

GSI Test, June 2005



Tested components

1. ACOP components (11) – CSIST, NCU;
2. TTCE components (9) – INFN Perugia, MIT;
3. DC/DC MOSFET – dynamic test (INFN Perugia);
4. USCM PROM – upset test (MIT);
5. ECAL components (10) – LAPP, INFN Pisa;
6. TRD gas (5) – INFN Rome.

Participants

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Test conditions

- Ion source – Au^{79} ;
- Energies: 120, 150, 200, 400 and 800 MeV/nuc1;
- LETs: 12, 16, 23, 28, 33 MeV/(mg/cm²);
- Intensities: up to 10^5 ions/spill;
- Beam incidence: 0°;
- Spill duration: 4 sec;
- Inter-spill time: 4 sec;
- Raster scan: 2x2 and 3x2 cm²;
- 6 night shifts allocated (22:00-6:00).

ACOP components

- DP83316 (NS), Ethernet Controller, SEL rate on ISS $\sim 10^{-6} \text{ day}^{-1}$, **accepted**;
- AM79C973 (AMD), Ethernet Controller, SEL rate on ISS $\sim 10^{-6} \text{ day}^{-1}$, **accepted**;
- 82551IT (Intel), Ethernet Controller, SEL rate on ISS $\sim 10^{-3} \text{ day}^{-1}$, **rejected**;

- PDC2032 (Promise), SATA Controller, SEL rate on ISS $\sim 2 \cdot 10^{-5} \text{ day}^{-1}$, **not recommended**;
- SiI3114 (SI), SATA Controller, SEL rate on ISS $\sim 10^{-5} \text{ day}^{-1}$, **accepted w/reserv – test lower LETs**;

ACOP components

- custom (Chi-Mei), SOG driver, SEL rate on ISS $< 10^{-7}$ day⁻¹, **accepted**;
- HX8819AFCG (Himax), ASIC, SEL rate on ISS $< 10^{-7}$ day⁻¹, **accepted**;
- AAT1109, AAT1110 (AAT), PWH, SEL rate on ISS $< 10^{-6}$ day⁻¹, **accepted**;

- UHC124 (TransDim), USB Controller, SEL rate on ISS $< 10^{-7}$ day⁻¹, **accepted**;
- SL811 (Cypress), USB Controller, SEL rate on ISS $> 10^{-3}$ day⁻¹, **rejected**.

TTCE components

- TPS2814 (TI), MOSFET driver, SEL rate on ISS $< 10^{-7}$ day $^{-1}$, **accepted**;
- LM5111 (NS), MOSFET driver, SEL rate on ISS $< 10^{-7}$ day $^{-1}$, **accepted**;
- AM29F080B (AMD), FLASH memory, SEL rate on ISS $< 10^{-7}$ day $^{-1}$, **accepted**;
- K6X4008 (Samsung), SRAM memory, SEL rate on ISS $< 10^{-7}$ day $^{-1}$, **accepted**;
- MAX705 (MAXIM), Power Monitor, SEL rate on ISS $< 10^{-7}$ day $^{-1}$, **accepted**;
- MUX28 (AD), Multiplexer, SEL rate on ISS $< 10^{-7}$ day $^{-1}$, **accepted**;
- DS2482 (MAXIM), Dallas Master, SEL rate on ISS $< 10^{-7}$ day $^{-1}$, **accepted**;
- AD780 (AD), Voltage reference, SEL rate on ISS $\sim 10^{-7}$ day $^{-1}$, **accepted**;
- AN28528 (INTEL), CAN controller, SEL rate on ISS $\sim 10^{-6}$ day $^{-1}$, **accepted**;

DC/DC and USCM components

- FDD2570 (Fairchild), Power MOSFET,
Dynamic test at $V_{ds} = 56V$,
Threshold is around $25 \text{ MeV}/(\text{mg}/\text{cm}^2)$
SEL rate on ISS $\sim 10^{-6} \text{ day}^{-1}$, **accepted;**
- AT27C010 (Atmel), PROM,
SEU rate on ISS $< 10^{-7} \text{ day}^{-1}$, **accepted.**

EIB components

- MAX4415 (MAXIM), OpAmp,
SEL rate on ISS $< 10^{-7} \text{ day}^{-1}$, **accepted;**
- AD8038 (AD), OpAmp,
SEL rate on ISS $< 10^{-7} \text{ day}^{-1}$, **accepted;**
- MAX976 (MAXIM), Comparator,
SEL rate on ISS $< 10^{-7} \text{ day}^{-1}$, **accepted.**

EDR components

- SN65LVDS9638D (TI), Dual Driver, SEL rate on ISS $< 10^{-7}$ day⁻¹, **accepted**;
- DS90LV048ATM (NS), Quad receiver, SEL rate on ISS $< 10^{-7}$ day⁻¹, **accepted**;
- SN74LVDC162244A (TI), Buffer, SEL rate on ISS $< 10^{-7}$ day⁻¹, **accepted**;
- SN74LVDC1G04DBVR (TI), Inverter, SEL rate on ISS $< 10^{-7}$ day⁻¹, **accepted**;
- DS90LV019 (NS), Driver/Receiver, SEL rate on ISS $< 10^{-7}$ day⁻¹, **accepted**;
- SN74LVC1G00DBVR (TI), NAND Gate, SEL rate on ISS $< 10^{-7}$ day⁻¹, **accepted**;
- SN74LVC2244A (TI), Octal Buffer, SEL rate on ISS $< 10^{-7}$ day⁻¹, **accepted**.

TRD-Gas components

- SUB65P06 (TI), MOSFET,
Dynamic test at $V_{ds} = 35V$,
SEL rate on ISS $< 10^{-7} \text{ day}^{-1}$, **accepted;**
- SI4840DY (NS), MOSFET,
Dynamic test at $V_{ds} = 20V$,
SEL rate on ISS $< 10^{-7} \text{ day}^{-1}$, **accepted;**
- SI4966DY (NS), MOSFET,
Dynamic test at $V_{ds} = 20V$,
SEL rate on ISS $\sim 10^{-6} \text{ day}^{-1}$, **accepted;**
- SI4544DY (NS), MOSFET,
Dynamic test at $V_{ds} = 12V$,
SEL rate on ISS $< 10^{-7} \text{ day}^{-1}$, **accepted;**
- MAX225 (MAXIM), RS232 driver,
SEL rate on ISS $< 10^{-7} \text{ day}^{-1}$, **accepted.**