SCI-PT-ICD-07527
RD 2.2.1.p.	H-P-CDMU ASW User Manual	H-P-4-SSF-MA-0001
RD 2.2.1.q.	H-P ACMS Design Report	H-P-4-DS-TN-0011
RD 2.2.1.r.	H-P ACMS TC Definition	H-P-4-DS-TN-0024
RD 2.2.1.s.	ACMS FDIR Analysis Report	H-P-4-DS-TN-0010
RD 2.2.1.t.	CDMU HW User Manual	P-HPL-NOT-0009

### 2.3 Other Documents

Additional to the IST Leading procedure there are the Step by Step IST procedure for each test case and a separate Instrument Power ON/OFF Switching procedure (see the table below).

IST Step by Step Test Procedures	HP-2-ASED-	Test to be performed
Herschel IST Test Case 'Launch Phase, Separation and Post Separation'	TP-0185	
Herschel IST Test Case 'Satellite Commissioning'	TP-0186	
Herschel IST Test Case 'ACMS Commissioning'	TP-0187	
Herschel IST Test Case 'Instruments Commissioning and Performance Verification'	TP-0188	
Herschel IST Test Case 'Mode Transitions'	TP-0189	
Herschel IST Test Case 'S/C Reconfiguration'	TP-0190	
Herschel IST Test Case 'CDMS Management'	TP-0191	
Herschel IST Test Case 'DTCP Worst Case Scenario'	TP-0192	
Herschel IST Test Case 'REFERENCE Mission Scenario'	TP-0193	
Herschel IST Test Case 'Launch Clean Run'	TP-0194	
Herschel IST Test Case 'Launch Sequence Robustness'	TP-0195	
Herschel IST Test Case 'NOM Mode Robustness'	TP-0196	
Herschel IST Test Case 'Test of Instrument FDIR OBCP'	TP-0197	
Herschel Instrument Power On/Off and Mode Switching Procedure for Functional Testing	TP-0206	



### 3 Requirements to be verified

See AD 2.1.1 "Herschel Integrated Satellite Test Specification" section 9

## 4 Configuration

#### 4.1 Hardware Configuration

The activities described in this test procedure require the complete system configuration according to the hardware matrix here below reported.

S/S	Unit	Configuration	SCOE simulated equipments	Remarks
		<i>Herschel</i>		
<b>EGSE</b>	CCS	1		
	CCS lite	1		
	TM/TC DFE	1		
	CDMU SCOE	1		
	ACMS SCOE	1		
	TT&C SCOE	1		
	POWER SCOE	1		
	CCU SCOE			
<b>IGSE</b>	<b>HIFI IGSE</b>	1		
	<b>PACS IGSE</b>	1		
	<b>SPIRE IGSE</b>	1		
<b>PCS</b>	PCDU	1+1		
	Battery	1 Installed. Only connected for Launch clean run	1	Battery Simulation for other tests
	Solar Array	30 nom sections not required for IST	1	Power SCOE
<b>CDMS</b>	CDMU	1+1		
<b>ACMS</b>	ACC	1+1		
	RWA	3+1		
	GYRO	3+1		
	STR	2		
	CRS	2		
	AAD	1+1 internal red		
	SAS	2+2 internal red		
<b>TT&amp;C</b>	XPND	2		
	TWT	2		
	EPC	2		
	LGA	2 (not used during the IST)		

S/S	Unit	Configuration	SCOE simulated equipments	Remarks
	MGA	1 (not used during the IST)		
RCS		1+1 (not used during the IST)		ACMS SCOE
TCS		1 (partially installed)		
VMC		1		
SREM		1		
HIFI		1		
PACS		1		
SPIRE		1		
Telescope		1		
HSS		1		

**Table 1: Satellite configuration required for IST**

#### 4.2 SW Configuration

The Satellite IST will be run with the on-board software configuration as detailed in the IST TRR.

The actual configuration of the software should be noted here to ensure correct system status

- CDMS OBSW: \_\_\_\_\_
- ACMS OBSW: \_\_\_\_\_
- STR PROM SW: \_\_\_\_\_
- STR EEPROM SW: \_\_\_\_\_
- PACS DPU SW: \_\_\_\_\_
- PACS SPU SW: \_\_\_\_\_
- PACS DMC SW: \_\_\_\_\_
- HIFI ICU SW: \_\_\_\_\_
- SPIRE DPU SW: \_\_\_\_\_

SEE MOM  
H-P-TARF-MN-10

### 4.3 SCOE Cables Connection

For the IST there are four different SCOE cables configuration.

- Configuration 1 for "Nominal Launch" and "RMS" see 4.3.1
- Configuration 2 for " Instrument Commissioning", "Mode Transitions", "S/C Reconfiguration", "Launch Mode Robustness", "CDMS management", "ACMS Commissioning", "Satellite commissioning" and "DTCP Worst Case Scenario" " NOM Mode Robustness" 4.3.2
- Configuration 3 for " Launch Clean Run" 4.3.3

### SCOE CABLES CONNECTION to HERSCHEL S/C

SCOE CABLES CONNECTION to HERSCHEL S/C					
SKIN-01	PWR Panel (PCDU)				
	Connector Function	Skin Connector	S/C unit	SCOE CABLE	Flight Connector
	BS Nom Power	SK01BJ09	PCDU		PCDU Flight Plug SK01BP09 Plugged
	BS Red Power	SK01BJ10	PCDU		PCDU Flight Plug SK01BP09 Plugged
	BDR1 AIT	SK01BJ11	PCDU	LPS SCOE Cable Plugged	
	BDR2 AIT	SK01BJ12	PCDU	LPS SCOE Cable Plugged	
	SA Nom Power	SK01AJ01	PCDU	POWER SCOE Cable Plugged	
	SA Nom Power	SK01AJ02	PCDU	POWER SCOE Cable Plugged	
	SA Nom Power	SK01AJ03	PCDU	POWER SCOE Cable Plugged	
	SA Red Power	SK01AJ04	PCDU	Connector Cover	
	SA Red Power	SK01AJ05	PCDU	POWER SCOE Cable Plugged	
	SA Red Power	SK01AJ06	PCDU	POWER SCOE Cable Plugged	
	SA Red Power	SK01AJ07	PCDU	POWER SCOE Cable Plugged	
PWR Panel (ACC, CDMU, RCS, 1553 & Thruster)					
Connector Function	Skin Connector	S/C unit	SCOE CABLE	Flight Connector	
DMS 1553 Bus_A	J01	CDMU	Bus Monitor Cable Plugged		
DMS 1553 Bus_B	J02	CDMU	Bus Monitor Cable Plugged		
ACMS 1553 Bus_A	J03	ACC	ACMS SCOE Cable Plugged		
ACMS 1553 Bus_B	J04	ACC	ACMS SCOE Cable Plugged		
LV1/FCV 20N CMD S/A M	J05	ACC/RCS	ACMS SCOE Cable Plugged		
LV2/FCV 20N CMD S/A R	J06	ACC/RCS	ACMS SCOE Cable Plugged		

SKIN-02	RCS Press/Tank Temp/PT Pwr	J07	ACC/PT&TH	ACMS SCOE Cable Plugged	
SKIN-02	Thruster Temp M/LV1 Sts	J08	ACC/RCS	ACMS SCOE Cable Plugged	
SKIN-02	CDMU and ACC EEPROM reprogramming input	J09	ACC/CDMU		Flight Cap SK02P09 Plugged
SKIN-02	CDMU and ACC EEPROM reprogramming input	J10	ACC/CDMU		Flight Cap SK02P10 Plugged
SKIN-02	Thruster Temp R/LV2 Sts	J11	ACC/RCS	ACMS SCOE Cable Plugged	
SKIN-02	Thruster C/B Heaters M	J12	ACC/CBH	ACMS SCOE Cable Plugged	
SKIN-02	Thruster C/B Heaters R	J13	ACC/CBH	ACMS SCOE Cable Plugged	
SKIN-02	Str1/2 On/Off Cmd M/Str1 Sts	J14	ACC/STR-1		ACMS Flight Cap SK02P14 Plugged
SKIN-02	Str1/2 On/Off Cmd R/Str2 Sts	J15	ACC/STR-2		ACMS Flight Cap SK02P15 Plugged
SKIN-02	Gyro A On/Off Cmd	J16	ACC/GYRO-E1		ACMS Flight Cap SK02P16 Plugged
SKIN-02	Gyro B On/Off Cmd	J17	ACC/GYRO-E2		ACMS Flight Cap SK02P17 Plugged
<b>SKIN-03</b>	TTC Panel				
	<b>Connector Function</b>	<b>Skin Connector</b>	<b>S/C unit</b>	<b>SCOE CABLE</b>	<b>Flight Connector</b>
SKIN-03	Test point TC + protection jumper EPC1	SK03J01	XPND1/EPC1		Plastic cap (See note1)
SKIN-03	Test point TC + protection jumper EPC2	SK03J02	XPND2/EPC2		Plastic cap (See note1)
	RF LINK				
	<b>Connector Function</b>	<b>Skin Connector</b>	<b>S/C unit</b>	<b>SCOE CABLE</b>	<b>Flight Connector</b>
	RF link for antenna LGA1	N/A	LGA1	RF SCOE LGA1 Plugged	LGA1 Anechoic Cap
	RF link for antenna LGA2	N/A	LGA2	RF SCOE LGA2 Plugged	LGA2 Anechoic Cap
	RF link for antenna MGA	N/A	MGA	RF SCOE MGA Plugged	MGA Anechoic Cap
<b>SKIN-04</b>	ACMS Panel (RWE)				
	<b>Connector Function</b>	<b>Skin Connector</b>	<b>S/C unit</b>	<b>SCOE CABLE</b>	<b>Flight Connector</b>
SKIN-04	RWL1 Sgn	J01	ACC/RWL-1		ACMS Flight Cap SK04P01 Plugged
SKIN-04	RWL2 Sgn	J02	ACC/RWL-2		ACMS Flight Cap SK04P02 Plugged
SKIN-04	RWL3 Sgn	J03	ACC/RWL-3		ACMS Flight Cap SK04P03 Plugged



SKIN-04	RWL4 Sgn	J04	ACC/RWL-4		ACMS Flight Cap SK04P04 Plugged
<b>SKIN-05</b>	GYR/QRS Panel				
	<b>Connector Function</b>	<b>Skin Connector</b>	<b>S/C unit</b>	<b>SCOE CABLE</b>	<b>Flight Connector</b>
SKIN-05	CRS1 AOCs Sgn	J01	CRS-1/ACC		ACMS Flight Cap
SKIN-05	CRS2 AOCs Sgn	J02	CRS-2/ACC		ACMS Flight Cap
SKIN-05	GYRO RS422 / Test	J03	GYRO	ACMS SCOE Cable Plugged	
SKIN-05	CRS 1/2 Stimuli	J04	CRS-1,2	ACMS SCOE Cable Plugged	
SKIN-05	AAD Sgn M	J05	AAD/ACC	ACMS SCOE Cable Plugged	
SKIN-05	SAS1/2 Sgn M	J06	SAS/ACC	ACMS SCOE Cable Plugged	
SKIN-05	SAS1/2 Sgn R	J07	SAS/ACC	ACMS SCOE Cable Plugged	
SKIN-05	AAD Sgn R	J08	AAD/ACC	ACMS SCOE Cable Plugged	
<b>SKIN-06</b>	STR Panel				
	<b>Connector Function</b>	<b>Skin Connector</b>	<b>S/C unit</b>	<b>SCOE CABLE</b>	<b>Flight Connector</b>
SKIN-06	STR1 Stimuli	J01	STR1	ACMS SCOE Cable Plugged	
SKIN-06	STR2 Stimuli	J02	STR2	ACMS SCOE Cable Plugged	
	<b>UMBILICAL</b>				
	<b>Connector Function</b>	<b>Connector</b>	<b>S/C unit</b>	<b>SCOE CABLE</b>	
	Power/Data	HU1 J01	SYSTEM	SCOEs cable Plugged	
	Power/Data	HU2 J01	SYSTEM	SCOEs cable Plugged	

CryoSCOE harness setup for ACS/PR/TP No.:						
Annex No.:						
315 100	on top of					
	Connector Function	Connector	S/C unit	SCOE	CryoSCOE connected	CCU Flight connected
	Temperature Sensors	315100-J01	T117, T118, T207, T211, T238, T239, T249, T251, T253, T255, T423, T443, T463, T851, T852, T853, T861	Cryo SCOE J07 & J15		no flight
	Temperature & pressure Sensors	315100-J03	T702, T872, P101, T103, T115, T116, T704, T802, T803, T805, T806, T871	Cryo SCOE J01 & J17		no flight
	Temperature Sensors	315100-J05	T331, T333, T335, T337, T339, T341 (Telescope)	Cryo SCOE J14		X
	Temperature Sensors	315100-J06	T332, T334, T336, T338, T340, T342 (Telescope)	Cryo SCOE J10		X
316 100	on top of					
	Connector Function	Connector	S/C unit	SCOE	CryoSCOE connected	CCU Flight connected
	Valve Sensor	316100-J01	VS501, VS504			X
	Valve Sensor	316100-J02	VS503, VS505			X
321 100	on top of					
	Connector Function	Connector	S/C unit	SCOE	CryoSCOE connected	CCU Flight connected
		321100-J01	L701, H701	Cryo SCOE J11		no flight
		321100-J02	LL702, H702	Cryo SCOE J03		no flight
		321100-J03	H502, H503	Cryo SCOE J06		no flight
	321100-J04	P501	Cryo SCOE J01		no flight	

			H103, H701, L102, VT102, VT103, VT105, VT701, VH102, VH103, VH105, VH701, VS102, VS105, VS701	Cryo SCOE J11		no flight
		321100-J05				
			H104, H702, L101, VT104, VT106, VT702, VH104, VH106, VH702, VS104, VS702	Cryo SCOE J03		no flight
		321100-J06				
			H501	Cryo SCOE J06		no flight
		321100-J07				
			T502	Cryo SCOE J01		no flight
		321100-J08				
321 200	on top of					
	Connector Function	Connector	S/C unit	SCOE	CryoSCOE connected	CCU Flight connected
			T202, T212, T221, T223, T227, T228, T232, T234, T236, T242, T244, T246, T250, T254, T258, T424, T464	Cryo SCOE J08		X
			T102, T105, T106, T111, PR_P701, T421, T442, T461, H101	Cryo SCOE J04		X
			T321, T323, T501, T505, T651, T901, T903, T907, T911	Cryo SCOE J09		X
			T312, T314, T316, T905, T909, T931, T933, T935	Cryo SCOE J09		X
		321200-J04				
			VS103, H102	Cryo SCOE J04		X
		321200-J05				
321 300	on top of					
	Connector Function	Skin Connector	S/C unit	SCOE	SCOE Cable connected	Flight Cap connected

			T208, T213, T222, T224, T225, T226, T231, T233, T235, T237, T247, T248, T252, T256, T862, T444	Cryo SCOE J02		X
			T101, T104, T107, T112, T703, T422, T441, T462, T701, H102	Cryo SCOE J04		X
			P502, T322, T324, T504, T506, T507, T652, T902, T908, T912	Cryo SCOE J18		X
			T311, T313, T315, T904, T906, T910, T932, T934	Cryo SCOE J14		X
			VS106, H102	Cryo SCOE J04		X
<b>CVSE I/F</b>	on top of					
	<b>Connector Function</b>	<b>Skin Connector</b>	<b>S/C unit</b>	<b>SCOE</b>	<b>SCOE Cable connected</b>	<b>Flight Cap connected</b>
				Cryo SCOE J18		X
to be approved & released before start of ACS/PR/TP by Floor- Manager		Date:		Sign:		

SAFE / ARM plug setup for ACS/PR/TP No.:						
Annex No.:						
314 200	on top of					
	Connector Function	Connector	S/C unit	SAFE	ARM	Sign
	SAFE / ARM plug	314 200-J03	NED (601)	X		
	SAFE / ARM plug	314 200-J04	NED (602)	X		
	SAFE / ARM plug	314 200-J05	SI 601	X		
	SAFE / ARM plug	314 200-J06	SI 602	X		
to be approved & released before start of ACS/PR/TP by Floor-Manager		Date:		Sign:		

**4.3.2 SCOE cable connection for "Nominal Launch", "Satellite Commissioning", "Instrument Commissioning", "ACMS Commissioning", "Mode Transitions", S/C Reconfiguration", "CDMS management", DTCP Worst Case Scenario", "Launch Mode Robustness", "NOM Mode Robustness" and "Instrument FDIR"**

SCOE CABLES CONNECTION to HERSCHEL S/C					
SKIN-01	PWR Panel (PCDU)				
	Connector Function	Skin Connector	S/C unit	SCOE CABLE	Flight Connector
	BS Nom Power	SK01BJ09	PCDU	BS SCOE Cable Plugged	✓
	BS Red Power	SK01BJ10	PCDU	BS SCOE Cable Plugged	✓
	BDR1 AIT	SK01BJ11	PCDU	LPS SCOE Cable Plugged	✓
	BDR2 AIT	SK01BJ12	PCDU	LPS SCOE Cable Plugged	✓
	SA Nom Power	SK01AJ01	PCDU	POWER SCOE Cable Plugged	✓
	SA Nom Power	SK01AJ02	PCDU	POWER SCOE Cable Plugged	✓
	SA Nom Power	SK01AJ03	PCDU	POWER SCOE Cable Plugged	✓
	SA Red Power	SK01AJ04	PCDU	Connector Cover	✓
	SA Red Power	SK01AJ05	PCDU	POWER SCOE Cable Plugged	✓
	SA Red Power	SK01AJ06	PCDU	POWER SCOE Cable Plugged	✓
	SA Red Power	SK01AJ07	PCDU	POWER SCOE Cable Plugged	✓
	SKIN-02	PWR Panel (ACC, CDMU, RCS, 1553 & Thruster)			
Connector Function		Skin Connector	S/C unit	SCOE CABLE	Flight Connector
DMS 1553 Bus_A		J01	CDMU	Bus Monitor Cable Plugged	✓
DMS 1553 Bus_B		J02	CDMU	Bus Monitor Cable Plugged	✓
ACMS 1553 Bus_A		J03	ACC	ACMS SCOE Cable Plugged	✓
ACMS 1553 Bus_B		J04	ACC	ACMS SCOE Cable Plugged	✓
SKIN-02	LV1/FCV 20N CMD S/A M	J05	ACC/RCS	ACMS SCOE	✓

As per SAT.COMM.RUN

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				Cable Plugged	
SKIN-02	LV2/FCV 20N CMD S/A R	J06	ACC/RCS	ACMS SCOE Cable Plugged	✓
SKIN-02	RCS Press/Tank Temp/PT Pwr	J07	ACC/PT&TH	ACMS SCOE Cable Plugged	✓
SKIN-02	Thruster Temp M/LV1 Sts	J08	ACC/RCS	ACMS SCOE Cable Plugged	✓
SKIN-02	CDMU and ACC EEPROM reprogramming input	J09	ACC/CDMU		Flight Cap SK02P09 Plugged ✓
SKIN-02	CDMU and ACC EEPROM reprogramming input	J10	ACC/CDMU		Flight Cap SK02P10 Plugged ✓
SKIN-02	Thruster Temp R/LV2 Sts	J11	ACC/RCS	ACMS SCOE Cable Plugged	✓
SKIN-02	Thruster C/B Heaters M	J12	ACC/CBH	ACMS SCOE Cable Plugged	✓
SKIN-02	Thruster C/B Heaters R	J13	ACC/CBH	ACMS SCOE Cable Plugged	✓
SKIN-02	Str1/2 On/Off Cmd M/Str1 Sts	J14	ACC/STR-1		ACMS Flight Cap SK02P14 Plugged ✓
SKIN-02	Str1/2 On/Off Cmd R/Str2 Sts	J15	ACC/STR-2		ACMS Flight Cap SK02P15 Plugged ✓
SKIN-02	Gyro A On/Off Cmd	J16	ACC/GYRO-E1		ACMS Flight Cap SK02P16 Plugged ✓
SKIN-02	Gyro B On/Off Cmd	J17	ACC/GYRO-E2		ACMS Flight Cap SK02P17 Plugged ✓
<b>SKIN-03</b>	<b>TTC Panel</b>				
	<b>Connector Function</b>	<b>Skin Connector</b>	<b>S/C unit</b>	<b>SCOE CABLE</b>	<b>Flight Connector</b>
SKIN-03	Test point TC + protection jumper EPC1	SK03J01	XPND1/EPC1		Plastic cap (See note1) ✓
SKIN-03	Test point TC + protection jumper EPC2	SK03J02	XPND2/EPC2		Plastic cap (See note1) ✓
	<b>RF LINK</b>				
	<b>Connector Function</b>	<b>Skin Connector</b>	<b>S/C unit</b>	<b>SCOE CABLE</b>	<b>Flight Connector</b>
	RF link for antenna LGA1	N/A	LGA1	RF SCOE LGA1 Plugged	LGA1 Anechoic Cap ✓
	RF link for antenna LGA2	N/A	LGA2	RF SCOE LGA2 Plugged	LGA2 Anechoic Cap ✓
	RF link for antenna MGA	N/A	MGA	RF SCOE MGA Plugged	MGA Anechoic Cap ✓
<b>SKIN-04</b>	<b>ACMS Panel (RWE)</b>				
	<b>Connector Function</b>	<b>Skin Connector</b>	<b>S/C unit</b>	<b>SCOE CABLE</b>	<b>Flight Connector</b>
SKIN-04	RWL1 Sgn	J01	ACC/RWL-1		ACMS Flight Cap SK04P01 Plugged ✓
SKIN-04	RWL2 Sgn	J02	ACC/RWL-2		ACMS Flight Cap ✓

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SKIN-04					SK04P02 Plugged	
SKIN-04	RWL3 Sgn	J03	ACC/RWL-3		ACMS Flight Cap SK04P03 Plugged	✓
SKIN-04	RWL4 Sgn	J04	ACC/RWL-4		ACMS Flight Cap SK04P04 Plugged	✓
<b>SKIN-05</b>	<b>GYR/QRS Panel</b>					
	<b>Connector Function</b>	<b>Skin Connector</b>	<b>S/C unit</b>	<b>SCOE CABLE</b>	<b>Flight Connector</b>	
SKIN-05	CRS1 AOCs Sgn	J01	CRS-1/ACC		ACMS Flight Cap	✓
SKIN-05	CRS2 AOCs Sgn	J02	CRS-2/ACC		ACMS Flight Cap	✓
SKIN-05	GYRO RS422 / Test	J03	GYRO	ACMS SCOE Cable Plugged		✓
SKIN-05	CRS 1/2 Stimuli	J04	CRS-1,2	ACMS SCOE Cable Plugged		✓
SKIN-05	AAD Sgn M	J05	AAD/ACC	ACMS SCOE Cable Plugged		✓
SKIN-05	SAS1/2 Sgn M	J06	SAS/ACC	ACMS SCOE Cable Plugged		✓
SKIN-05	SAS1/2 Sgn R	J07	SAS/ACC	ACMS SCOE Cable Plugged		✓
SKIN-05	AAD Sgn R	J08	AAD/ACC	ACMS SCOE Cable Plugged		✓
<b>SKIN-06</b>	<b>STR Panel</b>					
	<b>Connector Function</b>	<b>Skin Connector</b>	<b>S/C unit</b>	<b>SCOE CABLE</b>	<b>Flight Connector</b>	
SKIN-06	STR1 Stimuli	J01	STR1	ACMS SCOE Cable Plugged		✓
SKIN-06	STR2 Stimuli	J02	STR2	ACMS SCOE Cable Plugged		✓
	<b>UMBILICAL</b>					
	<b>Connector Function</b>	<b>Connector</b>	<b>S/C unit</b>	<b>SCOE CABLE</b>		
	Power/Data	HU1 J01	SYSTEM	SCOE's cable Plugged		✓
	Power/Data	HU2 J01	SYSTEM	SCOE's cable Plugged		✓

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CryoSCOE harness setup for ACS/PR/TP No.:						
Annex No.:						
315 100	on top of					
	Connector Function	Connector	S/C unit	SCOE	CryoSCOE connected	CCU Flight connected
	Temperature Sensors	315100-J01	T117, T118, T207, T211, T238, T239, T249, T251, T253, T255, T423, T443, T463, T851, T852, T853, T861	Cryo SCOE J07 & J15	✓	no flight
	Temperature & pressure Sensors	315100-J03	T702, T872, P101, T103, T115, T116, T704, T802, T803, T805, T806, T871	Cryo SCOE J01 & J17	✓	no flight
	Temperature Sensors	315100-J05	T331, T333, T335, T337, T339, T341 (Telescope)	Cryo SCOE J14		X
	Temperature Sensors	315100-J06	T332, T334, T336, T338, T340, T342 (Telescope)	Cryo SCOE J10		X
316 100	on top of					
	Connector Function	Connector	S/C unit	SCOE	CryoSCOE connected	CCU Flight connected
	Valve Sensor	316100-J01	VS501, VS504			X ✓
	Valve Sensor	316100-J02	VS503, VS505			X ✓
321 100	on top of					
	Connector Function	Connector	S/C unit	SCOE	CryoSCOE connected	CCU Flight connected
		321100-J01	L701, H701	Cryo SCOE J11	✓	no flight
		321100-J02	LL702, H702	Cryo SCOE J03	✓	no flight
	321100-J03	H502, H503	Cryo SCOE J06	✓	no flight	

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		321100-J04	P501	Cryo SCOE J01		no flight
		321100-J05	H103, H701, L102, VT102, VT103, VT105, VT701, VH102, VH103, VH105, VH701, VS102, VS105, VS701	Cryo SCOE J11	✓	no flight
		321100-J06	H104, H702, L101, VT104, VT106, VT702, VH104, VH106, VH702, VS104, VS702	Cryo SCOE J03	✓	no flight
		321100-J07	H501	Cryo SCOE J06	✓	no flight
		321100-J08	T502	Cryo SCOE J01	✓	no flight
321 200	on top of					
	Connector Function	Connector	S/C unit	SCOE	CryoSCOE connected	CCU Flight connected
		321200-J01	T202, T212, T221, T223, T227, T228, T232, T234, T236, T242, T244, T246, T250, T254, T258, T424, T464	Cryo SCOE J08		✓ X
		321200-J02	T102, T105, T106, T111, PR_P701, T421, T442, T461, H101	Cryo SCOE J04		✓ X
		321200-J03	T321, T323, T501, T505, T651, T901, T903, T907, T911	Cryo SCOE J09		✓ X
		321200-J04	T312, T314, T316, T905, T909, T931, T933, T935	Cryo SCOE J09		✓ X
	321200-J05	VS103, H102	Cryo SCOE J04		✓ X	

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321 300	on top of					
	Connector Function	Skin Connector	S/C unit	SCOPE	SCOPE Cable connected	Flight Cap connected
		321300-J01	T208, T213, T222, T224, T225, T226, T231, T233, T235, T237, T247, T248, T252, T256, T862, T444	Cryo SCOPE J02		X ✓
		321300-J02	T101, T104, T107, T112, T703, T422, T441, T462, T701, H102	Cryo SCOPE J04		X ✓
		321300-J03	P502, T322, T324, T504, T506, T507, T652, T902, T908, T912	Cryo SCOPE J18		X ✓
		321300-J04	T311, T313, T315, T904, T906, T910, T932, T934	Cryo SCOPE J14		X ✓
	321300-J05	VS106, H102	Cryo SCOPE J04		X ✓	
CVSE I/F	on top of					
	Connector Function	Skin Connector	S/C unit	SCOPE	SCOPE Cable connected	Flight Cap connected
				Cryo SCOPE J18		X ✓
to be approved & released before start of ACS/PR/TP by Floor-Manager		Date: 26/04/08		Sign:		

<b>SAFE / ARM plug setup for ACS/PR/TP No.:</b>						
<b>Annex No.:</b>						
314 200	on top of					
	Connector Function	Connector	S/C unit	SAFE	ARM	Sign
	SAFE / ARM plug	314 200-J03	NED (601)	X ✓		
	SAFE / ARM plug	314 200-J04	NED (602)	X ✓		
	SAFE / ARM plug	314 200-J05	SI 601	X ✓		
SAFE / ARM plug	314 200-J06	SI 602	X ✓			
to be approved & released before start of ACS/PR/TP by Floor-Manager		Date: <i>24/04/08</i>		Sign:		

4.3.3 SCOE cable connection for "Launch Clean Run"

SVM / EGSE harness setup for ACS/PR/TP No.:						
Annex No.:						
SKIN-01	PWR Panel (PCDU)					
	Connector Function	SCOE	S/C unit	Skin Connector	Connection	Sign
	SA Nom Power	SAS SCOE	PCDU	SK01A J/P01	disconnected	
	SA Nom Power	SAS SCOE	PCDU	SK01A J/P02	disconnected	
	SA Nom Power	SAS SCOE	PCDU	SK01A J/P03	disconnected	
			Battery	SK01A J/P04	EMC cover	
	SA Red Power	SAS SCOE	PCDU	SK01A J/P05	disconnected	
	SA Red Power	SAS SCOE	PCDU	SK01A J/P06	disconnected	
	SA Red Power	SAS SCOE	PCDU	SK01A J/P07	disconnected	
	BS Nom Power	BS SCOE	PCDU	SK01B J/P09	Flight	
	BS Red Power	BS SCOE	PCDU	SK01B J/P10	Flight	
	BDR1 AIT	SAS SCOE	PCDU	SK01B J/P11	LPS SCOE Cable Plugged	
	BDR2 AIT	SAS SCOE	PCDU	SK01B J/P12	LPS SCOE Cable Plugged	
SKIN-02	PWR Panel (ACC, CDMU, RCS, 1553 & Thruster)					
	Connector Function	SCOE	S/C unit	Skin Connector	Connection	Sign
	DMS 1553 Bus_A	CDMU SCOE	CDMU	SK02 J/P01	Flight	
	DMS 1553 Bus_B	CDMU SCOE	CDMU	SK02 J/P02	Flight	
	ACMS 1553 Bus_A	ACMS SCOE	ACC	SK02 J/P03	Flight	
	ACMS 1553 Bus_B	ACMS SCOE	ACC	SK02 J/P04	Flight	
	LV1/FCV 20N CMD S/A M	ACMS SCOE	ACC/RCS	SK02 J/P05	disconnected	
	LV2/FCV 20N CMD S/A R	ACMS SCOE	ACC/RCS	SK02 J/P06	disconnected	
	RCS Press/Tank Temp/PT Pwr	ACMS SCOE	ACC/PT&TH	SK02 J/P07	Flight	
	Thruster Temp M/LV1 Sts	ACMS SCOE	ACC/RCS	SK02 J/P08	Flight	

	Quick S/W load	grey ACMS	black CDMS	SK02 J/P09	disconnected		
	Quick S/W load	grey ACMS	black CDMS	SK02 J/P10	disconnected		
	Thruster Temp R/LV2 Sts	ACMS SCOE	ACC/RCS	SK02 J/P11	Flight		
	Thruster C/B Heaters M	ACMS SCOE	ACC/CBH	SK02 J/P12	disconnected		
	Thruster C/B Heaters R	ACMS SCOE	ACC/CBH	SK02 J/P13	disconnected		
	Str1/2 On/Off Cmd M/Str1 Sts	ACMS SCOE	ACC/STR-1	SK02 J/P14	Flight		
	Str1/2 On/Off Cmd R/Str2 Sts	ACMS SCOE	ACC/STR-2	SK02 J/P15	Flight		
	Gyro A On/Off Cmd		ACC/GYRO-E1	SK02 J/P16	Flight		
	Gyro B On/Off Cmd		ACC/GYRO-E2	SK02 J/P17	Flight		
<b>SKIN-03</b>	TTC Panel						
	Connector Function	SCOE	S/C unit	Skin Connector	Connection		Sign
	Test point TC + protection jumper EPC1	Plastic Cap	XPND1/EPC1	SK03 J/P01	Flight		
	Test point TC + protection jumper EPC2	Plastic Cap	XPND2/EPC2	SK03 J/P02	Flight		
	RF LINK						
	Connector Function	SCOE	S/C unit	Skin Connector	Connection		Sign
	RF link for antenna LGA1	TT&C SCOE	LGA1	LGA1 Anechoic Cap	RF-SCOE		
	RF link for antenna LGA2	TT&C SCOE	LGA2	LGA2 Anechoic Cap	RF-SCOE		
	RF link for antenna MGA	TT&C SCOE	MGA	MGA Anechoic Cap	RF-SCOE		
<b>SKIN-04</b>	ACMS Panel (RWE)						
	Connector Function	SCOE	S/C unit	Skin Connector	Connection		Sign
	RWL1 Sgn		ACC/RWL-1	SK04 J/P01	Flight		
	RWL2 Sgn		ACC/RWL-2	SK04 J/P02	Flight		
	RWL3 Sgn		ACC/RWL-3	SK04 J/P03	Flight		
	RWL4 Sgn		ACC/RWL-4	SK04 J/P04	Flight		

SKIN-05	GYR/QRS Panel					
	Connector Function	SCOE	S/C unit	Skin Connector	Connection	Sign
	CRS1 AOCs Sgn		CRS-1/ACC	SK05 J/P01	Flight	
	CRS2 AOCs Sgn		CRS-2/ACC	SK05 J/P02	Flight	
	GYRO RS422 / Test	ACMS SCOE	GYRO	SK05 J/P03	disconnected	
	CRS 1/2 Stimuli	ACMS SCOE	CRS-1,2	SK05 J/P04	disconnected	
	AAD Sgn M	ACMS SCOE	AAD/ACC	SK05 J/P05	Flight	
	SAS1/2 Sgn M	ACMS SCOE	SAS/ACC	SK05 J/P06	Flight	
	SAS1/2 Sgn R	ACMS SCOE	SAS/ACC	SK05 J/P07	Flight	
	AAD Sgn R	ACMS SCOE	AAD/ACC	SK05 J/P08	Flight	
SKIN-06	STR Panel					
	Connector Function	SCOE	S/C unit	Skin Connector	Connection	Sign
	STR1 Stimuli	STR1	STR1	SK06 J/P01	disconnected	
	STR2 Stimuli	STR2	STR2	SK06 J/P02	disconnected	
UMBILICAL						
	Connector Function	SCOE	S/C unit	Connector	Connection	Sign
	Power/Data	System	SYSTEM	HUJ01	SCOE	
	Power/Data	System	SYSTEM	HUJ02	SCOE	
approved SE		approved AIT		approved PA/Safety	approved Floor-Manger	
sign off:						

CryoSCOE harness setup for ACS/PR/TP No.:						
Annex No.:						
315 100	on top of					
	Connector Function	Connector	S/C unit	SCOE	CryoSCOE connected	CCU Flight connected
	Temperature Sensors	315100-J01	T117, T118, T207, T211, T238, T239, T249, T251, T253, T255, T423, T443, T463, T851, T852, T853, T861	Cryo SCOE J07 & J15		no flight
	Temperature & pressure Sensors	315100-J03	T702, T872, P101, T103, T115, T116, T704, T802, T803, T805, T806, T871	Cryo SCOE J01 & J17		no flight
	Temperature Sensors	315100-J05	T331, T333, T335, T337, T339, T341 (Telescope)	Cryo SCOE J14		X
	Temperature Sensors	315100-J06	T332, T334, T336, T338, T340, T342 (Telescope)	Cryo SCOE J10		X
316 100	on top of					
	Connector Function	Connector	S/C unit	SCOE	CryoSCOE connected	CCU Flight connected
	Valve Sensor	316100-J01	VS501, VS504			X
	Valve Sensor	316100-J02	VS503, VS505			X
321 100	on top of					
	Connector Function	Connector	S/C unit	SCOE	CryoSCOE connected	CCU Flight connected
		321100-J01	L701, H701	Cryo SCOE J11		no flight
		321100-J02	LL702, H702	Cryo SCOE J03		no flight
		321100-J03	H502, H503	Cryo SCOE J06		no flight
	321100-J04	P501	Cryo SCOE J01		no flight	



		321100-J05	H103, H701, L102, VT102, VT103, VT105, VT701, VH102, VH103, VH105, VH701, VS102, VS105, VS701	Cryo SCOE J11		no flight
		321100-J06	H104, H702, L101, VT104, VT106, VT702, VH104, VH106, VH702, VS104, VS702	Cryo SCOE J03		no flight
		321100-J07	H501	Cryo SCOE J06		no flight
		321100-J08	T502	Cryo SCOE J01		no flight
321 200	on top of					
	Connector Function	Connector	S/C unit	SCOE	CryoSCOE connected	CCU Flight connected
		321200-J01	T202, T212, T221, T223, T227, T228, T232, T234, T236, T242, T244, T246, T250, T254, T258, T424, T464	Cryo SCOE J08		X
		321200-J02	T102, T105, T106, T111, PR_P701, T421, T442, T461, H101	Cryo SCOE J04		X
		321200-J03	T321, T323, T501, T505, T651, T901, T903, T907, T911	Cryo SCOE J09		X
		321200-J04	T312, T314, T316, T905, T909, T931, T933, T935	Cryo SCOE J09		X
		321200-J05	VS103, H102	Cryo SCOE J04		X
321 300	on top of					
	Connector Function	Skin Connector	S/C unit	SCOE	SCOE Cable connected	Flight Cap connected

			T208, T213, T222, T224, T225, T226, T231, T233, T235, T237, T247, T248, T252, T256, T862, T444	Cryo SCOE J02		X
		321300-J01				
			T101, T104, T107, T112, T703, T422, T441, T462, T701, H102	Cryo SCOE J04		X
		321300-J02				
			P502, T322, T324, T504, T506, T507, T652, T902, T908, T912	Cryo SCOE J18		X
		321300-J03				
			T311, T313, T315, T904, T906, T910, T932, T934	Cryo SCOE J14		X
		321300-J04				
			VS106, H102	Cryo SCOE J04		X
		321300-J05				
<b>CVSE I/F</b>	on top of					
	<b>Connector Function</b>	<b>Skin Connector</b>	<b>S/C unit</b>	<b>SCOE</b>	<b>SCOE Cable connected</b>	<b>Flight Cap connected</b>
				Cryo SCOE J18		X
to be approved & released before start of ACS/PR/TP by Floor-Manager		Date:		Sign:		

SAFE / ARM plug setup for ACS/PR/TP No.:						
Annex No.:						
314 200	on top of					
	Connector Function	Connector	S/C unit	SAFE	ARM	Sign
	SAFE / ARM plug	314 200-J03	NED (601)	X		
	SAFE / ARM plug	314 200-J04	NED (602)	X		
	SAFE / ARM plug	314 200-J05	SI 601	X		
	SAFE / ARM plug	314 200-J06	SI 602	X		
to be approved & released before start of ACS/PR/TP by Floor-Manager			Date:		Sign:	

## 5 Conditions

### 5.1 Personnel

The following table shall be filled in detailing which personnel are required to be present for the test. The signature of the appropriate responsible is classified as agreement to start the test as stated in the TRR.

Responsibility	Required for Test (Y/N)	Name / Organization	Signature
Floor Manager	Y		
Test Director	Y		
Test Conductor	Y		
EGSE Operator			
SVM Support Engineer			
Cryo Support Engineer			
HIFI Instrument Support Engineer			
PACS Instrument Support Engineer			
Spire Instrument Support Engineer			
PA Responsible	Y		
Customer Representative			

**Table 2: List of IST test attendants**

Persons, other than test personal as mentioned in the test team organization and participants of the TRR, are allowed to observe the test at the discretion of the Test Director and Test Conductor.

## 5.2 Environmental

During all the phases of the test the HERSCHEL Satellite shall be maintained in a controlled environment in order to prevent degradation or contamination of the satellite equipment and surface, which could result in operational failures.

ESTEC site clean room will be used.

Ambient conditions shall comply with ISO14644-1 for cleanliness requirement.

The characteristic shall be:

- Temperature =  $22C \pm 3C$
- Relative Humidity = 50 % +/- 10%
- Delta Pressure = above 0.6 mm H<sub>2</sub>O
- Clean Conditions = Class 100 000

The following table defines the S/C conditions for each IST test sequence with respect to Cryostat He I/He II status, tilting angle and usage of the real battery.

IST 1 Part 1 Warm preferred

Chapter of IST Spec Issue 4		Instr. Mode	Real Battery required	Satellite X- Axis tilting	Ambient or cool down (deviating from IST Spec !!!)	He I HTI venting >20mg/sec	He II HTI venting >20mg/sec
5.8.2	<b>Launch phase, separation and post separation</b>	3 shift	4 shift	5 shift	6 shift	7 shift	8 shift
5.8.2.3	Initial configuration	OFF	Y	n.a	Preferred	alternative	alternative
5.8.2.4.2	Satellite power ON	OFF	Y	n.a	Preferred	alternative	alternative
5.8.2.4.4	Configuration for launch	OFF	Y	n.a	Preferred	alternative	alternative
5.8.2.4.5	Launch	OFF	Y	n.a	Preferred	alternative	alternative
5.8.2.4.6	Separation	OFF	Y	n.a	Preferred	alternative	alternative
5.8.2.4.7	Post separation	OFF	Y	n.a	Preferred	alternative	alternative
5.8.2.4.8	Initial check out in SAM mode	OFF	Y	n.a	Preferred	alternative	alternative
5.8.2.4.9	CDMS transition to NOM mode	OFF	Y	n.a	Preferred	alternative	alternative
5.8.2.4.10	Orbit Control Manoeuvre	OFF	Y	n.a	Preferred	alternative	alternative
5.8.2.4.11	End of the sequence	OFF	Y	n.a	Preferred	alternative	alternative
5.8.3	<b>Satellite Commissioning</b>						
5.8.3.3	Test start configuration	OFF	N	n.a	Preferred	alternative	alternative
5.8.3.4	TTC commissioning	OFF	N	n.a	Preferred	alternative	alternative
5.8.3.5	CDMS commissioning	OFF	N	n.a	Preferred	alternative	alternative
	TCS commissioning	OFF	N	n.a	Preferred	alternative	alternative
5.8.3.7	PCS commissioning	OFF	N	n.a	Preferred	alternative	alternative
5.8.3.10	SREM commissioning	OFF	N	n.a	Preferred	alternative	alternative
5.8.3.11	TCS commissioning	OFF	N	n.a	Preferred	alternative	alternative
5.8.3.12	Telescope decontamination	OFF	N	n.a	Preferred	alternative	alternative
5.8.3.13	Cryo Cover opening	OFF	N	n.a	Preferred	alternative	alternative
5.8.3.14	Test end	OFF	N	n.a	Preferred	alternative	alternative
5.8.3.9	<b>ACMS commissioning</b>						
5.8.3.9.1	AAD, SAS, CRS, STR, GYR, RCS unit check	OFF	N	n.a	Preferred	alternative	alternative
5.8.3.9.2	RWLs health check	OFF	N	n.a	Preferred	alternative	alternative
5.8.3.9.3	STR functional verification	OFF	N	n.a	Preferred	alternative	alternative
5.8.3.9.4	ACC health check	OFF	N	n.a	Preferred	alternative	alternative
5.8.3.9.5	ACMS dynamic verification	OFF	N	n.a	Preferred	alternative	alternative
5.8.5	<b>Mode transitions</b>						
5.8.5.3	Test start configuration	OFF	N	n.a	Preferred	alternative	alternative
5.8.5.4	Launch to Launch	OFF	N	n.a	Preferred	alternative	alternative
5.8.5.5	Launch to SAM	OFF	N	n.a	Preferred	alternative	alternative
5.8.5.6	SAM to SAM	OFF	N	n.a	Preferred	alternative	alternative
5.8.5.7	SAM to NOM	OFF	N	n.a	Preferred	alternative	alternative
5.8.10	<b>Launch clean run</b>						
		OFF	Y	n.a	Preferred	alternative	alternative
5.8.11	<b>Launch sequence robustness</b>						
5.8.11.3.2	Satellite power on	OFF	N	n.a	Preferred	alternative	alternative
5.8.11.3.4	Configuration for launch (status)	OFF	N	n.a	Preferred	alternative	alternative
5.8.11.3.5	Configuration for launch	OFF	N	n.a	Preferred	alternative	alternative
5.8.11.3.6	Separation	OFF	N	n.a	Preferred	alternative	alternative
5.8.11.3.7	S/C acquisition	OFF	N	n.a	Preferred	alternative	alternative
5.8.11.3.8	Initial checkout in SAM mode	OFF	N	n.a	Preferred	alternative	alternative
5.8.11.3.9	Transition to NOM mode	OFF	N	n.a	Preferred	alternative	alternative
5.8.11.3.10	Orbit control manoeuvre	OFF	N	n.a	Preferred	alternative	alternative

IST 1 Part 2 He I or He II

Chapter of IST Spec Issue 4		Instr. Mode	Real Battery required	Satellite X- Axis tilting	Ambient or cool down (deviating from IST Spec !!!)	He I HTT venting >20mg/sec	He II HTT venting >20mg/sec
<b>5.8.5 Mode transitions</b>							
5.8.5.8	NOM to NOM	PACS spectro SPIRE STBY HIFI STBY	N	0.23		alternative	Preferred
5.8.5.9	NOM to EAM	PACS STBY SPIRE STBY HIFI STBY	N	0.23		alternative	Preferred
5.8.5.10	EAM to EAM	PACS STBY SPIRE STBY-> Photo->STBY HIFI STBY	N	0.23		alternative	Preferred
5.8.5.11	EAM to NOM	PACS STBY SPIRE STBY-> Photo	N	0.23		alternative	Preferred
5.8.5.12	NOM to SM	PACS STBY->OFF SPIRE Photo->OFF HIFI STBY->OFF	N	0.23		alternative	Preferred
5.8.5.13	SM to SM	OFF	N	0.23		alternative	Preferred
5.8.5.14	SM to SAM	OFF	N	0.23		alternative	Preferred
5.8.5.17	EAM to SAM (needs new SAM to NOM and NOM to EAM)	PACS STBY SPIRE STBY HIFI Science -> STBY	N	0.23		alternative	Preferred
5.8.5.18	NOM to SAM (needs new SAM to NOM)	PACS Burst-> STBY SPIRE STBY	N	0.23		alternative	Preferred
5.8.5.19	Test end	OFF	N	0.23		alternative	Preferred
<b>5.8.6 S/C reconfiguration</b>							
5.8.6.2	Test start configuration	PACS STBY SPIRE STBY HIFI STBY	N	0.23		alternative	Preferred
5.8.6.3	CDMS level 3a	PACS STBY SPIRE STBY HIFI Prime-	N	0.23		alternative	Preferred
5.8.6.4	CDMS level 3b	PACS STBY SPIRE STBY HIFI STBY	N	0.23		alternative	Preferred
5.8.6.5	ACMS level 4	PACS Prime->OFF SPIRE STBY->OFF HIFI STBY->OFF	N	0.23		alternative	Preferred
5.8.6.6	ACMS recovery from Survival Mode (ACMS SASM to SAM)	OFF	N	0.23		alternative	Preferred
5.8.6.7	CDMS level 4	PACS Prime->OFF SPIRE STBY->OFF HIFI STBY->OFF	N	0.23		alternative	Preferred
5.8.6.8	Test end	OFF	N	0.23		alternative	Preferred
<b>5.8.12 NOM mode robustness</b>							
5.8.12.3.1	Initial State	PACS STBY SPIRE Photo HIFI STBY	N	0.23		alternative	Preferred
5.8.12.3.2	CDMS PM 1553 BC failure simulation	PACS STBY SPIRE Photo-> STBY	N	0.23		alternative	Preferred
5.8.12.3.3	CDMS PM 1553 BC failure recovery	PACS Photo SPIRE STBY HIFI STBY	N	0.23		alternative	Preferred
5.8.12.3.4	Initial state second test	PACS Photo SPIRE STBY HIFI STBY	N	0.23		alternative	Preferred
5.8.12.3.5	ACMS 1553 RT failure simulation	PACS Photo -> STBY SPIRE STBY	N	0.23		alternative	Preferred
5.8.12.3.6	ACMS 1553 RT failure recovery	PACS STBY->OFF SPIRE STBY->OFF HIFI STBY->OFF	N	0.23		alternative	Preferred
<b>5.8.13 Test of Instrument FDIR OBCP</b>							
5.8.13.4	SPIRE FDIR OBCP	SPIRE	N	0.23		alternative	Preferred
5.8.13.5	PACS FDIR OBCP	PACS	N	0.23		alternative	Preferred
5.8.13.6	HIFI FDIR OBCP	HIFI	N	0.23		alternative	Preferred
<b>5.9 DEGRADED CASES</b>							
5.9.1	S/C ability to be operated in degraded modes					alternative	Preferred



IST 1 Part 3 He II only

Chapter of IST Spec Issue 4	Instr. Mode	Real Battery required	Satellite X-Axis tilting	Ambient or cool down (deviating from IST Spec !!!)	He I HTT venting >20mg/sec	He II HTT venting >20mg/sec
<b>Satellite Commissioning</b>						
CCU (cryostat) commissioning	OFF	N	23			Required
<b>Instruments commissioning and performance verification</b>						
Test start (restart) configuration	OFF	N	23			Required
SPIRE commissioning test	Spire	N	23 → 90			Required
PACS commissioning test	PACS	N	23			Required
HIFI commissioning test	HIFI	N	0-23			Required
SPIRE and PACS parallel mode	SPIRE/PACS	N	23			Required
Test end or interruption	OFF	N				Required
<b>CDMS management</b>						
General Sequence (Integration with RMS DTCP number 2)	PACS Prime STBY → Burst → X SPIRE STBY HIFI STBY	N	0-23		alternatively if MTL is compatible with instrument operations	Preferred
MTL management	PACS Prime STBY → Burst → X SPIRE STBY HIFI STBY	N	0-23		alternatively if MTL is compatible with instrument operations	Preferred
OBCP management	PACS Prime STBY → Burst → X SPIRE STBY HIFI STBY	N	0-23		alternatively if MTL is compatible with instrument operations	Preferred
SSMM management	PACS Prime STBY → Burst → X SPIRE STBY HIFI STBY	N	0-23		alternatively if MTL is compatible with instrument operations	Preferred
FDIR level 1 & 2	PACS Prime STBY → Burst → X SPIRE STBY HIFI STBY	N	0-23		alternatively if MTL is compatible with instrument operations	Preferred
OBT management	PACS Prime STBY → Burst → X SPIRE STBY HIFI STBY	N	0-23		alternatively if MTL is compatible with instrument operations	Preferred
<b>DTCP worst case scenario</b>						
	PACS (Burst) SPIRE STBY HIFI Prime	N	0-23		TBC	Preferred
<b>REFERENCE Mission Scenario</b>						
Test start configuration		Y				Required
Test steps		Y				Required
HIFI OD	HIFI OD	Y	0-23			Required
PACS OD	PACS OD	Y	0-23			Required
SPIRE OD	SPIRE OD	Y	0-23			Required
Test end		Y				Required

Table 3: S/C conditions for each IST test sequence

### **5.3 General Precautions and Safety**

### 5.3.1 General Safety Requirements, Precautions

Special condition and hazards

The following Operational restrictions shall be carefully taken into account:

1. Before any test article modification the relevant power sources shall be switched OFF
2. Protective caps shall be installed on each harness or unit connector when these are not linked to their equipment
3. All the test data shall be recorded
4. Before starting the test sequence, care must be taken in verifying that all hardware links are correctly connected.
5. to avoid possible damages, no signal shall be applied in no powered units, except where otherwise specified
6. During testing the step by step procedure shall be followed. Changes will be possible and will be managed by a Procedure Variation Sheet approved by the AIV and PA.
7. In case of any failure, the activities shall be stopped until troubleshooting plan is generated and approved.
8. In case of non-conformance, the procedure addressed in [AD 2.1.2.b] shall be applied.
9. The time of usage (ON/OFF cycles and ON duration) of each limited life equipment (FPGAs', etc?) shall be noted and recorded by the QA.
10. No stimulus has to be applied to any CRS switched-OFF
11. The EPC cannot be switched-ON for more than 5 minutes without any TWT turned-ON.
12. Care must be exercised when working around the S/C; in particular, if real IMU(s) or CRS rate sensors are involved, which may register any mechanical vibration affecting the responses of the ACC and/or invalidating the overall test results.
13. In case of AC failure, when the AC power will be again available, preliminary checks will be performed to verify that no damage has be caused to EGSE, SLE and S/L. The test conductor can decide to restart or to continue the test depending on the point where the failure happened.
14. Considering the SVM NCR affecting the XPND FM4, the transponder will be continuously flushed with Nitrogen during the tests.
15. Due to the use of liquid Helium during the Herschel mechanical test campaign, particular safety precautions need to be taken. The cryostat operations which require handling of liquid Helium are described in a dedicated procedure.
16. It shall be ensured that, for the beginning of each IST\_START, the BDR's have been switched offi in order that skin plug reconfiguration can be carried out safely in presence of the flight battery. Note : During IST End the power down sequence, commands to turn the BDR's off (to isolate the battery)are issued via the CDMU. If it is suspected for any reason the battery has not been isolated by

switching the BDR's off then the stand alone procedure "BDR Isolation" from HP-2-ASED-TP-0215 shall be executed, startup from the power down state.

17. The maximum continuous battery discharge limit of 36 A shall be respected at all times.

### 5.3.1.1 Instrument specific safety requirements and precautions

#### HIFI

LOU being at ambient temperature, IMT objectives on HIFI will be limited. Specifically, the LO power should be limited and higher frequency channel should not be used (IID-B). The bias range to the mixers and electromagnets should also be restricted.

#### PACS

Whenever PACS FPU is at HEII conditions:

Prior to any PACS instrument switch-on within this procedure, the FDIR mechanisms as described in "PACS Failure Detection Isolation and Recovery" (PACS-ME-GP-002, Issue 1.2) must be in place and have to be up and running on the CDMU. This shall remain activated during all modes of the PACS instrument, except the off mode.

### 5.3.2 ESD constraints

- The spacecraft must be grounded
- All connectors have to be covered with ESD dust caps when not mated
- All AIT personnel have to wear antistatic shoes and clothes
- The clean room floor around and under the item under test shall be covered with an antistatic carpet, which is grounded to facility ground.

### **5.3.3 Grounding Configuration**

A distributed single point grounding (DSPG) approach is used between the facility GSE and the satellite for electrical integration and performance tests.

Instrument signal ground isolation to the EGSE data processing electronics will be ensured.

### 5.3.4 Test Equipment Calibration and Performances

All equipment used for test activities shall be within their normal calibration period performed and certified either by the Facility or equipment supplier. Certification and calibration labels shall be available for inspections before activity start. Calibration shall be performed by/with qualified personnel/procedures under PA/QA supervision and approval. All the instrumentation to be used for the test shall follow the relevant PA rules.

Item Name	Item Type	Serial Number	Calibration Status



### **5.3.5 Special QA Requirements**

The QA/PA representative shall be present during all test activities. All documentation shall be inspected and approved before start and end of each test activity. The responsible PA engineer shall ensure that all 'as run' procedures have all the relevant information correctly recorded.

## 5.4 GSE

Test Equipment List					
Item	Manuf.	Model No.	SN No.	Invent No.	Next Calib.

#### **5.4.1 MGSE**

No additional mechanical GSE is required to perform the test described in this test procedure.

### 5.4.2 CVSE

The set-up of the CVSE will be performed according to HP-2-ASED-0095

Helium operations will be performed according

The cool down and filling procedure: HP-2-ASED-PR-0082 for Helium I

The Helium II top-up procedure: HP-2-ASED-TP-0083 for Helium II

The cover cooling procedure: HP-2-ASED-PR-0048 for special instrument stimulation

A list of the CVSE hardware which might be used is given below.

Qty.	Designation/Manufacturer	Provided by	Drawing/Ident. NR:	Calibr. Date
2	LHe Service Vacuum Pumping Unit I	BOCE	CI No. 142 310-01	
2	LHe Service Vacuum Pumping Unit II	BOCE	CI No. 142 310-02	
1	Main High Vacuum Pumping Unit	BOCE	CI No. 142 310-03	
1	Mobile High Vacuum Pumping Unit	BOCE	CI No. 142 310-03	
3	Molecular Turbo pumps	BOCE	CI No. 142 310-03	
1	Laboratory Vacuum Pump in safety unit	BOCE	CI No. 142 310-04	
1	Laboratory Vacuum Pump in scaffolding	BOCE	CI No. 142 310-04	
1	Laboratory Vacuum Pump in scaffolding (Ex proof.)	BOCE	CI No. 142 310-05	
2	CVSE Monitoring Rack	BOCE	CI No. 142 310-06	
2	Leak Detector Spectron 5000	BOCE	CI No. 142 310-07	
3	He I transfer lines (Y0211/Y0221/Y0231)	DeMaCo	CI No. 142 310-08	
3	He II transfer lines (Y0201-1, -2, -3)	De MaCo	CI No. 142 310-08	
2	Dewar to dewar transfer lines (Y0241 - Y0242)	De MaCo	CI No. 142 310-08	
1	Cover flushing line inlet (L1 + L2, separable)	AAE	CI No. 155 210	
1	Cover flushing line outlet (L3 + L4, separable)	AAE	CI No. 155 210	
1	Heater unit for cover inlet line	DeMaCo		
3	Venting line (Y0601/Y0602/Y0601-3)	DeMaCo	CI No. 142 310-09	
2	Pumping lines (Y0611-1 / Y0611-2)	DeMaCo	CI No. 142 310-09	
Set	Bake out lines (Y0633)	ASED	CI No. 142 310-09	
Set	HiVac Pumping lines (Y0673)	ASED	CI No. 142 310-09	

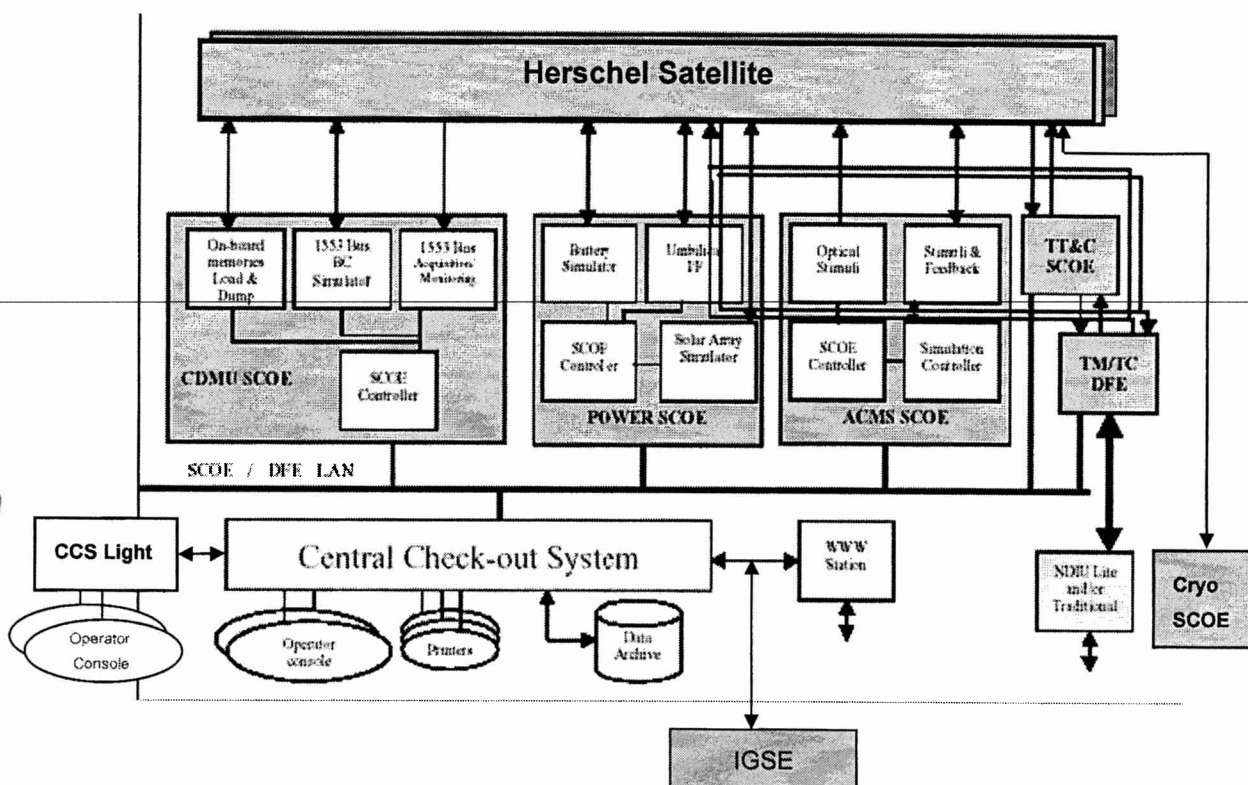
Qty.	Designation/Manufacturer	Provided by	Drawing/Ident. NR:	Calibr. Date
Set	Helium I lines (Y0612)	ASED	CI No. 142 310-09	
Set	Helium II Pumping lines (Y0602)	ASED	CI No. 142 310-09	
2	Scaffolding for He lines	ASED	CI No. 142 310-10	
10	450 l LHe Dewars type HDS 450 -EIPS	Linde		
1	Spiro pump DryTel 1025	ASED		
2	Liquid level sensor	ASED		
2	Helium depth indicator	ASED		
3	Pressure indicator (Keller)	ASED		
1	Laminar flow meter (0-10 mg/s / 0-70 mg/s)	ASED		
1	Standard flow meter (0-5 g/s)	ASED		
2	Gas flow counter	ASED		
Set	Vacuum houses	ASED		
Set	Miscellaneous vacuum seals	ASED		
Set	Vacuum parts	ASED		
Set	Special tools	ASED		
1	Scale	ASED		
1	Pressure Control unit (0-1500 mbar, Ziegler)	ASED		
Set	Plastic pipes (Diameter 20-40 mm, different length)	ASED		
1	HEXA He heating unit	CryoVac	S-21-7021	
Set	Stands	ASED		
Set	Trip tray	ASED		
Set	Special adapters	ASED		
1	Gate valve DN160	ASED		
1	He II bypass valve	ASED		

**5.4.3 EGSE**

5.4.3.1 EGSE Hardware Configuration

The EGSE configuration, when completed, is shown in the figure below

S/S	Unit	Configuration			SCOE simulated equipments	Remarks
		<i>Herschel</i>				
EGSE	CCS	1				
	CCS Light	1				
	TM/TC DFE	1				
	CDMU SCOE	1				
	ACMS SCOE	1				
	TT&C SCOE	1				
	POWER SCOE	1				
	Cryo SCOE					
	NDIU					



The Herschel/ EGSE will be built with the following equipment:

- Central Check Out System (CCS)

- Central Check Out System Light (CCS Lite)
- The Power Control Subsystem SCOE (Power SCOE)
- The Telemetry, Tracking and Command SCOE (TT&C SCOE)
- The Telemetry and Telecommand Data Front End Equipment (TM/TC DFE)
- The Attitude and Control Measurement Subsystem SCOE (ACMS SCOE)
- The Central Data Management Unit SCOE (CDMU SCOE)
- The Cryo SCOE which performs four general tasks
  - Control and monitoring the Cryostat Instrumentation either directly by the Cryo SCOE, i.e. locally or initiated by the CCS, i.e. remotely.
  - Substitution of the real CCU if the CCU is not available
  - Monitoring of several parameters of the Cryo Vacuum Support Equipment (CVSE).
  - Simulate the launcher interface by providing "dry loop commands" to be sent to the CCU.

All the above items are interconnected through an Ethernet Local Area Network (LAN) used to exchange both data and command & control information.

The CCS Lite will be used and configured in order to have a hot TM/TC backup in case of main CCS crashes.

The NDIU will be configured to put ESOC in listening mode.



#### 5.4.3.2 EGSE User Software

Most of the Test Software will be developed on the CCS, based on SCOS 2k, and will interface the HPSDB. It will consist mainly of:

- Test Sequences
- Synoptic Displays
- Data Evaluation and Test Analysis Software
- Simulation Software Master sequences (mainly for ACMS S/S).

On the contrary, on the SCOE's/DFE only a very peculiar type of software will be developed; it will mainly consist of:

- Configuration/set-up files for SCOE's/DFE instrumentation
- Sequence of commands
- Simulation files for Dynamic control and ACMS Sensors simulation
- Telemetry Simulation file for Missing Unit (Experiments).

A complete list of EGSE SW version ( particularly CCS and HPSDB ) shall be provided before start of test and attached to this procedure.

#### **5.4.4 OGSE**

No OGSE is required to carry out the test activities of the IST.

### **5.4.5 Special Equipment**

#### 5.4.5.1 Cooling device

The HIFI units when equipped with MLI (WEV, WEH, HRV, HRH) exceed their maximum operating temperature, WEV 35,5°C vs 30°C, HRV 40,1°C vs 40°C, WEH 35,3°C vs 30°C, HRH 41,9°C vs 40°C.

Therefore the implementation of a cooling system for the two HIFI panels (forced convection directed in these areas) is mandatory.

All the units stay in their operating temperature range with comfortable margins, except:

- GYRO baseplate 63,5°C vs 55°C, due to use of flight thermal control parameters, covered by RFD HP-300000-AI-RD-0011 issue 03.
- CRS1 and CRS2 around 50°C, due to use of flight thermal control parameters, covered by RFD H-P-300000-AI-RD-0014 issue03.

## 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 completed.

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

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

- Test conditions according to specification requirement;
- Complete verification of the requirement aspects according to the test specifications
- Fulfilment of test results with respect to required data;
- Verification that all the TM parameters used to monitor the SAT 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.

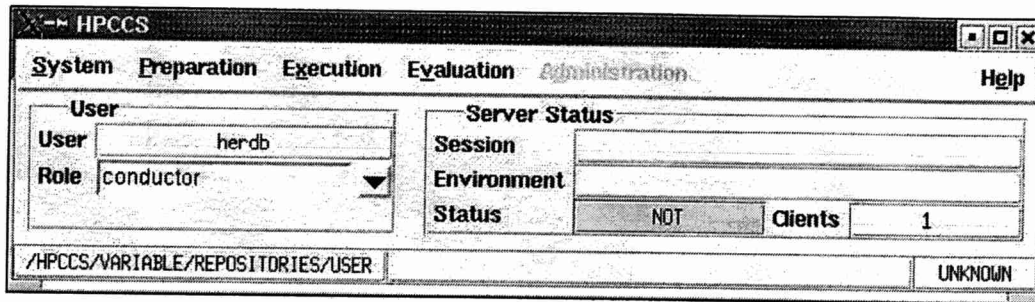
## 7 IST Test

## 7.1 HPCCS Configuration for IST Test

### 7.1.1 Apply Tag on test files

The **EGSE operator** has to perform the following steps **before starting IST test**:

1. On a Workstation login as **herdb** (password **heratest**), being this user dedicated to DB operations for Herschel FM Checkout System, and open a shell (xterm).
2. Logged as herdb, run Startmmi and the following window will occur



3. Logged as herdb, in HPCCS window, select menu "**Preparation → Prepare**"
4. Logged as herdb, in **PREP** window, select menu "**Preparation → Discard all**"
5. Logged as herdb, in **Confirm Discard** window, click the button **Discard**
6. Logged as herdb, in **PREP** window, select menu "**Preparation → Update**"
7. Logged as herdb, in **Check out environment** window, click the button **Check out** and then **Close**
8. Logged as herdb, in **PREP** window, select menu "**Tag → Apply**"
9. Logged as herdb, in the window **Apply Tag → New Tag**, insert TAG name  
Currently, TAG name for IST has the format:

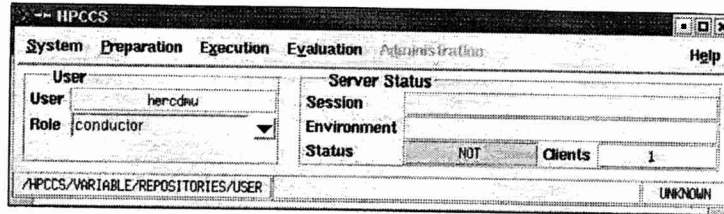
**IST\_x\_PART\_x\_TP\_xxxx\_x\_x\_BEGIN\_xxx**

10. Logged as herdb, push **Apply → Apply**
11. Logged as herdb, confirm Tag Application Push Apply button
12. Logged as herdb, open a new **shell** window (xterm)
13. Logged as herdb, execute the command **update\_tag**
14. Logged as herdb, insert the name of TAG  
**IST\_x\_PART\_x\_TP\_xxxx\_x\_x\_BEGIN\_xxx**
15. Logged as herdb, in **PREP** window, select menu "**Tag → Apply**"
16. Logged as herdb, in **Apply tag** window, select in the list the TAG  
**IST\_x\_PART\_x\_TP\_xxxx\_x\_x\_BEGIN\_xxx**
17. Logged as herdb, push **Copy selected tag**
18. Logged as herdb, modify the TAG name with **IST\_x\_PART\_x\_TP\_xxxx\_x\_x\_END\_xxx**
19. Logged as herdb, push **Apply → Apply**
20. Logged as herdb, confirm Tag Application Push Apply button

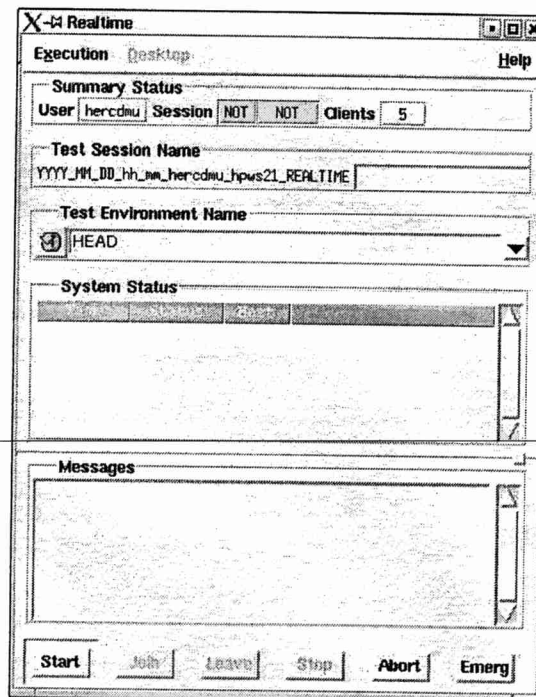


### 7.1.2 Start test session on HPCCS

Logged as **hercdmu** or **heracms** run “startmmi”



On **HPCCS** window, select menu “**Execution → Start**” in order to open the following window. In the “**Test Session Name**” field, insert an abbreviation describing which IST test will be performed and click the button “**Start**” to proceed.



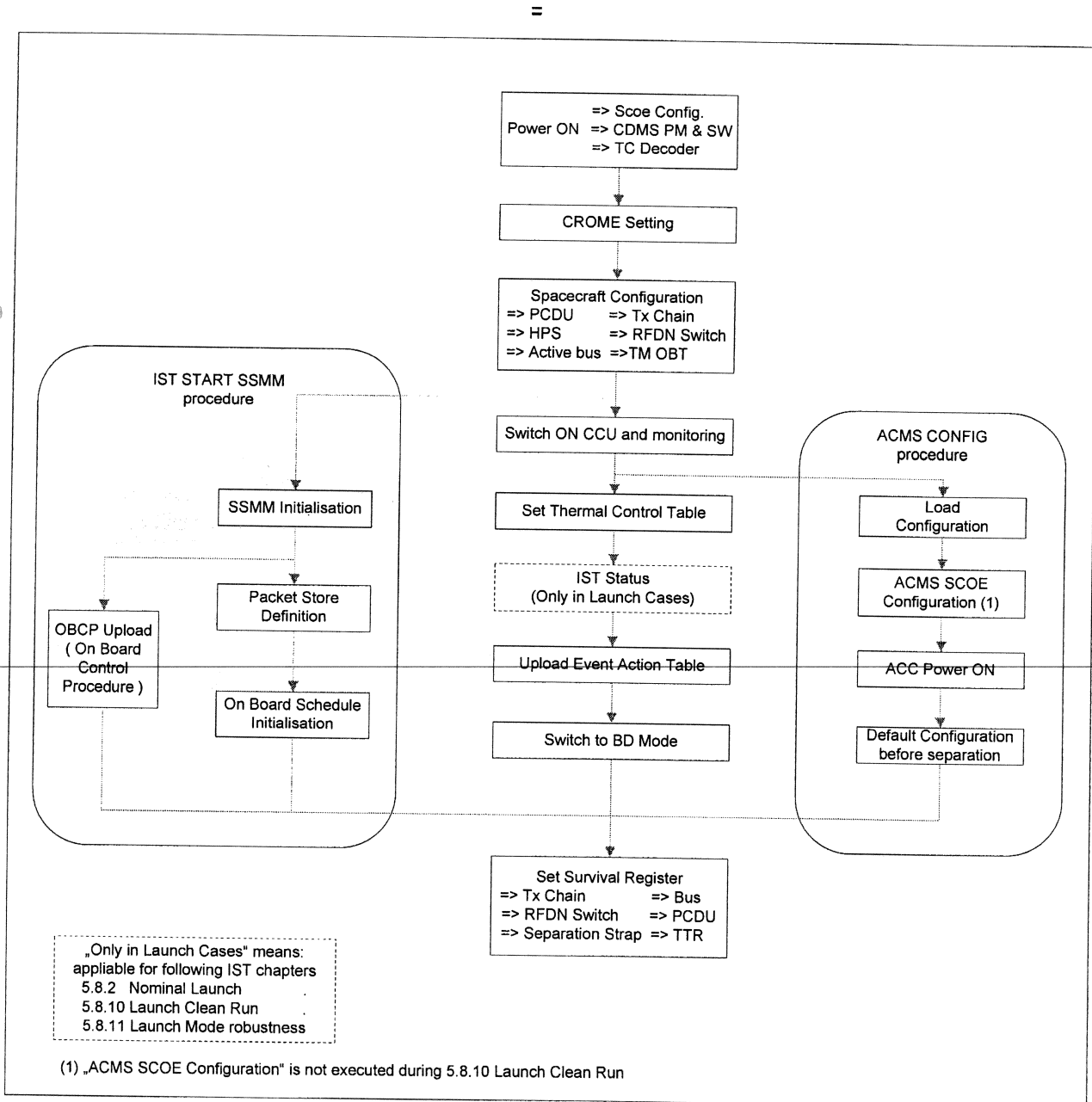
Once the real time session initialized, the button “**Join**” is enabled and shall be clicked. Then configure desktop of different CCS stations through the menu “**Desktop**” and the following menus:

- Monitoring → Telemetry Desktop
- Monitoring → Telemetry Packet history
- Monitoring → Out of limit
- Monitoring → On Board Event History
- Test Sequences → Test Conductor Console
- Command → Telecommand History

## 7.2 IST START for Spacecraft configuration

7.2.1 Diagram Overview

The flow of the "IST START" sequence is depicted in the diagram below. To save time during the satellite power on, the SSMM initialising and the ACMS switch on is performed in parallel.



**7.2.2 IST Configuration Table**

The Herschel Satellite configuration for each IST test case is listed in the table below.


SASLPS SCOE	Bat. SCOE	Crome PAP/CCS	Sep. Strap SM	TTR SM	TM OBT	TC Dec.	PM SW	SSMM	Bus SM	PCDU SM	HPS	TxChain SM	RFDN SM	CCU ON Mode		ACMS Config. File				
<b>5.8.2 NOMINAL LAUNCH</b>																				
SAS	Sim. Charged + Launch	PM A Nominal	Not Separated	B	A	A	A1	A 0-1-2 B 0-1-2	A	B	A	B	A	A	B	1&3	ABBB	A&B	2	IST_FN
<b>5.8.3a ACMS Commissioning</b>																				
SAS	Sim. Charged	PM A Nominal	Separated	B	A	B	A1	A 0-1-2 B 0-1-2	A	B	A	B	A	A	B	1&3	ABBB	A&B	1	IST_SCA1
<b>5.8.3b S/C Commissioning</b>																				
SAS	Sim. Charged	PM A Nominal	Separated	B	A	A	A1	A 0-1-2 B 0-1-2	A	B	A	B	A	A	B	1&3	ABBB	A&B	1	IST_MOD
<b>5.8.4.5.1 SPIRE Commissioning</b>																				
SAS	Sim. Charged	PM A Nominal	Separated	B	A	A	A1	A1 B1	B	A	A	B	A	A	B	1&3	ABBB	A&B	1	
<b>5.8.4.5.2 SPIRE Spectrometer Complementary Test</b>																				
SAS	Sim. Charged	PM B Nominal	Separated	A	B	B	B1	A3 B3	B	A	B	A	B	B	A	2&4	AABB	A&B	1	

SASLPS Bat. Crome Sep. Strap TTR TM TC PM Bus PCDU HPS TxChain RFDN CCU ACMS  
 SCOE SCOE PAP/CCS SM SM OB Dec. SW SSMM SM SM HPS SM SM ON Mode Config. File

5.8.4.6 PACS Commissioning																				
SAS	Sim. Charged	PM A Nominal	Separated	A	A	B	A1	A2 B2	B	A	B	A	B	B	A	2&4	AABB	A&B	1	
5.8.4.7 HIFI Commissioning																				
SAS	Sim. Charged	PM B Nominal	Separated	B	A	A	B1	A3 B3	A	B	A	B	A	A	B	1&3	ABBB	A&B	1	
5.8.4.8 Parallel Mode Commissioning																				
SAS	Sim. Charged	PM B Nominal	Separated	A	B	B	B1	A0 B0	A	B	B	A	B	B	A	2&4	AABB	A&B	1	
5.8.5 Mode Transition																				
SAS	Sim. Charged	PM A Nominal	Separated	B	A	A	A1	A1 B1	A	B	A	B	A	A	B	1&3	ABBB	A&B	2	IST_MOD
5.8.6 SC Reconfiguration																				
SAS	Sim. Charged	PM A Nominal	Separated	A	B	B	A1	A2 B2	B	A	B	A	B	B	A	2&4	AABB	A&B	1	IST_FD_B
5.8.7 CDMS Management																				
SAS	Sim. Charged	PM A Nominal	Separated	B	A	A	A2	A1 B1	A	B	A	B	A	A	B	1&3	ABBB	A&B	2	IST_CDMS
5.8.8 DTCP Worst Case Scenario																				
SAS	Sim. Charged	PM B Nominal	Separated	A	B	B	B2	A2 B2	B	A	B	A	B	B	A	2&4	AABB	A&B	2	IST_WCS

SASL PS Bat. SCOE Crome PAPI/CCS Sep. Strap SM TTR SM TM OB T Dec. PM SW SSMM Bus SM PCDU SM HPS TxChain SM RFDN SM CCU ON Mode ACMS Config. File

5.8.9 RMS Reference Mission Scenario																				
SAS	Sim. Charged	PM A Nominal	Separated	B	A	A	A1	A 0-1-2 B 0	A	B	A	B	A	A	B	1&3	ABBB	A&B	1	IST_RMS
5.8.9 Launch Clean Run																				
LPS	REAL	PM A Nominal	Not Separated	B	A	A	A1	A 0-1-2 B 0-1-2	A	B	A	B	A	A	B	1&3	ABBB	A&B	2	IST_CLN
5.8.11 Launch Mode Robustness																				
SAS	Sim. Charged +Launch	PM A Nominal	Not Separated	B	A	A	A1	A 0 B 0	A	B	A	B	A	A	B	1&3	ABBB	A&B	2	IST_LSR
5.8.12 NOM Mode Robustness																				
SAS	Sim. Charged	PM A Nominal	Separated	A	B	B	A1	A 3 B 3	B	A	B	A	B	B	A	2&4	AABB	A&B	1	IST_NMR
5.8.13 Instrument FDIR																				
SAS	Sim. Charged	PM A Nominal	Separated	B	A	A	A2	A 1 B 1	A	B	A	B	A	A	B	1&3	ABBB	A&B	1	IST_CDMS

→ IST - IADR  
  
 28/04/08

7.2.3 Initialisation

Step-No.	Initialisation-Step-Description	Nominal Value	Tolerance	Actual Value		P	N
<b><u>TT&amp;C SCOE initialisation</u></b>							
1	Verify that TT&C SCOE application SW is running Otherwise go on TTC SCOE or access remotely (command "startCMD ttcvnc" on shell window") and click "TTC SCOE Herschel" icon on TT&C SCOE desktop controller and wait for self test completion.				NOT REQUIRED FOR TEST  N/A		
2	On TT & SCOE application, in window ":: CONF namespace" (that can be open by menu "windows/SCOE config"), select menu "Config/Load", load the file "Herschel.conf" then click "open" button.				N/A		
<b><u>SPACECRAFT SKIN CONNECTORS CONFIGURATION</u></b>							
3	<b>Verify that all the SCOE skin connectors cables are installed</b> <ul style="list-style-type: none"> <li>Goto chapter 4.3</li> <li>Choose according to the IST Test case the related skin configuration table</li> <li>Check the list and sign off (together with PA and Floor Manager).</li> </ul>						✓

Test location: <i>ESV</i>	Operator <i>S. S. S.</i>	Product-Assurance: <i>B. HOGG</i>	Date: <i>28/4/08</i>	Time <i>21:17</i>
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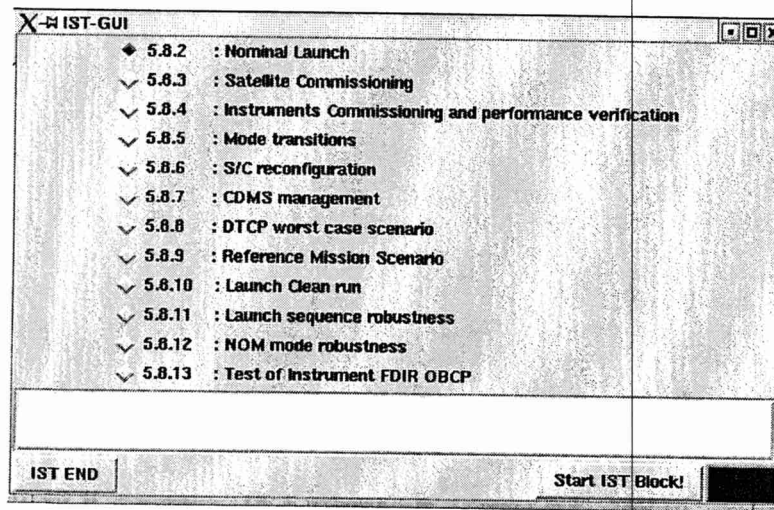
Step- No.	Initialisation-Step-Description	Nominal Value	Tolerance	Actual Value		P	N
<b>ACMS SCOE CHECK</b>							
4 N/A for "Launch Clean Run"	Verify that the ACMS SCOE is ON and operational					✓	
5 N/A for "Launch Clean Run"	In the Clean Room, check on the ACMS SCOE that STR UCE Electrical Stimuli program on PC2 and PC3 are enabled (i.e. double click on "scroll lock" and check "01-02 & 01-03" that mouse pointer can be moved). Otherwise execute Annex D Operator Note 3					✓	

Test location: <i>BTE</i>	Operator <i>S. Elsey</i>	Product-Assurance: <i>S. HOGG</i>	Date: <i>28/4/08</i>	Time <i>21:12</i>
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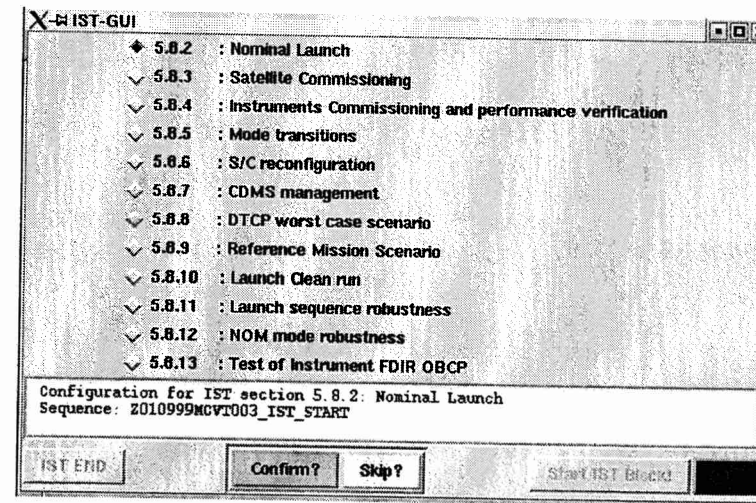


**7.2.4 IST Start Step by Step Procedure**

At the CCS test sequence console call the sequence "Z010999MCVT201\_IST\_GUI " to start an IST test. When the Graphical User Interface (see Picture 1) occurs, select the appropriate test case (and note it down in this Test Procedure) followed by a click on the "Start IST Block".



