SBL-2634033030-2828-E1

Rev 1.2

Low Noise Amplifier, 26.5 to 40 GHz, 30 dB Gain, 3 dB NF

Description:

Model SBL-2634033030-2828-E1 is a low noise amplifier with a typical small signal gain of 30 dB and a nominal noise figure of 3 dB across the frequency range of 26.5 to 40 GHz. The DC power requirement for the amplifier is +8 V_{DC}/150 mA. The RF connectors are WR-28 Uni-Guide™ waveguides. Other port configurations, such as K connectors for either the input or output port, are also available under different model numbers.

Features:

- Full Band Operation
- State-of-the-Art Noise Figure
- High Gain and Good Gain Flatness

Applications:

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

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency	26.5 GHz		40 GHz
Gain		30 dB	
Noise Figure		3 dB	
P_{1dB}		+10 dBm	
P_{in}			-15 dBm
Input Return Loss		10 dB	
Output Return Loss		10 dB	
DC Voltage		+8 V_{DC}	+15 V_{DC}
DC Supply Current		150 mA	
Specification Temperature		+25 ˚C	
Operating Temperature	0 ˚C		+50 ˚C

Mechanical Specifications:

Item	Specification
Input Port	WR-28 Uni-Guide™ Waveguide with UG-599/U Compatible Flange
Output Port	WR-28 Uni-Guide™ Waveguide with UG-599/U Compatible Flange
Bias	Solder Pin
Case Material	Aluminum
Finish	Gold Plated
Weight	2.0 Oz
Size	2.05” (L) x 1.20” (W) x 0.75” (H)
Outline	BG-SA-2

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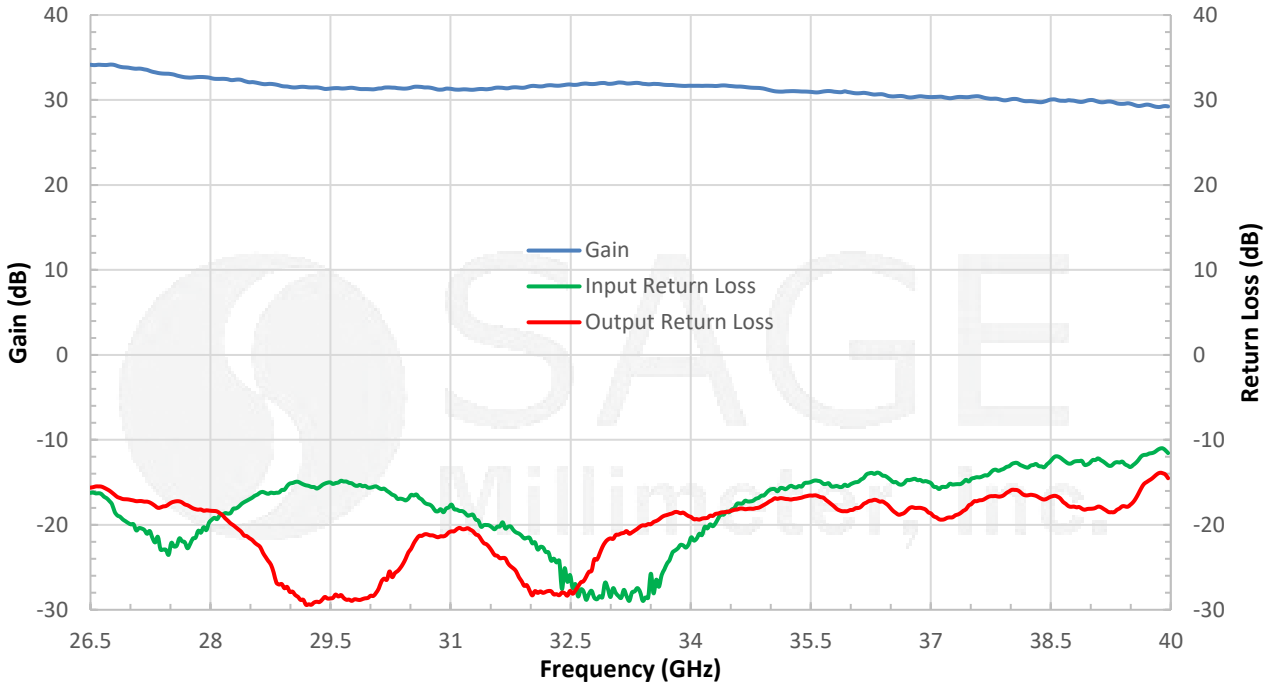
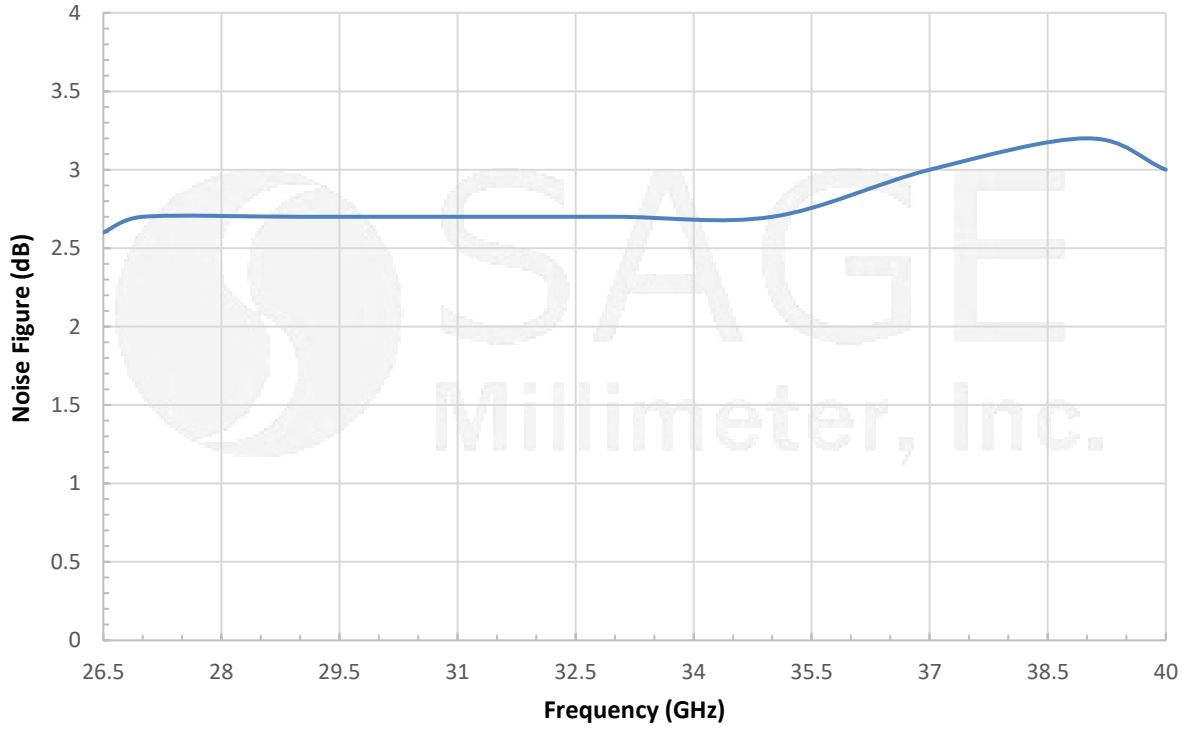
Typical Gain and Return Loss vs. Frequency

