EADS astrium

Test Report **Herschel**

Title: IST2 Redundant Instrument FDIR OBCP Test Report
(for HP-2-ASED-TP-0254 Issue1)

CI-No: 100000

Prepared by:	Simon Hamer/ TERMA AS	Date:	29th Jan 2009
Checked by:	C. Much		29/01/09
Product Assurance:	R. Stritter		29.01.09
Configuration Control:	W. Wietbrock		03/02/2009
Project Management:	W. Dr. Fricke		03/02/2009

Distribution: See Distribution List (last page)

Copying of this document, and giving it to others and the use or communication of the contents thereof, are forbidden without express authority. Offenders are liable to the payment of damages. All rights are reserved in the event of the grant of a patent or the registration of a utility model or design.

Attachments

Issue	Date	Sheet	Description of Change	Release
1	29/01/2009	All	Formal Issue	

TABLE OF CONTENT

1 SCOPE 5

1.1 OBJECTIVE 5
1.2 SUMMARY CONCLUSION 6

2 DOCUMENTS / DRAWINGS 7

2.1 APPLICABLE DOCUMENTS 7
2.2 REFERENCE DOCUMENTS 7
2.3 OTHER DOCUMENTS 7
2.4 ACRONYMS & ABBREVIATIONS 7

3 TEST CHARACTERISTICS 8

3.1 TITLE 8
3.2 UNIT TESTED 8
3.3 DESCRIPTION 8
3.4 APPLIED PROCEDURES 9
3.5 REQUIREMENTS TO BE VERIFIED 9
3.6 CORRESPONDING MINUTES OF MEETINGS 9
3.7 GENERAL TEST FLOW 9

4 TEST EXECUTION 10

4.1 DATE AND TIME 10
4.2 TAG / SESSION REFERENCE 10
4.3 PERSONNEL 11
4.4 DETAILED TEST TIMELINE 11
4.4.1 Start of test / end of test 11
4.4.2 Time of event as deviation 11
4.4.3 Time zone to be ignored in case of deviation 11
4.4.4 Time of SPR / NCR 11
4.4.5 Time of milestone in test 11
4.5 PROBLEMS FOUND DURING THE TEST 12
4.5.1 Procedure Variations 12
4.5.1.1 Lead Procedure for Redundant Instrument FDIR OBCP (TP-0134) 12
4.5.1.2 Instrument Procedure for IST Tests (TP-0206) 12
4.5.1.3 IST Procedure for Redundant Instrument FDIR OBCP (TP-0254) 12
4.5.2 NCR/SPR Summary 13
4.5.2.1 NCRs Opened/Recurred/Closed 13
4.5.2.2 SPRs Opened/Recurred/Closed 14
4.5.3 List of NCRs and SPRs raised and what action was taken if any 15
4.5.3.1 NCRs 15
4.5.3.2 SPRs 16
4.5.4 Procedure changes 17
4.6 DEVIATIONS FROM TEST REQUIREMENTS 17
4.7 TEST EXECUTION SUMMARY 18

4.7.1 Redundant Instruments FDIR OBCP 18/01/2009 19
4.7.2 PACS Power Cycle OBCP FDIR (NCR4817) 21/01/2009 27
4.8 SUMMARY CONCLUSION 28
4.9 OPEN ISSUES 28
5 POST-TEST DATA RETRIEVAL 29
5.1 ENGINEERING VALUES STORED DURING TEST 29
5.2 RAW VALUES STORED DURING TEST 29
6 ATTACHMENTS – SUPPORTING DOCUMENTATION 30
6.1 CONTAMINATION CONTROL REPORT 30
6.2 PICTURES TAKEN ON THE SPECIMEN IN TEST CONFIGURATION 30
6.3 RECORD (CD-ROM) OF ALL ACQUIRED DATA DURING TEST 30
6.4 TEST MEASUREMENTS DEVICES CALIBRATION REPORTS 31
6.5 LOGBOOK EXTRACTS FROM TEST 32
6.5.1 Logbook Extracts from Test (Redundant Instruments FDIR OBCP 18/01/2009) 33
6.5.2 Logbook Extracts from Test (PACS Power Cycle OBCP FDIR (NCR4817) 21/01/2009) 39
6.6 COPY OF THE RAISED SPRS / NCRS 42
6.7 AS-RUN PROCEDURES 44
6.8 MINUTES OF MEETINGS 48

1 Scope

This document reports on the Redundant Instrument FDIR OBCP Test performed as part of the Integrated System Test (IST) 2 (Post TBTV) in Helium-1 conditions at ESTEC, Noordwijk, NL.

Due to a number of open NCRs the test had to be performed during several test sessions.

The first part, executed on the 18/01/2009, covered all three instruments in Redundant configuration. However, for HIFI this was just to confirm the expected recurrence of NCR4613 on redundant side and the same response in all other respects.

The second part was handled under NRB control for NCR4817.

IST2 Nominal Instrument FDIR OBCP is covered by a separate test report (Ref. RD-6)

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 executed as planned. A number of NCRs & SPRs were raised, one (NCR4817) blocked successful completion of PACS Power Cycle OBCP. On analysis this NCR was identified as a script error and was repeated successfully in a standalone test (see section 6.7 Attachment 3).

There were two other recurring NCRs 4613 (HIFI Hard Reset instead of Soft) and 4805 (Nominal TM stops after SPIRE DRCU OFF) potentially blocking successful completion of this part of IST2.

NCR4805 was identified as nominal behaviour requiring updates to SPIRE specific documentation.

Retest of HIFI Soft Reset to closeout NCR4613 could only be performed after update of HIFI ICU Application S/W to release 5.9. It was agreed that repeat of this OBCP execution was only required on nominal or redundant instrument units. The retest for NCR closeout was therefore performed on in HIFI nominal configuration (see RD-6 for details).

The remaining open NCRs and SPRs were considered minor and not deemed as blocking for successful completion of the test.

2 Documents / Drawings

2.1 Applicable Documents

AD-1	Herschel IST Specification, Issue 8	HP-2-ASP-SP-0939
AD-2	Herschel IST Test Case “Test of Redundant Instrument FDIR OBCP”, Issue 1	HP-2-ASED-TP-0254
AD-3	Leading Procedure for Herschel IST, Issue 7	HP-2-ASED-TP-0134
AD-4	TRR for IST2 Redundant Instrument FDIR OBCP MoM, dated 17/01/2009	H-P-TASF-MN-11152
AD-5	PTR for IST2 Redundant Instrument FDIR OBCP MoM, dated 23/05/2008	H-P-TASF-MN-11155

2.2 Reference Documents

RD-1	As-Run Herschel IST Test Case “Test of Redundant Instrument FDIR OBCP”, Annex 1a to this test report	HP-2-ASED-TP-0254
RD-2	As-Run Herschel “Leading Procedure for Herschel IST”, Annex 1b to this test report	HP-2-ASED-TP-0134
RD-3	As-Run PACS NCR 4817 closeout ACS (21/01/2009 PACS Power Cycle) Issue 1 Annex 2a to this test report	HP-2-ASED-SD-0459
RD-4	Not Used	Not Used
RD-5	CDs of Retrieved Test Data Annex 3 to this test report	HP-2-ASED-TR-0326-A3
RD-6	IST2 Nominal SPIRE HIFI FDIR OBCP Test Report, Issue 1	HP-2-ASED-TR-0325
RD-7	Payload Management & OBCP TN, Issue 8	H-P-1-ASP-TN-1072
RD-8	Herschel Instrument Power ON-OFF and Mode Switching Procedure for Functional Testing, Issue 3	HP-2-ASED-TP-0206

2.3 Other Documents

None

2.4 Acronyms & Abbreviations

See AD-3.

3 Test characteristics

3.1 Title

Herschel IST Test Case “Test of Redundant Instrument FDIR OBCP”

3.2 Unit tested

Spacecraft CDMS OBCP FDIR for (redundant) 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

See [AD-1]

3.6 Corresponding minutes of meetings

[AD-4] through [AD-5]

3.7 General test flow

The test was executed in the following order:

Session 1 (18/01/2009)

- IST2 Redundant Instrument OBCP FDIR
  - S/C Power on and Configuration
  - Redundant HIFI OBCP FDIR
  - Redundant PACS OBCP FDIR
  - Redundant SPIRE OBCP FDIR
  - Instrument & S/C Power off

Session 2 (21/01/2009)

- Redundant PACS Power Cycle OBCP FDIR (NCR4817 closeout)

4 Test execution

4.1 Date and time

Session 1 (Redundant Instrument FDIR OBCP)

Power ON and initial S/C configuration:

17/01/2009 23:11 – 18/01/2009 02:29 UTC

Test configuration and actual test:

18/01/2009 02:29 UTC – 18/01/2009 21:53 UTC

Power OFF:

18/01/2009 21:53 UTC – 19/01/2009 00:39 UTC

Session 2 (Redundant PACS Power Cycle FDIR OBCP)

Power ON and initial S/C configuration (incl Nom Mode Robustness IST2):

21/01/2009 02:16 – 15:09 UTC

Test configuration and actual test:

21/01/2009 15:09 – 16:50 UTC

Power OFF:

21/01/2009 16:50 – 18:52 UTC

4.2 Tag / session reference

Session 1 (Redundant Instrument FDIR OBCP)

2009_01_17_23_02_hercdmu_hpws23_REALTIME_INST_FDIR

End tag : IST_2_TP-0254_iss1_Instr_FDIR_OBCP_END_001

Session 2 (Redundant PACS Power Cycle FDIR OBCP)

2009_01_21_02_03_hercdmu_hpws23_REALTIME_NomModRo1

End tag : IST_2_TP_096_iss4_NMR1_END

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 Redundant Instrument FDIR OBCP (TP-0134)

PVS No	Description and Impact on Test (If any)	Impacts Test Objectives (Y/N)
1.	Wrong ACMS Configuration Specified	N
2.	Recovery from unplanned reconfiguration part 1	N
3.	Recovery from unplanned reconfiguration part 2	N

4.5.1.2 Instrument Procedure for IST Tests (TP-0206)

PVS No	Description and Impact on Test (If any)	Impacts Test Objectives (Y/N)
1.	Typographical error plus addition of new step	N

4.5.1.3 IST Procedure for Redundant Instrument FDIR OBCP (TP-0254)

PVS No	Description and Impact on Test (If any)	Impacts Test Objectives (Y/N)
1.	NCR4805 Investigation – (Not performed)	N
2.	NCR4181 Recovery/Workaround	N
3.	Update Instrument FDIR Redundant Scripts	N
4.	No script for redundant HIFI Simulate Science	N
5.	Disable HIFI LO	N
6.	Power Cycle OBCP PACS Failure Recovery	Y
7.	PTV Reset TC schdl Flag not clearing	N
8.	Typographical errors in procedure	N
9.	Reaction Wheels spin down to zero	N
10.	CDMS SCOE Recovery	N
11.	Bus Jamming doesn’t work for SPIRE OBCP OFF	N

4.5.2 NCR/SPR Summary

4.5.2.1 NCRs Opened/Recurred/Closed

NCR No	Title	During	O/R/C
4816	IST_2, INSTR FDIR part 2: Unexpected reconfiguration during IST_START	IST Start	O
4181	CCS Reports no telemetry packet received	HIFI Power ON	R
4823	HIFI PTV checksum failure occurred	HIFI Power ON	O
4613	HIFI hard reset OBCP triggered when soft reset expected	HIFI RESET_OBCP	R
4817	PACS Power Cycle OBCP fails on redundant	PACS Power Cycle OBCP	O
4818	PACS Power Cycle OBCP event has wrong description	PACS Power Cycle OBCP	O
4804	Unexpected triggering of SPIRE_OPE_STOP OBCP after SPIRE STANDBY OBCP	SPIRE DRCU_OFF OBCP	R
4805	IST2 FDIR OBCP: Nominal HK stops after SPIRE OBCP DRCU OFF	SPIRE DRCU_OFF OBCP	R
4824	CDMS SCOE Bus Jamming fails	SPIRE OFF OBCP	O

4.5.2.2 SPRs Opened/Recurred/Closed

SPR No	Title	O/R/C
1107	PVS 5 to send failed command again (PTV check)	R
1135	Modify FDIR for CDMS 3.8	O
1136	LV status error	O
1137	LO script issue	O
1138	PTV incorrect	O
1139	Correct enable/disable FDIR. Tracking SPR	O
1141	PTV ResetTCSchdl Flag not clearing	O
1142	RWLs spun to zero	O
1145	OOL on HIFI TCS loops 20/39. Ambient limits not in HPSDB	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)
4181	Predefined workarounds performed to continue test	N
4613	HIFI ICU Application S/W to be updated to 5.9 and retested (see RD-6)	Y
4804	Investigation ongoing by RAL	N
4805	RAL (SPIRE) confirm normal behaviour – documentation update required	N
4816	Reconfiguration due to incorrect shutdown of previous test – S/C recovered successfully for test	N
4817	Retest after correction of test script verified successful execution of PACS Power Cycle. NCR to be closed	N
4818	HPSDB to be updated to correct	N
4823	Corrected HIFI PTV checksum provided but not used as it did not affect HIFI usage for test	N
4824	CDMS specific command DC3ST185 used to trigger SPIRE OFF OBCP (successfully)	N

4.5.3.2 SPRs

SPR No	Action taken	Impacts Test Objectives (Y/N)
1107	Scripts modified, no further action required	N
1135	Verified to be closed	N
1136	Script error, corrected, no further action required	N
1137	Scripts created and verified	N
1138	New PTV provided and script updated, no further action required	N
1139	Tracking SPR only	N
1141	Scripts modified, no further action required	N
1142	None – nominal RWL offloading	N
1145	No ambient (room temperature) limits in HPSDB V27 – use as is	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

Specification	*Test Procedure*	*Agreed at TRR*
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 IST2.	Yes – see AD-1
See section 5.8.13.5 of AD-1 for list of instrument OBCP FDIR to be tested	Additional PACS SAFE OBCP FDIR tested:	Yes – see AD-1

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.

The table below shows the overall flow of the tests:

Date(DoY) & Time UTC	**Event**	**NCR**
017 23:11	Start S/C Power on with lead procedure (IST Start) nominal configuration)	4816 new
018 02:29	IST Start Complete	
018 08:33	S/C in required configuration for first Instrument FDIR OBCP test	4181 recurrence 4823 new
018 09:17	DB_OBCP_H_HIFI_RESET Triggered	4613 recurrence
018 11:08	DB_OBCP_H_PACS_SAFE Triggered	
018 11:23	DB_OBCP_H_PACS_POWER_CYCLE triggered	4817 new 4818 new
018 12:46	DB_OBCP_H_PACS_NORMAL_OFF triggered	
018 13:29	DB_OBCP_H_PACS_IMMEDIATE_OFF triggered	
018 16:31	DB_OBCP_H_SPIRE_OPE_STOP triggered	
018 16:46	DB_OBCP_H_SPIRE_OPE_RESUME triggered	
018 17:04	DB_OBCP_H_SPIRE_DRCU_OFF triggered	4804 & 4805 Recurrence
018 19:05	DB_OBCP_H_SPIRE_OFF_CTRL triggered	
018 21:13	DB_OBCP_H_SPIRE_OFF triggered	4824 new
018 21:53 – 019 00:39	Instrument & S/C Power OFF	
021 16:23	DB_OBCP_H_PACS_POWER_CYCLE triggered (using ACS: HP-2-ASED-SD-0459)	4818 recurrence

Table 4.7-1 Overall Test Flow Summary Timeline for Redundant Instruments

4.7.1 Redundant Instruments FDIR OBCP 18/01/2009

Date(DoY) & Time UTC	**Event**	**NCR**
018 08:33	S/C in required configuration for first Instrument FDIR OBCP (HIFI)	
018 09:17	Triggering of DB_OBCP_H_HIFI_RESET (via DLL)	4613 recurrence
018 09:17:20	5,1 event SDB Unhealthy	
018 09:17:20	5,2 event HIFI non-vital RT invalid	
018 09:17:20	5,1 event OBCP Start 0x130D (HIFI RESET)	
018 09:17:23	Subschedule Status Change 5,1 event	
018 09:17:27	3 x 5,4 events: SDB TC Packet discarded	
018 09:17:33	Hifi Soft Reset 5,4 event reported (0x3001)	
018 09:17:57	5,4 event OBCP_Evt Hifi Off reported (0x3000)	
018 09:18:35	5,1 event OBCP ended (0x130D) Completion of DB_OBCP_H_HIFI_RESET	
End Condition	HIFI OFF	

Table 4.7.1-1 Redundant DB_OBCP_H_HIFI_RESET Timeline

Date(DoY) & Time UTC	Event	NCR
018 11:08	Triggering of DB_OBCP_H_PACS_SAFE via PACS test script	
018 11:08:13	3 x 5,1 PACS Events (2_22) + 3 x 5,2 PACS Exception Report Events (0_4)	
018 11:08:14	2 x TM 1,8 Packets: OBCP not stopped	Expected (ref. closed NCR4463)
018 11:08:14	5,1 Event :OBCP Started	
018 11:08:19	3 x 5,1 PACS Events: (2_22) + 3 x 5,2 PACS Exception Report Events (0_4)	
018 11:08:20	5,1 Event: Subschedule Status Change	
018 11:08:37	5,1 Event: OBCP Ended Completion of DB_OBCP_H_PACS_SAFE	
End Condition	PACS SAFE	

Table 4.7.1-2 Redundant DB_OBCP_H_PACS_SAFE Timeline - Successful

Date(DoY) & Time UTC	Event	NCR
018 11:23	Triggering of DB_OBCP_H_PACS_POWER_CYCLE via CMDU command DCAST185	
018 11:23:35	OBCP Start 5,1 Event	
018 11:23:41	Subschedule Status Change 5,1 event	
018 11:24:44	PACS BOLC OFF 5,4 event reported (0x2001)	
018 11:25:01	PACS OFF 5,4 event reported (0x2000)	
018 11:29:27	Multiple 5,4 Events: SDB TC Packet Discarded	4817 new
018 11:32:01	PACS FPU ON 5,4 event reported (0x2002)	4818 new
018 11:32:25	5,1 event OBCP Ended Completion of DB_OBCP_H_PACS_POWER_CYCLE	

Date(DoY) & Time UTC	Event	NCR
End Condition	PACS SAFE	

Table 4.7.1-3 Redundant DB_OBCP_H_PACS_POWER_CYCLE Timeline

Date(DoY) & Time UTC	Event	NCR
018 12:46	Triggering of DB_OBCP_H_PACS_NORMAL_OFF via PACS test script	
018 12:47:11	Multiple 5,1 PACS Events (2_22) + 5,2 PACS Exception Report Events (0_25)	
018 12:47:12	OBCP Start 5,1 Event	
018 12:47:12	TM 1,8 Packets: OBCP not stopped	Expected (ref. closed NCR4463)
018 12:47:16	Subschedule Status Change 5,1 event	
018 12:47:17	Multiple 5,1 PACS Events (2_22) + 5,2 PACS Exception Report Events (0_25)	
018 12:48:04	PACS BOLC OFF 5,4 event reported (0x2001)	
018 12:48:26	PACS OFF 5,4 event reported (0x2000)	
018 12:48:30	Completion of DB_OBCP_H_PACS_NORMAL_OFF OBCP Ended 5,1 event	
End Condition	PACS OFF	

Table 4.7.1-4 Redundant DB_OBCP_H_PACS_NORMAL_OFF Timeline

Date(DoY) & Time UTC	Event	NCR
018 13:29	Triggering of DB_OBCP_H_PACS_IMMEDIATE_OFF via TM DFL	
018 13:29:11	5,2 Event, SDB PACS Failed TM	
018 13:29:11	5,2 Event, SDB PACS non-vital RT sick TM	

Date(DoY) & Time UTC	Event	NCR
018 13:29:12	OBCP Start 5,1 Event	
018 13:29:14	Subschedule Status Change 5,1 event	
018 13:29:49	Completion of DB_OBCP_H_PACS_IMMEDIATE_OFF OBCP Ended 5,1 event	
End Condition	PACS OFF	

Table 4.7.1-5 Redundant DB_OBCP_H_PACS_IMMEDIATE_OFF Timeline

Date(DoY) & Time UTC	Event	NCR
018 16:31:56	SPIRE_R_Observation_Anomaly (5,2)	
018 16:31:56	R_VM_STACK_UNDERFLOW (5,1) received	
018 16:31:57	CdmuAsw Event 5-1 OBCP Started 0x1106 (5,1) received	
018 16:31:58	5,1 Event, Subschedule status changed	
018 16:32:00	OBCP_Evt Spire Op Stop (5,4) 0x1003 received	
018 16:32:04	CdmuAsw Event 5-1 OBCP Ended 0x1106 (5,1) received	
End Condition	SPIRE OPS (0xFFFF) mode – simulated science	

Table 4.7.1-6 Redundant DB_OBCP_H_SPIRE_OPE_STOP Timeline

Date(DoY) & Time UTC	Event	NCR
018 16:46:30	SPIRE_R_Observation_Corrected_Anomaly (5,2) 0xC110 received	
018 16:46:30	R_VM_STACK_UNDERFLOW (5,1) received	
018 16:46:31	CdmuAsw Event 5-1 OBCP Started 0x1107 (5,1) received	
018 16:46:33	CdmuAsw Event 5-1 Subschedule Status Changed (5,1) received	
018 16:46:35	OBCP_Evt Spire Op Resume (5,4) 0x1004 received	
018 16:46:39	CdmuAsw Event 5-1 OBCP Ended 0x1107 (5,1) received	
End Condition	SPIRE OPS mode (0xFFFF, simulated science)	

Table 4.7.1-7 Redundant DB_OBCP_H_SPIRE_OPE_RESUME Timeline

Date(DoY) & Time UTC	Event	NCR
018 17:04	Triggering of DB_OBCP_H_SPIRE_DRCU_OFF by	
018 17:04:24	SPIRE_R_DRCU_Anomaly (5,2) received	
018 17:04:24	R_VM_STACK_UNDERFLOW (5,1) received	
018 17:04:26	CdmuAsw Event 5-1 OBCP Started 0x1102 (5,1) received	
018 17:04:28	CdmuAsw Event 5-1 Subschedule Status Changed (5,1) received	
018 17:04:30	R_No_DCU_Response_Error (5,1) received	
018 17:04:30	SPIRE_R_ALARM_LSDCU_DEAD (5,4) received - expected (See RD-6)	
018 17:04:30	SPIRE_R_Observation_Anomaly (5,2) received	4804 recurrence
018 17:04:30	R_No_MCU_Response_Error (5,1) received - expected (See RD-6)	
018 17:04:30	SPIRE_R_ALARM_LSMCU_DEAD (5,4) received - expected (See RD-6)	
018 17:04:30	SPIRE_R_Observation_Anomaly (5,2) received	4804 recurrence
018 17:04:30	R_SPIRE_DRCU_Anomaly (5,2) received	
018 17:04:30	R_No_SCU_Response_Error (5,1) received - expected (See RD-6)	
018 17:04:30	SPIRE_R_ALARM_LSSCU_DEAD (5,4) received - expected (See RD-6)	
018 17:04:30	R_SPIRE_Observation_Anomaly (5,2) received	4804 recurrence
018 17:04:31	TM 1,8 Packets: OBCP not stopped	Expected (ref. closed NCR4463)
018 17:04:31	R_SPIRE_DRCU_Anomaly (5,2) received	
018 17:04:31	CdmuAsw Event 5-1 OBCP Started 0x1106 (5,1) received	

Date(DoY) & Time UTC	Event	NCR
018 17:04:32	OBCP_Evt Spire DRCU Off (5,4) 0x1000 received	
018 17:04:32	CdmuAsw Event 5-1 OBCP Ended 0x1102 (5,1) received	
018 17:04:35	OBCP_Evt Spire Op Stop (5,4) 0x1003 received	4804 recurrence
018 17:04:39	CdmuAsw Event 5-1 OBCP Ended 0x1106 (5,1) received	
End Condition	SPIRE DRCU OFF, DPU ON	4805 recurrence

Table 4.7.1-8 Redundant DB_OBCP_H_SPIRE_DRCU_OFF Timeline

Date(DoY) & Time UTC	Event	NCR
018 19:05	Triggering of DB_OBCP_H_SPIRE_OFF_CTRL by SPIRE script	
018 19.05.23	CdmuBsw Event 5-2 SDB SPIRE Failed TM	
018 19.05.23	CdmuBsw Event 5-2 SDB SPIRE non-vital RT Sick TM	
018 19.05.24	CdmuAsw Event 5-1 OBCP Started 0x1104 (5,1) received	
018 19.05.28	CdmuAsw Event 5-1 Subschedule Status Changed (5,1) received	
018 19.05.53	OBCP_Evt Spire Shutdown (5,4) 0x1001 received	
018 19.05.56	CdmuAsw Event 5-1 OBCP Ended 0x1104 (5,1) received	
End Condition	SPIRE OFF	

Table 4.7.1-9 Redundant DB_OBCP_H_SPIRE_OFF_CTRL Timeline

Date(DoY) & Time UTC	Event	NCR
018 21:13	Triggering of DB_OBCP_H_SPIRE_OFF by CDMU command	4824 new
018 21:13:36	CdmuAsw Event 5-1 OBCP Started 0x1103 (5,1) received	
018 21:13:38	CdmuAsw Event 5-1 Subschedule Status Changed (5,1) received	
018 21:13:48	OBCP_Evt Spire Off (5,4) 0x1001 received	
018 21:13:50	CdmuAsw Event 5-1 OBCP Ended 0x1103 (5,1) received	
End Condition	SPIRE OFF	

Table 4.7.1-10 Redundant DB_OBCP_H_SPIRE_OFF Timeline

4.7.2 PACS Power Cycle OBCP FDIR (NCR4817) 21/01/2009

Date(DoY) & Time UTC	**Event**	**NCR**
021 16:23	Triggering of DB_OBCP_H_PACS_POWER_CYCLE via CMDU command DCAST185	
021 16:23:01	OBCP Start 5,1 Event	
021 16:23:15	5,1 Event from ACMS	
021 16:23:39	5,1 Event from ACMS	
021 16:23:55	PACS BOLC OFF 5,4 event reported (0x2001)	
021 16:24:18	PACS OFF 5,4 event reported (0x2000)	
021 16:28:31 – 16:30:36	6 x 5,1 events reported by PACS (3_32776, 0_20, 2x 5_28, 0_14 & 0_10)	
021 16:31:12	5,4 event, PACS FPU ON reported (0x2002) – Not clear why there should be a 5,4 event when nominal switch on of a unit has occurred.	4818 Recurrence
021 16:31:37	5,1 event OBCP Ended Completion of DB_OBCP_H_PACS_POWER_CYCLE	
End Condition	PACS SAFE	

Table 4.7.2-1 Redundant DB_OBCP_H_PACS_POWER_CYCLE Timeline

4.8 Summary conclusion

All FDIR were executed as planned. A number of NCRs & SPRs were raised, one (NCR4817) blocked successful completion of PACS Power Cycle OBCP. On analysis this NCR was identified as a script error and was repeated successfully in a standalone test (see section 6.7 Attachment 3).

There were two other recurring NCRs 4613 (HIFI Hard Reset instead of Soft) and 4805 (Nominal TM stops after SPIRE DRCU OFF) potentially blocking successful completion of this part of IST2.

NCR4805 was identified as nominal behaviour requiring updates to SPIRE specific documentation.

Retest of HIFI Soft Reset to closeout NCR4613 could only be performed after update of HIFI ICU Application S/W to release 5.9. It was agreed that repeat of this OBCP execution was only required on nominal or redundant instrument units. The retest for NCR closeout was therefore performed on in HIFI nominal configuration (see RD-6 for details).

The remaining open NCRs and SPRs were considered minor and not deemed as blocking for successful completion of the test.

4.9 Open issues

Those NCRs still open that were raised during the test.

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 (IST2 Redundant Instrument FDIR OBCP):

2009_01_17_23_02_hercdmu_hpws23_REALTIME_INST_FDIR

Session 2 (ACS RD- for PACS Power Cycle NCR4817 Closeout):

2009_01_21_02_03_hercdmu_hpws23_REALTIME_NomModRo1

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 electonic 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 electonic 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 Logbook Extracts from Test (Redundant Instruments FDIR OBCP 18/01/2009)

Date	**17/01/2009**								
Operator	S. Elsley (night)								
Test Director	S. Mooney								
Test Conductor	C. Much								
QA	R. Goossens (night)								
EGSE	E. Hanka (night)								
Test Case	**Instrument FDIR, part 2**								
OBSW	CDMS 3.8.0.1, ACMS 4.0								
HPSDB	HP-2-ASP-LI-1441 issue 27								
HPCCS Release	HPCCS_2.0-1317								
Test Environment / Version	IST_2_TP_0254_iss1_Instr_FDIR_OBCP_END_001								
Session ID	2009_01_17_23_02_hercdmu_hpws23_REALTIME_INST_FDIR								
Purpose of Test	Regression								
	Debugging								
	NCR Investigation								
	Calibration/Maintenance								
	Unit Integration Testing								
	Dry / Formal								X
	S/W upload :	~~PACS~~	~~SPIRE~~	~~HIFI~~	~~CDMS~~	~~ACMS~~	~~CCS~~	~~HPSDB~~	

Time/Date UTC	Test Procedure / Step / Script / Command / Event / Anomaly		NCR'S/ SPR's
	Sat January 17th 2009		
		Note: Despite the statement on the Open work list that the HIFI cooler was switched on ("Ian tonight" it says) We found the cooler switched-off. Early team will be informed about this so they can arrange it (looks like one of the Cooler outlet pipes has to be put in position first)	**ACTION FOR EARLY SHIFT**
23:02	Start up the session		

23:11	IST_START		
23:19	TMTC DFE drops out (although Ian said it was rebooted by him)	Reconnecting didn't help, it dropped out again; decided to do a TMTC-PC Reboot in the cleanroom	
23:50	The PC reboot didn't help, connection still drops	Next step: do a complete reboot and power-up , this time including the DFE rack, i.a.w. S/c Checkout User manual section 7.1.2.	
	Sunday January 18th 2009		
00:03	This worked so we continue with IST_START		
00:11	And then a reconfiguration occurred, PMA and PMB are both on now	So maybe we cheered too soon …..	**NCR#4816**
00:23	Perform PVS#2 to open LCL's, then do a s/c switch-off		**PVS2 TP-0134**
00:27		Next part of recovery plan: 1. Disable both RM's 2. Switch-off PM_A (as we seem to be now on PM_B) 3. Set PM in USE as PM_B ~~4. Enable RM_A~~ not done as Switchover to PM_B didn't work ~~5. Enable RM_B~~	**PVS#3 TP-0134**
00:48	Start s/c power-down	To see if we can switch off PM_B and then switch-off the S/c	**PVS#3 TP-0134**
00:54	POWER_OFF HER IST finished	Seems to have gone ok, PM_B was switched-off as hoped (I mean as Expected)	
01:00	S/c powered off		
01:03	Restart from scratch….. IST_START	Assuming that we put the s/c in a " cleaner" state compared to the previous switch-on (there seemed to be some problems with switching off during the previous session which most likely caused our problems) we decided to do a new IST_START now	
01:13	We passed the point now where we encountered the reconfiguration and ….. nothing happened !!!! We're ok now !!!		
01:50	Next problem : couldn't connect to ACMS_SCOE ("SCOE probably isn't running" said the message)	…we thus paid another visit to the cleanroom to reboot the ACMS SCOE (despite the fact that Ian rebooted everything)	
01:55	Continued IST_START		
02:43	IST_START finished; S/c powered-up		
02:43	Babysitting from now on …..		

03:20	John just called to say he has the same that Andy has (whatever that is) and that he cannot attend the early shift as he is attached to the toilet!		
05:00	shifthandover to early crew….. except for QA		
	NB HIFI Cooling cart is OFF		
05:14	Start with Redundant Instrument FDIR OBCP		
05:22	Script INST_FDIR_R needs modification for CDMS 3.8		**SPR#1135**
05:24	Execute PVS#2 TP-0254	NCR-4181 workaround	**PVS#2 TP-0254**
05:33	Execute PVS#2 TP-0254 part 2	Start HIFI_ALL_SubscribeParams	
06:47	Connection to HPACSEGSE dropped		
06:53	Connection to HPACSEGSE dropped again	PACS EGSE rebooted and CCS handler restarted	
	Update Instrument FDIR REQ SCRIPTS		**PVS#3 TP-0254**
07:12	NC4181 reoccurrence during LCU table load		
	No script for redundant SIM SCIENCE		**PVS#4 TP-0254**
07:20	Switched on HIFI Cooler		
07:47	TM HD249194 (HL_COMMANDABLE) is fault Expected since LO not in operational temp range	**(Stijn will supply additional info for NCR)**	**NCR required!** **Prisma offline**
07:57	HIFI runtime error received after disabling the LO when the SCBP is set to a non HIFI one		
08:30	All instruments switched on, starting REDUNDANT INSTR FDIR OBCP now		
08:37	IST status reports error for LV status (FDIR OBCP) IST2		**SPR#1136**
09:17	HIFI OBCP triggered successfully, HIFI off now		
09:17	Testing OBCP HIFI soft/hard reset		
09:20	Re-occurrence of NCR-4613		
09:30	Replacement troops for QA arrived; The late Night shift is relieved by the early Late shift	And finally - the cavalry comes over the hill! Charge of the Dave Brigade led by Wild Dave Custer	
09:28	Reoccurrence of SPR#1107		
10:33	Script (ref: SPR 237) has been created to disable HIFI LO. PVS#5 is to check-in the script so it can be run.	Associated with SPR 237, which was raised previously to create this script.	**PVS#5 TP-0254**
10:34	SPR raised to automate disabling of HIFI LO		**SPR#1137**

10:38	SPR#1137 is now closed		SPR#1137
10:56	SPR raised to update PTV checksum for HIFI delivery 1.29.1		SPR#1138 NCR 4823
10:58	SPR#1138 is now closed		SPR#1138
11:06	Testing OBCP PACS SAFE		
11:13	HIFI tests are now finished		
11:30	PACS Power Cycle OBCP failed on the redundant side.	**(Stijn will supply additional info for NCR)**	NCR required! Prisma offline
11:31	Testing OBCP PACS Power Cycle		
11:32	A PACS error event received in the form of the power cycle OBCP, description of event is (OBCP_EVT PACS FPU ON)	Database description incorrect, MIP to be updated. **(Stijn will supply additional info for NCR)**	NCR required! Prisma offline
11:51	We have patched the temperature limits of the HIFI laser to 31°C	(Already in procedure, so no PVS required.)	
11:57	Correct, Enable, Disable instrument FDIR script.		SPR#1139
12:29	Power cycle OBCP PACS failure recovery.		PVS#6 TP-0254
12:47	Testing OBCP PACS NORMAL OFF		
14:31	PTV_ResetTCSchdl flag not clearing	Re-occurrence of NCR 4181?	
14:46	*The following scripts were updated and on-line patched;* Z010999MCVT137_IST_SPIRE_FDIR_formal.tcl Z010999MCVT164_IST_SPIRE_FDIR_formal_R.tcl	Ref:SPR#1107 raised on 14-01-2009	
14:48	Command DC83F170 not sent due to PTV check failure		PVS#7 TP-0254
15:00	HIFI cooling ducting re-positioned for optimum cooling		
15:10	Add TM ver of PTV Flag DDCOE170 before sending DC83F170		SPR#1141 TP-0254
15:47	PACS testing is now complete, we will start with SPIRE redundant		
15:56	RE-occurrence of SPR#1136, LV		
16:55	Typos in Procedure	A PVS created to capture the various typos existing in procedure.	PVS#8 TP-0254

17:05	OBCP event, SPIRE OP Stop		**Re-occurrence NCR 4804**
18:24	The RWL's have spun down to zero whilst in SCM.	PVS#9 raised to run operator note 49 SPR#1142 raised against ACMS_CONFIG25.tcl	**PVS#9 TP-0254 SPR#1142**
18:53	RWL's wheels have spun up to 'normal' speed, we are now back in SCM and we will continue with test.		
19:45	Test step 244, Applied jamming signal to CDMU SCOE, no effect		
19:50	Test step 244, Applied jamming signal to CDMU SCOE, no effect		
19:50	We have stopped recording Bus Telemetry on CDMU SCOE		
20:00	Reboot CDMU SCOE	CDMU SCOE recovery	**PVS#10 TP-0254**
20:48	Bus Jamming doesn't work from CDMU SCOE (test step 244)	**(Simon will supply additional info for NCR)**	**NCR 4824**
21:15	Bus Jamming doesn't work for SPIRE_OFF OBCP	PVS#11 raised to define how to manually send CDMS command to directly trigger the OBCP.	**PVS#11 TP-0254**
21:15	Shift handed over to Night Team		
21:53	FDIR completed for SPIRE Redundant		**SPR#1143**
22:00	HIFI external Cooler switched off		
22:33	INSTR_FDIR RED test finished; All instruments are off now, IEGSE's disconnected		
22:35	Start with S/c power-down via IST_END		
Monday January 19th 2009			
00:39	IST_END finished; S/c powered off	Since we have no EGSE support the TAG updating is left for the early shift.	
07:30	TAG Update has been done		

6.5.2 Logbook Extracts from Test (PACS Power Cycle OBCP FDIR (NCR4817) 21/01/2009)

Test Case	Nominal Mode Robustness								
OBSW	CDMS 3.8.0.1, ACMS 4.0								
HPSDB	HP-2-ASP-LI-1441 issue 27								
HPCCS Release	HPCCS_2.0-1317								
Test Environment / Version	IST_2_TP_096_iss4_NMR1_END								
Session ID	2009_01_21_02_03_hercdmu_hpws23_REALTIME_NomModRo1								
Purpose of Test	Regression								
	Debugging								
	NCR Investigation								
	Calibration/Maintenance								
	Unit Integration Testing								
	~~Drv~~ / Formal								X
	S/W upload :	~~PACS~~	~~SPIRE~~	~~HIFI~~	~~CDMS~~	~~ACMS~~	~~CGS~~	~~HPSDB~~	

Time/Date UTC	Test Procedure / Step / Script / Command / Event / Anomaly		NCR'S/ SPR's
	Wednesday January 21st 2009		
02:00	Temperature: 20°C, Humidity: 51%		
02:16	Commenced IST_START		
02:35	Step 5, Error, TOPE CORBA, Command injection failed, (TMTC DFE) Script connected to TMTC DFE at 02:36, lost connection at 02:37	IST_START script quit, script was not resumable.	
02:47	Started IST_START (2nd attempt)		
03:52	Page 105, step 7, ACMS_CONFIG failure, star tracker simulator. Bing re-booted star tracker, but it does not display star map.		
04:50	Will has arrived, star tracker re-booted, continue with switch on		
06:00	SC switched ON completed		

06:20	Constraint Sheet on window is out of date, this sheets states Do not Separate. Test requires SC Separation. Spoke with Floor Manager (M Mueller) via phone (07:20 Local) and has given verbal agreement to continue with test and will provide a new sheet when he arrives at work.	Constraint Sheet updated @ 06:50	
06:20-15:09	IST2 NOM MODE ROBUSTNESS TEST		
15:09	**PACS NCR Investigation for NCR4812 & NCR4817**	As per ACS HP-2-ASED-SD-0459 issue 1	**PVS#5 TP-0196**
15:45	PACS nominal powered ON – no reoccurrence of NCR 4812	NCR remains open	
15:58	PACS nominal powered OFF		
16:08	PACS redundant powered ON		
16:14	HIFI redundant powered ON – ICU only		
16:21	SPIRE redundant powered ON		
16:32	PACS redundant power cycle OBCP correctly executed	This closes NCR 4817	
16:39	PACS redundant powered OFF		
16:45	HIFI redundant powered OFF		
16:49	SPIRE redundant powered OFF		
16:50	**End of PACS NCR Investigation for NCR4812 & NCR4817**		
17:08	Bus Monitor stopped for data retrieval		
17:20	Bus Monitor restarted		
17:32	IST_END START		
17:56	OOL for cryo valves: Arm_V106, Arm_V505: they went armed when CCU B went off Arm_V504, Arm_V103: went armed when CCU A went off	Cryo eng. contacted, possible reoccurrence of known NCR (to be checked). Safe to continue with s/c switch off, report any other valves anomaly. 23/01/09 – clarified by Felix, reoccurrence of (closed) NCR3997, due to missed implementation of fix (specific TC for CCU monitoring) into SVT2 s/c switch on procedure. No new NCR.	**NCR3997 reoccurrence**
18:15	During SetSurvivalReg lot of CdmuBsw 5-4 event alarms		**SPR1150 raised**

18:16	Thermistor parameters TM064601, TM112601, TM160601 out of limits	Expected, limits in HPSDB not set for ambient temperature	
18:52	IST_END END, S/C OFF		

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.:	Date:	Author:	Classification:
1107	14/1/09	S. Ilsen	Minor

Test:	Session ID:	Subsystem:
FDIR OBCP	2009_01_14_00_08_herodmv_hpws23_FDIR_OBCP	8

Title: PTV problem when ~~[illegible]~~ reset onboard schedule

Type: (Script/Picture /Test structure):	Name:	Version:
	Z010999MCUT137_IST_SPIRE_FDIR_formal.tcl 164 _R	1.11

Problem description (to be filled by Test conductor (TC) / Test operator (TO)):

Time (UTC): Step no:

TC = DC58F170 PTV pac = DDC0C170

~~[illegible]~~ Reset onboardschedule failed ~~[illegible]~~ PTV check.

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

use vez_send "" "DDC0C170" "1" "1" "FALSE" "0"

add delay

+ check MiFi + PACS (AND REDUNDANT)

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:
15/1/09	A. Polvain

Implemented: ☑ Code inspected: ☑

Confirmed by Test Conductor(s) / Experts to check-in: ☑

Date:	Name:
15/1/09	A. Polvain Updated 18/01/09 however still problem with check of TM.

Close out (Functional team member & QA): ~~[illegible]~~

Verified during test ID: Can be closed use as as (no further test.

2009_01_17_~~[illegible]~~3_02_herodmv_hpws23_REALTIME_INST_FDIR

Date:	Version:	Func. Team Name:
18/01/09	1.14 1.5 ?	HAMER

Date:	QA:

SPR Formsheet

Nr.: 1135	Date: 18/01/09	Author: S. Ilsen	Classification: Minor
Test: FDIR OBCP.	Session ID: 2009-01-17-23-02-hercdmu-hpus23-REALTIME-INST-FDIR		Subsystem: /

Title: Modify FDIR R script for CDMS 3.8

Type (script/picture/test structure):	Name: 2010999 MCUT169_IST_INST_FDIR_R.tcl	Version: 1.2

Problem description (to be filled by Test conductor (TC) / Test operator (TO)):

Time (UTC): Step no:

update DC140160

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): Same Session

Date: 18/01/09	Participants: S. Ilsen

Implemented: ☑ Code inspected: ☑

Confirmed by Test Conductor(s) / Experts to check-in: ☑ 1.3

Date: 18/01/09	Name: S. Ilsen

Close out (Functional team member & QA):

Verified during test case / ID: 2009-01-17-23-02-hercdmu-hpus23-REALTIME-INST-FDIR

Date: 18/01/9	Version: 1.3	Func. Team Name: S. Ilsen
Date:	QA:	

SRB:

SPR Formsheet

Nr.: 1136	Date: 18/01/09	Author: S. Ilsen	Classification: Minor
Test: FDIR OBCP IST2	Session ID: 2009-01-17-23-02-Rencontre-Apus23_REALTIME-INST-FDIR		Subsystem: /

Title: IST status reports error for LV status (FDIR OBCP) IST2

Type (script/picture/test structure):	Name: 2010999MCUT1T3_IST_STATUS.tcl or FDIR calling script	Version: 1.72

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

LV status not ok. To be checked with ACMS expert.

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

change IST-status to A ON, B ON → chapter 5.8.13

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): IST3 ?

Date: 19/01/09	Participants: S. Ilsen

Implemented: ☑ **Code inspected:** ☑

Confirmed by Test Conductor(s) / Experts to check-in: ☑ 1.73

Date: 19/01/09	Name: S. Ilsen

Close out (Functional team member & QA):

Verified during test case / ID:

Date:	Version:	Func. Team Name:
Date:	QA:	

SRB:

SPR Formsheet

Nr.: 1137	**Date:** 18/01/09	**Author:** S. Ilsen	**Classification:** Minor
Test: /	**Session ID:** /		**Subsystem:** HiFi

Title: Add supts to safely disable the HiFi LO

Type (script/picture/test structure):	**Name:** H102999SVT038-ASDGENHiFi-Disable-LO-Warm-P.tcl " 33 A."	**Version:** 1.1

Problem description (to be filled by Test conductor (TC) / Test operator (TO)):

Time (UTC): **Step no:**

add supts (on input from HiFi)

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): FDIR OBCP

Date: 18/01/09	**Participants:** S. Ilsen

Implemented: ☑ **Code inspected:** ☑

Confirmed by Test Conductor(s) / Experts to check-in: ☑ 1.2 P 1.3 R

Date: 18/01/09	**Name:** S. Ilsen

Close out (Functional team member & QA):

Verified during test case / ID: 2009-01-17 23:02 herdmw_hpus23_REALTIME_INST_FDIR

Date: 18/01/09	**Version:** 1.2 P 1.3 R	**Func. Team Name:** S. Ilsen
Date: 18-1-2009	**QA:** D. Lamonty	

SRB:

SPR Formsheet

Nr.: 1138	Date: 18/1/08	Author: S. Ilsa	Classification: Minor
Test: FDIR dbcp	Session ID: /		Subsystem: MiFi

Title: update PTU checksum for Higi delivery 1.29.1

Type (script/picture/test structure):	Name: MiFiST_ASED_PatchTemplimits.tcl MiFiST_ASED_PatchPTUchecksum.tcl	Version: 1.10 1.8

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

checksum not inline with installed ones on Higi IEQSE

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): ~~Higi 90~~ N/A, load of scripts

Date: 18/01/09	Participants: S. Ilsa

Implemented: ☑ **Code inspected:** ☑

Confirmed by Test Conductor(s) / Experts to check-in: ☑ 1.11 1.9

Date: 18/01/09	Name: S. Ilsa

Close out (Functional team member & QA):

Verified during test case / ID: N/A, load of updated script

Date: 18/01/09	Version: 1.11 1.9	Func. Team Name: S. Ilsa
Date: 18-01-2009	QA: D. Lamonby	

SRB:

SPR Formsheet

Nr.: 1139	**Date:** 18/1/09	**Author:** S. Ilsen	**Classification:** Minor
Test: FDIR OBCP	**Session ID:** 2009_01_17_23_02 - hercdmw - hpws23 - REALTIME_INST_FDIR		**Subsystem:** FDIR
Title: Correct enable/disable instrument FDIR scripts			
Type (script/picture/test structure):	**Name:** See list		**Version:**

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

Engineering command parameters not entered correct "ENG" missing

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

update all scripts with "ENG"

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): FDIR OBCP

Date: 18/1/09	**Participants:** S. Ilsen

Implemented: ☑ **Code inspected:** ☑

Confirmed by Test Conductor(s) / Experts to check-in: ☑

Date: 18/1/09	**Name:** S. Ilsen

Close out (Functional team member & QA): PACS primary tested → ok! Redundant? SPIRE redundant tested OK

Verified during test case / ID:

Tracking SPR only.

Date: 18/01/09	**Version:** See Attached	**Func. Team Name:** HAMER
Date:	**QA:**	

SRB:

SPR Formsheet

Nr.: 1141.	Date: 18/01/09	Author: S. HAMER	Classification:
Test: IST2 INST FDIR	Session ID:		Subsystem: CDMS

Title: Add TM ver of FtU flag DDCOE170 before sending DC83F170

Type (script/picture/test structure):	Name: 20109999MCUT137_IST_SPIRE_FDIR_formal 164 SPIRE_FDIR_formal_R	Version:

Problem description (to be filled by Test conductor (TC) / Test operator (TO)):

Time (UTC): **Step no:**

Also Update 20109999MCUT134_IST_HFI_FDIR
~~2~~: — — -162 - — — FDIR-R
~~2~~: — — -135 - — — PACS_FDIR
2: — — — 163 - — — PACS_FDIR_R

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

As per title

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): 18/01/09 IST2 INST FDIR for SPIRE

Date: 18/01/09	Participants: HAMER

Implemented: ☒ **Code inspected:** ☒

Confirmed by Test Conductor(s) / Experts to check-in: ☒

Date: 18/01/09	Name: HAMER

Close out (Functional team member & QA): OK for SPIRE redundant

Verified during test case / ID: Tracking SPR only

Date: 18/01/09	Version:	Func. Team Name: HAMER
Date:	QA:	

SRB:

SPR Formsheet

Nr.: 1142	Date: 18-1-2009	Author: S. HAMER	Classification: MINOR
Test: INSTRUMENT FDIR PART II	Session ID: 2009_01_17_23_02_hercdmu_hpws23_REALTIME_INSTR_FDIR		Subsystem: ACMS

Title: RWL's HAVE SPUN DOWN TO ZERO

Type (script/picture/test structure):	Name:	Version:
	ACMS_CONFIG25.tcl	

Problem description (to be filled by Test conductor (TC) / Test operator (TO)):

Time (UTC): 18:24 **Step no:** 219

During Instrument FDIR part II tests the RWL's have spun-down to zero speed.

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

Reject. This is expected behavior from the ACMS. The Wheels autonomously unloaded (RWL3 > 22.5 Nms)

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: 25.01.2009	Participants: MTH

Implemented: ☐ **Code inspected:** ☐

Confirmed by Test Conductor(s) / Experts to check-in: ☐

Date:	Name:

Close out (Functional team member & QA):

Verified during test case / ID: ---

Date:	Version:	Func. Team Name:
Date:	QA:	

SRB:

SPR Formsheet

Nr.: 1145	Date: 18/01/09	Author: S. HAMER	Classification: MINOR
Test: IST 2 INST FDIR RED	Session ID:		Subsystem: TCS

Title: OOLS ON HIFI TCS 20 & 39 Reported NLR4758? HIGH HIGH after Hifi Mark Units OFF sent.

Type (script/picture/test structure):	Name:	Version:

Problem description (to be filled by Test conductor (TC) / Test operator (TO)):
Time (UTC): 18/01/09 22:03 **Step no:** TP-0257 265
OOLS ON: DEA9E190, DEA 8B170
TM108601, TM060601, TM064601, TM112601, TM156601, TM160601

Proposed solution (to be filled by TC / TO):
This is expected based on the current delivery of HPSDB where the test limits are not for ambient room temperature conditions.

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: ☐ **Code inspected:** ☐

Confirmed by Test Conductor(s) / Experts to check-in: ☐

Date:	Name:

Close out (Functional team member & QA):

Verified during test case / ID:

Date:	Version:	Func. Team Name:
Date:	QA:	

SRB:

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 (IST START) for Redundant Instrument FDIR OBCP

EADS astrium

Herschel Integrated Satellite Test Procedure: Leading Procedure

Herschel

As Run Copy for Instr. FDIR on 17/18-01-09

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

2009_01-17-23_02_heredmu_hpws23_REALTIME_INST_FDIR

CI-No: 100000 / 120000

Prepared by:	Functional Team	Date: 14/12/08
Checked by:	C. Much C. Much	20/12/2008
Product Assurance:	J. Hall J. Hall	6/01/2009
Configuration Control:	W. Wietbrock W. Wietbrock	08/01/2009
TASF Engineering	F. Chatte F. Chatte	07/01/2009
TASF Test Director	S. Mooney S. Mooney	06/01/2009.
Project Management:	Dr. W. Fricke P. F.	7.01.09
Project Management	Denis Montet LELIEVRE	7.01.09

Distribution: See Distribution List (last page)

Copying of this document, and giving it to others and the use or communication of the contents there-of, are forbidden without express authority. Offenders are liable to the payment of damages. All rights are reserved in the event of the grant of a patent or the registration of a utility model or design.

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	

			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 Rename Chapter 7 as IST Test Create new subchapters 7.1 HPCCS configuration for IST Test 7.1.1 Apply Tag on test files	
3	17.04.08		Update IST START procedure according to the AS RUN procedure for Nominal Mode Robustness (minor changes), 4.3.1 & 4.3.2 to include SCOE Sk01J04 and to correct hcu connector ident Typo's 7.2.1 Insert IST Start overview test flow diagram 7.2.2 update table 5.8.12 Nom Mode Robustness table to be i.a.w. the IST Specification	
4	24.04.08		Update IST START procedure according to the AS RUN procedure for minor updates, Include step 21 in Section 7.2.4 - start a CCU log file to monitor temperature TLM's	
5	24.07.08		Update IST START procedure according to the AS RUN procedure for minor updates, Step added to startup a session on the CCS Lite Including Annex E to adjust CCS Time.	
6	24.08.08		Configuration Table update for Test Case 5.8.4.6 IST GUI Picture update Annex E – User logon change (su now root)	

7	14.12.08		Section 1.2 – IST Flow updated Step to checked ACMS config file added to section 7.2.3 SPR comment updates to section 7.2.4 Step36 added at pag.97 (Open LVs) AnnexD – Operation Notes Summarised	

Table of Content

1 SCOPE 8
1.1 Objective 9
1.2 Flow 10
2 DOCUMENTS 12
2.1 Applicable Documents 13
2.2 Reference Documents 14
2.3 Other Documents 15
3 REQUIREMENTS TO BE VERIFIED 16
4 CONFIGURATION 17
4.1 Hardware Configuration 18
4.2 SW Configuration 20
4.3 SCOE Cables Connection 21
4.3.1 SCOE cable connection for "RMS" 22
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" 29
4.3.3 SCOE cable connection for" Launch Clean Run" 36
5 CONDITIONS 43
5.1 Personnel 44
5.2 Environmental 45
5.3 General Precautions and Safety 49

5.3.1 General Safety Requirements, Precautions 50
5.3.1.1 Instrument specific safety requirements and precautions 52
5.3.2 ESD constraints 53
5.3.3 Grounding Configuration 54
5.3.4 Test Equipment Calibration and Performances 55
5.3.5 Special QA Requirements 56

5.4 GSE 57
5.4.1 MGSE 58
5.4.2 CVSE 59
5.4.3 EGSE 61
5.4.3.1 EGSE Hardware Configuration 62
5.4.3.2 EGSE User Software 64
5.4.4 OGSE 65
5.4.5 Special Equipment 66
5.4.5.1 Cooling device 67

6 VERIFICATION REQUIREMENTS AND TEST CRITERIA 68

7 IST TEST 69

7.1 HPCCS Configuration for IST Test 70
7.1.1 Apply Tag on test files 71
7.1.2 Start test session on HPCCS 72

7.2 IST START for Spacecraft configuration 73
7.2.1 Diagram Overview 74
7.2.2 IST Configuration Table 75
7.2.3 Initialisation 78
7.2.4 IST Start Step by Step Procedure 81
7.2.4.1 IST_START_SSMM Procedure 100
7.2.4.2 ACMS Configuration Procedure 104

7.3 IST Test Case 109

7.4 IST END Procedure 111
7.4.1 ACMS SCM to OCM transition for power off 119

8 SUMMARY SHEETS 121

8.1 Procedure Variation Summary 122
8.2 Non Conformance Report (NCR) and SPR Summary 123
8.3 Sign-off Sheet 123
ANNEX B: SCRIPT HIERARCHY 125
ANNEX C: SESSION RECORD 127
ANNEX D: APPLICABLE OPERATION NOTES 128
ANNEX E: CCS TIME ADJUSTMENT NOTES 129

Table of Figures

None

List of Tables

Table 8.1-1: Procedure Variation Sheet 122
Table 8.2-2: NCR/SPR Record Sheet 123

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 a 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, the tests listed shall be performed in He I condition.

IST 1

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

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

- **He II**
  - Instruments commissioning and performance verification
  - CDMS management
  - DTCP worst case scenario
  - Reference Mission Scenario

IST 1.5

- Launch phase, separation and post separation
- Satellite Commissioning
- ACMS commissioning
- Launch sequence robustness
- NOM mode robustness
- Mode Transitions

IST 2

- Launch Clean Run
- S/C Reconfiguration
- NOM mode robustness

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	PT-CMOC-OPS-TN-6603
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.l.	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
		Herschel		
EGSE	CCS	1		
	CCS lite	1		
	TM/TC DFE	1		
	CDMU SCOE	1		
	ACMS SCOE	1		
	TT&C SCOE	1		
	POWER SCOE	1		
	CCU SCOE	1		
IGSE	**HIFI IGSE**	1		
	PACS IGSE	1		
	SPIRE IGSE	1		
PCS	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
CDMS	CDMU	1+1		
ACMS	ACC	1+1		
	RWA	3+1		
	GYRO	3+1		
	STR	2		
	CRS	2		
	AAD	1+1 internal red		
	SAS	2+2 internal red		
TT&C	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		
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	
	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 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
SKIN-03	TTC Panel				
	Connector Function	Skin Connector	S/C unit	SCOE CABLE	Flight Connector
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				
	Connector Function	Skin Connector	S/C unit	SCOE CABLE	Flight Connector
	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
SKIN-04	ACMS Panel (RWE)				
	Connector Function	Skin Connector	S/C unit	SCOE CABLE	Flight Connector
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	
	UMBILICAL				
	Connector Function	Connector	S/C unit	SCOE CABLE	
	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

		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:		

4.3.2 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	✓

				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 ✓
SKIN-03	TTC Panel				
	Connector Function	**Skin Connector**	**S/C unit**	**SCOE CABLE**	**Flight Connector**
SKIN-03	Test point TC + protection jumper EPC1	SK03J01	XPND1/EPC1		~~Plastic cap~~ Flight (See note1)
SKIN-03	Test point TC + protection jumper EPC2	SK03J02	XPND2/EPC2		~~Plastic cap~~ Flight (See note1)
	RF LINK				
	Connector Function	**Skin Connector**	**S/C unit**	**SCOE CABLE**	**Flight Connector**
	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 ✓
SKIN-04	ACMS Panel (RWE)				
	Connector Function	**Skin Connector**	**S/C unit**	**SCOE CABLE**	**Flight Connector**
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 ✓	
	UMBILICAL				
	Connector Function	**Connector**	**S/C unit**	**SCOE CABLE**	
	Power/Data	HU1 J01	SYSTEM	SCOEs cable Plugged ✓	
	Power/Data	HU2 J01	SYSTEM	SCOEs cable Plugged ✓	

Sign

PA : D. Lamonby 17-1-09

AIT : A. Kappe, 17.01.09

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: 17.01.09			Sign: A. Hoppe		

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: 17.01.09		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
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:		

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	A.KOPPE / ASED	A. Koppe
Test Director	Y	S. MOONEY / TAS-F	
Test Conductor	Y	S.NAMER / ASED	
EGSE Operator	Y	W. DAVIS / ASED	W Davis
SVM Support Engineer			
Cryo Support Engineer			
HIFI Instrument Support Engineer			
PACS Instrument Support Engineer			
Spire Instrument Support Engineer			
PA Responsible	Y	R. GOOSSENS / TAS-F D. LAMONBY / TAS-F	D. Lamonby.
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 ± 3C
- Relative Humidity = 50 % +/- 10%
- Delta Pressure = above 0.6 mm H2O
- 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 5)	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	**Satellite Commissioning**						
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
5.8.3.8	**ACMS commissioning**						
5.8.3.8.1	AAD, SAS, CRS, STR, GYS, RCS unit check	OFF	N	n.a	Preferred	alternative	alternative
5.8.3.8.2	RWs health check	OFF	N	n.a	Preferred	alternative	alternative
5.8.3.8.3	STR functional verification	OFF	N	n.a	Preferred	alternative	alternative
5.8.3.8.4	ACC health check	OFF	N	n.a	Preferred	alternative	alternative
5.8.3.8.5	ACMS dynamic verification	OFF	N	n.a	Preferred	alternative	alternative
5.8.5	**Mode transitions**						
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	**Launch clean run**						
		OFF	Y	n.a	Preferred	alternative	alternative
5.8.11	**Launch sequence robustness**						
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 03)	He I HTT venting >20mg/sec	He II HTT venting >20mg/sec
5.8.5	**Mode transitions**						
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	**S/C reconfiguration**						
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	**NOM mode robustness**						
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	**Test of Instrument FDIR OBCP**						
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	**DEGRADED CASES**						
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 HTI venting >20mg/sec	He II HTI venting >20mg/sec
5.1	**Satellite Commissioning**						
	CDU (cryostat) commissioning	OFF	N	23			Required
5.2	**Instruments commissioning and performance verification**						
	Test start (restart) configuration	OFF	N	23			Required
							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
5.3	**CDMS management**						
	General Sequence (Integration with RMS DTCP number 2)	PACS Prime STBY -> Bared -> X SPIRE STBY HIFI STBY	N	0-23		alternatively if MTL is compatible with instrument operations	Preferred
	MTL management	PACS Prime STBY -> Bared -> X SPIRE STBY HIFI STBY	N	0-23		alternatively if MTL is compatible with instrument operations	Preferred
	OBCP management	PACS Prime STBY -> Bared -> X SPIRE STBY HIFI STBY	N	0-23		alternatively if MTL is compatible with instrument operations	Preferred
	SIAM management	PACS Prime STBY -> Bared -> X SPIRE STBY HIFI STBY	N	0-23		alternatively if MTL is compatible with instrument operations	Preferred
	FDIR level 1 & 2	PACS Prime STBY -> Bared -> X SPIRE STBY HIFI STBY	N	0-23		alternatively if MTL is compatible with instrument operations	Preferred
	OBT management	PACS Prime STBY -> Bared -> X SPIRE STBY HIFI STBY	N	0-23		alternatively if MTL is compatible with instrument operations	Preferred
5.4	**DTCP worst case scenario**						
		PACS (Bared) SPIRE STBY HIFI Prime	N	0-23		TBC	Preferred
5.5	**REFERENCE Mission Scenario**						
	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 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 activate 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	

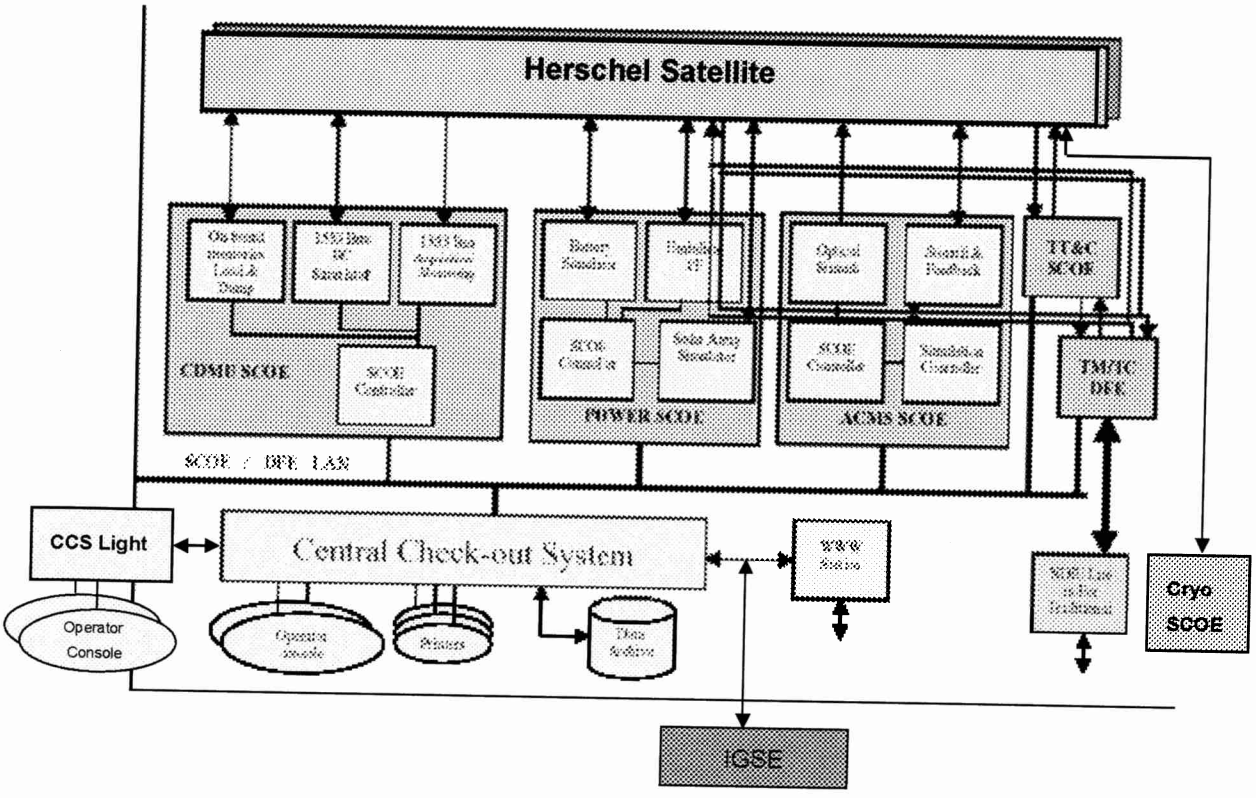
Qty.	Designation/Manufacturer	Provided by	Drawing/Ident. NR:	Calibr. Date
Set	Helium I lines (Y0612)	ASED	CI No. 142 310-09	
Set	Helium II Pumping lines (Y0602)	ASED	CI No. 142 310-09	
2	Scaffolding for He lines	ASED	CI No. 142 310-10	
10	450 l LHe Dewars type HDS 450 -EIPS	Linde		
1	Spiro pump DryTel 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
		Herschel				
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 vs30°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.

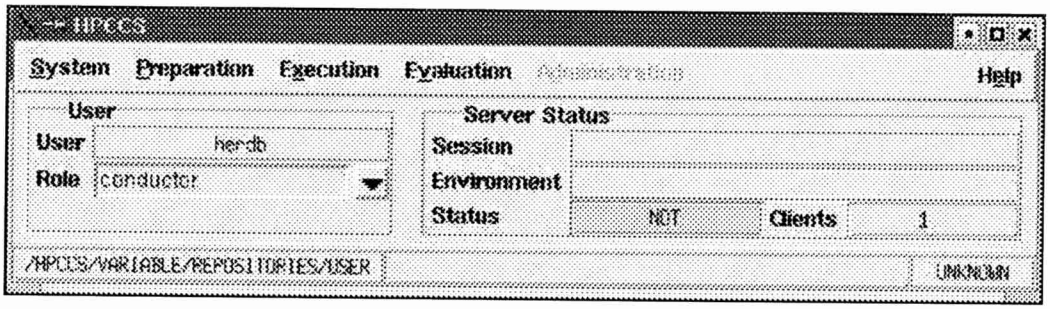
7 IST Test

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**:

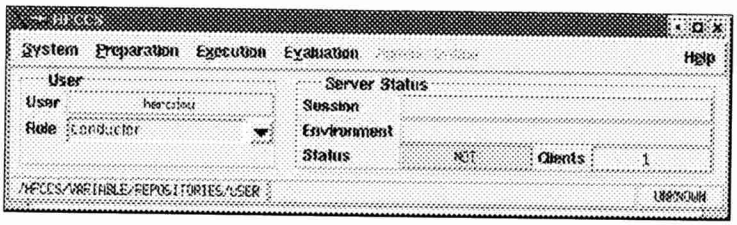
1. On a Workstation login as **herdb** (password **hertest**), being this user dedicated to DB operations for Herschel FM Checkout System, and open a shell (xterm).
2. Logged as herdb, run Startmmi and the following window will occur



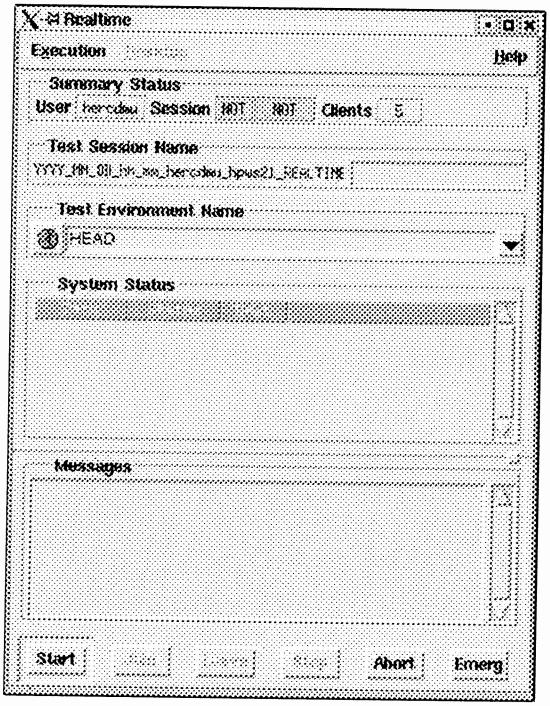
3. Logged as herdb, in HPCCS window, select menu "**Preparation → Prepare**"
4. Logged as herdb, In **PREP** window, select menu "**Preparation→ Discard all**"
5. Logged as herdb, In **Confirm Discard** window, click the button **Discard**
6. Logged as herdb, in **PREP** window, select menu "**Preparation→ 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 throught 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

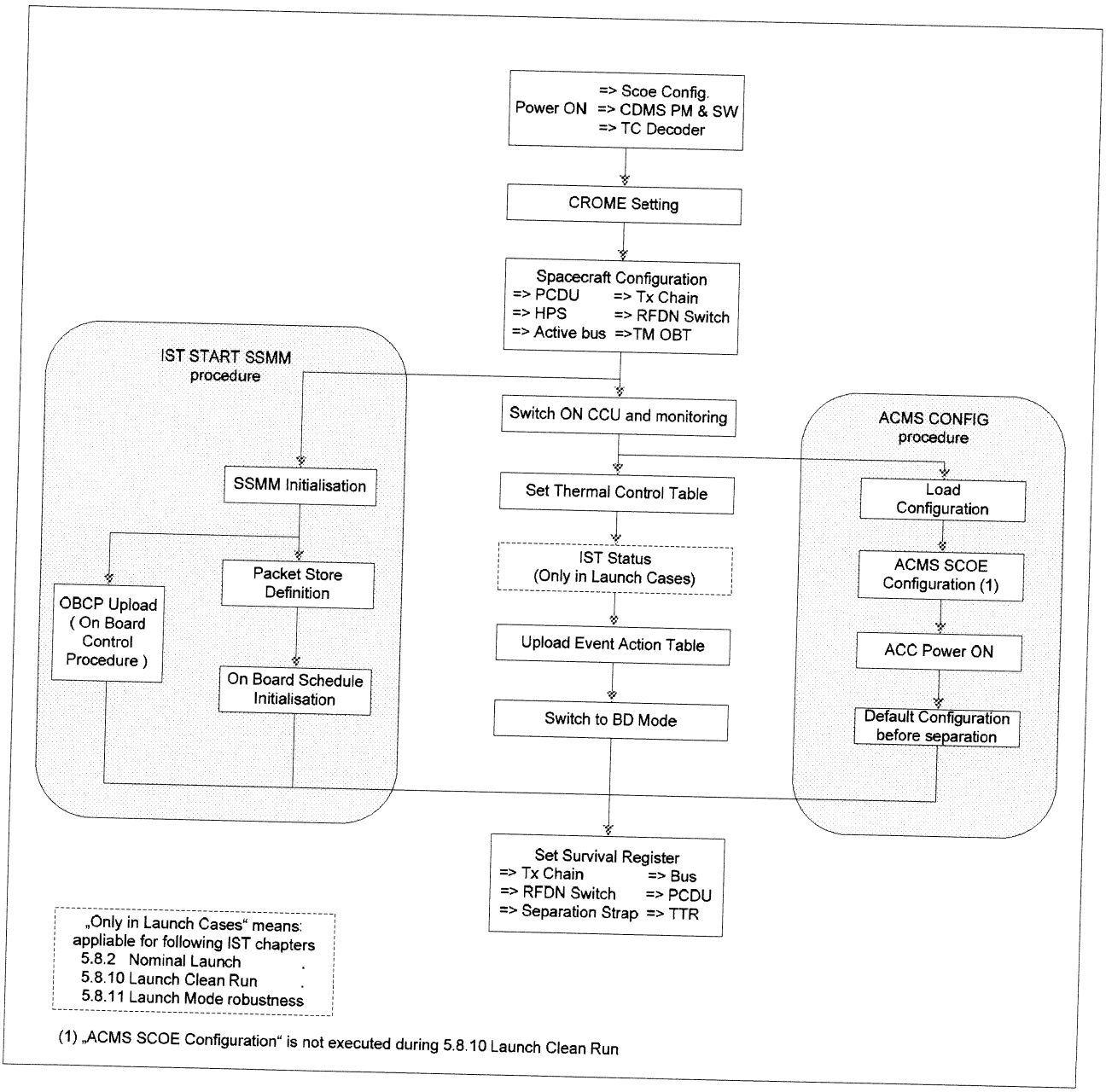
NOTE: A session must be started on the 'CCS Lite' with a similar session name.

