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SPIRE IID-B Requirements Verification Matrix B. Swinyard		

Change History:

- 1.0 September 2007 First issue for SPIRE Science Verification Review
- 1.1 November 2008 IFAR issue in response to RID 41352 the following entries in Table 1 have been altered

IID-A-sect 5.6.3 equivalent to IRD-WE-R38 Mounting Location verified and summarised in SPIRE-RAL-REP- 002858, Warm units mechanical interface summary

IID-A-SECT 5.9.1 equivalent to IRD-STRC-R13. Verified as part of the stand alone electrical checks performed regularly, SPIRE-RAL-NOT-002318

IID-A-SECT 4.3.1 equivalent to IRD-OPTP-00. Compatibility by design and confirmed at instrument level by alignment verification ref procedure LAM.OPT.SPI.PRC-031203_01 and reports SPIRE-RAL-REP-002876 and SPIRE-RAL-REP-002946.

A new entry has been added to cover a missing requirement from the IID-B HP-SPIRE-REQ-0200 is set equivalent to IRD-MODE-R01 this is verified by the various AOT tests and the SOVT-1. The appropriate test plans and current reports are given in the table.

Table 2 – List of documents has also been updated accordingly.

Scope:


This document gives a report on the links between the explicit requirements placed on SPIRE in the IID-B (AD1), the consequent instrument level requirements set out in the IRD (AD2) and the tests carried out on the instrument to verify compliance with those requirement. It consists of a report table generated from the SPIRE verification control database maintained at RAL.

Applicable documents:

AD1	IID-B	SCI-PT-IIDB/SPIRE-0212 iss 4
AD2	SPIRE Instrument Requirements Document	SPIRE-RAL-PRJ-00034 iss 1.3

Table 1: The Matrix
 Columns are as follows:

IID Requirement – the identification of the numbered requirement in the IID-B (HP-SPIRE-REQ-#) or the section in the IID-B that contains statements about the instrument interface that SPIRE is required to be compliant to.

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IRD Requirement – the derived requirement placed on the SPIRE instrument or one of its sub-systems in the instrument requirements document. Almost always there is a one-to-many relationship between the IID requirements and the IRD requirements.

Description – a brief description of the IRD requirement. The full test of the requirement can be found in AD2.

Procedure ID – this is a list of all the applicable procedures that were carried out on the SPIRE PFM instrument or units. In most cases these are procedure descriptions and documented as such. In the case of the “Test Sheets” these are the as run test campaigns held as excel spreadsheets at RAL.

Test Report # - These are the document numbers for the test reports on the tests carried out on the PFM instrument or units. Where possible they are the pre-delivery reports (Warm functional tests for instance). In some instances the reports have not yet been written up in a summary form (PFM Test Report) but sub system level test reports exist. A full list of all relevant reports is given in Table 2.

Compliance – Indicates whether the instrument is compliant (Yes); has requested a waiver (Waiver) or there are outstanding tests that can only be carried out at integrated system level (System Level).

Waiver - If a waiver is requested, the number of the Waiver is given in the final column.

Table 1:

IID Verification Matrix								
IID Requirement	IRD Requirement	Description	Procedure ID	Test Report 1	Test Report 2	Test Report 3	Compliance	Waiver Number
HP-SPIRE-REQ-0020	IRD-WE-R35	Power	SPIRE-RAL-DOC-001652 SPIRE-RAL-NOT-002211 SPIRE-RAL-DOC-002535 Test schedules	SPIRE-RAL-REP-002838	H-P-RP-AI-0170	PFM Test Report	Yes	
HP-SPIRE-REQ-0020	IRD-WE-R18	S/C Interface	SPIRE-RAL-DOC-001652	SPIRE-RAL-REP-002838	H-P-RP-AI-0170		Yes	
HP-SPIRE-REQ-0030	IRD-WE-R18	S/C Interface	SPIRE-RAL-DOC-001652	SPIRE-RAL-REP-002838	H-P-RP-AI-0170		Yes	
HP-SPIRE-REQ-0060	IRD-WE-R39	DPU 1553B Address	SPIRE-RAL-DOC-001652	SPIRE-RAL-REP-002838	H-P-RP-AI-0170		Yes	



