



**MINUTES OF MEETINGS
(MoM)**

**PRODUCT ASSURANCE
Space Science and Technology
Department**

Subject / Title:	SPIRE NRB (ECR, NCR, RFW)	Document No:	SPIRE-RAL-MoM-002462v1	Date	14 July 2005	Page 1 of 12
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Spacecraft / Project	Herschel / SPIRE	Meeting Place	Spire Project room
Instrument / Model	Spire / all	Subsystem	

Participants		Agenda
<i>Print Name & Company</i>	<i>Signature Required</i>	
RAL Eric Clark		Review OPEN <ul style="list-style-type: none"> • ECR's • NCR's • RFW's
RAL Eric Sawyer		
RAL Ken King	Unable to attend	
RAL Bruce Swinyard		
RAL Doug Griffin	Attended intermittently	
RAL Dave Smith		
<i>Company</i>		
<i>Company</i>		Additional Distribution Spire Project office
<i>Company</i>		
<i>Company</i>		

ECR Serial Code	ECR No	Subsystem	Assembly	Part	Issue Date	Description of Change	Title	Originator Name	Comments
HR-SP-JPL-ECR-	4	JFET	Back Harness		29-Sep-03	RAL requires an ECR changing the mean mass of JFET modules from 305 to 260 grams and the mass of 10209784 from 110grams (specification) to 205 grams (measured) and the masses of 10209785/6 from 165 grams (specification) to 270 grams (measured).	Back Harness Cable Mass	Martin Herman	Accepted By SPIRE ECR Closed
HR-SP-JPL-ECR-	5		10209800 -2 and -3		19-Jan-04	Kapton cable right (10217705) was designed for a length of 73.93mm and Kapton cable left (10209824) was designed for a length of 68.87mm. This length designation forces the shorter cable to route into connector positions J01 and J02 on the 10209820 and 1	300mk Stage Assembly-BDA Kapton cable routing design error	Anthony Turner	Accepted By SPIRE ECR Closed
HR-SP-JPL-ECR-	6	FPU	JFET		08-Nov-04	The Business agreement calls for JPL to deliver eight (8) flight worthy JFET modules.	Modification of JFET Flight Spare Delivery in Business Agreement	Martin Herman	Accepted By SPIRE ECR Closed
HR-SP-LAM-ECR-	1	LAM	SMEC		04-Feb-03	See ECR	SMECm maximum speed	D Pouliquen	BS To Check
HR-SP-MSSL-ECR-	3	MSSL	Hob simulator		14-Jan-04	MSSL would like to add 4 off fixing holes into the HOB plate to secure it into the transit case. They are four diameter 8.5 mm holes, positions as shown in Figure 1.	Holes for Securing in Transportation Container	C Brockley-Blatt	Accepted By SPIRE ECR Closed
HR-SP-MSSL-ECR-	6	MSSL	Detector Box	Feet	14-Sep-04	During the CQM-II programme, while the instrument was being integrated into the cryostat, a hard short was found between the phot. analogue ground and the chassis of the FPU. The instrument was removed from the cryostat and the instrument was carefully de	Electrical isolation of the detector box feet	C Brockley-Blatt	OPEN EC to Check Status with CBB
HR-SP-MSSL-ECR-	7	MSSL	Thermal Straps		17-Sep-04	The original gold plating specification was a mil spec that required a layer of nickel to be placed on the copper before the gold. It is better thermally if the layer wasn't there, based on recommendations from RAL thermal team.	Change to Gold Plating specification	C Brockley-Blatt	OPEN EC to Check if drawing have been updated with CBB