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	CCU Mode	ACMS Config. File
5.8.2 NOMINAL LAUNCH																				
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
5.8.3a ACMS Commissioning																				
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
5.8.3b S/C Commissioning																				
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
5.8.4.5.1 SPIRE Commissioning																				
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	IST_COM1
5.8.4.5.2 SPIRE Spectrometer Complementary Test																				
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	IST_COM2

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	CCU Mode	ACMS Config. File
5.8.4.6 PACS Commissioning																				
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_COM6
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	IST_COM7
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	IST_COM8
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 B Nominal	Separated	A	B	B	B1	A 0 B 0	A	B	B	A	B	B	A	2&4	AABB	A&B	1	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. Strap SM	TTR SM	TM OBT	TC Dec.	PM SW	SSMM	Bus SM		PCDU SM		HPS	TxChain SM		RFDN SM		CCU ON	CCU Mode	ACMS Config. File
5.8.9 RMS Reference Mission Scenario																				
SAS	REAL	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_RMS1
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_SDMS~~ IST_IFDR

PVS #1

7.2.3 *Initialisation*

Step-No.	Initialisation-Step-Description	Nominal Value	Tolerance	Actual Value		P	N
	TT&C SCOE initialisation						
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.					✓	
	SPACECRAFT SKIN CONNECTORS CONFIGURATION						
3	**Verify that all the SCOE skin connectors cables are installed** • Goto chapter 4.3 • Choose according to the IST Test case the related skin configuration table • Check the list and sign off (together with PA and Floor Manager).					✓	

Test location:	Operator	Product-Assurance:	Date:	Time
ESTEC	S. Elsen	R. Goossens	17/1/09	23:06

Step-No.	Initialisation-Step-Description	Nominal Value	Tolerance	Actual Value		P	N
	ACMS SCOE CHECK						
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					✓	
6	QA Check: Confirm that the latest Gyro Cal values have been inputted correctly into the relevant ACMS Config file (Page 75). Record the values here /home/heracms/ACMSCONFIG_INPUT_FILE	GA_E_RATE GB_E_RATE GC_E_RATE GD_E_RATE		-2.109103E-05 4.557960E-05 6.745016E-05 2.861473E-06		✓	

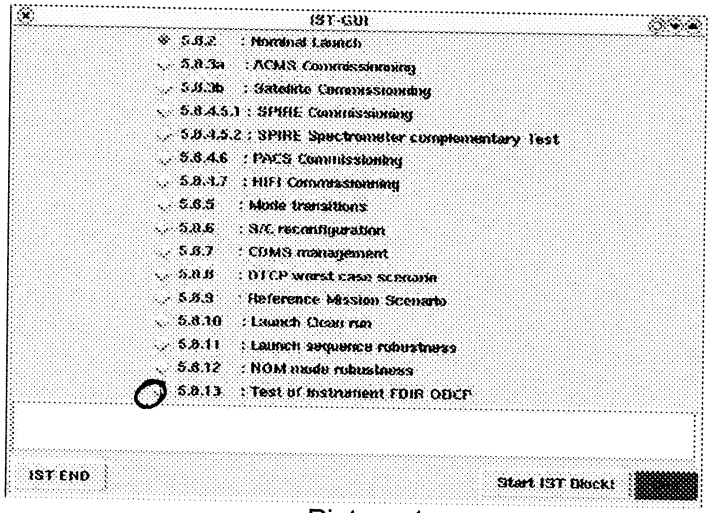
Test location:	Operator	Product-Assurance:	Date:	Time
ESTEC	S. Eggel	R. Goossens	17/1/09	23:00

Step-No.	Initialisation-Step-Description	Nominal Value	Tolerance	Actual Value		P	N
TMTC DFE & CCS TIME CHECK							
7	Check that the TMTC DFE time is the same as the CCS time. If the is a difference check that "AboutTime" is running and enabled					✓	
CCS SESSION STARTUP							
8	Start a session on the CCS, applying a relevant session name with respect to the test case being performed	Refer to chapter 7.1.2 (Page 72)				✓	
9	Start a session on the CCS Lite And from the Test Conductor console execute connect TMTCDFE					✓	

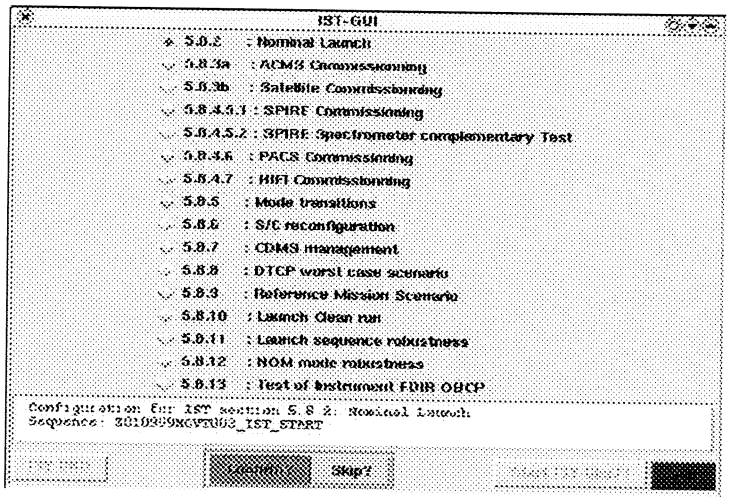
Test location:	Operator	Product-Assurance:	Date:	Time
ESTEC	S. ECSEC	R. Goossens	17/1/09	23:09

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

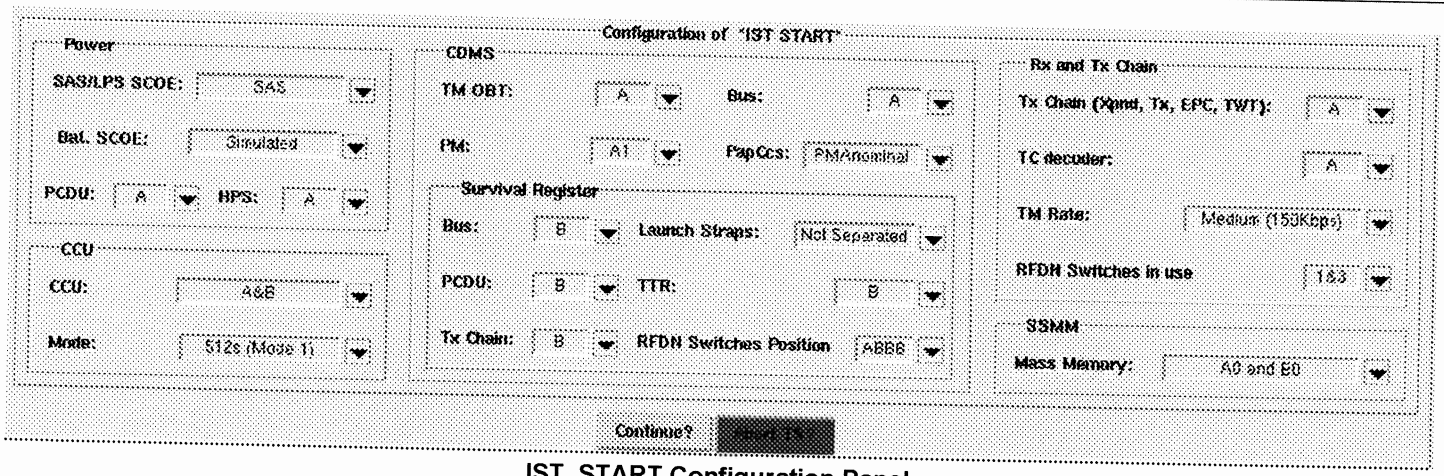


Picture 2

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 7.4

Test location:	Operator	Product-Assurance:	Date:	Time
Estec	S. Elsen	R. Goossens	17/1/09	23:11

Step-No.	IST_START-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
1	**Z010999MCVT003_IST_START** 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 75)				✓	



IST_START Configuration Panel

Test location:	Operator	Product-Assurance:	Date:	Time
ESTEC	S. Escuy	R. Goossens	17/1/09	23:13

Step-No.	IST_START-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
2	**Z010999MCVT003_IST_START** 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) **"START Satellite HERSCHEL "IST_START""** ⇨ Choose "Yes" or "No"	YES		YES		✓	
3	**Z010999MCVT097_ASDGEN_CRIT_PARS_CHECK** This script will run during the whole session to monitor critical parameters. As soon as wrong value will be detected. A popup window will occur alerting the operator about incorrect TM checks ⇨ Minimise this window by clicking the corresponding button (on corner top right, first button from left)					✓	

Test location:	Operator	Product-Assurance:	Date:	Time
ESTEC	S. Easter	R. Goossens	17/1/09	23:13

Step-No.	IST_START-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
4	**Z010999MCVT003_IST_START** Reply to the prompt: **"SPACECRAFT POWER_ON"** ⇨ Click the button "Confirm" to proceed					✓	
5	**Z010999MCVT001_POWER_ON_HER_IST** **Set Battery ??????????** **Set TCDecoder to ?** **Set PM_SW ??** Do you want to continue with the upper configuration: If these parameter values are in accordance with the IST Configuration Table (Page 75), ⇨ click the button "OK" to proceed	To Check in Config. Table (Page 75) Bat.SCOE TCDec. PM/SW				✓	

Test location:	Operator	Product-Assurance:	Date:	Time
ESTEC	S. Elsen	R. Goossens	17/1/09	23:14

Step-No.	IST_START-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
6	**Z010999MCVT001_POWER_ON_HER_IST** A Popup window occurs asking to verify data reception on TM/TC Data Front End workstation: In window "System Status", check following panels ➔ TM chain / TM Acquisition synchronised and locked Status expected ➔ View / TM Transfer Frame Monitor TM frame data should be received before few minutes ⇨ click the button "OK" to proceed					✓	
7	**Z010999MCVT001_POWER_ON_HER_IST** 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 ⇨ click the button "OK" to proceed After few minutes Data transfer should be visible on the Bus Monitor.				N/A for "Launch Clean Run" as the cables for CDMU BUS monitor are disconnected	✓	

Test location:	Operator	Product Assurance:	Date:	Time
ESTEC	S. Eilsen	R. Goossens	18/1/09	01:13

Step-No.	IST_START-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
8	**D102159SCVT001_GET_ALARM_STATUS** Check that both DOD ext1 and ext2 are "Not Asserted". Otherwise execute Annex D – Operator Note 8 ⇨ Click the button "End TS!" to proceed				No DOD	✓	
9	**D102159SCVT001_GET_ALARM_STATUS** Check that both DOD ext1 and ext2 are "Not Asserted". Otherwise execute Annex D – Operator Note 8 ⇨ Click the button "End TS!" to proceed				No DOD	✓	
9b when BCR OCP are detected ACTIVE	**Z010999MCVT001_POWER_ON_HER_IST** Temporary workaround until **SPR-107 / NCR-3312** are solved ⇨ click the button "YES" to proceed the workaround **See SPR 107 / NCR 3312**	YES	YES		SPR **244**: OutOfLimit for SA_Pan_Temp_N/R (WMB0?569) TCs Not Acknowledged :DC20F170 :DC140160 For launch clean run with real Battery fully charged, parameters BCR1, BCR2 are expected active.	✓	

Test location:	Operator	Product Assurance:	Date:	Time
ESTEC	S. Casey	R. Goossens	18/11/08	01:20

Step-No.	IST_START-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
10	**D102159SCVT032TIMESYNCRO** Wait until the synchronization between CDMS On-board Time and CCS is finished ⇨ Click the button "End TS!" to proceed Note: The time synchronisation (step 10) is performed in parallel to the rest of the procedure. The test operator can continue with the following step (11 onwards) whilst this occurs.				TM parameter ZE00999 out of limits and back in limits again at synchronisation to be expected. CDMU 5-4 Events – Cyclic Task Overrun May Occur (NCR4158)	✓	
11	**Z010999MCVT001_POWER_ON_HER_IST** ⇨ Click the button "End TS!" to proceed					✓	
12	**D102159SCVT001_GET_ALARM_STATUS** Check that both DOD ext1 and ext2 are "Not Asserted". Otherwise execute Annex D – Operator Note 8 ⇨ Click the button "End TS!" to proceed				NO DOD	✓	

Test location:	Operator	Product Assurance:	Date:	Time
ESTEC	S. Eggel	R. Goossens	18/1/09	01:22

Step-No.	IST_START-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
13	**Z010999MCVT003_IST_START** Reply to the prompt: **"CDMS Configuration:"** **"CROME settings PM?????"** If the CROME settings is in accordance with the CROME PAP/CCS of IST Configuration Table (Page75), Click the button "Confirm" to proceed	To Check in Config. Table (Page 75) CROME PAP/CCS				✓	
14	**D102159SCVT176_WRITE_CROME** ⇨ Click the button "End TS!" to proceed					✓	

Test location:	Operator	Product-Assurance:	Date:	Time
ESTEC	S. Eggel	R. Goossens	18/1/09	01:30

Step-No.	IST_START-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
15	**Z010999MCVT003_IST_START** Reply to the prompt: **"CDMS Configuration:"** **"Set configuration"** **"Bus ? PCDU ? HPS ? TxChain ? RFDN ???"** **"TM-OBT ? TMrate ?)"** If all these parameter value are in accordance with the IST Configuration Table (Page 75), ⇨ Click the button "Confirm" to proceed	To Check in Config. Table (Page 75) BUS PCDU HPS TxCh. RFDN TM-Obt			Please note that the TMrate Medium (150 Kbps) is not specified in IST Config. Table on page 75.	✓	
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	
17	**D102159SCVT174_IST_REDUNDANT_CONF** ⇨ Click the button "End TS!" to proceed					✓	

Test location:	Operator	Product Assurance:	Date:	Time
ESTEC	S. Essen	R. Goossens	18/1/09	01:31

Step-No.	IST_START-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
18	**Z010999MCVT003_IST_START** Reply to the prompt: "**SSMM Configuration**" **????????**" ⇨ Click the button "Confirm" to proceed	To Check in Config. Table (Page 75) SSMM				✓	
19	**Z010999MCVT005_IST_START_SSMM** Start initialising with Steps 1-2 of IST START SSMM Procedure (see Page 100). Then continue with the next test step of IST_START. **NOTE:** 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 100).				In Launch cases, IST_START_SSMM shall be completely performed before next step	✓	

Test location:	Operator	Product-Assurance:	Date:	Time
ESTEC	S. Elsley	R. Goossens	18/1/09	01:31

Step-No.	IST_START-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
20	**Z010999MCVT003_IST_START** Reply to the prompt: **"SWITCH ON CCU [redacted] and"** **"START MONITORING in MODE [redacted]"** ⇨ Click the button "Confirm" to proceed In case that TM checks for CCU valves are failed, see Annex D Operator note 11 and perform actions if required.	To Check in Config. Table (Page 75) CCU On Mode			**NCR-3119:** Alarms for TMs o KM130300 o KM120300 o KM110300 fails status consistency check during CCU A on And for TMs o KM130301 o KM120301 o KM110301 fails status consistency check The following is expected until TC DCT53170 is sent: o Events 28417 CCU A monitoring discarded	✓	

Test location:	Operator	Product-Assurance:	Date:	Time
ESTEC	S. Esser	R. Goossens	18/1/09	07:31

Step-No.	IST_START-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
21	**Z010999MCVT003_IST_START** Reply to the prompt: **"Record CCU Temp In Background"** ⇨ Click the button "Confirm" to proceed				**Minimise Log file after starting**	✓	
22	**Z010999MCVT003_IST_START** From the Test Conductor Console command line, execute the following command to clear the failed consistency check alarms from the CCU resetsccparams K*					✓	

Test location:	Operator	Product-Assurance:	Date:	Time
ESTEC	S. Eisley	R. Goossens	18/1/09	01:40

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)	**Z010999MCVT003_IST_START** Reply to the prompt : **"STATUS SPACECRAFT and EGSE (Power ON)"** ⇨ Click the button "Confirm" to proceed Reply to the next prompt: **"Do you want to stop and notice each failure?"** ⇨ Choose "YES" to proceed					N/A	
24 applicable only in launch (IST spec. 5.8.2 5.8.10 5.8.11)	**Z010999MCVT1533_IST_STATUS** Check the Satellite status displayed and ⇨ Click the button "OK" to proceed					N/A	

Test location:	Operator	Product-Assurance:	Date:	Time
ESTEC	S. Eisley	R. Goossens	18/1/09	01:40

Step-No.	IST_START-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
25	**Z010999MCVT003_IST_START** Reply to the prompt: **ACMS SCOE Configuration – ACMS Power ON** ⇨ Click the button "Confirm" to proceed Execute ACMS CONFIG procedure (Page 104) in parallel to the IST_START master					✓	
26	**Z010999MCVT003_IST_START** Reply to the prompt: **"SET TCT Table for Ambient Temperature"** ⇨ Click the button "Confirm" to proceed					✓	
27	**D102159SCVT032EnNomTCSLoops** ⇨ Click the button "End TS!" to proceed					✓	
28	**D102159SCVT115_CHECK_HCS_OFF** ⇨ Click the button "End TS!" to proceed					✓	

Test location:	Operator	Product-Assurance:	Date:	Time
ESTEC	S. Eggen	R. Goossens	18/1/09	01:57

Step-No.	IST_START-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
29	**Z010999MCVT003_IST_START** Reply to the prompt: **"EAT UPLOADING"** ⇨ Click the button "Confirm" to proceed"					✓	
30	**D102159SCVT192_GET_EAT_REPORT** Check that every initial entries of the Event Action Table are successfully checked ⇨ Click the button "End TS!" to proceed					✓	
31	**D102159SCVT192_GET_EAT_REPORT** Check that every initial entries of the Event Action Table are correctly set ⇨ Click the button "End TS!" to proceed					✓	
32	**D102159SCVT192_IST_UPLOAD_EAT** ⇨ Click the button "End TS!" to proceed					✓	

Test location:	Operator	Product-Assurance:	Date:	Time
ESTEC	S. Eggen	R. Goossens	8/1/09	02:03

Step-No.	IST_START-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
33	**Z010999MCVT003_IST_START** 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 104) and checking packets reception.					✓	
34	**Z010999MCVT003_IST_START** 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	To Check in Config. Table (Page 75) Bus PCDU RFDN TxCh. TTR Sep Strap				✓	

Test location:	Operator	Product Assurance:	Date:	Time
ESTEC	S. Eggen	R. Goossens	18/1/09	02:29

Step-No.	IST_START-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
35	**D102159SCVT175_SET_SURV_REG** ⇨ Click the button "End TS!" to proceed					✓	
36	**Z010999MCVT003_IST_START** Prompt: "Open the RCS Latch Valves" Click the button "Confirm" to proceed					✓	
37 (only in launch test cases	**Z010999MCVT003_IST_START** Prompt: "Check CDMS Tables" ⇨ Click the button "Confirm" to proceed					N/A	
38 (only in launch test cases	**D102159SCVT219_GET_BSW_HEALTH_UIU** ⇨ Click the button "End TS!" to proceed					N/A	
39 (only in launch test cases)	**D102159SCVT204_GET_MOT** ⇨ Click the button "End TS!" to proceed					N/A	

Test location:	Operator	Product Assurance:	Date:	Time
ESTEC	SEGER	R. Goossens	18/1/09	02:34

Step-No.	IST_START-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
40 (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					N/A	
41 (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	
42 (only in launch test cases)	**D102159SCVT207_SAT_COM_FCCT** ⇨ Click the button "End TS!" to proceed					N/A	

Test location:	Operator	Product-Assurance:	Date:	Time
ESTEC	S. Gaskell	R. Goossens	18/1/09	02:35

Step-No.	IST_START-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
43	**Z010999MCVT003_IST_START** Reply to the prompt: **"DOWNLINK SSMM PACKET STORE and CEL A&B"** ⇨ Click the button "Confirm" to proceed					✓	
44	**D102159SCVT188_IST_DUMP_PKT_STORE** ⇨ Click the button " End TS!" to proceed				With parameters: 0 80 1 81 2 82 3 83	✓	
45	**D102159SCVT188_IST_DUMP_PKT_STORE** ⇨ Click the button " End TS!" to proceed				With parameters: CEL_A CEL_B **All events, warnings and alarms recorded before the dump, re-occur during this step**	✓	
46	**Z010999MCVT003_IST_START** ⇨ Click the button "End TS!" to proceed					✓	

Test location:	Operator	Product-Assurance:	Date:	Time
ESTEC	S. Eggen	R. Goossens	18/1/09	02:42

7.2.4.1 IST_START_SSMM Procedure

Step-No.	IST_START_SSMM-Step-Description	Nominal Value	Tolerance	Actual Value		P	N
1	**Z010999MCVT005_IST_START_SSMM** Reply to the prompt: **"SSMM CONFIGURATION ??????"** ⇨ Click the button "Confirm" to proceed	To Check in Config. Table (Page 75) SSMM				✓	
2	**D102159SCVT186_IST_SSMM_ON** **Reply to the prompt "Do you want to continue" "with such configuration?"** Check the SSMM configuration and then ⇨ Click the button "Continue" to proceed				Mass Memory config. takes about 12 minutes per bank. Therefore, the next step in IST_START procedure can be executed	✓	
3	**D102159SCVT186_IST_SSMM_ON** ⇨ Click the button "End TS!" to proceed					✓	

Test location:	Operator	Product-Assurance:	Date:	Time
ESTEC	S. Eastlake	R. Goossens	18/1/09	02:03

Step-No.	IST_START_SSMM-Step-Description	Nominal Value	Tolerance	Actual Value		P	N
4	**Z010999MCVT005_IST_START_SSMM** Reply to the prompt: **"OBCP UPLOADING"** ⇨ Click the button "Confirm" to proceed **Let run in parallel the sequence** **D102159SCVT193_IST_UPLOAD_OBCP** and continue with next step "Packet Store Definition"				occurrence of 2 BSW problems EvtID 30738 expected when starting OBCP Management for the 1st time.		✓
5	**Z010999MCVT005_IST_START_SSMM** Reply to the prompt: **"Definition of the Packet Store"** ⇨ Click the button "Confirm" to proceed					✓	
6	If only 1 Bank (bank 0, 1, 2 or 3) is initialised on each SSMM **D102159SCVT185_IST_PACKET_STORE_DEF** If 3 banks (banks 0, 1 and 2) are initialised on each SSMM **D102159SCVT189_IST_PACKET_STORE_DEF2** If SSMM A banks 0, 1 and 2 and only SSMM B bank 0 are initialised **D102159SCVT178_RMS_PKT_STORE_DEF** When the requested SSMM bank are initialised ⇨ Click the button "Yes" to proceed					✓	

Test location:	Operator	Product-Assurance:	Date:	Time
ESTEC	S. Casey	R. Goossens	18/1/09	02:04

Step-No.	IST_START_SSMM-Step-Description	Nominal Value	Tolerance	Actual Value		P	N
7	If only 1 Bank is initialised on SSMM A & B **D102159SCVT185_IST_PACKET_STORE_DEF** If 3 banks are initialised on SSMM A & B **D102159SCVT189_IST_PACKET_STORE_DEF2** If 3 banks on SSMM A and only 1 on SSMM B are initialised **D102159SCVT178_RMS_PKT_STORE_DEF** ⇨ Click the button "End TS!" to proceed				**NCR-3492** occurs: (TTRRMMemCorEr_A 2 := 1)!	✓	
8	**Z010999MCVT005_IST_START_SSMM** Reply to the prompt: **"Initialise MTL Service Buffers"** ⇨ Click the button "Confirm" to proceed				TM(5,4) alarms expected: o Evt_MTLBufADel (ID:26914) o Evt_MTLBufBDel (ID 26915)	✓	
9	**D102159SCVT209_START_ON_BOARD_SCHEDULE** ⇨ Click the button "End TS!" to proceed					✓	
10	**D102159SCVT193_IST_UPLOAD_OBCP** ⇨ Click the button "End TS!" to proceed					✓	

Test location:	Operator	Product-Assurance:	Date:	Time
ESTEC	S. Eisley	R. Goossens	6/1/09	02:24

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:	Operator	Product-Assurance:	Date:	Time
ESTEC	S. Eastham	R. Goossens	18/1/09	02:24

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	**A102109SPVT003_ACMS_CONFIG25** At the prompt "Enter your choice", insert **"1"** to select **"Select/Load ACMS_CONFIG Input File"** ⇨ Click the button "OK" to proceed	1				✓	
3	**A102109SPVT003_ACMS_CONFIG25** ⇨ Click the button "Continue" to proceed					✓	
4	**A102109SPVT004_ACMS_LOADCONFIG1** At the prompt, **"Enter your choice:** ⇨ Click the button "OK" to proceed	To Check in Config. Table (Page 75) ACMS Config. File			IST IFOR	✓	

See RVS #1

Test location:	Operator	Product Assurance:	Date:	Time
ESTEC	S. Eisler	R. Goossens	18/1/09	01:57

Step-No.	ACMS_CONFIG-Step-Description	Nominal Value	Tolerance	Actual Value		P	N
5 N/A for "Launch Clean Run"	**A102109SPVT003_ACMS_CONFIG25** At the prompt "Enter your choice", insert **"6"** to select **"ACMS SCOE Configuration"** ⇨ Click the button "OK" to proceed	6		6		✓	
6 N/A for "Launch Clean Run"	**A102109SPVT003_ACMS_CONFIG25** ⇨ Click the button "Continue" to proceed					✓	
7 N/A for "Launch Clean Run"	**A102109SPVT003_ACMS_CONFIG25** Verify on AND the parameters YA001939 AMCS SCOE - AS_PSEUDO 1 of 1 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:	Operator	Product-Assurance:	Date:	Time
ESTEC	S. Elsaca	R. Goossens	18/1/09	02:05

Step-No.	ACMS_CONFIG-Step-Description	Nominal Value	Tolerance	Actual Value		P	N
8	**A102109SPVT003_ACMS_CONFIG25** At the prompt "Enter your choice", insert **"4"** to select **"ACMS Power ON (in Pre-Sep configuration)"** ⇨ click the button "OK" to proceed	4	4	4		✓	
9	**A102109SPVT003_ACMS_CONFIG25** ⇨ Click the button "CONTINUE" to proceed					✓	
10	**A102109SPVT011_ACMS_ON** During this sequence, following events are expected: - TM(5,4) Event Report and Reconfiguration Log - 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. - Multiple other events TM(5,1), such as "Fdir Task Overrun" or "Fdir Rm Parity Error"				Expected Out of Limit of AEYYY109 (synchronisation) ACC may become INVALID for a short time SPR **245** NCR **2862**: Out of Limit of HKA_ANTH?_Data SPR **334** OutOfLimit of Gyro Calib Curve in LCR	✓	

Test location:	Operator	Product-Assurance:	Date:	Time
ESTEC	S. Casey	R. Goossens	15/1/09	02:14

Step-No.	ACMS_CONFIG-Step-Description	Nominal Value	Tolerance	Actual Value		P	N
11	**A102109SPVT003_ACMS_CONFIG25** At the prompt "Enter your choice", Insert **"5"** to select **"Modify ACC SGM/RM content"** ⇨ Click the button "OK" to proceed	5		5		✓	
12	**A102109SPVT003_ACMS_CONFIG25** ⇨ Click the button "Continue" to proceed					✓	
13	**A102109SPVT003_ACMS_CONFIG25** At the prompt "Enter your choice", Insert **"20"** for **"Default configuration for separation"** ⇨ 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	**A102109SPVT003_ACMS_CONFIG25** ⇨ Click the button "Continue" to proceed					✓	

Test location:	Operator	Product Assurance:	Date:	Time
ESTEC	S. Essex	R. Goossens	18/1/09	02:15

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 **"99"** 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:	Operator	Product Assurance:	Date:	Time
TEC	S. Eggel	R. Goossens	8/1/09	02:29

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.

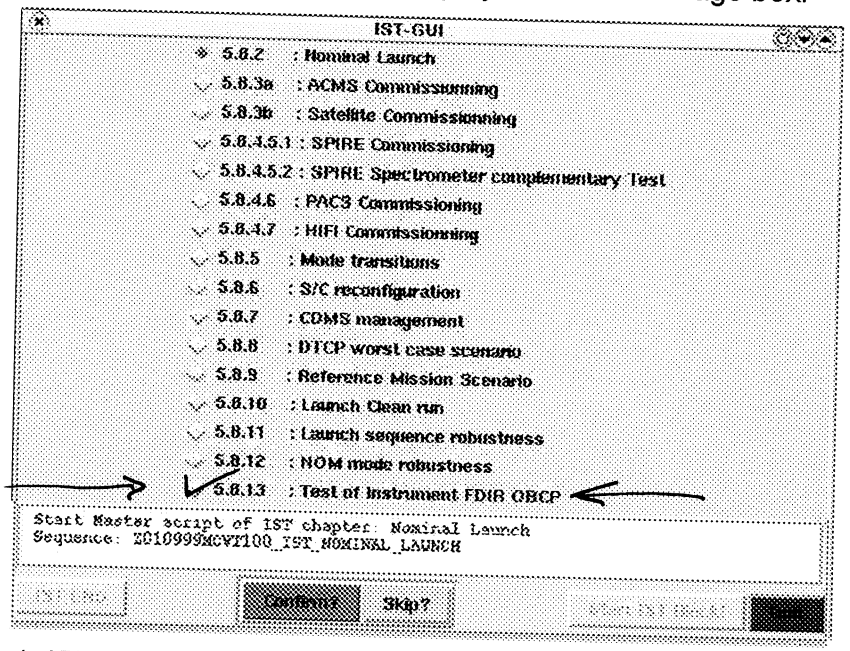


Figure 1: IST_GUI calling Master sequence, for instance "Nominal Launch"

Test location:	Operator	Product-Assurance:	Date:	Time
ESTEC	S. Eggel	R. Goossens	18/1/09	22:34

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
ESTEC	S. Elsey	R. Goossens	18/1/09	22:34

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					✓	
2.	**D102159SCVT188_IST_DUMP_PKT_STORE** ⇨ Click the button "Confirm" to proceed				22:35	✓	
3.	**D102159SCVT188_IST_DUMP_PKT_STORE** ⇨ Click the button " End TS!" to proceed				23:35	✓	

Test location:	Operator	Product-Assurance:	Date:	Time
ESTEC	S. Esch	R. Goossens	18/1/09	23:35

Step-No.	IST_END-Step-Description	Nominal Value	Tolerance	Actual Value		P	N
4. Only if PACS, SPIRE or HIFI is still ON	**Z010999MCVT004_IST_END** If one of the instruments is detected "ON" reply to the prompt: "Should the sequence" Z102999SCVT011_ASDGEN_PACSPWROFF_P Z102999SCVT005_ASDGEN_SPIREPWROFF_P Z102999SCVT015_ASDGEN_HIFIPWROFF_P "be called?" ⇨ Click the button "YES" to proceed					N/A	
5. Only if CCU A is ON	**Z010999MCVT004_IST_END** If CCU is detected "ON" reply to the prompt: Should the sequence "K102999ECVT001_ASDGENCCU_ABPWROFF be called ⇨ Click the button "YES" to proceed					✓	

Test location:	Operator	Product Assurance:	Date:	Time
ESTEC	S. Eggen	R Goossens	18/1/09	23:37

Step-No.	IST_END-Step-Description	Nominal Value	Tolerance	Actual Value		P	N
6. Only if RWL ON and ACMS is still in SCM	**Z010999MCVT004_IST_END** "Please ensure that ACMS is set in OCM mode, otherwise select the correct menu in the ACMS_CONFIG25" Perform Step 1 of Chapter 7.4.1 then click OK					✓	
7. Only if RWL are still spinning	**Z010999MCVT004_IST_END** Start the sequence A102109SPVT061_RWL_SPINDOWN? ⇨ Click the button "YES" to proceed				Out of Limits concerning RWL speed are expected during RWL spin down	✓	
8. Only if ACMS is still ON	**Z010999MCVT004_IST_END** Start the sequence A102109SPVT012_ACMS_OFF ? ⇨ Click the button "YES" to proceed					✓	

Test location:	Operator	Product Assurance:	Date:	Time
ESTEC	S. Eggen	R. Goossens	18/1/09	23:51

Step-No.	IST_END-Step-Description	Nominal Value	Tolerance	Actual Value		P	N
9. Only if ACMS is still ON	**A102109SPVT012_ACMS_OFF** During this sequence, following event are expected to occur: • TM(5,2) EvtID: 33 Event Report - ACB Rx Failed • TM(5,2) EvtID: 33 Event Report - ACB Rx Failed • TM(5,4) EvtId:16426 Mode SBSM Entry • Event Report - Boot Report and Reconfiguration Log • Event Report - SDB Unhealthy • Multiple "New Tm 251004939" • Multiple "New Tm 251001939" • Multiple "New Tm 251002939" This sequence needs time to be completely run, so let run in parallel with the following steps.					✓	
10. Only if SREM is still ON	**Z102999SCVT002_SREM_OFF** ⇨ Click the button "End TS!" to proceed					✓	
11.	**D102159SCVT174_IST_REDUNDANT_CONF** ⇨ Click the button "End TS" to proceed					✓	

Test location:	Operator	Product-Assurance:	Date:	Time
ESTEC	S. Eckley	R Goossens	19/1/09	00:04

Step-No.	IST_END-Step-Description	Nominal Value	Tolerance	Actual Value		P	N
12. Only if Survival Register set with separated flag	**Z010999MCVT004_IST_END** 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					✓	
13. Only if Survival Register set with separated flag	**D102159SCVT175_SET_SURV_REG** ⇨ Click the button "End TS!" to proceed					✓	

Test location:	Operator	Product-Assurance:	Date:	Time
ESTEC	S. Elsner	R. Goossens	19/1/09	00 : 06

Step-No.	IST_END-Step-Description	Nominal Value	Tolerance	Actual Value		P	N
14. Only if CROME wrongly set	**Z010999MCVT004_IST_END** 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	**D102159SCVT176_WRITE_CROME** ⇨ Click the button "End TS!" to proceed					✓	
16. Only if SSMM is ON	**D102159SCVT188_IST_DUMP_PKT_STORE** ⇨ Click the button "End TS!" to proceed					✓	
17. Only if SSMM is ON	**D102159SCVT181_Disable_PKT_STORE** ⇨ Click the button "End TS!" to proceed					✓	

Test location:	Operator	Product-Assurance:	Date:	Time
ESTEC	S. Eckert	R Goossens	19/1/09	00:23

Step-No.	IST_END-Step-Description	Nominal Value	Tolerance	Actual Value		P	N
18. Only if SSMM is ON	**D102159SCVT187_IST_SSMM_OFF** During this sequence, the following events are expected: • TM(5,2) EvtId: 84 PM COCOS SPW C Reconnection • TM(5,4) EvtId: 88 MM A COCOS RT Failure • TM(5,4) EvtId: 148 MM SPW C address transfer error • TM(5,2) EvtId: 85 PM COCOS SPW C Reconnection • TM(5,4) EvtId: 89 MM A COCOS RT Failure • TM(5,4) EvtId: 149 MM SPW C address transfer error ⇨ Click the button "End TS!" to proceed					✓	✓
19. Not for Launch Cases	**D102159SCVT001PM_SELECT** ⇨ Click the button "End TS!" to proceed					✓	
20.	**Z010999MCVT002_POWER_OFF_HER_IST** ⇨ Click the button "End TS!" to proceed					✓	
21.	**Z010999MCVT004_IST_END** ⇨ Click the button "End TS!" to proceed					✓	

Test location:	Operator	Product-Assurance:	Date:	Time
ESTEC	S. Esser	R. Goossens	19/1/09	00:38

Step-No.	IST_END-Step-Description	Nominal Value	Tolerance	Actual Value		P	N
22.	**IST_GUI** ⇨ Click the button "Quit" to terminate the test sequence				00:38	✓	
23.	**Update CVS Tag** 1. Log on as herdb 2. Open a **shell** (xterm) 3. Execute the command **update_tag** Insert the name of **TAG →** **IST_x_PART_x_TP_xxxx_x_x_END_xxx**				07:30 Cdone by Early shift.	✓	

P/o 8.

Test location:	Operator	Product Assurance:	Date:	Time
ESTEC	S. Essen	R. Goossens	14/1/09	07 : 30

7.4.1 ACMS SCM to OCM transition for power off

Step-No.	IST_END-Step-Description	Nominal Value	Tolerance	Actual Value		P	N
1	**A102109SPVT003_ACMS_CONFIG25** At the prompt "Enter your choice", insert **"2"** to select **"Transition SCM to OCM"** ⇨ Click the button "OK" to proceed, then "Continue"	2					
2	**A102109SPVT003_ACMS_CONFIG25** At the prompt Menu 7 "Enter your choice", insert **"5"** to select **"Reaction wheels spin down"** Click the button "OK" to proceed, then "Continue"	5					
3	**A102109SPVT003_ACMS_CONFIG25** At the prompt Menu 9 "Enter your choice", insert **"1"** to select **"Switch off ACMS"** Click the button "OK" to proceed, then "Continue"	1					

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

Step-No.	IST_END-Step-Description	Nominal Value	Tolerance	Actual Value		P	N
4	**A102109SPVT012_ACMS_OFF** During this sequence, following event are expected to occur: • TM(5,4) EvtId:16426 Mode SBSM Entry • Event Report - Boot Report and Reconfiguration Log • Event Report - SDB Unhealthy • TM(5,2) EvtID: 33 Event Report - ACB Rx Failed • TM(5,2) EvtID: 33 Event Report - ACB Rx Failed • Multiple "New Tm 251004939" • Multiple "New Tm 251001939"„ • Multiple "New Tm 251002939"„ • Multiple TM(5,1) such as "FDir Task Overrun", etc...						
5	**A102109SPVT003_ACMS_CONFIG25** At the prompt "Enter your choice", insert **"99"** to select **"Terminate ACMS_CONFIG25"** Click the button "OK" to proceed, then "Confirm" and continue in parallel with the next step.	99					
6	**A102109SPVT017_ACMS_CRS_BACKGROUND** ⇨ Terminate the sequence.						

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

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		

PVS #1 TP-0134 (pag 77) – Wrong ACMS configuration specification

PVS #2 TP-0134 (pag 85) – Recover from reconfig. Open LCC's after reconfiguration

PVS #3 TP-0134 (pag 85) – Recover from reconf. part II

Prepared by:	Resp. Test Leader	Project Engineer
PA/QA	Prime	Customer

Table 8.1-1: Procedure Variation Sheet

	Test Change	Curr. No.: 001 Date 17/01/2009 Page 1 of 1	
Test designation IST2 INST FDIR OBCP	Test Procedure TP-0134	Issue 7	Rev. -
Test step changed Section 7.2.2 Page 77	Reason for Change Wrong ACMS Configuration Specified		

1) ACMS Configuration file to be used for Instrument FDIR is IST_IFDR (not IST_CDMS)

"known" fact from 1st run earlier this week .....

correct file used. 17/01/09

Prepared by: S. Hamer	Resp. Test Leader	Project Engineer
PA/QA	Prime	Customer

8 Summary Sheets

8.1 Procedure Variation Summary

	Test Change	Curr. No.: #2 Date 18/01/09 Page 1 of 1	
Test designation INSTR. FDIR	Test Procedure TP_0134	Issue 7	Rev. 0
Test step changed -	Reason for Change Recover from reconfig: open LCL's after reconfiguration		

Sent following commands manually:

1) DC13B170

2) DC14B170

3) DC15B170

4) DC24B170

5) DC25B170

6) DC26B170

7) DC33B170

8) DC34B170

9) DC37B170

10) DC38B170

~~DC57B2~~

Prepared by: R. Goossens	Resp. Test Leader S. Elsley	Project Engineer
PA/QA R. Goossens	Prime	Customer

8 Summary Sheets

8.1 Procedure Variation Summary

	Test Change	Curr. No.: #3 Date 18/01/09 Page 1 of 1	
Test designation: INSTR. FDIR	Test Procedure: TP_0134	Issue: 7	Rev.: 0
Test step changed: -	Reason for Change: Recover from reconfiguration, part II		

1) S/c switch-off via POWER_OFF_HER_IST to reset PM's (switch off PM_B)

2) Restart IST_START

Prepared by: R. Goossens	Resp. Test Leader: S. Elsley	Project Engineer
PA/QA: R. Goossens	Prime	Customer

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.
NCR4816	Unexpected Reconfiguration during IST Start	18/01/09	OPEN.	D.Lawrence

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	18/01/09	
Test Conductor	18/01/09	
PA Responsible	18/01/09.	D. Lamonby

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 $pcduTmTc $hps $txChain $rfdn $tmObt $tmRate
 |-----> D102159SCVT104_ENCODER_SELECT $tmObt $tm_Enc_Config
> async referby istStartSSMM Z010999MCVT005_IST_START_SSMM $ssmm]
> K102999ECVT001_ASDGENCCU_ABPWRON
 |-----> 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 $ttrSM $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 ABBB 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	See "as run" TP-0254 from 18/01/09
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: Applicable Operation Notes

No.	Title
2	Emergency S/C switch-off procedure
4	How to solve ACMS SCOE problems
8	DoD alarm
10	Launch-Clean-Run recovery
15	Recovering after CCS crash
16	Recovering after an IFMGR crash
23	HIFI, PACS & SPIRE (PRIME / REDUNDANT) emergency switch OFF procedures
29	PACS, SPIRE and HIFI OBCP recovery sequences
30	S/C recovery after a S/C emergency switch off (battery not connected)
35	TM checks fail even if parameter is correctly updated
43	Recovery: When the BS Scoe Application Stops
49	Handling of RWLs in stiction region
68	PrivateExifs tool (NCR-4181 workaround)

Annex E: CCS Time Adjustment Notes

To Adjust time to be TIME IN FUTURE.

Step No.	EGSE item	User / Psw	File	Action
Important note N.1 Before starting with time setting verify that – on all EGSE equipments – all the real time applications are terminated.				
Important note N.2 In case it would be required to run the EGSE in future time for a period longer than 1/2 days, it has to be kept into account that the MTP internal clock – if not synchronized with some external reference time source – is drifting. This drift can have serious impacts if ESOC is in the loop. ESOC machines are quite sensitive respect to synchronization and timing business and they experience big problems if the EGSE time goes in the future of more than 1 sec. respect to their own time: one of the side effects is that TM is received "before" the relevant TC are sent. In order to avoid this problem the EGSE and ESOC time must be perfectly aligned and MTP drift adjusted at least once a day.				
Important note N.3 If during the following steps, an error message is displayed " CPU overload error .....". this message can be ignored. Select **OK** to continue.				

Step No.	EGSE item	User / Psw	File	Action
Step 1	HPWS27 (in cleanroom)	Login User: root Password: changeME Logout Reboot the workstation.		Check the synchronization with NDIU and if CCS is not synchnized, execute the following command to set the time: ***ssh root@hp2-s*** *(pwd:* ***changeME****)* ***date monthdayhourminute.second*** Check on MTP screen that the date/time have been updated as required typing the command: ***date***
Step 2	Wait for at least 2 minutes before preceding			
Step 3	Any WS	Login User: heregse Password: hertest Logout		From whichever workstation execute the command: ***startCMD syncWs***
Step 4	Reboot all of the CSS workstations (don't forget the workstations in the IEGSE areas).			
NOTE: Time updating on DS is not mandatory; relevant steps could also be skipped.				

Step No.	EGSE item	User / Psw	File	Action
NOTE: Before executing the above mentioned operation on the BS SCOE it is better to check if the whole CCS restart is completed by at least a 4/5 minutes of minutes. In order to be sure of this, it can be useful to issue the following command: ***ntpq –p*** and check that the value shown in column "reach" is > 17.				
Step 5	BS SCOE	Open shell User: root Password: HPP_ad Exit shell		From a terminal execute the command: ***/etc/init.d/xntpd restart***
Step 6	SAS/LPS SCOE	Open shell User: root Password: HPP_ad Exit shell		From a terminal execute the command: ***/etc/init.d/xntpd restart***
Step 7	TT&C SCOE	Open shell User: root Password: HPTTC_ad Exit shell		From a terminal execute the command: ***/etc/init.d/xntpd restart***

Step No.	EGSE item	User / Psw	File	Action
Step 8	TMTC DFE Ws	User: H-P_User Password: H-P		Use "**AboutTime**" program (select the **Globe Icon** in the bottom right of screen) to synchronize the DFE with CCS time: in "Control/Time Client" tab click on "**Set Time**" button one or two times to reduce up to few milliseconds the difference between MTP and DFE time. In Option remove the option "**Set time**" and push **Apply**.
Step 9	TMTC DFE Platform	User: H-P_User Password: H-P		Remotely connect to TM/TC Platform (address 192.168.90.2) Use "**AboutTime**" program (globe Icon) to synchronize the Platform as already done for the TMTC DFE WS
Step 10	CDMU SCOE Ws	User: H-P_User Password: H-P		Same as per TMTC DFE
Step 11	CDMU SCOE Platform	User: H-P_User Password: H-P		Same as per TMTC DFE (address 192.168.90.32)

Step No.	EGSE item	User / Psw	File	Action
Step 12	ACMS asim	Login User: root Password: hpscoe Logout		In shell window, type in : **cd /etc/init.d/** and press **Enter** In shell window, type in : ***./ntpd restart*** and press **Enter**
Further checks to be done before starting a Real Time session				
Step 13	On any WS	Login User: heregse Password: hertest Logout		At least on the WS where the Real time session will be started, check the time is set to the desired value typing: ***chronyc sources –v*** In case the synchronization is not as expected type again: ***startCMD syncWs***

To Adjust time back to the PRESENT TIME.

Step no	EGSE item	User / Psw	File	Action
Important note: before starting with time setting verify that – on all EGSE equipments – all the real time applications are terminated.				
Step 1	HPx-S (MTP) (in checkout)	Login User: root Password: changeME Logout		Execute the following command to set the UTC time: ***date monthdayhourminute.second*** Check on MTP screen that the date/time have been updated as required typing the command: ***date***
Step 2	Wait for at least 2 minutes before preceding			
Step 3	Any WS	Login User: heregse Password: hertest Logout		From whichever workstation execute the command: ***startCMD syncWs***
Step 4	Reboot all of the CSS workstations (don't forget the workstations in the IEGSE areas).			
NOTE: Time updating on DS is not mandatory; relevant steps could also be skipped.				

Step no	EGSE item	User / Psw	File	Action
NOTE: Before executing the above mentioned operation on the BS SCOE it is better to check if the whole CCS restart is completed by at least a 4/5 minutes of minutes. In order to be sure of this, it can be useful to issue the following command: ***ntpq –p*** and check that the value shown in column "reach" is > 17.				
Step 5	BS SCOE	Open shell User: root Password: HPP_ad Exit shell		From a terminal execute the command: ***/etc/init.d/xntpd restart*** In the main application window, select: ***File > Exit*** Select to exit the application only Logout and reboot the platform. Restart the BS application from the desktop icon. When requested select **Herschel** and **Normal**. Select **OK** Enter **yes** to continue.

Step no	EGSE item	User / Psw	File	Action
Step 6	SAS/LPS SCOE	Open shell User: root Password: HPP_ad Exit shell		From a terminal execute the command: ***/etc/init.d/xntpd restart*** In the main application window, select: ***File > Exit*** Select to exit the application only Logout and reboot the platform. Restart the SAS application from the desktop icon. When requested select **Herschel** and **Normal**. Select **OK**
Step 7	TT&C SCOE	Open shell User: root Password: HPTTC_ad Exit shell Login User: hpttc Password: HPTTC_us		From a terminal execute the command: ***/etc/init.d/xntpd restart*** In the main application window, select: ***File > Exit*** Select to exit the application only Logout and reboot the platform. Restart the TT&C application from the desktop icon **HPTTC main**.

Step no	EGSE item	User / Psw	File	Action
Step 8	TM/TC DFE Ws	User: H-P_User Password: H-P		Use "**AboutTime**" program (select the **Globe Icon** in the bottom right of screen) to synchronize the DFE with CCS time: in "Control/Time Client" tab click on "Set Time" button one or two times to reduce up to few milliseconds the difference between MTP and DFE time. If required, select the option "Set time at 240" and push Apply.
Step 9	TM/TC DFE Platform	User: H-P_User Password: H-P		Remotely connect to TM/TC Platform (address 192.168.90.2) Use "**AboutTime**" program (globe Icon) to synchronize the Platform as already done for the WS If required, select the option "Set time at 480'" and push Apply.
Step 10	CDMU SCOE Ws	User: H-P_User Password: H-P		Same as per TM/TC DFE.
Step 11	CDMU SCOE Platform	User: H-P_User Password: H-P		Same as per TM/TC DFE (address 192.168.90.32).
Step 12	ACMS asim	Login User: root Password: hpscoe	/etc//init.d/	In shell window, type in : **cd /etc/init.d/** and press **Enter** In shell window, type in : ***./ntpd restart*** and press **Enter** *Logout & reboot the SCOE controller*
Further checks to be done before starting a Real Time session				

Step no	EGSE item	User / Psw	File	Action
Step 13	WS	User: heregse Password: hertest (or any other user)		At least on the WS where the Real time session will be started, check the time is set to the desired value typing: ***chronyc sources –v*** In case the synchronization is not as expected type again: ***startCMD syncWs***

END OF DOCUMENT

	Name	Dep./Comp.
	Baldock Richard	FAE12
	Barlage Bernhard	AED13
	Bayer Thomas	ASA42
	Brune Holger	ASA45
	Chen Bing	HE Space
	Davis William	Captec
	Edelhoff Dirk	AED21
	Fehringer Alexander	ASG15
X	Fricke Wolfgang Dr.	AED 65
	Geiger Hermann	ASA42
	Grasl Andreas	OTN/ASA44
	Grasshoff Brigitte	AET12
X	Hamer Simon	Terma
	Hanka, Erhard	FI522
X	Hendrikse Jeffrey	HE Space
	Hendry David	Terma
	Hengstler Reinhold	ASA42
	Hinger Jürgen	ASG23
	Hofmann Rolf	ASE252
X	Hohn Rüdiger	AED65
X	Hopfgarten Michael	AET32
	Huber Johann	ASA42
	Hund Walter	ASE252
X	Idler Siegmund	AED312
	Iványi von András	FAE12
X	Jahn Gerd Dr.	ASG23
X	Kölle Markus	ASA43
X	Koppe Axel	AED312
X	Kroeker Jürgen	AED65
	Lang Jürgen	ASE252
	Langenstein Rolf	AED15
X	Langfermann Michael	ASA41
	Liberatore Danilo	Rhea
	Martin Olivier	Altec
X	Maukisch Jan	ASA43
X	Much Christoph	ASA43
X	Müller Martin	ASA43
	Pietroboni Karin	AED65
	Reichle Konrad	ASA42
	Runge Axel	OTN/ASA44
	Saal Christoph	External
X	Schink Dietmar	AED321
	Schmidt Thomas	AED15
X	Schweickert Gunn	ASG23
X	Sonn Nico	ASG51
	Steininger Eric	AED321
X	Stritter Rene	AED11
	Suess Rudi	OTN/ASA44

	Name	Dep./Comp.
X	Theunissen Martijn	ASA43
X	Vascotto Riccardo	HE Space
	Wagner Klaus	ASG23
X	Wietbrock Walter	AET12
	Wöhler Hans	ASG23
	Wössner Ulrich	ASE252
	Zumstein Armin	AED15
X	ESA/ESTEC	ESA
X	Thales Alenia Space Cannes	TAS-F
X	Thales Alenia Space Torino	TAS-I
	Instruments:	
	MPE (PACS)	MPE
	RAL (SPIRE)	RAL
	SRON (HIFI)	SRON
	Subcontractors:	
	Austrian Aerospace	AAE
	Austrian Aerospace	AAEM
	BOC Edwards	BOCE
	Dutch Space Solar Arrays	DSSA
	EADS Astrium Sub-Subsyst. & Equipment	ASSE
	EADS CASA Espacio	CASA
	EADS CASA Espacio	ECAS
	European Test Services	ETS
	Patria New Technologies Oy	PANT
	SENER Ingenieria SA	SEN
	Thales Alenia Space, Antwerp	TAS-ETCA

Attachment 2 to Section 6.7:

As-Run Procedure HP-2-ASED-TP-0254 for Redundant Instrument FDIR OBCP

EADS Astrium

Herschel Integrated Satellite Test Procedure: Instruments FDIR OBCP

Herschel

AS Run copy
18/01/09

2009_01_17_23_02_herccdmuchpws23_REALTIME_INST_FDIR.

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

CI-No: 100000

Prepared by:	Functional AIT Team	Date: 12th January 2009
Checked by:	C. Much	13/01/09
Product Assurance:	J. Hall	13/01/09
Configuration Control:	W. Wietbrock	14/01/2009
TASF Engineering	[redacted]	13/01/09
TASF Test Director	S. Mooney	13/01/2009
Project Management:	Dr. W. Fricke	14/01/09
Project Management:	D. Montet	16/01/09

Distribution: See Distribution List (last page)

TAG : IST_2_TP_0254_iss1_Instr_FDIR_OBCP_GND_001

Copying of this document, and giving it to others and the use or communication of the contents thereof, are forbidden without express authority. Offenders are liable to the payment of damages. All rights are reserved in the event of the grant of a patent or the registration of a utility model or design.

Issue	Date	Sheet	Description of Change	Release
1	12.01.2009		Initial version	

Table of Content

1	**Scope**	**6**
1.1	Objective	6
1.2	Operational Flow	8
2	**Documents/Drawings**	**18**
2.1	Applicable Documents	18
2.2	Reference Documents	18
2.3	Other Documents	19
2.4	Acronyms	19
3	**Requirements to be verified**	**20**
4	**Configuration**	**21**
4.1	Herschel S/C Configuration	21
4.1.1	Hardware Configuration	21
4.1.2	Software Configuration	21
4.1.3	Test Configuration	21
4.1.4	Simulated Equipments	21
4.2	Set-up	21
5	**Conditions**	**22**
5.1	Personnel	22
5.2	Environmental	22
5.3	General Precautions and Safety	22
5.3.1	General Safety Requirements, Precautions	22
5.3.2	ESD constraints	22
5.3.3	Special QA Requirements	22
5.4	GSE	22
5.4.1	MGSE	22
5.4.2	CVSE	23
5.4.3	EGSE	23
5.4.4	OGSE	23
5.4.5	Special Equipment	23

6	**Verification Requirements and Test Criteria**	**24**
7	**Test Execution Step-by-Step Procedure**	**25**
7.1	S/C Initialization	25
7.2	Test Specific Initialization	26
7.3	HIFI	38
7.4	PACS	50
7.5	SPIRE	82
7.6	Specific Post-Test Activities	117
7.7	S/C Power OFF	120
8	**Script Hierarchy**	**121**
8.1	Master script	121
8.2	HIFI script	121
8.3	PACS script	121
8.4	SPIRE script	122
9	**Summary Sheets**	**123**
9.1	Procedure Variation Summary	123
9.2	Non Conformance Report (NCR) and SPR Summary	124
9.3	Sign-off Sheet	126
10	**Session Record**	**127**

List of Tables

Table 1 - HIFI OBCPs....8
Table 2 - PACS OBCPs....8
Table 3 - SPIRE OBCPs....9
Table 9.1-1: Procedure Variation Sheet....133
Table 9.2-1: Non-Conformance Record Sheet....135

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 performed in one session, thus with the same starting condition. The starting configuration chosen for this sequencial 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_StopHK.tcl

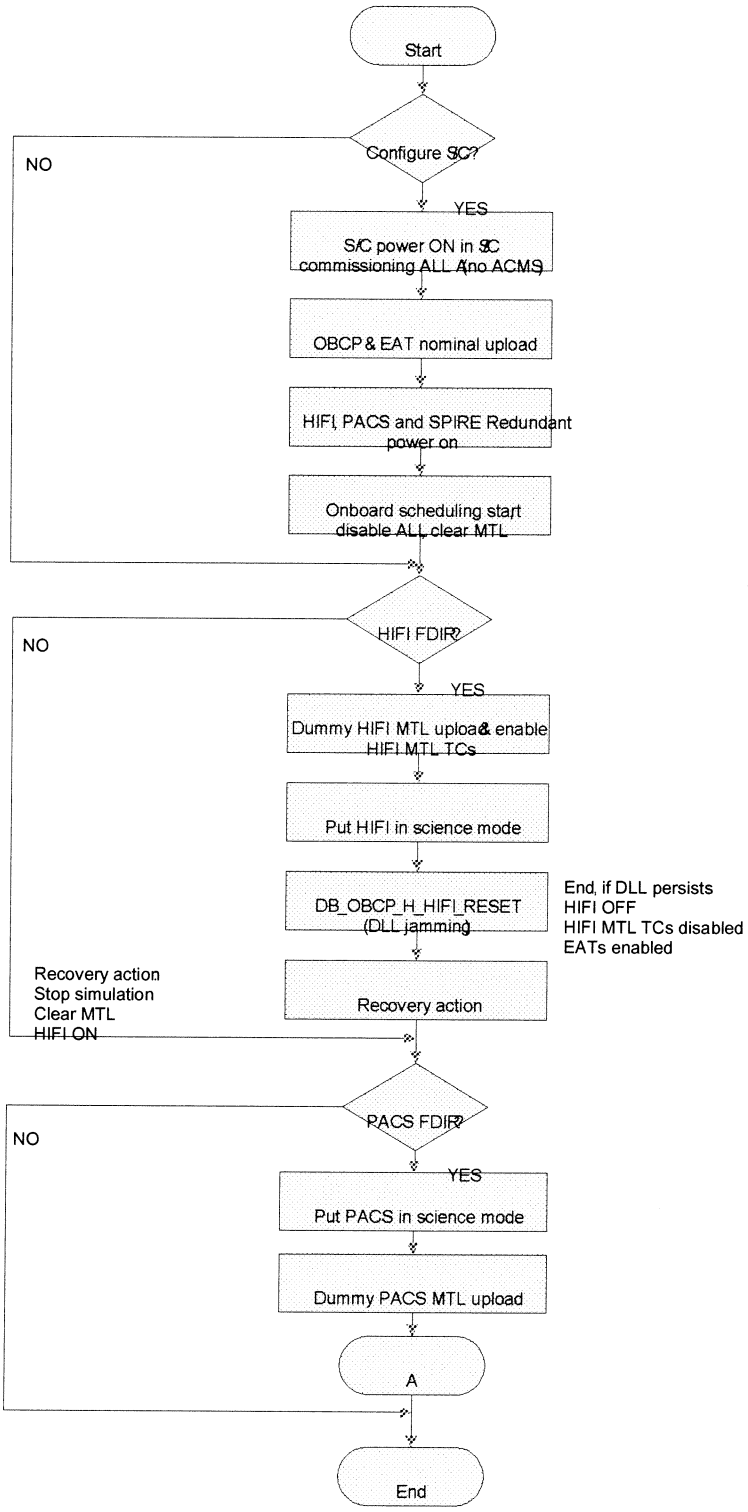
Note:
DB_OBCP_H_PACS_BOLC_OFF has been eliminated from the test because never called by PACS S/W of NC-3981(RD-7)

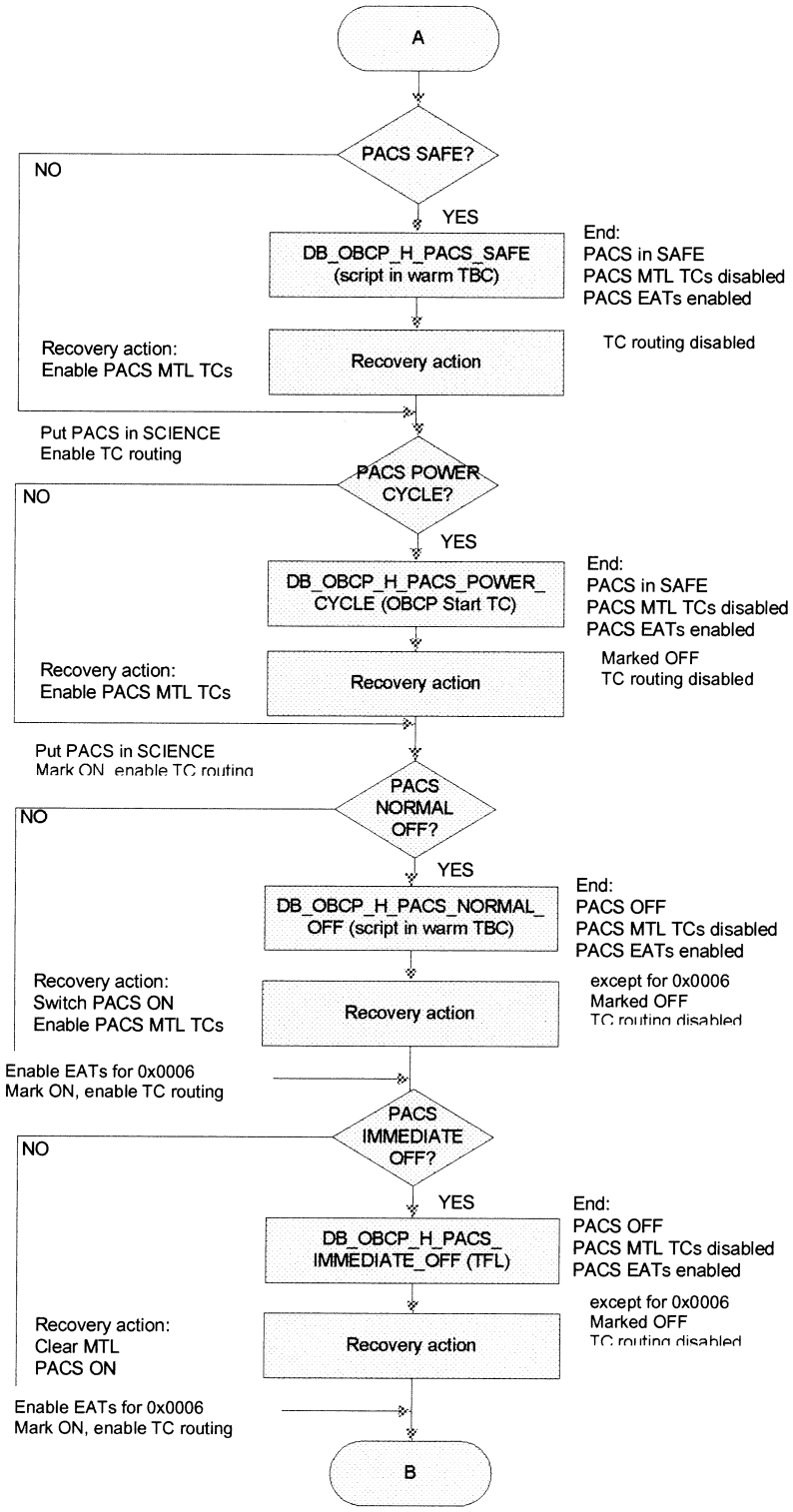
DB_OBCP_H_PACS_IMMEDIATE_OFF DLL has been replaced by TFL (RD-8).

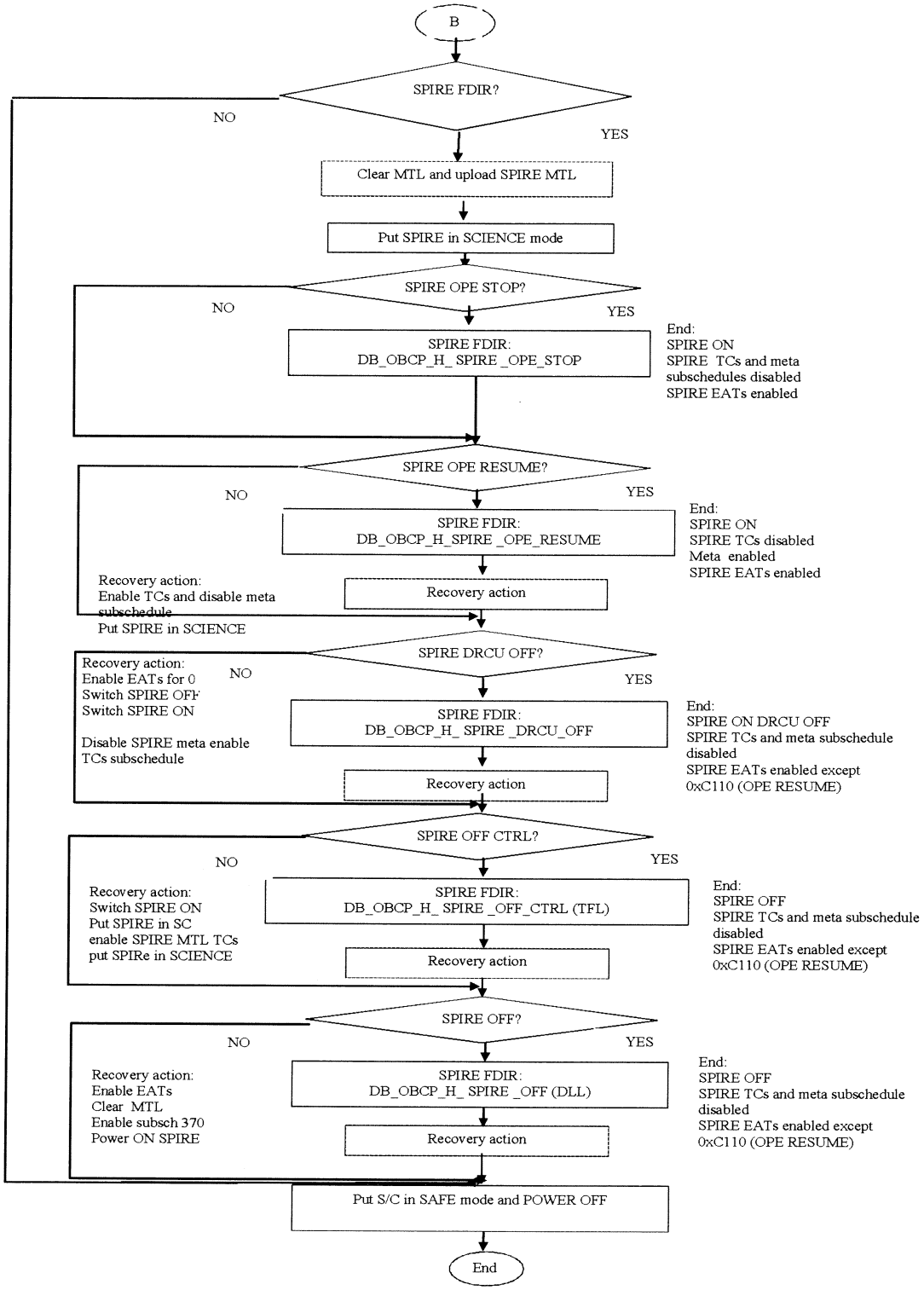
PACS and SPIRE TFL TM tests (PACS IMMEDIATE_OFF and SPIRE OFF_CTRL) will be started with the instrument in STANDBY instead of science (RD-5)

1.2 Operational Flow

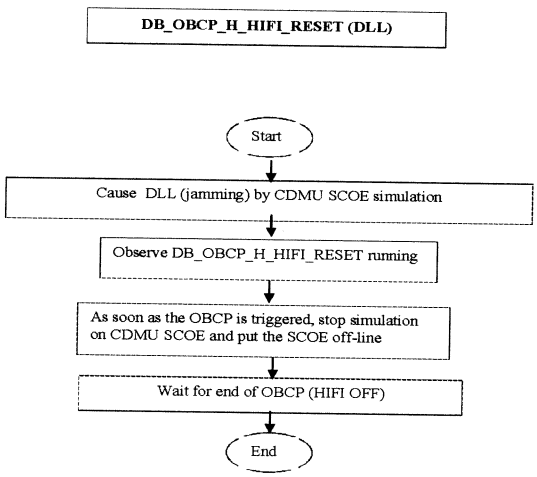
The overall flow of the Instruments FDIR is shown in the schemas of the following pages.


Start
Configure S/C?
NO
YES
S/C power ON in S/C commissioning ALL A(no ACMS)
OBCP & EAT nominal upload
HIFI, PACS and SPIRE Redundant power on
Onboard scheduling start disable ALL clear MTL
HIFI FDIR?
NO
YES
Dummy HIFI MTL upload & enable HIFI MTL TCs
Put HIFI in science mode
DB_OBCP_H_HIFI_RESET (DLL jamming)
End, if DLL persists
HIFI OFF
HIFI MTL TCs disabled
EATs enabled
Recovery action
Stop simulation
Clear MTL
HIFI ON
Recovery action
PACS FDIR?
NO
YES
Put PACS in science mode
Dummy PACS MTL upload
A
End

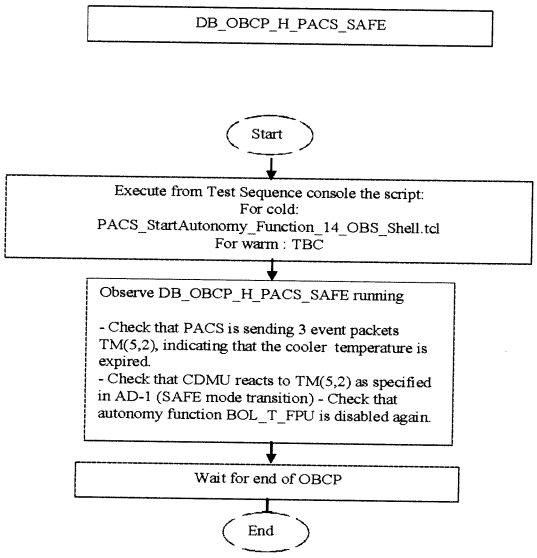

A
PACS SAFE?
NO
YES
DB_OBCP_H_PACS_SAFE (script in warm TBC)
End: PACS in SAFE PACS MTL TCs disabled PACS EATs enabled
Recovery action: Enable PACS MTL TCs
Recovery action
TC routing disabled
Put PACS in SCIENCE Enable TC routing
PACS POWER CYCLE?
NO
YES
DB_OBCP_H_PACS_POWER_CYCLE (OBCP Start TC)
End: PACS in SAFE PACS MTL TCs disabled PACS EATs enabled
Recovery action: Enable PACS MTL TCs
Recovery action
Marked OFF TC routing disabled
Put PACS in SCIENCE Mark ON, enable TC routing
PACS NORMAL OFF?
NO
YES
DB_OBCP_H_PACS_NORMAL_OFF (script in warm TBC)
End: PACS OFF PACS MTL TCs disabled PACS EATs enabled
Recovery action: Switch PACS ON Enable PACS MTL TCs
Recovery action
except for 0x0006 Marked OFF TC routing disabled
Enable EATs for 0x0006 Mark ON, enable TC routing
PACS IMMEDIATE OFF?
NO
YES
DB_OBCP_H_PACS_IMMEDIATE_OFF (TFL)
End: PACS OFF PACS MTL TCs disabled PACS EATs enabled
Recovery action: Clear MTL PACS ON
Recovery action
except for 0x0006 Marked OFF TC routing disabled
Enable EATs for 0x0006 Mark ON, enable TC routing
B


B
SPIRE FDIR?
NO
YES
Clear MTL and upload SPIRE MTL
Put SPIRE in SCIENCE mode
SPIRE OPE STOP?
NO
YES
SPIRE FDIR:
DB_OBCP_H_SPIRE _OPE_STOP
End:
SPIRE ON
SPIRE TCs and meta subschedules disabled
SPIRE EATs enabled
SPIRE OPE RESUME?
NO
YES
SPIRE FDIR:
DB_OBCP_H_SPIRE _OPE_RESUME
End:
SPIRE ON
SPIRE TCs disabled
Meta enabled
SPIRE EATs enabled
Recovery action:
Enable TCs and disable meta subschedule
Put SPIRE in SCIENCE
Recovery action
SPIRE DRCU OFF?
Recovery action:
Enable EATs for 0
Switch SPIRE OFF
Switch SPIRE ON
Disable SPIRE meta enable TCs subschedule
NO
YES
SPIRE FDIR:
DB_OBCP_H_SPIRE _DRCU_OFF
End:
SPIRE ON DRCU OFF
SPIRE TCs and meta subschedule disabled
SPIRE EATs enabled except 0xC110 (OPE RESUME)
Recovery action
SPIRE OFF CTRL?
NO
YES
Recovery action:
Switch SPIRE ON
Put SPIRE in SC
enable SPIRE MTL TCs
put SPIRe in SCIENCE
SPIRE FDIR:
DB_OBCP_H_SPIRE _OFF_CTRL (TFL)
End:
SPIRE OFF
SPIRE TCs and meta subschedule disabled
SPIRE EATs enabled except 0xC110 (OPE RESUME)
Recovery action
SPIRE OFF?
NO
YES
Recovery action:
Enable EATs
Clear MTL
Enable subsch 370
Power ON SPIRE
SPIRE FDIR:
DB_OBCP_H_SPIRE _OFF (DLL)
End:
SPIRE OFF
SPIRE TCs and meta subschedule disabled
SPIRE EATs enabled except 0xC110 (OPE RESUME)
Recovery action
Put S/C in SAFE mode and POWER OFF
End

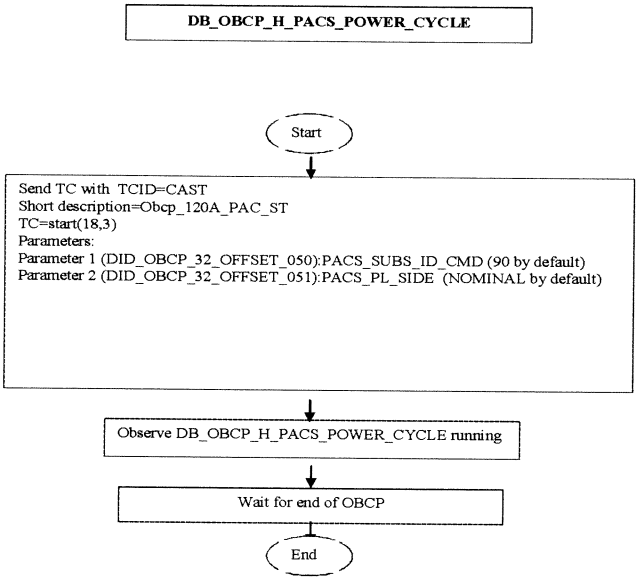
DB_OBCP_H_HIFI_RESET



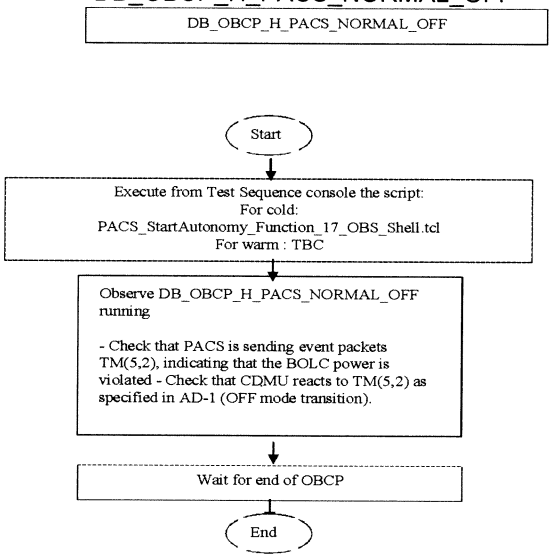
DB_OBCP_H_PACS_SAFE



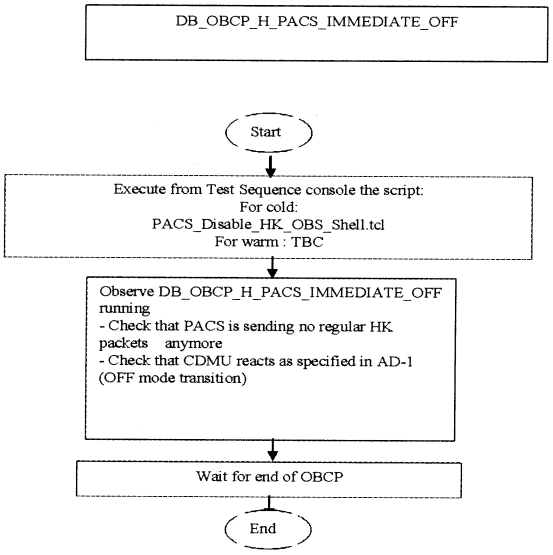
DB_OBCP_H_PACS_POWER_CYCLE (OBCP Start TC)



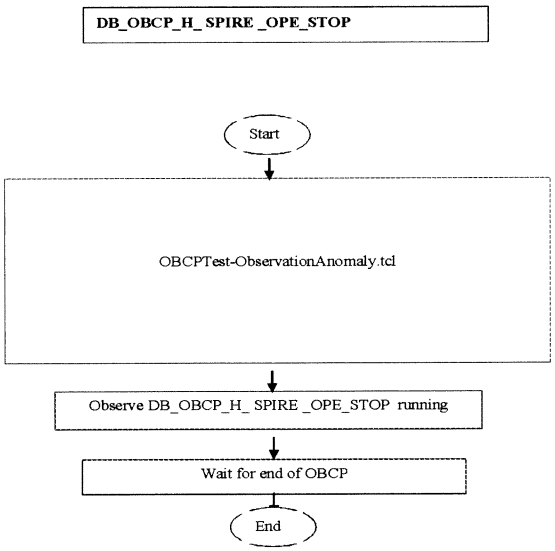
DB_OBCP_H_PACS_NORMAL_OFF



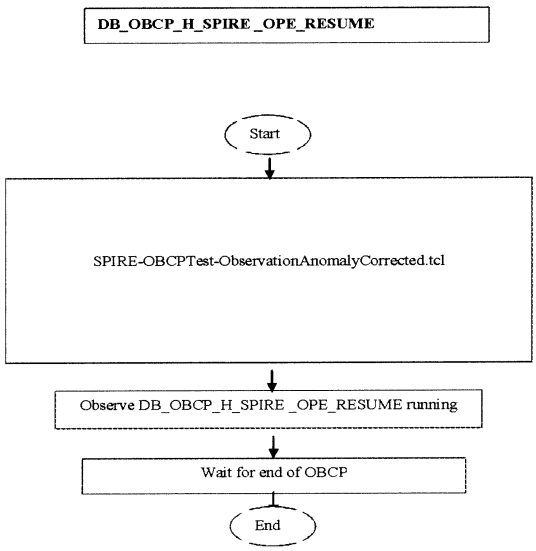
DB_OBCP_H_PACS_IMMEDIATE _OFF (TFL)



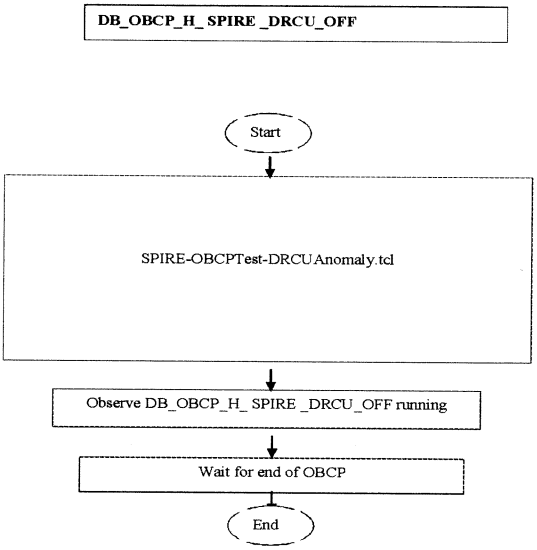
DB_OBCP_H_ SPIRE _OPE_STOP



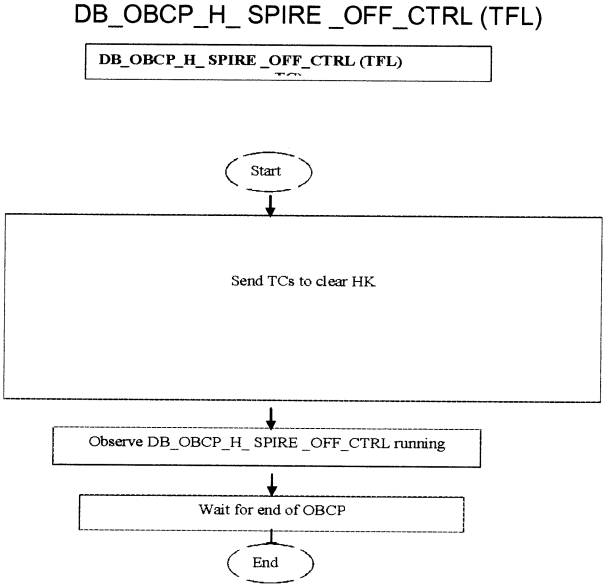
DB_OBCP_H_SPIRE _OPE_RESUME



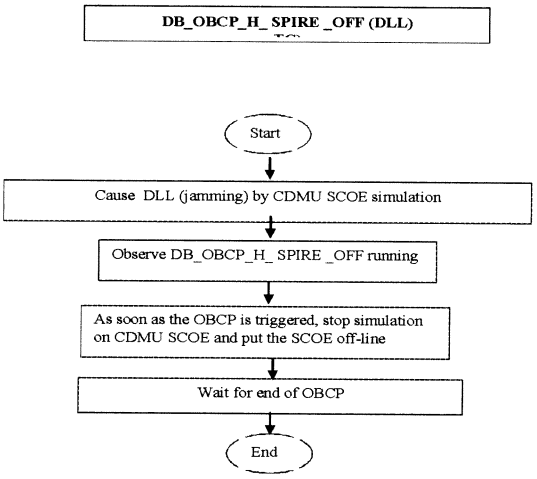
DB_OBCP_H_ SPIRE _DRCU_OFF



DB_OBCP_H_ SPIRE _OFF_CTRL (TFL)



DB_OBCP_H_ SPIRE _OFF (DLL)



2 Documents/Drawings

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

2.1 Applicable Documents

AD-1 Herschel Integrated Satellite Test Specification
H-P-2-ASP-SP-0939, Issue 7

AD-2 Payload management and OBCP
H-P-ASPI-TN-1072, issue 8

AD-3 Test Specification for Herschel Instruments AVM and FM Tests performed at Satellite Level
HP-2-ASP-TS-1083, issue 2

2.2 Reference Documents

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

RD-1 Herschel SVM User Manual
H-P-MA-AI-0001

RD-2 Herschel/Planck List of Acronyms
H-P-ASP-LI-0077

RD-3 Herschel Instruments power ON-OFF and Mode Switching Procedure for functional Testing
HP-2-ASED-TP-0206, Issue 3

RD-4 Leading Procedure for Herschel Integrated Satellite Test 'IST'
HP-2-ASED-TP-0134 iss 7

RD-5 H-P-TASF-MN-10377

RD-6 H-P-TASF-MN-10378

RD-7 H-P-TASF-MN-10199

RD-8 Mail to S. Hamer

2.3 Other Documents

None

2.4 Acronyms

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

3 Requirements to be verified

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

4 Configuration

4.1 Herschel S/C Configuration

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

4.1.1 Hardware Configuration

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

4.1.2 Software Configuration

Refer to RD4

4.1.3 Test Configuration

Refer to RD4

4.1.4 Simulated Equipments

Refer to RD4

4.2 Set-up

Refer to RD4

5 Conditions

5.1 Personnel

Refer to RD4

5.2 Environmental

Refer to RD4

5.3 General Precautions and Safety

Refer to RD4

5.3.1 General Safety Requirements, Precautions

Refer to RD4

5.3.2 ESD constraints

Refer to RD4

5.3.3 Special QA Requirements

Refer to RD4

5.4 GSE

Refer to RD4

5.4.1 MGSE

Refer to RD4

5.4.2 CVSE

Refer to RD4

5.4.3 EGSE

5.4.3.1 EGSE Hardware Configuration

Refer to RD4

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

5.4.3.2 EGSE User Software

Refer to RD4

5.4.3.3 Grounding Configuration

Refer to RD4

5.4.3.4 Test Equipment

Refer to RD4

5.4.3.5 Data Acquisition System

Refer to RD4

5.4.4 OGSE

Refer to RD4

5.4.5 Special Equipment

Refer to RD4

6 Verification Requirements and Test Criteria

PASS/FAIL CRITERIA

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

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

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

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

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

7 Test Execution Step-by-Step Procedure

7.1 S/C Initialization

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

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

- on the master GUI, select Test Case Instruments FDIR (5.8.13)
- SKIP the step to launch the IST_START
- Continue with step 1 §7.2 of this procedure calling the master script Z010999MCVT161_IST_INSTR_FDIR_R

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

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

Steps:

- Follow AD 4 selecting Test Case Instruments FDIR (5.8.13) from the GUI
- PERFORM the IST_START step
- Continue with step 1 §7.2 of this procedure calling the master script Z010999MCVT161_IST_INSTR_FDIR_R

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 Z010999MCVT161_IST_INSTR_FDIR_R.tcl*	PASS				✓	
2.	*During Z010999MCVT161_IST_INSTR_FDIR_R.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 Z010999MCVT161_IST_INSTR_FDIR_R.tcl* *Configure for Instruments FDIR test? - SKIP if S/C already on and configured by CMDS 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:	Operator	Product Assurance:	Date:
ESTEC		R. Goossens	12/01/09 05:14

Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
4.	*During Z010999MCVT161_IST_INSTR_FDIR_R* *"CDMS setting for separation"* *⇨ Click the button "Confirm" to proceed*	CONFIRM		Confirm		✓	
5.	*During …* *D103159SCVT138_IST_LAUNCH_SUNACQ* *⇨ Wait, go to script …ACMS_CONFIG25*	PASS				✓	
6.	*During A102109SPVT103_ACMS_CONFIG25* *⇨ enter option 88, to go to Main Menu 3* *⇨ Click the button "OK"* *⇨ then press "Continue"*	88 OK CONTINUE		88 ok continue		✓	

Test location:	Operator	Product-Assurance:	Date:
ESTEC	S. Ilsen	R. Goossens	18/01/09 05:34

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 cont	5:35	V	
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	5:35	/	
9.	*At end of* *D102159SCVT138_IST_LAUNCH_SUNACQ* *⇨ Click the button "End TS!" to proceed*	ENDTS		ETS	5:39	/	
10.	*During* *Z010999MCVT161_IST_INSTR_FDIR_R* *Transition to Nominal* *⇨ Click the button "Confirm" to proceed*	CONFIRM		cont	At the end check, from SAT.ilv, that CDMS FDIR mode (DE81D170) is AFO before switching instruments on 5:40	/	

Test location:	Operator	Product Assurance:	Date:
ESTEC	W.S. DAVIS	R. Goossens	18-1-09 5:40

Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
11.	During *D102159SCVT138_IST_~~LAUNCH_~~SUNACQ_NOM* ⇨ *Click the button "End TS!" to proceed*	ENDTS		ETS	5:42	✓	
12.	*During Z010999MCVT161_IST_INSTR_FDIR_R* *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 CONT	5:56	✓	
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	5:58	✓	

Test location:	Operator	Product Assurance:	Date:
ESTEC	W.S. DAVIS	R. Goossens	18-1-09 5:58

Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
15.	*During A102109SPVT043_TRANSITION_TO_OCM* *Only for info:* *⇨ Verify after ca.7 min if ACMS mode is = OCM point fine (Earth pointing)* V *⇨ Verify in AND: ZAA00999 if Est Attitude Q1..Q4 is close to Target* V *⇨ Verify AESM3002 = OCM point fine or in synoptic SAT – ACMS – ACC – Mode Nominal* V	PASS		OK	06:06	✓	
16.	*During A102109SPVT103_ACMS_CONFIG25* *Select Transition to SCM (Science mode).* *Main Menu 7.0: Option 3* *⇨ Click the button "OK" and then* *⇨ Click the button "Continue" to proceed*	3 OK CONTINUE		3 OK CONT	6:06	✓	
17.	*During A102109SPVT038_RWL_ON* *"Do you want to change actual on-board wheel set selected in the nominal configuration?* *RWL 1-2-3-4 selected* *⇨ Click the button "NO" to proceed ?*	NO		NO	AEW1A002, AEW2A002, AEW3A002, AEW4A002 LOW expected until wheels are spun up on AND AA01W109 6:06	✓	

Test location:	Operator	Product-Assurance:	Date:
ESTEC	W. SDAOS	R. Goossens	18-1-09 6:06

Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
18.	*During A102109SPVT042_RWL_SPINUP* *"Change actual Angular Momentum (initial values)?" Option: no* *⇨ click OK and wait for about 10 minutes*	NO RWL-1 ang momentum 10.0 RWL-2 ang momentum -10.0 RWL-3 ang momentum 10.0 RWL-4 ang momentum -10.0		NO OK	06:12	✓	
19.	*Only for info:* *⇨ Verify RWL speed in plotting window* *1. Select REALTIME => DESKTOP => MONITORING => TM Plotting Tool* *2. Select Directory: Home/heracms/plotting* *3. Select FILE => LOAD =>* */home/heracms/plotter/RWLsSPEED.txt*	PASS		PASS	6:22	✓	

Test location:	Operator	Product Assurance:	Date:
ESTEC	W.S. DAVIS	R. GOOSSENS	18-1-08 6:22

Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
20.	*Only for info:* *⇨ Verify 4x RWL momentum parameters are within +/-20%* *AEWMA002 = 10.0 (RWL1 momentum)* *AEWMB002 = -10.0 (RWL2 momentum)* *AEWMC002 = 10.0 (RWL3 momentum)* *AEWMD002 = -10.0 (RWL4 momentum)* *⇨ Verify in SAT synoptic SAT – ACMS – ACC – Mode Nominal = OCM Point Fine* *⇨ Verify in Telemetry window ZAAF0999 (diagnostic TM)* *As long as the ACMS is switched On the Menu Box has to be present !!!*	PASS		OK		✓	
21.	*During A102109SPVT042_RWL_SPINUP* *If script SUSPENDs because of reaction wheels spin up time out* *⇨ Resume sequence from thest conductor console*			RESUME	*ACZ2T109 may timeout because of slew time too short.* 6:22	✓	

Test location:	Operator	Product-Assurance:	Date:
ESTEC	WOSDAVIS	X. Goossens	18-1-09 6:22

Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
22.	*At end of A102109SPVT042_RWL_SPINUP* *⇨ Click the button "End TS!" to proceed*	ENDTS		ETS	6:23 After pressing EndTS wait until AESM3002 is "SCM pnt F rdy"	✓	
23.	*During Z010999MCVT161_IST_INSTR_FDIR_R* *"Transition from SAS 900W and BS 24V to SAS 1475W and BS full charged"* *⇨ Click the button "Confirm" to proceed*	CONFIRM		CONF.	6:28	✓	
24.	*During Z010999MCVT161_IST_INSTR_FDIR_R* *"Switch on SREM and start acquisition service"* *⇨ Click the button "Confirm" to continue*	CONFIRM		CONF	6:34	✓	
25.	*During Z102999SCVT003_SREM_ACQ_START* *⇨ Click the button "End TS!" to proceed*	ENDTS		ETS	SPR-290 6:38	✓	

Test location:	Operator	Product-Assurance:	Date:
ESTEC	W.S.DAVIS	R. Goossens	18-1-09 6:38

Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
26.	*Configure the instruments IEGSEs to support the specific test.* *For HIFI, perform §7.3.1 of RD3 (mandatory for HIFI power ON and FDIR test)* *For PACS, perform §7.1.1 of RD3 (mandatory for PACS FDIR test)* *For SPIRE, perform §7.2.1of RD3 (optional for SPIRE FDIR test, mandatory if instruments want to follow the test on IEGSEs)* *Then continue with the next step.*	V 06:45 PASS V PASS PASS V			If planning to switch HIFI ON, switch the cooling on in cleanroom	✓	
27.	*During Z010999MCVT161_IST_INSTR_FDIR_R* *"POWER ON HIFI (REDUNDANT)"* *⇨ Click the button "Confirm" to continue*	CONFIRM	Confirm		Conditions may change so check on RD-3 §7.3.4 for current prompts and expected OOL. At the end of it choose to reset the previous bus profle.	✓	

Test location:	Operator	Product-Assurance:	Date:
ESTEC	W. S. DAVIS	R. Goossens	18-1-09 07:59

Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
28.	*During Z010999MCVT161_IST_INSTR_FDIR_R* *"POWER ON PACS (REDUNDANT)"* ⇨ *Click the button " Confirm" to continue*	CONFIRM 08:12	Confirm		Conditions may change so check on RD-3 §7.1.4 for current prompts and expected OOL. At the end of it choose to reset the previous bus profle.	V	
29.	*During Z010999MCVT161_IST_INSTR_FDI_RR* *"POWER ON SPIRE (REDUNDANT)"* ⇨ *Click the button " confirm" to continue*	CONFIRM 08:15	Confirm		Conditions may change, so check on RD-3 §7.2.4 for current prompts and expected OOL. At the end of it choose to reset the previous bus profle.	V	
30.	*During Z010999MCVT161_IST_INSTR_FDIR_R* *At the prompt "SET RX2" RATE FROM 4000 to 125 BPS?"* ⇨ *Click the button "Confirm" to continue*	CONFIRM 08:19	Confirm			V	

Test location:	Operator	Product-Assurance:	Date:
ESTEC	W.S. DAVIS	R. Goossens	18-1-09 08:19

Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
31.	*During Z010999MCVT161_IST_INSTR_FDIR_R* *"SAVING ORIGINAL SCBP"* *⇨ Click the button "Confirm" to continue*	YES		YES		√	
32.	*During Z010999MCVT161_IST_INSTR_FDIR_R* *"Clear MTL and start ON BOARD SCHEDULING?"* *⇨ Click the button "Confirm" to proceed*	CONFIRM	Confirm		The following TM parameters are related to the MTL and might be of importance in case of problems: - DE82F170 - DEA74170 - DEH26170 Open also the OnBoardQueue	√	
33.	*During Z010999MCVT161_IST_INSTR_FDIR_R* *"Check that all subschedules from 1 to 256, plus the 370 are enabled"* *⇨ Perform activity then click the button "OK" to proceed*	PASS OK	OK			√	

Test location:	Operator	Product-Assurance:	Date:
ESTEC	S. Ilsen	R. Goossens	18/01/09 08:33

Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
34.	*During Z010999MCVT161_IST_INSTR_FDIR_R* *"Start the instrument specific FDIR sequence""* ⇨ *'callasync' the specific instrument FDIR sequence from test console and* ⇨ *only at the END of it click the "OK" button.*	Callasync proper sequence and continue from - chapter 7.3 for HIFI 08:33 - chapter 7.4 for PACS - chapter 7.5 for SPIRE Sequences can be performed also one after the other. Otherwise continue from §7.6 for end of test activities			Note down: chapter - time stamp	✓	

Test location:	Operator	Product-Assurance:	Date:
ESTEC	S. J...	R. Goossens	18/01/09 08:33

7.3 HIFI

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

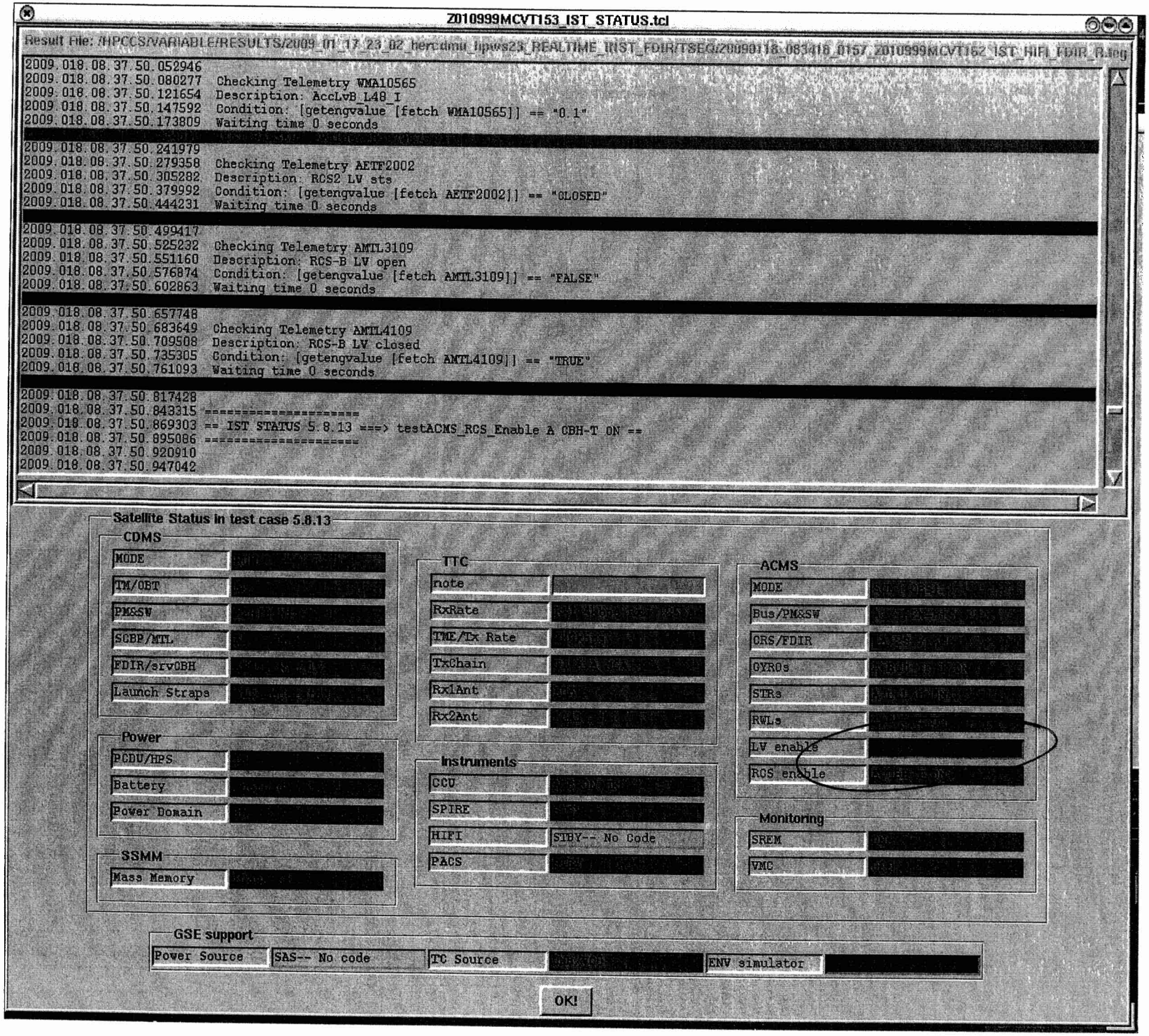
Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
35.	*Callasync* *Z010999MCVT162_IST_HIFI_FDIR_R* *to perform the HIFI related part of the Instruments FDIR IST*	PASS		OK	08:34	✓	
36.	*During* *Z010999MCVT162_IST_HIFI_FDIR_R* *"PERFORM HIFI FDIR TEST (REDUNDANT)?"* *⇨ Click the button "Confirm" to continue*	CONFIRM		Confirm	If SKIP, it exits the script	✓	
37.	*During* *Z010999MCVT162_IST_HIFI_FDIR_R* *"Starting condition check"* *⇨ Click the button "Confirm" to continue*	CONFIRM		Confirm		✓	

Test location:	Operator	Product Assurance:	Date:
ESTEC	S. Ilsen	R. Goossens	18/01/09 08:34

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
38.	During Z010999MCVT162_IST_HIFI_FDIR_R "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.	✓	
39.	During Z010999MCVT162_IST_HIFI_FDIR_R "INITIAL S/C STATUS CHECK" ⇨ Click the button "confirm" to continue	CONFIRM		confirm		✓	
40.	During Z010999MCVT153_IST_STATUS "Do you want to stop and notice each failure" ⇨ Click the button "NO" to continue	NO		No		✓	
41.	During Z010999MCVT153_IST_STATUS ⇨ Check the Satellite State ⇨ Click the button "OK" to continue	OK		NoK LV status	Compare with AD-1 for chapter 5.8.7 of IST specifications	✓	X

SPR 1136

Test location:	Operator	Product Assurance:	Date:
ESTEC	S. Ilsen	R. Goossens	18/01/09 08:44


Z010999MCVT153_IST_STATUS.tcl
Result File: /HPCCS/VARIABLE/RESULTS/2009_01_17_23_02_herc4mu_hpws23_REALTIME_IIST_FDIR/TSEQ/Z0090118_083416_0157_Z010999MCVT162_IST_HIFI_FDIR_0.log
2009.018.08.37.50.052946
2009.018.08.37.50.080277 Checking Telemetry WMA10565
2009.018.08.37.50.121654 Description: AccLvB_L48_I
2009.018.08.37.50.147592 Condition: [getengvalue [fetch WMA10565]] == "0.1"
2009.018.08.37.50.173809 Waiting time 0 seconds
2009.018.08.37.50.241979
2009.018.08.37.50.279358 Checking Telemetry AETF2002
2009.018.08.37.50.305282 Description: RCS2 LV sts
2009.018.08.37.50.379992 Condition: [getengvalue [fetch AETF2002]] == "CLOSED"
2009.018.08.37.50.444231 Waiting time 0 seconds
2009.018.08.37.50.499417
2009.018.08.37.50.525232 Checking Telemetry AMTL3109
2009.018.08.37.50.551160 Description: RCS-B LV open
2009.018.08.37.50.576874 Condition: [getengvalue [fetch AMTL3109]] == "FALSE"
2009.018.08.37.50.602863 Waiting time 0 seconds
2009.018.08.37.50.657748
2009.018.08.37.50.683649 Checking Telemetry AMTL4109
2009.018.08.37.50.709508 Description: RCS-B LV closed
2009.018.08.37.50.735305 Condition: [getengvalue [fetch AMTL4109]] == "TRUE"
2009.018.08.37.50.761093 Waiting time 0 seconds
2009.018.08.37.50.817428
2009.018.08.37.50.843315 ====================
2009.018.08.37.50.869303 == IST STATUS 5.8.13 ===> testACMS_RCS_Enable A CBH-T ON ==
2009.018.08.37.50.895086 ====================
2009.018.08.37.50.920910
2009.018.08.37.50.947042
Satellite Status in test case 5.8.13
CDMS
MODE
TM/OBT
PM&SW
SGBP/MTL
FDIR/srvOBH
Launch Straps
Power
PCDU/HPS
Battery
Power Domain
SSMM
Mass Memory
TTC
note
RxRate
TME/Tx Rate
TxChain
RxlAnt
Rx2Ant
Instruments
CCU
SPIRE
HIFI
STBY-- No Code
PACS
ACMS
MODE
Bus/PM&SW
ORS/FDIR
GYROs
STRs
RWLs
LV enable
ROS enable
Monitoring
SREM
VMC
GSE support
Power Source
SAS-- No code
TC Source
ENV simulator
OK!

