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Microchip Advances Space-Grade Timing with Enhanced Radiation Tolerance and Extended Temperature Performance

The Space CSAC-SA65 combines atomic-clock accuracy with built-in 1 PPS disciplining and low-power consumption

CHANDLER, Ariz., Aug. 13, 2026 (GLOBE NEWSWIRE) -- The growing New Space market is fueling demand for smaller, less expensive space hardware to support short-duration missions for applications such as satellite-to-cellular communications, alternative navigation and Earth imaging. Microchip Technology **(Nasdaq: MCHP)** today announces it expanded its atomic clock portfolio with the **radiation-tolerant Space CSAC-SA65**, a Chip Scale Atomic Clock designed to deliver precise timing for space systems. The device provides a compact, low-power alternative to traditional radiation-hardened timing solutions, helping developers reduce size, weight, power and cost while maintaining accuracy.

Building on the heritage of Microchip's Space CSAC-SA45, the Space CSAC-SA65 extends radiation tolerance to at least 30 kRad and operates in extended temperature ranges from –40°C to +80°C. Consuming less than 120 mW and occupying less than 17 cc of volume, the device is optimized for size-, weight- and power-constrained satellite designs. Its built-in 1 PPS input and output capabilities support synchronization for satellite systems, while its atomic stability enables extended operation without continuous reliance on external timing references such as Global Navigation Satellite System (GNSS) signals.

“By enabling one of the lowest power atomic clocks to thrive in extreme conditions, even the smallest CubeSat can now fly with atomic accuracy,” said Randy Brudzinski, corporate vice president of Microchip’s frequency and time systems business unit. “The Space CSAC-SA65 brings atomic-clock performance to applications where size, weight, power and cost are tightly constrained, helping developers maintain synchronization and timing accuracy even when external timing references are unavailable.”

Manufactured as a Commercial Off-The-Shelf (COTS) product using radiation-tolerant commercial electronic components, the device can offer shorter lead times and lower overall costs compared to traditional space-grade oscillators. Designed for Low Earth Orbit (LEO) missions, the CSAC-SA65 is well suited for applications including satellite timing and frequency control, satellite clock reference, assured positioning, navigation and timing (PNT), and satellite cross-linking.

Microchip offers an extensive portfolio of clock and timing systems, ranging from miniature component oscillators, to small plug-in timing server cards, to multi-rack time scale systems. As a primary contributor to the world's time, Microchip's timing solutions are trusted, reliable and resilient. For more information, visit **Microchip's Clock and Timing Systems web page**.

Development Tools

The CSAC-SA65 is supported by Microchip's **Clockstudio™ software** for control and analysis of atomic clocks, as well as a **CSAC Developer Kit.**

Pricing and Availability

The CSAC-SA65 (part number 090-02789-007) is available for purchase. For additional information and to purchase, contact a Microchip **sales representative or authorized worldwide distributor**.

Resources

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

- Application image: **www.flickr.com/photos/microchiptechnology/55415868006/sizes/l**

About Microchip Technology:
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