

WR-12 Dual Polarized Scalar Feed Horn Antenna, 60 to 90 GHz, 13 dBi

Description:

SAF-6039031340-141-S1-122-DP is a dual polarized, WR-12 scalar feed horn antenna assembly that covers several popular 5G bands in the frequency range of 60 to 90 GHz. The antenna features an integrated orthomode transducer (OMT) that provides high port isolation 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. At center frequency, the horn antenna exhibits 13 dBi nominal gain and a typical half power beamwidth of 40 degrees and -25 dB sidelobe levels, respectively. The antenna exhibits 35 dB typical port isolation between the horizontal and vertical ports. The horizontal and vertical ports are WR-12 waveguides with UG-387/U anti-cocking flanges.



Features:

- 60 to 90 GHz Operations
- Linear and Circular Polarizations
- High Port Isolation

Applications:

- 5G Systems
- Radar Systems
- Communication Systems
- Circular and Linear Waveform Separation and Combination

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency	60 GHz	75 GHz	90 GHz
Gain	11 dBi	13 dBi	16 dBi
3 dB Beamwidth, E-plane		40°	
3 dB Beamwidth, H-plane		40°	
Sidelobe Levels		-25 dB	-20 dB
V and H Port Isolation	30 dB	35 dB	
Port Return Loss	10 dB	15 dB	
Specification Temperature		+25 °C	
Operating Temperature	-40 °C		+85 °C

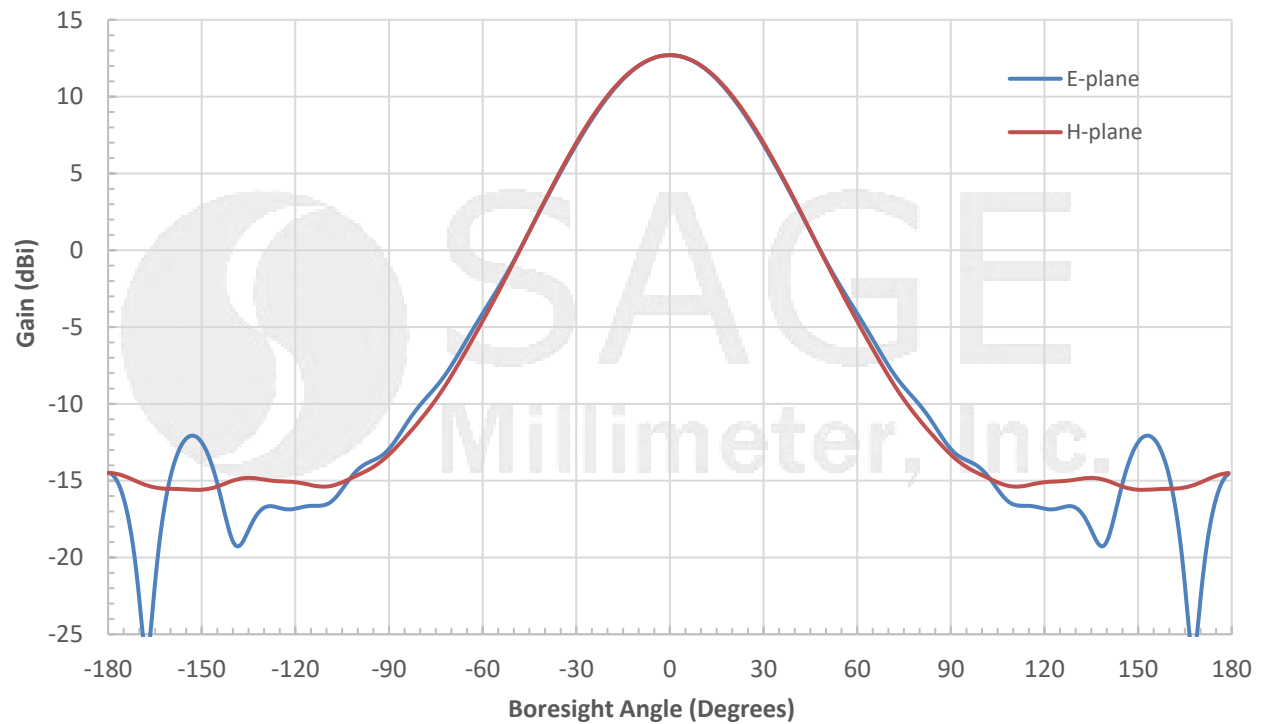
Mechanical Specifications:

Item	Specification
Horizontal and Vertical Ports	WR-12 Waveguide with UG-387/U Anti-Cocking Flange
Material	Aluminum, Brass
Finish	Gold Plated
Weight	2.32 oz.
Outline	AF-CE13-141-122-A-DP

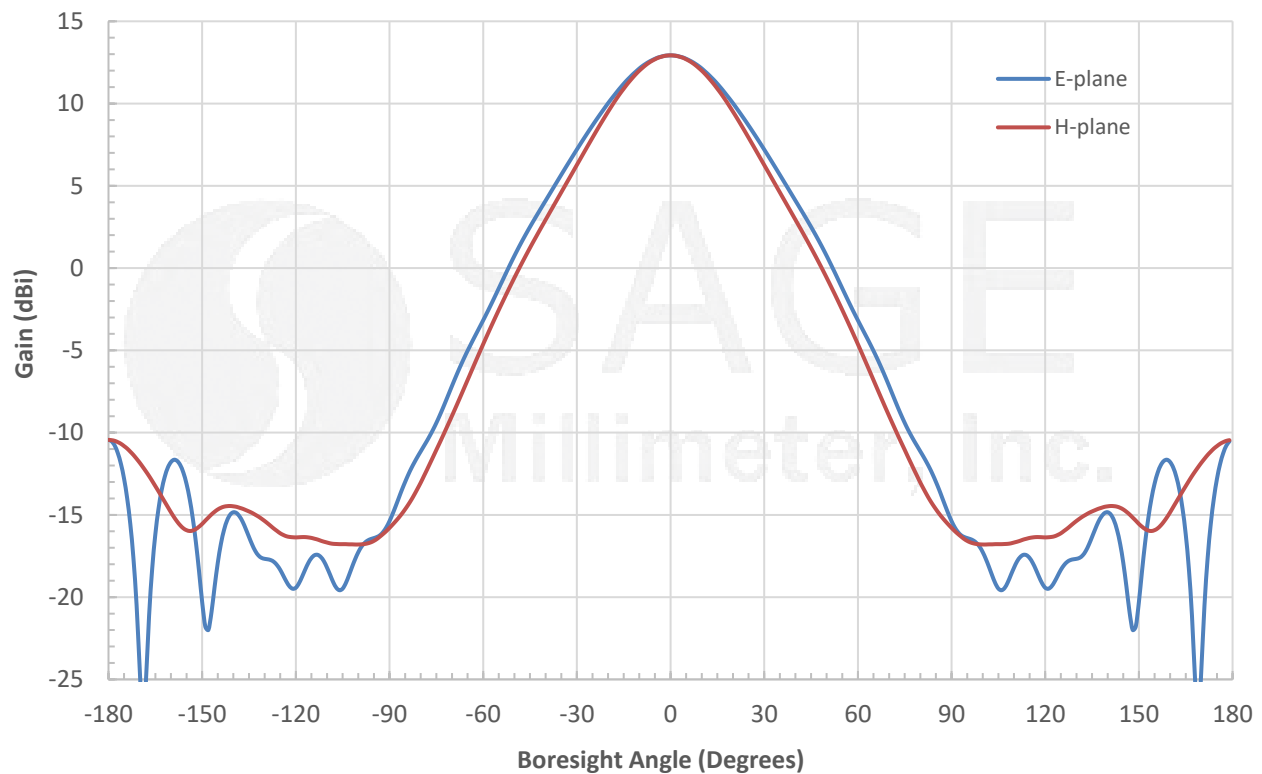


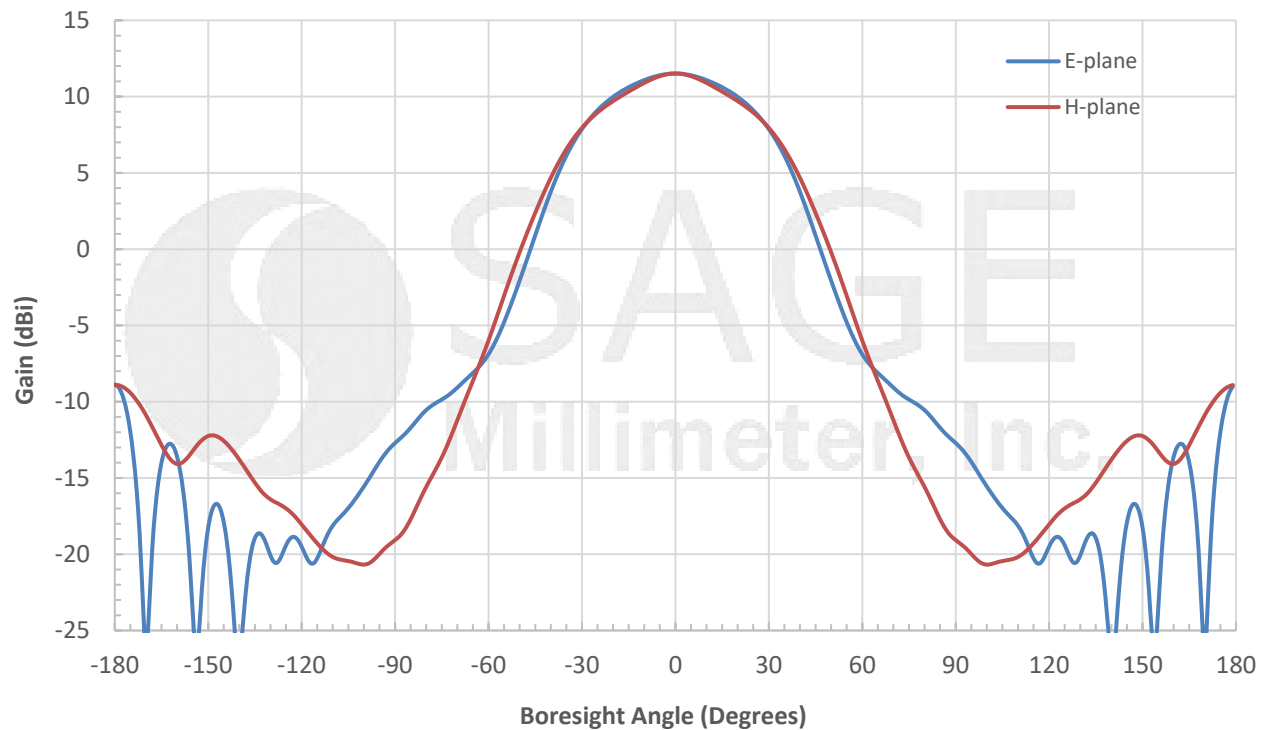
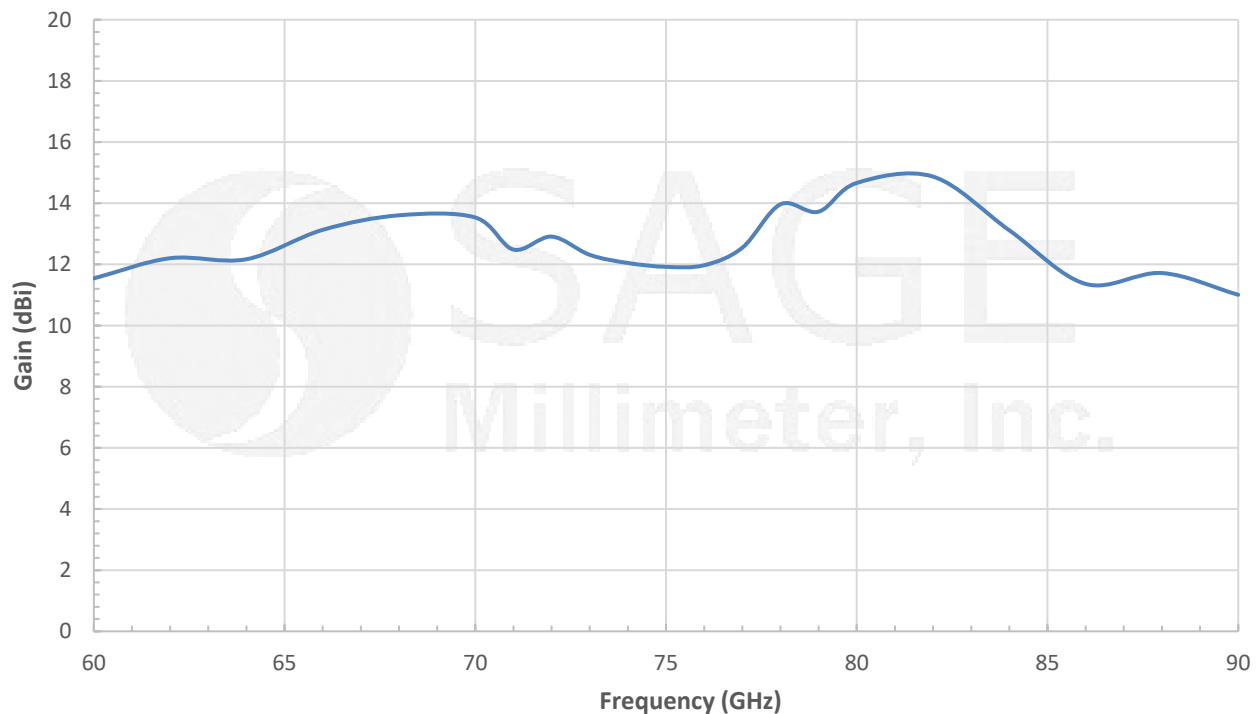
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Simulated Antenna Patterns @ 60 GHz



