

## SAF-7531141725-110-S1

### W-Band Scalar Feed Horn Antenna, 17 dBi Gain

**SAF-7531141725-110-S1** is a W-band scalar feed horn antenna that operates from 75 to 110 GHz. The antenna offers a 17 dBi nominal gain, 25 degree typical half power beamwidth, and -25 dB typical side lobe level. The scalar feed horn is equipped with a 0.110" diameter circular waveguide that supports both linear and circular polarization. A rectangular waveguide port configuration that only supports linear polarization is available under a different model number.



#### Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency Range	75 GHz	92.5 GHz	110 GHz
Gain		17 dBi	
3 dB Beamwidth, E-Plane		25°	
3 dB Beamwidth, H-Plane		25°	
Sidelobes, E-Plane		-25 dB	
Sidelobes, H-Plane		-25 dB	
Return Loss		15 dB	
Polarization	Linear and Circular		
Specification Temperature		+25°C	
Operating Temperature	-40°C		+85°C

#### Mechanical Specifications:

Item	Specification
Antenna Port	0.110" Diameter Circular Waveguide
Flange Type	UG-387/U-M Anti-Cocking Flange
Material	Brass
Finish	Gold Plated
Weight	1.8 Oz
Size	2.00" (L) x 0.75 (Ø)
Outline	AF-CW17-110-A

#### ECCN

EAR99

#### FEATURES

- Circular Waveguide Interface
- Precisely Machined
- Low Side Lobe Level
- High Return Loss
- Linear and Circular Polarization

#### APPLICATIONS

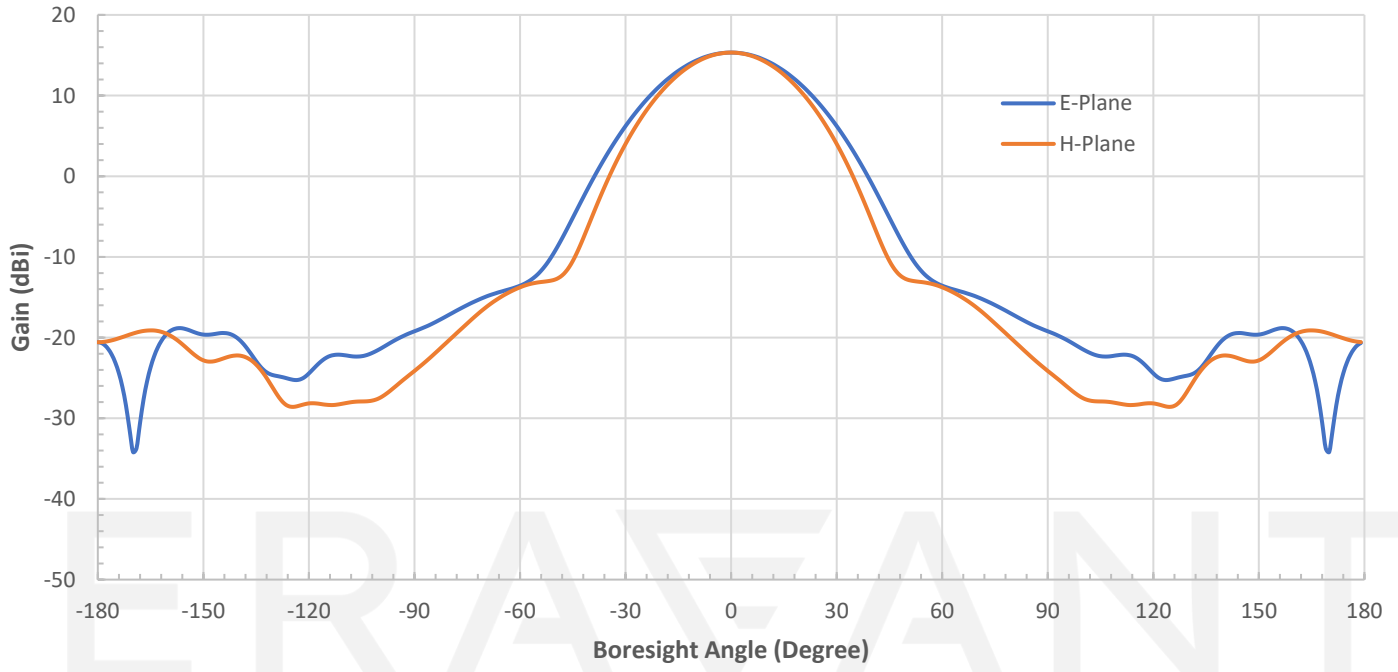
- Feed Horn for Gaussian Optical Antennas
- Feed Horn for Cassegrain Antennas
- Rapid System Setups
- Engineering Setups

