



## G Band Scalar Feed Horn Antenna, 17 dBi Gain

### Description:

**Model SAF-1442241725-067-S1** is a G-band scalar feed horn antenna that operates from 140 to 220 GHz. The antenna offers a 17 dBi nominal gain, 25 degree typical half power beamwidth, and -25 dB typical side lobe level. The scalar feed horn is equipped with a  $\varnothing 0.067''$  circular waveguide that supports both linear and circular polarization. A rectangular waveguide port configuration that only supports linear polarization is available under a different model number.



### Features:

- Circular Waveguide Interface
- Precisely Machined
- Low Side Lobe Level
- High Return Loss
- Linear and Circular Polarization

### Applications:

- Feed Horn for Gaussian Optical Antennas
- Feed Horn for Cassegrain Antennas
- Rapid System Setups
- Engineering Setups

### Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency Range	140 GHz	180 GHz	220 GHz
Gain		17 dBi	
3 dB Beamwidth, E-plane		25°	
3 dB Beamwidth, H-plane		25°	
Side Lobes, E-plane		-25 dB	
Side Lobes, H-plane		-25 dB	
Return Loss		20 dB	
Polarization	Linear and Circular		
Specification Temperature		+25 °C	
Operating Temperature	-40 °C		+85 °C

### Mechanical Specifications:

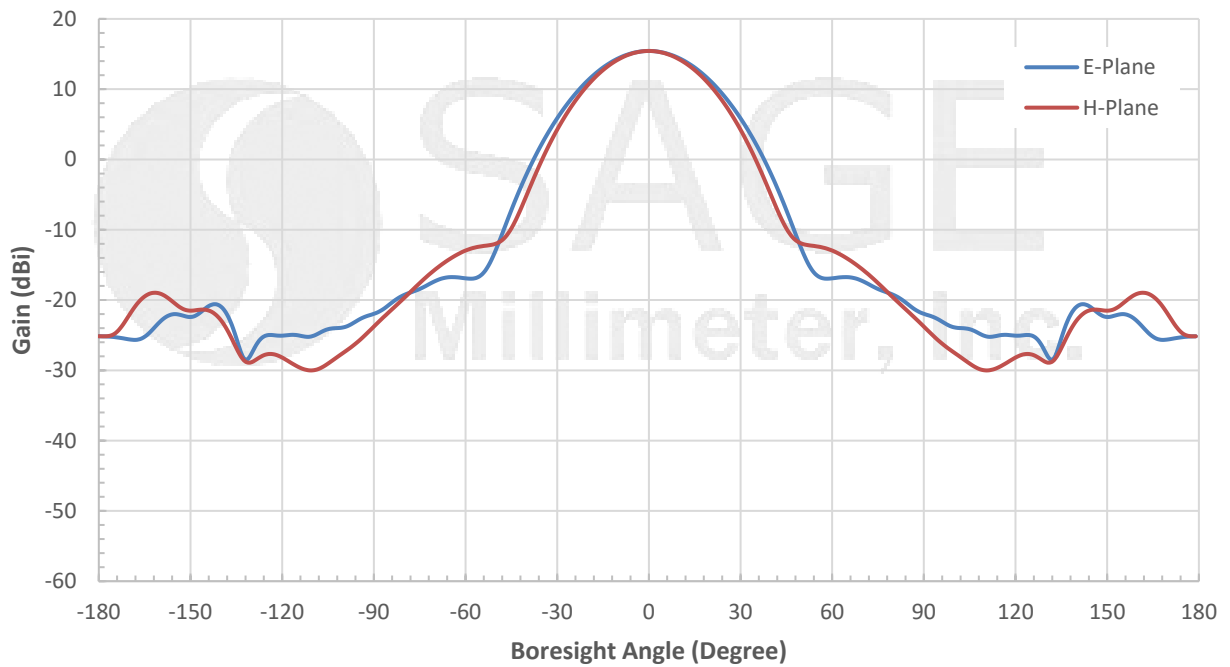
Item	Specification
Antenna Port	$\varnothing 0.067''$ Circular Waveguide with UG-387/U-M Anti-Cocking Flange
Material	Brass
Finish	Gold Plated
Weight	1.6 Oz
Size	1.50'' (L) x 0.75 (Ø)
Outline	AF-CG17-067-A



