



W-Band Power Amplifier, 75 to 110 GHz, 22 dB Gain, 15 dBm P_{1dB}

Description:

Model SBP-7531142215-1010-E1 is a GaAs based high power amplifier with a typical small signal gain of 22 dB and a nominal P_{1dB} of +15 dBm across the frequency range of 75 to 110 GHz. The DC power requirement for the amplifier is +8 V_{DC}/330 mA. The mechanical configuration offers an in line structure with WR-10 waveguides and UG-387/U-M anti-cocking flanges. Other port configurations, such as with 1 mm connectors or a right angle structure with WR-10 waveguides, are also available under different model numbers.



Features:

- High Output Power
- High Power Added Efficiency (PAE)

Applications:

- Test Instrumentation
- Communication Systems
- Radar Systems

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency	75 GHz		110 GHz
Gain		22 dB	
P _{1dB}		+15 dBm	
P _{sat}		+16 dBm	
P _{in}			+15 dBm
Input Return Loss		8 dB	
Output Return Loss		8 dB	
DC Voltage	+6 V _{DC}	+8 V _{DC}	+12 V _{DC}
DC Supply Current		330 mA	
Specification Temperature		+25 °C	
Operating Temperature	0 °C		+50 °C

Mechanical Specifications:

Item	Specification
Input Port	WR-10 Waveguide with UG-387/U-M Anti-Cocking Flange
Output Port	WR-10 Waveguide with UG-387/U-M Anti-Cocking Flange
Bias	Solder Pin
Case Material	Aluminum
Finish	Gold Plated
Weight	1.6 Oz
Size	1.10" (W) X 1.50" (L) X 0.75" (H)
Outline	BG-SW-2-A

