

## 20 to 55 GHz Power Amplifier, 35 dB Gain, 1 W Output

### Description:

**Model SBP-2035533529-VFVF-S1-HR** is a broad-band power amplifier that operates in 20 to 55 GHz and delivers nominal gain of 35 dB. The DC power requirement for the amplifier is +8 V<sub>DC</sub>/2.2 A. The RF connectors are female 1.85 mm connectors. Other port configurations, such as 2.4 mm connectors or waveguide interface for either the input or output port, are also available under different model numbers and may have different specifications depending on operating range.



### Features:

- Broadband Performance (5G FR2)
- High Output Power
- Good Power and Gain Flatness

### Applications:

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

### Electrical Specifications:

| Parameter                          |           | Minimum            | Typical             | Maximum             |
|------------------------------------|-----------|--------------------|---------------------|---------------------|
| Frequency                          |           | 20 GHz             |                     | 55 GHz              |
| Gain                               |           |                    | 35 dB               |                     |
| P <sub>1dB</sub>                   | 20-22 GHz |                    | +27 dBm             |                     |
|                                    | 22-44 GHz |                    | +28.5 dBm           |                     |
|                                    | 44-50 GHz |                    | +26 dBm             |                     |
|                                    | 50-55 GHz |                    | +25 dBm             |                     |
| P <sub>sat</sub>                   | 20-22 GHz |                    | +28 dBm             |                     |
|                                    | 22-42 GHz |                    | +30 dBm             |                     |
|                                    | 42-50 GHz |                    | +27 dBm             |                     |
|                                    | 50-55 GHz |                    | +26 dBm             |                     |
| P <sub>in</sub>                    |           |                    |                     | +5 dBm              |
| Input Return Loss                  |           |                    | 10 dB               |                     |
| Output Return Loss                 |           |                    | 10 dB               |                     |
| DC Voltage                         |           | +6 V <sub>DC</sub> | +8 V <sub>DC</sub>  | +12 V <sub>DC</sub> |
| DC Supply Current (Under RF Drive) |           |                    | 2.2 A               |                     |
| Supply Voltage to Fan              |           |                    | +12 V <sub>DC</sub> |                     |
| Specification Temperature          |           |                    | +25°C               |                     |
| Operating Temperature              |           | 0°C                |                     | +50°C               |

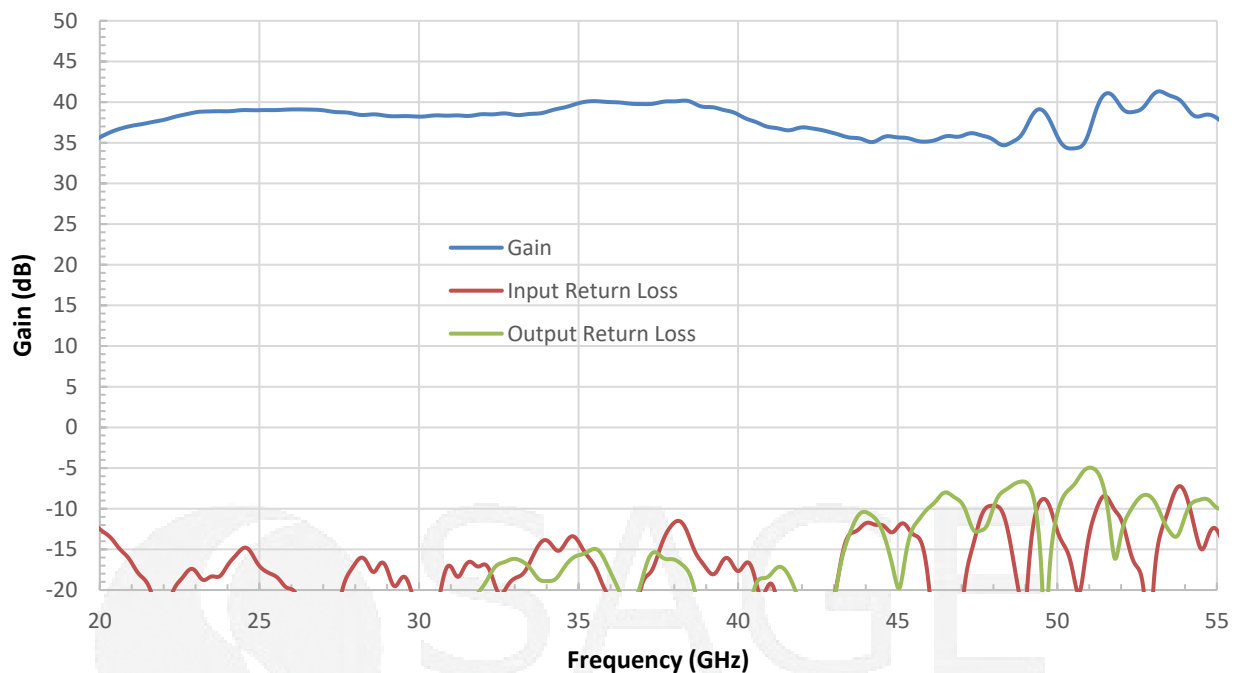
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### Mechanical Specifications:

