



## D-Band Low Noise Amplifier, 110 to 170 GHz, 30 dB Gain, 6.5 dB

### Description:

**Model SBL-1141743065-0606-E1** is a D-band low noise amplifier with a typical small signal gain of 30 dB and a nominal noise figure of 6.5 dB across the frequency range of 110 to 170 GHz. The DC power requirement for the amplifier is +8 V<sub>DC</sub>/70 mA. The input and output port configuration offers an inline structure with WR-06 waveguides and UG-387/U-M anti-cocking flanges. Other port configurations are available under different model numbers.



### Features:

- Full Waveguide Band Coverage
- State-of-the-Art Noise Figure
- Low Power Consumption

### Applications:

- D-Band Passive Imaging
- Communication Systems
- Radar Systems

### Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency	110 GHz		170 GHz
Gain		30 dB	
Noise Figure		6.5 dB	
P <sub>1dB</sub>		-5 dBm	
P <sub>in</sub>			10 dBm
Input Return Loss		6 dB	
Output Return Loss		6 dB	
DC Voltage		+8 V <sub>DC</sub>	+12 V <sub>DC</sub>
DC Supply Current		70 mA	
Specification Temperature		+25 °C	
Operating Temperature	0 °C		+50 °C

### Mechanical Specifications:

Item	Specification
Input	WR-06 Waveguide with UG-387/U-M Anti-Cocking Flange
Output	WR-06 Waveguide with UG-387/U-M Anti-Cocking Flange
Bias	Solder Pin
Case Material	Aluminum
Finish	Gold Plated
Weight	1.6 Oz
Size	1.40" (L) X 1.00" (W) X 0.75" (H)
Outline	BG-SD-2-A