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HP-SPIRE-REQ-0070	IRD-WE-R23	Communication	SPIRE-RAL-DOC-001652 SPIRE-RAL-NOT-002211 SPIRE-RAL-DOC-002535 Test schedules	SPIRE-RAL-REP-002838	H-P-RP-AI-0170	PFM Test Report	Yes	
HP-SPIRE-REQ-0080	IRD-OPS-R03	The SPIRE instrument shall be identified as a single subsystem within the satellite.	SPIRE-RAL-DOC-001652	H-P-RP-AI-0170			Yes	
HP-SPIRE-REQ-0090	IRD-WE-R18	S/C Interface	SPIRE-RAL-DOC-001652	SPIRE-RAL-REP-002838	H-P-RP-AI-0170		Yes	
HP-SPIRE-REQ-0100	IRD-WE-R18	S/C Interface	SPIRE-RAL-DOC-001652	SPIRE-RAL-REP-002838	H-P-RP-AI-0170		Yes	
HP-SPIRE-REQ-0150	IRD-OPS-R02	The instrument shall be capable of limiting the average data rate to the CDMS during a 24hr period to 100kbps (TBC)	SPIRE-RAL-DOC-001652	H-P-RP-AI-0170	SPIRE-RAL-REP-002864		Yes	
HP-SPIRE-REQ-0160	IRD-TLM-R01	The instrument shall be capable of transferring telemetry packets to the CDMS (or simulator) at up to the maximum rate allowed by the telemetry interface.	SPIRE-RAL-DOC-001652	H-P-RP-AI-0170	SPIRE-RAL-REP-002864		Yes	
HP-SPIRE-REQ-0170	IRD-DATA-R03	The instrument shall be capable of buffering data generated during an observation.	SPIRE-RAL-DOC-001652	H-P-RP-AI-0170	SPIRE-RAL-REP-002864		Yes	
HP-SPIRE-REQ-0170	IRD-TLM-R02	The instrument shall be able to buffer up to 10 seconds worth of telemetry packets	SPIRE-RAL-DOC-001652	H-P-RP-AI-0170	SPIRE-RAL-REP-002864		Yes	



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HP-SPIRE-REQ-0190	IRD-OPS-R01	It shall be possible to calculate the execution time of an instrument command to within 1 sec (TBC).	SPIRE-RAL-DOC-001652	H-P-RP-AI-0170	SPIRE-RAL-REP-002864		Yes	
HP-SPIRE-REQ-0200	IRD-MODE-R01	The instrument shall be capable executing all operating modes described in the SPIRE Operating Modes Document (RD8)	SPIRE-RAL-DOC-001652 SPIRE-RAL-NOT-002211 SPIRE-RAL-DOC-002535 SPIRE-RAL-DOC-002720 SOVT-1 Test Plan Test schedules	SPIRE-RAL-REP-002719	SPIRE-RAL-REP-002961		FS Test SystemLevel	
HP-SPIRE-REQ-0210	IRD-WE-R23	Communication	SPIRE-RAL-DOC-001652 SPIRE-RAL-NOT-002211 SPIRE-RAL-DOC-002535 Test schedules	SPIRE-RAL-REP-002838	H-P-RP-AI-0170	PFM Test Report	Yes	
HP-SPIRE-REQ-0210	IRD-CMD-R01	The instrument shall be capable of accepting telecommand packets from the CDMS at speeds up to the maximum rate delivered by the CDMS without loss.	SPIRE-RAL-DOC-001652	H-P-RP-AI-0170	SPIRE-RAL-REP-002864		Yes	
HP-SPIRE-REQ-0220	IRD-SAFE-R07	All telecommands received by the instrument shall be checked to be correctly formatted and complete before execution. Incorrect telecommands will be rejected by the instrument	SPIRE-RAL-DOC-001652	H-P-RP-AI-0170	SPIRE-RAL-REP-002711	SPIRE-RAL-REP-002864	Yes	
HP-SPIRE-REQ-0220	IRD-AUT-R04	The SPIRE instrument shall provide a method of alerting the S/C CDMS of any failure requiring the instrument to be controlled by the CDMS (e.g. switched off).	SPIRE-RAL-DOC-001652	H-P-RP-AI-0170	SPIRE-RAL-REP-002864		Yes	



