



## E-Band Low Noise Amplifier, 55 to 95 GHz, 10 dB Gain, 6 dB NF

### Description:

**Model SBL-5539531260-1212-E1** is a low amplifier with a typical small signal gain of 10 dB and a nominal noise figure of 6 dB in the frequency range of 55 to 95 GHz. The DC power requirement for the amplifier is +8 V<sub>DC</sub>/150 mA. The mechanical configuration offers an inline structure with WR-12 waveguides and UG-387/U anti-cocking flanges. Other port configurations, such as with 1 mm connectors or a right angle structure with WR-12 waveguides, are also available under different model numbers.



### Features:

- Broadband Performance
- Moderate Noise Figure
- Moderate Output Power

### Applications:

- Radar Systems
- Communication Systems
- Test Equipment

### Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency	55 GHz		95 GHz
Gain		10 dB	
Noise Figure		6 dB	
*P <sub>1dB</sub>		+10 dBm	
P <sub>sat</sub>		+14 dBm	
P <sub>in</sub>			+15 dBm
Input Return Loss		10 dB	
Output Return Loss		10 dB	
DC Voltage	+6 V <sub>DC</sub>	+8 V <sub>DC</sub>	+15 V <sub>DC</sub>
DC Supply Current		150 mA	
Specification Temperature		+25 °C	
Operating Temperature	0 °C		+50 °C

*\*For Reference Only*

### Mechanical Specifications:

Item	Specification
Input	WR-12 Waveguide with UG-387/U Anti-Cocking Flange
Output	WR-12 Waveguide with UG-387/U Anti-Cocking Flange
Bias	Solder Pin
Case Material	Aluminum
Finish	Gold Plated
Weight	1.6 Oz
Size	1.10" (W) X 1.50" (L) X 0.75" (H)
Outline	BG-SE-2-A

