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VORAGO Rad-Hard MCU Enables In-Flight Reconfiguration of AMD Space-Grade FPGAs

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AUSTIN, TX - June 18, 2024 -
Rad-hard microcontroller from VORAGO Technologies reconfigures AMD Kintex? UltraScale? FPGAs for space applications

Austin, Texas, June 18, 2024: AMD and VORAGO Technologies are pleased to announce that AMD Space-Grade Kintex UltraScale FPGAs (Field Programmable Gate Arrays) can be reconfigured by VORAGO?s radiation hardened microcontrollers (rad-hard MCUs), increasing reliability and flexibility while adding radiation hardness to existing radiation-tolerant AMD FPGA-based systems.

Joining market-leading FPGAs from AMD with best-in-class, radiation-hardened MCUs from VORAGO greatly increases flexibility in FPGA reconfiguration. Pairing a VORAGO rad-hard MCU with AMD?s FPGA allows updates to be managed in-flight via the MCU. This solution utilizes AMD?s serial reconfiguration interface, simplifying reprogramming versus traditional methods. This new solution that will help customers achieve high reliability for critical applications in space missions.

In this solution, the MCU firmware enables the FPGA to be reconfigured after the system is deployed,

allowing new features and bug fixes to be added later, and enables a multitude of mission modes and profiles. An application note and proof of concept are available based on an AMD XQRKU060 FPGA interfacing to a VORAGO VA41620 MCU.

AMD Kintex? UltraScale? FPGAs focus on high performance in space, with abundant DSP and block RAM resources, and high bandwidth transceivers combined with space-grade packaging. Their reprogrammability, unconstrained by radiation effects or write cycle endurance limits, enable a new generation of reconfigurable satellite payloads to support remote sensing and communications missions.

VORAGO?s radiation hardened Arm® Cortex-M4 microcontrollers enable mission-critical technology to support the most demanding space applications, from heavy computing needs such as edge, to embedded controllers and I/O. With up to 300 krad(Si) TID and SEL >110 MeV*cm2/mg, VORAGO rad-hard MCUs provide industry-leading radiation hardness to withstand the harsh conditions encountered in space.

With best-in-class radiation performance VORAGO MCUs provide system level radiation hardness to applications with radiation-tolerant FPGA systems. By adding the VORAGO MCU to a system design customers can also take advantage of the rich peripheral set to perform tasks including system level single event monitoring and motor control, among others.

Learn more about FPGA reconfiguration or contact us for additional information.

About AMD

For more than 50 years AMD has driven innovation in high-performance computing, graphics, and visualization technologies. Billions of people, leading Fortune 500 businesses, and cutting-edge scientific research institutions around the world rely on AMD technology daily to improve how they live, work, and play. AMD employees are focused on building leadership high-performance and adaptive products that push the boundaries of what is possible. For more information about how AMD is enabling today and inspiring tomorrow, visit the AMD (NASDAQ: AMD) website, blog, LinkedIn, and X pages.

ABOUT VORAGO

VORAGO empowers customers to achieve their mission with its portfolio of Arm®-based components supporting the most demanding Aerospace, Defense, and Industrial applications in extreme temperature and high radiation environments. VORAGO?s patented technology portfolio (HARDSIL®) easily incorporates exceptional radiation hardening capability into standard semiconductor IC creation.

VORAGO primarily serves Aerospace & Defense customers in North America and Europe and has a deep flight heritage. VORAGO is a privately held company based in Austin, Texas. The company has been recognized multiple times on the INC 5000 list and in 2023 made its debut appearance among the Deloitte Technology Fast 500?. Learn more at www.voragotech.com and follow VORAGO on LinkedIn.

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VORAGO Technologies

VORAGO Technologies is a leading provider of radiation hardened and radiation tolerant components for Aerospace, Defense, and Industrial applications.

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