

Herschel/Planck Project

SPIRE-ESA-MOM-002157

date	3 September 2004	reference	SCI-PT-30365	page	1 / 4
meeting date	03/09/2004	meeting place	Telecon		
chairman	C. Scharmberg				
participants	Bernard Collaudin	ALCATEL	copy	Participants +	
	Guy Doubrovik	ALCATEL		Matt Griffin	
	Horst Faas	ASTRIUM		Bruce Swinyard	
	Eric Sawyer	RAL		Doug Griffin	
	Carsten Scharmberg	ESA		Thomas Passvogel	
				Gerald Crone	
				Peter Oldeman	
				Chris Jewell	
				Flemming Pedersen	
				Goeran Pilbratt	
				Sarah Leeks	

subject **SPIRE Progress Telecon #10**

Agenda

1. Action status of previous SPIRE telecons (MoM: SCI-PT-21435 & SCI-PT-29150)
2. QM/PFM status report.
3. Changes of SPIRE detailed planning w.r.t. previous schedule
4. Status of ILT CQM 2
5. CPPA missing component list
6. Interface Issues (it is assumed, that Alcatel/ASED will provide their action status list prior to the telecon)
 - Inconsistencies of DRCU MICD's, included in SPIRE IID-B w.r.t SVM panel MICD's of IID-A
 - SPIRE to comment on ASED RfW (L3 temperature of SPIRE JFET's in space @15.6K worst case including uncertainties)
7. AOB

1. Action status of previous SPIRE telecons (MoM: SCI-PT-21435 & SCI-PT-27717)

SPIRE Progress Telecon #2 (MoM: SCI-PT-21435 - 29/10/03)

AI#3 SPIRE to issue the Harness Definition Document version 1.2, which will reflect HDD 1.1 plus update according annex 5 of SPIRE IID-B version 3.0 "SPIRE HDD 1.1 Deltas"

SPIRE will update the relevant document "with low priority", because the relevant information is already available within:

- *SPIRE HDD1.1 and*
- *SPIRE HDD 1.1 Deltas (SPIRE-RAL-NOT-001819)*

And will be included in the next IID-B issue.

This open action has been delayed several times since many monthes. It was agreed to get the updated version **AT LATEST** at the IQR Kick-off Meeting.

New due date was agreed to be 16th November 2004

- OPEN -

SPIRE Progress Telecon #9 (MoM: SCI-PT-29150 - 23/07/04)

AI#1 B. Collaudin to answer by email who at ASP side will be the contact person to address construction guidelines for the warm interconnecting harness

Bernard promised to clarify immediately after this telecon

(Due date: 3rd September 2004)

- OPEN -

AI#2 SPIRE to answer on ASED email HP-ASED-EM-0564-04 (LOU baffle design) from 25.06.2004 (Due date: 30th July 2004)

Action closed by email from Bruce Swinyard 26/07/2004, however, the issue of the LOU baffle design is not yet closed

- CLOSED -

SPIRE Actions Status List from previous Interface Meeting has been updated during this telecon (Annex #3).

2. CQM/PFM status report.

The status of CQM, Warm electronics, PFM, AIV and schedule was presented by Eric in a power point file provided prior to the telecon to all participants (Annex #1).

CQM:

After initial problems with ground shorts in the instrument test harness, which delayed the start of the 2nd cold verification at RAL, SPIRE is currently in the test chamber. Cool down will start on Saturday, 4th September, followed by thermal and performance tests. SPIRE explained, that the performance part of the ILT CQM2 will be quite similar to the corresponding performance test performed during ILT CQM1. SPIRE FPU is expected to be out of the test chamber mid of October. Program schedule still compliant with November delivery to Astrium.

PFM:

Because the FM cooler will be late w.r.t. system needs, one option to save time is to interrupt the cooler qualification test, by using the cooler at RAL for initial FPU PFM tests, before proceeding with the qualification program.

SPIRE reported the SMEC schedule getting a serious issue. SMEC CQM (current delivery date is October 2004) will be used in the early phase of SPIRE PFM program. In parallel the SMEC qualification will be done with SMEC DM. Cold vibration in November 2004.

DPU situation is still uncertain. DPU software version, available at RAL has worked well during ILT CQM1.

SPIRE pointed out, that in the timeframe between mid November 2004 (CQM delivery to Astrium) and end of Februar 2005 (DRCU QM2 delivery to SPIRE) the DRCU QM1 which is supposed to be delivered together with the CQM FPU, is also needed at RAL to support the PFM program.

Real need dates at Astrium side has to be agreed with industry during next AIT Meeting on 9th September.

Astrium stated, that probably HIFI will be invited to the next SPIRE AIT Meeting (09/09/04).

[AI#1 Astrium to clarify and send out the final agenda. \(Due date: 7th September 2004\)](#)

3. Changes of SPIRE detailed planning w.r.t. previous schedule

SPIRE has provided their updated schedule prior to the telecon to industry and ESA (Annex #2). Now major changes w.r.t. last schedule.

4. Status of ILT CQM 2

Due to initial ground short problems, ILT CQM2 has not yet started. Cooldown start expected for Saturday, 4th September.

5. CPPA missing component list

List of all missing CPPA procured components have been sent to SPIRE for review by email. Replies from CEA and LAM are available. Concerning the only not yet delivered component to RAL (CX1030), SPIRE stated that the expected CPPA delivery (01/11/04) is well compliant with the instrument schedule.

6. Interface Issues

- **Inconsistencies of DRCU MICD's, included in SPIRE IID-B w.r.t SVM panel MICD's of IID-A**

In the frame of the H/P System CDR it turns out, that some dimensions between mounting holes included in the SVM panel ICD's included in IID-A are not given in the corresponding instrument unit ICD's. However Alcatel verified with CEA, that the dimensions are correct (all information was already available at Alcatel !). Alcatel asked SPIRE to formally issue new ICD's, that shall include the correct dimension.

- **SPIRE to comment on ASED RfW (L3 temperature of SPIRE JFET's in space @15.6K worst case including uncertainties)**

SPIRE accepted 15.6K as worst case condition for Level 3 (Ref. HP-2-ASED-RD-0020).