ECR Serial Code	ECR No	Subsystem	Assembly	Part	Issue Date	Description of Change	Title	Originator Name	Comments
HR-SP-RAL-ECR-	13	IID-B			19-Nov-01	Matters needing adding to IID-B	Further SPIRE IID-B UPDATES, based on points JD25, 29,30 and 31, from even earlier information	J Delderfield	ES to Check
HR-SP-RAL-ECR-	15	Cryostat			23-Nov-01	A KF25 port should be mounted on the cryostat lid adjacent to the Lhe and LN2 fill tubes.	Addition of port for vacuum pressure gauge head	Dave Smith	All Actions Completed ECR Closed
HR-SP-RAL-ECR-	34	HSFPU	300mk Straps		07-Oct-02	Ohmic insulation needs to be introduced into the 300mk cooling straps, one in the spectrometer branch and one in the Photometer. Capacitance is < 30pf	Implementation of Grounding review 1 ECR of 3.	J Delderfield	ES to Check
HR-SP-RAL-ECR-	35	HSFPU	1.8K box mountings		07-Oct-02	Ohmic insulation needs to be introduced between the 1.8K boxes and the HSFPU outer chassis for the spectrometer and photometer. This permits the boxes and the BDA environs internal to them to be joined to quiet bias ground and linked to the HSFPU Faraday	Implementation of Grounding review 2 ECR of 3. 1.8K box mountings	J Delderfield	ES to Check
HR-SP-RAL-ECR-	38	MGSE	Trolley		10-Oct-02	See ECR insufficient space to record it here	MGSE Trolley modifications	Dave Smith	All Actions Completed ECR Closed
HR-SP-RAL-ECR-	39.1	GSE	Spire Test Harness		12-Nov-02	See ECR insufficient space to record it here	Implementation of grounding review, flight cryoharness	J Delderfield	All Actions Completed ECR Closed
HR-SP-RAL-ECR-	54		Mechanical mountings		13-May-03	See ECR	Improved Mounting Thermal Insulations	J Delderfield	All Actions Completed ECR Closed
HR-SP-RAL-ECR-	55				24-Jul-03	Addition of bosses to allow for the fixing of the SMEC preamp card.	SPIRE SOB Modifications for SMEC Preamp card	Chris Brokley-Blat	All Actions Completed ECR Closed
HR-SP-RAL-ECR-	59				24-Jul-03	Awaiting return of completed ECR form	SPIRE HDD Update from 1.1 to 1.2"	D Griffin	Superseded by v1.3 HDD ECR Closed
HR-SP-RAL-ECR-	60	MGSE	HOB Simulator		14-Aug-03	Double up thermal link holes on HOB simulator as marked on attached sheet. The hole centres should be 20mm from the existing holes as marked.	Additional Holes for HOB Simulator	Dave Smith	All Actions Completed ECR Closed

ECR Serial Code	ECR No	Subsystem	Assembly	Part	Issue Date	Description of Change	Title	Originator Name	Comments
HR-SP-RAL-ECR-	61	FPU	Spectrometer detector box	L0 strap interface	06-Aug-03	Please change the interface between the L0 strap and the spectrometer box to be 2xM4 screws as per the cooler. If possible on CQM, but definitely on FM	Spectrometer box L0 interface	Eric Sawyer	All Actions Completed ECR Closed
HR-SP-RAL-ECR-	62	300mk plumbing	300mk cooler		14-Aug-03	Make this a Metal to Metal instead of Glued Joint. CQM Parts to come to RAL unjoined. Ideally FM part remade as one solid bit without facility for this joint. Keep existing parts as backup	Delete 300mK cooler to photometer detector ground isolation	John Delderfield	ES to Check
HR-SP-RAL-ECR-	63	FPU			03-Sep-03	Content Update	Update values in table to those in the latest SPIRE TMM	John Delderfield	ES to Check
HR-SP-RAL-ECR-	64	HS_FCU			14-Jan-04	See ECR	Change of position of connectors and bonding stud on HS_FCU	John Delderfield	I/F Drawings Updated ECR Closed
HR-SP-RAL-ECR-	65.2	IID-B Drawing pack updates			24-Mar-04	See ECR	ECR to track update.	John Delderfield	Completed updated in v3.3 IIDB. ECR Closed
HR-SP-RAL-ECR-	66	MCU	BSM Motor Drives		29-Mar-04	Increase the MCU maximum BSM motor drive current drive capacity from 50mA to 60mA	BSM Motor Drive max current increase from 50mA to 60mA	Doug Griffin	Send to DP LAM for signature
HR-SP-RAL-ECR-	67	DRCU	DCU and SCU		22-Mar-04	The specification for the DCU set out in the BDA SSSD need to be updated in the light of experience gained with the QM1 system and the need to more tightly specify the requirements for the photometer thermal control system. The attached spreadsheet cont	Changes to DCU Specification in BDA-SSSD	Bruce Swinyard	BS To Check
HR-SP-RAL-ECR-	68	IID-B			21-Apr-04	The IID-B drawing pack is tidied up as per its change lists: Spire lifting jig for our Cryogenic units now included as promised: Annex file posted on Astrium and Alcatel FTP	ECR to Track update	J Delderfield	Completed updated in v3.3 IIDB. ECR Closed

