SSR-7930830010-12-S1

Rev 1.1

E-Band Receiver, 71 to 86 GHz, X8 LO, DC to 4 GHz IF

Description:

Model SSR-7930830010-12-S1 is an E-Band receiver. The receiver has a typical conversion loss of 10 dB with a typical RF input power of -20 dBm in the frequency range of 71 to 86 GHz and an IF output frequency range of DC to 4 GHz. The receiver has a build in X8 multiplier, which requires the input LO power and frequency range of 0 dBm and 8.875 to 10.75 GHz, respectively. The LO and IF port are both equipped with female SMA connectors and the RF port is a WR-12 waveguide with a UG-387/U flange.

Features:

- Compact Size
- Low Conversion Loss
- Fully Integrated Module

Applications:

- Radar Systems
- Communication Systems
- Passive Camera Systems

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
RF Input Frequency	71 GHz		86 GHz
IF Frequency Output	DC		4.0 GHz
LO Input Frequency	8.875 GHz		10.75 GHz
LO Power		0 dBm	+16 dBm
Conversion Loss		10 dB	
Noise Figure		12 dB	
Harmonic Suppression		20 dB	
DC Bias	+5 V_{DC}	+12 V_{DC}	
DC Current		430 mA	
Specification Temperature		+ 25 °C	
Operating Temperature	0 °C		+ 50 °C

Mechanical Specifications:

Item	Specification
RF Port	WR-12 Waveguide with UG-387/U Flange
RX IF Port	SMA(F)
LO Port	SMA(F)
Housing	Aluminum
Bias	Solder Pin
Size	1.10” (W) X 1.80” (L) X 0.50” (H)
Weight	2.0 Oz
Finishing	Gold Plated
Outline	SR-SE

