



## W-Band Compact Bench Top Low Noise Amplifier, 35 dB Gain, 5 dB NF

### Description:

**Model STB-7531143550-1010-L1-C** is a compact benchtop amplifier with a typical small signal gain of 35 dB and a nominal  $P_{1dB}$  of -5 dBm across the frequency range of 75 to 110 GHz, respectively. An AC to DC power adapter is provided so that the power supply required is a single phase AC voltage in the range of 100 to 240 V<sub>AC</sub>, which can be supplied by a wall outlet or lab benches. The fan helps to keep the amplifier working around room temperature. The input and output ports are WR-10 waveguides with standard UG-387/U-M anti-cocking flanges.



### Features:

- Full Waveguide Band Coverage
- Low Noise Figure
- Compact Design for Flexibility

### Applications:

- Test Labs
- Gain Boosting
- System Noise Figure Improvement

### Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency	75 GHz		110 GHz
Gain		35 dB	
Noise Figure		5 dB	
$P_{1dB}$		-5 dBm	
$P_{in}$			+15 dBm
Input Return Loss		6 dB	
Output Return Loss		8 dB	
Power Supply (AC Adapter Provided)	100 V <sub>AC</sub>		240 V <sub>AC</sub>
Specification Temperature		+25 °C	
Operating Temperature	0 °C		+50 °C

### Mechanical Specifications:

Item	Specification
RF Ports	WR-10 Waveguide with UG-387/U-M Anti-Cocking Flange
DC Bias	2.5 mm DC Jack (AC-to-DC power converter included)
Enclosure Material	Extruded Aluminum
Finish	Various
Weight	1.5 lbs
Size	2.36" (W) x 2.36" (L) x 4.10" (H)
Outline	TB-SW-A-C