FPU and MGSE ICD's currently included in the IID-B are not compliant with recent agreements of recent interface meetings and telecon (Lo-straps, Lifting device).

[AI#2 SPIRE to issue update of FPU and MGSE ICD's according to current already agreed status. Due date: 16.11.2004](#)

7. AOB

Next SPIRE Interface Meeting: Thursday, 7th October 2004 at RAL.

Next SPIRE Progress Telecon #11 on Wednesday, 27th October, 2004 @15:00 CEST



Progress/Status

Eric Sawyer

SPIRE

AVM

- No update from last telecon
- Next test phase is planned for after the CQM cold test, probably mid Sept start

CQM

Cold Qualification model

- Modifications to internal thermal interfaces on the detector box have been implemented.
- The instrument is now in the cryostat
- More problems with ground isolation.
- Latest estimate, Cold on 13th
- Thermal tests 13th to 20th
- Performance tests 20th to 9th Oct
- Out of chamber 12th
- One month for delivery preparation.
- L0 straps in manufacture
- November delivery to Spacecraft ok.

Warm electronics

- QM2/FM manufacture underway
- Delivery to SPIRE unchanged
- One outstanding issue.
- WIH specification required, this is becoming urgent

PFM

- Structure manufactured, except CFRP legs and L0 straps
- Cooler –In manufacture filling started, delivery now November which will delay PFM, work around being explored.
- DRCU QM2 in manufacture
- SMEC – CQM in assembly and test, delivery now October, this is becoming a serious issue.
- Mirrors –delivered
- BDA - SSW delivered, SLW delivered
- DPU – Status uncertain
- Calibrators, filters – SCAL and filters ready, PCAL in final test,.
- BSM – Built, some problems with range, FM will be delivered as is, FS has been fitted with new magnets and will be fitted in place of the FM
- PFM FPU Mirror mounts integrated, metrology completed.
- Alignment completed, well within spec.
- PFM on hold, effort back on CQM.
- Restart very soon

AIV

- CQM tests phase 1 complete
- Test facility ready for next phase
- Next phase started

schedule

Milestones.

- CQM build complete 5/12/03 Complete
- CQM cold verification 1 start 31/01/04 Complete
- Cold vibration end 28/4/04 completed 8/5/04
- CQM Ready for delivery Nov with DRCU QM1 (temp)
- DRCU (QM1) required for FM programme.
- FM delivery delayed to Oct 05 with QM2 electronics, due to slip in QM2 delivery










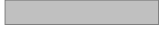



ID	Task Name	Duration	Start	Finish	2003					2004					2005					2006								
					Jan	Mar	May	Jul	Sep	Nov	Jan	Mar	May	Jul	Sep	Nov	Jan	Mar	May	Jul	Sep	Nov	Jan	Mar	May	Jul	Sep	Nov
1	SM AIV programme	417 days	Wed 26/03/03	Fri 05/11/04																								
2	SM FPU Subsystem deliveries	396 days	Fri 25/04/03	Fri 05/11/04																								
3	✓ CQM Mirrors and OGSE Delivery	0 days	Fri 25/04/03	Fri 25/04/03																								
4	✓ CQM Mirrors Acceptance	3 days	Mon 28/04/03	Wed 30/04/03																								
5	✓ STM Filters, Dichroics, Beamsplitters and OGS	0 days	Fri 25/04/03	Fri 25/04/03																								
6	✓ STM Filters, Dichroics, Beamsplitters Acceptan	3 days	Mon 28/04/03	Wed 30/04/03																								
7	✓ STM BSMm Delivery	0 days	Fri 25/04/03	Fri 25/04/03																								
8	✓ STM BSMm Acceptance	3 days	Mon 28/04/03	Wed 30/04/03																								
9	✓ CQM BSM Harness Delivery	0 days	Mon 05/01/04	Mon 05/01/04																								
10	✓ CQM BSM Harness Acceptance	3 days	Tue 06/01/04	Thu 08/01/04																								
11	✓ Optical Dummy SMECm Delivery	0 days	Fri 25/04/03	Fri 25/04/03																								
12	✓ Optical Dummy SMECm Acceptance	3 days	Mon 28/04/03	Wed 30/04/03																								
13	✓ CQM Thermal Straps Delivery	0 days	Mon 05/01/04	Mon 05/01/04																								
14	✓ CQM Thermal Straps Acceptance	3 days	Tue 06/01/04	Thu 08/01/04																								
15	✓ STM Cooler Delivery	0 days	Fri 25/04/03	Fri 25/04/03																								
16	✓ STM Cooler Acceptance	3 days	Mon 28/04/03	Wed 30/04/03																								
17	✓ CQM Cooler Harness Delivery	0 days	Mon 05/01/04	Mon 05/01/04																								
18	✓ CQM Cooler Harness Acceptance	3 days	Tue 06/01/04	Thu 08/01/04																								
19	✓ STM BDAs Delivery	0 days	Fri 25/04/03	Fri 25/04/03																								
20	✓ STM BDAs Acceptance	1 day	Mon 28/04/03	Mon 28/04/03																								
21	✓ CQM BDAs Harness Delivery	0 days	Mon 05/01/04	Mon 05/01/04																								
22	✓ CQM BDAs Harness Acceptance	3 days	Tue 06/01/04	Thu 08/01/04																								
23	✓ STM SCAL Delivery	0 days	Fri 25/04/03	Fri 25/04/03																								
24	✓ STM SCAL Acceptance	1 day	Mon 28/04/03	Mon 28/04/03																								
25	✓ STM SCAL Harness Delivery	0 days	Mon 05/01/04	Mon 05/01/04																								
26	✓ STM SCAL Harness Acceptance	3 days	Tue 06/01/04	Thu 08/01/04																								
27	✓ STM SMECm Delivery	0 days	Fri 25/04/03	Fri 25/04/03																								
28	✓ STM SMECm Acceptance	1 day	Mon 28/04/03	Mon 28/04/03																								
29	✓ STM SMECm Harness Delivery	0 days	Mon 05/01/04	Mon 05/01/04																								
30	✓ STM SMECm Harness Acceptance	3 days	Tue 06/01/04	Thu 08/01/04																								
31	✓ CQM FPU RF Filter Modules Delivery	0 days	Mon 05/01/04	Mon 05/01/04																								
32	✓ CQM FPU RF Filter Modules Acceptance	1 day	Tue 06/01/04	Tue 06/01/04																								
33	✓ STM/CQM 300mK strap delivery	0 days	Fri 25/04/03	Fri 25/04/03																								
34	STM/CQM 300mK strap acceptance	13 days	Mon 28/04/03	Fri 05/11/04																								
35	✓ CQM Cooler Delivery	0 days	Mon 05/01/04	Mon 05/01/04																								
36	✓ CQM Cooler Acceptance	3 days	Tue 06/01/04	Thu 08/01/04																								
37	SM Structure Integration	17 days	Wed 26/03/03	Thu 17/04/03																								

