High Stability Oscillators

Masterclock offers three high-stability oscillator options for the GMR Series. When locked to GPS, the OCXO 10 MHz sine wave frequency will have the same long-term stability as an atomic clock. When not tied to GPS, a precision frequency 10 MHz reference output is available as a source for laboratory use or for an RF reference, including cellular applications. The HSO option is required for all 10 MHz signal outputs.

Freq. = 10 MHz		**HSO-1** Standard	**HSO-2**	**HSO-3** Available only in GMR5000
Oscillator Type		TCXO	OXCO	Rubidium
Freq. Stability - Aging/Day		≤ ± 0.0027ppm (or 2.7E-9/day)	≤ ±1E-9/day	±4E-11/day
Freq. Stability - Aging/Year		≤ ± 1.0 ppm (or 1E-6 /year)	≤ ±1E-7/year	±1.5E-9/year
Power Consumption		≤0.021W	≤3.5W warm up, ≤1.5W steady state	≤14W warm up, ≤ 8 W steady state
ROHS Compliant		Yes	Yes	Yes
Short Term Stability (Allan Variance), t =1sec.		-	-	≤5E-11
Time Drift per Year (max)		± 3 sec./year	± 0.25 sec./year	± .001 sec. / year
Phase Noise (dBc/Hz) @ 10 MHz	**1 Hz**	-	-	≤-65 dBc/Hz
	10 Hz	-	≤-110 dBc/Hz	≤-85 dBc/Hz
	100 Hz	≤-135 dBc/Hz	≤-130 dBc/Hz	≤-112 dBc/Hz
	1k Hz	≤-135 dBc/Hz	≤-145 dBc/Hz	≤-130 dBc/Hz
	10k Hz	≤-148 dBc/Hz	≤-155 dBc/Hz	≤-140 dBc/Hz