



## SiTime Takes on GNSS Threats, Unveiling Jamming- and Spoofing-Resilient Precision Timing Solution

*Endura Super-TCXO Delivers Superior Holdover and Ruggedized Performance for Aerospace, Defense and Industrial Applications*

SANTA CLARA, Calif.--(BUSINESS WIRE)--Dec. 3, 2025-- [SiTime Corporation](#) (NASDAQ: SITM), the Precision Timing company, today launched the Endura® temperature compensated oscillator (Super-TCXO®), [ENDR-TTT](#), for position, navigation and timing (PNT) applications. Engineered for superior holdover – uninterrupted operation when GNSS is not available – and resistance to jamming and spoofing, ENDR-TTT is an ultra-stable, low-power product for GNSS receivers in aerospace, defense, and industrial markets.

This press release features multimedia. View the full release here: <https://www.businesswire.com/news/home/20251203819068/en/>



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“SiTime’s Endura Super-TCXO, ENDR-TTT, allows us to create a multi-layer anti-spoofing methodology,” said Paul McBurney, GNSS expert, CTO

and co-founder at OneNav. “The first layer minimizes the search window, preventing spoofing because signals outside the window are never tracked. The second layer addresses exceptionally large search windows, such as in first acquisition, where spoofers can be tracked. In this case, the spoofer signals can be identified and removed due to SiTime’s ultra-stable reference clock.”

When GNSS signals are dropped due to unavailability or degradation—including signal jamming or extreme environmental conditions—holdover maintains timing stability locally to enable uninterrupted network operation. The ENDR-TTT Endura Super-TCXO provides up to 20x longer holdover and 20x better PNT accuracy, dramatically improving spoofing resistance.

“SiTime’s ENDR-TTT Endura Super-TCXO accelerates GNSS recovery by narrowing the resynchronization window, reducing spoofing and setting a new standard for ruggedized Precision Timing,” said Piyush Sevalia, executive vice president of marketing at SiTime. “Our latest product delivers a powerful combination of superior performance, low power, and small size, that leads the industry for PNT applications.”

Additional features for SiTime ENDR-TTT Endura Super-TCXO include:

- $\pm 50$  ppb stability over temperature (FvT); up to 10x better frequency stability over temperature versus quartz alternatives.
- $-55^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$  operating temperature range.
- 30,000 g operational shock; up to 20x better resistance to shock.
- 0.004 ppb/g typical g-sensitivity; up to 50x better than quartz alternatives.
- $\pm 0.5$  ppm 20-year aging—eliminates field recalibration.
- Optional I2C/SPI digital pulling capability for system frequency fine-tuning.

### Availability

SiTime's [ENDR-TTT](#) is sampling now. Mass production is expected in 1Q2026.

## Resources

- [Blog](#)
- [Product page](#)

## About SiTime

SiTime Corporation is the Precision Timing company. Our semiconductor MEMS programmable solutions offer a rich feature set that enables customers to differentiate their products with higher performance, smaller size, lower power and better reliability. With more than 3.5 billion devices shipped, SiTime is changing the timing industry. For more information, visit [www.sitime.com](http://www.sitime.com).

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