

## W-Band Choke Flange Feed Horn Antenna, 75 to 110 GHz, 10 dBi Gain

### Description:

**Model SAH-7531141060-110-S1** is a W-band choke flange feed horn antenna that operates from 75 to 110 GHz. The antenna offers a nominal gain of 10 dBi, typical half power beamwidth in E and H plane of 60 degrees and typical side lobe levels of -30 dB for both E and H plane. The antenna port is a 0.110" diameter circular waveguide with a UG-387/U-M anti-cocking flange that supports both linear and circular polarized waveforms. A dual polarized configuration with an integrated orthomode transducer is available under the model **SAF-7531141060-110-S1-100-DP**.



### Features:

- Full Band Operation
- Circular Waveguide Interface
- Low Sidelobe Level
- 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	75 GHz		110 GHz
Gain		10 dBi	
3 dB Beamwidth, E-plane @ 92.5 GHz		60°	
3 dB Beamwidth, H-plane @ 92.5 GHz		60°	
Sidelobe Levels		-30 dB	
Return Loss		20 dB	
Specification Temperature		+25 °C	
Operating Temperature	-40 °C		+85 °C

### Mechanical Specifications:

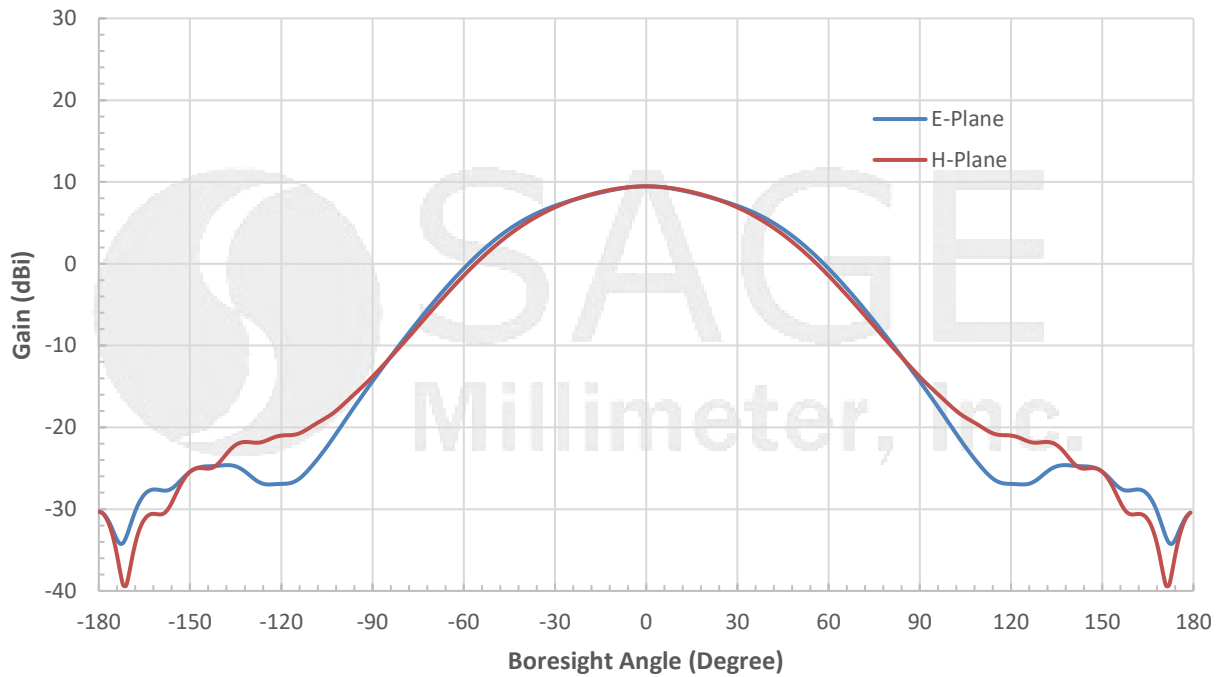
Item	Specification
Antenna Port	0.110" Diameter Circular Waveguide with UG-387/U-M Anti-Cocking Flange
Material	Brass
Finish	Gold Plated
Weight	1.0 Oz
Size	0.75" (L) x 0.75" (Ø)
Outline	AH-CW10-110-A



