



U-Band Power Amplifier, 40 to 60 GHz, 15 dB Gain, +19 dBm P_{1dB}

Description:

Model SBP-4036031519-1919-S1 is a power amplifier with a typical small signal gain of 15 dB and a nominal P_{1dB} of +19 dBm in the frequency range of 40 to 60 GHz, respectively. The DC power requirement for the amplifier is +8 V_{DC}/300 mA. The mechanical configuration offers a right angle structure with WR-19 waveguides and UG-383/U-M flanges. Other port configurations, such as an in line structure with WR-19 waveguides or 1.85 mm connectors, are also available under different model numbers.



Features:

- Broadband Performance
- High Output Power
- High Gain

Applications:

- New 5G Bands
- Radar Systems
- Communication Systems
- Test Equipment

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency	40 GHz		60 GHz
Gain		15 dB	
P _{1dB}		+19 dBm	
P _{sat}		+20 dBm	
P _{in}			+23 dBm
Input Return Loss		10 dB	
Output Return Loss		10 dB	
DC Voltage	+6 V _{DC}	+8 V _{DC}	+15 V _{DC}
DC Supply Current (Quiescent)		300 mA	
Specification Temperature		+25 °C	
Operating Temperature	0 °C		+50 °C

Mechanical Specifications:

Item	Specification
RF Ports	WR-19 Waveguide with a UG-383/U-M Flange
Bias	Solder Pin
Case Material	Aluminum
Finish	Gold Plated
Weight	2.0 Oz
Size	1.20" (W) 2.60" (L) X 0.50" (H)
Outline	BG-SU-1

