SAR-1532-148-S2-DP

Rev 1.5

V-Band Dual Polarized Horn Antenna, 15 dBi Gain

Description:

SAR-1532-148-S2-DP is a full band, dual polarized, WR-15 horn antenna assembly that covers the frequency range of 50 to 75 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 exhibits 15 dBi nominal gain, typical half power beamwidth of 28 degrees on the E-plane and 33 degrees on the H-plane, and -15 dB sidelobe levels, respectively. The antenna exhibits 45 dB typical port isolation between the horizontal and vertical ports. The horizontal and vertical ports are WR-15 waveguides with UG-385/U flanges and 4-40 threaded holes.

Features:

- Full V Band Operations
- Linear and Circular Polarizations
- High Port Isolation

Applications:

- IEEE 802.11ab WiGig
- Radar Systems
- Communication Systems
- Circular and Linear Waveform Separation and Combination

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency Range*	50 GHz		75 GHz
Gain		15 dBi	
3 dB Beamwidth E-Plane @ 62.5 GHz		28°	
3 dB Beamwidth H-Plane @ 62.5 GHz		33°	
Sidelobe Levels		-15 dB	
V and H Port Isolation		45 dB	
Port Return Loss		15 dB	
Specification Temperature		+25˚C	
Operating Temperature	-40˚C		+85˚C

Note: *The frequency range covers 48 to 80 GHz with slight performance degradation at band edges.

Mechanical Specifications:

Item	Specification
Horizontal and Vertical Ports	WR-15 Waveguide
Flange Type	UG-385/U Threaded Flange
Material	Aluminum
Finish	Gold Plated
Weight	1.4 Oz
Outline	AR-V15-148-DP

