



E Band Scalar Feed Horn Antenna, 60 to 90 GHz, 14 dBi Gain

Description:

Model SAF-6039031437-12-S1 is an E-band scalar feed horn antenna that operates from 60 to 90 GHz. The antenna offers a 14 dBi nominal gain, a typical half power beamwidth 37 degrees on the E-Plane and H-Plane. The antenna has side lobe levels of -25 dB on the E-Plane and H-Plane. The scalar feed horn is equipped with a waveguide transition, model number **SWT-12125-SB**, to transition from a 0.125" diameter circular waveguide to a WR-12 rectangular waveguide that supports linear polarization. The model with 0.125" diameter circular waveguide interface, which supports both circular and linear polarizations, is offered under model number **SAF-6039031437-125-S1**.



Features:

- Rectangular Waveguide Interface
- Precisely Machined
- Low Side Lobe Level
- High Return Loss
- Linear 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	60 GHz		90 GHz
Gain		14 dBi	
3 dB Beamwidth, E-plane		37°	
3 dB Beamwidth, H-plane		37°	
Side Lobes, E-plane		-25 dB	
Side Lobes, H-plane		-25 dB	
Return Loss		20 dB	
Polarization		Linear	
Specification Temperature		+25°C	
Operating Temperature	-40°C		+85°C

Mechanical Specifications:

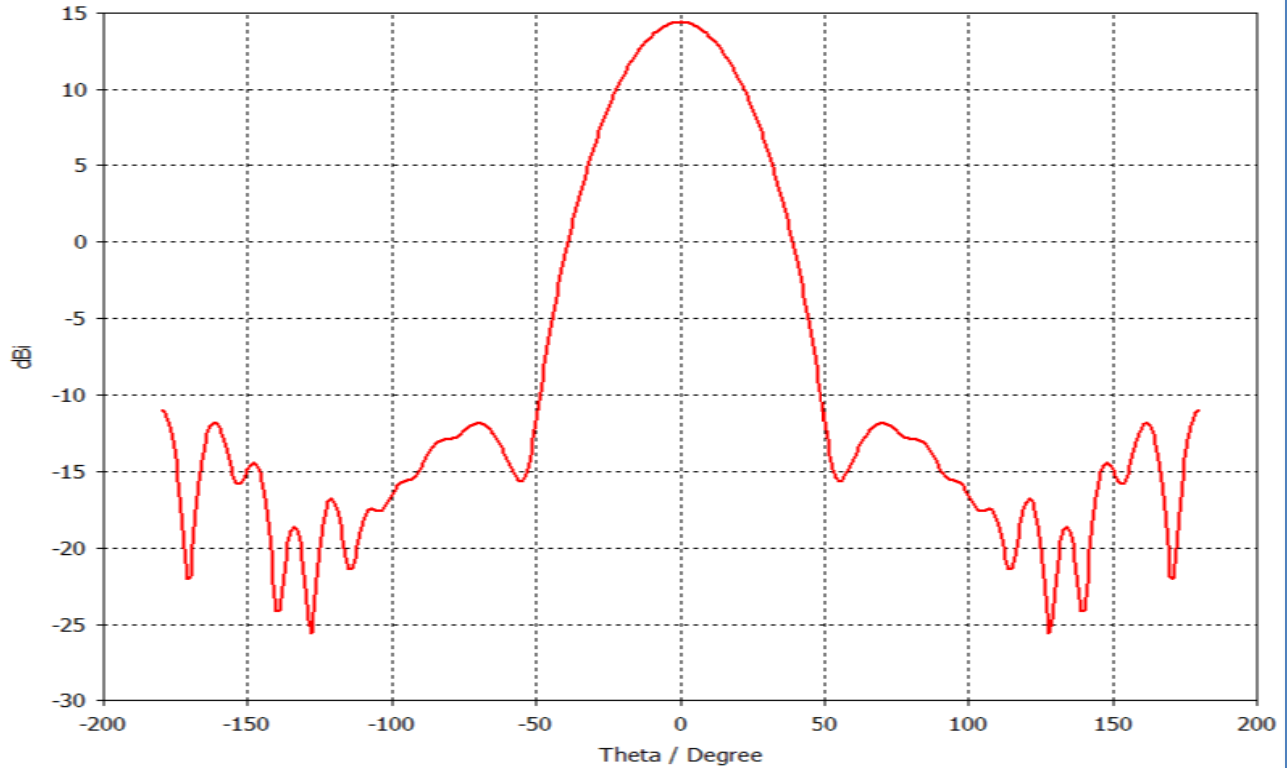
Item	Specification
Antenna Port	WR-12 Waveguide
Flange Type	UG-387/U
Material	Brass
Finish	Gold Plated
Weight	1.5 Oz
Size	2.3" (L) X 0.75" (Ø)
Outline	AF-RE14-125



