SSR-9330634030-10-M1-I

Rev. 1.0

W-Band Receiver, 90 to 96 GHz, x8 LO, 4 dB NF, 30 dB Gain

Description:

Model SSR-9330634030-10-M1-I is a W-Band receiver. The receiver has a typical conversion gain of 30 dB with a typical RF input power of -60 dBm in the frequency range of 90 to 96 GHz and a IF output frequency range of 3 to 9 GHz. The receiver has a build in x8 multiplier, which requires the typical input LO power and frequency of +5 dBm and 10.875 GHz, respectively. The LO and IF port are both equipped with female SMA connectors and the RF port is a WR-10 waveguide with a UG-387/U-M flange.

Features:

- Compact Size
- Low Noise Figure
- Fully Integrated Module

Applications:

- Radar Systems
- Communication Systems
- Passive Camera Systems

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
RF Input Frequency	90 GHz		96 GHz
RF Input Power		-60 dBm	-24 dBm
Noise Figure		4 dB	
IF Output Frequency	3 GHz		9 GHz
RF to IF Conversion Gain		30 dB	
Image Rejection		20 dB	
LO Frequency		10.875 GHz	
LO Input Power	0 dBm	+5 dBm	+10 dBm
LO DC Voltage Supply	+5 V_{DC}	+8 V_{DC}	+12 V_{DC}
LO Current Supply		400 mA	
Specification Temperature		+ 25 °C	
Operating Temperature	0 °C		+ 50 °C

Mechanical Specifications:

Item	Specification
RF Port	WR-10 Waveguide with UG-387/U-M Anti-Cocking Flange
RX IF Port	SMA(F)
LO Port	SMA(F)
Bias	SMA(F)
Housing	Aluminum
Weight	2 Oz
Finishing	Gold Plated
Size	1.1” (W) X 1.8” (L) X 0.5” (H)
Outline	SR-SW-A-3

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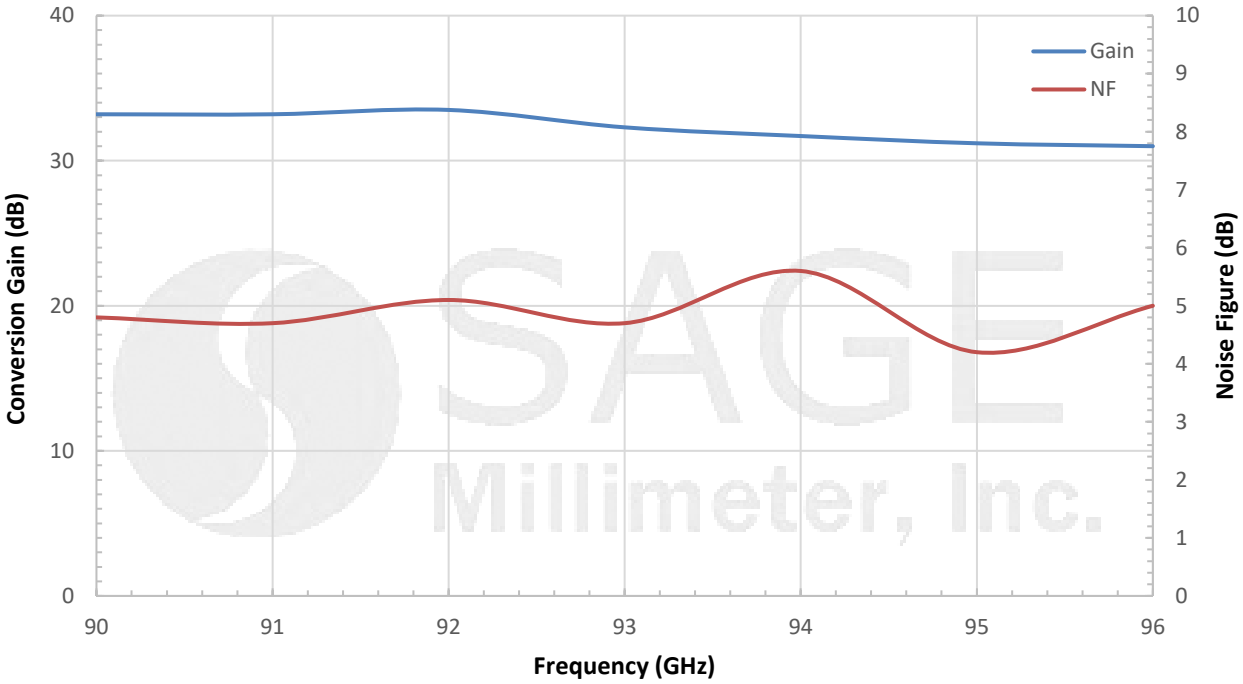
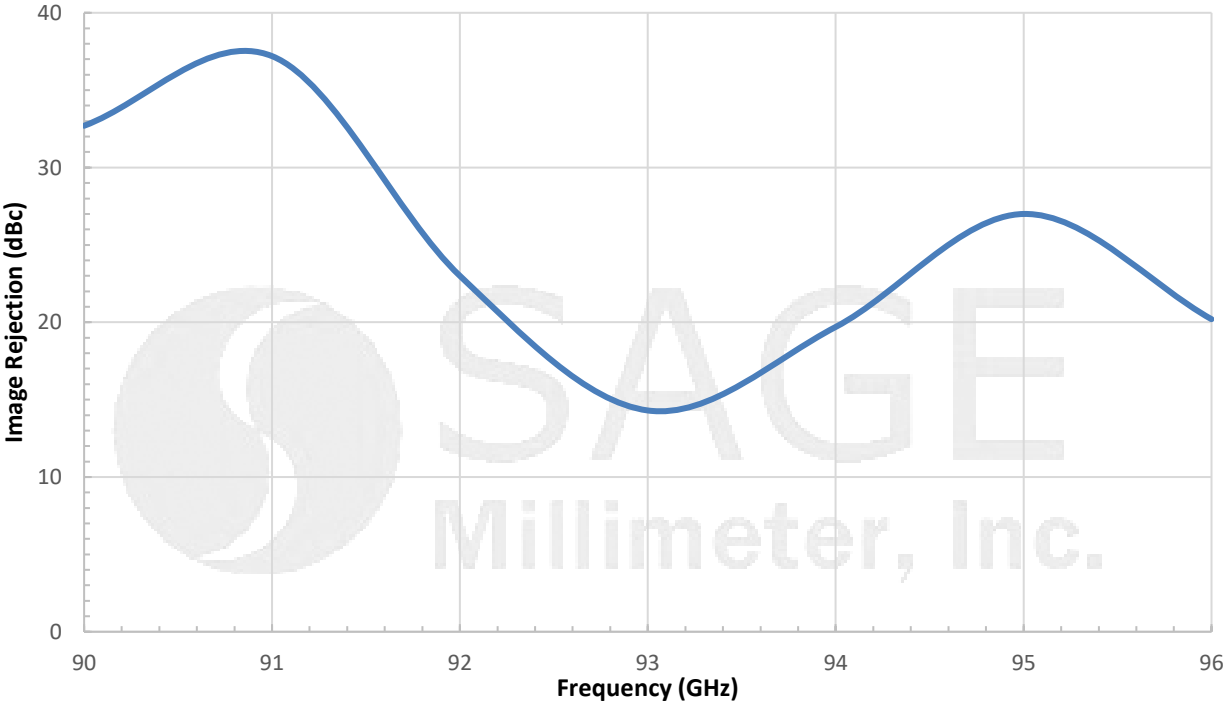
Typical Conversion Gain and Noise Figure vs. Frequency