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HP-SPIRE-REQ-0220	IRD-WE-R23	Communication	SPIRE-RAL-DOC-001652 SPIRE-RAL-NOT-002211 SPIRE-RAL-DOC-002535 Test schedules	SPIRE-RAL-REP-002838	H-P-RP-AI-0170	PFM Test Report	Yes	
HP-SPIRE-REQ-0250	IRD-WE-R26	Anomaly Management	SPIRE-RAL-DOC-001652 SPIRE-RAL-NOT-002211 SPIRE-RAL-DOC-002535 Test schedules	SPIRE-RAL-REP-002838	H-P-RP-AI-0170	PFM Test Report	Yes	
IID-A-SECT4.3.1	IRD-OPTP-R00	Compatibility with Herschel telescope	LAM.OPT.SPI.PRC-031203_01	SPIRE-RAL-NOT-002876	SPIRE-RAL-REP-002948		Yes	
IID-A-SECT5.11.1	IRD-DATA-R01	All data transferred between the CDMS and the instrument shall be contained in packets conforming to the ESA Packet Utilisation Standard (RD4)	SPIRE-RAL-DOC-001652	H-P-RP-AI-0170	SPIRE-RAL-REP-002864		Yes	
IID-A-SECT5.11.1	IRD-TLM-R06	It shall be possible to define 4 alternative housekeeping packet structures with different rates of generation.	SPIRE-RAL-DOC-001652	H-P-RP-AI-0170	SPIRE-RAL-REP-002864		Yes	
IID-A-SECT5.13.2.3	IRD-CMD-R12	The instrument shall provide commands to modify data values/tables held in the instrument memory.	SPIRE-RAL-DOC-001652	H-P-RP-AI-0170	SPIRE-RAL-REP-002864		Yes	
IID-A-SECT5.13.2.3	IRD-CMD-R13	The instrument shall provide commands to enable on-board software maintenance	SPIRE-RAL-DOC-001652	H-P-RP-AI-0170	SPIRE-RAL-REP-		Yes	



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					002864			
IID-A-SECT5.13.2.5	IRD-WE-R25	Subsystem anomalies	SPIRE-RAL-DOC-001652 SPIRE-RAL-NOT-002211 SPIRE-RAL-DOC-002535 Test schedules	SPIRE-RAL-REP-002838	PFM Test Report		Yes	
IID-A-SECT5.13.2.5	IRD-COOL-R08	Hold time	SPIRE-RAL-MEM-002563 SPIRE-RAL-MEM-002722 SPIRE-RAL-NOT-002211 SPIRE-RAL-DOC-002535 Test schedules	SPIRE-RAL-REP-002557	SPIRE-RAL-REP-002784		Yes	
IID-A-SECT5.13.2.5	IRD-WE-R24	WE anomalies	SPIRE-RAL-DOC-001652 SPIRE-RAL-NOT-002211 SPIRE-RAL-DOC-002535 Test schedules	SPIRE-RAL-REP-002838	H-P-RP-AI-0170	PFM Test Report	Yes	
IID-A-SECT5.13.2.5	IRD-WE-R26	Anomaly Management	SPIRE-RAL-DOC-001652 SPIRE-RAL-NOT-002211 SPIRE-RAL-DOC-002535 Test schedules	SPIRE-RAL-REP-002838	H-P-RP-AI-0170	PFM Test Report	Yes	
IID-A-SECT5.13.2.5	IRD-COOL-R09	Recycle time	SPIRE-RAL-MEM-002563 SPIRE-RAL-MEM-002722 SPIRE-RAL-NOT-002211 SPIRE-RAL-DOC-002535 Test schedules	SPIRE-RAL-REP-002557	SPIRE-RAL-REP-002784		Yes	
IID-A-SECT5.14	IRD-WE-R36	EMC	SPIRE-RAL-PRJ-000852	SPIRE-RAL-NOT-002853			System Level	