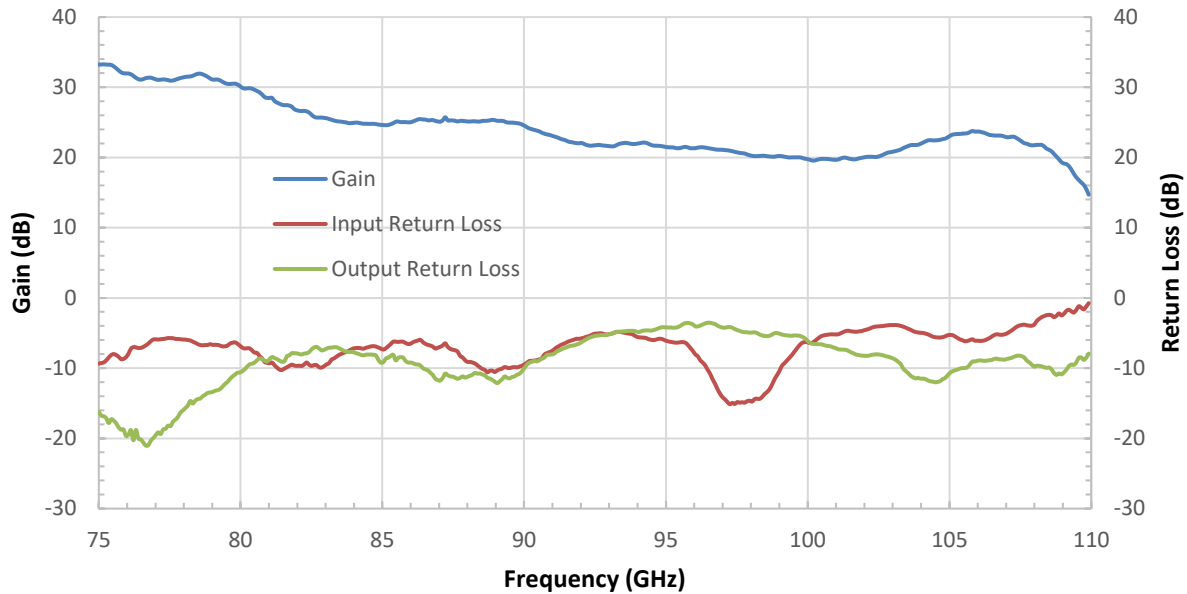




W-Band Power Amplifier, 75 to 110 GHz, 22 dB Gain, 15 dBm P_{1dB}

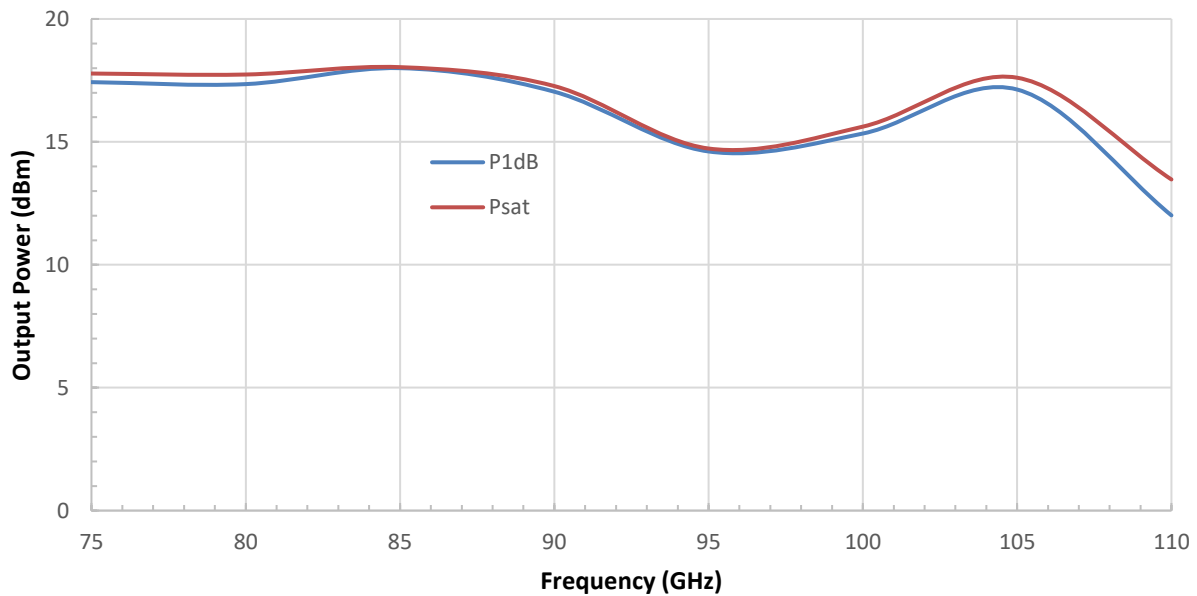
Gain and Return Loss vs. Frequency

Bias: +8 V_{DC}/361 mA



Output Power vs. Frequency

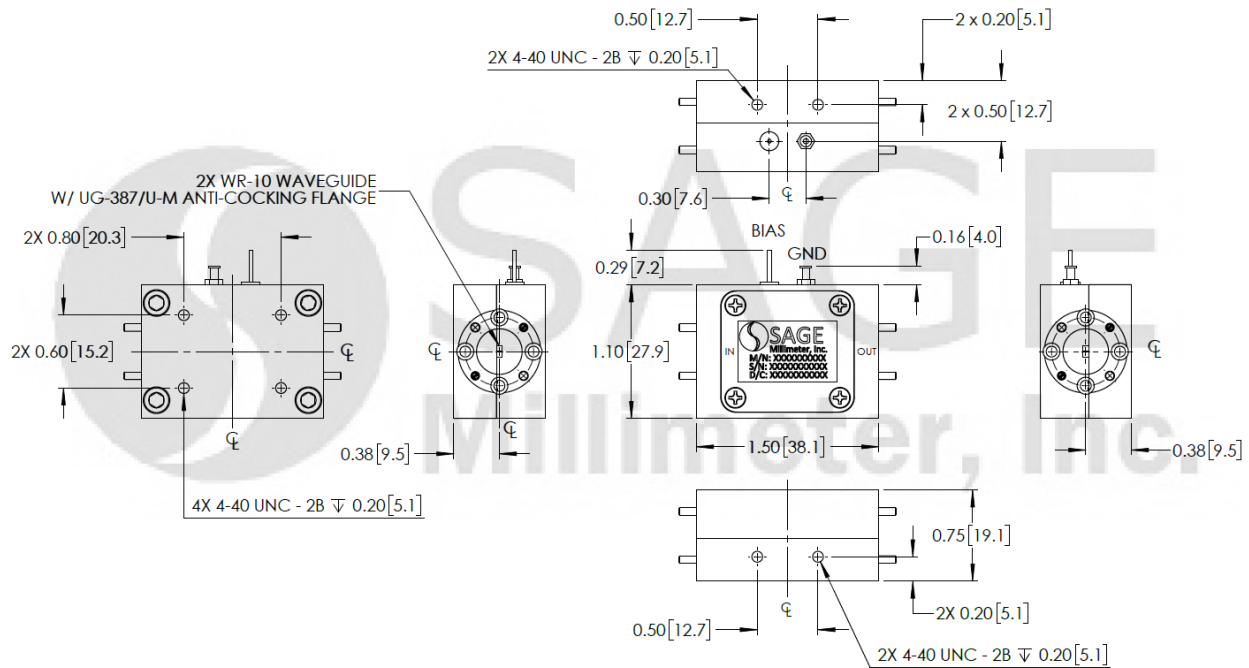
Bias: +8 V_{DC}/361 mA





W-Band Power Amplifier, 75 to 110 GHz, 22 dB Gain, 15 dBm P_{1dB}

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 °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.

