SAF-1141741535-082-S1

D Band Scalar Feed Horn Antenna, 15 dBi Gain

SAF-1141741535-082-S1 is a D-band scalar feed horn antenna that operates from 110 to 170 GHz. The antenna offers a 15 dBi nominal gain, 35 degree typical half power beamwidth, and -25 dB typical side lobe level. The scalar feed horn is equipped with a 0.082” 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	110 GHz	140 GHz	170 GHz
Gain		15 dBi	
3dB Beamwidth, E-plane		35°	
3dB Beamwidth, H-plane		35°	
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	0.082” Diameter Circular Waveguide
Flange Type	UG-387/ U-M Anti-cocking Flange
Material	Brass
Finish	Gold Plated
Weight	1.8 Oz
Size	1.50” (L) x 0.60 (Ø)
Outline	AF-CF15-082-A

ECCN

EAR99

FEATURES

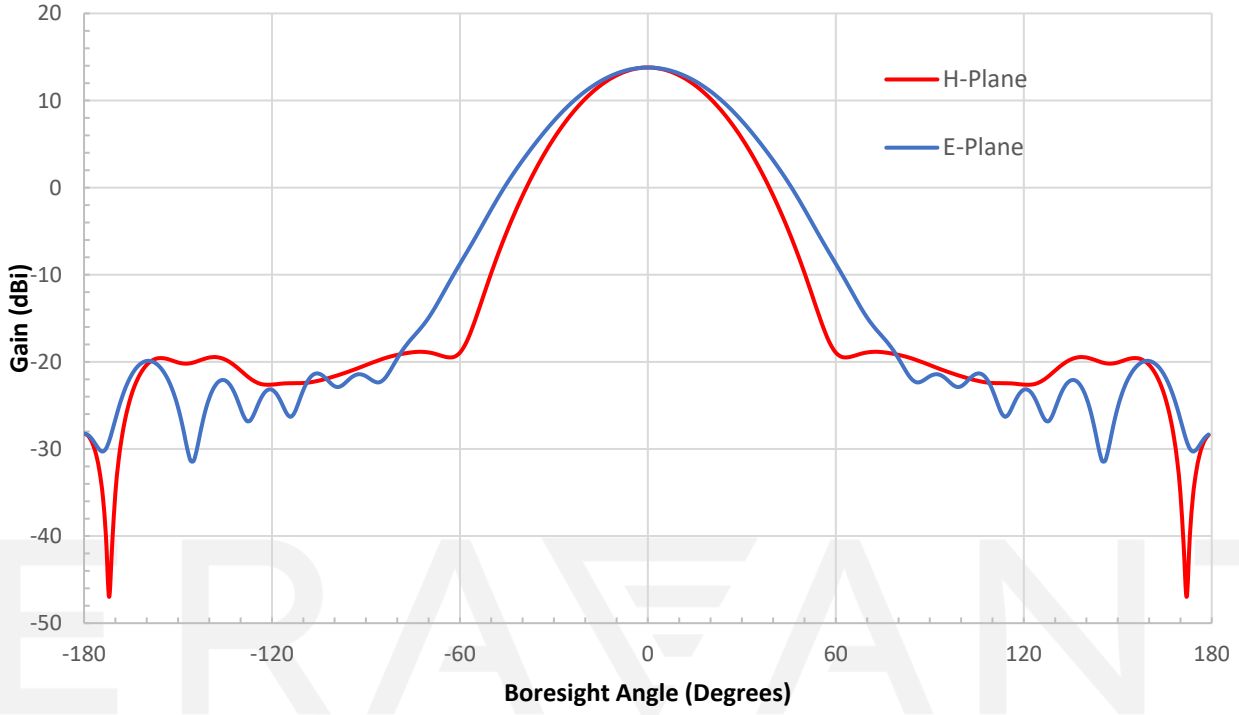
- Circular Waveguide Interface
- Precisely Machined
- Low Side Lobe Level
- High Return Loss
- Linear and Circular Polarization

