

Herschel

Title:

IST1 Instrument FDIR OBCP Test Report

CI-No:

100000

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Astrium GmbH Test Report Herschel

Issue	Date	Sheet	Description of Change	Release
1	05/06/2008	All	Formal Issue	

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1 Scope

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

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

1.1 Objective

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

SPIRE

- SPIRE OPE STOP
- SPIRE_OPE_RESUME
- SPIRE_DRCU_OFF
- SPIRE_OFF_CTRL
- SPIRE OFF

PACS

- PACS_POWER_CYCLE
- PACS_NORMAL_OFF
- PACS IMMEDIATE OFF

HIFI

HIFI RESET

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

PACS_SAFE

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1.2 Summary Conclusion

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

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

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

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2 Documents / Drawings

2.1 Applicable Documents

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

2.2 Reference Documents

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

2.3 Other Documents

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

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dated 23/05/2008

2.4 Acronyms & Abbreviations

See AD-3.

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Test characteristics

3.1 Title

Herschel IST Test Case "Test of Instrument FDIR OBCP"

3.2 Unit tested

Spacecraft CDMS OBCP FDIR for Instruments

3.3 Description

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

SPIRE

- SPIRE OPE STOP
- SPIRE OPE RESUME
- SPIRE_DRCU_OFF
- SPIRE_OFF_CTRL
- SPIRE_OFF

PACS

- PACS_POWER_CYCLE
- PACS NORMAL OFF
- PACS_IMMEDIATE_OFF

<u>HIFI</u>

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

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3.5 Requirements to be verified

Not applicable

3.6 Corresponding minutes of meetings

[OD-1] through [OD-5]

3.7 General test flow

The test was executed in the following order:

Session 1 (29-30/04/2008)

- HIFI OBCP FDIR
- PACS OBCP FDIR

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

Session 2 (21/05/2008)

• SPIRE OBCP FDIR

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4 Test execution

4.1 Date and time

Session 1 (HIFI & PACS)

Power ON and initial S/C configuration:

28/04/2008 21:17 - 22:33 UTC

Test configuration and actual test:

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

Power OFF:

30/04/2008 02:24 - 03:10 UTC

Session 2 (SPIRE)

Power ON and initial S/C configuration:

21/05/2008 04:38 - 08:24 UTC

Test configuration and actual test:

21/05/2008 09:05 - 15:00 UTC

Power OFF

21/05/2008 16:49 - 17:21 UTC

4.2 Tag / session reference

Session 1 (HIFI & PACS)

2008_04_28_21_05_hercdmu_hpws22_REALTIME_INST_FDIR

Start tag: IST1_PART1_TP-0197_1_1_END_001

End tag: IST1_PART1_TP-0197_1_1_END_001

Session 2 (SPIRE)

2008_05_21_04_38_heracms_hpws22_REALTIME_INST_FDIR

Start tag: IST 1 PART1 TP 0197 ISS1 FDIR OBCP SPIRE END 001

End tag: IST_1_PART1_TP_0197_ISS1_FDIR_OBCP_SPIRE_END_001

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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.

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4.5 Problems found during the test

4.5.1 Procedure Variations

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

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

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

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

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

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

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

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

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4.5.2 NCR/SPR Summary

4.5.2.1 NCRs Opened/Recurred/Closed

NCR No	Title	During	O/R/C
3512	SPIRE DPU reports missing Time	HIFI Reset OBCP	R
Sync Pulse on MIL Bus 1553		RD-1 Section 7.3 step 68	
3958	IST PACS unexpected OBCP triggered before OBCP PACS SAFE completion	All OBCP FDIR where CDMU generates 5,4 events to report actions	R
4128	SPIRE goes to an improper status	SPIRE DRCU OFF OBCP	R
	with jamming	RD-3 Section 7.5 step 225	
4175	Unexplained behaviour of CCS	HIFI power ON	0
		RD-1 Section 7.2	
4177	IST test Instrument FDIR OBCP	End of PACS OBCP FDIR	0
	stopped before end of test	RD-1 Section 7.4 step163	
4179	Transfers of RT 13, 16 (HIFI ICU	PACS power ON	0
	Nominal) and PACS DPU Nominal are delayed	RD-1 Section 7.2	
4181	CCS Reports no telemetry packet received	Various times during instrument power ON	0
		RD-1 & RD-3 Section 7.2	
4228	SREM TLM DEF4W160	SVM Power on for SPIRE FDIR OBCP	0
		RD-3 Section 7.2 Step 25	
4229	Unexpected ACMS 5,1 event	HIFI Reset OBCP and SPIRE OFF OBCP	0
		RD-1 Section 7.3 step 68 & RD-3 Section 7.5 step 270	
4250	HIFI Generates many OBS runtime	HIFI Reset OBCP	0
	errors during RESET OBCP FDIR triggering	RD-1 Section 7.3 step 68	

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4.5.2.2 SPRs Opened/Recurred/Closed

SPR No	Title	O/R/C
501	Removal of HIFI IEGSE related steps from script	0
502	Errors in calls to scripts	0
503	Incorrect info prompt in script	0
535	Start Tracker simulator failed to boot on first attempt	0
536	Unintentionally triggering of SPIRE_OFF_CTRL OBCP, procedure/script to be updated to warn operator prior to switching off SPIRE	0
537	Duplicated prompt in script to set CDMS SCOE offline	0

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

4.5.3.1 NCRs

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

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

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4.5.3.2 SPRs

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

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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 IST1. For IST2 tests can be appended to the end of other IST test cases as per AD-1	Yes – see OD-1
See section 5.8.13.5 of AD- 1 for list of instrument OBCP FDIR to be tested	Additional PACS OBCP FDIR tested: These additional tests could be skipped for IST2	Yes – see OD-1
Not a requirement	Recovery of PACS after final PACS OBCP FDIR triggering not performed in order to save time switching off at the end of the test	No – See PVS
Section 5.7.1.3 of AD-1	SSMM dump aborted due to time constraints (switching off to allow following formal test to be performed on schedule	No – See PVS

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4.7 Test Execution Summary

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

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

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

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

Table 4.7.1-1 DB_OBCP_H_HIFI_RESET Timeline

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

Table 4.7.1-2 DB_OBCP_H_PACS_SAFE Timeline

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

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

Table 4.7.1-3 DB_OBCP_H_PACS_POWER_CYCLE Timeline

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

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

Table 4.7.1-4 DB_OBCP_H_PACS_NORMAL_OFF Timeline

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

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

Table 4.7.1-5 DB_OBCP_H_PACS_IMMEDIATE_OFF Timeline

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4.7.2 SPIRE FDIR OBCP IST 21/05/2008

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

Table 4.7.1-1 DB_OBCP_H_SPIRE_OPE_STOP Timeline

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

Table 4.7.1-2 DB_OBCP_H_SPIRE_OPE_RESUME Timeline

Issue:





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

Table 4.7.1-3 DB_OBCP_H_SPIRE_DRCU_OFF Timeline

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

Table 4.7.1-4 DB_OBCP_H_SPIRE_OFF_CTRL Timeline

Issue:





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

Table 4.7.1-5 DB_OBCP_H_SPIRE_OFF Timeline

Issue:





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4.8 Summary conclusion

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

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

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

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

4.9 Open issues

Those NCRs still open that were raised during the test.

Test with flight version of SPIRE DPU OBSW.

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5 Post-Test Data Retrieval

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

Session 1 (HIFI & PACS):

2008_04_28_21_05_hercdmu_hpws22_REALTIME_INST_FDIR

Session 2 (SPIRE):

```
2008_05_21_04_38_heracms_hpws22_REALTIME_INST_FDIR
```

The Common structure is as follows:

```
<Session Name>
```

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.

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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.

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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	
EGSE	ONIT NAME	Manufacturei	P/IN OF WIOGE	5/N	1A9-1 C.1	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

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6.5 Logbook Extracts from Test

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

6.5.1.1 Logbook Extract for HIFI & PACS OBCP FDIR

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

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

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Time (UTC)	Test Procedure / Step / Script / Command / Event / Anomaly	Remarks / Cause of anomaly / Corrective action	C/A type (T/P)	NCR ref. (PA)
29/04/08				
07:56	Start of HIFI Mode Transition debug ACS-SD-0320			
09:01	Table Load blocked waiting for YM028962, 0 time value indicates packet (SPID 250040962 HIFI_G_0040) never received this session	pt .		
09:31	Restarted autonomously!!!	SPR to be raised 497		
10:01	Connect to Spire I-EGSE for merged MIB check			
12:00	ACS SD-320 completed			
15:08	START OF FORMAL INST FDIR OBCP DRY RUN (Simon, Ian, Rier Uwe)	n,HP-2-ASED-TP-0197 lss 1		
16:11	RWL4 momentum is below -10.0 +/- 20%			
16:13	At step 22 of section 7.2 the script RWL_SPINUP should reach END_TS but we found it suspended. Resumed it then it finished.	SUnknow sofar why the script is suspended (not in procedure_197)		
16:30	At section 7.2 step 22 the "SCM pnt F rdy" is not reached!!	It was not commanded, just to OCM. Not underdstood		
16:31	After we pressed END_TS for RWL_SPINUP the ACMS started transition to SCM automaically. Missing step or note in procedure	In fact misleading because in the previous step it was stated that the status would be "SCM pnt F rdy" PVS 1.11 issued to add a wait for transition to SCM		
16:50	TM failure during SREM_ACQ_START: TM DEF4W160 Accumulation Repeated once: Still NO. Known SPR-290 expected Yes actual NO			NCR-3986 re- occurrence
17:16	HIGH HIGH reported briefly for HIFI parameter HM258194 HL_mode_STo be added to TP-0206 – done value = failure then back in limits			
17:15	BEHVLimC/MONTMdsk tasks reporting Operation overflow: uinteger EGSE support (Luigi to investigate) (1356) – integer (32226). Result truncated to: 0			NCR-
17:23	HIGH HIGH reported briefly for HIFI parameter HM25919	4To be added to TP-0206 – done		

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

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

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6.5.1.2 Logbook Extract for SPIRE OBCP FDIR

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

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

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Time	Test Procedure / Step / Script / Command / Event / Anomaly(UTC)	Remarks / Cause of anomaly / Corrective action	C/A type (T/P)	NCR ref. (P
	(calling Z010999MCVT003_IST_START)			
05:50	PVS 1: Select ACMS Config File "IST_IFDIR" in step 4 of ACMS			
	Configuration Procedure, 7.2.4.2 of Leading Procedure,			
	(A102109SPVT003_ACMS_CONFIG25.tcl)			
05:58	A102109SPVT010_ACMS_SCOE_CONFIG1.tcl			
	ACMS SCOE did not boot: parameter check YMASE939 failed.	PVS 2 raised on step 7 in chapter 7.2.4.2 of leading		
		procedure TP-0134		
	Note #3			
06:10	, , ,	Raised as SPR-0535	S	PR-0535
	Note #3 wasn't the right one, but Operator Note #4.			
	Therefore Manual Command Stack "ACMSscoeABORTKILLhpws23"			
	performed and			
07:40	ACMS_CONFIG1 aborted and restarted (within ACMS_CONFIG25)			
08:24	Leading Procedure TP_0134 finished, i.e. S/C is On and configured for			
	Instrument FDIR OBCP			
09:05	Start TP-197 Section 7.2			
09:47	Resume A102109SPVT042_RWL_SPINUP (PVS2)	Procedure update required		
	SREM DEF4W160 value = NO (Raw=1) when YES expected.	NCR To Be raised	N	ICR-4228
	Occurred during Script	20080521_090507_0072_Z010999MCVT131_IST_I		
	Z102999SCVT003_SREM_ACQ-START	NSTR_FDIR time 09.58		
	(section 7.2 step 25)	ESOC raised NCR 4045 however this was the		
09:58:00	(555.5 255, 25)	opposite way round.		
11:20	SPIRE OBP_STOP OBCP ran as per procedure	OK		
11:40	SPIRE OBP_RESUME OBCP ran as per procedure	OK		
12:20	Step 233 Unintentional triggering of another OBCP due to	SPR 0536 raised	S	PR-0536
	investigating TLM and did not continue sequence quick enough.			

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

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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).

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Attachment to Section 6.6: SPRs Raised During Instrument FDIR OBCP

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		5	SPR Form	sheet	***		
Nr.: Son	Date: 29/1	+/08	Author:	7	Classificati	ion:	
Test: INST	2	Session ID:	2008-04-28 1 hpu, 22 - REAL			Subsyste	em:
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Proposed rerun (E	Date / Tesi	case):					
Date: 29/4/08		Participants	s: S. HAMER	5:66:67			
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Date:		QA:					

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Nr.: 502	Date : 29	4/03	Author:	Classifica	ation:
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Date: 29/4/83		Name: 5	HAMER		
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Type: (Script/Picture /Test structure):	Name		395PU TO 10 _ACMS_S	~0€~ C0N	Version:
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		pe filled by TC,	TO, QA plus Engineering / expe	erts if required):
Implement as propo Other:	osed:			Reject:	

Proposed rerun (Da	te / Test	case):			
Date:		Participants:	·		
Implemented:			Code ir	nspected:	
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•					LJ
Date:		Name:			
Date:	al team n	nember & QA):			
Date: Close out (Functional	al team n	nember & QA):	Func. Team Name:		

	S	PR Formsheet		
Nr.: Date: 21	105/08	Author: B. HOGG	Classification	on: MINOR
Test: SPIRE FOIR OBCP	Session ID:	2008-05-21-64-38-he hp ws 22 - REALTIME - INST	eraens_	Subsystem:
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Type: (Script/Picture Name	e :	TOI9_ASD GENSAR_PI		Version:
Problem description (to be Time (UTC): 12:25	e filled by Test of Step no:	conductor (TC) / Test operator (TC) 2. 3.3 み てりの197	O)): SEE ATT	mether) cog pra
1		ED DUE TO NOT CO		
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Proposed solution (to be f	illed by TC / TO):		
		COCKET) WILE TO MUSERT	Æ	contlough of
_		NCE RUNNING CA	N CAUSE	OBC/S
DURING THIS				
	be filled by TC,	TO, QA plus Engineering / expe	rts if required)	
Implement as proposed: Other:	<u> </u>	ا ئ	Reject:	
Other:	0			
Proposed rerun (Date / Tes	t case):			
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Date:	Participants	:		
Implemented:		Code ins	spected:	
Confirmed by Test Conduct	or(s) / Experts	to check-in:	[
Date:	Name:			
Close out (Functional team	member & QA):			
Verified during test case / ID				
Date: Vers	ion:	Func. Team Name:		
Date:	QA:			

	•	SPR Formsheet		
Nr.: 537	ate: 2-1 / 0-5 / 3-8	Author: S. HAMER	Classification:	-
Test: SPIRE FOR C	Session ID:		Subsyste	em: PIE
Title: Prompt	to Set	OUR SOME OF	line done to	wi co
Type: (Script/Picture /Test structure):	Name: Zolo999MC	VTIZ7_IST_SPIRE_F	DIR Formal	Version:
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Herschel

6.7 As-Run Procedures

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

Doc. No: HP-2-ASED-TR-0257

Issue:

Date: 5th June 2008

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Attachment 1 to Section 6.7:

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

Doc. No: HP-2-ASED-TR-0257

Issue: 1

Date: 5th June 2008

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Herschel Integrated Satellite Test Procedure: Leading Procedure

Herschel

Title:

Leading Procedure for Herschel Integrated Satellite Test

RW

FOR ALIGNMENT + ACS 320

+ DRY RUN OF MST FDIR

2008_04_28_2LOS_herdm_hpw522_REALTINE_INST_FOZE 28/04/08

Prepared by:	Functional Team	Date:
hecked by:	C. Much	25/4/2008
Froduct Assurance:	J. Hall	25/4/2003.
Configuration Control:	W. Wietbrock	
TASF Engineering	G. Beaufils D.O. Bolu	25 APR 08
TASF Test Director	S. Mooney	25/4/2007
Project Management:	Dr. W. Fricke	
Project Management	Denis Montet	28/4/08

Distribution:

See Distribution List (last page)

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Doc No:

HP-2-ASED-TP-0134

Issue:

4.0

Date:

24.04.2008

File: HP-2-ASED-TP-0134_Herschel_IST_Leading_Procedure__iss_4_0_24-04-08

Page:





Change Record:

ssue	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	



Herschel Integrated Satellite Test Procedure

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			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 Robstness (minor changes),	
	1		4.3.1 & 4.3.2 to include SCOE Sk01J04 and to correct hcu	
	1		connector ident Typo's	
			7041 410704 4 4 4 4 4	
			7.2.1 Insert IST Start overview test flow diagram	
			7.2.2 undete tehle 5.0.40 News M. J. D. J. V.	
ı	1		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	
475000				

Doc. No:

HP-2-ASED-TP-0134

Issue: Date: 4.0

24.04.2008

File: HP-2-ASED-TP-0134_Herschel_IST_Leading_Procedure__iss_4_0_24-04-08



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7 IST 7.1 H 7.1.1 7.1.2 7.2 IS 7.2.1	TEST PCCS Configuration for IST Test Apply Tag on test files Start test session on HPCCS T START for Spacecraft configuration Diagram Overview	
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7.1 H 7.1.1 7.1.2 7.2 IS 7.2.1 7.2.2 7.2.3 7.2.4 7.2.4 7.2.4	TEST PCCS Configuration for IST Test Apply Tag on test files Start test session on HPCCS T START for Spacecraft configuration Diagram Overview IST Configuration Table Initialisation IST Start Step by Step Procedure 1 IST_START_SSMM Procedure	
7 IST 7.1 H 7.1.1 7.1.2 7.2 IS 7.2.1 7.2.2 7.2.3 7.2.4 7.2.4 7.2.4 7.3 IS	TEST PCCS Configuration for IST Test Apply Tag on test files Start test session on HPCCS T START for Spacecraft configuration Diagram Overview IST Configuration Table Initialisation IST Start Step by Step Procedure .1 IST_START_SSMM Procedure .2 ACMS Configuration Procedure	
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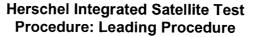
1 Scope

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

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

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

Doc. No: HP-2-ASED-TP-0134







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.

Doc. No: HP-2-ASED-TP-0134



1.2 Flow

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

IST₁

> Warm case

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

> He I

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

➤ He II

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

IST 2

All tests will be performed in He II

Tests may be run in any order

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File: HP-2-ASED-TP-0134_Herschel_IST_Leading_Procedure__iss_4_0_24-



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2 Documents

Doc. No:

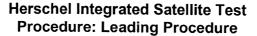
HP-2-ASED-TP-0134

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4.0

Date:

24.04.2008







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

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

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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. 6603	Packet Store Usage on H/P	PT-CMOC-OPS-TN-
RD 2.2.1.g.	Software user's Manual	P-HPL-NOT-0029-SE
RD 2.2.1.h.	CDMU ASW Requirement Specification	H-P-SP-AI-0031
RD 2.2.1.I.	Basic Software Requirement Specification	H-P-SP-AI-0006
RD 2.2.1.m.	H/P ACMS Requirement Specification	H-P-SP-AI-0011
RD 2.2.1.n.	SVM FDIR Design Specification	H-P-TN-AI-0024
RD 2.2.1.o.	Herschel Planck PSICD	SCI-PT-ICD-07527
RD 2.2.1.p.	H-P-CDMU ASW User Manual	H-P-4-SSF-MA-0001
RD 2.2.1.q.	H-P ACMS Design Report	H-P-4-DS-TN-0011
RD 2.2.1.r.	H-P ACMS TC Definition	H-P-4-DS-TN-0024
RD 2.2.1.s.	ACMS FDIR Analysis Report	H-P-4-DS-TN-0010
RD 2.2.1.t.	CDMU HW User Manual	P-HPL-NOT-0009



2.3 Other Documents

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

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

Doc. No: HP-2-ASED-TP-0134 4.0

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3 Requirements to be verified

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

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4 Configuration

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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			
IGSE	HIFI IGSE	1		
	PACS IGSE	1		
	SPIRE IGSE	1		
PCS	PCDU	1+1		
	Battery	1	1	Battery Simulation for other tests
		Installed. Only		
		connected for Launch		
		clean run		
	Solar Array	30 nom sections	1	Power SCOE
		not required for IST		
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		
	тwт	2		
	EPC	2		
-	LGA	2 (not used during the		
		IST)		

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S/S	Unit	Configuration	SCOE simulated equipments	Remarks
	MGA	1 (not used during the IST)		
RCS		1+1 (not used during the IST)		ACMS SCOE
TCS		1 (partially installed)		
VMC		11		
SREM		11		
HIFI		1		
PACS		1		
SPIRE		1		
Telescope		1		
HSS		1		

Table 1: Satellite configuration required for IST

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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:	

SEE MOM H-P-TASF-MN-10

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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

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



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1	I	1	Ĭ	1	1
SKIN-02	BCC Droop/Tonk Toma/DT Day	107		ACMS SCOE	
JONIN-02	RCS Press/Tank Temp/PT Pwr	J07	ACC/PT&TH	Cable Plugged	
SKIN-02	Thrustor Town M/I \/4 Cto	100		ACMS SCOE	
SININ-02	Thruster Temp M/LV1 Sts CDMU and ACC EEPROM	J08	ACC/RCS	Cable Plugged	
SKIN-02	1	100	100/05/4		Flight Cap
SINIV-UZ	reprogramming input CDMU and ACC EEPROM	J09	ACC/CDMU		SK02P09 Plugged
SKIN-02		140	1.00/05/11/1		Flight Cap
SIXIIV-02	reprogramming input	J10	ACC/CDMU		SK02P10 Plugged
SKIN-02	Thruster Tomp P/I \/2 Cto		100/200	ACMS SCOE	
ORAN OZ	Thruster Temp R/LV2 Sts	J11	ACC/RCS	Cable Plugged	
SKIN-02	Thruster C/B Heaters M	140	A00/0011	ACMS SCOE	
J Grant 62	Thruster C/D Heaters W	J12	ACC/CBH	Cable Plugged	
SKIN-02	Thruster C/B Heaters R	140	ACC/ODL	ACMS SCOE	
	Thiuster O/D Heaters N	J13	ACC/CBH	Cable Plugged	
SKIN-02	Str1/2 On/Off Cmd M/Str1 Sts	J14	ACC/CTD 4		ACMS Flight Cap
	Sti 1/2 Off/Off Citia W/Sti 1 Sts	314	ACC/STR-1	 	SK02P14 Plugged
SKIN-02	Str1/2 On/Off Cond B/Str2 Sto	145	ACC/OTD 0		ACMS Flight Cap
	Str1/2 On/Off Cmd R/Str2 Sts	J15	ACC/STR-2	ļ	SK02P15 Plugged
SKIN-02	Cure A On/Off Cond	140	100/0//00 5/		ACMS Flight Cap
SKIN-02	Gyro A On/Off Cmd	J16	ACC/GYRO-E1		SK02P16 Plugged
CIVIN 00	O D. O /Off O				ACMS Flight Cap
SKIN-02 SKIN-03	Gyro B On/Off Cmd	J17	ACC/GYRO-E2		SK02P17 Plugged
SKIN-03	TTC Panel	21:- 0	I ago 14	1.22	ETAL VINCES
SKIN-03	Connector Function	Skin Connector	S/G unit	SCOE CABLE	Flight Connector
2VIIV-03	Test point TC + protection	01400 104			Plastic cap
01/11/1 00	jumper EPC1	SK03J01	XPND1/EPC1		(See note1)
SKIN-03	Test point TC + protection	01/00/00			Plastic cap
	jumper EPC2	SK03J02	XPND2/EPC2		(See note1)
	RF LINK				
		14 AL, 12 MINOR DE MI			
ı	Connector Function	Skin Connector	S/C unit	SCOE CABLE	Flight Connector
	Connector Function			RF SCOE	LGA1 Anechoic
		Skin Connector	S/C unit	RF SCOE LGA1 Plugged	
	Connector Function RF link for antenna LGA1	N/A	LGA1	RF SCOE LGA1 Plugged RF SCOE	LGA1 Anechoic
	Connector Function			RF SCOE LGA1 Plugged RF SCOE LGA2 Plugged	LGA1 Anechoic Cap
	Connector Function RF link for antenna LGA1 RF link for antenna LGA2	N/A N/A	LGA1	RF SCOE LGA1 Plugged RF SCOE LGA2 Plugged RF SCOE	LGA1 Anechoic Cap LGA2 Anechoic Cap
	RF link for antenna LGA1 RF link for antenna LGA2 RF link for antenna MGA	N/A	LGA1	RF SCOE LGA1 Plugged RF SCOE LGA2 Plugged	LGA1 Anechoic Cap LGA2 Anechoic
SKIN-04	Connector Function RF link for antenna LGA1 RF link for antenna LGA2 RF link for antenna MGA ACMS Panel (RWE)	N/A N/A N/A	LGA1 LGA2 MGA	RF SCOE LGA1 Plugged RF SCOE LGA2 Plugged RF SCOE MGA Plugged	LGA1 Anechoic Cap LGA2 Anechoic Cap
	RF link for antenna LGA1 RF link for antenna LGA2 RF link for antenna MGA	N/A N/A	LGA1	RF SCOE LGA1 Plugged RF SCOE LGA2 Plugged RF SCOE	LGA1 Anechoic Cap LGA2 Anechoic Cap
SKIN-04 SKIN-04	RF link for antenna LGA1 RF link for antenna LGA2 RF link for antenna MGA ACMS Panel (RWE) Connector Function	N/A N/A N/A Skin Connector	LGA1 LGA2 MGA S/C unit	RF SCOE LGA1 Plugged RF SCOE LGA2 Plugged RF SCOE MGA Plugged	LGA1 Anechoic Cap LGA2 Anechoic Cap MGA Anechoic Cap
	Connector Function RF link for antenna LGA1 RF link for antenna LGA2 RF link for antenna MGA ACMS Panel (RWE)	N/A N/A N/A	LGA1 LGA2 MGA	RF SCOE LGA1 Plugged RF SCOE LGA2 Plugged RF SCOE MGA Plugged	LGA1 Anechoic Cap LGA2 Anechoic Cap MGA Anechoic Cap
	RF link for antenna LGA1 RF link for antenna LGA2 RF link for antenna MGA ACMS Panel (RWE) Connector Function	N/A N/A N/A Skin Connector J01	LGA1 LGA2 MGA S/C unit	RF SCOE LGA1 Plugged RF SCOE LGA2 Plugged RF SCOE MGA Plugged	LGA1 Anechoic Cap LGA2 Anechoic Cap MGA Anechoic Cap Flight Connector ACMS Flight Cap
SKIN-04 SKIN-04	RF link for antenna LGA1 RF link for antenna LGA2 RF link for antenna MGA ACMS Panel (RWE) Connector Function	N/A N/A N/A Skin Connector	LGA1 LGA2 MGA S/C unit	RF SCOE LGA1 Plugged RF SCOE LGA2 Plugged RF SCOE MGA Plugged	LGA1 Anechoic Cap LGA2 Anechoic Cap MGA Anechoic Cap Flight Connector ACMS Flight Cap SK04P01 Plugged
SKIN-04	RF link for antenna LGA1 RF link for antenna LGA2 RF link for antenna MGA ACMS Panel (RWE) Connector Function RWL1 Sgn	N/A N/A N/A Skin Connector J01	LGA1 LGA2 MGA S/C unit ACC/RWL-1	RF SCOE LGA1 Plugged RF SCOE LGA2 Plugged RF SCOE MGA Plugged	LGA1 Anechoic Cap LGA2 Anechoic Cap MGA Anechoic Cap Flight Connector ACMS Flight Cap SK04P01 Plugged ACMS Flight Cap

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SKIN-04	RWL4 Sgn	J04	ACC/RWL-4		ACMS Flight Cap
SKIN-05	GYR/QRS Panel] 304	ACC/RWL-4		SK04P04 Plugged
	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				ACMS SCOE	
	GYRO RS422 / Test	J03	GYRO	Cable Plugged	
SKIN-05				ACMS SCOE	
	CRS 1/2 Stimuli	J04	CRS-1,2	Cable Plugged	
SKIN-05				ACMS SCOE	
	AAD Sgn M	J05	AAD/ACC	Cable Plugged	
SKIN-05				ACMS SCOE	
	SAS1/2 Sgn M	J06	SAS/ACC	Cable Plugged	
SKIN-05				ACMS SCOE	
	SAS1/2 Sgn R	J07_	SAS/ACC	Cable Plugged	
SKIN-05				ACMS SCOE	
	AAD Sgn R	J08	AAD/ACC	Cable Plugged	
SKIN-06	STR Panel				
	Connector Function	Skin Connector	S/C unit	SCOE CABLE	Flight Connector
				ACMS SCOE	
SKIN-06	STR1 Stimuli	J01	STR1	Cable Plugged	
				ACMS SCOE	
SKIN-06	STR2 Stimuli	J02	STR2	Cable Plugged	
	UMBILICAL				
	Connector Function	Connector	S/C unit	SCOE CABLE	
				SCOEs cable	
	Power/Data	HU1 J01	SYSTEM	Plugged	
				SCOEs cable	
	Power/Data	HU2 J01	SYSTEM	Plugged	

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315 100	on top of								
	Connector	Connector	S/C unit	SCOE	CryoSCOE	CCU Flight			
	Function	Connector	S/O unit	SCUE	connected	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	45.00		5.		T			
	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			

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	Connector Function	Skin Connector	S/C unit	SCOE	SCOE Cable connected	Flight Cap connected
321 300	on top of				700 July 100	
		321200-J05	VS103, H102	Cryo SCOE J04		X
		321200-J04	T312, T314, T316, T905, T909, T931, T933, T935	Cryo SCOE J09		X
		321200-J03	T321, T323, T501, T505, T651, T901, T903, T907, T911	Cryo SCOE J09		X
-		321200-J02	T102, T105, T106, T111, PR_P701, T421, T442, T461, H101	Cryo SCOE J04		X
		321200-J01	T202, T212, T221, T223, T227, T228, T232, T234, T236, T242, T244, T246, T250, T254, T258, T424, T464	Cryo SCOE J08		X
	Connector Function	Connector	S/C unit	SCOE	CryoSCOE connected	CCU Flight connected
321 200	on top of			1	to the transfer for	
		321100-J08	T502	Cryo SCOE J01		no flight
		321100-J07	H501	Cryo SCOE J06		no flight
		321100-J06	H104, H702, L101, VT104, VT106, VT702, VH104, VH106, VH702, VS104, VS702	Cryo SCOE J03		no flight
		321100-J05	H103, H701, L102, VT102, VT103, VT105, VT701, VH102, VH103, VH105, VH701, VS102, VS105, VS701	Cryo SCOE J11		no flight

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to be approved & released before start of ACS/PR/TP by Floor- Manager		Date:		Sign:		
	Connector Function	Skin Connector	S/C unit	SCOE Cryo SCOE J18	SGOE Cable connected	Flight Cap connected X
CVSE I/F	on top of	1 021000 000	Page Andrew	2200		T Colombia
		321300-J05	VS106, H102	Cryo SCOE J04		X
		321300-J04	T311, T313, T315, T904, T906, T910, T932, T934	Cryo SCOE J14		х
		321300-J03	P502,T322, T324, T504, T506, T507, T652, T902, T908, T912	Cryo SCOE J18		X
		321300-J02	T101, T104, T107, T112, T703, T422, T441, T462, T701, H102	Cryo SCOE J04		X
		321300-J01	T208, T213, T222, T224, T225, T226, T231, T233, T235, T237, T247, T248, T252, T256, T862, T444	Cryo SCOE J02		X

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Annex	k No.:							
314 200	on top of							
	Connector Function	Connector	S/C unit	SAFE	ARM	Sign		
	SAFE / ARM plug	314 200-J03	NED (601)	Х				
	SAFE / ARM plug	314 200-J04	NED (602)	Х				
	SAFE / ARM plug	314 200-J05	SI 601	х				
	SAFE / ARM plug	314 200-J06	SI 602	×				

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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"

sco	E CABLES CONNECT	TON to HERSCHEL S	SIC
PWR Panel (PCDU)			
Connector Function	Skin Connector	S/C unit	SCOE CABLE Flight Connector
			BS SCOE Cable
BS Nom Power	SK01BJ09	PCDU	Plugged
			BS SCOE Cable
BS Red Power	SK01BJ10	PCDU	Plugged
			LPS SCOE
BDR1 AIT	SK01BJ11	PCDU	Cable Plugged
			LPS SCOE
BDR2 AIT	SK01BJ12	PCDU	Cable Plugged
1000			POWER SCOE
SA Nom Power	SK01AJ01	PCDU	Cable Plugged
9.70			POWER SCOE
SA Nom Power	SK01AJ02	PCDU	Cable Plugged
			POWER SCOE
SA Nom Power	SK01AJ03	PCDU	Cable Plugged
0.5.5	01/044.104		Connector
SA Red Power	SK01AJ04	PCDU	Cover
04.0-40	01/044 105	DOD!!	POWER SCOE
SA Red Power	SKU1AJU5	PCDU	Cable Plugged
04.0-40	01/04 4 100	DODLI	POWER SCOE
SA Red Power	SK01AJ06	PCDU	Cable Plugged
CA Bod Dower	CK04 V 102	DCDII	POWER SCOE
		PCDU	Cable Plugged
50 Per 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997	The second secon	C/C unit	SCOE CABLE Flight Connector
Connector Function	Skin Connector	S/C unit	
DMC 1552 Pure A	101	CDMII	Bus Monitor
DIVIG 1999 BUS_A	301	CDIVIO	Cable Plugged
DMS 1553 Bug B	Ina	CDMII	Bus Monitor
DIVIO 1000 DUS_D	302	CDIVIO	Cable Plugged
ACMS 1553 Rue A	IU3	ACC	ACMS SCOE
MONIO 1000 BUS_M	303	ACC	Cable Plugged
ACMS 1553 Bus B	.104	ACC	ACMS SCOE Cable Plugged
LV1/FCV 20N CMD S/A M	J05	ACC/RCS	ACMS SCOE
	PWR Panel (PCDU) Connector Function BS Nom Power BS Red Power BDR1 AIT BDR2 AIT SA Nom Power SA Nom Power SA Red Power	PWR Panel (PCDU) Connector Function Skin Connector BS Nom Power SK01BJ09 BS Red Power SK01BJ10 BDR1 AIT SK01BJ11 BDR2 AIT SK01BJ12 SA Nom Power SK01AJ01 SA Nom Power SK01AJ02 SA Nom Power SK01AJ03 SA Red Power SK01AJ04 SA Red Power SK01AJ05 SA Red Power SK01AJ05 SA Red Power SK01AJ07 PWR Panel (ACC, CDMU, RCS, 1553 & Thruster) Connector Function Skin Connector DMS 1553 Bus_A J01 DMS 1553 Bus_B J02 ACMS 1553 Bus_A J03	Connector Function Skin Connector S/C unit BS Nom Power SK01BJ09 PCDU BS Red Power SK01BJ10 PCDU BDR1 AIT SK01BJ11 PCDU BDR2 AIT SK01BJ12 PCDU SA Nom Power SK01AJ01 PCDU SA Nom Power SK01AJ02 PCDU SA Red Power SK01AJ03 PCDU SA Red Power SK01AJ04 PCDU SA Red Power SK01AJ05 PCDU SA Red Power SK01AJ06 PCDU SA Red Power SK01AJ07 PCDU PWR Panel (ACC, CDMU, RCS, 1553 & Thruster) Connector Function Skin Connector S/C unit DMS 1553 Bus_A J01 CDMU ACMS 1553 Bus_B J02 CDMU ACMS 1553 Bus_A J03 ACC

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				Cable Plugged	
				ACMS SCOE	/
SKIN-02	LV2/FCV 20N CMD S/A R	J06	ACC/RCS	Cable Plugged	1
				ACMS SCOE	
SKIN-02	RCS Press/Tank Temp/PT Pwr	J07	ACC/PT&TH	Cable Plugged	1
				ACMS SCOE	/
SKIN-02	Thruster Temp M/LV1 Sts	J08	ACC/RCS	Cable Plugged #	
	CDMU and ACC EEPROM				Flight Cap
SKIN-02	reprogramming input	J09	ACC/CDMU		SK02P09 Plugged
	CDMU and ACC EEPROM				Flight Cap
SKIN-02	reprogramming input	J10	ACC/CDMU		SK02P10 Plugged
				ACMS SCOE	
SKIN-02	Thruster Temp R/LV2 Sts	J11	ACC/RCS	Cable Plugged	
				ACMS SCOE	
SKIN-02	Thruster C/B Heaters M	J12	ACC/CBH	Cable Plugged	
				ACMS SCOE	/
SKIN-02	Thruster C/B Heaters R	J13	ACC/CBH	Cable Plugged	1
					ACMS Flight Cap
SKIN-02	Str1/2 On/Off Cmd M/Str1 Sts	J14	ACC/STR-1		SK02P14 Plugged
					ACMS Flight Cap
SKIN-02	Str1/2 On/Off Cmd R/Str2 Sts	J15	ACC/STR-2	1	SK02P15 Plugged
					ACMS Flight Cap
SKIN-02	Gyro A On/Off Cmd	J16	ACC/GYRO-E1		SK02P16 Plugged
					ACMS Flight Cap
SKIN-02	Gyro B On/Off Cmd	J17	ACC/GYRO-E2		SK02P17 Plugged
SKIN-03	TTC Panel				
	Connector Function	Skin Connector	S/C unit	SCOE CABLE	Flight Connector
SKIN-03	Test point TC + protection		O. G. GIIII	SOUL OF INDEE	Plastic cap
OI (III OO	jumper EPC1	SK03J01	XPND1/EPC1		(See note1)
SKIN-03	Test point TC + protection	CHOOCO!	74 115 1121 01		Plastic cap
011111 00	jumper EPC2	SK03J02	XPND2/EPC2		(See note1)
	RF LINK	0.100002	71110212102		(occ note i)
	Connector Function	Skin Connector	S/C unit	SCOE CABLE	Flight Connector
	Connector Edition	Oran Connocion	S/O drift	RF SCOE	LGA1 Anechoic
	RF link for antenna LGA1	N/A	LGA1	LGA1 Plugged	Cap
	TAT IIIIK IOI GIRGIIII GEOAT	11/7	LOAT	RF SCOE	
	RF link for antenna LGA2	N/A	LGA2		LGA2 Anechoic
	INF HIRK TOT AIRCHINA LUAZ	N/A	LGAZ	LGA2 Plugged	Сар
	DE link for ontones MCA	NI/A	MCA	RF SCOE	MGA Anechoic Cap
OKIN OF	RF link for antenna MGA	N/A	MGA	MGA Plugged	
SKIN-04	ACMS Panel (RWE)		1	148 Hw. 188, 189.	
	Connector Function	Skin Connector	S/C unit	SCOE CABLE	Flight Connector
SKIN-04					ACMS Flight Cap
	RWL1 Sgn	J01	ACC/RWL-1		SK04P01 Plugged
SKIN-04	RWL2 Sgn	J02	ACC/RWL-2		ACMS Flight Cap

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1	1	1	1 1	
		 	 	SK04P02 Plugged
DWI 2 Can	102	A C C // D\A // 0		ACMS Flight Cap
NVVLO Ogli	303	ACC/RWL-3	 	SK04P03 Plugged
DWI 4 San	104	100/7014/1 4		ACMS Flight Cap
	J J04	ACC/RWL-4	J	SK04P04 Plugged
Contract Con	1 01:-0	The second second		
			SCOE CABLE	Flight Connector
				ACMS Flight Cap
CRS2 AOCS Sgn	J02	CRS-2/ACC		ACMS Flight Cap
			ACMS SCOE	
GYRO RS422 / Test	J03	GYRO	Cable Plugged	
NAC 100 100 100 100			ACMS SCOE	
CRS 1/2 Stimuli	J04	CRS-1,2	Cable Plugged -	
			ACMS SCOE	/
AAD Sgn M	J05	AAD/ACC	Cable Plugged	
			ACMS SCOE	
SAS1/2 Sgn M	J06	SAS/ACC	Cable Plugged	
			ACMS SCOE	
SAS1/2 Sgn R	J07	SAS/ACC	Cable Plugged	
			ACMS SCOE	,
AAD Sgn R	J08	AAD/ACC	Cable Plugged	
STR Panel				
Connector Function	Skin Connector	S/C unit	SCOE CABLE	Flight Connector
			ACMS SCOE	/
STR1 Stimuli	J01	STR1	Cable Plugged	
STR2 Stimuli	J02	STR2		
UMBILICAL				
Connector Function	Connector	S/C unit	SCOE CABLE	
			SCOEs cable	/
Power/Data	HU1 J01	SYSTEM	1	
Power/Data	HU1 J01	SYSTEM	Plugged SCOEs cable	
	SAS1/2 Sgn M SAS1/2 Sgn R AAD Sgn R STR Panel Connector Function STR1 Stimuli STR2 Stimuli UMBILICAL	RWL4 Sgn J04 GYR/QRS Panel Skin Connector CRS1 AOCS Sgn J01 CRS2 AOCS Sgn J02 GYRO RS422 / Test J03 CRS 1/2 Stimuli J04 AAD Sgn M J05 SAS1/2 Sgn R J07 AAD Sgn R J08 STR Panel Skin Connector Connector Function Skin Connector STR1 Stimuli J01 STR2 Stimuli J02 UMBILICAL J02	RWL4 Sgn J04 ACC/RWL-4 GYR/QRS Panel Skin Connector S/C unit Connector Function Skin Connector S/C unit CRS1 AOCS Sgn J01 CRS-1/ACC GYRO RS422 / Test J03 GYRO CRS 1/2 Stimuli J04 CRS-1,2 AAD Sgn M J05 AAD/ACC SAS1/2 Sgn M J06 SAS/ACC SAS1/2 Sgn R J07 SAS/ACC AAD Sgn R J08 AAD/ACC STR Panel Connector Function Skin Connector S/C unit STR1 Stimuli J01 STR1 STR2 Stimuli J02 STR2 UMBILICAL UMBILICAL	RWL4 Sgn J04 ACC/RWL-4 GYR/QRS Panel Connector Function Skin Connector S/C unit SCOE CABLE CRS1 AOCS Sgn J01 CRS-1/ACC ACMS SCOE CRS2 AOCS Sgn J02 CRS-2/ACC ACMS SCOE GYRO RS422 / Test J03 GYRO Cable Plugged CRS 1/2 Stimuli J04 CRS-1,2 Cable Plugged AAD Sgn M J05 AAD/ACC Cable Plugged AAD/ACC Cable Plugged ACMS SCOE SAS1/2 Sgn M J06 SAS/ACC Cable Plugged AAD Sgn R J07 SAS/ACC Cable Plugged AAD Sgn R J08 AAD/ACC Cable Plugged STR Panel ACMS SCOE Cable Plugged Connector Function Skin Connector S/C unit SCOE CABLE ACMS SCOE Cable Plugged ACMS SCOE STR1 Stimuli J01 STR2 Cable Plugged UMBILICAL Cable Plugged ACMS SCOE

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	X	no flight			
	Temperature & pressure Sensors	315100-J03	T702, T872, P101, T103, T115, T116, T704, T802, T803, T805, T806, T871	, T103, , T116, , T802, , T805,		no flight			
	Temperature Sensors	315100-J05	T331, T333, T335, T337, T339, T341 (Telescope)	Cryo SCOE J14		X)			
-1	Temperature Sensors	315100-J06	T332, T334, T336, T338, T340, T342 (Telescope)	Cryo SCOE J10		X _x			
316 100	on top of		7						
	Connector Function	Connector	S/C unit	SCOE	CryoSCOE connected	CCU Flight connected			
	Valve Sensor	316100-J01	VS501, VS504			X C			
	Valve Sensor	316100-J02	VS503, VS505			X -			
321 100	on top of	444	Maria di	and the second		1			
	Connector Function	Connector	S/C unit	SCOE	CryoSCOE connected	CCU Flight connected			
		321100-J01	L701, H701	Cryo SCOE J11	X	no flight			
		321100-J02	LL702, H702	Cryo SCOE J03	X	no flight			
		321100-J03	H502, H503	Cryo SCOE J06	\mathcal{N}	no flight			

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	_		_			
		321100-J04	P501	Cryo SCOE		no flight
		321100-J05	H103, H701, L102, VT102, VT103, VT105, VT701, VH102, VH103, VH105, VH701, VS102, VS105, VS701	Cryo SCOE J11	V/	no flight
		321100-J06	H104, H702, L101, VT104, VT106, VT702, VH104, VH106, VH702, VS104, VS702	Cryo SCOE J03	4/	no flight
				Cryo SCOE	x /	
		321100-J07	H501	J06 Cryo SCOE	8/	no flight
		321100-J08	T502	J01	,	no flight
321 200	on top of		4.779 cm		The same	1000
	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		✓ ×
-		321200-J02	T102, T105, T106, T111, PR_P701, T421, T442, T461, H101	Cryo SCOE J04		×
		321200-J03	T321, T323, T501, T505, T651, T901, T903, T907, T911	Cryo SCOE J09		
		321200-J04	T312, T314, T316, T905, T909, T931, T933, T935	Cryo SCOE J09		×
\vec{c}_{s} .		321200-J05	VS103, H102	Cryo SCOE J04		×

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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		
		321300-J02	T101, T104, T107, T112, T703, T422, T441, T462, T701, H102	Cryo SCOE J04		
		321300-J03	P502,T322, T324, T504, T506, T507, T652, T902, T908, T912	Cryo SCOE J18		
		321300-J04	T311, T313, T315, T904, T906, T910, T932, T934	Cryo SCOE J14		
		321300-J05	VS106, H102	Cryo SCOE J04		×
CVSE I/F	on top of	V=1000	1 10 100) 11102	001		1^
	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-		Date: 20	los los	Sign:		

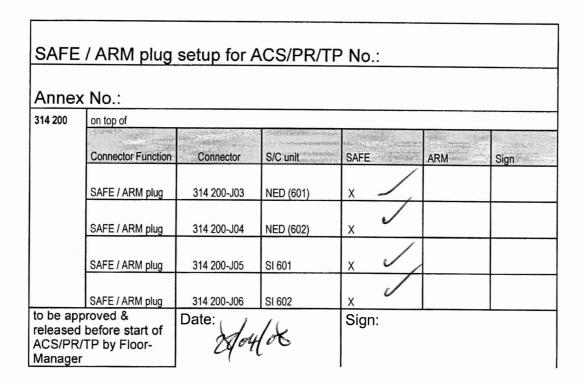
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4.3.3 SCOE cable connection for" Launch Clean Run"

SKIN-01	PWR Panel (PCDU)	PWR Panel (PCDU)					
			100	The second secon			eras.
	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	<u></u>	
	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		
					LPS SCOE		
	BDR1 AIT	SAS SCOE	PCDU	SK01B J/P11	Cable Plugged		
					LPS SCOE		
	BDR2 AIT	SAS SCOE	PCDU	SK01B J/P12	Cable Plugged		
	PWR Panel (ACC, CDML	J, RCS, 1553 &					
KIN-02	Thruster)	T.					
	Mary Mary		Garage Control	40			
	Connector Function	SCOE	S/C unit	Skin Connector	Connection		Sign
	DMS 1553 Bus_A	CDMU SCOE	СДМИ	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				Y		
	М	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		

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	Quick S/W load	grey ACMS	black CDMS	SK02 J/P09	disconnected	ПТ	
	Quick S/W load	grey ACMS	black CDMS	SK02 J/P10	disconnected		
	Thruster Temp R/LV2	grey / terre	Didok Obinio	CINDE ON TO	diodofficolog		
	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		
	Gylo A Olivoli olila		ACC/GYRO-	ON02 0/1 10	riigitt		
	Gyro B On/Off Cmd		E2	SK02 J/P17	Flight		
SKIN-03	TTC Denel						
SKIN-U3	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 RF LINK	Plastic Cap	XPND2/EPC2	SK03 J/P02	Flight		
	KF LINK	S. 75. 3					irat.
	Connector Function	SCOE	S/C unit	Skin Connector			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	UUUL	ACC/RWL-1	SK04 J/P01	Flight		eign
	RWL2 Sgn		ACC/RWL-1	SK04 J/P02	Flight	\vdash	
	RWL3 Sgn		ACC/RWL-2	SK04 J/P03	Flight		·
	RWL4 Sgn		ACC/RWL-3	SK04 J/P03	Flight	\vdash	

