



## E-Band Receiver, 76 to 81 GHz, 18 dB Gain, 6 dB NF

### Description:

**Model SSR-7930536018-12-S1** is an E-Band integrated receiver module. The receiver module has a typical noise figure of 6 dB and conversion gain of 18 dB in the frequency range of 76 to 81 GHz. The IF output frequency range is 1 to 6 GHz. The required LO power and frequency are +10 dBm and 12.5 GHz, respectively. The LO and IF port are both equipped with female SMA connectors and the RF port is with a WR-12 waveguide with UG-387/U flange.



### Features:

- Compact Size
- High Conversion Gain
- Fully Integrated Module

### Applications:

- E Band Communication Systems
- Radar Systems
- Passive Camera Systems

### Electrical Specifications:

Parameter	Minimum	Typical	Maximum
RF Input Frequency	76 GHz		81 GHz
RF Input Power		-30 dBm	
Damage RF Power			0 dBm
IF Output Frequency	1 GHz		6 GHz
RF to IF Conversion Gain		18 dB	
Input Noise Figure		6.0 dB	
LO Input Frequency		12.5 GHz	
LO Input Power		+10 dBm	+16 dBm
LO DC Bias Voltage	+5 V <sub>DC</sub>	+8 V <sub>DC</sub>	+15 V <sub>DC</sub>
LO DC Bias Current		450 mA	
Input Return Loss		10 dB	
Specification Temperature		+ 25 °C	
Operating Temperature	0 °C		+ 50 °C