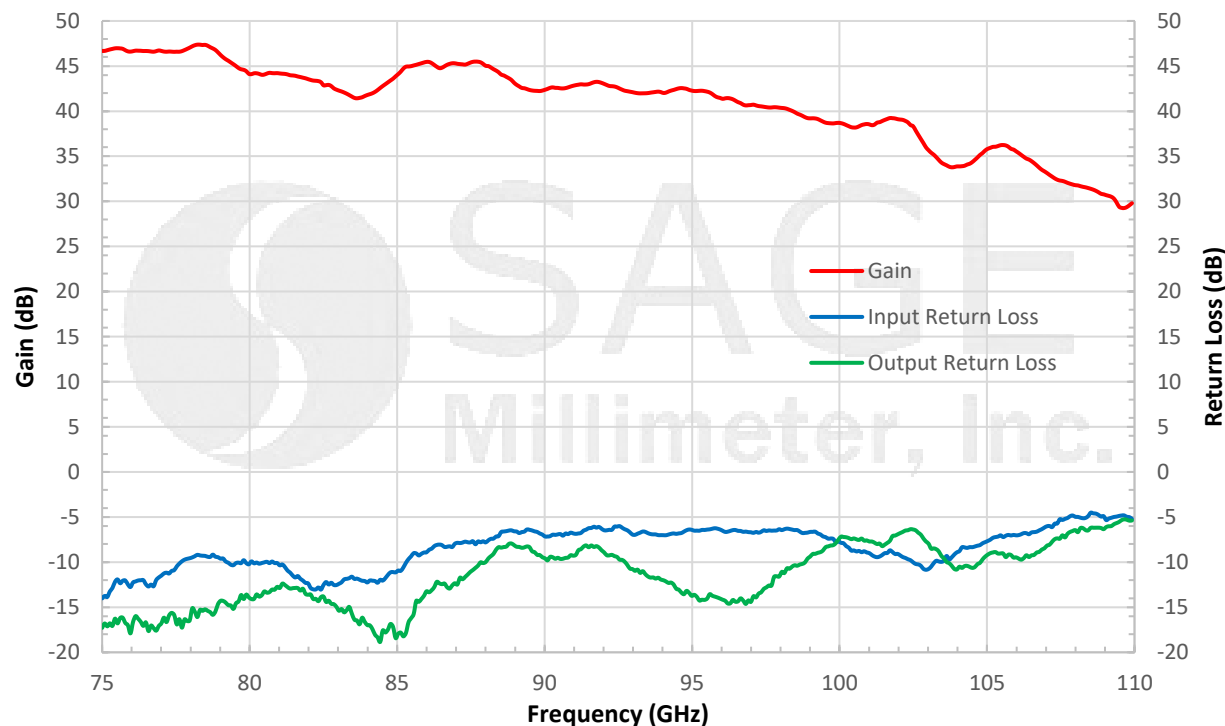
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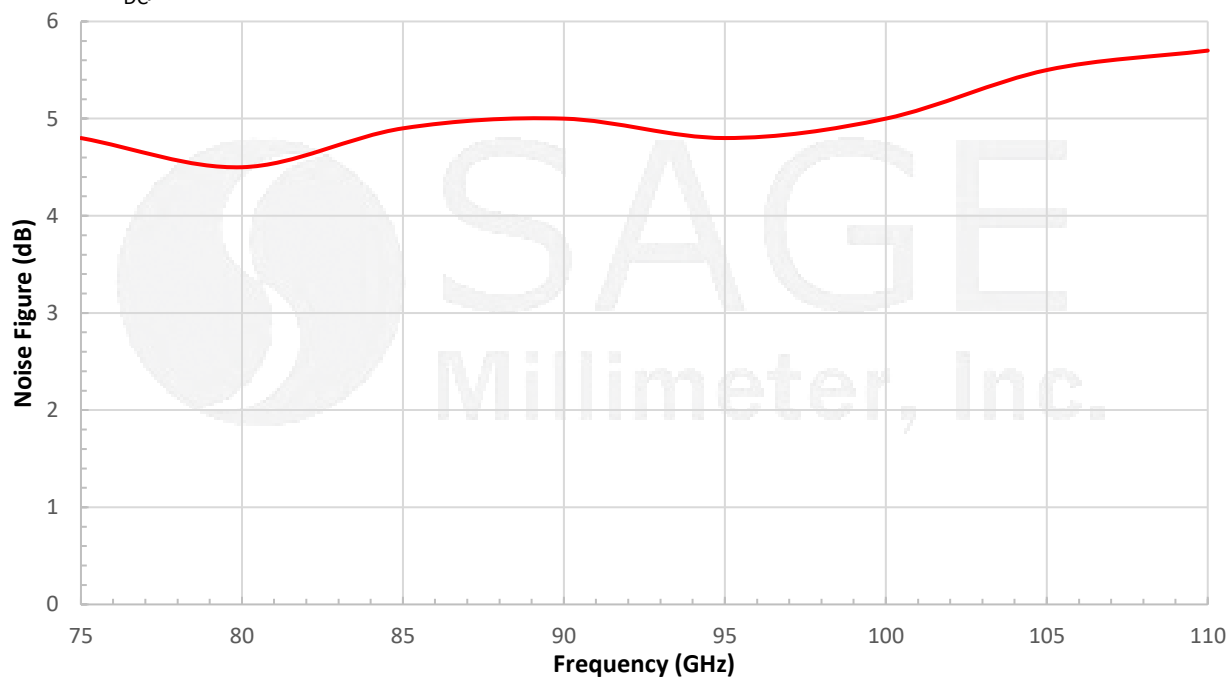
### Typical Gain and Return Loss vs. Frequency

