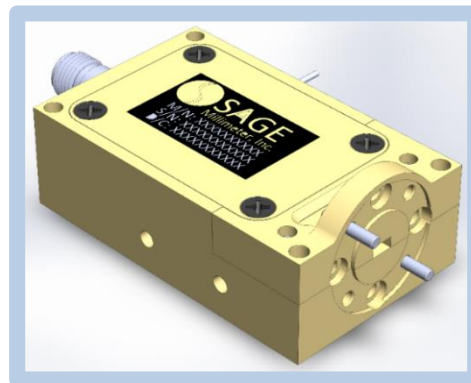


E-Band, X4 Active Frequency Multiplier, 65 to 80 GHz, +22 dBm P_{out}**Description:**

Model SFA-653803422-12KF-E1 is an active X4 frequency multiplier. The multiplier has an input frequency of 16.25 to 20.00 GHz with a typical input power of +5 dBm and an output frequency of 65 to 80 GHz with a typical output power of +22 dBm. The multiplier also has a typical harmonic suppression of -15 dBc. The DC power requirement for the multiplier is +8 V_{DC}/1,100 mA. The input port configuration is a female K connector and the output is a WR-12 waveguide with a UG-387/U anti-cocking flange. Other port configurations are available under different model numbers.

**Features:**

- Low Harmonic Emission
- Broad Band Coverage
- High Output Power

Applications:

- Frequency Extenders
- Source Modules
- Communication Systems

Electrical Specifications:

| Parameter | Minimum | Typical | Maximum |
|---------------------------|--------------------|--------------------|---------------------|
| Input Frequency | 16.25 GHz | | 20.00 GHz |
| Input Power | 0 dBm | +5 dBm | +20 dBm |
| Output Frequency | 65 GHz | | 80 GHz |
| Output Power | | +22 dBm | |
| Port Return Loss | | 10 dB | |
| Harmonic Suppression | | -15 dBc | |
| Spurious | | -60 dBc | |
| DC Voltage | +6 V _{DC} | +8 V _{DC} | +12 V _{DC} |
| DC Supply Current | | 1,100 mA | |
| Specification Temperature | | +25°C | |
| Operating Temperature | 0°C | | +50°C |

Mechanical Specifications:

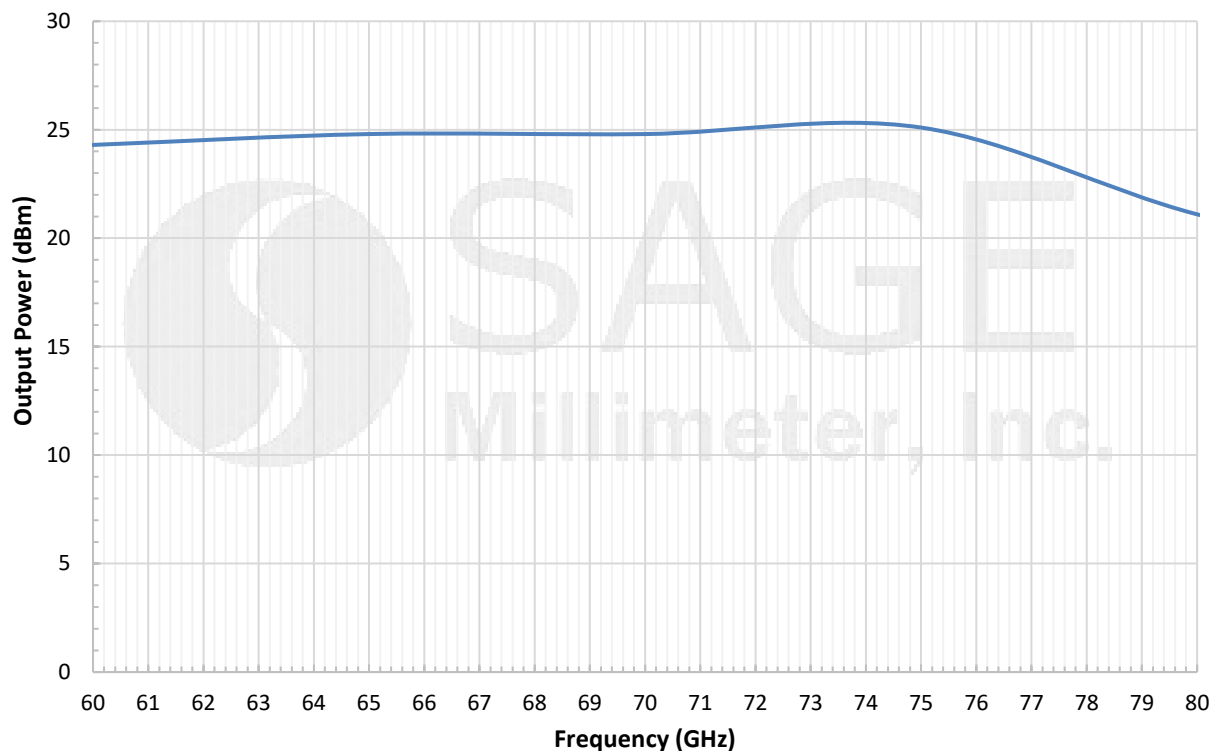
| Item | Specification |
|---------------|---|
| Input | K (F) |
| Output | WR-12 Waveguide with UG-387/U Anti-Cocking Flange |
| Bias | Solder Pin |
| Case Material | Aluminum |
| Finish | Gold Plated |
| Weight | 1.6 Oz |
| Size | 1.10" (W) x 1.80" (L) x 0.75" (H) |
| Outline | FA-SE-2CW-A-1.8 |



