SAF-2434231535-328-S1

Rev 1.1

Ka Band Scalar Feed Horn Antenna, 24 to 42 GHz, 15 dBi Gain

Description:

Model SAF-2434231535-328-S1 is a Ka-band scalar feed horn antenna that operates from 24 to 42 GHz. The antenna offers a 15 dBi 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 0.328" diameter circular waveguide with UG-599/U compatible 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. A dual-polarized configuration with an integrated orthomode transducer is available under the model **SAF-2434231535-328-S1-280-DP** .

Features:

- Ultra-Broadband Operation
- Low Sidelobe 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 dBi	
3 dB Beamwidth, E-plane		35°	
3 dB Beamwidth, H-plane		35°	
Side Lobes, E-plane		-25 dB	
Side Lobes, H-plane		-25 dB	
Return Loss		15 dB	
Specification Temperature		+25 °C	
Operating Temperature	-40 °C		+85 °C

Mechanical Specifications:

Item	Specification
Antenna Port	Ø 0.328" Diameter Circular Waveguide with UG-599/U Compatible Flange
Material	Brass
Finish	Gold Plated
Weight	2.65 Oz.
Size	1.70" (L) X 1.60" (Ø)
Outline	AF-CA15-328

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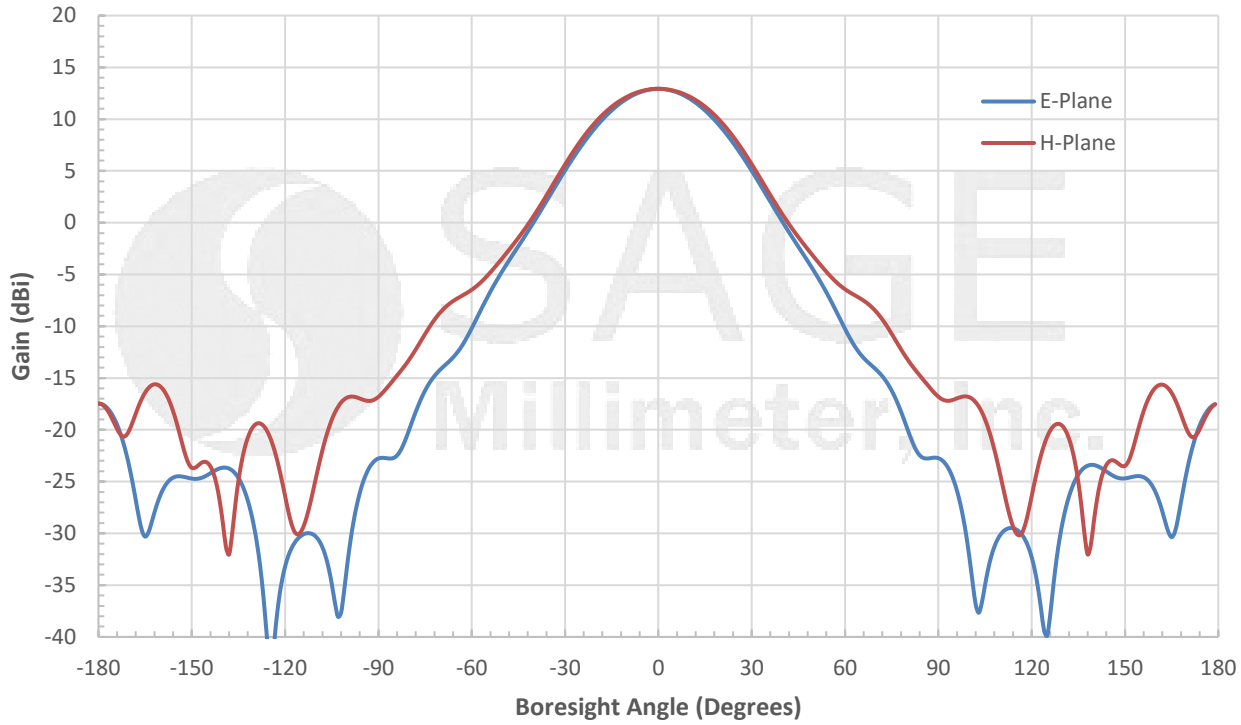
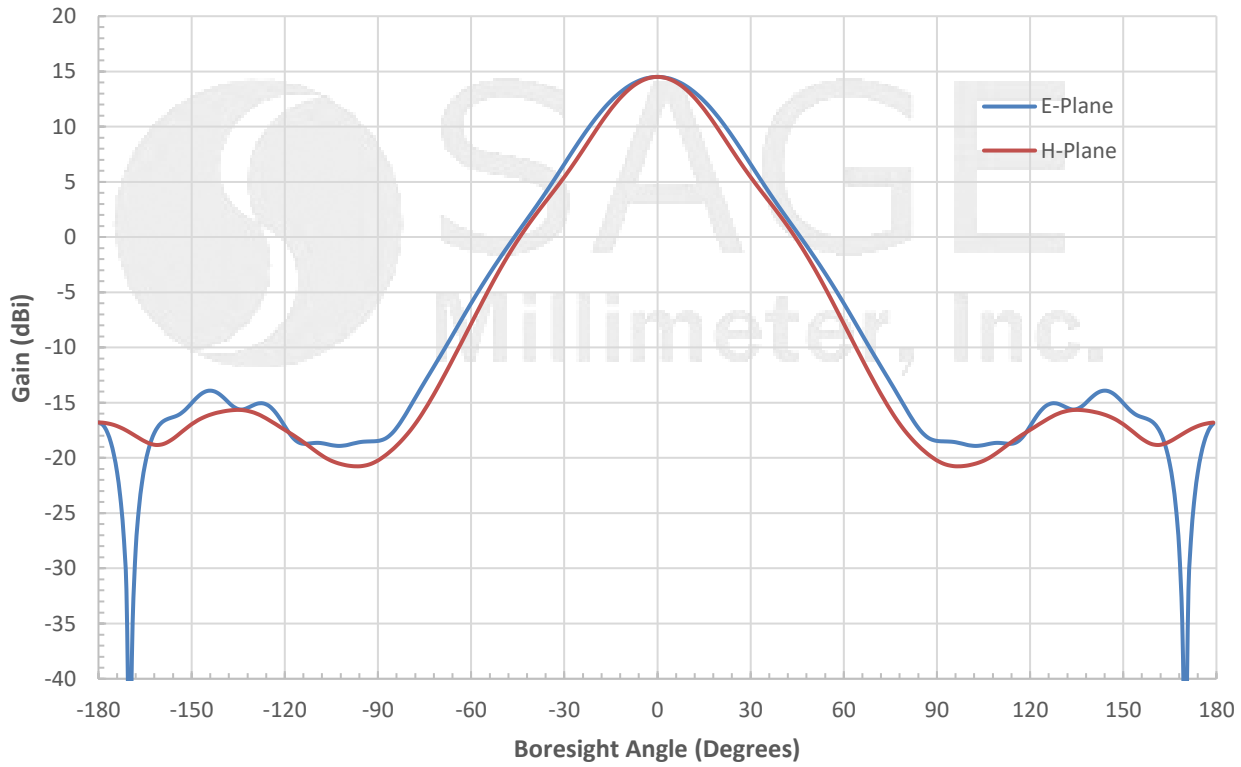
Ka Band Scalar Feed Horn Antenna, 24 to 42 GHz, 15 dBi Gain

