



Quality and Reliability FAQ

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1. Does Actel have radiation-tolerant data (single even upsets (SEU) and total dose) for commercial devices (i.e., A54SX16-PQ208)?

No radiation data is available for commercial devices, because Actel does not perform radiation testing on commercial devices.

2. What is the radiation sensitivity of ProASIC^{PLUS} to neutrons?

The APA750 FPGAs were tested using the WNR neutron beam at the Los Alamos National Laboratory. No loss of configuration data was observed in the APA750. For more details about the testing, refer to the white paper, *APA750 and A54SX32A LANSCE Neutron Test Report*, located at <http://www.actel.com/documents/LANSCETestReportWP.pdf>.

3. Which Actel FPGAs are recommended for Aerospace and HiRel applications?

Actel has done thorough radiation tests for its radiation-tolerant and radiation-hardened devices. Test results and related documents are available at <http://www.actel.com/products/aero/hireldata.aspx>. Actel radiation-tolerant and radiation-hardened devices are highly recommended for Aerospace and HiRel applications.

4. What are the SEU and soft error rates (SER) for Actel Flash devices?

Flash-based FPGAs did not exhibit any configuration SEU or SEFI when exposed to high-energy neutrons. For more details, refer to the IROC report, *Radiation Results of the SER Test of Actel, Xilinx and Altera FPGA instances*, located at <http://www.actel.com/documents/RadResultsIROCreport.pdf>

5. Are Actel radiation-tolerant and radiation-hardened devices (CQ packages) subject to Particle Impact Noise Detection (PIND) testing?

Actel does PIND testing for E-flow devices. M/B-flow devices are not required for PIND testing, but can be done upon customer request. PIND testing will not cause any damage to the package.

6. Where can I find Actel part numbers to the DSCC drawing number cross reference?

The *DSCC Cross Reference Guide* is available at Actel website.
http://www.actel.com/documents/DSCC_CrossRef.pdf

For more information, visit our website at www.actel.com



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