



SiTime MEMS timing benefits

Precision Timing

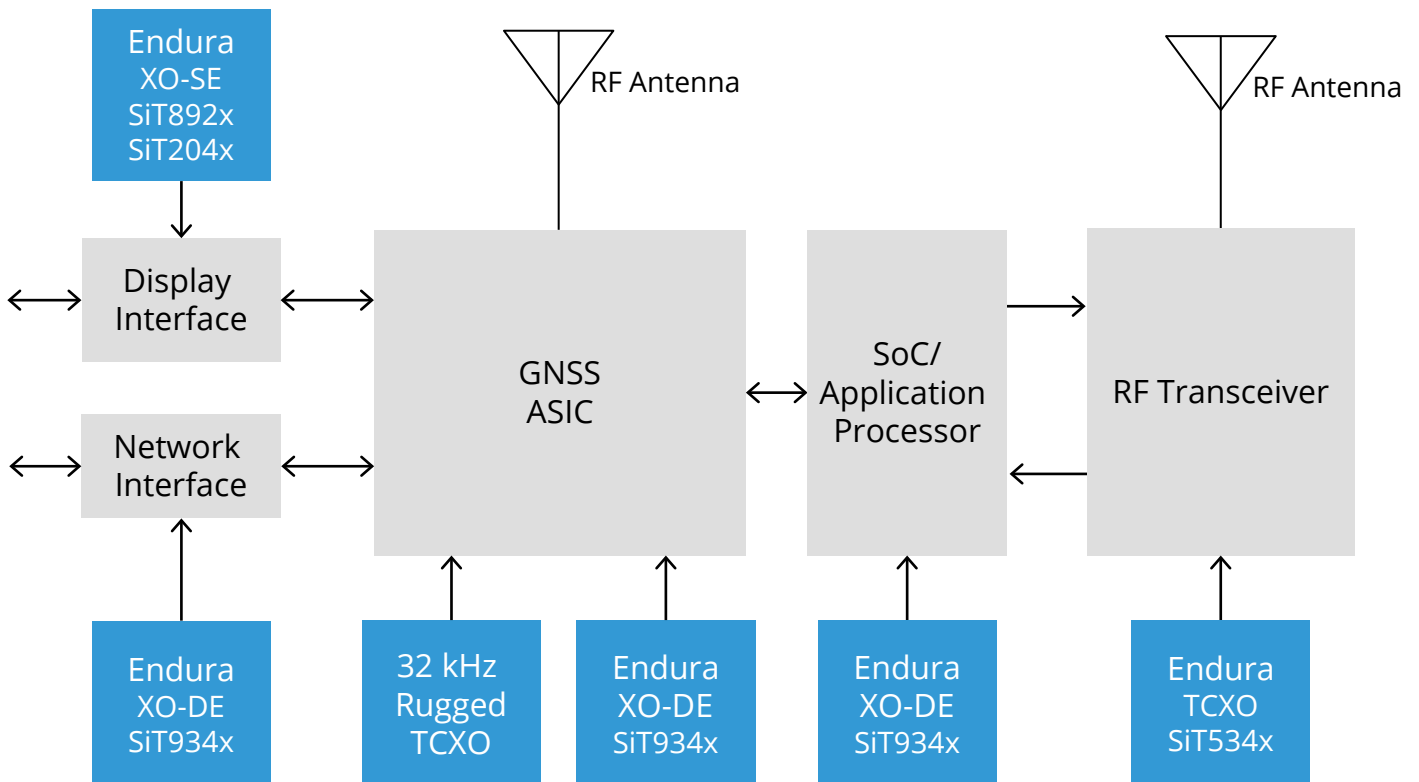
- Best phase noise under vibration
- ± 0.54 ppm 20-year aging
- ± 100 ppb from -55°C to 105°C
- 3.5 ppb/ $^{\circ}\text{C}$ dF/dT, no lock loss under dynamic conditions

Most Robust in Harsh Conditions

- Best acceleration sensitivity, 0.004 ppb/g
- $30,000g$ mechanical shock survivability
- Exceeds MIL-STD-810H profile
- Extended operating temp range

