



## E-Band Power Amplifier, 69 to 77 GHz, 17 dB Gain, +25 dBm P<sub>1dB</sub>

### Description:

**Model SBP-6937731727-1212-E1** is a power amplifier with a typical small signal gain of 17 dB and a typical P<sub>1dB</sub> and P<sub>sat</sub> of +25 and +26 dBm across the frequency range of 69 to 77 GHz, respectively. The DC power requirement for the amplifier is +8 V<sub>DC</sub>/800 mA. The mechanical configuration offers an in line 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:

- High Output Power
- High Gain
- Good Gain Flatness

### Applications:

- Radar Systems
- Communication Systems
- Test Equipment

### Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency	69 GHz		77 GHz
Gain		17 dB	
P <sub>1dB</sub>		+25 dBm	
P <sub>sat</sub>		+26 dBm	
P <sub>in</sub>			+20 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		800 mA	
Specification Temperature		+25 °C	
Operating Temperature	0 °C		+50 °C

### Mechanical Specifications:

Item	Specification
Input Port	WR-12 Waveguide with UG-387/U Anti-Cocking Flange
Output Port	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

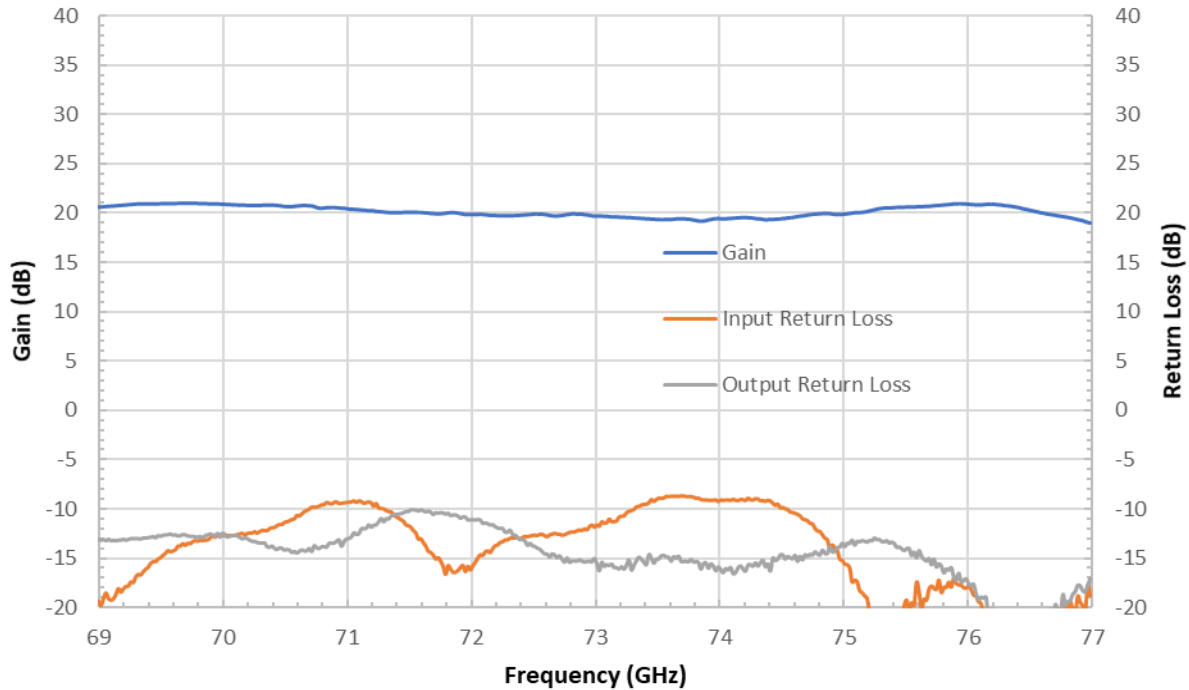




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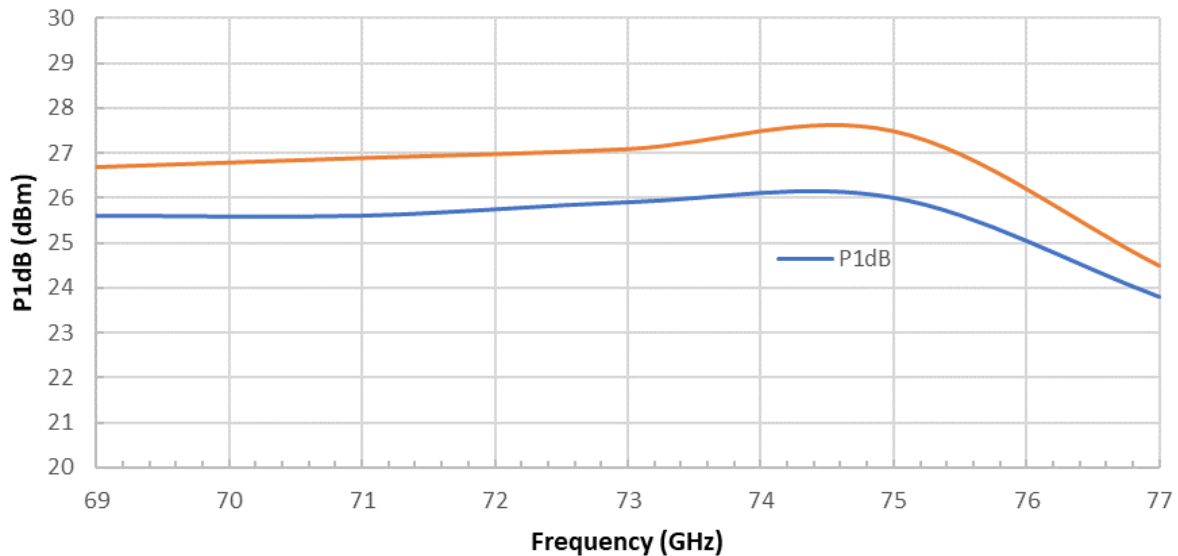
### Gain and Return Loss vs. Frequency

Bias: +8 V<sub>DC</sub>/ 864 mA



### Output Power dB vs. Frequency

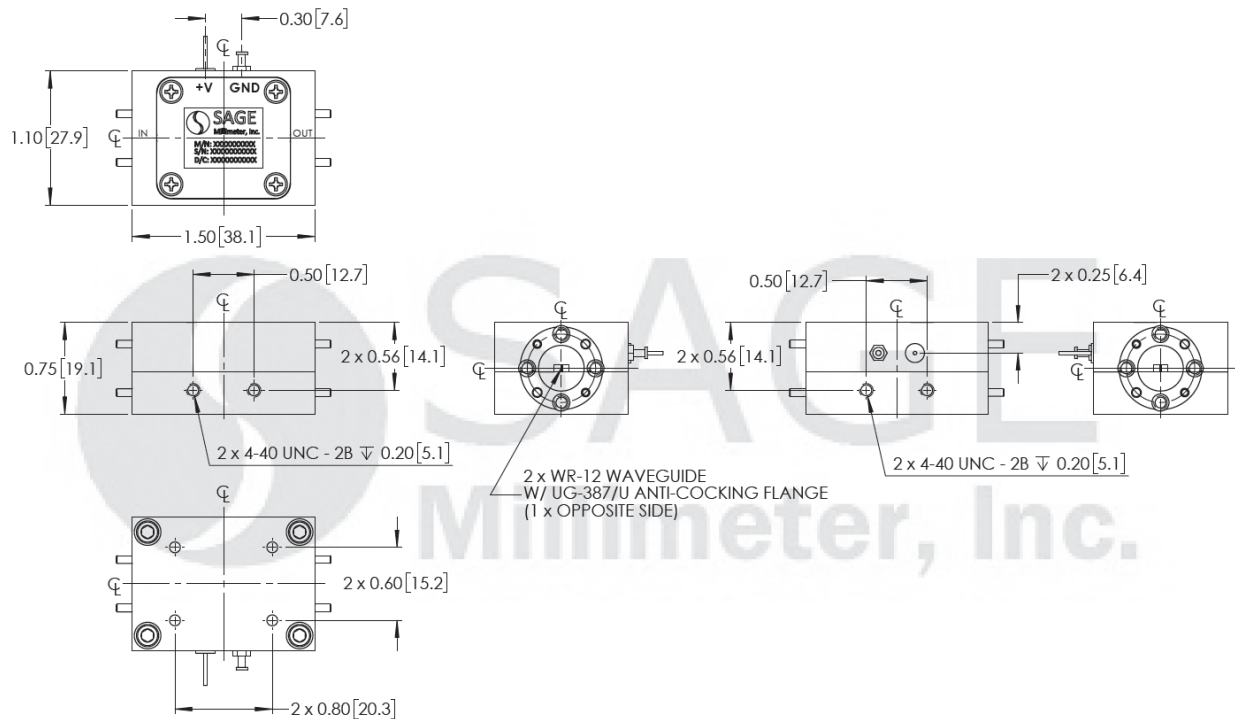
Bias: +8V<sub>DC</sub>/1.4 A





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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.
- 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.