Picture 1



Picture 2

Then configuring the spacecraft for the selected IST Test is proposed to be run or skipped (see Picture 2). If the button "Confirm" has been clicked, continue with step 1 of the following IST START step description. Otherwise pressing the button "Skip" will lead to chapter 7.2

Test location: <i>ESTR</i>	Operator <i>S. Eisen</i>	Product-Assurance: <i>R. HOGG R.H.</i>	Date: <i>28/4/02</i>	Time <i>21:12</i>
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Step- No.	IST_START-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
1	<b>Z010999MCVT003_IST_START</b> At the bottom of the window, the IST_START configuration panel displays all parameters applied during the IST_START. ⇒ Click the button "Continue" to proceed	To Check in Config. Table (Page 73)		CONTINUE		✓	

**Configuration of "IST START"**

**Power**  
 SAS/LPS SCOE: SAS  
 Bat. SCOE: Simulated  
 PCDU: A HPS: A

**CDMS**  
 TM OBT: A Bus: A  
 PM: A1 PapCcs: PMAnominal

**Survival Register**  
 Bus: B Launch Straps: Not Separated  
 PCDU: B TTR: B  
 Tx Chain: B RFDN Switches Position: ABBB

**Rx and Tx Chain**  
 Tx Chain (Xpnd, Tx, EPC, TWT): A  
 TC decoder: A  
 TM Rate: Medium (150Kbps)  
 RFDN Switches in use: 1&3

**SSMM**  
 Mass Memory: A0 and B0

Continue? [ ]

IST\_START Configuration Panel

Test location: <i>ESTC</i>	Operator <i>S. Eisen</i>	Product-Assurance: <i>B. HOGGE</i>	Date: <i>28/4/08</i>	Time <i>21:12</i>
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Step-No.	IST_START-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
2	<p>Z010999MCVT003_IST_START</p> <p>Note the execution diagram, resuming each configuration steps and check all parameters are set as previously (particularly if any modification has been done on configuration panel)</p> <p><b>"START Satellite HERSCHEL "IST_START"</b></p> <p>⇒ Choose "Yes" or "No"</p>	YES		YES		✓	
3	<p>Z010999MCVT097_ASDGEN_CRIT_PARS_CHECK</p> <p>This script will run during the whole session to monitor critical parameters.</p> <p>As soon as wrong value will be detected. A popup window will occur alerting the operator about incorrect TM checks</p> <p>⇒ Minimise this window by clicking the corresponding button (on corner top right, first button from left)</p>					✓	

Test location: <i>ESTEC</i>	Operator <i>S. Euseby</i>	Product-Assurance: <i>B. Hoge</i>	Date: <i>28/4/07</i>	Time <i>21:19</i>
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Step- No.	IST_START-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
4	<p>Z010999MCVT003_IST_START</p> <p>Reply to the prompt: "SPACECRAFT POWER_ON"</p> <p>⇒ Click the button "Confirm" to proceed</p>			CONFIRM		✓	
5	<p>Z010999MCVT001_POWER_ON_HER_IST</p> <p>Set Battery [REDACTED]</p> <p>Set TCDecoder to [REDACTED]</p> <p>Set PM_SW [REDACTED]</p> <p>Do you want to continue with the upper configuration:</p> <p>If these parameter values are in accordance with the IST Configuration Table (Page 73),</p> <p>⇒ click the button "OK" to proceed</p>	<p>To Check in Config. Table (Page 73)</p> <p>Bat.SCOE</p> <p>TCDec.</p> <p>PM/SW</p>		OK		✓	

Test location: <i>ESTR</i>	Operator <i>S. EISEN</i>	Product-Assurance: <i>B. HOGE [Signature]</i>	Date: <i>28/4/08</i>	Time <i>21:19</i>
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Step-No.	IST_START-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
6	<p><b>Z010999MCVT001_POWER_ON_HER_IST</b>                      A Popup window occurs asking to verify data reception on TM/TC Data Front End workstation:                      In window "System Status", check following panels</p> <ul style="list-style-type: none"> <li>→ TM chain / TM Acquisition synchronised and locked Status expected</li> <li>→ View / TM Transfer Frame Monitor                          TM frame data should be received before few minutes</li> </ul> <p>⇒ click the button "OK" to proceed</p>			OK		✓	
7	<p><b>Z010999MCVT001_POWER_ON_HER_IST</b>                      A Popup Window occurs asking to start a new acquisition in Bus Monitor with name IST on the CDMU SCOE:                      - start a new acquisition by clicking "Menu Mode/Start new Acquisition"                      If an acquisition is already started, please stop and restart</p> <p>⇒ click the button "OK" to proceed</p> <p>After few minutes Data transfer should be visible on the Bus Monitor.</p>			OK	N/A for "Launch Clean Run" as the cables for CDMU BUS monitor are disconnected	✓	

Test location: <i>ESTEC</i>	Operator <i>S. ELSLEY</i>	Product-Assurance: <i>B. HOGG</i>	Date: <i>28/4/07</i>	Time <i>21:20</i>
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Step-No.	IST_START-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
8	<p><b>D102159SCVT001_GET_ALARM_STATUS</b>                      Check that both DOD ext1 and ext2 are "Not Asserted".                      Otherwise execute Annex D – Operator Note 8</p> <p>⇒ Click the button "End TS!" to proceed</p>			END TS	No DOD	✓	
9	<p><b>D102159SCVT001_GET_ALARM_STATUS</b>                      Check that both DOD ext1 and ext2 are "Not Asserted".                      Otherwise execute Annex D – Operator Note 8</p> <p>⇒ Click the button "End TS!" to proceed</p>			END TS	No DOD	✓	
9b when BCR OCP are detected ACTIVE	<p><b>Z010999MCVT001_POWER_ON_HER_IST</b></p> <p>Temporary workaround until <b>SPR-107 / NCR-3312</b> are solved</p> <p>⇒ click the button "YES" to proceed the workaround</p> <p><b>See SPR 107 / NCR 3312</b></p>	YES		YES	<p>NCR 3492: TTRMMemCorEr_A 1 := 0                      SPR 244: OutOfLimit for                      SA_Pan?_Temp_N/R (WMB0?569)                      SPR 284: WARNING about                      missing TC                      SPR 285: many TCs not                      acknowledged                      For launch clean run with real                      Battery fully charged, parameters                      BCR1, BCR2 are expected active.</p>	✓	

Test location: <i>ESTEL</i>	Operator: <i>S. Eisen</i>	Product-Assurance: <i>B. HOGG</i>	Date: <i>28/4/08</i>	Time: <i>21:33</i>
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Step-No.	IST_START-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
10	<b>D102159SCVT032TIMESYNCR0</b> Wait until the synchronization between CDMS On-board Time and CCS is finished ⇒ Click the button "End TS!" to proceed				TM parameter ZE00999 out of limits and back in limits again at synchronisation to be expected.	✓	
11	<b>Z010999MCVT001_POWER_ON_HER_IST</b> ⇒ Click the button "End TS!" to proceed			END TS		✓	
12	<b>D102159SCVT001_GET_ALARM_STATUS</b> Check that both DOD ext1 and ext2 are "Not Asserted". Otherwise execute Annex D – Operator Note 8 ⇒ Click the button "End TS!" to proceed			END TS	No DOD	✓	
13	<b>Z010999MCVT003_IST_START</b> Reply to the prompt: <p style="text-align: center;"><b>"CDMS Configuration:"</b> <b>"CROME settings [REDACTED]"</b></p> If the CROME settings is in accordance with the CROME PAP/CCS of IST Configuration Table (Page73), ⇒ Click the button "Confirm" to proceed	To Check in Config. Table (Page 73)  CROME PAP/CCS		CONFIRM		✓	

Test location: <i>ESTEC</i>	Operator: <i>S. Sibley</i>	Product-Assurance: <i>R. HOGGE</i>	Date: <i>28/4/08</i>	Time: <i>21:26</i>
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Step-No.	IST_START-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
14	D102159SCVT176_WRITE_CROME ⇒ Click the button "End TS!" to proceed			END TS		✓	
15	Z010999MCVT003_IST_START Reply to the prompt: "CDMS Configuration:" "Set configuration" "Bus █ PCDU █ HPS █ TxChain █ RFDN ████" "TM-OBT █ TMrate Medium (150Kbps)"  If all these parameter value are in accordance with the IST Configuration Table (Page 73), ⇒ Click the button "Confirm" to proceed	To Check in Config. Table (Page 73) BUS PCDU HPS TxCh. RFDN TM-Obt		CONFIRM	Please note that the TMrate Medium (150 Kbps) is not specified in IST Config. Table on page 73.	✓	
16 Only if Encoder B is req.	D102159SCVT104_ENCODER_SELECT ⇒ Click the button "End TS!" to proceed				SPR 286: TM check needs repeat  N/A		

Test location: <i>ESTR</i>	Operator <i>S. ELSLEY</i>	Product-Assurance: <i>B. HOGG</i>	Date: <i>28/14/08</i>	Time <i>21:39</i>
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Step-No.	IST_START-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
17	D102159SCVT174_IST_REDUNDANT_CONF ⇒ Click the button "End TS!" to proceed			END TS		✓	
18	Z010999MCVT003_IST_START Reply to the prompt: "SSMM Configuration" "????????" ⇒ Click the button "Confirm" to proceed	To Check in Config. Table (Page 73) SSMM		CONFIRM		✓	
19	Z010999MCVT005_IST_START_SSMM Start initialising with Steps 1-2 of IST START SSMM Procedure (see Page 96). Then continue with the next test step of IST_START. <b>NOTE:</b> After completion of Mass Memory initialisation (roughly 12 minutes per bank), i.e. when ALL affected mass memory banks are ON, continue with step 3 of IST START SSMM Procedure (see Page 96).				In Launch cases, IST_START_SSMM shall be completely performed before next step	✓	

Test location: <i>ESTEC</i>	Operator: <i>S. EISEN</i>	Product-Assurance: <i>R. HOGGER</i>	Date: <i>28/4/08</i>	Time: <i>21:44</i>
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Step-No.	IST_START-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
20	<p>Z010999MCVT003_IST_START</p> <p>Reply to the prompt: "SWITCH ON CCU <b>???</b> and" "START MONITORING in MODE <b>?</b>"</p> <p>⇒ Click the button "Confirm" to proceed</p> <p>In case that TM checks for CCU valves are failed, see Annex D Operator note 11 and perform actions if required.</p>	To Check in Config. Table (Page 73) CCU On Mode		CONFORM	<p><b>NCR-3119:</b> Alarms for TMs</p> <ul style="list-style-type: none"> <li>o KM130300</li> <li>o KM120300</li> <li>o KM110300</li> </ul> <p>fails status consistency check during CCU A on</p> <p>And for TMs</p> <ul style="list-style-type: none"> <li>o KM130301</li> <li>o KM120301</li> <li>o KM110301</li> </ul> <p>fails status consistency check</p> <p>The following is expected until TC DCT53170 is sent:</p> <ul style="list-style-type: none"> <li>o Events 28417 CCU A monitoring discarded</li> <li>o Events 28418 CCU B monitoring discarded</li> </ul>		

Test location: <i>ESTR</i>	Operator: <i>S. Eisen</i>	Product-Assurance: <i>B. HOGGE</i>	Date: <i>28/4/08</i>	Time: <i>21:44</i>
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Step-No.	IST_START-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
21	<p>Z010999MCVT003_IST_START</p> <p>Reply to the prompt: "Record CCU Temp In Background"</p> <p>⇒ Click the button "Confirm" to proceed</p>			CONFIRM	Minimise Log file after starting		✓
22 applicable only in launch (IST spec. 5.8.2 5.8.10 5.8.11)	<p>Z010999MCVT003_IST_START</p> <p>Reply to the prompt : "STATUS SPACECRAFT and EGSE (Power ON)"</p> <p>⇒ Click the button "Confirm" to proceed</p> <p>Reply to the next prompt: "Do you want to stop and notice each failure?"</p> <p>⇒ Choose "YES" to proceed</p>				N/A		

Test location: <i>ESTEC</i>	Operator <i>S. GILSON</i>	Product-Assurance: <i>RHOGE BDP</i>	Date: <i>28/4/08</i>	Time <i>21:54</i>
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Step-No.	IST_START-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
23 applicable only in launch (IST spec. 5.8.2 5.8.10 5.8.11)	<b>Z010999MCVT1533_IST_STATUS</b>  Check the Satellite status displayed and  ⇒ Click the button "OK" to proceed				N/A		
24	<b>Z010999MCVT003_IST_START</b>  Reply to the prompt: <b>ACMS SCOE Configuration – ACMS Power ON</b>  ⇒ Click the button "Confirm" to proceed  Execute ACMS CONFIG procedure (Page 100) in parallel to the IST_START master			CONFIRM		✓	

Test location: <i>ESTEL</i>	Operator: <i>S. Eisen</i>	Product-Assurance: <i>B. HOGGE</i>	Date: <i>28/4/08</i>	Time: <i>21:55</i>
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Step-No.	IST_START-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
25	<b>Z010999MCVT003_IST_START</b> Reply to the prompt: "SET TCT Table for Ambient Temperature" ⇒ Click the button "Confirm" to proceed			CONFIRM		✓	
26	<b>D102159SCVT032EnNomTCSLoops</b> ⇒ Click the button "End TS!" to proceed			END TS		✓	
27	<b>D102159SCVT115_CHECK_HCS_OFF</b> ⇒ Click the button "End TS!" to proceed			END TS		✓	
28	<b>Z010999MCVT003_IST_START</b> Reply to the prompt: <b>"EAT UPLOADING"</b> ⇒ Click the button "Confirm" to proceed"			CONFIRM		✓	

Test location: <i>ESTR</i>	Operator <i>S. E. ...</i>	Product-Assurance: <i>B. HOGG</i>	Date: <i>28/4/08</i>	Time <i>22:11</i>
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Step-No.	IST_START-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
29	<p>D102159SCVT192_GET_EAT_REPORT</p> <p>Check that every initial entries of the Event Action Table are successfully checked</p> <p>⇒ Click the button "End TS!" to proceed</p>			END TS		✓	
30	<p>D102159SCVT192_GET_EAT_REPORT</p> <p>Check that every initial entries of the Event Action Table are correctly set</p> <p>⇒ Click the button "End TS!" to proceed</p>			END TS		✓	
31	<p>D102159SCVT192_IST_UPLOAD_EAT</p> <p>⇒ Click the button "End TS!" to proceed</p>			END TS		✓	
32	<p>Z010999MCVT003_IST_START</p> <p>Ckeck that ACC is running on TM Packet history with filter on APID 512 (set on Step 1 of ACMS Configuration Procedure 7.2.4.2 Page 100) and checking packets reception.</p>			OK		✓	

Test location: <i>ESTEL</i>	Operator: <i>S. Eisen</i>	Product-Assurance: <i>B. Hoge</i>	Date: <i>28/4/08</i>	Time: <i>22:34</i>
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10

> PVS # 1 ✓

Step-No.	IST_START-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
33	<p><b>Z010999MCVT003_IST_START</b>                      Do not perform before the completion of the procedures:                      - IST START SSMM and                      - ACMS Configuration                      Cannot be run in parallel with other "active" sequences or TCs send in parallel                      Reply to the prompt:                      "CDMS CONFIGURATION:"                      "SURVIVAL REGISTER SETTING"                      "(Bus [ ], PCDU [ ], RFDN [ ], TxChain [ ], TTR [ ], Sep Strap [ ])"                      ⇒ Click the button "Confirm" to proceed</p>	To Check in Config. Table (Page 73) Bus PCDU RFDN TxCh. TTR Sep Strap		Confan		✓	
34	<p><b>D102159SCVT175_SET_SURV_REG</b>                      ⇒ Click the button "End TS!" to proceed</p>			ENDTS	SPR 289 No TM return for TM check	✓	
35 (only in launch test cases)	<p><b>Z010999MCVT003_IST_START</b>                      Prompt: "Check CDMS Tables"                      ⇒ Click the button "Confirm" to proceed</p>				N/A		

Test location: ESTEC	Operator S. ELSER	Product-Assurance: BHOGE [Signature]	Date: 28/4/08	Time 22:30
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Step-No.	IST_START-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
36 (only in launch test cases)	<b>D102159SCVT219_GET_BSW_HEALTH_UIU</b> ⇒ Click the button "End TS!" to proceed				N/A		
37 (only in launch test cases)	<b>D102159SCVT204_GET_MOT</b> ⇒ Click the button "End TS!" to proceed				N/A		
38 (only in launch test cases)	<b>D102159SCVT192_GET_EAT_REPORT</b> Check that every uploaded entries of the Event Action Table are correctly set ⇒ Click the button "End TS!" to proceed				N/A		
39 (only in launch test cases)	<b>D102159SCVT205_SAT_COM_TCT</b> ⇒ Click the button "End TS!" to proceed				Expected that checks will fail as the uploaded TCT is for ambient but the checks are performed against the N/A		

Test location: <i>ESTEL</i>	Operator <i>S. EISEN</i>	Product-Assurance: <i>SHOGG [Signature]</i>	Date: <i>28/4/08</i>	Time <i>22:30</i>
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Step-No.	IST_START-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
40 (only in launch test cases)	D102159SCVT207_SAT_COM_FCCT  ⇒ Click the button "End TS!" to proceed				N/A		
41	Z010999MCVT003_IST_START  Reply to the prompt: "DOWNLINK SSMM PACKET STORE and CEL A&B"  ⇒ Click the button "Confirm" to proceed			CONFIRM		✓	
42	D102159SCVT188_IST_DUMP_PKT_STORE  ⇒ Click the button " End TS!" to proceed			END TS	With parameters: 0 80 1 81 2 82 3 83	✓	
43	D102159SCVT188_IST_DUMP_PKT_STORE  ⇒ Click the button " End TS!" to proceed			END TS	With parameters: CEL_A CEL_B <b>All events, warnings and alarms recorded before the dump, are re-occurring during this step</b>	✓	

Test location: <i>ESTEL</i>	Operator: <i>S. EISEN</i>	Product-Assurance: <i>Stoer</i>	Date: <i>23/4/08</i>	Time: <i>22:46</i>
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Step-No.	IST_START-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
44	Z010999MCVT003_IST_START ⇒ Click the button "End TS!" to proceed			End TS		✓	

Test location: <i>ESTU</i>	Operator <i>S. Eschen</i>	Product-Assurance: <i>BHAGE J.P.</i>	Date: <i>28/4/08</i>	Time <i>22:46</i>
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7.2.4.1 IST\_START\_SSMM Procedure

Step-No.	IST_START_SSMM-Step-Description	Nominal Value	Tolerance	Actual Value		P	N
1	<p>Z010999MCVT005_IST_START_SSMM</p> <p>Reply to the prompt:  <b>"SSMM CONFIGURATION [REDACTED]"</b></p> <p>⇒ Click the button "Confirm" to proceed</p>	<p>To Check in Config. Table (Page 73)</p> <p>SSMM</p>		CONFIRM		✓	
2	<p>D102159SCVT186_IST_SSMM_ON</p> <p>Reply to the prompt <b>"Do you want to continue" "with such configuration?"</b></p> <p>Check the SSMM configuration and then            ⇒ Click the button "Continue" to proceed</p>			CONTINUE	<p>Mass Memory config. takes about 12 minutes per bank. Therefore, the next step in IST_START procedure can be executed.</p>	✓	
3	<p>D102159SCVT186_IST_SSMM_ON</p> <p>⇒ Click the button "End TS!" to proceed</p>			END TS		✓	

Test location: <i>ESTRIUM</i>	Operator: <i>S. EISEN</i>	Product-Assurance: <i>[Signature]</i>	Date: <i>28/4/08</i>	Time: <i>22:15</i>
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Step-No.	IST_START_SSMM-Step-Description	Nominal Value	Tolerance	Actual Value		P	N
4	<p>Z010999MCVT005_IST_START_SSMM</p> <p>Reply to the prompt: "OBCP UPLOADING"</p> <p>⇒ Click the button "Confirm" to proceed</p> <p>Let run in parallel the sequence D102159SCVT193_IST_UPLOAD_OBCP and continue with next step "Packet Store Definition"</p>			CONFIRM	occurrence of 2 BSW problems EvID 30738	✓	
5	<p>Z010999MCVT005_IST_START_SSMM</p> <p>Reply to the prompt: "Definition of the Packet Store"</p> <p>⇒ Click the button "Confirm" to proceed</p>			CONFIRM		✓	
6	<p>If only 1 Bank (bank 0, 1, 2 or 3) is initialised on each SSMM D102159SCVT185_IST_PACKET_STORE_DEF</p> <p>If 3 banks (banks 0, 1 and 2) are initialised on each SSMM D102159SCVT189_IST_PACKET_STORE_DEF2</p> <p>If SSMM A banks 0, 1 and 2 and only SSMM B bank 0 are initialised D102159SCVT178_RMS_PKT_STORE_DEF</p> <p>When the requested SSMM bank are initialised ⇒ Click the button "Yes" to proceed</p>			YES		✓	

Test location: <i>ESTR</i>	Operator: <i>S. E...</i>	Product-Assurance: <i>BHORE JDP</i>	Date: <i>22:16</i>
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Step-No.	IST_START_SSMM-Step-Description	Nominal Value	Tolerance	Actual Value		P	N
7	<p>If only 1 Bank is initialised on SSMM A &amp; B  <b>D102159SCVT185_IST_PACKET_STORE_DEF</b></p> <p>If 3 banks are initialised on SSMM A &amp; B  <b>D102159SCVT189_IST_PACKET_STORE_DEF2</b></p> <p>If 3 banks on SSMM A and only 1 on SSMM B are initialised  <b>D102159SCVT178_RMS_PKT_STORE_DEF</b></p> <p>⇒ Click the button "End TS!" to proceed</p>			END TS	NCR-3492 occurs: (TTRRMMemCorEr_A 2 := 1)!	✓	
8	<p><b>Z010999MCVT005_IST_START_SSMM</b>            Reply to the prompt: "Initialise MTL Service Buffers"</p> <p>⇒ Click the button "Confirm" to proceed</p>			CONFIRM	TM(5,4) alarms expected: o Evt_MTLBufADel (ID:26914) o Evt_MTLBufBDeI (ID 26915)	✓	
9	<p><b>D102159SCVT209_START_ON_BOARD_SCHEDULE</b></p> <p>⇒ Click the button "End TS!" to proceed</p>			END TS	SPR 282 TM failure: too quick check	✓	
10	<p><b>D102159SCVT193_IST_UPLOAD_OBCP</b></p> <p>⇒ Click the button "End TS!" to proceed</p>			END TS		✓	

Test location: <i>ESTC</i>	Operator <i>S. EISEN</i>	Product-Assurance: <i>B.HOGE</i>	Date: <i>28/4/08</i>	Time <i>22:34</i>
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Step-No.	IST_START_SSMM-Step-Description	Nominal Value	Tolerance	Actual Value		P	N
11	Z010999MCVT005_IST_START_SSMM ⇒ Click the button "End TS!" to proceed			End TS		✓	

Test location: <i>ESA</i>	Operator <i>S. Eisen</i>	Product-Assurance: <i>B. Hoeg</i>	Date: <i>28/4/08</i>	Time <i>22:34</i>
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Doc. No: HP-2-ASED-TP-0134  
Issue: 4.0  
Date: 24.04.2008

7.2.4.2 ACMS Configuration Procedure

Step-No.	ACMS_CONFIG-Step-Description	Nominal Value	Tolerance	Actual Value		P	N
1	Open the ACMS_H_BLOC MIM Display to verify the telemetry status updating. Configure a "Telemetry Packet History" window set with filter APID = 512					✓	
2	<b>A102109SPVT003_ACMS_CONFIG25</b> At the prompt "Enter your choice", insert "1" to select "Select/Load ACMS_CONFIG Input File" ⇒ Click the button "OK" to proceed	1		1 OK		✓	
3	<b>A102109SPVT003_ACMS_CONFIG25</b> ⇒ Click the button "Continue" to proceed			CONTINUE		✓	
4	<b>A102109SPVT004_ACMS_LOADCONFIG1</b> At the prompt, "Enter your choice:" ⇒ Click the button "OK" to proceed	To Check in Config. Table (Page 73)  ACMS Config. File		OK  ISZ <del>FOR</del> <sup>IFOR</sup>		✓	

Test location: <i>ESTEL</i>	Operator <i>S. EISEN</i>	Product-Assurance: <i>B-HCAR</i> <del>FOR</del>	Date: <i>28/4/08</i>	Time <i>21:56</i>
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Step- No.	ACMS_CONFIG-Step-Description	Nominal Value	Tolerance	Actual Value		P	N
5 N/A for "Launch Clean Run"	<b>A102109SPVT003_ACMS_CONFIG25</b> At the prompt "Enter your choice", insert to select " <b>ACMS SCOE Configuration</b> " ⇒ Click the button "OK" to proceed	"6"  6		6 OK		✓	
6 N/A for "Launch Clean Run"	<b>A102109SPVT003_ACMS_CONFIG25</b> ⇒ Click the button "Continue" to proceed			CONTINUE		✓	
7 N/A for "Launch Clean Run"	<b>A102109SPVT003_ACMS_CONFIG25</b> Verify on AND YA001939 AMCS SCOE - AS_PSEUDO 1 of 1 the parameters YMACT939 (ACMS SCOE state) YMASE939 (Simulator stata) YMAMS939 (MILFE state) YMAUS939 (UIFE state)	executing executing executing executing			Alarms are expected for TM with APID 2018 and EVID 4 when the parameters on the left have not reached the executing stage yet.	✓	

Test location: <b>ESTEL</b>	Operator <b>S. ELSLEY</b>	Product-Assurance: <b>B. HOGG B.H.P.</b>	Date: <b>28/4/08</b>	Time <b>22:11</b>
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Step- No.	ACMS_CONFIG-Step-Description	Nominal Value	Tolerance	Actual Value		P	N
8	<p><b>A102109SPVT003_ACMS_CONFIG25</b></p> <p>At the prompt "Enter your choice", insert "4" to select "ACMS Power ON (in Pre-Sep configuration)"</p> <p>⇒ click the button "OK" to proceed</p>	4		4  OK		✓	
9	<p><b>A102109SPVT003_ACMS_CONFIG25</b></p> <p>⇒ Click the button "CONTINUE" to proceed</p>			CONTINUE		✓	
10	<p><b>A102109SPVT011_ACMS_ON</b></p> <p>During this sequence, following events are expected:</p> <ul style="list-style-type: none"> <li>- TM(5,4) Event Report and Reconfiguration Log</li> <li>- TM(5,2) APID:2018 (ACMS_SCOE) indicates ACMS "TestDataWord" needs to be switched ON. A few seconds later when the corresponding TC is sent, this TM(5,2) must disappear.</li> <li>- Multiple other events TM(5,1), such as "Fdir Task Overrun" or "Fdir Rm Parity Error"</li> </ul>				<p>Expected Out of Limit of AEYYY109 (synchronisation) ACC may become INVALID for a short time</p> <p>SPR 245 NCR 2862: Out of Limit of HKA_ANTH?_Data</p> <p>SPR 334 OutOfLimit of Gyro Calib Curve in LCR</p>	✓	

Test location: <i>BTE</i>	Operator <i>S. Ewen</i>	Product-Assurance: <i>R. Hogg</i>	Date: <i>28/4/02</i>	Time <i>22:18</i>
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Step-No.	ACMS_CONFIG-Step-Description	Nominal Value	Tolerance	Actual Value		P	N
11	<b>A102109SPVT003_ACMS_CONFIG25</b> At the prompt "Enter your choice", Insert to select "Modify ACC SGM/RM content" ⇒ Click the button "OK" to proceed	5		5 OK	"5"	✓	
12	<b>A102109SPVT003_ACMS_CONFIG25</b> ⇒ Click the button "Continue" to proceed			CONTINUE		✓	
13	<b>A102109SPVT003_ACMS_CONFIG25</b> At the prompt "Enter your choice", Insert for "Default configuration for separation" ⇒ Click the button "OK" to proceed	20		20 OK	"20"	✓	
14	<b>A102109SPVT003_ACMS_CONFIG25</b> ⇒ Click the button "Continue" to proceed			CONTINUE		✓	

Test location: <b>ESTEC</b>	Operator: <b>S. Eisen</b>	Product-Assurance: <b>B. HOGGE</b>	Date: <b>28/4/08</b>	Time: <b>22:21</b>
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Step-No.	ACMS_CONFIG-Step-Description	Nominal Value	Tolerance	Actual Value		P	N
15	A102109SPVT003_ACMS_CONFIG25 After about 10 min verify that ACMS Sequences are correctly terminated and ACMS CONFIG MAIN MENU 1.0 is available.					✓	
16	A102109SPVT003_ACMS_CONFIG25 At the prompt "Enter your choice", Insert to select "Return to Main Menu 1.0"  ⇒ Click the button "OK" to proceed	"99"	99	99  OK		✓	
17	A102109SPVT003_ACMS_CONFIG25  ⇒ Click the button "Continue" to proceed			CONTINUE		✓	

Test location: <i>ESTC</i>	Operator <i>S. Eisen</i>	Product-Assurance: <i>B. HOGG</i>	Date: <i>28/4/08</i>	Time <i>22:33</i>
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### 7.3 IST Test Case

According to the actual IST Test Case, IST\_GUI will prompt with following window(see Figure 1) to execute the relevant test sequence / procedure as listed below.

Click the button "Confirm" to call the appropriate sequence displayed in the message box.

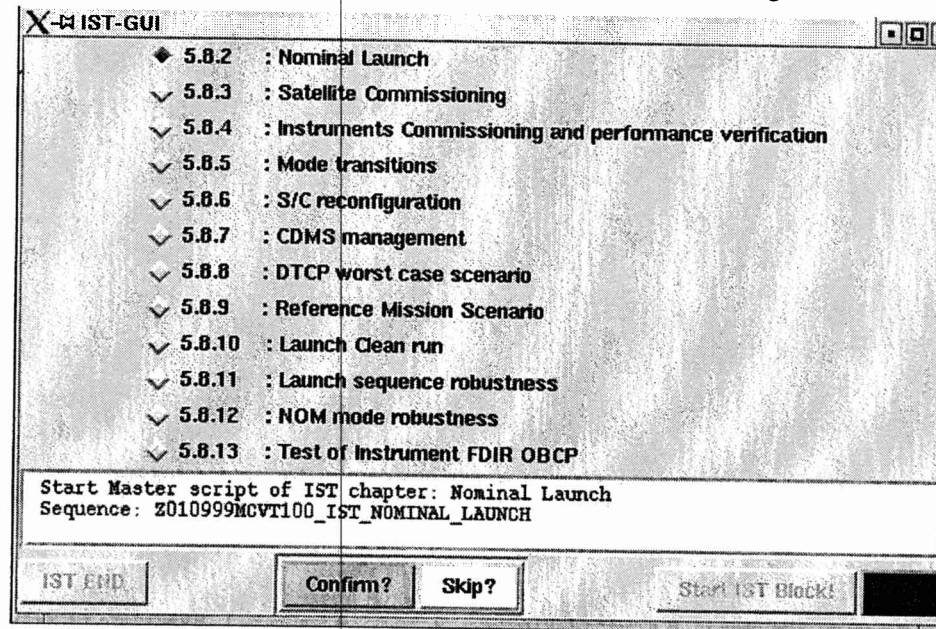


Figure 1: IST\_GUI calling Master sequence, for instance "Nominal Launch"

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



## Herschel Integrated Satellite Test Procedure: Leading Procedure

# Herschel

Important Note: After execution of the IST Test Case, S/C has to be switched off with the "IST END" procedure as described in chapter 7.4.

Herschel IST Test Case 'Launch Phase, Separation and Post Separation':	HP-2-ASED-TP-0185
Herschel IST Test Case 'Satellite Commissioning':	HP-2-ASED-TP-0186
Herschel IST Test Case 'ACMS Commissioning':	HP-2-ASED-TP-0187
Herschel IST Test Case 'Instruments Commissioning and Performance Verification':	HP-2-ASED-TP-0188
Herschel IST Test Case 'Mode Transitions':	HP-2-ASED-TP-0189
Herschel IST Test Case 'S/C Reconfiguration':	HP-2-ASED-TP-0190
Herschel IST Test Case 'CDMS Management': ..	HP-2-ASED-TP-0191
Herschel IST Test Case 'DTCP Worst Case Scenario': ..	HP-2-ASED-TP-0192
Herschel IST Test Case 'REFERENCE Mission Scenario':	HP-2-ASED-TP-0193
Herschel IST Test Case 'Launch Clean Run':	HP-2-ASED-TP-0194
Herschel IST Test Case 'Launch Sequence Robustness':	HP-2-ASED-TP-0195
Herschel IST Test Case 'NOM Mode Robustness':	HP-2-ASED-TP-0196
Herschel IST Test Case 'Test of Instrument FDIR OBCP'	HP-2-ASED-TP-0197

Highlight the TEST Case to be performed in the above

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

Doc. No: HP-2-ASED-TP-0134  
Issue: 4.0  
Date: 24.04.2008

Page 106

File: HP-2-ASED-TP-0134\_Herschel\_IST\_Leading\_Procedure\_iss\_4\_0\_24-04-08

7.4 IST END Procedure

Step-No.	IST_END-Step-Description	Nominal Value	Tolerance	Actual Value		P	N
1.	<b>IST_GUI</b> ⇒ Click the button "OK" and then ⇒ Click the button "IST_END" to proceed			OK		✓	
2.	<b>D102159SCVT188_IST_DUMP_PKT_STORE</b> ⇒ Click the button "Confirm" to proceed			CONFIRM		✓	
3.	<b>D102159SCVT188_IST_DUMP_PKT_STORE</b> ⇒ Click the button " End TS!" to proceed						

PVS # 2

Test location: <i>ESTEL</i>	Operator <i>S. EUSLEY</i>	Product-Assurance: <i>B. HOGG RLO.</i>	Date: <i>30/4/08</i>	Time <i>02:24</i>
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Step- No.	IST_END-Step-Description	Nominal Value	Tolerance	Actual Value		P	N
4. Only if PACS, SPIRE or HIFI is still ON	<p>Z010999MCVT004_IST_END</p> <p>If one of the instruments is detected "ON" reply to the prompt:</p> <p style="text-align: center;">"Should the sequence"</p> <p style="text-align: center;">Z102999SCVT011_ASDGEN_PACSPWROFF_P Z102999SCVT005_ASDGEN_SPIREPWROFF_P Z102999SCVT015_ASDGEN_HIFIPWROFF_P</p> <p style="text-align: center;">"be called?"</p> <p>⇒ Click the button "YES" to proceed</p>				N/A		
5. Only if CCU A is ON	<p>Z010999MCVT004_IST_END</p> <p>If CCU is detected "ON" reply to the prompt: Should the sequence "K102999ECVT001_ASDGENCCU_ABPWROFF" be called</p> <p>⇒ Click the button "YES" to proceed</p>			YES		✓	

Test location: <i>ESTEC</i>	Operator <i>S. EISEN</i>	Product-Assurance: <i>B. HOGG</i>	Date: <i>30/4/08</i>	Time <i>02:24</i>
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Step-No.	IST_END-Step-Description	Nominal Value	Tolerance	Actual Value		P	N
6. Only if RWL ON and ACMS is still in SCM	<b>Z010999MCVT004_IST_END</b> "Please ensure that ACMS is set in OCM mode, otherwise select the correct menu in the ACMS_CONFIG25" Perform chapter 7.4.1 then click OK			OK		✓	
7. Only if RWL are still spinning	<b>Z010999MCVT004_IST_END</b> Start the sequence A102109SPVT061_RWL_SPINDOWN? ⇒ Click the button "YES" to proceed			YES	Out of Limits concerning RWL speed are expected during RWL spin down	✓	
8. Only if ACMS is still ON	<b>Z010999MCVT004_IST_END</b> Start the sequence A102109SPVT012_ACMS_OFF ? ⇒ Click the button "YES" to proceed			YES		✓	

Test location: <i>ESTEL</i>	Operator <i>S. ELSEN</i>	Product-Assurance: <i>B. HOGG</i>	Date: <i>30/4/08</i>	Time <i>02:31</i>
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Step-No.	IST_END-Step-Description	Nominal Value	Tolerance	Actual Value		P	N
9. Only if ACMS is still ON	<p><b>A102109SPVT012_ACMS_OFF</b></p> <p>During this sequence, following event are expected to occur:</p> <ul style="list-style-type: none"> <li>• TM(5,2) EvtID: 33 Event Report - ACB Rx Failed</li> <li>• TM(5,2) EvtID: 33 Event Report - ACB Rx Failed</li> <li>• TM(5,4) EvtId:16426 Mode SBSM Entry</li> <li>• Event Report - Boot Report and Reconfiguration Log</li> <li>• Event Report - SDB Unhealthy</li> <li>• Multiple "New Tm 251004939"</li> <li>• Multiple "New Tm 251001939"</li> <li>• Multiple "New Tm 251002939"</li> </ul> <p>This sequence needs time to be completely run, so let run in parallel with the following steps.</p>					✓	
10. Only if SREM is still ON	<p><b>Z102999SCVT002_SREM_OFF</b></p> <p>⇒ Click the button "End TS!" to proceed</p>			END TS	<p>SPR 35-290 NCR 3986</p> <p>Wrong TM set in HPSDB</p>	✓	
11.	<p><b>D102159SCVT174_IST_REDUNDANT_CONF</b></p> <p>⇒ Click the button "Ens TS" to proceed</p>			END TS		✓	

Test location: <i>ESTR</i>	Operator <i>S. Euseby</i>	Product-Assurance: <i>R. HOGG</i>	Date: <i>30/4/07</i>	Time <i>02:33</i>
-------------------------------	------------------------------	--------------------------------------	-------------------------	----------------------

Step-No.	IST_END-Step-Description	Nominal Value	Tolerance	Actual Value		P	N
12. Only if Survival Register set with separated flag	<b>Z010999MCVT004_IST_END</b>  At the prompt "The survival register is set with the launch flag "separated". It must be set to "not separated" to avoid any reconfiguration during power off"  ⇒ Click the button "Yes" to proceed			Y6		✓	
13. Only if Survival Register set with separated flag	<b>D102159SCVT175_SET_SURV_REG</b>  ⇒ Click the button "End TS!" to proceed			End TS		✓	

Test location: <i>ESTR</i>	Operator <i>S. EUSCHY</i>	Product-Assurance: <i>B. HOGG</i>	Date: <i>30/4/08</i>	Time <i>02:46</i>
-------------------------------	------------------------------	--------------------------------------	-------------------------	----------------------

Step-No.	IST_END-Step-Description	Nominal Value	Tolerance	Actual Value	P	N
14. Only if CROME wrongly set	<b>Z010999MCVT004_IST_END</b> Reply to the prompt "The CROME registers are not configured " "in PMA or PMB nominal " "Such configuration will block TM during Power OFF" ⇒ Click the button "YES" to proceed				N/A	
15. Only if CROME wrongly set	<b>D102159SCVT176_WRITE_CROME</b> ⇒ Click the button "End TS!" to proceed				N/A	
16. Only if SSMM is ON	<b>D102159SCVT188_IST_DUMP_PKT_STORE</b> ⇒ Click the button "End TS!" to proceed			End TS!		✓
17. Only if SSMM is ON	<b>D102159SCVT181_Disable_PKT_STORE</b> ⇒ Click the button "End TS!" to proceed			End TS!		✓

Test location: <i>ESTC</i>	Operator <i>S. Eschen</i>	Product-Assurance: <i>SHOGE FILM.</i>	Date: <i>30/4/08</i>	Time <i>02:54</i>
-------------------------------	------------------------------	--	-------------------------	----------------------

Step-No.	IST_END-Step-Description	Nominal Value	Tolerance	Actual Value	P	N
18. Only if SSMM is ON	<b>D102159SCVT187_IST_SSMM_OFF</b>  During this sequence, the following events are expected: <ul style="list-style-type: none"> <li>• TM(5,2) EvtId: 84 PM COCOS SPW C Reconnection</li> <li>• TM(5,4) EvtId: 88 MM A COCOS RT Failure</li> <li>• TM(5,4) EvtId: 148 MM SPW C address transfer error</li> <li>• TM(5,2) EvtId: 85 PM COCOS SPW C Reconnection</li> <li>• TM(5,4) EvtId: 89 MM A COCOS RT Failure</li> <li>• TM(5,4) EvtId: 149 MM SPW C address transfer error</li> </ul> ⇒ Click the button "End TS!" to proceed			END TS	✓	
19. Not for Launch Cases	<b>D102159SCVT001PM_SELECT</b>  ⇒ Click the button "End TS!" to proceed			END TS	✓	
20.	<b>Z010999MCVT002_POWER_OFF_HER_IST</b>  ⇒ Click the button "End TS!" to proceed			END TS	✓	

Test location: <i>ESTR</i>	Operator <i>S. Eisen</i>	Product-Assurance: <i>B. HOGG</i> <i>B.M.</i>	Date: <i>30/4/08</i>	Time <i>03:10</i>
-------------------------------	-----------------------------	--	-------------------------	----------------------

Step-No.	IST_END-Step-Description	Nominal Value	Tolerance	Actual Value		P	N
21 Only if TTC-SCOE is still ON	<b>Y102989ETVT020_TTC_SCOE_OFF</b> ⇒ Click the button "End TS!" to proceed				N/A		
21.	<b>Z010999MCVT004_IST_END</b> ⇒ Click the button "End TS!" to proceed			End TS		✓	
22.	<b>IST_GUI</b> ⇒ Click the button "Quit" to terminate the test sequence			Quit		✓	
23.	<b>Update CVS Tag</b>  1. Open a <b>shell</b> (xterm)  2. Execute the command <b>update_tag</b>  Insert the name of <b>TAG</b> → <b>IST_x_PART_x_TP_xxxx_x_x_END_xxx</b>						

Test location: <i>ESTEC</i>	Operator <i>S. Eisman</i>	Product-Assurance: <i>B. HOGG</i>	Date: <i>30/4/08</i>	Time <i>03:10</i>
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**7.4.1 ACMS SCM to OCM transition for power off**

Step-No.	IST_END-Step-Description		Nominal Value	Tolerance	Actual Value		P	N
24.	<p><b>A102109SPVT003_ACMS_CONFIG25</b></p> <p>At the prompt "Enter your choice", insert to select <b>"Transition SCM to OCM"</b></p> <p>⇒ Click the button "OK" to proceed, then "Continue"</p>	"2"	2		2		✓	
25.	<p><b>A102109SPVT003_ACMS_CONFIG25</b></p> <p>At the prompt Menu 7 "Enter your choice", insert to select <b>"Reaction wheels spin down"</b></p> <p>Click the button "OK" to proceed, then "Continue"</p>	"5"	5					
26.	<p><b>A102109SPVT003_ACMS_CONFIG25</b></p> <p>At the prompt Menu 9 "Enter your choice", insert to select <b>"Switch off ACMS"</b></p> <p>Click the button "OK" to proceed, then "Continue"</p>	"1"	1					

Test location: <i>ESTC</i>	Operator: <i>S. ESCOFF</i>	Product-Assurance: <i>STAGE BDI.</i>	Date: <i>30/4/08</i>	Time: :
-------------------------------	-------------------------------	---	-------------------------	------------

Step- No.	IST_END-Step-Description	Nominal Value	Tolerance	Actual Value		P	N
27.	<p><b>A102109SPVT012_ACMS_OFF</b></p> <p>During this sequence, following event are expected to occur:</p> <ul style="list-style-type: none"> <li>• TM(5,4) EvtId:16426 Mode SBSM Entry</li> <li>• Event Report - Boot Report and Reconfiguration Log</li> <li>• Event Report - SDB Unhealthy</li> <li>• TM(5,2) EvtID: 33 Event Report - ACB Rx Failed</li> <li>• TM(5,2) EvtID: 33 Event Report - ACB Rx Failed</li> <li>• Multiple "New Tm 251004939"</li> <li>• Multiple "New Tm 251001939"</li> <li>• Multiple "New Tm 251002939"</li> <li>• Multiple TM(5,1) such as "FDir Task Overrun", etc...</li> </ul>						
28.	<p><b>A102109SPVT003_ACMS_CONFIG25</b></p> <p>At the prompt "Enter your choice", insert to select "<b>Terminate ACMS_CONFIG25</b>"</p> <p>Click the button "OK" to proceed, then "Confirm" and continue in parallel with the next step.</p>	"99"		99			

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

Step-No.	IST_END-Step-Description	Nominal Value	Tolerance	Actual Value		P	N
29.	A102109SPVT017_ACMS_CRB_BACKGROUND ⇒ Terminate the sequence.						

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

Doc. No: HP-2-ASED-TP-0134  
 Issue: 4.0  
 Date: 24.04.2008



8

## Summary Sheets

8.1 Procedure Variation Summary

	Test Change	Curr. No.:	
		Date	
		Page	of
Test designation	Test Procedure	Issue	Rev.
Test step changed	Reason for Change		
<p>PVS List</p> <ol style="list-style-type: none"> <li>1) Run script for separate test</li> <li>2) Terminate packet store download before completed</li> </ol>			
Prepared by:	Resp. Test Leader	Project Engineer	
PA/QA	Prime	Customer	

Table 8.1-1: Procedure Variation Sheet

## Procedure Variation Summary

	Test Change	Curr. No.: <del>2</del> <sup>1</sup>	Date 28-04-2008
		Page 1	of 1
Test designation <b>S/C COMMISSIONING + HIFI</b>	Test Procedure <b>TP-<del>0186</del> 134</b>	Issue <b>3</b>	Rev. <b>-</b>
Test step changed <b>33</b>	Reason for Change <i>made trans.</i>		
<p>• RUN SCRIPT</p> <p style="text-align: center;">A102109SPVT211 - ACMS_THERMISTOR_LOG.tcl</p> <p>(This will log specific ACMS related thermistor values to a file during the S/C alignment tests.)</p> <p><u>NOTE</u>: THIS SCRIPT SHOULD BE LEFT RUNNING FOR THE DURATION OF THE S/C ALIGNMENT TESTS.</p>			
Prepared by: <i>I. Wack</i>	Resp. Test Leader <b>M. THELLNISSEN</b>	Project Engineer	
PA/QA <i>R. Coassens</i>	Prime	Customer	

119-2

# Procedure Variation Summary

	Test Change	Curr. No.: 2	Date 30/4/07
		Page 1 of 1	
Test designation TP-134	Test Procedure IST-END	Issue 4	Rev. 0
Test step changed 2	Reason for Change PKT STORE DUMD TOO LONG		
<p>AS PKT STORE DUMD IS TAKING A LONG TIME, TERMINATE THE SEQUENCE, AS THE TEST CASE WAS ONLY A DEBUG TESTON AND THE S/C NEEDS TO BE POWERED ON AGAIN ASAP</p>			
Prepared by: S. Euseby	Resp. Test Leader	Project Engineer	
PA/QA B. HOGG <i>BH</i>	Prime	Customer	

119-3

**8.2 Non Conformance Report (NCR) and SPR Summary**

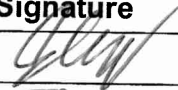


The status of all NCRs/SPRs generated during the test shall be given in the table below:

<b>NCR/SPR - No.</b>	<b>Title</b>	<b>Date</b>	<b>Open/ Closed</b>	<b>PA sig.</b>

Table 8.2-2: NCR/SPR Record Sheet

**8.3 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	30/04/08	
Test Conductor	30/04/08	
PA Responsible	30/04/08	

## Annex B: Script Hierarchy

```

===== IST START =====

>Z010999MCVT001_POWER_ON_HER_IST $PM $tcDec $batScoe
|----> Y102989EPVT007_IST_PWR_SCOE_ON $configBS
|----|----> Z010999MMXX002UNITS_CHECK
|----> async referby timeSynchronisation D102159SCVT032TIMESYNCR0
|----> D102159SCVT210_GET_ALARM_STATUS
|----> D102159SCVT210_GET_ALARM_STATUS
|----> W102584EPVT007_IST_CHECK_PCDU
|----> Z010999MMXX002UNITS_CHECK
|----> R102479ECVT009_UNITS_SELECTION
> Z010999MCVT001_POWER_ON_HER_IST $PM $tcDec $batScoe
|----> Y102989EPVT007_IST_PWR_SCOE_ON $configBS
|----|----> Z010999MMXX002UNITS_CHECK
|----> async referby timeSynchronisation D102159SCVT032TIMESYNCR0
|----> D102159SCVT210_GET_ALARM_STATUS
|----> D102159SCVT210_GET_ALARM_STATUS
|----> W102584EPVT007_IST_CHECK_PCDU
|----> Z010999MMXX002UNITS_CHECK
|----> R102479ECVT009_UNITS_SELECTION
> D102159SCVT210_GET_ALARM_STATUS
> D102159SCVT176_WRITE_CROME $papCcs 1
> D102159SCVT174_IST_REDUNDANT_CONF $bus $pcduTmTc $hps $txChain $rfdn $tmObt
$tmRate
|----> D102159SCVT104_ENCODER_SELECT $tmObt $tm_Enc_Config
> async referby istStartSSMM Z010999MCVT005_IST_START_SSMM $ssmm]
> K102999ECVT001_ASDGENCCU_ABPWON
|----> K102999ECVT001_ASDGENCCU_MnDisDLC
|----> K102999ECVT001_ASDGENCCUA_POWERON
|----|----> Z010999MMXX002UNITS_CHECK
|----> K102999ECVT001_ASDGENCCUA_ChkEssTM
|----> K102999ECVT001_ASDGENCCUB_POWERON
|----|----> Z010999MMXX002UNITS_CHECK
|----> K102999ECVT001_ASDGENCCUB_ChkEssTM
> K102999ECVT001_ASDGENCCU_MnEBOTH2
> K102999ECVT001_ASDGENCCU_MnEBOTH1
> K102999ECVT001_ASDGENCCUA_POWERON
|----> Z010999MMXX002UNITS_CHECK
> K102999ECVT001_ASDGENCCUA_MnEnaMd2
> K102999ECVT001_ASDGENCCUA_MnEnaMd1
> K102999ECVT001_ASDGENCCUB_POWERON
|----> Z010999MMXX002UNITS_CHECK
> K102999ECVT001_ASDGENCCUB_MnEnaMd2
> K102999ECVT001_ASDGENCCUB_MnEnaMd1
> Z010999MCVT153_IST_STATUS 5.8.2.4.2
|----> ACMS_get_RM_status RMA
|----> ACMS_get_RM_status RMB
> async A102109SPVT003_ACMS_CONFIG25
|----> A102109SPVT004_ACMS_LOADCONFIG1
|----> A102109SPVT010_ACMS_SCOE_CONFIG1
|----|----> async A102109SPVT017_ACMS_CRS_BACKGROUND
|----> A102109SPVT011_ACMS_ON
|----|----> Z010999MMXX002UNITS_CHECK
|----|----> ACMS_get_RM_status RMA

```

```

|----|----> ACMS_get_RM_status RMB
|----> A102109SPVT021_ACMS_ACC_SEPARA
> D102159SCVT032EnNomTCSLoops ist_herschel_tcs_config
> D102159SCVT115_CHECK_HCS_OFF
> D102159SCVT192_IST_UPLOAD_EAT
|----> D102159SCVT192_GET_EAT_REPORT
|----> D102159SCVT192_GET_EAT_REPORT 1
> D102159SCVT175_SET_SURV_REG $busSM $pcduSM $rfdnSM $txChainSM $trSM $sepStsSM
> D102159SCVT219_GET_BSW_HEALTH_UIU 1
> D102159SCVT204_GET_MOT 1
> D102159SCVT192_GET_EAT_REPORT 1
> D102159SCVT205_SAT_COM_TCT 1
> D102159SCVT207_SAT_COM_FCCT 1
> D102159SCVT188_IST_DUMP_PKT_STORE 0 80 1 81 2 82 3 83
> async referby celDownlink D102159SCVT188_IST_DUMP_PKT_STORE CEL_A CEL_B

```

===== IST END =====

```

> $swOFFsequence
> A102109SPVT061_RWL_SPINDOWN
> async referby acmsOff A102109SPVT012_ACMS_OFF
> Z102999SCVT002_SREM_OFF
> D102159SCVT174_IST_REDUNDANT_CONF A A 0 0 0 0 0
|----> D102159SCVT104_ENCODER_SELECT $tmObt $tm_Enc_Config
> D102159SCVT175_SET_SURV_REG B B AB BB B B not
> D102159SCVT176_WRITE_CRÔME AB 1
> D102159SCVT181_DISABLE_PKT_STORE
> D102159SCVT187_IST_SSMM_OFF
> Y102989ETVT020_TTC_SCOE_OFF
|----> Y102989ECVT018_TTC_TC_OP_METHOD OFFLINE
|----|----> Y102989ETVT017_TTC_CHECK_ROUTINE
|----|----> Y102989ETVT019_TTC_SCOE_ACTIVITY
> W102584SPVT101_PCDU_TRANSITION_FDIR 5
> Z010999MCVT002_POWER_OFF
|----> D102159SCVT028SSMM_OFF
|----> D102159SCVT001PM_SELECT B
|----|----> D102159SCVT003DISTHERMALCONTROL
|----|----> Z010999MMXX002UNITS_CHECK
|----> D102159SCVT001PM_SELECT A
|----|----> D102159SCVT003DISTHERMALCONTROL
|----|----> Z010999MMXX002UNITS_CHECK
|----> R102479SMXX001_XPND_HUM_TXT
|----> Y102989EPVT002_PWR_SCOE_OFF
|----|----> Z010999MMXX003UNITS_CHECK_PWR_OFF
|----|----> Z010999MMXX003UNITS_CHECK_PWR_OFF
|----|----> Z010999MMXX003UNITS_CHECK_PWR_OFF
|----> Z010999MMXX003UNITS_CHECK_PWR_OFF

```



**Annex C: 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	

## Annex D: Operation Notes

### Operation Note 3

<b>Title:</b> ACMS SCOE does not boot	<b>Date:</b> 06/02/08
<b>Observation:</b>	
The ACMS SCOE does not boot.	
Reason: One of the STR UCE (Unit Checkout Equipment) electrical stimuli programs hangs.	
<b>Operator Action:</b>	
Until NCR / SPR is solved the following workaround is proposed (by Martijn):	
During powering the Power SCOE in the cleanroom:	
1) Go to the STR UCE (in cleanroom) and select electrica stimuli PC on the KVM switch, press 2 time 'scroll lock' and select PC#2.	
2) Kill the running application, by pressing the cross in the upper right corner.	
3) Start the UCE application by double clicking the icon 'SMI', an application 'Star Mapper Analogue Chain Simulation' should start up.	
4) Press 2 time 'scroll lock' and select PC#3 and repeat step 3.	

Operation Note 8

<b>Title:</b>	DOD Alarm	<b>Date:</b> 14/02/08
<b>Observation:</b>		
<p>During each Power on within the "IST_START" there is a check of the DOD flag. Directly after the "D102159SVT32TIMESYNCRO" the dump of the RM LOG and the DOD Flag check is performed by the "D102159SCVT210_Get_ALARM_STATUS".</p> <p>If the DOD alarm is present it has to be reset , otherwise the S/C will enter Save Mode directly after separation.</p>		
<b>Operator Action:</b>		
<p>For resetting the DOD alarm decrease the Vbat under the DoD threshold and then increasing the Vbat upper the DoD threshold therefore perform the following steps:</p> <p>Open a shell window -&gt; startCMD bsvnc</p> <p>On the window "H-P BS SCOE" switch to local</p> <p>On the window "BS SCOE Config" change the <b>Battery Voltage</b> from 25,4 to 19</p> <p>The push the button <b>save&amp;update</b></p> <p>On the window "BS SCOE Config" change the <b>Battery Voltage</b> from 19 to 25,4</p> <p>The push the button <b>save&amp;update</b></p> <p>On the window "H-P BS SCOE" switch to remote</p> <p>Execute the script: D102159SCVT210_Get_ALARM_STATUS to dump the RM Log to check DOD Flag Check if DOD alarm is still present</p>		

Operation Note 11

<p><b>Title:</b> Failure in TM Check of CCU Valves</p>	<p>Date: 14/02/08</p>
<p><b>Observation:</b></p> <p style="text-align: center;"><b>If CCU Valves sensing lines are connected to CRYO SCOE instead of CCU the valves status check fails at CCU Power ON</b></p>	
<p><b>Operator Action:</b></p> <ol style="list-style-type: none"> <li>1) On Test conductor Console, perform "connect PFM_CRYO"</li> <li>2) Thanks Telemetry Query Display (TQD) check following TMs <ul style="list-style-type: none"> <li>- YM648958 (VLV_STATUS_V103) instead of KM269302 = "CLOSED"</li> <li>- YM649958 (VLV_STATUS_V106) instead of KM269303 = "CLOSED"</li> <li>- YM640958 (VLV_STATUS_V501) instead of KM270302 = "CLOSED"</li> <li>- YM641958 (VLV_STATUS_V503) instead of KM270303 = "CLOSED"</li> <li>- YM643 958 (VLV_STATUS_V505) instead of KM271303 = "OPEN"</li> </ul> </li> <li>3) On Test conductor Console, perform "disconnect PFM_CRYO"</li> </ol>	

END OF DOCUMENT

Insert actual distribution list

## Attachment 2 to Section 6.7:

# As-Run Procedure HP-2-ASED-TP-0197 for HIFI/PACS FDIR OBCP

MASTER AS-RUN. IN RED

29/04/08 - 30/04/08

HIF 1 Followed by PACS

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

SPICE NOT PERFORMED DURING THIS RUN.

CI-No:

Prepared by:	Functional AIT Team	Date: 28 April 2008
Checked by: <i>20</i>	C. Much <i>[Signature]</i>	28th April 2008
Product Assurance:	J. Hall <i>[Signature]</i>	28/4/2008
Configuration Control:	W. Wietbrock	
TASF Engineering	G. Beaufils <i>[Signature]</i>	28/04/2008
TASF Test Director	S. Mooney <i>[Signature]</i>	28/04/08
Project Management:	<del>Dr. W. Fricke</del> <i>[Signature]</i>	<del>28/04/08</del>
Project Management:	<i>pp.</i> D. Montet <i>[Signature]</i>	28/04/08

Distribution: See Distribution List (last page)

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\* For as run a print out without highlight  
We should be used!  
WA: R.



Issue	Date	Sheet	Description of Change	Release
1	29 April 2008		Initial version	

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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 CCS 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	1280/1281	5,2	xC000		SPIRE-OBCPTest-DRCUAnomaly.tcl
DB_OBCP_H_SPIRE_OPE_STOP	1280/1281	5,2	xC100		SPIRE-OBCPTest-ObservationAnomaly.tcl
DB_OBCP_H_SPIRE_OPE_RESUME	1280/1281	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_OFFCTRL_trigger.tcl

Note:

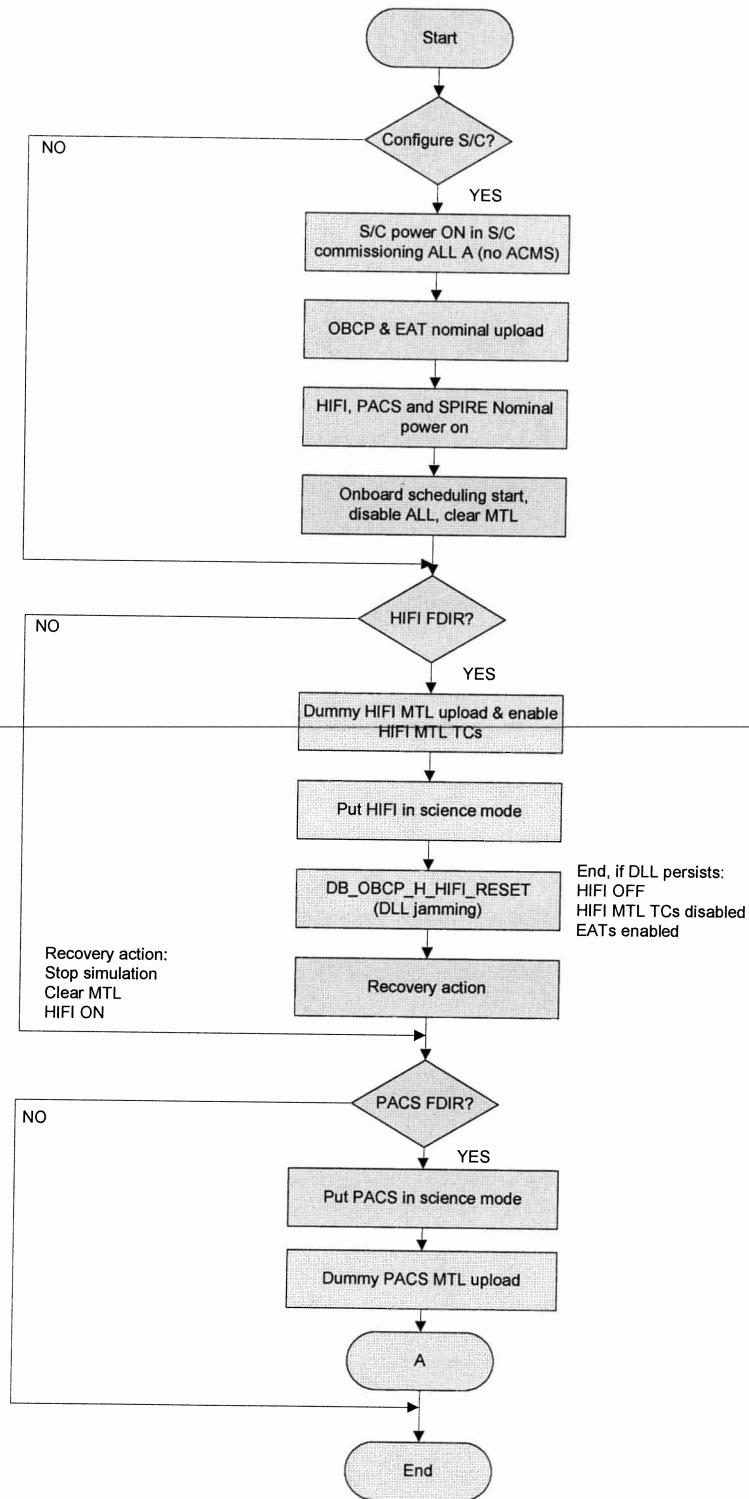
DB\_OBCP\_H\_PACS\_BOLC\_OFF has been eliminated from the test because never called by PACS SW of NC-3981(RD-7)

DB\_OBCP\_H\_PACS\_IMMEDIATE\_OFF DLL has been replaced by TFL (RD-8).

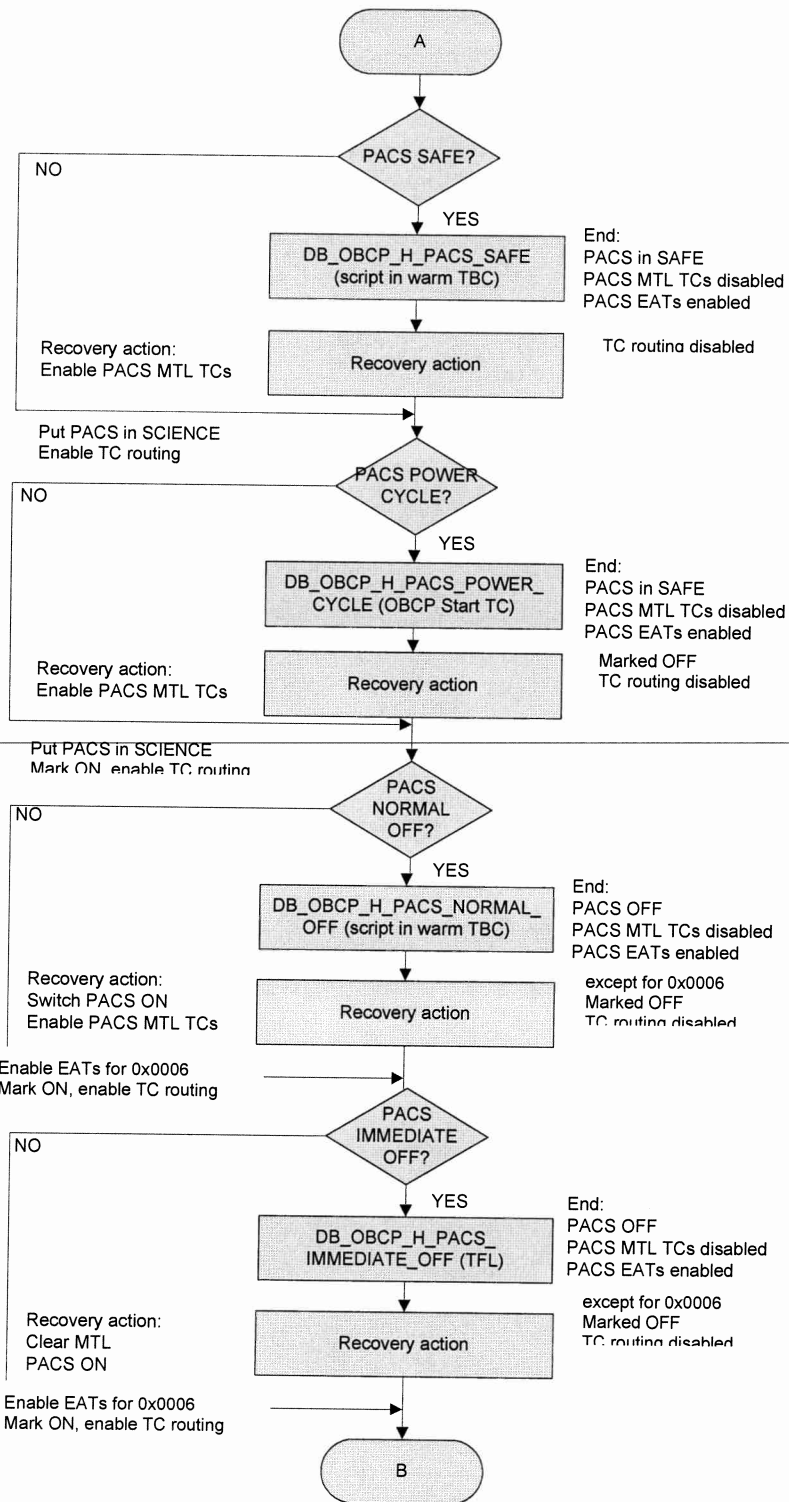
PACS and SPIRE TFL TM tests (PACS IMMEDIATE\_OFF and SPIRE OFF\_CTRL) will be started with the instrument in STANBY instead of science (RD-5)

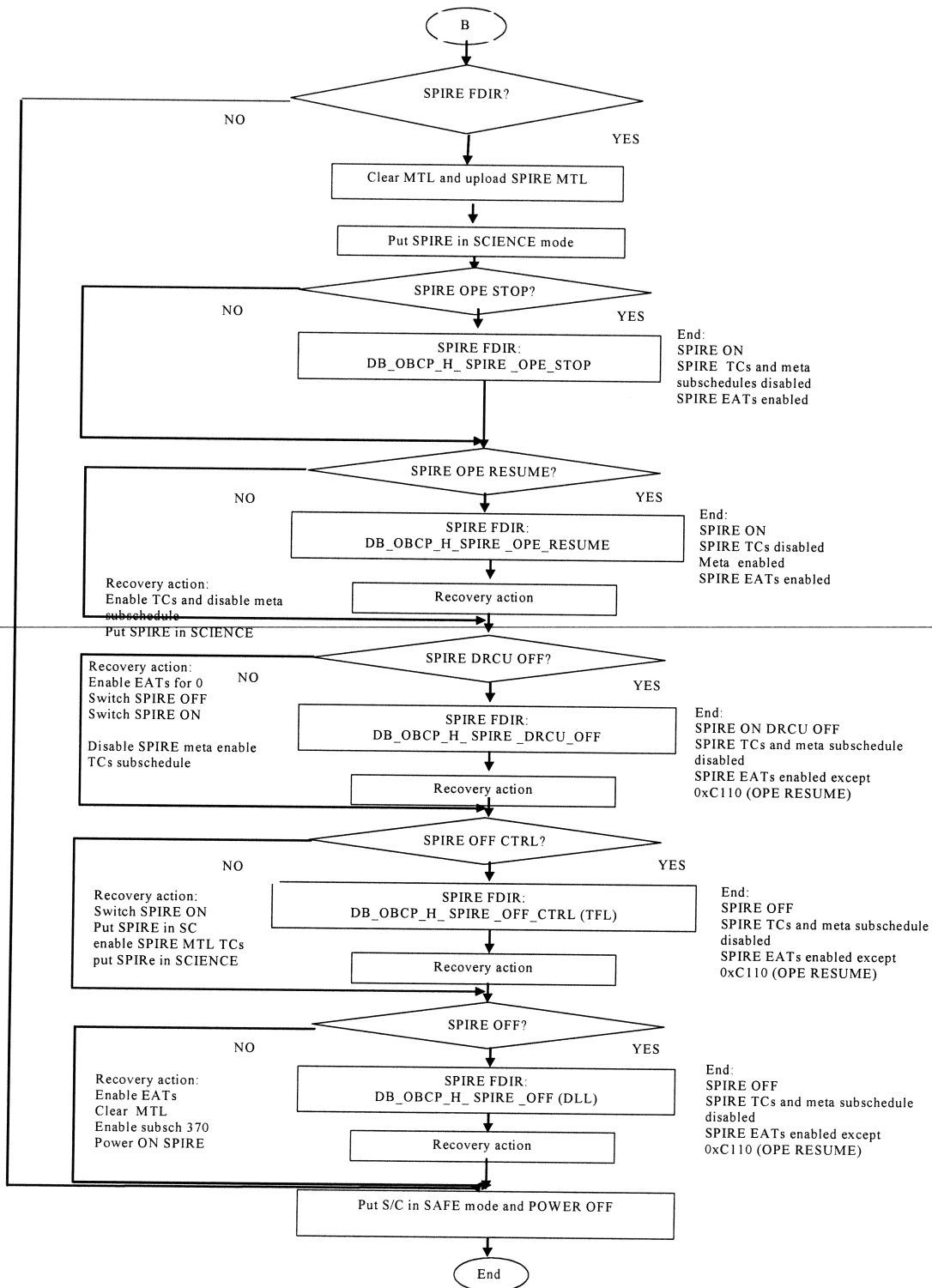
## 1.2 Operational Flow

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



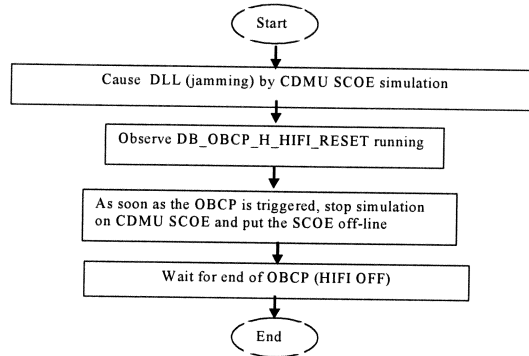






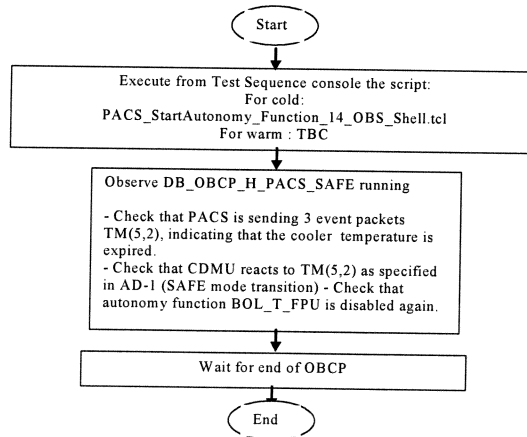
DB\_OBCP\_H\_HIFI\_RESET

DB\_OBCP\_H\_HIFI\_RESET (DLL)

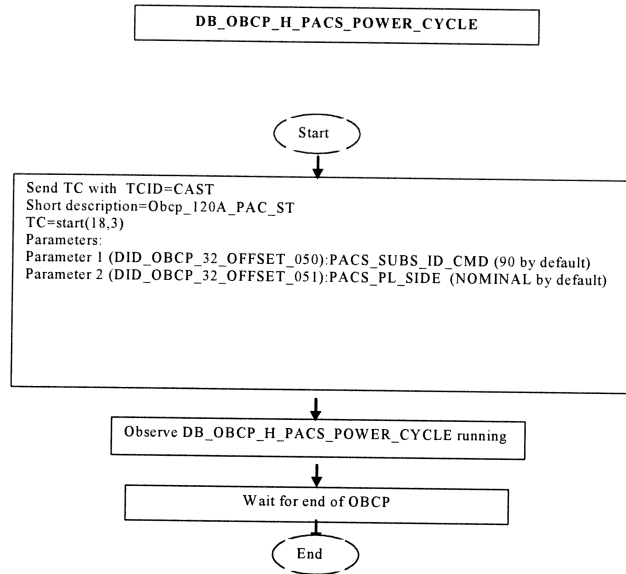


DB\_OBCP\_H\_PACS\_SAFE

DB\_OBCP\_H\_PACS\_SAFE

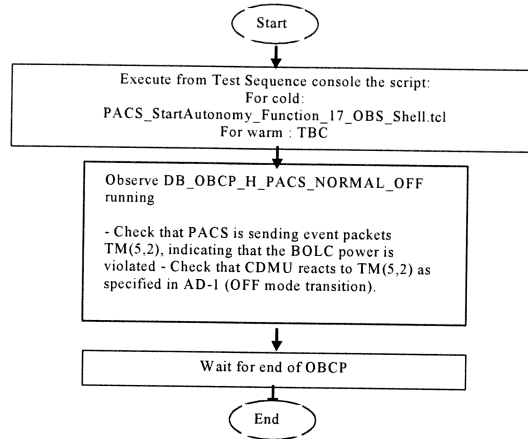


DB\_OBCP\_H\_PACS\_POWER\_CYCLE (OBCP Start TC)



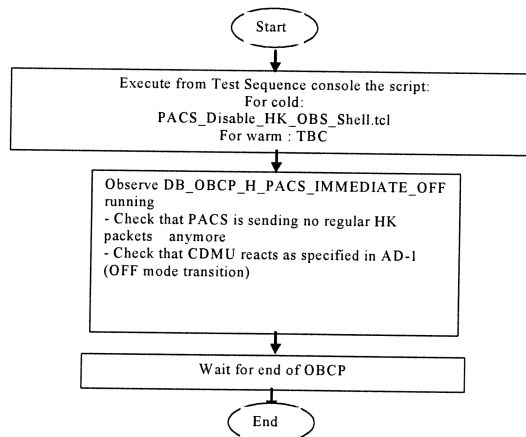
DB\_OBCP\_H\_PACS\_NORMAL\_OFF

DB\_OBCP\_H\_PACS\_NORMAL\_OFF



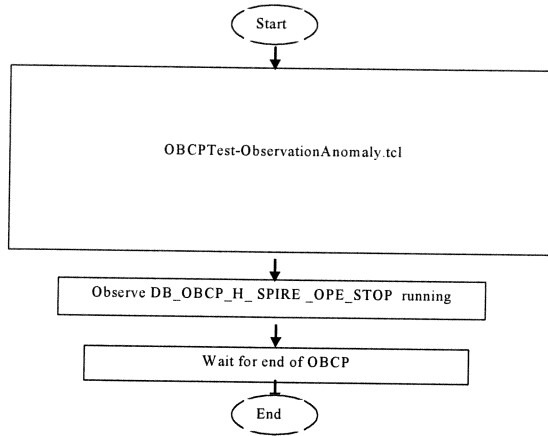
DB\_OBCP\_H\_PACS\_IMMEDIATE\_OFF (TFL)

DB\_OBCP\_H\_PACS\_IMMEDIATE\_OFF



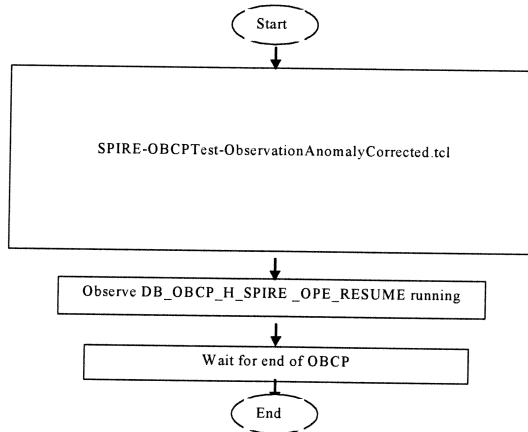
DB\_OBCP\_H\_SPIRE\_OPE\_STOP

DB\_OBCP\_H\_SPIRE\_OPE\_STOP



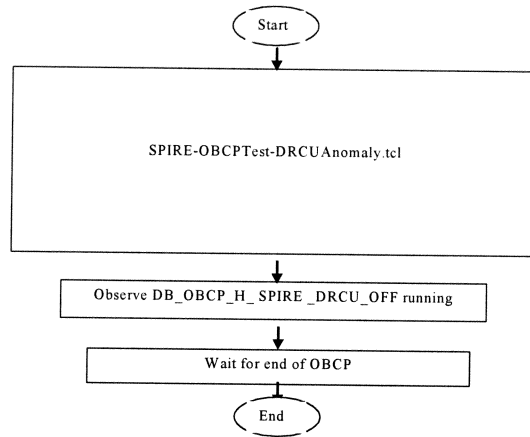
DB\_OBCP\_H\_SPIRE\_OPE\_RESUME

DB\_OBCP\_H\_SPIRE\_OPE\_RESUME



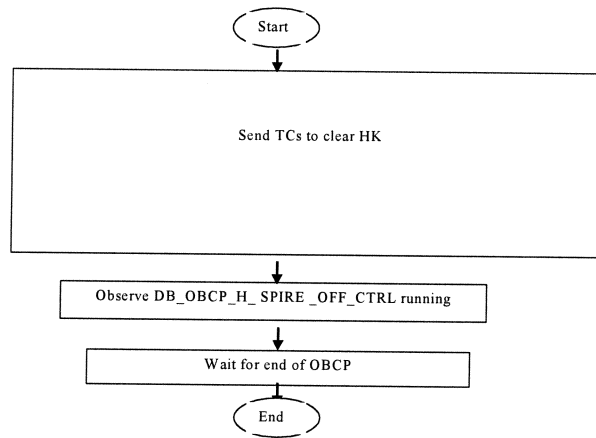
DB\_OBCP\_H\_SPIRE\_DRCU\_OFF

DB\_OBCP\_H\_SPIRE\_DRCU\_OFF



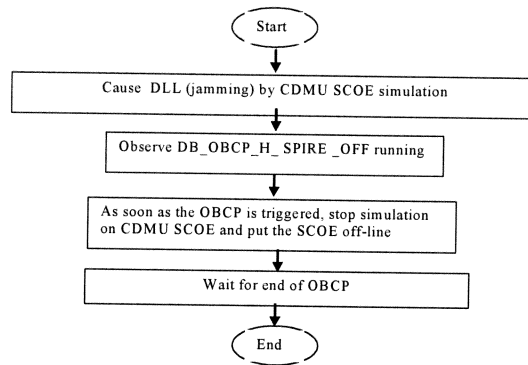
DB\_OBCP\_H\_SPIRE\_OFF\_CTRL (TFL)

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 6
- AD-2 Payload management and OBCP  
H-P-ASPI-TN-1072, issue 6
- AD-3 Test Specification for Herschel Instruments AVM and FM Tests performed at Satellite Level  
HP-2-ASP-TS-1083\_1\_0

### 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 2.1.2.
- RD-4 Leading Procedure for Herschel Integrated Satellite Test 'IST'  
HP-2-ASED-TP-0134 iss 4
- RD-5 H-P-TASF-MN-10377
- RD-6 H-P-TASF-MN-10378
- RD-7 H-P-TASF-MN-10199

Doc. No: HP-2-ASED-TP-0197

Issue: 1

Date: 28/04/2008

File: HP-2-ASED-TP-0197\_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR%20OBCP\_iss1\_last[1]

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RD-8 Mail to S. Hamer

Doc. No: HP-2-ASED-TP-0197

Issue: 1

Date: 28/04/2008

File: HP-2-ASED-TP-0197\_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR%20BCP\_iss1\_last[1]

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### 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*

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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

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#### **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

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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

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## 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.