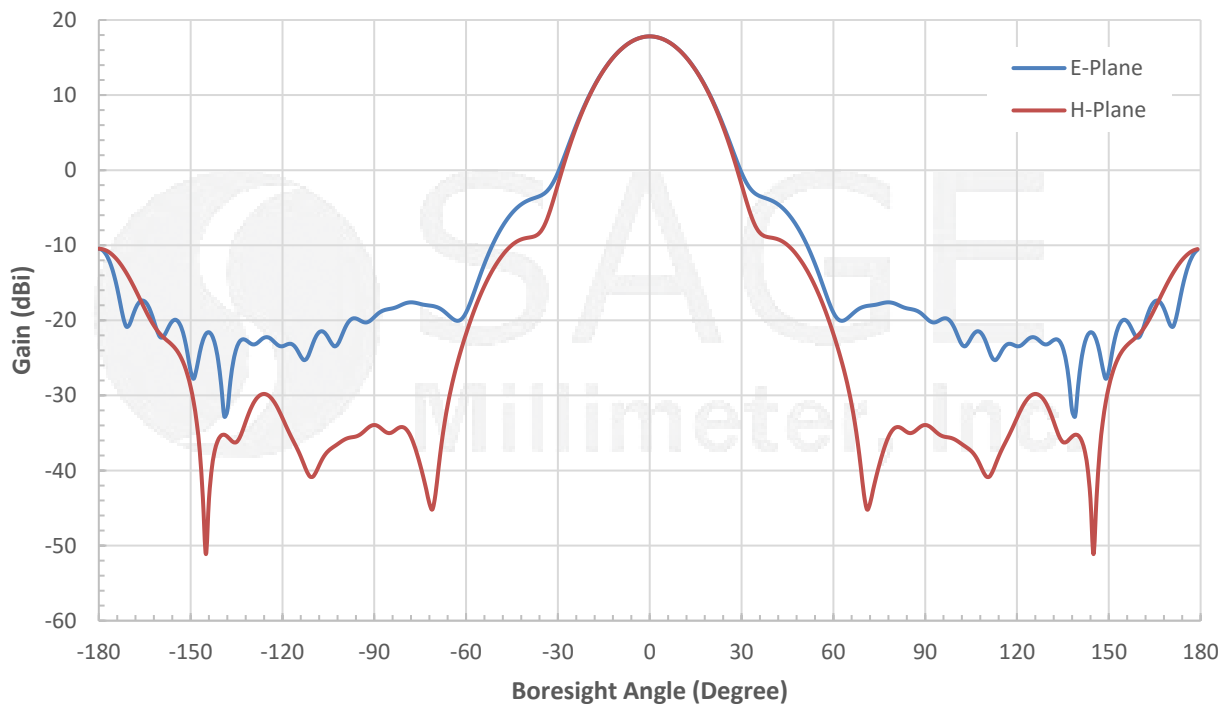


## G Band Scalar Feed Horn Antenna, 17 dBi Gain

### Simulated Antenna Patterns @ 140 GHz



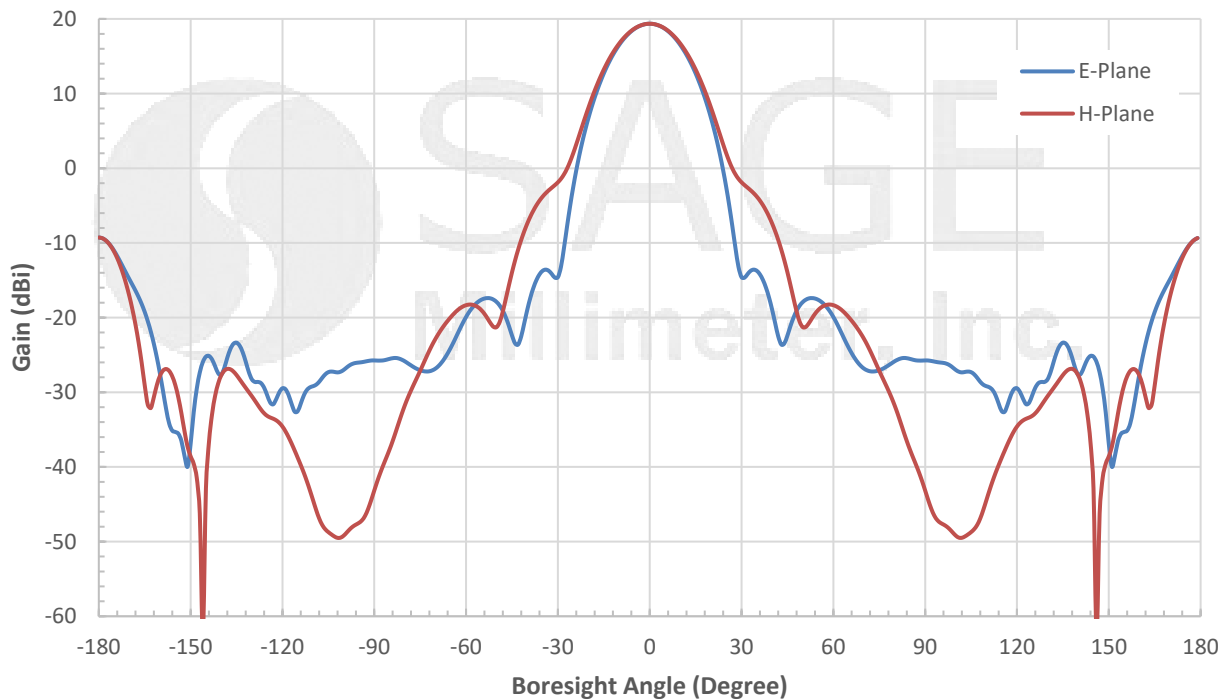
### Simulated Antenna Patterns @ 180 GHz