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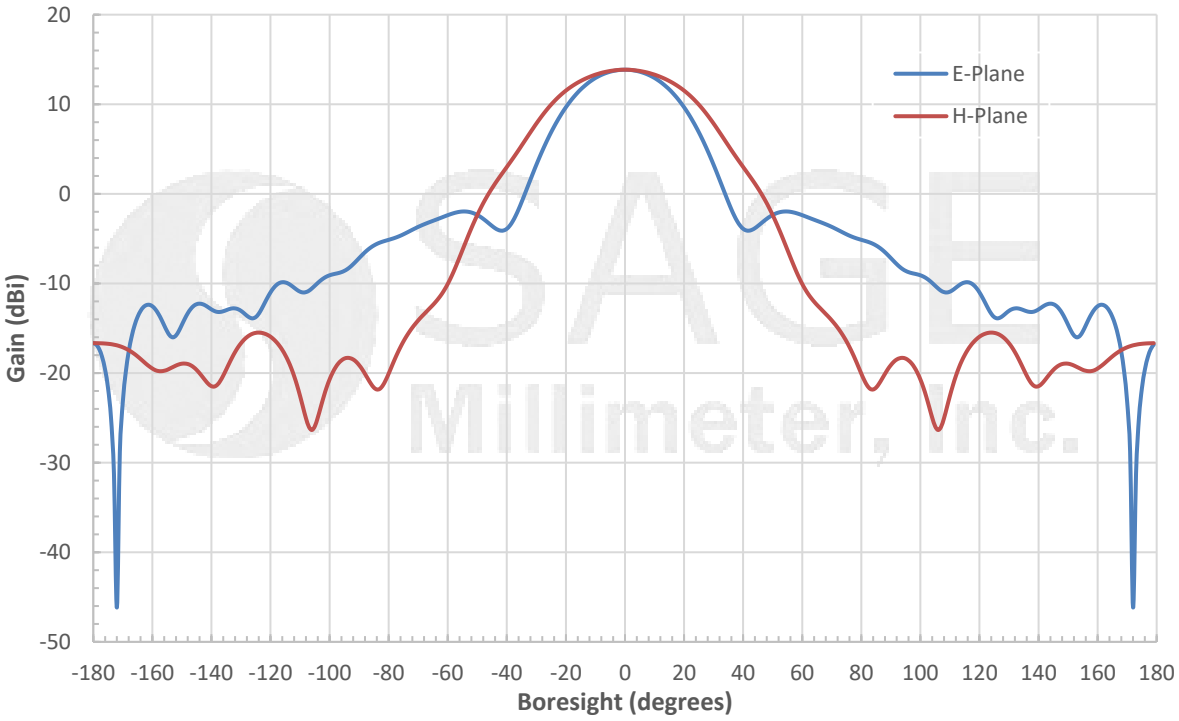
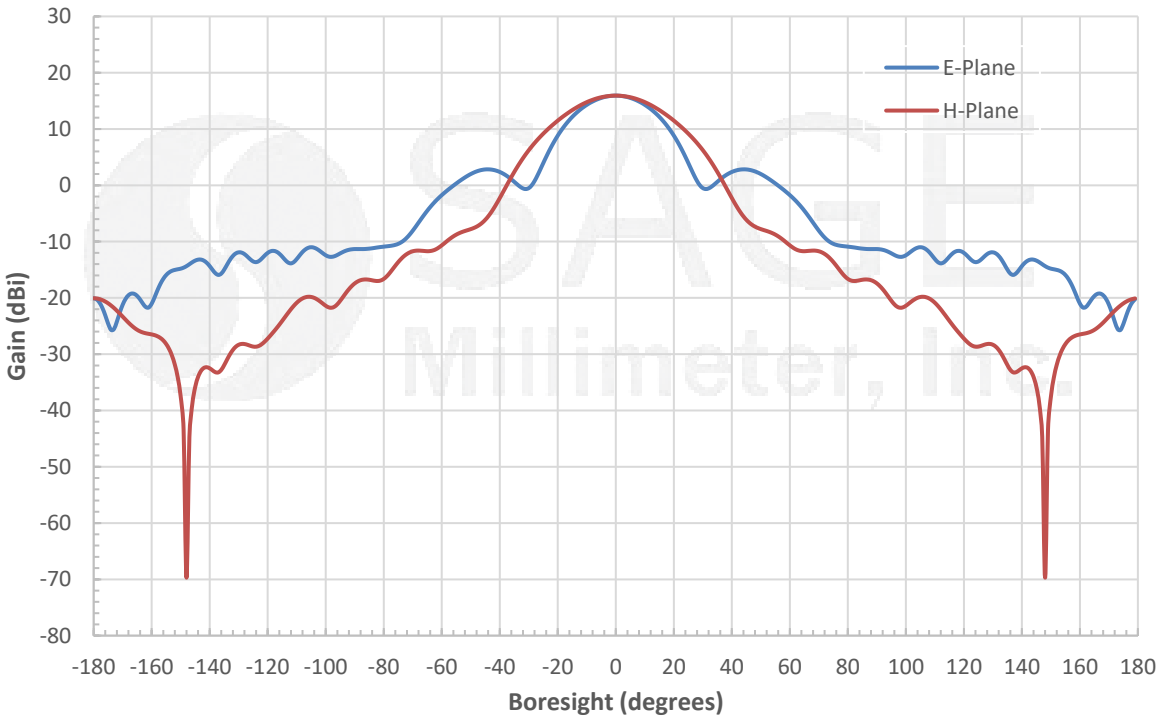
V-Band Dual Polarized Horn Antenna, 15 dBi Gain