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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.	Enter the following In the CCS Test Console:  callasync Z010999MCVT131_IST_INSTR_FDIR.tcl	PASS		PASS		✓	
2.	During Z010999MCVT131_IST_INSTR_FDIR.tcl  START HERSCHEL INSTRUMENTS FDIR, SECTION 5.8.13  ⇒ Click the button "YES" to proceed	YES		YES	If NO, the sequence is terminated.	✓	
3.	During Z010999MCVT131_IST_INSTR_FDIR.tcl  Configure for Instruments FDIR test? - SKIP if S/C already on and configured by CMD5 MGMT  ⇒ Click the button "Confirm" to proceed	CONFIRM		CONFIRM	If "SKIP" the sequence continues from step 37.  NOTE: SKIP this step, if test follows cdms management and S/C already in A.P.	✓	

Test location: ESTEC	Operator U. Klenske	Product-Assurance: R. Goossens	Date: 29/04/2008 15:10
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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		CONFIRM		✓	
5.	<p>During ...</p> <p>██████████ IST_ ██████████</p> <p>⇒ Wait, go to script ...ACMS_CONFIG25</p>	PASS		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>	88 OK CONTINUE		88 OK CONTINUE		✓	

Test location: ESTEC	Operator U. Klenke	Product-Assurance: R. Boossens	Date: 29/04/2008 15:13
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Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
7.	During A102109SPVT103_ACMS_CONFIG25 (1,6,4,5,20,99,88) SEPARATION (open separation straps) Main Menu 3.0: option 2 ⇒ Click the button "OK" and then ⇒ Click the button "Continue"	2 OK CONTINUE		2 OK CONTINUE		✓	
8.	During Z010999MCVT089_ACMS_SAM_MON Do you want to continue to monitor SAM Sun Pointing mode? ⇒ Enter your choice: no and then click "OK"	NO		no OK		✓	
9.	At end of <del>XXXXXXXXXXXXXXXXXXXX</del> IST <del>XXXXXXXXXXXXXXXXXXXX</del> D102159SCVT138_ ⇒ Click the button "End TS!" to proceed	ENDTS		EndTs		✓	
10.	During Z010999MCVT131_IST_INSTR_FDIR Transition to Nominal ⇒ Click the button "Confirm" to proceed	CONFIRM		Confirm	At the end check, from SAT.ilv, that FDIR mode is AFO before switching instruments on CDMS FDIR = AFO	✓	

PVS#1-3

PVS#1-4

PVS#1-5

Test location: ESTER	Operator U. Klenke	Product-Assurance: R. Goossens	Date: 29/04/2008 15:22
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PVS#1-6

Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
11.	<del>During Z010999MCVT089_SUNACQ_NOMINAL</del> <del>D102153 SCVT137-IST_SUNACQ-NOM</del> ⇒ Click the button "End TS!" to proceed	ENDTS		EndTS		✓	
12.	During Z010999MCVT131_IST_INSTR_FDIR  At the prompt "Command ACMS (via OCM/Earth) to SCM/Earth"  ⇒ Click the button "OK" to proceed	OK		OK		✓	
13.	During A102109SPVT103_ACMS_CONFIG25  Select Transition to OCM. Main Menu 4.0 SAM Phase: Option 6  ⇒ Click the button "OK" and then ⇒ Click the button "Continue" to proceed	6 OK CONTINUE		6 OK CONTINUE		✓	
14.	During A102109SPVT036_ACMS_STR_ON  Do you want to change the current STR in use ? Answer no  ⇒ Click the button "NO" to proceed	NO		NO		✓	

Test location: ESTEC	Operator L. Klenke	Product-Assurance: R. Goossens <i>J.</i>	Date: 29/04/2008 15:31
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Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
15.	<p>During A102109SPVT043_TRANSITION_TO_OCM</p> <p>Only for info:                      ⇒ Verify after ca.7 min if ACMS mode is = OCM point fine (Earth pointing)</p> <p>⇒ Verify in AND: ZAA00999 if Est Attitude Q1..Q4 is close to Target</p> <p>⇒ Verify AESM3002 = OCM point fine or in synoptic SAT - ACMS - ACC - Mode Nominal</p>	PASS		PASS	<p>Only for info:                      OCM point fine ✓</p> <p>Est Attitude Q1..Q4 is close to Target ✓</p>	✓	
16.	<p>During A102109SPVT043_TRANSITION_TO_OCM</p> <p>SUSPEND                      ⇒ click on script name in Test Console</p> <p>⇒ Click the button "RESUME" to proceed</p>	RESUME					
<i>to be deleted</i>							
17.	<p>During A102109SPVT103_ACMS_CONFIG25</p> <p>Select Transition to SCM (Science mode).                      Main Menu 7.0: Option 3</p> <p>⇒ Click the button "OK" and then                      ⇒ Click the button "Continue" to proceed</p>	3 OK CONTINUE		3 OK CONTINUE		✓	

PVS#1-7

Test location: ESTEC	Operator U. Kunkhe	Product-Assurance: R. Coossens	Date: 29/04/2008 15:44
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Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
18.	<p><i>During A102109SPVT038_RWL_ON</i></p> <p>"Do you want to change actual on-board wheel set selected in the nominal configuration? RWL 1-2-3-4 selected</p> <p>⇒ Click the button "NO" to proceed ?</p>	NO		NO	<p>AEW1A002, AEW2A002, AEW3A002, AEW4A002</p> <p>LOW expected until wheels are spun up on AND AAO1W109</p>	✓	
19.	<p><i>During A102109SPVT042_RWL_SPINUP</i></p> <p>"Change actual Angular Momentum (initial values)?" Option: no</p> <p>⇒ Wait for about 10 minutes click 'OK'</p>	<p>NO</p> <p>RWL-1 ang momentum 10.0 RWL-2 ang momentum -10.0 RWL-3 ang momentum 10.0 RWL-4 ang momentum -10.0</p>		NO OK		✓	

PVS #1-8

PVS #1-9

Test location: ESTEC	Operator H. Klenke	Product-Assurance: R. Coossens	Date: 29/04/2008 15:52
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Doc. No: HP-2-ASED-TP-0197

Issue: 1

Date: 28/04/2008

File: HP-2-ASED-TP-0197\_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20DIR%20BCP\_iss1\_last[1]



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

PVS#1-10

plotting

Test location: ESTEC	Operator U. Klenke	Product-Assurance: R. Goossens	Date: 29/04/2008	16:01
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Doc. No: HP-2-ASED-TP-0197

Issue: 1

Date: 28/04/2008

File: HP-2-ASED-TP-0197\_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR%20BCP\_iss1\_last[1]

Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
21.	<p>Only for info:</p> <p>⇒ Verify 4x RWL momentum parameters are within +/-20%</p> <p>AEWMA002 = 10.0 (RWL1 momentum)</p> <p>AEWMB002 = -10.0 (RWL2 momentum)</p> <p>AEWMC002 = 10.0 (RWL3 momentum)</p> <p>AEWMD002 = -10.0 (RWL4 momentum)</p>	PASS			<p>8.40376</p> <p>-8.06761</p> <p>8.62786</p> <p>-7.73146</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	OCM Point Fine	✓	
22.	<p>At end of</p> <p>████████████████████</p> <p>⇒ Click the button "End TS!" to proceed</p>	ENDTS		EndTs	<p>ACZ2T109 may timeout because of slew time too short. PVS1011</p> <p>Wait until AESM3002 is "SCM pnt F rdy"</p>	✓	

Test location: ESTEC	Operator U. Klenke	Product-Assurance:	Date: 29/04/2008 16:31
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NAME	DESCRIPTION	VALUE	UNIT	NAME	DESCRIPTION	VALUE	UNIT
AE3AR002	Att Deter Sts	Nominal estmtr		AE3AR002	Att Deter Sts	Nominal estmtr	
AEWR1002	Cal RWL1 rate	78.53986	rd/s	AEWR1002	Cal RWL1 rate	78.53986	rd/s
AEWR2002	Cal RWL2 rate	-76.44546	rd/s	AEWR2002	Cal RWL2 rate	-75.39826	rd/s
AEWR3002	Cal RWL3 rate	80.63425	rd/s	AEWR3002	Cal RWL3 rate	80.63425	rd/s
AEWR4002	Cal RWL4 rate	-73.30386	rd/s	AEWR4002	Cal RWL4 rate	-72.25667	rd/s
AEWMX002	RWL momentum X	0	Nms	AEWMX002	RWL momentum X	0	Nms
AEWMY002	RWL momentum Y	0	Nms	AEWMY002	RWL momentum Y	0	Nms
AEWMZ002	RWL momentum Z	0	Nms	AEWMZ002	RWL momentum Z	0	Nms
AEWMA002	RWL1 momentum	8.40376	Nms	AEWMA002	RWL1 momentum	8.40376	Nms
AEWMB002	RWL2 momentum	-8.17966	Nms	AEWMB002	RWL2 momentum	-8.06761	Nms
AEWMC002	RWL3 momentum	8.62786	Nms	AEWMC002	RWL3 momentum	8.62786	Nms
AEWMD002	RWL4 momentum	-7.84351	Nms	AEWMD002	RWL4 momentum	-7.73146	Nms
AMWC1091	RWL1 motor cur	0.23760	A	AMWC1091	RWL1 motor cur	0.23470	A
AMWC2092	RWL2 motor cur	0.27362	A	AMWC2092	RWL2 motor cur	0.27130	A
AMWC3093	RWL3 motor cur	0.19926	A	AMWC3093	RWL3 motor cur	0.19926	A
AMWC4094	RWL4 motor cur	0.32591	A	AMWC4094	RWL4 motor cur	0.32242	A
AMWT1091	RWL1 bear temp	297.42791	K	AMWT1091	RWL1 bear temp	297.42791	K
AMWT2092	RWL2 bear temp	297.65445	K	AMWT2092	RWL2 bear temp	297.65445	K
AMWT3093	RWL3 bear temp	296.87775	K	AMWT3093	RWL3 bear temp	296.87775	K
AMWT4094	RWL4 bear temp	298.04280	K	AMWT4094	RWL4 bear temp	298.04280	K
AEWT1002	RWL1 torque req	568		AEWT1002	RWL1 torque req	568	
AEWT2002	RWL2 torque req	4744		AEWT2002	RWL2 torque req	4784	
AEWT3002	RWL3 torque req	489		AEWT3002	RWL3 torque req	489	
AEWT4002	RWL4 torque req	4864		AEWT4002	RWL4 torque req	4904	
AEW1B002	RWL1 tacho Sign	CW		AEW1B002	RWL1 tacho Sign	CW	
AEW1A002	RWL1 tacho spd	77.49262	rd/s	AEW1A002	RWL1 tacho spd	78.53982	rd/s
AEW2B002	RWL2 tacho Sign	CCW		AEW2B002	RWL2 tacho Sign	CCW	
AEW2A002	RWL2 tacho spd	76.44542	rd/s	AEW2A002	RWL2 tacho spd	75.39822	rd/s
AEW3B002	RWL3 tacho Sign	CW		AEW3B002	RWL3 tacho Sign	CW	
AEW3A002	RWL3 tacho spd	80.63421	rd/s	AEW3A002	RWL3 tacho spd	80.63421	rd/s
AEW4B002	RWL4 tacho Sign	CCW		AEW4B002	RWL4 tacho Sign	CCW	
AEW4A002	RWL4 tacho spd	73.30383	rd/s	AEW4A002	RWL4 tacho spd	72.25663	rd/s



NAME	DESCRIPTION	VALUE	UNIT	NAME	DESCRIPTION	VALUE	UNIT
AE3AR002	Att Deter Sts	Nominal estmtr		AE3AR002	Att Deter Sts	Nominal estmtr	
AEWR1002	Cal RWL1 rate	78.53986	rd/s	AEWR1002	Cal RWL1 rate	79.58705	rd/s
AEWR2002	Cal RWL2 rate	-76.44546	rd/s	AEWR2002	Cal RWL2 rate	-76.44546	rd/s
AEWR3002	Cal RWL3 rate	82.72865	rd/s	AEWR3002	Cal RWL3 rate	81.68145	rd/s
AEWR4002	Cal RWL4 rate	-74.35106	rd/s	AEWR4002	Cal RWL4 rate	-74.35106	rd/s
AEWMX002	RWL momentum X	0	Nms	AEWMX002	RWL momentum X	0	Nms
AEWMY002	RWL momentum Y	0	Nms	AEWMY002	RWL momentum Y	0	Nms
AEWMZ002	RWL momentum Z	0	Nms	AEWMZ002	RWL momentum Z	0	Nms
AEWMA002	RWL1 momentum	8.40376	Nms	AEWMA002	RWL1 momentum	8.51581	Nms
AEWMB002	RWL2 momentum	-8.17966	Nms	AEWMB002	RWL2 momentum	-8.17966	Nms
AEWMC002	RWL3 momentum	8.85196	Nms	AEWMC002	RWL3 momentum	8.73991	Nms
AEWMD002	RWL4 momentum	-7.95556	Nms	AEWMD002	RWL4 momentum	-7.95556	Nms
AMWC1091	RWL1 motor cur	0.23180	A	AMWC1091	RWL1 motor cur	0.23180	A
AMWC2092	RWL2 motor cur	0.26433	A	AMWC2092	RWL2 motor cur	0.26433	A
AMWC3093	RWL3 motor cur	0.18300	A	AMWC3093	RWL3 motor cur	0.17719	A
AMWC4094	RWL4 motor cur	0.28989	A	AMWC4094	RWL4 motor cur	0.29105	A
AMWT1091	RWL1 bear temp	299.01367	K	AMWT1091	RWL1 bear temp	299.01367	K
AMWT2092	RWL2 bear temp	299.43439	K	AMWT2092	RWL2 bear temp	299.43439	K
AMWT3093	RWL3 bear temp	298.17225	K	AMWT3093	RWL3 bear temp	298.17225	K
AMWT4094	RWL4 bear temp	300.04927	K	AMWT4094	RWL4 bear temp	300.04927	K
AEWT1002	RWL1 torque req	568		AEWT1002	RWL1 torque req	528	
AEWT2002	RWL2 torque req	4744		AEWT2002	RWL2 torque req	4744	
AEWT3002	RWL3 torque req	409		AEWT3002	RWL3 torque req	449	
AEWT4002	RWL4 torque req	4824		AEWT4002	RWL4 torque req	4824	
AEW1B002	RWL1 tacho Sign	CW		AEW1B002	RWL1 tacho Sign	CW	
AEW1A002	RWL1 tacho spd	78.53982	rd/s	AEW1A002	RWL1 tacho spd	79.58701	rd/s
AEW2B002	RWL2 tacho Sign	CCW		AEW2B002	RWL2 tacho Sign	CCW	
AEW2A002	RWL2 tacho spd	76.44542	rd/s	AEW2A002	RWL2 tacho spd	76.44542	rd/s
AEW3B002	RWL3 tacho Sign	CW		AEW3B002	RWL3 tacho Sign	CW	
AEW3A002	RWL3 tacho spd	81.68141	rd/s	AEW3A002	RWL3 tacho spd	81.68141	rd/s
AEW4B002	RWL4 tacho Sign	CCW		AEW4B002	RWL4 tacho Sign	CCW	
AEW4A002	RWL4 tacho spd	74.35103	rd/s	AEW4A002	RWL4 tacho spd	74.35103	rd/s



Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
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		CONFIRM		✓	
24.	During Z010999MCVT131_IST_INSTR_FDIR  "Switch on SREM and start acquisition service"  ⇒ Click the button "Confirm" to continue	CONFIRM		CONFIRM		✓	
25.	During <del>Z02999SCVT003_SREM_Acq_START</del>  ⇒ Click the button "End TS!" to proceed	ENDTS		EndTs	SPR-290 ✓	✓	
26.	During Z010999MCVT131_IST_INSTR_FDIR  "POWER ON HIFI PRIMARY"  ⇒ Click the button "Confirm" to continue	CONFIRM		CONFIRM		✓	

FVS 4-1

Test location: ESTEC	Operator U. Klenke	Product-Assurance: R. Goossens	Date: 2010/4/2008 17:04
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Doc. No: HP-2-ASED-TP-0197

Issue: 1

Date: 28/04/2008

File: HP-2-ASED-TP-0197\_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR%20BCP\_iss1\_last[1]

Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
27.	<p><i>PVS#1-12</i></p> <p><i>PVS4-3</i></p> <p>During  <del>H102999SCV005_ASDGENHIFI_PWR_ON_P</del>  <del>H102999SCVT015_ASDISTHIFI_PWR_ON_P</del>                      "Power on HIFI prime and enable MIL 1553 I/F.                      FM HIFI Switch on for functional tests only in warm conditions with LOU or dummy - Select NO to abort TS if not correct"                      ⇒ Click the button "YES" to confirm</p>	YES		YES	Conditions may change, so check on RD-3 for current reference and expected OOL.	✓	
28.	<p><i>PVS#1-14</i></p> <p>During                      H102999SCV005_ASDGENHIFI_PWR_ON_P                      "Set Bus Profile back to original setting?"                      ⇒ Click the button "YES" to confirm</p>	YES		YES		✓	
29.	<p><i>PVS#1-13</i></p> <p>During                      Z010999MCVT131_IST_INSTR_FDIR                      "POWER ON PACS PRIMARY"                      ⇒ Click the button " Confirm" to continue</p>	CONFIRM		CONFIRM		✓	

Test location: ESTEC	Operator U. Klenke	Product-Assurance: R. Goossens	Date: 29/04/2008 18:08
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Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
30.	<p><i>During</i>  P102999SCVT905_ASDISTPACS_PWR_ON_N</p> <p>"Power on PACS prime and enable MIL 1553 I/F. FM PACS Switch on in warm or cold conditions, FPU connected ... - Select NO to abort TS if not correct"</p> <p>⇒ Click the button "YES" to confirm</p>	YES		YES	Conditions may change, so check on RD-3 for current reference and expected OOL.	✓	
31.	<p><i>During</i>  P102999SCVT905_ASDISTPACS_PWR_ON_N</p> <p>PACS FDIR OBCPs/EATs loaded and enabled? If not select NO to abort TS. If not sure, check with D102159SCVT192_GET_EAT_REPORT. Then select "YES"</p> <p>⇒ Click the button "YES" to confirm</p>	YES		YES		✓	
32.	<p><i>During</i>  P102999SCVT905_ASDISTPACS_PWR_ON_N</p> <p>"Set Bus Profile back to original setting?"</p> <p>⇒ Click the button "YES" to confirm</p>	YES		YES		✓	

PVS #5 →

Test location: ESTEC	Operator U. Klenke	Product-Assurance: R. Goossens	Date: 29/04/2008 18:21
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Doc. No: HP-2-ASED-TP-0197

Issue: 1

Date: 28/04/2008

File: HP-2-ASED-TP-0197\_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR%20OBCP\_iss1\_last[1]

Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
33.	During Z010999MCVT131_IST_INSTR_FDIR  "POWER ON SPIRE PRIMARY"  ⇒ Click the button "confirm" to continue	CONFIRM		CONFIRM		✓	
34.	During S102999SCVT017_ASDGENSPIR_PWR_ON_P  "Power on SPIRE prime and enable MIL 1553 I/F. FM SPIRE Switch on for functional tests only in any conditions ... - Select NO to abort TS if not correct "  ⇒ Click the button "YES" to confirm	YES		YES	Conditions may change, so check on RD-3 for current reference and expected OOL.	✓	
35.	During S102999SCVT017_ASDGENSPIR_PWR_ON_P  "Set Bus Profile back to original setting?"  ⇒ Click the button "YES" to confirm	YES		YES		✓	
36.	During Z010999MCVT131_IST_INSTR_FDIR <sup>2</sup> At the prompt "SET RX RATE FROM 4000 to 125 BPS?"  ⇒ Click the button "Confirm" to continue	CONFIRM		YES		✓	

PVSA-15

PVSA-16

Test location: ESTEC	Operator L. Klentke	Product-Assurance: R. Goossens	Date: 29/04/2008	20:00
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Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
37.	<p><i>During</i> Z010999MCVT131_IST_INSTR_FDIR</p> <p>"SAVING ORIGINAL SCBP"</p> <p>⇒ Click the button "Confirm" to continue</p>	YES		CONFIRM		✓	
38.	<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		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"> <li>- DE82F170</li> <li>- DEA74170</li> <li>- DEH26170</li> </ul> <p>Open also the OnBoardQueue</p>	✓	
39.	<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>	PASS OK		PASS OK		✓	

Test location: ESTEC	Operator U. Klenke	Product-Assurance: R. Boossens	Date: 29/04/2008 20:19
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Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
40.	<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"> <li>- chapter 7.3 for HIFI</li> <li>- chapter 7.4 for PACS</li> <li>- chapter 7.5 for SPIRE</li> </ul> <p>Sequences can be performed also one after the other.</p> <p>Otherwise continue from §7.6 for end of test activities</p>		OK	Note down: chapter - time stamp		✓

Test location: <i>ESTEL</i>	Operator <i>S. ELSLEY</i>	Product-Assurance: <i>BHOGG DM.</i>	Date: <i>29/4/08 20.42</i>
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7.3 HIFI

**Note:** HHIFIEGSEs shall be already running since the script is going to connect to them!

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
41.	Callasync Z010999MCVT134_IST_HIFI_FDIR  to perform the HIFI related part of the Instruments FDIR IST	PASS				✓	
42.	During Z010999MCVT134_IST_HIFI_FDIR  "Perform HIFI FDIR PRIMARY?"  ⇒ Click the button "Confirm" to continue	CONFIRM		CONFIRM	If SKIP, it exits the script	✓	
43.	During Z010999MCVT134_IST_HIFI_FDIR  "Starting condition check"  ⇒ Click the button "Confirm" to continue	CONFIRM		CONFIRM		✓	

Test location: <i>ESTEL</i>	Operator <i>S. ELSLEY</i>	Product Assurance: <i>R. Goossens f.</i>	Date: <i>29/14/08 20:43</i>
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PVS1 - 17

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
44.	During Z010999MCVT134_IST_HIFI_FDIR  "calling ALL_SubscribeParams.tcl"  ⇒ Click the button "OK" to continue	OK					
45.	During Z010999MCVT134_IST_HIFI_FDIR  "Please check that no instrument is in science. If so, put it in standby"  ⇒ Click the button "OK" to continue	OK		OK	RD-3 for details.		2
46.	During Z010999MCVT134_IST_HIFI_FDIR  "INITIAL S/C STATUS CHECK"  ⇒ Click the button "confirm" to continue	CONFIRM		CONFIRM			2
47.	During Z010999MCVT153_IST_STATUS  "Do you want to stop and notice each failure"  ⇒ Click the button "NO" to continue	NO		YES			2

Test location: ESTEC	Operator S. EISEN	Product-Assurance: R. HOGG <i>R.H.</i>	Date: 29/4/08 21:02
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Doc. No: HP-2-ASED-TP-0197


Issue: 1

Date: 28/04/2008


File: HP-2-ASED-TP-0197\_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR%20BCP\_iss1\_last[1]

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
48.	<i>During</i> Z010999MCVT153_IST_STATUS ⇒ Check the Satellite State ⇒ Click the button "OK" to continue	OK		OK	Compare with AD-1 for chapter 5.8.7 of IST specifications		
49.	<i>During</i> Z010999MCVT134_IST_HIFI_FDIR "Set SCBP to HIFI Prime (2)" ⇒ Click the button "Confirm" to continue	CONFIRM		CONFIRM			
50.	<i>During</i> Z010999MCVT134_IST_HIFI_FDIR "upload dummy MTL with HIFI connection test in subschedule 70" ⇒ Click the button "Confirm to continue"	CONFIRM		CONFIRM			

PVSG

Test location: ESTEC	Operator S. ELSCHEN	Product-Assurance: B. HOGGE 	Date: 29/04/08
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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
51.	<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		PASS OK		?	
52.	<p><i>During</i> D102159SCVT214_IST_HIFI_MTL_PING</p> <p>⇒ Click the button "EndTS!" to continue</p>	ENDTS		ENDTS		?	
53.	<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>	PASS OK		PASS OK		?	

Test location: ESTEC	Operator J. EISEN	Product-Assurance: B. HOGGE 	Date: 29/04/08 21:23
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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
54.	<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>	PASS  OK		PASS  OK		✓	
55.	<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>	CONFIRM		CONFIRM.		✓	
56.	<p><i>During</i> Z010999MCVT134_IST_HIFI_FDIR</p> <p>"Insert call to science mode sequence"</p> <p>⇒ Click the button "OK" to confirm</p>	<p>Callasync sequence according to RD-3 and current condition.</p> <p>At the end of it, press OK</p>		OK	Note down chapter of RD-3 that has been executed:	✓	

PVS2  
step 2) →

PVS3-1

Test location: ESTEC	Operator S. Eisen	Product-Assurance: B. HOGG 	Date: 29/04/08 21:46
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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
57.	<p>During Z010999MCVT134_IST_HIFI_FDIR</p> <p>"Perform HIFI RESET OBCP (DLL)?"</p> <p>⇒ Click the button "Confirm" to continue</p>	CONFIRM		CONFIRM	<p>If SKIP, it continues at step 75.</p> <p>DB_OBCP_H_HIFI_RESET is the OBCP under test.</p>	✓	
58.	<p>During Z010999MCVT134_IST_HIFI_FDIR</p> <p>"HIFI RESET DLL FDIR triggering"</p> <p>⇒ Click the button "confirm" to continue</p>	CONFIRM		CONFIRM		✓	
59.	<p>During 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>	PASS OK		PASS OK		✓	

Test location: ESTEC	Operator S. Esler	Product-Assurance: B. HOGG [Signature]	Date: 29/04/08 21:48
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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
60.	<p>During 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	OK, then move to the CDMU SCOE desktop	✓	
61.	<p>On CDMS SCOE</p> <p>Double-click on the link "StartSCOE.bat" on the desktop to start the CDMU SCOE workstation.</p>	PASS		PASS		✓	
62.	<p>On CDMS SCOE</p> <p>Select Menu: Mode ⇒ Local Mode Password: H-P</p>	PASS		PASS		✓	
63.	<p>On CDMS SCOE</p> <p>Select from menu: Setup ⇒ RTSim Configuration</p>	PASS		PASS		✓	

Test location: <i>ESTEL</i>	Operator <i>S. Gossy</i>	Product-Assurance: <i>B. HOGRE [Signature]</i>	Date: <i>29/4/08 21:51</i>
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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
64.	<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		PASS		✓	
65.	<p>On CDMS SCOE</p> <p>Select from menu: Mode ⇒ On Line</p>	PASS		PASS		✓	
66.	<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"> <li>- control</li> <li>- TM queue</li> <li>- TC queue</li> </ul> <p>Wait 8 seconds then immediately perform next step</p>	PASS		PASS	<p>JAMMING STARTED!!!!!!</p> <p>Very important to stop within 8 sec, to avoid subsequent reconfigurations!!</p> <p>CAN BE STOPPED AS SOON AS THE OBCP STARTED EVENT IS RECEIVED.</p>	✓	

Test location: <i>ESTEC</i>	Operator <i>S. ELSEN</i>	Product-Assurance: <i>B. HOGG</i>	Date: <i>29/4/08</i>	<i>21:55</i>
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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
67.	<p>On CDMS SCOE</p> <p>In window: "System Control/RT controls" Click the button "Disable" for:</p> <ul style="list-style-type: none"> <li>- control</li> <li>- TM queue</li> <li>- TC queue</li> </ul>	PASS		PASS	Very important to stop within 8 sec, to avoid subsequent reconfigurations!!		✓
68.	<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"> <li>⇒ OBCP HIFI_RESET has been triggered -TM(5,1) with SPID 4014817 proclD 0x130D</li> <li>⇒ events TM(5,4) have been sent with EvID 0x3001 (SOFT RESET) 0x3000 (HARD RESET)</li> <li>⇒ TM(5,1) with SPID 40145170 proclD 0x130D has been received</li> </ul> <p>⇒ Click the button "OK" to confirm</p>	PASS  OK		OK	<p>If soft reset, HIFI is left ON If hard reset HIFI is left OFF.</p> <p>NCR-3512 New Name NCR-4229 raised NCR-4250 raised</p>		✓

DVS # 1c 19)

Test location: <i>ESTEL</i>	Operator: <i>S. Essey</i>	Product-Assurance: <i>B. Hogg</i> <i>BA</i>	Date: <i>29/4/08</i> <i>22-19</i>
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21.55.11 - 21.56.28

Jun 02, 08 14:10

OBEH\_PRNT\_2008.154.14.10.36.216

On-Board Event History display printout from time: 2008.120.21.53.19.738 to time: 2008.120.21.55.18.888  
Current printout time: 2008.154.14.10.36.246 DISPLAY MODE: BRIEF FILTER MODE: INACTIVE  
Number of printed lines: 30

Generation Time	Reception Time	VC	APID	SSC	EvID	Severity	TmT	TmQ	F	D	Message Text
2008.120.21.55.18.888	2008.120.21.55.19.753	0	1024	2554	40960	ALARM	PG	G	E	E	HIFI_OBS_runtime_error
2008.120.21.55.18.887	2008.121.02.52.48.724	0	1024	2553	40960	ALARM	PG	G	E	E	HIFI_OBS_runtime_error
2008.120.21.55.18.887	2008.121.02.51.38.649	0	1024	2553	40960	ALARM	PG	G	E	E	HIFI_OBS_runtime_error
2008.120.21.55.18.887	2008.120.21.55.19.752	0	1024	2553	40960	ALARM	PG	G	E	E	HIFI_OBS_runtime_error
2008.120.21.55.18.794	2008.121.02.52.45.724	0	1024	2552	40960	ALARM	PG	G	E	E	HIFI_OBS_runtime_error
2008.120.21.55.18.794	2008.121.02.51.33.646	0	1024	2552	40960	ALARM	PG	G	E	E	HIFI_OBS_runtime_error
2008.120.21.55.18.794	2008.120.21.55.19.752	0	1024	2552	40960	ALARM	PG	G	E	E	HIFI_OBS_runtime_error
2008.120.21.55.18.793	2008.121.02.52.45.724	0	1024	2551	40960	ALARM	PG	G	E	E	HIFI_OBS_runtime_error
2008.120.21.55.18.793	2008.121.02.51.33.646	0	1024	2551	40960	ALARM	PG	G	E	E	HIFI_OBS_runtime_error
2008.120.21.55.18.793	2008.120.21.55.19.752	0	1024	2551	40960	ALARM	PG	G	E	E	HIFI_OBS_runtime_error
2008.120.21.55.18.685	2008.121.02.52.45.723	0	1024	2550	40960	ALARM	PG	G	E	E	HIFI_OBS_runtime_error
2008.120.21.55.18.685	2008.121.02.51.33.646	0	1024	2550	40960	ALARM	PG	G	E	E	HIFI_OBS_runtime_error
2008.120.21.55.18.685	2008.120.21.55.19.752	0	1024	2550	40960	ALARM	PG	G	E	E	HIFI_OBS_runtime_error
2008.120.21.55.18.684	2008.121.02.52.45.723	0	1024	2549	40960	ALARM	PG	G	E	E	HIFI_OBS_runtime_error
2008.120.21.55.18.684	2008.121.02.51.33.646	0	1024	2549	40960	ALARM	PG	G	E	E	HIFI_OBS_runtime_error
2008.120.21.55.18.684	2008.120.21.55.19.751	0	1024	2549	40960	ALARM	PG	G	E	E	HIFI_OBS_runtime_error ✓
2008.120.21.55.15.024	2008.120.21.55.14.744	0	16	9924	26881	NORM	PG	G	E	E	Event 5-1 Subschedule Status Changed ✓
2008.120.21.55.14.742	2008.120.21.55.14.744	0	512	5717	47	NORM	PR	N	E	E	Event Report - SDB Synchronisation Time-Out ✓
2008.120.21.55.12.262	2008.120.21.55.14.743	0	1280	4204	1298	NORM	PG	G	E	E	NO_TIMESYNC_ID ✓
2008.120.21.55.11.942	2008.120.21.55.14.743	0	16	9917	27402	NORM	PG	G	E	E	Event 5-1 OBCP Started ✓
2008.120.21.55.11.745	2008.121.02.52.45.723	0	16	9913	151	WARN	PG	G	E	E	Event Report - HIFI non-vital RT Invalid
2008.120.21.55.11.745	2008.121.02.51.33.645	0	16	9913	151	WARN	PG	G	E	E	Event Report - HIFI non-vital RT Invalid
2008.120.21.55.11.745	2008.120.21.55.11.741	0	16	9913	151	WARN	PG	G	E	E	Event Report - HIFI non-vital RT Invalid
2008.120.21.55.11.698	2008.120.21.55.11.741	0	16	9912	34	NORM	PG	G	E	E	Event Report - SDB Unhealthy
2008.120.21.55.00.394	2008.120.21.55.00.662	0	2020	163	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2008.120.21.54.35.332	2008.120.21.54.35.596	0	2020	159	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created

NCR-4250

NCR-4229

NCR-3512 New

TP-0197 HIFI RESET Section 7.3 Step 68 OBEH

Tn(1,3) +

HIFI-OBS. RUNTIME ERRORs

Jun 02, 08 14:13

OBEH\_PRNT\_2008.154.14.13.47.925

On-Board Event History display printout from time: 2008.120.21.55.22.825 to time: 2008.120.21.57.50.113  
Current printout time: 2008.154.14.13.47.925 DISPLAY MODE: BRIEF FILTER MODE: INACTIVE  
Number of printed lines: 30

Generation Time	Reception Time	VC	APID	SSC	EvID	Severity	TmT	TmQ	F	D	Message Text
2008.120.21.57.50.113	2008.120.21.57.50.387	0	2020	186	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2008.120.21.57.21.129	2008.120.21.57.21.403	0	2020	182	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2008.120.21.56.52.519	2008.120.21.56.52.799	0	2020	178	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2008.120.21.56.28.948	2008.120.21.56.28.824	0	16	10030	27399	NORM	PG	G	E	E	Event 5-1 OBCP Ended ✓
2008.120.21.56.25.023	2008.120.21.56.28.823	0	16	10023	29720	NORM	PG	G	E	E	Event 5-1 Unit Already Marked OFF
2008.120.21.56.23.551	2008.120.21.56.23.819	0	2020	174	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2008.120.21.56.23.023	2008.120.21.56.22.817	0	16	10018	29720	NORM	PG	G	E	E	Event 5-1 Unit Already Marked OFF
2008.120.21.56.21.023	2008.120.21.56.22.817	0	16	10014	29720	NORM	PG	G	E	E	Event 5-1 Unit Already Marked OFF
2008.120.21.56.19.023	2008.120.21.56.18.812	0	16	10009	29720	NORM	PG	G	E	E	Event 5-1 Unit Already Marked OFF
2008.120.21.56.17.023	2008.120.21.56.18.812	0	16	10005	29720	NORM	PG	G	E	E	Event 5-1 Unit Already Marked OFF
2008.120.21.56.15.023	2008.120.21.56.15.808	0	16	9999	29720	NORM	PG	G	E	E	Event 5-1 Unit Already Marked OFF
2008.120.21.56.13.023	2008.120.21.56.15.807	0	16	9995	29720	NORM	PG	G	E	E	Event 5-1 Unit Already Marked OFF
2008.120.21.56.11.023	2008.120.21.56.12.804	0	16	9988	29720	NORM	PG	G	E	E	Event 5-1 Unit Already Marked OFF
2008.120.21.56.09.023	2008.120.21.56.08.803	0	16	9984	29720	NORM	PG	G	E	E	Event 5-1 Unit Already Marked OFF ✓
2008.120.21.55.55.019	2008.120.21.55.55.299	0	2020	170	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2008.120.21.55.50.944	2008.121.02.53.10.755	0	16	9953	12288	ALARM	PG	G	E	E	OBCP_Evt Hifi Off ✗
2008.120.21.55.50.944	2008.121.02.51.58.670	0	16	9953	12288	ALARM	PG	G	E	E	OBCP_Evt Hifi Off ✗
2008.120.21.55.50.944	2008.120.21.55.50.784	0	16	9953	12288	ALARM	PG	G	E	E	OBCP_Evt Hifi Off ✓
2008.120.21.55.26.441	2008.120.21.55.26.719	0	2020	166	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2008.120.21.55.24.943	2008.121.02.53.10.755	0	16	9940	12288	ALARM	PG	G	E	E	OBCP_Evt Hifi Off ✗
2008.120.21.55.24.943	2008.121.02.51.58.670	0	16	9940	12288	ALARM	PG	G	E	E	OBCP_Evt Hifi Off ✗
2008.120.21.55.24.943	2008.120.21.55.28.757	0	16	9940	12288	ALARM	PG	G	E	E	OBCP_Evt Hifi Off ✓
2008.120.21.55.23.339	2008.121.02.53.10.755	0	16	9939	170	WARN	PG	G	E	E	Event Report - SDB HIFI non-vital RT Sick TC
2008.120.21.55.23.339	2008.121.02.51.58.670	0	16	9939	170	WARN	PG	G	E	E	Event Report - SDB HIFI non-vital RT Sick TC
2008.120.21.55.23.339	2008.120.21.55.23.763	0	16	9939	170	WARN	PG	G	E	E	Event Report - SDB HIFI non-vital RT Sick TC
2008.120.21.55.23.339	2008.120.21.55.23.754	0	16	9938	193	NORM	PG	G	E	E	Event Report - SDB HIFI Failed TC Second ✓

TP-0197 HIFI RESET Section 7-3 Sup 68 P2 CHECK

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OBEH\_PRNT\_2008.154.14.13.47.925

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2008.120.21.55.23.089	2008.120.21.55.22.765	0	16	9936	163	NORM	PG	G	E	E	Event Report - SDB HIFI Failed TC First	✓
2008.120.21.55.22.825	2008.121.02.53.10.754	0	1024	2612	40960	ALARM	PG	G	E	E	HIFI_OBS_runtime_error	
2008.120.21.55.22.825	2008.121.02.51.58.670	0	1024	2612	40960	ALARM	PG	G	E	E	HIFI_OBS_runtime_error	
2008.120.21.55.22.825	2008.120.21.55.23.752	0	1024	2612	40960	ALARM	PG	G	E	E	HIFI_OBS_runtime_error	

TP-0197 HIFI RESET Scheduling 7.3 Samples P3 CRASH

Jun 02, 08 17:08

TMPH\_PRNT\_2008.154.17.08.50.030

TM Packet History display printout from time: 2008.120.21.55.11.773 to time: 2008.121.00.02.33.383  
 Current printout time: 2008.154.17.08.50.031 FILTER MODE: ACTIVE DISPLAY MODE: BRIEF STATISTIC: OFF  
 FILTER SETTINGS:  
 APID: 16 Type: 1 Sub-Type: 9  
 Number of printed lines: 29

Mnemonic	Generation Time	Reception Time	VC	APID	SSC	Type	STyp	PI1	PI2	DS	SPID	GSID	TmT	TmQ	F	D
TcContentRep	2008.121.00.02.33.383	2008.121.00.02.33.798	0	16	12781	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.121.00.02.32.384	2008.121.00.02.33.797	0	16	12777	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.120.21.56.26.945	2008.120.21.56.28.823	0	16	10026	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.120.21.56.24.944	2008.120.21.56.28.823	0	16	10022	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.120.21.56.22.944	2008.120.21.56.22.817	0	16	10017	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.120.21.56.20.944	2008.120.21.56.22.817	0	16	10013	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.120.21.56.18.944	2008.120.21.56.18.812	0	16	10008	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.120.21.56.16.944	2008.120.21.56.18.812	0	16	10004	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.120.21.56.14.944	2008.120.21.56.15.808	0	16	9998	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.120.21.56.12.944	2008.120.21.56.12.805	0	16	9994	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.120.21.56.10.944	2008.120.21.56.12.804	0	16	9987	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.120.21.56.08.944	2008.120.21.56.08.803	0	16	9983	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.120.21.56.06.944	2008.120.21.56.08.801	0	16	9979	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.120.21.56.04.944	2008.120.21.56.08.801	0	16	9976	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.120.21.56.02.944	2008.120.21.56.02.794	0	16	9972	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.120.21.56.00.944	2008.120.21.56.02.793	0	16	9969	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.120.21.55.58.944	2008.120.21.56.00.793	0	16	9965	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.120.21.55.56.944	2008.120.21.56.00.792	0	16	9962	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.120.21.55.54.944	2008.120.21.55.56.787	0	16	9958	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.120.21.55.52.944	2008.120.21.55.56.787	0	16	9955	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.120.21.55.48.944	2008.120.21.55.50.784	0	16	9950	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.120.21.55.46.945	2008.120.21.55.46.778	0	16	9946	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.120.21.55.22.944	2008.120.21.55.22.765	0	16	9935	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.120.21.55.20.944	2008.120.21.55.20.758	0	16	9934	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.120.21.55.18.944	2008.120.21.55.18.753	0	16	9930	1	9	0	0	65535	40094180		PG	G	E	E

IP-0197 Airc Reser Section 73 Steps Type 19 PETS PA

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TMPH\_PRNT\_2008.154.17.08.50.030

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TcContentRep	2008.120.21.55.16.944	2008.120.21.55.17.744	0	16	9927	1	9	0	0	65535	40094180	PG	G	E	E
TcContentRep	2008.120.21.55.14.944	2008.120.21.55.14.744	0	16	9922	1	9	0	0	65535	40094180	PG	G	E	E
TcContentRep	2008.120.21.55.11.944	2008.120.21.55.14.743	0	16	9918	1	9	0	0	65535	40094180	PG	G	E	E
TcContentRep	2008.120.21.55.11.773	2008.120.21.55.11.741	0	16	9914	1	9	0	0	65535	40094180	PG	G	E	E

TR-0197 HIFI RESET Section 7.3 Steps Type 19 Pkts p2



Jun 02, 08 15:46

TMPH\_PRNT\_2008.154.15.46.26.920

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TM Packet Query Display

TM Packet Details

Mnemonic: D\_EvRp\_148 Description: Event 5-1 OBCP Started Simulated: N

S/C ID: 486 G/S ID: 0 SLE ID: 0 OCC ID: 0 VCID: 0 HFA D/S: 65535

Data Unit Type: GOOD SP Time Stamp Type: PG Time Quality: G

APID: 16 SSC: 9917 Type: 5 Subtype: 1 PI1: 27402 PI2: 0

SPID: 40148170 TPSD: -1 HFA Counter: 0 Filing: E Distribution: E

Time Field: Y Packet Period: 0 [msec] CRC: ? Event Severity: ?

TM Packet Parameter Data

Generation time: 2008.120.21.55.11.942 Reception time: 2008.120.21.55.14.743

TM Packet Raw Data

SCOS-2000 Header:  
0000:0000 0000 3F99 1748 A560 0E00 4299 1748 DC56 0B00 0100 0000 E601 0000 6000 0000  
0020:1138 FFFF 0000 0000 CA9C 6402 0000 0000 0000 0000 FFFF FFFF 10FF 1000 BD26 0501

Packet Raw Data:  
0000:0810 E6BD 0019 0005 0100 5EA9 F7BF F137 6B0A 0000 130D 0000 0000 0000 0079 353A

TR-0197 HFI1 Reser Section 7.3 Step 68 OBCP Start 5,1

Jun 02, 08 15:45

TMPH\_PRNT\_2008.154.15.45.53.221

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TM Packet Query Display

=====

TM Packet Details

-----

Mnemonic: SNTI00000500 Description: NO\_TIMESYNC\_ID Simulated: N

S/C ID: 486 G/S ID: 0 SLE ID: 0 OCC ID: 0 VCID: 0 HFA D/S: 65535

Data Unit Type: GOOD SP Time Stamp Type: PG Time Quality: G

APID: 1280 SSC: 4204 Type: 5 Subtype: 1 PI1: 1298 PI2: 20759

SPID: 190560500 TPSD: -1 HFA Counter: 1 Filing: E Distribution: E

Time Field: Y Packet Period: 0 [msec] CRC: ? Event Severity: ?

TM Packet Parameter Data

-----

Generation time: 2008.120.21.55.12.262 Reception time: 2008.120.21.55.14.743

TM Packet Raw Data

-----

SCOS-2000 Header:

0000:0000 0000 4099 1748 6D00 0400 4299 1748 E259 0B00 0100 0000 E601 0000 6E00 0000

0020:1138 FFFF 0100 0000 F4B8 5B0B 0000 0000 0000 0000 FFFF FFFF 10FF 0005 6C10 0501

Packet Raw Data:

0000:0D00 D06C 0027 0005 0100 5EA9 F7C0 4323 0512 5117 0000 0D05 0000 0000 000E 5EA9

0020:F7BF 4310 5D4B 864E 5C1A 52CA EE73

TP-0197 AIRI RESSET Section 7.3 Step 68 SRA 261 EVENT. 5/1 up unexposed  
 NCE-3512 recurrence

Jun 02, 08 15:45

TMPH\_PRNT\_2008.154.15.45.07.556

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TM Packet Query Display  
=====

TM Packet Details  
-----

Mnemonic: (5,2)-0447 Description: Event Report - SDB Synchronisation Time-Out Simulated: N

S/C ID: 486 G/S ID: 0 SLE ID: 0 OCC ID: 0 VCID: 0 HFA D/S: 65535

Data Unit Type: GOOD SP Time Stamp Type: PR Time Quality: N

APID: 512 SSC: 5717 Type: 5 Subtype: 1 PI1: 47 PI2: 47

SPID: 10447050 TPSD: -1 HFA Counter: 0 Filing: E Distribution: E

Time Field: Y Packet Period: 0 [msec] CRC: ? Event Severity: ?

TM Packet Parameter Data  
-----

Generation time: 2008.120.21.55.14.742 Reception time: 2008.120.21.55.14.744

TM Packet Raw Data  
-----

SCOS-2000 Header:

0000:0000 0000 4299 1748 0C56 0B00 4299 1748 A95B 0B00 0100 0000 E601 0000 6000 0000

0020:1130 FFFF 0000 0000 CA68 9F00 0000 0000 0000 0000 FFFF FFFF 10FF 0002 5516 0501

Packet Raw Data:

0000:0A00 D655 0019 0005 0100 DEA9 F7C0 7602 002F 002F 0000 0863 8272 0000 0025 134F

TP-0017 HIFI Reset Section 7.3 page 88 ACS 5,1 event unexpected  
NCR-42229 (revision  
for SPAE case FD12)

Jun 02, 08 15:44

TMPH\_PRNT\_2008.154.15.44.24.426

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TM Packet Query Display

TM Packet Details

Mnemonic: D\_EvRp\_048 Description: Event 5-1 Subschedule Status Changed Simulated: N

S/C ID: 486 G/S ID: 0 SLE ID: 0 OCC ID: 0 VCID: 0 HFA D/S: 65535

Data Unit Type: GOOD SP Time Stamp Type: PG Time Quality: G

APID: 16 SSC: 9924 Type: 5 Subtype: 1 PI1: 26881 PI2: 0

SPID: 40048170 TPSD: -1 HFA Counter: 4 Filing: E Distribution: E

Time Field: Y Packet Period: 0 [msec] CRC: ? Event Severity: ?

TM Packet Parameter Data

Generation time: 2008.120.21.55.15.024 Reception time: 2008.120.21.55.14.744

TM Packet Raw Data

SCOS-2000 Header:

0000:0000 0000 4399 1748 4661 0000 4299 1748 865D 0B00 0100 0000 E601 0000 6600 0000

0020:1138 FFFF 0400 0000 2A16 6302 0000 0000 0000 0000 FFFF FFFF 10FF 1000 C426 0501

Packet Raw Data:

0000:0810 E6C4 001F 0005 0100 5EA9 F7C3 0660 6901 0000 0046 0000 0001 0000 007A 5EA9

0020:F7C3 065A 11B7

TP-0197 HIFI Reset Section 7.3 Step 68 MR S/S Change S, 1 Event

Jun 02, 08 15:43

TMPH\_PRNT\_2008.154.15.43.31.394

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TM Packet Query Display  
=====

TM Packet Details  
-----

Mnemonic: H\_runtime Description: HIFI\_OBS\_runtime\_error Simulated: N

S/C ID: 486 G/S ID: 0 SLE ID: 0 OCC ID: 0 VCID: 0 HFA D/S: 65535

Data Unit Type: GOOD SP Time Stamp Type: PG Time Quality: G

APID: 1024 SSC: 2549 Type: 5 Subtype: 4 PI1: 40960 PI2: 0

SPID: 80052289 TPSD: 80052289 HFA Counter: 0 Filing: E Distribution: E

Time Field: Y Packet Period: 0 [msec] CRC: ? Event Severity: ?

TM Packet Parameter Data  
-----

Generation time: 2008.120.21.55.18.684 Reception time: 2008.120.21.55.19.751

HM005190	OBS_ID	2415919104
HM006190	BB_ID	0
HM058190	HICU_event_nr4	0
HM059190	HI_runtime_err	TXC_PKT_NF
HM256191	HIF_Npoints	3
HM060190	HI_runtime_inf	230
HM060190	HI_runtime_inf	0
HM060190	HI_runtime_inf	0

TM Packet Raw Data  
-----

SCOS-2000 Header:

```
0000:0000 0000 4699 1748 9D70 0A00 4799 1748 7078 0B00 0100 0000 E601 0000 6A00 0000
0020:1138 FFFF 0000 0000 4180 C504 0000 0000 0000 0000 4180 C504 10FF 0004 F509 0504
```

Packet Raw Data:

```
0000:0C00 C9F5 0023 0005 0400 5EA9 F7C6 AF27 A000 0000 9000 0000 0000 0000 0000 4000
0020:0003 00E6 0000 0000 1EF9
```

IP-01977 HIFI Reset Section 7.3 Step 68 HIFI OBS runtime error  
NCE-4250

Jun 02, 08 15:54

TMPH\_PRNT\_2008.154.15.54.24.148

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TM Packet Query Display

TM Packet Details

Mnemonic: (5,1)-0563 Description: Event Report - SDB HIFI Failed TC First Simulated: N

S/C ID: 486 G/S ID: 0 SLE ID: 0 OCC ID: 0 VCID: 0 HFA D/S: 65535

Data Unit Type: GOOD SP Time Stamp Type: PG Time Quality: G

APID: 16 SSC: 9936 Type: 5 Subtype: 1 PI1: 163 PI2: 163

SPID: 40563161 TPSD: -1 HFA Counter: 0 Filing: E Distribution: E

Time Field: Y Packet Period: 0 [msec] CRC: ? Event Severity: ?

TM Packet Parameter Data

Generation time: 2008.120.21.55.23.089 Reception time: 2008.120.21.55.22.765

TM Packet Raw Data

SCOS-2000 Header:  
0000:0000 0000 4B99 1748 895E 0100 4A99 1748 E4AF 0B00 0100 0000 E601 0000 6000 0000  
0020:1138 FFFF 0000 0000 D9F1 6A02 0000 0000 0000 0000 FFFF FFFF 10FF 1000 D026 0501

Packet Raw Data:  
0000:0810 E6D0 0019 0005 0100 5EA9 F7CB 16F9 00A3 00A3 0000 0010 0000 0000 007B 560B

TP-0197 HIFI Reset Section 7.3 Step 68 Failed TC First 5,1 Event

Jun 02, 08 15:53

TMPH\_PRNT\_2008.154.15.53.53.112

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TM Packet Query Display  
=====

TM Packet Details  
-----

Mnemonic: (5,1)-0593      Description: Event Report - SDB HIFI Failed TC Second      Simulated: N

S/C ID: 486      G/S ID: 0      SLE ID: 0      OCC ID: 0      VCID: 0      HFA D/S: 65535

Data Unit Type: GOOD SP      Time Stamp Type: PG      Time Quality: G

APID: 16      SSC: 9938      Type: 5      Subtype: 1      PI1: 193      PI2: 193

SPID: 40593161      TPSD: -1      HFA Counter: 0      Filing: E      Distribution: E

Time Field: Y      Packet Period: 0 [msec]      CRC: ?      Event Severity: ?

TM Packet Parameter Data  
-----

Generation time: 2008.120.21.55.23.339      Reception time: 2008.120.21.55.23.754

TM Packet Raw Data  
-----

SCOS-2000 Header:

0000:0000 0000 4B99 1748 652F 0500 4B99 1748 8A82 0B00 0100 0000 E601 0000 6000 0000  
0020:1138 FFFF 0000 0000 0967 6B02 0000 0000 0000 0000 FFFF FFFF 10FF 1000 D226 0501

Packet Raw Data:

0000:0810 E6D2 0019 0005 0100 5EA9 F7CB 56FE 00C1 00C1 0000 0010 0000 0000 007C 4BFD

TP-0197 HIFI Reset Section 7.3 page 68 Failed TC Second 5,1 Event

Jun 02, 08 15:52

TMPH\_PRNT\_2008.154.15.52.40.458

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TM Packet Query Display

*HIFI Soft Reset*

*NCR-3958*

TM Packet Details

Mnemonic: ERROR REPORT Description: OBBCP\_Evt Hifi Off Simulated: N

S/C ID: 486 G/S ID: 0 SLE ID: 0 OCC ID: 0 VCID: 0 HFA D/S: 65535

Data Unit Type: GOOD SP Time Stamp Type: PG Time Quality: G

APID: 16 SSC: 9940 Type: 5 Subtype: 4 PI1: 12288 PI2: 0

SPID: 45400185 TPSD: -1 HFA Counter: 0 Filing: E Distribution: E

Time Field: Y Packet Period: 0 [msec] CRC: ? Event Severity: ?

TM Packet Parameter Data

Generation time: 2008.120.21.55.24.943 Reception time: 2008.120.21.55.28.757

TM Packet Raw Data

SCOS-2000 Header:

0000:0000 0000 4C99 1748 5267 0E00 5099 1748 588E 0B00 0100 0000 E601 0000 6000 0000

0020:1138 FFFF 0000 0000 79C0 B402 0000 0000 0000 0000 FFFF FFFF 10FF 1000 D426 0504

Packet Raw Data:

0000:0810 E6D4 0019 0005 0400 5EA9 F7CC F1A7 3001 0000 0000 0000 0000 0000 0000 6E40

*TP-0197 HIFI Reset Section 7.3 Step 68 HIFI Soft Reset S14 event*



Jun 02, 08 15:51

TMPH\_PRNT\_2008.154.15.51.38.571

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TM Packet Query Display  
=====

TM Packet Details  
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Mnemonic: ERROR REPORT Description: OBCP\_Evt Hifi Off Simulated: N

S/C ID: 486 G/S ID: 0 SLE ID: 0 OCC ID: 0 VCID: 0 HFA D/S: 65535

Data Unit Type: GOOD SP Time Stamp Type: PG Time Quality: G

APID: 16 SSC: 9953 Type: 5 Subtype: 4 PI1: 12288 PI2: 0

SPID: 45400185 TPSD: -1 HFA Counter: 1 Filing: E Distribution: E

Time Field: Y Packet Period: 0 [msec] CRC: ? Event Severity: ?

TM Packet Parameter Data  
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Generation time: 2008.120.21.55.50.944 Reception time: 2008.120.21.55.50.784

TM Packet Raw Data  
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SCOS-2000 Header:

0000:0000 0000 6699 1748 C168 0E00 6699 1748 52F9 0B00 0100 0000 E601 0000 6000 0000

0020:1138 FFFF 0100 0000 79C0 B402 0000 0000 0000 0000 FFFF FFFF 10FF 1000 E126 0504

Packet Raw Data:

0000:0810 E6E1 0019 0005 0400 5EA9 F7E6 F1BF 3000 0000 0000 0000 0000 0000 0000 5207

IP-0197 HIFI reset Section 7.3 Step 68 HIFI OFF 5/4 event

Jun 02, 08 15:49

TMPH\_PRNT\_2008.154.15.49.37.362

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TM Packet Query Display

TM Packet Details

Mnemonic: D\_EvRp0287 Description: Event 5-1 Unit Already Marked OFF Simulated: N

S/C ID: 486 G/S ID: 0 SLE ID: 0 OCC ID: 0 VCID: 0 HFA D/S: 65535

Data Unit Type: GOOD SP Time Stamp Type: PG Time Quality: G

APID: 16 SSC: 9984 Type: 5 Subtype: 1 PI1: 29720 PI2: 0

SPID: 40287170 TPSD: -1 HFA Counter: 0 Filing: E Distribution: E

Time Field: Y Packet Period: 0 [msec] CRC: ? Event Severity: ?

TM Packet Parameter Data

Generation time: 2008.120.21.56.09.023 Reception time: 2008.120.21.56.08.803

TM Packet Raw Data

SCOS-2000 Header:  
0000:0000 0000 7999 1748 E65A 0000 7899 1748 7F41 0C00 0100 0000 E601 0000 6000 0000  
0020:1138 FFFF 0000 0000 C2BB 6602 0000 0000 0000 0000 FFFF FFFF 10FF 1000 0027 0501

Packet Raw Data:  
0000:0810 E700 0019 0005 0100 5EA9 F7F9 05F5 7418 0000 030C 0000 0000 0000 007D 942F

TP-0197 HIFI Resub Section 7.3 Stage 68 ~~Unit~~ Unit Already Marked Off S1 over

Jun 02, 08 15:50

TMPH\_PRNT\_2008.154.15.50.32.341

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TM Packet Query Display  
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TM Packet Details  
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Mnemonic: D\_EvRp\_145      Description: Event 5-1 OBCP Ended      Simulated: N

S/C ID: 486      G/S ID: 0      SLE ID: 0      OCC ID: 0      VCID: 0      HFA D/S: 65535

Data Unit Type: GOOD SP      Time Stamp Type: PG      Time Quality: G

APID: 16      SSC: 10030      Type: 5      Subtype: 1      PI1: 27399      PI2: 0

SPID: 40145170      TPSD: -1      HFA Counter: 0      Filing: E      Distribution: E

Time Field: Y      Packet Period: 0 [msec]      CRC: ?      Event Severity: ?

TM Packet Parameter Data  
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Generation time: 2008.120.21.56.28.948      Reception time: 2008.120.21.56.28.824

TM Packet Raw Data  
-----

SCOS-2000 Header:

0000:0000 0000 8C99 1748 4C77 0E00 8C99 1748 C693 0C00 0100 0000 E601 0000 6000 0000

0020:1138 FFFF 0000 0000 1291 6402 0000 0000 0000 0000 FFFF FFFF 10FF 1000 2E27 0501

Packet Raw Data:

0000:0810 E72E 0019 0005 0100 5EA9 F80C F2B3 6B07 0000 130D 0000 0000 0000 0086 EA11

IP-0197 HFI Read Section 7.3 Step 68 OBCP END

FULL PRINTOUT FOR SATELLITE: HERSCHEL

STREAMS: 65535

TIME	--STREAM--	QUALITY	-----DEDZG161-----	-----DEDZZ161----
2008.120.21.55.06.198	65535	G	-----DEDZK161----- -----DEDZJ161----- -----DEDZH161-----	
11 Valid		Well	ON	We
2008.120.21.55.11.261	65535	G	Alive	
11 Valid		Well	ON	We
2008.120.21.56.15.261	65535	G	Alive	
ck Invalid		Well	OFF	Si
			Alive	

IP-0197 Section 7.3 Star NIF1 Reset

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
69.	<p>During Z010999MCVT134_IST_HIFI_FDIR</p> <p>"RECOVERY ACTION"</p> <p>⇒ Click the button "Confirm to continue"</p>	CONFIRM		CONFIRM		✓	
70. If HARD RESET	<p>During 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>	PASS OK		PASS OK		✓	
71. If SOFT RESET	<p>During 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>	PASS OK			N/A		

Test location: <i>ESTR</i>	Operator <i>S. Esler</i>	Product-Assurance: <i>B. Hoge</i> <i>BDP.</i>	Date: <i>29/4/08</i> <i>22.22</i>
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Doc. No: HP-2-ASED-TP-0197

Issue: 1

Date: 28/04/2008

File: HP-2-ASED-TP-0197\_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR%20BCP\_iss1\_last[1]

AS#6

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
72.	<p>During Z010999MCVT134_IST_HIFI_FDIR</p> <p>" Set the CDMU SCOE OFF LINE"</p> <p>On CDMS SCOE, select from menu: Mode → Off Line</p> <p>⇒ Perform activity and then click the button "OK" to proceed</p>	PASS OK		OK		✓	
73.	<p>During 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>	PASS OK		PASS OK		✓	
74.	<p>During D102159SCVT192_GET_EAT_REPORT</p> <p>⇒ Click the button "EndTS!" to proceed</p>	ENDTS		ENDTS		✓	

Test location: ESTEC	Operator S. ELSEY	Product-Assurance: B. HOGG <i>[Signature]</i>	Date: 29/4/08 22:28
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Doc. No: HP-2-ASED-TP-0197

Issue: 1

Date: 28/04/2008

File: HP-2-ASED-TP-0197\_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR%20OBCP\_iss1\_last[1]

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
75.	<p>During Z010999MCVT134_IST_HIFI_FDIR</p> <p>"RESET starting conditions"</p> <p>⇒ click the "confirm" to continue</p>	CONFIRM		CONFIRM		✓	
76.	<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		OK		✓	
77. If HARD RESET	<p>During Z010999MCVT134_IST_HIFI_FDIR</p> <p>"Switching HIFI ON"</p> <p>⇒ click the "CONFIRM" button to confirm</p>	CONFIRM		CONFIRM		✓	
78. If HARD RESET	<p>During Z102999SCVT014_ASDGEN_HIFIPWRON_P</p> <p>"script to switch HIFI on in .... conditions.....click NO to abort the sequence"</p> <p>⇒ click the "YES" button to confirm</p>	YES		YES	Refer to RD-3 for exact conditions and expected OOL.	✓	

Test location: <i>ESREC</i>	Operator <i>S. EISEN</i>	Product-Assurance: <i>B. HOGG</i> <i>PH</i>	Date: <i>29/4/08</i> <i>22.43</i>
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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
79. If HARD RESET	During Z102999SCVT014_ASDGEN_HIFIPWRON_P "Set SCBP back to the original?" ⇒ click the "YES" button	YES		NO	TC: CONFIRMS OK TO PROCEED	✓	
80.	During Z010999MCVT134_IST_HIFI_FDIR "Please terminate the sequence ALL_SubscribeParams.tcl" ⇒ Perform activity and then click the "OK" button to confirm	OK					
81.	During Z010999MCVT134_IST_HIFI_FDIR "End of HIFI Test" "check that all EATs are enabled" ⇒ Perform activity through D102159SCVT192_GET_EAT_REPORT and then click the "OK" button to confirm	PASS OK		PASS OK		✓	
82.	During D102159SCVT192_GET_EAT_REPORT ⇒ Click the button "EndTS!" to proceed	ENDTS		ENDTS		✓	

PAS 1c 18)

PAS 6 2)

Test location: ESTER	Operator S. ELSLEY	Product-Assurance: S. HOGG [Signature]	Date: 29/4/08 23:00
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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
83.	At end of Z010999MCVT134_IST_HIFI_FDIR ⇒ Click the button "End TS!" to proceed	ENDTS		ENDTS			✓

84. Perform PVS2 step 3 !

Test location: <i>ESTRIUM</i>	Operator <i>S. ELSLEY</i>	Product-Assurance: <i>B. HOGG</i> <i>BA.</i>	Date: <i>29/4/08</i> <i>23-29</i>
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Doc. No: HP-2-ASED-TP-0197

Issue: 1

Date: 28/04/2008

File: HP-2-ASED-TP-0197\_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR%20BCP\_iss1\_last[1]

7.4 PACS

Note: HPACSEGSE shall be already running since the script is going to connect to them!

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

PVS#7

Test location: ESTEL	Operator S. EISEN	Product-Assurance: B. HOGE	Date: 29/4/08 23:32
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Doc. No: HP-2-ASED-TP-0197

Issue: 1

Date: 28/04/2008

File: HP-2-ASED-TP-0197\_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR%20BCP\_iss1\_last[1]

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
87.	<p>During 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		OK	RD-3 for details.	✓	
88.	<p>During Z010999MCVT135_IST_PACS_FDIR</p> <p>"INITIAL S/C STATUS CHECK"</p> <p>⇒ Click the button "Confirm" to continue</p>	PASS		PASS CONFIRM		✓	
89.	<p>During Z010999MCVT153_IST_STATUS</p> <p>"Do you want to stop and notice each failure"</p> <p>⇒ Click the button "NO" to continue</p>	NO		NO		✓	

Test location: <i>ESTR</i>	Operator <i>S. EASLEY</i>	Product-Assurance: <i>B. HOGG B.D.</i>	Date: <i>29/4/08</i>	<i>2336</i>
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Doc. No: HP-2-ASED-TP-0197

Issue: 1

Date: 28/04/2008

File: HP-2-ASED-TP-0197\_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR%20OBCP\_iss1\_last[1]

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
90.	During Z010999MCVT153_IST_STATUS ⇨ Check the Satellite State ⇨ Click the button "OK" to continue	PASS OK		OK	Compare with AD-1 for chapter 5.8.13 of IST specification	✓	
91.	During Z010999MCVT135_IST_PACS_FDIR "Set SCBP to PACS Prime (4)" ⇨ Click the button "Confirm" to continue	CONFIRM		CONFIRM		✓	
92.	During Z010999MCVT135_IST_PACS_FDIR "upload and enable dummy MTL with PACS connection test in subschedule 90" ⇨ Click the button "Confirm" to continue	CONFIRM		CONFIRM	Open an On-Board Queue Display for monitoring the MTL status	✓	

Test location: <i>ESTR</i>	Operator <i>S. Esley</i>	Product-Assurance: <i>B. Hoge</i> <i>B.H.</i>	Date: <i>29/4/08</i> <i>23.37</i>
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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
93.	<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		PASS OK			✓
94.	<p><i>During</i> D102159SCVT125_IST_PACS_MTL_PING</p> <p>⇒ Click the button "EndTS!" to continue</p>	ENDTS		ENDTS			✓
95.	<p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</p> <p>"Check that the MTL contains one PC023280 (DPU_TEST_CONN) every 5 minutes for 10 hours in subshchedule 90"</p> <p>⇒ Click the button "OK" to continue</p>	PASS OK		PASS OK	120 TC's are put in the MTL.		✓

Test location: <i>ESTEC</i>	Operator: <i>S. ELSLEY</i>	Product-Assurance: <i>S. HOGG</i>	Date: <i>29/4/08</i> <i>23:41</i>
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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
96.	<p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</p> <p>"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>	OK		OK		✓	
97.	<p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</p> <p>"Wait for execution of the first command, then press OK"</p> <p>⇒ Click the button "OK" to continue</p>	OK		OK		✓	
98.	<p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</p> <p>"Put PACS in SCIENCE"</p> <p>⇒ Click the button "Confirm" to continue</p>	CONFIRM		CONFIRM		✓	

Test location: <i>ESTER</i>	Operator <i>S. EISEN</i>	Product-Assurance: <i>B. HOGE BH.</i>	Date: <i>29/4/08 23:55</i>
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Doc. No: HP-2-ASED-TP-0197

Issue: 1

Date: 28/04/2008

File: HP-2-ASED-TP-0197\_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR%20BCP\_iss1\_last[1]

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
99.	<p>During P102999SCVT904_ASDGENPACS_NomSpect</p> <p>"FM PACS Simulate Spectroscopy for test in ANY conditions - abort TS if not correct: Choose Yes or No"</p> <p>⇒ Click the button "Yes" to continue</p>	<p>YES</p> <p>Check that file in /HPCCS/VARIABLE/RESULTS/&lt;test_session&gt;/TMDUMP/ /&lt;date-time&gt;VC1.txt is increasing.</p>		YES	<p>Refer to RD-3 for current message and expected OOL.</p> <p>When PC012380 is sent proceed to next step Note: TC will remain pending until end of science</p>		
100.	<p>During Z010999MCVT135_IST_PACS_FDIR</p> <p>"TEST the PACS SAFE FDIR?"</p> <p>⇒ Click the button "Confirm to continue"</p>	CONFIRM		CONFIRM	<p>If SKIP, it continues at step 117.</p> <p>DB_OBCP_H_PACS_SAFE is the OBCP under test.</p>		
101.	<p>During Z010999MCVT135_IST_PACS_FDIR</p> <p>"Execute PACS SCRIPT FOR AUTONOMY FUNCTION 14?"</p> <p>⇒ Click the button "Confirm" to continue</p>	CONFIRM		CONFIRM			

23.59

Test location: ESTRUM	Operator S. ELSEN	Product-Assurance: B. HOGG	Date: 20/4/08
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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
102.	<p>During 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		OK	23.59	✓	
103.	<p>During 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>	<p>PM165380 (DP_EV_BOL_T_FPU) = Disabled</p>		DISABLED	00.02	✓	

Test location: ESTEC	Operator S. EISELY	Product-Assurance: B. HOGG	Date: 28/04/08	00002
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Doc. No: HP-2-ASED-TP-0197






Issue: 1

Date: 28/04/2008

File: HP-2-ASED-TP-0197\_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR%20OBCP\_iss1\_last[1]



Step-	Test-Step-Description	Nominal Value		Tolerance	Actual Value	Remarks	P	N
104.	<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> <ul style="list-style-type: none"> <li>⇒ PACS (APID=1152) is sending 3 event packets TM(5,2) EXCEPTION_REPORT_04 before OBCP Started event</li> <li>⇒ 2x TM(1,8) from APID 16 prior to OBCP start</li> <li>⇒ PM165380 (DP_EV_BOL_T_FPU) is enabled</li> <li>⇒ OBCP PACS_SAFE has been triggered – TM(5,1) with SPID 40148170 proclD 0x1208</li> <li>⇒ PM165380 (DP_EV_BOL_T_FPU) BOL_T_FPU is disabled again</li> <li>⇒ OBCP is OVER: TM(5,1) with SPID 40145170 proclD 0x1208</li> <li>⇒ Click the "OK" button to confirm</li> </ul>	PASS OK			OK	Apart from checking the OBCP start and end events against the Proc ID, the other checks can be done off-line.		

Test location: 	Operator 	Product-Assurance: 	Date:  
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Jun 02, 08 19:02

OBEH\_PRNT\_2008.154.19.02.56.604

On-Board Event History printout from time: 2008.121.00.02.32.000 to time: 2008.121.00.02.55.000  
Current printout time: 2008.154.19.02.56.602 Print view mode: BRIEF FILTER MODE: INACTIVE

Generation Time	Reception Time	VC	APID	SSC	EvID	Severity	TmT	TmQ	F	D	Message Text
2008.121.00.02.54.387	2008.121.00.02.54.814	0	16	12806	27399	NORM	PG	G	E	E	Event 5-1 OBCP Ended
2008.121.00.02.38.181	2008.121.02.53.10.766	0	1152	2162	4	WARN	PG	G	E	E	EXCEPTION_REPORT_0_4
2008.121.00.02.38.181	2008.121.02.51.58.679	0	1152	2162	4	WARN	PG	G	E	E	EXCEPTION_REPORT_0_4
2008.121.00.02.38.181	2008.121.00.02.41.798	0	1152	2162	4	WARN	PG	G	E	E	EXCEPTION_REPORT_0_4
2008.121.00.02.38.180	2008.121.00.02.41.798	0	1152	2161	22	NORM	PG	G	E	E	EVENT_REPORT_2_22
2008.121.00.02.38.179	2008.121.02.53.10.766	0	1152	2160	4	WARN	PG	G	E	E	EXCEPTION_REPORT_0_4
2008.121.00.02.38.179	2008.121.02.51.58.678	0	1152	2160	4	WARN	PG	G	E	E	EXCEPTION_REPORT_0_4
2008.121.00.02.38.179	2008.121.00.02.41.798	0	1152	2160	4	WARN	PG	G	E	E	EXCEPTION_REPORT_0_4
2008.121.00.02.38.179	2008.121.00.02.41.797	0	1152	2159	22	NORM	PG	G	E	E	EVENT_REPORT_2_22
2008.121.00.02.38.178	2008.121.02.53.10.759	0	1152	2158	4	WARN	PG	G	E	E	EXCEPTION_REPORT_0_4
2008.121.00.02.38.178	2008.121.02.51.58.676	0	1152	2158	4	WARN	PG	G	E	E	EXCEPTION_REPORT_0_4
2008.121.00.02.38.178	2008.121.00.02.38.794	0	1152	2158	4	WARN	PG	G	E	E	EXCEPTION_REPORT_0_4
2008.121.00.02.38.178	2008.121.00.02.38.794	0	1152	2157	22	NORM	PG	G	E	E	EVENT_REPORT_2_22
2008.121.00.02.38.145	2008.121.00.02.38.793	0	16	12793	26881	NORM	PG	G	E	E	Event 5-1 Subschedule Status Changed
2008.121.00.02.33.065	2008.121.00.02.33.797	0	16	12780	27402	NORM	PG	G	E	E	Event 5-1 OBCP Started
2008.121.00.02.32.114	2008.121.02.53.10.757	0	1152	2155	4	WARN	PG	G	E	E	EXCEPTION_REPORT_0_4
2008.121.00.02.32.114	2008.121.02.51.58.672	0	1152	2155	4	WARN	PG	G	E	E	EXCEPTION_REPORT_0_4
2008.121.00.02.32.114	2008.121.00.02.33.798	0	1152	2155	4	WARN	PG	G	E	E	EXCEPTION_REPORT_0_4
2008.121.00.02.32.114	2008.121.00.02.33.798	0	1152	2154	22	NORM	PG	G	E	E	EVENT_REPORT_2_22
2008.121.00.02.32.113	2008.121.02.53.10.756	0	1152	2153	4	WARN	PG	G	E	E	EXCEPTION_REPORT_0_4
2008.121.00.02.32.113	2008.121.02.51.58.671	0	1152	2153	4	WARN	PG	G	E	E	EXCEPTION_REPORT_0_4
2008.121.00.02.32.113	2008.121.00.02.33.797	0	1152	2153	4	WARN	PG	G	E	E	EXCEPTION_REPORT_0_4
2008.121.00.02.32.113	2008.121.00.02.33.797	0	1152	2152	22	NORM	PG	G	E	E	EVENT_REPORT_2_22
2008.121.00.02.32.112	2008.121.02.53.10.756	0	1152	2151	4	WARN	PG	G	E	E	EXCEPTION_REPORT_0_4
2008.121.00.02.32.112	2008.121.02.51.58.671	0	1152	2151	4	WARN	PG	G	E	E	EXCEPTION_REPORT_0_4
2008.121.00.02.32.112	2008.121.00.02.33.784	0	1152	2151	4	WARN	PG	G	E	E	EXCEPTION_REPORT_0_4
2008.121.00.02.32.112	2008.121.00.02.33.784	0	1152	2150	22	NORM	PG	G	E	E	EVENT_REPORT_2_22

IP-0197 PRCs SAK Section 7.4 Stop 104, OBEH

Jun 02, 08 19:11

TMPH\_PRNT\_2008.154.19.11.57.793

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TM Packet Query Display

TM Packet Details

Mnemonic: D\_EvRp\_148 Description: Event 5-1 OBCP Started Simulated: N

S/C ID: 486 G/S ID: 0 SLE ID: 0 OCC ID: 0 VCID: 0 HFA D/S: 65535

Data Unit Type: GOOD SP Time Stamp Type: PG Time Quality: G

APID: 16 SSC: 12780 Type: 5 Subtype: 1 PI1: 27402 PI2: 0

SPID: 40148170 TPSD: -1 HFA Counter: 1 Filing: E Distribution: E

Time Field: Y Packet Period: 0 [msec] CRC: ? Event Severity: ?

TM Packet Parameter Data

Generation time: 2008.121.00.02.33.065 Reception time: 2008.121.00.02.33.797

TM Packet Raw Data

SCOS-2000 Header:

0000:0000 0000 19B7 1748 59FF 0000 19B7 1748 DF2C 0C00 0100 0000 E601 0000 6000 0000

0020:1138 FFFF 0100 0000 CA9C 6402 0000 0000 0000 0000 FFFF FFFF 10FF 1000 EC31 0501

Packet Raw Data:

0000:0810 F1EC 0019 0005 0100 5EAA 1599 10BC 6B0A 0000 1208 0000 0000 0000 00A1 6463

TR-0197 Pass SAFE Section 7.4 Stapler OBCP Start 5.1

Jun 02, 08 18:46

TMPH\_PRNT\_2008.154.18.46.47.476

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TM Packet Query Display  
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TM Packet Details  
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Mnemonic: D\_EvRp\_145      Description: Event 5-1 OBCP Ended      Simulated: N

S/C ID: 486      G/S ID: 0      SLE ID: 0      OCC ID: 0      VCID: 0      HFA D/S: 65535

Data Unit Type: GOOD SP      Time Stamp Type: PG      Time Quality: G

APID: 16      SSC: 14195      Type: 5      Subtype: 1      PI1: 27399      PI2: 0

SPID: 40145170      TPSD: -1      HFA Counter: 3      Filing: E      Distribution: E

Time Field: Y      Packet Period: 0 [msec]      CRC: ?      Event Severity: ?

TM Packet Parameter Data  
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Generation time: 2008.121.00.46.57.551      Reception time: 2008.121.00.46.59.165

TM Packet Raw Data  
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SCOS-2000 Header:

0000:0000 0000 81C1 1748 FB68 0800 83C1 1748 5088 0200 0100 0000 E601 0000 6000 0000

0020:1138 FFFF 0300 0000 1291 6402 0000 0000 0000 0000 FFFF FFFF 10FF 1000 7337 0501

Packet Raw Data:

0000:0810 F773 0019 0005 0100 5EAA 2001 8D19 6B07 0000 120C 0000 0000 0000 00C0 0101

TR-0197 PASS SAFE Section 7.4. Stop 104. OBCP Ended. S.1.

