

## Phase Locked Oscillator, 3.4 GHz, +17 dBm, Externally Referenced

### Description:

**Model SOP-34210117-SF-E2** is a 3.4 GHz phase locked oscillator that utilizes state-of-art planar circuits, a high performance three terminal devices and dielectric resonator technology to generate high-quality microwave signal. The oscillator is required to phase locked to high quality, 100 MHz external reference crystal oscillator to offer superior phase noise performance. The oscillator delivers a typical output power of +17 dBm and has a nominal harmonic of -25 dBc and spurious of -80 dBc. The oscillator has a built-in voltage regulator to further improve the signal quality and provide the protection of over voltage operation.



### 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		3.4 GHz	
Output Power		+17 dBm	
Phase Noise	Reference Source + 20 Log (N) + 3 dB		
Harmonic		-25 dBc	
Spurious		-80 dBc	
External Reference Frequency		100 MHz	
External Reference Input Power	-3 dBm	+0 dBm	+3 dBm
Phase Locked Indicator	TTL "High"		
DC Voltage	+12 V <sub>DC</sub>		+15 V <sub>DC</sub>
DC Supply Current		220 mA	
Frequency Stability	Same as Reference		
Specification Temperature		+25 °C	
Operating Temperature	0 °C		+50 °C

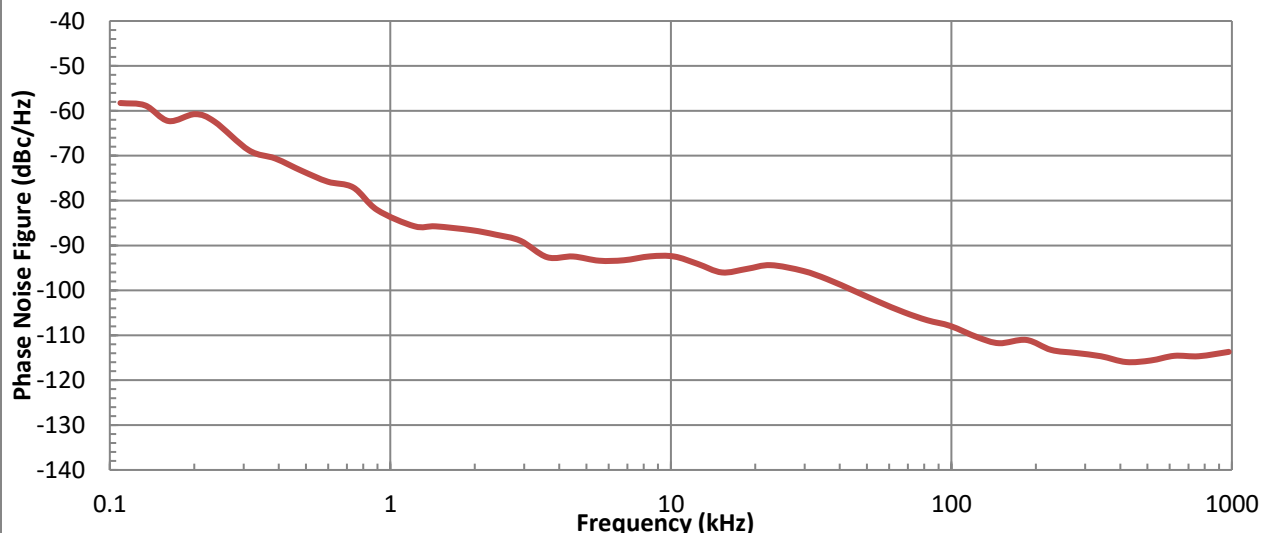
### Mechanical Specifications:

Item	Specification
RF Output	SMA(F) Connector
REF Input	SMA(F) Connector
DC Bias Port	Solder Pin
Phase Lock Indicator Port	Feedthru Pin
Case Material	Aluminum
Finish	Nickel Plated
Weight	4.0 Oz
Size	0.67" (W) X 2.25" (L) X 2.25" (H)
Outline	OP-EC-E5

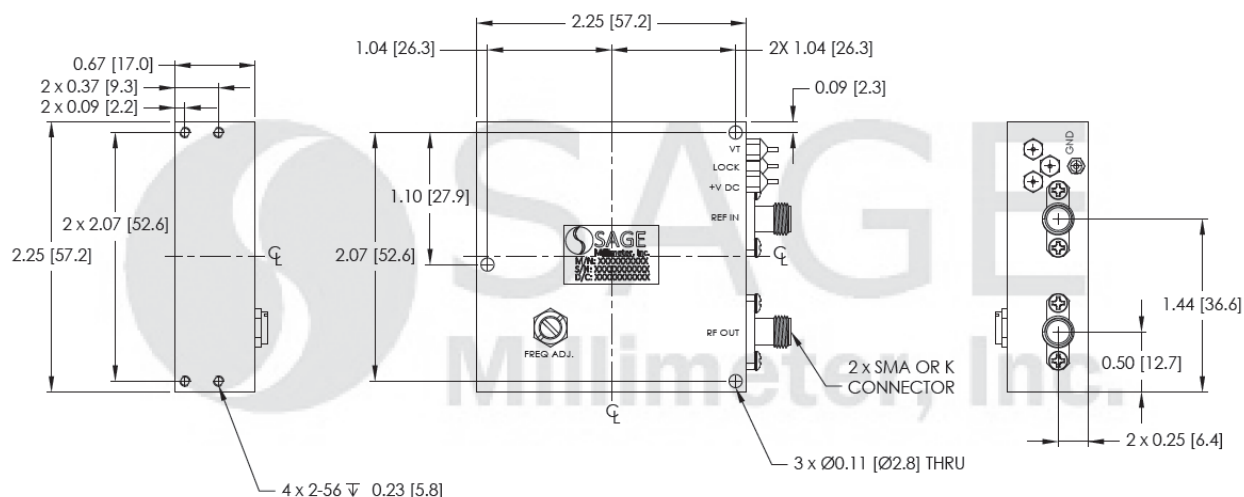


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Typical Phase Noise Figure vs. Frequency



**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 number.

**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.**