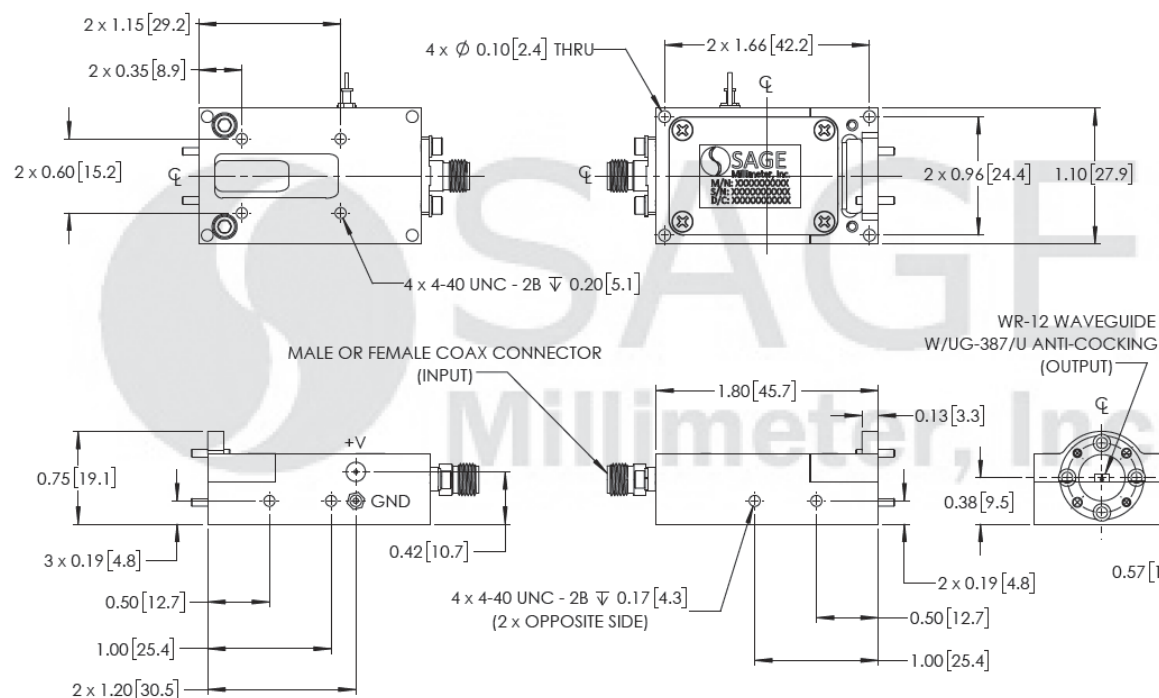
E-Band, X4 Active Frequency Multiplier, 65 to 80 GHz, +22 dBm P_{out}

Typical Output Power vs. Frequency

Bias: + 8 V_{DC}/1,100 mA, Input Power: +5 dBm



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



E-Band, X4 Active Frequency Multiplier, 65 to 80 GHz, +22 dBm P_{out}

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 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.**