Step-	Test-Step-Description	Nominal Value		Tolerance	Actual Value	Remarks	P	N
105.	<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>⇒ Perform activity and then click the "OK" button to confirm</p>	<p>Subschedule</p> <p>80 OFF</p> <p>90 OFF</p> <p>OK</p>			<p>OFF</p> <p>OFF</p> <p>OK</p>		✓	
106.	<p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</p> <p><i>"RECOVERY ACTION"</i></p> <p>⇒ Click the button "Confirm" to continue</p>	<p>CONFIRM</p>			<p>CONFIRM</p>		✓	
107.	<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>⇒ Perform activity and then click the "OK" button to confirm</p>	<p>PASS</p> <p>OK</p>			<p>OK</p>		✓	

Test location: <i>ESTER</i>	Operator <i>S. ELSNER</i>	Product-Assurance: <i>B. HOGGE</i> <i>SHU.</i>	Date: <i>28/04/08</i> <i>00:07</i>
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Doc. No: HP-2-ASED-TP-0197

Issue: 1

Date: 28/04/2008

File: HP-2-ASED-TP-0197\_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR%20BCP\_iss1\_last[1]

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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
108.	<p>During 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>	PASS OK		OK			✓
109.	<p>During 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>	PACS Gnd-LoPrio DISABLED		DISABLED			✓
110.	<p>During 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>	PASS OK		OK			✓

Test location: ESTEL	Operator S. ELSNER	Product-Assurance: B. HOGGE BDI.	Date: 20 29/4/08 0007
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Doc. No: HP-2-ASED-TP-0197

Issue: 1

Date: 28/04/2008

File: HP-2-ASED-TP-0197\_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR%20BCP\_iss1\_last[1]

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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
111.	<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>	PACS Gnd-LoPrio ENABLED		ENABLED			
112.	<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>	subschemas 80 OFF 90 ON		OFF ON			

Test location: <i>ESTEC</i>	Operator <i>S. Essey</i>	Product-Assurance: <i>B. HOGRE BH.</i>	Date: <i>28/4/08</i> <i>00:11</i>
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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
113.	<p>During Z010999MCVT135_IST_PACS_FDIR</p> <p>"End of PACS SAFE OBCP 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		OK			✓
114.	<p>During D102159SCVT192_GET_EAT_REPORT</p> <p>⇒ Click the button "EndTS!" to proceed</p>	ENDTS		ENDTS			✓
115.	<p>During P102999SCVT904_ASDGENPACS_NomSpect</p> <p>"FM PACS Simulate Spectroscopy for test in ANY conditions - abort TS if not correct: Choose Yes or No"</p> <p>⇒ Click the button "Yes" to confirm</p>	<p>YES</p> <p>Check that file in /HPCCS/VARIABLE/RESULTS/ &lt;test_session&gt;/TMDUMP/ /&lt;date-time&gt;VC1.txt is increasing.</p>		YES	<p>Refer to RD-3 for current message and expected OOL.</p> <p>When PC012380 is sent proceed to next step Note: TC will remain pending until end of science</p>		✓

Test location: <i>ESTEL</i>	Operator: <i>S. Eisen</i>	Product-Assurance: <i>R. HOGGE RJA.</i>	Date: <i>30/4/08 00:14</i>
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PVS 1c

Step-	Test-Step-Description	Nominal Value		Tolerance	Actual Value	Remarks	P	N
116.	During P102999SCVT904_ASDGENPACS_NomSpect  "Set PACS(4) as active bus profile?"  ⇒ Click the button "Yes" to confirm	YES						✓
117.	During Z010999MCVT135_IST_PACS_FDIR  "TEST the PACS POWER CYCLE OBCP?"  ⇒ Click the button "Confirm" to continue	CONFIRM			CONFIRM	If SKIP, it continues at step 134.  DB_OBCP_H_PACS_POWER_CYCLE is the OBCP under test.		✓
118.	During Z010999MCVT135_IST_PACS_FDIR  "TRIGGER OBCP WITH START TC"  ⇒ Click the button "Confirm to continue"	CONFIRM			CONFIRM			✓
119.	Z010999MCVT135_IST_PACS_FDIR  "Filter a TMPKT history for TM(5,1)"  ⇒ Check script name and then click the button "OK" to confirm	PASS OK			OK			✓

Test location: ESTEC	Operator S. ELSEN	Product-Assurance: R. HOGGE <i>R.H.</i>	Date: 30/4/08	0018
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Doc. No: HP-2-ASED-TP-0197

Issue: 1

Date: 28/04/2008

File: HP-2-ASED-TP-0197\_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR%20OBCP\_iss1\_last[1]

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Step-	Test-Step-Description	Nominal Value		Tolerance	Actual Value	Remarks	P	N
120.	<p>During 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			OK			

Test location: <i>ESTR</i>	Operator <i>S. EISEN</i>	Product-Assurance: <i>B. HOGG</i>	Date: <i>30/4/08</i>	<i>00:18:22</i>
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Doc. No: HP-2-ASED-TP-0197

Issue: 1

Date: 28/04/2008

File: HP-2-ASED-TP-0197\_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR%20BCP\_iss1\_last[1]

Step-	Test-Step-Description	Nominal Value		Tolerance	Actual Value	Remarks	P	N
121.	<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			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		

Test location: <i>ESTEC</i>	Operator <i>S. EISEN</i>	Product-Assurance: <i>B. HOGG</i>	Date: <i>30/4/08</i> <i>00:30</i>
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Doc. No: HP-2-ASED-TP-0197

Issue: 1

Date: 28/04/2008

File: HP-2-ASED-TP-0197\_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR%20OBCP\_iss1\_last[1]

Jun 02, 08 19:04

OBEH\_PRNT\_2008.154.19.04.49.987

On-Board Event History printout from time: 2008.121.00.18.22.000 to time: 2008.121.00.26.51.000  
Current printout time: 2008.154.19.04.49.986 Print view mode: BRIEF FILTER MODE: INACTIVE

Generation Time	Reception Time	VC	APID	SSC	EvID	Severity	TmT	TmQ	F	D	Message Text
2008.121.00.26.50.535	2008.121.00.26.51.912	0	16	13575	27399	NORM	PG	G	E	E	Event 5-1 OBCP Ended
2008.121.00.26.37.776	2008.121.00.26.37.884	0	2020	3371	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2008.121.00.26.26.531	2008.121.02.53.18.759	0	16	13541	12288	ALARM	PG	G	E	E	OBCP_Evt Hifi Off
2008.121.00.26.26.531	2008.121.02.52.06.678	0	16	13541	12288	ALARM	PG	G	E	E	OBCP_Evt Hifi Off
2008.121.00.26.26.531	2008.121.00.26.26.875	0	16	13541	12288	ALARM	PG	G	E	E	OBCP_Evt Hifi Off
2008.121.00.26.25.776 FCmod0x40	2008.121.00.26.25.872	0	2020	3368	238	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00EE - VCFC Time datation for VC0-VC
2008.121.00.25.53.427	2008.121.00.25.54.832	0	1152	50	10	NORM	PG	G	E	E	EVENT_REPORT_0_10
2008.121.00.25.49.404	2008.121.00.25.52.827	0	1152	47	14	NORM	PG	G	E	E	EVENT_REPORT_0_14
2008.121.00.25.44.778	2008.121.00.25.45.817	0	1152	42	28	NORM	PG	G	E	E	EVENT_REPORT_5_28
2008.121.00.25.40.778	2008.121.00.25.42.812	0	1152	38	28	NORM	PG	G	E	E	EVENT_REPORT_5_28
2008.121.00.24.28.972	2008.121.00.24.30.198	0	1152	18	20	NORM	PG	G	E	E	EVENT_REPORT_0_20
2008.121.00.23.56.147	2008.121.00.23.56.147	0	1152	1	33041	NORM	PR	N	E	E	EVENT_REPORT_3_33041
2008.121.00.23.47.137	2008.121.00.23.47.138	0	1152	0	32776	NORM	PR	N	E	E	EVENT_REPORT_3_32776
2008.121.00.23.34.289	2008.121.00.23.35.119	0	16	13440	29186	NORM	PG	G	E	E	Event 5-1 Class A Temperature Anomaly Ended
2008.121.00.23.14.994	2008.121.00.23.15.094	0	2020	3348	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2008.121.00.23.03.979 FCmod0x40	2008.121.00.23.04.074	0	2020	3346	238	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00EE - VCFC Time datation for VC0-VC
2008.121.00.21.34.291	2008.121.00.21.37.951	0	16	13403	29185	NORM	PG	G	E	E	Event 5-1 Class A Temperature Anomaly
2008.121.00.19.43.448	2008.121.00.19.43.532	0	2020	3325	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2008.121.00.19.34.289	2008.121.00.19.38.779	0	16	13366	29186	NORM	PG	G	E	E	Event 5-1 Class A Temperature Anomaly Ended
2008.121.00.19.32.526	2008.121.02.53.18.758	0	16	13365	12288	ALARM	PG	G	E	E	OBCP_Evt Hifi Off
2008.121.00.19.32.526	2008.121.02.52.06.677	0	16	13365	12288	ALARM	PG	G	E	E	OBCP_Evt Hifi Off
2008.121.00.19.32.526	2008.121.00.19.34.776	0	16	13365	12288	ALARM	PG	G	E	E	OBCP_Evt Hifi Off
2008.121.00.19.31.647	2008.121.00.19.34.776	0	16	13362	29720	NORM	PG	G	E	E	Event 5-1 Unit Already Marked OFF
2008.121.00.19.30.647	2008.121.00.19.30.770	0	16	13357	29720	NORM	PG	G	E	E	Event 5-1 Unit Already Marked OFF
2008.121.00.19.29.646	2008.121.00.19.30.769	0	16	13353	29720	NORM	PG	G	E	E	Event 5-1 Unit Already Marked OFF
2008.121.00.19.14.651 FCmod0x40	2008.121.00.19.14.745	0	2020	3321	238	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00EE - VCFC Time datation for VC0-VC
2008.121.00.19.11.525	2008.121.02.53.18.758	0	16	13314	12288	ALARM	PG	G	E	E	OBCP_Evt Hifi Off

TR-0197 Pass Pwr Cycle Sedhon 7-4 Sep 12 0854 242

Jun 02, 08 19:04

OBEH\_PRNT\_2008.154.19.04.49.987

2008.121.00.19.11.525	2008.121.02.52.06.676	0	16	13314	12288	ALARM	PG	G	E	E	OBCP_Evt Hifi Off
2008.121.00.19.11.525	2008.121.00.19.11.742	0	16	13314	12288	ALARM	PG	G	E	E	OBCP_Evt Hifi Off
2008.121.00.18.34.294	2008.121.00.18.37.182	0	16	13278	29185	NORM	PG	G	E	E	Event 5-1 Class A Temperature Anomaly
2008.121.00.18.25.648	2008.121.00.18.27.168	0	16	13270	26881	NORM	PG	G	E	E	Event 5-1 Subschedule Status Changed
2008.121.00.18.22.524	2008.121.00.18.23.163	0	16	13263	27402	NORM	PG	G	E	E	Event 5-1 OBCP Started

TP-0197 PRCs PwC Cycle Section 7.4 SHD 121 056M 1 of 2

Jun 02, 08 18:54

TMPH\_PRNT\_2008.154.18.54.40.375

TM Packet Query Display  
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TM Packet Details  
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Mnemonic: D\_EvRp\_148      Description: Event 5-1 OBCP Started      Simulated: N

S/C ID: 486      G/S ID: 0      SLE ID: 0      OCC ID: 0      VCID: 0      HFA D/S: 65535

Data Unit Type: GOOD SP      Time Stamp Type: PG      Time Quality: G

APID: 16      SSC: 13263      Type: 5      Subtype: 1      PI1: 27402      PI2: 0

SPID: 40148170      TPSD: -1      HFA Counter: 2      Filing: E      Distribution: E

Time Field: Y      Packet Period: 0 [msec]      CRC: ?      Event Severity: ?

TM Packet Parameter Data  
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Generation time: 2008.121.00.18.22.524      Reception time: 2008.121.00.18.23.163

TM Packet Raw Data  
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SCOS-2000 Header:

0000:0000 0000 CEBA 1748 6000 0800 CFBA 1748 D57F 0200 0100 0000 E601 0000 6000 0000

0020:1138 FFFF 0200 0000 CA9C 6402 0000 0000 0000 0000 FFFF FFFF 10FF 1000 CF33 0501

Packet Raw Data:

0000:0810 F3CF 0019 0005 0100 5EAA 194E 863E 6B0A 0000 120A 0000 0000 0000 00AE BE8B

TP-0197 PACE RVE C-121 Section 7 of Sep 121 OBCP Stat 5,1

Jun 02, 08 18:53

TMPH\_PRNT\_2008.154.18.53.48.783

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TM Packet Query Display

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TM Packet Details

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Mnemonic: D\_EvRp\_145 Description: Event 5-1 OBCP Ended Simulated: N

S/C ID: 486 G/S ID: 0 SLE ID: 0 OCC ID: 0 VCID: 0 HFA D/S: 65535

Data Unit Type: GOOD SP Time Stamp Type: PG Time Quality: G

APID: 16 SSC: 13575 Type: 5 Subtype: 1 P11: 27399 P12: 0

SPID: 40145170 TPSD: -1 HFA Counter: 2 Filing: E Distribution: E

Time Field: Y Packet Period: 0 [msec] CRC: ? Event Severity: ?

TM Packet Parameter Data

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Generation time: 2008.121.00.26.50.535 Reception time: 2008.121.00.26.51.912

TM Packet Raw Data

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SCOS-2000 Header:

0000:0000 0000 CAB3 1748 842A 0800 CBBC 1748 67EC 0D00 0100 0000 E601 0000 6000 0000

0020:1138 FFFF 0200 0000 1291 6402 0000 0000 0000 0000 FFFF FFFF 10FF 1000 0735 0501

Packet Raw Data:

0000:0810 F507 0019 0005 0100 5EAA 1B4A 8901 6B07 0000 120A 0000 0000 0000 00B7 5BBD

TP-0197 Pcs File Case Section 7.4 August 21 OBCP End. S.1

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

Test location: <i>ESTER</i>	Operator: <i>S. ESTERUM</i>	Product-Assurance: <i>B. HOGGE</i> <i>B.H.</i>	Date: <i>20/04/08</i> <i>0039</i>
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Doc. No: HP-2-ASED-TP-0197

Issue: 1

Date: 28/04/2008

File: HP-2-ASED-TP-0197\_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR%20BCP\_iss1\_last[1]



Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
125.	<p>During 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>	PASS  OK		OK			✓
126.	<p>During 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>	PACS Gnd-LoPrio DISABLED OK		DISABLED			✓
127.	<p>During 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>	PASS  OK		OK			✓

Test location: <i>ESTEC</i>	Operator <i>S. Elsen</i>	Product-Assurance: <i>B. HOGG</i> <i>BDI</i>	Date: <i>30/4/08</i> <i>00:40</i>
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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
128.	<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 OK</p>		ENABLED			✓
129.	<p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</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>		<p>OFF ON OK</p>			✓

Test location: <i>ESK</i>	Operator <i>S. GILLY</i>	Product-Assurance: <i>B. HOGG</i>	Date: <i>30/4/08</i>	<i>00.43</i>
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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
130.	<p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</p> <p>"End of PACS POWER CYCLE 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		OK			
131.	<p><i>During</i> D102159SCVT192_GET_EAT_REPORT</p> <p>⇒ Click the button "EndTS!" to proceed</p>	ENDTS		ENDTS			
132.	<p><i>During</i> P102999SCVT904_ASDGENPACS_NomSpect</p> <p>"FM PACS Simulate Spectroscopy for test in ANY conditions - abort TS if not correct: Choose Yes or No"</p> <p>⇒ Click the button "Yes" to confirm</p>	<p>Check that file in /HPCCS/VARIABLE/RESULTS/ &lt;test_session&gt;/TMDUMP/ /&lt;date-time&gt;VC1.txt is increasing.</p> <p>YES</p>		YES	<p>Refer to RD-3 for current message and expected OOL.</p> <p>When PC012380 is sent proceed to next step Note: TC will remain pending until end of science</p>		

Test location: <b>ESTEC</b>	Operator <b>S. ESLEY</b>	Product-Assurance: <b>B. Hoog B.H.</b>	Date: <b>30/4/08</b> <b>00.44</b>
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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
133.	<i>During</i> <i>P102999SCVT904_ASDGENPACS_NomSpect</i> "Set PACS(4) as active" ⇨ Click the button "Yes" to confirm	CONFIRM					
134.	<i>During</i> <i>Z010999MCVT135_IST_PACS_FDIR</i> "PACS NORMAL OFF OBCP" ⇨ Click the button "Confirm" to continue	CONFIRM		CONFIRM	If SKIP, it continues at step 156. DB_OBCP_H_PACS_NORMAL_OFF is the OBCP under test.		
135.	<i>During</i> <i>Z010999MCVT135_IST_PACS_FDIR</i> "Execute PACS SCRIPT FOR AUTONOMY FUNCTION 17?" ⇨ Click the button "Confirm" to continue	CONFIRM		CONFIRM			

AS 1c 2c)

Test location: <i>ESL</i>	Operator <i>S. Euseby</i>	Product-Assurance: <i>B. Hoge</i>	Date: <i>30/4/08</i>	<i>00.45</i>
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Doc. No: HP-2-ASED-TP-0197

Issue: 1

Date: 28/04/2008

File: HP-2-ASED-TP-0197\_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR%20OBCP\_iss1\_last[1]

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
136.	<p>During 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		OK	If script is not correct, abort the test sequence		

Test location: <i>ESL</i>	Operator <i>S. GILLEY</i>	Product-Assurance: <i>B. HOGG BH.</i>	Date: <i>30/4/08 00:45</i>
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Doc. No: HP-2-ASED-TP-0197



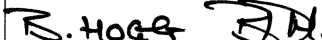

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Issue: 1

Date: 28/04/2008

File: HP-2-ASED-TP-0197\_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR%20BCP\_iss1\_last[1]

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
137.	<p>During Z010999MCVT135_IST_PACS_FDIR At the prompt:</p> <p>"Wait until the end of the OBCP TM(5,1) with SPID 40145170 proclD 0x120C" Check that:</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>	PASS  OK		OK	Apart from start and end events checks, the other can be done offline.		/

Test location: 	Operator 	Product-Assurance: 	Date: 30/4/08 
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Jun 02, 08 19:06

OBEH\_PRNT\_2008.154.19.06.26.868

On-Board Event History printout from time: 2008.121.00.45.45.000 to time: 2008.121.00.46.58.000  
Current printout time: 2008.154.19.06.26.866 Print view mode: BRIEF FILTER MODE: INACTIVE

Generation Time	Reception Time	VC	APID	SSC	EvID	Severity	TmT	TmQ	F	D	Message Text
2008.121.00.46.57.551	2008.121.00.46.59.165	0	16	14195	27399	NORM	PG	G	E	E	Event 5-1 OBCP Ended
2008.121.00.46.54.547	2008.121.02.53.30.779	0	16	14189	12288	ALARM	PG	G	E	E	OBCP_Evt Hifi Off
2008.121.00.46.54.547	2008.121.02.52.18.693	0	16	14189	12288	ALARM	PG	G	E	E	OBCP_Evt Hifi Off
2008.121.00.46.54.547	2008.121.00.46.56.161	0	16	14189	12288	ALARM	PG	G	E	E	OBCP_Evt Hifi Off
2008.121.00.46.34.547	2008.121.02.53.30.778	0	16	14142	12288	ALARM	PG	G	E	E	OBCP_Evt Hifi Off
2008.121.00.46.34.547	2008.121.02.52.18.692	0	16	14142	12288	ALARM	PG	G	E	E	OBCP_Evt Hifi Off
2008.121.00.46.34.547	2008.121.00.46.35.134	0	16	14142	12288	ALARM	PG	G	E	E	OBCP_Evt Hifi Off
2008.121.00.46.10.979	2008.121.00.46.11.101	0	2020	3536	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2008.121.00.45.51.153	2008.121.02.53.30.778	0	1152	281	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25
2008.121.00.45.51.153	2008.121.02.52.18.692	0	1152	281	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25
2008.121.00.45.51.153	2008.121.00.45.55.074	0	1152	281	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25
2008.121.00.45.51.153	2008.121.00.45.55.073	0	1152	280	22	NORM	PG	G	E	E	EVENT_REPORT_2_22
2008.121.00.45.51.152	2008.121.02.53.30.777	0	1152	279	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25
2008.121.00.45.51.152	2008.121.02.52.18.692	0	1152	279	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25
2008.121.00.45.51.152	2008.121.00.45.55.073	0	1152	279	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25
2008.121.00.45.51.152	2008.121.00.45.55.073	0	1152	278	22	NORM	PG	G	E	E	EVENT_REPORT_2_22
2008.121.00.45.51.151	2008.121.02.53.30.776	0	1152	277	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25
2008.121.00.45.51.151	2008.121.02.52.18.692	0	1152	277	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25
2008.121.00.45.51.151	2008.121.00.45.53.075	0	1152	277	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25
2008.121.00.45.51.150	2008.121.00.45.53.075	0	1152	276	22	NORM	PG	G	E	E	EVENT_REPORT_2_22
2008.121.00.45.51.149	2008.121.02.53.30.776	0	1152	275	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25
2008.121.00.45.51.149	2008.121.02.52.18.691	0	1152	275	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25
2008.121.00.45.51.149	2008.121.00.45.53.075	0	1152	275	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25
2008.121.00.45.51.149	2008.121.00.45.53.074	0	1152	274	22	NORM	PG	G	E	E	EVENT_REPORT_2_22
2008.121.00.45.51.148	2008.121.02.53.26.784	0	1152	273	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25
2008.121.00.45.51.148	2008.121.02.52.14.705	0	1152	273	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25
2008.121.00.45.51.148	2008.121.00.45.53.074	0	1152	273	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25

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2008.121.00.45.51.148	2008.121.00.45.53.073	0	1152	272	22	NORM	PG	G	E	E	EVENT_REPORT_2_22
2008.121.00.45.51.147	2008.121.02.53.26.783	0	1152	271	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25
2008.121.00.45.51.147	2008.121.02.52.14.705	0	1152	271	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25
2008.121.00.45.51.147	2008.121.00.45.53.073	0	1152	271	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25
2008.121.00.45.51.147	2008.121.00.45.53.073	0	1152	270	22	NORM	PG	G	E	E	EVENT_REPORT_2_22
2008.121.00.45.51.145	2008.121.02.53.26.782	0	1152	269	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25
2008.121.00.45.51.145	2008.121.02.52.14.704	0	1152	269	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25
2008.121.00.45.51.145	2008.121.00.45.53.072	0	1152	269	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25
2008.121.00.45.51.145	2008.121.00.45.53.072	0	1152	268	22	NORM	PG	G	E	E	EVENT_REPORT_2_22
2008.121.00.45.51.144	2008.121.02.53.26.782	0	1152	267	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25
2008.121.00.45.51.144	2008.121.02.52.14.704	0	1152	267	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25
2008.121.00.45.51.144	2008.121.00.45.53.072	0	1152	267	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25
2008.121.00.45.51.144	2008.121.00.45.53.072	0	1152	266	22	NORM	PG	G	E	E	EVENT_REPORT_2_22
2008.121.00.45.51.143	2008.121.02.53.26.781	0	1152	265	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25
2008.121.00.45.51.143	2008.121.02.52.14.702	0	1152	265	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25
2008.121.00.45.51.143	2008.121.00.45.53.072	0	1152	265	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25
2008.121.00.45.51.143	2008.121.00.45.53.072	0	1152	264	22	NORM	PG	G	E	E	EVENT_REPORT_2_22
2008.121.00.45.51.142	2008.121.02.53.26.781	0	1152	263	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25
2008.121.00.45.51.142	2008.121.02.52.14.693	0	1152	263	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25
2008.121.00.45.51.142	2008.121.00.45.53.071	0	1152	263	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25
2008.121.00.45.51.142	2008.121.00.45.53.071	0	1152	262	22	NORM	PG	G	E	E	EVENT_REPORT_2_22
2008.121.00.45.51.140	2008.121.02.53.26.780	0	1152	261	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25
2008.121.00.45.51.140	2008.121.02.52.14.692	0	1152	261	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25
2008.121.00.45.51.140	2008.121.00.45.52.078	0	1152	261	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25
2008.121.00.45.51.140	2008.121.00.45.52.078	0	1152	260	22	NORM	PG	G	E	E	EVENT_REPORT_2_22

On-Board Event History printout from time: 2008.121.00.45.45.000 to time: 2008.121.00.46.58.000  
Current printout time: 2008.154.19.06.26.866 Print view mode: BRIEF FILTER MODE: INACTIVE

Generation Time	Reception Time	VC	APID	SSC	EvID	Severity	TmT	TmQ	F	D	Message Text
2008.121.00.45.51.139	2008.121.02.53.26.780	0	1152	259	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25

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2008.121.00.45.51.139	2008.121.02.52.14.692	0	1152	259	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25
2008.121.00.45.51.139	2008.121.00.45.52.078	0	1152	259	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25
2008.121.00.45.51.139	2008.121.00.45.52.078	0	1152	258	22	NORM	PG	G	E	E	EVENT_REPORT_2_22
2008.121.00.45.51.138	2008.121.02.53.26.779	0	1152	257	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25
2008.121.00.45.51.138	2008.121.02.52.14.691	0	1152	257	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25
2008.121.00.45.51.138	2008.121.00.45.52.077	0	1152	257	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25
2008.121.00.45.51.138	2008.121.00.45.52.077	0	1152	256	22	NORM	PG	G	E	E	EVENT_REPORT_2_22
2008.121.00.45.51.136	2008.121.02.53.26.778	0	1152	255	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25
2008.121.00.45.51.136	2008.121.02.52.14.691	0	1152	255	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25
2008.121.00.45.51.136	2008.121.00.45.52.077	0	1152	255	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25
2008.121.00.45.51.136	2008.121.00.45.52.077	0	1152	254	22	NORM	PG	G	E	E	EVENT_REPORT_2_22
2008.121.00.45.51.135	2008.121.02.53.26.772	0	1152	253	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25
2008.121.00.45.51.135	2008.121.02.52.14.690	0	1152	253	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25
2008.121.00.45.51.135	2008.121.00.45.52.076	0	1152	253	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25
2008.121.00.45.51.135	2008.121.00.45.52.076	0	1152	252	22	NORM	PG	G	E	E	EVENT_REPORT_2_22
2008.121.00.45.51.133	2008.121.02.53.26.771	0	1152	251	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25
2008.121.00.45.51.133	2008.121.02.52.14.690	0	1152	251	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25
2008.121.00.45.51.133	2008.121.00.45.52.075	0	1152	251	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25
2008.121.00.45.51.133	2008.121.00.45.52.075	0	1152	250	22	NORM	PG	G	E	E	EVENT_REPORT_2_22
2008.121.00.45.51.132	2008.121.02.53.26.771	0	1152	249	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25
2008.121.00.45.51.132	2008.121.02.52.14.689	0	1152	249	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25
2008.121.00.45.51.132	2008.121.00.45.52.074	0	1152	249	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25
2008.121.00.45.51.132	2008.121.00.45.52.073	0	1152	248	22	NORM	PG	G	E	E	EVENT_REPORT_2_22
2008.121.00.45.47.642	2008.121.00.45.51.068	0	16	14099	26881	NORM	PG	G	E	E	Event 5-1 Subschedule Status Changed
2008.121.00.45.45.546	2008.121.00.45.46.066	0	16	14092	27402	NORM	PG	G	E	E	Event 5-1 OBCP Started
2008.121.00.45.45.043	2008.121.02.53.26.770	0	1152	247	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25
2008.121.00.45.45.043	2008.121.02.52.14.689	0	1152	247	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25
2008.121.00.45.45.043	2008.121.00.45.47.068	0	1152	247	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25
2008.121.00.45.45.043	2008.121.00.45.47.068	0	1152	246	22	NORM	PG	G	E	E	EVENT_REPORT_2_22
2008.121.00.45.45.042	2008.121.02.53.26.770	0	1152	245	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25

TR-0197 PACS NORMAL OFF Sation 7.4 Stage 137 UREA 193

Jun 02, 08 18:49

TMPH\_PRNT\_2008.154.18.49.22.429

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TM Packet Query Display  
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TM Packet Details  
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Mnemonic: D\_EvRp\_148 Description: Event 5-1 OBCP Started Simulated: N

S/C ID: 486 G/S ID: 0 SLE ID: 0 OCC ID: 0 VCID: 0 HFA D/S: 65535

Data Unit Type: GOOD SP Time Stamp Type: PG Time Quality: G

APID: 16 SSC: 14092 Type: 5 Subtype: 1 PI1: 27402 PI2: 0

SPID: 40148170 TPSD: -1 HFA Counter: 3 Filing: E Distribution: E

Time Field: Y Packet Period: 0 [msec] CRC: ? Event Severity: ?

TM Packet Parameter Data  
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Generation time: 2008.121.00.45.45.546 Reception time: 2008.121.00.45.46.066

TM Packet Raw Data  
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SCOS-2000 Header:

0000:0000 0000 39C1 1748 6E55 0800 3AC1 1748 2C04 0100 0100 0000 E601 0000 6000 0000

0020:1138 FFFF 0300 0000 CA9C 6402 0000 0000 0000 0000 FFFF FFFF 10FF 1000 0C37 0501

Packet Raw Data:

0000:0810 F70C 0019 0005 0100 5EAA 1FB9 8BD1 6B0A 0000 120C 0000 0000 0000 00BE 1D4C

IP-0197 Pcs Normal off Section 7.4 Step 137 OBCP start Event

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TMPH\_PRNT\_2008.154.18.50.39.818

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TM Packet Query Display  
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TM Packet Details  
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Mnemonic: D\_EvRp\_145      Description: Event 5-1 OBCP Ended      Simulated: N

S/C ID: 486      G/S ID: 0      SLE ID: 0      OCC ID: 0      VCID: 0      HFA D/S: 65535

Data Unit Type: GOOD SP      Time Stamp Type: PG      Time Quality: G

APID: 16      SSC: 14195      Type: 5      Subtype: 1      PII: 27399      PI2: 0

SPID: 40145170      TPSD: -1      HFA Counter: 3      Filing: E      Distribution: E

Time Field: Y      Packet Period: 0 [msec]      CRC: ?      Event Severity: ?

TM Packet Parameter Data  
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Generation time: 2008.121.00.46.57.551      Reception time: 2008.121.00.46.59.165

TM Packet Raw Data  
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SCOS-2000 Header:

0000:0000 0000 81C1 1748 FB68 0800 83C1 1748 5088 0200 0100 0000 E601 0000 6000 0000

0020:1138 FFFF 0300 0000 1291 6402 0000 0000 0000 0000 FFFF FFFF 10FF 1000 7337 0501

Packet Raw Data:

0000:0810 F773 0019 0005 0100 5EAA 2001 8D19 6B07 0000 120C 0000 0000 0000 00C0 0101

IR-0197 ACS NORMAL OFF Section 7.4 Step 137 ~~OBCE~~ OBCE End Event

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
138.	<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</p> <p>80 OFF</p> <p>90 OFF</p> <p>All PACS LCLs (27,41,35,65)</p> <p>OFF</p> <p>OK</p>		OK			✓
139.	<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</p> <p><i>Then press OK</i></p>	<p>PASS</p> <p>OK</p>		<p>PASS</p> <p>OK</p>			✓
140.	<p><i>During</i> D102159SCVT192_GET_EAT_REPORT</p> <p><i>⇒ Click EndTS to continue</i></p>	<p>ENDTS</p>		<p>ENDTS</p>			✓

Test location: <i>ESTEL</i>	Operator: <i>S. Elser</i>	Product-Assurance: <i>R. Hoog B.H.</i>	Date: <i>30/4/08</i>	<i>00.50</i>
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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
141.	<p>During Z010999MCVT135_IST_PACS_FDIR</p> <p>"RECOVERY ACTION"</p> <p>⇒ Click the "Confirm" button to continue</p>	CONFIRM		CONFIRM			✓
142.	<p>During 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		OK			✓
143.	<p>During 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>	PASS OK		OK			✓

Test location: ESTR	Operator S. EISEN	Product-Assurance: B. Hoer BA.	Date: 30/4/08 00.51
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Doc. No: HP-2-ASED-TP-0197

Issue: 1

Date: 28/04/2008

File: HP-2-ASED-TP-0197\_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR%20OBCP\_iss1\_last[1]

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
144.	<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 Gnd-LoPrio DISABLED</p> <p>OK</p>		DISABLED		✓	
145.	<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>		OK		✓	
146.	<p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</p> <p>"Please check in the report that PACS TC Routing is enabled"</p> <p>⇒ Perform activity and then click the "OK" button to confirm</p>	<p>PACS Gnd-LoPrio ENABLED</p> <p>OK</p>		ENABLED		✓	

Test location: <i>ESTEC</i>	Operator <i>S. ELSCHE</i>	Product-Assurance: <i>R. HOGG</i> <i>B.H.</i>	Date: <i>30/4/08</i> <i>00.52</i>
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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
147.	<p>During 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		OK			✓
148.	<p>During D102159SCVT192_GET_EAT_REPORT</p> <p>⇒ Click EndTS to continue</p>	ENDTS		ENDTS			✓
149.	<p>During Z010999MCVT135_IST_PACS_FDIR</p> <p>"Switching PACS ON"</p> <p>⇒ Click the "OK" button to confirm</p>	OK		OK			✓

Test location: <i>ESTEC</i>	Operator: <i>S. Esley</i>	Product-Assurance: <i>B. Hooge</i>	Date: <i>30/4/08</i>	<i>0054</i>
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Doc. No: HP-2-ASED-TP-0197

Issue: 1

Date: 28/04/2008

File: HP-2-ASED-TP-0197\_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR%20BCP\_iss1\_last[1]

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
150.	<p><i>During</i>                      H102999SCV905_ASDGENPACS_PWR_ON_N</p> <p>"Power on PACS prime and enable MIL 1553 I/F. FM PACS Switch on in warm or cold conditions, FPU connected ... - Select NO to abort TS if not correct"</p> <p>⇒ Click the button "YES" to confirm</p>	YES		YES	Refer to RD-3 for current message and expected OOL.		✓
151.	<p><i>During</i>                      P102999SCVT905_ASDISTPACS_PWR_ON_N</p> <p>PACS FDIR OBCPs/EATs loaded and enabled? If not select NO to abort TS. If not sure, check with D102159SCVT192_GET_EAT_REPORT. Then select "YES"</p> <p>⇒ Click the button "YES" to confirm</p>	YES		YES			✓
152.	<p><i>During</i>                      P102999SCVT905_ASDISTPACS_PWR_ON_N</p> <p>"Set Bus Profile back to original setting?"</p> <p>⇒ Click the button "YES" to confirm</p>	YES		YES			✓

Test location: <i>ESTEL</i>	Operator <i>S. ELSUM</i>	Product-Assurance: <i>B. HOGG</i> <i>FD</i>	Date: <i>30/4/08</i> <i>01.00</i>
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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
153.	<p><i>During</i> P102999SCVT918_ASDISTPACS_MarkON</p> <p>"Mark PACS Units ON?"</p> <p>⇒ click "confirm" to continue</p>	CONFIRM		CONFIRM			✓
154.	<p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</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>Subschedules</p> <p>80 OFF</p> <p>90 ON</p> <p>OK</p>		<p>OFF</p> <p>ON</p> <p>OK</p>			✓
155.	<p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</p> <p>"End of PACS NORMAL OFF TEST.</p> <p>⇒ click the "OK" button to confirm</p>	OK		OK			✓

Test location: <i>ESTEC</i>	Operator <i>S. ELSLEY</i>	Product-Assurance: <i>B. HOGG</i> <i>BA.</i>	Date: <i>30/4/08</i> <i>01.07</i>
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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>"PACS IMMEDIATE OFF OBCP?"</p> <p>⇒ Click the button "Confirm" to continue</p>	CONFIRM		CONFIRM	<p>If SKIP, it continues at step 180.</p> <p>DB_OBCP_H_PACS_IMMEDIATE_OFF is the OBCP under test.</p>		
157.	<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		CONFIRM			
158.	<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		OK	PACS APID 1152/1154		

Test location: <i>ESTR</i>	Operator <i>S. EASLEY</i>	Product-Assurance: <i>B. HOGG</i> <i>BEH.</i>	Date: <i>30/4/08</i> <i>0109</i>
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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
159.	<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		OK			✓
160.	<p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</p> <p>At the prompt: "Wait until the end of the OBCP - TM(5,1) with SPID 40145170 proclD 0x120B</p> <p>Check that: ⇒ OBCP PACS IMMEDIATE OFF has been triggered - TM(5,1) with SPID 40148170 proclD 0x120B</p> <p>⇒ PACS goes OFF</p> <p>⇒ OBCP is OVER: TM(5,1) with SPID 40145170 proclD 0x120B</p> <p>⇒ then click the "OK" button to confirm</p>	PASS OK		OK	<p>NC3958 (evt Hifi Off)</p> <p>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>		✓

SPR-503

Test location: <b>ESTEC</b>	Operator <b>S. EISEN</b>	Product-Assurance: <b>Blogg</b> <b>BDI</b>	Date: <b>30/4/08</b> <b>01:11</b>
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Doc. No: HP-2-ASED-TP-0197

Issue: 1

Date: 28/04/2008

File: HP-2-ASED-TP-0197\_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR%20OBCP\_iss1\_last[1]

Jun 02, 08 19:08

OBEH\_PRNT\_2008.154.19.08.49.379

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On-Board Event History printout from time: 2008.121.01.10.11.000 to time: 2008.121.01.10.46.000  
Current printout time: 2008.154.19.08.49.366 Print view mode: BRIEF FILTER MODE: INACTIVE

Generation Time	Reception Time	VC	APID	SSC	EvID	Severity	TmT	TmQ	F	D	Message Text
2008.121.01.10.45.570	2008.121.01.10.48.762	0	16	14980	27399	NORM	PG	G	E	E	Event 5-1 OBCP Ended
2008.121.01.10.13.648	2008.121.01.10.13.714	0	16	14922	26881	NORM	PG	G	E	E	Event 5-1 Subschedule Status Changed
2008.121.01.10.11.565	2008.121.01.10.13.713	0	16	14916	27402	NORM	PG	G	E	E	Event 5-1 OBCP Started
2008.121.01.10.11.261	2008.121.02.53.30.781	0	16	14911	186	WARN	PG	G	E	E	Event Report - SDB PACS non-vital RT Sick TM
2008.121.01.10.11.261	2008.121.02.52.18.694	0	16	14911	186	WARN	PG	G	E	E	Event Report - SDB PACS non-vital RT Sick TM
2008.121.01.10.11.261	2008.121.01.10.11.199	0	16	14911	186	WARN	PG	G	E	E	Event Report - SDB PACS non-vital RT Sick TM
2008.121.01.10.11.261	2008.121.01.10.11.199	0	16	14910	179	NORM	PG	G	E	E	Event Report - SDB PACS Failed TM

TR-0197 PACS TMH OFF Section 7.4 Step 160 OBEH

Jun 02, 08 18:44

TMPH\_PRNT\_2008.154.18.44.13.922

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TM Packet Query Display

TM Packet Details

Mnemonic: D\_EvRp\_148 Description: Event 5-1 OBCP Started Simulated: N

S/C ID: 486 G/S ID: 0 SLE ID: 0 OCC ID: 0 VCID: 0 HFA D/S: 65535

Data Unit Type: GOOD SP Time Stamp Type: PG Time Quality: G

APID: 16 SSC: 14916 Type: 5 Subtype: 1 PI1: 27402 PI2: 0

SPID: 40148170 TPSD: -1 HFA Counter: 4 Filing: E Distribution: E

Time Field: Y Packet Period: 0 [msec] CRC: ? Event Severity: ?

TM Packet Parameter Data

Generation time: 2008.121.01.10.11.565 Reception time: 2008.121.01.10.13.713

TM Packet Raw Data

SCOS-2000 Header:

0000:0000 0000 F3C6 1748 3FA1 0800 F5C6 1748 84E4 0A00 0100 0000 E601 0000 6000 0000

0020:1138 FFFF 0400 0000 CA9C 6402 0000 0000 0000 0000 FFFF FFFF 10FF 1000 443A 0501

Packet Raw Data:

0000:0810 FA44 0019 0005 0100 5EAA 2573 90C9 6B0A 0000 120B 0000 0000 0000 00C9 191E

TP-0197 Pcs TMN Off Station 7.4 Stop 160 OBCP Start 5,1

Jun 02, 08 18:57

TMPH\_PRNT\_2008.154.18.57.00.739

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TM Packet Query Display  
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TM Packet Details  
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Mnemonic: D\_EvRp\_145      Description: Event 5-1 OBCP Ended      Simulated: N

S/C ID: 486      G/S ID: 0      SLE ID: 0      OCC ID: 0      VCID: 0      HFA D/S: 65535

Data Unit Type: GOOD SP      Time Stamp Type: PG      Time Quality: G

APID: 16      SSC: 14980      Type: 5      Subtype: 1      PI1: 27399      PI2: 0

SPID: 40145170      TPSD: -1      HFA Counter: 4      Filing: E      Distribution: E

Time Field: Y      Packet Period: 0 [msec]      CRC: ?      Event Severity: ?

TM Packet Parameter Data  
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Generation time: 2008.121.01.10.45.570      Reception time: 2008.121.01.10.48.762

TM Packet Raw Data  
-----

SCOS-2000 Header:

0000:0000 0000 15C7 1748 E4B2 0800 18C7 1748 7DA2 0B00 0100 0000 E601 0000 6000 0000

0020:1138 FFFF 0400 0000 1291 6402 0000 0000 0000 0000 FFFF FFFF 10FF 1000 843A 0501

Packet Raw Data:

0000:0810 FA84 0019 0005 0100 5EAA 2595 91F1 6B07 0000 120B 0000 0000 0000 00CB E31A

TP-0197 Pass 5th of 6 Sedition 14 Step 160 OBCP end.

PVSIc-21  
28/06/08.

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
161.	<p>During Z010999MCVT135_IST_PACS_FDIR</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>Subschedules</p> <p>80 OFF</p> <p>90 ON</p> <p>OK</p>		<p>OFF</p> <p>OFF</p> <p>OK</p>		✓	
162.	<p>During Z010999MCVT135_IST_PACS_FDIR</p> <p>"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>		<p>PASS</p> <p>OK</p>		✓	
	<p>During D102159SCVT192_GET_EAT_REPORT</p> <p>⇒ Click EndTS to continue</p>	<p>ENDTS</p>		<p>ENDTS</p>		✓	

Test location: ESTEC	Operator S. EWLEY	Product-Assurance: B. HOGG B.H.	Date: 30/04/08
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Doc. No: HP-2-ASED-TP-0197

Issue: 1

Date: 28/04/2008

File: HP-2-ASED-TP-0197\_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR%20OBCP\_iss1\_last[1]

RVS 8  
NCR-4177

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
163.	<p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</p> <p>"RECOVERY ACTION"</p> <p>⇒ click Confirm to continue</p>	CONFIRM		SKIP			
164.	<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			PACS SHOULD NOT BE IN SCIENCE		
165.	<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>	PASS OK					

Test location: ESTR	Operator S. ESCIEN	Product-Assurance: B HOGG JDA.	Date: 30/4/08 01:30
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Doc. No: HP-2-ASED-TP-0197

Issue: 1

Date: 28/04/2008

File: HP-2-ASED-TP-0197\_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR%20OBCP\_iss1\_last[1]



Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
166.	<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>					
167.	<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>					
168.	<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>					

*Pls*

Test location:	Operator	Product-Assurance:	Date:
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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
169.	<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			} P158		
170.	<p><i>During</i> D102159SCVT192_GET_EAT_REPORT</p> <p>⇒ Click EndTS to continue</p>	ENDTS					
171.	<p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</p> <p>"Switching PACS ON"</p> <p>⇒ Click the "OK" button to confirm</p>	OK					


Test location:	Operator	Product-Assurance:	Date:
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Doc. No: HP-2-ASED-TP-0197

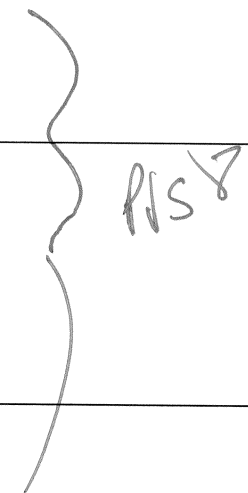
Issue: 1

Date: 28/04/2008

File: HP-2-ASED-TP-0197\_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR%20OBCP\_iss1\_last[1]

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
172.	<p><i>During</i>  <i>P102999SCVT905_ASDISTPACS_PWR_ON_N</i></p> <p><i>"Power on PACS prime and enable MIL 1553 I/F. FM PACS Switch on in warm or cold conditions, FPU connected ... - Select NO to abort TS if not correct"</i></p> <p><i>⇒ Click the button "YES" to confirm</i></p>	YES			Refer to Rd-3 for exact message and expected OOLs		
173.	<p><i>During</i>  <i>P102999SCVT905_ASDISTPACS_PWR_ON_N</i></p> <p><i>PACS FDIR OBCPs/EATs loaded and enabled?</i></p> <p><i>⇒ Click the button "YES" to confirm</i></p>	YES					
174.	<p><i>During</i>  <i>P102999SCVT905_ASDISTPACS_PWR_ON_N</i></p> <p><i>"Set Bus Profile back to original setting?"</i></p> <p><i>⇒ Click the button "YES" to confirm</i></p>	YES					

Test location:	Operator	Product-Assurance:	Date:
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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
175.	<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		
176.	<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>					
177.	<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		OK			

Test location:	Operator	Product-Assurance:	Date:
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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
178.	<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>	PASS  OK			PACS EATS not re-enabled, due to RVSS.		
179.	<p><i>During</i> D102159SCVT192_GET_EAT_REPORT</p> <p>⇒ Click the button "EndTS!" to proceed</p>	ENDTS					
180.	<p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</p> <p>"RESET the starting condition"</p> <p>⇒ Click the button "Confirm" to continue</p>	CONFIRM		SKIP			

RVSS

Test location:	Operator	Product-Assurance:	Date:
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Doc. No: HP-2-ASED-TP-0197

Issue: 1

Date: 28/04/2008

File: HP-2-ASED-TP-0197\_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR%20OBCP\_iss1\_last[1]

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
181.	<p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</p> <p>" Terminate ALL_SubscribeParams.tcl"</p> <p>⇒ Perform activity and then click the "OK" button to confirm</p>	PASS OK					
182.	<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>	PASS OK					
183.	<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>	PASS OK					
184.	<p><i>At end of</i> Z010999MCVT135_IST_PACS_FDIR</p> <p>⇒ Click the button "End TS!" to proceed</p>	ENDTS					

PVstc-20

Test location:	Operator	Product-Assurance:	Date:
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7.5 SPIRE

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

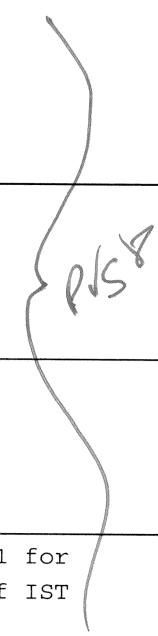
Test location:	Operator	Product-Assurance:	Date:
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Doc. No: HP-2-ASED-TP-0197

Issue: 1


Date: 28/04/2008

File: HP-2-ASED-TP-0197\_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR%20BCP\_iss1\_last[1]

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N	
188.	<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>	PASS OK			RD-3 for details			
189.	<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>	CONFIRM						
190.	<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						
191.	<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		

Test location:	Operator	Product-Assurance:	Date:
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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
192.	<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					
193.	<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					
194.	<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.	

Test location:	Operator	Product-Assurance:	Date:
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Doc. No: HP-2-ASED-TP-0197

Issue: 1

Date: 28/04/2008

File: HP-2-ASED-TP-0197\_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR%20BCP\_iss1\_last[1]

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
195.	During D102159SCVT218_IST_SPIRE_MTL_PING  ⇒ Click the button "EndTS!" to continue	ENDTS					
196.	Check that the MTL contains one SCL00500 (TEST CONNECTION) every 5 minutes for 10 hours in subschedule 370	PASS  OK					
197.	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					
198.	During Z010999MCVT137_IST_SPIRE_FDIR_formal  "Wait for execution of the first command, then press OK"  ⇒ Click the button "OK" to continue	PASS  OK					

Test location:	Operator	Product-Assurance:	Date:
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Doc. No: HP-2-ASED-TP-0197

Issue: 1

Date: 28/04/2008


File: HP-2-ASED-TP-0197\_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR%20BCP\_iss1\_last[1]

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
199.	<p>During Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"Put SPIRE Primary in science"</p> <p>⇒ Click the button "Confirm" to continue</p>	CONFIRM					
200.	<p>During [REDACTED]</p> <p>"Command SPIRE from REDY to OPS mode in any conditions - select NO to abort TS"</p> <p>⇒ Click the button "YES" to continue</p>	YES			Refer to RD-3 for correct message and expected OOLs.		
201.	<p>During [REDACTED]</p> <p>"Bus profile left as SPIRE prime while in OPS mode"</p> <p>⇒ Click the button "OK" to continue</p>	OK					

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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
202.	<p><i>During</i> Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>" Check that SPIRE is producing science packets"</p> <p>⇒ Click the button "OK" to continue</p>	<p>PASS</p> <p>OK</p>			<p>Check that file in /HPCCS/VARIABLE/RESULTS/&lt;test_session&gt;/TMDUMP/&lt;date-time&gt;VC1.txt is increasing. With TM from APID 1284</p>		
203.	<p><i>During</i> Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"TEST the SPIRE OPE STOP FDIR?"</p> <p>⇒ Click the button "Confirm" to continue</p>	<p>CONFIRM</p>			<p>If SKIP, it continues at step 211.</p> <p>DB_OBCP_H_SPIRE_OPE_STOP is the OBCP under test.</p> <p><b>IMPORTANT NOTE:</b> If the test of the SPIRE OPE STOP is executed then the SPIRE RESUME OBCP MUST be executed afterwards, too.</p>		
204.	<p><i>During</i> Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"TRIGGER OBCP WITH SPIRE SCRIPT"</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
205.	<p>During Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"Please filter one TMPKT History for APID 16 and type 5 and one for APID 1280 Type 5"</p> <p>⇒ Click the button "OK" to continue</p>	<p>PASS</p> <p>OK</p>					
206.	<p>During Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"executing script SPIRE-OBCPTest-ObservationAnomaly.tcl"</p> <p>⇒ Click the button "OK" to confirm</p>	<p>OK</p>					


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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
207.	<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 0x116"</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 that TM(5,1) with APID 16, SPID 40145170 proclD 0x1106 is received</p> <p>⇒ 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
208.	<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>					

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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
209.	<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>					
210.	<p><i>During</i> D102159SCVT192_GET_EAT_REPORT</p> <p>⇒ Click the button "EndTS!" to proceed</p>	<p>ENDTS</p>					
211.	<p><i>During</i> Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"Test SPIRE OPE RESUME OBCP?"</p> <p>⇒ Click the button "Confirm" to continue</p>	<p>CONFIRM</p>			<p>If SKIP, it continues at step 221.</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>		

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


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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
215.	<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>	<p>PASS</p> <p>OK</p>					

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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N	
216.	<p><i>During</i>  <i>Z010999MCVT137_IST_SPIRE_FDIR_formal</i></p> <p><i>At the prompt:</i>  <i>"please check the SPIRE status and that subschedule 370 (SPIRE TCs) is DISABLED and 100 (meta-SPIRE) is ENABLED"</i></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/  &lt;test_session&gt;/TMDUMP/  /&lt;date-time&gt;VC1.txt  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
217.	<p><i>During</i>  <i>Z010999MCVT137_IST_SPIRE_FDIR_formal</i></p> <p><i>"RECOVERY ACTION"</i></p> <p><i>⇒ Click Confirm to continue</i></p>	CONFIRM			<i>} P/S 8</i>		
218.	<p><i>During</i>  <i>Z010999MCVT137_IST_SPIRE_FDIR_formal</i></p> <p><i>At the prompt:</i>  <i>"please check status of SPIRE, that subschedule 370 (SPIRE TCs) is enabled and 100 (meta-SPIRE) is disabled"</i></p> <p><i>⇒ perform activity and then click the "OK" button to confirm</i></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
219.	<p><i>During</i> Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"End of SPIRE OPE RESUME TEST" "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>					
220.	<p><i>During</i> D102159SCVT192_GET_EAT_REPORT</p> <p>⇒ Click the button "EndTS!" to proceed</p>	<p>ENDTS</p>					
221.	<p><i>During</i> Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"TEST the SPIRE DRCU OFF OBCP?"</p> <p>⇒ Click the button "Confirm" to continue</p>	<p>CONFIRM</p>			<p>If SKIP, it continues at step 240.</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
222.	<p><i>During</i>  <i>Z010999MCVT137_IST_SPIRE_FDIR_formal</i></p> <p>"TRIGGER OBCP WITH SPIRE SCRIPT"</p> <p>⇒ Click the button "confirm" to continue</p>	CONFIRM					
223.	<p><i>During</i>  <i>Z010999MCVT137_IST_SPIRE_FDIR_formal</i></p> <p>"Please filter one TMPKT History for APID 16 and type 5 and one for APID 1280 Type 5 subtype 2"</p> <p>⇒ Click the button "OK" to continue</p>	PASS  OK					
224.	<p><i>During</i>  <i>Z010999MCVT137_IST_SPIRE_FDIR_formal</i></p> <p>"executing script SPIRE-OBCPTest-DRCUAnomaly.tcl "</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
225.	<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>⇒ click the "OK" button to confirm</p>	<p>PASS</p> <p>OK</p>			<p>Expected : TM(5,4) for</p> <ul style="list-style-type: none"> <li>o MCU</li> <li>o SCU</li> <li>o DCU</li> </ul> <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
226.	<p><i>During</i>  <i>Z010999MCVT137_IST_SPIRE_FDIR_formal</i></p> <p><i>At the prompt:</i>  <i>"please check SPIRE status and that subschedules 370 (SPIRE TCs) and 100 (meta-SPIRE) are disabled"</i></p> <p>⇒ Check that the DRCU has been powered off</p> <p>⇒ Check that the DPU is on and generating nominal and critical HK</p> <p>⇒ subschedules 370 (SPIRE TCs) and 100 (meta-SPIRE) are disabled"</p> <p>⇒ <i>Click the "OK" button to confirm</i></p>	<p>LCL51 OFF  LCL11 ON  1282 producing NOMHK  1280 producing CRITHK  Subschedules  370 OFF  100 OFF    OK</p>					

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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
227.	<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>					
228.	<p><i>During</i> D102159SCVT192_GET_EAT_REPORT</p> <p>⇒ click the "EndTS" button to continue</p>	<p>ENDTS</p>					


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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
229.	<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					
230.	<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					
231.	<p><i>During</i>  <i>D102159SCVT192_GET_EAT_REPORT</i></p> <p>⇒ <i>click the "EndTS" button to continue</i></p>	ENDTS					

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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
232.	<p><i>During</i>  <i>Z010999MCVT137_IST_SPIRE_FDIR_formal</i></p> <p>"Switching SPIRE OFF"</p> <p>⇒ <i>Click the button "OK" to confirm</i></p>	OK					
233.	<p><i>During</i>  <i>S102999SCVT019_ASDGENSPIR_PWR_OFF_P</i></p> <p>"SPIRE switch off for IST activities in any condition"</p> <p>⇒ <i>Click the button "YES" to continue</i></p>	YES			<p>TC SCD06505 to switch off DRCU expected to fail.</p> <p>See RD-3 for exact message and expected OOLs.</p>		
234.	<p><i>During</i>  <i>S102999SCVT019_ASDGENSPIR_PWR_OFF_P</i></p> <p>"Set Bus profile back to original settings"</p> <p>⇒ <i>Click the button "YES" to continue</i></p>	YES					

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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
235.	<p><i>During</i> Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"Switching SPIRE ON"</p> <p>⇒ Click the button "OK" to confirm</p>	OK					
236.	<p><i>During</i> S102999SCVT017_ASDGENSPIR_PWR_ON_P</p> <p>"Power on SPIRE prime and enable MIL 1553 I/F. FM SPIRE Switch on for IST activities in any conditions... - Select NO to abort TS if not correct"</p> <p>⇒ Click the button "YES" to confirm</p>	YES			See RD-3 for exact message and expected OOLs.		
237.	<p><i>During</i> S102999SCVT017_ASDGENSPIR_PWR_ON_P</p> <p>"Set Bus Profile back to original setting?"</p> <p>⇒ Click the button "YES" to confirm</p>	YES					

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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
238.	<p>During 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>					
239.	<p>During Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"End of SPIRE DRCU OFF TEST "</p> <p>⇒ click the "OK" button to confirm</p>						
240.	<p>During 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 259.</p> <p>DB_OBCP_H_SPIRE_OFF_CTRL is the OBCP under test.</p>		

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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
241.	<p><i>During</i> Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"TRIGGER OBCP "</p> <p>⇒ Click the button "Confirm" to continue</p>	CONFIRM					
242.	<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>					
243.	<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_OFFCTRL_trigger 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
244.	<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) - subschedule status changed</p> <p><i>R/S</i></p>		


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File: HP-2-ASED-TP-0197\_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR%20OBCP\_iss1\_last[1]

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
245.	<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 Subschedules 370 OFF 100 OFF</p> <p>OK</p>					
246.	<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>					

Test location:	Operator	Product-Assurance:	Date:
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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
247.	<p><i>During</i> D102159SCVT192_GET_EAT_REPORT</p> <p>⇒ click the "EndTS" button to continue</p>	ENDTS			} P/S 8		
248.	<p><i>During</i> Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"RECOVERY ACTION"</p> <p>⇒ Click the button "Confirm" to continue</p>	CONFIRM					

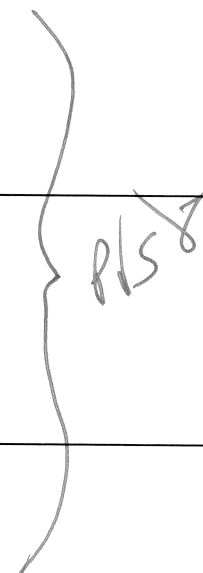
Test location:	Operator	Product-Assurance:	Date:
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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
249.	<p><i>During</i> Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p><i>At the prompt:</i> "check that all EATs are enabled"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

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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
252.	<p>During S102999SCVT017_ASDGENSPIR_PWR_ON_P</p> <p>"Power on SPIRE prime and enable MIL 1553 I/F. FM SPIRE Switch on for IST activities in any conditions ... - Select NO to abort TS if not correct"</p> <p>⇒ Click the button "YES" to confirm</p>	YES			<p>Refer to RD-3 for correct message and expected OOLs.</p> <p>} PVS8</p>		
253.	<p>During S102999SCVT017_ASDGENSPIR_PWR_ON_P</p> <p>"Set Bus Profile back to original setting?"</p> <p>⇒ Click the button "YES" to confirm</p>	YES					

Test location:	Operator	Product-Assurance:	Date:
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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
254.	<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            370 ON            100 OFF</p> <p>OK</p>					
255.	<p><i>During</i>  <i>Z102999SCVT008_ASDGEN_SPIRESTBY2OPS</i></p> <p><i>"Command SPIRE from REDY to OPS mode in any condition – Select NO to abort TS if not correct"</i></p> <p><i>⇒ Click the "YES" button to confirm</i></p>	<p>YES</p>			<p>Refer to RD-3 for correct message and expected OOLs.</p>		
256.	<p><i>During</i>  <i>S102999SCVT911_ASDBGSPiR_STBY2OPS</i></p> <p><i>"Bus profile left as SPIRE PRIME while in OPS mode"</i></p> <p><i>⇒ Click the button "OK" to continue</i></p>	<p>OK</p>					

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Test location:	Operator	Product-Assurance:	Date:
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File: HP-2-ASED-TP-0197\_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR%20BCP\_iss1\_last[1]

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
257.	<p><i>During</i> Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"Check that SPIRE is producing Science packets"</p> <p>⇒ Perform the activity and click the button "OK" to continue</p>	<p>PASS</p> <p>OK</p>			<p>Check that file in /HPCCS/VARIABLE/RESULTS/ &lt;test_session&gt;/TMDUMP/ &lt;/date-time&gt;VC1.txt is increasing. With TM from APID 1284</p>		
258.	<p><i>During</i> Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"End of SPIRE OFF CONTROL TEST "</p> <p>⇒ click the "OK" button to confirm</p>	<p>OK</p>					
259.	<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>	<p>CONFIRM</p>			<p>If SKIP, it continues at step 284.</p> <p>DB_OBCP_H_SPIRE_OFF is the OBCP under test.</p>		

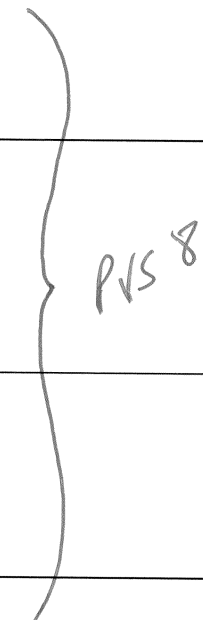
Test location:	Operator	Product-Assurance:	Date:
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Date: 28/04/2008

File: HP-2-ASED-TP-0197\_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR%20OBCP\_iss1\_last[1]

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
260.	<p>During Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"SPIRE OFF DLL FDIR triggering</p> <p>⇒ Click the button "Confirm" to continue</p>	CONFIRM					
261.	<p>During 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>	PASS OK					
262.	<p>During Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"start the SPIRE (RT 21) simulation on the CDMU SCOE to create jamming"</p> <p>⇒ Click the button "OK" to proceed</p>	OK					
263.	<p>On CDMS SCOE</p> <p>Double-click on the link "StartSCOE.bat" on the desktop to start the CDMU SCOE application.</p>	PASS					

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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
264.	On CDMS SCOE  Select Menu: Mode ⇒ Local Mode Password: H-P	PASS			} PVS 8		
265.	On CDMS SCOE  Select from menu: Setup ⇒ RTSim Configuration	PASS					
266.	On CDMS SCOE  Select file: R:\(192.168.90.32)\Herschel.rtc  and then click the button "OK"	PASS					
267.	On CDMS SCOE  Select from menu: Mode ⇒ On Line	PASS					

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Date: 28/04/2008

File: HP-2-ASED-TP-0197\_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR%20BCP\_iss1\_last[1]

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
268.	<p>On CDMS SCOE</p> <p>In window: "System Control/RT controls":</p> <ul style="list-style-type: none"> <li>⇒ Select RT21</li> <li>⇒ Click the button "Enable" for: <ul style="list-style-type: none"> <li>- control</li> <li>- TM queue</li> <li>- TC queue</li> </ul> </li> </ul> <p>And after 8 seconds proceed immediately with next step</p>	PASS			<p>Don't stay longer than 8 seconds, since the FDIR might keep on triggering and reconfigure the spacecraft.</p> <p>Can be stopped as soon as the OBCP started TM is received</p>		
269.	<p>On CDMS SCOE</p> <p>In window: "System Control/RT controls"</p> <p>Click the button "DISABLE" for:</p> <ul style="list-style-type: none"> <li>- control</li> <li>- TM queue</li> <li>- TC queue</li> </ul>	PASS			To be performed within 8 seconds!!!		


PVS8

Test location:	Operator	Product-Assurance:	Date:
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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
270.	<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> <p style="text-align: right; font-size: 2em; font-family: cursive;">R/S 8</p>		

Test location:	Operator	Product-Assurance:	Date:
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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
271.	<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 Subschedules 370 OFF 100 OFF</p> <p>OK</p>					
272.	<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>					

Test location:	Operator	Product-Assurance:	Date:
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Step -No.	Test-Step-Description	Nominal Value		Tolerance	Actual Value	Remarks	P	N
273.	<p><i>During</i>  D102159SCVT192_GET_EAT_REPORT</p> <p>⇒ click the "EndTS" button to continue</p>	ENDTS				} P/S 8		
274.	<p><i>During</i>  Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"RECOVERY ACTION"</p> <p>⇒ Click the button "confirm" to continue</p>							


Test location:	Operator	Product-Assurance:	Date:
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Date: 28/04/2008

File: HP-2-ASED-TP-0197\_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR%20BCP\_iss1\_last[1]

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
275.	<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>					
276.	<p><i>During</i> D102159SCVT192_GET_EAT_REPORT</p> <p>⇒ click the "EndTS" button to continue</p>	<p>ENDTS</p>					

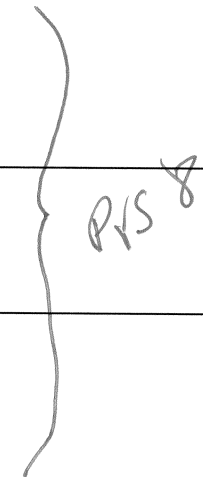
Test location:	Operator	Product-Assurance:	Date:
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Date: 28/04/2008

File: HP-2-ASED-TP-0197\_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR%20BCP\_iss1\_last[1]

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
277.	<p><i>During</i> Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"set the CDMS SCOE OFF LINE"</p> <p>⇒ Perform the activities of the next step, then click the button "OK"</p>	<p>PASS</p> <p>OK</p>					
278.	<p><i>On CDMS SCOE</i></p> <p>Select from menu:</p> <p>Mode ⇒ Off Line</p>	<p>PASS</p>					
279.	<p><i>During</i> Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"Switching SPIRE ON"</p> <p>⇒ Click the button "OK" to continue</p>	<p>OK</p>					

Test location:	Operator	Product-Assurance:	Date:
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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
280.	<p><i>During S102999SCVT017_ASDGENSPIR_PWR_ON_P</i></p> <p><i>"Power on SPIRE prime and enable MIL 1553 I/F. FM SPIRE Switch on for IST activities in any conditions ... - Select NO to abort TS if not correct"</i></p> <p><i>⇒ Click the button "YES" to confirm</i></p>	YES			<p>Refer to RD-3 for correct message and expected OOLs.</p> <p style="text-align: right; font-size: 2em;">} PVS 8</p>		
281.	<p><i>During S102999SCVT017_ASDGENSPIR_PWR_ON_P</i></p> <p><i>"Set Bus Profile back to original setting?"</i></p> <p><i>⇒ Click the button "YES" to confirm</i></p>	YES					

Test location:	Operator	Product-Assurance:	Date:
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Issue: 1

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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
282.	<p><i>During</i>  Z010999MCVT137_IST_SPIRE_FDIR_formal</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  370 ON  100 OFF</p> <p>OK</p>					
283.	<p><i>During</i>  Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p><i>"End of SPIRE FDIR TEST "</i></p> <p><i>⇒ click the "OK" button to continue</i></p>	<p>OK</p>					

Test location:	Operator	Product-Assurance:	Date:
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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
284.	<p><i>During</i> Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"RESET the STARTING CONDITION"</p> <p>⇒ Click the button "Confirm" to continue</p>	CONFIRM			} P/S 8		
285.	<p><i>During</i> Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"Check that all subschedules from 1 to 256 plus the 370 are enabled"</p> <p>⇒ Click the button "OK" to continue</p>	<p>Subschedules 1-256 ON 370 ON Others OFF</p> <p>OK</p>					

Test location:	Operator	Product-Assurance:	Date:
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7.6 Specific Post-Test Activities

Step- No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
1.	<p><i>During</i> Z010999MCVT131_IST_INSTR_FDIR</p> <p>"Start the instrument specific FDIR sequence"</p> <p>⇒ click the "OK" button to proceed</p>	OK		OK		✓	
2.	<p><i>During</i> Z010999MCVT131_IST_INSTR_FDIR</p> <p>"End of INSTRUMENTS FDIR Tests. Select OK to switch off"</p> <p>⇒ click the "OK" button to proceed</p>	OK		OK	Perform this test step AFTER ALL the relevant FDIR tests have been performed	✓	
3.	<p><i>During</i> Z010999MCVT131_IST_INSTR_FDIR</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			PACS DISABLED AS EXPECTED AS RECOVERY NOT PERFORMED	✓	

Test location: <i>ESTR</i>	Operator <i>S. EASUM</i>	Product-Assurance: <i>BHOEG B.M.</i>	Date: <i>30/4/08 01.36</i>
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Step- No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
4.	During D102159SCVT192_GET_EAT_REPORT ⇒ Click the button "EndTS!" to proceed	ENDTS		ENDTS		/	
5.	During Z010999MCVT131_IST_INSTR_FDIR "RESET to the original SCBP?" ⇒ Click the button "Confirm to continue	CONFIRM		CONFIRM		/	
6.	During Z010999MCVT131_IST_INSTR_FDIR "POWER OFF HIFI PRIMARY" ⇒ Click the button "Confirm" to continue	CONFIRM		CONFIRM	Refer to RD-3 for correct message and expected OOLs.	/	
7.	During Z010999MCVT131_IST_INSTR_FDIR "POWER OFF PACS PRIMARY" ⇒ Click the button "Confirm" to continue	<del>CONFIRM</del> SKIP			PACS ALREADY OFF PVS 8	/	

PVS4-2  
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Test location: ESTR	Operator S. ESTIER	Product-Assurance: B. HART B.M.	Date: 30/4/08 01.42
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Step-No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
8.	<p>During P102999SCVT906_ASDISTPACS_PWR_OFF_N</p> <p>"FM PACS Swith off in Warm or Cold conditions, FPUYES connected"</p> <p>⇒ click the "Yes" button to proceed</p>	YES			Refer to RD-3 for correct message and expected OOLs  N/A		
9.	<p>During P102999SCVT906_ASDISTPACS_PWR_OFF_N</p> <p>"Set Bus Profile back to original setting?"</p> <p>⇒ click the "Yes" button to proceed</p>	YES			N/A		
10.	<p>During Z010999MCVT131_IST_INSTR_FDIR</p> <p>"POWER OFF SPIRE PRIMARY"</p> <p>⇒ Click the button "Confirm" to continue</p>			CONFIRM		✓	
11.	<p>During S102999SCVT019_ASDGENSPIR_PWR_OFF_P</p> <p>"SPIRE swith off for IST activities in any conditions"</p> <p>⇒ click the "Yes" button to proceed</p>			YES		✓	

Test location: <i>ESTEC</i>	Operator <i>S. EISEN</i>	Product-Assurance: <i>B. HOGG</i>	Date: <i>30/4/08</i>	<i>01-44</i>
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Step-No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
12.	<p>During S102999SCVT019_ASDGENSPIR_PWR_OFF_P</p> <p>"Set BUS profile back to original setting"</p> <p>⇒ click the "Yes" button to proceed</p>	YES		YES			
13.	<p>During 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		OK	<p>The IST_END sequence shall be called-up. Therefore, continue with chapter 7.4 of RD4. step 1.</p>		

Test location: <i>ESTER</i>	Operator <i>S. ESTERUM</i>	Product-Assurance: <i>B. HOGG</i>	Date: <i>30/4/08</i>	<i>01.47</i>
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**7.7 S/C Power OFF**

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

Test location: <i>Estec</i>	Operator <i>S. Edsley</i>	Product-Assurance:	Date: <i>30/4/08</i> <i>01.47</i>
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Doc. No: HP-2-ASED-TP-0197

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File: HP-2-ASED-TP-0197\_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR%20BCP\_iss1\_last[1]

## 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
  D102159SCVT192_GET_EAT_REPORT
```

### 8.3 PACS script

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

#### 8.4 SPIRE script

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

9 Summary Sheets

9.1 Procedure Variation Summary


		Test Change	Curr. No.: <i>1a</i> Date <i>29/04/2008</i> Page <i>1</i> of
Test designation <i>Instrument FDIR OBCP IST</i>	Test Procedure <i>HP-2-ASED-TP-0197</i>	Issue <i>1</i>	Rev. <i>—</i>
Test step changed	Reason for Change <i>Procedure corrections for next issue</i>		
<p><i>1) Section 5.4.5, page 25: page intentionally left blank</i></p> <p><i>2) Section 2.2; RD3 should be issue 1.2.</i></p> <p><i>3) section 7.2, at step 8 add: ... and click "ok"</i></p> <p><i>4) section 7.2, step 9 the script number is incorrect. is: ... 089 should be: ... 138</i></p> <hr/> <p><i>5) section 7.2, step 10 at Remarks add that AFO is to be observed at CDMS.</i></p> <p><i>6) section 7.2 step 11 script ref incorrect is ... 089. Sunacc - NOMINAL should be ... 137. Sunacc - NOM</i></p> <p><i>7) section 7.2 step 16 step to be deleted.</i></p> <p><i>8) section 7.2 step 10 add: "on AND AAOWIog".</i></p> <p><i>9) section 7.2 step 19 add: "and click 'ok'"</i></p> <p><i>10) section 7.2 step 20 dir incorrect: is: /home/heraccms/plotter/... should be: /home/heraccms/plotting/...</i></p> <p><i>11) section 7.2 step 22 remark is incomplete: "After pressing ENDTS the transition to SCM put Fdir* is performed"</i></p>			
Prepared by: <i>U. Klenke</i>	Resp. Test Leader 	Project Engineer	
PA/QA <i>R. Boossens</i>	Prime	Customer	

Table 9.1-1: Procedure Variation Sheet



9 Summary Sheets

9.1 Procedure Variation Summary

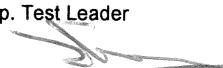
		Test Change	Curr. No.: 1b
			Date 29/04/2008
			Page 1 of
Test designation Instrument FDIR OBCP IST	Test Procedure HP-2-ASED-TP-0197	Issue 1	Rev. —
Test step changed	Reason for Change Procedure corrections for next issue.		
<p>12) section 7.2 step 27: message between " " incorrect; actual script message: see attached printout. also script name to be changed.</p> <p>13) section 7.2 after step 20 a new step to be introduced: "Warning: at this stage the HIFI external cooler shall be switched on. Do not continue before this is confirmed. if confirmed then continue".</p> <p>14) section 7.2 step 2 script name incorrect. Should be same as for corrected step 27.</p> <p>15) section 7.2 step 34 message between " " incorrect; actual script message: see attached printout.</p> <p>16) section 7.2 step 36 "SET RX2" instead of "SET RX..."</p>			
Prepared by: R. Coossens	Resp. Test Leader 	Project Engineer	
PA/QA R. Coossens	Prime	Customer	

Table 9.1-1: Procedure Variation Sheet

9 Summary Sheets

9.1 Procedure Variation Summary

		Test Change	Curr. No.: 1c Date 29/04/2008 Page 1 of	
Test designation Instrument FDIR OBCEP IST		Test Procedure HP-2-ASED-TP-0197	Issue 1	Rev. —
Test step changed		Reason for Change PROCEDURE CORRECTIONS FOR NEXT ISSUE		
<p>17) SECTION 7.3, STEP 44, SPR 501. DELETE THIS STEP AS SCRIPT ALREADY RUN ON HIFI PUR ON.</p> <p>18) Section 7.3 Step 80, SPR 502 DELETES THE STEP AS SCRIPT <del>ALREADY RUN</del> WILL BE RUN AFTER SWITCHING OFF HIFI</p> <p>19) SECTION 7.3 STEP 68. INSERT NEW STEP. "IF THERE HAS BEEN A HARD RESET OF HIFI. SWITCH OFF THE COOLING"</p> <p>20) SECTION 7.4 STEP 116: INFO ONLY (NO BUTTON TO CLICK) 133 181</p> <p>21) SECTION 7.4 STEP 158: ADD STEP "CALLING SCRIPT <del>PROS_DISABLE_HK_OS_SHELL</del>"</p> <p>3106/08 21) Section 7.4 Step 161. should be the same as step 138.</p>				
Prepared by: 		Resp. Test Leader 	Project Engineer	
PA/QA E. HOGGE		Prime	Customer	

Table 9.1-1: Procedure Variation Sheet

Apr 29, 08 17:08

H102999SCVT015\_ASDISTHIFI\_PWR\_ON\_P.tcl

Page 1/1

Change in proc-197 sect. 7.2 step 27.

