SPIRE-AST-REP-002636

Title: **SPIRE EQM SFT He I**

CI-No: 153200

Prepared by:	S. Ilsen	Date:	15/12/2005
Checked by:	C. Schlosser		15.12.05
Product Assurance:	R. Stritter		16.12.05
Configuration Control:	W. Wietbrock		16.12.05
Project Management:	Dr. W. Fricke		16/12/2005

Distribution: See Distribution List (last page)

Issue	Date	Sheet	Description of Change	Release
1	15/12/ 2005		First Issue	

Table of Content

List of Tables

1 Scope

1.1 Objective

This test report describes the results of the SPIRE SFT He I test. This test is executed at the end of the EQM test campaign.

The test was performed at ASED in Ottobrunn on 15/12/2005.

1.2 Summary

Detailed results are given in the as-run-procedure in Chapter 7.

The following NCR's have been raised:

- N/A

The following NCR's have been altered:

- N/A

2 Documents/Drawings

2.1 Applicable Documents

INSTRUMENT PLM EQM LEVEL TEST PROCEDURE

HP-2-ASED-PR-0051, issue 1.1 from 24.06.2005

EGSE CONFIGURATION PROCEDURE

HP-2-ASED-PR-0035, Issue 4 from 03.08.2005

PACS TEST PROCEDURE

SPIRE-RAL-PRC-002494, Issue 1.3 from 23.09.2005

2.2 Reference Documents

N/A

2.3 Other Documents

N/A

3 Configuration

3.1 PLM Configuration

SVM integrated with cryostat. Cryostat (OBA) is at He I level (~4.2 K).

3.2 Environment

Environmental	Actual
Clean Room Class	100.000
Temperature	~21 °C
Rel. Humidity	~52.10 %
Pressure	~857 mbar

4 Conditions

4.1 Personnel

Responsibility	Name / Organization
Test Manager	S. Idler
EGSE Operator	S. Ilsen
Instrument Engineer	A. Aramburu (Remotely)
PA Responsible	D. Hendry
ESA/Alcatel Representative	N/A

4.2 Environmental

See chapter 3.2

4.3 General Precautions and Safety

N/A

4.3.1 General Safety Requirements, Precautions

N/A

4.3.2 ESD constraints

N/A

4.3.3 Special QA Requirements

N/A

4.4 EGSE

Hardware: CCS, EGSE's and DFE's

Item	Hardware Id	Serial No.
CCS	N/A	HPCCS 4
PLM SCOE	SE8426	03/001
CDMU DFE	SE8455	03/002
CRYO SCOE	EQM	N/A
IEGSE	N/A	N/A

Software

HIFI

SW Ident	Issue /Version	Responsible	Comment
Inst ICU OBS	3.2	Inst	
Inst LCU OBS	17.0	Inst	01.10.2004

PACS

SW Ident	Issue /Version	Responsible	Comment
Inst OBS SPU	11.7	Inst	
Inst SPU boot OBSW	1.4	Inst	
Inst OBS DECMEC	5.0.25 Version for Mech control cold	Inst	V 5.0.24 Mech controller hot
Inst DECMEC boot OBSW	1.1	Inst	
Inst OBS DPU	7.65	Inst	
Inst DPU Boot OBSW	1.0	Inst	

SPIRE

SW Ident	Issue /Version	Responsible	Comment
Inst DPU OBS	2.0.A1	Inst	
Inst DRCU OBS	Boot SW June 2003	Inst	

IEGSE Configuration PACS

SW Ident	Issue /Version	Responsible	Comment

MIB on I-EGSE	7_18	Inst	
HCSS Build Version	687	Inst	
PACS Build	20050706A	Inst	

IEGSE Configuration SPIRE

SW Ident	Issue /Version	Responsible	Comment
MIB on I-EGSE	SPIRE_MIB_CQM2_2.0.A2_after_WUC_08	Inst	
HCSS Build Version	644	Inst	
SPIRE Build	159	Inst	

IEGSE Configuration HIFI

SW Ident	Issue /Version	Responsible	Comment
MIB on I-EGSE	57	Inst	
HCSS Build Version	644	Inst	
HIFI Build	249	Inst	

