



## X8 Active Frequency Multiplier, 71 to 86 GHz

### Description:

**Model SFA-713863816-12SF-S1** is an active X8 frequency multiplier. The multiplier has an input frequency of 8.875 to 10.75 GHz with a typical input power of +0 dBm and an output frequency of 71 to 86 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>/400 mA. The input port configuration is a female SMA connector and the output is a WR-12 waveguide with a UG-387/U flange. Other port configurations are available under different model numbers.



### Features:

- High Output Power
- Low Harmonic Components
- Broadband Coverage

### Applications:

- Frequency Extenders
- Source Modules
- Communication Systems

### Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Input Frequency	8.875 GHz		10.750 GHz
Input Power		+0 dBm	+18 dBm
Output Frequency	71 GHz		86 GHz
Output Power		+16 dBm	
Harmonic Suppression		-15 dBc	
Spurious		-60 dBc	
DC Voltage	+6 V <sub>DC</sub>	+8 V <sub>DC</sub>	+15 V <sub>DC</sub>
DC Supply Current		400 mA	
Specification Temperature		+25°C	
Case Temperature	0°C		+50°C

### Mechanical Specifications:

Item	Specification
Input	SMA(F)
Output	WR-12 Waveguide with UG-387/U Flange
Bias	Solder Pin
Size	1.10" (W) x 1.80" (L) x 0.50" (H)
Case Material	Aluminum
Finish	Gold Plated
Weight	1.4 Oz
Outline	FA-SE-1-1.8

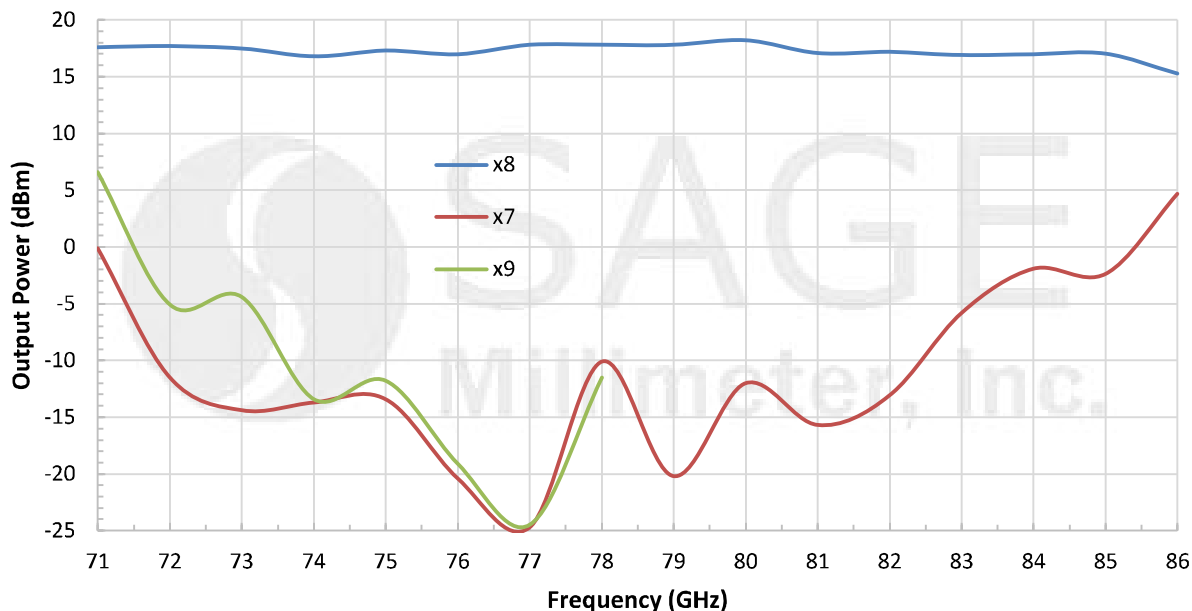




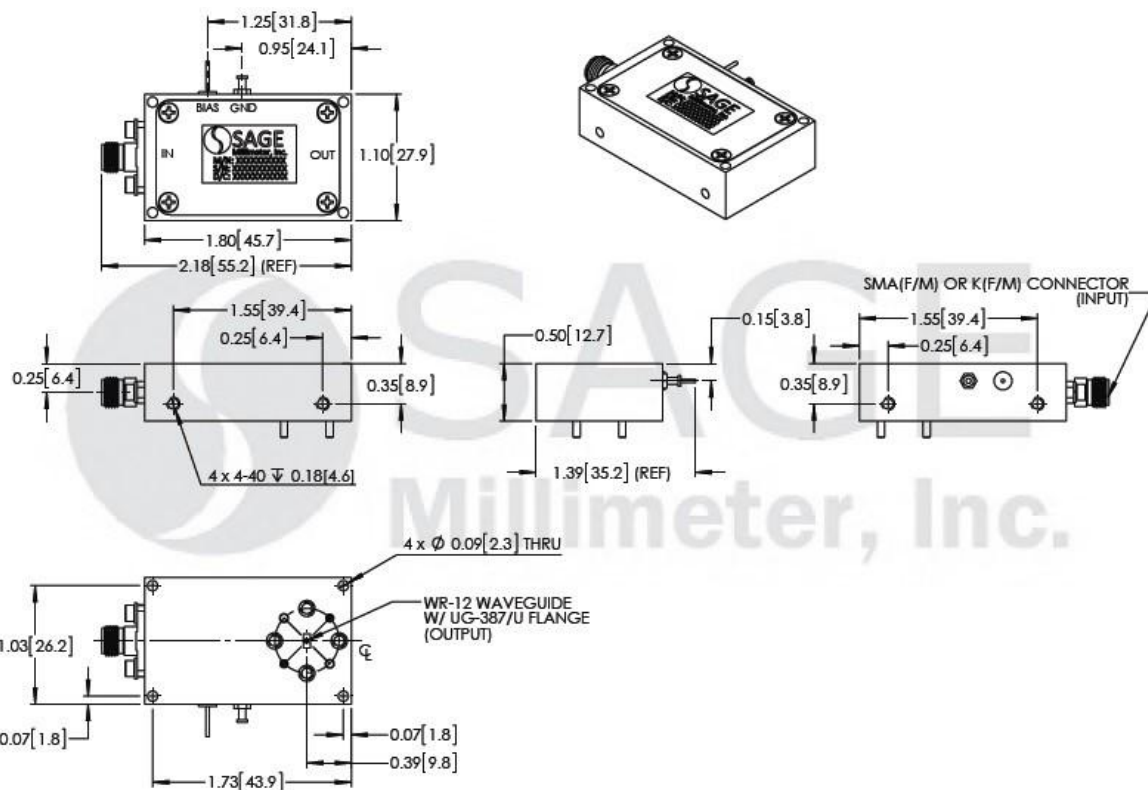
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### Typical Performance vs. Output Frequency @ +0 dBm Drive Level

Bias: +8 V<sub>DC</sub>/320 mA



### Mechanical Outline: (Unless otherwise specified, all dimensions are in inches)





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### Note:

- All data are presented using a limited sample lot. Actual data may vary unit to unit.
- 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.
- 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 proper Heatsink or fan if necessary.
- Proper torque,  $8.0 \pm 0.15$  inch-pounds ( $0.92 \pm 0.05$  Nm), should be applied. **SAGE Millimeter torque wrench, model SCH-08008-S1, is highly recommended.**