```
#####
# File: $Id: H102999SCVT015_ASDISTHIFI_PWR_ON_P.tcl,v 1.4 2008/04/15 21:58:55 he
rcdmu Exp $
#
# Description:
#
#           Switch ON HIFI Prime for Test in Hel/Hell with warm LOU
#
#
# Last edited by: $Author: hercdmu $ on $Date: 2008/04/15 21:58:55 $.
#
#
#####

# automatically set the revision. do not edit this
setrevision {$Id: H102999SCVT015_ASDISTHIFI_PWR_ON_P.tcl,v 1.4 2008/04/15 21:58:
55 hercdmu Exp $}

#####
# start of test sequence
#####

# Initial Conditions HIFI OFF
# Author: S. Hamer, Terma AS

# Enable logging to screen
setup_win
logm "Power ON HIFI Prime and enable MIL1553 I/F"

#initialise TM/TC logging function
EGSE_init

yesorno "FM HIFI Switch ON for IST or SFT in Hel/Hell conditions with warm LOU - Select NO to abort TS if n
ot correct"
waittime 00.00.01.0000
if { $user_gen == 4 } {
    infom "The Test Sequence is aborted...!!!"
    exit
}
```

Step 27 / PVS#1

Change in proc - 197 sect. 7.2 step 27

step 34

Apr 29, 08 19:48 S102999SCVT017\_ASDGENSPIR\_PWR\_ON\_P.tcl Page 1/1

```
#####
# File: $Id: S102999SCVT017_ASDGENSPIR_PWR_ON_P.tcl,v 1.7 2008/04/20 09:59:09 he
rplm Exp $
#
# Description:
#
#       Power ON SPIRE A and enable MIL1553 I/F for IST DEBUG
#
# Last edited by: $Author: herplm $ on $Date: 2008/04/20 09:59:09 $.
#
#####

# automatically set the revision. do not edit this
setrevision {$Id: S102999SCVT017_ASDGENSPIR_PWR_ON_P.tcl,v 1.7 2008/04/20 09:59:
09 herplm Exp $}

#####
# start of test sequence
#####

# SPIRE Power ON
#
# Initial Conditions SPIRE OFF
# Author: S.Hamer, Terma AS

# Enable logging to screen
setup_win
logm "Power ON SPIRE Prime and enable MIL1553 I/F"

#initialise TM/TC logging function
EGSE_init

yesorno "SPIRE Switch ON for IST activities in any conditions - Select NO to abort TS if not correct"
waittime 00.00.01.0000
if { $user_gen == 4 } {
    infom "The Test Sequence is aborted...!!!"
    exit
}

# Verify initial conditions (SPIRE LCLs should be OFF)
```

step 34 / PVS #1

9 Summary Sheets

9.1 Procedure Variation Summary

		Test Change	Curr. No.: <b>2</b>
			Date <i>29/04/2008</i>
			Page <i>1</i> of
Test designation <i>Instrument FDIR OBCP IST</i>	Test Procedure <i>HP-2-ASED-TP-0197</i>	Issue <i>1</i>	Rev. <i>—</i>
Test step changed	Reason for Change <i>Open work from TRR MN-10397</i>		
<p><i>1) Prior to switching the HIFI from STANDBY into science download mode the downlink rate will be increased from 150 Kbps to 1.5 Mbps</i></p> <p><i>2) Step 56:</i></p> <p><i>Before putting HIFI into science send command DC27F170 to change the downlink data rate (a.m. above).</i></p> <p><del><i>Execute script: 3102999SEVTO20ASEDGEN-HIFISTOP-2008-04-29</i></del> <i>covered by PVSS.</i></p> <p><i>3) after step 83:</i></p> <p><i>Send command DC22F170 to change the data rate back to 150 Kbps</i></p>			
Prepared by: <i>U. Klunke</i>	Resp. Test Leader <i>[Signature]</i>	Project Engineer	
PA/QA <i>R. Goossens</i>	Prime	Customer	

Table 9.1-1: Procedure Variation Sheet

9 Summary Sheets

9.1 Procedure Variation Summary

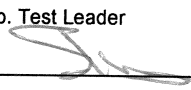

		Test Change		Curr. No.: 3	
				Date 29/04/2008	
				Page 1 of	
Test designation Instrument FDIR OBCP IST		Test Procedure HP-2-ASED-TP-0197		Issue 1	Rev. -
Test step changed See below.		Reason for Change Missing detail from procedure			
<p>1) step 56: When prompted to call science mode sequence execute test script Z102999SCVT020-ASDFEN-HIFISTBY1_20PS-P</p>					
Prepared by: U. Klenke		Resp. Test Leader 		Project Engineer	
PA/QA BHOGE 		Prime		Customer	

Table 9.1-1: Procedure Variation Sheet

9 Summary Sheets

9.1 Procedure Variation Summary

		Test Change	Curr. No.: 4
			Date 29/04/2008
			Page 1 of
Test designation Instrument FDIR OBCP IST	Test Procedure HP-2-ASED-TP-0197	Issue 1	Rev. -
Test step changed See below	Reason for Change Missing detail from Procedure		
<p>1) - at step 26*: from test conductor console enter:          connect HIFIEGSE and verify YZS27940 = connected ✓          - start test script ALL-SubscribeParams.tcl ✓          - start test scripts HIFIST-ASED-PatchPtvChecksum.tcl ✓          and HIFIST-ASED-PatchTemplimits.tcl ✓          then continue with original step 26          * of section 7.2</p>			
<p>2) after step 6 of section 7.6:          stop test script ALL-SubscribeParams.tcl and          disconnect HIFIEGSE and verify YZS27940 = <del>connected</del> dis ✓          connected</p>			
<p>3) after step 27 of section 7.2: when prompted to perform          readback check goto EGSE room and run the          command ::verifyreadback - {OBSID} and verify          PASS is returned by execution of command. ✓</p>			
Prepared by: U. Klenke	Resp. Test Leader 	Project Engineer	
PA/QA S. Hoer	Prime	Customer	

Table 9.1-1: Procedure Variation Sheet

9 Summary Sheets

9.1 Procedure Variation Summary

		Test Change	Curr. No.: 5 Date 29/04/2008 Page 1 of 1	
Test designation Instrument FDIR OBCP IST		Test Procedure HP-2-ASED-TP-0197	Issue 1	Rev. -
Test step changed after step 32		Reason for Change Investigate NCR-4181, <del>Recover from TM problems</del> <i>Jim</i>		
<p>Set bus profile back to PACS Prime and send therefore =</p> <ul style="list-style-type: none"> <li>- DC819160 set PACS(4) as active bus profile</li> <li>- DC819160 set HIFI(2) as active bus profile</li> <li>- DC819160 set bus profile to 5 (sun acq.)</li> </ul>				
Prepared by: <i>U. Klenke</i>		Resp. Test Leader <i>Jim</i>	Project Engineer	
PA/QA <i>R. Goossens</i>		Prime	Customer	

Table 9.1-1: Procedure Variation Sheet



9 Summary Sheets

9.1 Procedure Variation Summary



		Test Change	Curr. No.: 6 Date 29/04/2008 Page 1 of		
Test designation Instrument FDIR OBCP IST		Test Procedure HP-2-ASED-TP-0197	Issue 1	Rev. -	
Test step changed 50		Reason for Change SCRIPT ERROR. SPR-502			
<p>1) DUE TO INCORRECT CALL OF MTL PING (CALL CONTAINED "etc") (SPR 502 PASSED)</p> <p>CALL D102159SCVT214-IST-HIFI-MTL-PING FROM CONDUCTOR CONSOLE.</p> <p>THEN RESUME 2010999MCVT134-IST-HIFI-FDIR.</p>					
<p>2) AS ABOVE, AT STEP 73 + 81</p> <p>CALL D102159SCVT192-GET-EAT-REPORT</p>					
Prepared by: S. ELSIEY		Resp. Test Leader 	Project Engineer		
PA/QA S. HOGG 		Prime	Customer		

Table 9.1-1: Procedure Variation Sheet

9 Summary Sheets

9.1 Procedure Variation Summary

		Test Change		Curr. No.: 7	
				Date 29/04/2008	
				Page 1 of	
Test designation Instrument FDIR OBCP IST		Test Procedure HP-2-ASED-TP-0197		Issue 1	Rev. -
Test step changed AFTER 85		Reason for Change			
<p>1) TERMINATE SCRIPT (ALREADY RUNNING) from previous activity ALL - SubscribeParams.tcl</p>					
<p>2) Bus PROFILE EXPECTED TO FAIL DURING STATUS CHECK. (SET TO HIGH FROM PREVIOUS activity (ACS - SD - 0320)</p>					
Prepared by: S. EISLEY		Resp. Test Leader		Project Engineer	
PA/QA B. HOGGER		Prime		Customer	

Table 9.1-1: Procedure Variation Sheet

9 Summary Sheets

9.1 Procedure Variation Summary

		Test Change	Curr. No.: 8
			Date 29/04/2008
			Page 1 of
Test designation Instrument FDIR OBCP IST	Test Procedure HP-2-ASED-TP-0197	Issue 1	Rev. -
Test step changed See below <del>Section 7.3 step 163</del>	Reason for Change Switch OFF: PACS FDIR complete		
<p><del>Step</del> On step 163 at prompt select SKIP instead of CONFIRM to avoid switching on PACS again unnecessarily.</p> <p>Continue at step 177</p> <p>On step 180 at prompt select SKIP.</p> <p>Continue at step 184.</p> <p>Skip section 7.5</p> <p>Continue at section 7.6 step 1</p>			
Prepared by: S. Eschen	Resp. Test Leader 	Project Engineer	
PA/QA B. Högger B. J. M.	Prime	Customer	

Table 9.1-1: Procedure Variation Sheet

9.2 Non Conformance Report (NCR) and SPR Summary

The status of all NCRs/SPRs, generated during the test, shall be given-in in the table below:

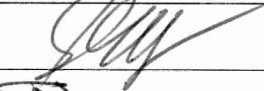


NCR/SPR	NCR/SPR - Title	Date	Open Closed	PA sig.
<del>SPR 497</del>				
SPR 501	HIFI EGSE RELATED STEPS TO BE REMOVED FROM SCRIPT SCRIPT	29/04/08	IMPLEM	BD
SPR 502	CALL OF SCRIPT ERROT	29/04/08	IMPLEMENTED	BD
SPR 503	INCORRECT INFO PROMT IN PACS FDIR	29/04/08	IMP	BD
NCR 4175				BD
NCR 4177				BD
NCR 4179				BD
NCR 4181				BD
NCR 4250	HIFI OSS Runtime errors during HIFI_RESET_OBCP	29/04/08 02/06/08		

NCR/SPR	NCR/SPR - Title	Date	Open Closed	PA sig.

Table 9.2-1: Non-Conformance Record 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	27/05/08	
Test Conductor	27/05/08	
PA Responsible	27/05/08	

10 Session Record

Test Description	IST 1 INST FDIR OBCP
Session ID	2008-09-28_21.05_hardman_hpus22-REALTIME_INST_FDIR
Start Time:	21.05 UTC
End Time	
CVS Tag for Test	IST1-PART1-TP097-1-LEND-001
Applicable IST Specification	Iss 5 redlined
Test conductor	S. HAMER
QA Approval	R. Goossens

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.
	Alberti von Mathias Dr.	ASG23		Reichle Konrad	ASA42
	Baldock Richard	FAE12	X	Runge Axel	OTN/ASA44
	Barlage Bernhard	AED13		Sauer Maximilian Dr.	AED65
	Bayer Thomas	ASA42		Schink Dietmar	AED32
	Brune Holger	ASA45		Schmidt Thomas	AED15
	Edelhoff Dirk	AED2		Schweickert Gunn	ASG23
	Fehringer Alexander	ASG13	X	Sonn Nico	ASG51
X	Fricke Wolfgang Dr.	AED 65		Steininger Eric	AED32
	Geiger Hermann	ASA42	X	Stritter Rene	AED11
	Grasl Andreas	OTN/ASA44		Suess Rudi	OTN/ASA44
	Grasshoff Brigitte	AET12		Theunissen Martijn	DSSA
X	Hamer Simon	Terma	X	Vascotto Riccardo	HE Space
	Hanka, Erhard	FI552		Wagner Klaus	ASG23
	Hendrikse Jeffrey	HE Space		Wietbrock Walter	AET12
X	Hendry David	Terma		Wöhler Hans	ASG23
	Hengstler Reinhold	ASA42		Wössner Ulrich	ASE252
	Hinger Jürgen	ASG23		Zumstein Armin	ASQ42
X	Hohn Rüdiger	AED65			
	Hölzle Edgar Dr.	AED32			
X	Hopfgarten Michael	AED32			
	Huber Johann	ASA42			
	Hund Walter	ASE252		Alcatel Alenia Space Cannes	AAS-F
X	Idler Siegmund	AED312		Alcatel Alenia Space Torino	AAS-I
	Ivány von András	FAE12		ESA/ESTEC	ESA
	Jahn Gerd Dr.	ASG23			
	Kalde Clemens	ASM2		<b>Instruments:</b>	
	Kettner Bernhard	AET42	X	MPE (PACS)	MPE
X	Klenke Uwe	ASG72	X	RAL (SPIRE)	RAL
	Knoblauch August	AET32	X	SRON (HIFI)	SRON
X	Koelle Markus	ASA43			
X	Koppe Axel	AED312			
	Kroeker Jürgen	AED65		<b>Subcontractors:</b>	
X	La Gioia Valentina	Terma		Alcatel Alenia Space Antwerp	ABSP
	Lang Jürgen	ASE252		Austrian Aerospace	AAE
	Langenstein Rolf	AED15		Austrian Aerospace	AAEM
	Langfermann Michael	ASA41		BOC Edwards	BOCE
	Martin Olivier	ASA43		Dutch Space Solar Arrays	DSSA
	Maukisch Jan	ASA43		EADS Astrium Sub-Subsyst. &	ASSE
X	Much Christoph	ASA43		EADS CASA Espacio	CASA
	Müller Jörg	ASA42		EADS CASA Espacio	ECAS
X	Müller Martin	ASA43		European Test Services	ETS
	Pietroboni Karin	AED65		Patria New Technologies Oy	PANT
	Platzer Wilhelm	AED2		SENER Ingenieria SA	SEN

## Attachment 3 to Section 6.7:

# As-Run Procedure HP-2-ASED-TP-0134 for SPIRE FDIR OBCP

AS RUN FOR FORMAL  
SPIRE FDIR ORCP

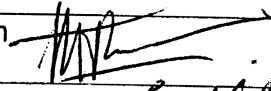
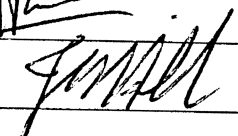
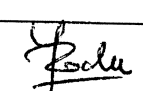
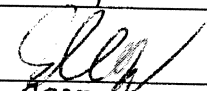
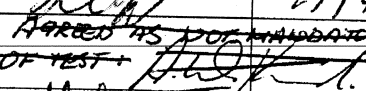
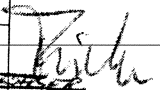
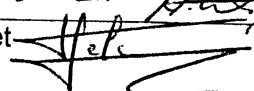
21/05/08

Title:

**Leading Procedure for Herschel Integrated Satellite Test**

2008-05-21-04-38-heracms-hpws22-  
REALTIME-INST-FDIR

CI-No:

Prepared by:	Functional Team	Date:
Checked by:	C. Much 	25/4/2008
Product Assurance:	J. Hall 	25/4/2008.
Configuration Control:	W. Wietbrock	
TASF Engineering	G. Beaufils po. 	25 APR 08
TASF Test Director	S. Mooney 	25/4/2008.
Project Management:	Dr. W. Fricke  <del>APPROVED AS PER MANUFACTURE SIGNATURE FOR START OF TEST +</del>	
Project Management	Denis Montet 	28/4/08 29/04/08

Distribution: See Distribution List (last page)

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Change Record:

Issue	Date	Sheet	Description of Change	Release
1	11.01.2008		Initial version	1
1.1	04.02.2008		- see change bar	
1.2	27.02.2008		Update IST START step description according to AS RUN procedures, Add Operator note in Annex D, Add IST_GUI pictures, Update Hierarchy Script	
2.0	11.03.2008		5.4.3.1 Add CCS Light in EGSE Hardware Configuration 7.1.2 change all RFDN SM values from BBBB to ABBB (See procedure variations) 7.1.2 change value of "Bat.SCOE in table for launch clean run 7.1.2 change value of "TTR in SM" in table for "FDIR" and "Nom mode Robustness" 7.1.2 Correct SSMM configuration for ACMS commissioning 7.1.3 Step 1 add script name 7.1.3 Step 2 describe how to open window 7.1.3 Step 4 additional remark N/A for "Launch Clean Run" 7.1.3 Step 5 additional remark N/A for "Launch Clean Run" 7.1.3 Step 7 additional remark N/A for "Launch Clean Run" 7.1.3 Move Step 7b as 9b 7.1.3 Step 8-9 appears always (not only for launch cases) 7.1.3 step 20 add Operator Note 11 reference 7.1.3 step 22 deleted 7.1.3 step 23 added "Satellite state displayed" 7.1.3 step 29 remark deleted 7.1.3 step 33-34 Remark moved from step 34 to step 33 7.1.3 step 39 additional remark 7.1.4.1 step 9 add SPR 282 7.1.4.2 step 4 correct script name 7.1.4.2 step 5-6-7 clarify N/A 7.1.4.2 step 8 move remark to step 10 7.1.4.2 step 10 add SPR and NCR and expected TM(5,1) 7.1.4.2 step 13 add PM_reset TC Not Acknowledged 7.3 step 2 change YES to Confirm	

			<p>7.3 step 2 add "RWL ON" condition          7.3 step 5 correct typo          7.3 step 7 add out of limit comment          7.3 add step 12a          7.3 remove step24          7.3 move step21 after WRITE_CROME step 23          7.3.1 4th Step 31 Add event TM(5,1) expected during ACC OFF          Annex D add Operator Note 11</p> <p>Rename Chapter 7 as IST Test          Create new subchapters              7.1 HPCCS configuration for IST Test              7.1.1 Apply Tag on test files</p>	
3	17.04.08		<p>Update IST START procedure according to the AS RUN procedure for Nominal Mode Robstness (minor changes),</p> <p>4.3.1 &amp; 4.3.2 to include SCOE Sk01J04 and to correct hcu connector ident Typo's</p> <p>7.2.1 Insert IST Start overview test flow diagram</p> <p>7.2.2 update table 5.8.12 Nom Mode Robustness table to be i.a.w. the IST Specification</p>	
4	24.04.08		<p>Update IST START procedure according to the AS RUN procedure for minor updates,</p> <p>Include step 21 in Section 7.2.4 - start a CCU log file to monitor temperature TLM's</p>	

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## 1 Scope

This Test Procedure contains the overall IST start-up and shutdown procedures for the satellite covering all the defined test cases as well as being the entry point for calling the appropriate test configuration.

It also contains the supporting definition of the relevant supporting infrastructure and pre test conditions required for the IST tests to be performed correctly.

All pre-requisites for the Helium II procedures shall be incorporated into a future issue of this document.

## 1.1 Objective

This document is the entry point for the Integrated Satellite Test - IST - test cases to be executed as part of the overall IST campaign for the Herschel project.

This document shall act as the leading procedure, to become 'as run' procedure for each IST test case that is executed, and shall be identified on the front sheet in 'Red' before start of test. A new 'as run' copy of the procedure shall be used for each test run, and will become an accurate history of the test performed. All activities will be recorded, with results obtained. Any anomalies found will be noted in the step by step section as they arise, and where applicable an SPR (Software Problem reports) will be raised.

The identification of hazardous conditions associated with the test article and the operations, which might damage equipment, cause injury or invalidate test data, will be herein provided. Precautions to be observed, with correlation to the specific areas of applicability, will be provided as well in the descriptions of the test set-up to be adopted.

## 1.2 Flow

The test flow is divided into two main areas: IST1 pre-environmental testing and IST2 which will be performed post environmental testing. For IST1 the tests will be grouped into 3 main test groups: Warm Case, He I, and He II condition. (See list below). For IST2 all testing shall be performed in He II condition.

### IST 1

#### ➤ Warm case

- Launch clean run
- Launch phase, separation and post separation
- Satellite Commissioning warm case
- ACMS commissioning
- Launch sequence robustness
- Mode transitions Warm case

#### ➤ He I

- Mode transitions He I or He II
  - S/C reconfiguration
  - NOM mode robustness
- 

#### ➤ He II

- Instruments commissioning and performance verification
- CDMS management
- DTCP worst case scenario
- Satellite/ CCU Commissioning He II only
- Reference Mission Scenario

### IST 2

All tests will be performed in He II

Tests may be run in any order

**2 Documents**

## 2.1 Applicable Documents

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)

AD 2.1.1 Herschel Integrated Satellite Test Specification H-P-2-ASP-0939

## 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 2.2.1.a.	Herschel/Planck Reference Mission Scenario	SCI-PT-12759
RD 2.2.1.b.	H/P ACMS S/S AVM SIT Specification	H-P-SP-AI-0059
RD 2.2.1.c.	H CDMS SIT Specification	H-P-SP-AI-0065
RD 2.2.1.d.	H TT&C SIT Specification	H-P-SP-AI-0078
RD 2.2.1.e.	H PCS SIT Specification	H-P-SP-AI-0079
RD 2.2.1.f.	Packet Store Usage on H/P 6603	PT-CMOC-OPS-TN-
RD 2.2.1.g.	Software user's Manual	P-HPL-NOT-0029-SE
RD 2.2.1.h.	CDMU ASW Requirement Specification	H-P-SP-AI-0031
RD 2.2.1.i.	Basic Software Requirement Specification	H-P-SP-AI-0006
RD 2.2.1.m.	H/P ACMS Requirement Specification	H-P-SP-AI-0011
RD 2.2.1.n.	SVM FDIR Design Specification	H-P-TN-AI-0024
RD 2.2.1.o.	Herschel Planck PSICD	SCI-PT-ICD-07527
RD 2.2.1.p.	H-P-CDMU ASW User Manual	H-P-4-SSF-MA-0001
RD 2.2.1.q.	H-P ACMS Design Report	H-P-4-DS-TN-0011
RD 2.2.1.r.	H-P ACMS TC Definition	H-P-4-DS-TN-0024
RD 2.2.1.s.	ACMS FDIR Analysis Report	H-P-4-DS-TN-0010
RD 2.2.1.t.	CDMU HW User Manual	P-HPL-NOT-0009

### 2.3 Other Documents

Additional to the IST Leading procedure there are the Step by Step IST procedure for each test case and a separate Instrument Power ON/OFF Switching procedure (see the table below).

IST Step by Step Test Procedures	HP-2-ASED-	Test to be performed
Herschel IST Test Case 'Launch Phase, Separation and Post Separation'	TP-0185	
Herschel IST Test Case 'Satellite Commissioning'	TP-0186	
Herschel IST Test Case 'ACMS Commissioning'	TP-0187	
Herschel IST Test Case 'Instruments Commissioning and Performance Verification'	TP-0188	
Herschel IST Test Case 'Mode Transitions'	TP-0189	
Herschel IST Test Case 'S/C Reconfiguration'	TP-0190	
Herschel IST Test Case 'CDMS Management'	TP-0191	
Herschel IST Test Case 'DTCP Worst Case Scenario'	TP-0192	
Herschel IST Test Case 'REFERENCE Mission Scenario'	TP-0193	
Herschel IST Test Case 'Launch Clean Run'	TP-0194	
Herschel IST Test Case 'Launch Sequence Robustness'	TP-0195	
Herschel IST Test Case 'NOM Mode Robustness'	TP-0196	
Herschel IST Test Case 'Test of Instrument FDIR OBCP'	TP-0197	
Herschel Instrument Power On/Off and Mode Switching Procedure for Functional Testing	TP-0206	

### 3 Requirements to be verified

See AD 2.1.1 "Herschel Integrated Satellite Test Specification" section 9



## 4 Configuration

#### 4.1 Hardware Configuration

The activities described in this test procedure require the complete system configuration according to the hardware matrix here below reported.

S/S	Unit	Configuration	SCOE simulated equipments	Remarks
		<i>Herschel</i>		
<b>EGSE</b>	CCS	1		
	CCS lite	1		
	TM/TC DFE	1		
	CDMU SCOE	1		
	ACMS SCOE	1		
	TT&C SCOE	1		
	POWER SCOE	1		
	CCU SCOE			
<b>IGSE</b>	<b>HIFI IGSE</b>	1		
	<b>PACS IGSE</b>	1		
	<b>SPIRE IGSE</b>	1		
<b>PCS</b>	PCDU	1+1		
	Battery	1 Installed. Only connected for Launch clean run	1	Battery Simulation for other tests
	Solar Array	30 nom sections not required for IST	1	Power SCOE
<b>CDMS</b>	CDMU	1+1		
<b>ACMS</b>	ACC	1+1		
	RWA	3+1		
	GYRO	3+1		
	STR	2		
	CRS	2		
	AAD	1+1 internal red		
	SAS	2+2 internal red		
<b>TT&amp;C</b>	XPND	2		
	TWT	2		
	EPC	2		
	LGA	2 (not used during the IST)		

S/S	Unit	Configuration	SCOE simulated equipments	Remarks
	MGA	1 (not used during the IST)		
RCS		1+1 (not used during the IST)		ACMS SCOE
TCS		1 (partially installed)		
VMC		1		
SREM		1		
HIFI		1		
PACS		1		
SPIRE		1		
Telescope		1		
HSS		1		

Table 1: Satellite configuration required for IST

#### 4.2 SW Configuration

The Satellite IST will be run with the on-board software configuration as detailed in the IST TRR.

The actual configuration of the software should be noted here to ensure correct system status

- CDMS OBSW: \_\_\_\_\_
- ACMS OBSW: \_\_\_\_\_
- STR PROM SW: \_\_\_\_\_
- STR EEPROM SW: \_\_\_\_\_
- PACS DPU SW: \_\_\_\_\_
- PACS SPU SW: \_\_\_\_\_
- PACS DMC SW: \_\_\_\_\_
- HIFI ICU SW: \_\_\_\_\_

---

- SPIRE DPU SW: \_\_\_\_\_

### 4.3 SCOE Cables Connection

For the IST there are four different SCOE cables configuration.

- Configuration 1 for "Nominal Launch" and "RMS" see 4.3.1
- Configuration 2 for " Instrument Commissioning", "Mode Transitions", "S/C Reconfiguration", "Launch Mode Robustness", "CDMS management", "ACMS Commissioning", "Satellite commissioning" and "DTCP Worst Case Scenario" " NOM Mode Robustness" 4.3.2
- Configuration 3 for " Launch Clean Run" 4.3.3

4.3.1 SCOE cable connection for "RMS"

SCOE CABLES CONNECTION to HERSCHEL S/C					
SKIN-01	PWR Panel (PCDU)				
	Connector Function	Skin Connector	S/C unit	SCOE CABLE	Flight Connector
	BS Nom Power	SK01BJ09	PCDU		PCDU Flight Plug SK01BP09 Plugged
	BS Red Power	SK01BJ10	PCDU		PCDU Flight Plug SK01BP09 Plugged
	BDR1 AIT	SK01BJ11	PCDU	LPS SCOE Cable Plugged	
	BDR2 AIT	SK01BJ12	PCDU	LPS SCOE Cable Plugged	
	SA Nom Power	SK01AJ01	PCDU	POWER SCOE Cable Plugged	
	SA Nom Power	SK01AJ02	PCDU	POWER SCOE Cable Plugged	
	SA Nom Power	SK01AJ03	PCDU	POWER SCOE Cable Plugged	
	SA Red Power	SK01AJ04	PCDU	Connector Cover	
				POWER SCOE	
				Cable Plugged	
				POWER SCOE Cable Plugged	
				POWER SCOE Cable Plugged	
SKIN-02	PWR Panel (ACC, CDMU, RCS, 1553 & Thruster)				
	Connector Function	Skin Connector	S/C unit	SCOE CABLE	Flight Connector
	SKIN-02 DMS 1553 Bus_A	J01	CDMU	Bus Monitor Cable Plugged	
	SKIN-02 DMS 1553 Bus_B	J02	CDMU	Bus Monitor Cable Plugged	
	SKIN-02 ACMS 1553 Bus_A	J03	ACC	ACMS SCOE Cable Plugged	
	SKIN-02 ACMS 1553 Bus_B	J04	ACC	ACMS SCOE Cable Plugged	
	SKIN-02 LV1/FCV 20N CMD S/A M	J05	ACC/RCS	ACMS SCOE Cable Plugged	
	SKIN-02 LV2/FCV 20N CMD S/A R	J06	ACC/RCS	ACMS SCOE Cable Plugged	

SKIN-02	RCS Press/Tank Temp/PT Pwr	J07	ACC/PT&TH	ACMS SCOE Cable Plugged	
SKIN-02	Thruster Temp M/LV1 Sts	J08	ACC/RCS	ACMS SCOE Cable Plugged	
SKIN-02	CDMU and ACC EEPROM reprogramming input	J09	ACC/CDMU		Flight Cap SK02P09 Plugged
SKIN-02	CDMU and ACC EEPROM reprogramming input	J10	ACC/CDMU		Flight Cap SK02P10 Plugged
SKIN-02	Thruster Temp R/LV2 Sts	J11	ACC/RCS	ACMS SCOE Cable Plugged	
SKIN-02	Thruster C/B Heaters M	J12	ACC/CBH	ACMS SCOE Cable Plugged	
SKIN-02	Thruster C/B Heaters R	J13	ACC/CBH	ACMS SCOE Cable Plugged	
SKIN-02	Str1/2 On/Off Cmd M/Str1 Sts	J14	ACC/STR-1		ACMS Flight Cap SK02P14 Plugged
SKIN-02	Str1/2 On/Off Cmd R/Str2 Sts	J15	ACC/STR-2		ACMS Flight Cap SK02P15 Plugged
SKIN-02	Gyro A On/Off Cmd	J16	ACC/GYRO-E1		ACMS Flight Cap SK02P16 Plugged
SKIN-02	Gyro B On/Off Cmd	J17	ACC/GYRO-E2		ACMS Flight Cap SK02P17 Plugged
<b>SKIN-03</b>	<b>TTC Panel</b>				
	<b>Connector Function</b>	<b>Skin Connector</b>	<b>S/C unit</b>	<b>SCOE CABLE</b>	<b>Flight Connector</b>
SKIN-03	Test point TC + protection jumper EPC1	SK03J01	XPND1/EPC1		Plastic cap (See note1)
SKIN-03	Test point TC + protection jumper EPC2	SK03J02	XPND2/EPC2		Plastic cap (See note1)
	<b>RF LINK</b>				
	<b>Connector Function</b>	<b>Skin Connector</b>	<b>S/C unit</b>	<b>SCOE CABLE</b>	<b>Flight Connector</b>
	RF link for antenna LGA1	N/A	LGA1	RF SCOE LGA1 Plugged	LGA1 Anechoic Cap
	RF link for antenna LGA2	N/A	LGA2	RF SCOE LGA2 Plugged	LGA2 Anechoic Cap
	RF link for antenna MGA	N/A	MGA	RF SCOE MGA Plugged	MGA Anechoic Cap
<b>SKIN-04</b>	<b>ACMS Panel (RWE)</b>				
	<b>Connector Function</b>	<b>Skin Connector</b>	<b>S/C unit</b>	<b>SCOE CABLE</b>	<b>Flight Connector</b>
SKIN-04	RWL1 Sgn	J01	ACC/RWL-1		ACMS Flight Cap SK04P01 Plugged
SKIN-04	RWL2 Sgn	J02	ACC/RWL-2		ACMS Flight Cap SK04P02 Plugged
SKIN-04	RWL3 Sgn	J03	ACC/RWL-3		ACMS Flight Cap SK04P03 Plugged

SKIN-04	RWL4 Sgn	J04	ACC/RWL-4		ACMS Flight Cap SK04P04 Plugged
SKIN-05	GYR/QRS Panel				
	Connector Function	Skin Connector	S/C unit	SCOE CABLE	Flight Connector
SKIN-05	CRS1 AOCs Sgn	J01	CRS-1/ACC		ACMS Flight Cap
SKIN-05	CRS2 AOCs Sgn	J02	CRS-2/ACC		ACMS Flight Cap
SKIN-05	GYRO RS422 / Test	J03	GYRO	ACMS SCOE Cable Plugged	
SKIN-05	CRS 1/2 Stimuli	J04	CRS-1,2	ACMS SCOE Cable Plugged	
SKIN-05	AAD Sgn M	J05	AAD/ACC	ACMS SCOE Cable Plugged	
SKIN-05	SAS1/2 Sgn M	J06	SAS/ACC	ACMS SCOE Cable Plugged	
SKIN-05	SAS1/2 Sgn R	J07	SAS/ACC	ACMS SCOE Cable Plugged	
SKIN-05	AAD Sgn R	J08	AAD/ACC	ACMS SCOE Cable Plugged	
SKIN-06	STR Panel				
	Connector Function	Skin Connector	S/C unit	SCOE CABLE	Flight Connector
SKIN-06	STR1 Stimuli	J01	STR1	ACMS SCOE Cable Plugged	
SKIN-06	STR2 Stimuli	J02	STR2	ACMS SCOE Cable Plugged	
	<b>UMBILICAL</b>				
	Connector Function	Connector	S/C unit	SCOE CABLE	
	Power/Data	HU1 J01	SYSTEM	SCOE's cable Plugged	
	Power/Data	HU2 J01	SYSTEM	SCOE's cable Plugged	



CryoSCOE harness setup for ACS/PR/TP No.:

Annex No.:

315 100	on top of					
	Connector Function	Connector	S/C unit	SCOE	CryoSCOE connected	CCU Flight connected
	Temperature Sensors	315100-J01	T117, T118, T207, T211, T238, T239, T249, T251, T253, T255, T423, T443, T463, T851, T852, T853, T861	Cryo SCOE J07 & J15		no flight
	Temperature & pressure Sensors	315100-J03	T702, T872, P101, T103, T115, T116, T704, T802, T803, T805, T806, T871	Cryo SCOE J01 & J17		no flight
	Temperature Sensors	315100-J05	T331, T333, T335, T337, T339, T341 (Telescope)	Cryo SCOE J14		X
	Temperature Sensors	315100-J06	T332, T334, T336, T338, T340, T342 (Telescope)	Cryo SCOE J10		X
316 100	on top of					
	Connector Function	Connector	S/C unit	SCOE	CryoSCOE connected	CCU Flight connected
	Valve Sensor	316100-J01	VS501, VS504			X
Valve Sensor	316100-J02	VS503, VS505			X	
321 100	on top of					
	Connector Function	Connector	S/C unit	SCOE	CryoSCOE connected	CCU Flight connected
		321100-J01	L701, H701	Cryo SCOE J11		no flight
		321100-J02	LL702, H702	Cryo SCOE J03		no flight
		321100-J03	H502, H503	Cryo SCOE J06		no flight
	321100-J04	P501	Cryo SCOE J01		no flight	

			H103, H701, L102, VT102, VT103, VT105, VT701, VH102, VH103, VH105, VH701, VS102, VS105, VS701	Cryo SCOE J11		no flight
			H104, H702, L101, VT104, VT106, VT702, VH104, VH106, VH702, VS104, VS702	Cryo SCOE J03		no flight
			H501	Cryo SCOE J06		no flight
			T502	Cryo SCOE J01		no flight
321 200	on top of					
	Connector Function	Connector	S/C unit	SCOE	CryoSCOE connected	CCU Flight connected
			T202, T212, T221, T223, T227, T228, T232, T234, T236, T242, T244, T246, T250, T254, T258, T424, T464	Cryo SCOE J08		X
			T102, T105, T106, T111, PR_P701, T421, T442, T461, H101	Cryo SCOE J04		X
			T321, T323, T501, T505, T651, T901, T903, T907, T911	Cryo SCOE J09		X
		T312, T314, T316, T905, T909, T931, T933, T935	Cryo SCOE J09		X	
			VS103, H102	Cryo SCOE J04		X
321 300	on top of					
	Connector Function	Skin Connector	S/C unit	SCOE	SCOE Cable connected	Flight Cap connected

			T208, T213, T222, T224, T225, T226, T231, T233, T235, T237, T247, T248, T252, T256, T862, T444				Cryo SCOE J02			X
			T101, T104, T107, T112, T703, T422, T441, T462, T701, H102				Cryo SCOE J04			X
			P502, T322, T324, T504, T506, T507, T652, T902, T908, T912				Cryo SCOE J18			X
			T311, T313, T315, T904, T906, T910, T932, T934				Cryo SCOE J14			X
			VS106, H102				Cryo SCOE J04			X
CVSE I/F	on top of									
	Connector Function	Skin Connector	S/C unit	SGOE	SCOE Cable connected	Flight Cap connected				
				Cryo SCOE J18						X
to be approved & released before start of ACS/PR/TP by Floor-Manager		Date:			Sign:					

SAFE / ARM plug setup for ACS/PR/TP No.:						
Annex No.:						
314 200	on top of					
	Connector Function	Connector	S/C unit	SAFE	ARM	Sign
	SAFE / ARM plug	314 200-J03	NED (601)	X		
	SAFE / ARM plug	314 200-J04	NED (602)	X		
	SAFE / ARM plug	314 200-J05	SI 601	X		
	SAFE / ARM plug	314 200-J06	SI 602	X		
to be approved & released before start of ACS/PR/TP by Floor-Manager			Date:		Sign:	

For SPIRE FDIR UCLP  
21/05/08

4.3.2 **SCOE cable connection for "Nominal Launch", "Satellite Commissioning", "Instrument Commissioning", "ACMS Commissioning", "Mode Transitions", S/C Reconfiguration", "CDMS management", DTCP Worst Case Scenario", "Launch Mode Robustness", "NOM Mode Robustness" and "Instrument FDIR"**

SCOE CABLES CONNECTION to HERSCHEL S/C					
SKIN-01	PWR Panel (PCDU)				
	Connector Function	Skin Connector	S/C unit	SCOE CABLE	Flight Connector
	BS Nom Power	SK01BJ09	PCDU	BS SCOE Cable Plugged	✓
	BS Red Power	SK01BJ10	PCDU	BS SCOE Cable Plugged	✓
	BDR1 AIT	SK01BJ11	PCDU	LPS SCOE Cable Plugged	✓
	BDR2 AIT	SK01BJ12	PCDU	LPS SCOE Cable Plugged	✓
	SA Nom Power	SK01AJ01	PCDU	POWER SCOE Cable Plugged	✓
	SA Nom Power	SK01AJ02	PCDU	POWER SCOE Cable Plugged	✓
	SA Nom Power	SK01AJ03	PCDU	POWER SCOE Cable Plugged	✓
	SA Red Power	SK01AJ04	PCDU	Connector Cover	✓
	SA Red Power	SK01AJ05	PCDU	POWER SCOE Cable Plugged	✓
	SA Red Power	SK01AJ06	PCDU	POWER SCOE Cable Plugged	✓
	SA Red Power	SK01AJ07	PCDU	POWER SCOE Cable Plugged	✓
	SKIN-02	PWR Panel (ACC, CDMU, RCS, 1553 & Thruster)			
Connector Function		Skin Connector	S/C unit	SCOE CABLE	Flight Connector
SKIN-02 DMS 1553 Bus_A		J01	CDMU	Bus Monitor Cable Plugged	✓
SKIN-02 DMS 1553 Bus_B		J02	CDMU	Bus Monitor Cable Plugged	✓
SKIN-02 ACMS 1553 Bus_A		J03	ACC	ACMS SCOE Cable Plugged	✓
SKIN-02 ACMS 1553 Bus_B		J04	ACC	ACMS SCOE Cable Plugged	✓
SKIN-02 LV1/FCV 20N CMD S/A M	J05	ACC/RCS	ACMS SCOE	✓	

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				Cable Plugged	
SKIN-02	LV2/FCV 20N CMD S/A R	J06	ACC/RCS	ACMS SCOE Cable Plugged	✓
SKIN-02	RCS Press/Tank Temp/PT Pwr	J07	ACC/PT&TH	ACMS SCOE Cable Plugged	✓
SKIN-02	Thruster Temp M/LV1 Sts	J08	ACC/RCS	ACMS SCOE Cable Plugged	✓
SKIN-02	CDMU and ACC EEPROM reprogramming input	J09	ACC/CDMU		Flight Cap SK02P09 Plugged ✓
SKIN-02	CDMU and ACC EEPROM reprogramming input	J10	ACC/CDMU		Flight Cap SK02P10 Plugged ✓
SKIN-02	Thruster Temp R/LV2 Sts	J11	ACC/RCS	ACMS SCOE Cable Plugged	✓
SKIN-02	Thruster C/B Heaters M	J12	ACC/CBH	ACMS SCOE Cable Plugged	✓
SKIN-02	Thruster C/B Heaters R	J13	ACC/CBH	ACMS SCOE Cable Plugged	✓
SKIN-02	Str1/2 On/Off Cmd M/Str1 Sts	J14	ACC/STR-1		ACMS Flight Cap SK02P14 Plugged ✓
SKIN-02	Str1/2 On/Off Cmd R/Str2 Sts	J15	ACC/STR-2		ACMS Flight Cap SK02P15 Plugged ✓
SKIN-02	Gyro A On/Off Cmd	J16	ACC/GYRO-E1		ACMS Flight Cap SK02P16 Plugged ✓
SKIN-02	Gyro B On/Off Cmd	J17	ACC/GYRO-E2		ACMS Flight Cap SK02P17 Plugged ✓
<b>SKIN-03</b>	<b>TTC Panel</b>				
	<b>Connector Function</b>	<b>Skin Connector</b>	<b>S/C unit</b>	<b>SCOE CABLE</b>	<b>Flight Connector</b>
SKIN-03	Test point TC + protection jumper EPC1	SK03J01	XPND1/EPC1		Plastic cap connector (See note 1) ✓
SKIN-03	Test point TC + protection jumper EPC2	SK03J02	XPND2/EPC2		Plastic cap connector (See note 1) ✓
	<b>RF LINK</b>				
	<b>Connector Function</b>	<b>Skin Connector</b>	<b>S/C unit</b>	<b>SCOE CABLE</b>	<b>Flight Connector</b>
	RF link for antenna LGA1	N/A	LGA1	RF SCOE LGA1 Plugged	LGA1 Anechoic Cap ✓
	RF link for antenna LGA2	N/A	LGA2	RF SCOE LGA2 Plugged	LGA2 Anechoic Cap ✓
	RF link for antenna MGA	N/A	MGA	RF SCOE MGA Plugged	MGA Anechoic Cap ✓
<b>SKIN-04</b>	<b>ACMS Panel (RWE)</b>				
	<b>Connector Function</b>	<b>Skin Connector</b>	<b>S/C unit</b>	<b>SCOE CABLE</b>	<b>Flight Connector</b>
SKIN-04	RWL1 Sgn	J01	ACC/RWL-1		ACMS Flight Cap SK04P01 Plugged ✓
SKIN-04	RWL2 Sgn	J02	ACC/RWL-2		ACMS Flight Cap ✓

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SKIN-04					SK04P02 Plugged
SKIN-04	RWL3 Sgn	J03	ACC/RWL-3		ACMS Flight Cap SK04P03 Plugged
SKIN-04	RWL4 Sgn	J04	ACC/RWL-4		ACMS Flight Cap SK04P04 Plugged
<b>SKIN-05</b>	GYR/QRS Panel				
	<b>Connector Function</b>	<b>Skin Connector</b>	<b>S/C unit</b>	<b>SCOE CABLE</b>	<b>Flight Connector</b>
SKIN-05	CRS1 AOCS Sgn	J01	CRS-1/ACC		ACMS Flight Cap
SKIN-05	CRS2 AOCS Sgn	J02	CRS-2/ACC		ACMS Flight Cap
SKIN-05	GYRO RS422 / Test	J03	GYRO	ACMS SCOE Cable Plugged	✓
SKIN-05	CRS 1/2 Stimuli	J04	CRS-1,2	ACMS SCOE Cable Plugged	✓
SKIN-05	AAD Sgn M	J05	AAD/ACC	ACMS SCOE Cable Plugged	✓
SKIN-05	SAS1/2 Sgn M	J06	SAS/ACC	ACMS SCOE Cable Plugged	✓
SKIN-05	SAS1/2 Sgn R	J07	SAS/ACC	ACMS SCOE Cable Plugged	✓
SKIN-05	AAD Sgn R	J08	AAD/ACC	ACMS SCOE Cable Plugged	✓
<b>SKIN-06</b>	STR Panel				
	<b>Connector Function</b>	<b>Skin Connector</b>	<b>S/C unit</b>	<b>SCOE CABLE</b>	<b>Flight Connector</b>
SKIN-06	STR1 Stimuli	J01	STR1	ACMS SCOE Cable Plugged	✓
SKIN-06	STR2 Stimuli	J02	STR2	ACMS SCOE Cable Plugged	✓
	<b>UMBILICAL</b>				
	<b>Connector Function</b>	<b>Connector</b>	<b>S/C unit</b>	<b>SCOE CABLE</b>	
	Power/Data	HU1 J01	SYSTEM	SCOEs cable Plugged	✓
	Power/Data	HU2 J01	SYSTEM	SCOEs cable Plugged	✓

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[Signature]

CryoSCOE harness setup for ACS/PR/TP No.:						
Annex No.:						
315 100	on top of					
	Connector Function	Connector	S/C unit	SCOE	CryoSCOE connected	CCU Flight connected
	Temperature Sensors	315100-J01	T117, T118, T207, T211, T238, T239, T249, T251, T253, T255, T423, T443, T463, T851, T852, T853, T861	Cryo SCOE J07 & J15		no flight
	Temperature & pressure Sensors	315100-J03	T702, T872, P101, T103, T115, T116, T704, T802, T803, T805, T806, T871	Cryo SCOE J01 & J17		no flight
	Temperature Sensors	315100-J05	T331, T333, T335, T337, T339, T341 (Telescope)	Cryo SCOE J14		X
	Temperature Sensors	315100-J06	T332, T334, T336, T338, T340, T342 (Telescope)	Cryo SCOE J10		X
316 100	on top of					
	Connector Function	Connector	S/C unit	SCOE	CryoSCOE connected	CCU Flight connected
	Valve Sensor	316100-J01	VS501, VS504			X
Valve Sensor	316100-J02	VS503, VS505			X	
321 100	on top of					
	Connector Function	Connector	S/C unit	SCOE	CryoSCOE connected	CCU Flight connected
		321100-J01	L701, H701	Cryo SCOE J11		no flight
		321100-J02	LL702, H702	Cryo SCOE J03		no flight
	321100-J03	H502, H503	Cryo SCOE J06		no flight	



		321100-J04	P501	Cryo SCOE J01		no flight
		321100-J05	H103, H701, L102, VT102, VT103, VT105, VT701, VH102, VH103, VH105, VH701, VS102, VS105, VS701	Cryo SCOE J11		no flight
		321100-J06	H104, H702, L101, VT104, VT106, VT702, VH104, VH106, VH702, VS104, VS702	Cryo SCOE J03		no flight
		321100-J07	H501	Cryo SCOE J06		no flight
		321100-J08	T502	Cryo SCOE J01		no flight
321 200	on top of					
	Connector Function	Connector	S/C unit	SCOE	CryoSCOE connected	CCU Flight connected
		321200-J01	T202, T212, T221, T223, T227, T228, T232, T234, T236, T242, T244, T246, T250, T254, T258, T424, T464	Cryo SCOE J08		X
		321200-J02	T102, T105, T106, T111, PR_P701, T421, T442, T461, H101	Cryo SCOE J04		X
		321200-J03	T321, T323, T501, T505, T651, T901, T903, T907, T911	Cryo SCOE J09		X
		321200-J04	T312, T314, T316, T905, T909, T931, T933, T935	Cryo SCOE J09		X
		321200-J05	VS103, H102	Cryo SCOE J04		X

321 300	on top of					
	Connector Function	Skin Connector	S/C unit	SCOE	SCOE Cable connected	Flight Cap connected
		321300-J01	T208, T213, T222, T224, T225, T226, T231, T233, T235, T237, T247, T248, T252, T256, T862, T444	Cryo SCOE J02		X
		321300-J02	T101, T104, T107, T112, T703, T422, T441, T462, T701, H102	Cryo SCOE J04		X
		321300-J03	P502, T322, T324, T504, T506, T507, T652, T902, T908, T912	Cryo SCOE J18		X
		321300-J04	T311, T313, T315, T904, T906, T910, T932, T934	Cryo SCOE J14		X
	321300-J05	VS106, H102	Cryo SCOE J04		X	
CVSE I/F	on top of					
	Connector Function	Skin Connector	S/C unit	SCOE	SCOE Cable connected	Flight Cap connected
				Cryo SCOE J18		X
to be approved & released before start of ACS/PR/TP by Floor-Manager		Date:		Sign:		

SAFE / ARM plug setup for ACS/PR/TP No.:						
Annex No.:						
314 200	on top of					
	Connector Function	Connector	S/C unit	SAFE	ARM	Sign
	SAFE / ARM plug	314 200-J03	NED (601)	X		
	SAFE / ARM plug	314 200-J04	NED (602)	X		
	SAFE / ARM plug	314 200-J05	SI 601	X		
	SAFE / ARM plug	314 200-J06	SI 602	X		
to be approved & released before start of ACS/PR/TP by Floor-Manager			Date:	Sign:		

4.3.3 SCOE cable connection for "Launch Clean Run"

SVM / EGSE harness setup for ACS/PR/TP No.:						
Annex No.:						
SKIN-01	PWR Panel (PCDU)					
	Connector Function	SCOE	S/C unit	Skin Connector	Connection	Sign
	SA Nom Power	SAS SCOE	PCDU	SK01A J/P01	disconnected	
	SA Nom Power	SAS SCOE	PCDU	SK01A J/P02	disconnected	
	SA Nom Power	SAS SCOE	PCDU	SK01A J/P03	disconnected	
			Battery	SK01A J/P04	EMC cover	
	SA Red Power	SAS SCOE	PCDU	SK01A J/P05	disconnected	
	SA Red Power	SAS SCOE	PCDU	SK01A J/P06	disconnected	
	SA Red Power	SAS SCOE	PCDU	SK01A J/P07	disconnected	
	BS Nom Power	BS SCOE	PCDU	SK01B J/P09	Flight	
	BS Red Power	BS SCOE	PCDU	SK01B J/P10	Flight	
	BDR1 AIT	SAS SCOE	PCDU	SK01B J/P11	LPS SCOE Cable Plugged	
	BDR2 AIT	SAS SCOE	PCDU	SK01B J/P12	LPS SCOE Cable Plugged	
SKIN-02	PWR Panel (ACC, CDMU, RCS, 1553 & Thruster)					
	Connector Function	SCOE	S/C unit	Skin Connector	Connection	Sign
	DMS 1553 Bus_A	CDMU SCOE	CDMU	SK02 J/P01	Flight	
	DMS 1553 Bus_B	CDMU SCOE	CDMU	SK02 J/P02	Flight	
	ACMS 1553 Bus_A	ACMS SCOE	ACC	SK02 J/P03	Flight	
	ACMS 1553 Bus_B	ACMS SCOE	ACC	SK02 J/P04	Flight	
	LV1/FCV 20N CMD S/A M	ACMS SCOE	ACC/RCS	SK02 J/P05	disconnected	
	LV2/FCV 20N CMD S/A R	ACMS SCOE	ACC/RCS	SK02 J/P06	disconnected	
	RCS Press/Tank Temp/PT Pwr	ACMS SCOE	ACC/PT&TH	SK02 J/P07	Flight	
	Thruster Temp M/LV1 Sts	ACMS SCOE	ACC/RCS	SK02 J/P08	Flight	

	Quick S/W load	grey ACMS	black CDMS	SK02 J/P09	disconnected		
	Quick S/W load	grey ACMS	black CDMS	SK02 J/P10	disconnected		
	Thruster Temp R/LV2 Sts	ACMS SCOE	ACC/RCS	SK02 J/P11	Flight		
	Thruster C/B Heaters M	ACMS SCOE	ACC/CBH	SK02 J/P12	disconnected		
	Thruster C/B Heaters R	ACMS SCOE	ACC/CBH	SK02 J/P13	disconnected		
	Str1/2 On/Off Cmd M/Str1 Sts	ACMS SCOE	ACC/STR-1	SK02 J/P14	Flight		
	Str1/2 On/Off Cmd R/Str2 Sts	ACMS SCOE	ACC/STR-2	SK02 J/P15	Flight		
	Gyro A On/Off Cmd		ACC/GYRO-E1	SK02 J/P16	Flight		
	Gyro B On/Off Cmd		ACC/GYRO-E2	SK02 J/P17	Flight		
SKIN-03	TTC Panel						
	Connector Function	SCOE	S/C unit	Skin Connector	Connection		Sign
	Test point TC + protection jumper EPC1	Plastic Cap	XPND1/EPC1	SK03 J/P01	Flight		
	Test point TC + protection jumper EPC2	Plastic Cap	XPND2/EPC2	SK03 J/P02	Flight		
	RF LINK						
	Connector Function	SCOE	S/C unit	Skin Connector	Connection		Sign
	RF link for antenna LGA1	TT&C SCOE	LGA1	LGA1 Anechoic Cap	RF-SCOE		
	RF link for antenna LGA2	TT&C SCOE	LGA2	LGA2 Anechoic Cap	RF-SCOE		
	RF link for antenna MGA	TT&C SCOE	MGA	MGA Anechoic Cap	RF-SCOE		
SKIN-04	ACMS Panel (RWE)						
	Connector Function	SCOE	S/C unit	Skin Connector	Connection		Sign
		RWL1 Sgn		ACC/RWL-1	SK04 J/P01	Flight	
		RWL2 Sgn		ACC/RWL-2	SK04 J/P02	Flight	
		RWL3 Sgn		ACC/RWL-3	SK04 J/P03	Flight	
		RWL4 Sgn		ACC/RWL-4	SK04 J/P04	Flight	

SKIN-05	GYR/QRS Panel						
	Connector Function	SCOE	S/C unit	Skin Connector	Connection		Sign
	CRS1 AOCs Sgn		CRS-1/ACC	SK05 J/P01	Flight		
	CRS2 AOCs Sgn		CRS-2/ACC	SK05 J/P02	Flight		
	GYRO RS422 / Test	ACMS SCOE	GYRO	SK05 J/P03	disconnected		
	CRS 1/2 Stimuli	ACMS SCOE	CRS-1,2	SK05 J/P04	disconnected		
	AAD Sgn M	ACMS SCOE	AAD/ACC	SK05 J/P05	Flight		
	SAS1/2 Sgn M	ACMS SCOE	SAS/ACC	SK05 J/P06	Flight		
	SAS1/2 Sgn R	ACMS SCOE	SAS/ACC	SK05 J/P07	Flight		
	AAD Sgn R	ACMS SCOE	AAD/ACC	SK05 J/P08	Flight		
SKIN-06	STR Panel						
	Connector Function	SCOE	S/C unit	Skin Connector	Connection		Sign
	STR1 Stimuli	STR1	STR1	SK06 J/P01	disconnected		
	STR2 Stimuli	STR2	STR2	SK06 J/P02	disconnected		
UMBILICAL	Connector Function	SCOE	S/C unit	Connector	Connection		Sign
	Power/Data	System	SYSTEM	HUJ01	SCOE		
	Power/Data	System	SYSTEM	HUJ02	SCOE		
approved SE		approved AIT		approved PA/Safety		approved Floor-Manger	
sign off:							

CryoSCOE harness setup for ACS/PR/TP No.:						
Annex No.:						
315 100	on top of					
	Connector Function	Connector	S/C unit	SCOE	CryoSCOE connected	CCU Flight connected
	Temperature Sensors	315100-J01	T117, T118, T207, T211, T238, T239, T249, T251, T253, T255, T423, T443, T463, T851, T852, T853, T861	Cryo SCOE J07 & J15		no flight
	Temperature & pressure Sensors	315100-J03	T702, T872, P101, T103, T115, T116, T704, T802, T803, T805, T806, T871	Cryo SCOE J01 & J17		no flight
	Temperature Sensors	315100-J05	T331, T333, T335, T337, T339, T341 (Telescope)	Cryo SCOE J14		X
	Temperature Sensors	315100-J06	T332, T334, T336, T338, T340, T342 (Telescope)	Cryo SCOE J10		X
316 100	on top of					
	Connector Function	Connector	S/C unit	SCOE	CryoSCOE connected	CCU Flight connected
	Valve Sensor	316100-J01	VS501, VS504			X
Valve Sensor	316100-J02	VS503, VS505			X	
321 100	on top of					
	Connector Function	Connector	S/C unit	SCOE	CryoSCOE connected	CCU Flight connected
		321100-J01	L701, H701	Cryo SCOE J11		no flight
		321100-J02	LL702, H702	Cryo SCOE J03		no flight
		321100-J03	H502, H503	Cryo SCOE J06		no flight
	321100-J04	P501	Cryo SCOE J01		no flight	

		321100-J05	H103, H701, L102, VT102, VT103, VT105, VT701, VH102, VH103, VH105, VH701, VS102, VS105, VS701	Cryo SCOE J11		no flight
		321100-J06	H104, H702, L101, VT104, VT106, VT702, VH104, VH106, VH702, VS104, VS702	Cryo SCOE J03		no flight
		321100-J07	H501	Cryo SCOE J06		no flight
		321100-J08	T502	Cryo SCOE J01		no flight
321 200	on top of					
	Connector Function	Connector	S/C unit	SCOE	CryoSCOE connected	CCU Flight connected
		321200-J01	T202, T212, T221, T223, T227, T228, T232, T234, T236, T242, T244, T246, T250, T254, T258, T424, T464	Cryo SCOE J08		X
		321200-J02	T102, T105, T106, T111, PR_P701, T421, T442, T461, H101	Cryo SCOE J04		X
		321200-J03	T321, T323, T501, T505, T651, T901, T903, T907, T911	Cryo SCOE J09		X
		321200-J04	T312, T314, T316, T905, T909, T931, T933, T935	Cryo SCOE J09		X
	321200-J05	VS103, H102	Cryo SCOE J04		X	
321 300	on top of					
	Connector Function	Skin Connector	S/C unit	SCOE	SCOE Cable connected	Flight Cap connected



	321300-J01	T208, T213, T222, T224, T225, T226, T231, T233, T235, T237, T247, T248, T252, T256, T862, T444	Cryo SCOE J02		X
	321300-J02	T101, T104, T107, T112, T703, T422, T441, T462, T701, H102	Cryo SCOE J04		X
	321300-J03	P502, T322, T324, T504, T506, T507, T652, T902, T908, T912	Cryo SCOE J18		X
	321300-J04	T311, T313, T315, T904, T906, T910, T932, T934	Cryo SCOE J14		X
	321300-J05	VS106, H102	Cryo SCOE J04		X
<b>CVSE I/F</b>	on top of				
	<b>Connector Function</b>	<b>Skin Connector</b>	<b>S/C unit</b>	<b>SCOE</b>	<b>SCOE Cable connected</b>
				Cryo SCOE J18	X
to be approved & released before start of ACS/PR/TP by Floor- Manager		<b>Date:</b>		<b>Sign:</b>	

SAFE / ARM plug setup for ACS/PR/TP No.:						
Annex No.:						
314 200	on top of					
	Connector Function	Connector	S/C unit	SAFE	ARM	Sign
	SAFE / ARM plug	314 200-J03	NED (601)	X		
	SAFE / ARM plug	314 200-J04	NED (602)	X		
	SAFE / ARM plug	314 200-J05	SI 601	X		
	SAFE / ARM plug	314 200-J06	SI 602	X		
to be approved & released before start of ACS/PR/TP by Floor-Manager		Date:		Sign:		

## 5 Conditions

### 5.1 Personnel

The following table shall be filled in detailing which personnel are required to be present for the test. The signature of the appropriate responsible is classified as agreement to start the test as stated in the TRR.

Responsibility	Required for Test (Y/N)	Name / Organization	Signature
Floor Manager	Y		
Test Director	Y		
Test Conductor	Y		
EGSE Operator			
SVM Support Engineer			
Cryo Support Engineer			
HIFI Instrument Support Engineer			
PACS Instrument Support Engineer			
Spire Instrument Support Engineer			
PA Responsible	Y		
Customer Representative			

**Table 2: List of IST test attendants**

Persons, other than test personal as mentioned in the test team organization and participants of the TRR, are allowed to observe the test at the discretion of the Test Director and Test Conductor.

## 5.2 Environmental

During all the phases of the test the HERSCHEL Satellite shall be maintained in a controlled environment in order to prevent degradation or contamination of the satellite equipment and surface, which could result in operational failures.

ESTEC site clean room will be used.

Ambient conditions shall comply with ISO14644-1 for cleanliness requirement.

The characteristic shall be:

- Temperature =  $22\text{C} \pm 3\text{C}$
- Relative Humidity = 50 % +/- 10%
- Delta Pressure = above 0.6 mm H<sub>2</sub>O
- Clean Conditions = Class 100 000

The following table defines the S/C conditions for each IST test sequence with respect to Cryostat He I/He II status, tilting angle and usage of the real battery.

IST 1 Part 1 Warm preferred

Chapter of IST Spec Issue 4		Instr. Mode	Real Battery required	Satellite X-Axis tilting	Ambient or cool down (defeating from IST Spec !!)	He I HTT venting >20mg/sec	He II HTT venting >20mg/sec
5.8.2	Launch phase, separation and post separation	3 shift	4 shift	5 shift	6 shift	7 shift	8 shift
5.8.2.3	Initial configuration	OFF	Y	n.a	Preferred	alternative	alternative
5.8.2.4.2	Satellite power ON	OFF	Y	n.a	Preferred	alternative	alternative
5.8.2.4.4	Configuration for launch	OFF	Y	n.a	Preferred	alternative	alternative
5.8.2.4.5	Launch	OFF	Y	n.a	Preferred	alternative	alternative
5.8.2.4.6	Separation	OFF	Y	n.a	Preferred	alternative	alternative
5.8.2.4.7	Post separation	OFF	Y	n.a	Preferred	alternative	alternative
5.8.2.4.8	Initial check out in SAM mode	OFF	Y	n.a	Preferred	alternative	alternative
5.8.2.4.9	CDMS transition to NOM mode	OFF	Y	n.a	Preferred	alternative	alternative
5.8.2.4.10	Orbit Control Manoeuvre	OFF	Y	n.a	Preferred	alternative	alternative
5.8.2.4.11	End of the sequence	OFF	Y	n.a	Preferred	alternative	alternative
5.8.3	<b>Satellite Commissioning</b>						
5.8.3.3	Test start configuration	OFF	N	n.a	Preferred	alternative	alternative
5.8.3.4	TTC commissioning	OFF	N	n.a	Preferred	alternative	alternative
5.8.3.5	CDMS commissioning	OFF	N	n.a	Preferred	alternative	alternative
	TCS commissioning	OFF	N	n.a	Preferred	alternative	alternative
5.8.3.7	PCS commissioning	OFF	N	n.a	Preferred	alternative	alternative
5.8.3.10	SREM commissioning	OFF	N	n.a	Preferred	alternative	alternative
5.8.3.11	TCS commissioning	OFF	N	n.a	Preferred	alternative	alternative
5.8.3.12	Telescope decontamination	OFF	N	n.a	Preferred	alternative	alternative
5.8.3.13	Cryo Cover opening	OFF	N	n.a	Preferred	alternative	alternative
5.8.3.14	Test end	OFF	N	n.a	Preferred	alternative	alternative
5.8.3.9	<b>ACMS commissioning</b>						
5.8.3.9.1	AAD, SAS, CRS, STR, GYR, RCS unit check	OFF	N	n.a	Preferred	alternative	alternative
5.8.3.9.2	RWLs health check	OFF	N	n.a	Preferred	alternative	alternative
5.8.3.9.3	STR functional verification	OFF	N	n.a	Preferred	alternative	alternative
5.8.3.9.4	ACC health check	OFF	N	n.a	Preferred	alternative	alternative
5.8.3.9.5	ACMS dynamic verification	OFF	N	n.a	Preferred	alternative	alternative
5.8.5	<b>Mode transitions</b>						
5.8.5.3	Test start configuration	OFF	N	n.a	Preferred	alternative	alternative
5.8.5.4	Launch to Launch	OFF	N	n.a	Preferred	alternative	alternative
5.8.5.5	Launch to SAM	OFF	N	n.a	Preferred	alternative	alternative
5.8.5.6	SAM to SAM	OFF	N	n.a	Preferred	alternative	alternative
5.8.5.7	SAM to NOM	OFF	N	n.a	Preferred	alternative	alternative
5.8.10	<b>Launch clean run</b>						
		OFF	Y	n.a	Preferred	alternative	alternative
5.8.11	<b>Launch sequence robustness</b>						
5.8.11.3.2	Satellite power on	OFF	N	n.a	Preferred	alternative	alternative
5.8.11.3.4	Configuration for launch (status)	OFF	N	n.a	Preferred	alternative	alternative
5.8.11.3.5	Configuration for launch	OFF	N	n.a	Preferred	alternative	alternative
5.8.11.3.6	Separation	OFF	N	n.a	Preferred	alternative	alternative
5.8.11.3.7	S/C acquisition	OFF	N	n.a	Preferred	alternative	alternative
5.8.11.3.8	Initial checkout in SAM mode	OFF	N	n.a	Preferred	alternative	alternative
5.8.11.3.9	Transition to NOM mode	OFF	N	n.a	Preferred	alternative	alternative
5.8.11.3.10	Orbit control manoeuvre	OFF	N	n.a	Preferred	alternative	alternative

IST 1 Part 2 He I or He II

Chapter of IST Spec Issue 4		Instr. Mode	Real Battery required	Satellite X-Axis tilting	Ambient or cool down (deviating from IST Spec !!!)	He I HTT venting >20mg/sec	He II HTT venting >20mg/sec
5.8.5	<b>Mode transitions</b>						
5.8.5.8	NOM to NOM	PACS spectro SPIRE STBY HIFI STBY	N	0-23		alternative	Preferred
5.8.5.9	NOM to EAM	PACS STBY SPIRE STBY HIFI STBY	N	0-23		alternative	Preferred
5.8.5.10	EAM to EAM	PACS STBY SPIRE STBY-> Photo->STBY HIFI STBY	N	0-23		alternative	Preferred
5.8.5.11	EAM to NOM	PACS STBY SPIRE STBY-> Photo	N	0-23		alternative	Preferred
5.8.5.12	NOM to SM	PACS STBY->OFF SPIRE Photo->OFF HIFI STBY->OFF	N	0-23		alternative	Preferred
5.8.5.13	SM to SM	OFF	N	0-23		alternative	Preferred
5.8.5.14	SM to SAM	OFF	N	0-23		alternative	Preferred
5.8.5.17	EAM to SAM (needs new SAM to NOM and NOM to EAM)	PACS STBY SPIRE STBY HIFI Science -> STBY	N	0-23		alternative	Preferred
5.8.5.18	NOM to SAM (needs new SAM to NOM)	PACS Burst-> STBY SPIRE STBY	N	0-23		alternative	Preferred
5.8.5.19	Test end	OFF	N	0-23		alternative	Preferred
5.8.6	<b>S/C reconfiguration</b>						
5.8.6.2	Test start configuration	PACS STBY SPIRE STBY HIFI STBY	N	0-23		alternative	Preferred
5.8.6.3	CDMS level 3a	PACS STBY SPIRE STBY HIFI Prime	N	0-23		alternative	Preferred
5.8.6.4	CDMS level 3b	PACS STBY SPIRE STBY HIFI STBY	N	0-23		alternative	Preferred
5.8.6.5	ACMS level 4	PACS Prime->OFF SPIRE STBY->OFF HIFI STBY->OFF	N	0-23		alternative	Preferred
5.8.6.6	ACMS recovery from Survival Mode (ACMS SASM to SAM)	OFF	N	0-23		alternative	Preferred
5.8.6.7	CDMS level 4	PACS Prime->OFF SPIRE STBY->OFF HIFI STBY->OFF	N	0-23		alternative	Preferred
5.8.6.8	Test end	OFF	N	0-23		alternative	Preferred
5.8.12	<b>NOM mode robustness</b>						
5.8.12.3.1	Initial State	PACS STBY SPIRE Photo HIFI STBY	N	0-23		alternative	Preferred
5.8.12.3.2	CDMS PM 1553 BC failure simulation	PACS STBY SPIRE Photo-> STBY	N	0-23		alternative	Preferred
5.8.12.3.3	CDMS PM 1553 BC failure recovery	PACS Photo SPIRE STBY HIFI STBY	N	0-23		alternative	Preferred
5.8.12.3.4	Initial state second test	PACS Photo SPIRE STBY HIFI STBY	N	0-23		alternative	Preferred
5.8.12.3.5	ACMS 1553 RT failure simulation	PACS Photo -> STBY SPIRE STBY	N	0-23		alternative	Preferred
5.8.12.3.6	ACMS 1553 RT failure recovery	PACS STBY->OFF SPIRE STBY->OFF HIFI STBY->OFF	N	0-23		alternative	Preferred
5.8.13	<b>Test of Instrument FDIR OBCP</b>						
5.8.13.4	SPIRE FDIR OBCP	SPIRE	N	0-23		alternative	Preferred
5.8.13.5	PACS FDIR OBCP	PACS	N	0-23		alternative	Preferred
5.8.13.6	HIFI FDIR OBCP	HIFI	N	0-23		alternative	Preferred
5.9	<b>DEGRADED CASES</b>						
5.9.1	S/C ability to be operated in degraded modes					alternative	Preferred

IST 1 Part 3 He II only

Chapter of IST Spec Issue 4		Instr. Mode	Real Battery required	Satellite X-Axis tilting	Ambient or cool down (deviating from IST Spec III)	He I HTT venting >20mg/sec	He II HTT venting >20mg/sec
5.8.3	<b>Satellite Commissioning</b>						
5.8.3.8	CCU (cryostat) commissioning	OFF	N	23			Required
5.8.4	<b>Instruments commissioning and performance verification</b>						
5.8.4.3	Test start (restart) configuration	OFF	N	23			Required
5.8.4.4							Required
5.8.4.5	SPIRE commissioning test	SPIRE	N	23 -> 90			Required
5.8.4.6	PACS commissioning test	PACS	N	23			Required
5.8.4.7	HIFI commissioning test	HIFI	N	0.23			Required
5.8.4.8	SPIRE and PACS parallel mode	SPIRE/PACS	N	23			Required
5.8.4.9	Test end or interruption	OFF	N				Required
5.8.7	<b>CDMS management</b>						
5.8.7.2.1	General Sequence (Integration with RMS DTCP number 2)	PACS Prime STBY -> Burst -> X SPIRE STBY HIFI STBY	N	0.23		alternatively if MTL is compatible with instrument operations	Preferred
5.8.7.2.2	MTL management	PACS Prime STBY -> Burst -> X SPIRE STBY HIFI STBY	N	0.23		alternatively if MTL is compatible with instrument operations	Preferred
5.8.7.2.3	OBCP management	PACS Prime STBY -> Burst -> X SPIRE STBY HIFI STBY	N	0.23		alternatively if MTL is compatible with instrument operations	Preferred
5.8.7.2.4	SSM management	PACS Prime STBY -> Burst -> X SPIRE STBY HIFI STBY	N	0.23		alternatively if MTL is compatible with instrument operations	Preferred
5.8.7.2.5	FDIR level 1 & 2	PACS Prime STBY -> Burst -> X SPIRE STBY HIFI STBY	N	0.23		alternatively if MTL is compatible with instrument operations	Preferred
5.8.7.2.6	OBT management	PACS Prime STBY -> Burst -> X SPIRE STBY HIFI STBY	N	0.23		alternatively if MTL is compatible with instrument operations	Preferred
5.8.8	<b>DTCP worst case scenario</b>						
		PACS (Burst) SPIRE STBY HIFI Prime	N	0.23		TBC	Preferred
5.8.9	<b>REFERENCE Mission Scenario</b>						
5.8.9.2	Test start configuration		Y				Required
5.8.9.3	Test steps		Y				Required
5.8.9.4	HIFI OD	HIFI OD	Y	0.23			Required
5.8.9.5	PACS OD	PACS OD	Y	0.23			Required
5.8.9.6	SPIRE OD	SPIRE OD	Y	0.23			Required
5.8.9.7	Test end		Y				Required

Table 3: S/C conditions for each IST test sequence



### 5.3 General Precautions and Safety

### 5.3.1 General Safety Requirements, Precautions

Special condition and hazards

The following Operational restrictions shall be carefully taken into account:

1. Before any test article modification the relevant power sources shall be switched OFF
2. Protective caps shall be installed on each harness or unit connector when these are not linked to their equipment
3. All the test data shall be recorded
4. Before starting the test sequence, care must be taken in verifying that all hardware links are correctly connected.
5. to avoid possible damages, no signal shall be applied in no powered units, except where otherwise specified
6. During testing the step by step procedure shall be followed. Changes will be possible and will be managed by a Procedure Variation Sheet approved by the AIV and PA.
7. In case of any failure, the activities shall be stopped until troubleshooting plan is generated and approved.
8. In case of non-conformance, the procedure addressed in [AD 2.1.2.b] shall be applied.
9. The time of usage (ON/OFF cycles and ON duration) of each limited life equipment (FPGAs', etc?) shall be noted and recorded by the QA.
10. No stimulus has to be applied to any CRS switched-OFF
11. The EPC cannot be switched-ON for more than 5 minutes without any TWT turned-ON.
12. Care must be exercised when working around the S/C; in particular, if real IMU(s) or CRS rate sensors are involved, which may register any mechanical vibration affecting the responses of the ACC and/or invalidating the overall test results.
13. In case of AC failure, when the AC power will be again available, preliminary checks will be performed to verify that no damage has been caused to EGSE, SLE and S/L. The test conductor can decide to restart or to continue the test depending on the point where the failure happened.
14. Considering the SVM NCR affecting the XPND FM4, the transponder will be continuously flushed with Nitrogen during the tests.
15. Due to the use of liquid Helium during the Herschel mechanical test campaign, particular safety precautions need to be taken. The cryostat operations which require handling of liquid Helium are described in a dedicated procedure.
16. It shall be ensured that, for the beginning of each IST\_START, the BDR's have been switched off in order that skin plug reconfiguration can be carried out safely in presence of the flight battery. Note : During IST End the power down sequence, commands to turn the BDR's off (to isolate the battery) are issued via the CDMU. If it is suspected for any reason the battery has not been isolated by

- switching the BDR's off then the stand alone procedure "BDR Isolation" from HP-2-ASED-TP-0215 shall be executed, startup from the power down state.
17. The maximum continuous battery discharge limit of 36 A shall be respected at all times.

### 5.3.1.1 Instrument specific safety requirements and precautions

#### HIFI

LOU being at ambient temperature, IMT objectives on HIFI will be limited. Specifically, the LO power should be limited and higher frequency channel should not be used (IID-B). The bias range to the mixers and electromagnets should also be restricted.

#### PACS

Whenever PACS FPU is at HEII conditions:

Prior to any PACS instrument switch-on within this procedure, the FDIR mechanisms as described in "PACS Failure Detection Isolation and Recovery" (PACS-ME-GP-002, Issue 1.2) must be in place and have to be up and running on the CDMU. This shall remain activated during all modes of the PACS instrument, except the off mode.

### 5.3.2 ESD constraints

- The spacecraft must be grounded
- All connectors have to be covered with ESD dust caps when not mated
- All AIT personnel have to wear antistatic shoes and clothes
- The clean room floor around and under the item under test shall be covered with an antistatic carpet, which is grounded to facility ground.

### 5.3.3 *Grounding Configuration*

A distributed single point grounding (DSPG) approach is used between the facility GSE and the satellite for electrical integration and performance tests.

Instrument signal ground isolation to the EGSE data processing electronics will be ensured.

**5.3.4 Test Equipment Calibration and Performances**

All equipment used for test activities shall be within their normal calibration period performed and certified either by the Facility or equipment supplier. Certification and calibration labels shall be available for inspections before activity start. Calibration shall be performed by/with qualified personnel/procedures under PA/QA supervision and approval. All the instrumentation to be used for the test shall follow the relevant PA rules.

Item Name	Item Type	Serial Number	Calibration Status

### **5.3.5 Special QA Requirements**

The QA/PA representative shall be present during all test activities.  
All documentation shall be inspected and approved before start and end of each test activity. The responsible PA engineer shall ensure that all 'as run' procedures have all the relevant information correctly recorded.



**5.4 GSE**

<b>Test Equipment List</b>					
<b>Item</b>	<b>Manuf.</b>	<b>Model No.</b>	<b>SN No.</b>	<b>Invent No.</b>	<b>Next Calib.</b>

#### **5.4.1 MGSE**

No additional mechanical GSE is required to perform the test described in this test procedure.

### 5.4.2 CVSE

The set-up of the CVSE will be performed according to HP-2-ASED-0095

Helium operations will be performed according

The cool down and filling procedure: HP-2-ASED-PR-0082 for Helium I

The Helium II top-up procedure: HP-2-ASED-TP-0083 for Helium II

The cover cooling procedure: HP-2-ASED-PR-0048 for special instrument stimulation

A list of the CVSE hardware which might be used is given below.

Qty.	Designation/Manufacturer	Provided by	Drawing/Ident. NR:	Calibr. Date
2	LHe Service Vacuum Pumping Unit I	BOCE	CI No. 142 310-01	
2	LHe Service Vacuum Pumping Unit II	BOCE	CI No. 142 310-02	
1	Main High Vacuum Pumping Unit	BOCE	CI No. 142 310-03	
1	Mobile High Vacuum Pumping Unit	BOCE	CI No. 142 310-03	
3	Molecular Turbo pumps	BOCE	CI No. 142 310-03	
1	Laboratory Vacuum Pump in safety unit	BOCE	CI No. 142 310-04	
1	Laboratory Vacuum Pump in scaffolding	BOCE	CI No. 142 310-04	
1	Laboratory Vacuum Pump in scaffolding (Ex proof.)	BOCE	CI No. 142 310-05	
2	CVSE Monitoring Rack	BOCE	CI No. 142 310-06	
2	Leak Detector Spectron 5000	BOCE	CI No. 142 310-07	
3	He I transfer lines (Y0211/Y0221/Y0231)	DeMaCo	CI No. 142 310-08	
3	He II transfer lines (Y0201-1, -2, -3)	De MaCo	CI No. 142 310-08	
2	Dewar to dewar transfer lines (Y0241 - Y0242)	De MaCo	CI No. 142 310-08	
1	Cover flushing line inlet (L1 + L2, separable)	AAE	CI No. 155 210	
1	Cover flushing line outlet (L3 + L4, separable)	AAE	CI No. 155 210	
1	Heater unit for cover inlet line	DeMaCo		
3	Venting line (Y0601/Y0602/Y0601-3)	DeMaCo	CI No. 142 310-09	
2	Pumping lines (Y0611-1 / Y0611-2)	DeMaCo	CI No. 142 310-09	
Set	Bake out lines (Y0633)	ASED	CI No. 142 310-09	
Set	HiVac Pumping lines (Y0673)	ASED	CI No. 142 310-09	

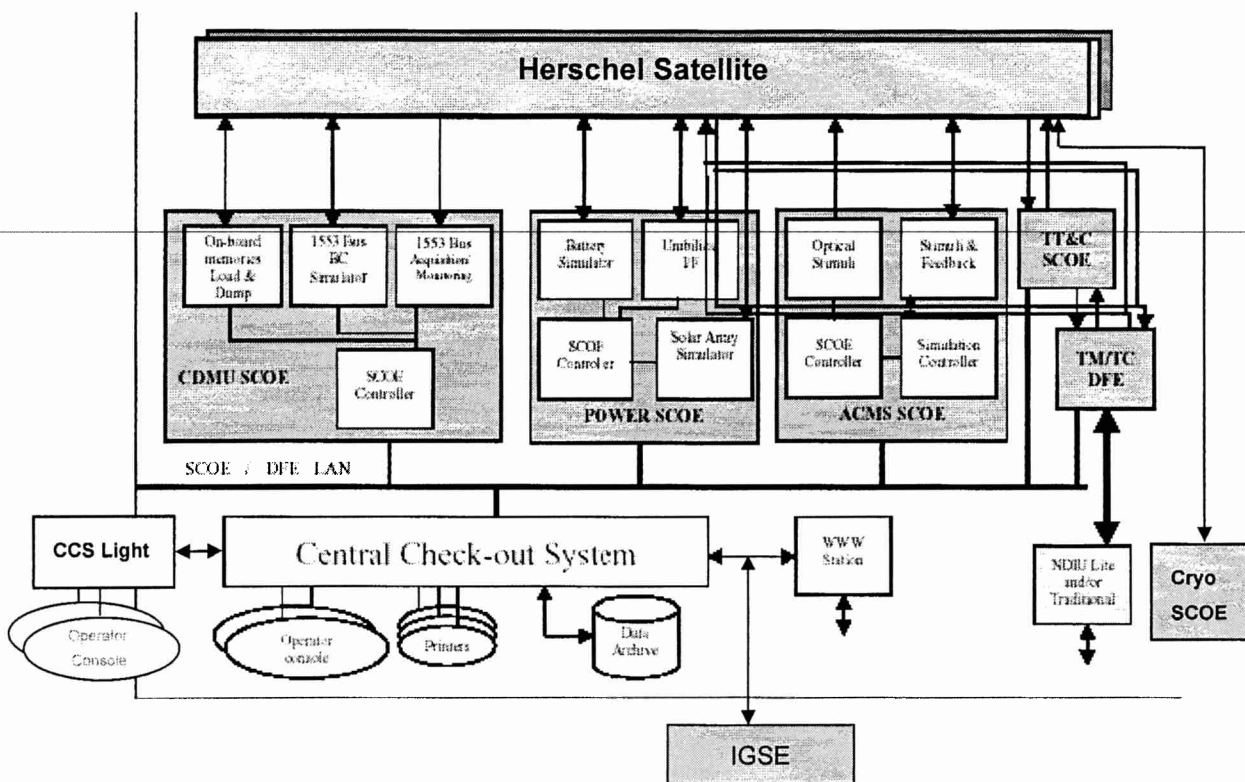
Qty.	Designation/Manufacturer	Provided by	Drawing/Ident. NR:	Calibr. Date
Set	Helium I lines (Y0612)	ASED	CI No. 142 310-09	
Set	Helium II Pumping lines (Y0602)	ASED	CI No. 142 310-09	
2	Scaffolding for He lines	ASED	CI No. 142 310-10	
10	450 l LHe Dewars type HDS 450 -EIPS	Linde		
1	Spiro pump DryTel 1025	ASED		
2	Liquid level sensor	ASED		
2	Helium depth indicator	ASED		
3	Pressure indicator (Keller)	ASED		
1	Laminar flow meter (0-10 mg/s / 0-70 mg/s)	ASED		
1	Standard flow meter (0-5 g/s)	ASED		
2	Gas flow counter	ASED		
Set	Vacuum houses	ASED		
Set	Miscellaneous vacuum seals	ASED		
Set	Vacuum parts	ASED		
Set	Special tools	ASED		
1	Scale	ASED		
1	Pressure Control unit (0-1500 mbar, Ziegler)	ASED		
Set	Plastic pipes (Diameter 20-40 mm, different length)	ASED		
1	HEXA He heating unit	CryoVac	S-21-7021	
Set	Stands	ASED		
Set	Trip tray	ASED		
Set	Special adapters	ASED		
1	Gate valve DN160	ASED		
1	He II bypass valve	ASED		

**5.4.3 EGSE**

5.4.3.1 EGSE Hardware Configuration

The EGSE configuration, when completed, is shown in the figure below

S/S	Unit	Configuration			SCOE simulated equipments	Remarks
		<i>Herschel</i>				
EGSE	CCS	1				
	CCS Light	1				
	TM/TC DFE	1				
	CDMU SCOE	1				
	ACMS SCOE	1				
	TT&C SCOE	1				
	POWER SCOE	1				
	Cryo SCOE					
	NDIU					



The Herschel/ EGSE will be built with the following equipment:

- Central Check Out System (CCS)

- Central Check Out System Light (CCS Lite)
- The Power Control Subsystem SCOE (Power SCOE)
- The Telemetry, Tracking and Command SCOE (TT&C SCOE)
- The Telemetry and Telecommand Data Front End Equipment (TM/TC DFE)
- The Attitude and Control Measurement Subsystem SCOE (ACMS SCOE)
- The Central Data Management Unit SCOE (CDMU SCOE)
- The Cryo SCOE which performs four general tasks
  - Control and monitoring the Cryostat Instrumentation either directly by the Cryo SCOE, i.e. locally or initiated by the CCS, i.e. remotely.
  - Substitution of the real CCU if the CCU is not available
  - Monitoring of several parameters of the Cryo Vacuum Support Equipment (CVSE).
  - Simulate the launcher interface by providing "dry loop commands" to be sent to the CCU.

All the above items are interconnected through an Ethernet Local Area Network (LAN) used to exchange both data and command & control information.

The CCS Lite will be used and configured in order to have a hot TM/TC backup in case of main CCS crashes.

The NDIU will be configured to put ESOC in listening mode.

#### 5.4.3.2 EGSE User Software

Most of the Test Software will be developed on the CCS, based on SCOS 2k, and will interface the HPSDB. It will consists mainly of:

- Test Sequences
- Synoptic Displays
- Data Evaluation and Test Analysis Software
- Simulation Software Master sequences (mainly for ACMS S/S).

On the contrary, on the SCOE's/DFE only a very peculiar type of software will be developed; it will mainly consist of:

- Configuration/set-up files for SCOE's/DFE instrumentation
- Sequence of commands
- Simulation files for Dynamic control and ACMS Sensors simulation
- Telemetry Simulation file for Missing Unit (Experiments).

A complete list of EGSE SW version ( particularly CCS and HPSDB ) shall be provided before start of test and attached to this procedure.



#### **5.4.4 OGSE**

No OGSE is required to carry out the test activities of the IST.

**5.4.5 Special Equipment**

#### 5.4.5.1 Cooling device

The HIFI units when equipped with MLI (WEV, WEH, HRV, HRH) exceed their maximum operating temperature, WEV 35,5°C vs 30°C, HRV 40,1°C vs 40°C, WEH 35,3°C vs 30°C, HRH 41,9°C vs 40°C.

Therefore the implementation of a cooling system for the two HIFI panels (forced convection directed in these areas) is mandatory.

All the units stay in their operating temperature range with comfortable margins, except:

- GYRO baseplate 63,5°C vs 55°C, due to use of flight thermal control parameters, covered by RFD HP-300000-AI-RD-0011 issue 03.
- CRS1 and CRS2 around 50°C, due to use of flight thermal control parameters, covered by RFD H-P-300000-AI-RD-0014 issue 03.

## 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 completed.

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

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

- Test conditions according to specification requirement;
- Complete verification of the requirement aspects according to the test specifications
- Fulfilment of test results with respect to required data;
- Verification that all the TM parameters used to monitor the SAT 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.

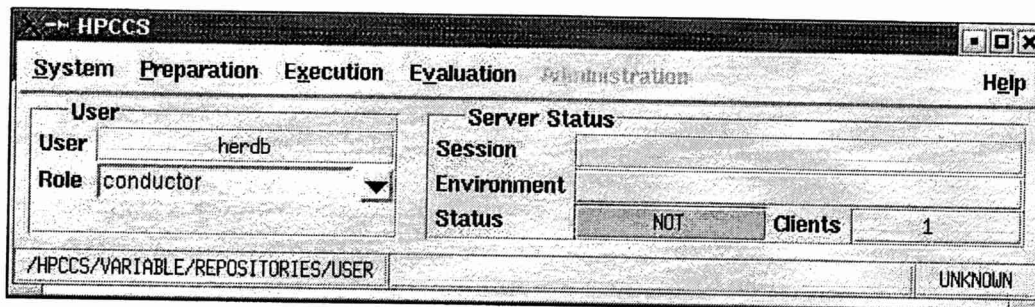
## 7 IST Test

## 7.1 HPCCS Configuration for IST Test

### 7.1.1 Apply Tag on test files

The EGSE operator has to perform the following steps before starting IST test:

1. On a Workstation login as **herdb** (password **heratest**), being this user dedicated to DB operations for Herschel FM Checkout System, and open a shell (xterm).
2. Logged as herdb, run Startmmi and the following window will occur



3. Logged as herdb, in HPCCS window, select menu "Preparation → Prepare"
4. Logged as herdb, In PREP window, select menu "Preparation → Discard all"
5. Logged as herdb, In Confirm Discard window, click the button Discard
6. Logged as herdb, in PREP window, select menu "Preparation → Update"
7. Logged as herdb, in Check out environment window, click the button Check out and then Close
8. Logged as herdb, in PREP window, select menu "Tag → Apply"
9. Logged as herdb, in the window Apply Tag → New Tag, insert TAG name

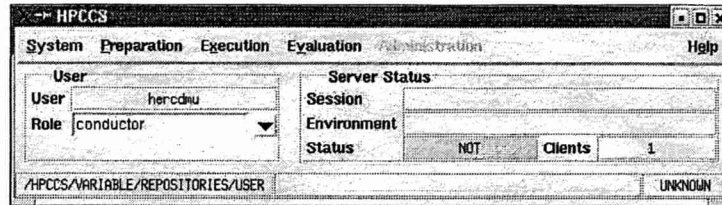
Currently, TAG name for IST has the format:

**IST\_x\_PART\_x\_TP\_xxxx\_x\_x\_BEGIN\_xxx**

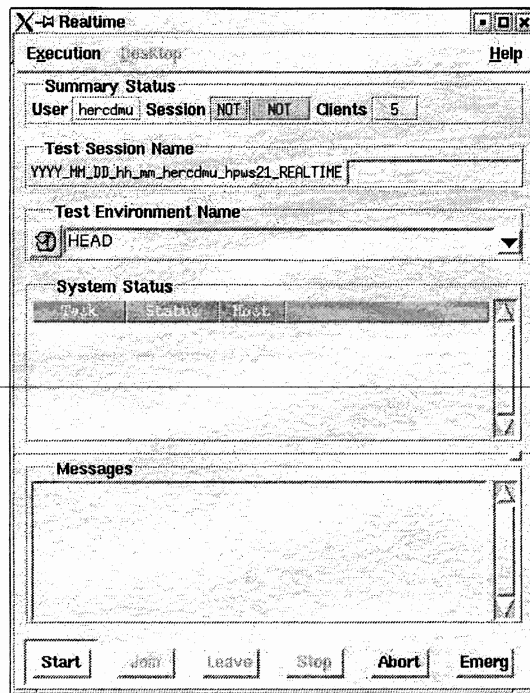
10. Logged as herdb, push **Apply → Apply**
11. Logged as herdb, confirm Tag Application Push Apply button
12. Logged as herdb, open a new **shell** window (xterm)
13. Logged as herdb, execute the command **update\_tag**
14. Logged as herdb, insert the name of TAG  
**IST\_x\_PART\_x\_TP\_xxxx\_x\_x\_BEGIN\_xxx**
15. Logged as herdb, in PREP window, select menu "Tag → Apply"
16. Logged as herdb, in Apply tag window, select in the list the TAG  
**IST\_x\_PART\_x\_TP\_xxxx\_x\_x\_BEGIN\_xxx**
17. Logged as herdb, push **Copy selected tag**
18. Logged as herdb, modify the TAG name with **IST\_x\_PART\_x\_TP\_xxxx\_x\_x\_END\_xxx**
19. Logged as herdb, push **Apply → Apply**
20. Logged as herdb, confirm Tag Application Push Apply button

### 7.1.2 Start test session on HPCCS

Logged as **hercdmu** or **heracms** run “startmml”



On **HPCCS** window, select menu “**Execution → Start**” in order to open the following window. In the “**Test Session Name**” field, insert an abbreviation describing which IST test will be performed and click the button “**Start**” to proceed.



Once the real time session initialized, the button “**Join**” is enabled and shall be clicked. Then configure desktop of different CCS stations through the menu “**Desktop**” and the following menus:

- Monitoring → Telemetry Desktop
- Monitoring → Telemetry Packet history
- Monitoring → Out of limit
- Monitoring → On Board Event History
- Test Sequences → Test Conductor Console
- Command → Telecommand History

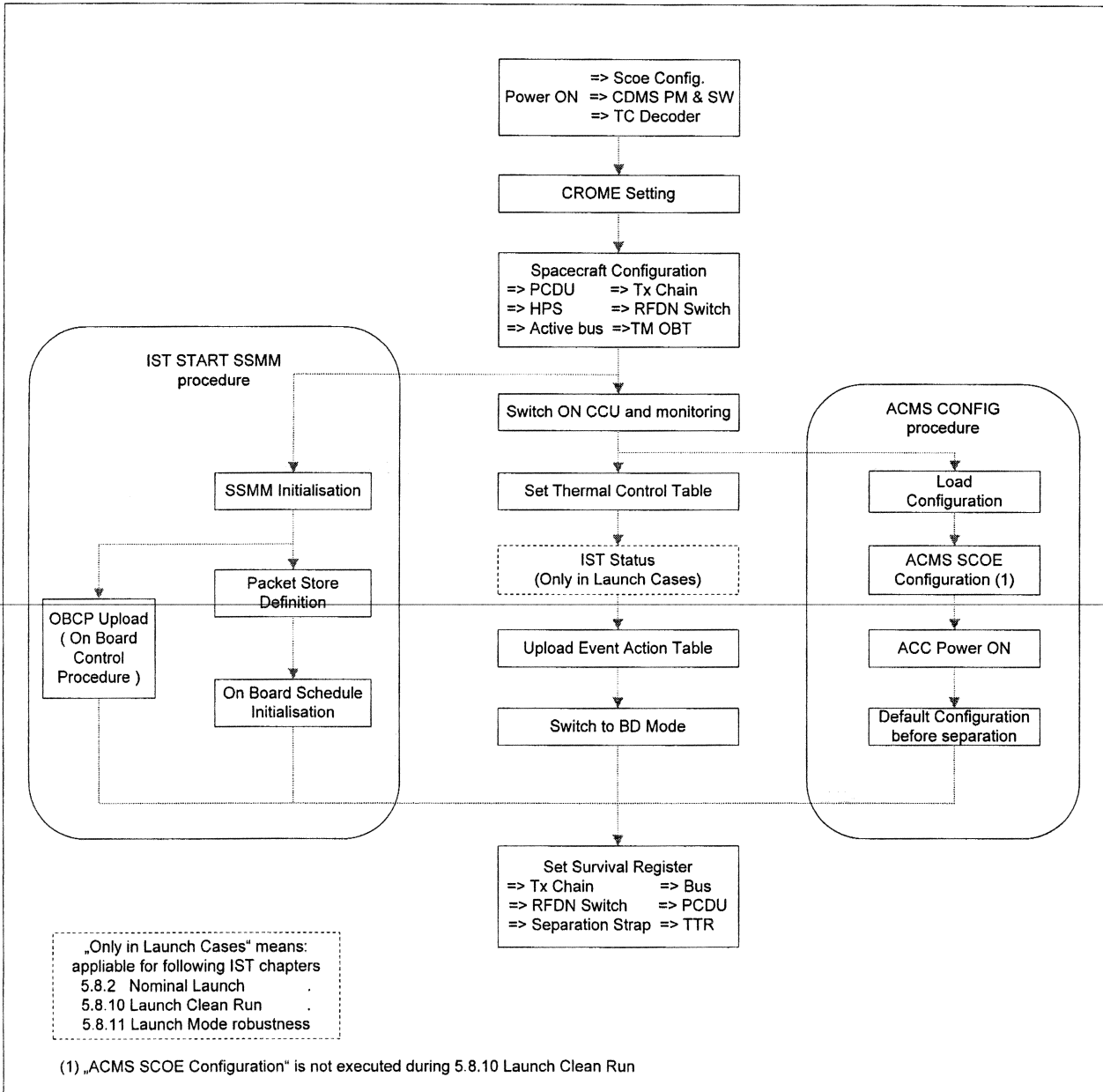


## 7.2 IST START for Spacecraft configuration

7.2.1 Diagram Overview

The flow of the "IST START" sequence is depicted in the diagram below. To save time during the satellite power on, the SSMM initialising and the ACMS switch on is performed in parallel.

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**7.2.2 IST Configuration Table**

The Herschel Satellite configuration for each IST test case is listed in the table below.

SASLPS	Bat.	Crome	Sep.	Strap	TTR	TM	TC	PM	SSMM	Bus	PCDU	HPS	TxChain	RFDN	CCU	ACMS				
SCOE	SCOE	PAP/CCS	SM	SM	OBT	Dec.	SW	SM	SM	SM	SM	SM	SM	SM	ON Mode	Config. File				
<b>5.8.2 NOMINAL LAUNCH</b>																				
SAS	Sim. Charged + Launch	PM A Nominal	Not Separated	B	A	A	A1	A 0-1-2 B 0-1-2	A	B	A	B	A	A	B	1&3	ABBB	A&B	2	IST_FN
<b>5.8.3a ACMS Commissioning</b>																				
SAS	Sim. Charged	PM A Nominal	Separated	B	A	B	A1	A 0-1-2 B 0-1-2	A	B	A	B	A	A	B	1&3	ABBB	A&B	1	IST_SCA1
<b>5.8.3b S/C Commissioning</b>																				
SAS	Sim. Charged	PM A Nominal	Separated	B	A	A	A1	A 0-1-2 B 0-1-2	A	B	A	B	A	A	B	1&3	ABBB	A&B	1	IST_MOD
<b>5.8.4.5.1 SPIRE Commissioning</b>																				
SAS	Sim. Charged	PM A Nominal	Separated	B	A	A	A1	A 1 B 1	B	A	A	B	A	A	B	1&3	ABBB	A&B	1	
<b>5.8.4.5.2 SPIRE Spectrometer Complementary Test</b>																				
SAS	Sim. Charged	PM B Nominal	Separated	A	B	B	B1	A 3 B 3	B	A	B	A	B	B	A	2&4	AABB	A&B	1	

SASLPS Bat. Crome Sep. Strap TTR TM TC PM Bus PCDU HPS TxChain RFDN CCU ACMS  
 SCOE SCOE PAP/CCS SM SM OBT Dec. SW SSMM SM SM SM SM ON Mode Config. File

5.8.4.6 PACS Commissioning																				
SAS	Sim. Charged	PM A Nominal	Separated	A	A	B	A1	A 2 B 2	B	A	B	A	B	B	A	2&4	AABB	A&B	1	
5.8.4.7 HIFI Commissioning																				
SAS	Sim. Charged	PM B Nominal	Separated	B	A	A	B1	A 3 B 3	A	B	A	B	A	A	B	1&3	ABBB	A&B	1	
5.8.4.8 Parallel Mode Commissioning																				
SAS	Sim. Charged	PM B Nominal	Separated	A	B	B	B1	A 0 B 0	A	B	B	A	B	B	A	2&4	AABB	A&B	1	
5.8.5 Mode Transition																				
SAS	Sim. Charged	PM A Nominal	Separated	B	A	A	A1	A 1 B 1	A	B	A	B	A	A	B	1&3	ABBB	A&B	2	IST_MOD
5.8.6 SC Reconfiguration																				
SAS	Sim. Charged	PM A Nominal	Separated	A	B	B	A1	A 2 B 2	B	A	B	A	B	B	A	2&4	AABB	A&B	1	IST_FD_B
5.8.7 CDMS Management																				
SAS	Sim. Charged	PM A Nominal	Separated	B	A	A	A2	A 1 B 1	A	B	A	B	A	A	B	1&3	ABBB	A&B	2	IST_CDMS
5.8.8 DTCP Worst Case Scenario																				
SAS	Sim. Charged	PM B Nominal	Separated	A	B	B	B2	A 2 B 2	B	A	B	A	B	B	A	2&4	AABB	A&B	2	IST_WCS

SASL PS	Bat. SCOE	Crome PAP/CCS	Sep. SM	Strap SM	TTR	TM	TC	PM	SSMM	Bus	PCDU	HPS	TxChain	RFDN	CCU	ACMS				
						OBT	Dec.	SW		SM	SM		SM	SM	ON Mode	Config. File				
<b>5.8.9 RMS Reference Mission Scenario</b>																				
SAS	Sim. Charged	PM A Nominal	Separated	B	A	A	A1	A0-1-2 B0	A	B	A	B	A	A	B	1&3	ABBB	A&B	1	IST_RMS
<b>5.8.9 Launch Clean Run</b>																				
LPS	REAL	PM A Nominal	Not Separated	B	A	A	A1	A0-1-2 B0-1-2	A	B	A	B	A	A	B	1&3	ABBB	A&B	2	IST_CLN
<b>5.8.11 Launch Mode Robustness</b>																				
SAS	Sim. Charged +Launch	PM A Nominal	Not Separated	B	A	A	A1	A0 B0	A	B	A	B	A	A	B	1&3	ABBB	A&B	2	IST_LSR
<b>5.8.12 NOM Mode Robustness</b>																				
SAS	Sim. Charged	PM A Nominal	Separated	A	B	B	A1	A3 B3	B	A	B	A	B	B	A	2&4	AABB	A&B	1	IST_NMR
<b>5.8.13 Instrument FDIR</b>																				
SAS	Sim. Charged	PM A Nominal	Separated	B	A	A	A2	A1 B1	A	B	A	B	A	A	B	1&3	ABBB	A&B	1	IST_GDMS

IFDR

See PVS ①!

#1 From TP-0197

7.2.3 Initialisation

Step-No.	Initialisation-Step-Description	Nominal Value	Tolerance	Actual Value	P	N
<b><u>TT&amp;C SCOE initialisation</u></b>						
1	Verify that TT&C SCOE application SW is running Otherwise go on TTC SCOE or access remotely (command "startCMD ttcvnc" on shell window") and click "TTC SCOE Herschel" icon on TT&C SCOE desktop controller and wait for self test completion.				✓	
2	On TT& SCOE application, in window ":: CONF namespace" (that can be open by menu "windows/SCOE config"), select menu "Config/Load", load the file "Herschel.conf" then click "open" button.				✓	
<b><u>SPACECRAFT SKIN CONNECTORS CONFIGURATION</u></b>						
3	Verify that all the SCOE skin connectors cables are installed <ul style="list-style-type: none"> <li>Goto chapter 4.3</li> <li>Choose according to the IST Test case the related skin configuration table</li> <li>Check the list and sign off (together with PA and Floor Manager).</li> </ul>				✓	

Test location: <i>B75C</i>	Operator <i>PA</i>	Product-Assurance: <i>PA</i>	Date: <i>21/05/08</i>	Time <i>04:30</i>
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Step-No.	Initialisation-Step-Description	Nominal Value	Tolerance	Actual Value	P	N
<b>ACMS SCOE CHECK</b>						
4 N/A for "Launch Clean Run"	Verify that the ACMS SCOE is ON and operational				✓	
5 N/A for "Launch Clean Run"	In the Clean Room, check on the ACMS SCOE that STR UCE Electrical Stimuli program on PC2 and PC3 are enabled (i.e. double click on "scroll lock" and check "01-02 & 01-03" that mouse pointer can be moved). Otherwise execute Annex D Operator Note 3				✓	

Test location: <i>370C</i>	Operator <i>A.</i>	Product Assurance: <i>BA.</i>	Date: <i>21/05/08</i>	Time :
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Doc. No: HP-2-ASED-TP-0134

Issue: 4.0

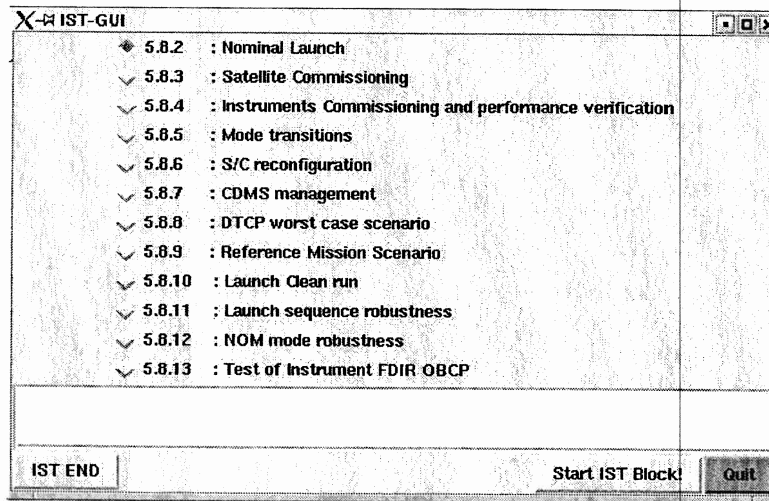
Date: 24.04.2008

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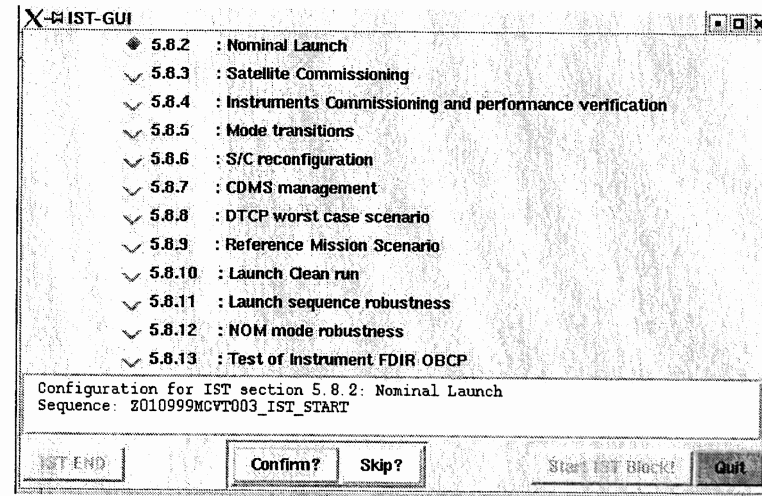
File: HP-2-ASED-TP-0134\_Herschel\_IST\_Leading\_Procedure\_iss\_4\_0\_24-04-08

**7.2.4 IST Start Step by Step Procedure**

At the CCS test sequence console call the sequence "Z010999MCVT201\_IST\_GUI " to start an IST test. When the Graphical User Interface (see Picture 1) occurs, select the appropriate test case (and note it down in this Test Procedure) followed by a click on the "Start IST Block".



Picture 1



Picture 2

Then configuring the spacecraft for the selected IST Test is proposed to be run or skipped (see Picture 2). If the button "Confirm" has been clicked, continue with step 1 of the following IST START step description. Otherwise pressing the button "Skip" will lead to chapter 7.2

Test location: <i>ESTEC</i>	Operator <i>Rh.</i>	Product Assurance: <i>AD.</i>	Date: <i>21/05/08</i>	Time :
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Step- No.	IST_START-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
1	<p><b>Z010999MCVT003_IST_START</b></p> <p>At the bottom of the window, the IST_START configuration panel displays all parameters applied during the IST_START. ⇒ Click the button "Continue" to proceed</p>	To Check in Config. Table (Page 73)				✓	

Configuration of "IST START"

<p><b>Power</b></p> <p>SAS/LPS SCOE: SAS</p> <p>Bat. SCOE: Simulated</p> <p>PCDU: A HPS: A</p> <p><b>CCU</b></p> <p>CCU: A&amp;B</p> <p>Mode: 512s (Mode 1)</p>	<p><b>CDMS</b></p> <p>TM OBT: A Bus: A</p> <p>PM: A1 Pap Ccs: PMAnominal</p> <p><b>Survival Register</b></p> <p>Bus: B Launch Straps: Not Separated</p> <p>PCDU: B TTR: B</p> <p>Tx Chain: B RFDN Switches Position: ABBB</p>	<p><b>Rx and Tx Chain</b></p> <p>Tx Chain (Xpnd, Tx, EPC, TWT): A</p> <p>TC decoder: A</p> <p>TM Rate: Medium (150Kbps)</p> <p>RFDN Switches in use: 1&amp;3</p> <p><b>SSMM</b></p> <p>Mass Memory: A0 and B0</p>
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Continue? **Abort TS?**

**IST\_START Configuration Panel**

Test location: <i>BITEC</i>	Operator: <i>DW</i>	Product Assurance: <i>B.M.</i>	Date: <i>21/05/03</i>	Time: :
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Step- No.	IST_START-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
2	<p><b>Z010999MCVT003_IST_START</b></p> <p>Note the execution diagram, resuming each configuration steps and check all parameters are set as previously (particularly if any modification has been done on configuration panel)</p> <p><b>"START Satellite HERSCHEL "IST_START"</b></p> <p>⇒ Choose "Yes" or "No"</p>	YES				✓	
3	<p><b>Z010999MCVT097_ASDGEN_CRIT_PARS_CHECK</b></p> <p>This script will run during the whole session to monitor critical parameters.</p> <p>As soon as wrong value will be detected. A popup window will occur alerting the operator about incorrect TM checks</p> <p>⇒ Minimise this window by clicking the corresponding button (on corner top right, first button from left)</p>					✓	

Test location: 81702	Operator DL	Product Assurance: BA	Date: 21/05/08	Time :
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Step- No.	IST_START-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
4	<p>Z010999MCVT003_IST_START</p> <p>Reply to the prompt: "SPACECRAFT POWER_ON"</p> <p>⇒ Click the button "Confirm" to proceed</p>					✓	
5	<p>Z010999MCVT001_POWER_ON_HER_IST</p> <p>Set Battery ????????????</p> <p>Set TCDecoder to ?</p> <p>Set PM_SW ??</p> <p>Do you want to continue with the upper configuration:</p> <p>If these parameter values are in accordance with the IST Configuration Table (Page 73),</p> <p>⇒ click the button "OK" to proceed</p>	<p>To Check in Config. Table (Page 73)</p> <p>Bat.SCOE TCDec. PM/SW</p>				✓	

Test location: PSTEC	Operator PL	Product Assurance: SD	Date: 21/05/08	Time :
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Doc. No: HP-2-ASED-TP-0134

Issue: 4.0

Date: 24.04.2008

File: HP-2-ASED-TP-0134\_Herschel\_IST\_Leading\_Procedure\_iss\_4\_0\_24-04-08

Step- No.	IST_START-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
6	<p><b>Z010999MCVT001_POWER_ON_HER_IST</b>            A Popup window occurs asking to verify data reception on TM/TC Data Front End workstation:            In window "System Status", check following panels</p> <ul style="list-style-type: none"> <li>➔ TM chain / TM Acquisition synchronised and locked Status expected</li> <li>➔ View / TM Transfer Frame Monitor                TM frame data should be received before few minutes</li> </ul> <p>⇒ click the button "OK" to proceed</p>					✓	
7	<p><b>Z010999MCVT001_POWER_ON_HER_IST</b>            A Popup Window occurs asking to start a new acquisition in Bus Monitor with name IST on the CDMU SCOE:            - start a new acquisition by clicking "Menu Mode/Start new Acquisition"            If an acquisition is already started, please stop and restart</p> <p>⇒ click the button "OK" to proceed</p> <p>After few minutes Data transfer should be visible on the Bus Monitor.</p>				N/A for "Launch Clean Run" as the cables for CDMU BUS monitor are disconnected	✓	

Test location: <b>B)TEC</b>	Operator: <b>DW</b>	Product Assurance: <b>BD.</b>	Date: <b>21/05/08</b>	Time: <b>05 : 24</b>
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Step-No.	IST_START-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
8	<b>D102159SCVT001_GET_ALARM_STATUS</b> Check that both DOD ext1 and ext2 are "Not Asserted". Otherwise execute Annex D – Operator Note 8  ⇒ Click the button "End TS!" to proceed					✓	
9	<b>D102159SCVT001_GET_ALARM_STATUS</b> Check that both DOD ext1 and ext2 are "Not Asserted". Otherwise execute Annex D – Operator Note 8  ⇒ Click the button "End TS!" to proceed					✓	
9b when BCR OCP are detected ACTIVE	<b>Z010999MCVT001_POWER_ON_HER_IST</b>  Temporary workaround until <b>SPR-107 / NCR-3312</b> are solved  ⇒ click the button "YES" to proceed the workaround  <b>See SPR 107 / NCR 3312</b>	YES			<b>NCR 3492:</b> TTRMMemCorEr_A1 := 0 <b>SPR 244:</b> OutOfLimit for SA_Pan?_Temp_N/R (WMB0?569) <b>SPR 284:</b> WARNING about missing TC <b>SPR 285:</b> many TCs not acknowledged For launch clean run with real Battery fully charged, parameters BCR1, BCR2 are expected active.	✓	

Test location: <i>BITOL</i>	Operator <i>DW</i>	Product-Assurance: <i>[Signature]</i>	Date: <i>21/05/09</i>	Time <i>05:25</i>
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Doc. No: HP-2-ASED-TP-0134

Issue: 4.0

Date: 24.04.2008

File: HP-2-ASED-TP-0134\_Herschel\_IST\_Leading\_Procedure\_iss\_4\_0\_24-04-08

Step-No.	IST_START-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
10	<b>D102159SCVT032TIMESYNCR0</b> Wait until the synchronization between CDMS On-board Time and CCS is finished ⇒ Click the button "End TS!" to proceed				TM parameter ZE00999 out of limits and back in limits again at synchronisation to be expected.	✓	
11	<b>Z010999MCVT001_POWER_ON_HER_IST</b> ⇒ Click the button "End TS!" to proceed					✓	
12	<b>D102159SCVT001_GET_ALARM_STATUS</b> Check that both DOD ext1 and ext2 are "Not Asserted". Otherwise execute Annex D – Operator Note 8 ⇒ Click the button "End TS!" to proceed					✓	
13	<b>Z010999MCVT003_IST_START</b> Reply to the prompt: <p style="text-align: center;"><b>"CDMS Configuration:"</b> <b>"CROME settings PM?????"</b></p> If the CROME settings is in accordance with the CROME PAP/CCS of IST Configuration Table (Page73), ⇒ Click the button "Confirm" to proceed	To Check in Config. Table (Page 73)  CROME PAP/CCS				✓	

Test location: BITEC	Operator DL	Product Assurance: ADI	Date: 21/05/08	Time :
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Step-No.	IST_START-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
14	⇒ Click the button "End TS!" to proceed					✓	
15	<p>Z010999MCVT003_IST_START</p> <p>Reply to the prompt:</p> <p style="text-align: center;">"CDMS Configuration:" "Set configuration" "Bus ? PCDU ? HPS ? TxChain ? RFDN ???" "TM-OBT ? TMrate Medium (150Kbps)"</p> <p>If all these parameter value are in accordance with the IST Configuration Table (Page 73),</p> <p>⇒ Click the button "Confirm" to proceed</p>	<p>To Check in Config. Table (Page 73)</p> <p>BUS PCDU HPS TxCh. RFDN TM-Obt</p>			<p>Please note that the TMrate Medium (150 Kbps) is not specified in IST Config. Table on page 73.</p>	✓	
16 Only if Encoder B is req.	<p>D102159SCVT104_ENCODER_SELECT</p> <p>⇒ Click the button "End TS!" to proceed</p>				<p>SPR 286: TM check needs repeat</p>		

N/A

Test location: <i>PS5C</i>	Operator: <i>Ph.</i>	Product-Assurance: <i>[Signature]</i>	Date: <i>21/05/08</i>	Time: _____
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Step-No.	IST_START-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
17	D102159SCVT174_IST_REDUNDANT_CONF ⇒ Click the button "End TS!" to proceed					✓	
18	Z010999MCVT003_IST_START Reply to the prompt: "SSMM Configuration" ????????" ⇒ Click the button "Confirm" to proceed	To Check in Config. Table (Page 73) SSMM				✓	
19	Z010999MCVT005_IST_START_SSMM Start initialising with Steps 1-2 of IST START SSMM Procedure (see Page 96). Then continue with the next test step of IST_START.  <b>NOTE:</b> After completion of Mass Memory initialisation (roughly 12 minutes per bank), i.e. when <b>ALL</b> affected mass memory banks are <b>ON</b> , continue with step 3 of IST START SSMM Procedure (see Page 96).				In Launch cases, IST_START_SSMM shall be completely performed before next step	✓	

Test location: P170C	Operator DL	Product Assurance: <i>[Signature]</i>	Date: 21/05/08	Time :
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Step-No.	IST_START-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
20	<p>Z010999MCVT003_IST_START</p> <p>Reply to the prompt: "SWITCH ON CCU ??? and" "START MONITORING in MODE ?"</p> <p>⇒ Click the button "Confirm" to proceed</p> <p>In case that TM checks for CCU valves are failed, see Annex D Operator note 11 and perform actions if required.</p>	To Check in Config. Table (Page 73) CCU On Mode			<p>NCR-3119: Alarms for TMs</p> <ul style="list-style-type: none"> <li>o KM130300</li> <li>o KM120300</li> <li>o KM110300</li> </ul> <p>fails status consistency check during CCU A on</p> <p>And for TMs</p> <ul style="list-style-type: none"> <li>o KM130301</li> <li>o KM120301</li> <li>o KM110301</li> </ul> <p>fails status consistency check</p> <p>The following is expected until TC DCT53170 is sent:</p> <ul style="list-style-type: none"> <li>o Events 28417 CCU A monitoring discarded</li> <li>o Events 28418 CCU B monitoring discarded</li> </ul>	V	

Test location: <i>ESTC</i>	Operator: <i>Dh.</i>	Product Assurance: <i>[Signature]</i>	Date: <i>21/05/08</i>	Time: :
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Step-No.	IST_START-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
21	<p>Z010999MCVT003_IST_START</p> <p>Reply to the prompt: "Record CCU Temp In Background"</p> <p>⇒ Click the button "Confirm" to proceed</p>				Minimise Log file after starting	U	
22 applicable only in launch (IST spec. 5.8.2 5.8.10 5.8.11)	<p>Z010999MCVT003_IST_START</p> <p>Reply to the prompt : "STATUS SPACECRAFT and EGSE (Power ON)"</p> <p>⇒ Click the button "Confirm" to proceed</p> <p>Reply to the next prompt: "Do you want to stop and notice each failure?"</p> <p>⇒ Choose "YES" to proceed</p>						

M/A

Test location: <i>21702</i>	Operator: <i>DL</i>	Product-Assurance: <i>[Signature]</i>	Date: <i>21/09/06</i>	Time: :
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Step-No.	IST_START-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
23 applicable only in launch (IST spec. 5.8.2 5.8.10 5.8.11)	<b>Z010999MCVT1533_IST_STATUS</b>  Check the Satellite status displayed and ⇒ Click the button "OK" to proceed						
24	<b>Z010999MCVT003_IST_START</b>  Reply to the prompt: <b>ACMS SCOE Configuration – ACMS Power ON</b>  ⇒ Click the button "Confirm" to proceed  Execute ACMS CONFIG procedure (Page 100) in parallel to the IST_START master					✓	

N/A

Test location: PTC	Operator A.	Product-Assurance: BM.	Date: 21/05/08	Time :
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Step-No.	IST_START-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
25	<b>Z010999MCVT003_IST_START</b> Reply to the prompt: <b>"SET TCT Table for Ambient Temperature"</b> ⇒ Click the button "Confirm" to proceed					✓	
26	<b>D102159SCVT032EnNomTCSLoops</b> ⇒ Click the button "End TS!" to proceed					✓	
27	<b>D102159SCVT115_CHECK_HCS_OFF</b> ⇒ Click the button "End TS!" to proceed					✓	
28	<b>Z010999MCVT003_IST_START</b> Reply to the prompt: <b>"EAT UPLOADING"</b> ⇒ Click the button "Confirm" to proceed					✓	

Test location: <i>BITEC</i>	Operator: <i>DL</i>	Product Assurance: <i>[Signature]</i>	Date: <i>2/05/09</i>	Time: :
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Step-No.	IST_START-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
29	<p><b>D102159SCVT192_GET_EAT_REPORT</b></p> <p>Check that every initial entries of the Event Action Table are successfully checked</p> <p>⇒ Click the button "End TS!" to proceed</p>					✓	
30	<p><b>D102159SCVT192_GET_EAT_REPORT</b></p> <p>Check that every initial entries of the Event Action Table are correctly set</p> <p>⇒ Click the button "End TS!" to proceed</p>					✓	
31	<p><b>D102159SCVT192_IST_UPLOAD_EAT</b></p> <p>⇒ Click the button "End TS!" to proceed</p>					✓	
32	<p><b>Z010999MCVT003_IST_START</b></p> <p>Ckeck that ACC is running on TM Packet history with filter on APID 512 (set on Step 1 of ACMS Configuration Procedure 7.2.4.2 Page 100) and checking packets reception.</p>					✓	

Test location: RITOL	Operator: Dh	Product-Assurance: BDX	Date: 21/05/06	Time: :
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Step-No.	IST_START-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
33	<p><b>Z010999MCVT003_IST_START</b>            Do not perform before the completion of the procedures:            - IST START SSMM and            - ACMS Configuration            Cannot be run in parallel with other "active" sequences or TCs send in parallel            Reply to the prompt:                "CDMS CONFIGURATION:"                "SURVIVAL REGISTER SETTING"                "(Bus ?, PCDU ?, RFDN ?????, TxChain ?, TTR ?, Sep Strap ?????)"</p> <p>⇒ Click the button "Confirm" to proceed</p>	To Check in Config. Table (Page 73) Bus PCDU RFDN TxCh. TTR Sep Strap				✓	
34	<p><b>D102159SCVT175_SET_SURV_REG</b>            ⇒ Click the button "End TS!" to proceed</p>				SPR 289 No TM return for TM check	✓	
35 (only in launch test cases)	<p><b>Z010999MCVT003_IST_START</b>            Prompt: "Check CDMS Tables"            ⇒ Click the button "Confirm" to proceed</p>						N/A

Test location: ESTEC	Operator: R.	Product-Assurance: BDI.	Date: 21/05/06	Time: :
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Step-No.	IST_START-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
36 (only in launch test cases)	D102159SCVT219_GET_BSW_HEALTH_UIU ⇒ Click the button "End TS!" to proceed						
37 (only in launch test cases)	D102159SCVT204_GET_MOT ⇒ Click the button "End TS!" to proceed						
38 (only in launch test cases)	D102159SCVT192_GET_EAT_REPORT Check that every uploaded entries of the Event Action Table are correctly set ⇒ Click the button "End TS!" to proceed						
39 (only in launch test cases)	D102159SCVT205_SAT_COM_TCT ⇒ Click the button "End TS!" to proceed				Expected that checks will fail as the uploaded TCT is for ambient but the checks are performed against the		

N/A  
N/A  
N/A  
N/A

Test location: <b>BSTEC</b>	Operator: <b>DL</b>	Product-Assurance: <b>B.M.</b>	Date: <b>21/05/08</b>	Time: <b>:</b>
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Step-No.	IST_START-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
40 (only in launch test cases)	D102159SCVT207_SAT_COM_FCCT ⇒ Click the button "End TS!" to proceed						
41	Z010999MCVT003_IST_START Reply to the prompt: "DOWNLINK SSMM PACKET STORE and CEL A&B" ⇒ Click the button "Confirm" to proceed					✓	
42	D102159SCVT188_IST_DUMP_PKT_STORE ⇒ Click the button "End TS!" to proceed				With parameters: 0 80 1 81 2 82 3 83	✓	
43	D102159SCVT188_IST_DUMP_PKT_STORE ⇒ Click the button "End TS!" to proceed				With parameters: CEL_A CEL_B <b>All events, warnings and alarms recorded before the dump, are re-occurring during this step</b>	✓	

N/A

Test location: 07101	Operator Dh.	Product-Assurance: B.A.	Date: 21/05/08	Time 09 : 29
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Step-No.	IST_START-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
44	Z010999MCVT003_IST_START ⇒ Click the button "End TS!" to proceed					/	

Test location: <i>0702</i>	Operator <i>DW</i>	Product-Assurance: <i>BM.</i>	Date: <i>21/05/09</i>	Time <i>08 : 29</i>
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Doc. No: HP-2-ASED-TP-0134

Issue: 4.0

Date: 24.04.2008

7.2.4.1 IST\_START\_SSMM Procedure

Step-No.	IST_START_SSMM-Step-Description	Nominal Value	Tolerance	Actual Value		P	N
1	<p>Z010999MCVT005_IST_START_SSMM</p> <p>Reply to the prompt:  <b>"SSMM CONFIGURATION ??????"</b></p> <p>⇒ Click the button "Confirm" to proceed</p>	<p>To Check in Config. Table (Page 73)</p> <p>SSMM</p>				✓	
2	<p>D102159SCVT186_IST_SSMM_ON</p> <p>Reply to the prompt <b>"Do you want to continue" "with such configuration?"</b></p> <p>Check the SSMM configuration and then            ⇒ Click the button "Continue" to proceed</p>				<p>Mass Memory config. takes about 12 minutes per bank. Therefore, the next step in IST_START procedure can be executed.</p>	✓	
3	<p>D102159SCVT186_IST_SSMM_ON</p> <p>⇒ Click the button "End TS!" to proceed</p>					✓	

Test location: <i>BITOC</i>	Operator <i>DL</i>	Product Assurance: <i>[Signature]</i>	Date: <i>21/05/08</i>	Time <i>05:35</i>
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Step-No.	IST_START_SSMM-Step-Description	Nominal Value	Tolerance	Actual Value		P	N
4	<p><b>Z010999MCVT005_IST_START_SSMM</b></p> <p>Reply to the prompt: <b>"OBCP UPLOADING"</b></p> <p>⇒ Click the button "Confirm" to proceed</p> <p>Let run in parallel the sequence  <b>D102159SCVT193_IST_UPLOAD_OBCP</b>                      and continue with next step "Packet Store Definition"</p>				occurrence of 2 BSW problems EvID 30738	✓	
5	<p><b>Z010999MCVT005_IST_START_SSMM</b></p> <p>Reply to the prompt: <b>"Definition of the Packet Store"</b></p> <p>⇒ Click the button "Confirm" to proceed</p>					✓	
6	<p>If only 1 Bank (bank 0, 1, 2 or 3) is initialised on each SSMM  <b>D102159SCVT185_IST_PACKET_STORE_DEF</b></p> <p>If 3 banks (banks 0, 1 and 2) are initialised on each SSMM  <b>D102159SCVT189_IST_PACKET_STORE_DEF2</b></p> <p>If SSMM A banks 0, 1 and 2 and only SSMM B bank 0 are initialised  <b>D102159SCVT178_RMS_PKT_STORE_DEF</b></p> <p>When the requested SSMM bank are initialised</p> <p>⇒ Click the button "Yes" to proceed</p>					✓	

Test location: <i>PITSC</i>	Operator <i>DL</i>	Product-Assurance: <i>BDI</i>	Date: <i>21/05/02</i>	Time :
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Step-No.	IST_START_SSMM-Step-Description	Nominal Value	Tolerance	Actual Value		P	N
7	<p>If only 1 Bank is initialised on SSMM A &amp; B  <b>D102159SCVT185_IST_PACKET_STORE_DEF</b></p> <p>If 3 banks are initialised on SSMM A &amp; B  <b>D102159SCVT189_IST_PACKET_STORE_DEF2</b></p> <p>If 3 banks on SSMM A and only 1 on SSMM B are initialised  <b>D102159SCVT178_RMS_PKT_STORE_DEF</b></p> <p>⇒ Click the button "End TS!" to proceed</p>				NCR-3492 occurs: (TTRRMMemCorEr_A 2 := 1)!	✓	
8	<p><b>Z010999MCVT005_IST_START_SSMM</b>            Reply to the prompt: "Initialise MTL Service Buffers"</p> <p>⇒ Click the button "Confirm" to proceed</p>				TM(5,4) alarms expected: o Evt_MTLBufADel (ID:26914) o Evt_MTLBufBDel (ID 26915)	✓	
9	<p><b>D102159SCVT209_START_ON_BOARD_SCHEDULE</b></p> <p>⇒ Click the button "End TS!" to proceed</p>				SPR 282 TM failure: too quick check	✓	
10	<p><b>D102159SCVT193_IST_UPLOAD_OBCP</b></p> <p>⇒ Click the button "End TS!" to proceed</p>					✓	

Test location: <i>f170c</i>	Operator <i>DL</i>	Product-Assurance: <i>EDM</i>	Date: <i>21/05/00</i>	Time :
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Step-No.	IST_START_SSMM-Step-Description	Nominal Value	Tolerance	Actual Value		P	N
11	Z010999MCVT005_IST_START_SSMM ⇒ Click the button "End TS!" to proceed					✓	

Test location: B570C	Operator DL	Product-Assurance: BDA.	Date: 21/05/08	Time :
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Doc. No: HP-2-ASED-TP-0134

Issue: 4.0

Date: 24.04.2008

7.2.4.2 ACMS Configuration Procedure

Step-No.	ACMS_CONFIG-Step-Description	Nominal Value	Tolerance	Actual Value	P	N
1	Open the ACMS_H_BLOC MIM Display to verify the telemetry status updating. Configure a "Telemetry Packet History" window set with filter APID = 512				✓	
2	<b>A102109SPVT003_ACMS_CONFIG25</b> At the prompt "Enter your choice", insert "1" to select "Select/Load ACMS_CONFIG Input File"  ⇒ Click the button "OK" to proceed	1			✓	
3	<b>A102109SPVT003_ACMS_CONFIG25</b>  ⇒ Click the button "Continue" to proceed				✓	
4	<b>A102109SPVT004_ACMS_LOADCONFIG1</b> At the prompt, "Enter your choice:  ⇒ Click the button "OK" to proceed	To Check in Config. Table (Page 73)  ACMS Config. File		IST-1FDR	✓	

PVS 1 & updated

Test location: ESTEC	Operator DL	Product-Assurance:	Date: 21/05/03	Time :
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Step-No.	ACMS_CONFIG-Step-Description	Nominal Value	Tolerance	Actual Value	P	N
5 N/A for "Launch Clean Run"	<b>A102109SPVT003_ACMS_CONFIG25</b> At the prompt "Enter your choice", insert to select "ACMS SCOE Configuration" ⇒ Click the button "OK" to proceed	"6"  6			✓	
6 N/A for "Launch Clean Run"	<b>A102109SPVT003_ACMS_CONFIG25</b> ⇒ Click the button "Continue" to proceed				✓	
7 N/A for "Launch Clean Run"	<b>A102109SPVT003_ACMS_CONFIG25</b> Verify on AND YA001939 AMCS SCOE - AS_PSEUDO 1 of 1 the parameters  YMACT939 (ACMS SCOE state) YMASE939 (Simulator stata) YMAMS939 (MILFE state) YMAUS939 (UIFE state)	executing executing executing executing	05:58	not booted	Alarms are expected for TM with APID 2018 and EVID 4 when the parameters on the left have not reached the executing stage yet. ✓	

WT

parameter check failed → PVS #2  
1  
FOR TP0134

Test location: BSTEC	Operator DW	Product-Assurance: JDA.	Date: 21/05/06	Time :
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Step-No.	ACMS_CONFIG-Step-Description	Nominal Value	Tolerance	Actual Value	P	N	
8	<p><b>A102109SPVT003_ACMS_CONFIG25</b></p> <p>At the prompt "Enter your choice", insert "4" to select "ACMS Power ON (in Pre-Sep configuration)"</p> <p>⇒ click the button "OK" to proceed</p>	4			✓		
9	<p><b>A102109SPVT003_ACMS_CONFIG25</b></p> <p>⇒ Click the button "CONTINUE" to proceed</p>				✓		
10	<p><b>A102109SPVT011_ACMS_ON</b></p> <p>During this sequence, following events are expected:</p> <ul style="list-style-type: none"> <li>- TM(5,4) Event Report and Reconfiguration Log</li> <li>- TM(5,2) APID:2018 (ACMS_SCOE) indicates ACMS "TestDataWord" needs to be switched ON. A few seconds later when the corresponding TC is sent, this TM(5,2) must disappear.</li> <li>- Multiple other events TM(5,1), such as "Fdir Task Overrun" or "Fdir Rm Parity Error"</li> </ul>				<p>Expected Out of Limit of AEYYY109 (synchronisation) ACC may become INVALID for a short time</p> <p>SPR 245 NCR 2862: Out of Limit of HKA_ANTH?_Data</p> <p>SPR 334 OutOfLimit of Gyro Calib Curve in LCR</p>	✓	

Test location: <i>ISTOC</i>	Operator: <i>DL</i>	Product-Assurance: <i>AM</i>	Date: <i>21/05/08</i>	Time: :
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Step- No.	ACMS_CONFIG-Step-Description	Nominal Value	Tolerance	Actual Value		P	N
11	<b>A102109SPVT003_ACMS_CONFIG25</b> At the prompt "Enter your choice", Insert to select " <b>Modify ACC SGM/RM content</b> "  ⇒ Click the button "OK" to proceed	"5"		5		✓	
12	<b>A102109SPVT003_ACMS_CONFIG25</b> ⇒ Click the button "Continue" to proceed					✓	
13	<b>A102109SPVT003_ACMS_CONFIG25</b> At the prompt "Enter your choice", Insert for " <b>Default configuration for separation</b> "  ⇒ Click the button "OK" to proceed	"20"		20	Expected Out of Limit of AEYYY109 (synchronisation) ACC may become INVALID for a short time  TC PM_Reset (ACY42109) not acknowledge expected	✓	
14	<b>A102109SPVT003_ACMS_CONFIG25</b> ⇒ Click the button "Continue" to proceed					✓	

Test location: <i>ESTEC</i>	Operator <i>DL</i>	Product-Assurance: <i>BM.</i>	Date: <i>21/05/04</i>	Time :
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Step-No.	ACMS_CONFIG-Step-Description	Nominal Value	Tolerance	Actual Value		P	N
15	A102109SPVT003_ACMS_CONFIG25 After about 10 min verify that ACMS Sequences are correctly terminated and ACMS CONFIG MAIN MENU 1.0 is available.					✓	
16	A102109SPVT003_ACMS_CONFIG25 At the prompt "Enter your choice", Insert to select "Return to Main Menu 1.0"  ⇒ Click the button "OK" to proceed	"99"		99		✓	
17	A102109SPVT003_ACMS_CONFIG25  ⇒ Click the button "Continue" to proceed					✓	

Test location: BTOL	Operator A.	Product-Assurance: [Signature]	Date: 21/05/08	Time :
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7.3 IST Test Case

According to the actual IST Test Case, IST\_GUI will prompt with following window(see Figure 1) to execute the relevant test sequence / procedure as listed below.

Click the button "Confirm" to call the appropriate sequence displayed in the message box.

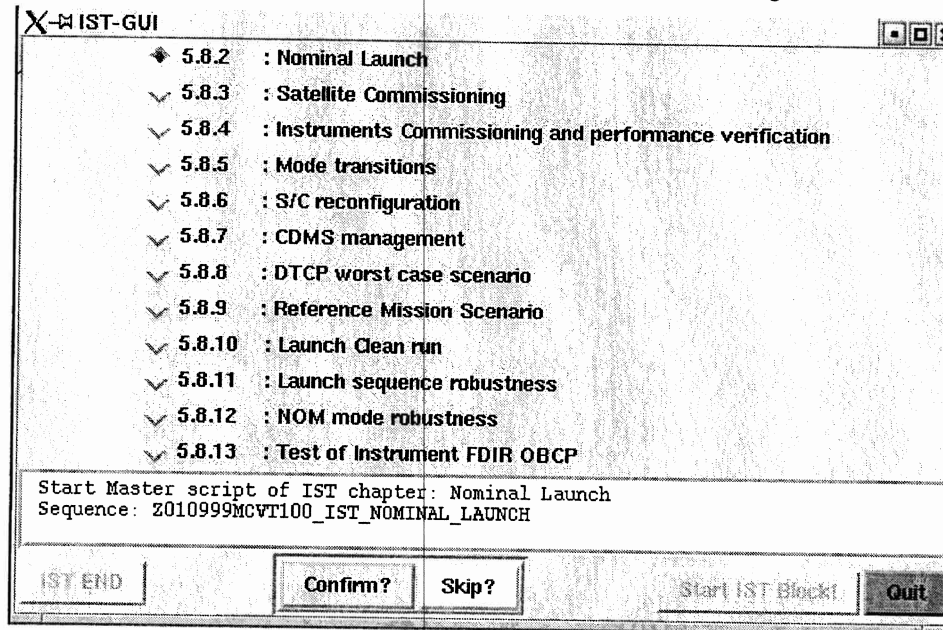


Figure 1: IST\_GUI calling Master sequence, for instance "Nominal Launch"

Test location:	Operator	Product Assurance:	Date:	Time
		<i>[Signature]</i>		:

Important Note: After execution of the IST Test Case, S/C has to be switched off with the "IST END" procedure as described in chapter 7.4.

Herschel IST Test Case 'Launch Phase, Separation and Post Separation':	HP-2-ASED-TP-0185
Herschel IST Test Case 'Satellite Commissioning':	HP-2-ASED-TP-0186
Herschel IST Test Case 'ACMS Commissioning':	HP-2-ASED-TP-0187
Herschel IST Test Case 'Instruments Commissioning and Performance Verification':	HP-2-ASED-TP-0188
Herschel IST Test Case 'Mode Transitions':	HP-2-ASED-TP-0189
Herschel IST Test Case 'S/C Reconfiguration':	HP-2-ASED-TP-0190
Herschel IST Test Case 'CDMS Management': ..	HP-2-ASED-TP-0191
Herschel IST Test Case 'DTCP Worst Case Scenario': ..	HP-2-ASED-TP-0192
Herschel IST Test Case 'REFERENCE Mission Scenario':	HP-2-ASED-TP-0193
Herschel IST Test Case 'Launch Clean Run':	HP-2-ASED-TP-0194
Herschel IST Test Case 'Launch Sequence Robustness':	HP-2-ASED-TP-0195
Herschel IST Test Case 'NOM Mode Robustness':	HP-2-ASED-TP-0196
Herschel IST Test Case 'Test of Instrument FDIR OBCP'	HP-2-ASED-TP-0197

Highlight the TEST Case to be performed in the above

Test location:	Operator	Product-Assurance: <i>BDH</i>	Date:	Time :
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Doc. No: HP-2-ASED-TP-0134

Issue: 4.0

Date: 24.04.2008

7.4 IST END Procedure

Step-No.	IST_END-Step-Description	Nominal Value	Tolerance	Actual Value		P	N
1.	IST_GUI ⇒ Click the button "OK" and then ⇒ Click the button "IST_END" to proceed			✓	ed 16:29	✓	
2.	D102159SCVT188_IST_DUMP_PKT_STORE ⇒ Click the button "Confirm" to proceed				ed	✓	
3.	D102159SCVT188_IST_DUMP_PKT_STORE ⇒ Click the button " End TS!" to proceed				ed 16:49	✓	

Test location: HYDRA clean room ESTE	Operator <i>[Signature]</i>	Product Assurance: K. Goossens <i>[Signature]</i>	Date: 21/05/2008	Time 16:49.
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Step-No.	IST_END-Step-Description	Nominal Value	Tolerance	Actual Value		P	N
4. Only if PACS, SPIRE or HIFI is still ON	<p>Z010999MCVT004_IST_END</p> <p>If one of the instruments is detected "ON" reply to the prompt:</p> <p style="text-align: center;">"Should the sequence"</p> <p style="text-align: center;">Z102999SCVT011_ASDGEN_PACSPWROFF_P Z102999SCVT005_ASDGEN_SPIREPWROFF_P Z102999SCVT015_ASDGEN_HIFIPWROFF_P</p> <p style="text-align: center;">"be called?"</p> <p>⇒ Click the button "YES" to proceed</p>				NOT DISPLAYED <u>ed</u>		
5. Only if CCU A is ON	<p>Z010999MCVT004_IST_END</p> <p>If CCU is detected "ON" reply to the prompt:</p> <p>Should the sequence "K102999ECVT001_ASDGENCCU_ABPWROFF be called</p> <p>⇒ Click the button "YES" to proceed</p>			YES	16:50	✓	

Test location: <i>HYDRA CLEAN ROOM, ESTE</i>	Operator <i>[Signature]</i>	Product-Assurance: <i>R. Goossens</i>	Date: <i>21/05/2008</i>	Time <i>16:51</i>
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Step-No.	IST_END-Step-Description	Nominal Value	Tolerance	Actual Value		P	N
6. Only if RWL ON and ACMS is still in SCM	<b>Z010999MCVT004_IST_END</b> "Please ensure that ACMS is set in OCM mode, otherwise select the correct menu in the ACMS_CONFIG25" Perform chapter 7.4.1 then click OK			OK		✓	
7. Only if RWL are still spinning	<b>Z010999MCVT004_IST_END</b> Start the sequence A102109SPVT061_RWL_SPINDOWN? ⇒ Click the button "YES" to proceed			NO.	Out of Limits concerning RWL speed are expected during RWL spin down	✓	
8. Only if ACMS is still ON	<b>Z010999MCVT004_IST_END</b> Start the sequence A102109SPVT012_ACMS_OFF ? ⇒ Click the button "YES" to proceed			NO		✓	

Test location: HTDRA custom env, CSZC	Operator <i>[Signature]</i>	Product Assurance: R. Goossens	Date: 21/05/2008	Time 17:27
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Doc. No: HP-2-ASED-TP-0134

Issue: 4.0


Date: 24.04.2008

Step-No.	IST_END-Step-Description	Nominal Value	Tolerance	Actual Value		P	N
9. Only if ACMS is still ON	<p><b>A102109SPVT012_ACMS_OFF</b></p> <p>During this sequence, following event are expected to occur:</p> <ul style="list-style-type: none"> <li>• TM(5,2) EvtID: 33 Event Report - ACB Rx Failed</li> <li>• TM(5,2) EvtID: 33 Event Report - ACB Rx Failed</li> <li>• TM(5,4) EvtId:16426 Mode SBSM Entry</li> <li>• Event Report - Boot Report and Reconfiguration Log</li> <li>• Event Report - SDB Unhealthy</li> <li>• Multiple "New Tm 251004939"</li> <li>• Multiple "New Tm 251001939"</li> <li>• Multiple "New Tm 251002939"</li> </ul> <p>This sequence needs time to be completely run, so let run in parallel with the following steps.</p>				NOT RUN ACMS already off	✓	
10. Only if SREM is still ON	<p><b>Z102999SCVT002_SREM_OFF</b></p> <p>⇒ Click the button "End TS!" to proceed</p>				<p>SPR 35-290 NCR 3986</p> <p>Wrong TM set in HPSDB</p> <p>17:28</p>	✓	
11.	<p><b>D102159SCVT174_IST_REDUNDANT_CONF</b></p> <p>⇒ Click the button "Ens TS" to proceed</p>				17:29	✓	

Test location: H102A CLEAN ROOM, ESTEC	Operator: <i>[Signature]</i>	Product-Assurance: R. Goossens	Date: 21/05/2008	Time: 17:29
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Step-No.	IST_END-Step-Description	Nominal Value	Tolerance	Actual Value		P	N
12. Only if Survival Register set with separated flag	<b>Z010999MCVT004_IST_END</b> At the prompt "The survival register is set with the launch flag "separated". It must be set to "not separated" to avoid any reconfiguration during power off"  ⇒ Click the button "Yes" to proceed			YES		✓	
13. Only if Survival Register set with separated flag	<b>D102159SCVT175_SET_SURV_REG</b>  ⇒ Click the button "End TS!" to proceed					✓	

Test location: HTIDEA clean room, ESTEC	Operator: 	Product-Assurance: R. Boossen s.f.	Date: 21/05/2008	Time: 17:33
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Doc. No: HP-2-ASED-TP-0134

Issue: 4.0

Date: 24.04.2008

File: HP-2-ASED-TP-0134\_Herschel\_IST\_Leading\_Procedure\_v6\_4\_0\_24-04-08

Step-No.	IST_END-Step-Description	Nominal Value	Tolerance	Actual Value	P	N
14. Only if CROME wrongly set	<b>Z010999MCVT004_IST_END</b> Reply to the prompt "The CROME registers are not configured " "in PMA or PMB nominal " "Such configuration will block TM during Power OFF" ⇒ Click the button "YES" to proceed					
15. Only if CROME wrongly set	<b>D102159SCVT176_WRITE_CROME</b> ⇒ Click the button "End TS!" to proceed					
16. Only if SSMM is ON	<b>D102159SCVT188_IST_DUMP_PKT_STORE</b> ⇒ Click the button "End TS!" to proceed				17:48	✓
17. Only if SSMM is ON	<b>D102159SCVT181_Disable_PKT_STORE</b> ⇒ Click the button "End TS!" to proceed				17:49	✓

Test location: <i>HIDRA CLEAN ROOM, GSZC</i>	Operator: <i>[Signature]</i>	Product-Assurance: <i>R. Goossens</i>	Date: <i>2/05/2008</i>	Time: <i>17:49.</i>
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Step- No.	IST_END-Step-Description	Nominal Value	Tolerance	Actual Value		P	N
18. Only if SSMM is ON	<b>D102159SCVT187_IST_SSMM_OFF</b>  During this sequence, the following events are expected: <ul style="list-style-type: none"> <li>• TM(5,2) EvtId: 84 PM COCOS SPW C Reconnection</li> <li>• TM(5,4) EvtId: 88 MM A COCOS RT Failure</li> <li>• TM(5,4) EvtId: 148 MM SPW C address transfer error</li> <li>• TM(5,2) EvtId: 85 PM COCOS SPW C Reconnection</li> <li>• TM(5,4) EvtId: 89 MM A COCOS RT Failure</li> <li>• TM(5,4) EvtId: 149 MM SPW C address transfer error</li> </ul> ⇒ Click the button "End TS!" to proceed					✓	
19. Not for Launch Cases	<b>D102159SCVT001PM_SELECT</b>  ⇒ Click the button "End TS!" to proceed				17:50	✓	
20.	<b>Z010999MCVT002_POWER_OFF_HER_IST</b>  ⇒ Click the button "End TS!" to proceed				17:58 18:04	✓	✓

Test location: IT102A clean room, ESTEC	Operator <i>[Signature]</i>	Product-Assurance: R. Goossens <i>[Signature]</i>	Date: 21/05/2008	Time 18:04
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Date: 24.04.2008

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Step-No.	IST_END-Step-Description	Nominal Value	Tolerance	Actual Value		P	N
21 Only if TTC-SCOE is still ON	Y102989ETVT020_TTC_SCOE_OFF ⇒ Click the button "End TS!" to proceed				NOT CALLED		
21.	Z010999MCVT004_IST_END ⇒ Click the button "End TS!" to proceed				18:04	✓	
22.	IST_GUI ⇒ Click the button "Quit" to terminate the test sequence					✓	
23.	Update CVS Tag  1. Open a shell (xterm)  2. Execute the command <code>update_tag</code>  Insert the name of TAG → <code>IST_x_PART_x_TP_xxxx_x_x_END_xxx</code> <code>IST_1_PART_1_TP_0197_1551_010106CP_SPLRE-GND-001</code>					✓	

Test location: HYDRA CLEAN ROOM, ESTEC	Operator: 	Product-Assurance: R. Goossens	Date: 21/05/2008	Time: 18:04
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7.4.1 ACMS SCM to OCM transition for power off

Step-No.	IST_END-Step-Description	Nominal Value	Tolerance	Actual Value		P	N
24.	<p><b>A102109SPVT003_ACMS_CONFIG25</b></p> <p>At the prompt "Enter your choice", insert "2" to select "Transition SCM to OCM"</p> <p>⇒ Click the button "OK" to proceed, then "Continue"</p>	2		2		✓	
25.	<p><b>A102109SPVT003_ACMS_CONFIG25</b></p> <p>At the prompt Menu 7 "Enter your choice", insert "5" to select "Reaction wheels spin down"</p> <p>Click the button "OK" to proceed, then "Continue"</p>	5		5		✓	
26.	<p><b>A102109SPVT003_ACMS_CONFIG25</b></p> <p>At the prompt Menu 9 "Enter your choice", insert "1" to select "Switch off ACMS"</p> <p>Click the button "OK" to proceed, then "Continue"</p>	1		1		✓	

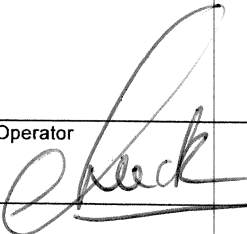
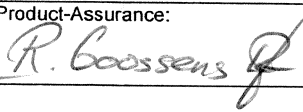
  

Test location: <i>HT/DA clean room, GSR</i>	Operator: <i>[Signature]</i>	Product Assurance: <i>R. Boossens</i>	Date: <i>21/05/2008</i>	Time: <i>17:07</i>
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Step- No.	IST_END-Step-Description	Nominal Value	Tolerance	Actual Value		P	N
27.	<p><b>A102109SPVT012_ACMS_OFF</b></p> <p>During this sequence, following event are expected to occur:</p> <ul style="list-style-type: none"> <li>• TM(5,4) EvtId:16426 Mode SBSM Entry</li> <li>• Event Report - Boot Report and Reconfiguration Log</li> <li>• Event Report - SDB Unhealthy</li> <li>• TM(5,2) EvtID: 33 Event Report - ACB Rx Failed</li> <li>• TM(5,2) EvtID: 33 Event Report - ACB Rx Failed</li> <li>• Multiple "New Tm 251004939"</li> <li>• Multiple "New Tm 251001939"</li> <li>• Multiple "New Tm 251002939"</li> <li>• Multiple TM(5,1) such as "FDir Task Overrun", etc...</li> </ul>					✓	
28.	<p><b>A102109SPVT003_ACMS_CONFIG25</b></p> <p>At the prompt "Enter your choice", insert "99" to select "Terminate ACMS_CONFIG25"</p> <p>Click the button "OK" to proceed, then "Confirm" and continue in parallel with the next step.</p>	99		99		✓	

Test location: HYDRA clean room, ESTEC	Operator <i>Keck</i>	Product-Assurance: <i>R. Goossens</i>	Date: <i>21/05/2008</i>	Time <i>17:20</i>
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Step-No.	IST_END-Step-Description	Nominal Value	Tolerance	Actual Value		P	N
29.	A102109SPVT017_ACMS_CRS_BACKGROUND ⇒ Terminate the sequence.				see 17:21	✓	

Test location: HIDEA CLEAN ROOM, ESTEC	Operator 	Product-Assurance: R. Boossens 	Date: 21/05/2008	Time 17:21
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8.1 Procedure Variation Summary

	Test Change	Curr. No.: Date Page	N/A N/A of
Test designation	Test Procedure	Issue	Rev.
Test step changed	Reason for Change		
<p>SUMMARY OF RISKS</p> <p>1) ACSMS SCOE boot failure (SPR-535)</p>			
Prepared by:	Resp. Test Leader	Project Engineer	
PA/QA	Prime	Customer	

Table 8.1-1: Procedure Variation Sheet

**8.2 Non Conformance Report (NCR) and SPR Summary**

The status of all NCRs/SPRs generated during the test shall be given in the table below:

NCR/SPR - No.	Title	Date	Open/ Closed	PA sig.

Table 8.2-2: NCR/SPR Record Sheet

8.1 Procedure Variation Summary

		Test Change	Curr. No.: # 1
			Date 21/05/08
			Page 1 of 1
Test designation FDIR ORCP	Test Procedure TP0134	Issue 4	Rev. 0
Test step changed 7.2.4.2 STEP 7	Reason for Change ACMS SCOE DID NOT BOOT		
<p>TLM ERROR YMA5E939 FAILURE - SCOE NOT BOOTED)</p> <p>THERE IS AN OP NOTE TO COVER THIS OP NOTE 3.</p> <p>PERFORM OP NOTE 3. AND BE CHECK TLM VALUE.</p> <p>OP NOTE 3 IS TO RESET THE STR COMPUTERS IF THE APPLICATIONS HAVE HUNG. STILL PERFORMED OP NOTE 3.</p> <p>NO DIFFERENCE TO FAILURE.</p> <p>MANUALLY RESET SCOE BY USING <sup>Manual Command stacks file</sup> ACMS SCOE ABORT</p> <p>KILL hpns 23" AND ABORTED TEST SCRIPT ACMS_SCOE_CONFIG1. REPEATED <del>AT021095RPT1003</del> ACMS_CONFIG1</p> <p>(MONITOR SCOE IN SHELL(WINDOW).</p> <p>OPEN SHELL SSH HP2 -S ENTER PASSWORD: herctest</p> <p>cmd: /egseacms/scoe ls -l - - : ) ← just to confirm correct acms config file link</p> <p>SCOE NOW BOOTED OK</p> <p>SIMILAR TO OPERATORS NOTE 4.</p>			
Prepared by: B. HOGG BH	Resp. Test Leader M. KOLL	Project Engineer	
PA/QA B. HOGG BH	Prime	Customer	

Table 8.1-1: Procedure Variation Sheet

100

100

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**8.3 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	<del>See            TP-0197            AS RUN</del>	<del> </del>
Test Conductor		
PA Responsible		

## Annex B: Script Hierarchy

===== IST START =====

