Minutes of Meeting

Herschel

Date:	03.11.2005		
Doc.-No.:	HP-2-ASED-MN-1106		
Meeting place:	EADS Astrium OTN	Chairman:	S. Idler
Date/Time:	03.11.2006 / 14:00 03/11/05	Secretary	S. Idler
Agenda dated:	TRR Standard Agenda	Close of Meeting:	03.11.2005

Subject: TRR for PACS/SPIRE Parallel Mode IMT

Participants:	H. Feuchtgruber (PACS) E. Wiezorrek (PACS) K. King (SPIRE) by ☎ B. Swinyard (SPIRE) by ☎ S. Sidher (SPIRE) by ☎ A. Heske (ESA) C. Scharmberg (ESA) by ☎ S. Ilsen (ASED) D. Hendry (ASED) S. Idler (ASED)	Additional Distribution:	ESA ASP

Page: 1 of 8 Page(s)

☐ Brief-Minutes (except following sheets) ☐ Summary of Results of Sheets 2 till

Conclusion:

Hardware and facility is ready for start of the PACS/SPIRE Parallel Mode IMT. The first step will be the quasi-parallel cooler recycle. After the IMT some dedicated tests will be performed for NCR investigation purposes (e. g. straylight).

Reference	Results	Remarks
	TRR Agenda: 0. Introduction 1. As Built / As Designed Configuration Status / S/W Status 2. Inspection / Integration Status 3. NCR / RFW Status 4. Open Work / Open Actions 5. Test Procedures / Test Reports 6. Safety Hazards and Hazardous Operations 7. Test Equipment / Facility and Calibration Status 8. Cleanliness 9. Test Personnel and Responsibilities 10. Problem Areas 11. AOB 12. Conclusion	

Reference	Results	Remarks

0. Introduction

This TRR covers the PACS/SPIRE Parallel Mode IMT plus additional test activities resulting from NCR's raised during the previous IMT's. The additional tests comprise

- Straylight measurements with PACS (spectrum measurements, map measurements)
- Test of bolometer group (PACS-NC-0163)

The additional tests will be traced by the related NCR's. The procedures/reports are defined/filed by dedicated activity control sheets (HP-2-ASED-SD-xxxx) which will be attached to the NCR'S. Inputs for the procedures/reports will be provided by the instruments.

SPIRE does not require additional tests.

1. As Built / As Designed Configuration Status / S/W Status

As built status of PACS

Same as for the PACS IMT 2nd part (HP-2-ASED-MN-1096).

As built status of SPIRE

Same as for the SPIRE IMT (HP-2-ASED-MN-1061). No change since SFT warm prior to cool down.

Configuration of cryostat

The cryostat hardware status is same as during the 2nd part of the PACS and SPIRE IMT.

Reference	Results	Remarks
	Software PACS OBSW same as for the PACS IMT (HP-2-ASED-MN-1057): DPU AVM OBSW is version 7.65 (DPU CFM OBSW is version 7.68). SPIRE OBSW same as for the SPIRE IMT (HP-2-ASED-MN-1061). No change since SFT warm prior to cool down. tcl scripts for the PACS SPIRE parallel mode have been delivered and validated. Update of SPIRE scripts is planned; they will be delivered by 04.11.2005. No change of PACS scripts. Bus profile: PACS_SPIRE_PAR.pst The following limitations exist: • PACS: 13 TM packets per second and 2 TC's per second • SPIRE: 12 TM packets per second and 1 TC per second These limitations should be respected since they will cause problems and probably loss of data. SPIRE will accordingly adapt the scripts (see above). For SPIRE switch-on the standard SPIRE bus profile will be used to avoid these TM/TC data rate constraints. ## 2. Inspection / Integration Status Last MIP was performed prior to cryostat closure (HP-2-ASED-MN-1029).	

Reference	Results	Remarks
	3. NCR / RFW Status Existing open EQM related NCR's: PACS: ASED-NC-1076 (MIL bus measurement problem) ASED-NC-1235: Connector J64 cannot be connected to DECMEC since cable too short. ASED-NC-1247: Source Sequence Counter Errors detected on PACS DPU during TC Ack ASED-NC-1276: PACS MIB limit values not set correctly ASED-NC-1482: Wrong MIB definition of cmd PC162420 ASED-NC-1490: PACS DPU AVM reboot during IMT ASED-NC-1491: PACS DPU power anomaly ASED-NC-1493: CRC in HK not compliant with CRC in procedure (Memory Management Test) ASED-NC-1494: DEC/MEC got blocked and DEC/MEC - DPU link dead ASED-NC-1495: Cooler Recycle Failed ASED-NC-1496: IMT Test ID 516 should be run in burst mode (SPEC_dark_current.tcl)	

