




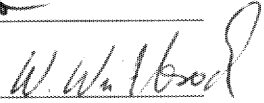
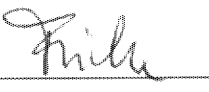


Test Procedure

HERSCHEL

Title: **SPIRE LPU Electrical Integration Procedure**

CI-No: 125 200

Prepared by:	A. Koppe 	Date:	09.10.2007
Checked by:	S. Idler 		08.10.2007
Product Assurance:	R. Stritter 		09.10.07
Configuration Control:	W. Wietbrock 		11.10.07
Project Management:	Dr. W. Fricke 		11/10/2007

Distribution: See Distribution List (last page)

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

0 Test Summary

Instrument tested: SPIRE LPU

Model:
S/N:
CI:

Applied Test procedure:

Summary and Conclusion:

Following NCR's had been raised.

Open Issues:

Issue	Date	Sheet	Description of Change	Release
1	09.10.07		Initial issue	

Table of Content

0	TEST SUMMARY	2
1	SCOPE	5
2	OBJECTIVE	6
2.1	GENERAL OVERVIEW	6
2.2	TEST SPECIMEN	7
3	DOCUMENTS/DRAWINGS	8
3.1	APPLICABLE DOCUMENTS	8
3.2	REFERENCE DOCUMENTS	8
3.3	OTHER DOCUMENTS.....	8
4	CONFIGURATION AND REQUIREMENTS	9
4.1	PLM CONFIGURATION	9
4.2	TEST SETUP.....	9
4.2.1	<i>Test Environment.....</i>	9
4.2.2	<i>ESD constraints.....</i>	9
4.2.3	<i>QA Requirements.....</i>	9
4.2.4	<i>Documentation Requirements.....</i>	10
5	CONDITIONS	11
5.1	PERSONNEL	11
5.2	ENVIRONMENTAL	11
5.3	GSE EQUIPMENT AND TOOLS	12
5.3.1	<i>EGSE.....</i>	12
5.3.2	<i>Special Equipment for IDAS:.....</i>	13
5.3.3	<i>Test Software Status</i>	13
6	VERIFICATION REQUIREMENTS AND STEP BY STEP PROCEDURE	14
6.1	VERIFICATION REQUIREMENTS/TOLERANCES	14
6.1.1	<i>Bonding Verification.....</i>	14
6.1.2	<i>Voltage/Current Verification.....</i>	14
6.2	PROCEDURE VARIATION SUMMARY	15
6.3	NON CONFORMANCE REPORT (NCR) SUMMARY	16
6.4	PROCEDURE SIGN OFF SHEET	17
7	STEP BY STEP PROCEDURE.....	18

1 Scope

This procedure details the general rules and necessary steps to be followed during the electrical integration and test of the Herschel SPIRE Launch Lock Unit on the SVM –Z panel. The LPU is directly mounted to the SPIRE FCU.

This procedure is relevant for the connection of the LPU to the SVM power interface on connectors P/j41 and P/J42. The electrical interface of the LPU to the FCU is covered by a respective instrument procedure (RD4) since it affects an instrument internal interface and is, hence, performed by SPIRE personnel with ASED support.

2 Objective

2.1 General Overview

The purpose of this integration steps is to install and test the relevant electrical interfaces of the SPIRE LPU and to mate the harness connectors to the units. A detailed electrical connection diagram of the SPIRE LPU is given in Fig. 2.1-1 below.

