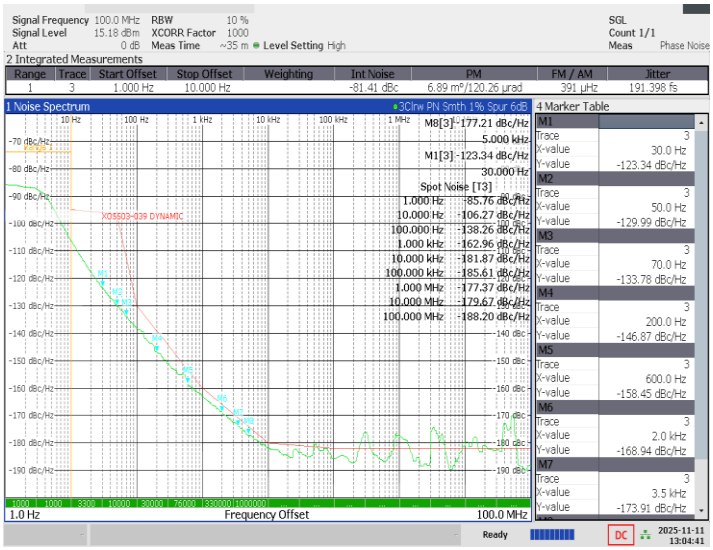
PLL Integrated e-Vibe® Compensated OCXO

Building on Mtron's legacy of ultra-low phase noise quartz crystal design and manufacturing, phase-locked loop (PLL) expertise, and proven e-Vibe® vibration-compensated OCXO solutions, Mtron introduces the **PLL-Integrated e-Vibe® Compensated OCXO**. This next-generation master reference oscillator combines the exceptional frequency stability and ultra-low phase noise performance of Mtron's e-Vibe® OCXO technology with the frequency synthesis, control, and flexibility of an integrated PLL, providing a highly integrated timing solution for demanding mission-critical applications.

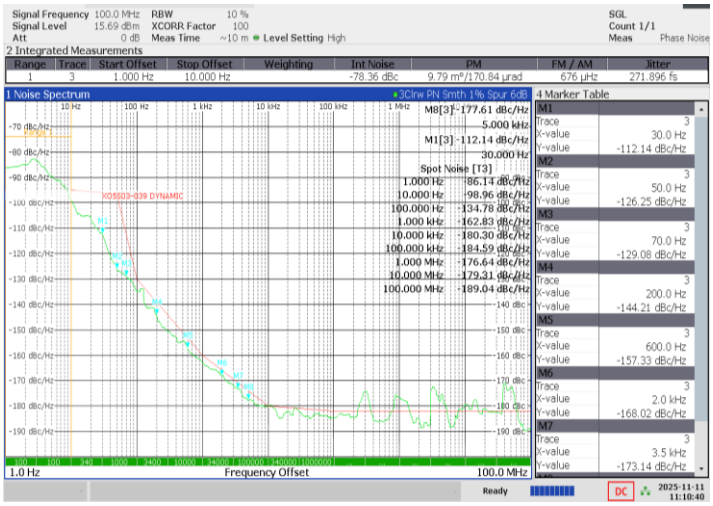
Key features and benefits: Mtron's PLL-Integrated e-Vibe® Compensated OCXO delivers exceptional frequency stability, superior holdover performance, and reduced jitter in a compact **2.0" × 1.5" × 0.8"** package. Unlike conventional vibration-isolated reference oscillators, it doesn't exhibit the low-frequency resonance peaks commonly associated with mechanical vibration isolation, maintaining outstanding spectral purity in dynamic operating environments. The integrated architecture enables frequency generation while preserving the ultra-low phase noise and stability required for advanced RF, microwave, and high-speed digital systems.

Application benefits include enhanced radar resolution, improved target discrimination, increased receiver dynamic range, lower vibration-induced phase noise, and superior environmental robustness. Designed to operate reliably in dynamic airborne, naval, and mobile military platforms, the PLL-Integrated e-Vibe® Compensated OCXO is ideally suited for aerospace, radar, electronic warfare (EW), satellite communications and synchronization systems where performance, reliability, and resilience are paramount.

About Mtron:
Mtron designs and manufactures in our USA-based vertically integrated facilities where the products and solutions are developed and fully tested in-house to our customer's rigorous requirements. Mtron is an ISO 9001:2015 and AS9100 Rev. D certified organization.



Static phase noise



Dynamic phase noise (worst case axis)- 4.4grms