



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

### Description:

**Model SAF-6039031437-125-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 0.125" diameter circular waveguide that supports both linear and circular polarization. The model with a WR-12 waveguide interface, which supports linear polarizations, is offered under model number **SAF-6039031437-12-S1**.



### 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	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 and Circular		
Specification Temperature		+25°C	
Operating Temperature	-40°C		+85°C

### Mechanical Specifications:

Item	Specification
Antenna Port	0.125" Diameter Circular Waveguide
Flange Type	UG-387/U-M
Material	Brass
Finish	Gold Plated
Weight	1.0 Oz
Size	1.30" (L) X 0.75" (Ø)
Outline	AF-CE14-125

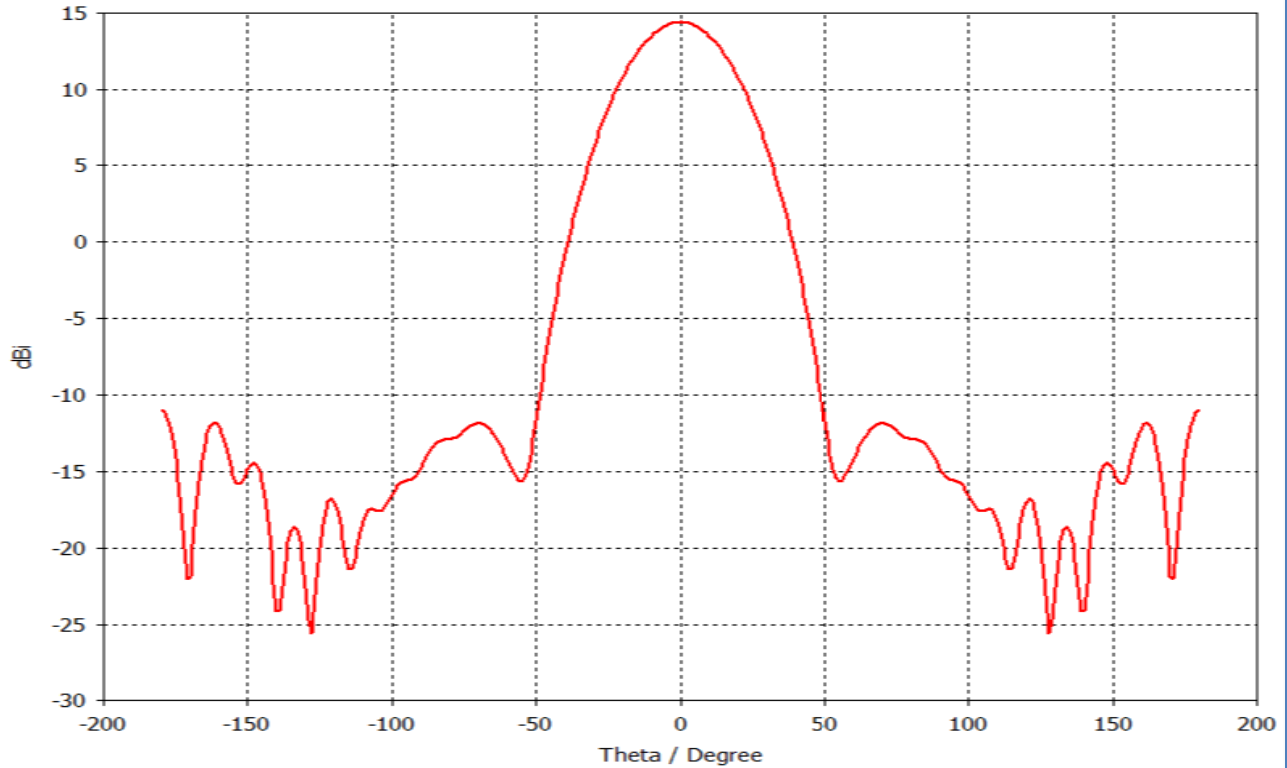


www.sagemillimeter.com | 3043 Kashiwa Street, Torrance, CA 90505  
 Phone: 424-757-0168 | Fax: 424-757-0188 | Email: sales@sagemillimeter.com

