



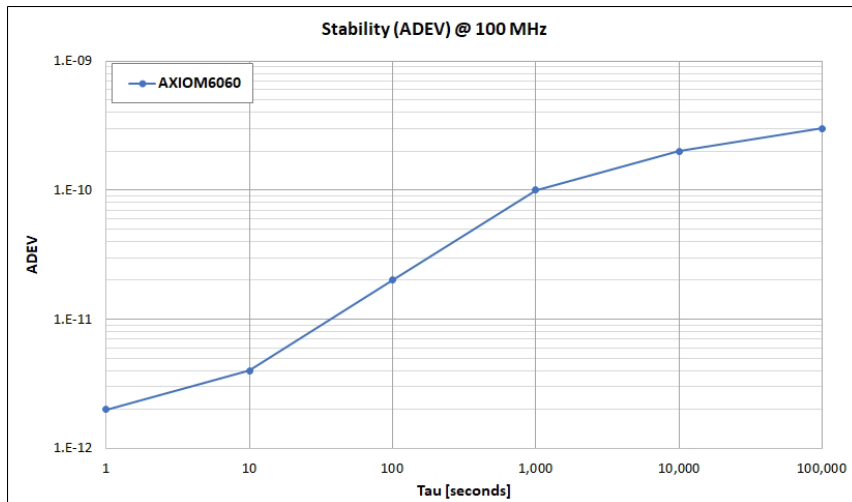
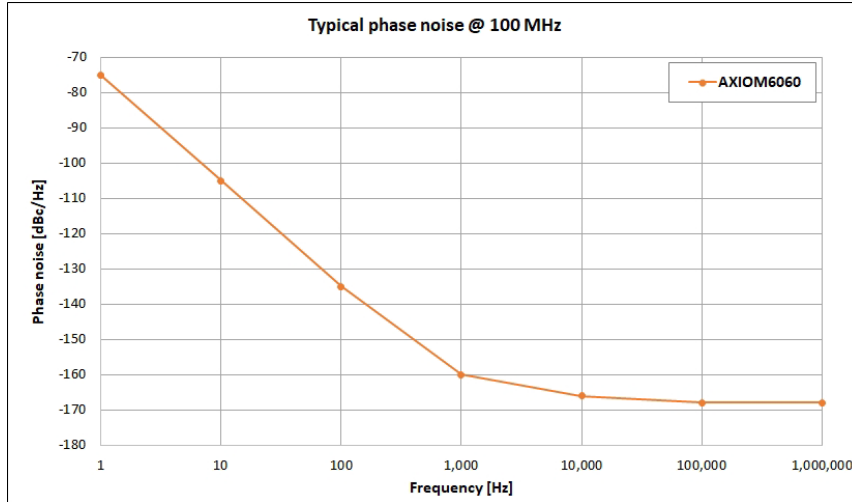


Model	 AXIS45S	<i>Coming soon</i>  AXIOM5050S	 AXIOM6060	 MQF4021S	
Product type	VCXO	OCXO	OCXO	Crystal Filter	
Category	Classical Space (ECSS Class 1)				
Features	Wide pulling range & high linearity options	Ultra-Low Noise Ultra-High Stability (USO)	ESA EPPL Ultra-Low Noise	High filter slope and out-of-band attenuation	
Radiation hardness	100 krad (TID) – SEE > 90 MeV·cm ² /mg – SEL immune				
Frequency range	10 ~ 100 MHz	10 MHz	80 ~ 125 MHz	10 ~ 100 MHz	
Output	Sine wave			50 Ohm	
Stability	±10 ppm	±1 ppb	±50 ppb	±20 ppm	
Temperature range	-30°C to +70°C	-30°C to +70°C		-40°C to +85°C	
Supply voltage	5 V	12 V		-	
Manufacturing	MIL-PRF-55310 Product Level "S" – ECSS-Q-ST-70-08C/38C				
Size	21 x 13 mm (CO 02)	50 x 50 x 30 mm SMA / FT	60 x 60 x 30 mm SMA / Micro-D	60 x 60 x 30 mm SMA / FT	40 x 21 mm SMD Package



Phase noise Performance



Design, Manufacturing and Quality

Space COTS “New Space Category”	Class 1 “Classical Space Category”
Specially selected commercial components & materials (COTS) / Suitable semiconductor technology for improved radiation hardness	Component selection based on ECSS-Q-ST-60C Class 1
Quartz crystal with High Q material (Low inclusion & etch channel density)	Material selection based on ECSS-Q-ST-70C / ECSS-Q-70-71
Manufacturing IAW ECSS-Q-ST-70-08C / ECSS-Q-ST-70-38C	
-	ESA certified personnel in Clean-Room environment (ISO Class 3)
Pre-cap inspection (Optional)	Pre-cap inspection of Crystal & Oscillator
-	Destructive Physical Analysis DPA (Optional)
Manufacturing IAW MIL-PRF-55310 Product Level “S” including	
Screening, Group-B	Screening, Group A-, B- and C-inspection
Full traceability of all critical components (Quartz, Semiconductors & PCB)	Complete traceability of all components, materials and manufacturing steps

Heritage

- **Geostationary (weather) satellites:** Feng Yun 2G China, DSO Singapore
- **International Space Station ISS:** ACES (Atomic Clock Ensemble in Space)
- **NCLE (NL-China Low Frequency Explorer) – Earth-Moon L2 Orbit**
- **LARA/ExoMars Mission (ESA):** Communication Link Earth-Mars
- **And others**