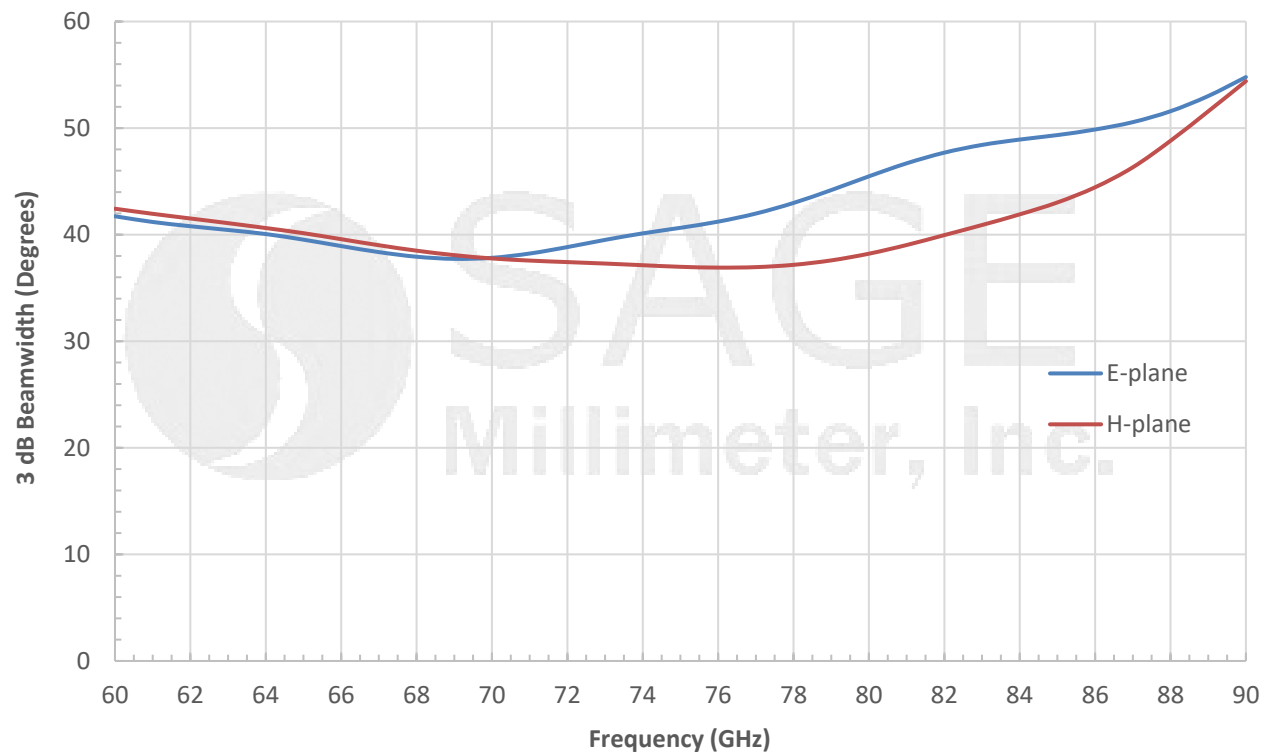
Simulated Antenna Patterns @ 75 GHz



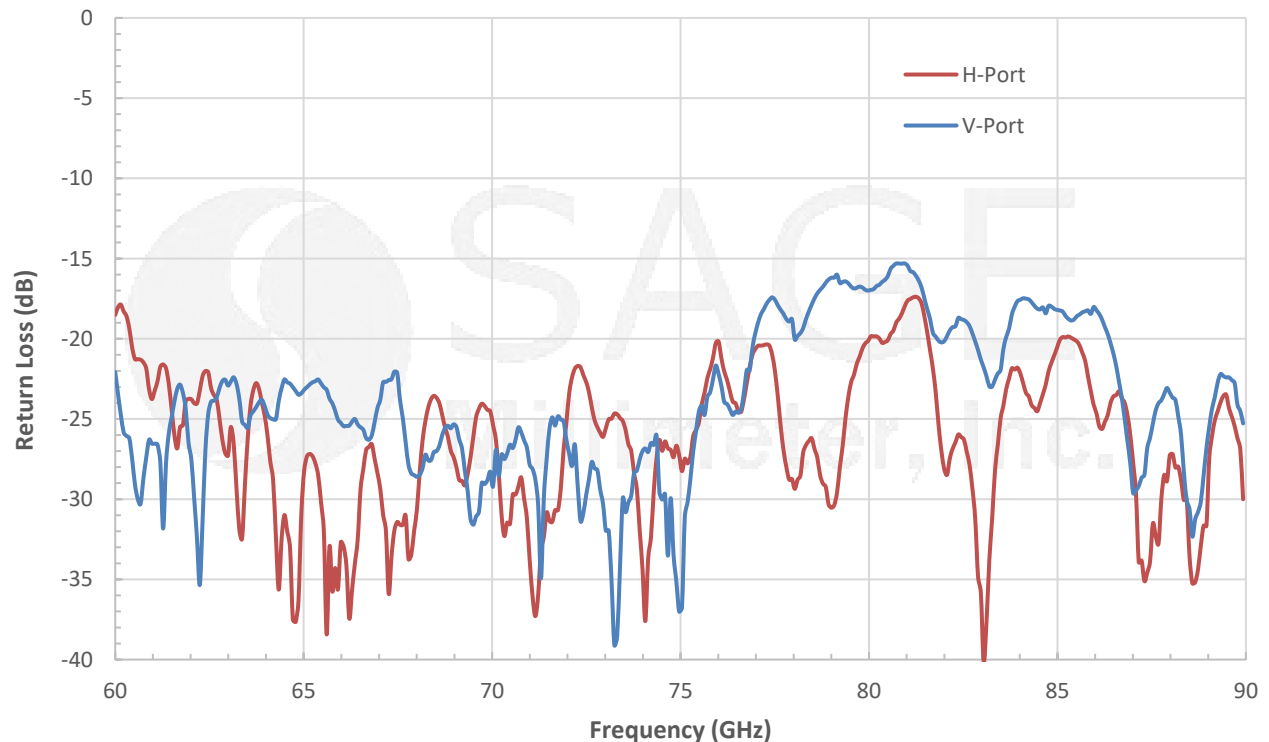
**WR-12 Dual Polarized Scalar Feed Horn Antenna, 60 to 90 GHz, 13 dBi****Simulated Antenna Patterns @ 90 GHz****Typical Gain vs. Frequency**