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
42.	During Z010999MCVT162_IST_HIFI_FDIR_R "Set SCBP to HIFI Prime (2)" ⇨ Click the button " Confirm" to continue	CONFIRM		Confirm		✓	
43.	During Z010999MCVT162_IST_HIFI_FDIR_R "upload dummy MTL with HIFI connection test in subschedule 70" ⇨ Click the button "Confirm to continue"	CONFIRM		Confirm		✓	
44.	During D102159SCVT214_IST_HIFI_MTL_PING "Check the parameters" ⇨ Check that there is 1 HIFI PING TC every 5 minutes starting within 15 minutes for 10 hours ⇨ Click the button "OK" to confirm	PASS OK		Pass OK		✓	
45.	During D102159SCVT214_IST_HIFI_MTL_PING ⇨ Click the button "EndTS!" to continue	ENDTS		endTS		✓	

Test location:	Operator	Product-Assurance:	Date:
ESTEC	S. Ilsen	R. Goossens	18/01/09 8:50

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
46.	*During Z010999MCVT162_IST_HIFI_FDIR_R* *"Check that subschedule 60 (meta-HIFI) is disabled and 70 (HIFI TCs) are enabled, then press OK"* *⇨ Perform activity and then press the button "OK" to proceed*	PASS OK		ok		✓	
47.	*During Z010999MCVT162_IST_HIFI_FDIR_R* *"Wait for execution of the first command, then press OK"* *⇨ Click the button "OK" to confirm*	PASS OK		ok		✓	
48.	*During Z010999MCVT162_IST_HIFI_FDIR_R* *"Put HIFI in science mode"* *⇨ Click the button "Confirm" to continue*	CONFIRM		confirm		✓	
49.	Check if the downlink rate is set to 1.5 Mbps, if not, send to change **DC27F170**	1.5Mbps	→ ok		08:59	✓	

Test location:	Operator	Product Assurance:	Date:
ESTEC	S. Ilan	R. Goossens	18/01/09 09:00

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
50.	*During Z010999MCVT162_IST_HIFI_FDIR_R* *"Insert call to science mode sequence"* *⇨ Click the button "OK" to confirm* Z102999SCVT024_ASDGEN_HIFISTBY_1_A.tcl *Execute: Z102999SCVT020_ASDGEN_HIFISTBY_2OPS_P.tcl*	Callasync sequence according to RD-3 and current condition. At the end of it, press OK			Note down chapter of RD-3 that has been executed:	✓	
51.	*During Z010999MCVT162_IST_HIFI_FDIR_R* *"Perform HIFI RESET OBCP (DLL)?"* *⇨ Click the button "Confirm" to continue*	CONFIRM	Confirm		If SKIP, it continues at step 70. DB_OBCP_H_HIFI_RESET is the OBCP under test.	✓	
52.	*During Z010999MCVT162_IST_HIFI_FDIR_R* *"HIFI RESET DLL FDIR triggering"* *⇨ Click the button "confirm" to continue*	CONFIRM	confirm			✓	

PJS #4

Test location:	Operator	Product Assurance:	Date:
ESTEC	S. Dhan	R. Goossens	16/01/09 09:13

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
53.	*During Z010999MCVT162_IST_HIFI_FDIR_R* *"Please filter one TMPKT History for TM(5,4) and one for TM(5,1)"* *⇨ Click the button "OK" to continue*	PASS OK		OK		✓	
54.	*During Z010999MCVT162_IST_HIFI_FDIR_R* *"Please start the HIFI-B (RT 19) simulation on the CDMU SCOE to create jamming"* *⇨ Click the button "OK" to proceed*	OK			OK, then move to the CDMU SCOE desktop	✓	
55.	*On CDMS SCOE* *Double-click on the link "StartSCOE.bat" on the desktop to start the CDMU SCOE workstation.*	PASS			9:14	✓	
56.	*On CDMS SCOE* *Select Menu:* *Mode ⇨ Local Mode* *Password: H-P*	PASS		OK		✓	
57.	*On CDMS SCOE* *Select from menu:* *Setup ⇨ RTSim Configuration*	PASS				✓	

Test location:	Operator	Product-Assurance:	Date:
ESTEC	S. Ilsa	R. Goossens	16/01/09 09:16

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
58.	*On CDMS SCOE* *Select file:* *R:\(192.168.90.32)\Herschel.rtc* *and then click the button "OK"*	PASS		ok		✓	
59.	*On CDMS SCOE* *Select from menu:* *Mode ⇨ On Line*	PASS		ok		✓	
60.	*On CDMS SCOE* *In window: "System Control/RT controls"* *⇨ Select RT 19 (HIFI-B)* *⇨ Click the button "Enable" for:* - *control* - *TM queue* - *TC queue* *Within 8 seconds perform next step*	PASS		ok	JAMMING STARTED!!!!!! Very important to stop within 8 sec, to avoid subsequent reconfigurations!! CAN BE STOPPED AS SOON AS THE OBCP STARTED EVENT IS RECEIVED. 9:17	✓	

Test location:	Operator	Product-Assurance:	Date:
ESTEC	S. Ilsen	R. Gaessens	18/01/09 09:18

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
61.	*On CDMS SCOE* *In window: "System Control/RT controls"* *Click the button "Disable" for:* - *control* - *TM queue* - *TC queue*	PASS		ok	Very important to stop within 8 sec, to avoid subsequent reconfigurations!!	✓	
62.	*During* *Z010999MCVT162_IST_HIFI_FDIR_R* *At the prompt* *"Wait until the end of the OBCP TM(5,1) with SPID 40145170 procID 0x130D"* *Check that* *⇨ OBCP HIFI_RESET has been triggered -TM(5,1) with SPID 4014817 procID 0x130D* *⇨ events TM(5,4) have been sent with EvID 0x3001 (SOFT RESET) 0x3000 (HARD RESET)* *⇨ TM(5,1) with SPID 40145170 procID 0x130D has been received* *⇨ Click the button "OK" to confirm*	✓ PASS ✓ OK	→ NCR		If soft reset, HIFI is left ON If hard reset HIFI is left OFF. 09:20	✓	
63.	*If hard reset happened and you intend to leave HIFI off, switch off the cooling in cleanroom*	PASS		N/A		✓	

Re-occurred of NCR 9613

Test location:	Operator	Product-Assurance:	Date:
ESTEC	S. Ilsen	R. Goossens	18/01/09 9:23

TM Packet Query Display
==========

TM Packet Details

Mnemonic: D_EvRp_434 Description: CdmuBsw Event 5-1 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: 10272 Type: 5 Subtype: 1 PI1: 34 PI2: 34

SPID: 45434160 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: 2009.018.09.17.20.368 Reception time: 2009.018.09.17.21.313

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 A0F3 7249 439E 0500 A1F3 7249 7BC8 0400 0100 0000 E601 0000 6000 0000
0020:1138 FFFF 0400 0000 3045 B502 0000 0000 0000 0000 FFFF FFFF 10FF 1000 2028 0501

Packet Raw Data:
0000:0810 E820 0019 0005 0100 6005 5220 5E42 0022 0022 0002 0000 0000 0000 006D 130E

HF1 C&C TP-254, Stp 62

TM Packet Query Display
==========

TM Packet Details

Mnemonic: (5,2)-0551 Description: CdmuBsw Event 5-2 HIFI 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: 10273 Type: 5 Subtype: 2 PI1: 151 PI2: 151

SPID: 40551161 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: 2009.018.09.17.20.415 Reception time: 2009.018.09.17.21.313

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 A0F3 7249 4256 0600 A1F3 7249 DCC8 0400 0100 0000 E601 0000 6000 0000
0020:1138 FFFF 0000 0000 F9C2 6A02 0000 0000 0000 0000 FFFF FFFF 10FF 1000 2128 0502

Packet Raw Data:
0000:0810 E821 0019 0005 0200 6005 5220 6A51 0097 0097 0000 0013 0001 0000 0000 F7F6

HIFI CRC'd TP-8254 Step 62

TM Packet Query Display
==========

TM Packet Details

Simulated: N

Mnemonic: D_EvRp_148 Description: CdmuAsw Event 5-1 OBCP Started

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: 10277 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: 2009.018.09.17.20.498 Reception time: 2009.018.09.17.21.315

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 A0F3 7249 179A 0700 A1F3 7249 FFCF 0400 0100 0000 E601 0000 6000 0000
0020:1138 FFFF 0000 0000 CA9C 6402 0000 0000 0000 0000 FFFF FFFF 10FF 1000 2528 0501

Packet Raw Data:
0000:0810 E825 0019 0005 0100 6005 5220 7F8A 6B0A 0000 130D 0000 0000 0000 006E 95B3

AIF1 OBCP TP-0254 Step 62

TM Packet Query Display
==========

TM Packet Details

Simulated: N

Mnemonic: D_EvRp_048 Description: CdmuAsw Event 5-1 Subschedule Status Changed

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: 10284 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: 2009.018.09.17.23.572 Reception time: 2009.018.09.17.26.316

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 A3F3 7249 C5BB 0800 A6F3 7249 8DD3 0400 0100 0000 E601 0000 6600 0000
0020:1138 FFFF 0400 0000 2A16 6302 0000 0000 0000 0000 FFFF FFFF 10FF 1000 2C28 0501

Packet Raw Data:
0000:0810 E82C 001F 0005 0100 6005 5223 9286 6901 0000 0046 0000 0001 0000 006F 6005
0020:5223 927F 6AC9

WIFI OSCP TP-0254 Step 62

TM Packet Query Display
==========

TM Packet Details

Mnemonic: (5,4)-0622 Description: CdmuBsw Event 5-4 SDB TC Packet discarded 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: 10291 Type: 5 Subtype: 4 PI1: 222 PI2: 222

SPID: 40622161 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: 2009.018.09.17.27.464 Reception time: 2009.018.09.17.29.320

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 A7F3 7249 6117 0700 A9F3 7249 41E3 0400 0100 0000 E601 0000 6000 0000
0020:1138 FFFF 0000 0000 51D8 6B02 0000 0000 0000 0000 FFFF FFFF 10FF 1000 3328 0504

Packet Raw Data:
0000:0810 E833 0019 0005 0400 6005 5227 76F9 00DE 00DE 0000 1C00 D801 0B13 0015 CF75

HIF1 OSCP TP-0254 Step 62

TM Packet Query Display
==========

TM Packet Details

Mnemonic: (5,4)-0622 Description: CdmuBsw Event 5-4 SDB TC Packet discarded 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: 10294 Type: 5 Subtype: 4 PI1: 222 PI2: 222

SPID: 40622161 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: 2009.018.09.17.29.464 Reception time: 2009.018.09.17.34.055

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 A9F3 7249 DB17 0700 AEF3 7249 90D7 0000 0100 0000 E601 0000 6000 0000
0020:1138 FFFF 0100 0000 51D8 6B02 0000 0000 0000 0000 FFFF FFFF 10FF 1000 3628 0504

Packet Raw Data:
0000:0810 E836 0019 0005 0400 6005 5229 7701 00DE 00DE 0001 1C00 D802 0B13 0016 7DA1

HFI OSCP TP- 0254 Step 62

TM Packet Query Display
==========

TM Packet Details

Mnemonic: (5,4)-0622 Description: CdmuBsw Event 5-4 SDB TC Packet discarded 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: 10296 Type: 5 Subtype: 4 PI1: 222 PI2: 222

SPID: 40622161 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: 2009.018.09.17.31.464 Reception time: 2009.018.09.17.34.055

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 ABF3 7249 EA17 0700 AEF3 7249 80D9 0000 0100 0000 E601 0000 6000 0000
0020:1138 FFFF 0200 0000 51D8 6B02 0000 0000 0000 0000 FFFF FFFF 10FF 1000 3828 0504

Packet Raw Data:
0000:0810 E838 0019 0005 0400 6005 522B 7702 00DE 00DE 0002 1C00 D803 0B13 0017 FC10

WFI 03CP TP- 0254 Sep 62

TM Packet Query Display
==========

TM Packet Details

Mnemonic: ERROR REPORT Description: OBCP_Evt Hifi Soft Reset 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: 10298 Type: 5 Subtype: 4 PI1: 12289 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: 2009.018.09.17.33.464 Reception time: 2009.018.09.17.37.329

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 ADF3 7249 1116 0700 B1F3 7249 7C05 0500 0100 0000 E601 0000 6000 0000
0020:1138 FFFF 0000 0000 79C0 B402 0000 0000 0000 0000 FFFF FFFF 10FF 1000 3A28 0504

Packet Raw Data:
0000:0810 E83A 0019 0005 0400 6005 522D 76E3 3001 0000 0000 0000 0000 0000 0000 326B

HIFI OBCP TP-0254 Step 62

TM Packet Query Display
==========

TM Packet Details

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: 10310 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: 2009.018.09.17.57.468 Reception time: 2009.018.09.18.02.357

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 C5F3 7249 5A27 0700 CAF3 7249 8573 0500 0100 0000 E601 0000 6000 0000
0020:1138 FFFF 0100 0000 79C0 B402 0000 0000 0000 0000 FFFF FFFF 10FF 1000 4628 0504

Packet Raw Data:
0000:0810 E846 0019 0005 0400 6005 5245 7805 3000 0000 0000 0000 0000 0000 0000 6D0A

HIFI OBCP TP-0254 Stp 62

TM Packet Query Display
==========

TM Packet Details

Simulated: N

Mnemonic: D_EvRp_145 Description: CdmuAsw Event 5-1 OBCP Ended

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: 10375 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: 2009.018.09.18.35.473 Reception time: 2009.018.09.18.37.395

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 EBF3 7249 AA3A 0700 EDF3 7249 5707 0600 0100 0000 E601 0000 6000 0000
0020:1138 FFFF 0000 0000 1291 6402 0000 0000 0000 0000 FFFF FFFF 10FF 1000 8728 0501

Packet Raw Data:
0000:0810 E887 0019 0005 0100 6005 526B 7949 6B07 0000 130D 0000 0000 0000 0070 0A6B

NF1 OBCP TP-0254 Step 62

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
64.	*During Z010999MCVT162_IST_HIFI_FDIR_R* *"RECOVERY ACTION"* *⇨ Click the button "Confirm to continue*	CONFIRM		Confirm		✓	
65. If HARD RESET	*During Z010999MCVT162_IST_HIFI_FDIR_R* *"please check subschedules 60 and 70 are disabled"* *⇨ Perform activity and then click the "OK" button to confirm*	PASS OK		OK		✓	
66. If SOFT RESET	*During Z010999MCVT162_IST_HIFI_FDIR_R* *"please check subschedules 60 is disabled and 70 is enabled"* *⇨ Perform activity and then click the "OK" button to confirm*	PASS OK		N/A		✓	

Test location:	Operator	Product-Assurance:	Date:
ESTEC	S. Ilsen	R. Goossens	18/01/08 09:15

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
67.	*During Z010999MCVT162_IST_HIFI_FDIR_R* *" Set the CDMU SCOE OFF LINE"* *On CDMS SCOE, select from menu:* *Mode → Off Line* *⇨ Perform activity and then click the button "OK" to proceed*	PASS OK		ok		✓	
68.	*During Z010999MCVT162_IST_HIFI_FDIR_R* *"End of HIFI RESET OBCP (DLL)"* *"check that all EATs are enabled"* *⇨ Perform activity through D102159SCVT192_GET_EAT_REPORT and then click the "OK" button to confirm*	PASS OK		ok		✓	
69.	*During D102159SCVT192_GET_EAT_REPORT* *⇨ Click the button "EndTS!" to proceed*	ENDTS		endTS		✓	

Test location:	Operator	Product-Assurance:	Date:
ESTEC	S. Ilsen	D. Lamouly	18/01/09 09:26

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
70.	*During Z010999MCVT162_IST_HIFI_FDIR_R* *"RESET starting conditions"* *⇨ click the "confirm" to continue*	CONFIRM		Confirm		✓	
71.	*During Z010999MCVT161_IST_INSTR_FDIR_R* *"Check that all subschedules from 1 to 256, plus the 370 are enabled"* *⇨ Click the "OK" button to continue*	OK		OK		✓	
72. If HARD RESET	*During Z010999MCVT162_IST_HIFI_FDIR_R* *"Switching HIFI ON (REDUNDANT)"* *⇨ click the "CONFIRM" button to confirm* Dec: 241543271	PASS CONFIRM		✓	Conditions may change, so check on RD-3 §7.3.4 for current prompts and expected OOL. At the end of it choose to reset the previous bus profle.	✓	

Test location:	Operator	Product-Assurance:	Date:
ESTEC	S. Ilon	D. Lemanczyk	18/01/09 10:19

PUS II-5 of TP-0254

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
73.	*During Z010999MCVT162_IST_HIFI_FDIR_R* *"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		OK		✓	
74.	*During D102159SCVT192_GET_EAT_REPORT* *⇨ Click the button "EndTS!" to proceed*	ENDTS		ENDTS		✓	
75.	*At end of Z010999MCVT162_IST_HIFI_FDIR_R* *⇨ Click the button "End TS!" to proceed*	ENDTS		ENDTS		✓	

Test location:	Operator	Product-Assurance:	Date:
ESTEC	S. Ilan	D. Lamonby	18/01/05 10:26

7.4 PACS

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

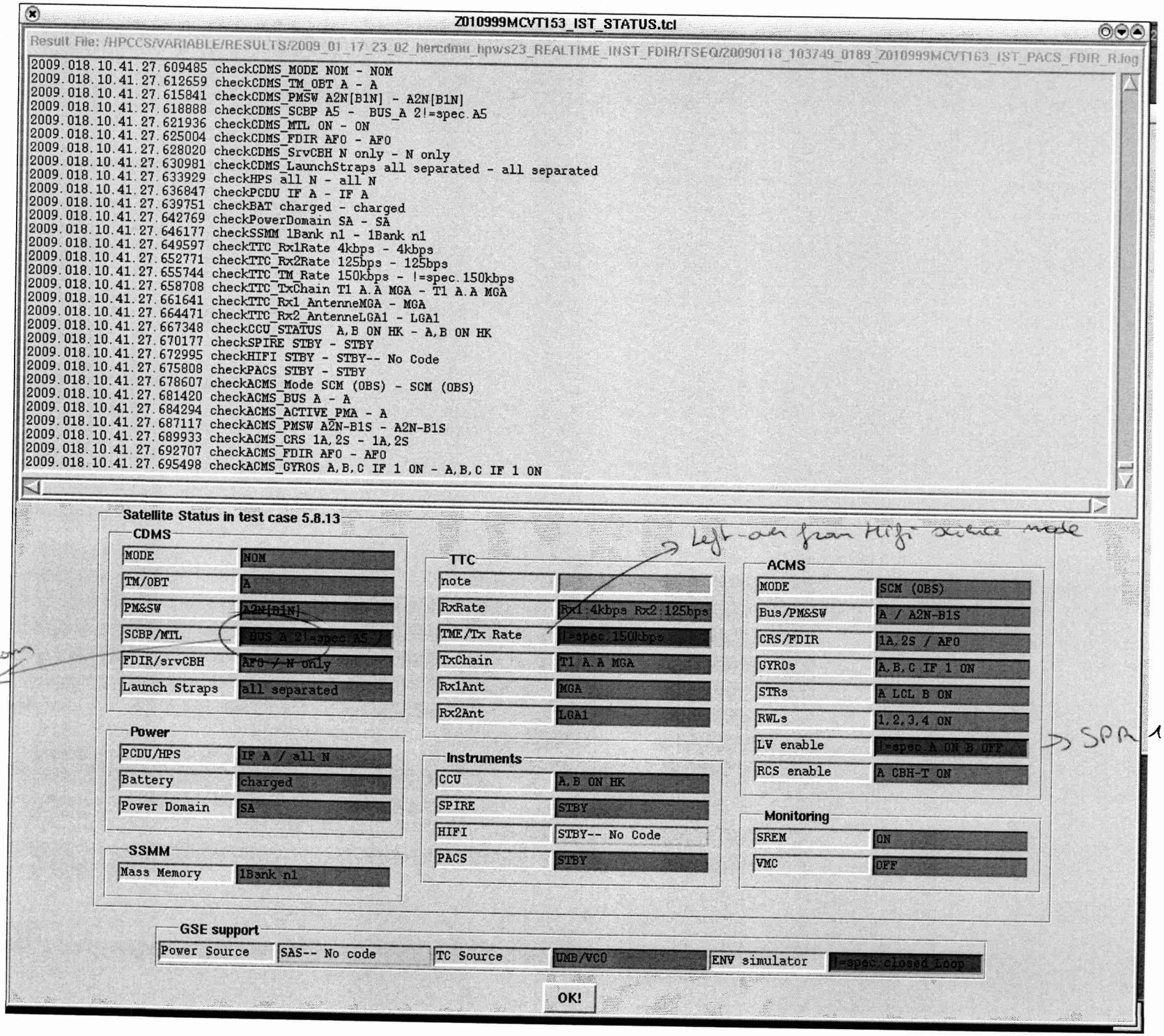
Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
76.	*Callasync Z010999MCVT163_IST_PACS_FDIR _R* *to perform the PACS related part of the Instruments FDIR IST*	PASS		OK	10:37	√	
77.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"PERFORM PACS FDIR TEST (REDUNDANT)?"* *⇨ Click the button "Confirm" to continue*	CONFIRM		Confirm	If SKIP, it exits the script	√	
78.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Starting condition check"* *⇨ Click the button "Confirm" to proceed*	CONFIRM		confirm		√	

Test location:	Operator	Product-Assurance:	Date:
ESTEC	S.Jbara	D.Lamonby	18/01/09 10:38

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
79.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Please check that no instrument is in science. If so put it in standby"* *⇨ Perform the activity and then click the button "OK" to confirm*	OK		OK	RD-3 for details.	✓	
80.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"INITIAL S/C STATUS CHECK"* *⇨ Click the button "Confirm" to continue*	PASS		OK		✓	
81.	*During Z010999MCVT153_IST_STATUS* *"Do you want to stop and notice each failure"* *⇨ Click the button "NO" to continue*	NO		NO		✓	
82.	*During Z010999MCVT153_IST_STATUS* *⇨ Check the Satellite State* *⇨ Click the button "OK" to continue*	PASS OK			Compare with AD-1 for chapter 5.8.13 of IST specification		

SPR 1136 re-occurred

Test location:	Operator	Product-Assurance:	Date:
ESTEC	S. Ilsen	D. Lamarby	18/01/09 10:39


Z010999MCVT153_IST_STATUS.tcl
Result File: /HPCCS/VARIABLE/RESULTS/2009_01_17_23_02_hercdmu_hpws23_REALTIME_INST_FDIR/TSEQ/20090118_103749_0189_Z010999MCVT163_IST_PACS_FDIR_R.log
2009.018.10.41.27.609485 checkCDMS_MODE NOM - NOM
2009.018.10.41.27.612659 checkCDMS_TM_OBT A - A
2009.018.10.41.27.615841 checkCDMS_PMSW A2N[B1N] - A2N[B1N]
2009.018.10.41.27.618888 checkCDMS_SCBP A5 - BUS_A 2!=spec.A5
2009.018.10.41.27.621936 checkCDMS_MTL ON - ON
2009.018.10.41.27.625004 checkCDMS_FDIR AFO - AFO
2009.018.10.41.27.628020 checkCDMS_SrvCBH N only - N only
2009.018.10.41.27.630981 checkCDMS_LaunchStraps all separated - all separated
2009.018.10.41.27.633929 checkHPS all N - all N
2009.018.10.41.27.636847 checkPCDU IF A - IF A
2009.018.10.41.27.639751 checkBAT charged - charged
2009.018.10.41.27.642769 checkPowerDomain SA - SA
2009.018.10.41.27.646177 checkSSMM 1Bank n1 - 1Bank n1
2009.018.10.41.27.649597 checkTTC_Rx1Rate 4kbps - 4kbps
2009.018.10.41.27.652771 checkTTC_Rx2Rate 125bps - 125bps
2009.018.10.41.27.655744 checkTTC_TM_Rate 150kbps - !=spec.150kbps
2009.018.10.41.27.658708 checkTTC_TxChain T1 A.A MGA - T1 A.A MGA
2009.018.10.41.27.661641 checkTTC_Rx1_AntenneMGA - MGA
2009.018.10.41.27.664471 checkTTC_Rx2_AntenneLGA1 - LGA1
2009.018.10.41.27.667348 checkCCU_STATUS A,B ON HK - A,B ON HK
2009.018.10.41.27.670177 checkSPIRE STBY - STBY
2009.018.10.41.27.672995 checkHIFI STBY - STBY-- No Code
2009.018.10.41.27.675808 checkPACS STBY - STBY
2009.018.10.41.27.678607 checkACMS_Mode SCM (OBS) - SCM (OBS)
2009.018.10.41.27.681420 checkACMS_BUS A - A
2009.018.10.41.27.684294 checkACMS_ACTIVE_PMA - A
2009.018.10.41.27.687117 checkACMS_PMSW A2N-B1S - A2N-B1S
2009.018.10.41.27.689933 checkACMS_CRS 1A,2S - 1A,2S
2009.018.10.41.27.692707 checkACMS_FDIR AFO - AFO
2009.018.10.41.27.695498 checkACMS_GYROS A,B,C IF 1 ON - A,B,C IF 1 ON
Satellite Status in test case 5.8.13
CDMS
MODE NOM
TM/OBT A
PM&SW A2N[B1N]
SCBP/MTL BUS A 2!=spec.A5 /
FDIR/srvCBH AFO / N only
Launch Straps all separated
Power
PCDU/HPS IF A / all N
Battery charged
Power Domain SA
SSMM
Mass Memory 1Bank n1
TTC
note
RxRate Rx1:4kbps Rx2:125bps
TME/Tx Rate !=spec.150kbps
TxChain T1 A.A MGA
Rx1Ant MGA
Rx2Ant LGA1
Instruments
CCU A,B ON HK
SPIRE STBY
HIFI STBY-- No Code
PACS STBY
ACMS
MODE SCM (OBS)
Bus/PM&SW A / A2N-B1S
CRS/FDIR 1A,2S / AFO
GYROs A,B,C IF 1 ON
STRs A LCL B ON
RWLs 1,2,3,4 ON
LV enable !=spec.A ON B OFF
RCS enable A CBH-T ON
Monitoring
SREM ON
VMC OFF
GSE support
Power Source SAS-- No code
TC Source UMB/VCO
ENV simulator !=spec.closed Loop
OK!
Hifi (left-aer from Hifi science mode)
=> Left-aer from Hifi science mode
=> SPR 1136

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
83.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Set SCBP to PACS Prime (4)"* *⇨ Click the button "Confirm" to continue*	CONFIRM		ok	11:46	✓	
84.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"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	✓	
85.	*During D102159SCVT125_IST_PACS_MTL_PING* *"Check MTL parameters"* *⇨ Check that there is 1 PACS PING TC every 5 minutes starting within 15 minutes for 10 hours* *⇨ Click the button "OK" to continue*	PASS OK		ok		✓	
86.	*During D102159SCVT125_IST_PACS_MTL_PING* *⇨ Click the button "EndTS!" to continue*	ENDTS		ENDTS		✓	

Test location:	Operator	Product-Assurance:	Date:
ESTEC	S. Ilsen	D. Lamontagne	16/1/09 10:49

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
87.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Check that the MTL contains one PC023280 (DPU_TEST_CONN) every 5 minutes for 10 hours in subshcedule 90"* *⇨ Click the button "OK" to continue*	PASS OK		OK	120 TC's are put in the MTL.	✓	
88.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Check that subschedule 80 (meta-PACS) is disabled and 90 (PACS TCs) is enabled, then press OK"* *⇨ Perform activity and then click the "OK" button to confirm*	OK		OK		✓	
89.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Wait for execution of the first command, then press OK"* *⇨ Click the button "OK" to continue*	OK		OK	11:02	✓	

Test location:	Operator	Product-Assurance:	Date:
ESTEC	S. Ilsen	D. Lamanby	13/01/09 11:03

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N	
90.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Put PACS in SCIENCE MODE"* ⇨ *Click the button "Confirm" to continue*	CONFIRM		CONFIRM	Refer to RD-3 §7.1.6 for current message and expected OOL. When PC012380 is sent proceed to next step Note: TC will remain pending until end of science 11:04	√		√
91.	Check that file in /HPCCS/VARIABLE/RESULTS/ <test_session>/TMDUMP/ /<date-time>VC1.txt is increasing.	PASS		PASS	OK, increasing	√		√
92.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"TEST the PACS SAFE FDIR?"* ⇨ *Click the button "Confirm to continue*	CONFIRM		Confirm	If SKIP, it continues at step 108. DB_OBCP_H_PACS_SAFE is the OBCP under test.	√		√

Test location:	Operator	Product Assurance:	Date:
ESTEC	S. Ilsen	D. Lamarly	18/1/09 11:05

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
93.	During Z010999MCVT163_IST_PACS_FDIR_R "Execute PACS SCRIPT FOR AUTONOMY FUNCTION 14?" ⇨ Click the button "Confirm" to continue	CONFIRM		Confirm		✓	
94.	During Z010999MCVT163_IST_PACS_FDIR_R "Filter a TMPKT history for TM(5,2) and one for TM(5,1)" ⇨ Check the script name and click the "OK" button to confirm	OK		OK		✓	
95.	During Z010999MCVT163_IST_PACS_FDIR_R "check that BOL_T_FPU is disabled" ⇨ Perform activity and then click the "OK" button to confirm	PM165380 (DP_EV_BOL_T_FPU) = Disabled		DISABLED	Leave TQD of PM165380 open to monitor during OBCP	✓	

Test location:	Operator	Product-Assurance:	Date:
ESTEC	S. [signature]	D. [signature]	18/1/09 11:06

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
96.	*During Z010999MCVT163_IST_PACS_FDIR_R* *At the prompt:* *"Wait until the end of the OBCP TM(5,1) with SPID 40145170 procID 0x1208"* *Check that:* ⇨ PACS-B (APID=1153) is sending 3 event packets TM(5,2) EXCEPTION_REPORT_04 before OBCP Started event ⇨ 2x TM(1,8) from APID 16 prior to OBCP start ⇨ PM165380 (DP_EV_BOL_T_FPU) is enabled ⇨ OBCP PACS_SAFE has been triggered – TM(5,1) with SPID 40148170 procID 0x1208 ⇨ PM165380 (DP_EV_BOL_T_FPU) BOL_T_FPU is disabled again ⇨ *OBCP is OVER: TM(5,1) with SPID 40145170 procID 0x1208* ⇨ *Click the "OK" button to confirm*	3x ok PASS OK → ENABLED 11:08:20 → DISABLED 11:08:40 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:
ESTEC	S. Ilsa	D. Lamarby	18/01/09 11:10

TM Packet Query Display
==========

TM Packet Details

Mnemonic: SNTI00000500 Description: R_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: 1281 SSC: 5375 Type: 5 Subtype: 1 PI1: 1298 PI2: 20759

SPID: 190560500 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: 2009.018.11.06.02.806 Reception time: 2009.018.11.06.04.333

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 1A0D 7349 D24E 0C00 1C0D 7349 F015 0500 0100 0000 E601 0000 6E00 0000
0020:1138 FFFF 0000 0000 F4B8 5B0B 0000 0000 0000 0000 FFFF FFFF 10FF 0105 FF14 0501

Packet Raw Data:
0000:0D01 D4FF 0027 0005 0100 6005 6B9A CE7E 0512 5117 0000 0D05 0000 0000 000C 6005
0020:6B98 CE6B 237E C455 224D 8EC8 9D54

PACS SAFE OSCP TP-0254 Step 9b

TM Packet Query Display
==========

TM Packet Details

Mnemonic: EVENT_REPORT Description: PACS_EVENT_REPORT_2_22 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: 1153 SSC: 1202 Type: 5 Subtype: 1 PI1: 22 PI2: 2

SPID: 160021380 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: 2009.018.11.08.13.191 Reception time: 2009.018.11.08.15.096

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 9D0D 7349 40EA 0200 9F0D 7349 C478 0100 0100 0000 E601 0000 6600 0000
0020:1138 FFFF 0000 0000 84BB 8909 0000 0000 0000 0000 FFFF FFFF 10FF 8104 B204 0501

Packet Raw Data:
0000:0C81 C4B2 001F 0005 0100 6005 6C1D 30E8 0016 0002 2000 0000 4000 0000 4009 01F2
0020:0000 7F64 59F6

PAGE 5 SAFE OBCP TP-0254 Step 96

TM Packet Query Display
==========

TM Packet Details

Mnemonic: EXCEPT_REP Description: PACS_EXCEPTION_REPORT_0_4 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: 1153 SSC: 1203 Type: 5 Subtype: 2 PI1: 4 PI2: 0

SPID: 160039380 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: 2009.018.11.08.13.191 Reception time: 2009.018.11.08.15.096

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 9D0D 7349 9CEA 0200 9F0D 7349 9A79 0100 0100 0000 E601 0000 6000 0000
0020:1138 FFFF 0000 0000 D401 8A09 0000 0000 0000 0000 FFFF FFFF 10FF 8104 B304 0502

Packet Raw Data:
0000:0C81 C4B3 0019 0005 0200 6005 6C1D 30EE 0004 0000 2000 0000 4000 0000 8000 E89A

PACS SAFE OBCP TP-0254 Step 96

TM Packet Query Display
==========

TM Packet Details

Mnemonic: EVENT_REPORT Description: PACS_EVENT_REPORT_2_22 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: 1153 SSC: 1204 Type: 5 Subtype: 1 PI1: 22 PI2: 2

SPID: 160021380 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: 2009.018.11.08.13.192 Reception time: 2009.018.11.08.15.096

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 9D0D 7349 23EF 0200 9F0D 7349 487A 0100 0100 0000 E601 0000 6600 0000
0020:1138 FFFF 0100 0000 84BB 8909 0000 0000 0000 0000 FFFF FFFF 10FF 8104 B404 0501

Packet Raw Data:
0000:0C81 C4B4 001F 0005 0100 6005 6C1D 313A 0016 0002 2000 0000 4000 0000 400A 01F3
0020:0000 7F75 40DC

PACS SAFE OSCP TP-0254 Step 9b

TM Packet Query Display
==========

TM Packet Details

Mnemonic: EXCEPT_REP Description: PACS_EXCEPTION_REPORT_0_4 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: 1153 SSC: 1205 Type: 5 Subtype: 2 PI1: 4 PI2: 0

SPID: 160039380 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: 2009.018.11.08.13.192 Reception time: 2009.018.11.08.15.097

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 9D0D 7349 70EF 0200 9F0D 7349 EB7A 0100 0100 0000 E601 0000 6000 0000
0020:1138 FFFF 0100 0000 D401 8A09 0000 0000 0000 0000 FFFF FFFF 10FF 8104 B504 0502

Packet Raw Data:
0000:0C81 C4B5 0019 0005 0200 6005 6C1D 313F 0004 0000 2000 0000 4000 0000 8001 B1A6

PACS SAFE OSCP TP-0254 Rev 96

TM Packet Query Display
==========

TM Packet Details

Mnemonic: EVENT_REPORT Description: PACS_EVENT_REPORT_2_22 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: 1153 SSC: 1206 Type: 5 Subtype: 1 PI1: 22 PI2: 2

SPID: 160021380 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: 2009.018.11.08.13.193 Reception time: 2009.018.11.08.15.098

TM Packet Raw Data

SCOS-2000 Header:
```
0000:0000 0000 9D0D 7349 16F4 0200 9F0D 7349 147F 0100 0100 0000 E601 0000 6600 0000
0020:1138 FFFF 0200 0000 84BB 8909 0000 0000 0000 0000 FFFF FFFF 10FF 8104 B604 0501
```

Packet Raw Data:
```
0000:0C81 C4B6 001F 0005 0100 6005 6C1D 318D 0016 0002 2000 0000 4000 0000 400B 01F4
0020:0000 7F6F 9B91
```

PACS SAFE OBCP TR-0254 Step 96

TM Packet Query Display
==========

TM Packet Details

Mnemonic: EXCEPT_REP Description: PACS_EXCEPTION_REPORT_0_4 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: 1153 SSC: 1207 Type: 5 Subtype: 2 PI1: 4 PI2: 0

SPID: 160039380 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: 2009.018.11.08.13.193 Reception time: 2009.018.11.08.15.098

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 9D0D 7349 62F4 0200 9F0D 7349 3980 0100 0100 0000 E601 0000 6000 0000
0020:1138 FFFF 0200 0000 D401 8A09 0000 0000 0000 0000 FFFF FFFF 10FF 8104 B704 0502

Packet Raw Data:
0000:0C81 C4B7 0019 0005 0200 6005 6C1D 3192 0004 0000 2000 0000 4000 0000 8002 7004

PACS SAFE OBCP TP-0254 Sept 96

TM Packet Query Display
==========

TM Packet Details

Mnemonic: D_TcExeF0128 Description: TC Execution Failure - OBCP Not Stopped 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: 12846 Type: 1 Subtype: 8 PI1: 34568 PI2: 0

SPID: 40128170 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: 2009.018.11.08.14.063 Reception time: 2009.018.11.08.17.096

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 9E0D 7349 5FF8 0000 A10D 7349 C079 0100 0100 0000 E601 0000 5A00 0000
0020:1138 FFFF 0000 0000 AA4E 6402 0000 0000 0000 0000 FFFF FFFF 10FF 1000 2E32 0108

Packet Raw Data:
0000:0810 F22E 0013 0001 0800 6005 6C1E 1047 1810 C80A 8708 1208 4635

PACS SAFE OBCP TP-0254 Step 96

TM Packet Query Display
==========

TM Packet Details

Mnemonic: D_TcExeF0128 Description: TC Execution Failure - OBCP Not Stopped 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: 12849 Type: 1 Subtype: 8 PI1: 34568 PI2: 0

SPID: 40128170 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: 2009.018.11.08.14.313 Reception time: 2009.018.11.08.17.097

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 9E0D 7349 B2C8 0400 A10D 7349 377D 0100 0100 0000 E601 0000 5A00 0000
0020:1138 FFFF 0100 0000 AA4E 6402 0000 0000 0000 0000 FFFF FFFF 10FF 1000 3132 0108

Packet Raw Data:
0000:0810 F231 0013 0001 0800 6005 6C1E 5043 1810 C80B 8708 1208 4AAA

PACS SAFE OBCP TP-854 Sep 96

TM Packet Query Display
==========

TM Packet Details

Mnemonic: D_EvRp_148 Description: CdmuAsw 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: 12850 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: 2009.018.11.08.14.573 Reception time: 2009.018.11.08.17.097

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 9E0D 7349 50C1 0800 A10D 7349 B37D 0100 0100 0000 E601 0000 6000 0000
0020:1138 FFFF 0100 0000 CA9C 6402 0000 0000 0000 0000 FFFF FFFF 10FF 1000 3232 0501

Packet Raw Data:
0000:0810 F232 0019 0005 0100 6005 6C1E 92E3 6B0A 0000 1208 0000 0000 0000 0084 1DE8

ACS SAFE CSCP TP-0254 Step 96

TM Packet Query Display
==========

TM Packet Details

Mnemonic: EVENT_REPORT Description: PACS_EVENT_REPORT_2_22 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: 1153 SSC: 1211 Type: 5 Subtype: 1 PI1: 22 PI2: 2

SPID: 160021380 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: 2009.018.11.08.19.255 Reception time: 2009.018.11.08.21.101

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 A30D 7349 A6E4 0300 A50D 7349 D98B 0100 0100 0000 E601 0000 6600 0000
0020:1138 FFFF 0300 0000 84BB 8909 0000 0000 0000 0000 FFFF FFFF 10FF 8104 BB04 0501

Packet Raw Data:
0000:0C81 C4BB 001F 0005 0100 6005 6C23 4151 0016 0002 2000 0000 4000 0000 400C 01F2
0020:0000 7F62 25E6

PACS SAFE OSCP TP-C25A Step 96

TM Packet Query Display
==========

TM Packet Details

Mnemonic: EXCEPT_REP Description: PACS_EXCEPTION_REPORT_0_4 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: 1153 SSC: 1212 Type: 5 Subtype: 2 PI1: 4 PI2: 0

SPID: 160039380 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: 2009.018.11.08.19.255 Reception time: 2009.018.11.08.21.101

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 A30D 7349 02E5 0300 A50D 7349 CF8D 0100 0100 0000 E601 0000 6000 0000
0020:1138 FFFF 0300 0000 D401 8A09 0000 0000 0000 0000 FFFF FFFF 10FF 8104 BC04 0502

Packet Raw Data:
0000:0C81 C4BC 0019 0005 0200 6005 6C23 4157 0004 0000 2000 0000 4000 0000 8003 9183

PACS SAFE OSCP TP-0254 Step 96

TM Packet Query Display
==========

TM Packet Details

Mnemonic: EVENT_REPORT Description: PACS_EVENT_REPORT_2_22 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: 1153 SSC: 1213 Type: 5 Subtype: 1 PI1: 22 PI2: 2

SPID: 160021380 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: 2009.018.11.08.19.256 Reception time: 2009.018.11.08.21.102

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 A30D 7349 7AE9 0300 A50D 7349 1F8F 0100 0100 0000 E601 0000 6600 0000
0020:1138 FFFF 0400 0000 84BB 8909 0000 0000 0000 0000 FFFF FFFF 10FF 8104 BD04 0501

Packet Raw Data:
0000:0C81 C4BD 001F 0005 0100 6005 6C23 41A2 0016 0002 2000 0000 4000 0000 400D 01F3
0020:0000 7F75 897C

PACS SAFE OBCP TP-0254 Step 76

TM Packet Query Display
==========

TM Packet Details

Mnemonic: EXCEPT_REP Description: PACS_EXCEPTION_REPORT_0_4 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: 1153 SSC: 1214 Type: 5 Subtype: 2 PI1: 4 PI2: 0

SPID: 160039380 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: 2009.018.11.08.19.256 Reception time: 2009.018.11.08.21.104

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 A30D 7349 D6E9 0300 A50D 7349 C799 0100 0100 0000 E601 0000 6000 0000
0020:1138 FFFF 0400 0000 D401 8A09 0000 0000 0000 0000 FFFF FFFF 10FF 8104 BE04 0502

Packet Raw Data:
0000:0C81 C4BE 0019 0005 0200 6005 6C23 41A8 0004 0000 2000 0000 4000 0000 8004 39FF

PACS SAFE OSCP TP-0254 Step 96

TM Packet Query Display
==========

TM Packet Details

Mnemonic: EVENT_REPORT Description: PACS_EVENT_REPORT_2_22 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: 1153 SSC: 1215 Type: 5 Subtype: 1 PI1: 22 PI2: 2

SPID: 160021380 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: 2009.018.11.08.19.257 Reception time: 2009.018.11.08.21.105

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 A30D 7349 6DEE 0300 A50D 7349 529B 0100 0100 0000 E601 0000 6600 0000
0020:1138 FFFF 0500 0000 84BB 8909 0000 0000 0000 0000 FFFF FFFF 10FF 8104 BF04 0501

Packet Raw Data:
0000:0C81 C4BF 001F 0005 0100 6005 6C23 41F5 0016 0002 2000 0000 4000 0000 400E 01F4
0020:0000 7F72 D16F

PACS SAFE CBCP TP-0254 Step 9.6

TM Packet Query Display
==========

TM Packet Details

Mnemonic: EXCEPT_REP Description: PACS_EXCEPTION_REPORT_0_4 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: 1153 SSC: 1216 Type: 5 Subtype: 2 PI1: 4 PI2: 0

SPID: 160039380 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: 2009.018.11.08.19.257 Reception time: 2009.018.11.08.21.105

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 A30D 7349 C8EE 0300 A50D 7349 079C 0100 0100 0000 E601 0000 6000 0000
0020:1138 FFFF 0500 0000 D401 8A09 0000 0000 0000 0000 FFFF FFFF 10FF 8104 C004 0502

Packet Raw Data:
0000:0C81 C4C0 0019 0005 0200 6005 6C23 41FB 0004 0000 2000 0000 4000 0000 8005 B9FA

PACS SAFE OBCP TP-0254 Step 96

TM Packet Query Display
==========

TM Packet Details

Mnemonic: D_EvRp_048 Description: CdmuAsw 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: 12858 Type: 5 Subtype: 1 PI1: 26881 PI2: 0

SPID: 40048170 TPSD: -1 HFA Counter: 8 Filing: E Distribution: E

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

TM Packet Parameter Data

Generation time: 2009.018.11.08.20.690 Reception time: 2009.018.11.08.21.105

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 A40D 7349 7187 0A00 A50D 7349 449D 0100 0100 0000 E601 0000 6600 0000
0020:1138 FFFF 0800 0000 2A16 6302 0000 0000 0000 0000 FFFF FFFF 10FF 1000 3A32 0501

Packet Raw Data:
0000:0810 F23A 001F 0005 0100 6005 6C24 B0A6 6901 0000 005A 0000 0001 0000 0085 6005
0020:6C24 B09F 323D

PACS SAFE OSCP TP-0254 Step 96

TM Packet Query Display
==========

TM Packet Details

Mnemonic: D_EvRp_145 Description: CdmuAsw 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: 12872 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: 2009.018.11.08.37.581 Reception time: 2009.018.11.08.38.120

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 B50D 7349 D5DF 0800 B60D 7349 70D5 0100 0100 0000 E601 0000 6000 0000
0020:1138 FFFF 0100 0000 1291 6402 0000 0000 0000 0000 FFFF FFFF 10FF 1000 4832 0501

Packet Raw Data:
0000:0810 F248 0019 0005 0100 6005 6C35 94E3 6B07 0000 1208 0000 0000 0000 0086 7EAB

PACS SAFE OBCP TP-0254 Step 96

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
97.	During Z010999MCVT163_IST_PACS_FDIR_R "please check that PACS is in SAFE mode and that its MTL commands have been disabled" ⇨ Perform activity and then click the "OK" button to confirm	Subschedule 80 OFF 90 OFF OK	80 = OFF 90 = OFF ok			✓	
98.	During Z010999MCVT163_IST_PACS_FDIR_R "RECOVERY ACTION" ⇨ Click the button "Confirm" to continue	CONFIRM	Confirm			✓	
99.	During Z010999MCVT163_IST_PACS_FDIR_R "If still running, please terminate the sequence that keeps PACS in SCIENCE" ⇨ Perform activity and then click the "OK" button to confirm	PASS OK	ok			✓	

Test location:	Operator	Product-Assurance:	Date:
ESTEC	S. Ilsen	D. Lamarthy	18/1/09 11:14

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
100.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Please filter TMPKT History for TM(8,6)"* *⇨ Perform activity and then click the "OK" button to confirm*	PASS OK		ok		✓	
101.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Please check in the report that PACS TC Routing is disabled"* *⇨ Perform activity and then click the "OK" button to confirm*	PACS Gnd-LoPrio DISABLED	ok			✓	
102.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Please filter TMPKT History for TM(8,6)"* *⇨ Perform activity and then click the "OK" button to confirm*	PASS OK	ok			✓	

Test location:	Operator	Product-Assurance:	Date:
ESTEC	S. Ilsen	D. Lamarre	18/1/09 11:17

TM Packet Query Display
==========

TM Packet Details

Mnemonic: (8,6)-0802 Description: TC Routing Filter Report 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: 13020 Type: 8 Subtype: 6 PI1: 2566 PI2: 41

SPID: 40802161 TPSD: 40802161 HFA Counter: 0 Filing: E Distribution: E

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

TM Packet Parameter Data

Generation time: 2009.018.11.15.22.827 Reception time: 2009.018.11.15.24.193

DE001161	FUN	Fdir
DE002161	ACT	6
DE003161	SID	41
DE009161	N	40
DE010161	TC_APID	CDMS
DE011161	TC_SRC	Gnd-HiPrio
DE012161	EOD	ENABLED
DE010161	TC_APID	CDMS
DE011161	TC_SRC	CDMU-FDIR
DE012161	EOD	ENABLED
DE010161	TC_APID	CDMS
DE011161	TC_SRC	MTL
DE012161	EOD	ENABLED
DE010161	TC_APID	CDMS
DE011161	TC_SRC	OBCP
DE012161	EOD	ENABLED
DE010161	TC_APID	CDMS
DE011161	TC_SRC	Gnd-LoPrio
DE012161	EOD	ENABLED
DE010161	TC_APID	CDMS
DE011161	TC_SRC	ACC-FDIR
DE012161	EOD	ENABLED
DE010161	TC_APID	CDMS
DE011161	TC_SRC	CDMU-Func
DE012161	EOD	ENABLED
DE010161	TC_APID	CDMS
DE011161	TC_SRC	ACC-Func
DE012161	EOD	ENABLED
DE010161	TC_APID	ACMS
DE011161	TC_SRC	Gnd-HiPrio
DE012161	EOD	ENABLED
DE010161	TC_APID	ACMS
DE011161	TC_SRC	CDMU-FDIR
DE012161	EOD	ENABLED
DE010161	TC_APID	ACMS
DE011161	TC_SRC	MTL

TP-254 Step 101

DE012161	EOD	ENABLED
DE010161	TC_APID	ACMS
DE011161	TC_SRC	OBCP
DE012161	EOD	ENABLED
DE010161	TC_APID	ACMS
DE011161	TC_SRC	Gnd-LoPrio
DE012161	EOD	ENABLED
DE010161	TC_APID	ACMS
DE011161	TC_SRC	ACC-FDIR
DE012161	EOD	ENABLED
DE010161	TC_APID	ACMS
DE011161	TC_SRC	CDMU-Func
DE012161	EOD	ENABLED
DE010161	TC_APID	ACMS
DE011161	TC_SRC	ACC-Func
DE012161	EOD	ENABLED
DE010161	TC_APID	HIFI
DE011161	TC_SRC	Gnd-HiPrio
DE012161	EOD	ENABLED
DE010161	TC_APID	HIFI
DE011161	TC_SRC	CDMU-FDIR
DE012161	EOD	ENABLED
DE010161	TC_APID	HIFI
DE011161	TC_SRC	MTL
DE012161	EOD	ENABLED
DE010161	TC_APID	HIFI
DE011161	TC_SRC	OBCP
DE012161	EOD	ENABLED
DE010161	TC_APID	HIFI
DE011161	TC_SRC	Gnd-LoPrio
DE012161	EOD	ENABLED
DE010161	TC_APID	HIFI
DE011161	TC_SRC	ACC-FDIR
DE012161	EOD	ENABLED
DE010161	TC_APID	HIFI
DE011161	TC_SRC	CDMU-Func
DE012161	EOD	ENABLED
DE010161	TC_APID	HIFI
DE011161	TC_SRC	ACC-Func
DE012161	EOD	ENABLED
DE010161	TC_APID	SPIRE
DE011161	TC_SRC	Gnd-HiPrio
DE012161	EOD	ENABLED
DE010161	TC_APID	SPIRE
DE011161	TC_SRC	CDMU-FDIR
DE012161	EOD	ENABLED
DE010161	TC_APID	SPIRE
DE011161	TC_SRC	MTL
DE012161	EOD	ENABLED
DE010161	TC_APID	SPIRE
DE011161	TC_SRC	OBCP
DE012161	EOD	ENABLED
DE010161	TC_APID	SPIRE
DE011161	TC_SRC	Gnd-LoPrio
DE012161	EOD	ENABLED
DE010161	TC_APID	SPIRE
DE011161	TC_SRC	ACC-FDIR
DE012161	EOD	ENABLED
DE010161	TC_APID	SPIRE
DE011161	TC_SRC	CDMU-Func

Tp-0254 Step 101

DE012161	EOD	ENABLED
DE010161	TC_APID	SPIRE
DE011161	TC_SRC	ACC-Func
DE012161	EOD	ENABLED
DE010161	TC_APID	PACS
DE011161	TC_SRC	Gnd-HiPrio
DE012161	EOD	ENABLED
DE010161	TC_APID	PACS
DE011161	TC_SRC	CDMU-FDIR
DE012161	EOD	ENABLED
DE010161	TC_APID	PACS
DE011161	TC_SRC	MTL
DE012161	EOD	ENABLED
DE010161	TC_APID	PACS
DE011161	TC_SRC	OBCP
DE012161	EOD	ENABLED
DE010161	TC_APID	PACS
DE011161	TC_SRC	Gnd-LoPrio
DE012161	EOD	DISABLED
DE010161	TC_APID	PACS
DE011161	TC_SRC	ACC-FDIR
DE012161	EOD	ENABLED
DE010161	TC_APID	PACS
DE011161	TC_SRC	CDMU-Func
DE012161	EOD	ENABLED
DE010161	TC_APID	PACS
DE011161	TC_SRC	ACC-Func
DE012161	EOD	ENABLED

TM Packet Raw Data

SCOS-2000 Header:

```
0000:0000 0000 4A0F 7349 9DA1 0C00 4C0F 7349 D1F3 0200 0100 0000 E601 0000 F800 0000
0020:1138 FFFF 0000 0000 7197 6E02 0000 0000 0000 0000 7197 6E02 10FF 1000 DC32 0806
```

Packet Raw Data:

```
0000:0810 F2DC 00B1 0008 0600 6005 6DCA D3EB 0A06 0029 0028 0010 0001 0010 0003 0010
0020:0005 0010 0007 0010 0009 0010 000B 0010 000D 0010 000F 0200 0001 0200 0003 0200
0040:0005 0200 0007 0200 0009 0200 000B 0200 000D 0200 000F 0400 0001 0400 0003 0400
0060:0005 0400 0007 0400 0009 0400 000B 0400 000D 0400 000F 0500 0001 0500 0003 0500
0080:0005 0500 0007 0500 0009 0500 000B 0500 000D 0500 000F 0480 0001 0480 0003 0480
00A0:0005 0480 0007 0480 0008 0480 000B 0480 000D 0480 000F D2CD
```

TP-0254 Sheet 1 of 1

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
103.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Please check in the report that PACS TC Routing is enabled"* *⇨ Perform activity and then click the "OK" button to confirm*	PACS Gnd-LoPrio ENABLED		OK		✓	
104.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Check that subschedule 80 (meta-PACS) is disabled and 90 (PACS TCs) is enabled, then press OK"* *⇨ Perform activity and then click the "OK" button to confirm*	subschedules 80 OFF 90 ON	80=OFF 90=ON			✓	
105.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"End of PACS SAFE OBCP TEST"* *"check that all EATs are enabled"* *⇨ Perform activity through D102159SCVT192_GET_EAT_REPORT and then click the "OK" button to confirm*	PASS OK		OK		✓	

Test location:	Operator	Product-Assurance:	Date:
ESTEC	S. Bou	D. Lamarre	16/04/09 11:21

TM Packet Query Display
==========

TM Packet Details

Simulated: N

Mnemonic: (8,6)-0802 Description: TC Routing Filter Report

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: 13054 Type: 8 Subtype: 6 PI1: 2566 PI2: 41

SPID: 40802161 TPSD: 40802161 HFA Counter: 1 Filing: E Distribution: E

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

TM Packet Parameter Data

Generation time: 2009.018.11.16.55.829 Reception time: 2009.018.11.16.58.298

DE001161	FUN	Fdir
DE002161	ACT	6
DE003161	SID	41
DE009161	N	40
DE010161	TC_APID	CDMS
DE011161	TC_SRC	Gnd-HiPrio
DE012161	EOD	ENABLED
DE010161	TC_APID	CDMS
DE011161	TC_SRC	CDMU-FDIR
DE012161	EOD	ENABLED
DE010161	TC_APID	CDMS
DE011161	TC_SRC	MTL
DE012161	EOD	ENABLED
DE010161	TC_APID	CDMS
DE011161	TC_SRC	OBCP
DE012161	EOD	ENABLED
DE010161	TC_APID	CDMS
DE011161	TC_SRC	Gnd-LoPrio
DE012161	EOD	ENABLED
DE010161	TC_APID	CDMS
DE011161	TC_SRC	ACC-FDIR
DE012161	EOD	ENABLED
DE010161	TC_APID	CDMS
DE011161	TC_SRC	CDMU-Func
DE012161	EOD	ENABLED
DE010161	TC_APID	CDMS
DE011161	TC_SRC	ACC-Func
DE012161	EOD	ENABLED
DE010161	TC_APID	ACMS
DE011161	TC_SRC	Gnd-HiPrio
DE012161	EOD	ENABLED
DE010161	TC_APID	ACMS
DE011161	TC_SRC	CDMU-FDIR
DE012161	EOD	ENABLED
DE010161	TC_APID	ACMS
DE011161	TC_SRC	MTL

TP-254 Step 1c3

DE012161	EOD	ENABLED
DE010161	TC_APID	ACMS
DE011161	TC_SRC	OBCP
DE012161	EOD	ENABLED
DE010161	TC_APID	ACMS
DE011161	TC_SRC	Gnd-LoPrio
DE012161	EOD	ENABLED
DE010161	TC_APID	ACMS
DE011161	TC_SRC	ACC-FDIR
DE012161	EOD	ENABLED
DE010161	TC_APID	ACMS
DE011161	TC_SRC	CDMU-Func
DE012161	EOD	ENABLED
DE010161	TC_APID	ACMS
DE011161	TC_SRC	ACC-Func
DE012161	EOD	ENABLED
DE010161	TC_APID	HIFI
DE011161	TC_SRC	Gnd-HiPrio
DE012161	EOD	ENABLED
DE010161	TC_APID	HIFI
DE011161	TC_SRC	CDMU-FDIR
DE012161	EOD	ENABLED
DE010161	TC_APID	HIFI
DE011161	TC_SRC	MTL
DE012161	EOD	ENABLED
DE010161	TC_APID	HIFI
DE011161	TC_SRC	OBCP
DE012161	EOD	ENABLED
DE010161	TC_APID	HIFI
DE011161	TC_SRC	Gnd-LoPrio
DE012161	EOD	ENABLED
DE010161	TC_APID	HIFI
DE011161	TC_SRC	ACC-FDIR
DE012161	EOD	ENABLED
DE010161	TC_APID	HIFI
DE011161	TC_SRC	CDMU-Func
DE012161	EOD	ENABLED
DE010161	TC_APID	HIFI
DE011161	TC_SRC	ACC-Func
DE012161	EOD	ENABLED
DE010161	TC_APID	SPIRE
DE011161	TC_SRC	Gnd-HiPrio
DE012161	EOD	ENABLED
DE010161	TC_APID	SPIRE
DE011161	TC_SRC	CDMU-FDIR
DE012161	EOD	ENABLED
DE010161	TC_APID	SPIRE
DE011161	TC_SRC	MTL
DE012161	EOD	ENABLED
DE010161	TC_APID	SPIRE
DE011161	TC_SRC	OBCP
DE012161	EOD	ENABLED
DE010161	TC_APID	SPIRE
DE011161	TC_SRC	Gnd-LoPrio
DE012161	EOD	ENABLED
DE010161	TC_APID	SPIRE
DE011161	TC_SRC	ACC-FDIR
DE012161	EOD	ENABLED
DE010161	TC_APID	SPIRE
DE011161	TC_SRC	CDMU-Func

TP- 254 Stp 163

```
DE012161        EOD                 ENABLED
DE010161        TC_APID             SPIRE
DE011161        TC_SRC              ACC-Func
DE012161        EOD                 ENABLED
DE010161        TC_APID             PACS
DE011161        TC_SRC              Gnd-HiPrio
DE012161        EOD                 ENABLED
DE010161        TC_APID             PACS
DE011161        TC_SRC              CDMU-FDIR
DE012161        EOD                 ENABLED
DE010161        TC_APID             PACS
DE011161        TC_SRC              MTL
DE012161        EOD                 ENABLED
DE010161        TC_APID             PACS
DE011161        TC_SRC              OBCP
DE012161        EOD                 ENABLED
DE010161        TC_APID             PACS
DE011161        TC_SRC              Gnd-LoPrio
DE012161        EOD                 ENABLED
DE010161        TC_APID             PACS
DE011161        TC_SRC              ACC-FDIR
DE012161        EOD                 ENABLED
DE010161        TC_APID             PACS
DE011161        TC_SRC              CDMU-Func
DE012161        EOD                 ENABLED
DE010161        TC_APID             PACS
DE011161        TC_SRC              ACC-Func
DE012161        EOD                 ENABLED


   TM Packet Raw Data
   ------------------

SCOS-2000 Header:
0000:0000 0000 A70F 7349 77A8 0C00 AA0F 7349 FE8E 0400 0100 0000 E601 0000 F800 0000
0020:1138 FFFF 0100 0000 7197 6E02 0000 0000 0000 0000 7197 6E02 10FF 1000 FE32 0806

Packet Raw Data:
0000:0810 F2FE 00B1 0008 0600 6005 6E27 D45E 0A06 0029 0028 0010 0001 0010 0003 0010
0020:0005 0010 0007 0010 0009 0010 000B 0010 000D 0010 000F 0200 0001 0200 0003 0200
0040:0005 0200 0007 0200 0009 0200 000B 0200 000D 0200 000F 0400 0001 0400 0003 0400
0060:0005 0400 0007 0400 0009 0400 000B 0400 000D 0400 000F 0500 0001 0500 0003 0500
0080:0005 0500 0007 0500 0009 0500 000B 0500 000D 0500 000F 0480 0001 0480 0003 0480
00A0:0005 0480 0007 0480 0009 0480 000B 0480 000D 0480 000F B78E
```

tp-254 Step 193

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
106.	*During D102159SCVT192_GET_EAT_REPORT* *⇨ Click the button "EndTS!" to proceed*	ENDTS		edTS		✓	
107.	*During P102999SCVT904_ASDGENPACS_NomSpect* *(called asynchronously by the master) PACS will be put in prime mode.* Check that file in /HPCCS/VARIABLE/RESULTS/ <test_session>/TMDUMP/ /<date-time>VC1.txt is increasing.	YES		YES Increasing	Refer to RD-3 §7.1.6 for current message and expected OOL. When PC012380 is sent proceed to next step Note: TC will remain pending until end of science	✓	
108.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"TEST the PACS POWER CYCLE OBCP?"* *⇨ Click the button "Confirm" to continue*	CONFIRM			If SKIP, it continues at step 124. DB_OBCP_H_PACS_POWER_CYCLE is the OBCP under test.		

Test location:	Operator	Product-Assurance:	Date:
ESTEC	S. Ilsen	D. Lamouby	12/1/09 11:22

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
109.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"TRIGGER OBCP WITH START TC"* *⇨ Click the button "Confirm to continue*	CONFIRM		Confirm		✓	
110.	*Z010999MCVT163_IST_PACS_FDIR_R* *"Filter a TMPKT history for TM(5,1)"* *⇨ Check script name and then click the button "OK" to confirm*	PASS OK		OK		✓	
111.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"sending EGSE_tcsend_CEV DCAST185 { DPV32185 90 } { DPV32185 0}"* *⇨ click the "OK" button to confirm*	OK		OK		✓	

Test location:	Operator	Product-Assurance:	Date:
ESTEC	S. Tlon	D. Lamaby	16/1/09 11:24

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
112.	*During Z010999MCVT163_IST_PACS_FDIR_R At the prompt: "Wait until the end of the OBCP TM(5,1) with SPID 40145170 procID 0x120A" Check that:* ⇨ *OBCP PACS_POWER_CYCLE has been triggered – TM(5,1) with SPID 40148170 procID 0x120A* ✓ ⇨ TM(5,4) with Event ID = 0x2001, SID = 0 (as a result of the called-up "PACS normal off" OBCP) ✓ ⇨ TM(5,4) with Event ID = 0x2000, SID = 0 (as a result of the called-up "PACS normal off" OBCP) ⇨ TM(5,4) with Event ID = 0x2002, SID = 0 ✓ ⇨ *OBCP is OVER: TM(5,1) with SPID 40145170 procID 0x120A* ✓ ⇨ *click the "OK" button to continue*	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 NCR4817 NCR4818		X

Failed! NCR to be raised DVS G to recover

PACS Redundant = OFF primary = ON, but commands were sent to redundant!