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IID-A-SECT5.3.2.1	IRD-STRC-R01	Alignment of the instrument w.r.t. the FIRST optical axis	SPIRE-LAM-PRJ-001842	PFM Optical Alignment Report			Yes	
IID-A-SECT5.6.1	IRD-STRC-R10	Instrument mechanical interface	SPIRE-RAL-DOC- 002830	SPIRE-RAL-DOC-002830			Yes	
IID-A-SECT5.6.1.2	IRD-FTB-R07	Mechanical Interface	SPIRE-RAL-DOC- 002830	SPIRE-RAL-DOC-002830			Yes	
IID-A-SECT5.6.3	IRD-WE-R38	Mounting Location	Incoming/Outgoing inspections	SPIRE-RAL-REP-002858			Yes	
IID-A-SECT9.4.1.2.5	IRD-STRC-R09	First natural frequency of the instrument assembly	SPIRE-RAL-DOC- 002165	SPIRE-RAL-DOC-002165			Yes	
IID-A-SECT9.4.1.2.5	IRD-FTB-R09	First natural frequency	SPIRE-RAL-DOC- 002165	SPIRE-RAL-DOC-002165			Yes	
IID-B-SECT5.10	IRD-WE-R18	S/C Interface	SPIRE-RAL-DOC-001652	SPIRE-RAL-REP-002838	H-P-RP-AI-0170		Yes	
IID-B-SECT5.10.2	IRD-EMC-R01	The SPIRE instrument grounding shall comply with the SPIRE Instrument Grounding Philosophy Document	SPIRE-RAL-PRJ-000852	SPIRE-RAL-NOT-002853			Yes	
IID-BSECT5.11	IRD-WE-R18	S/C Interface	SPIRE-RAL-DOC-001652	SPIRE-RAL-REP-002838	H-P-RP-AI-0170		Yes	
IID-B-SECT5.16	IRD-INST-R14	The SPIRE instrument shall provide the instrument models as specified	N/A	N/A			Yes	



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IID-B-SECT5.4	IRD-WE-R34	Volume	SPIRE-SAP-DOC-002796 SPIRE-CGS-DOC-002738	SPIRE-SAP-DOC-002796	SPIRE-CGS-DOC-002738		Yes	
IID-B-SECT5.5	IRD-SUBS-R03	All subsystems are required to be within the mass allocation given in RD8	SPIRE-RAL-DOC-002780	SPIRE-RAL-DOC-002780			Yes	
IID-B-SECT5.5	IRD-WE-R33	Mass	SPIRE-SAP-DOC-002796 SPIRE-CGS-DOC-002738	SPIRE-SAP-DOC-002796	SPIRE-CGS-DOC-002738		Yes	
IID-B-SECT5.9.1	IRD-STRP-R10	Photometer Box Temperature	SPIRE-RAL-MEM-002563 SPIRE-RAL-MEM-002722	SPIRE-RAL-REP-002557	SPIRE-RAL-REP-002784		Yes	
IID-B-SECT5.9.1	IRD-COOL-R13	Time averaged thermal load onto He bath for 48 hour cycle	SPIRE-RAL-MEM-002563 SPIRE-RAL-MEM-002722 SPIRE-RAL-NOT-002211 SPIRE-RAL-DOC-002535 Test schedules	SPIRE-RAL-REP-002557	SPIRE-RAL-REP-002784		Yes	
IID-B-SECT5.9.1	IRD-CALS-R09	Power dissipation in the focal plane	SPIRE-RAL-DOC-001652 SPIRE-RAL-NOT-002211 SPIRE-RAL-DOC-002535 Test schedules	SPIRE-UCF-REP-002568			Yes	
IID-B-SECT5.9.1	IRD-CALP-R12	Cold power dissipation	SPIRE-RAL-DOC-001652 SPIRE-RAL-NOT-002211 SPIRE-RAL-DOC-002535 Test	SPIRE-UCF-REP-002567			Yes	



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			schedules					
IID-B-SECT5.9.1	IRD-STRP-R09	Thermal isolation	SPIRE-RAL-MEM-002563 SPIRE-RAL-MEM-002722 SPIRE-RAL-NOT-002211 SPIRE-RAL-DOC-002535 Test schedules	SPIRE-RAL-REP-002557	SPIRE-RAL-REP-002784		Yes	
IID-B-SECT5.9.1	IRD-SMEC-R11	Maximum thermal load onto level 1 during cold operation - mechanism and cold position measurement system.	SPIRE-RAL-MEM-002563 SPIRE-RAL-MEM-002722 SPIRE-RAL-NOT-002211 SPIRE-RAL-DOC-002535 Test schedules	SPIRE-RAL-REP-002566	SPIRE-RAL-REP-002557	SPIRE-RAL-REP-002722	Yes	
IID-B-SECT5.9.1	IRD-STRS-R09	Spectrometer Box Temperature	SPIRE-RAL-MEM-002563 SPIRE-RAL-MEM-002722	SPIRE-RAL-REP-002557	SPIRE-RAL-REP-002784		Yes	
IID-B-SECT5.9.1	IRD-COOL-R12	Parasitic thermal load onto He bath during cold operation	SPIRE-RAL-MEM-002563 SPIRE-RAL-MEM-002722 SPIRE-RAL-NOT-002211 SPIRE-RAL-DOC-002535 Test schedules	SPIRE-RAL-REP-002557	SPIRE-RAL-REP-002784		Yes	
IID-B-SECT5.9.1	IRD-COOL-R11	Thermal Interface with Herschel cryostat	SPIRE-RAL-MEM-002563 SPIRE-RAL-MEM-002722 SPIRE-RAL-NOT-002211 SPIRE-RAL-DOC-002535 Test schedules	SPIRE-RAL-REP-002557	SPIRE-RAL-REP-002784		Yes	
IID-B-SECT5.9.1	IRD-STRS-R08	Thermal isolation	SPIRE-RAL-MEM-002563 SPIRE-RAL-MEM-002722	SPIRE-RAL-REP-002557	SPIRE-RAL-		Yes	



