

Low Noise Amplifier, 18 to 42 GHz, 28 dB Gain, 4 dB NF, USB Supply

Description:

Model SBL-1834232840-KFKF-E3-U is a low noise amplifier with a typical small signal gain of 28 dB and a nominal noise figure of 4 dB across the frequency range of 18 to 42 GHz. DC supply is provided with a locking USB Type-C connector for supply via portable devices. The DC power requirement for the amplifier is +5 V_{DC}/240 mA. The amplifier incorporates a regulator, allowing for full compatibility with the USB Type-C power bus, and is protected by a metal enclosure. The input and output ports are female K connectors. Other port configurations are available under different model numbers.



Features:

- Ultra-Wideband Operation
- State-of-the-Art Noise Figure
- USB Type-C Supply
- (Optional) Weather Resistance

Applications:

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

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency	18 GHz		42 GHz
Gain		28 dB	
Noise Figure		4 dB	
P _{1dB}		+15 dBm	
RF Input Power			-5 dBm
Damage RF Input Power			0 dBm
Input Return Loss		10 dB	
Output Return Loss		10 dB	
DC Voltage		+5 V _{DC}	+20 V _{DC}
DC Supply Current		240 mA	
Specification Temperature		+25 °C	
Operating Temperature	0 °C		+60 °C

Mechanical Specifications:

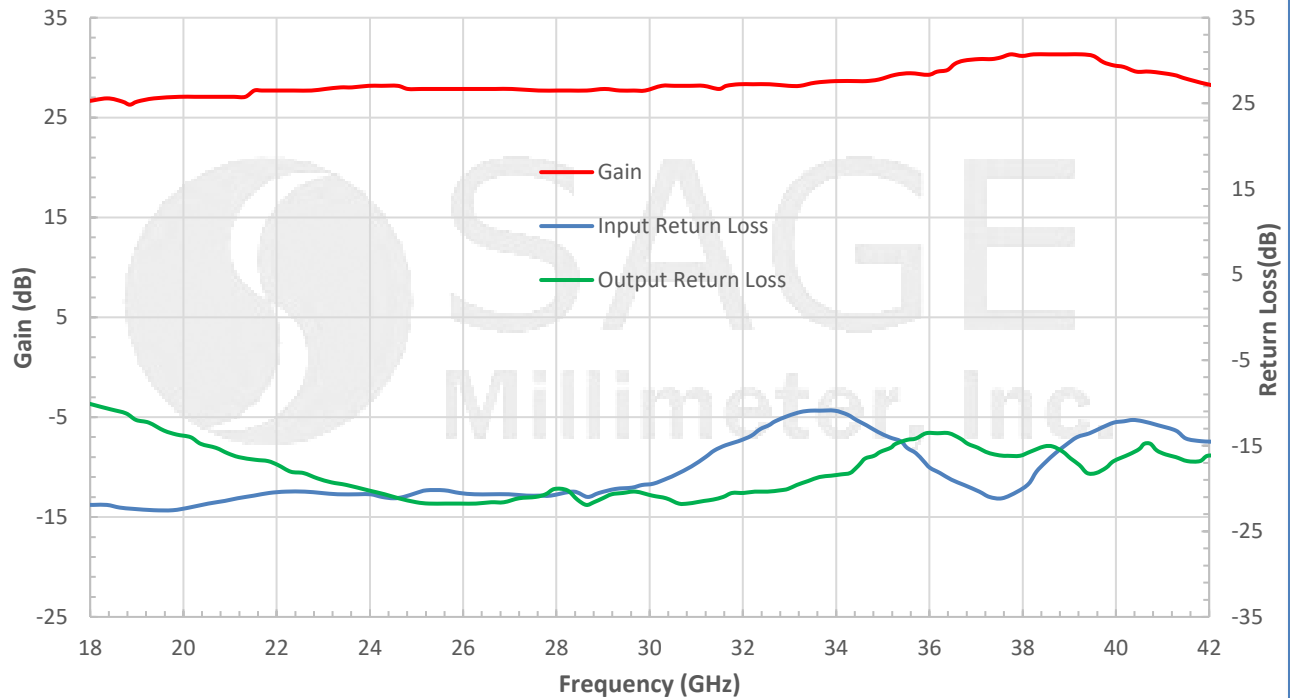
Item	Specification
Input Port	K(F)
Output Port	K(F)
Bias	USB Type-C
Case Material	Aluminum
Finish	Black Anodized
Weight	2.0 Oz
Size	2.0" (L) X 1.1" (W) X 0.61" (H)
Outline	BL-ZC-3-U



