



SiTime MEMS timing benefits

Precision Timing

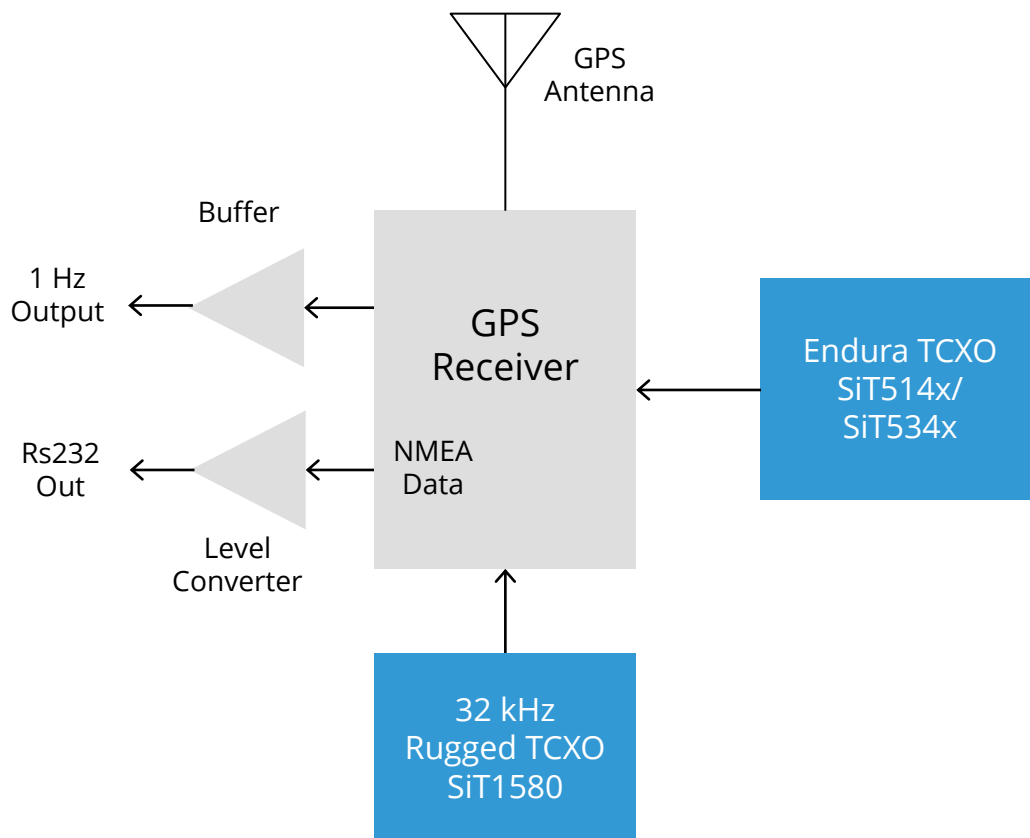
- ± 100 ppb from -55°C to 105°C
- Maintains stable satellite link
- 3.5 ppb/ $^{\circ}\text{C}$ dF/dT, no lock loss under dynamic conditions
- No Activity dips or micro jumps

Most Robust in Harsh Conditions

- Best acceleration sensitivity, 0.004 ppb/g
- Hermetically sealed, heat resistant
- Extended operating temp range
- Best performance under shock & vibration

