

<b>Special Test Request Form</b>	<b>STR Number <u>  5  </u></b>
<b>Part 1 – Test Definition Section</b>	
<b>Test Requestor:</b> Gunther Haller	
<b>Test Purpose and Justification:</b> Support NCR 397 investigation. Test to see whether noise is present in CAL or TKR detectors as a function of applied bias voltage originating in TPS.	
<b>Test Description:</b> Test either Tower A or Tower B.  The test we have available is called dataTakingPlotter. This outputs useful plots of TKR occupancy and CAL noise using solicited triggers only. The data in these events then is only noise. In addition, we will configure the test to output the noise levels in rms for the CAL and integrated occupancy for the TKR on an FE by FE basis.  We should change the basic test, and externally trigger the system with a fixed period signal, rather than taking solicited triggers. This provides for a faster test and gives one the chance to see a higher frequency oscillation in the data. Unfortunately I can only sample up to a few hundred Hz. We will collect 10,000 events at each voltage step, a 30 second run which is about as short a run as we ever take.  We will step the voltage from a very low value so we can see the detector (diode in CAL and silicon strips in TKR) noise decrease to it's lowest value, then as we increase the voltage any increases are sure to be externally generated.  We will vary the TKR bias from 50 volts to 114 in 10 volt steps (last step is 4 volts) while the CAL is off.  Next we will vary the CAL voltage from 0-90 V in ten volt steps while the TKR is off.	
<b>EGSE Configuration:</b> Test in accordance with LAT-PS-05527. Current configuration used for end to end runs. No impact	
<b>LAT Configuration:</b> Current configuration, on the single bay test stand.. (Vertical orientation without muon telescope) . No impact.	
<b>Expected Results/Acceptance Criteria:</b> Data collection completes with no errors. Data provided to requestor for review and analysis via the pipeline. Requester expects to find no additional noise in the detector as the bias voltage is varied, while at room temperature.	
<b>Expected Duration:</b> A few hours, including preparation of the output configuration files.	
<b>Expected Offline Analysis Duration:</b>	
<b>Test Procedure:</b> Set up configuration in accordance with LAT-PS-05527. Turn on and validate set up in accordance with LAT-PS-05527. Set up external pulse trigger in accordance with LAT-PS-04511 (Procedure for Data Collection). Run test script in accordance with expert guidance at test time.	
<b>Test Script:</b> dataTakingPlotter, and use a custom configuration file to control the output so that it provides Gunther with the data he requires. No impact	

<b>Part 2 – Impact Assessment Section</b>			
<b>Procedure development:</b> New procedure required – minor impact			
<b>Script development and checkout:</b> Creation of new configuration file required – minor impact			
<b>Impact to schedule:</b> Minor impact to schedule – few hours			
<b>Risk Assessment:</b> Low			
<b>Required Resources:</b> Online and IFCT support.			
<b>Other Affected Parties:</b> Electronics analyzes the data offline. No SVAC involvement.			
<b>Part 3: Signature Approval:</b>			
Required Authorizations	Printed Name	Signature	Date
Quality	Darren Marsh		
I&T	Elliott Bloom		
Program Office	N/A		
Systems Engineering	Pat Hascall		
Affected S/S managers	N/A		
Instrument Scientist	Info only		
Martin Nordby	N/A		
Other	N/A		
Other	N/A		
Other	N/A		