SAR-1532-100-S2-DP

Advanced

W-Band Dual Polarized Horn Antenna, 15 dBi Gain

Description:

SAR-1532-100-S2-DP is a full band, dual polarized, WR-10 horn antenna assembly that covers the frequency range of 75 to 110 GHz. The antenna features an integrated orthomode transducer (OMT) that provides high port isolation. 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 offers 15 dBi nominal gain and a typical half power beamwidth of 22 degrees on the E-plane and 33 degrees on the H-plane. The antenna exhibits 45 dB typical port isolation between the horizontal and vertical ports. The horizontal and vertical ports are WR-10 waveguides with UG-387/U-M anti-cocking flanges and 4-40 threaded holes.

Features:

- High Isolation
- Low Insertion Loss
- Full Band Performance

Applications:

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

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency Range	75 GHz		110 GHz
Gain		15 dBi	
3 dB Beamwidth, E Plane @ 92.5 GHz		22°	
3 dB Beamwidth, H Plane @ 92.5 GHz		33°	
Sidelobe Levels		-19 dB	
V and H Port Isolation		45 dB	
Specification Temperature		+25˚C	
Operating Temperature	-40˚C		+85˚C

Mechanical Specifications:

Item	Specification
Horizontal and Vertical Ports	WR-10 Waveguide
Flange Type	UG-387/U-M Anti-Cocking Flange
Material	Aluminium
Finish	Gold Plated
Weight	1.6 Oz
Outline	AR-W15-100-DP

