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Product News

RTG4 High-Speed Signal Processing Radiation-Tolerant FPGA Family Achieves QML Class Q Qualification

We are delighted to announce that our RTG4 high-speed signal processing radiation-tolerant FPGA family has achieved Qualified Manufacturers List (QML) Class Q qualification by the Defense Logistics Agency (DLA). This qualification validates the quality and reliability of RTG4 FPGAs, while paving the way for QML Class V qualification.

>> [Read more...](#)



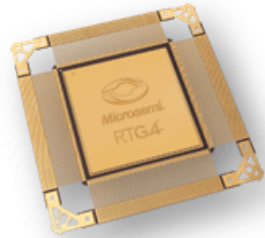
Radiation Testing for the RTG4 FPGA Family: First Proton Report on RTG4 Flip-Flops and More Available

As radiation testing for RTG4 FPGA family continues, we now have the first proton test report available. This proton testing was performed in February 2018 on RTG4 flip-flops, LSRAM, uSRAM and PLLs. An interim radiation report on RTG4 SERDES and FDDR is also available.



Please contact the space marketing team to obtain these radiation reports: Ken.O'Neill@microchip.com, Minh.Nguyen@microchip.com, Julian.DiMatteo@microchip.com.

>> [Read more...](#)



Ceramic Quad Flat Pack (CQFP) for RTG4 FPGAs Family Introduced – Provides Cost-Effective Integration

A ceramic quad flat pack (CQFP) package with 352 pins was recently introduced for RTG4 FPGAs family to provide a more cost-effective integration than higher pin count packages. CQFP is the industry-standard package for space applications with well-established board integration and inspection procedures.

>> [Read more...](#)

Minh U. Nguyen

Marketing Manager, Space FPGAs, SoC Products Group

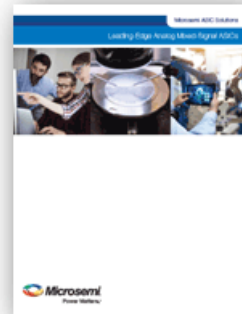


Product Updates and Notifications

Microsemi: Providing Leading-Edge ASIC IC Design for Leading Aerospace Companies

Microsemi has over 20 years of mixed signal custom IC design experience with leading aerospace companies. We are a leading ASIC manufacturer of analog embedded systems that include solutions requiring high-voltages, radiation tolerance, a focus on safety standards, and tolerance to harsh environments.

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LX7720 Motor Control and Position Sensing IC Post-TID Performance

We have completed Total Ionizing Dose testing on our new LX7720 Radiation Tolerant Motor Control and Position Sensing IC. The device performance remains strong after exposure. We presented a paper titled "TID Testing of Microsemi Integrated Motor Controller LX7720" at the NSREC Conference in Kona, Hawaii on July 16-20, 2018.

Please contact dorian.johnson@microchip.com for more information.

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Demonstration Platform Developed to Showcase the LX7730 Telemetry Controller and the RTG4 FPGA

Microsemi has developed a demonstration platform that showcases the LX7730 Telemetry Controller and the RTG4 FPGA reading and processing data from six sensors located on a companion board.

A video of this demonstration can be viewed [here](#)
>> [Read more...](#)

Dorian Johnson

Product Marketing Manager, Mixed Signal & ASIC High-Reliability ICs



Improving Space Systems Designs Using FPGAs with RISC-V Cores

The April 2018 edition of SatNews magazine published an article by Ted Marena and Ken O'Neill from Microsemi, in which the advantages of using processors based upon the RISC-V open instruction set architecture are discussed.



The article looks at some of the special challenges space designers have when deploying processors in space systems, and how the adoption of the RISC-V open instruction set architecture can alleviate those issues.

>> [Read more...](#)

Ken O'Neill

Director of Marketing, Space and Aviation, SoC Products Group



Microsemi Introduces and Enhances Space-Qualified Oscillators

Microsemi has introduced several new space qualified oscillator products, which are defined in the following documents:

- [DOC206906, Rev B](#) – initial release of Space Qualified LVPECL VCSO offering up to 1 GHz
- [DOC207139, Rev A](#) – initial release of Space Qualified LVDS TCXO offering with single/dual complementary output up to 200 MHz

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Scott Murphy

Space Product Line Manager, Piezo Oscillator Products



Space News

Microsemi's Space Chip-Scale Atomic Clock: The First Commercially Available Radiation-Tolerant CSAC

Microsemi has launched our SA.45s Commercial Space Chip Scale Atomic Clock (CSAC), the industry's first commercially available radiation-tolerant CSAC. Ideally suited for low Earth orbit (LEO) applications, the device provides the accuracy and stability of atomic clock technology while achieving significant breakthroughs in reduced size, weight and power (SWaP) consumption.

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Stewart Hampton

Product Line Manager, Clocks Group



Microsemi's Commitment to Space

Our Commitment to Space: Meeting On-Orbit Radiation Requirements of the Satellite Mission

One of the most critical requirements for semiconductors in space is meeting the on-orbit radiation requirements of the satellite mission. Radiation requirements for most satellite missions are classified into two main criteria: Total Ionizing Dose (TID) effects due to absorbed gamma radiation and Single Event Effects (SEE) due to heavy ions. The level of radiation performance is based on the mission orbit, timeline, and shielding. Once the requirements are established for the mission, our customers are typically looking towards Microsemi to prove that our space-qualified device can meet those limits.

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Chris Hart

Director of Marketing and Applications, Aerospace and Defense Products, Discrete and Power Management (DPM)



Appearances and Events

- [Space FPGA Users Working Group \(SEFUW\) at European Space Agency Technical Headquarters, Noordwijk NL, \(9 April – 11 April\)](#)
- [Space Parts Working Group \(SPWG\), Torrance CA, \(10 April – 11 April\)](#)
- [Hardened Electronics and Radiation Technology \(HEART\) – Tucson AZ, \(16 April – 19 April\)](#)
- [SpaceWire 2018 – Long Beach CA, 14 May – 18 May](#)
- [Single Event Effects Symposium / Military and Aerospace Programmable Logic Design Conference \(SEE/MAPLD\) – La Jolla CA, 21 May – 25 May](#)
- [IEEE Nuclear and Space Radiation Effects Conference \(NSREC\) - Kona, Hawaii, 16 July – 20 July](#)

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Julian Di Matteo

Product Marketing Engineer, Space and Aviation,
FPGAs & SoC Products Group



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If you have any feedback or content suggestions for the Space Brief Newsletter, send an email to SpaceBrief@microsemi.com or click on the "Feedback" link. Thank you for your assistance in ensuring the Space Brief continues to serve the space market and all employees.

Sylvia Keane

Senior Marketing and Communications Specialist (DPM)
and Space Brief Editor-in-Chief