Reference	Results	Remarks
	ASED-NC-1497: DPU AVM packets get corrupted (*bad packets*) ASED-NC-1605: DPU CFM crash ASED-NC-1619: Type 1 packets not forwarded to IEGSE because not defined in TMD.dat ASED-NC-1622: PACS HK packets anomaly ASED-NC-1665: Command to set bias fails sporadically ASED-NC-1666: Grating does not work correct ASED-NC-1672: HPCSS interprets the time stamp in TM packets as UTC instead of TAI: ASED-NC-1673: HPCSS SCOE HK packets are not HP PS-ICD compliant ASED-NC-1675: Cryostat background radiation measured by PACS much higher than predicted SPIRE: ASED-NC-1083: SPIRE MIL bus functional behaviour out of requirement ASED-NC-1246: SPIRE Cryoharness Faraday shield isolation inconsistencies ASED-NC-1248: SPIRE SIH PSW_JFETV open circuit ASED-NC-1269: TMD.dat file not complete	

Reference	Results	Remarks
	ASED-NC-1375: Source Sequence Counter Errors on CCS. ASED-NC-1376: Initial Value of TM5N is wrong in procedure. ASED-NC-1513: SPIRE EQM cooler recycling ASED-NC-1662: High correlation between cryo cover temperature and SPIRE L1 temperature None of the open NCR's is blocking the test. No RfW's exist relevant for the PACS/SPIRE Parallel Mode IMT. **4. Open Work / Open Actions** The following work has to be done prior to the start of the PACS/SPIRE Parallel Mode IMT: • SPIRE scripts and procedure to be updated (04.11.2005). **5. Test Requirements / Test Procedures / Test Reports** **Test Requirements** For the purpose of PACS SPIRE parallel mode test the following temperatures shall be adjusted, as far as possible with the existing EQM cryostat hardware constraints:	

Reference	Results	Remarks
	PACS L0: about 1.8 K PACS L1: < 5 K SPIRE L0: about 1.8 K SPIRE L1: < 5 K Cryo cover: stable at < 20 K **Procedures** The following procedures shall be used to perform the PACS/SPIRE Parallel Mode IMT: • Instrument PLM EQM Level Test Procedure HP-2-ASED-PR-0051, issue 1.1 (Top level procedure for instrument testing). • PACS/SPIRE Parallel Mode Test Procedure PACS-ME-TP-024, issue 1.1. Update for SPIRE part is planned (to issue 1.2), the updated procedure will be delivered by 04.11.2005. During the PACS SPIRE Parallel Mode IMT the HIFI will be in the stand-by mode as per HP-2-ASED-PR-0051. **Reports** ASED will produce on-line the PACS/SPIRE Parallel Mode IMT report covering the command and control aspects. The data analysis reports will be (separately) established by PACS and SPIRE. An overall test report summary will be produced by ASED which will contain also the actual test flow and all references to TRR/PTR and test reports.	

Reference	Results	Remarks
	6. Safety Hazards and Hazardous Operations Same as for last IMT's (see HP-2-ASED-MN-1057). **7. Test Equipment / Facility and Calibration Status** **Cryostat** The following temperatures have been recorded on 03.11.2005: • See Annex 1. Note: The HTT is evacuated without fluid helium inside. The temperature of the HTT is about 35 K. The shields are cooled by helium flushing from external dewar, by-passing the HTT. Measured mass flow: 146 mg/s (on 03.11.2005, 17:00). Measured mass flow of the AXT is 32.6 mg/s (on 03.11.2005, 17:00). The measured isolation vacuum is 9.9 *10-9 mbar (on 03.11.2005, 17:00). The cover cooling is also performed by helium flushing from an external dewar with variable mass flow: The temperature is controlled by throttling the transfer line valve and adjusting the dewar pressure. Temperature curve see Annex 1.	

Reference	Results	Remarks
	I-EGSE The I-EGSE needs specific set-up for either PACS or SPIRE commanding. The test procedure includes the relevant instructions for the I-EGSE operator. The CCS operator has to wait for completion of these actions prior to CCS commanding. For the quasi-parallel cooler recycle commanding PACS will use the CUS interface whilst SPIRE scripts are executed by the CCS. ## 8. Cleanliness Test will be performed in clean room class 100000 conditions. ## 9. Test Personnel and Responsibilities Test Director: S. Idler CCS Operator: S. Ilsen PACS I-EGSE operator E. Wiezorrek PACS Engineering: H. Feuchtgruber SPIRE I-EGSE operator L. Spencer SPIRE Engineering: S. Sidher (by phone) PA: D. Hendry ESA / Alcatel representative: W. Pinter-Krainer / G. Doubrovik	

Reference	Results	Remarks
	10. Problem Areas The following problem areas have been identified: • None relevant for this test. **11. AOB** Planning: 07.11. PACS/SPIRE Parallel Mode IMT (starting at 9:00 with quasi-parallel cooler recycle) 08.11. PACS/SPIRE Parallel Mode IMT 09.11. Straylight measurements and test of bolometer group with PACS In case the SPIRE personnel have not yet arrived at the start of the cooler recycle the activity will be done by ASED advised by SPIRE team on the phone. **12. Conclusion** Hardware and facility is ready for start of the PACS/SPIRE Parallel Mode IMT. The first step will be the quasi-parallel cooler recycle. After the IMT some dedicated tests will be performed for NCR investigation purposes (e. g. straylight).	

Action Items List

No.:	Description:	Due Date	Originator Comp./Pers.	Actionee Comp./Pers.	Source	Completion