

40 to 44 GHz Power Amplifier, 35 dB Gain, +30 dBm P_{1dB}

Description:

Model SBP-4034433530-2F2F-S1-HR is designed and manufactured for Milstar applications. This product is a power amplifier with a typical small signal gain of 35 dB and a nominal P_{1dB} of +30 dBm across the frequency range of 40 to 44 GHz. The DC power requirement for the amplifier is +8 V_{DC}/4.0 A. The RF connectors are female 2.4 mm connectors. Other port configurations, such as 2.4 mm connectors and 1.85 mm connectors 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:

- Milstar
- 5G System
- Radar Systems
- Communication Systems

Electrical Specifications:

| Parameter | Minimum | Typical | Maximum |
|---------------------------|---------|---------------------|---------------------|
| Frequency | 40 GHz | | 44 GHz |
| Gain | | 35 dB | |
| P _{1dB} | | +30 dBm | |
| P _{sat} | | +32 dBm | |
| P _{in} | | | +20 dBm |
| Input Return Loss | | 10 dB | |
| Output Return Loss | | 10 dB | |
| DC Voltage | | +8 V _{DC} | +12 V _{DC} |
| DC Supply Current | | 4.0 A | |
| Supply Voltage to Fan | | +12 V _{DC} | |
| Specification Temperature | | +25°C | |
| Operating Temperature | 0°C | | +50°C |

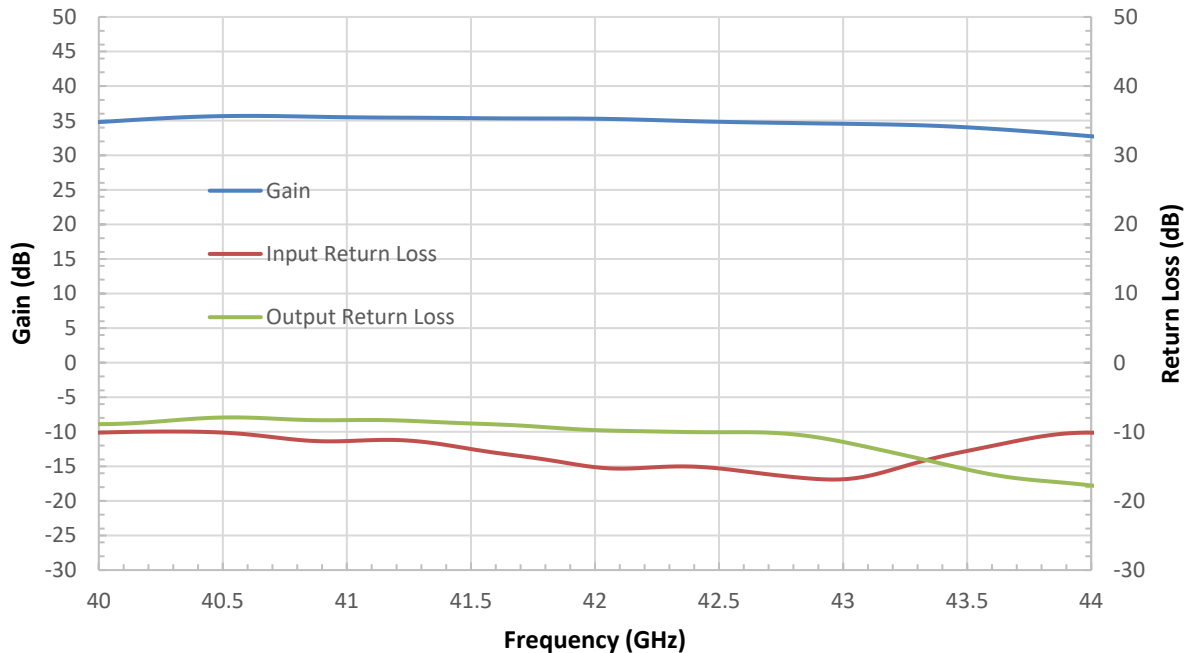
Mechanical Specifications:

| Item | Specification |
|---------------|-----------------------------------|
| Input | 2.4 mm Female Connector |
| Output | 2.4 mm Female Connector |
| Bias | Solder Pin |
| Case Material | Aluminum |
| Finish | Gold Plated |
| Weight | 17 Oz |
| Size | 3.15" (L) X 3.15" (W) X 3.48" (H) |
| Outline | BK-SC-C1-H |