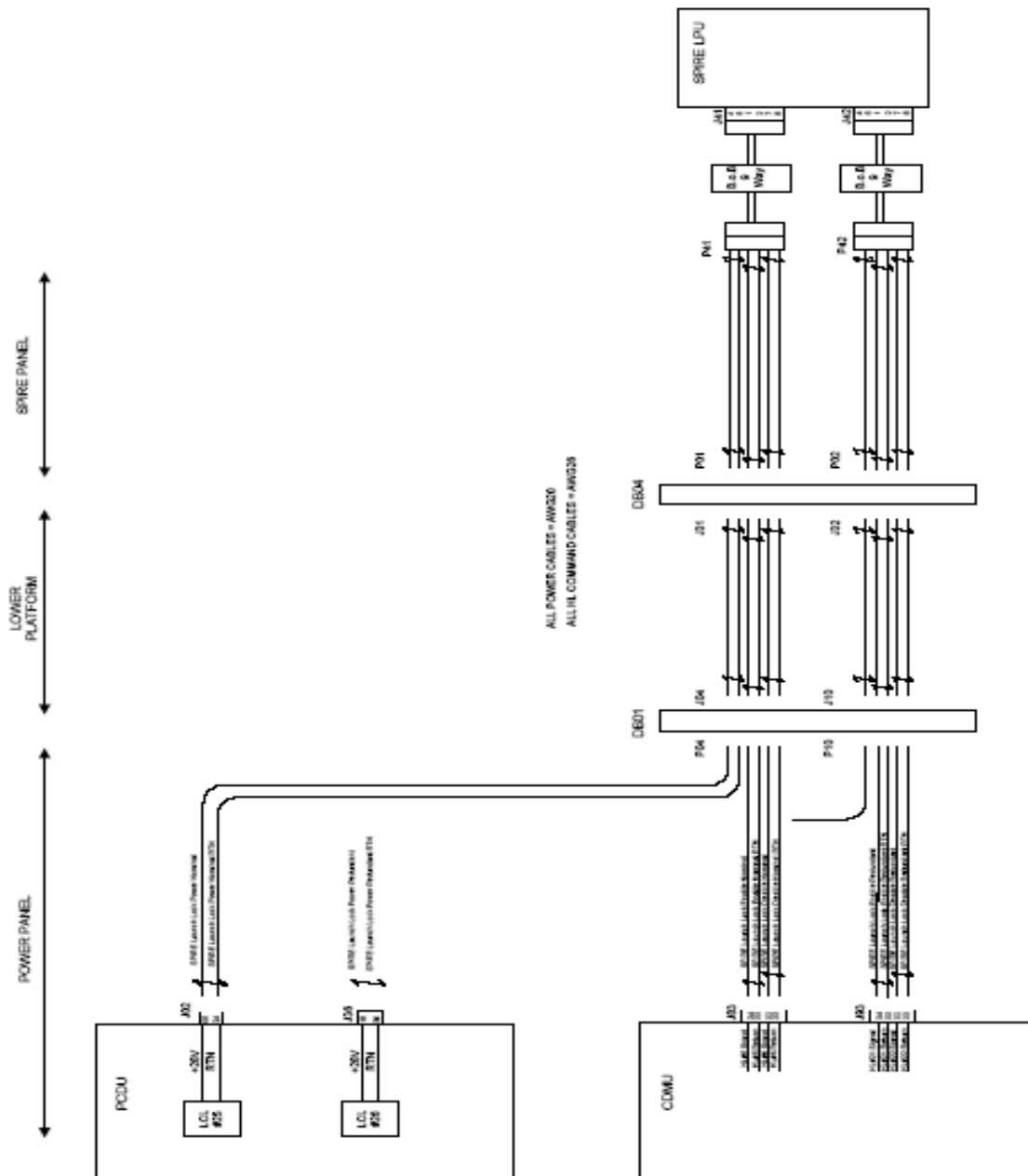


Figure 2.1-1: Electrical Connection Diagram of the Herschel SPIRE LPU

2.2 Test Specimen

The test specimen to be integrated by this procedure is the SPIRE LPU on the HERSCHEL satellite.

The details are listed in following "Test Article List".

Test Article List			
Name	HSLPU	CI Number	
Serial No.		Model	
Drawing No.		Change. St.	
Remarks			

3 Documents/Drawings

3.1 Applicable Documents

No.	Document Name	Document Number	Issue/Revision
AD1	PA-Plan	HP-2-ASED-PL-0007	2-1
AD2	SPIRE-ICD	SCI-PT-IIDB/SPIRE-02124	4
AD3	SPIRE Launch Lock Unit – SVM Electrical Integration Specification	H-P-2-ASP-TS-1431	1

3.2 Reference Documents

No.	Document Name	Document Number	Issue/Revision
RD1	SPIRE LPU Electrical Design	LAM.PJT.SPI.SPT.070724_01	1 rev.1
RD2	ESD – Regeln für HERSCHEL PLM und Integrations- Aktivitäten	HP-2-ASED-PR-0062	1
RD3	LPU Mounting Procedure on the SPIRE E-box	LAM.SSP.SPI.PRC.070911_02	1.0

3.3 Other Documents

NA

4 Configuration and Requirements

4.1 PLM Configuration

The SPIRE LPU is mounted to the SPIRE FCU acc. to RD3, the S/C Harness is prepared but not connected.