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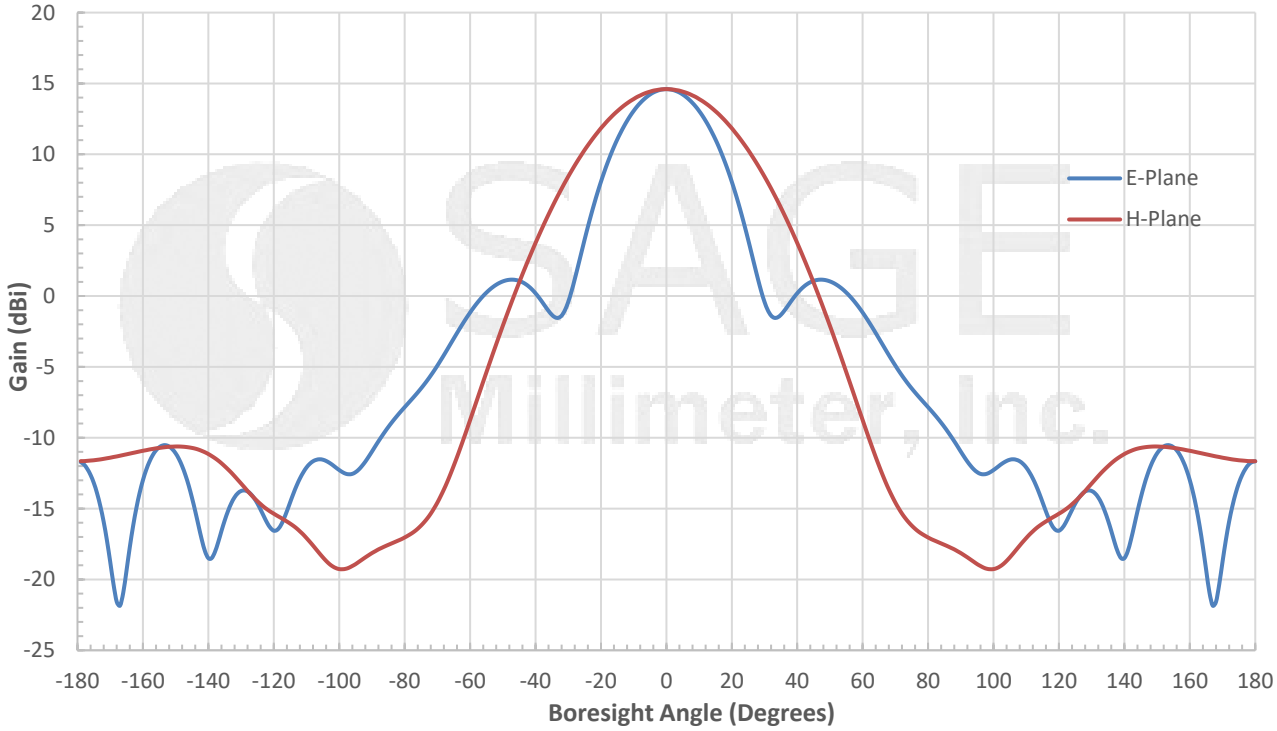