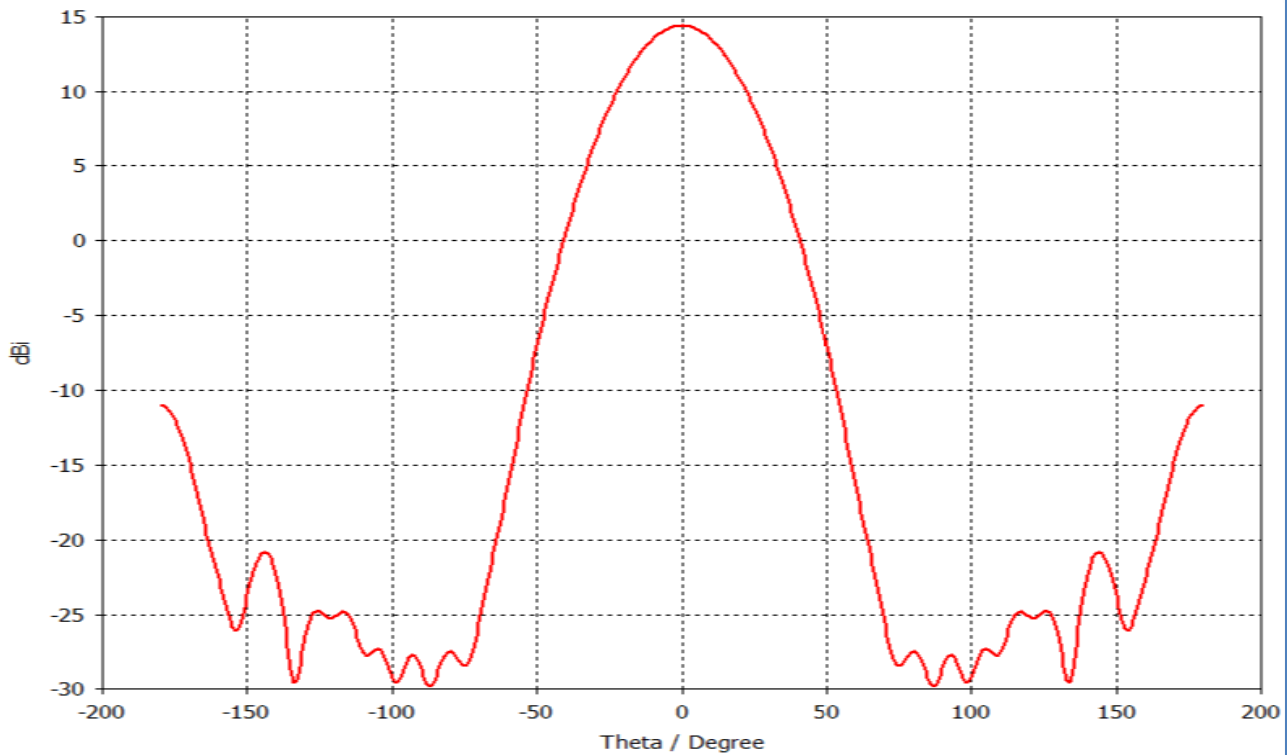


## E Band Scalar Feed Horn Antenna, 60 to 90 GHz, 14 dBi Gain

### Simulated