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			SPIRE-RAL-NOT-002211 SPIRE-RAL-DOC-002535 Test schedules		REP-002784			
IID-B-SECT5.9.1	IRD-STRC-R14	Thermal isolation	SPIRE-RAL-MEM-002563 SPIRE-RAL-MEM-002722 SPIRE-RAL-NOT-002211 SPIRE-RAL-DOC-002535 Test schedules	SPIRE-RAL-REP-002557	SPIRE-RAL-REP-002784		Yes	
IID-B-SECT5.9.1	IRD-STRC-R13	Electrical isolation from Herschel	SPIRE-RAL-NOT-002318	SPIRE-RAL-NOT-002318			Yes	
IID-B-SECT5.9.1	IRD-FTB-R12	L3 Thermal Strap	SPIRE-RAL-MEM-002563 SPIRE-RAL-MEM-002722 SPIRE-RAL-NOT-002211 SPIRE-RAL-DOC-002535 Test schedules	SPIRE-RAL-REP-002557	SPIRE-RAL-REP-002784		Yes	
IID-B-SECT5.9.1	IRD-FTB-R11	JFET Thermal isolation	SPIRE-RAL-MEM-002563 SPIRE-RAL-MEM-002722 SPIRE-RAL-NOT-002211 SPIRE-RAL-DOC-002535 Test schedules	SPIRE-RAL-REP-002557	SPIRE-RAL-REP-002784		Yes	
IID-B-SECT-5.9.1	IRD-FTB-R05	Dissipation	SPIRE-RAL-DOC-001652 SPIRE-RAL-MEM-002563 SPIRE-RAL-MEM-002722 SPIRE-RAL-NOT-002211 SPIRE-RAL-DOC-002535 Test schedules	SPIRE-RAL-REP-002557	SPIRE-RAL-REP-002784		Waiver	HR-SP-RFW-005.1



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IID-B-SECT-5.9.1	IRD-BSMP-R12	Cold power dissipation	SPIRE-RAL-MEM-002563 SPIRE-RAL-MEM-002722 SPIRE-RAL-NOT-002211 SPIRE-RAL-DOC-002535 Test schedules	SPIRE-RAL-REP-002565	SPIRE-RAL-REP-002557	SPIRE-RAL-REP-002784	Yes	
IID-B-SECT5.9.3	IRD-WE-R35	Power	SPIRE-RAL-DOC-001652 SPIRE-RAL-NOT-002211 SPIRE-RAL-DOC-002535 Test schedules	SPIRE-RAL-REP-002838	H-P-RP-AI-0170	PFM Test Report	Yes	
IID-B-SECT5.9.5	IRD-WE-R18	S/C Interface	SPIRE-RAL-DOC-001652	SPIRE-RAL-REP-002838	H-P-RP-AI-0170		Yes	
IID-B-SECT9	IRD-VER-R01	The SM verification testing shall demonstrate that the proposed structure design is capable of meeting the mechanical environmental conditions specified for the Herschel launch. The SM vibration shall be used to verify the stiffness and strength of the structure and verify the mechanical and thermal transfer functions between the various parts of the cold focal plane units and the Herschel satellite.	SPIRE-RAL-DOC- 002165	SPIRE-RAL-DOC-002165			Yes	
IID-B-SECT9	IRD-INST-R15	The instrument units are required to undergo an environmental test programme that demonstrates the design and build standard of the flight model is compatible with the launch and operational environment of the Herschel satellite.	SPIRE-RAL-PRC-002597 SPIRE-RAL-PRJ-000852 SPIRE-RAL-MEM-002563 SPIRE-RAL-MEM-002722	SPIRE-MSS-REP-002824	SPIRE-RAL-NOT-002853	SPIRE-RAL-REP-002784	System Level	



