SST-7930530810-12-S1

Rev. 1.1

E-Band Transmitter, 76 to 81 GHz, 8 dBm P_{1dB}, 10 dB Gain

Description:

Model SST-7930530810-12-S1 is an E-Band integrated transmitter module. The transmitter has a typical conversion gain of 10 dB with a typical Psat of +11 dBm in the frequency range of 76 to 81 GHz and a I/Q IF frequency range of 1 to 6 GHz. The LO includes a X6 multiplier chain and requires +10 dBm at the frequency of 12.5 GHz. The LO and IF ports are both equipped with female SMA connectors and the RF port is a WR-12 waveguide with a UG-387/U flange.

Features:

- High Output Power
- High Gain
- Good Gain Flatness

Applications:

- Radar Systems
- Communication Systems

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
RF Output Frequency	76 GHz		81 GHz
Damaged RF Power		+15 dBm	
Output P_{1dB}		+8 dBm	
Output Psat		+11 dBm	
IF Input Frequency	1 GHz		6 GHz
RF to IF Conversion Gain		10 dB	
LO to RF Isolation		20 dB	
LO Frequency		12.5 GHz	
LO Input Power	+8 dBm	+10 dBm	+15 dBm
LO DC Voltage Supply		+12 V_{DC}	+15 V_{DC}
LO Current Supply		450 mA	
Output 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/LO Ports	SMA (F)/SMA (F)
Bias	Solder Pin
Housing Material	Aluminum
Weight	1.8 Oz
Finish	Gold Plated
Size	1.2” (W) x 1.8” (L) x 0.5” (H)
Outline	SR-SE

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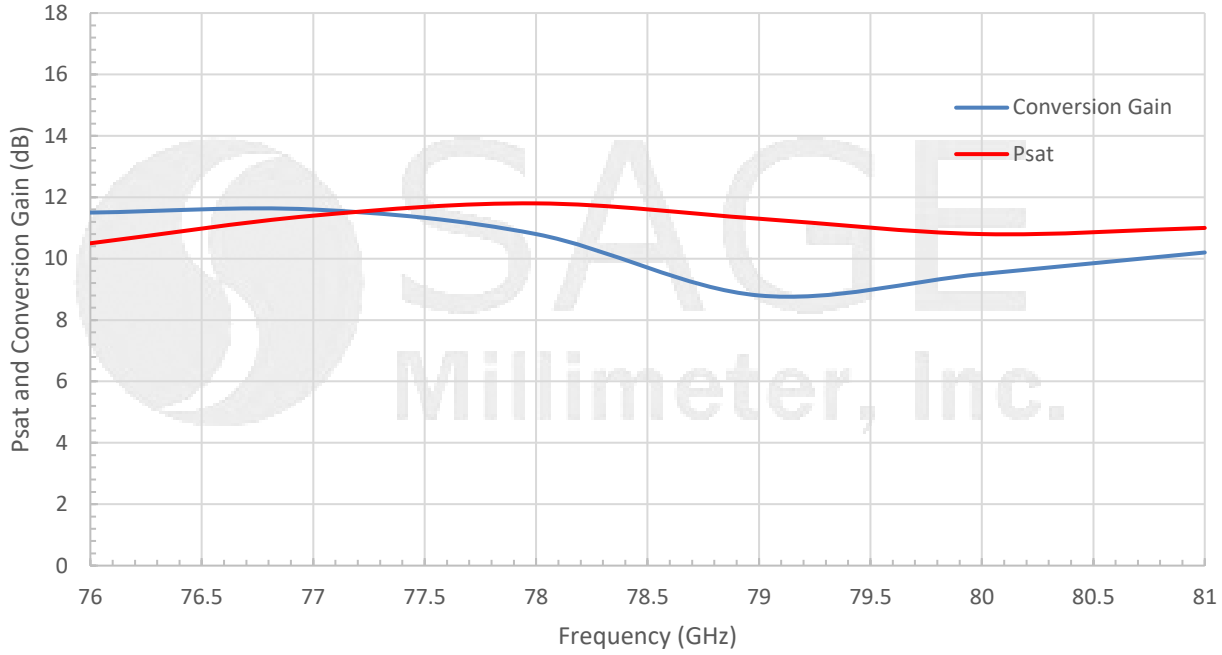
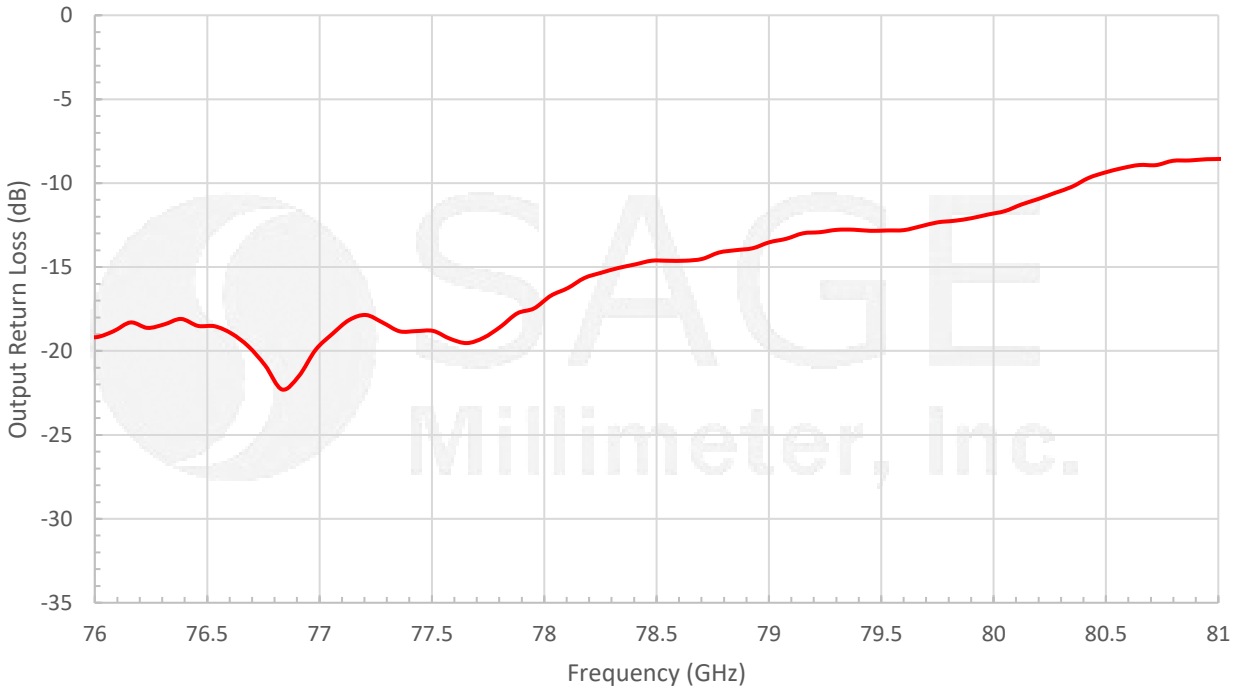
Typical Conversion Gain and Psat vs. Frequency

