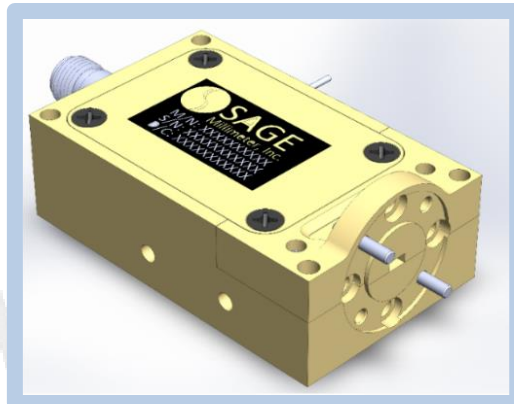


W-Band, X8 Active Frequency Multiplier, 84 to 104 GHz, +10 dBm P_{out}**Description:**

Model SFA-843104810-10SF-E1 is an active X8 frequency multiplier. The multiplier has an input frequency of 10.5 to 13 GHz with a typical input power of +3 dBm and an output frequency of 84 to 104 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 V_{DC}/400 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.

**Features:**

- Low Harmonic Components
- High Output Power

Applications:

- Frequency Extenders
- Communication Systems
- Radar Systems

Electrical Specifications:

| Parameter | Minimum | Typical | Maximum |
|------------------------------|--------------------|--------------------|---------------------|
| Input Frequency | 10.5 GHz | | 13 GHz |
| Input Power | | +3 dBm | +15 dBm |
| Output Frequency | 84 GHz | | 104 GHz |
| Output Power | | +10 dBm | |
| Harmonic Suppression | | -15 dBc | |
| Spurious | | -60 dBc | |
| Port Return Loss | | 10 dB | |
| DC Voltage | +6 V _{DC} | +8 V _{DC} | +15 V _{DC} |
| DC Supply Current (RF Power) | | 400 mA | |
| Specification Temperature | | +25 °C | |
| Operating Temperature | 0 °C | | +50 °C |

Mechanical Specifications:

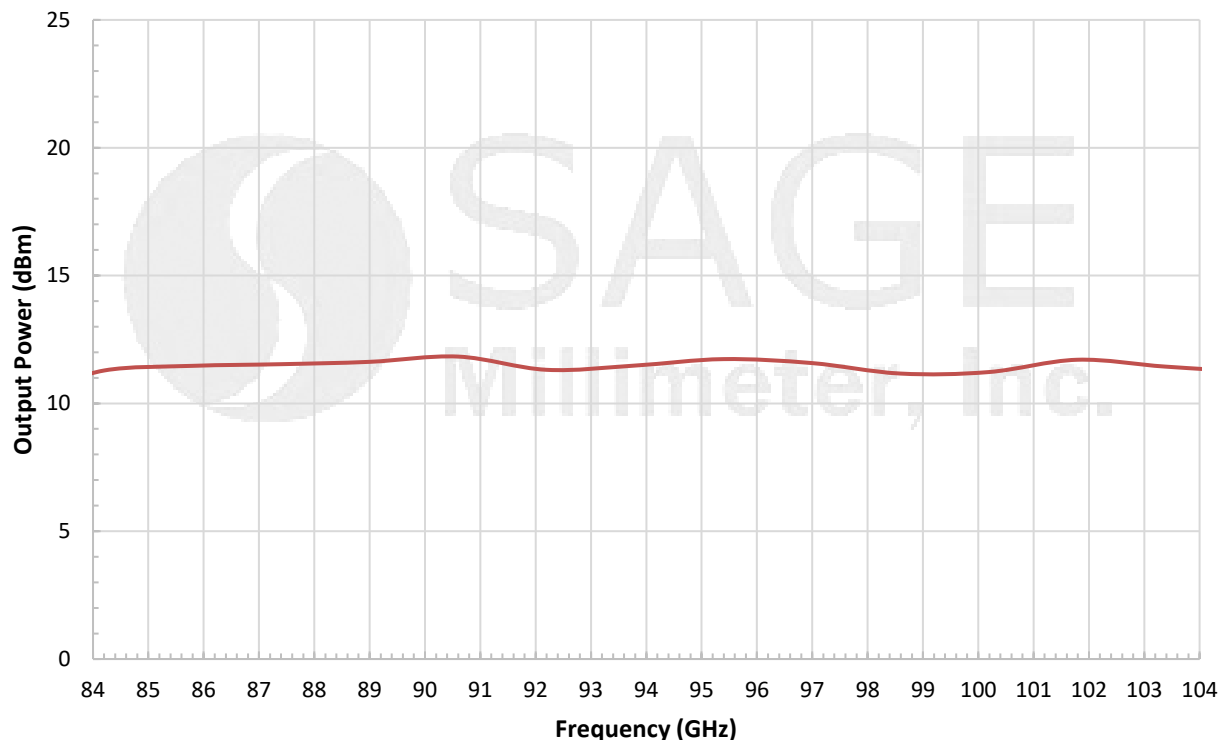
| Item | Specification |
|---------------|---|
| Input Port | SMA (F) |
| Output Port | WR-10 Waveguide with UG-387/U-M Anti-Cocking Flange |
| Bias | Solder Pin |
| Case Material | Aluminum |
| Finish | Gold Plated |
| Weight | 1.6 Oz |
| Size | 1.10" (W) X 1.80" (L) X 0.75" (H) |
| Outline | FA-SW-2CW-A-1.8 |