The S/C must be grounded.

4.2 Test Setup

IDAS-5 Configuration during tests:

IDAS-5 Test Heads are connected via test adapters to the relevant

"Unit under Test" - Connectors. For current measurements (Inrush and Steady-State) a current probe will be used.

The IDAS-Rack must be grounded to the SVM panel ground.

4.2.1 Test Environment

The tests shall be performed in Cl.100 000 Clean Room

4.2.2 ESD constraints

During handling and connection to the SPIRE LPU the ESD precautions acc. to RD2 have to be applied, e.g. personnel must be grounded.

ESD caps shall be installed on the SPIRE FCU as required.

The SVM must be grounded.

4.2.3 QA Requirements

In general the PA Plan shall be followed (see AD1).

Quality Assurance will be a major part of AIT activities in order to ensure that all activities are performed in a controlled manner and documented in accordance with the corresponding requirements.

The main AIT-QA tasks are as follows:

- assurance that activities are performed in accordance with released procedures
- release of hardware for integration/testing

- witnessing of all AIT activities and environmental conditions
- performance of visual inspections
- application of non-conformance reporting system and relevant logbooks
- preparation and performance of KIP's/MIP's/TRP's and PTR's
- to assure that materials/parts/units etc. are traceable
- hazard identification and tracking.

4.2.4 Documentation Requirements

All data, results and possible special events received during this test have to be entered into the integration report

- **Sequence Diary**

The obtained records shall be marked with

- date of the test
- title of the procedure
- identification number of procedure
- test article identification number

Each activity and operation has to be entered in the log sheets.

- **Summary of Deviation**

- In the event that the specimen exhibits any major failure or deviations from the requirement this procedure shall not be further executed and a NCR shall be raised.
- Testing shall be continued only upon authorisation of Product Assurance and Project engineering acc. to the NCR decision.

- **Post Test Documentation**

After performance of the activities the summary sheets must be filled-in.

A copy of the filled-in summary sheets (see para 6.2 and 6.3) has to be incorporated to the summary report for the integration.

After end of integration a test report shall be written.

5 Conditions

5.1 Personnel

Responsibility	Name / Organization
Test Manager	
Test Engineer	
EGSE Operator	
Support Engineer	
PA Responsible	
Customer Representative	
SPIRE Representative	

5.2 Environmental

Environmental	Nominal	Actual	P	N
Clean Room Class	100 000			
Temperature	(22±3) °C			
Rel. Humidity	40....60 %			
Pressure	ambient			

Note: Clean room class acc. to Federal Standard 209 E

5.3 GSE Equipment and Tools

5.3.1 EGSE

EGSE List					
Item	Manuf.	Model No.	SN No.	Invent No.	Next Calib.
Power-SCOE	Sat. Services	-	CI3A 2210-SE840/30	NA	NA
CDMU-SCOE	Sat. Services	-	CI3A 2200-SE841/01	NA	NA
TM/TC DFE					
CCS					

Test Equipment List					
Item	Manuf.	Model No.	SN No.	Invent No.	Next Calib.
IDAS-Rack	ASTRIUM				
Scope					
Current-Probe					
Probe-Amplifier					
Test-Head 1	ASTRIUM				
Test-Head 2	ASTRIUM				
Multimeter					

5.3.2 Special Equipment for IDAS:

Test Adaptors for following connector-types shall be available:

- Connector : DEMA 9s/9p No. 9D

5.3.3 Test Software Status

The actual IDAS Software Status is:

Software Status	Version	Remark
IDAS5.	V.....	(i.e. IDAS5.V4.6.1.exe)
CCS test S/W		
HPSDB		

6 Verification Requirements and Step by Step Procedure

6.1 Verification Requirements/Tolerances

6.1.1 Bonding Verification

Each bond strap shall have a resistance of $R \leq 2.5$ mOhm.