Project: SPIRE 3_10_03
Date: Thu 02/09/04

Task		Summary		Rolled Up Progress		Group By Summary	
Critical Task		Rolled Up Task		Split			
Progress		Rolled Up Critical Task		External Tasks			
Milestone		Rolled Up Milestone		Project Summary			

ID	Task Name	Duration	Start	Finish	2003					2004					2005					2006							
					Jan	Mar	May	Jul	Sep	Nov	Jan	Mar	May	Jul	Sep	Nov	Jan	Mar	May	Jul	Sep	Nov	Jan	Mar	May	Jul	Sep
38	SM Structure Parts Delivery to RAL	2 days	Wed 26/03/03	Thu 27/03/03																							
39	Clean	1 day	Fri 28/03/03	Fri 28/03/03																							
40	Bakeout	2 days	Mon 31/03/03	Tue 01/04/03																							
41	Assembly of SOB on MGSE	1 day	Wed 02/04/03	Wed 02/04/03																							
42	Bakeout at MSSL	6 days	Mon 31/03/03	Mon 07/04/03																							
43	Integration of all MSSL parts	2 days	Tue 08/04/03	Wed 09/04/03																							
44	Integrate mirrors without alignment	2 days	Thu 10/04/03	Fri 11/04/03																							
45	Integrate STM SMEC	1 day	Tue 15/04/03	Tue 15/04/03																							
46	Integrate STM cooler	1 day	Mon 14/04/03	Mon 14/04/03																							
47	Integrate STM BDAs	1 day	Thu 17/04/03	Thu 17/04/03																							
48	Integrate STM BSM	1 day	Wed 16/04/03	Wed 16/04/03																							
49	Early vibration test	9 days	Thu 17/04/03	Thu 01/05/03																							
50	Prepare for test	2 days	Thu 17/04/03	Tue 22/04/03																							
51	Initial vibration test	2 days	Mon 28/04/03	Tue 29/04/03																							
52	Return to G56, prepare for reconfig	2 days	Wed 30/04/03	Thu 01/05/03																							
53	AM programme	64.5 days	Fri 02/05/03	Mon 04/08/03																							
54	Reconfigure to AM	19 days	Fri 02/05/03	Fri 30/05/03																							
55	Adjust BSM shoe	1 day	Fri 02/05/03	Fri 02/05/03																							
56	Rectify CM3 interface issue	1 day	Tue 06/05/03	Tue 06/05/03																							
57	Fit OGSE, SMEC dummy etc	2 days	Wed 07/05/03	Thu 08/05/03																							
58	Carry out trial alignment TBD	15 days	Fri 09/05/03	Fri 30/05/03																							
59	Cold alignment verification AM	49.5 days	Tue 27/05/03	Mon 04/08/03																							
60	Complete Optical Alignment	2 days	Wed 28/05/03	Thu 29/05/03																							
61	Install Thermometers into FPU	1 day	Wed 04/06/03	Wed 04/06/03																							
62	Make Heater Blocks for Instrument	7 days	Thu 29/05/03	Fri 06/06/03																							
63	Prepare FPU for cold tests	1 day	Thu 05/06/03	Thu 05/06/03																							
64	Install STM JFET unit	1 day	Fri 06/06/03	Fri 06/06/03																							
65	Build up MGSE for cold trials	1 day	Mon 09/06/03	Mon 09/06/03																							
66	Plumbing for Cryostat	4 days	Tue 27/05/03	Tue 03/06/03																							
67	Vacuum Window Tests	2 days	Thu 29/05/03	Fri 30/05/03																							
68	Modifications to MGSE trolley	1 day	Mon 02/06/03	Mon 02/06/03																							
69	Modifications to 77K End Cap	10 days	Thu 29/05/03	Wed 11/06/03																							
70	Reinstall L0 Strap Heaters	1 day	Wed 04/06/03	Wed 04/06/03																							
71	Clean up Laboratory	2 days	Thu 05/06/03	Fri 06/06/03																							
72	Cleanliness Inspection	1 day	Mon 09/06/03	Mon 09/06/03																							
73	Move SPIRE to Cryolab	0 days	Mon 09/06/03	Mon 09/06/03																							
74	Install SPIRE into Cryostat	4 days	Tue 10/06/03	Fri 13/06/03																							