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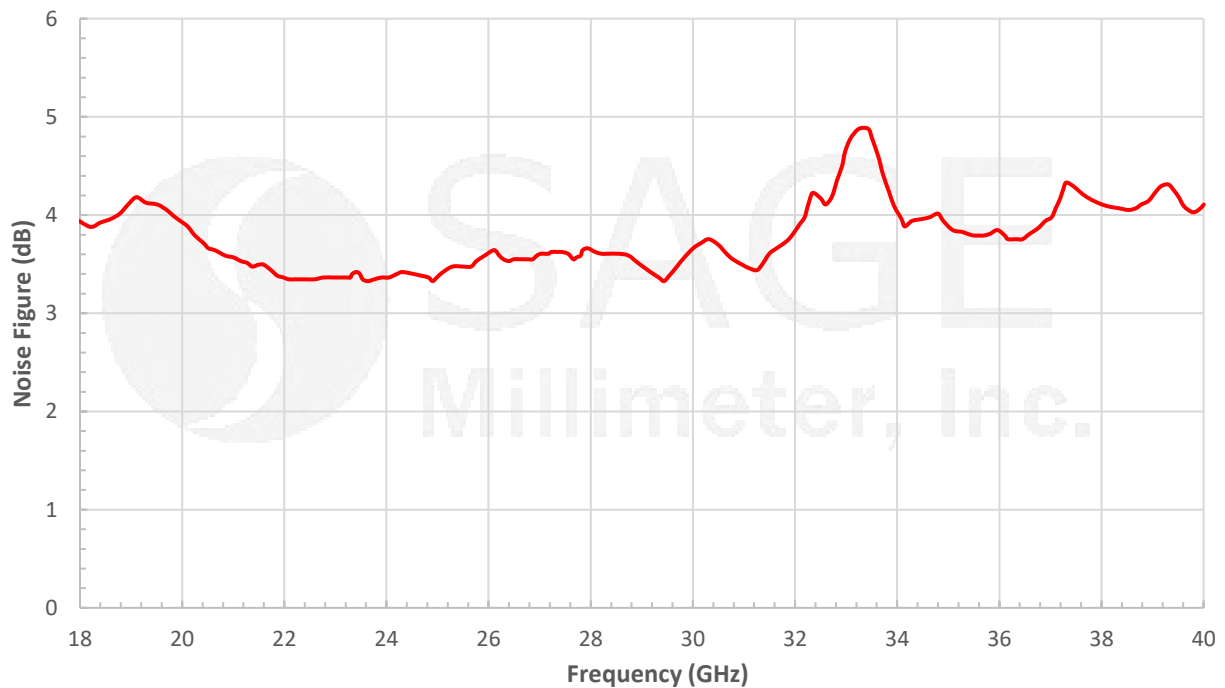
Typical Performance vs. Frequency

Bias: +5 V_{DC}/ 240 mA



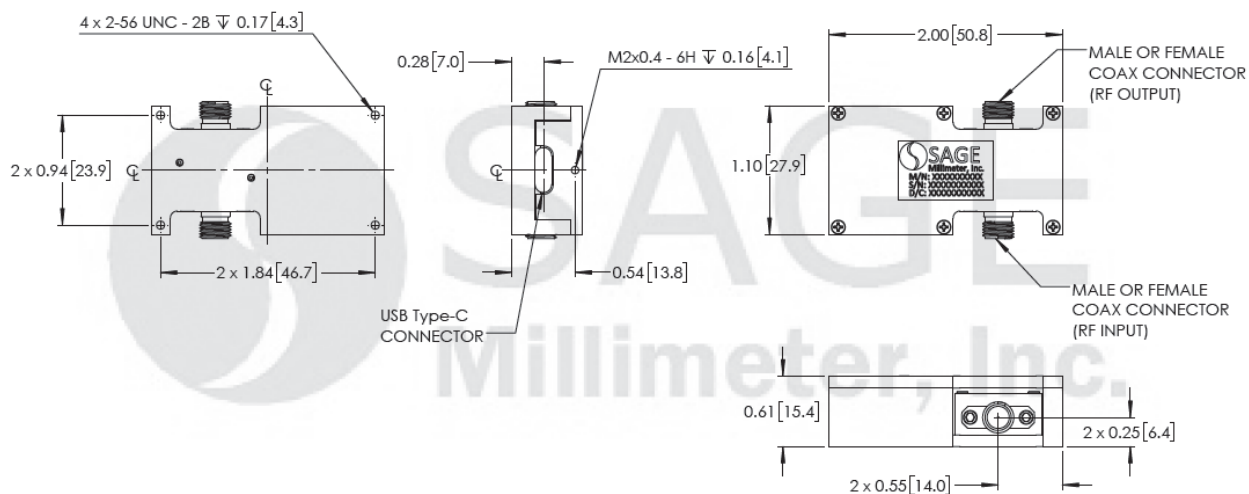
Typical Noise Figure vs. Frequency

Bias: +5 V_{DC}/240 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, slightly.
- All testing was performed under $+25^{\circ}\text{C}$ case temperature.
- SAGE Millimeter, Inc. reserves the right to change the information presented without notice.
- Other mechanical configurations are available under different model numbers.

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 $+60^{\circ}\text{C}$. Use proper heatsink or fan if necessary.
- Proper torque, 8.0 ± 0.15 inch-pounds (0.90 ± 0.02 Nm), should be applied. **SAGE Millimeter torque wrench, model SCH-08008-S1, is highly recommended.**

