Delivery Review/Acceptance Review Board Minutes

SPIRE-RAL-MOM-001815
DRCU (DCU, MCU + powerbench), WIH, FPU simulator
QM 1
19/9/03

Eric Clark, Eric Sawyer, Ken King, Bruce Swinyard, Ken King, Jean-Louis Augueres, Christophe Cara, Henry Triou, Jean Fontignie, Frederic Pinsard

Agenda.
Incoming inspection
EIDP review
Acceptance test results
Plans for next phase of integration and test
Acceptance

Incoming inspection (ref SPIRE-RAL-REP-001801)

Front panel screw missing from FCU, DSM board. No NCR.
CEA will replace on next visit.
FPU simulator has a damaged connector and it is recommended to **not demate** the harness once it is connected. CEA will raise an NCR.

EIDP review

Some documents are missing and will be supplied by CEA by mid October.
RAL will review the EIDP and forward comments to CEA.
MCU simulator users manual is missing.

Acceptance test results

CEA acceptance tests repeated, SAP-SPIRE-JF-0126-03. All results were the same as when tested at CEA.
NCRs raised during testing at CEA and RAL. Not numbered yet.
SCU functional test:

- TC heater voltage test results measured at contractors (SEDI) and at CEA are different. See report SAP-SPIRE-HT-0122-03.
- Subsystem delay on the three subsystems is not consistent.
- "SubK temp", telemetry and GET command do not return the same result as in the performance test.

DCU functional test:

- Vdd1S (NCR 127).and heater PMW2, not functioning.

MCU functional test:

- Chopper voltage results different from LAM tests. LAM have been contacted and say it is ok and due to sampling time, written comment to be supplied by LAM.

Electrical checks on DPU show no anomalies.

Low level interface test satisfactory. RAL (Sunil) to write report.

NCR 131 can be closed, unit repaired.

SCU telemetry packets: HK channel are in the wrong order (NCR 130) Hardware to remain unchanged, document to be changed.

RAL-DOC-001799 needs modification following this weeks activities.

Plans for next phase of integration and test

Phase two has effectively been carried out.

Integration tests, carried out by RAL with no CEA support

Next phase requiring CEA support will be CQM testing.

Warm tests:
Functional tests, no CEA support required.

Cold tests: (required by CEA to finalise FM design)

- Performance tests, CEA support required.
- Load curve tests.
- Optical load curve tests.
- Photometer Noise performance over bias amplitude and frequency space (dark test and light)
- Photometer response to Hbb with various chop frequencies and attenuations.
- Check phase setting between detector pixels.
- Vdd, Vss and heater drain current. CEA to define test.

These tests are likely to take place in December 2003

AOB

ESD problems in the control room:
Special procedures need to be implemented.
Anti static mats
Wrist straps when connecting hardware.
Ground shell of connectors before connecting.

Support for harness required. RAL to investigate.

Harness length (both power bench to DRC and simulator to DRCU) may be a problem at spacecraft level, RAL to discuss with Astrium/Alcatel.

Power bench is not compatible with EMC testing. Limited testing may be possible.

Vdd may need adjusting, Resistors to set this parameter on the QM1 can be changed, board would probably not need shipping back to CEA, can be done at RAL.

DCU power on causes a transient that violates the requirement on the detector bias. (NCR 121) RAL to discuss with JPL to see if this is a serious problem.

RAL accepts the QM1 DRCU and associated equipment from CEA.

Summary of actions.

Action	**Responsible**	**Due Date**
Raise an NCR for damaged FPU simulator connector	CEA	6/10/03
Write report on low level interface tests	RAL (Sunil)	13/10/03
Modify RAL-DOC-001799	RAL	6/10/03
Special procedures to be implemented to reduce ESD problems in the control room	RAL	ASAP
Investigate provision for support of harness	RAL	13/10/03

Eric Sawyer - RAL

Jean-Louis Augueres – CEA