

## Radiation Analysis and Testing

Northrop Grumman's Advanced Technology Center offers radiation characterization of a variety of electronic components - including analog, digital, and mixed signal devices - with quick turnaround and at very affordable prices. This service is ideal for radiation lot testing of procured lots or determining the radiation tolerance of electronic components which have no published supporting data.

Testing is performed at an irradiation facility operated by the University of Maryland. It offers great flexibility thus minimizing set up effort. In addition, we eliminate the time and cost of developing new test programs by utilizing an extensive library of electrical test software that were created for our own internal programs.

### Our basic rad testing offers:

- Static bias or simple dynamic bias during radiation
- Standard electrical characterization tests
- Dose rates ranging from 0.15 R/sec (or dose dependent bipolar devices), up to a MIL-STD-883, Method 1019.4 rate of 50-100 R/sec (for CMOS devices or those without dose dependencies).
- Design and construction of irradiation bias board
- Irradiation of up to 2 total dose levels and a 1 week, 100°C anneal
- Electrical characterization pre-rad, after the 2 irradiation steps and 100°C anneal
- Short report and data

### Other services include:

- Radiation Testing of Die using our ARACOR X-ray irradiator, probe setup and flexible on-line parameter analyzer system.
- Space Radiation Environment Analysis - Detailed shielding analysis
- Determination of anticipated dose within shielded boxes for given orbital parameters
- Radiation Transport Analysis of transmitted dose and buildup factors from the transport of alpha, beta gamma-rays, protons or neutrons through shielding material.

### Experience:

With over 20 years of experience in the field of radiation testing and analysis, Northrop Grumman can select the best approach to satisfy your requirements.

*For more information, please contact:*  
Northrop Grumman Corporation  
Electronic Sensors and Systems Sector  
P.O. Box 1521, MS 3D14  
Baltimore, MD 21203 USA

Mike Fitzpatrick (Sales)  
Phone: (410) 765-7469  
Fax: (410) 765-7652  
Email: michael\_d\_fitzpatrick@md.northgrum.com  
Norm Goldstein (Technical Inquiries)  
Phone: (410) 765-7505  
Fax: (410) 765-7652  
Email: norman\_p\_goldstein@mail.northgrum.com



After irradiation, the LTX MTS-77 tests analog devices such as op amps and voltage regulators using software programs developed at Northrop Grumman.

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Systems Sector