SBL-4036034540-1919-E1

Final Rev 1.2

U-Band Low Noise Amplifier, 40 to 60 GHz, 45 dB Gain, 4.0 dB NF

Description:

Model SBL-4036034540-1919-E1 is a low noise amplifier with a typical small signal gain of 45 dB across the frequency range of 40 to 60 GHz and a nominal noise figure of 4.0 dB. The DC power requirement for the amplifier is +8 V_{DC}/400 mA. The mechanical configuration offers a in-line structure with WR-19 Uni-Guide™ waveguides. Other port configurations, such as a right angle structure with WR-19 waveguides or 1.85 mm connectors, are also available under different model numbers.

Features:

- Full Waveguide Band Operations
- State-of-the-Art Noise Figure

Applications:

- New 5G Bands
- Low Noise Receivers
- Communication Systems
- Radar Systems

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency	40 GHz		60 GHz
Gain		45 dB	
Noise Figure		4.0 dB	
P_{1dB}		+16 dBm	
P_{in}			+5 dBm
Input Return Loss		8 dB	
Output Return Loss		10 dB	
DC Voltage	+6 V_{DC}	+8 V_{DC}	+15 V_{DC}
DC Supply Current		400 mA	
Specification Temperature		+25 ˚C	
Operating Temperature	0 ˚C		+50 ˚C

Mechanical Specifications:

Item	Specification
RF Ports	WR-19 Uni-Guide™ Waveguides with UG-383/U-M Anti-Cocking Flanges
Bias	Solder Pin
Case Material	Aluminum
Finish	Gold Plated
Weight	2.0 Oz
Size	1.98” (L) 1.20” (W) X 1.13” (H)
Outline	BG-SU-2-A

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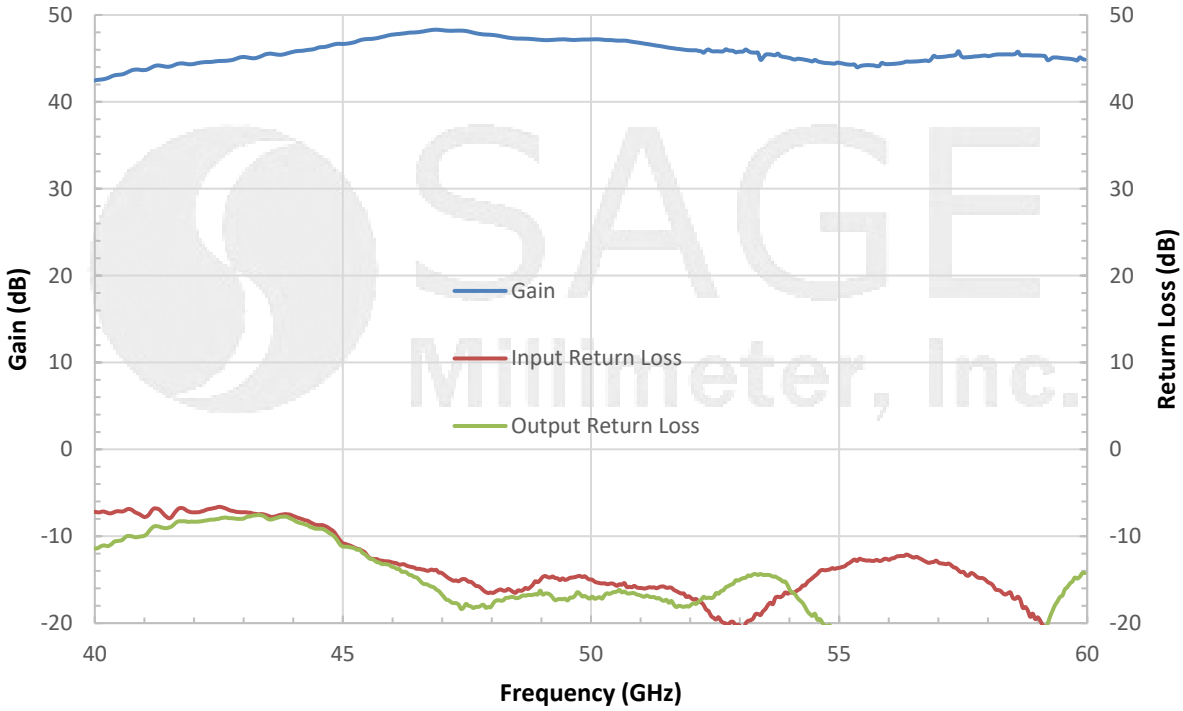
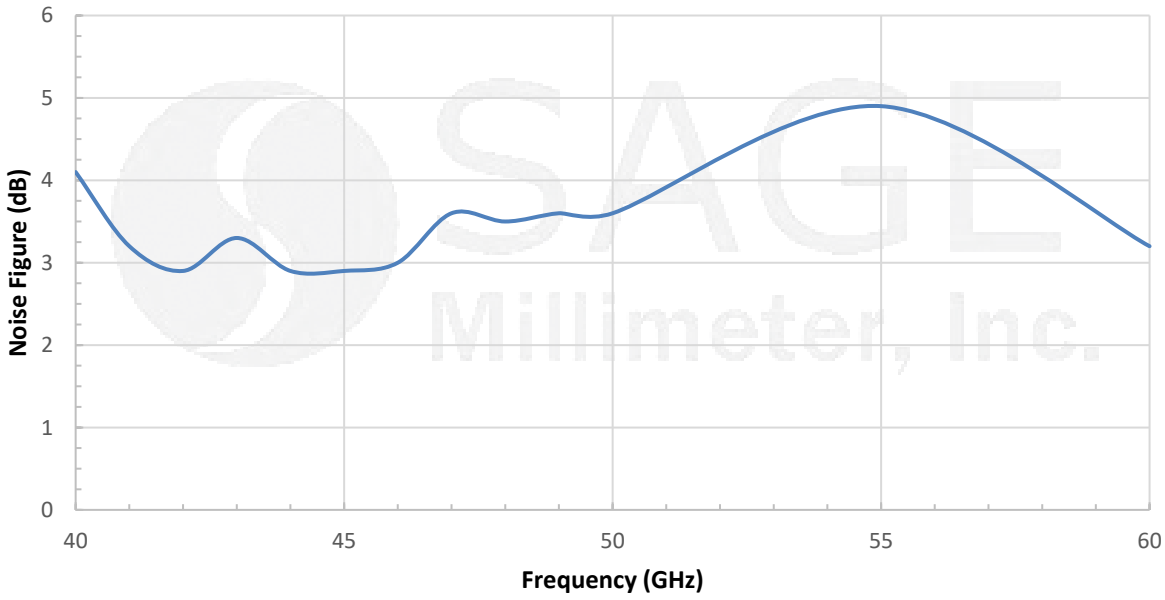
Typical Gain and Return Loss vs. Frequency