ECR Serial Code	ECR No	Subsystem	Assembly	Part	Issue Date	Description of Change	Title	Originator Name	Comments
HR-SP-RAL-ECR-	69	FPU	Detector Boxes	Thermal Interface	04-May-04	The copper to aluminium interfaces are likely to give poor and unreliable thermal performance. A recent review meeting suggested that all aluminium interfaces be exchanged for large area bonded, gold plated copper to aluminium. This will give higher and	Level 0 and 2K thermal interfaces	J Delderfield	All Actions Completed ECR Closed
HR-SP-RAL-ECR-	70	All		DML / DPL	07-May-04	Add two columns to the DML one for "Project Approval", and one for "ESA Approval" Add two columns to the DPL one for "Project Approval", and one for "ESA Approval"	Changes to format of Declared Lists	Eric Clark	Superceded ESA now want combined Lists, ECR Closed
HR-SP-RAL-ECR-	71	IID-B		Iss 3.2 to 3.3	13-May-04	When including Eric Sawyer, Instrument Manager, as a main ESA contact it was not intended that Ken King, Project (and consortium) Manager should be deleted.	Remedying unintentional deletion	J Delderfield	Completed updated in v3.3 IIDB. ECR Closed
HR-SP-RAL-ECR-	72.2	IID-B		Issue 3.2 to 3.3	24-May-04	See ECR	Updating Spire S/C Clock change documentation.	J Delderfield	Completed updated in v3.3 IIDB. ECR Closed
HR-SP-RAL-ECR-	73	FPU		L1 Thermal Interface	19-May-04	A copper strip to be bonded onto the FPU at the existing Level 1 interface. Deletion of the Kapton film electrical isolation at the vent line end of the L1 strap.	Level 1 thermal interface	Eric Sawyer	All Actions Completed ECR Closed
HR-SP-RAL-ECR-	74	IID-B		Issue 3.2 to 3.3	07-Jun-04	Information now available from 17-PSU ICDE iss 01 rev 00.pdf	Include HSFCU Power Input Interface Circuit	J Delderfield	Completed updated in v3.3 IIDB. ECR Closed
HR-SP-RAL-ECR-	76	DRCU			13-Jul-04	The (A) Harness Definition Document Issue 1.1 and the (B) DRCU / DPU INTERFACE CONTROL DOCUMENT SPIRE-SAP-PRJ-001324 Issue 1.1 need to be updated to swap the commands for the Pump HS Heater and Evaporator HS Heater. In detail For the DRCU/DPU EICD, the	Swapping of commands for Cooler HS Heaters	Doug Griffin	Check with Sunil

ECR Serial Code	ECR No	Subsystem	Assembly	Part	Issue Date	Description of Change	Title	Originator Name	Comments
HR-SP-RAL-ECR-	77	Structure			29-Jul-04	The PFM (and eventually the CQM/FS) Photometer detector box inner and outer covers need to be modified to allow for the attachment of the Black tiles. The Modifications are detailed in: Figure 12 – SPIRE-RAL-NOT-001816 Issue 1.0 16/07/04, and Figure	Modifications to SPIRE Structure to accommodate Black Tiles	Doug Griffin	ES to Check
HR-SP-RAL-ECR-	78	Cooler			27-Aug-04	It is planned to fill the cooler to a higher pressure than the nominal 80 bar pressure. The new pressure to be between 80 and 90 bar.	Overfill cooler to between 100 - 110%. of nominal	Eric Sawyer	Send to Lionel for signature
HR-SP-RAL-ECR-	79	JFP I/F	Interface	Carbon fibre feet	20-Aug-04	The changes in the design to improve reliability of electrical isolation need to be documented	Electrical short on JFP I/F	Doug Griffin	OPEN JD to add note to Assy Drawings
HR-SP-RAL-ECR-	80			PTC I/F	29-Sep-04	The 1/8" section of the Photometer 300-mK strap which passes through the Phot. Stray-Light Baffle needs to be modified in order to accommodate the JPL PTC 300-mK Hardware. The drawings/parts list for the Phot. Stray-Light Baffle needs to be updated to inc	300-mK Mechanical I/F for PTC	Doug Griffin	All Actions Completed ECR Closed
HR-SP-RAL-ECR-	82	MSSL	HOB Simulator		14-Jan-04	MSSL would like to add 4 off fixing holes into the HOB plate to secure it into the transit case. They are four diameter 8.5 mm holes, positions as shown in Figure 1.	Electrical Short on Cooler Strap	Doug Griffin	All Actions Completed ECR Closed
HR-SP-RAL-ECR-	83	MSSL	300mk strap		14-Sep-04	The clearance between the Phot. and Spect. 300-mK straps and the metallic sphere covering the Cooler Evaporator was found to be exceeding small. The risk from a 4K to 300mK thermal short is too high.	300-mK strap clearance at cooler cold-tip	Doug Griffin	ES to Check

