

**V-Band, X6 Active Frequency Multiplier, 50 to 75 GHz, +20 dBm P<sub>out</sub>****Description:**

**Model SFA-503753620-15SF-E1** is a V-Band active X6 frequency multiplier. The multiplier has an input frequency of 8.33 to 12.5 GHz with a typical input power of +3 dBm and an output frequency of 50 to 75 GHz with a typical output power of +20 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>/750 mA. The input port configuration is an SMA (F) connector and the output is a WR-15 waveguide with a UG-385/U anti-cocking flange. Other port configurations are available under different models.

**Features:**

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

**Applications:**

- IEEE 802.11ab WiGig
- Frequency Extenders
- Source Modules
- Communication Systems

**Electrical Specifications:**

| Parameter                 | Minimum            | Typical            | Maximum             |
|---------------------------|--------------------|--------------------|---------------------|
| Input Frequency           | 8.33 GHz           |                    | 12.5 GHz            |
| Input Power               |                    | +3 dBm             | +20 dBm             |
| Output Frequency          | 50.0 GHz           |                    | 75.0 GHz            |
| Output Power              |                    | +20 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> | +15 V <sub>DC</sub> |
| DC Supply Current         |                    | 750 mA             |                     |
| Specification Temperature |                    | +25 °C             |                     |
| Operating Temperature     | 0 °C               |                    | +50 °C              |

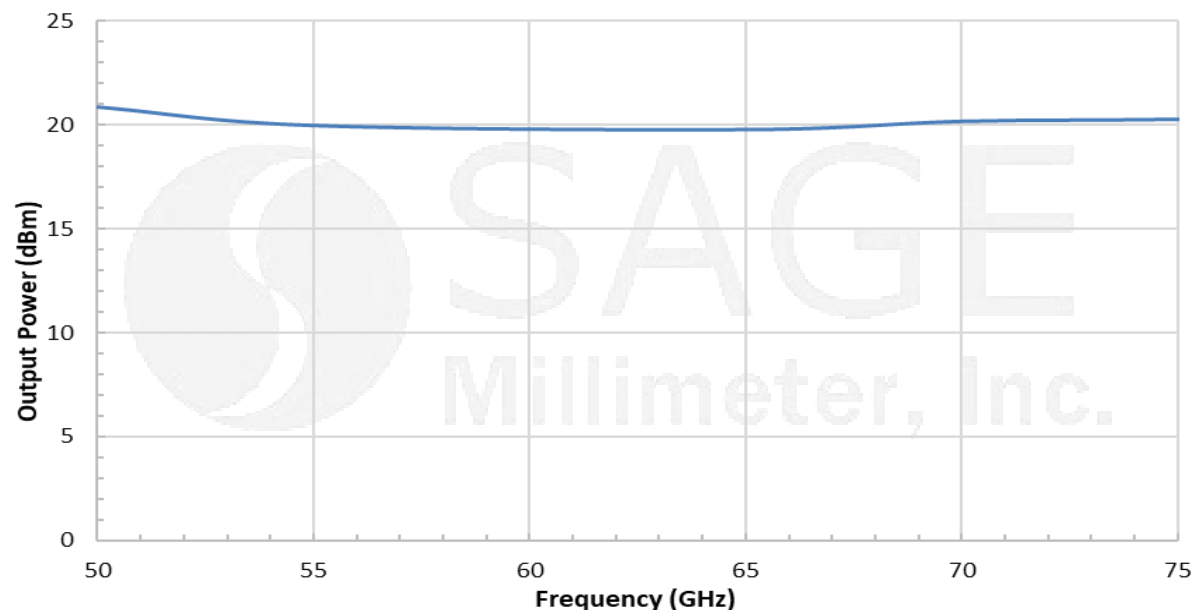
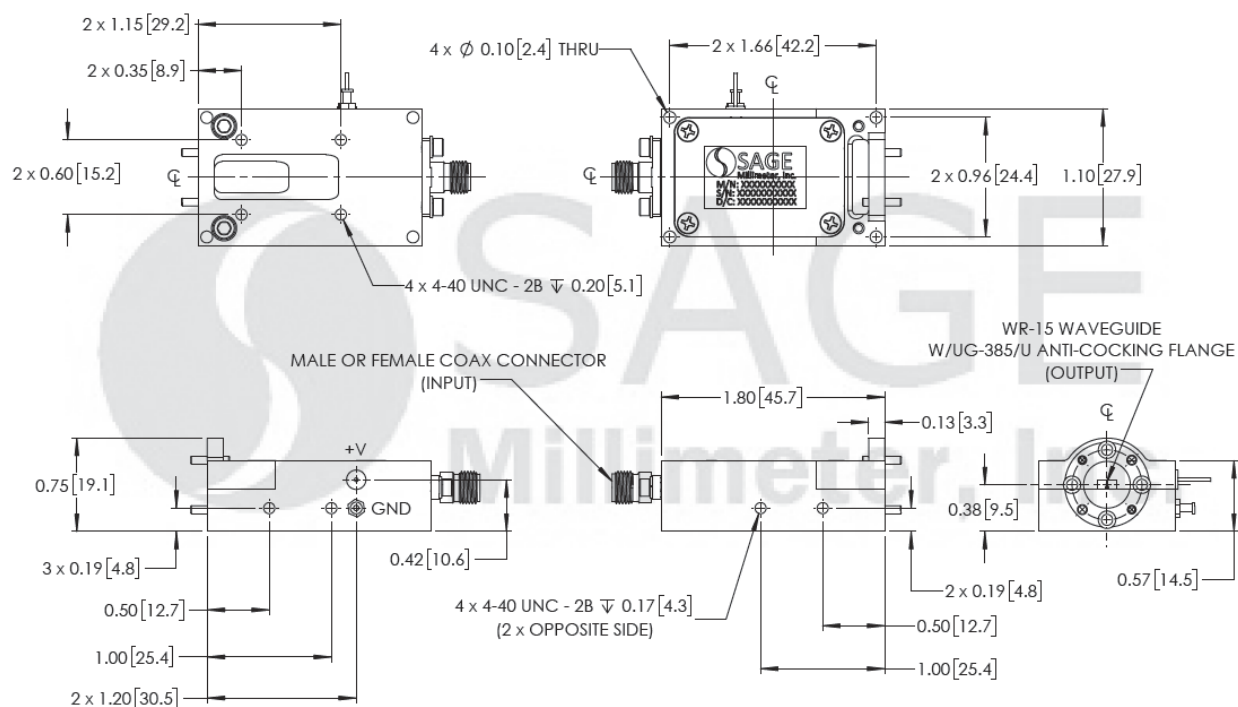
**Mechanical Specifications:**

| Item          | Specification                                     |
|---------------|---|
| Input         | SMA (F)   |
| Output        | WR-15 Waveguide with UG-385/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-SV-2CW-A-1.8                                   |



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## Typical Output Power vs. Frequency

Bias: +8 V<sub>DC</sub>/770 mA**Mechanical Outline:** (Unless otherwise specified, all dimensions are in inches [millimeters])**Note:**

- All data presented is collected from a sample lot. Actual data may vary unit to unit, slightly.



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- 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,  $8.0 \pm 0.15$  inch-pounds ( $0.90 \pm 0.02$  Nm), should be applied. **SAGE Millimeter torque wrench, model SCH-08008-S1, is highly recommended.**

