



## Phase Locked Oscillator, 14.38 GHz, Externally Referenced

### Description:

**Model SOP-14301113-SF-E1** is a phase locked oscillator with an output frequency of 14.38 GHz and a nominal output power of +13 dBm. The oscillator is phase locked to an external reference with a frequency of 10 MHz and typical power of 0 dBm. The phase noise of the oscillator is dependent on the quality of the reference source. The oscillator has a typical harmonic suppression of -25 dBc and spurious of -70 dBc.



### Features:

- High Output Power
- Low Phase Noise
- Low Harmonic Components

### Applications:

- Radar Systems
- Communication Links
- Transmitters and Receivers

### Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency		14.38 GHz	
Output Power		+13 dBm	
Phase Noise	Reference Source + 20 Log (N) + 3 dB		
Harmonic Suppression		-25 dBc	
Spurious		-70 dBc	
External Reference Frequency		10 MHz	
External Reference Input Power		0 dBm	
DC Voltage		+12 V <sub>DC</sub>	
DC Supply Current		270 mA	
Phase Locked Indicator	TTL "High"		
Frequency Stability (Externally Referenced)	Same as reference		
Power Stability		±1.0 dB	
Operating Temperature	0°C		+50°C

### Mechanical Specifications:

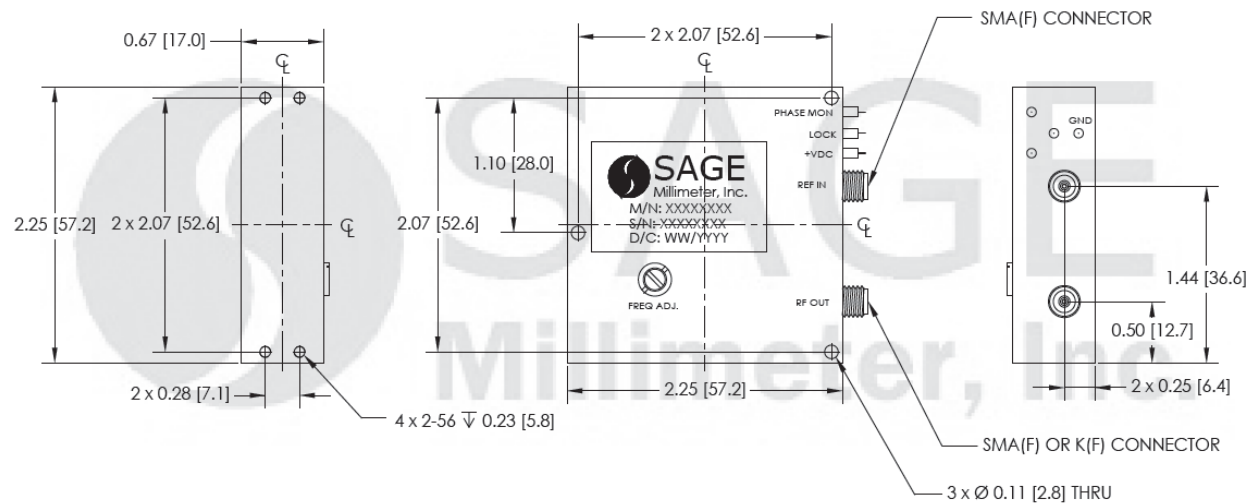
Item	Specification
RF Output Connector	SMA(F)
REF Input Connector	SMA(F)
Bias	Solder Pin
Case Material	Aluminum
Finish	Nickel Plated
Weight	4 Oz
Size	2.25" (W) X 2.25" (L) X 0.67" (H)
Outline	OP-EC-E2





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**Mechanical Outline:** (Unless otherwise specified, all dimensions are in inches [millimeters])



**Note:**

- SAGE Millimeter, Inc. reserves the right to change the information presented without notice.
- Other mechanical configurations are available under different model numbers.

**Caution:**

- Exceeding absolute maximum ratings shown will damage the device.
- The device is static sensitive. Always follow ESD rules when working with the device.
- The case temperature of the device shall never exceed **+50°C**. Use additional heatsink or fan if necessary.
- Proper torque,  $8.0 \pm 0.15$  inch-pounds ( $0.92 \pm 0.05$  Nm), should be applied. **SAGE Millimeter torque wrench, model SCH-08008-S1, is highly recommended.**

