# SBP-2042241507-0505-E1

## WR-05 Power Amplifier, 195 to 220 GHz, 20 dB Gain, 7 dBm $P1_{dB}$


**SBP-2042241507-0505-E1** is a WR-05 power amplifier with a typical small signal gain of 20 dB and a nominal P1dB of 7.0 dBm across the frequency range of 195 to 220 GHz. The DC power requirement for the amplifier is +8 VDC/150 mA. The input and output port configuration offers an inline structure with WR-05 waveguides and UG-387/U-M anti-cocking flanges.

### Electrical Specifications:

| Parameter | Minimum | Typical | Maximum |
|---|---|---|---|
| Frequency | 195 GHz | | 220 GHz |
| Gain | | 20 dB | |
| $P1_{dB}$ | | 7.0 dBm | |
| $P_{sat}$ | | 10 dBm | |
| $P_{in}$ | | | 12 dBm |
| Input Return Loss | | 8 dB | |
| Output Return Loss | | 5 dB | |
| DC Voltage | | +8 $V_{DC}$ | +12 $V_{DC}$ |
| DC Supply Current | | 150 mA | |
| Specification Temperature | | +25°C | |
| Operating Temperature | 0 °C | | +50 °C |

### Mechanical Specifications:

| Item | Specification |
|---|---|
| Input | WR-05 Waveguide with UG-387/U-M Anti-Cocking Flange |
| **Output** | WR-05 Waveguide with UG-387/U-M Anti-Cocking Flange |
| Bias | Solder Pin |
| Case Material | Aluminum |
| Finish | Gold Plated |
| Wirght | 1.6 Oz |
| Size | 1.40” (L) X 1.00” (W) X 0.75” (H) |
| Outline | BG-SG-2-A |

