



## WR-19 Pyramidal Horn Antenna, 20 dBi Gain with 1.85 mm Coax Input

### Description:

**Model SAR-2013-19VM-R2** is a U-band pyramidal horn antenna with a right angle (90°) 1.85 mm (M) coax connector to cover the frequency range of 40 GHz to 60 GHz. The antenna offers 20 dBi nominal gain and a typical half power beamwidth of 14 degrees on the E-plane and 16 degrees on the H-plane. The antenna supports linear polarized waveforms. The model with 1.85 mm (F) connector is offered under model number SAR-2013-19VF-R2.



### Features:

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

### Applications:

- Antenna Ranges
- Antenna Gain Measurements
- System Setups

### Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency	40 GHz		60 GHz
Gain		20 dBi	
Polarization	Linear		
3 dB Beamwidth, E-Plane		14°	
3 dB Beamwidth, H-Plane		16°	
Sidelobes, E-Plane		-14 dB	
Sidelobes, H-Plane		-30 dB	
Return Loss		18 dB	
Power Handling			40 W (CW)
Specification Temperature		+25 °C	
Operating Temperature	-40 °C		+85 °C

### Mechanical Specifications:

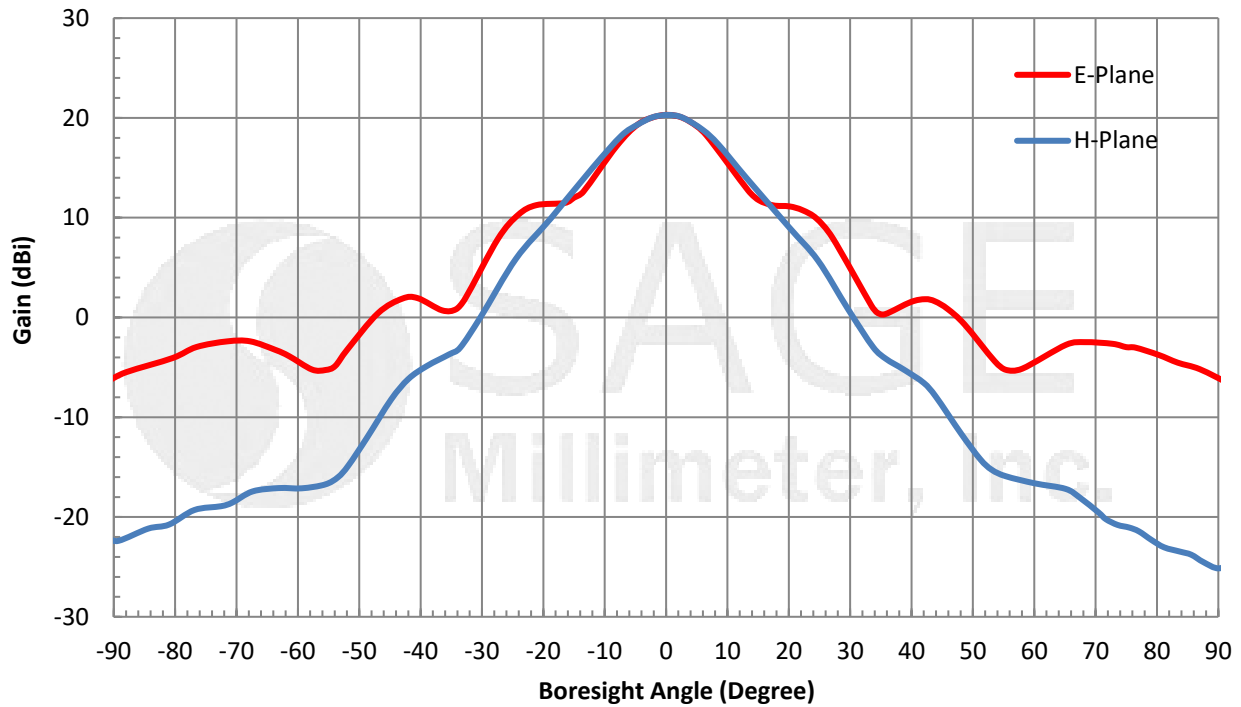
Item	Specification
Antenna Port	1.85 mm Male
Material	Brass
Finish	Gold Plated
Weight	1.8 Oz
Size	2.70" (L) X 1.13" (W) X 0.91"(H)
Outline	AR-UC1-R