```

>Z010999MCVT001_POWER_ON_HER_IST $PM $tcDec $batScoe
|----> Y102989EPVT007_IST_PWR_SCOE_ON $configBS
|----|----> Z010999MMXX002UNITS_CHECK
|----> async referby timeSynchronisation D102159SCVT032TIMESYNCRO
|----> D102159SCVT210_GET_ALARM_STATUS
|----> D102159SCVT210_GET_ALARM_STATUS
|----> W102584EPVT007_IST_CHECK_PCDU
|----> Z010999MMXX002UNITS_CHECK
|----> R102479ECVT009_UNITS_SELECTION
> Z010999MCVT001_POWER_ON_HER_IST $PM $tcDec $batScoe
|----> Y102989EPVT007_IST_PWR_SCOE_ON $configBS
|----|----> Z010999MMXX002UNITS_CHECK
|----> async referby timeSynchronisation D102159SCVT032TIMESYNCRO
|----> D102159SCVT210_GET_ALARM_STATUS
|----> D102159SCVT210_GET_ALARM_STATUS
|----> W102584EPVT007_IST_CHECK_PCDU
|----> Z010999MMXX002UNITS_CHECK
|----> R102479ECVT009_UNITS_SELECTION
> D102159SCVT210_GET_ALARM_STATUS
> D102159SCVT176_WRITE_CROME $papCcs 1
> D102159SCVT174_IST_REDUNDANT_CONF $bus $pctuTmTc $hps $txChain $rfdn $tmObt
$tmRate
|----> D102159SCVT104_ENCODER_SELECT $tmObt $tm_Enc_Config
> async referby istStartSSMM Z010999MCVT005_IST_START_SSMM $ssmm]
> K102999ECVT001_ASDGENCCU_ABPWON
|----> K102999ECVT001_ASDGENCCU_MnDisDLC
|----> K102999ECVT001_ASDGENCCUA_POWERON
|----|----> Z010999MMXX002UNITS_CHECK
|----> K102999ECVT001_ASDGENCCUA_ChkEssTM
|----> K102999ECVT001_ASDGENCCUB_POWERON
|----|----> Z010999MMXX002UNITS_CHECK
|----> K102999ECVT001_ASDGENCCUB_ChkEssTM
> K102999ECVT001_ASDGENCCU_MnEBOTH2
> K102999ECVT001_ASDGENCCU_MnEBOTH1
> K102999ECVT001_ASDGENCCUA_POWERON
|----> Z010999MMXX002UNITS_CHECK
> K102999ECVT001_ASDGENCCUA_MnEnaMd2
> K102999ECVT001_ASDGENCCUA_MnEnaMd1
> K102999ECVT001_ASDGENCCUB_POWERON
|----> Z010999MMXX002UNITS_CHECK
> K102999ECVT001_ASDGENCCUB_MnEnaMd2
> K102999ECVT001_ASDGENCCUB_MnEnaMd1
> Z010999MCVT153_IST_STATUS 5.8.2.4.2
|----> ACMS_get_RM_status RMA
|----> ACMS_get_RM_status RMB
> async A102109SPVT003_ACMS_CONFIG25
|----> A102109SPVT004_ACMS_LOADCONFIG1
|----> A102109SPVT010_ACMS_SCOE_CONFIG1
|----|----> async A102109SPVT017_ACMS_CRS_BACKGROUND
|----> A102109SPVT011_ACMS_ON
|----|----> Z010999MMXX002UNITS_CHECK
|----|----> ACMS_get_RM_status RMA

```

```

|----|----> ACMS_get_RM_status RMB
|----> A102109SPVT021_ACMS_ACC_SEPARA
> D102159SCVT032EnNomTCSLoops_ist_herschel_tcs_config
> D102159SCVT115_CHECK_HCS_OFF
> D102159SCVT192_IST_UPLOAD_EAT
|----> D102159SCVT192_GET_EAT_REPORT
|----> D102159SCVT192_GET_EAT_REPORT 1
> D102159SCVT175_SET_SURV_REG $busSM $pdcuSM $rfdnSM $txChainSM $trSM $sepStsSM
> D102159SCVT219_GET_BSW_HEALTH_UIU 1
> D102159SCVT204_GET_MOT 1
> D102159SCVT192_GET_EAT_REPORT 1
> D102159SCVT205_SAT_COM_TCT 1
> D102159SCVT207_SAT_COM_FCCT 1
> D102159SCVT188_IST_DUMP_PKT_STORE 0 80 1 81 2 82 3 83
> async referby celDownlink D102159SCVT188_IST_DUMP_PKT_STORE CEL_A CEL_B

```

===== IST END =====

```

> $swOFFsequence
> A102109SPVT061_RWL_SPINDOWN
> async referby acmsOff A102109SPVT012_ACMS_OFF
> Z102999SCVT002_SREM_OFF
> D102159SCVT174_IST_REDUNDANT_CONF A A 0 0 0 0 0
|----> D102159SCVT104_ENCODER_SELECT $tmObt $tm_Enc_Config
> D102159SCVT175_SET_SURV_REG B B AB B B B not
> D102159SCVT176_WRITE_CROME AB 1
> D102159SCVT181_DISABLE_PKT_STORE
> D102159SCVT187_IST_SSMM_OFF
> Y102989ETVT020_TTC_SCOE_OFF

```

---