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SKIN-05	GYR/QRS Panel						
		2.57				1000	
	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						
	46.0	Page 1	21,000,7	Mary 114			-4.5% (5.5%)
	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				Takanatan			
	-0.50		12197	71 457 4		23426. g	
	Connector Function	SCOE	S/C unit	Connector	Connection	994	Sign
	Power/Data	System	SYSTEM	HUJ01	SCOE		
~~~	Power/Data	System	SYSTEM	HUJ02	SCOE		
approved SE		approved AIT		approved PA	√Safety		oved r-Mange
sign off:							

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	DE harness				A PARTIE AND	****
Annex N	0.:					
315 100	on top of					
	Connector Function	Connector	S/C unit	SCOE	CryoSCOE connected	CCU Flight connected
					30,11,00,00	Johnsolog
	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
16 100	on top of					
	Connector Function	Connector	S/C unit	SCOE	CryoSCOE connected	CCU Flight connected
	Valve Sensor	316100-J01	VS501, VS504			Х
	Valve Sensor	316100-J02	VS503, VS505			X
21 100	on top of		2781.0			A. 4
	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

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

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	Connector Function	Skin Connector	S/C unit	SCOE Cryo SCOE J18	SCOE Cable connected	Flight Cap connected X
CVSE I/F	on top of	321300-J05	VS106, H102	J04		Х
		321300-J04	T311, T313, T315, T904, T906, T910, T932, T934	Cryo SCOE J14 Cryo SCOE		Х
		321300-J03	P502,T322, T324, T504, T506, T507, T652, T902, T908, T912	Cryo SCOE J18		Х
		321300-J02	T101, T104, T107, T112, T703, T422, T441, T462, T701, H102	Cryo SCOE J04		Х
		321300-J01	T208, T213, T222, T224, T225, T226, T231, T233, T235, T237, T247, T248, T252, T256, T862, T444	Cryo SCOE J02		Х

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## Herschel

CVEE	: / ADM plug	actua for	ACC/DD/	TD No.		
Anne	: / ARM plug	setup ioi 7	ACS/PK/	IP 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	х		
released	proved & d before start of d/TP by Floor- r	Date:		Sign:		

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## Herschel

### **5 Conditions**

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#### 5.1 Personnel

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

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

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#### 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.



## Herschel

IST 1 Part 1 Warm preferred

	of IST Spec Issiue 4	Instr. Mode	Real Battery required	Satellite X-Axis tilting	Ambient or cool down (deviating from IST Spec !!!)	He I HTT venting >20mg/sec	He II HTT venting >20mg/sec
5.8.2	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	Υ	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
5.8.2.4.5	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	γ	n.a	Preferred	alternative	alternative
5.8.2.4.9 5.8.2.4.10	CDMS transition to NOM mode	OFF	Υ Υ	n.a	Preferred	alternative	alternative
	Orbit Gontrol Manoeuvre	OFF	Υ	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	The second second			MCD CONTRACT	4	- TOTAL -
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	11.8	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.s	Preferred	alternative	alternative
5.8.3.12	Telescope decontamination	OFF	N	n.a	Preferred	alternative	alternative
5.8.3.13	Cryo Cover opening	OFF	N	n.a	Preferred	alternative	alternative
5.8.3.14	Test end	OFF	N	n.a	Preferred	alternative	alternative
5.8.3.9	ACMS commissioning			1000			
5.8.3.9.1	AAD, SAS, CRS, STR, GYR, RCS unit check	OFF	N	n.a	Preferred	alternative	alternative
5.8.3.9.2	RWLs health check	OFF	- N		HE WOLLD'S		70.00000 7007
5.8.3.9.3	STR functional verification	OFF		n.a	Preferred	alternative	alternative
5.8.3.9.4	ACC health check	OFF	N N	11.8	Preferred	alternative	alternative
5.8.3.9.5	ACMS dynamic verification	OFF	N	n.a n.a	Preferred Preferred	alternative	alternative alternative
5.8.5	Mode transitions				9. <i>20. 20. 20. 20.</i> 20. 20. 20. 20. 20. 20. 20. 20. 20. 20.		
5.8.5.3			over in our in 1985				
5.8.5.4	Test start configuration	OFF	N	n.a	Preferred	alternative	alternative
	Launch to Launch	OFF	H	រា.ង	Preferred	alternative	alternative
3.8.5.5	Launch to SAM	OFF	N	n.a	Preferred	alternative	alternative
5.8.5.6 5.8.5.7	SAM to SAM SAM to NOM	OFF OFF	N N	n.a n.a	Preferred	alternative	alternative
		011		11.0	Preferred	alternative	alternative
5.8.10	Launch clean run	OFF	γ	n.a	Preferred	alternative	aiternative
				11.u	T (BIOITO)	ditailidita	anemative
.8.11	Launch sequence robustness			92			2000
	Satellite power on	OFF	N	n.a	Preferred	alternative	alternative
.8.11.3.4	Configuration for launch (status)	OFF	N	n.a	Preferred	alternative	alternative
.8.11.3.5	Configuration for launch	OFF	N	n.a	Preferred	alternative	alternative
.8.11.3.6	Separation	OFF	N	n.a	Preferred	alternative	alternative
8.11.3.7	S/C acquisition	OFF	N	n.a	Preferred	alternative	alternative
.8.11.3.8	Initial checkout in SAM mode	OFF	N	n.a	Preferred	alternative	alternative
8.11.3.9	Transition to NOM mode	OFF	N	n.a	Preferred	alternative	alternative

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IST 1 Part 2 He I or He II

	r of IST Spec Issiue 4	Instr. Mode	Real Battery required	Satellite X- Axis tilting	Ambient or cool down (deviating from IST Spec !!!)	He I HTT venting >20mg/sec	He II HTT venting >20mg/sec
8.5	Mode transitions	The Control College	1,040,000	762			
8.5.8	NOM to NOM	PACS spectro SPIRE STBY	N	0-23		alternative	Preferred
8.5.9	NOM to EAM	PACS STBY SPIRE STBY HIFI STBY	N	0.23		alternative	Preferred
8.5.10	EAM to EAM	PACS STBY SPIRE STBY-> Photo->STBY HIFI STBY	N	0.23		alternative	Preferred
	EAM to NOM	PACS STBY SPIRE STBY- >Photo	N	0.23		alternative	Preferred
8.5.12	NOM to SM	PACS STBY-OFF SPIRE Photo-OFF HIFI STBY-OFF	N	0-23		alternative	Preferred
8.5.13	SM to SM	OFF	N	0-23		alternative	Preferred
8.5.14	SM to SAM	OFF	N	0-23		alternative	Preferred
8.5.17	EAM to SAM (needs new SAM to NOM and NOM to EAM)	PACS STBY SPIRE STBY HIFI Science >	N	0-23		alternative	Preferred
8.5.18	NOM to SAM (needs new SAM to NOM)	PACS Burst- >STBY SPIRE STBY	N	0-23		alternative	Preferred
8.5.19	Test end	OFF	N	0-23		alternative	Preferred
8.6	S/C reconfiguration	1,450,411,515	3/8/3/5				
3.6.2	Test start configuration	PACS STBY SPIRE STBY HIFI STBY	N	0-23		alternative	Preferred
8.6,3	CDMS level 3a	PACS STBY SPIRE STBY HIFI Prime-	N	0-23		alternative	Preferred
8.6.4	CDMS level 3b	PACS STBY SPIRE STBY HIFI STBY	N	0-23		alternative	Preferred
3.6.5	ACMS level 4	PACS Prime>OFF SPIRE STBY>OFF HIFI STBY>OFF	N	0-23		alternative	Preferred
6.6	ACMS recovery from Survival Mode (ACMS SASM to SAM)	OFF	N	0-23		alternative	Preferred
6.7	CDMS level 4	PACS Prime-OFF SPIRE STBY-OFF HIFI STBY-OFF	N	0-23		alternative	Preferred
.6.8	Test end	OFF	N	0-23		alternative	Preferred
.12	NOM mode robustness		2800	of Carps 1		- specimen	(45)
	Initial State	PACS STBY SPIRE Photo HIFI STBY	N	0-23		alternative	Preferred
.12.3.2		PACS STBY SPIRE Photo- >STBY	N	0-23		alternative	Preferred
	CDMS PM 1553 BC failure recovery	PACS Photo SPIRE STBY HIFI STBY	N	0-23		alternative	Preferred
û.	initial state second test	PACS Photo SPIRE STBY HIFI STBY	N	0-23		alternative	Preferred
12.3.5		PACS Photo - >STBY SPIRE STBY	N	0-23		alternative	Preferred
12.3.6	ACMS 1553 RT failure recovery	PAC\$ STBY-OFF SPIRE STBY-OFF HIFI STBY-OFF	N	0-23		alternative	Preferred
.13	Test of Instrument FDIR OBCP	27 str	A	TEXT .	1 th 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1.34°	
13,4	SPIRE FDIR OBCP	SPIRE	N	0-23		alternative	Preferred
13.5 13.6	PACS FDIR OBCP HIFI FDIR OBCP	PACS HIFI	N N	0-23 0-23		alternative alternative	Preferred Preferred
94	DEGRADED CASES			-A-60	September 1		10 TH .
100	DEGRADED CASES						

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IST 1 Part 3 He II only

er of IST Spec Issiue 4	Instr. Mode	Real Battery required	Satellite X-Axis tilting	Ambient or cool down (deviating from IST Spec !!!)	He I HTT venting >20mg/sec	He II HTT venting >20mg/sec
Satellite Commissioning		Artes	75-5	rar spec ag	The second secon	7.5
CCU (cryostat) commissioning	OFF	N	23		7-7-2	
						Required
Instruments commissioning and performance verification	-	460		for the second		
Test start (restart) configuration	OFF	N	23			Required
0000						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
CDMS management				75% 72%		59735.2
General Sequence (Integration with RMS DTCP number 2)	PACS Prime STBY > Burst > X SPIRE STBY HIFL STBY	N	0.23		alternatively if MTL is compatible with instrument operations	Preferred
MTL management	PACS Prime STBY > Burst > X SPIRE STBY HIFI STBY	N	0-23		alternatively if MTL is compatible with instrument operations	Preferred
OBCP management	PACS Prime STBY > Burst > X SPIRE STBY HIFI STBY	н	0-23		afternatively if MTL is compatible with instrument	Preferred
SSMM management	PACS Prime STBY > Burst > X SPIRE STBY HIFI STBY	N	0-23		operations alternatively if MTL is compatible with instrument operations	Preferred
FDIR level 1 & 2	PACS Prime STBY >> Burst >> X SPIRE STBY HIFI STBY	N	0.23		afternatively if MTL is compatible with instrument operations	Preferred
OBT management	PACS Prime \$TBY >> Burst >> X SPIRE 5TBY HIFI STBY	N	0-23		alternatively if MTL is compatible with instrument operations	Preferred
DTCP worst case scenario	******	A COLOR DAMESTIC			WAS LINE OF THE PARTY OF THE PA	at the same
	PACS (Burst)	N		2,6565,765,4	TBC	100
	SPIRE STBY		0-23		120	Preferred
REFERENCE Mission Scenario		1000000	100	- XONA-A		Grant .
Test start configuration		Υ		W 1877		CONTROL OF THE STREET
Test steps		Y				Required
HIFI OD	HIFI OD	Y				Required
1			0-23			Required
PACS OD	PACS OD	Υ	0-23			Required
SPIRE OD	SPIRE OD	Υ	0-23			Required
Test end		Υ				Required

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

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5.3 General Precautions and Safety

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### 5.3.1 General Safety Requirements, Precautions

Special condition and hazards

The following Operational restrictions shall be carefully taken into account:

- 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

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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.

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#### 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.

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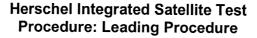




#### 5.3.2 ESD constraints

- 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.

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#### 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.

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### 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
	y		

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#### 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.

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#### 5.4 **GSE**

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

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#### 5.4.1 MGSE

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

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#### 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	Cl No. 142 310-05	
2	CVSE Monitoring Rack	BOCE	Cl No. 142 310-06	
2	Leak Detector Spectron 5000	BOCE	Cl No. 142 310-07	
3	He I transfer lines (Y0211/Y0221/Y0231)	DeMaCo	Cl 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	Cl 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	Cl No. 155 210	***************************************
11	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	

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Qty.	Designation/Manufacturer	Provided by	Drawing/Ident.	Calibr.
Set	Helium I lines (Y0612)	ASED	Cl No. 142 310-09	
Set	Helium II Pumping lines (Y0602)	ASED	Cl No. 142 310-09	
2	Scaffolding for He lines	ASED	Cl No. 142 310-10	
10	450 I 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		
11	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		

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5.4.3 EGSE

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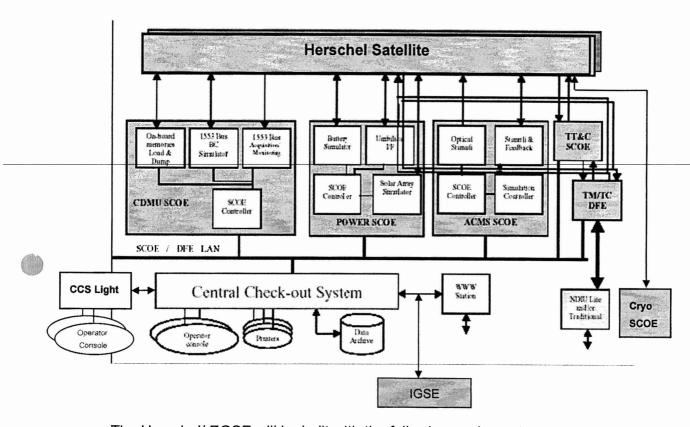
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#### 5.4.3.1 EGSE Hardware Configuration

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			TOTAL CONTRACTOR AND
	POWER SCOE	1			
	Cryo SCOE				The second of the Second Se
	NDIU				



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

- Central Check Out System (CCS)

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- 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.

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#### 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.



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#### 5.4.4 OGSE

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

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5.4.5 Special Equipment

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#### 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-Al-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.

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#### 6 Verification Requirements and Test Criteria

#### PASS/FAIL CRITERIA

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

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

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7 IST Test

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7.1 HPCCS Configuration for IST Test

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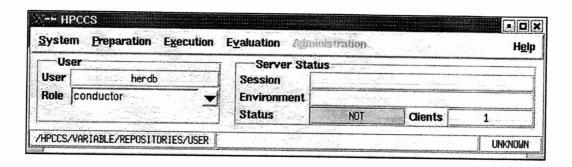
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#### 7.1.1 Apply Tag on test files

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"
- 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"
- 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

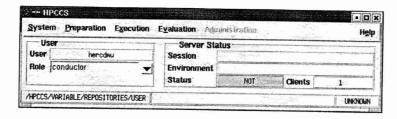
#### IST_x_PART_x_TP_xxxx_x_x_BEGIN_xxx

- 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

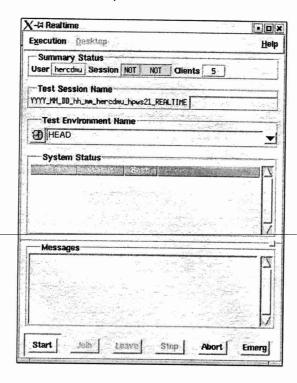


#### 7.1.2 Start test session on HPCCS

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

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### Herschel

7.2 IST START for Spacecraft configuration

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Date:

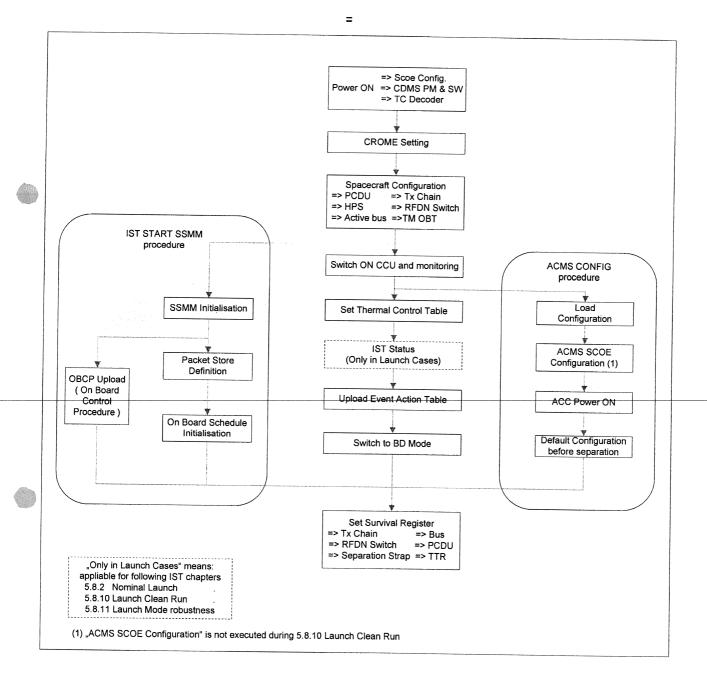
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Page



#### 7.2.1 Diagram Overview

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



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#### 7.2.2 IST Configuration Table

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

SASLPS	Bat.	Crome	Sep. Strap	TTR	TM	TC	PM	CCMM	В	us	PC	DU	HPS	TxC	hain	RF	DN	C	CU	ACMS
SCOE	SCOE	PAP/CCS	SM	SM	OBT	Dec.	SW	SSMM		SM		SM	HPS		SM		SM	ON	Mode	Config. File
						5.	8.2 NO	MINAL LA	UN	CH								10.,	mode	Comig. The
SAS	Sim. Charged + Launch	PM A Nominal	Not Separated	В	Α	A	A1	A 0-1-2 B 0-1-2	Α	В	Α	В	А	А	В	1&3	АВВВ	A&B	2	IST_FN
						5.8.3	Ba ACN	IS Commi	ssio	ning		<u> </u>		L	1	L		L		
SAS	Sim. Charged	PM A Nominal	Separated	В	Α	В	A1	A 0-1-2 B 0-1-2	Α	В	Α	В	Α	Α	В	1&3	ABBB	A&B	1	IST_SCA1
						5.8	.3b S/C	Commis	sion	ing					L	L	I		11	
SAS	Sim. Charged	PM A Nominal	Separated	В	Α	A	A1	A 0-1-2 B 0-1-2	Α	В	Α	В	Α	Α	В	1&3	ABBB	A&B	1	IST_MOD
						5.8.4.	5.1 SPI	RE Comm	nissi	onin	g						L			
SAS	Sim. Charged	PM A Nominal	Separated	В	Α	A	A1	A 1 B 1	В	Α	Α	В	Α	Α	В	1&3	ABBB	A&B	1	
				5.	8.4.5.2	SPIRE	Spect	rometer C	omp	olem	enta	ry Te	st				ll			
SAS	Sim. Charged	PM B Nominal	Separated	Α	В	В	B1	A 3 B 3	В	Α	В	Α	В	В	Α	2&4	AABB	A&B	1	

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SASLPS		Crome	Sep. Strap	TTR	TM	TC		PM	SSMM	В	us	PC	DU	HPS	TxC	hain	RF	DN	CC	U	ACMS
SCOE	SCOE	PAP/CCS	SM	SM	OBT	De	c.	SW			SM		SM	111 3		SM		SM	ON	Mode	Config. File
						5.8	8.4.6	PAC	S Comm	issi	oning	]									
SAS	Sim. Charged	PM A Nominal	Separated	Α	Α	В		A1	A 2 B 2	В	Α	В	А	В	В	Α	2&4	AABB	A&B	1	
						5	.8.4.	7 HIF	l Commi	ssio	ning		·			I	L		L		
SAS	Sim. Charged	PM B Nominal	Separated	В	Α	А		В1	A 3 B 3	Α	В	Α	В	Α	Α	В	1&3	ABBB	A&B	1	
					5.	8.4.8	3 Pai	rallel	Mode Co	mmi	issio	ning					L	<u></u>		II	
SAS	Sim. Charged	PM B Nominal	Separated	Α	В	В		B1	A 0 B 0	Α	В	В	Α	В	В	Α	2&4	AABB	A&B	1	
							5.8	8.5 M	ode Tran	sitio	n									L1	
SAS	Sim. Charged	PM A Nominal	Separated	В	Α	Α		A1	A 1 B 1	Α	В	Α	В	Α	Α	В	1&3	ABBB	A&B	2	IST_MOD
					<u>-</u>		5.8.6	6 SC	Reconfig	urati	on		1							1	
SAS	Sim. Charged	PM A Nominal	Separated	Α	В	В		A1	A 2 B 2	В	Α	В	Α	В	В	Α	2&4	AABB	A&B	1	IST_FD_B
							5.8.7	7 CDN	/IS Mana	geme	ent			L							
SAS	Sim. Charged	PM A Nominal	Separated	В	Α	Α		A2	A 1 B 1	Α	В	Α	В	Α	Α	В	1&3	ABBB	A&B	2	IST_CDMS
						5.8.8	B DT	CP W	orst Cas	e Sc	enar	io					-				
SAS	Sim. Charged	PM B Nominal	Separated	Α	В	В		B2	A 2 B 2	В	Α	В	Α	В	В	Α	2&4	AABB	A&B	2	IST_WCS

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SASL PS	Bat.	Crome	Sep. Strap		TM	тс	PM	SSMM	В	us	PC	DU	HPS	TxC	hain	RF	DN	CC	:U	ACMS
го	SCOE	PAP/CCS	SM	SM	OBT	Dec.	SW			SM		SM			SM		SM	ON	Mode	Config. File
					5.	8.9 RM	S Refe	rence Mis	sior	Sce	nari	0								
SAS	Sim. Charged	PM A Nominal	Separated	В	Α	A	A1	A 0-1-2 B 0	Α	В	А	В	Α	А	В	1&3	АВВВ	A&B	1	IST_RMS
						5	.8.9 La	unch Clea	an R	un	do estado es	- Common minor			المنت المنتان المنتان المنتان	L	1	L.		
LPS	REAL	PM A Nominal	Not Separated	В	Α	A	A1	A 0-1-2 B 0-1-2	Α	В	А	В	Α	Α	В	1&3	АВВВ	A&B	2	IST_CLN
						5.8.11	Launc	h Mode R	Robu	stne	SS					L				
SAS	Sim. Charged +Launch	PM A Nominal	Not Separated	В	Α	A	A1	A 0 B 0	Α	В	Α	В	А	Α	В	1&3	ABBB	A&B	2	IST_LSR
						5.8.1	2 NOM	Mode Ro	bus	tnes	 S	I	1	l			1			
SAS	Sim. Charged	PM A Nominal	Separated	Α	В	В	A1	A 3 B 3	В	Α	В	А	В	В	Α	2&4	AABB	A&B	1	IST_NMR
						5	5.8.13 lı	nstrumen	t FD	IR	l	1	L	l			1			
SAS	Sim. Charged	PM A Nominal	Separated	В	Α	A	A2	A 1 B 1	Α	В	Α	В	Α	Α	В	1&3	ABBB	A&B	1	IST_CDMS
				- 1						L	l	L					I			_

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### 7.2.3 Initialisation

Step- No.	Initialisation-Step-Description	1	Nominal Value	Tolerance	Actual Value		P	N
	<u></u>	&C SCOE	initialisatio	n				
1	Verify that TT&C SCOE application SW is running Otherwise go on TTC SCOE or access remotely "startCMD ttcvnc" on shell window") and click Herschel" icon on TT&C SCOE desktop controller self test completion.	y (command "TTC SCOE				NOT REQUISES FOR TEST		
	On TT& SCOE application, in window ":: CONF na (that can be open by menu "windows/SCOE config select menu "Config/Load", load the file "Herschel. click "open" button.	ı"),				N/h		
	SPACECRAFT S	(IN CONN	ECTORS CO	NFIGURAT	TION			
3	Verify that all the SCOE skin connectors cables installed      Goto chapter 4.3     Choose according to the IST Test case the skin configuration table     Check the list and sign off (together with Pamanager).	e related					1	/

Test location:	Operator	Product-Assurance:	Date:	Time
Love	3000	13. Fleda 1991.	28/4/98	21:11

Doc. No:

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Step- No.	Initialisation-Step-Description	n	Nominal Value	Tolerance	Actual Value		Р	N
		ACMS SC	OE CHECK			1		
4	Verify that the ACMS SCOE is ON and operation	nal						т —
N/A for								
"Launch								
Clean							0	
Run"								
5	In the Clean Room, check on the ACMS SCOE t	hat STR UCE						-
N/A for	Electrical Stimuli program on PC2 and PC3 are	enabled (i.e.						/
"Launch	double click on "scroll lock" and check "01-02	& 01-03" that						1
	mouse pointer can be moved).	in the trial						
1	Otherwise execute Annex D Operator Note 3							

Test location:	Operator	Product-Assurance:	Date:	Time
BILL	SESSIE	SHOGE BY.	28/4/0	21:12

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Date: 24.04.2008

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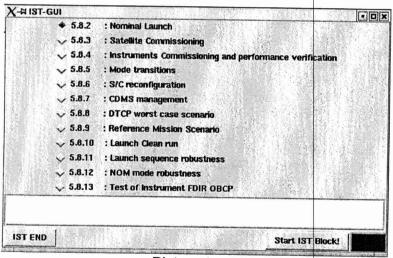
24.04.2008

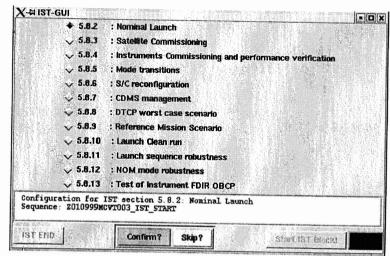
#### Herschel Integrated Satellite Test Procedure: Leading **Procedure**

Herschel

#### 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 I\$T Test is proposed to be run or skipped (see Picture 2). If the button "Confirm" has been clicked, continue with step 1 of the following IST START step description. Otherwise pressing the button "Skip" will lead to chapter 7.2

Test locat	ion:	Operator		I David A			
	Cont.	Operator		Product-Assurance:	Date:	Time	
	ESTEC.	Sasi	ien	BHOGE	BA. 28/4/00	2	(:12
Doc. No:	HP-2-ASED-TP-0134						
Issue:	4.0					Page	78
Date:	24.04.2008	File: HP-2-ASED-TP-0134 Herschel IS	T Leading Procedure	re iss 4 0 24			

File: HP-2-ASED-TP-0134_Herschel_IST_Leading_Procedure__iss_4_0_24-



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## Herschel Integrated Satellite Test Procedure: Leading Procedure

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Step- No.	IST_START-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
1	<b>Z010999MCVT003_IST_START</b> At the bottom of the window, the IST_START configure panel displays all parameters applied during the IST_  ⇒ Click the button "Continue" to proceed			CONTINUE		/	
	Power  SAS/LPS SCOE: SAS TM OBT:  Bat. SCOE: Simulated PM:  PCDU: A HPS: A Survival  Bus:  CCU  CCU: A&B PCDU:  Mode: 512s (Mode 1) Tx Chain:	l Register	A V	Rx and Tx Chain Tx Chain (Xpnd, Tx, TC decoder: TM Rate: RFDN Switches in use SSMM Mass Memory:	Medium (150Kbps)		
		IST_START Configuratio	n Panel				
Test lo	Cation: Operator S. Eds.	Product-Assu	irance:	Date: 28/4	Time : 21:	الا	

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Step- No.	151_START-Step-Description		Nominal Value	Tolerance	Actual Value	Remarks	Р	N
	Z010999MCVT003_IST_START							
	Note the execution diagram, resuming each configuratio							
	and check all parameters are set as previously (particula							/
2	any modification has been done on configuration panel)		YES		YES			
	"START Satellite HERSCHEL "IST_START""   ⇒ Choose "Yes" or "No"							
	Z010999MCVT097_ASDGEN_CRIT_PARS_CHECK							
	This script will run during the whole session to monitor parameters.	r critical						
	As soon as wrong value will be detected. A popup wind	dow will						
	occur alerting the operator about incorrect TM checks						4	
	⇒ Minimise this window by clicking the corresponding  **The corresponding to the corresp	ing						
	button (on corner top right, first button from left)							

Test location:	Operator	Product-Assurance:	Date:	Time
ESTEC	5-850	B HOGE BY	28/4/00	21:19

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## Herschel

Step- No.	ISI_START-Step-Description		Nominal Value	Tolerance	Actual Value	Remarks	Р	N
	Z010999MCVT003_IST_START  Reply to the prompt: "SPACECRAFT POWER	_ON"			CONFIRM			/
1	Z010999MCVT001_POWER_ON_HER_IST  Set Battery 27777777777  Set TCDecoder to 2  Set PM_SW 27		To Check in Config. Table (Page 73)					
	Do you want to continue with the upper configuration:  If these parameter values are in accordance with the It  Configuration Table (Page 73),	ST	Bat.SCOE TCDec. PM/SW		oK			í
	⇒ click the button "OK" to proceed							

Test location:						
rest location.	Operator		Product-Assurance:		Date:	Time
Carl.			V Managament		50.0.	Time
ESTA.	1.184	7	RHOGE	NN	1 28/6/2	21:10
2000	0 000	(	3.11000	ISM.	2014108	21.69
					2010	- '

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Step- No.	IST_START-Step-Description		Nominal Value	Tolerance	Actual Value	Remarks	Р	N
6	Z01099MCVT001_POWER_ON_HER_IST A Popup window occurs asking to verify data receptio 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  ⇔ click the button "OK" to proceed				OK			
7	Z010999MCVT001_POWER_ON_HER_IST A Popup Window occurs asking to start a new acquisit Bus Monitor with name IST on the CDMU SCOE: - start a new acquisition by clicking "Menu Mode/Start Acquisition" If an acquisition is already started, please stop and res	new tart			OK	N/A for "Launch Clean Run" as the cables for CDMU BUS monitor are disconnected		/

T						
Test location:	Operator		Product-Assurance:	***************************************	Doto	
1/1/			1 Toddot Assurance.		Date:	Time
0111	5.810	2	2 Maco	TX 1	00/2/	$\alpha \cdot \alpha \cdot \lambda$
Co lec	Jesc	2 /	-S.HOGG	2401	1X1410x	ンノ・ノハ
					20110	2 ( 20 )

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## Herschel

Step- No.	IST_START-Step-Description		Nominal Value	Tolerance	Actual Value	Remarks	Р	N
8	D102159SCVT001_GET_ALARM_STATUS Check that both DOD ext1 and ext2 are "Not Asserted" Otherwise execute Annex D – Operator Note 8	•			END IS	No DOD		
9	D102159SCVT001_GET_ALARM_STATUS  Check that both DOD ext1 and ext2 are "Not Asserted".  Otherwise execute Annex D – Operator Note 8				END TS	No 000		
9b when BCR OCP are detected	Z010999MCVT001_POWER_ON_HER_IST  Temporary workaround until SPR-107 / NCR-3312 are s  ⇒ click the button "YES" to proceed the workarour  See SPR 107 / NCR 3312		YES		YES	NCR 3492: TTRMMemCorEr_A  1 := 0  SPR 244: OutOfLimit for  SA_Pan?_Temp_N/R (WMB0?569)  SPR 284: WARNING about  missing TC  SPR 285: many TCs not  acknowleged  For launch clean run with real  Battery fully charged, parameters  BCR1, BCR2 are expected active.		

Testing				
Test location:	Operator	Droduct Accura		
	oporato.	Product-Assurar	nce: Date:	Time
(51)	E 500		- 30	
KS181	1.623	and Kluco	FID 02/01	$\alpha = \alpha + \gamma \gamma + \gamma \gamma + \gamma \gamma + \gamma \gamma \gamma + \gamma \gamma \gamma \gamma + \gamma \gamma$
		12:110CC	· 97 ///	100
			201	

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## Herschel

	Step-No.	IST_START-Step-Description	on	Nominal Value	Tolerance	Actual Value	Remarks	Р	N
10	Wait until CCS is fin	SCVT032TIMESYNCRO the synchronization between CDMS On-boa ished lick the button "End TS!" to proceed	rd Time and				TM parameter ZE00999 out of limits and back in limits again at synchronisation to be expected.	/	/
11	Z010999	MCVT001_POWER_ON_HER_IST				ENOB			/
12	Check tha Otherwise	SCVT001_GET_ALARM_STATUS t both DOD ext1 and ext2 are "Not Asserted" execute Annex D – Operator Note 8 ick the button "End TS!" to proceed				とっち	No 200	/	
13	Reply to the If the CRO	MCVT003_IST_START  "CDMS Configuration:"  "CROME settings  ME settings is in accordance with the CROM of IST Configuration Table (Page73), ick the button "Confirm" to proceed	<b>j</b> "	To Check in Config. Table (Page 73) CROME PAP/CCS		CONFRA			

Test location:	Operator	Product-Assurance:	Date:	Time
ESTE	Sessen	B. HOGE AM.	28/4/08	21 36

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Step-No.	IST_START-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	Р	1
	D102159SCVT176_WRITE_CROME			14.40		-	-
14	⇒ Click the button "End TS!" to proceed			END TS			
	Z010999MCVT003_IST_START				Please note that the Title		├-
15	Reply to the prompt:  "CDMS Configuration:"  "Set configuration"  "Bus PCDU HPS TxChain F  "TM-OBT TMrate Medium (150)  If all these parameter value are in accordance with Configuration Table (Page 73),  Click the button "Confirm" to proceed	BUS PCDU DKbps)" HPS TxCh.	е	CONFIUN	Please note that the TMrate Medium (150 Kbps) is not specified in IST Config. Table on page 73.		
16	D102159SCVT104_ENCODER_SELECT						
Only if Encoder B	⇒ Click the button "End TS!" to proceed				SPR 286: TM check needs repeat		
is req.					NA		

Test location:	Operator			****		
Cocc	Operator	_	Product-Assurance:	1	Date:	Time
Bill	S.as	ien	B. HOGE	ELD.	2814/08	21:39
	1	,			20.11	2(3)

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Step-No.	IST_START-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	Р	N
17	D102159SCVT174_IST_REDUNDANT_CONF   ⇒ Click the button "End TS!" to proceed			Emo Ts		/	
	Z010999MCVT003_IST_START  Reply to the prompt:  "SSMM Configuration"	To Check in Config. Table (Page 73) SSMM		Corfien		/	
19	Z010999MCVT005_IST_START_SSMM  Start initialising with Steps 1-2 of IST START SSMM  Procedure (see Page 96). Then continue with the next tessetep 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 96).	it n s			In Launch cases, IST_START_SSMM shall be completely performed before next step		

Test location:				
rest location;	Operator	Product-Assurance:	Date:	Time
Lest.				rime
I ISTEC	S.F. Sur	7 INTHEGO FIN	190111 D	21:46
	3 40-6	J. David June 11.	1 /X14103	21 71

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Step-No.	IST_START-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	Р	N
20	Reply to the prompt: "SWITCH ON CCU and" "START MONITORING in MODE I"  ⇒ 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 73) 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 o Events 28418 CCU B monitoring discarded		

Tooklood						
Test location:	Operator		Product-Assurance:		Data	
			r roduct / toducte.		Date:	Time
MAGEL-	5.69	2	-	7/8/	0-1./	
(S)	3.000	- 1	SHORE	ZBOT.	1214/08	11.66
			J. Cuc		201110	-1 17

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Step-No.	IST_START-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	Р	N
21	Z010999MCVT003_IST_START  Reply to the prompt: "Record CCU Temp In Backgrour         Click the button "Confirm" to proceed	ıd"		Coistagen	Minimise Log file after starting	/	
22	Z010999MCVT003_IST_START						
applicable only in launch (IST	Reply to the prompt :  "STATUS SPACECRAFT and EGSE (Power  □ Click the button "Confirm" to proceed	ON)"			NIA		
spec. 5.8.2 5.8.10 5.8.11)	Reply to the next prompt:  "Do you want to stop and notice each failu  ⇒ Choose "YES" to proceed	ıre?"			14).		

Test location:	Operator		Product-Assurance:		Date:	Time	
ESILL	5.6184	in	BHOGG	BOH.	28/4	H08 2	1:54

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Step-No.	IST_START-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	Р	N
23	Z010999MCVT1533_IST_STATUS			Value		+	-
applicable only in	Check the Satellite status displayed and						
launch (IST spec. 5.8.2	Click the button "OK" to proceed				N/A		
5.8.10 5.8.11)							
	Z010999MCVT003_IST_START						
24	Reply to the prompt:  ACMS SCOE Configuration – ACMS Power ON  ⇒ Click the button "Confirm" to proceed			Confien			/
	Execute ACMS CONFIG procedure (Page 100) in parallel to the IST_START master						

Test location:	Operator S. Else	Product-Assurance	AN	Date:	Time
	3 - 00	5,1100,00	TEA	2014100	71.22

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## Herschel

Step-No.	IST_START-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	Р	N
	Z010999MCVT003_IST_START						<u> </u>
25	Reply to the prompt:  "SET TCT Table for Ambient Temperature"			CONFIRM			
	⇔ Click the button "Confirm" to proceed						
	D102159SCVT032EnNomTCSLoops			1			
26	⇔ Click the button "End TS!" to proceed			eno is			
	D102159SCVT115_CHECK_HCS_OFF						
27	⇔ Click the button "End TS!" to proceed			Eno Ts			
	Z010999MCVT003_IST_START						
28	Reply to the prompt: "EAT UPLOADING"			Confer			/
	⇔ Click the button "Confirm" to proceed"						

Test location:	Operator 5.25	ian	Product-Assurance:	ZW	Date: 28/6/08	Time 27:11
		'	- march	- Syl-	2014100	22 11

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## Herschel

Step-No.		Nominal Value	Tolerance	Actual Value	Remarks	Р	N
29	D102159SCVT192_GET_EAT_REPORT  Check that every initial entries of the Event Action Table are successfully checked  ⇒ Click the button "End TS!" to proceed			END 15			
30	D102159SCVT192_GET_EAT_REPORT  Check that every initial entries of the Event Action Table are correctly set  Click the button "End TS!" to proceed			E2075			
31	D102159SCVT192_IST_UPLOAD_EAT   ⇒ Click the button "End TS!" to proceed			Ews 13			
32	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 100) and checking packets reception.			oK-			

Test location:	Operator		Product-Assurance:		Date:		Ti	
BIE	5.65	ien	B. Hoge	FIAL	28	14/08	lime O a	: 36
			2110		- 0	( 100	4	27

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Herschel

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Step-No.	IST_START-Step-Description	1	Nominal Value	Tolerance	Actual Value	Remarks	Р	N
33	Z01099MCVT003_IST_START  Do not perform before the completion of the proc IST START SSMM and - ACMS Configuration  Cannot be run in parallel with other "active" sequence of the prompt of the prompt:  "CDMS CONFIGURATION  "SURVIVAL REGISTER SE"  "(Bus 2, PCDU 2, RFDN 7)  TTR 2, Sep Strap  Click the button "Confirm" to proceed	ences or  ON:" TTING" TxChain 2,	To Check in Config. Table (Page 73) Bus PCDU RFDN TxCh. TTR Sep Strap		Confan			
34	D102159SCVT175_SET_SURV_REG   ⇒ Click the button "End TS!" to proceed					SPR 289 No TM return for TM check		
	Z010999MCVT003_IST_START  Prompt: "Check CDMS Tables"   ⇒ Click the button "Confirm" to proceed					NIA		

Test location:	Operator		Product-Assurance:		Date:	Time
ESTEC	5.61	sien	BHOGE	F191	28/4/05	27:38
			<del></del>			- American III

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## Herschel

Step-No.	IST_START-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	Р	N
36	D102159SCVT219_GET_BSW_HEALTH_UIU			- vaiao			
(only in launch test cases	Click the button "End TS!" to proceed				NA		
37	D102159SCVT204_GET_MOT						
(only in launch test cases)	⇔ Click the button "End TS!" to proceed				NA		
	D102159SCVT192_GET_EAT_REPORT						
	Check that every uploaded entries of the Event Action Table are correctly set						
cases)	⇒ Click the button "End TS!" to proceed				N/A		
39	D102159SCVT205_SAT_COM_TCT				Expected that checks will fail as		
(only in launch test cases)	⇔ Click the button "End TS!" to proceed				the uploaded TCT is for ambient but the checks are performed against the		

Test location:	Operator		Product-Assurance	e:	Date:	T:
ESTEL	Siess	an	SHOEG	301	20/4/	Time
		/		7	28/4/08	20 30

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# Herschel

Step-No.	IST_START-Step-Description	n	Nominal Value	Tolerance	Actual Value	Remarks	Р	N
40	D102159SCVT207_SAT_COM_FCCT							+-
(only in launch test cases)						~/A		
	Z010999MCVT003_IST_START							
41	Reply to the prompt:  "DOWNLINK SSMM PACKET STORE and CE	L A&B"			Confirm		/	
42	D102159SCVT188_IST_DUMP_PKT_STO   ⇔ Click the button " End TS!" to proceed	RE			Evo ts	With parameters: 0 80 1 81 2 82 3 83		
43	D102159SCVT188_IST_DUMP_PKT_STO	RE		é	ENOTS	With parameters: CEL_A CEL_B All events, warnings and alarms recorded before the dump, are re-occuring during this step		/

Test location:	Operator	Draduat Assura		
656-	Casa	Product-Assurance:	Date: 28/4/6	Time
	3 Else	540az 4301	3	2L. 46

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## Herschel

Step-No.	IST_START-Step-Description Z010999MCVT003_IST_START	Nominal Value	Tolerance	Actual Value	Remarks	Р	N
44	⇒ Click the button "End TS!" to proceed			Eng Ts		~	

Test location:	Operator S. Essu	a	Product-Assurance:	- DAG	Date: 28/(/57)	Time 21 : 1/6
23.60	J- C1311	1	SHOCK	Box.	28/4/00	21.46

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## Herschel

## 7.2.4.1 IST_START_SSMM Procedure

Step- No.	IST_START_SSMM-Step-Description	Nominal Value	Tolerance	Actual Value		Р	N
1	Z010999MCVT005_IST_START_SSMM  Reply to the prompt:  "SSMM CONFIGURATION 2777777"   ⇒ Click the button "Confirm" to proceed	To Check in Config. Table (Page 73) SSMM		CONFAM		~	
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			CONTENUE	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			END TS		✓	

Tall					
Test location:	Operator		Product-Assurance:	Date	
	'		. roddor roddianoc.	Date:	Time
Ex661	5.550	$\epsilon$	Piloso Din	0 2 12 1 200	00.15
ESTEL	3		FICE TOTAL	1281418	22.15
			21.		2 2

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## Herschel

Step-No.	IST_START_SSMM-Step-Description	Nominal Value	Tolerance	Actual Value		Р	N
	Z010999MCVT005_IST_START_SSMM  Reply to the prompt: "OBCP UPLOADING"				occurrence of 2 BSW problems EvtID 30738		
4	⇔ Click the button "Confirm" to proceed			CONFILM		V	1
	Let run in parallel the sequence D102159SCVT193_IST_UPLOAD_OBCP and continue with next step "Packet Store Definition"						
5	Z010999MCVT005_IST_START_SSMM  Reply to the prompt: "Definition of the Packet Store"  ⇒ Click the button "Confirm" to proceed			CONFILM		/	
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			46			/
	When the requested SSMM bank are initialised  ⇒ Click the button "Yes" to proceed						

Tarak					
Test location:	Operator		Product-Assurance:	T = .	
	oporato.		Froduct-Assurance:	Date:	Time
10 ala	66.8	Can 5	1		
LESTEL	1777		KTINGE KIND		22 . 16
		l <b>1</b>	STICKE TOT		22.10

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# Herschel

Step-No	. IST_START_SSMM-Step-Description	Nominal Value	Tolerance	Actual Value		Р	N
7	If only 1 Bank is initialised on SSMM A & B D102159SCVT185_IST_PACKET_STORE_D If 3 banks are initialised on SSMM A & B D102159SCVT189_IST_PACKET_STORE_D If 3 banks on SSMM A and only 1 on SSMM B are initiali D102159SCVT178_RMS_PKT_STORE_DEF	DEF2		END TS	NCR-3492 occurs: (TTRRMMemCorEr_ A 2 := 1)!		
	Z010999MCVT005_IST_START_SSMM Reply to the prompt: "Initialise MTL Service Bo	uffers"		CONFILM	TM(5,4) alarms expected: o Evt_MTLBufADel (ID:26914) o Evt_MTLBufBDel (ID 26915)		/
9	D102159SCVT209_START_ON_BOARD_SC  ⇒ Click the button "End TS!" to proceed	HEDULE		Emis	SPR 282 TM failure: too quick check	<b>/</b>	/
	D102159SCVT193_IST_UPLOAD_OBCP						
10	⇒ Click the button "End TS!" to proceed			ENDTS			

Test location:	Operator		Product-Assuran	ce:	Date:	Time
65161	S-Essa	en	B.HOGE	BA.	28/4/08	22:34

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Herschel

Step-No.		Nominal Value	Tolerance	Actual Value	Р	N
	Z010999MCVT005_IST_START_SSMM					
11	⇒ Click the button "End TS!" to proceed			ENDTS	-	

Test location:				
restrictation.	Operator	Product-Assurance:	Date:	Time
ESTA	5.884	BHORE FLIB.	28/4/08	22: 34
			1	

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Herschel

### 7.2.4.2 ACMS Configuration Procedure

Step- No.	ACMS_CONFIG-Step-Description	Nominal Value	Tolerance	Actual Value		Р	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					V	
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		lok		V	/
3	A102109SPVT003_ACMS_CONFIG25   ⇔ Click the button "Continue" to proceed			CONTINE		/	/
	A102109SPVT004_ACMS_LOADCONFIG1  At the prompt, "Enter your choice:	To Check in Config. Table (Page 73) ACMS Config. File		OK	IFOR ISC FOR		

Test location:	Operator		Droduct Acquirement	15:	
	Opolator		Product-Assurance:	Date:	Time
ESTE	5.60	-	12 11500	1001/1	01.0/
	3 64		PHICKE BOX.	28/4/02	21.36
			- Allerton		

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## Herschel

Step- No.	ACMS_CONFIG-Step-Desc	cription	Nominal Value	Tolerance	Actual Value		Р	N
N/A	A102109SPVT003_ACMS_CONFIG25 At the prompt "Enter your choice", insert to select "ACMS SCOE Configuration"  ⇒ Click the button "OK" to proceed	"6"	6		6 ok		/	/,
6 N/A for "Launch Clean Run"	A102109SPVT003_ACMS_CONFIG25  ⇔ Click the button "Continue" to proce	ed			CONTENCE		/	
7 N/A for "Launch Clean Run"	A102109SPVT003_ACMS_CONFIG25  Verify on AND YA001939 AMCS SCOE - AS the parameters  YMACT939 (ACMS SCOE state)  YMASE939 (Simulator stata)  YMAMS939 (MILFE state)  YMAUS939 (UIFE state)	S_PSEUDO 1 of 1	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.	2	/

Test location:	Operator	Product-Assurance:	Date:	Time
		r roddol rissurance.	Date.	Time
Ecc	C	1	10 10011	20.1.
SIE	J.FLSIS	5 Hoge AL	SU 1 1 X I U IVO	> )).
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## Herschel

Step- No.	ACMS_CONFIG-Step-Description	Nominal Value	Tolerance	Actual Value		Р	N
	A102109SPVT003_ACMS_CONFIG25  At the prompt "Enter your choice", insert to select "ACMS Power ON (in Pre-Sep configuration)"  Click the button "OK" to proceed	4		4 6k		~	
9	A102109SPVT003_ACMS_CONFIG25			CONTINUE		/	
	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) in dicates ACMS  "TestDataWord" needs to be switched seconds later when the corresponding TM(5,2) must disappear.  - Multiple other events TM(5,1), such as 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
Bra	5.600	Brock Bol.	28/4/08	22:18

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# Herschel

Step- No.	ACMS_CONFIG-Step-Descrip	tion	Nominal Value	Tolerance	Actual Value		Р	N
11	A102109SPVT003_ACMS_CONFIG25  At the prompt "Enter your choice", Insert to select "Modify ACC SGM/RM content"	"5"	5		5			
	⇒ Click the button "OK" to proceed				OK			
12	A102109SPVT003_ACMS_CONFIG25  ⇒ Click the button "Continue" to proceed				CON 7314		/	
	A102109SPVT003_ACMS_CONFIG25  At the prompt "Enter your choice", Insert for "Default configuration for separation"	"20"	20		20	Expected Out of Limit of AEYYY109 (synchronisation) ACC may become INVALID for a short time		/
	Click the button "OK" to proceed  A102109SPVT003_ACMS_CONFIG25				OK	TC PM_Reset (ACY42109) not acknowledge expected		***********
14	⇔ Click the button "Continue" to proceed				CONTINE			

Test location:	Operator	Product-Assurance:	Date:	Time
ESTE	S. Gostan	3 HOGE BU.	28/4/00	22:21

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## Herschel

Step- No.	ACMS_CONFIG-Step-Description	Nominal Value	Tolerance	Actual Value		P	N
	A102109SPVT003_ACMS_CONFIG25	- 33.4.5		Value			7
15	After about 10 min verify that ACMS Sequences are correctly terminated and ACMS CONFIG MAIN MENU 1.0 is available.						
	A102109SPVT003_ACMS_CONFIG25						
	At the prompt "Enter your choice", Insert to select "Return to Main Menu 1.0"	99		99			/
	⇔ Click the button "OK" to proceed			OK			
	A102109SPVT003_ACMS_CONFIG25						
17	⇔ Click the button "Continue" to proceed			an Tuni	E		r

Test location:	T _				
restrocation.	Operator		Product-Assurance:	Date:	Time
ESTE	5.28	2	B. HOGE- BAP.	28/4/00	27:37
	I			-01103	

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Herschel

### 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.

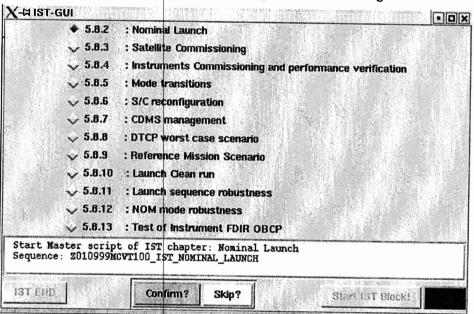


Figure 1: IST_GUI calling Master sequence, for instance "Nominal Launch"

Test locati	on:		Ta .						
rest location.		Operator		Product-Assurance:	Date:	Time	Time		
								:	
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Date:	24.04.2008	File: HP-2-ASEI	D-TP-0134 Herschel IS	Leading Procedure	iss 4 0 24-				



### Herschel

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

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

Highlight the TEST Case to be performed in the above

Test location:	Operator	Product-Assurance:	Date	70.
		1 Toduct-Assurance.	Date:	Time
				. 1
	<del></del>		t .	

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## Herschel

### 7.4 IST END Procedure

Step- No.	IST_END-Step-Description	Nominal Value	Tolerance	Actual Value	Р	N	
	IST_GUI						
1.	⇔ Click the button "OK" and then     ⇔ Click the button "IST_END" to proceed			ok	/		
•	D102159SCVT188_IST_DUMP_PKT_STOR	E				-	
2.	⇔ Click the button "Confirm" to proceed			CONFARM			PVS # 2
	D102159SCVT188_IST_DUMP_PKT_STOR	E					PV3 - 2
3.	⇔ Click the button " End TS!" to proceed						

Test location:	Operator	Product-A	Assurance:	Date:	Time
ESTEC	S.Ecsu	Ey B.t	was RDV.	30/4/08	02:24

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# Herschel

Step- No.	IST_END-Step-Description	Nominal Value	Tolerance	Actual Value		P	N
	Z010999MCVT004_IST_END						+
4. Only if PACS, SPIRE or HIFI	If one of the instruments is detected "ON" reply to the pro- "Should the sequence" Z102999SCVT011_ASDGEN_PACSPWROFF_P Z102999SCVT005_ASDGEN_SPIREPWROFF_P				NA		
is still	Z102999SCVT015_ASDGEN_HIFIPWRQFF_P						
ON	"be called?"						
	⇔ Click the button "YES" to proceed						
	Z010999MCVT004_IST_END						
Only II	If CCU is detected "ON" reply to the prompt: Should the sequence "K102999ECVT001_ASDGENCCU_ABPWROFF be call	ed		7E		/	
	⇔ Click the button "YES" to proceed						

Test location:	Operator		Product-Assurance	9:	Date:	Time
ESTEC	S:Esi	en	B.HOGG	PA.	3014/08	02:24

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## Herschel

Step- No.	IST_END-Step-Description		Nominal Value	Tolerance	Actual Value		Р	N
6.	Z010999MCVT004_IST_END							+-
ACMS is	_				ok			
Only if	Z010999MCVT004_IST_END  Start the sequence A102109SPVT061_RWL_SPII	NDOWN?			YES	Out of Limits concerning RWL speed are expected during RWL spin down		
8.	Z010999MCVT004_IST_END  Start the sequence A102109SPVT012_ACMS_OF	F?			78			/

Test location:	Operator	Pro	oduct-Assurance:		I D	
65161	5.6134		S.HOGG	FILL	Date:	Time
	2 00-			<b>351</b> ,	Solties	02.3(

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# Herschel

Step- No.	IST_END-Step-De	escription	Nominal Value	Tolerance	Actual Value		P	N
9. Only if ACMS is still ON	<ul> <li>Multiple "New Tm 25100193</li> <li>Multiple "New Tm 25100293</li> </ul>	nt are expected to occur: port - ACB Rx Failed port - ACB Rx Failed SBSM Entry and Reconfiguration Log thy 9" 9"			Value			
	This sequence needs time to be coparallel with the following steps.	mpletely run, so let run in						
10. Only if SREM is still ON	Z102999SCVT002_SREM_OFF	proceed		É	5NO TS	SPR <b>35-290</b> NCR <b>3986</b> Wrong TM set in HPSDB	/	
11.	D102159SCVT174_IST_REDUNI	proceed			Eno 13		/	/
Test location:	THE	S-ESECY	Product-Assuran	_	Date:	14/02 03	2:3	53

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Step- No.	IST_END-Step-Description		Nominal Value	Tolerance	Actual Value	Р	N
Only if Survival Register	"separated". It must be set to "not separated" reconfiguration during power off"	ne launch flag to avoid any			765		
	D102159SCVT175_SET_SURV_REG						-
Only if Survival Register set with separated flag					Eno Is		

est location:	Operator	Product-Assurance:	Date:	Timo
	1 - 1		Date.	Time
are	1 . 615469	RHOGE RIM	120111	-0:11
		- HOGE 391,	1 5014 108	07.40

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## Herschel

Step- No.	IST_END-Step-Description		Nominal Value	Tolerance	Actual Value		Р	N
	Z010999MCVT004_IST_END						1	
14.	Reply to the prompt							
Only if	"The CROME registers are not configur	ed "						
CROME	"in PMA or PMB nominal "							
wrongly	"Such configuration will block TM during Pow	er OFF"				NIA		
set						·		
15.	D102159SCVT176_WRITE_CROME				***************************************			
Only if								
CROME						. (10		
wrongly	⇔ Click the button "End TS!" to proceed					NA		
set								
16.	D102159SCVT188_IST_DUMP_PKT_STOR	E						
Only if								
SSMM is	⇔ Click the button "End TS!" to proceed				END TS'			
ON								
17.	D102159SCVT181_Disable_PKT_STORE							
Only if					, (			
SSMM is	⇔ Click the button "End TS!" to proceed				GOTS			
ON								

Test location:	Operator	Product-Assurance:	Date:	Time
CSIE	5.650	7 BHOGG BJH.	30/4/02	02:54

Doc. No:

HP-2-ASED-TP-0134

Issue:

Date:

24.04.2008

4.0

File: HP-2-ASED-TP-0134_Herschel_IST_Leading_Procedure__iss_4_0_24-04-08



# Herschel

Step- No.	IST_END-Step-Description		Nominal Value	Tolerance	Actual Value	Р	N
	Time of the data cost	econnection ure ransfer error econnection ure			EMO TS		
19. Not for Launch Cases	D102159SCVT001PM_SELECT				ENOTS		
20.	Z010999MCVT002_POWER_OFF_HER_IST   ⇒ Click the button "End TS!" to proceed				Em 15	/	/

Test location:	Operator	Product-Assurance:	Date:	Time
ESTEL	Siaxen	B. HOGG BM.	30/4/08	03:10

Doc. No:

HP-2-ASED-TP-0134

Issue:

4.0

Date: 24.04.2008

File: HP-2-ASED-TP-0134_Herschel_IST_Leading_Procedure__iss_4_0_24-08



Herschel

Step- No.	IST_END-Step-Description		Nominal Value	Tolerance	Actual Value		Р	N
21	Y102989ETVT020_TTC_SCOE_OFF						<del> </del>	$\vdash$
Only if	_					,		
TTC-						NIA		
SCOE is	⇒ Click the button "End TS!" to proceed							
still ON								
	Z010999MCVT004_IST_END						-	
21.	⇔ Click the button "End TS!" to proceed				600 ts			
	IST_GUI							
22.	⇔ Click the button "Quit" to terminate the tes	st sequence			QUIT		_/	
	Update CVS Tag							
	1. Open a <b>shell</b> (xterm)							
23.	2. Execute the command update_tag							
l l	Insert the name of TAG →							
	ST_x_PART_x_TP_xxxx_x_x_END_xxx							

Test location:	Operator		Product-Assurance:		Date:	T:
	•		i roddol rioddianoc.		Date.	Time
1 85166	C. Carl	R	7 LIGHT	3	1 1 1	~1 . ~
	J'EDU		S. House		501610	05.101
	0 - 0				5017100	

Doc. No:

HP-2-ASED-TP-0134

Issue:

4.0

Date: 24.04.2008

File: HP-2-ASED-TP-0134_Herschel_IST_Leading_Procedure__iss_4_0_24-04-08



Herschel

### 7.4.1 ACMS SCM to OCM transition for power off

Step- No.	IST_END-Step-Description		Nominal Value	Tolerance	Actual Value		Р	N
	A102109SPVT003_ACMS_CONFIG25							
24.	At the prompt "Enter your choice", insert to select "Transition SCM to OCM"	"2"	2		2			
	⇔ Click the button "OK" to proceed, then "C	ontinue"						
Province of the Section of the Secti	A102109SPVT003_ACMS_CONFIG25				W 11			
25.	At the prompt Menu 7 "Enter your choice", insert to select "Reaction wheels spin down"	"5"	5					
	Click the button "OK" to proceed, then "Continue"							
	A102109SPVT003_ACMS_CONFIG25							
~ -	At the prompt Menu 9 "Enter your choice", insert to select "Switch off ACMS"	"1"	1					
	Click the button "OK" to proceed, then "Continue"							
st location		_	Product-Assuran	ce:	Date:		Time	
E	Sia Siasa	2	BHOGG	- BH.	30/	4/08	:	

Doc. No:

HP-2-ASED-TP-0134

Issue:

4.0

Date: 24.04.2008

File: HP-2-ASED-TP-0134_Herschel_IST_Leading_Procedure__iss_4_0_24-08



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Step- No.	IST_END-Step-Description	Nominal Tolerance Value	Р	N
27.	A102109SPVT012_ACMS_OFF  During this sequence, following event are expected to TM(5,4) Evtld:16426 Mode SBSM Entry  Event Report - Boot Report and Reconfigura  Event Report - SDB Unhealthy  TM(5,2) EvtlD: 33 Event Report - ACB Rx Fa  TM(5,2) EvtlD: 33 Event Report - ACB Rx Fa  Multiple "New Tm 251004939"  Multiple "New Tm 251001939"  Multiple "New Tm 251002939"  Multiple TM(5,1) such as "FDir Task Overrung"	iled iled		
28.	A102109SPVT003_ACMS_CONFIG25  At the prompt "Enter your choice", insert "to select "Terminate ACMS_CONFIG25"  Click the button "OK" to proceed, then "Confirm" and in parallel with the next step.	99"  continue		

T				
Test location:	Operator	Product-Assurance:	T	
	oporator	Froduct-Assurance:	Date:	Time
				1
			1	•
			1	•
			1	

Doc. No:

HP-2-ASED-TP-0134

Issue:

Date:

4.0

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File: HP-2-ASED-TP-0134_Herschel_IST_Leading_Procedure__iss_4_0_24-04-08



## Herschel

Step- No.	IST_END-Step-Description	Nominal Value	Tolerance	Actual Value	Р	N
29.	A102109SPVT017_ACMS_CRS_BACKGROUN	ND				
29.	⇒ Terminate the sequence.					

Test location:	0			
1 Sectionation.	Operator	Product-Ass	urance: Date	: Time
				•
				•

Doc. No:

HP-2-ASED-TP-0134 4.0

Issue:

Date:

24.04.2008

File: HP-2-ASED-TP-0134_Herschel_IST_Leading_Procedure__iss_4_0_24-04-08



# Herschel

8

**Summary Sheets** 

Doc. No: HP-2-ASED-TP-0134

Issue: | 4.0 Date: | 24.04.2008



Herschel

# 8.1 Procedure Variation Summary

			Test Change	Curr. No.:	
				Date	
	Toot de siene de			Page	of
	Test designation		Test Procedure	Issue	Rev.
	Test step changed		Reason for Change		
		rv s	Zist		
	H) Run	script	for se	sture does	f
	2) her	minate	pachet	Sture dos	entirle
	Dela	se con	pleted		
J					
	Prepared by:	Resp. Tes	t Leader	Project Engineer	
	PA/QA	Prime		Customer	

Table 8.1-1: Procedure Variation Sheet

Doc. No:

HP-2-ASED-TP-0134

Issue:

4.0

Date:

24.04.2008

File: HP-2-ASED-TP-0134_Herschel_IST_Leading_Procedure__iss_4_0_24-04-08

# **Procedure Variation Summary**

	_		Curr. No.:	
Test designation  SIC COMMISIONII	NG+HIFI	Test Procedure TP-0486 134	Page 1 Issue	of 1 Rev.
Test step changed 3 3	made trans	Reason for Change		
(This will to a fle	ISPVT2M. Log great	PE ACMS related to Ste alignment	levmisher vi tests.)	alues
The second section of the section		ON of THE SIC		
Prepared by:	1 .	Test Leader	Project Engineer	
PAGA COOSE	Prime		Customer	

# **Procedure Variation Summary**

	Test Change	Curr. No.: 2  Date 30/4/00  Page 1 of 1
Test designation	Test Procedure	Issue Rev.
TP-134	IST-EI	NO 4 0
Test step changed	Reason for Chang	ge STORE DUMP TOO LONG
TIME, TERM	INATE THE S	SEONNEIGE, AS THE  A DEBUG JESTEN AND
THE SIC N	TEEDS TO BE	POWERED ON ACAZN ASAP
Prepared by: S- GS GG7	Resp. Test Leader	Project Engineer
Prepared by:  S-CASCOT  PA/QA B, HOGG B)	Prime	Customer

Herschel

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

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

NCR/SPR - No.	Title	Date	Open/ Closed	PA sig.
	-			
				:

Table 8.2-2: NCR/SPR Record Sheet

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Herschel

## 8.3 Sign-off Sheet

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

	Date	Signature
Test Director	30/04/08	4 Gelly
Test Conductor	30/04/08	CI.
PA Responsible	30/04/08	- Alle



### Annex B: Script Hierarchy

```
>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
I----> 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
```

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```
|----- 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
```

```
> $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
```

Doc. No: HP-2-ASED-TP-0134

Issue: I 4.0 24.04.2008 Date:



## Herschel

## **Annex C: Session Record**

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

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### **Annex D: Operation Notes**

#### **Operation Note 3**

Title: ACMS SCOE does not boot Date: 06/02/08

#### Observation:

The ACMS SCOE does not boot.

Reason: One of the STR UCE (Unit Checkout Equipment) electrical stimuli programs hangs.

### **Operator Action:**

Until NCR / SPR is solved the following workaround is proposed (by Martijn):

During powering the Power SCOE in the cleanroom:

1) Go to the STR UCE (in cleanroom) and select electrica stimuli PC on the KVM switch,

press 2 time 'scroll lock' and select PC#2.

- 2) Kill the running application, by pressing the cross in the upper right corner.
- 3) Start the UCE application by double clicking the icon 'SMI', an application 'Star Mapper Analogue Chain Simulation' should start up.
- 4) Press 2 time 'scroll lock' and select PC#3 and repeat step 3.

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Herschel

### **Operation Note 8**

Title: **DOD Alarm** Date: 14/02/08

### Observation:

During each Power on within the "IST_START" there is a check of the DOD flag. Directly after the "D102159SVT32TIMESYNCRO" the dump of the RM LOG and the DOD Flag check is performed by the "D102159SCVT210_Get_ALARM_STATUS".

If the DOD alarm is present it has to be reset, otherwise the S/C will enter Save Mode directly after separation.

### **Operator Action:**

For resetting the DOD alarm decrease the Vbat under the DoD threshold and then increasing the Vbat upper the DoD threshold therefore perform the following steps:

Open a shell window -> startCMD bsvnc

On the window "H-P BS SCOE" switch to local

On the window "BS SCOE Config" change the Battery Voltage from 25,4 to 19

The push the button save&update

On the window "BS SCOE Config" change the Battery Voltage from 19 to 25,4

The push the button save&update

On the window "H-P BS SCOE" switch to remote

Execute the script: D102159SCVT210_Get_ALARM STATUS

to dump the RM Log to check DOD Flag Check if DOD alarm is still present

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## Herschel

### **Operation Note 11**

Title: Failure in TM Check of CCU Valves	Date: 14/02/08
Observation:	
If CCU Valves sensing lines are connected to of CCU the valves status check fails at CCU P	CRYO SCOE instead ower ON
Operator Action:  1) On Test conductor Console, perform "connect PFM C	RYO"
2) Thanks Telemetry Query Display (TQD) check followin - YM648958 (VLV_STATUS_V103) instead of KM26 - YM649958 (VLV_STATUS_V106) instead of KM26 - YM640958 (VLV_STATUS_V501) instead of KM27 - YM641958 (VLV_STATUS_V503) instead of KM27 - YM643 958 (VLV_STATUS_V505) instead of KM27 - YM643 958 (VLV_STATUS_V505) instead of KM27	ng TMs 9302 = "CLOSED" 9303 = "CLOSED" 0302 = "CLOSED" 0303 = "CLOSED" 71303 = "OPEN"

Doc. No: HP-2-ASED-TP-0134

Issue: | 4.0 Date: | 24.0

24.04.2008



## Herschel Integrated Satellite Test Procedure: Leading Procedure

### Herschel

END OF DOCUMENT

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HP-2-ASED-TP-0134

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## Insert actual distribution list

Doc. No:

HP-2-ASED-TP-0134

Issue: Date:

4.0

24.04.2008



## Attachment 2 to Section 6.7:

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

Doc. No: HP-2-ASED-TR-0257

Issue: 1

Date: 5th June 2008

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## Herschel Integrated Satellite Test Procedure: Instruments FDIR OBCP

### Herschel

MASTER AS-RUN. IN RED 29/04/08-30/04/08

HIF I Followed by PACS

Title:

Herschel IST Test Case 'Test of Instrument FDIR OBCP'

CI-No:

SPIRE NOT PERFORMED DURING THIS RUND.

			1
Prepared by:	Functional AIT Team	Date:28 April 2008	
Checked by:	C. Much	28 m April 1200	
Product Assurance:	J. Hall	28/4/2008	
Configuration Control:	W. Wietbrock		
TASF Engineering	G. Beaufils	18/04/2008	
TASF Test Director	S. Mooney	18/04/08	
Project Management:	Dr. W. Fricke	a purece !	rich pertup
Project Management:	D. Montet Ally	28/04/68	
Distribution	(as Distribution List (lost page)		

Distribution:

See Distribution List (last page)

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

Issue:

Date: 28/04/2008

File: HP-2-ASED-TP-0197_Herschel IST Test Case Test of Instrument FDIR OBCP_iss1_last

Page:

* For as run

of: 143 149!

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## Herschel Integrated Satellite Test Procedure: Instruments FDIR OBCP

### Herschel

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

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

Issue: 1

Date: 28/04/2008

File: HP-2-ASED-TP-0197_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR

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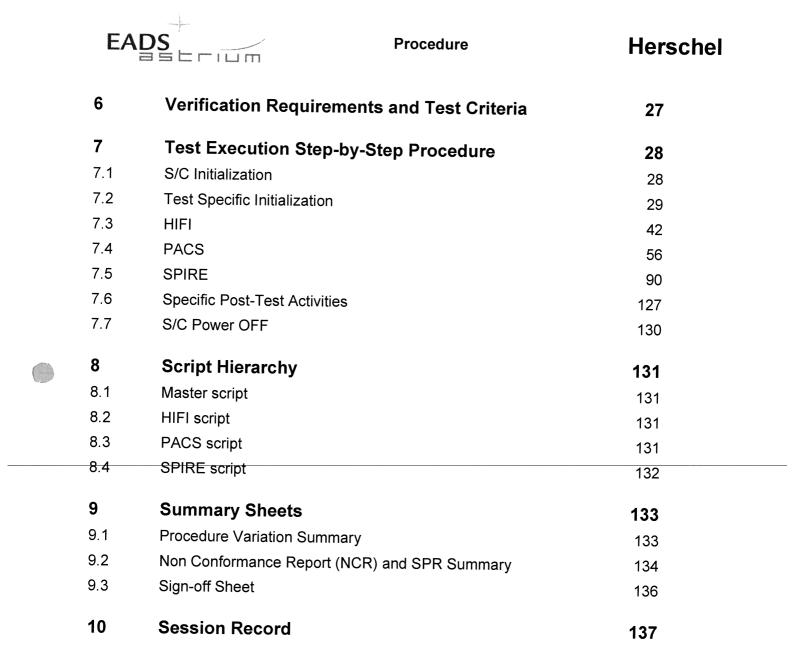


### **Procedure**

### Herschel

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

Issue: 1

File: HP-2-ASED-TP-Date: 28/04/2008 0197 Herschel%20IS

0197_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR

%20OBCP_iss1_last[1]







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### 1 Scope

### 1.1 Objective

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

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

Issue: 1

File: HP-2-ASED-TP-

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%20OBCP_iss1_last[1]

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### Table 3 - SPIRE OBCPs

SPIRE OBCPs (refer to chapter 7.5)	APID	TM	Event ID	type	trigger
DB_OBCP_H_SPIRE_DRCU_OFF	1280/1281	5,2	xC000		SPIRE-OBCPTest-DRCUAnomaly.tcl
DB_OBCP_H_SPIRE_OPE_STOP	1280/1281	5,2	xC100		SPIRE-OBCPTest- ObservationAnomaly.tcl
DB_OBCP_H_SPIRE_OPE_RESUME	1280/1281	5,2	xC110		SPIRE-OBCPTest- ObservationAnomalyCorrected.tcl
DB_OBCP_H_SPIRE_OFF	16	5,x	152	DLL	jamming
DB_OBCP_H_SPIRE_OFF_CTRL	16	5,x	185	TFL TM FDIR	SPIRE provided TCs to clear HK. SPIRE_OBCPTest_OFFCTRL_trigger.tcl

#### Note:

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

 ${\tt DB_OBCP_H_PACS_IMMEDIATE_OFF\ DLL\ has\ been\ replaced\ by\ TFL\ (RD-8)}.$ 

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

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#### 1.2 **Operational Flow**

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

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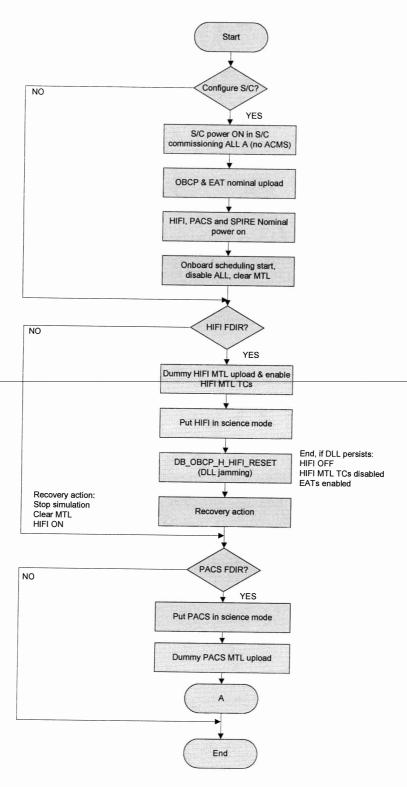
File: HP-2-ASED-TP-0197_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR%20OBCP_iss1_last[1]



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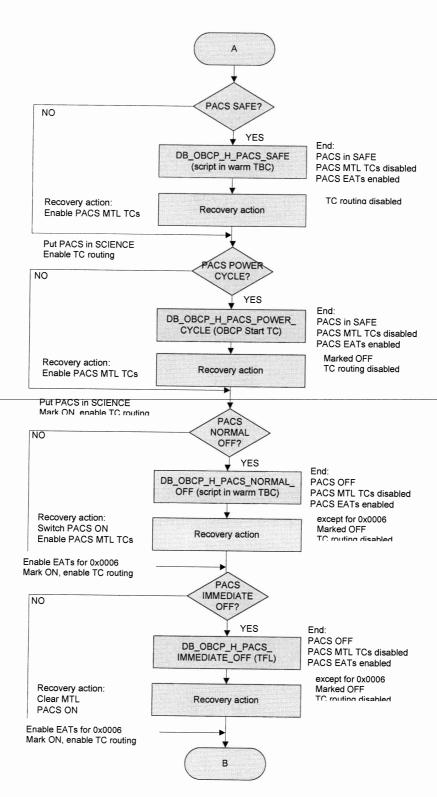
File: HP-2-ASED-TP-0197_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR%20OBCP_iss1_last[1] Date: 28/04/2008



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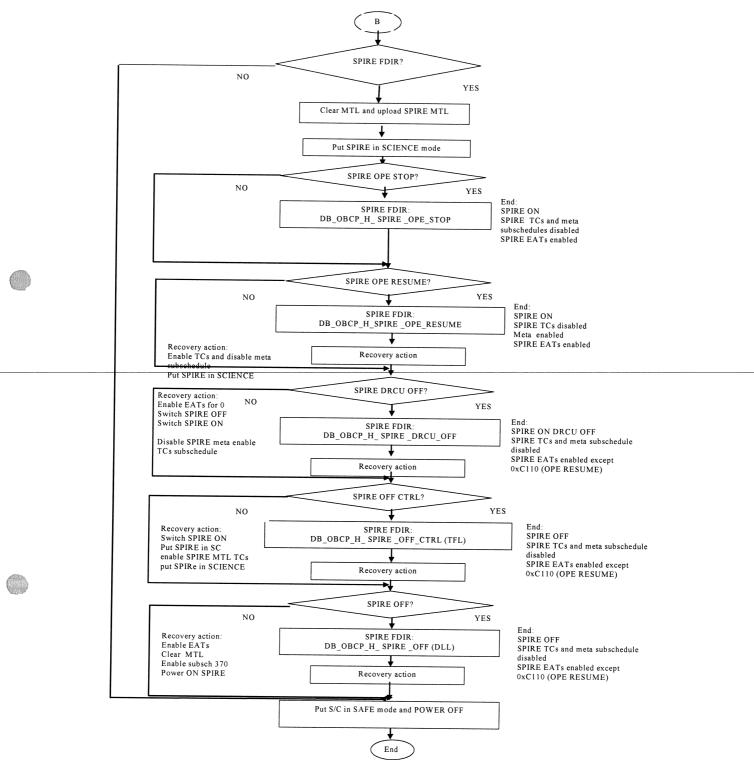
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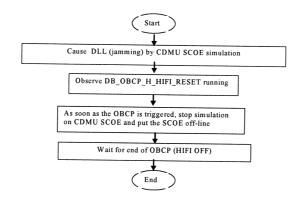
File: HP-2-ASED-TP-

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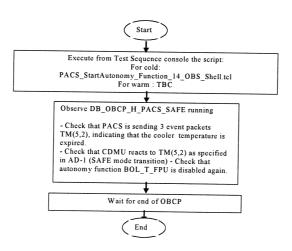
### Herschel

### DB_OBCP_H_HIFI_RESET DB_OBCP_H_HIFI_RESET (DLL)



### DB_OBCP_H_PACS_SAFE

DB_OBCP_H_PACS_SAFE



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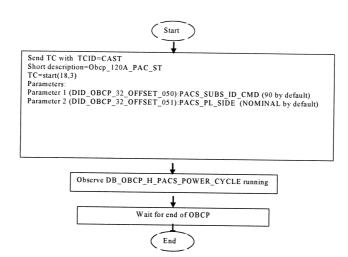
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### DB_OBCP_H_PACS_POWER_CYCLE (OBCP Start TC)

DB_OBCP_H_PACS_POWER_CYCLE



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1

File: HP-2-ASED-TP-

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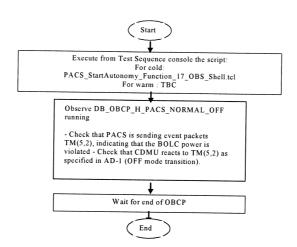
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### DB_OBCP_H_PACS_NORMAL_OFF

DB_OBCP_H_PACS_NORMAL_OFF



### DB_OBCP_H_PACS_IMMEDIATE _OFF (TFL) DB_OBCP_H_PACS_IMMEDIATE_OFF

Start Execute from Test Sequence console the script: For cold:
PACS_Disable_HK_OBS_Shell.tcl
For warm: TBC Observe DB_OBCP_H_PACS_IMMEDIATE_OFF running
- Check that PACS is sending no regular HK packets anymore
- Check that CDMU reacts as specified in AD-1 (OFF mode transition) Wait for end of OBCP

End

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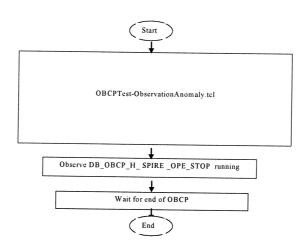
Date: 28/04/2008 0197_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR%20OBCP_iss1_last[1]



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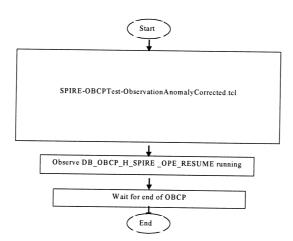
DB_OBCP_H_ SPIRE _OPE_STOP

DB_OBCP_H_ SPIRE _OPE_STOP



### DB_OBCP_H_SPIRE _OPE_RESUME

DB_OBCP_H_SPIRE _OPE_RESUME



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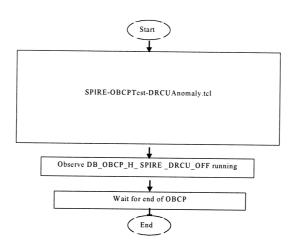
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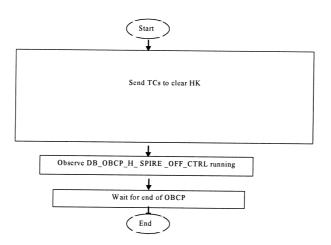
### DB_OBCP_H_ SPIRE _DRCU_OFF

DB_OBCP_H_ SPIRE _DRCU_OFF



### DB_OBCP_H_ SPIRE _OFF_CTRL (TFL)

DB_OBCP_H_ SPIRE _OFF_CTRL (TFL)



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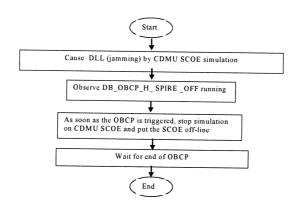
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DB_OBCP_H_ SPIRE _OFF (DLL)



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### 2 Documents/Drawings

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

### 2.1 Applicable Documents

- AD-1 Herschel Integrated Satellite Test Specification H-P-2-ASP-SP-0939, Issue 6
- AD-2 Payload management and OBCP H-P-ASPI-TN-1072, issue 6
- AD-3 Test Specification for Herschel Instruments AVM and FM Tests performed at Satellite Level

  HP-2-ASP-TS-1083 1 0

### 2.2 Reference Documents

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

- RD-1 Herschel SVM User Manual
  - H-P-MA-AI-0001
- RD-2 Herschel/Planck List of Acronyms
  - H-P-ASP-LI-0077
- RD-3 Herschel Instruments power ON-OFF and Mode Switching Procedure for functional Testing
  - HP-2-ASED-TP-0206, Issue 2 . 2.
- RD-4 Leading Procedure for Herschel Integrated Satellite Test 'IST' HP-2-ASED-TP-0134 iss 4
- RD-5 H-P-TASF-MN-10377
- RD-6 H-P-TASF-MN-10378
- RD-7 H-P-TASF-MN-10199

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RD-8 Mail to S. Hamer

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#### 2.3 **Other Documents**

None

#### 2.4 **Acronyms**

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

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#### 3 Requirements to be verified

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

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### 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

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#### 5 **Conditions**

#### 5.1 Personnel

Refer to RD4

#### 5.2 **Environmental**

Refer to RD4

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

Refer to RD4

#### General Safety Requirements, Precautions 5.3.1

Refer to RD4

#### 5.3.2 ESD constraints

Refer to RD4

#### Special QA Requirements 5.3.3

Refer to RD4

#### 5.4 **GSE**

Refer to RD4

#### 5.4.1 MGSE

Refer to RD4

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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

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### 6 Verification Requirements and Test Criteria

#### PASS/FAIL CRITERIA

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

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

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

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

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

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#### 7 **Test Execution Step-by-Step Procedure**

#### 7.1 S/C Initialization

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

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

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

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

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

### Steps:

- Follow AD 4 selecting Test Case Instruments FDIR (5.8.13) from the GUI
- PERFORM the IST START step
- Continue with step 1 §7.2 of this procedure calling the master script Z010999MCVT131_IST_INSTR FDIR

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

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#### 7.2 **Test Specific Initialization**

Step No.	, , , , , , , , , , , , , , , , , , , ,	Nominal Value	1	Actual Value	Remarks	P	N
1.	Enter the following In the CCS Test Console:  callasync Z010999MCVT131_IST_INSTR_FDIR.tcl	PASS		455		/	
2.	During Z010999MCVT131_IST_INSTR_FDIR.tcl  START HERSCHEL INSTRUMENTS FDIR, SECTION 5.8.13   ⇒ Click the button "YES" to proceed	YES	4	(Es	If NO, the sequence is terminated.		
3.	During Z010999MCVT131_IST_INSTR_FDIR.tcl  Configure for Instruments FDIR test? - SKIP if S/C already on and configured by CMDS MGMT   ⇒ Click the button "Confirm" to proceed	CONFIRM	Co	onfier	If "SKIP" the sequence continues from step 37.  NOTE: SKIP this step, if test follows cdms management and S/C already in A.P.		

The state of the s	T				
Test location:	Operator	Product-Assurance:	1	Date:	
ESTEC	U. Wlenke	K. Goossens	$\mathbb{Z}$ .	29104/2008	15:10
			-		

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Step No.	•	Nominal Value	Tolerance	Actual Value	Remarks	P	N
4.	During Z010999MCVT131_IST_INSTR_FDIR  "CDMS setting for separation"  ⇒ Click the button "Confirm" to proceed	CONFIRM		CONFIRM		V	
5.	During  Dississing Services  IST_AUNCE SERVICE  SERVICES  Wait, go to scriptACMS_CONFIG25	PASS		PASS		J	
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 o V CONTINU	٤	/	

Test location:	Operator U. Klenke	Product-Assurance:	Ĺ,	Date: 2310412008	15,13
			/		

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15:22

Step No.	Test-Step-Description	Nominal Value	Toleran	ce Actual Value	Remarks	P	N
7.	During A102109SPVT103_ACMS_CONFIG25	7		Value		+	+-
	(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 CONTIN	VE	V	/
8.	During Z010999MCVT089_ACMS_SAM_MON  Do you want to continue to monitor SAM Sun Pomode?  ⇒ Enter your choice: no and then click "Ol	NO		no oK			/
9.	At end of  2010999MCV1089 IST  AUNOHASUNACO  DA02159SCVT138  Click the button "End TS!" to proceed	ENDTS		EndTs		/	
10.	During Z010999MCVT131_IST_INSTR_FDIR  Transition to Nominal  ⇒ Click the button "Confirm" to proceed	CONFIRM		Confier	At the end check, from SAT.ilv, that FDIR mode is AFO before switching instruments on CDMSFDIR=AFO	~/	
	Test location: Ope	rator	Product-Assurance:	)ate:			

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

Issue:

Date:

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File: HP-2-ASED-TP-

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Product-Assurance:

R. Goossens

U. Klenke

PVS#1-3

PVS#1-4

PVS#1-5



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PVS#1-6

Cton	Tool Class Daniel						
Step	Test-Step-Description	Nominal	Tolerance	Actual	Remarks	P	N
No.		Value		Value		-	
11.	During Z010999MCVT089_SUNACQ_NOMINAL D102153 SCVT137-15T_SUNACQ_NOM					<b>-</b>	<u> </u>
	DAOZASS SCVTAST-IST_SUNACQ-NOM	ENDTS		EndTs		./	l
	⇔ Click the button "End TS!" to proceed			Crocis			
12.	During Z010999MCVT131_IST_INSTR_FDIR						$\vdash$
	At the prompt "Command ACMS (via OCM/Earth) to	ок		OK			
	SCM/Earth"	OK				$\nu$	ı 1
							.
	Click the button "OK" to proceed						. 1
13.	During A102109SPVT103_ACMS_CONFIG25						$\Box$
	0.1 1.T			1			.
	Select Transition to OCM.	6		6			.
	Main Menu 4.0 SAM Phase: Option 6	OK		ok		/	.
	Chale the bottom works	CONTINUE		CONTINUE	E	V	.
	⇔ Click the button "OK" and then	_					
	⇒ Click the button "Continue" to proceed						. 1
14.	During A102109SPVT036_ACMS_STR_ON						
	Do you want to all and the					,	
	Do you want to change the current STR in use? Answer no	NO		NO			
	no	140					
	Click the button "NO" to proceed						
	⇔ Click the button "NO" to proceed						l

Test location: ESTもと	Operator 4, Klenke	Product-Assurance:	£.	Date: 2910412008	15:31

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

Issue:

File: HP-2-ASED-TP-

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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)  ⇒ Verify in AND: ZAA00999 if Est Attitude Q1Q4 is close to Target  ⇒ Verify AESM3002 = OCM point fine or in synoptic SAT – ACMS – ACC – Mode Nominal	PASS				Only for info: och point fine / Est Attitude Q1. Q4 is close to Target /		
16.	During A102109SPVT043_TRANSITION_TO_OCM  SUSPEND  ⇒ click on script name in Test Console  ⇒ Click the button "RESUME" to proceed	RESUME	to be deleted					
17.	During A102109SPVT103_ACMS_CONFIG25  Select Transition to SCM (Science mode).  Main Menu 7.0: Option 3	3 OK CONTINUE			3 OL CONTINI	JE		

Test location: Operator Product-Assurance: ESTEZ 29/04/2008 15:44

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

Issue:

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Date: 28/04/2008 0197_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR %20OBCP_iss1_last[1]

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PVS#1-8

PVS#1-9

	No.		Nominal Value	Tolerance	Actual Value	Remarks	P	N
3		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	~	
	19.	During A102109SPVT042_RWL_SPINUP	NO		No			
3		Option: no	RWL-1 ang momentum 10.0 RWL-2 ang momentum -10.0 RWL-3 ang momentum 10.0		oK			
		- 14/- : 4 f 1	RWL-4 ang momentum -10.0					

Test location:	Operator	Product-Assurance:	Date:	
ESTEC	4. Klenke	R. Goossens R.	2910412008	15:52

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Date:

28/04/2008

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Step No.		Nominal Value	Tolerance	Actual Value	Remarks	F	P	N
20.	Only for info:			Value			+	
	⇒ Verify RWL speed in plotting window							
	1. Select REALTIME => DESKTOP => MONITORING => TM Plotting Tool	PASS		PASS		V		
	2. Select Directory: Home/heracms/plotting							
	3. Select FILE => LOAD =>							
	/home/heracms/plotter/RWLsSPEED.txt							

plotting

Test location:	Operator			T	
	Operator	Product-Assurance:		Date:	
1 ESTEC	4. Wenke	( Conner	D -	2910412008	16501
	G, V. G.	N.0005500	77	2510412000	, ,
		/	/		

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PVSAFA-10



## Herschel

Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual	Remarks	P	N
21.	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		Value (° Æ≤5	8.40376 -8.06761 8.62786 -7.73146 Ocm Point Fine		
22.	At end of  At end of  Click the button "End TS!" to proceed	ENDTS		EndTs	ACZ2T109 may timeout because of slew time too short. PVS loll Wait until AESM3002 is "SCM pnt F rdy"	/	:

Test location:	Operator	Product-Assurance:	Date:	31
ESTEC	4. Wenke		29104/2008	16-2

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NAME DESCRIPTION	VALUE	UNIT	NAME DESCRIPTION	VALUE	UNIT
AE3AR002 Att Deter Sts	Nominal estmtr		AE3AR002 Att Deter Sts	Nominal estmtr	
AEWR1002Cal RWL1 rate	78.53986	rd/s	AEWR1002Cal RWL1 rate	78.53986	rd/s
AEWR2002Cal RWL2 rate	-76.44546	rd/s	AEWR2002Cal RWL2 rate	-75.39826	rd/s
AEWR3002Cal RWL3 rate	80.63425	rd/s	AEWR3002Cal RWL3 rate	80.63425	rd/s
AEWR4002Cal RWL4 rate	-73.30386	rd/s	AEWR4002Cal RWL4 rate	-72.25667	rd/s
AEWMX002RWL momentum X	0	Nms	AEWMX002RWL momentum	x 0	Nms
AEWMY002RWL momentum Y	0	Nms	AEWMY002RWL momentum	Υ 0	Nms
AEWMZ002RWL momentum Z	0	Nms	AEWMZ002RWL momentum	<b>Z</b> 0	Nms
AEWMA002RWL1 momentum	8.40376	Nms	AEWMA002RWL1 momentum	8.40376	Nms
AEWMB002RWL2 momentum	-8.17966	Nms	AEWMB002RWL2 momentum	-8.06761	Nms
AEWMC002RWL3 momentum	8.62786	Nms	AEWMC002RWL3 momentum	8.62786	Nms 5
AEWMD002RWL4 momentum	-7.84351	Nms	AEWMD002RWL4 momentum	-7.73146	Nms
AMWC1091RWL1 motor cur	0.23760	Α	AMWC1091RWL1 motor cur	0.23470	A
AMWC2092RWL2 motor cur	0.27362	A	AMWC2092RWL2 motor cur	0.27130	A
AMWC3093RWL3 motor cur	0.19926	A	AMWC3093RWL3 motor cur	0.19926	Α
AMWC4094RWL4 motor cur	0.32591	Α	AMWC4094RWL4 motor cur	0.32242	Α
AMWT1091RWL1 bear temp	297.42791	K	AMWT1091RWL1 bear temp	297.42791	K
AMWT2092RWL2 bear temp	297.65445	K	AMWT2092RWL2 bear temp	297.65445	K
AMWT3093RWL3 bear temp	296.87775	K	AMWT3093RWL3 bear temp	296.87775	K
AMWT4094RWL4 bear temp	298.04280	K	AMWT4094RWL4 bear temp	298.04280	K
AEWT1002 RWL1 torque req	568		AEWT1002 RWL1 torque req	568	
AEWT2002 RWL2 torque req	4744		AEWT2002 RWL2 torque req	4784	
AEWT3002 RWL3 torque req	489		AEWT3002 RWL3 torque req	489	
AEWT4002 RWL4 torque req	4864		AEWT4002 RWL4 torque req	4904	
AEW1B002RWL1 tacho Sign	CW		AEW1B002RWL1 tacho Sign	CW	
AEW1A002RWL1 tacho spd	77.49262	rd/s	AEW1A002RWL1 tacho spd	78.53982	rd/s
AEW2B002RWL2 tacho Sign	CCW		AEW2B002RWL2 tacho Sign	ccw	
AEW2A002RWL2 tacho spd	76.44542	rd/s	AEW2A002RWL2 tacho spd	75.39822	rd/s
AEW3B002RWL3 tacho Sign	CW		AEW3B002RWL3 tacho Sign	cw	
AEW3A002RWL3 tacho spd	80.63421	rd/s	AEW3A002RWL3 tacho spd	80.63421	rd/s
AEW4B002RWL4 tacho Sign	CCW		AEW4B002RWL4 tacho Sign	CCW	
AEW4A002RWL4 tacho spd	73.30383	rd/s	AEW4A002RWL4 tacho spd	72.25663	rd/s

Workstation: hpws22



Sample Time: 2008.120.16.29.34.242

NAME DESCRIPTION	VALUE	UNIT	NAME	DESCRIPTION	VALUE	UNIT
AE3AR002 Att Deter Sts	Nominal estmtr			02 Att Deter Sts	Nominal estmtr	OM
AEWR1002Cal RWL1 rate	78.53986	rd/s		02Cal RWL1 rate	79.58705	rd/s
AEWR2002Cal RWL2 rate	-76.44546	rd/s		02Cal RWL2 rate	-76.44546	rd/s
AEWR3002Cal RWL3 rate	82.72865	rd/s		02Cal RWL3 rate	81.68145	rd/s
AEWR4002Cal RWL4 rate	-74.35106	rd/s		02Cal RWL4 rate	-74.35106	rd/s
AEWMX002RWL momentum >	0	Nms	AEWMX	002RWL momentum		Nms
AEWMY002RWL momentum Y	0	Nms	AEWMY	002RWL momentum		Nms
AEWMZ002RWL momentum Z	<u> </u>	Nms	AEWMZ(	002RWL momentum		Nms
AEWMA002RWL1 momentum	8.40376	Nms	AEWMA	002RWL1 momentun	8.51581	Nms
AEWMB002RWL2 momentum	-8.17966	Nms		002RWL2 momentum		Nms
AEWMC002RWL3 momentum	8.85196	Nms		002RWL3 momentum		Nms
AEWMD002RWL4 momentum	-7.95556	Nms		002RWL4 momentum		Nms≰
AMWC1091RWL1 motor cur	0.23180	Α	AMWC10	91RWL1 motor cur	0.23180	A
AMWC2092RWL2 motor cur	0.26433	Α		92RWL2 motor cur	0.26433	A
AMWC3093RWL3 motor cur	0.18300	A		93RWL3 motor cur	0.17719	A
AMWC4094RWL4 motor cur	0.28989	Α	AMWC40	94RWL4 motor cur	0.29105	A
AMWT1091RWL1 bear temp	299.01367	K	AMWT10	91RWL1 bear temp	299.01367	K
AMWT2092RWL2 bear temp	299.43439	K		92RWL2 bear temp	299.43439	K
AMWT3093RWL3 bear temp	298.17225	K		93RWL3 bear temp	298.17225	ĸ
AMWT4094RWL4 bear temp	300.04927	K		94RWL4 bear temp	300.04927	K
AEWT1002 RWL1 torque req	568			02 RWL1 torque req	528	* *
AEWT2002 RWL2 torque req	4744			2 RWL2 torque req	4744	
AEWT3002 RWL3 torque req	409			2 RWL3 torque req	449	
AEWT4002 RWL4 torque req	4824			2 RWL4 torque req	4824	
AEW1B002RWL1 tacho Sign	CW			02RWL1 tacho Sign	CW	
AEW1A002RWL1 tacho spd	78.53982	rd/s		02RWL1 tacho spd	79.58701	rd/s
AEW2B002RWL2 tacho Sign	CCW			02RWL2 tacho Sign	CCW	
AEW2A002RWL2 tacho spd	76.44542	rd/s		2RWL2 tacho spd	76.44542	rd/s
AEW3B002RWL3 tacho Sign	CW			2RWL3 tacho Sign	CW	is affined with
AEW3A002RWL3 tacho spd	81.68141	rd/s		02RWL3 tacho spd	81.68141	rd/s
AEW4B002RWL4 tacho Sign	CCW			2RWL4 tacho Sign	CCW	x way w
AEW4A002RWL4 tacho spd	74.35103	rd/s		2RWL4 tacho spd	74.35103	rd/s
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Workstation: hpws22



## Herschel

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Step No.		Nominal Value	Tolerance	Actual Value	Remarks	P	N
23.	During Z010999MCVT131_IST_INSTR_FDIR  "Transition from SAS 900W and BS 24V to SAS 1475W and BS full charged"	CONFIRM		CONFIRE		/	
24.	During Z010999MCVT131_IST_INSTR_FDIR  "Switch on SREM and start acquisition service"   ➡ Click the button "Confirm" to continue	CONFIRM		CONFIR	h	V	/
25.	During Z102999SCVT003 SREM ACQ START   ⇒ Click the button "End TS!" to proceed	ENDTS		EndTs	SPR-290	V	
26.	During Z010999MCVT131_IST_INSTR_FDIR  "POWER ON HIFI PRIMARY"  ⇒ Click the button "Confirm" to continue	CONFIRM		Confirt	1	V	,

Test location: ESTEC	Operator U. Wlenku	Product-Assurance:  R. Goossens	A.	Date: 29104/2008	17:04
		//	/		

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## Herschel

		Test-Step-Description	Nominal	Tolerance	Actual	Remarks	P	N
	No.		Value		Value	rtomarko	'	"
PVS#1-12	27.	During H102999SCV005_ASDGENHIFI_PWR_ON_P L102999SCVT015_ASDISTLUFI_PWL-ON_ "Power on HIFI prime and enable MIL 1553 I/F. FM HIFI Switch on for functional tests only in warm conditions with LOU or dummy - Select NO to abort TS if not correct"	YES		MES	Conditions may change, so check on RD-3 for current reference and expected OOL.	/	
PVS4-3		⇒ Click the button "YES" to confirm						
PVS#1-12-	28.	During H102999SCV005_ASDGENHIFI_PWR_ON_P "Set Bus Profile back to original setting?"   ⇒ Click the button "YES" to confirm	YES		4 ES		<b>/</b>	
	29.	During Z010999MCVT131_IST_INSTR_FDIR  "POWER ON PACS PRIMARY"	CONFIRM		CONFIRM			,

Test location:	Operator U. Wenke	Product-Assurance: R. Goossens R.	Date: 2910412008	18=08
		//		

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## Herschel

Step No.	The state of the s	Nominal Value	Tolerance	Actual Value	Remarks	P	N
30.	During P102999SCVT905_ASDISTPACS_PWR_ON_N  "Power on PACS prime and enable MIL 1553 I/F. FM PACS Switch on in warm or cold conditions, FPU connected Select NO to abort TS if not correct"	YES		YES	Conditions may change, so check on RD-3 for current reference and expected OOL.	V	
31.	During P102999SCVT905_ASDISTPACS_PWR_ON_N  PACS FDIR OBCPs/EATs loaded and enabled? If not select NO to abort TS. If not sure, check with D102159SCVT192_GET_EAT_REPORT. Then select "YES"	YES		YES		/	
32.	During P102999SCVT905_ASDISTPACS_PWR_ON_N  "Set Bus Profile back to original setting?"  ⇒ Click the button "YES" to confirm	YES		YES		V	

PVS#5 ->

Test location:	Operator	Product-Assurance:	Date:	
ESTE C	4. Klenke	R. Goossens B.	2910412008	18:21
		17		

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## Herschel

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

PVS1-16

PVS1-15

		1		
Test location:	Operator	Product-Assurance:	Date:	
ESTEC	U. V. lenke	R. Goossens &		٥

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## Herschel

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Step No.	•	Nominal Value	Tolerance	Actual Value	Remarks	P	N
37.	During Z010999MCVT131_IST_INSTR_FDIR			Varao			
	"SAVING ORIGINAL SCBP"	YES		CONFIRM		7	
	⇒ Click the button "Confirm" to continue						
38.	During Z010999MCVT131_IST_INSTR_FDIR  "Clear MTL and start ON BOARD SCHEDULING?"  ⇒ Click the button "Confirm" to proceed	CONFIRM		Continu	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	1	/
39.	During Z010999MCVT131_IST_INSTR_FDIR  "Check that all subschedules from 1 to 256, plus the 370 are enabled"	PASS OK		PASS	OnboardQuede		/
	⇒ Perform activity then click the button "OK" to proceed						

Test location:	Operator	Product-Assurance:	Date:
ESTEC	4. Klentu	K boossens &	2910412008 20=19

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## Herschel

Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
40.	During Z010999MCVT131_IST_INSTR_FDIR "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 continue from - chapter 7.3 for HIFI - chapter 7.4 for PACS - chapter 7.5 for SPIRE  Sequences can be performafter the other. Otherwise continue from § of test activities	ned also one	OK	Note down: chapter - time stamp		/

Test location:	Operator S. ELSUEY	Product-Assurance:	Date: 29/4/08	20.42

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## Herschel

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#### 7.3 HIFI

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

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
41.	Callasync Z010999MCVT134_IST_HIFI_FDIR to perform the HIFI related part of the Instruments FDIR IST	PASS				~	7
42.	During Z010999MCVT134_IST_HIFI_FDIR  "Perform HIFI FDIR PRIMARY?"  ⇒ Click the button "Confirm" to continue	CONFIRM		CONFRU	If SKIP, it exits the script	V	/
43.	During Z010999MCVT134_IST_HIFI_FDIR  "Starting condition check"  ⇒ Click the button "Confirm" to continue	CONFIRM	4	Constan			/

Test location:	Operator	Product-Assurance:	Date:	
ESTEL	S. ELSLEY	K. Goossens Z.	29/4/02	20.43