CCS Configuration

SW Ident	Issue /Version	Responsible	Comment
TCL Scripts HIFI	ist_cus_0.9_tcl.zip	Inst	Delivered on 02.12.2005
TCL Scripts PACS	PACS_TCL_20051109_B.zip	Inst	Delivered on 09.11.2005
TCL Scripts SPIRE	SPIRE_EQM_IMT_1_1.tar.gz	Inst	Delivered on 23.09.2005 Some scripts have been changed during IMT. SPIRE has version control.
CCS MIB Bridge files	CCS_Her_PLM__01_v1_2.zip	ASP	2005-09-08 Some dat files have been changed by ASED. All changes are included in the test reports
CCS S/W Release	2.0.637	Terma	

CDMU DFE Configuration

SW Ident	Issue /Version	Responsible	Comment
CDMU DFE CMS	2.3.0.0	SSBV	Part of CDMU DFE Workstation
CDMU DFE Pipe I/F (IPC Handler	2.4.0.0	SSBV	Part of CDMU DFE Workstation

P7001)			
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	1.07.00	SSBV	Part of CDMU DFE Platform

PLM SCOE Configuration

SW Ident	Issue /Version	Responsible	Comment
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

Bus Profiles

The following bus profiles are loaded on the CDMU DFE. They are provided, checked and validated by Patrice Couzin (ASP). They were delivered by email on 01.09.2005

- PACS_prime_inst.PST
- SPIRE_prime_inst.PST
- HIFI_prime_inst.PST
- PACS_SPIRE_par.PST
- PACS_burst_mode.PST
- Inst_sdby.PST

4.4.1 Special Equipment

N/A

4.5 MIB

4.5.1 Version

The used MIB has reference: CCS_Her_PLM__01_v1_2.zip

And reference date: 2005-09-08

The MIB was received by email from Sonia Dos-Santos (ASP) on 08/09/2005

4.5.2 Configuration & Manual changes

The following files have been manually changed by Alcatel after the generation process (taken from the configuration.txt file included in the MIB):

- CDF.DAT

  HPSDB does not allows fixed counter flags (ie CDF_ELTYPR=F for counters) HPSDB NCR 478

- CDF.DAT

  Problem on the (PTC,PFC)=(7,0) Variable octect string (PP004380).

  PACS has the following data:

  PC010380 E 8 32 PP004380 R

  On HPSDB this line is generated

  PC010380 E 0 32 0 PP004380 R

  For now has been manually replaced.

- DPC.DAT

  Add the line

  HA000289 HU035197 63 1 Y N

  HPSDB NCR, not possible to add User parameters on an alphanumeric display (NCR 495)

  Note: The parameter HU035197 can not be loaded via S2K files, because is not associated to a Packet (NCR created 475)

  Error HPSDB Solution: The parameter as been loaded by the an XML file Add_Parameter_HU035197.xml, to correct this problem.

- PLF.DAT

  (HPSDB NCR 474) error when loading/generating SCOS TM packets has fixed and variable but with diferent definitions, (the following packet has the

parameter repeated 16 times on plf.dat, and repeated 0 times (variable) on the vpd.dat table)

The vpd.dat is corrected generated but not the plf.dat

replace the line (manual)

HM057190 80044289 0 0 1 0 0 0

by

HM056190 80044289 16 0 1 0 0 0

HM057190 80044289 17 0 64 0 0 0

- TCD.DAT

  Generated empty by HPSDB, NCR 497 replaced by the one used on the tests week 28

- SCO.DAT

  replaced by the one used on the tests week 28. This file shall be discussed with S. Ilsen because of the SCOE's names, HPSDB generates the names of the real elements.

- TMD.DAT

  Add packets sent by SPIRE team by email on 31/08/2005

- PCF.DAT

  Change PCF_VALPAR=0 on the parameter HU035197 inside of the pcf.dat. This was ok on HIFI, but not done on the XML file loaded

  Add_Parameter_HU035197.xml

- PLF.DAT

  Change the field PLF_LOGCC from NULL to 32 bits (see email from Luc Dubbeldam- HIFI on 06/09/2005)

  HM057190 80044289 17 0 64 32 0 0

The following files have been changed manually by ASED OTN (Stijn Ilsen):

- CAP.DAT – The decimal separator for the EQM CRYO SCOE calibration is manually changed from “,” to “.”. This also to solve problems with the EQM CRYO SCOE calibrations. EQM CRYO SCOE MIB will be updated by ASED to avoid this problem in the future.
- TMD.DAT – The EQM CRYO packets have been added to the tmd.dat file on the CCS to make sure all EQM CRYO SCOE packets are forwarded to the IEGSE.