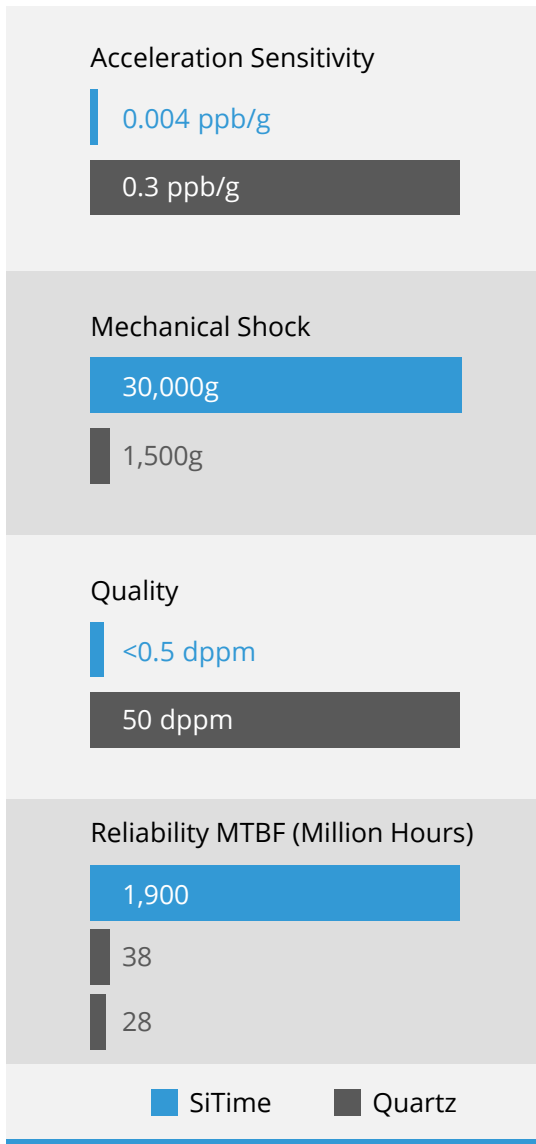
Higher Reliability

- Conforms to MIL-PRF-55310
- 1,900M hours MTBF
- 30,000g mechanical shock survivability
- No cover or shielding needed



Applications	Devices	Type	Function	Key Features
Unmanned Vehicles, Navigation, Search & Rescue, Reconnaissance & Map Creation, Smart Munitions Guidance	SiT5146 SiT5147 SiT5346 SiT5347 SiT5348 SiT5349	Super-TCXOs	Synchronous System	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