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## Herschel

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	Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	PN
0.004 17	44.	During Z010999MCVT134_IST_HIFI_FDIR	Varue		vaiue		
FVS1 - 17		"calling ALL_SubscribeParams.tcl"	ок				
		Click the button "OK" to continue					
	45.	During Z010999MCVT134_IST_HIFI_FDIR				RD-3 for details.	
		"Please check that no instrument is in science. If so, put it in standby"	ОК		OK		1
		⇒ Click the button "OK" to continue					İ
	46.	During Z010999MCVT134_IST_HIFI_FDIR					
		"INITIAL S/C STATUS CHECK"	CONFIRM		CONFIRM		7
1		Click the button "confirm" to continue					
		During Z010999MCVT153_IST_STATUS					
		"Do you want to stop and notice each failure"	NO		YES		2
L	l	⇒ Click the button "NO" to continue					

	Y			
Test location:	Operator	Product-Assurance:	Date:	
ESTEC	S.Esery	B. Hotes B.M.	29/4/08	21102
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## Herschel

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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
48.	During Z010999MCVT153_IST_STATUS	ок		014	Compare with AD-1 for chapter 5.8.7 of IST specifications	7	
49.	During Z010999MCVT134_IST_HIFI_FDIR						
	"Set SCBP to HIFI Prime (2)"	CONFIRM		CONFR	7	7	
	⇔ Click the button " Confirm" to continue						
50.	During Z010999MCVT134_IST_HIFI_FDIR						
	"upload dummy MTL with HIFI connection test in subschedule 70"	CONFIRM		GONFI	en	7	
	⇔ Click the button "Confirm to continue"						

Test location:	Operator	Product-Assurance:	Date:
ESIEC	S-ELSIEN	B. Hoge By.	29104108

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## Herschel

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
51.	During D102159SCVT214_IST_HIFI_MTL_PING						
	"Check the parameters"	PASS		AAST			
	⇔ Check that there is 1 HIFI PING TC every 5 minutes starting within 15 minutes for 10 hours	ОК		OK	^	7	
	⇔ Click the button "OK" to confirm						
52.	During D102159SCVT214_IST_HIFI_MTL_PING   ⇒ Click the button "EndTS!" to continue	ENDTS	Ł	ZTGVE	~	7	
53.	During					-	H
	Z010999MCVT134_IST_HIFI_FDIR  "Check that subschedule 60 (meta-HIFI) is disabled and 70 (HIFI TCs) are	PASS		PASS			
	enabled, then press OK"	ок		OC	-	1	
	⇒ Perform activity and then press the button "OK" to proceed						

	T			
Test location:	Operator	Product-Assurance:	Date:	
ESTEL	J. Essey	B.HOGE BA	29/04/08	21'.23

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## Herschel

	C4===	Test-Step-Description	Nominal	Tolerance	1	Remarks	P	N
	Step-				Value			
	54.	During Z010999MCVT134_IST_HIFI_FDIR	PASS		PASS			
		"Wait for execution of the first command, then press OK"  ⇒ Click the button "OK" to confirm	ОК		012		7	
	55.	During Z010999MCVT134_IST_HIFI_FDIR						
		"Put HIFI Primary in science mode"	CONFIRM		CONTI	RM.	7	
PVS2 ->		⇒ Click the button "Confirm" to continue						
PVS2 -> step 2)	56.		Callasync sequence			Note down chapter of RD-3		П
		During	according to RD-3			that has been executed:		
PVS3-1		Z010999MCVT134_IST_HIFI_FDIR	and current		0			
1072-1		"Insert call to science mode sequence"	condition.		CIC		7	
		⇔ Click the button "OK" to confirm	At the end of it,		*			
			press OK					,

Test location:	Operator	Product-Assurance:	Date:
GSTEC	S.GSEN	B. HOGG BY.	29104108 21:46

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28/04/2008 Date:

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## Herschel

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
57.	During Z010999MCVT134_IST_HIFI_FDIR  "Perform HIFI RESET OBCP (DLL)?"	CONFIRM		Contib	If SKIP, it continues at step 75.  DB_OBCP_H_HIFI_RESE T is the OBCP under test.	7	
58.	During Z010999MCVT134_IST_HIFI_FDIR  "HIFI RESET DLL FDIR triggering"	CONFIRM		CONFI &	v7	7	
59.	During Z010999MCVT134_IST_HIFI_FDIR  "Please filter one TMPKT History for TM(5,4) and one for TM(5,1)"   ⇒ Click the button "OK" to continue	PASS OK		PASS		7	

		L	
Test location:	Operator	Product-Assurance:	Date:
C3 (6C	5.25167	B. HOGG BY.	52/04/08 51:48

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## Herschel

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
60.	During Z010999MCVT134_IST_HIFI_FDIR  "Please start the HIFI (RT 16) simulation on the CDMU SCOE to create jamming"	ОК		oK	OK, then move to the CDMU SCOE desktop	1	(
61.	On CDMS SCOE  Double-click on the link "StartSCOE.bat" on the desktop to start the CDMU SCOE workstation.	PASS		BSS		/	/
62.	On CDMS SCOE  Select Menu:  Mode   Local Mode  Password: H-P	PASS		224			
63.	On CDMS SCOE  Select from menu: Setup   RTSim Configuration	PASS		PA 85			

Test location:	Operator	Product-Assurance:	Date:	
BILL	S.asey	B.HOGE BG.	29/4/08	21:57

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Date: 28/04/2008 0197_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR %20OBCP_iss1_last[1]



## Herschel

Step-	Test-Step-Description		Nominal Value	Tolerance	Actual Value	Remarks	P	N
64.	On CDMS SCOE		Varae		value		+	$\vdash$
	Select file: R:\(192.168.90.32)\Herschel.rtc and then click the button "OK"		PASS		PASS		L	
65.	On CDMS SCOE  Select from menu:  Mode   On Line		PASS		Rus		-	
66.	On CDMS SCOE  In window: "System Control/RT controls"  ⇒ Select RT 16  ⇒ Click the button "Enable" for: - control - TM queue - TC queue  Wait 8 seconds then immediately perform next	step	PASS			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.		/
	Test location:	Operator	Draduet Assurance					<u> </u>

Test location: Product-Assurance: Date: BIEL S.ELSVET B. Hoga

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

Issue:

File: HP-2-ASED-TP-

Date: 28/04/2008 0197_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR %20OBCP_iss1_last[1]



## Herschel

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
67.	On CDMS SCOE  In window: "System Control/RT controls" Click the button "Disable" for: - control - TM queue - TC queue	PASS		PASS	Very important to stop within 8 sec, to avoid subsequent reconfigurations!!	~	/
68.	During Z010999MCVT134_IST_HIFI_FDIR At the prompt "Wait until the end of the OBCP TM(5,1) with SPID 40145170 procID 0x130D"				If soft reset, HIFI is left ON If hard reset HIFI is left OFF.		
	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	PASS OK		OK	NCR-4250 Rised NCR-4250 Rised		/
	⇔ Click the button "OK" to confirm						

DVS tt 1c 1a)

Test location:	Operator	Product-Assurance:	Date:	
ESTEL	S.Essey	B. Hoar BA.	29/4/02	22-19

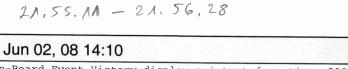
Doc. No: HP-2-ASED-TP-0197

Issue:

File: HP-2-ASED-TP-

Date: 28/04/2008 0197_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR

%20OBCP_iss1_last[1]



## OBEH_PRNT_2008.154.14.10.36.216

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

Generation Time	Reception Time	VC	APID	ssc	EvID	Severity	TmT	TmQ	F	D	Message Text
2008.120.21.55.18.888	2008.120.21.55.19.753	0	1024	2554	40960	AL ADM	Da		_		
2008.120.21.55.18.887	2008.121.02.52.48.724	0	1024			ALARM	PG	G	E	E -	HIFI_OBS_runtime_error
2008.120.21.55.18.887	2008.121.02.51.38.649	0	1024	2553	40960	ALARM	PG	G	E	E	HIFI_OBS_runtime_error
2008.120.21.55.18.887				2553	40960	ALARM	PG	G	Ε	E	HIFI_OBS_runtime_error
2008.120.21.55.18.794	2008.120.21.55.19.752	0	1024	2553	40960	ALARM	PG	G	Ε	E	HIFI_OBS_runtime_error
	2008.121.02.52.45.724	0	1024	2552	40960	ALARM	PG	G	E	E	HIFI_OBS_runtime_error
2008.120.21.55.18.794	2008.121.02.51.33.646	0	1024	2552	40960	ALARM	PG	G	E	E	HIFI_OBS_runtime_error
2008.120.21.55.18.794	2008.120.21.55.19.752	0	1024	2552	40960	ALARM	PG	G	E	E	HIFI_OBS_runtime_error N(L-425c)
2008.120.21.55.18.793	2008.121.02.52.45.724	0	1024	2551	40960	ALARM	PG	G	E	E	HIFI_OBS_runtime_error
2008.120.21.55.18.793	2008.121.02.51.33.646	0	1024	2551	40960	ALARM	PG	G	E	E	HIFI_OBS_runtime_error
2008.120.21.55.18.793	2008.120.21.55.19.752	0	1024	2551	40960	ALARM	PG	G	E	E	HIFI_OBS_runtime_error
2008.120.21.55.18.685	2008.121.02.52.45.723	0	1024	2550	40960	ALARM	PG	G	E	E	HIFI_OBS_runtime_error
2008.120.21.55.18.685	2008.121.02.51.33.646	0	1024	2550	40960	ALARM	PG	G	E	E	HIFI_OBS_runtime_error
2008.120.21.55.18.685	2008.120.21.55.19.752	0	1024	2550	40960	ALARM	PG	G	E	E	HIFI_OBS_runtime_error
2008.120.21.55.18.684	2008.121.02.52.45.723	0	1024	2549	40960	ALARM	PG	G	E	E	HIFI_OBS_runtime_error
2008.120.21.55.18.684	2008.121.02.51.33.646	0	1024	2549	40960	ALARM	PG	G	E	E	HIFI_OBS_runtime_error
2008.120.21.55.18.684	2008.120.21.55.19.751	0	1024	2549	40960	ALARM	PG	G	E	E	HIFI_OBS_runtime_error
2008.120.21.55.15.024	2008.120.21.55.14.744	0	16	9924	26881	NORM	PG	G	E	E	Event 5-1 Subschedule Status Changed
2008.120.21.55.14.742	2008.120.21.55.14.744	0	512	5717	47	NORM	PR	N	Е	E	Event Report - SDB Synchronisation Time-Out
2008.120.21.55.12.262	2008.120.21.55.14.743	0	1280	4204	1298	NORM	PG	G	E	E	NO_TIMESYNC_ID V NCR-3512 NCV.
2008.120.21.55.11.942	2008.120.21.55.14.743	0	16	9917	27402	NORM	PG	G	E	E	Event 5-1 OBCP Started
2008.120.21.55.11.745	2008.121.02.52.45.723	0	16	9913	151	WARN	PG	G	E	E	Event Report - HIFI non-vital RT Invalid
2008.120.21.55.11.745	2008.121.02.51.33.645	0	16	9913	151	WARN	PG	G	E	E	Event Report - HIFI non-vital RT Invalid
2008.120.21.55.11.745	2008.120.21.55.11.741	0	16	9913	151	WARN	PG	G	E	E	Event Report - HIFI non-vital RT Invalid
2008.120.21.55.11.698	2008.120.21.55.11.741	0	16	9912	34	NORM	PG	G	E	E	Event Report - SDB Unhealthy
2008.120.21.55.00.394	2008.120.21.55.00.662	0	2020	163	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2008.120.21.54.35.332	2008.120.21.54.35.596	0	2020	159	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created

Event Report - SDB HIFI Failed TC Second

## OBEH_PRNT_2008.154.14.13.47.925

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Jun 02, 08 14:13 On-Board Event History display printout from time: 2008.120.21.55.22.825 to time: 2008.120.21.57.50.113 Current printout time: 2008.154.14.13.47.925 DISPLAY MODE: BRIEF FILTER MODE: INACTIVE Number of printed lines: 30 Generation Time Reception Time VC APID SSC EVID Severity TmT TmO F D Message Text 2008.120.21.57.50.113 2008.120.21.57.50.387 2020 186 164 NORM TMTCDFE EvPkt 5-1 00A4 - New archive segment created PG G 2008.120.21.57.21.129 2008.120.21.57.21.403 2020 182 164 NORM PG G E TMTCDFE EvPkt 5-1 00A4 - New archive segment created 2008.120.21.56.52.519 2008.120.21.56.52.799 2020 178 164 NORM PG G E TMTCDFE EvPkt 5-1 00A4 - New archive segment created E 2008.120.21.56.28.948 2008.120.21.56.28.824 16 10030 27399 NORM PG G E Event 5-1 OBCP Ended 2008.120.21.56.25.023 2008.120.21.56.28.823 16 10023 29720 NORM PGG Event 5-1 Unit Already Marked OFF 2008.120.21.56.23.551 2008.120.21.56.23.819 2020 174 164 NORM PG G E E TMTCDFE EvPkt 5-1 00A4 - New archive segment created 2008.120.21.56.23.023 2008.120.21.56.22.817 16 10018 29720 NORM PG G E Event 5-1 Unit Already Marked OFF 2008.120.21.56.21.023 2008.120.21.56.22.817 16 10014 29720 NORM PG Event 5-1 Unit Already Marked OFF 2008.120.21.56.19.023 2008.120.21.56.18.812 16 10009 29720 NORM E Event 5-1 Unit Already Marked OFF 2008.120.21.56.17.023 2008.120.21.56.18.812 16 10005 29720 NORM PG G E E Event 5-1 Unit Already Marked OFF 2008.120.21.56.15.023 2008.120.21.56.15.808 16 9999 29720 NORM PG Event 5-1 Unit Already Marked OFF 2008.120.21.56.13.023 2008.120.21.56.15.807 16 9995 29720 NORM PG Event 5-1 Unit Already Marked OFF E E 2008.120.21.56.11.023 2008.120.21.56.12.804 16 9988 29720 NORM PG G E E Event 5-1 Unit Already Marked OFF 2008.120.21.56.09.023 2008.120.21.56.08.803 16 9984 29720 NORM PG G E E Event 5-1 Unit Already Marked OFF 2008.120.21.55.55.019 2008.120.21.55.55.299 2020 170 164 NORM PG TMTCDFE EvPkt 5-1 00A4 - New archive segment created E 2008.120.21.55.50.944 2008.121.02.53.10.755 16 9953 12288 ALARM PG G E OBCP_Evt Hifi Off * E 2008.120.21.55.50.944 2008.121.02.51.58.670 16 9953 12288 ALARM PG G OBCP_Evt Hifi Off 🖌 E E 2008.120.21.55.50.944 2008.120.21.55.50.784 16 9953 12288 ALARM PG OBCP Evt Hifi Off E G E 2008.120.21.55.26.441 2008.120.21.55.26.719 2020 166 164 NORM PG G Ε TMTCDFE EvPkt 5-1 00A4 - New archive segment created 2008.120.21.55.24.943 2008.121.02.53.10.755 9940 16 12288 ALARM PG G E E OBCP_Evt Hifi Off 2008.120.21.55.24.943 2008.121.02.51.58.670 9940 16 12288 ALARM PG G E E OBCP_Evt Hifi Off 🗶 2008.120.21.55.24.943 2008.120.21.55.28.757 16 9940 12288 ALARM PG G OBCP Evt Hifi Off 2008.120.21.55.23.339 2008.121.02.53.10.755 16 9939 170 WARN PG G E E Event Report - SDB HIFI non-vital RT Sick TC 2008.120.21.55.23.339 2008.121.02.51.58.670 16 9939 170 WARN PG G E E Event Report - SDB HIFI non-vital RT Sick TC 2008.120.21.55.23.339 2008.120.21.55.23.763 16 9939 170 WARN PG G E E Event Report - SDB HIFI non-vital RT Sick TC

2008.120.21.55.23.754

16

9938

193

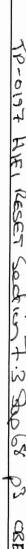
2008.120.21.55.23.339

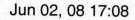
PG

NORM

HIFI_OBS_runtime_error

		- 15 TO 15 T	The state of the s									J 1
Jun 02, 08 14:13				OBE	H_PRI	NT_200	08.15	4.14	1.13	.47.	925	Page 2/2
2008.120.21.55.23.089	2008.120.21.55.22.765	0	16	9936	163	NORM	PG	G	E	E	Event Report - SDB HIFI Failed TC First	V
2008.120.21.55.22.825	2008.121.02.53.10.754	0	1024	2612	40960	ALARM	PG	G	E	E	HIFI_OBS_runtime_error	*
2008.120.21.55.22.825	2008.121.02.51.58.670	0	1024	2612	40960	ALARM	PG	G	E	E	HIFI_OBS_runtime_error	
2008.120.21.55.22.825	2008.120.21.55.23.752	0	1024	2612	40960	ALARM	PG	G	E	E	HIFI OBS runtime error	





## TMPH_PRNT_2008.154.17.08.50.030

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TM Packet History display printout from time: 2008.120.21.55.11.773 to time: 2008.121.00.02.33.383 Current printout time: 2008.154.17.08.50.031 FILTER MODE: ACTIVE DISPLAY MODE: BRIEF STATIST STATISTIC: OFF

APID: 16 Type: 1 Sub-Type: 9

Number of pri	ype: 1 Sub-Type: 9 nted lines: 29															
Mnemonic	Generation Time	Reception Time	VC	APID	SSC	Туре	STyp	PI1	PI2	DS	SPID	GSID	TmT	TmQ	F	D
TcContentRep	2008.121.00.02.33.383	2008.121.00.02.33.798	0	16	12781	1	9	0	0	65535	40094180		PG	 G	 E	 E
TcContentRep	2008.121.00.02.32.384	2008.121.00.02.33.797	0	16	12777	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.120.21.56.26.945	2008.120.21.56.28.823	0	16	10026	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.120.21.56.24.944	2008.120.21.56.28.823	0	16	10022	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.120.21.56.22.944	2008.120.21.56.22.817	0	16	10017	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.120.21.56.20.944	2008.120.21.56.22.817	0	16	10013	1	9	0	0	65535	40094180		PG	G	E	E
rcContentRep	2008.120.21.56.18.944	2008.120.21.56.18.812	0	16	10008	1	9	0	0	65535	40094180		PG	G	E	E
rcContentRep	2008.120.21.56.16.944	2008.120.21.56.18.812	0	16	10004	1	9	0	0	65535	40094180		PG	G	E	E
rcContentRep	2008.120.21.56.14.944	2008.120.21.56.15.808	0	16	9998	1	9	0	0	65535	40094180		PG	G	E	E
CcContentRep	2008.120.21.56.12.944	2008.120.21.56.12.805	0	16	9994	1	9	0	0	65535	40094180		PG	G	E	E
CcContentRep	2008.120.21.56.10.944	2008.120.21.56.12.804	0	16	9987	1	9	0	0	65535	40094180		PG	G	E	E
CcContentRep	2008.120.21.56.08.944	2008.120.21.56.08.803	0	16	9983	1	9	0	0	65535	40094180		PG	G	E	E
CcContentRep	2008.120.21.56.06.944	2008.120.21.56.08.801	0	16	9979	1	9	0	0	65535	40094180		PG	G	E	E
CcContentRep	2008.120.21.56.04.944	2008.120.21.56.08.801	0	16	9976	1	9	0	0	65535	40094180		PG	G	E	E
CcContentRep	2008.120.21.56.02.944	2008.120.21.56.02.794	0	16	9972	1	9	0	0	65535	40094180		PG	G	E	E
CContentRep	2008.120.21.56.00.944	2008.120.21.56.02.793	0	16	9969	1	9	0	0	65535	40094180		PG	G	E	E
CContentRep	2008.120.21.55.58.944	2008.120.21.56.00.793	0	16	9965	1	9	0	0	65535	40094180		PG	G	E	E
CContentRep	2008.120.21.55.56.944	2008.120.21.56.00.792	0	16	9962	1	9	0	0	65535	40094180			G		
CContentRep	2008.120.21.55.54.944	2008.120.21.55.56.787	0	16	9958	1	9	0	0	65535	40094180		PG PG	G	E E	E E
cContentRep	2008.120.21.55.52.944	2008.120.21.55.56.787	0	16	9955	1	9	0	0	65535	40094180					
cContentRep	2008.120.21.55.48.944	2008.120.21.55.50.784	0	16	9950	1	9	0	0	65535	40094180		PG	G	E	E
cContentRep	2008.120.21.55.46.945	2008.120.21.55.46.778	0	16	9946	1	9	0	0	65535	40094180		PG	G	E	Е
cContentRep	2008.120.21.55.22.944	2008.120.21.55.22.765	0	16	9935	1	9	0 .	0	65535	40094180		PG	G	E	E
cContentRep	2008.120.21.55.20.944	2008.120.21.55.20.758	0	16	9934	1	9	0	0	65535			PG	G	Е	Е
cContentRep	2008.120.21.55.18.944	2008.120.21.55.18.753	0	16	9930	1	9	0	0	65535	40094180		PG	G	E	E
londay June	02 2009	2008 04 28 2							INICT		40034100		PG	G	Ε	E =





Jun 02, 08	17:08	T	TMPH_PRNT_2008.154.17.08.50.030									Page 2/2				
TcContentRep	2008.120.21.55.16.944	2008.120.21.55.17.744	0	16	9927	1	9	0	0	65535	40094180	PG	G	E		
TcContentRep	2008.120.21.55.14.944	2008.120.21.55.14.744	0	16	9922	1	9	0	0	65535	40094180	PG	G	E	E	
TcContentRep	2008.120.21.55.11.944	2008.120.21.55.14.743	0	16	9918	1	9	0	0	65535	40094180	PG	G	E	E	
TcContentRep	2008.120.21.55.11.773	2008.120.21.55.11.741	0	16	9914	1	9	0	0	65535	40094180	PG	G	E	E	





# Jun 02, 08 15:46 TMPH_PRNT_2008.15 4.15.46.26.920

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TM Packet Details

Mnemonic: D_EvRp_148 Description: Event 5-1 OBCP Started

Simulated: N

S/C ID: 486

G/S ID: 0

SLE ID: 0

OCC ID: 0

VCID: 0

HFA D/S: 65535

Data Unit Type: GOOD SP

Time Stamp Type: PG

Time Quality: G

APID: 16

SSC: 9917

Type: 5

Subtype: 1 PI1: 27402

PI2: 0

SPID: 40148170

TPSD: -1

HFA Counter: 0

Filing: E Distribution: E

Time Field: Y

Packet Period:

0 [msec]

CRC: ?

Event Severity: ?

TM Packet Parameter Data

Generation time: 2008.120.21.55.11.942

Reception time: 2008.120.21.55.14.743

TM Packet Raw Data

SCOS-2000 Header:

Packet Raw Data:

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

TM Packet Query Display 

## TMPH_PRNT_2008.154.15.45.53.221

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TM Packet Details

Jun 02, 08 15:45

Mnemonic: SNTI00000500 Description: NO_TIMESYNC ID Simulated: N

S/C ID: 486

G/S ID: 0

SLE ID: 0

OCC ID: 0

VCID: 0

HFA D/S: 65535

Data Unit Type: GOOD SP

Time Stamp Type: PG

Time Quality: G

APID: 1280

SSC: 4204

Type: 5

Subtype: 1 PI1: 1298

PI2: 20759

SPID: 190560500

TPSD: -1

HFA Counter: 1

Filing: E Distribution: E

Time Field: Y

Packet Period:

0 [msec]

CRC: ?

Event Severity: ?

TM Packet Parameter Data _____

Generation time: 2008.120.21.55.12.262

Reception time: 2008.120.21.55.14.743

TM Packet Raw Data _____

SCOS-2000 Header:

0000:0000 0000 4099 1748 6D00 0400 4299 1748 E259 0B00 0100 0000 E601 0000 6E00 0000 0020:1138 FFFF 0100 0000 F4B8 5B0B 0000 0000 0000 FFFF FFFF 10FF 0005 6C10 0501

Packet Raw Data:

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

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

## TMPH_PRNT_2008.154.15.45.07.556

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TM Packet Query Display 

TM Packet Details

Jun 02, 08 15:45

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

S/C ID: 486

G/S ID: 0

SLE ID: 0

Type: 5

OCC ID: 0

VCID: 0

HFA D/S: 65535

Data Unit Type: GOOD SP

Time Stamp Type: PR

Time Quality: N

APID: 512

SSC: 5717

Subtype: 1

PI1: 47

PI2: 47

SPID: 10447050

TPSD: -1

HFA Counter: 0

Filing: E Distribution: E

Time Field: Y

Packet Period:

0 [msec]

CRC: ?

Event Severity: ?

TM Packet Parameter Data

Generation time: 2008.120.21.55.14.742

Reception time: 2008.120.21.55.14.744

TM Packet Raw Data

SCOS-2000 Header:

0000:0000 0000 4299 1748 0C56 0B00 4299 1748 A95B 0B00 0100 0000 E601 0000 6000 0000 0020:1130 FFFF 0000 0000 CA68 9F00 0000 0000 0000 FFFF FFFF 10FF 0002 5516 0501

Packet Raw Data:

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



### Jun 02, 08 15:44

## TMPH_PRNT_2008.154.15.44.24.426

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TM Packet Query Display 

TM Packet Details -----

Mnemonic: D_EvRp 048 Description: Event 5-1 Subschedule Status Changed Simulated: N

S/C ID: 486

G/S ID: 0

SLE ID: 0

OCC ID: 0

VCID: 0

HFA D/S: 65535

Data Unit Type: GOOD SP

Time Stamp Type: PG

Time Quality: G

APID: 16

SSC: 9924

Type: 5 Subtype: 1 PI1: 26881

SPID: 40048170

TPSD: -1

HFA Counter: 4

Filing: E Distribution: E

PI2: 0

Time Field: Y

Packet Period:

0 [msec]

CRC: ?

Event Severity: ?

TM Packet Parameter Data

Generation time: 2008.120.21.55.15.024

Reception time: 2008.120.21.55.14.744

TM Packet Raw Data -----

SCOS-2000 Header:

0000:0000 0000 4399 1748 4661 0000 4299 1748 865D 0B00 0100 0000 E601 0000 6600 0000 0020:1138 FFFF 0400 0000 2A16 6302 0000 0000 0000 FFFF FFFF 10FF 1000 C426 0501

Packet Raw Data:

0000:0810 E6C4 001F 0005 0100 5EA9 F7C3 0660 6901 0000 0046 0000 0001 0000 007A 5EA9 0020:F7C3 065A 11B7



#### Jun 02, 08 15:43

## TMPH_PRNT_2008.154.15.43.31.394

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TM Packet Query Display 

TM Packet Details

Mnemonic: H_runtime Description: HIFI_OBS_runtime_error Simulated: N

S/C ID: 486

G/S ID: 0

SLE ID: 0

OCC ID: 0

VCID: 0

HFA D/S: 65535

Data Unit Type: GOOD SP

Time Stamp Type: PG

Time Quality: G

APID: 1024

SSC: 2549

Type: 5

PI1: 40960

PI2: 0

SPID: 80052289

TPSD: 80052289

HFA Counter: 0

Filing: E Distribution: E

Time Field: Y

Packet Period:

0 [msec]

CRC: ?

Subtype: 4

Event Severity: ?

TM Packet Parameter Data -----

Generation time: 2008.120.21.55.18.684 Reception time: 2008.120.21.55.19.751

HM005190 HM006190

OBS ID

2415919104

HM058190

BB ID

HICU_event_nr4 HM059190 HI_runtime_err

0 TXC_PKT NF

HM256191

HIF_Npoints

HM060190

HI_runtime_inf 230

0

HM060190

HI runtime inf

HM060190

HI_runtime_inf

TM Packet Raw Data

SCOS-2000 Header:

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

Packet Raw Data:

0000:0C00 C9F5 0023 0005 0400 5EA9 F7C6 AF27 A000 0000 9000 0000 0000 0000 4000

0020:0003 00E6 0000 0000 1EF9



## TMPH_PRNT_2008.154.15.54.24.148

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TM Packet Details

Mnemonic: (5,1)-0563

Jun 02, 08 15:54

Description: Event Report - SDB HIFI Failed TC First

TM Packet Query Display

Simulated: N

S/C ID: 486

G/S ID: 0

SLE ID: 0

OCC ID: 0

VCID: 0

HFA D/S: 65535

Data Unit Type: GOOD SP

Time Stamp Type: PG

Time Quality: G

APID: 16

SSC: 9936

Type: 5

PI1: 163

PI2: 163

SPID: 40563161

TPSD: -1

HFA Counter: 0

Filing: E Distribution: E

Time Field: Y

Packet Period:

0 [msec]

CRC: ?

Subtype: 1

Event Severity: ?

TM Packet Parameter Data

Generation time: 2008.120.21.55.23.089

Reception time: 2008.120.21.55.22.765

TM Packet Raw Data

SCOS-2000 Header:

Packet Raw Data:

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



## TMPH_PRNT_2008.154.15.53.53.112

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TM Packet Details

Jun 02, 08 15:53

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

S/C ID: 486

G/S ID: 0

SLE ID: 0

OCC ID: 0

VCID: 0

HFA D/S: 65535

Data Unit Type: GOOD SP

Time Stamp Type: PG

TM Packet Ouerv Display 

Time Quality: G

APID: 16

SSC: 9938

Type: 5

Subtype: 1

PI1: 193

PI2: 193

SPID: 40593161

TPSD: -1

HFA Counter: 0

Filing: E Distribution: E

Time Field: Y

Packet Period:

0 [msec]

CRC: ?

Event Severity: ?

TM Packet Parameter Data

Generation time: 2008.120.21.55.23.339

Reception time: 2008.120.21.55.23.754

TM Packet Raw Data ______

SCOS-2000 Header:

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

Packet Raw Data:

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





#### Jun 02, 08 15:52 TMPH_PRNT_2008.154.15.52.40.458 TM Packet Query Display

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TM Packet Details

Mnemonic: ERROR REPORT

Description: QBCP_Evt Hifi Off

Simulated: N

S/C ID: 486

G/S ID: 0

SLE ID: 0

OCC ID: 0

NCR-3958

VCID: 0

HFA D/S: 65535

Data Unit Type: GOOD SP

Time Stamp Type: PG

Time Quality: G

APID: 16

SSC: 9940

Type: 5

Subtype: 4

PI1: 12288

PI2: 0

SPID: 45400185

TPSD: -1

HFA Counter: 0

Filing: E Distribution: E

Time Field: Y

Packet Period:

0 [msec]

CRC: ?

Event Severity: ?

TM Packet Parameter Data

Generation time: 2008.120.21.55.24.943

Reception time: 2008.120.21.55.28.757

TM Packet Raw Data

SCOS-2000 Header:

0000:0000 0000 4C99 1748 5267 0E00 5099 1748 588E 0B00 0100 0000 E601 0000 6000 0000 0020:1138 FFFF 0000 0000 79C0 B402 0000 0000 0000 FFFF FFFF 10FF 1000 D426 0504

Packet Raw Data:

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

Jun 02, 08 15:51

## TMPH_PRNT_2008.154.15.51.38.571

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TM Packet Query Display 

TM Packet Details

Mnemonic: ERROR REPORT Description: OBCP_Evt Hifi Off

SLE ID: 0

OCC ID: 0

VCID: 0

HFA D/S: 65535

Simulated: N

Data Unit Type: GOOD SP

Time Stamp Type: PG

Time Quality: G

APID: 16

S/C ID: 486

SSC: 9953

G/S ID: 0

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 [msecl

CRC: ?

Event Severity: ?

TM Packet Parameter Data

Generation time: 2008.120.21.55.50.944

Reception time: 2008.120.21.55.50.784

TM Packet Raw Data _____

SCOS-2000 Header:

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

Packet Raw Data:

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





# TMPH_PRNT_2008.154.15.49.37.362

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TM Packet Details

Jun 02, 08 15:49

Mnemonic: D_EvRp0287 Description: Event 5-1 Unit Already Marked OFF Simulated: N

S/C ID: 486

G/S ID: 0

SLE ID: 0

OCC ID: 0

VCID: 0

HFA D/S: 65535

Data Unit Type: GOOD SP

Time Stamp Type: PG

TM Packet Query Display 

Time Quality: G

APID: 16

SSC: 9984

Type: 5

PI1: 29720

PI2: 0

SPID: 40287170

TPSD: -1

HFA Counter: 0

Filing: E Distribution: E

Time Field: Y

Packet Period:

0 [msec]

CRC: ?

Subtype: 1

Event Severity: ?

TM Packet Parameter Data

Generation time: 2008.120.21.56.09.023

Reception time: 2008.120.21.56.08.803

TM Packet Raw Data ______

SCOS-2000 Header:

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

Packet Raw Data:

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





# TMPH_PRNT_2008.154.15.50.32.341

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TM Packet Details

Simulated: N

Mnemonic: D_EvRp_145

Jun 02, 08 15:50

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

TM Packet Query Display 

Time Quality: G

APID: 16

S/C ID: 486

SSC: 10030

Type: 5

Description: Event 5-1 OBCP Ended

PI1: 27399

PI2: 0

SPID: 40145170

TPSD: -1

HFA Counter: 0

Filing: E Distribution: E

Time Field: Y

Packet Period:

0 [msec]

CRC: ?

Subtype: 1

Event Severity: ?

TM Packet Parameter Data

Generation time: 2008.120.21.56.28.948

Reception time: 2008.120.21.56.28.824

TM Packet Raw Data _____

SCOS-2000 Header:

0000:0000 0000 8C99 1748 4C77 0E00 8C99 1748 C693 0C00 0100 0000 E601 0000 6000 0000 0020:1138 FFFF 0000 0000 1291 6402 0000 0000 0000 FFFF FFFF 10FF 1000 2E27 0501

Packet Raw Data:

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



				*38*	
Jun 03, 08 12:2	26	HIE	reset.txt_318	58-00	Page 1/1
STREAMS:	65535	FULL PRINT	OUT FOR SATELL	ITE: HERSCHEL	
DED	マレエのエーーーー	I)EI)Z	T161	EDZG161 DEDZH161	DEDZZ161
11	Valid		G Well	ON Alive	We
2008.120.21.59	Valid	65535	G Well	ON Alive	W∈
2008.120.21.56 ck	6.15.261 Invalid	65535	G Well	OFF Alive	Si



# Herschel

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
69.	During			Varae		+	┢
	Z010999MCVT134_IST_HIFI_FDIR						1
	"RECOVERY ACTION"	CONFIRM					
				CONFILM		1	
	⇒ Click the button "Confirm to continue						
70.	During					+	
If HARD	Z010999MCVT134_IST_HIFI_FDIR	PASS		DAS			
RESET	"please check subschedules 60 and 70 are disabled"			4.9			
		ок					
	⇒ Perform activity and then click the "OK" button to confirm			OK			
71.	During					+	$\vdash$
If SOFT	Z010999MCVT134_IST_HIFI_FDIR	PASS					,
RESET	"please check subschedules 60 is disabled and 70 is enabled"				1.0		
	, The second dates of the disabled and 10 is enabled	Пок			NA		
	⇒ Perform activity and then click the "OK" button to confirm						

Test location:	Operator	Product-Assurance:	Date:	
ESTEL	s. Esian	B. HOGE BOX.	29/4/08	22.22

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

Issue:

Date: 28/04/2008 File: HP-2-ASED-TP-0197_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR %20OBCP_iss1_last[1]



# Herschel

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Test-Step-Description	Nominal Value	Tolerance	i .	Remarks	P	۸
			Varac			+
2010999MCV1134_IST_HIFI_FDIR						
" Set the CDMU SCOE OFF LINE"						
	PASS					
On CDMS SCOE, select from menu:					V	1
Mode → Off Line	OK		OK			
⇒ Perform activity and then click the button "OK" to proceed						
During						$\bot$
Z010999MCVT134_IST_HIFI_FDIR						
"End of HIEL RESET ORCE (DLL)"	PASS		Pass			
"check that all EATs are enabled"			1110)			
	Ок		OK			
⇒ Perform activity through D102159SCVT192_GET_EAT_REPORT						
and then click the "OK" button to confirm						
<b>3</b>						t
S 102 100 00 V 1 192_GET_EAT_REPURT	ENDTS		ENTE		1	
⇒ Click the button "EndTS!" to proceed			とドラン			
i i i i i i i i i i i i i i i i i i i	During Z010999MCVT134_IST_HIFI_FDIR  " 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  During Z010999MCVT134_IST_HIFI_FDIR  "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  During D102159SCVT192_GET_EAT_REPORT	During Z010999MCVT134_IST_HIFI_FDIR  " Set the CDMU SCOE OFF LINE"  PASS On CDMS SCOE, select from menu: Mode → Off Line  © Perform activity and then click the button "OK" to proceed During Z010999MCVT134_IST_HIFI_FDIR  "End of HIFI RESET OBCP (DLL)" "Check that all EATs are enabled"  OK  Perform activity through D102159SCVT192_GET_EAT_REPORT and then click the "OK" button to confirm During D102159SCVT192_GET_EAT_REPORT  ENDTS	During Z010999MCVT134_IST_HIFI_FDIR  " Set the CDMU SCOE OFF LINE"  PASS On CDMS SCOE, select from menu: Mode → Off Line  Corrected During Z010999MCVT134_IST_HIFI_FDIR  "End of HIFI RESET OBCP (DLL)" "check that all EATs are enabled" Corrected During Z010999MCVT192_GET_EAT_REPORT Couring During D102159SCVT192_GET_EAT_REPORT  ENDTS	During Z010999MCVT134_IST_HIFI_FDIR  " Set the CDMU SCOE OFF LINE"  On CDMS SCOE, select from menu: Mode → Off Line  OK  Perform activity and then click the button "OK" to proceed During Z010999MCVT134_IST_HIFI_FDIR  "End of HIFI RESET OBCP (DLL)" "check that all EATs are enabled"  OK  OK  OK  OK  PASS  OK  OK  OK  OK  End then click the "OK" button to confirm During D102159SCVT192_GET_EAT_REPORT ENDTS  ENDTS	During Z010999MCVT134_IST_HIFI_FDIR  "Set the CDMU SCOE OFF LINE"  On CDMS SCOE, select from menu: Mode → Off Line  OK  Perform activity and then click the button "OK" to proceed During Z010999MCVT134_IST_HIFI_FDIR  "End of HIFI RESET OBCP (DLL)" "Check that all EATs are enabled"  The Perform activity through D102159SCVT192_GET_EAT_REPORT and then click the "OK" button to confirm During D102159SCVT192_GET_EAT_REPORT  ENDTS	During Z010999MCVT134_IST_HIFI_FDIR  "Set the CDMU SCOE OFF LINE"  On CDMS SCOE, select from menu:  Mode → Off Line  OK  Perform activity and then click the button "OK" to proceed During Z010999MCVT134_IST_HIFI_FDIR  "End of HIFI RESET OBCP (DLL)" "check that all EATs are enabled"  "Check that all EATs are enabled"  OK  OK  OK  OK  OK  DOK  DOK  DESTINATION OF THE PORT OF TH

Test location:	Operator	Product-Assurance:	Date:	
ESTEC	S. ELSCEY	B. HOGG AM	29/4/08	22.28

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

Issue:

File: HP-2-ASED-TP-

Date: 28/04/2008 0197_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR %20OBCP_iss1_last[1]

PV5#6



# Herschel

Step-	Test-Step-Description	Nominal Value	Tolerance	1	Remarks	P	N
75.	During	Value		Value			$\vdash$
	Z010999MCVT134_IST_HIFI_FDIR						
	"RESET starting conditions"	CONFIRM		CONFIRM		V	
	⇒ click the "confirm" to continue						
76.	During Z010999MCVT131_IST_INSTR_FDIR						Н
	"Check that all subschedules from 1 to 256, plus the 370 are enabled"	ОК		OX		V	
	Click the "OK" button to continue  Continue						
	During Z010999MCVT134_IST_HIFI_FDIR						
HARD RESET	"Switching HIFI ON"	CONFIRM		Conflèr	1		
	⇒ click the "CONFIRM" button to confirm						
	During 7102000 SCVT014 ASDOSAL (USB) NO. 1				Refer to RD-3 for exact		$\dashv$
	Z102999SCVT014_ASDGEN_HIFIPWRON_P				conditions and expected		J
HARD RESET	"script to switch HIFI on in conditionsclick NO to abort the sequence"	YES		1	OOL.	~	
	⇔ click the "YES" button to confirm						

Test location:	Operator	Product-Assurance:	Date:	
ESTEL	S-Essey	B. Hoce FIM.	29/4/08	22.43

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

Issue:

Date: 28/04/2008 File: HP-2-ASED-TP-

0197_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR %20OBCP_iss1_last[1]



# Herschel

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N	ī
79. If	During Z102999SCVT014_ASDGEN_HIFIPWRON_P			Value	TC: CONTIRMS OK TO PRICES			-
HARD RESET	"Set SCBP back to the original?"	YES		No	OK TO WELLEY	i		
	⇒ click the "YES" button							
80.	During Z010999MCVT134_IST_HIFI_FDIR	and the second						
/	"Please terminate the sequence ALL_SubscribeParams.tcl	OK						
	Perform activity and then click the "OK" button to confirm							
81.	During Z010999MCVT134_IST_HIFI_FDIR							
	"End of HIFI Test" "check that all EATs are enabled"	PASS		PASS				
	⇒ Perform activity through D102159SCVT192_GET_EAT_REPORT and then click the "OK" button to confirm	ОК		OK				
82.	During D102159SCVT192_GET_EAT_REPORT					+		
	⇒ Click the button "EndTS!" to proceed	ENDTS		EMB		1		

Test location: Operator Product-Assurance: Date: 29/4/8 S.ELSLEY 23.0

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

Issue:

File: HP-2-ASED-TP-

Date: 28/04/2008 0197_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR %20OBCP_iss1_last[1]

PVS 1c 18)



# Herschel

Step-	Test-Step-Description  At end of	Nominal Value	Tolerance	Actual Value	Remarks	P	N
83.	Z010999MCVT134_IST_HIFI_FDIR	ENDTS		ENOTS			
	⇔ Click the button "End TS!" to proceed	LINDTO		CNO 3		8500	

84. Perform PVS2 step3!

Те	st location:	Operator	Product-Assurance:	<b>N</b>	Date:	
L_	Bia	S.ELSLEY	S.Hoge	SH.	29/4/08	23.29

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

Issue:

File: HP-2-ASED-TP-

Date: 28/04/2008 0197_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR %20OBCP_iss1_last[1]



# Herschel

#### 7.4 **PACS**

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

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

<b>PUS</b> #		
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Test location:	Operator S. EISIEM	Product-Assurance:	Date: 29/4/08	23:32

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

Issue:

File: HP-2-ASED-TP-

Date: 28/04/2008 0197_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR %20OBCP_iss1_last[1]



# Herschel

Step-		Nominal Value	Tolerance	Actual Value	Remarks	P	N
87.	During Z010999MCVT135_IST_PACS_FDIR  "Please check that no instrument is in science. If so put it in standby"  ⇒ Perform the activity and then click the button	OK		OK	RD-3 for details.	V	/
88.	"OK" to confirm  During  Z010999MCVT135_IST_PACS_FDIR  "INITIAL S/C STATUS CHECK"   ➡ Click the button "Confirm" to continue	PASS		Pass		V	/
89.	During Z010999MCVT153_IST_STATUS  "Do you want to stop and notice each failure"  ⇒ Click the button "NO" to continue	NO		NO			/

Test location:	Operator S-63569	Product-Assurance:	Date: 20/4/08	2336

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

Issue:

File: HP-2-ASED-TP-

Date: 28/04/2008 0197_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR %20OBCP_iss1_last[1]



# Herschel

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

Test location:	Operator 5. Essey	Product-Assurance:	BH.	Date: 29/4/08	27.32
				<del></del>	

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

Issue:

File: HP-2-ASED-TP-

Date: 28/04/2008



# Herschel

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Step-		Nominal Value	Tolerance	Actual Value	Remarks	P	^
93.	During D102159SCVT125_IST_PACS_MTL_PING						
	"Check MTL parameters"	PASS		PASS			
	⇔ Check that there is 1 PACS PING TC every 5 minutes starting within 15 minutes for 10 hours	ОК		6K		-	
	⇔ Click the button "OK" to continue						
94.	During D102159SCVT125_IST_PACS_MTL_PING  ⇒ Click the button "EndTS!" to continue	ENDTS		ENOTS		~	1
	During Z010999MCVT135_IST_PACS_FDIR  "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		Pass OK	120 TC's are put in the MTL.	U	

Test location:	Operator S. EssiEn	Product-Assurance:	BH.	Date: 29/4/08	23.41	
				. •	Steer Lab	

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

Issue:

1

File: HP-2-ASED-TP-

Date: 28/04/2008



# Herschel

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Step-		Nominal Value	Tolerance	Actual Value	Remarks	P	N
96.	During Z010999MCVT135_IST_PACS_FDIR  "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	ОК		OK.		~	
97.	During Z010999MCVT135_IST_PACS_FDIR  "Wait for execution of the first command, then press OK"   ➡ Click the button "OK" to continue	ОК		ok.			/
98.	During Z010999MCVT135_IST_PACS_FDIR  "Put PACS in SCIENCE"  ⇒ Click the button "Confirm" to continue	CONFIRM		Confid	M		/

Test location:	Operator S-656	Product-Assurance: TH.	Date: 29/4/08	2855

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

Issue:

Date:

File: HP-2-ASED-TP-28/04/2008



# Herschel

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Step-	Test-Step-Description	Nominal Value		Tolerance	Actual Value	Remarks	P	N
99.	During P102999SCVT904_ASDGENPACS_NomSpect  "FM PACS Simulate Spectroscopy for test in ANY conditions - abort TS if not correct: Choose Yes or No"	YES	1		YES	Refer to RD-3 for current message and expected OOL.  When PC012380 is sent proceed to next step  Note: TC will remain pending until end of science	/	/
100.	Click the button "Yes" to continue	is increasing.						
.00.	During Z010999MCVT135_IST_PACS_FDIR "TEST the PACS SAFE FDIR?"	CONFIRM		6	ONETRY	If SKIP, it continues at step 117.  DB_OBCP_H_PACS_SAFE is the  OBCP under test.	~	
101	⇔ Click the button "Confirm to continue      During							
	Z010999MCVT135_IST_PACS_FDIR  "Execute PACS SCRIPT FOR AUTONOMY FUNCTION 14?"	CONFIRM		٥	Confirm			
	⇔ Click the button "Confirm" to continue					23.59		

	Test location:	Operator	Product-Assurance:	Date:
	CIG	Siesien	5. Hoge DD.	2014/08

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

Issue:

File: HP-2-ASED-TP-

Date: 28/04/2008



# Herschel

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
102.	During Z010999MCVT135_IST_PACS_FDIR			Value			/
	"Filter a TMPKT history for TM(5,2) and one for TM(5,1)"	ок		01	23.59		/
	⇔ Check the script name and click the "OK" button to confirm						l
	During Z010999MCVT135_IST_PACS_FDIR	PM165380			Leave TQD of PM165380 open to monitor during OBCP		
	"check that BOL_T_FPU is disabled"	(DP_EV_BOL_T_FPU) = Disabled	)) =	DISA8CE	25	1	/
	⇒ Perform activity and then click the "OK" button to confirm				00.02		

Test location:	Operator	Product-Assurance:		Date: 30	
ESTEC	SERREY	B.Hoec	SDU.	19/4/00	८०००२

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

Issue:

File: HP-2-ASED-TP-

Date: 28/04/2008 0197_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR %20OBCP_iss1_last[1]



# Herschel

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Step-		Nominal Value	Tole	1	Actual Value	Remarks	P	^	٧
104.	During Z010999MCVT135_IST_PACS_FDIR At the prompt: "Wait until the end of the OBCP TM(5,1) with SPID 40145170 procID 0x1208"  Check that:					Apart from checking the OBCP start and end events against the Proc ID, the other checks can be done off-line.			
	⇒ PACS (APID=1152) 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	PASS OK			ek		1		

Test location:	Operator	Product-Assurance:	Date:	
ESTEC	SiELSLEY	B. HOGG BDI.	30Hlos	60.05

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

Issue:

File: HP-2-ASED-TP-

Date: 28/04/2008

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Jun 02, 08 19:02 OBEH PRNT 2008.154.19.02.56.604 On-Board Event History printout from time: 2008.121.00.02.32.000 to time: 2008.121.00.02.55.000 Current printout time: 2008.154.19.02.56.602 Print view mode: BRIEF FILTER MODE: INACTIVE

Generation Time Reception Time APID SSC EVID Severity TmT TmO F D Message Text 2008.121.00.02.54.387 2008.121.00.02.54.814 16 12806 27399 NORM PG G Event 5-1 OBCP Ended E E 2008.121.00.02.38.181 2008.121.02.53.10.766 1152 2162 4 WARN PG G E Ε EXCEPTION_REPORT_0_4 2008.121.00.02.38.181 2008.121.02.51.58.679 1152 2162 4 WARN PG G E EXCEPTION_REPORT_0_4 Ε 2008.121.00.02.38.181 2008.121.00.02.41.798 1152 2162 WARN PG G E EXCEPTION REPORT 0 4 2008.121.00.02.38.180 2008.121.00.02.41.798 1152 2161 2.2 NORM PG G Ε E EVENT_REPORT 2 22 2008.121.00.02.38.179 2008.121.02.53.10.766 1152 2160 4 WARN PG G E E EXCEPTION REPORT 0 4 2008.121.00.02.38.179 2008.121.02.51.58.678 1152 2160 4 WARN PG G E EXCEPTION_REPORT_0_4 2008.121.00.02.38.179 2008.121.00.02.41.798 1152 2160 WARN PG G EXCEPTION_REPORT 0 4 2008.121.00.02.38.179 2008.121.00.02.41.797 1152 2159 22 NORM PG G E EVENT_REPORT_2_22 2008.121.00.02.38.178 2008.121.02.53.10.759 1152 2158 WARN PG G E EXCEPTION_REPORT_0_4 2008.121.00.02.38.178 2008.121.02.51.58.676 1152 2158 4 WARN PG G E EXCEPTION_REPORT_0_4 2008.121.00.02.38.178 2008.121.00.02.38.794 1152 2158 WARN PG G EXCEPTION_REPORT 0 4 2008.121.00.02.38.178 2008.121.00.02.38.794 0 1152 2157 22 NORM PG G E EVENT_REPORT_2_22 2008.121.00.02.38.145 2008.121.00.02.38.793 16 12793 26881 NORM PG G E Event 5-1 Subschedule Status Changed 2008.121.00.02.33.065 2008.121.00.02.33.797 16 12780 27402 NORM PG G Event 5-1 OBCP Started 2008.121.00.02.32.114 2008.121.02.53.10.757 1152 2155 WARN PG E E EXCEPTION REPORT 0 4 2008.121.00.02.32.114 2008.121.02.51.58.672 1152 2155 WARN PG G E E EXCEPTION_REPORT_0 4 2008.121.00.02.32.114 2008.121.00.02.33.798 1152 2155 WARN PG G E Ε EXCEPTION_REPORT_0 4 2008.121.00.02.32.114 2008.121.00.02.33.798 1152 2154 NORM PG G E E EVENT_REPORT_2_22 2008.121.00.02.32.113 2008.121.02.53.10.756 1152 2153 4 WARN PG G E E EXCEPTION REPORT 0 4 2008.121.00.02.32.113 2008.121.02.51.58.671 1152 2153 4 WARN PG G E E EXCEPTION_REPORT_0_4 2008.121.00.02.32.113 2008.121.00.02.33.797 1152 2153 WARN PG G EXCEPTION_REPORT_0_4 2008.121.00.02.32.113 2008.121.00.02.33.797 1152 2152 22 NORM PG G  $\mathbf{E}$ EVENT_REPORT_2_22 2008.121.00.02.32.112 2008.121.02.53.10.756 1152 2151 4 WARN PG G E EXCEPTION REPORT 0 4 2008.121.00.02.32.112 2008.121.02.51.58.671 1152 2151 4 WARN PG G EXCEPTION_REPORT_0_4 2008.121.00.02.32.112 2008.121.00.02.33.784 1152 2151 4 WARN PG G EXCEPTION_REPORT_0_4 2008.121.00.02.32.112 2008.121.00.02.33.784 1152 2150 22 NORM PG

Monday June 02, 2008

E E EVENT_REPORT_2_22

Jun 02, 08 19:11

### TMPH_PRNT_2008.154.19.11.57.793

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TM Packet Query Display 

TM Packet Details

Mnemonic: D_EvRp_148

Description: Event 5-1 OBCP Started

Simulated: N

S/C ID: 486

G/S ID: 0

SLE ID: 0

OCC ID: 0

VCID: 0

HFA D/S: 65535

Data Unit Type: GOOD SP

Time Stamp Type: PG

Time Quality: G

APID: 16

SSC: 12780

Type: 5

Subtype: 1

PI1: 27402 PI2: 0

SPID: 40148170

TPSD: -1

HFA Counter: 1

Filing: E Distribution: E

Time Field: Y

Packet Period:

0 [msec]

CRC: ?

Event Severity: ?

TM Packet Parameter Data

Generation time: 2008.121.00.02.33.065

Reception time: 2008.121.00.02.33.797

TM Packet Raw Data -----

SCOS-2000 Header:

0000:0000 0000 19B7 1748 59FF 0000 19B7 1748 DF2C 0C00 0100 0000 E601 0000 6000 0000 0020:1138 FFFF 0100 0000 CA9C 6402 0000 0000 0000 FFFF FFFF 10FF 1000 EC31 0501

Packet Raw Data:

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



#### Jun 02, 08 18:46 TMPH_PRNT_2008.154.18.46.47.476

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TM Packet Details

Mnemonic: D_EvRp_145 Description: Event 5-1 OBCP Ended Simulated: N

S/C ID: 486

G/S ID: 0

SLE ID: 0

OCC ID: 0

VCID: 0

HFA D/S: 65535

Data Unit Type: GOOD SP

Time Stamp Type: PG

TM Packet Query Display 

Time Quality: G

APID: 16

SSC: 14195

Type: 5

Subtype: 1

PI1: 27399 PI2: 0

SPID: 40145170

TPSD: -1

HFA Counter: 3

Filing: E Distribution: E

Time Field: Y

Packet Period:

0 [msec]

CRC: ?

Event Severity: ?

TM Packet Parameter Data -----

Generation time: 2008.121.00.46.57.551

Reception time: 2008.121.00.46.59.165

TM Packet Raw Data

SCOS-2000 Header:

0000:0000 0000 81C1 1748 FB68 0800 83C1 1748 5088 0200 0100 0000 E601 0000 6000 0000 0020:1138 FFFF 0300 0000 1291 6402 0000 0000 0000 FFFF FFFF 10FF 1000 7337 0501

Packet Raw Data:

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



# Herschel

	Test-Step-Description	Nominal	Tolerance	Actual	Remarks	P	N
Step-		Value		Value			
105.	During Z010999MCVT135_IST_PACS_FDIR  "please check that PACS is in SAFE mode and that its MTL commands have been disabled"	Subschedule 80 OFF 90 OFF		off		V	
	⇒ Perform activity and then click the "OK" button to confirm	OK		OK			
106.	During Z010999MCVT135_IST_PACS_FDIR  "RECOVERY ACTION"  ⇒ Click the button "Confirm" to continue	CONFIRM		Centir	1	_	
107.	During Z010999MCVT135_IST_PACS_FDIR  "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;	
ESTEL	S.EISET	B. HOGG BU.	20 /4/00	60.67

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

Issue:

Date: 28/04/2008 File: HP-2-ASED-TP-0197_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR %20OBCP_iss1_last[1]



# Herschel

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Step-		Nominal Value	Tolerance	Actual Value	Remarks	P	N
108.	During Z010999MCVT135_IST_PACS_FDIR  "Please filter TMPKT History for TM(8,6)"  ⇒ Perform activity and then click the "OK" button to confirm	PASS OK		ok		/	
109.	During Z010999MCVT135_IST_PACS_FDIR  "Please check in the report that PACS TC Routing is disabled"  ⇒ Perform activity and then click the "OK" button to confirm	Gnd-LoPrio DISABLED		OISABO	50	/	/
110.	During Z010999MCVT135_IST_PACS_FDIR  "Please filter TMPKT History for TM(8,6)"  ⇒ Perform activity and then click the "OK" button to confirm	PASS OK		or		1	/

Test location:	Operator	Product-Assurance:	Date: 20		
K3162	5.615161	B. HOGE BOY.	20	14/07	00:07

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

Issue:

File: HP-2-ASED-TP-

Date: 28/04/2008



# Herschel

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
111.	During Z010999MCVT135_IST_PACS_FDIR	value		Value			
	"Please check in the report that PACS TC Routing is enabled"  ⇒ Perform activity and then click the "OK" button to confirm	Gnd-LoPrio ENABLED		ENASIES			
112.	During Z010999MCVT135_IST_PACS_FDIR  "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		OFF			

Test location:	Operator	Product-Assurance:	Date 250	
ESTEC	S-Essey	B. HOGE BH.	24/4/08	00.11

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

Issue:

File: HP-2-ASED-TP-

Date: 28/04/2008 0197_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR %20OBCP_iss1_last[1]



# Herschel

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Step-	Test-Step-Description	Nominal Value		Tolerance	Actual Value	Remarks	P	N
113.	During Z010999MCVT135_IST_PACS_FDIR	Value			74,40			
	"End of PACS SAFE OBCP TEST" "check that all EATs are enabled"	PASS						
	⇒ Perform activity through D102159SCVT192_GET_EAT_REPORT and then click the "OK" button to confirm	ОК			OK			
114.	During D102159SCVT192_GET_EAT_REPORT   ⇒ Click the button "EndTS!" to proceed	ENDTS			Emots			
115.	During P102999SCVT904_ASDGENPACS_NomSpect  "FM PACS Simulate Spectroscopy for test in ANY conditions - abort TS if not correct: Choose Yes or No"	YES  Check that file in /HPCCS/VARIABLE/R <test_session>/TMDU /<date-time>VC1.txt is increasing.</date-time></test_session>	MP/		MES	Refer to RD-3 for current message and expected OOL.  When PC012380 is sent proceed to next step  Note: TC will remain pending until end of science		/

Test location:	Operator	Product-Assurance:	Date:		
ESTEL	S.Essen	B. Hoge BD.	30/4	<b>/</b> 08	00.14

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

Issue:

Date:

28/04/2008

File: HP-2-ASED-TP-



### Herschel

Page

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

Test location:	Operator	Product-Assurance:	Date:	
ESTEC	S. ELSKEY	B. Hoge BH.	30/4/08	60 18

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

Issue:

File: HP-2-ASED-TP-

Date: 28/04/2008

0197_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR

%20OBCP_iss1_last[1]

PVS K



# Herschel

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
120.	During Z010999MCVT135_IST_PACS_FDIR  "sending EGSE_tcsend_CEV DCAST185 { DPV32185 90 } { DPV32185 0}"  ⇒ click the "OK" button to confirm	ОК		OK		v	

Test location:	Operator	Product-Assurance:	Date:	
6514	S.EWET	B. HOGG B	4 30/4/08	00:13:22

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

Issue:

File: HP-2-ASED-TP-

Date: 28/04/2008 0197_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR %20OBCP_iss1_last[1]



# Herschel

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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	F	^
121.	During Z010999MCVT135_IST_PACS_FDIR 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		OK	Please note that the execution time of the OBCP takes about 9 minutes and that after OK there will be another waiting time of 5 minutes for safety		

Test location:	Operator	Product-Assurance:	Date: 🛂	
ESTEC	SEISEY	B. Hoge Byl.	314/68	ee.30

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

Issue: 1

File: HP-2-ASED-TP-

Date: 28/04/2008

Jun 02, 08 19:04				OBE	-I_PRI	NT_2008	3.15	4.19	.04	.49	.987 Page 1/2
On-Board Event History Current printout time:	printout from time: 200 2008.154.19.04.49.986	08.121 Print	.00.18. view m	22.000 t ode: BRI	o time: EF FILT	2008.121.00 ER MODE: IN	0.26.5	51.000 7E			. age //2
Generation Time	Reception Time	VC	APID	SSC	EvID	Severity		TmQ	F	D	Message Text
008.121.00.26.50.535	2008.121.00.26.51.912	0	16	13575	27399	NORM	PG	G	E	E	Event 5-1 OBCP Ended
008.121.00.26.37.776	2008.121.00.26.37.884	0	2020	3371	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
008.121.00.26.26.531	2008.121.02.53.18.759	0	16	13541	12288	ALARM	PG	G	E	E	OBCP_Evt Hifi Off
008.121.00.26.26.531	2008.121.02.52.06.678	0	16	13541	12288	ALARM	PG	G	E	E	OBCP_Evt Hifi Off
008.121.00.26.26.531	2008.121.00.26.26.875	0	16	13541	12288	ALARM	PG	G	E	E	OBCP_Evt Hifi Off
008.121.00.26.25.776 Cmod0x40	2008.121.00.26.25.872	0	2020	3368	238	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00EE - VCFC Time datation for VCO-V
008.121.00.25.53.427	2008.121.00.25.54.832	0	1152	50	10	NORM	PG	G	E	E	EVENT_REPORT_0_10
008.121.00.25.49.404	2008.121.00.25.52.827	0	1152	47	14	NORM	PG	G	E	E	EVENT_REPORT_0_14
08.121.00.25.44.778	2008.121.00.25.45.817	0	1152	42	28	NORM	PG	G	E	E	EVENT_REPORT_5_28
08.121.00.25.40.778	2008.121.00.25.42.812	0	1152	38	28	NORM	PG	G	E	E	EVENT_REPORT_5_28
08.121.00.24.28.972	2008.121.00.24.30.198	0	1152	18	20	NORM	PG	G	E	E	EVENT_REPORT_0_20
08.121.00.23.56.147	2008.121.00.23.56.147	0	1152	1	33041	NORM	PR	N	E	E	EVENT_REPORT_3_33041
08.121.00.23.47.137	2008.121.00.23.47.138	0	1152	0	32776	NORM	PR	N	E	E	EVENT_REPORT_3_32776
08.121.00.23.34.289	2008.121.00.23.35.119	0	16	13440	29186	NORM	PG	G	E	E	Event 5-1 Class A Temperature Anomaly Ended
08.121.00.23.14.994	2008.121.00.23.15.094	0	2020	3348	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
08.121.00.23.03.979 mod0x40	2008.121.00.23.04.074	0	2020	3346	238	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00EE - VCFC Time datation for VCO-
08.121.00.21.34.291	2008.121.00.21.37.951	0	16	13403	29185	NORM	PG	G	E	E	Event 5-1 Class A Temperature Anomaly
08.121.00.19.43.448	2008.121.00.19.43.532	0	2020	3325	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
08.121.00.19.34.289	2008.121.00.19.38.779	0	16	13366	29186	NORM	PG	G	E	E	Event 5-1 Class A Temperature Anomaly Ended
08.121.00.19.32.526	2008.121.02.53.18.758	0	16	13365	12288	ALARM	PG	G	E	E	OBCP_Evt Hifi Off
08.121.00.19.32.526	2008.121.02.52.06.677	0	16	13365	12288	ALARM	PG	G	E	E	OBCP_Evt Hifi Off
08.121.00.19.32.526	2008.121.00.19.34.776	0	16	13365	12288	ALARM	PG	G	E	E	OBCP_Evt Hifi Off
08.121.00.19.31.647	2008.121.00.19.34.776	0	16	13362	29720	NORM	PG	G	E	E	Event 5-1 Unit Already Marked OFF
08.121.00.19.30.647	2008.121.00.19.30.770	0	16	13357	29720	NORM	PG	G	E	E	Event 5-1 Unit Already Marked OFF
08.121.00.19.29.646	2008.121.00.19.30.769	0	16	13353	29720	NORM	PG	G	E	E	Event 5-1 Unit Already Marked OFF
08.121.00.19.14.651 mod0x40	2008.121.00.19.14.745	0	2020	3321	238	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00EE - VCFC Time datation for VCO-V
08.121.00.19.11.525 onday June 02 200	2008.121.02.53.18.758	0	16	13314	12288	ALARM	PG	G	E	E	OBCP_Evt Hifi Off

Monday June 02, 2008

2008_04_28_21_05_hercdmu_hpws22_REALTIME_INST_FDIR

- 3	-	
- 40	org	B.
E:		803
- 60		89



Jun 02, 08 19:04				OBEH	I_PRN	IT_200	8.15	4.19	.04	.49	.987	Page 2/2
2008.121.00.19.11.525	2008.121.02.52.06.676	0	16	13314	12288	ALARM	PG	G	E	E	OBCP_Evt Hifi Off	
2008.121.00.19.11.525	2008.121.00.19.11.742	0	16	13314	12288	ALARM	PG	G	E	E	OBCP_Evt Hifi Off	
2008.121.00.18.34.294	2008.121.00.18.37.182	0	16	13278	29185	NORM	PG	G	E	E	Event 5-1 Class A Temperature Anomaly	
2008.121.00.18.25.648	2008.121.00.18.27.168	0	16	13270	26881	NORM	PG	G	E	E	Event 5-1 Subschedule Status Changed	
2008.121.00.18.22.524	2008.121.00.18.23.163	0	16	13263	27402	NORM	PG	G	E	E	Event 5-1 OBCP Started	





# Jun 02, 08 18:54 TMPH_PRNT_2008.154.18.54.40.375

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TM Packet Details

Mnemonic: D_EvRp_148 Description: Event 5-1 OBCP Started

Simulated: N

S/C ID: 486

G/S ID: 0

SLE ID: 0

OCC ID: 0

VCID: 0

HFA D/S: 65535

Data Unit Type: GOOD SP

Time Stamp Type: PG

TM Packet Query Display

Time Quality: G

APID: 16

SSC: 13263

Type: 5 Subtype: 1

PI1: 27402 PI2: 0

SPID: 40148170

TPSD: -1

HFA Counter: 2

Time Field: Y

Packet Period:

0 [msec]

CRC: ?

Filing: E Distribution: E

Event Severity: ?

TM Packet Parameter Data

Generation time: 2008.121.00.18.22.524

Reception time: 2008.121.00.18.23.163

TM Packet Raw Data

SCOS-2000 Header:

Packet Raw Data:

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

Jun 02, 08 18:53

TMPH_PRNT_2008.154.18.53.48.783

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TM Packet Query Display 

TM Packet Details -----

Mnemonic: D_EvRp_145 Description: Event 5-1 OBCP Ended Simulated: N

S/C ID: 486

G/S ID: 0

SLE ID: 0

OCC ID: 0

VCID: 0

HFA D/S: 65535

Data Unit Type: GOOD SP

Time Stamp Type: PG

Time Quality: G

APID: 16

SSC: 13575

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: 2008.121.00.26.50.535

Reception time: 2008.121.00.26.51.912

TM Packet Raw Data

SCOS-2000 Header:

0000:0000 0000 CABC 1748 842A 0800 CBBC 1748 67EC 0D00 0100 0000 E601 0000 6000 0000 0020:1138 FFFF 0200 0000 1291 6402 0000 0000 0000 FFFF FFFF 10FF 1000 0735 0501

Packet Raw Data:

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



# Herschel

04	Test-Step-Description	Nominal	Tolerance	Actual	Remarks	F	P	N
Step-		Value		Value				
122.	During Z010999MCVT135_IST_PACS_FDIR	Subschedule						
	"please check that PACS is in SAFE mode and that its MTL commands have been disabled"	80 (meta-PACS) OFF		OFF				
	⇒ Perform activity and then click the "OK" button to	90 (PACS TCs) OFF OK		OFF		·	1	
	confirm			OL				
123.	During Z010999MCVT135_IST_PACS_FDIR							
	"RECOVERY ACTION"	CONFIRM		CONFIRM	A.	u	1	
	Click the button "Confirm to continue"		,					
124.	During Z010999MCVT135_IST_PACS_FDIR							٦
	"if still running, please terminate the sequence that	PASS						
	keeps PACS in SCIENCE"  ⇒ Perform activity and then click the "OK" button to	ОК		OK				
	confirm							

Test location:	Operator	Product-Assurance:	Date: 21	/
ESTEL	SESSET	B.HOGG BH.	2014/	CD 00.37
		**************************************		

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

Issue:

Date: 28/04/2008 0197_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR %20OBCP_iss1_last[1]



# Herschel

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Step-	Test-Step-Description	Nominal	Tolerance	1	Remarks	P	N
125.	During Z010999MCVT135_IST_PACS_FDIR	Value		Value			
	"Please filter TMPKT History for TM(8,6)"	PASS					
	⇒ Perform activity and then click the "OK" button to confirm	ОК		OK		l	
126.	During Z010999MCVT135_IST_PACS_FDIR  "Please check in the report that PACS TC Routing is disabled"  ⇒ Perform activity and then click the "OK" button to	PACS Gnd-LoPrio DISABLED OK		OBABIE			
127.	confirm  During						
	Z010999MCVT135_IST_PACS_FDIR "Please filter TMPKT History for TM(8,6)"	PASS					
	⇒ Perform activity and then click the "OK" button to confirm	ОК		OK			

Test location:	Operator	Product-Assurance:		Date:	
ESTEC	SEISWEY	BHOGG	BY.	30/4/08	00.40

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

Issue:

File: HP-2-ASED-TP-

Date: 28/04/2008



# Herschel

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Step-	Test-Step-Description	Nominal	Tolerance	1	Remarks	P	N
128.	During Z010999MCVT135_IST_PACS_FDIR  "Please check in the report that PACS TC Routing is enabled"  ⇒ Perform activity and then click the "OK" button to confirm	ENABLED		Value En ABLE	6		/
129.	During Z010999MCVT135_IST_PACS_FDIR  "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	90 ON   OK		OFF ON OK		/	

Test location:	Operator	Product-Assurance:		Date:	
ESTR	SESSIET	B. HOGE	BY.	20/4/08	00.43

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

Issue:

File: HP-2-ASED-TP-

Date: 28/04/2008



### Herschel

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Step-	Test-Step-Description	Nominal Value		Tolerance	Actual Value	Remarks	P	N
130.	During Z010999MCVT135_IST_PACS_FDIR	Value						/
	"End of PACS POWER CYCLE TEST. check that all EATs are enabled"	PASS					-	1
	⇒ Perform activity through  D102159SCVT192_GET_EAT_REPORT  and then click the "OK" button to confirm	ок			OK			
131.	During D102159SCVT192_GET_EAT_REPORT   ⇒ Click the button "EndTS!" to proceed	ENDTS			ENOTS		-	
132.	During P102999SCVT904_ASDGENPACS_NomSpect  "FM PACS Simulate Spectroscopy for test in ANY conditions - abort TS if not correct: Choose Yes or No"   ⇒ Click the button "Yes" to confirm	Check that file in /HPCCS/VARIABLE/R <test_session>/TMDU /<date-time>VC1.txt is increasing.</date-time></test_session>	MP/		YES	Refer to RD-3 for current message and expected OOL.  When PC012380 is sent proceed to next step  Note: TC will remain pending until end of science		

Test location:	Operator	Product-Assurance:	Date:	
ESTEC	S. Esien	B. HORR BH.	3d4100	00.44

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

Issue:

File: HP-2-ASED-TP-

Date: 28/04/2008



# Herschel

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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	^
133.	During P102999SCVT904_ASDGENPACS_NomSpect	value		value			-
-)	"Set PACS(4) as active"	CONFIRM				/	
	⇒ Click the button "Yes" to confirm						
134.	During Z010999MCVT135_IST_PACS_FDIR				If SKIP, it continues at step 156.		
	"PACS NORMAL OFF OBCP"	CONFIRM		ONFIRM	DB_OBCP_H_PACS_NORMAL_OFF is the OBCP under test.		
	⇒ Click the button "Confirm" to continue				The OBCP under test.		l
	During Z010999MCVT135_IST_PACS_FDIR						
	"Execute PACS SCRIPT FOR AUTONOMY FUNCTION 17?"	CONFIRM		onfar		-	/
	Click the button "Confirm" to continue						

Took landting				
Test location:	Operator	Product-Assurance:	Deter	
		Troduct-Assurance.	Date:	1
1 2 2	1.51 51.53	R 11000 ISM		
	ا ما در ا	D.HOUR GIA.	17/1/4/08	00.45
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			interest and the second	

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

Issue:

File: HP-2-ASED-TP-

Date: 28/04/2008



# Herschel

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N	
	During Z010999MCVT135_IST_PACS_FDIR  "Calling script PACS_StartAutonomy_Function_17_OBS_Shell.tcl"  ⇒ Perform activity and then click the "OK" button to confirm			or	If script is not correct, abort the test sequence	/	/	

Test location:	Operator	Product-Assurance:	Date:	
ESTE	S.asien	B. HOGE BH.	30/4/00	00.45

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

Issue:

File: HP-2-ASED-TP-

Date: 28/04/2008 0197_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR %20OBCP_iss1_last[1]



# Herschel

Step-	Test-Step-Description	Nominal Value	Tol	lerance	Actual Value	Remarks	P	N
137.	During Z010999MCVT135_IST_PACS_FDIR At the prompt:	vanie			Value	Apart from start and end events checks, the other can be done offline.		
	"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	PASS					1	
	⇒ TM(5,4) with Event ID = 0x2001, SID = 0	OK			OK			
	⇒ 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							

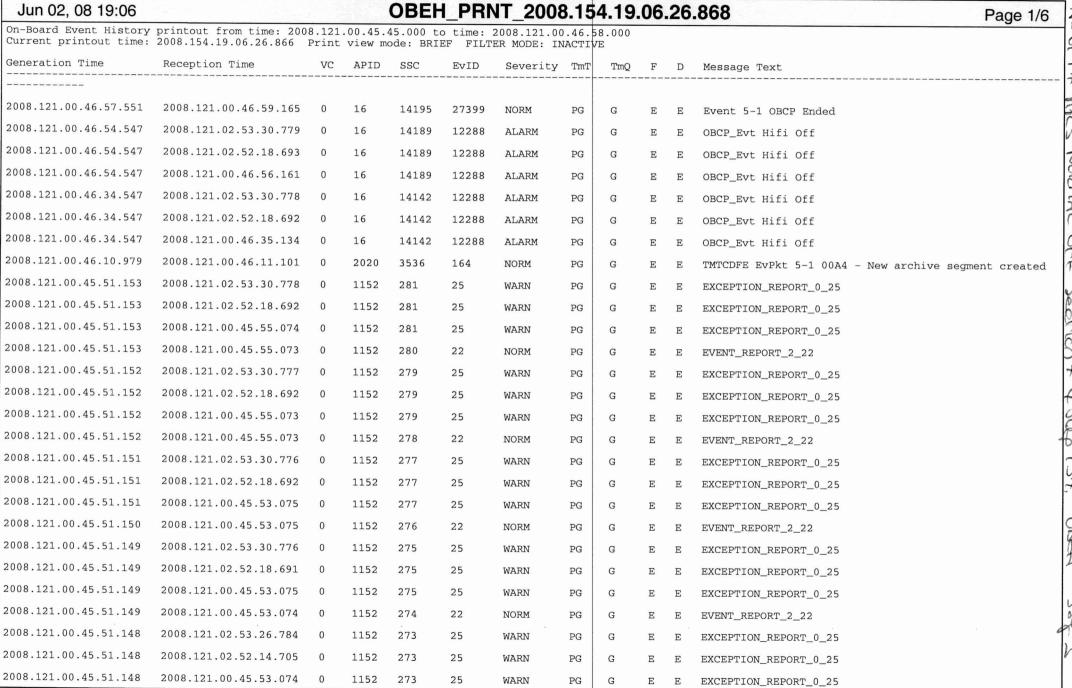
Test location:	Operator	Product-Assurance:	Date:	
ESTEL	SESSET	B. HOGE BA	30/4/08	60:49

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

Issue:

File: HP-2-ASED-TP-

Date: 28/04/2008 0197_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR %20OBCP_iss1_last[1]



Monday June 02, 2008

2008_04_28_21_05_hercdmu_hpws22_REALTIME_INST_FDIR

			(C)	/	V-0-2					6		Printed by hpex
Jun 02, 08 19:06				OBEH	_PR	NT_200	8.15	4.19	.06	.26	.868	Page 2/6
2008.121.00.45.51.148	2008.121.00.45.53.073	0	1152	272	22	NORM	PG	G	Е	E	EVENT_REPORT_2_22	
2008.121.00.45.51.147	2008.121.02.53.26.783	0	1152	271	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25	
2008.121.00.45.51.147	2008.121.02.52.14.705	0	1152	271	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25	
2008.121.00.45.51.147	2008.121.00.45.53.073	0	1152	271	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25	
2008.121.00.45.51.147	2008.121.00.45.53.073	0	1152	270	22	NORM	PG	G	E	E	EVENT_REPORT_2_22	
2008.121.00.45.51.145	2008.121.02.53.26.782	0	1152	269	25	WARN	PG	G	Е	E	EXCEPTION_REPORT_0_25	
2008.121.00.45.51.145	2008.121.02.52.14.704	0	1152	269	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25	
2008.121.00.45.51.145	2008.121.00.45.53.072	0	1152	269	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25	
2008.121.00.45.51.145	2008.121.00.45.53.072	0	1152	268	22	NORM	PG	G	E	E	EVENT_REPORT_2_22	
2008.121.00.45.51.144	2008.121.02.53.26.782	0	1152	267	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25	
2008.121.00.45.51.144	2008.121.02.52.14.704	0	1152	267	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25	
2008.121.00.45.51.144	2008.121.00.45.53.072	0	1152	267	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25	
008.121.00.45.51.144	2008.121.00.45.53.072	0	1152	266	22	NORM	PG	G	E	E	EVENT_REPORT_2_22	
008.121.00.45.51.143	2008.121.02.53.26.781	0	1152	265	25	WARN	PG	G	E	Е	EXCEPTION_REPORT_0_25	
008.121.00.45.51.143	2008.121.02.52.14.702	0	1152	265	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25	
008.121.00.45.51.143	2008.121.00.45.53.072	0	1152	265	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25	
008.121.00.45.51.143	2008.121.00.45.53.072	0	1152	264	22	NORM	PG	G	E	E	EVENT_REPORT_2_22	
008.121.00.45.51.142	2008.121.02.53.26.781	0	1152	263	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25	
008.121.00.45.51.142	2008.121.02.52.14.693	0	1152	263	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25	
008.121.00.45.51.142	2008.121.00.45.53.071	0	1152	263	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25	
008.121.00.45.51.142	2008.121.00.45.53.071	0	1152		22	NORM	PG	G	E	E	EVENT_REPORT_2_22	
008.121.00.45.51.140	2008.121.02.53.26.780	0	1152		25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25	
008.121.00.45.51.140	2008.121.02.52.14.692	0	1152		25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25	
008.121.00.45.51.140	2008.121.00.45.52.078	0	1152		25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25	
008.121.00.45.51.140	2008.121.00.45.52.078	0	1152		22	NORM	PG	G	E	E	EVENT_REPORT_2_22	
n-Board Event History urrent printout time:	printout from time: 200 2008.154.19.06.26.866	8.121 Print	00 45 4	15 000 to	time.	2009 121 00	16 6	9 000			2V241_REFORT_2_22	
eneration Time	Reception Time	VC	APID		EvID	Severity		TmQ	F	D .	Message Text	
008.121.00.45.51.139	2008.121.02.53.26.780	0	1152	259	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25	

2008_04_28_21_05_hercdmu_hpws22_REALTIME_INST_FDIR





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Jun 02, 08 19:06				<b>OBEH</b>	_PRI	NT_200	8.15	4.19	.06	.26	.868	Page 3/6
2008.121.00.45.51.139	2008.121.02.52.14.692	0	1152	259	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25	1 ago 0/0
2008.121.00.45.51.139	2008.121.00.45.52.078	0	1152	259	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25	
2008.121.00.45.51.139	2008.121.00.45.52.078	0	1152	258	22	NORM	PG	G	E	E	EVENT_REPORT_2_22	
2008.121.00.45.51.138	2008.121.02.53.26.779	0	1152	257	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25	
2008.121.00.45.51.138	2008.121.02.52.14.691	0	1152	257	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25	
2008.121.00.45.51.138	2008.121.00.45.52.077	0	1152	257	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25	
2008.121.00.45.51.138	2008.121.00.45.52.077	0	1152	256	22	NORM	PG	G	E	E	EVENT_REPORT_2_22	
2008.121.00.45.51.136	2008.121.02.53.26.778	0	1152	255	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25	
2008.121.00.45.51.136	2008.121.02.52.14.691	0	1152	255	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25	
2008.121.00.45.51.136	2008.121.00.45.52.077	0	1152	255	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25	
2008.121.00.45.51.136	2008.121.00.45.52.077	0	1152	254	22	NORM	PG	G	E	E	EVENT_REPORT_2_22	
008.121.00.45.51.135	2008.121.02.53.26.772	0	1152	253	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25	
008.121.00.45.51.135	2008.121.02.52.14.690	0	1152	253	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25	
008.121.00.45.51.135	2008.121.00.45.52.076	0	1152	253	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25	
008.121.00.45.51.135	2008.121.00.45.52.076	0	1152	252	22	NORM	PG	G	E	E	EVENT_REPORT_2_22	
008.121.00.45.51.133	2008.121.02.53.26.771	0	1152	251	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25	
008.121.00.45.51.133	2008.121.02.52.14.690	0	1152	251	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25	
008.121.00.45.51.133	2008.121.00.45.52.075	0	1152	251	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25	
008.121.00.45.51.133	2008.121.00.45.52.075	0	1152	250	22	NORM	PG	G	E	E	EVENT_REPORT_2_22	
008.121.00.45.51.132	2008.121.02.53.26.771	0	1152	249	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25	
008.121.00.45.51.132	2008.121.02.52.14.689	0	1152	249	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25	
008.121.00.45.51.132	2008.121.00.45.52.074	0	1152	249	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25	
008.121.00.45.51.132	2008.121.00.45.52.073	0	1152	248	22	NORM	PG	G	E	E	EVENT_REPORT_2_22	
008.121.00.45.47.642	2008.121.00.45.51.068	0	16	14099	26881	NORM	PG	G	E	E	Event 5-1 Subschedule Status Changed	
008.121.00.45.45.546	2008.121.00.45.46.066	0	16	14092	27402	NORM	PG	G	E	E	Event 5-1 OBCP Started	
008.121.00.45.45.043	2008.121.02.53.26.770	0	1152	247	25	WARN	PG	G	Е	E	EXCEPTION_REPORT_0_25	
008.121.00.45.45.043	2008.121.02.52.14.689	0	1152	247	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25	
008.121.00.45.45.043	2008.121.00.45.47.068	0	1152	247	25	WARN	PG	G	E	Ε.	EXCEPTION REPORT 0 25	
008.121.00.45.45.043	2008.121.00.45.47.068	0	1152	246	22	NORM	PG	G	E	E	EVENT_REPORT_2_22	
008.121.00.45.45.042	2008.121.02.53.26.770	0	1152	245	25	WARN	PG	G	E	E	EXCEPTION_REPORT_0_25	
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Monday June 02, 2008



#### TMPH_PRNT_2008.154.18.49.22.429 Jun 02, 08 18:49

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TM Packet Details

Mnemonic: D_EvRp_148 Description: Event 5-1 OBCP Started Simulated: N

S/C ID: 486

G/S ID: 0

SLE ID: 0 OCC ID: 0

VCID: 0

HFA D/S: 65535

Data Unit Type: GOOD SP

Time Stamp Type: PG

TM Packet Query Display 

Time Quality: G

APID: 16

SSC: 14092

Type: 5 Subtype: 1 PI1: 27402

SPID: 40148170

TPSD: -1

HFA Counter: 3

Filing: E Distribution: E

PI2: 0

Time Field: Y

Packet Period:

0 [msec]

CRC: ?