- TMD.DAT – The CCS specific SPID of all type 1 packets have been added to the tmd.dat file. This is a workaround for ASED-NC-1619

Remark: Because of NCR 1482, a MIB change was necessary after the first day of IMT. The CDF.DAT file is changed. Command PC162420 allows 8 entries for parameter PP067420, this is changed into 9.

5 Step by Step Procedure: Configure CCS and EGSE

According to Procedure(s):

- **HP-2-ASED-PR-0035 (Chapter 3: Order of Execution - steps 1 to 9)**

Step #	Action	Comments	Check
1	Note Testsession	2005_12_15_10_22_ilsens_hpws42_REALTIME_S_SFT_he1	**OK**
2	Power on CDMU DFE platform		**OK**
3	Power on PLM SCOE platform		**OK**
4	Power on the CDMU DFE workstation and wait for the BIST to finish.	Check: BIST successful?	**OK**
5	Power on the PLM SCOE workstation and wait for the BIST to finish.	Check: BIST successful?	**OK**
6	Execute “EGSE_CONFIG_AUTO.tcl”	Check: PLM SCOE HK packets arriving	**OK**
		Check: CDMU DFE HK packets arriving	**OK**
		Check: Check name of bus profile (PST) in CDMU DFE HK or on CDMU DFE workstation **Result: SPIRE_prime_inst.pst**	**OK**
7	Execute “SubscribeParams.tcl”	Check: Wait until status of TCL file has changed to WAITING. This can take up to 10 minutes.	**OK**
8	Execute “Connect HIEGSE”	Check with IEGSE operators if IEGSE is connected.	**OK**
9	Execute “WARNING_LAMP_POWER_ON.tcl”	**Not done since warning lamp is broken.**	**N/A**
extra	Execute “connect EQMCRYO”		**OK**

6 Step by Step Procedure: Power On Instruments

6.1 Power on SPIRE

According to Procedure(s):

- **HP-2-ASED-PR-0035 (Chapter 3: Order of Execution – Step 10)**
- **SPIRE-RAL-PRC-002494 (Issue 1.3 Appendix 1 – 23/09/05)**

Step #	Action	Comments	Check
1	CCS 28V Power Supply to the DPU is available		**OK**
2	SPIRE MIB is imported in the CCS database.		**OK**
3	CCS is up and running (SCOS, TOPE and the CDMU Simulator)		**OK**
4	DPU AND OBS PARAMETERS display is selected on the CCS		**OK**

6.1.1 SFT-SPIRE-CCS-DPU-ON

Purpose: To switch on the SPIRE DPU and start generating housekeeping

Step #	Action	Comments	Check
1	Power on the SPIRE DPU using the CCS 28V Power Supply	**This action is performed from INSTR_POWER_ON.tcl** **Result:** • **Voltage: 27.8 V** • **Current: 0.45 A** **(5,2) packet received**	**OK**
2	Execute TCL script SFT-SPIRE-CCS-DPU-ON.tcl		**OK**
3	Check that THSK parameter on the DPU AND OBS PARAMETERS display on SCOS is refreshing every second	THSK incrementing every second	**OK**
4	Check that TM2N parameter on the DPU AND OBS	TM2N incrementing every second	**OK**

	PARAMETERS display on SCOS is incrementing every second		

Final Configuration: SPIRE DPU is on but the DRCU is still off

6.1.2 SFT-SPIRE-CCS-DRCU-ON

Purpose: To switch on the SPIRE DRCU and start generating housekeeping

Step #	Action	Comments	Check
1	Execute TCL script SFT-SPIRE-CCS-DRCU-ON-STEP1.tcl	**HK stopped as expected**	**OK**
2	Check that THSK parameter is not refreshing anymore		**OK**
3	Check that TM2N parameter is not incrementing anymore		**OK**
4	Ensure the SPIRE Power Bench is connected to the mains – see Figure 2.		**OK**
	Ensure all 5 remote DCU switches are in the off position – see Figures 3 & 4 below.		**OK**
	Switch on the Primary Power on the back of the SPIRE Power Bench (Figure 2).		**OK**
	Switch on the Secondary Power on the front of the SPIRE Power Bench by pulling out and lifting up the switch (shown in yellow circle in Figure 5)		**OK**
5	Execute TCL script SFT-SPIRE-CCS-DRCU-ON-STEP2.tcl		**OK**
6	Manual Switch on of the DRCU by the CCS staff		**OK**