Bias: +8 V_{DC}/158 mA, RF Input: -60 dBm



Typical Image Rejection vs. Frequency

Bias: +8 V_{DC}/158 mA, RF Input: -60 dBm



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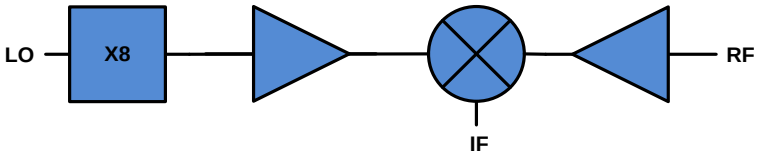
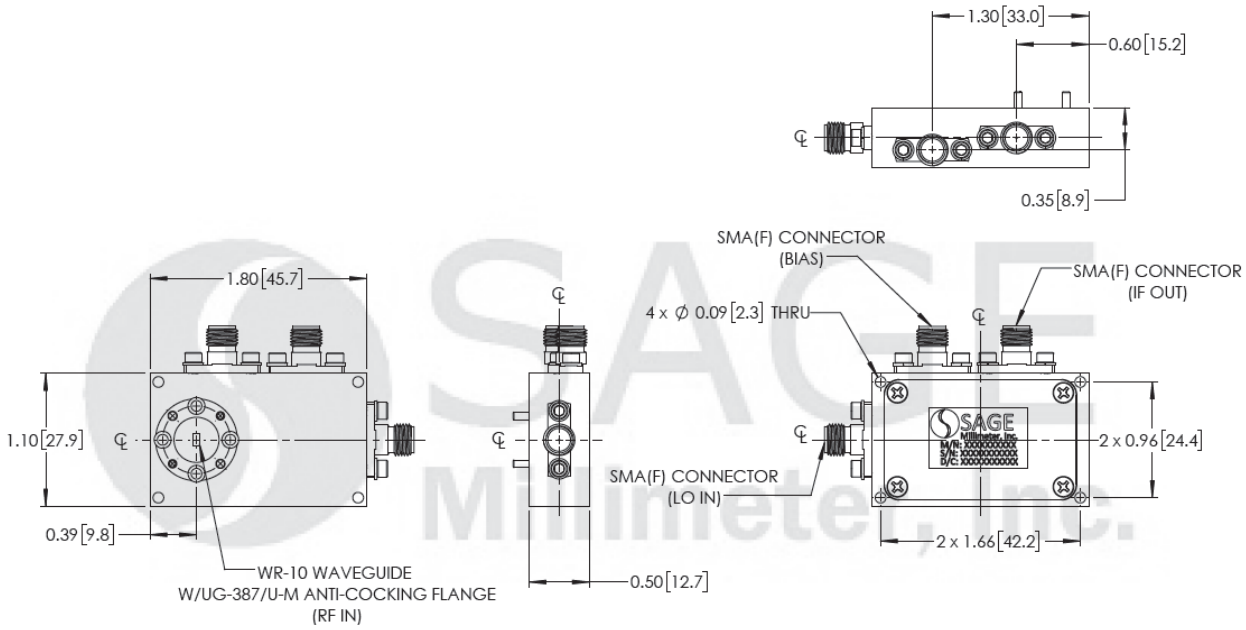
Block Diagram:



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



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.
- 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.
- Any foreign objects into the waveguide will cause performance degradation and possible device damage.
- The case temperature of the device shall never exceed +50˚C. Use proper Heatsink or fan if necessary.

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