±5 ppb stability, ±50 ppt/°C ΔF/ΔT

Smallest package, 9 x 7 mm^2

Unmatched ease-of-use
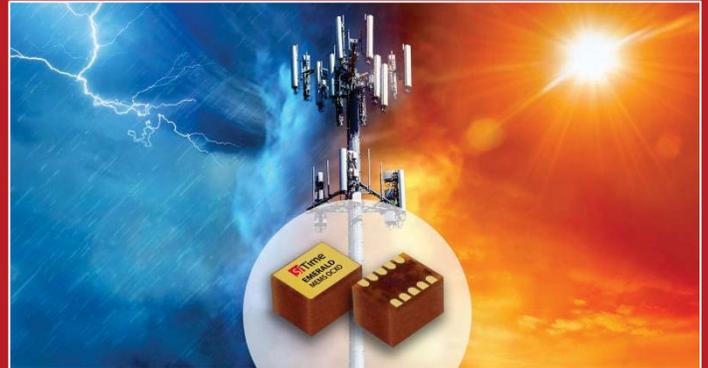
SiTime's Emerald Platform™ Stratum 3E OCXOs are designed to solve the long-standing problems of quartz OCXOs, which are sensitive to environmental conditions, require protective components, and are difficult to use. Emerald OCXOs provide the best dynamic performance (under airflow, thermal shock, vibration, shock, and EMI), programmability for the shortest lead time, and the smallest size. Also available in standard OCXO footprints, these devices can be used as drop-in replacements for quartz OCXOs while improving system performance and robustness.

Benefits

- Enhance system robustness/performance in harsh environments
- Reduce design/manufacturing overhead by eliminating placement constraints and shielding requirements
- Shrink system size with smallest OCXO package, fewer supporting components
- Minimize time error in time synchronization applications

Applications

- SONET/SDH Stratum 3E
- 4G/5G RRH, DU
- IEEE 1588 Boundary Clocks and Grandmasters
- Macro Base Stations
- Carrier Class Routers
- Optical Transport
- Digital Switching
- Test Instrumentation
- Synchronous Ethernet

Features

- Exceptional dynamic stability under airflow, fast temp ramp
  - ±5 to ±50 ppb over-temp stability
  - ±50 ppt/°C frequency slope (ΔF/ΔT)
  - 2e-11 ADEV at 10 seconds averaging time, under airflow
  - 0.1 ppb/g vibration, for outdoor pole mounted equipment
  - Resistant to microphonic and/or board bending effects
- On-chip regulators for power supply noise filtering
- ±0.25 ppb daily aging, ±500 ppb 20 year aging
- Excellent holdover through a wide range of conditions
- Programmable platform, any frequency from 1 to 220 MHz
- LVCMOS or clipped sinewave output
- No activity dips or micro jumps
- GR-1244 Stratum 3E compliant

Contact SiTime for ±3 ppb or better stability options, 105°C operating temperature, and I^{2}C frequency tuning

Emerald Frequency Stability

— Device 1 — Device 2 — Device 3
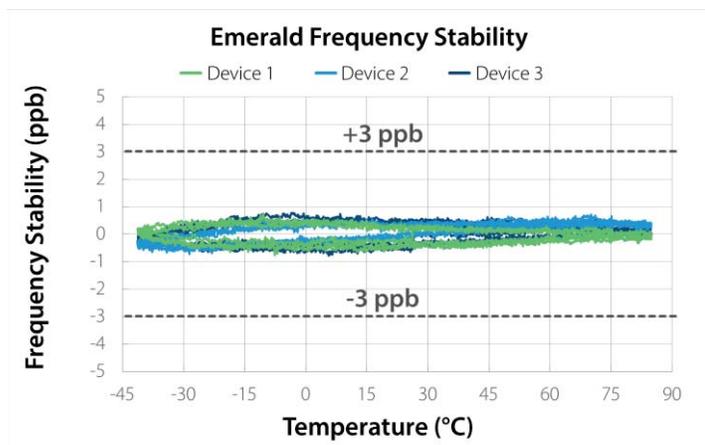
## Four package options (actual size)

9 x 7 mm   14 x 9 mm   20 x 13 mm   25 x 22 mm
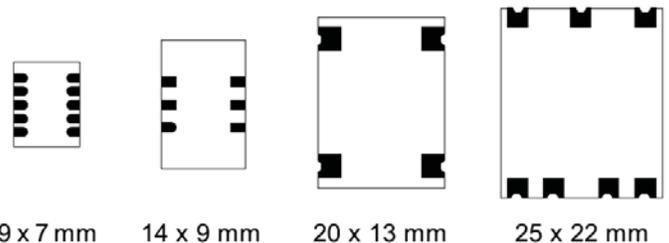
Industry's smallest 9.0 x 7.0 x 6.5H mm OCXO, plus 3 industry standard packages for drop-in replacement of quartz

