

## X4 Active Frequency Multiplier, 20 to 50 GHz, +10 dBm P<sub>out</sub>

### Description:

**Model SFA-203503410-2FSF-S1** is an active X4 frequency multiplier. The multiplier has an input frequency of 5 to 12.5 GHz with a typical input power of +5 dBm and an output frequency of 20 to 50 GHz with a typical output power of +10 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>/500 mA. The input port is a female SMA connector and the output is a female 2.4 mm connector. Other port configurations are available under different model numbers.



### Features:

- Wide Band Coverage
- High Output Power
- Low Harmonic Components

### Applications:

- Frequency Extenders
- Source Modules
- Communication Systems

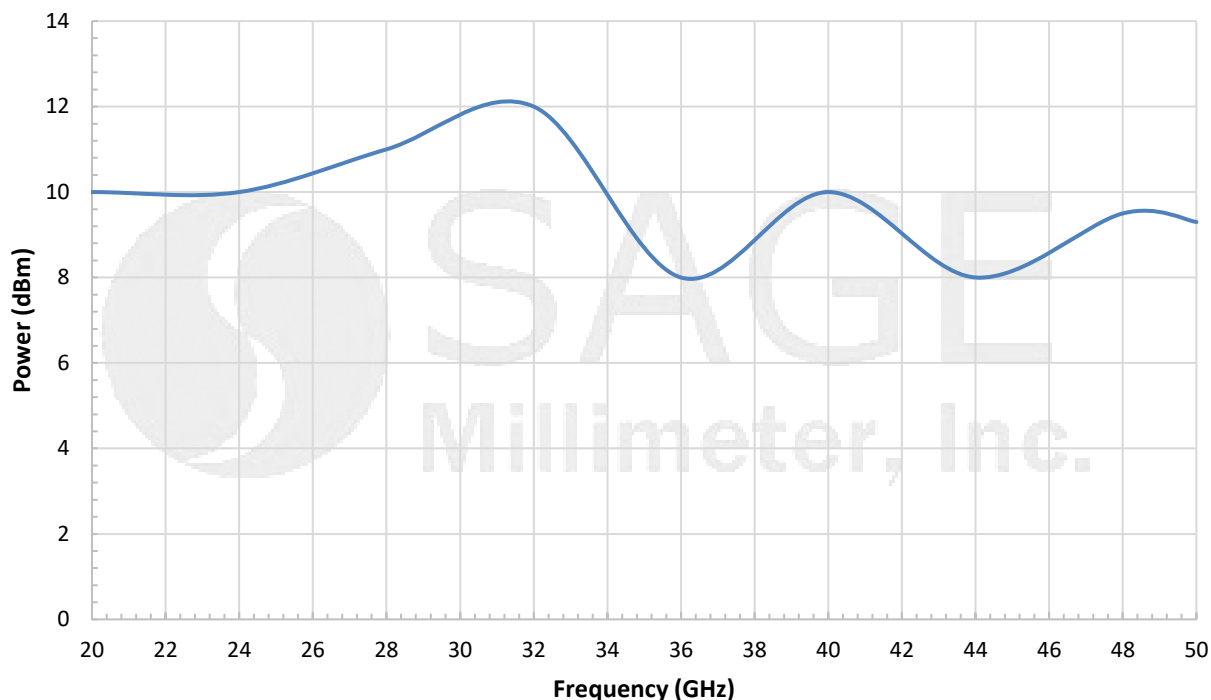
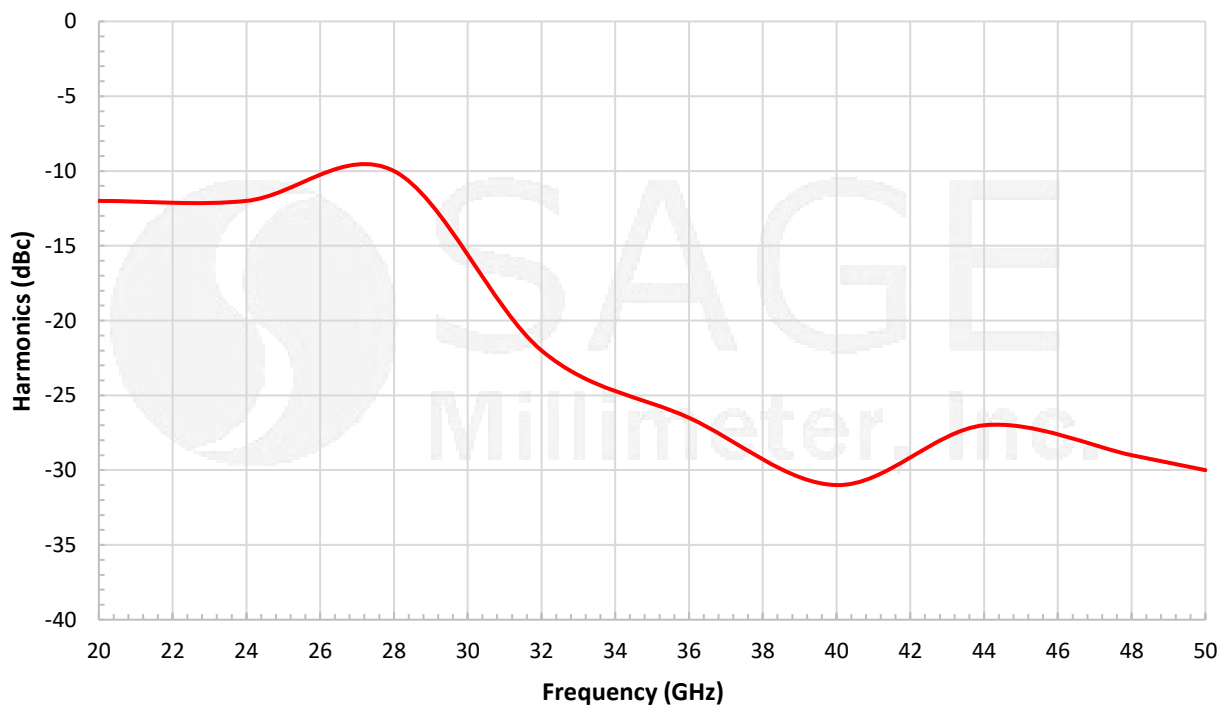
### Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Input Frequency	5.0 GHz		12.5 GHz
Input Power	-5 dBm	+5 dBm	+15 dBm
Output Frequency	20.0 GHz		50.0 GHz
Output Power		+10 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		500 mA	
Specification Temperature		+25 °C	
Operating Temperature	0 °C		+50 °C

