CCLRC Rutherford Appleton Laboratory	MINUTES OF MEETINGS (MoM)						PRODUCT ASSURANCE Space Science and Technology Department	
Subject / Title:	**CQM Post Test Review "Cold Vibration"**	**Document No:**	**SPIRE-RAL-MoM-002074**	**Issue No:**	**1**	**Date**	**9th July 2004**	**Page 1 of 6**

Spacecraft / Project	HERSCHEL / SPIRE	**Meeting Place**	Telecon Eric Sawyers Office
Instrument / Model	SPIRE CQM	**Subsystem**	

Participants		**Agenda**
Print Name	***Signature Required***	
RAL **Eric Sawyer**		**Test specification** **Test procedure** **Tests carried out** **Notching/control strategy** **Anomalies** **Test results/test report** **Conclusions** **AOB**
RAL **Eric Clark**		
MSSL **Berend Winter**		
ESA **Jan Rautakoski**		
ESA **Carsten Scharmberg**		
ESA **Thijs van der Laan**		
ESA		**Additional Distribution**
ESA		

Action			
No	**Responsibility**	**Due Date**	
			All actions from test review closed. Test specification agreed see MOM of TRR Test procedure agreed see MOM of TRR
			Tests carried out Y axis first Force notching up to twice resonance frequency Some accelerometers not working, last axis all worked. This is recorded in the test report. Axis switch on two detector boxes accels Notching based on detector boxes acceleration. Faulty accel caused excessive notching in Y axis. Phot box. Under test by approx 30% This is reported in test report This is the only area of under test No force notching in X axis, not required.
AI#1	Eric S	Report reissue	Remove Thijs name from report and replace by ESA
AI#2	Eric S		Limit on number of cycles to be addressed by RFW. Cycles at maximum load were limited.

AI#3	Eric S		ABCL, drawing reference number missing for JFETS. ABCL to be updated as required
AI#4	Berend		Graphs 8.4/1, 2 and 3 to be explained in more detail.
AI#5	Berend		Implement reconstructed C of G acceleration, if possible.
AI#6	Eric C		NCR should be re-issued as major.
			Conclusions. With the exception of under test in Y (see above) objectives have been achieved. This was covered in the warm SM testing. Tests will be repeated on FM. (acceptance only TBD) Static load tests on CFRP will be carried out at component level. Agreement of Alcatel is required.
			Continue PTR when Alcatel are available 15:00 CET 9/7/04

Action			Title & Description
No	**Responsibility**	**Due Date**	
			Continuation of telecon. Previous participants plus Bernard.Collaudin Note from Alcatel has not been responded to by SPIRE Points raised by Alcatel (Delphine) have not been addressed by SPIRE in the report. Incorrect labelling of accelerometer in Y axis test, see test report, axis is not important.
			Transfer function from base to detector is about 10 in g2/Hz (Q=3) A detailed discussion with Alcatel experts is required. 10g rms was not recognised by Alcatel. Simple mass spring system showed levels higher than 10g rms. Levels recorded during test shows that the 10g rms assumption is very conservative.
AI#7	Berend		Berend to update analysis results showing transfer function and distribute ESA and Alcatel
			Review of report from Delphine Jollet-Segura sent by e-mail 14/4/04, following approximately the bullet points.
			1 Time was limited of the test, but SPIRE and ESA consider that all the normal precautions necessary for a QM instrument test were observed.
			2 Analysis was only available just prior to the testing which SPIRE accepts is not really an acceptable situation. It was not possible to instrument the mobile masses directly so accelerometers close to the ideal position was the best we could achieve. Analysis will be made available se AI#7
			3 Yes accelerometers were swapped, but only general behaviour was used to asses notching. The direction and location is not really important.

Action			Title & Description
No	**Responsibility**	**Due Date**	
			4 SMEC, movement of pivots is not an issue as the mass dummy is not representative of the FM. Change of behaviour is due to shift in pivots.
			Subsystem levels for SMEC can now be firmed up for the forthcoming unit test.
			5 Problems with accelerometers could not be investigated during test. Problems were resolved for final test run.
			6 Control at feet was carried out using available instrumentation. However control was carried out using average of the feet accelerometers, as advised by Alcatel.
			7 Problems were encountered with instrumentation, but doubtful accels were not used for limiting.
			8 Accelerometrs could not be mounted on C of G, but close to and analysis carried out to compensate. This is standard practice for testing
			9 Wide notches were used to limit the interface forces. A narrow notch does not help limit the RMS input.
			Alcatel accept the responses to these points. SPIRE does not consider that the instrument to be at risk during the launch environment. ESA will consider the input from MSSL and then ESA will discuss with Alcatel the qualification status of the FPU.

Action			Title & Description
No	**Responsibility**	**Due Date**	