



10th April 2003

To: Lionel

SPIRE-RAL-NOT-001588

From: John Delderfield

cc: Bruce, Anneso

re: Test "C0 330"

I've read the Bruce/Lionel exchange about testing, and all I suggest herein is conditional upon time being available on either the PACS or Spire units. Otherwise we would have to think whether these results are important enough to delay other requirements

I propose the following text matrix:

	LO at I/F*	L1 on chassis	Straps	300mK inertia	300mK applied load in R	Comments
Specification Test	1.7K	4K	Lab. type	None	10 μ W	To see if meeting spec.
Higher load test.	1.8K	4K	Lab. type	None	20 μ W	As Spire load.
L0 sensitivity test	2K	4K	Lab. type	None	20 μ W	Mainly for "static" effects
L1 sensitivity test	1.8K	6K	Lab. type	None	20 μ W	Mainly for "static" effects
L0 strap impedance/thermal inertia test	1.8K	6K	40mW/K to be poor	24 J-K ⁻¹ †	20 μ W	As mounted in instrument. Mount by end to see if recycling heats cooler housing

*Understood to mean during the 46hour cooling phase.

† Apparently there's a secondary 122J-K⁻¹ at 2K the other side of the 300mK, but I cannot see how to simulate this second time-constant.

Clearly runs should last until cooling is exhausted, presumably about 48 hours, but does there need to be some games to optimise recycling operation beforehand?

Cold tip temperature should be monitored to high resolution with low I/F noise in the measurement....sooner we find any potential temperature noise that would go into bolometers the better.

Please us know if doing these tests is OK, always assuming there's time in the programme.

Best regards

John

Red are updates since 7th from Anneso's response.

• is correction of error.