Simulated Antenna Patterns @ 50 GHz



Simulated Antenna Patterns @ 62.5 GHz



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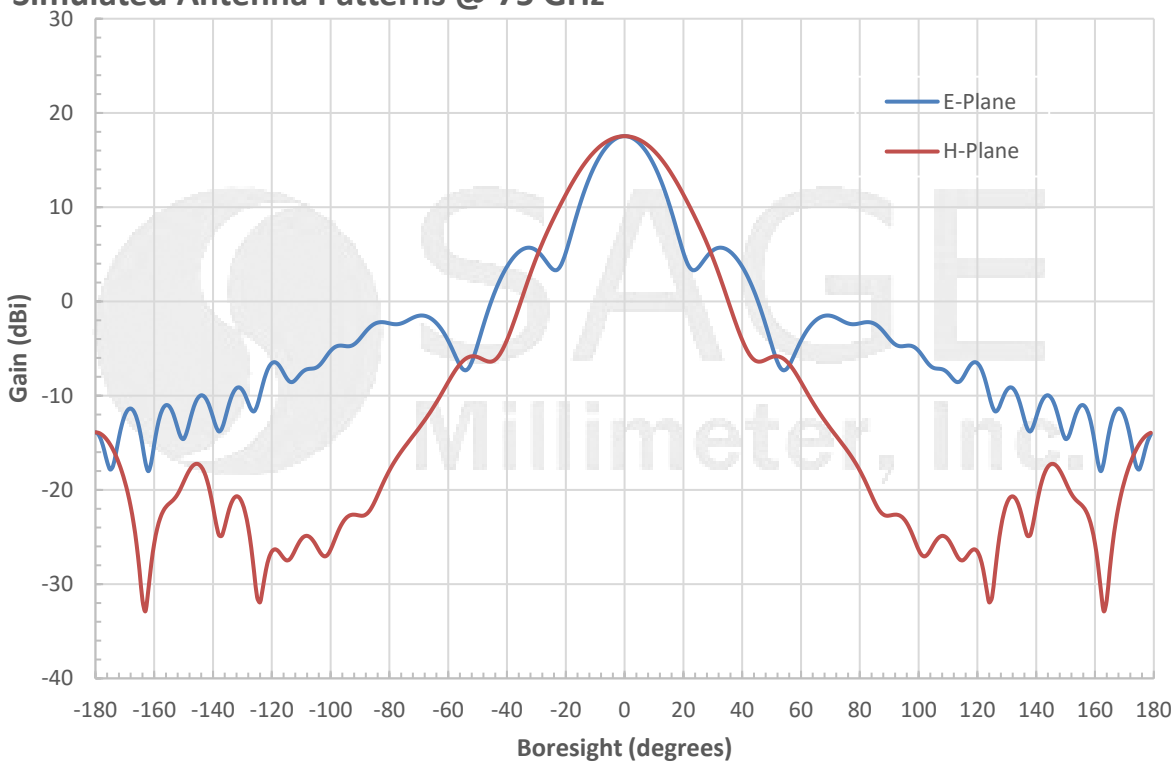
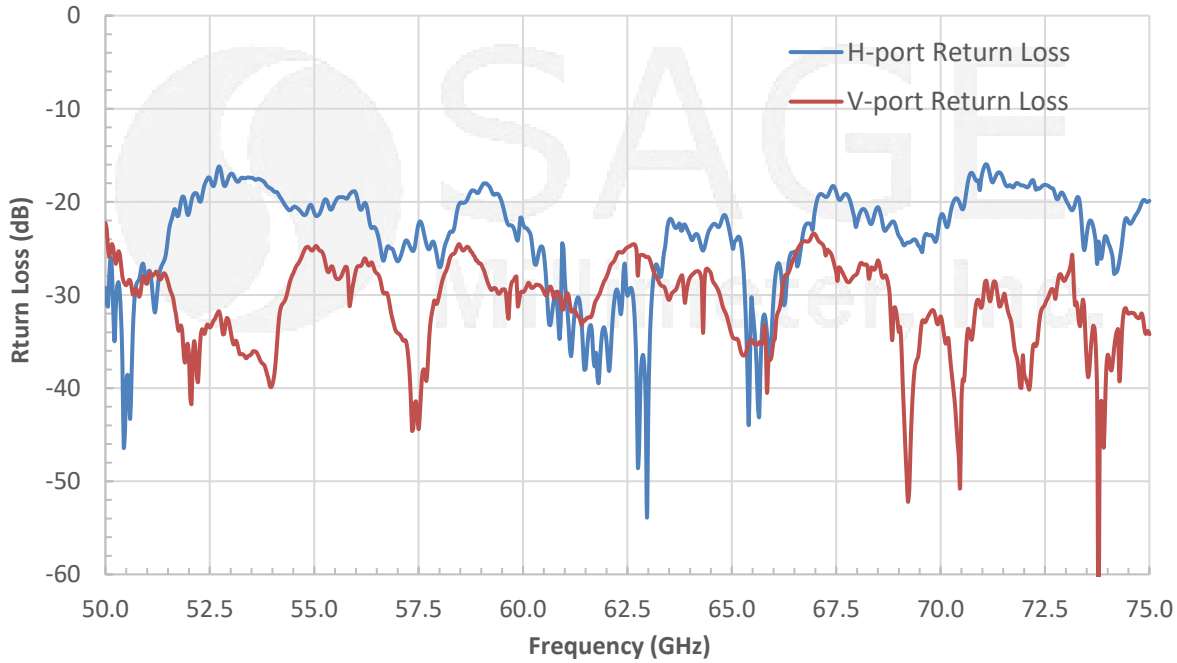
V-Band Dual Polarized Horn Antenna, 15 dBi Gain