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					Jan	Mar	May	Jul	Sep	Nov	Jan	Mar	May	Jul	Sep	Nov	Jan	Mar	May	Jul	Sep	Nov	Jan	Mar	May	Jul	Sep	Nov
75	Warm Alignment Check	1 day	Mon 16/06/03	Mon 16/06/03																								
76	Test Readiness Review	0.5 days	Tue 17/06/03	Tue 17/06/03																								
77	Pump-Down	2 days	Tue 17/06/03	Thu 19/06/03																								
78	Purge He Can with N2	0.5 days	Thu 19/06/03	Thu 19/06/03																								
79	Warm Alignment Check	1 day	Thu 19/06/03	Fri 20/06/03																								
80	Fill 77K shield	10 days	Fri 20/06/03	Fri 04/07/03																								
81	Precool He Vessel with LN2	6 days	Fri 04/07/03	Mon 14/07/03																								
82	Fill He vessel with LHe	5 days	Mon 14/07/03	Mon 21/07/03																								
83	Cold Alignment Check	2 days	Mon 21/07/03	Wed 23/07/03																								
84	Warm up to Ambient	4 days	Wed 23/07/03	Tue 29/07/03																								
85	Warm Alignment	1 day	Tue 29/07/03	Wed 30/07/03																								
86	Let-Up to Air	1 day	Wed 30/07/03	Thu 31/07/03																								
87	Remove SPIRE from Cryostat	2 days	Thu 31/07/03	Mon 04/08/03																								
88	FPU Ready for CQM Integration	0 days	Mon 04/08/03	Mon 04/08/03																								
89	AVM programme	15 days	Mon 28/04/03	Mon 19/05/03																								
90	DPU testing with simulator and EGSE	15 days	Mon 28/04/03	Mon 19/05/03																								
91	Warm electronics programme	10 days	Mon 08/09/03	Fri 19/09/03																								
92	DRCU QM1 delivery	0 days	Mon 08/09/03	Mon 08/09/03																								
93	DRCU QM1 integration and test	10 days	Mon 08/09/03	Fri 19/09/03																								
94	DRCU QM1 available for CQM	0 days	Fri 19/09/03	Fri 19/09/03																								
95	CQM programme	379 days	Tue 24/06/03	Tue 07/12/04																								
96	STM/CQM FTB Subsystem Deliveries	76 days	Tue 24/06/03	Tue 07/10/03																								
97	STM JFET racks Delivery	0 days	Mon 06/10/03	Mon 06/10/03																								
98	STM JFET Modules Delivery	0 days	Mon 06/10/03	Mon 06/10/03																								
99	CQM JFET module delivery (1 off)	0 days	Tue 30/09/03	Tue 30/09/03																								
100	STM/CQM FTB RF Filter Modules Delivery	0 days	Tue 24/06/03	Tue 24/06/03																								
101	JFET Module STM/CQM Integration	2 days	Mon 06/10/03	Tue 07/10/03																								
102	Preparation of CQM	113.5 days	Mon 04/08/03	Mon 12/01/04																								
103	Remove Instrument Covers and place into MG	2 days	Mon 04/08/03	Wed 06/08/03																								
104	Remove OGSE	1 day	Wed 06/08/03	Thu 07/08/03																								
105	Integration of STM Subsystems	8 days	Thu 07/08/03	Tue 19/08/03																								
106	Integrate CQM cooler	1 day	Tue 19/08/03	Wed 20/08/03																								
107	Integrate PLW BDA	1 day	Tue 09/09/03	Tue 09/09/03																								
108	Integrate RF filter modules	1 day	Wed 10/09/03	Wed 10/09/03																								
109	Fit PCAL to BSM	1 day	Wed 12/11/03	Wed 12/11/03																								
110	Wire PCAL to BSM connector	1 day	Wed 19/11/03	Wed 19/11/03																								
111	Remove links to dummy BDAs	1 day	Fri 14/11/03	Fri 14/11/03																								

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					Jan	Mar	May	Jul	Sep	Nov	Jan	Mar	May	Jul	Sep	Nov	Jan	Mar	May	Jul	Sep	Nov	Jan	Mar	May	Jul	Sep
112	Refit Photometer box	1 day	Thu 27/11/03	Thu 27/11/03																							
113	Refit SMEC	1 day	Mon 10/11/03	Mon 10/11/03																							
114	Refit BSM	1 day	Thu 20/11/03	Thu 20/11/03																							
115	Integrate filters	1 day	Mon 27/10/03	Mon 27/10/03																							
116	Refit spec detector box	1 day	Tue 28/10/03	Tue 28/10/03																							
117	Fit STM thermal harness	1 day	Thu 04/12/03	Thu 04/12/03																							
118	Anneal internal thermal straps	2 days	Mon 10/11/03	Tue 11/11/03																							
119	Gold plate thermal straps	1 day	Tue 25/11/03	Tue 25/11/03																							
120	Fit internal thermal straps	1 day	Wed 26/11/03	Wed 26/11/03																							
121	Subsystem harness delivery	0 days	Wed 29/10/03	Wed 29/10/03																							
122	Trial fit harness	1 day	Thu 30/10/03	Thu 30/10/03																							
123	Bake harness	3 days	Fri 31/10/03	Tue 04/11/03																							
124	Fit temp sensors to harness	3 days	Fri 14/11/03	Tue 18/11/03																							
125	Integrate all internal harness	2 days	Tue 25/11/03	Wed 26/11/03																							
126	Detector harness delivery	0 days	Thu 20/11/03	Thu 20/11/03																							
127	Trial fit detector harness	1 day	Fri 21/11/03	Fri 21/11/03																							
128	Second detector harness delivery	0 days	Wed 26/11/03	Wed 26/11/03																							
129	Detector harness bake	3 days	Wed 26/11/03	Fri 28/11/03																							
130	Re-integrate cooler	1 day	Tue 02/12/03	Tue 02/12/03																							
131	Detector harness integration	2 days	Mon 01/12/03	Tue 02/12/03																							
132	Refit Covers	1 day	Wed 03/12/03	Wed 03/12/03																							
133	Integrate JFET Boxes and harnesses	2 days	Thu 04/12/03	Fri 05/12/03																							
134	prepare 300mK straps for annealing	1 day	Tue 04/11/03	Tue 04/11/03																							
135	Manufacture test Lo straps parts	3 days	Mon 03/11/03	Wed 05/11/03																							
136	Assemble test L0 straps	5 days	Fri 14/11/03	Thu 20/11/03																							
137	Prepare Instrument and Transport Cryo lab	1 day	Mon 22/12/03	Mon 22/12/03																							
138	Modify cryoharness	7 days	Tue 06/01/04	Mon 12/01/04																							
139	CQM Cold Verification 1	53 days	Mon 15/12/03	Wed 25/02/04																							
140	CQM cold Test Readiness Review	1 day	Mon 15/12/03	Mon 15/12/03																							
141	Harness integration	7 days	Tue 23/12/03	Tue 06/01/04																							
142	Functional check	2 days	Mon 22/12/03	Tue 23/12/03																							
143	Fit test L0 straps	4 days	Wed 07/01/04	Sat 10/01/04																							
144	Integrate into Cryostat and Thermometry	8 days	Sun 11/01/04	Sun 18/01/04																							
145	Final functional check	1 day	Mon 19/01/04	Mon 19/01/04																							
146	Pump Down	3 days	Tue 20/01/04	Thu 22/01/04																							
147	Cooldown to LN2	2 days	Fri 23/01/04	Mon 26/01/04																							
148	Purge LN2	2 days	Tue 27/01/04	Wed 28/01/04																							