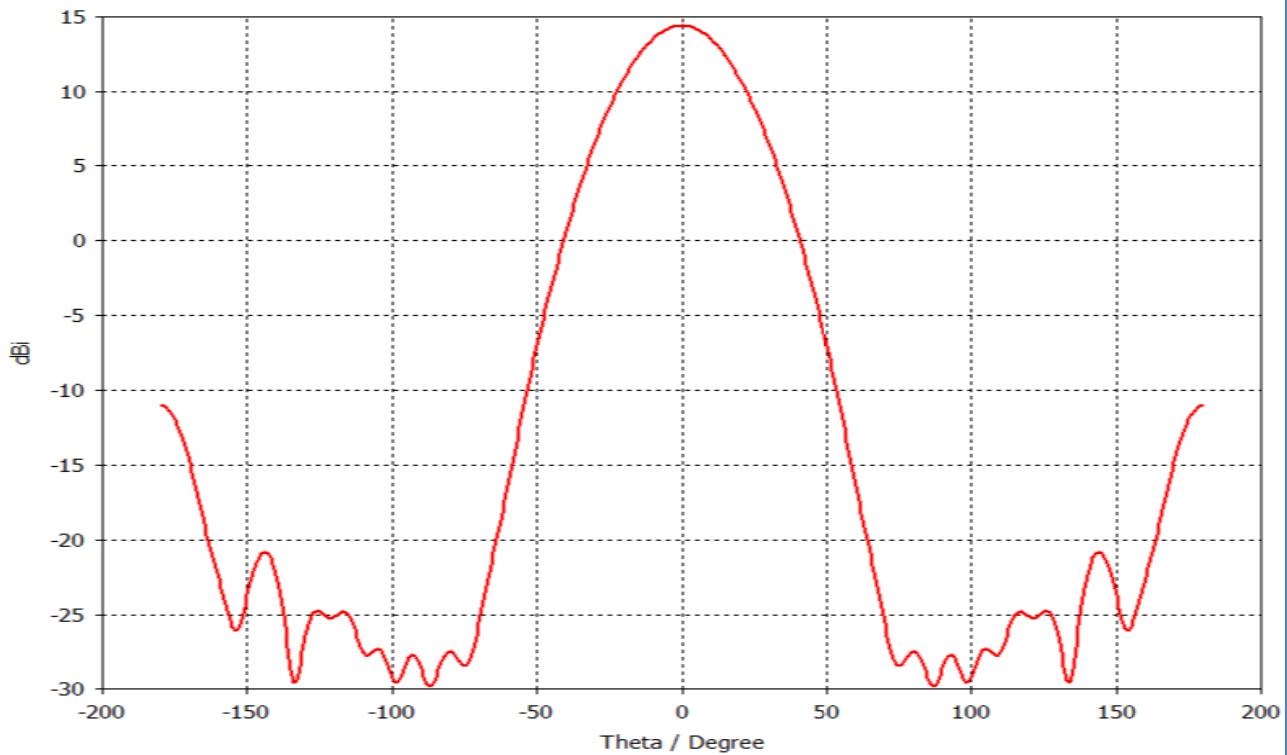


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Simulated E-Plane Antenna Pattern @ 75 GHz



