



## Broadband Amplifier, 18 to 40 GHz, 20 dB Gain

### Description:

**Model STB-1834032020-KFKF-S1** is a broadband benchtop amplifier with a typical small signal gain of 20 dB and a nominal  $P_{1dB}$  of +20 dBm across the frequency range of 18 to 40 GHz. The power supply required is a single phase AC voltage in the range of 100 to 240 V<sub>AC</sub>, which can be supplied by a wall outlet. The LED light helps to indicate the working status of the amplifier. The input and output port configurations are female K connectors.



### Features:

- Ultra-Broadband Coverage
- Good Gain Flatness

### Applications:

- Bench Top Power Amplification
- Antenna Range
- Power Boosting

### Electrical Specifications:

| Parameter                          | Minimum             | Typical | Maximum             |
|------------------------------------|---------------------|---------|---------------------|
| Frequency                          | 18 GHz              |         | 40 GHz              |
| Gain                               |                     | 20 dB   |                     |
| $P_{1dB}$                          |                     | +20 dBm |                     |
| $P_{SAT}$                          |                     | +21 dBm |                     |
| RF Input Damage Level              |                     |         | +20 dBm             |
| Input Return Loss                  |                     | 10 dB   |                     |
| Output Return Loss                 |                     | 10 dB   |                     |
| Power Supply (AC Adapter Provided) | 100 V <sub>AC</sub> |         | 240 V <sub>AC</sub> |
| Specification Temperature          |                     | +25 °C  |                     |
| Case Temperature                   | 0 °C                |         | +50 °C              |

### Mechanical Specifications:

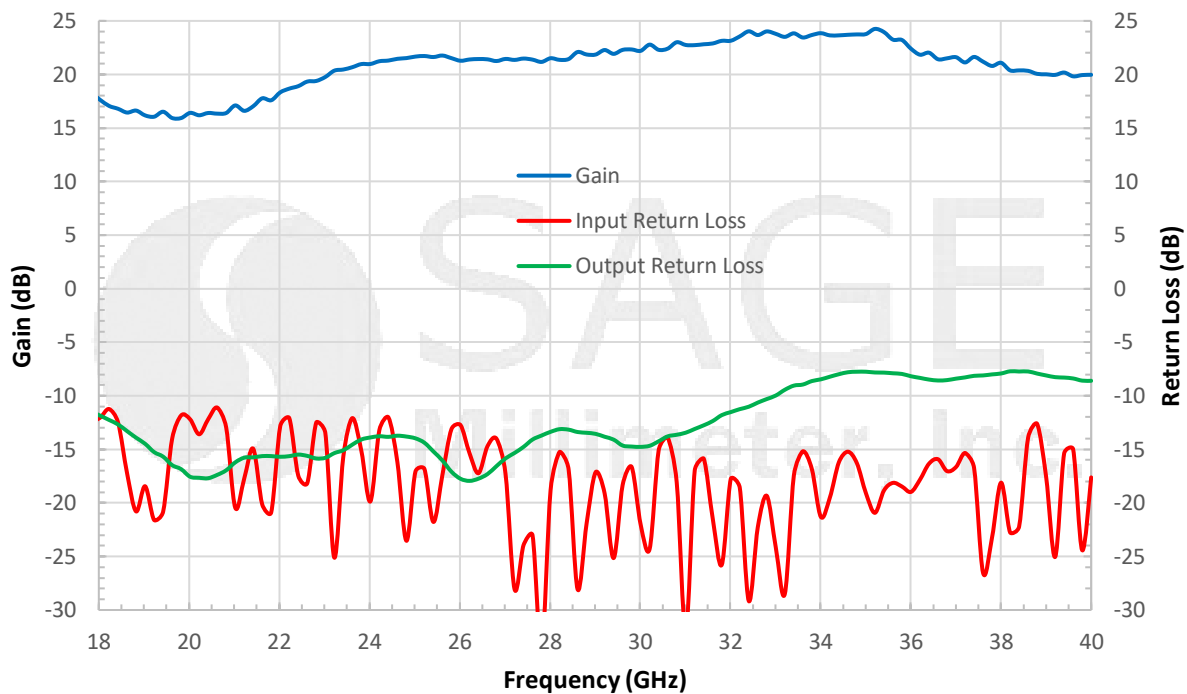
| Item               | Specification                                      |
|--------------------|--|
| Input              | K(F)   |
| Output             | K(F)   |
| DC Bias            | 2.5 mm DC Jack (AC-to-DC power converter included) |
| DC Bias Switch     | On-Off Rocker Switch with Indicator Light          |
| Enclosure Material | Extruded Aluminum                                  |
| Finish             | Black Anodized                                     |
| Weight             | 1.5 lbs  |
| Size               | 3.22" (W) x 4.12" (L) x 1.74" (H)                  |
| Outline            | TB-SC  |