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					Jan	Mar	May	Jul	Sep	Nov	Jan	Mar	May	Jul	Sep	Nov	Jan	Mar	May	Jul	Sep	Nov	Jan	Mar	May	Jul	Sep	Nov		
149	Cool to LHe	2 days	Thu 29/01/04	Fri 30/01/04																										
150	Thermal Verification Tests	3 days	Mon 02/02/04	Wed 04/02/04																										
151	Performance tests	9 days	Thu 05/02/04	Tue 17/02/04																										
152	Warm up and make safe	2 days	Wed 18/02/04	Thu 19/02/04																										
153	Let up to ambient	1 day	Fri 20/02/04	Fri 20/02/04																										
154	De-integrate Instrument from Cryostat and retu	3 days	Mon 23/02/04	Wed 25/02/04																										
155	CQM Cold Vibration	50 days	Thu 26/02/04	Fri 07/05/04																										
156	Instrument preparation for Vibration	10 days	Thu 26/02/04	Wed 10/03/04																										
157	Cold Vibration Test Readiness Review	1 day	Thu 11/03/04	Thu 11/03/04																										
158	L0 cold strap delivery	0 days	Wed 17/03/04	Wed 17/03/04																										
159	fit L0 cold strap	2 days	Wed 17/03/04	Thu 18/03/04																										
160	Instrument Placed in Transport Container(s) an	1 day	Fri 19/03/04	Fri 19/03/04																										
161	Transport to facility	1 day	Mon 29/03/04	Mon 29/03/04																										
162	Cold Vibration Campaign	26 days	Tue 30/03/04	Thu 06/05/04																										
163	Instrument Placed in Transport Container and i	1 day	Tue 04/05/04	Tue 04/05/04																										
164	Transport to RAL	1 day	Fri 07/05/04	Fri 07/05/04																										
165	CQM Cold Verification 2	114 days	Mon 10/05/04	Thu 14/10/04																										
166	Post vib test inspection	2 days	Mon 10/05/04	Tue 11/05/04																										
167	Remove accelerometers	2 days	Thu 13/05/04	Fri 14/05/04																										
168	Incorporate mods to Thermal straps	40 days	Mon 17/05/04	Wed 14/07/04																										
169	Reassemble FPU	9 days	Thu 15/07/04	Tue 24/08/04																										
170	Integrate into Cryostat and Thermometry	7 days	Wed 25/08/04	Thu 02/09/04																										
171	Pump Down	2 days	Fri 03/09/04	Mon 06/09/04																										
172	Cooldown	5 days	Tue 07/09/04	Mon 13/09/04																										
173	Thermal verification and Cold Alignment Tests	15 days	Tue 14/09/04	Mon 04/10/04																										
174	Warm up and let up to ambient pressure	5 days	Tue 05/10/04	Mon 11/10/04																										
175	De-integrate Instrument from Cryostat and retu	3 days	Tue 12/10/04	Thu 14/10/04																										
176	Update QM1 DRCU	6 days	Tue 12/10/04	Tue 19/10/04																										
177	Modify DRCU QM1	5 days	Tue 12/10/04	Mon 18/10/04																										
178	Release QM1 to FM programme	1 day	Tue 19/10/04	Tue 19/10/04																										
179	CQM activities before delivery	22 days	Fri 15/10/04	Mon 15/11/04																										
180	Mass properties Measurement	5 days	Fri 15/10/04	Thu 21/10/04																										
181	Remove specific test equipment	5 days	Fri 22/10/04	Thu 28/10/04																										
182	CQM in storage awaiting delivery	2 days	Fri 29/10/04	Mon 01/11/04																										
183	Final pre delivery check	10 days	Tue 02/11/04	Mon 15/11/04																										
184	Delivery to ESA FPU and DRCU	16 days	Mon 15/11/04	Tue 07/12/04																										
185	FPU delivery	0 days	Mon 15/11/04	Mon 15/11/04																										

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Task		Summary		Rolled Up Progress		Group By Summary	
Critical Task		Rolled Up Task		Split			
Progress		Rolled Up Critical Task		External Tasks			
Milestone		Rolled Up Milestone		Project Summary			