### ECCN

EAR99

### FEATURES

- High Gain
- Low Power Consumption

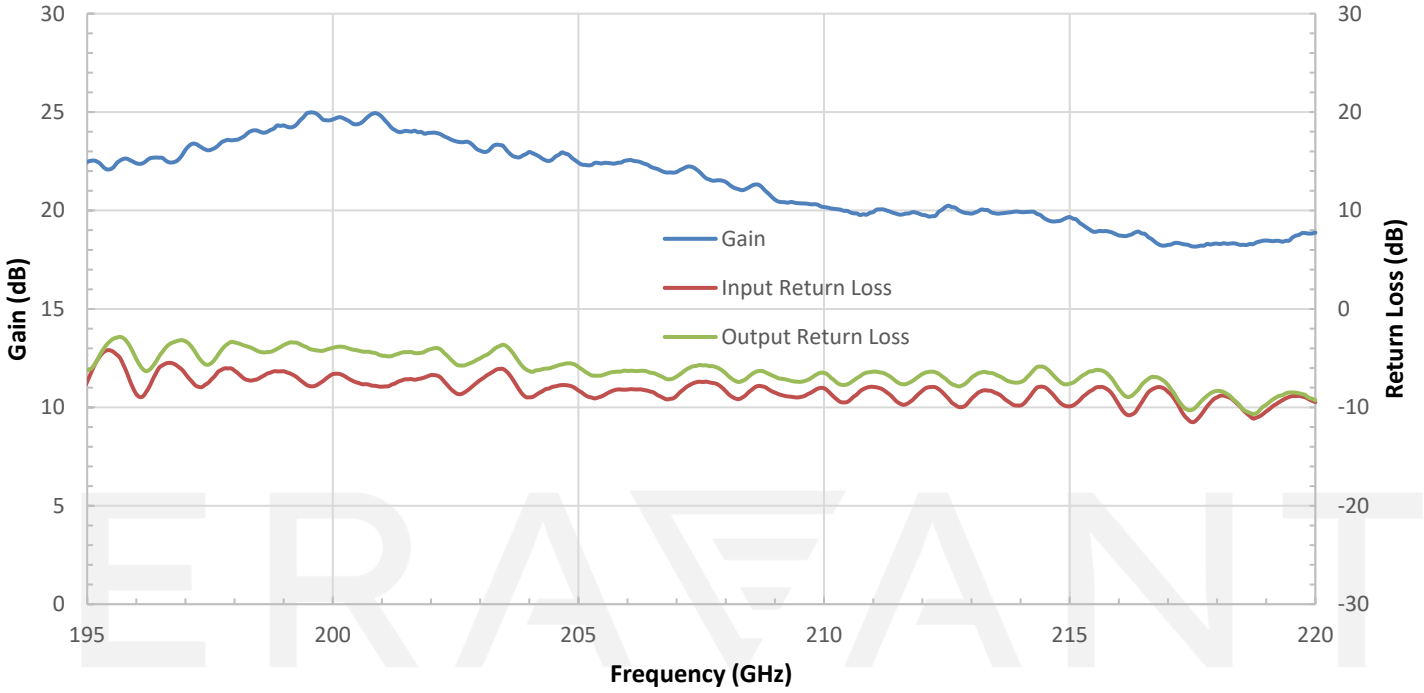
### APPLICATIONS

- Passive Imaging
- 6G Systems

### SUPPLEMENTAL DETAILS

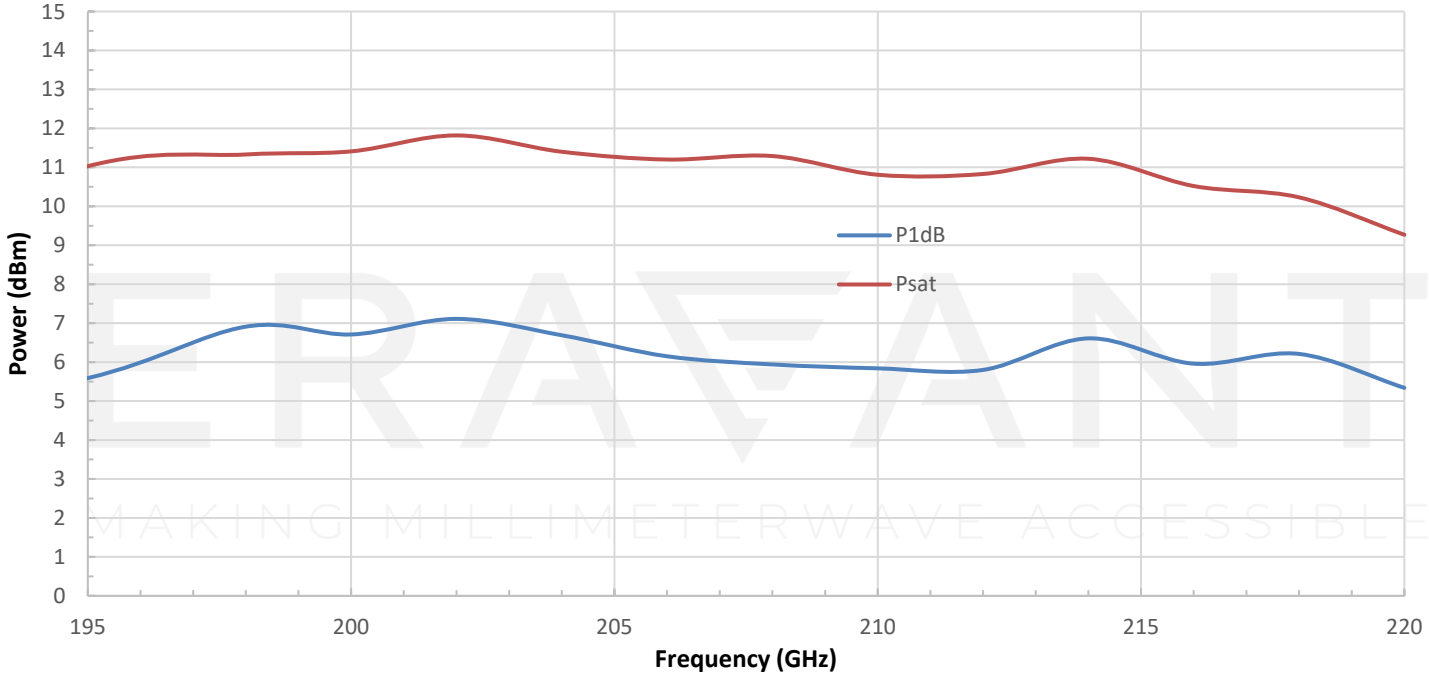
## Typical Gain and Return Loss vs. Frequency

