



## E-Band Transmitter, 71.0 to 86.0 GHz

### Description:

**Model SST-7930831516-12-S1** is an E-Band transmitter. The transmitter has a typical conversion gain of 15 dB with a typical Psat dB of +15 dBm in the frequency range of 71.0 to 86.0 GHz and a I/Q IF frequency range of DC to 12.0 GHz. The LO includes a X6 multiplier chain and requires +10 dBm at the frequency range of 11.8 GHz to 14.3 GHz to operate. The LO and IF ports are both equipped with female SMA connectors and the RF port is a WR-12 waveguide with a UG387/U flange.



### Features:

- High Output Power
- High Gain
- Good Gain Flatness

### Applications:

- Radar Systems
- Communication Systems

### Electrical Specifications:

Parameter	Minimum	Typical	Maximum
IF Input Frequency	DC		12 GHz
Psat		+14 dBm	
RF Output Frequency	71.0 GHz		86.0 GHz
IF to RF Conversion Gain		14 dB	
LO to RF Isolation		20 dBc	
SSB Image Rejection		40 dBc	
LO Frequency	11.8 GHz		14.3 GHz
LO Input Power	8 dBm	10 dBm	15 dBm
Bias Voltage	+4 V <sub>DC</sub>	+5 V <sub>DC</sub>	+10 V <sub>DC</sub>
Bias Current		520 mA	
Specification Temperature		+25 °C	
Operating Temperature	0 °C		+50 °C

### Mechanical Specifications:

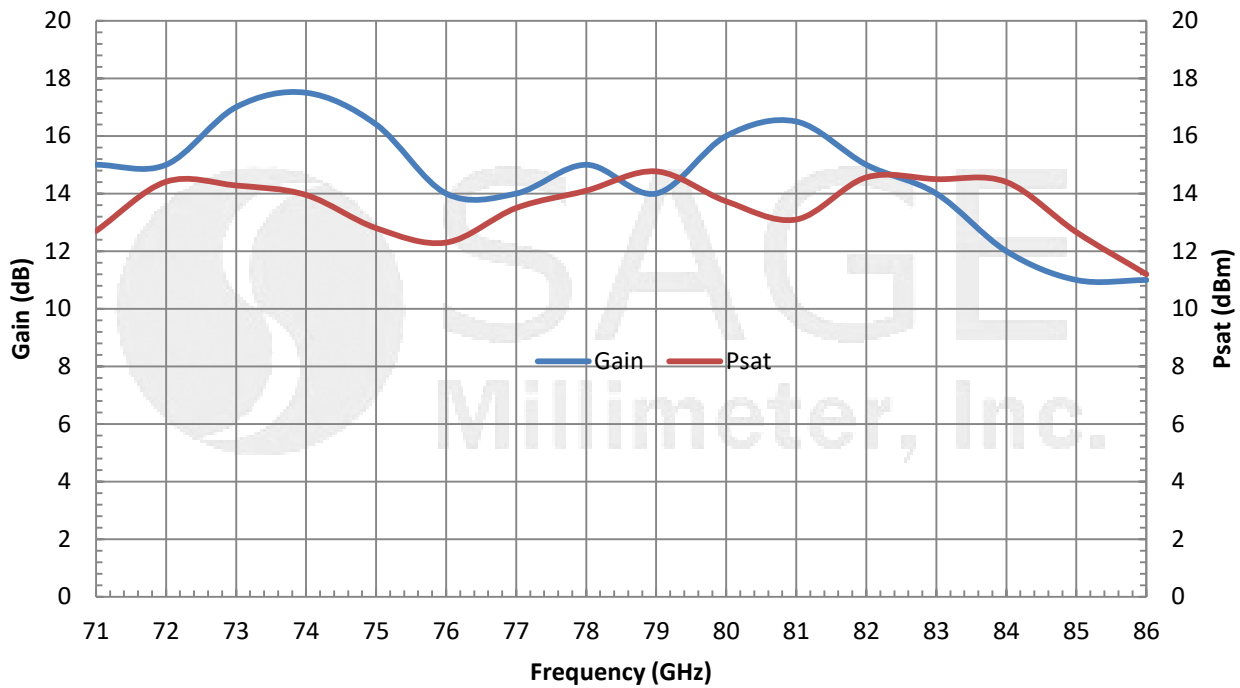
Item	Specification
RF Port	WR-12 Waveguide with UG387/U Flange
IF and LO Ports	SMA (F)
Bias	Solder Pin
Size	1.25" (W) x 1.25" (L) x 0.88" (H)
Housing Material	Aluminum
Weight	1.8 Oz
Finish	Gold Plated
Outline	FT-EEM