| Item          | Specification                     |
|---------------|-----------------------------------|
| Input         | 1.85 mm (F)                       |
| Output        | 1.85 mm (F)                       |
| Bias          | Solder Pin                        |
| Case Material | Aluminum                          |
| Finish        | Gold Plated                       |
| Weight        | 10 Oz                             |
| Size          | 2.36" (L) X 2.36" (W) X 3.02" (H) |
| Outline       | BG-SC-1-H45                       |

### Gain and Return Loss vs. Frequency

Bias: +8 V<sub>DC</sub>/2,470 mA

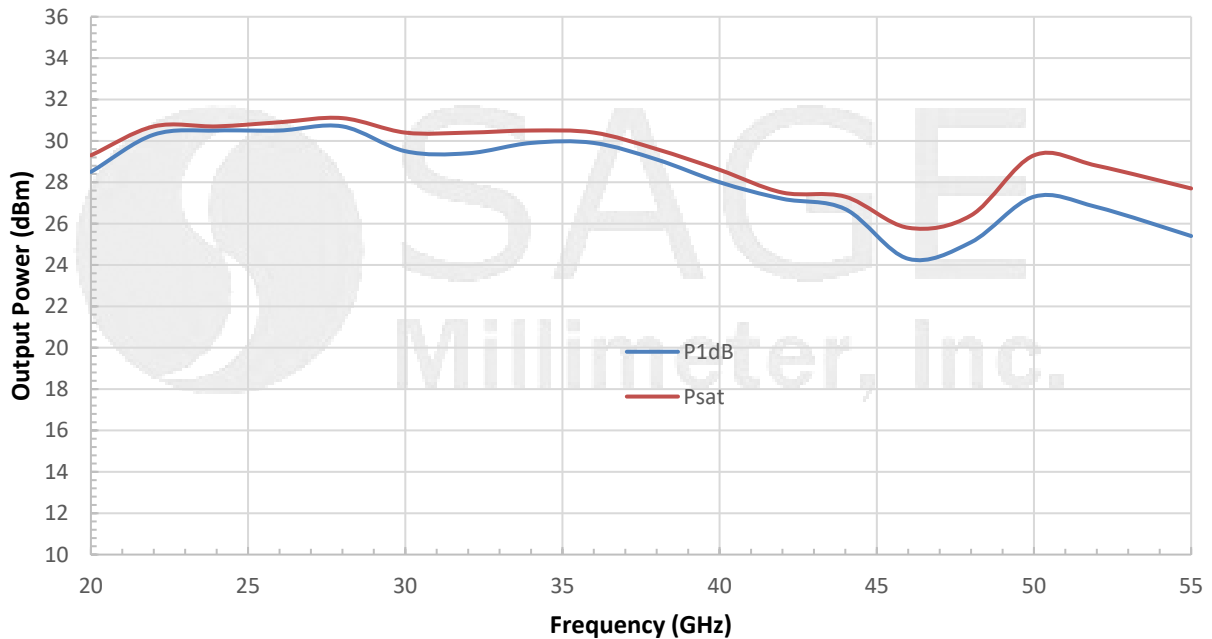


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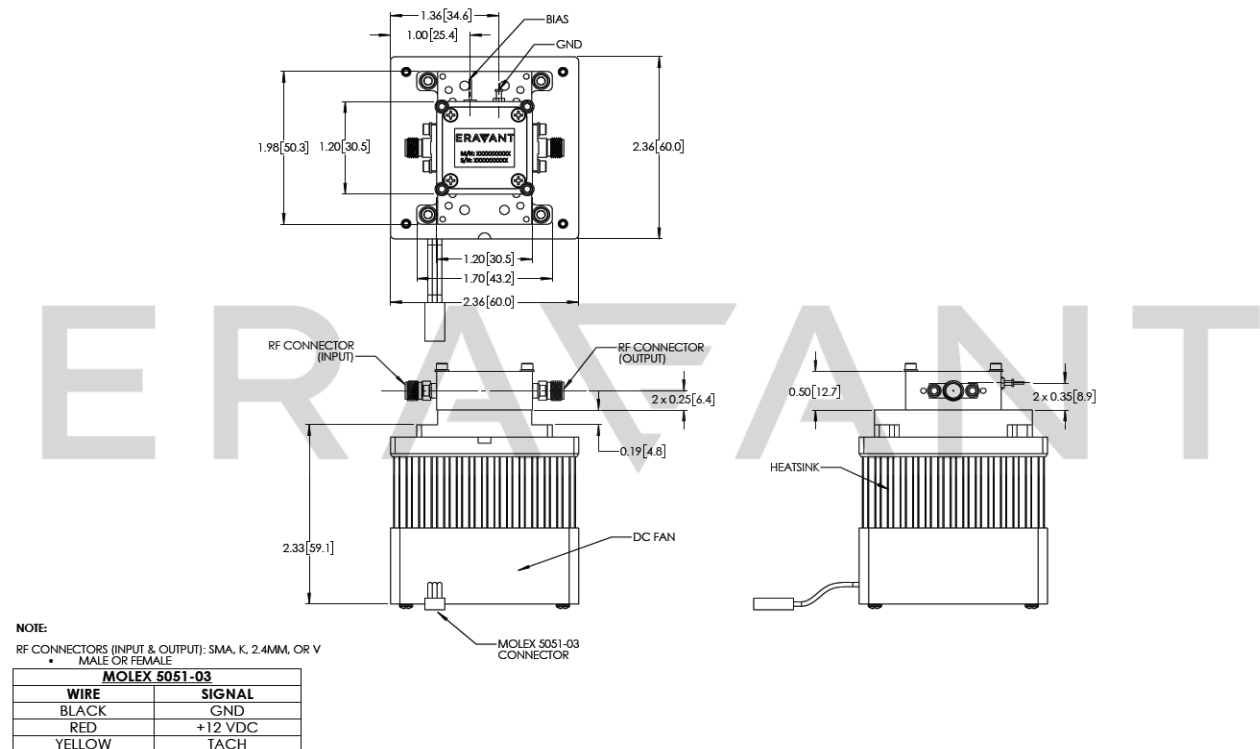
### Output Power vs. Frequency

Bias: +8 V<sub>DC</sub>/2,470 mA

RFsat: +8Vdc/3,800 mA



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





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### Note:

- Other mechanical configurations are available under different model numbers.
- Eravant 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. **Eravant torque wrench, model SCH-08008-S1, is highly recommended.**