E-Plane Antenna Pattern @ 75 GHz



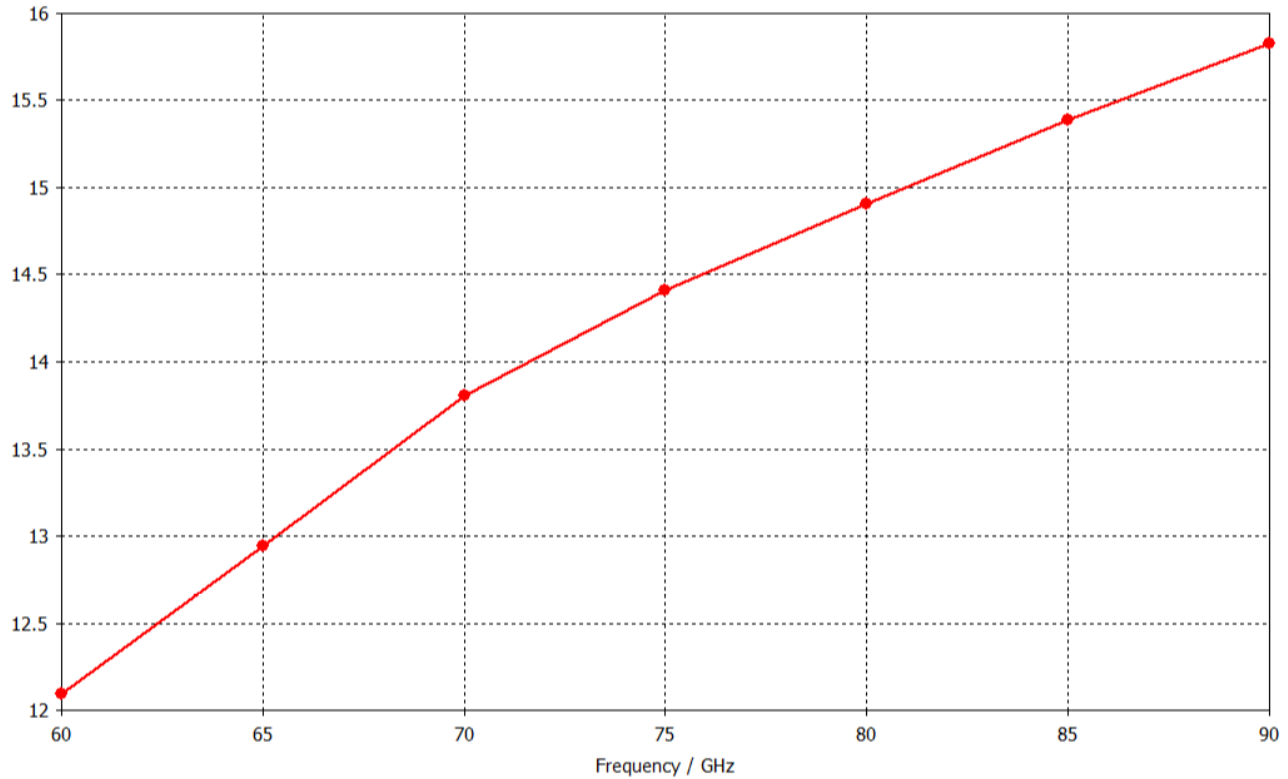
### Simulated H-Plane Antenna Pattern @ 75 GHz