#### SUPPLEMENTAL DETAILS

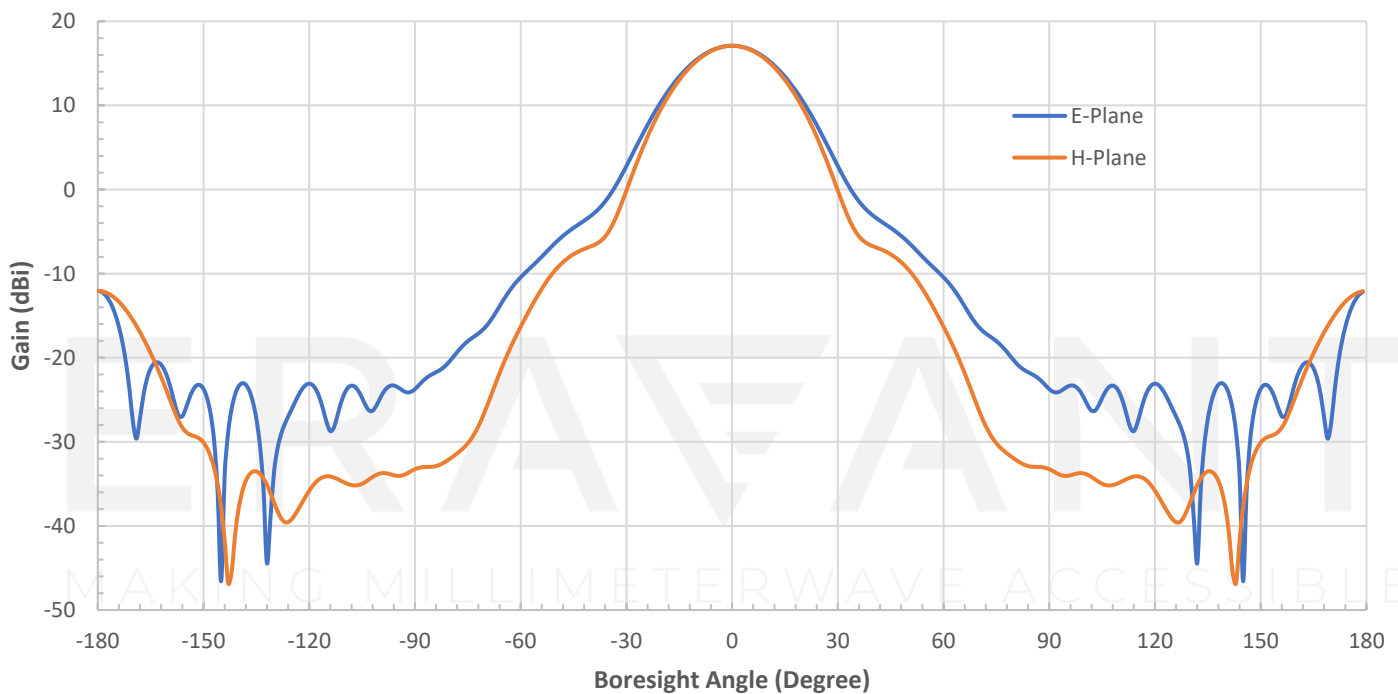


## SAF-7531141725-110-S1

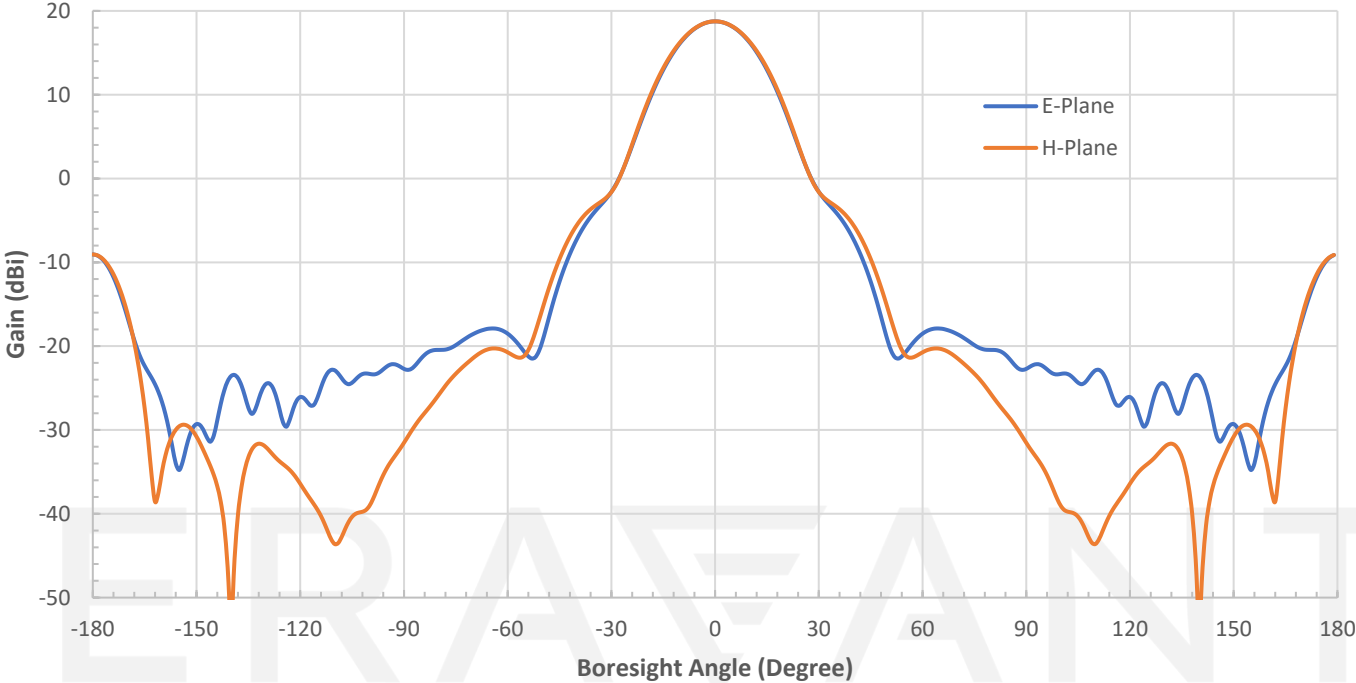
### Simulated Antenna Patterns @ 75 GHz



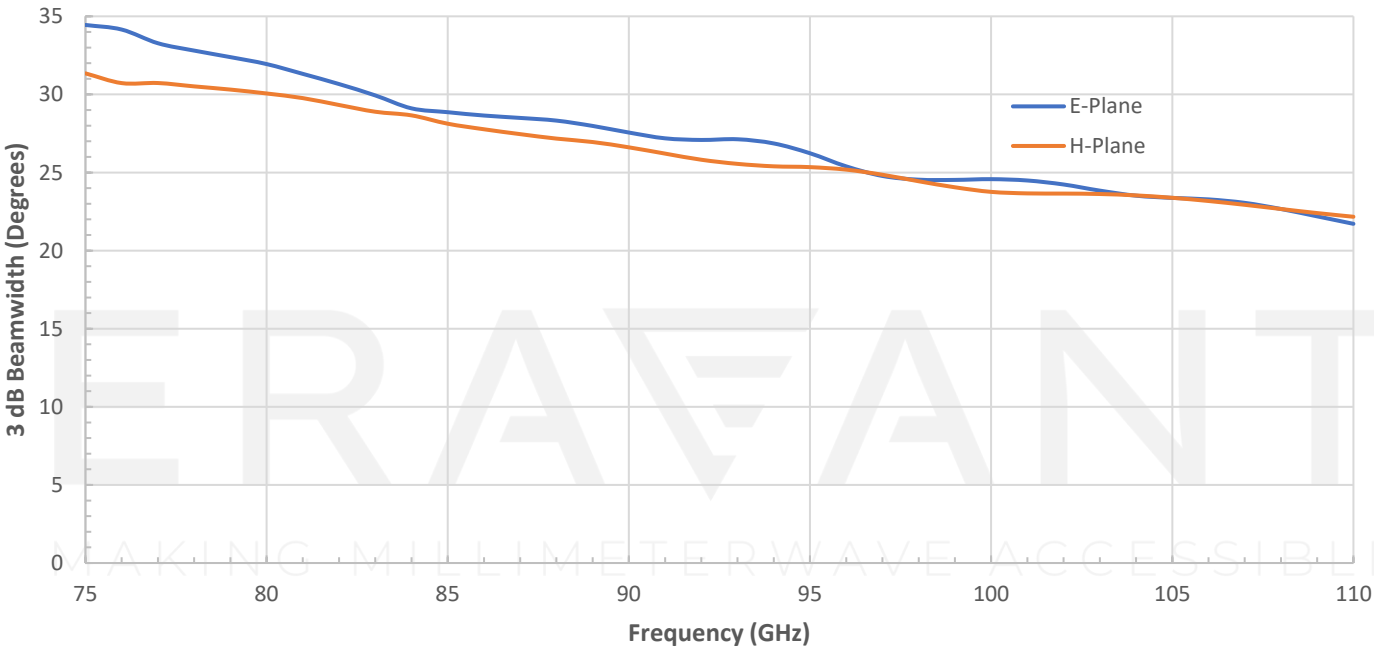