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Simulated 3 dB Beamwidth vs. Frequency

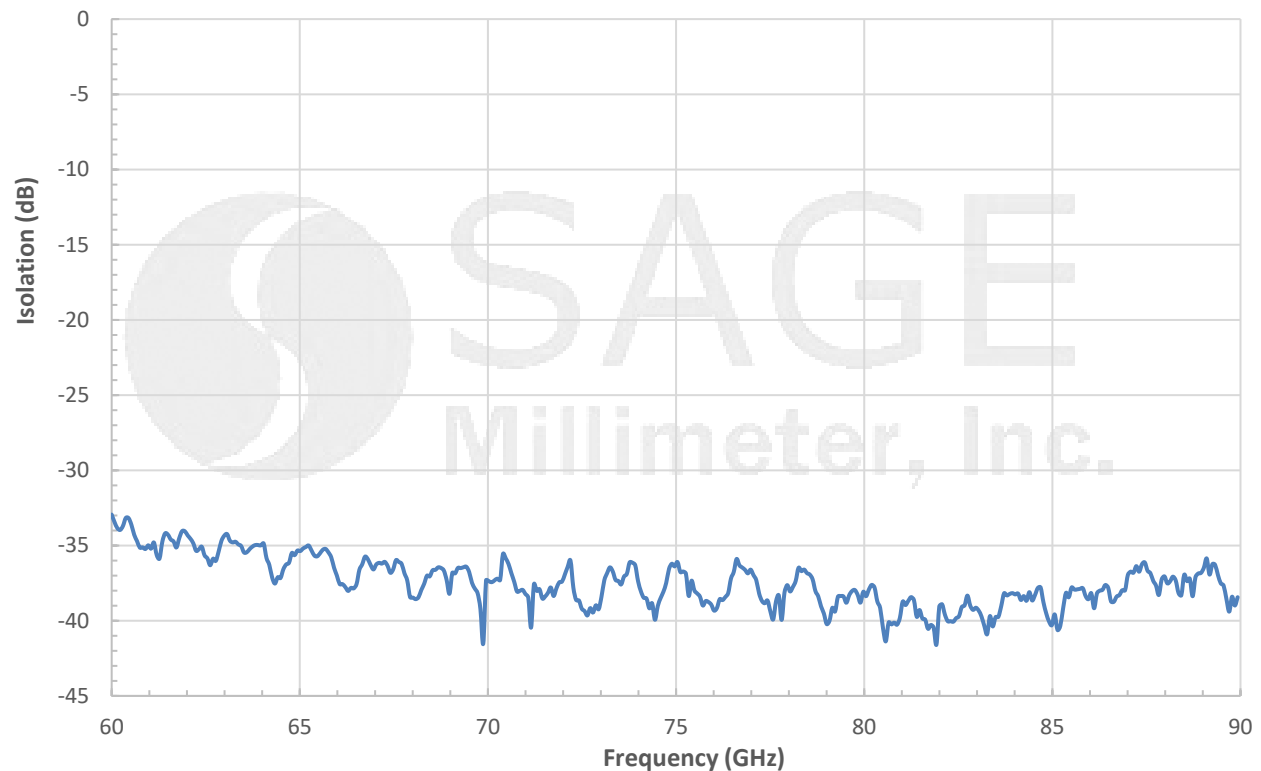
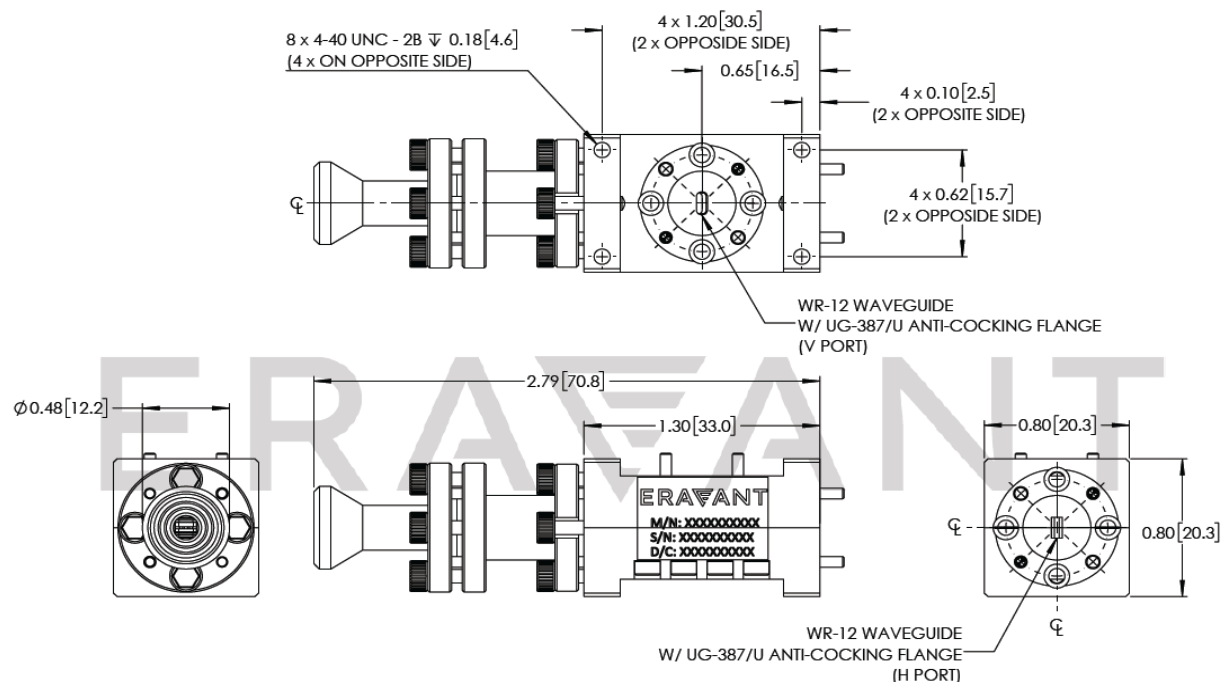


Typical Return Loss vs. Frequency



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Typical Isolation vs. Frequency

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

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Note:

- Antenna Patterns and 3 dB Beamwidth are simulated. Actual data may vary, slightly.
- Gain, Return Loss and Isolation data are collected from a sample lot. Actual data may vary unit to unit, slightly.
- All testing was performed under +25 °C room temperature.
- Eravant reserves the right to change the information presented without notice.

Caution:

- Any foreign objects in the antenna or waveguide will cause performance degradation and possible device damage.