6.1.2 Voltage/Current Verification

The following requirements according to AD3 are verified (GDEL-575):

Voltage Characteristics

Bus-Voltage: 27.5.....28.14 V

Inrush Characteristics

Inrush Current: < 1.0 A for < 5 ms

Steady State Current: < 0.17 A

HL Command Characteristics

Active Voltage 22V < U < 29V

Passive Voltage 0V < U < 2V

Pulse Length 26ms \pm 2ms

Pin Allocation: Conn. J41 -Prim. Power: Pin 4; Return: Pin 5
Conn. J42 -Prim. Power: Pin 4; Return: Pin 5
Conn. J41 -HL#5 Cmd: Pin 1; Return: Pin 2
Conn. J41 -HL#6 Cmd: Pin 7; Return: Pin 8
Conn. J42 -HL#21 Cmd: Pin 1; Return: Pin 2
Conn. J42 -HL#22 Cmd: Pin 7; Return: Pin 8

6.2 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 6.2-1: Procedure Variation Sheet

6.3 Non Conformance Report (NCR) Summary

NCR - No.	NCR - Title	Date	Open Closed	PA sig.

Table 6.3-1: Non-Conformance Record Sheet

6.4 Procedure Sign Off Sheet

This test has been successfully performed and all open issues are covered by NCR's or Procedure Variations.

	Date	Signature
Test Manager		
Operator		
PA Responsible		
ESA Representative		



7 Step by Step Procedure

Step by Step Procedure created with IDAS.



**EADS
Astrium GmbH**

Test Procedure

Doc. No.: HP-2-ASED-TP-0169

Unit: SPIRE

Filename: HP-2-ASED-TP-0169-1.doc

Issue: 1

Date: 9.10.2007

Herschel

Model: PFM Par: 7.1 Grounding Measurement

Sheet: 19

St-No	Sub-St	Test – Step - Description	Meas. Type	Min.Nom. Value	Max.Nom. Value	Phys. Unit	Actual Value	C-St	P N
1.1		Preconditions:							
1.2		Ensure that the SPIRE WIH is connected to all units							
1.3		Ensure that the SPIRE SIH is connected							
1.4		Measure according to a four-point measurement the resistance between: - HSLPU and HSFCU housing							
	1	RESISTANCE	000.007	0,00	5,00	mOhm		MA	
1.5		Measure according to a four-point measurement the resistance between: - HSLPU and SVM panel GND							
	1	RESISTANCE	000.007	0,00	5,00	mOhm		MA	
1.1		Verification of unloaded Input Power LPU							
1.2		Connect IDAS-5 Testhead-1 via 9-pole adapter No. 9D to the interface connector HSLPU P41							
1.3		Connect IDAS-5 Testhead -2 via 9-pole adapter No. 9D to the interface connector HSLPU P42							
1.4		Switch ON SVM							
1.5		Switch ON LCL #25 for the Nominal LPU Power issue TC: DC25D170							
1.6		Measure the voltage between the following pins aConnector: P/J41 4 5							
	1	VOLTAGE-DC	020.018	27,50	28,14	_Volt		CM	
1.7		Switch OFF LCL #25 for the Nominal LPU Power issue TC: DC25B170							
1.8		Measure the voltage between the following pins							

Test-Location: aConnector: P/J41

PA_Resp.:

Test-Eng.:
OCOE-Operator:

Test_Manager:

Date:



**EADS
Astrium GmbH**

Test Procedure

Doc. No.: HP-2-ASED-TP-0169

Unit: SPIRE

Filename: HP-2-ASED-TP-0169-1.doc

Issue: 1

Date: 9.10.2007

Herschel

Model: PFM Par: 7.2 Unloaded Input Verification

Sheet: 20

St-No	Sub-St	Test - Step - Description	Meas. Type	Min.Nom. Value	Max.Nom. Value	Phys. Unit	Actual Value	C-St	P N
1.9	1	4 5 VOLTAGE-DC Switch ON LCL #26 for the Nominal LPU Power issue TC: DC26D170	020.017	-0,50	0,50	_Volt		CM	
1.10	1	4 5 VOLTAGE-DC Measure the voltage between the following pins bConnector: P/J42	020.018	27,50	28,14	_Volt		CM	

