

SPIRE

SUBJECT: SPIRE CQM FPU Mechanical interface verification

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Change Record

ISSUE	DATE	
1	21/10/04	Prepared for CQM EIDP
2	09/11/04	Results of measurements added Section Table Overall height was 475.52 now 445.52 error in table, drawing correct

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1. SCOPE

This document reports on the measurements taken on the SPIRE CQM FPU and JFETS.

Measurements were taken and compared to the MICD ref AD 1.

It was not possible to measure the foot print of the isostatic mounts of the FPU. A HOB simulator plate is used during the AIT of the FPU and JFETS. This interface plate was manufactured to the dimension in AD 1, see annex B for inspection report. From the inspection report it can be seen that most holes lie within the +/- 0.1mm tolerance, the maximum deviation from true position is 0.149mm for the FPU and 0.191mm for the spectrometer JFET.

The FPU and JFETS fit this plate correctly and also the cryo-vibration adaptor made by CSL to the same interface dimensions.

2. APPLICABLE DOCUMENTS

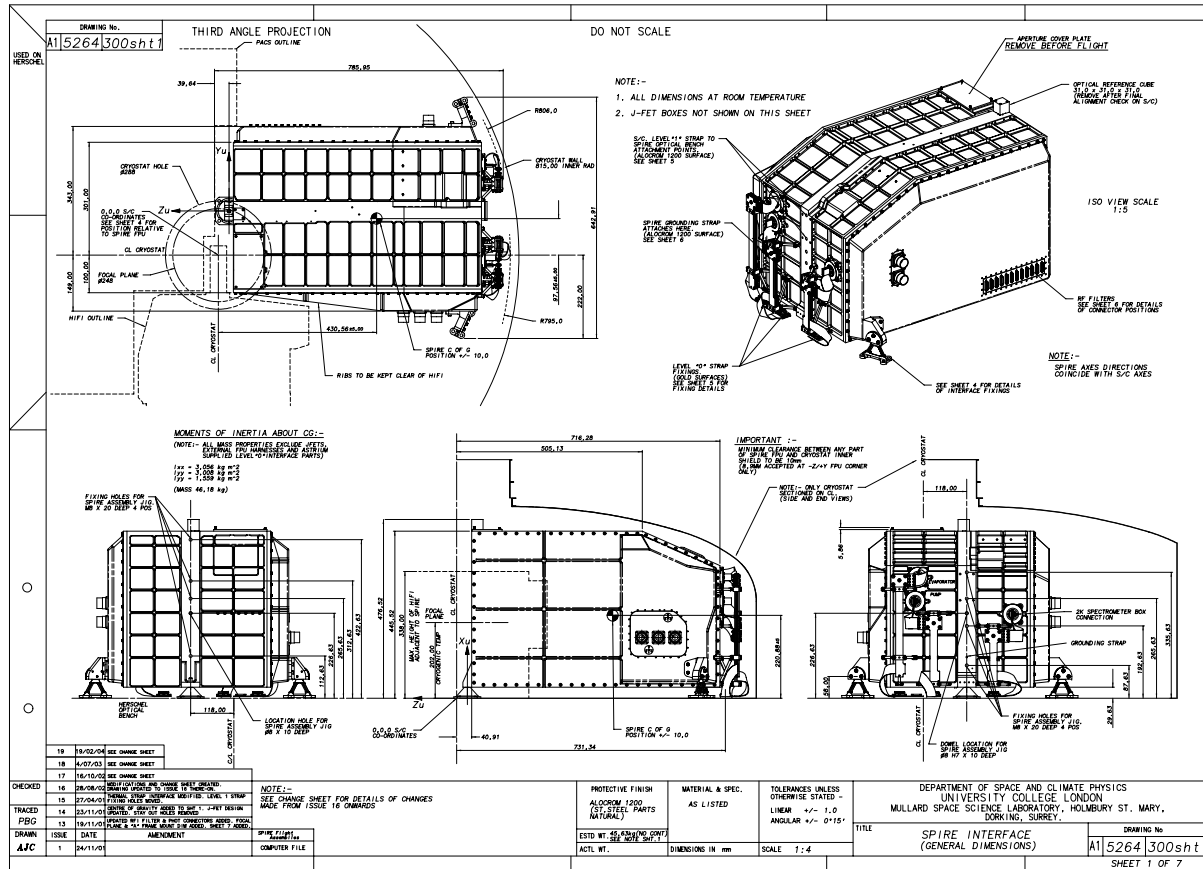
AD 1	5264 300 issue 20	SPIRE mechanical interface drawing Extract included as annex A
AD2	14372	Metrology report on the SPIRE HOB simulator plate Extract included as annex B