Simulated Antenna Patterns @ 75 GHz



Typical Return Loss vs. Frequency



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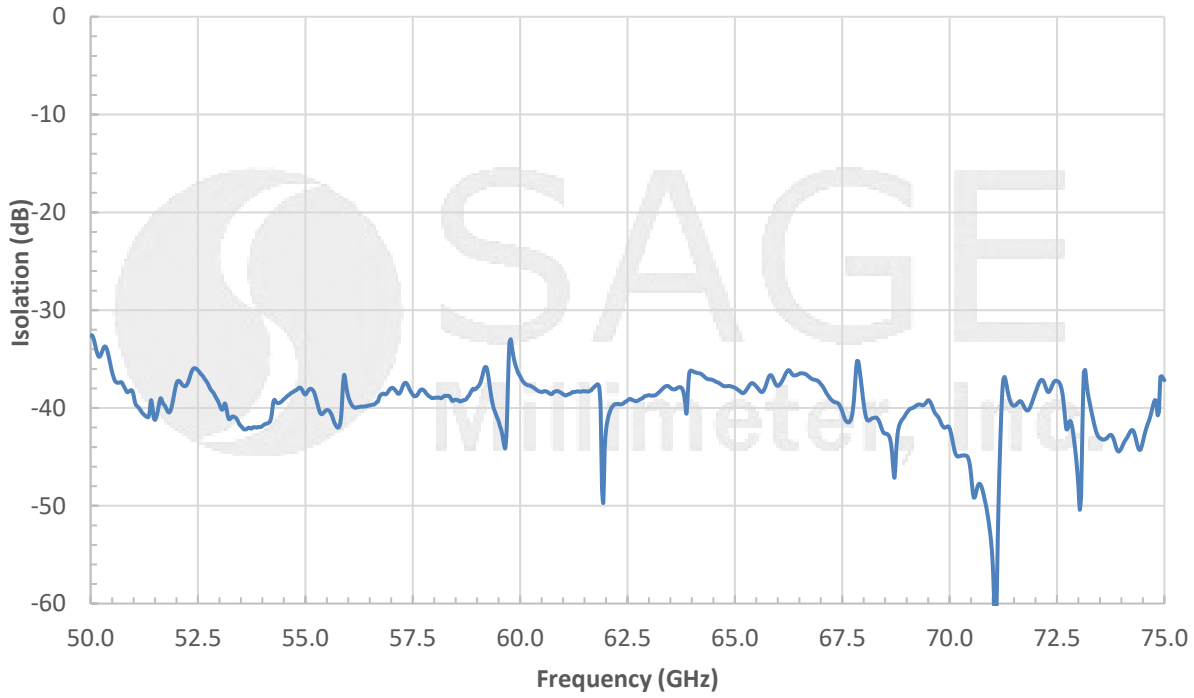
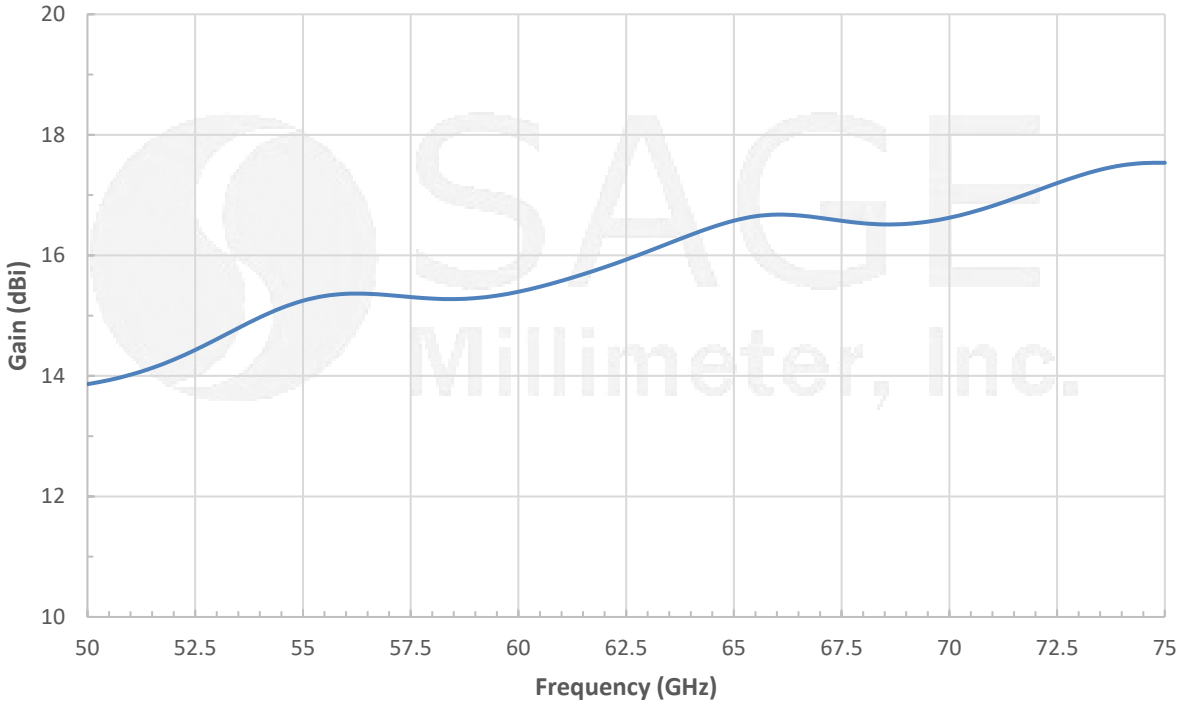
Typical Isolation vs. Frequency