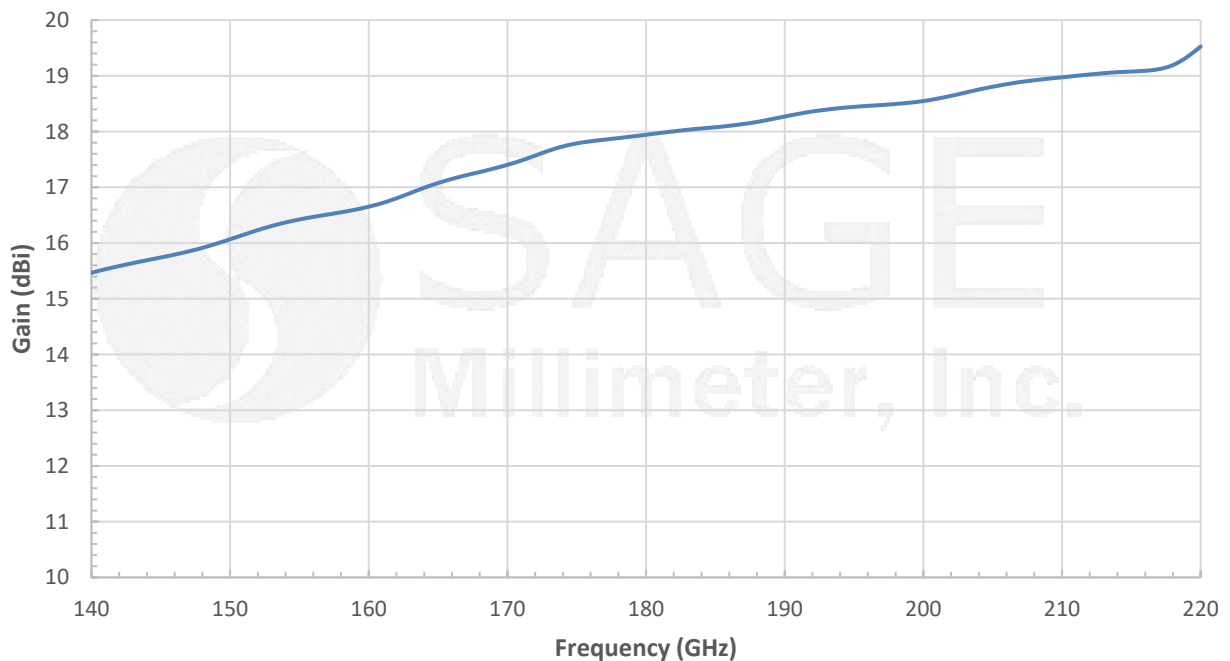


## G Band Scalar Feed Horn Antenna, 17 dBi Gain

### Simulated Antenna Patterns @ 220 GHz



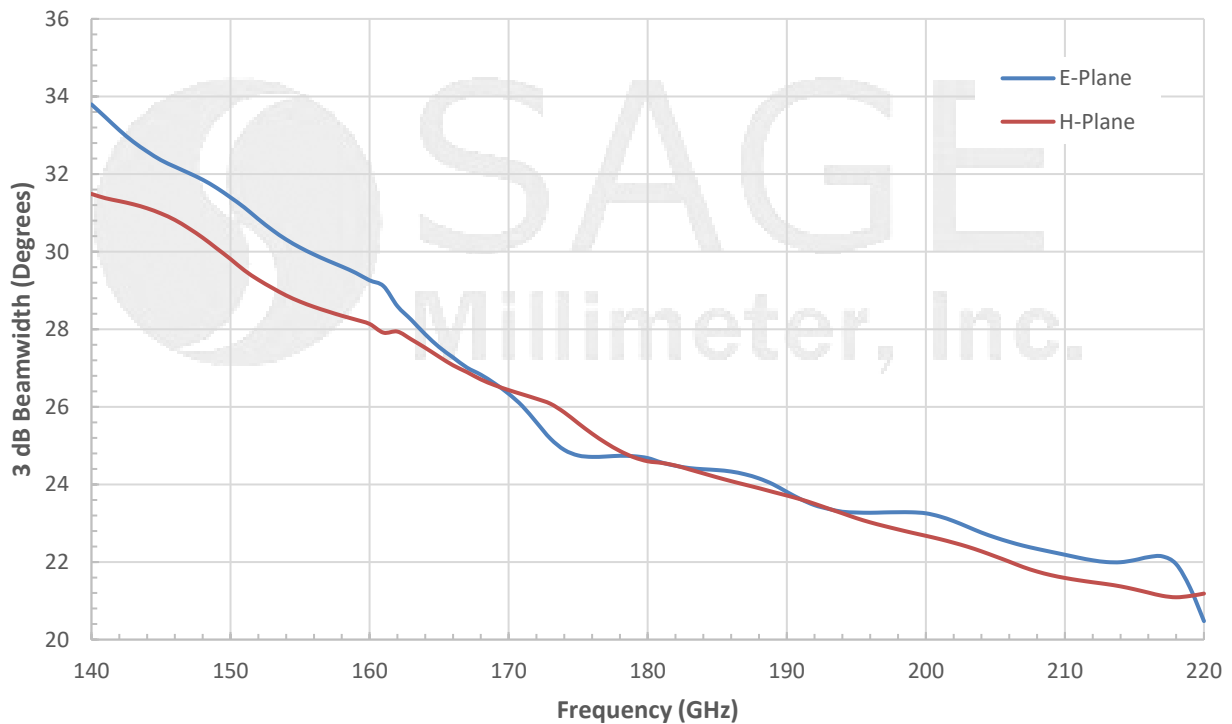
### Simulated Gain vs. Frequency



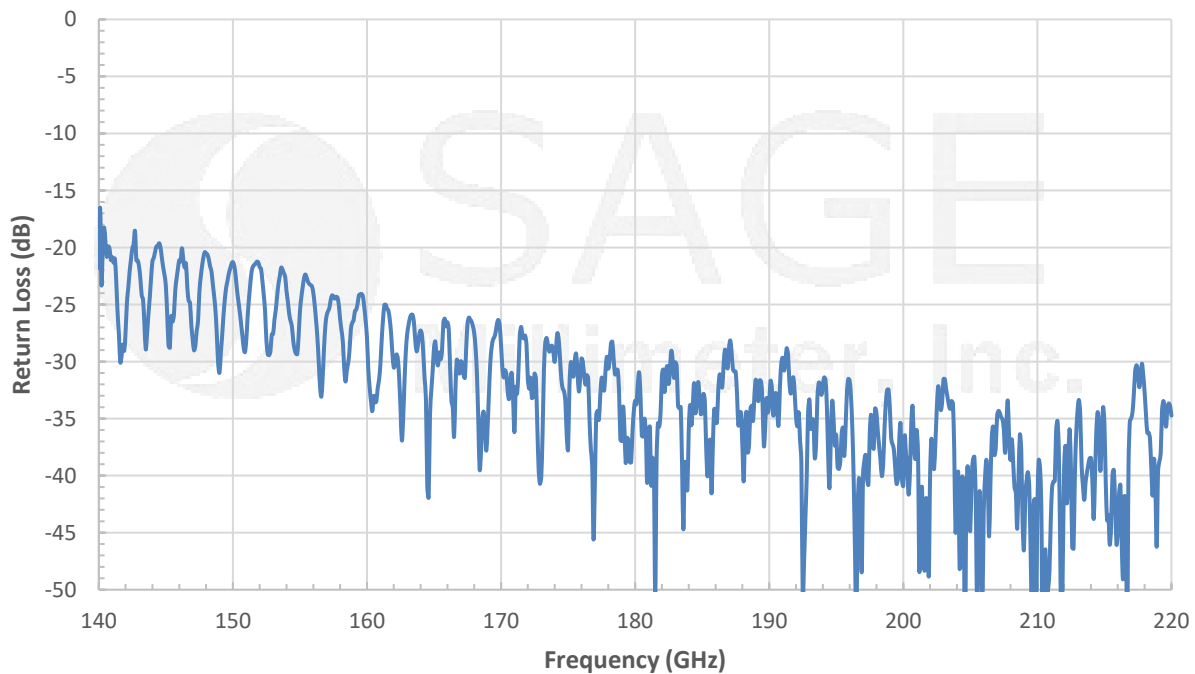