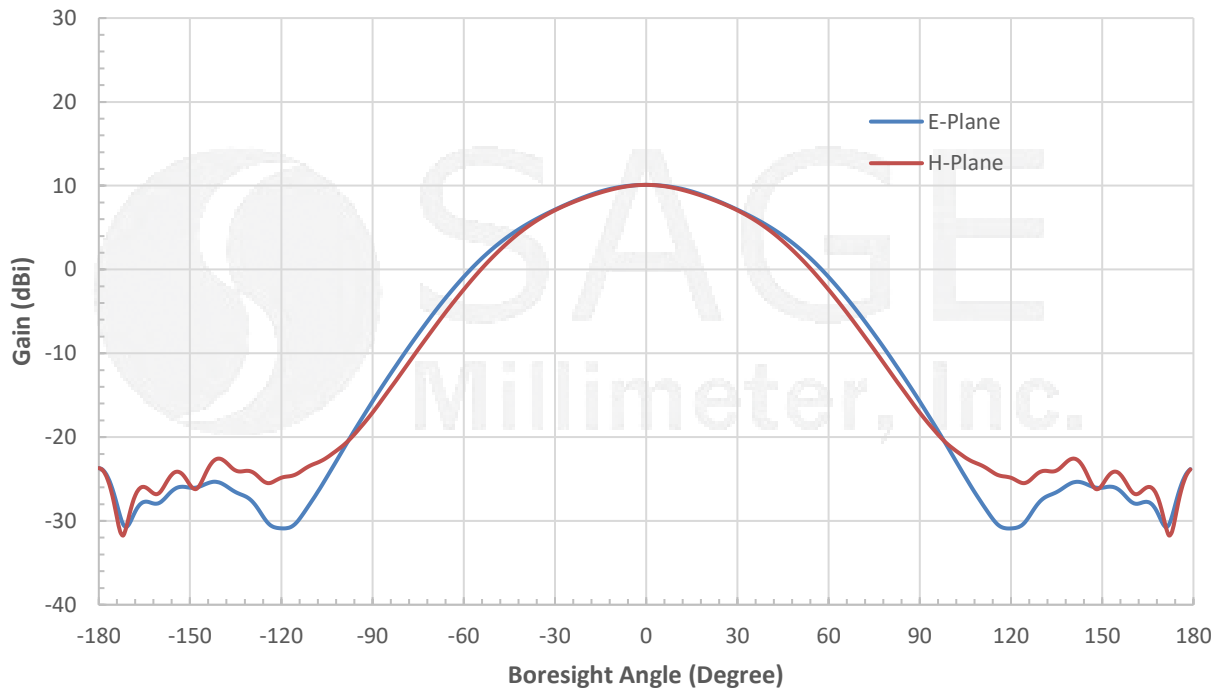


## W-Band Choke Flange Feed Horn Antenna, 75 to 110 GHz, 10 dBi Gain

### Simulated Antenna Patterns @ 75 GHz



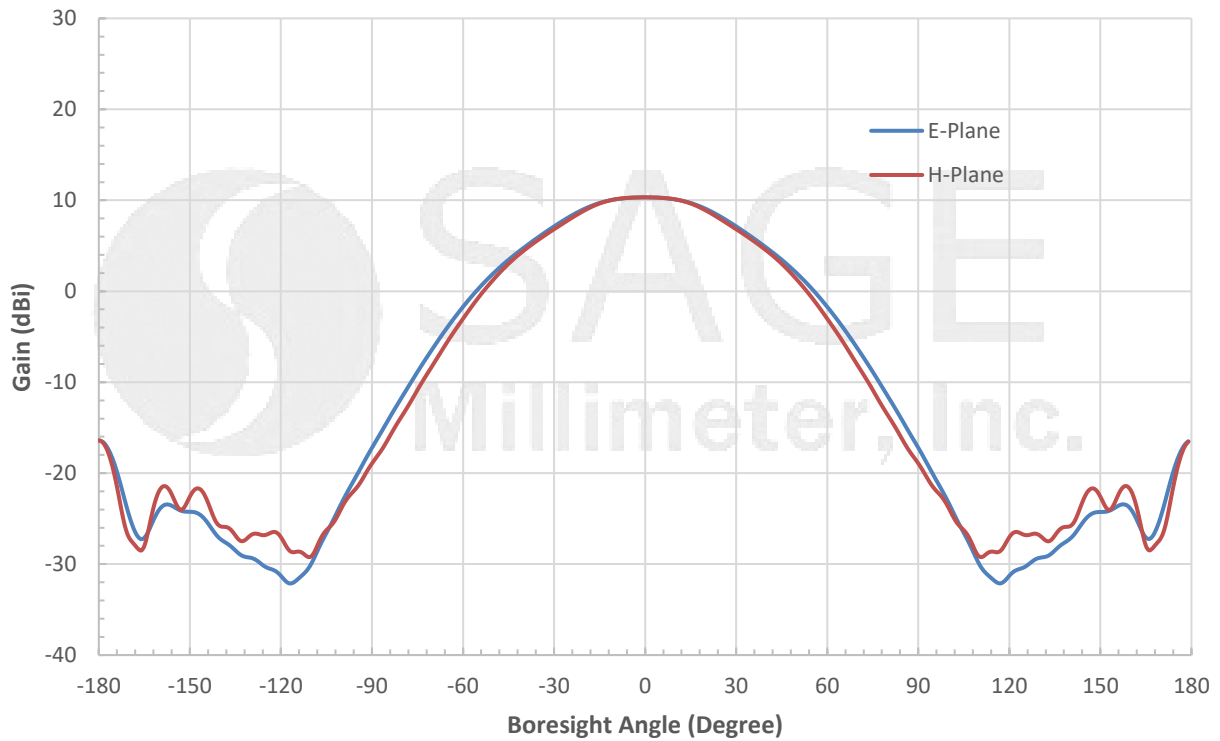
### Simulated Antenna Patterns @ 92.5 GHz