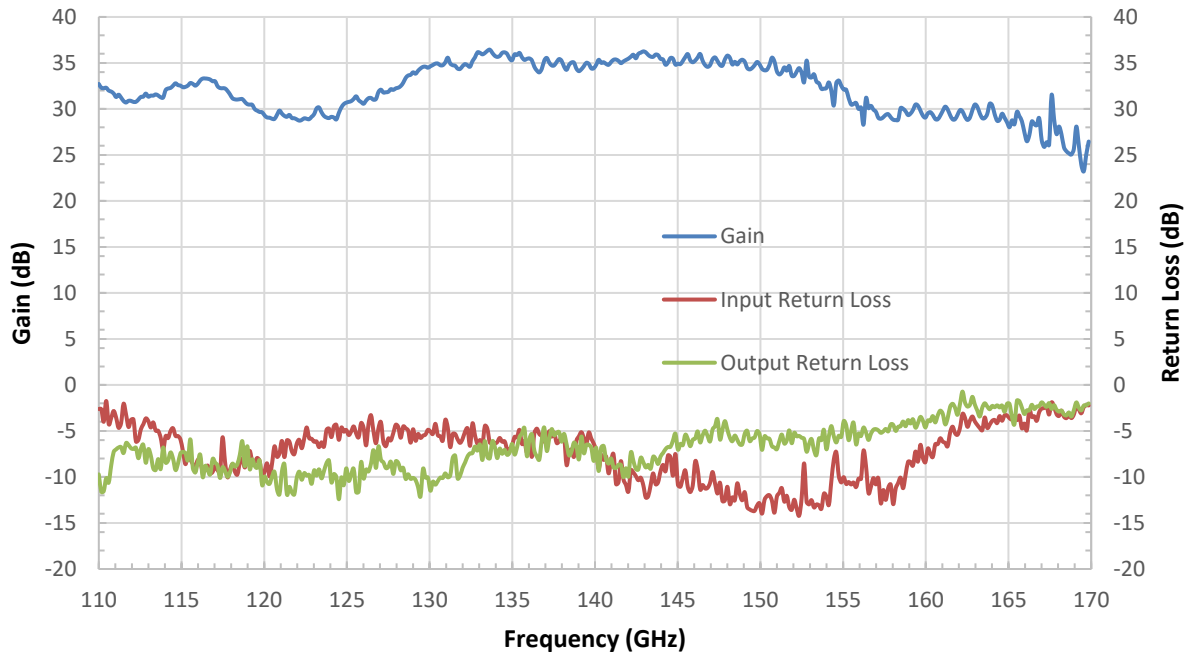




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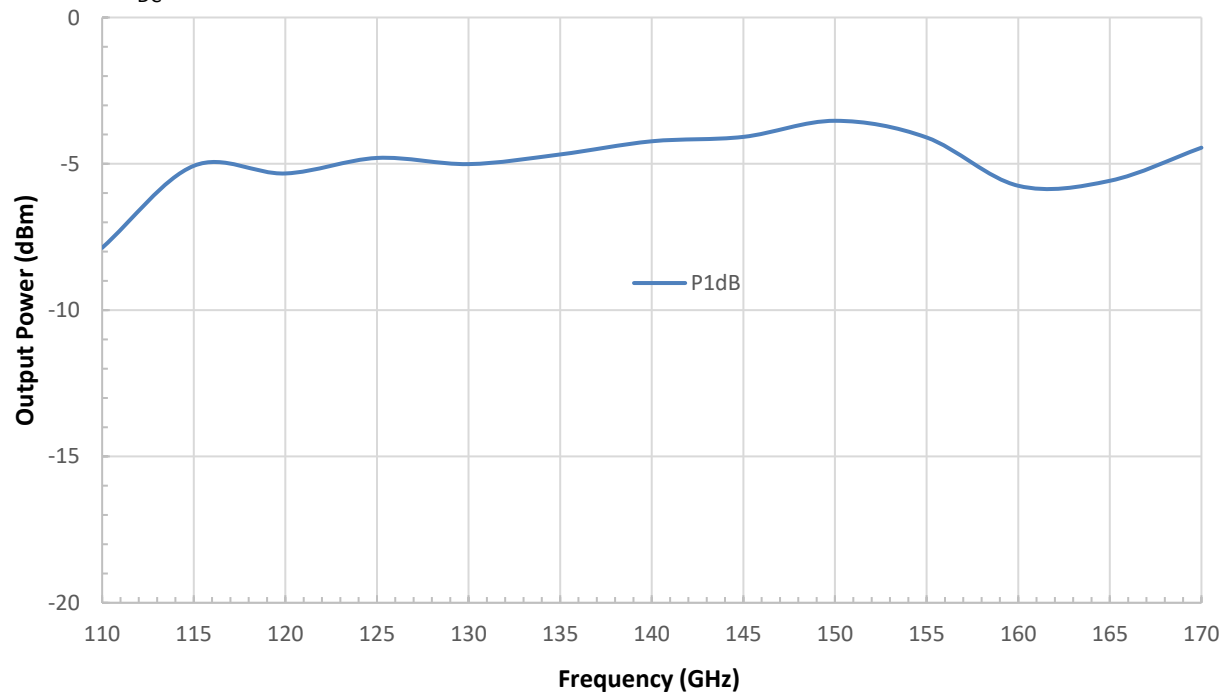
### Gain and Return Loss vs. Frequency

Bias: +8 V<sub>DC</sub>/62 mA



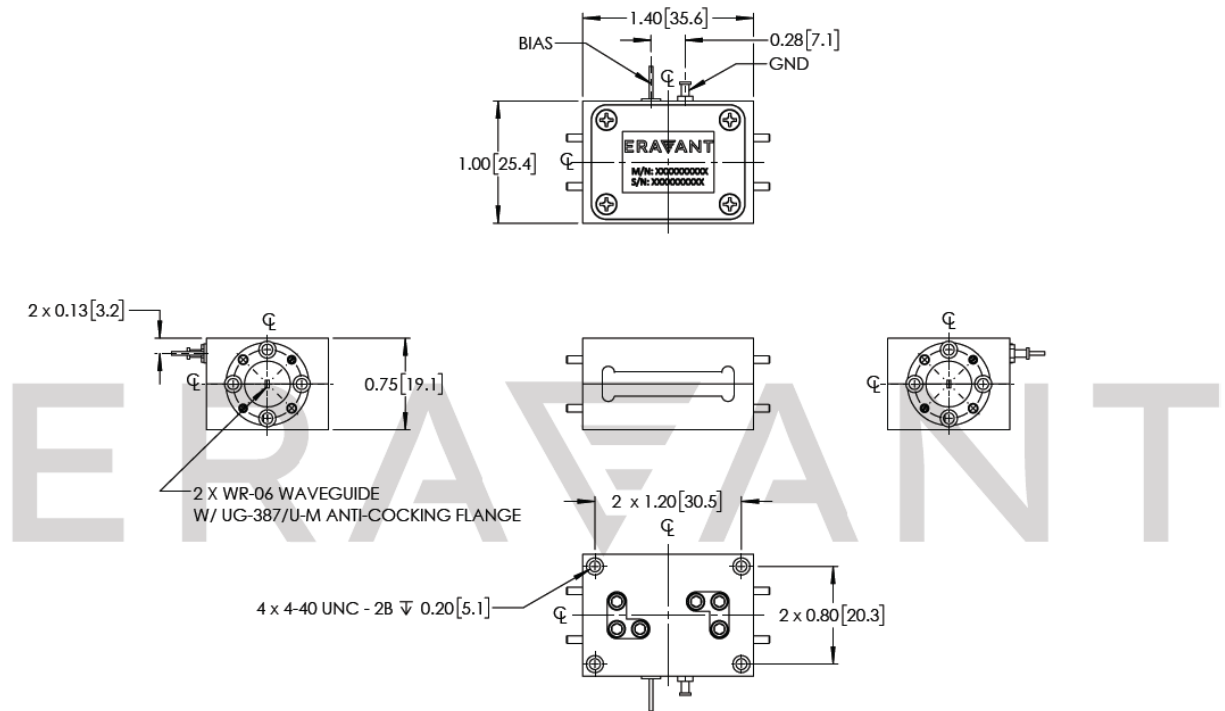
### Output Power vs. Frequency

Bias: +8 V<sub>DC</sub>/62 mA



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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.

**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.