ECR Serial Code	ECR No	Subsystem	Assembly	Part	Issue Date	Description of Change	Title	Originator Name	Comments
HR-SP-RAL-ECR-	84	MSSL			14-Sep-04	RAL to carry out metrology on existing Detector box supports. MSSL to carry out metrology on CFRP Detector box supports. This will give a limit to the thickness of electrical isolation allowable on PFM MSSL to select & implement an isolating material w	Electrical Short on Photometer Detector Box Feet	Doug Griffin	Closed ref ECR 035
HR-SP-RAL-ECR-	85	HDD			21-Feb-05	SPIRE-RAL-PRJ-000608 raised to issue 1.2	Update to Harness Definition Document	Eric Sawyer	OPEN

NCR Serial Code	NCR No	Level	Subsystem	Assembly	Part	Model	Issue Date	Title	Action	Comments
HR-SP-JPL-NCR-	6	Major	JFET's			PFM	31-May-05	Yield Degradation of JFET Module	Preliminary NRB held during JPL Weekly telecon of 31-May-2005 . (See attached)	OPEN
HR-SP-JPL-NCR-	7	Minor	BDA	PMW and PSW		PFM FS	01-Jul-04	PMW and PSW focal position shift	Use as Is	Accepted by SPIRE
HR-SP-RAL-NCR-	59	Minor	Cryostat	FPU	DCU J28	GSE	21-Jan-04	Ground Short on DCU J28 LIA-5 connector	see NCR	All corrective actions completed NCR Closed
HR-SP-RAL-NCR-	60	Minor	Cryoharnesses	FPU Faraday shield jumper	socket S5	GSE	22-Jan-04	Open circuit on FPU Faraday Shield Link Jumper on S5	Reworked at TEKDATA	All corrective actions completed NCR Closed
HR-SP-RAL-NCR-	67	Minor	FPU			PFM	07-Apr-04	Hole Miss-alignment	As yet undetermined	OPEN
HR-SP-RAL-NCR-	84.1	Minor	Cryostat	Thermal Straps		GSE	21-Dec-04	Facility Heater failure on L0 Thermal Straps during cool down		DS To Complete
HR-SP-RAL-NCR-	86.1	Minor	Cryostat		Temp sensors	GSE	21-Dec-04	Temp sensor failure During cool down		OPEN
HR-SP-RAL-NCR-	87	Major	JFET's			CQM	18-Oct-04	One JFET Turned on one did not during 2nd cold test.	Spare JFETS sent to replace damaged JFETS and the damaged JFET's returned to JPL for investigation	OPEN
HR-SP-RAL-NCR-	89	Minor	Cryostat			GSE	21-Oct-04	Cooler hold time anomaly	TBD	All corrective actions completed NCR Closed
HR-SP-RAL-NCR-	90	Minor	Cryostat		Harness	GSE	18-Oct-04	Electrical Short on SPIRE Cryostat Harness	Update master procedure for PFM-I test to monitor grounding configuration carefully during every stage of instrument integration and test.	All corrective actions completed NCR Closed
HR-SP-RAL-NCR-	91	Minor	FPU	PCAL		CQM	10-Nov-04	Drive shorted to shield in FPU	USE as is for CQM, leave OPEN for PFM	Check with DG
HR-SP-RAL-NCR-	92.2	Major	FPU/JFP/JFS			PFM CQM	12-Jan-05	SPIRE EQM Electrical Interface Bench Test Anomalies	USE as is for CQM, leave OPEN for PFM	Part of normal check therefore not required to leave open for PFM NCR Closed
HR-SP-RAL-NCR-	93	Minor	S-CAL Box			PFM	30-Nov-04	S-Cal Box Blacking behind SM8B"	Use as is note disposition on PFM ABCIDL	OPEN

