SAH-1141741060-075-S1-065-DP

D-Band Dual Polarized Choke Flange Feed Horn Antenna, 110 to 170 GHz, 10 dBi Gain

SAH-1141741060-075-S1-065-DP is a dual polarized, WR-06 choke flange feed horn antenna assembly that operates from 110 to 170 GHz. The assembly features an integrated orthomode transducer (OMT) that provides high port isolation and cross-polarization cancellation and a broad band scalar horn that provides low sidelobe levels. The OMT enables the antenna to separate a circular or elliptical polarized waveform into two linear, orthogonal waveforms or vice versa. The dual polarized horn also supports either vertical or horizontal polarized waveguide forms with 20 dB typical cross polarization rejection and 30 dB typical isolation between the V and H ports. At center frequency, the horn antenna exhibits 10 dBi nominal gain, typical half power beamwidth of 60 degrees and typical sidelobe levels of -30 dB. The horizontal and vertical ports are WR-06 waveguides with UG-387/U-M anti-cocking flanges. The orthomode transducer **(Model SAT-FD-06506-S1),** compact square to circular transition **(Model SWT-065075-SB-C-QC)**, and choke flange feed horn antenna **(Model SAH-1141741060-075-S1)** can be purchased separately.

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency Range	110 GHz		170 GHz
Gain		10 dBi	
3dB Beamwidth, E-Plane@140 GHz		60°	
3dB Beamwidth, H-Plane@140 GHz		60°	
Sidelobe Levels		-30 dB	
V and H Port Isolation		30 dB	
Cross Polarization Rejection		20 dB	
Return Loss		15 dB	
Specification Temperature		+25°C	
Operating Temperature	-40°C		+85°C

Mechanical Specifications:

Item	Specification
Antenna Port	WR-06 Waveguide with UG-387/U-M Anti-Cocking Flange
Material	Brass, Aluminum
Finish	Gold Plated
Outline	AH-RD10-075-065-A-DP

ECCN

EAR99

FEATURES

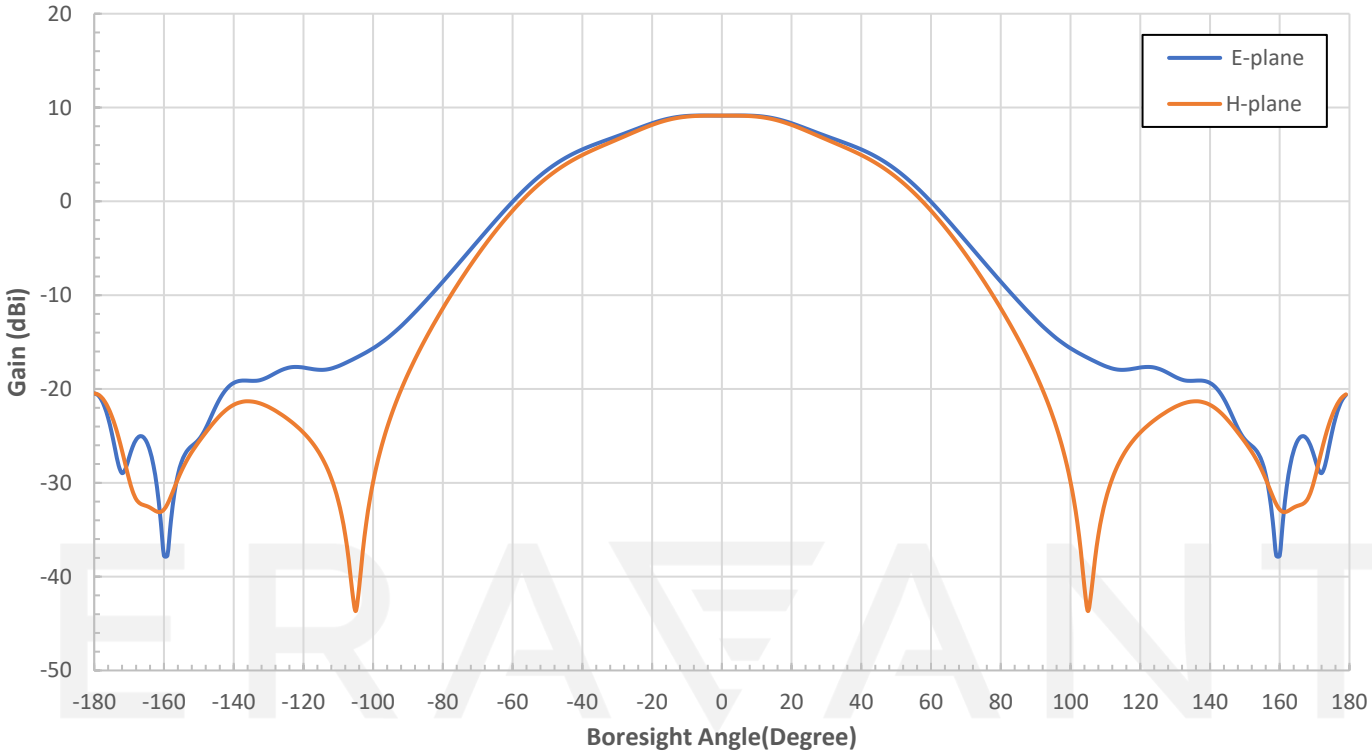
- Full Band Coverage
- Circular waveguide interface
- High port isolation
- Linear and circular Polarization