Simulated Antenna Patterns @ 22 GHz



Simulated Antenna Patterns @ 24 GHz



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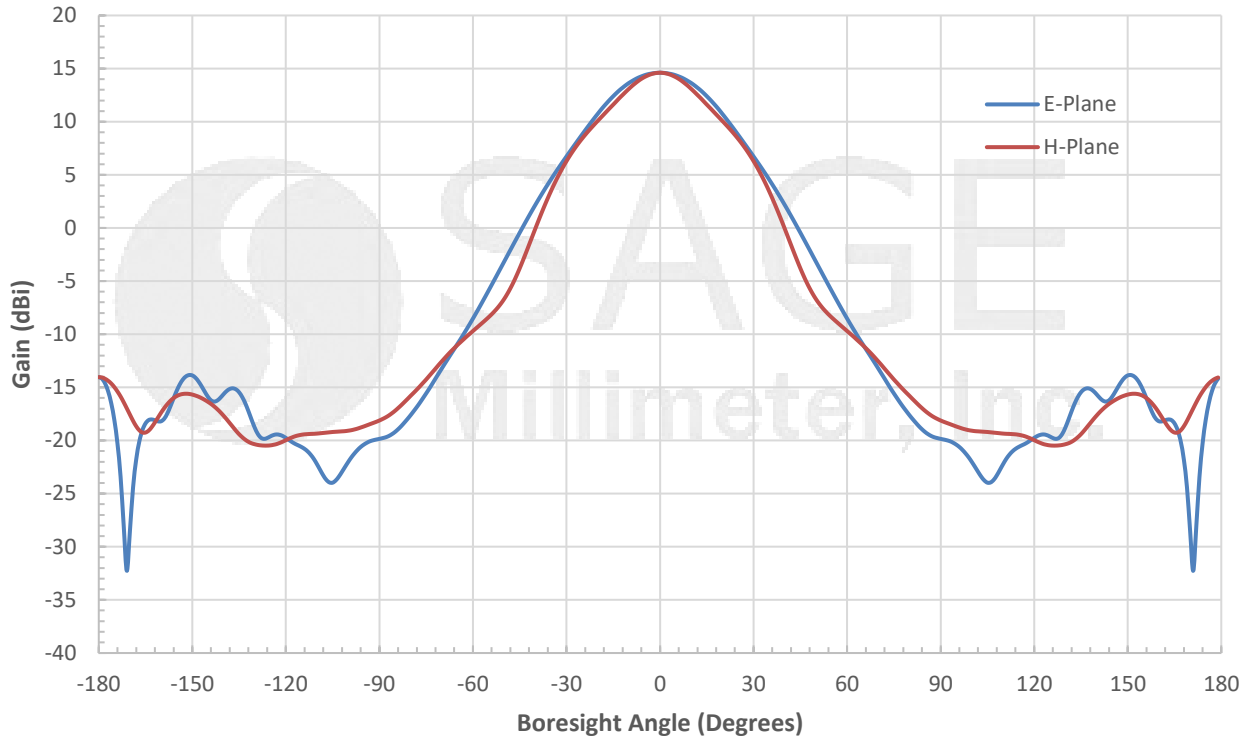
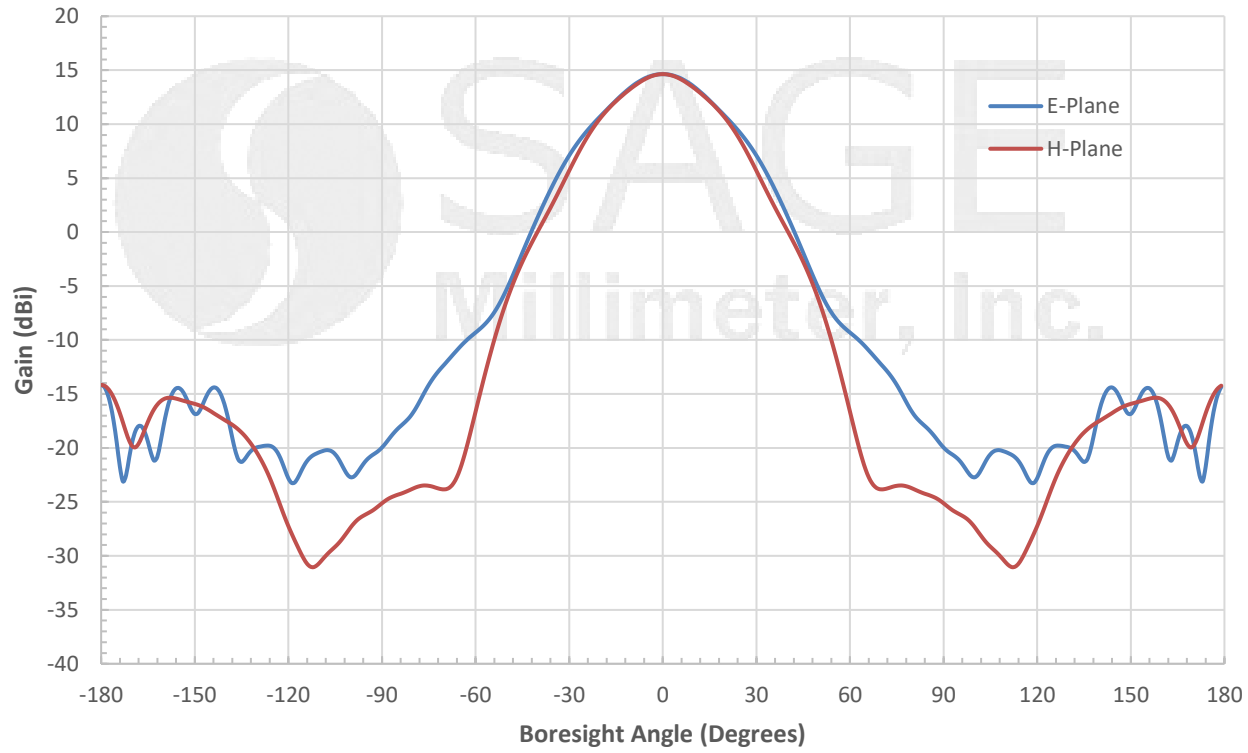
Ka Band Scalar Feed Horn Antenna, 24 to 42 GHz, 15 dBi Gain

