

## X2 Active Frequency Multiplier, Ka Band, 20 to 40 GHz, +4 dBm P<sub>out</sub>

### Description:

**Model SFA-203403205-KFSF-S1** is an active X2 frequency multiplier. The multiplier has an input frequency of 10 to 20 GHz with a typical input power of +5 dBm and an output frequency of 20 to 40 GHz with a typical output power of +4 dBm. The multiplier also has a typical harmonic suppression of -15 dBc. The DC power requirement for the multiplier is +8 V<sub>DC</sub>/180 mA. The input port is a female SMA connector and the output is a female K connector. Other port configurations are available under different model numbers.



### Features:

- Wide Band Coverage
- Low Harmonic Components

### Applications:

- 5G Systems
- Frequency Extenders
- Source Modules
- Communication Systems

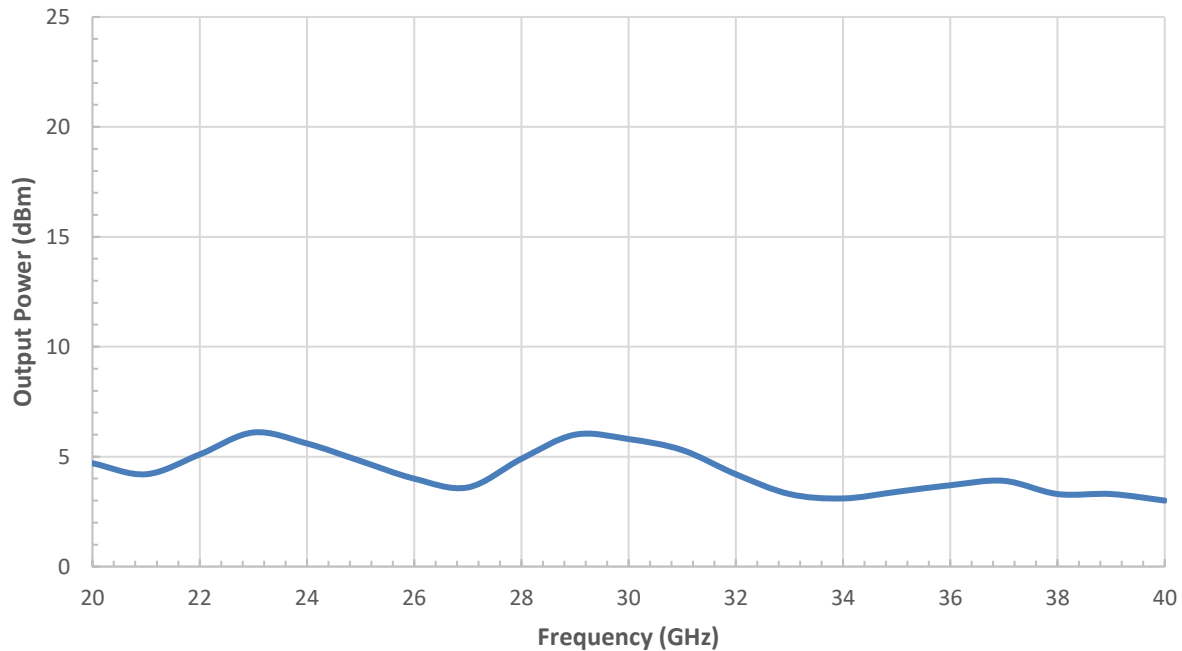
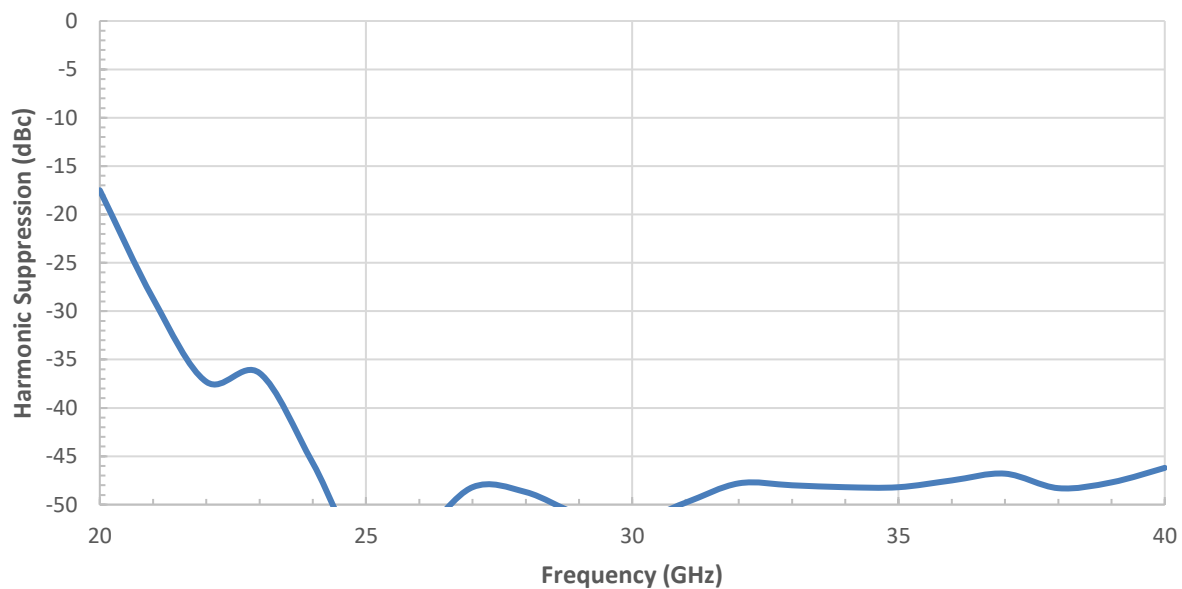
### Electrical Specifications:

| Parameter                 | Minimum            | Typical            | Maximum             |
|---------------------------|--------------------|--------------------|---------------------|
| Input Frequency           | 10 GHz             |                    | 20 GHz              |
| Input Power               | +1 dBm             | +5 dBm             | +10 dBm             |
| Output Frequency          | 20 GHz             |                    | 40 GHz              |
| Output Power              |                    | +4 dBm             |                     |
| Harmonic Suppression      |                    | -15 dBc            |                     |
| Spurious                  |                    | -60 dBc            |                     |
| Port Return Loss          |                    | 10 dB              |                     |
| DC Voltage                | +6 V <sub>DC</sub> | +8 V <sub>DC</sub> | +12 V <sub>DC</sub> |
| DC Supply Current         |                    | 180 mA             |                     |
| Specification Temperature |                    | +25°C              |                     |
| Operating Temperature     | 0°C                |                    | +50°C               |

### Mechanical Specifications:

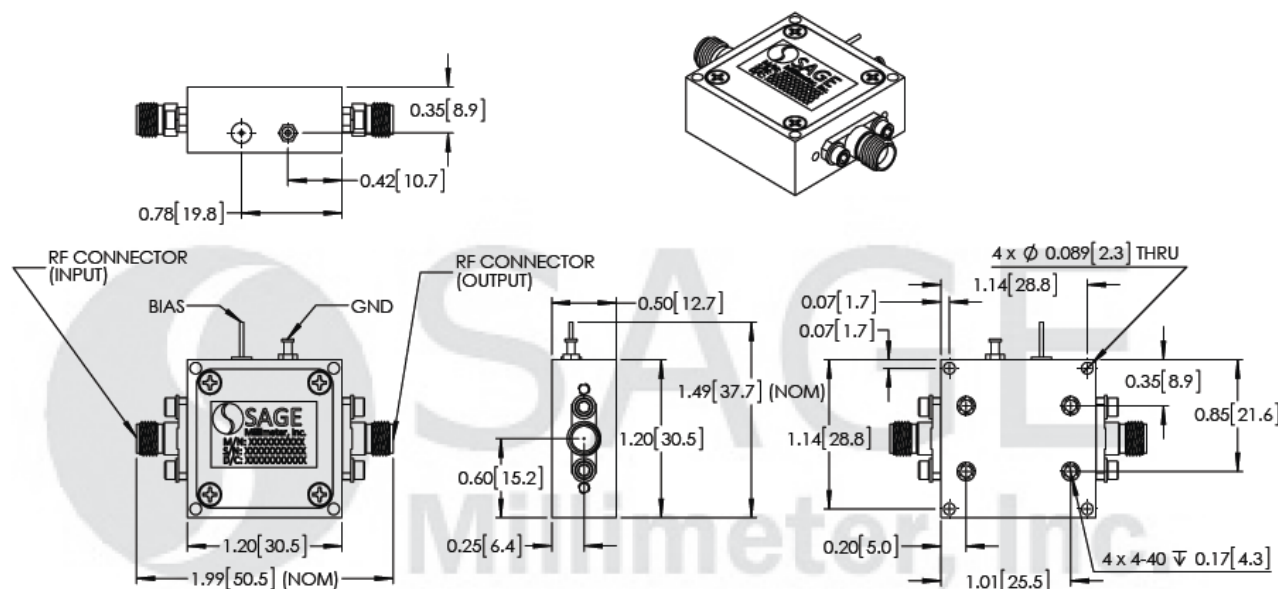
| Item          | Specification                     |
|---------------|-----------------------------------|
| Input         | SMA (F)                           |
| Output        | K (F)                             |
| Bias          | Solder Pin                        |
| Case Material | Aluminum                          |
| Finish        | Gold Plated                       |
| Weight        | 1.3 Oz                            |
| Size          | 1.20" (W) x 1.20" (L) x 0.50" (H) |
| Outline       | BG-SC-1                           |



**X2 Active Frequency Multiplier, Ka Band, 20 to 40 GHz, +4 dBm P<sub>out</sub>****Output Power vs. Frequency**Bias: +8V<sub>DC</sub>/209 mA; Input Power = +5 dBm**Harmonic Suppression vs. Frequency**Bias: +8V<sub>DC</sub>/209 mA; Input Power = +5 dBm

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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 slightly.
- All testing was performed under +25 °C case temperature.
- SAGE Millimeter, Inc. reserves the right to change the information presented without notice.
- Other mechanical configurations are available under different model numbers.

### 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 ± 0.15 inch-pounds (0.90 ± 0.02 Nm), should be applied. **SAGE Millimeter torque wrench, model SCH-08008-S1, is highly recommended.**