ID	Task Name	Duration	Start	Finish	2003					2004					2005					2006							
					Jan	Mar	May	Jul	Sep	Nov	Jan	Mar	May	Jul	Sep	Nov	Jan	Mar	May	Jul	Sep	Nov	Jan	Mar	May	Jul	Sep
186	Testing at Astrium	15 days	Tue 16/11/04	Mon 06/12/04																							
187	Return of DRCU to RAL	1 day	Tue 07/12/04	Tue 07/12/04																							
188	PFM AIV programme	473 days	Mon 15/12/03	Fri 07/10/05																							
189	CQM/PFM FPU Subsystem Deliveries	221 days	Mon 15/12/03	Wed 20/10/04																							
190	PFM structure delivery (part)	0 days	Mon 05/01/04	Mon 05/01/04																							
191	Structure bake out	15 days	Tue 06/01/04	Tue 20/01/04																							
192	PFM structure assembly	5 days	Mon 17/05/04	Fri 21/05/04																							
193	PFM metrology	10 days	Mon 24/05/04	Fri 04/06/04																							
194	Mirror delivery	0 days	Thu 13/05/04	Thu 13/05/04																							
195	Mirror acceptance	3 days	Fri 14/05/04	Tue 18/05/04																							
196	PFM Filters, Dichroics and Beamsplitters Acce	3 days	Tue 05/10/04	Thu 07/10/04																							
197	PFM Filters, Dichroics and Beamsplitters Deliv	0 days	Thu 07/10/04	Thu 07/10/04																							
198	Spectrometer BDAs Acceptance	3 days	Mon 23/08/04	Wed 25/08/04																							
199	Spectrometer BDAs Delivery	0 days	Wed 25/08/04	Wed 25/08/04																							
200	Cooler delivery	0 days	Mon 18/10/04	Mon 18/10/04																							
201	Cooler acceptance	3 days	Mon 18/10/04	Wed 20/10/04																							
202	CQM SMECm Delivery	0 days	Wed 15/09/04	Wed 15/09/04																							
203	CQM SMECm Acceptance	3 days	Wed 15/09/04	Fri 17/09/04																							
204	FTB RF Filter Modules Delivery	0 days	Mon 15/12/03	Mon 15/12/03																							
205	FTB RF Filter Modules Acceptance	3 days	Tue 06/01/04	Thu 08/01/04																							
206	PCAL delivery	0 days	Tue 05/10/04	Tue 05/10/04																							
207	PCALs acceptance	1 day	Tue 05/10/04	Tue 05/10/04																							
208	PFM SCAL acceptance	1 day	Thu 02/09/04	Thu 02/09/04																							
209	PFM SCAL delivery	0 days	Thu 02/09/04	Thu 02/09/04																							
210	PFM BSMm Acceptance	3 days	Fri 10/09/04	Tue 14/09/04																							
211	PFM BSMm Delivery	0 days	Tue 14/09/04	Tue 14/09/04																							
212	PFM JFET Deliveries	48 days	Tue 14/09/04	Thu 18/11/04																							
213	Spectrometer JFET Modules Acceptance	3 days	Tue 14/09/04	Thu 16/09/04																							
214	Spectrometer JFET Modules Delivery	0 days	Thu 16/09/04	Thu 16/09/04																							
215	Photometer JFET acceptance	1 day	Wed 17/11/04	Wed 17/11/04																							
216	Photometer JFET delivery	1 day	Thu 18/11/04	Thu 18/11/04																							
217	PFM JFET Integration	10 days	Fri 17/09/04	Thu 30/09/04																							
218	JFET Integration to racks (spec)	10 days	Fri 17/09/04	Thu 30/09/04																							
219	FPU integration phase 1	98 days	Mon 14/06/04	Wed 27/10/04																							
220	Mirror integration	3 days	Mon 14/06/04	Wed 16/06/04																							
221	Alignment	12 days	Thu 17/06/04	Mon 05/07/04																							
222	Source and test high conductivity copper	20 days	Mon 23/08/04	Fri 17/09/04																							

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Task		Summary		Rolled Up Progress		Group By Summary	
Critical Task		Rolled Up Task		Split			
Progress		Rolled Up Critical Task		External Tasks			
Milestone		Rolled Up Milestone		Project Summary			












ID	Task Name	Duration	Start	Finish	2003					2004					2005					2006					
					Jan	Mar	May	Jul	Sep	Nov	Jan	Mar	May	Jul	Sep	Nov	Jan	Mar	May	Jul	Sep	Nov	Jan	Mar	May
223	Manufacture new 2K straps	20 days	Fri 25/06/04	Thu 22/07/04																					
224	Modify detector boxes	10 days	Mon 23/08/04	Fri 03/09/04																					
225	Paint SM12 and baffle	10 days	Mon 23/08/04	Fri 03/09/04																					
226	SLW and SSW BDA Integration into detector b	3 days	Mon 06/09/04	Wed 08/09/04																					
227	Spectrometer Detector Box Integration and Ali	1 day	Thu 09/09/04	Thu 09/09/04																					
228	Spectrometer Detector Harness Integration	3 days	Fri 10/09/04	Tue 14/09/04																					
229	Harness integration	5 days	Tue 24/08/04	Mon 30/08/04																					
230	SCAL integration	1 day	Fri 03/09/04	Fri 03/09/04																					
231	Filters Integration	5 days	Fri 08/10/04	Thu 14/10/04																					
232	FPU RF Filters Integration	1 day	Mon 23/08/04	Mon 23/08/04																					
233	SMECM CQM Integration	3 days	Mon 20/09/04	Wed 22/09/04																					
234	FPU final assembly	5 days	Thu 21/10/04	Wed 27/10/04																					
235	Warm electronics Deliveries	5 days	Thu 20/01/05	Wed 26/01/05																					
236	EQM DPU Delivery	0 days	Thu 20/01/05	Thu 20/01/05																					
237	EQM DPU acceptance	5 days	Thu 20/01/05	Wed 26/01/05																					
238	QM1 Warm Electronics re Integration	15 days	Wed 20/10/04	Tue 09/11/04																					
239	Warm Electronics Integration Test	10 days	Wed 20/10/04	Tue 02/11/04																					
240	Test Facility Integration	5 days	Wed 03/11/04	Tue 09/11/04																					
241	Instrument integration and test phase 1	50 days	Thu 28/10/04	Wed 05/01/05																					
242	Instrument Integration I	13 days	Thu 28/10/04	Mon 15/11/04																					
243	FPU and JFET Preparation and Transport	3 days	Thu 28/10/04	Mon 01/11/04																					
244	FPU and JFET Integration into Cryostat	2 days	Tue 02/11/04	Wed 03/11/04																					
245	FPU and JFET Integration with Warm Elec	1 day	Wed 10/11/04	Wed 10/11/04																					
246	Warm Functional Test I	3 days	Thu 11/11/04	Mon 15/11/04																					
247	Instrument Cold Verification 1	37 days	Tue 16/11/04	Wed 05/01/05																					
248	Pumpdown	1 day	Tue 16/11/04	Tue 16/11/04																					
249	Cooldown	3 days	Wed 17/11/04	Fri 19/11/04																					
250	Thermal performance verification	3 days	Mon 22/11/04	Wed 24/11/04																					
251	FIR alignment check	5 days	Thu 25/11/04	Wed 01/12/04																					
252	Cold Functional Test III	2 days	Thu 02/12/04	Fri 03/12/04																					
253	Subsystem Performance Verification	5 days	Mon 06/12/04	Fri 10/12/04																					
254	Instrument verification 1	10 days	Mon 13/12/04	Fri 24/12/04																					
255	Warmup	3 days	Mon 27/12/04	Wed 29/12/04																					
256	FPU/FTB De-integration from Cryostat	2 days	Tue 04/01/05	Wed 05/01/05																					
257	QM1 DRCU available for CQM delivery	0 days	Wed 05/01/05	Wed 05/01/05																					
258	QM1 DRCU available for CQM delivery	0 days	Wed 05/01/05	Wed 05/01/05																					
259	FPUintegration phase 2	31 days	Thu 06/01/05	Thu 17/02/05																					