40 to 44 GHz Power Amplifier, 35 dB Gain, +30 dBm P_{1dB}

Gain and Return Loss vs. Frequency

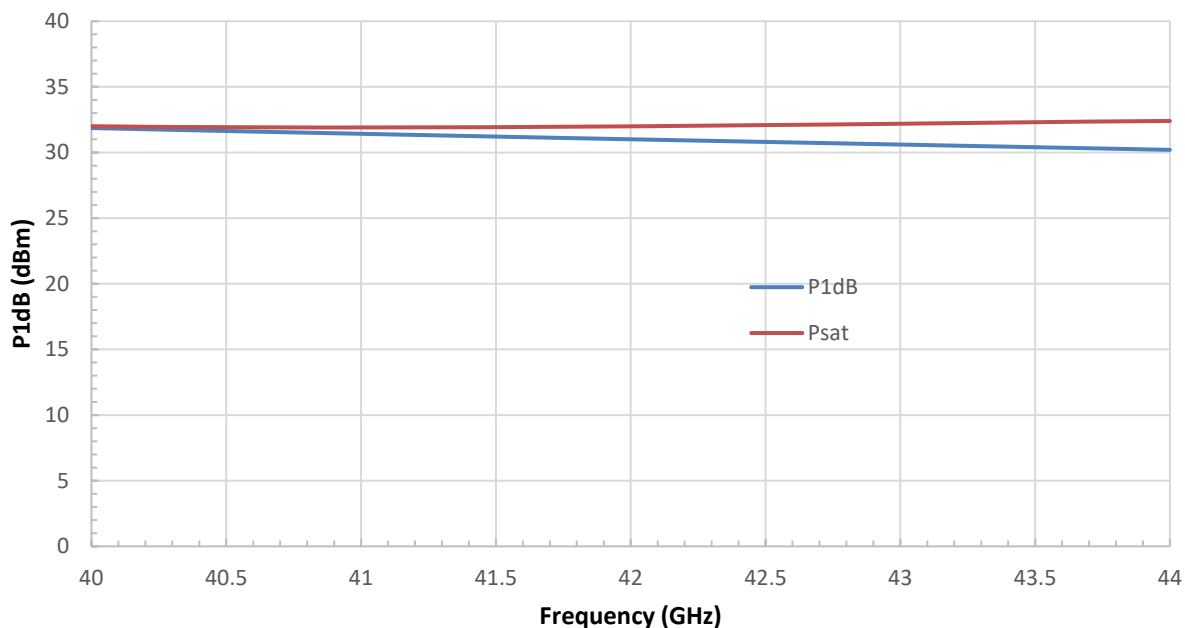
Bias: +8 V_{DC}/2.656A



P_{1dB} vs. Frequency

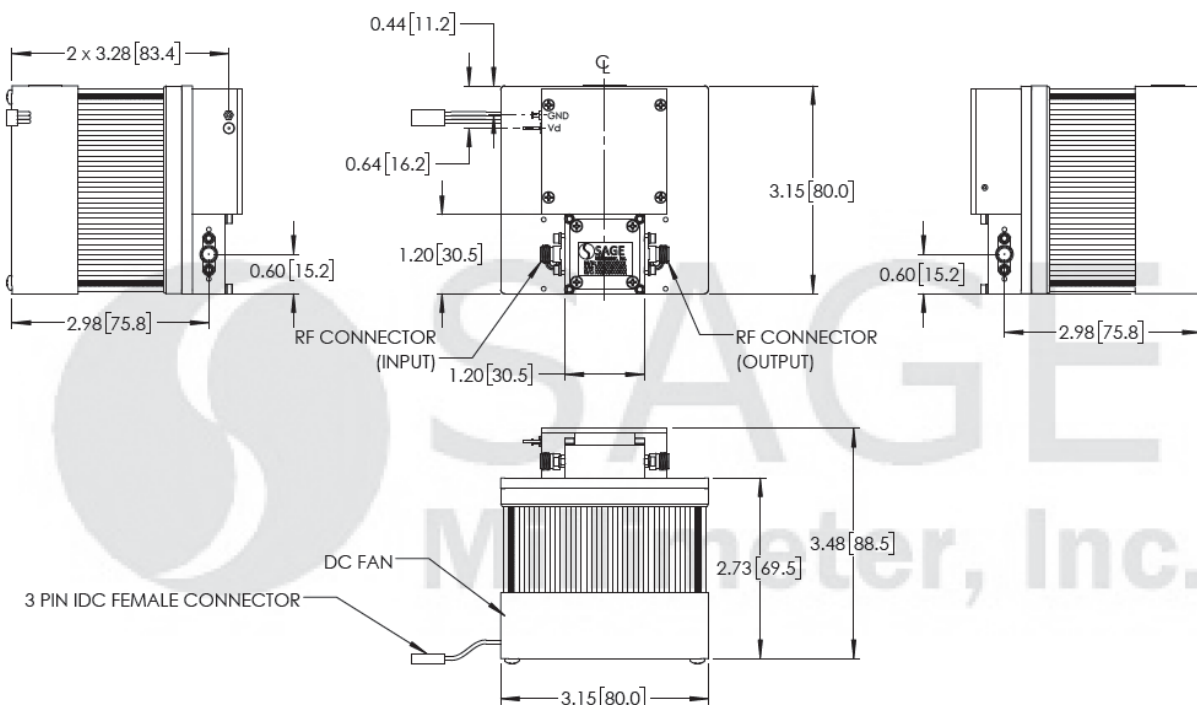
Bias: +8V_{DC}/2.6A

RFsat: +8V_{DC}/ 4.6A



40 to 44 GHz Power Amplifier, 35 dB Gain, +30 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.
- All testing was performed under +25 °C case temperature.
- 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 ± 0.15 inch-pounds (0.90 ± 0.02 Nm), should be applied. **Eravant torque wrench, model SCH-08008-S1, is highly recommended.**