Bias: +8 V_{DC}/150 mA



Typical Noise Figure vs. Frequency

Bias: +8 V_{DC}/150 mA



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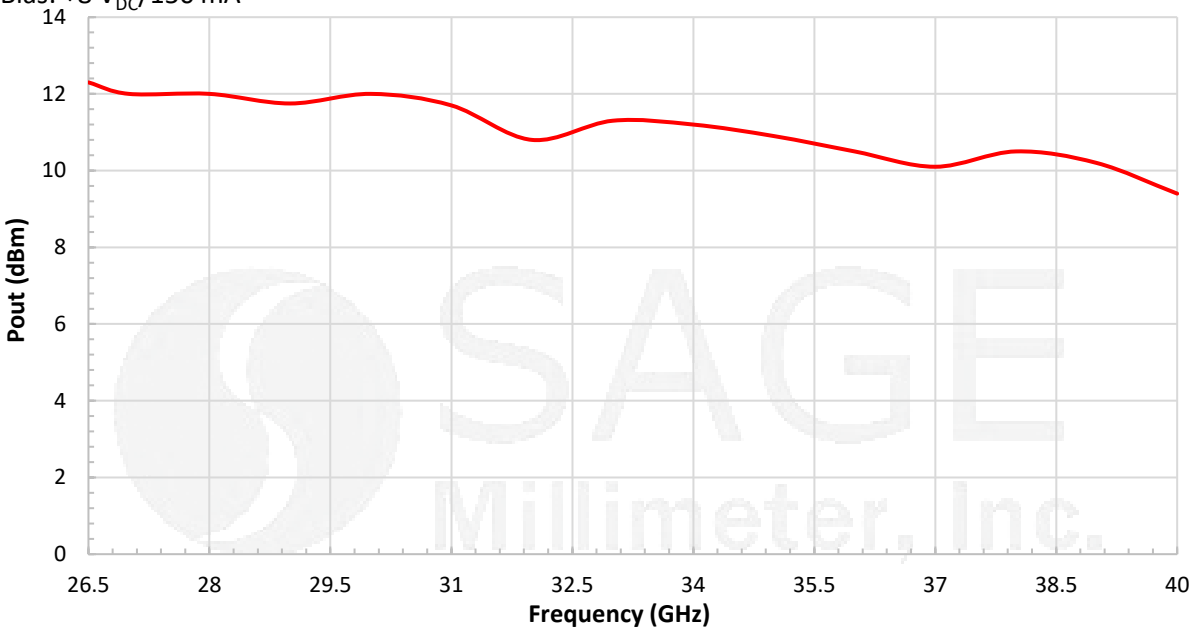
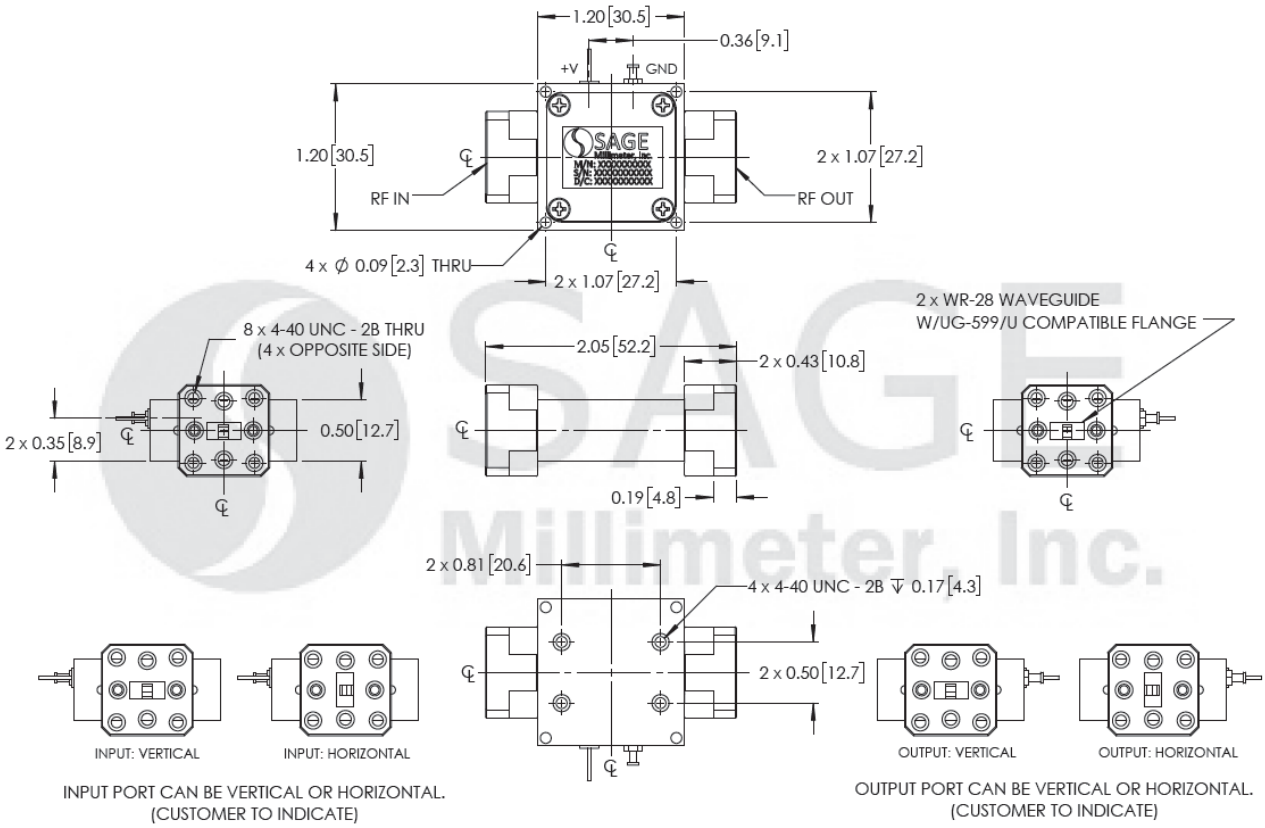
Typical Output Power vs. Frequency

Bias: +8 V_{DC}/150 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 SAGE Millimeter's trademarked and patent pending technology, **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 horizontal output waveguide configuration would be **SBL-2634033030-2828H-E1** instead of the default **SBL-2634033030-2828-E1** which indicates vertical orientation 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.
- Exceeding the maximum bias voltage of **+16 V_{DC}** will cause amplifier overheating and result the instability.
- 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.

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