



U-Band Low Noise Amplifier, 37 to 51.5 GHz, 24 dB Gain, 4.5 dB NF

Description:

Model SBL-3735232445-1919-E1 is a low noise amplifier with a typical small signal gain of 24 dB and a nominal noise figure of 4.5 dB across the frequency range of 37 to 51.5 GHz. The DC power requirement for the amplifier is +6 V_{DC}/130 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:

- Good Gain Flatness
- State-of-the-Art Noise Figure

Applications:

- 5G Systems
- 47.5 – 51.2 GHz Satcom
- Communication Systems
- Radar Systems

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency	37 GHz		51.5 GHz
Gain		24 dB	
Noise Figure		4.5 dB	
P _{in}			0 dBm
P _{1dB}		+12 dBm	
Input Return Loss		8 dB	
Output Return Loss		8 dB	
DC Voltage		+6 V _{DC}	+15 V _{DC}
DC Supply Current		130 mA	
Specification Temperature		+25 °C	
Operating Temperature	0 °C		+50 °C

Mechanical Specifications:

Item	Specification
Input Port	WR-19 Uni-Guide™ Waveguide with UG-383/U-M Anti-Cocking Flange
Output Port	WR-19 Uni-Guide™ Waveguide with UG-383/U-M Anti-Cocking Flange
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

