RADIATION HARDNESS ASSURANCE

MAKE US YOUR PARTNER!

Seibersdorf Laboratories develops experimental and numerical methods investigating all kinds of radiation effects in components and systems applied in various radiation fields.

Our mission is to offer expert services in radiation hardness assurance of components and systems according to EN ISO/IEC 17025 accreditation for the European industry, nuclear medicine and for academic research institutes.

Our vision is to become your leading partner in radiation exposure testing of your systems and components and support you with numerical investigations of your radiation tasks.

WHY RADIATION HARDNESS ASSURANCE?

Electronic components and systems show degradation in their electrical performance when exposed to ionizing radiation. Affected are devices used in space, aviation or in nuclear medicine. Radiation hardness assurance measures are needed to guarantee proper functionality.

Due to the increasingly diminishing component structures radiation sensitivity is increased. Effects caused by cosmic radiation on the Earth's surface become relevant for electronic devices even in terrestrial applications such as automotive. Electronic components and systems that are to be used in sensitive areas need to be qualified with respect to their radiation resistance.

The corresponding test procedures are defined by international organizations such as the European Cooperation on Space Standardization (ECSS).

CONTACT

Seibersdorf Labor GmbH
Radiation Hardness Assurance and Space Weather
2444 Seibersdorf, Austria
Tel.: +43 50550-2545 I Fax: +43 50550-2544
www.seibersdorf-laboratories.at

DR. PETER BECK
Head of Radiation Hardness Assurance and Space Weather
peter.beck@seibersdorf-laboratories.at

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esa FFG bmvit

SEIBERSDORF LABORATORIES

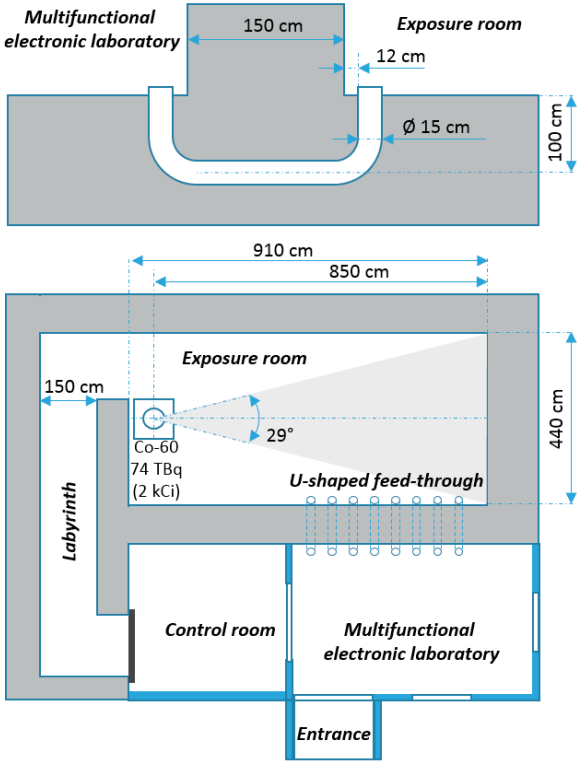
FREQUENTLY ASKED SOLUTIONS

RADIATION HARDNESS ASSURANCE

TEC LABORATORY

TEC LABORATORY

- EN ISO/IEC 17025 Accredited Testing Laboratory
- 24/7 testing services of electronic components, PCBs, devices, systems and materials
- Spacious exposure room: 9.1 meters long, 4.4 meters wide and 4 meters high
- Wide uniform field size for total ionizing dose (TID) testing
- Economic long-term enhanced low dose rate sensitivity (ELDRS) testing
- Multifunctional equipped electronic laboratory
- TID-testing compliant with ESCC-22900, MIL-STD-750, and ECSS standards
- ESD compliancy with EN 61340-5-1



TOTAL IONIZING DOSE EXPOSURE FACILITY

- High-activity Cobalt-60 irradiation source: 74 TBq (2kCi)
- Dose rate range: 0.3 Gy/h - 100 Gy/h
- Pneumatic system for source movement
- Source container (Pb): Shielding thickness 35 cm
- Collimator: 29° cone (Pb, W) according to ISO Standard
- Automatic data logging of all source conditions
- Automatic data logging of the access to the exposure facility and all sensors of the security system
- Automatic data logging of temperature, humidity and pressure
- High quality multichannel dosimeter system for each experiment (PTW Farmer Chambers, Si-Detectors)

MULTIFUNCTIONAL ELECTRONIC LABORATORY

- Attached multifunctional equipped electronic laboratory
- Possibility to setup customer testing equipment
- Five working places in conformity with ESD requirements EN 61340-5-1
- Eight independent feed-throughs between electronic laboratory and exposure room (15 cm diameter, 4 m long)
- Automatic component parameter analyzer (Unites Systems´ UNIMET 3000) with several test-heads
- Common laboratory equipment can be provided: power supplies, DVMs, oscilloscopes, oscillators, pulse generators
- Warming cupboard (MEMMERT UN55plus)
- Versatile mechanical workshop, development and fabrication of irradiation and test boards

QUALITY STANDARDS

- EN ISO/IEC 17025
  Accredited Testing Laboratory
- EN ISO 9001:2008
  Quality Management Certification