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	Definition of the SPIRE CQM Delivered for system level testing B. Swinyard	

The following tables define the form and capability of the SPIRE instrument to be delivered for EQM testing.

Updated 19/2/2002 to reflect expected form of QM1 HSFCU

Unit: HSFPU

Subsystem /component	Delivered CQM Form/Capability
Structure/baffles/wiring standoffs etc	Flight Representative
Mirrors	Flight Representative
Filters	Flight representative
Beam steering mirror	Form and fit compliant Functionally representative in at least one axis No redundancy Electrical interfaces compliant Thermal conduction flight representative Thermal dissipation may not be flight representative
3He Fridge/thermal straps	Form and fit compliant Functionally fully flight representative All parts flight build standard except thermometers and heaters will be commercial/industrial grade
300 mK Thermal control system	None
Photometer LW array	Flight representative
Photometer MW array	Form and fit compliant Resistors used to represent detectors. Temperature monitors functionally representative (TBC)
Photometer SW array	Ditto
SMEC	Form and fit compliant Functionally representative – mirror travel TBD Electrical interfaces must be compliant Thermal conduction flight representative Thermal dissipation may not be flight representative
Spectrometer SW array	As P/MW and P/SW arrays
Photometer LW array	Flight representative
Photometer Calibrator	Form and fit compliant Functionally representative Electrical interfaces compliant Thermal interfaces compliant No redundancy (TBC)
Spectrometer Calibrator	Form and fit compliant Functionally representative Electrical interfaces compliant Thermal interfaces compliant No redundancy (TBC)
Shutter	Form and fit compliant Functionally representative Electrical interfaces compliant
JFET Enclosures	Flight Representative
JFET Modules and JFET box RF filter modules	Form and fit compliant Functionally representative Electrical interfaces compliant Thermal interfaces compliant Only JFETs for “live” detector channels will be provided Resistors for thermal dissipation in other channels will be provided (TBC)
FPU RF Filters	Flight representative
Thermometry	Flight representative
FPU internal harnesses	Flight representative

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**Unit: HSDCU**

Subsystem /component	Delivered CQM Form/Capability
External structure/mechanical interfaces	Flight representative
Electrical Interfaces	Prime interfaces flight representative No redundant interfaces implemented
Functionality	Near flight performance on prime side No redundant side implemented
Electrical Component Level	Commercial/industrial level parts with near flight performance

**Unit: HSFCU**

Subsystem /component	Delivered CQM Form/Capability
External structure/mechanical interfaces	Not form and fit compliant - some of the sub-units will not be housed within the FCU flight envelope
Electrical Interfaces	Interfaces to S/C not flight representative – EGSE replaces power supply unit Prime instrument interfaces flight representative No redundant interfaces implemented
Functionality	Near flight performance on prime side No redundant side implemented
Electrical Component Level	Commercial/industrial level parts with near flight performance

**Unit: HSDPU (this unit will also be used for the AVM)**

Subsystem /component	Delivered CQM Form/Capability
External structure/mechanical interfaces	Flight Representative
Electrical Interfaces	Prime interfaces flight representative No redundant interfaces implemented
Functionality	Near flight performance on prime side No redundant side implemented
Electrical Component Level	Commercial/industrial level parts with near flight performance

**Unit: HSWIH (Warm interconnect harness)**

Subsystem /component	Delivered CQM Form/Capability
External structure/mechanical interfaces	Flight representative
Electrical Interfaces	Flight representative
Functionality	Near flight performance
Electrical Component Level	Commercial/industrial level parts with near flight performance