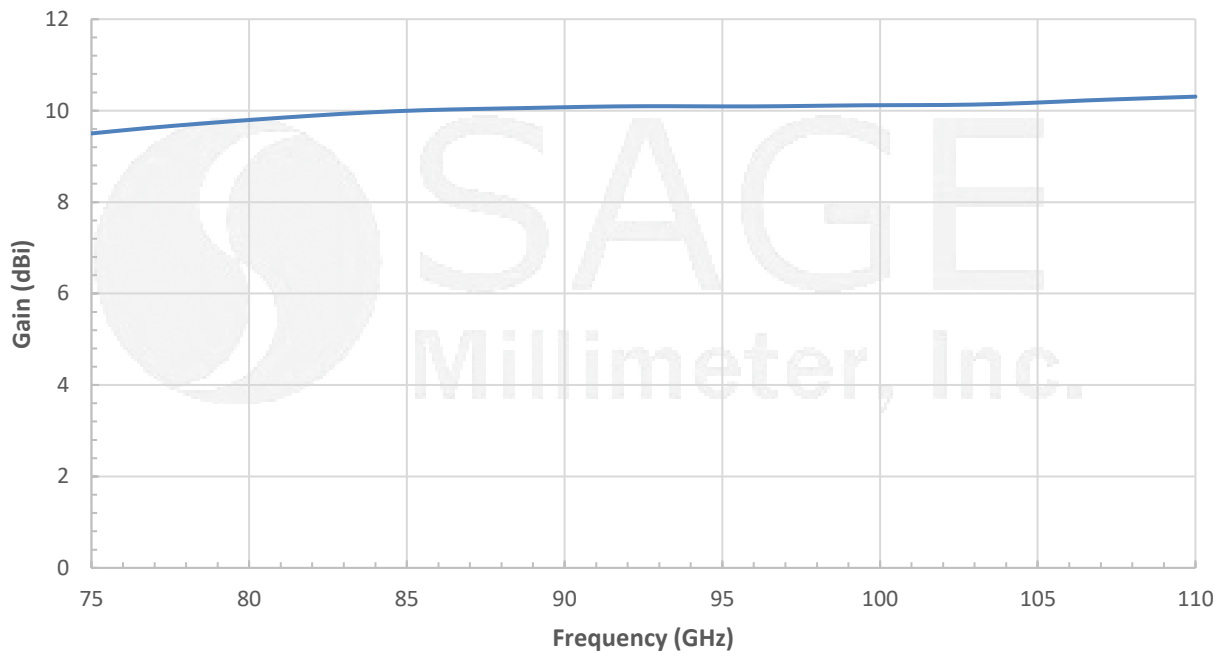


## W-Band Choke Flange Feed Horn Antenna, 75 to 110 GHz, 10 dBi Gain

### Simulated Antenna Patterns @ 110 GHz



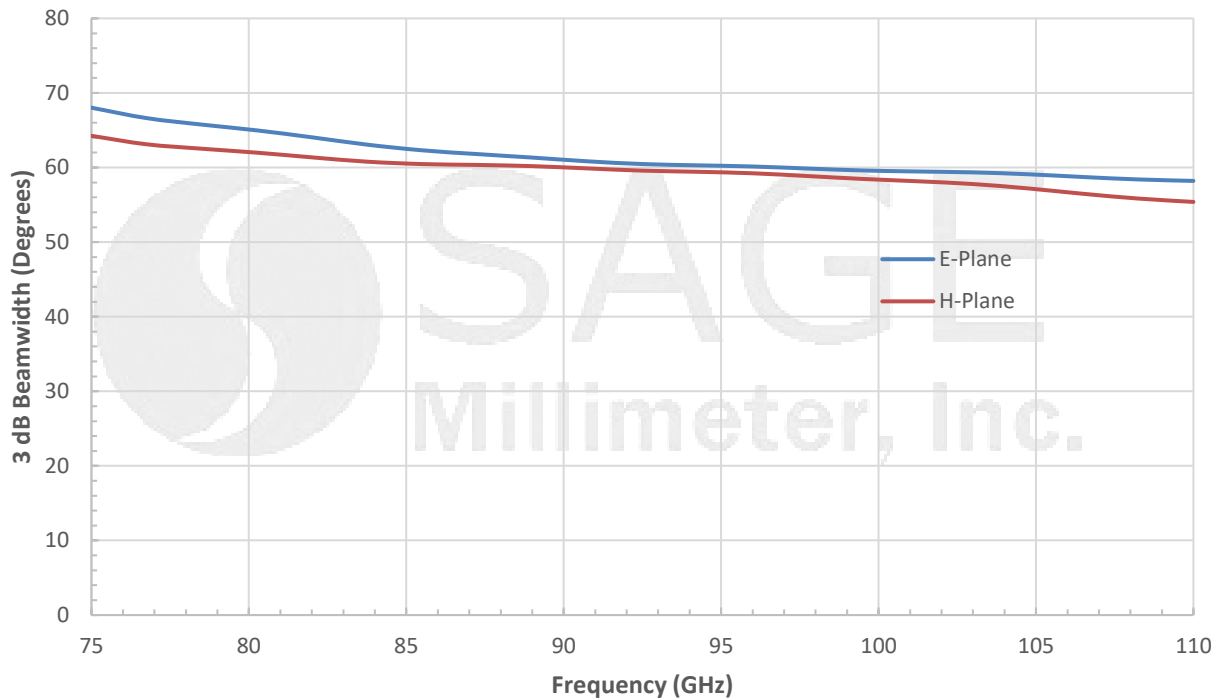
### Simulated Gain vs. Frequency



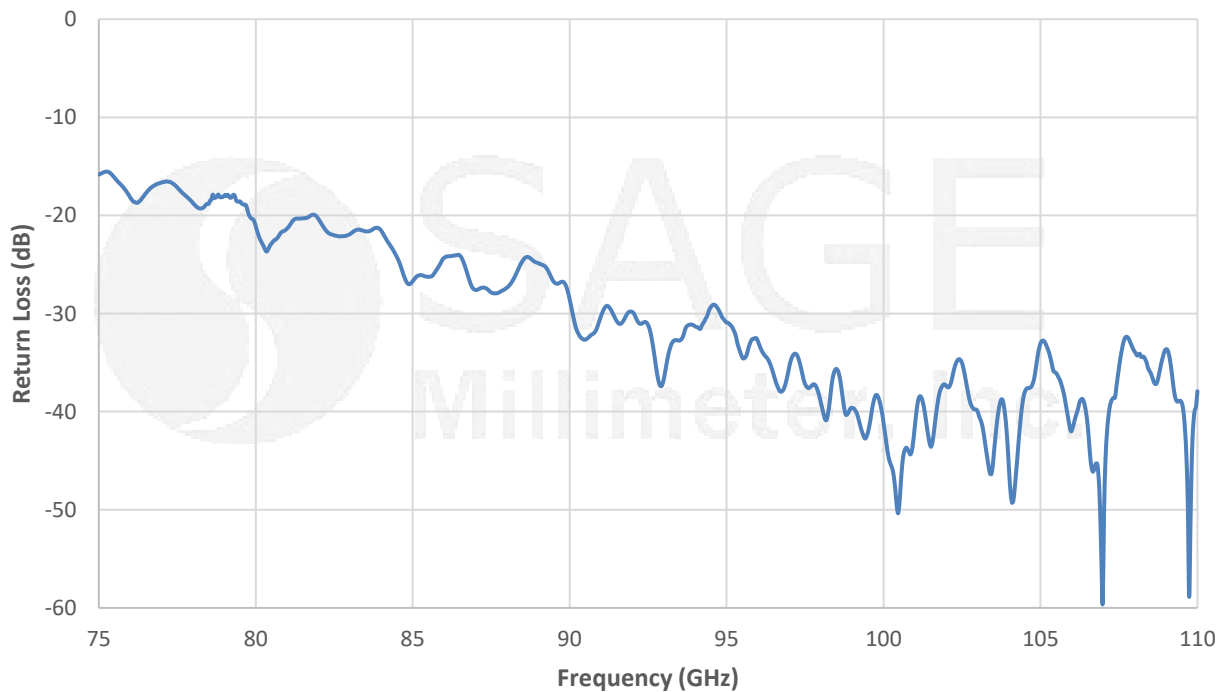