Test location:	Operator	Product-Assurance:	Date:
ESTEC	S. Ibar	D. Lamonby	18/01/09 12:17

TM Packet History printout from time: 2009.018.11.19.00.000 to time: 2009.018.11.36.59.434
Current printout time: 2009.018.11.37.59.442 FILTER MODE: ACTIVE DISPLAY MODE: BRIEF STATISTIC: OFF
FILTER SETTINGS:
APID: NOT 2020 Type: 5

Mnemonic	Generation Time	Reception Time	VC	APID	SSC	Type	STyp	PI1	PI2	DS	SPID	GSID	TmT	TmQ	F	D
D_EvRp_145	2009.018.11.32.25.598	2009.018.11.32.28.189	0	16	13670	5	1	27399	0	65535	40145170		PG	G	E	E
(5,4)-0622	2009.018.11.32.18.594	2009.018.11.32.19.180	0	16	13653	5	4	222	222	65535	40622161		PG	G	E	E
(5,4)-0622	2009.018.11.32.17.594	2009.018.11.32.19.179	0	16	13651	5	4	222	222	65535	40622161		PG	G	E	E
(5,4)-0622	2009.018.11.32.16.594	2009.018.11.32.17.180	0	16	13648	5	4	222	222	65535	40622161		PG	G	E	E
(5,4)-0622	2009.018.11.32.15.594	2009.018.11.32.17.178	0	16	13646	5	4	222	222	65535	40622161		PG	G	E	E
(5,4)-0622	2009.018.11.32.13.594	2009.018.11.32.17.177	0	16	13644	5	4	222	222	65535	40622161		PG	G	E	E
(5,4)-0622	2009.018.11.32.12.594	2009.018.11.32.13.173	0	16	13641	5	4	222	222	65535	40622161		PG	G	E	E
(5,4)-0622	2009.018.11.32.11.594	2009.018.11.32.12.172	0	16	13639	5	4	222	222	65535	40622161		PG	G	E	E
(5,4)-0622	2009.018.11.32.10.594	2009.018.11.32.12.171	0	16	13637	5	4	222	222	65535	40622161		PG	G	E	E
(5,4)-0622	2009.018.11.32.08.594	2009.018.11.32.09.171	0	16	13634	5	4	222	222	65535	40622161		PG	G	E	E
(5,4)-0622	2009.018.11.32.07.594	2009.018.11.32.09.170	0	16	13632	5	4	222	222	65535	40622161		PG	G	E	E
(5,4)-0622	2009.018.11.32.06.594	2009.018.11.32.09.169	0	16	13630	5	4	222	222	65535	40622161		PG	G	E	E
(5,4)-0622	2009.018.11.32.05.594	2009.018.11.32.09.168	0	16	13628	5	4	222	222	65535	40622161		PG	G	E	E
(5,4)-0622	2009.018.11.32.03.594	2009.018.11.32.05.165	0	16	13625	5	4	222	222	65535	40622161		PG	G	E	E
(5,4)-0622	2009.018.11.32.02.594	2009.018.11.32.05.164	0	16	13623	5	4	222	222	65535	40622161		PG	G	E	E
ERROR REPORT	2009.018.11.32.01.594	2009.018.11.32.02.161	0	16	13621	5	4	8194	0	65535	45400185		PG	G	E	E
(5,4)-0622	2009.018.11.32.00.594	2009.018.11.32.02.159	0	16	13619	5	4	222	222	65535	40622161		PG	G	E	E
(5,4)-0622	2009.018.11.31.58.594	2009.018.11.31.59.158	0	16	13617	5	4	222	222	65535	40622161		PG	G	E	E
(5,4)-0622	2009.018.11.31.57.594	2009.018.11.31.59.156	0	16	13615	5	4	222	222	65535	40622161		PG	G	E	E
(5,4)-0622	2009.018.11.31.55.594	2009.018.11.31.57.154	0	16	13612	5	4	222	222	65535	40622161		PG	G	E	E
(5,4)-0622	2009.018.11.31.54.594	2009.018.11.31.55.152	0	16	13610	5	4	222	222	65535	40622161		PG	G	E	E
(5,4)-0622	2009.018.11.31.49.594	2009.018.11.31.52.147	0	16	13607	5	4	222	222	65535	40622161		PG	G	E	E
(5,4)-0622	2009.018.11.31.46.594	2009.018.11.31.49.146	0	16	13604	5	4	222	222	65535	40622161		PG	G	E	E
(5,4)-0622	2009.018.11.31.42.594	2009.018.11.31.45.140	0	16	13601	5	4	222	222	65535	40622161		PG	G	E	E
(5,4)-0622	2009.018.11.31.39.594	2009.018.11.31.40.136	0	16	13598	5	4	222	222	65535	40622161		PG	G	E	E
(5,4)-0622	2009.018.11.31.35.594	2009.018.11.31.38.132	0	16	13594	5	4	222	222	65535	40622161		PG	G	E	E

PACS RWT CYCLE OSCP T8-254 Step 112

(5,4)-0622	2009.018.11.31.33.594	2009.018.11.31.35.130	0	16	13592	5	4	222	222	65535	40622161		PG	G	E	E
(5,4)-0622	2009.018.11.31.31.594	2009.018.11.31.33.127	0	16	13589	5	4	222	222	65535	40622161		PG	G	E	E
(5,4)-0622	2009.018.11.31.29.594	2009.018.11.31.33.126	0	16	13587	5	4	222	222	65535	40622161		PG	G	E	E
(5,4)-0622	2009.018.11.31.27.594	2009.018.11.31.29.124	0	16	13584	5	4	222	222	65535	40622161		PG	G	E	E
(5,4)-0622	2009.018.11.31.25.594	2009.018.11.31.29.124	0	16	13582	5	4	222	222	65535	40622161		PG	G	E	E
(5,4)-0622	2009.018.11.31.19.594	2009.018.11.31.21.113	0	16	13578	5	4	222	222	65535	40622161		PG	G	E	E
(5,4)-0622	2009.018.11.31.15.594	2009.018.11.31.17.111	0	16	13573	5	4	222	222	65535	40622161		PG	G	E	E
(5,4)-0622	2009.018.11.31.05.594	2009.018.11.31.08.099	0	16	13569	5	4	222	222	65535	40622161		PG	G	E	E
(5,4)-0622	2009.018.11.31.01.593	2009.018.11.31.02.093	0	16	13566	5	4	222	222	65535	40622161		PG	G	E	E
(5,4)-0622	2009.018.11.30.37.593	2009.018.11.30.41.455	0	16	13555	5	4	222	222	65535	40622161		PG	G	E	E
(5,4)-0622	2009.018.11.30.33.593	2009.018.11.30.35.447	0	16	13551	5	4	222	222	65535	40622161		PG	G	E	E
(5,4)-0622	2009.018.11.30.17.593	2009.018.11.30.20.431	0	16	13542	5	4	222	222	65535	40622161		PG	G	E	E
(5,4)-0622	2009.018.11.30.07.593	2009.018.11.30.09.421	0	16	13535	5	4	222	222	65535	40622161		PG	G	E	E
(5,4)-0622	2009.018.11.30.01.593	2009.018.11.30.03.413	0	16	13532	5	4	222	222	65535	40622161		PG	G	E	E
(5,4)-0622	2009.018.11.29.59.593	2009.018.11.30.00.412	0	16	13529	5	4	222	222	65535	40622161		PG	G	E	E
(5,4)-0622	2009.018.11.29.58.593	2009.018.11.30.00.411	0	16	13527	5	4	222	222	65535	40622161		PG	G	E	E
(5,4)-0622	2009.018.11.29.54.593	2009.018.11.29.57.406	0	16	13524	5	4	222	222	65535	40622161		PG	G	E	E
(5,4)-0622	2009.018.11.29.52.593	2009.018.11.29.53.402	0	16	13521	5	4	222	222	65535	40622161		PG	G	E	E
(5,4)-0622	2009.018.11.29.31.592	2009.018.11.29.32.378	0	16	13510	5	4	222	222	65535	40622161		PG	G	E	E
(5,4)-0622	2009.018.11.29.27.592	2009.018.11.29.29.373	0	16	13503	5	4	222	222	65535	40622161		PG	G	E	E
ERROR REPORT	2009.018.11.25.09.589	2009.018.11.25.13.085	0	16	13419	5	4	8192	0	65535	45400185		PG	G	E	E
ERROR REPORT	2009.018.11.24.44.588	2009.018.11.24.45.439	0	16	13368	5	4	8193	0	65535	45400185		PG	G	E	E
D_EvRp_048	2009.018.11.23.41.691	2009.018.11.23.45.372	0	16	13321	5	1	26881	0	65535	40048170		PG	G	E	E
D_EvRp_148	2009.018.11.23.35.587	2009.018.11.23.37.364	0	16	13312	5	1	27402	0	65535	40148170		PG	G	E	E

TM Packet History printout from time: 2009.018.11.19.00.000 to time: 2009.018.11.36.59.434
Current printout time: 2009.018.11.37.59.442 FILTER MODE: ACTIVE DISPLAY MODE: BRIEF STATISTIC: OFF
FILTER SETTINGS:
APID: NOT 2020 Type: 5

Mnemonic	Generation Time	Reception Time	VC	APID	SSC	Type	STyp	PI1	PI2	DS	SPID	GSID	TmT	TmQ	F	D
D_EvRp_168	2009.018.11.21.38.062	2009.018.11.21.41.232	0	16	13272	5	1	27650	0	65535	40168170		PG	G	E	E
D_EvRp_7042	2009.018.11.20.03.927	2009.018.11.20.07.124	0	16	13142	5	1	26892	0	65535	47042170		PG	G	E	E

PASS AVE CYCLE OSCP TP-254 Rep 112

D_EvRp_055	2009.018.11.19.39.924	2009.018.11.19.41.096	0	16	13112	5	1	26890	0	65535	40055170	PG	G	E	E
D_EvRp_048	2009.018.11.19.34.926	2009.018.11.19.37.091	0	16	13105	5	1	26881	0	65535	40048170	PG	G	E	E

PACS PWR CYCLE OBCP TP-0254 STEP 112

TM Packet Query Display
=======================

TM Packet Details

Simulated: N

Mnemonic: D_EvRp_148 Description: CdmuAsw Event 5-1 OBCP Started

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: 13312 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: 2009.018.11.23.35.587 Reception time: 2009.018.11.23.37.364

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 3711 7349 82F8 0800 3911 7349 D88F 0500 0100 0000 E601 0000 6000 0000
0020:1138 FFFF 0200 0000 CA9C 6402 0000 0000 0000 0000 FFFF FFFF 10FF 1000 0034 0501

Packet Raw Data:
0000:0810 F400 0019 0005 0100 6005 6FB7 9681 6B0A 0000 120A 0000 0000 0000 008D 504D

PASS PWR CYCLE OBCP TP-6254 Sup 112

TM Packet Query Display
==========

TM Packet Details

Simulated: N

Mnemonic: D_EvRp_048 Description: CdmuAsw Event 5-1 Subschedule Status Changed

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: 13321 Type: 5 Subtype: 1 PI1: 26881 PI2: 0

SPID: 40048170 TPSD: -1 HFA Counter: 10 Filing: E Distribution: E

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

TM Packet Parameter Data

Generation time: 2009.018.11.23.41.691 Reception time: 2009.018.11.23.45.372

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 3D11 7349 368C 0A00 4111 7349 78B0 0500 0100 0000 E601 0000 6600 0000
0020:1138 FFFF 0A00 0000 2A16 6302 0000 0000 0000 0000 FFFF FFFF 10FF 1000 0934 0501

Packet Raw Data:
0000:0810 F409 001F 0005 0100 6005 6FBD B0F6 6901 0000 005A 0000 0001 0000 008E 6005
0020:6FBD B0EF 7338

PASS PWR CYCLE OSCP TP 0254. Step 112

TM Packet Query Display
==========

TM Packet Details

Simulated: N

Mnemonic: ERROR REPORT Description: OBCP_Evt Pacs Bolc Off

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: 13368 Type: 5 Subtype: 4 PI1: 8193 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: 2009.018.11.24.44.588 Reception time: 2009.018.11.24.45.439

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 7C11 7349 15FC 0800 7D11 7349 F5B2 0600 0100 0000 E601 0000 6000 0000
0020:1138 FFFF 0200 0000 79C0 B402 0000 0000 0000 0000 FFFF FFFF 10FF 1000 3834 0504

Packet Raw Data:
0000:0810 F438 0019 0005 0400 6005 6FFC 96BD 2001 0000 0000 0000 0000 0000 0000 3655

Pacs Pwr cycle OBCP TR 0254 Step 12

TM Packet Query Display
==========

TM Packet Details

Simulated: N

Mnemonic: ERROR REPORT Description: OBCP_Evt Pacs Off

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: 13419 Type: 5 Subtype: 4 PI1: 8192 PI2: 0

SPID: 45400185 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: 2009.018.11.25.09.589 Reception time: 2009.018.11.25.13.085

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 9511 7349 EBFC 0800 9911 7349 894D 0100 0100 0000 E601 0000 6000 0000
0020:1138 FFFF 0300 0000 79C0 B402 0000 0000 0000 0000 FFFF FFFF 10FF 1000 6B34 0504

Packet Raw Data:
0000:0810 F46B 0019 0005 0400 6005 7015 96CB 2000 0000 0000 0000 0000 0000 0000 FCBD

PACS AWE CYCLE USCP TP-0254 Step 12

TM Packet Query Display
==========

TM Packet Details

Simulated: N

Mnemonic: (5,4)-0622 Description: CdmuBsw Event 5-4 SDB TC Packet discarded

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: 13503 Type: 5 Subtype: 4 PI1: 222 PI2: 222

SPID: 40622161 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: 2009.018.11.29.27.592 Reception time: 2009.018.11.29.29.373

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 9712 7349 670B 0900 9912 7349 92B2 0500 0100 0000 E601 0000 6000 0000
0020:1138 FFFF 0300 0000 51D8 6B02 0000 0000 0000 0000 FFFF FFFF 10FF 1000 BF34 0504

Packet Raw Data:
0000:0810 F4BF 0019 0005 0400 6005 7117 97BE 00DE 00DE 0003 1C80 D81E 091A 0018 4657

BACS PWR CYCLE CRCP TP-0234 Step 112

TM Packet Query Display
==========

TM Packet Details

Mnemonic: ERROR REPORT Description: OBCP_Evt Pacs Fpu On ?

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: 13621 Type: 5 Subtype: 4 PI1: 8194 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: 2009.018.11.32.01.594 Reception time: 2009.018.11.32.02.161

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 3113 7349 7810 0900 3213 7349 BA78 0200 0100 0000 E601 0000 6000 0000
0020:1138 FFFF 0400 0000 79C0 B402 0000 0000 0000 0000 FFFF FFFF 10FF 1000 3535 0504

Packet Raw Data:
0000:0810 F535 0019 0005 0400 6005 71B1 9813 2002 0000 0000 0000 0000 0000 0000 70B6

Pacs Fpu Cycle CBCP TP-0254 Step 112

TM Packet Query Display
==========

TM Packet Details

Mnemonic: D_EvRp_145 Description: CdmuAsw 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: 13670 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

Generation time: 2009.018.11.32.25.598 Reception time: 2009.018.11.32.28.189

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 4913 7349 7B23 0900 4C13 7349 78E3 0200 0100 0000 E601 0000 6000 0000
0020:1138 FFFF 0200 0000 1291 6402 0000 0000 0000 0000 FFFF FFFF 10FF 1000 6635 0501

Packet Raw Data:
0000:0810 F566 0019 0005 0100 6005 71C9 9952 6B07 0000 120A 0000 0000 0000 008F F37D

PACS AWE cycle OBCP TC-0254 Step 112

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N	
113.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"please check that PACS is in SAFE mode and that its MTL commands have been disabled"* *⇨ Perform activity and then click the "OK" button to confirm*	Subschedule 80 (meta-PACS) OFF 90 (PACS TCs) OFF OK	both OFF			✓		✓
114.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"RECOVERY ACTION"* *⇨ Click the button "Confirm to continue*	CONFIRM	Confirm		12:35	✓		✓
115.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"if still running, please terminate the sequence that keeps PACS in SCIENCE"* *⇨ Perform activity and then click the "OK" button to confirm*	PASS OK			N/A already timed out	✓		✓

Test location:	Operator	Product-Assurance:	Date:
ESTEC	S. Ilsen	P. Lemonon	18/1/09 12:35

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
116.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Please filter TMPKT History for TM(8,6)"* *⇨ Perform activity and then click the "OK" button to confirm*	PASS OK			N/A → See problems in Sec 11.2		X
117.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Please check in the report that PACS TC Routing is disabled"* *⇨ Perform activity and then click the "OK" button to confirm*	PACS Gnd-LoPrio DISABLED OK			"		X
118.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Please filter TMPKT History for TM(8,6)"* *⇨ Perform activity and then click the "OK" button to confirm*	PASS OK			"		X

Test location:	Operator	Product-Assurance:	Date:
ESTEC	S. Ilsen	D. Lamarby	18/1/09 12:36

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
119.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Please check in the report that PACS TC Routing is enabled"* *⇨ Perform activity and then click the "OK" button to confirm*	PACS Gnd-LoPrio ENABLED OK		Ok		V	
120.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Check that subschedule 80 (meta-PACS) is disabled and 90 (PACS TCs) is enabled, then press OK"* *⇨ Perform activity and then click the "OK" button to confirm*	Subschedules 80 OFF 90 ON OK	80=OFF 90=ON ok			V	
121.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"End of PACS POWER CYCLE TEST. check that all EATs are enabled"* *⇨ Perform activity through D102159SCVT192_GET_EAT_REPORT and then click the "OK" button to confirm*	PASS OK		ok		V	

Test location:	Operator	Product-Assurance:	Date:
ESTEC	S. Ilsa	D. Lamouly	18/1/09 12:43

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
122.	*During D102159SCVT192_GET_EAT_REPORT* *⇨ Click the button "EndTS!" to proceed*	ENDTS		ENDTS		✓	
123.	*During P102999SCVT904_ASDGENPACS_NomSpect* *(called asynchronously by the master) PACS will be put in prime mode.* Check that file in /HPCCS/VARIABLE/RESULTS/ <test_session>/TMDUMP/ /<date-time>VC1.txt is increasing.	PASS	OK, increasing		Refer to RD-3 §7.1.6 for current message and expected OOL. When PC012380 is sent proceed to next step Note: TC will remain pending until end of science	✓	
124.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"PACS NORMAL OFF OBCP"* *⇨ Click the button "Confirm" to continue*	CONFIRM	Confirm		If SKIP, it continues at step 143. DB_OBCP_H_PACS_NORMAL_OFF is the OBCP under test.	✓	

Test location:	Operator	Product-Assurance:	Date:
ESTEC	S. Ilcan	D. Lamouly	18/1/09 12:48

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
125.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Execute PACS SCRIPT FOR AUTONOMY FUNCTION 17?"* *⇨ Click the button "Confirm" to continue*	CONFIRM		Confirm		✓	
126.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Calling script PACS_StartAutonomy_Function_17_OBS_Shell.tcl"* *⇨ Perform activity and then click the "OK" button to confirm*	OK		OK	If script is not correct, abort the test sequence	✓	

Test location:	Operator	Product-Assurance:	Date:
ESTEC	S. Ilsen	D. Lamouly	18/11/09 12:46

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
127.	*During Z010999MCVT163_IST_PACS_FDIR_R* *At the prompt:* *"Wait until the end of the OBCP TM(5,1) with SPID 40145170 procID 0x120C"* *Check that:* ⇨ *PACS is sending event packets TM(5,2) - BOLC power violated EXCEPTION_REPORT_0_25* ⇨ *OBCP PACS_NORMAL_OFF has been triggered TM(5,1) with SPID 40148170 procID 0x120C* ⇨ TM(5,4) with Event ID = 0x2001, SID = 0 ⇨ TM(5,4) with Event ID = 0x2000, SID = 0 ⇨ PACS goes OFF ⇨ OBCP is OVER: TM(5,1) with SPID 40145170 procID 0x120C ⇨ *then click the "OK" button to confirm*	 PASS OK			Apart from start and end events checks, the other can be done offline.		

Test location:	Operator	Product-Assurance:	Date:
ESTEC	S. Ilsen	D. Lamarre	18/01/09 12:56

TM Packet History printout from time: 2009.018.12.45.00.457 to time: 2009.018.12.54.34.164
Current printout time: 2009.018.12.54.58.660 FILTER MODE: ACTIVE DISPLAY MODE: BRIEF STATISTIC: OFF
FILTER SETTINGS:
APID: NOT 2020 Type: 5

Mnemonic	Generation Time	Reception Time	VC	APID	SSC	Type	STyp	PI1	PI2	DS	SPID	GSID	TmT	TmQ	F	D
D_EvRp_085	2009.018.12.50.07.833	2009.018.12.50.09.433	0	16	15626	5	1	29185	0	65535	40085170		PG	G	E	E
D_EvRp_145	2009.018.12.48.30.654	2009.018.12.48.33.324	0	16	15596	5	1	27399	0	65535	40145170		PG	G	E	E
ERROR REPORT	2009.018.12.48.26.650	2009.018.12.48.28.318	0	16	15590	5	4	8192	0	65535	45400185		PG	G	E	E
ERROR REPORT	2009.018.12.48.04.650	2009.018.12.48.05.295	0	16	15542	5	4	8193	0	65535	45400185		PG	G	E	E
EVENT_REPORT	2009.018.12.47.17.441	2009.018.12.47.19.255	0	1153	293	5	1	22	2	65535	160021380		PG	G	E	E
EXCEPT_REP	2009.018.12.47.17.440	2009.018.12.47.19.255	0	1153	292	5	2	25	0	65535	160041380		PG	G	E	E
EVENT_REPORT	2009.018.12.47.17.440	2009.018.12.47.19.254	0	1153	291	5	1	22	2	65535	160021380		PG	G	E	E
EXCEPT_REP	2009.018.12.47.17.438	2009.018.12.47.19.254	0	1153	290	5	2	25	0	65535	160041380		PG	G	E	E
EVENT_REPORT	2009.018.12.47.17.438	2009.018.12.47.19.254	0	1153	289	5	1	22	2	65535	160021380		PG	G	E	E
EXCEPT_REP	2009.018.12.47.17.437	2009.018.12.47.19.254	0	1153	288	5	2	25	0	65535	160041380		PG	G	E	E
EVENT_REPORT	2009.018.12.47.17.437	2009.018.12.47.19.254	0	1153	287	5	1	22	2	65535	160021380		PG	G	E	E
EXCEPT_REP	2009.018.12.47.17.436	2009.018.12.47.19.254	0	1153	286	5	2	25	0	65535	160041380		PG	G	E	E
EVENT_REPORT	2009.018.12.47.17.436	2009.018.12.47.19.253	0	1153	285	5	1	22	2	65535	160021380		PG	G	E	E
EXCEPT_REP	2009.018.12.47.17.435	2009.018.12.47.19.253	0	1153	284	5	2	25	0	65535	160041380		PG	G	E	E
EVENT_REPORT	2009.018.12.47.17.434	2009.018.12.47.19.253	0	1153	283	5	1	22	2	65535	160021380		PG	G	E	E
EXCEPT_REP	2009.018.12.47.17.433	2009.018.12.47.19.252	0	1153	282	5	2	25	0	65535	160041380		PG	G	E	E
EVENT_REPORT	2009.018.12.47.17.433	2009.018.12.47.19.252	0	1153	281	5	1	22	2	65535	160021380		PG	G	E	E
EXCEPT_REP	2009.018.12.47.17.432	2009.018.12.47.19.252	0	1153	280	5	2	25	0	65535	160041380		PG	G	E	E
EVENT_REPORT	2009.018.12.47.17.432	2009.018.12.47.19.251	0	1153	279	5	1	22	2	65535	160021380		PG	G	E	E
EXCEPT_REP	2009.018.12.47.17.430	2009.018.12.47.19.251	0	1153	278	5	2	25	0	65535	160041380		PG	G	E	E
EVENT_REPORT	2009.018.12.47.17.430	2009.018.12.47.19.251	0	1153	277	5	1	22	2	65535	160021380		PG	G	E	E
EXCEPT_REP	2009.018.12.47.17.429	2009.018.12.47.19.251	0	1153	276	5	2	25	0	65535	160041380		PG	G	E	E
EVENT_REPORT	2009.018.12.47.17.429	2009.018.12.47.19.250	0	1153	275	5	1	22	2	65535	160021380		PG	G	E	E
EXCEPT_REP	2009.018.12.47.17.428	2009.018.12.47.19.250	0	1153	274	5	2	25	0	65535	160041380		PG	G	E	E
EVENT_REPORT	2009.018.12.47.17.428	2009.018.12.47.19.250	0	1153	273	5	1	22	2	65535	160021380		PG	G	E	E
EXCEPT_REP	2009.018.12.47.17.426	2009.018.12.47.19.250	0	1153	272	5	2	25	0	65535	160041380		PG	G	E	E

PACS NORMAL OFF OBCP TP-02554 STEP 127

EVENT_REPORT	2009.018.12.47.17.426	2009.018.12.47.19.250	0	1153	271	5	1	22	2	65535	160021380		PG	G	E	E
EXCEPT_REP	2009.018.12.47.17.425	2009.018.12.47.19.249	0	1153	270	5	2	25	0	65535	160041380		PG	G	E	E
EVENT_REPORT	2009.018.12.47.17.425	2009.018.12.47.19.249	0	1153	269	5	1	22	2	65535	160021380		PG	G	E	E
EXCEPT_REP	2009.018.12.47.17.424	2009.018.12.47.19.249	0	1153	268	5	2	25	0	65535	160041380		PG	G	E	E
EVENT_REPORT	2009.018.12.47.17.424	2009.018.12.47.19.248	0	1153	267	5	1	22	2	65535	160021380		PG	G	E	E
EXCEPT_REP	2009.018.12.47.17.423	2009.018.12.47.19.248	0	1153	266	5	2	25	0	65535	160041380		PG	G	E	E
EVENT_REPORT	2009.018.12.47.17.422	2009.018.12.47.19.248	0	1153	265	5	1	22	2	65535	160021380		PG	G	E	E
EXCEPT_REP	2009.018.12.47.17.421	2009.018.12.47.19.248	0	1153	264	5	2	25	0	65535	160041380		PG	G	E	E
EVENT_REPORT	2009.018.12.47.17.421	2009.018.12.47.19.248	0	1153	263	5	1	22	2	65535	160021380		PG	G	E	E
EXCEPT_REP	2009.018.12.47.17.420	2009.018.12.47.19.247	0	1153	262	5	2	25	0	65535	160041380		PG	G	E	E
EVENT_REPORT	2009.018.12.47.17.420	2009.018.12.47.19.247	0	1153	261	5	1	22	2	65535	160021380		PG	G	E	E
EXCEPT_REP	2009.018.12.47.17.419	2009.018.12.47.19.247	0	1153	260	5	2	25	0	65535	160041380		PG	G	E	E
EVENT_REPORT	2009.018.12.47.17.419	2009.018.12.47.19.246	0	1153	259	5	1	22	2	65535	160021380		PG	G	E	E
D_EvRp_048	2009.018.12.47.16.692	2009.018.12.47.17.241	0	16	15498	5	1	26881	0	65535	40048170		PG	G	E	E
D_EvRp_148	2009.018.12.47.12.647	2009.018.12.47.13.246	0	16	15487	5	1	27402	0	65535	40148170		PG	G	E	E
EVENT_REPORT	2009.018.12.47.11.331	2009.018.12.47.13.254	0	1153	256	5	1	22	2	65535	160021380		PG	G	E	E
EXCEPT_REP	2009.018.12.47.11.329	2009.018.12.47.13.254	0	1153	255	5	2	25	0	65535	160041380		PG	G	E	E
EVENT_REPORT	2009.018.12.47.11.329	2009.018.12.47.13.254	0	1153	254	5	1	22	2	65535	160021380		PG	G	E	E
EXCEPT_REP	2009.018.12.47.11.328	2009.018.12.47.13.254	0	1153	253	5	2	25	0	65535	160041380		PG	G	E	E
EVENT_REPORT	2009.018.12.47.11.328	2009.018.12.47.13.253	0	1153	252	5	1	22	2	65535	160021380		PG	G	E	E
EXCEPT_REP	2009.018.12.47.11.327	2009.018.12.47.13.253	0	1153	251	5	2	25	0	65535	160041380		PG	G	E	E
EVENT_REPORT	2009.018.12.47.11.327	2009.018.12.47.13.253	0	1153	250	5	1	22	2	65535	160021380		PG	G	E	E
EXCEPT_REP	2009.018.12.47.11.326	2009.018.12.47.13.253	0	1153	249	5	2	25	0	65535	160041380		PG	G	E	E
EVENT_REPORT	2009.018.12.47.11.325	2009.018.12.47.13.252	0	1153	248	5	1	22	2	65535	160021380		PG	G	E	E

TM Packet History printout from time: 2009.018.12.45.00.457 to time: 2009.018.12.54.34.164
Current printout time: 2009.018.12.54.58.660 FILTER MODE: ACTIVE DISPLAY MODE: BRIEF STATISTIC: OFF
FILTER SETTINGS:
APID: NOT 2020 Type: 5

Mnemonic	Generation Time	Reception Time	VC	APID	SSC	Type	STyp	PI1	PI2	DS	SPID	GSID	TmT	TmQ	F	D
EXCEPT_REP	2009.018.12.47.11.324	2009.018.12.47.13.252	0	1153	247	5	2	25	0	65535	160041380		PG	G	E	E
EVENT_REPORT	2009.018.12.47.11.324	2009.018.12.47.13.252	0	1153	246	5	1	22	2	65535	160021380		PG	G	E	E

PACS NOMINAL OFF OSCP TP-0254 Step 12.7

EXCEPT_REP	2009.018.12.47.11.323	2009.018.12.47.13.252	0	1153	245	5	2	25	0	65535	160041380	PG	G	E	E
EVENT_REPORT	2009.018.12.47.11.323	2009.018.12.47.13.252	0	1153	244	5	1	22	2	65535	160021380	PG	G	E	E
EXCEPT_REP	2009.018.12.47.11.321	2009.018.12.47.13.251	0	1153	243	5	2	25	0	65535	160041380	PG	G	E	E
EVENT_REPORT	2009.018.12.47.11.321	2009.018.12.47.13.251	0	1153	242	5	1	22	2	65535	160021380	PG	G	E	E
EXCEPT_REP	2009.018.12.47.11.320	2009.018.12.47.13.251	0	1153	241	5	2	25	0	65535	160041380	PG	G	E	E
EVENT_REPORT	2009.018.12.47.11.320	2009.018.12.47.13.250	0	1153	240	5	1	22	2	65535	160021380	PG	G	E	E
EXCEPT_REP	2009.018.12.47.11.319	2009.018.12.47.13.250	0	1153	239	5	2	25	0	65535	160041380	PG	G	E	E
EVENT_REPORT	2009.018.12.47.11.319	2009.018.12.47.13.249	0	1153	238	5	1	22	2	65535	160021380	PG	G	E	E
EXCEPT_REP	2009.018.12.47.11.317	2009.018.12.47.13.249	0	1153	237	5	2	25	0	65535	160041380	PG	G	E	E
EVENT_REPORT	2009.018.12.47.11.317	2009.018.12.47.13.248	0	1153	236	5	1	22	2	65535	160021380	PG	G	E	E
EXCEPT_REP	2009.018.12.47.11.316	2009.018.12.47.13.242	0	1153	235	5	2	25	0	65535	160041380	PG	G	E	E
EVENT_REPORT	2009.018.12.47.11.316	2009.018.12.47.13.241	0	1153	234	5	1	22	2	65535	160021380	PG	G	E	E
EXCEPT_REP	2009.018.12.47.11.315	2009.018.12.47.12.241	0	1153	233	5	2	25	0	65535	160041380	PG	G	E	E
EVENT_REPORT	2009.018.12.47.11.315	2009.018.12.47.12.241	0	1153	232	5	1	22	2	65535	160021380	PG	G	E	E
EXCEPT_REP	2009.018.12.47.11.314	2009.018.12.47.12.241	0	1153	231	5	2	25	0	65535	160041380	PG	G	E	E
EVENT_REPORT	2009.018.12.47.11.314	2009.018.12.47.12.240	0	1153	230	5	1	22	2	65535	160021380	PG	G	E	E
EXCEPT_REP	2009.018.12.47.11.312	2009.018.12.47.12.240	0	1153	229	5	2	25	0	65535	160041380	PG	G	E	E
EVENT_REPORT	2009.018.12.47.11.312	2009.018.12.47.12.240	0	1153	228	5	1	22	2	65535	160021380	PG	G	E	E
EXCEPT_REP	2009.018.12.47.11.311	2009.018.12.47.12.240	0	1153	227	5	2	25	0	65535	160041380	PG	G	E	E
EVENT_REPORT	2009.018.12.47.11.311	2009.018.12.47.12.239	0	1153	226	5	1	22	2	65535	160021380	PG	G	E	E
EXCEPT_REP	2009.018.12.47.11.310	2009.018.12.47.12.239	0	1153	225	5	2	25	0	65535	160041380	PG	G	E	E
EVENT_REPORT	2009.018.12.47.11.310	2009.018.12.47.12.239	0	1153	224	5	1	22	2	65535	160021380	PG	G	E	E
EXCEPT_REP	2009.018.12.47.11.309	2009.018.12.47.12.237	0	1153	223	5	2	25	0	65535	160041380	PG	G	E	E
EVENT_REPORT	2009.018.12.47.11.308	2009.018.12.47.12.237	0	1153	222	5	1	22	2	65535	160021380	PG	G	E	E

PACS NORMAL OFF OSCP TP-0254 Step 12.7

TM Packet Query Display
==========

TM Packet Details

Mnemonic: D_EvRp_148 Description: CdmuAsw 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: 15487 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

Generation time: 2009.018.12.47.12.647 Reception time: 2009.018.12.47.13.246

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 D024 7349 FEE2 0900 D124 7349 DFC2 0300 0100 0000 E601 0000 6000 0000
0020:1138 FFFF 0300 0000 CA9C 6402 0000 0000 0000 0000 FFFF FFFF 10FF 1000 7F3C 0501

Packet Raw Data:
0000:0810 FC7F 0019 0005 0100 6005 8350 A5DF 6B0A 0000 120C 0000 0000 0000 00A0 FFA6

PACS NORMAL OFF OBCP TR-0254 Step 127

TM Packet Query Display
==========

TM Packet Details

Mnemonic: EVENT_REPORT Description: PACS_EVENT_REPORT_2_22 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: 1153 SSC: 236 Type: 5 Subtype: 1 PI1: 22 PI2: 2

SPID: 160021380 TPSD: -1 HFA Counter: 13 Filing: E Distribution: E

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

TM Packet Parameter Data

Generation time: 2009.018.12.47.11.317 Reception time: 2009.018.12.47.13.248

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 CF24 7349 AFD9 0400 D124 7349 93CB 0300 0100 0000 E601 0000 6600 0000
0020:1138 FFFF 0D00 0000 84BB 8909 0000 0000 0000 0000 FFFF FFFF 10FF 8104 EC00 0501

Packet Raw Data:
0000:0C81 C0EC 001F 0005 0100 6005 834F 5160 0016 0002 2000 0000 4000 0000 4012 005C
0020:0000 FFFD 5F3A

PACS NORMAL OFF OBCP TP-0254 STEP 127

TM Packet Query Display
==========

TM Packet Details

Mnemonic: EXCEPT_REP Description: PACS_EXCEPTION_REPORT_0_25 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: 1153 SSC: 237 Type: 5 Subtype: 2 PI1: 25 PI2: 0

SPID: 160041380 TPSD: -1 HFA Counter: 7 Filing: E Distribution: E

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

TM Packet Parameter Data

Generation time: 2009.018.12.47.11.317 Reception time: 2009.018.12.47.13.249

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 CF24 7349 29DA 0400 D124 7349 A9CC 0300 0100 0000 E601 0000 6000 0000
0020:1138 FFFF 0700 0000 A409 8A09 0000 0000 0000 0000 FFFF FFFF 10FF 8104 ED00 0502

Packet Raw Data:
0000:0C81 C0ED 0019 0005 0200 6005 834F 5168 0019 0000 2000 0000 4000 0000 8007 8348

PACS NORMAL OFF OBCP TP-0254 Step 127

TM Packet Query Display
==========

TM Packet Details

Mnemonic: D_EvRp_048 Description: CdmuAsw 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: 15498 Type: 5 Subtype: 1 PI1: 26881 PI2: 0

SPID: 40048170 TPSD: -1 HFA Counter: 12 Filing: E Distribution: E

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

TM Packet Parameter Data

Generation time: 2009.018.12.47.16.692 Reception time: 2009.018.12.47.17.241

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 D424 7349 E88F 0A00 D524 7349 CAAD 0300 0100 0000 E601 0000 6600 0000
0020:1138 FFFF 0C00 0000 2A16 6302 0000 0000 0000 0000 FFFF FFFF 10FF 1000 8A3C 0501

Packet Raw Data:
0000:0810 FC8A 001F 0005 0100 6005 8354 B134 6901 0000 005A 0000 0001 0000 00A1 6005
0020:8354 B12D 3AB5

PACS NORMAL OFF OBCP TP-0254 Sht 127

PACS NORMAL OFF OBCP TP-0254 STEP 127

TM Packet Query Display
==========

TM Packet Details

Mnemonic: ERROR REPORT Description: OBCP_Evt Pacs Bolc 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: 15542 Type: 5 Subtype: 4 PI1: 8193 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: 2009.018.12.48.04.650 Reception time: 2009.018.12.48.05.295

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 0425 7349 47EB 0900 0525 7349 BE80 0400 0100 0000 E601 0000 6000 0000
0020:1138 FFFF 0500 0000 79C0 B402 0000 0000 0000 0000 FFFF FFFF 10FF 1000 B63C 0504

Packet Raw Data:
0000:0810 FCB6 0019 0005 0400 6005 8384 A66A 2001 0000 0000 0000 0000 0000 0000 DC62

TM Packet Query Display
==========

TM Packet Details

Mnemonic: ERROR REPORT Description: OBCP_Evt Pacs 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: 15590 Type: 5 Subtype: 4 PI1: 8192 PI2: 0

SPID: 45400185 TPSD: -1 HFA Counter: 6 Filing: E Distribution: E

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

TM Packet Parameter Data

Generation time: 2009.018.12.48.26.650 Reception time: 2009.018.12.48.28.318

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 1A25 7349 0DEC 0900 1C25 7349 89DD 0400 0100 0000 E601 0000 6000 0000
0020:1138 FFFF 0600 0000 79C0 B402 0000 0000 0000 0000 FFFF FFFF 10FF 1000 E63C 0504

Packet Raw Data:
0000:0810 FCE6 0019 0005 0400 6005 839A A677 2000 0000 0000 0000 0000 0000 0000 71B9

PACS NORMAL OFF OBCP TP-025Y Step 27

TM Packet Query Display
==========

TM Packet Details

Mnemonic: D_EvRp_145 Description: CdmuAsw 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: 15596 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

Generation time: 2009.018.12.48.30.654 Reception time: 2009.018.12.48.33.324

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 1E25 7349 1DFE 0900 2125 7349 E4F3 0400 0100 0000 E601 0000 6000 0000
0020:1138 FFFF 0300 0000 1291 6402 0000 0000 0000 0000 FFFF FFFF 10FF 1000 EC3C 0501

Packet Raw Data:
0000:0810 FCEC 0019 0005 0100 6005 839E A7A6 6B07 0000 120C 0000 0000 0000 00A2 A2C6

ACS NORMAL OFF OBCP TP-0254 STP 27

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
128.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Check that PACS is OFF and MTL TCs are disabled"* *⇨ Perform activity and then click the "OK" button to confirm*	Subschedules 80 OFF 90 OFF All PACS-B LCLs (28, 42,36,69) OFF OK	80=OFF 90=OFF → OFF		LCL 28 = BOLC LCL 42 = DPU LCL 36 = SPU LCL 69 = DECMEC	✓	
129.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"check that all EATs are enabled except 0x006 for APIDs 0x0480 and 0x0481"* *⇨ Perform activity from D102159SCVT192_GET_EAT_REPORT Then press OK*	PASS OK			APID 0x0480 = 1152 (PACS-A) APID 0x0481 = 1153 (PACS-B) both disabled	✓	
130.	*During D102159SCVT192_GET_EAT_REPORT* *⇨ Click EndTS to continue*	ENDTS	ENDTS			✓	

Test location:	Operator	Product-Assurance:	Date:
ESTEC	S. Ilsen	D. Lumsden	18/1/09 13:04

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
131.	During Z010999MCVT163_IST_PACS_FDIR_R "RECOVERY ACTION" ⇨ Click the "Confirm" button to continue	CONFIRM		Confirm		✓	
132.	During Z010999MCVT163_IST_PACS_FDIR_R "If still running, please terminate the sequence to keep PACS in SCIENCE" ⇨ Perform activity and then click the "OK" button to confirm	OK		OK		✓	
133.	During Z010999MCVT163_IST_PACS_FDIR_R "Please filter TMPKT History for TM(8,6)" ⇨ Perform activity and then click the "OK" button to confirm	PASS OK		Confirm		✓	

Test location:	Operator	Product-Assurance:	Date:
ISTEC	S. Ilsen	D. Lamouly	18/01/09 13:05

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
134.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Please check in the report that PACS TC Routing is disabled"* *⇨ Perform activity and then click the "OK" button to confirm*	PACS Gnd-LoPrio DISABLED OK		OK		✓	
135.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Please filter TMPKT History for TM(8,6)"* *⇨ Perform activity and then click the "OK" button to confirm*	PASS OK		OK		✓	
136.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Please check in the report that PACS TC Routing is enabled"* *⇨ Perform activity and then click the "OK" button to confirm*	PACS Gnd-LoPrio ENABLED OK		OK		✓	

Test location:	Operator	Product-Assurance:	Date:
ESTEC	S. Ilsen	D. Lamonby	18/1/09 13:07

TM Packet Query Display
==========

TM Packet Details

Mnemonic: (8,6)-0802 Description: TC Routing Filter Report 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: 16024 Type: 8 Subtype: 6 PI1: 2566 PI2: 41

SPID: 40802161 TPSD: 40802161 HFA Counter: 5 Filing: E Distribution: E

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

TM Packet Parameter Data

Generation time: 2009.018.13.05.16.829 Reception time: 2009.018.13.05.21.301

DE001161	FUN	Fdir
DE002161	ACT	6
DE003161	SID	41
DE009161	N	40
DE010161	TC_APID	CDMS
DE011161	TC_SRC	Gnd-HiPrio
DE012161	EOD	ENABLED
DE010161	TC_APID	CDMS
DE011161	TC_SRC	CDMU-FDIR
DE012161	EOD	ENABLED
DE010161	TC_APID	CDMS
DE011161	TC_SRC	MTL
DE012161	EOD	ENABLED
DE010161	TC_APID	CDMS
DE011161	TC_SRC	OBCP
DE012161	EOD	ENABLED
DE010161	TC_APID	CDMS
DE011161	TC_SRC	Gnd-LoPrio
DE012161	EOD	ENABLED
DE010161	TC_APID	CDMS
DE011161	TC_SRC	ACC-FDIR
DE012161	EOD	ENABLED
DE010161	TC_APID	CDMS
DE011161	TC_SRC	CDMU-Func
DE012161	EOD	ENABLED
DE010161	TC_APID	CDMS
DE011161	TC_SRC	ACC-Func
DE012161	EOD	ENABLED
DE010161	TC_APID	ACMS
DE011161	TC_SRC	Gnd-HiPrio
DE012161	EOD	ENABLED
DE010161	TC_APID	ACMS
DE011161	TC_SRC	CDMU-FDIR
DE012161	EOD	ENABLED
DE010161	TC_APID	ACMS
DE011161	TC_SRC	MTL

TP-0254 Step 134

DE012161	EOD	ENABLED
DE010161	TC_APID	ACMS
DE011161	TC_SRC	OBCP
DE012161	EOD	ENABLED
DE010161	TC_APID	ACMS
DE011161	TC_SRC	Gnd-LoPrio
DE012161	EOD	ENABLED
DE010161	TC_APID	ACMS
DE011161	TC_SRC	ACC-FDIR
DE012161	EOD	ENABLED
DE010161	TC_APID	ACMS
DE011161	TC_SRC	CDMU-Func
DE012161	EOD	ENABLED
DE010161	TC_APID	ACMS
DE011161	TC_SRC	ACC-Func
DE012161	EOD	ENABLED
DE010161	TC_APID	HIFI
DE011161	TC_SRC	Gnd-HiPrio
DE012161	EOD	ENABLED
DE010161	TC_APID	HIFI
DE011161	TC_SRC	CDMU-FDIR
DE012161	EOD	ENABLED
DE010161	TC_APID	HIFI
DE011161	TC_SRC	MTL
DE012161	EOD	ENABLED
DE010161	TC_APID	HIFI
DE011161	TC_SRC	OBCP
DE012161	EOD	ENABLED
DE010161	TC_APID	HIFI
DE011161	TC_SRC	Gnd-LoPrio
DE012161	EOD	ENABLED
DE010161	TC_APID	HIFI
DE011161	TC_SRC	ACC-FDIR
DE012161	EOD	ENABLED
DE010161	TC_APID	HIFI
DE011161	TC_SRC	CDMU-Func
DE012161	EOD	ENABLED
DE010161	TC_APID	HIFI
DE011161	TC_SRC	ACC-Func
DE012161	EOD	ENABLED
DE010161	TC_APID	SPIRE
DE011161	TC_SRC	Gnd-HiPrio
DE012161	EOD	ENABLED
DE010161	TC_APID	SPIRE
DE011161	TC_SRC	CDMU-FDIR
DE012161	EOD	ENABLED
DE010161	TC_APID	SPIRE
DE011161	TC_SRC	MTL
DE012161	EOD	ENABLED
DE010161	TC_APID	SPIRE
DE011161	TC_SRC	OBCP
DE012161	EOD	ENABLED
DE010161	TC_APID	SPIRE
DE011161	TC_SRC	Gnd-LoPrio
DE012161	EOD	ENABLED
DE010161	TC_APID	SPIRE
DE011161	TC_SRC	ACC-FDIR
DE012161	EOD	ENABLED
DE010161	TC_APID	SPIRE
DE011161	TC_SRC	CDMU-Func

TP-0254 Hop 134

DE012161	EOD	ENABLED
DE010161	TC_APID	SPIRE
DE011161	TC_SRC	ACC-Func
DE012161	EOD	ENABLED
DE010161	TC_APID	PACS
DE011161	TC_SRC	Gnd-HiPrio
DE012161	EOD	ENABLED
DE010161	TC_APID	PACS
DE011161	TC_SRC	CDMU-FDIR
DE012161	EOD	ENABLED
DE010161	TC_APID	PACS
DE011161	TC_SRC	MTL
DE012161	EOD	ENABLED
DE010161	TC_APID	PACS
DE011161	TC_SRC	OBCP
DE012161	EOD	ENABLED
DE010161	TC_APID	PACS
DE011161	TC_SRC	Gnd-LoPrio
DE012161	EOD	DISABLED
DE010161	TC_APID	PACS
DE011161	TC_SRC	ACC-FDIR
DE012161	EOD	ENABLED
DE010161	TC_APID	PACS
DE011161	TC_SRC	CDMU-Func
DE012161	EOD	ENABLED
DE010161	TC_APID	PACS
DE011161	TC_SRC	ACC-Func
DE012161	EOD	ENABLED

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 0C29 7349 D3A8 0C00 1129 7349 379B 0400 0100 0000 E601 0000 F800 0000
0020:1138 FFFF 0500 0000 7197 6E02 0000 0000 0000 0000 7197 6E02 10FF 1000 983E 0806

Packet Raw Data:
0000:0810 FE98 00B1 0008 0600 6005 878C D464 0A06 0029 0028 0010 0001 0010 0003 0010
0020:0005 0010 0007 0010 0009 0010 000B 0010 000D 0010 000F 0200 0001 0200 0003 0200
0040:0005 0200 0007 0200 0009 0200 000B 0200 000D 0200 000F 0400 0001 0400 0003 0400
0060:0005 0400 0007 0400 0009 0400 000B 0400 000D 0400 000F 0500 0001 0500 0003 0500
0080:0005 0500 0007 0500 0009 0500 000B 0500 000D 0500 000F 0480 0001 0480 0003 0480
00A0:0005 0480 0007 0480 0008 0480 000B 0480 000D 0480 000F C30B

TP-025f Step 134

TM Packet Query Display
==========

TM Packet Details

Mnemonic: (8,6)-0802 Description: TC Routing Filter Report 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: 16044 Type: 8 Subtype: 6 PI1: 2566 PI2: 41

SPID: 40802161 TPSD: 40802161 HFA Counter: 6 Filing: E Distribution: E

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

TM Packet Parameter Data

Generation time: 2009.018.13.06.04.829 Reception time: 2009.018.13.06.09.356

DE001161	FUN	Fdir
DE002161	ACT	6
DE003161	SID	41
DE009161	N	40
DE010161	TC_APID	CDMS
DE011161	TC_SRC	Gnd-HiPrio
DE012161	EOD	ENABLED
DE010161	TC_APID	CDMS
DE011161	TC_SRC	CDMU-FDIR
DE012161	EOD	ENABLED
DE010161	TC_APID	CDMS
DE011161	TC_SRC	MTL
DE012161	EOD	ENABLED
DE010161	TC_APID	CDMS
DE011161	TC_SRC	OBCP
DE012161	EOD	ENABLED
DE010161	TC_APID	CDMS
DE011161	TC_SRC	Gnd-LoPrio
DE012161	EOD	ENABLED
DE010161	TC_APID	CDMS
DE011161	TC_SRC	ACC-FDIR
DE012161	EOD	ENABLED
DE010161	TC_APID	CDMS
DE011161	TC_SRC	CDMU-Func
DE012161	EOD	ENABLED
DE010161	TC_APID	CDMS
DE011161	TC_SRC	ACC-Func
DE012161	EOD	ENABLED
DE010161	TC_APID	ACMS
DE011161	TC_SRC	Gnd-HiPrio
DE012161	EOD	ENABLED
DE010161	TC_APID	ACMS
DE011161	TC_SRC	CDMU-FDIR
DE012161	EOD	ENABLED
DE010161	TC_APID	ACMS
DE011161	TC_SRC	MTL

JP-0254 pg 136

DE012161	EOD	ENABLED
DE010161	TC_APID	ACMS
DE011161	TC_SRC	OBCP
DE012161	EOD	ENABLED
DE010161	TC_APID	ACMS
DE011161	TC_SRC	Gnd-LoPrio
DE012161	EOD	ENABLED
DE010161	TC_APID	ACMS
DE011161	TC_SRC	ACC-FDIR
DE012161	EOD	ENABLED
DE010161	TC_APID	ACMS
DE011161	TC_SRC	CDMU-Func
DE012161	EOD	ENABLED
DE010161	TC_APID	ACMS
DE011161	TC_SRC	ACC-Func
DE012161	EOD	ENABLED
DE010161	TC_APID	HIFI
DE011161	TC_SRC	Gnd-HiPrio
DE012161	EOD	ENABLED
DE010161	TC_APID	HIFI
DE011161	TC_SRC	CDMU-FDIR
DE012161	EOD	ENABLED
DE010161	TC_APID	HIFI
DE011161	TC_SRC	MTL
DE012161	EOD	ENABLED
DE010161	TC_APID	HIFI
DE011161	TC_SRC	OBCP
DE012161	EOD	ENABLED
DE010161	TC_APID	HIFI
DE011161	TC_SRC	Gnd-LoPrio
DE012161	EOD	ENABLED
DE010161	TC_APID	HIFI
DE011161	TC_SRC	ACC-FDIR
DE012161	EOD	ENABLED
DE010161	TC_APID	HIFI
DE011161	TC_SRC	CDMU-Func
DE012161	EOD	ENABLED
DE010161	TC_APID	HIFI
DE011161	TC_SRC	ACC-Func
DE012161	EOD	ENABLED
DE010161	TC_APID	SPIRE
DE011161	TC_SRC	Gnd-HiPrio
DE012161	EOD	ENABLED
DE010161	TC_APID	SPIRE
DE011161	TC_SRC	CDMU-FDIR
DE012161	EOD	ENABLED
DE010161	TC_APID	SPIRE
DE011161	TC_SRC	MTL
DE012161	EOD	ENABLED
DE010161	TC_APID	SPIRE
DE011161	TC_SRC	OBCP
DE012161	EOD	ENABLED
DE010161	TC_APID	SPIRE
DE011161	TC_SRC	Gnd-LoPrio
DE012161	EOD	ENABLED
DE010161	TC_APID	SPIRE
DE011161	TC_SRC	ACC-FDIR
DE012161	EOD	ENABLED
DE010161	TC_APID	SPIRE
DE011161	TC_SRC	CDMU-Func

TP-0254 Sap 136

```
DE012161        EOD             ENABLED
DE010161        TC_APID         SPIRE
DE011161        TC_SRC          ACC-Func
DE012161        EOD             ENABLED
DE010161        TC_APID         PACS
DE011161        TC_SRC          Gnd-HiPrio
DE012161        EOD             ENABLED
DE010161        TC_APID         PACS
DE011161        TC_SRC          CDMU-FDIR
DE012161        EOD             ENABLED
DE010161        TC_APID         PACS
DE011161        TC_SRC          MTL
DE012161        EOD             ENABLED
DE010161        TC_APID         PACS
DE011161        TC_SRC          OBCP
DE012161        EOD             ENABLED
DE010161        TC_APID         PACS
DE011161        TC_SRC          Gnd-LoPrio
DE012161        EOD             ENABLED
DE010161        TC_APID         PACS
DE011161        TC_SRC          ACC-FDIR
DE012161        EOD             ENABLED
DE010161        TC_APID         PACS
DE011161        TC_SRC          CDMU-Func
DE012161        EOD             ENABLED
DE010161        TC_APID         PACS
DE011161        TC_SRC          ACC-Func
DE012161        EOD             ENABLED
```

TM Packet Raw Data

```
SCOS-2000 Header:
0000:0000 0000 3C29 7349 18A7 0C00 4129 7349 7671 0500 0100 0000 E601 0000 F800 0000
0020:1138 FFFF 0600 0000 7197 6E02 0000 0000 0000 0000 7197 6E02 10FF 1000 AC3E 0806

Packet Raw Data:
0000:0810 FEAC 00B1 0008 0600 6005 87BC D447 0A06 0029 0028 0010 0001 0010 0003 0010
0020:0005 0010 0007 0010 0009 0010 000B 0010 000D 0010 000F 0200 0001 0200 0003 0200
0040:0005 0200 0007 0200 0009 0200 000B 0200 000D 0200 000F 0400 0001 0400 0003 0400
0060:0005 0400 0007 0400 0009 0400 000B 0400 000D 0400 000F 0500 0001 0500 0003 0500
0080:0005 0500 0007 0500 0009 0500 000B 0500 000D 0500 000F 0480 0001 0480 0003 0480
00A0:0005 0480 0007 0480 0009 0480 000B 0480 000D 0480 000F 0115
```

TP-0254 Step 136

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N	
137.	*During Z010999MCVT163_IST_PACS_FDIR_R "check that all EATs are enabled"* *⇨ Perform activity from D102159SCVT192_GET_EAT_REPORT Then press OK*	PASS OK		OK		✓		✓
138.	*During D102159SCVT192_GET_EAT_REPORT* *⇨ Click EndTS to continue*	ENDTS		EndTS		✓		✓
139.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Switching PACS ON (REDUNDANT)"* *⇨ Click the "OK" button to confirm*	OK		OK	Conditions may change, so check on RD-3 §7.1.4 for current prompts and expected OOL. At the end of it choose to reset the previous bus profle.	✓		✓
140.	*During P102999SCVT918_ASDISTPACS_MarkON* *"Mark PACS Units ON?"* *⇨ click "confirm" to continue*	CONFIRM		Confirm	already marked ON by previous step	✓		✓

Test location:	Operator	Product-Assurance:	Date:
ESTE	S. Ilsen	D. Lamouly	18/1/09 13:21

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
141.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Please check that subschedule 80 (meta-PACS) is disabled and 90 (PACS TCs) is enabled Then press OK"* *⇨ Perform activity and then click the "OK" button to confirm*	Subschedules 80 OFF 90 ON OK		80 = OFF 90 = ON OK		✓	
142.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"End of PACS NORMAL OFF TEST.* *⇨ click the "OK" button to confirm*	OK		OK		✓	
143.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"PACS IMMEDIATE OFF OBCP?"* *⇨ Click the button "Confirm" to continue*	CONFIRM		confirm	If SKIP, it continues at step 165. DB_OBCP_H_PACS_IMMEDIATE_OFF is the OBCP under test.	✓	

Test location:	Operator	Product-Assurance:	Date:
ESTEC	S. Ilsa	D. Lamonby	13/01/09 13:24

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
144.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Execute PACS script for clearing HK?"* *⇨ click the "Confirm" button to continue*	CONFIRM		Confirm		✓	
145.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Filter one TMPKT History for PACS HK and one for TM(5,1)"* *⇨ Perform activity and then click the "OK" button to confirm*	PASS OK		OK	PACS APID 1153/1155	✓	
146.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"check that PACS is sending no regular packets any more"* *⇨ Perform activity and then click the "OK" button to confirm*	PASS OK		OK		✓	

Test location:	Operator	Product-Assurance:	Date:
ESTEC	S. Ilsen	D. Lamouby	18/1/09 13:28

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
147.	*During Z010999MCVT163_IST_PACS_FDIR_R* *At the prompt:* *"Wait until the end of the OBCP - TM(5,1) with SPID 40145170 procID 0x120B* *Check that:* *⇨ OBCP PACS IMMEDIATE OFF has been triggered - TM(5,1) with SPID 40148170 procID 0x120B* *⇨ PACS goes OFF* *⇨ OBCP is OVER: TM(5,1) with SPID 40145170 procID 0x120B* *⇨ then click the "OK" button to confirm*	PASS ✓ OK ✓		OK OK	NC3958 (evt Hifi Off) Expected: TM(5,1)-0579 SDB PACS failed TM TM(5,2)-0586 SDB PACS non vital RT Sick TM TM(5,1) OBCP Started TM(5,1)-48 subschedule status changed 3x TM(5,1) Unit already marked OFF TM(5,1) OBCP ended	✓	
148.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Check that subschedule 80 (meta-PACS) and 90 (PACS TCs)are disabledd Then press OK"* *⇨ Perform activity and then click the "OK" button to confirm*	Subschedules 80 OFF 90 OFF OK	80=off 90=off			✓	

Test location:	Operator	Product-Assurance:	Date:
ESTEC	S. Ilsen	D. Lamarby	10/1/09 13:34

TM Packet Query Display
==========

TM Packet Details

Mnemonic: (5,2)-0579 Description: CdmuBsw Event 5-2 SDB PACS 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: 247 Type: 5 Subtype: 2 PI1: 179 PI2: 179

SPID: 40579161 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: 2009.018.13.29.11.805 Reception time: 2009.018.13.29.13.375

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 A72E 7349 234C 0C00 A92E 7349 97BC 0500 0100 0000 E601 0000 6000 0000
0020:1138 FFFF 0100 0000 5930 6B02 0000 0000 0000 0000 FFFF FFFF 10FF 1000 F700 0502

Packet Raw Data:
0000:0810 C0F7 0019 0005 0200 6005 8D27 CE51 00B3 00B3 0001 001A 0001 0000 0003 43A1

PACS IMMEDIATE OFF OBCP TP-0254 Step 47

TM Packet Query Display
==========

TM Packet Details

Mnemonic: (5,2)-0586 Description: CdmuBsw Event 5-2 SDB PACS 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: 248 Type: 5 Subtype: 2 PI1: 186 PI2: 186

SPID: 40586161 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: 2009.018.13.29.11.806 Reception time: 2009.018.13.29.13.376

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 A72E 7349 9E4C 0C00 A92E 7349 BBBD 0500 0100 0000 E601 0000 6000 0000
0020:1138 FFFF 0100 0000 B14B 6B02 0000 0000 0000 0000 FFFF FFFF 10FF 1000 F800 0502

Packet Raw Data:
0000:0810 C0F8 0019 0005 0200 6005 8D27 CE59 00BA 00BA 0001 001A 0001 0000 0004 E1FF

PACS IMMEDIATE OFF OSCP IP-0254 Step 147

TM Packet Query Display
==========

TM Packet Details

Mnemonic: D_EvRp_148 Description: CdmuAsw 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: 252 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: 2009.018.13.29.12.678 Reception time: 2009.018.13.29.13.378

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 A82E 7349 285B 0A00 A92E 7349 FBC6 0500 0100 0000 E601 0000 6000 0000
0020:1138 FFFF 0400 0000 CA9C 6402 0000 0000 0000 0000 FFFF FFFF 10FF 1000 FC00 0501

Packet Raw Data:
0000:0810 C0FC 0019 0005 0100 6005 8D28 ADBF 6B0A 0000 120B 0000 0000 0000 00B1 F62E

PACS IMMEDIATE OFF OSCP TP-0254 Step 147

TM Packet Query Display
==========

TM Packet Details

Mnemonic: D_EvRp_048 Description: CdmuAsw 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: 259 Type: 5 Subtype: 1 PI1: 26881 PI2: 0

SPID: 40048170 TPSD: -1 HFA Counter: 14 Filing: E Distribution: E

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

TM Packet Parameter Data

Generation time: 2009.018.13.29.14.693 Reception time: 2009.018.13.29.16.378

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 AA2E 7349 2093 0A00 AC2E 7349 DEC5 0500 0100 0000 E601 0000 6600 0000
0020:1138 FFFF 0E00 0000 2A16 6302 0000 0000 0000 0000 FFFF FFFF 10FF 1000 0301 0501

Packet Raw Data:
0000:0810 C103 001F 0005 0100 6005 8D2A B16A 6901 0000 005A 0000 0001 0000 00B2 6005
0020:8D2A B163 BB91

RACS IMMEDIATE AAF OSCP TP-0254 Step 147

TM Packet Query Display
==========

TM Packet Details

Mnemonic: D_EvRp_145 Description: CdmuAsw 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: 315 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: 2009.018.13.29.49.685 Reception time: 2009.018.13.29.53.419

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 CD2E 7349 4074 0A00 D12E 7349 FB65 0600 0100 0000 E601 0000 6000 0000
0020:1138 FFFF 0400 0000 1291 6402 0000 0000 0000 0000 FFFF FFFF 10FF 1000 3B01 0501

Packet Raw Data:
0000:0810 C13B 0019 0005 0100 6005 8D4D AF64 6B07 0000 120B 0000 0000 0000 00B3 6BC5

PACS IMMEDIATE OFF OBCP TP-0254 Step 147

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
149.	*During Z010999MCVT163_IST_PACS_FDIR_R "check that all EATs are enabled except 0x006 for APIDs 0x0480 and 0x0481"* *⇨ Perform activity from D102159SCVT192_GET_EAT_REPORT Then press OK*	PASS OK		PASS OK	APID 0x0480 = 1152 (PACS-A) APID 0x0481 = 1152 (PACS-B)	✓	
150.	*During D102159SCVT192_GET_EAT_REPORT* *⇨ Click EndTS to continue*	ENDTS		ENDTS		✓	
151.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"RECOVERY ACTION"* *⇨ click Confim to continue*	CONFIRM		CONFIRM		✓	
152.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"If still running, please terminate the sequence to keep PACS in SCIENCE"* *⇨ Perform activity and then click the "OK" button to confirm*	OK		N/A OK	PACS SHOULD NOT BE IN SCIENCE	✓	

Test location:	Operator	Product-Assurance:	Date:
ESTEC - HYDRA		D. Lamonby	18/01/09 13:42

18/01/09 13:42

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
153.	*During Z010999MCVT163_IST_PACS_FDIR_r* *"Please filter TMPKT History for TM(8,6)"* *⇨ Perform activity and then click the "OK" button to confirm*	PASS OK		PASS OK		✓	
154.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Please check in the report that PACS TC Routing is disabled"* *⇨ Perform activity and then click the "OK" button to confirm*	PACS Gnd-LoPrio DISABLED OK		DISABLED OK		✓	
155.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Please filter TMPKT History for TM(8,6)"* *⇨ Perform activity and then click the "OK" button to confirm*	PASS OK		PASS OK		✓	

Test location:	Operator	Product-Assurance:	Date:
ESTEC HYDRA		D. Lamarly	18/01/09 13:45

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
156.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Please check in the report that PACS TC Routing is enabled"* *⇨ Perform activity and then click the "OK" button to confirm*	PACS Gnd-LoPrio ENABLED OK		ENABLED OK		✓	
157.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"check that all EATs are enabled"* *⇨ Perform activity from D102159SCVT192_GET_EAT_REPORT Then press OK*	PASS OK		PASS OK		✓	
158.	*During D102159SCVT192_GET_EAT_REPORT* *⇨ Click EndTS to continue*	ENDTS		ENDTS		✓	
159.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Switching PACS ON (REDUNDANT)"* *⇨ Click the "OK" button to confirm*	OK		OK	Conditions may change, so check on RD-3 §7.1.4 or current prompts and expected OOL. At the end of it choose to reset the previous bus profle.	✓	

Test location:	Operator	Product-Assurance:	Date:
ESTEC – HYDRA		D. Lamonby	18/01/09 13:50

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
160.	*During P102999SCVT918_ASDISTPACS_MarkON* *"Mark PACS Units ON?"* *⇨ click "confirm" to continue*	CONFIRM		Skip	Monitor ZAD1E999 Already done in Power on Script	✓	
161.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Please check that subschedule 80 (meta-PACS) is disabled and 90 (PACS TCs) is enabled Then press OK"* *⇨ Perform activity and then click the "OK" button to confirm*	80 OFF 90 ON OK		OFF ON OK		✓	
162.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"End of PACS IMMEDIATE OFF TEST "* *⇨ click the "OK" button to confirm*	OK		OK		✓	

Test location:	Operator	Product-Assurance:	Date:
ESTEC HYDRA		D. Lamouby	18/01/09 14:11

18/01/09 14:11

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
163.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"End of PACS FDIR TEST (REDUNDANT) 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		✓	
164.	*During D102159SCVT192_GET_EAT_REPORT* *⇨ Click the button "EndTS!" to proceed*	ENDTS		ENDTS		✓	
165.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"RESET the starting condition"* *⇨ Click the button "Confirm" to continue*	CONFIRM		CONFIRM	SPR 1141.	✓	
166.	*During Z010999MCVT163_IST_PACS_FDIR_R* *" Terminate ALL_SubscribeParams.tcl"* *⇨ perform §7.1.9 of RD3 then click the "OK" button to confirm*	PASS OK		PASS OK	~~SPR 1141.~~		

PVS # 7

PVS # 7

Test location:	Operator	Product-Assurance:	Date:
ESTEC HYDRA		D. Lamonby	18/01/09 15:42

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
167.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Check that PACS is ON but in no prime (STDBY)"* *⇨ Click the "OK" button to confirm*	PASS OK		PASS OK		✓	
168.	*During Z010999MCVT163_IST_PACS_FDIR_R* *"Check that all subschedules from 1 to 256, plus 370 are enabled"* *⇨ Click the button "OK" to confirm*	PASS OK		PASS OK.		✓	
169.	*At end of Z010999MCVT163_IST_PACS_FDIR_R* *⇨ Click the button "End TS!" to proceed*	ENDTS		ENDTS		✓	

Test location:	Operator	Product-Assurance:	Date:
ESTEC HYDRA.		D. Lamarby.	18/01/09 15:44

7.5 SPIRE 18/01/09 15:47

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
170.	*Callasync* *Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *to perform the SPIRE related part of the Instruments FDIR IST*	PASS		PASS		✓	
171.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"PERFORM SPIRE FDIR TEST (REDUNDANT)?"* *⇨ Click the button "Confirm" to continue*	CONFIRM		CONFIRM	If SKIP, it exits the script	✓	
172.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"Starting condition check"* *⇨ Click the button "Confirm" to continue*	CONFIRM		CONFIRM		✓	

Test location:	Operator	Product-Assurance:	Date:
ESTEC HYDRA		D. Lamarly	18/01/09 15:48

18/01/09 15:48.

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
173.	During Z010999MCVT164_IST_SPIRE_FDIR_R_formal "Please check that no instrument is in science. If so, put it in standby" ⇨ Click the button "OK" to confirm	PASS OK		PASS OK	RD-3 for details	✓	
174.	During Z010999MCVT164_IST_SPIRE_FDIR_R_formal "INITIAL S/C STATUS CHECK" ⇨ Click the button "Confirm" to continue	CONFIRM		CONFIRM		✓	
175.	During Z010999MCVT153_IST_STATUS "Do you want to stop and notice each failure" ⇨ Click the button "NO" to continue	NO		YES		✓	
176.	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 Latch Valve status unclear SPR1136 Other deviations expected.	✓	

Test location:	Operator	Product-Assurance:	Date:
ESTEC HYDRA		D. Lumsby	18/01/09

18/01/09 16:07

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
177.	During Z010999MCVT164_IST_SPIRE_FDIR_R_formal "Set SCBP to SPIRE Prime (3)" ⇨ Click the button "confirm" to continue	CONFIRM		CONFIRM		✓	
178.	During Z010999MCVT164_IST_SPIRE_FDIR_R_formal "Upload and enable dummy MTL with SPIRE connection test in subschedule 370" ⇨ Click the button "Confirm" to continue	CONFIRM		CONFIRM		✓	
179.	During D102159SCVT218_IST_SPIRE_MTL_PING "Check the parameters" ⇨ Check that there is 1 SPIRE PING TC every 5 minutes starting within 15' for 10 hours ⇨ Click the button "OK" to confirm	PASS OK		PASS OK	120 TCs are expected.	✓	
180.	During D102159SCVT218_IST_SPIRE_MTL_PING ⇨ Click the button "EndTS!" to continue	ENDTS		ENDTS		✓	

Test location:	Operator	Product-Assurance:	Date:
ESTEC HYDRA		D. Lamarre	18/01/09 16:11

18/01/09 16:12

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
181.	*Check that the MTL contains one SCL00500 (TEST CONNECTION) every 5 minutes for 10 hours in subschedule 370*	PASS OK		OK		✓	
182.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_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	100 370	OFF ON OK		✓	
183.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"Wait for execution of the first command, then press OK"* *⇨ Click the button "OK" to continue*	PASS OK		PASS OK.	16:23:49	✓	
184.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"Put SPIRE in SCIENCE MODE"* *⇨ Click the button "Confirm" to continue*	CONFIRM		CONFIRM.	Refer to RD3 §7.2.6 for prompts and expected OOLs.	✓	

Test location:	Operator	Product-Assurance:	Date:
ESTEC HYDRA		D. Lamarly	18/01/09 16:25

18/01/09 16:25

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
185.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *" Check that SPIRE is producing science packets"* *⇨ Click the button "OK" to continue*	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 S	✓	
186.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"TEST the SPIRE OPE STOP FDIR?"* *⇨ Click the button "Confirm" to continue*	CONFIRM		CONFIRM	If SKIP, it continues at step 194. DB_OBCP_H_SPIRE_OPE_STOP is the OBCP under test. IMPORTANT NOTE: If the test of the SPIRE OPE STOP is executed then the SPIRE RESUME OBCP MUST be executed afterwards, too.	✓	
187.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"TRIGGER OBCP WITH SPIRE SCRIPT"* *⇨ Click the button "Confirm" to continue*	CONFIRM		CONFIRM		✓	

Test location:	Operator	Product-Assurance:	Date:
ESTEC HYDRA		D. Lamarly	18/01/09 16:30

18/01/09 16:30

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
188.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"Please filter one TMPKT History for APID 16 and type 5 and one for APID 1281 Type 5"* *⇨ Click the button "OK" to continue*	PASS OK		PASS OK		✓	
189.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"executing script SPIRE-**OBCPTest-ObservationAnomaly.tcl**"* *⇨ Click the button "OK" to confirm*	OK		OK		✓	

Test location:	Operator	Product-Assurance:	Date:
ESTEC HYDRA		D. Lemaury	18/01/09 16:31

18/01/09 16:31

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
190.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *at the prompt:* *"Wait until the end of the OBCP TM(5,1) with SPID 40145170 procID 0x1106"* ⇨ Wait for ~5 seconds for the reception of TM(5,2) event report with APID 1281 Event ID 0xC100 and SID 0x5200	PASS		PASS			
	⇨ check that OBCP SPIRE OPE STOP has been triggered - TM(5,1) with APID 16, SPID 40148170 procID 0x1106	OK		OK		✓	
	⇨ TM(5,4) with APID 16 EvID 0x1003 SPIRE Operations Stopped" is received ⇨ check that TM(5,1) with APID 16, SPID 40145170 procID 0x1106 is received ⇨ *Click the "OK" button to confirm*						

Test location:	Operator	Product-Assurance:	Date:
ESTEC IVTDRA		D. Kennedy	18/01/09 16:32

TM Packet Query Display
==========

TM Packet Details

Mnemonic: SOBSANOM0500 Description: SPIRE_R_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: 1281 SSC: 15184 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: 2009.018.16.31.56.124 Reception time: 2009.018.16.31.57.400

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 7C59 7349 10E5 0100 7D59 7349 601D 0600 0100 0000 E601 0000 6000 0000
0020:1138 FFFF 0000 0000 94EC 550B 0000 0000 0000 0000 FFFF FFFF 10FF 0105 503B 0502

Packet Raw Data:
0000:0D01 FB50 0019 0005 0200 6005 B7FC 1FCA C100 5200 0000 0D05 0000 0000 0000 BEA1

SPIRE OBE STOP TP-0254 STOP 190 OK

TM Packet Query Display
==========

TM Packet Details

Mnemonic: VMSTKUNDERF Description: R_VM_STACK_UNDERFLOW 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: 1281 SSC: 15185 Type: 5 Subtype: 1 PI1: 1315 PI2: 20883

SPID: 190815500 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: 2009.018.16.31.56.174 Reception time: 2009.018.16.31.58.395

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 7C59 7349 85A9 0200 7E59 7349 CF08 0600 0100 0000 E601 0000 8001 0000
0020:1138 FFFF 0000 0000 0C9D 5F0B 0000 0000 0000 0000 FFFF FFFF 10FF 0105 513B 0501

Packet Raw Data:
0000:0D01 FB51 0139 0005 0100 6005 B7FC 2CAA 0523 5193 0000 0D05 0000 0000 000F 0000
0020:0066 0070 4100 0000 0000 0000 0000 FFFF FFFF 0000 0000 0300 FFFF 0000 FFFF 0000
0040:0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000
0060:0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000
0080:0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000
00A0:0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000
00C0:0200 0000 C100 0000 5200 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000
00E0:0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000
0100:0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000
0120:0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0100 0000 0000 0000 0000 911B

SpIRE CPE Stop TP-0254 Stop 190
0,2

TM Packet Query Display
==========

TM Packet Details

Simulated: N

Mnemonic: D_EvRp_148 Description: CdmuAsw Event 5-1 OBCP Started

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: 4194 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: 2009.018.16.31.57.893 Reception time: 2009.018.16.32.01.399

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 7D59 7349 7BA0 0D00 8159 7349 271A 0600 0100 0000 E601 0000 6000 0000
0020:1138 FFFF 0500 0000 CA9C 6402 0000 0000 0000 0000 FFFF FFFF 10FF 1000 6210 0501

Packet Raw Data:
0000:0810 D062 0019 0005 0100 6005 B7FD E49F 6B0A 0000 1106 0000 0000 0000 00CA 54B5

SPARE OPS_STOP TP-0254 Step 190
OK

TM Packet Query Display
==========

TM Packet Details

Simulated: N

Mnemonic: D_EvRp_048 Description: CdmuAsw Event 5-1 Subschedule Status Changed

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: 4200 Type: 5 Subtype: 1 PI1: 26881 PI2: 0

SPID: 40048170 TPSD: -1 HFA Counter: 19 Filing: E Distribution: E

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

TM Packet Parameter Data

Generation time: 2009.018.16.31.58.924 Reception time: 2009.018.16.32.01.404

TM Packet Raw Data

SCOS-2000 Header:
```
0000:0000 0000 7E59 7349 C21C 0E00 8159 7349 A82C 0600 0100 0000 E601 0000 6600 0000
0020:1138 FFFF 1300 0000 2A16 6302 0000 0000 0000 0000 FFFF FFFF 10FF 1000 6810 0501
```

Packet Raw Data:
```
0000:0810 D068 001F 0005 0100 6005 B7FE ECC4 6901 0000 0172 0000 0001 0000 00CB 6005
0020:B7FE ECBD 206A
```

SPIRE UPE STOP TP-0254.step190

OK

TM Packet Query Display
==========

TM Packet Details

Simulated: N

Mnemonic: ERROR REPORT Description: OBCP_Evt Spire Op Stop

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: 4203 Type: 5 Subtype: 4 PI1: 4099 PI2: 0

SPID: 45400185 TPSD: -1 HFA Counter: 7 Filing: E Distribution: E

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

TM Packet Parameter Data

Generation time: 2009.018.16.32.00.896 Reception time: 2009.018.16.32.04.404

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 8059 7349 BDAF 0D00 8459 7349 252B 0600 0100 0000 E601 0000 6000 0000
0020:1138 FFFF 0700 0000 79C0 B402 0000 0000 0000 0000 FFFF FFFF 10FF 1000 6B10 0504

Packet Raw Data:
0000:0810 D06B 0019 0005 0400 6005 B800 E59F 1003 0000 0000 0000 0000 0000 0000 76BA

OK

SpIRS OBC STOP TP-0254 Stop 190

TM Packet Query Display
==========

TM Packet Details

Simulated: N

Mnemonic: D_EvRp_145 Description: CdmuAsw Event 5-1 OBCP Ended

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: 4208 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: 2009.018.16.32.04.902 Reception time: 2009.018.16.32.08.406

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 8459 7349 A1C6 0D00 8859 7349 D334 0600 0100 0000 E601 0000 6000 0000
0020:1138 FFFF 0500 0000 1291 6402 0000 0000 0000 0000 FFFF FFFF 10FF 1000 7010 0501

Packet Raw Data:
0000:0810 D070 0019 0005 0100 6005 B804 E71F 6B07 0000 1106 0000 0000 0000 00CC 9372

OK

SAVE OPE STOP TP-254 Dup 190

18/02/09 16:32

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
191.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *At the prompt:* *"please check SPIRE status and that subschedule 370 (SPIRE TCs) and 100 (meta-SPIRE) are disabled":* ⇨ check that SPIRE DRCU is ON ⇨ check that SPIRE DPU is ON and generating nominal and critical HK ⇨ check that subschedule 370 (SPIRE TCs) and 100 (meta-SPIRE) are disabled ⇨ *Click the "OK" button to confirm*	LCL12 ON LCL52 ON TM (3,25) with APID 1281= CRIT HK 1283= NOM HK OK		ON ON OK OK OK		✓	
192.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"End of SPIRE OPE STOP TEST"* *"check that all EATs are enabled"* ⇨ *Perform activity through D102159SCVT192_GET_EAT_REPORT and click the "OK" button to confirm*	PASS OK		PASS OK		✓	

Test location:	Operator	Product-Assurance:	Date:
ESTEC HYDRA		D Lamouly	18/01/09, 16:44

18/01/09 16:44

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
193.	*During D102159SCVT192_GET_EAT_REPORT* *⇨ Click the button "EndTS!" to proceed*	ENDTS		ENDTS		✓	
194.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"Test SPIRE OPE RESUME OBCP?"* *⇨ Click the button "Confirm" to continue*	CONFIRM		CONFIRM.	If SKIP, it continues at step 204. DB_OBCP_H_SPIRE_OPE_RESUME is the OBCP under test. WARNING: if OPE STOP is performed, OPE RESUME MUST be performed before carrying on.	✓	
195.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"Trigger OBCP with SPIRE script"* *⇨ click the button "Confirm" to continue*	CONFIRM		CONFIRM		✓	

Test location:	Operator	Product-Assurance:	Date:
ESTEC HYDRA		D. Lamarre	18/01/09 16:44

18/01/09 16:45

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
196.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"Please filter one TMPKT History for TM type 5"* *⇨ Perform activity then click the button "OK" to continue*	PASS OK		PASS OK		✓	
197.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"executing script SPIRE-OBCPTest-ObservationAnomalyCorrected.tcl "* *⇨ Click the button "OK" to confirm*	OK		OK		✓	

Test location:	Operator	Product-Assurance:	Date:
ESTEC HYDRA		Dr Lemonby	18/01/09 16:46

18/01/09 16:46

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
198.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *At the prompt:* *"Wait until the end of the OBCP TM(5,1) with SPID 40145170 procID 0x1107"* ⇨ Wait for ~5 seconds for the reception of TM(5,2) event report with Event ID 0xC110 and SID 0x5200 ⇨ check that OBCP SPIRE OPE RESUME has been triggered - TM(5,1) with APID 16, SPID 40148170 procID 0x1107 ⇨ TM(5,4) with EvID 0x1004 "SPIRE Operations Resumed" is received ⇨ check that TM(5,1) with APID 16, SPID 40145170 procID 0x1107 is received" ⇨ *Perform activities and then click the "OK" button to confirm*	PASS OK		PASS OK		N	

Test location:	Operator	Product-Assurance:	Date:
ESTEC HYDRA		D Lamarle	18/01/09 16:49

TM Packet Query Display
==========

TM Packet Details

Simulated: N

Mnemonic: SOBSANOMC500 Description: SPIRE_R_Observation_Corrected_Anomaly

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: 1281 SSC: 15626 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

Generation time: 2009.018.16.46.30.130 Reception time: 2009.018.16.46.33.225

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 E65C 7349 E8FC 0100 E95C 7349 2A71 0300 0100 0000 E601 0000 6000 0000
0020:1138 FFFF 0000 0000 1C00 560B 0000 0000 0000 0000 FFFF FFFF 10FF 0105 0A3D 0502

Packet Raw Data:
0000:0D01 FD0A 0019 0005 0200 6005 BB66 215A C110 5200 0000 0D05 0000 0000 0001 4A79

SPIRE OPE - RESUME TP-0254, Step 198
OK

TM Packet Query Display
==========

TM Packet Details

Simulated: N

Mnemonic: VMSTKUNDERF Description: R_VM_STACK_UNDERFLOW

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: 1281 SSC: 15627 Type: 5 Subtype: 1 PI1: 1315 PI2: 20883

SPID: 190815500 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: 2009.018.16.46.30.180 Reception time: 2009.018.16.46.33.225

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 E65C 7349 5DC1 0200 E95C 7349 5D72 0300 0100 0000 E601 0000 8001 0000
0020:1138 FFFF 0100 0000 0C9D 5F0B 0000 0000 0000 0000 FFFF FFFF 10FF 0105 0B3D 0501

Packet Raw Data:
0000:0D01 FD0B 0139 0005 0100 6005 BB66 2E3A 0523 5193 0000 0D05 0000 0000 0010 0000
0020:0066 007D 4100 0000 0000 0000 0000 FFFF FFFF 0000 0000 0300 FFFF 0000 FFFF 0000
0040:0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000
0060:0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000
0080:0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000
00A0:0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000
00C0:0200 0000 C110 0000 5200 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000
00E0:0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000
0100:0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000
0120:0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0100 0000 0000 0000 0000 FE8D

SR, RE CPE_RESUME TP-0254 Sep 1998
OK.

