



## Ka Band Scalar Feed Horn Antenna, 24 to 42 GHz

### Description:

**Model SAF-2434231535-358-X1** is a Ka-band scalar feed horn antenna that operates from 24 to 42 GHz. The antenna offers a 15 dB nominal gain, 35 degree typical half power beamwidth. The nominal side lobe levels are -25 dB or lower. The scalar feed horn is equipped with a 0.358" diameter circular waveguide with UG381/U-M flange that supports both linear and circular polarized waveforms. A rectangular waveguide port configuration that only supports linear polarization is available under a different model number.



### Features:

- Ultrabroad Band Operation
- 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	24 GHz	33 GHz	42 GHz
Gain		15 dB	
3 dB Beamwidth, E-plane		35°	
3 dB Beamwidth, H-plane		35°	
E/H Symmetry		7 dB	
Side Lobes, E-plane		-15 dB	
Side Lobes, H-plane		-23 dB	
Return Loss		20 dB	
Specification Temperature		+25 °C	
Operating Temperature	-40 °C		+85 °C

### Mechanical Specifications:

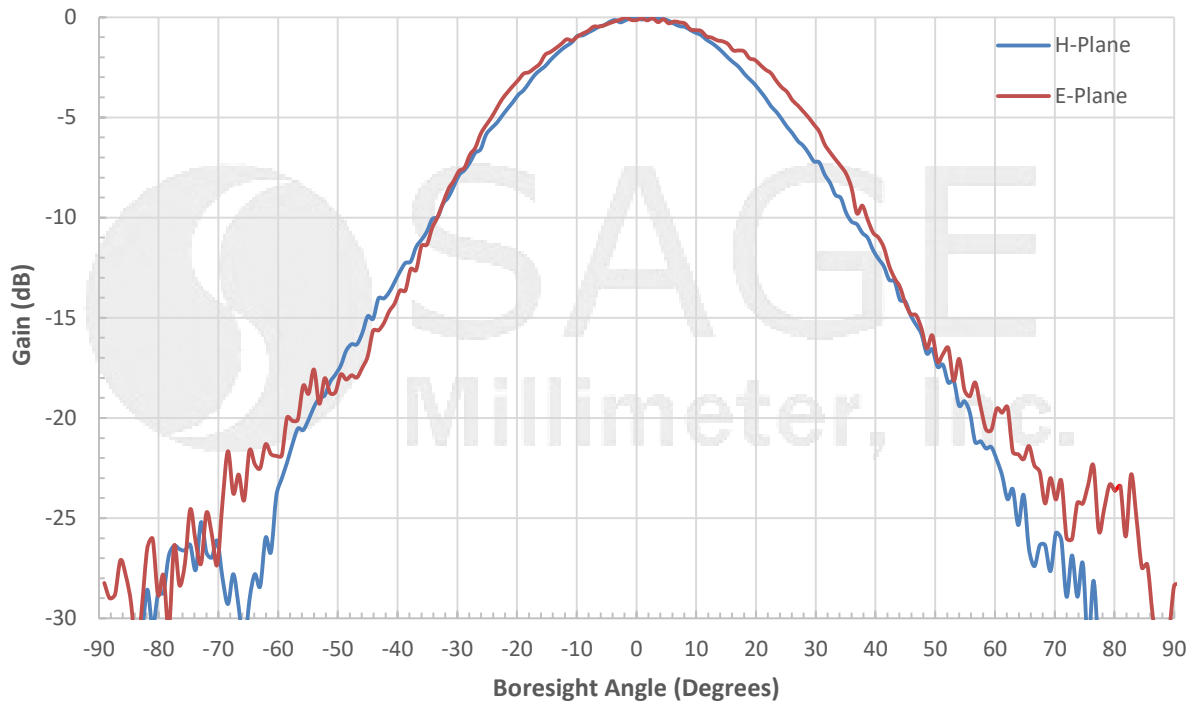
Item	Specification
Antenna Port	0.358" Diameter Circular Waveguide
Flange Type	UG-381/U-M
Material	Brass
Finish	Black Paint
Weight	3.1 Oz
Size	1.70" (L) X 1.51" (Ø)
Outline	AF-CA15-358-BX1