Test-Location:

PA_Resp.:

Test-Eng.:

OCOE-Operator:

Test_Manager:

Date:



**EADS
Astrium GmbH**

Test Procedure

Doc. No.: HP-2-ASED-TP-0169

Unit: SPIRE

Filename: HP-2-ASED-TP-0169-1.doc

Issue: 1

Date: 9.10.2007

Herschel

Model: PFM Par: 7.2 Unloaded Input Verification

Sheet: 21

St-No	Sub-St	Test – Step - Description	Meas. Type	Min.Nom. Value	Max.Nom. Value	Phys. Unit	Actual Value	C-St	P N
1.11		Switch OFF LCL #26 for the Nominal LPU Power issue TC: DC25B170							
1.12	1	Measure the voltage between the following pins bConnector: P/J42 4 5 VOLTAGE-DC	020.017	-0,50	0,50	_Volt		CM	
2.1		Unloaded HL Command Input Verification							
2.2		Measure and record the oscilloscope trace when activating the HL#5 command on P41 between pin 1 and 2 aConnector: P/J41 1 2							
	1	PULSDURATION	040.008	24,00	28,00	msec		PM	
	2	UPPER-LEVEL	040.008	22,00	29,00	_Volt		PM	
	3	LOWER-LEVEL	040.008	0,00	2,00	_Volt		PM	
	4	RISE-TIME	040.008	50,00	500,00	µsec		PM	
	5	FALL-TIME	040.008	50,00	500,00	µsec		PM	
	6	TRIGGERLEVEL	040.008	2,00	0,00	_Volt		PM	
	7	TRIGGERSLOPE	040.008	0,00	0,00	_Pos		PM	
2.3		Measure and record the oscilloscope trace when activating the HL#6 command on P41 between pin 7 and 8 aConnector: P/J41 7 8							
	1	PULSDURATION	040.008	24,00	28,00	msec		PM	
	2	UPPER-LEVEL	040.008	22,00	29,00	_Volt		PM	
	3	LOWER-LEVEL	040.008	0,00	2,00	_Volt		PM	
	4	RISE-TIME	040.008	50,00	500,00	µsec		PM	
	5	FALL-TIME	040.008	50,00	500,00	µsec		PM	
	6	TRIGGERLEVEL	040.008	2,00	0,00	_Volt		PM	
	7	TRIGGERSLOPE	040.008	0,00	0,00	_Pos		PM	

Test-Location:

PA_Resp.:

Test-Eng.:

OCOE-Operator:

Test_Manager:

Date:



St-No	Sub-St	Test – Step - Description	Meas. Type	Min.Nom. Value	Max.Nom. Value	Phys. Unit	Actual Value	C-St	P N
2.4		Measure and record the oscilloscope trace when activating the HL#21 command on P42 between pin 1 and 2							
	1	PULSDURATION	040.008	24,00	28,00	msec			PM
	2	UPPER-LEVEL	040.008	22,00	29,00	_Volt			PM
	3	LOWER-LEVEL	040.008	0,00	2,00	_Volt			PM
	4	RISE-TIME	040.008	50,00	500,00	µsec			PM
	5	FALL-TIME	040.008	50,00	500,00	µsec			PM
	6	TRIGGERLEVEL	040.008	2,00	0,00	_Volt			PM
	7	TRIGGERSLOPE	040.008	0,00	0,00	_Pos			PM
2.5		Measure and record the oscilloscope trace when activating the HL#22 command on P42 between pin 7 and 8 bConnector: P/J42							
		7							
		8							
	1	PULSDURATION	040.008	24,00	28,00	msec			PM
	2	UPPER-LEVEL	040.008	22,00	29,00	_Volt			PM
	3	LOWER-LEVEL	040.008	0,00	2,00	_Volt			PM
	4	RISE-TIME	040.008	50,00	500,00	µsec			PM
	5	FALL-TIME	040.008	50,00	500,00	µsec			PM
	6	TRIGGERLEVEL	040.008	2,00	0,00	_Volt			PM
	7	TRIGGERSLOPE	040.008	0,00	0,00	_Pos			PM
1.1		Loaded Power Input Verification							
1.2		Connect IDAS-5 Testhead-1 via 9-pole adapter No. 9D between the interface connectors HSLPU P/J41							
1.3		Connect IDAS-5 Testhead-2 via 9-pole adapter No. 9D between the interface connectors HSLPU P/J42							
1.4		Clip current probe to pin 04 of the adapter between P/J41, direction: into box							
1.5		Record inrush and steady state current on TC request							
1.6		Inrush current measurement after request of IDAS Switch ON LCL #25 for the Nominal FCU Power issue TC: DC25D170 expected values: 0 A (0 A before HL cmd activation, max. inrush < 1.0 A and < 5msec, steady state < 0.17 A)							