	step 2: • Switch on all 5 remote DCU switches		
7	Check that THSK parameter is again refreshing every second	**THSK incrementing every second**	**OK**
8	Check that TM2N parameter is again incrementing every second	**TM2N incrementing every second**	**OK**

Final Configuration:

- SPIRE DPU and DRCU are both on
- HK generation is on

7 Step by Step Procedure: SFT He I

According to Procedure(s):

- **HP-2-ASED-PR-0035 (Chapter 3: Order of Execution – Step 11)**
- **SPIRE-RAL-PRC-002494**

7.1 SFT-SPIRE-CCS-FUNC-SCU-01

Purpose: SCU science packet generation check

Preconditions:

Initial Configuration:

- SPIRE DPU is on and generating HK
- DRCU is switched ON
- SCU PARAMETERS display is selected on the CCS

Step #	Action	Comments			Check
1	Execute TCL script SFT-SPIRE-CCS-FUNC-SCU-01.tcl	Check if the following parameters change value:			
		Parameter	**Original Value**	**End Value**	
		SCUFRAMECNT[1]	0	31	**OK**
		Observed values	**0**	**31**	
		TM5N[2]	00003FFF	1	**OK**
		Observed values	**00003FFF**	**1**	

Final Configuration: Unchanged

[1] AND SA_4_559 (SCU Parameters)
[2] AND SA_1_559 (DCU and OBS parameters)

7.2 SFT-SPIRE-CCS-FUNC-DCU-01

Purpose: DCU science packet generation check for all Photometer and Spectrometer packet types (PF, PSW, PMW, PLW, SF, SSW and SLW)

Preconditions:

Initial Configuration:

- SPIRE DPU is on and generating HK
- DRCU is switched ON
- DCU PARAMETERS display is selected on the CCS

Step #	Action	Comments			Check
1	Execute TCL script SFT-SPIRE-CCS-FUNC-DCU-01.tcl	Check if the following parameters change value:			
		Parameter	**Original Value**	**End Value**	
		DCUFRAMECNT	0	700	**OK**

Final Configuration: Unchanged

7.3 SFT-SPIRE-CCS-FUNC-DCU-04-PS-ON

Purpose: Spectrometer and Photometer LIAs switch on

Preconditions: The Photometer and Spectrometer LIAs are switched off

Initial Configuration:

- SPIRE DPU is on and generating HK
- DRCU is switched ON
- SCU PARAMETERS display is selected on the CCS

Step #	Action	Comments			Check
1	Execute TCL script SFT-SPIRE-CCS-FUNC-DCU-04-PS-ON.tcl	Check if the following parameters change value:			
		Parameter	**Original Value**	**End Value**	
		SCUDCDCSTAT[3]	0	1	**OK**
2	**Manual step for the CCS staff: Check if the Over Current Limiter for the LIAs has triggered on the SPIRE Warm Electronics Power Bench. If it has, it will have to manually reset.**				**OK**

Final Configuration: The Photometer and Spectrometer LIAs are on.

[3] AND SA_4_559 SCU PARAMETERS

7.4 SFT-SPIRE-CCS-FUNC-SCU-04

Purpose: SCU Photometer PCAL check

Preconditions: SPIRE CQM is electrically integrated with the Herschel EQM

Initial Configuration:

- SPIRE DPU is on and generating HK
- DRCU is switched ON
- SCU PARAMETERS display is selected on the CCS

Step #	Action	Comments				Check
1	Execute TCL script SFT-SPIRE-CCS-FUNC-SCU-04.tcl The expected values during the test should be monitored when parameter BBFULLTYPE in the SCU PARAMETERS display is set to PCAL_Check This usually happens about 30 seconds from the start of test execution.	Check if the following parameters change value:				
		Parameter	**Start**	**During**	**End**	
		PCALCURR – mA **Observed**	0.0 **0.0**	0.1 **0.1**	0.0 **0.0**	**OK**
		PCALV – V **Observed**	0.0 **0.0**	0.026 **0.025**	0.0 **0.0**	**OK**

