

STM-Rb-H Ultra-High Performance Rubidium Clock

Product Introduction

The STM-Rb-H rubidium clock utilizes exclusive slotted resonator cavities and independent temperature control for triple vapor cells, significantly enhancing the performance of the rubidium atomic clock. This atomic clock exhibits excellent frequency stability and aging rate under both ambient temperature and vacuum conditions. With a smaller size and lower power consumption, the clock's frequency stability is comparable to that of passive hydrogen masers. This product can be used in metrology, timekeeping, aerospace, military, and other fields.



Product Features

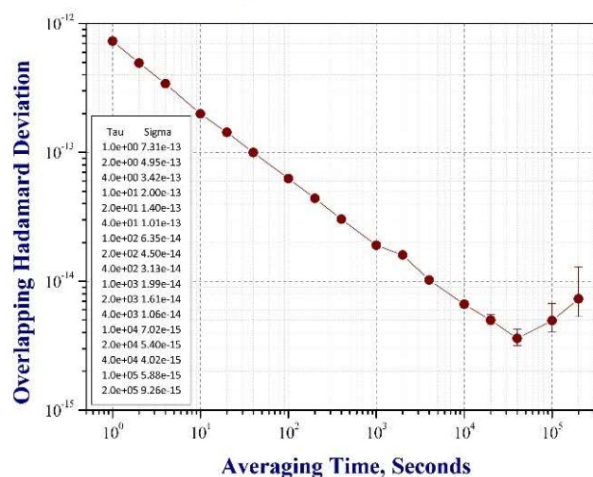
- 10MHz, 100 MHz, 1PPS Outputs
- Aging Rate: $\leq 5.0E-14$ per day
- Short-term Stability: $\leq 8.0E-13/\tau-1/2$ (1 to 1000 seconds)
- Tens of thousands of seconds and daily stability: $\leq 1.0E-14$
- Volume: < 5L, Weight: < 5kg
- Life Cycle: > 10 years

Technical Specifications

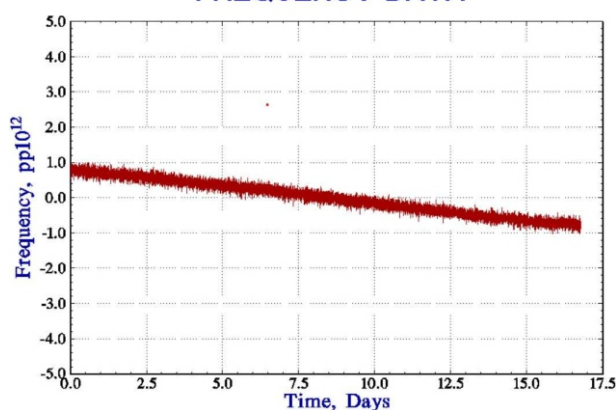
Name of Specification		Performance Parameters	
Output		10MHz, 100MHz Sine Wave Signals, 1PPS Second Pulse Signal	
Output Power		11±2dBm	
Harmonics and Spurious Emissions		Harmonics: <-30dBc, Spurious: <-80dBc	
Phase Noise		10MHz	100MHz
		<-100dBc@1Hz <-130dBc@10Hz <-150dBc@100Hz <-160dBc@1kHz <-160dBc@10kHz <-160dBc@100kHz	<-80dBc@1Hz <-105dBc@10Hz <-135dBc@100Hz <-165dBc@1kHz <-168dBc@10kHz <-168dBc@100kHz
Frequency Stability	Average Time	Hadamard Deviation	Typical Value
	1s	<8E-13	<7E-13
	10s	<2.5E-13	<2E-13
	100s	<8E-14	<7E-14
	1000s	<2.5E-14	<2E-14
	10000s	<8E-15	<7E-15
1d	<1E-14	<8E-15	
Drift Rate		<5E-14/d	
Frequency Tuning Resolution		<5E-16	
Volume		<5L	
Weight		<5kg	
Power Consumption		<30W (Steady State at 25°C, +19V).	
Other Features		Equipped with BeiDou Taming Function	

Typical Curves

FREQUENCY STABILITY



FREQUENCY DATA



The graph above shows the frequency deviation curve from 16 days of continuous operation .

Selection Guide

STM-Rb-HC ←
①

①Performance Options: C (Standard), D (Customized)