

Atomic Frequency Reference

Tiqker™ offers active hydrogen maser short-term precision in a compact form-factor package that occupies the same rack space as cesium-beam frequency references. Tiqker™ operates continuously in industrial environments, minimizing signal instability due to vibration and temperature variation.

Tiqker



Applications



Holdover for GNSS/GPS-reliant timing solutions, allowing uninterrupted access



High-precision RF and optical outputs for coherent sensing such as Very Long Baseline Interferometry (VLBI) or multistatic radar



Integrated optical frequency comb output enables sub-picosecond clock synchronization through optical two-way time and frequency transfer



Time synchronization for high-speed data networks



Active hydrogen maser-like stability with compact form factor and low environmental sensitivity



One-tenth the size and one-fifth the weight of an active hydrogen maser



Half the cost of an active hydrogen maser

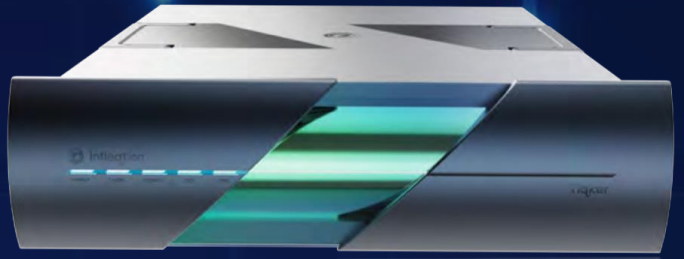
Infleqtion

Short lead times and available now!

Contact sales@infleqtion.com to learn more or place an order!

Tiqker Prime Specifications

Tiqker



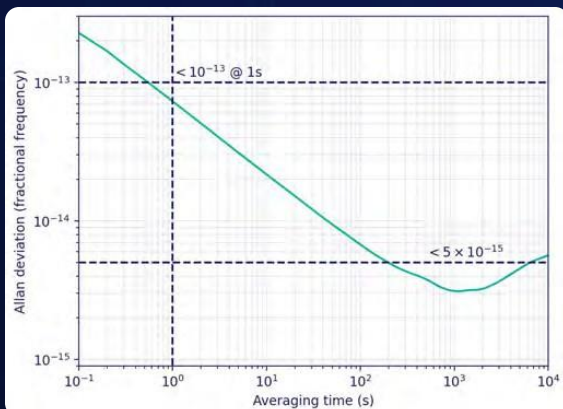
Frequency Stability

Average Time (s)	Allan Deviation	
	Typical Performance	Minimum Performance
1	$\leq 8.0 \times 10^{-14}$	$\leq 3.0 \times 10^{-13}$
10	$\leq 3.0 \times 10^{-14}$	$\leq 1.0 \times 10^{-13}$
100	$\leq 7.0 \times 10^{-15}$	$\leq 3.0 \times 10^{-14}$
1,000	$\leq 4.0 \times 10^{-15}$	$\leq 1.0 \times 10^{-14}$
10,000	$\leq 6.0 \times 10^{-15}$	$\leq 9.0 \times 10^{-15}$

Phase Noise

Offset Frequency	SSB - 100MHz	
	Typical Performance	Minimum Performance
1 Hz	≤ -95	≤ -95
10 Hz	≤ -105	≤ -105
100 Hz	≤ -115	≤ -115
1k Hz	≤ -125	≤ -120
10k Hz	≤ -125	≤ -120
100k Hz	≤ -125	≤ -120

Performance (typical)



Frequency Outputs

Frequency 5 MHz, 10 MHz, 100 MHz

Format Sine

Amplitude $\geq 1V_{rms}$

Optical 1556 CW, Narrow Comb Output

Timing Interfaces

Output Format 1 PPS (3x)

Load Impedance 50 Ω

Input Format 1 PPS (2x)

Size, Weight, and Power

Height x Width x Depth 133.4 mm x 425.5 mm x 532.9 mm

Weight < 30kg

Power < 30 W Warm Up
< 70 W Steady State

Programming

Software Command Set SCPI adapted to RS-232C & Ethernet

Load Impedance BNC

Input Format TTL High, Normal
TTL Low, Fault