APPLICATIONS

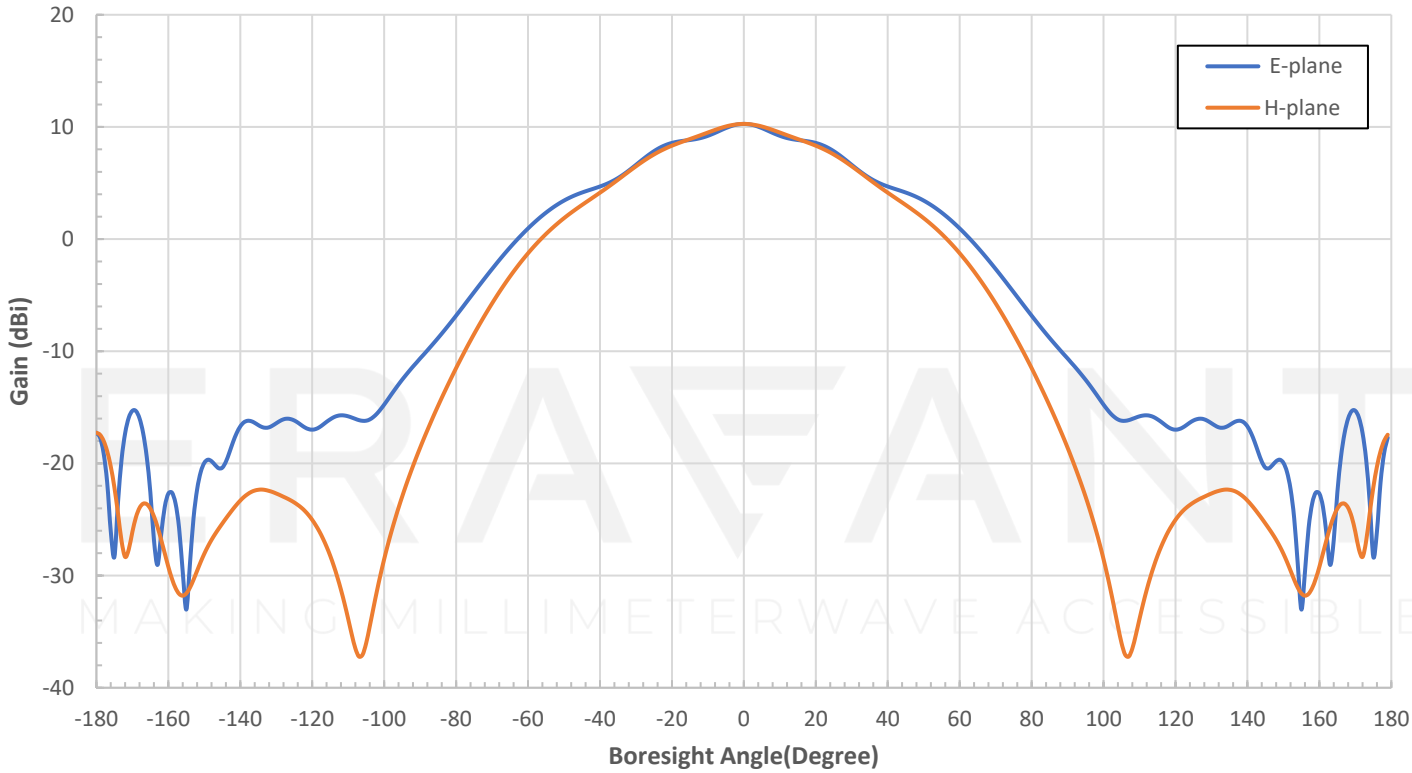
- Radar Systems
- Communication Systems
- Circular and linear waveform separation and combination