Event Severity: ?

TM Packet Parameter Data -----

Generation time: 2008.121.00.45.45.546

Reception time: 2008.121.00.45.46.066

TM Packet Raw Data

SCOS-2000 Header:

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

Packet Raw Data:

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





# TMPH_PRNT_2008.154.18.50.39.818

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TM Packet Query Display 

TM Packet Details

Jun 02, 08 18:50

Mnemonic: D_EvRp_145 Description: Event 5-1 OBCP Ended

OCC ID: 0

VCID: 0

HFA D/S: 65535

Simulated: N

Data Unit Type: GOOD SP

Time Stamp Type: PG

Time Quality: G

APID: 16

SSC: 14195

G/S ID: 0

Type: 5

SLE ID: 0

Subtype: 1

PI1: 27399 PI2: 0

SPID: 40145170

S/C ID: 486

TPSD: -1

HFA Counter: 3

Filing: E Distribution: E

Time Field: Y

Packet Period:

0 [msec]

CRC: ?

Event Severity: ?

TM Packet Parameter Data

Generation time: 2008.121.00.46.57.551

Reception time: 2008.121.00.46.59.165

TM Packet Raw Data

SCOS-2000 Header:

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

Packet Raw Data:

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



# Herschel

Step-	Test-Step-Description	Nominal Value		Tolerance	Actual Value	Remarks	P	^
138.		VENIX			Value			+
	During Z010999MCVT135_IST_PACS_FDIR  "Check that PACS is OFF and MTL TCs are disabled"	All PACS LCLs (27,41   OFF	,35,65)		OK		ی	
	⇒ Perform activity and then click the "OK" button to confirm	ОК						
139.	During Z010999MCVT135_IST_PACS_FDIR "check that all EATs are enabled except0x006 for APIDs 0x0480 and 0x0481"	PASS			PASS			
	⇒ Perform activity from D102159SCVT192_GET_EAT_REPORT Then press OK	ок			OK		/	
140.	During D102159SCVT192_GET_EAT_REPORT   ⇒ Click EndTS to continue	ENDTS			Eron	S	/	

Test location: Ope	perator	Product-Assurance:		Date:	
			_		
BIE	5-GSCET	3.Hoga	BH.	3014/08	00.50

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

Issue:

File: HP-2-ASED-TP-

Date: 28/04/2008 0197_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR %20OBCP_iss1_last[1]

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# Herschel

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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
141.	During Z010999MCVT135_IST_PACS_FDIR "RECOVERY ACTION"	CONFIRM		CONFIR	n	1	
	⇔ Click the "Confirm" button to continue						
142.	During Z010999MCVT135_IST_PACS_FDIR  "If still running, please terminate the sequence to keep PACS in SCIENCE"  ⇒ Perform activity and then click the "OK" button to confirm	OK		OK			/
143.	During Z010999MCVT135_IST_PACS_FDIR  "Please filter TMPKT History for TM(8,6)"  ⇒ Perform activity and then click the "OK" button to confirm	PASS OK		OK			/

Test location:	Operator S. G.S.E.T	Product-Assurance:	RH.	Date: 30/4/98	en El
				30/4/20	00,51

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

Issue:

Date: 28/04/2008 File: HP-2-ASED-TP-



# Herschel

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Step-		Nominal Value	Tolerance	Actual Value	Remarks	P	N
144.	During Z010999MCVT135_IST_PACS_FDIR  "Please check in the report that PACS TC Routing is disabled"	PACS Gnd-LoPrio DISABLED		DISABL	ණ	~	
	⇒ Perform activity and then click the "OK" button to confirm	ок					
145.	During Z010999MCVT135_IST_PACS_FDIR  "Please filter TMPKT History for TM(8,6)"  ⇒ Perform activity and then click the "OK" button to confirm	PASS OK		OK			/
146.	During Z010999MCVT135_IST_PACS_FDIR  "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		ENABL	69		/

	T			
Test location:	Operator	Product-Assurance:	Date:	
ESTEL	S.ELSCEY	B. HOGG BY.	30/4/08	00.52

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

Issue:

File: HP-2-ASED-TP-

Date: 28/04/2008



# Herschel

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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
147.	During Z010999MCVT135_IST_PACS_FDIR "check that all EATs are enabled"	PASS		Varac			
	Perform activity from     D102159SCVT192_GET_EAT_REPORT     Then press OK	ОК		OK			
148.	During D102159SCVT192_GET_EAT_REPORT  ⇒ Click EndTS to continue	ENDTS		Emors		_	
149.	During Z010999MCVT135_IST_PACS_FDIR "Switching PACS ON"	ОК		OK			_
	Switching PACS ON  ⇒ Click the "OK" button to confirm			UL			

Test location:	Operator	Product-Assurance:	Date:	
arce	< G=. G_	Ryage 2700	2-1.62	~
SIE	3.ELSIC7	Show Sy.	3014108	05Y

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

Issue:

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Date: 28/04/2008



# Herschel

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Step-	Test-Step-Description	Nominal	Tolerance	i .	Remarks	P	N
150.	During  N102999SCV905_ASDGENPACS_PWR_ON_N  "Power on PACS prime and enable MIL 1553 I/F.  FM PACS Switch on in warm or cold conditions,  FPU connected Select NO to abort TS if not correct"  □ Click the button "YES" to confirm	YES		Value YES	Refer to RD-3 for current message and expected OOL.	V	
151.	During P102999SCVT905_ASDISTPACS_PWR_ON_N  PACS FDIR OBCPs/EATs loaded and enabled? If not select NO to abort TS. If not sure, check with D102159SCVT192_GET_EAT_REPORT. Then select "YES"			Yes	8	/	
152.	During P102999SCVT905_ASDISTPACS_PWR_ON_N "Set Bus Profile back to original setting?"	YES		765			/

Test location:	Operator	Product-Assurance:	Date:	
ESTEL	S.EISIET	B. Hoga BD.	30/4/08	01.00
			3-11-0	

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

Issue:

Date:

File: HP-2-ASED-TP-28/04/2008



# Herschel

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
153.	During P102999SCVT918_ASDISTPACS_MarkON  "Mark PACS Units ON?"  ⇒ click "confirm" to continue	CONFIRM		CONFIRM	^	U	
154.	During Z010999MCVT135_IST_PACS_FDIR  "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	90 ON		OK ON OK		/	
155.	During Z010999MCVT135_IST_PACS_FDIR  "End of PACS NORMAL OFF TEST.  ⇒ click the "OK" button to confirm	ОК		or			

Test location:	Operator	Product-Assurance:	Date:	
65166	Siesieg	B. HOGG BA.	3014/08	01.07

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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	٨
156. 157.	During Z010999MCVT135_IST_PACS_FDIR  "PACS IMMEDIATE OFF OBCP?"  ⇒ Click the button "Confirm" to continue  During	CONFIRM	(	ENFILA	If SKIP, it continues at step 180.  DB_OBCP_H_PACS_IMMEDIATE_OFF is the OBCP under test.		
	Z010999MCVT135_IST_PACS_FDIR  "Execute PACS script for clearing HK?"  ⇒ click the "Confirm" button to continue	CONFIRM		owten		_	
158.	During Z010999MCVT135_IST_PACS_FDIR  "Filter one TMPKT History for PACS HK and one for TM(5,1)"  ⇒ Perform activity and then click the "OK" button to confirm	ок		ok	PACS APID 1152/1154		

		1			
Test location:	Operator	Product-Assurance	e:	Date:	
ESTEL	SESIE	B.HOGG	ESM.	3014/08	010

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Ste	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	٨
159	During Z010999MCVT135_IST_PACS_FDIR  "check that PACS is sending no regular packets any more"  ⇒ Perform activity and then click the "OK" button to confirm	PASS OK		ok			
160	During Z010999MCVT135_IST_PACS_FDIR 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			OR	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		/

Test location: Operator Product-Assurance: Date: ESTEC S. Essey 01-11

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### OBEH_PRNT_2008.154.19.08.49.379

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

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

Jun 02, 08 19:08



#### TMPH_PRNT_2008.154.18.44.13.922 Jun 02, 08 18:44

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TM Packet Details

Mnemonic: D_EvRp_148 Description: Event 5-1 OBCP Started Simulated: N

S/C ID: 486

G/S ID: 0

SLE ID: 0

OCC ID: 0 VCID: 0

HFA D/S: 65535

Data Unit Type: GOOD SP

Time Stamp Type: PG

TM Packet Query Display 

Time Quality: G

APID: 16

SSC: 14916

Type: 5

Subtype: 1

PI1: 27402 PI2: 0

SPID: 40148170

TPSD: -1

HFA Counter: 4

Filing: E Distribution: E

Time Field: Y

Packet Period:

0 [msec]

CRC: ?

Event Severity: ?

TM Packet Parameter Data

Generation time: 2008.121.01.10.11.565

Reception time: 2008.121.01.10.13.713

TM Packet Raw Data -----

SCOS-2000 Header:

0000:0000 0000 F3C6 1748 3FA1 0800 F5C6 1748 84E4 0A00 0100 0000 E601 0000 6000 0000 0020:1138 FFFF 0400 0000 CA9C 6402 0000 0000 0000 FFFF FFFF 10FF 1000 443A 0501

Packet Raw Data:

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



### TMPH_PRNT_2008.154.18.57.00.739

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TM Packet Details

Jun 02, 08 18:57

Mnemonic: D EvRp 145 Description: Event 5-1 OBCP Ended Simulated: N

S/C ID: 486

G/S ID: 0

SLE ID: 0

OCC ID: 0

VCID: 0

HFA D/S: 65535

Data Unit Type: GOOD SP

Time Stamp Type: PG

TM Packet Query Display 

Time Quality: G

APID: 16

SSC: 14980

Type: 5

Subtype: 1

PI1: 27399 PI2: 0

SPID: 40145170

TPSD: -1

HFA Counter: 4

Filing: E Distribution: E

Time Field: Y

Packet Period:

0 [msec]

CRC: ?

Event Severity: ?

TM Packet Parameter Data ______

Generation time: 2008.121.01.10.45.570

Reception time: 2008.121.01.10.48.762

TM Packet Raw Data ______

SCOS-2000 Header:

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

Packet Raw Data:

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



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Ste	Test-Step-Description p-	Nominal	Tolerance	Actual Value	Remarks	P	N
16		Subschedules 80 OFF 90 ON		off		7	
	⇒ Perform activity and then click the "OK" button to confirm  → Perform activity and then click the "OK" button to confirm  → Perform activity and then click the "OK" button to confirm	о		OK	Sax	U	
162	During Z010999MCVT135_IST_PACS_FDIR "check that all EATs are enabled except0x006 for APIDs 0x0480 and 0x0481"	PASS		PASS			
	Perform activity from     D102159SCVT192_GET_EAT_REPORT     Then press OK	ОК		OR		)	
	During D102159SCVT192_GET_EAT_REPORT	ENDTS		ENOTS		7	

Test location:	Operator	Product-Assurance:	Date:
	3.600	5.70ta 5)1.	30(04(00

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	tep-	Test-Step-Description	Nominal	Tolerance	I	Remarks	P	N
	163.	During 7010000MCVT135 IST DAGS FDID	Value		Value			
		Z010999MCVT135_IST_PACS_FDIR  "RECOVERY ACTION"	CONFIRM		SKIP		7	
-	164	⇔ click Confim to continue     During						
	164.	Z010999MCVT135_IST_PACS_FDIR				PACS SHOULD NOT BE IN SCIENCE		
		"If still running, please terminate the sequence to keep PACS in SCIENCE"	ок					
		⇒ Perform activity and then click the "OK" button to confirm						
'		During Z010999MCVT135_IST_PACS_FDIR						
		"Please filter TMPKT History for TM(8,6)"	PASS					
		⇒ Perform activity and then click the "OK" button to confirm	OK					

Test location:	Operator	Product-Assurance:	Date:	
ESTE	S. Esien	BHOGE BA.	30/4/07	01.30
		-	211	16

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Step-	Test-Step-Description	Nominal Value	T.	Tolerance	Actual Value	Remarks	\	P	N
166.	During Z010999MCVT135_IST_PACS_FDIR  "Please check in the report that PACS TC Routing is disabled"	PACS Gnd-LoPrio DISABLED			Value				
	⇒ Perform activity and then click the "OK" button to confirm	ок	·						
167.	During Z010999MCVT135_IST_PACS_FDIR  "Please filter TMPKT History for TM(8,6)"  ⇒ Perform activity and then click the "OK" button to confirm	PASS OK					PVS 8		
168.	During Z010999MCVT135_IST_PACS_FDIR  "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							

Test location:	Operator	Product-Assurance:	Date:

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Step-		Nominal Value	Tolerance	Actual Value	Remarks	F	N
169.	During Z010999MCVT135_IST_PACS_FDIR "check that all EATs are enabled"	PASS					
	Perform activity from     D102159SCVT192_GET_EAT_REPORT     Then press OK	ок			S 0,158		
	During D102159SCVT192_GET_EAT_REPORT   ⇒ Click EndTS to continue	ENDTS					
	During Z010999MCVT135_IST_PACS_FDIR  "Switching PACS ON"   ⇒ Click the "OK" button to confirm	ок					

		T	
Test location:	Operator	Product-Assurance:	Date:

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Step-		Nominal Value	Tolerance	Actual Value	Remarks	P	N
172.	During P102999SCVT905_ASDISTPACS_PWR_ON_N				Refer to Rd-3 for exact message and expected OOLs		
	"Power on PACS prime and enable MIL 1553 I/F. FM PACS Switch on in warm or cold conditions, FPU connected Select NO to abort TS if not correct"	YES					
170	Click the button "YES" to confirm  During				/ 21		
173.	During P102999SCVT905_ASDISTPACS_PWR_ON_N PACS FDIR OBCPs/EATs loaded and enabled?	YES			> 8/50		
	During P102999SCVT905_ASDISTPACS_PWR_ON_N						
	"Set Bus Profile back to original setting?"	YES					
	Click the button "YES" to confirm				/		

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Step-	Test-Step-Description	Nominal Value	Tol	1	Actual Value	Remarks	P	N
175.	During P102999SCVT918_ASDISTPACS_MarkON					Monitor ZAD1E999		
	"Mark PACS Units ON?"	CONFIRM						
	⇔ click "confirm" to continue							
176.	During Z010999MCVT135_IST_PACS_FDIR					8219		
	"Please check that subschedule 80 (meta-PACS) is disabled and 90 (PACS TCs) is enabled Then press OK"	80 OFF 90 ON				113		
	⇒ Perform activity and then click the "OK" button to confirm	ОК						
177.	During Z010999MCVT135_IST_PACS_FDIR							
	"End of PACS IMMEDIATE OFF TEST "	ок			2K		7	
	⇔ click the "OK" button to confirm				£.			

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Ston	Test-Step-Description	Nominal	Tolerance	Actual	Remarks	P	N
Step-		Value		Value			
178.	During Z010999MCVT135_IST_PACS_FDIR				00.00		
	"End of PACS FDIR TEST (PRIMARY) check that all EATs are enabled"	PASS			PACS EATS not re-enabled, due to RUSS.		
	⇒ Perform activity through     D102159SCVT192_GET_EAT_REPORT and then click the "OK" button to confirm	ОК			6 1038		:
179.	During D102159SCVT192_GET_EAT_REPORT	ENDTS					
	⇔ Click the button "EndTS!" to proceed						
180.	During Z010999MCVT135_IST_PACS_FDIR						
	"RESET the starting condition"	CONFIRM		SKIR			
	⇒ Click the button "Confirm" to continue						

		i e	
Test location:	Operator	Product-Assurance:	Date:

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Step-	Test-Step-Description	Nominal	T	olerance		Remarks	P	N
181.	During Z010999MCVT135_IST_PACS_FDIR " Terminate ALL_SubscribeParams.tcl"	PASS			Value			
Ť	⇒ Perform activity and then click the "OK" button to confirm	ок						
	During Z010999MCVT135_IST_PACS_FDIR	PASS				0. >2		
	"Check that PACS is ON but in no prime (STDBY)"	ок				\ M58		1
183.	During Z010999MCVT135_IST_PACS_FDIR	PASS						
	"Check that all subschedules from 1 to 256, plus 370 are enabled"	ОК						
	⇒ Click the button "OK" to confirm							
	At end of Z010999MCVT135_IST_PACS_FDIR							
	⇔ Click the button "End TS!" to proceed	ENDTS						

Test location:	Operator	Product-Assurance:	Date:

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#### 7.5 **SPIRE**

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

Test location:	Operator	Product-Assurance:	Date:
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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
188.	During Z010999MCVT137_IST_SPIRE_FDIR_formal	PASS		Value	RD-3 for details		
	"Please check that no instrument is in science. If so, put it in standby"	ОК					
	Click the button "OK" to confirm				/		
189.	During Z010999MCVT137_IST_SPIRE_FDIR_formal						
	"INITIAL S/C STATUS CHECK"	CONFIRM			} Q15*		
	⇔ Click the button "Confirm" to continue						
190.	During Z010999MCVT153_IST_STATUS						
	"Do you want to stop and notice each failure"	NO					
	⇔ Click the button "NO" to continue				)		
191.	During Z010999MCVT153_IST_STATUS	PASS			Compare with AD-1 for chapter 5.8.13 of IST		
	Check the Satellite State	ОК			specification		
	⇒ Click the button "OK" to continue						

Test location:	Operator	Product-Assurance:	Date:

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Step -No.	Test-Step-Description	Nominal Value	Tole	rance	Actual Value	Remarks		P	N
192.	During Z010999MCVT137_IST_SPIRE_FDIR_formal				Varac				
	"Set SCBP to SPIRE Prime (3)"	CONFIRM				`			
	⇔ Click the button "confirm" to continue					/			
193.	During Z010999MCVT137_IST_SPIRE_FDIR_formal								
	"Upload and enable dummy MTL with SPIRE connection test in subschedule 370"	CONFIRM					1/5		
	⇔ Click the button "Confirm" to continue								
194.	During D102159SCVT218_IST_SPIRE_MTL_PING					120 TCs are expected.			
	"Check the parameters"	PASS							
	⇔ Check that there is 1 SPIRE PING TC every 5 minutes starting within 15' for 10 hours	ОК							
	⇔ Click the button "OK" to confirm								

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Ston	Step   Test-Step-Description   Nominal						
	rest-Step-Description	Nominal	Tolerance	Actual	Remarks	P	N
-No.		Value		Value			- 1
195.	During   D102159SCVT218_IST_SPIRE_MTL_PING   ⇒ Click the button "EndTS!" to continue	ENDTS					
196.	Check that the MTL contains one SCL00500 (TEST CONNECTION) every 5 minutes for 10 hours in subschedule 370	PASS					
197.	During Z010999MCVT137_IST_SPIRE_FDIR_formal  "Check that subschedule 100 (meta-SPIRE) is disabled and 370 (SPIRE TCs) is enabled, then press OK"  ⇒ Perform activity and then click the "OK" button to confirm	Subschedules 100 OFF 370 ON			8/58		
198.	During Z010999MCVT137_IST_SPIRE_FDIR_formal  "Wait for execution of the first command, then press OK"   ⇒ Click the button "OK" to continue	PASS OK					

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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	PN	Ī
199.	During Z010999MCVT137_IST_SPIRE_FDIR_formal  "Put SPIRE Primary in science"   ⇒ Click the button "Confirm" to continue	CONFIRM		- Turius			
200.	During S102999SC V1911 ASDDBGSPIR S1BY20PS "Command SPIRE from REDY to OPS mode in any conditions - select NO to abort TS"	YES			Refer to RD-3 for correct message and expected OOLs.	3	
201.	During  5.102999SCVT911 ASDDBGSPIR STAVEPS  "Bus profile left as SPIRE prime while in OPS mode"   ➡ Click the button "OK" to continue	ок					T

Test location:	Operator	Product-Assurance:	Date:

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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
202.	During Z010999MCVT137_IST_SPIRE_FDIR_formal  " Check that SPIRE is producing science packets"	PASS OK		Value	Check that file in /HPCCS/VARIABLE/RESULTS/ <test_session>/TMDUMP/ /<date-time>VC1.txt is increasing. With TM from APID 1284</date-time></test_session>		
203.	During Z010999MCVT137_IST_SPIRE_FDIR_formal "TEST the SPIRE OPE STOP FDIR?"  ⇒ Click the button "Confirm" to continue	CONFIRM			If SKIP, it continues at step 211.  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.		4,
204.	During Z010999MCVT137_IST_SPIRE_FDIR_formal "TRIGGER OBCP WITH SPIRE SCRIPT"  ⇒ Click the button "Confirm" to continue	CONFIRM					

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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
205.	During Z010999MCVT137_IST_SPIRE_FDIR_formal  "Please filter one TMPKT History for APID 16 and type 5 and one for APID 1280 Type 5"	PASS OK			) p(58		
	During Z010999MCVT137_IST_SPIRE_FDIR_formal  "executing script SPIRE-OBCPTest- ObservationAnomaly.tcl"	ОК					

Test location:	Operator	Product-Assurance:	Date:

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Step -No.	Test-Step-Description	Nominal Value	Te	olerance	Actual Value	Remarks	P	N
207.	During Z010999MCVT137_IST_SPIRE_FDIR_formal				Vuide			
	at the prompt: "Wait until the end of the OBCP TM(5,1) with SPID 40145170 procID 0x116"							
	⇒ Wait for ~5 seconds for the reception of TM(5,2) event report with APID 1280 Event ID 0xC100 and SID 0x5200	PASS				8/58		
	⇒ check that OBCP SPIRE OPE STOP has been triggered - TM(5,1) with APID 16, SPID 40148170 procID 0x1106	ОК						
	→ 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							

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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
208.	100 (meta-SPIRE) are disabled			Value	) Res		
	⇒ Click the "OK" button to confirm						

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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
209.	During Z010999MCVT137_IST_SPIRE_FDIR_formal						
	"End of SPIRE OPE STOP TEST" "check that all EATs are enabled"	PASS					
	⇒ Perform activity through     D102159SCVT192_GET_EAT_REPORT     and click the "OK" button to confirm	ОК			1 (8		
210.	During D102159SCVT192_GET_EAT_REPORT   ⇒ Click the button "EndTS!" to proceed	ENDTS			672		
211.	During Z010999MCVT137_IST_SPIRE_FDIR_formal "Test SPIRE OPE RESUME OBCP?"             Click the button "Confirm" to continue	CONFIRM			If SKIP, it continues at step 221.  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.		

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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks		P	N
212.	During Z010999MCVT137_IST_SPIRE_FDIR_formal			74740				
	"Trigger OBCP with SPIRE script"	CONFIRM						
	⇒ click the button "Confirm" to continue				/	4		il
213.	During Z010999MCVT137_IST_SPIRE_FDIR_formal	PASS				0/68		
	"Please filter one TMPKT History for TM type 5"				<b>\</b>	1/2		
	⇒ Perform activity then click the button "OK" to continue	ОК						
214.	During Z010999MCVT137_IST_SPIRE_FDIR_formal							
	"executing script SPIRE-OBCPTest- ObservationAnomalyCorrected.tcl"	ок						
	⇒ Click the button "OK" to confirm							

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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
	During Z010999MCVT137_IST_SPIRE_FDIR_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	Value	Tolerance	Actual Value	Remarks	P	N
	<ul> <li>         ⇒ TM(5,4) with EvID 0x1004 "SPIRE Operations Resumed" is received     </li> <li>         ⇒ check that TM(5,1) with APID 16, SPID 40145170 procID 0x1107 is received"     </li> <li>         ⇒ Perform activities and then click the "OK" button to confirm     </li> </ul>				·		

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Test location:	Operator	Draduat Assumer	<b>D</b> .
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Step -No.	Test-Step-Description	Nominal Value		Tolerance	Actual	Remarks	P	N
<b>-No.</b> 216.	During Z010999MCVT137_IST_SPIRE_FDIR_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	LCL11 ON			Value	RIS		
	<ul> <li>⇔ check that SPIRE is in PHOTOPS mode</li> <li>⇔ check that Photometer science data are being generated</li> <li>⇔ check that subschedule 370 (SPIRE TCs) is disabled and 100 (meta-SPIRE) is enabled "</li> <li>⇔ Click the "OK" button to confirm</li> </ul>	With TM from APID 128 Subschedules 370 OFF 100 ON	4					

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Step -No.	Test-Step-Description	Nominal Value	Toleranc	e Actual Value	Remarks	P	N
217.	During Z010999MCVT137_IST_SPIRE_FDIR_formal "RECOVERY ACTION"   ⇒ Click Confirm to continue	CONFIRM			1		
218.	During Z010999MCVT137_IST_SPIRE_FDIR_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					

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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
219.	During Z010999MCVT137_IST_SPIRE_FDIR_formal						
	"End of SPIRE OPE RESUME TEST" "check that all EATs are enabled"	PASS					
	⇒ Perform activity through D102159SCVT192_GET_EAT_REPORT then click the "OK" button to confirm	OK				\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	7
220.	During D102159SCVT192_GET_EAT_REPORT	ENDTS			61	>	
221.	⇔ Click the button "EndTS!" to proceed					Д,	Ц
221.	During Z010999MCVT137_IST_SPIRE_FDIR_formal				If SKIP, it continues at step 240.		
	"TEST the SPIRE DRCU OFF OBCP?"	CONFIRM			DB_OBCP_H_SPIRE_DRCU_OFF is the OBCP under test.		
	⇒ Click the button "Confirm" to continue						

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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks		P	N
222.	During Z010999MCVT137_IST_SPIRE_FDIR_formal "TRIGGER OBCP WITH SPIRE SCRIPT"  ⇒ Click the button "confirm" to continue	CONFIRM		74.40				
223.	During Z010999MCVT137_IST_SPIRE_FDIR_formal "Please filter one TMPKT History for APID 16 and type 5 and one for APID 1280 Type 5 subtype 2"	PASS OK				P158		
224.	During Z010999MCVT137_IST_SPIRE_FDIR_formal  "executing script SPIRE-OBCPTest- DRCUAnomaly.tcl"	ОК						

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Step -No.		Nominal Value	Tolerance	Actual Value	Remarks	P	N
225.	During Z010999MCVT137_IST_SPIRE_FDIR_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 APID 1280, 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			Expected: TM(5,4) for o MCU o SCU o DCU  At DRCU OFF, also TM(5,4) with SID 5420.  SVMCOPYTBLFAULT TM(5,1) and many OOLs also expected (TBD)		

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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual	Remarks	P	N
<b>-NO.</b> 226.	During Z010999MCVT137_IST_SPIRE_FDIR_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	LCL51 OFF LCL11 ON 1282 producing NOMHK 1280 producing CRITHK Subschedules		Value	2156		
	⇒ subschedules 370 (SPIRE TCs) and 100 (meta-SPIRE) are disabled"  ⇒ Click the "OK" button to confirm	ок					

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Step -No.	,	Nominal Value	Tolerance	Actual Value	Remarks	P	N
227.	During Z010999MCVT137_IST_SPIRE_FDIR_formal			rando			
	At the prompt: "check that all EATs are enabled except 0xC110 for APIDs 0x0500 and 0x0501"	PASS					
	⇒ Perform activity through D102159SCVT192_GET_EAT_REPORT then click the "OK" button to confirm	OK			(1158		
228.	During D102159SCVT192_GET_EAT_REPORT	ENDTS					

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Step -No.	Test-Step-Description	Nominal Value	Tolera	nce Actual Value	Remarks	P	N
229.	During Z010999MCVT137_IST_SPIRE_FDIR_formal "RECOVERY ACTION"  ⇒ Click the button "confirm" to continue	CONFIRM		Variac			
230.	During Z010999MCVT137_IST_SPIRE_FDIR_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			8/5	8	
231.	During D102159SCVT192_GET_EAT_REPORT   ⇒ click the "EndTS" button to continue	ENDTS					

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Step -No.	Test-Step-Description	Nominal Value	7	Tolerance	Actual Value	Remarks	P	N
232.	During Z010999MCVT137_IST_SPIRE_FDIR_formal "Switching SPIRE OFF"  ⇒ Click the button "OK" to confirm	ОК						
233.	During S102999SCVT019_ASDGENSPIR_PWR_OFF_P "SPIRE switch off for IST activities in any condition"  ⇒ Click the button "YES" to continue	YES				TC SCD06505 to switch off DRCU expected to fail.  See RD-3 for exact message and expected OOLs.	5	8
234.	During S102999SCVT019_ASDGENSPIR_PWR_OFF_P "Set Bus profile back to original settings"  ⇒ Click the button "YES" to continue	YES						

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

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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
238.	During Z010999MCVT137_IST_SPIRE_FDIR_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		Varae			
239.	During Z010999MCVT137_IST_SPIRE_FDIR_formal "End of SPIRE DRCU OFF TEST"  ⇒ click the "OK" button to confirm				85		
240.	During Z010999MCVT137_IST_SPIRE_FDIR_formal "TEST the SPIRE OFF CONTROLLED OBCP?"  ⇒ Click the button "Confirm to continue	CONFIRM			If SKIP, it continues at step 259.  DB_OBCP_H_SPIRE_OFF_CTRL is the OBCP under test.		

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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks P	N
241.	During Z010999MCVT137_IST_SPIRE_FDIR_formal					
	"TRIGGER OB CP "	CONFIRM				
	⇔ Click the button "Confirm" to continue					
242.	During Z010999MCVT137_IST_SPIRE_FDIR_formal  "Please filter one TMPKT History for TM(5,1) and one for TM(5,4)"	PASS OK			{ (S	8
243.	During Z010999MCVT137_IST_SPIRE_FDIR_formal "Please callasync the sequence to trigger SPIRE OFF CONTROLLED"   ⇒ Click the button "OK" to confirm	PASS OK			Callasync SPIRE_OBCPTest_OFFCTRL_trigger And wait for end of NOM and CRIT HK.	

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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	F	7
244.	During Z010999MCVT137_IST_SPIRE_FDIR_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		Variate	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		

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Step -No.	Test-Step-Description	Nominal Value	Toleranc	ŧ	Remarks	P	N
245.	During Z010999MCVT137_IST_SPIRE_FDIR_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 51 and 11 OFF Subschedules 370 OFF 100 OFF		Value	P158		
246.	During Z010999MCVT137_IST_SPIRE_FDIR_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					

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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
247.	During D102159SCVT192_GET_EAT_REPORT  ⇒ click the "EndTS" button to continue	ENDTS			) P158		
248.	During Z010999MCVT137_IST_SPIRE_FDIR_formal "RECOVERY ACTION"  ⇒ Click the button "Confirm" to continue	CONFIRM					

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Step -No.	Test-Step-Description	Nominal Value	7	Tolerance	Actual Value	Remarks		P	N
249.	During Z010999MCVT137_IST_SPIRE_FDIR_formal				Varac				$\exists$
	At the prompt: "check that all EATs are enabled"	PASS					\		
	⇒ Perform activity through     D102159SCVT192_GET_EAT_REPORT     then click the "OK" button to confirm	ОК				/			
250.	During D102159SCVT192_GET_EAT_REPORT  ⇒ click the "EndTS" button to continue	ENDTS					P158		
251.	During Z010999MCVT137_IST_SPIRE_FDIR_formal "Switching SPIRE ON"  ⇒ click "OK" to confirm	ОК							

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

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Step -No.	Test-Step-Description	Nominal Value	T	olerance	Actual Value	Remarks	P	N
254.	During Z010999MCVT137_IST_SPIRE_FDIR_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	100 OFF						
255.	During Z102999SCVT008_ASDGEN_SPIRESTBY2OPS  "Command SPIRE from REDY to OPS mode in any condition — Select NO to abort TS if not correct"  ⇒ Click the "YES" button to confirm	YES				Refer to RD-3 for correct message and expected OOLs.		
256.	During S102999SCVT911_ASDDBGSPIR_STBY2OPS  "Bus profile left as SPIRE PRIME while in OPS mode"	ок						

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Step -No.	, , , , , , , , , , , , , , , , , , , ,	Nominal Value	Tolerance	Actual Value	Remarks	P	N	
257.	During Z010999MCVT137_IST_SPIRE_FDIR_formal  "Check that SPIRE is producing Science packets"  ⇒ Perform the activity and click the button "OK" to continue	PASS OK			Check that file in /HPCCS/VARIABLE/RESULTS/ <test_session>/TMDUMP/ /<date-time>VC1.txt is increasing. With TM from APID 1284</date-time></test_session>			
258.	During Z010999MCVT137_IST_SPIRE_FDIR_formal "End of SPIRE OFF CONTROL TEST"  ⇒ click the "OK" button to confirm	ОК				8	5	Z
259.	During Z010999MCVT137_IST_SPIRE_FDIR_formal "TEST the SPIRE OFF (DLL) OBCP?"   ⇒ Click the button "Confirm" to continue	CONFIRM			If SKIP, it continues at step 284.  DB_OBCP_H_SPIRE_OFF is the OBCP under test.			

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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
260.	During Z010999MCVT137_IST_SPIRE_FDIR_formal "SPIRE OFF DLL FDIR triggering             Click the button "Confirm" to continue	CONFIRM		value			
261.	During Z010999MCVT137_IST_SPIRE_FDIR_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	ок			P 15 8		
262.	During Z010999MCVT137_IST_SPIRE_FDIR_formal  "start the SPIRE (RT 21) simulation on the CDMU SCOE to create jamming"   ⇒ Click the button "OK" to proceed	ок					
263.	On CDMS SCOE  Double-click on the link "StartSCOE.bat" on the desktop to start the CDMU SCOE application.	PASS					

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Step -No.	•	Nominal Value	Tolerance	Actual Value	Remarks	P	N
264.	On CDMS SCOE			1 4747		+	Н
	Select Menu: Mode ⇒ Local Mode Password: H-P	PASS					
265.	On CDMS SCOE					+-	Н
	Select from menu: Setup ⇒ RTSim Configuration	PASS			8		
266.	On CDMS SCOE  Select file: R:\(192.168.90.32)\Herschel.rtc  and then click the button "OK"	PASS					
267.	On CDMS SCOE  Select from menu:  Mode   On Line	PASS					

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

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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	F	P	N
270.	During Z010999MCVT137_IST_SPIRE_FDIR_formal  At the prompt: "Wait until the end of the OBCP -TM(5,1) with SPID 40145170 procID 0x1103"			Varac	Expected: TM(5,1) SDB unhealthy TM(5,2)-0552 SPIRE non vital RT Invalid TM(5,1) subschedule status changed			
	⇔ check that OBCP SPIRE OFF has been triggered - TM(5,1) with SPID 40148170 procID 0x1103,	PASS OK						
	¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬¬				512			
	⇔ Click the "OK" button to confirm							

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Step -No.	Test-Step-Description	Nominal Value	7	Tolerance	Actual Value	Remarks	P	N
271.	During Z010999MCVT137_IST_SPIRE_FDIR_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 51 and 11 OFF Subschedules 370 OFF 100 OFF			Value	8158		
272.	During Z010999MCVT137_IST_SPIRE_FDIR_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						

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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	٨	ī
273.	During D102159SCVT192_GET_EAT_REPORT  ⇒ click the "EndTS" button to continue	ENDTS		varae	016			
274.	During Z010999MCVT137_IST_SPIRE_FDIR_formal "RECOVERY ACTION"   ⇒ Click the button " confirm" to continue							

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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
275.	During Z010999MCVT137_IST_SPIRE_FDIR_formal			Varae			
	At the prompt: "check that all EATs are enabled"	PASS					
	⇒ Perform activity through     D102159SCVT192_GET_EAT_REPORT     then click the "OK" button to confirm	ОК			8158		
276.	During D102159SCVT192_GET_EAT_REPORT  ⇒ click the "EndTS" button to continue	ENDTS					

Test location:	Operator	Product-Assurance:	Date:

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

Issue:

File: HP-2-ASED-TP-

Date: 28/04/2008



# Herschel

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Step -No.	Test-Step-Description	Nominal Value	To	olerance	Actual Value	Remarks	P	N
277.	During Z010999MCVT137_IST_SPIRE_FDIR_formal  "set the CDMS SCOE OFF LINE"  ⇒ Perform the activities of the next step, then click the button "OK"	PASS			vario			
278.	On CDMS SCOE  Select from menu:  Mode   Off Line	PASS				8128		
279.	During Z010999MCVT137_IST_SPIRE_FDIR_formal "Switching SPIRE ON""	ок						

Test location:	Operator	Product-Assurance:	Date:

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

Issue:

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Date: 28/04/2008



# Herschel

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

Test location:	Operator	Product-Assurance:	Date:
			1

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

Issue:

File: HP-2-ASED-TP-

Date: 28/04/2008



# Herschel

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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
282.	During Z010999MCVT137_IST_SPIRE_FDIR_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		Varac	R15-8		
283.	During Z010999MCVT137_IST_SPIRE_FDIR_formal "End of SPIRE FDIR TEST "  ⇒ click the "OK" button to continue	ОК					

Test location:	Operator	Product-Assurance:	Date:
		1	

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

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## Herschel

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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
284.	During Z010999MCVT137_IST_SPIRE_FDIR_formal "RESET the STARTING CONDITION"	CONFIRM		raido	PVS 8		
285.	During Z010999MCVT137_IST_SPIRE_FDIR_formal "Check that all subschedules from 1 to 256 plus the 370 are enabled	Subschedules 1-256 ON 370 ON Others OFF					

Test location:	Operator	Product-Assurance:	Date:		

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

Issue:

File: HP-2-ASED-TP-

Date: 28/04/2008



# Herschel

#### 7.6 **Specific Post-Test Activities**

Step- No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
1.	During Z010999MCVT131_IST_INSTR_FDIR  "Start the instrument specific FDIR sequence"  ⇒ click the "OK" button to proceed	ок		ok		/	
	During Z010999MCVT131_IST_INSTR_FDIR  "End of INSTRUMENTS FDIR Tests. Select OK to switch off"  ⇒ click the "OK" button to proceed	ок			Perform this test step AFTER ALL the relevant FDIR tests have been performed		
3.	During Z010999MCVT131_IST_INSTR_FDIR  "Check that all EATs are enabled""  ⇒ perform activity through D102159SCVT192_GET_EAT_REPORT then click the "OK" button to proceed	PASS OK			PAG DISABLED AS EXPERSED NOT PERPONNED		/

Test location: Operator S. ASUM	Product-Assurance: BM.	Date: 30/4/08	01.26
---------------------------------	------------------------	---------------	-------

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

Issue:

File: HP-2-ASED-TP-

Date: 28/04/2008 0197_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR %20OBCP_iss1_last[1]



# Herschel

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Step- No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	^
4.	During D102159SCVT192_GET_EAT_REPORT   ⇒ Click the button "EndTS!" to proceed	ENDTS		ENDS		/	
5.	During Z010999MCVT131_IST_INSTR_FDIR  "RESET to the original SCBP?"	CONFIRM		CONFILM		/	
6.	During Z010999MCVT131_IST_INSTR_FDIR "POWER OFF HIFI PRIMARY"  ⇒ Click the button "Confirm" to continue	CONFIRM		CONFIR	Refer to RD-3 for correct message and expected OOLs.	/	
7	During Z010999MCVT131_IST_INSTR_FDIR "POWER OFF PACS PRIMARY"  ⇒ Click the button "Confirm" to continue	CONFIRM SKIP			PAS ALREADY OFF PUS 8		

rance: 30/4/08 01-42

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

Issue:

File: HP-2-ASED-TP-

Date: 28/04/2008



# Herschel

Step- No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
	During P102999SCVT906_ASDISTPACS_PWR_OFF_N "FM PACS Swith off in Warm or Cold conditions, FPU connected"  ⇒ click the "Yes" button to proceed				Refer to RD-3 for correct message and expected OOLs		
9.	During P102999SCVT906_ASDISTPACS_PWR_OFF_N "Set Bus Profile back to original setting?"  ⇒ click the "Yes" button to proceed	YES			NA		
10.	During Z010999MCVT131_IST_INSTR_FDIR "POWER OFF SPIRE PRIMARY"  ⇒ Click the button "Confirm" to continue			CONFIR	^		/
11	During S102999SCVT019_ASDGENSPIR_PWR_OFF_P "SPIRE swith off for IST activities in any conditions"			465		<u> </u>	/

ESTEL S.ESSEY 7 40	ssurance: 10GG BH. 3014/08 01-44
--------------------	----------------------------------

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

Issue:

Date: 28/04/2008 File: HP-2-ASED-TP-0197_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR %20OBCP_iss1_last[1]



# Herschel

No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
12.	During S102999SCVT019_ASDGENSPIR_PWR_OFF_P "Set BUS profile back to original setting"  ⇒ click the "Yes" button to proceed	YES		YES			
13.	During Z010999MCVT131_IST_INSTR_FDIR  "Bring the S/C into a SAFE mode and switch OFF"	OK			The IST_END sequence shal be called-up. Therefore, continue with chapter 7.4 of RD4. step 1.		

Те	st location:	Operator S-EssC	Product-Assurance:  3. Hodg	BN.	Date: 30/4/08	01.47
					1 1 1	

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

Issue:

File: HP-2-ASED-TP-

Date: 28/04/2008 0197_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR %20OBCP_iss1_last[1]



## Herschel

#### 7.7 S/C Power OFF

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

- 1					
	Test location:	Operator	Product-Assurance:	Date:	
	Estec	s.Essen		30/4/08	01.47

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

Issue:

File: HP-2-ASED-TP-

28/04/2008 Date:

0197_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR %20OBCP_iss1_last[1]



## 8 Script Hierarchy

#### 8.1 Master script

```
Z010999MCVT131_IST_INSTR_FDIR
A102109SPVT202_ACMS_STATUS_H
D102159SCVT138_IST_LAUNCH_SUNACQ
D102159SCVT137_IST_SUNACQ_NOM
W102584SPVT101_PCDU_TRANSITION_FDIR
Z102999SCVT001_SREM_ON
Z102999SCVT014_ASDGEN_HIFIPWRON_P
Z102999SCVT010_ASDGEN_PACSPWRON_P
Z102999SCVT004_ASDGEN_SPIREPWRON_P
D102159SCVT193_IST_UPLOAD_OBCP
D102159SCVT192_IST_UPLOAD_EAT
D102159SCVT192_GET_EAT_REPORT.tc1
Z010999MCVT004_IST_END
```

#### 8.2 HIFI script

```
Z010999MCVT134_IST_HIFI_FDIR
Z010999MCVT153_IST_STATUS
D102159SCVT214_IST_HIFI_MTL_PING
D102159SCVT192_GET_EAT_REPORT
Z102999SCVT014_ASDGEN_HIFIPWRON_P
D102159SCVT192_GET_EAT_REPORT
```

#### 8.3 PACS script

```
Z010999MCVT135_IST_PACS_FDIR
Z010999MCVT153_IST_STATUS
D102159SCVT215_IST_PACS_MTL_PING
Z102999SCVT019_ASDGEN_PACSNOMSpect
Z102999SCVT019_ASDGEN_PACSNOMSpect
D102159SCVT192_GET_EAT_REPORT
Z102999SCVT019_ASDGEN_PACSNOMSpect
D102159SCVT192_GET_EAT_REPORT
Z102999SCVT011_ASDGEN_PACSPWROFF_P
Z102999SCVT010_ASDGEN_PACSPWRON_P
Z102999SCVT019_ASDGEN_PACSNOMSpect
D102159SCVT192_GET_EAT_REPORT
Z102999SCVT010_ASDGEN_PACSPWRON_P
Z102999SCVT019_ASDGEN_PACSPWRON_P
Z102999SCVT019_ASDGEN_PACSNOMSpect
D102159SCVT192_GET_EAT_REPORT
PACS_Disable_HK_OBS_Shell
D102159SCVT192_GET_EAT_REPORT
Z102999SCVT010_ASDGEN_PACSPWRON_P
```

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Issue:

File: HP-2-ASED-TP-

Date: 29/04/2008

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%20OBCP_iss1_last[1]







#### 8.4 SPIRE script

Z010999MCVT137_IST_SPIRE_FDIR_formal
Z010999MCVT153_IST_STATUS
D102159SCVT218_IST_SPIRE_MTL_PING
Z102999SCVT008_ASDGEN_SPIRESTBY2OPS
D102159SCVT192_GET_EAT_REPORT
D102159SCVT192_GET_EAT_REPORT
Z102999SCVT005_ASDGEN_SPIREPWRON_P
Z102999SCVT004_ASDGEN_SPIRESTBY2OPS
D102159SCVT192_GET_EAT_REPORT
Z102999SCVT004_ASDGEN_SPIRESTBY2OPS
D102159SCVT192_GET_EAT_REPORT
Z102999SCVT004_ASDGEN_SPIRESTBY2OPS
D102159SCVT192_GET_EAT_REPORT
D102159SCVT192_GET_EAT_REPORT



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Issue:

File: HP-2-ASED-TP-

Date: 29/04/2008 0197_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR

%20OBCP_iss1_last[1]



#### 9 **Summary Sheets**

#### **Procedure Variation Summary** 9.1

			Гest Change	Curr. No.: $\Lambda$ Date 29/0	
	Test designation In Stru FDIR O	ment BCP IST	Test Procedure HP-2-ASED-TP-0197	Issue	Rev.
	Test step changed		Reason for Change Brocedure Corr	ections for	next issue
			12 page Intentio		
4	2) Section 2. 2	L', RD3	should be	1550e 1.2	` 8
J.	3) section 4.2, 0	it step 8	add: and c	clock "oh"	
Ú	41 Section 7.2, 5	itepg t	he script numb	er is incorr	-ecb.
_		i's	obg show	dbe; 13.	8
	5) section 7.2, s	step w a	t Remarks add	that AFO	isto be
	7.6		observed out CD	MS.	
V	6 section 7.2 s		cript ref incorr		
		í	S Odg. Sunc	ica- nominal	
Ü	H cotions	5	hould be		
	A section 7.2 s		step to be deleb		
7)	of section 22 s	step io	add: "on AND		
V	g section 7.2 s	step ig	add: "and click dir incorrect."	i Oh	
7	ios section 7.2 S		is: /home/heraci	ns/plotter/	
			should be : I home	/heracons/pla	itting/
7	11/ section 7.2 st	enso r	-omarly is incom	solete: after	pressing
-	J - ' ' '	į.	ENDLIS the transi	ron to SCM pul	-frdy" is performed
1	Prepared by: Ll-Klenke	1	est Leader	Project Engineer	
	PAGA COSSENS	Prime		Customer	

Table 9.1-1: Procedure Variation Sheet

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

Issue: 1

Date: 28/04/2008

File: HP-2-ASED-TP-0197_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR



#### 9.1 Procedure Variation Summary

	Test Change		Curr. No.: 1 Date 29/0 Page 1	4/2008
Test designation In Stru FDIR O	ment BCP IST	Test Procedure HP-2-ASED-TP-0197	Issue	Rev.
Test step changed		Reason for Change Procedure correct	tiols for next	issue.
		message between actual script mappinbout. also scr	" " in corr essage: see optname to	ect: a Hached be changed.
13) section 7.2 "Warning:	after step at this	20 a new step to stage the HII	e beintrodu =1 externa	iced:
"Warning: at this stage the HIFI external  cooler shall be switched on. Do not continue before this is confirmed." If confirmed then  continue!  My section 7.2 step2 script name incorrect. Should be  same as for corrected step24.  15) Section 7.2 step34 message between "incorrect"  actual script message: see attached  printout.  16) Section 7.2 step 36 "SET RX2" instead of "8ET RX"				
Prepared by:	Resp. 1	est Leader	Project Engineer	
K. Coossens	Prime		Customer	

Table 9.1-1: Procedure Variation Sheet

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

Issue: 1

Date: 28/04/2008

File: HP-2-ASED-TP-

0197_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR



## 9.1 Procedure Variation Summary

		Test Change		Curr. No.:  c		
				Date 29/0	4/2008	
				Page 1	of	
	Test designation In Stru	ment	Test Procedure	Issue	Rev.	
	FDIRO	BCP IST	HP-2-ASED-TP-0197	1		
	Test step changed		Reason for Change			
			PROXEQUEE COPPE	LTZONS FOR	NEVI ISUE	
	17) SECTION 7.3, STEP 44, SPR SOI. DELETE THIS STEP					
		AS SCRIPT ALREADY RIN ON HIFT PUR ON.				
,						
	18) Section 7.3 Step 80, SPR 502 DELETE THE STEP					
	AS SCRIPT ALPROPHY RON WILL					
				APTER SW	2011B277	
	OFE HIFT					
	19) SECTION 7.3	STEP	B. INSERT NEW "IF THERE HE OF HITTI. SW:	STEP.		
	/		"IF THERE H	AS BEEN A HH	ard riset	
			OF HITT. SW:	ITCH OFF TO	HE COOCING"	
	20) SECTION 7.4 STEP 116: INFO ONEM (NO BUTTON TO CUTCH)  181  21) SECTION 7.4 STEP 158: ADD STED					
	21) 561100 7	4 STEP IS	58 : ADD 5760			
			"CALLING SUR	207 PACS_0351	ABIE HE OSS SPECI	
310608	21) Section 7. 4 Step 161, should be the same					
	Prepared by:	Resp. T	est Leader	Project Engineer		
	PAQA S.Hoose All	Prime		Customer		

Table 9.1-1: Procedure Variation Sheet

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

Issue: 1

Date: 28/04/2008

File: HP-2-ASED-TP-

0197_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR

Change in proc_197 seek 7.2 Step 27.

Change in proc - 197 sect. 7.2 step 27

ot correct"

waittime 00.00.01.0000
if { \$user_gen == 4 } {

exit

infom "The Test Sequence is aborted...!!!"

```
Apr 29, 08 19:48 S102999SCVT017_ASDGENSPIR_PWR_ON_P.tcl Page 1/1
# File: $Id: S102999SCVT017_ASDGENSPIR_PWR_ON_P.tcl,v 1.7 2008/04/20 09:59:09 he
rplm Exp $
# Description:
         Power ON SPIRE A and enable MIL1553 I/F for IST DEBUG
# Last edited by: $Author: herplm $ on $Date: 2008/04/20 09:59:09 $.
# automatically set the revision. do not edit this
setrevision {$id: S102999SCVT017_ASDGENSPIR_PWR_ON_P.tcl,v 1.7 2008/04/20 09:59:
09 herplm Exp $}
# start of test sequence
# SPIRE Power ON
# Initial Conditions SPIRE OFF
# Author: S. Hamer, Terma AS
# Enable logging to screen
setup_win
logm "Power ON SPIRE Prime and enable MIL1553 I/F"
#initialise TM/TC logging function
EGSE_init
yesorno "SPIRE Switch ON for IST activities in any conditions – Select NO to abort TS if not correct"
waittime 00.00.01.0000
if { $user_gen == 4 } {
      infom "The Test Sequence is aborted...!!!"
      exit
# Verify initial conditions (SPIRE LCLs should be OFF)
```



## 9.1 Procedure Variation Summary

		Т	est Change	Curr. No.: <b>2</b> Date 29/04/2008		
				Page 1	of	
Test de	signation In Stru	ment	Test Procedure	Issue	Rev.	
	FDIRO	BCP IST	HP-2-ASED-TP-0197	1	-	
Test ste	ep changed		Reason for Change Open work from	m TRR M	IN-10397	
1 Prior	to switch	ing the b	+IFI from STND downlink rat	By Into Do	ien ce	
ino	reased fro		Wops to 1.5			
1.	p 56:	11,00		1	,	
			to science sen			
DC	277170	to chan	ge the downlin	e data re	re	
(a.	m. alove).	t: Ztos	7795CV TOZOAS	DCKW-HIFTS	18-12-2 COS	P,
3) af	ter step 8:	3:		(2)	ed by HVSS,	
Sen	d command	DC22F	170 to change t	he data	rate	
bac	k to 150	Kbps				
		•				
Prepared	d bv:	Reen To	est Leader	Project Engineer		
	Clinke	тер. п	2 Coduci	Project Engineer		
PAVQA	0 000sens	Prime		Customer		
		T.I. 0.4.4				

Table 9.1-1: Procedure Variation Sheet

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

Issue: 1

Date: 28/04/2008

File: HP-2-ASED-TP-

0197_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR



#### 9.1 **Procedure Variation Summary**

	7	est Change	Curr. No.: 3  Date 29/04/2008  Page 1 of
Test designation In Strum FDIR OF		Test Procedure HP-2-ASED-TP-0197	Issue Rev.
Test step changed  See below	٠,	Reason for Change Missing date	ail from Produce
1) Step 56: Who sequence exa ASDGEN_HIT	en promp ecute tes ISTBYA_	kd to call so It script Z1029 20PS_P	ail form freedure cionce mode 1995CVT020_
·			
Prepared by: U. Klenke	Resp. T	est Leader	Project Engineer
PAIQA SHORE ADI	Prime		Customer

Table 9.1-1: Procedure Variation Sheet

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

Issue: 1

Date: 28/04/2008

File: HP-2-ASED-TP-0197_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR



#### **Procedure Variation Summary** 9.1

	7	est Change	Curr. No.:	4
			Date 2	3/04/2008
			Page 1	of
Test designation In Stru	ment	Test Procedure	Issue	Rev.
FDIRO	BCP IST	HP-2-ASED-TP-0197	1	-diagram.
Test step changed		Reason for Change		
See belu	2	Missing deta	ail to	in Hocadure
1 7		it conductor co		1
connect H	HIFIEGS	E and verify Y	ZS279	40 = connected v
- Start test son	ript ALL.	-Subscribe Param IST_ASED_Patch	s.tcl V Pt.v.Che	cksum. tclV
and HIFIST	ASED-	Patch TempLimits	tclv	
# of Dection to	2	. c 3 tel 26		
1 0 c do 6	of nection	+.6:		
stop test script	: ALL-Su	bscribe farams. 4	.CL QV	dis
disconnect	HHIFIEG	is E and Verify 4	25279	40 = connected
3) ofter step 27	of nection	7.2: when prom	yphed to	perform
sead back	check 90	to EGSE 1000	n ana	run the
Command :	verifured	id back in 30 BS (D)	an	d venfy
PASS is retu	rned by-	execution of	wmma	nd.
·				
Prepared by: U. Klenke	Resp. T	est Leader	Project Engine	er
PAIQA BY	Prime		Customer	

Table 9.1-1: Procedure Variation Sheet

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

Issue: 1

Date: 28/04/2008

File: HP-2-ASED-TP-0197_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR



#### 9.1 Procedure Variation Summary

	T	est Change	Curr. No.: 5	
			Date 29/0	4/2008
			Page 1	of 1
Test designation In Struk	nent	Test Procedure	Issue	Rev.
FDIR OT	3CP IST	HP-2-ASED-TP-0197	1	-
Test step changed		Reason for Change Inve	shi sate !	JCE-4181
after step 32		Recover from To	1 problems	July 1
	back t	o PtCS Prim	e and s	rend
therefore =			00 0	£1.
-DC819160	set pa	es(4) as active	x-ccs pio	PLE
-DC819160		1F1(2) as achie		
-DC819160	set b	us profile to 5	5 (Sun a	cq.)
		¥		
Prepared by: 4. Klenke	Resp. T	est Leader	Project Engineer	
R. GOOSSERS	Prime		Customer	

Table 9.1-1: Procedure Variation Sheet

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

Issue: 1

Date: 28/04/2008

File: HP-2-ASED-TP-

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#### 9.1 Procedure Variation Summary

		est Change	1	Curr. No.: 6	
			Date 2	19/04/2008	
			Page /	1 of	
Test designation In Stru	ment	Test Procedure	Issue	Rev.	
FDIRO	BCP IST	HP-2-ASED-TP-0197	1	****	
Test step changed		Reason for Change			
50 SCRIPT BROR SPR-5'02					
1) DUE TO INCORPECT CALL OF MTL PINCE (CALL CONTAINED ". tci') (SPR 502 PASSED)					
CALL DI	102159 SCV	1214_151_1		as other 1 see 1 - and	
CALL DIOZISASCUTIAL TST_HIFT_MTC_PING  FROM CONDUCTOR CONSOLE.  THEN RESUME 2010999MCVT134_IST_HIFT_FDI  2) AS ABOVE, AT STEP 73 + 81  CALL DIOZISASCUTIAL GET_EAT_REPORT				5T-AIFI_FDIR	
Prepared by: S-ELSIEY	Resp. T	est Leader	Project Engi	neer	
PAVQA S. HOCE B	Prime	Service Control of the Control of th	Customer		
Table 9.1-1: Procedure Variation Shoot					

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

Issue: 1

Date: 28/04/2008

File: HP-2-ASED-TP-

0197_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR



#### 9.1 **Procedure Variation Summary**

Test step changed  AFTER 82	ment BCP 15T	Test Procedure HP-2-ASED-TP-0197 Reason for Change	Curr. No.: "Date 25/ Page 1 Issue	04/2008
FDIR 01 Test step changed  AFTER 85	SCP IST	HP-2-ASED-TP-0197	Issue	
AFTER 8		Reason for Change		
1) TERMANATE	SCRIPT LL — Subscr	t (ALRGADY From Pro ribelazions tal	functions action	îty
2) Bus ( STATUS PREVLO	Profiné CHEZ NOS act	EXPEDIED TO K. (SET Wity (AC)	6 FAZ DU 70 HISI Fro S - SD - 03	nav N 20)
Prepared by:	Resp. To	est Leader	Project Engineer	
B.HOGG	Prime		Customer	
	2) Bus STATUS PREVIO	2) Bus Profite  STATUS CHER  PREVIOUS act  Prepared by:  SELSLEY  PAVOR B. HOGGE  Prime	2) Bus Profrie Exploses To STATUS CHECK. (SET PREVIOUS activity (AC)	STATUS CHECK (SET TO HIST) Fre  PREVIOUS activity (ACS - SD - 03)  Prepared by:  Resp. Test Leader   Decise Freience

Table 9.1-1: Procedure Variation Sheet

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

Issue: 1

Date: 28/04/2008

File: HP-2-ASED-TP-0197_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR



#### 9.1 Procedure Variation Summary

	Test Change		Curr. No.: $\Im$ Date 29/0 Page 1	
Test designation In Stru	_	Test Procedure	Issue	Rev.
Test step changed Social		Reason for Change	PACS FD	ie complete
		avoid sus	t skie it chins	instead on
Continue Skip sec	so at sta	to 12th rep		P.
Prepared by:  S-GS-GS-GS-GS-GS-GS-GS-GS-GS-GS-GS-GS-GS	Resp. T	rest Leader	Project Engineer  Customer	
Blogg 5	Prime		Customer	

Table 9.1-1: Procedure Variation Sheet

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

Issue: 1

Date: 28/04/2008

File: HP-2-ASED-TP-

0197_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR



#### 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	РА
NONSFR	NONSER - Title	Date	Open Closed	sig.
44			0.0004	oig.
SPR SOI	HIFT EGSE RELATED STEPS TO BE REMOVED FROM SELECT. SCAPE	29/04/0	1Mlun	BX
કાર કાર			IM/LEMENTE	BJU
SPR Soz	INCORPECT INFO PROMT IN PACS FI) IR	29/04/08	IMP	政
NCR			a ²	TM
4175				10)
NCR 4177				BM
NUR				Dry.
4179				399
NCR 4181.				FDI.
NCK 4250	during diFI_RESET_OBCP	27/04/07 102/06/08	•	
				1
				.40.40.40

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

Issue: 1

Date: 28/04/2008



#### **Procedure**

Herschel

NCR/SPR	NCR/SPR - Title	Date	Open Closed	PA sig.
				Mintri drije orazi na menazana sanana ma

Table 9.2-1: Non-Conformance Record Sheet

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

Issue: 1

Date: 28/04/2008



#### **Procedure**

Herschel

#### Sign-off Sheet 9.3

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

	Date	Signature
Test Director	27/05/08	SUL
Test Conductor	27105/08	Man
PA Responsible	27/05/68	SHA
	, ,	

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

Date: 28/04/2008



## Herschel



#### 10 **Session Record**

Test Description	1571 INST FRIR OBCR	
Session ID	2008-04-28-21-05-hapadonin hauszz- REALTIME_INSCFORE	
Start Time:	21.05 476	
End Time		
CVS Tag for Test	15T1_PART_1_TP_0197_1-1_END_001	
Applicable IST Specification	Iss 5 radlined	
Test conductor	S. HAMER	
QA Approval	R.Goossens	

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

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

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#### Procedure

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END OF DOCUMENT

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

Issue: 1

Date: 28/04/2008



#### **Procedure**

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#### **Distribution List**

	Name	Dep./Comp.		Name	Dep./Comp.
	Alberti von Mathias Dr.	ASG23	STATE OF THE PARTY	Reichle Konrad	ASA42
	Baldock Richard	FAE12	Х	Runge Axel	OTN/ASA44
	Barlage Bernhard	AED13	113>	Sauer Maximilian Dr.	AED65
	Bayer Thomas	ASA42		Schink Dietmar	AED32
	Brune Holger	ASA45		Schmidt Thomas	AED15
	Edelhoff Dirk	AED2		Schweickert Gunn	ASG23
***********	Fehringer Alexander	ASG13	Х	Sonn Nico	ASG51
Х	Fricke Wolfgang Dr.	AED 65		Steininger Eric	AED32
	Geiger Hermann	ASA42	X	Stritter Rene	AED11
	Grasl Andreas	OTN/ASA44		Suess Rudi	OTN/ASA44
	Grasshoff Brigitte	AET12		Theunissen Martijn	DSSA
X	Hamer Simon	Terma	X	Vascotto Riccardo	HE Space
	Hanka, Erhard	FI552		Wagner Klaus	ASG23
	Hendrikse Jeffrey	HE Space		Wietbrock Walter	ASG23
X	Hendry David	Terma		Wöhler Hans	
	Hengstler Reinhold	ASA42			ASG23
*****	Hinger Jürgen	ASG23		Wössner Ulrich	ASE252
Х	Hohn Rüdiger	ASG25 AED65		Zumstein Armin	ASQ42
	Hölzle Edgar Dr.	AED03			
X	Hopfgarten Michael				
	Huber Johann	AED32			
	Hund Walter	ASA42			
Х		ASE252		Alcatel Alenia Space Cannes	AAS-F
	Idler Siegmund	AED312		Alcatel Alenia Space Torino	AAS-I
	Ivády von András  Jahn Gerd Dr.	FAE12		ESA/ESTEC	ESA
		ASG23			
	Kalde Clemens	ASM2		Instruments:	
	Kettner Bernhard	AET42	X	MPE (PACS)	MPE
X	Klenke Uwe	ASG72	X	RAL (SPIRE)	RAL
	Knoblauch August	AET32	X	SRON (HIFI)	SRON
X	Koelle Markus	ASA43			
X	Koppe Axel	AED312			
	Kroeker Jürgen	AED65		Subcontractors:	
Х	La Gioia Valentina	Terma		Alcatel Alenia Space Antwerp	ABSP
	Lang Jürgen	ASE252		Austrian Aerospace	AAE
	Langenstein Rolf	AED15		Austrian Aerospace	AAEM
	Langfermann Michael	ASA41		BOC Edwards	BOCE
	Martin Olivier	ASA43		Dutch Space Solar Arrays	DSSA
	Maukisch Jan	ASA43		EADS Astrium Sub-Subsyst. &	ASSE
Х	Much Christoph	ASA43		EADS CASA Espacio	CASA
	Müller Jörg	ASA42		EADS CASA Espacio	ECAS
Х	Müller Martin	ASA43		European Test Services	ETS
	Pietroboni Karin	AED65		Patria New Technologies Oy	PANT
	Platzer Wilhelm	AED2	w4	SENER Ingenieria SA	SEN

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

Issue: 1

Date: 28/04/2008

File: HP-2-ASED-TP-0197_Herschel%20IST%20Test%20Case%20Test%20of%20Instrument%20FDIR



## Attachment 3 to Section 6.7:

# As-Run Procedure HP-2-ASED-TP-0134 for SPIRE FDIR OBCP

Doc. No: HP-2-ASED-TR-0257

Issue:

Date: 5th June 2008

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## Herschel

AS RUN FOR FORMA

21/05/08

Title:

Leading Procedure for Herschel Integrated Satellite Test

2008_05_21_04_38_heracus_hpws22_

CI-No:

Prepared by:	Functional Team	Date:	
Checked by:	C. Much	1 25/4/2008	
Product Assurance:	J. Hall MAM	25/4/2008.	
Configuration Control:	W. Wietbrock	-14/2005.	
TASF Engineering	G. Beaufils P.o. Lodu	25 APR 08	
TASF Test Director	S. Mooney	25/4/2008	
Project Management:	Dr. W. Fricke Agreed his por	HAMBATTOLY SIGNATURE	7.
Project Management	Denis Montet	28/4/08	Moylor

Distribution:

See Distribution List (last page)

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4.0

Date: 24.04.2008

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File: HP-2-ASED-TP-0134_Herschel_IST_Leading_Procedure__iss_4_0_24-04-08

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#### Change Record:

Issue	Date	Sheet	Description of Change	Release	
1	11.01.2008		Initial version	1	
1.1	04.02.2008		- see change bar		
1.2	27.02.2008		Update IST START step description according to AS RUN procedures, Add Operator note in Annex D, Add IST_GUI pictures, Update Hierarchy Script		
2.0	11.03.2008		5.4.3.1 Add CCS Light in EGSE Hardware Configuration 7.1.2 change all RFDN SM values from BBBB to ABBB (See procedure variations) 7.1.2 change value of "Bat.SCOE in table for launch clean run 7.1.2 change value of "TTR in SM" in table for "FDIR" and "Nom mode Robustness" 7.1.2 Correct SSMM configuration for ACMS commissioning 7.1.3 Step 1 add script name 7.1.3 Step 2 describe how to open window 7.1.3 Step 4 additional remark N/A for "Launch Clean Run" 7.1.3 Step 5 additional remark N/A for "Launch Clean Run" 7.1.3 Step 7 additional remark N/A for "Launch Clean Run" 7.1.3 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		



# Herschel Integrated Satellite Test Procedure

## Herschel

			7.3 step 2 add "RWL ON" condition	1
			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	
í			for Nominal Mode Robstness (minor changes),	
l			4.3.1 & 4.3.2 to include SCOE Sk01J04 and to correct hcu	
1			connector ident Typo's	
			7.2.1 Insert IST Start overview test flow diagram	
I	1		7.2.2 update table 5.8.12 Nom Mode Robustness table to be i.a.w.	
			the IST Specification	
1	4	24.04.08	Undete IST START	
ŀ		21.04.00	Update IST START procedure according to the AS RUN procedure for minor updates,	
			ioi minor apaates,	
			Include step 21 in Section 7.2.4 start = COLLL St. 4	
			Include step 21 in Section 7.2.4 - start a CCU log file to monitor temperature TLM's	
			Compositione (Livi S	
l				
•				
	-			