Final Configuration: Unchanged

7.5 SFT-SPIRE-CCS-FUNC-SCU-05

Purpose: SCU Photometer SCAL4 and SCAL2 check

Preconditions: SPIRE CQM is electrically integrated with the Herschel EQM

Initial Configuration:

- SPIRE DPU is on and generating HK
- DRCU is switched ON
- SCU PARAMETERS display is selected on the CCS

Step #	Action	Comments				Check
1	Execute TCL script SFT-SPIRE-CCS-FUNC-SCU-05.tcl					**OK**
2	Wait for the parameter BBFULLTYPE to get set to SCAL4_Check					**OK**
3	A few seconds later record the value of parameters SCAL4CURR and SCAL4V These parameters are set back to 0 after ~60 seconds	Check if the following parameters change value:				
		Parameter	**Start**	**During**	**End**	
		SCAL4CURR – mA **Observed**	0.0 **0.0**	0.1 **0.1**	0.0 **0.0**	**OK**
		SCAL4V – V **Observed**	0.0 **0.0**	0.05 **0.05**	0.0 **0.0**	**OK**
4	Wait for the parameter BBFULLTYPE to get set to SCAL2_Check					**OK**
5	A few seconds later record the value of parameters SCAL4CURR and SCAL4V These parameters are set back to 0 after ~60 seconds	Check if the following parameters change value:				
		Parameter	**Start**	**During**	**End**	
		SCAL2CURR – mA **Observed**	0.0 **0.0**	0.1 **0.1**	0.0 **0.0**	**OK**
		SCAL2V – V **Observed**	0.0 **0.0**	0.05 **0.05**	0.0 **0.0**	**OK**

Final Configuration: Unchanged

7.6 SFT-SPIRE-CCS-FUNC-SCU-07

Purpose: SCU cooler heaters check

Preconditions: SPIRE CQM is electrically integrated with the Herschel EQM

Initial Configuration:

- SPIRE DPU is on and generating HK
- DRCU is switched ON
- SCU PARAMETERS display is selected on the CCS

Step #	Action	Comments				Check
1	Execute TCL script SFT-SPIRE-CCS-FUNC-SCU-07.tcl					**OK**
2	Wait for the parameter BBFULLTYPE to get set to Cooler_Htr_Chk					**OK**
3	A few seconds later record the value of parameter EVHSV – the Evaporator Heat Switch Voltage. This voltage stays on for ~45 seconds.	Check if the following parameters change value:				
		Parameter	**Start**	**During**	**End**	
		EVHSV – mV **Observed**	0 **0**	~323 **325**	0 **0**	**OK**
4	A few seconds after the EVHSV parameter has been set back to 0, record the value of parameter SPHSV – the Sorption Pump Heat Switch Voltage. This voltage stays on for ~45 seconds.	Check if the following parameters change value:				
		Parameter	**Start**	**During**	**End**	
		SPHSV – mV **Observed**	0 **0**	~323 **325**	0 **0**	**OK**
5	A few seconds after the SPHSV parameter has been set back to 0, record the value of parameter SPHTRV – the Sorption Pump Heater Voltage. This voltage stays on for ~45 seconds.	Check if the following parameters change value:				
		Parameter	**Start**	**During**	**End**	
		SPHTRV – V **Observed**	0 **0**	~8.8 **8.77**	0 **0**	**OK**