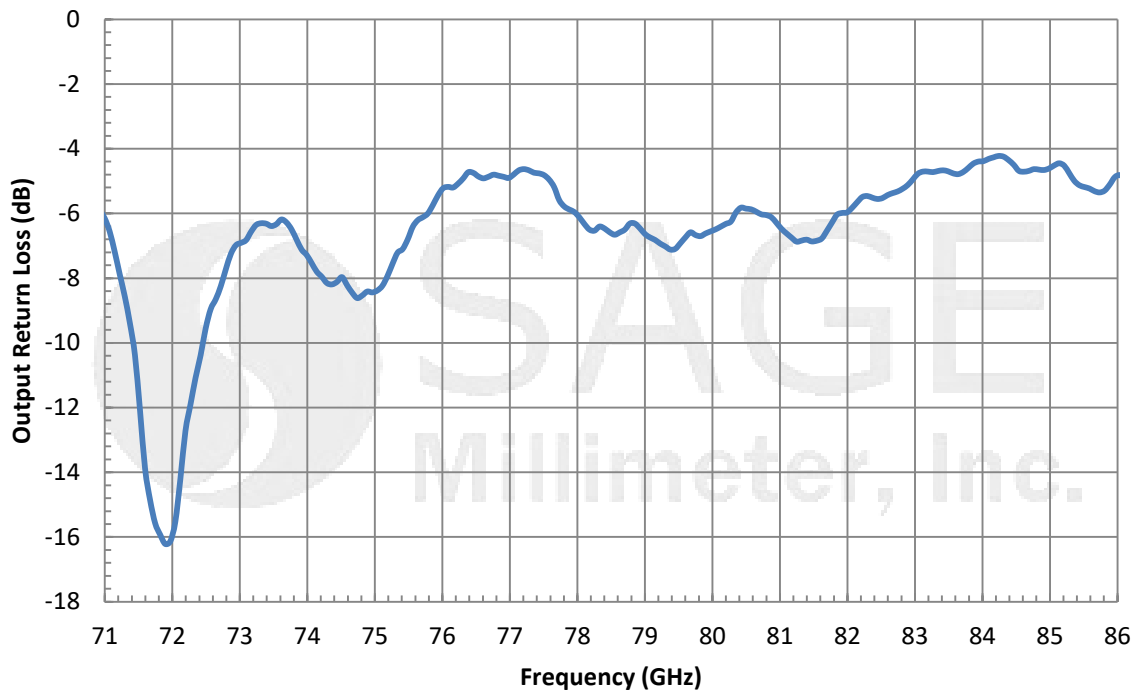


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### Typical Gain and Psat vs. Frequency