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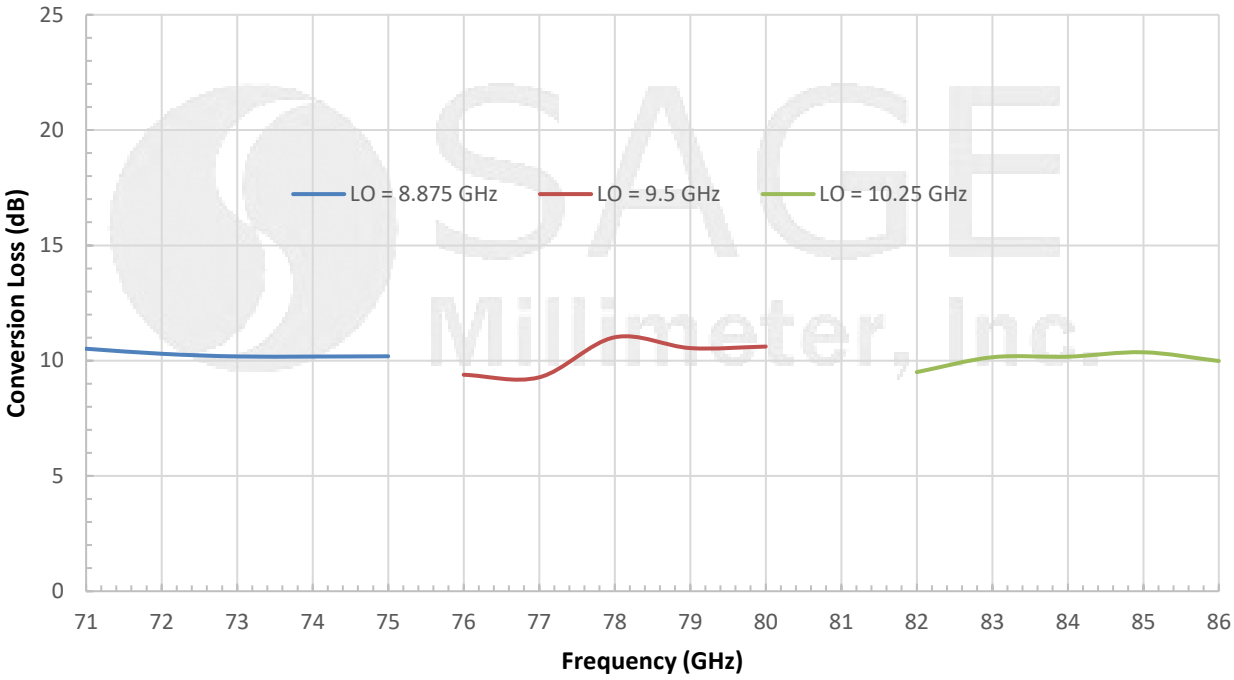
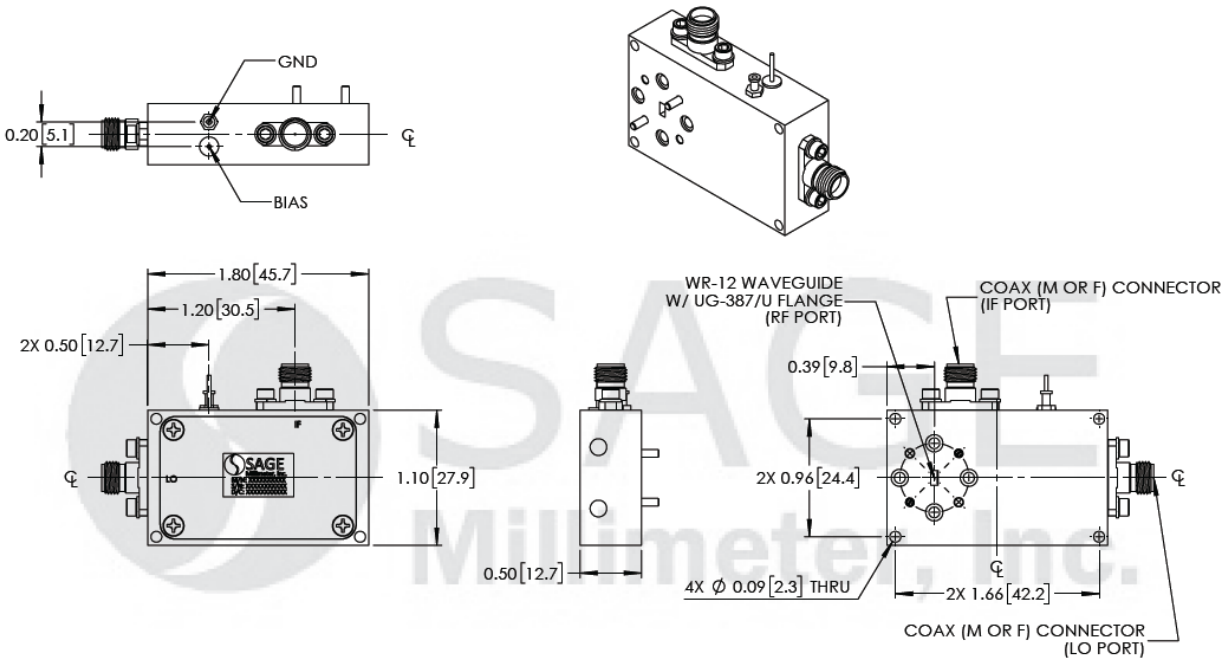
Typical Conversion Loss vs. Frequency

Bias: 12V, LO: 0 dBm



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



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Note:

- All data presented is collected from a sample lot. Actual data may vary unit to unit slightly.
- All testing was performed under +25 °C case temperature.
- SAGE Millimeter, Inc. reserves the right to change the information presented without notice.

Caution:

- Exceeding absolute maximum ratings of the device will damage the device.
- Proper torque, 8.0 ± 0.4 inch-pounds (0.90 ± 0.02 Nm), should be applied. **SAGE Millimeter torque wrench, model SCH-08008-S1, is highly recommended.**
- Any foreign objects in the waveguide will cause performance degradation and possible device damage.

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