

**W-Band, X8 Active Frequency Multiplier, 90 to 98 GHz,  
+10 dBm P<sub>out</sub>**

**SFA-903983810-10SF-S1** is an active X8 frequency multiplier. The multiplier has an input frequency of 11.25 to 12.25 GHz with a typical input power of +5 dBm and an output frequency of 90 to 98 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 VDC/100 mA. The input port configuration is a female SMA connector and the output is a WR-10 waveguide with a UG-387/U-M anti-cocking flange. Other port configurations are available under different model numbers.

**Electrical Specifications:**

Parameter	Minimum	Typical	Maximum
Input Frequency	11.25 GHz		12.25 GHz
Input Power		+5 dBm	+15 dBm
Output Frequency	90.00 GHz		98.00 GHz
Output Power		+10 dBm	
Harmonic Suppression		-15 dBc	
Spurious		60 dBc	
Port Return Loss		10 dB	
DC Voltage	+6 VDC	+8 VDC	+15 VDC
DC Supply Current		100 mA	
Specification Temperature		+25°C	
Operating Temperature	0°C		+50°C

**Mechanical Specifications:**

Item	Specification
Input Port	SMA (F)
Output Port	WR-10 Waveguide with UG-387/U-M Anti-Cocking Flange
Bias	Solder Pin
Case Material	Aluminum
Finish	Gold Plated
Weight	1.3 Oz
Size	1.10" (W) x 1.80" (L) x 0.50" (H)
Outline	FA-SW-1-A-1.8

**ECCN**

3A001.b.7

**FEATURES**

- Low Harmonic Components
- High Output Power

**APPLICATIONS**

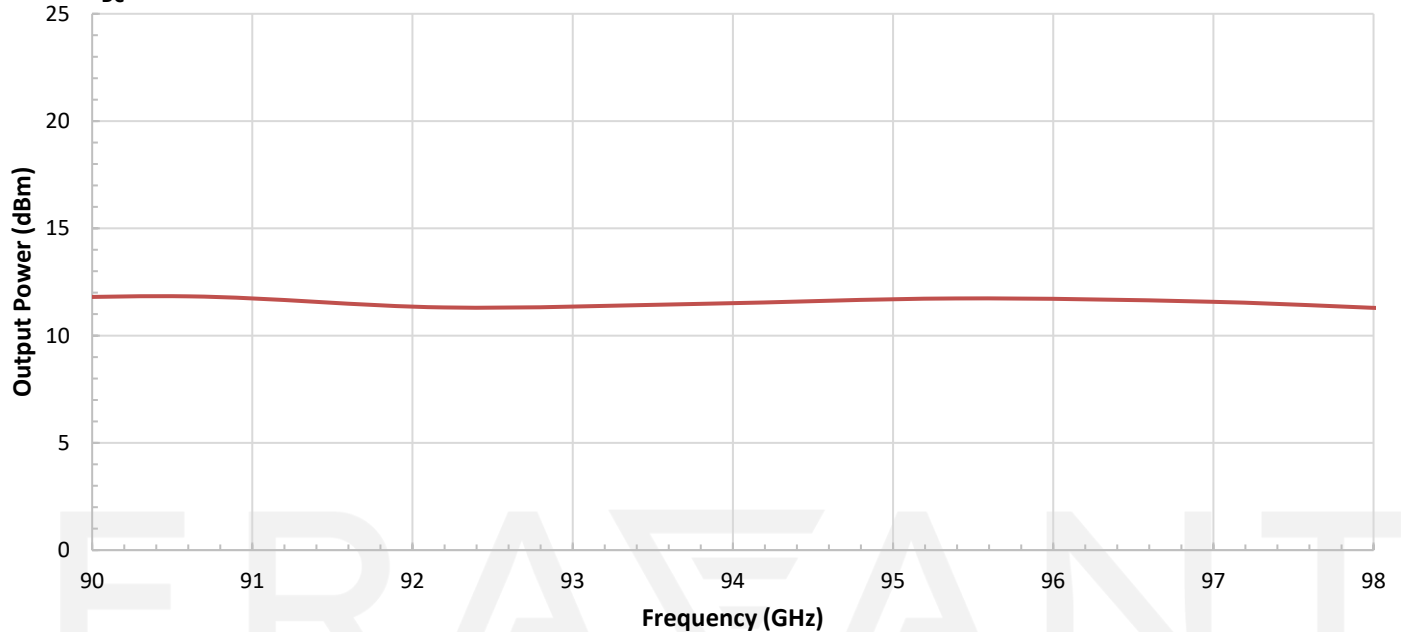
- Frequency Extenders
- Communication Systems
- Radar Systems