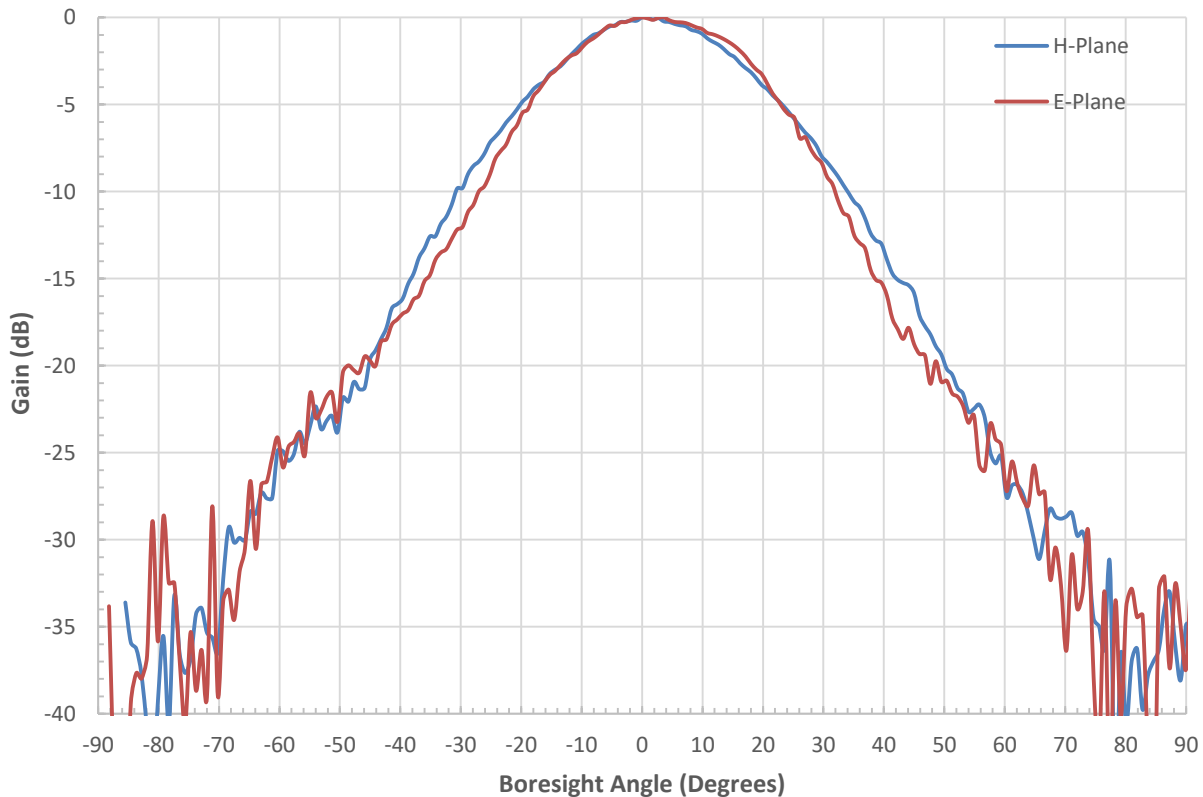


## Ka Band Scalar Feed Horn Antenna, 24 to 42 GHz

### Typical Measured E/H Antenna Pattern @ 24 GHz



### Typical Measured