# SBP-7531142213-1010-E1-2

## W-Band Power Amplifier, 75 to 110 GHz, 22 dB Gain, 13 dBm P1dB


**SBP-7531142213-1010-E1-2** is a GaAs based high power amplifier with a typical small signal gain of 22 dB and a nominal $P_{1dB}$ of +13 dBm across the frequency range of 75 to 110 GHz. The DC power requirement for the amplifier is +8 $V_{DC}$/225 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.

## Electrical Specifications:

| Parameter | Minimum | Typical | Maximum |
|---|---|---|---|
| Frequency | 75 GHz | | 110 GHz |
| Gain | | 22 dB | |
| $P_{1dB}$ | | +13 dBm | |
| $P_{sat}$ | | +14 dBm | |
| $P_{in}$ | | | +0 dBm |
| Input Return Loss | | 8 dB | |
| Output Return Loss | | 8 dB | |
| DC Voltage | | +8 $V_{DC}$ | |
| DC Supply Current | | 225 mA | |
| Specification Temperature | | +25°C | |
| Operating Temperature | 0°C | | +50°C |

## Mechanical Specifications:

| Item | Specification |
|---|---|
| Input Port | WR-10 Uni-Guide™ Waveguide with UG-387/U-M Anti-Cocking Flange |
| Output Port | WR-10 Uni-Guide™ Waveguide with UG-387/U-M Anti-Cocking Flange |
| Bias | Solder Pin |
| Case Material | Aluminum |
| Finish | Gold Plated |
| Weight | 1.6 Oz |
| Size | 1.20” (W) X 1.96” (L) X 0.37” (H) |
| Outline | BG-SW-A |