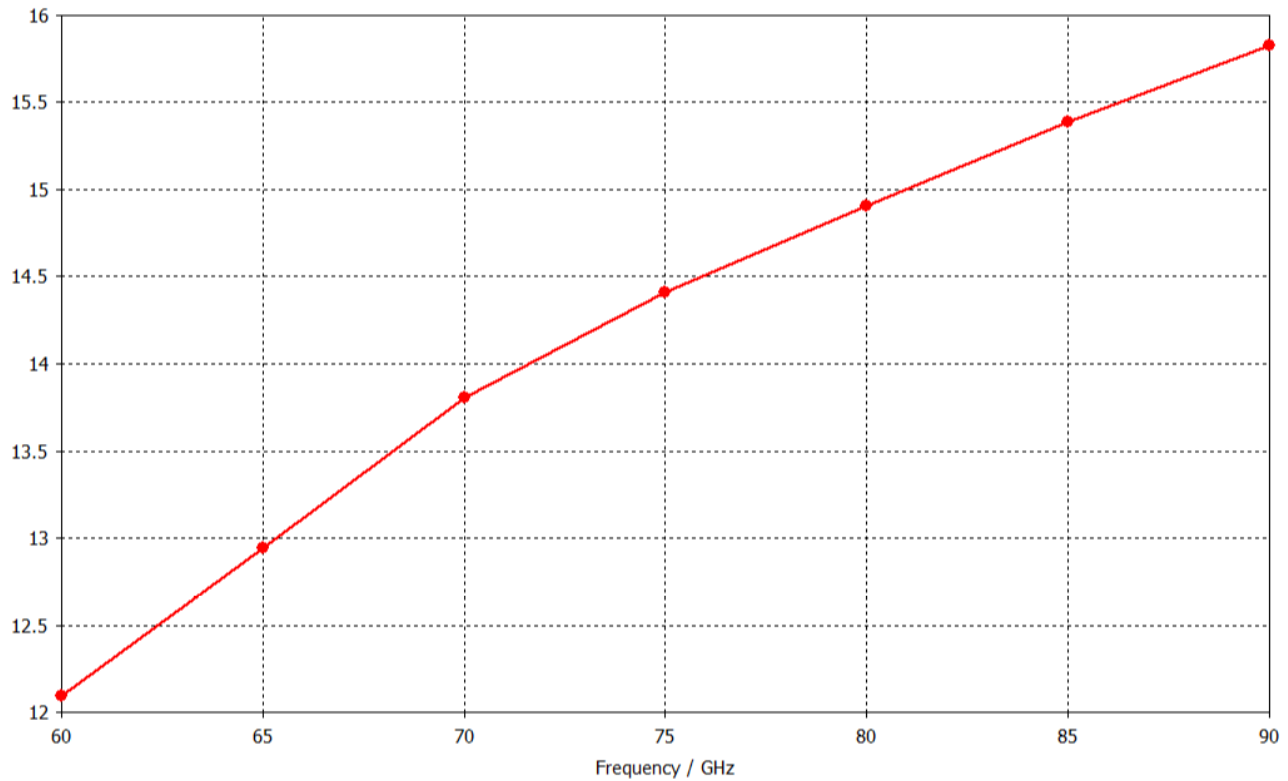
Simulated H-Plane Antenna Pattern @ 75 GHz