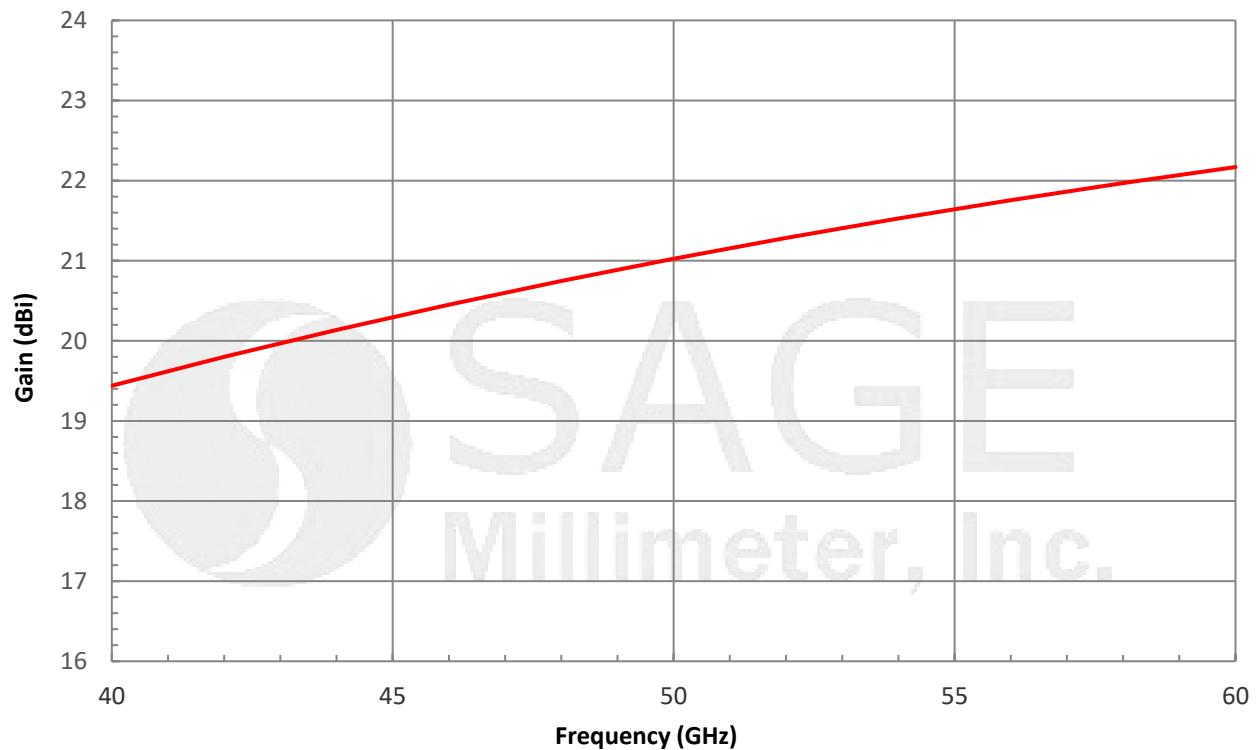


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### Typical Antenna Pattern @ 50 GHz