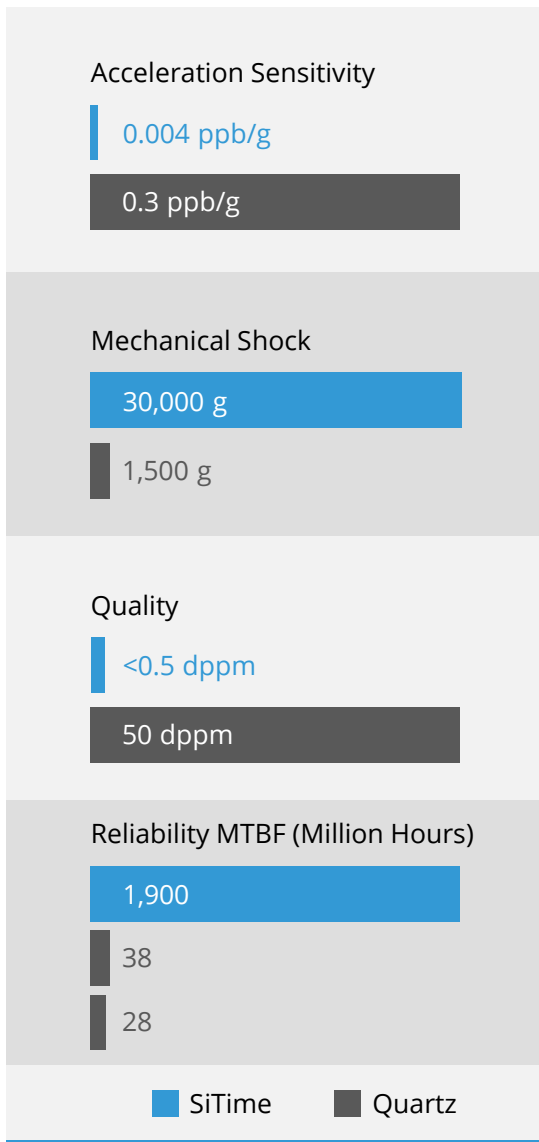
Higher Reliability

- Conforms to MIL-PRF-55310
- $1,900\text{M}$ hours MTBF
- Hermetically sealed
- No cover or shielding needed



Application	Devices	Type	Function	Key Features
Tactical Manpack Radios	SiT5346/47 SiT5348/49	Super-TCXOs	Reference clock for baseband	1 to 220 MHz, 0.004 ppb/g, ±100 ppb, ±1 ppb/°C
	SiT1580	32 kHz TCXO	Time-keeping	32.768 kHz, ±5 ppm, 2.5 ns RMS IPJ, 1.2 mm ² CSP
	SiT9346 SiT9347	Differential XOs	Processor clocking	1 to 725 MHz, ±10 ppm, 0.23 ps RMS phase jitter
	SiT8924/25 SiT2044/45	Single Ended XOs	Reference clock for HDMI Rx	1 to 137 MHz, ±20 ppm, -55°C to 125°C