Bias: +8 V<sub>DC</sub>/69 mA



### Typical Noise Figure vs. Frequency

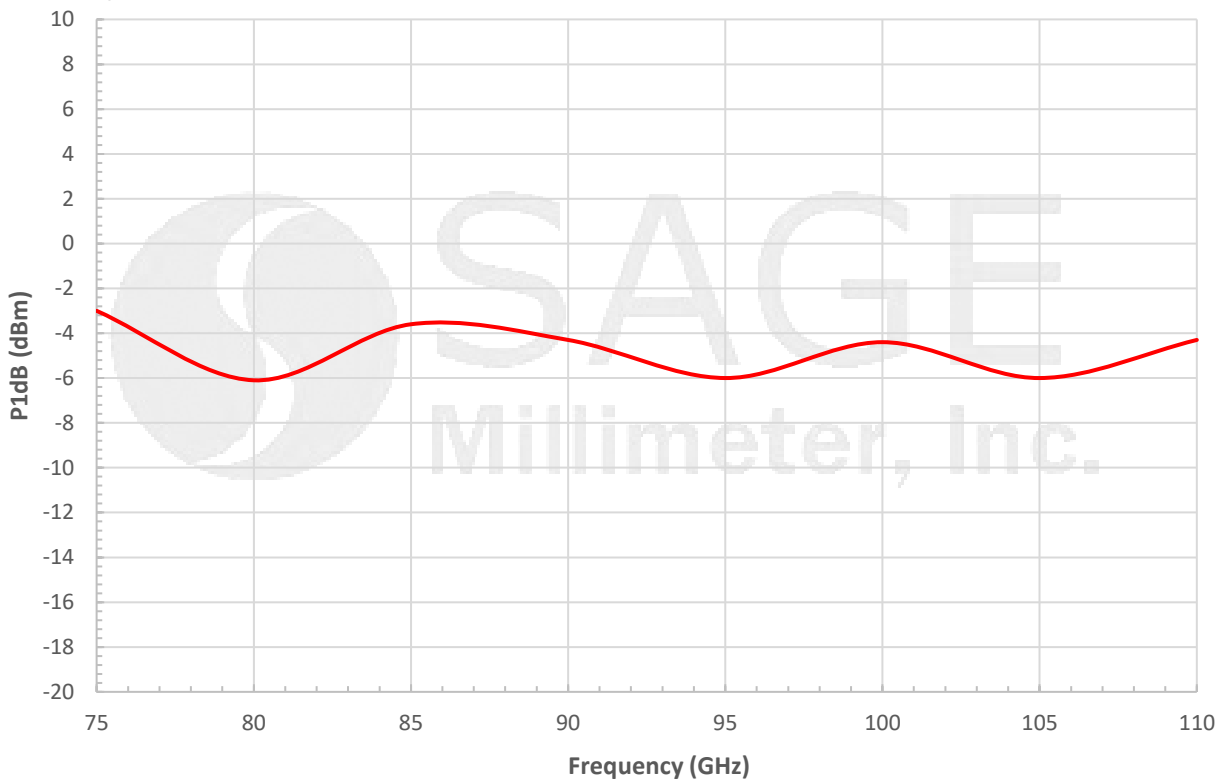
Bias: +8V<sub>DC</sub>/69 mA



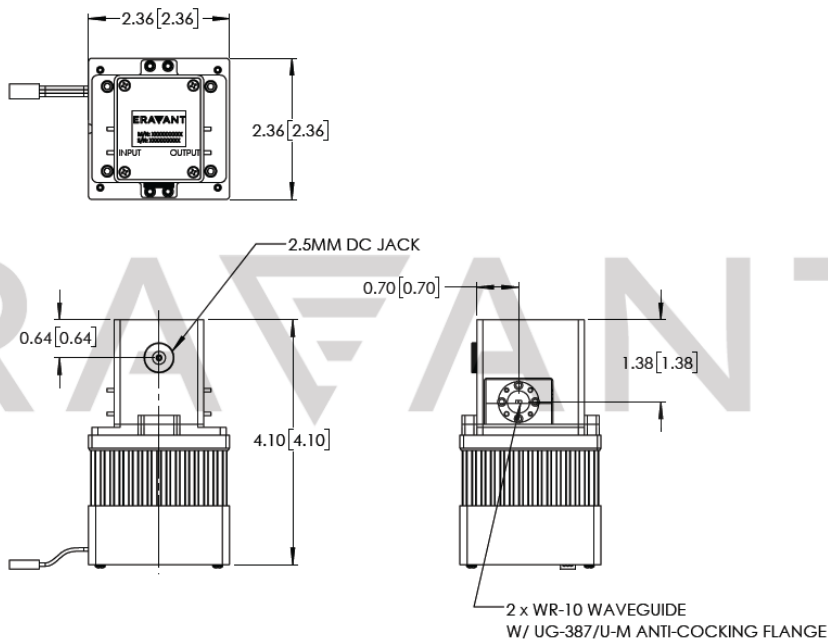
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### Typical $P_{1dB}$ vs. Frequency

Bias: +8V/100 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.
- AC-to-DC power adapter with cord is included.
- Other mechanical configurations are available under different model numbers.
- Eravant, 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.