Final Configuration: Unchanged

7.7 SFT-SPIRE-CCS-FUNC-SCU-03

Purpose: SCU DC thermometry check

Step #	Action	Comments	Check
1	Execute TCL script SFT-SPIRE-CCS-FUNC-		**OK**

<table>
<tr><td></td><td>SCU-03.tcl</td><td colspan="4"></td><td></td></tr>
<tr><td>2</td><td>Wait for the parameter BBFULLTYPE to get set to SCU_DC_Therm</td><td colspan="4"></td><td>OK</td></tr>
<tr><td rowspan="3">3</td><td rowspan="3">A few seconds later record the value of parameter SCUTEMPSTAT</td><td colspan="4">Check if the following parameters change value:</td><td></td></tr>
<tr><td>Parameter</td><td>Start</td><td>During</td><td>End</td><td></td></tr>
<tr><td>SCUTEMPSTAT
Observed</td><td>0
0000000</td><td>FFFF
0000FF FF</td><td>FFFF
0000FF FF</td><td>OK</td></tr>
<tr><td>4</td><td>Record the RAW values of SCU temperatures</td><td colspan="3">Parameter</td><td>Value</td><td>OK</td></tr>
<tr><td colspan="3">PUMPHTRTEMP
PUMPHSTEMP
EVAPHSTEMP
SHUNTTEMP
SOBTEMP
SL0TEMP
PL0TEMP
OPTTEMP
BAFTEMP
BSMIFTEMP
SCAL2TEMP
SCAL4TEMP
SCALTEMP
SMECIFTEMP
SMECTEMP
BSMTEMP</td><td colspan="2">9.55
11.19
10.55
4.06
14.98
4.25
4.31
14.11
13.75
13.13
11.11
13.33
14.58
14.92
14.55
13.31</td><td></td></tr>
</table>

Final Configuration: Unchanged

7.8 SFT-SPIRE-CCS-FUNC-SCU-06

Purpose: SCU AC thermometry check

Preconditions: SPIRE CQM is electrically integrated with the Herschel EQM

Initial Configuration:

- SPIRE DPU is on and generating HK
- DRCU is switched ON
- SCU PARAMETERS display is selected on the CCS

Step #	Action	Comments	Check
1	Execute TCL script SFT-		**OK**

	SPIRE-CCS-FUNC-SCU-06.tcl					
2	Wait for the parameter BBFULLTYPE to get set to SCU_AC_Therm					**OK**
3	A few seconds later record the value of parameter SUBKSTAT	Check if the following parameters change value:				
		Parameter	**Start**	**During**	**End**	
		SUBKSTAT	0	1	1	**OK**
		Observed values	**0**	**1**	**1**	
4	Record the RAW value of SUBKTEMP	Check if the following parameters change value:				
		Parameter	**Start**	**During**	**End**	
		SUBKTEMP	?		?	**OK**
		Observed values	**-**	**-**	**2.80**	
5	Note down the value of the MODE parameter on the DPU AND OBS PARAMETERS display	**Parameter**	**Start**	**During**	**End**	**OK**
		MODE	-	-	REDY	
		Observed values	**-**	**-**	**REDY**	

Final Configuration: Unchanged

7.9 SFT-SPIRE-CCS-FUNC-THO

Purpose: Switch off SCU DC and AC thermometry – if necessary

Step #	Action	Comments				Check
1	Execute TCL script SFT-SPIRE-CCS-FUNC-THO.tcl					**OK**
2	A few seconds later record the value of parameter SCUTEMPSTAT	Check if the following parameters change value:				
		Parameter	**Start**	**During**	**End**	
		SCUTEMPSTAT	FFFF	-	0	**OK**
3	A few seconds later record the value of parameter SUBKSTAT	Check if the following parameters change value:				
		Parameter	**Start**	**During**	**End**	
		SUBKSTAT	1	-	0	**OK**
4	Note down the value of the MODE parameter on the DPU AND OBS PARAMETERS Display	Check if the following parameters change value:				
		Parameter	**Start**	**During**	**End**	

		MODE	REDY	-	ON	**OK**

7.10 SFT-SPIRE-CCS-FUNC-DCU-04-PS-OFF

Purpose: Spectrometer and Photometer LIAs switch off

Preconditions: The Photometer and Spectrometer LIAs are switched on, i.e. Procedure SFT-SPIRE-CCS-FUNC-DCU-04-PS-ON has been executed

Initial Configuration:

- SPIRE DPU is on and generating HK
- DRCU is switched ON
- SCU PARAMETERS display is selected on the CCS

Step #	Action	Comments				Check
1	Execute TCL script SFT-SPIRE-CCS-FUNC-DCU-04-PS-OFF.tcl	Check if the following parameters change value:				
		Parameter	**Start**	**During**	**End**	
		SCUDCDCSTAT	1	N/A	0	**OK**
		Observed values	**1**		**0**	

Final Configuration: Spectrometer and Photometer LIAs are off

8 Step by Step Procedure: Extra Test Report

This test will be executed on demand of SPIRE to check some TM sequence problems that were observed during IMT and EMC.