## W-Band Choke Flange Feed Horn Antenna, 75 to 110 GHz, 10 dBi Gain

### Simulated 3dB Beamwidth vs. Frequency



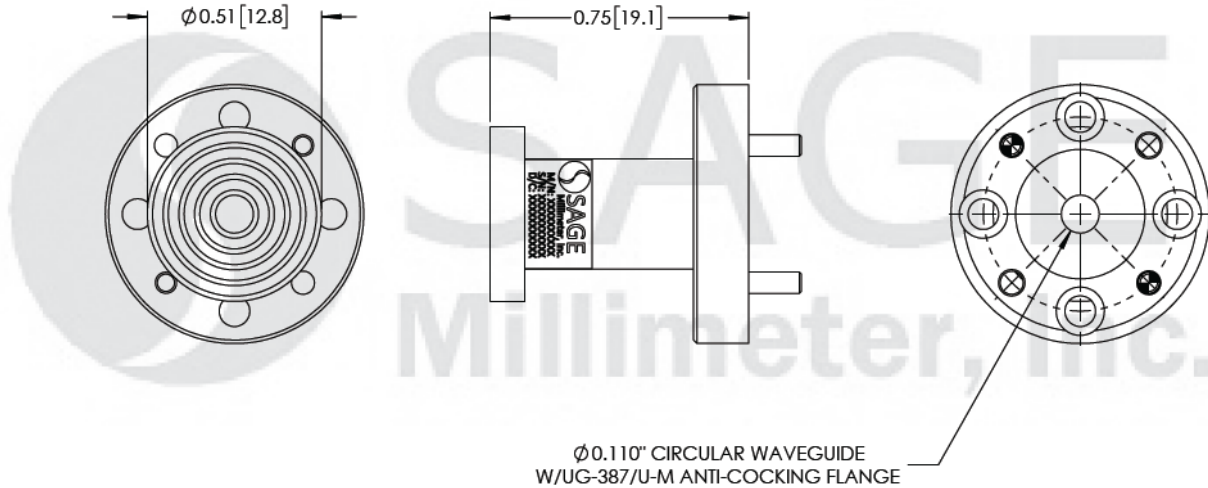
### Typical Return Loss vs Frequency





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



**Note:**

- Antenna Patterns, Gain, & 3 dB Beamwidth data are simulated. Actual data may vary, slightly.
- Return Loss data is collected from a sample lot. Actual data may vary unit to unit, slightly.
- 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 or waveguide will cause performance degradation and possible device damage.