TM Packet Query Display
==========

TM Packet Details

Mnemonic: D_EvRp_148 Description: CdmuAsw 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: 4597 Type: 5 Subtype: 1 PI1: 27402 PI2: 0

SPID: 40148170 TPSD: -1 HFA Counter: 6 Filing: E Distribution: E

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

TM Packet Parameter Data

Generation time: 2009.018.16.46.31.914 Reception time: 2009.018.16.46.33.226

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 E75C 7349 2AF4 0D00 E95C 7349 FE75 0300 0100 0000 E601 0000 6000 0000
0020:1138 FFFF 0600 0000 CA9C 6402 0000 0000 0000 0000 FFFF FFFF 10FF 1000 F511 0501

Packet Raw Data:
0000:0810 D1F5 0019 0005 0100 6005 BB67 EA1B 6B0A 0000 1107 0000 0000 0000 00D0 41CB

SP, LE CPE_RESUME TP-0254 Step 198
OK

TM Packet Query Display
==========

TM Packet Details

Mnemonic: D_EvRp_048 Description: CdmuAsw 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: 4604 Type: 5 Subtype: 1 PI1: 26881 PI2: 0

SPID: 40048170 TPSD: -1 HFA Counter: 20 Filing: E Distribution: E

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

TM Packet Parameter Data

Generation time: 2009.018.16.46.33.925 Reception time: 2009.018.16.46.37.227

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 E95C 7349 431F 0E00 ED5C 7349 7A79 0300 0100 0000 E601 0000 6600 0000
0020:1138 FFFF 1400 0000 2A16 6302 0000 0000 0000 0000 FFFF FFFF 10FF 1000 FC11 0501

Packet Raw Data:
0000:0810 D1FC 001F 0005 0100 6005 BB69 ECEE 6901 0000 0064 0001 0001 0000 00D1 6005
0020:BB69 ECE7 4CC2

SP, RE OPE- RESUME TP-0254 Stp 198
OK

TM Packet Query Display
==========

TM Packet Details

Mnemonic: ERROR REPORT Description: OBCP_Evt Spire Op Resume 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: 4606 Type: 5 Subtype: 4 PI1: 4100 PI2: 0

SPID: 45400185 TPSD: -1 HFA Counter: 8 Filing: E Distribution: E

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

TM Packet Parameter Data

Generation time: 2009.018.16.46.35.916 Reception time: 2009.018.16.46.39.230

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 EB5C 7349 70FB 0D00 EF5C 7349 5984 0300 0100 0000 E601 0000 6000 0000
0020:1138 FFFF 0800 0000 79C0 B402 0000 0000 0000 0000 FFFF FFFF 10FF 1000 FE11 0504

Packet Raw Data:
0000:0810 D1FE 0019 0005 0400 6005 BB6B EA95 1004 0000 0000 0000 0000 0000 0000 6D17

SPIRE OPE_RESUME TP-0254 Step 198
OK

TM Packet Query Display
==========

TM Packet Details

Mnemonic: D_EvRp_145 Description: CdmuAsw 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: 4611 Type: 5 Subtype: 1 PI1: 27399 PI2: 0

SPID: 40145170 TPSD: -1 HFA Counter: 6 Filing: E Distribution: E

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

TM Packet Parameter Data

Generation time: 2009.018.16.46.39.920 Reception time: 2009.018.16.46.43.236

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 EF5C 7349 700D 0E00 F35C 7349 429C 0300 0100 0000 E601 0000 6000 0000
0020:1138 FFFF 0600 0000 1291 6402 0000 0000 0000 0000 FFFF FFFF 10FF 1000 0312 0501

Packet Raw Data:
0000:0810 D203 0019 0005 0100 6005 BB6F EBC3 6B07 0000 1107 0000 0000 0000 00D2 D1B9

SP, RE CPE-RESUME TP-0254 Step 198

OK

18/01/09 16:47

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
199.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *At the prompt:* *"please check the SPIRE status and that subschedule 370 (SPIRE TCs) is DISABLED and 100 (meta-SPIRE) is ENABLED"* ⇨ check that SPIRE DRCU is ON ⇨ check that SPIRE DPU is ON and generating nominal and critical HK ⇨ check that SPIRE is in PHOTOPS mode ⇨ check that Photometer science data are being generated ⇨ check that subschedule 370 (SPIRE TCs) is disabled and 100 (meta-SPIRE) is enabled " ⇨ *Click the "OK" button to confirm*	LCL12 ON LCL52 ~~OFF~~ ON File in /HPCCS/VARIABLE/RESULTS/<test_session>/TMDUMP/ /<date-time>VC1.txt is increasing. With TM from APID 1284 15 Subschedules 370 OFF 100 ON OK		ON ON OK OFF ON OK.		✓		RIS#8

Test location:	Operator	Product-Assurance:	Date:
ESTEC HYDRA		D. Lumsden	18/01/09 16:58

18/01/09 16:59

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
200.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"RECOVERY ACTION"* ⇨ *Click Confirm to continue*	CONFIRM		CONFIRM		✓	
201.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *At the prompt:* *"please check status of SPIRE, that subschedule 370 (SPIRE TCs) is enabled and 100 (meta-SPIRE) is disabled"* ⇨ *perform activity and then click the "OK" button to confirm*	Subschedules 370 ON 100 OFF OK		ON OFF OK		✓	

Test location:	Operator	Product-Assurance:	Date:
ESTEC HYDRA		D. Lamonby.	18/01/09 17:01

18/01/09 17:01

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
202.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"End of SPIRE OPE RESUME TEST"* *"check that all EATs are enabled"* *⇨ Perform activity through D102159SCVT192_GET_EAT_REPORT then click the "OK" button to confirm*	PASS OK		PASS OK		✓	
203.	*During D102159SCVT192_GET_EAT_REPORT* *⇨ Click the button "EndTS!" to proceed*	ENDTS		ENDTS		✓	
204.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"TEST the SPIRE DRCU OFF OBCP?"* *⇨ Click the button "Confirm" to continue*	CONFIRM		CONFIRM	If SKIP, it continues at step 219. DB_OBCP_H_SPIRE_DRCU_OFF is the OBCP under test.		✓

Test location:	Operator	Product-Assurance:	Date:
ESTEC HYDRA		D. Lamonby	18/01/09 17:03

18/01/09 17:03

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
205.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"TRIGGER OBCP WITH SPIRE SCRIPT"* ⇨ *Click the button "confirm" to continue*	CONFIRM		CONFIRM		✓	
206.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"Please filter one TMPKT History for APID 16 and type 5 and one for APID 1281 Type 5 subtype 2"* ⇨ *Click the button "OK" to continue*	PASS OK		PASS OK		✓	
207.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"executing script **SPIRE-OBCPTest-DRCUAnomaly.tcl** "* ⇨ *Click the "OK" button to confirm*	OK		OK		✓	

Test location:	Operator	Product-Assurance:	Date:
ESTEC HYDRA		D. Lamarby	18/01/09 17:04

18/01/09 17:04

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
208.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *At the prompt:* *"Wait until the end of the OBCP TM(5,1) with SPID 40145170 procID 0x1102"* ⇨ Wait for ~5 seconds for the reception of TM(5,2) event report with APID1281, Event ID 0xC000 and SID 0x5200 ⇨ check that OBCP SPIRE DRCU OFF has been triggered - TM(5,1) with APID 16 SPID 40148170 procID 0x1102 ⇨ TM(5,4) with APID 16, EvID 0x1000 SPIRE DRCU OFF" is received ⇨ check that TM(5,1) with SPID 40145170 procID 0x1102 is received ⇨ *click the "OK" button to confirm*	PASS OK		NOK OPS_STOP & NOM HK TM stopped	Expected : TM(5,4) for o MCU OK o SCU OK o DCU OK At DRCU OFF, also TM(5,4) with SID 5420. SVMCOPYTBLFAULT TM(5,1) and many OOLs also expected (TBD) NOT SEEN.	NOK	

NCR 4804 Recurrence

NCR 4805 Recurrence

Test location:	Operator	Product-Assurance:	Date:
ESTEC HYDRA		D Lamaby	18/01/09 17:34

TM Packet Query Display
==========

TM Packet Details

Mnemonic: SDRCUANOM500 Description: SPIRE_R_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: 1281 SSC: 16172 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: 2009.018.17.04.24.128 Reception time: 2009.018.17.04.25.278

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 1861 7349 B8F7 0100 1961 7349 4B41 0400 0100 0000 E601 0000 6000 0000
0020:1138 FFFF 0000 0000 84C5 550B 0000 0000 0000 0000 FFFF FFFF 10FF 0105 2C3F 0502

Packet Raw Data:
0000:0D01 FF2C 0019 0005 0200 6005 BF98 2103 C000 5200 0000 0D05 0000 0000 0002 FFFF

SPIRE DRCU -OFF TP-0254 Step 208
OK

TM Packet Query Display
==========

TM Packet Details

Mnemonic: VMSTKUNDERF Description: R_VM_STACK_UNDERFLOW 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: 1281 SSC: 16173 Type: 5 Subtype: 1 PI1: 1315 PI2: 20883

SPID: 190815500 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: 2009.018.17.04.24.179 Reception time: 2009.018.17.04.25.279

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 1861 7349 2DBC 0200 1961 7349 1C42 0400 0100 0000 E601 0000 8001 0000
0020:1138 FFFF 0200 0000 0C9D 5F0B 0000 0000 0000 0000 FFFF FFFF 10FF 0105 2D3F 0501

Packet Raw Data:
0000:0D01 FF2D 0139 0005 0100 6005 BF98 2DE3 0523 5193 0000 0D05 0000 0000 0011 0000
0020:0066 008A 4100 0000 0000 0000 0000 FFFF FFFF 0000 0000 0300 FFFF 0000 FFFF 0000
0040:0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000
0060:0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000
0080:0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000
00A0:0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000
00C0:0200 0000 C000 0000 5200 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000
00E0:0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000
0100:0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000
0120:0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0100 0000 0000 0000 0000 21D4

SPIRE DRCU -OFF TP-0254 Step 208

TM Packet Query Display
==========

TM Packet Details

Mnemonic: D_EvRp_148 Description: CdmuAsw 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: 5092 Type: 5 Subtype: 1 PI1: 27402 PI2: 0

SPID: 40148170 TPSD: -1 HFA Counter: 7 Filing: E Distribution: E

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

TM Packet Parameter Data

Generation time: 2009.018.17.04.26.045 Reception time: 2009.018.17.04.27.279

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 1A61 7349 69B3 0000 1B61 7349 9B42 0400 0100 0000 E601 0000 6000 0000
0020:1138 FFFF 0700 0000 CA9C 6402 0000 0000 0000 0000 FFFF FFFF 10FF 1000 E413 0501

Packet Raw Data:
0000:0810 D3E4 0019 0005 0100 6005 BF9A 0BC2 6B0A 0000 1102 0000 0000 0000 00DA D0D1

SPIKE DRCV-OFF TP-0254 Step 208
OIC

TM Packet Query Display
==========

TM Packet Details

Mnemonic: D_EvRp_048 Description: CdmuAsw 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: 5099 Type: 5 Subtype: 1 PI1: 26881 PI2: 0

SPID: 40048170 TPSD: -1 HFA Counter: 23 Filing: E Distribution: E

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

TM Packet Parameter Data

Generation time: 2009.018.17.04.28.059 Reception time: 2009.018.17.04.30.281

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 1C61 7349 69E9 0000 1E61 7349 4D4D 0400 0100 0000 E601 0000 6600 0000
0020:1138 FFFF 1700 0000 2A16 6302 0000 0000 0000 0000 FFFF FFFF 10FF 1000 EB13 0501

Packet Raw Data:
0000:0810 D3EB 001F 0005 0100 6005 BF9C 0F4C 6901 0000 0172 0000 0001 0000 00DB 6005
0020:BF9C 0F45 31AD

SPIRE DRCU-OFF TP-0254 Step 208
OK

TM Packet Query Display
==========

TM Packet Details

Mnemonic: SDCURE000500 Description: R_No_DCU_Response_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: 1281 SSC: 16177 Type: 5 Subtype: 1 PI1: 1312 PI2: 20750

SPID: 190145500 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: 2009.018.17.04.30.109 Reception time: 2009.018.17.04.32.286

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 1E61 7349 BCAC 0100 2061 7349 0D5E 0400 0100 0000 E601 0000 6400 0000
0020:1138 FFFF 0100 0000 DC63 550B 0000 0000 0000 0000 FFFF FFFF 10FF 0105 313F 0501

Packet Raw Data:
0000:0D01 FF31 001D 0005 0100 6005 BF9E 1C19 0520 510E 0000 0D05 0000 0000 0012 8C3C
0020:0000 7BF8

SPIRE DRCU-OFF TP-0254 Step 208
OK

TM Packet Query Display
==========

TM Packet Details

Mnemonic: SALDCU000500 Description: SPIRE_R_ALARM_LSDCU_DEAD 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: 1281 SSC: 16178 Type: 5 Subtype: 4 PI1: 21772 PI2: 21536

SPID: 190630500 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: 2009.018.17.04.30.119 Reception time: 2009.018.17.04.32.286

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 1E61 7349 4AD2 0100 2061 7349 D35E 0400 0100 0000 E601 0000 6800 0000
0020:1138 FFFF 0000 0000 64CA 5C0B 0000 0000 0000 0000 FFFF FFFF 10FF 0105 323F 0504

Packet Raw Data:
0000:0D01 FF32 0021 0005 0400 6005 BF9E 1E8F 550C 5420 0000 0D05 0000 0000 0001 8C3C
0020:0000 0100 FFFF E2C1

SP, EE DRCU-OFF AP-0254 Step 208
OK

TM Packet Query Display
==========

TM Packet Details

Mnemonic: SOBSANOM0500 Description: SPIRE_R_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: 1281 SSC: 16179 Type: 5 Subtype: 2 PI1: 49408 PI2: 20992

SPID: 190180500 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: 2009.018.17.04.30.171 Reception time: 2009.018.17.04.32.286

TM Packet Raw Data

SCOS-2000 Header:
```
0000:0000 0000 1E61 7349 239E 0200 2061 7349 4160 0400 0100 0000 E601 0000 6000 0000
0020:1138 FFFF 0100 0000 94EC 550B 0000 0000 0000 0000 FFFF FFFF 10FF 0105 333F 0502
```

Packet Raw Data:
```
0000:0D01 FF33 0019 0005 0200 6005 BF9E 2BEB C100 5200 0000 0D05 0000 0000 0003 E416
```

SPIRE DRCU-OFF TP-0254 step 208
OK

TM Packet Query Display
==========

TM Packet Details

Mnemonic: SMCURE000500 Description: R_No_MCU_Response_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: 1281 SSC: 16180 Type: 5 Subtype: 1 PI1: 1313 PI2: 20751

SPID: 190150500 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: 2009.018.17.04.30.258 Reception time: 2009.018.17.04.32.288

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 1E61 7349 C7F2 0300 2061 7349 5D66 0400 0100 0000 E601 0000 6400 0000
0020:1138 FFFF 0100 0000 6477 550B 0000 0000 0000 0000 FFFF FFFF 10FF 0105 343F 0501

Packet Raw Data:
0000:0D01 FF34 001D 0005 0100 6005 BF9E 423E 0521 510F 0000 0D05 0000 0000 0013 9800
0020:0000 1462

SPIE DRCU-OFF TP-0254 sbp 208
OK

TM Packet Query Display
==========

TM Packet Details

Mnemonic: SALMCU000500 Description: SPIRE_R_ALARM_LSMCU_DEAD 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: 1281 SSC: 16181 Type: 5 Subtype: 4 PI1: 21773 PI2: 21536

SPID: 190635500 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: 2009.018.17.04.30.267 Reception time: 2009.018.17.04.32.289

TM Packet Raw Data

SCOS-2000 Header:
```
0000:0000 0000 1E61 7349 9916 0400 2061 7349 2A69 0400 0100 0000 E601 0000 6800 0000
0020:1138 FFFF 0000 0000 ECDD 5C0B 0000 0000 0000 0000 FFFF FFFF 10FF 0105 353F 0504
```

Packet Raw Data:
```
0000:0D01 FF35 0021 0005 0400 6005 BF9E 4497 550D 5420 0000 0D05 0000 0000 0002 9800
0020:0000 0100 FFFF B9AA
```

SPIRE DRCU OFF TP-0254 step 208
OK

TM Packet Query Display
==========

TM Packet Details

Mnemonic: SOBSANOM0500 Description: SPIRE_R_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: 1281 SSC: 16182 Type: 5 Subtype: 2 PI1: 49408 PI2: 20992

SPID: 190180500 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: 2009.018.17.04.30.319 Reception time: 2009.018.17.04.32.289

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 1E61 7349 3EE0 0400 2061 7349 C46B 0400 0100 0000 E601 0000 6000 0000
0020:1138 FFFF 0200 0000 94EC 550B 0000 0000 0000 0000 FFFF FFFF 10FF 0105 363F 0502

Packet Raw Data:
0000:0D01 FF36 0019 0005 0200 6005 BF9E 51CE C100 5200 0000 0D05 0000 0000 0004 C48F

SPIRE DRCU OFF TP-0254, step 206
0x

TM Packet Query Display
==========

TM Packet Details

Mnemonic: SDRCUANOM500 Description: SPIRE_R_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: 1281 SSC: 16183 Type: 5 Subtype: 2 PI1: 49152 PI2: 20992

SPID: 190170500 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: 2009.018.17.04.30.559 Reception time: 2009.018.17.04.32.290

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 1E61 7349 2E8A 0800 2061 7349 1F6D 0400 0100 0000 E601 0000 6000 0000
0020:1138 FFFF 0100 0000 84C5 550B 0000 0000 0000 0000 FFFF FFFF 10FF 0105 373F 0502

Packet Raw Data:
0000:0D01 FF37 0019 0005 0200 6005 BF9E 8F46 C000 5200 0000 0D05 0000 0000 0005 BF93

SPIRE DRCU OFF TP-0254 Step 208
CIC

TM Packet Query Display
==========

TM Packet Details

Mnemonic: SSCURE000500 Description: R_No_SCU_Response_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: 1281 SSC: 16184 Type: 5 Subtype: 1 PI1: 1314 PI2: 20752

SPID: 190155500 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: 2009.018.17.04.30.719 Reception time: 2009.018.17.04.32.290

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 1E61 7349 9CFB 0A00 2061 7349 EA6D 0400 0100 0000 E601 0000 6400 0000
0020:1138 FFFF 0100 0000 EC8A 550B 0000 0000 0000 0000 FFFF FFFF 10FF 0105 383F 0501

Packet Raw Data:
0000:0D01 FF38 001D 0005 0100 6005 BF9E B843 0522 5110 0000 0D05 0000 0000 0014 A800
0020:0000 7D1A

SP-RE DRCU OFF TP-9254 Sh.P208
OK

TM Packet Query Display
==========

TM Packet Details

Mnemonic: SALSCU000500 Description: SPIRE_R_ALARM_LSSCU_DEAD 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: 1281 SSC: 16185 Type: 5 Subtype: 4 PI1: 21774 PI2: 21536

SPID: 190640500 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: 2009.018.17.04.30.728 Reception time: 2009.018.17.04.33.288

TM Packet Raw Data

SCOS-2000 Header:
```
0000:0000 0000 1E61 7349 601F 0B00 2161 7349 0067 0400 0100 0000 E601 0000 6800 0000
0020:1138 FFFF 0000 0000 74F1 5C0B 0000 0000 0000 0000 FFFF FFFF 10FF 0105 393F 0504
```

Packet Raw Data:
```
0000:0D01 FF39 0021 0005 0400 6005 BF9E BA9B 550E 5420 0000 0D05 0000 0000 0003 A800
0020:0000 0100 FFFF 8A17
```

SPIRE DRCU_OFF TP_0254 step 208

OK

TM Packet Query Display
==========

TM Packet Details

Mnemonic: SOBSANOM0500 Description: SPIRE_R_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: 1281 SSC: 16186 Type: 5 Subtype: 2 PI1: 49408 PI2: 20992

SPID: 190180500 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: 2009.018.17.04.30.780 Reception time: 2009.018.17.04.33.288

TM Packet Raw Data

SCOS-2000 Header:
```
0000:0000 0000 1E61 7349 04E9 0B00 2161 7349 9A68 0400 0100 0000 E601 0000 6000 0000
0020:1138 FFFF 0300 0000 94EC 550B 0000 0000 0000 0000 FFFF FFFF 10FF 0105 3A3F 0502
```

Packet Raw Data:
```
0000:0D01 FF3A 0019 0005 0200 6005 BF9E C7D2 C100 5200 0000 0D05 0000 0000 0006 03D8
```

SPIRE DRCU:OFF TP:0254 step208

TM Packet Query Display
==========

TM Packet Details

Mnemonic: SDRCUANOM500 Description: SPIRE_R_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: 1281 SSC: 16187 Type: 5 Subtype: 2 PI1: 49152 PI2: 20992

SPID: 190170500 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: 2009.018.17.04.31.020 Reception time: 2009.018.17.04.33.289

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 1F61 7349 C450 0000 2161 7349 CC69 0400 0100 0000 E601 0000 6000 0000
0020:1138 FFFF 0200 0000 84C5 550B 0000 0000 0000 0000 FFFF FFFF 10FF 0105 3B3F 0502

Packet Raw Data:
0000:0D01 FF3B 0019 0005 0200 6005 BF9F 054B C000 5200 0000 0D05 0000 0000 0007 3A0D

SP,RE DRCU-OFF TP-9254 Step 26k
OK

TM Packet Query Display
==========

TM Packet Details

Mnemonic: ERROR REPORT Description: OBCP_Evt Spire DRCU 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: 5121 Type: 5 Subtype: 4 PI1: 4096 PI2: 0

SPID: 45400185 TPSD: -1 HFA Counter: 9 Filing: E Distribution: E

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

TM Packet Parameter Data

Generation time: 2009.018.17.04.32.046 Reception time: 2009.018.17.04.33.293

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 2061 7349 CFB6 0000 2161 7349 587C 0400 0100 0000 E601 0000 6000 0000
0020:1138 FFFF 0900 0000 79C0 B402 0000 0000 0000 0000 FFFF FFFF 10FF 1000 0114 0504

Packet Raw Data:
0000:0810 D401 0019 0005 0400 6005 BFA0 0BFB 1000 0000 0000 0000 0000 0000 0000 2C17

SPIRE DRCU OFF
OK
TP-0254 Step 208

TM Packet Query Display
==========

TM Packet Details

Mnemonic: D_EvRp_145 Description: CdmuAsw 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: 5129 Type: 5 Subtype: 1 PI1: 27399 PI2: 0

SPID: 40145170 TPSD: -1 HFA Counter: 7 Filing: E Distribution: E

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

TM Packet Parameter Data

Generation time: 2009.018.17.04.34.051 Reception time: 2009.018.17.04.37.290

TM Packet Raw Data

SCOS-2000 Header:
```
0000:0000 0000 2261 7349 DBC7 0000 2561 7349 986F 0400 0100 0000 E601 0000 6000 0000
0020:1138 FFFF 0700 0000 1291 6402 0000 0000 0000 0000 FFFF FFFF 10FF 1000 0914 0501
```

Packet Raw Data:
```
0000:0810 D409 0019 0005 0100 6005 BFA2 0D19 6B07 0000 1102 0000 0000 0000 00DD F934
```

SPIRE DRCU-OFF TP-254 Step 208

OK

TM Packet Query Display
==========

TM Packet Details

Mnemonic: D_EvRp_148 Description: CdmuAsw 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: 5114 Type: 5 Subtype: 1 PI1: 27402 PI2: 0

SPID: 40148170 TPSD: -1 HFA Counter: 8 Filing: E Distribution: E

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

TM Packet Parameter Data

Generation time: 2009.018.17.04.31.918 Reception time: 2009.018.17.04.33.290

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 1F61 7349 7004 0E00 2161 7349 616E 0400 0100 0000 E601 0000 6000 0000
0020:1138 FFFF 0800 0000 CA9C 6402 0000 0000 0000 0000 FFFF FFFF 10FF 1000 FA13 0501

Packet Raw Data:
0000:0810 D3FA 0019 0005 0100 6005 BF9F EB2C 6B0A 0000 1106 0000 0000 0000 00DC 3DDB

SPIKE DRCU -OFF TP-254 Step 208
NOK - OPE - STOP - NCR 4804

TM Packet Query Display
==========

TM Packet Details

Mnemonic: ERROR REPORT Description: OBCP_Evt Spire Op Stop 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: 5130 Type: 5 Subtype: 4 PI1: 4099 PI2: 0

SPID: 45400185 TPSD: -1 HFA Counter: 10 Filing: E Distribution: E

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

TM Packet Parameter Data

Generation time: 2009.018.17.04.35.919 Reception time: 2009.018.17.04.37.291

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 2361 7349 7A07 0E00 2561 7349 7274 0400 0100 0000 E601 0000 6000 0000
0020:1138 FFFF 0A00 0000 79C0 B402 0000 0000 0000 0000 FFFF FFFF 10FF 1000 0A14 0504

Packet Raw Data:
0000:0810 D40A 0019 0005 0400 6005 BFA3 EB5F 1003 0000 0000 0000 0000 0000 0000 D6F7

SpIRE DRCU-OFF TP-254 Step 208
N OK - OPE-STOP - NCR 4804

TM Packet Query Display
==========

TM Packet Details

Mnemonic: D_EvRp_145 Description: CdmuAsw 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: 5135 Type: 5 Subtype: 1 PI1: 27399 PI2: 0

SPID: 40145170 TPSD: -1 HFA Counter: 8 Filing: E Distribution: E

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

TM Packet Parameter Data

Generation time: 2009.018.17.04.39.923 Reception time: 2009.018.17.04.41.294

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 2761 7349 5C19 0E00 2961 7349 047D 0400 0100 0000 E601 0000 6000 0000
0020:1138 FFFF 0800 0000 1291 6402 0000 0000 0000 0000 FFFF FFFF 10FF 1000 0F14 0501

Packet Raw Data:
0000:0810 D40F 0019 0005 0100 6005 BFA7 EC8B 6B07 0000 1106 0000 0000 0000 00DE 44AE

SP, LE DRCU-OFF TP-254 STOP 208
NOK, - OPS - STOP, - NCR 4804

18/01/09 17:38

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
209.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *At the prompt:* *"please check SPIRE status and that subschedules 370 (SPIRE TCs) and 100 (meta-SPIRE) are disabled"* ⇨ Check that the DRCU has been powered off ⇨ Check that the DPU is on and generating nominal and critical HK ⇨ subschedules 370 (SPIRE TCs) and 100 (meta-SPIRE) are disabled" ⇨ *Click the "OK" button to confirm*	LCL52 OFF LCL12 ON 1283 producing NOMHK 1281 producing CRITHK Subschedules 370 OFF 100 OFF OK		OFF ON NOK OK OFF OFF. OK.	Recurrence NCR 4804. NCR 4805		NOK.

Test location:	Operator	Product-Assurance:	Date:
ESTEC HYDRA		D. Lamonby.	18/01/09 17:39

18/01/09 17.39

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
210.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *At the prompt:* *"check that all EATs are enabled except 0xC110 for APIDs 0x0500 and 0x0501"* *⇨ Perform activity through D102159SCVT192_GET_EAT_REPORT then click the "OK" button to confirm*	PASS OK		PASS OK	APID 0x0500 = 1280 (SPIRE-A) APID 0x0501 = 1281 (SPIRE-B)	✓	
211.	*During D102159SCVT192_GET_EAT_REPORT* *⇨ click the "EndTS" button to continue*	ENDTS		ENDTS		✓	
212.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"RECOVERY ACTION"* *⇨ Click the button "confirm" to continue*	CONFIRM		CONFIRM		✓	

Test location:	Operator	Product-Assurance:	Date:
ESTEC HYDRA	S	D. Lamaday	18/01/09 17:42

18/01/09 17.42

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
213.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *At the prompt: "check that all EATs are enabled"* *⇨ Perform activity through D102159SCVT192_GET_EAT_REPORT then click the "OK" button to confirm*	PASS OK		PASS OK		✓	
214.	*During D102159SCVT192_GET_EAT_REPORT* *⇨ click the "EndTS" button to continue*	ENDTS		ENDTS		✓	
215.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"Switching SPIRE OFF (REDUNDANT)"* *⇨ Click the button "OK" to confirm*	OK		OK	See RD-3 §7.2.5 for exact messages and expected OOLs.	✓	

Test location:	Operator	Product-Assurance:	Date:
ESTEC AYDRA		D. Lanconbey	18/01/09 17:51

18/01/09 17:51

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
216.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"Switching SPIRE ON (REDUNDANT)"* *⇨ Click the button "OK" to confirm*	OK		OK	Conditions may change, so check on RD-3 §7.2.4 for current prompts and expected OOL. At the end of it choose to reset the previous bus profle.	✓	
217.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"Please check that subschedule 370 (SPIRE TCs) is enabled and 100 (meta-SPIRE) is disabled"* *⇨ Perform activity and then click the "OK" button to confirm*	Subschedules 370 ON 100 OFF OK		ON OFF OK		✓	
218.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"End of SPIRE DRCU OFF TEST "* *⇨ click the "OK" button to confirm*	OK		OK		✓	

Test location:	Operator	Product-Assurance:	Date:
ESTEC HYDRA		D. Lamarly	18/01/09 18:03

18/01/09 18:24

PVS # 9 →

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
219.	During Z010999MCVT164_IST_SPIRE_FDIR_R_formal "TEST the SPIRE OFF CONTROLLED OBCP?" ⇨ Click the button "Confirm to continue	CONFIRM		CONFIRM	If SKIP, it continues at step 235. 18:54 DB_OBCP_H_SPIRE_OFF_CTRL is the OBCP under test.	✓	
220.	During Z010999MCVT164_IST_SPIRE_FDIR_R_formal "TRIGGER OBCP " ⇨ Click the button "Confirm" to continue	CONFIRM		CONFIRM		✓	
221.	During Z010999MCVT164_IST_SPIRE_FDIR_R_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		✓	
222.	During Z010999MCVT164_IST_SPIRE_FDIR_R_formal "Please callasync the sequence to trigger SPIRE OFF CONTROLLED" ⇨ Click the button "OK" to confirm	PASS OK		PASS OK	Callasync SPIRE_OBCPTest_StopHK And wait for end of NOM and CRIT HK. 19:02	✓	

PVS # 9 →

Test location:	Operator	Product-Assurance:	Date:
ESTEC HYDRA		D. Lamoby,	18/01/09 19:02

18/01/09 19:02

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
223.	During Z010999MCVT164_IST_SPIRE_FDIR_R_formal At the prompt: "Wait until the end of the OBCP -TM(5,1) with SPID 40145170 procID 0x1104" ⇨ check that OBCP SPIRE OFF CONTROLLED has been triggered - TM(5,1) with SPID 40148170 procID 0x1104, ⇨ TM(5,4) EvID0x1002 SPIRE Shutdown" is received ⇨ check that TM(5,1) with SPID 40145170 procID 0x1104 is received ⇨ Click the "OK" button to confirm	PASS OK		PASS OK	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	✓	

Test location:	Operator	Product-Assurance:	Date:
ESTEC HYDRA		D. Lemonby	18/01/09 19:11

OBEH_PRNT_2009.018.19.07.17.509

On-Board Event History display printout from time: 2009.018.18.58.23.199 to time: 2009.018.19.06.56.556
Current printout time: 2009.018.19.07.17.510 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
2009.018.19.06.56.556	2009.018.19.06.56.555	0	2020	274	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2009.018.19.06.52.445 CFCmod0x40	2009.018.19.06.52.457	0	2020	273	238	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00EE - VCFC Time datation for VC0-V
2009.018.19.06.27.993	2009.018.19.06.27.996	0	2020	270	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2009.018.19.05.59.431	2009.018.19.05.59.440	0	2020	266	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2009.018.19.05.56.140	2009.018.19.05.57.398	0	16	7638	27399	NORM	PG	G	E	E	CdmuAsw Event 5-1 OBCP Ended
2009.018.19.05.53.135	2009.018.19.05.55.394	0	16	7632	4098	ALARM	PG	G	E	E	OBCP_Evt Spire ShutDown
2009.018.19.05.30.911	2009.018.19.05.30.922	0	2020	262	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2009.018.19.05.28.189	2009.018.19.05.29.366	0	16	7600	26881	NORM	PG	G	E	E	CdmuAsw Event 5-1 Subschedule Status Changed
2009.018.19.05.24.134	2009.018.19.05.25.365	0	16	7592	27402	NORM	PG	G	E	E	CdmuAsw Event 5-1 OBCP Started
2009.018.19.05.23.806	2009.018.19.05.25.362	0	16	7588	185	WARN	PG	G	E	E	CdmuBsw Event 5-2 SDB SPIRE non-vital RT Sick TM
2009.018.19.05.23.805	2009.018.19.05.25.361	0	16	7587	178	WARN	PG	G	E	E	CdmuBsw Event 5-2 SDB SPIRE Failed TM
2009.018.19.05.02.364	2009.018.19.05.02.375	0	2020	258	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2009.018.19.04.33.816	2009.018.19.04.33.830	0	2020	254	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2009.018.19.04.05.270	2009.018.19.04.05.269	0	2020	250	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2009.018.19.03.40.238 CFCmod0x40	2009.018.19.03.40.240	0	2020	247	238	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00EE - VCFC Time datation for VC0-V
2009.018.19.03.36.723	2009.018.19.03.36.726	0	2020	245	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2009.018.19.03.08.158	2009.018.19.03.08.165	0	2020	242	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2009.018.19.02.39.596	2009.018.19.02.39.609	0	2020	238	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2009.018.19.02.11.048	2009.018.19.02.11.053	0	2020	234	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2009.018.19.01.44.688	2009.018.19.01.44.688	0	2020	230	0	NORM	PG	G	E	E	TC Report Packet
2009.018.19.01.43.626	2009.018.19.01.43.625	0	2020	228	0	NORM	PG	G	E	E	TC Report Packet
2009.018.19.01.42.501	2009.018.19.01.42.513	0	2020	226	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2009.018.19.01.13.984	2009.018.19.01.13.984	0	2020	222	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2009.018.19.00.45.437	2009.018.19.00.45.448	0	2020	218	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2009.018.19.00.31.407 CFCmod0x40	2009.018.19.00.31.413	0	2020	216	238	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00EE - VCFC Time datation for VC0-V
2009.018.19.00.16.938	2009.018.19.00.16.938	0	2020	213	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created

SPIRE OFF CTRL TP 2546 SOP 223

TM Packet Query Display
==========

TM Packet Details

Mnemonic: (5,2)-0578 Description: CdmuBsw Event 5-2 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: 7587 Type: 5 Subtype: 2 PI1: 178 PI2: 178

SPID: 40578161 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: 2009.018.19.05.23.805 Reception time: 2009.018.19.05.25.361

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 737D 7349 144C 0C00 757D 7349 D385 0500 0100 0000 E601 0000 6000 0000
0020:1138 FFFF 0000 0000 712C 6B02 0000 0000 0000 0000 FFFF FFFF 10FF 1000 A31D 0502

Packet Raw Data:
0000:0810 DDA3 0019 0005 0200 6005 DBF3 CE50 00B2 00B2 0000 0016 0001 0000 0005 8443

SPIRE OFF-CTRL TP-0254 Step 223
CJC

TM Packet Query Display
==========

TM Packet Details

Mnemonic: (5,2)-0585 Description: CdmuBsw Event 5-2 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: 7588 Type: 5 Subtype: 2 PI1: 185 PI2: 185

SPID: 40585161 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: 2009.018.19.05.23.806 Reception time: 2009.018.19.05.25.362

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 737D 7349 9E4C 0C00 757D 7349 A086 0500 0100 0000 E601 0000 6000 0000
0020:1138 FFFF 0000 0000 C947 6B02 0000 0000 0000 0000 FFFF FFFF 10FF 1000 A41D 0502

Packet Raw Data:
0000:0810 DDA4 0019 0005 0200 6005 DBF3 CE59 00B9 00B9 0000 0016 0001 0000 0006 4920

SPIRE OFF-CTRL TP-0257 Step 223
01C

TM Packet Query Display
==========

TM Packet Details

Mnemonic: D_EvRp_148 Description: CdmuAsw 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: 7592 Type: 5 Subtype: 1 PI1: 27402 PI2: 0

SPID: 40148170 TPSD: -1 HFA Counter: 9 Filing: E Distribution: E

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

TM Packet Parameter Data

Generation time: 2009.018.19.05.24.134 Reception time: 2009.018.19.05.25.365

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 747D 7349 9B0E 0200 757D 7349 C892 0500 0100 0000 E601 0000 6000 0000
0020:1138 FFFF 0900 0000 CA9C 6402 0000 0000 0000 0000 FFFF FFFF 10FF 1000 A81D 0501

Packet Raw Data:
0000:0810 DDA8 0019 0005 0100 6005 DBF4 2283 6B0A 0000 1104 0000 0000 0000 00E9 B0E0

SP.RF OFF CTRL TP-0254 Stp 223
017

TM Packet Query Display
==========

TM Packet Details

Mnemonic: D_EvRp_048 Description: CdmuAsw 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: 7600 Type: 5 Subtype: 1 PI1: 26881 PI2: 0

SPID: 40048170 TPSD: -1 HFA Counter: 25 Filing: E Distribution: E

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

TM Packet Parameter Data

Generation time: 2009.018.19.05.28.189 Reception time: 2009.018.19.05.29.366

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 787D 7349 93E3 0200 797D 7349 0B97 0500 0100 0000 E601 0000 6600 0000
0020:1138 FFFF 1900 0000 2A16 6302 0000 0000 0000 0000 FFFF FFFF 10FF 1000 B01D 0501

Packet Raw Data:
0000:0810 DDB0 001F 0005 0100 6005 DBF8 3078 6901 0000 0172 0000 0001 0000 00EA 6005
0020:DBF8 3072 0D7D

SR.26 OFF-CTRL TP-8254 Step 223
OK

TM Packet Query Display
==========

TM Packet Details

Mnemonic: ERROR REPORT Description: OBCP_Evt Spire ShutDown 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: 7632 Type: 5 Subtype: 4 PI1: 4098 PI2: 0

SPID: 45400185 TPSD: -1 HFA Counter: 11 Filing: E Distribution: E

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

TM Packet Parameter Data

Generation time: 2009.018.19.05.53.135 Reception time: 2009.018.19.05.55.394

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 917D 7349 7B12 0200 937D 7349 7305 0600 0100 0000 E601 0000 6000 0000
0020:1138 FFFF 0B00 0000 79C0 B402 0000 0000 0000 0000 FFFF FFFF 10FF 1000 D01D 0504

Packet Raw Data:
0000:0810 DDD0 0019 0005 0400 6005 DC11 22C4 1002 0000 0000 0000 0000 0000 0000 41AE

SPICE OFF_CTRL TP-0254 Step 223
OK

TM Packet Query Display
==========

TM Packet Details

Mnemonic: D_EvRp_145 Description: CdmuAsw 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: 7638 Type: 5 Subtype: 1 PI1: 27399 PI2: 0

SPID: 40145170 TPSD: -1 HFA Counter: 9 Filing: E Distribution: E

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

TM Packet Parameter Data

Generation time: 2009.018.19.05.56.140 Reception time: 2009.018.19.05.57.398

TM Packet Raw Data

SCOS-2000 Header:
```
0000:0000 0000 947D 7349 7B24 0200 957D 7349 BB15 0600 0100 0000 E601 0000 6000 0000
0020:1138 FFFF 0900 0000 1291 6402 0000 0000 0000 0000 FFFF FFFF 10FF 1000 D61D 0501
```

Packet Raw Data:
```
0000:0810 DDD6 0019 0005 0100 6005 DC14 23F2 6B07 0000 1104 0000 0000 0000 00EB 7720
```

SPIRE OFF_CTRL TP-0254 step 223

OK

18/01/09 19:11

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
224.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *At the prompt:* *"Please check SPIRE status and that subschedules 370 (SPIRE TCs) and 100 (meta-SPIRE) are disabled"* *⇨ Check that both the SPIRE DRCU and DPU have been switched off* *⇨ Check that subschedules 370 (SPIRE TCs) and 100 (meta-SPIRE) are disabled* *⇨ Click the "OK" button to confirm*	LCL 52 and 12 OFF Subschedules 370 OFF 100 OFF OK		OFF OFF OFF OFF OK		✓	
225.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *At the prompt:* *"check that all EATs are enabled except 0xC110 for APIDs 0x0500 and 0x0501"* *⇨ Perform activity through D102159SCVT192_GET_EAT_REPORT then click the "OK" button to confirm*	PASS OK		PASS OK	APID 0x0500 = 1280 (SPIRE-A) APID 0x0501 = 1281 (SPIRE-B)	✓	

Test location:	Operator	Product-Assurance:	Date:
ESTEC HYDRA		D. Lamarby	18/01/08 19:15

18/01/09 19:15

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
226.	During D102159SCVT192_GET_EAT_REPORT ⇨ click the "EndTS" button to continue	ENDTS		ENDTS		✓	
227.	During Z010999MCVT164_IST_SPIRE_FDIR_R_formal "RECOVERY ACTION" ⇨ Click the button "Confirm" to continue	CONFIRM		CONFIRM		✓	
228.	During Z010999MCVT164_IST_SPIRE_FDIR_R_formal At the prompt: "check that all EATs are enabled" ⇨ Perform activity through D102159SCVT192_GET_EAT_REPORT then click the "OK" button to confirm	PASS OK		PASS OK		✓	

Test location:	Operator	Product-Assurance:	Date:
ESTEC HYDRA		D. Lamarle	18/01/09. 19:17

18/01/09 19:17

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
229.	*During D102159SCVT192_GET_EAT_REPORT* *⇨ click the "EndTS" button to continue*	ENDTS		ENDTS		✓	
230.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"Switching SPIRE ON (REDUNDANT)"* *⇨ click "OK" to confirm*	OK		OK	Conditions may change, so check on RD-3 §7.2.4 for current prompts and expected OOL. At the end of it choose to reset the previous bus profle.	✓	
231.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"Please check that subschedule 370 (SPIRE TCs) is enabled and 100 (meta-SPIRE) is disabled and then press OK"* *⇨ Perform activity and then click the "OK" button to confirm*	Subschedules 370 ON 100 OFF OK		ON OFF OK		✓	

Test location:	Operator	Product-Assurance:	Date:
ESTEC HYDRA		D. Lamouly	18/01/09 19:25

18/01/09 19:25

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
232.	During Z102999SCVT008_ASDGEN_SPIRESTBY2OPS (called asynchronously by the master) SPIRE will be put into simulated science. ⇨ perform §7.2.6 of RD3 then go to next step	YES		YES		✓	
233.	During Z010999MCVT164_IST_SPIRE_FDIR_R_formal "Check that SPIRE is producing Science packets" ⇨ Perform the activity and click the button "OK" to continue	PASS OK		PASS OK	Check that file in /HPCCS/VARIABLE/RESULTS/ <test_session>/TMDUMP/ /<date-time>VC1.txt is increasing. With TM from APID 1285	✓	
234.	During Z010999MCVT164_IST_SPIRE_FDIR_R_formal "End of SPIRE OFF CONTROL TEST " ⇨ click the "OK" button to confirm	OK		OK		✓	

PVS # 8

Test location:	Operator	Product-Assurance:	Date:
ESTEC HYDRA		D Lamarly	18/01/09 19:29

18/01/09 19:30

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
235.	During Z010999MCVT164_IST_SPIRE_FDIR_R_formal "TEST the SPIRE OFF (DLL) OBCP?" ⇨ Click the button "Confirm" to continue	CONFIRM		CONFIRM	If SKIP, it continues at step 258. DB_OBCP_H_SPIRE_OFF is the OBCP under test.	✓	
236.	During Z010999MCVT164_IST_SPIRE_FDIR_R_formal "SPIRE OFF DLL FDIR triggering ⇨ Click the button "Confirm" to continue	CONFIRM		CONFIRM		✓	
237.	During Z010999MCVT164_IST_SPIRE_FDIR_R_formal "Please filter one TMPKT History for TM(5,1) and one for TM(5,4)" ⇨ Perform activity, then click the button "OK" to continue	PASS OK		PASS OK		✓	

Test location:	Operator	Product-Assurance:	Date:
ESTEC HYDRA		D Lamarby	18/01/09

~~5469~~

18/01/09 19:37

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
238.	During Z010999MCVT164_IST_SPIRE_FDIR_R_formal "start the SPIRE (RT 21) simulation on the CDMU SCOE to create jamming" ⇨ Click the button "OK" to proceed	OK		OK		✓	
239.	On CDMS SCOE Double-click on the link "StartSCOE.bat" on the desktop to start the CDMU SCOE application.	PASS		PASS		✓	
240.	On CDMS SCOE Select Menu: Mode ⇨ Local Mode Password: H-P	PASS		PASS		✓	
241.	On CDMS SCOE Select from menu: Setup ⇨ RTSim Configuration	PASS		PASS		✓	
242.	On CDMS SCOE Select file: R:\(192.168.90.32)\Herschel.rtc and then click the button "OK"	PASS		PASS		✓	

Test location:	Operator	Product-Assurance:	Date:
ESTEC HYDRA		D. Lamonby	18/01/09

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
243.	*On CDMS SCOE* *Select from menu:* *Mode ⇨ On Line*	PASS		PASS		✓	
244.	*On CDMS SCOE* *In window: "System Control/RT controls":* *⇨ Select RT22 (SPIRE-B)* *⇨ Click the button "Enable" for:* - *control* - *TM queue* - *TC queue* *Within 8 seconds proceed immediately with next step*	PASS 19:45:52 } 1 19:46:05 19:50:15 } 2 19:50:22		NOK	Don't stay longer than 8 seconds, since the FDIR might keep on triggering and reconfigure the spacecraft. Can be stopped as soon as the OBCP started TM is received		✓
245.	*On CDMS SCOE* *In window: "System Control/RT controls"* *Click the button "DISABLE" for:* - *control* - *TM queue* - *TC queue*	PASS		PASS	To be performed within 8 seconds!!!	✓	

New NCR

← PVS #10

Test location:	Operator	Product-Assurance:	Date:
ESTEC HYDRA		D. Lamarre	18/01/09

PVS#11

18/01/09 21:12

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
246.	During Z010999MCVT164_IST_SPIRE_FDIR_R_formal At the prompt: "Wait until the end of the OBCP -TM(5,1) with SPID 40145170 procID 0x1103" ⇨ check that OBCP SPIRE OFF has been triggered - TM(5,1) with SPID 40148170 procID 0x1103, ⇨ TM(5,4) EvID 0x1001 SPIRE Switched OFF" is received ⇨ check that TM(5,1) with SPID 40145170 procID 0x1103 is received ⇨ Click the "OK" button to confirm	PASS OK		PASS OK	Expected: ~~TM(5,1) SDB unhealthy~~ TM(5,2)-0552 SPIRE non vital RT Invalid TM(5,1) subschedule status changed PVS# 11		

Test location:	Operator	Product-Assurance:	Date:
ESTEC HYDRA		D. Lamouly	18/01/09

TM Packet Query Display
==========

TM Packet Details

Mnemonic: D_EvRp_148 Description: CdmuAsw 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: 10194 Type: 5 Subtype: 1 PI1: 27402 PI2: 0

SPID: 40148170 TPSD: -1 HFA Counter: 10 Filing: E Distribution: E

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

TM Packet Parameter Data

Generation time: 2009.018.21.13.36.231 Reception time: 2009.018.21.13.37.159

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 809B 7349 CC88 0300 819B 7349 846F 0200 0100 0000 E601 0000 6000 0000
0020:1138 FFFF 0A00 0000 CA9C 6402 0000 0000 0000 0000 FFFF FFFF 10FF 1000 D227 0501

Packet Raw Data:
0000:0810 E7D2 0019 0005 0100 6005 FA00 3B4C 6B0A 0000 1103 0000 0000 0000 00F4 1169

SPIRE OFF TP-9254 SAP 246

OK

TM Packet Query Display
==========

TM Packet Details

Mnemonic: D_EvRp_048 Description: CdmuAsw 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: 10201 Type: 5 Subtype: 1 PI1: 26881 PI2: 0

SPID: 40048170 TPSD: -1 HFA Counter: 27 Filing: E Distribution: E

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

TM Packet Parameter Data

Generation time: 2009.018.21.13.38.315 Reception time: 2009.018.21.13.40.163

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 829B 7349 4BD2 0400 849B 7349 3C7D 0200 0100 0000 E601 0000 6600 0000
0020:1138 FFFF 1B00 0000 2A16 6302 0000 0000 0000 0000 FFFF FFFF 10FF 1000 D927 0501

Packet Raw Data:
0000:0810 E7D9 001F 0005 0100 6005 FA02 50E4 6901 0000 0172 0000 0001 0000 00F5 6005
0020:FA02 50DD 578C

Spike off TP-0254 stp 246
DIC

TM Packet Query Display
==========

TM Packet Details

Mnemonic: ERROR REPORT Description: OBCP_Evt Spire 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: 10223 Type: 5 Subtype: 4 PI1: 4097 PI2: 0

SPID: 45400185 TPSD: -1 HFA Counter: 12 Filing: E Distribution: E

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

TM Packet Parameter Data

Generation time: 2009.018.21.13.48.232 Reception time: 2009.018.21.13.49.170

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 8C9B 7349 6F8C 0300 8D9B 7349 479B 0200 0100 0000 E601 0000 6000 0000
0020:1138 FFFF 0C00 0000 79C0 B402 0000 0000 0000 0000 FFFF FFFF 10FF 1000 EF27 0504

Packet Raw Data:
0000:0810 E7EF 0019 0005 0400 6005 FA0C 3B89 1001 0000 0000 0000 0000 0000 0000 DE8C

SPIRE OFF TP-0254 Step 246
OR

TM Packet Query Display
==========

TM Packet Details

Mnemonic: D_EvRp_145 Description: CdmuAsw 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: 10228 Type: 5 Subtype: 1 PI1: 27399 PI2: 0

SPID: 40145170 TPSD: -1 HFA Counter: 10 Filing: E Distribution: E

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

TM Packet Parameter Data

Generation time: 2009.018.21.13.50.237 Reception time: 2009.018.21.13.53.177

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 8E9B 7349 609E 0300 919B 7349 B7B4 0200 0100 0000 E601 0000 6000 0000
0020:1138 FFFF 0A00 0000 1291 6402 0000 0000 0000 0000 FFFF FFFF 10FF 1000 F427 0501

Packet Raw Data:
0000:0810 E7F4 0019 0005 0100 6005 FA0E 3CB6 6B07 0000 1103 0000 0000 0000 00F6 C3B3

SPICE OFF TP-0254 SRP 246
OK

18/01/09 21:18

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
247.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *At the prompt:* *"Please check SPIRE status and that subschedules 370 (SPIRE TCs) and 100 (meta-SPIRE) are disabled"* *⇨ check that SPIRE is OFF* *⇨ check that subschedules 370 (SPIRE TCs) and 100 (meta-SPIRE) are disabled* *⇨ Click the "OK" button to confirm*	LCL 52 and 12 OFF Subschedules 370 OFF 100 OFF OK		OFF OFF OFF OFF OK		✓	
248.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *At the prompt:* *"check that all EATs are enabled except 0xC110 for APIDs 0x0500 and 0x0501"* *⇨ Perform activity through D102159SCVT192_GET_EAT_REPORT then click the "OK" button to confirm*	PASS OK		PASS OK	APID 0x0500 = 1280 (SPIRE-A) APID 0x0501 = 1281 (SPIRE-B)	✓	

Test location:	Operator	Product-Assurance:	Date:
ESTEC HYDRA		D. Lamouly	18/01/09 21:20

18/01/09 21:20

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
249.	During D102159SCVT192_GET_EAT_REPORT ⇨ click the "EndTS" button to continue	ENDTS		ENDTS		✓	
250.	During Z010999MCVT164_IST_SPIRE_FDIR_R_formal "RECOVERY ACTION" ⇨ Click the button " confirm" to continue			CONFIRM		✓	
251.	During Z010999MCVT164_IST_SPIRE_FDIR_R_formal At the prompt: "check that all EATs are enabled" ⇨ Perform activity through D102159SCVT192_GET_EAT_REPORT then click the "OK" button to confirm	PASS OK		PASS OR		✓	

Test location:	Operator	Product-Assurance:	Date:
ESTEC HYDRA		D Lamonby	18/01/09 21:23

18/01/09 21:23

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
252.	*During D102159SCVT192_GET_EAT_REPORT* *⇨ click the "EndTS" button to continue*	ENDTS		ENDTS		✓	
253.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"set the CDMS SCOE OFF LINE"* *⇨ Perform the activities of the next step, then click the button "OK"*	PASS OK		PASS OK		✓	
254.	*On CDMS SCOE* *Select from menu:* *Mode ⇨ Off Line*	PASS		PASS		✓	

Test location:	Operator	Product-Assurance:	Date:
ESTEC HYDRA		D. Lamonby	18/01/09 21:24

18/01/09 21:24

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
255.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"Switching SPIRE ON (REDUNDANT)"* *⇨ Click the button "OK" to continue*	OK		OK.	Conditions may change, so check on RD-3 §7.2.4 for current prompts and expected OOL. At the end of it choose to reset the previous bus profle.	✓	
256.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"Please check that subschedule 370 (SPIRE TCs) is enabled and 100 (meta-SPIRE) is disabled and then press OK"* *⇨ Perform activity and then click the "OK" button to confirm*	Subschedules 370 ON 100 OFF OK		ON off OK		✓ ✓ ✓	
257.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"End of SPIRE FDIR TEST "* *⇨ click the "OK" button to continue*	OK		OK		✓	

Test location:	Operator	Product-Assurance:	Date:
ESTEC HYDRA		D. Lamouly	18/01/09 21:33

18/01/09 21:53

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
258.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"RESET the STARTING CONDITION"* ⇨ *Click the button "Confirm" to continue*	CONFIRM		Confirm.		✓	
259.	*During Z010999MCVT164_IST_SPIRE_FDIR_R_formal* *"Check that all subschedules from 1 to 256 plus the 370 are enabled* ⇨ *Click the button "OK" to continue*	Subschedules 1-256 ON 370 ON Others OFF OK		ON ON OK		✓	

Test location:	Operator	Product-Assurance:	Date:
ESTEC HYDRA		D. Lamaby	18/01/09 21:53

7.6 Specific Post-Test Activities

18/01/08 21:54

Step-No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
260.	During Z010999MCVT161_IST_INSTR_FDIR_R "Start the instrument specific FDIR sequence" ⇨ click the "OK" button to proceed	OK		OK		✓	
261.	During Z010999MCVT161_IST_INSTR_FDIR_R "End of INSTRUMENTS FDIR Tests. Select OK to switch off" ⇨ click the "OK" button to proceed	OK		OK	Perform this test step AFTER ALL the relevant FDIR tests have been performed	✓	
262.	During Z010999MCVT161_IST_INSTR_FDIR_R "Check that all EATs are enabled"" ⇨ perform activity through D102159SCVT192_GET_EAT_REPORT then click the "OK" button to proceed	PASS OK		PASS OK		✓	

Test location:	Operator	Product Assurance:	Date:
ESTEC HYDRA		R. Goossens	18/01/08 21.652

18/01/09 21:57

Step-No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
263.	*During D102159SCVT192_GET_EAT_REPORT* *⇨ Click the button "EndTS!" to proceed*	ENDTS		ENDTS		✓	
264.	*During Z010999MCVT161_IST_INSTR_FDIR_R* *"RESET to the original SCBP?"* *⇨ Click the button "Confirm to continue*	CONFIRM		CONFIRM		✓	
265.	*During Z010999MCVT161_IST_INSTR_FDIR_R* *"POWER OFF HIFI (REDUNDANT)"* *⇨ Click the button "Confirm" to continue*	CONFIRM	OOLs reported on HIFI TCs after switched off (MUO)	21:56 CONFIRM	Conditions may change, so check on RD-3 $7.3.5 for current prompts and expected OOL. At the end of it choose to reset the previous bus profle.	✓	
266.	*During Z010999MCVT161_IST_INSTR_FDIR_R* *"POWER OFF PACS (REDUNDANT)"* *⇨ Click the button "Confirm" to continue*	CONFIRM		22:07	Conditions may change, so check on RD-3 § 7.1.5 for current prompts and expected OOL. At the end of it choose to reset	✓	

SPR 1143

Test location:	Operator	Product-Assurance:	Date:
ESTEC HYDRA		R. Goossens	18/01/09 22:13

18/01/09 22:14

Step-No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
					the previous bus profle.		
267.	*During Z010999MCVT161_IST_INSTR_FDIR_R* *"POWER OFF SPIRE (REDUNDANT)"* *⇨ Click the button "Confirm" to continue*			22:14 Confirm	Conditions may change, so check on RD-3 §7.2.5 for current prompts and expected. OOL. At the end of it choose to reset the previous bus profle.	✓	
268.	*Reset to initial conditions the IEGSEs to revert what done at step 27.* *For HIFI, perform §7.3.8 of RD3* ✓ *For PACS, perform §7.1.9 of RD3* ✓ *For SPIRE, perform §7.2.8 of RD3* ✓			22:19	If HIFI cooling is ON, and HIFI is OFF, switch the cooling off in cleanroom	✓	
269.	*During Z010999MCVT161_IST_INSTR_FDIR_R* *"Bring the S/C into a SAFE mode and switch OFF"* *⇨ Click the button "OK" to continue*	OK			The IST_END sequence shall be called-up. Therefore, continue with chapter 7.4 of RD4. step 1.	✓	

RVS#1 not Retested

12

Test location:	Operator	Product Assurance:	Date:
ESTEC HYDRA	S. Eckley	R Goossens	18/1/09 22:25

7.7 S/C Power OFF

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

Test location:	Operator	Product-Assurance:	Date:
ESTEC HYDRA	GUSLEY		30/01/09

8 Script Hierarchy

8.1 Master script

```
Z010999MCVT161_IST_INSTR_FDIR_R
    A102109SPVT202_ACMS_STATUS_H
    D102159SCVT138_IST_LAUNCH_SUNACQ
    D102159SCVT137_IST_SUNACQ_NOM
    W102584SPVT101_PCDU_TRANSITION_FDIR
    Z102999SCVT001_SREM_ON
    Z102999SCVT016_ASDGEN_HIFIPWRON_R
    Z102999SCVT012_ASDGEN_PACSPWRON_R
    Z102999SCVT006_ASDGEN_SPIREPWRON_R
    Z102999SCVT017_ASDGEN_HIFIPWROFF_R
    Z102999SCVT013_ASDGEN_PACSPWROFF_R
    Z102999SCVT007_ASDGEN_SPIREPWROFF_R
    D102159SCVT193_IST_UPLOAD_OBCP
    D102159SCVT192_IST_UPLOAD_EAT
    D102159SCVT192_GET_EAT_REPORT.tcl
    Z010999MCVT004_IST_END
```

8.2 HIFI script

```
Z010999MCVT162_IST_HIFI_FDIR_R
    Z010999MCVT153_IST_STATUS
    D102159SCVT214_IST_HIFI_MTL_PING
    D102159SCVT192_GET_EAT_REPORT
    Z102999SCVT016_ASDGEN_HIFIPWRON_R
```

8.3 PACS script

```
Z010999MCVT163_IST_PACS_FDIR_R
    Z010999MCVT153_IST_STATUS
    D102159SCVT215_IST_PACS_MTL_PING
    Z102999SCVT019_ASDGEN_PACSNomSpect
    D102159SCVT192_GET_EAT_REPORT
    D102159SCVT192_GET_EAT_REPORT
    Z102999SCVT012_ASDGEN_PACSPWRON_R
    PACS_Disable_HK_OBS_Shell
```

8.4 SPIRE script

```
Z010999MCVT164_IST_SPIRE_FDIR_R_formal
  Z010999MCVT153_IST_STATUS
  D102159SCVT218_IST_SPIRE_MTL_PING
  Z102999SCVT008_ASDGEN_SPIRESTBY2OPS
  D102159SCVT192_GET_EAT_REPORT
  Z102999SCVT007_ASDGEN_SPIREPWROFF_R
  Z102999SCVT006_ASDGEN_SPIREPWRON_R
```

9 Summary Sheets

9.1 Procedure Variation Summary

	Test Change	Curr. No.: Date Page of	
Test designation	Test Procedure 254. HP-2-ASED-TP-0~~254~~	Issue 1	Rev.
Test step changed	Reason for Change Summary of PVS.		

#1 NCR4805 Investigation not performed
#2 NCR4181 Workaround
#3 Update INST FDIR RED SCRIPTS
#4 No script for redundant Sim Science
#5 Disable LO
#6 Power Cycle OBCP PACS failure Recovery
#7 PTV Reset Tc schdl flag not clearing
#8 Typos in procedure
#9 Reaction wheels spin down to zero
#10 CDMS SCOE recovery
#11 Bus jamming doesn't work for SPIRE OBCP off

Prepared by:	Resp. Test Leader	Project Engineer
PA/QA	Prime	Customer

Table 9.1-1: Procedure Variation Sheet

	Test Change	Curr. No.: 001 Date 17/01/2009 Page 1 of 1

Test designation	Test Procedure	Issue	Rev.
IST2 INST FDIR OBCP	TP-0254	1	-

Test step changed	Reason for Change
Section 7.6 After Step 267	NCR4805 Investigation (if time allows)

1) If NCR4805 does not recur during redundant SPIRE DRCU_OFF OBCP execute ACS SD-0457 to see if it can be reproduced

18/02/09 23:38 Not performed

Prepared by:	Resp. Test Leader	Project Engineer
S. Hamer		
PA/QA	Prime	Customer
D. Lamarby		

8 Summary Sheets

8.1 Procedure Variation Summary

	Test Change	Curr. No.: ~~3~~ 2 Date 18/01/09 Page 1 of 1	
Test designation FDIR OBCP	Test Procedure TP-0254	Issue 1	Rev. –
Test step changed 5	Reason for Change NCR4181 workaround		

execute operation note 68 ✓ 05:25 δ

Start HiFi_All_SubscribeParams.tcl ✓ 05:33 δ

Prepared by: S. Ilsen	Resp. Test Leader S. Ilsen	Project Engineer
PA/QA R. Goossens	Prime	Customer

8 Summary Sheets

8.1 Procedure Variation Summary

	Test Change	Curr. No.: #3 Date 18/01/09 Page 1 of 1	
Test designation: Instr. FDIR	Test Procedure: TP_0254	Issue: 1	Rev.: 0
Test step changed: -	Reason for Change: UPDATE INSTR FDIR REDUNDANT SCRIPTS.		

(1) UPDATE & CHECKIN & ONLINE PATCH:
Z010999 MCUT169_IST_INST_FDIR_R SPR: 1135

Prepared by: W. DAVIS	Resp. Test Leader: STEON	Project Engineer
PA/QA: R. Goossens	Prime	Customer

8 Summary Sheets

8.1 Procedure Variation Summary

	Test Change	Curr. No.: 4 Date 18/01/09 Page 1 of 1	
Test designation FDIR OBCP IST2	Test Procedure TP-0254	Issue 1	Rev. —
Test step changed 50	Reason for Change ~~[illegible]~~ (No script for redundant sim science		

1) step 50: ~~Z102999SCVT024_ASDGEN_HIFIOBS2_STBY1_R.tcl~~ 09:04
~~instead of Z102999SCVT020_ASDGEN_HIFIOBS_2_STBY1_P.tcl~~
HIFIST_master_HIFI_modes_redundant_warm.tcl

Confirm on STBY_1_to_2

confirm on STBY_2_to_PRIMARY

call H102999SCVT030_ASDISTHIFI_ICUON_2SIMSCI

→ Science data coming in!

Prepared by: S. Ilsen	Resp. Test Leader S. Ilsen	Project Engineer
PA/QA R. Goossens	Prime	Customer

8 Summary Sheets

8.1 Procedure Variation Summary

	Test Change	Curr. No.: 5 Date 18/01/09 Page 1 of 1	
Test designation FDIR OBCP IST2	Test Procedure TP-0254	Issue 1	Rev. —
Test step changed 72-73	Reason for Change Disable Lo		

Skip steps to disable Lo from TP-0206
use H102999SCVT039-ASDGENMIFI-Disable_Lo_warm_R.tcl
(on line patched) → SPR 1137

Prepared by: S. Ilsen	Resp. Test Leader: S. Ilsen	Project Engineer
PA/QA	Prime	Customer

8 Summary Sheets

8.1 Procedure Variation Summary

	Test Change	Curr. No.: 6 Date 18/11/09 Page 1 of 1	
Test designation: FDiR OBCP redundat	Test Procedure: TP-0254	Issue: 1	Rev.: —
Test step changed: 112	Reason for Change: Power cycle OBCP PACS recovery failure		

~ 11:50 1) Switch PACS Nominal 2102999 SCUT011_ASOGEN_PACSPWROFF_P.td
↳ error in scipt to disable FDiR (+ enable FDiR)
modified & alive patched → SPR 1139

~ 11:58 2) retry power off PACS nominal (see 1) → OK
↳ all HiFi/SPIRE/PACS scipt to enable/disable FDiR

3) Switch ON PACS Redundat 2102999 SCUT012_ASOGEN_PACSRWAON_R.td alive patched
~~OBCP~~ is aborted (OBCP is not recovered)

~ 12:09 4) power off PACS redundat

~ 12:19 5) recover OBCP's

~ 12:22 6) power on PACS redundant (see 3)

Prepared by: S. Ilsa	Resp. Test Leader: S. Ilsa	Project Engineer
PA/QA: D. Lamarly	Prime	Customer

8 Summary Sheets

8.1 Procedure Variation Summary

	Test Change	Curr. No.: ~~#~~ 7 Date 18/01/2009 Page 1 of 1	
Test designation IST 2 INST FDIR. Red.	Test Procedure TP-0254.	Issue 1	Rev. -
Test step changed Page 80 Step 165	Reason for Change SPR1141, (ATV check failure)		

Resend DC83F170 from manual command stack. (for completeness)

Completed 18/01/09
15:40

Prepared by: S. HAMER	Resp. Test Leader	Project Engineer
PA/QA D. Lamonby	Prime	Customer

8 Summary Sheets

8.1 Procedure Variation Summary

	Test Change	Curr. No.: #8 Date 18-1-2009 Page 1 of	
Test designation INSTRUMENT FDIR Part 2	Test Procedure TP-0254	Issue 1	Rev. –
Test step changed See ~~Procedure~~ below	Reason for Change Typographical Corrections		

Page 86 Step 185 APID should be 1285

Page 93 Step 199 LCL 52 should read ON
APID should be 1285

Page 102 Step 222 Script name should be SPIRE-OBCP Test StopHK

Page 107 step 233 APID should be 1285

Page 109 Step 238 RT21 should read RT22

Prepared by: S. HAMER	Resp. Test Leader	Project Engineer
PA/QA D. Lamonby	Prime	Customer

254.

8 Summary Sheets

8.1 Procedure Variation Summary

	Test Change	Curr. No.: #9 Date 18-1-2009 Page 1 of

Test designation	Test Procedure	Issue	Rev.
INSTRUMENT RED. FDIR PART II	TP-0254.	1	

Test step changed	Reason for Change
Page 102 Before Step 219	SPR. Reaction Wheels Spun down to recover RWLs to nominal speed for test using operator note 49.

Completed 18/01/09, 18:53

Prepared by:	Resp. Test Leader	Project Engineer
S. HAMER		
PA/QA	**Prime**	**Customer**
D Lamarby		

8 Summary Sheets

8.1 Procedure Variation Summary

	Test Change	Curr. No: #10 Date 18-1-2009 Page 1 of	
Test designation INSTRUMENT FDIR Part II	Test Procedure TP-0254	Issue 1	Rev.
Test step changed 224	Reason for Change We could not Jam CDMS BUS		

Reboot CDMU SCOE

Still didn't work. NCR raised

Prepared by: S HAMER	Resp. Test Leader	Project Engineer
PA/QA D. Lamond	Prime	Customer

8 Summary Sheets

8.1 Procedure Variation Summary

	Test Change	Curr. No.# 11 Date 18-1-2009 Page 1 of
Test designation INSTRUMENT FDIR Part II	Test Procedure TP-0254	Issue 1 / Rev.
Test step changed Page 110 Step 246	Reason for Change NCR. Bus Jamming doesn't work for SPIRE OFF	

Because OBCP FDIR for SPIRE cannot be triggered by Bus Jamming the agreed work around is to send the CDMS command below to directly trigger the OBCP:

DC3ST185
PAR. 1) DPV32185 = 370
PAR 2) DPV32185 = 100.

Completed 18/01/09
21:15

Prepared by: S. HAMER	Resp. Test Leader	Project Engineer
PA/QA D. Lamonby	Prime	Customer

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.
NCR4816	Unexpected Reconfiguration during IST_START(TP-134)	18/01/09	OPEN.	
NCR4817	PACS Power Cycle Fails on Redundant	18/01/09	OPEN	
NCR4818	PACS Power Cycle OBCP Event has WRONG description	18/01/09	OPEN	
NCR4823	TM HD249149 (HL_COMMANDABLE) IS FAULT.	18/01/09	OPEN	
NCR 4824	CDMU SCOE BUS JAMMING DOES N'T WORK	18/01/09	OPEN.	
SPR1135	Updates for CDMS 3-8.	18/01/09	OPEN	
SPR1136	Error for LU Status	18/01/09	OPEN	
SPR1137	Add scripts to safely disable HIFI LO	18/01/09	OPEN.	
NCR 4823 SPR1138	Update PTV Checksum for HIFI delivery 1.29-1	18/01/09	OPEN	
SPR1139	Correct ENABLE/DISABLE Instrument FDIR Script.	18/01/09	OPEN	
SPR1141	Add TM Ver of PTV flag DJCOE170 before sending DC83F170	18/01/09	OPEN	
SPR1142	RWLS SPIN DOWN to ZERO	18/01/09	OPEN	
SPR1145	OOLS on HIFI TCS Loops 20 & 39	18/01/09	OPEN.	

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	18/01/09	
Test Conductor	18/01/09	S. HAMER.
PA Responsible	18/01/09	D. LAMONBY

10 Session Record

Test Description	IST2 Redundant Instrument FDIR OBCP
Session ID	2009_01_17_23_02_herschm_hpws28_REALTIME_INSTFDIR
Start Time:	23:02 (17/01/09)
End Time	00:38 (19/01/09)
CVS Tag for Test	IST2_TP_0254_iss1-Instr_FDIR_OBCP_ENG_COM
Applicable IST Specification	HP-2-ASP-SP-0939 Iss 8
Test conductor	SIMON HAMER
QA Approval	D. Lamonby

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.
	Baldock Richard	FAE12
	Barlage Bernhard	AED13
	Bayer Thomas	ASA42
	Brune Holger	ASA45
X	Chen Bing	HE Space
X	Davis William	Captec
	Edelhoff Dirk	AED21
	Fehringer Alexander	ASG15
X	Fricke Wolfgang Dr.	AED 65
	Geiger Hermann	ASA42
	Grasl Andreas	OTN/ASA44
X	Grasshoff Brigitte	AET12
X	Hamer Simon	Terma
	Hanka, Erhard	FI522
X	Hendrikse Jeffrey	HE Space
X	Hendry David	Terma
	Hengstler Reinhold	ASA42
	Hinger Jürgen	ASG23
X	Hohn Rüdiger	AED65
	Hopfgarten Michael	AET32
	Huber Johann	ASA42
	Hund Walter	ASE252
X	Idler Siegmund	AED312
	Iványi von András	FAE12
	Jahn Gerd Dr.	ASG23
	Jolk Matthias	AET1
	Klenke Uwe	ASG72
	Kölle Markus	ASA43
	König Werner	AET32
X	Koppe Axel	AED312
X	Kroeker Jürgen	AED65
	La Gioia Valentina	Terma
	Lang Jürgen	ASE252
	Langenstein Rolf	AED15
	Langfermann Michael	ASA41
	Leitermann Stefan	AET12
X	Liberatore Danilo	Rhea
X	Martin Olivier	Altec
X	Maukisch Jan	ASA43
X	Much Christoph	ASA43
X	Müller Martin	ASA43
	Pietroboni Karin	AED65
	Reichle Konrad	ASA42
	Runge Axel	OTN/ASA44
	Saal Christoph	External
	Schink Dietmar	AED321
	Schmidt Thomas	AED15
	Schweickert Gunn	ASG23

	Name	Dep./Comp.
X	Sonn Nico	ASG51
	Steininger Eric	AED321
X	Stritter Rene	AED11
	Suess Rudi	OTN/ASA44
X	Theunissen Martijn	DSSA
X	Vascotto Riccardo	HE Space
	Wagner Klaus	ASG23
X	Wietbrock Walter	AET12
	Wöhler Hans	ASG23
	Wössner Ulrich	ASE252
	Zumstein Armin	AED15
X	ESA/ESTEC	ESA
X	Thales Alenia Space Cannes	TAS-F
	Thales Alenia Space Torino	TAS-I
	Instruments:	
X	MPE (PACS)	MPE
X	RAL (SPIRE)	RAL
X	SRON (HIFI)	SRON
	Subcontractors:	
	Austrian Aerospace	AAE
	Austrian Aerospace	AAEM
	BOC Edwards	BOCE
	Dutch Space Solar Arrays	DSSA
	EADS Astrium Sub-Subsyst. & Equipment	ASSE
	EADS CASA Espacio	CASA
	EADS CASA Espacio	ECAS
	European Test Services	ETS
	Patria New Technologies Oy	PANT
	SENER Ingenieria SA	SEN
	Thales Alenia Space, Antwerp	TAS-ETCA

Attachment 3 to Section 6.7:

As-Run ACS HP-2-ASED-SD-0459 for Redundant Instrument FDIR OBCP

Location : FN	Title: PACS NCR 4812 and 4817 investigation		
Facility : Class 100000	Model: FM	System: S/C	Date: 21/01/2009
CI No 120000	Test Conductor: S. Ilsen		NCR Ref: 4812 & 4817
	Prepared By: S. Ilsen		CIL No:

Scope:
This ACS details the activities to be performed investigate:

- HP-100000-ASED-NC-4812: Problem with PACS switch on
- HP-113000-ASED-NC-4817: PACS Power Cycle OBCP fails on redundant

This ACS shall be used in conjunction with the following documents:

- RD1) Herschel Instrument Power ON-OFF and Mode Switching Procedure for Functional Testing, HP-2-ASED-TP-0206 Issue 3

EGSE CCS SW version: 2.0_1317	**On-Board S/W:** CDMS ASW: 3.8 ACMS ASW: 4.0
HPSDB: L1-1441 iss 27	**PACS DPU (Prime & Red) ASW: 9.01**

Facilities required:	S/C powered on in an IST configuration	
Personnel required:	1 AIT eng 1 QA	
Safety and Hazards:	None identified	
NCR / Constraints:	Safety critical NCRs identified: None Blocking NCRs: None Instruments: PACS S/C configuration: Appendix 2 & 3	

PERFORMED DURING IST NOMINAL MODE ROBUSTNESS 21/1/09

No:	Activity	Proc/Drg/Result	Responsible & sign off
01	Inform Floor Manager of activity start	ok	
02	Fill in the session ID according to the sheet (Appendix 1)		
03	Ensure satellite configuration is correct according to required skin connectors sheet (Appendix 2)	as per IST2 Nominal mode Robustness	
04	Ensure that satellite configuration (operational sheet) does not impact the debugging (Appendix 3)		
	It is assumed that the satellite is already ON and configured. This test should take place during IST2 nominal mode robustness, prior to switch off.	ok	
	NCR 4812 investigation – estimated duration is 30 minutes **PACS has been switched off by the SAFE OBCP/Controlled OFF OBCP (re-occurrence of NCR-4530) during the IST2 nominal mode robustness. Because of this, it is likely that NCR 4812 (Problem with PACS switch on) re-occurs during the next power on**		

Release AIT:	Release SE:	Release PA/Safety:	Sign off (PA/QC/Team Leader)
		S. Ilsen PA 21/1/09	
Release Floor Manager:			
21.01.09			21/1/09 18:00 CET

No:	Activity	Proc/Drg/Result	Responsible & sign off
	(nominal side).		
05	Perform the OBCP recovery: Z010999MCVT159_IST_OBCPS_RECOVERY.tcl	OK	
06	Switch ON of PACS nominal using RD-1, chapter 7.1.2	OK, NCR 4812 dd NOT to occur	
07	Check if the switch ON completes successfully. If OK then: • Switch OFF PACS nominal using RD-1, chapter 7.1.3 Else • PACS should be switched off by OBCP because of the failed switch ON. Recover the OBCPs: Z010999MCVT159_IST_OBCPS_RECOVERY.tcl	OK N/A	
	NCR 4817 investigation – estimated duration is 1 hour		
11	Switch ON PACS redundant using RD-1, chapter 7.1.4	OK 16:08	
12	Switch ON HIFI ICU only redundant using RD-1, chapter 7.4.3	OK 16:14	
13	Switch ON SPIRE redundant using RD-1, chapter 7.2.4	OK 16:21	
14	Trigger the PACS power cycle OBCP for the redundant configuration by sending: **DCAST185** **{ DPV32185 90 }** **{ DPV32185 1 }**	OK 16:23	
15	Check if PACS correctly switches OFF and ON again	OK, this closes NCR 4817	
16	Switch Off PACS redundant using **R**D-1, chapter 7.1.5	OK, 16:39	
17	Switch Off HIFI ICU only redundant using RD-1, chapter 7.4.4	OK, 16:44	
18	Switch Off SPIRE redundant using RD-1, chapter 7.2.5	OK, 16:49	
	End		
200	Go back to IST2 Nominal mode robustness to switch OFF S/C	OK	
201	Inform Floor Manager of activity end	OK	

APPENDIX 1

Activity Control Sheet: Session Record

Session ID	Start Date/Time	End Date/Time	QA Approval
2005_01_21-02_03_herschw_hpws23_REALTIME_NominalRd1	02/03 21/01	21/1/09 17:00	

APPENDIX 2

Actual **SCOE cable connection (to be confirmed by AIT)**

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	✓

				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	Flight Cap SK02P07
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
SKIN-03	TTC Panel				
	Connector Function	**Skin Connector**	**S/C unit**	**SCOE CABLE**	**Flight Connector**
SKIN-03	Test point TC + protection jumper EPC1	SK03J01	XPND1/EPC1		Flight Plastic cap (See note1)
SKIN-03	Test point TC + protection jumper EPC2	SK03J02	XPND2/EPC2		Flight Plastic cap (See note1)
	RF LINK				
	Connector Function	**Skin Connector**	**S/C unit**	**SCOE CABLE**	**Flight Connector**
	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
SKIN-04	ACMS Panel (RWE)				
	Connector Function	**Skin Connector**	**S/C unit**	**SCOE CABLE**	**Flight Connector**
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	CRS t AOCS Sgn	J0 t	CRS-t/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 t/2 Stimuli	J04	CRS-t,2	ACMS SCOE Cable Plugged ✓	
SKIN-05	AAD Sgn M	J05	AAD/ACC	ACMS SCOE Cable Plugged ✓	
SKIN-05	SAS t/2 Sgn M	J06	SAS/ACC	ACMS SCOE Cable Plugged ✓	
SKIN-05	SAS t/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	STR t Stimuli	J0 t	STR t	ACMS SCOE Cable Plugged ✓	
SKIN-06	STR2 Stimuli	J02	STR2	ACMS SCOE Cable Plugged ✓	
	UMBILICAL				
	Connector Function	Connector	S/C unit	SCOE CABLE	
	Power/Data	HU t J0 t	SYSTEM	SCOEs cable Plugged ✓	
	Power/Data	HU2 J0 t	SYSTEM	SCOEs cable Plugged ✓	

QA: AVasallo 20.01.09 21:22 h

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: 20.01.09		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: 20.01.09		Sign: A. Lopez		

QA: R. Vasconcelos

APPENDIX 3

S/C Operational Status Sheet

FIMgr Sign: HERSCHEL SAT AIT constrains sheet 21.01.09 07:45
Tel: ESTEC-54125

	Op	Comments	Non Op
CDMS			
CDMU	X		
1553 MIL-BUS A	X		
1553 MIL-BUS B	X		
PCS			
PCDU	X		
BAT		**BS SCOE connected**	X
Solar Array		**Not connected**	X
TCS	X		
TT&C	**X**		
MGA	X	**RF-SCOE connected to Test-Caps on Antenna**	
LGA1	X	**RF-SCOE connected to Test-Caps on Antenna**	
LGA2	X	**RF-SCOE connected to Test-Caps on Antenna**	
ACMS			
1553 MIL-BUS A	X		
1553 MIL-BUS B	X		
ACC	X		
RWL1,2,3,4	X		
SAS1		**Flight H/W simulated**	X
SAS2		**Flight H/W simulated**	X

GYR	X		
STR1	X		
STR2	X		
CRS1	X		
CRS2	X		
RCS		**Flight H/W simulated**	**X**
CCU	**X**	**Cryo SCOE connected**	
SPIRE	**X**		
WUs			
FPU			
PACS	**X**		
WUs			
FPU			
HIFI	**X**	**!WARNING! If HIFI is switched ON, the cooler in the CleanRoom has to be switch ON too.**	
WUs			
FPU			
VMC	**X**		
SREM	**X**		
CryoCover		**Safe Plugs installed**	**X**
Telescope	**X**		

TM Packet History display printout from time: 2009.021.16.23.01.215 to time: 2009.021.16.31.37.227
Current printout time: 2009.021.16.38.45.260 FILTER MODE: ACTIVE DISPLAY MODE: BRIEF STATISTIC: OFF
FILTER SETTINGS:
APID: NOT 2020 Type: 5
Number of printed lines: 13

Mnemonic	Generation Time	Reception Time	VC	APID	SSC	Type	STyp	PI1	PI2	DS	SPID	GSID	TmT	TmQ	F	D
D_EvRp_145	2009.021.16.31.37.227	2009.021.16.31.40.689	0	16	6341	5	1	27399	0	65535	40145170		PG	G	E	E
ERROR REPORT	2009.021.16.31.12.221	2009.021.16.31.15.069	0	16	6307	5	4	8194	0	65535	45400185		PG	G	E	E
EVENT_REPORT	2009.021.16.30.36.935	2009.021.16.30.40.113	0	1153	50	5	1	10	0	65535	160015380		PG	G	E	E
EVENT_REPORT	2009.021.16.30.32.913	2009.021.16.30.36.025	0	1153	47	5	1	14	0	65535	160016380		PG	G	E	E
EVENT_REPORT	2009.021.16.30.27.258	2009.021.16.30.31.020	0	1153	42	5	1	28	5	65535	160034380		PG	G	E	E
EVENT_REPORT	2009.021.16.30.23.258	2009.021.16.30.28.015	0	1153	38	5	1	28	5	65535	160034380		PG	G	E	E
EVENT_REPORT	2009.021.16.29.10.485	2009.021.16.29.11.932	0	1153	18	5	1	20	0	65535	160017380		PG	G	E	E
EVENT_REPORT	2009.021.16.28.31.884	2009.021.16.28.31.884	0	1153	0	5	1	32776	3	65535	160022380		PR	N	E	E
ERROR REPORT	2009.021.16.24.18.216	2009.021.16.24.22.994	0	16	6133	5	4	8192	0	65535	45400185		PG	G	E	E
ERROR REPORT	2009.021.16.23.55.216	2009.021.16.23.59.966	0	16	6084	5	4	8193	0	65535	45400185		PG	G	E	E
A51CSTATE109	2009.021.16.23.39.105	2009.021.16.23.41.946	0	512	690	5	1	16427	0	65535	11463109		PG	G	E	E
A51CSTATE109	2009.021.16.23.15.117	2009.021.16.23.15.922	0	512	687	5	1	16427	0	65535	11463109		PG	G	E	E
D_EvRp_148	2009.021.16.23.01.215	2009.021.16.23.01.906	0	16	6035	5	1	27402	0	65535	40148170		PG	G	E	E

TM Packet Query Display

TM Packet Details

Simulated: N

Mnemonic: D_EvRp_148 Description: CdmuAsw Event 5-1 OBCP Started

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: 6035 Type: 5 Subtype: 1 PI1: 27402 PI2: 0

SPID: 40148170 TPSD: -1 HFA Counter: 17 Filing: E Distribution: E

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

TM Packet Parameter Data

Generation time: 2009.021.16.23.01.215 Reception time: 2009.021.16.23.01.906

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 E54B 7749 4E48 0300 E54B 7749 86D6 0D00 0100 0000 E601 0000 6000 0000
0020:1138 FFFF 1100 0000 CA9C 6402 0000 0000 0000 0000 FFFF FFFF 10FF 1000 9317 0501

Packet Raw Data:
0000:0810 D793 0019 0005 0100 6009 AA65 3712 6B0A 0000 120A 0000 0000 0000 002E 6DDF

TM Packet Query Display

TM Packet Details

Simulated: N

Mnemonic: ERROR REPORT Description: OBCP_Evt Pacs Bolc Off

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: 6084 Type: 5 Subtype: 4 PI1: 8193 PI2: 0

SPID: 45400185 TPSD: -1 HFA Counter: 12 Filing: E Distribution: E

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

TM Packet Parameter Data

Generation time: 2009.021.16.23.55.216 Reception time: 2009.021.16.23.59.966

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 1B4C 7749 D94D 0300 1F4C 7749 8BBE 0E00 0100 0000 E601 0000 6000 0000
0020:1138 FFFF 0C00 0000 79C0 B402 0000 0000 0000 0000 FFFF FFFF 10FF 1000 C417 0504

Packet Raw Data:
0000:0810 D7C4 0019 0005 0400 6009 AA9B 376F 2001 0000 0000 0000 0000 0000 0000 CF7F

TM Packet Query Display
==========

TM Packet Details

Simulated: N

Mnemonic: ERROR REPORT Description: OBCP_Evt Pacs Off

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: 6133 Type: 5 Subtype: 4 PI1: 8192 PI2: 0

SPID: 45400185 TPSD: -1 HFA Counter: 13 Filing: E Distribution: E

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

TM Packet Parameter Data

Generation time: 2009.021.16.24.18.216 Reception time: 2009.021.16.24.22.994

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 324C 7749 DD4E 0300 364C 7749 8A2B 0F00 0100 0000 E601 0000 6000 0000
0020:1138 FFFF 0D00 0000 79C0 B402 0000 0000 0000 0000 FFFF FFFF 10FF 1000 F517 0504

Packet Raw Data:
0000:0810 D7F5 0019 0005 0400 6009 AAB2 3780 2000 0000 0000 0000 0000 0000 0000 4294

TM Packet Query Display

TM Packet Details

Simulated: N

Mnemonic: EVENT_REPORT Description: PACS_EVENT_REPORT_3_32776

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: 1153 SSC: 0 Type: 5 Subtype: 1 PI1: 32776 PI2: 3

SPID: 160022380 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: 2009.021.16.28.31.884 Reception time: 2009.021.16.28.31.884

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 2F4D 7749 847D 0D00 2F4D 7749 7C80 0D00 0100 0000 E601 0000 6600 0000
0020:1130 FFFF 0300 0000 6CBF 8909 0000 0000 0000 0000 FFFF FFFF 10FF 8104 0000 0501

Packet Raw Data:
0000:0C81 C000 001F 0005 0100 8000 0000 0000 8008 0003 0000 0000 0000 0000 0000 ABAB
0020:CDCD AAAA A163

TM Packet Query Display

TM Packet Details

Simulated: N

Mnemonic: EVENT_REPORT Description: PACS_EVENT_REPORT_0_20

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: 1153 SSC: 18 Type: 5 Subtype: 1 PI1: 20 PI2: 0

SPID: 160017380 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: 2009.021.16.29.10.485 Reception time: 2009.021.16.29.11.932

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 564D 7749 4F67 0700 574D 7749 263A 0E00 0100 0000 E601 0000 6000 0000
0020:1138 FFFF 0300 0000 E4AB 8909 0000 0000 0000 0000 FFFF FFFF 10FF 8104 1200 0501

Packet Raw Data:
0000:0C81 C012 0019 0005 0100 6009 ABD6 7C36 0014 0000 0000 0000 0000 0000 4002 3456

TM Packet Query Display

TM Packet Details

Simulated: N

Mnemonic: EVENT_REPORT Description: PACS_EVENT_REPORT_5_28

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: 1153 SSC: 38 Type: 5 Subtype: 1 PI1: 28 PI2: 5

SPID: 160034380 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: 2009.021.16.30.23.258 Reception time: 2009.021.16.30.28.015

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 9F4D 7749 5FF3 0300 A44D 7749 3C3B 0000 0100 0000 E601 0000 6A00 0000
0020:1138 FFFF 0500 0000 4CEE 8909 0000 0000 0000 0000 FFFF FFFF 10FF 8104 2600 0501

Packet Raw Data:
0000:0C81 C026 0023 0005 0100 6009 AC1F 4248 001C 0005 0000 0000 0000 0000 4003 0001
0020:0000 0000 0000 0000 C81D

TM Packet Query Display
==========

TM Packet Details

Simulated: N

Mnemonic: EVENT_REPORT Description: PACS_EVENT_REPORT_5_28

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: 1153 SSC: 42 Type: 5 Subtype: 1 PI1: 28 PI2: 5

SPID: 160034380 TPSD: -1 HFA Counter: 6 Filing: E Distribution: E

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

TM Packet Parameter Data

Generation time: 2009.021.16.30.27.258 Reception time: 2009.021.16.30.31.020

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 A34D 7749 6EF3 0300 A74D 7749 5C4E 0000 0100 0000 E601 0000 6A00 0000
0020:1138 FFFF 0600 0000 4CEE 8909 0000 0000 0000 0000 FFFF FFFF 10FF 8104 2A00 0501

Packet Raw Data:
0000:0C81 C02A 0023 0005 0100 6009 AC23 4249 001C 0005 0000 0000 0000 0000 4004 0002
0020:0000 0000 0000 0000 8ECB

TM Packet Query Display
==========

TM Packet Details

Simulated: N

Mnemonic: EVENT_REPORT Description: PACS_EVENT_REPORT_0_14

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: 1153 SSC: 47 Type: 5 Subtype: 1 PI1: 14 PI2: 0

SPID: 160016380 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: 2009.021.16.30.32.913 Reception time: 2009.021.16.30.36.025

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 A84D 7749 C8F1 0D00 AC4D 7749 BF63 0000 0100 0000 E601 0000 6000 0000
0020:1138 FFFF 0300 0000 FCA7 8909 0000 0000 0000 0000 FFFF FFFF 10FF 8104 2F00 0501

Packet Raw Data:
0000:0C81 C02F 0019 0005 0100 6009 AC28 E9F3 000E 0000 0000 0000 0000 0000 4005 05CA

TM Packet Query Display

TM Packet Details

Simulated: N

Mnemonic: EVENT_REPORT Description: PACS_EVENT_REPORT_0_10

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: 1153 SSC: 50 Type: 5 Subtype: 1 PI1: 10 PI2: 0

SPID: 160015380 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: 2009.021.16.30.36.935 Reception time: 2009.021.16.30.40.113

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 AC4D 7749 7E47 0E00 B04D 7749 58BB 0100 0100 0000 E601 0000 6000 0000
0020:1138 FFFF 0300 0000 14A4 8909 0000 0000 0000 0000 FFFF FFFF 10FF 8104 3200 0501

Packet Raw Data:
0000:0C81 C032 0019 0005 0100 6009 AC2C EF91 000A 0000 0000 0000 0000 0000 4006 E47C

TM Packet Query Display
==========

TM Packet Details

Simulated: N

Mnemonic: ERROR REPORT Description: OBCP_Evt Pacs Fpu On

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: 6307 Type: 5 Subtype: 4 PI1: 8194 PI2: 0

SPID: 45400185 TPSD: -1 HFA Counter: 14 Filing: E Distribution: E

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

TM Packet Parameter Data

Generation time: 2009.021.16.31.12.221 Reception time: 2009.021.16.31.15.069

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 D04D 7749 B361 0300 D34D 7749 950F 0100 0100 0000 E601 0000 6000 0000
0020:1138 FFFF 0E00 0000 79C0 B402 0000 0000 0000 0000 FFFF FFFF 10FF 1000 A318 0504

Packet Raw Data:
0000:0810 D8A3 0019 0005 0400 6009 AC50 38BC 2002 0000 0000 0000 0000 0000 0000 B052

TM Packet Query Display
==========

TM Packet Details

Mnemonic: D_EvRp_145 Description: CdmuAsw 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: 6341 Type: 5 Subtype: 1 PI1: 27399 PI2: 0

SPID: 40145170 TPSD: -1 HFA Counter: 17 Filing: E Distribution: E

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

TM Packet Parameter Data

Generation time: 2009.021.16.31.37.227 Reception time: 2009.021.16.31.40.689

TM Packet Raw Data

SCOS-2000 Header:
0000:0000 0000 E94D 7749 A277 0300 EC4D 7749 E285 0A00 0100 0000 E601 0000 6000 0000
0020:1138 FFFF 1100 0000 1291 6402 0000 0000 0000 0000 FFFF FFFF 10FF 1000 C518 0501

Packet Raw Data:
0000:0810 D8C5 0019 0005 0100 6009 AC69 3A2C 6B07 0000 120A 0000 0000 0000 002F 1288

6.8 Minutes of Meetings

A copy of the relevant Minutes of Meetings follow (pdf copy of this report only).