E/H Antenna Pattern @ 30 GHz

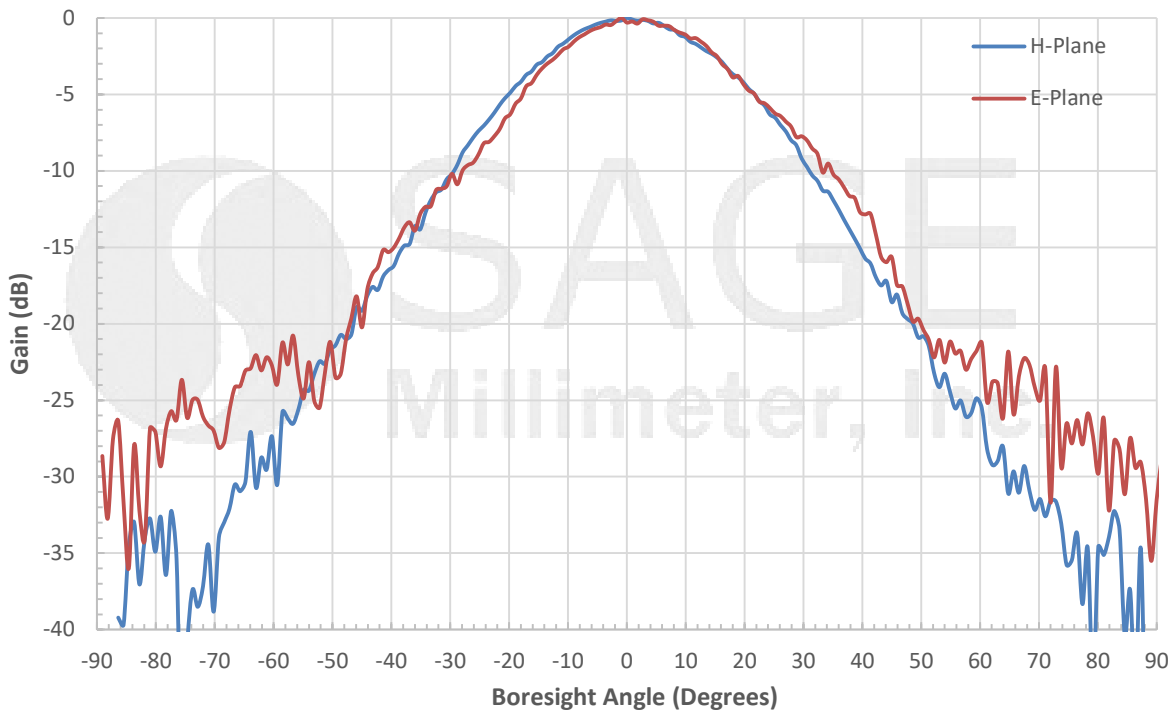


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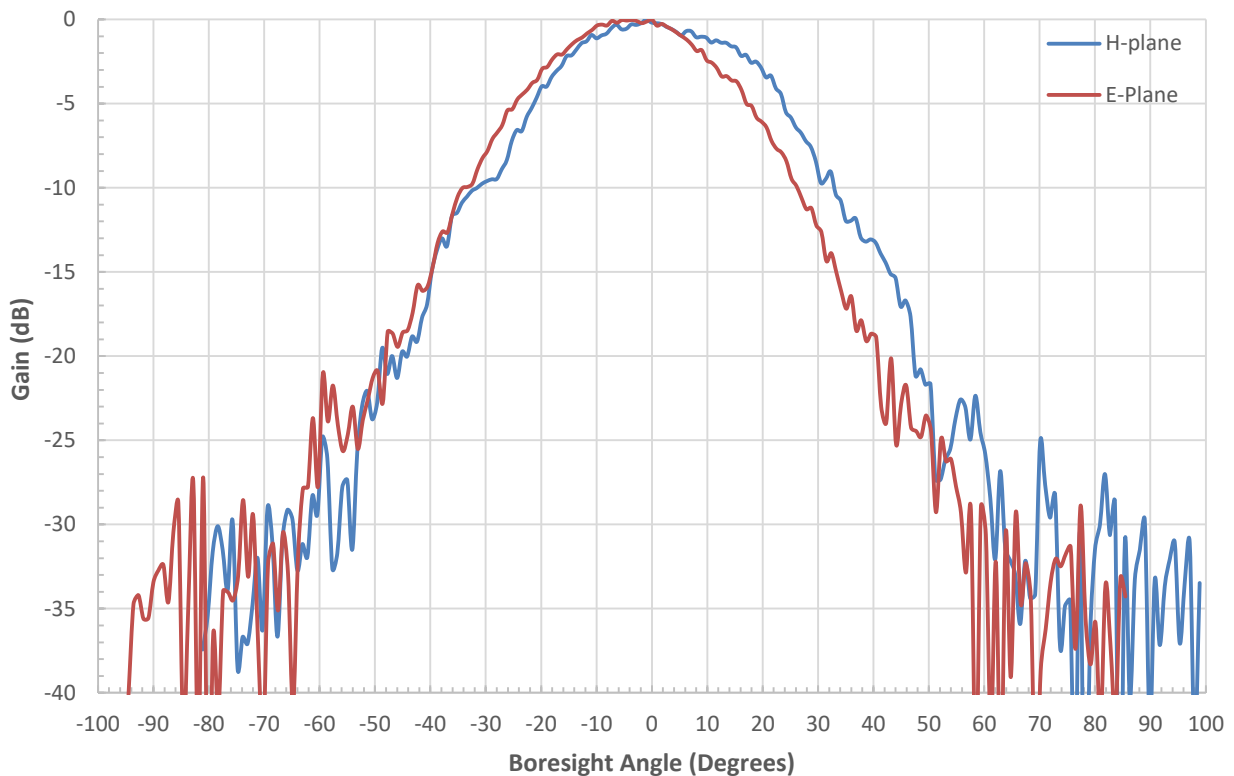