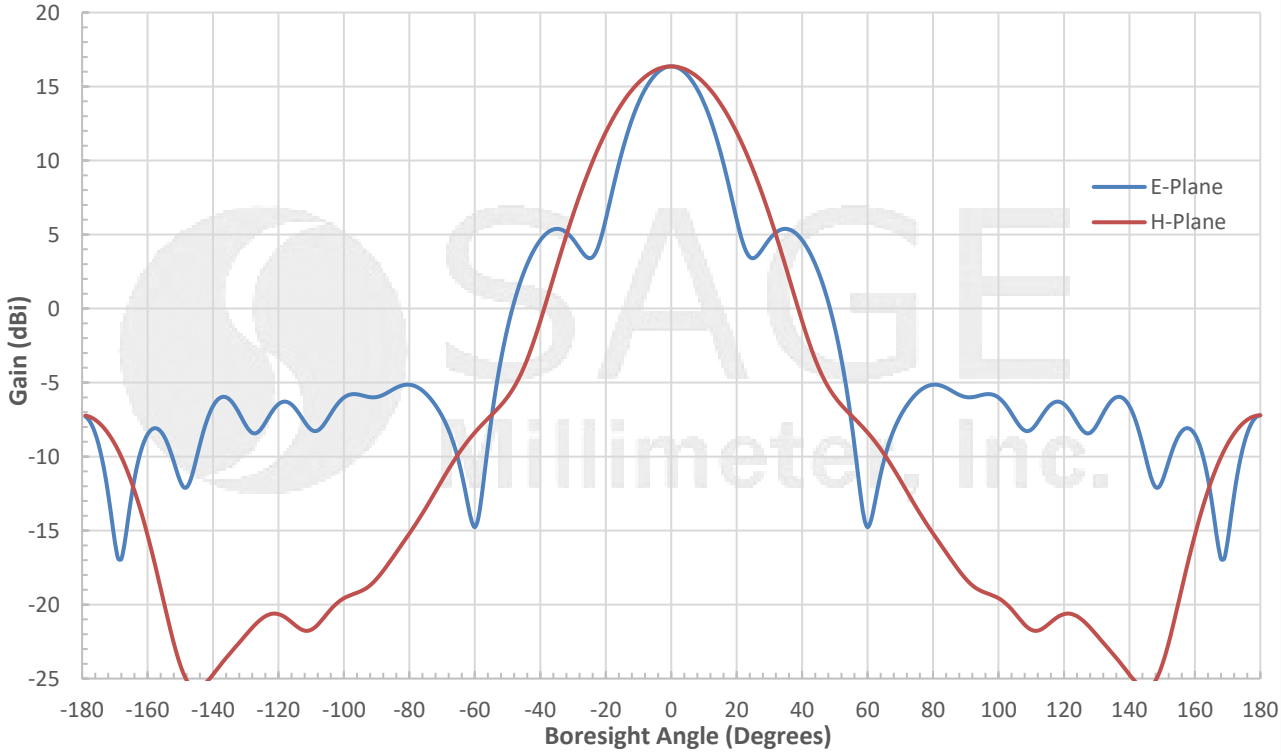
W-Band Dual Polarized Horn Antenna, 15 dBi Gain