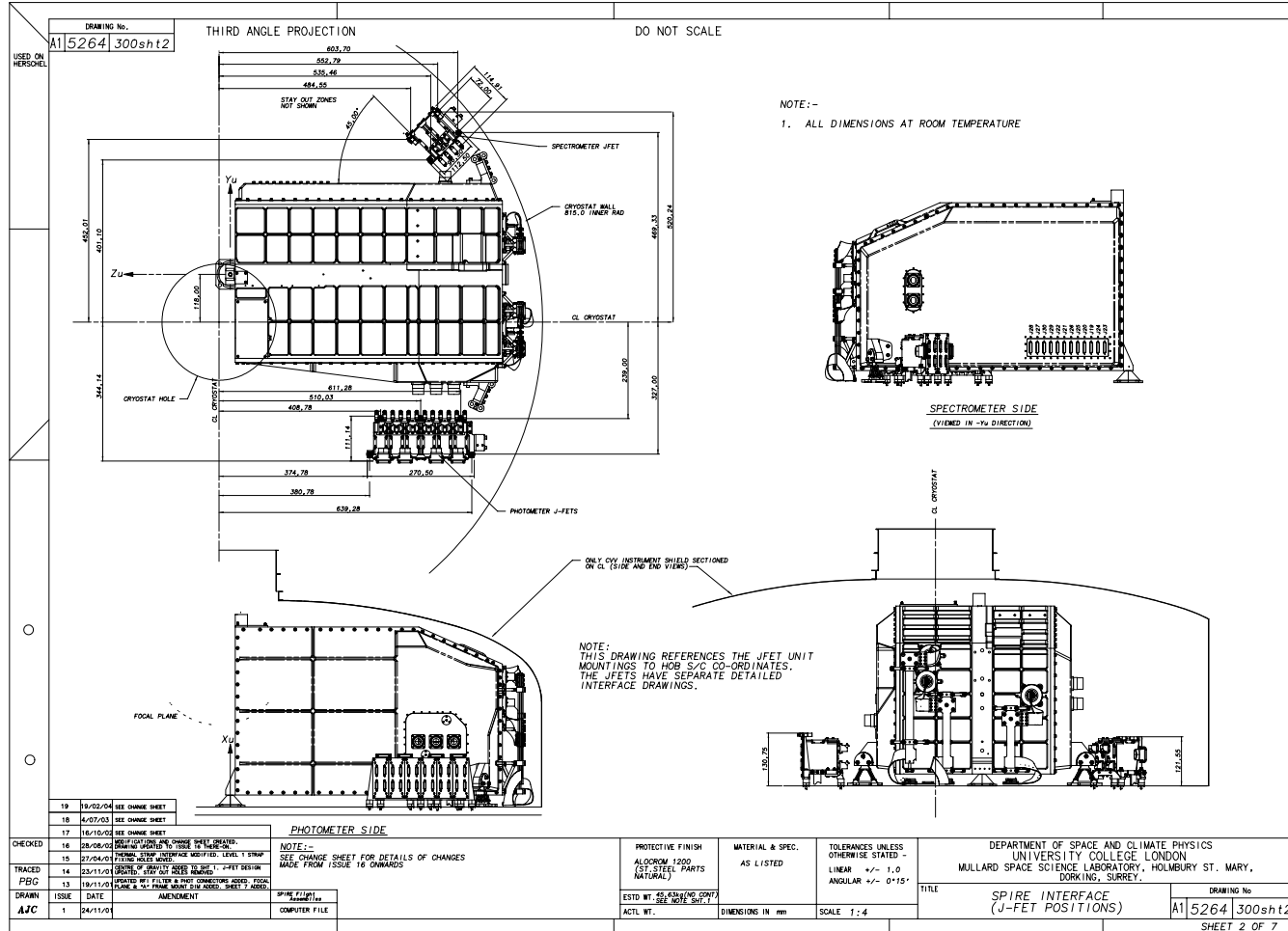
3. REFERENCE DOCUMENTS

4. MEASUREMENTS

Drawing sheet No	Description	Dimension on drawing	Tolerance on drawing	Measured dimension	Measurement tolerance	Compliance
1	Overall length of FPU	675.37 716.28 – 40.91	+/- 1.0	676	+/- 0.5	Yes
	Overall length including L0 straps	749.04 789.95 – 40.91	+/- 1.0	750	+/- 0.5	Yes
	Overall height excluding cube	445.52	+/- 1.0	445.2	+/- 0.5	Yes
	Overall width excluding connectors	492 (149 + 343)	+/- 1.0	492	+/- 0.5	Yes
	Overall width across A frame feet	642.91	+/- 1.0	643	+/- 0.5	Yes
	L0 interface height 1	265.63	+/- 1.0	365	+/- 0.5	Yes
	L0 interface height 2	335.63	+/- 1.0	336	+/- 0.5	Yes
2	Height of photometer JFET	130.75	+/- 1.0	131.7	+/- 0.5	Yes
	Height of Spectrometer JFET	121.55	+/- 1.0	122	+/- 0.5	Yes

5. ANNEX A INTERFACE DRAWING SHEETS 1 AND 2





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Project Document

SPIRE CQM FPU mechanical interface
verification

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6. ANNEX B EXTRACT FROM HOB SIMULATOR PLATE METROLOGY REPORT