

Re: Request for test of PTC heater drive (See attachment)

Notes:

A 6000 Ohm (± 1 Ohm) resistor as measured by a calibrated DVM was used to connect (V+ and I+) to (V- and I-) of the PTC drive. The SCU used to carry out the test was the QM1.

The DAC was stepped through the values indicated in Table 1. Both the raw and the converted telemetry values were recorded. The DVM was used to measure the voltage drop across the resistor. The current being driven through the resistor as measured by the DVM is shown in Figure 1. The current as measured by the SCU and contained in the TM is shown in Figure 2.

Doug Griffin

Tuesday, 31 August 2004

DAC Value	TM		TM inferred current (A)	DVM reading (V)	DVM inferred Current (A)
	raw	conv (mV)			
4095	31234	297.49	4.96E-05	0.2983	4.972E-05
3412	26023	247.87	4.13E-05	0.2486	4.143E-05
2730	20820	198.3	3.31E-05	0.1989	3.315E-05
2047	15612	148.67	2.48E-05	0.1491	2.485E-05
1365	10406	99.16	1.65E-05	0.0994	1.657E-05
682	5196	49.47	8.25E-06	0.0497	8.283E-06
0	-9	-0.076	-1.27E-08	0	0.000E+00

Table 1 - test results

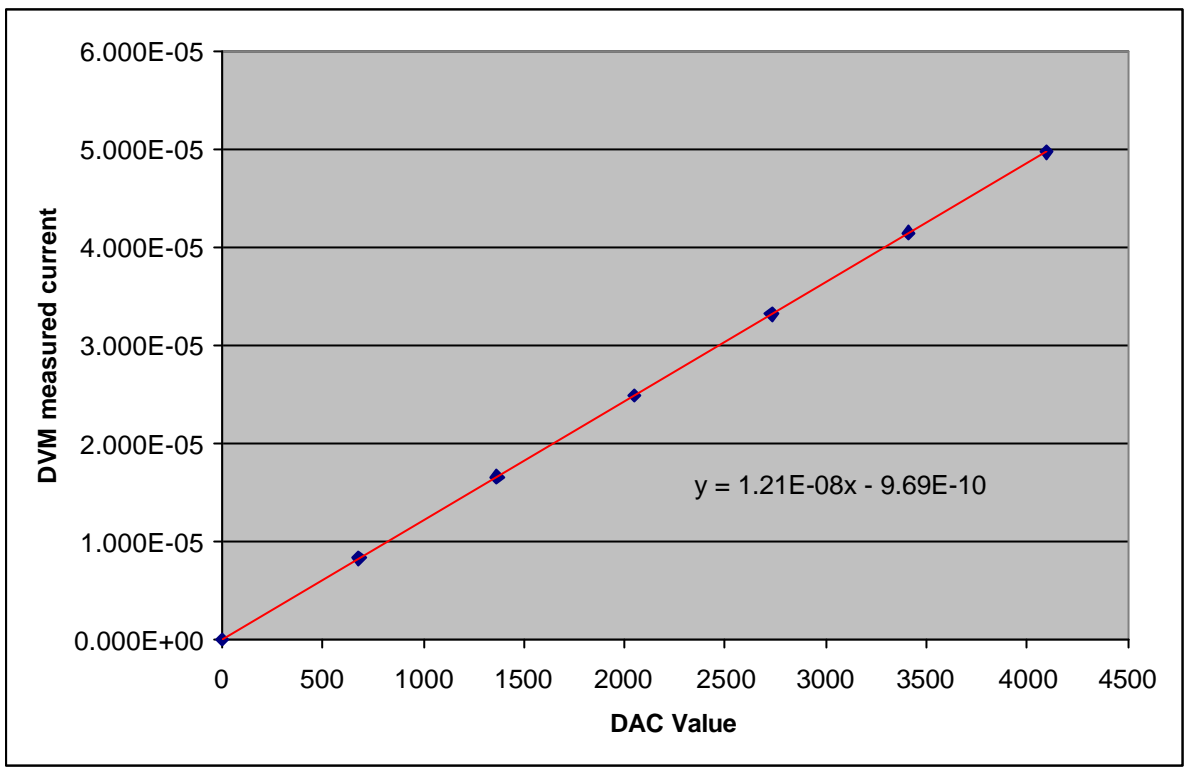


Figure 1

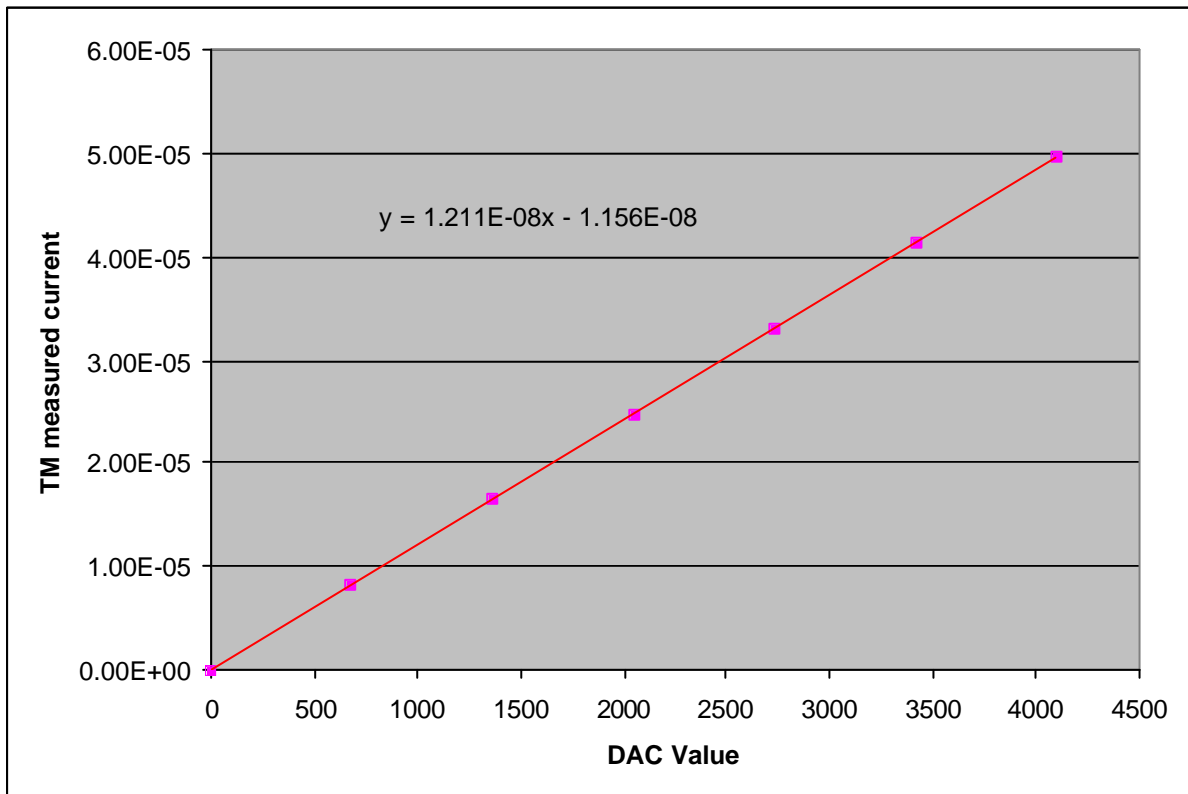


Figure 2

-----Original Message-----

From: TRIOU Henri DAPNIA [mailto:HTRIOU@dapnia.cea.fr]

Sent: 12 July 2004 16:08

To: 'Swinyard, BM (Bruce) '; CARA Christophe DAPNIA; FONTIGNIE Jean DAPNIA; 'Matt Griffin '; 'King, KJ (Ken) '; 'Sawyer, EC (Eric) '; 'Sidher, SD (Sunil) '

Cc: AUGUERES Jean-Louis DAPNIA

