

## X4 Active Frequency Multiplier, Ka Band, 24 to 42 GHz, +13 dBm P<sub>out</sub>

### Description:

**Model SFA-243423413-28SF-E1** is an active X4 frequency multiplier. The multiplier has an input frequency of 6 to 10.5 GHz with a typical input power of +5 dBm and an output frequency of 24 to 42 GHz with a typical output power of +13 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>/300 mA. The input port of this model is a female SMA connector and the output port is a WR-28 Uni-Guide™ waveguide with a UG-599/U flange. It is an in-line angle configuration. Other port configurations, such as right angle, are also available under different model numbers.



### Features:

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

### Applications:

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

### Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Input Frequency	6 GHz		10.5 GHz
Input Power		+5 dBm	+10 dBm
Output Frequency	24 GHz		42 GHz
Output Power		+13 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		300 mA	
Specification Temperature		+25 °C	
Operating Temperature	0 °C		+50 °C

### Mechanical Specifications:

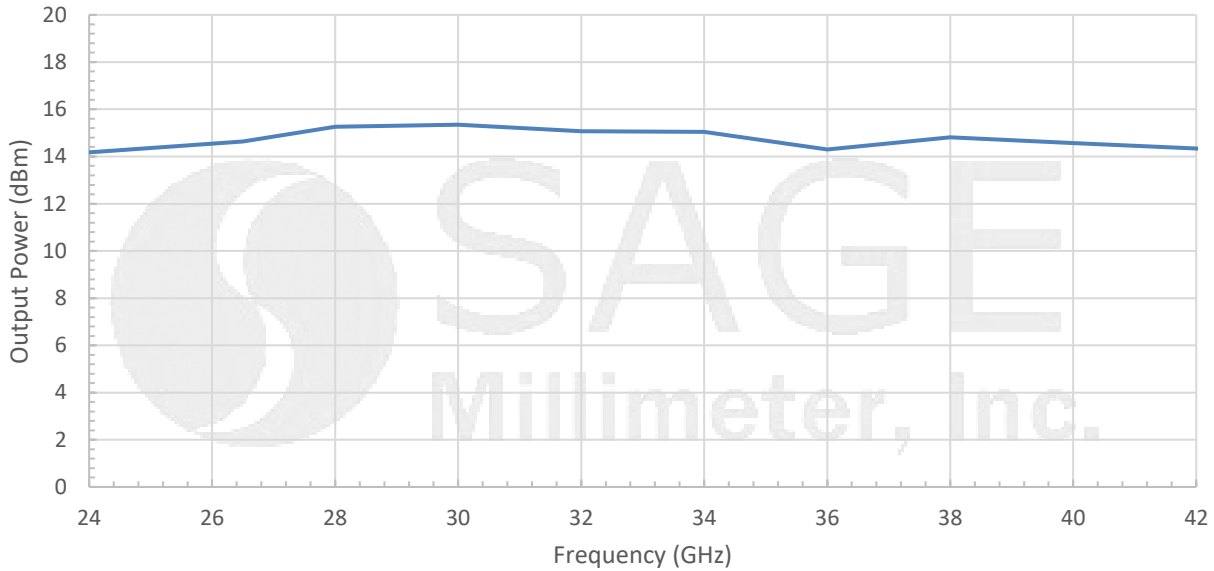
Item	Specification
Input	SMA (F)
Output	WR-28 Uni-Guide™ Waveguide with UG-599/U Flange
Bias	Solder Pin
Case Material	Aluminum
Finish	Gold Plated
Weight	1.5 Oz
Size	1.63" (L) X 1.20" (W) X 0.75" (H)
Outline	FA-SA-2CW