ThalesAlenia Space	Instrument FDIR OBCP TRR	REF.: **H-P-TASF-MN-11152**	
		HERSCHEL FM	
		DATE : 17/01/09	PAGE : 1 of 71
MINUTES OF MEETING		*PLACE : FR Meeting Room, ESTEC*	

PURPOSE :
Instrument FDIR OBCP TRR

CLASSIFICATION :

ATTENDEES	FIRM	SIGNATURE	ATTENDEES	FIRM	SIGNATURE
J. Hall	TASF		A. Koppe (PT)	ASED	
S. Mooney	TASF				
			J. Huesler	ESA	
S. Hamer	ASED		A. Gatti	ESA	
WRITTEN BY :	J. Hall		*Chair:*	J. Hall	

CONCLUSION :

The TRR states formally that permission is given for the execution of the test after the closure of the identified open work items.

DISTRIBUTION : *ATTENDEES*	*FOR FURTHER ACTION :*	See MoM and action item table at end of minutes
	FOR INFORMATION :	ASED : TAS-F : ESA:

APPROVED BY

NAME	J. Hall	S. Mooney	A. Gatti	
SIGNATURE				

All rights reserved, 2007, Thales Alenia Space

	ACTION
Agenda 1. **Introduction** 2. **Identification of Test Item** 3. **Test procedure/Timeline** 4. **NCR/RFD status** 5. **Safety Hazards and Hazardous operations** 6. **Test equipment/Facility and Calibration Status** 7. **Cleanliness** 8. **Test Personnel and Responsibilities** 9. **Problem Areas** 10. **AOB** 11. **Conclusion**	
Introduction This Meeting is the TRR for the Instrument FDIR OBCP redundant test to be performed in Helium I conditions and in ambient environment (Clean Room) within the scope of the Herschel IST 2 satellite test campaign.	
Identification of Test Item **As Designed** • **S/C CIDL** Herschel S/C CI#100000 CIDL: H-P-2-ASP-LI-0538 iss.5 **As Built** **H-EPLM Integration Status List** ASED PLM ISL: HP-2-ASED-LI-0032 iss 20A Status 12.1.2009 See Annex 1 **SVM Integration Status List** ASED SVM ISL: HP-2-ASED-LI-0033 iss 21 Status 12.1.2009 See Annex 2 **Deviations of ISL** ■ End of life in ambient on LO.	

All rights reserved, 2007, Thales Alenia Space

The above deviations do not impact the current test.

SW Configuration

- **CDMS**
  V 3.8
- **ACMS**
  V 4.0
- **HPSDB**
  HP-2-ASP-LI-1441 v 27

A full software configuration is detailed in Annex 4

A new PACS DPU SW (9.01) is installed

HIFI SW update is required but is not yet available. This is not due for delivery until after the test.
The redundant FDIR OBCP for HIFI shall be performed to verify the same functionality in the nominal and the redundant side operation.

SPIRE OBCP update is planned but will not be delivered prior to the test. This is not mandatory for this test.

Instruments:
PACS: Simulated Science mode

HIFI: Prime with Simulated Science (LO disabled)

SPIRE: Simulated Science mode

During the test instrument support is required from HIFI to set up the IEGSE.

New scripts are required for HIFI from SRON for the redundant configuration test
Open Work

If no scripts are available then HIFI will be run in ICU only and HIFI FDIR will not be run (I-EGSE setup therefore not required). Red marking of procedure to be made in this case.
Open Work

HIFI cooling cart is required to be operational for the test

All rights reserved, 2007, Thales Alenia Space

Open Work

I-EGSE usage is required for HIFI & PACS

The TRR states that the proposed configuration is acceptable for the execution of the tests.

Test procedure/Timeline

Procedure

The test shall be performed under the control of the following procedures

Redundant OBCP test

- HP-2-ASED-TP-0254 iss 1 12/01/2009 Test of Redundant Instrument FDIR OBCP Procedure

This procedure uses:

- HP-2-ASED-PR-0134 iss 7 IST Leading procedure
- HP-2-ASED-TP-0206 iss 3 Herschel instrument power on/off and mode switching

The Procedures are signed and shall be presented for the test.

Open work

The following sections of the IST SPEC (iss 8) shall be performed during this test:
The whole of section 5.8.13

Timeline:

The test is planned to be performed 18/01/2009 starting at approximately 03:00.

The test is foreseen to run for a duration of approximately 19 hours broken down as follows:

- IST START 3 hours
- Configuration of spacecraft 2 hours
- Test 12 hours
- IST End 2 hours

All rights reserved, 2007, Thales Alenia Space

NCR/SPR Status

SPRs

287 New script needed to mark PACS and HIFI ON and OFF. **To be verified during test.**
298 Instr FDIR status check needs updating **To be verified during test.**
501 Remove HIFI/SPIRE IEGSE related scripts (Already performed) **To be verified during test.**
502 Call of script error ".tcl" not required **To be verified during test.**
503 Incorrect info prompt in PACS FDIR **To be verified during test.**
537 Prompt to set CDMS SCOE offline done twice **To be verified during test.**
885 HK packets are not enabled during second wheel bias **To be verified during test.**
943 Preparation of new test sequence for the Herschel test of redundant instruments FDIR OBCP. **To be verified during test.**
1105 This is the workaround for the AAD(NCR 4789). **SPR to be closed.**
1107: PTV error. Script updated. **To be verified during test.**
1109: Incorrect switch off of ACMS. Screen now prompts user. **To be verified during test.**
1117: Implements changes for NCR 4653 **To be verified during test.**

NCRs

4395: HIFI LO operational constraints in ambient. Relevant. **LO operation is disabled in ambient.**

4601: HIFI runtime errors received after TC ICU memory check. May be re-seen. **Does not impact the test.**

4613: HIFI hard reset OBCP triggered when soft reset expected. **Expected to re-occur. To verify that the redundant acts in the same way and generates the same anomaly.**

4653: Command DCT85170 does not disable redundant EAT entries. **To be verified during this test**.

4669: TBTV - Incorrect description in SVM DB concerning PACS OBCP event. Will re-occur. **No impact on test.**

4681: TVTB HIFI warm units dissipation lower than expected This impacts, Nom Mode Robustness, S/C Reconfiguration, and Inst FDIR OBCP. HIFI have changed their configuration for standby mode. **No impact on the test.**

All rights reserved, 2007, Thales Alenia Space

4771: SOVT2 - HIFI_TC_execution_NOK_HS_LIB_WRONG_INPUT_PARAM **May be re-seen but does not impact the test.** 4804 Unexpected triggering of SPIRE_OPE_STOP OBCP after SPIRE STANDBY OBCP **To be verified in this test.** 4805: IST2 FDIR OBCP: Nominal HK stops after SPIRE OBCP DRCU OFF. Not resolved by SPIRE. **Could occur during DRCU OFF. No recovery action required if it does occur.** 4812: Problem with PACS switch on. PACS issue. May re-occur. **Workaround to switch on again.** **Other:** All open CCS related NCRs may affect the operation of the test. Work-arounds for these NCRs are known.	
Test equipment/Facility and Calibration Status **Calibration status of equipment** All equipment within the Herschel EGSE that requires certification has been recertified. A full list of calibrated equipment is contained in annex 4.	
Safety The tests will be performed in Helium I in ambient conditions. The following Safety related issue are identified: • Temperature: None	
Cleanliness Test will be performed in the class 100000 clean-room area at ESTEC.	
Test Personnel and responsibilities	

THALES
All rights reserved, 2007, Thales Alenia Space

Test Director: S. Mooney Test Conductor: S. Hamer/S. Ilsen Engineering Support: R. Jones Cryo Engineering Support: N/A Functional Support: ESA: A. Gatti Test operator, as per shift EGSE support as per shift QA support as per shift Instrument Support: • HIFI are required for the I-EGSE setup (A. De Jonge) • PACS are required for I-EGSE configuration (H. Feuchtgruber)	
Problem Areas A full regression test of CDMS 3.8 has not been performed on the AVM so there may be anomalies due to change of SW and DB.	
AOB Variations from the IST specification iss 8 None known. Name of test as specified in IST LEADING PROCEDURE configuration incorrect. PVS to be provided for correct IST START **Open Work** If time allows then an ACS shall be executed to investigate the NCR4805 on nominal side of SPIRE	
Conclusion of meeting The TRR states formally that permission is given for the execution of the test after the closure of the identified open work items.	

THALES
All rights reserved, 2007, Thales Alenia Space

OPEN WORK TO BE CHECKED OFF BY QA PRIOR TO START OF TEST

1. QA to verify that the environmental conditions (temperature/humidity) are within operational levels for the test to be performed.

2. Verify the skin connector sheet is signed by the floor manager.

3. Procedure HP-2-ASED-TP-0254 iss 1 to be presented signed

4. HIFI cooling cart is required to be operational for the test

5. Name of test as specified in IST LEADING PROCEDURE configuration incorrect. PVS to be provided for correct IST START

6. New scripts are required for HIFI from SRON for the redundant configuration test.

7. If no scripts are available then HIFI will be run in ICU only and HIFI FDIR will not be run. Red marking of procedure to be made in this case.

All rights reserved, 2007, Thales Alenia Space

Annex 1 : H-EPLM Integration Status List

Herschel H-EPLM Integration Status: HP-2-ASED-LI-0032_20A Status: 12.01.2009

Equipment / CI-No.	Integr. Date	Model, Serial No	ABCL Ref. (or EIDP)	Qualified	Remarks / Open Work / NCR's
111110 (ASED CI 125100) HIFI FPU	17.07.2007	FM	HP-2-SRON-DP-0004 issue 6 (= SRON-U/HIFI/LI/2007-002_6)		MTD removed 07.07.06 acc.PR-0057; HIFI CQM integrated acc. PR-0063 12.07.2006, NC-2330: CQM covered with SLI iaw. SD-0109, connector fit check done iaw. SD-0105 Deintegrated 12.04.2007 K.R FM final Integration acc.HP-2-ASED-PR-0090_1 HIFI Team & AESD Team ASED-NC-3435: Slight damages on HIFI FPU after mechanical integration - use as is ASED-NC-3453: No I/F for HIFI SIH P59/60 on HIFI FPU FM - SIH P59/60 terminated, ref. HIFI CR-0147_2
111120 (ASED CI 125100) LOU PFM	11.03.2008	FM 01	HP-2-SRON-DP-0004 issue 6 (= SRON-U/HIFI/LI/2007-002_6)	y	Mating acc. to HP-2-ASED-PR-0024 Alignment wrt. FPU done on 14.07.05 Removed 29.03.2006 HP-2-ASED-SD-0053 Fitcheck for Cool Down acc.PR-0098 and removed 15.02.08 H.G Integration for Coalignment of Pentaprism 28.02.08 Geiger/Schink. De-Interated acc. –PR-0098; Geiger Final Integrated acc. PR-0098 H.Geiger
112110 (ASED CI 125200) SPIRE FPU	18.04.2007	FM	HP-2-RAL-DP-AB-0004 issue 2 (= SPIRE-RAL-PRJ-002017_2)		MTD removed 08.05.2006 Not all temp sensors mounted, aperture cover removed CQM removed acc.PR-0057 11.04.2007;return to Supplier Final Integration acc.PR-0083 K.R. 18.04.2007 ASED-NC-3216: SPIRE FPU FM fixation bolts not according to SPIRE I/F drawing - use as is
112121 (ASED CI 125200) SPIRE JFET Photometer	18.04.2007	FM	HP-2-RAL-DP-AB-0004 issue 2 (= SPIRE-RAL-PRJ-002017_2)		MTD Removed 05.05.2006; CQM removed acc.PR-0057 11.04.2007;return to Supplier Final Integration acc.PR-0083 K.R. 18.04.2007
112122 (ASED CI 125200) SPIRE JFET Spectrometer	18.04.2007	FM	HP-2-RAL-DP-AB-0004 issue 2 (= SPIRE-RAL-PRJ-002017_2)		MTD Removed 05.05.2006 P04 repaired on 14.07.06 according to NCR1394 CQM removed acc.PR-0057 11.04.2007;return to Supplier Final Integration acc.PR-0083 K.R. 18.04.2007
113110 (ASED CI 125300) PACS FPU	09.07.07	FM	HP-2-MPE-DP-0003 issue 1_4, (= PACS-ME-DP-003)		NC-0650 and 0658: Rework on MTD after interference was found during fit check NC-631 (= PROT-NC-0006) deviation in connector 131100 J67 M8 bolts torqued 22 Nm; NC-0807: L0 I/F bad contact, reworked, closed. Deintegrated 12.04.2007 K.R Final Integrated by MPE & T.B. acc.PR-0089 NC-3743: Contamination on PACS entrance - Cleaning of trog 1 by KT&ESA acc.PR-042
121110 CVV	(02.06.05)	PFM, SN01	HP-2-APCO-AB-0043, Issue 1, 19.01.05	y	NC-1161: One flange bolt broken at 30 Nm, torque reduced to 28 Nm, NC is closed. 09.12.05: 12 bolts removed for pull test & replaced by new ones from stock NC-1257: Positions of harness fixation brackets on CVV changed
121111 CVV Upper	06.12.07	PFM, SN01	HP-2-APCO-AB-0043, Issue 1, 19.01.05	y	NC-1174: Leakage at seal I/F to filling port; status of top plate see cryo cover 121131.

All rights reserved, 2007, Thales Alenia Space

Equipment / CI-No.	Integr. Date	Model, Serial No	ABCL Ref. (or EIDP)	Qualified	Remarks / Open Work / NCR's
Bulkhead					Re-mated; NC-2558: Traces of contamination/corrosion found inside UB Molecular wipes taken, no aggressive radicals included, use as is for STM2. CVV screws preliminary mated: only each 4th screw inserted and torqued with 24Nm 27.07.2006 HP-2-ASED-SD-0116_REWORK OF SEALING SURFACE ON UPPER BULKHEAD AND FILLINGPORT performed (closeout of NC-1174) NC-1476: 2 stand-offs are detached, repair is open work Final integration of all I/F screws and torque with MA= 25Nm and second torque, final with MA= 31Nm , performed on 14.08.06 Screws LN 65056, 056-08028 charge FA 05/2146, nuts LN 65410-08, charge FA 05/2146 Removed acc. PR-0049 Issue2 23.03.2007 R.K. Preliminary Integration acc.PR-0064 T.B. Removal after Leaktest acc.PR-0049.2 T.B. Preliminary Integration acc.PR-0064 H.G.. Removal for PACS FPU final el. connection acc.PR0049 H.G. Final integration acc. ASED-PR-0064_2 NC-3812: 11 CVV bolts of UBH / CYL. I/F flange cannot be torqued with spec. 28 Nm - For affected bolts torque reduced, shear pins introduced.
121112 CVV cylinder	15.10.04	PFM, SN01	HP-2-APCO-AB-0043, Issue 1, 19.01.05	y	Integration acc. to HP-2-ASED-PR-0020 /-0021 Report: HP-2-ASED-RP-0145 on 1.2.05: check of helicoils M8x1 on flanges, 5 helicoils on upper flange exchanged HP-2-ASED-SD-0115_RE- FASTENING OF CONNECTORS MOUNTED ON CVV CYLINDER_performed on 28.07.06 For integration and torque of I/F screws, See UB and LB
121112 Dummy receptacles on FT J03 and J04	21.03.05	PFM			FT J03 and J04 not used for wiring, integrated dummies are leak tested
121113 CVV Lower Bulkhead	06.06.07	PFM, SN01	HP-2-APCO-AB-0043, Issue 1, 19.01.05	y	Remated CVV screws preliminary mated: only each 4th screw inserted and torqued with 24Nm Final integration of all I/F screws and torque with MA= 25Nm and second torque, final with MA= 31Nm performed on 14.08.06 Screws LN 65056; 056-08028 ; charge FA 05/2146 Nuts LN 65410-08, charge FA 05/2146 Removed acc. PR-0049 Issue2 23.03.2007 R.K. Final Integration acc. PR-0023 Iss2 T.B.
121114 Radiator on –Z	29.03.2008	PFM	HP-2-APCO-AB-0052, issue 2, 28.09.05	y	2 Parts pre-integration on 17.9.05 Integration acc. to HP-2-APCO-MA-0048 Both removed 05.04.2006 Integration acc.HP-2-ASED-PR-121
121115 Radiator on +Y	07.03.2008	PFM	HP-2-APCO-AB-0052, issue 2, 28.09.05	Y	2 Parts, NC-1508: MLI too short, bolt torque 29 Nm Integration acc. to HP-2-APCO-MA-0048 NC-1851; Upper part removed on 19.12.05 due to interference with HSS strut 5, radiator reworked, new bracket added. Upper part re-installed 10.01.2006, bolt torqued 29 Nm Both removed 31.03.2006;changed the new bracket (black anodizing) 20.02.08 R.H. OW 291 closed; Final Integrated acc. PR-0121 07.03.08 R.Suess

All rights reserved, 2007, Thales Alenia Space

Equipment / CI-No.	Integr. Date	Model, Serial No	ABCL Ref. (or EIDP)	Qualified	Remarks / Open Work / NCR's
121116 Radiator on –Y	29.05.08	PFM	HP-2-APCO-AB-0052, issue 2, 28.09.05	y	Lower part removed 16.11.05; reintegrated 15.12.2005 Removed 30.03.2006 Preliminary integrated for MLI integration removed after MLI integration 03.2008 Finaly integrated at 29.05.08 by Reichle/Geiger & Grasl (electr.)
121117 IMT Crown	05.08.06	FS	HP-2-ASED-DW-0135		Glued and screwed to PFM Top Plate acc. to DW-0135, same configuration as used on EQM-PLM
121118 Heaters,TC's and PT1000 for TB/TV test on CVV,	19.02.08	PFM Instrumentation	HP-2-ASED-PL-0046 Iss.1	n a	NC-1595: Heater burnt during TB/TV test Removed the damaged heaters on LBH acc- PR-0097 and integrated new test heaters on CVV_05_LB;CVV_06_LC-pz and CVV_35_LB Removed the damaged heaters on UBH acc- PR-0097 and integrated new test heaters on CVV_08_UB;CVV_15_UB 12.02.2008 J.H. Dale Heater on CVV_10_RAD upper –Y glued 19.02.08 U.W.
121121-01 TSS chain pos. 1	23.12.04	PFM, SN 18	HP-2-ECD-AB-0001, Issue 1, 29.07.04	y	Pre-integrated on 23.12.04, adjusted and tensioned on 17.1.05 load cells remounted on 07.08.06 adjusted to 5-6kN;adjustment 26.10.06 to 25 Nm
121121-01 TSS chain pos. 2	03.01.05	PFM, SN 3	,,	Y	Pre-integrated on 03.01.05, adjusted and tensioned on 17.1.05 load cells remounted on 07.08.06 adjusted to 5-6kN;adjustment 26.10.06 to 25 Nm
121121-01 TSS chain pos. 3	03.01.05	PFM, SN 7	,,	Y	Pre-integrated on 03.01.05, adjusted and tensioned on 17.1.05 load cells remounted on 07.08.06 adjusted to 5-6kN;adjustment 26.10.06 to 25 Nm
121121-01 TSS chain pos. 4	03.01.05	PFM, SN 13	,,	Y	Pre-integrated on 03.01.05, adjusted and tensioned on 17.1.05 load cells remounted on 07.08.06 adjusted to 5-6kN;adjustment 26.10.06 to 25 Nm
121121-01 TSS chain pos. 5	03.01.05 19.07.06	PFM, SN 16	,,	Y	Pre-integrated on 03.01.05, adjusted and tensioned on 17.1.05, one washer at Th. Shield 3 had to be reworked in order to remove an interference with the shield bracket Thermal bonding jumper integrated, isolation stand-offs for SPIRE JFET harness fixed iaw. ASED-SD-0101. load cells remounted on 07.08.06 adjusted to 5-6kN;adjustment 26.10.06 to 25 Nm
121121-01 TSS chain pos. 6	03.01.05 19.07.06	PFM, SN 4	,,	Y	Pre-integrated on 03.01.05, adjusted and tensioned on 17.1.05 Thermal bonding jumper integrated, isolation stand-offs for SPIRE JFET harness fixed iaw. ASED-SD-0101. load cells remounted on 07.08.06 adjusted to 5-6kN;adjustment 26.10.06 to 25 Nm End caps installed on 14.05.2008 and torqued (4,6NM) by H. Geiger
121121-01 TSS chain pos. 7	03.01.05	PFM, SN 2	,,	Y	Pre-integrated on 03.01.05, adjusted and tensioned on 17.1.05 load cells remounted on 07.08.06 adjusted to 5-6kN End caps installed on 14.05.2008 and torqued (4,6NM) by H. Geiger
121121-01 TSS chain pos. 8	03.01.05	PFM, SN 14	,,	Y	Pre-integrated on 03.01.05, adjusted and tensioned on 17.1.05 load cells remounted on 07.08.06 adjusted to 5-6kN;adjustment 26.10.06 to 25 Nm

All rights reserved, 2007, Thales Alenia Space

Equipment / CI-No.	Integr. Date	Model, Serial No	ABCL Ref. (or EIDP)	Qualified	Remarks / Open Work / NCR's
					End caps installed on 14.05.2008 and torqued (4,6NM) by H. Geiger
121121-02 TSS chain pos. 9	04.01.05	PFM, SN 11	,,	Y	Pre-integrated on 04.01.05, adjusted and tensioned on 17.1.05 load cells remounted on 07.08.06 adjusted to 5-6kN;adjustment 26.10.06 to 25 Nm
121121-02 TSS chain pos. 10	04.01.05	PFM, SN 9	,,	Y	Pre-integrated on 04.01.05, adjusted and tensioned on 17.1.05 load cells remounted on 07.08.06 adjusted to 5-6kN;adjustment 26.10.06 to 25 Nm
121121-02 TSS chain pos. 11	04.01.05	PFM, SN 17	,,	Y	Pre-integrated on 04.01.05, adjusted and tensioned on 17.1.05 load cells remounted on 07.08.06 adjusted to 5-6kN;adjustment 26.10.06 to 25 Nm
121121-02 TSS chain pos. 12	04.01.05	PFM, SN 6	,,	Y	Pre-integrated on 04.01.05, adjusted and tensioned on 17.1.05 load cells remounted on 07.08.06 adjusted to 5-6kN;adjustment 26.10.06 to 25 Nm
121121-02 TSS chain pos. 13	04.01.05	PFM, SN 5	,,	Y	Pre-integrated on 04.01.05, adjusted and tensioned on 17.1.05 load cells remounted on 07.08.06 adjusted to 5-6kN;adjustment 26.10.06 to 25 Nm
121121-02 TSS chain pos. 14	04.01.05	PFM, SN 12	,,	Y	Pre-integrated on 04.01.05, adjusted and tensioned on 17.1.05 A cut was missing in outer MLI blanket. Photos taken, cut made with sharp scissors load cells remounted on 07.08.06 adjusted to 5-6kN;adjustment 26.10.06 to 25 Nm End caps installed on 14.05.2008 and torqued (4,6NM) by H. Geiger
121121-02 TSS chain pos. 15	04.01.05	PFM, SN 15	,,	Y	Pre-integrated on 04.01.05, adjusted and tensioned on 17.1.05 load cells remounted on 07.08.06 adjusted to 5-6kN;adjustment 26.10.06 to 25 Nm End caps installed on 14.05.2008 and torqued (4,6NM) by H. Geiger
121121-02 TSS chain pos. 16	04.01.05	PFM, SN 8	,,	Y	Pre-integrated on 04.01.05, adjusted and tensioned on 17.1.05 load cells remounted on 07.08.06 adjusted to 5-6kN;adjustment 26.10.06 to 25 Nm End caps installed on 14.05.2008 and torqued (4,6NM) by H. Geiger
121121-04 Strap pre-tensioning devices	22.-24.09.04	PFM	HP-2-ECD-AB-0001, Issue 1, 29.07.04	y	Leak test after integration was successful
121122-01 Upper SFW	19.10.04 19.07.06	PFM	HP-2-HTSZ-LI-0008 Iss. 2, 23.10.03	y	Lateral struts adjusted and 21 Nm applied on bolt nuts; wire locking on all struts performed ASED-NC-0481, X-ray investigation of all strut fittings performed, all are ok. New Al-angles and Vespel stand-offs glued with EC 2216 on Y-side of frame, SD-0101
121122-02 Lower SFW	05.05.04 27.06.06	FM, SN 01	HP-2-HTSZ-LI-0008 Iss. 2, 23.10.03	y	wire locking on struts performed; New stand-offs and sensors on LSFW acc. to ASED-SD-0 Harness Brackets Struts SLI on LSFW installed acc to AC 0102
121131 Cryo Cover incl. Top Plate	22.05.07	PFM, SN 01	HP-2-AAE-AB-0002, Issue 3, 14.05.07	y	NC-2316: Rework on cryo cover mirror, mirror polished. Deintegrated and shipped to AAE 02.04.2007 K.R.

All rights reserved, 2007, Thales Alenia Space

Equipment / CI-No.	Integr. Date	Model, Serial No	ABCL Ref. (or EIDP)	Qualified	Remarks / Open Work / NCR's
					Final Integrated acc. PR-0091 22.05.2007 K.R.
121132 Cryo Baffle	22.05.07	PFM, SN-01	HP-2-AAE-AB-0003, issue 2, 31.05.05	y	HP-2-AAE-MA-0004 Baffle cover removed for inspection on 7.12.05, re-mounted on 22.12.06 Removed 05.04.2006 HP-2-ASED-SD-0093 Final Integrated acc. PR-0091 22.05.2007 K.R.
121140 Optical Bench Assembly	into CVV on 24.01.05 24.07.06	PFM, SN 003	HP-2-SEN-AB-0002 Issue 2, 16.11.04 additional holes acc. to NC-0678 and HP-2-ASED-ID-0096 OBHCL1 modified iaw. HP-2-ASED-DW-0234-01-0A	y	NC-0644: Several heli-coils were not mounted properly, replaced by ASED NC-0565: Cooling loop interference, rework performed by AIRL NC-0961: OBA labels covered with AL-tape MLI Straylight covers mounted on L 0 –Pod MLI SPIRE cooler pump and evaporator , Stray Light Cover, L 0 –Pod MLI SPIRE Detector , Stray Light Cover, HIFI LO, PACS Cooler Pump and Evaporator, PACS LO, according to HP-2-ASED-PR-0059_as run OBA cooling loop: straylight protection orifices mounted on inlet, add. holes for T-sensors drilled in OBHCL1 iaw. HP-2-ASED-DW-0234-01-0A
121140 L0 Light tightness devices	19.01.05	PFM	HP-2-SEN-AB-0002 Issue 2, 16.11.04 (HP-2-SEN-DW-2200)	y	incl. harness routing, modified acc. to ASED-SD-0101
121140 OBA	24.01.05	PFM	OBA integration status list of 24.01.05	y	shimmed and aligned Tubing fit check: 4 mm offset in X-dir. OBA outlet tube / shield inlet, on 1.2.05 adjusted with 2 mm shims at tripod
121141 Fixation bars for HIFI harness brackets	04.01.2005	PFM	HP-2-ASED-DW-0080-01-0A, NC-0678	n. a.	4 additional holes drilled into OB plate acc. to HP-2-ASED-ID-0096-01-0A “OB Fixation Bar I/F”, four harness bracket nuts mounted with one screw each, see NC-0678 Cut-out Cover 3 removed 11.05.2006
121142 OB instrument shield	27.11.07	PFM	HP-2-SEN-AB-0002 issue 2, 16.11.2004	y	Pre-integration acc. to HP-2-ASED-DW-0140-01-0A NC-0961: OBA labels covered with AL-tape Harness for T211, T212, T213 connected and tested AL-tapes applied on gaps for straylight protection OBS plate and OBS mounted according to HP-2-ASED-PR-0064 on 24.07.06 NC-xxxx: OBS plate reworked, see pics. 1082 &1083 of 21.7.06 Removal for PACS FPU final el. connection acc.PR0049 H.G. Final integration acc.PR-0064 K.R. Removal acc.PR-0049 Iss.3 20.11.2007 Final integration acc. PR-0064_2 H.G.; R.H.; ASED-NC-3795, OBS cover on HIFI side reworked
121142-01 HIFI Baffle Assy	27.11.07	PFM	HP-2-ASED-DW-0090-01-0A HP-2-ASED-DW-0131-01-0B	y	De- integrated from PLM 26.04.2006, re-mounted acc. to PR-0064. OBS baffle DW-0131 is black anodized. Re-integrated during final closure acc. ASED-PR-0064_2, H.G.
121144 **Thermal links**					Integration of thermal flex links is reported in HP-2-ASED-SD-0004
121144-01 PACS Evaporator, L0 Open Pod	11.6.04 11.07.07	H-0400-E-150	HP-2-AIRL-AB-0002, issue 1, 27.05.2004	y	Integrated by Airl (protective cover installed) Integr. procedure: HP-2-AIRT-PR-0001 Final integrated on PACS acc. PR-0089 by MPE 10.07.07
121144-01 PACS Evaporator	08.05.07 11.07.07	2000_14C101 S/N:1	HP-2-AIRL-AB-0002, issue 1, 27.05.2004	y	integr. by ASED acc. to HP-2-ASED-PR-0026 NC-0807: Thermal I/F improved:CQM removed 19.04.2007 Geiger;NC-3256

All rights reserved, 2007, Thales Alenia Space

Equipment / CI-No.	Integr. Date	Model, Serial No	ABCL Ref. (or EIDP)	Qualified	Remarks / Open Work / NCR's
flex link					Re-Integration acc-PR-0086 T.Bayer 08.05.2007 Final integrated on PACS acc. PR-0089 by MPE 10.07.07
121144-01 SPIRE Evaporator, L0 Open Pod	11.6.04	H-0400-E-149	HP-2-AIRL-AB-0002, issue 1, 27.05.2004	y	Integrated by Airl (protective cover installed) Integr. procedure: HP-2-AIRT-PR-0001
121144-01 PACS L0 cooler evaporator rigid pod	26.11.04 11.07. 07	H-0400-E-121	HP-2-AIRL-AB-0004, issue 2, 29.09.2004	y	Final integrated on PACS acc. PR-0089 by MPE 10.07.07
121144-01 PACS L0 cooler evaporator flex link	13.01.05 11.07.07	H-0400-E-110	HP-2-AIRL-AB-0004, issue 2, 29.09.2004	y	integr. by ASED acc. to HP-2-ASED-PR-0026 Final integrated on PACS acc. PR-0089 by MPE 10.07.07
121144-01 PACS L0 cooler pump rigid pod	26.11.04 11.07.07	H-0400-E-105	HP-2-AIRL-AB-0004, issue 2, 29.09.2004	y	Final integrated on PACS acc. PR-0089 by MPE 10.07.07
121144-01 PACS L0 cooler pump flex link	08.05.07 11.07.07	2000_14C102 S/N1	HP-2-AIRL-AB-0004, issue 2, 29.09.2004	y	integr. by ASED acc. to HP-2-ASED-PR-0026 NC-0807: Thermal I/F improved CQM removed 19.04.2007 Geiger;NC-3256 Re-Integration acc-PR-0086 T.Bayer 08.05.2007 Final integrated on PACS acc. PR-0089 by MPE 10.07.07
121144-01 PACS L0 red detector rigid pod	11.07.07	H-0400-E-108	HP-2-AIRL-AB-0004, issue 2, 29.09.2004	y	Final integrated on PACS acc. PR-0089 by MPE 10.07.07
121144-01 PACS L0 red detector flex link	08.05.07 11.07.07	520_5119_2A S/N.III	HP-2-AIRL-AB-0004, issue 2, 29.09.2004	y	integr. by ASED acc. to HP-2-ASED-PR-0026, NC-0434; NC-0807: Thermal I/F improved CQM removed 19.04.2007 Geiger;NC-3256 Re-Integration acc-PR-0086 T.Bayer 08.05.2007 Final integrated on PACS acc. PR-0089 by MPE 10.07.07
121144-01 PACS L0 blue detector rigid pod	20.01.05 11.07.07	H-0400-E-122	HP-2-AIRL-AB-0004, issue 2, 29.09.2004	y	Final integrated on PACS acc. PR-0089 by MPE 10.07.07
121144-01 PACS L0 blue detector flex link	07.05.07 11.07.07	520_5118_2A S/N:II	HP-2-AIRL-AB-0004, issue 2, 29.09.2004	y	integr. by ASED acc. to HP-2-ASED-PR-0026; fixed to MTD on 08.02.05 NC-0807: Thermal I/F improved CQM removed 19.04.2007 Geiger;NC-3256 Re-Integration acc-PR-0086 T.Bayer 07.05.2007 Final integrated on PACS acc. PR-0089 by MPE 10.07.07
121144-01 SPIRE L0 cooler evaporator rigid pod	06.12.04	H-0400-E-117	HP-2-AIRL-AB-0004, issue 2, 29.09.2004	y	NC-0571: defect heli-coils replaced by ASED NC-2301: Discolouration of gold plating
121144-01 SPIRE LO cooler pump rigid pod	06.12.04	H-0400-E-117	HP-2-AIRL-AB-0004, issue 2, 29.09.2004	y	NC-0571: defect heli-coils replaced by ASED NC-2301: Discolouration of gold plating
121144-01 SPIRE L0 SM detector rigid pod	26.11.04	H-0400-E-106	HP-2-AIRL-AB-0004, issue 2, 29.09.2004	y	
121144-01 HIFI L0 rigid pod	06.12.04	H-0400-E-107	HP-2-AIRL-AB-0004, issue 2, 29.09.2004	y	NC-0571: defect helicoils replaced by ASED

All rights reserved, 2007, Thales Alenia Space

Equipment / CI-No.	Integr. Date	Model, Serial No	ABCL Ref. (or EIDP)	Qualified	Remarks / Open Work / NCR's
121144-01 HIFI L0 flex link	24.07.2007	H-0400-E-114 STM	HP-2-AIRL-AB-0004, issue 2, 29.09.2004	y	NC-0434; SRON-NC-0653: Modified by removing 10 Cu-layers, perf. on 5.4.05 Removed on 12.07.06 H.G.; N/A for STM2 test Final integration H.G. acc. HP-2-ASED-PR-0090_1
121144-02 L1 PACS Photometer Thermal Link	10.02.05 11.07.07	PFM	HP-2-AIRL-AB-0003 issue 1, 30.07.2004		Torque on M4: 2.1 Nm + RT;Torqued with 3,25 Nm Final integrated on PACS acc. PR-0089 by MPE & H.G: 11.07.07
121144-02 L1 PACS Collimator Thermal Link	08.02.05 11.07.07	PFM	HP-2-AIRL-AB-0003 issue 1, 30.07.2004		Torque on M4: 2.1 Nm + RT ;Torqued with 3,25 Nm Final integrated on PACS acc. PR-0089 by MPE & H.G: 11.07.07
121144-02 L1 PACS Spectrometer Thermal Link	08.02.05 11.07.07	PFM	HP-2-AIRL-AB-0003 issue 1, 30.07.2004		Torque on M4: 2.1 Nm + RT;Torqued with 3,25 Nm Final integrated on PACS acc. PR-0089 by MPE & H.G: 11.07.07
121144-02 L1 SPIRE 1 Thermal Link	29.05.06	PFM	HP-2-AIRL-AB-0003 issue 1, 30.07.2004		Procedure Variation on torque: M4: 2.1 Nm + RT; M8: 10.5 Nm acc. to SPIRE ICD Remounted acc HP-2-ASED-PR-0061_1
121144-02 L1 SPIRE 2 Thermal Link	29.05.06	PFM	HP-2-AIRL-AB-0003 issue 1, 30.07.2004		Remounted acc HP-2-ASED-PR-0061_1 Final integration H.G. acc. HP-2-ASED-PR-0090_1
121144-02 L1 HIFI Thermal flex Link	24.07.2007	PFM	HP-2-AIRL-AB-0003 issue 1, 30.07.2004		Torque on M4: 2.1 Nm + RT Removed on 12.07.06; N/A for STM2 test
121144-03 L3 JFET 6 (P) Thermal Link	29.05.06	PFM	HP-2-AIRL-AB-0003 issue 1, 30.07.2004		Remounted acc. HP-2-ASED-PR-0061_1
121144-03 L3 JFET 2 (S) Thermal Link	29.05.06	PFM	HP-2-AIRL-AB-0003 issue 1, 30.07.2004		Remounted acc. HP-2-ASED-PR-0061_1
121210 HTT	25.5.04	PFM, SN01	HP-2-AIR-AB-0001 Iss. 2, 22.7.04	y	
121221 PPS	10.6.04	PFM, SN01	HP-2-LIND-AB-3511 Iss. 4, 19.1.04	y	NCR-0256 Helicoflex HN 100 used instead of HN 200
121222 DLCM 1	25.5..04	PFM, SN01	HP-2-LIND-AB-4511 Iss. 4, 19.1.04	y	-y position, Ty-rap fixed with AL-tape, NCR-0256 Helicoflex HN 100 used instead of HN 200; SLI covered acc. to ASED-PR-0059
121222 DLCM 2	25.5.04	FM, SN02	HP-2-LIND-AB-4512 Iss. 4, 19.1.04	y	+y position, Ty-rap fixed with AL-tape, NCR-0256 Helicoflex HN 100 used instead of HN 200; SLI covered acc. to ASED-PR-0059
121223 **Cryo Components**					General: all VCR initially torqued 45°, after detecting leak at V701/702 25° added to each valve VCR connection around lower SFW
121223-01 L101	25.5.04	PFM, SN01	HP-2-LIND-AB-5611 Iss. 3, 28.11.03	y	+y position NCR-0256 Helicoflex HN 100 used instead of HN 200 See NCR HP-2-ASED-NC-121223-ASED-NC-2339 pin bended Protection cover removed prior to cryostat closure
121223-01 L102	03.05.07	FM, SN02	HP-2-LIND-AB-5612 Iss. 3, 28.11.03	y	+y / -z position NCR-0256 Helicoflex HN 100 used instead of HN 200 Protection cover removed prior to cryostat closure NC-2659: LLP L 102 Zero reading on SCOE STM2 Ex-changed the L102 acc. PR-0088 03.05.07 M.L.
121223-02 L 701	03.05.07	PFM, SN 03	HP-2-LIND-AB-5513 Iss. 3, 28.11.03	y	Protective cover removed before LBTS1 mounting Protection cover removed prior to cryostat closure NC-2590: Ex-changed the L701 acc. PR-0088 03.05.07 M.L. (leak)

All rights reserved, 2007, Thales Alenia Space

Equipment / CI-No.	Integr. Date	Model, Serial No	ABCL Ref. (or EIDP)	Qualified	Remarks / Open Work / NCR's
121223-02 L 702	29.03.04	FM, SN 02	HP-2-LIND-AB-5512 Iss. 3, 28.11.03	y	Protective cover removed before LBTS1 mounting Protection cover removed prior to cryostat closure
121224-02 H 701	30.07.04	FM 03	HP-2-ASED-DP-0035 Iss. 1, 17.03.04	y	incl. connector brackets
121224-02 H702	30.07.04	FM 04	HP-2-ASED-DP-0035 Iss. 1, 17.03.04	y	incl. connector brackets
121224-02 H103	3.8.04	FM01	HP-2-ASED-DP-0035 Iss. 1, 17.03.04	y	SLI covered acc. to ASED-PR-0059
121224-02 H104	3.8.04	FM02	HP-2-ASED-DP-0035 Iss. 1, 17.03.04	y	SLI covered acc. to ASED-PR-0059
121224-03 Ventline Heater H501	13.05.05	PFM, SN 1	HP-2-LIND-AB-7511, Issue 2, 17.03.05	y	Part of harness integrated by ASED acc. to CCH-PFM Wiring list NC-2305: Power cables of H501 partially bent - use as is.
121225 RD 724	29.03.04	FM2, SN 311148/4	HP-2-ASED-DP-0042 Iss. 1, 18.03.04	y	NC-0212: Mounted with HN 100 seal instead of HN 200; HP-2-ASED-DP-0042 includes Rembe EIDP HP-2-REMB-DP-0081(1) protective cover removed, RD housing SLI covered acc. to ASED-PR-0059
121225 RD124	24.11.04	FM1, SN 311148/9	HP-2-ASED-DP-0042 Iss. 1, 18.03.04	y	NC-0212: Mounted with HN 100 seal instead of HN 200 HP-2-ASED-DP-0042 includes Rembe EIDP HP-2-REMB-DP-0081(1) SLI covered acc. to ASED-PR-0059, protective cover removed
121226-01 SV 723	24.11.04	FS2, SN IA-81824/1/4	HP-2-ASED-DP-0040 Iss. 1, 18.03.04	y	with VCR coupling SLI covered acc. to ASED-PR-0059
121226-01 SV 123	26.01.05	FM1, SN IA-81824/1/1	HP-2-ASED-DP-0040 Iss. 1, 18.03.04	y	with flanges, helicoflex seals installed, final torque on flange bolts applied fits without the shims from the dummy!
121226-02 SV 521	16.09.05	SN 02	Swagelock SS-12C-VCR-WD-5 HP-2-ASED-DP-0037, Issue -	y	Qualified acc. SD-0136 see NC-2452 HP-2-ASED-TR-0097, issue 1, 26.09.05
121226-03 SV 921	30.04.08	SN 02	HP-2-ASED-DP-0039, issue -, 16.03.04	Y	Flange 922-3, +plate 922-2 mounted on -Y M6 x 35 Fixationscrews torqued with 7 Nm acc. to Stoehr drwing 08-616 issue 05.05.03 Vacuumpump mounted on SV921 place; 07.08.06 SV921 should be tested after Mech.Test AI: Hans Huber SV921 is tested acc.SD-0136 see NC 2452 SV921 integrated acc. HP-2-STOE-ID-0001 H.Huber 19.01.2007 T=7 Nm; Removed for Evacuation TB/TV test;J.Huber 23.01.2007; re-integrated acc. HP-2-STOE-ID-0001 H.Huber 23.01.2007; Removal after abort 27.01.2007 Huber; Vacuum pump mounted Installed for restart TB/TV test 04.02.2007 A.Runge; Removed after TB/TV test acc.SD-0151 28.02.2007 A.Runge; re-installed for Transport acc. PR-0036 05.03.2007 Huber J. Removed acc PR-0045 Issue2 R.K. 23.03.07 Vacuum Pump inst. 11.01.2008 at Estec SV921 installed acc. HP-2-ASED-SD-0322 M.Langfermann SV921 removed and Vacuum Pump installed at ESTEC (16.10.08), Langfermann Vacuum Pump removed and SV921 installed at ESTEC (23.10.08), Langfermann

All rights reserved, 2007, Thales Alenia Space

Equipment / CI-No.	Integr. Date	Model, Serial No	ABCL Ref. (or EIDP)	Qualified	Remarks / Open Work / NCR's
121226-03 SV 922	07.08.06	SN 03	HP-2-ASED-DP-0039, issue -, 16.03.04	Y	Flange 922-2, +plate 922-4 mounted on +Y M6 x 35 Fixationscrews torqued with 7 Nm acc. to Stoehr drwing 08-616 issue 05.05.03 SV 922 should be tested after Mech.Test AI: Hans Huber SV 922 is tested acc. SD-0136 see NC 2452
121227 Adsorbers	23.05.07 14.08.07	- X-FM SN ?? +X-FM SN 05-SN 21	HP-2-ASED-DP-0064, issue 1	y	Not mounted since not needed on STM level Non used I/Fs covered with SLI blankets and tape, ref. HP-2-ASED-PR-0059-1_as_run Final integrated of 3 Adsorbers at lower Part acc. PR-0094 Final integrated of 17 Adsorbers at upper part acc.PR-0094 14.08.2007
121228-01 External Filling Port	10.08.06	PFM	HP-2-LIND-AB-6611, iss. 3, 13.12.04	y	External Filling Port Re-integrated on 10.08.06 Viton ring 169,2x 5,7 STM taken, MA 7,5 Nm Pressure plate S/N 02 PFM integrated 10.08.06 torqued with 10Nm Helicoflex seal HNV 200 batch 138512/ 03; 29.09.2005 used
121228-02 Internal Filling Port with OD 101	06.12.07	Int. FP: SN01 OD 101: SN 2	HP-2-LIND-AB-6511 Iss. 4, 11.02.05	y	LIND-NC-0546: Weak design, stiffener bonded on tube weld on 11.02.05 ASED-NC-0905: I/F from Y201 transferline to the ext. FP did not fit, repaired, closed NC-1174: I/F sealing surface reworked according to HP-2-ASED-SD-0116_REWORK OF SEALING SURFACE ON UPPER BULKHEAD AND FILLINGPORT Helicoflex sealing used HN200, Helicoflex 122.3 x 132.1 x 4.9 Retorqued finally to MA: 24,3Nm OD 101 integrated 24.10.06, OD removed according DW at ESTEC 16.11.2006
121228-02 Thermal Strap (filling port to TS1)	19.05.05	PFM	HP-2-AIRT-ID-1084-00-A1, 05.01.05 HP-2-AIRT-AB-0003, issue 2		Improved according to HP-2-ASED-PR-0059
121231 V 105	23.11.04	FM1, SN 3R	HP-2-ASIP-AB-0004 Iss. 3, 29.09.04	y	HP-2-ASIP-RD-0001/-0002/-0003/-0004, HP-2-ASED-RD-0024 SLI covered acc. to ASED-PR-0059
121231 V 701	23.11.04	FM3, SN 5R	HP-2-ASIP-AB-0006 Iss. 3, 11.10.04	y	HP-2-ASIP-RD-0001/-0002/-0003/-0004, HP-2-ASED-RD-0024 SLI covered acc. to ASED-PR-0059
121231 V 702	23.11.04	FM4, SN 6R	HP-2-ASIP-AB-0007 Iss. 3, 21.10.04	y	HP-2-ASIP-RD-0001/-0002/-0003/-0004, HP-2-ASED-RD-0024 NC-0812: Incorrect pin allocation for heater foil, use as is, change on EGSE harness SLI covered acc. to ASED-PR-0059
121231 V102	15.04.05	FM 5, SN07	HP-2-ASIP-AB-0008 Iss. 3, 02.11.04	y	NC-0530: Pull in current scatter high - use as is. NC-0011/NC-0017: Change from Cajon- to Hope glands El- I/F Connector covered with kapton acc. To NCR 2437. MLI cover (BBP 1413, 1641 SBP 400-08) repaired iaw. NC-1609 and applied, stainless steel bonding leads mounted; ASED-PR-0060
121231 V103	15.04.05	FM 8, SN10	HP-2-ASIP-AB-0012 Iss. 2, 04.03.05	y	NC-0011/NC-0017: Change from Cajon- to Hope glands El- I/F Connector covered with kapton acc. To NCR 2437. MLI cover (BBP 1408, 1577 SBP 400-10) repaired iaw. NC-1609 and applied, stainless steel bonding leads mounted;ASED-PR-0060

All rights reserved, 2007, Thales Alenia Space

Equipment / CI-No.	Integr. Date	Model, Serial No	ABCL Ref. (or EIDP)	Qualified	Remarks / Open Work / NCR's
121231 V104	24.02.2005	FM 7, SN09	HP-2-ASIP-AB-0010 Iss. 3, 28.01.05	y	NC-0011/NC-0017: Change from Cajon- to Hope glands El- I/F Connector covered with kapton acc. To NCR 2437. MLI cover (BBP 1482, 1470 SBP 400-09) repaired iaw. NC-1609 and applied, stainless steel bonding leads mounted; ASED-PR-0060
121231 V106	15.04.05	FM 9, SN11	HP-2-ASIP-AB-0013 Iss. 2, 17.03.05	y	NC-0011/NC-0017: Change from Cajon- to Hope glands El- I/F Connector covered with kapton acc. To NCR 2437. MLI cover (BBP 1510, 1488 SBP 400-01) repaired iaw. NC-1609 and applied, stainless steel bonding leads mounted; ASED-PR-0060
121232 Liquid Helium Valve V 501	22.08.05	FM 10 S/N 12	HP-2-ASIP-AB-0014, issue 2, 15.06.05	y	Valve 501 should be tested after Mech.Test AI: Hans Huber Valve 501 is tested see NC 2452
121232 Liquid Helium Valve V 503	22.08.05	FM 11 S/N 13	HP-2-ASIP-AB-0015, issue 2, 15.06.05	y	
121232 Liquid Helium Valve V 504	22.08.05	FM 12 S/N 14	HP-2-ASIP-AB-0016, issue 2, 07.07.05	y	
121232 Liquid Helium Valve V 505	22.08.05	FM 13 S/N 15	HP-2-ASIP-AB-0017, issue 2, 07.07.05	y	
121241-01 HTT HST	see below & 19.06.06	PFM, SN01	HP-2-AIRT-AB-0003 Iss. 2, 22.07.04	y	Pipe supports improved wrt thermal behavior in lower HTT area according to HP-2-ASED-SD-0099_Thermal_Decoupling_of_Tubing_Suppor, see as run
121241-01 Line 1 of HOT HST	y		HP-2-AIRT-AB-0001 (2)	y	mounted with 3 brackets on HTT
121241-01 Line 1	y		HP-2-AIRT-AB-0003 (2)	y	
121241-01 Support bkt 16	y		HP-2-AIRT-AB-0003 (2)	y	
121241-01 Line 2	11.6.04		HP-2-AIRT-AB-0003 (2)	y	
121241-01 Support bkt 15	11.6.04 & 29.06.06		HP-2-AIRT-AB-0003 (2)	y	Pipe support improved wrt thermal behavior in lower HTT area according to HP-2-ASED-SD-0099_Thermal_Decoupling_of_Tubing_Support see as run
121241-01 Support bkt 17	11.6.04		HP-2-AIRT-AB-0003 (2)	y	
121241-01 Support bkt 18	11.6.04 & 29.06.06		HP-2-AIRT-AB-0003 (2)	y	Pipe support improved wrt thermal behavior in lower HTT area according to HP-2-ASED-SD-0099_Thermal_Decoupling_of_Tubing_Support see as run
121241-01 Line 3	11.6.04		HP-2-AIRT-AB-0003 (2)	y	NCR-279, holes elongated to fit to SV123 (angular displacement at I/F flange) NCR-273, tube re-bent to fit to V104
121241-01 Support bkt 6	11.6.04		HP-2-AIRT-AB-0003 (2)	y	
121241-01 Support bkt 19	11.6.04		HP-2-AIRT-AB-0003 (2)	y	
121241-01	11.6.04		HP-2-AIRT-AB-0003 (2)	y	

All rights reserved, 2007, Thales Alenia Space

Equipment / CI-No.	Integr. Date	Model, Serial No	ABCL Ref. (or EIDP)	Qualified	Remarks / Open Work / NCR's
Line 4					
121241-01 Support bkt 1	8.6.04 & 19.06.06		HP-2-AIRT-AB-0003 (2)	y	Pipe support improved wrt thermal behavior in lower HTT area according to HP-2-ASED-SD-0099_Thermal_Decoupling_of_Tubing_Support see as run, SLI covered acc. to ASED-PR-0059
121241-01 Support bkt 9	8.6.04 & 19.06.06		HP-2-AIRT-AB-0003 (2)	y	Pipe support improved wrt thermal behavior in lower HTT area according to HP-2-ASED-SD-0099_Thermal_Decoupling_of_Tubing_Support see as run SLI covered acc. to ASED-PR-0059
121241-01 Support bkt 27	8.6.04 & 19.06.06		HP-2-AIRT-AB-0003 (2)	y	Pipe support improved wrt thermal behavior in lower HTT area according to HP-2-ASED-SD-0099_Thermal_Decoupling_of_Tubing_Support see as run SLI covered acc. to ASED-PR-0059
121241-01 Support bkt 11,12,13	8.6.04		HP-2-AIRT-AB-0003 (2)	y	
121241-01 Support bkt 14	8.6.04		HP-2-AIRT-AB-0003 (2)	y	
121241-01 Line 5	19.01.05		HP-2-AIRT-AB-0005 (2)	y	to filling port
121241-01 Support bkt 5 & 35	19.01.05 & 19.06.06		HP-2-AIRT-AB-0005 (2)	y	Pipe supports 5 & 35 improved wrt thermal behavior in lower HTT area according to HP-2-ASED-SD-0099_Thermal_Decoupling_of_Tubing_Support see as run
121241-01 Line 6	11.6.04		HP-2-AIRT-AB-0003 (2)	y	NCR-273, I/F problems corrected by re-bending
121241-01 Support bkt 31	8.6.04		HP-2-AIRT-AB-0003 (2)	y	
121241-01 Support bkt 22,23,24	8.6.04		HP-2-AIRT-AB-0003 (2)	y	
121241-01 Support bkt 25,26	8.6.04 & 19.06.06		HP-2-AIRT-AB-0003 (2)	y	Pipe supports 25 & 26 improved wrt thermal behavior in lower HTT area according to HP-2-ASED-SD-0099_Thermal_Decoupling_of_Tubing_Support see as run Supports 25 & 26 SLI covered acc. to ASED-PR-0059
121241-01 Line 7	11.6.04		HP-2-AIRT-AB-0003 (2)	y	
121241-01 Support bkt 3	11.6.04		HP-2-AIRT-AB-0003 (2)	y	
121241-01 Line 8	11.6.04		HP-2-AIRT-AB-0003 (2)	y	
121241-01 Support bkt 2	11.6.04		HP-2-AIRT-AB-0003 (2)	y	
121241-01 Support bkt 4	11.6.04		HP-2-AIRT-AB-0003 (2)	y	
121241-01 Line 9	19.01.05		HP-2-AIRT-AB-0005 (2)	y	SV 123 to FP wire locking done
121241-01 Support bkt 20	y		HP-2-AIRT-AB-0005 (2)	y	
121241-01 Support bkt 34	y & 13.07.06		HP-2-AIRT-AB-0005 (2)	y	Pipe support improved wrt thermal behavior in lower HTT area according to HP-2-ASED-SD-0099_Thermal_Decoupling_of_Tubing_Support see as run
121241-01 Support bkt 36	y		HP-2-AIRT-AB-0005 (2)	y	

All rights reserved, 2007, Thales Alenia Space

Equipment / CI-No.	Integr. Date	Model, Serial No	ABCL Ref. (or EIDP)	Qualified	Remarks / Open Work / NCR's
121241-02 HOT HST	on HTT		HP-2-AIRT-AB-0001 Iss. 2, 22.06.04	y	HOT HST "red tags": All removed before LBTS1 mounting • Flushing system • Manometer • Tooling bracket / support, pressure sensor line • Tooling cap pressure sensor line
121241-02 **Line 1**	on HTT		HP-2-AIRT-AB-0001 (2)	y	
121241-02 HOT HST Bkt 7	15.12.04 & 19.06.06		HP-2-AIRT-AB-0001 (2)		mounted on lower SFW Pipe support improved wrt thermal behavior in lower HTT area according to HP-2-ASED-SD-0099_Thermal_Decoupling_of_Tubing_Support see as run
121241-02 HOT HST Bkt 10	on HTT		HP-2-AIRT-AB-0001 (2)		
121241-02 HOT HST Bkt 11	on HTT		HP-2-AIRT-AB-0001 (2)		
121241-02 HOT HST Bkt 12	on HTT		HP-2-AIRT-AB-0001 (2)		
121241-02 **Line 2**	6.5.04		HP-2-AIRT-AB-0001 (2)	y	wire locking line 2 to line 3 done NC-0817: wrong routing, clash with TS, reworked to fit by bending - closed
121241-02 HOT HST Bkt 5	6.5.04		HP-2-AIRT-AB-0001 (2)		
121241-02 HOT HST Bkt 6	6.5.04		HP-2-AIRT-AB-0001 (2)		
121241-02 **Line 3**	6.5.04		HP-2-AIRT-AB-0001 (2)	y	30.6.06: Thermal connection of Line 3 to LSFW improved by mounting a Cu-wire between tube and frame.
121241-02 HOT HST Bkt 2	6.5.04		HP-2-AIRT-AB-0001 (2)		
121241-02 HOT HST Bkt 3	6.5.04		HP-2-AIRT-AB-0001 (2)		
121241-02 **Line 4**	6.5.04		HP-2-AIRT-AB-0001 (2)	y	wire locking line 4 to line 5 done
121241-02 HOT HST Bkt 1	6.5.04		HP-2-AIRT-AB-0001 (2)		
121241-02 **Line 5**	6.5.04 14.07.06		HP-2-AIRT-AB-0001 (2)	y	Pipe supports improved wrt thermal behavior in lower HTT area according to HP-2-ASED-SD-0099_Thermal_Decoupling_of_Tubing_Support see as run
121241-02 HOT HST Bkt 9	6.5.04		HP-2-AIRT-AB-0001 (2)		
121242-01 External Tubing	08.02.2008	PFM	HP-2-AIRT-AB-0006, issue 2, 02.08.05	y	HP-2-ASED-DW-0180-01, issue A, 19.07.05 Hand rails on Pos. V506 is missing & Part 380 missing(Modification of A-frame); all screws are torqued External Tubing removed 30.04.06 Final Integration of external tubing 22.11.2006 acc. SD 0063 Removed acc. SD-0063 Iss.2 22.03.2007 Integrated at Estec acc. PR-0112 J.H.
121242-01 External Tubing Brackets	08.02.2008	PFM	HP-2-ASED-DW-0158-01, issue A, 25.05.05	y	Removed acc. SD-0063 Iss.2 22.03.2007 Integrated at Estec acc. PR-0112 J.H.
121242-04 Nozzle support structure (A-	08.02.2008	PFM	HP-2-ASED-DW-0158-01, issue A, 25.05.05	y	NC-1451: Modified for Radiator Mounting See OW124/closed; removed 31.08.05 Integration on 14.09.2005; Removed 15.09.05 –A-

All rights reserved, 2007, Thales Alenia Space

Equipment / CI-No.	Integr. Date	Model, Serial No	ABCL Ref. (or EIDP)	Qualified	Remarks / Open Work / NCR's
frame)					Frame blocked the Harness Integration, finally integrated 17.09.05; removed 05.04.06 HP-2-ASED-SD-0063 Final integration 21.11.2006 acc. SD 0063 Removed acc. SD-0063 Iss.2 22.03.2007 Integrated at Estec acc. PR-0112 J.H.
121242-04 Mustache	14.01.2009	PFM	HP-2-ASED-DW-0180_B (HP-2-ASED-DW-0325-0320)		Incoming Inspection performed (HP-2-ASED-II-0249) Integration acc. SD-0348 28.05.08 T.B. Removed for HE II production 19.07.08 T.Bayer Final Integration 14.01.2009 acc.SD-0348 Iss.2 HH +HG
121242-05 Thermal link CVV - ext. tubing			TBI		New item, not yet implemented
121242-06 Large Nozzle+ Shims 121242-07 Small Nozzles+ Shims	14.01.2009	PFM Large S/N1; 1,8mm Small S/N 3-4; 1.46 mm	HP-2-ASED-DW-0347-01-0A HP-2-ASED-DW-0353-01-0A HP-2-ASED-DW-0243-01-0C HP-2-ASED-DW-0353-01-0A	Y	Acc. HP-2-ASED-DW-0159-01-0B & HP-2-ASED-DW-0180-04-0A NC-1553: Diameter of big nozzle enlarged to 3.3 mm Remove of STM nozzles and integration of FM nozzles acc. SD 0063 ; 21.11.06, removed 3 Nozzles and 2 distance rings on +Y / -Y side. Exchange sealing ring -> Helicoflex reintegration of Nozzles acc. SD-0063 03.01.07 Removed the small nozzles acc.SD0063 J.H. 24.10.2007SN1=T505;SN2=T506 Re-Integration of small nozzles at A-frame acc.SD0219 J.H. 11.12.2007 Removed the small nozzles acc. SD 0219 13.12.2007 Exchange sealing ring-> Helicoflex reintegration acc. PR-0112 Small Nozzles re-integrated acc. PR-0112 J.H. 06.02.2008 at Estec Nozzles removed acc. SD-0348 28.05.08 for "Mustache" Inegration 2 Small Nozzles integrated on Mustache 28.05.08 T.B. Integr. Of 2 small nozzles 2547-12142-050-01-0C SN 03 & SN 04 Integr. Of 1 large nozzle 2547-121242-055-01-0B SN 01 - removed 29.9.08 Integr. Of 1 large nozzle 2547-121242-059-01-0A SN 01 H.Huber Integration of 2 small nozzles acc. SD-0446 Iss.1 HH + HG included Shims #1 & # 2 NCR raised for large Nozzle-shim(NC-4806)Nozzle can not mounted
121250 HOT	05.05.04	PFM 02	HP-2-AIR-AB-0002 Iss. 2, 01.07.04 except: new Fix. Pads HP-2-ASED-DW-0200-01, A	y	Including 4 adjusted shim pads (FM1 to FM4) between each pad and the lower SFW (ref:HP-2-AIR-DW-2141), shim thickness see HP-2-ASED-PR-0015, para 5.1.12.3* 09.06.05: HOT fixation pads replaced by new ones made from stainless steel, see HP-2-ASED-SD-0098_as_run. Blade thickness 1,21- 1,22mm, old shims from STM campaign used
121263 VG 901 / 902	08.06.05 03.05.07	F-No. 387 / 388 F-No. 394	HP-2-ASED-DP-0036 /1 (Balzers No. BGG 18753)	y	VG 901 see NC-2574: VG 901 not functioning STM2 CVV; Exchange of VG901 (SN387) see NC-2574 03.05.2007 M.L.