APPLICATIONS

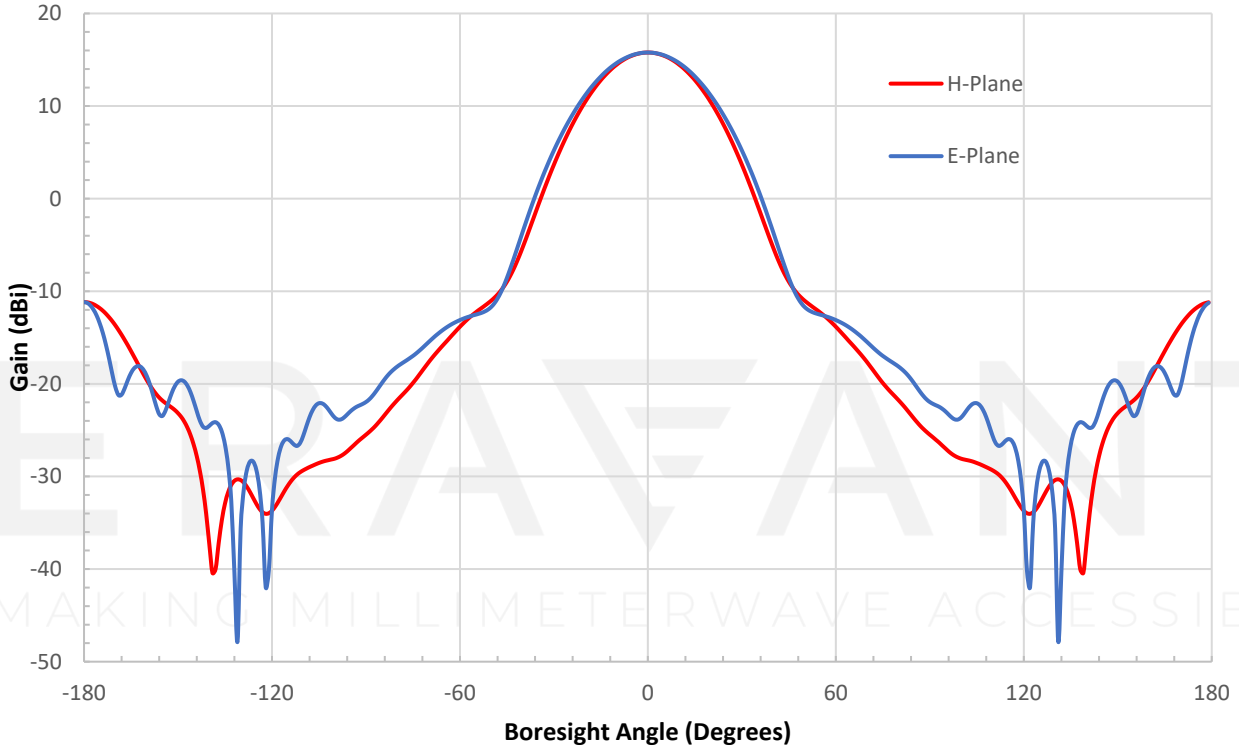
- Feed Horn for Gaussian Optical Antennas
- Feed Horn for Cassegrain Antennas
- Rapid System Setups
- Engineering Setups