+12 Vdc/450 mA



Typical Output Return Loss vs. Frequency



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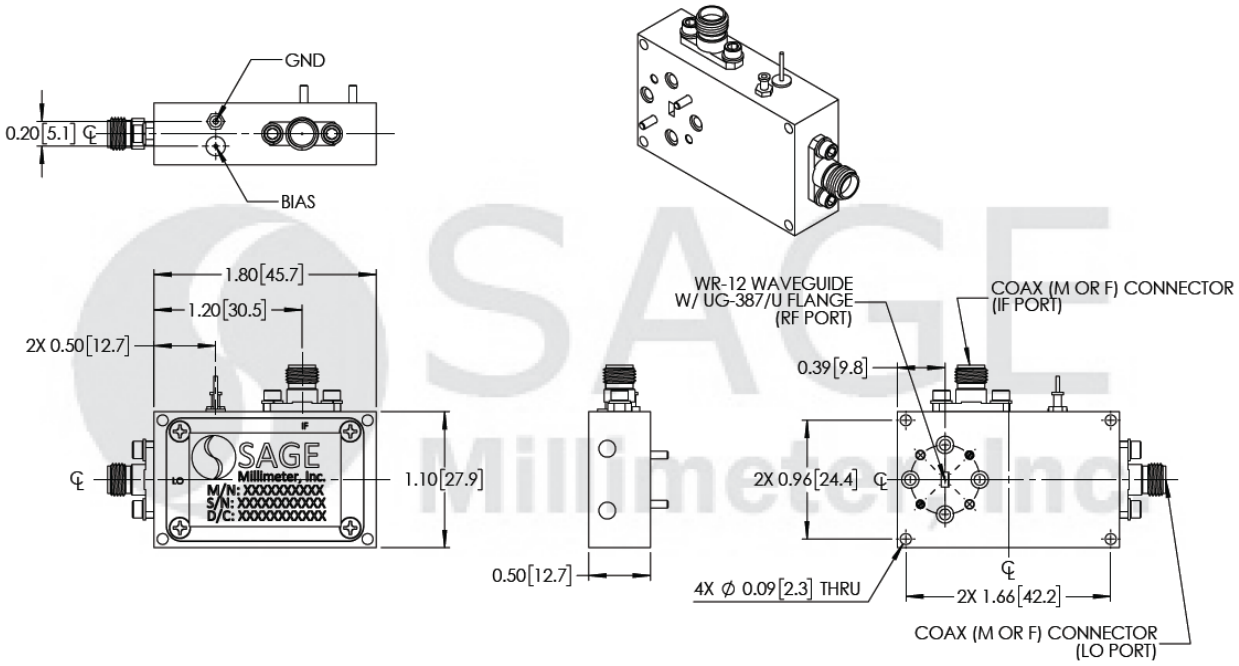
Mechanical Outline: (Unless otherwise specified, all dimensions are in inches [millimeters])



Note:

- All data presented is collected from a sample lot. Actual data may vary unit to unit.
- 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 in 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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