

Minutes of Meeting

Date: 22.08.2005

Herschel

Doc.-No.: HP-2-ASED-MN-1039

Meeting place: EADS Astrium OTN

Chairman: D. Hendry / S. Idler

Date/Time: 22.08.2005 / 13:00

Secretary: S. Idler

Agenda dated: TRR/PTR Standard Agenda

Close of Meeting: 22.08.2005

Subject: TRR/PTR for SPIRE SFT Warm prior to Cryostat EQM Cool Down

<p>Participants:</p> <p><i>C. Schlosser</i> <i>S. Idler</i></p> <p>A. Aramburu SPIRE S. Sidher SPIRE D. Hendry ASE S. Ilsen ASE C. Schlosser ASE S. Idler ASE C. Scharmberg ESA A. Knight ASP</p>	<p>Additional Distribution: ESA ASP</p> <p><i>S. Idler</i> <i>A. Knight</i></p>
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Brief-Minutes (except following sheets)

Summary of Results of Sheets 2 till

Summary and Conclusion:

TRR:

Hardware and EGSE is ready for testing. No open NCR or open action has been identified which blocks the SFT warm.

PTR:

The instrument warm functional test prior to cryostat cool down has been successfully performed. The results were as expected. It has been demonstrated that the SFT can run without I-EGSE support and therefore can be run without instrument participation.

2 new NCR's will be raised but can be accepted use as is for EQM.



Reference	Results	Remarks
	<p data-bbox="1025 395 1133 443" style="text-align: center;"><u>TRR</u></p> <p data-bbox="365 534 600 571">TRR Agenda:</p> <ol data-bbox="461 614 1294 1252" style="list-style-type: none">1. As Built / As Designed Configuration Status / S/W Status2. Inspection / Integration Status3. NCR / RFW Status4. Open Work / Open Actions5. Test Procedures / Test Reports6. Safety Hazards and Hazardous Operations7. Test Equipment / Facility and Calibration Status8. Cleanliness9. Test Personnel and Responsibilities10. Problem Areas11. AOB12. Conclusion	



Reference	Results	Remarks
	<p>1. As Built / As Designed Configuration Status / S/W Staus</p> <p>The H/W configuration is as per SPIRE WU CQM DRB (see SCI-PT-35045). The primary power to the DPU (28 V) is supplied by the PLM SCOE. FCU/DCU is powered by the SPIRE Power Bench.</p> <p>The S/W configuration is as per Annex 1.</p> <p>The test configuration is as per HP-2-ASED-PR-0051, issue 1.1.</p> <p>There has been no change of the hardware/on-board software since the last SPIRE functional test after SPIRE SIH el. integration (see HP-2-ASED-MN-1018) with the exception that the cryostat has been moved from cleanroom class 100 to cleanroom class 100000 (power and data bus cables and grounding has been disconnected/reconnected; cryostat cover has been closed). For details see logbook.</p> <p>2. Inspection / Integration Status</p> <p>Customer MIP was performed prior to cryostat closure (HP-2-ASED-MN-1029).</p> <p>3. NCR / RFW Status</p> <p>The following open NCR's have been identified:</p> <p><u>ASED-NC-1042</u> SPIRE Event Packet (5,2) could not be forwarded to IEGSE MIB has been accordingly changed. Validation has been done during last test, see HP-2-ASED-TR-</p>	