Frequency Slope

ADEV

TDEV

MTIE
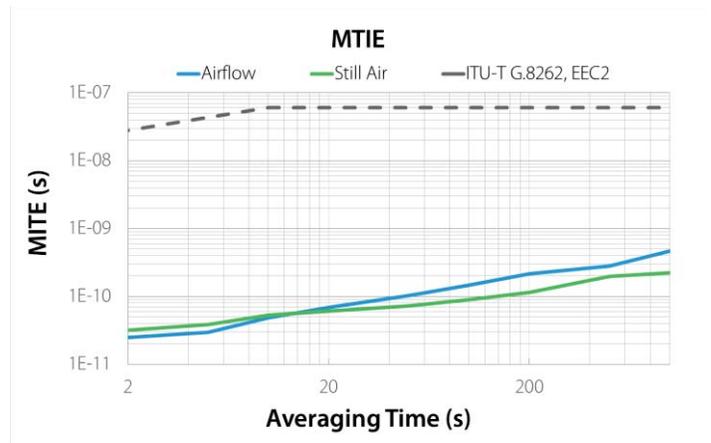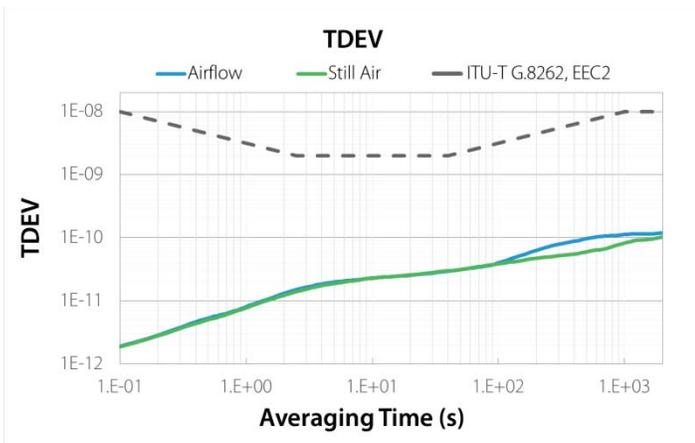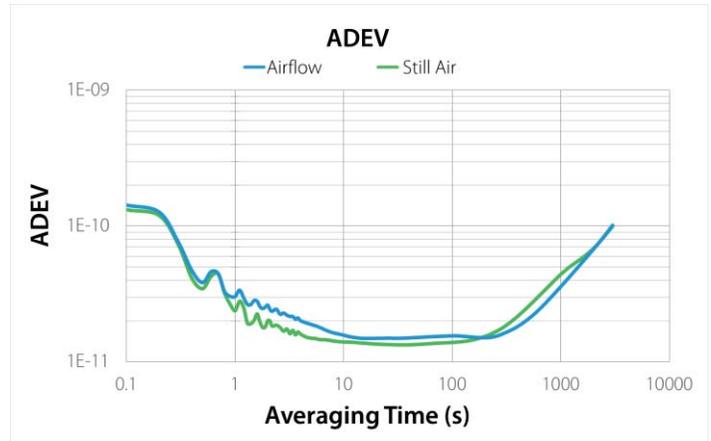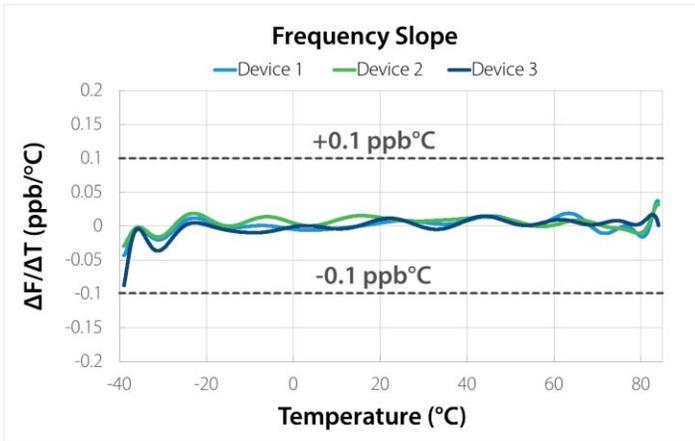
Device Type	Device	Frequency (MHz)	Temp. Range (°C)	Stability (ppb)	Output Type	Package Size (mm^2)
Precision OCXO	**SiT5711**	1 to 60	-20 to 70 -40 to 85 [1]	±5 to ±8 [2]	LVCMOS, Clipped Sine Wave	9.0 x 7.0 14.0 x 9.0 20.0 x 13.0 25.0 x 22.0
	SiT5712	60 to 220		±5 to ±8 [2]		
	SiT5701	1 to 60		±15 to ±50 [2]		
	SiT5702	60 to 220		±15 to ±50 [2]		

1. Contact SiTime for 105°C products. 2. Contact SiTime for tighter stability options. 3. Contact SiTime for I^{2}C options.

SiTime, a MEMS and analog semiconductor company, is the leader in frequency-control solutions. We combine innovative MEMS and programmable analog technologies with our systems expertise to break through the limitations of legacy quartz products and deliver the industry's best timing solutions. Our configurable products provide the most stable timing that enables customers to differentiate their systems with higher performance, small size and better reliability.