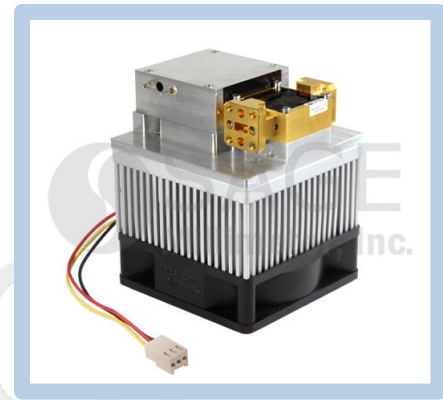




## 26.5 to 40 GHz Power Amplifier, 35 dB Gain, +30 dBm P<sub>1dB</sub>

### Description:

**Model SBP-2734033530-2828-E1-HR** is a power amplifier with a typical small signal gain of 35 dB and a nominal P<sub>1dB</sub> of +30 dBm across the frequency range of 26.5 to 40 GHz. The DC power requirement for the amplifier is +8 V<sub>DC</sub>/4.0 A. The mechanical configuration is an inline structure with WR-28 Uni-Guide™ waveguides. Other port configurations, such as K connectors and WR-28 waveguides for either the input or output port, are also available under different model numbers.



### Features:

- Broadband Performance
- High Output Power
- Good Power and Gain Flatness

### Applications:

- 5G System
- Radar Systems
- Communication Systems
- Test Equipment

### Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency	26.5 GHz		40 GHz
Gain		35 dB	
P <sub>1dB</sub>		+30 dBm	
P <sub>sat</sub>		+31 dBm	
P <sub>in</sub>			+20 dBm
Input Return Loss		10 dB	
Output Return Loss		10 dB	
DC Voltage		+8 V <sub>DC</sub>	+12 V <sub>DC</sub>
DC Supply Current (Under RF Drive)		4.0 A	
Supply Voltage to Fan		+12 V <sub>DC</sub>	
Specification Temperature		+25 °C	
Operating Temperature	0 °C		+50 °C

### Mechanical Specifications:

Item	Specification
Input	WR-28 Uni-Guide™ waveguide with UG-599/U Compatible Flange
Output	WR-28 Uni-Guide™ waveguide with UG-599/U Compatible Flange
Bias	Solder Pin
Case Material	Aluminum
Finish	Gold Plated
Weight	1.07 lbs.
Size	3.15" (L) X 3.15" (W) X 3.83" (H)
Outline	BA-SA-2-BR-H95