SUPPLEMENTAL DETAILS

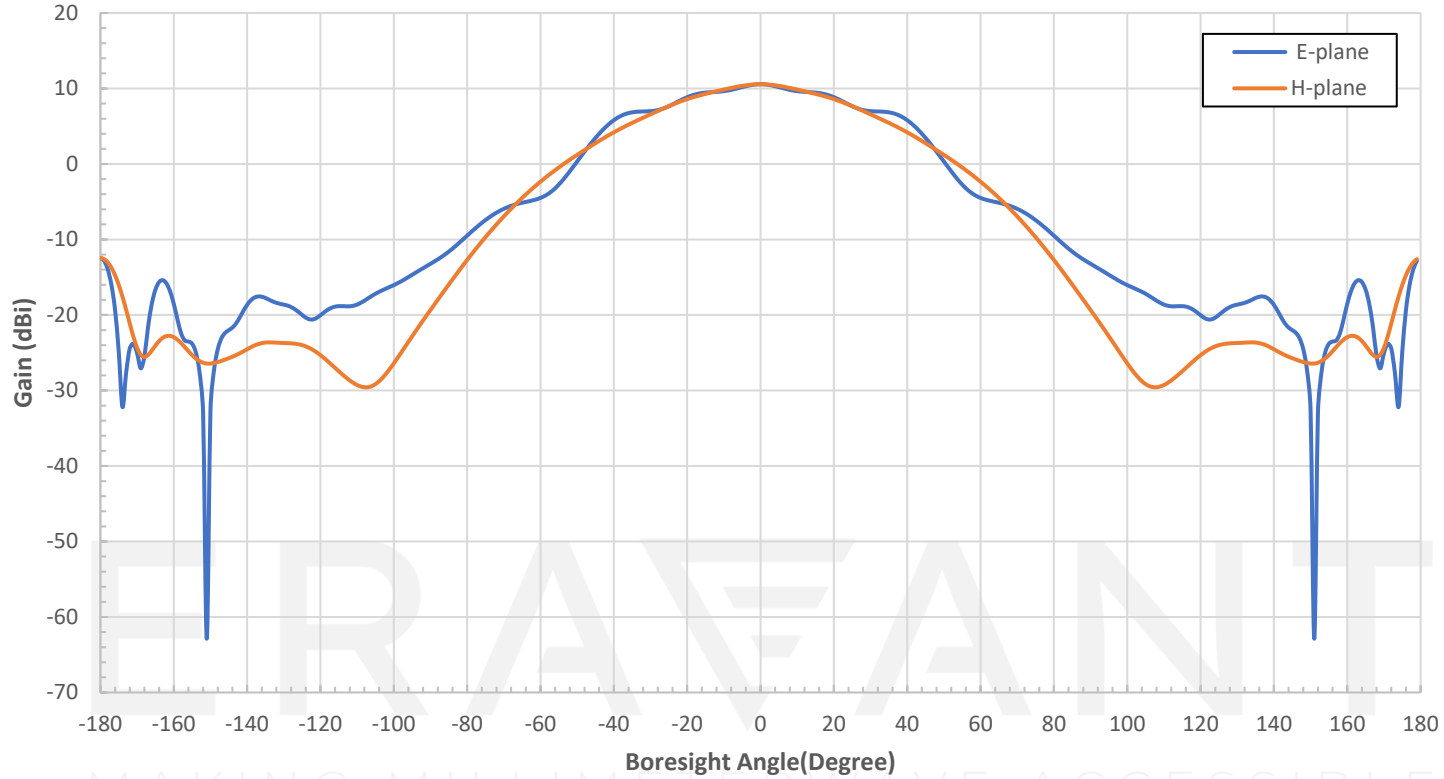
Simulated Pattern @ 110 GHz



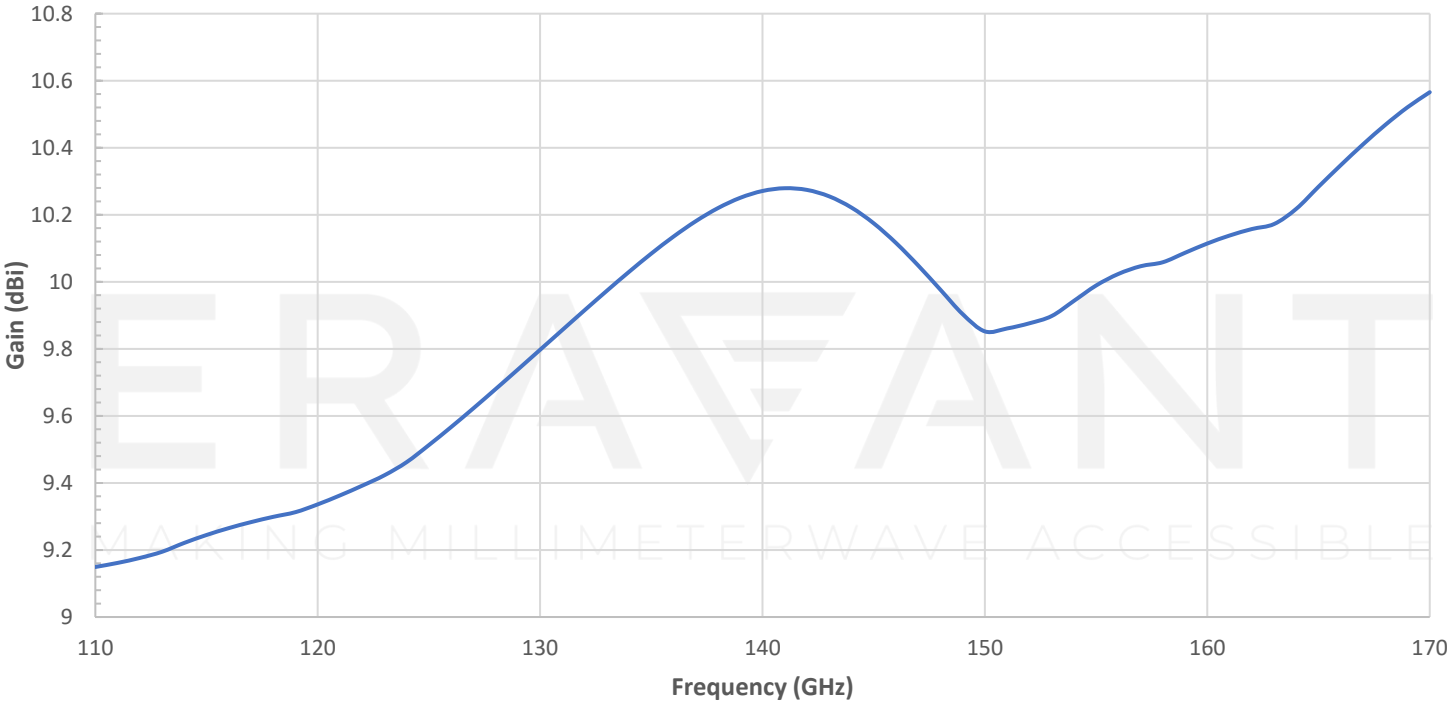
Simulated Pattern @ 140 GHz



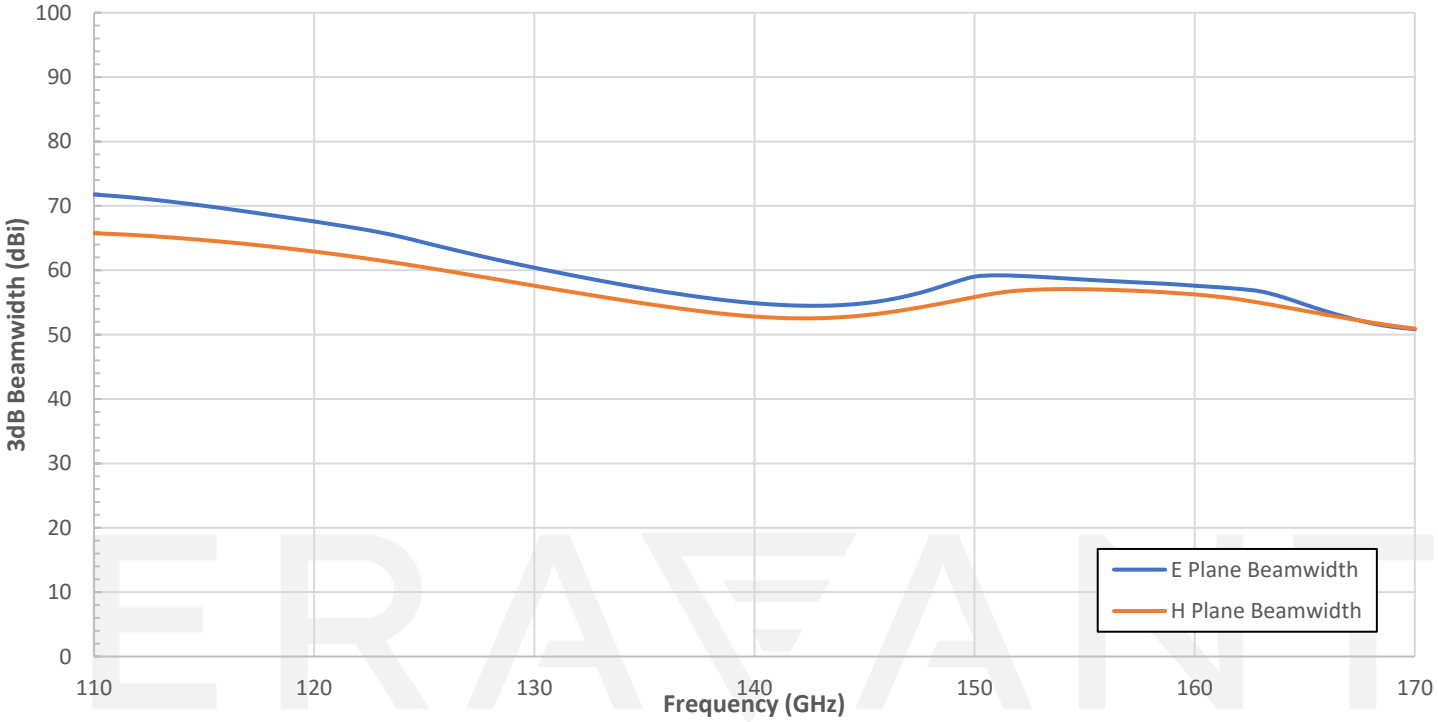