### Typical Output Return Loss

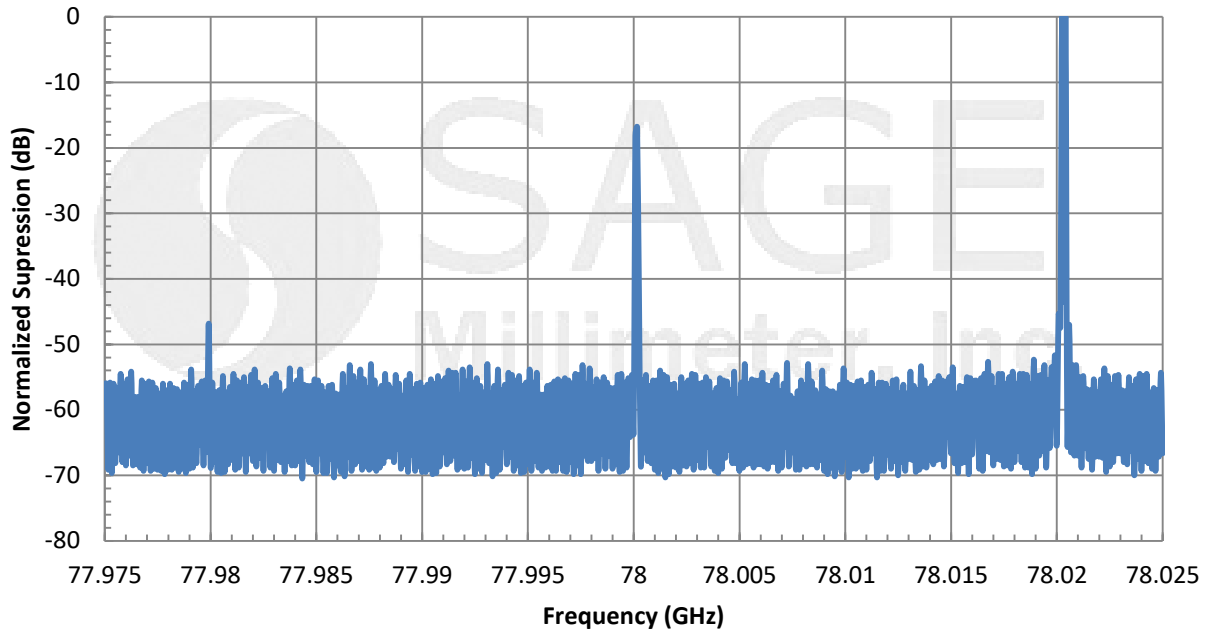




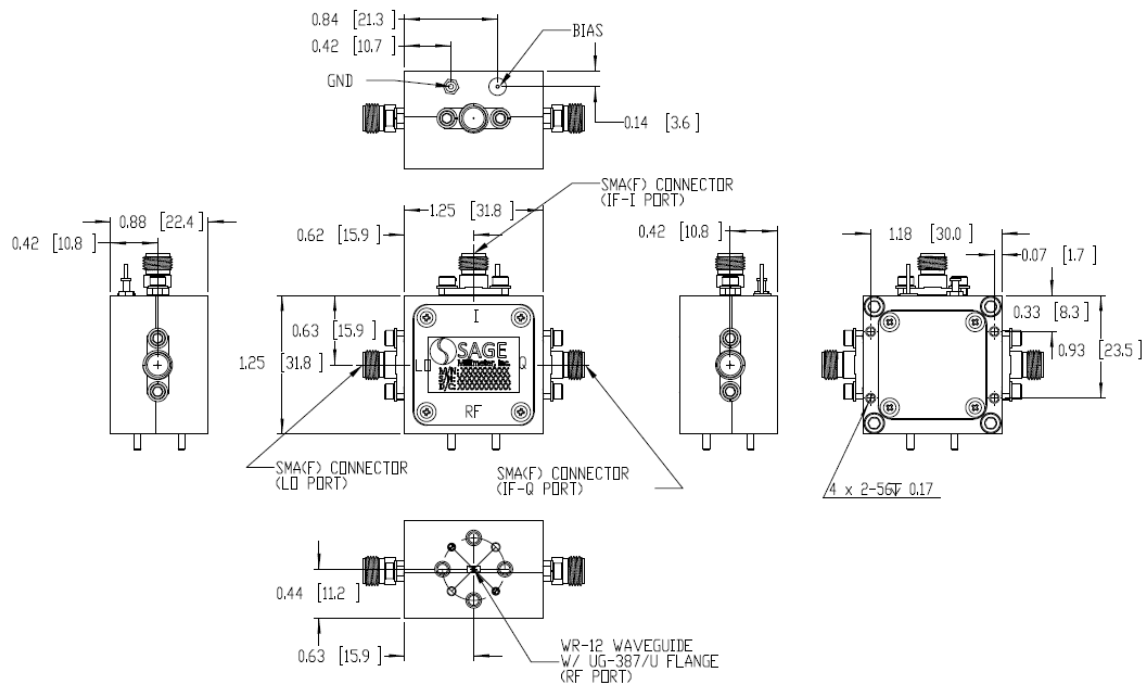
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### Typical SSB Operation Frequency Display

LO = 78 GHz, I/Q = 20 MHz



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



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### Note:

- All data are presented using a limited 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 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.
- 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.