**SUPPLEMENTAL DETAILS**

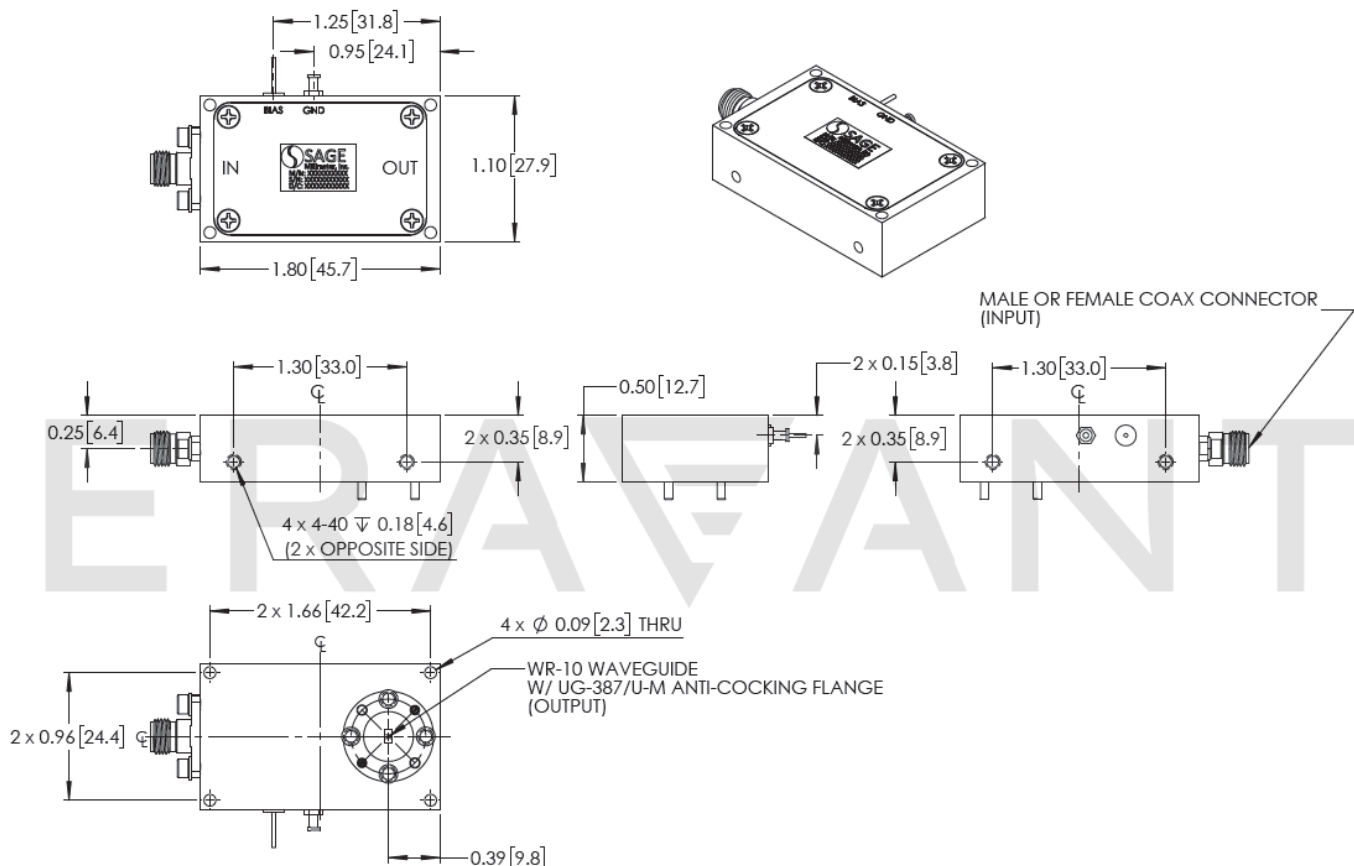
## SFA-903983810-10SF-S1

### Typical Output Power vs. Frequency

Bias = + 8 V<sub>DC</sub>/90 mA



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



**NOTE:**

- On condition that test data is provided it is collected from a sample lot. Actual data may vary slightly from unit to unit. All testing is performed under +25 °C room temperature.
- 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.
- If a waveguide is present, any foreign objects in the waveguide will cause performance degradation and may damage or destroy the unit.
- For 1.35 mm, 1.85 mm, 2.4 mm, 2.92 mm, and SMA connectors proper torque should be applied:  $8.0 \pm 0.15$  inch-pounds ( $0.90 \pm 0.02$  Nm). Torque wrench model SCH-08008-S1 is highly recommended.

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