### Mechanical Specifications:

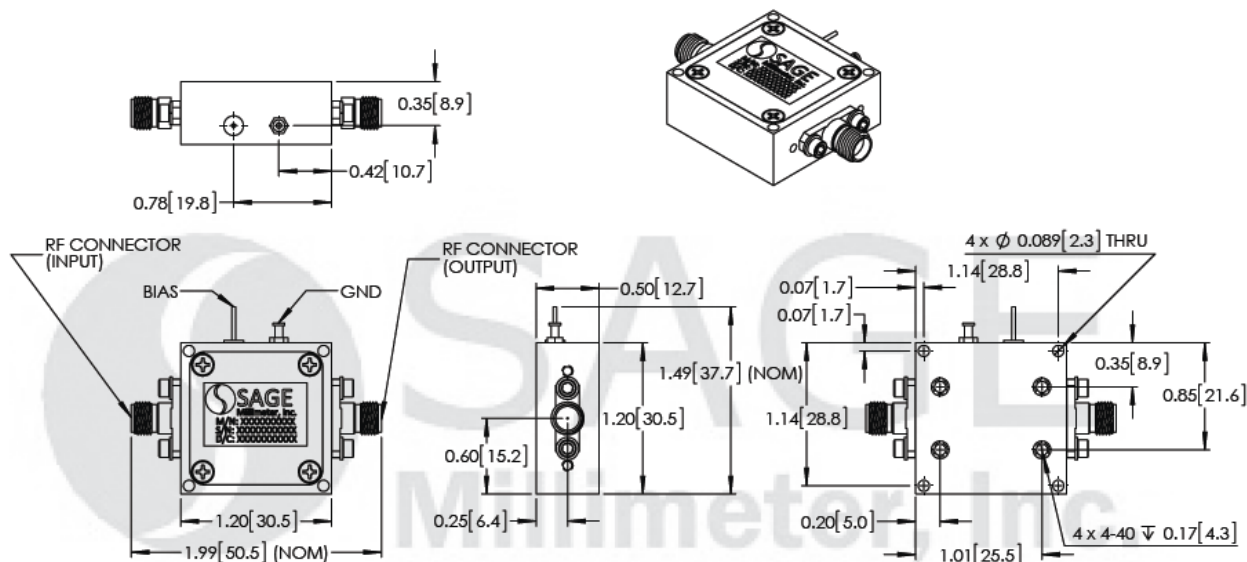
Item	Specification
Input	SMA (F)
Output	2.4 mm (F)
Bias	Solder Pin
Case Material	Aluminum
Finish	Gold Plated
Weight	1.3 Oz
Size	1.20" (W) X 1.20" (L) X 0.50" (H)
Outline	BG-SC-1



**X4 Active Frequency Multiplier, 20 to 50 GHz, +10 dBm  $P_{out}$** **Typical Output Power vs. Frequency** $P_{in} = +3$  dBm, 12 Vdc/460 mA**Typical Harmonic Level vs. Frequency** $P_{in} = -5$  dBm, 12 Vdc/460 mA

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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.**