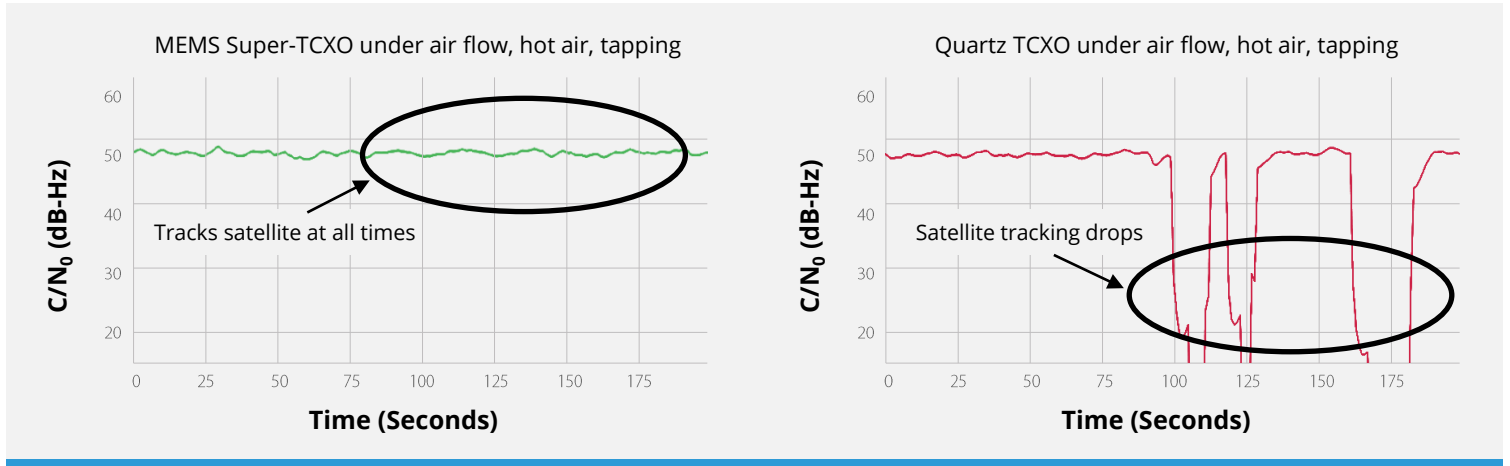
MEMS Outperforms Quartz



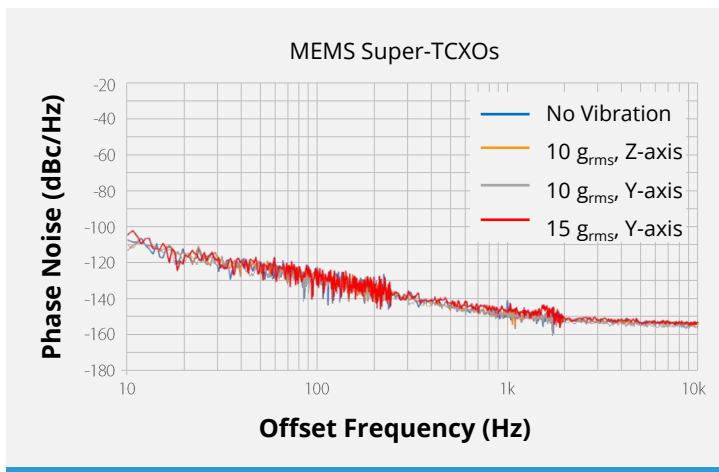
Conforms to MIL Specifications

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	●

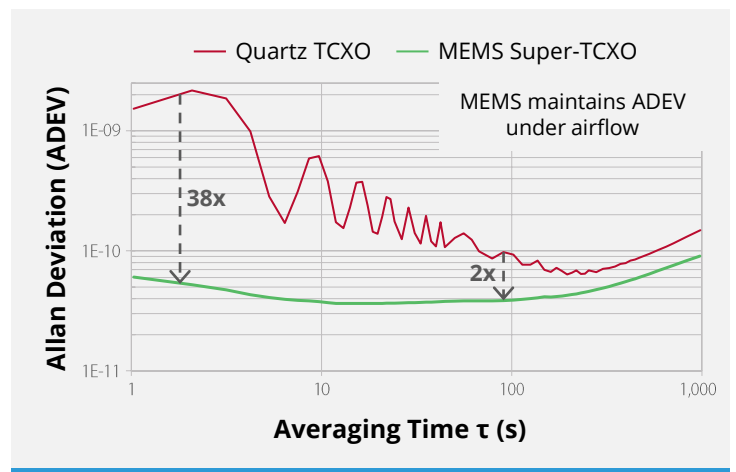
Better Performance under Dynamic Conditions



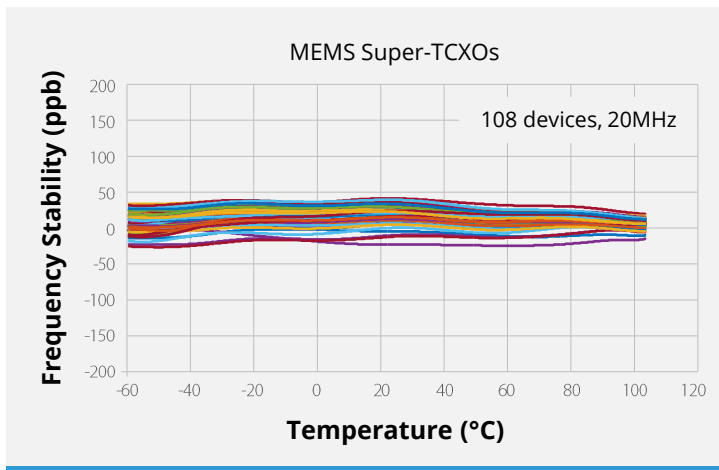
Excellent Phase Noise under Vibration



Excellent ADEV Under Airflow



Tight Frequency Stability



Lower Acceleration (g) Sensitivity