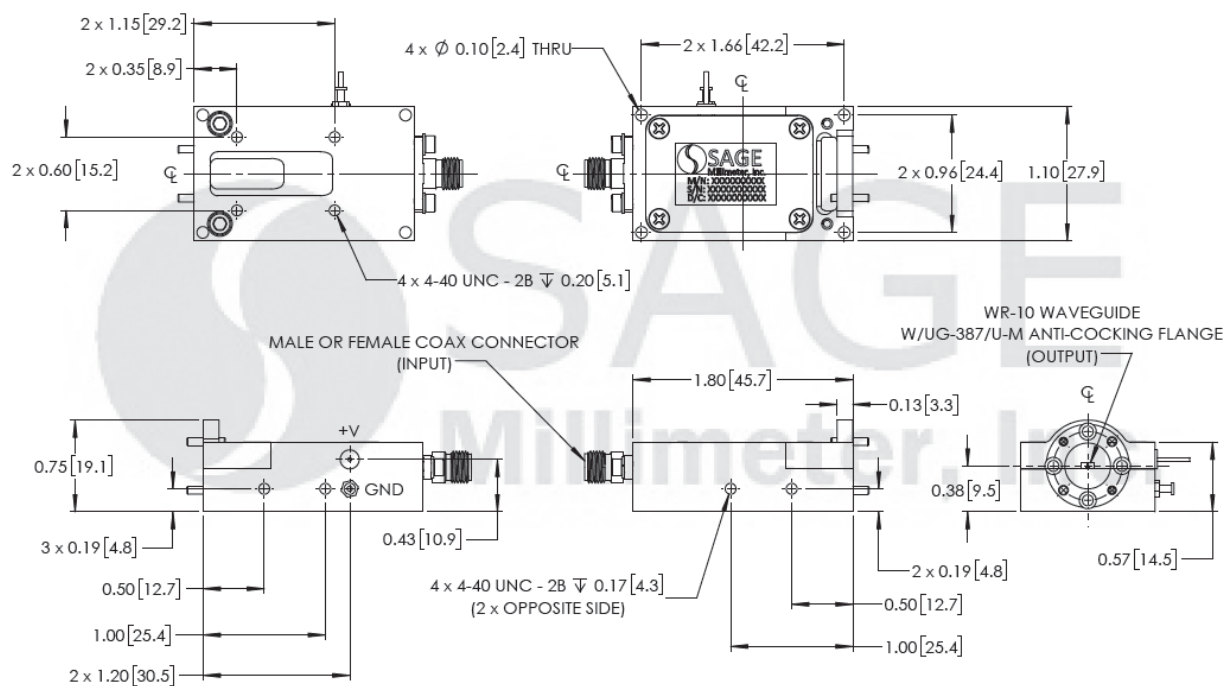
W-Band, X8 Active Frequency Multiplier, 84 to 104 GHz, +10 dBm P_{out}

Typical Output Power vs. Frequency

Bias: + 8 V_{DC}/450 mA, RF Input: +3 dBm



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



www.sagemillimeter.com | 3043 Kashiwa Street, Torrance, CA 90505
Phone: 424-757-0168 | Fax: 424-757-0188 | Email: sales@sagemillimeter.com





W-Band, X8 Active Frequency Multiplier, 84 to 104 GHz, +10 dBm P_{out}

Note:

- All data presented is collected from a 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 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 ± 0.15 inch-pounds (0.90 ± 0.02 Nm), should be applied. **SAGE Millimeter torque wrench, model SCH-08008-S1, is highly recommended.**