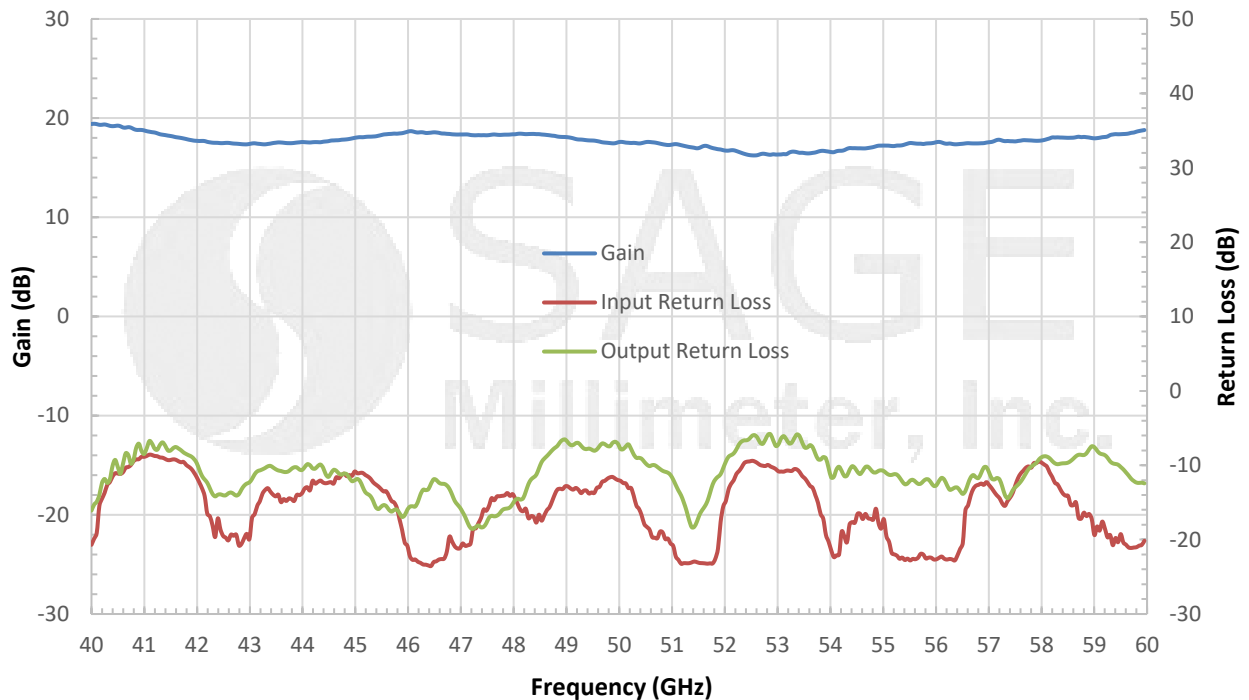




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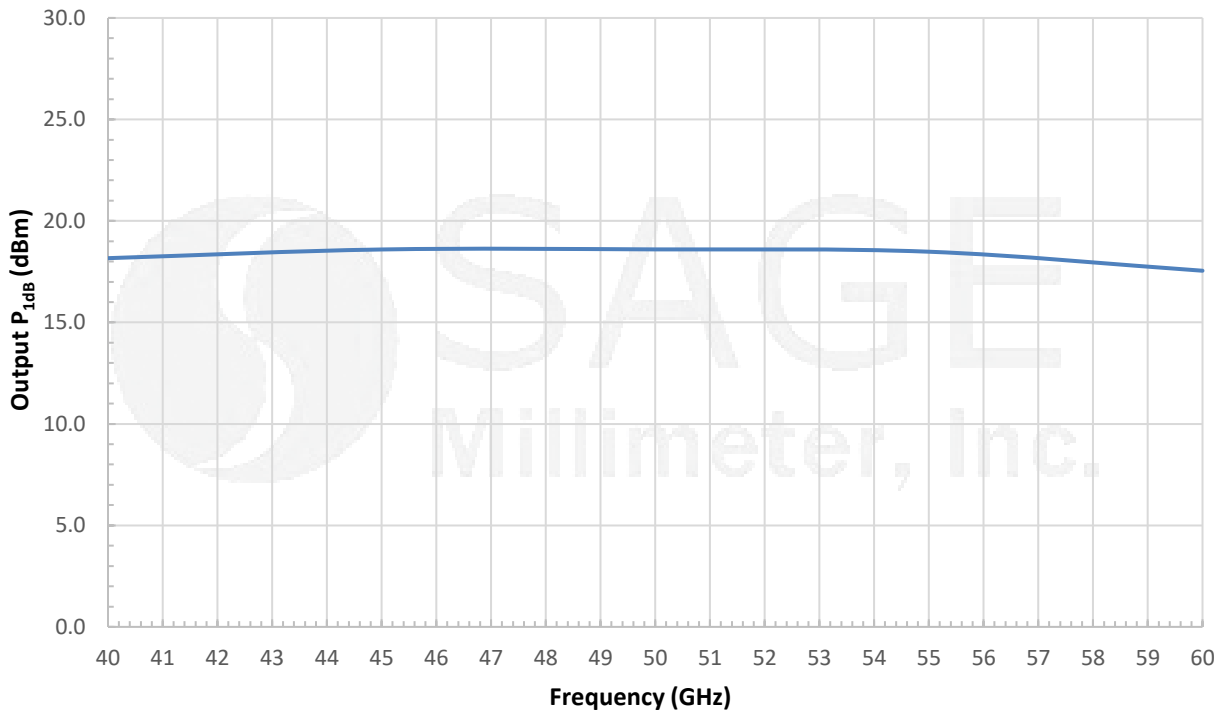
Gain and Return Loss vs. Frequency

Bias: +8 V_{DC}/300 mA



Typical P_{1dB} vs. Frequency

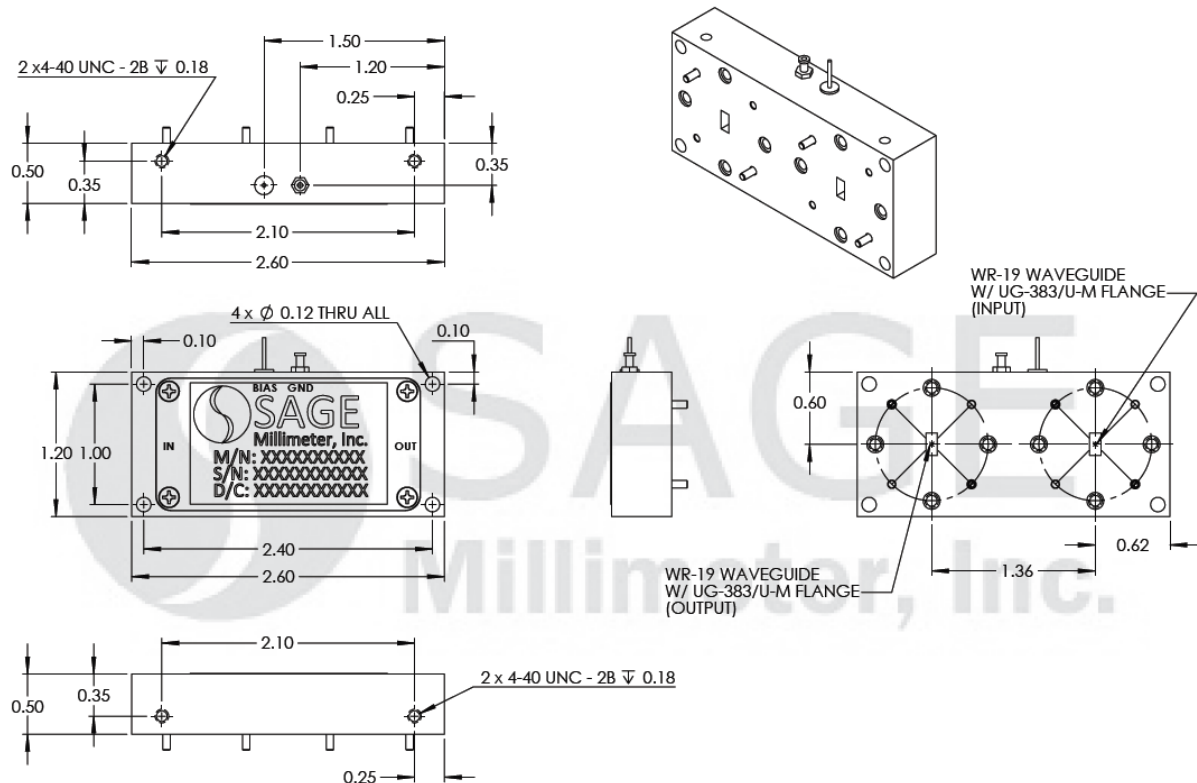
Bias: +8 V_{DC}/350 mA





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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.
- All testing was performed under +25 °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 +50 °C. Use proper heatsink or fan if necessary.
- Any foreign objects in the waveguide will cause performance degradation and may damage the device.