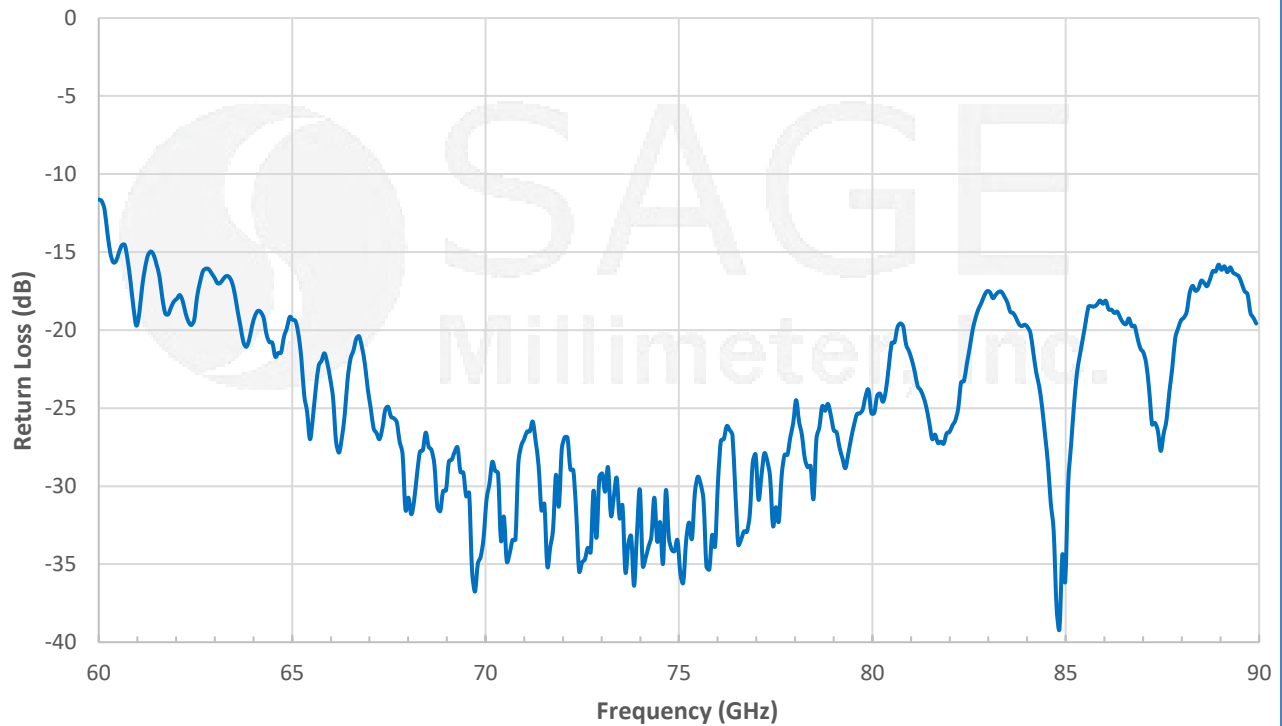


## E Band Scalar Feed Horn Antenna, 60 to 90 GHz, 14 dBi Gain

### Simulated Gain (dBi) vs. Frequency (GHz)



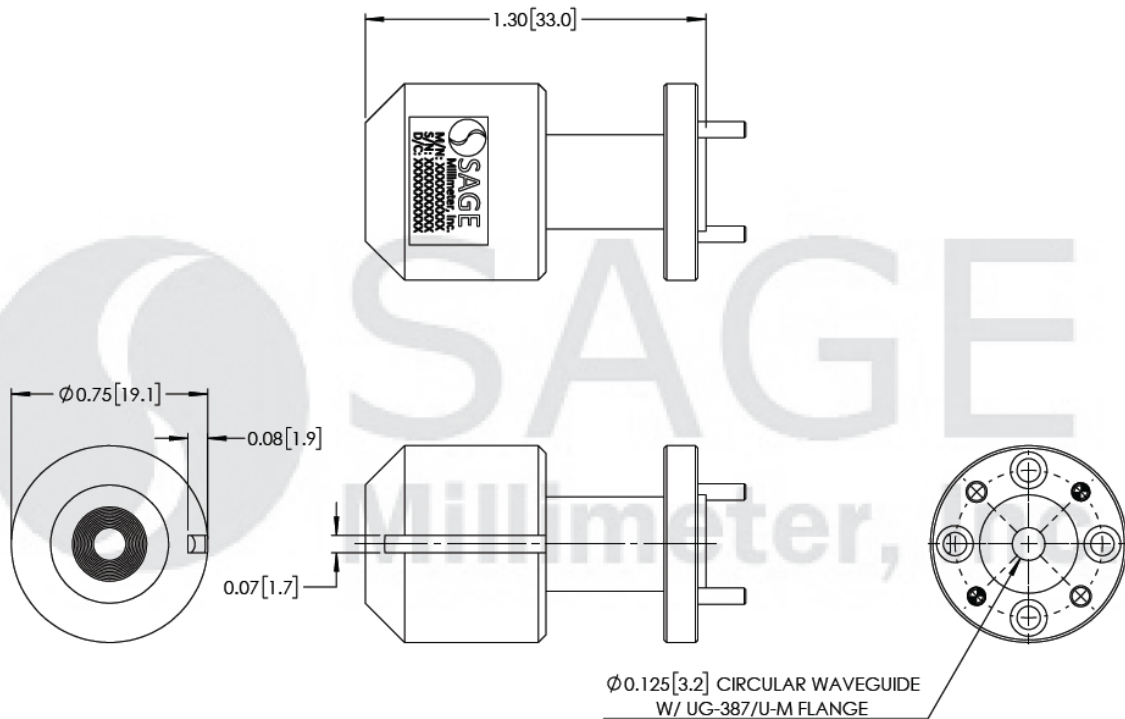
### Measured Return Loss vs. Frequency





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

**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.