Reference	Results	Remarks
	<p>0077. NCR to be closed.</p> <p><u>ASED-NC-1096 SPIRE warm electronics: mounted protection cups are not ESD approved</u> "Use as is" for EQM. No impact on EMC is envisaged. Open for PFM (AI on SPIRE).</p> <p><u>ASED-NC-1083 SPIRE MIL bus functional behaviour out of requirement detect. w. IDAS</u> ASED will repeat the MIL bus measurement as soon as proper equipment is available. NCR is open for PFM, "use as is" for EQM (no impact on testing).</p> <p><u>ASED-NCR-0251 (First command has to be sent twice)</u> The problem has to be investigated by Alcatel /Satellite Services. There is already an existing AI for Alcatel from the last Progress Meeting (SCI-PT-35527, AI 1, due date 20.05.05). Requires manual intervention during SPIRE power on. Alcatel has raised a CR to Satellite Services to resolve problem (software update). NCR open.</p> <p><u>ASED-NC-1246 Cryoharness FPU Faraday Shield isolation inconsistencies</u> SIH has been repaired and successfully verified. NCR to be closed.</p> <p><u>ASED-NC-1248 SPIRE SIH PSW JFETV Open circuit</u> Open connection is not used for EQM, i. e. "use as is" for EQM. Cause for open circuit and situation for PFM to be investigated. NCR open.</p> <p><u>ASED-NC-1269: tmd.dat file not complete</u> Alcatel should add all missing SPIRE SPID's to the tmd.dat file and provide a new MIB.</p>	



Reference	Results	Remarks
	<p>NCR open.</p> <p><u>ASED-NC-1270: CCS packet display problems</u> The CCS window "Packet History Display" shows gaps in the sequence of packets. Terma state that this behaviour is normal due to priorities in data processing. NCR to be closed.</p> <p><u>ASED-NC-1340: FPU Connector Screws</u> Acceptable for EQM. Confirm that problem does not exist for PFM. NCR open for PFM.</p> <p>The open NCR's do not block the testing.</p> <p>No RfWs existing with the exception of RD-0031.</p> <p>4. Open Work / Open Actions</p> <p>No open work to be done prior to test. The validation of the new .tcl files will be done within the testing, no problems expected since no new commands and no change of the MIB.</p> <p>5. Test Procedure / Test Reports</p> <p>The following approved procedures shall be used to perform the SPIRE SFT Warm:</p> <ul style="list-style-type: none"> • Instrument PLM EQM Level Test Procedure: HP-2-ASED-PR-0051, issue 1.1 (top level procedure for instrument testing). 	



Reference	Results	Remarks
	<ul style="list-style-type: none"> • EGSE Set-Up Procedure: HP-2-ASED-PR-0035, issue 4. • SPIRE Short Functional Test (SFT) Procedures for the CCS: SPIRE-RAL-PRC-002494, Issue 1.0. <p>This SPIRE procedure -002494 is new and allows running the SFT without the I-EGSE, as required. The procedure is based on the one executed last time (SPIRE-RAL-PRC-002422, issue 1.4): subset of commands, but new .tcl files. The procedure -002494 has been red-marked by ASED to include the ext. power supply operation and panel LED/display indication and will be accordingly updated by SPIRE.</p> <p>The following test reports are planned:</p> <ul style="list-style-type: none"> • Overall test report summary after completion of test campaign. It will be produced by ASED and will contain the actual test flow and all references to TRR/PTR and test reports. • Report for the SPIRE SFT Warm prior to Cool Down: HP-2-ASED-TR-0084. <p>The data analysis report from the last test has been issued by SPIRE: EQM Warm Functional Test Report, SPIRE-RAL-REP-002471, issue 1.0</p> <p>6. Safety Hazards and Hazardous Operations</p> <p>HK values are monitored by the CCS. An alarm will be issued automatically by the CCS if a limit is exceeded. In case of serious out of limit the instrument will be shut down under the responsibility of SPIRE. I. e. during entire test SPIRE personnel must be available.</p> <p>Decision how to proceed in case of failure will be taken on the spot in conjunction with SPIRE team and test conductor.</p>	