NCR Serial Code	NCR No	Level	Subsystem	Assembly	Part	Model	Issue Date	Title	Action	Comments
HR-SP-RAL-NCR-	96	Major	FPU			PFM CQM	13-Dec-04	L1 electrical short	The cause of the short to be investigated. This short must be rectified before integration onto the EQM as it will compromise the SPIRE grounding scheme and could seriously effect the EMC testing.	All corrective actions completed NCR Closed
HR-SP-RAL-NCR-	97	Minor	SFIL			PFM	20-Dec-04	SFIL COLD STOP insert came out of Housing	Refit Insert	All corrective actions completed NCR Closed
HR-SP-RAL-NCR-	98	Minor	SLW SSW harness plate			PFM	20-Dec-04	LOCATION DIAMETER TO SMALL	Open bores out to 25.00mm	All corrective actions completed NCR Closed
HR-SP-RAL-NCR-	99	Minor				PFM	22-Dec-04	Bores on the photometer harness connector plate need re-machining	Holes opened out to 25.10mm diameter	All corrective actions completed NCR Closed
HR-SP-RAL-NCR-	100	Minor	BDA			PFM	25-Jan-05	Damage to PFM SSW BDA J06 and PFM F14 P06 Pin 26	For PFM-I test campaign – Temporary fix as per Figure 4 and Figure 5 For PFM-II – TBD but as of 25-Jan-2005 the likely scenario is to remove the Nanonics connector from the harness assembly and re-terminate this connector	Harnesses Modified by Tekdata DG to Add Details to NCR
HR-SP-RAL-NCR-	101	Minor	SSW BDA		J06 / P06	PFM	27-Jan-05	Damage to PFM F14 JFS-P12 (Pin 1)	Straighten pin see remarks	All corrective actions completed NCR Closed
HR-SP-RAL-NCR-	102	Minor	JFS			PFM	31-Jan-05	Incorrect labeling of connectors of JFS J11, J12, J13 and J14	Use as is for PFM-1 and re-work for PFM-II	All corrective actions completed NCR Closed
HR-SP-RAL-NCR-	103	Minor	BSM			PFM	31-Jan-05	Inconsistent BSM position sensor signal polarity	Connector rewired	DG to Add Details to NCR then it can be closed

NCR Serial Code	NCR No	Level	Subsystem	Assembly	Part	Model	Issue Date	Title	Action	Comments
HR-SP-RAL-NCR-	104	Minor	JFS	PTC		FS	31-Jan-05	Ground short on PTC	Use Flight Spare SN 002 on PFM Model and return faulty PTC SN 003 to JPL for investigation.	JPL need to sign off
HR-SP-RAL-NCR-	105	Major	MCU	CQM1		QM1 CQM	03-Feb-05	Simultaneous generation of BSM and SMEC frames leads to Frame ID error reports		Check with Sunil
HR-SP-RAL-NCR-	106	Minor	FPU			PFM	03-Feb-05	Electrical short between FPU and Cryostat Chassis	Ref SPIRE LOG 5/02/05 & 7/2/05 isolated to short in SMEC	All corrective actions completed NCR Closed
HR-SP-RAL-NCR-	107	Minor	Warm Electronics	DCU/SCU	DC Thermometry	PFM	03-Mar-05	Dynamic range of SCU thermometry not matched to flight thermometers	ADC ranges for later models to be set to match the actual flight model temperature/resistance characteristics. QM1 to be modified to allow SCAL 2% and 4% temperatures to be measured up to 80K.	CEA provided Procedure to rework Board. Chris Eley Carried out the procedure and problem was fixed. NCR Closed
HR-SP-RAL-NCR-	108	Major				PFM	11-Mar-05	Autonomous Shut Down of LIAs		DS To Complete
HR-SP-RAL-NCR-	110	Major	MCU			PFM 1	19-Apr-05	Large noise spikes observed on the science data from the MCU	The MCU DSP was reprogrammed by Didier Ferrand during PFM1 test campaign and the noise spikes disappeared, even with housekeeping generation on.	Software Fix implemented send to LAM for details to be added
HR-SP-RAL-NCR-	111	Minor				GSE	19-Apr-05	Vacuum Gauge failure		DS To Complete
HR-SP-RAL-NCR-	112	Minor				GSE	19-Apr-05	Faulty Regulator		DS To Complete
HR-SP-RAL-NCR-	113		Cold Black Body			PFM 1	19-Apr-05	Cold Black body		Chase PH at UCF
HR-SP-RAL-NCR-	114	Minor				GSE	19-Apr-05	Air Leak		DS To Complete
HR-SP-RAL-NCR-	115		Software			PFM 1	19-Apr-05	The TFTS rejected all commands from SCOS during PFM1 testing		Check with Sunil