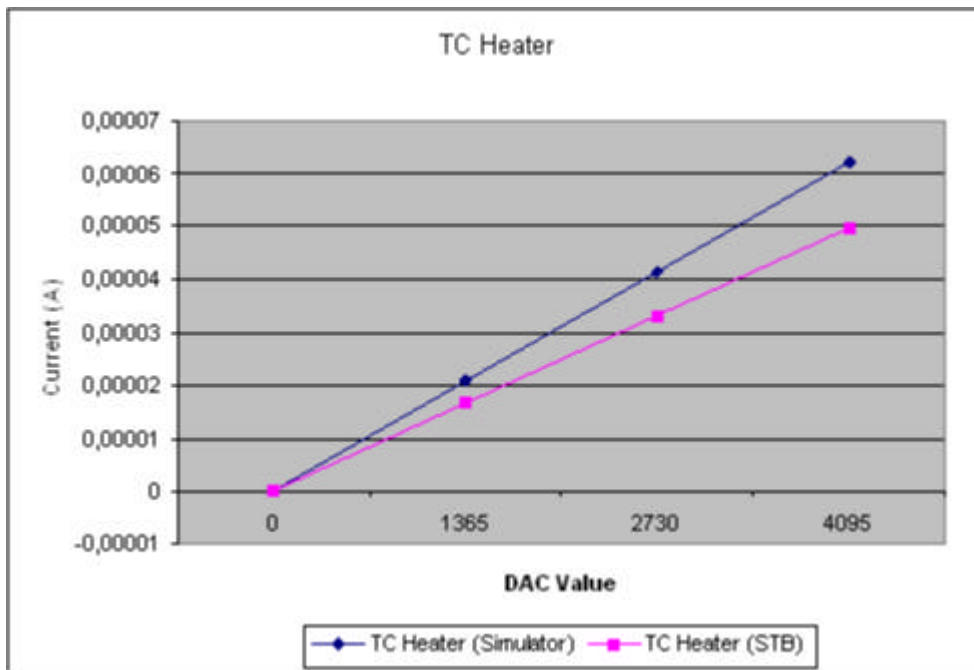
Subject: TC Heater current measurement inconsistency

Hi all,

As agreed during our last teleconf, I recall you, the content of FA n°138 concerning SCU TC Heater.

The investigations performed during functional tests show significant differences on TC Heater channel current measurements (from FPU simulator) with respect to STB (Simplified Test Board from CEA/SEDI) values.

The TC Heater currents measured with FPU simulator are non consistent with Simplified Test Board (STB from SEDI with a heater resistance of 6 KOhm) measurements, as shown on the following graphic :



In order, to investigate that particular point, we recommend to perform voltage measurements on that channel with a fixed well know resistor value of 6 KOhm to confirm that there is no problem with the current being sent by SCU on that channel (there may be a leakage current in the simulator ?).

One should test DAC levels between 0 and 4095 (at least levels 0, 1365, 2730, 4095)
Resistor value : 6 KOhm (to be measured accurately).

Thanks,

Regards

Henri

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Henri TRIOU  
Ingénieur Chercheur  
Ingénierie Système et Architecture Spatiale  
CEA/Saclay/Service d'Astrophysique  
Orme des Merisiers - bat. 709  
91191 Gif Sur Yvette Cedex  
France  
Tel : (33) 1 69 08 62 93  
Fax : (33) 1 69 08 79 96  
E mail : htriou@discovery.saclay.cea.fr  
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