Simulated Antenna Patterns @ 75 GHz



Simulated Antenna Patterns @ 92.5 GHz



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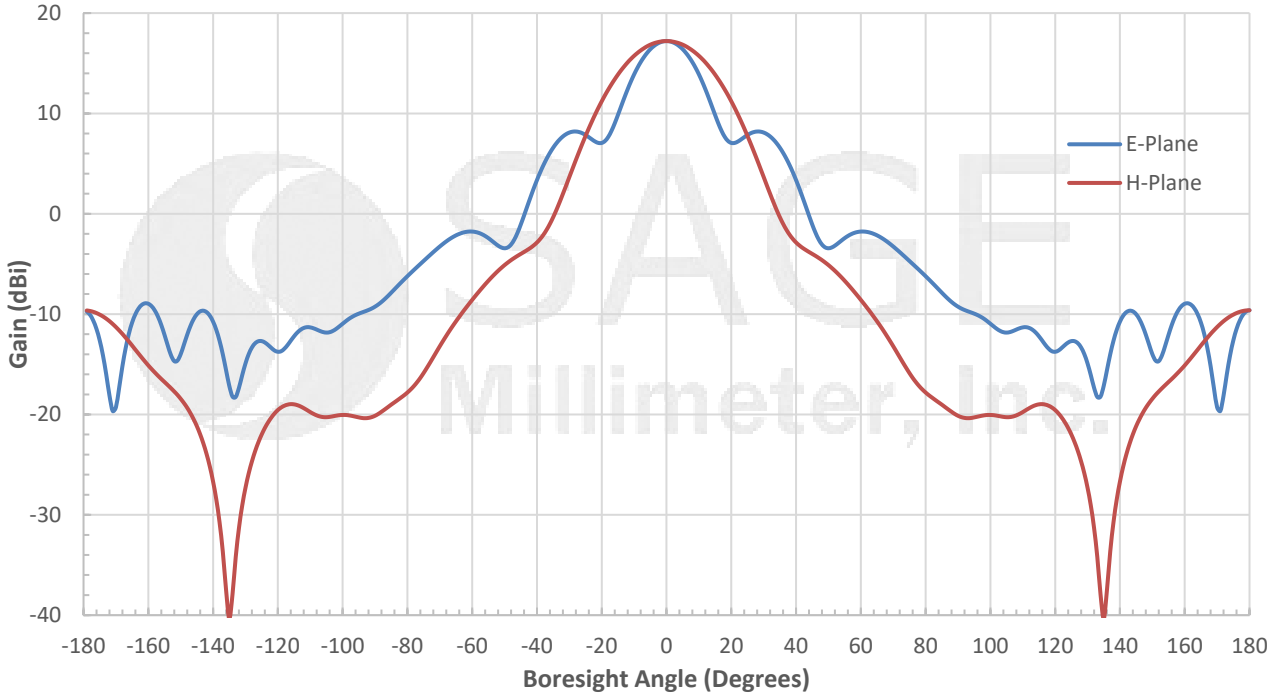
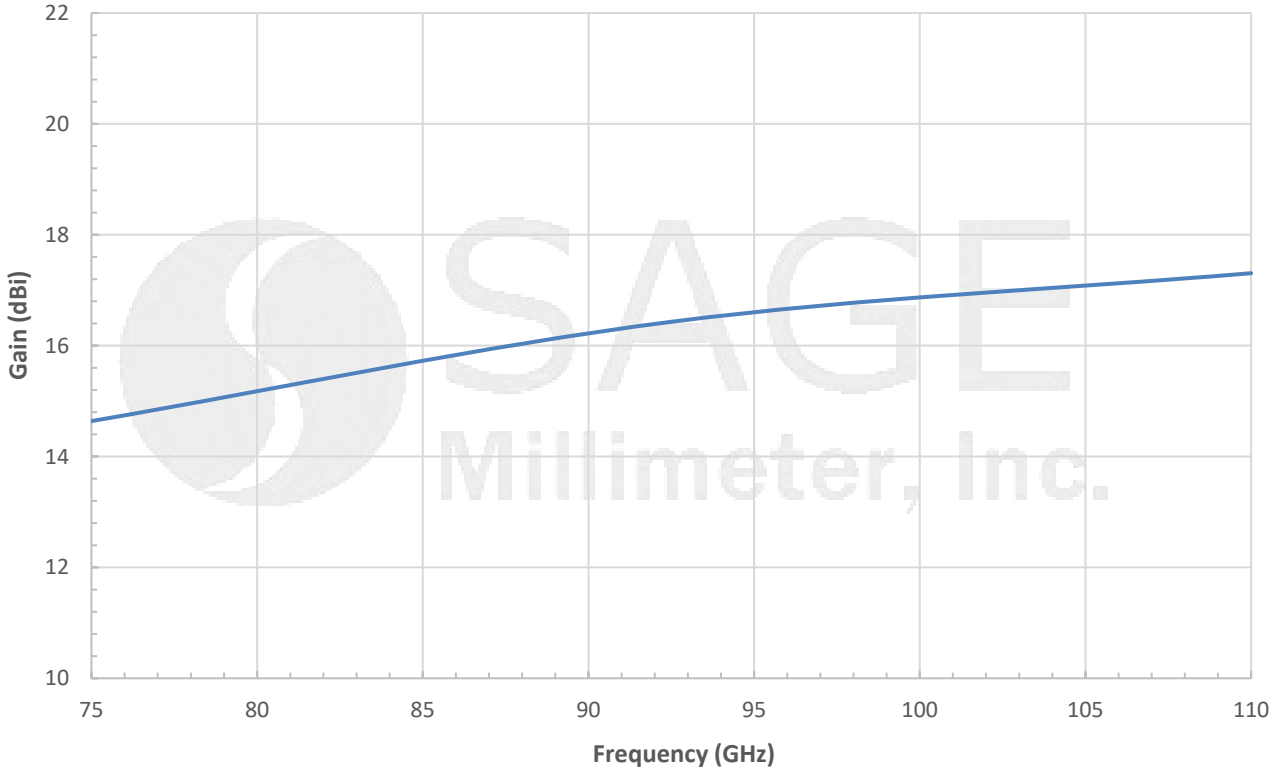
W-Band Dual Polarized Horn Antenna, 15 dBi Gain