Simulated Antenna Patterns @ 30 GHz



Simulated Antenna Patterns @ 36 GHz



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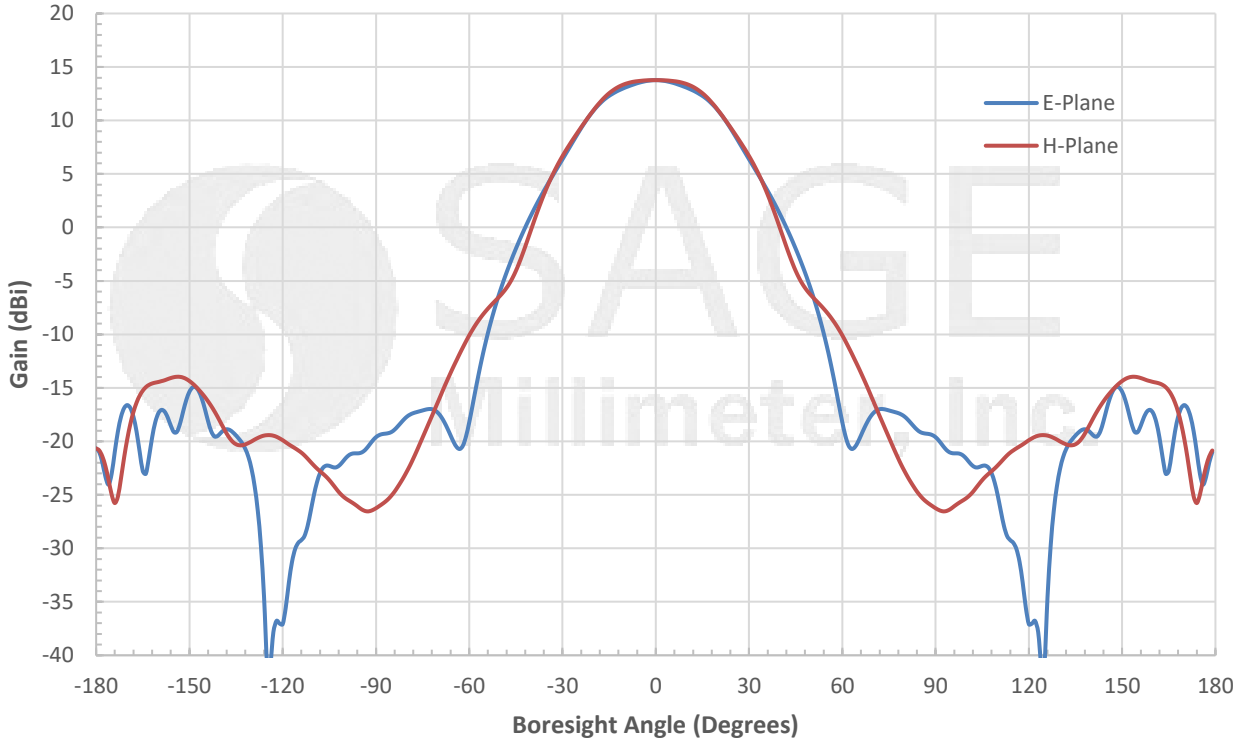
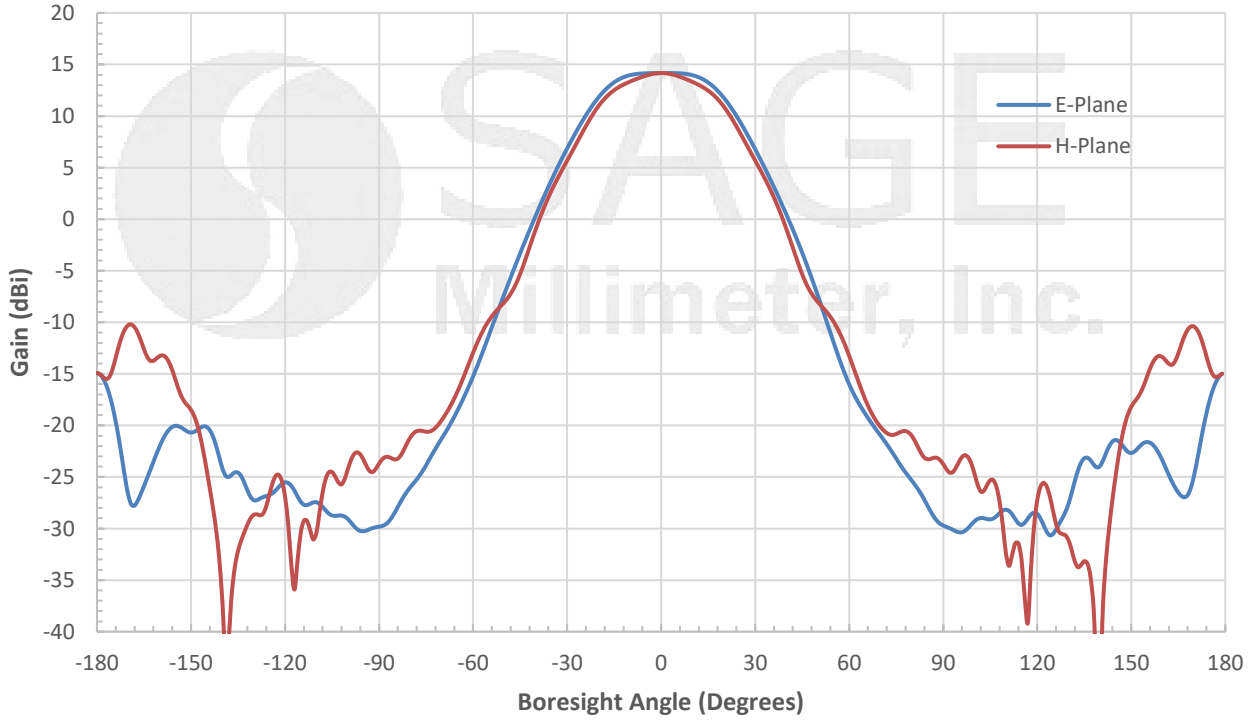
Ka Band Scalar Feed Horn Antenna, 24 to 42 GHz, 15 dBi Gain