Bias: +8 $V_{DC}$/152 mA

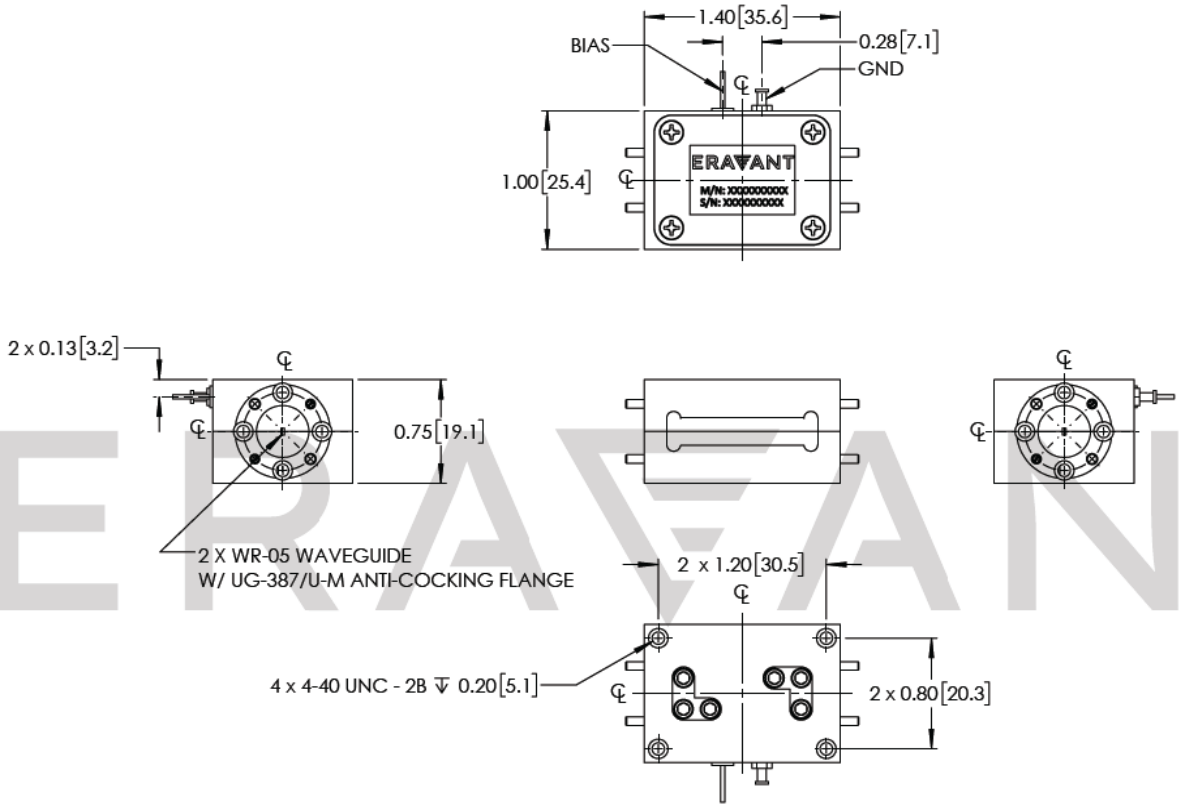



## Typical Power vs. Frequency

Bias: +8 $V_{DC}$/152 mA
RFsat: +8 $V_{DC}$/204 mA



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




**NOTE:**

- On condition that test data is provided it is collected from a sample lot. Actual data may vary slightly from unit to unit. All testing is performed under +25 °C room temperature.
- 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.