## Ka Band Scalar Feed Horn Antenna, 24 to 42 GHz

### Typical Measured E/H Antenna Pattern @ 36 GHz



### Typical Measured E/H Antenna Pattern @ 42 GHz

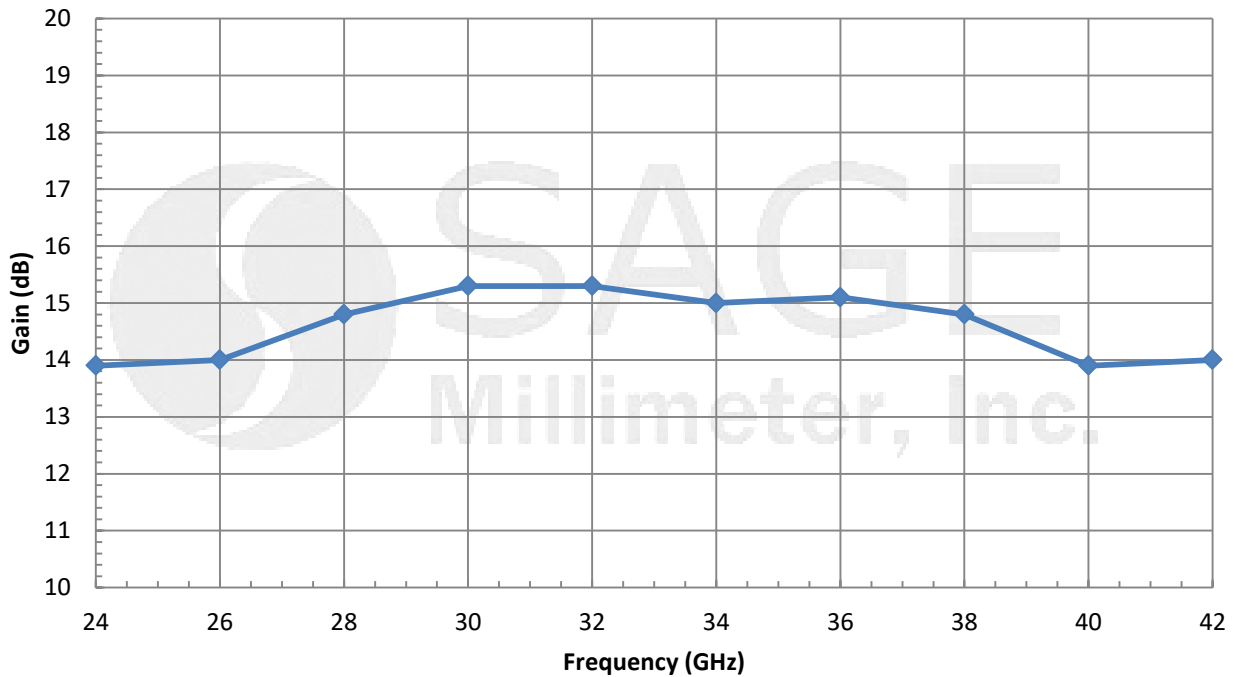


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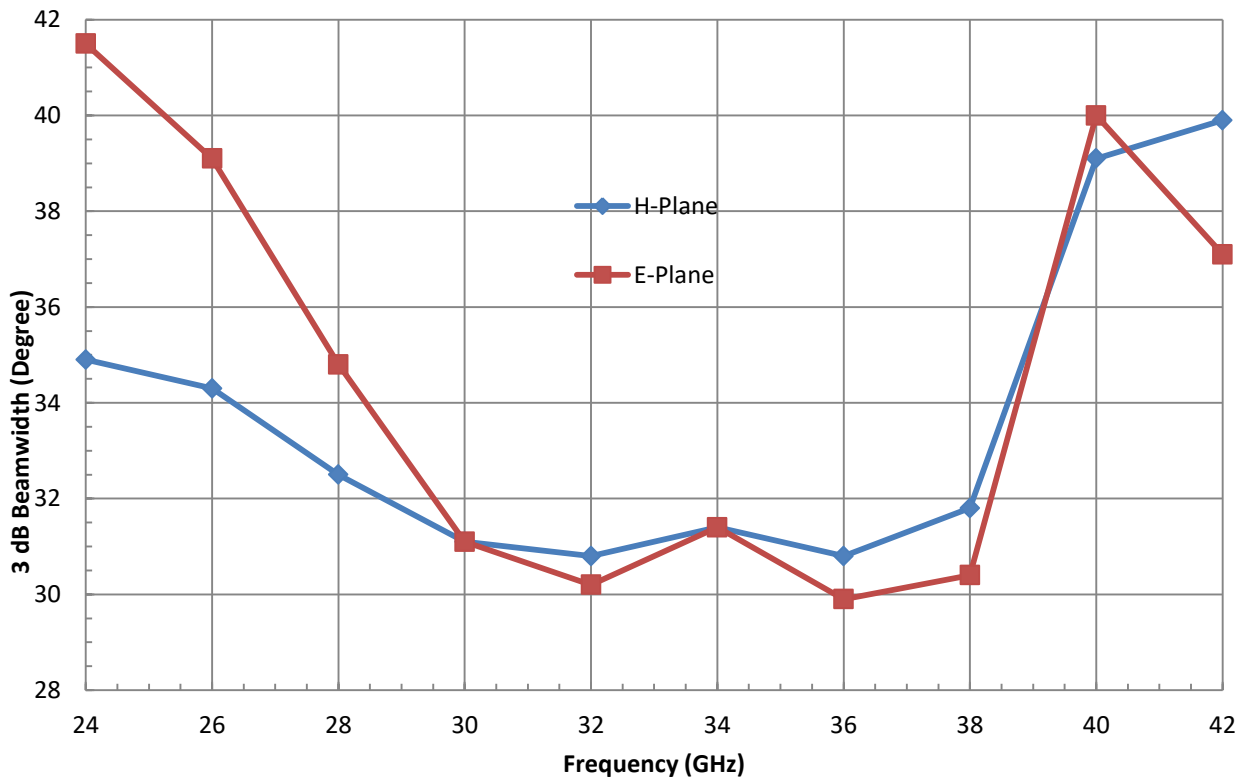


