

Space Qualified Rubidium Atomic Clock

- Low phase noise $-\leq 90\text{dBc/Hz @ 1Hz}$
- Excellent short term stability $\leq 1.0\text{E-}12/1\text{s}$
- Low Drift $\leq 5.0\text{E-}14$



E10-SPC Space Qualified Rubidium Frequency Reference

The E10-SPC is a space qualified rubidium atomic clock for satellite applications and represents the highest level within the Rubidium clock industry and forms the core part of the Satellite Navigation System, whose accuracy determines the whole performance of Satellite System. Compared to the Rubidium clocks for ground applications these are characterised with higher accuracy, reliability and meet requirements all the space environmental requirements such as irradiation and vacuum.

Features

- Low Power Consumption $< 35\text{W}$ in Vacuum
- Anti-irradiation $100\text{kRads}(si)$

Benefits

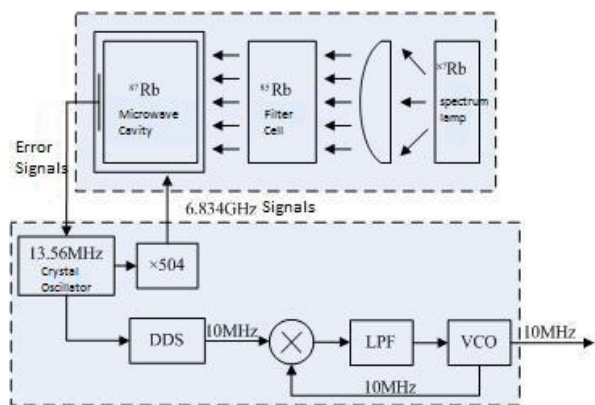
- Low phase noise $-\leq 90\text{dBc/Hz @ 1Hz}$
 - Excellent STS $\leq 1.0\text{E-}12/1\text{s}$
 - Low Drift $\leq 5.0\text{E-}14/\text{Day}$
-

Applications

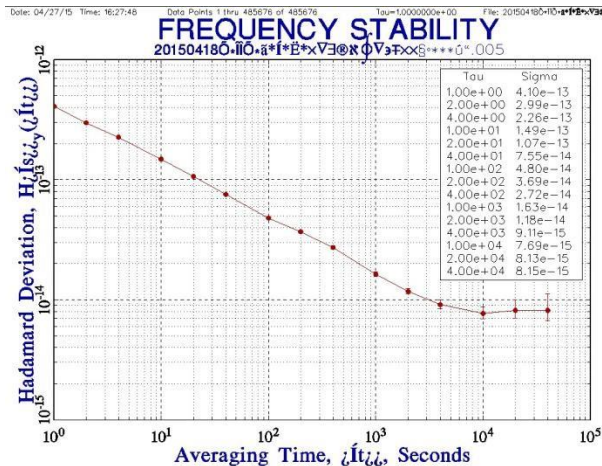
- Satellite Navigation System
- Intelligence Reconnaissance Satellite
- Military Communication Satellite
- Deep-Space Survey
- Space Station

Specification	E10-SPC	E10-SPC-H
Type	Standard	High
Output		
Frequency	10MHz	10MHz
Frequency Stability		
1s	3.00E-12	1.00E-12
10s	1.00E-12	3.00E-13
100s	3.00E-13	1.00E-13
1000s	1.00E-13	3.00E-14
10000s	3.00E-14	1.00E-14
Day	2.00E-14	1.00E-14
Flicker Floor	2.00E-14	1.00E-14
Drift		
Per Day	1.00E-13	5.00E-14
Phase Noise dBc/Hz in 1Hz BW		
1Hz	-90dBc/Hz	
10Hz	-120dBc/Hz	
100Hz	-130dBc/Hz	
1kHz	-145dBc/Hz	
10kHz	-150dBc/Hz	
Temperature		
Operating	-15°C to +10°C	
Coefficient	1.00E-13	
Anti Irradiation Dose	100krad(si)	
Mechanical		
Colour	Gold	
Dimension	200 x 100 x 100mm	
Weight	5Kg	

Block Diagram



Typical Results



FREQUENCY DATA