### Mechanical Specifications:

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

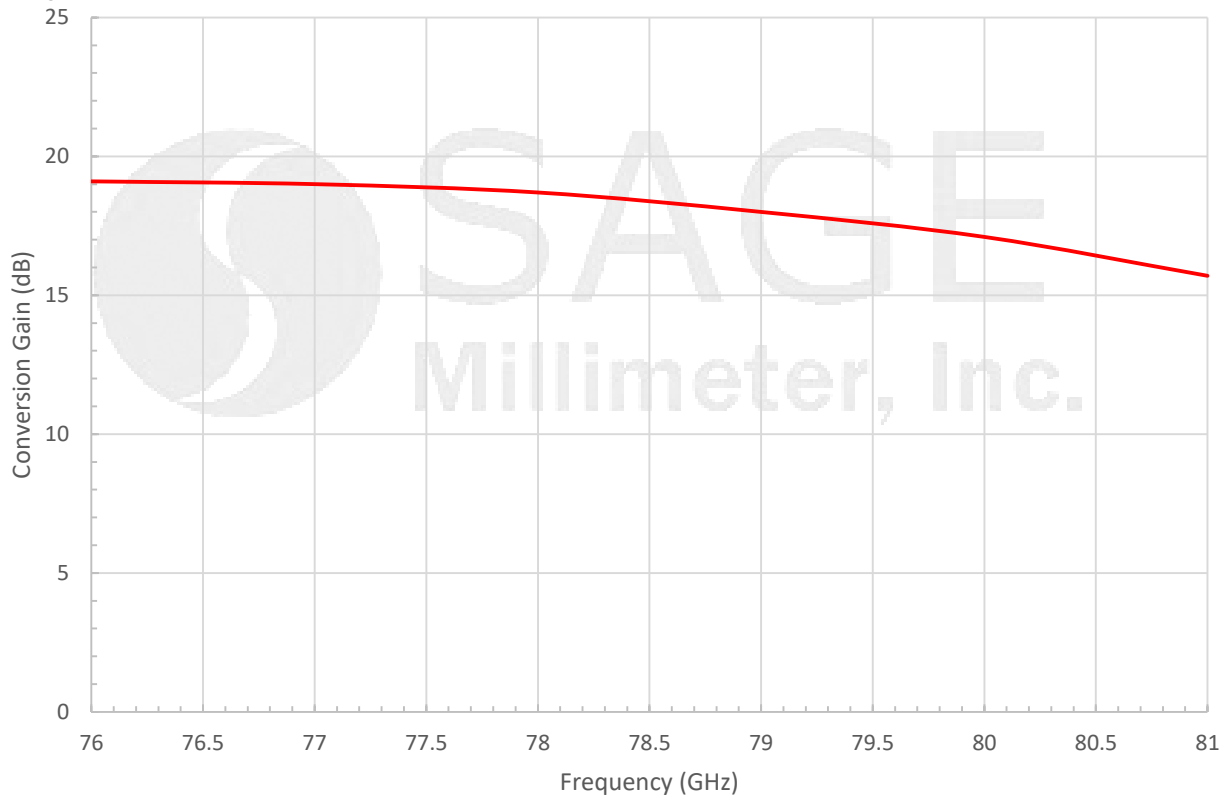




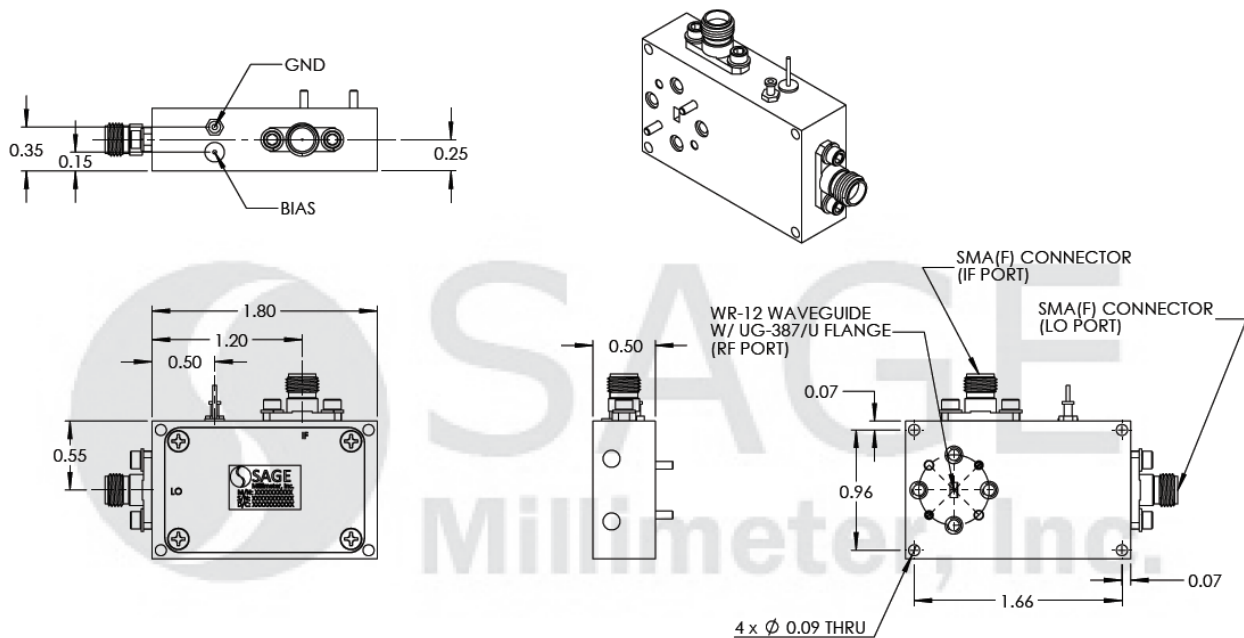
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### Typical Conversion Gain vs. Frequency

+8 V<sub>DC</sub>/450 mA



### 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.
- 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,  $8.0 \pm 0.15$  inch-pounds ( $0.92 \pm 0.05$  Nm), should be applied. **SAGE Millimeter torque wrench, model SCH-08008-S1, is highly recommended.**
- Any foreign objects in the waveguide will cause performance degradation and possible device damage.

