

## Product Comparison Chart

Specifications	HPFRS	LPFRS	LPRO	MCFRS	RMO
<b>Key Features</b>	- FEI 5660 compatible - Integrated synthesizer - Stanford PRS10 equivalent	- FEI 5650 compatible - MIL/Avionics compliant - Low phase noise - Low spurious - Dual outputs	- Datum LPRO compatible - LPFRS byproduct	- Low consumption - Low warm-up power	- PCB mountable - OCXO equivalent - Integrated synthesizer
<b>Stability</b> Over Temperature Range	≤2E-10	≤ ±1E-10	≤ ±1E-10	≤2E-10 to ≤1E-10	≤ ±1E-10
Temperature Range	-5°C to 55°C -25°C to 60°C -5°C to 65°C	-5°C to 55°C -30°C to 70°C -30°C to 60°C	-25°C to 70°C 0°C to 60°C	0°C to 60°C -5°C to 60°C -25°C to 65°C	-5°C to 55°C -20°C to 60°C 0°C to 65°C
Long-Term /month Typical	<1E-10 <3E-11	<5E-11 to <3E-11 <3E-11 to <1E-11	<5E-11 to <3E-11 <3E-11 to ±1E-11	±4E-11 to ±1E-10	<5E-11 to <3E-11 <3E-11 to ±1E-11
Short-Term /1s /10s /100s	3E-11 to 1E-11 1E-11 to 3E-12 3E-12 to 1E-12	3E-11 to 1E-11 1E-11 to 3E-12 3E-12 to 1E-12	3E-11 to 1E-11 1E-11 to 3E-12 3E-12 to 1E-12	3E-11 to 1E-11 1E-11 to 3E-12 3E-12 to 1E-12	3E-11 to 1E-11 1E-11 to 3E-12 3E-12 to 1E-12
<b>Phase Noise</b> /Hz @ 1Hz /Hz @ 10Hz /Hz @ 100Hz /Hz @ 1kHz /Hz @ 10kHz	-70 to -80 -80 to -125 -115 to -143 -135 to -150 -140 to -155	-70 to -80 -80 to -100 -115 to -130 -135 to -140 -140 to -150	-75 to -80 -89 to -100 -128 to -130 -140 to -145 -147 to -153	-70 to -80 -80 to -100 -115 -135 -140	-70 to -80 -80 to -100 -115 -135 -140
<b>Frequency Retrace</b>	<5E-11 (w/i 1hr a/t 24hr off)	<5E-11 (w/i 1hr a/t 24hr off)	<5E-11 (w/i 1hr a/t 24hr off)	<5E-11 to <2E-11 (w/i 1hr a/t 24hr off)	<5E-11 (w/i 1hr a/t 24hr off)
<b>Warm-Up</b>	5E-10 (a/t 15m @ 25°C) (a/t <7m @ 25°C)	5E-10 (a/t 15m @ 25°C) (a/t <7m @ 25°C)	4E-10 (a/t 10m @ 25°C)	5E-10 (a/t 10m @ 25°C) (a/t 5m @ 25°C)	5E-10 (a/t 15m @ 25°C) (a/t <7m @ 25°C)
<b>Size (WxHxD)</b>	51x102x77mm 2x4x3"	76x77x36.5mm 3.3x3.03x1.44"	120x90x38mm 4.72x3.6x1.52"	50x57x90mm 2x2.25x3.5"	74x77x40mm 2.91x3.03x1.57"

**SPACE-QUALIFIED CLOCKS**

Specifications	MO	RAFS
<b>Key Feature</b>	Crystal technology	Rubidium technology
<b>Stability</b> Over Temperature Range	< +-1E-9	≤ 5E-14/°C
Temperature Range	-15°C to 60°C	-5°C to 20°C
Long-Term	±1E-10/day <3E-8/year	< 5E-14/day after 100 days
Short-Term	3E-12/0.1s 1E-11/1s 3E-12/10s	5E-12/1s 1.5E-12/10s 5E-13/100s 1.5E-13/1ks 5E-14/10ks 3E-14 (flicker floor)
<b>Phase Noise</b> /Hz @ 1Hz /Hz @ 10Hz /Hz @ 100Hz /Hz @ 1kHz /Hz @ 10kHz /Hz @ 100kHz	-95 -125 -140 -150 -155	-95 -125 -130 -150 -150 -150
<b>Frequency Retrace</b>		<5E-11 (w/i 1hr a/t 24hr off)
<b>Warm-Up</b>	<2E-8 (a/t 20m @ 25°C)	
<b>Size (WxHxD)</b>	44x54x57mm 1.73x2.12x2.24"	124x108.5x118mm 4.88x4.27x4.64"