Doc. No:

HP-2-ASED-TP-0134

Issue:

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#### 1 Scope

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

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

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

Doc. No:

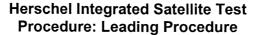
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#### Herschel



#### 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.

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#### 1.2 Flow

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

#### IST₁

#### Warm case

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

#### ➢ He I

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

#### ➢ He II

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

#### IST 2

All tests will be performed in He II

Tests may be run in any order

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#### 2 Documents

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## Herschel

#### 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

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#### 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. 6603	Packet Store Usage on H/P	PT-CMOC-OPS-TN-	
RD 2.2.1.g.	Software user's Manual	P-HPL-NOT-0029-SE	
RD 2.2.1.h.	CDMU ASW Requirement Specification	H-P-SP-AI-0031	
RD 2.2.1.J.	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	

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#### 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	

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#### 3 Requirements to be verified

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

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## Herschel

## 4 Configuration

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#### 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	11		
	CDMU SCOE	1		
	ACMS SCOE	11		
	TT&C SCOE	1		
	POWER SCOE	1		
	CCU SCOE			
IGSE	HIFI IGSE	1		
	PACS IGSE	1		
	SPIRE IGSE	1		
PCS	PCDU	1+1		
	Battery	1	1	Battery Simulation for other tests
		Installed. Only		
		connected for Launch		
		clean run		
	Solar Array	30 nom sections	1	Power SCOE
		not required for IST		
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)		

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

Table 1: Satellite configuration required for IST

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## Herschel

#### 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:	

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issue:

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#### Herschel

#### 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

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Issue: 4.0

Date:

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#### 4.3.1 SCOE cable connection for "RMS"

	SCOE CAE	BLES CONNECT	TION to HERSCH	HEL 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		PCOU 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, 15	53 & 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	AGMS SCOE Cable Plugged	

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### Herschel

SKIN-02 SKIN-02 SKIN-02 SKIN-02 SKIN-02	RCS Press/Tank Temp/PT Pwr  Thruster Temp M/LV1 Sts  CDMU and ACC EEPROM reprogramming input  CDMU and ACC EEPROM reprogramming input	J07 J08 J09	ACC/PT&TH  ACC/RCS	ACMS SCOE Cable Plugged ACMS SCOE Cable Plugged	
SKIN-02 SKIN-02 SKIN-02	Thruster Temp M/LV1 Sts CDMU and ACC EEPROM reprogramming input CDMU and ACC EEPROM	J08		ACMS SCOE	
SKIN-02 SKIN-02 SKIN-02	CDMU and ACC EEPROM reprogramming input CDMU and ACC EEPROM		ACC/RCS		
SKIN-02 SKIN-02	CDMU and ACC EEPROM reprogramming input CDMU and ACC EEPROM		7100/1100	vania Linggeo	
SKIN-02 SKIN-02	reprogramming input CDMU and ACC EEPROM	J09	1		
SKIN-02	CDMU and ACC EEPROM		ACC/CDMU		Flight Cap
SKIN-02	17 100001	1	//CO/ODINO	<del> </del>	SK02P09 Plugged
		J10	ACC/CDMU		Flight Cap SK02P10 Plugged
				ACMS SCOE	ONUZE TO ETDINGUE
SKIN-02	Thruster Temp R/LV2 Sts	J11	ACC/RCS	Cable Plugged	
SKIN-02				ACMS SCOE	
01411-02	Thruster C/B Heaters M	J12	ACC/CBH	Cable Plugged	
			7,00,00,,	ACMS SCOE	-
SKIN-02	Thruster C/B Heaters R	J13	ACC/CBH	Cable Plugged	
			7.00.0011	Guore i loggoo	ACMO Flight Con
SKIN-02	Str1/2 On/Off Cmd M/Str1 Sts	J14	ACC/STR-1		ACMS Flight Cap SK02P14 Plugged
					ACMS Flight Cap
SKIN-02	Str1/2 On/Off Cmd R/Str2 Sts	J15	ACC/STR-2		SK02P15 Plugged
			7,100,011,12		ACMS Flight Cap
SKIN-02	Gyro A On/Off Cmd	J16	ACC/GYRO-E1		SK02P16 Plugged
			THOUSE THE ET		
SKIN-02	Gyro B On/Off Cmd	J17	ACC/GYRO-E2		ACMS Flight Cap
SKIN-03	TTC Panel		7.00/01110-22		SK02P17 Plugged
	Connector Function	Skin Connector	S/C unit	SCOE CABLE	Flight Connector
SKIN-03	Test point TC + protection	) III	- Count	GCOL CABLE	T
- 1	jumper EPC1	SK03J01	XPND1/EPC1		Plastic cap
SKIN-03	Test point TC + protection		74 NO IZET OT		(See note1) Plastic can
	jumper EPC2	SK03J02	XPND2/EPC2		
	RF LINK		7.1.1102/21 02		(See note1)
	Connector Function	Skin Connector	S/C unit	SCOE CABLE	Flight Connector
Γ	W 2 h 2 h 2 h 2 h 2 h 2 h 2 h 2 h 2 h 2		J.O. GIII.	RF SCOE	LGA1 Anechoic
	RF link for antenna LGA1	N/A	LGA1	LGA1 Plugged	Cap
Γ				RF SCOE	LGA2 Anechoic
	RF link for antenna LGA2	N/A	LGA2	LGA2 Plugged	Gap
Γ			23/12	RF SCOE	
1	RF link for antenna MGA	N/A	MGA	MGA Plugged	MGA Anechoic Cap
	ACMS Panel (RWE)		I IIIO/1	MOA Flugged	
	Connector Function	Skin Connector	S/C unit	SCOE CARLE	Flighton
SKIN-04		James Commodel	O/O dint	SCOE CABLE	Flight Connector
	RWL1 Sgn	J01	ACC/RWL-1		ACMS Flight Cap
SKIN-04	•	001	AOO/AVVL-1		SK04P01 Plugged
	RWL2 Sgn	J02	ACC/DWL 2		ACMS Flight Cap
SKIN-04		002	ACC/RWL-2		SK04P02 Plugged
1	RWL3 Sgn	J03	ACC/RWL-3		ACMS Flight Cap SK04P03 Plugged

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SKIN-04	DWI 4 Con	J04	A COURNAL A		ACMS Flight Cap
SKIN-05	RWL4 Sgn GYR/QRS Panel	304	ACC/RWL-4		SK04P04 Plugged
011111	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				ACMS SCOE	
	GYRO RS422 / Test	J03	GYRO	Cable Plugged	
SKIN-05				ACMS SCOE	
	CRS 1/2 Stimuli	J04	CRS-1,2	Cable Plugged	
SKIN-05				ACMS SCOE	
	AAD Sgn M	J05	AAD/ACC	Cable Plugged	
SKIN-05				ACMS SCOE	
	SAS1/2 Sgn M	J06	SAS/ACC	Cable Plugged	
SKIN-05				ACMS SCOE	
	SAS1/2 Sgn R	J07	SAS/ACC	Cable Plugged	
SKIN-05				ACMS SCOE	
	AAD Sgn R	J08	AAD/ACC	Cable Plugged	
SKIN-06	STR Panel				
	Connector Function	Skin Connector	S/C unit	SCOE CABLE	Flight Connector
				ACMS SCOE	
SKIN-06	STR1 Stimuli	J01	STR1	Cable Plugged	
				ACMS SCOE	
SKIN-06	STR2 Stimuli	J02	STR2	Cable Plugged	
	UMBILICAL				
	Connector Function	Connector	S/C unit	SCOE CABLE	
				SCOEs cable	
	Power/Data	HU1 J01	SYSTEM	Plugged	
				SCOEs cable	
	Power/Data	HU2 J01	SYSTEM	Plugged	

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# Herschel

3.,3000	DE harness	octup ioi	AUO/FR/ 18	- INO.;					
Annex N	0.:								
315 100	on top of	on top of							
	Connector Function	Connector	S/C unit	SCOE	CryoSCOE connected	CCU Fligh			
	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		×			
16 100	on top of								
	Connector Function	Connector	S/C unit	SCOE	CryoSCOE connected	CCU Flight connected			
	Valve Sensor	316100-J01	VS501, VS504			Х			
	Valve Sensor	316100-J02	VS503, VS505			Х			
1 100	on top of			- Cope III o	1200 W.C. (1000 M.C.)				
	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			

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	Connector Function	Skin Connector	S/C unit	SCOE	SCOE Cable connected	Flight Cap connected	
321 300	on top of						
		321200-J04 321200-J05	T312, 1314, T316, T905, T909, T931, T933, T935	Cryo SCOE J09 Cryo SCOE J04		X	
		321200-J03	T321, T323, T501, T505, T651, T901, T903, T907, T911	Cryo SCOE J09		х	
		321200-J02	T102, T105, T106, T111, PR_P701, T421, T442, T461, H101	Cryo SCOE J04		Х	
		321200-J01	T202, T212, T221, T223, T227, T228, T232, T234, T236, T242, T244, T246, T250, T254, T258, T424, T464	Cryo SCOE J08		х	
	Connector Function	Connector	S/C unit	SCOE	CryoSCOE connected	CCU Flight connected	
321 200	on top of	021100000		001		no nigrit	
		321100-J08	T502	Cryo SCOE J01		no flight	
		321100-J07	H501	Cryo SCOE J06		no flight	
		321100-J06	H104, H702, L101, VT104, VT106, VT702, VH104, VH106, VH702, VS104, VS702	Cryo SCOE J03		no flight	
		321100-J05	H103, H701, L102, VT102, VT103, VT105, VT701, VH102, VH103, VH105, VH701, VS102, VS105, VS701	Cryo SCOE J11		no flight	

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		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	E SUCCESSION	For Carried to Appropriate	residence from the control of the		
	Connector Function	Skin Connector	S/C unit	SCOE	SCOE Cable connected	Flight Gap connected
				Cryo SCOE J18		X
to be approved & released before start of ACS/PR/TP by Floor- Manager		Date:		Sign:		

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#### Herschel

SAFE	/ ARM plug	setup tor A	ACS/PR/I	P No.:				
Anne	x 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	х				
release	oproved & d before start of R/TP by Floor-	Date:		Sign:				

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Issue:

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Date: 24.04.2008

### FOR SPIRE FDIR USCP 21105108



#### Herschel Integrated Satellite Test **Procedure: Leading Procedure**

#### Herschel

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"

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 $oldsymbol{ u}$	/
	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	16
	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 <b>V</b>	/
	SA Red Power	SK01AJ06	PCDU	POWER SCOE $ ho$	
((1))	SA Red Power	SK01AJ07	PCDU	POWER SCOE Cable Plugged	
KIN-02	PWR Panel (ACC, CDMU, RCS, 1	III NAMEDO PER PROPERTO AND TANKS TO A SECOND	To a second	**************************************	
	Connector Function	Skin Connector	S/C unit		Flight Connector
SKIN-02	DMS 1553 Bus_A	J01	CDMU	Bus Monitor Cable Plugged $oldsymbol{Y}$	
SKIN-02	DMS 1553 Bus_B	J02	CDMU	Bus Monitor $\bigvee$	
SKIN-02	ACMS 1553 Bus_A	J03	ACC	ACMS SCOE  Cable Plugged	
SKIN-02	ACMS 1553 Bus_B	J04	ACC	ACMS SCOE V Cable Plugged	
KIN-02	LV1/FCV 20N CMD S/A M	J05	ACC/RCS	ACMS SCOE V	7

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#### Herschel

				Cable Plugged	
				ACMS SCOE	1
SKIN-02	LV2/FCV 20N CMD S/A R	J06	ACC/RCS	Cable Plugged	V
				ACMS SCOE	
SKIN-02	RCS Press/Tank Temp/PT Pwr	J07	ACC/PT&TH	Cable Plugged	Υ, Ι
				ACMS SCOE \	
SKIN-02	Thruster Temp M/LV1 Sts	J08	ACC/RCS	Cable Plugged	1
	CDMU and ACC EEPROM			****	Flight Cap
SKIN-02	reprogramming input	J09	ACC/CDMU		SK02P09 Plugged
	CDMU and ACC EEPROM				Flight Cap
SKIN-02	reprogramming input	J10	ACC/CDMU		SK02P10 Plugged
				ACMS SCOE .	1
SKIN-02	Thruster Temp R/LV2 Sts	J11	ACC/RCS	Cable Plugged	V. 1
				ACMS SCOE 1	
SKIN-02	Thruster C/B Heaters M	J12	ACC/CBH	Cable Plugged	ľ/ I
				ACMS SCOE \	
SKIN-02	Thruster C/B Heaters R	J13	ACC/CBH	Cable Plugged	
					ACMS Flight Cap
SKIN-02	Str1/2 On/Off Cmd M/Str1 Sts	J14	ACC/STR-1		SK02P14 Plugged
<b>3</b> 7					ACMS Flight Cap
SKIN-02	Str1/2 On/Off Cmd R/Str2 Sts	J15	ACC/STR-2		Sk02P15 Plugged
01111102	CONTROL CONTRO	0.10	7.00/07/12		AGMS Flight Cap \
SKIN-02	Gyro A On/Off Cmd	J16	ACC/GYRO-E1		SK02P16 Plugged
01111 02	Cyto A Oliron oniu	010	Addid I To E T		ACMS Flight Cap
SKIN-02	Gyro B On/Off Cmd	J17	ACC/GYRO-E2		SK02P17 Plugged
SKIN-03	TTC Panel	1 017	MOOIGING EZ		V11021 11 1100400
OITHIT-03	Connector Function	Skin Connector	S/C unit	SCOE CABLE	Flight Connector
SKIN-03	Test point TC + protection	OKIH GOHINGGO	- O/O dilit	OCOL CABLE	Clarifo agr.
2VIIV-02	jumper EPC1	SK03J01	XPND1/EPC1		Commitge
CIZINI OD		3803301	AFINDI/EFCI		Di
SKIN-03	Test point TC + protection jumper EPC2	CIV03 103	XPND2/EPC2		connetice
		SK03J02	APNUZ/EPGZ	L	(366 NOTE 1)
	RF LINK	l ara r	6/6 4	L GOOD GADIE	l composition
	Connector Function	Skin Connector	S/C unit	SCOE CABLE	Flight Connector
	DEFINITION AND ADDRESS		1004	RF SCOE	LGA1 Anechoic
	RF link for antenna LGA1	N/A	LGA1	LGA1 Plugged	Cap
	DELLI (		1.040	RF SCOE	LGA2 Anechoic
	RF link for antenna LGA2	N/A	LGA2	LGA2 Plugged	Сар
				RF SCOE	MGA Anechoic Cap
	RF link for antenna MGA	N/A	MGA	MGA Plugged	L
SKIN-04	ACMS Panel (RWE)			Balah Greek was separat kata aliayi.	C. 22
	Connector Function	Skin Connector	S/C unit	SCOE CABLE	Flight Connector
SKIN-04					ACMS Flight Cap $\sqrt{\ }$
	RWL1 Sgn	J01	ACC/RWL-1		SK04P01 Plugged
		J02	ACC/RWL-2	I	ACMS Flight Cap $V$

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I	1	1	1	Í	1
SKIN-04			<del> </del>		SK04P02 Plugged
	RWL3 Sgn	J03	ACC/RWL-3	1	ACMS Flight Cap
SKIN-04		1 000	ACC/RVVL-3		SK04P03 Plugged
	RWL4 Sgn	J04	ACC/RWL-4		AGMS Flight Cap
SKIN-05	GYR/QRS Panel		7.00///12 4		SK04P04 Plugged
	Connector Function	Skin Connector	S/C unit	SCOE CABLE	Flight Connector
SKIN-05	CRS1 AOCS Sgn	J01	CRS-1/ACC	OCCL OADEL	AGMS Flight Cap
SKIN-05	CRS2 AOCS Sgn	J02	CRS-2/ACC		ACMS Flight Cap
SKIN-05				ACMS SCOE V	1
	GYRO RS422 / Test	J03	GYRO	Cable Plugged	Ψ,
SKIN-05				ACMS SCOE	1/
	CRS 1/2 Stimuli	J04	CRS-1,2	Cable Plugged	Ϋ́
SKIN-05				ACMS SCOE ,	/
	AAD Sgn M	J05	AAD/ACC	Cable Plugged	1,
SKIN-05				ACMS SCOE >	1
	SAS1/2 Sgn M	J06	SAS/ACC	Cable Plugged	Ψ,
SKIN-05				ACMS SCOE 4	/
	SAS1/2 Sgn R	J07	SAS/ACC	Cable Plugged	Í
SKIN-05				ACMS SCOE ,	1
	AAD Sgn R	J08	AAD/ACC	Cable Plugged	Y
SKIN-06	STR Panel				
	Connector Function	Skin Connector	S/C unit	SCOE CABLE	Flight Connector
				ACMS SCOE	/
SKIN-06	STR1 Stimuli	J01	STR1	Cable Plugged	V
				ACMS SCOE	/
SKIN-06	STR2 Stimuli	J02	STR2	Cable Plugged	Y
	UMBILICAL	72.72 Sacra Assemble housesterness	MANUAL STATE OF THE STATE OF TH		
	Connector Function	Connector	S/C unit	SCOE CABLE	
				SCOEs cable \	/
-	Power/Data	HU1 J01	SYSTEM	Plugged	/
	_			SGOEs cable 🔪	/
	Power/Data	HU2 J01	SYSTEM	Plugged	

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Annex N						
315 100	on top of				C=-900E	COLLEGEN
	Connector Function	Connector	S/C unit	SCOE	Cryo8COE 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, 7872, P101, T103, T/15, T116, 1704, T802, 1803, T805, T806, T871	Cryo SCOE J01 & J17		no flight
	Temperature	45400 105	T331, T333, T335, T337, T339, T341	Cryo SCOE		X
316 100	Temperature Sensors on top of	\$15100-J05 315100-J06	T332, T334, T336, T338, T340, T342 (Telescope)	Cryo SCOE J10		X
	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	A CYNARIA		S. Live Branch Co.		«. Г
	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
	3002-00	321100-J03	H502, H503	Cryo SCOE J06		no flight

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		321100-J04	P501	Cryo SCOE	:	1
		321100-J05	H103, H701, L102, VT102, VT103, VT105, VT701, VH102, VH103, VH105, VH701, VS102, VS105, VS701	Cryo SCOE		no flight
		321100-J06	H104, H702, L101, VT104, VT106, VT702, VH104, VH106, VH702, VS104, VS702	Cryo SCOE J03		
		321100-J07	H501	Cryo SCOE J06		no flight
		321100-J08		Cryo SCOE		no flight
321 200	on top of	321100-306	T502	J01		no flight
	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		Cryo SCOE J04		X

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### Herschel

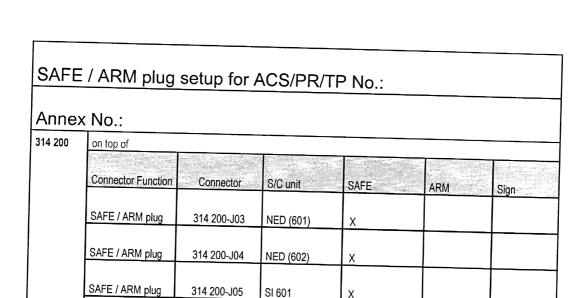
321 300	on top of				Total Marie Control		
	Connector Function	Skin Connector	S/C unit	SCOE	SCOE Cable connected	Flight Cap connected	
		321300-J01	T208, T213, T222, T224, T225, T226, T231, T233, T235, T237, T247, T248, T252, T256, T862, T444	Cryo SCOE J02		Х	
		321300-J02	T101, T104, T107, T112, T703, 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		Х	
CVSE I/F	on top of						
	Connector Function	Skin Connector	S/C unit	SCOE	SCOE Cable connected	Flight Cap connected	
				Cryo SCOE J18		х	
							•
to be approved & released before start of ACS/PR/TP by Floor-Manager		Date:		Sign:			

File: HP-2-ASED-TP-8134_Herschel_IST_Leading_Procedure__iss_4_0_14-04-08

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SI 601

SI 602

SAFE / ARM plug to be approved & released before start of ACS/PR/TP by Floor-Manager

Date:

314 200-J06

Sign:

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#### 4.3.3 SCOE cable connection for" Launch Clean Run"

	No.:				1		
KIN-01	PWR Panel (PCDU)		ing a second second second second		Berlin Commission Charles (Com	ar Taran	neighbor (#Circ. 37)
		0000	000	au a			
	Connector Function	SCOE	S/C unit	Skin Connector SK01A J/P01	Connection disconnected		Sign
	SA Nom Power SA Nom Power	SAS SCOE SAS SCOE	PCDU				<b></b>
				SK01A J/P02	disconnected		
	SA Nom Power	SAS SCOE	PCDU	SK01A J/P03	disconnected		<del> </del>
	0.5.15	212222	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	-	
					LPS SCOE		
	BDR1 AIT	SAS SCOE	PCDU	SK01B J/P11	Cable Plugged		ļ
	BDR2 AIT	SAS SCOE	PCDU	SK01B J/P12	LPS SCOE		
			PCDU	SNUIB J/P12	Cable Plugged	7	
KIN-02	PWR Panel (ACC, CDMU, RCS, 1553 & Thruster)						
74114-02							
	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	ACINIO OCCE	700	ONUZ UIF U4	riigiit		
	M	ACMS SCOE	ACC/RCS	SK02 J/P05	disconnected	7	
	LV2/FCV 20N CMD S/A	AOMO GOOL	Noontoo	010201100	GIOCOMIOCIO		
	R	ACMS SCOE	ACC/RCS	SK02 J/P06	disconnected		
	RCS Press/Tank		1				
	Temp/PT Pwr	ACMS SCOE	ACC/PT&TH	SK02 J/P07	Flight		
	Thruster Temp M/LV1				<b>J</b>	***	
	Sts	ACMS SCOE	ACC/RCS	SK02 J/P08	Flight		

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	Quick S/W load	grey ACMS	black CDMS	CIVOD I/DOO	T	<b>—</b>	
į	Quick S/W load	grey ACMS			disconnected	-	
	Thruster Temp R/LV2	gley ACIVIS	black CDMS	SK02 J/P10	disconnected	-	-
	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	Događaji w Politica i su pojetija o		To all and competends	to The section of the		
	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 RF LINK	Plastic Cap	XPND2/EPC2	SK03 J/P02	Flight		
	Connector Function	SCOE	S/C unit	Skin Connector	Connection		Circ
	RF link for antenna LGA1	TT&C SCOE	LGA1	LGA1 Anechoic	RF-SCOE	The good fire the	Sign
	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	winted S. St.	- A Section of the Co.
	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		

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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						
				7. WH.		NUIS SALANDIN	ig at if
	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	<u> </u>	
·	Power/Data	System	SYSTEM	HUJ02	SCOE		
approved SE		approved AIT		approved PA/Safety		appr Floor	oved -Manger
sign off:							

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Annex	No.:					
315 100	on top of					***
	Connector				CryoSCOE	COLLEGA
	Function	Connector	S/C unit	SCOE	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
6 100	on top of					-
	Connector Function	Connector	S/C unit	SCOE	CryoSCOE connected	CCU Flight connected
	Valve Sensor	316100-J01	VS501, VS504			Х
	Valve Sensor	316100-J02	VS503, VS505			Х
1 100	on top of		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	SERVING		
	Connector Function	Connector	S/C unit	SCOE	CryoSCOE connected	CCU Flight connected
		321100-J01	L701, H701	Cryo SCOE J11		no flight
		321100-J02		Cryo SCOE J03		no flight
		321100-J03	H502, H503	Cryo SCOE J06		no flight
		321100-J04		Cryo SCOE J01		no flight

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	Connector Function	Skin Connector	S/C unit	SCOE	SCOE Cable connected	Flight Cap connected	
321 300	on top of			10 N CL 14			
		321200-J05	VS103, H102	Cryo SCOE J04		Х	
		321200-J04	T312, T314, T316, T905, T909, T931, T933, T935	Cryo SCOE J09		x	
		321200-J03	T321, T323, T501, T505, T651, T901, T903, T907, T911	Cryo SCOE J09		Х	(
		321200-J02	T102, T105, T106, T111, PR_P701, T421, T442, T461, H101	Cryo SCOE J04		X	
		321200-J01	T202, T212, T221, T223, T227, T228, T232, T234, T236, T242, T244, T246, T250, T254, T258, T424, T464	Cryo SCOE J08		X	
321 200	Connector Function	Connector	S/C unit	SCOE	CryoSCOE connected	CCU Flight connected	
321 200	on top of	321100-J08	T502	J01	l	no flight	-
		321100-J07	H501	J06 Cryo SCOE		no flight	
		321100-J06	H104, H702, L101, VT104, VT106, VT702, VH104, VH106, VH702, VS104, VS702	Cryo SCOE J03 Cryo SCOE		no flight	
		321100-J05	H103, H701, L102, VT102, VT103, VT105, VT701, VH102, VH103, VH105, VH701, VS102, VS105, VS701	Cryo SCOE J11		no flight	

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		321300-J01 321300-J02	T208, T213, T222, T224, T225, T226, T231, T233, T235, T237, T247, T248, T252, T256, T862, T444  T101, T104, T107, T112, T703, T422, T441, T462, T701, H102	Cryo SCOE J02		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 Cryo SCOE		Х
CVSE I/F	on top of	321300-J05	VS106, H102	J04		х
	Connector Function	Skin Connector	S/C unit	SCOE Cryo SCOE J18	SCOE Cable connected	Flight Cap connected
to be approved & released before start of ACS/PR/TP by Floor- Manager		Date:		Sign:		

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### 5 Conditions

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#### 5.1 Personnel

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

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

Table 2: List of IST test attendants

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



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#### 5.2 Environmental

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

ESTEC site clean room will be used.

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

The characteristic shall be:

- Temperature =  $22C \pm 3C$
- Relative Humidity = 50 % +/- 10%
- Delta Pressure = above 0.6 mm 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.

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IST 1 Part 1 Warm preferred

Chapter	of IST Spec Issiue 4	Instr. Mode	Real Battery required	Satellite X-Axis tilting	Ambient or cool down (deviating item (ST Spec US)	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
8 2.3	Initial configuration	OFF	Y	n.a	Preferred	alternative	alternative
8.24.2	Satellite power ON	OFF	Y	n.a	Preferred	alternative	alternative
8.2.4.4	Configuration for launch	OFF	Y	n.a	Preferred	alternative	alternative
8.2.4.5	Launch	OFF	Y	n.a	Preferred	alternative	alternative
8.2 4.6	Separation	OFF	Y	n.a	Preferred	alternative	alternative
8.2.4.7	Post separation	OFF	Y	n.a	Preferred	alternative	alternative
8.24.8	Initial check out in SAM mode	OFF	Y	n.a	Preferred	alternative	alternative
8.24.9	CDMS transition to NOM mode	OFF	Y	n.a	Preferred	alternative	alternative
8.2.4.10	Orbit Control Manoeuvre	OFF	Υ	n.a	Preferred	alternative	alternative
8.2 4.11	End of the sequence	OFF	Y	n.a	Preferred	alternative	alternative
8.3	Satellite Commissioning					Table 1	
8.3.3	Test start configuration	OFF	N	n.a	Preferred	alternative	alternative
8.34	TTC commissioning	OFF	N	n.a	Preferred	alternative	alternative
8.3.5	CDMS commissioning	OFF	N N	n.a	Preferred	alternative	alternative
	TCS commissioning	OFF	N	n.a.	Preferred	alternative	alternative
8.3.7	PCS commissioning	OFF	N	n.a	Preferred	alternative	alternative
8.3 10	SREM commissioning	OFF	N	n.a	Preferred	alternative	alternative
8.3.11	TCS commissioning	OFF	N	n.a	Preferred	alternative	alternative
8.3 12	Telescope decontamination	OFF	N	n.a	Preferred	alternative	alternative
8.3.13	Cryo Cover opening	OFF	N	n.a	Preferred	alternative	alternative
8.3.14	Test end	OFF	N	n.a	Preferred	alternative	alternative
8.39	ACMS commissioning	ACTOR	April 3				
8.3 9.1	AAD, SAS, CRS, STR, GYR, RCS unit check	OFF	N	n.a	Preferred	alternative	alternative
8.3 9.2	RWLs health check	OFF	N	n.a	Preferred	alternative	alternative
8.3.9.3	STR functional verification	OFF	N N	n.a	Preferred	alternative	alternative
8.3 9.4	ACC health check	OFF	N	n.a	Preferred	alternative	alternative
8.3.9.5	ACMS dynamic verification	OFF	N	n.a	Preferred	alternative	alternative
.8.5	Mode transitions	Ve Over 1	- FERMINE			12111	
8.5.3	T-t-t-t-t-t-t-t-t-t-t-t-t-t-t-t-t-t-t-t	OFF	N N	n,a	Preferred	alternative	alternative
8.5.4	Test start configuration	OFF	N N		Preferred	alternative	
8.5.5	Launch to Launch	OFF	N N	n.a n.a	Preferred	alternative	alternative
	Launch to SAM	OFF	N N	n,a	Preferred	alternative	alternative
8.5.6 8.5.7	SAM to SAM SAM to NOM	OFF	N	n.a	Preferred	alternative	alternative
		2490	/ T. T. C. M. (1994) (1994) (1994)				
8.10	Launch clean run	OFF	Y	n.a	Preferred	alternative	alternative
8.11	Launch sequence robustness		CONTROL OF THE CONTRO	93 TO 10 10 10 10 10 10 10 10 10 10 10 10 10	1000	E. S. E. Sunika V	
8.11.3.2	Satellite power on	OFF	N	n.a	Preferred	alternative	alternative
8.11.3 4	Configuration for launch (status)	OFF	N	n.a	Preferred	alternative	alternative
8.11.35	Configuration for launch	OFF	N	n.a	Preferred	alternative	alternative
	Separation	OFF	N	n.a	Preferred	alternative	alternative
8.11.3.6			N	n.a	Preferred	atternative	alternative
8.11.3.6 8.11.3.7	S/C acquisition	OFF			1000		1
	S/C acquisition  Initial checkout in SAM mode	OFF	N	n.a	Preferred	alternative	alternative
8.11.3.7	· ·			n.a n.a	Preferred Preferred	alternative alternative	alternative alternative

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IST 1 Part 2 He I or He II

and the second	or of IST Spec Issiue 4	Instr. Mode	Real Battery required	Satellite X- Axis tilting	Ambient or cool down ideviating from	He I HTT venting >20mg/sec	He II HTT ventin >20mg/sec
.8.5	Mode transitions		T WIT	NOTE OF	-IST Spec III)		
8.5.8	NOM to NOM	PACS spectro			300		
		SPIRE STBY	N	0-23		alternative	Preferred
859	NOM to EAM	PACS STBY	N				rielelieu
Star St		SPIRE STBY	"	0-23		alternative	Preferred
8 5 10	EAM to EAM	PACS STBY	N			alternative	
WW.22		SPIRE STBY-> Phota->STBY		0-23		allemative	Preferred
8.5 11	EAM to NOM	PACS STBY		-			
		SPIRE STBY-	И	0-23		alternative	Preferred
8.5.12	NOM to SM	>Photo PACS STBY->OFF	N				
		SPIRE Photo->OFF HIFI STBY->OFF		0-23		alternative	Preferred
8.5.13	SM to SM	OFF	N	0.00		alternative	
3.5.14	SM to SAM	OFF		0-23		akemative	Preferred
5 17		OFF	N	0-23		alternative	Preferred
.5.1/	EAM to SAM (needs new SAM to NOM and NOM to EAM)	PACS STBY SPIRE STBY	N			alternative	
100		HIFI Science ->		0-23			Preferred
.5.18	NOM to SAM (needs new SAM to NOM)	PACS Burst-	N				
	,	>STBY	N	0-23		alternative	Preferred
5 19	Test end	SPIRE STBY OFF	N			-6	
			25.70	0-23		alternative	Preferred
.6	S/C reconfiguration		H-	H v State agent at the second			
6.2	Test start configuration	PACS STBY	N				Young the American
		SPIRE STBY		0-23		alternative	Preferred
6.3	CDMS level 3a	PACS STBY	N				
To the		SPIRE STBY HIFI Prime-	.,	0-23		alternative	Preferred
5.4	CDMS level 3b	PACS STBY	N			alternative	
C F		SPIRE STBY		0-23		atternative	Preferred
6.5	ACMS level 4	PACS Prime >OFF SPIRE STBY >OFF	N			alternative	
		HIFI STBY->OFF		0-23			Preferred
6.6 6.7	ACMS recovery from Survival Mode (ACMS SASM to SAM) CDMS level 4	OFF	N	0-23		alternative	Preferred
100 March 1980	ODMO IEVEI 4	PACS Prime->OFF SPIRE STBY->OFF	N			alternative	1,70,0,70
		HIFI STBY->OFF		0-23		to: G	Preferred
Sec. 35/464		1 1					*Elelelled
6.8	Test end	OFF	N	0-23		alternative	
12	NON Exploration					diternative	Preferred
12.3.1	NOM mode robustness Initial State	PACS STBY		and the same			XX PO TO A SEC
		SPIRE Photo	N	0-23		alternative	Preferred
2.3.2	CDMS PM 1553 BC failure simulation	PACS STBY	N				Lielelled
		SPIRE Photo-	"	0-23		alternative	Preferred
2.3.3	CDMS PM 1553 BC failure recovery	PACS Photo	N				
		SPIRE STBY		0-23		alternative	Preferred
2.3.4	nitial state second test	PACS Photo	N			alternative	
000		SPIRE STBY HIFI STBY	i	0-23		anemaave	Preferred
2.3.5	ACMS 1553 RT failure simulation	PACS Photo - >STBY	N			alternative	
236	ACMS 1553 RT failure recovery	SPIRE STBY		0-23			Preferred
	ACMS 1555 KT failure recovery	PACS STBY->OFF SPIRE STBY->OFF	N	0-23		alternative	
		HIFI STBY->OFF		0.23		N.B.1	Preferred
	Test of Instrument FDIR OBCP		A STATE OF THE STA	100 May 20 To 2 To 2 To 2	and the second second		
34 S	SPIRE FDIR OBCP	SPIRE	N	0-23	1350		15.00
	PACS FDIR OBCP	PACS	N	0-23		alternative alternative	Preferred Preferred
3.6 H	HEI FDIR OBCP	HIFI	N	0-23		alternative	Preferred
- D	DEGRADED CASES		The second second				
S	G/C ability to be operated in degraded modes	, di cum +	tivitri.	36 E H 31	25 Pres		
						alternative	Preferred

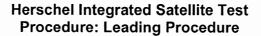
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hapter	of IST Spec issiue 4	Instr. Mode	Real Battery required	Satellite X- Axis tilting	Ambient or cool down (deviating from IST Spec III)	He I HTT venting >20mg/sec	He II HTT venting >20ing/sec
8.3	Satellite Commissioning	The state of the s	ATT.	William P. C. C.	Train Sport	The Table	1
8 3.8	CCU (cryostat) commissioning	OFF	N	23			Required
8.4	Instruments commissioning and performance verification		- 1404 F	A Harmon			. 497
3.4.3	Test start (restart) configuration	OFF	N	23			Required
3.4.4							Required
3.4.5	SPIRE commissioning test	Spire	N	23 -> 90			Required
4.6	PACS commissioning test	PACS	N	23			Required
3.4.7	HIFI commissioning test	HIFI	N	0-23			Required
8.4 8	SPIRE and PACS parallel mode	SPIRE/PACS	N	23			Required
8.4.9	Test end or interruption	OFF	N				Required
	CDMS management	-		30			- 11 Wasan
8 7.2.1	General Sequence (Integration with RMS DTCP number 2)	PACS Prime STBY → Burst → X SPIRE STBY HIFI STBY	N	0-23		alternatively if MTL is compatible with instrument operations	Preferred
17.2.2	MTL management	PACS Prime STBY > Burst > X SPIRE STBY HIFI STBY	N	0-23		alternatively if MTL is compatible with instrument operations	Preferred
3723	OBCP management	PACS Prime STBY -> Burst -> X SPIRE STBY HIFL STBY	N	0-23		alternatively if MTL is compatible with instrument operations	Preferred
1724	SSMM management	PACS Prime STBY -> Burst -> X SPIRE STBY HIFI STBY	N	0-23		alternatively if MTL is compatible with instrument operations	_Preferred
725	FDIR level 1 & 2	PACS Prime STBY -> Burst -> X SPIRE STBY HIFI STBY	N	0-23		alternatively if MTL is compatible with instrument operations	Preferred
726	OBT management	PACS Prime STBY -> Burst -> X SPIRE STBY HIFI STBY	N	0-23		alternatively if MTL is compatible with instrument operations	Preferred
3.6	DTCP worst case scenario	222	(275)	ANT THE RES	1.7	Service and	
ang padala N	And the second s	PACS (Burst) SPIRE STBY HIFI Prime	N	0-23		ТВС	Preferred
	REFERENCE Mission Scenario				es, sulfi		4.2804
9.2	Test start configuration		Y				Required
.9.3	Test steps		Υ				Required
.9.4	HIFI OD	HIFI OD	Y	0.23			Required
9.5	PACS OD	PACS OD	Y	0-23			Required
	SPIRE OD	SPIRE OD	Υ	0.22			1.
9.6	SPIRE OD	SI IIL OU		0.23		1	Required

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

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5.3 General Precautions and Safety

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#### 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
- 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

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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.

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#### 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.

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#### 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.

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#### 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.

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# 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	

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#### 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.

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#### 5.4 **GSE**

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

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#### 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.	Calibr.
2	LHe Service Vacuum Pumping Unit I	BOCE	Cl No. 142 310-01	
2	LHe Service Vacuum Pumping Unit II	BOCE	Cl No. 142 310-02	
1	Main High Vacuum Pumping Unit	BOCE	Cl No. 142 310-03	
1	Mobile High Vacuum Pumping Unit	BOCE	Cl No. 142 310-03	
3	Molecular Turbo pumps	BOCE	CI No. 142 310-03	
1	Laboratory Vacuum Pump in safety unit	BOCE	Cl No. 142 310-04	
1	Laboratory Vacuum Pump in scaffolding	BOCE	Cl 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	Cl 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	Cl 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	

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Qty.	Designation/Manufacturer	Provided by	Drawing/Ident. NR:	Calibr.
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	Cl No. 142 310-10	
10	450 I LHe Dewars type HDS 450 -EIPS	Linde		
11	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		
11	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		

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5.4.3 EGSE

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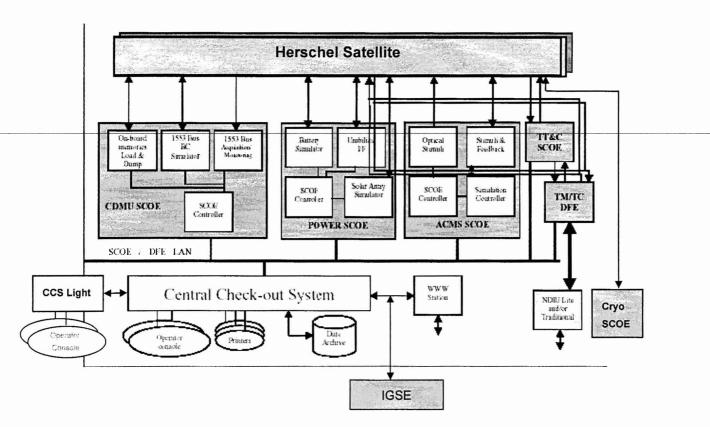
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#### 5.4.3.1 EGSE Hardware Configuration

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)

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- 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.

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#### 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.

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#### 5.4.4 OGSE

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

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5.4.5 Special Equipment

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#### 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.

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### 6 Verification Requirements and Test Criteria

#### PASS/FAIL CRITERIA

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

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

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7 IST Test

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### Herschel

#### 7.1 HPCCS Configuration for IST Test

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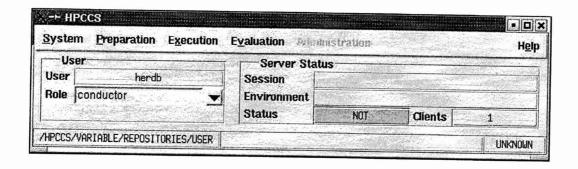


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#### 7.1.1 Apply Tag on test files

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

- On a Workstation login as **herdb** (password **hertest**), being this user dedicated to DB 1. 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"
- Logged as herdb, In PREP window, select menu "Preparation→ Discard all" 4.
- Logged as herdb, In Confirm Discard window, click the button Discard 5.
- Logged as herdb, in PREP window, select menu "Preparation→ Update" 6.
- Logged as herdb, in Check out environment window, click the button Check out and 7. then Close
- Logged as herdb, in PREP window, select menu "Tag  $\rightarrow$  Apply" 8.
- Logged as herdb, in the window Apply Tag →New Tag, insert TAG name 9.

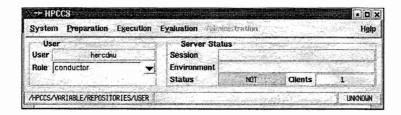
Currently, TAG name for IST has the format:

- 10. Logged as herdb, push Apply → Apply
- Logged as herdb, confirm Tag Application Push Apply button 11.
- Logged as herdb, open a new shell window (xterm) 12.
- 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
- Logged as herdb, in PREP window, select menu "Tag → Apply" 15.
- 16. Logged as herdb, in Apply tag window, select in the list the TAG IST_x_PART_x_TP_xxxx_x_x_BEGIN xxx
- Logged as herdb, push Copy selected tag 17.
- Logged as herdb, modify the TAG name with IST_x_PART_x_TP_xxxx_x_x_END_xxx 18.
- Logged as herdb, push Apply → Apply 19.
- 20. Logged as herdb, confirm Tag Application Push Apply button

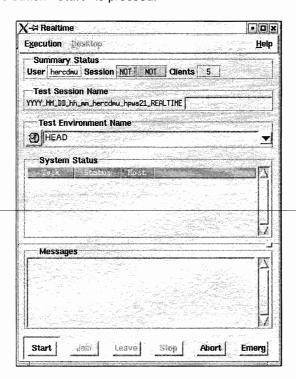
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#### 7.1.2 Start test session on HPCCS

Logged as hercdmu or heracms run "startmmi"



On **HPCCS** window, select menu "**Execution**  $\rightarrow$  **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

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## 7.2 IST START for Spacecraft configuration

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#### 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.

=> Scoe Config. Power ON => CDMS PM & SW => TC Decoder CROME Setting Spacecraft Configuration => Tx Chain => PCDU => HPS => RFDN Switch => Active bus =>TM OBT IST START SSMM procedure ACMS CONFIG Switch ON CCU and monitoring procedure Load SSMM Initialisation Set Thermal Control Table Configuration IST Status ACMS SCOE (Only in Launch Cases) Configuration (1) Packet Store Definition **OBCP** Upload (On Board Upload Event Action Table ACC Power ON Control Procedure) On Board Schedule Initialisation Default Configuration Switch to BD Mode before separation Set Survival Register => Tx Chain => Bus => RFDN Switch => PCDU => Separation Strap => TTR "Only in Launch Cases" means: appliable for following IST chapters 5.8.2 Nominal Launch 5.8.10 Launch Clean Run 5.8.11 Launch Mode robustness (1) "ACMS SCOE Configuration" is not executed during 5.8.10 Launch Clean Run

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## 7.2.2 IST Configuration Table

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

SASLPS SCOE	Bat. SCOE	Crome PAP/CCS	Sep. Strap	TTR SM	TM OBT	TC Dec.	PI SV		SSMM	В	us	PC	DU	HPS	TxC	hain	RF	DN	CC	ะบ	ACMS
											SM		SM			SM		SM	ON	Mode	Config. Fil
	Sim.		Not			5.0	0.2	NO	MINAL LA	NUN	<u>CH</u>			-							
SAS	Charged + Launch		Separated	В	Α	А	A	1	A 0-1-2 B 0-1-2	Α	В	А	В	А	Α	В	1&3	ABBB	A&B	2	IST_FN
	5.8.3a ACMS Commissioning																				
SAS	Sim.	PM A	0	_	_				A 0-1-2		<u>_</u>		т			г		<del>,                                     </del>			
	Charged	Nominal	Separated	В	Α	В	A	1	B 0-1-2	Α	В	Α	В	Α	Α	В	1&3	АВВВ	A&B	1	IST_SCA1
						5.8.	3b S	S/C	Commis	sion	ing		1								
SAS	Sim. Charged	PM A Nominal	Separated	В	Α	Α	Α1	$\neg$	A 0-1-2 B 0-1-2	Α	В	Α	В	Α	Α	В	1&3	ABBB	A&B	1	IST_MOD
						5.8.4.5	.1 S	PII	RE Comm	issi	Onin	n	LI								
SAS	Sim.	PM A				1		7				9									
3A3	Charged	Nominal	Separated	В	Α	Α	A1		A 1 B 1	В	Α	Α	В	Α	Α	В	1&3	ABBB	A&B	1	
				5.8	8.4.5.2	SPIRE	Spe	ctr	ometer C	omr	oleme	enta	rv Te	et							
SAS	Sim. Charged	PM B Nominal	Separated	Α	В	В	В1		A 3 B 3	В	Α	В	A	В	В	Α	2&4	AABB	A&B	1	
											L	1									

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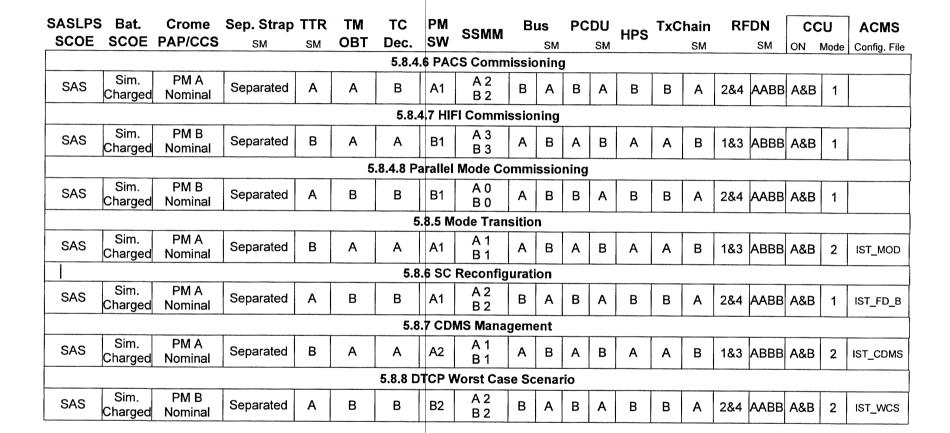
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Procedure

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#### SASL Bat. Crome Sep. Strap TTR TC PM ${\color{red} {\sf Bus}} \quad {\color{blue} {\sf PCDU}} \quad {\color{blue} {\sf HPS}} \quad {\color{blue} {\sf TxChain}} \quad {\color{blue} {\sf RFDN}} \quad \\$ SSMM CCU SCOE PAP/CCS **ACMS** OBT Dec. SW SM SM ON Mode Config. File 5.8.9 RMS Reference Mission Scenario PM A Sim. SAS A 0-1-2 Separated В Α Charged В Nominal В Α Α В 1&3 ABBB A&B B 0 IST RMS 5.8.9 Launch Clean Run PM A Not A 0-1-2 LPS REAL В Α Α В Α Nominal Separated В Α Α В 1&3 ABBB A&B B 0-1-2 IST_CLN 5.8.11 Launch Mode Robustness Sim. PM A Not SAS A 0 Charged В Α A1 Α Nominal Α В Separated Α В Α +Launch Α В 1&3 ABBB A&B B 0 2 IST LSR 5.8.12 NOM Mode Robustness Sim. PM A SAS A 3 Separated Α В В A1 Charged Nominal В Α Α В В 2&4 AABB A&B B 3 IST NMR 5.8.13 Instrument FDIR PM A Sim. SAS A 1 Separated В Α A2

B 1

Α В Α В

Α

Α

В

1&3 ABBB A&B

IST_CDMS

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#### 7.2.3 Initialisation

Step- No.	Initialisation-Step-Description		Nominal Value	Tolerance	Actual Value	Р	N
	TT&C	SCOE	initialisatio	<u>n</u>			
1	Verify that TT&C SCOE application SW is running Otherwise go on TTC SCOE or access remotely (c "startCMD ttcvnc" on shell window") and click "TTC Herschel" icon on TT&C SCOE desktop controller and self test completion.	SCOE				1	
2	On TT& SCOE application, in window ":: CONF name (that can be open by menu "windows/SCOE config"), select menu "Config/Load", load the file "Herschel.corclick "open" button.					V	
	SPACECRAFT SKIN	CONN	ECTORS CO	<u> NFIGURA</u>	TION		
3	Verify that all the SCOE skin connectors cables are installed  • Goto chapter 4.3  • Choose according to the IST Test case the reskin configuration table  • Check the list and sign off (together with PA a Manager).	lated				V	

Test location:	Operator	Product-Assurance:	Date:	Time
BISC	<b>~</b>	BU.	21/0.	5/08 04:30

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Date:

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Step- No.	Initialisation-Step-Description		Nominal Value	Tolerance	Actual Value	Р	N
	ACM	s sc	OE CHECK				L
4	Verify that the ACMS SCOE is ON and operational						
N/A for	·					. /	
"Launch						$\bigvee$	
Clean							
Run"							
5	In the Clean Room, check on the ACMS SCOE that STF	RUCE				-	
	Electrical Stimuli program on PC2 and PC3 are enable						
	double click on "scroll lock" and check "01-02 & 01-03					U	
	mouse pointer can be moved).						
1	Otherwise execute Annex D Operator Note 3						

T= -		1			
rest	location:	Operator	Product-Assurance:	Date: /	Time
1	-A	15	2000	Date.	Time
I	37.737	I .		7/1/20/02	
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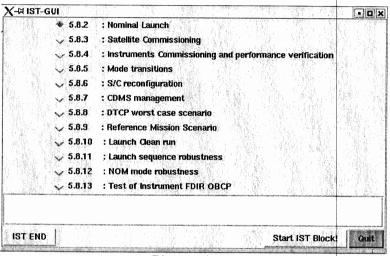
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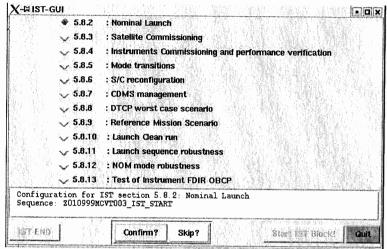
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#### 7.2.4 IST Start Step by Step Procedure

At the CCS test sequence console call the sequence "Z010999MCVT201_IST_GUI" to start an IST test. When the Graphical User Interface (see Picture 1) occurs, select the appropriate test case (and note it down in this Test Procedure) followed by a click on the "Start IST Block".





Picture 1

Picture 2

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

Test location	on: ETEC	Operator	Product-Aegurance:	Date: 21 /05/08	Time	:
Doc. No: Issue: Date:	HP-2-ASED-TP-0134 4.0 24.04.2008	File: HP-2-ASED-TP-9134_Herschel_IST_Leading_	Procedureles_4_0_24-		Page	78



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## Herschel Integrated Satellite Test Procedure: Leading Procedure

## Herschel

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Step- No.	151_START-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	Р	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 73)		Talac		V	
	SAS/LPS SCOE: SAS  TM OBT:  Bat. SCOE: Simulated  PM:  PCDU: A  HPS: A  Survival Register  Bus: B  CCU  CCU: A&B  TX Chain: B  TX Chain: B		A PMAnominal Telephone Tel	Rx and Tx Chain Tx Chain (Xpnd, Tx TC decoder: TM Rate: RFDN Switches in the SSMM Mass Memory:	Medium (150Kbps)    ✓		
Test lo	Cation: Operator D	Product-Assu	rance:	Date:	Time :		

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Step- No.	IST_START-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	Р	N
	Z010999MCVT003_IST_START						
2	Note the execution diagram, resuming each configuration steamd check all parameters are set as previously (particularly it any modification has been done on configuration panel)	<b>1</b>				V	
	"START Satellite HERSCHEL "IST_START""  ⇒ Choose "Yes" or "No"						
	Z010999MCVT097_ASDGEN_CRIT_PARS_CHECK						
	This script will run during the whole session to monitor crit parameters.	tical					
3	As soon as wrong value will be detected. A popup window occur alerting the operator about incorrect TM checks	will				$\vee$	
	⇒ Minimise this window by clicking the corresponding button (on corner top right, first button from left)						

			<b>y</b> ************************************		
Test location:	Operator ,	Product-Assurance:	Date:		Time
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File: HP-2-ASED-TP-8134_Herschal_IST_Leading_Procedure__iss_4_0_24-04-08





## Herschel

Step- No.	IST_START-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	Р	N
	Z010999MCVT003_IST_START  Reply to the prompt: "SPACECRAFT POWER_ON"  ⇒ Click the button "Confirm" to proceed	75.50		value			
1	Z010999MCVT001_POWER_ON_HER_IST  Set Battery ?????????  Set TCDecoder to ?  Set PM_SW ??	To Check in Config. Table (Page 73)					
	Do you want to continue with the upper configuration:  If these parameter values are in accordance with the IST  Configuration Table (Page 73),	Bat.SCOE TCDec. PM/SW					

Test location:	Toward			
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## Herschel

Step- No.	IST_START-Step-Description		Nominal Value	Tolerance	Actual Value	Remarks	Р	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 minu  □ click the button "OK" to proceed	tes					V	
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 But Monitor.					N/A for "Launch Clean Run" as the cables for CDMU BUS monitor are disconnected	V	

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

Step- No.	IST_START-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	Р	N
	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			7.11.10		V	
9	D102159SCVT001_GET_ALARM_STATUS Check that both DOD ext1 and ext2 are "Not Asserted". Otherwise execute Annex D – Operator Note 8					V	/
9b when BCR OCP are detected	Z010999MCVT001_POWER_ON_HER_IST  Temporary workaround until SPR-107 / NCR-3312 are solved	YES			NCR 3492: TTRMMemCorEr_A  1 := 0  SPR 244: OutOfLimit for  SA_Pan?_Temp_N/R (WMB0?569)  SPR 284: WARNING about  missing TC  SPR 285: many TCs not  acknowleged  For launch clean run with real  Battery fully charged, parameters  BCR1, BCR2 are expected active.	$\bigvee$	

Test location:	Operator	Product-Assurance:	Date: /	Time
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## Herschel

	Step-No.	IST_START-Step-Description		Nominal Value	Tolerance	Actual Value	Remarks	Р	N
10	Wait until CCS is fin	SCVT032TIMESYNCRO the synchronization between CDMS On-board Tim ished lick the button "End TS!" to proceed	e and				TM parameter ZE00999 out of limits and back in limits again at synchronisation to be expected.	V	/
11	Z010999	MCVT001_POWER_ON_HER_IST lick the button "End TS!" to proceed						V	
12	Check tha Otherwise	scvT001_GET_ALARM_STATUS t both DOD ext1 and ext2 are "Not Asserted". execute Annex D – Operator Note 8 lick the button "End TS!" to proceed						V	
13	Z0109991 Reply to the If the CRC PAP/CCS	MCVT003_IST_START		To Check in Config. Table (Page 73) CROME PAP/CCS					

Test location:	)norator	Des duet Assure		
RITEC	)perator	Product Assurance:	Date: 2/05/06	Time :

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## Herschel

Step-No.		Nominal Value	Tolerance	Actual Value	Remarks	Р	1
	D102159SCVT176_WRITE_CROME			1 4.140		-	+
I4 Z0 Re	⇒ Click the button "End TS!" to proceed					V	
	Z010999MCVT003_IST_START				Dieges note that the Title		+-
	Reply to the prompt:	To Check in Config. Table			Please note that the TMrate Medium (150 Kbps) is not		
	"CDMS Configuration:"	(Page 73)			specified in IST Config. Table		
	"Set configuration"	BUS			on page 73.		
15	"Bus ? PCDU ? HPS ? TxChain ? RFDN ???"	PCDU				. /	
13	"TM-OBT ? TMrate Medium (150Kbps)"	HPS				V	
	If all these parameter value ere in consider a vita to the	TxCh. RFDN					
	If all these parameter value are in accordance with the IST Configuration Table (Page 73),	TM-Obt					
(							
	⇒ Click the button "Confirm" to proceed						
16	D102159SCVT104_ENCODER_SELECT				SDD 196: The short		
	_			1	SPR 286: TM check needs repeat		
Encoder B	⇔ Click the button "End TS!" to proceed				, w po w 200 t		
is req.							

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

Step-No.	IST_START-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	Р	N
	D102159SCVT174_IST_REDUNDANT_CONF					,	
17	⇔ Click the button "End TS!" to proceed					V	
	Z010999MCVT003_IST_START						
		To Check in				/	
18	Reply to the prompt:	Config. Table				1/	
	"SSMM Configuration" ????????"	(Page 73)					
		SSMM					
	⇒ Click the button "Confirm" to proceed						<u> </u>
	Z010999MCVT005_IST_START_SSMM				In Launch cases,		
					IST_START_SSMM shall be		
	Start initialising with Steps 1-2 of IST START SSMM	1			completely performed before		
	Procedure (see Page 96). Then continue with the next tes	st .			next step	/	
	step of IST_START.					, /	
19						V	
	NOTE: After completion of Mass Memory initialisation	1					
	(roughly 12 minutes per bank), i.e. when ALL affected mas	1					
	memory banks are <b>ON</b> , continue with step 3 of IST STAR	П					
	SSMM Procedure (see Page 96).						
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Test location:	Operator	Product-Assurance:	Date:	Time
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## Herschel

Step-No.		Nominal Value	Tolerance	Actual Value	Remarks	Р	N
20	Reply to the prompt: "SWITCH ON CCU ??? and" "START MONITORING in MODE         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.	. 1			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 KM120301 fails status consistency check The following is expected until TC DCT53170 is sent: o Events 28417 CCU A monitoring discarded o Events 28418 CCU B monitoring discarded		

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## Herschel

Step-No.	IST_START-Step-Description		Nominal Value	Tolerance	Actual Value	Remarks	P	N
	Z010999MCVT003_IST_START  Reply to the prompt: "Record CCU Temp In Backgro          Click the button "Confirm" to proceed	ound"				Minimise Log file after starting	V	
applicable only in launch (IST	Z010999MCVT003_IST_START  Reply to the prompt:     "STATUS SPACECRAFT and EGSE (Pow     □ Click the button "Confirm" to proceed  Reply to the next prompt:     "Do you want to stop and notice each f     □ Choose "YES" to proceed	·						

Test location:	Operator	Product-Assurance:	Date: / /	Time
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## Herschel

Step-No.	IST_START-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	Р	N
23	Z010999MCVT1533_IST_STATUS			Value			+-
Only III	Check the Satellite status displayed and						
aunch (IST spec. 5.8.2	⇔ Click the button "OK" to proceed						
5.8.10 5.8.11)							
	Z010999MCVT003_IST_START						
24	Reply to the prompt:  ACMS SCOE Configuration – ACMS Power ON						
	⇔ Click the button "Confirm" to proceed						
ļ	Execute ACMS CONFIG procedure (Page 100) in parallel to the IST_START master						

Test location:				
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## Herschel

	Step-No.	IST_START-Step-Description		Nominal Value	Tolerance	Actual Value	Remarks	Р	N
		Z010999MCVT003_IST_START							
	25	Reply to the prompt: "SET TCT Table for Ambient Tempe	erature"					$\bigvee$	
		⇔ Click the button "Confirm" to proceed						A	
	26	D102159SCVT032EnNomTCSLoops				,		J	
١		⇒ Click the button "End TS!" to proceed  D102159SCVT115_CHECK_HCS_OFF						ı	
	27	⇔ Click the button "End TS!" to proceed						V	
		Z010999MCVT003_IST_START							
	28	Reply to the prompt: "EAT UPLOADING"						J	
		⇔ Click the button "Confirm" to proceed"							

Test location:	Operator 5	Product-Assurance:	Date: /	Time
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## Herschel

Step-No.	IST_START-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	Р	N
	D102159SCVT192_GET_EAT_REPORT			Value			
29	Check that every initial entries of the Event Action Table are successfully checked	e					
	⇒ Click the button "End TS!" to proceed						
	D102159SCVT192_GET_EAT_REPORT						
30	Check that every initial entries of the Event Action Table are correctly set	e -					
	⇒ Click the button "End TS!" to proceed						
	D102159SCVT192_IST_UPLOAD_EAT						
31	⇔ Click the button "End TS!" to proceed					$\sqrt{}$	
	Z010999MCVT003_IST_START						
32	Ckeck that ACC is running on TM Packet history with filter on APID 512 (set on Step 1 of ACMS Configuration Procedure 7.2.4.2 Page 100) and checking packets reception.					V	
Test location:							

Test location:	Operator			
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## Herschel

Step-No.	IST_START-Step-Description		Nominal Value	Tolerance	Actual Value	Remarks	P	N
33	Z010999MCVT003_IST_START  Do not perform before the completion of the procedu  - IST START SSMM and  - ACMS Configuration  Cannot be run in parallel with other "active" sequence TCs send in parallel  Reply to the prompt:  "CDMS CONFIGURATION:"  "SURVIVAL REGISTER SETTIN  "(Bus ?, PCDU ?, RFDN ????, TxC  TTR ?, Sep Strap ?????)"  □ Click the button "Confirm" to proceed	es or	To Check in Config. Table (Page 73) Bus PCDU RFDN TxCh. TTR Sep Strap					/
34	D102159SCVT175_SET_SURV_REG   ⇒ Click the button "End TS!" to proceed					SPR 289 No TM return for TM check	V	
35 (only in launch test cases	Z010999MCVT003_IST_START  Prompt: "Check CDMS Tables"   ⇔ Click the button "Confirm" to proceed							

Test location:	Operator	Product-Assurance:	Date:	Time
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Step-No.	IST_START-Step-Description		Nominal Value	Tolerance	Actual Value	Remarks	Р	N	
36	D102159SCVT219_GET_BSW_HEALTH_UIU				Value				1
(only in launch test cases	⇔ Click the button "End TS!" to proceed								NI
37	D102159SCVT204_GET_MOT								
(only in launch test cases)	⇔ Click the button "End TS!" to proceed								WIA
	D102159SCVT192_GET_EAT_REPORT								
38 (only in	Check that every uploaded entries of the Event Action are correctly set	Table							6/16
cases)	⇒ Click the button "End TS!" to proceed								NIA
39	D102159SCVT205_SAT_COM_TCT					Expected that checks will fail as			
(only in launch test cases)	⇔ Click the button "End TS!" to proceed					the uploaded TCT is for ambient but the checks are performed against the			NA
est location:	Operator			,					

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## Herschel

IST_START-Step-Description		Nominal Value	Tolerance	Actual Value	Remarks	Р	N
D102159SCVT207_SAT_COM_FCCT							
⇔ Click the button "End TS!" to proceed							
Z010999MCVT003_IST_START							
Reply to the prompt: "DOWNLINK SSMM PACKET STORE and CEL A&B	3"						
⇔ Click the button "Confirm" to proceed							
D102159SCVT188_IST_DUMP_PKT_STORE					With parameters: 0 80 1 81 2 82 3 83		
⇔ Click the button " End TS!" to proceed							
D102159SCVT188_IST_DUMP_PKT_STORE  Click the button " End TS!" to proceed					All events, warnings and alarms recorded before the dump, are re-occuring during	J	
	D102159SCVT207_SAT_COM_FCCT   ⇒ Click the button "End TS!" to proceed  Z010999MCVT003_IST_START  Reply to the prompt: "DOWNLINK SSMM PACKET STORE and CEL A&E  ⇒ Click the button "Confirm" to proceed  D102159SCVT188_IST_DUMP_PKT_STORE  ⇒ Click the button "End TS!" to proceed  D102159SCVT188_IST_DUMP_PKT_STORE	D102159SCVT207_SAT_COM_FCCT   ⇒ Click the button "End TS!" to proceed  Z010999MCVT003_IST_START  Reply to the prompt: "DOWNLINK SSMM PACKET STORE and CEL A&B"  ⇒ Click the button "Confirm" to proceed  D102159SCVT188_IST_DUMP_PKT_STORE  ⇒ Click the button " End TS!" to proceed  D102159SCVT188_IST_DUMP_PKT_STORE	D102159SCVT207_SAT_COM_FCCT   ⇒ Click the button "End TS!" to proceed  Z010999MCVT003_IST_START  Reply to the prompt: "DOWNLINK SSMM PACKET STORE and CEL A&B"  ⇒ Click the button "Confirm" to proceed  D102159SCVT188_IST_DUMP_PKT_STORE  ⇒ Click the button "End TS!" to proceed  D102159SCVT188_IST_DUMP_PKT_STORE	D102159SCVT207_SAT_COM_FCCT   ⇒ Click the button "End TS!" to proceed  Z010999MCVT003_IST_START  Reply to the prompt: "DOWNLINK SSMM PACKET STORE and CEL A&B"  ⇒ Click the button "Confirm" to proceed  D102159SCVT188_IST_DUMP_PKT_STORE  ⇒ Click the button " End TS!" to proceed	D102159SCVT207_SAT_COM_FCCT   ⇒ Click the button "End TS!" to proceed  Z010999MCVT003_IST_START  Reply to the prompt: "DOWNLINK SSMM PACKET STORE and CEL A&B"  ⇒ Click the button "Confirm" to proceed  D102159SCVT188_IST_DUMP_PKT_STORE  ⇒ Click the button " End TS!" to proceed  D102159SCVT188_IST_DUMP_PKT_STORE	D102159SCVT207_SAT_COM_FCCT   ⇒ Click the button "End TS!" to proceed  Z010999MCVT003_IST_START  Reply to the prompt: "DOWNLINK SSMM PACKET STORE and CEL A&B"  ⇒ Click the button "Confirm" to proceed  D102159SCVT188_IST_DUMP_PKT_STORE  ⇒ Click the button " End TS!" to proceed  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	D102159SCVT207_SAT_COM_FCCT   ⇒ Click the button "End TS!" to proceed  Z010999MCVT003_IST_START  Reply to the prompt: "DOWNLINK SSMM PACKET STORE and CEL A&B"  ⇒ Click the button "Confirm" to proceed  D102159SCVT188_IST_DUMP_PKT_STORE  ⇒ Click the button " End TS!" to proceed  D102159SCVT188_IST_DUMP_PKT_STORE  ⇒ Click the button " End TS!" to proceed  D102159SCVT188_IST_DUMP_PKT_STORE  ⇒ Click the button " End TS!" to proceed  D102159SCVT188_IST_DUMP_PKT_STORE  ⇒ Click the button " End TS!" to proceed

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Test location:	Operator	Product-Assurance:	Date: / /	Time
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	Step-No.	IST_START-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	Р	N
		Z010999MCVT003_IST_START					-	
	44	Click the button "End TS!" to proceed						
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### 7.2.4.1 IST_START_SSMM Procedure

Step- No.	IST_START_SSMM-Step-Descri	ption	Nominal Value	Tolerance	Actual Value		Р	N
1	Z010999MCVT005_IST_START_SSMM  Reply to the prompt:  "SSMM CONFIGURATION  ⇒ Click the button "Confirm" to proceed	ON ??????"	To Check in Config. Table (Page 73) SSMM				V	
2	D102159SCVT186_IST_SSMM_ON  Reply to the prompt "Do you want to co "with such 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.	V	
3	D102159SCVT186_IST_SSMM_ON  ⇒ Click the button "End TS!" to proceed						V	

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	IST_START_SSMM-Step-Description		Nominal Value	Tolerance	Actual Value		P	N
	Z010999MCVT005_IST_START_SSMM	THE PROPERTY OF THE PROPERTY O				occurrence of 2 BSW		
F	Reply to the prompt: "OBCP UPLOADING	G"				problems EvilD 30738		
4	⇒ Click the button "Confirm" to proceed						V	
L	Let run in parallel the sequence						ľ	
[	D102159SCVT193_IST_UPLOAD_OBCP							
	and continue with next step "Packet Store Definition	ı"						
7	Z010999MCVT005_IST_START_SSMM						-	
5							1	
F	Reply to the prompt: "Definition of the Packet  ⇒ Click the button "Confirm" to proceed	Store"					V	
If	f only 1 Bank (bank 0, 1, 2 or 3) is initialised on each \$SM	им						
	D102159SCVT185_IST_PACKET_STORE_DE							l
	f 3 banks (banks 0, 1 and 2) are initialised on each S\$MM D102159SCVT189_IST_PACKET_STORE_DE						1/	ı
6 If	f SSMM A banks 0, 1 and 2 and only SSMM B bank 0 are D102159SCVT178_RMS_PKT_STORE_DEF							
۲	2.02.000041110_VMQ_FK1_910KE_DEF							
V	When the requested SSMM bank are initialised							
	⇒ Click the button "Yes" to proceed							

Test location:	Operator	Product-Assurance:		
P1751	7) .	rioduct-Assurance.	Date:	Time
	1	EXD/	1 105103	•
	1			

Doc. No:

HP-2-ASED-TP-0134

Issue:

4.0

Date: 24.04.2008 File: HP-2-ASED-TP-0134_Herschel_IST_Leading_Procedure_liss_4_0_24-04-08

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## Herschel

Step-No.	IST_START_SSMM-Step-Description	Nominal Value	Tolerance	Actual Value		Р	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				NCR-3492 occurs: (TTRRMMemCorEr_ A 2 := 1)!	V	/
8	Z010999MCVT005_IST_START_SSMM Reply to the prompt: "Initialise MTL Service Buffers				TM(5,4) alarms expected: o Evt_MTLBufADel (ID:26914) o Evt_MTLBufBDel (ID 26915)		
9	D102159SCVT209_START_ON_BOARD_SCHEDU	ULE			SPR 282 TM failure: too quick check	V	
10	D102159SCVT193_IST_UPLOAD_OBCP  Click the button "End TS!" to proceed					V	1

Test location:	Operator 🦙 /	Product-Assurance:	Date:	Time
f5700	Dr.	BM.	U/05/00	:

Doc. No: HP-2-ASED-TP-0134

Issue: 4.0

Date: 24.04.2008

File: HP-2-ASED-TP-0134_Herschel_IST_Leading_Procedure_liss_4_0_24-04-98







Herschel

Step-No.		Nominal Value	Tolerance	Actual Value	Р	N
11	Z010999MCVT005_IST_START_SSMM				./	
11	⇔ Click the button "End TS!" to proceed				V	

Test location: Operator	Product-Assurance:	Date: Mor/o	Time :	
		,	l l	

Doc. No: HP-2-ASED-TP-0134

Issue: 4.0

Date: 24.04.2008

File: HP-2-ASED-TP-0134_Herschel_IST_Leading_Procedure_liss_4_0_24-04-08



Herschel

### 7.2.4.2 ACMS Configuration Procedure

Step- No.	ACMS_CONFIG-Step-Descrip	otion	Nominal Value	Tolerance	Actual Value	Р	N
1	Open the ACMS_H_BLOC MIM Display to veri status updating. Configure a "Telemetry Packet History" window APID = 512					V	
2	A102109SPVT003_ACMS_CONFIG25  At the prompt "Enter your choice", insert to select "Select/Load ACMS_CONFIG Input	"1" File"	1			V	
3	A102109SPVT003_ACMS_CONFIG25   ⇒ Click the button "Continue" to proceed					V	
4	A102109SPVT004_ACMS_LOADCONFIG  At the prompt, "Enter your c  ⇔ Click the button "OK" to proceed		To Check in Config. Table (Page 73) ACMS Config. File		IST-IFOR	V	

PVS1 & updated

Test location:	Operator	Product-Assurance:	Date:	Time
Estec	Dr		21 01/	O3 :

Doc. No: Issue:

HP-2-ASED-TP-0134

4.0

Date:

24.04.2008



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### Herschel

Step- No.	ACMS_CONFIG-Step-Description	on	Nominal Value	Tolerance	Actual Value		Р	N
N/A	A102109SPVT003_ACMS_CONFIG25 At the prompt "Enter your choice", insert to select "ACMS SCOE Configuration"	"6"	6				V	
6 N/A for "Launch Clean Run"	A102109SPVT003_ACMS_CONFIG25						V	
7 N/A for "Launch Clean Run"	A102109SPVT003_ACMS_CONFIG25  Verify on AND YA001939 AMCS SCOE - AS_PSE the parameters  YMACT939 (ACMS SCOE state)  YMASE939 (Simulator stata)  YMAMS939 (MILFE state)  YMAUS939 (UIFE state)	UDO 1 of 1	executing executing executing executing	02.28	not booked	Alarms are expected for TM with APID 2018 and EVID 4 when the parameters on the left have not reached the executing stage yet.	V	

Test location:

Product-Assurance:

Date: Time

U05/06 :

Doc. No:

HP-2-ASED-TP-0134

Issue: Date: 4.0

24.04.2008

File: HP-2-ASED-TP-0134_Herschel_IST_Leading_Procedure_ies_4_0_24-

failed > PUS.#

FOR TPOISH



## Herschel

Step- No.	ACMS_CONFIG-Step-Descripti	on	Nominal Value	Tolerance	Actual Value		Р	N
	A102109SPVT003_ACMS_CONFIG25  At the prompt "Enter your choice", insert to select "ACMS Power ON (in Pre-Sep configution of the button "OK" to proceed	"4" uration)"	4				V	
9	A102109SPVT003_ACMS_CONFIG25   ⇔ Click the button "CONTINUE" to proceed						V	
	A102109SPVT011_ACMS_ON  During this sequence, following events are expect - TM(5,4) Event Report and Reconfiguration Le - TM(5,2) APID:2018 (ACMS_SCOE) indicates "TestDataWord" needs to be switched ON. A seconds later when the corresponding TC is TM(5,2) must disappear Multiple other events TM(5,1), such as "Fdir-Overrun" or "Fdir Rm Parity Error"	og s ACMS few sent, this				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
814-1	- Former	1 Toduct-Assurance.	Date.	Time
4 (10 (	1 1 1 1		9/1/00/01	
	1/ /	LIM .	$1  \mathcal{O}(I(\mathcal{O})) \cap \mathcal{O}(X)$	
			7 0,100	· ·
L	1	1 7 ·		

Doc. No: HP-2-ASED-TP-0134

Issue: 4.0

Date: 24.04.2008

File: HP-2-ASED-TP-8134_Herschel_IST_Leading_Procedure__les_4_0_24-04-08



## Herschel

Step- No.	ACMS_CONFIG-Step-Descript	ion	Nominal Value	Tolerance	Actual Value		Р	N
11	A102109SPVT003_ACMS_CONFIG25  At the prompt "Enter your choice", Insert to select "Modify ACC SGM/RM content"   ⇔ Click the button "OK" to proceed	"5"	5				V	
12	A102109SPVT003_ACMS_CONFIG25   ⇔ Click the button "Continue" to proceed						V	
13	A102109SPVT003_ACMS_CONFIG25  At the prompt "Enter your choice", Insert for "Default configuration for separation"	"20"	20			Expected Out of Limit of AEYYY109 (synchronisation) ACC may become INVALID for a short time TC PM_Reset (ACY42109)	V	
14	A102109SPVT003_ACMS_CONFIG25   ⇔ Click the button "Continue" to proceed					not acknowledge expected	0	

TAlC				
Test location:	Operator n	Product-Assurance:	Deter	
	1 0 0 0 0 0 0	i roduci-Assurance.	Date:	Time
DY E	1 ()		0.11	
	1//	- 1/1/	1 7/1 /	•
			Mode	· .
		951.	1 " (10)1 0	•

Doc. No: HP-2-ASED-TP-0134

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Herschel

Step- No.	ACMS_CONFIG-Step-Descrip	tion	Nominal Value	Tolerance	Actual Value	Р	N
	A102109SPVT003_ACMS_CONFIG25						
15	After about 10 min verify that ACMS Sequence terminated and ACMS CONFIG MAIN MENU 1.	1				V	
	A102109SPVT003_ACMS_CONFIG25						
16	At the prompt "Enter your choice", Insert to select "Return to Main Menu 1.0"	"99"	99			V	/
	⇔ Click the button "OK" to proceed						
	A102109SPVT003_ACMS_CONFIG25						
17	⇔ Click the button "Continue" to proceed					V	

Test location:	Operator	Proc	duct-Assurance:	Data	Time
RTIEL	λ ·	1100	A Di	Date: 71(08/30	Time :
	PC		<del>- 13</del> 61.	/((3.(	

Doc. No: HP-2-ASED-TP-0134 4.0

Issue:

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Herschel

#### 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.

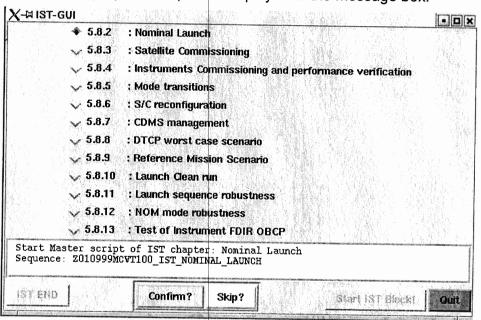


Figure 1: IST_GUI calling Master sequence, for instance "Nominal Launch"

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

Doc. No: HP-2-ASED-TP-0134

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# EADS

## Herschel Integrated Satellite Test Procedure: Leading Procedure

Herschel

Important Note: After execution of the IST Test Case, described in chapter 7.4.	S/C has to be switched off with the "IST END" procedure as
Herschel IST Test Case 'Launch Phase, Separation ar	nd 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 a	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 Scena	rio': HP-2-ASED-TP-0193
Herschel IST Test Case 'Launch Clean Run':	HP-2-ASED-TP-0194
Herschel IST Test Case 'Launch Sequence Robustnes	s': 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 OBC	P' HP-2-ASED-TP-0197

Test location:	Operator	1	Product-Assurance:	Date:	Time
	•		BOI		:
	L			1	

Doc. No: HP-2-ASED-TP-0134

Highlight the TEST Case to be performed in the above

Issue: 4.0

Date: 24.04.2008

File: HP-2-ASED-TP-0134_Herschel_IST_Leading_Procedure__iss_4_0_24-



## Herschel

### 7.4 IST END Procedure

Step- No.	ISI_END-Step-Description	Nominal Value	Tolerance	Actual Value		Р	N
1.	IST_GUI			/	ed	/	
2.	D102159SCVT188_IST_DUMP_PKT_STORE   ⇒ Click the button "Confirm" to proceed				16:27		
3.	D102159SCVT188_IST_DUMP_PKT_STORE				<u>ecl</u> 16:49		/

Toot leasting		1			
114001	perator	1 K	Product ₁ Assurance:	Date:	Time
HTORA CLUMN ROOM ESTRE	0/1	July 1	J. Coossens y.	21/05/200x	16:491.