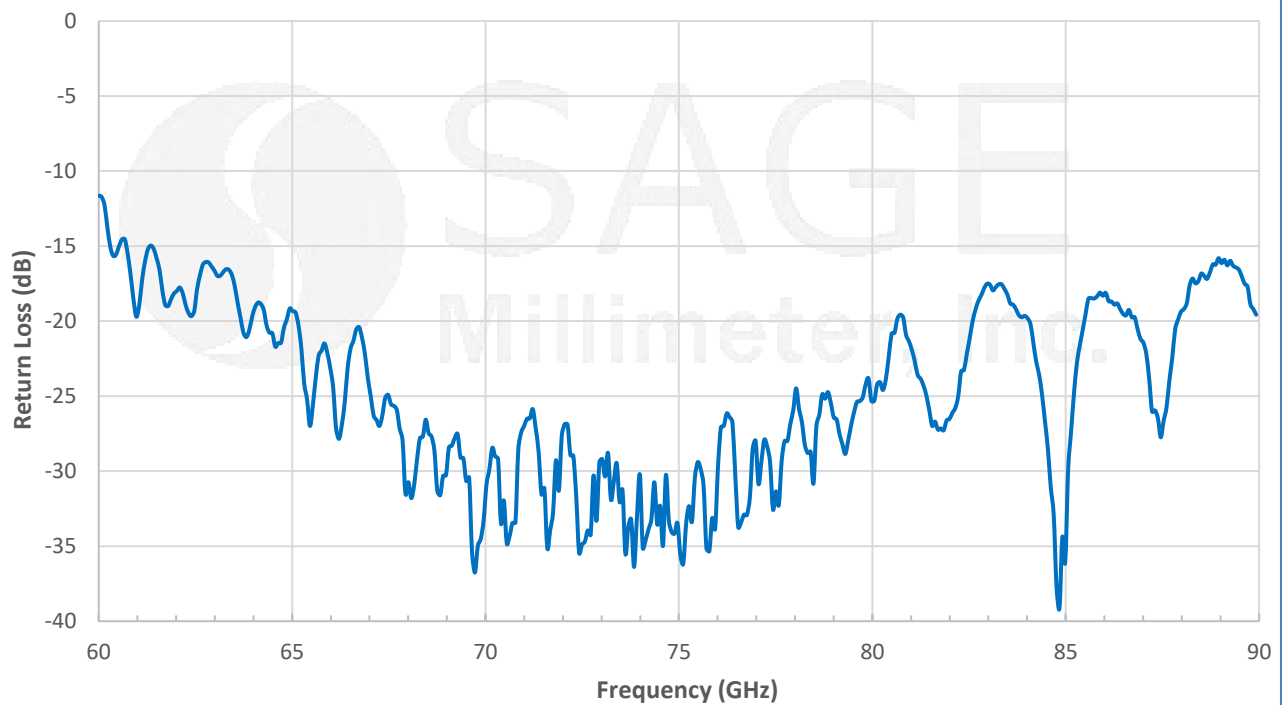


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Simulated Gain (dBi) vs. Frequency (GHz)



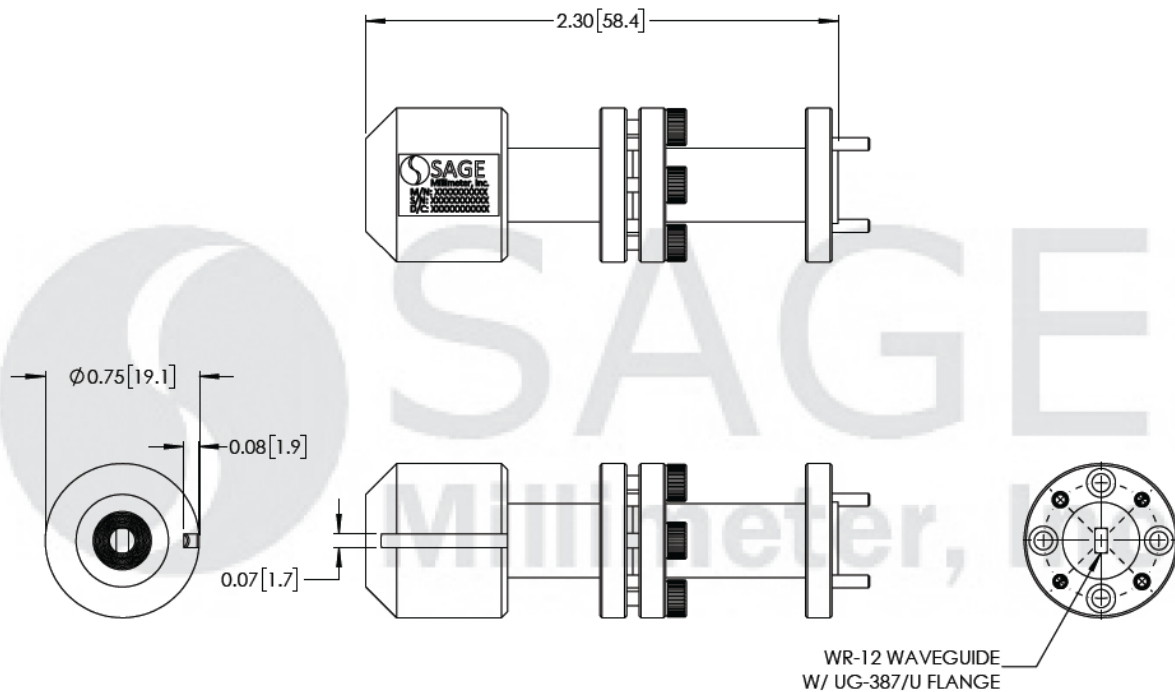
Measured Return Loss vs. Frequency





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



Note:

- Antenna Pattern and Gain data presented is 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 will cause performance degradation and possible device damage.

