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Microchip Extends its Radiation-Tolerant Family of Gigabit Ethernet PHYs

The new VSC8574RT PHY supports both copper and fiber interfaces for added flexibility in space applications

CHANDLER, Ariz., May 23, 2023 (GLOBE NEWSWIRE) -- The space industry is shifting its connectivity interfaces from traditional dedicated networks to Ethernet solutions that provide added flexibility and simplify the design process. To streamline the implementation of Ethernet for aerospace and defense customers, Microchip Technology **(Nasdaq: MCHP)** today announces it has extended its radiation-tolerant (RT) Ethernet PHY devices with the new **VSC8574RT PHY**. The VSC8574RT PHY supports the Serial Gigabit Media Independent Interface (SGMII) and Quad Serial Gigabit Media-Independent Interface (QSGMII) to reduce the overall signal pins in the design and free up the host device.

Space applications operate in environments that require enhanced radiation technology to withstand extreme temperatures and electromagnetic events. These events degrade space-based systems and disrupt operations. The VSC8574RT Ethernet PHY builds on Microchip's extensive Commercial-Off-The-Shelf (COTS) based device, allowing customers to begin developing applications using the COTS version and substitute a RT device for the final mission.

Compatible with both copper and fiber interfaces, the VSC8574RT PHY makes new application use cases possible. Although copper is primarily used in today's design, the fiber interface is the wave of the future in space applications, as the industry requires data rates exceeding 1 Gigabit.

The VSC8574RT PHY is equipped with a quad port to support 10, 100 and 1000BASE-T Ethernet connections for optimal speed and reach, depending on the device requirements. The high-reliability VSC8574RT PHY boasts advanced features, such as Synchronous Ethernet (SyncE) and IEEE® 1588v2 Precision Time Protocol (PTP), for network timing and synchronization in applications requiring highly precise timing.

"The VSC8574RT PHY with advanced timing features provides our customers with a connectivity solution for deterministic real-time applications," said Bob Vampola, vice president of Microchip's aerospace and defense business unit. "Ethernet solutions are in high demand for space applications, and our COTS-to-RT devices offer increased capabilities with multiport, SGMII and fiber interfaces."

The VSC8574RT specifications include single event latch-up immunity above 78 MeV.cm²/mg and total ionizing dose tested up to 100 krad. This versatile solution caters to a wide spectrum of applications from Low-Earth Orbit (LEO) to deep space.

Microchip's family of COTS-based Gigabit Ethernet PHY devices now includes the new VSC8574RT, VSC8541RT and VSC8540RT.

Development Tools

The VSC8574RT is supported by the **VSC8574-EV Evaluation Board**, which enables the user to evaluate the device in multiple configurations and offers a variety of other features.

Pricing and Availability

The VSC8574RT Ethernet PHY is available in limited sampling upon request. For additional information, **contact a Microchip sales representative**.

Resources

High-res images available through Flickr or editorial contact (feel free to publish):

- Application image:
  www.flickr.com/photos/microchiptechnology/52784517149/sizes/l

About Microchip Technology

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