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List of Relevant Documents:

Table 2 is a report from the verification database of the numbers and descriptions of the test procedures and reports used throughout the SPIRE verification matrix. Where documents are missing or not written there is a comment in the **Description** column. The list is displayed in alphanumeric order of the document number.

PFM Verification Documents		
Document Number	Name	Description
HP-2-ASED-TP-0110	As run STM-2 Straylight Procedures	ASED master procedure marked up during STM-2 testing at Estec. Contained within test report HP-2-ASED-TR-0167.
H-P-RP-AI-0170	Herschel Instruments AVM Test Report (PACS, SPIRE, HIFI, VMC)	Test report on the basic communications test carried out at Alenia using QM DPU and AVM Service Module
MSSL/SPIRE/SP011.04	Structure assembly, integration and handling procedure	Mechanical integration procedure for the SPIRE FPU and the subsystems into the FPU
MSSL/TECHNOTE/SPIRE/21	STM Warm Vibration Report	Report on the warm vibration test carried out at RAL on the FPU STM model
PFM Test Report	Summary of all the testing during PFM Campaigns	TO BE WRITTEN (BMS) Sweeps up all the system level stuff not reported in individual test reports
SPIRE-CGS-DOC-002738	DPU PFM EIDP	Contains marked up versions of the mechanical interface drawing as verification of the interface compatibility
SPIRE-LAM-PRJ-001842	Optical Alignment Procedure	Comprehensive procedure for alignment during integration of optics up to cold alignment verification
SPIRE-MSS-REP-002824	PFM vibration test report	Describes the results of the acceptance vibration test on the PFM
SPIRE-RAL-DOC- 002165	SPIRE CQM Qualification Matrix	Summary chart of the qualification tests carried out on the SM and CQM FPU models - refer to this for procedures and reports
SPIRE-RAL-DOC- 002830	SPIRE PFM FPU Mechanical interface verification	This document reports on the measurements taken on the SPIRE PFM FPU and JFETS wrt to the interface drawings
SPIRE-RAL-DOC-001652	SPIRE Functional Tests Specification	Describes functional tests carried out at ILT
SPIRE-RAL-DOC-002535	SPIRE FM Calibration and Performance Test Plan	Overarching test plan for PFM 4 performance and calibration campaign - also applicable to PFM 5
SPIRE-RAL-DOC-002720	SPIRE AOT Test Plan	Describes the test procedures for the ground operations tests of the SPIRE AOTs



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PFM Verification Documents

Document Number	Name	Description
SPIRE-RAL-DOC-002780	SPIRE PFM mass properties summary	Summary of the mass properties of the big bits of SPIRE with references to the detailed measurements.
SPIRE-RAL-DOC-002825	SPIRE qualification matrix Warm Units	Summary chart of the qualification tests carried out on the pre flight DPU; FCU and DCU models - refer to this for procedures and reports
SPIRE-RAL-MEM-002563	SPIRE PFM3 Thermal Balance Test Specification	Describes the tests to be carried out during the PFM 3 campaign for thermal verification of SPIRE at instrument level.
SPIRE-RAL-MEM-002722	PFM4 thermal test specification	Describes the tests to be carried out during the PFM 4 campaign for thermal verification of SPIRE at instrument level
SPIRE-RAL-NOT-001850	Performance Test Details for CQM Post Vibration Test	Description of the tests carried out on the CQM instrument specifically for the performance aspects of the instrument test.
SPIRE-RAL-NOT-002211	PFM1 Performance Test Details	Details tests to be carried out during the PFM 1 test campaign - also applicable to PFM2; PFM3 and PFM4
SPIRE-RAL-NOT-002318	PFM Electrical Interface Checkout (Spreadsheet)	Details both procedure and results of the electrical checkout of the PFM during all phases of the instrument integration
SPIRE-RAL-NOT-002853	EMC Test Summary	An overview report on the various EMC campaigns carried out on the various SPIRE models and configurations
SPIRE-RAL-NOT-002876	SPIRE Alignment data summary	Report against alignment procedure summarising results and interface data
SPIRE-RAL-PRC-002597	PFM workmanship cold vib test plan	Plan describing the vibration tests carried out on the PFM FPU
SPIRE-RAL-PRJ-000852	SPIRE EMC Control Plan	Describes the satellite payload, instrument and the sub-system level
SPIRE-RAL-REP-002083	CQM Cold Test 1 Performance Test Report	Report on the performance tests carried out during the first SPIRE CQM instrument level testing
SPIRE-RAL-REP-002557	Thermal Performance	Report on the thermal performance of the SPIRE instrument following the PFM 3 test campaign
SPIRE-RAL-REP-002564	Instrument Throughput	Report on the overall throughput performance of the photometer and spectrometer - to be updated following PFM 4
SPIRE-RAL-REP-002565	BSM Performance	Report on the performance of the BSM against IRD requirements following PFM 2



