



## X4 Active Frequency Multiplier, 50 to 75 GHz

### Description:

**Model SFA-503753416-15SF-S1** is an active X4 frequency multiplier. The multiplier has an input frequency of 12.5 to 18.75 GHz with a typical input power of +5 dBm and an output frequency of 50 to 75 GHz with a typical output power of +16 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>/550 mA. The input port configuration is an SMA(F) connector and the output is a WR-15 waveguide with a UG-385/U flange. Other port configurations are available under different models.



### Features:

- Full Band Coverage
- High Output Power
- Low Harmonic Emission
- Automotive Radar Band

### Applications:

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

### Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Input Frequency	12.5 GHz		18.75 GHz
Input Power		+3 dBm	+5 dBm
Output Frequency	50.0 GHz		75.0 GHz
Output Power		+16 dBm	
Harmonic Suppression		-15 dBc	
Spurious		-60 dBc	
DC Supply	+6 V <sub>DC</sub>	+8 V <sub>DC</sub> /550 mA	+15 V <sub>DC</sub>
Specification Temperature		+25 °C	
Operating Temperature	0 °C		+50 °C

### Mechanical Specifications:

Item	Specification
Input	SMA(F)
Output	WR-15 Waveguide with UG-385/U Flange
Bias	Solder Pin
Case Material	Aluminum
Finish	Gold Plated
Weight	1.4 Oz
Size	1.10" (W) X 1.80" (L) X 0.50" (H)
Outline	FA-SV-1-1.8

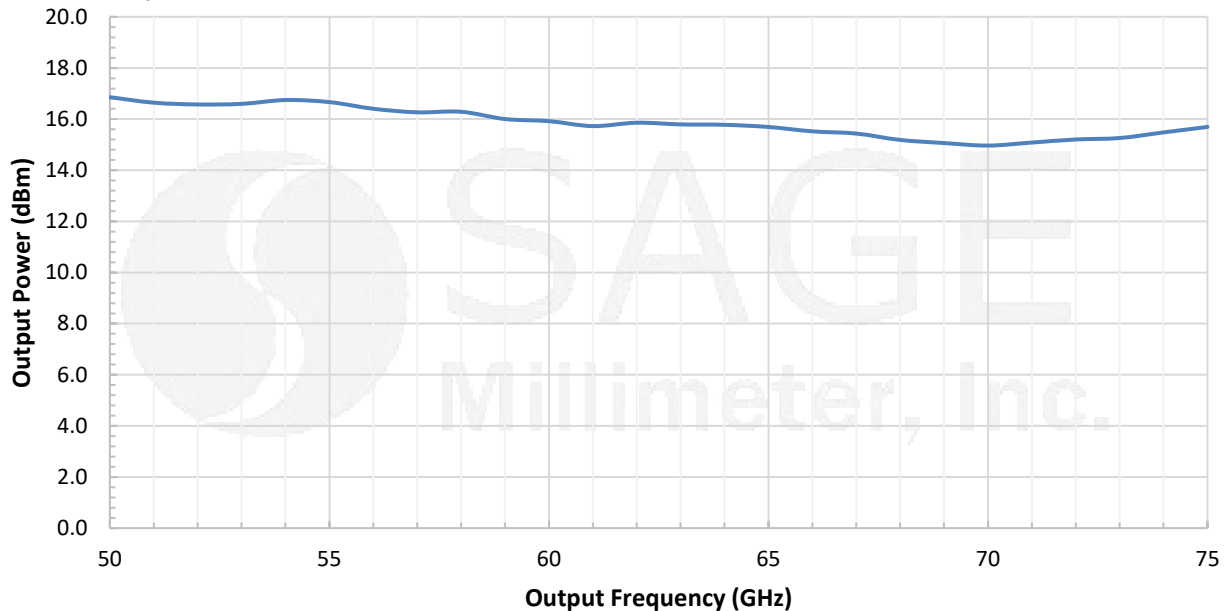




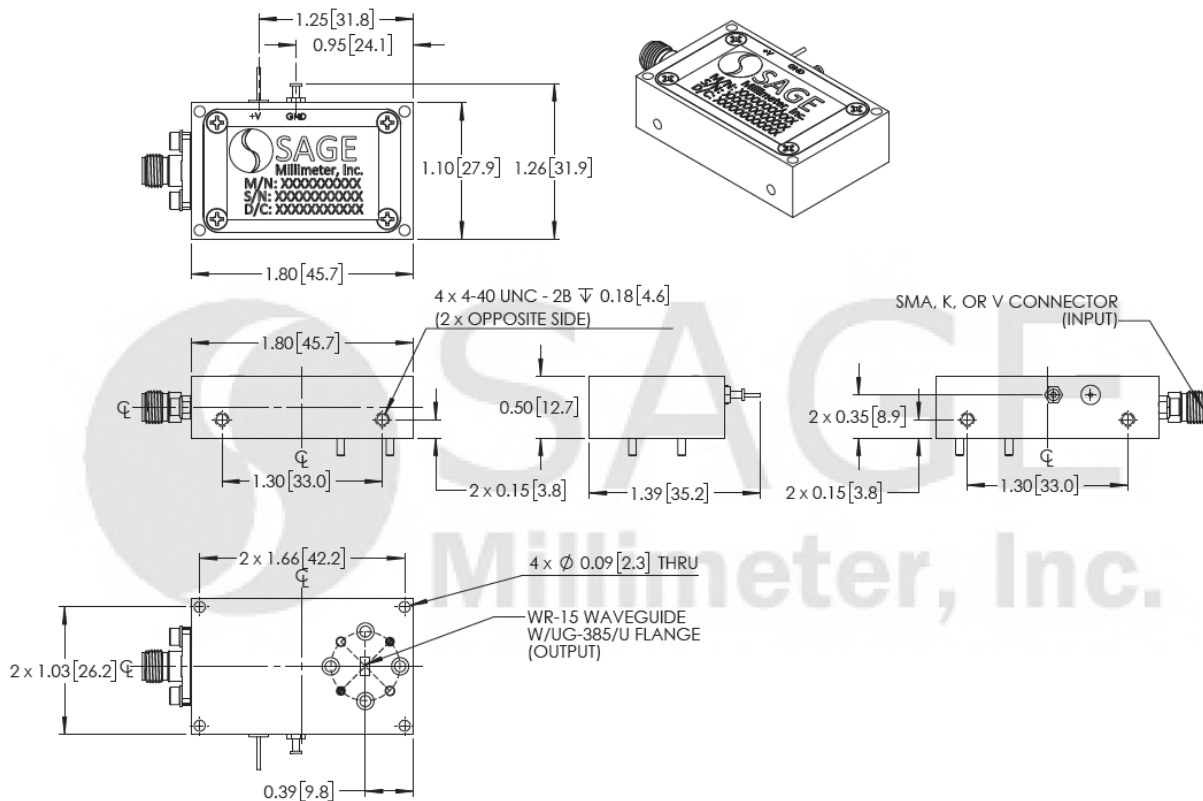
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### Typical Output Power vs. Output Frequency

Bias: +8 V<sub>DC</sub>/550 mA



**Mechanical Outline:** (Unless otherwise specified, all dimensions are in inches [millimeters])





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### 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.
- Any foreign objects in the waveguide will cause performance degradation and possible device damage.
- The case temperature of the device shall never exceed +50 °C. Use a proper heatsink or fan if necessary.