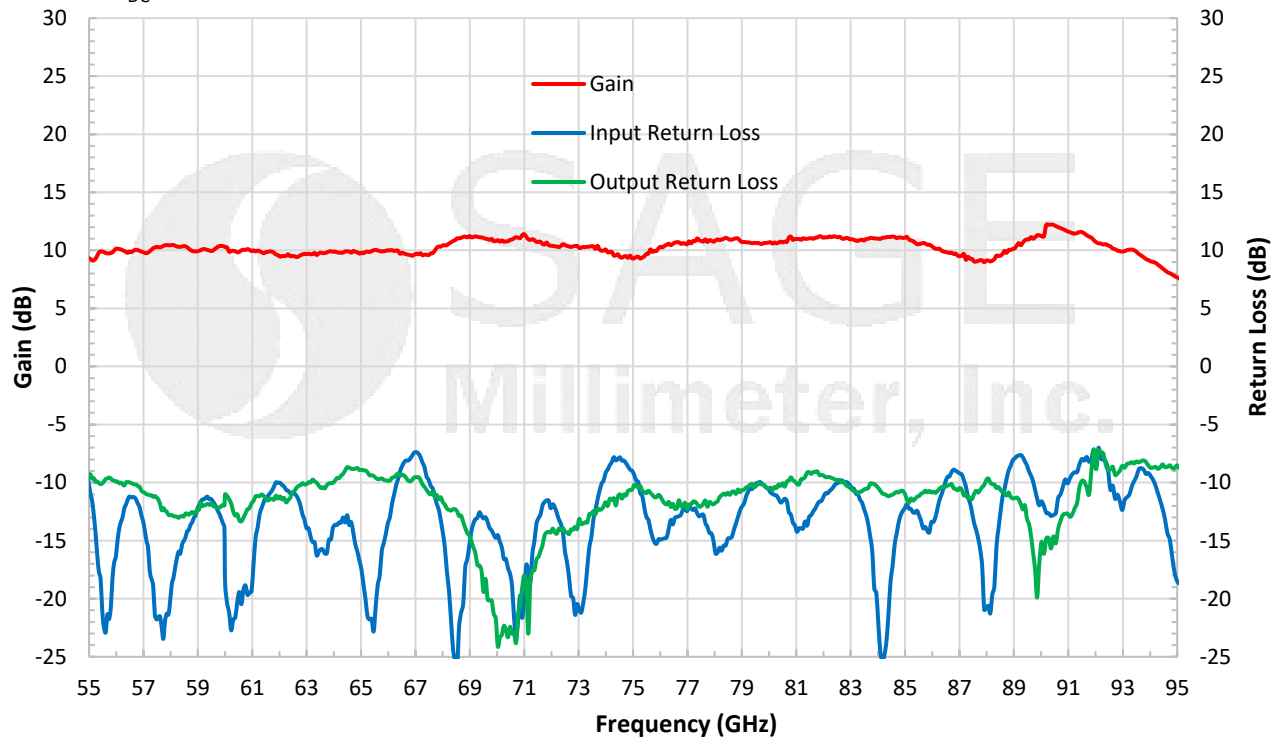




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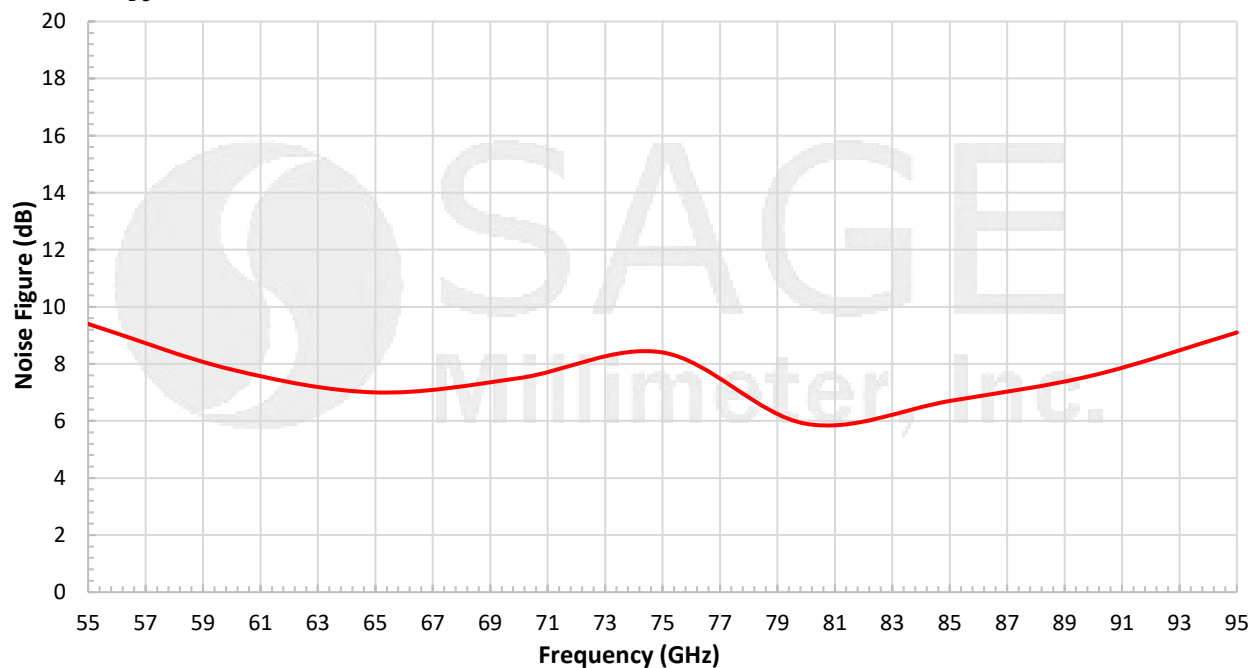
### Typical Gain and Return Loss vs. Frequency