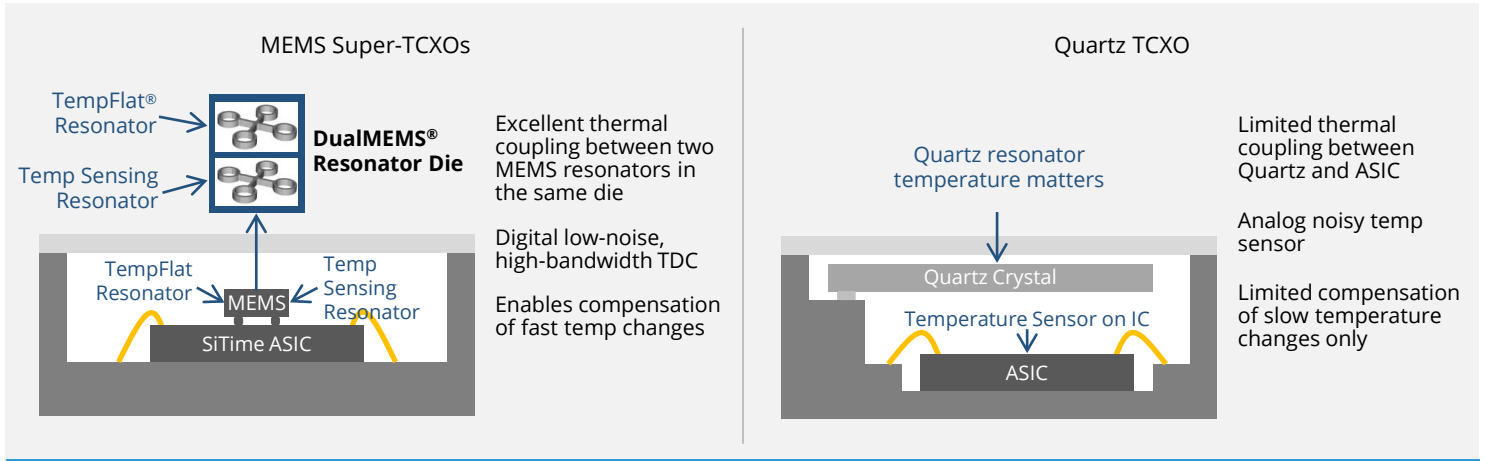
MEMS Outperforms Quartz



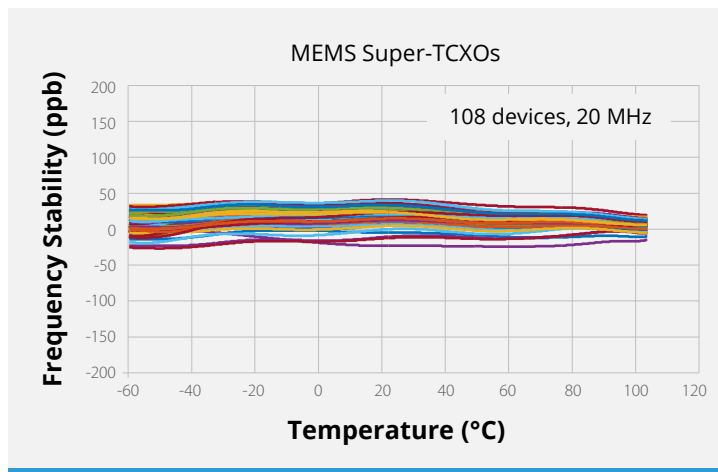
Conforms to MIL Specifications

MIL-PRF-55310	Test	Single-ended XO	Differential XO/VCXO/DCXO	TCXO
3.6.40.1	Shock	●	●	●
4.8.18.3.1	g-Sensitivity	●	●	●
3.6.34.1	Frequency aging	●	●	●
3.6.17.1	g-Sensitivity, constant acceleration	●	●	●
3.6.38.3	Phase noise under vibration	●	●	●
3.6.10.2	Frequency-temperature stability with hysteresis	●	●	●
3.6.45.2	Ambient pressure	●	●	●
3.6.16.5	Allan deviation	n/a	n/a	●
3.6.10.4	Frequency-temperature stability with hysteresis and trim effect	n/a	●	●
3.6.15	Retrace	n/a	n/a	●
3.6.30.7	Modulation frequency response	n/a	●	●
3.6.41.1	Acceleration survivability	●	●	●
3.6.7	Frequency warm up	n/a	n/a	●

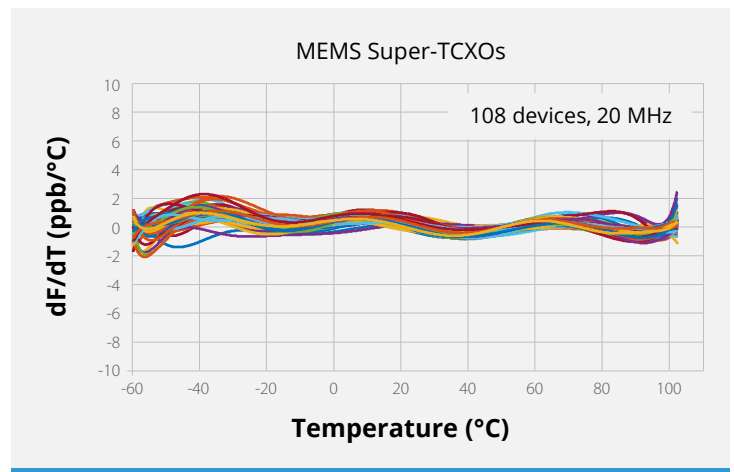
Better Dynamic Performance with DualMEMS Temperature Sensor



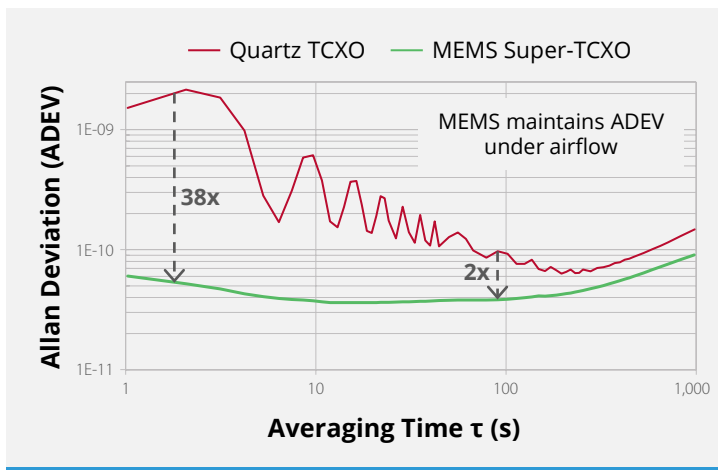
Tight Frequency Stability



Better Frequency Slope



Excellent ADEV Under Airflow



Lower Acceleration (g) Sensitivity