SUPPLEMENTAL DETAILS

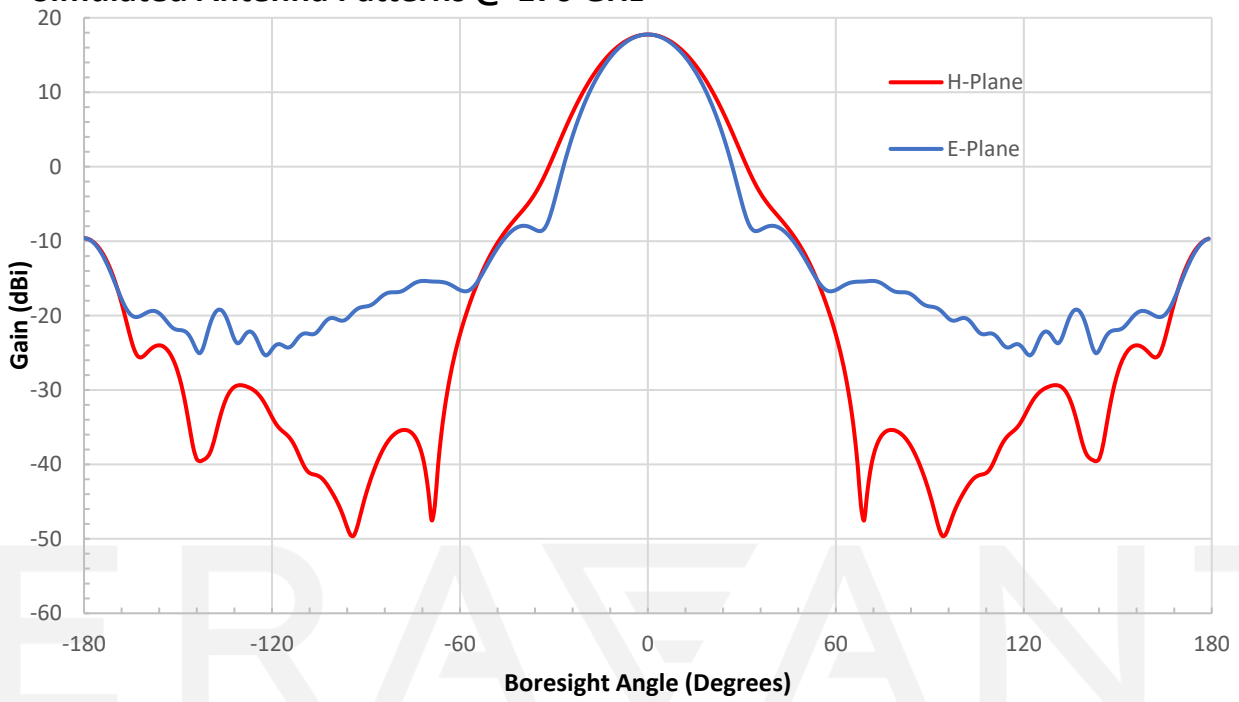
Simulated Antenna Patterns @ 110 GHz



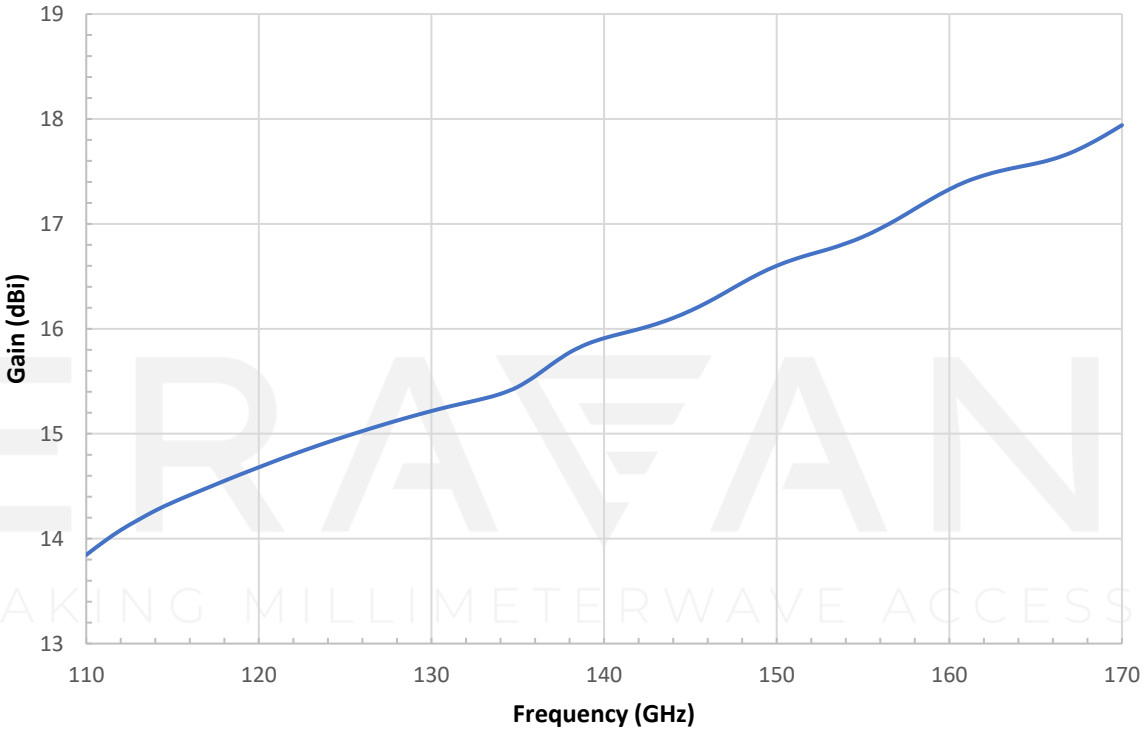
Simulated Antenna Patterns @ 140 GHz



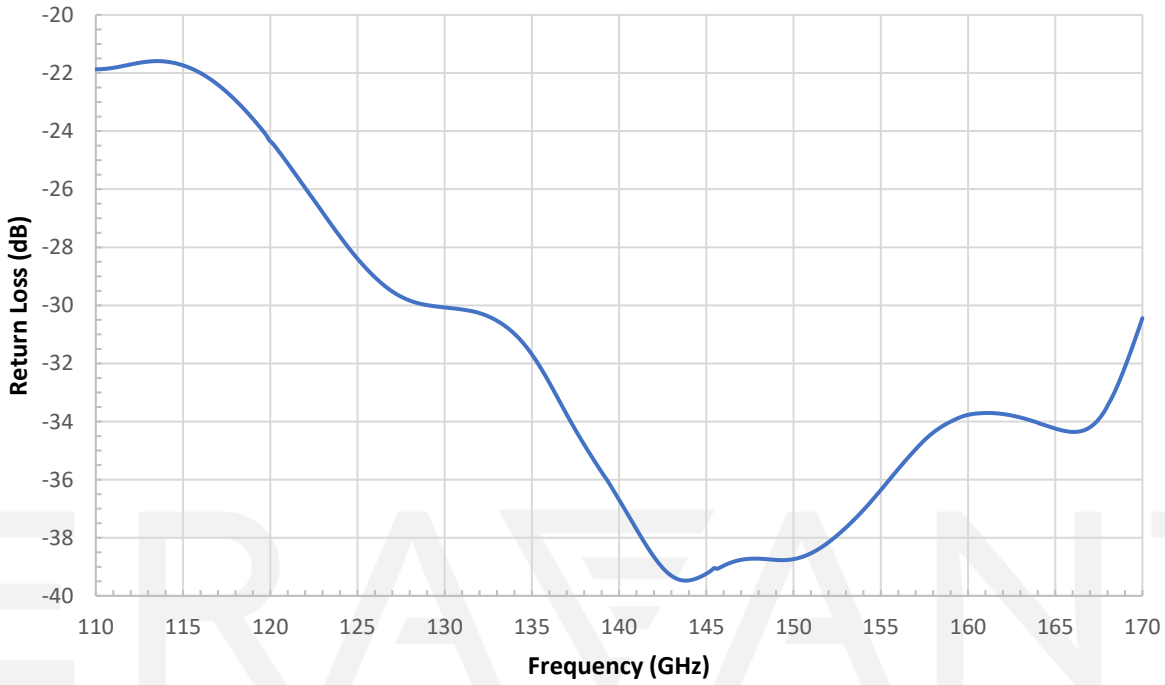
Simulated Antenna Patterns @ 170 GHz