Doc. No: HP-2-ASED-TP-0134

Issue: 4.0 Date:

24.04.2008

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Herschel

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Step- No.	IST_END-Step-Description		Nominal Value	Tolerance	Actual Value		Р	N
	Z010999MCVT004_IST_END							
4. Only if PACS, SPIRE or HIFI is still ON	If one of the instruments is detected "ON" reply to the  "Should the sequence"  Z102999SCVT011_ASDGEN_PACSPWROFF  Z102999SCVT005_ASDGEN_SPIREPWROFF  Z102999SCVT015_ASDGEN_HIFIPWROFF_  "be called?"  ➡ Click the button "YES" to proceed	_P _P				Not pisquares		
	Z010999MCVT004_IST_END							
CCU A	If CCU is detected "ON" reply to the prompt: Should the sequence "K102999ECVT001_ASDGENCCU_ABPWROFF be of	called			YES.		/	/
	⇒ Click the button "YES" to proceed					16:50.		

Test location:	Operator /	Product-Assurance:	Date; /	Time
HYDRA CLUAN land, CSIZE	0 Kuch	R. Goossens L.	21/05/2008	16:51
		/	,	

Doc. No: HP-2-ASED-TP-0134

Issue: 4.0

Date: 24.04.2008

File: HP-2-ASED-TP-0134_Herschel_IST_Leading_Procedure_les_4_0_24-04-98



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Step- No.	IST_END-Step-Description		Nominal Value	Tolerance	Actual Value		Р	N
6.	Z010999MCVT004_IST_END						+	
ACMS is	"Please ensure that ACMS is set in OCM mode, otherw select the correct menu in the ACMS_CONFIG25"  Perform chapter 7.4.1 then click OK	ise			oK	17:22		
Only if	Z010999MCVT004_IST_END  Start the sequence A102109SPVT061_RWL_SPINDOW	/N?			No.	Out of Limits concerning RWL speed are expected during RWL spin down		
8.	Z010999MCVT004_IST_END  Start the sequence A102109SPVT012_ACMS_OFF?   ⇒ Click the button "YES" to proceed				No		/	/

Test location:	Operator /	Product-Assurance:	Date:	Time
HTDRA CUERN OUT, CERE	/ lock	R. Goossens &	21/05/2008	17 27
			<u> </u>	

Doc. No:

HP-2-ASED-TP-0134

Issue:

Date: 24.04.2008 File: HP-2-ASED-TP-9134_Herschel_IST_Leading_Procedure_les_4_0_24-04-08



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Step- No.	IST_END-Step-Description		Nominal Value	Tolerance	Actual Value		P	N
9. Only if ACMS is still ON	Multiple "New Tm 251004939"	d d n Log				Not bor Ainers		
10. Only if SREM is still ON	Z102999SCVT002_SREM_OFF		Net .			SPR 35-290 NCR 3986 Wrong TM set in HPSDB	/	/
11.	D102159SCVT174_IST_REDUNDANT_CONF  ⇒ Click the button "Ens TS" to proceed					17:29		/
est location	CLUAN ROOM, ESTEC Operator Delle		Product-Assura	nce: OSSENS	Date:	Time	<del>)</del>	29
nc No	HP-2-ASED TP 0134				1			

Doc. No: HP-2-ASED-TP-0134

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Date: 24.04.2008

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Herschel

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Step- No.	IST_END-Step-Description	Nominal Value	Tolerance	Actual Value		Р	N
Only if	Z010999MCVT004_IST_END						
Register	"separated". It must be set to "not separated" to avo			45			
separated flag	⇔ Click the button "Yes" to proceed				(7:3°		
13.	D102159SCVT175_SET_SURV_REG			The second secon			
Only if Survival Register set with separated flag	⇔ Click the button "End TS!" to proceed				17:38	/	/

	1/ 1			
Test location:	Operator	Product-Assurance:	Date:	Time
HTDRA CLEAN loan, ESTRE	such	K. Goossens &	21/05/2008	17:33
•				

Doc. No:

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Issue:

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Date: 24.04.2008

File: HP-2-ASED-TP-0134_Herschal_IST_Leading_Procedure__les_4_0_24-04-08



Herschel

Step- No.	IST_END-Step-Description		Nominal Value	Tolerance	Actual Value		Р	N
	Z010999MCVT004_IST_END							
14.	Reply to the prompt							
Only if	"The CROME registers are not configured "							
CROME						NOTUES		
wrongly	"Such configuration will block TM during Power (	FF"				CALLER		
set								
	⇒ Click the button "YES" to proceed						1	
15.	D102159SCVT176_WRITE_CROME							$\vdash\vdash$
Only if	_ <b>_</b>					NOT		
CROME						P		
wrongly	⇔ Click the button "End TS!" to proceed					CALC		
set								
16.	D102159SCVT188_IST_DUMP_PKT_STORE							/
Only if								.
SSMM is	⇒ Click the button "End TS!" to proceed						1	
ON						17.48		
17.	D102159SCVT181_Disable_PKT_STORE					(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
Only if								
SSMM is	⇔ Click the button "End TS!" to proceed							
ON						17:401	•	

	rator	Product-Assurance:	Date:	Time
HTDEA CLEAN ROOM, ESRC (	Kuck	R. Goossens	# 2/0x/2008	17:49.
	- Annual Control		7	

Doc. No: HP-2-ASED-TP-0134 4.0

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Date: 24.04.2008 File: HP-2-ASED-TP-9134_Herschal_IST_Leading_Procedure_iss_4_0_24-04-98



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Step- No.	IST_END-Step-Description		Nominal Value	Tolerance	Actual Value		Р	N
	The contract of the data cost (and cost	error					/	/
	TM(5,4) EvtId: 149 MM SPW C address transfer     ⇔ Click the button "End TS!" to proceed	error				17:50		
19.	D102159SCVT001PM_SELECT							
Not for Launch Cases	⇔ Click the button "End TS!" to proceed					A:58	/	
20.	Z010999MCVT002_POWER_OFF_HER_IST					14.32		
	⇔ Click the button "End TS!" to proceed					18:04	~	

	/	/ .			
Test location:	Operator	6	Product-Assurance:	Date:	Time
ITIDEA CLOTHIN ROOM, CESTER	nK	uel	K. Goossens A	21/05/2008	18:04
	V			1103/0000	(0)

Doc. No:

HP-2-ASED-TP-0134 4.0

Issue:

Date: 24.04.2008

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Step- No.	IST_END-Step-Description		Nominal Value	Tolerance	Actual Value		Р	N
21	Y102989ETVT020_TTC_SCOE_OFF						1	
Only if						165		
TTC-						NOT		
SCOE is still ON						after		
	Z010999MCVT004_IST_END						-	/
21.	⇔ Click the button "End TS!" to proceed					18:04	/	
	IST_GUI							/
22.	⇔ Click the button "Quit" to terminate the test se	equence					/	
	Update CVS Tag							
	1. Open a <b>shell</b> (xterm)							
23.	2. Execute the command update_tag						. /	
	Insert the name of <b>TAG</b> →						V	
	IST_x_PART_x_TP_xxxx_x_x_END_xxx							
1 1	1ST_1_PACI_1_TP_0197_1SS1_ = FOYE	SCP_SPI	RE-GND-00	3				

	/			
	Operator /	Product-Assurance:	Date: Ti	ime
HYDRA CLEAN GOM GSTGE	Okeel	R. Goossens B	21/05/2008	18:04
/		1)		-

Doc. No: HP-2-ASED-TP-0134

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## Herschel

### 7.4.1 ACMS SCM to OCM transition for power off

Step- No.	IST_END-Step-Description	Nominal Value	Tolerance	Actual Value		P N
	A102109SPVT003_ACMS_CONFIG25					
24.	At the prompt "Enter your choice", insert to select "Transition SCM to OCM"	2		2	net.	
	⇒ Click the button "OK" to proceed, then "Continue"				16:56	
	A102109SPVT003_ACMS_CONFIG25				10.30	
	At the prompt Menu 7 "Enter your choice", insert "5" to select "Reaction wheels spin down"	5		5	ecl	
	Click the button "OK" to proceed, then "Continue"				16:57	
	A102109SPVT003_ACMS_CONFIG25				(0	_
	At the prompt Menu 9 "Enter your choice", insert "1" to select "Switch off ACMS"	1		1	ee i	
	Click the button "OK" to proceed, then "Continue"				17:06	
st location:	CEOTH GOH, ESPEC OLUM	Product Assuran	ce: OSS-ens K	Date: 24 0	Time 17	:07

Doc. No:

Issue: 4.0

Date: 24.04.2008

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Step- No.	IST_END-Step-Description	Nominal Value	Tolerance	Actual Value		Р	N
27.	A102109SPVT012_ACMS_OFF  During this sequence, following event are expected to occur:  • TM(5,4) Evtld:16426 Mode SBSM Entry  • Event Report - Boot Report and Reconfiguration Log  • Event Report - SDB Unhealthy  • TM(5,2) EvtlD: 33 Event Report - ACB Rx Failed  • TM(5,2) EvtlD: 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					/	
28.	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		opj	eel 17:19	/	/

Test location:	Operator /	Product-Assurance:	Date:	Time
HTDAY CLEAN ROOM, ESTEC	1 Keek	A boossens P	21/05/2008	17:20
1	1/2		1 /	

Doc. No: HP-2-ASED-TP-0134

Issue: 4.0

Date: 24.04.2008

File: HP-2-ASED-TP-0134_Herschel_IST_Leading_Procedure__iss_4_0_24-04-08



Herschel

Step- No.	IST_END-Step-Description	Nominal Value	Tolerance	Actual Value		Р	N
29.	A102109SPVT017_ACMS_CRS_BACKGROUND				eel	/	
	⇒ Terminate the sequence.				A-21	$\vee$	

F			/1					
Test location:	Opera	tor /	b	Product-Assurance:	/	Date:	f	Time
HIDRA CLOSIN ROOM, CERCE		) ple	CK	- R. boossens &	2	21/05/	2008	17 21
		/		0	L.			

Doc. No:

Date:

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### Herschel

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### **Summary Sheets**

Doc. No: HP-2-ASED-TP-0134

Issue: | 4.0 Date: | 24.04.2008



Herschel

### 8.1 Procedure Variation Summary

	Test Change	Curr. No.: Date
Test designation	Test Procedure	Page of Rev.
Test step changed	Reason for Change	
	SUMMARY OF RU	Ss
1) ACMS	scoe boot faile	re (SPR-535)
Prepared by:	Resp. Test Leader	Project Engineer

Table 8.1-1: Procedure Variation Sheet

Doc. No:

HP-2-ASED-TP-0134

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## 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/	PA
			Closed	sig.
				The state of the s
	36			
	R )			
	2 ? (			
	7 79			

Table 8.2-2: NCR/SPR Record Sheet

Doc. No: HP-2-ASED-TP-0134

Issue: 4.0

Date: 24.04.2008



### 8.1 Procedure Variation Summary

	1	Test Change	Curr. No.: # 1
			Date 21/05/08
			Page of
Test designation		Test Procedure	Issue Rev.
FDIR OB	scr	TP0134	4 0
Test step changed 7 .2.4 .2		Reason for Change  ACMS So	COE DID NOT BOOT
TLM ERROR Y	MASE 939	FAILURE - SCO	E NOT BOOTE)
THERE IS AN OP I	NOTE TO	COURTHIS OF	NOTE S.
PERFORM OP	NOTE 3	. AND RE CHEC	CK TLM VALUE.
OP NOTE 3	15 To	RESET THE STR	COMPUTORS IF THE
APPLICATIONS	HANG HUA	SG. STILL PERFOR	emed of NOTE S.
NO DIFFEREN	SCE TO		
HA4		Hanual	command stacks file
THOUGHLY RE	SEI Sco	E BY using Ac	MS SCOE ABOUT
KILL hows 23	SA Com	BORTED TEST SC	RIPT ACMS_SCOE_
constig1. Kel	EATED A	11021093PVT10	-3. ACMS_ CONFIGE 1
MENITOR SCOE	IN SH	ELL (WINDOW).	
			PASS WORD: herctest
		s/scae 1s-1	the Carlos
SCOE	NOW	BOOTED OK	pa and
SIMULAR	TO C	oferators a	DOTE 4.
Prepared by:	Resp. Te	est Leader A. Woll	Project Engineer
PRIPARED B. HOGG	Prime		Customer

Table 8.1-1: Procedure Variation Sheet

Doc. No: HP-2-ASED-TP-0134

Issue: | 3.0 4 ~ 0
Date: | 17.04.2008 24 04 20 8 File: HP-2-ASED-TP-0134_Herschel_IST_Leading_Procedure_iss_3_0_17-

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### Herschel

### 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		
Test Conductor	130	2007
PA Responsible		AS RUN

Doc. No: HP-

Issue: 4.0

Date: 24.04.2008

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Page



### Annex B: Script Hierarchy

```
>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
i-----> 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
```

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Issue: 4.0 Date: 1 24.04.2008



|----| ACMS_get_RM_status RMB

|-----|----> D102159SCVT003DISTHERMALCONTROL

|-----| Z010999MMXX003UNITS_CHECK_PWR_OFF |-----| Z010999MMXX003UNITS_CHECK_PWR_OFF |-----| Z010999MMXX003UNITS_CHECK_PWR_OFF |----> Z010999MMXX003UNITS_CHECK_PWR_OFF

|-----|----> Z010999MMXX002UNITS_CHECK |----> R102479SMXX001_XPND_HUM_TXT |----> Y102989EPVT002_PWR_SCOE_OFF

### Herschel Integrated Satellite Test Procedure: Leading Procedure

### Herschel

```
|----> 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
> $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
I----> D102159SCVT028SSMM_OFF
|----> D102159SCVT001PM_SELECT B
|-----|----> Z010999MMXX002UNITS_CHECK
-----> D102159SCVT001PM_SELECT A
```

Doc. No: HP-2-ASED-TP-0134

Issue: | 4.0 Date: | 24.04.2008



## Herschel

### **Annex C: Session Record**

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

HP-2-ASED-TP-0134 Doc. No:

4.0 Issue:

24.04.2008 Date:



### Herschel

# **Annex D: Operation Notes**

### **Operation Note 3**

Title: ACMS SCOE does not boot

Date: 06/02/08

#### Observation:

The ACMS SCOE does not boot.

Reason: One of the STR UCE (Unit Checkout Equipment) electrical stimuli programs hangs.

#### Operator Action:

Until NCR / SPR is solved the following workaround is proposed (by Martijn):

During powering the Power SCOE in the cleanroom:

1) Go to the STR UCE (in cleanroom) and select electrica stimuli PC on the KVM switch,

press 2 time 'scroll lock' and select PC#2.

- 2) Kill the running application, by pressing the cross in the upper right corner.
- 3) Start the UCE application by double clicking the icon 'SMI', an application 'Star Mapper Analogue Chain Simulation' should start up.
- 4) Press 2 time 'scroll lock' and select PC#3 and repeat step 3.

Doc. No: Issue:

HP-2-ASED-TP-0134

Date:

4.0

24.04.2008



Herschel

#### **Operation Note 8**

Date: 14/02/08 DOD Alarm Title:

#### Observation:

During each Power on within the "IST_START" there is a check of the DOD flag. Directly after the "D102159SVT32TIMESYNCRO" the dump of the RM LOG and the DOD Flag check is performed by the "D102159SCVT210_Get_ALARM_STATUS".

If the DOD alarm is present it has to be reset, otherwise the S/C will enter Save Mode directly after separation.

#### **Operator Action:**

For resetting the DOD alarm decrease the Vbat under the DoD threshold and then increasing the Vbat upper the DoD threshold therefore perform the following steps:

Open a shell window -> startCMD bsvnc

On the window "H-P BS SCOE" switch to local

On the window "BS SCOE Config" change the Battery Voltage from 25,4 to 19

The push the button save&update

On the window "BS SCOE Config" change the Battery Voltage from 19 to 25,4

The push the button save&update

On the window "H-P BS SCOE" switch to remote

Execute the script: D102159SCVT210_Get_ALARM_STATUS to dump the RM Log to check DOD Flag Check if DOD alarm is still present

Doc. No:

HP-2-ASED-TP-0134

Issue:

4.0

24.04.2008 Date:

File: HP-2-ASED-TP-0134_Herschel_IST_Leading_Procedure__iss_4_0_24-04-08



### Herschel

#### **Operation Note 11**

Title: Failure in TM Check of CCU Valves	Date: 14/02/08
Observation:	
If CCU Valves sensing lines are connected to CR of CCU the valves status check fails at CCU Pow	RYO SCOE instead ver ON
Operator Action:	
On Test conductor Console, perform "connect PFM_CRYC	D"
<ol> <li>Thanks Telemetry Query Display (TQD) check following TM - YM648958 (VLV_STATUS_V103) instead of KM269302 - YM649958 (VLV_STATUS_V106) instead of KM269303 - YM640958 (VLV_STATUS_V501) instead of KM270302 - YM641958 (VLV_STATUS_V503) instead of KM270303 - YM643 958 (VLV_STATUS_V505) instead of KM271303</li> </ol>	2 = "CLOSED" 3 = "CLOSED" 2 = "CLOSED"
3) On Test conductor Console, perform "disconnect PFM_CR	YO"

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Issue: | 4.0

Date: 24.04.2008



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END OF DOCUMENT

HP-2-ASED-TP-0134 Doc. No:

4.0 Issue:

Date: 24.04.2008



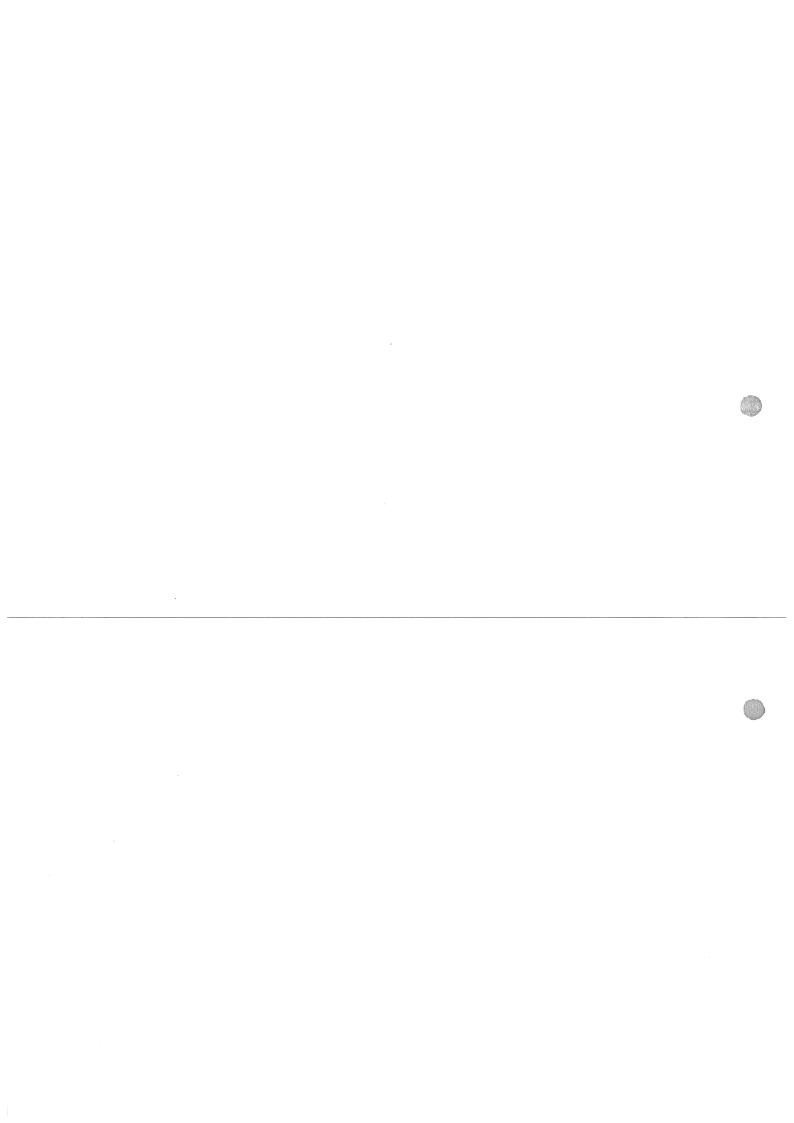




# Insert actual distribution list

Doc. No: HP-2-ASED-TP-0134

Issue: Date: 24.04.2008





# Attachment 4 to Section 6.7:

# As-Run Procedure HP-2-ASED-TP-0197 for SPIRE FDIR OBCP

HP-2-ASED-TR-0257 Doc. No:

Issue:

Date: 5th June 2008 Page **50** of

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

Herschel

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2008_05_21_04_38_heracus_hpws22_ RALTIME _ INST_FDIR

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

CI-No:

100000

Prepared by	Functional AIT Team	Date:28 April 2008	
Checked by:	C. Much	28th April 2008	-
Product Assurance:	J. Hall	28/4/2008	
Configuration Control:	W. Wietbrock W. W. Worldso	30/04/08	
TASF Engineering	G. Beaufils	18/04/2008	
TASF Test Director	S. Mooney Markovaly 1819	18/04/08	
Project Management:	Dr. W. Fricke	en suscer !	ila /28/14/08
Project Management:	D. Montet SMY	28/04/68	
Distribution: S	ee Distribution List (last nage)		

See Distribution List (last page)

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

issue:

Date:

28/04/2008

File: HP-2-ASED-TP-0197_Herschel IST Test Case Test of Instrument FDIR OBCP_iss1_last

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of: 143



# Herschel Integrated Satellite Test Procedure: Instruments FDIR OBCP

# Herschel

Issue	Date	Sheet	Description of Change	Release
1	28.04.2008	All	Initial version	
		The state of the s		

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

Issue: 1

Date: 28/04/2008



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#### 1 Scope

#### 1.1 **Objective**

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

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Table 3 - SPIRE OBCPs

SPIRE OBCPs (refer to chapter 7.5)	APID	TM	Event ID	type	trigger
DB_OBCP_H_SPIRE_DRCU_OFF	1280/1281	5,2	xC000		SPIRE-OBCPTest-DRCUAnomaly.tcl
DB_OBCP_H_SPIRE_OPE_STOP	1280/1281	5,2	xC100		SPIRE-OBCPTest- ObservationAnomaly.tcl
DB_OBCP_H_SPIRE_OPE_RESUME	1280/1281	5,2	xC110		SPIRE-OBCPTest- ObservationAnomalyCorrected.tcl
DB_OBCP_H_SPIRE_OFF	16	5,x	152	DLL	jamming
DB_OBCP_H_SPIRE_OFF_CTRL	16	5,x	185	TFL TM FDIR	SPIRE provided TCs to clear HK.  SPIRE_OBCPTest_OFFCTRL_trigger.tcl

Note:

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

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

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

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## Herschel

### 1.2 Operational Flow

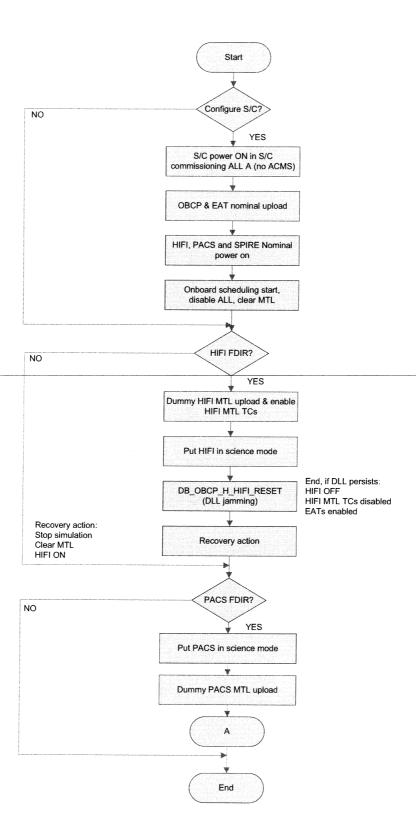
The overall flow of the Instruments FDIR is shown in the schemas of the following pages.

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

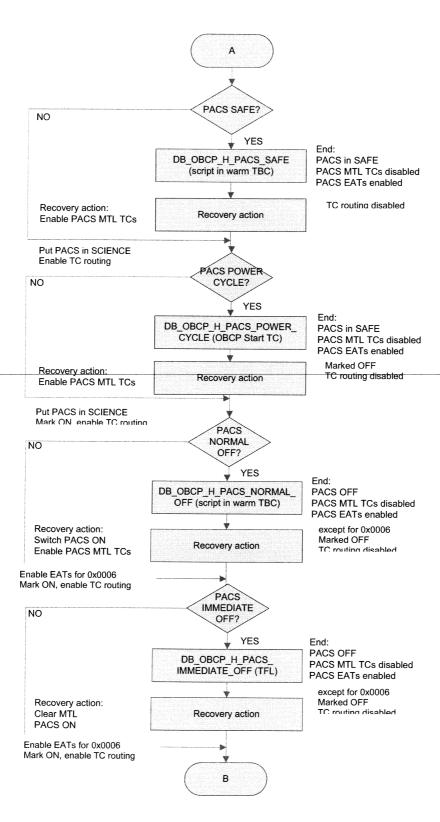
Issue:

1

Date: 28/04/2008



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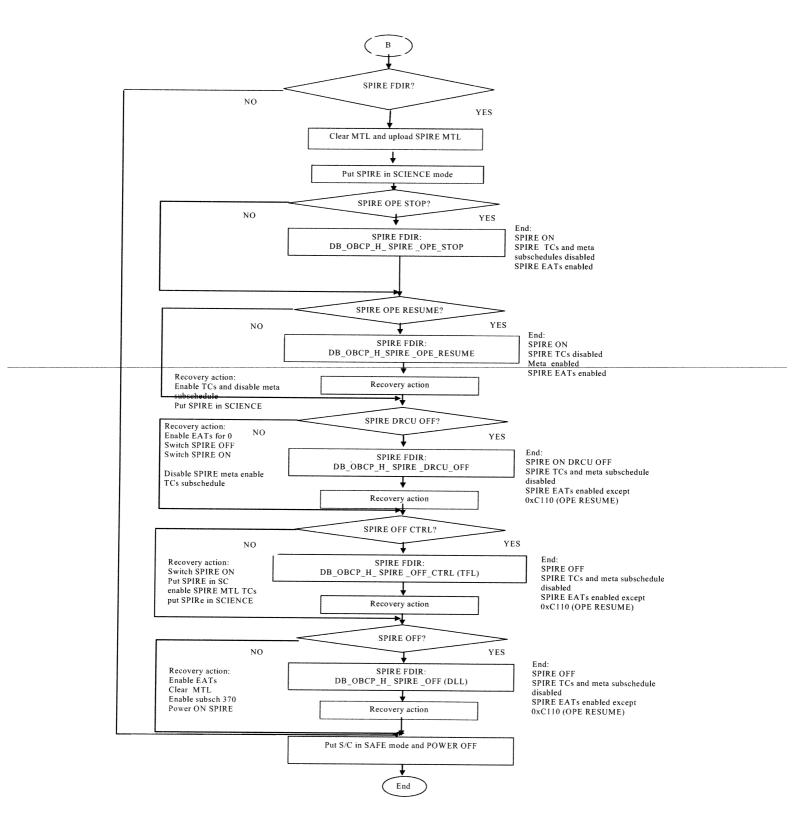
Doc. No: HP-2-ASED-TP-0197

Issue:

1 Date: 28/04/2008



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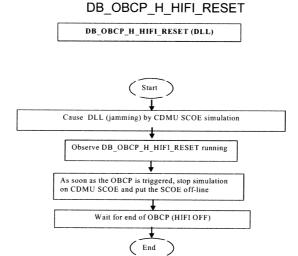
Doc. No: HP-2-ASED-TP-0197

Issue: 1

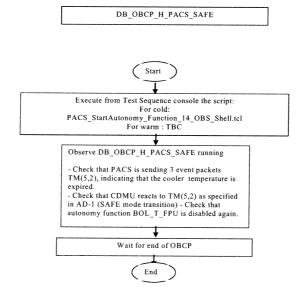
Date: 28/04/2008



### Herschel



#### DB_OBCP_H_PACS_SAFE



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

Issue:

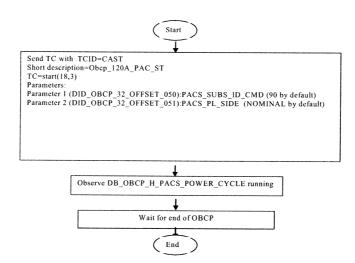
1 Date: 28/04/2008



### Herschel

### DB_OBCP_H_PACS_POWER_CYCLE (OBCP Start TC)

#### DB_OBCP_H_PACS_POWER_CYCLE



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

Issue: 1

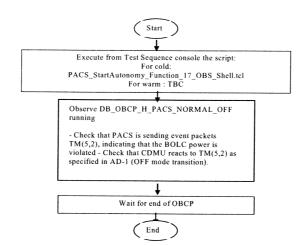
Date: 28/04/2008



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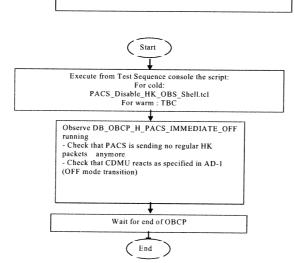
#### DB OBCP H PACS NORMAL OFF

DB_OBCP_H_PACS_NORMAL_OFF



#### DB_OBCP_H_PACS_IMMEDIATE _OFF (TFL)

DB_OBCP_H_PACS_IMMEDIATE_OFF



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

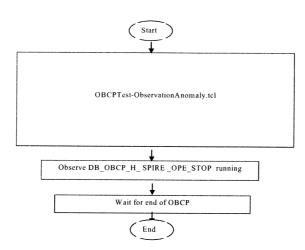
Issue: 1



### Herschel

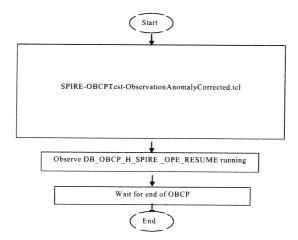
### DB_OBCP_H_ SPIRE _OPE_STOP

DB_OBCP_H_ SPIRE _OPE_STOP



### DB_OBCP_H_SPIRE _OPE_RESUME

DB_OBCP_H_SPIRE _OPE_RESUME



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

Issue:

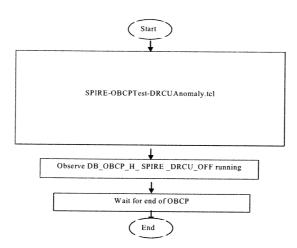
1 Date: 28/04/2008



### Herschel

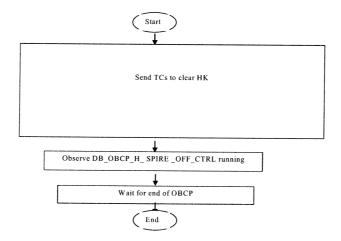
### DB_OBCP_H_ SPIRE _DRCU_OFF

DB_OBCP_H_ SPIRE _DRCU_OFF



#### DB_OBCP_H_ SPIRE _OFF_CTRL (TFL)

DB_OBCP_H_ SPIRE _OFF_CTRL (TFL)



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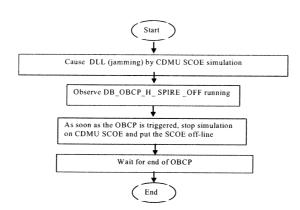
Date: 28/04/2008



### Herschel

### DB_OBCP_H_ SPIRE _OFF (DLL)

DB_OBCP_H_ SPIRE _OFF (DLL)



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#### 2 **Documents/Drawings**

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

#### 2.1 **Applicable Documents**

- AD-1 Herschel Integrated Satellite Test Specification
  - H-P-2-ASP-SP-0939, Issue 6
- AD-2 Payload management and OBCP
  - H-P-ASPI-TN-1072, issue 6
- AD-3 Test Specification for Herschel Instruments AVM and FM Tests performed at Satellite Level
  - HP-2-ASP-TS-1083 1 0

#### 2.2 Reference Documents

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

- RD-1 Herschel SVM User Manual
  - H-P-MA-AI-0001
- RD-2 Herschel/Planck List of Acronyms
  - H-P-ASP-LI-0077
- RD-3 Herschel Instruments power ON-OFF and Mode Switching Procedure for functional **Testing** 
  - HP-2-ASED-TP-0206, Issue 2
- RD-4 Leading Procedure for Herschel Integrated Satellite Test 'IST'
  - HP-2-ASED-TP-0134 iss 4
- RD-5 H-P-TASF-MN-10377
- RD-6 H-P-TASF-MN-10378
- RD-7 H-P-TASF-MN-10199
- RD-8 Mail to S. Hamer

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1



# Herschel

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### 2.3 Other Documents

None

### 2.4 Acronyms

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

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#### 3 Requirements to be verified

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

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### Herschel



### 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

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#### 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

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#### 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

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### 6 Verification Requirements and Test Criteria

#### PASS/FAIL CRITERIA

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

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

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

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

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

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### 7 Test Execution Step-by-Step Procedure

#### 7.1 S/C Initialization

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

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

- on the master GUI, select Test Case Instruments FDIR (5.8.13)
- SKIP the step to launch the IST_START
- Continue with step 1 §7.2 of this procedure calling the master script Z010999MCVT131 IST INSTR FDIR

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

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

#### Steps:

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

NOTE: In this sequence, <u>PERFORM</u> the step "Configure for Instrument FDIR test"

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### 7.2 Test Specific Initialization

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

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Step No.	,	Nominal Value	Tolerance	Actual	Remarks	P	N
4.	During Z010999MCVT131_IST_INSTR_FDIR  "CDMS setting for separation"  ⇒ Click the button "Confirm" to proceed	CONFIRM		Value		V	
5.	During D103159SCVT138_IST_LAUNCH_SUNACQ  ⇒ Wait, go to scriptACMS_CONFIG25	PASS				V	(
6.	During A102109SPVT103_ACMS_CONFIG25	88 OK CONTINUE				V	

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Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
7.	During A102109SPVT103_ACMS_CONFIG25			value		-	<del> </del>
	(1,6,4,5,20,99,88)						
	SEPARATION (open separation straps) Main Menu 3.0: option 2	OK CONTINUE				V	
	⇔ Click the button "OK" and then     ⇔ Click the button "Continue"						
8.	During Z010999MCVT089_ACMS_SAM_MON					-	
	Do you want to continue to monitor SAM Sun Pointing mode?	NO				V	
	⇒ Enter your choice: no						
9.	At end of Z010999MCVT089_IST_LAUNCH_SUNACQ	ENDTS				1/	r
	⇒ Click the button "End TS!" to proceed					V	
	During Z010999MCVT131_IST_INSTR_FDIR				At the end check, from	6 /	
	Transition to Nominal	CONFIRM			SAT.ilv, that FDIR mode is AFO before switching	V	
	⇔ Click the button "Confirm" to proceed				instruments on		

T					
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Step No.		Nominal Value	Tolerance	Actual Value	Remarks	P	N
	During Z010999MCVT089_SUNACQ_NOMINAL  ⇒ Click the button "End TS!" to proceed  During Z010999MCVT131_UST_NETD_EDUR	ENDTS		value		V	
	During Z010999MCVT131_IST_INSTR_FDIR  At the prompt "Command ACMS (via OCM/Earth) to SCM/Earth"   ⇒ Click the button "OK" to proceed	ОК				V	
	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				U	
1	During A102109SPVT036_ACMS_STR_ON  Do you want to change the current STR in use ? Answer no	NO				V	

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Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N	7
15.	During A102109SPVT043_TRANSITION_TO_OCM  Only for info:  ⇒ Verify after ca.7 min if ACMS mode is  = OCM point fine (Earth pointing)  ⇒ Verify in AND: ZAA00999 if Est Attitude Q1Q4 is close to Target  ⇒ Verify AESM3002 = OCM point fine or in synoptic SAT – ACMS – ACC – Mode Nominal	PASS		(A)				
16.	During A102109SPVT043_TRANSITION_TO_OCM  SUSPEND  ⇒ click on script name in Test Console  ⇒ Click the button "RESUME" to proceed  During A102109SPVT103_ACMS_CONFIG25	RESUME		,				Á
.,.	Select Transition to SCM (Science mode).  Main Menu 7.0: Option 3	3 OK CONTINUE				U		

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No.	, = 5500.pu.o	Nominal Value		Tolerance	Actual Value	Remarks	P	N
18.	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			pd 0	AEW1A002, AEW2A002, AEW3A002, AEW4A002 LOW expected until wheels are spun up.	1	
19.	Option: no	NO RWL-1 ang momentum RWL-2 ang momentum RWL-3 ang momentum RWL-4 ang momentum	-10.0 10.0		No		3	

RUL PANEL OPEN HAS BEEN AGREED WITH FLOOR MANAGER THAT
THESE CARD STILL BE OPERATED ESPREN

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No.		Nominal Value	Toler	 Actual Value	Remarks	P	N
20.	Only for info:   ⇒ Verify RWL speed in plotting window  1. Select REALTIME => DESKTOP =>	PASS				i	,

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Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
21.	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		Value	8.07 - <b>6</b> .61 6.79 - 7.78 (10:11 H)	V	í
22.	At end of A102109SPVT042_RWL_SPINUP   ⇒ Click the button "End TS!" to proceed	ENDTS			ACZ2T109 may timeout because of slew time too short. Wait until AESM3002 is "SCM pnt F rdy"	V	

Test location:	Operator	Produ	ct-Assurance:	BAOGE	Date:	Mosk	B 09:50
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Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
23.	During Z010999MCVT131_IST_INSTR_FDIR			Value			
	"Transition from SAS 900W and BS 24V to SAS 1475W and BS full charged"	CONFIRM					
	⇔ Click the button "Confirm" to proceed						
24.	During Z010999MCVT131_IST_INSTR_FDIR						
	"Switch on SREM and start acquisition service"	CONFIRM				V	
	Click the button "Confirm" to continue						
25.	During Z102999SCVT003_SREM_ACQ_START			*childre	SPR-290 CLOSED	1	
	Click the button "End TS!" to proceed	ENDTS		No	NCR 3986 N/A	V	
8 26.	During Z010999MCVT131_IST_INSTR_FDIR				NEW MCR TO BE		154
	"POWER ON HIFI PRIMARY"	CONFIRM				1/9	£5.5
	⇒ Click the button "Confirm" to continue				17p3	7	va

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May 21, 08 10:55 <b>2008052</b>	1_090507_0072_Z010999MCVT131_IST	_INSTR_FDIR.log Page 1/1
2008.142.09.58.27.687442 W160	Z102999SCVT003_SREM_ACQ_START:	Checking Telemetry DEF4
2008.142.09.58.27.713929 on	Z102999SCVT003_SREM_ACQ_START:	Description: Accumulati
[retch DEF4W160]] == "Y	Z102999SCVT003_SREM_ACQ_START:	Condition: [getengvalue
2008.142.09.58.27.862855	Z102999SCVT003_SREM_ACQ_START: Z102999SCVT003_SREM_ACQ_START: Z102999SCVT003_SREM_ACQ_START:	MECH DATED 11-1
2008.142.09.58.28.664386 nd again TC, acquire the	Z102999SCVT003_SREM_ACQ_START: parameters and to repeat the cl	Repeat TC & TM - to se
quire again the paramete	Z102999SCVT003_SREM_ACQ_START:	Repeat TM - to ac
2008.142.09.58.28.724703 ntinue the Test Seguence	Z102999SCVT003_SREM_ACQ_START:	Continue - to co
2008.142.09.58.28.831145 ort the Test Sequence ex	Z102999SCVT003 SREM ACO START.	Abort - to ab
2008.142.10.01.19.460636 inue the test	Z102999SCVT003_SREM_ACQ_START:	User has chosen to cont
2008.142.10.01.19.487764 2008.142.10.01.21.489304 2008.142.10.01.21.489938	Z102999SCVT003_SREM_ACQ_START: Z102999SCVT003_SREM_ACQ_START: Z102999SCVT003_SREM_ACQ_START:	Entering state: WAITING Entering state: RUNNING
2008.142.10.01.21.490020	Z102999SCVT003_SREM_ACQ_START:	No log message



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

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Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
30.	During P102999SCVT905_ASDISTPACS_PWR_ON_N  "Power on PACS prime and enable MIL 1553 I/F. FM PACS Switch on in warm or cold conditions, FPU connected Select NO to abort TS if not correct"	YES		\(\epsilon\)	Conditions may change, so check on RD-3 for current reference and expected OOL.	V	/
	During P102999SCVT905_ASDISTPACS_PWR_ON_N  PACS FDIR OBCPs/EATs loaded and enabled? If not select NO to abort TS. If not sure, check with D102159SCVT192_GET_EAT_REPORT. Then select "YES"	YES		Y5)		V	
32.	During P102999SCVT905_ASDISTPACS_PWR_ON_N "Set Bus Profile back to original setting?"	YES		Aal		V	

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Step No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
33.	During Z010999MCVT131_IST_INSTR_FDIR	74.00		value			
	"POWER ON SPIRE PRIMARY"	CONFIRM				V	
	⇒ Click the button " confirm" to continue						
34.	During S102999SCVT017_ASDGENSPIR_PWR_ON_P  "Power on SPIRE prime and enable MIL 1553 I/F. FM SPIRE Switch on for functional tests only in any conditions Select NO to abort TS if not correct "	YES			Conditions may change, so check on RD-3 for current reference and expected OOL.	V	
35.	⇔ Click the button "YES" to confirm  During						
00.	S102999SCVT017_ASDGENSPIR_PWR_ON_P					if	
	"Set Bus Profile back to original setting?"	YES					
	Click the button "YES" to confirm						
36.	During Z010999MCVT131_IST_INSTR_FDIR						
	At the prompt "SET RX" RATE FROM 4000 to 125 BPS?"	CONFIRM				V	
	⇔ Click the button "Confirm" to continue						

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<b>Step No.</b> 37.	During	Nominal Value	Tolerance	Actual Value	Remarks	P	N
	Z010999MCVT131_IST_INSTR_FDIR  "SAVING ORIGINAL SCBP"  ⇒ Click the button "Confirm" to continue	YES					
38.	During Z010999MCVT131_IST_INSTR_FDIR  "Clear MTL and start ON BOARD SCHEDULING?"  ⇒ Click the button "Confirm" to proceed	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	V	
39.	During Z010999MCVT131_IST_INSTR_FDIR  "Check that all subschedules from 1 to 256, plus the 370 are enabled"  ⇒ Perform activity then click the button "OK" to proceed	PASS OK				V	/

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Step No.	Test-Step-Description	Nominal Value		Tolerance	1	Remarks	P	N
40.	During Z010999MCVT131_IST_INSTR_FDIR  "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 seque continue from - chapter 7.3 for HIFI - chapter 7.4 for PACS - chapter 7.5 for SPIRE	formed also one		Value	Note down: chapter - time stamp		

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Test location:	Operator	Produ	ct-Assurance:		Date:
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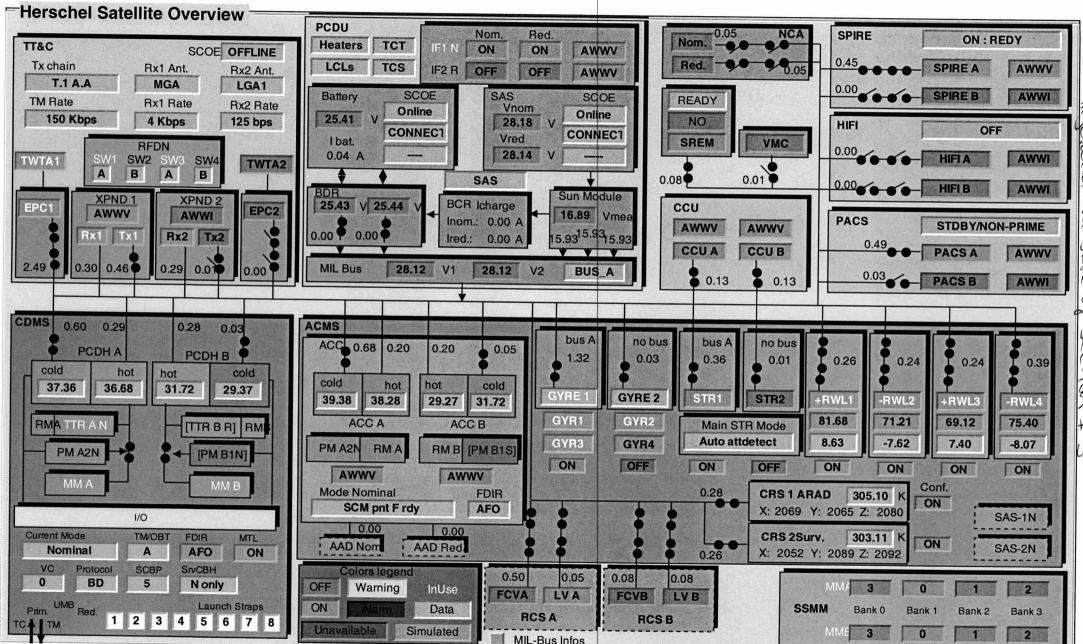
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Date:

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DS: 65535 ID: SAT Title: MIMICS DISPLAY Sample Time: 2008.142.10.46.51.041 Workstation: hpws24 Herschel Satellite Overview PCDU NCA Nom. Red.





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#### 7.3 HIFI

<u>Note:</u> HHIFIEGSEs shall be already running since the script is going to connect to them!

N/A PVS# 1 Skip PAGES 41 TO X8

	Test-Step-Description	Nominal	Tolerance	Actual	Remarks		N
Step-		Value		Value	Tromarko	'	'
41.	Callasync			varue		+-	$\vdash$
	Z010999MCVT134_IST_HIFI_FDIR						
		PASS					
	to perform the HIFI related part of the Instruments FDIR IST						
42.	During					+	$\vdash$
	Z010999MCVT134_IST_HIFI_FDIR						
	#P 6 11171 17	00151514			If SKIP, it exits the script		
	"Perform HIFI FDIR PRIMARY?"	CONFIRM					1 1
	-> Oli-1-11 1 11 110 11 110 11						
	⇒ Click the button "Confirm" to continue						1 1
	During					1	H
	Z010999MCVT134_IST_HIFI_FDIR						
	"Starting as a lities as to 1"	CONFIRM					
	"Starting condition check"	CONFIRM					
	⇒ Click the button "Confirm" to continue						
	- Onor the batton Commit to continue						

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Step-	Test-Step-Description	Noi Val	ninal	Tolerance	Actual Value	Remarks	F	7	٧
44.	During Z010999MCVT134_IST_HIFI_FDIR	Van	10		value			$\frac{1}{1}$	
	"calling ALL_SubscribeParams.tcl"	ОК							
	⇒ Click the button "OK" to continue								
45.	During Z010999MCVT134_IST_HIFI_FDIR					RD-3 for details.		$\dagger$	
	"Please check that no instrument is in science. If so, put it in standby"	ОК							
	⇔ Click the button "OK" to continue								
46.	During Z010999MCVT134_IST_HIFI_FDIR							$\dagger$	1
	"INITIAL S/C STATUS CHECK"	CON	FIRM						
	⇒ Click the button "confirm" to continue								١
47.	During Z010999MCVT153_IST_STATUS						$\top$	$\dagger$	1
	"Do you want to stop and notice each failure"	NO							
	⇒ Click the button "NO" to continue								

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Step-	Test-Step-Description	Noi Val	ninal ue	Tolerance	Actual Value	Remarks	P	N
48.	During 7010000MCVT152 10T 0TATHO				value	Compare with AD-1	+	$\vdash$
	Z010999MCVT153_IST_STATUS					for chapter 5.8.7 of		
		OK				IST specifications		
	⇒ Click the button "OK" to continue							
49.	During 7010000MCVT134 IST LUEL FRID						+	
	Z010999MCVT134_IST_HIFI_FDIR							
	"Set SCBP to HIFI Prime (2)"	COI	FIRM					
	⇒ Click the button " Confirm" to continue							
50.	During						+	$\vdash$
	Z010999MCVT134_IST_HIFI_FDIR							
	"upload dummy MTL with HIFI connection test in subschedule 70"	CON	FIRM					
	Click the button "Confirm to continue"							

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Step-	Test-Step-Description	Nor Val	ninal	Tolerance	i e	Remarks	P	N
51.	During D102159SCVT214_IST_HIFI_MTL_PING	Van			Value			
	"Check the parameters"	PAS	s					
	⇔ Check that there is 1 HIFI PING TC every 5 minutes starting within 15 minutes for 10 hours	ок						
	Click the button "OK" to confirm							
52.	During D102159SCVT214_IST_HIFI_MTL_PING	END	)TS					
	⇔ Click the button "EndTS!" to continue							
53.	During Z010999MCVT134_IST_HIFI_FDIR "Check that subschedule 60 (meta-HIFI) is disabled and 70 (HIFI TCs) are enabled, then press OK"	PAS OK	S					
	⇒ Perform activity and then press the button "OK" to proceed							
54.	During Z010999MCVT134_IST_HIFI_FDIR	PAS	s					
	"Wait for execution of the first command, then press OK"            Click the button "OK" to confirm	ок						
	1 3 Olion the button On to confilm	<u> </u>						

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# Herschel

Step-	Test-Step-Description	Noi	ninal ue	Tolerance	Actual Value	Remarks	P	^
55.	During Z010999MCVT134_IST_HIFI_FDIR  "Put HIFI Primary in science mode"		NFIRM		value			
56.	During Z010999MCVT134_IST_HIFI_FDIR  "Insert call to science mode sequence"  ⇒ Click the button "OK" to confirm	acconduction	async sequence ording to RD-3 current dition.  ne end of it, as OK			Note down chapter of RD-3 that has been executed:		
57.	During Z010999MCVT134_IST_HIFI_FDIR  "Perform HIFI RESET OBCP (DLL)?"  ⇒ Click the button "Confirm" to continue		NFIRM			If SKIP, it continues at step 75.  DB_OBCP_H_HIFI_RESE T is the OBCP under test.		

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Step-	Test-Step-Description	Noi Val	ninal ue	Tolerance	Actual Value	Remarks	P	^
58.	During Z010999MCVT134_IST_HIFI_FDIR  "HIFI RESET DLL FDIR triggering"               Click the button "confirm" to continue		NFIRM		Variate			
59.	During Z010999MCVT134_IST_HIFI_FDIR  "Please filter one TMPKT History for TM(5,4) and one for TM(5,1)"  ⇒ Click the button "OK" to continue	PAS	SS					
60.	During Z010999MCVT134_IST_HIFI_FDIR  "Please start the HIFI (RT 16) simulation on the CDMU SCOE to create jamming"   ⇒ Click the button "OK" to proceed	ОК				OK, then move to the CDMU SCOE desktop		
61.	On CDMS SCOE  Double-click on the link "StartSCOE.bat" on the desktop to start the CDMU SCOE workstation.	PAS	S					

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Step-	Test-Step-Description	Nor Val	ninal	Tolerance	Actual Value	Remarks	P	N
62.	On CDMS SCOE	Jun			value			
	Select Menu: Mode ⇒ Local Mode Password: H-P	PAS	S					
63.	On CDMS SCOE						$\forall$	
	Select from menu: Setup⇔ RTSim Configuration	PAS	S					
64.	On CDMS SCOE						$\dashv$	
	Select file: R:\(192.168.90.32)\Herschel.rtc and then click the button "OK"	PAS	S					
65.	On CDMS SCOE						$\forall$	_
THE COURT WAS A SHARE	Select from menu: Mode ⇒ On Line	PAS	S					

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Step-	Test-Step-Description	Nor Val	ninal ue	Tolerance	Actual Value	Remarks	P	N
66.	On CDMS SCOE  In window: "System Control/RT controls"  ⇒ Select RT 16  ⇒ Click the button "Enable" for:  - control  - TM queue  - TC queue  Wait 8 seconds then immediately perform next step	PAS	S			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.		
67.	On CDMS SCOE  In window: "System Control/RT controls" Click the button "Disable" for: - control - TM queue - TC queue	PAS	s			Very important to stop within 8 sec, to avoid subsequent reconfigurations!!		

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Step-	Test-Step-Description	Non Valu	ninal Ie	Tolerance	Actual Value	Remarks	P	N
68.	During Z010999MCVT134_IST_HIFI_FDIR At the prompt "Wait until the end of the OBCP TM(5,1) with SPID 40145170 procID 0x130D"				Value	If soft reset, HIFI is left ON If hard reset HIFI is left OFF.		
	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	PAS OK	S					
69.	During Z010999MCVT134_IST_HIFI_FDIR  "RECOVERY ACTION"  ⇒ Click the button "Confirm to continue	CON	FIRM					
70. If HARD RESET	During Z010999MCVT134_IST_HIFI_FDIR  "please check subschedules 60 and 70 are disabled"  ⇒ Perform activity and then click the "OK" button to confirm	PAS OK	S					

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_	Test-Step-Description	Non	ninal	Tolerance	Actual	Romarks	 P	M
Step-		Valu		romanac	Value	INCIIIAI NS		/4
71.	During	Tun			value		 $\dashv$	
If SOFT	Z010999MCVT134_IST_HIFI_FDIR	PAS	S					
RESET	"please check subschedules 60 is disabled and 70 is enabled"							
	⇒ Perform activity and then click the "OK" button to confirm	OK						l
72.	During Z010999MCVT134_IST_HIFI_FDIR						1	7
	" Set the CDMU SCOE OFF LINE"	PAS	S					
	On CDMS SCOE, select from menu: Mode → Off Line	ок						
	⇒ Perform activity and then click the button "OK" to proceed							
73.	During Z010999MCVT134_IST_HIFI_FDIR						$\dagger$	$\dashv$
	"End of HIFI RESET OBCP (DLL)"	PAS	S					
	"check that all EATs are enabled"	ок						
	⇒ Perform activity through D102159SCVT192_GET_EAT_REPORT and then click the "OK" button to confirm							

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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
74.	During D102159SCVT192_GET_EAT_REPORT	ENDTS		value			
	⇒ Click the button "EndTS!" to proceed						
75.	During Z010999MCVT134_IST_HIFI_FDIR						
	"RESET starting conditions"	CONFIRM					
	⇒ click the "confirm" to continue						
76.	During Z010999MCVT131_IST_INSTR_FDIR						
	"Check that all subschedules from 1 to 256, plus the 370 are enabled"	ОК					
	⇒ Click the "OK" button to continue						
77.	During					 $\dashv$	
lf	Z010999MCVT134_IST_HIFI_FDIR						
HARD RESET	"Switching HIFI ON"	CONFIRM					
	⇒ click the "CONFIRM" button to confirm						

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Step-	Test-Step-Description	Nor Val	ninal Je	Tolerance	Actual Value	Remarks	1	P	N
78. If HARD RESET	During Z102999SCVT014_ASDGEN_HIFIPWRON_P  "script to switch HIFI on in conditionsclick NO to abort the sequence"				Variac	Refer to RD-3 for exact conditions and expected OOL.			
79. If HARD RESET	⇒ click the "YES" button to confirm  During Z102999SCVT014_ASDGEN_HIFIPWRON_P  "Set SCBP back to the original?"  ⇒ click the "YES" button	YES							
80.	During Z010999MCVT134_IST_HIFI_FDIR  "Please terminate the sequence ALL_SubscribeParams.tcl  ⇒ Perform activity and then click the "OK" button to confirm	ОК							

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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	٨
81.	During Z010999MCVT134_IST_HIFI_FDIR			vaiue			
	"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					
82.	During D102159SCVT192_GET_EAT_REPORT  ⇒ Click the button "EndTS!" to proceed	ENDTS					
83.	At end of Z010999MCVT134_IST_HIFI_FDIR   ⇒ Click the button "End TS!" to proceed	ENDTS					-

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#### 7.4 PACS

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

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

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Step-	Test-Step-Description	Nominal	Tolerance		Remarks	F	2 /	٧
87.	During Z010999MCVT135_IST_PACS_FDIR  "Please check that no instrument is in science. If so put it in standby"  ⇒ Perform the activity and then click the button	OK		Value	RD-3 for details.			
88.	"OK" to confirm  During  Z010999MCVT135_IST_PACS_FDIR  "INITIAL S/C STATUS CHECK"   ⇒ Click the button "Confirm" to continue	PASS						
89.	During Z010999MCVT153_IST_STATUS  "Do you want to stop and notice each failure"  ⇒ Click the button "NO" to continue	NO						
90.	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			

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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	F	P	N
91.	During Z010999MCVT135_IST_PACS_FDIR  "Set SCBP to PACS Prime (4)"	CONFIRM		value				
	⇒ Click the button "Confirm" to continue						1	
92.	During Z010999MCVT135_IST_PACS_FDIR  "upload and enable dummy MTL with PACS connection test in subschedule 90"	CONFIRM			Open an On-Board Queue Display for monitoring the MTL status			
93.	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						
94.	During D102159SCVT125_IST_PACS_MTL_PING  ⇒ Click the button "EndTS!" to continue	ENDTS						

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Ston	Test-Step-Description	Nominal	7	olerance	Actual	Remarks	P	N
Step-		Value			Value			
95.	During Z010999MCVT135_IST_PACS_FDIR					120 TC's are put in the MTL.		
	"Check that the MTL contains one PC023280 (DPU_TEST_CONN) every 5 minutes for 10 hours in subshcedule 90"	PASS OK						
	⇒ Click the button "OK" to continue							
96.	During Z010999MCVT135_IST_PACS_FDIR  "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  During	ОК						
97.	Z010999MCVT135_IST_PACS_FDIR  "Wait for execution of the first command, then press OK"   ⇒ Click the button "OK" to continue	ОК						

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

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Step-		Nominal Value	Tolerance	Actual Value	Remarks	F	7	٧
101.	During Z010999MCVT135_IST_PACS_FDIR  "Execute PACS SCRIPT FOR AUTONOMY FUNCTION 14?"	CONFIRM						
102.	During Z010999MCVT135_IST_PACS_FDIR  "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	l OK						
103.	During Z010999MCVT135_IST_PACS_FDIR  "check that BOL_T_FPU is disabled"  ⇒ Perform activity and then click the "OK" button to confirm	PM165380 (DP_EV_BOL_T_FPU) = Disabled			Leave TQD of PM165380 open to monitor during OBCP			

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Value	Actual   Value	Remarks	P	N
During Z010999MCVT135_IST_PACS_FDIR At the prompt: "Wait until the end of the OBCP TM(5,1) with SPID 40145170 procID 0x1208"  Check that:  ⇒ PACS (APID=1152) 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	Value	Apart from checking the OBCP start and end events against the Proc ID, the other checks can be done off-line.		

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Step-	Test-Step-Description	Nominal	Tolerance		Remarks	F	P	N
105.	During Z010999MCVT135_IST_PACS_FDIR  "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  During	Subschedule 80 OFF 90 OFF		Value				
	Z010999MCVT135_IST_PACS_FDIR  "RECOVERY ACTION"  ⇒ Click the button "Confirm" to continue	CONFIRM						
	During Z010999MCVT135_IST_PACS_FDIR  "If still running, please terminate the sequence that keeps PACS in SCIENCE"  ⇒ Perform activity and then click the "OK" button to confirm	PASS OK						

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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	F	7	٧
108.	During Z010999MCVT135_IST_PACS_FDIR  "Please filter TMPKT History for TM(8,6)"  ⇒ Perform activity and then click the "OK" button to confirm	PASS		value				
109.	During Z010999MCVT135_IST_PACS_FDIR  "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						
110.	During Z010999MCVT135_IST_PACS_FDIR  "Please filter TMPKT History for TM(8,6)"  ⇒ Perform activity and then click the "OK" button to confirm	PASS OK						_

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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
111.	During Z010999MCVT135_IST_PACS_FDIR	value		value			$\dagger$
	"Please check in the report that PACS TC Routing is enabled"	ENABLED					
	⇒ Perform activity and then click the "OK" button to confirm						
112.	During Z010999MCVT135_IST_PACS_FDIR						
	"Check that subschedule 80 (meta-PACS) is disabled and 90 (PACS TCs) is enabled, then press OK"	subschedules 80 OFF 90 ON					
	⇒ Perform activity and then click the "OK" button to confirm						
113.	During Z010999MCVT135_IST_PACS_FDIR		,				
	"End of PACS SAFE OBCP TEST" "check that all EATs are enabled"	PASS					
	⇒ Perform activity through  D102159SCVT192_GET_EAT_REPORT and then  click the "OK" button to confirm	OK					

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<b>Step-</b> 114.	Test-Step-Description  During	Nominal Value		Tolerance	Actual Value	Remarks	P	'   ^	٧
114.	D102159SCVT192_GET_EAT_REPORT	ENDTS							
115.	During P102999SCVT904_ASDGENPACS_NomSpect  "FM PACS Simulate Spectroscopy for test in ANY conditions - abort TS if not correct: Choose Yes or No"  ⇒ Click the button "Yes" to confirm	YES  Check that file in /HPCCS/VARIABLE/RESUL <test_session>/TMDUMP/ /<date-time>VC1.txt is increasing.</date-time></test_session>	.TS/			Refer to RD-3 for current message and expected OOL.  When PC012380 is sent proceed to next step  Note: TC will remain pending until end of science			
116.	During P102999SCVT904_ASDGENPACS_NomSpect  "Set PACS(4) as active bus profile?"  ⇒ Click the button "Yes" to confirm	YES							
117.	During Z010999MCVT135_IST_PACS_FDIR  "TEST the PACS POWER CYCLE OBCP?"  ⇒ Click the button "Confirm" to continue	CONFIRM				If SKIP, it continues at step 134.  DB_OBCP_H_PACS_POWER_CYCLE is the OBCP under test.			