```

|----> Y102989ECVT018_TTC_TC_OP_METHOD OFFLINE
|----|----> Y102989ETVT017_TTC_CHECK_ROUTINE
|----|----> Y102989ETVT019_TTC_SCOE_ACTIVITY
| > W102584SPVT101_PCDU_TRANSITION_FDIR 5
> Z010999MCVT002_POWER_OFF
|----> D102159SCVT028SSMM_OFF
|----> D102159SCVT001PM_SELECT B
|----|----> D102159SCVT003DISTHERMALCONTROL
|----|----> Z010999MMXX002UNITS_CHECK
|----> D102159SCVT001PM_SELECT A
|----|----> D102159SCVT003DISTHERMALCONTROL
|----|----> Z010999MMXX002UNITS_CHECK
|----> R102479SMXX001_XPND_HUM_TXT
|----> Y102989EPVT002_PWR_SCOE_OFF
|----|----> Z010999MMXX003UNITS_CHECK_PWR_OFF
|----|----> Z010999MMXX003UNITS_CHECK_PWR_OFF
|----|----> Z010999MMXX003UNITS_CHECK_PWR_OFF
|----> Z010999MMXX003UNITS_CHECK_PWR_OFF

```

**Annex C: 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	



## Annex D: Operation Notes

### Operation Note 3

<b>Title:</b> ACMS SCOE does not boot	<b>Date:</b> 06/02/08
<b>Observation:</b>	
The ACMS SCOE does not boot.	
Reason: One of the STR UCE (Unit Checkout Equipment) electrical stimuli programs hangs.	
<b>Operator Action:</b>	
Until NCR / SPR is solved the following workaround is proposed (by Martijn):	
During powering the Power SCOE in the cleanroom:	
<ol style="list-style-type: none"> <li>1) Go to the STR UCE (in cleanroom) and select electrical stimuli PC on the KVM switch,          press 2 time 'scroll lock' and select PC#2.</li> <li>2) Kill the running application, by pressing the cross in the upper right corner.</li> <li>3) Start the UCE application by double clicking the icon 'SMI', an application 'Star Mapper Analogue Chain Simulation' should start up.</li> <li>4) Press 2 time 'scroll lock' and select PC#3 and repeat step 3.</li> </ol>	

Operation Note 8

<b>Title:</b> DOD Alarm	<b>Date:</b> 14/02/08
<p><b>Observation:</b></p> <p>During each Power on within the “IST_START” there is a check of the DOD flag. Directly after the “D102159SVT32TIMESYNCRO” the dump of the RM LOG and the DOD Flag check is performed by the “D102159SCVT210_Get_ALARM_STATUS”.</p> <p>If the DOD alarm is present it has to be reset , otherwise the S/C will enter Save Mode directly after separation.</p>	
<p><b>Operator Action:</b></p> <p>For resetting the DOD alarm decrease the Vbat under the DoD threshold and then increasing the Vbat upper the DoD threshold therefore perform the following steps:</p> <p>Open a shell window -&gt; startCMD bsvnc          On the window “H-P BS SCOE” switch to local          On the window “BS SCOE Config” change the Battery Voltage from 25,4 to 19          The push the button save&amp;update          On the window “BS SCOE Config” change the Battery Voltage from 19 to 25,4          The push the button save&amp;update          On the window “H-P BS SCOE” switch to remote</p> <p>Execute the script: D102159SCVT210_Get_ALARM_STATUS          to dump the RM Log to check DOD Flag Check if DOD alarm is still present</p>	

Operation Note 11

<b>Title:</b> Failure in TM Check of CCU Valves	<b>Date:</b> 14/02/08
<p><b>Observation:</b></p> <p><b>If CCU Valves sensing lines are connected to CRYO SCOE instead of CCU the valves status check fails at CCU Power ON</b></p>	
<p><b>Operator Action:</b></p> <ol style="list-style-type: none"> <li>1) On Test conductor Console, perform "connect PFM_CRYO"</li> <li>2) Thanks Telemetry Query Display (TQD) check following TMs <ul style="list-style-type: none"> <li>- YM648958 (VLV_STATUS_V103) instead of KM269302 = "CLOSED"</li> <li>- YM649958 (VLV_STATUS_V106) instead of KM269303 = "CLOSED"</li> <li>- YM640958 (VLV_STATUS_V501) instead of KM270302 = "CLOSED"</li> <li>- YM641958 (VLV_STATUS_V503) instead of KM270303 = "CLOSED"</li> <li>- YM643 958 (VLV_STATUS_V505) instead of KM271303 = "OPEN"</li> </ul> </li> <li>3) On Test conductor Console, perform "disconnect PFM_CRYO"</li> </ol>	

END OF DOCUMENT

Insert actual distribution list



## Attachment 4 to Section 6.7:


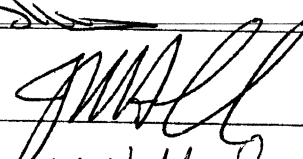
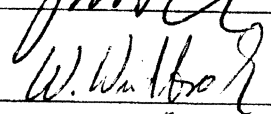
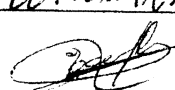

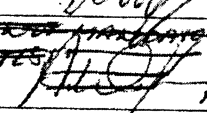

# As-Run Procedure HP-2-ASED-TP-0197 for SPIRE FDIR OBCP

AS RUN FORMAL 21/05/08

2008\_05\_21\_04\_38\_heracms\_hpws22-  
REALTIME - INST - FDIR

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

CI-No: 100000

Prepared by:	Functional AIT Team	Date: 28 April 2008
Checked by:	PP C. Much 	28th April 2008
Product Assurance:	J. Hall 	28/4/2008
Configuration Control:	W. Wietbrock 	30/04/08
TASF Engineering	G. Beauflis 	28/04/2008
TASF Test Director	S. Mooney 	28/04/08
Project Management:	<del>Dr. W. Fricke</del>  <del>HERSCHEL PROJECT MANAGER</del>	Fricke / 28/04/08
Project Management:	PP. D. Montet 	28/04/08

Distribution: See Distribution List (last page)

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\* For as run a print out without highlights like should be used!



Issue	Date	Sheet	Description of Change	Release
1	28.04.2008	All	Initial version	

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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 CCS 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	1280/1281	5,2	xC000		SPIRE-OBCPTest-DRCUAnomaly.tcl
DB_OBCP_H_SPIRE_OPE_STOP	1280/1281	5,2	xC100		SPIRE-OBCPTest-ObservationAnomaly.tcl
DB_OBCP_H_SPIRE_OPE_RESUME	1280/1281	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_OFFCTRL_trigger.tcl

Note:

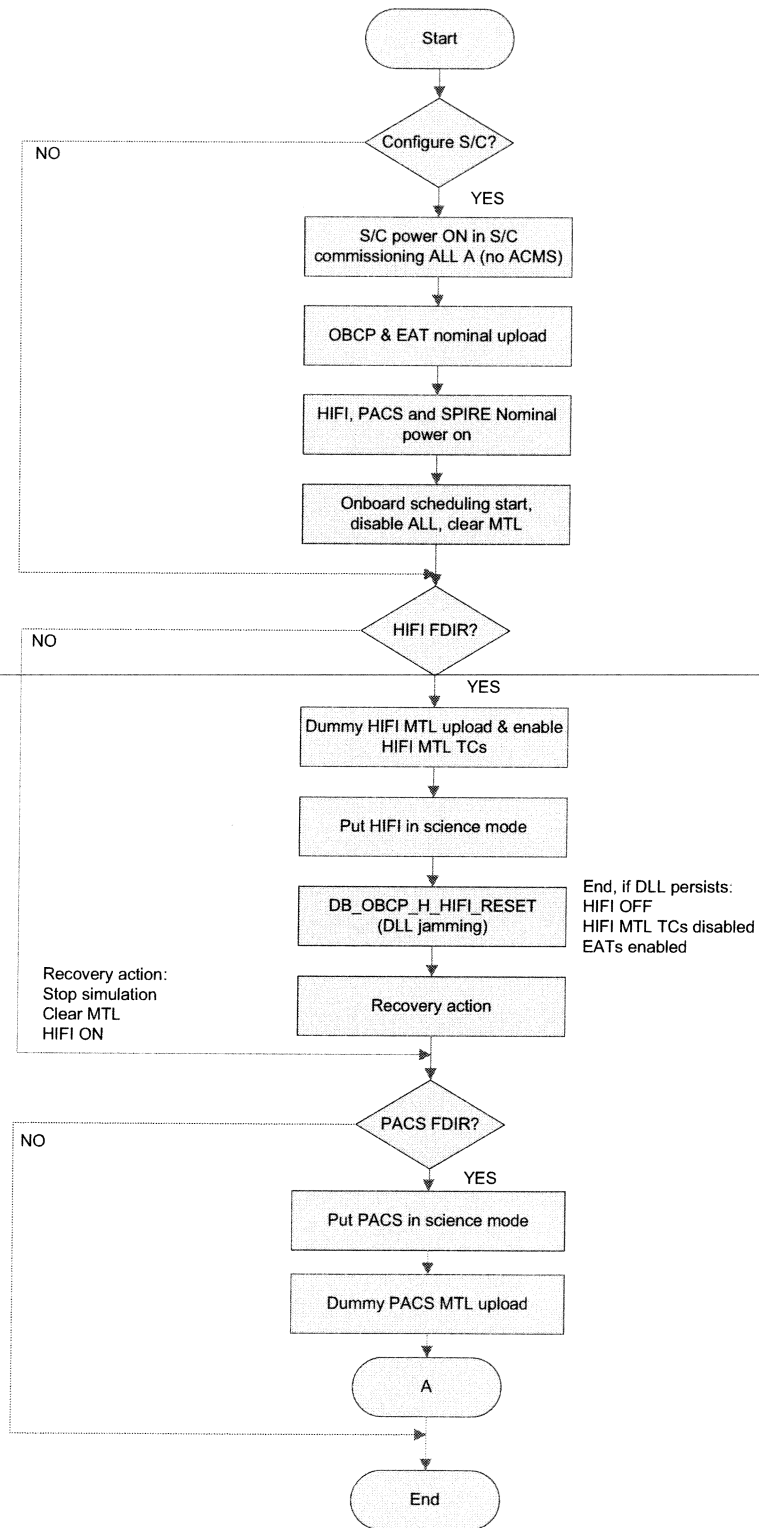
DB\_OBCP\_H\_PACS\_BOLC\_OFF has been eliminated from the test because never called by PACS S/W of NC-3981(RD-7 )

DB\_OBCP\_H\_PACS\_IMMEDIATE\_OFF DLL has been replaced by TFL (RD-8).

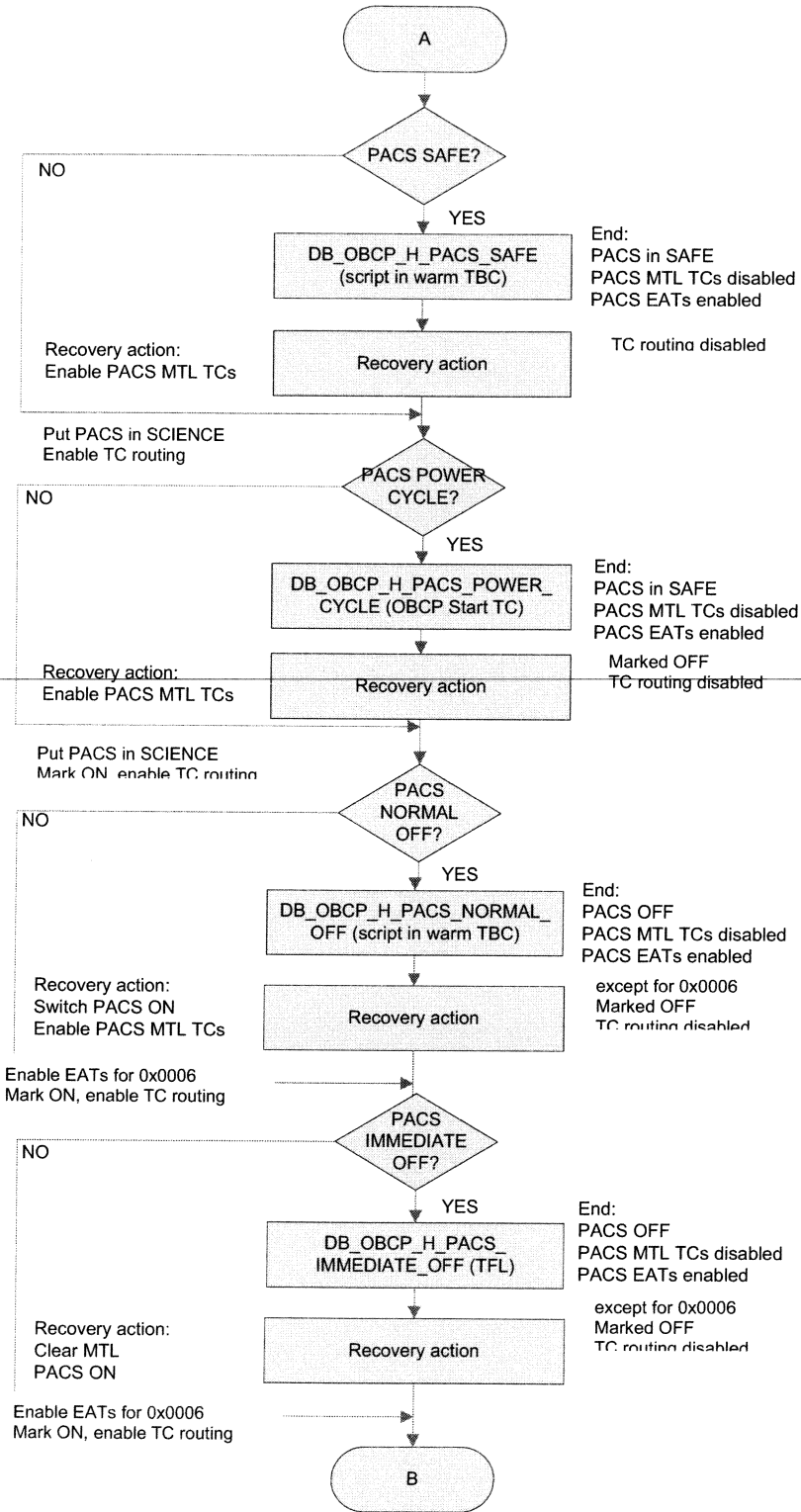
PACS and SPIRE TFL TM tests (PACS IMMEDIATE\_OFF and SPIRE OFF\_CTRL) will be started with the instrument in STANBY instead of science (RD-5)

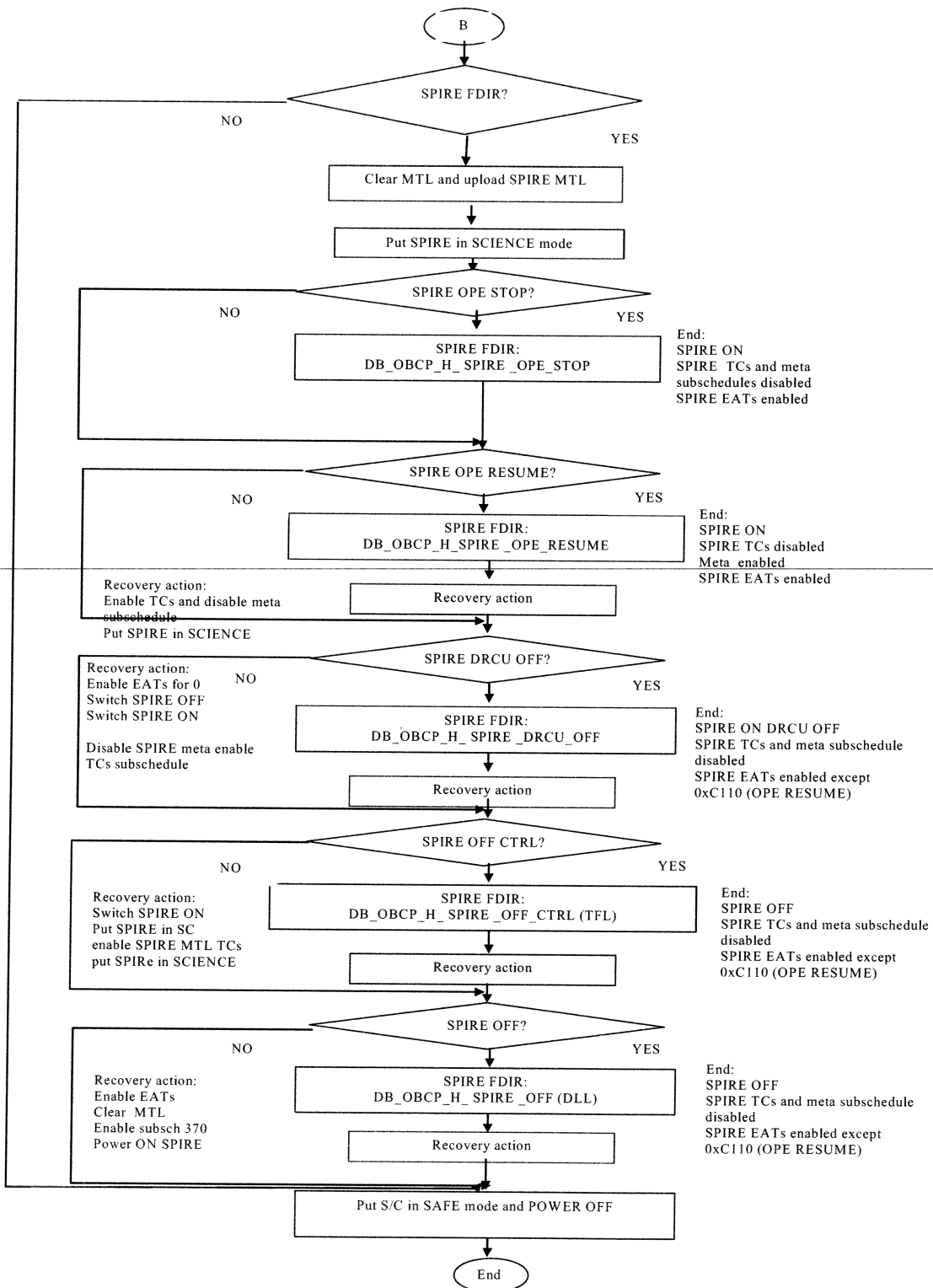
## 1.2 Operational Flow

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



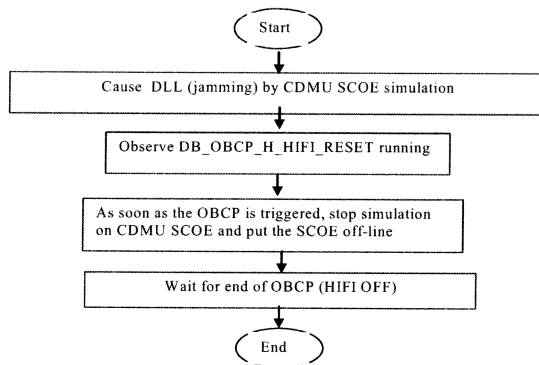






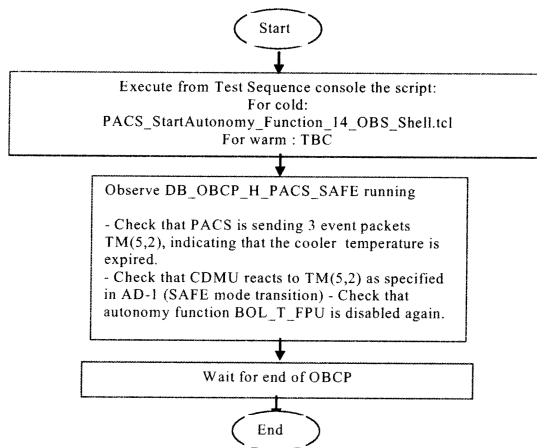
DB\_OBCP\_H\_HIFI\_RESET

DB\_OBCP\_H\_HIFI\_RESET (DLL)

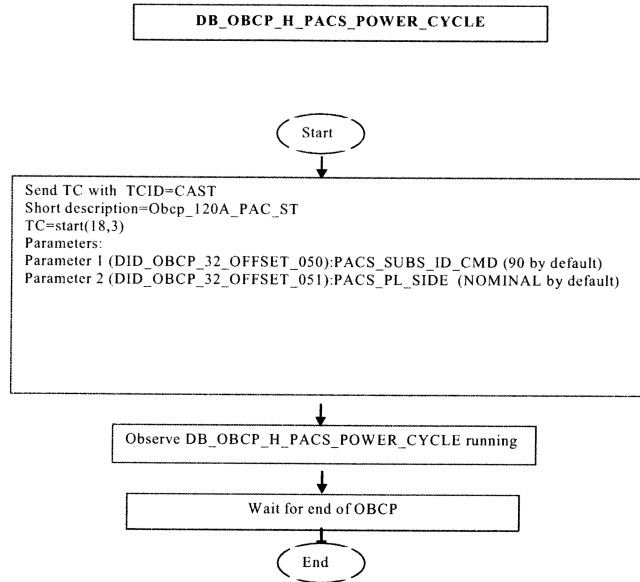


DB\_OBCP\_H\_PACS\_SAFE

DB\_OBCP\_H\_PACS\_SAFE

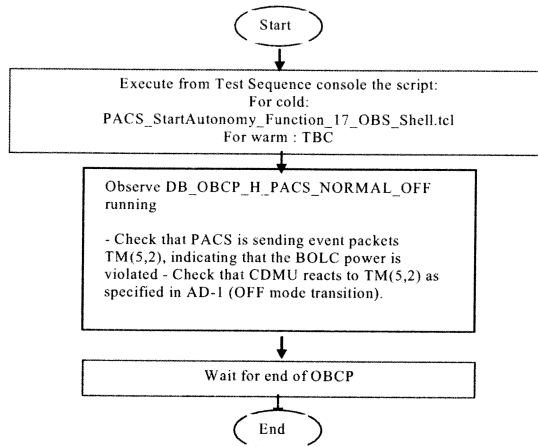


DB\_OBCP\_H\_PACS\_POWER\_CYCLE (OBCP Start TC)



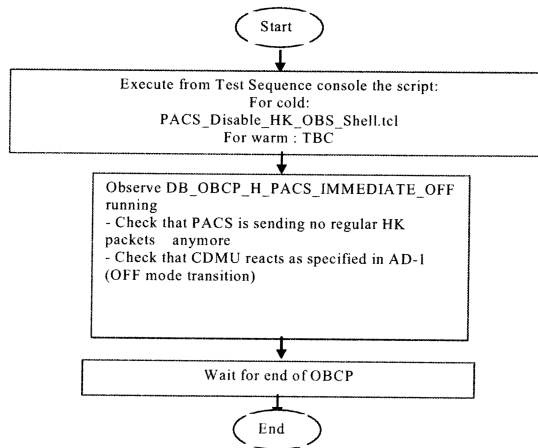
**DB\_OBCP\_H\_PACS\_NORMAL\_OFF**

DB\_OBCP\_H\_PACS\_NORMAL\_OFF



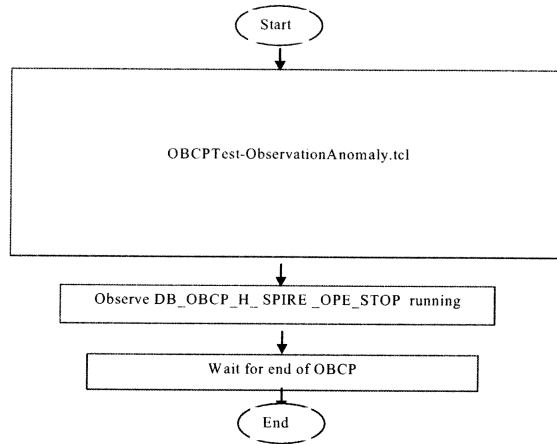
**DB\_OBCP\_H\_PACS\_IMMEDIATE\_OFF (TFL)**

DB\_OBCP\_H\_PACS\_IMMEDIATE\_OFF



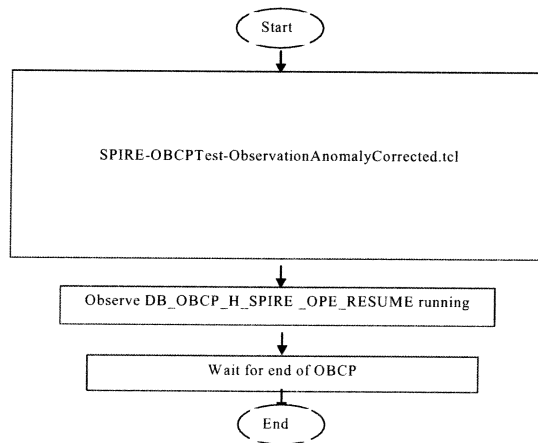
DB\_OBCP\_H\_SPIRE\_OPE\_STOP

DB\_OBCP\_H\_SPIRE\_OPE\_STOP



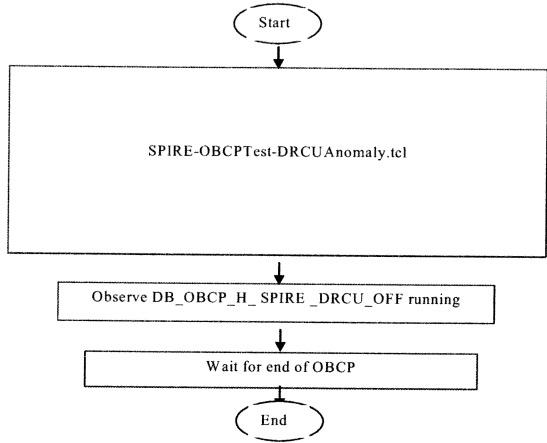
DB\_OBCP\_H\_SPIRE\_OPE\_RESUME

DB\_OBCP\_H\_SPIRE\_OPE\_RESUME



DB\_OBCP\_H\_SPIRE\_DRCU\_OFF

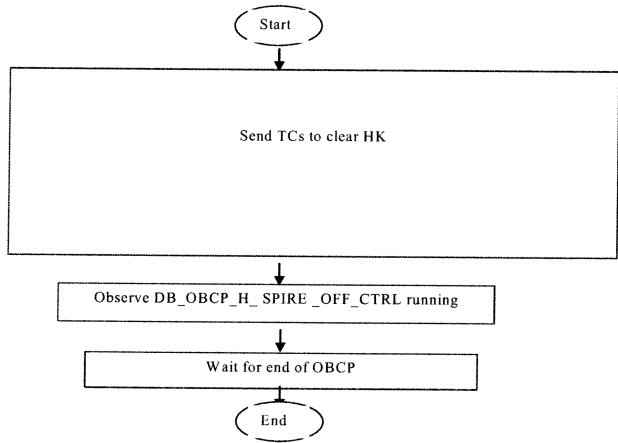
DB\_OBCP\_H\_SPIRE\_DRCU\_OFF



---

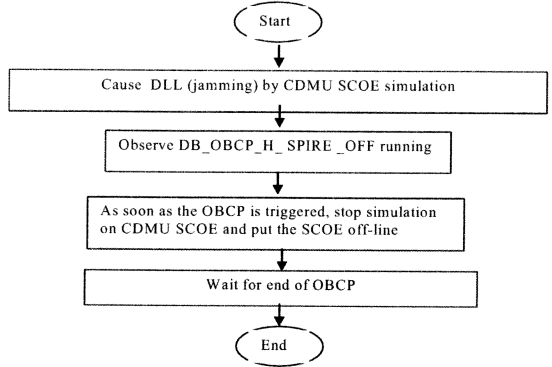
DB\_OBCP\_H\_SPIRE\_OFF\_CTRL (TFL)

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 6
  - AD-2 Payload management and OBCP  
H-P-ASPI-TN-1072, issue 6
  - AD-3 Test Specification for Herschel Instruments AVM and FM Tests performed at Satellite Level  
HP-2-ASP-TS-1083\_1\_0
- 

### 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 2
- RD-4 Leading Procedure for Herschel Integrated Satellite Test 'IST'  
HP-2-ASED-TP-0134 iss 4
- 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

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#### **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**

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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

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##### 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.

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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.

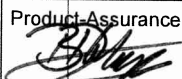
Steps:

- 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

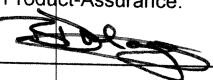
NOTE: In this sequence, PERFORM the step “Configure for Instrument FDIR test”

7.2 Test Specific Initialization

Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
1.	Enter the following In the CCS Test Console:  callasync Z010999MCVT131_IST_INSTR_FDIR.tcl	PASS				U	
2.	During Z010999MCVT131_IST_INSTR_FDIR.tcl  START HERSCHEL INSTRUMENTS FDIR, SECTION 5.8.13  ⇒ Click the button "YES" to proceed	YES			If NO, the sequence is terminated.	U	
3.	During Z010999MCVT131_IST_INSTR_FDIR.tcl  Configure for Instruments FDIR test? - SKIP if S/C already on and configured by CMD5 MGMT  ⇒ Click the button "Confirm" to proceed	CONFIRM			If "SKIP" the sequence continues from step 37.  NOTE: SKIP this step, if test follows cdms management and S/C already in A.P.	U	

Test location: ESTEC	Operator: DL	Product Assurance:  B. Heger	Date: 28/09/08 09:05 H
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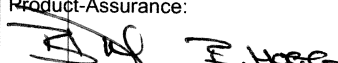
Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
4.	<p>During Z010999MCVT131_IST_INSTR_FDIR</p> <p>"CDMS setting for separation"</p> <p>⇒ Click the button "Confirm" to proceed</p>	CONFIRM				✓	
5.	<p>During ...</p> <p>D103159SCVT138 IST_LAUNCH_SUNACQ</p> <p>⇒ Wait, go to 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: B775C	Operator A.	Product-Assurance:  E. Hogg	Date: 28/05/08
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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>	2 OK CONTINUE				✓	
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</p>	NO				✓	
9.	<p>At end of Z010999MCVT089 IST_LAUNCH_SUNACQ</p> <p>⇒ Click the button "End TS!" to proceed</p>	ENDTS				✓	
10.	<p>During Z010999MCVT131_IST_INSTR_FDIR</p> <p>Transition to Nominal</p> <p>⇒ Click the button "Confirm" to proceed</p>	CONFIRM			At the end check, from SAT.ilv, that FDIR mode is AFO before switching instruments on	✓	

Test location: <b>ESTEC</b>	Operator: <b>DL</b>	Product Assurance: <b>[Signature]</b>	Date: <b>21/05/06</b>
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Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
11.	During Z010999MCVT089_SUNACQ_NOMINAL ⇒ Click the button "End TS!" to proceed	ENDTS				✓	
12.	During Z010999MCVT131_IST_INSTR_FDIR At the prompt "Command ACMS (via OCM/Earth) to SCM/Earth" ⇒ Click the button "OK" to proceed	OK				✓	
13.	During A102109SPVT103_ACMS_CONFIG25 Select Transition to OCM. Main Menu 4.0 SAM Phase: Option 6 ⇒ Click the button "OK" and then ⇒ Click the button "Continue" to proceed	6 OK CONTINUE				✓	
14.	During A102109SPVT036_ACMS_STR_ON Do you want to change the current STR in use ? Answer no ⇒ Click the button "NO" to proceed	NO				✓	

Test location: B578C	Operator DL	Product-Assurance:  E. HOGG	Date: 21/05/08
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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>            ⇒ Verify after ca.7 min if ACMS mode is = OCM point fine (Earth pointing)            ⇒ Verify in AND: ZAA00999 if Est Attitude Q1..Q4 is close to Target            ⇒ Verify AESM3002 = OCM point fine or in synoptic SAT – ACMS – ACC – Mode Nominal</p>	PASS		NA		✓	
16.	<p><i>During A102109SPVT043_TRANSITION_TO_OCM</i></p> <p><b>SUSPEND</b>            ⇒ click on script name in Test Console            ⇒ Click the button "RESUME" to proceed</p>	RESUME					NA
17.	<p><i>During A102109SPVT103_ACMS_CONFIG25</i></p> <p>Select Transition to SCM (Science mode).            Main Menu 7.0: Option 3            ⇒ Click the button "OK" and then            ⇒ Click the button "Continue" to proceed</p>	3 OK CONTINUE				✓	

Test location: <i>ESTEC</i>	Operator: <i>A.</i>	Product-Assurance: <i>SH. R. MOG</i>	Date: <i>21/05/08</i>
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Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
18.	<p>During A102109SPVT038_RWL_ON</p> <p>"Do you want to change actual on-board wheel set selected in the nominal configuration? RWL 1-2-3-4 selected</p> <p>⇒ Click the button "NO" to proceed ?</p>	NO		NO	AEW1A002, AEW2A002, AEW3A002, AEW4A002 LOW expected until wheels are spun up.	U	
19.	<p>During A102109SPVT042_RWL_SPINUP</p> <p>"Change actual Angular Momentum (initial values)?" Option: no</p> <p>⇒ Wait for about 10 minutes</p>	<p>NO</p> <p>RWL-1 ang momentum 10.0 RWL-2 ang momentum -10.0 RWL-3 ang momentum 10.0 RWL-4 ang momentum -10.0</p>		NO			

RWL PANEL OPEN HAS BEEN AGREED WITH FLOOR MANAGER THAT THESE CAN STILL BE OPERATED

*[Signature]*

Test location: PSTOC	Operator: DL	Product Assurance: <i>[Signature]</i> S.HOGE	Date: 21/05/08
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Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
20.	<p>Only for info:</p> <p>⇒ Verify RWL speed in plotting window</p> <p>1. Select REALTIME =&gt; DESKTOP =&gt; MONITORING =&gt; TM Plotting Tool</p> <p>2. Select Directory: Home/heracms/plotting</p> <p>3. Select FILE =&gt; LOAD =&gt; /home/heracms/plotter/RWLsSPEED.txt</p>	PASS					

Test location: <i>BSTEC</i>	Operator: <i>DL</i>	Product-Assurance: <i>[Signature]</i> <i>B. Heger</i>	Date: <i>21/05/08</i>
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Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
21.	<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			<p>8.07</p> <p>- 6.61</p> <p>6.79</p> <p>- 7.28</p> <p>(10:11 H)</p>	✓	
22.	<p>At end of</p> <p><b>A102109SPVT042_RWL_SPINUP</b></p> <p>⇒ Click the button "End TS!" to proceed</p>	ENDTS			<p>ACZ2T109 may timeout because of slew time too short.</p> <p>Wait until AESM3002 is "SCM pnt F rdy"</p>	✓	

Test location: <b>PSTOC</b>	Operator: <b>DW</b>	Product-Assurance: <b>[Signature]</b>	Date: <b>2/05/08 09:50</b>
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Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
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		Actual Value NO	SPR-200 CLOSED NCR 3786 N/A	✓	09:58
26.	During Z010999MCVT131_IST_INSTR_FDIR "POWER ON HIFI PRIMARY" ⇒ Click the button "Confirm" to continue	CONFIRM			NEW NCR TO BE RAISED NCR # 1 NCR-4228 Step 3	✓	

PVS-1a  
04/08

Test location: 8178	Operator: DLW	Product-Assurance: <i>[Signature]</i> B. HOGG	Date: 21/09/08
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NCR 4228 TLM REPORTS SREM NOT ACCUMULATING WHEN REQUESTED.

20080521\_090507\_0072\_Z010999MCVT131\_IST\_INSTR\_FDIR.log

May 21, 08 10:55 20080521\_090507\_0072\_Z010999MCVT131\_IST\_INSTR\_FDIR.log Page 1/1

```

2008.142.09.58.27.687442 Z102999SCVT003_SREM_ACQ_START: Checking Telemetry DEF4
W160
2008.142.09.58.27.713929 Z102999SCVT003_SREM_ACQ_START: Description: Accumulati
on
2008.142.09.58.27.740824 Z102999SCVT003_SREM_ACQ_START: Condition: [getengvalue
[fetch DEF4W160]] == "YES"
2008.142.09.58.27.832476 Z102999SCVT003_SREM_ACQ_START: Waiting time 0 seconds
2008.142.09.58.27.862855 Z102999SCVT003_SREM_ACQ_START: TEST FAILED Value: NO
2008.142.09.58.28.539228 Z102999SCVT003_SREM_ACQ_START: Press one of the followi
ng:
2008.142.09.58.28.664386 Z102999SCVT003_SREM_ACQ_START: Repeat TC & TM - to se
nd again TC, acquire the parameters and to repeat the checks.
2008.142.09.58.28.696442 Z102999SCVT003_SREM_ACQ_START: Repeat TM - to ac
quire again the parameters and to repeat the checks.
2008.142.09.58.28.724703 Z102999SCVT003_SREM_ACQ_START: Continue - to co
ntinue the Test Sequence execution.
2008.142.09.58.28.831145 Z102999SCVT003_SREM_ACQ_START: Abort - to ab
ort the Test Sequence execution.
2008.142.10.01.19.460636 Z102999SCVT003_SREM_ACQ_START: User has chosen to cont
inue the test
2008.142.10.01.19.487764 Z102999SCVT003_SREM_ACQ_START: Entering state: WAITING
2008.142.10.01.21.489304 Z102999SCVT003_SREM_ACQ_START: Entering state: RUNNING
2008.142.10.01.21.489938 Z102999SCVT003_SREM_ACQ_START:
2008.142.10.01.21.490020 Z102999SCVT003_SREM_ACQ_START: No log message

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TP-0197 Section 7.2 Step 25

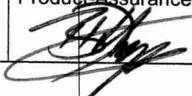
Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
27.	<p>During H102999SCV005_ASDGENHIFI_PWR_ON_P</p> <p>"Power on HIFI prime and enable MIL 1553 I/F. FM HIFI Switch on for functional tests only in warm conditions with LOU or dummy - Select NO to abort TS if not correct"</p> <p>⇒ Click the button "YES" to confirm</p>	YES			<p>Conditions may change, so check on RD-3 for current reference and expected OOL.</p> <p>skip (N/A)</p>		
28.	<p>During H102999SCV005_ASDGENHIFI_PWR_ON_P</p> <p>"Set Bus Profile back to original setting?"</p> <p>⇒ Click the button "YES" to confirm</p>	YES			skip (N/A)		
29.	<p>During Z010999MCVT131_IST_INSTR_FDIR</p> <p>"POWER ON PACS PRIMARY"</p> <p>⇒ Click the button " Confirm" to continue</p>	CONFIRM				U	

Test location: <i>03700</i>	Operator: <i>DW</i>	Product-Assurance: <i>Stoerger BDI.</i>	Date: <i>21/03/08</i>
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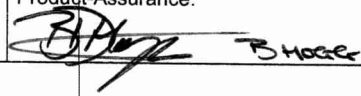
Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
30.	<p><i>During</i>  P102999SCVT905_ASDISTPACS_PWR_ON_N</p> <p>"Power on PACS prime and enable MIL 1553 I/F. FM PACS Switch on in warm or cold conditions, FPU connected ... - Select NO to abort TS if not correct"</p> <p>⇒ Click the button "YES" to confirm</p>	YES		YES	Conditions may change, so check on RD-3 for current reference and expected OOL.	✓	
31.	<p><i>During</i>  P102999SCVT905_ASDISTPACS_PWR_ON_N</p> <p>PACS FDIR OBCPs/EATs loaded and enabled? If not select NO to abort TS. If not sure, check with D102159SCVT192_GET_EAT_REPORT. Then select "YES"</p> <p>⇒ Click the button "YES" to confirm</p>	YES		YES		✓	
32.	<p><i>During</i>  P102999SCVT905_ASDISTPACS_PWR_ON_N</p> <p>"Set Bus Profile back to original setting?"</p> <p>⇒ Click the button "YES" to confirm</p>	YES		YES		✓	

Test location: <i>01702</i>	Operator: <i>DL</i>	Product-Assurance: <i>[Signature]</i> <i>E. HERR</i>	Date: <i>7/1/05/09</i>
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Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
33.	<p>During Z010999MCVT131_IST_INSTR_FDIR</p> <p>"POWER ON SPIRE PRIMARY"</p> <p>⇒ Click the button "confirm" to continue</p>	CONFIRM				✓	
34.	<p>During S102999SCVT017_ASDGENSPIR_PWR_ON_P</p> <p>"Power on SPIRE prime and enable MIL 1553 I/F. FM SPIRE Switch on for functional tests only in any conditions ... - Select NO to abort TS if not correct "</p> <p>⇒ Click the button "YES" to confirm</p>	YES			Conditions may change, so check on RD-3 for current reference and expected OOL.	✓	
35.	<p>During S102999SCVT017_ASDGENSPIR_PWR_ON_P</p> <p>"Set Bus Profile back to original setting?"</p> <p>⇒ Click the button "YES" to confirm</p>	YES				✓	
36.	<p>During Z010999MCVT131_IST_INSTR_FDIR</p> <p>At the prompt "SET RX" RATE FROM 4000 to 125 BPS?"</p> <p>⇒ Click the button "Confirm" to continue</p>	CONFIRM				✓	


Test location: 870c	Operator: PL	Product Assurance:  B. HOGG	Date: 21/05/08
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Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
37.	<p>During Z010999MCVT131_IST_INSTR_FDIR</p> <p>"SAVING ORIGINAL SCBP"</p> <p>⇒ Click the button "Confirm" to continue</p>	YES				✓	
38.	<p>During 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"> <li>- DE82F170</li> <li>- DEA74170</li> <li>- DEH26170</li> </ul> <p>Open also the OnBoardQueue</p>	✓	
39.	<p>During 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>				✓	

Test location: ASTC	Operator DL	Product-Assurance:  B. HOGRE	Date: 21/05/08
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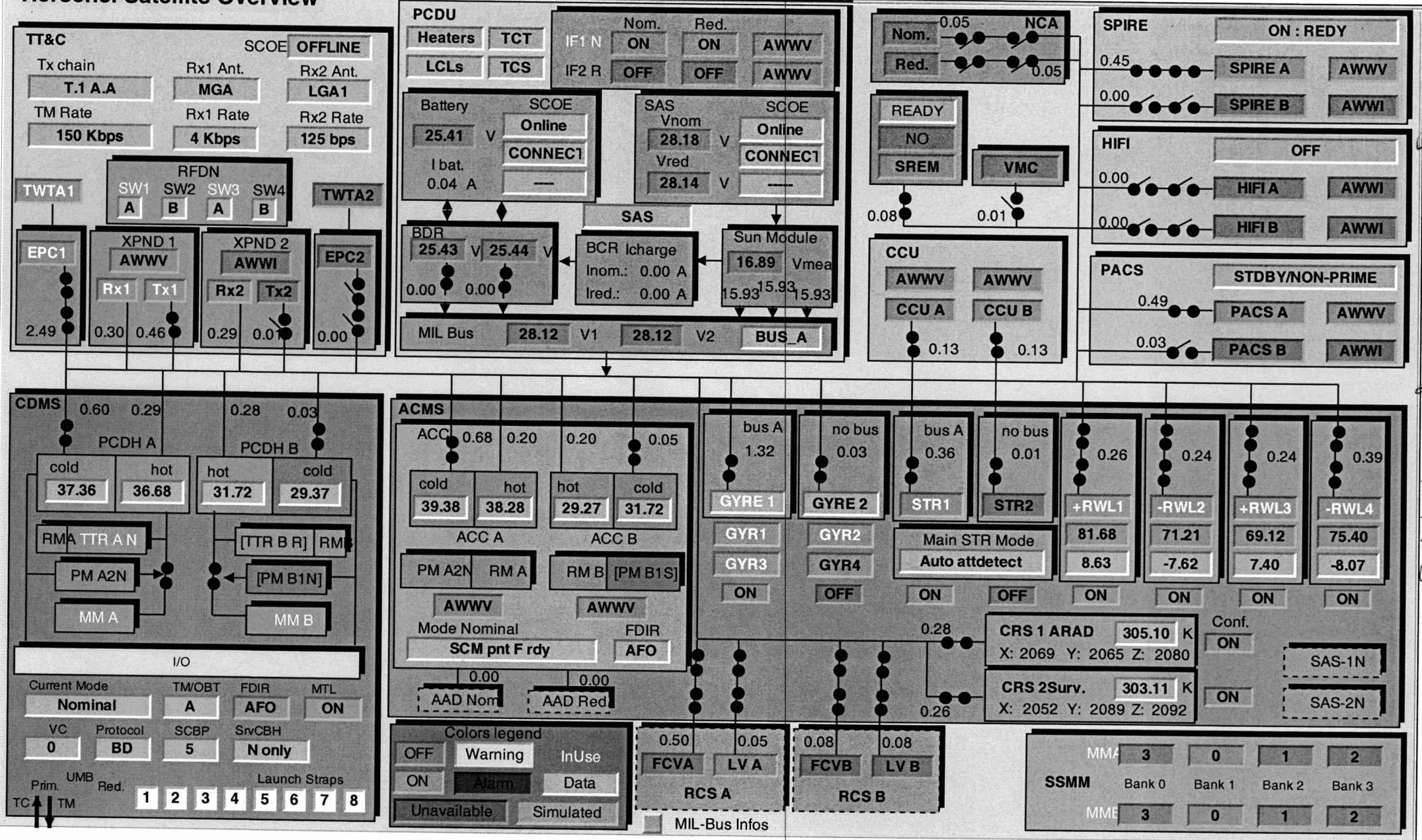
PVSA  
Step 4.

Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
40.	<p>During Z010999MCVT131_IST_INSTR_FDIR</p> <p>"Start the instrument specific FDIR sequence"</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"> <li>- chapter 7.3 for HIFI</li> <li>- chapter 7.4 for PACS</li> <li>- chapter 7.5 for SPIRE</li> </ul> <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		

Test location: ESTEC/HYDRA	Operator SNAH	Product-Assurance:  31066	Date: 2105108.
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# Herschel Satellite Overview



Configuration at start of section 7.5

7.3 HIFI

**Note:** HHIFIEGSEs shall be already running since the script is going to connect to them!

*Handwritten:* N/A PVS# 1  
 SKIP PAGES 41 TO 88  
 21/05/08

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

Test location:	Operator	Product-Assurance:	Date:
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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
44.	<p><i>During</i> Z010999MCVT134_IST_HIFI_FDIR</p> <p>"calling ALL_SubscribeParams.tcl"</p> <p>⇒ Click the button "OK" to continue</p>	OK					
45.	<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.		
46.	<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					
47.	<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					

Test location:	Operator	Product-Assurance:	Date:
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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
48.	<i>During</i> Z010999MCVT153_IST_STATUS  ⇒ <i>Check the Satellite State</i>  ⇒ <i>Click the button "OK" to continue</i>	OK			Compare with AD-1 for chapter 5.8.7 of IST specifications		
49.	<i>During</i> Z010999MCVT134_IST_HIFI_FDIR  "Set SCBP to HIFI Prime (2)"  ⇒ <i>Click the button " Confirm" to continue</i>	CONFIRM					
50.	<i>During</i> Z010999MCVT134_IST_HIFI_FDIR  "upload dummy MTL with HIFI connection test in subschedule 70"  ⇒ <i>Click the button "Confirm to continue"</i>	CONFIRM					

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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
51.	<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					
52.	<p><i>During</i> D102159SCVT214_IST_HIFI_MTL_PING</p> <p>⇒ Click the button "EndTS!" to continue</p>	ENDTS					
53.	<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>	PASS OK					
54.	<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>	PASS OK					

Test location:	Operator	Product-Assurance:	Date:
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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
55.	<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>	CONFIRM					
56.	<p><i>During</i> Z010999MCVT134_IST_HIFI_FDIR</p> <p>"Insert call to science mode sequence"</p> <p>⇒ Click the button "OK" to confirm</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:		
57.	<p><i>During</i> Z010999MCVT134_IST_HIFI_FDIR</p> <p>"Perform HIFI RESET OBCP (DLL)?"</p> <p>⇒ Click the button "Confirm" to continue</p>	CONFIRM			<p>If SKIP, it continues at step 75.</p> <p>DB_OBCP_H_HIFI_RESET is the OBCP under test.</p>		

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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
58.	<p><i>During</i> Z010999MCVT134_IST_HIFI_FDIR</p> <p>"HIFI RESET DLL FDIR triggering"</p> <p>⇒ Click the button "confirm" to continue</p>	CONFIRM					
59.	<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>	PASS OK					
60.	<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		
61.	<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					

Test location:	Operator	Product-Assurance:	Date:
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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
62.	On CDMS SCOE  Select Menu: Mode ⇨ Local Mode Password: H-P	PASS					
63.	On CDMS SCOE  Select from menu: Setup ⇨ RTSim Configuration	PASS					
64.	On CDMS SCOE  Select file: R:\(192.168.90.32)\Herschel.rtc  and then click the button "OK"	PASS					
65.	On CDMS SCOE  Select from menu: Mode ⇨ On Line	PASS					

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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
66.	<p>On CDMS SCOE</p> <p>In window: "System Control/RT controls"</p> <p>⇒ Select RT 16</p> <p>⇒ Click the button "Enable" for:</p> <ul style="list-style-type: none"> <li>- control</li> <li>- TM queue</li> <li>- TC queue</li> </ul> <p>Wait 8 seconds then immediately perform next step</p>	PASS			<p>JAMMING STARTED!!!!!!</p> <p>Very important to stop within 8 sec, to avoid subsequent reconfigurations!!</p> <p>CAN BE STOPPED AS SOON AS THE OBCP STARTED EVENT IS RECEIVED.</p>		
67.	<p>On CDMS SCOE</p> <p>In window: "System Control/RT controls"</p> <p>Click the button "Disable" for:</p> <ul style="list-style-type: none"> <li>- control</li> <li>- TM queue</li> <li>- TC queue</li> </ul>	PASS			<p>Very important to stop within 8 sec, to avoid subsequent reconfigurations!!</p>		

Test location:	Operator	Product-Assurance:	Date:
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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
68.	<p><i>During</i> Z010999MCVT134_IST_HIFI_FDIR <i>At the prompt</i> "Wait until the end of the OBCP TM(5,1) with SPID 40145170 proclD 0x130D"</p> <p><i>Check that</i> ⇒ 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> <p>⇒ Click the button "OK" to confirm</p>	PASS OK			If soft reset, HIFI is left ON If hard reset HIFI is left OFF.		
69.	<p><i>During</i> Z010999MCVT134_IST_HIFI_FDIR</p> <p>"RECOVERY ACTION"</p> <p>⇒ Click the button "Confirm to continue"</p>	CONFIRM					
70. 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>	PASS OK					

Test location:	Operator	Product-Assurance:	Date:
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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
71. If SOFT RESET	<p><i>During</i> Z010999MCVT134_IST_HIFI_FDIR</p> <p><i>"please check subschedules 60 is disabled and 70 is enabled"</i></p> <p>⇒ Perform activity and then click the "OK" button to confirm</p>	PASS OK					
72.	<p><i>During</i> Z010999MCVT134_IST_HIFI_FDIR</p> <p><i>" Set the CDMU SCOE OFF LINE"</i></p> <p><i>On CDMS SCOE, select from menu: Mode → Off Line</i></p> <p>⇒ Perform activity and then click the button "OK" to proceed</p>	PASS OK					
73.	<p><i>During</i> Z010999MCVT134_IST_HIFI_FDIR</p> <p><i>"End of HIFI RESET OBCP (DLL)" "check that all EATs are enabled"</i></p> <p>⇒ Perform activity through D102159SCVT192_GET_EAT_REPORT and then click the "OK" button to confirm</p>	PASS OK					

Test location:	Operator	Product-Assurance:	Date:
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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
74.	<p><i>During</i> D102159SCVT192_GET_EAT_REPORT</p> <p>⇒ Click the button "EndTS!" to proceed</p>	ENDTS					
75.	<p><i>During</i> Z010999MCVT134_IST_HIFI_FDIR</p> <p>"RESET starting conditions"</p> <p>⇒ click the "confirm" to continue</p>	CONFIRM					
76.	<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>⇒ Click the "OK" button to continue</p>	OK					
77. If HARD RESET	<p><i>During</i> Z010999MCVT134_IST_HIFI_FDIR</p> <p>"Switching HIFI ON"</p> <p>⇒ click the "CONFIRM" button to confirm</p>	CONFIRM					

Test location:	Operator	Product-Assurance:	Date:
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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
78. If HARD RESET	<p><i>During</i> Z102999SCVT014_ASDGEN_HIFIPWRON_P</p> <p>"script to switch HIFI on in .... conditions.....click NO to abort the sequence"</p> <p>⇒ click the "YES" button to confirm</p>	YES			Refer to RD-3 for exact conditions and expected OOL.		
79. If HARD RESET	<p><i>During</i> Z102999SCVT014_ASDGEN_HIFIPWRON_P</p> <p>"Set SCBP back to the original?"</p> <p>⇒ click the "YES" button</p>	YES					
80.	<p><i>During</i> Z010999MCVT134_IST_HIFI_FDIR</p> <p>"Please terminate the sequence ALL_SubscribeParams.tcl</p> <p>⇒ Perform activity and then click the "OK" button to confirm</p>	OK					

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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
81.	<p><i>During</i> Z010999MCVT134_IST_HIFI_FDIR</p> <p><i>"End of HIFI 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>	PASS OK					
82.	<p><i>During</i> D102159SCVT192_GET_EAT_REPORT</p> <p><i>⇒ Click the button "EndTS!" to proceed</i></p>	ENDTS					
83.	<p><i>At end of</i> Z010999MCVT134_IST_HIFI_FDIR</p> <p><i>⇒ Click the button "End TS!" to proceed</i></p>	ENDTS					

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**7.4 PACS**

Note: HPACSEGSE shall be already running since the script is going to connect to them!

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

Test location:	Operator	Product-Assurance:	Date:
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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
87.	<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.		
88.	<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					
89.	<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					
90.	<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-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
91.	<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					
92.	<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		
93.	<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					
94.	<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
95.	<p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</p> <p>"Check that the MTL contains one PC023280 (DPU_TEST_CONN) every 5 minutes for 10 hours in subschedule 90"</p> <p>⇒ Click the button "OK" to continue</p>	PASS OK			120 TC's are put in the MTL.		
96.	<p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</p> <p>"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>	OK					
97.	<p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</p> <p>"Wait for execution of the first command, then press OK"</p> <p>⇒ Click the button "OK" to continue</p>	OK					

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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
98.	<p>During Z010999MCVT135_IST_PACS_FDIR</p> <p>"Put PACS in SCIENCE"</p> <p>⇒ Click the button "Confirm" to continue</p>	CONFIRM					
99.	<p>During P102999SCVT904_ASDGENPACS_NomSpect</p> <p>"FM PACS Simulate Spectroscopy for test in ANY conditions - abort TS if not correct: Choose Yes or No"</p> <p>⇒ Click the button "Yes" to continue</p>	<p>YES</p> <p>Check that file in /HPCCS/VARIABLE/RESULTS/ &lt;test_session&gt;/TMDUMP/ /&lt;date-time&gt;VC1.txt is increasing.</p>			<p>Refer to RD-3 for current message and expected OOL.</p> <p>When PC012380 is sent proceed to next step Note: TC will remain pending until end of science</p>		
100.	<p>During 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 117.</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
101.	<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					
102.	<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					
103.	<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
104.	<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> <ul style="list-style-type: none"> <li>⇒ PACS (APID=1152) is sending 3 event packets TM(5,2) EXCEPTION_REPORT_04 before OBCP Started event</li> <li>⇒ 2x TM(1,8) from APID 16 prior to OBCP start</li> <li>⇒ PM165380 (DP_EV_BOL_T_FPU) is enabled</li> <li>⇒ OBCP PACS_SAFE has been triggered – TM(5,1) with SPID 40148170 proclD 0x1208</li> <li>⇒ PM165380 (DP_EV_BOL_T_FPU) BOL_T_FPU is disabled again</li> <li>⇒ OBCP is OVER: TM(5,1) with SPID 40145170 proclD 0x1208</li> </ul> <p>⇒ Click the "OK" button to confirm</p>	<p>PASS OK</p>			<p>Apart from checking the OBCP start and end events against the Proc ID, the other checks can be done off-line.</p>		

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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
105.	<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>					
106.	<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>					
107.	<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>					

Test location:	Operator	Product-Assurance:	Date:
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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
108.	<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>					
109.	<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>					
110.	<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
111.	<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>					
112.	<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>					
113.	<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
114.	<p><i>During</i> D102159SCVT192_GET_EAT_REPORT</p> <p>⇒ Click the button "EndTS!" to proceed</p>	ENDTS					
115.	<p><i>During</i> P102999SCVT904_ASDGENPACS_NomSpect</p> <p>"FM PACS Simulate Spectroscopy for test in ANY conditions - abort TS if not correct: Choose Yes or No"</p> <p>⇒ Click the button "Yes" to confirm</p>	<p>YES</p> <p>Check that file in /HPCCS/VARIABLE/RESULTS/&lt;test_session&gt;/TMDUMP/ /&lt;date-time&gt;VC1.txt is increasing.</p>			<p>Refer to RD-3 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>		
116.	<p><i>During</i> P102999SCVT904_ASDGENPACS_NomSpect</p> <p>"Set PACS(4) as active bus profile?"</p> <p>⇒ Click the button "Yes" to confirm</p>	YES					
117.	<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 134.</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
118.	<i>During</i> Z010999MCVT135_IST_PACS_FDIR "TRIGGER OBCP WITH START TC" ⇒ Click the button "Confirm to continue"	CONFIRM					
119.	Z010999MCVT135_IST_PACS_FDIR "Filter a TMPKT history for TM(5,1)" ⇒ Check script name and then click the button "OK" to confirm	PASS OK					
120.	<i>During</i> Z010999MCVT135_IST_PACS_FDIR "sending EGSE_tcsend_CEV DCAST185 { DPV32185 90 } { DPV32185 0}" ⇒ click the "OK" button to confirm	OK					

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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
121.	<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
122.	<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>					
123.	<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>					
124.	<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>					

Test location:	Operator	Product-Assurance:	Date:
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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
125.	<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>					
126.	<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> <p>OK</p>					
127.	<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>					

Test location:	Operator	Product-Assurance:	Date:
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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
128.	<p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</p> <p>"Please check in the report that PACS TC Routing is enabled"</p> <p>⇒ Perform activity and then click the "OK" button to confirm</p>	<p>PACS Gnd-LoPrio ENABLED OK</p>					
129.	<p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</p> <p>"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>Subschedules 80 OFF 90 ON OK</p>					
130.	<p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</p> <p>"End of PACS POWER CYCLE 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>	<p>PASS  OK</p>					

Test location:	Operator	Product-Assurance:	Date:
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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
131.	<p><i>During</i>  D102159SCVT192_GET_EAT_REPORT</p> <p>⇒ Click the button "EndTS!" to proceed</p>	ENDTS					
132.	<p><i>During</i>  P102999SCVT904_ASDGENPACS_NomSpect</p> <p>"FM PACS Simulate Spectroscopy for test in ANY conditions - abort TS if not correct: Choose Yes or No"</p> <p>⇒ Click the button "Yes" to confirm</p>	<p>Check that file in  /HPCCS/VARIABLE/RESULTS/  &lt;test_session&gt;/TMDUMP/  /&lt;date-time&gt;VC1.txt is  increasing.</p> <p>YES</p>			<p>Refer to RD-3 for current message and expected OOL.</p> <p>When PC012380 is sent proceed to next step  Note: TC will remain pending until end of science</p>		
133.	<p><i>During</i>  P102999SCVT904_ASDGENPACS_NomSpect</p> <p>"Set PACS(4) as active"</p> <p>⇒ Click the button "Yes" to confirm</p>	CONFIRM					

Test location:	Operator	Product-Assurance:	Date:
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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
134.	<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 156.</p> <p>DB_OBCP_H_PACS_NORMAL_OFF is the OBCP under test.</p>		
135.	<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					
136.	<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			<p>If script is not correct, abort the test sequence</p>		

Test location:	Operator	Product-Assurance:	Date:
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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
137.	<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>	PASS  OK			Apart from start and end events checks, the other can be done offline.		

Test location:	Operator	Product-Assurance:	Date:
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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
138.	<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>					
139.	<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>					
140.	<p><i>During</i> D102159SCVT192_GET_EAT_REPORT</p> <p><i>⇒ Click EndTS to continue</i></p>	<p>ENDTS</p>					

Test location:	Operator	Product-Assurance:	Date:
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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
141.	<p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</p> <p>"RECOVERY ACTION"</p> <p>⇒ Click the "Confirm" button to continue</p>	CONFIRM					
142.	<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					
143.	<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>	PASS  OK					

Test location:	Operator	Product-Assurance:	Date:
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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
144.	<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>⇒ Perform activity and then click the "OK" button to confirm</p>	<p>PACS Gnd-LoPrio DISABLED</p> <p>OK</p>					
145.	<p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</p> <p><i>"Please filter TMPKT History for TM(8,6)"</i></p> <p>⇒ Perform activity and then click the "OK" button to confirm</p>	<p>PASS</p> <p>OK</p>					
146.	<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>⇒ Perform activity and then click the "OK" button to confirm</p>	<p>PACS Gnd-LoPrio ENABLED</p> <p>OK</p>					

Test location:	Operator	Product-Assurance:	Date:
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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
147.	<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					
148.	<p><i>During</i> D102159SCVT192_GET_EAT_REPORT</p> <p>⇒ Click EndTS to continue</p>	ENDTS					
149.	<p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</p> <p>"Switching PACS ON"</p> <p>⇒ Click the "OK" button to confirm</p>	OK					
150.	<p><i>During</i> H102999SCV905_ASDGENPACS_PWR_ON_N</p> <p>"Power on PACS prime and enable MIL 1553 I/F. FM PACS Switch on in warm or cold conditions, FPU connected ... - Select NO to abort TS if not correct"</p> <p>⇒ Click the button "YES" to confirm</p>	YES			Refer to RD-3 for current message and expected OOL.		

Test location:	Operator	Product-Assurance:	Date:
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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
151.	<p><i>During</i>  P102999SCVT905_ASDISTPACS_PWR_ON_N</p> <p>PACS FDIR OBCPs/EATs loaded and enabled? If not select NO to abort TS. If not sure, check with D102159SCVT192_GET_EAT_REPORT. Then select "YES"</p> <p>⇒ Click the button "YES" to confirm</p>	YES					
152.	<p><i>During</i>  P102999SCVT905_ASDISTPACS_PWR_ON_N</p> <p>"Set Bus Profile back to original setting?"</p> <p>⇒ Click the button "YES" to confirm</p>	YES					
153.	<p><i>During</i>  P102999SCVT918_ASDISTPACS_MarkON</p> <p>"Mark PACS Units ON?"</p> <p>⇒ click "confirm" to continue</p>	CONFIRM					

Test location:	Operator	Product-Assurance:	Date:
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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
154.	<p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</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>					
155.	<p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</p> <p><i>"End of PACS NORMAL OFF TEST."</i></p> <p><i>⇒ click the "OK" button to confirm</i></p>	<p>OK</p>					

Test location:	Operator	Product-Assurance:	Date:
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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>"PACS IMMEDIATE OFF OBCP?"</p> <p>⇒ Click the button "Confirm" to continue</p>	CONFIRM			<p>If SKIP, it continues at step 180.</p> <p>DB_OBCP_H_PACS_IMMEDIATE_OFF is the OBCP under test.</p>		
157.	<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					
158.	<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		

Test location:	Operator	Product-Assurance:	Date:
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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
159.	<p><i>During Z010999MCVT135_IST_PACS_FDIR</i></p> <p><i>"check that PACS is sending no regular packets any more"</i></p> <p><i>⇒ Perform activity and then click the "OK" button to confirm</i></p>	<p>PASS</p> <p>OK</p>					
160.	<p><i>During Z010999MCVT135_IST_PACS_FDIR</i></p> <p><i>At the prompt:</i></p> <p><i>"Wait until the end of the OBCP - TM(5,1) with SPID 40145170 proclD 0x120B</i></p> <p><i>Check that:</i></p> <p><i>⇒ OBCP PACS IMMEDIATE OFF has been triggered - TM(5,1) with SPID 40148170 proclD 0x120B</i></p> <p><i>⇒ PACS goes OFF</i></p> <p><i>⇒ OBCP is OVER: TM(5,1) with SPID 40145170 proclD 0x120B</i></p> <p><i>⇒ then click the "OK" button to confirm</i></p>	<p>PASS</p> <p>OK</p>			<p>NC3958 (evt Hifi Off)</p> <p>Expected:</p> <p>TM(5,1)- 0579 SDB PACS failed TM</p> <p>TM(5,2)-0586 SDB PACS non vital RT Sick TM</p> <p>TM(5,1) OBCP Started</p> <p>TM(5,1)-48 subschedule status changed</p> <p>3x TM(5,1) Unit already marked OFF</p> <p>TM(5,1) OBCP ended</p>		

Test location:	Operator	Product-Assurance:	Date:
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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
161.	<p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</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>					
162.	<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 D102159SCVT192_GET_EAT_REPORT Then press OK</i></p>	<p>PASS</p> <p>OK</p>					
	<p><i>During</i> D102159SCVT192_GET_EAT_REPORT</p> <p><i>⇒ Click EndTS to continue</i></p>	<p>ENDTS</p>					

Test location:	Operator	Product-Assurance:	Date:
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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>"RECOVERY ACTION"</p> <p>⇒ click Confirm to continue</p>	CONFIRM					
164.	<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			PACS SHOULD NOT BE IN SCIENCE		
165.	<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>	PASS OK					

Test location:	Operator	Product-Assurance:	Date:
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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
166.	<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 Gnd-LoPrio DISABLED</p> <p>OK</p>					
167.	<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>					
168.	<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>					

Test location:	Operator	Product-Assurance:	Date:
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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
169.	<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					
170.	<p><i>During</i>  D102159SCVT192_GET_EAT_REPORT</p> <p>⇒ Click EndTS to continue</p>	ENDTS					
171.	<p><i>During</i>  Z010999MCVT135_IST_PACS_FDIR</p> <p>"Switching PACS ON"</p> <p>⇒ Click the "OK" button to confirm</p>	OK					

Test location:	Operator	Product-Assurance:	Date:
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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
172.	<p><i>During</i>  <i>P102999SCVT905_ASDISTPACS_PWR_ON_N</i></p> <p><i>"Power on PACS prime and enable MIL 1553 I/F. FM PACS Switch on in warm or cold conditions, FPU connected ... - Select NO to abort TS if not correct"</i></p> <p><i>⇒ Click the button "YES" to confirm</i></p>	YES			Refer to Rd-3 for exact message and expected OOLs		
173.	<p><i>During</i>  <i>P102999SCVT905_ASDISTPACS_PWR_ON_N</i></p> <p><i>PACS FDIR OBCPs/EATs loaded and enabled?</i></p> <p><i>⇒ Click the button "YES" to confirm</i></p>	YES					
174.	<p><i>During</i>  <i>P102999SCVT905_ASDISTPACS_PWR_ON_N</i></p> <p><i>"Set Bus Profile back to original setting?"</i></p> <p><i>⇒ Click the button "YES" to confirm</i></p>	YES					

Test location:	Operator	Product-Assurance:	Date:
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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
175.	<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		
176.	<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>					
177.	<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					

Test location:	Operator	Product-Assurance:	Date:
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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
178.	<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>					
179.	<p><i>During</i> D102159SCVT192_GET_EAT_REPORT</p> <p>⇒ Click the button "EndTS!" to proceed</p>	<p>ENDTS</p>					
180.	<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>					
181.	<p><i>During</i> Z010999MCVT135_IST_PACS_FDIR</p> <p>" Terminate ALL_SubscribeParams.tcl"</p> <p>⇒ Perform activity and then click the "OK" button to confirm</p>	<p>PASS</p> <p>OK</p>					

Test location:	Operator	Product-Assurance:	Date:
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*Handwritten:* 21/05/08

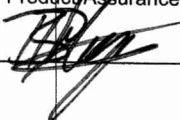
*Handwritten:* N/A PJS #1  
PAGES 41 to 88 SKIPPED

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

Test location:	Operator	Product-Assurance:	Date:
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7.5 SPIRE

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
185.	Callasync Z010999MCVT137_IST_SPIRE_FDIR_formal to perform the SPIRE related part of the Instruments FDIR IST	PASS		PASS			✓
186.	During Z010999MCVT137_IST_SPIRE_FDIR_formal "PERFORM SPIRE FDIR TEST (PRIMARY)?" ⇒ Click the button "Confirm" to continue	CONFIRM		CONFIRM	If SKIP, it exits the script		✓
187.	During Z010999MCVT137_IST_SPIRE_FDIR_formal "Starting condition check" ⇒ Click the button "Confirm" to continue	CONFIRM		CONFIRM			✓

Test location: BSTER	Operator DL	Product Assurance:  B.D. Hesse	Date: 21/05/08
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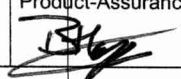
Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
188.	<p><i>During</i> Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"Please check that no instrument is in science. If so, put it in standby"</p> <p>⇒ Click the button "OK" to confirm</p>	<p>PASS</p> <p>OK</p>		<p>PASS</p> <p>OK</p>	RD-3 for details	✓	
189.	<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>		<p>CONFIRM</p>		✓	
190.	<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>		<p>NO</p>		✓	
191.	<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>		<p>PASS</p> <p>OK</p>	Compare with AD-1 for chapter 5.8.13 of IST specification	✓	

Test location: <i>ESTEC</i>	Operator: <i>DL-</i>	Product-Assurance: <i>[Signature]</i> <i>B. HOGG</i>	Date: <i>21/05/08</i>
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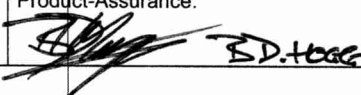
Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
192.	<p><i>During</i> Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"Set SCBP to SPIRE Prime (3)"</p> <p>⇒ Click the button "confirm" to continue</p>	CONFIRM		confirm		✓	
193.	<p><i>During</i> Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"Upload and enable dummy MTL with SPIRE connection test in subschedule 370"</p> <p>⇒ Click the button "Confirm" to continue</p>	CONFIRM		confirm		✓	
194.	<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>	PASS OK		04	120 TCs are expected. ✓	✓	
195.	<p><i>During</i> D102159SCVT218_IST_SPIRE_MTL_PING</p> <p>⇒ Click the button "EndTS!" to continue</p>	ENDTS		ENDTS		✓	

Test location: <i>ESTOC</i>	Operator: <i>DL</i>	Product-Assurance: <i>[Signature]</i> <i>B. Weber</i>	Date: <i>21/05/08</i>
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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
196.	Check that the MTL contains one SCL00500 (TEST CONNECTION) every 5 minutes for 10 hours in subschedule 370	PASS OK		OK		✓	
197.	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		OK		✓	
198.	During Z010999MCVT137_IST_SPIRE_FDIR_formal "Wait for execution of the first command, then press OK" ⇒ Click the button "OK" to continue	PASS OK		PASS OK		✓	
199.	During Z010999MCVT137_IST_SPIRE_FDIR_formal "Put SPIRE Primary in science" ⇒ Click the button "Confirm" to continue	CONFIRM		CONFIRM		✓	

Test location: ESTOC	Operator DL	Product-Assurance:  B. Hods	Date: 11/05/08 11:15
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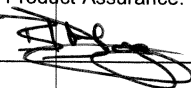
Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
200.	<p><i>During</i>  <b>S102999SCVT911_ASDDBGSPIR_STBY2OPS</b>                      "Command SPIRE from REDY to OPS mode in any conditions - select NO to abort TS"                      ⇒ Click the button "YES" to continue</p>	YES		YES	Refer to RD-3 for correct message and expected OOLs.	✓	
201.	<p><i>During</i>  <b>S102999SCVT911_ASDDBGSPIR_STBY2OPS</b>                      "Bus profile left as SPIRE prime while in OPS mode"                      ⇒ Click the button "OK" to continue</p>	OK		OK		✓	
202.	<p><i>During</i>  <b>Z010999MCVT137_IST_SPIRE_FDIR_formal</b>                      " Check that SPIRE is producing science packets"                      ⇒ Click the button "OK" to continue</p>	PASS OK		PASS OK	Check that file in /HPCCS/VARIABLE/RESULTS/<test_session>/TMDUMP/<date-time>VC1.txt is increasing. With TM from APID 1284	✓	

Test location: ESTEC WYDQA	Operator Saha	Product-Assurance:  ED.1000	Date: 21/05/08. 11:17
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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
203.	<p><i>During</i> Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"TEST the SPIRE OPE STOP FDIR?"</p> <p>⇒ Click the button "Confirm" to continue</p>	CONFIRM		CONFIRM	<p>If SKIP, it continues at step 211.</p> <p>DB_OBCP_H_SPIRE_OPE_STOP is the OBCP under test.</p> <p><b>IMPORTANT NOTE:</b> If the test of the SPIRE OPE STOP is executed then the SPIRE RESUME OBCP MUST be executed afterwards, too.</p>		
204.	<p><i>During</i> Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"TRIGGER OBCP WITH SPIRE SCRIPT"</p> <p>⇒ Click the button "Confirm" to continue</p>	CONFIRM		CONFIRM			
205.	<p><i>During</i> Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"Please filter one TMPKT History for APID 16 and type 5 and one for APID 1280 Type 5"</p> <p>⇒ Click the button "OK" to continue</p>	PASS OK		PASS OK			

Test location: ESTERUM	Operator SMJ	Product-Assurance: <i>[Signature]</i>	Date: 21/05/08 11:20
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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
206.	<p>During Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"executing script SPIRE-OBCPTest-ObservationAnomaly.tcl"</p> <p>⇒ Click the button "OK" to confirm</p>	OK		ok			

Test location: ESTEC HYDRRA	Operator SMA	Product-Assurance:  R. Hesse	Date: 21/05/08 11:29
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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N	
207.	<p><i>PVS2-21</i></p> <p>During Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>at the prompt: "Wait until the end of the OBCP TM(5,1) with SPID 40145170 proclD 0x1106" <i>set 1106</i></p> <p>1) ⇒ Wait for ~5 seconds for the reception of TM(5,2) event report with APID 1280 Event ID 0xC100 and SID 0x5200</p> <p>2) ⇒ check that OBCP SPIRE OPE STOP has been triggered - TM(5,1) with APID 16, SPID 40148170 proclD 0x1106</p> <p>3) ⇒ TM(5,4) with APID 16 EvID 0x1003 SPIRE Operations Stopped" is received</p> <p>4) ⇒ check that TM(5,1) with APID 16, SPID 40145170 proclD 0x1106 is received</p> <p>⇒ Click the "OK" button to confirm</p>	<p>PASS</p> <p>OK</p>	<p>1) <del>0xC100</del></p> <p>2) <del>0x5200</del></p> <p>3) <del>0x1003</del></p> <p>4) <del>0x1106</del></p>	<p>0xC100</p> <p>0x5200</p> <p>0x1106</p> <p>0x1003</p> <p>0x1106</p> <p>PASS</p> <p>OK</p>	<p></p>	<p>7</p> <p>7</p> <p>7</p> <p>7</p> <p>7</p> <p>7</p> <p>7</p> <p>7</p>		

Test location: <i>ESTEC HDKA</i>	Operator: <i>SNH</i>	Product-Assurance: <i>[Signature]</i>	Date: <i>21/05/08 11:28</i>
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May 21, 08 11:25

TMPH\_PRNT\_2008.142.11.25.01.446

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TM Packet Query Display  
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TM Packet Details  
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Mnemonic: D\_EvRp\_148      Description: Event 5-1 OBCP Started      Simulated: N

S/C ID: 486      G/S ID: 0      SLE ID: 0      OCC ID: 0      VCID: 0      HFA D/S: 65535

Data Unit Type: GOOD SP      Time Stamp Type: PG      Time Quality: G

APID: 16      SSC: 8118      Type: 5      Subtype: 1      PI1: 27402      PI2: 0

SPID: 40148170      TPSD: -1      HFA Counter: 0      Filing: E      Distribution: E

Time Field: Y      Packet Period: 0 [msec]      CRC: ?      Event Severity: ?

TM Packet Parameter Data  
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Generation time: 2008.142.11.21.52.853      Reception time: 2008.142.11.21.57.561

TM Packet Raw Data  
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SCOS-2000 Header:

0000:0000 0000 D005 3448 6004 0D00 D505 3448 7E8F 0800 0100 0000 E601 0000 6000 0000

0020:1138 FFFF 0000 0000 CA9C 6402 0000 0000 0000 0000 FFFF FFFF 10FF 1000 B61F 0501

Packet Raw Data:

0000:0810 DFB6 0019 0005 0100 5EC6 6450 DA64 6B0A 0000 1106 0000 0000 0000 0070 261C

Section 7.5 Step 207 (SOPs are stop.) Pt 1

May 21, 08 11:25

TMPH\_PRNT\_2008.142.11.25.13.777

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TM Packet Query Display

TM Packet Details

Mnemonic: SOBSANOM0500 Description: SPIRE\_Observation\_Anomaly Simulated: N

S/C ID: 486 G/S ID: 0 SLE ID: 0 OCC ID: 0 VCID: 0 HFA D/S: 65535

Data Unit Type: GOOD SP Time Stamp Type: PG Time Quality: G

APID: 1280 SSC: 2423 Type: 5 Subtype: 2 PI1: 49408 PI2: 20992

SPID: 190180500 TPSD: -1 HFA Counter: 0 Filing: E Distribution: E

Time Field: Y Packet Period: 0 [msec] CRC: ? Event Severity: ?

TM Packet Parameter Data

Generation time: 2008.142.11.21.51.261 Reception time: 2008.142.11.21.52.556

TM Packet Raw Data

SCOS-2000 Header:

0000:0000 0000 CF05 3448 0EFF 0300 D005 3448 4D7D 0800 0100 0000 E601 0000 6000 0000

0020:1138 FFFF 0000 0000 94EC 550B 0000 0000 0000 0000 FFFF FFFF 10FF 0005 7709 0502

Packet Raw Data:

0000:0D00 C977 0019 0005 0200 5EC6 644F 430C C100 5200 0000 0D05 0000 0000 0000 5DA7

Section 7.5 Step 207 (SPIRE OK STOP) PL2

May 21, 08 11:26

TMPH\_PRNT\_2008.142.11.26.54.024

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TM Packet Query Display

TM Packet Details

Mnemonic: ERROR REPORT Description: OBCP\_Evt Hifi Off *expected NCE refers* Simulated: N

S/C ID: 486 G/S ID: 0 SLE ID: 0 OCC ID: 0 VCID: 0 HFA D/S: 65535

Data Unit Type: GOOD SP Time Stamp Type: PG Time Quality: G

APID: 16 SSC: 8127 Type: 5 Subtype: 4 PI1: 12288 PI2: 0

SPID: 45400185 TPSD: -1 HFA Counter: 0 Filing: E Distribution: E

Time Field: Y Packet Period: 0 [msec] CRC: ? Event Severity: ?

TM Packet Parameter Data

Generation time: 2008.142.11.21.56.853 Reception time: 2008.142.11.21.57.563

TM Packet Raw Data

SCOS-2000 Header:

0000:0000 0000 D405 3448 5B07 0D00 D505 3448 AD99 0800 0100 0000 E601 0000 6000 0000

0020:1138 FFFF 0000 0000 79C0 B402 0000 0000 0000 0000 FFFF FFFF 10FF 1000 BF1F 0504

Packet Raw Data:

0000:0810 DFBF 0019 0005 0400 5EC6 6454 DA96 1003 0000 0000 0000 0000 0000 0000 76BD

Section 7.5 Step 207 (SRPE vA Step) PL3

May 21, 08 11:27

# TMPH\_PRNT\_2008.142.11.27.59.581

## TM Packet Query Display

### TM Packet Details

Mnemonic: D\_EvRp\_145      Description: Event 5-1 OBCP Ended      Simulated: N

S/C ID: 486      G/S ID: 0      SLE ID: 0      OCC ID: 0      VCID: 0      HFA D/S: 65535

Data Unit Type: GOOD SP      Time Stamp Type: PG      Time Quality: G

APID: 16      SSC: 8132      Type: 5      Subtype: 1      PI1: 27399      PI2: 0

SPID: 40145170      TPSD: -1      HFA Counter: 0      Filing: E      Distribution: E

Time Field: Y      Packet Period: 0 [msec]      CRC: ?      Event Severity: ?

### TM Packet Parameter Data

Generation time: 2008.142.11.21.59.857      Reception time: 2008.142.11.22.02.061

### TM Packet Raw Data

SCOS-2000 Header:  
0000:0000 0000 D705 3448 1D14 0D00 DA05 3448 3BF1 0000 0100 0000 E601 0000 6000 0000  
0020:1138 FFFF 0000 0000 1291 6402 0000 0000 0000 0000 FFFF FFFF 10FF 1000 C41F 0501

Packet Raw Data:  
0000:0810 DFC4 0019 0005 0100 5EC6 6457 DB6C 6B07 0000 1106 0000 0000 0000 0072 592F

Section 7.5 Step 2a (Share OPE Step) PL 4

May 21, 08 11:36

TMPH\_PRNT\_2008.142.11.36.41.472

TM Packet History display printout from time: 2008.142.11.15.45.259 to time: 2008.142.11.21.59.857  
Current printout time: 2008.142.11.36.41.473 FILTER MODE: ACTIVE DISPLAY MODE: BRIEF STATISTIC: OFF  
Number of printed lines: 12

Mnemonic	Generation Time	Reception Time	VC	APID	SSC	Type	STyp	PI1	PI2	DS	SPID	GSID	TmT	TmQ	F	D
D_EvRp_145	2008.142.11.21.59.857	2008.142.11.22.02.061	0	16	8132	5	1	27399	0	65535	40145170		PG	G	E	E
ERROR REPORT	2008.142.11.21.56.853	2008.142.11.21.57.563	0	16	8127	5	4	12288	0	65535	45400185		PG	G	E	E
D_EvRp_048	2008.142.11.21.54.876	2008.142.11.21.57.562	0	16	8125	5	1	26881	0	65535	40048170		PG	G	E	E
D_EvRp_148	2008.142.11.21.52.853	2008.142.11.21.57.561	0	16	8118	5	1	27402	0	65535	40148170		PG	G	E	E
SOBSANOM0500	2008.142.11.21.51.261	2008.142.11.21.52.556	0	1280	2423	5	2	49408	20992	65535	190180500		PG	G	E	E
TCReport Pkt	2008.142.11.21.42.587	2008.142.11.21.42.738	0	2020	8257	5	1	0	0	65535	134		PG	G	E	E
TMTCEve51 EE	2008.142.11.21.37.868	2008.142.11.21.38.022	0	2020	8255	5	1	238	8229	65535	250238946		PG	G	E	E
TMTCEve51 A4	2008.142.11.20.28.774	2008.142.11.20.28.931	0	2020	8247	5	1	164	0	65535	250164946		PG	G	E	E
TMTCEve51 A4	2008.142.11.18.28.587	2008.142.11.18.28.747	0	2020	8234	5	1	164	0	65535	250164946		PG	G	E	E
TMTCEve51 A4	2008.142.11.16.27.931	2008.142.11.16.28.081	0	2020	8221	5	1	164	0	65535	250164946		PG	G	E	E
TMTCEve51 EE	2008.142.11.16.14.899	2008.142.11.16.15.050	0	2020	8219	5	1	238	8229	65535	250238946		PG	G	E	E
SNSR00000500	2008.142.11.15.45.259	2008.142.11.15.50.016	0	1280	2232	5	1	1281	20736	65535	190100500		PG	G	E	E

Section 7.5 Step 207 Type 5x events

May 21, 08 11:36

OBEH\_PRNT\_2008.142.11.36.57.700

On-Board Event History display printout from time: 2008.142.11.15.43.946 to time: 2008.142.11.36.51.249
Current printout time: 2008.142.11.36.57.701 DISPLAY MODE: BRIEF FILTER MODE: INACTIVE
Number of printed lines: 30

Table with columns: Generation Time, Reception Time, VC, APID, SSC, EvID, Severity, TmT, TmQ, F, D, Message Text. Contains 30 rows of event data.

Section 7-55 Sep 2007 OBEH

May 21, 08 11:40

TMPH\_PRNT\_2008.142.11.40.40.137

TM Packet History display printout from time: 2008.142.11.21.52.114 to time: 2008.142.11.21.58.854  
 Current printout time: 2008.142.11.40.40.138 FILTER MODE: ACTIVE DISPLAY MODE: BRIEF STATISTIC: OFF

FILTER SETTINGS:  
 Type: 1 Sub-Type: 9  
 Number of printed lines: 4

Mnemonic	Generation Time	Reception Time	VC	APID	SSC	Type	STyp	PI1	PI2	DS	SPID	GSID	TmT	TmQ	F	D
TcContentRep	2008.142.11.21.58.854	2008.142.11.22.02.059	0	16	8129	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.142.11.21.54.854	2008.142.11.21.57.562	0	16	8123	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.142.11.21.52.855	2008.142.11.21.57.561	0	16	8119	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.142.11.21.52.114	2008.142.11.21.57.560	0	16	8115	1	9	0	0	65535	40094180		PG	G	E	E

Section 7-5 Stop 207 Page 19 packet



Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N	
208.	<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>1) ⇒ check that SPIRE DRCU is ON</p> <p>2) ⇒ check that SPIRE DPU is ON and generating nominal and critical HK</p> <p>3) ⇒ 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>		<p><del>OFF</del></p> <p>ON</p> <p>ON GK</p> <p>3) OFF OFF</p>				
209.	<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>		<p>PASS</p> <p>OK</p>				

Test location: ESTEC HYDRA	Operator SMA	Product-Assurance: <del>...</del> B. HOGG	Date: 21/05/08 11:37
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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
210.	<p><i>During</i> D102159SCVT192_GET_EAT_REPORT</p> <p>⇒ Click the button "EndTS!" to proceed</p>	ENDTS		ENDTS			
211.	<p><i>During</i> Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"Test SPIRE OPE RESUME OBCP?"</p> <p>⇒ Click the button "Confirm" to continue</p>	CONFIRM		CONFIRM	<p>If SKIP, it continues at step 221.</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>		
212.	<p><i>During</i> Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"Trigger OBCP with SPIRE script"</p> <p>⇒ click the button "Confirm" to continue</p>	CONFIRM		CONFIRM			

Test location: ESTEC / H-IDA	Operator Said	Product-Assurance: <del>...</del> J. D. H. ...	Date: 21/05/08 11:40
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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
213.	<p><i>During</i>  Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"Please filter one TMPKT History for TM type 5"</p> <p>⇒ Perform activity then click the button "OK" to continue</p>	<p>PASS</p> <p>OK</p>		<p>PASS</p> <p>OK</p>		1	
214.	<p><i>During</i>  Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"executing script SPIRE-OBCPTest-ObservationAnomalyCorrected.tcl "</p> <p>⇒ Click the button "OK" to confirm</p>	<p>OK</p>		<p>OK</p>		1	

Test location: ESTEC / HYDRA	Operator SNH	Product-Assurance: <del>SNH</del> N. HOGRE	Date: 21/05/08 11:43
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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
215.	<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>1) ⇒ Wait for ~5 seconds for the reception of TM(5,2) event report with Event ID 0xC110 and SID 0x5200</p> <p>2) ⇒ check that OBCP SPIRE OPE RESUME has been triggered - TM(5,1) with APID 16, SPID 40148170 proclD 0x1107</p> <p>3) ⇒ TM(5,4) with EVID 0x1004 "SPIRE Operations Resumed" is received</p> <p>4) ⇒ check that TM(5,1) with APID 16, SPID 40145170 proclD 0x1107 is received"</p> <p>⇒ Perform activities and then click the "OK" button to confirm</p>	PASS  OK		<p>1) 0xC110 0x5200</p> <p>2) 0x1107</p> <p>3) 0x1004</p> <p>4) 0x1107</p> <p>PASS OK.</p>		7 7 7 7	

Test location: ESTEC HYDRA	Operator SNW	Product-Assurance: K. Hore	Date: 21/05/08 11:51
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May 21, 08 11:45

TMPH\_PRNT\_2008.142.11.45.10.775

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TM Packet Query Display  
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TM Packet Details  
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Mnemonic: SOBSANOMC500 Description: SPIRE\_Observation\_Corrected\_Anomaly Simulated: N

S/C ID: 486 G/S ID: 0 SLE ID: 0 OCC ID: 0 VCID: 0 HFA D/S: 65535

Data Unit Type: GOOD SP Time Stamp Type: PG Time Quality: G

APID: 1280 SSC: 3094 Type: 5 Subtype: 2 PI1: 49424 PI2: 20992

SPID: 190185500 TPSD: -1 HFA Counter: 0 Filing: E Distribution: E

Time Field: Y Packet Period: 0 [msec] CRC: ? Event Severity: ?

TM Packet Parameter Data  
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Generation time: 2008.142.11.44.05.267 Reception time: 2008.142.11.44.05.995

TM Packet Raw Data  
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SCOS-2000 Header:

0000:0000 0000 050B 3448 C014 0400 050B 3448 7931 0F00 0100 0000 E601 0000 6000 0000

0020:1138 FFFF 0000 0000 1C00 560B 0000 0000 0000 0000 FFFF FFFF 10FF 0005 160C 0502

Packet Raw Data:

0000:0D00 CC16 0019 0005 0200 5EC6 6985 4478 C110 5200 0000 0D05 0000 0000 0001 A8AC

Section 7.5 Sep 215 (SPIRE OBS RESUME) PL 1

May 21, 08 11:45

TMPH\_PRNT\_2008.142.11.45.55.724

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TM Packet Query Display  
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TM Packet Details  
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Mnemonic: D\_EvRp\_148      Description: Event 5-1 OBCP Started      Simulated: N

S/C ID: 486      G/S ID: 0      SLE ID: 0      OCC ID: 0      VCID: 0      HFA D/S: 65535

Data Unit Type: GOOD SP      Time Stamp Type: PG      Time Quality: G

APID: 16      SSC: 8660      Type: 5      Subtype: 1      PI1: 27402      PI2: 0

SPID: 40148170      TPSD: -1      HFA Counter: 1      Filing: E      Distribution: E

Time Field: Y      Packet Period: 0 [msec]      CRC: ?      Event Severity: ?

TM Packet Parameter Data  
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Generation time: 2008.142.11.44.06.871      Reception time: 2008.142.11.44.09.999

TM Packet Raw Data  
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SCOS-2000 Header:  
0000:0000 0000 060B 3448 3F4B 0D00 090B 3448 3840 0F00 0100 0000 E601 0000 6000 0000  
0020:1138 FFFF 0100 0000 CA9C 6402 0000 0000 0000 0000 FFFF FFFF 10FF 1000 D421 0501

Packet Raw Data:  
0000:0810 E1D4 0019 0005 0100 5EC6 6986 DF09 6B0A 0000 1107 0000 0000 0000 0076 DE35

Section 7.5 Step 215 PE2

May 21, 08 11:46

TMPH\_PRNT\_2008.142.11.46.29.416

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TM Packet Query Display  
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TM Packet Details  
-----

Mnemonic: ERROR REPORT Description: OBCP\_Evt Hifi Off *expected NCR refers* Simulated: N

S/C ID: 486 G/S ID: 0 SLE ID: 0 OCC ID: 0 VCID: 0 HFA D/S: 65535

Data Unit Type: GOOD SP Time Stamp Type: PG Time Quality: G

APID: 16 SSC: 8669 Type: 5 Subtype: 4 PI1: 12288 PI2: 0

SPID: 45400185 TPSD: -1 HFA Counter: 1 Filing: E Distribution: E

Time Field: Y Packet Period: 0 [msec] CRC: ? Event Severity: ?

TM Packet Parameter Data  
-----

Generation time: 2008.142.11.44.10.872 Reception time: 2008.142.11.44.14.007

TM Packet Raw Data  
-----

SCOS-2000 Header:

0000:0000 0000 0A0B 3448 8A4F 0D00 0E0B 3448 841C 0000 0100 0000 E601 0000 6000 0000

0020:1138 FFFF 0100 0000 79C0 B402 0000 0000 0000 0000 FFFF FFFF 10FF 1000 DD21 0504

Packet Raw Data:

0000:0810 E1DD 0019 0005 0400 5EC6 698A DF51 1004 0000 0000 0000 0000 0000 0000 EBF3

Section 7.5 Step 215 Pt 3

May 21, 08 11:46

TMPH\_PRNT\_2008.142.11.46.51.485

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TM Packet Query Display  
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TM Packet Details  
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Mnemonic: D\_EvRp\_145      Description: Event 5-1 OBCP Ended      Simulated: N

S/C ID: 486      G/S ID: 0      SLE ID: 0      OCC ID: 0      VCID: 0      HFA D/S: 65535

Data Unit Type: GOOD SP      Time Stamp Type: PG      Time Quality: G

APID: 16      SSC: 8673      Type: 5      Subtype: 1      PI1: 27399      PI2: 0

SPID: 40145170      TPSD: -1      HFA Counter: 1      Filing: E      Distribution: E

Time Field: Y      Packet Period: 0 [msec]      CRC: ?      Event Severity: ?