THALES
All rights reserved, 2007, Thales Alenia Space

Equipment / CI-No.	Integr. Date	Model, Serial No	ABCL Ref. (or EIDP)	Qualified	Remarks / Open Work / NCR's
121264 Ventline Test Valve V 506	09/2005	SN 02	Swagelock SS-4BG-VCR-HC-TUV HP-2-ASED-TR-0098, issue 1, 23.09.05	y	Valve 506 should be tested after Mech.Test AI: Hans Huber Valve 506 is tested acc. SD.0136 see NC 2452 HP-2-ASED-TP-0038
121311 Lower bulkhead thermal shield 1	25.05.2007	PFM 01	HP-2-AIRS-AB-0003, Issue 1, 17.12.04	Y	Closure of MLI with Cyl. TS on 13.04.05, harness for T421 & T422 connected and tested De-mating 10.05.2006; Re-installed acc.PR-0023 on 03.07.06 Deintegrated 23.03.2007 K.R Final integrated acc.PR-0023 H.G.
121312 Lower bulkhead thermal shield 2	30.05.2007	PFM 01	HP-2-AIRS-AB-0003, Issue 1, 17.12.04	Y	Closure of MLI with Cyl. TS on 20.04.05, harness for T441 & T442 connected and tested NC-0649: I/F holes for T-sensor missing, reworked by ASED, closed. De-mating 10.05.2006; re-installed acc.PR-0023 on 04.07.06 NC-2409: Teflon tube bracket reworked to provide more clearance to TS3 Deintegrated 23.03.2007 K.R Final integrated acc.PR-0023 H.G.
121313 Lower bulkhead thermal shield 3	01.06.07	PFM 01	HP-2-AIRS-AB-0003, Issue 1, 17.12.04	Y	Closure of MLI with Cyl. TS ongoing, harness for T461 & T462 connected and tested De-mating 10.05.2006 Re-installed acc.PR-0023 on 06.07.06 Deintegrated 24.03.2007 K.R Final integrated acc.PR-0023 H.G.
121320 Cyl. Thermal Shields	20.12.04	PFM	HP-2-AIRS-AB-0002, Issue 2, 13.12.04	y	Positioned on Rotary Table around Tanks, supported on Al stands Sensors incl. harness were mounted at AIRS before MLI integration NC-2351: Delamination of NI-coating on cyl. TS1 at TSS 07 I/F, covered with S-425 Al-tape.
121331 Upper bulkhead thermal shield 1	29.11.07	PFM 01	HP-2-AIRS-AB-0004, Issue 2, 24.02.05	y	Harness for T423, T424 & A421, A422 connected and tested NC-1047: Enlarge cut-out at filling port, reworked, closed NC-2448: Cut-outs at TSS chains 5, 6, 7 enlarged due to new SPIRE harness routing Deintegrated 24.03.2007 K.R Final integrated acc.PR-0064 Iss1 22.10.07 Removal acc. PR-0049 Iss.3 14.11.2007 Finally integrated acc. PR-0064_2, harness connected and tested acc. ASED-SD-0190
121331-01 TS1 LOU Baffle	29.11.07	PFM	HP-2-ASED-DW-0125-01-0A		Baffle sheets black anodized acc. To HP-2-ASED-DW-0124-01-0A Modified LOU baffle mounted to TS1 according to HP-2-ASED-SD-0112 Removed acc. PR-0049 T.B. 03.04.07 Final integrated acc.PR-0064 Iss1 22.10.07 Removal acc. PR-0049 Iss.3 14.11.2007 Finally integrated acc. PR-0064_2
121332 Upper bulkhead thermal shield 2	30.11.07	PFM 01	HP-2-AIRS-AB-0004, Issue 2, 24.02.05	y	24.05.2005: Closure of MLI with Cyl. TS, Harness for T443, T444 connected and tested NC-1043: Cut-out reworked; NC-1098: Broken stand off repaired. Re- integrated; NC-2448: Cut-outs at TSS chains enlarged Deintegrated 25.03.2007 K.R Final integrated acc.PR-0064 Iss1 23.10.07 Removal acc. PR-0049 Iss.3 15.11.2007 Finally integrated acc. PR-0064_2, harness connected and tested acc. ASED-SD-0190

All rights reserved, 2007, Thales Alenia Space

Equipment / CI-No.	Integr. Date	Model, Serial No	ABCL Ref. (or EIDP)	Qualified	Remarks / Open Work / NCR's
					ASED-NC-3807: Broken stand-off
121332 Entrance Baffle	30.11.07	PFM	HP-2-AIRS-AB-0004, Issue 2, 24.02.05	y	Re- integrated Removed acc. PR-0049 T.B. 03.04.07 Final integrated acc.PR-0064 Iss1 23.10.07 Removal acc.PR-0049 Iss.3 15.11.2007 Finally integrated with TS 2 acc. PR-0064_2
121332 LOU Baffle	04.12.07	PFM	HP-2-AIRS-AB-0004, Issue 2, 24.02.05	y	Re- integrated with new HIFI stray light baffle Removed acc. PR-0049 T.B. 03.04.07 Final integrated acc.PR-0064 Iss1 23.10.07 Removal acc.PR-0049 Iss.3 15.11.2007 Finally integrated acc. PR-0064_2
121332 LOU Window Plate	04.12.07	PFM			Re- integrated acc. To HP-2-ASED-TP-0064 Removed acc. PR-0049 T.B. 03.04.07 Final integrated acc.PR-0064 Iss1 23.10.07 Removal acc.PR-0049 Iss.3 15.11.2007
121333 Upper bulkhead thermal shield3	04.12.07	PFM 01	HP-2-AIRS-AB-0004, Issue 2, 24.02.05	Y	02.06.2005: Closure of MLI with Cyl. TS, Harness for T463, T464 connected and tested NC-1044: Cut-out reworked Re- integrated; NC-2448: Cut-outs at TSS chains enlarged due to re-routed harness Deintegrated 26.03.2007 K.R Final integrated acc.PR-0064 Iss1 05.11.2007 Removal acc.PR-0049 Iss.3 15.11.2007 Finally integrated acc. PR-0064_2, harness connected and tested acc. ASED-SD-0190
121341 MLI on lower bulkhead thermal shields	01.06.07 By AAEM	PFM 01	HP-2-AAEM-LI-0024, Issue 1, 11.08.04	Y	Stand offs inside all 3 LB shields covered with AL tape (close out of open work item) NC-0946: Small damages on MLI repaired MLI at TSS chain feed throughs closed acc. To NC-0950 Partly opened for TS De-Mating 11.05.2006, finally closed 10.07.06 Partly opened for TS De-Mating 26.03.07 AAEM Finally closed acc.HP-2-AAEM-PR-0003 J.H.
121342 MLI on cyl. Th. Shields	by AAEM 11/04	PFM	HP-2-AAEM-LI-0024, Issue 1, 11.08.04	y	MLI was integrated on Cy. Shields by AAEM at AIRS before shields delivery NC-0483: Cut-outs on MLI templates do not fit to cyl. TS, reworked, closed.
121343 MLI on upper bulkheads thermal shields	01.06.2005 by AAEM 06.07.06 05.11.2007 by AAEM 05.12.07 by AAEM	PFM 01	HP-2-AAEM-LI-0024, Issue 1, 11.08.04	Y	Stand offs inside UB shield 1 covered with AL tape, 20.4. (close out of open work item) Partly removed for De-Mating of TS; NC-2295: Damages found on MLI – closed. New final installation 06.07.06 by AAEM see PR-0023; see IR42 Cu bonding leads replaced by steel leads acc. To ASED-PR-0060 NC-2459: MLI repaired with Mylar-VDA tapes, additional SLI patches on TS1 MLI. Partly opened for TS De-Mating 26.03.07 AAEM 28 Final closure acc.HP-2-AAEM-PR-0003 J.H. 05.11.2007 Partly opened for TS De-Mating 16.11.2007 AAEM, Finally closed acc.HP-2-AAEM-PR-0003 J.H. 05.12.2007 ASED-NC-3789: MLI degraded
121343-02 LOU Baffle MLI	30.05.2008	PFM	HP-2-AAEM-LI-0024, Issue 1, 11.08.04	y	NC-1162: LOU Baffle MLI bonding leads not connected for STM Modified and re-integrated, HP-2-ASED-RP-0204 See also AAEM-PR-0003 as run Fit-check on LOU AAEM 28.05.08 Final Integration acc. PR-0098 by AAEM 30.05.08

THALES
All rights reserved, 2007, Thales Alenia Space

Equipment / CI-No.	Integr. Date	Model, Serial No	ABCL Ref. (or EIDP)	Qualified	Remarks / Open Work / NCR's
121345 HTT MLI	30.09.- 08.10.04	PFM	HP-2-AAEM-LI-0024 Iss. 1.0, 11.08.04 & HP-2-ASED-PR-0059_1_AS_RUN	y	IRR: HP-2-ASED-MN-0770; Procedure: HP-2-AAEM-PR-0003 (1) See HP-2-ASED-PR-0059_1_AS_RUN: modification performed in order to close open areas and mount SLI patches over Accelerometer, heater, DLCM 1 and 2, H103, H104, not needed interface flanges (Adsorber I/F)
121345 MLI grounding wires	y	PFM	HP-2-AAEM-LI-0024 Iss. 1.0, 11.08.04		See HP-2-ASED-PR-0059_1_AS_RUN
121345-01 L0 pods MLI	LB 19.07.06 UB 28.07.06	PFM	HP-2-ASED-DW-0212/213/....225/226-01-0A HP-2-ASED-RP-0203, issue 1		L0 pods SLI covered acc. To HP-2-ASED-PR-0059_1_AS_RUN
121345-02 SV 123 MLI cap	27.07.06	PFM	HP-2-ASED-DW-0204-01-0A HP-2-ASED-RP-0203, issue 1		SLI covered acc. To HP-2-ASED-PR-0059_1_AS_RUN
121345-03 PPS MLI cap	27.07.06	PFM	HP-2-ASED-DW-0205-01-0A HP-2-ASED-RP-0203, issue 1		SLI covered acc. To HP-2-ASED-PR-0059_1_AS_RUN
Valve MLI covers V102, V103, V104, V105 integrated	27.07.06	PFM	HP-2-ASED-RP-0203, issue 1		acc. To HP-2-ASED-PR-0059_1_AS_RUN
121345-04 SLI for HTT open areas (tubing, flanges etc.)	27.07.06	PFM	HP-2-ASED-RP-0203, issue 1		no drwg. Issued, as built doc. Is the as run procedure.
121346 HOT MLI	16.- 19.08.04 & 06.10.04 & 12.06.06	PFM	HP-2-AAEM-LI-0024 Iss. 1.0, 11.08.04		IRR: HP-2-ASED-MN-0729; Procedure: HP-2-AAEM-PR-0003 (1) All integrated on 16.-19.8.04, except closure at accelerometer / harness region, closed on 06.10.04 See NCR: HP-2-ASED-121346-NC-2353 Outer layer tape opened and re-fixed, grounding cable cut and re-crimped with longer cable status 20.06.06 OW 279 closed 21.06.06
121346 MLI grounding wires GP1, GP2	Y	PFM			Grounding cables integrated see EIDP HP-2-ASSE-DP-0006
121347 Filling port MLI	28.07.06	PFM	HP-2-ASED-DW-0227-01-0A HP-2-ASED-DW-0228-01-0A HP-2-ASED-RP-0203, issue 1		modified FP MLI mounted acc. To ASED-PR-0059
121348 SLI on (cryo) components at low. SFW	Y	PFM	HP-2-ASED-RP-0203, issue 1		as built doc. Is the as run procedure, all accessible tubing parts covered with SLI; Components covered with SLI: V701, V702, SV723, V105, RD724 flange, P701.
121351 -01 Ext. Lower Bulkhead MLI -Layer 1 -Layer 2 -Layer 3 -Layer 4	02.08.07	PFM	HP-2-AAEM-DP-0005, Iss: 2.0 HP-2-AAEM-LI-0037, issue 2.0, 06.08.07	y	HP-2-AAEM-PR-0004 Removed 28.02.2007 J.H. & AAEM; Visual Inspection performed Final Integration acc.PR-0004 by AAEM

All rights reserved, 2007, Thales Alenia Space

Equipment / CI-No.	Integr. Date	Model, Serial No	ABCL Ref. (or EIDP)	Qualified	Remarks / Open Work / NCR's
121351-02 Ext. CVV Cylinder MLI -Layer 1 -Layer 2 -Layer 3 -Layer 4	19.03.08	PFM	HP-2-AAEM-DP-0005, Iss: 2.0 HP-2-AAEM-LI-0037, issue 2.0, 06.08.07	Y	HP-2-AAEM-PR-0004 Modified in order to give access to P02 Closure of NCR 1508: CVV blankets too short. Repaired for STM, some new blankets needed for PFM MLI at +Y radiator closed on 11.01.06 Removed 23.03.2006 HP-2-ASED-SD-0092; NC-1595 Open the MLI on +Z side for PACS Failure investigation 211121 P10 Finally closed by AAEM 17.06.2008
121351-03 Ext. Upper Bulkhead MLI -Layer 1 -Layer 2 -Layer 3 -Layer 4	19.03.08	PFM	HP-2-AAEM-DP-0005, Iss: 2.0 HP-2-AAEM-LI-0037, issue 2.0, 06.08.07	y	HP-2-AAEM-PR-0004 Removed 23.03.2006 HP-2-ASED-SD-0092; NC-1595 Open the MLI on +Z side for PACS Failure investigation 211121 P10 Finally closed by AAEM 17.06.2008
121353 LOU MLI	29.05.08	PFM	HP-2-AAEM-LI-0037, issue 2.0, 06.08.07	y	De-integrated Layer 1 and 4 integrated; Layer 2 and 3 not integrated for mech.Test
121421-01 T 702	23.07.04	JX 74	HP-2-ASED-DP-0050, Issue 1, 25.04.05	y	C 100
121421-01 T 703	23.07.04	JX 75	HP-2-ASED-DP-0050, Issue 1, 25.04.05	y	C 100
121421-01 T106	3.8.04	JX72	,,	y	C100, covered with 5 layer crinkled MLI on 01.04.05
121421-01 T107	3.8.04	JX73	,,	y	C100
121421-01 T113	cancelled	KJ 03	,,	y	C100 with reduced width, glued to Filling Port, NC-2307: disintegrated on 13.07.06, SD 101
121421-01 T114	cancelled	KJ 09	,,	y	C100 with reduced width, glued to Filling Port, NC-2307: disintegrated on 13.07.06, SD 101
121421-01 T 115	18.07.06	KT90	HP-2-ASED-DP-0051, issue 1, 25.04.05	y	PT 1000 ASED-SD-0101, connected to T113 connector
121421-01 T 116	18.07.06	KR34	"	y	PT 1000 ASED-SD-0101, connected to T114 connector
121421-01 Temp. Sensor T117	17.07.06	KV 90	HP-2-ASED-DP-0050, Issue 1, 25.04.05	Y	C 100, electr. Checked and torqued 19.07.06 ASED-SD-0101, harness re-routed
121421-01 Temp. Sensor T118	17.07.06	KV 91	,,	Y	C 100, electr. Checked and torqued 19.07.06 ASED-SD-0101, harness re-routed
121421-01 Temp. Sensor T202	17.11.04	KO 38	,,	Y	C 100, electr. Checked and torqued 09.02.05
121421-01 Temp. Sensor T208	17.11.04	KO 40	,,	Y	C 100, electr. Checked and torqued 09.02.05
121421-01 Temp. Sensor T254	01.12.04	KO 68	,,	Y	C 100 electr. Checked and torqued 09.02.05
121421-01 Temp. Sensor T256	14.12.04	KO 69	,,	Y	C 100, electr. Checked and torqued 09.02.05
121421-01 Temp. Sensor T258	14.12.04	KO 70	,,	Y	C 100, electr. Checked and torqued 09.02.05

All rights reserved, 2007, Thales Alenia Space

Equipment / CI-No.	Integr. Date	Model, Serial No	ABCL Ref. (or EIDP)	Qualified	Remarks / Open Work / NCR's
121421-01 Temp. Sensor T221	15.05.2007	KO45	,,	Y	C 100, electr. Checked and torqued on 09.05.05 removed 19.04.2007 Geiger Final Integration acc.PR-0086 H.G. on Red Detector flex link
121421-01 Temp. Sensor T222	15.05.2007	KO46	,,	Y	C 100, electr. Checked and torqued removed 19.04.2007 Geiger Final Integration acc.PR-0086 H.G. on Evaporator flex link
121421-01 Temp. Sensor T223	15.05.2007	KO47	,,	Y	C 100, electr. Checked, torqued NC-0775: broken bolt, closed removed 19.04.2007 Geiger Final Integration acc.PR-0086 H.G. on Cooler Pump flex link
121421-01 Temp. Sensor T224	15.05.2007	KO48	,,	Y	C100, electr. Checked and torqued 15.02.05 removed 19.04.2007 Geiger Final Integration acc.PR-0086 H.G. on Blue Detector flex link
121421-01 Temp. Sensor T225	14.02.05	KO49	,,	Y	C 100, P01 had to be rotated by 180° electr. Checked and torqued 15.02.05
121421-01 Temp. Sensor T226	20.07.06	KV89	,,	Y	C 100, electr. Checked and torqued 20.07.06 (old KO50 replaced by KV89)
121421-01 Temp. Sensor T227	14.02.05	KO51	,,	Y	C 100, P01 had to be rotated by 180° electr. Checked and torqued 15.02.05
121421-01 Temp. Sensor T228	14.02.05	KO52	,,	Y	C 100, electr. Checked and torqued 15.02.05
121421-01 Temp. Sensor T231	17.11.04	KO 53	HP-2-ASED-DP-0050, Issue 1, 25.04.05	Y	C 100, electr. Checked and torqued 09.02.05
121421-01 Temp. Sensor T232	17.11.04	KO 54	,,	Y	C 100, electr. Checked and torqued 09.02.05
121421-01 Temp. Sensor T233	17.11.04	KO 55	,,	Y	C 100, electr. Checked and torqued 09.02.05 NC-0683: AI closed by shimming on 3.2.05 NC-1015: broken bolt, fixed with Kapton tape
121421-01 Temp. Sensor T234	17.11.04	KO 56	,,	Y	C 100 electr. Checked and torqued 09.02.05
121421-01 Temp. Sensor T235	17.11.04	KO 57	,,	y	C 100, electr. Checked and torqued 09.02.05 NC-0683: AI closed by shimming on 3.2.05
121421-01 Temp. Sensor T236	17.11.04	KO 58	,,	Y	C 100, electr. Checked and torqued 09.02.05 NC-0683: AI closed by shimming on 3.2.05
121421-01 Temp. Sensor T237	17.11.04	KO 60	,,	Y	C 100, electr. Checked and torqued 09.02.05
121421-01 Temp. Sensor T238	13.07.06	MH 20	,,	Y	PT 1000, electr. Checked and torqued 19.07.06 ASED-SD-0101, harness re-routed
121421-01 Temp. Sensor T239	13.07.06	MH 21	,,	Y	PT 1000, electr. Checked and torqued 19.07.06 ASED-SD-0101, harness re-routed
121421-01 Temp. Sensor T242	11.02.05	KO 61	,,	Y	C 100, electr. Checked and torqued 11.02.05

All rights reserved, 2007, Thales Alenia Space

Equipment / CI-No.	Integr. Date	Model, Serial No	ABCL Ref. (or EIDP)	Qualified	Remarks / Open Work / NCR's
121421-01 Temp. Sensor T244	25.07.2007	KO 62	,,	Y	C 100, electr. Checked and torqued 11.02.05 C 100, electr. Checked and torqued 25.07.2007 A.G.
121421-01 Temp. Sensor T248	11.02.05	KO 65	,,	Y	C 100, electr. Checked and torqued 11.02.05
121421-01 Temp. Sensor T246	17.11.04	KO 63	,,	Y	C 100, electr. Checked and torqued 09.02.05
121421-01 Temp. Sensor T247	17.11.04	KO 64	,,	Y	C 100, electr. Checked and torqued 09.02.05
121421-01 Temp. Sensor T250	15.02.05	KO66	HP-2-ASED-DP-0050, Issue 1, 25.04.05	Y	C 100, electr. Checked and torqued 16.02.05
121421-01 Temp. Sensor T252	15.02.05	KO67	HP-2-ASED-DP-0050, Issue 1, 25.04.05	Y	C 100, electr. Checked and torqued 16.02.05
121421-01 Temp. Sensor T212	25.04.05	KO42	HP-2-ASED-DP-0050, Issue 1, 25.04.05	Y	C 100, glued to OB shield with Stycast 2850 ST electr. Grounding done with AL-tape
121421-01 Temp. Sensor T213	25.04.05	KO43	HP-2-ASED-DP-0050, Issue 1, 25.04.05	Y	C 100, glued to OB shield with Stycast 2850 ST electr. Grounding done with AL-tape
121421-01 T862	17.03.05	KV84	HP-2-ASED-DP-0050, Issue 1, 25.04.05	y	C 100 ,,
121421-02 T 321 T 322 T 323 T 324	22.08.05	LS 19 LS 20 LS 25 LS 26	HP-2-ASED-DP-0051, issue 1, 25.04.05	y	PT 1000 on SVM TS
121421-02 T 501	15.09.05	LS23	HP-2-ASED-DP-0051, issue 1, 25.04.05	y	PT 1000
121421-02 T 505	16.09.05	LS29	"	y	PT 1000
121421-02 T 506	16.09.05	LS34	"	y	PT 1000
121421-02 T 506	16.09.05	LS36	"	y	PT 1000
121421-02 T 601	y	ISO 8	"	y	PT 1000 on cover
121421-02 T 602	y	ISO 9	"	y	PT 1000 on cover
121421-02 T 651	y	KR32	"	y	PT 1000 on cryo baffle
121421-02 T 652	y	KR33	"	y	PT 1000 on cryo baffle
121421-02 T 901	21.02.08	LS27	"	y	PT 1000 Removed during TMS installation 31.05.2007 see OW359 Installed at ESTEC A.G. OW 359 closed(R=1081,77 Ohm)
121421-02 T 902	09.09.05	LS28	"	y	PT 1000

All rights reserved, 2007, Thales Alenia Space

Equipment / CI-No.	Integr. Date	Model, Serial No	ABCL Ref. (or EIDP)	Qualified	Remarks / Open Work / NCR's
121421-02 T 903	12.09.05	LS38	"	y	PT 1000
121421-02 T 904	12.09.05	LS40	"	y	PT 1000
121421-02 T 905	09.09.05	LS35	"	y	PT 1000
121421-02 T 906	y	LS43	"	y	PT 1000
121421-02 T 907	10.01.06	LS17	"	y	PT 1000; NC-1851: +Y Radiator Upper part removed for repair. Radiator Upper part installed; T907 connected ; NC-1941: one bolt on sensor connector slightly bent, to be replaced for PFM
121421-02 T 908	13.09.05	LS18	"	y	PT 1000
121421-02 T 909	12.09.05	KR20	"	y	PT 1000
121421-02 T 910	12.09.05	LS30	"	y	PT 1000
121421-02 T 911	12.09.05	LS41	"	y	PT 1000
121421-02 T 912	12.09.05	KO22	"	y	PT 1000
121421-02 T 931	13.09.05	MH22	"	y	PT 1000 on LOU
121421-02 T 932	13.09.05	MH25	"	y	PT 1000 on LOU
121421-02 T 933	y	LS33	"	y	PT 1000 on LOR; final integration after LOR integration
121421-02 T 934	15.09.05	KO23	"	y	PT 1000 with cut ears on LOU
121421-02 T 935	15.09.05	LS42	"	y	PT 1000 with cut ears on LOU
121421-02 T 701	06.08.04	KR 23	HP-2-ASED-DP-0051, Issue 1, 28.01.05	y	PT 1000 NCR: 0354, T701 changed from original SN KO 05 due to broken connector screw
121421-02 T 704	06.08.04	KR 26	HP-2-ASED-DP-0051, Issue 1, 28.01.05	y	PT 1000, T704 changed from original SN KO 09
121421-02 T103	3.8.04	KH10	"	y	PT1000, covered with 5 layer crinkled MLI on 01.04.05
121421-02 Temp. Sensor T207	17.11.04	KR 27	HP-2-ASED-DP-0051, Issue 1, 25.04.05	Y	PT 1000, electr. Checked and torqued 09.02.05
121421-02 Temp. Sensor T253	01.12.04	KR 31	HP-2-ASED-DP-0051, Issue 1, 25.04.05	Y	PT 1000, electr. Checked and torqued 09.02.05
121421-02 Temp. Sensor T255	01.12.04	KT 97	HP-2-ASED-DP-0051, Issue 1, 25.04.05	Y	PT 1000, electr. Checked and torqued 09.02.05
121421-02 Temp. Sensor	15.02.05	KR29	HP-2-ASED-DP-0051, Issue 1, 25.04.05	Y	PT 1000, electr. Checked and torqued 16.02.05

All rights reserved, 2007, Thales Alenia Space

Equipment / CI-No.	Integr. Date	Model, Serial No	ABCL Ref. (or EIDP)	Qualified	Remarks / Open Work / NCR's
T249					
121421-02 Temp. Sensor T251	15.02.05	KR30	HP-2-ASED-DP-0051, Issue 1, 25.04.05	Y	PT 1000, electr. Checked and torqued 16.02.05
121421-02 Temp. Sensor T211	25.04.05	KR28	HP-2-ASED-DP-0051, Issue 1, 25.04.05	Y	PT 1000, glued to OB shield with Stycast 2850 ST electr. Grounding done with AL-tape
121421-02 Thermistor T462 & CCH DCB22 on cyl. Thermal shield 3	11 / 04	KU01	HP-2-ASED-DP-0051, Issue 1, 25.04.05; HP-2-CASA-AB-0002, issue 1, 07.07.04	Y	PT 1000 Procedure: HP-2-ASED-TP-0028
121421-02 Thermistor T442 & CCH DCA 21 on cyl. Thermal shield 2	11 / 04	KH13	,,	Y	PT 1000 Procedure: HP-2-ASED-TP-0028
121421-02 Thermistor T422 & CCH DCB 21 on cyl. Thermal shield 1	11 / 04	KU02	,,	Y	PT 1000 Procedure: HP-2-ASED-TP-0028 NC-0504: broken screw, reworked, closed.
121421-02 T801	See remark	KR34	HP-2-ASED-DP-0051, Issue 1, 25.04.05 PT 1000	Y	Procedure: HP-2-ASED-TP-0047, bonded with Stycast 2850 FT acc. To ISO-MP-BEB00.020, Issue 1 on AlMgSi 1Cu washers acc. To HP-2-ASED-DW-0138-01-0B NC-0820: Bonding directly on Ni coated CuBe failed during sample test, NRB: Introduction of additional AlMgSi 1Cu washers acc. To HP-2-ASED-DW-0138-01-0B T801 removed and changed with T 872, harness extended
121421-02 T802	08.03.05	KH11	,,	Y	Al tape over sensor ,,
121421-02 T803	08.03.05	KH12	,,	y	,,
121421-02 T804	See remark	KT90	,,	Y	T804 removed and changed with T 871, harness extended
121421-02 T805	09.03.05	KT93	,,	Y	Al tape over sensor ,,
121421-02 T806	09.03.05	KT94	,,	y	,,
121421-02 T851	09.03.05	KT95	,,	Y	Procedure: HP-2-ASED-TP-0046, NC-0820 and bonding remarks as for T801
121421-02 T852	09.03.05	KT98	,,	Y	,,
121421-02 T853	09.03.05	KU04	,,	y	,,
121421-02 T861	17.03.05	KO09	,,	y	,,
121421-02 T871 LSFW near TSS 13	20.06.06	LS 39	HP-2-ASED-DP-0051, Issue 1, 25.04.05	Y	PT 1000 Procedure HP-2-ASED-SD-0101_1_PLM MLI modifications_add sensors New sensor, changed with T 804 see SD-0101, Harness extended from T804

All rights reserved, 2007, Thales Alenia Space

Equipment / CI-No.	Integr. Date	Model, Serial No	ABCL Ref. (or EIDP)	Qualified	Remarks / Open Work / NCR's
121421-01 T872 LSFW near TSS 13	20.06.06	KV 85	HP-2-ASED-DP-0050, Issue 1, 25.04.05	y	C100 Procedure HP-2-ASED-SD-0101_1_PLM MLI modifications_add sensors New sensor, changed with T 801 see SD-0101, Harness extended from T 801
121421-02 Thermistor T461 & CCH DCA23 on lower bulkh. Thermal shield 3	12.01.05	KO20	HP-2-ASED-DP-0051, Issue 1, 25.04.05; HP-2-CASA-AB-0002, issue 1, 07.07.04	Y	PT 1000 Procedure: HP-2-ASED-TP-0045 (NC-0651: M3 holes in connector brackets changed to 4.3, covered by HP-2-ASED-DP-0028, issue 2)
121421-02 Thermistor T441 & CCH DCB 23 on lower bulkh. Thermal shield 2	12.01.05	KO12	,,	Y	PT 1000 Procedure: HP-2-ASED-TP-0045
121421-02 Thermistor T421 & CCH DCA 22 on lower bulkh. Thermal shield 1	12.01.05	KO11	,,	Y	PT 1000 Procedure: HP-2-ASED-TP-0045
121421-02 Thermistor T463 & CCH DCE11 on upper bulkh. Thermal shield 3	04.03.2005	KO14	,,	Y	See also drawing 2547-121430-100-1B-0B, “Herschel PFM Cryostat harness internal CCH & SIH”
121421-02 Thermistor T464 & CCH DCA11 on upper bulkh. Thermal shield 3	04.03.2005	KO15	,,	Y	See also drawing 2547-121430-100-1B-0B, “Herschel PFM Cryostat harness internal CCH & SIH”
121421-02 Thermistor T443 & CCH DCE12 on upper bulkh. Thermal shield 2	07.03.2005	KO13	,,	Y	
121421-02 Thermistor T444 & CCH DCB11 on upper bulkh. Thermal shield 2	07.03.2005	KO25	,,	Y	
121421-02 Thermistor T423 & CCH DCE13 on upper bulkh. Thermal shield 1	08.03.2005	LS31	,,	Y	
121421-02 Thermistor	08.03.2005	LS32	,,	Y	

All rights reserved, 2007, Thales Alenia Space

Equipment / CI-No.	Integr. Date	Model, Serial No	ABCL Ref. (or EIDP)	Qualified	Remarks / Open Work / NCR's
T424 & CCH DCA12 on upper bulkh thermal shield 1					
121422-01 Pressure Sensor P501	01.09.05	PFM S/N 510214	HP-2-ASED-DP-0033 Iss. 1, 16.03.04	Y	
121422-01 P701	13.01.05	FM2, SN 510212	HP-2-ASED-DP-0033 Iss. 1, 16.03.04	y	NC-0307: New design of pressure sensor bracket NC-0442: I/F deviation btw. P701 and int. CCH (different connector types, harness adaptor added)
121422-01 P101	preliminary fixed for test 11.6.04; final mech. Integr. 13.1.05	FM1, SN 510211	HP-2-ASED-DP-0033 Iss. 1, 16.03.04	y	NCR-0272, Press sensor dropped NCR-0277, incorrect p. sensor bracket design NCR-0442, P701 harness (CCH CCA11) has a MDM 9P, this will not fit to sensor, ASED / CASA have to make an adaptor to sensor circular connector; adaptors with FM connector (baked) installed on 21.2.05, finally fixed and mated on 9.3.05
121422-01 P101 Support Plate	y			y	
121422-01 P101 bkt (front/rear)	y		NCR-0277	y	NCR-0277, incorrect p. sensor bkt design, corrected, closed
121422-01 P701 upper / lower bracket	y		NCR – 0307	y	NCR – 0307: re-design and manufacture at AIR, closed
121422-02 Pressure Sensor P502	16:11.06	QM, SN 951634	HP-2-ASED-DP-0032 Iss. 1, 16.03.04	Y	NC-1519: Harness adapter installed for TB/TV test to correct contact problem, adapter removed before sine test Remove of QM 13.06.06 H. Huber Reintegration acc. SD 0063 16.11.06 Torque 20 Nmr.; harness adapter should be integrated see NC-1519; harness adapter integrated 23.11.2006 A.G.
121423 A701	24.9.04	Endevco SN 11837	Endevco Model 2272 HP-2-ASED-TR-0031 /1	y	calibrated together with accel. Harness
121423 A702	24.9.04	Endevco SN 11585	"	y	calibrated together with accel. Harness
121423 A703	24.9.04	Endevco SN 11841	"	y	calibrated together with accel. Harness
121423 Accelerometer (A201 to A206)	3.1.05	Endevco 11842 11840 Endevco 11844 Endevco 11826 Endevco 11851 Endevco 11848	"	y	first Hammertest performed 19.01.05 Observation at A 206 on 18.4.05: Shrink sleeve bend at connector to A 206. Kapton tape wrapped around for protection, health check and noise measurement on 21.4.05 ok.
121423 Accelerometer (A207 and A208)	See remark	Endevco 11865 Endevco 11843		y	PACS MTD accelerometers; Removed 12.04.07 acc. PACS MTD removal T.B. Harness for Accelerometer finally terminated
121423 Accelerometer A421 on upper bulkhead thermal shield 1	xx.03.2005	SN 11847	"	Y	
121423 Accelerometer A422 on upper bulkhead thermal shield 1	xx.03.2005	SN 11850	Endevco Model 2272 HP-2-ASED-TR-0031 /1	Y	

All rights reserved, 2007, Thales Alenia Space

Equipment / CI-No.	Integr. Date	Model, Serial No	ABCL Ref. (or EIDP)	Qualified	Remarks / Open Work / NCR's
121423 A101	24.9.04	Endevco SN 11833	"	calibrated	calibrated together with accel. Harness; insulated with Kapton tape
121423 A102	24.9.04	Endevco SN 11846	"	calibrated	calibrated together with accel. Harness; insulated with Kapton tape
121423 A103	24.9.04	Endevco SN 11839	"	calibrated	calibrated together with accel. Harness; insulated with Kapton tape
121423 A104	24.9.04	Endevco SN 11849	"	calibrated	calibrated together with accel. Harness; insulated with Kapton tape
121423 A105	24.9.04	Endevco SN 11825	"	calibrated	calibrated together with accel. Harness; insulated with Kapton tape
121423 A106	24.9.04	Endevco SN 11845	"	calibrated	calibrated together with accel. Harness; insulated with Kapton tape
121423 A107	24.9.04	Endevco SN 11832	"	calibrated	calibrated together with accel. Harness; insulated with Kapton tape
121423 A108	24.9.04	Endevco SN 11580	"	calibrated	calibrated together with accel. Harness; insulated with Kapton tape
121423 A109	24.9.04	Endevco SN 11876	"	calibrated	calibrated together with accel. Harness; insulated with Kapton tape
121424 HOT Accelerometer block type 1	28.7.04		HP-2-ASED-DW-0046	n.a.	Installed on HOT
121425 Adaptor Block Type 2 (4 x)	3.1.05		HP-2-ASED-DW-0047-01-0A	n.a.	LN 9016 washers used for mounting instead of HV 100
121426 Accel. Blocks type 3 (+x / -x)	3.8.04		HP-2-ASED-DW-0059-01-0A	n.a.	(Qty = 2)
121427 Accel. Block type 4	24.9.04		HP-2-ASED-DW-0060-01-0A	n.a.	Hammer test on A101 – A109 performed on 27.9.04
121431-01 HOT CCH Bundles			see below	y	From cryo components to Lower SFW CBs Ref: HP-2-ASED-TP-0022 (1) IRR: HP-2-ASED-MN-0729
121431-01 DCE 28	4.8.04		HP-2-CASA-AB-0004 Iss. 1, 28.07.04	y	L701 / H701 NCR 0343 - , LLP wiring change (closed)
121431-01 DCE 29	4.8.04		HP-2-CASA-AB-0004 Iss. 1, 28.07.04	y	L702 / H702 NCR 0343 - , LLP wiring change (closed)
121431-01 DCB 24	30.7.04		HP-2-CASA-AB-0003 Iss. 1, 20.07.04	y	T701 / T703 NC-0833, insulation damaged at HOT HST brkt 7, repaired and checked – closed
121431-01 DCE 24	30.7.04		HP-2-CASA-AB-0003 Iss. 1, 20.07.04	y	T702 / T704
121431-01 DCE 25	27.9.04		HP-2-CASA-AB-0004 Iss. 1, 28.07.04	y	A701, 702, 703 hammer test performed on 27.9.04
121431-01 **CCH**			HP-2-CASA-AB-0011 Iss. 1, 22.02.05	y	AB-0011 is the cover-ABCL for all internal CCH, IRR: HP-2-ASED-MN-0749 ASED-SD-0101: Routing of internal CCH modified
121431-01 DCM22	7.9.04		HP-2-CASA-AB-0004 Iss. 1, 28.07.04	y	
121431-01 DCM21	7.9.04		HP-2-CASA-AB-0004 Iss. 1, 28.07.04	y	
121431-01 DCA24	y		HP-2-CASA-AB-0004 Iss. 1, 28.07.04	y	
121431-01 DCB25	7.9.04		HP-2-CASA-AB-0004 Iss. 1, 28.07.04	y	

All rights reserved, 2007, Thales Alenia Space

Equipment / CI-No.	Integr. Date	Model, Serial No	ABCL Ref. (or EIDP)	Qualified	Remarks / Open Work / NCR's
121431-01 DCE32	6.9.04		HP-2-CASA-AB-0004 Iss. 1, 28.07.04	y	
121431-01 DCE33	24.9.04		HP-2-CASA-AB-0004 Iss. 1, 28.07.04	y	
121431-01 DCE34	24.9.04		HP-2-CASA-AB-0004 Iss. 1, 28.07.04	y	
121431-01 DCM23	2.9.04		HP-2-CASA-AB-0004 Iss. 1, 28.07.04	y	
121431-01 DCE27	2.9.04		HP-2-CASA-AB-0003 Iss. 1, 20.07.04	y	
121431-01 DCE30	7.9.04		HP-2-CASA-AB-0003 Iss. 1, 20.07.04	y	ASED-NC-0343 (closed): Pin allocation for L101 & L102 corrected
121431-01 DCM24	2.9.04		HP-2-CASA-AB-0003 Iss. 1, 20.07.04	y	
121431-01 DCE26	15.9.04		HP-2-CASA-AB-0006 Iss. 1, 10.09.04	y	
121431-01 DCE31	7.9.04		HP-2-CASA-AB-0004 Iss. 1, 28.07.04	y	ASED-NC-0343 (closed): Pin allocation for L101 & L102 corrected
121431-01 DCB17	15.9.04		HP-2-CASA-AB-0003 Iss. 1, 20.07.04	y	
121431-01 DCA18	15.9.04		HP-2-CASA-AB-0003 Iss. 1, 20.07.04	y	
121431-01 DCE 22	13.01.05		HP-2-CASA-AB-0006 Iss. 1, 10.09.04	y	to A20X
121431-01 DCE 23	13.01.05		HP-2-CASA-AB-0006 Iss. 1, 10.09.04	y	to A20X, DCE 23 re-routed on after OBA fit check on 21.01.2005, see log book and HP-2-ASED-TP-0044
121431-01 DCE 17	10.05.05		HP-2-CASA-AB-0002, issue 1, 07.07.04	y	
121431-01 DCA 17	10.05.05		HP-2-CASA-AB-0002, issue 1, 07.07.04	y	
121431-01 DCB 16	10.05.05		HP-2-CASA-AB-0002, issue 1, 07.07.04	y	
121431-01 DCE 21	xx.03.2005	PFM	HP-2-CASA-AB-0003 Iss. 1, 20.07.04	y	
121431-01 DCA 13	02.02.05	PFM	HP-2-CASA-AB-0003 Iss. 1, 20.07.04	y	CCH integration acc. To HP-2-ASED-TR-0065
121431-01 DCB 12	02.02.05	PFM	,,	y	
121431-01 DCA 14	03.02.05	PFM	,,	y	Thermal brackets not yet fastened – open work #45, closed on 3.2.05
121431-01 DCB 13	03.02.05	PFM	,,	y	
121431-01 DCE 15	03.02.05	PFM	,,	y	NC-0766: wires broken (T249), repaired on 15.2.05, NCR closed.
121431-01 DCA 16	02.02.05	PFM	,,	y	
121431-01 DCB 15	02.02.05	PFM	,,	y	
121431-01 DCE 16	27.07.06	PFM	HP-2-CASA-AB-0003 Iss. 1, 20.07.04 Mod. per HP-2-ASED-SD-0101	y	Remounted after modification according to ACS ASED-SD-0101; added temp sensor lines Harness for new Sensors: T117 (C100; tubing), T118 (C100; tubing), T238 (PT1000; OBA ventline), T239 (PT1000; existing sensor T207
121431-01 CCE11	21.02.2005	PFM	HP-2-CASA-AB-0009, issue 1, 17.12.04	Y	thermal bracket on TSS strap 11
121431-01 CCE12	21.02.2005	PFM	HP-2-CASA-AB-0005, issue 1, 06.08.04	Y	thermal bracket on TSS strap 11

All rights reserved, 2007, Thales Alenia Space

Equipment / CI-No.	Integr. Date	Model, Serial No	ABCL Ref. (or EIDP)	Qualified	Remarks / Open Work / NCR's
121431-01 CCA11	21.02.2005	PFM	HP-2-CASA-AB-0009, issue 1, 17.12.04	Y	thermal bracket on TSS strap 18
121431-01 CCB11	22.02.2005	PFM	HP-2-CASA-AB-0009, issue 1, 17.12.04	Y	thermal bracket on TSS strap 18
121431-01 CCA12	22.02.2005	PFM	,,	Y	thermal bracket on TSS strap 17
121431-01 CCB12	22.02.2005	PFM	,,	Y	thermal bracket on TSS strap 17
121431-01 CCE13	22.02.2005	PFM	,,	Y	thermal bracket on TSS strap 16
121431-01 CCE14	22.02.2005	PFM	,,	Y	thermal bracket on TSS strap 16
121431-01 CCA10	23.02.2005	PFM	,,	Y	thermal bracket on TSS strap 8 short jackposts exchanged by long ones to allow mounting of lock washers
121431-01 CCB10	23.02.2005	PFM	,,	Y	thermal bracket on TSS strap 8 short jackposts exchanged by long ones to allow mounting of lock washers
121431-01 CCE10	23.02.2005	PFM	,,	Y	thermal bracket on TSS strap 8 short jackposts exchanged by long ones to allow mounting of lock washers NC-0825: Two broken wires to T249 & T253, repaired, closed.
121431-01 CCE20	23.02.2005	PFM	HP-2-CASA-AB-0005, issue 1, 06.08.04	Y	thermal bracket on TSS strap 8 short jackposts exchanged by long ones to allow mounting of lock washers
121431-01 CCS11	See remark	SPARE	HP-2-CASA-AB-0009, issue 1, 17.12.04	y	SPARE, will not be integrated, no T/C bracket potted
121431-02 CCH-ICA-10	28.07.05	PFM	HP-2-CASA-AB-0018, issue 2, 29.07.05	y	ext. CCH: HP-2-ASED-TP-0076
121431-02 CCH-ICB-10	27.08.05	PFM	"	y	
121431-02 CCH-ICE-10	y	PFM	"	y	
121431-02 CCH-ICE-20	y	PFM	"	y	
121431-02 CCH-ICE-11	28.07.05	PFM	"	y	
121431-02 CCH-ICE-12	y	PFM	"	y	
121431-02 CCH-ICE-13	27.07.05	PFM	"	y	
121431-02 CCH-ICE-14	27.07.05	PFM	"	y	
121431-02 CCH-ICA-11	26.07.05	PFM	"	y	
121431-02 CCH-ICA-12	28.07.05	PFM	"	y	
121431-02 CCH-ICB-11	28.07.05	PFM	"	y	
121431-02 CCH-ICB-12	28.07.05	PFM	"	y	

All rights reserved, 2007, Thales Alenia Space

Equipment / CI-No.	Integr. Date	Model, Serial No	ABCL Ref. (or EIDP)	Qualified	Remarks / Open Work / NCR's
121431-02 CCH-ICE-31	31.08.05	PFM	"	y	
121431-02 CCH-ICE-32	31.08.05	PFM	"	y	
121431-02 CCH-ICE-33	y	PFM	"	y	
121431-02 CCH-ICE-34	y	PFM	"	y	
121431-02 CCH-ICE-36	y	PFM	"	y	
121431-02 CCH-ICA-31	27.07.05	PFM	"	y	
121431-02 CCH-ICB-31	27.07.05	PFM	"	y	
121431-02 CCH-ICA-33	27.08.05	PFM	"	y	
121431-02 CCH-ICB-33	18.09.05	PFM	"	y	
121431-02 CCH-ICS-31	29.08.05	PFM	"	y	
121431-02 CCH-ICA-34	18.09.05	PFM	"	y	
121431-02 CCH-ICB-34	18.09.05	PFM	"	y	
121431-02 CCH-ICS-36	29.08.05	PFM	"	y	
121431-02 CCH-ICS-32	y	PFM	"	y	
121431-02 CCH-ICS-33	y	PFM	"	y	
121431-02 CCH-ICE-35	27.09.05	PFM	"	y	
121431-02 CCH-ICS-37	y	PFM	"	y	
121431-02 CCH-ICS-38	y	PFM	"	y	
121431-02 CCH-ICA-32	01.08.05	PFM	"	y	NC-1941: one connector bolt bent on 21T907-P01, bolt to be replaced for PFM
121431-02 CCH-ICB-32	17.08.05	PFM	"	y	
121431-02 CCH-ICA-51	23.04.08	PFM	"	y	HSS Sunshade; P01 on CB 231230 connected Final integration 23.04.08 W.Hund
121431-02 CCH-ICB-51	23.04.08	PFM	"	y	HSS Sunshade; P02 on CB 231230 Connected Final integration 23.04.08 W.Hund

All rights reserved, 2007, Thales Alenia Space

Equipment / CI-No.	Integr. Date	Model, Serial No	ABCL Ref. (or EIDP)	Qualified	Remarks / Open Work / NCR's
121431-02 CCH-ICA-41	07.05.08	PFM	"	y	SVM integrated and final routing P01 to 21T321+21T323 07.05.2008 W.Hund
121431-02 CCH-ICB-41	07.05.08	PFM	"	y	SVM integrated and final routing P02 to 21T322+21T324; 07.05.2008 W.Hund 21T324 is not connected, the Harness to short, see OW 502
121432 Harness anchors (cable support rails)	05.10./ 21.10.04	PFM	2547-121432-15S-01-0A HP-2-ASED-DP-0028, iss. 2	n.a.	bonded with EC 2216; on 03.11.04 eight anchors removed and re-bonded in corrected position; position of all anchors checked and now ok. After harness integration lock wires applied on all upper and lower anchors
121432 Thermal bracket Assy on TSS chains 11, 16, 17, 18 (lower SFW)	22.03.05	PFM	2547-121432-156-01-0A 2547-121432-157-01-0A HP-2-ASED-DP-0028, iss. 2	y	Spacer width: 39.2 on chain 11 and 16; Spacer width: 43.2 on chain 17 and 18
121432-01 SIH-CH-01	24.07.07	PFM	HP-2-CASA-AB-0012, iss. 2, 18.04.05	y	finally routed and connected to HIFI CQM, ASED-SD-0110 finally routed and connected to HIFI PFM, TP-0152 J.L.
121432-01 SIH-CH-02	24.07.07	PFM	,,	y	finally routed and connected to HIFI CQM, ASED-SD-0110 NC-0816: Width of thermal bracket, reworked by ASED finally routed and connected to HIFI PFM, TP-0152 J.L.
121432-01 SIH-CH-03	24.07.07	PFM	,,	y	finally routed and connected to HIFI CQM, ASED-SD-0110 finally routed and connected to HIFI PFM, TP-0152 J.L.
121432-01 SIH-CH-04	24.07.07	PFM	,,	y	finally routed and connected to HIFI CQM, ASED-SD-0110 NC-0816: Width of thermal bracket, reworked by ASED finally routed and connected to HIFI PFM, TP-0152 J.L.
121432-01 SIH-CH-05	24.07.07	PFM	,,	y	FT connector J17 installed with non baked O-ring seal, accepted for this single case. Finally routed and connected to HIFI PFM, TP-0152 J.L.
121432-01 SIH-CS-01 SPIRE J-FET harness	19.04.07	PFM	HP-2-CASA-AB-0013, iss. 1 rev.1, 18.07.05	y	finally routed and connected to SPIRE CQM, re-routed acc. To ASED-SD-0101 NC-0805: Backshell modified NC-0975: Outer and inner SPIRE wire shield contact, repaired by CASA. Finally routed and connected to SPIRE PFM, TP-0150 J.L.
121432-01 SIH-CS-02 SPIRE J-FET harness	19.04.07	PFM	,,	y	finally routed and connected to SPIRE CQM, re-routed acc. To ASED-SD-0101 NC-0805: Backshell modified; NC-0895: Error in ICD, H/W is o.k. finally routed and connected to SPIRE PFM, TP-0150 J.L.
121432-01 SIH-CS-03	19.04.07	PFM	,,	y	finally routed and connected to SPIRE CQM;NC-0805: Backshell modified NC-0975: Outer and inner SPIRE wire shield contact, repaired by CASA. Finally routed and connected to SPIRE PFM, TP-0150 J.L.

THALES
All rights reserved, 2007, Thales Alenia Space

Equipment / CI-No.	Integr. Date	Model, Serial No	ABCL Ref. (or EIDP)	Qualified	Remarks / Open Work / NCR's
121432-01 SIH-CS-04	19.04.07	PFM	,,	y	finally routed and connected to SPIRE CQM finally routed and connected to SPIRE PFM, TP-0150 J.L.
121432-01 SIH-CS-05	19.04.07	PFM	,,	y	finally routed and connected to SPIRE CQM finally routed and connected to SPIRE PFM, TP-0150 J.L.
121432-01 SIH-CS-06	19.04.07	PFM	,,	y	finally routed and connected to SPIRE CQM finally routed and connected to SPIRE PFM, TP-0150 J.L.
121432-01 SIH-CS-07	19.04.07	PFM	,,	y	finally routed and connected to SPIRE CQM finally routed and connected to SPIRE PFM, TP-0150 J.L.
121432-01 SIH-CS-08	19.04.07	PFM	,,	y	finally routed and connected to SPIRE CQM finally routed and connected to SPIRE PFM, TP-0150 J.L.
121432-01 SIH-CS-09	19.04.07	PFM	,,	y	finally routed and connected to SPIRE CQM finally routed and connected to SPIRE PFM, TP-0150 J.L.
121432-01 SIH-CS-10	19.04.07	PFM	,,	y	finally routed and connected to SPIRE CQM, re-routed acc. To ASED-SD-0101 finally routed and connected to SPIRE PFM, TP-0150 J.L.
121432-01 SIH-CS-11	19.04.07	PFM	,,	y	finally routed and connected to SPIRE CQM, re-routed acc. To ASED-SD-0101 finally routed and connected to SPIRE PFM, TP-0150 J.L.
121432-01 SIH-CS-12	19.04.07	PFM	,,	y	finally routed and connected to SPIRE CQM, re-routed acc. To ASED-SD-0101 finally routed and connected to SPIRE PFM, TP-0150 J.L.
121432-01 SIH-CS-13	19.04.07	PFM	,,	y	finally routed and connected to SPIRE CQM, re-routed acc. To ASED-SD-0101 finally routed and connected to SPIRE PFM, TP-0150 J.L.
121432-01 SIH-CP-01	12.07.07	PFM	HP-2-CASA-AB-0014, iss. 1, 30.03.05	y	finally routed and connected to PACS MTD finally routed and connected to PACS PFM, TP-0151 J.L.
121432-01 SIH-CP-02	12.07.07	PFM	,,	y	finally routed and connected to PACS MTD finally routed and connected to PACS PFM, TP-0151 J.L.
121432-01 SIH-CP-03	12.07.07	PFM	,,	y	finally routed and connected to PACS MTD finally routed and connected to PACS PFM, TP-0151 J.L.
121432-01 SIH-CP-04	12.07.07	PFM	,,	y	finally routed and connected to PACS MTD finally routed and connected to PACS PFM, TP-0151 J.L.
121432-01 SIH-CP-05	12.07.07	PFM	,,	y	finally routed and connected to PACS MTD finally routed and connected to PACS PFM, TP-0151 J.L.
121432-01 SIH-CP-06	12.07.07	PFM	,,	y	finally routed and connected to PACS MTD finally routed and connected to PACS PFM, TP-0151 J.L.
121432-01 SIH-CP-07	12.07.07	PFM	,,	y	finally routed and connected to PACS MTD finally routed and connected to PACS PFM, TP-0151 J.L.
121432-01 SIH-CP-08	12.07.07	PFM	,,	y	finally routed and connected to PACS MTD finally routed and connected to PACS PFM, TP-0151 J.L.
121432-01 SIH-CP-09	12.07.07	PFM	,,	y	finally routed and connected to PACS MTD finally routed and connected to PACS PFM, TP-0151 J.L.

All rights reserved, 2007, Thales Alenia Space

Equipment / CI-No.	Integr. Date	Model, Serial No	ABCL Ref. (or EIDP)	Qualified	Remarks / Open Work / NCR's
121432-01 SIH-CP-10	12.07.07	PFM	,,	y	finally routed and connected to PACS MTD finally routed and connected to PACS PFM, TP-0151 J.L.
121432-01 SIH-CP-11	12.07.07	PFM	,,	y	finally routed and connected to PACS MTD; NC0917: Bent pin in FTH, reworked. Finally routed and connected to PACS PFM, TP-0151 J.L.
121432-01 SIH-CP-12	12.07.07	PFM	,,	y	finally routed and connected to PACS MTD finally routed and connected to PACS PFM, TP-0151 J.L.
121432-01 SIH-CP-13	12.07.07	PFM	,,	y	finally routed and connected to PACS MTD finally routed and connected to PACS PFM, TP-0151 J.L.
121432-01 SIH-CP-14	12.07.07	PFM	,,	y	finally routed and connected to PACS MTD finally routed and connected to PACS PFM, TP-0151 J.L.
121432-01 SIH-CP-15	12.07.07	PFM	,,	y	finally routed and connected to PACS MTD finally routed and connected to PACS PFM, TP-0151 J.L.
121432-02 SIH-IH-01	24.07.07	PFM	HP-2-ASSE-AB-0002, issue 1, 10.06.05	y	SIH-IH: HP-2-ASED-TP-0077 HIFI CQM finally routed and connected to HIFI PFM, TP-0152 J.L.
121432-02 SIH-IH-02	24.07.07	PFM	"	y	HIFI CQM finally routed and connected to HIFI PFM, TP-0152 J.L.
121432-02 SIH-IH-03	24.07.07	PFM	"	y	HIFI CQM finally routed and connected to HIFI PFM, TP-0152 J.L.
121432-02 SIH-IH-04	24.07.07	PFM	"	y	HIFI CQM finally routed and connected to HIFI PFM, TP-0152 J.L.
121432-02 SIH-IH-05	24.07.07	PFM	"	y	removed 07.07.06, NC-1171: Contact swap HIFI CQM finally routed and connected to HIFI PFM, TP-0152 J.L.
121432-02 SIH-IH-06	22.04.08	PFM	HP-2-ASSE-AB-0003, issue 1, 16.08.05	y	LOU-Removed 21.03.2006 HP-2-ASED-SD-0054 On CB 311200 J05-J08 connected and torqued see SD0289 08.04.08 J.Lang Electrical Integration SD-0312 performed on 22.04.2008 J.Lang
121432-02 SIH-IH-07	22.04.08	PFM	"	y	LOU-Removed 21.03.2006 HP-2-ASED-SD-0054 On CB 311200 J05-J08 connected and torqued see SD0289 08.04.08 J.Lang Electrical Integration SD-0312 performed on 22.04.2008 J.Lang
121432-02 SIH-IH-08	22.04.08	PFM	"	y	LOU-Removed 21.03.2006 HP-2-ASED-SD-0054 On CB 311200 J05-J08 connected and torqued see SD0289 08.04.08 J.Lang Electrical Integration SD-0312 performed on 22.04.2008 J.Lang
121432-02 SIH-IH-09	22.04.08	PFM	"	y	LOU-Removed 21.03.2006 HP-2-ASED-SD-0054 On CB 311200 J05-J08 connected and torqued see SD0289 08.04.08 J.Lang Electrical Integration SD-0312 performed on 22.04.2008 J.Lang
121432-02 SIH-IH-10	22.04.08	PFM	"	y	LOU-Removed 21.03.2006 HP-2-ASED-SD-0054 On CB 311200 J05-J08 connected and torqued see SD0289 08.04.08 J.Lang Electrical Integration SD-0312 performed on 22.04.2008 J.Lang

All rights reserved, 2007, Thales Alenia Space

Equipment / CI-No.	Integr. Date	Model, Serial No	ABCL Ref. (or EIDP)	Qualified	Remarks / Open Work / NCR's
121432-02 SIH-IH-11	22.04.08	PFM	"	y	LOU-Removed 21.03.2006 HP-2-ASED-SD-0054 On CB 311200 J05-J08 connected and torqued see SD0289 08.04.08 J.Lang Electrical Integration SD-0312 performed on 22.04.2008 J.Lang
121432-02 SIH-IH-12	22.04.08	PFM	"	y	LOU-Removed 21.03.2006 HP-2-ASED-SD-0054 On CB 311200 J05-J08 connected and torqued see SD0289 08.04.08 J.Lang Electrical Integration SD-0312 performed on 22.04.2008 J.Lang
121432-02 SIH-IS-01	18.07.06	PFM	HP-2-ASSE-AB-0005, issue 1, 15.07.05	y	
121432-02 SIH-IS-02	18.07.06	PFM	"	y	
121432-02 SIH-IS-03	18.07.06	PFM	"	y	
121432-02 SIH-IS-04	18.07.06	PFM	"	y	
121432-02 SIH-IS-05	18.07.06	PFM	"	y	
121432-02 SIH-IS-06	18.07.06	PFM	"	y	
121432-02 SIH-IS-07	18.07.06	PFM	"	y	
121432-02 SIH-IS-08	18.07.06	PFM	"	y	
121432-02 SIH-IS-09	18.07.06	PFM	"	y	
121432-02 SIH-IS-10	18.07.06	PFM	"	y	
121432-02 SIH-IS-11	18.07.06	PFM	"	y	
121432-02 SIH-IS-12	18.07.06	PFM	"	y	
121432-02 SIH-IS-13	18.07.06	PFM	"	y	
121432-02 SIH-IP-01	18.07.06	PFM	HP-2-ASSE-AB-0004, issue 1, 10.06.05	y	
121432-02 SIH-IP-02	03.09.05	PFM	"	y	
121432-02 SIH-IP-03	01.09.05	PFM	"	y	
121432-02 SIH-IP-04	01.09.05	PFM	"	y	
121432-02 SIH-IP-05	02.09.05	PFM	"	y	
121432-02 SIH-IP-06	02.09.05	PFM	"	y	

All rights reserved, 2007, Thales Alenia Space

Equipment / CI-No.	Integr. Date	Model, Serial No	ABCL Ref. (or EIDP)	Qualified	Remarks / Open Work / NCR's
121432-02 SIH-IP-07	05.09.05	PFM	"	y	
121432-02 SIH-IP-08	06.09.05	PFM	"	y	
121432-02 SIH-IP-09	06.09.05	PFM	"	y	
121432-02 SIH-IP-10	06.09.05	PFM	"	y	
121432-02 SIH-IP-11	06.09.05	PFM	"	y	
121432-02 SIH-IP-12	06.09.05	PFM	"	y	
121432-02 SIH-IP-13	02.09.05	PFM	"	y	
121432-02 SIH-IP-14	01.09.05	PFM	"	y	
121432-02 SIH-IP-15	02.09.05	PFM	"	y	
121432-021 PACS ESD protective assy	27.11.2007	PFM	HP-2-ASSE-DP-0007, issue 1	y	
121432-022 PACS Cross strapping assy	27.07.2008	PFM	HP-2-ASSE-DP-0012, issue 2	y	ASED-NC-4373: Connectors w/o grounding cage, grounding ensured with copper tape.
121432-04 HIFI SIH-IH-21 to 24 (external coax cables)	05.07.2007	PFM	HP-2-ASED-DP-0059, issue 1	y	MA = 0,8 Nm, bonding measurement done Due to bad HF performance for STM use only; External Coax Cable Integration by ELSPEC
121432-04 HIFI SIH-CH-21 to 24 (internal coax cables)	25.05.07	PFM	HP-2-ASED-DP-0059, issue 1	y	STM parts removed from PLM, new type of coax needed for FM, no COAX cables necessary for STM 2 tests. Final Integration on PFM acc. PR-0152 on 25.05.07 A.K. & Elspec
121432-04 HIFI SIH-SH-21 to 24 (SVM coax cables)	09.10.2007	PFM	HP-2-ASED-DP-0059, issue 1	y	Final Integration on Panel HIFI acc. PR-0078 W.H. Connection of HIFI Coax Cables to CB 311300 acc. SRON-U/HIFI/PR/2007-001 Iss.3 A.K.
121433 CB 212420	16.09.05	PFM	HP-2-ASED-DP-0028, issue 2	Y	Mating acc. HP-2-ASED-TP-0077 Brackets mounted to SVM according to HP-2-ASED-TP-0087 1.1 MLI standoffs integrated
121433 CB 311100	12.07.05	PFM	"	Y	Mating acc. HP-2-ASED-TP-0077 Brackets mounted to SVM according to HP-2-ASED-TP-0087 1.1 MLI standoffs integrated
121433 CB 311200	12.07.05	PFM	"	Y	Mating acc. HP-2-ASED-TP-0077 Brackets mounted to SVM according to HP-2-ASED-TP-0087 1.1 MLI standoffs integrated
121433 CB 311300	12.07.05	PFM	"	Y	Mating acc. HP-2-ASED-TP-0077 Brackets mounted to SVM according to HP-2-ASED-TP-0087 1.1 MLI standoffs integrated

All rights reserved, 2007, Thales Alenia Space

Equipment / CI-No.	Integr. Date	Model, Serial No	ABCL Ref. (or EIDP)	Qualified	Remarks / Open Work / NCR's
121433 CB 312100	27.08.05	PFM	"	Y	Mating acc. HP-2-ASED-TP-0077 Brackets mounted to SVM according to HP-2-ASED-TP-0087 1.1 MLI standoffs integrated
121433 CB 312200	27.08.05	PFM	"	Y	Mating acc. HP-2-ASED-TP-0077 Brackets mounted to SVM according to HP-2-ASED-TP-0087 1.1 MLI standoffs integrated
121433 CB 312300	27.08.05	PFM	"	Y	Mating acc. HP-2-ASED-TP-0077 Brackets mounted to SVM according to HP-2-ASED-TP-0087 1.1 MLI standoffs integrated
121433 CB 313100	27.08.05	PFM	"	Y	Mating acc. HP-2-ASED-TP-0077 Brackets mounted to SVM according to HP-2-ASED-TP-0087 1.1 MLI standoffs integrated
121433 CB 313200	27.08.05	PFM	"	Y	Mating acc. HP-2-ASED-TP-0077 Brackets mounted to SVM according to HP-2-ASED-TP-0087 1.1 MLI standoffs integrated
121433 CB 314200	27.08.05	PFM	"	Y	Mating acc. HP-2-ASED-TP-0077 (changed to CI 314200 due to writing error) Brackets mounted to SVM according to HP-2-ASED-TP-0087 1.1 MLI standoffs integrated
121433 CB 315100	27.08.05	PFM	"	Y	Mating acc. HP-2-ASED-TP-0077 Brackets mounted to SVM according to HP-2-ASED-TP-0087 1.1 MLI standoffs integrated
121433 CB 316100	27.08.05	PFM	"	Y	Mating acc. HP-2-ASED-TP-0077 Brackets mounted to SVM according to HP-2-ASED-TP-0087 1.1 MLI standoffs integrated
121433 CB 321100	27.08.05	PFM	"	Y	Mating acc. HP-2-ASED-TP-0077 Brackets mounted to SVM according to HP-2-ASED-TP-0087 1.1 MLI standoffs integrated
121433 CB 321200	27.08.05	PFM	"	Y	Mating acc. HP-2-ASED-TP-0077 Brackets mounted to SVM according to HP-2-ASED-TP-0087 1.1 MLI standoffs integrated
121433 CB 321300	27.08.05	PFM	"	Y	Mating acc. HP-2-ASED-TP-0077 Brackets mounted to SVM according to HP-2-ASED-TP-0087 1.1 MLI standoffs integrated
121433 Harness Rails	18.07.05	PFM	HP-2-ASED-DP-0028, Issue 2	y	Part No. 3132, 2900, 2728, 2526, 2400, 2300, 2122, 4344, 4200. Drwg. No. 2547-121430-200-07-0D; NC-1256: Fixed with bolts & nuts instead of helicoils
121433 Harness Rails	20.07.05	PFM	HP-2-ASED-DP-0028, Issue 2	y	Part No. 3334, 3800, 3900, 4041, 2 x 2100. Drwg. No. 2547-121430-200-07-0D; NC-1256: Fixed with bolts & nuts instead of helicoils
121433 P-clamps	27.08.05		"	y	on struts No. 22, 33, 38, 39, 40.
121433 Lower SFW Harness CBs					
121433 CB 214341	29.7.04		HP-2-ASED-DP-0028, Issue 2	n.a	Lower SFW CB +Y, connector labels exchanged on 21.01.05 SLI covered acc. To ASED-PR-0059

THALES
All rights reserved, 2007, Thales Alenia Space

Equipment / CI-No.	Integr. Date	Model, Serial No	ABCL Ref. (or EIDP)	Qualified	Remarks / Open Work / NCR's
121433 CB 214342	29.7.04		HP-2-ASED-DP-0028, Issue 2	n.a	Lower SFW CB +Z SLI covered acc. To ASED-PR-0059
121433 CB 214343	29.7.04		HP-2-ASED-DP-0028, Issue 2	n.a	Lower SFW CB –Y; marking of connectors performed on 21.01.05 L-bracket for J01 exchanged on 3.12.04, SLI covered acc. To ASED-PR-0059
121433 CB 214344	29.7.04		HP-2-ASED-DP-0028, Issue 2	n.a	Lower SFW CB –Z SLI covered acc. To ASED-PR-0059
121433 CB 212510 + support	Y		HP-2-ASED-DP-0028, Issue 2	n.a	H701/702 CB
121433 L701 P-Clamp + CB/Backshell	Y		HP-2-ASED-DP-0028, Issue 2	n.a	preliminary test bracket replaced by flight item
121433 L702 P-Clamp + CB/Backshell	Y		HP-2-ASED-DP-0028, Issue 2	n.a	preliminary test bracket replaced by flight item
121433 **Harness CBs**					In total 9 CB, 7 x 9 pole; 2 x 15 pole
121433 H103 CB	3.8.04	PFM	HP-2-ASED-DP-0028, Issue 2	n.a	9 pole
121433 H104 CB	3.8.04	PFM	"	n.a	9 pole
121433 PPS CB	28.9.04	PFM	"	n.a	9 pole, preliminary test bracket replaced by flight item
121433 DLCM1 CB	28.9.04	PFM	"	n.a	(Qty = 2) 1 x 9 pole; 1 x 15 pole, preliminary test bracket replaced by flight item
121433 DLCM2 CB	28.9.04	PFM	"	n.a	(Qty = 2) 1 x 9 pole; 1 x 15 pole, preliminary test bracket replaced by flight item
21433 L101 conn. Bkt. Support (P-Clamp)	21.9.04	PFM	"	n.a	9 pole, preliminary test bracket replaced by flight item
121433 L102 conn. Bkt. Support (P-Clamp)	21.9.04	PFM	"	n.a	9 pole, preliminary test bracket replaced by flight item
121433 Pos. 110 Harness-Support 1 Cutout 1	04.01.2005	PFM	2547-121432-16I-01-0A	n. a.	
121433 Pos. 115 Harness-Support 1 Cutout 1	04.01.2005	PFM	2547-121432-16I-01-0A	n. a.	
121433 Pos. 120 Harness-Support 1 Cutout 2	04.01.2005	PFM	2547-121432-16J-01-0A	n. a.	
121433 Pos. 130 Harness-Support 2 Cutout 2	14.01.2005	PFM	2547-121432-16K-01-0A	n. a.	

All rights reserved, 2007, Thales Alenia Space

Equipment / CI-No.	Integr. Date	Model, Serial No	ABCL Ref. (or EIDP)	Qualified	Remarks / Open Work / NCR's
121433 Pos. 140 Harness-Support 3 Cutout 2	04.01.2005	PFM	2547-121432-16L-01-0A	n. a.	
121433 Pos. 150 HIFI Harness Bracket	19.07.07	PFM	HP-2-ASED-DW-0211-01-0A (2547-121432-185-01-0A)	n. a.	New drwg. For PFM, positions of venting holes changed. Not installed for STM 2. Intergation of Harness Rail acc HP-2-ASED-PR-0090 NC-3417: I/F btw. FPU and H.-Bracket - Invar shims added, harness not to be fixed on top of bracket due to limited distance to OBS
121433 Pos. 160 Harness-Support 1 Cutout 3	18.01.2005	PFM	2547-121432-16M-01-0A	n. a.	NC-0681: Modification of fixation holes I/F ASED-SD-0101: Rail wrapped with gore-tex
121433 Pos. 170 Harness-Support 2 Cutout 4	18.01.2005	PFM	2547-121432-16O-01-0A	n. a.	NC-0681: Modification of fixation holes I/F ASED-SD-0101: Rail wrapped with gore-tex ASED-SD-0111: Supports thermally decoupled with CFRP washers
121433 Pos. 180 Harness-Support 1 Cutout 4	14.01.2005	PFM	2547-121432-16N-01-0A	n. a.	ASED-SD-0101: Rail wrapped with gore-tex
121433 OB Harness-bracket 1	15.04.05	PFM	2547-121432-16Q-01-0A	n. a.	2 parts
121433 OB Harness-bracket 2	15.04.05	PFM	2547-121432-16R-01-0A	n. a.	
121433 OB Harness-bracket 3	15.04.05	PFM	2547-121432-16S-01-0A	n. a.	3 pcs
121433 OB Harness-bracket 4	15.04.05	PFM	2547-121432-16T-01-0A	n. a.	
121433 OB Harness-bracket 5	18.03.2005	PFM	2547-121432-16U-01-0B	n. a.	NC-0838: reworked to comply with drwg. Issue B
121433 OB Harness-bracket 6	15.04.05	PFM	2547-121432-16V-01-0A	n. a.	
121433 OB Harness-bracket 7	15.04.05	PFM	2547-121432-16W-01-0A	n. a.	
121433 Upper SFW harn. CBs	14.12.04	PFM	HP-2-ASED-DP-0028 (2)	na	acc. To HP-2-ASED-DW-0086-01 NC-0842, backshells of connectors had to be turned 180°
121433 TSS Harness supports	21.07.06	PFM	HP-2-ASED-DW-0203-01-0A	n.a.	new Vespel supports on TSS chains iaw. ASED-SD-0101
121500 (CFE) ASED CI 125100 LOU Radiator	26.09.2008	FM	HP-2-SRON-DP-0004 issue 6 (= SRON-U/HIFI/LI/2007-002_6)	y	16.11.2005: removed after TB/TV test Mounted 21.12.05; HP-2-ASED-SD-0030 Iss.1;removed 24.02.06 HP-2-ASED-SD-0042 Mounted 30.05.08 HP-2-ASED-PR-0098, Geiger Removed 14.08.08, HP-2-ASED-PR-0098, Henhstler, Süß Integrated acc. HP-2-ASED-PR-0134 issue1 R.Hengstler Sonn

All rights reserved, 2007, Thales Alenia Space

Equipment / CI-No.	Integr. Date	Model, Serial No	ABCL Ref. (or EIDP)	Qualified	Remarks / Open Work / NCR's
121510 External Heatable LOU Baffle LWB LOAACH see 125120	17.09.2008	FM	HP-2-ASED-DP-0074_1 HP-2-ASED-DW-0335-01-0B, 23.07.08	Y	Mounted 07.07.05, removed on 08.07.05 after negative fit check, ref. NC-1245 Fit check for MLI integration Geiger removed 14.03.2008 Google integrated acc.PR-0098 28.05.08 H:G: LBA integrated acc. PR-0098 28.05.08 H.G. old Baffle Removed 14.08.08, HP-2-ASED-PR-0098, Henhstler, Süß as a result of design change the Goggle is not longer part of the external heatable baffle !! Integrated 17.09.08 acc HP-2-ASED-PR-0134 R.Hengstler
121510 Modified harness for LWB	17.09.2008	FM	HP-2-ASSE-DP-0013_2	y	
121520 LOU Support Structure incl. Support Plate and I/F struts	27.02.2008	PFM SN 158538	HP-2-ECAS-DP-0004, iss. 1, 13.12.04	y	Mating acc. To HP-2-ASED-PR-0024 Wire locking done 02.08.05 Removed 29.03.2006 HP-2-ASED-SD-0053 Fitcheck for Cool Down acc.SD-0251 Removed 15.02.08 H.G. Integration acc. PR-0098 issue 1 / 27.02.08 Geiger Sonn De-Integrated acc. –PR-0098; Geiger Final Integration acc.PR-0098 H.Geiger
121530 HIFI-LOU Windows assy	22.-25.04.05	PFM, SN see under remarks	HP-2-QMC-AB-0001, Issue 2, 24.01.05	y	Incl. clamps, bolts and o-rings SN: B1/31, B2/28, B3/03, B4/12, B5/13, B6L/21, B6H/22
121530 Alignment windows assy	25.04.05	PFM SN: OA#3, OA#8	,,	y	Incl. clamps, bolts and o-rings
121550 LOU Waveguide Assy	12.04.2008	FM, SN 01	HP-2-RYM-AB-0030, issue 1, 31.10.04	y	WG Tapes removed 05.10.05 Lower section removed after TB/TV and re-mounted on 30.11.05; Screws secured with EC 2216; removed 24.03.2006 HP-2-ASED-PR-0053 Fitcheck 12.03.2008 Geiger Final Integration H. Geiger acc. HP-2-ASED-PR-0030-3 Torqued and secured 12.04.2008 H.G.
121570 LOU-HRN Support Structure	28.03.2008	FM, SN01	HP-2-ASED-DW-0162-01 issue A, 31.05.05	Y	Brackets –Z & +Z to be removed after mechanical tests at ESTEC (see OW 122) On + Z modifie the hole M4 Removed 30.03.06 HP-2-ASED-SD-0053 Partly integrated acc. PR-0030-3 Hengstler 12.03.2008 Final Integration acc.PR-0030-3 Geiger
122000 122300 122500 TMS incl. CB`s	12.06.07	PFM-0300	HP-2-ECAS-DP-0009, issue 1, 31.08.05	Y	Integration acc. To HP-2-ASED-SD-0043 NCR generated during Incoming and Integration see NC-1437 NC-1481: Flatness out of tolerance, to be reworked for PFM final installation and alignment check on 12.09.05 Mirror bracket –Z, -Y side installed on 09.09.05 Removed 27.03.06 HP-2-ASED-SD-0042 Final integrated acc.PR-0092 B.K.
122100 TMS Strut	12.06.07	PFM 0166	"	y	TMS/CVV_1 Strut blade at CVV wrongly installed see NC-1437 2 mm shim; Removed 27.03.06 HP-2-ASED-SD-0042 Final integrated acc.PR-0092 B.K.

All rights reserved, 2007, Thales Alenia Space

Equipment / CI-No.	Integr. Date	Model, Serial No	ABCL Ref. (or EIDP)	Qualified	Remarks / Open Work / NCR's
122100 TMS Strut	12.06.07	PFM 0152	"	y	TMS/CVV_6 1mm shim; Removed 27.03.06 HP-2-ASED-SD-0042 Final integrated acc.PR-0092 B.K.
122100 TMS Strut	12.06.07	PFM 0151	"	y	TMS/CVV_5 2 mm shim; Removed 27.03.06 HP-2-ASED-SD-0042 Final integrated acc.PR-0092 B.K.
122100 TMS Strut	12.06.07	PFM 0163	"	y	TMS/CVV_4 Strut blade at CVV wrongly installed see NC-1437 2 mm shim; Removed 27.03.06 HP-2-ASED-SD-0042 Final integrated acc.PR-0092 B.K.
122100 TMS Strut	12.06.07	PFM 0154	"	y	TMS/CVV_3 2 mm shim; Removed 27.03.06 HP-2-ASED-SD-0042 Final integrated acc.PR-0092 B.K.
122100 TMS Strut	12.06.07	PFM 0165	"	y	TMS/CVV_2 Strut blade at CVV wrongly installed see NC-1437 2 mm shim Removed 27.03.06 HP-2-ASED-SD-0042 MLI installed for sine test; Final integrated acc.PR-0092 B.K.
122200 MLI on TMS struts	22.04.08	PFM	HP-2-AAEM-LI-0037, issue 2.0, 06.08.07	y	For sine test only partly installed: on TMS/CVV_2, TMS/CB 3, TMS/CB 4; TMS Removed 27.03.06 HP-2-ASED-SD-0042 Integrated acc.AAEM-PR-0004 Iss.5
122400 TMS Strut	12.06.07	PFM 0246	HP-2-ECAS-DP-0009, issue 1, 31.08.05	y	TMS/CB 2 Removed 27.03.06 HP-2-ASED-SD-0042 Final integrated acc.PR-0092 B.K.
122400 TMS Strut	12.06.07	PFM 0245	"	y	TMS/CB 1 Removed 27.03.06 HP-2-ASED-SD-0042 Final integrated acc.PR-0092 B.K.
122400 TMS Strut	12.06.07	PFM 0250	"	y	TMS/CB 6 Removed 27.03.06 HP-2-ASED-SD-0042 Final integrated acc.PR-0092 B.K.
122400 TMS Strut	12.06.07	PFM 0249	"	y	TMS/CB 5 Removed 27.03.06 HP-2-ASED-SD-0042 Final integrated acc.PR-0092 B.K.
122400 TMS Strut	12.06.07	PFM 0248	"	y	TMS/CB 4 MLI installed for sine test TMS Removed 27.03.06 HP-2-ASED-SD-0042 Final integrated acc.PR-0092 B.K.
122400 TMS Strut	12.06.07	PFM 0247	"	y	TMS/CB 3 MLI installed for sine test TMS Removed 27.03.06 HP-2-ASED-SD-0042 Final integrated acc.PR-0092 B.K.
123110 Solar Array	10.04.2008	FM	HP-2-DSSA-DP-0004, issue 1, 29.11.07	y	Finally installed on 19.12.2005 HP-2-ASED-TP-0085 Iss.2 Removed 01.03.2006 HP-2-ASED-SD-0042 Final Integration acc. TP-0161 T.B. NC-3322: Bolt torque loss after unit TB/TV - to be re-checked after S/C TB/TV NC-4311: Detached diodes - to be repaired by GA
123112 Strut 1 HSS/SVM	10.04.2008	S/N 0101	HP-2-ECAS-DP-0008, issue 1, 03.08.05	Y	NC-1602: HSS STM sine test aborted, dampers introduced on struts 1-12. Dampers are mounted. Removed 01.03.2006 HP-2-ASED-SD-0042;final integration of Dampers 23.08.2007 R.Hengstler acc. DW 2547-123130-500-01-0B Final Integration acc. TP-0161 T.B.
123112 Strut 2 HSS/SVM	10.04.2008	S/N 0202	HP-2-ECAS-DP-0008, issue 1, 03.08.05	Y	NC-1602: HSS STM sine test aborted, dampers introduced on struts 1-12. Dampers are mounted. Removed 01.03.2006 HP-2-ASED-SD-0042 final integration of Dampers 23.08.2007 R.Hengstler acc. DW 2547-123130-500-01-0B Final Integration acc. TP-0161 T.B.

All rights reserved, 2007, Thales Alenia Space

Equipment / CI-No.	Integr. Date	Model, Serial No	ABCL Ref. (or EIDP)	Qualified	Remarks / Open Work / NCR's
123112 Strut 3 HSS/SVM	10.04.2008	S/N 0203	HP-2-ECAS-DP-0008, issue 1, 03.08.05	Y	NC-1602: HSS STM sine test aborted, dampers introduced on struts 1-12. Dampers are mounted. Removed 01.03.2006 HP-2-ASED-SD-0042 final integration of Dampers 23.08.2007 R.Hengstler acc. DW 2547-123130-500-01-0B Final Integration acc. TP-0161 T.B.
123112 Strut 4 HSS/SVM	10.04.2008	S/N 0104	HP-2-ECAS-DP-0008, issue 1, 03.08.05	Y	NC-1602: HSS STM sine test aborted, dampers introduced on struts 1-12. Dampers are mounted. Removed 01.03.2006 HP-2-ASED-SD-0042 final integration of Dampers 23.08.2007 R.Hengstler acc. DW 2547-123130-500-01-0B Final Integration acc. TP-0161 T.B.
123112 Strut 5 HSS/CVV	10.04.2008	S/N 0405	HP-2-ECAS-DP-0005, issue 1, 31.05.05	Y	NC-1602: HSS STM sine test aborted, dampers introduced on struts 1-12. Dampers are mounted. Removed 01.03.2006 HP-2-ASED-SD-0042 final integration of Dampers 23.08.2007 R.Hengstler acc. DW 2547-123130-500-01-0B Final Integration acc. TP-0161 T.B.
123112 Strut 6 HSS/CVV	10.04.2008	S/N 0306	HP-2-ECAS-DP-0005, issue 1, 31.05.05	Y	NC-1602: HSS STM sine test aborted, dampers introduced on struts 1-12. Dampers are mounted. Removed 01.03.2006 HP-2-ASED-SD-0042 final integration of Dampers 23.08.2007 R.Hengstler acc. DW 2547-123130-500-01-0B Final Integration acc. TP-0161 T.B.
123112 Strut 7 HSS/CVV	10.04.2008	S/N 0307	HP-2-ECAS-DP-0005, issue 1, 31.05.05	Y	NC-1602: HSS STM sine test aborted, dampers introduced on struts 1-12. Dampers are mounted. Removed 01.03.2006 HP-2-ASED-SD-0042 final integration of Dampers 23.08.2007 R.Hengstler acc. DW 2547-123130-500-01-0B Final Integration acc. TP-0161 T.B.
123112 Strut 8 HSS/CVV	10.04.2008	S/N 0408	HP-2-ECAS-DP-0005, issue 1, 31.05.05	Y	NC-1602: HSS STM sine test aborted, dampers introduced on struts 1-12. Dampers are mounted. Removed 01.03.2006 HP-2-ASED-SD-0042 final integration of Dampers 23.08.2007 R.Hengstler acc. DW 2547-123130-500-01-0B Final Integration acc. TP-0161 T.B.
123120 Sunshade	12.04.2008	FM	HP-2-DSSA-DP-0004, issue 1, 29.11.07	pending	Final Installation on 19.12.2005 HP-2-ASED-TP-0085 Iss.2 STM shall be refurbished to FM after S/C STM test Removed 01.03.2006 HP-2-ASED-SD-0042 Final Integration acc. TP-0161 T.B. NC-3322: Bolt torque loss after unit TB/TV - to be re-checked after S/C TB/TV
123122 Strut 9 HSS/CVV	12.04.2008	S/N 0109	HP-2-ECAS-DP-0005, issue 1, 31.05.05	Y	NC-1602: HSS STM sine test aborted, dampers introduced on struts 1-12. Dampers are mounted. Removed 01.03.2006 HP-2-ASED-SD-0042 final integration of Dampers 23.08.2007 R.Hengstler acc. DW 2547-123130-500-01-0B Final Integration acc. TP-0161 T.B.
123122 Strut 10 HSS/CVV	12.04.2008	S/N 0210	HP-2-ECAS-DP-0005, issue 1, 31.05.05	Y	NC-1602: HSS STM sine test aborted, dampers introduced on struts 1-12. Dampers are mounted. Removed 01.03.2006 HP-2-ASED-SD-0042 final integration of Dampers 23.08.2007 R.Hengstler acc. DW 2547-123130-500-01-0B Final Integration acc. TP-0161 T.B.
123122 Strut 11 HSS/CVV	12.04.2008	S/N 0211	HP-2-ECAS-DP-0005, issue 1, 31.05.05	Y	NC-1602: HSS STM sine test aborted, dampers introduced on struts 1-12. Dampers are mounted. Removed 01.03.2006 HP-2-ASED-SD-0042 final integration of Dampers 23.08.2007 R.Hengstler acc. DW 2547-123130-500-01-0B Final Integration acc. TP-0161 T.B.