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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
118.	During Z010999MCVT135_IST_PACS_FDIR	Value		value			
	"TRIGGER OBCP WITH START TC"	CONFIRM					
	⇔ Click the button "Confirm to continue						
119.	Z010999MCVT135_IST_PACS_FDIR  "Filter a TMPKT history for TM(5,1)"  ⇒ Check script name and then click the button "OK" to confirm	PASS OK					
120.	During Z010999MCVT135_IST_PACS_FDIR  "sending EGSE_tcsend_CEV DCAST185 { DPV32185 90 } { DPV32185 0}"  ⇒ click the "OK" button to confirm	ОК					

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Step-	Test-Step-Description	Nominal	Tolerance		Remarks	P	٨
121.	During Z010999MCVT135_IST_PACS_FDIR 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		Value	Please note that the execution time of the OBCP takes about 9 minutes and that after OK there will be another waiting time of 5 minutes for safety		

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Step-		Value		Value			
122.	During Z010999MCVT135_IST_PACS_FDIR  "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					
123.	During					++	-
	Z010999MCVT135_IST_PACS_FDIR  "RECOVERY ACTION"  ⇒ Click the button "Confirm to continue	CONFIRM					
124.	During Z010999MCVT135_IST_PACS_FDIR  "if still running, please terminate the sequence that keeps PACS in SCIENCE"  ⇒ Perform activity and then click the "OK" button to confirm	PASS OK					

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	Test-Step-Description	Nominal	Tolerance	Actual	Remarks	P	N
Step-		Value		Value			1
125.	During Z010999MCVT135_IST_PACS_FDIR  "Please filter TMPKT History for TM(8,6)"	PASS					
	⇒ Perform activity and then click the "OK" button to confirm	ОК					
126.	During Z010999MCVT135_IST_PACS_FDIR  "Please check in the report that PACS TC Routing is disabled"  ⇒ Perform activity and then click the "OK" button to confirm	DISABLED					
127.	During Z010999MCVT135_IST_PACS_FDIR  "Please filter TMPKT History for TM(8,6)"  ⇒ Perform activity and then click the "OK" button to confirm	PASS OK					

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### Herschel

Step-	Test-Step-Description	Nominal	Tolerance		Remarks	P	N
128.	During Z010999MCVT135_IST_PACS_FDIR	Value PACS		Value			
	"Please check in the report that PACS TC Routing is enabled"	1					
	⇒ Perform activity and then click the "OK" button to confirm	ОК					
129.	During Z010999MCVT135_IST_PACS_FDIR						$\prod$
	"Check that subschedule 80 (meta-PACS) is disabled and 90 (PACS TCs) is enabled, then press OK"	Subschedules 80 OFF 90 ON OK					
	⇒ Perform activity and then click the "OK" button to confirm	UK .					
130.	During Z010999MCVT135_IST_PACS_FDIR						
	"End of PACS POWER CYCLE TEST. check that all EATs are enabled"	PASS					
	⇒ Perform activity through  D102159SCVT192_GET_EAT_REPORT  and then click the "OK" button to confirm	ОК					

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	Test-Step-Description	Nominal		Tolerance	Actual	Remarks	P	7	N
Step-		Value			Value		ľ	1	1
131.	During D102159SCVT192_GET_EAT_REPORT   ⇒ Click the button "EndTS!" to proceed	ENDTS							
132.	During P102999SCVT904_ASDGENPACS_NomSpect  "FM PACS Simulate Spectroscopy for test in ANY conditions - abort TS if not correct: Choose Yes or No"	Check that file in /HPCCS/VARIABLE/RESUL <test_session>/TMDUMP/ /<date-time>VC1.txt is increasing.  YES</date-time></test_session>	TS/			Refer to RD-3 for current message and expected OOL.  When PC012380 is sent proceed to next step  Note: TC will remain pending until end of science			
133.	During P102999SCVT904_ASDGENPACS_NomSpect "Set PACS(4) as active"  ⇒ Click the button "Yes" to confirm	CONFIRM							

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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
134.	During Z010999MCVT135_IST_PACS_FDIR				If SKIP, it continues at step 156.		
	"PACS NORMAL OFF OBCP"	CONFIRM			DB_OBCP_H_PACS_NORMAL_OFF is the OBCP under test.		
	⇒ Click the button "Confirm" to continue				and obor under test.		
135.	During Z010999MCVT135_IST_PACS_FDIR						
	"Execute PACS SCRIPT FOR AUTONOMY FUNCTION 17?"	CONFIRM					
	⇔ Click the button "Confirm" to continue						
136.	During Z010999MCVT135_IST_PACS_FDIR				If script is not correct, abort the test sequence		
	"Calling script PACS_StartAutonomy_Function_17_OBS_Shell.tcl"	ок					
	⇒ Perform activity and then click the "OK" button to confirm						

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	Test-Step-Description	Nominal	Tolerance	Actual	Remarks	P	N
Step-		Value		Value			il
137.	During Z010999MCVT135_IST_PACS_FDIR At the prompt:				Apart from start and end events checks, the other can be done offline.		
	"Wait until the end of the OBCP TM(5,1) with SPID 40145170 procID 0x120C" Check that:						1
	⇒ 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	PASS					
	⇒ TM(5,4) with Event ID = 0x2001, SID = 0	ОК					
	⇒ 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						

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	7. (0) 0						
	Test-Step-Description	Nominal	Tolerance	Actual	Remarks	P	N
Step-		Value		Value			
138.						+	$\vdash$
	During Z010999MCVT135_IST_PACS_FDIR  "Check that PACS is OFF and MTL TCs are disabled"  ⇒ Perform activity and then click the "OK" button to confirm	All PACS LCLs (27,41,35,65) OFF					
139.	During Z010999MCVT135_IST_PACS_FDIR "check that all EATs are enabled except0x006 for APIDs 0x0480 and 0x0481"  ⇒ Perform activity from D102159SCVT192_GET_EAT_REPORT Then press OK	PASS OK					
140.	During D102159SCVT192_GET_EAT_REPORT   ⇒ Click EndTS to continue	ENDTS					

					1
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Step-	Test-Step-Description	Nominal Value	Toleranc	Actual Value	Remarks	F	P	N
141.	During Z010999MCVT135_IST_PACS_FDIR	Value		Value		1	1	
	"RECOVERY ACTION"	CONFIRM						
142.	During Z010999MCVT135_IST_PACS_FDIR			-		T	1	
	"If still running, please terminate the sequence to keep PACS in SCIENCE"	ОК						
	⇒ Perform activity and then click the "OK" button to confirm							
143.	During Z010999MCVT135_IST_PACS_FDIR					T	$\dagger$	
	"Please filter TMPKT History for TM(8,6)"	PASS						
	⇒ Perform activity and then click the "OK" button to confirm	ОК						

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Step-	Test-Step-Description	Nominal	Tolerance	1	Remarks	P	N
144.	During Z010999MCVT135_IST_PACS_FDIR  "Please check in the report that PACS TC Routing is disabled"	PACS Gnd-LoPrio DISABLED		Value			
	⇒ Perform activity and then click the "OK" button to confirm	ОК					
145.	During Z010999MCVT135_IST_PACS_FDIR  "Please filter TMPKT History for TM(8,6)"  ⇒ Perform activity and then click the "OK" button to confirm	PASS OK					
	During Z010999MCVT135_IST_PACS_FDIR  "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					

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Ston	Test-Step-Description	Nominal	Tolerance		Remarks	P	٨	ī
Step-	During	Value		Value			L	
147.	Z010999MCVT135_IST_PACS_FDIR "check that all EATs are enabled"	PASS						
	⇒ Perform activity from D102159SCVT192_GET_EAT_REPORT Then press OK	ОК						
148.	During D102159SCVT192_GET_EAT_REPORT	ENDTS						-
110							L	
149.	During Z010999MCVT135_IST_PACS_FDIR							
	"Switching PACS ON"	ОК						
	⇒ Click the "OK" button to confirm							
150.	During H102999SCV905_ASDGENPACS_PWR_ON_N				Refer to RD-3 for current message and expected OOL.			
	"Power on PACS prime and enable MIL 1553 I/F. FM PACS Switch on in warm or cold conditions, FPU connected Select NO to abort TS if not correct"	YES						
	⇒ Click the button "YES" to confirm							

T41"					
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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
151.	During P102999SCVT905_ASDISTPACS_PWR_ON_N  PACS FDIR OBCPs/EATs loaded and enabled? If not select NO to abort TS. If not sure, check with D102159SCVT192_GET_EAT_REPORT. Then select "YES"   ⇒ Click the button "YES" to confirm	YES		value			
152.	During P102999SCVT905_ASDISTPACS_PWR_ON_N "Set Bus Profile back to original setting?"	YES					
153.	During P102999SCVT918_ASDISTPACS_MarkON  "Mark PACS Units ON?"  ⇒ click "confirm" to continue	CONFIRM					

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Step-		Nominal Value	Tolerance	Actual Value	Remarks	P	N
154.	During Z010999MCVT135_IST_PACS_FDIR  "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	Subschedules 80 OFF 90 ON		value			
	Confirm  During Z010999MCVT135_IST_PACS_FDIR  "End of PACS NORMAL OFF TEST.   ⇒ click the "OK" button to confirm	ОК					
L							

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# Herschel

Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
156.	During Z010999MCVT135_IST_PACS_FDIR  "PACS IMMEDIATE OFF OBCP?"  ⇒ Click the button "Confirm" to continue	CONFIRM			If SKIP, it continues at step 180.  DB_OBCP_H_PACS_IMMEDIATE_OFF is the OBCP under test.		
157.	During Z010999MCVT135_IST_PACS_FDIR  "Execute PACS script for clearing HK?"  ⇒ click the "Confirm" button to continue	CONFIRM					
158.	During Z010999MCVT135_IST_PACS_FDIR  "Filter one TMPKT History for PACS HK and one for TM(5,1)"  ⇒ Perform activity and then click the "OK" button to confirm	ок			PACS APID 1152/1154		

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Step-		Nominal Value	Tolerance	Actual Value	Remarks	P	N
159.	During Z010999MCVT135_IST_PACS_FDIR  "check that PACS is sending no regular packets any more"  ⇒ Perform activity and then click the "OK" button to confirm	PASS OK					
160.	During Z010999MCVT135_IST_PACS_FDIR 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			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		

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	Test-Step-Description	Nominal	Tolerance	Actual	Remarks	P	N
Step-		Value		Value	riomarko	'	''
161.	During Z010999MCVT135_IST_PACS_FDIR "Please check that subschedule 80 (meta-PACS) is	Subschedules		Varac			
	disabled and 90 (PACS TCs) is enabled Then press OK"	90 ON					
	⇒ Perform activity and then click the "OK" button to confirm	ОК					
	During Z010999MCVT135_IST_PACS_FDIR "check that all EATs are enabled except0x006 for APIDs 0x0480 and 0x0481"	PASS					
	⇒ Perform activity from D102159SCVT192_GET_EAT_REPORT Then press OK	ОК					
	During D102159SCVT192_GET_EAT_REPORT	ENDTS					
	⇔ Click EndTS to continue						

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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
163.	During Z010999MCVT135_IST_PACS_FDIR	Vaule		value			T
	"RECOVERY ACTION"	CONFIRM					
	⇒ click Confim to continue						
164.	During Z010999MCVT135_IST_PACS_FDIR				PACS SHOULD NOT BE IN SCIENCE		T
	"If still running, please terminate the sequence to keep PACS in SCIENCE"	ОК					
	⇒ Perform activity and then click the "OK" button to confirm						
165.	During Z010999MCVT135_IST_PACS_FDIR	D. 0.0					T
	"Please filter TMPKT History for TM(8,6)"	PASS					
	⇒ Perform activity and then click the "OK" button to confirm	ОК					

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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	F	7	N
166.	During Z010999MCVT135_IST_PACS_FDIR  "Please check in the report that PACS TC Routing is disabled"	PACS		value			1	
	⇒ Perform activity and then click the "OK" button to confirm	ок						
167.	During Z010999MCVT135_IST_PACS_FDIR  "Please filter TMPKT History for TM(8,6)"  ⇒ Perform activity and then click the "OK" button to confirm	PASS OK						
168.	During Z010999MCVT135_IST_PACS_FDIR  "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						

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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
169.	During Z010999MCVT135_IST_PACS_FDIR "check that all EATs are enabled"  ⇒ Perform activity from D102159SCVT192_GET_EAT_REPORT Then press OK	PASS OK		Varac			
170.	During D102159SCVT192_GET_EAT_REPORT  ⇒ Click EndTS to continue	ENDTS					
171.	During Z010999MCVT135_IST_PACS_FDIR  "Switching PACS ON"  ⇒ Click the "OK" button to confirm	ОК					

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

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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
175.	During P102999SCVT918_ASDISTPACS_MarkON  "Mark PACS Units ON?"  ⇒ click "confirm" to continue	CONFIRM			Monitor ZAD1E999		
176.	During Z010999MCVT135_IST_PACS_FDIR  "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	OK					
177.	During Z010999MCVT135_IST_PACS_FDIR "End of PACS IMMEDIATE OFF TEST "  ⇒ click the "OK" button to confirm	ОК					

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Step-	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
178.	During Z010999MCVT135_IST_PACS_FDIR	Value		Varac			
	"End of PACS FDIR TEST (PRIMARY) check that all EATs are enabled"	PASS					
	⇒ Perform activity through  D102159SCVT192_GET_EAT_REPORT and then click the "OK" button to confirm	ОК					
179.	During D102159SCVT192_GET_EAT_REPORT	ENDTS					
	Click the button "EndTS!" to proceed						
180.	During Z010999MCVT135_IST_PACS_FDIR						
	"RESET the starting condition"	CONFIRM					
	⇔ Click the button "Confirm" to continue						
181.	During Z010999MCVT135_IST_PACS_FDIR	PASS					
	" Terminate ALL_SubscribeParams.tcl"						
	⇒ Perform activity and then click the "OK" button to confirm	ОК					

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C4===	Test-Step-Description	Nominal	Tolerance	Actual	Remarks			P	N
Step-		Value		Value					
182.	During Z010999MCVT135_IST_PACS_FDIR	PASS							
	"Check that PACS is ON but in no prime (STDBY)"	ОК							
	⇔ Click the "OK" button to confirm								1
183.	During Z010999MCVT135_IST_PACS_FDIR  "Check that all subschedules from 1 to 256, plus	PASS							
	370 are enabled"  ⇒ Click the button "OK" to confirm	OK							
184.	At end of Z010999MCVT135_IST_PACS_FDIR								
	⇒ Click the button "End TS!" to proceed	ENDTS							

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### 7.5 SPIRE

Step -No.	, , , , , , , , , , , , , , , , , , , ,	Nominal Value	Tolerance	Actual Value	Remarks	P	N
185.	Callasync			Value		+	-
	Z010999MCVT137_IST_SPIRE_FDIR_formal to perform the SPIRE related part of the Instruments FDIR IST	PASS		PASS		i	/
	⇒ Click the button "Confirm" to continue	CONFIRM		Confier	If SKIP, it exits the script	V	
187.	During Z010999MCVT137_IST_SPIRE_FDIR_formal  "Starting condition check"	CONFIRM	C	017612		V	

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Step -No.	Test-Step-Description	Nominal Value	Tolerance	1	Remarks	P	N
188.	During Z010999MCVT137_IST_SPIRE_FDIR_formal  "Please check that no instrument is in science. If so, put it in standby"	PASS		PAKS OK	RD-3 for details	V	
189.	During Z010999MCVT137_IST_SPIRE_FDIR_formal "INITIAL S/C STATUS CHECK"  ⇒ Click the button "Confirm" to continue	CONFIRM		CONFIR	~~	V	/
190.	During Z010999MCVT153_IST_STATUS  "Do you want to stop and notice each failure"  ⇒ Click the button "NO" to continue	NO		No		V	,
191.	During Z010999MCVT153_IST_STATUS	PASS		PASS	Compare with AD-1 for chapter 5.8.13 of IST specification	V	

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Step -No.	Test-Step-Description	Nominal	Tolerance	Actual	Remarks	P	N
192.	During Z010999MCVT137_IST_SPIRE_FDIR_formal  "Set SCBP to SPIRE Prime (3)"   ⇒ Click the button "confirm" to continue	CONFIRM		Value Guf1		V	
193.	During Z010999MCVT137_IST_SPIRE_FDIR_formal  "Upload and enable dummy MTL with SPIRE connection test in subschedule 370"	CONFIRM		Gutun		V	/
194.	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		ОЦ	120 TCs are expected.		/
195.	During D102159SCVT218_IST_SPIRE_MTL_PING  ⇒ Click the button "EndTS!" to continue	ENDTS		ENDYS		U	

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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	PN
196.	Check that the MTL contains one SCL00500 (TEST CONNECTION) every 5 minutes for 10 hours in subschedule 370			01		V
197.	During Z010999MCVT137_IST_SPIRE_FDIR_formal  "Check that subschedule 100 (meta-SPIRE) is disabled and 370 (SPIRE TCs) is enabled, then press OK"  ⇒ Perform activity and then click the "OK" button to confirm	Subschedules 100 OFF		04		V
198.	During Z010999MCVT137_IST_SPIRE_FDIR_formal  "Wait for execution of the first command, then press OK"   ⇒ Click the button "OK" to continue	PASS OK		PA55		7
199.	During Z010999MCVT137_IST_SPIRE_FDIR_formal "Put SPIRE Primary in science"              Click the button "Confirm" to continue	CONFIRM		CONFIL		2

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Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
200.	During S102999SCVT911_ASDDBGSPIR_STBY2OPS "Command SPIRE from REDY to OPS mode in any conditions - select NO to abort TS"	YES		YES	Refer to RD-3 for correct message and expected OOLs.	7	
201.	During \$102999\$CVT911_ASDDBG\$PIR_\$TBY2OP\$ "Bus profile left as \$PIRE prime while in OP\$ mode"  ⇒ Click the button "OK" to continue	ОК		or		2	
202.	During Z010999MCVT137_IST_SPIRE_FDIR_formal  " Check that SPIRE is producing science packets"  ⇒ Click the button "OK" to continue	PASS OK		PARS	Check that file in /HPCCS/VARIABLE/RESULTS/ <test_session>/TMDUMP/ /<date-time>VC1.txt is increasing. With TM from APID 1284</date-time></test_session>	7	

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# Herschel

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
203.	During Z010999MCVT137_IST_SPIRE_FDIR_formal "TEST the SPIRE OPE STOP FDIR?"  ⇒ Click the button "Confirm" to continue	CONFIRM		CONFRO	If SKIP, it continues at step 211.  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.		
204.	During Z010999MCVT137_IST_SPIRE_FDIR_formal "TRIGGER OBCP WITH SPIRE SCRIPT"  ⇒ Click the button "Confirm" to continue	CONFIRM		GONGR	7	7	
205.	During Z010999MCVT137_IST_SPIRE_FDIR_formal  "Please filter one TMPKT History for APID 16 and type 5 and one for APID 1280 Type 5"   ⇒ Click the button "OK" to continue	PASS OK		Ass ox		2	

Test location:	Operator	Produ	ct-Assurance:	Date:	
ESTER HTDRA.	SnAJ	B	Store E. Horse	21/05/08	11:20

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Issue:

Date: 28/04/2008

File: HP-2-ASED-TP-0197_1.doc



# Herschel

-No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
206.	During Z010999MCVT137_IST_SPIRE_FDIR_formal  "executing script SPIRE-OBCPTest- ObservationAnomaly.tcl"   ⇒ Click the button "OK" to confirm	ОК		de		7	

Test location:	Operator	Produ	ct-Assurance:	Date:	
Company III and	/ \	_		2010.	4
ESIEG HUDGE	Sugg	$\subseteq$	F. Hose	21/05/08	11:21
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Issue:

Date: 28/04/2008

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# Herschel

Γ	Step	Test-Step-Description	Nominal	Toloronos	A = 4=1	T		
	-No.	The state of the s	Value	Tolerance	Actual	Remarks	P	N
	207.	During	value		Value		$\dashv$	
	201.	Z010999MCVT137_IST_SPIRE_FDIR_formal		1,	Gar. CI		_	
				1)	GXCI		7	
- 1		at the prompt:			0×25	00		
		"Wait until the end of the OBCP TM(5,1) with		2)	0×1106		7	
1		SPID 40145170 procID 0x146"		4,	OXIION			
		<b>3</b> 30+ 1106						
	1	⇒ Wait for ~5 seconds for the reception of						
		TM(5,2) event report with APID 1280 Event ID		0 =	OX			
		0xC100 and SID 0x5200	PASS	4		1	7	
			1 700					
	20	check that OBCP SPIRE OPE STOP has been	OV.	4				
	9	triggered - TM(5,1) with APID 16, SPID 40148170	OK	-	THE STATE OF THE S		-	
		procID 0x1106						
	a	TM(5.4) with ARID 16 EVID 0v1003 CRIPE		93	G			
	2)	⇒ TM(5,4) with APID 16 EvID 0x1003 SPIRE Operations Stopped" is received		5)	0x1003		4	
	_	operations Stopped is received						
	1.	⇔ check that TM(5,1) with APID 16, SPID		1.1				
	4)	40145170 procID 0x1106 is received		(4)	0x1106		)	
					PASS	`	1	
		⇒ Click the "OK" button to confirm			OK.		1	

Test location:	Operator SNH	Product-Assurance:	Date: 21/05/08 11:28
- ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) - ( ) -		3 6	<b>&gt;</b>

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Issue:

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May 21, 08 11:25 TMPH_PRNT_2008.142.11.25.01.446 Page 1/1 TM Packet Query Display TM Packet Details Simulated: N Mnemonic: D_EvRp_148 Description: 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: 8118 Type: 5 Subtype: 1 PI1: 27402 PI2: 0 SPID: 40148170 TPSD: -1 HFA Counter: 0 Filing: E Distribution: E Time Field: Y Packet Period: 0 [msec] CRC: ? Event Severity: ? TM Packet Parameter Data ______ Generation time: 2008.142.11.21.52.853 Reception time: 2008.142.11.21.57.561 TM Packet Raw Data _____ SCOS-2000 Header: 0000:0000 0000 D005 3448 6004 0D00 D505 3448 7E8F 0800 0100 0000 E601 0000 6000 0000 Packet Raw Data: 0000:0810 DFB6 0019 0005 0100 5EC6 6450 DA64 6B0A 0000 1106 0000 0000 0000 0070 261C

May 21, 08 11:25 TMPH_PRNT_2008.142.11.25.13.777

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TM Packet Query Display 

TM Packet Details

Mnemonic: SOBSANOM0500 Description: SPIRE_Observation_Anomaly

SLE ID: 0 OCC ID: 0 VCID: 0

HFA D/S: 65535

Simulated: N

Data Unit Type: GOOD SP

Time Stamp Type: PG

Time Quality: G

SSC: 2423

G/S ID: 0

Type: 5

Subtype: 2

PI1: 49408 PI2: 20992

SPID: 190180500

TPSD: -1

HFA Counter: 0

Filing: E Distribution: E

Time Field: Y

S/C ID: 486

APID: 1280

Packet Period:

0 [msec]

CRC: ?

Event Severity: ?

TM Packet Parameter Data 

Generation time: 2008.142.11.21.51.261

Reception time: 2008.142.11.21.52.556

TM Packet Raw Data

SCOS-2000 Header:

0000:0000 0000 CF05 3448 0EFF 0300 D005 3448 4D7D 0800 0100 0000 E601 0000 6000 0000 0020:1138 FFFF 0000 0000 94EC 550B 0000 0000 0000 FFFF FFFF 10FF 0005 7709 0502

Packet Raw Data:

0000:0D00 C977 0019 0005 0200 5EC6 644F 430C C100 5200 0000 0D05 0000 0000 0000 5DA7

Page 1/1

May 21, 08 11:26 TMPH_PRNT_2008.142.11.26.54.024 TM Packet Query Display TM Packet Details Simulated: N Mnemonic: ERROR REPORT Description: OBCP_Evt Hifi 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: 8127 Type: 5 Subtype: 4 PI1: 12288 PI2: 0 SPID: 45400185 TPSD: -1 HFA Counter: 0 Filing: E Distribution: E Time Field: Y Packet Period: 0 [msec] CRC: ? Event Severity: ? TM Packet Parameter Data Generation time: 2008.142.11.21.56.853 Reception time: 2008.142.11.21.57.563 TM Packet Raw Data SCOS-2000 Header: 0000:0000 0000 D405 3448 5B07 0D00 D505 3448 AD99 0800 0100 0000 E601 0000 6000 0000 Packet Raw Data: 0000:0810 DFBF 0019 0005 0400 5EC6 6454 DA96 1003 0000 0000 0000 0000 0000 76BD

Page 1/1

May 21, 08 11:27 TMPH_PRNT_2008.142.11.27.59.581 TM Packet Query Display TM Packet Details Simulated: N Mnemonic: D_EvRp_145 Description: 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: 8132 Type: 5 Subtype: 1 PI1: 27399 PI2: 0 SPID: 40145170 TPSD: -1 HFA Counter: 0 Filing: E Distribution: E Time Field: Y Packet Period: 0 [msec] CRC: ? Event Severity: ? TM Packet Parameter Data -----Generation time: 2008.142.11.21.59.857 Reception time: 2008.142.11.22.02.061 TM Packet Raw Data SCOS-2000 Header: 0000:0000 0000 D705 3448 1D14 0D00 DA05 3448 3BF1 0000 0100 0000 E601 0000 6000 0000 0020:1138 FFFF 0000 0000 1291 6402 0000 0000 0000 FFFF FFFF 10FF 1000 C41F 0501 Packet Raw Data: 0000:0810 DFC4 0019 0005 0100 5EC6 6457 DB6C 6B07 0000 1106 0000 0000 0000 0072 592F

urrent printe	tory display printout frout time: 2008.142.11.36	om time: 2008 142 11 15	45.25	9 to ti	NT_2( me: 2008. LAY MODE:	142.11	.21.59							Pag	JG 1.	
nemonic	Generation Time	Reception Time	VC	APID	SSC	Туре	STyp	PI1	PI2	DS	SPID	GSID	TmT	TmQ	F	D
_EvRp_145	2008.142.11.21.59.857	2008.142.11.22.02.061	0	16	8132	5	1	27399	0	65535	40145170		PG	G	E	 E
RROR REPORT	2008.142.11.21.56.853	2008.142.11.21.57.563	0	16	8127	5	4	12288	0	65535	45400185		PG	G	E	E
_EvRp_048	2008.142.11.21.54.876	2008.142.11.21.57.562	0	16	8125	5	1	26881	0	65535	40048170		PG	G	E	E
_EvRp_148	2008.142.11.21.52.853	2008.142.11.21.57.561	0	16	8118	5	1	27402	0	65535	40148170		PG	G	E	E
OBSANOM0500	2008.142.11.21.51.261	2008.142.11.21.52.556	0	1280	2423	5	2	49408	20992	65535	190180500		PG	G	E	E
CReport Pkt	2008.142.11.21.42.587	2008.142.11.21.42.738	0	2020	8257	5	1	0	0	65535	134		PG	G	E	E
MTCEve51 EE	2008.142.11.21.37.868	2008.142.11.21.38.022	0	2020	8255	5	1	238	8229	65535	250238946		PG	G	E	Ε
MTCEve51 A4	2008.142.11.20.28.774	2008.142.11.20.28.931	0	2020	8247	5	1	164	0	65535	250164946		PG	G	E	E
MTCEve51 A4	2008.142.11.18.28.587	2008.142.11.18.28.747	0	2020	8234	5	1	164	0	65535	250164946		PG	G	E	E
MTCEve51 A4	2008.142.11.16.27.931	2008.142.11.16.28.081	0	2020	8221	5	1	164	0	65535	250164946		PG	G	E	E
MTCEve51 EE	2008.142.11.16.14.899	2008.142.11.16.15.050	0	2020	8219	5	1	238	8229	65535	250238946		PG	G	E	E
NSR00000500	2008.142.11.15.45.259	2008.142.11.15.50.016	0	1280	2232	5		1281	20736	65535	190100500		PG	G	E	E
								1201	20730	03333	190100300		FG	G	E	E
																6

May 21, 08 11:36				OBE	H_PRI	NT_200	8.14	12.11	.36	.57	<b>7.700</b> Page 1/2
On-Board Event History Current printout time: Number of printed lines	display printout from (2008.142.11.36.57.701)s: 30	time: DISPL	2008.142 AY MODE	2.11.15. BRIEF	43.946 t	o time: 200 MODE: INACT	08.14 FIVE	2.11.36	.51.	249	3
Generation Time	Reception Time	VC		SSC	EVID	Severity	TmT	TmQ	F	D	Message Text
2008.142.11.36.51.249	2008.142.11.36.51.866	0	16	8524	27650	NORM	PG	G	E	E	Event 5-1 TM 19-7 Dump Ended
2008.142.11.36.29.649	2008.142.11.36.29.827	0	2020	8363	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2008.142.11.36.26.649 CFCmod0x40	2008.142.11.36.26.827	0	2020	8362	238	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00EE - VCFC Time datation for VCO-
2008.142.11.36.00.071	2008.142.11.36.00.243	0	2020	8358	0	NORM	PG	G	E	E	TC Report Packet
2008.142.11.34.30.477	2008.142.11.34.30.652	0	2020	8348	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2008.142.11.32.52.112	2008.142.11.32.58.017	0	16	8351	26892	NORM	PG	G	E	E	Event 5-1 TM 11-19 Dump Ended
2008.142.11.32.42.618	2008.142.11.32.42.786	0	2020	8335	0	NORM	PG	G	E	E	TC Report Packet
2008.142.11.32.30.806	2008.142.11.32.30.981	0	2020	8333	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2008.142.11.32.23.110	2008.142.11.32.25.971	0	16	8323	26890	NORM	PG	G	E	E	Event 5-1 TM 11-10 Dump Ended
2008.142.11.32.21.790 CFCmod0x40	2008.142.11.32.21.965	0	2020	8331	238	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00EE - VCFC Time datation for VCO-
2008.142.11.32.19.852	2008.142.11.32.20.020	0	2020	8329	0	NORM	PG	G	E	E	TC Report Packet
2008.142.11.30.30.634	2008.142.11.30.30.805	0	2020	8317	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2008.142.11.28.29.962	2008.142.11.28.30.134	0	2020	8304	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2008.142.11.26.58.821 CFCmod0x40	2008.142.11.26.58.991	0	2020	8293	238	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00EE - VCFC Time datation for VCO-
2008.142.11.26.29.790	2008.142.11.26.29.958	0	2020	8290	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2008.142.11.24.29.618	2008.142.11.24.29.780	0	2020	8276	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2008.142.11.22.28.946	2008.142.11.22.29.108	0	2020	8263	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2008.142.11.21.59.857	2008.142.11.22.02.061	0	16	8132	27399	NORM	PG	G	E	E	Event 5-1 OBCP Ended
2008.142.11.21.56.853	2008.142.11.21.57.563	0	16	8127	12288	ALARM	PG	G	E	E	OBCP_Evt Hifi Off
2008.142.11.21.54.876	2008.142.11.21.57.562	0	16	8125	26881	NORM	PG	G	E	E	Event 5-1 Subschedule Status Changed
2008.142.11.21.52.853	2008.142.11.21.57.561	0	16	8118	27402	NORM	PG	G	E	E	Event 5-1 OBCP Started
2008.142.11.21.51.261	2008.142.11.21.52.556	0	1280	2423	49408	WARN	PG	G	E	E	SPIRE_Observation_Anomaly
2008.142.11.21.42.587	2008.142.11.21.42.738	0	2020	8257	0	NORM	PG	G	E	E	TC Report Packet
2008.142.11.21.37.868 CFCmod0x40	2008.142.11.21.38.022	0	2020	8255	238	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00EE - VCFC Time datation for VC0-
2008.142.11.20.28.774	2008.142.11.20.28.931	0	2020	8247	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2008.142.11.18.28.587	2008.142.11.18.28.747	0	2020	8234	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created

													Print	ed by	hpe	∍xe
May 21, 08			MPH	<u>_PR</u>	NT_2	008.1	42.1	1.40	.40.13	37				Pad	ge 1.	/1
FILTER SETTIN	out time: 2008.142.11.40 GS: b-Type: 9	om time: 2008.142.11.21. .40.138 FILTER MODE: A	52.11 CTIVE	4 to ti: DISP	me: 2008 LAY MODE	3.142.11 E: BRIEF	.21.58 STA	3.854 ATISTIC	: OFF							
Mnemonic	Generation Time	Reception Time	VC	APID	SSC	Type	STyp	PI1	PI2	DS	SPID	GSID	TmT	TmQ	F	D
TcContentRep	2008.142.11.21.58.854	2008.142.11.22.02.059	0	16	8129	1	9	0	0	65535	40094180		PG	 G	 E	 Е
TcContentRep	2008.142.11.21.54.854	2008.142.11.21.57.562	0	16	8123	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.142.11.21.52.855	2008.142.11.21.57.561	0	16	8119	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.142.11.21.52.114	2008.142.11.21.57.560	0	16	8115	1	9	0	0	65535	40094180		PG	G	E	E



### Herschel

Step	Test-Step-Description	Nominal	Tolerance	Actual	Remarks	P	N
-No.	• • • • • • • • • • • • • • • • • • • •	Value	1010141100	Value	TOMANO	1	•
208.	During Z010999MCVT137_IST_SPIRE_FDIR_formal						
逐	At the prompt: "please check SPIRE status and that subschedule 370 (SPIRE TCs) and 100 (meta-SPIRE) are disabled":	LCL11 ON LCL51 ON		DON St		7	
1	⇒ check that SPIRE DRCU is ON	TM (3,25) with APID		<b>3</b>			
2)	⇒ check that SPIRE DPU is ON and generating nominal and critical HK	1280 = CRIT HK 1282 = NOM HK		DON'S			
3)	⇒ check that subschedule 370 (SPIRE TCs) and 100 (meta-SPIRE) are disabled	ОК		att 2)att			
209.	During Z010999MCVT137_IST_SPIRE_FDIR_formal						
	"End of SPIRE OPE STOP TEST" "check that all EATs are enabled"	PASS		PASS			
	⇒ Perform activity through D102159SCVT192_GET_EAT_REPORT and click the "OK" button to confirm	ОК		OK		7	

Test location:	Operator	Product-Assurance:	Date:	
ESTER HYDRA	Sul	BALL B. HOGG	21/05/08	11:37

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

Issue:

Date: 28/04/2008

File: HP-2-ASED-TP-0197_1.doc



# Herschel

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
210.	During D102159SCVT192_GET_EAT_REPORT   ⇒ Click the button "EndTS!" to proceed	ENDTS		eins		1	2
211.	During Z010999MCVT137_IST_SPIRE_FDIR_formal "Test SPIRE OPE RESUME OBCP?"  ⇒ Click the button "Confirm" to continue	CONFIRM		Cookirm	If SKIP, it continues at step 221.  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.	7	
212.	During Z010999MCVT137_IST_SPIRE_FDIR_formal "Trigger OBCP with SPIRE script"  ⇒ click the button "Confirm" to continue	CONFIRM		CONFIRM		7	

<b>T</b>		1		1		1
Test location:	Operator	Produ	ct-Assurance:	Date:		l
ESTEC HYMA	1600	ात्रे	$\sim$ $\sim$	71/00/00	11:120	ĺ
( to there	21.04	1	27 Proce	01/02/08	11.40	

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

Issue: Date:

28/04/2008

File: HP-2-ASED-TP-0197_1.doc



# Herschel

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
213.	During Z010999MCVT137_IST_SPIRE_FDIR_formal "Please filter one TMPKT History for TM type 5"  ⇒ Perform activity then click the button "OK" to continue	PASS		PASS OK		7	
214.	During Z010999MCVT137_IST_SPIRE_FDIR_formal  "executing script SPIRE-OBCPTest- ObservationAnomalyCorrected.tcl"   ⇒ Click the button "OK" to confirm	ОК		OK		J	

Test location:	Operator	Produ	ct-Assurance:	Date:	
ESTEC/HYDRA	SNH	A	B. Hoge	21/05/08	11:42

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

Issue:

Date: 28/04/2008

File: HP-2-ASED-TP-0197_1.doc



# Herschel

Step	Test-Step-Description	Nominal	Talamana	A - 4 - 4	T	T = 1	
-No.	Tool Grop Bescription	Value	Tolerance	Actual Value	Remarks	P	N
215.	During Z010999MCVT137_IST_SPIRE_FDIR_formal	value		value			
	At the prompt: "Wait until the end of the OBCP TM(5,1) with SPID 40145170 procID 0x1107"			1)0×C	110	1	
り	⇒ Wait for ~5 seconds for the reception of TM(5,2) event report with Event ID 0xC110 and SID 0x5200	PASS		0x5° 2) Ox	1107	7	
2)	⇒ check that OBCP SPIRE OPE RESUME has been triggered - TM(5,1) with APID 16, SPID 40148170 procID 0x1107	OK OK		3) Ox	1004	7	
3)	⇒ TM(5,4) with EvID 0x1004 "SPIRE Operations Resumed" is received			6) 0×	1107	7	
4)	⇒ check that TM(5,1) with APID 16, SPID 40145170 procID 0x1107 is received"			PASS			
	⇒ Perform activities and then click the "OK" button to confirm			OK.			

Test location:	Operator	Produ	ct-Assurance:	Date:	***************************************
ESTEC I HADRA	SNH	1	HORE BOO.	21/05/08	11:51

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TM Packet Query Display 

TM Packet Details

Mnemonic: SOBSANOMC500 Description: SPIRE_Observation_Corrected_Anomaly

SLE ID: 0

HFA D/S: 65535

Simulated: N

Data Unit Type: GOOD SP

Time Stamp Type: PG

Time Quality: G

APID: 1280

SSC: 3094

G/S ID: 0

Type: 5

Subtype: 2

OCC ID: 0

PI1: 49424

PI2: 20992

SPID: 190185500

TPSD: -1

HFA Counter: 0

VCID: 0

Filing: E Distribution: E

Time Field: Y

S/C ID: 486

Packet Period:

0 [msec]

CRC: ?

Event Severity: ?

TM Packet Parameter Data

Generation time: 2008.142.11.44.05.267

Reception time: 2008.142.11.44.05.995

TM Packet Raw Data

SCOS-2000 Header:

0000:0000 0000 050B 3448 C014 0400 050B 3448 7931 0F00 0100 0000 E601 0000 6000 0000 0020:1138 FFFF 0000 0000 1C00 560B 0000 0000 0000 FFFF FFFF 10FF 0005 160C 0502

Packet Raw Data:

0000:0D00 CC16 0019 0005 0200 5EC6 6985 4478 C110 5200 0000 0D05 0000 0000 0001 A8AC

TMPH_PRNT_2008.142.11.45.55.724 May 21, 08 11:45

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TM Packet Query Display 

TM Packet Details

Mnemonic: D_EvRp 148 Description: Event 5-1 OBCP Started Simulated: N

S/C ID: 486 G/S ID: 0

SLE ID: 0

Type: 5

OCC ID: 0

Subtype: 1

VCID: 0 HFA D/S: 65535

Data Unit Type: GOOD SP

Time Stamp Type: PG

Time Quality: G

APID: 16

SSC: 8660

PI1: 27402 PI2: 0

SPID: 40148170

TPSD: -1

HFA Counter: 1

Filing: E Distribution: E

Time Field: Y

Packet Period:

0 [msec]

CRC: ?

Event Severity: ?

TM Packet Parameter Data

Generation time: 2008.142.11.44.06.871 Reception time: 2008.142.11.44.09.999

TM Packet Raw Data -----

SCOS-2000 Header:

0000:0000 0000 060B 3448 3F4B 0D00 090B 3448 3840 0F00 0100 0000 E601 0000 6000 0000 0020:1138 FFFF 0100 0000 CA9C 6402 0000 0000 0000 FFFF FFFF 10FF 1000 D421 0501

Packet Raw Data:

0000:0810 E1D4 0019 0005 0100 5EC6 6986 DF09 6B0A 0000 1107 0000 0000 0000 0076 DE35

May 21, 08 11:46 TMPH_PRNT_2008.142.11.46.29.416

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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

OCC ID: 0 SLE ID: 0

VCID: 0

HFA D/S: 65535

Data Unit Type: GOOD SP

Time Stamp Type: PG

Time Quality: G

APID: 16

SSC: 8669

Type: 5 Subtype: 4

PI1: 12288 PI2: 0

SPID: 45400185

TPSD: -1

HFA Counter: 1

Filing: E Distribution: E

Time Field: Y

Packet Period:

0 [msec]

CRC: ?

NCR

Event Severity: ?

TM Packet Parameter Data

Generation time: 2008.142.11.44.10.872

Reception time: 2008.142.11.44.14.007

TM Packet Raw Data

SCOS-2000 Header:

0000:0000 0000 0A0B 3448 8A4F 0D00 0E0B 3448 841C 0000 0100 0000 E601 0000 6000 0000 0020:1138 FFFF 0100 0000 79C0 B402 0000 0000 0000 FFFF FFFF 10FF 1000 DD21 0504

Packet Raw Data:

0000:0810 E1DD 0019 0005 0400 5EC6 698A DF51 1004 0000 0000 0000 0000 0000 0000 EBF3

May 21, 08 11:46 TMPH_PRNT_2008.142.11.46.51.485 Page 1/1 TM Packet Query Display TM Packet Details

Mnemonic: D_EvRp_145 Description: Event 5-1 OBCP Ended

G/S ID: 0

SLE ID: 0 OCC ID: 0

VCID: 0

HFA D/S: 65535

Simulated: N

Data Unit Type: GOOD SP

Time Stamp Type: PG

Time Quality: G

Type: 5

Subtype: 1

CRC: ?

PI1: 27399 PI2: 0

SPID: 40145170 TPSD: -1

SSC: 8673

HFA Counter: 1

Filing: E Distribution: E

Time Field: Y

S/C ID: 486

APID: 16

Packet Period:

0 [msecl

Event Severity: ?

TM Packet Parameter Data _____

Generation time: 2008.142.11.44.13.875

Reception time: 2008.142.11.44.14.009

TM Packet Raw Data

SCOS-2000 Header:

0000:0000 0000 0D0B 3448 385B 0D00 0E0B 3448 7B23 0000 0100 0000 E601 0000 6000 0000 0020:1138 FFFF 0100 0000 1291 6402 0000 0000 0000 FFFF FFFF 10FF 1000 E121 0501

Packet Raw Data:

0000:0810 E1E1 0019 0005 0100 5EC6 698D E015 6B07 0000 1107 0000 0000 0000 0078 A61D

14 display printout from the 2008.142.11.44. ines: 10	om time: 2008 142 11 40	MPF	I_PR	NT 2	008 1	42 1	1 11	$MM \rightarrow C$							
.me: 2008.142.11.44	om time: 2008.142.11.40.2 44.352 FILTER MODE: AG	28 993				74.1	1.44.	44.33					Pag	ge 1/	/1
		CTIVE	B to tir DISPI	me: 2008 LAY MODE	3.142.11 E: BRIEF		.337 TISTIC:	OFF							
eration Time	Reception Time	VC	APID	SSC	Туре	STyp	PI1	PI2	DS	SPID	GSID	TmT	TmQ	F	D
3.142.11.44.29.337	2008.142.11.44.29.533	0	2020	8418	5	1	164	0	65535	250164946		PG	 G	 E	 E
3.142.11.44.13.875	2008.142.11.44.14.009	0	16	8673	5	1	27399	0	65535	40145170		PG	G		E
.142.11.44.10.872	2008.142.11.44.14.007	0	16	8669	5	4	12288	0	65535	45400185					E
.142.11.44.09.042	2008.142.11.44.10.002	0	16	8666	5	1	26881	0	65535	40048170					E
.142.11.44.06.871	2008.142.11.44.09.999	0	16	8660	5	1	27402	0	65535				_		E
.142.11.44.05.267	2008.142.11.44.05.995	0	1280	3094	5	2	49424	20992							E
.142.11.43.56.399	2008.142.11.43.56.583	0	2020	8413	5	1	0								E
.142.11.42.29.165	2008.142.11.42.29.357	0	2020	8403	5	1	164								
.142.11.41.41.602	2008.142.11.41.41.788	0	2020	8398		1									E
.142.11.40.28.993	2008.142.11.40.29.178	0	2020	8389	5	1	164	0	65535	250164946		PG	G	E	E E
															ď
	.142.11.44.29.337 .142.11.44.13.875 .142.11.44.10.872 .142.11.44.09.042 .142.11.44.05.267 .142.11.43.56.399 .142.11.42.29.165	.142.11.44.29.337 2008.142.11.44.29.533 .142.11.44.13.875 2008.142.11.44.14.009 .142.11.44.10.872 2008.142.11.44.14.007 .142.11.44.09.042 2008.142.11.44.10.002 .142.11.44.06.871 2008.142.11.44.09.999 .142.11.44.05.267 2008.142.11.44.05.995 .142.11.43.56.399 2008.142.11.43.56.583 .142.11.42.29.165 2008.142.11.42.29.357 .142.11.41.41.602 2008.142.11.41.41.788	.142.11.44.29.337 2008.142.11.44.29.533 0 .142.11.44.13.875 2008.142.11.44.14.009 0 .142.11.44.10.872 2008.142.11.44.14.007 0 .142.11.44.09.042 2008.142.11.44.10.002 0 .142.11.44.06.871 2008.142.11.44.09.999 0 .142.11.44.05.267 2008.142.11.44.05.995 0 .142.11.43.56.399 2008.142.11.43.56.583 0 .142.11.42.29.165 2008.142.11.42.29.357 0 .142.11.41.41.602 2008.142.11.41.41.788 0	.142.11.44.29.337 2008.142.11.44.14.009 0 16 .142.11.44.10.872 2008.142.11.44.14.007 0 16 .142.11.44.09.042 2008.142.11.44.10.002 0 16 .142.11.44.09.042 2008.142.11.44.09.999 0 16 .142.11.44.05.267 2008.142.11.44.05.995 0 1280 .142.11.43.56.399 2008.142.11.43.56.583 0 2020 .142.11.42.29.165 2008.142.11.42.29.357 0 2020 .142.11.41.41.602 2008.142.11.41.788 0 2020	.142.11.44.29.337 2008.142.11.44.29.533 0 2020 8418 .142.11.44.13.875 2008.142.11.44.14.009 0 16 8673 .142.11.44.10.872 2008.142.11.44.10.002 0 16 8669 .142.11.44.09.042 2008.142.11.44.10.002 0 16 8666 .142.11.44.06.871 2008.142.11.44.09.999 0 16 8660 .142.11.44.05.267 2008.142.11.44.05.995 0 1280 3094 .142.11.43.56.399 2008.142.11.43.56.583 0 2020 8413 .142.11.42.29.165 2008.142.11.42.29.357 0 2020 8403 .142.11.41.41.602 2008.142.11.41.788 0 2020 8398	.142.11.44.29.337	.142.11.44.29.337 2008.142.11.44.14.009 0 16 8673 5 1 .142.11.44.10.872 2008.142.11.44.14.007 0 16 8669 5 4 .142.11.44.09.042 2008.142.11.44.10.002 0 16 8666 5 1 .142.11.44.06.871 2008.142.11.44.09.999 0 16 8660 5 1 .142.11.44.05.267 2008.142.11.44.05.995 0 1280 3094 5 2 .142.11.43.56.399 2008.142.11.43.56.583 0 2020 8413 5 1 .142.11.42.29.165 2008.142.11.42.29.357 0 2020 8403 5 1 .142.11.41.602 2008.142.11.41.788 0 2020 8398 5 1	.142.11.44.29.337 2008.142.11.44.29.533 0 2020 8418 5 1 164 .142.11.44.13.875 2008.142.11.44.14.009 0 16 8673 5 1 27399 .142.11.44.10.872 2008.142.11.44.14.007 0 16 8669 5 4 12288 .142.11.44.09.042 2008.142.11.44.10.002 0 16 8666 5 1 26881 .142.11.44.06.871 2008.142.11.44.09.999 0 16 8660 5 1 27402 .142.11.44.05.267 2008.142.11.44.05.995 0 1280 3094 5 2 49424 .142.11.43.56.399 2008.142.11.43.56.583 0 2020 8413 5 1 0 .142.11.42.29.165 2008.142.11.42.29.357 0 2020 8403 5 1 164 .142.11.41.602 2008.142.11.41.788 0 2020 8398 5 1 238	.142.11.44.29.337	.142.11.44.29.337 2008.142.11.44.14.009 0 16 8673 5 1 27399 0 65535 .142.11.44.10.872 2008.142.11.44.10.002 0 16 8666 5 1 26881 0 65535 .142.11.44.06.871 2008.142.11.44.09.999 0 16 8660 5 1 27402 0 65535 .142.11.44.05.267 2008.142.11.44.05.995 0 1280 3094 5 2 49424 20992 65535 .142.11.43.56.399 2008.142.11.43.56.583 0 2020 8413 5 1 0 0 65535 .142.11.42.29.165 2008.142.11.42.29.357 0 2020 8403 5 1 268 829 65535 .142.11.41.602 2008.142.11.41.788 0 2020 8398 5 1 238 8229 65535	.142.11.44.29.337	.142.11.44.29.337 2008.142.11.44.14.009 0 16 8673 5 1 27399 0 65535 40145170 .142.11.44.10.872 2008.142.11.44.10.002 0 16 8666 5 1 26881 0 65535 40048170 .142.11.44.06.871 2008.142.11.44.09.999 0 16 8660 5 1 27402 0 65535 40148170 .142.11.44.05.267 2008.142.11.44.05.995 0 1280 3094 5 2 49424 20992 65535 190185500 .142.11.43.56.399 2008.142.11.43.56.583 0 2020 8413 5 1 0 0 65535 250164946 .142.11.42.29.165 2008.142.11.44.29.357 0 2020 8403 5 1 164 0 65535 250164946 .142.11.41.602 2008.142.11.41.788 0 2020 8398 5 1 238 8229 65535 250238946	.142.11.44.29.337 2008.142.11.44.14.009 0 16 8673 5 1 27399 0 65535 40145170 PG .142.11.44.10.872 2008.142.11.44.10.002 0 16 8669 5 4 12288 0 65535 40048170 PG .142.11.44.09.042 2008.142.11.44.10.002 0 16 8666 5 1 26881 0 65535 40048170 PG .142.11.44.06.871 2008.142.11.44.09.999 0 16 8660 5 1 27402 0 65535 40148170 PG .142.11.44.05.267 2008.142.11.44.05.995 0 1280 3094 5 2 49424 20992 65535 190185500 PG .142.11.43.56.399 2008.142.11.43.56.583 0 2020 8413 5 1 0 0 65535 250164946 PG .142.11.42.29.165 2008.142.11.41.22.357 0 2020 8403 5 1 164 0 65535 250164946 PG .142.11.41.602 2008.142.11.41.788 0 2020 8398 5 1 238 8229 65535 250238946 PG .142.11.44.02.88 993 2008.142.11.41.788 0 2020 8398 5 1 238 8229 65535 250238946 PG .142.11.40.28 993 2008.142.11.41.41.788 0 2020 8398 5 1 238 8229 65535 250238946 PG .142.11.40.28 993 2008.142.11.41.41.788 0 2020 8398 5 1 238 8229 65535 250238946 PG .142.11.40.28 993 2008.142.11.41.41.788 0 2020 8398 5 1 238 8229 65535 250238946 PG .142.11.40.28 993 2008.142.11.41.41.788 0 2020 8398 5 1 238 8229 65535 250238946 PG .142.11.40.28 993 2008.142.11.41.41.788 0 2020 8398 5 1 238 8229 65535 250238946 PG .142.11.40.28 993 2008.142.11.41.41.788 0 2020 8398 5 1 238 8229 65535 250238946 PG .142.11.40.28 993 2008.142.11.41.41.788 0 2020 8398 5 1 238 8229 65535 250238946 PG .142.11.40.28 993 2008.142.11.41.41.788 0 2020 8398 5 1 238 8229 65535 250238946 PG .142.11.40.28 993 2008.142.11.41.41.788 0 2020 8398 5 1 238 8229 65535 250238946	.142.11.44.29.337	.142.11.44.29.337

May 21, 08 11:46	dieplay printout f		2000 11	UDE	n_PRI	VT_200	8.14	12.11	.46	.09	.651 Page 1/1
Current printout time: Number of printed line	display printout from t 2008.142.11.46.09.651 s: 18	ime: DISPL	AY MODE	2.11.32. : BRIEF	42.618 t	o time: 200 MODE: INACT	08.14 FIVE	2.11.44	.29.3	337	
Generation Time	Reception Time		APID	SSC	EvID	Severity	TmT	TmQ	F	D	Message Text
2008.142.11.44.29.337	2008.142.11.44.29.533	0	2020	8418	164	NORM	PG	G	Е	Е	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2008.142.11.44.13.875	2008.142.11.44.14.009	0	16	8673	27399	NORM	PG	G	E	Е	Event 5-1 OBCP Ended
2008.142.11.44.10.872	2008.142.11.44.14.007	0	16	8669	12288	ALARM	PG	G	E	Е	OBCP_Evt Hifi Off
3008.142.11.44.09.042	2008.142.11.44.10.002	0	16	8666	26881	NORM	PG	G	E	E	Event 5-1 Subschedule Status Changed
008.142.11.44.06.871	2008.142.11.44.09.999	0	16	8660	27402	NORM	PG	G	E	E	Event 5-1 OBCP Started
008.142.11.44.05.267	2008.142.11.44.05.995	0	1280	3094	49424	WARN	PG	G	E	E	SPIRE_Observation_Corrected_Anomaly
008.142.11.43.56.399	2008.142.11.43.56.583	0	2020	8413	0	NORM	PG	G	E	E	TC Report Packet
008.142.11.42.29.165	2008.142.11.42.29.357	0	2020	8403	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
008.142.11.41.41.602 FCmod0x40		0	2020	8398	238	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00EE - VCFC Time datation for VCO-
008.142.11.40.28.993	2008.142.11.40.29.178	0	2020	8389	164	NORM	PG	G	Е	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2008.142.11.38.28.821	2008.142.11.38.29.002	0	2020	8376	164	NORM	PG	G	E	Ε	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
008.142.11.36.51.249	2008.142.11.36.51.866	0	16	8524	27650	NORM	PG	G	E	E	Event 5-1 TM 19-7 Dump Ended
008.142.11.36.29.649	2008.142.11.36.29.827	0	2020	8363	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
008.142.11.36.26.649 FCmod0x40	2008.142.11.36.26.827	0	2020	8362	238	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00EE - VCFC Time datation for VCO-V
008.142.11.36.00.071	2008.142.11.36.00.243	0	2020	8358	0	NORM	PG	G	E	E	TC Report Packet
008.142.11.34.30.477	2008.142.11.34.30.652	0	2020	8348	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
008.142.11.32.52.112	2008.142.11.32.58.017	0	16	8351	26892	NORM	PG	G	E	E	Event 5-1 TM 11-19 Dump Ended
008.142.11.32.42.618	2008.142.11.32.42.786	0	2020	8335	0	NORM	PG	G	E	E	TC Report Packet

													FIIII	eu by	ripe	xec
May 21, 08	3 11:50		MPH	I_PR	NT_20	008.1	<b>42.1</b>	1.50	.59.74	6				Pac	ge 1/	/1
carrent brine	tory display printout fr out time: 2008.142.11.50 nted lines: 4	om time: 2008 142 11 44	06.110	) to tir		142.11	.44.11								, ,	•
Mnemonic	Generation Time	Reception Time	VC	APID	SSC	Туре	STyp	PI1	PI2	DS	SPID	GSID	TmT	TmQ	F	D
TcContentRep	2008.142.11.44.11.872	2008.142.11.44.14.008	0	16	8670	1	9	0	0	65535	40094180		PG	 G	 Е	E
TcContentRep	2008.142.11.44.08.872	2008.142.11.44.10.002	0	16	8664	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.142.11.44.06.873	2008.142.11.44.09.999	0	16	8661	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.142.11.44.06.110	2008.142.11.44.09.998	0	16	8657	1	9	0	0	65535	40094180		PG	G	E	E
							1									



# Herschel

Step -No.	Test-Step-Description	Nominal Value		Tolerance	Actual	Remarks	P	N
-No. 216.	During Z010999MCVT137_IST_SPIRE_FDIR_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	Value  LCL11 ON	S/	2)	Value © K	MSOD = 0x FAFF OK	7 1 7 7 7	N
رو	disabled and 100 (meta-SPIRE) is enabled "  ⇒ Click the "OK" button to confirm	OK						

Test location:	Operator	Product Assurance:	D-4-
	Operator	Product-Assurance:	Date:
GETTE C MUNO A			1011 01 8 11 00
CSIEC A DEA	2004	BHOGE AND	21105108. 11,59
		7., 77	7

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28/04/2008

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# Herschel

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
217.	During Z010999MCVT137_IST_SPIRE_FDIR_formal "RECOVERY ACTION"                Click Confirm to continue	CONFIRM		CONFIR	~	2	
218.	During Z010999MCVT137_IST_SPIRE_FDIR_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		370 BI	+	7	

Test location:	Operator	Product-Assurance: Date:
ESTEC HY DRA	SNH	15 Au EHOGE 21/05/07. 121.02.

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Issue:

Date: 28/04/2008

File: HP-2-ASED-TP-0197_1.doc



# Herschel

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
219.	During Z010999MCVT137_IST_SPIRE_FDIR_formal						
	"End of SPIRE OPE RESUME TEST" "check that all EATs are enabled"	PASS		PASS		7	:
	⇒ Perform activity through     D102159SCVT192_GET_EAT_REPORT     then click the "OK" button to confirm	OK		OK			
220.	During D102159SCVT192_GET_EAT_REPORT   ⇒ Click the button "EndTS!" to proceed	ENDTS		בוציש		7	
221.	During Z010999MCVT137_IST_SPIRE_FDIR_formal				If SKIP, it continues at step 240.		
	"TEST the SPIRE DRCU OFF OBCP?"	CONFIRM		CONFIRM	DB_OBCP_H_SPIRE_DRCU_OFF is the OBCP under test.	7	
	⇒ Click the button "Confirm" to continue						

Test location: Op	perator	Produ	ct-Assurance:	Date:	
ESTECIHYDRA	SNA	M	SHOGE	21/05/08	12:04

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Issue:

Date: 28/04/2008

File: HP-2-ASED-TP-0197_1.doc



# Herschel

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
222.	During Z010999MCVT137_IST_SPIRE_FDIR_formal "TRIGGER OBCP WITH SPIRE SCRIPT"  ⇒ Click the button "confirm" to continue	CONFIRM		CONFIRM		7	
223.	During Z010999MCVT137_IST_SPIRE_FDIR_formal "Please filter one TMPKT History for APID 16 and type 5 and one for APID 1280 Type 5 subtype 2"	PASS OK		PASS		7	
224.	During Z010999MCVT137_IST_SPIRE_FDIR_formal "executing script SPIRE-OBCPTest- DRCUAnomaly.tcl"  ⇒ Click the "OK" button to confirm	ОК		OIC		7	

Test location:	Operator	Product-Assurance:	Date:
ESTEC HYDRA	Sald	30. 3.40GG	21/05/08. 12:05

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Issue:

Date: 28/04/2008

File: HP-2-ASED-TP-0197_1.doc



# Herschel

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	٨
225. 2) 3°	During Z010999MCVT137_IST_SPIRE_FDIR_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 APID 1280, 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	2)	0x102 0x102	Expected:  TM(5,4) for o MCU o SCU o DCU  At DRCU OFF, also TM(5,4) with SID 5420.  SVMCOPYTBLFAULT TM(5,1) and many OOLs also expected (TBD)	7 / 1 1	

Test location:	Operator	Product-Assurance:	Date:
ESTEC WIDRA	SNA	BH. BHOGE	21/05/08, 12:13

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

Issue:

Date:

28/04/2008

File: HP-2-ASED-TP-0197_1.doc

Printed by hpexec May 21, 08 12:09 TMPH_PRNT_2008.142.12.09.43.883 Page 1/1 TM Packet Query Display ______ TM Packet Details Simulated: N Mnemonic: SDRCUANOM500 Description: SPIRE_DRCU_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: 1280 SSC: 3760 Type: 5 Subtype: 2 PI1: 49152 PI2: 20992 SPID: 190170500 TPSD: -1 HFA Counter: 0 Filing: E Distribution: E Time Field: Y Packet Period: 0 [msec] CRC: ? Event Severity: TM Packet Parameter Data Generation time: 2008.142.12.06.02.265 Reception time: 2008.142.12.06.03.922 TM Packet Raw Data SCOS-2000 Header: 0000:0000 0000 2A10 3448 100D 0400 2B10 3448 5815 0E00 0100 0000 E601 0000 6000 0000 0020:1138 FFFF 0000 0000 84C5 550B 0000 0000 0000 FFFF FFFF 10FF 0005 B00E 0502 Packet Raw Data: 0000:0D00 CEB0 0019 0005 0200 5EC6 6EAA 43F7 C000 5200 0000 0D05 0000 0000 0002 0798

May 21, 08 12:10 TMPH_PRNT_2008.142.12.10.51.911 TM Packet Query Display

Page 1/1

TM Packet Details

Mnemonic: D_EvRp_148 Description: Event 5-1 OBCP Started Simulated: N

S/C ID: 486

G/S ID: 0

SSC: 9229

SLE ID: 0 OCC ID: 0

0 [msecl

VCID: 0

HFA D/S: 65535

Data Unit Type: GOOD SP

Time Stamp Type: PG

Type: 5

Time Quality: G

SPID: 40148170

APID: 16

Packet Period:

Subtype: 1

PI1: 27402 PI2: 0

Time Field: Y

TPSD: -1

HFA Counter: 2

Filing: E Distribution: E

Event Severity: ?

TM Packet Parameter Data

______ Generation time: 2008.142.12.06.03.884

Reception time: 2008.142.12.06.06.926

CRC: ?

TM Packet Raw Data ______

SCOS-2000 Header:

0000:0000 0000 2B10 3448 607D 0D00 2E10 3448 EB21 0E00 0100 0000 E601 0000 6000 0000 

Packet Raw Data:

0000:0810 E40D 0019 0005 0100 5EC6 6EAB E252 6B0A 0000 1102 0000 0000 0000 0080 97BF

Page 1/1

May 21, 08 12:11 TMPH_PRNT_2008.142.12.11.35.575 TM Packet Query Display TM Packet Details -expected NER 3958 refeals Simulated: N Mnemonic: ERROR REPORT Description: OBCP_Evt Hifi 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: 9244 Type: 5 Subtype: 4 PI1: 12288 PI2: 0 SPID: 45400185 TPSD: -1 HFA Counter: 2 Filing: E Distribution: E Time Field: Y Packet Period: 0 [msec] CRC: ? Event Severity: TM Packet Parameter Data Generation time: 2008.142.12.06.09.884 Reception time: 2008.142.12.06.09.938 TM Packet Raw Data SCOS-2000 Header: 0000:0000 0000 3110 3448 9880 0D00 3110 3448 5A50 0E00 0100 0000 E601 0000 6000 0000 Packet Raw Data: 0000:0810 E41C 0019 0005 0400 5EC6 6EB1 E288 1000 0000 0000 0000 0000 0000 D736

Page 1/1 TM Packet Query Display ______ TM Packet Details Simulated: N Mnemonic: D_EvRp_145 Description: 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: 9249 Type: 5 Subtype: 1 PI1: 27399 PI2: 0 SPID: 40145170 TPSD: -1 HFA Counter: 2 Filing: E Distribution: E Time Field: Y Packet Period: 0 [msec] CRC: ? Event Severity: ' TM Packet Parameter Data Generation time: 2008.142.12.06.12.888 Reception time: 2008.142.12.06.13.938 TM Packet Raw Data SCOS-2000 Header: 0000:0000 0000 3410 3448 598D 0D00 3510 3448 3A53 0E00 0100 0000 E601 0000 6000 0000 Packet Raw Data: 0000:0810 E421 0019 0005 0100 5EC6 6EB4 E35E 6B07 0000 1102 0000 0000 0000 0082 712F

TMPH_PRNT_2008.142.12.13.05.377

May 21, 08 12:13

May 21, 0			MPH	$I_PR$	NT_2	008.1	42.1	2.07.	21.75	8				Par	ge 1	1/2
	story display printout factory display printout factorial factoria	rom time. 2000 142 11 E0	51.321	to ti	me: 2008 LAY MODE	3.142.12	06.44	1.759 ATISTIC:							<i>j</i> .	172
Inemonic	Generation Time	Reception Time	VC	APID	SSC	Туре	STyp	PI1	PI2	DS	SPID	GSID	TmT	TmQ	F	D
TMTCEve51 A4	2008.142.12.06.44.759	2008.142.12.06.44.988	0	2020	8584	5	1	164	0	65535	 250164946		 PG	 G	 E	 E
_EvRp_145	2008.142.12.06.12.888	2008.142.12.06.13.938	0	16	9249	5	1	27399	0	65535	40145170		PG	G	E	E
RROR REPORT	2008.142.12.06.09.884	2008.142.12.06.09.938	0	16	9244	5	4	12288	0	65535	45400185		PG	G	E	E
VMCPYTBLFLT	2008.142.12.06.08.771	2008.142.12.06.09.934	0	1280	3770	5	1	1302	20886	65535	190760500		PG			
ALSCU000500	2008.142.12.06.07.769	2008.142.12.06.09.933	0	1280	3769	5	4	21774	21536	65535	190640500			G	E	E
SCURE000500	2008.142.12.06.07.760	2008.142.12.06.09.933	0	1280	3768	5	1	1314	20752	65535	190155500		PG	G	E	E
ALMCU000500	2008.142.12.06.07.451	2008.142.12.06.09.932	0	1280	3767	5	4	21773	21536	65535	190635500		PG	G	E _	E
MCURE000500	2008.142.12.06.07.442	2008.142.12.06.09.932	0	1280	3766	5	1	1313	20751	65535	190055500		PG	G	E	Е
ALDCU000500	2008.142.12.06.07.303	2008.142.12.06.09.931	0	1280	3765	5	4	21772	21536	65535			PG	G	E	Ε
CURE000500	2008.142.12.06.07.294	2008.142.12.06.09.931	0	1280	3764	5	1	1312	20750	65535	190630500		PG	G	E	Ε
EvRp_048	2008.142.12.06.06.046	2008.142.12.06.06.930	0	16	9236	5	1	26881	0	65535	190145500		PG	G	Ε	Ε
EvRp_148	2008.142.12.06.03.884	2008.142.12.06.06.926	0	16	9229	5	1	27402	0	65535	40048170		PG	G	Ε	Ε
RCUANOM500	2008.142.12.06.02.265	2008.142.12.06.03.922	0	1280	3760	5	2	49152	20992	65535	40148170		PG	G	Ε	Ε
TCEve51 EE	2008.142.12.05.53.681	2008.142.12.05.53.907	0	2020	8578	5	1	238	8229		190170500		PG	G	E	Е
Report Pkt	2008.142.12.05.53.477	2008.142.12.05.53.694	0	2020	8576	5	1	0	0	65535	250238946		PG	G	Ε	Ε
MTCEve51 A4	2008.142.12.04.28.071	2008.142.12.04.28.286	0	2020	8566	5				65535	134		PG	G	Е	Ε
TCEve51 A4	2008.142.12.02.27.915	2008.142.12.02.28.131	0	2020	8553	5		164	0	65535	250164946		PG	G	Ε	Ε
_EvRp_168	2008.142.12.02.24.247	2008.142.12.02.27.616	0	16	9157	5	ļ.	164	0	65535	250164946		PG	G	Ε	Е
Report Pkt	2008.142.12.01.33.571	2008.142.12.01.33.781	0	2020	8546	5	ļ	27650	0	65535	40168170		PG	G	Ε	E€
TCEve51 EE	2008.142.12.00.53.743	2008.142.12.00.53.966	0	2020				0	0	65535	134		PG	G	Ε	Ε
EvRp_7042	2008.142.12.00.29.112	2008.142.12.00.32.937	0	16	8541 9021	5	<u></u>	238	8229	65535	250238946		PG	G	E	Е
TCEve51 A4	2008.142.12.00.30.227	2008.142.12.00.30.437	0	2020		5	<u> </u>	26892	0	65535	47042170		PG	G	E	Ε
Report Pkt	2008.142.12.00.19.118	2008.142.12.00.19.326	0		8538	5	†	164	0	65535	250164946		PG	G	E	Ε
EvRp_055	2008.142.12.00.00.109	2008.142.12.00.05.898		2020	8534	5	<u> </u>	0	0	65535	134		PG	G	E	E
Report Pkt	2008.142.11.59.56.040	2008.142.11.59.56.248		16	8993	5	1	26890	0	65535	40055170		PG	G	E	E
EvRp_048	2008.142.11.59.55.111	2008.142.11.59.55.884		2020	8530	5	†	0	0	65535	134		PG	G	E	E
	May 21 2008		0	16	8985	5	1	26881	0	65535	40048170		PG	G	E	E

May 21, 08	tory display printout fr	om time. 2009 142 12 06	NIPH	LPR	NT_2(	JU8.1	42.1	2.08.	00.69	3				Paç	ge 1/	/1
	out time: 2008.142.12.08 ated lines: 6	.00.693 FILTER MODE: A	CTIVE	DISP:	me: 2008. LAY MODE:	.142.12 : BRIEF		.885 TISTIC:	OFF							
Inemonic	Generation Time	Reception Time	VC	APID	SSC	Туре	STyp	PI1	PI2	DS	SPID	GSID	$\operatorname{TmT}$	TmQ	F	D
CcContentRep	2008.142.12.06.11.885	2008.142.12.06.13.937	0	16	9246	1	9	0	0	65535	40094180		 PG	 G	 E	 E
CcContentRep	2008.142.12.06.07.885	2008.142.12.06.09.930	0	16	9241	1	9	0	0	65535	40094180					
cContentRep	2008.142.12.06.06.885	2008.142.12.06.09.929	0	16	9238	1	9	0	0	65535	40094180		PG	G	E	Ε
'cContentRep	2008.142.12.06.05.886	2008.142.12.06.06.927	0	16	9233	1	9	0	0	65535			PG	G	Е	Ε
'cContentRep	2008.142.12.06.03.886	2008.142.12.06.06.926	0	16	9230	1	o o	0	0		40094180		PG	G	E	Ε
'cContentRep	2008.142.12.06.03.115	2008.142.12.06.03.923	0	16	9226	1	9	0	0	65535	40094180		PG	G	Ε	Ε
					3220	-		O	U	65535	40094180		PG	G	E	Ε

May 21, 08 12:06				OPE	ומם ע	NT OOO	0 4	10 10	00		Printed by npexec
On-Board Event History	y display printout from	time:	2008.14	2 11 50	24 120 1	NT_200		4 <b>Z.</b>   <b>Z</b>	.06	0.42	2.449 Page 1/2
Current printout time: Number of printed line		DISPL	AY MODE	: BRIEF	FILTER	MODE: INAC	PIVE	2.12.06	1.12.	888	
Generation Time	Reception Time	VC	APID	SSC	EvID	Severity	TmT	TmQ	F	D	Message Text
2008.142.12.06.12.888	2000 142 12 06 12 020										3958
2008.142.12.06.09.884	2008.142.12.06.13.938		16	9249	27399	NORM	PG	G	E	Е	Event 5-1 OBCP Ended  OBCP_Evt Hifi Off 9 only PACS (358)  VM_COPYTABLE_FAULT _ Expected, 4128
2008.142.12.06.08.771	2008.142.12.06.09.938		16	9244	12288	ALARM	PG	G	E	E	OBCP_Evt Hifi Off
	2008.142.12.06.09.934		1280	3770	1302	NORM	PG	G	E	E	VM_COPYTABLE_FAULT _ Expected, 4128
2008.142.12.06.07.769	2008.142.12.06.09.933		1280	3769	21774	ALARM	PG	G	Ε	E	SPIRE_ALARM_LSSCU_DEAD
2008.142.12.06.07.760	2008.142.12.06.09.933		1280	3768	1314	NORM	PG	G	E	E	No_SCU_Response_Error
2008.142.12.06.07.451	2008.142.12.06.09.932	0	1280	3767	21773	ALARM	PG	G	E	E	SPIRE_ALARM_LSMCU_DEAD
2008.142.12.06.07.442	2008.142.12.06.09.932	0	1280	3766	1313	NORM	PG	G	E	E	No_MCU_Response_Error
2008.142.12.06.07.303	2008.142.12.06.09.931	0	1280	3765	21772	ALARM	PG	G	E	E	SPIRE_ALARM_LSDCU_DEAD
2008.142.12.06.07.294	2008.142.12.06.09.931	0	1280	3764	1312	NORM	PG	G	E	E	No_DCU_Response_Error
2008.142.12.06.06.046	2008.142.12.06.06.930	0	16	9236	26881	NORM	PG	G	E	E	Event 5-1 Subschedule Status Changed
2008.142.12.06.03.884	2008.142.12.06.06.926	0	16	9229	27402	NORM	PG	G	E	E	Event 5-1 OBCP Started
2008.142.12.06.02.265	2008.142.12.06.03.922	0	1280	3760	49152	WARN	PG	G	E	E	SPIRE_DRCU_Anomaly
2008.142.12.05.53.681 CFCmod0x40	2008.142.12.05.53.907	0	2020	8578	238	NORM	PG	G	Е	E	TMTCDFE EvPkt 5-1 00EE - VCFC Time datation for VCO-V
2008.142.12.05.53.477	2008.142.12.05.53.694	0	2020	8576	0	NORM	PG	G	E	E	TC Report Packet
2008.142.12.04.28.071	2008.142.12.04.28.286	0	2020	8566	164	NORM	PG	G	E	E	
2008.142.12.02.27.915	2008.142.12.02.28.131	0	2020	8553	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2008.142.12.02.24.247	2008.142.12.02.27.616	0	16	9157	27650	NORM					TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2008.142.12.01.33.571	2008.142.12.01.33.781	0	2020	8546	0		PG	G	E	Ε	Event 5-1 TM 19-7 Dump Ended
2008.142.12.00.53.743	2008.142.12.00.53.966	0				NORM	PG	G	E	E	TC Report Packet
CFCmod0x40 2008.142.12.00.29.112	2008.142.12.00.32.937		2020	8541	238	NORM	PG	* G	E	E	TMTCDFE EvPkt 5-1 00EE - VCFC Time datation for VC0-V $^{\prime\prime}$
2008.142.12.00.30.227		0	16	9021	26892	NORM	PG	G	Ε	E	Event 5-1 TM 11-19 Dump Ended
2008.142.12.00.19.118	2008.142.12.00.30.437	0	2020	8538	164	NORM	PG	G	Ε	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
		0	2020	8534	0	NORM	PG	G	E	E	TC Report Packet
2008.142.12.00.00.109	2008.142.12.00.05.898	0	16	8993	26890	NORM	PG	G	E	E	Event 5-1 TM 11-10 Dump Ended
2008.142.11.59.56.040	2008.142.11.59.56.248	0	2020	8530	0	NORM	PG	G	E	E	TC Report Packet
2008.142.11.59.55.111	2008.142.11.59.55.884	0	16	8985	26881	NORM	PG	G	E	E	Event 5-1 Subschedule Status Changed
Vednesday May 21 3	2008.142.11.59.54.169	0	2020	8528	0	NORM	PG	G	E	E	TC Report Packet



# Herschel

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
226.	During Z010999MCVT137_IST_SPIRE_FDIR_formal At the prompt:			value			
	"please check SPIRE status and that subschedules 370 (SPIRE TCs) and 100 (meta-SPIRE) are disabled"	1282 producing NOMHK	()	oft		7	
()	⇒ Check that the DRCU has been powered off	1280 producing CRITHK Subschedules	2)	0 N.		1	
5)	l → Check inat the DPU is on and denorating	370 OFF 100 OFF	3)	940		13	
3)	⇒ subschedules 370 (SPIRE TCs) and 100 (meta-SPIRE) are disabled"	ОК		OK			
	⇔ Click the "OK" button to confirm			012		1	

- 1						
	Test location:	Operator	Prod	uct-Assurance:	Date:	
	ESTEC/HYDRA	SNH.	D	HOGG RAN	21/05/08	12:19

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Issue:

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28/04/2008

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# Herschel

Step -No.	Test-Step-Description	Nominal Value	Tolerance		Remarks	P	N
227.	During Z010999MCVT137_IST_SPIRE_FDIR_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	DAGO		PASS OK		2	
228.	During D102159SCVT192_GET_EAT_REPORT	ENDTS		GOTS		J	
229.	During Z010999MCVT137_IST_SPIRE_FDIR_formal "RECOVERY ACTION"	CONFIRM		CONFIR	n.	7	

Test location:	Operator	T			T	
	Operator	Produ	ct-Assurance:		Date:	
GETEC HILLARA	Sall 1			$\rightarrow \lambda$	2.1	10:0
C31ECINTUICA	200 8		MULL	$\mathbf{S}$	21105100	12-27
			+ Theory		300	Seem house

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Date: 28/04/2008

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### Herschel

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
230.	During Z010999MCVT137_IST_SPIRE_FDIR_formal			Varae			
	At the prompt: "check that all EATs are enabled"	PASS		Pass	~		
	⇒ Perform activity through     D102159SCVT192_GET_EAT_REPORT     then click the "OK" button to confirm	ОК		0 &		7	
231.	During D102159SCVT192_GET_EAT_REPORT  ⇒ click the "EndTS" button to continue	ENDTS		ENDTS		7	
232.	During Z010999MCVT137_IST_SPIRE_FDIR_formal "Switching SPIRE OFF"  ⇒ Click the button "OK" to confirm	ОК		OK		~	

Test location:	Operator	Product-Assurance:	Date:
ESTEC/HYDRA	SNH	5. HOGG	21/05/08 12:24

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Issue:

Date: 28/04/2008

File: HP-2-ASED-TP-0197_1.doc



# Herschel

	Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N	
RV52-3	233.	During S102999SCVT019_ASDGENSPIR_PWR_OFF_P				TC SCD06505 to switch off DRCU expected to fail.			
		"SPIRE switch off for IST activities in any condition"	YES		465		2		
		⇒ Click the button "YES" to continue				See RD-3 for exact message and expected OOLs.			S
°3. —	234.	During \$102999\$CVT019_ASDGENSPIR_PWR_OFF_P  "Set Bus profile back to original settings"  ⇒ Click the button "YES" to continue	YES		les		~	/	
	235.	During Z010999MCVT137_IST_SPIRE_FDIR_formal "Switching SPIRE ON"	ОК		0/		- ✓	/	

Test location:		T T	
rest location,	Operator	Product-Assurance: /	Date:
ESTER ANNON	5-11	Q Comment	21/20 - 12:10
THE THE PARTY	31041	1 600ssens 4	21105108 13.19

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Date:

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	6-256
ent created ent created on for VCO-V	Section
ent created  TM  on for VCO-V	+ S Dap / S'S
ent created	

May 21, 08 12:49				OBE	H_PR	NT_200	<b>8.1</b> 4	12.12	.49	0.04	.580 Page 1/2
On-Board Event History Current printout time: Number of printed line	display printout from t 2008.142.12.49.04.581 s: 30	ime: DISPL	2008.14 AY MODE	2.12.17 : BRIEF	.37.696 t FILTER	o time: 200 MODE: INACT	8.14 TVE	2.12.36	5.15.	806	
Generation Time	Reception Time	VC	APID	SSC	EvID	Severity	TmT	TmQ	F	D	Message Text
2008.142.12.36.15.806	2008.142.12.36.16.070	0	2020	8800	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment create
2008.142.12.32.22.477	2008.142.12.32.22.736	0	2020	8776	164	NORM	PG	G	Е	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment create
2008.142.12.31.53.431	2008.142.12.31.53.689	0	2020	8772	238	NORM	PG	G	E	E	TMTCDFE EVPkt 5-1 00EE - VCFC Time datation for VC0
CFCmod0x40 2008.142.12.29.22.290	2008.142.12.29.22.541	0	2020	8755	0	NORM	PG	G	E	E	TC Report Packet
2008.142.12.29.13.462	2008.142.12.29.13.713	0	2020	8752	0	NORM	PG	G	E	E	TC Report Packet
2008.142.12.28.35.903	2008.142.12.28.41.907	0	16	9925	27399	NORM	PG	G	E	E	Event 5-1 OBCP Ended
2008.142.12.28.31.900	2008.142.12.28.33.897	0	16	9920	12288	ALARM	PG	G	E	E	OBCP_Evt Hifi Off
2008.142.12.28.30.634	2008.142.12.28.30.891	0	2020	8747	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2008.142.12.27.55.899	2008.142.12.27.58.847	0	16	9879	27402	NORM	PG	G	E	E	Event 5-1 OBCP Started
2008.142.12.27.54.993	2008.142.12.27.58.845	0	16	9875	185	WARN	PG	G	E	E	Event Report - SDB SPIRE non-vital RT Sick TM
008.142.12.27.54.992	2008.142.12.27.58.845	0	16	9874	178	NORM	PG	G	E	E	Event Report - SDB SPIRE Failed TM
2008.142.12.25.29.384	2008.142.12.25.29.631	0	2020	8727	238	NORM	PG	G	E	E	_
FCmod0x40 008.142.12.25.24.071	2008.142.12.25.24.317	0	2020	8725	0	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00EE - VCFC Time datation for VC0  TC Report Packet
2008.142.12.25.23.056	2008.142.12.25.23.302	0	2020	8723	0	NORM	PG	G	E	E	
2008.142.12.25.17.259	2008.142.12.25.20.623	0	1280	4353	1281	NORM	PG	G	E	E	TC Report Packet
2008.142.12.25.15.056	2008.142.12.25.15.301	0	2020	8721	0	NORM	PG	G	E		New_Step_Report
008.142.12.25.12.977	2008.142.12.25.13.223	0	2020	8718	0	NORM	PG			E	TC Report Packet
008.142.12.25.12.649	2008.142.12.25.12.895	0	2020	8716	0	NORM		G	E	E	TC Report Packet
008.142.12.24.42.821	2008.142.12.24.43.071	0	2020	8712	164	NORM	PG	G	E	E	TC Report Packet
008.142.12.24.14.696	0000 110 15	0	2020	8707	0		PG	G	E	Е	TMTCDFE EvPkt 5-1 00A4 - New archive segment create
008.142.12.23.29.252	2008.142.12.23.29.953	0	16	9788	27650	NORM NORM	PG	G	E	Е	TC Report Packet
008.142.12.22.38.493	2008.142.12.22.38.734	-	2020	8695	0		PG	G	E	Е	Event 5-1 TM 19-7 Dump Ended
008.142.12.22.31.477	2008.142.12.22.31.719	0	2020			NORM	PG	G	E	Е	TC Report Packet
008.142.12.21.10.009	2008.142.12.21.10.253	0		8693	0	NORM	PG	G	E	E	TC Report Packet
008.142.12.20.28.446	2008.142.12.20.28.688		2020	8684	164	NORM	PG	G	E	Е	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
FCmod0x40 008.142.12.20.09.249		0	2020	8678	238	NORM	PG	G	E	Ε	TMTCDFE EvPkt 5-1 00EE - VCFC Time datation for VC0
Vednesday May 21, 2	2008.142.12.20.09.664	0	16	9624	27650	norm	PG	G	E	E	Event 5-1 TM 19-7 Dump Ended