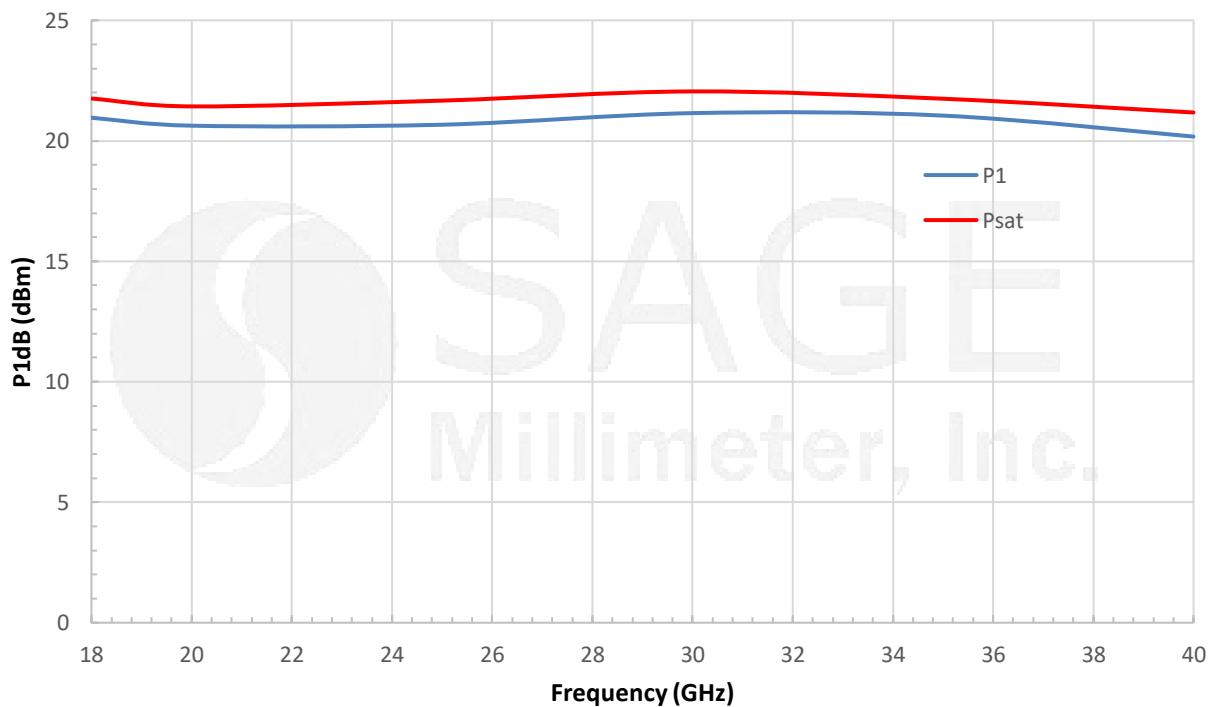


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### Gain and Return Loss vs. Frequency



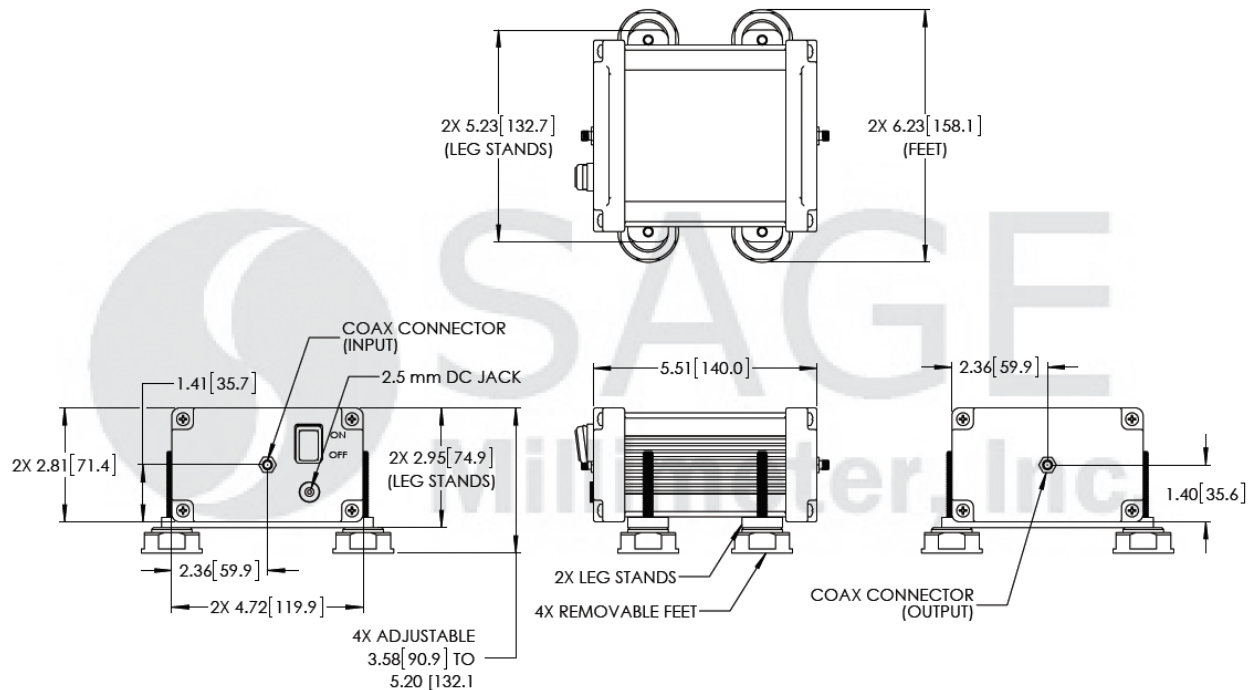
### P1dB vs. Frequency





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**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.
- AC-to-DC power converter with cord is included.
- 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.
- 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.**