## Ka Band Scalar Feed Horn Antenna, 24 to 42 GHz

Smulated Gain vs. Frequency



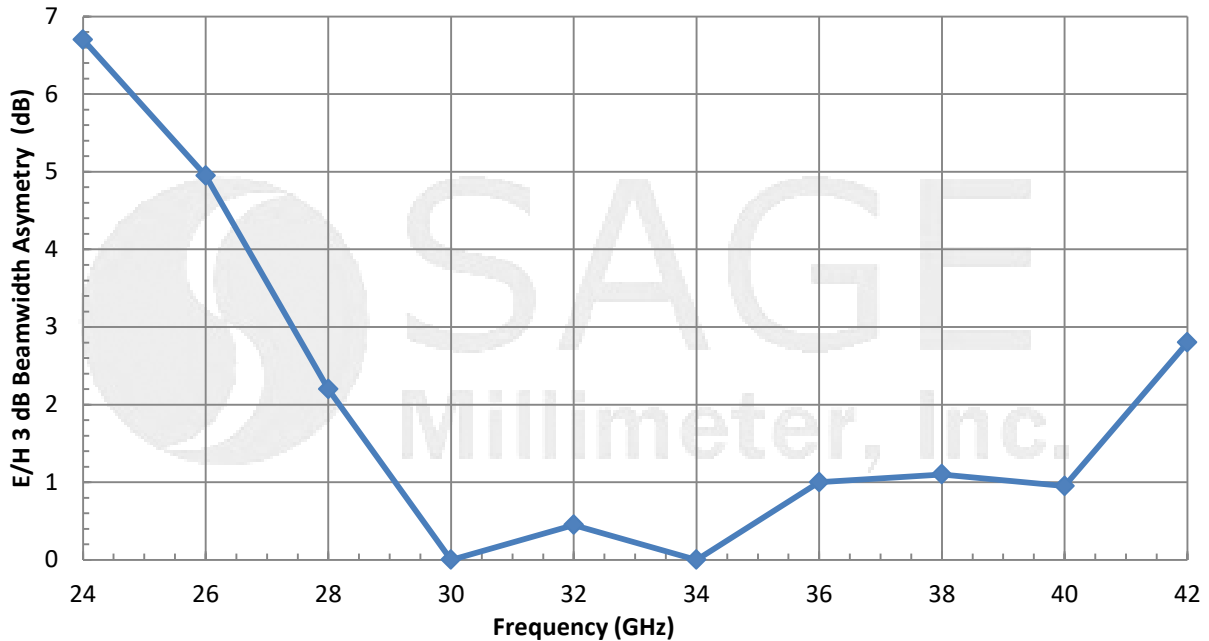
Smulated E and H Plane 3dB Beamwidth vs. Frequency



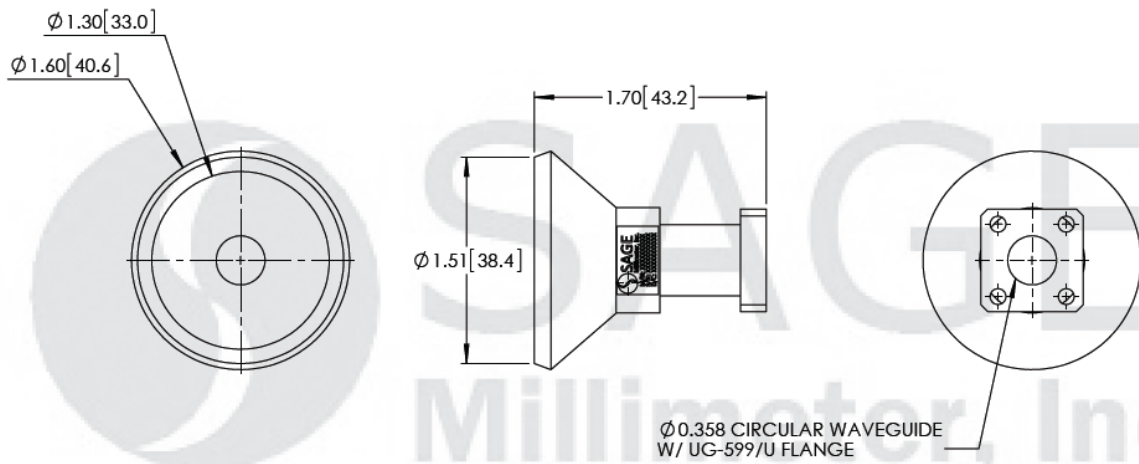


## Ka Band Scalar Feed Horn Antenna, 24 to 42 GHz

Smulated E/H Plane 3 dB Beamwidth Asymmetry vs. Frequency



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



**Note:**

- The antenna patterns presented are collected from a sample lot. Actual data may vary unit to unit.
- Other data presented is simulated. Actual data may vary.
- 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.