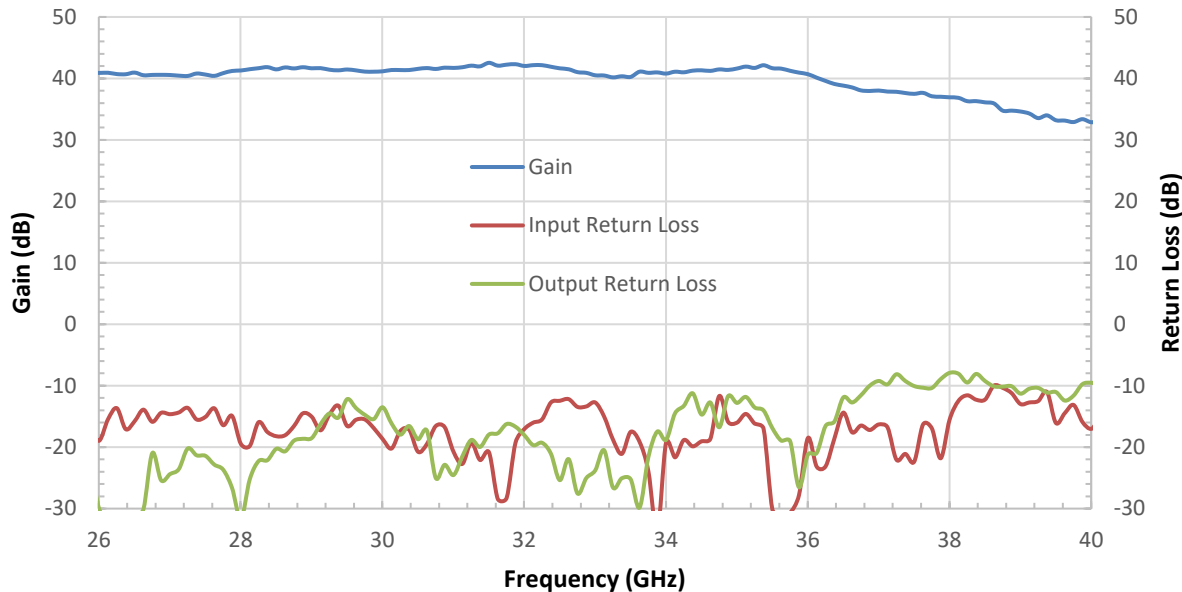




## 26.5 to 40 GHz Power Amplifier, 35 dB Gain, +30 dBm P<sub>1dB</sub>

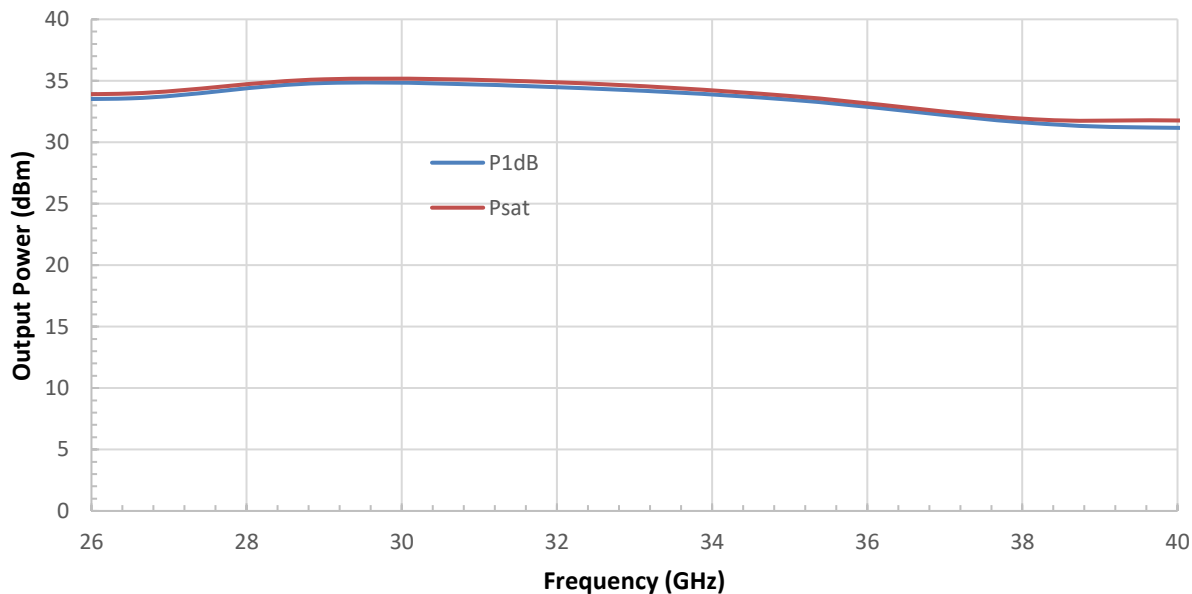
### Gain and Return Loss vs. Frequency

Bias: +8 V<sub>DC</sub>/2.8 A



### Output Power vs. Frequency

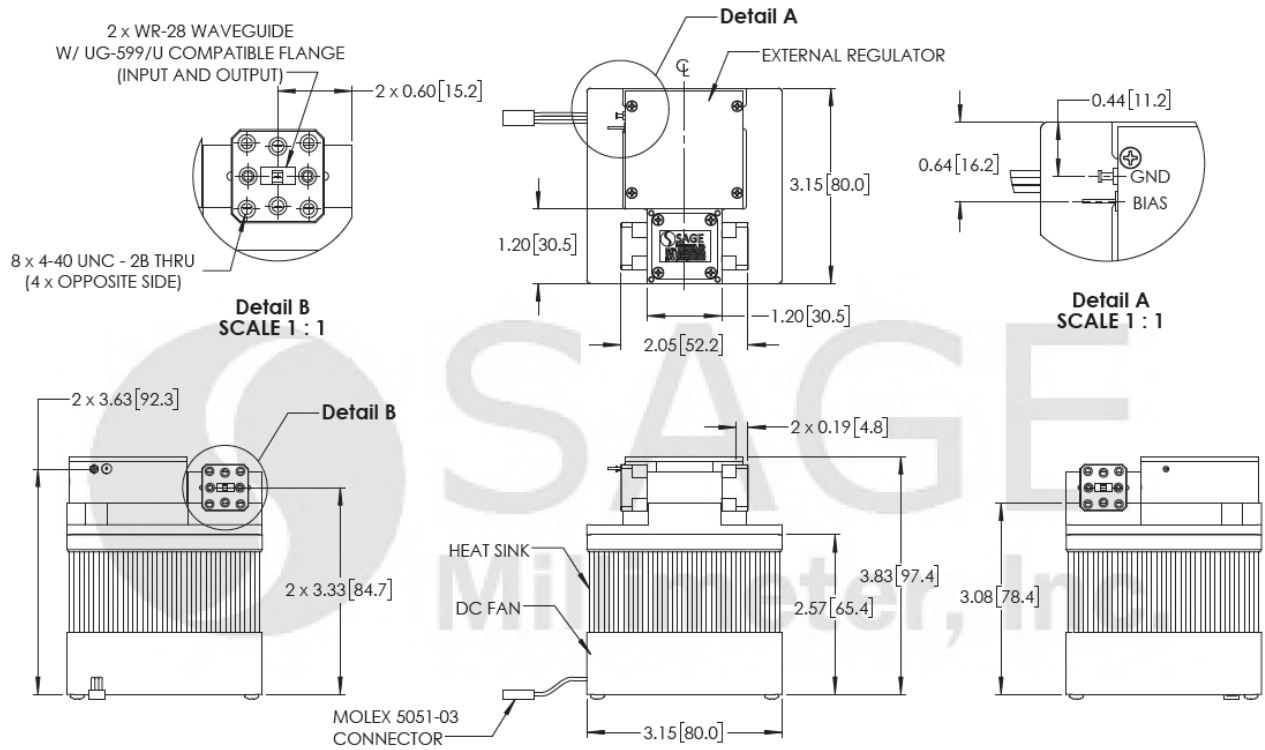
Bias: +8 V<sub>DC</sub>/4.5 A



**Mechanical Outline:** (Unless otherwise specified, all dimensions are in inches [millimeters])



## 26.5 to 40 GHz Power Amplifier, 35 dB Gain, +30 dBm P<sub>1dB</sub>



MOLEX - 5051-03	
WIRE	SIGNAL
BLACK	GND
RED	+12 VDC
YELLOW	TACH





## 26.5 to 40 GHz Power Amplifier, 35 dB Gain, +30 dBm P<sub>1dB</sub>

### 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 **SBP-2734033530-2828H-E1-HR** instead of the default **SBP-2734033530-2828-E1-HR** 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.
- 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.
- Proper torque,  $8.0 \pm 0.15$  inch-pounds ( $0.90 \pm 0.02$  Nm), should be applied. **SAGE Millimeter torque wrench, model SCH-08008-S1, is highly recommended.**