Simulated Antenna Patterns @ 110 GHz



Simulated Gain vs. Frequency



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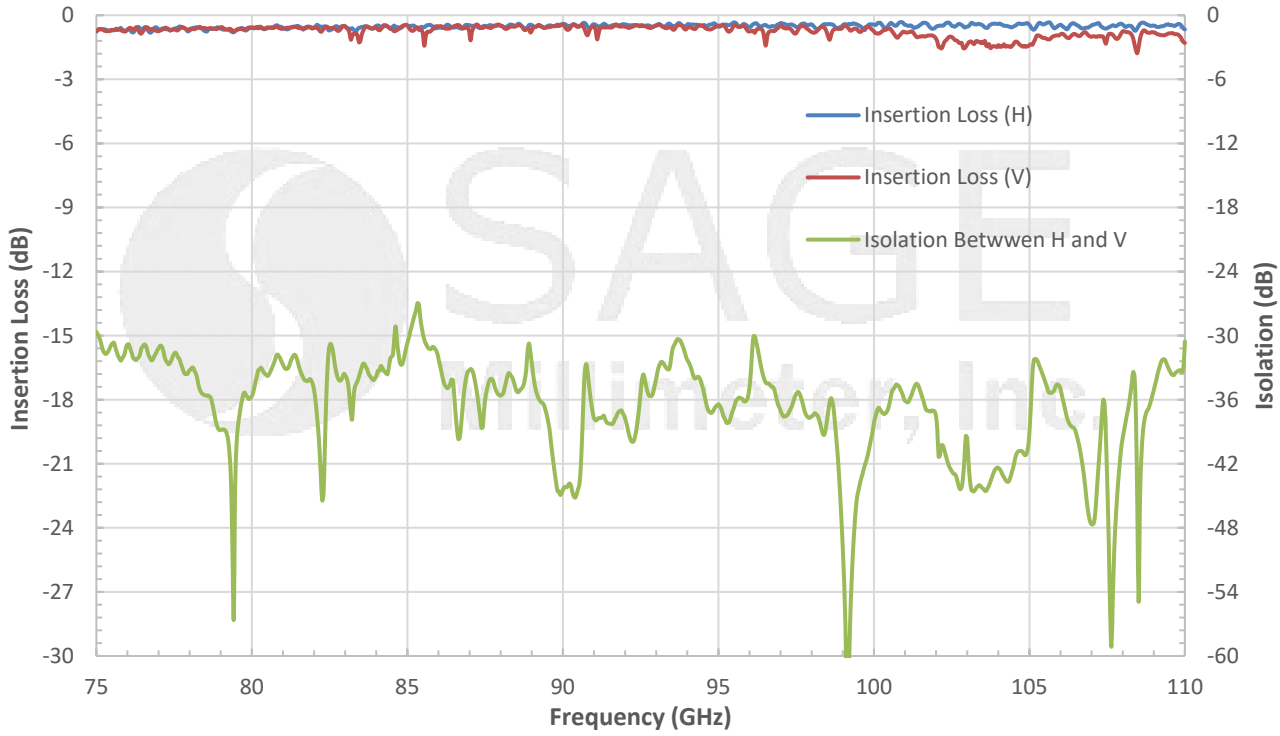
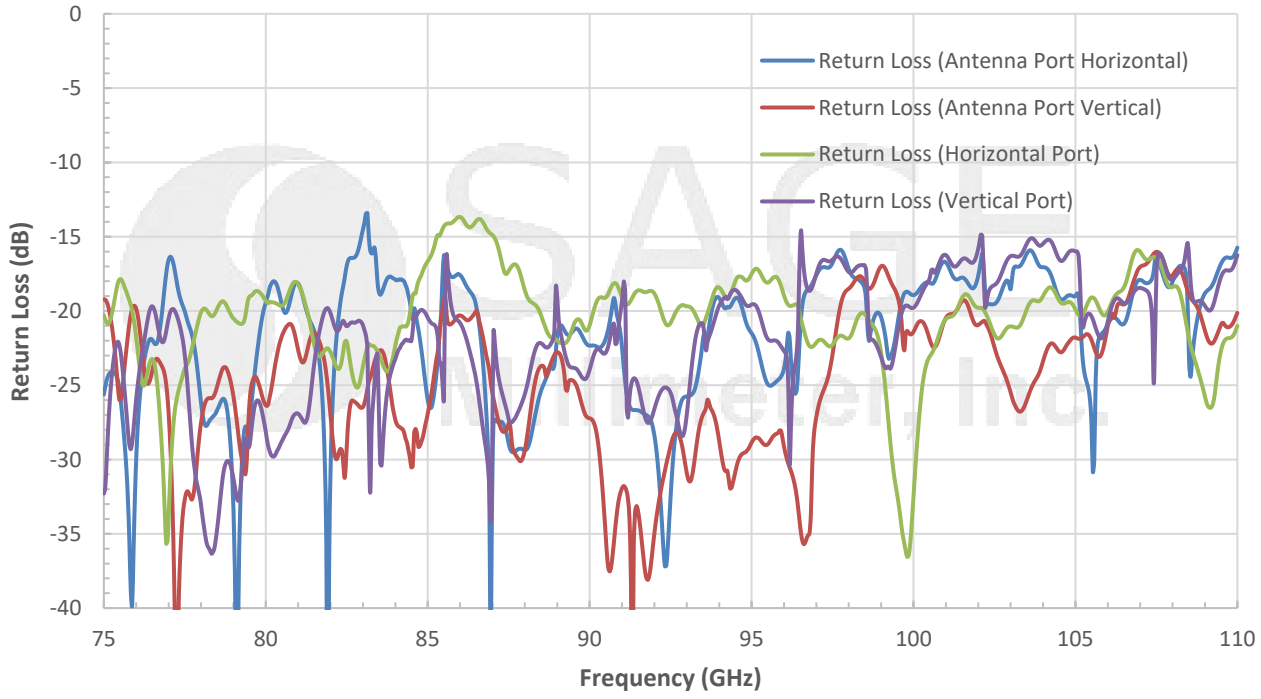
Measured Port Performance vs. Frequency