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Task		Summary		Rolled Up Progress		Group By Summary	
Critical Task		Rolled Up Task		Split			
Progress		Rolled Up Critical Task		External Tasks			
Milestone		Rolled Up Milestone		Project Summary			

ID	Task Name	Duration	Start	Finish	2003					2004					2005					2006					
					Jan	Mar	May	Jul	Sep	Nov	Jan	Mar	May	Jul	Sep	Nov	Jan	Mar	May	Jul	Sep	Nov	Jan	Mar	May
260	Disassemble Photometer side of FPU	5 days	Thu 06/01/05	Wed 12/01/05																					
261	PLW BDA Integration and Alignment	2 days	Thu 13/01/05	Fri 14/01/05																					
262	PMW BDA Integration and Alignment	2 days	Mon 17/01/05	Tue 18/01/05																					
263	PSW BDA Integration and Alignment	2 days	Wed 19/01/05	Thu 20/01/05																					
264	PFM SMEC integration	5 days	Fri 21/01/05	Thu 27/01/05																					
265	Other upgrades to full FM spec	15 days	Fri 28/01/05	Thu 17/02/05																					
266	Delivery of DRCU QM2	0 days	Fri 25/02/05	Fri 25/02/05																					
267	Delivery DRCU QM2	0 days	Fri 25/02/05	Fri 25/02/05																					
268	Delivery of FM DPU	5 days	Fri 13/05/05	Thu 19/05/05																					
269	Acceptance of DPU	5 days	Fri 13/05/05	Thu 19/05/05																					
270	Instrument integration and test phase 2	20 days	Fri 25/02/05	Thu 24/03/05																					
271	Instrument integration	10 days	Fri 25/02/05	Thu 10/03/05																					
272	Instrument test	10 days	Fri 11/03/05	Thu 24/03/05																					
273	PFM Verification	141 days	Fri 25/03/05	Fri 07/10/05																					
274	PFM Instrument Cold Tests I	21 days	Fri 25/03/05	Fri 22/04/05																					
275	Cool down	4 days	Fri 25/03/05	Wed 30/03/05																					
276	Interface Checks	2 days	Thu 31/03/05	Fri 01/04/05																					
277	Cold Functional Tests I	5 days	Mon 04/04/05	Fri 08/04/05																					
278	Pre-vibration Performance Tests	5 days	Mon 11/04/05	Fri 15/04/05																					
279	Warm Up	4 days	Mon 18/04/05	Thu 21/04/05																					
280	Warm Functional Tests II	1 day	Fri 22/04/05	Fri 22/04/05																					
281	PFM Cold Vibration	44 days	Mon 25/04/05	Thu 23/06/05																					
282	FPU/FTB Packing and preparation	5 days	Mon 25/04/05	Fri 29/04/05																					
283	Ship FPU/FTB to Cold Vibration Facility	2 days	Mon 02/05/05	Tue 03/05/05																					
284	Delivery of FPU/FTB to Cold Vibration Facility	0 days	Tue 03/05/05	Tue 03/05/05																					
285	Cold vibration test	30 days	Wed 04/05/05	Tue 14/06/05																					
286	Delivery of FPU/FTB from Cold Vibration Facility	0 days	Tue 14/06/05	Tue 14/06/05																					
287	FPU/FTB Integration into Test Cryostat	3 days	Wed 15/06/05	Fri 17/06/05																					
288	FPU/FTB Integration with Cryoharness	3 days	Mon 20/06/05	Wed 22/06/05																					
289	Warm Functional Tests III	1 day	Thu 23/06/05	Thu 23/06/05																					
290	PFM Instrument Cold Tests II	14 days	Fri 24/06/05	Wed 13/07/05																					
291	Cool Down	6 days	Fri 24/06/05	Fri 01/07/05																					
292	Cold Functional Tests II	3 days	Mon 04/07/05	Wed 06/07/05																					
293	Post-vibration Performance Tests	5 days	Thu 07/07/05	Wed 13/07/05																					
294	PFM Instrument Calibration	48 days	Thu 14/07/05	Mon 19/09/05																					
295	Cold Functional Tests III	2 days	Thu 14/07/05	Fri 15/07/05																					
296	Warm Electronics Thermal Range Tests	5 days	Mon 18/07/05	Fri 22/07/05																					

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Task		Summary		Rolled Up Progress		Group By Summary	
Critical Task		Rolled Up Task		Split			
Progress		Rolled Up Critical Task		External Tasks			
Milestone		Rolled Up Milestone		Project Summary			