TM Packet Parameter Data  
-----

Generation time: 2008.142.11.44.13.875      Reception time: 2008.142.11.44.14.009

TM Packet Raw Data  
-----

SCOS-2000 Header:

0000:0000 0000 0D0B 3448 385B 0D00 0E0B 3448 7B23 0000 0100 0000 E601 0000 6000 0000

0020:1138 FFFF 0100 0000 1291 6402 0000 0000 0000 0000 FFFF FFFF 10FF 1000 E121 0501

Packet Raw Data:

0000:0810 E1E1 0019 0005 0100 5EC6 698D E015 6B07 0000 1107 0000 0000 0000 0078 A61D

Section 7.5 Step 215 PE 4



May 21, 08 11:44

TMPH\_PRNT\_2008.142.11.44.44.351

TM Packet History display printout from time: 2008.142.11.40.28.993 to time: 2008.142.11.44.29.337  
 Current printout time: 2008.142.11.44.44.352 FILTER MODE: ACTIVE DISPLAY MODE: BRIEF STATISTIC: OFF  
 Number of printed lines: 10

Mnemonic	Generation Time	Reception Time	VC	APID	SSC	Type	STyp	PI1	PI2	DS	SPID	GSID	TmT	TmQ	F	D
TMTCEve51 A4	2008.142.11.44.29.337	2008.142.11.44.29.533	0	2020	8418	5	1	164	0	65535	250164946		PG	G	E	E
D_EvRp_145	2008.142.11.44.13.875	2008.142.11.44.14.009	0	16	8673	5	1	27399	0	65535	40145170		PG	G	E	E
ERROR REPORT	2008.142.11.44.10.872	2008.142.11.44.14.007	0	16	8669	5	4	12288	0	65535	45400185		PG	G	E	E
D_EvRp_048	2008.142.11.44.09.042	2008.142.11.44.10.002	0	16	8666	5	1	26881	0	65535	40048170		PG	G	E	E
D_EvRp_148	2008.142.11.44.06.871	2008.142.11.44.09.999	0	16	8660	5	1	27402	0	65535	40148170		PG	G	E	E
SOBSANOMC500	2008.142.11.44.05.267	2008.142.11.44.05.995	0	1280	3094	5	2	49424	20992	65535	190185500		PG	G	E	E
TCReport Pkt	2008.142.11.43.56.399	2008.142.11.43.56.583	0	2020	8413	5	1	0	0	65535	134		PG	G	E	E
TMTCEve51 A4	2008.142.11.42.29.165	2008.142.11.42.29.357	0	2020	8403	5	1	164	0	65535	250164946		PG	G	E	E
TMTCEve51 EE	2008.142.11.41.41.602	2008.142.11.41.41.788	0	2020	8398	5	1	238	8229	65535	250238946		PG	G	E	E
TMTCEve51 A4	2008.142.11.40.28.993	2008.142.11.40.29.178	0	2020	8389	5	1	164	0	65535	250164946		PG	G	E	E

Section 7.5 Stop 215 (or resume) Type 5, x error

May 21, 08 11:46

OBEH\_PRNT\_2008.142.11.46.09.651

On-Board Event History display printout from time: 2008.142.11.32.42.618 to time: 2008.142.11.44.29.337  
 Current printout time: 2008.142.11.46.09.651 DISPLAY MODE: BRIEF FILTER MODE: INACTIVE  
 Number of printed lines: 18

Generation Time	Reception Time	VC	APID	SSC	EvID	Severity	TmT	TmQ	F	D	Message Text
2008.142.11.44.29.337	2008.142.11.44.29.533	0	2020	8418	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2008.142.11.44.13.875	2008.142.11.44.14.009	0	16	8673	27399	NORM	PG	G	E	E	Event 5-1 OBCP Ended
2008.142.11.44.10.872	2008.142.11.44.14.007	0	16	8669	12288	ALARM	PG	G	E	E	OBCP_Evt Hifi Off
2008.142.11.44.09.042	2008.142.11.44.10.002	0	16	8666	26881	NORM	PG	G	E	E	Event 5-1 Subschedule Status Changed
2008.142.11.44.06.871	2008.142.11.44.09.999	0	16	8660	27402	NORM	PG	G	E	E	Event 5-1 OBCP Started
2008.142.11.44.05.267	2008.142.11.44.05.995	0	1280	3094	49424	WARN	PG	G	E	E	SPIRE_Observation_Corrected_Anomaly
2008.142.11.43.56.399	2008.142.11.43.56.583	0	2020	8413	0	NORM	PG	G	E	E	TC Report Packet
2008.142.11.42.29.165	2008.142.11.42.29.357	0	2020	8403	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2008.142.11.41.41.602	2008.142.11.41.41.788	0	2020	8398	238	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00EE - VCFC Time datation for VC0-V
2008.142.11.40.28.993	2008.142.11.40.29.178	0	2020	8389	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2008.142.11.38.28.821	2008.142.11.38.29.002	0	2020	8376	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2008.142.11.36.51.249	2008.142.11.36.51.866	0	16	8524	27650	NORM	PG	G	E	E	Event 5-1 TM 19-7 Dump Ended
2008.142.11.36.29.649	2008.142.11.36.29.827	0	2020	8363	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2008.142.11.36.26.649	2008.142.11.36.26.827	0	2020	8362	238	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00EE - VCFC Time datation for VC0-V
2008.142.11.36.00.071	2008.142.11.36.00.243	0	2020	8358	0	NORM	PG	G	E	E	TC Report Packet
2008.142.11.34.30.477	2008.142.11.34.30.652	0	2020	8348	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2008.142.11.32.52.112	2008.142.11.32.58.017	0	16	8351	26892	NORM	PG	G	E	E	Event 5-1 TM 11-19 Dump Ended
2008.142.11.32.42.618	2008.142.11.32.42.786	0	2020	8335	0	NORM	PG	G	E	E	TC Report Packet

Section 7.5 Step 215 OBEH

May 21, 08 11:50

TMPH\_PRNT\_2008.142.11.50.59.746

TM Packet History display printout from time: 2008.142.11.44.06.110 to time: 2008.142.11.44.11.872  
Current printout time: 2008.142.11.50.59.747 FILTER MODE: ACTIVE DISPLAY MODE: BRIEF STATISTIC: OFF  
Number of printed lines: 4

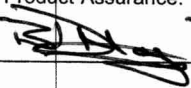
Mnemonic	Generation Time	Reception Time	VC	APID	SSC	Type	STyp	PI1	PI2	DS	SPID	GSID	TmT	TmQ	F	D
TcContentRep	2008.142.11.44.11.872	2008.142.11.44.14.008	0	16	8670	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.142.11.44.08.872	2008.142.11.44.10.002	0	16	8664	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.142.11.44.06.873	2008.142.11.44.09.999	0	16	8661	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.142.11.44.06.110	2008.142.11.44.09.998	0	16	8657	1	9	0	0	65535	40094180		PG	G	E	E

Section 7.05 Step 215 Type 19 plets

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N	
216.	<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>1) ⇒ check that SPIRE DRCU is ON</p> <p>2) ⇒ check that SPIRE DPU is ON and generating nominal and critical HK</p> <p>3) ⇒ check that SPIRE is in PHOTOPS mode</p> <p>4) ⇒ check that Photometer science data are being generated</p> <p>5) ⇒ check that subschedule 370 (SPIRE TCs) is disabled and 100 (meta-SPIRE) is enabled "</p> <p>⇒ Click the "OK" button to confirm</p>	<p>LCL11 ON LCL51 OFF</p> <p>File in /HPCCS/VARIABLE/RESULTS/ &lt;test_session&gt;/TMDUMP/ /&lt;date-time&gt;VC1.txt</p> <p>is</p> <p>increasing. With TM from APID 1284 Subschedules 370 OFF 100 ON</p> <p>OK</p>		<p>1) OK</p> <p>2) OK</p> <p>3) SMOI</p> <p>4) OK</p> <p>5) 370 OFF 100 ON</p> <p>OK</p>	<p>M500 = 0x FFFF OK</p>	<p>7</p> <p>7</p> <p>7</p> <p>7</p> <p>7</p>		

Test location: ESTEC/HYDRA	Operator SATH	Product-Assurance: B Heger	Date: 21/05/08. 11:59
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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
217.	<p>During Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"RECOVERY ACTION"</p> <p>⇒ Click Confirm to continue</p>	CONFIRM		CONFIRM		✓	
218.	<p>During 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>		<p>370 ON 100 OFF</p> <p>OK</p>		✓	

Test location: ESTEC / HYDRA	Operator SNAH	Product-Assurance: 	Date: 21/05/07. 12:02.
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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
219.	<p><i>During</i> Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"End of SPIRE OPE RESUME TEST" "check that all EATs are enabled"</p> <p>⇒ Perform activity through D102159SCVT192_GET_EAT_REPORT then click the "OK" button to confirm</p>	PASS  OK		PASS  OK		✓	
220.	<p><i>During</i> D102159SCVT192_GET_EAT_REPORT</p> <p>⇒ Click the button "EndTS!" to proceed</p>	ENDTS		ENDTS		✓	
221.	<p><i>During</i> Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"TEST the SPIRE DRCU OFF OBCP?"</p> <p>⇒ Click the button "Confirm" to continue</p>	CONFIRM		CONFIRM	<p>If SKIP, it continues at step 240.</p> <p>DB_OBCP_H_SPIRE_DRCU_OFF is the OBCP under test.</p>	✓	

Test location: ESTEC HYDRA	Operator SNA	Product-Assurance: <del>HP</del> SHOGG	Date: 21/05/08 12:04
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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
222.	<p>During Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"TRIGGER OBCP WITH SPIRE SCRIPT"</p> <p>⇒ Click the button "confirm" to continue</p>	CONFIRM		CONFIRM		✓	
223.	<p>During Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"Please filter one TMPKT History for APID 16 and type 5 and one for APID 1280 Type 5 subtype 2"</p> <p>⇒ Click the button "OK" to continue</p>	PASS OK		PASS OK		✓	
224.	<p>During Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"executing script SPIRE-OBCPTest-DRCUAnomaly.tcl "</p> <p>⇒ Click the "OK" button to confirm</p>	OK		OK		✓	

Test location: ESTEC HYDRA	Operator S.M.	Product-Assurance: <del>SM</del> B.HOGG	Date: 21/05/08, 12:05
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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
225.	<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>1) ⇒ Wait for ~5 seconds for the reception of TM(5,2) event report with APID 1280, Event ID 0xC000 and SID 0x5200</p> <p>2) ⇒ check that OBCP SPIRE DRCU OFF has been triggered - TM(5,1) with APID 16 SPID 40148170 proclD 0x1102</p> <p>3) ⇒ TM(5,4) with APID 16, EvID 0x1000 SPIRE DRCU OFF" is received</p> <p>4) ⇒ check that TM(5,1) with SPID 40145170 proclD 0x1102 is received</p> <p>⇒ click the "OK" button to confirm</p>	PASS  OK		<p>1) <del>0xC000</del> 0x5200</p> <p>2) 0x1102</p> <p>3) 0x1000</p> <p>4) 0x1102</p>	<p>Expected : TM(5,4) for</p> <ul style="list-style-type: none"> <li>o MCU</li> <li>o SCU</li> <li>o DCU</li> </ul> <p>} seen</p> <p>At DRCU OFF, also TM(5,4) with SID 5420.</p> <p>SVMCOPYTBLFAULT TM(5,1) and many OOLs also expected (TBD)</p> <p>NCR-4128 raised</p>	✓	✓

Test location: ESTEC MADRA	Operator SMD	Product-Assurance: B.H. BHOGE	Date: 21/05/08. 12:13
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May 21, 08 12:09

TMPH\_PRNT\_2008.142.12.09.43.883

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TM Packet Query Display

TM Packet Details

Mnemonic: SDRCUANOM500 Description: SPIRE\_DRCU\_Anomaly Simulated: N

S/C ID: 486 G/S ID: 0 SLE ID: 0 OCC ID: 0 VCID: 0 HFA D/S: 65535

Data Unit Type: GOOD SP Time Stamp Type: PG Time Quality: G

APID: 1280 SSC: 3760 Type: 5 Subtype: 2 PI1: 49152 PI2: 20992

SPID: 190170500 TPSD: -1 HFA Counter: 0 Filing: E Distribution: E

Time Field: Y Packet Period: 0 [msec] CRC: ? Event Severity: ?

TM Packet Parameter Data

Generation time: 2008.142.12.06.02.265 Reception time: 2008.142.12.06.03.922

TM Packet Raw Data

SCOS-2000 Header:

0000:0000 0000 2A10 3448 100D 0400 2B10 3448 5815 0E00 0100 0000 E601 0000 6000 0000

0020:1138 FFFF 0000 0000 84C5 550B 0000 0000 0000 0000 FFFF FFFF 10FF 0005 B00E 0502

Packet Raw Data:

0000:0D00 CEB0 0019 0005 0200 5EC6 6EAA 43F7 C000 5200 0000 0D05 0000 0000 0002 0798

SPDRCUANOM500 Section 7.5 Step 225 P-1

May 21, 08 12:10

TMPH\_PRNT\_2008.142.12.10.51.911

TM Packet Query Display

TM Packet Details

Mnemonic: D\_EvRp\_148 Description: Event 5-1 OBCP Started Simulated: N

S/C ID: 486 G/S ID: 0 SLE ID: 0 OCC ID: 0 VCID: 0 HFA D/S: 65535

Data Unit Type: GOOD SP Time Stamp Type: PG Time Quality: G

APID: 16 SSC: 9229 Type: 5 Subtype: 1 PI1: 27402 PI2: 0

SPID: 40148170 TPSD: -1 HFA Counter: 2 Filing: E Distribution: E

Time Field: Y Packet Period: 0 [msec] CRC: ? Event Severity: ?

TM Packet Parameter Data

Generation time: 2008.142.12.06.03.884 Reception time: 2008.142.12.06.06.926

TM Packet Raw Data

SCOS-2000 Header:

0000:0000 0000 2B10 3448 607D 0D00 2E10 3448 EB21 0E00 0100 0000 E601 0000 6000 0000

0020:1138 FFFF 0200 0000 CA9C 6402 0000 0000 0000 0000 FFFF FFFF 10FF 1000 0D24 0501

Packet Raw Data:

0000:0810 E40D 0019 0005 0100 5EC6 6EAB E252 6B0A 0000 1102 0000 0000 0000 0080 97BF

Section 7.5 Step 225 Pt 2

May 21, 08 12:11

TMPH\_PRNT\_2008.142.12.11.35.575

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TM Packet Query Display  
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TM Packet Details  
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Mnemonic: ERROR REPORT Description: OBCP\_Evt Hifi Off *expected* *NR 3958 refers* Simulated: N

S/C ID: 486 G/S ID: 0 SLE ID: 0 OCC ID: 0 VCID: 0 HFA D/S: 65535

Data Unit Type: GOOD SP Time Stamp Type: PG Time Quality: G

APID: 16 SSC: 9244 Type: 5 Subtype: 4 PI1: 12288 PI2: 0

SPID: 45400185 TPSD: -1 HFA Counter: 2 Filing: E Distribution: E

Time Field: Y Packet Period: 0 [msec] CRC: ? Event Severity: ?

TM Packet Parameter Data  
-----

Generation time: 2008.142.12.06.09.884 Reception time: 2008.142.12.06.09.938

TM Packet Raw Data  
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SCOS-2000 Header:  
0000:0000 0000 3110 3448 9880 0D00 3110 3448 5A50 0E00 0100 0000 E601 0000 6000 0000  
0020:1138 FFFF 0200 0000 79C0 B402 0000 0000 0000 0000 FFFF FFFF 10FF 1000 1C24 0504

Packet Raw Data:  
0000:0810 E41C 0019 0005 0400 5EC6 6EB1 E288 1000 0000 0000 0000 0000 0000 0000 D736

Section 7.5 Stop 225 Pt 3

May 21, 08 12:13

TMPH\_PRNT\_2008.142.12.13.05.377

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TM Packet Query Display

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TM Packet Details

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Mnemonic: D\_EvRp\_145      Description: Event 5-1 OBCP Ended      Simulated: N

S/C ID: 486      G/S ID: 0      SLE ID: 0      OCC ID: 0      VCID: 0      HFA D/S: 65535

Data Unit Type: GOOD SP      Time Stamp Type: PG      Time Quality: G

APID: 16      SSC: 9249      Type: 5      Subtype: 1      PI1: 27399      PI2: 0

SPID: 40145170      TPSD: -1      HFA Counter: 2      Filing: E      Distribution: E

Time Field: Y      Packet Period: 0 [msec]      CRC: ?      Event Severity: ?

TM Packet Parameter Data

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Generation time: 2008.142.12.06.12.888      Reception time: 2008.142.12.06.13.938

TM Packet Raw Data

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SCOS-2000 Header:

0000:0000 0000 3410 3448 598D 0D00 3510 3448 3A53 0E00 0100 0000 E601 0000 6000 0000

0020:1138 FFFF 0200 0000 1291 6402 0000 0000 0000 0000 FFFF FFFF 10FF 1000 2124 0501

Packet Raw Data:

0000:0810 E421 0019 0005 0100 5EC6 6EB4 E35E 6B07 0000 1102 0000 0000 0000 0082 712F

Section 7.5 Step 225 P14

May 21, 08 12:07

TMPH\_PRNT\_2008.142.12.07.21.758

TM Packet History display printout from time: 2008.142.11.59.51.321 to time: 2008.142.12.06.44.759
Current printout time: 2008.142.12.07.21.759 FILTER MODE: ACTIVE DISPLAY MODE: BRIEF STATISTIC: OFF
Number of printed lines: 29

Table with columns: Mnemonic, Generation Time, Reception Time, VC, APID, SSC, Type, STyp, PI1, PI2, DS, SPID, GSID, TmT, TmQ, F, D. Contains 29 rows of packet history data.

Section 7.5 Stop 225 Type 5x events

May 21, 08 12:08

# TMPH\_PRNT\_2008.142.12.08.00.693

TM Packet History display printout from time: 2008.142.12.06.03.115 to time: 2008.142.12.06.11.885  
 Current printout time: 2008.142.12.08.00.693 FILTER MODE: ACTIVE DISPLAY MODE: BRIEF STATISTIC: OFF  
 Number of printed lines: 6

Mnemonic	Generation Time	Reception Time	VC	APID	SSC	Type	STyp	PI1	PI2	DS	SPID	GSID	TmT	TmQ	F	D
TcContentRep	2008.142.12.06.11.885	2008.142.12.06.13.937	0	16	9246	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.142.12.06.07.885	2008.142.12.06.09.930	0	16	9241	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.142.12.06.06.885	2008.142.12.06.09.929	0	16	9238	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.142.12.06.05.886	2008.142.12.06.06.927	0	16	9233	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.142.12.06.03.886	2008.142.12.06.06.926	0	16	9230	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.142.12.06.03.115	2008.142.12.06.03.923	0	16	9226	1	9	0	0	65535	40094180		PG	G	E	E

Section 7.5 Step 225 Type 1,9 plths

May 21, 08 12:06

OBEH\_PRNT\_2008.142.12.06.42.449


On-Board Event History display printout from time: 2008.142.11.58.24.130 to time: 2008.142.12.06.12.888
Current printout time: 2008.142.12.06.42.450 DISPLAY MODE: BRIEF FILTER MODE: INACTIVE
Number of printed lines: 30

Table with columns: Generation Time, Reception Time, VC, APID, SSC, EvID, Severity, TmT, TmQ, F, D, Message Text. Contains event logs with timestamps and descriptions like 'Event 5-1 OBCP Ended', 'OBCP\_Evt Hifi Off', 'VM\_COPYTABLE\_FAULT', etc.

Handwritten notes: 'only PACS (3958)', 'Expected, 4128' with arrows pointing to specific rows in the table.

Vertical handwritten text on the right margin: 'Section 7.5 Step 225 OBEH'

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N	
226.	<p>During Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>At the prompt: "please check SPIRE status and that subschedules 370 (SPIRE TCs) and 100 (meta-SPIRE) are disabled"</p> <p>1) ⇒ Check that the DRCU has been powered off</p> <p>2) ⇒ Check that the DPU is on and generating nominal and critical HK</p> <p>3) ⇒ 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>		<p>1) OFF</p> <p>2) ON, OK, OFF</p> <p>3) OFF</p> <p>OK</p>				

Test location: ESTEC HYDRA	Operator SNA	Product-Assurance: B. HOGG 	Date: 21/05/08 12:19
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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
227.	<p>During Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>At the prompt: "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>		<p>PASS</p> <p>OK</p>			2
228.	<p>During D102159SCVT192_GET_EAT_REPORT</p> <p>⇒ click the "EndTS" button to continue</p>	<p>ENDTS</p>		<p>ENDTS</p>			2
229.	<p>During Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"RECOVERY ACTION"</p> <p>⇒ Click the button "confirm" to continue</p>	<p>CONFIRM</p>		<p>CONFIRM.</p>			2

Test location: ESTEC/HYDRA	Operator SNK	Product-Assurance: B. D. Hogg	Date: 21/05/08 12:22
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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
230.	<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>		<p>PASS</p> <p>OK</p>			
231.	<p><i>During</i> D102159SCVT192_GET_EAT_REPORT</p> <p>⇒ click the "EndTS" button to continue</p>	<p>ENDTS</p>		<p>ENDTS</p>			
232.	<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>		<p>OK</p>			

Test location: ESTEC/HYDRA	Operator SNH	Product-Assurance: <del>SNH</del> Z.HOGG	Date: 21/05/08 12:24
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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
233.	<i>During</i> S102999SCVT019_ASDGENSPIR_PWR_OFF_P  "SPIRE switch off for IST activities in any condition"  ⇒ Click the button "YES" to continue	YES		YES	TC SCD06505 to switch off DRCU expected to fail.  See RD-3 for exact message and expected OOLs.	✓	
234.	<i>During</i> S102999SCVT019_ASDGENSPIR_PWR_OFF_P  "Set Bus profile back to original settings"  ⇒ Click the button "YES" to continue	YES		Yes		✓	
235.	<i>During</i> Z010999MCVT137_IST_SPIRE_FDIR_formal  "Switching SPIRE ON"  ⇒ Click the button "OK" to confirm	OK		OK		✓	

RVS2-3

Prs3.

SP2 536

Test location: ESTIGE ANDRA	Operator SNH	Product-Assurance: R. Boossens	Date: 21/05/08 13:19
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May 21, 08 12:49

OBEH\_PRNT\_2008.142.12.49.04.580

On-Board Event History display printout from time: 2008.142.12.17.37.696 to time: 2008.142.12.36.15.806
Current printout time: 2008.142.12.49.04.581 DISPLAY MODE: BRIEF FILTER MODE: INACTIVE
Number of printed lines: 30

Table with columns: Generation Time, Reception Time, VC, APID, SSC, EvID, Severity, TmT, TmQ, F, D, Message Text. Contains 30 rows of event data including archive segment creation, VCFC time datation, and TC report packets.

SP-536 Section 7.5 Step 233

May 21, 08 12:49

TMPH\_PRNT\_2008.142.12.49.55.670

Page 1/1

TM Packet History display printout from time: 2008.142.12.27.55.112 to time: 2008.142.12.28.33.900  
 Current printout time: 2008.142.12.49.55.671 FILTER MODE: ACTIVE DISPLAY MODE: BRIEF STATISTIC: OFF  
 FILTER SETTINGS:  
 Type: 1 Sub-Type: 9  
 Number of printed lines: 15

Mnemonic	Generation Time	Reception Time	VC	APID	SSC	Type	STyp	PI1	PI2	DS	SPID	GSID	TmT	TmQ	F	D
TcContentRep	2008.142.12.28.33.900	2008.142.12.28.33.900	0	16	9921	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.142.12.28.29.900	2008.142.12.28.33.896	0	16	9916	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.142.12.28.27.900	2008.142.12.28.33.895	0	16	9913	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.142.12.28.23.900	2008.142.12.28.25.885	0	16	9909	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.142.12.28.21.900	2008.142.12.28.21.879	0	16	9905	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.142.12.28.19.900	2008.142.12.28.21.877	0	16	9902	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.142.12.28.17.901	2008.142.12.28.17.872	0	16	9898	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.142.12.28.09.900	2008.142.12.28.09.861	0	16	9895	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.142.12.28.04.900	2008.142.12.28.05.859	0	16	9893	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.142.12.28.02.900	2008.142.12.28.05.859	0	16	9892	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.142.12.28.01.900	2008.142.12.28.05.858	0	16	9890	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.142.12.27.59.900	2008.142.12.28.05.857	0	16	9889	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.142.12.27.57.902	2008.142.12.27.58.849	0	16	9883	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.142.12.27.55.902	2008.142.12.27.58.847	0	16	9880	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.142.12.27.55.112	2008.142.12.27.58.845	0	16	9876	1	9	0	0	65535	40094180		PG	G	E	E

SPP-536

Section 7-5

Step 233

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
236.	<p><i>During</i> S102999SCVT017_ASDGENSPIR_PWR_ON_P</p> <p>"Power on SPIRE prime and enable MIL 1553 I/F. FM SPIRE Switch on for IST activities in any conditions... - Select NO to abort TS if not correct"</p> <p>⇒ Click the button "YES" to confirm</p>	YES		YES	See RD-3 for exact message and expected OOLs.	✓	
237.	<p><i>During</i> S102999SCVT017_ASDGENSPIR_PWR_ON_P</p> <p>"Set Bus Profile back to original setting?"</p> <p>⇒ Click the button "YES" to confirm</p>	YES		YES		✓	
238.	<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>		<p>370 ON 100 OFF</p> <p>OK</p>		✓	✓

Test location: ESTEC/HYDRA	Operator SNA	Product-Assurance: R. Goossens	Date: 21/05/08 13:28
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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
239.	<p>During Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"End of SPIRE DRCU OFF TEST "</p> <p>⇒ click the "OK" button to confirm</p>			OK			
240.	<p>During Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"TEST the SPIRE OFF CONTROLLED OBCP?"</p> <p>⇒ Click the button "Confirm to continue</p>	CONFIRM		CONFIRM	<p>If SKIP, it continues at step 259.</p> <p>DB_OBCP_H_SPIRE_OFF_CTRL is the OBCP under test.</p>		
241.	<p>During Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"TRIGGER OBCP "</p> <p>⇒ Click the button "Confirm" to continue</p>	CONFIRM		CONFIRM			

Test location: ESTOC/H402A	Operator SMA	Product-Assurance: R. Boossens	Date: 21/05/08 13:31
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Procedure

Herschel

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
242.	During Z010999MCVT137_IST_SPIRE_FDIR_formal  "Please filter one TMPKT History for TM(5,1) and one for TM(5,4)"  ⇒ Click the button "OK" to continue	PASS  OK		PASS  OK		✓	
243.	During Z010999MCVT137_IST_SPIRE_FDIR_formal  "Please callasync the sequence to trigger SPIRE OFF CONTROLLED"  ⇒ Click the button "OK" to confirm	PASS  OK		PASS  OK.	Callasync SPIRE_OBCPTest Stop HK <del>SPIRE_OBCPTest_OFFCTRL trigger</del> And wait for end of NOM and CRIT HK.	✓	RS2-4

Test location: ESTEC / HYDRA	Operator Sinh	Product-Assurance: R. Boossens	Date: 21/05/08 13:37
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Doc. No: HP-2-ASED-TP-0197

Issue: 1

Date: 28/04/2008

File: HP-2-ASED-TP-0197\_1.doc

13:57 after RS2-4



Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
244.	<p>During Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>At the prompt: "Wait until the end of the OBCP -TM(5,1) with SPID 40145170 proclD 0x1104"</p> <p>3) ⇒ check that OBCP SPIRE OFF CONTROLLED has been triggered - TM(5,1) with SPID 40148170 proclD 0x1104,</p> <p>4) ⇒ TM(5,4) EvID0x1002 SPIRE Shutdown" is received</p> <p>5) ⇒ check that TM(5,1) with SPID 40145170 proclD 0x1104 is received</p> <p>⇒ Click the "OK" button to confirm</p>	PASS  OK		<p>OK 1)</p> <p>OK 2)</p> <p>3) 0x1104</p> <p>4) 0x1102</p> <p>5) 0x1104</p> <p>02</p>	<p>Expected:</p> <p>TM(5,1)-0578 SDB SPIRE Failed TM</p> <p>TM(5,2)-0585 SDB SPIRE nom RT sick TM</p> <p>TM(5,1) - subschedule status changed</p>	✓	✓

Test location: ESTEC/HYDRA	Operator SMH	Product-Assurance: K. Boossens	Date: 21/05/08. 14:23
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May 21, 08 14:19

OBEH\_PRNT\_2008.142.14.19.52.717

On-Board Event History display printout from time: 2008.142.13.33.02.212 to time: 2008.142.14.18.21.947  
Current printout time: 2008.142.14.19.52.718 DISPLAY MODE: BRIEF FILTER MODE: INACTIVE  
Number of printed lines: 30

Generation Time	Reception Time	VC	APID	SSC	EvID	Severity	TmT	TmQ	F	D	Message Text
2008.142.14.18.21.947 CFCmod0x40	2008.142.14.18.22.016	0	2020	9843	238	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00EE - VCFC Time datation for VC0-V
2008.142.14.14.55.650	2008.142.14.14.55.721	0	2020	9821	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2008.142.14.11.53.884 CFCmod0x40	2008.142.14.11.53.950	0	2020	9802	238	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00EE - VCFC Time datation for VC0-V
2008.142.14.11.02.322	2008.142.14.11.02.383	0	2020	9796	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2008.142.14.07.08.994	2008.142.14.07.09.041	0	2020	9771	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2008.142.14.05.21.822 CFCmod0x40	2008.142.14.05.21.880	0	2020	9760	238	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00EE - VCFC Time datation for VC0-V
2008.142.14.03.16.150	2008.142.14.03.16.202	0	2020	9746	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2008.142.13.59.23.306	2008.142.13.59.23.354	0	2020	9722	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2008.142.13.58.49.775 CFCmod0x40	2008.142.13.58.49.808	0	2020	9717	238	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00EE - VCFC Time datation for VC0-V
2008.142.13.58.24.969	2008.142.13.58.25.777	0	16	11835	27399	NORM	PG	G	E	E	Event 5-1 OBCP Ended
2008.142.13.58.22.965	2008.142.13.58.25.774	0	16	11830	12288	ALARM	PG	G	E	E	OBCP_Evt Hifi Off
2008.142.13.57.58.025	2008.142.13.58.01.741	0	16	11797	26881	NORM	PG	G	E	E	Event 5-1 Subschedule Status Changed
2008.142.13.57.55.964	2008.142.13.57.55.734	0	16	11790	27402	NORM	PG	G	E	E	Event 5-1 OBCP Started
2008.142.13.57.54.993	2008.142.13.57.55.732	0	16	11786	185	WARN	PG	G	E	E	Event Report - SDB SPIRE non-vital RT Sick TM
2008.142.13.57.54.992	2008.142.13.57.55.732	0	16	11785	178	NORM	PG	G	E	E	Event Report - SDB SPIRE Failed TM
2008.142.13.55.41.290	2008.142.13.55.41.320	0	2020	9697	0	NORM	PG	G	E	E	TC Report Packet
2008.142.13.55.40.212	2008.142.13.55.40.243	0	2020	9695	0	NORM	PG	G	E	E	TC Report Packet
2008.142.13.55.32.978	2008.142.13.55.33.021	0	2020	9693	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2008.142.13.53.00.759 CFCmod0x40	2008.142.13.53.00.798	0	2020	9677	238	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00EE - VCFC Time datation for VC0-V
2008.142.13.51.47.665	2008.142.13.51.47.696	0	2020	9668	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2008.142.13.48.02.837	2008.142.13.48.02.861	0	2020	9645	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2008.142.13.47.37.806 CFCmod0x40	2008.142.13.47.37.825	0	2020	9641	238	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00EE - VCFC Time datation for VC0-V
2008.142.13.44.18.009	2008.142.13.44.18.032	0	2020	9620	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2008.142.13.42.16.837 CFCmod0x40	2008.142.13.42.16.855	0	2020	9607	238	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00EE - VCFC Time datation for VC0-V
2008.142.13.40.32.681	2008.142.13.40.32.703	0	2020	9596	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2008.142.13.36.49.869	2008.142.13.36.49.878	0	2020	9572	238	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00EE - VCFC Time datation for VC0-V

Section 7.5 Step 244 OBEH

May 21, 08 14:04

TMPH\_PRNT\_2008.142.14.04.15.162

TM Packet History display printout from time: 2008.142.13.57.55.118 to time: 2008.142.13.58.23.966  
Current printout time: 2008.142.14.04.15.180 FILTER MODE: ACTIVE DISPLAY MODE: BRIEF STATISTIC: OFF  
Number of printed lines: 15

Mnemonic	Generation Time	Reception Time	VC	APID	SSC	Type	STyp	PI1	PI2	DS	SPID	GSID	TmT	TmQ	F	D
TcContentRep	2008.142.13.58.23.966	2008.142.13.58.25.775	0	16	11832	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.142.13.58.20.965	2008.142.13.58.21.771	0	16	11826	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.142.13.58.19.965	2008.142.13.58.21.770	0	16	11823	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.142.13.58.16.965	2008.142.13.58.17.768	0	16	11819	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.142.13.58.14.965	2008.142.13.58.17.766	0	16	11814	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.142.13.58.13.965	2008.142.13.58.13.759	0	16	11810	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.142.13.58.12.965	2008.142.13.58.13.758	0	16	11807	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.142.13.58.06.965	2008.142.13.58.13.757	0	16	11805	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.142.13.58.02.965	2008.142.13.58.05.747	0	16	11803	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.142.13.58.01.965	2008.142.13.58.01.742	0	16	11801	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.142.13.58.00.965	2008.142.13.58.01.742	0	16	11800	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.142.13.57.59.965	2008.142.13.58.01.741	0	16	11799	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.142.13.57.57.966	2008.142.13.58.01.739	0	16	11794	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.142.13.57.55.967	2008.142.13.57.55.735	0	16	11791	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.142.13.57.55.118	2008.142.13.57.55.734	0	16	11787	1	9	0	0	65535	40094180		PG	G	E	E

Section 7-5 Step 244. TM(19) plots

May 21, 08 14:13

TMPH\_PRNT\_2008.142.14.13.25.461

TM Packet History display printout from time: 2008.142.13.26.15.946 to time: 2008.142.14.03.16.150
Current printout time: 2008.142.14.13.25.462 FILTER MODE: ACTIVE DISPLAY MODE: BRIEF STATISTIC: OFF
Number of printed lines: 29

Table with columns: Mnemonic, Generation Time, Reception Time, VC, APID, SSC, Type, STyp, PI1, PI2, DS, SPID, GSID, TmT, TmQ, F, D. Contains 29 rows of network event data.

Section 7.5 Step 244 Type Sys. events

May 21, 08 14:04

TMPH\_PRNT\_2008.142.14.04.36.833

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TM Packet Query Display  
=====

TM Packet Details  
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Mnemonic: (5,1)-0578      Description: Event Report - SDB SPIRE Failed TM      Simulated: N

S/C ID: 486      G/S ID: 0      SLE ID: 0      OCC ID: 0      VCID: 0      HFA D/S: 65535

Data Unit Type: GOOD SP      Time Stamp Type: PG      Time Quality: G

APID: 16      SSC: 11785      Type: 5      Subtype: 1      PI1: 178      PI2: 178

SPID: 40578161      TPSD: -1      HFA Counter: 1      Filing: E      Distribution: E

Time Field: Y      Packet Period: 0 [msec]      CRC: ?      Event Severity: ?

TM Packet Parameter Data  
-----

Generation time: 2008.142.13.57.54.992      Reception time: 2008.142.13.57.55.732

TM Packet Raw Data  
-----

SCOS-2000 Header:  
0000:0000 0000 622A 3448 8926 0F00 632A 3448 622D 0B00 0100 0000 E601 0000 6000 0000  
0020:1138 FFFF 0100 0000 712C 6B02 0000 0000 0000 0000 FFFF FFFF 10FF 1000 092E 0501

Packet Raw Data:  
0000:0810 EE09 0019 0005 0100 5EC6 88E2 FE2F 00B2 00B2 0001 0015 0000 0000 008F 0A66

Section 7.5 Step 244 (SPIRE OFF CTRL) P11

May 21, 08 14:06

TMPH\_PRNT\_2008.142.14.06.02.342

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TM Packet Query Display

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TM Packet Details

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Mnemonic: (5,2)-0585 Description: Event Report - SDB SPIRE non-vital RT Sick TM Simulated: N

S/C ID: 486 G/S ID: 0 SLE ID: 0 OCC ID: 0 VCID: 0 HFA D/S: 65535

Data Unit Type: GOOD SP Time Stamp Type: PG Time Quality: G

APID: 16 SSC: 11786 Type: 5 Subtype: 2 PI1: 185 PI2: 185

SPID: 40585161 TPSD: -1 HFA Counter: 1 Filing: E Distribution: E

Time Field: Y Packet Period: 0 [msec] CRC: ? Event Severity: ?

TM Packet Parameter Data

-----

Generation time: 2008.142.13.57.54.993 Reception time: 2008.142.13.57.55.732

TM Packet Raw Data

-----

SCOS-2000 Header:

0000:0000 0000 622A 3448 1227 0F00 632A 3448 D42D 0B00 0100 0000 E601 0000 6000 0000

0020:1138 FFFF 0100 0000 C947 6B02 0000 0000 0000 FFFF FFFF 10FF 1000 0A2E 0502

Packet Raw Data:

0000:0810 EE0A 0019 0005 0200 5EC6 88E2 FE38 00B9 00B9 0001 0015 0000 0000 0001 DB74

Section 5 Step 244 P2

May 21, 08 14:13

TMPH\_PRNT\_2008.142.14.13.30.519

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TM Packet Query Display  
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TM Packet Details  
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Mnemonic: D\_EvRp\_148      Description: Event 5-1 OBCP Started      Simulated: N

S/C ID: 486      G/S ID: 0      SLE ID: 0      OCC ID: 0      VCID: 0      HFA D/S: 65535

Data Unit Type: GOOD SP      Time Stamp Type: PG      Time Quality: G

APID: 16      SSC: 11790      Type: 5      Subtype: 1      PI1: 27402      PI2: 0

SPID: 40148170      TPSD: -1      HFA Counter: 4      Filing: E      Distribution: E

Time Field: Y      Packet Period: 0 [msec]      CRC: ?      Event Severity: ?

TM Packet Parameter Data  
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Generation time: 2008.142.13.57.55.964      Reception time: 2008.142.13.57.55.734

TM Packet Raw Data  
-----

SCOS-2000 Header:  
0000:0000 0000 632A 3448 44B8 0E00 632A 3448 E134 0B00 0100 0000 E601 0000 6000 0000  
0020:1138 FFFF 0400 0000 CA9C 6402 0000 0000 0000 0000 FFFF FFFF 10FF 1000 0E2E 0501

Packet Raw Data:  
0000:0810 EE0E 0019 0005 0100 5EC6 88E3 F6F5 6B0A 0000 1104 0000 0000 0000 0090 99E3

Section 7.5 Step 2244 PL3

May 21, 08 14:19

TMPH\_PRNT\_2008.142.14.19.14.492

TM Packet Query Display

TM Packet Details

Mnemonic: ERROR REPORT Description: OBCP\_Evt Hifi Off *Expected NCR5958 refers* Simulated: N

S/C ID: 486 G/S ID: 0 SLE ID: 0 OCC ID: 0 VCID: 0 HFA D/S: 65535

Data Unit Type: GOOD SP Time Stamp Type: PG Time Quality: G

APID: 16 SSC: 11830 Type: 5 Subtype: 4 PI1: 12288 PI2: 0

SPID: 45400185 TPSD: -1 HFA Counter: 4 Filing: E Distribution: E

Time Field: Y Packet Period: 0 [msec] CRC: ? Event Severity: ?

TM Packet Parameter Data

Generation time: 2008.142.13.58.22.965 Reception time: 2008.142.13.58.25.774

TM Packet Raw Data

SCOS-2000 Header:

0000:0000 0000 7E2A 3448 AD8C 0E00 812A 3448 B8D1 0B00 0100 0000 E601 0000 6000 0000

0020:1138 FFFF 0400 0000 79C0 B402 0000 0000 0000 0000 FFFF FFFF 10FF 1000 362E 0504

Packet Raw Data:

0000:0810 EE36 0019 0005 0400 5EC6 88FE F73F 1002 0000 0000 0000 0000 0000 0000 BDC1

1  
OK

Section 7.5 App 244 ~~ERRA~~ R.4



May 21, 08 14:21

TMPH\_PRNT\_2008.142.14.21.16.675

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TM Packet Query Display  
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TM Packet Details  
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Mnemonic: D\_EvRp\_145      Description: Event 5-1 OBCP Ended      Simulated: N

S/C ID: 486      G/S ID: 0      SLE ID: 0      OCC ID: 0      VCID: 0      HFA D/S: 65535

Data Unit Type: GOOD SP      Time Stamp Type: PG      Time Quality: G

APID: 16      SSC: 11835      Type: 5      Subtype: 1      PI1: 27399      PI2: 0

SPID: 40145170      TPSD: -1      HFA Counter: 4      Filing: E      Distribution: E

Time Field: Y      Packet Period: 0 [msec]      CRC: ?      Event Severity: ?

TM Packet Parameter Data  
-----

Generation time: 2008.142.13.58.24.969      Reception time: 2008.142.13.58.25.777

TM Packet Raw Data  
-----

SCOS-2000 Header:

0000:0000 0000 802A 3448 7EC9 0E00 812A 3448 24DC 0B00 0100 0000 E601 0000 6000 0000

0020:1138 FFFF 0400 0000 1291 6402 0000 0000 0000 0000 FFFF FFFF 10FF 1000 3B2E 0501

Packet Raw Data:

0000:0810 EE3B 0019 0005 0100 5EC6 8900 F816 6B07 0000 1104 0000 0000 0000 0092 DC05

Section 7.5 Step 244 Pt 5

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
245.	<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>1) ⇒ Check that both the SPIRE DRCU and DPU have been switched off</p> <p>2) ⇒ 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 Subschedules 370 OFF 100 OFF</p> <p>OK</p>		<p>1) OFF</p> <p>2) 100 = OFF 370 = OFF</p> <p>OK</p>		✓ ✓ ✓	
246.	<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>		<p>PASS</p> <p>OK</p>		✓	

Test location: ESTEC / HYDRA	Operator SNH	Product-Assurance: R. Goossens	Date: 21/05/08 14:27
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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
247.	<p>During D102159SCVT192_GET_EAT_REPORT</p> <p>⇒ click the "EndTS" button to continue</p>	ENDTS		ENDTS		✓	
248.	<p>During Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"RECOVERY ACTION"</p> <p>⇒ Click the button "Confirm" to continue</p>	CONFIRM		CONFIRM		✓	
249.	<p>During Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>At the prompt: "check that all EATs are enabled"</p> <p>⇒ Perform activity through D102159SCVT192_GET_EAT_REPORT then click the "OK" button to confirm</p>	PASS  OK		PASS  OK		✓	

Test location: ESTEC/ HYDRA	Operator SNH	Product-Assurance: R. Goossens	Date: 21/05/08 14:30
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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
250.	<p><i>During</i>  <i>D102159SCVT192_GET_EAT_REPORT</i></p> <p>⇒ click the "EndTS" button to continue</p>	ENDTS		ENDTS		✓	
251.	<p><i>During</i>  <i>Z010999MCVT137_IST_SPIRE_FDIR_formal</i></p> <p>"Switching SPIRE ON"</p> <p>⇒ click "OK" to confirm</p>	OK		OK		✓	
252.	<p><i>During</i>  <i>S102999SCVT017_ASDGENSPIR_PWR_ON_P</i></p> <p>"Power on SPIRE prime and enable MIL 1553 I/F. FM SPIRE Switch on for IST activities in any conditions ... - Select NO to abort TS if not correct"</p> <p>⇒ Click the button "YES" to confirm</p>	YES		YES	Refer to RD-3 for correct message and expected OOLs.	✓	

Test location: ESTEC / HYDRA	Operator SNH	Product Assurance: R. Goossens	Date: 21/05/08 14:31
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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
253.	<p><i>During</i> S102999SCVT017_ASDGENSPIR_PWR_ON_P</p> <p>"Set Bus Profile back to original setting?"</p> <p>⇒ Click the button "YES" to confirm</p>	YES		YES		✓	
254.	<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>		<p>370=ON 100=OFF</p> <p>OK</p>		✓	
255.	<p><i>During</i> Z102999SCVT008_ASDGEN_SPIRESTBY2OPS</p> <p>"Command SPIRE from REDY to OPS mode in any condition – Select NO to abort TS if not correct"</p> <p>⇒ Click the "YES" button to confirm</p>	YES		YES	Refer to RD-3 for correct message and expected OOLs.	✓	

Test location: ESTEC / HYDRA	Operator: SNH	Product Assurance: R. Goossens	Date: 21/05/08 14:42
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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
256.	<p><i>During</i> S102999SCVT911_ASDDBGSPIR_STBY2OPS</p> <p>"Bus profile left as SPIRE PRIME while in OPS mode"</p> <p>⇒ Click the button "OK" to continue</p>	OK		OK			
257.	<p><i>During</i> Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"Check that SPIRE is producing Science packets"</p> <p>⇒ Perform the activity and click the button "OK" to continue</p>	PASS OK		PASS OK	Check that file in /HPCCS/VARIABLE/RESULTS/<test_session>/TMDUMP/<date-time>VC1.txt is increasing. With TM from APID 1284		
258.	<p><i>During</i> Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"End of SPIRE OFF CONTROL TEST "</p> <p>⇒ click the "OK" button to confirm</p>	OK		OK			

Test location: ESTEC/HYDRA	Operator SNH	Product-Assurance: R. Goossens	Date: 21/05/08 14:44
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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
259.	<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		CONFIRM	<p>If SKIP, it continues at step 284.</p> <p>DB_OBCP_H_SPIRE_OFF is the OBCP under test.</p>		
260.	<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		CONFIRM			
261.	<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>	PASS OK		OK			

Test location: ESTEC/H4.02A	Operator SNH	Product-Assurance: R. Goossens R.	Date: 21/05/08 14:46
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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
262.	<p>During Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"start the SPIRE (RT 21) simulation on the CDMU SCOE to create jamming"</p> <p>⇒ Click the button "OK" to proceed</p>	OK		OK		1	
263.	<p>On CDMS SCOE</p> <p>Double-click on the link "StartSCOE.bat" on the desktop to start the CDMU SCOE application.</p>	PASS		Already Running		1	
264.	<p>On CDMS SCOE</p> <p>Select Menu: Mode ⇒ Local Mode Password: H-P</p>	PASS		PASS		1	
265.	<p>On CDMS SCOE</p> <p>Select from menu: Setup ⇒ RTSim Configuration</p>	PASS		PASS		1	
266.	<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		PASS		1	

Test location: ESTEC/HYDRA	Operator SNH	Product-Assurance: R. Goossens	Date: 21/05/08 14:50
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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
267.	On CDMS SCOE  Select from menu: Mode ⇒ On Line	PASS		PASS		✓	
268.	On CDMS SCOE <i>(RTSIM)</i>  In window: "System Control/RT controls": ⇒ Select RT21 ⇒ Click the button "Enable" for: - control - TM queue - TC queue <del>And after 8 seconds proceed immediately with next step</del>	PASS		<i>14:53:45</i> 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	✓	
269.	On CDMS SCOE  In window: "System Control/RT controls" Click the button "DISABLE" for: - control - TM queue - TC queue	PASS		<i>14:58:50</i> PASS	To be performed within 8 seconds!!!	✓	

*PVS2-5 within*

Test location: <i>ESTEC/HYDRA</i>	Operator <i>SNA</i>	Product-Assurance: <i>R. Goossens</i>	Date: <i>21/05/08 14:54</i>
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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
270.	<p>During Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>At the prompt: "Wait until the end of the OBCP -TM(5,1) with SPID 40145170 proclD 0x1103"</p> <p>3) ⇒ check that OBCP SPIRE OFF has been triggered - TM(5,1) with SPID 40148170 proclD 0x1103,</p> <p>4) ⇒ TM(5,4) Evid 0x1001 SPIRE Switched OFF" is received</p> <p>5) ⇒ check that TM(5,1) with SPID 40145170 proclD 0x1103 is received</p> <p>⇒ Click the "OK" button to confirm</p>	PASS  OK		<p>1) 2)</p> <p>3) 0x1103</p> <p>4) 0x1001</p> <p>5) 0x1103</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> <p>unexpected TM 5,1 ACNS Timesync problem new NCR-<del>xxxx</del> 4229 to be raised.</p>	✓ ✓ ✓ ✓ ✓ ✓	

Test location: ESTEC/HYDRA	Operator SNH	Product-Assurance: R. Goossens	Date: 21/05/08 15:11
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May 21, 08 14:57

OBEH\_PRNT\_2008.142.14.57.57.257

On-Board Event History display printout from time: 2008.142.14.40.43.121 to time: 2008.142.14.55.16.634  
Current printout time: 2008.142.14.57.57.258 DISPLAY MODE: BRIEF FILTER MODE: INACTIVE  
Number of printed lines: 30

Generation Time	Reception Time	VC	APID	SSC	EvID	Severity	TmT	TmQ	F	D	Message Text
2008.142.14.55.16.634	2008.142.14.55.16.759	0	2020	10472	238	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00EE - VCFC Time datation for VC0-V
CFCmod0x40											
2008.142.14.54.10.093	2008.142.14.54.15.675	0	16	13147	27399	NORM	PG	G	E	E	Event 5-1 OBCP Ended
2008.142.14.54.06.090	2008.142.14.54.15.673	0	16	13142	12288	ALARM	PG	G	E	E	OBCP_Evt Hifi Off
2008.142.14.53.50.122	2008.142.14.53.53.643	0	16	13115	26881	NORM	PG	G	E	E	Event 5-1 Subschedule Status Changed
2008.142.14.53.49.638	2008.142.14.53.49.638	0	512	1951	47	NORM	PR	N	E	E	Event Report - SDB Synchronisation Time-Out
2008.142.14.53.49.087	2008.142.14.53.49.637	0	16	13108	27402	NORM	PG	G	E	E	Event 5-1 OBCP Started
2008.142.14.53.48.508	2008.142.14.53.49.636	0	16	13104	152	WARN	PG	G	E	E	Event Report - SPIRE non-vital RT Invalid
2008.142.14.53.48.461	2008.142.14.53.49.636	0	16	13103	34	NORM	PG	G	E	E	Event Report - SDB Unhealthy
2008.142.14.53.47.009	2008.142.14.53.47.135	0	2020	10462	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2008.142.14.51.46.837	2008.142.14.51.46.959	0	2020	10449	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2008.142.14.49.46.665	2008.142.14.49.46.777	0	2020	10436	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2008.142.14.49.42.650	2008.142.14.49.42.771	0	2020	10435	238	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00EE - VCFC Time datation for VC0-V
CFCmod0x40											
2008.142.14.47.46.494	2008.142.14.47.46.600	0	2020	10422	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2008.142.14.45.46.306	2008.142.14.45.46.422	0	2020	10409	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2008.142.14.44.17.681	2008.142.14.44.17.796	0	2020	10399	238	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00EE - VCFC Time datation for VC0-V
CFCmod0x40											
2008.142.14.43.45.650	2008.142.14.43.45.761	0	2020	10395	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2008.142.14.42.49.259	2008.142.14.42.51.676	0	1280	766	1281	NORM	PG	G	E	E	New_Step_Report
2008.142.14.42.47.634	2008.142.14.42.47.735	0	2020	10387	0	NORM	PG	G	E	E	TC Report Packet
2008.142.14.42.46.619	2008.142.14.42.46.719	0	2020	10385	0	NORM	PG	G	E	E	TC Report Packet
2008.142.14.42.45.603	2008.142.14.42.45.703	0	2020	10383	0	NORM	PG	G	E	E	TC Report Packet
2008.142.14.42.44.525	2008.142.14.42.44.625	0	2020	10381	0	NORM	PG	G	E	E	TC Report Packet
2008.142.14.42.39.572	2008.142.14.42.39.672	0	2020	10378	0	NORM	PG	G	E	E	TC Report Packet
2008.142.14.42.35.556	2008.142.14.42.35.656	0	2020	10376	0	NORM	PG	G	E	E	TC Report Packet
2008.142.14.42.35.103	2008.142.14.42.35.203	0	2020	10374	0	NORM	PG	G	E	E	TC Report Packet
2008.142.14.41.20.129	2008.142.14.41.22.037	0	16	12879	26892	NORM	PG	G	E	E	Event 5-1 TM 11-19 Dump Ended
2008.142.14.41.10.400	2008.142.14.41.10.498	0	2020	10364	0	NORM	PG	G	E	E	TC Report Packet

Section 7.5 Step 274 OBEH

May 21, 08 14:57

TMPH\_PRNT\_2008.142.14.57.46.123

TM Packet History display printout from time: 2008.142.14.40.50.322 to time: 2008.142.14.55.16.634  
Current printout time: 2008.142.14.57.46.124 FILTER MODE: ACTIVE DISPLAY MODE: BRIEF STATISTIC: OFF  
Number of printed lines: 29

Mnemonic	Generation Time	Reception Time	VC	APID	SSC	Type	STyp	PI1	PI2	DS	SPID	GSID	TmT	TmQ	F	D
TMTCEve51 EE	2008.142.14.55.16.634	2008.142.14.55.16.759	0	2020	10472	5	1	238	8229	65535	250238946		PG	G	E	E
D_EvRp_145	2008.142.14.54.10.093	2008.142.14.54.15.675	0	16	13147	5	1	27399	0	65535	40145170		PG	G	E	E
ERROR REPORT	2008.142.14.54.06.090	2008.142.14.54.15.673	0	16	13142	5	4	12288	0	65535	45400185		PG	G	E	E
D_EvRp_048	2008.142.14.53.50.122	2008.142.14.53.53.643	0	16	13115	5	1	26881	0	65535	40048170		PG	G	E	E
(5,2)-0447	2008.142.14.53.49.638	2008.142.14.53.49.638	0	512	1951	5	1	47	47	65535	10447050		PR	N	E	E
D_EvRp_148	2008.142.14.53.49.087	2008.142.14.53.49.637	0	16	13108	5	1	27402	0	65535	40148170		PG	G	E	E
(5,2)-0552	2008.142.14.53.48.508	2008.142.14.53.49.636	0	16	13104	5	2	152	152	65535	40552161		PG	G	E	E
D_EvRp_434	2008.142.14.53.48.461	2008.142.14.53.49.636	0	16	13103	5	1	34	34	65535	45434160		PG	G	E	E
TMTCEve51 A4	2008.142.14.53.47.009	2008.142.14.53.47.135	0	2020	10462	5	1	164	0	65535	250164946		PG	G	E	E
TMTCEve51 A4	2008.142.14.51.46.837	2008.142.14.51.46.959	0	2020	10449	5	1	164	0	65535	250164946		PG	G	E	E
TMTCEve51 A4	2008.142.14.49.46.665	2008.142.14.49.46.777	0	2020	10436	5	1	164	0	65535	250164946		PG	G	E	E
TMTCEve51 EE	2008.142.14.49.42.650	2008.142.14.49.42.771	0	2020	10435	5	1	238	8229	65535	250238946		PG	G	E	E
TMTCEve51 A4	2008.142.14.47.46.494	2008.142.14.47.46.600	0	2020	10422	5	1	164	0	65535	250164946		PG	G	E	E
TMTCEve51 A4	2008.142.14.45.46.306	2008.142.14.45.46.422	0	2020	10409	5	1	164	0	65535	250164946		PG	G	E	E
TMTCEve51 EE	2008.142.14.44.17.681	2008.142.14.44.17.796	0	2020	10399	5	1	238	8229	65535	250238946		PG	G	E	E
TMTCEve51 A4	2008.142.14.43.45.650	2008.142.14.43.45.761	0	2020	10395	5	1	164	0	65535	250164946		PG	G	E	E
SNSR00000500	2008.142.14.42.49.259	2008.142.14.42.51.676	0	1280	766	5	1	1281	20736	65535	190100500		PG	G	E	E
TCReport Pkt	2008.142.14.42.47.634	2008.142.14.42.47.735	0	2020	10387	5	1	0	0	65535	134		PG	G	E	E
TCReport Pkt	2008.142.14.42.46.619	2008.142.14.42.46.719	0	2020	10385	5	1	0	0	65535	134		PG	G	E	E
TCReport Pkt	2008.142.14.42.45.603	2008.142.14.42.45.703	0	2020	10383	5	1	0	0	65535	134		PG	G	E	E
TCReport Pkt	2008.142.14.42.44.525	2008.142.14.42.44.625	0	2020	10381	5	1	0	0	65535	134		PG	G	E	E
TCReport Pkt	2008.142.14.42.39.572	2008.142.14.42.39.672	0	2020	10378	5	1	0	0	65535	134		PG	G	E	E
TCReport Pkt	2008.142.14.42.35.556	2008.142.14.42.35.656	0	2020	10376	5	1	0	0	65535	134		PG	G	E	E
TCReport Pkt	2008.142.14.42.35.103	2008.142.14.42.35.203	0	2020	10374	5	1	0	0	65535	134		PG	G	E	E
D_EvRp_7042	2008.142.14.41.20.129	2008.142.14.41.22.037	0	16	12879	5	1	26892	0	65535	47042170		PG	G	E	E
TCReport Pkt	2008.142.14.41.10.400	2008.142.14.41.10.498	0	2020	10364	5	1	0	0	65535	134		PG	G	E	E

Section 7.5 Step 270 TM Sx events

May 21, 08 14:58

TMPH\_PRNT\_2008.142.14.58.56.939

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TM Packet Query Display

TM Packet Details

Mnemonic: D\_EvRp\_434 Description: Event Report - SDB Unhealthy Simulated: N

S/C ID: 486 G/S ID: 0 SLE ID: 0 OCC ID: 0 VCID: 0 HFA D/S: 65535

Data Unit Type: GOOD SP Time Stamp Type: PG Time Quality: G

APID: 16 SSC: 13103 Type: 5 Subtype: 1 PI1: 34 PI2: 34

SPID: 45434160 TPSD: -1 HFA Counter: 3 Filing: E Distribution: E

Time Field: Y Packet Period: 0 [msec] CRC: ? Event Severity: ?

TM Packet Parameter Data

Generation time: 2008.142.14.53.48.461 Reception time: 2008.142.14.53.49.636

TM Packet Raw Data

SCOS-2000 Header:

0000:0000 0000 7C37 3448 810A 0700 7D37 3448 BCB4 0900 0100 0000 E601 0000 6000 0000

0020:1138 FFFF 0300 0000 3045 B502 0000 0000 0000 0000 FFFF FFFF 10FF 1000 2F33 0501

Packet Raw Data:

0000:0810 F32F 0019 0005 0100 5EC6 95FC 7621 0022 0022 0002 0000 0000 0000 009A 5CF9

SPR OFF DL Section 7.5 Supp 270 PER

May 21, 08 14:59

TMPH\_PRNT\_2008.142.14.59.07.931

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TM Packet Query Display  
=====

TM Packet Details  
-----

Mnemonic: (5,2)-0552      Description: Event Report - SPIRE non-vital RT Invalid      Simulated: N

S/C ID: 486      G/S ID: 0      SLE ID: 0      OCC ID: 0      VCID: 0      HFA D/S: 65535

Data Unit Type: GOOD SP      Time Stamp Type: PG      Time Quality: G

APID: 16      SSC: 13104      Type: 5      Subtype: 2      PI1: 152      PI2: 152

SPID: 40552161      TPSD: -1      HFA Counter: 0      Filing: E      Distribution: E

Time Field: Y      Packet Period: 0 [msec]      CRC: ?      Event Severity: ?

TM Packet Parameter Data  
-----

Generation time: 2008.142.14.53.48.508      Reception time: 2008.142.14.53.49.636

TM Packet Raw Data  
-----

SCOS-2000 Header:

0000:0000 0000 7C37 3448 81C2 0700 7D37 3448 0AB6 0900 0100 0000 E601 0000 6000 0000

0020:1138 FFFF 0000 0000 E1C6 6A02 0000 0000 0000 0000 FFFF FFFF 10FF 1000 3033 0502

Packet Raw Data:

0000:0810 F330 0019 0005 0200 5EC6 95FC 8230 0098 0098 0000 0015 0000 0000 0002 1D0B

Section 7.5 Step 270 PE2

May 21, 08 15:13

TMPH\_PRNT\_2008.142.15.13.02.949

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TM Packet Query Display  
=====

TM Packet Details  
-----

Mnemonic: D\_EvRp\_148      Description: Event 5-1 OBCP Started      Simulated: N

S/C ID: 486      G/S ID: 0      SLE ID: 0      OCC ID: 0      VCID: 0      HFA D/S: 65535

Data Unit Type: GOOD SP      Time Stamp Type: PG      Time Quality: G

APID: 16      SSC: 13108      Type: 5      Subtype: 1      PI1: 27402      PI2: 0

SPID: 40148170      TPSD: -1      HFA Counter: 5      Filing: E      Distribution: E

Time Field: Y      Packet Period: 0 [msec]      CRC: ?      Event Severity: ?

TM Packet Parameter Data  
-----

Generation time: 2008.142.14.53.49.087      Reception time: 2008.142.14.53.49.637

TM Packet Raw Data  
-----

SCOS-2000 Header:

0000:0000 0000 7D37 3448 E455 0100 7D37 3448 3EBB 0900 0100 0000 E601 0000 6000 0000

0020:1138 FFFF 0500 0000 CA9C 6402 0000 0000 0000 0000 FFFF FFFF 10FF 1000 3433 0501

Packet Raw Data:

0000:0810 F334 0019 0005 0100 5EC6 95FD 1668 6B0A 0000 1103 0000 0000 0000 009B 0BDE

Section 7.5 Supp 270 RES

May 21, 08 15:10

TMPH\_PRNT\_2008.142.15.10.38.885

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TM Packet Query Display  
=====

TM Packet Details  
-----

Mnemonic: ERROR REPORT Description: OBCP\_Evt Hifi Off *expected* *NLR-3958 Netas* Simulated: N

S/C ID: 486 G/S ID: 0 SLE ID: 0 OCC ID: 0 VCID: 0 HFA D/S: 65535

Data Unit Type: GOOD SP Time Stamp Type: PG Time Quality: G

APID: 16 SSC: 13142 Type: 5 Subtype: 4 PI1: 12288 PI2: 0

SPID: 45400185 TPSD: -1 HFA Counter: 5 Filing: E Distribution: E

Time Field: Y Packet Period: 0 [msec] CRC: ? Event Severity: ?

TM Packet Parameter Data  
-----

Generation time: 2008.142.14.54.06.090 Reception time: 2008.142.14.54.15.673

TM Packet Raw Data  
-----

SCOS-2000 Header:  
0000:0000 0000 8E37 3448 FE61 0100 9737 3448 1947 0A00 0100 0000 E601 0000 6000 0000  
0020:1138 FFFF 0500 0000 79C0 B402 0000 0000 0000 0000 FFFF FFFF 10FF 1000 5633 0504

Packet Raw Data:  
0000:0810 F356 0019 0005 0400 5EC6 960E 1733 1001 0000 0000 0000 0000 0000 0000 CB45

Section 7.5 Step 270. PE 4B



May 21, 08 15:11

TMPH\_PRNT\_2008.142.15.11.31.018

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TM Packet Query Display  
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TM Packet Details  
-----

Mnemonic: D\_EvRp\_145      Description: Event 5-1 OBCP Ended      Simulated: N

S/C ID: 486      G/S ID: 0      SLE ID: 0      OCC ID: 0      VCID: 0      HFA D/S: 65535

Data Unit Type: GOOD SP      Time Stamp Type: PG      Time Quality: G

APID: 16      SSC: 13147      Type: 5      Subtype: 1      PI1: 27399      PI2: 0

SPID: 40145170      TPSD: -1      HFA Counter: 5      Filing: E      Distribution: E

Time Field: Y      Packet Period: 0 [msec]      CRC: ?      Event Severity: ?

TM Packet Parameter Data  
-----

Generation time: 2008.142.14.54.10.093      Reception time: 2008.142.14.54.15.675

TM Packet Raw Data  
-----

SCOS-2000 Header:

0000:0000 0000 9237 3448 FC6E 0100 9737 3448 614F 0A00 0100 0000 E601 0000 6000 0000

0020:1138 FFFF 0500 0000 1291 6402 0000 0000 0000 0000 FFFF FFFF 10FF 1000 5B33 0501

Packet Raw Data:

0000:0810 F35B 0019 0005 0100 5EC6 9612 180D 6B07 0000 1103 0000 0000 0000 009D 7686

Section 7.5 Step 270 PLS

May 21, 08 14:56

TMPH\_PRNT\_2008.142.14.56.59.047

TM Packet History display printout from time: 2008.142.14.53.48.619 to time: 2008.142.14.54.08.091  
 Current printout time: 2008.142.14.56.59.048 FILTER MODE: ACTIVE DISPLAY MODE: BRIEF STATISTIC: OFF  
 Number of printed lines: 10

Mnemonic	Generation Time	Reception Time	VC	APID	SSC	Type	STyp	PI1	PI2	DS	SPID	GSID	TmT	TmQ	F	D
TcContentRep	2008.142.14.54.08.091	2008.142.14.54.15.673	0	16	13143	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.142.14.54.04.090	2008.142.14.54.05.660	0	16	13138	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.142.14.54.02.090	2008.142.14.54.05.660	0	16	13135	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.142.14.53.58.090	2008.142.14.54.01.653	0	16	13131	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.142.14.53.56.090	2008.142.14.53.57.651	0	16	13127	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.142.14.53.54.090	2008.142.14.53.57.648	0	16	13122	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.142.14.53.52.090	2008.142.14.53.53.643	0	16	13118	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.142.14.53.50.092	2008.142.14.53.53.643	0	16	13113	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.142.14.53.49.090	2008.142.14.53.49.638	0	16	13109	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.142.14.53.48.619	2008.142.14.53.49.636	0	16	13105	1	9	0	0	65535	40094180		PG	G	E	E

Section 5 Step 270 Tr(19) Baberks

May 21, 08 15:00

TMPH\_PRNT\_2008.142.15.00.53.039

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TM Packet Query Display  
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TM Packet Details  
-----

Mnemonic: D\_EvRp\_148      Description: Event 5-1 OBCP Started      Simulated: N

S/C ID: 486      G/S ID: 0      SLE ID: 0      OCC ID: 0      VCID: 0      HFA D/S: 65535

Data Unit Type: GOOD SP      Time Stamp Type: PG      Time Quality: G

APID: 16      SSC: 13108      Type: 5      Subtype: 1      PI1: 27402      PI2: 0

SPID: 40148170      TPSD: -1      HFA Counter: 5      Filing: E      Distribution: E

Time Field: Y      Packet Period: 0 [msec]      CRC: ?      Event Severity: ?

TM Packet Parameter Data  
-----

Generation time: 2008.142.14.53.49.087      Reception time: 2008.142.14.53.49.637

TM Packet Raw Data  
-----

SCOS-2000 Header:  
0000:0000 0000 7D37 3448 E455 0100 7D37 3448 3EBB 0900 0100 0000 E601 0000 6000 0000  
0020:1138 FFFF 0500 0000 CA9C 6402 0000 0000 0000 0000 FFFF FFFF 10FF 1000 3433 0501

Packet Raw Data:  
0000:0810 F334 0019 0005 0100 5EC6 95FD 1668 6B0A 0000 1103 0000 0000 0000 009B 0BDE

Section 7.5 Stop 270 Pt3

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
271.	<p>During Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>At the prompt: "Please check SPIRE status and that subschedules 370 (SPIRE TCs) and 100 (meta-SPIRE) are disabled"</p> <p>1) ⇒ check that SPIRE is OFF</p> <p>2) ⇒ 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 Subschedules 370 OFF 100 OFF</p> <p>OK</p>		<p>1) OFF OFF</p> <p>2) 370 OFF 100 OFF</p> <p>OK</p>			
272.	<p>During Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>At the prompt: "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>		<p>PASS</p> <p>OK</p>			

Test location: ESTEC/HYDRA	Operator SNH	Product-Assurance: R. Baassens	Date: 21/05/08 15:17
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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
273.	<p>During D102159SCVT192_GET_EAT_REPORT</p> <p>⇒ click the "EndTS" button to continue</p>	ENDTS		ENDTS		✓	
274.	<p>During Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"RECOVERY ACTION"</p> <p>⇒ Click the button "confirm" to continue</p>			CONFIRM		✓	
275.	<p>During Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>At the prompt: "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>		<p>PASS</p> <p>OK</p>		✓	

Test location: ESTEC/INDRA	Operator SNA	Product-Assurance: R. Goossens	Date: 21/05/08 15:21
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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
276.	<p>During D102159SCVT192_GET_EAT_REPORT</p> <p>⇒ click the "EndTS" button to continue</p>	ENDTS		ENDTS		✓	
277.	<p>During Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"set the CDMS SCOE OFF LINE"</p> <p>⇒ Perform the activities of the next step, then click the button "OK"</p>	PASS OK		PASS OK		✓	
278.	<p>On CDMS SCOE</p> <p>Select from menu:</p> <p>Mode ⇒ Off Line</p>	PASS		PASS		✓	

Test location: ESTEC / HYDRA	Operator SWH	Product Assurance: R. Goossens	Date: 21/05/08 15:23
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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
279.	<p>During Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"Switching SPIRE ON"</p> <p>⇒ Click the button "OK" to continue</p>	OK		OK		✓	
280.	<p>During S102999SCVT017_ASDGENSPIR_PWR_ON_P</p> <p>"Power on SPIRE prime and enable MIL 1553 I/F. FM SPIRE Switch on for IST activities in any conditions ... - Select NO to abort TS if not correct"</p> <p>⇒ Click the button "YES" to confirm</p>	YES		YES	Refer to RD-3 for correct message and expected OOLs.	✓	
281.	<p>During S102999SCVT017_ASDGENSPIR_PWR_ON_P</p> <p>"Set Bus Profile back to original setting?"</p> <p>⇒ Click the button "YES" to confirm</p>	YES		YES		✓	

Test location: ESTEC / HTDRA	Operator SNA	Product-Assurance: R. Goossens	Date: 21/05/08 15:32
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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
282.	<p>During 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>		<p>370 = ON 100 = OFF</p> <p>OK</p>		✓	✓
283.	<p>During Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"End of SPIRE FDIR TEST "</p> <p>⇒ click the "OK" button to continue</p>	OK		OK		✓	
284.	<p>During Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"RESET the STARTING CONDITION"</p> <p>⇒ Click the button "Confirm" to continue</p>	CONFIRM		CONFIRM		✓	

Test location: ESTEC/HYDRA	Operator SNH	Product-Assurance: R. Goossens	Date: 21/05/08 15:42
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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
285.	<p>During Z010999MCVT137_IST_SPIRE_FDIR_formal</p> <p>"Check that all subschedules from 1 to 256 plus the 370 are enabled</p> <p>⇒ Click the button "OK" to continue</p>	<p>Subschedules 1-256 ON 370 ON Others OFF</p> <p>OK</p>		<p>1-256 = ON 370 = ON OK</p>			

Test location: ESTEC/HYDRA	Operator S. NH	Product-Assurance: R. Goossens	Date: 21/05/08 15:55
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7.6 Specific Post-Test Activities

Step-No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
1.	<p><i>During</i> Z010999MCVT131_IST_INSTR_FDIR</p> <p>"Start the instrument specific FDIR sequence"</p> <p>⇒ click the "OK" button to proceed</p>	OK		OK		✓	
2.	<p><i>During</i> Z010999MCVT131_IST_INSTR_FDIR</p> <p>"End of INSTRUMENTS FDIR Tests. Select OK to switch off"</p> <p>⇒ click the "OK" button to proceed</p>	OK		OK	Perform this test step AFTER ALL the relevant FDIR tests have been performed	✓	
3.	<p><i>During</i> Z010999MCVT131_IST_INSTR_FDIR</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		PASS OK		✓	

Test location: ESTEC/HTDRA	Operator SNH	Product-Assurance: K. Goossens	Date: 21/05/08 15:58
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Step-No.	Test-Step-Description	Nominal Value		Tolerance	Actual Value	Remarks	P	N
4.	During D102159SCVT192_GET_EAT_REPORT ⇒ Click the button "EndTS!" to proceed	ENDTS			ENDTS		✓	
5.	During Z010999MCVT131_IST_INSTR_FDIR "RESET to the original SCBP?" ⇒ Click the button "Confirm to continue"	<del>CONFIRM</del> SKIP			SKIP		✓	
6.	During Z010999MCVT131_IST_INSTR_FDIR "POWER OFF HIFI PRIMARY" ⇒ Click the button "Confirm" to continue	<del>CONFIRM</del> SKIP		<del>SKIP</del>	SKIP	Refer to RD-3 for correct message and expected OOLs.	✓	
7.	During Z010999MCVT131_IST_INSTR_FDIR "POWER OFF PACS PRIMARY" ⇒ Click the button "Confirm" to continue	CONFIRM			CONFIRM		✓	

PVS4-1

PVS1-5

Test location: ESTEC / HYDRA	Operator SNTA	Product-Assurance: R. Boossens	Date: 21/05/08 16:05
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Step-No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
8.	<i>During</i> P102999SCVT906_ASDISTPACS_PWR_OFF_N "FM PACS Swith off in Warm or Cold conditions, FPU connected" ⇒ click the "Yes" button to proceed	YES		YES	Refer to RD-3 for correct message and expected OOLs	✓	
9.	<i>During</i> P102999SCVT906_ASDISTPACS_PWR_OFF_N "Set Bus Profile back to original setting?" ⇒ click the "Yes" button to proceed	YES		YES		✓	
10.	<i>During</i> Z010999MCVT131_IST_INSTR_FDIR "POWER OFF SPIRE PRIMARY" ⇒ Click the button "Confirm" to continue			CONFIRM		✓	
11.	<i>During</i> S102999SCVT019_ASDGENSPIR_PWR_OFF_P "SPIRE swith off for IST activities in any conditions" ⇒ click the "Yes" button to proceed			YES		✓	

PS4-2 →

Test location: ESTEC/HYDRA	Operator SNH	Product-Assurance: R. Goossens	Date: 21/05/08 16:19
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Step-No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
12.	<p><i>During</i> S102999SCVT019_ASDGENSPIR_PWR_OFF_P</p> <p>"Set BUS profile back to original setting"</p> <p>⇒ click the "Yes" button to proceed</p>	YES		YES			
13.	<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		OK	<p>The IST_END sequence shall be called-up. Therefore, continue with chapter 7.4 of RD4. step 1.</p>		

Test location: ESTEC. HYDRA	Operator SNA	Product-Assurance: R. Goossens P.	Date: 21/05/08. 16:23
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**7.7 S/C Power OFF**

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

Test location: ESTEC/HYDRA	Operator SNH	Product-Assurance: K. Goossens J.	Date: 21/05/08
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Doc. No: HP-2-ASED-TP-0197

Issue: 1

Date: 28/04/2008

File: HP-2-ASED-TP-0197\_1.doc

## 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
  D102159SCVT192_GET_EAT_REPORT
```

### 8.3 PACS script

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

#### 8.4 SPIRE script

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





9 Summary Sheets


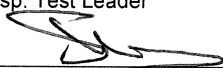

9.1 Procedure Variation Summary


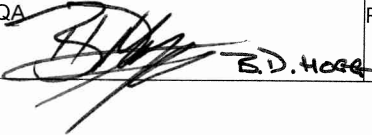
	Test Change	Curr. No.:	
		Date	N/A
		Page	of
Test designation	Test Procedure HP-2-ASED-TP-0197	Issue	Rev.
		1	
Test step changed	Reason for Change		
<p>PVS Summary</p> <ol style="list-style-type: none"> <li>1) Only Perform SPIRE FIR</li> <li>2) Procedure corrections to be added in next issue</li> <li>3) Recovery from unplanned SPIRE OFF CTRL</li> <li>4) Execution of ACS SD-0344 before switching OFF SPIRG</li> </ol>			
Prepared by:	Resp. Test Leader	Project Engineer	
N/A	N/A		
PA/QA	Prime	Customer	
N/A			

Table 9.1-1: Procedure Variation Sheet


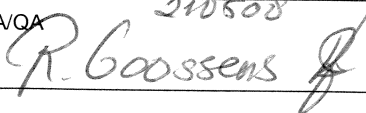
	Test Change		Curr. No.: 1	
			Date 20/05/2008	
			Page 1	of 1
Test designation	Test Procedure	Issue	Rev.	
Instrument FDIR	TP-0197	1	-	
Test step changed	Reason for Change			
See below	Only SPIRE FDIR to be performed			
<p>1 - Complete any open work from Delta TRR MoM</p> <p>2 - Perform TP-0134 selecting 5.8.13 from GUI (Test of Instrument FDIR OBCP)</p> <p>3 - Perform TP-0197 section 7.2</p> <p>If HIFI cannot be powered according to S/C Configuration sheet the skip step 26</p> <p>4 - Perform TP-0197 section 7.5 SPIRE FDIR (skip sections 7.3 &amp; 7.4)</p> <p>5 - Perform TP-0197 section 7.6</p> <p>If HIFI wasn't powered in section 7.2 then skip step 6</p> <p>6 - Perform TP-0197 section 7.7 ensuring that CEL and SSMM dumped completely</p>				
Prepared by:	Resp. Test Leader	Project Engineer		
S.Hamer				
PA/QA	Prime	Customer		
 E.Hager				

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PVS # 2	Test Change	Curr. No.: 2 Date 7/10/08 Page 1 of 1
Test designation	Test Procedure TP-197 18/STEP FDIR	Issue 1 Rev. —
Test step changed <u>See below</u> <del>between 21 and 22</del>	Reason for Change Step misty to be added	
<p>1) Between steps 21 &amp; 22 of section 7.2 After STEP 21, in case wheel pin-up times-out, sript suspends. Then resume and proceed. a) Step 25 should not reference SPR-290 this should be closed as NCR-3986 is closed (See 4/6/08) TP-0197 to be updated to include step covering this.</p> <p>2) Step 207 of Section 7.5. Type 0x116 should read 0x1106 for PROC ID <del>40145170 should read 40148170 for SPID</del></p> <p>3) Step 233 of Section 7.5 Remark to be added to state WM42C565 = OFF is expected and to continue script. Also WM408565 = 0.0 A.</p> <p>4) Step 243 of Section 7.5 Type in remarks for script to execute should be SPIRE - 08CP Test-Step HK Re-execute test step with correct script.</p> <p>5) Step 268 Type: Reads "And after..." should read "within..."</p>		
Prepared by: 	Resp. Test Leader 	Project Engineer
PA/QA 	Prime	Customer

	Test Change	Curr. No.: 3	
		Date 21/05/2008	
		Page 1	of 1
Test designation	Test Procedure	Issue	Rev.
Instrument FDIR	TP-0197	1	-
Test step changed	Reason for Change		
Section 7.5 Step 233	Recovery from Unplanned SPIRE OFF CTRL		
<p>1 – Get EAT report and check if SPIRE OBCP disabled</p> <p>Call async D102159SCVT192_GET_EAT_REPORT</p> <p>2 – If so then send following command:</p> <p>DCT84170, DH041170 = 2, DH055170 = 0x0500, DH146170 = 0xC110, DH055170 = 0x0501, DH146170 = 0xC110</p> <p>3 – Get EAT report and check that SPIRE OBCP re-enabled</p> <p>Call async D102159SCVT192_GET_EAT_REPORT</p>			
Prepared by:	Resp. Test Leader	Project Engineer	
S.Hamer			
PA/QA	Prime	Customer	
	B.D. Hogg		

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	Test Change		Curr. No.: 4	
			Date 21/05/2008	
			Page 1	of 1
Test designation	Test Procedure	Issue	Rev.	
Instrument FDIR	TP-0197	1		
Test step changed	Reason for Change			
See below	Perform ACS SD-0344 before switching off SPIRE			
<p>Section 7.6 step 5</p> <p>1 – Select SKIP instead of confirm</p> <p>Section 7.6 after step 9</p> <p>2 – Execute ACS HP-2-ASED-SD-0344</p> <p>3 Continue with step 10 of TP-0197</p>				
Prepared by:	Resp. Test Leader	Project Engineer		
S.Hamer				
PA/QA	Prime	Customer		
<i>210508</i> 				

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**9.2 Non Conformance Report (NCR) and SPR Summary**

The status of all NCRs/SPRs, generated during the test, shall be given-in in the table below:

NCR/SPR	NCR/SPR - Title	Date	Open Closed	PA sig.






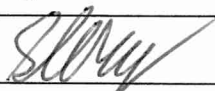


NCR/SPR	NCR/SPR - Title	Date	Open Closed	PA sig.
4228	SREM TLM DEF4W160	21/05 '08	0	
42xx	Unexpected ACNS (5,1) error	21/05 '08	0	
SPR-0535	STR SIM Failed to boot	21/05 '08	0	
-0536	unintentional triggering ORCP	21/05 '08	0	
-0537	"set cons SCOG off/line" twice prompted	21/05 '08	0	

Table 9.2-1: Non-Conformance Record 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	21/05/08	
Test Conductor	21/05/08	S. Hamer: 
PA Responsible	21/05/08	R. Goossens: 



10 Session Record

Test Description	IST1 SPIRE Instrument FDIR OBCP
Session ID	2008_05_21_04-38_heracms_hpus22_REALTIME_INT.FDIR
Start Time:	04:38 UTC.
End Time	18:04 UTC
CVS Tag for Test	IST_1 - PART1 - TP - 0197 - ISS1 - FDIR - OBCP - SPIRE - END - OUL
Applicable IST Specification	ISS 5 Redlined Section 5.8.13
Test conductor	SIMON HARTGE.
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	

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Distribution List

	Name	Dep./Comp.		Name	Dep./Comp.
	Alberti von Mathias Dr.	ASG23		Reichle Konrad	ASA42
	Baldock Richard	FAE12	X	Runge Axel	OTN/ASA44
	Barlage Bernhard	AED13		Sauer Maximilian Dr.	AED65
	Bayer Thomas	ASA42		Schink Dietmar	AED32
	Brune Holger	ASA45		Schmidt Thomas	AED15
	Edelhoff Dirk	AED2		Schweickert Gunn	ASG23
	Fehringer Alexander	ASG13	X	Sonn Nico	ASG51
X	Fricke Wolfgang Dr.	AED 65		Steininger Eric	AED32
	Geiger Hermann	ASA42	X	Stritter Rene	AED11
	Grasl Andreas	OTN/ASA44		Suess Rudi	OTN/ASA44
	Grasshoff Brigitte	AET12		Theunissen Martijn	DSSA
X	Hamer Simon	Terma	X	Vascotto Riccardo	HE Space
	Hanka, Erhard	FI552		Wagner Klaus	ASG23
	Hendrikse Jeffrey	HE Space		Wietbrock Walter	AET12
X	Hendry David	Terma		Wöhler Hans	ASG23
	Hengstler Reinhold	ASA42		Wössner Ulrich	ASE252
	Hinger Jürgen	ASG23		Zumstein Armin	ASQ42
X	Hohn Rüdiger	AED65			
	Hölzle Edgar Dr.	AED32			
X	Hopfgarten Michael	AED32			
	Huber Johann	ASA42			
	Hund Walter	ASE252		Alcatel Alenia Space Cannes	AAS-F
X	Idler Siegmund	AED312		Alcatel Alenia Space Torino	AAS-I
	Ivány von András	FAE12		ESA/ESTEC	ESA
	Jahn Gerd Dr.	ASG23			
	Kalde Clemens	ASM2		<b>Instruments:</b>	
	Kettner Bernhard	AET42	X	MPE (PACS)	MPE
X	Klenke Uwe	ASG72	X	RAL (SPIRE)	RAL
	Knoblauch August	AET32	X	SRON (HIFI)	SRON
X	Koelle Markus	ASA43			
X	Koppe Axel	AED312			
	Kroeker Jürgen	AED65		<b>Subcontractors:</b>	
X	La Gioia Valentina	Terma		Alcatel Alenia Space Antwerp	ABSP
	Lang Jürgen	ASE252		Austrian Aerospace	AAE
	Langenstein Rolf	AED15		Austrian Aerospace	AAEM
	Langfermann Michael	ASA41		BOC Edwards	BOCE
	Martin Olivier	ASA43		Dutch Space Solar Arrays	DSSA
	Maukisch Jan	ASA43		EADS Astrium Sub-Subsyst. &	ASSE
X	Much Christoph	ASA43		EADS CASA Espacio	CASA
	Müller Jörg	ASA42		EADS CASA Espacio	ECAS
X	Müller Martin	ASA43		European Test Services	ETS
	Pietroboni Karin	AED65		Patria New Technologies Oy	PANT
	Platzer Wilhelm	AED2		SENER Ingenieria SA	SEN

END OF DOCUMENT

	Name	Dep./Comp.		Name	Dep./Comp.
X	Alberti von Mathias Dr.	ASG22		Schweickert Gunn	ASG22
	Baldock Richard	FAE12	X	Sonn Nico	ASG51
	Barlage Bernhard	AED13		Steininger Eric	AED32
	Bayer Thomas	ASA42	X	Stritter Rene	AED11
	Brune Holger	ASA45		Suess Rudi	OTN/ASA44
	Edelhoff Dirk	AED2		Wagner Klaus	ASG22
	Fehringer Alexander	ASG13	X	Wietbrock Walter	AET12
X	Fricke Wolfgang Dr.	AED 65		Wöhler Hans	ASG22
	Geiger Hermann	ASA42		Wössner Ulrich	ASE252
	Grasl Andreas	OTN/ASA44	X	Martin Olivier	ASA43
	Grasshoff Brigitte	AET12	X	Theunissen Martijn	DutchSpace
X	Hamer Simon	Terma			
X	Hendry David	Terma			
	Hengstler Reinhold	ASA42			
	Hinger Jürgen	ASG22			
X	Hohn Rüdiger	AED65			
	Hölzle Edgar Dr.	AED32			
	Huber Johann	ASA42			
	Hund Walter	ASE252			
X	Idler Siegmund	AED312			
	Ivány von András	FAE12			
	Jahn Gerd Dr.	ASG22			
	Kalde Clemens	ASM2			
	Kameter Rudolf	OTN/ASA42			
	Kettner Bernhard	AET42			
	Knoblauch August	AET32	X	Thales Alenia Space Cannes	TAS-F
X	Koelle Markus	ASA43		Thales Alenia Space Torino	TAS-I
X	Koppe Axel	AED312	X	ESA/ESTEC	ESA
X	Kroeker Jürgen	AED65			
X	La Gioia Valentina	Terma		<b>Instruments:</b>	
	Lang Jürgen	ASE252	X	MPE (PACS)	MPE
	Langenstein Rolf	AED15	X	RAL (SPIRE)	RAL
	Langfermann Michael	ASA41	X	SRON (HIFI)	SRON
X	Maukisch Jan	ASA43			
X	Much Christoph	ASA43			
	Müller Jörg	ASA42		<b>Subcontractors:</b>	
X	Müller Martin	ASA43		Thales Alenia Space Antwerp	ABSP
	Peltz Heinz-Willi	ASG13		Austrian Aerospace	AAE
	Pietroboni Karin	AED65		Austrian Aerospace	AAEM
	Platzer Wilhelm	AED2		BOC Edwards	BOCE
	Reichle Konrad	ASA42		Dutch Space Solar Arrays	DSSA
	Runge Axel	OTN/ASA44		EADS Astrium Sub-Subsyst. & Equipment	ASSE
	Schink Dietmar	AED32		EADS CASA Espacio	CASA
	Schlosser Christian	OTN/ASA44		EADS CASA Espacio	ECAS
	Schmidt Rudolf	FAE12		European Test Services	ETS
	Schmidt Thomas	ASA42		Patria New Technologies Oy	PANT
	Schuler Günter	ASA42		SENER Ingenieria SA	SEN