### ECCN

EAR99

### FEATURES

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

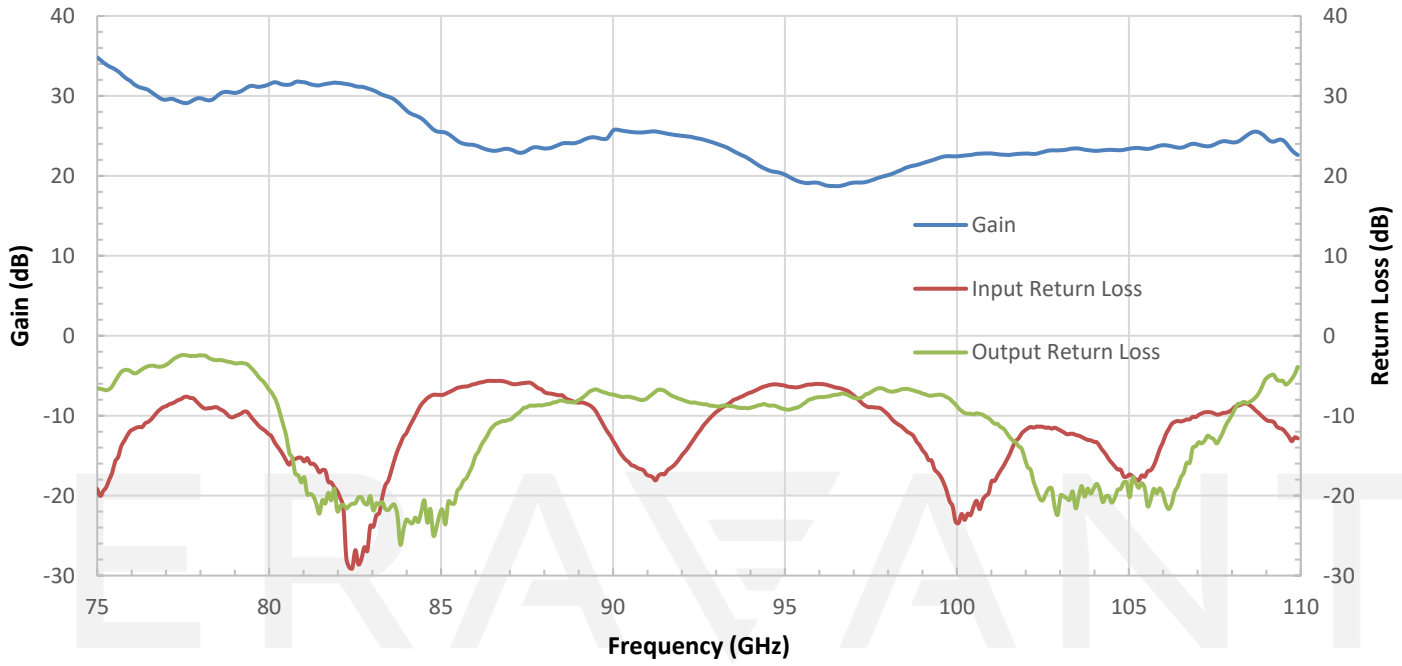
### APPLICATIONS

- Test Instrumentation
- Communication System
- Radar Systems

### SUPPLEMENTAL DETAILS

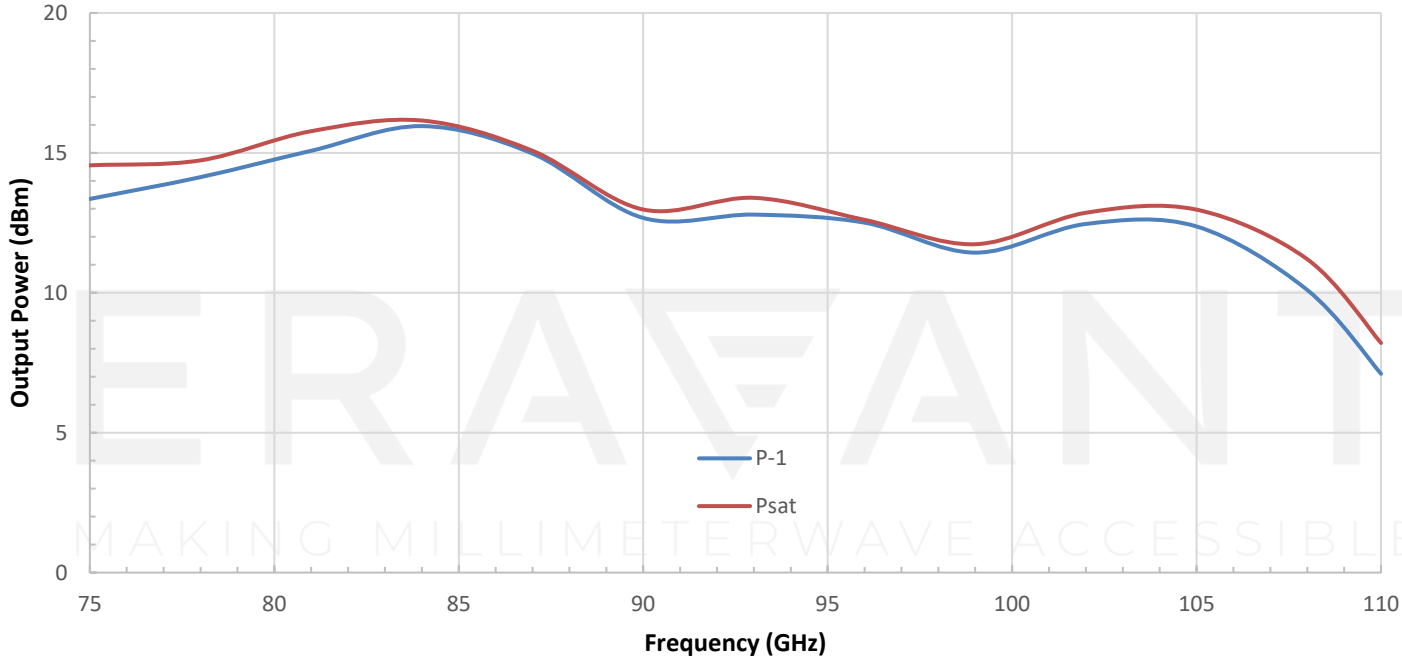
## Gain and Return Loss vs. Frequency

Bias: +8 $V_{DC}$/237 mA

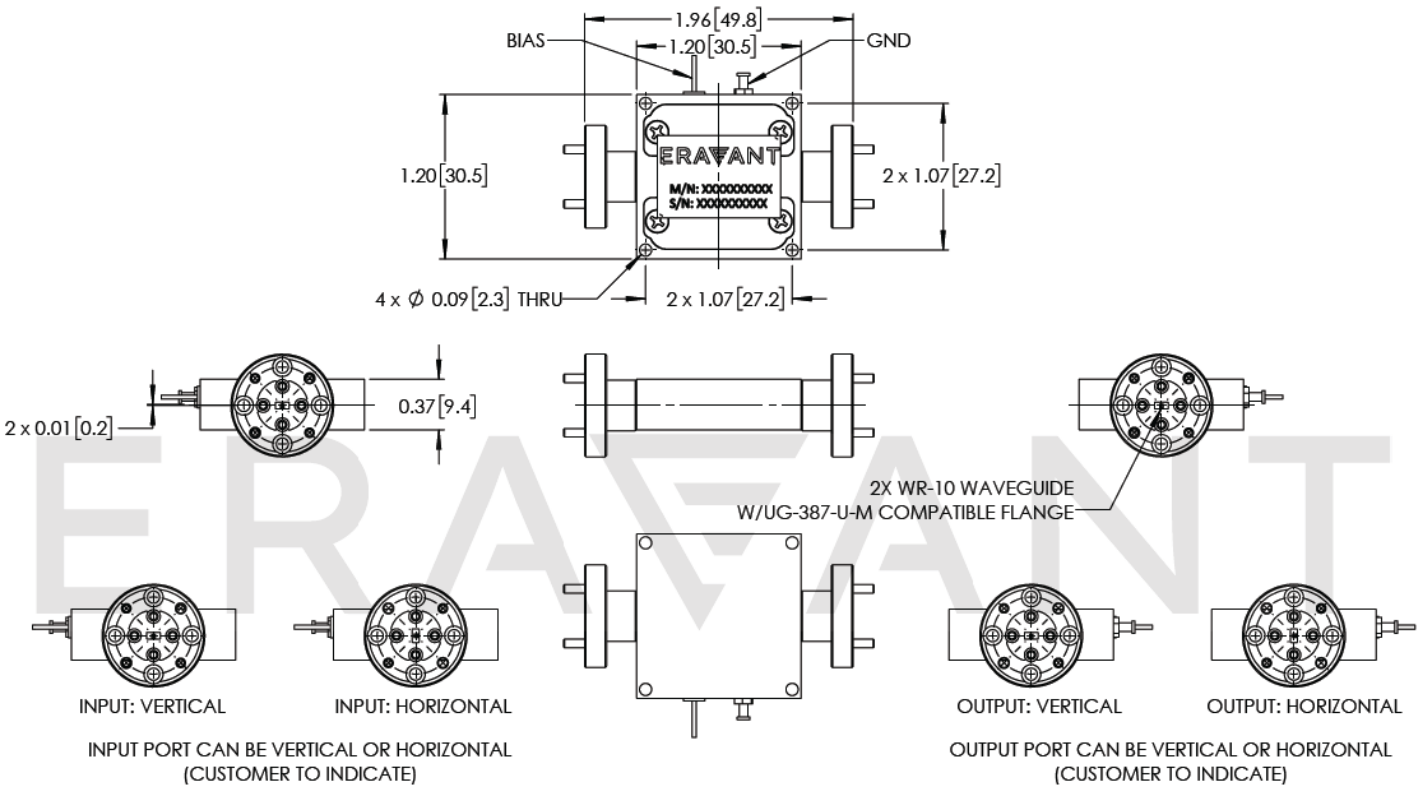



## Output Power vs. Frequency

Bias: +8 $V_{DC}$/237 mA



**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.
- The amplifier employs Eravant's trademarked and patent pending technology, the UniGuide™, 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 vertical input waveguide and horizontal output waveguide configuration would be **SBP-7531142213-1010H-E1-2** instead of the default **SBP-7531142213-1010-E1-2** which indicates vertical orientation for both input and output.
- 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.
- If a waveguide is present, any foreign objects in the waveguide will cause performance degradation and may damage or destroy the unit.