# STE-KF310-04-S1

Rev. 1.0

## W-Band X3 Frequency Extender, +4 dBm Output Power

### Description:



**Model STE-KF310-04-S1** is a W-Band X3 frequency extender that uses an input frequency range of 25 to 36.67 GHz at +20 dBm along with filtering to produce a 75 to 110 GHz RF signal at +4 dBm. The extender is designed and manufactured as a bench top unit to extend the low frequency synthesizer or sweeper without losing its functionality or features. The extender also features adjustable legs, which can also be removed, to allow for an easy test set up.

### Features:

- Full Waveguide Band Operation
- X3 Frequency Extension
- Low Harmonic Content

### Applications:

- Test Labs
- Network Analyzers
- Automatic Test Sets
- Antenna Range

### Electrical Specifications:

| Parameter | Minimum | Typical | Maximum |
|---|---|---|---|
| Output Frequency Range | 75 GHz | | 110 GHz |
| Input Frequency Range | 25 GHz | | 36.67 GHz |
| Output Power | | +4 dBm | |
| Input Power | +17 dBm | +20 dBm | +23 dBm |
| Input Return Loss | | 10 dB | |
| Output Return Loss | | 15 dB | |
| Harmonic Suppression | | 20 dBc | |
| Spurious Suppression | | 60 dBc | |
| Power Supply (AC Adapter Provided) | 100 $V_{AC}$ | | 240 $V_{AC}$ |
| Specification Temperature | | +25 °C | |
| Operation Temperature | 0 °C | | +50 °C |

### Mechanical Specifications:

| Item | Parameter |
|---|---|
| Input Port | K (F) |
| Output Port | WR-10 Waveguide with UG-387/U-M Flange |
| DC Bias | 2.5 mm DC Jack (AC-to-DC power converter included) |
| DC Bias Switch | On-Off Rocker Switch with Indicator Light |
| Finish | Black Anodized |
| Weight | 2.0 lb |
| Size | 6.15” (W) x 6.89” (L) x 3.20” (H) |
| Outline | TE-W |

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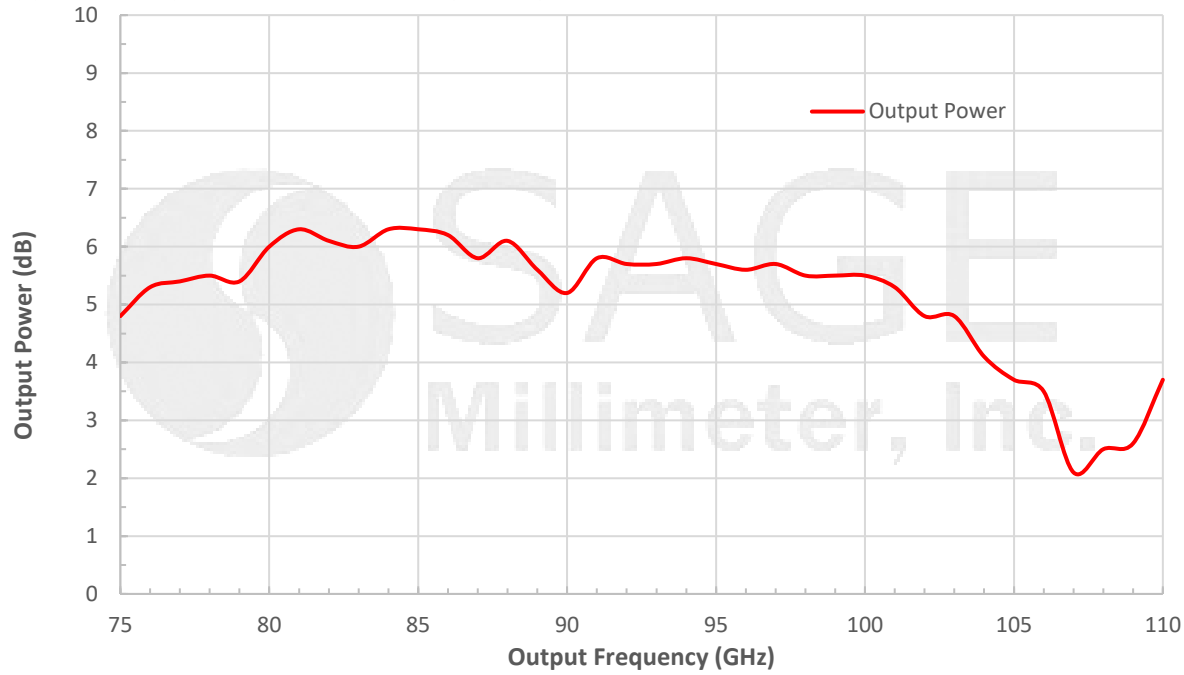
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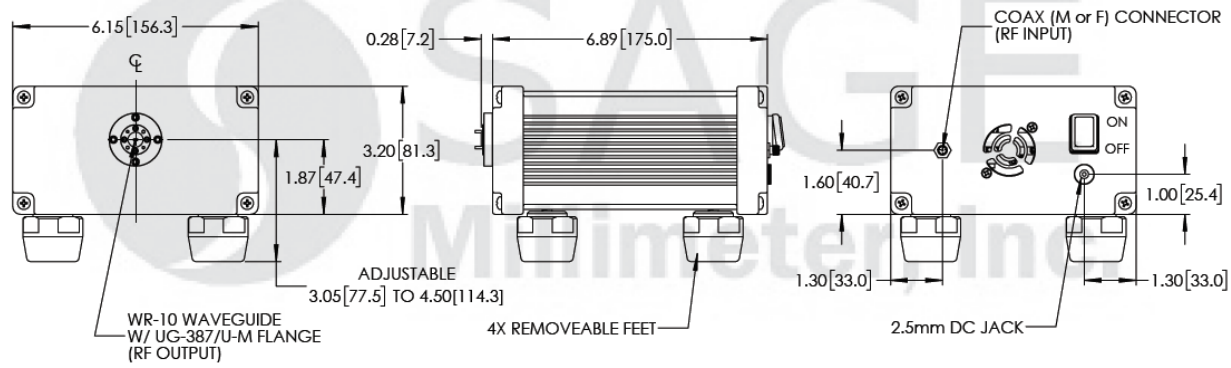
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## W-Band X3 Frequency Extender, +4 dBm Output Power

### Typical Output Power vs. Frequency




**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.
- All testing was performed under +25 ˚C case temperature.
- SAGE Millimeter, Inc. reserves the right to change the information presented without notice.

**Caution:**

- Exceeding absolute maximum ratings of the device will damage the device.
- Proper torque, 8.0 ± 0.15 inch-pounds (0.92 ± 0.05 Nm), should be applied. **SAGE Millimeter torque wrench, model SCH-08008-S1, is highly recommended.**
- Any foreign objects in the waveguide will cause performance degradation and may damage the device.

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