Reference	Results	Remarks												
	<p>7. Test Equipment / Facility and Calibration Status</p> <p>The test equipment and configuration is as per test procedure (section 5 above). External power supplies operation is covered therein.</p> <p>8. Cleanliness</p> <p>The test will be performed in clean room class 100000 conditions.</p> <p>9. Test Personnel and Responsibilities</p> <table data-bbox="365 965 1205 1184"> <tr> <td>Test director:</td> <td>S. Idler</td> </tr> <tr> <td>CCS operator:</td> <td>S. Ilsen</td> </tr> <tr> <td>SPIRE IEGSE operator:</td> <td>A. Aramburu</td> </tr> <tr> <td>SPIRE Engineering:</td> <td>S. Sidher</td> </tr> <tr> <td>PA:</td> <td>D. Hendry</td> </tr> <tr> <td>ESA / Alcatel representative:</td> <td>C. Scharmberg / A. Knight</td> </tr> </table> <p>10. Problem Areas</p> <p>The following problem areas have been identified (same as last test):</p> <ul style="list-style-type: none"> - <i>1st command to be sent twice (see NCR above)</i> 	Test director:	S. Idler	CCS operator:	S. Ilsen	SPIRE IEGSE operator:	A. Aramburu	SPIRE Engineering:	S. Sidher	PA:	D. Hendry	ESA / Alcatel representative:	C. Scharmberg / A. Knight	
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	<p data-bbox="414 391 1003 422">- <i>MIB inconsistencies (see NCR above)</i></p> <p data-bbox="365 467 741 499">They do not block the test.</p> <p data-bbox="365 576 510 608">11. AOB</p> <p data-bbox="365 659 499 691">Planning:</p> <p data-bbox="365 730 1276 762">SFT: 22.08.2005, 14:00</p> <p data-bbox="365 767 1276 799">PTR: 22.08.2005, 17:00</p> <p data-bbox="365 879 629 911">12. Conclusion</p> <p data-bbox="365 962 1731 1026">Hardware and EGSE is ready for testing. No open NCR or open action has been identified which blocks the SFT.</p>	



Reference	Results	Remarks
	<p data-bbox="1030 395 1131 443" style="text-align: center;"><u>PTR</u></p> <p data-bbox="365 534 600 571">PTR Agenda:</p> <ol data-bbox="459 614 1344 925" style="list-style-type: none">1. Identification of Test Item2. Review of Manufacturing, Integration & Test Doc.3. Review of Test Data / Reports / Procedure Variation Sheets4. NCR / RFW Review5. Open Work / Open Actions Identification6. Conclusion on Post Test Review (PTR)	



Reference	Results	Remarks
	<p>1. Identification of Test Item</p> <p>See TRR minutes above, section 1 and 2. No changes to hardware and software configuration during test.</p> <p>2. Review of Manufacturing, Integration & Test Doc.</p> <p>See TRR minutes above, section 5. Procedure variation due to ASED-NC-0251.</p> <p>3. Review of Test Data / Reports / Procedure Variation Sheets</p> <p>The following reports have been generated:</p> <ul style="list-style-type: none"> • Report for the SPIRE SFT Warm prior to Cool Down: HP-2-ASED-TR-0084. <p>Procedure variation sheets are part of the test report.</p> <p>No separate report will be generated by SPIRE. The QLA of the housekeeping data showed nominal values consistent with the correct functioning of the instrument.</p> <p>4. NCR / RFW Review</p> <p>The following non-conformances have been detected during the test:</p>	



Reference	Results	Remarks
	<ul style="list-style-type: none"> • Initial value of parameter TM5N is 00003FFF, the expected value is 00000000. This was already the case at all previous PLM level tests but was not recognised. NCR will be raised by ASED. • Source packets arrive in incorrect source sequence counter order. No missing packets. No contents errors. This was already the case at all previous PLM level tests but was not recognised. NCR will be raised by ASED. Note: NCR-ASED-1247 (PACS) to be revisited. <p>Corresponding NCR's will be raised.</p> <p>5. Open Work / Open Actions Identification</p> <p>The following issues have to be clarified prior to the forthcoming PLM AIT activities (cryostat cool down, IMT, EMC test):</p> <p><u>Cool down constraints:</u></p> <p>SPIRE IID-B has the following requirements related to cool down rate:</p> <p>Section 5.15.1.2 Cooling and Pumping restrictions</p> <p>During cryostat warm-up or cool-down phases:</p> <ul style="list-style-type: none"> • Above 100 K the rate of temperature change dT/dt shall not exceed 20 K/hour . • Below 100K the rate of temperature change dT/dt shall not exceed 50 K/hour. • The rate of depressurisation/pressurisation dP/dt shall not exceed 50 mBar/min <p>No requirement exists for the delta between temperature levels L0/L1 and L2 (OBA temperature).</p>	