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SPIRE IID-B Requirements Verification Matrix
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PFM Verification Documents

Document Number	Name	Description
		and PFM 3 - to be updated following PFM 4
SPIRE-RAL-REP-002566	SMEC and Spectrometer Performance	Report on the overall performance of the spectrometer and the Spectrometer mechanism against IRD requirements - to be updated following PFM 4
SPIRE-RAL-REP-002572	Optical Performance	Summary report of SPIRE optical performance against IRD requirements from PFM 1; PFM 2 and PFM 3. To be updated following PFM 4.
SPIRE-RAL-REP-002711	Test report on the AVM Verification	Outgoing test report on the AVM DPU plus Simulator - part of the AVM EIDP in SPIRE-RAL-DOC-001533 "AVM2 inc simulator"
SPIRE-RAL-REP-002719	PFM3 AOT Test Report	Summary report of AOT testing during PFM3. Separate report will be issued following PFM 4 and PFM 5.
SPIRE-RAL-REP-002784	PFM4 Thermal Test Report	Report on the thermal testing carried out during PFM 4 - update on the PFM3 test report (SPIRE-RAL-REP-002557 q.v.)
SPIRE-RAL-REP-002799	Report on analysis of STM-2 straylight testing	Report on the results of straylight testing carried out using SPIRE CQM instrument in the flight Herschel cryostat
SPIRE-RAL-REP-002838	PFM5 Cold Functional Test Report	Report of the cold functional test carried out at instrument level before delivery (8/3/2007)
SPIRE-RAL-REP-002858	Warm units mechanical interface summary	Table pointing to interface documents and outgoing inspection reports for all SPIRE warm units summarising compliance with interfaces
SPIRE-RAL-REP-002864	PFM5 Warm Functional Test Report (prime)	Report on the pre-delivery warm functional test carried out at instrument level
SPIRE-RAL-REP-002865	SPIRE FM DRCU ACCEPTANCE TEST REPORT	Report of DPU+DRCU+FPU simulator test carried out as part of the incoming inspection and integration
SPIRE-RAL-REP-002948	SPIRE FPU EXTERNAL ALIGNMENT REPORT	Summary of data required to determine SPIRE position following integration with Herschel
SPIRE-RAL-REP-002961	SPIRE ILT AOT Test Report	This document records the status of the AOT testing at the conclusion of the FM Instrument-Level Test programme
SPIRE-SAP-DOC-002796	DRCU PFM EIDP	Contains marked up versions of the mechanical interface drawings as verification of the interface compatibility



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SPIRE IID-B Requirements Verification Matrix
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PFM Verification Documents

Document Number	Name	Description
SPIRE-UCF-REP-002567	PCAL Performance	Report on the performance of the photometer calibrator during PFM3 - to be updated following PFM 4 and PFM 5
SPIRE-UCF-REP-002568	SCAL Performance	Report on the performance of the spectrometer calibrator during PFM3 - to be updated following PFM 4
SPIRE-UCF-REP-002571	Bolometer Array Performance: Summary	Summary report of the detector and JFET performance against IRD requirements from PFM 2 and PFM 3 test campaigns - to be updated following PFM 4 and PFM 5
Test schedules	PFM 2 Performance Test Schedule; PFM 3 Performance Test Schedule V6; PFM4 Plan B; PFM 5 Plan	As executed test schedules in the form of Excell spreadsheets detailing what was to be done during test campaigns