



## WR-10 Pyramidal Horn Antenna, 23 dBi Gain with 1 mm Coax Input

### Description:

**Models SAR-2309-101F-E2 and SAR-2309-101M-E2** are W-band pyramidal horn antennas with end launch (180°) 1 mm coax connector to cover the frequency range of 75 GHz to 110 GHz. The antenna offers 23 dBi nominal gain and a typical half power beamwidth of 11 degrees on the E-plane and 12 degrees on the H-plane. The antennas support linear polarized waveforms. Right angle (90°) 1 mm connector configurations are available under models **SAR-2309-101F-R2 and SAR-2309-101M-R2**.



### Features:

- Inline Configuration
- Linear Polarization
- DC Short Circuit at Input

### Applications:

- Antenna Ranges
- Antenna Gain Measurements
- System Setups

### Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency	75 GHz		110 GHz
Gain	22 dBi	23 dBi	25 dBi
Polarization	Linear		
3 dB Beamwidth, E-Plane		11°	
3 dB Beamwidth, H-Plane		12°	
Sidelobes, E-Plane		-14 dB	
Sidelobes, H-Plane		-30 dB	
Return Loss		15 dB	
Power Handling			10 W (CW)
Specification Temperature		+25 °C	
Operating Temperature	-40 °C		+85 °C

### Mechanical Specifications:

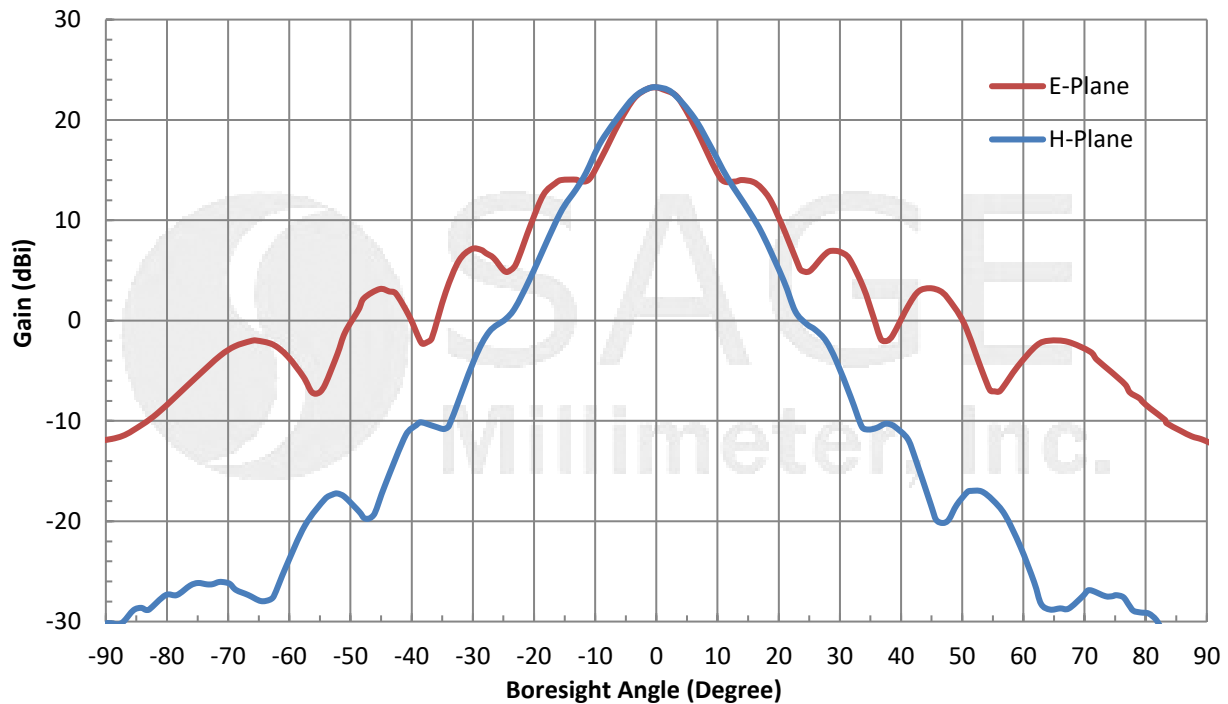
Item	Specification
Antenna Port (F)	1 mm Female for Model Number: SAR-2309-101F-E2
Antenna Port (M)	1 mm Male for Model Number: SAR-2309-101M-E2
Size	2.20" (L) X 0.88" (W) X 0.72" (H)
Material	Brass
Finish	Gold Plated
Connector Material	Stainless Steel
Weight	1.2 Oz
Outline	AR-WC2-E