### Simulated Antenna Patterns @ 92 GHz



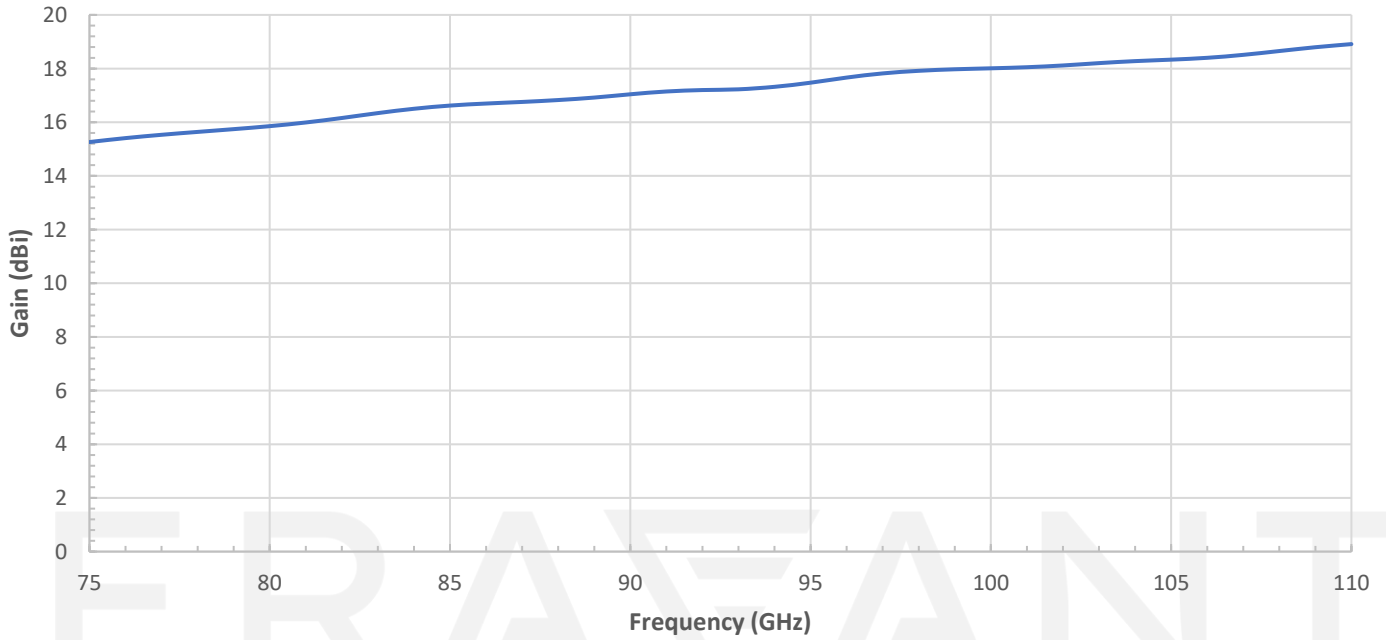
Simulated Antenna Patterns @ 110 GHz



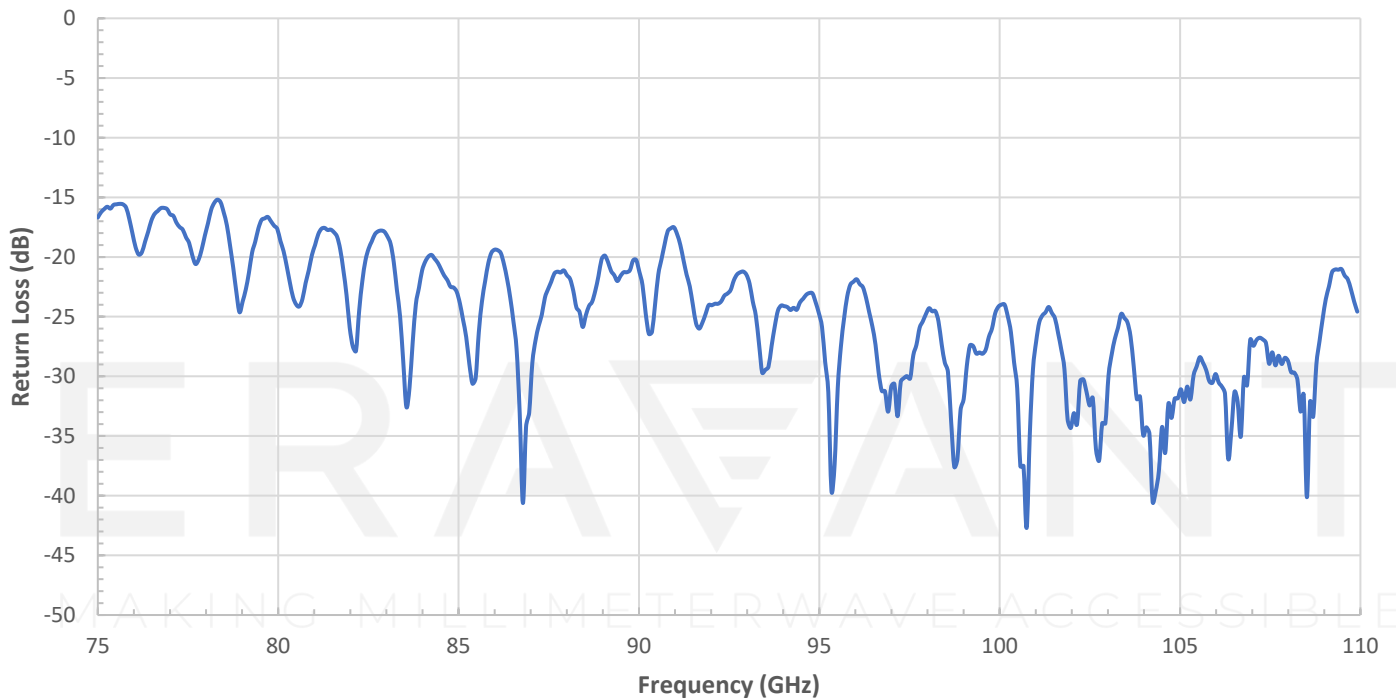
Simulated 3dB Beamwidth vs. Frequency



### Simulated Gain vs. Frequency

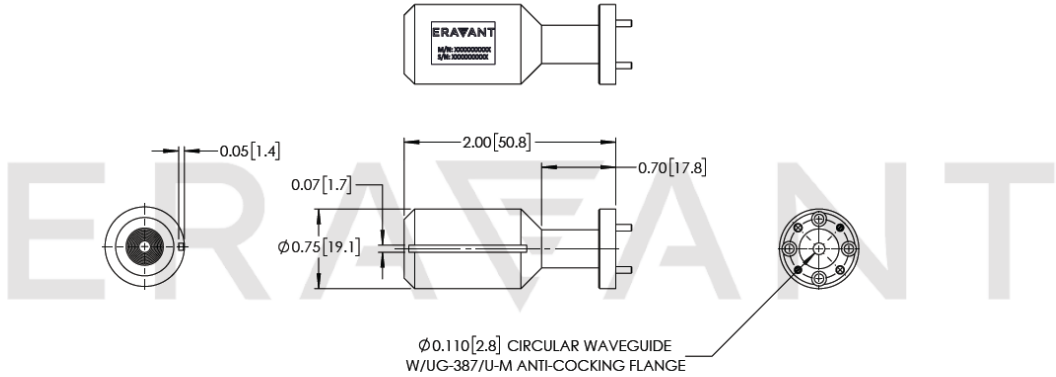


### Typical Return Loss vs. Frequency



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



**NOTE:**

- Antenna patterns, 3 dB Beamwidth, and Gain data presented are simulated. Actual data may vary unit to unit, slightly.
- Return loss data presented is taken from a sample lot. Actual data may vary unit to unit, slightly.
- All testing was performed under +25 °C case temperature.
- Eravant 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.