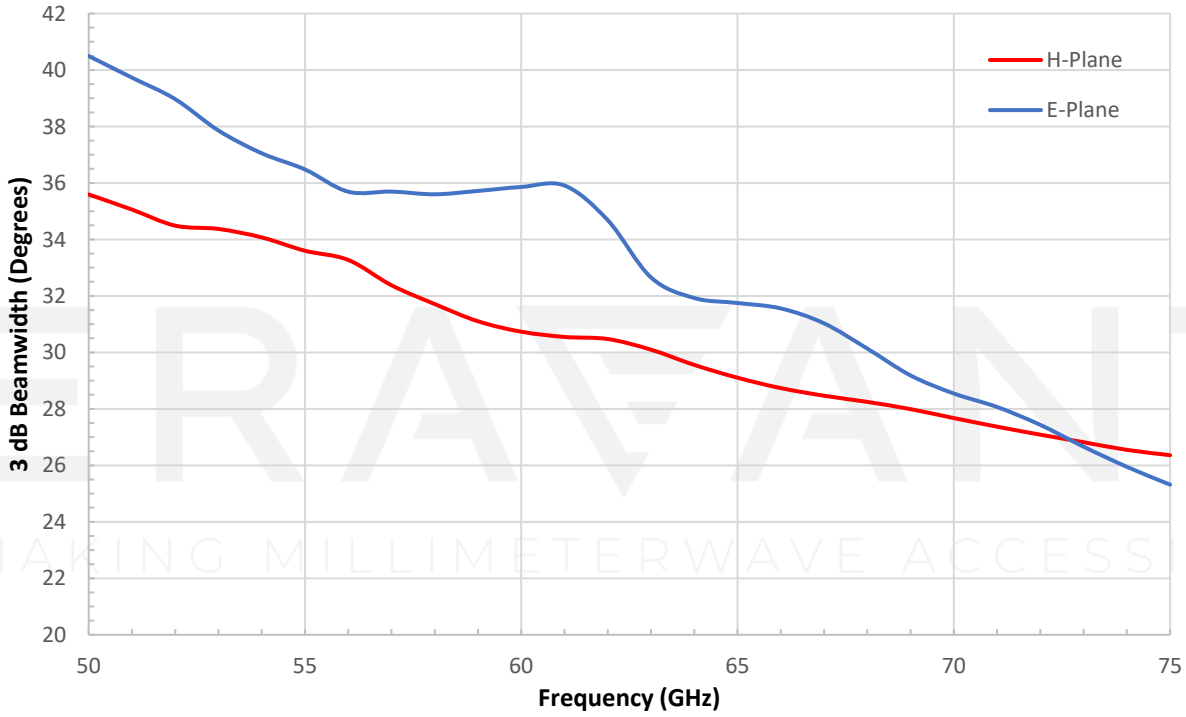
Simulated Gain vs. Frequency



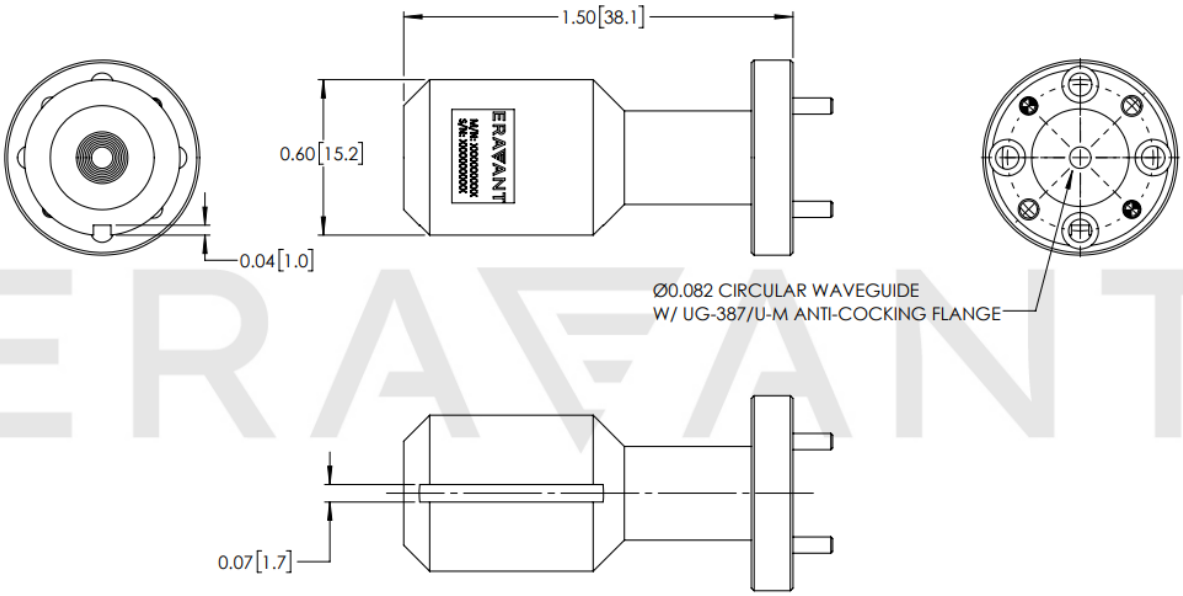
Simulated Return Loss vs. Frequency



Simulated 3 dB Beamwidth vs. Frequency



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



NOTE:

- All data presented is collected 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:

- Exceeding absolute maximum ratings will damage the device.
- Any foreign objects in the waveguide will cause performance degradation and may damage the device.