Simulated Antenna Patterns @ 42 GHz



Simulated Antenna Patterns @ 44 GHz



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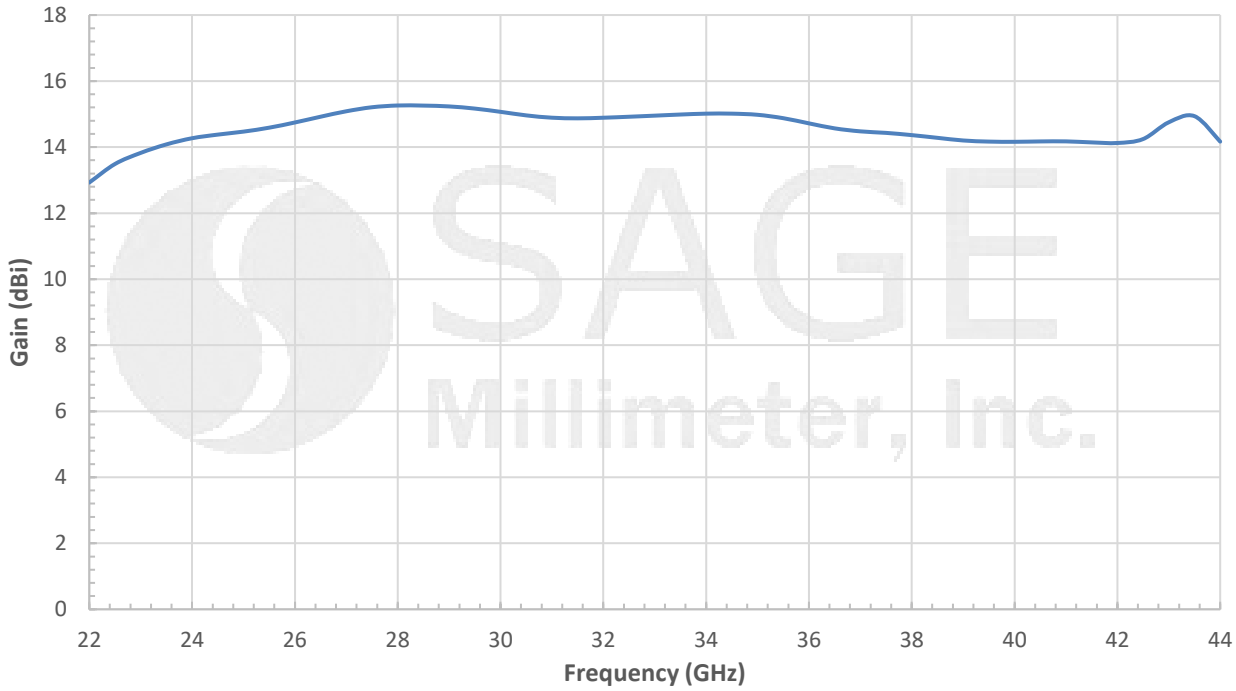
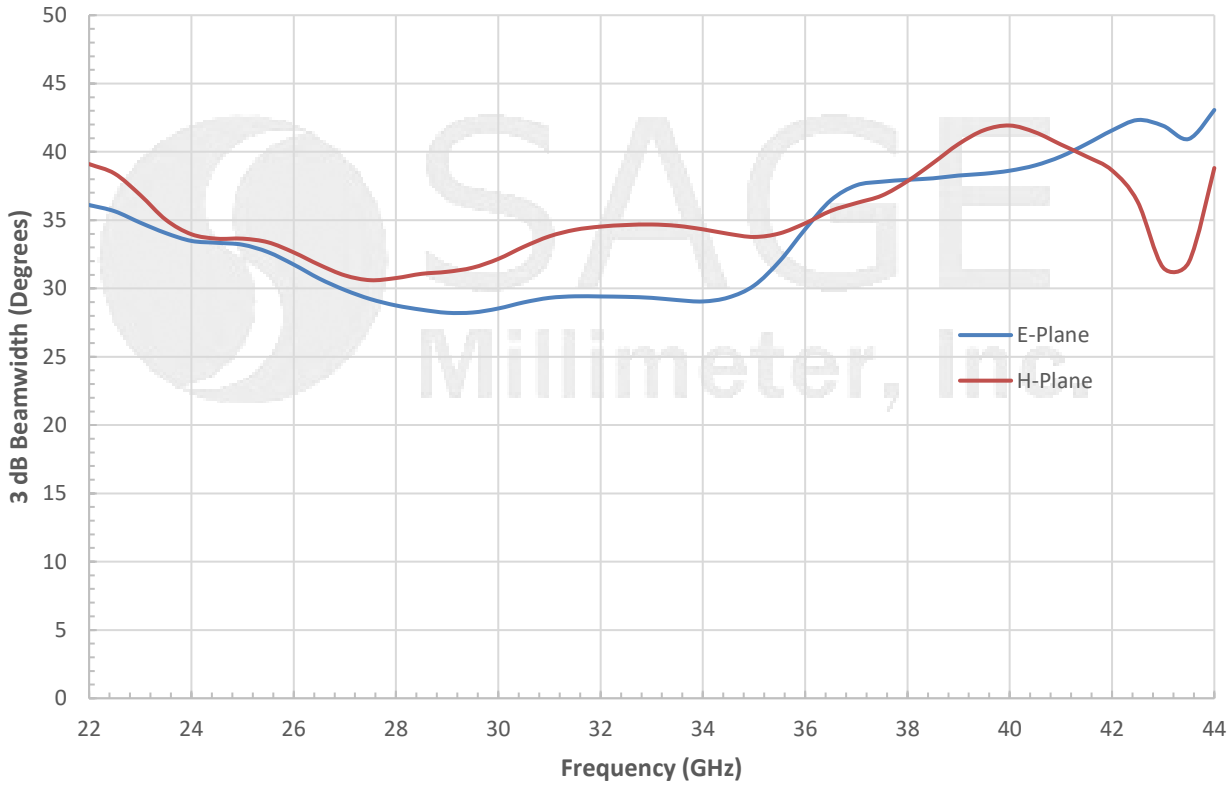
Ka Band Scalar Feed Horn Antenna, 24 to 42 GHz, 15 dBi Gain