Test-Location:

PA_Resp.:

Test-Eng.:

OCOE-Operator:

Test_Manager:

Date:



**EADS
Astrium GmbH**

Test Procedure

Doc. No.: HP-2-ASED-TP-0169

Unit: SPIRE

Filename: HP-2-ASED-TP-0169-1.doc

Issue: 1

Date: 9.10.2007

Herschel

Model: PFM Par: 7.3 Loaded Input Verification

Sheet: 23

St-No	Sub-St	Test - Step - Description	Meas. Type	Min.Nom. Value	Max.Nom. Value	Phys. Unit	Actual Value	C-St	P N
1.7		aConnector: P/J41 4 --							
	1	CURR-dI/dt	034.014	0,00	0,50	_A/μs		PM	
	2	CURRENT-PEAK	034.014	0,00	1,00	_Amp		PM	
	3	CURRENT-DC	034.014	0,00	0,20	_Amp		PM	
	4	TRIGGERLEVEL	034.014	0,00	0,20	_Amp		PM	
		Steady State Current Measurement aConnector: P/J41 4 --							
	1	CURRENT-DC	030.011	0,00	170,00	mAmp		PM	

Test-Location:

PA_Resp.:

Test-Eng.:

OCOE-Operator:

Test_Manager:

Date:



**EADS
Astrium GmbH**

Test Procedure

Doc. No.: HP-2-ASED-TP-0169

Unit: SPIRE

Filename: HP-2-ASED-TP-0169-1.doc

Issue: 1

Date: 9.10.2007

Herschel

Model: PFM Par: 7.3 Loaded Input Verification

Sheet: 24

St-No	Sub-St	Test – Step - Description	Meas. Type	Min.Nom. Value	Max.Nom. Value	Phys. Unit	Actual Value	C-St	P N
1.8	1	Measure the voltage between the following pins aConnector: P/J41 4 5 VOLTAGE-DC	020.018	27,50	28,14	_Volt		CM	
1.9		Inrush current measurement after request of IDAS Activation of HL#5 cmd issue TC: expected values: max. inrush < 1.0 A and < 5msec, steady state < 0.17 A aConnector: P/J41 4 --							
	1	CURR-dI/dt	034.014	0,00	0,50	_A/μs		PM	
	2	CURRENT-PEAK	034.014	0,00	1,00	_Amp		PM	
	3	CURRENT-DC	034.014	0,00	0,20	_Amp		PM	
	4	TRIGGERLEVEL	034.014	0,00	0,20	_Amp		PM	
1.10	1	Steady State Current Measurement aConnector: P/J41 4 -- CURRENT-DC	030.011	0,00	170,00	mAmp		PM	

Test-Location:

PA_Resp.:

Test-Eng.:

OCOE-Operator:

Test_Manager:

Date:



**EADS
Astrium GmbH**

Test Procedure

Doc. No.: HP-2-ASED-TP-0169

Unit: SPIRE

Filename: HP-2-ASED-TP-0169-1.doc

Issue: 1

Date: 9.10.2007

Herschel

Model: PFM Par: 7.3 Loaded Input Verification

Sheet: 25

St-No	Sub-St	Test – Step - Description	Meas. Type	Min.Nom. Value	Max.Nom. Value	Phys. Unit	Actual Value	C-St	P N
1.11		Inrush current measurement after request of IDAS Activation of HL#6 cmd issue TC: expected values: max. inrush < 1.0 A and < 5msec, steady state < 0.17 A aConnector: P/J41 4 --							
	1	CURR-dI/dt	034.014	0,00	0,50	_A/μs			PM
	2	CURRENT-PEAK	034.014	0,00	1,00	_Amp			PM
	3	CURRENT-DC	034.014	0,00	0,20	_Amp			PM
	4	TRIGGERLEVEL	034.014	0,00	0,20	_Amp			PM
1.12		Steady State Current Measurement aConnector: P/J41 4 --							
	1	CURRENT-DC	030.011	0,00	170,00	mAmp			PM
1.13		Remove current probe							
1.14		Clip current probe to pin 04 of the adapter between P/J42, direction: into box							
1.15		Record inrush and steady state current on TC request							