May 21, 08									.55.67	0				Pa	ge 1	/1
FILTER SETTING Type: 1 Sul	out time: 2008.142.12.49	om time: 2008 142 12 27	55.112	2 to tim		3.142.12	.28.33								<b>3</b>	- 10 Th
Inemonic	Generation Time	Reception Time	VC	APID	SSC	Туре	STyp	PI1	PI2	DS	SPID	GSID	TmT	TmQ	F	D
CCOntentRep	2008.142.12.28.33.900	2008.142.12.28.33.900	0	16	9921	1	9	0	0	65535	40094180		PG	 G	 E	 E
TcContentRep	2008.142.12.28.29.900	2008.142.12.28.33.896	0	16	9916	1	9	0	0	65535	40094180		PG	G	E	E
CContentRep	2008.142.12.28.27.900	2008.142.12.28.33.895	0	16	9913	1	9	0	0	65535	40094180		PG	G	E	E
CcContentRep	2008.142.12.28.23.900	2008.142.12.28.25.885	0	16	9909	1	9	0	0	65535	40094180		PG	G	E	E
CcContentRep	2008.142.12.28.21.900	2008.142.12.28.21.879	0	16	9905	1	9	0	0	65535	40094180		PG	G	E	Е
CContentRep	2008.142.12.28.19.900	2008.142.12.28.21.877	0	16	9902	1	9	0	0	65535	40094180		PG	G	E	E
cContentRep	2008.142.12.28.17.901	2008.142.12.28.17.872	0	16	9898	1	9	0	0	65535	40094180		PG	G	E	E
cContentRep	2008.142.12.28.09.900	2008.142.12.28.09.861	0	16	9895	1	9	0	0	65535	40094180		PG	G	E	Е
cContentRep	2008.142.12.28.04.900	2008.142.12.28.05.859	0	16	9893	1	9	0	0	65535	40094180		PG	G	E	E
'cContentRep	2008.142.12.28.02.900	2008.142.12.28.05.859	0	16	9892	1	9	0	0	65535	40094180		PG	G	E	E
'cContentRep	2008.142.12.28.01.900	2008.142.12.28.05.858	0	16	9890	1	9	0	0	65535	40094180		PG	G	E	E
CContentRep	2008.142.12.27.59.900	2008.142.12.28.05.857	0	16	9889	1	9	0	0	65535	40094180		PG	G	E	Е
CcContentRep	2008.142.12.27.57.902	2008.142.12.27.58.849	0	16	9883	1	9	0	0	65535	40094180		PG	G	E	E
CcContentRep	2008.142.12.27.55.902	2008.142.12.27.58.847	0	16	9880	1	9	0	0	65535	40094180		PG	G	E	E +
CcContentRep	2008.142.12.27.55.112	2008.142.12.27.58.845	0	16	9876	1	9	0	0	65535	40094180		PG	G	E	Е
	*	8													1	



# Herschel

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
236.	During S102999SCVT017_ASDGENSPIR_PWR_ON_P  "Power on SPIRE prime and enable MIL 1553 I/F. FM SPIRE Switch on for IST activities in any conditions Select NO to abort TS if not correct"                Click the button "YES" to confirm	YES		YES	See RD-3 for exact message and expected OOLs.	7	
237.	During S102999SCVT017_ASDGENSPIR_PWR_ON_P "Set Bus Profile back to original setting?"  ⇒ Click the button "YES" to confirm	YES		YES		7	
238.	During Z010999MCVT137_IST_SPIRE_FDIR_formal  "Please check that subschedule 370 (SPIRE TCs) is enabled and 100 (meta-SPIRE) is disabled"  ⇒ Perform activity and then click the "OK" button	Subschedules 370 ON 100 OFF		370 01 150 01	t T	1	

Test location:	Operator	Produ	ıct-Assurance:	4	Date:
ESTECIATORA	SHA	R	600ssens	H	21/08/08 13:28

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Issue:

Date: 28/04/2008

File: HP-2-ASED-TP-0197_1.doc



# Herschel

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
239.	During Z010999MCVT137_IST_SPIRE_FDIR_formal						
	"End of SPIRE DRCU OFF TEST "  ⇒ click the "OK" button to confirm			ok		7	
240.	During Z010999MCVT137_IST_SPIRE_FDIR_formal "TEST the SPIRE OFF CONTROLLED OBCP?"  ⇒ Click the button "Confirm to continue	CONFIRM	(	ins res	If SKIP, it continues at step 259.  DB_OBCP_H_SPIRE_OFF_CTRL is the OBCP under test.	7	
241.	During Z010999MCVT137_IST_SPIRE_FDIR_formal "TRIGGER OBCP"  ⇒ Click the button "Confirm" to continue	CONFIRM	(	Sover		7	

Test location:	 oenct-Assurance: K. Ooossens	A.	Date: 21105/08. 13:31
		//	

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

Issue:

Date: 28/04/2008

File: HP-2-ASED-TP-0197_1.doc



### Herschel

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N	
	During Z010999MCVT137_IST_SPIRE_FDIR_formal  "Please filter one TMPKT History for TM(5,1) and one for TM(5,4)"   ⇒ Click the button "OK" to continue	PASS		PASS DK		7		
	During Z010999MCVT137_IST_SPIRE_FDIR_formal "Please callasync the sequence to trigger SPIRE OFF CONTROLLED"  ⇒ Click the button "OK" to confirm	PASS OK		PASS OIC	Callasync SPIRE_OSCFTost SPIRE_OBCPTest_OFFCTRL\trigger And wait for end of NOM and CRIT HK.	Ske	1	K PVS:

T (1)			
Test location:	Operator	Product-Assurance:	Date:
ESTECINYDRA	C-01	R hoperens of	21/25/08 18:37
	2000	M. 600scars fly	2(05(00

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

Issue:

Date: 28/04/2008

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13:57 after RS2-4



# Herschel

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
244. 3) 4)	During Z010999MCVT137_IST_SPIRE_FDIR_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	3) 4) 5)	0x 10x	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	7	

ESTECHYDRA SNA K. 60088018 f. 29/05/08.14:23	Test location:	Operator	Produ	ct-Assurance:	_	Date:
	ESTECLHYDRA	SAFL	/ / /	600ssens K.		23/05/08-14:23

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

Issue:

Date: 28/04/2008

File: HP-2-ASED-TP-0197_1.doc

On-Board Event History				ODEI	1_PKI	VT_2008	3.74	<b>42.14</b>	.19	.52	<b>.717</b> Page 1/2
Current printout time: 2 Number of printed lines:	display printout from t 2008.142.14.19.52.718 : 30	ime: 2 DISPLA	2008 143	) 13 33	02 212 ±	o timo: 200	0 1/				
Generation Time	Reception Time	VC	APID	SSC	EvID	Severity	TmT	TmQ	F	D	Message Text
2008.142.14.18.21.947 CFCmod0x40	2008.142.14.18.22.016	0	2020	9843	238	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00EE - VCFC Time datation for VCO-V
	2008.142.14.14.55.721	0	2020	9821	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2008.142.14.11.53.884	2008.142.14.11.53.950	0	2020	9802	238	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00EE - VCFC Time datation for VCO-V
CFCmod0x40 2008.142.14.11.02.322	2008.142.14.11.02.383	0	2020	9796	164	NORM	PG	G	Е	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2008.142.14.07.08.994	2008.142.14.07.09.041	0	2020	9771	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2008.142.14.05.21.822	2008.142.14.05.21.880	0	2020	9760	238	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00EE - VCFC Time datation for VCO-V
CFCmod0x40 2008.142.14.03.16.150	2008.142.14.03.16.202	0	2020	9746	164	NORM	PG	G	Е	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2008.142.13.59.23.306	2008.142.13.59.23.354	0	2020	9722	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2008.142.13.58.49.775	2008.142.13.58.49.808	0	2020	9717	238	NORM	PG	G	E	E	TMTCDFE EVPkt 5-1 00EE - VCFC Time datation for VCO-V
CFCmod0x40 2008.142.13.58.24.969	2008.142.13.58.25.777	0	16	11835	27399	NORM	PG	G	E	E	Event 5-1 OBCP Ended
	2008.142.13.58.25.774	0	16	11830	12288	ALARM	PG	G	E	E	OBCP_Evt Hifi Off
	2008.142.13.58.01.741	0	16	11797	26881	NORM	PG	G	E	E	Event 5-1 Subschedule Status Changed
	2008.142.13.57.55.734	0	16	11790	27402	NORM	PG	G	E	E	Event 5-1 OBCP Started
	2008.142.13.57.55.732	0	16	11786	185	WARN	PG	G	E	E	
	2008.142.13.57.55.732	0	16	11785	178	NORM		G			Event Report - SDB SPIRE non-vital RT Sick TM
0000 110 10	2008.142.13.55.41.320	0	2020	9697	0		PG		E	E	Event Report - SDB SPIRE Failed TM
	2008.142.13.55.40.243	0	2020		-	NORM	PG	G	E	Е	TC Report Packet
	2008.142.13.55.33.021			9695	0	NORM	PG	G	E	E	TC Report Packet
	2008.142.13.53.00.798	0	2020	9693	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
CFCmod0x40		0	2020	9677	238	NORM	PG	G	Е	Ε	TMTCDFE EvPkt 5-1 00EE - VCFC Time datation for VCO-V
	2008.142.13.51.47.696	0	2020	9668	164	NORM	PG	G	E	Ε	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
	2008.142.13.48.02.861	0	2020	9645	164	NORM	PG	G	E	Ε	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
CFCmod0x40	2008.142.13.47.37.825	0	2020	9641	238	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00EE - VCFC Time datation for VC0-V
	2008.142.13.44.18.032	0	2020	9620	164	NORM	PG	G	E	Ε	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
CFCmod0x40	2008.142.13.42.16.855	0	2020	9607	238	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00EE - VCFC Time datation for VC0-V
2008.142.13.40.32.681	2008.142.13.40.32.703	0	2020	9596	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2008.142.13.36.49.869 <b>Nednesday May 21 20</b>	2008.142.13.36.49.878	0	2020	9572	238	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00EE - VCFC Time datation for VC0-V

May 21, 08	3 14:04		MP	1_PR	NT_2	008.1	42.1	4.04	.15.16	<b>i2</b>				Pa	ge 1	/1
current printe	tory display printout frout time: 2008.142.14.04 nted lines: 15	om time: 2008 142 13 57	55.11	8 to ti	me: 2008 LAY MODE	.142.13	.58.23	3.966 ATISTIC:							<b>J</b>	
Inemonic	Generation Time	Reception Time	VC	APID	SSC	Type	STyp	PI1	PI2	DS	SPID	GSID	TmT	TmQ	F	D
CContentRep	2008.142.13.58.23.966	2008.142.13.58.25.775	0	16	11832	1	9	0	0	65535	40094180		PG	 G	 E	 E
TcContentRep	2008.142.13.58.20.965	2008.142.13.58.21.771	0	16	11826	1	9	0	0	65535	40094180		PG	G	E	E
CContentRep	2008.142.13.58.19.965	2008.142.13.58.21.770	0	16	11823	1	9	0	0	65535	40094180		PG	G	E	E
CCOntentRep	2008.142.13.58.16.965	2008.142.13.58.17.768	0	16	11819	1	9	0	0	65535	40094180		PG	G	E	E
CContentRep	2008.142.13.58.14.965	2008.142.13.58.17.766	0	16	11814	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.142.13.58.13.965	2008.142.13.58.13.759	0	16	11810	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.142.13.58.12.965	2008.142.13.58.13.758	0	16	11807	1	9	0	0	65535	40094180		PG	G	E	E
CContentRep	2008.142.13.58.06.965	2008.142.13.58.13.757	0	16	11805	1	9	0	0	65535	40094180		PG	G	E	E
CCOntentRep	2008.142.13.58.02.965	2008.142.13.58.05.747	0	16	11803	1	9	0	0	65535	40094180		PG	G	E	Ε
'cContentRep	2008.142.13.58.01.965	2008.142.13.58.01.742	0	16	11801	1	9	0	0	65535	40094180		PG	G	E	Ε
CContentRep	2008.142.13.58.00.965	2008.142.13.58.01.742	0	16	11800	1	9	0	0	65535	40094180		PG	G	E	E
CContentRep	2008.142.13.57.59.965	2008.142.13.58.01.741	0	16	11799	1	9	0	0	65535	40094180		PG	G	E	E
CcContentRep	2008.142.13.57.57.966	2008.142.13.58.01.739	0	16	11794	1	9	0	0	65535	40094180		PG	G	E	E
CcContentRep	2008.142.13.57.55.967	2008.142.13.57.55.735	0	16	11791	1	9	0	0	65535	40094180		PG	G	E	E
CcContentRep	2008.142.13.57.55.118	2008.142.13.57.55.734	0	16	11787	1	9	0	0	65535	40094180		PG	G	E	Е

May 21, 08			MPH	_PR	NT_2	008.1	42.1	4.13.	25.46	1				Pag	ae 1	/2
current print	tory display printout fr out time: 2008.142.14.13 nted lines: 29	om time: 2008.142.13.26 .25.462 FILTER MODE:	.15.946 ACTIVE	to tir DISPI	me: 2008 LAY MODE	.142.14 : BRIEF		.150 TISTIC:	OFF						17/3/	
Mnemonic	Generation Time	Reception Time	VC	APID	SSC	Туре	STyp	PI1	PI2	DS	SPID	GSID	TmT	TmQ	F	D
TMTCEve51 A4	2008.142.14.03.16.150	2008.142.14.03.16.202		2020	9746	5	1	164	0	65535	250164946		PG	 G	 E	 E
TMTCEve51 A4	2008.142.13.59.23.306	2008.142.13.59.23.354	0	2020	9722	5	1	164	0	65535	250164946		PG	G	E	E
TMTCEve51 EE	2008.142.13.58.49.775	2008.142.13.58.49.808	0	2020	9717	5	1	238	8229	65535	250238946		PG	G	E	E
D_EvRp_145	2008.142.13.58.24.969	2008.142.13.58.25.777	0	16	11835	5	1	27399	0	65535	40145170		PG	G	E	E
ERROR REPORT	2008.142.13.58.22.965	2008.142.13.58.25.774	0	16	11830	5	4	12288	0	65535	45400185		PG	G	E	E
_EvRp_048	2008.142.13.57.58.025	2008.142.13.58.01.741	0	16	11797	5	1	26881	0	65535	40048170		PG	G	E	E
D_EvRp_148	2008.142.13.57.55.964	2008.142.13.57.55.734	0	16	11790	5	1	27402	0	65535	40148170		PG	G	E	E
5,2)-0585	2008.142.13.57.54.993	2008.142.13.57.55.732	0	16	11786	5	2	185	185	65535	40585161		PG	G	E	E
5,1)-0578	2008.142.13.57.54.992	2008.142.13.57.55.732	0	16	11785	5	1	178	178	65535	40578161		PG	G	E	Е
CReport Pkt	2008.142.13.55.41.290	2008.142.13.55.41.320	0	2020	9697	5	1	0	0	65535	134		PG	G	E	E
CReport Pkt	2008.142.13.55.40.212	2008.142.13.55.40.243	0	2020	9695	5	1	0	0	65535	134		PG	G	E	Ι
MTCEve51 A4	2008.142.13.55.32.978	2008.142.13.55.33.021	0	2020	9693	5	1	164	0	65535	250164946		PG	G	E	Ε
MTCEve51 EE	2008.142.13.53.00.759	2008.142.13.53.00.798	0	2020	9677	5	1	238	8229	65535	250238946		PG	G	E	Ι
MTCEve51 A4	2008.142.13.51.47.665	2008.142.13.51.47.696	0	2020	9668	5	1	164	0	65535	250164946		PG	G	E	E
MTCEve51 A4	2008.142.13.48.02.837	2008.142.13.48.02.861	0	2020	9645	5	1	164	0	65535	250164946		PG	G	E	I
MTCEve51 EE	2008.142.13.47.37.806	2008.142.13.47.37.825	0	2020	9641	5	1	238	8229	65535	250238946		PG	G	E	E
MTCEve51 A4	2008.142.13.44.18.009	2008.142.13.44.18.032	0	2020	9620	5	1	164	0	65535	250164946		PG	G	E	E
MTCEve51 EE	2008.142.13.42.16.837	2008.142.13.42.16.855	0	2020	9607	5	1	238	8229	65535	250238946		PG	G	E	E
MTCEve51 A4	2008.142.13.40.32.681	2008.142.13.40.32.703	0	2020	9596	5	1	164	0	65535	250164946		PG	G	E	E
MTCEve51 EE	2008.142.13.36.49.869	2008.142.13.36.49.878	0	2020	9572	5	1	238	8229	65535	250238946		PG	G	E	E
MTCEve51 A4	2008.142.13.36.47.869	2008.142.13.36.47.875	0	2020	9571	5	1	164	0	65535	250164946		PG	G	E	E
CReport Pkt	2008.142.13.36.30.572	2008.142.13.36.30.574	0	2020	9568	5	1	0	0	65535	134		PG	G	E	E
CReport Pkt	2008.142.13.36.29.556	2008.142.13.36.29.558	0	2020	9565	5	1	0	0	65535	134		PG	G	E	E
MTCEve51 A4	2008.142.13.33.02.212	2008.142.13.33.02.556	0	2020	9544	5	1 .	164	0	65535	250164946		PG	G	E	Æ
MTCEve51 EE	2008.142.13.31.25.556	2008.142.13.31.25.903	0	2020	9533	5	1	238	8229	65535	250238946		PG	G	E	E
MTCEve51 A4	2008.142.13.29.17.384	2008.142.13.29.17.727	0	2020	9519	5	1	164	0	65535	250164946		PG	G	E	E

May 21, 08 14:04 TMPH_PRNT_2008.142.14.04.36.833 Page 1/1 TM Packet Query Display TM Packet Details Simulated: N Mnemonic: (5,1)-0578Description: Event Report - SDB SPIRE Failed TM S/C ID: 486 G/S ID: 0 SLE ID: 0 OCC ID: 0 HFA D/S: 65535 VCID: 0 Data Unit Type: GOOD SP Time Stamp Type: PG Time Quality: G APID: 16 SSC: 11785 Type: 5 Subtype: 1 PI1: 178 PI2: 178 SPID: 40578161 TPSD: -1 HFA Counter: 1 Filing: E Distribution: E Time Field: Y Packet Period: 0 [msec] CRC: ? Event Severity: ? TM Packet Parameter Data _____ Generation time: 2008.142.13.57.54.992 Reception time: 2008.142.13.57.55.732 TM Packet Raw Data SCOS-2000 Header: 0000:0000 0000 622A 3448 8926 0F00 632A 3448 622D 0B00 0100 0000 E601 0000 6000 0000 0020:1138 FFFF 0100 0000 712C 6B02 0000 0000 0000 FFFF FFFF 10FF 1000 092E 0501 Packet Raw Data: 0000:0810 EE09 0019 0005 0100 5EC6 88E2 FE2F 00B2 00B2 0001 0015 0000 0000 008F 0A66

TM Packet Query Display TM Packet Details Simulated: N Mnemonic: (5,2)-0585Description: Event Report - SDB SPIRE non-vital RT Sick TM S/C ID: 486 G/S ID: 0 SLE ID: 0 OCC ID: 0 VCID: 0 HFA D/S: 65535 Data Unit Type: GOOD SP Time Stamp Type: PG Time Quality: G APID: 16 SSC: 11786 Type: 5 Subtype: 2 PI1: 185 PI2: 185 SPID: 40585161 TPSD: -1 HFA Counter: 1 Filing: E Distribution: E Time Field: Y Packet Period: 0 [msec] CRC: ? Event Severity: ? TM Packet Parameter Data -----Generation time: 2008.142.13.57.54.993 Reception time: 2008.142.13.57.55.732 TM Packet Raw Data SCOS-2000 Header: 0000:0000 0000 622A 3448 1227 0F00 632A 3448 D42D 0B00 0100 0000 E601 0000 6000 0000 0020:1138 FFFF 0100 0000 C947 6B02 0000 0000 0000 FFFF FFFF 10FF 1000 0A2E 0502 Packet Raw Data: 0000:0810 EE0A 0019 0005 0200 5EC6 88E2 FE38 00B9 00B9 0001 0015 0000 0000 0001 DB74

TMPH_PRNT_2008.142.14.06.02.342

May 21, 08 14:06

May 21, 08 14:13 TMPH_PRNT_2008.142.14.13.30.519 TM Packet Query Display TM Packet Details Simulated: N Mnemonic: D_EvRp 148 Description: 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: 11790 Type: 5 Subtype: 1 PI1: 27402 PI2: 0 SPID: 40148170 TPSD: -1 HFA Counter: 4 Filing: E Distribution: E Time Field: Y Packet Period: 0 [msec] CRC: ? Event Severity: ? TM Packet Parameter Data Generation time: 2008.142.13.57.55.964 Reception time: 2008.142.13.57.55.734 TM Packet Raw Data _____ SCOS-2000 Header: 0000:0000 0000 632A 3448 44B8 0E00 632A 3448 E134 0B00 0100 0000 E601 0000 6000 0000 0020:1138 FFFF 0400 0000 CA9C 6402 0000 0000 0000 FFFF FFFF 10FF 1000 0E2E 0501 Packet Raw Data: 0000:0810 EE0E 0019 0005 0100 5EC6 88E3 F6F5 6B0A 0000 1104 0000 0000 0000 0090 99E3

May 21, 08 14:19 TM Packet Details Mnemonic: ERROR REPORT S/C ID: 486 G/S ID: 0 Data Unit Type: GOOD SP APID: 16 SSC: 11830

TMPH_PRNT_2008.142.14.19.14.492 TM Packet Query Display

Simulated: N

Description OBCP_Evt Hifi Off

SLE ID: 0 OCC ID: 0 VCID: 0

HFA D/S: 65535

Time Stamp Type: PG

Time Quality: G

Type: 5

Subtype: 4

PI1: 12288 PI2: 0

Event Severity: ?

SPID: 45400185

TPSD: -1

HFA Counter: 4

Filing: E Distribution: E

Time Field: Y

Packet Period:

0 [msec]

CRC: ?

TM Packet Parameter Data -----

Generation time: 2008.142.13.58.22.965

Reception time: 2008.142.13.58.25.774

TM Packet Raw Data

SCOS-2000 Header:

0000:0000 0000 7E2A 3448 ADBC 0E00 812A 3448 B8D1 0B00 0100 0000 E601 0000 6000 0000 

Packet Raw Data:

0000:0810 EE36 0019 0005 0400 5EC6 88FE F73F 1002 0000 0000 0000 0000 0000 0000 BDC1

Or.

May 21, 08 14:21 TMPH_PRNT_2008.142.14.21.16.675

Page 1/1

TM Packet Query Display 

TM Packet Details

Mnemonic: D_EvRp 145 Description: Event 5-1 OBCP Ended

S/C ID: 486 G/S ID: 0

SLE ID: 0

Type: 5

VCID: 0

HFA D/S: 65535

Simulated: N

Data Unit Type: GOOD SP

Time Stamp Type: PG

Time Quality: G

SSC: 11835

PI1: 27399 PI2: 0

SPID: 40145170

TPSD: -1

HFA Counter: 4

Filing: E Distribution: E

Time Field: Y

APID: 16

Packet Period:

0 [msec]

CRC: ?

Subtype: 1

OCC ID: 0

Event Severity: ?

TM Packet Parameter Data

Generation time: 2008.142.13.58.24.969

Reception time: 2008.142.13.58.25.777

TM Packet Raw Data

SCOS-2000 Header:

0000:0000 0000 802A 3448 7EC9 0E00 812A 3448 24DC 0B00 0100 0000 E601 0000 6000 0000 0020:1138 FFFF 0400 0000 1291 6402 0000 0000 0000 FFFF FFFF 10FF 1000 3B2E 0501

Packet Raw Data:

0000:0810 EE3B 0019 0005 0100 5EC6 8900 F816 6B07 0000 1104 0000 0000 0000 0092 DC05



# Herschel

Step	Test-Step-Description	Nominal	Tolerance	1	Remarks	P	N
- <b>No.</b> 245.	During Z010999MCVT137_IST_SPIRE_FDIR_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	370 OFF 100 OFF		Value  1) OFF  2) 100= 370= 01C	off	) ) )	
246.	During Z010999MCVT137_IST_SPIRE_FDIR_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		2	

Test location:	Operator	Product-Assurance: /	Date:
ESTECHYDRA	SNH	K. Goossens &.	21/05/08: 14:27

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

Issue:

Date: 28/04/2008

File: HP-2-ASED-TP-0197_1.doc



### Herschel

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
247.	During D102159SCVT192_GET_EAT_REPORT  ⇒ click the "EndTS" button to continue	ENDTS		ENDS		7	
248.	During Z010999MCVT137_IST_SPIRE_FDIR_formal "RECOVERY ACTION"  ⇒ Click the button "Confirm" to continue	CONFIRM		Couriem		7	
249.	During Z010999MCVT137_IST_SPIRE_FDIR_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		ASS		)	

Test location:	Operator	Produ	ıct-Assurance:	N	Date;	
ESTEC/ HYDLA	2 MM	K	Coossens	L'	21/05/08	14:30

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

Issue:

Date: 28/04/2008

File: HP-2-ASED-TP-0197_1.doc



# Herschel

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
250.	During D102159SCVT192_GET_EAT_REPORT  ⇒ click the "EndTS" button to continue	ENDTS		6075		\	)
251.	During Z010999MCVT137_IST_SPIRE_FDIR_formal "Switching SPIRE ON"  ⇒ click "OK" to confirm	ОК		OK		7	
252.	During S102999SCVT017_ASDGENSPIR_PWR_ON_P  "Power on SPIRE prime and enable MIL 1553 I/F. FM SPIRE Switch on for IST activities in any conditions Select NO to abort TS if not correct"               Click the button "YES" to confirm	YES		463	Refer to RD-3 for correct message and expected OOLs.		4

Test location:	Operator	Prode	et-Assurance:		7	Date: , 1
111	(7)					50.0
GSIECI HYDRA	NA	1 K	600ssens	- 6	<u>K</u>	151102108.10.31
. 4	3 - 11		Cossens	- 1	<b>5</b> ′′	
				-/		

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

Issue:

Date: 28/04/2008

File: HP-2-ASED-TP-0197_1.doc



### Herschel

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks P N
253.	During S102999SCVT017_ASDGENSPIR_PWR_ON_P "Set Bus Profile back to original setting?"	YES		Y6s	7
254.	During Z010999MCVT137_IST_SPIRE_FDIR_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	100 OFF		370=0A [178=01] OX	) }
255.	During Z102999SCVT008_ASDGEN_SPIRESTBY2OPS  "Command SPIRE from REDY to OPS mode in any condition – Select NO to abort TS if not correct"  ⇒ Click the "YES" button to confirm	YES		Y6S	Refer to RD-3 for correct message and expected OOLs.

	p					
Test location: ESTEC / AYDR A	Operator Sol H	Prod(		1	Date:	Riston
	21011	/ '.	Goossens	<i>*</i>	210000	14145

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

Issue:

Date: 28/04/2008

File: HP-2-ASED-TP-0197_1.doc



### Herschel

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
256.	During S102999SCVT911_ASDDBGSPIR_STBY2OPS  "Bus profile left as SPIRE PRIME while in OPS mode"			OK		7	
257.	During Z010999MCVT137_IST_SPIRE_FDIR_formal "Check that SPIRE is producing Science packets"  ⇒ Perform the activity and click the button "OK" to continue	PASS OK		Pass 92	Check that file in /HPCCS/VARIABLE/RESULTS/ <test_session>/TMDUMP/ /<date-time>VC1.txt is increasing. With TM from APID 1284</date-time></test_session>	)	)
258.	During Z010999MCVT137_IST_SPIRE_FDIR_formal "End of SPIRE OFF CONTROL TEST"  ⇒ click the "OK" button to confirm	ОК		OK			)

Test location:	Operator SNLL	Produ	ct-Assurance:	b.	Date: 21 05 08	14:44	
			0 000000			`	

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Date: 28/04/2008

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# Herschel

Step -No.	,	Nominal Value	Tolerance	Actual Value	Remarks	P	N
259.	During Z010999MCVT137_IST_SPIRE_FDIR_formal				If SKIP, it continues at step 284.		
	"TEST the SPIRE OFF (DLL) OBCP?"	CONFIRM		004, RM	DB_OBCP_H_SPIRE_OFF is the OBCP under test.	1	
	⇒ Click the button "Confirm" to continue						
260.	During Z010999MCVT137_IST_SPIRE_FDIR_formal						
	"SPIRE OFF DLL FDIR triggering	CONFIRM		CONFIR	20	7	
	⇒ Click the button "Confirm" to continue						
261.	During Z010999MCVT137_IST_SPIRE_FDIR_formal						
	"Please filter one TMPKT History for TM(5,1) and one for TM(5,4)"	PASS		OK			
	⇒ Perform activity, then click the button "OK" to continue	OK				7	

Test location:	0		
ESTE /114000	Operator	Product-Assurance:	Date:
C3. EC. I FO MUCH	SNH	K. Goossens K.	21/05/08/14/46

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Issue:

Date: 28/04/2008

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### Herschel

Step -No.	Test-Step-Description	Nominal Value	Tolerance	1	Remarks	P	N
262.	During Z010999MCVT137_IST_SPIRE_FDIR_formal	value		Value			
	"start the SPIRE (RT 21) simulation on the CDMU SCOE to create jamming"	ОК		EK		7	
	⇒ Click the button "OK" to proceed						
263.	On CDMS SCOE			<del>                                     </del>			ᅱ
	Double-click on the link "StartSCOE.bat" on the desktop to start the CDMU SCOE application.	PASS		Alread Runn	3	7	
264.	On CDMS SCOE						$\dashv$
	Select Menu: Mode ⇒ Local Mode Password: H-P	PASS		PASS		ز	
265.	On CDMS SCOE			<u> </u>			
	Select from menu: Setup ⇒ RTSim Configuration	PASS		Pass		7	
266.	On CDMS SCOE						ᅱ
	Select file: R:\(192.168.90.32)\Herschel.rtc	PASS		Pass		7	
	and then click the button "OK"						l

Test location:	Operator	Product-A	Assurance:	/	Date:	
ESTECHYDRA	SNH	RO		A,	21/05/08	14850

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

Issue:

Date: 28/04/2008

File: HP-2-ASED-TP-0197_1.doc



# Herschel

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
267.	On CDMS SCOE  Select from menu:  Mode   On Line	PASS		ASS		7	
268.	On CDMS SCOE  In window: "System Control/RT controls":  ⇒ Select RT21  ⇒ Click the button "Enable" for:  - control  - TM queue  - TC queue  And after 8 seconds proceed immediately with next step	PASS	14:53:45	AZ	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	7	
269.	On CDMS SCOE  In window: "System Control/RT controls" Click the button "DISABLE" for: - control - TM queue - TC queue	PASS	14:58:50	BASIS	To be performed within 8 seconds!!!	7	

Test location:	Operator	Produ	ct-Assurance:		Date:
11.	oporator	11000	CI-Assurance.		Date.
ESSCO INDO	C > 1/1	//	bonecers		Dilactor luce
ESIEC HOLDICA	204	$\mathcal{N}$ .	COOSCUS	Hr.	2162 108 14:54
		<u> </u>		//	
31 = ((A(DEM	3.07	71.	Cossus	<i>p</i>	

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

Issue:

28/04/2008 Date:

File: HP-2-ASED-TP-0197_1.doc



# Herschel

During Z010999MCVT137_IST_SPIRE_FDIR_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  Expected: TM(5,1) SDB unhealthy TM(5,2)-0552 SPIRE non vital RT Invalid TM(5,1) subschedule status chang  OK  OK  OK  OK  OK  OK	Step -No.	ninal Tolerance Actual Remarks	Description	Remarks	P	N
S) ⇒ check that TM(5,1) with SPID 40145170 procID 0x1103 is received  ⇒ Click the "OK" button to confirm	270. 3) 4) 5)	Expected TM(5,1) S TM(5,2)-C Invalid TM(5,1) S  S) Ox103  Cox103  Cox1	t: he end of the OBCP -TM(5,1) with 170 procID 0x1103"  nat OBCP SPIRE OFF has been FM(5,1) with SPID 40148170 procID  ivID 0x1001 SPIRE Switched OFF" is t TM(5,1) with SPID 40145170 procID ceived	TM(5,1) SDB unhealthy TM(5,2)-0552 SPIRE non vital RT Invalid TM(5,1) subschedule status changed	17 7 1 1 1 7	

Test location:  ESTEC HUDRA  Operator  Product-Assurance:  Date:  No. 15:11	Г						
ESTEC HUDRA SOLA // Goossens & 21/05/08 15:11	l	Test location:	Operator	Produ	ct-Assurance:	$ \langle                                   $	Date;
		ESTEC) HUDRA	SNH	1	Goossens ;		12/10/5/15/2 12:11

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Issue:

Date: 28/04/2008

File: HP-2-ASED-TP-0197_1.doc

May 21, 08 14:57				OBE	1_PRI	NT_2008	<b>B.14</b>	2.14	.57	.57	<b>7.257</b> Page 1/2
On-Board Event History Current printout time: Number of printed line:	display printout from t 2008.142.14.57.57.258 s: 30	ime: DISPL	2008.14 AY MODE	2.14.40. BRIEF	43.121 to	o time: 200 MODE: INACT	08.14 CIVE	2.14.55	.16.	634	
Generation Time	Reception Time	VC	APID	SSC	EvID	Severity	TmT	TmQ	F	D	Message Text
2008.142.14.55.16.634	2008.142.14.55.16.759	0	2020	10472	238	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00EE - VCFC Time datation for VCO-V
CFCmod0x40 2008.142.14.54.10.093	2008.142.14.54.15.675	0	16	13147	27399	NORM	PG	G	E	E	Event 5-1 OBCP Ended
2008.142.14.54.06.090	2008.142.14.54.15.673	0	16	13142	12288	ALARM	PG	G	E	E	OBCP_Evt Hifi Off
2008.142.14.53.50.122	2008.142.14.53.53.643	0	16	13115	26881	NORM	PG	G	E	E	Event 5-1 Subschedule Status Changed
2008.142.14.53.49.638	2008.142.14.53.49.638	0	512	1951	47	NORM	PR	N	E	E	Event Report - SDB Synchronisation Time-Out
2008.142.14.53.49.087	2008.142.14.53.49.637	0	16	13108	27402	NORM	PG	G	E	Е	Event 5-1 OBCP Started
2008.142.14.53.48.508	2008.142.14.53.49.636	0	16	13104	152	WARN	PG	G	E	E	Event Report - SPIRE non-vital RT Invalid
2008.142.14.53.48.461	2008.142.14.53.49.636	0	16	13103	34	NORM	PG	G	E	E	Event Report - SDB Unhealthy
008.142.14.53.47.009	2008.142.14.53.47.135	0	2020	10462	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
008.142.14.51.46.837	2008.142.14.51.46.959	0	2020	10449	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2008.142.14.49.46.665	2008.142.14.49.46.777	0	2020	10436	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
008.142.14.49.42.650	2008.142.14.49.42.771	0	2020	10435	238	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00EE - VCFC Time datation for VCO-V
CFCmod0x40 2008.142.14.47.46.494	2008.142.14.47.46.600	0	2020	10422	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2008.142.14.45.46.306	2008.142.14.45.46.422	0	2020	10409	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2008.142.14.44.17.681	2008.142.14.44.17.796	0	2020	10399	238	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00EE - VCFC Time datation for VCO-V
PCMod0x40 2008.142.14.43.45.650	2008.142.14.43.45.761	0	2020	10395	164	NORM	PG	G	E	E	TMTCDFE EvPkt 5-1 00A4 - New archive segment created
2008.142.14.42.49.259	2008.142.14.42.51.676	0	1280	766	1281	NORM	PG	G	E	E	New_Step_Report
2008.142.14.42.47.634	2008.142.14.42.47.735	0	2020	10387	0	NORM	PG	G	E	E	TC Report Packet
2008.142.14.42.46.619	2008.142.14.42.46.719	0	2020	10385	0	NORM	PG	G	E	E	TC Report Packet
2008.142.14.42.45.603	2008.142.14.42.45.703	0	2020	10383	0	NORM	PG	G	E	E	TC Report Packet
2008.142.14.42.44.525	2008.142.14.42.44.625	0	2020	10381	0	NORM	PG	G	E	E	TC Report Packet
2008.142.14.42.39.572	2008.142.14.42.39.672	0	2020	10378	0	NORM	PG	G	E	E	TC Report Packet
2008.142.14.42.35.556	2008.142.14.42.35.656	0	2020	10376	0	NORM	PG	G	E	E	TC Report Packet
2008.142.14.42.35.103	2008.142.14.42.35.203	0	2020	10374	0	NORM	PG	G	E	E	TC Report Packet
2008.142.14.41.20.129	2008.142.14.41.22.037	0	16	12879	26892	NORM	PG	G	E	E	Event 5-1 TM 11-19 Dump Ended
2008.142.14.41.10.400	2008.142.14.41.10.498	0	2020	10364	0	NORM	PG	G	E	E	TC Report Packet

May 21, 08	3 14:57	T	MPH	PR	NT_2	008.1	42.1	4.57.	46.12	3				Pac	ge 1	/2
Current printe	tory display printout fr out time: 2008.142.14.57 nted lines: 29	om time: 2008.142.14.40.	50.322	to tir		.142.14	.55.16									
Mnemonic	Generation Time	Reception Time	VC	APID	SSC	Туре	sтур	PI1	PI2	DS	SPID	GSID	TmT	TmQ	F	D
TMTCEve51 EE	2008.142.14.55.16.634	2008.142.14.55.16.759		2020	10472	5	1	238	8229	65535	250238946		PG	 G	E	 E
D_EvRp_145	2008.142.14.54.10.093	2008.142.14.54.15.675	0	16	13147	5	1	27399	0	65535	40145170		PG	G	E	E
ERROR REPORT	2008.142.14.54.06.090	2008.142.14.54.15.673	0	16	13142	5	4	12288	0	65535	45400185		PG	G	E	E
D_EvRp_048	2008.142.14.53.50.122	2008.142.14.53.53.643	0	16	13115	5	1	26881	0	65535	40048170		PG	G	E	Ε
(5,2)-0447	2008.142.14.53.49.638	2008.142.14.53.49.638	0	512	1951	5	1	47	47	65535	10447050		PR	N	E	E
D_EvRp_148	2008.142.14.53.49.087	2008.142.14.53.49.637	0	16	13108	5	1	27402	0	65535	40148170		PG	G	Е	E
(5,2)-0552	2008.142.14.53.48.508	2008.142.14.53.49.636	0	16	13104	5	2	152	152	65535	40552161		PG	G	E	E
D_EvRp_434	2008.142.14.53.48.461	2008.142.14.53.49.636	0	16	13103	5	1	34	34	65535	45434160		PG	G	E	E
TMTCEve51 A4	2008.142.14.53.47.009	2008.142.14.53.47.135	0	2020	10462	5	1	164	0	65535	250164946		PG	G	E	E
TMTCEve51 A4	2008.142.14.51.46.837	2008.142.14.51.46.959	0	2020	10449	5	1	164	0	65535	250164946		PG	G	E	E
TMTCEve51 A4	2008.142.14.49.46.665	2008.142.14.49.46.777	0	2020	10436	5	1	164	0	65535	250164946		PG	G	E	E
TMTCEve51 EE	2008.142.14.49.42.650	2008.142.14.49.42.771	0	2020	10435	5	1	238	8229	65535	250238946		PG	G	E	E
TMTCEve51 A4	2008.142.14.47.46.494	2008.142.14.47.46.600	0	2020	10422	5	1	164	0	65535	250164946		PG	G	E	E
TMTCEve51 A4	2008.142.14.45.46.306	2008.142.14.45.46.422	0	2020	10409	5	1	164	0	65535	250164946		PG	G	E	E
IMTCEve51 EE	2008.142.14.44.17.681	2008.142.14.44.17.796	0	2020	10399	5	1	238	8229	65535	250238946		PG	G	E	E
TMTCEve51 A4	2008.142.14.43.45.650	2008.142.14.43.45.761	0	2020	10395	5	1	164	0	65535	250164946		PG	G	E	E
SNSR00000500	2008.142.14.42.49.259	2008.142.14.42.51.676	0	1280	766	5	1	1281	20736	65535	190100500		PG	G	E	E
TCReport Pkt	2008.142.14.42.47.634	2008.142.14.42.47.735	0	2020	10387	5	1	0	0	65535	134		PG	G	E	E
TCReport Pkt	2008.142.14.42.46.619	2008.142.14.42.46.719	0	2020	10385	5	1	0	0	65535	134		PG	G	E	E
TCReport Pkt	2008.142.14.42.45.603	2008.142.14.42.45.703	0	2020	10383	5	1	0	0	65535	134		PG	G	E	E
TCReport Pkt	2008.142.14.42.44.525	2008.142.14.42.44.625	0	2020	10381	5	1	0	0	65535	134		PG	G	E	E
CReport Pkt	2008.142.14.42.39.572	2008.142.14.42.39.672	0	2020	10378	5	1	0	0	65535	134		PG	G	E	E
CReport Pkt	2008.142.14.42.35.556	2008.142.14.42.35.656	0	2020	10376	5	1	0	0	65535	134		PG	G	E	E
CReport Pkt	2008.142.14.42.35.103	2008.142.14.42.35.203	. 0	2020	10374	5	1	0	0 -	65535	134		PG	G ·	E	E
D_EvRp_7042	2008.142.14.41.20.129	2008.142.14.41.22.037	0	16	12879	5	1	26892	0	65535	47042170		PG	G	E	E
TCReport Pkt	2008.142.14.41.10.400	2008.142.14.41.10.498	0	2020	10364	5	1	0	0	65535	134		PG	G	E	E

TMPH_PRNT_2008.142.14.58.56.939 May 21, 08 14:58 Page 1/1 TM Packet Query Display TM Packet Details Simulated: N Mnemonic: D_EvRp 434 Description: Event Report - SDB Unhealthy S/C ID: 486 G/S ID: 0 SLE ID: 0 OCC ID: 0 VCID: 0 HFA D/S: 65535 Data Unit Type: GOOD SP Time Stamp Type: PG Time Quality: G APID: 16 SSC: 13103 Type: 5 Subtype: 1 PI1: 34 PI2: 34 SPID: 45434160 TPSD: -1 HFA Counter: 3 Filing: E Distribution: E Time Field: Y Packet Period: 0 [msec] CRC: ? Event Severity: ? TM Packet Parameter Data Generation time: 2008.142.14.53.48.461 Reception time: 2008.142.14.53.49.636 TM Packet Raw Data -----SCOS-2000 Header: 0000:0000 0000 7C37 3448 810A 0700 7D37 3448 BCB4 0900 0100 0000 E601 0000 6000 0000 0020:1138 FFFF 0300 0000 3045 B502 0000 0000 0000 FFFF FFFF 10FF 1000 2F33 0501 Packet Raw Data: 0000:0810 F32F 0019 0005 0100 5EC6 95FC 7621 0022 0022 0002 0000 0000 0000 009A 5CF9

May 21, 08 14	1:59		IMPH_	PRNT_2	008.142.14.59.07.931
		TM Packet Quer			
TM Packet Deta	ails				
Mnemonic: (5,2)-0	Description:	Event Report -	SPIRE non-vital	RT Invalid	Simulated: N
S/C ID: 486	G/S ID: 0	SLE ID: 0	OCC ID: 0	VCID: 0	HFA D/S: 65535
Data Unit Type: 0	GOOD SP	Time Stamp Ty	pe: PG	Time Quali	ty: G
APID: 16	SSC: 13104	Type: 5	Subtype: 2	PI1: 152	PI2: 152
SPID: 40552161	TPSD: -1	HFA Cou	nter: 0	Filing: E	Distribution: E
Time Field: Y	Packet Period:	0 [msec]	CRC: ?	Event Sev	erity: ?
TM Packet Para	ameter Data				
Generation time:	2008.142.14.53.48.508	Reception t	ime: 2008.142.1	1.53.49.636	
TM Packet Raw	Data				

SCOS-2000 Header: 0000:0000 0000 7C37 3448 81C2 0700 7D37 3448 0AB6 0900 0100 0000 E601 0000 6000 0000 0020:1138 FFFF 0000 0000 E1C6 6A02 0000 0000 0000 FFFF FFFF 10FF 1000 3033 0502

Packet Raw Data: 0000:0810 F330 0019 0005 0200 5EC6 95FC 8230 0098 0098 0000 0015 0000 0000 0002 1D0B

May 21, 08 15:13 TMPH_PRNT_2008.142.15.13.02.949 TM Packet Query Display TM Packet Details Simulated: N Mnemonic: D_EvRp_148 Description: Event 5-1 OBCP Started S/C ID: 486 G/S ID: 0 SLE ID: 0 OCC TD: 0 VCID: 0 HFA D/S: 65535 Data Unit Type: GOOD SP Time Stamp Type: PG Time Quality: G APID: 16 SSC: 13108 Type: 5 Subtype: 1 PI1: 27402 PI2: 0 SPID: 40148170 TPSD: -1 HFA Counter: 5 Filing: E Distribution: E Time Field: Y Packet Period: CRC: ? Event Severity: ? 0 [msec] TM Packet Parameter Data Generation time: 2008.142.14.53.49.087 Reception time: 2008.142.14.53.49.637 TM Packet Raw Data _____ SCOS-2000 Header: 0000:0000 0000 7D37 3448 E455 0100 7D37 3448 3EBB 0900 0100 0000 E601 0000 6000 0000 0020:1138 FFFF 0500 0000 CA9C 6402 0000 0000 0000 FFFF FFFF 10FF 1000 3433 0501 Packet Raw Data: 0000:0810 F334 0019 0005 0100 5EC6 95FD 1668 6B0A 0000 1103 0000 0000 0000 009B 0BDE

TMPH_PRNT_2008.142.15.10.38.885

TM Packet Query Display 

TM Packet Details

May 21, 08 15:10

Simulated: N

Mnemonic: ERROR REPORT

G/S ID: 0

SSC: 13142

Description: OBCP_Evt Hifi Off

OCC ID: 0 VCID: 0

HFA D/S: 65535

Data Unit Type: GOOD SP

Time Stamp Type: PG

Time Quality: G

Type: 5

SLE ID: 0

Subtype: 4

CRC: ?

PI1: 12288 PI2: 0

SPID: 45400185

S/C ID: 486

APID: 16

TPSD: -1

HFA Counter: 5

Filing: E Distribution: E

Time Field: Y

Packet Period:

0 [msec]

Event Severity: ?

TM Packet Parameter Data

Generation time: 2008.142.14.54.06.090

Reception time: 2008.142.14.54.15.673

TM Packet Raw Data

SCOS-2000 Header:

 $0000:0000 \ 0000 \ 8E37 \ 3448 \ FE61 \ 0100 \ 9737 \ 3448 \ 1947 \ 0A00 \ 0100 \ 0000 \ E601 \ 0000 \ 6000 \ 0000$ 0020:1138 FFFF 0500 0000 79C0 B402 0000 0000 0000 FFFF FFFF 10FF 1000 5633 0504

Packet Raw Data:

May 21, 08 15:11 TMPH_PRNT_2008.142.15.11.31.018

Page 1/1

TM Packet Query Display 

TM Packet Details

Mnemonic: D_EvRp_145

Description: 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

Simulated: N

Data Unit Type: GOOD SP

Time Stamp Type: PG

Time Quality: G

APID: 16

SSC: 13147

Type: 5

Subtype: 1

PI1: 27399 PI2: 0

SPID: 40145170

TPSD: -1

HFA Counter: 5

Filing: E Distribution: E

Time Field: Y

Packet Period:

0 [msec]

CRC: ? Event Severity: ?

TM Packet Parameter Data

Generation time: 2008.142.14.54.10.093

Reception time: 2008.142.14.54.15.675

TM Packet Raw Data

SCOS-2000 Header:

0000:0000 0000 9237 3448 FC6E 0100 9737 3448 614F 0A00 0100 0000 E601 0000 6000 0000 0020:1138 FFFF 0500 0000 1291 6402 0000 0000 0000 FFFF FFFF 10FF 1000 5B33 0501

Packet Raw Data:

0000:0810 F35B 0019 0005 0100 5EC6 9612 180D 6B07 0000 1103 0000 0000 0000 009D 7686

													Print	ted by	/ hpe	exe
May 21, 08	3 14:56		MPH	I_PR	NT_2	008.1	42.1	4.56	59.04	17				Pa	ge 1	/1
Current print	tory display printout fr out time: 2008.142.14.56 nted lines: 10	om time: 2008.142.14.53.	48.619 CTIVE	to tir DISPI	me: 2008 LAY MODE	.142.14 : BRIEF		3.091 ATISTIC:	OFF					•		
Mnemonic	Generation Time	Reception Time	VC	APID	SSC	Туре	STyp	PI1	PI2	DS	SPID	GSID	TmT	TmQ	F	D
TcContentRep	2008.142.14.54.08.091	2008.142.14.54.15.673	0	16	13143	1	9	0	0	65535	40094180		PG	 G	E	E
TcContentRep	2008.142.14.54.04.090	2008.142.14.54.05.660	0	16	13138	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.142.14.54.02.090	2008.142.14.54.05.660	0	16	13135	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.142.14.53.58.090	2008.142.14.54.01.653	0	16	13131	1	9	0	0	65535	40094180		PG	G	E	Е
TcContentRep	2008.142.14.53.56.090	2008.142.14.53.57.651	0	16	13127	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.142.14.53.54.090	2008.142.14.53.57.648	0	16	13122	1	9	0	0	65535	40094180		PG	G	Ε	Е
TcContentRep	2008.142.14.53.52.090	2008.142.14.53.53.643	0	16	13118	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.142.14.53.50.092	2008.142.14.53.53.643	0	16	13113	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.142.14.53.49.090	2008.142.14.53.49.638	0	16	13109	1	9	0	0	65535	40094180		PG	G	E	E
TcContentRep	2008.142.14.53.48.619	2008.142.14.53.49.636	0	16	13105	1	9	0	0	65535	40094180		PG	G	E	E
																6"

May 21, 08 15:00 TMPH_PRNT_2008.142.15.00.53.039

Page 1/1

TM Packet Query Display 

TM Packet Details

Mnemonic: D EvRp 148

Description: Event 5-1 OBCP Started

SLE ID: 0

VCID: 0

Simulated: N

HFA D/S: 65535

Data Unit Type: GOOD SP

Time Stamp Type: PG

Time Quality: G

APID: 16

SSC: 13108

G/S ID: 0

Type: 5 Subtype: 1 PI1: 27402 PI2: 0

SPID: 40148170

TPSD: -1

HFA Counter: 5

Filing: E Distribution: E

Time Field: Y

S/C ID: 486

Packet Period:

0 [msec]

CRC: ?

OCC ID: 0

Event Severity: ?

TM Packet Parameter Data

Generation time: 2008.142.14.53.49.087

Reception time: 2008.142.14.53.49.637

TM Packet Raw Data

SCOS-2000 Header:

0000:0000 0000 7D37 3448 E455 0100 7D37 3448 3EBB 0900 0100 0000 E601 0000 6000 0000 0020:1138 FFFF 0500 0000 CA9C 6402 0000 0000 0000 FFFF FFFF 10FF 1000 3433 0501

Packet Raw Data:

0000:0810 F334 0019 0005 0100 5EC6 95FD 1668 6B0A 0000 1103 0000 0000 0000 009B 0BDE



# Herschel

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
271.	During Z010999MCVT137_IST_SPIRE_FDIR_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	LCL 51 and 11 OFF Subschedules 370 OFF 100 OFF	1)	0FF 370 150	OFF	7777	
272.	During Z010999MCVT137_IST_SPIRE_FDIR_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		ARS		7 7	

Test location:	Operator	Product-Assurance:	Date:
ESTECHARA	SNH	R Goossens B	21/05/08 15:17

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

Issue:

Date:

28/04/2008

File: HP-2-ASED-TP-0197_1.doc



# Herschel

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
273.	During D102159SCVT192_GET_EAT_REPORT  ⇒ click the "EndTS" button to continue	ENDTS		ENDTS		7	
274.	During Z010999MCVT137_IST_SPIRE_FDIR_formal "RECOVERY ACTION"  ⇒ Click the button " confirm" to continue			CONFIG		7	
275.	During Z010999MCVT137_IST_SPIRE_FDIR_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		7	

		,			
Test location:	Operator	Proeh	ct-Assurance:	/	Date:
ESTECIMMORA	SNA	K.	Goossens I		21/05/08-15:21

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

Issue:

Date: 28/04/2008

File: HP-2-ASED-TP-0197_1.doc



# Herschel

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
276.	During D102159SCVT192_GET_EAT_REPORT  ⇒ click the "EndTS" button to continue	ENDTS		ENDIZ		7	
277.	During Z010999MCVT137_IST_SPIRE_FDIR_formal  "set the CDMS SCOE OFF LINE"  ⇒ Perform the activities of the next step, then click the button "OK"	PASS		PASS		7	
278.	On CDMS SCOE  Select from menu:  Mode   Off Line	PASS		Pass		S	

Test location:	Operator	Produ	ıct-Assurance:	7	Date:
ESTEC/ H-IDRA	507H	K.	Soossens	P.	21/05/08 15:23

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

Issue:

Date: 28/04/2008

File: HP-2-ASED-TP-0197_1.doc



### Herschel

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
279.	During Z010999MCVT137_IST_SPIRE_FDIR_formal "Switching SPIRE ON""                 Click the button "OK" to continue	ОК		O ≥<		7	
280.	During S102999SCVT017_ASDGENSPIR_PWR_ON_P  "Power on SPIRE prime and enable MIL 1553 I/F. FM SPIRE Switch on for IST activities in any conditions Select NO to abort TS if not correct "               Click the button "YES" to confirm	YES		MES	Refer to RD-3 for correct message and expected OOLs.	7	
281.	During S102999SCVT017_ASDGENSPIR_PWR_ON_P "Set Bus Profile back to original setting?"  ⇒ Click the button "YES" to confirm	YES		YES		7	

Test location:	Operator	Product-Assurance:		Date:	
ESTEC HIDEA	SNA		R	21/05/08	15:32

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Issue:

Date: 28/04/2008

File: HP-2-ASED-TP-0197_1.doc



# Herschel

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	1
282.	During Z010999MCVT137_IST_SPIRE_FDIR_formal  "Please check that subschedule 370 (SPIRE TCs) is enabled and 100 (meta-SPIRE) is disabled and then press OK"	Subschedules		370=		7	1
	⇒ Perform activity and then click the "OK" button to confirm	ок		OR		7	
283.	During Z010999MCVT137_IST_SPIRE_FDIR_formal "End of SPIRE FDIR TEST"  ⇒ click the "OK" button to continue	ОК		OK		7	
284.	During Z010999MCVT137_IST_SPIRE_FDIR_formal "RESET the STARTING CONDITION"	CONFIRM		CONFIL	7	)	

Test location:	Operator	Proeto	ct-Assurance:	-/	Date:	
ESTECHADRA	SNH	K.	Goossens	<b>A</b> .	23/05/08	15:42

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

Issue:

Date: 28/04/2008

File: HP-2-ASED-TP-0197_1.doc



# Herschel

Step -No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
	During Z010999MCVT137_IST_SPIRE_FDIR_formal "Check that all subschedules from 1 to 256 plus the 370 are enabled	Subschedules 1-256 ON 370 ON Others OFF		1-256	10N = 0N.	7 1	

Test location:	Operator	Product-Assurance:	Date:	
ESTECHADRA	5,NH	K. Goossens &	21/05/08 15:50	?
	<u> </u>			-

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Issue:

Date: 28/04/2008

File: HP-2-ASED-TP-0197_1.doc



### Herschel

### 7.6 Specific Post-Test Activities

No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
1.	During Z010999MCVT131_IST_INSTR_FDIR  "Start the instrument specific FDIR sequence"	ок		OK		7	
	⇒ click the "OK" button to proceed						
2.	During Z010999MCVT131_IST_INSTR_FDIR  "End of INSTRUMENTS FDIR Tests. Select OK to switch off"  ⇒ click the "OK" button to proceed	юк			Perform this test step AFTER ALL the relevant FDIR tests have been performed		THE REAL PROPERTY AND ADDRESS OF THE PROPERTY ADDRESS OF THE PROPERTY AND ADDRESS OF THE PROPERTY ADDRESS OF THE PROPERTY AND ADDRESS OF THE PROPERTY AND ADDRESS OF THE PROPERTY AND ADDRESS OF THE PROPERTY ADDRESS OF T
3.	During Z010999MCVT131_IST_INSTR_FDIR "Check that all EATs are enabled""	PASS		PÁSS		٧	
	⇒ perform activity through  D102159SCVT192_GET_EAT_REPORT then  click the "OK" button to proceed	ок		OIC			

Test location:	Operator	Product-Assurance:	Date:	
ESTECHIDRA	SNH	K. Coossens B.	21/05/08	15:58

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Issue:

Date:

28/04/2008

File: HP-2-ASED-TP-0197_1.doc



# Herschel

Step- No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
4.	During D102159SCVT192_GET_EAT_REPORT	ENDTS		ENDS		7	
	⇒ Click the button "EndTS!" to proceed						
	During Z010999MCVT131_IST_INSTR_FDIR						
5.	"RESET to the original SCBP?"	CONFIRM SKIP		SKIP		7	
	⇔ Click the button "Confirm to continue						
	During Z010999MCVT131_IST_INSTR_FDIR				Refer to RD-3 for correct message and expected OOLs.		
6.	"POWER OFF HIFI PRIMARY"	CONFIRMSKIP	SKIP	SKIP	ge man appearance and	1	
	Click the button "Confirm" to continue						
	During Z010999MCVT131_IST_INSTR_FDIR						
7.	"POWER OFF PACS PRIMARY"	CONFIRM		CONFI	em	7	
	⇒ Click the button "Confirm" to continue						

Test location:	Operator	Product-Assurance:	1	Date:	
ESTECIHYDRA	Sath	R. Goossens	R	21/05/08	16:05

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

Issue:

PVS1-5

Date: 28/04/2008

File: HP-2-ASED-TP-0197_1.doc



# Herschel

Step- No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
8.	During P102999SCVT906_ASDISTPACS_PWR_OFF_N "FM PACS Swith off in Warm or Cold conditions, FPU connected"			YES	Refer to RD-3 for correct message and expected OOLs	7	- Andrew
9.	⇔ click the "Yes" button to proceed  During  P102999SCVT906_ASDISTPACS_PWR_OFF_N  "Set Bus Profile back to original setting?"      ⇔ click the "Yes" button to proceed	YES		Y6s		7	
10.	During Z010999MCVT131_IST_INSTR_FDIR "POWER OFF SPIRE PRIMARY"  ⇒ Click the button "Confirm" to continue			CONF	RM	7	
11.	During S102999SCVT019_ASDGENSPIR_PWR_OFF_P "SPIRE swith off for IST activities in any conditions"			465		7	

Test location:	Operator	Produ	ct-Assurance:	1	Date:	
ESTEC HYDRA	SNEL	K	Goossens .		21/05/08	16:19

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

Issue:

Date: 28/04/2008

File: HP-2-ASED-TP-0197_1.doc



# Herschel

Step- No.	Test-Step-Description	Nominal Value	Tolerance	Actual Value	Remarks	P	N
12.	During S102999SCVT019_ASDGENSPIR_PWR_OFF_P "Set BUS profile back to original setting"  ⇒ click the "Yes" button to proceed	YES		465		J	
13	During Z010999MCVT131_IST_INSTR_FDIR  "Bring the S/C into a SAFE mode and switch OFF"   ⇒ Click the button "OK" to continue	ОК		OV	The IST_END sequence shall be called-up. Therefore, continue with chapter 7.4 of RD4. step 1.		

Test location:	Operator	Product-Assurance:	Date:
ESTEC. HYDRA	SNA	K. Goossens K.	21/05/08. 16:23

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

Issue:

Date:

28/04/2008

File: HP-2-ASED-TP-0197_1.doc

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# Herschel

### 7.7 S/C Power OFF

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

Test location:	Operator	Produst-Assurance:	Date:
ESTEC/ HYDRA	SNH	K. Goossens V.	21/05/08

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

Issue:

Date: 28/04/2008

File: HP-2-ASED-TP-0197_1.doc







### 8 Script Hierarchy

#### 8.1 Master script

```
Z010999MCVT131_IST_INSTR_FDIR
A102109SPVT202_ACMS_STATUS_H
D102159SCVT138_IST_LAUNCH_SUNACQ
D102159SCVT137_IST_SUNACQ_NOM
W102584SPVT101_PCDU_TRANSITION_FDIR
Z102999SCVT001_SREM_ON
Z102999SCVT014_ASDGEN_HIFIPWRON_P
Z102999SCVT010_ASDGEN_PACSPWRON_P
Z102999SCVT014_ASDGEN_SPIREPWRON_P
D102159SCVT193_IST_UPLOAD_OBCP
D102159SCVT192_IST_UPLOAD_EAT
D102159SCVT192_GET_EAT_REPORT.tcl
Z010999MCVT004_IST_END
```

### 8.2 HIFI script

```
Z010999MCVT134_IST_HIFI_FDIR

Z010999MCVT153_IST_STATUS

D102159SCVT214_IST_HIFI_MTL_PING

D102159SCVT192_GET_EAT_REPORT

Z102999SCVT014_ASDGEN_HIFIPWRON_P

D102159SCVT192_GET_EAT_REPORT
```

#### 8.3 PACS script

```
Z010999MCVT135 IST PACS FDIR
    Z010999MCVT153 IST STATUS
   D102159SCVT215 IST PACS MTL PING
   Z102999SCVT019 ASDGEN PACSNomSpect
   Z102999SCVT019 ASDGEN PACSNomSpect
   D102159SCVT192 GET EAT REPORT
   Z102999SCVT019_ASDGEN_PACSNomSpect
   D102159SCVT192_GET_EAT_REPORT
   Z102999SCVT011_ASDGEN_PACSPWROFF_P
   Z102999SCVT010_ASDGEN_PACSPWRON_P
   Z102999SCVT019_ASDGEN_PACSNomSpect
   D102159SCVT192_GET_EAT_REPORT
Z102999SCVT010_ASDGEN_PACSPWRON_P
   Z102999SCVT019 ASDGEN PACSNomSpect
   D102159SCVT192 GET EAT REPORT
   PACS Disable HK OBS Shell
   D102159SCVT192 GET EAT_REPORT
   Z102999SCVT010 ASDGEN PACSPWRON P
```

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

Issue: 1



### Herschel



#### 8.4 SPIRE script

Z010999MCVT137_IST_SPIRE_FDIR_formal
Z010999MCVT153_IST_STATUS
D102159SCVT218_IST_SPIRE_MTL_PING
Z102999SCVT008_ASDGEN_SPIRESTBY2OPS
D102159SCVT192_GET_EAT_REPORT
D102159SCVT192_GET_EAT_REPORT
Z102999SCVT005_ASDGEN_SPIREPWROFF_P
Z102999SCVT004_ASDGEN_SPIREPWRON_P
Z102999SCVT008_ASDGEN_SPIRESTBY2OPS
D102159SCVT192_GET_EAT_REPORT
Z102999SCVT004_ASDGEN_SPIREPWRON_P
Z102999SCVT004_ASDGEN_SPIRESTBY2OPS
D102159SCVT192_GET_EAT_REPORT
D102159SCVT192_GET_EAT_REPORT

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

Issue: 1

Date: 30/04/2

### Herschel

#### **Summary Sheets** 9

#### **Procedure Variation Summary** 9.1

Test designation  Test step changed	ד	Test Procedure HP-2-ASED-TP-0197 Reason for Change	Curr. No.:  Date Page Issue	of Rev.
1) Only P 2) Rocada	esform  ne con  thought of  in so	Reason for Change  UM Mary  SPIRE FOIR  Rechains to  Unplanned  ACS SD-03  FF SPIRE		
PA/QA NIA	Prime	INIM	Customer	

Table 9.1-1: Procedure Variation Sheet

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

Issue: 1

	T	Test Change	Curr. No.: 1		
		rest Change			
			Date 20/05/	2008	
Task danismastic		L	Page 1	of 1	
Test designation		Test Procedure	Issue	Rev.	
Instrument FDIR		TP-0197	1		<b>Karton</b>
Test step changed		Reason for Change			
See below		Only SPIRE FDIR to	be performed		
1 - Complete any o			Instrument FD	IR ORCP)	V
<ul><li>2 - Perform TP-0134 selecting 5.8.13 from GUI (Test of Instrument FDIR OBCP)</li><li>3 - Perform TP-0197 section 7.2</li></ul>				V	
If HIFI cannot be po	owered accord	ing to S/C Configuration	on sheet the sk	ip step 26	1
4 - Perform TP-0197 section 7.5 SPIRE FDIR (skip sections 7.3 & 7.4)					V
5 - Perform TP-019	7 section 7.6	· ·			
If HIFI wasn't powe	red in section	7.2 then skip step 6			
o - Periorm IP-019	7 Section 7.7 6	ensuring that CEL and	SSMM dumped	d completely	
Prepared by:	Resp. Te	st Leader	Project Engineer		
S.Hamer PA/QA	Drimo		0		
Popular	Prime		Customer		

Proc 11	Test Change	Curr. No.:
PVS # 2		Date 71/05/08
	75	Page 1 of 1
Test designation	Test Procedure	
Test step changed So o		· ·
Warren 21	<b>o</b> 1 2 2	step histing to be added
1) Between ster	52122 4 5	ection 7:2
After	STEP 21, in	cax whill pin-up
thes-om	-, supt suf	o-ends.
Then us	ume and p	~ceed-
la) Step 25 ghos should be close	old not refere	nce SPR-290 this 6 is dozed (She 416/08) Leted to webse
	servattis	ared to melude
2007 CO	oo wance.	
2) Step 207	of Section 7.	5.
Typo ox	116 Should rea	ox 1106 Fr PROCTU
401	45170 Should rec	140148170 FOTSEIA
~ \		_A
2) Stob 533	of Section ?	5
Kenark	. to be adde	al to state himuscas
=OFF	is expecte	el and to continued
Scrip	t- Also wayo	al and to continue 18565 = 0.0 A.
4) Step 243	of Section 7.	S
14po in	remarks for s	cript to execute PTost_Stop HK
Should	be SPIRE ORC	P Tost Ston HK
Ke-exec	ite tost sten	with connect sound
read "	Typo: Roads"	Project Engineer
Prepared by:	Resp. Test Leader	Project Engineer
PA/QA	Prime	Customer
		· · · · · · · · · · · · · · · · · · ·

		Гest Change		Curr. No.: 3	2
	'	root onange			
				Date 21/05	
Test designation		T. 15		Page 1	of 1
		Test Procedure		Issue	Rev.
Instrument FDIR		TP-0197		1	-
Test step changed Section 7.5 Step 233		Reason for Change			
2000 T.O 200 200		Recovery from U	пріапп	SU SPINE C	7 F OTKL
1 – Get EAT report	and check if S	SPIRE OBCP disal	oled		
Call async D102159	9SCVT192_G	ET_EAT_REPOR [*]	Т		
2 – If so then send	following com	mand:			
DCT84170, DH041 0x0501, DH146170		55170 = 0x0500, D	)H1461	70 = 0xC11	0, DH055170 =
3 – Get EAT report	and check tha	at SPIRE OBCP re	-enable	ed	
Call async D102159	9SCVT192_GI	ET_EAT_REPORT	Γ		
Prepared by:	Resp. Te	st Leader	P	roject Engineer	
S.Hamer					
PAVQA	Prime		C	ustomer	

	Test Change	Curr. No.: 4	1
		Date 21/05	/2008
		Page 1	of 1
Test designation	Test Procedure	Issue	Rev.
Instrument FDIR	TP-0197	1	-
Test step changed	Reason for Change		
See below	Perform ACS SD-	-0344 before switc	hing off SPIRE
Section 7.6 step 5  1 – Select SKIP insterment of the step of the	o 9 P-2-ASED-SD-0344		
epared by:	Resp. Test Leader	Project Engineer	
.Hamer			
R Conssens	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.
	6			
	$R_{c}$			
	20 7			
	9			

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Issue: 1

Date: 28/04/2008 File:

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NCR/SPR	NCR/SPR - Title	Date	Open Closed	PA sig.
4228	SREM TLM DEF4W160	21/05	0	R
42 xx	Unexpected ALMS (5,1) error	21/08	0	P
SPR-0 <b>3</b> 35	STR Sim Failed to boot	21/05	0	R
-0536	unintentional triggering OBEP	21/05	0	P
-0537	"set cons scor offline" twice prompted	21/05	6	R
		make make pulp (i) to the fine to be a sequence above and a sequence of the se		/
	*			
		The American was and American Address and American American	Million and processing and an extension of the contract of the	

Table 9.2-1: Non-Conformance Record Sheet

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### 9.3 Sign-off Sheet

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

	Date	Signature
Test Director	21/05/00	Slovy
Test Conductor	21/05/08	S. Hamer:
PA Responsible	2405/08	R. Goossens:

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#### **Session Record** 10

Test Description	ISTA SPICE Instrument FDIR OBCR	]
Session ID	2008_05_21_04_38_heracms_hpus22_learTME	INTERIR
Start Time:	04:38 UTC.	THACLINK
End Time	18:04 150	
CVS Tag for Test	IST_1-19271_TP-0197-ISS1-FDIR-USCP- SPIRE-END-001	
Applicable IST Specification	Iss 5 Redlined Section 5.8.13	
Test conductor	Sirran HAMBR	
QA Approval	·	
		1
Test Description		
Session ID		
Start Time:		
End Time		
CVS Tag for Test		
Applicable IST Specification		
Test conductor		
QA Approval		
Test Description		
Session ID		
Start Time:		
End Time		
CVS Tag for Test		
Applicable IST Specification		
Test conductor		
QA Approval		

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END OF DOCUMENT

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### **Distribution List**

	Name	Dep./Comp.		Name	Dep./Comp.
	Alberti von Mathias Dr.	ASG23		Reichle Konrad	ASA42
	Baldock Richard	FAE12	X	Runge Axel	OTN/ASA44
	Barlage Bernhard	AED13		Sauer Maximilian Dr.	AED65
	Bayer Thomas	ASA42		Schink Dietmar	AED32
	Brune Holger	ASA45		Schmidt Thomas	AED15
	Edelhoff Dirk	AED2		Schweickert Gunn	ASG23
	Fehringer Alexander	ASG13	Х	Sonn Nico	ASG51
X	Fricke Wolfgang Dr.	AED 65		Steininger Eric	AED32
	Geiger Hermann	ASA42	Х	Stritter Rene	AED11
	Grasl Andreas	OTN/ASA44		Suess Rudi	OTN/ASA44
	Grasshoff Brigitte	AET12		Theunissen Martijn	DSSA
X	Hamer Simon	Terma	Х	Vascotto Riccardo	HE Space
	Hanka, Erhard	FI552		Wagner Klaus	ASG23
	Hendrikse Jeffrey	HE Space		Wietbrock Walter	AET12
X	Hendry David	Terma		Wöhler Hans	ASG23
	Hengstler Reinhold	ASA42		Wössner Ulrich	ASE252
	Hinger Jürgen	ASG23		Zumstein Armin	ASQ42
Х	Hohn Rüdiger	AED65		Zamotom / tmm	/ IOQ 12
	Hölzle Edgar Dr.	AED32			
X	Hopfgarten Michael	AED32			
	Huber Johann	ASA42			
	Hund Walter	ASE252	-	Alcatel Alenia Space Cannes	AAS-F
X	Idler Siegmund	AED312		Alcatel Alenia Space Torino	AAS-I
	Ivády von András	FAE12		ESA/ESTEC	ESA
	Jahn Gerd Dr.	ASG23		LONCOTEO	LOA
	Kalde Clemens	ASM2		Instruments:	
	Kettner Bernhard	AET42	X	MPE (PACS)	MPE
X	Klenke Uwe	ASG72	$\frac{\lambda}{X}$	RAL (SPIRE)	RAL
	Knoblauch August	AET32	$\frac{\hat{x}}{x}$	SRON (HIFI)	SRON
X	Koelle Markus	ASA43		SKON (HIFI)	SRUN
X	Koppe Axel	AED312			
	Kroeker Jürgen	AED65		Subcontractors:	
X	La Gioia Valentina	Terma		Alcatel Alenia Space Antwerp	ABSP
	Lang Jürgen	ASE252		Austrian Aerospace	AAE
	Langenstein Rolf	AED15		Austrian Aerospace	AAEM
	Langfermann Michael	ASA41		BOC Edwards	
	Martin Olivier	ASA41		Dutch Space Solar Arrays	DSSA
	Maukisch Jan	ASA43		EADS Astrium Sub-Subsyst. &	ASSE
X	Much Christoph	ASA43		EADS CASA Espacio	
-	Müller Jörg	ASA43		EADS CASA Espacio	CASA ECAS
X	Müller Martin	ASA42 ASA43			
<del>`</del>	Pietroboni Karin	AED65		European Test Services	PANT
	Platzer Wilhelm	AED03		Patria New Technologies Oy SENER Ingenieria SA	SEN

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## **Test Report**

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## **Test Report**

# Herschel

	Name	Dep./Comp.		Name	Dep./Comp.
Χ	Alberti von Mathias Dr.	ASG22		Schweickert Gunn	ASG22
	Baldock Richard	FAE12	Х	Sonn Nico	ASG51
	Barlage Bernhard	AED13		Steininger Eric	AED32
	Bayer Thomas	ASA42	Х	Stritter Rene	AED11
	Brune Holger	ASA45		Suess Rudi	OTN/ASA44
	Edelhoff Dirk	AED2		Wagner Klaus	ASG22
	Fehringer Alexander	ASG13	Х	Wietbrock Walter	AET12
Х	Fricke Wolfgang Dr.	AED 65		Wöhler Hans	ASG22
	Geiger Hermann	ASA42		Wössner Ulrich	ASE252
	Grasl Andreas	OTN/ASA44	Х	Martin Olivier	ASA43
	Grasshoff Brigitte	AET12	Х	Theunissen Martijn	DutchSpace
Χ	Hamer Simon	Terma			
Χ	Hendry David	Terma			
	Hengstler Reinhold	ASA42			
	Hinger Jürgen	ASG22			
Χ	Hohn Rüdiger	AED65			
	Hölzle Edgar Dr.	AED32			
	Huber Johann	ASA42			
	Hund Walter	ASE252			
Χ	Idler Siegmund	AED312			
	Ivády von András	FAE12			
	Jahn Gerd Dr.	ASG22			
	Kalde Clemens	ASM2			
	Kameter Rudolf	OTN/ASA42			
	Kettner Bernhard	AET42			
	Knoblauch August	AET32	Х	Thales Alenia Space Cannes	TAS-F
Χ	Koelle Markus	ASA43		Thales Alenia Space Torino	TAS-I
Χ	Koppe Axel	AED312	Х	ESA/ESTEC	ESA
Χ	Kroeker Jürgen	AED65			
Χ	La Gioia Valentina	Terma		Instruments:	
	Lang Jürgen	ASE252	Х	MPE (PACS)	MPE
	Langenstein Rolf	AED15	Х	RAL (SPIRE)	RAL
	Langfermann Michael	ASA41	Х	SRON (HIFI)	SRON
Χ	Maukisch Jan	ASA43			
Χ	Much Christoph	ASA43			
	Müller Jörg	ASA42		Subcontractors:	
Χ	Müller Martin	ASA43		Thales Alenia Space Antwerp	ABSP
	Peltz Heinz-Willi	ASG13		Austrian Aerospace	AAE
	Pietroboni Karin	AED65		Austrian Aerospace	AAEM
	Platzer Wilhelm	AED2		BOC Edwards	BOCE
	Reichle Konrad	ASA42		Dutch Space Solar Arrays	DSSA
	Runge Axel	OTN/ASA44		EADS Astrium Sub-Subsyst. & Equipmen	
	Schink Dietmar	AED32		EADS CASA Espacio	CASA
	Schlosser Christian	OTN/ASA44		EADS CASA Espacio	ECAS
	Schmidt Rudolf	FAE12		European Test Services	ETS
	Schmidt Thomas	ASA42		Patria New Technologies Oy	PANT
	Schuler Günter	ASA42		SENER Ingenieria SA	SEN

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