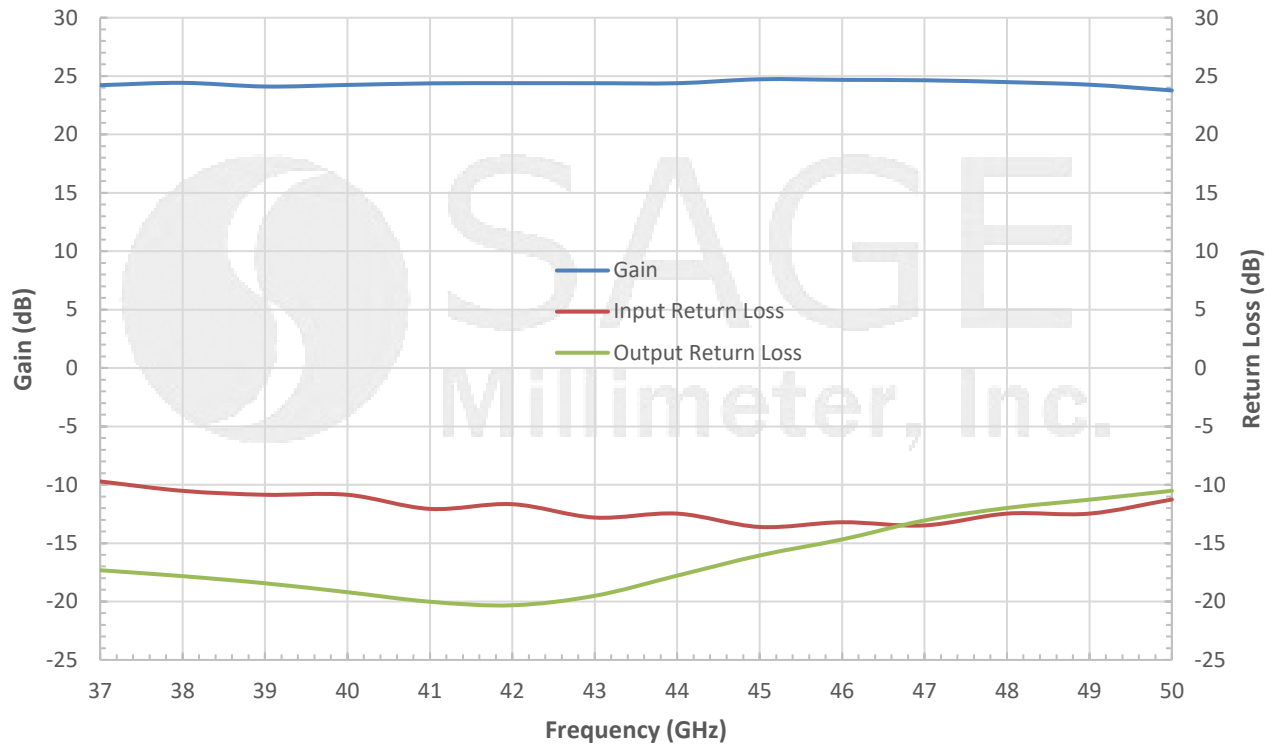




U-Band Low Noise Amplifier, 37 to 51.5 GHz, 24 dB Gain, 4.5 dB NF

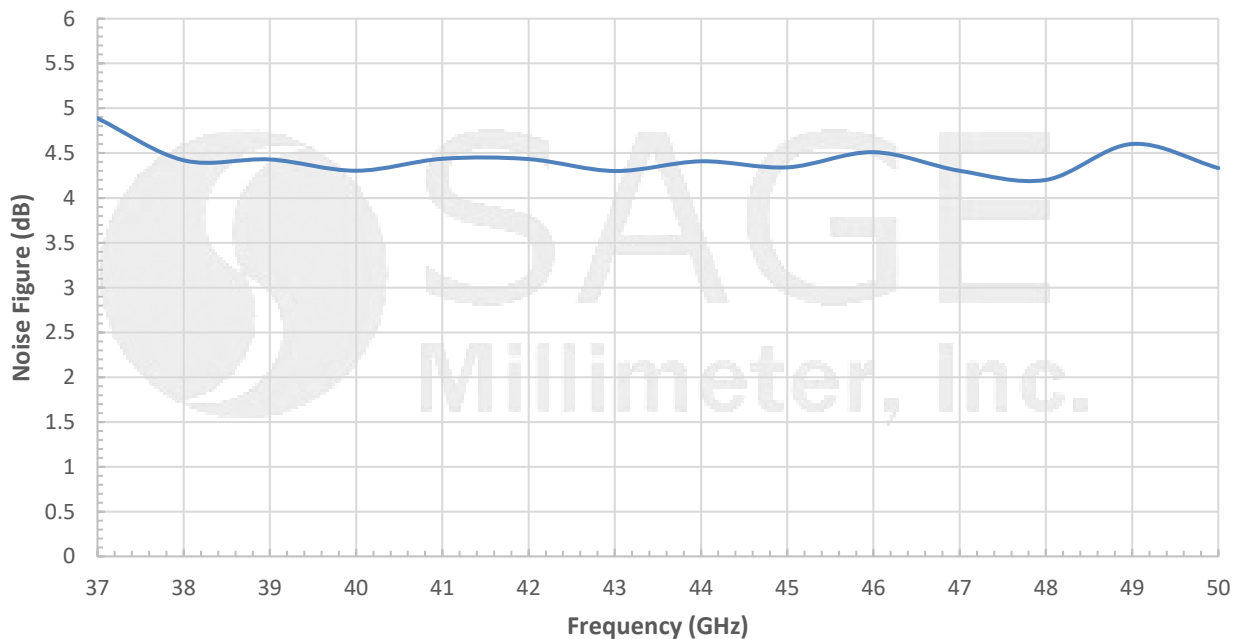
Typical Gain and Return Loss vs Frequency

Bias= +6 V_{DC} / 130mA



Typical Noise Figure vs Frequency

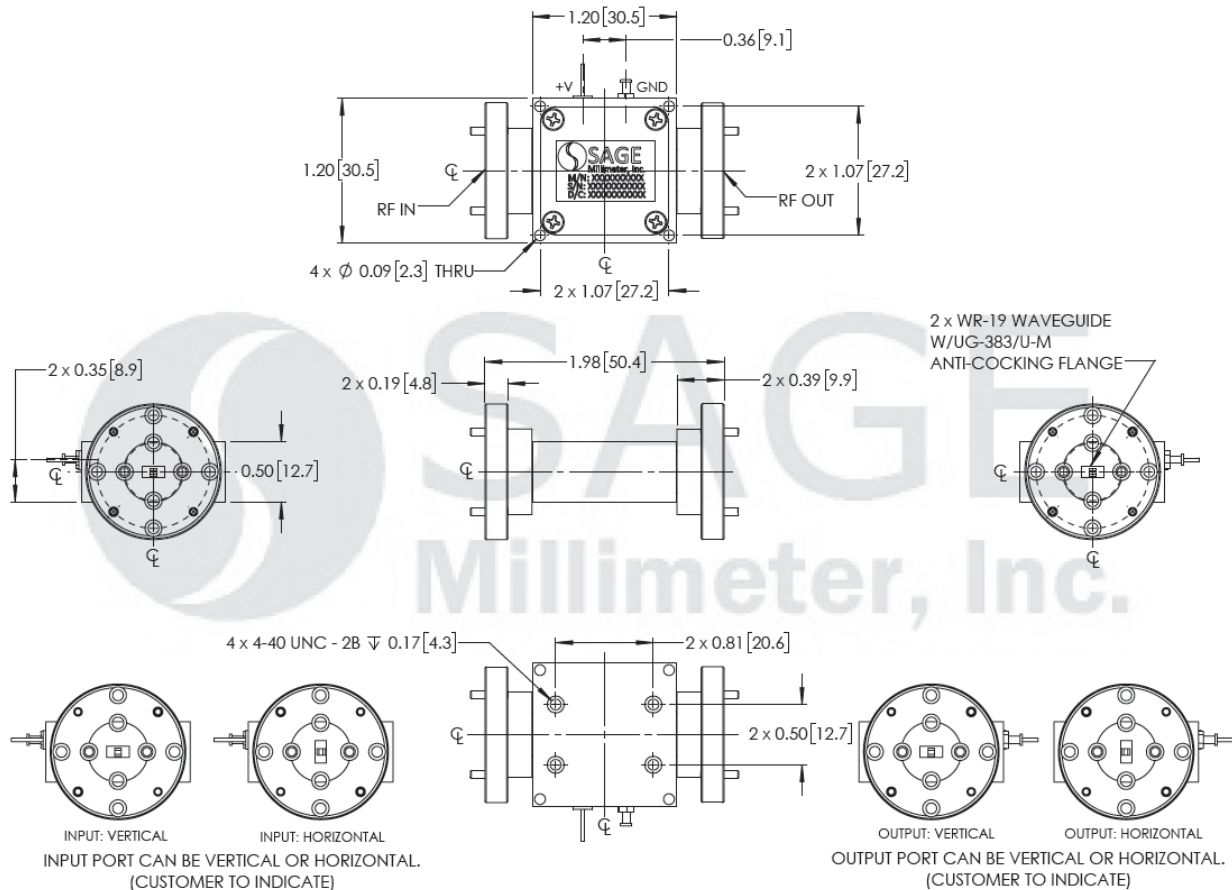
Bias= +6 V_{DC} / 130mA





U-Band Low Noise Amplifier, 37 to 51.5 GHz, 24 dB Gain, 4.5 dB NF

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.
- The amplifier employs SAGE Millimeter'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-3735232445-1919H-E1** instead of the default **SBL-3735232445-1919-E1** which indicates vertical orientation for both input and output.
- Other mechanical configurations are available under different model numbers.
- 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.



U-Band Low Noise Amplifier, 37 to 51.5 GHz, 24 dB Gain, 4.5 dB NF

- 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.

