



RADWG 1ST - 2013

12TH FEBRUARY 2013

G. Spiezia (EN/STI/ECE)



AGENDA

- ❖ Matters arising
- ❖ LHC radiation levels
- ❖ IT beacons test
- ❖ LED test at CNRAD
- ❖ PSI test: transceivers
- ❖ Electronics for beam profile monitoring at LINAC4

PSI test plan-2013

Date	Equipment Owner	Test group	DUT
16-17 February	EN/STI-BE/BI	EN/STI, BE/BI	Cypress memory, potentiometer, Samsung, BLM
24-Feb	TE/CRG	TE/CRG	Switches
16-17 March	BE CO	BE CO	NanoFip
23-24 March	TE/EPC, EN/STI	EN/STI	Voltage reg, Voltage ref, Mux, Amplifier
April	TE/EPC	TE/EPC, EN/STI	ADC for latchup study
April	TE/EPC, EN/STI	EN/STI	Switches, Regulator, Batch test
June	BI	BI	components for BPM
July	EN STI	EN STI	Component Batch test
September	EN/STI, TE/EPC	EN/STI	Radmon prototype, ADC 8bit
September	BE/BI	BE/BI	components for BPM
October	TE/EPC	TE/EPC	FGC lite
November	EN/STI	EN/STI	LVDT, Thermocouple, LM45, Oscillator
December	TE/EPC	TE/EPC	FGC lite
	QPS	QPS	
	QPS	QPS	

- ❖ 15 slots for 2013
- ❖ Combine tests of different groups during one weekend

PSI test plan - 2013

- ❖ February 16-17
 - ❖ SRAM: Cypress, Samsung
 - ❖ Potentiometers
- ❖ February 24
 - ❖ Switches SW06 Analog devices
 - ❖ Promising results at CNRAD
 - ❖ Good option also for FGC Lite?

CEA – 1 MeV facility

❖ Plan 2013

❖ PROSPERO

- ❖ 29-30 April and/or 2-3 May for active tests
- ❖ Passive tests (send components at least 4 weeks before)

Linear Voltage regulators

LHC4913

- ❖ Positive voltage reg; ST product
 - ❖ SCEM number 08.57.56.010.8
 - ❖ New production → PH is doing a new order
 - ❖ Radiation tests to be done
 - ❖ Cost~10chf/pieces (lot of 310 parts)
 - ❖ If interested, indicate the number of parts to buy
- ❖ Negative linear regulator also exists
 - ❖ SCEM number 08.57.56.110.5

FPGA MicroSemi and tools

- ❖ Precision for TMR is not available anymore
 - ❖ Use of Synplify
 - ❖ NanoFip uses Precision. Design was completed before the regulation change
- ❖ New FPGA. SmartFusion 2 (65 nm)
 - ❖ SRAM can have Single error correction, double error detection
 - ❖ Not designed for radiation environment. There will be a RT device. 2015 is the target
 - ❖ FPGA configuration and configuration registers are SEU immune
 - ❖ Other registers are not protected
 - ❖ A few radiation tests already done but not published
 - ❖ <http://www.actel.com/fpga/SmartFusion2/>
 - ❖ http://www.actel.com/videos/smartfusion2_overview.html

Improvement for 2013, among others ...

- ❖ Share the knowledge of the tested components
 - ❖ Reports are on EDMS
 - ❖ Add your own reports (PSI, CNRAD, H4IRRAD)
 - ❖ Many tested components can be useful for other groups
- ❖ Add a table of the tested components

Conferences

❖ SEE symposium

❖ http://radhome.gsfc.nasa.gov/radhome/see_mapld/#

❖ NSREC

❖ <http://www.nsrec.com/>

❖ RADECS

❖ <http://www.radecs2013.com/>



Back-up

CERN facilities

- ❖ CNRAD and H4IRRAD
- ❖ East area



Technical stop



Fraunhofer institute - Germany