Simulated Pattern @ 170 GHz



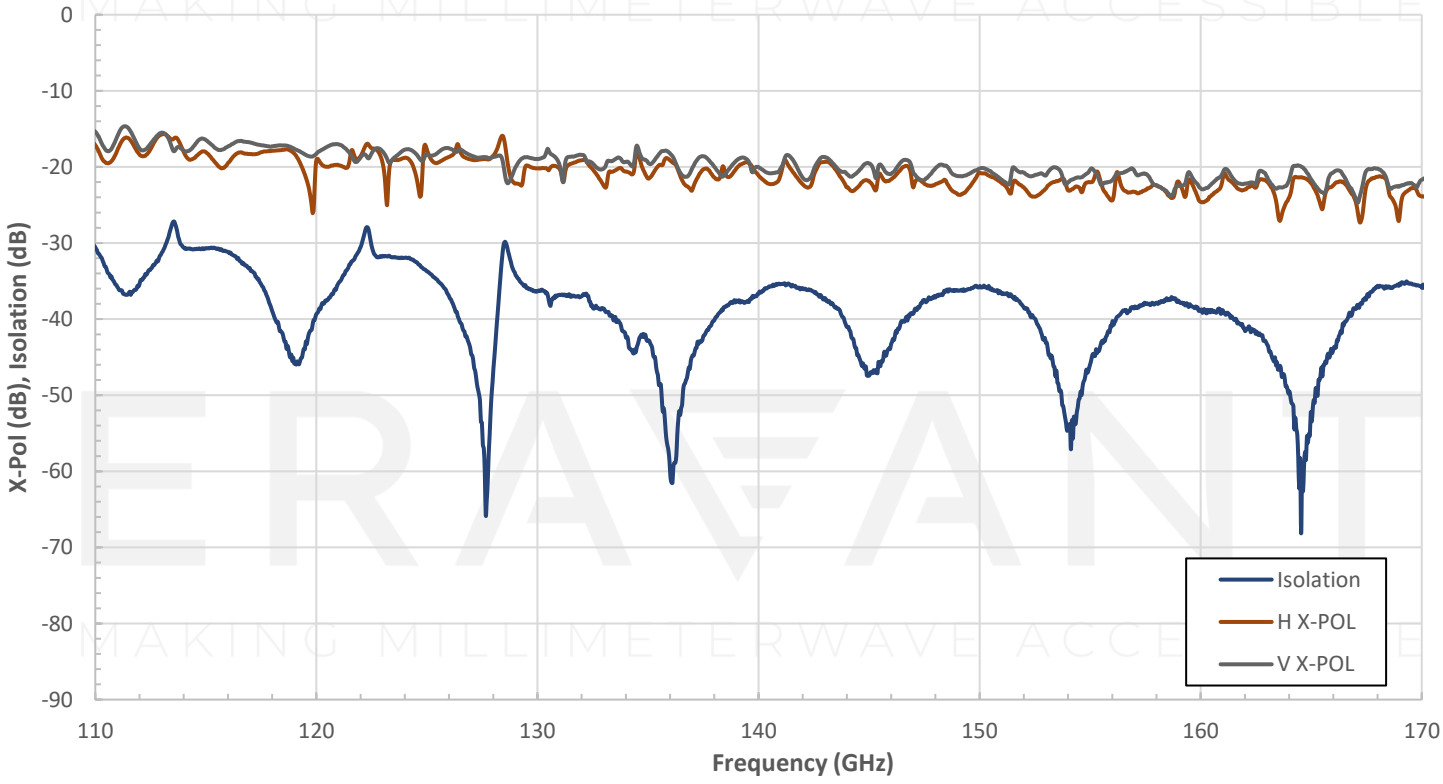
Simulated Gain vs Frequency



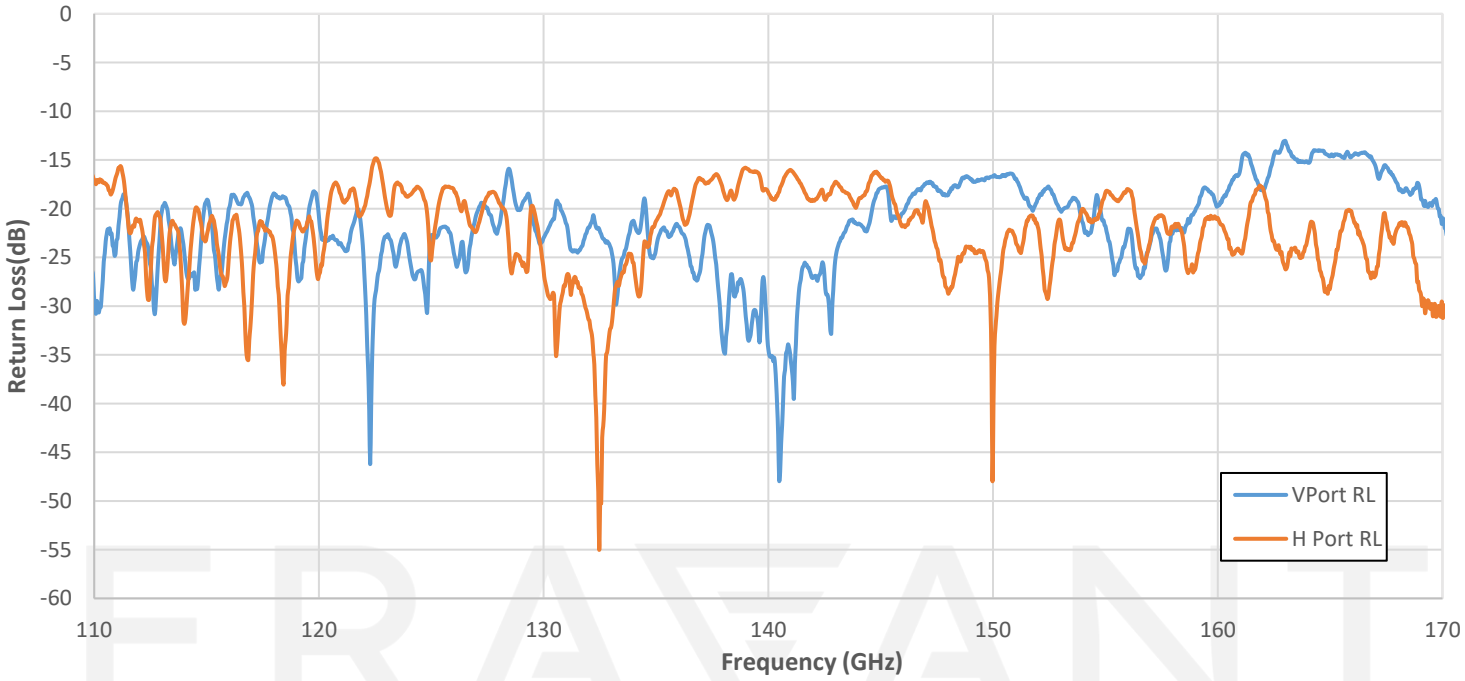
Simulated 3dB Beamwidth vs Frequency