## G Band Scalar Feed Horn Antenna, 17 dBi Gain

### Simulated 3 dB Beamwidth vs. Frequency



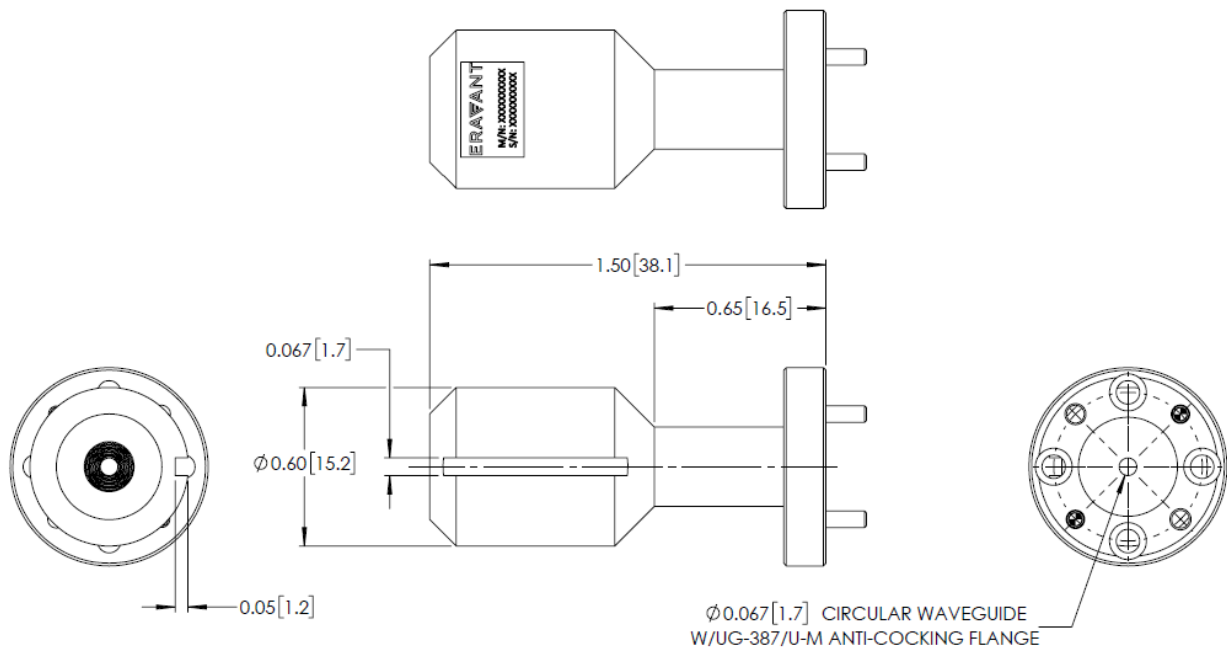
### Typical Measured Return Loss vs. Frequency





## G Band Scalar Feed Horn Antenna, 17 dBi Gain

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



**Note:**

- Antenna patterns, 3 dB beamwidth, and gain data presented is simulated. Actual data may vary slightly.
- Return loss data presented is taken from a sample lot. Actual data may vary unit to unit, slightly.
- 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.

