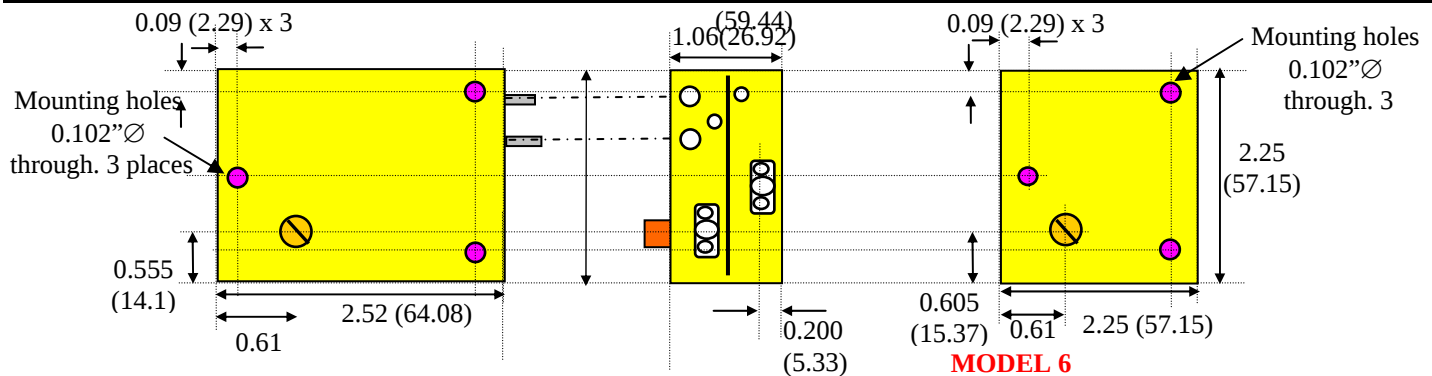


RADITEK Phase Locked Oscillators (PLO's) use dielectric resonators for improved stability and phase noise. The oscillator is phase locked to a crystal oscillator (external or internal). See also Raditek PLO-A M4-M5.

(see other data sheets for frequencies >10.8GHz. 2.34



PART#: RPLO-A-Model-FREQ-POWER-VCC-Reference-Alarm-Package

Isolator at output is standard

Example: RPLO-A-M6-9.3-14d-15v-ER10M

Not to scale. UNITS: inch (mm). Temperature range: -40 to +70°C.

MODEL:	Model 6	Model 7	Units
Frequency	8.0-10.8	5.0-7.9GHz	GHz
Reference	External	External	
	ER 5-10M	ER 10M	
Reference	0±3	0±3 dBm	dBm
Fr. Stability ppm	As ext. ref.	As ext. ref.	°C
POWER out	+14	+14	dBm
		20dBm opt	
Output VSWR	1.5	1.5	:1
Load VSWR (will Tolerate)	3.0	3.0	:1
Spurious	-75	-75	dBc typ
Harmonics	-20	-20	dBc typ
DC power(Vcc)	+15	+15	V@
±1Volt	190	190	mA typ
Humidity: non condensing to 35C	95	95	%
Alarm	Optional	Optional	optional

Typical Phase noise, in dBc/Hz, per offset: +/-4dB			
AT:→	3G	5G	12G
100Hz	20log(N)+3	20log(N)+3	20log(N)+3
1KHz	20log(N)+3	20log(N)+3	20log(N)+3
10KHz	20log(N)+3	20log(N)+3	20log(N)+3
100KHz	20log(N)+3	20log(N)+3	20log(N)+3
1MHz	-140	-140	-135

Phase noise of external reference must be better than -120 dBc/Hz at 100KHz.

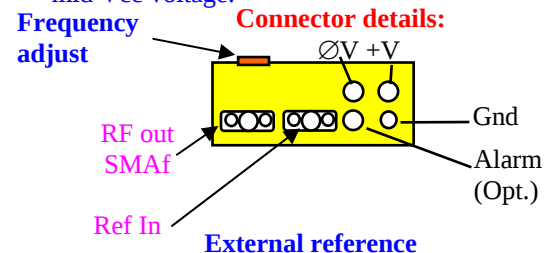
It degrades by 20LOG N +3 dB of reference.

Options include:

- ☐ 12V, 15V, Vcc (± 0.5V)
- ☐ **Phase lock alarm: Open Collector**
 - (A1, standard) Locked High (customer supplied 5-16V, Unlocked Low 0.2V Typical ,
 - (A2 special) Locked Low 0.2V Typical , Unlocked High (customer supplied 5-16V
- ☐ 20dBm OP on Model 7

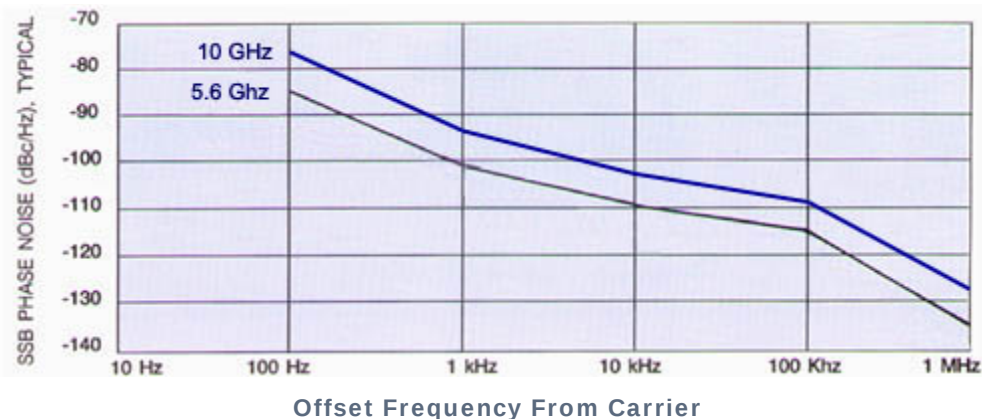
Installation details:

- Mechanical DRO adjustment is not advised. Monitor the Phase voltage during adjustment (to be mid way), wait 5 minutes (warm up) before any adjustment.
- Crystal adjustment. Screw adjustment under cover, (on internal reference models). Monitor frequency Adjust after 5 minutes warm up. Monitor the Ref. Monitor port for mid Vcc voltage.



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Phase Noise

**Note:**

Phase noise less than 100 kHz from the carrier is essentially determined by the external crystal reference oscillator according to the equation

$$\text{External Ref. Noise (dBc/Hz)} + 20\log N$$

Where N is the output frequency ÷ reference, or the multiplication factor.