Bias: +8 V<sub>DC</sub>/150 mA



### Typical Noise Figure vs. Frequency

Bias: +8 V<sub>DC</sub>/150 mA

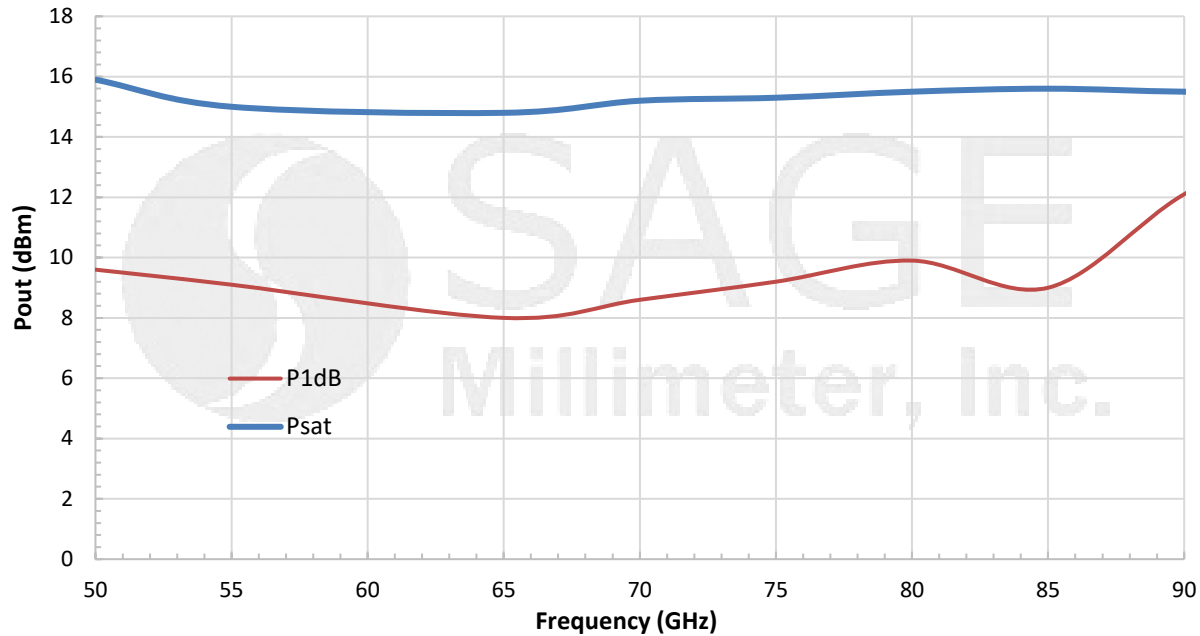




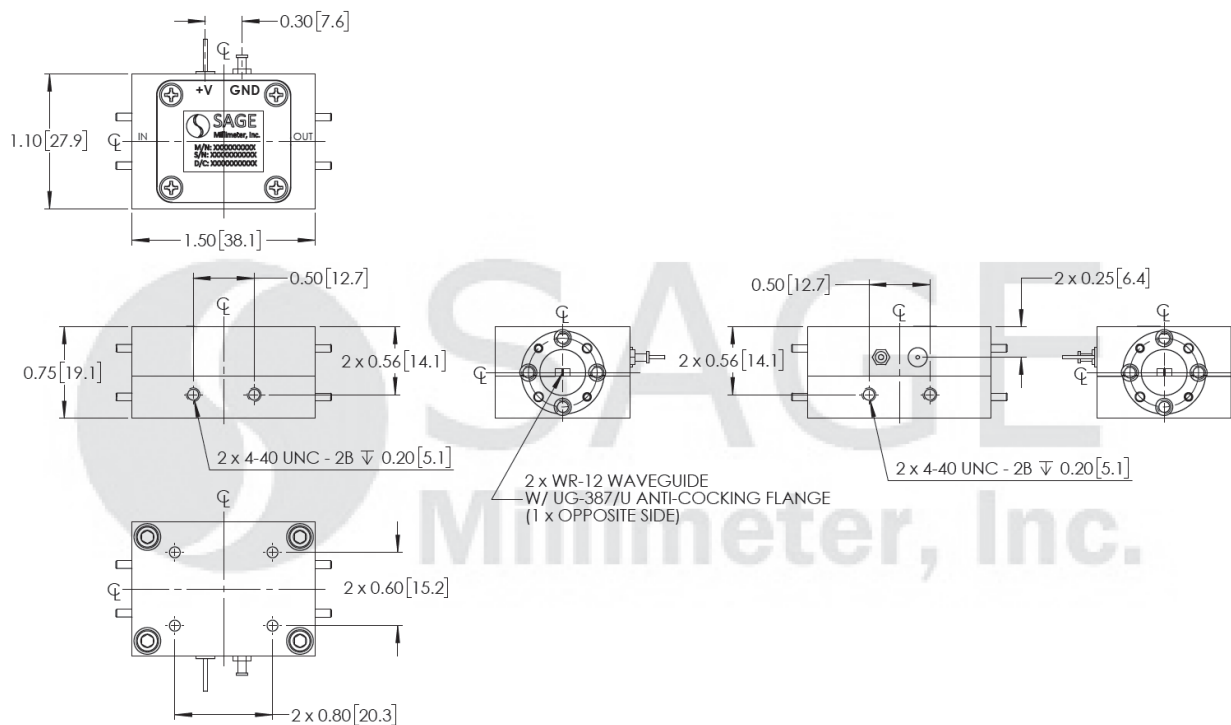
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### Typical Output Power vs. Frequency

Bias: +8 V<sub>DC</sub>/150 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.
- 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.
- The case temperature of the device shall never exceed +50 °C. Use proper heatsink or fan if necessary.
- Any foreign objects in the waveguide will cause performance degradation and may damage the device.