Test-Location:

PA_Resp.:

Test-Eng.:

OCOE-Operator:

Test_Manager:

Date:



**EADS
Astrium GmbH**

Test Procedure

Doc. No.: HP-2-ASED-TP-0169

Unit: SPIRE

Filename: HP-2-ASED-TP-0169-1.doc

Issue: 1

Date: 9.10.2007

Herschel

Model: PFM Par: 7.3 Loaded Input Verification

Sheet: 26

St-No	Sub-St	Test – Step - Description	Meas. Type	Min.Nom. Value	Max.Nom. Value	Phys. Unit	Actual Value	C-St	P N
1.16		Inrush current measurement after request of IDAS Switch ON LCL #26 for the Nominal FCU Power issue TC: DC26D170 expected values: 0 A (0 A before HL cmd activation, max. inrush < 1.0 A and < 5msec, steady state < 0.17 A)							
		bConnector: P/J42 4 --							
	1	CURR-dI/dt	034.014	0,00	0,50	_A/µs			PM
	2	CURRENT-PEAK	034.014	0,00	1,00	_Amp			PM
	3	CURRENT-DC	034.014	0,00	0,20	_Amp			PM
	4	TRIGGERLEVEL	034.014	0,00	0,20	_Amp			PM
1.17		Steady State Current Measurement bConnector: P/J42 4 --							
	1	CURRENT-DC	030.011	0,00	170,00	mAmp			PM
1.18		Measure the voltage between the following pins bConnector: P/J42 4 5							
	1	VOLTAGE-DC	020.018	27,50	28,14	_Volt			CM

Test-Location:

PA_Resp.:

Test-Eng.:

OCOE-Operator:

Test_Manager:

Date:



**EADS
Astrium GmbH**

Test Procedure

Doc. No.: HP-2-ASED-TP-0169

Unit: SPIRE

Filename: HP-2-ASED-TP-0169-1.doc

Issue: 1

Date: 9.10.2007

Herschel

Model: PFM Par: 7.3 Loaded Input Verification

Sheet: 27

St-No	Sub-St	Test – Step - Description	Meas. Type	Min.Nom. Value	Max.Nom. Value	Phys. Unit	Actual Value	C-St	P N
1.19		Inrush current measurement after request of IDAS Activation of HL#5 cmd issue TC: expected values: max. inrush < 1.0 A and < 5msec, steady state < 0.17 A bConnector: P/J42 4 --							
	1	CURR-dI/dt	034.014	0,00	0,50	_A/μs			PM
	2	CURRENT-PEAK	034.014	0,00	1,00	_Amp			PM
	3	CURRENT-DC	034.014	0,00	0,20	_Amp			PM
	4	TRIGGERLEVEL	034.014	0,00	0,20	_Amp			PM
1.20		Steady State Current Measurement bConnector: P/J42 4 --							
	1	CURRENT-DC	030.011	0,00	170,00	mAmp			PM
1.21		Inrush current measurement after request of IDAS Activation of HL#6 cmd issue TC: expected values: max. inrush < 1.0 A and < 5msec, steady state < 0.17 A bConnector: P/J42 4 --							
	1	CURR-dI/dt	034.014	0,00	0,50	_A/μs			PM
	2	CURRENT-PEAK	034.014	0,00	1,00	_Amp			PM
	3	CURRENT-DC	034.014	0,00	0,20	_Amp			PM
	4	TRIGGERLEVEL	034.014	0,00	0,20	_Amp			PM

Test-Location:

PA_Resp.:

Test-Eng.:

OCOE-Operator:

Test_Manager:

Date:



St-No	Sub-St	Test – Step - Description	Meas. Type	Min.Nom. Value	Max.Nom. Value	Phys. Unit	Actual Value	C-St	P N
1.22	1	Steady State Current Measurement bConnector: P/J42 4 -- CURRENT-DC	030.011	0,00	170,00	mAmp		PM	
1.23		Remove current probe							
2.1		Loaded HL Command Input Verification							
2.2		Measure and record the oscilloscope trace when activating the HL#5 command on P41 between pin 1 and 2 aConnector: P/J41 1 2							
	1	PULSDURATION	040.008	24,00	28,00	msec		PM	
	2	UPPER-LEVEL	040.008	22,00	29,00	_Volt		PM	
	3	LOWER-LEVEL	040.008	0,00	2,00	_Volt		PM	
	4	RISE-TIME	040.008	50,00	500,00	µsec		PM	
	5	FALL-TIME	040.008	50,00	500,00	µsec		PM	
	6	TRIGGERLEVEL	040.008	2,00	0,00	_Volt		PM	
	7	TRIGGERSLOPE	040.008	0,00	0,00	_Pos		PM	
2.3		Measure and record the oscilloscope trace when activating the HL#6 command on P41 between pin 7 and 8 aConnector: P/J41 7 8							
	1	PULSDURATION	040.008	24,00	28,00	msec		PM	
	2	UPPER-LEVEL	040.008	22,00	29,00	_Volt		PM	
	3	LOWER-LEVEL	040.008	0,00	2,00	_Volt		PM	
	4	RISE-TIME	040.008	50,00	500,00	µsec		PM	
	5	FALL-TIME	040.008	50,00	500,00	µsec		PM	
	6	TRIGGERLEVEL	040.008	2,00	0,00	_Volt		PM	
	7	TRIGGERSLOPE	040.008	0,00	0,00	_Pos		PM	

Test-Location:

PA_Resp.:

Test-Eng.:

OCOE-Operator:

Test_Manager:

Date:



St-No	Sub-St	Test – Step - Description	Meas. Type	Min.Nom. Value	Max.Nom. Value	Phys. Unit	Actual Value	C-St	P N
2.4		Measure and record the oscilloscope trace when activating the HL#21 command on P42 between pin 1 and 2 bConnector: P/J42 1 2							
	1	PULSDURATION	040.008	24,00	28,00	msec			PM
	2	UPPER-LEVEL	040.008	22,00	29,00	_Volt			PM
	3	LOWER-LEVEL	040.008	0,00	2,00	_Volt			PM
	4	RISE-TIME	040.008	50,00	500,00	µsec			PM
	5	FALL-TIME	040.008	50,00	500,00	µsec			PM
	6	TRIGGERLEVEL	040.008	2,00	0,00	_Volt			PM
	7	TRIGGERSLOPE	040.008	0,00	0,00	_Pos			PM
2.5		Measure and record the oscilloscope trace when activating the HL#22 command on P42 between pin 7 and 8 bConnector: P/J42 7 8							
	1	PULSDURATION	040.008	24,00	28,00	msec			PM
	2	UPPER-LEVEL	040.008	22,00	29,00	_Volt			PM
	3	LOWER-LEVEL	040.008	0,00	2,00	_Volt			PM
	4	RISE-TIME	040.008	50,00	500,00	µsec			PM
	5	FALL-TIME	040.008	50,00	500,00	µsec			PM
	6	TRIGGERLEVEL	040.008	2,00	0,00	_Volt			PM
	7	TRIGGERSLOPE	040.008	0,00	0,00	_Pos			PM
2.6		Switch OFF LCL #25 for the Nominal LPU Power issue TC: DC25B170							
2.7		Switch OFF LCL #26 for the Nominal LPU Power issue TC: DC26B170							
2.8		Disconnect IDAS-5 Testhead-1 and 9-pole adapter No. 9D between connectors HSLPU P/J41 and connect directly							
2.9		Disconnect IDAS-5 Testhead-2 and 9-pole adapter No. 9D between connectors HSLPU P/J42 and connect directly							

Test-Location:

PA_Resp.:

Test-Eng.:

OCOE-Operator:

Test_Manager:

Date:



END OF DOCUMENT

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