ID	Task Name	Duration	Start	Finish	2003					2004					2005					2006											
					Jan	Mar	May	Jul	Sep	Nov	Jan	Mar	May	Jul	Sep	Nov	Jan	Mar	May	Jul	Sep	Nov	Jan	Mar	May	Jul	Sep	Nov			
297	Calibration	30 days	Mon 25/07/05	Fri 02/09/05																											
298	Cold Functional Test IV	3 days	Mon 05/09/05	Wed 07/09/05																											
299	Warm Up	4 days	Thu 08/09/05	Tue 13/09/05																											
300	Remove from test facility	4 days	Wed 14/09/05	Mon 19/09/05																											
301	PFM delivery preparation	14 days	Tue 20/09/05	Fri 07/10/05																											
302	Mass properties Measurement	3 days	Tue 20/09/05	Thu 22/09/05																											
303	Interface measurements	4 days	Fri 23/09/05	Wed 28/09/05																											
304	Packing and shipment	4 days	Thu 29/09/05	Tue 04/10/05																											
305	Delivery Data Package available	1 day	Wed 05/10/05	Wed 05/10/05																											
306	CQM Delivery Readiness Review	1 day	Wed 05/10/05	Wed 05/10/05																											
307	Ship to Alcatel	2 days	Thu 06/10/05	Fri 07/10/05																											
308	Delivery of PFM to ESA, with QM2	0 days	Fri 07/10/05	Fri 07/10/05																											
309	Delivery of FM warm electronics to ESA	0 days	Wed 30/11/05	Wed 30/11/05																											
310	Flight Spare programme	145 days	Mon 10/10/05	Fri 28/04/06																											
311	flight spare programme	145 days	Mon 10/10/05	Fri 28/04/06																											
312	Test cryostat useage	437 days	Mon 23/08/04	Tue 25/04/06																											
313	CQM	31 days	Mon 23/08/04	Mon 04/10/04																											
314	PFM 1	44 days	Wed 03/11/04	Mon 03/01/05																											
315	PFM 2	130 days	Fri 11/03/05	Thu 08/09/05																											
316	FS	82 days	Mon 02/01/06	Tue 25/04/06																											

Project: SPIRE 3_10_03 Date: Thu 02/09/04	Task		Summary		Rolled Up Progress		Group By Summary	
	Critical Task		Rolled Up Task		Split			
	Progress		Rolled Up Critical Task		External Tasks			
	Milestone		Rolled Up Milestone		Project Summary			

SPIRE Actions Status 03/09/04
Still open or changed status since SPIRE PT #10 03/09/04 – SCI-PT-30365

From last H-P-ASP-MN-5081 SPIRE IF Meeting 30-06-04

N°	ACTION DESCRIPTION H-P-ASP-MN-5081 SPIRE IF Meeting 30-06-04	DUE DATE	Firm / person	ACTION STATUS
1	IID-B 5.9.6.1 Long peak TBD's to be replaced. SPIRE will propose update for long peaks (+ loan of LCL)	09/09/04	SPIRE	Open New due date (SPIRE AIT Meeting) agreed during SPIRE PT#10
2	IIDB Sections 5.11.1.1 & 5.11.1.2 to be re-edited (replaced by values in sub-frames/s) to reflect this agreement. (27 sub-frames/s in normal mode & 40 sub-frames/s in burst modes).	15/7/04	SPIRE	Closed by mail E.Sawyer 14/07/04 with file "Comments on IID-B 3.3 draft1", included in IIDB 3.3
3	ASED to verify and freeze the DRCU Power supply configuration (and compatibility with tilting of the cryostat)	15/7/04	ASED	Closed by mail (and re mails) H.Faas HP-ASED-EM-0591-04 dated 13/07
4	SVM integration: refer to new proposed RD28. SPIRE Warm electronic integration plan, SPIRERAL-DOC-001132, Issue 0.1, 10/01/02. SPIRE will check the relevance of this document & update if necessary	15/7/04	SPIRE	Closed by IIDB 3.3 (includes RD 28)
5	ASED will send the definition of FPU fixation bolts to SPIRE for approval.	15/7/04	ASED	Closed by mail H.Faas HP-ASED-EM-0609-04 dated 13/07
6	SPIRE will review this ASED list of relevant AIT documents (in annex 6 of these minutes) and provide comments and update if needed	15/7/04	SPIRE	Closed by mail E.Sawyer 06/07/04 with file SPIRE_AIT Document List+comments290604.doc
7	For IID-B 3.3, SPIRE to complete the front page annex 5 (HDD deltas) with update of differences between current agreed configuration and HDD 1.1	7/7/04	SPIRE	Closed by HDD 1.1 Deltas SPIRE-RAL-NOT-001819 issue 4 dated 08/07/04 (by mail DG 09/07, included in IIDB 3.3 annex 5)
8	SPIRE to review and comment the document "H-EPLM EMC test Plan HP-2-ASED-PL-0037", and to propose data for the TBD	09/09/04	SPIRE	Open New due date (SPIRE AIT Meeting) agreed during SPIRE PT#10
9	Organise Technical meetings (ASED/ASP + SPIRE) in order to prepare the EMC test specification / Procedures.	15/7/04	ASED/ASP	Closed by mail HP-ASED-EM-0644-04 dated 28/07

From previous meetings

N°	ACTION DESCRIPTION H-P-ASP-MN-4776 SPIRE IF Telecon 28-04-04	DUE DATE	Firm / person	ACTION STATUS
10	SPIRE to deliver detailed list of all necessary equipment to perform EQM tests .To be also added in IID-B section 5.16	09/09/04	30/06/04	Open Should include the interfaces to electrical test equipments (weight, size (DRCU power supply for instance) New due date (SPIRE AIT Meeting) agreed during SPIRE PT#10

From SPIRE Progress Telecon's

N°	ACTION DESCRIPTION Progress Telecon #	DUE DATE	Firm / person	ACTION STATUS
SCI-PT-29150 - SPIRE IF Telecon # 9 _ 23-07-04				
1	B. Collaudin to answer by email who at ASP side will be the contact person to address this issue (design and construction guidelines for the warm interconnecting harness.)	03/09/04	ASP	Open During SPIRE PT#10 Bernard promised to clarify immediately after the telecon.
2	SPIRE to answer on ASED email HP-ASED-EM-0564-04 from 25.06.2004 (baffle between the instrument shield and the HIFI LOU entrance)	30/07/04	SPIRE	Closed by mail B.Swinyard dated 26/07
SCI-PT-21435 SPIRE Progress Telecon #2_ 29-10-03				
3	SPIRE to issue the Harness Definition Document version 1.2, which will reflect HDD1.1 plus update according annex 5 of SPIRE IID-B version 3.0 "SPIRE HDD 1.1 Deltas"	16/11/04	SPIRE	Open Problem of availability. Patches in IID-B are equivalent (HDD 1.1 + patch v.3 (tech not v3.0 should be replaced in IID-B). Keep open. SPIRE shall issue this HDD with corresponding CR to IIDB 3.2 New due date (SPIRE IQR kick-off) agreed during SPIRE PT#10