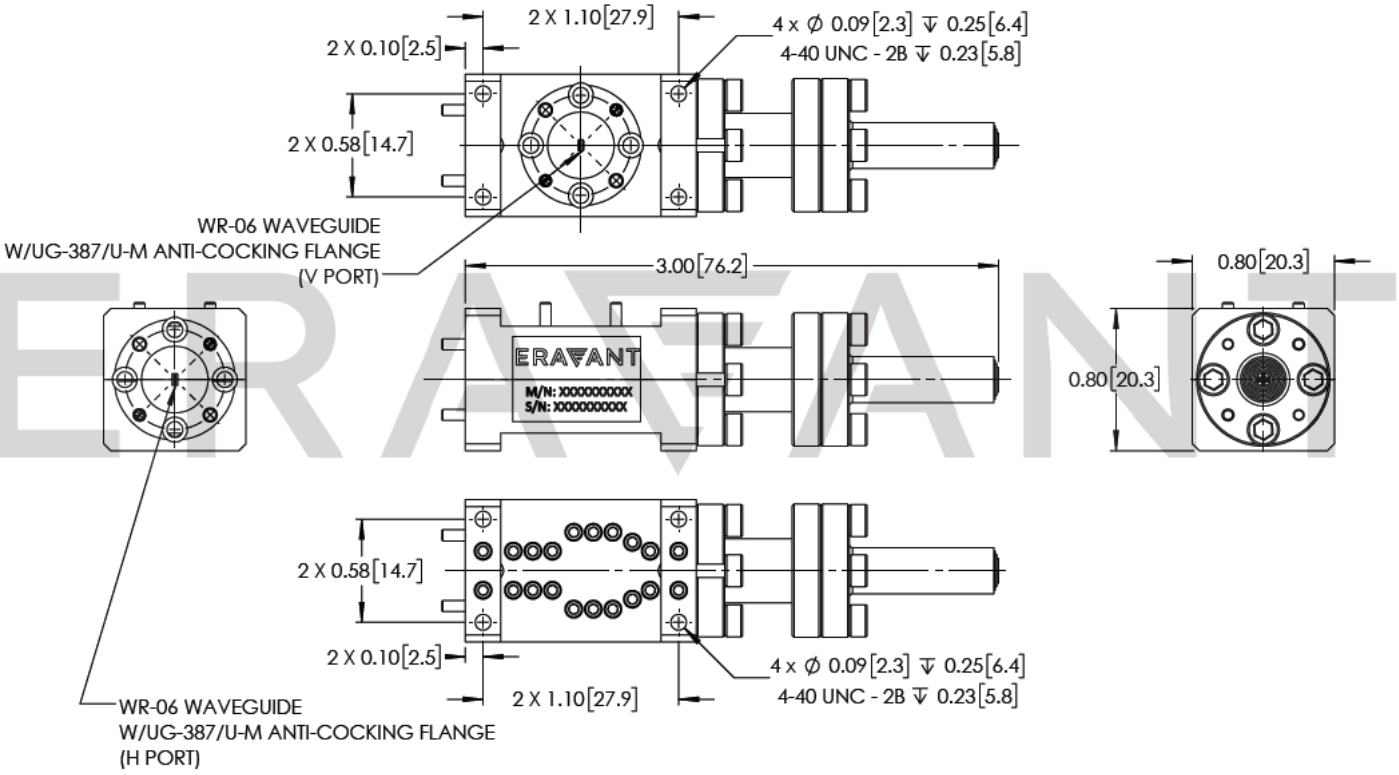
Measured Isolation and Cross-Pol vs Frequency



Measured Return Loss vs Frequency



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



NOTE:

- On condition that test data is provided it is collected from a sample lot. Actual data may vary slightly from unit to unit. All testing is performed under +25 °C room temperature.
- On condition that simulated test data is provided, actual measured data may slightly vary.
- Eravant reserves the right to change the information presented without notice.
- Product photo is a place holder. The Mechanical Outline represents the actual product

CAUTION:

- Any foreign objects in the waveguide will cause performance degradation and may damage or destroy the unit.

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