NCR Serial Code	NCR No	Level	Subsystem	Assembly	Part	Model	Issue Date	Title	Action	Comments
HR-SP-RAL-NCR-	116		BSM & MCU			PFM 1	19-Apr-05	BSM and MCU Oscillations		DG to Complete
HR-SP-RAL-NCR-	117		Software			PFM 1	19-Apr-05	Anomalous HK Parameter Values are observed during DCU science generation at some bias and sampling frequencies		Check with Sunil
HR-SP-RAL-NCR-	118		Software			PFM 1	19-Apr-05	Separate Switch on commands for DRCU, MCU, SPEC & PHOT LIA's		Check with Sunil
HR-SP-RAL-NCR-	119		Software			PFM 1	19-Apr-05	The CDMS Simulator clock drifts with respect to system time of computer		Check with Sunil
HR-SP-RAL-NCR-	120					PFM 1	19-Apr-05	PIXEL SWAP		DG to Complete
HR-SP-RAL-NCR-	121					PFM	20-Apr-05	L0 straps fouls on integration due to Slight distortion		ES to complete
HR-SP-RAL-NCR-	122	Minor	PCAL			PFM	20-Apr-05	Failure at incoming inspection due to soldering not to ESA spec.	Rework at RAL	All corrective actions completed NCR Closed
HR-SP-RAL-NCR-	123	Minor	Photo Box			PFM	12-Jul-05	Phot box Black tiles Foul on Dichroics.	For this cool down tiles removed. Tiles to be remade and installed before SPIRE goes to CSL for cold vibration.	OPEN
HR-SP-UCF-NCR-	3	Minor	Light Baffle			PFM	29-Jun-05	Difficulty fitting light baffle to photometer box	See NCR	All corrective actions completed NCR Closed

RFW Serial Code	RFW No	Model	Subsystem	Issue Date	Remarks	Title	Originator Name	Description of Deviation / Discrepancy / Non-Conformance	Approval status	Comments
HR-SP-CEA-RFW-	3	PFM	DRCU	25-Aug-04	Circulated 07/02/05: REF: RFD_CEA_SPIRE_FCU-n12	HSFCU PSU electronic assembly not fully compliant with ECSS-Q-70-08 A	J Fontignie	See RFD	1	ES to Sign
HR-SP-CEA-RFW-	4	PFM	DRCU	17-Aug-04	Circulated 08/02/05: REF: RFD_CEA_SPIRE_FCU-n13	HSFCU : conducted emissions on primary powerlines exceeds IIDA limits	J Fontignie	See RFD	1	Send to ESA
HR-SP-JPL-RFW-	2.1	PFM	BDA	21-Dec-04	Internal only:PMW & PLW to be checked	PFM Bolometer Detective Quantum Efficiency	James Bock	Detective quantum efficiency of bolometer system = (NEPphoton/NEPtotal)^2	4	Accepted by SPIRE RFW Closed
HR-SP-JPL-RFW-	3	CQM & PFM	RF Filter Modules	30-Oct-03	Internal only	RF Attenuation for the RF Filter Modules	Stephen Tseng	The requirement is -40 dB from 0.5 GHz to 3 GHz. For the aforementioned units, there exists a single peak that violates this The table below provides the worst case of the peak value (and frequency):	4	Accepted by SPIRE RFW Closed
HR-SP-JPL-RFW-	7	PFM	BDA	10-Dec-04	Accepted by SPIRE	Thermal Control acceptance vibration tests - Z axis only.	Mark Weilert	Flight acceptance vibration tests on the thermal control units are performed along the z-axis only, instead of 3-axis. (NOTE: the z-axis is parallel to the axis of the 3.18mm diameter thermal bus-bar interface)	1	Accepted by SPIRE RFW Closed
HR-SP-JPL-RFW-	17				Place setting					Place setting
HR-SP-JPL-RFW-	19				Place setting					Place setting
HR-SP-RAL-RFW-	5	PFM	JFETS	21-Apr-05	TBD	Photometer JFET Dissipation	Doug Griffin	See RFW	1	Awaiting ESA
HSO-CDF-RFW-	77	PFM	SCAL	05-Aug-04	Internal only	Request to accept SCal flight candidate "B" as flight model assembly	P Hargrave	See RFW	4	Accepted by SPIRE RFW Closed.
RFD_CEA_SPIRE_DRCU_	14	PFM	DRCU	05-Jan-05	Circulated 8/02/05	HSDCU, HSFCU : conducted susceptibility on signal bundles	J Fontignie	See RFD	1	Accepted by SPIRE RFW Closed. EC to Send to ESA