



## V-Band, X4 Active Frequency Multiplier, 54 to 66 GHz, +23 dBm P<sub>out</sub>

### Description:

**Model SFA-543663422-15SF-S1** is an active X4 frequency multiplier. The multiplier has an input frequency of 13.5 to 16.5 GHz with a typical input power of 0 dBm and an output frequency of 54 to 66 GHz with a typical output power of +23 dBm. The multiplier also has a typical harmonic suppression of -20 dBc. The DC power requirement for the multiplier is +8 V<sub>DC</sub>/1,150 mA. The input port configuration is a female SMA connector and the output is a WR-15 waveguide with a UG-385/U flange. Other port configurations are available under different model numbers.



### Features:

- Broadband Coverage
- High Output Power
- Low Harmonic Emission

### Applications:

- IEEE 802.11ab WiGig
- Frequency Extenders
- Source Modules
- Communication Systems

### Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Input Frequency	13.5 GHz		16.5 GHz
Input Power		0 dBm	+5 dBm
Output Frequency	54.0 GHz		66.0 GHz
Output Power		+23 dBm	
Harmonic Suppression		-20 dBc	
Spurious		-60 dBc	
Return Loss		10 dB	
DC Bias	+6 V <sub>DC</sub>	+8 V <sub>DC</sub> /1,150 mA	+12 V <sub>DC</sub>
Specification Temperature		+25 °C	
Operating Temperature	0 °C		+50 °C

### Mechanical Specifications:

Item	Specification
Input Port	SMA (F)
Output Port	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