Simulated Gain vs. Frequency



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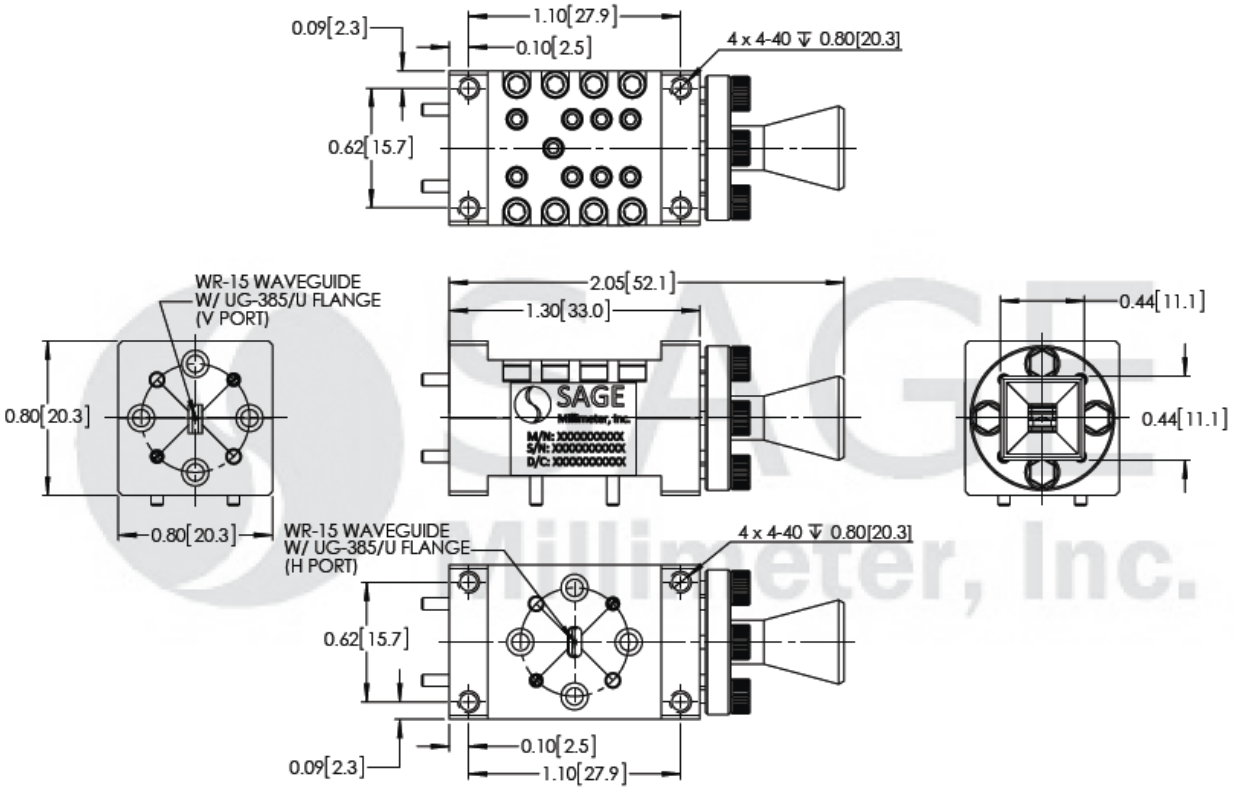
Mechanical Outline: (Unless otherwise specified, all dimensions are in inches [millimeters])



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.

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