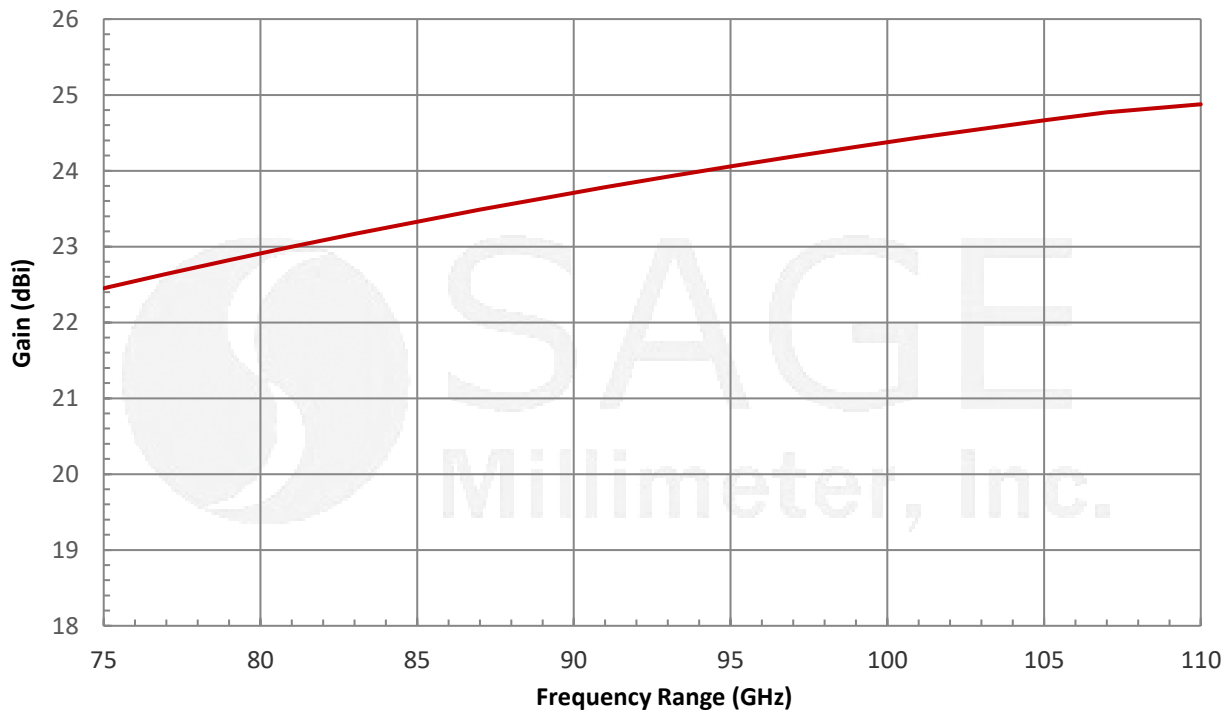


## WR-10 Pyramidal Horn Antenna, 23 dBi Gain with 1 mm Coax Input

### Typical Antenna Pattern @ 92.5 GHz



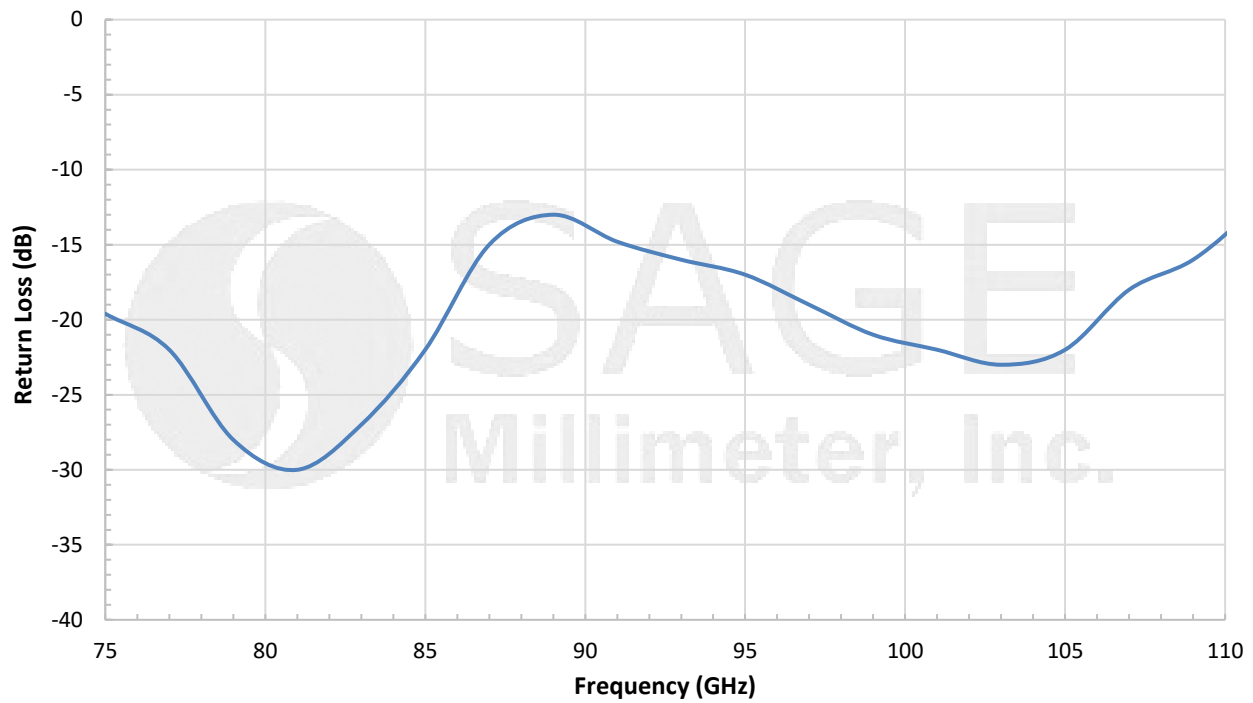
### Typical Gain vs. Frequency



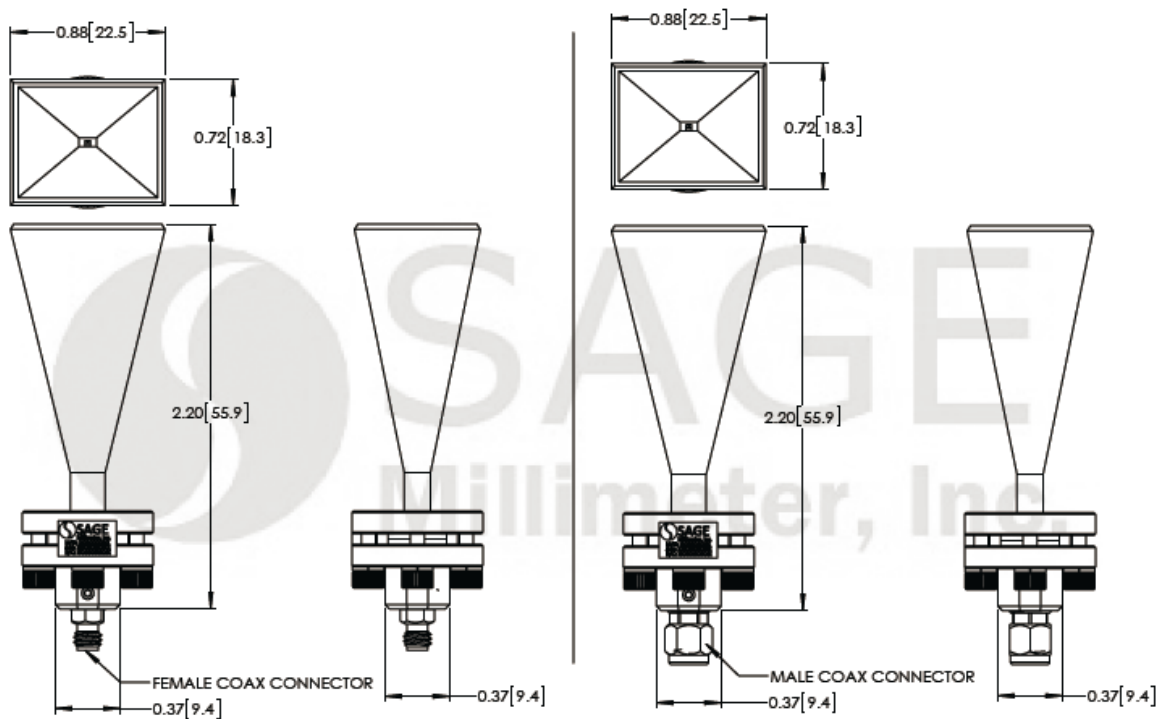


## WR-10 Pyramidal Horn Antenna, 23 dBi Gain with 1 mm Coax Input

### Typical Measured Return Loss vs. Frequency



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



## WR-10 Pyramidal Horn Antenna, 23 dBi Gain with 1 mm Coax Input

### Note:

- The antenna patterns presented are simulated. Actual data may vary.
- The return loss data presented is collected from a sample lot. Actual data may vary unit to unit.
- All testing was performed under 25°C room temperature.
- SAGE Millimeter, Inc. reserves the right to change the information presented without notice.

### Caution:

- Any foreign objects in the antenna will cause performance degradation and possible device damage.
- Proper torque,  $4.0 \pm 0.15$  inch-pounds ( $0.45 \pm 0.02$  Nm), should be used. **SAGE Millimeter torque wrench, model SCH-06004-S1, is highly recommended.**