Measured Port Return Loss vs. Frequency



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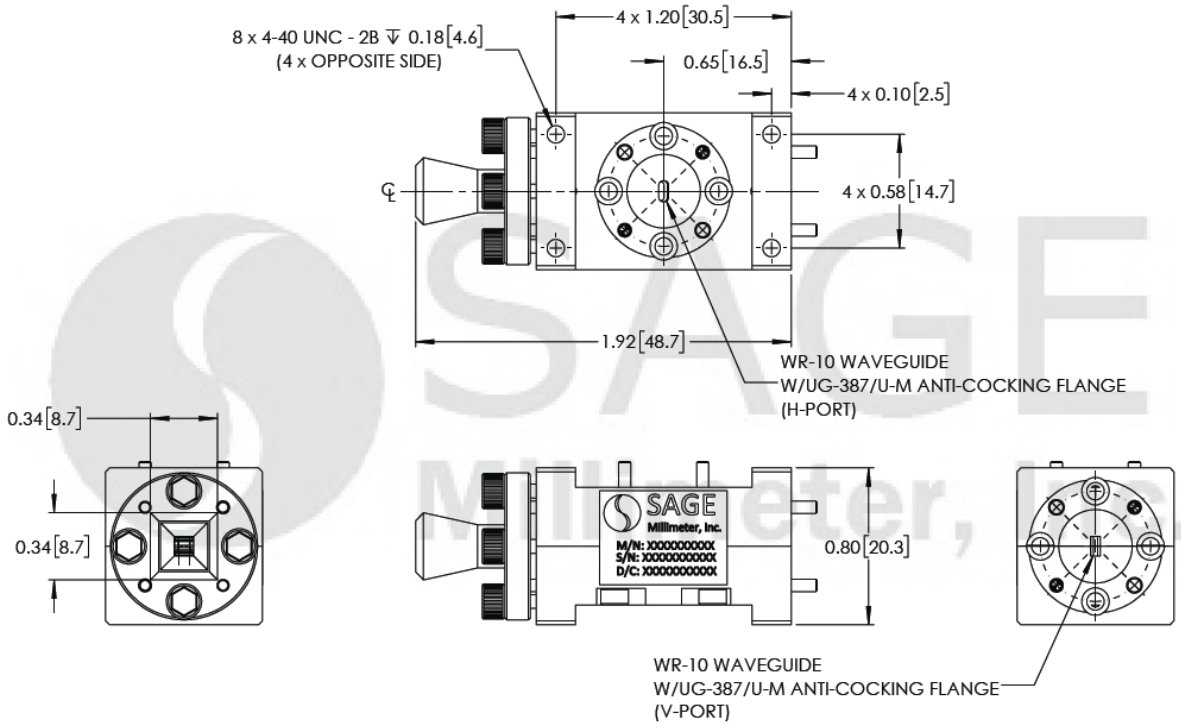
Mechanical Outline: (Unless otherwise specified, all dimensions are in inches [millimeters])



Note:

- This antenna is a mature product. The reasons for only providing simulated data can be found in the following blog here.
- 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 will cause performance degradation and possible device damage.