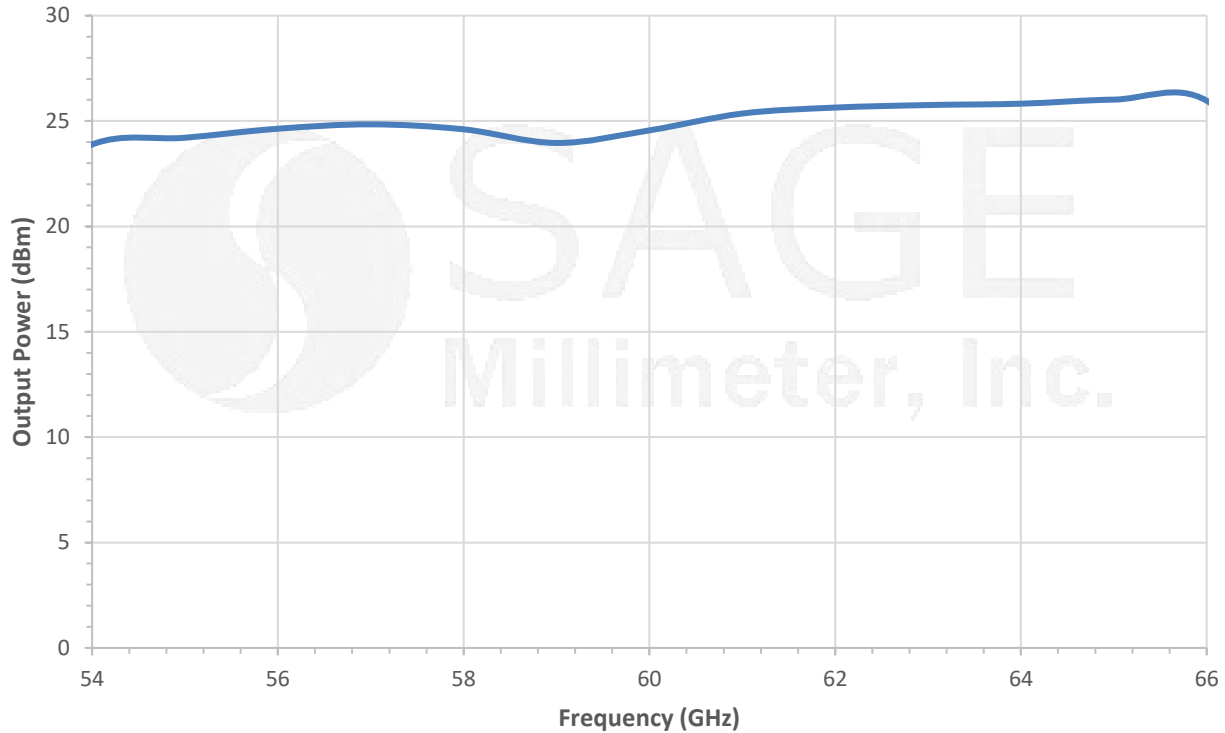




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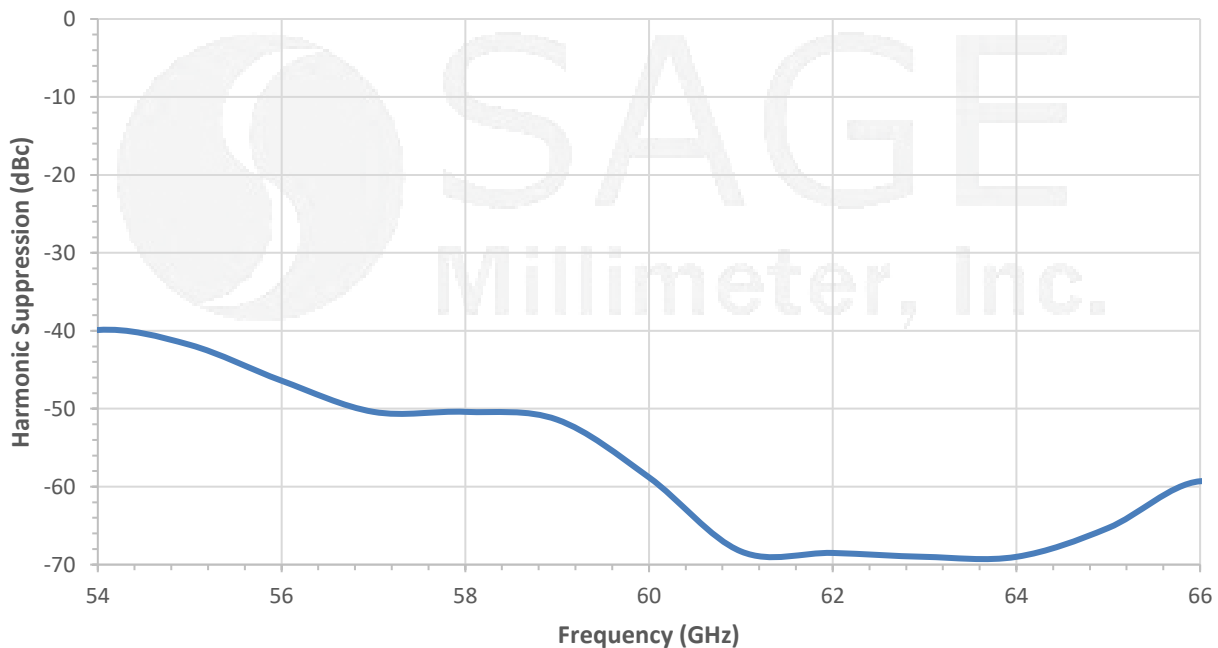
### Output Power vs. Frequency

Bias: +8V<sub>DC</sub>/1 A; Input Power = +0 dBm



### Harmonic Suppression vs. Frequency

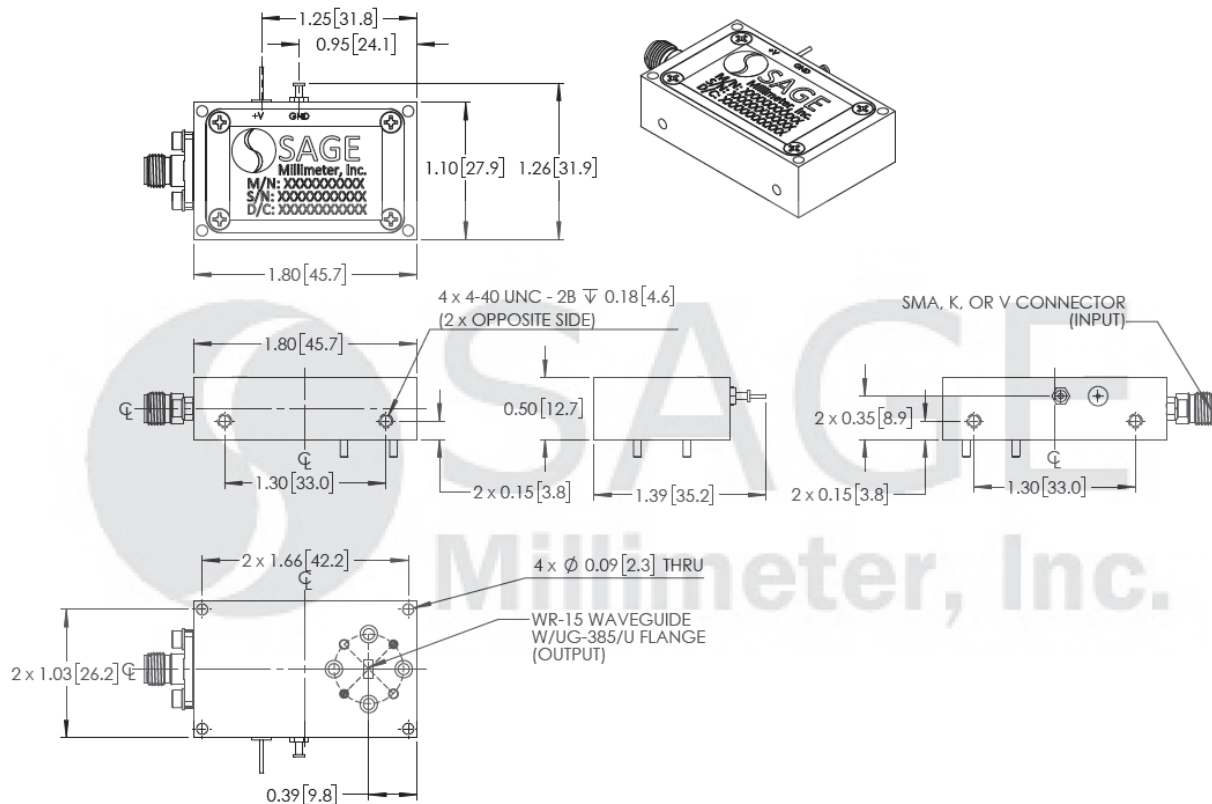
Bias: +8V<sub>DC</sub>/1 A; Input Power = +0 dBm





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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 number.

**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. **SAGE Millimeter torque wrench, model SCH-08008-S1, is highly recommended.**