Step #	Action	Comments	Check
1	Execute: SPIRE-IMT-START-TEST.tcl	OBSID = B00000C4 Execution Time: **11h07m37s UTC**	**OK**
2	Manual Stack Command: SEND_DRCU_Command with parameter: 0x84190062	Execution Time: **11h18m55s UTC**	**OK**
3	Manual Stack Command: SEND_DRCU_Command with parameter: 0x84180007		**OK**
4	Manual Stack Command: SEND_DRCU_Command with parameter: 0x843C0000		**OK**
5	Manual Stack Command: SEND_DRCU_Command with parameter: 0x843D0000		**OK**
6	Manual Stack Command: SEND_DRCU_Command with parameter: 0xA0820000		**OK**
7	Manual Stack Command: SEND_DRCU_Command with parameter: 0xA0830000		**OK**
8	Manual Stack Command: SEND_DRCU_Command with parameter: 0xA0840000		**OK**
9	Manual Stack Command: SEND_DRCU_Command with parameter: 0x843E0001		**OK**

10	Manual Stack Command: SEND_DRCU_Command with parameter: 0xA0820001		**OK**
11	Wait 10 minutes	**Apart from a SSC error caused by a type 1,1 packet (known problem – NCR 1375), no problems are reported on the CCS.**	**OK**
12	Manual Stack Command: SEND_DRCU_Command with parameter: 0x843E0000	Execution Time: **11h29m00s UTC**	**OK**
13	Manual Stack Command: SEND_DRCU_Command with parameter: 0xA0820000		**OK**
14	Manual Stack Command: FLUSH_FIFO With parameter: 0x7000		**OK**
15	Execute: SPIRE-IMT-END-TEST.tcl	Execution Time: **11h29m25s UTC**	**OK**

9 Step by Step Procedure: Switch Off Instruments

9.1 Switch Off SPIRE

According to Procedure(s):

- **HP-2-ASED-PR-0035 (Chapter 3: Order of Execution – Step 10)**
- **SPIRE-RAL-PRC-002494**

9.1.1 SFT-SPIRE-CCS-DRCU-OFF

Purpose: Switch off the DRCU

Step #	Action	Comments	Check
1	Execute TCL script SFT-SPIRE-CCS-DRCU-ON-STEP1.tcl		**OK**
2	Check that THSK parameter is not refreshing anymore		**OK**
3	Check that TM2N parameter is not incrementing anymore		**OK**
4	Manual Switch off of the DRCU by the I-EGSE staff: • Switch off all 5 remote DCU switches in ANY order (see Figure 4) • Switch off secondary power to the SPIRE Power Bench (see Figure 5) • Switch off primary power to the SPIRE Power Bench (see Figure 2)		**OK**

9.1.2 SFT-SPIRE-CCS-DPU-OFF

Purpose: Switch off the DPU

Step #	Action	Comments	Check
1	Request the CCS staff to power off the SPIRE DPU using the CCS 28V Power Supply		**OK**

10 Step by Step Procedure: Set EGSE to OFFLINE

According to Procedure(s):

- **HP-2-ASED-PR-0035 (Chapter 3: Order of Execution – Step 13 to 15)**

Step #	Action	Comments	Check
1	Execute: "WARNING_LAMP_POWER_OFF.tcl"	**Warning lamp is broken.**	**N/A**
2	Execute: "EGSE_OFFLINE_AUTO.tcl"	Check: PLM SCOE HK packets stopped	**OK**
		Check: CDMU DFE HK packets stopped	**OK**
3	Shut down PLM EGSE		**OK**

11 Summary Sheets

11.1 Procedure Variation Summary

	Test Change		Curr. No.: Date Page of
Test designation	Test Procedure	Issue	Rev.
Test step changed	Reason for Change		
Prepared by:	Resp. Test Leader	Project Engineer	
PA/QA	Prime	Customer	