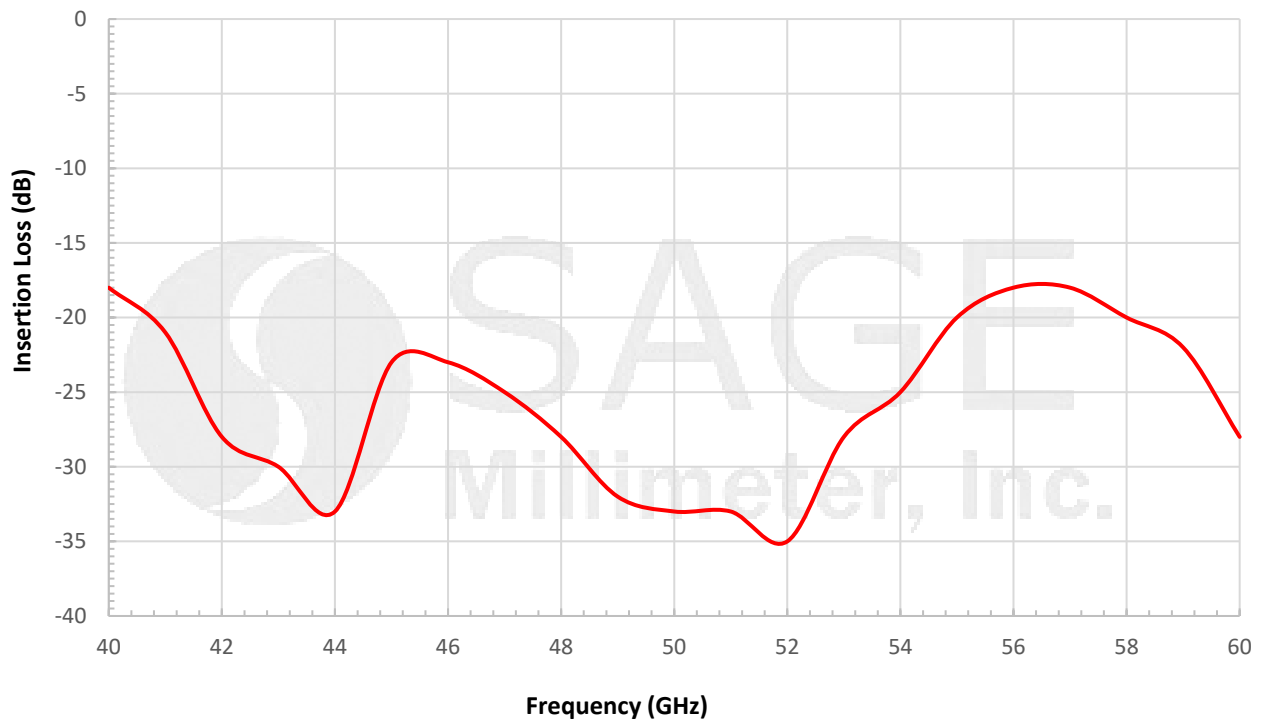


### Typical Gain vs. Frequency

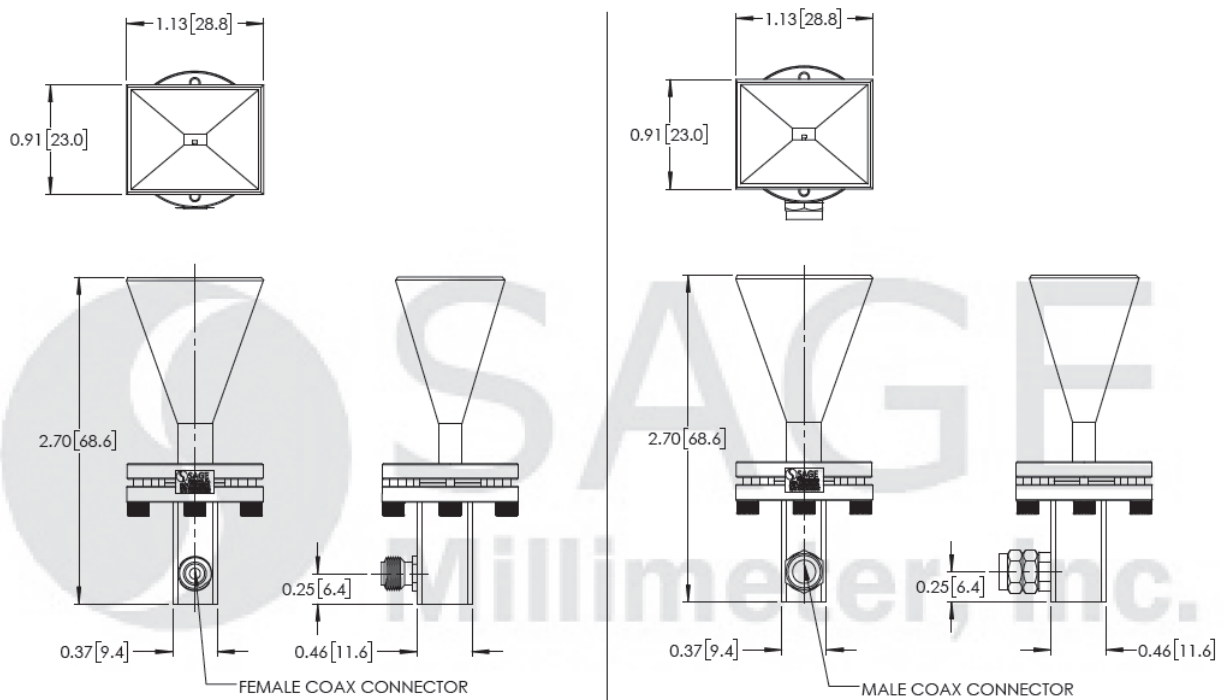


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### Typical Return Loss vs. Frequency



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



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### Note:

- This antenna is a mature product. The reasons for only providing simulated data can be found in the following blog [here](#).
- All testing was performed under 25°C room temperature.
- Eravant 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,  $8.0 \pm 0.15$  inch-pounds ( $0.92 \pm 0.05$  Nm), should be applied. **Eravant torque wrench, model SCH-08008-S1, is highly recommended.**