All rights reserved, 2007, Thales Alenia Space

Equipment / CI-No.	Integr. Date	Model, Serial No	ABCL Ref. (or EIDP)	Qualified	Remarks / Open Work / NCR's
123122 Strut 12 HSS/CVV	12.04.2008	S/N 0112	HP-2-ECAS-DP-0005, issue 1, 31.05.05	Y	NC-1602: HSS STM sine test aborted, dampers introduced on struts 1-12. Dampers are mounted. Removed 01.03.2006 HP-2-ASED-SD-0042 final integration of Dampers 23.08.2007 R.Hengstler acc. DW 2547-123130-500-01-0B Final Integration acc. TP-0161 T.B.
123130 HSS strut dampers	12.04.08	PFM	HP-2-ASED-DP-0065_1 HP-2-ASED-DW-0245-01-0B	y	
123311 Solar Array MLI	12.04.2008	PFM	HP-2-AAEM-LI-0037, issue 2.0, 06.08.07 HP-2-AAEM-DP-0005	Y	Integration of the panel for FM only after refurbishment Removed 01.03.2006 HP-2-ASED-SD-0042 Final Integration acc. TP-0161 T.B.
123312 SA support struts MLI	12.05.2008	PFM	HP-2-AAEM-LI-0037, issue 2.0, 06.08.07 HP-2-AAEM-DP-0005	y	
123322 Sunshade MLI	12.04.2008	PFM	HP-2-AAEM-LI-0037, issue 2.0, 06.08.07 HP-2-AAEM-DP-0005	Y	Integration of the panel for FM only after refurbishment Removed 01.03.2006 HP-2-ASED-SD-0042 Final Integration acc. TP-0161 T.B.
123323 Sunshade supp. struts MLI	12.05.2008	PFM	HP-2-AAEM-LI-0037, issue 2.0, 06.08.07 HP-2-AAEM-DP-0005	y	
124100 PLM/SVM I/F Struts	08.07.05 – 20.07.05	PFM	HP-2-ECAS-DP-0002, iss. 1, 01.06.05	y	Mating acc. To HP-2-ASED-PR-0023 NC-1220: Bolts LN 29550 replaced by LN 29551
124200 PLM/SVM Strut MLI	21.05.08	PFM	HP-2-AAEM-LI-0037, issue 2.0, 06.08.07 HP-2-AAEM-DP-0005	y	Partly disintegrated For sine test MLI was integrated only on 2 Struts: (SN 22 &23) Removed 21.03.06 5x Struts on +Z Side with MLI 2x Struts on +Y Side with MLI All Struts integrated with MLI by AAEM
124300 SVM Thermal Shield +Y to –Z Part1 -Y to –Z Part2 Adapter plate		PFM	HP-2-ECAS-DP-0007, issue 1.1, 04.08.05	y	Removed after TB/TV test 15.11.05 Re-mounting on 12.01.2006 acc.HP-2-ASED-SD-0031 Iss.1 Release 2 Removal 25.02.2006 HP-2-ASED-SD-0042; Re-mounting for TB/TV Test STM2 acc.SD-0031 15.01.2007; Removed 14.03.2007 acc.SD-0042 Preliminary Integration for EMC Test acc-PR-0113 T.B. Removed 15.05.2008 after EMC Test Reintegrated 31.05.2008; Bayer/Geiger Removed 19.07.08 Brune 'Geiger Integrated 28.10.08 Reichle, Hengstler, Bayer Removed after TBTV Test 10.01.09
124320 SVM Thermal Shield SLI		PFM	HP-2-AAEM-LI-0037, issue 2.0, 06.08.07 HP-2-AAEM-DP-0005	y	Integrated 12.01.2006 for Vibration Removal 25.02.2006 HP-2-ASED-SD-0042 Re-mounting for TB/TV Test STM2 acc.SD-0031 15.01.2007 Removed 14.03.2007 acc.SD-0042; SLI on Thermal shield taped by AAEM Removed after TBTV Test 10.01.09
124340 SVM TS struts MLI	y	PFM	HP-2-AAEM-LI-0037, issue 2.0, 06.08.07 HP-2-AAEM-DP-0005	y	
125100 HIFI FPU & LOU	y		see first page of the list		
125100 LOU Radiator	26.09.2008	FM	HP-2-SRON-DP-0004 issue 6 (= SRON-	y	16.11.2005: removed after TB/TV test Mounted 21.12.05; HP-2-ASED-SD-0030

All rights reserved, 2007, Thales Alenia Space

Equipment / CI-No.	Integr. Date	Model, Serial No	ABCL Ref. (or EIDP)	Qualified	Remarks / Open Work / NCR's
			U/HIFI/LI/2007-002_6)		Iss.1;removed 24.02.06 HP-2-ASED-SD-0042 Mounted 30.05.08 HP-2-ASED-PR-0098, Geiger Removed 14.08.08, HP-2-ASED-PR-0098, Henhstler, Süß Integrated acc. HP-2-ASED-PR-0134 issue1 R.Hengstler Sonn
125110 HIFI Baffle on FPU	27.11.07	PFM	HP-2-ASED-DW-0130-01-0A	y	FPU baffle DW-0130 is black anodized. Integrated during final closure acc. ASED-PR-0064_2, H.G.
125120 LOAACH	17.09.08	PFM	HP-2-SRON-DP-0007 issue 1/1 (= SRON FPSS-01242)	y	CFE
125200 SPIRE FPU	y		see first page of the list		
125300 PACS FPU	y		see first page of the list		
125400 Telescope	16.04.2008	PFM	ABCL: HER.NT.0722.T.ASTR, issue 6.0, 18.07.07 HP-2-ASEF-DP-1031, issue 1, July 2007	y	Integrated acc. HP-2-ASED-PR-0108, iss. 1 by ASED with support of ASEF Electrical Integration acc. SD-0313 27.05.08 N.S.
Temporary Installed Items : MGSE, OGSE, CVSE					
130000 SVM Grounding lines installed: (SVM) 3000HP207-401 3000HP207-403 3000HP207-405 3000HP207-407		ID NR: 25, 33 ID NR: 27, 35 ID NR: 37 ID NR: 31			Removed on 02.03.2006 acc. To HP-2-ASED-SD-0042
142270 Load cells (Pretension Device)		MGSE			Re-Integrated after TB/TV Test; Removed for Vibration Test 09.01.2006; installed –Z Side 07.03.2006; Installed on +Z Side 24.03.06 Re-integrated for adjustment of chains on 08.08.06 Removed for TB/TV Test STM2 10.01.2007 acc. SD-0145; covered with protective cap; Protective cap removed and installed the Pretension Device acc. TP-0133 R.Suess 28.02.2007 Removed the Load Cells for Calibration Re-installation acc. TP-0133 Iss.1.4 25.01.2008 Removed Load cells on +Z,-Y and +Y for CVV MLI Integration 11.03.2008; On –Z side the 6 load cells are removed, but the Caps not installed see OW 501 All Caps are installed OW 501 closed 14.05.2008 H.G.
142300 Airlock Filling Port / CVV	09.01.2009	MGSE			Re-integrated 17.11.05 Removed 12.04.2006; re-integrated SD0113; Removed 21.01.2007 acc. SD-0146; Prep. For TB/TV Test; TB/TV Safety Adapter installed; removed after TB/TV test 27.02.2007 a.. SD-0151 and installed the filling port A.Runge Removed acc.SD-0151; 22.03.2007

All rights reserved, 2007, Thales Alenia Space

Equipment / CI-No.	Integr. Date	Model, Serial No	ABCL Ref. (or EIDP)	Qualified	Remarks / Open Work / NCR's
					Integrated for Leaktest M.L. 15.06.07 Removal for Acoustic Test 05.06.08 A.R. Integrated after Acoustic Test A.R. PR-0123 Removal for Vibration Test A.R. 19.06.08 Integrated after Vibration Test A.R. PR-0123 07.07.08 Removal for TBTV test Integration after TBTV Test 09.01.2009
142410 HACS Camera +Z		OGSE	HP-2-TER-AB-0001, iss. 2-A, 03.06.05	Y	17.11.2005: removed after TB/TV test Integration for LOU Aligment Measurement before Cool Down acc. SD-0251 Removed after LOU Measurement acc.SD-0251 Integration before TB/TV Test acc. HP-2-TER-MA-1000 Removed after TBTV Test 12.01.2009 HG
142410 HACS Camera – Z		OGSE	HP-2-TER-AB-0001, iss. 2-A, 03.06.05	Y	17.11.2005: removed after TB/TV test Integration for LOU Aligment Measurement before Cool Down acc. SD-0251 Removed after LOU Measurement acc.SD-0251 Integration before TB/TV Test acc. HP-2-TER-MA-1000 Removed after TBTV Test 10.01.09
142410 HACS Harness - 2x power cables - 2x glass fibre cables		OGSE		y	17.11.2005: removed after TB/TV test Integration for LOU Aligment Measurement before Cool Down acc. SD-0251 Removed after LOU Measurement acc.SD-0251 Integration 29.10.08; R. Hofmann Removed after TBTV Test 10.01.09
VLD Lifting Brackets (3x)	09.01.2009	MGSE		Y	Integrated for Transfer to ESTEC 18.12.2007 2 x +Z and –Y Side removed All 3 Brackets installed for Movement 26.04.08 acc. PR-0081 Iss.2 Removed after Movement to Leaf On –Z side installed 07.06.08 -Y +Y removed 10.06.08 Bayer -Z Side to be removed -Z Side removal for Vibration Test 19.06.08 Installed for Movement to VIS and Multishaker 24.06.08 T.B. Remove for Vibrations Test. Installed after Vibration Test to move on VIS Removed in LSS by Th. Bayer Installed after TBTV Test KR 09.01.2009
Deer Head	19.07.08	MGSE		Y	Integrated with Nozzles Support Structure 08.02.08 Removal for Mustache Integration 28.05.08 T.B. Integrated for HE II production 19.07.08 T.B.
Cryo-Cover flushing lines (2x)		MGSE		Y	Integrated for Cool Down 10.02.2008 Removed for MLI integration 15.03.2008 Huber / Runge
Vacuum Pump on SV921		MGSE		Y	Integrated for Cool Down 10.02.2008 Removed acc. HP-2-ASED-SD-0322 M.Langfermann 30.04.08 Integrated after Vibration Test A.R. PR-0123
Anaconda	09.01.2009	MGSE		Y	Integrated for Cool Down 10.02.2008 Removal for Acoustic test 05.06.08 A.R. Integrated after Acoustic Test A.R. PR-0123 Remaval for Vibration test A.R. 19.06.08 Integrated after Vibration Test A.R. PR-0123 Removed for TBTV Test Integrated after TBTV Test ML 09.01.2009

All rights reserved, 2007, Thales Alenia Space

Equipment / CI-No.	**Integr. Date**	**Model, Serial No**	**ABCL Ref. (or EIDP)**	**Qualified**	**Remarks / Open Work / NCR's**
Accelerometer	29.04.08		Endevco Model 2272 Type 163		Test Items to be removed after mech. Test
Plexiglas Cover for LOU Penta Prisma (2x)					Securing for Penta Prisma Removal for Acoustic Test 30.04.08 H.G.
LOAA Test item		GSE			Preliminary Integration Removed 27.05.08 H.G.
ACC Harness on 211121 P38	26.05.08	GSE			Integration for mech Test by J.L.
ACC Harness on 211123 P02	03.06.2008	GSE			Integration for mech Test by J.L.
Wooden Solar Array Panel Part 2	25.10.2008				The Solar Array Cover Part 2 was replaced of a wooden panel for H-field measurements. 31.07.08 Bayer Removed by Henstler, Brune, Süß

All rights reserved, 2007, Thales Alenia Space

Annex 2 : SVM Integration Status List

Herschel SVM Integration Status List **HP-2-ASED-LI-0033, issue: 21** Status: 12.1.2009

Equipment / CI-No.	Integr. Date	Model, Serial No	ABCL Ref. (or EIDP)	Qualified	Remarks / Open Work / NCR's
SVM Connector Brakets				Y	
311 300 Upper Closure Panel	12.02.2007	FM		Y	
321 100 Upper Closure Panel	12.02.2007	FM		Y	
311 100 Upper Closure Panel	12.02.2007	FM		Y	
311 200 Upper Closure Panel	12.02.2007	FM		Y	
312 100 Upper Closure Panel	12.02.2007	FM		Y	
312 200 Upper Closure Panel	12.02.2007	FM		Y	
316 100 Upper Closure Panel	12.02.2007	FM		Y	
312 300 Upper Closure Panel	12.02.2007	FM		Y	
321 200 Upper Closure Panel	12.02.2007	FM		Y	
321 300 Upper Closure Panel	12.02.2007	FM		Y	
315 100 Upper Closure Panel	12.02.2007	FM		Y	
314 200 Upper Closure Panel	12.02.2007	FM		Y	
313 200 Upper Closure Panel	12.02.2007	FM		Y	
313 100 Upper Closure Panel	12.02.2007	FM		Y	
SVM HIFI					
CI : 111 200 HIFI FHWEH	18.07.2007	FM	SRON-U/HIFI/LI/2007-002, issue 6	Y	Integrated acc. HP-2-ASED-PR-0074 Integrated with Sigraflexpieces under the feets
CI : 111 200 HIFI FHWOH	18.07.2007	FM	"	Y	Integrated acc. HP-2-ASED-PR-0074
CI : 111 200 HIFI FHLCU	24.07.2007	FLCU-FM 01/06	"	Y	Integrated acc. HP-2-ASED-PR-0074
CI : 111 200 HIFI FHHRH	24.07.2007	FM	"	Y	Integrated acc. HP-2-ASED-PR-0074
CI : 111 200 HIFI FHIFH	25.07.2007	FM	"	Y	Integrated acc. HP-2-ASED-PR-0074
CI : 111 200 HIFI FHIFV	25.07.2007	FM	"	Y	Integrated acc. HP-2-ASED-PR-0074

All rights reserved, 2007, Thales Alenia Space

Equipment / CI-No.	Integr. Date	Model, Serial No	ABCL Ref. (or EIDP)	Qualified	Remarks / Open Work / NCR's
CI : 111 200 HIFI FHHRV	25.07.2007	FM	"	Y	Integrated acc. HP-2-ASED-PR-0074
CI : 111 200 HIFI FHWEV	28.03.2008	WBE: FM PWR supply: FM WBI: FS, Sn 960359	"	Y	Integrated acc. HP-2-ASED-PR-0074 ASED-NC-3826 WBS-V comb too weak: Removed acc.SD-0237 19.01.2008, integrated acc. ASED-SD-0245, WBI FM replaced by FS (former QM) Removed: 28.03.08 acc. SD-290 Re-integrated: 28.03.08 acc. SD-291
CI : 111 200 HIFI FHWOV	25.07.2007	FM	"	Y	Integrated acc. HP-2-ASED-PR-0074
CI : 111 200 HIFI FHHRH	25.07.2007	FM	"	Y	Integrated acc. HP-2-ASED-PR-0074
CI : 111 200 HIFI FHFCU	25.07.2007	FM Drwg. 324-G-7000	"	Y	Integrated acc. HP-2-ASED-PR-0074
CI: 111 200 HIFI FHLSU	24.07.2007	PF P/N 157704 S/N 4905079	"	Y	Integrated acc. HP-2-ASED-PR-0074
CI. : 125 100 HIFI-HPDPU	19.02.2007	AVM2 S/N 01	"	Y	
CI. : 125 100 HIFI-HSDPU	26.02.2007	AVM2 S/N 01	"	Y	
CI. : 125 100 HIFI-HHICU	05.03.2007	AVM2 S/N 01	"	Y	Integrated acc. H-P-ED-A-0033
MLI Cover inside HIFI I Panel	01.04.2008	FM		Y	Integrated acc. H-P-4-AAE-PR-2001; iss. 3.B
MLI Cover inside HIFI II Panel	01.04.2008	FM		Y	Integrated acc. H-P-4-AAE-PR-2001; iss. 3.B
HIFI Ripple Box LRF, FM01	01.04.2008	FM01		Y	Integrated acc. HP-ED-AI-0033 by TAS-F Harness repair acc. AI-0033 NC-4037
HIFI Ripple Box LRF, FM02	01.04.2008	FM02		Y	Integrated acc. HP-ED-AI-0033 by TAS-F Harness repair acc. AI-0033 NC-4037
HIFI I Harness 121432-03-31A SIH-SH-10	07.05.2007	FM	HP-2-CASA-DP-0015, issue 2.1	Y	Integrated acc. H-P-ED-A-0033
HIFI I Harness 121432-03-31B SIH-SH-11	07.05.2007	FM	HP-2-CASA-DP-0015, issue 2.1	Y	Integrated acc. H-P-ED-A-0033
HIFI I Harness 121432-03-31C SIH-SH-12	07.05.2007	FM	HP-2-CASA-DP-0015, issue 2.1	Y	Integrated acc. H-P-ED-A-0033
HIFI I Harness 121432-03-316 SIH-SH-06	07.05.2007	FM	HP-2-CASA-DP-0015, issue 2.1	Y	Integrated acc. H-P-ED-A-0033
HIFI I Harness 121432-03-317 SIH-SH-07	07.05.2007	FM	"	Y	Integrated acc. H-P-ED-A-0033
HIFI I Harness 121432-03-318 SIH-SH-08	07.05.2007	FM	"	Y	Integrated acc. H-P-ED-A-0033
HIFI I Harness 121432-03-329 SIH-SH-09	07.05.2007	FM	"	Y	Integrated acc. H-P-ED-A-0033
HIFI II Harness	04.09.2007	FM		Y	Integrated acc. HP-2-ASED-PR-0078

All rights reserved, 2007, Thales Alenia Space

Equipment / CI-No.	Integr. Date	Model, Serial No	ABCL Ref. (or EIDP)	Qualified	Remarks / Open Work / NCR's
121432-03-311 SIH-SH-01			"		
HIFI II Harness 121432-03-312 SIH-SH-02	04.09.2007	FM	"	Y	Integrated acc. HP-2-ASED-PR-0078
HIFI II Harness 121432-03-313 SIH-SH-03	04.09.2007	FM	"	Y	Integrated acc. HP-2-ASED-PR-0078
HIFI II Harness 121432-03-314 SIH-SH-04	04.09.2007	FM	"	Y	Integrated acc. HP-2-ASED-PR-0078
HIFI II Harness 121432-03-315 SIH-SH-05	04.09.2007	FM	"	Y	Integrated acc. HP-2-ASED-PR-0078
Bridging Waveguide HIFI-1; LSU	02.10.2007	FM		Y	Integrated acc. SRON-U/HIFI/PR/2005-009
HIFI Coax Cable (bridges) RF 9 B / RF 10B	07.04.2008	FM		Y	Integrated acc TP-0072 / SD 289 J. Lang
SVM PACS					
Panel *Y-Z (PACS)	06.02.2008	STM			Final closing acc.H-P-PR-AI-0058 Step 640-750 Final closing after PACS Harness Failure Investigations 06.02.2008
CI: PACS HP BOLC	06.07.2007	FM	PACS-ME-DP-003	Y	Integrated acc. HP-2-ASED-PR-0075 With HPPSU S/N 4194;electrical Int.acc.TP-0145
CI: 113 000 PACS FP SPU	11.07.2007	FM; S/N 01	CIDL/ABCL: FPL-CL-1214-05-CRS	Y	Integrated acc. HP-2-ASED-PR-0075 NCR: HP-113000-ASED-NC-3398 electrical Int.acc.TP-0145
CI: PACS FP DPU	13.07.2007	FM; S/N 01	PACS-ME-DP-003	Y	Integrated acc. HP-2-ASED-PR-0075 electrical Int.acc.TP-0145
CI: PACS HP DECMEC	09.07.2007	FM; P/N 767-052	PACS-ME-DP-003	Y	Integrated acc. HP-2-ASED-PR-0075 electrical Int.acc.TP-0145
PACS WIH Harness					
CI : 131 100 PACS WIH Harness FPD20_01R	19.02.2007	FM	PACS-NXH-DP-0005	Y	Integraded acc. HP-2-ASED-PR-0077
CI : 131 100 PACS WIH Harness FPD20_02R	19.02.2007	FM	PACS-NXH-DP-0005	Y	Integrated acc. HP-2-ASED-PR-0077
CI : 131 100 PACS WIH Harness FPD20_03R	19.02.2007	FM	PACS-NXH-DP-0005	Y	Iintegrated acc. HP-2-ASED-PR-0077
CI : 131 100 PACS WIH Harness FPD20_04R	19.02.2007	FM	PACS-NXH-DP-0005	Y	Iintegrated acc. HP-2-ASED-PR-0077
CI : 131 100 PACS WIH Harness FPD20_05R	19.02.2007	FM	PACS-NXH-DP-0005	Y	Iintegrated acc. HP-2-ASED-PR-0077
CI : 131 100 PACS WIH Harness FPD20_08R	19.02.2007	FM	PACS-NXH-DP-0005	Y	Integrated acc. HP-2-ASED-PR-0077
CI : 131 100 PACS WIH Harness FPD20_01N	19.02.2007	FM	PACS-NXH-DP-0005	Y	Integrated acc. HP-2-ASED-PR-0077

All rights reserved, 2007, Thales Alenia Space

Equipment / CI-No.	Integr. Date	Model, Serial No	ABCL Ref. (or EIDP)	Qualified	Remarks / Open Work / NCR's
CI : 131 100 PACS WIH Harness FPD20_03N	19.02.2007	FM	PACS-NXH-DP-0005	Y	Integrated acc. HP-2-ASED-PR-0077
CI : 131 100 PACS WIH Harness FPD20_04N	19.02.2007	FM	PACS-NXH-DP-0005	Y	Integrated acc. HP-2-ASED-PR-0077
CI : 131 100 PACS WIH Harness FPD20_05N	19.02.2007	FM	PACS-NXH-DP-0005	Y	Integrated acc. HP-2-ASED-PR-0077
CI : 131 100 PACS WIH Harness FPD20_06N	19.02.2007	FM	PACS-NXH-DP-0005	Y	Integrated acc. HP-2-ASED-PR-0077
CI : 131 100 PACS WIH Harness FPD20_07N	19.02.2007	FM	PACS-NXH-DP-0005	Y	Integrated acc. HP-2-ASED-PR-0077
CI : 131 100 PACS WIH Harness FPD20_08N	19.02.2007	FM	PACS-NXH-DP-0005	Y	Integrated acc. HP-2-ASED-PR-0077
PACS SIH Harness					
CI : 131 100 PACS SIH Harness 121432-03-331 SIH-SP-01	22.02.2007	FM	HP-2-CASA-DP-0015, issue 2.1	Y	Integrated acc. HP-2-ASED-PR-0077
CI : 131 100 PACS SIH Harness 121432-03-332 SIH-SP-02	22.02.2007	FM	HP-2-CASA-DP-0015, issue 2.1	Y	Integrated acc. HP-2-ASED-PR-0077
CI : 131 100 PACS SIH Harness 121432-03-333 SIH-SP-03	05.02.2008	FM	HP-2-CASA-DP-0015, issue 2.1	Y	Integrated acc. HP-2-ASED-PR-0077 Removed the Harness acc. SD-0247 and re-integrated acc. SD-0235 on 05.02.08 at Estec
CI : 131 100 PACS SIH Harness 121432-03-334 SIH-SP-04	22.02.2007	FM	HP-2-CASA-DP-0015, issue 2.1	Y	Integrated acc. HP-2-ASED-PR-0077
CI : 131 100 PACS SIH Harness 121432-03-335 SIH-SP-05	22.02.2007	FM	HP-2-CASA-DP-0015, issue 2.1	Y	Integrated acc. HP-2-ASED-PR-0077
CI : 131 100 PACS SIH Harness 121432-03-336 SIH-SP-06	22.02.2007	FM	HP-2-CASA-DP-0015, issue 2.1	Y	Integrated acc. HP-2-ASED-PR-0077
CI : 131 100 PACS SIH Harness 121432-03-337 SIH-SP-07	22.02.2007	FM	HP-2-CASA-DP-0015, issue 2.1	Y	Integrated acc. HP-2-ASED-PR-0077
CI : 131 100 PACS SIH Harness 121432-03-338 SIH-SP-08	22.02.2007	FM	HP-2-CASA-DP-0015, issue 2.1	Y	Integrated acc. HP-2-ASED-PR-0077
CI : 131 100 PACS SIH Harness 121432-03-339 SIH-SP-09	22.02.2007	FM	HP-2-CASA-DP-0015, issue 2.1	Y	Integrated acc. HP-2-ASED-PR-0077
CI : 131 100 PACS SIH Harness	22.02.2007	FM	HP-2-CASA-DP-0015, issue 2.1	Y	Integrated acc. HP-2-ASED-PR-0077

All rights reserved, 2007, Thales Alenia Space

Equipment / CI-No.	Integr. Date	Model, Serial No	ABCL Ref. (or EIDP)	Qualified	Remarks / Open Work / NCR's
121432-03-33A SIH-SP-10					
CI : 131 100 PACS SIH Harness 121432-03-33B SIH-SP-11	22.02.2007	FM	HP-2-CASA-DP-0015, issue 2.1	Y	Integrated acc. HP-2-ASED-PR-0077
CI : 131 100 PACS SIH Harness 121432-03-33C SIH-SP-12	22.02.2007	FM	HP-2-CASA-DP-0015, issue 2.1	Y	Integrated acc. HP-2-ASED-PR-0077
CI : 131 100 PACS SIH Harness 121432-03-33C SIH-SP-13	22.02.2007	FM	HP-2-CASA-DP-0015, issue 2.1	Y	Integrated acc. HP-2-ASED-PR-0077
CI : 131 100 PACS SIH Harness 121432-03-33D SIH-SP-14	22.02.2007	FM	HP-2-CASA-DP-0015, issue 2.1	Y	Integrated acc. HP-2-ASED-PR-0077
CI : 131 100 PACS SIH Harness 121432-03-33^{E} SIH-SP-15	22.02.2007	FM	HP-2-CASA-DP-0015, issue 2.1	Y	Integrated acc. HP-2-ASED-PR-0077
SVM SPIRE 125200					
Panel –Z (SPIRE/CCU)	19.10.2007	STM			Final closed acc.H-P-PR-AI-0058 Iss.02 Step 260 to 370
CI : 125200 SPIRE DCU Box	04.04.2007	PFM	HP-2-RAL-DP-0004 Iss.2	Y	Integrated acc. HP-2-ASED-PR-0076
CI : 125200 SPIRE DPU Box	03.04.2007	PFM	HP-2-RAL-DP-0004 Iss.2	Y	Integrated acc. HP-2-ASED-PR-0076
CI : 122 200 SPIRE FCU Box	03.04.2007	PFM	HP-2-RAL-DP-0004 Iss.2	Y	Integrated acc. HP-2-ASED-PR-0076
CI : 125200 SPIRE LPU box	12.10.2007	FM	HP-2-RAL-DP-0004 Iss.2	Y	Prepared acc. SD-0186 and final integrated acc.LAM.SSP.SPI.PRC.070911_02 Iss1 Suess R. &A.Koppe& LAM
CI : 121 410 CCU Box	13.02.2007	FM S/N 02143	HP-2-PANT-DP-0571.5		Integrated acc. HP-2-ASED-PR-0076
SPIRE WIH Harness					
CI : 121 220 SPIRE Harness WIH	16.02.2007	FM	SPIRE-SAP-DOC-002787	Y	Integrated acc. HP-2-ASED-PR-0073
CI : 122 300 SPIRE DCU P01	04.09.2007	PFM	SPIRE-SAP-DOC-002787	Y	Integrated acc. HP-2-ASED-PR-0073
CI : 122 300 SPIRE DCU P02	04.09.2007	PFM		Y	Integrated acc. HP-2-ASED-PR-0073
CI : 122 300 SPIRE DCU P03	04.09.2007	PFM		Y	Integrated acc. HP-2-ASED-PR-0073
CI : 122 300 SPIRE DCU P04	04.09.2007	PFM		Y	Integrated acc. HP-2-ASED-PR-0073
CI : 122 300 SPIRE DCU P05	04.09.2007	PFM		Y	Integrated acc. HP-2-ASED-PR-0073
CI : 122 300 SPIRE DCU P06	04.09.2007	PFM		Y	Integrated acc. HP-2-ASED-PR-0073
CI : 122 300 SPIRE DCU P07	04.09.2007	PFM		Y	Integrated acc. HP-2-ASED-PR-0073
CI : 122 300 SPIRE DCU P08	04.09.2007	PFM		Y	Integrated acc. HP-2-ASED-PR-0073

All rights reserved, 2007, Thales Alenia Space

Equipment / CI-No.	Integr. Date	Model, Serial No	ABCL Ref. (or EIDP)	Qualified	Remarks / Open Work / NCR's
CI : 122 300 SPIRE DCU P09	04.09.2007	PFM		Y	Integrated acc. HP-2-ASED-PR-0073
CI : 122 300 SPIRE DCU P10	04.09.2007	PFM		Y	Integrated acc. HP-2-ASED-PR-0073
CI : 122 300 SPIRE DCU P11	04.09.2007	PFM		Y	Integrated acc. HP-2-ASED-PR-0073
CI : 122 300 SPIRE DCU P12	04.09.2007	PFM	SPIRE-SAP-DOC-002787	Y	Integrated acc. HP-2-ASED-PR-0073
CI : 122 300 SPIRE DCU P13	04.09.2007	PFM		Y	Integrated acc. HP-2-ASED-PR-0073
CI : 122 300 SPIRE DCU P14	04.09.2007	PFM		Y	Integrated acc. HP-2-ASED-PR-0073
CI : 122 300 SPIRE DCU P15	04.09.2007	PFM		Y	Integrated acc. HP-2-ASED-PR-0073
CI : 122 300 SPIRE DCU P16	04.09.2007	PFM	SPIRE-SAP-DOC-002787	Y	Integrated acc. HP-2-ASED-PR-0073
CI : 122 300 SPIRE DCU P17	04.09.2007	PFM		Y	Integrated acc. HP-2-ASED-PR-0073
CI : 122 300 SPIRE DCU P18	04.09.2007	PFM		Y	Integrated acc. HP-2-ASED-PR-0073
CI : 122 300 SPIRE DCU P19	04.09.2007	PFM		Y	Integrated acc. HP-2-ASED-PR-0073
CI : 122 300 SPIRE DCU P20	04.09.2007	PFM		Y	Integrated acc. HP-2-ASED-PR-0073
CI : 122 300 SPIRE DCU P21	04.09.2007	PFM		Y	Integrated acc. HP-2-ASED-PR-0073
CI : 122 300 SPIRE DCU P22	04.09.2007	PFM		Y	Integrated acc. HP-2-ASED-PR-0073
CI : 122 300 SPIRE DCU P23	04.09.2007	PFM		Y	Integrated acc. HP-2-ASED-PR-0073
CI : 122 300 SPIRE DCU P24	04.09.2007	PFM		Y	Integrated acc. HP-2-ASED-PR-0073
CI : 122 300 SPIRE DCU P25	04.09.2007	PFM		Y	Integrated acc. HP-2-ASED-PR-0073
CI : 122 300 SPIRE DCU P26	04.09.2007	PFM		Y	Integrated acc. HP-2-ASED-PR-0073
CI : 122 300 SPIRE DCU P27	04.09.2007	PFM		Y	Integrated acc. HP-2-ASED-PR-0073
CI : 122 300 SPIRE DCU P28	04.09.2007	PFM		Y	Integrated acc. HP-2-ASED-PR-0073
CI : 122 300 SPIRE DCU P29	04.09.2007	PFM		Y	Integrated acc. HP-2-ASED-PR-0073
CI : 122 300 SPIRE DCU P30	04.09.2007	PFM		Y	Integrated acc. HP-2-ASED-PR-0073
CI : 122 300 SPIRE DCU P31	04.09.2007	PFM		Y	Integrated acc. HP-2-ASED-PR-0073
CI : 122 300 SPIRE DCU P32	04.09.2007	PFM		Y	Integrated acc. HP-2-ASED-PR-0073
CI : 122 100 SPIRE DPU P01	04.09.2007	PFM	SPIRE-SAP-DOC-002787	Y	Integrated acc. HP-2-ASED-PR-0073
CI : 122 100 SPIRE DPU P02	04.09.2007	PFM		Y	Integrated acc. HP-2-ASED-PR-0073
CI : 122 100 SPIRE DPU P03	04.09.2007	PFM		Y	Integrated acc. HP-2-ASED-PR-0073
CI : 122 100 SPIRE DPU P04	04.09.2007	PFM	SPIRE-SAP-DOC-002787	Y	Integrated acc. HP-2-ASED-PR-0073

All rights reserved, 2007, Thales Alenia Space

Equipment / CI-No.	Integr. Date	Model, Serial No	ABCL Ref. (or EIDP)	Qualified	Remarks / Open Work / NCR's
CI : 122 100 SPIRE DPU P05	04.09.2007	PFM	«	Y	Integrated acc. HP-2-ASED-PR-0073
CI : 122 100 SPIRE DPU P06	04.09.2007	PFM	«	Y	Integrated acc. HP-2-ASED-PR-0073
CI : 122 100 SPIRE DPU P07	04.09.2007	PFM	«	Y	Integrated acc. HP-2-ASED-PR-0073
CI : 122 100 SPIRE DPU P08	04.09.2007	PFM	«	Y	Integrated acc. HP-2-ASED-PR-0073
CI : 122 100 SPIRE DPU P09	04.09.2007	PFM	«	Y	Integrated acc. HP-2-ASED-PR-0073
CI : 122 100 SPIRE DPU P10	04.09.2007	PFM	«	Y	Integrated acc. HP-2-ASED-PR-0073
CI : 122 100 SPIRE DPU P11	04.09.2007	PFM	«	Y	Integrated acc. HP-2-ASED-PR-0073
CI : 122 100 SPIRE DPU P12	04.09.2007	PFM	«	Y	Integrated acc. HP-2-ASED-PR-0073
CI : 122 200 SPIRE FCU P01	15.10.2007	PFM	SPIRE-SAP-DOC-002787	Y	Integrated acc. HP-2-ASED-PR-0073
CI : 122 200 SPIRE FCU P02	15.10.2007	PFM	«	Y	Integrated acc. HP-2-ASED-PR-0073
CI : 122 200 SPIRE FCU P03	15.10.2007	PFM	«	Y	Integrated acc. HP-2-ASED-PR-0073
CI : 122 200 SPIRE FCU P04	15.10.2007	PFM	«	Y	Integrated acc. HP-2-ASED-PR-0073
CI : 122 200 SPIRE FCU P05	15.10.2007	PFM	«	Y	Integrated acc. HP-2-ASED-PR-0073
CI : 122 200 SPIRE FCU P06	15.10.2007	PFM	«	Y	Integrated acc. HP-2-ASED-PR-0073
CI : 122 200 SPIRE FCU P07	15.10.2007	PFM	«	Y	Integrated acc. HP-2-ASED-PR-0073
CI : 122 200 SPIRE FCU P08	15.10.2007	PFM	«	Y	Integrated acc. HP-2-ASED-PR-0073
CI : 122 200 SPIRE FCU P09	15.10.2007	PFM	«	Y	Integrated on FCU by SPIRE
CI : 122 200 SPIRE FCU P10	15.10.2007	PFM	«	Y	Integrated on FCU by SPIRE
CI : 122 200 SPIRE FCU P11	04.09.2007	PFM	«	Y	Integrated acc. HP-2-ASED-PR-0073
CI : 122 200 SPIRE FCU P12	04.09.2007	PFM	SPIRE-SAP-DOC-002787	Y	Integrated acc. HP-2-ASED-PR-0073
CI : 122 200 SPIRE FCU P13	15.10.2007	PFM	«	Y	Integrated acc. HP-2-ASED-PR-0073
CI : 122 200 SPIRE FCU P14	15.10.2007	PFM	«	Y	Integrated acc. HP-2-ASED-PR-0073
CI : 122 200 SPIRE FCU P17	15.10.2007	PFM	«	Y	Integrated acc. HP-2-ASED-PR-0073
CI : 122 200 SPIRE FCU P18	15.10.2007	PFM	«	Y	Integrated acc. HP-2-ASED-PR-0073
CI : 122 200 SPIRE FCU P19	15.10.2007	PFM	«	Y	Integrated acc. HP-2-ASED-PR-0073
CI : 122 200 SPIRE FCU P20	15.10.2007	PFM	«	Y	Integrated acc. HP-2-ASED-PR-0073
CI : 122 200 SPIRE FCU P21	15.10.2007	PFM	«	Y	Integrated acc. HP-2-ASED-PR-0073
CI : 122 200 SPIRE FCU P22	15.10.2007	PFM	«	Y	Integrated acc. HP-2-ASED-PR-0073

All rights reserved, 2007, Thales Alenia Space

Equipment / CI-No.	Integr. Date	Model, Serial No	ABCL Ref. (or EIDP)	Qualified	Remarks / Open Work / NCR's
CI : 122 200 SPIRE FCU P23	04.09.2007	PFM	«	Y	Integrated acc. HP-2-ASED-PR-0073
CI : 122 200 SPIRE FCU P24	04.09.2007	PFM	«	Y	Integrated acc. HP-2-ASED-PR-0073
CI : 122 200 SPIRE FCU P25	04.09.2007	PFM	«	Y	Integrated acc. HP-2-ASED-PR-0073
CI : 122 200 SPIRE FCU P26	04.09.2007	PFM	«	Y	Integrated acc. HP-2-ASED-PR-0073
CI : 122 200 SPIRE FCU P29	15.10.2007	PFM	«	Y	Integrated acc. HP-2-ASED-PR-0073
CI : 122 200 SPIRE FCU P30	15.10.2007	PFM	«	Y	Integrated acc. HP-2-ASED-PR-0073
CI : 122 200 SPIRE FCU P31	15.10.2007	PFM	«	Y	Integrated on FCU by SPIRE
CI : 122 200 SPIRE FCU P32	15.10.2007	PFM	«	Y	Integrated on FCU by SPIRE
CI : 122 200 SPIRE FCU P33	15.10.2007	PFM	«	Y	Integrated on FCU by SPIRE
CI : 122 200 SPIRE FCU P34	15.10.2007	PFM	«	Y	Integrated on FCU by SPIRE
CI : 122 200 SPIRE FCU P35	15.10.2007	PFM	«	Y	Integrated on FCU by SPIRE
CI : 122 200 SPIRE FCU P29 to LPU P43	15.10.2007	PFM	«	Y	Harness modified acc. SPIRE –RAL-PRJ-000608 Iss1.4-
CI : 122 200 SPIRE FCU P30 to LPU P44	15.10.2007	PFM	«	Y	Harness modified acc. SPIRE –RAL-PRJ-000608 Iss1.4
CI : 122 200 SPIRE DB04 P01 to LPU P41	15.10.2007	PFM	«	Y	Harness modified acc. SPIRE –RAL-PRJ-000608 Iss1.4
CI : 122 200 SPIRE DB04 P02 to LPU P42	15.10.2007	PFM	«	Y	Harness modified acc. SPIRE –RAL-PRJ-000608 Iss1.4
CCU Harness					
CI : 214 100 CCU-A P01	13.09.2007	FM	SPIRE-SAP-DOC-002787		Final Integrated acc. PR-0073
CI : 214 100 CCU-A P02	13.09.2007	FM	«		Final Integrated acc. PR-0073
CI : 214 100 CCU-A P03	13.09.2007	FM	«		Final Integrated acc. PR-0073
CI : 214 100 CCU-A P04	13.09.2007	FM	«		Final Integrated acc. PR-0073
CI : 214 100 CCU-A P05	13.09.2007	FM	«		Final Integrated acc. PR-0073
CI : 214 100 CCU-A P06	13.09.2007	FM	«		Final Integrated acc. PR-0073
CI : 214 100 CCU-A P07	13.09.2007	FM	«		Final Integrated acc. PR-0073
CI : 214 100 CCU-A P08	13.09.2007	FM	«		Final Integrated acc. PR-0073
CI : 214 100 CCU-A P09	13.09.2007	FM	«		Final Integrated acc. PR-0073
CI : 214 100 CCU-A P10	13.09.2007	FM	«		Final Integrated acc. PR-0073

All rights reserved, 2007, Thales Alenia Space

Equipment / CI-No.	Integr. Date	Model, Serial No	ABCL Ref. (or EIDP)	Qualified	Remarks / Open Work / NCR's
CI : 214 100 CCU-A P11	13.09.2007	FM	«		Final Integrated acc. PR-0073
CI : 214 100 CCU-A P12	13.09.2007	FM	«		Final Integrated acc. PR-0073
CI : 214 100 CCU-A P13	13.09.2007	FM	SPIRE-SAP-DOC-002787		Final Integrated acc. PR-0073
CI : 214 100 CCU-B P01	13.09.2007	FM	«		Final Integrated acc. PR-0073
CI : 214 100 CCU-B P02	13.09.2007	FM	«		Final Integrated acc. PR-0073
CI : 214 100 CCU-B P03	13.09.2007	FM	«		Final Integrated acc. PR-0073
CI : 214 100 CCU-B P04	13.09.2007	FM	«		Final Integrated acc. PR-0073
CI : 214 100 CCU-B P05	13.09.2007	FM	«		Final Integrated acc. PR-0073
CI : 214 100 CCU-B P06	13.09.2007	FM	«		Final Integrated acc. PR-0073
CI : 214 100 CCU-B P07	13.09.2007	FM	«		Final Integrated acc. PR-0073
CI : 214 100 CCU-B P08	13.09.2007	FM	«		Final Integrated acc. PR-0073
CI : 214 100 CCU-B P09	13.09.2007	FM	«		Final Integrated acc. PR-0073
CI : 214 100 CCU-B P10	13.09.2007	FM	«		Final Integrated acc. PR-0073
CI : 214 100 CCU-B P11	13.09.2007	FM	«		Final Integrated acc. PR-0073
CI : 214 100 CCU-B P12	13.09.2007	FM	«		Final Integrated acc. PR-0073
CI : 214 100 CCU-B P13	13.09.2007	FM	«		Final Integrated acc. PR-0073
SPIRE SIH Harness 121432-03-32B	04.04.2007	FM	HP-2-CASA-DP-0015, issue 2.1	Y	Preintegrated acc. HP-2-ASED-PR-0073
SPIRE SIH Harness 121432-03-32A	04.04.2007	FM	"	Y	Preintegrated acc. HP-2-ASED-PR-0073
SPIRE SIH Harness 121432-03-32C	04.04.2007	FM	"	Y	Preintegrated acc. HP-2-ASED-PR-0073
SPIRE SIH Harness 121432-03-321	04.04.2007	FM	"	Y	Preintegrated acc. HP-2-ASED-PR-0073
SPIRE SIH Harness 121432-03-322	04.04.2007	FM	"	Y	Preintegrated acc. HP-2-ASED-PR-0073
SPIRE SIH Harness 121432-03-323	04.04.2007	FM	"	Y	Preintegrated acc. HP-2-ASED-PR-0073
SPIRE SIH Harness 121432-03-324	04.04.2007	FM	"	Y	Preintegrated acc. HP-2-ASED-PR-0073
SPIRE SIH Harness 121432-03-325	04.04.2007	FM	"	Y	Preintegrated acc. HP-2-ASED-PR-0073
SPIRE SIH Harness 121432-03-326	04.04.2007	FM	"	Y	Preintegrated acc. HP-2-ASED-PR-0073
SPIRE SIH Harness 121432-03-327	04.04.2007	FM	"	Y	Preintegrated acc. HP-2-ASED-PR-0073
SPIRE SIH Harness 121432-03-328	04.04.2007	FM	"	Y	Preintegrated acc. HP-2-ASED-PR-0073
SPIRE SIH Harness 121432-03-329	04.04.2007	FM	"	Y	Preintegrated acc. HP-2-ASED-PR-0073

All rights reserved, 2007, Thales Alenia Space

Equipment / CI-No.	Integr. Date	Model, Serial No	ABCL Ref. (or EIDP)	Qualified	Remarks / Open Work / NCR's
Panel +Y+Z (TT&C)	09.11.2007	STM			Final closure acc.H-P-PR-AI-0058 Iss.02 Step 500 to 630
CI : 341 000 Transponder	12.06.2007	FM5 ; S/N 006	H-P-4-AEO-2600, iss. 01	Y	
Waveguide LGA 1	10.01.09	FM SN 001			Provisional Integrated 12.04.2008 R.S. Final torqued acc. PR-AI-0063 Iss.2 17.04.2008 R.Suess Removed for TBTV Test 24.10.08 Final Integration acc. PR-AI-0063 Iss.2 10.01.2009 RH
Waveguide LGA 2	10.01.09	FM SN002			Provisional Integrated 12.04.2008 R.S. Final torqued acc. PR-AI-0063 Iss.2 17.04.2008 R.Suess Removed for TBTV Test 24.10.08 Final Integration acc. PR-AI-0063 Iss.2 10.01.2009 RH
Waveguide MGA	10.01.09	FM SN003			Provisional Integrated 12.04.2008 R.S. Final torqued acc. PR-AI-0063 Iss.2 17.04.2008 R.Suess Removed for TBTV Test 24.10.08 Final Integration acc. PR-AI-0063 Iss.2 10.01.2009 RH
Panel +Z (VMC)	04.04.2008	STM			Final closure acc.H-P-PR-AI 0058
Panel –Y+Z(RW)	04.04.2008	STM			Final closure acc.H-P-PR-AI 0058; opened for failure investigation, 19.05.2008 Final closure acc. H-P-PR-AI-0058 after Ripple Box harness repair
Panel –Y (HIFI1)	02.04.2008	STM			Final closure acc.H-P-PR-AI 0058
Panel –Y-Z(HIFI2)	02.04.2008	STM			Final closure acc.H-P-PR-AI 0058
Panel +Y (PWR)	04.07.2008	FM			Final closure acc.H-P-PR-AI 0058
CI : 361 000 PCDU	21.05.2007	FM3; S/N 004		Y	
CDMU	Y				
ACC	Y				
BAT	Y				
Harness					
CI : 121 431 CCH SVM Harness 121431-03-311 SCA-10	15.02.2007	FM	HP-2-CASA-DP-0012, issue 1	Y	Preintegrated acc. HP-2-ASED-PR-0073
CI : 121 431 CCH SVM Harness 121431-03-311 SCA-11	15.02.2007	FM	HP-2-CASA-DP-0012, issue 1	Y	Preintegrated acc. HP-2-ASED-PR-0073
CI : 121 431 CCH SVM Harness 121431-03-311 SCA-12	15.02.2007	FM	HP-2-CASA-DP-0012, issue 1	Y	Preintegrated acc. HP-2-ASED-PR-0073
CI : 121 431 CCH SVM Harness 121431-03-311 SCA-31	15.02.2007	FM	HP-2-CASA-DP-0012, issue 1	Y	Preintegrated acc. HP-2-ASED-PR-0073

All rights reserved, 2007, Thales Alenia Space

Equipment / CI-No.	Integr. Date	Model, Serial No	ABCL Ref. (or EIDP)	Qualified	Remarks / Open Work / NCR's
CI : 121 431 CCH SVM Harness 121431-03-311 SCA-32	15.02.2007	FM	HP-2-CASA-DP-0012, issue 1	Y	Preintegrated acc. HP-2-ASED-PR-0073
CI : 121 431 CCH SVM Harness 121431-03-311 SCA-33	15.02.2007	FM	HP-2-CASA-DP-0012, issue 1	Y	Preintegrated acc. HP-2-ASED-PR-0073
CI : 121 431 CCH SVM Harness 121431-03-311 SCA-34	15.02.2007	FM	HP-2-CASA-DP-0012, issue 1	Y	Preintegrated acc. HP-2-ASED-PR-0073
CI : 121 431 CCH SVM Harness 121431-03-312 SCA-10	15.02.2007	FM	HP-2-CASA-DP-0012, issue 1	Y	Preintegrated acc. HP-2-ASED-PR-0073
CI : 121 431 CCH SVM Harness 121431-03-312 SCA-11	15.02.2007	FM	HP-2-CASA-DP-0012, issue 1	Y	Preintegrated acc. HP-2-ASED-PR-0073
CI : 121 431 CCH SVM Harness 121431-03-312 SCA-12	15.02.2007	FM	HP-2-CASA-DP-0012, issue 1	Y	Preintegrated acc. HP-2-ASED-PR-0073
CI : 121 431 CCH SVM Harness 121431-03-312 SCA-31	15.02.2007	FM	HP-2-CASA-DP-0012, issue 1	Y	Preintegrated acc. HP-2-ASED-PR-0073
CI : 121 431 CCH SVM Harness 121431-03-312 SCA-32	15.02.2007	FM	HP-2-CASA-DP-0012, issue 1	Y	Preintegrated acc. HP-2-ASED-PR-0073
CI : 121 431 CCH SVM Harness 121431-03-312 SCA-33	15.02.2007	FM	HP-2-CASA-DP-0012, issue 1	Y	Preintegrated acc. HP-2-ASED-PR-0073
CI : 121 431 CCH SVM Harness 121431-03-312 SCA-34	15.02.2007	FM	HP-2-CASA-DP-0012, issue 1	Y	Preintegrated acc. HP-2-ASED-PR-0073
DECMEC Harness	20.02.2007	FM		Y	Integrated acc. HP-2-ASED-PR-0077
DBH4 LCP I/F-CB P01	02.10.2007	FM		Y	Integrated acc. HP-2-ASED-PR-0078
DBH4 LCP I/F-CB P02	02.10.2007	FM		Y	Integrated acc. HP-2-ASED-PR-0078
DBH4 LCP I/F-CB P03	02.10.2007	FM		Y	Integrated acc. HP-2-ASED-PR-0078
DBH4 LCP I/F-CB P04	02.10.2007	FM		Y	Integrated acc. HP-2-ASED-PR-0078
DBH4 LCP I/F-CB P05	02.10.2007	FM		Y	Integrated acc. HP-2-ASED-PR-0078
DBH4 LCP I/F-CB P06	02.10.2007	FM		Y	Integrated acc. HP-2-ASED-PR-0078
DBH4 LCP I/F-CB P07	02.10.2007	FM		Y	Integrated acc. HP-2-ASED-PR-0078
FH LSU Harness P01	02.10.2007	FM		Y	Integrated acc. HP-2-ASED-PR-0078

All rights reserved, 2007, Thales Alenia Space

Equipment / CI-No.	Integr. Date	Model, Serial No	ABCL Ref. (or EIDP)	Qualified	Remarks / Open Work / NCR's
FH LSU Harness P02	02.10.2007	FM		Y	Integrated acc. HP-2-ASED-PR-0078
FH LSU Harness P03	02.10.2007	FM		Y	Integrated acc. HP-2-ASED-PR-0078
FH LSU Harness P04	02.10.2007	FM		Y	Integrated acc. HP-2-ASED-PR-0078
FH LSU Harness P05	02.10.2007	FM		Y	Integrated acc. HP-2-ASED-PR-0078
FH LSU Harness P06	02.10.2007	FM		Y	Integrated acc. HP-2-ASED-PR-0078
FH LSU Harness P07	02.10.2007	FM		Y	Integrated acc. HP-2-ASED-PR-0078
FH LSU Harness P08	02.10.2007	FM		Y	Integrated acc. HP-2-ASED-PR-0078
FH LSU Harness P09	02.10.2007	FM		Y	Integrated acc. HP-2-ASED-PR-0078
FH LSU Harness P10	02.10.2007	FM		Y	Integrated acc. HP-2-ASED-PR-0078
Coaxcables SIH SH 21 P03	01.10.2007	FM		Y	Integrated acc. HP-2-ASED-PR-0143
Coaxcables SIH SH 22 P04	01.10.2007	FM		Y	Integrated acc. HP-2-ASED-PR-0143
Coaxcables SIH SH 23 P01	01.10.2007	FM		Y	Integrated acc. HP-2-ASED-PR-0143
Coaxcables SIH SH 24 P02	01.10.2007	FM		Y	Integrated acc. HP-2-ASED-PR-0143
Coaxcable HIFI-1 LSU P10 RF-8a	01.10.2007	FM		Y	Integrated acc. HP-2-ASED-PR-0078 Re-routed
Coaxcable HIFI-1 LSU P09 RF-7	01.10.2007	FM		Y	Integrated acc. HP-2-ASED-PR-0078 Re-routed
Coaxcable HIFI-1 LSU P07 RF-5	01.10.2007	FM		Y	Integrated acc. HP-2-ASED-PR-0078 Re-routed
Coaxcable HIFI-1 LSU P06 RF-6a	01.10.2007	FM		Y	Integrated acc. HP-2-ASED-PR-0078 Re-routed
Accelerometers				Y	
331 + Y panel (power)		FM		Y	Integrated acc. HP-2-ASED-PR-0099 Removed: 20.08.08, Grasl
334 + Y panel (power)		FM		Y	Integrated acc. HP-2-ASED-PR-0099 Removed: 20.08.08, Grasl
335 + Y panel (power)	13.08.2007	FM		Y	Integrated acc. HP-2-ASED-PR-0099 (Flight internal)
336 + Y panel (power)		FM		Y	Integrated acc. HP-2-ASED-PR-0099 Removed: 20.08.08, Grasl
337 + Y panel (power)	13.08.2007	FM		Y	Integrated acc. HP-2-ASED-PR-0099 (Flight internal)
338 + Y panel (power)	13.08.2007	FM		Y	Integrated acc. HP-2-ASED-PR-0099 (Flight internal)
341 + Y - Z panel (PACS)	13.08.2007	FM		Y	Integrated acc. HP-2-ASED-PR-0099 (Flight internal)
342 + Y – Z panel (PACS)	13.08.2007	FM		Y	Integrated acc. HP-2-ASED-PR-0099 (Flight internal)
361 - Y – Z panel (HIFI-2)	13.08.2007	FM		Y	Integrated acc. HP-2-ASED-PR-0099 (w ill be removed after Vibration Test)
362 - Y – Z panel (HIFI-2)	13.08.2007	FM		Y	Integrated acc. HP-2-ASED-PR-0099 (Flight internal)

All rights reserved, 2007, Thales Alenia Space

Equipment / CI-No.	Integr. Date	Model, Serial No	ABCL Ref. (or EIDP)	Qualified	Remarks / Open Work / NCR's
365 - Y – Z panel (HIFI-2)	13.08.2007	FM		Y	Integrated acc. HP-2-ASED-PR-0099 (Flight internal)
363 - Y – Z panel (HIFI-2)		FM		Y	Integrated acc. HP-2-ASED-PR-0099 Removed: 20.08.08, Grasl
364 - Y – Z panel (HIFI-2)		FM		Y	Integrated acc. HP-2-ASED-PR-0099 Removed: 20.08.08, Grasl
366 - Y – Z panel (HIFI-2)		FM		Y	Integrated acc. HP-2-ASED-PR-0099 Removed: 20.08.08, Grasl
371 - Y panel (HIFI-1)	13.08.2007	FM		Y	Integrated acc. HP-2-ASED-PR-0099 (Flight internal)
372 - Y panel (HIFI-1)	13.08.2007	FM		Y	Integrated acc. HP-2-ASED-PR-0099 (Flight internal)
373 - Y panel (HIFI-1)	13.08.2007	FM		Y	Integrated acc. HP-2-ASED-PR-0099 (Flight internal)
374 - Y panel (HIFI-1)	13.08.2007	FM		Y	Integrated acc. HP-2-ASED-PR-0099 (Flight internal)
375 - Y panel (HIFI-1)	13.08.2007	FM		Y	Integrated acc. HP-2-ASED-PR-0099 (Flight internal)
376 - Y panel (HIFI-1)	13.08.2007	FM		Y	Integrated acc. HP-2-ASED-PR-0099 (Flight internal)
453 - Z + Y shearwall	13.08.2007	FM		Y	Integrated acc. HP-2-ASED-PR-0099 (Flight internal)
514 Cone	13.08.2007	FM		Y	Integrated acc. HP-2-ASED-PR-0099 (Flight internal)
523 Cone	13.08.2007	FM		Y	Integrated acc. HP-2-ASED-PR-0099 (Flight internal)
531 Cone		FM		Y	Integrated acc. HP-2-ASED-PR-0099 Removed: 21.09.08, Grasl
532 Cone	13.08.2007	FM		Y	Integrated acc. To HP-2-ASED-PR-0099 (Flight internal)
535 Cone		FM		Y	Integrated acc. HP-2-ASED-PR-0099 Removed: 21.09.08, Grasl
702 Upper closure panel		FM		Y	Integrated acc. HP-2-ASED-PR-0099 (w ill be removed after Vibration Test) Removed: 20.08.08, Grasl
706 Upper closure panel		FM		Y	Integrated acc. HP-2-ASED-PR-0099 (w ill be removed after Vibration Test) Removed: 12.09.08, Grasl
811 P/L Subplatform	13.08.2007	FM		Y	Integrated acc. HP-2-ASED-PR-0099 (Flight internal)
351 - Z panel (SPIRE)	22.08.2007	FM		Y	Integrated acc. HP-2-ASED-PR-0099 (Flight internal)
211 Thermal Closing and Baffle	04.09.2007	FM		Y	Integrated acc. HP-2-ASED-PR-0099 (Flight internal)
321 + Y + Z panel	04.09.2007	FM		Y	Integrated acc. HP-2-ASED-PR-0099 (Flight internal)
322 +Y + Z panel	04.09.2007	FM		Y	Integrated acc. HP-2-ASED-PR-0099 (Flight internal)
323 +Y + Z panel		FM		Y	Integrated acc. HP-2-ASED-PR-0099 Removed: 21.09.08, Grasl
324 +Y + Z panel	04.09.2007	FM		Y	Integrated acc. HP-2-ASED-PR-0099 (Flight internal)
381 -Y + Z panel	04.09.2007	FM		Y	Integrated acc. HP-2-ASED-PR-0099 (Flight internal)

All rights reserved, 2007, Thales Alenia Space

Equipment / CI-No.	Integr. Date	Model, Serial No	ABCL Ref. (or EIDP)	Qualified	Remarks / Open Work / NCR's
312 + Z panel		FM		Y	Integrated acc. HP-2-ASED-PR-0099 Removed: 20.08.08, Grasl
382 -Y + Z panel	04.09.2007	FM		Y	Integrated acc. HP-2-ASED-PR-0099 (Flight internal)
383 -Y + Z panel	04.09.2007	FM		Y	Integrated acc. HP-2-ASED-PR-0099 (Flight internal)
384 -Y + Z panel	04.09.2007	FM		Y	Integrated acc. HP-2-ASED-PR-0099 (Flight internal)
386 -Y + Z panel	04.09.2007	FM		Y	Integrated acc. HP-2-ASED-PR-0099 (Flight internal)
412 +Z –Y panel	04.09.2007	FM		Y	Integrated acc. HP-2-ASED-PR-0099 (Flight internal)
424 +Z +Y panel shearwall	04.09.2007	FM		Y	Integrated acc. HP-2-ASED-PR-0099 (Flight internal)
423 +Z +Y panel shearwall	04.09.2007	FM		Y	Integrated acc. HP-2-ASED-PR-0099 (Flight internal)
432 +Z +Y panel shearwall	04.09.2007	FM		Y	Integrated acc. HP-2-ASED-PR-0099 (Flight internal)
921 STR Assembly	05.09.2007	FM		Y	Integrated acc. HP-2-ASED-PR-0099 (Flight internal)
923 STR Assembly	19.02.08	FM		Y	Integrated acc. HP-2-ASED-PR-0099 New glued at STRA by Hengstler (Flight internal)
425 +Z +Y panel shearwall (external)		FM		Y	Integrated acc. HP-2-ASED-PR-0099 Removed: 12.09.08, Grasl
426 +Z +Y panel shearwall (external		FM		Y	Integrated acc. HP-2-ASED-PR-0099 Removed: 12.09.08, Grasl
623 Tanks	05.09.2007	FM		Y	Integrated acc. HP-2-ASED-PR-0099 (Flight internal)
627 Tanks	05.09.2007	FM		Y	Integrated acc. HP-2-ASED-PR-0099 (Flight internal)
Thermistors					
THM 52	06.08.2007	FM; 0504A0221		Y	Integrated acc. H-P-ED-AI-0033
THM 100	06.08.2007	FM; 0504A0223		Y	Integrated acc. H-P-ED-AI-0033
THM 53	06.08.2007	FM; 0504A0029		Y	Integrated acc. H-P-ED-AI-0033
THM 101	06.08.2007	FM; 0504A0235		Y	Integrated acc. H-P-ED-AI-0033
THM 149	06.08.2007	FM; 0504A0240		Y	Integrated acc. H-P-ED-AI-0033
THM 54	06.08.2007	FM; 0504A0093		Y	Integrated acc. H-P-ED-AI-0033
THM 102	06.08.2007	FM; 0504A0137		Y	Integrated acc. H-P-ED-AI-0033
THM 150	06.08.2007	FM; 0504A0201		Y	Integrated acc. H-P-ED-AI-0033
THM 56	06.08.2007	FM; 0504A0202		Y	Integrated acc. H-P-ED-AI-0033 Swaped with THM 104 (see: NC-3598)
THM 104	06.08.2007	FM; 0504A0209		Y	Integrated acc. H-P-ED-AI-0033 Swaped with THM 56 (see: NC-3598)
THM 152	06.08.2007	FM; 0504A0217		Y	Integrated acc. H-P-ED-AI-0033

All rights reserved, 2007, Thales Alenia Space

Equipment / CI-No.	Integr. Date	Model, Serial No	ABCL Ref. (or EIDP)	Qualified	Remarks / Open Work / NCR's
THM 58	18.04.2007	FM; 0504A0155		Y	Integrated acc. H-P-ED-AI-0033
THM 106	18.04.2007	FM; 0504A0241		Y	Integrated acc. H-P-ED-AI-0033
THM 154	18.04.2007	FM; 0504A0058		Y	Integrated acc. H-P-ED-AI-0033
THM 61	08.08.2007	FM; 0504A0065		Y	Integrated acc. H-P-ED-AI-0033
THM 109	08.08.2007	FM; 0504A0066		Y	Integrated acc. H-P-ED-AI-0033
THM 157	08.08.2007	FM; 0504A0092		Y	Integrated acc. H-P-ED-AI-0033
THM 63	24.01.2008	FM; 2403		Y	Integrated acc. H-P-ED-AI-0033; Removed acc. FHWEV repair and re-integrated new one acc. AI-0033 at ESTEC 24.01.2008
THM 111	24.01.2008	FM; 2698		Y	Integrated acc. H-P-ED-AI-0033; Removed acc. FHWEV repair and re-integrated new one acc. AI-0033 at ESTEC 24.01.2008
THM 159	24.01.2008	FM; 2438		Y	Integrated acc. H-P-ED-AI-0033; Removed acc. FHWEV repair and re-integrated new one acc. AI-0033 at ESTEC 24.01.2008
THM 65	09.08.2007	FM; 0504A0174		Y	Integrated acc. H-P-ED-AI-0033
THM 113	09.08.2007	FM; 0504A0182		Y	Integrated acc. H-P-ED-AI-0033
THM 161	09.08.2007	FM; 0504A0183		Y	Integrated acc. H-P-ED-AI-0033
THM 66	09.08.2007	FM; 0504A0164		Y	Integrated acc. H-P-ED-AI-0033
THM 114	09.08.2007	FM; 0504A0168		Y	Integrated acc. H-P-ED-AI-0033
THM 162	09.08.2007	FM; 0504A0171		Y	Integrated acc. H-P-ED-AI-0033
THM 67	09.08.2007	FM; 0504A0147		Y	Integrated acc. H-P-ED-AI-0033
THM 115	09.08.2007	FM; 0504A0148		Y	Integrated acc. H-P-ED-AI-0033
THM 163	09.08.2007	FM; 0504A0154		Y	Integrated acc. H-P-ED-AI-0033
THM 68	09.08.2007	FM; 0504A0193		Y	Integrated acc. H-P-ED-AI-0033
THM 116	09.08.2007	FM; 0504A0198		Y	Integrated acc. H-P-ED-AI-0033
THM 164	09.08.2007	FM; 0504A0199		Y	Integrated acc. H-P-ED-AI-0033
THM 76	09.08.2007	FM; 0504A0040		Y	Integrated acc. H-P-ED-AI-0033
THM 124	09.08.2007	FM; 0504A0057		Y	Integrated acc. H-P-ED-AI-0033
THM 172	09.08.2007	FM; 0504A0047		Y	Integrated acc. H-P-ED-AI-0033
Star Tracker					
Star Tracker STR 1	06.11.2007	FM1;S/N 05		Y	Integrated acc. H-P-PR-AI-0083 06.11.2007 integrated by Hengstler/Schmidt
Star Tracker STR 2	22.11.2007	FM 2; S/N 02		Y	Integrated acc. H-P-PR-AI-0083 22.11.2007 integrated by Thales Alenia

All rights reserved, 2007, Thales Alenia Space

Equipment / CI-No.	Integr. Date	Model, Serial No	ABCL Ref. (or EIDP)	Qualified	Remarks / Open Work / NCR's
					Space
Star Tracker Secondary Baffle	29.04.2008	PFM		y	Integrated by TAS-I acc. H-P-PR-AI-0083 Iss.02 29.04.2008
Lower Closure Thermal Panel (LCTP)	26.04.08	PFM		Y	Integrated by TAS-I acc. H-P-PR-AI-0083 Iss.02 26.04.2008
SVM MLI 321000	05.06.08	PFM	H-P-4-AAE-DP-2005		MLI Integrated acc. H-P-4-AAE-PR-2001 Iss. 3B UCP on +Z before HSS Integrated 09.04.08 RW & VMC Panel finally closed 09.04.08 TT&C Panel finally closed 10.04.08 SPIRE Panel finally closed 11.04.08 PWR Panel finally closed 14.04.08 HIFI 1 Panel finally closed 14.04.08 HIFI 2 Panel finally closed 14.04.08 PACS Panel finally closed 14.04.08 HSS and SVM Struts partly closed for EMC test 05.05.08 UCP closed for EMC Test 06.05.2008 LCP closed for EMC Test 07.05.2008 Thrusters MLI integrated for EMC test 07.05.08 Thrusters MLI after EMC test removed 10.05.2008 K.R. RWL Panel MLI removed for Panel opening 19.05.08 RWL Panel finally closed 26.05.08 Thrusters MLI integrated for Acoustic test 05.06.08 Thrusters MLI removed, Red Tag Items installed 12.06.08 Thrusters MLI integrated for Vibration Test 19.06.08 Thrusters MLI removed, Red Tag Items installed 03.07.08 LCP partly opened for Test harness removal
Test instrumentation					
Herschel PFM SVM TCP Instrumentation Harness Panel internal	18.01.08	see H-P-TN-AI-0135_2 as run	HP-2-ASED-RP-0242		HP-2-ASED-TN-0163, TC location acc. to H-P-TN-AI-0135_2
Herschel PFM SVM TCP Instrumentation Harness Panel external					
Temporary Installed Items					
EMC test adaptor on PWR Panel DB01 A Jo4 (without Label)		EGSE	Fig. 6-5 of HP-2-ASED-TP-0155_1.1	n.a.	Temporarily installed for EMC test, remains installed for transport to ETS Removed: 28.03.2008 by A. Grasl; installed 04.07.08 Lang; removed by U. Wössner 03.10.08
Bubbelfoil on TT&C Panel				n.a.	OSR`s coverfoil Removed by. R. Süß; 26.10.08
Bubbelfoil on RWS Panel				n.a.	OSR`s coverfoil Removed by. R. Süß; 26.10.08
Bubbelfoil on HIFI 1 Panel				n.a.	OSR`s coverfoil Removed by. R. Süß; 26.10.08

All rights reserved, 2007, Thales Alenia Space

Equipment / CI-No.	Integr. Date	Model, Serial No	ABCL Ref. (or EIDP)	Qualified	Remarks / Open Work / NCR's
Bubbelfoil on PWR Panel				n.a.	OSR`s coverfoil Removed by. R. Süß; 26.10.08
Purge Line for TRSP	09.01.09			n.a.	Removed by. R. Süß; 27.10.08 Installed after TBTV test (Red Tag Item No. 11.17)
Tilting frame on PWR Panel(for Harness fixation)	07.01.2009			n.a.	Integrated for SCOE Harness routing Integrated by R. Süß Removed by K. Reichle, 06.11.08 Installed after TBTV Test for Movement 07.01.2009
bond strap between IR support frame and Solar array harness connection.				n.a	Integrated 10.11.2008 A.Grasl

All rights reserved, 2007, Thales Alenia Space

Annex 3 : Calibration Status List

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 electonic 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 electonic 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

All rights reserved, 2007, Thales Alenia Space

Annex 4 : Software Configurations

	Item	SW Module / Unit	SW Release	Last upload	Release Note
S/C	SVM	CDMU	**3.8.0.1**	**05/01/2009**	H-P-4-SSF-FBSRN-0019 issue 1
		ACMS/ACC	4.0	25/09/2008	H-P-4-DS-LI-0076 Issue 2
	HIFI	ICU Main - partition 1	5.8.1	05/08/2008	
		ICU Main - partition 2	5.8.1	05/11/2008	
		ICU Redundant - partition 1	5.8.1	05/08/2008	
		ICU Redundant - partition 2	5.8.1	05/11/2008	
	SPIRE	DPU Main - partition 1	2.2.H	25/02/2008	
		DPU Main - partition 2	3.0.B	06/11/2008	
		DPU Redundant - partition 1	3.0.B	06/11/2008	
		DPU Redundant - partition 2	3.0.B	06/11/2008	
	PACS	SPU (Nominal and Redundant)	13.8	unknown	No partition 2 existing on SPU
		DPU Nomianl - partition 1	**9.0.1**	**14/01/2009**	
		DPU Nominal - partition 2	empty	-	
		DPU Redundant - partition 1	**9.0.1**	**14/01/2009**	
		DPU Redundant - partition 2	empty	-	
		DECMEC (Nominal and Redundant)	6.028	15/11/2008	
DB	HPSDB	HPSDB Central Site	3.3.1.32	n/a	n/a
		HPSDB delivery to ASED	R_TM_HERSCH_FM1_C_901032006	05/01/2009	H-P-2-ASP-LI-1441_issue27
EGSE	CCS - Set 2	hpccs	2.0-1317	03/07/08	H-P-4-TE-RN-0010 issue 2 rev. 25
	CCS Lite	hpccs	2.0-1317	30/05/08	H-P-4-TE-RN-0010 issue 2 rev. 24
	MOIS		5.03.15	May 2007	
	ACMS SCOE	asim - acmssim-Systemtest	1.5-1	unknown	
		asim - acmssim-acms	2.11-1	20/06/07	

All rights reserved, 2007, Thales Alenia Space

	atsup - acmstsup-v0plus-newdb	1.0-1	unknown	
	atsup - acmstsup-scoesystem	3.4-10	20/06/07	
	atsup - acmstsup-tutorial	1.0-1	unknown	
	atsup - acmstools	0.4-1	unknown	
	atsup - hpccs	2.0-637	unknown	
	atsup - hpccs-demo	0.0-748	unknown	
	atsup - hpccs-plotter	0.0-471	unknown	
TM/TC DFE - Set 3	Herschel-Planck TM/TC FE	2.11.07	14/02/08	HP_TMTC_CMS_02.11.07_update_ReadMe.txt
	System Controller	2.11.5.453	14/02/08	
	CMS GUI	2.11.05	unknown	TMTC_FE_CMS_V02.11.05_Update_ReadMe.txt
	TM/TC Config tool	1.1.4.0	21/06/06	
	TM/TC Remote Interface (PIPE)	1.4.2.0	14/02/08	HpTmTcRemIF_1.4.2.0_ReadMe.txt
	Generic SLNGT NDIU Lite I/F	v1.2.2.36	10/10/07	
	FIRMWARE	0616 issue3 rev4	09/03/07	
	BHC Baseband hardware controller	1.5.0.76	09/03/07	
	Archive Manager	2.1.7.314	14/02/08	
CDMU SCOE - Set 3	SSBV SW version - CMS	2.2.1.0	unknown	
	PIPE INTERFACE	2.1.0.0	unknown	
	Archive Browser	2.2.2.72	unknown	
	IPC handler object implementation	2.4.0.18	unknown	
BUS MONITOR	SSBV SW version	1.11.1.87	31/05/05	
	REMOTE INTERFACE - PIPE I/F	1.2.1.0	31/05/05	
TT&C SCOE	Siemens SW Version	1.21 r 0	04/03/05	
	Tcl/Tk	8.4/8.4	unknown	
SAS SCOE - Set 3	Siemens SW Version	1v10_r1-p4	23/12/08	
	CDMIF	1.3	15/01/05	
	Tcl/Tk	8.4/8.4	unknown	
	HPIB	2.5	unknown	
	TclUtil	1.05	unknown	
	DAQ	1.35	unknown	
	ELGAR	3.02.010	11/10/06	

All rights reserved, 2007, Thales Alenia Space

BS SCOE - Set 3	Siemens SW Version	1v9 r 3	28/04/06	
	CDMIF	1.4	05/10/04	
	Tcl/Tk	8.4/8.4	unknown	
	HPIB	2.5	02/09/04	
	TclUtil	1.05	unknown	
	DAQ	1.26	unknown	
BCE - Set 3	Siemens SW Version	1v6 r2	29/04/06	
	CDMIF	1.1	11/08/04	
	Tcl/Tk	8.4/8.4	unknown	
	HPIB	2.5	unknown	
	TclUtil	1.05	unknown	
	DAQ	1.32	unknown	
CRYO PFM SCOE	TAS-A H/W version	ABSp-HW-1801-AAAA-0001	unknown	
	TAS-A SW Version of CRYO PFM	1.1.2	2006	
	TAS-A SW Version of CRYO RPFM	1.0.4	2006	
	NI Version LabVIEW	7.0	2006	

THALES
All rights reserved, 2007, Thales Alenia Space

ThalesAlenia Space	Instrument FDIR (Redundant) PTR	REF.: **H-P-TASF-MN-11155**	
		HERSCHEL FM	
		DATE : 20/01/09	PAGE : 1 of 10
MINUTES OF MEETING		*PLACE : FR Meeting Room*	

PURPOSE :
Instrument FDIR OBCP PTR for redundant configuration

CLASSIFICATION :

ATTENDEES	FIRM	SIGNATURE	ATTENDEES	FIRM	SIGNATURE
J. Hall	TASF		B. Collaudin (tele)	TASF	
S. Mooney	TASF		F. Sauvage (tele)	TASF	
			F. Chatte	TASF	
S. Hamer	ASED		A. Gatti	ESA	
WRITTEN BY :	J. Hall		*Chair:*	J. Hall	

CONCLUSION :

The tests have been performed to a acceptable level with any anomalies identified and dispositioned and the data shall be provided to system engineering for evaluation.

DISTRIBUTION : *ATTENDEES*	*FOR FURTHER ACTION :*	See MoM and action item table at end of minutes
	FOR INFORMATION :	ASED : TAS-F : ESA:

APPROVED BY

NAME	J. Hall	S. Mooney	A. Gatti	
SIGNATURE				

All rights reserved, 2007, Thales Alenia Space

	ACTION
Introduction This Meeting is the PTR for the **Instrument FDIR** test performed for IST 2 on 18/1/2009	
Identification of the test item The test was run in session Session ID : 2009_01_17_23_02_hercdmu_hpws23_REALTIME_INST_FDIR Baseline As Built configuration including deviations to the nominal configuration are listed in: H-P-TASF-MN-11152 (TRR MOM)	
Status of the Procedure The Instrument FDIR OBCP (Redundant) test was run under control of Test procedure • HP-2-ASED-TP-0254 iss 1 12/01/2009 Test of Redundant Instrument FDIR OBCP Procedure This procedure uses: • HP-2-ASED-PR-0134 iss 7 IST Leading procedure • HP-2-ASED-TP-0206 iss 3 Herschel instrument power on/off and mode switching **The following PVS' were raised** **See text**	
Raised Anomalies • **SPRs from TRR**	

All rights reserved, 2007, Thales Alenia Space

287 New script needed to mark PACS and HIFI ON and OFF. **Can be closed.**
298 Instr FDIR status check needs updating **Can be closed.**
501 Remove HIFI/SPIRE IEGSE related scripts (Already performed) **Can be closed.**
502 Call of script error ".tcl" not required **Can be closed.**
503 Incorrect info prompt in PACS FDIR **Can be closed**
537 Prompt to set CDMS SCOE offline done twice **Can be closed**
885 HK packets are not enabled during second wheel bias **Can be closed**
943 Preparation of new test sequence for the Herschel test of redundant instruments FDIR OBCP. **Can be closed**
1104 Add script to mark HIFI ON/OFF IN IST POWER ON HIFI scripts**. Can be closed**
1107: PTV error. Script updated. **Can be closed. Use as is**
1109: Incorrect switch off of ACMS. Screen now prompts user. **Can be closed**
1117: Implements changes for NCR 4653 **Can be closed.**

- **SPRs Re-seen:**

See minutes

- **NCRs from TRR:**

4395: HIFI LO operational constraints in ambient. Relevant. **LO operation is disabled in ambient.**

4601: HIFI runtime errors received after TC ICU memory check. May be re-seen. **Does not impact the test.**

4613: HIFI hard reset OBCP triggered when soft reset expected. **Expected to re-occur. Verified that it does re-occur.**

4653: Command DCT85170 does not disable redundant EAT entries. **To be verified during this test**.
ASED (SH) to verify via inspection on the command stack that the command is available for HIFI.

AI#1
ASED(SH)
23/1/09

4669: TBTV - Incorrect description in SVM DB concerning PACS OBCP event. Will re-occur. **No impact on test.**

4681: TVTB HIFI warm units dissipation lower than expected This impacts, Nom Mode Robustness, S/C Reconfiguration, and Inst FDIR OBCP. HIFI have changed their configuration for standby mode. **No impact on the test.**

All rights reserved, 2007, Thales Alenia Space

4771: SOVT2 - HIFI_TC_execution_NOK_HS_LIB_WRONG_INPUT_PARAM
Was not seen.

4804 Unexpected triggering of SPIRE_OPE_STOP OBCP after SPIRE STANDBY OBCP
Re-occurred.

4805: IST2 FDIR OBCP: Nominal HK stops after SPIRE OBCP DRCU OFF. Not resolved by SPIRE. **Could occur during DRCU OFF. No recovery action required if it does occur. Reoccurred.**

4812: Problem with PACS switch on. PACS issue. May re-occur.
Workaround to switch on again. Did not re-occur.

- **NCRs Reseen**

See minutes

- **SPRs raised**

See minutes

- **NCRs raised**

See minutes

- **Additional SPRs to be raised**

.
See actions

- **Additional NCR to be raised**

See actions

- **Other**

1097: Modify enable/disable EAT script. **Can be closed**
1125: New FDIR table tracking SPR. **Can be closed**
1126: HIFI iss 1.29 script delivery tracking NCR. **Can be closed**
1130: Updates scripts for 1126. **Can be closed**
1135: modify FDIR for CDMS 3.8. verified. **Can be closed**
1136: LV status error. **OPEN**

All rights reserved, 2007, Thales Alenia Space

1137: LO script issue. **Can be closed** 1138: PTV incorrect. **Can be closed** 1139: Correct enable/disable FDIR. Tracking SPR. **Can be closed** 1141: PTV ResetTCSchdl Flag not clearing. Updated. Use as is. **Can be closed** 1142: RWLs spun to zero. **OPEN** 1145: OOL on HIFI TCS loops 20/39. Ambient limits not in HPSDB. **OPEN** Summary None of the open SPRS are deemed blocking for shipment of the SC	
Deviations from the test	
Actions from Previous meetings None	
Test Evaluation **Generic:** **17/1/09** Power ON (IST_START **TP-0134**): 17/01/2009 23:11 – 18/01/2009 02:29 **PVS# 1** Wrong ACMS config file name specified **PVS #2/#3** Recover from reconfiguration due to incorrect shutdown of previous test (NCR 4816). No impact. **18/01/2009** **SPR #1135** raised to track the updates for INST_FDIR_R. No impact. **SPR can be closed**. **Configuration for Test (TP-0254, TP-0206): 05:14 – 08:33** 05:24 Reoccurrence of NCR4181 **PVS #2 (TP-0254)** raised to recover. No impact. 06:47 & 06:53 IEGSE connection dropped. No impact to test	

All rights reserved, 2007, Thales Alenia Space

Update FDIR REQ scripts. **PVS#3** raised (**SPR 1135**) 07:12 Re-occurrence of NCR 4181. No script for redundant SIM SCIENCE. Manually called via **PVS #4 (scripts to be updated)**. 07:47 **NCR 4823** – HIFI PTV checksum failure occurred. Has been updated. Will be verified in SVT2. No impact 07:57 HIFI runtime error received. Occurrence of **SPR #1137**. **Redundant HIFI FDIR OBCP (TP-0254 Section 7.3): 08:33 – 10:26** 08:37: LV status error. **SPR #1136** raised. **ASED (SH) To verify that this is only a script problem and that an NCR is not required.** 09:17 HIFI SOFT_RESET OBCP Step 62. hard reset occurred (reoccurrence of **NCR 4613.** Now corrected in version 5.9. To be verified) 09:28 Re-occurrence of **SPR #1107.** PTV problem with TC. No impact. Script created and checked in (**SPR #237 & PVS #5**) to disable HIFI LO 10:34: SPR to automate disabling of LO. **SPR #1137 SPR can be closed** 10:38 SPR raised to update PTV checksum. **SPR #1138 SPR can be closed** **Redundant PACS FDIR OBCP (TP-0254 Section 7.4): 10:38 – 15:44** 11:08 PACS SAFE OBCP Step 96: Successful. 11:30 PACS POWER_CYCLE OBCP Step 112: **NCR #4817** raised. Script error. SPR XXXX has been raised. Script has already been updated. 11:32 **NCR #4818** raised due to incorrect PACS event description. HPSDB error (OBCP). No re-test required. 12:29: **PVS #6** raised to recover from the power cycle recovery failed operation.	**AI #2** **ASED (SH)** **21/1/09**

All rights reserved, 2007, Thales Alenia Space

12:48 PACS NORMAL_OFF OBCP Step 127: Successful.

13:29 PACS IMMEDIATE_OFF OBCP Step 147:

14:31 PTV ResetTCSchdl Flag not clearing. **SPR #1107/#1141)** Script update will not be performed.

14:46 scripts updated and online patched via **SPR #1107**

14:48 Command not sent due to PTV check fail workaround via **PVS #7**

15:10: add TM verification of flag before sending TC. Traced **via SPR #1141.**

Redundant SPIRE FDIR OBCP (TP-0254 Section 7.5): 15:47 – 21:53

15:56: LV status error. **SPR #1136** raised.

16:32 SPIRE OPE_STOP OBCP Step 190: Successfully

16:46 SPIRE OPE_RESUME OBCP Step 198: Successfully

16:55 Typos in procedure listed in PVS #8

17:04 SPIRE DRCU_OFF OBCP Step 208:
Recurrence **NCRs #4804** Unexpected triggering of SPIRE_OPE_STOP OBCP after SPIRE STANDBY OBCP and **NCR #4805**: Nominal HK stops after SPIRE OBCP DRCU OFF

NCR 4804 was expected to be closed with a table upload prior to the test. This upload did not resolve the issue.

NCR 4805 may be nominal behaviour. This is to be confirmed by RAL.

18:24 RWLs spun down to zero. Re-spun via **PVS#9**. **SPR #1142** raised.

19:05 SPIRE CTRL_OFF OBCP Step 223: Successful

19:45: CDMS SCOE Bus Jamming fails **NCR 4824** raised. PVS# 10 raised to investigate.

21:13 SPIRE OFF OBCP Step 246: Successful with command to CDMS via PVS #11.

All rights reserved, 2007, Thales Alenia Space

21:53 Instrument FDIR complete 21:54 – 22:25 INST FDIR Specific Power OFF (TP-0254): 22:34 – 19/01/2009 00:38 IST END S/C Power OFF (TP-0134):	
AOB	
Conclusion: **HIFI** It was verified that the redundant configuration ran in an identical way to the nominal configuration and that NCR 4613 re-occurred as expected. This NCR can be closed with successful validation after installation of SW v5.9. This is not a blocking NCR for shipment. A slot to re-run this test is currently foreseen during the SFT in Kourou, however if a slot becomes available this shall be tested prior to shipping. From a correct reduce satellite configuration (compared to normal IST) the test would take approximately 4 hours on one configuration (nominal or redundant). The engineering judgement is that the test only needs to be performed on one side. These anomalies do not stop the evaluation of the test. **PACS** PACS power cycle must be re-executed due to NCR 4817. It is not necessary that this retest be performed prior to shipping however it is currently planned to be retested 21/1/09. Post-PTR addition: The test was run 21/1/09 (using ACS 459) and was successful. Test logs and SSMM to be provided for evaluation to system engineering. NCR 4817 to be closed. NCR 4818, Incorrect PACS event description is an HPSDB error (OBCP) and shall be closed at the appropriate DRB/IRR. These anomalies do not stop the evaluation of the test.	

All rights reserved, 2007, Thales Alenia Space

SPIRE

NCR 4804 (unexpected off) still needs to be resolved by delivery from RAL. However this is not considered a blocking point

NCR 4805: Nominal HK stops after SPIRE OBCP DRCU OFF May be nominal. To be confirmed by RAL before shipment.

NCR 4824: Bus Jamming fails. Still under investigation (worked on SPIRE Nominal). To be confirmed by RAL before shipment

These anomalies do not stop the evaluation of the test however further investigation is required for NCR 4824 which shall be tracked as an NCR and at the TRB.

Summary

The tests have been performed to an acceptable level with any anomalies identified and dispositioned and the data shall be provided to system engineering for evaluation.

All rights reserved, 2007, Thales Alenia Space

ACTION ITEM SUMMARY

AI No.	Description	Actionee	Due date
AI #1	ASED (SH) to verify via inspection on the command stack that the command is available for HIFI.	ASED (SH)	23/1/09
AI #2	Related to SPR #1136, ASED (SH) To verify that this is only a script problem and that an NCR is not required.	ASED (SH)	21/1/09

All rights reserved, 2007, Thales Alenia Space

ThalesAlenia Space	PACS 4812 & 4817 investigation checkpoint	REF.: H-P-TASF-MN-11201	
		HERSCHEL FM	
		DATE : 21/01/09	PAGE : 1 of 69
MINUTES OF MEETING		*PLACE : FR Meeting Room, ESTEC*	

PURPOSE :
SPIRE 4812 & 4817 investigation checkpoint

CLASSIFICATION :

ATTENDEES	FIRM	SIGNATURE	ATTENDEES	FIRM	SIGNATURE
J. Hall	TASF		C. Scharmberg	ESA	
S. Mooney			K. Goodey	ESA	
S. Ilsen	ASED				
WRITTEN BY :	J. Hall		*Chair:*	J. Hall	

CONCLUSION :

The checkpoint states formally that permission is given for the execution of the test after the closure of the identified open work items.

DISTRIBUTION :		
ATTENDEES	*FOR FURTHER ACTION :*	See MoM and action item table at end of minutes
	FOR INFORMATION :	ASED : TAS-F : ESA:

APPROVED BY

NAME	J. Hall	S. Mooney	C. Scharmberg	K. Goodey
SIGNATURE	21/1/09			

All rights reserved, 2007, Thales Alenia Space

	ACTION
Agenda **1. Introduction** **2. Identification of Test Item** **3. Test procedure/Timeline** **4. NCR/RFD status** **5. Safety Hazards and Hazardous operations** **6. Test equipment/Facility and Calibration Status** **7. Cleanliness** **8. Test Personnel and Responsibilities** **9. Problem Areas** **10. AOB** **11. Conclusion**	
Introduction This Meeting is the checkpoint for the **PACS 4812 & 4817 investigation** to be performed in Helium I conditions and in ambient environment (Clean Room).	
Identification of Test Item **As Designed** • **S/C CIDL** Herschel S/C CI#100000 CIDL: H-P-2-ASP-LI-0538 iss.5 **As Built** **H-EPLM Integration Status List** ASED PLM ISL: HP-2-ASED-LI-0032 iss 20A Status 12.1.2009 See Annex 1 **SVM Integration Status List** ASED SVM ISL: HP-2-ASED-LI-0033 iss 21 Status 12.1.2009 See Annex 2 **Deviations of ISL** ■ End of life in ambient on LO.	

All rights reserved, 2007, Thales Alenia Space

The above deviations do not impact the current test. **SW Configuration** • **CDMS** **V 3.8** • **ACMS** **V 4.0** • **HPSDB** **HP-2-ASP-LI-1441 v 27** A full software configuration is detailed in Annex 4 **Instruments:** PACS: STANDBY (Nominal + Redundant side) HIFI: ICU only (redundant side) SPIRE: REDY mode (redundant) During the test no instrument support is required. No I-EGSE usage is required. The checkpoint states that the proposed configuration is acceptable for the execution of the test.	
Test procedure/Timeline **Procedure** The test shall be performed under the control of the following ACS ■ HP-2-ASED-SD-0459 iss 1 dated 21/1/2009 The ACS is signed and shall be presented for the test The ACS shall be run directly after the completion of the nominal mode robustness test, after the downloading of the SSMM. Following on from the ACS the IST_END shall be executed as part of nominal mode robustness.	

All rights reserved, 2007, Thales Alenia Space

Timeline:

The test is planned to be performed 21/01/2009 starting at approximately 16:00.

The test is foreseen to run for a duration of approximately 2 hours broken down as follows:

- IST START N/A
- Configuration of spacecraft N/A hours
- Test 2 hours
- IST End N/A for ACS

NCR/SPR Status

SPRs

N/A

NCRs

4812 Problem with PACS switch on.
To be reproduced/investigated during this test, to ensure SVT2 power on will not suffer from this.

4817 PACS Power Cycle OBCP fails on redundant
To be re-verified and closed with this test.

Test equipment/Facility and Calibration Status

Calibration status of equipment

All equipment within the Herschel EGSE that requires certification has been recertified.

A full list of calibrated equipment is contained in annex 4.

Safety

The tests will be performed in Helium I in ambient conditions.

All rights reserved, 2007, Thales Alenia Space

The following Safety related issue are identified: • Temperature: None	
Cleanliness Test will be performed in the class 100000 clean-room area at ESTEC.	
Test Personnel and responsibilities Test Director: S. Mooney Test Conductor: S. Ilsen Engineering Support: A. Koppe Cryo Engineering Support: N/A Functional Support: S. Hamer ESA: C. Scharmberg Test operator, as per shift EGSE support as per shift QA support as per shift Instrument Support: • N/A	
Problem Areas	
AOB	
Conclusion of meeting The checkpoint states formally that permission is given for the execution of the test after the closure of the identified open work items.	

All rights reserved, 2007, Thales Alenia Space

END OF DOCUMENT

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