Table 11.1-1: Procedure Variation Sheet

11.2 Non Conformance Report (NCR) Summary

NCR - No.	NCR - Title	Date	Open Closed

Table 11.2-1: Non-Conformance Record Sheet

11.3 Sign-off Sheet

	Name	Date	Signature
Test Manager	Siegmund Idler	15.12.05	
Operator	Stijn Ilsen	15.12.05	
PA Responsible	David Hendry	15.12.05	

12 Distribution List

	Name	Dep./Comp.		Name	Dep./Comp.
	Alberti von Mathias Dr.	AOE22		Schink Dietmar	AED44
	Barlage Bernhard	AED11	X	Schlosser Christian	OTN/AOA54
	Bayer Thomas	AOA52		Schmidt Rudolf	FAE22
	Brune Holger	AOA55		Schweickert Gunn	AOE22
	Fehringer Alexander	AOE13		Sonn Nico	AOE51
X	Fricke Wolfgang Dr.	AED 65		Steininger Eric	AED32
	Geiger Hermann	AOA52	X	Stritter Rene	AED11
	Gerner Willi	AED11		Suess Rudi	AOA54
X	Grasl Andreas	OTN/AOA54		Thörmer Klaus-Horst Dr.	OTN/AED65
	Grasshoff Brigitte	AET12		Wagner Klaus	AOE22
	Hauser Armin	AOE22	X	Wietbrock Walter	AET12
X	Hendry David	Terma Resid.		Wöhler Hans	AOE22
	Hengstler Reinhold	AOA 5		Wössner Ulrich	ASE442
	Hinger Jürgen	AOE22	X	Alcatel	ASP
	Hofmann Rolf	ASE442	X	ESA/ESTEC	ESA
X	Hohn Rüdiger	AED65		**Instruments:**	
	Hölzle Edgar Dr.	AED44		MPE (PACS)	MPE
	Huber Johann	AOA52	X	RAL (SPIRE)	RAL
	Hund Walter	ASE442		SRON (HIFI)	SRON
X	Idler Siegmund	AED312		**Subcontractors:**	
X	Ilsen Stijn	Terma Resid.		Air Liquide, Space Department	AIR
	Ivády von András	FAE22		Air Liquide, Space Department	AIRS
	Jahn Gerd Dr.	AOE22		Air Liquide, Orbital System	AIRT
	Kalde Clemens	APE3		Alcatel Bell Space	ABSP
X	Kameter Rudolf	OTN/AOA54		Astrium Sub-Subsyst. & Equipment	ASSE
	Kettner Bernhard	AET42		Austrian Aerospace	AAE
	Knoblauch August	AET32		Austrian Aerospace	AAEM
X	Koelle Markus	AOA53		APCO Technologies S. A.	APCO
	Koppe Axel	AED312		Bieri Engineering B. V.	BIER
	Kroeker Jürgen	AED65		BOC Edwards	BOCE
	Kunz Oliver Dr.	AOE22		Dutch Space Solar Arrays	DSSA
X	Lamprecht Ernst	OTN/ASI21		EADS CASA Espacio	CASA
	Lang Jürgen	ASE442		EADS CASA Espacio	ECAS
	Langenstein Rolf	AED15		EADS Space Transportation	ASIP
	Langfermann Michael	AOA51		Eurocopter	ECD
X	Mack Paul	OTN/AOA54		European Test Services	ETS
	Maute Thomas	AOA52		HTS AG Zürich	HTSZ
	Müller Jörg	AOA52		Linde	LIND
	Müller Martin	AOA53		Patria New Technologies Oy	PANT
	Müller Ralf	FAE22		Phoenix, Volkmarsen	PHOE
	Peltz Heinz-Willi	AOE13		Prototech AS	PROT
	Pietroboni Karin	AED65		QMC Instruments Ltd.	QMC
	Platzer Wilhelm	AED22		Rembe, Brilon	REMB
	Reichle Konrad	AOA52		Rosemount Aerospace GmbH	ROSE
	Reuß Friedhelm	AED62		RYMSA, Radiación y Microondas	RYM

	Name	Dep./Comp.		Name	Dep./Comp.
X	Rühe Wolfgang	AED6		SENER Ingenieria SA	SEN
X	Runge Axel	OTN/AOA54		Stöhr, Königsbrunn	STOE
	Sachsse Bernt	AED21		Terma A/S, Herlev	TER

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