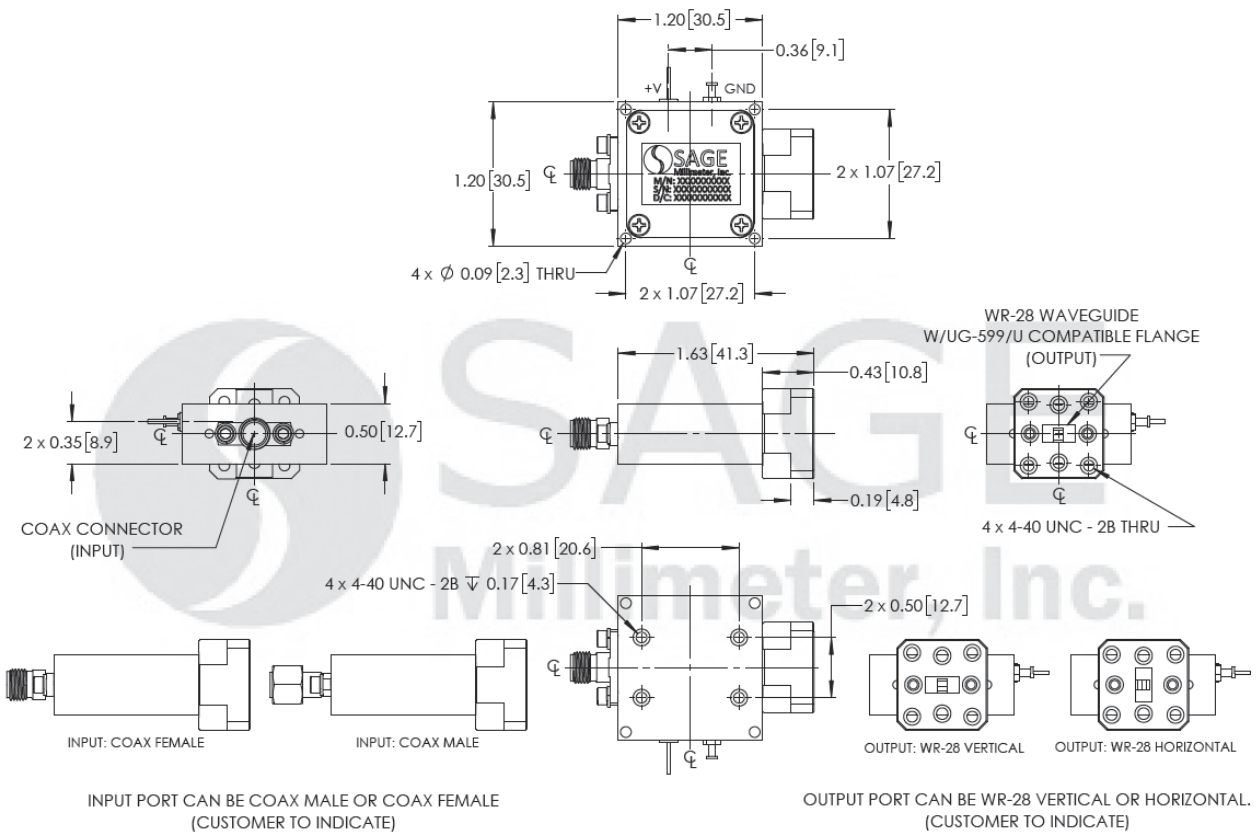
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### Typical Output $P_{out}$ vs. Frequency

Bias = +8 V<sub>DC</sub>/250 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.
- The active multiplier employs Eravant's trademarked and patent pending technology, **Uni-Guide™**, as its output waveguide interface. The orientation of the output waveguides can be specified through corresponding model numbers. For example, the model number for a horizontal output waveguide configuration would be **SFA-243423413-28HSF-E1** instead of the default **SFA-243423413-28SF-E1** which indicates vertical orientation output.
- Eravant 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.
- Any foreign objects in the waveguide will cause performance degradation and may damage the device.
- Proper torque,  $8.0 \pm 0.15$  inch-pounds ( $0.90 \pm 0.02$  Nm), should be applied. **Eravant torque wrench, model SCH-08008-S1, is highly recommended.**