Simulated Gain vs. Frequency



Simulated 3dB Beamwidth vs. Frequency



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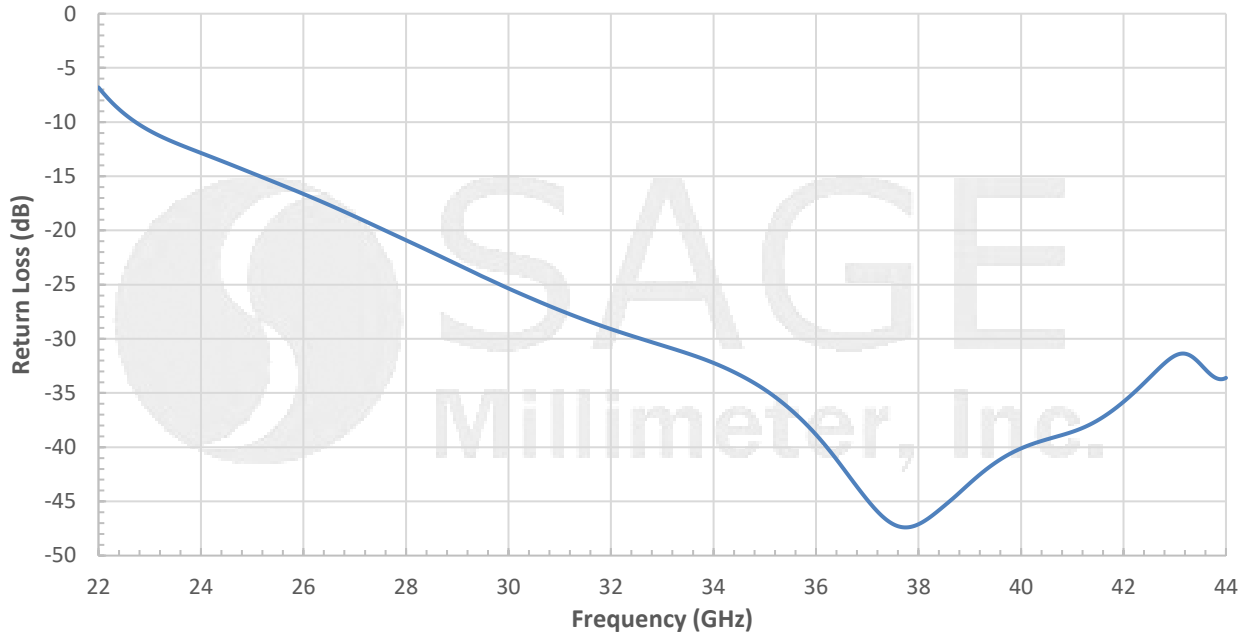
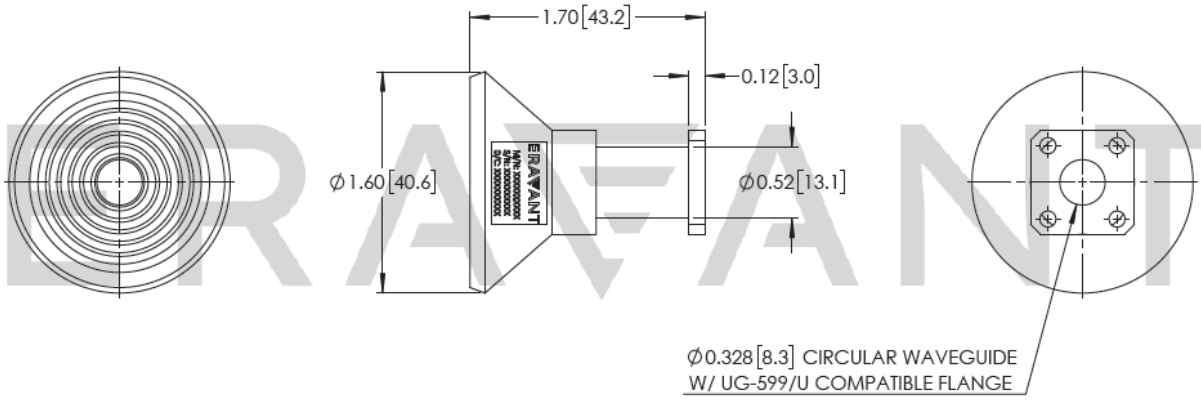
Ka Band Scalar Feed Horn Antenna, 24 to 42 GHz, 15 dBi Gain

Simulated Return Loss vs. Frequency



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



Note:

- All data presented are simulated. Actual data may vary, 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.

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