Bias: +8 V_{DC}/400 mA



Typical Noise Figure vs. Frequency

Bias: +8V_{DC}/400 mA



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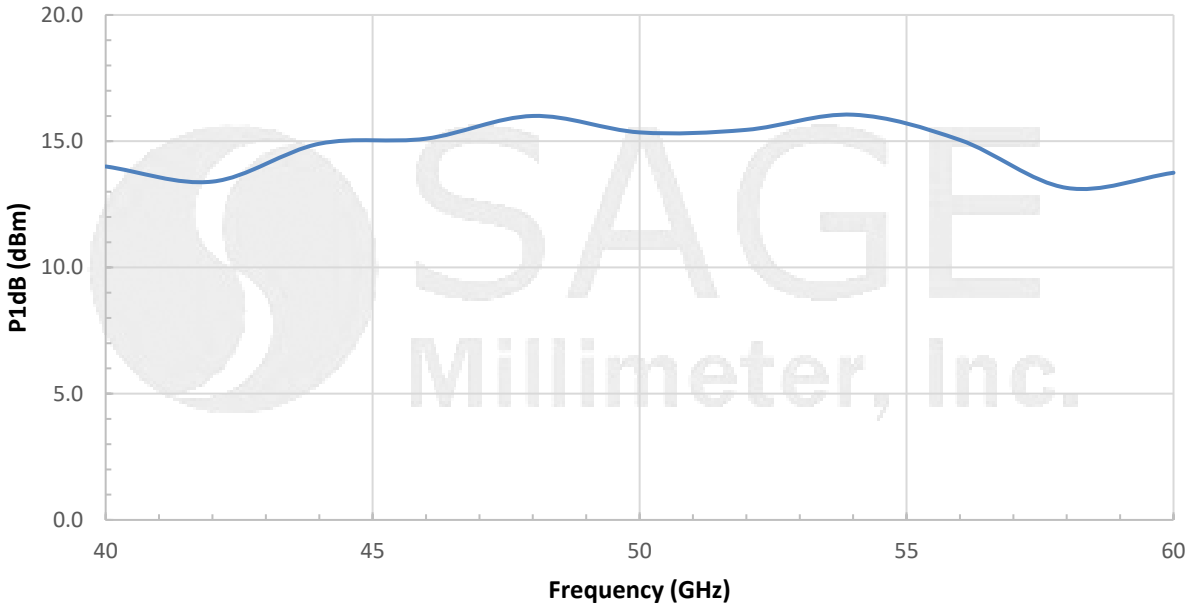
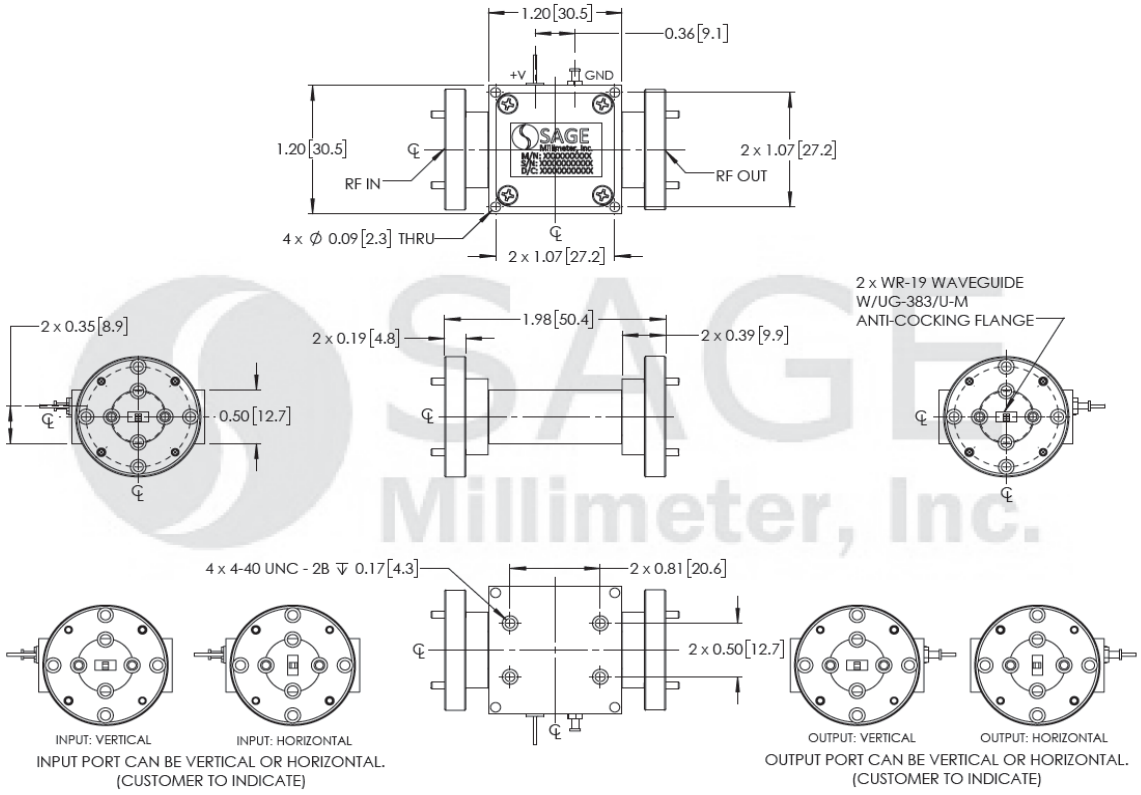
Typical P1dB vs. Frequency

Bias: +8 V_{DC}/400 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.
- The amplifier employs Eravant's trademarked and patent pending technology, the **Uni-Guide™**, as its waveguide interfaces. The orientation of the input and the output waveguides can be specified through corresponding model numbers. For example, the model number for a vertical input waveguide and horizontal output waveguide configuration would be **SBL-4036034540-1919H-E1** instead of the default **SBL-4036034540-1919-E1** which indicates vertical orientation for both input and output.
- Other mechanical configurations are available under different model numbers.
- Eravant 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.
- Any foreign objects in the waveguide will cause performance degradation and may damage the device.