Reference	Results	Remarks
	<p><u>EMC Test Issues</u></p> <p>A dedicated meeting is planned on 01.09.2005, 08:00 to 13:00.</p> <p>The suggested principle agenda is</p> <ul style="list-style-type: none"> a) Introduction b) EMC test procedure (comments, TBDs, whatever) c) EMC test times (detailed break down) d) Risk factors (e. g. status of instrument level EMC testing, differences to flight standard as ext. power supplies etc.) <p>6. Conclusion on Post Test Review (PTR)</p> <p>The instrument warm functional test prior to cryostat cool down has been successfully performed. The results were as expected. It has been demonstrated that the SFT can run without I-EGSE support and therefore can be run without instrument participation.</p> <p>2 new NCR's will be raised but can be accepted use as is for EQM.</p>	

ANNEX 1

Instrument Test S/W Data Sheet

Date:-22.08.05 Instrument:-SPIRE Test configuration:-INSTRUMENT
Instrument Procedure:- SPIRE-RAL-PRC-002494 Issue 1.0 dated 19.08.05
ASED Procedure:-HP-2-ASED-PR-0051 Issue 1.1

SW Ident	Issue /Version	Responsible	Comment
Inst OBS	2.0.A	Inst	
Inst OBS	Boot SW June 2003	Inst	
CDMS Sim	Not Used	Inst	
SPIRE MIB on I-EGSE	Not Used for SFT	Inst	
HCSS Build Version	Not Used for SFT	Inst	
SPIRE Build	Not Used for SFT	Inst	
TCL Scripts bridge files	SPIRE-SFTs-Issue1_19082005.tar.gz	ASP	19.08.2005
CCS MIB Bridge files	Herchel_PLM_1_1.zip	ASP	Received: 11.07.2005 (PACS 7.18 SPIRE 20050705 HIFI 9.0)
CCS SW Release	2.0.577	Terma	
CDMU DFE CMS	2.3.0.0	SSBV	Part of CDMU DFE Workstation
CDMU DFE Pipe I/F (IPC Handler P7001)	2.3.0.0	SSBV	Part of CDMU DFE Workstation
CDMU DFE Pipe I/F (IPC Handler Pipe P 7002)	1.2.1.0	SSBV	Part of CDMU DFE Workstation
CDMU archive Browser	2.2.2.72	SSBV	Part of CDMU DFE Workstation
Mil-STD-1553b BusMonitor	1.11.1.87	SSBV	Part of CDMU DFE Workstation
CDMU DFE IPC Handler object implementation	2.4.0.18	SSBV	Part of CDMU DFE Workstation
SimFE	1.5.0.0	SSBV	Part of CDMU DFE Platform
HLBC	1.06.00	SSBV	Part of CDMU DFE Platform
PLM SCOE CMS	1.5.0.0	SSBV	Part of PLM SCOE Workstation
PLM SCOE archive browser	2.2.1.70	SSBV	Part of PLM SCOE Workstation
PLM SCOE pipe I/F	1.3.0.0	SSBV	Part of PLM SCOE Workstation
PLM SCOE IPC Handler object implementation	2.1.0.7	SSBV	Part of PLM SCOE Workstation
PDU Controller	1.5.0.0	SSBV	Part of PLM SCOE Platform