



## Quad-Ridged, Dual Polarized Horn Antenna, 6 to 24.5 GHz

### Description:

**Model SAV-0632531431-SF-U3-QR** is a quad-ridged horn antenna that operates from 6 to 24.5 GHz. The antenna offers a typical gain of 14 dBi and a nominal 3 dB beamwidth of 26° for the E-plane and 36° for the H-plane, respectively. The antenna supports both circular and linear polarized waveforms. The antenna features eight M3 threaded holes and one M6 threaded hole for mounting. The antenna ports are two female SMA connectors.



### Features:

- Coaxial Connector for RF Input
- Broadband Coverage
- Circular and Linear Polarization
- Good Impedance Match

### Applications:

- Antenna Ranges
- Antenna Gain Measurements
- System Setups

### Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency	6.0 GHz		24.5 GHz
Gain		14 dBi	
Polarization	Circular and Linear		
E-Plane 3 dB Beamwidth		26°	
H-Plane 3 dB Beamwidth		36°	
E-Plane Sidelobe Levels		-17 dB	
H-Plane Sidelobe Levels		-20 dB	
Port Isolation		25 dB	
Cross Polarization		25 dB	
Port Return Loss		8 dB	
Power Handling			25 W (CW)
Specification Temperature		+25 °C	
Operating Temperature	-40 °C		+85 °C

### Mechanical Specifications:

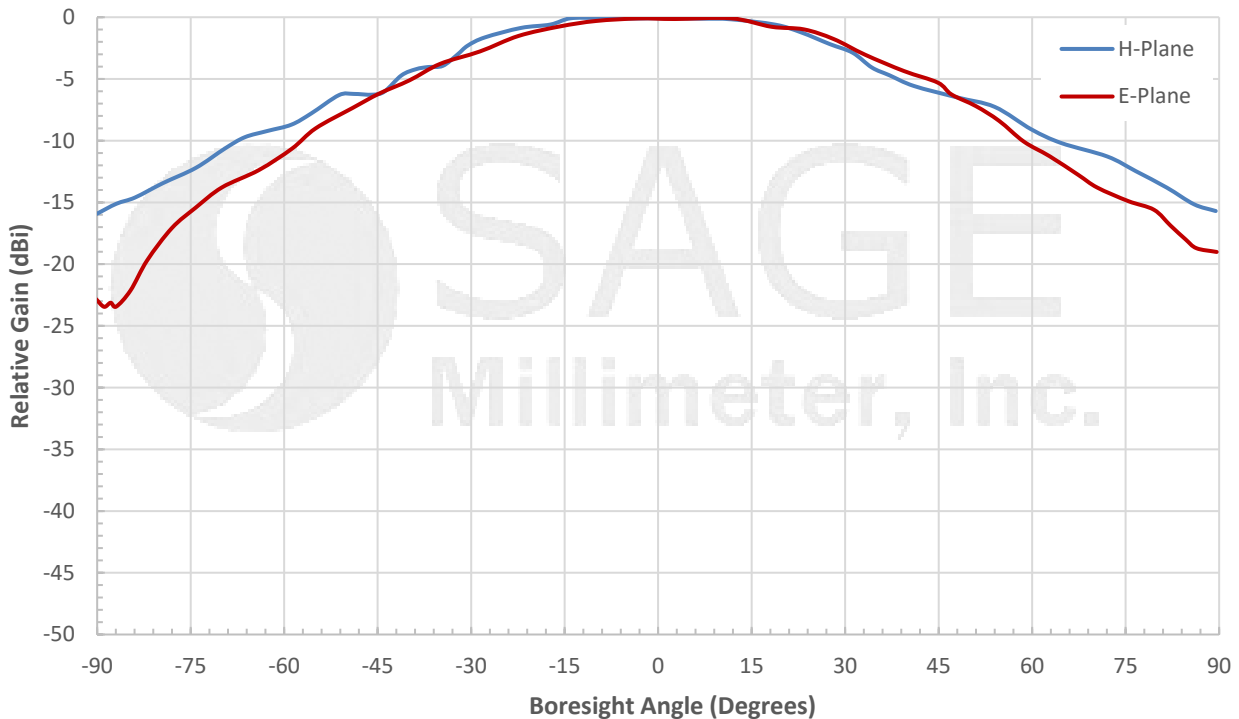
Item	Specification
Antenna Ports	SMA (F)
Mounting	8 x M3 holes and 1 x M6 hole
Material	Aluminum
Finish	Chem Film and Black Paint
Weight	3.5 oz.
Outline	AV-S14-QR-H1



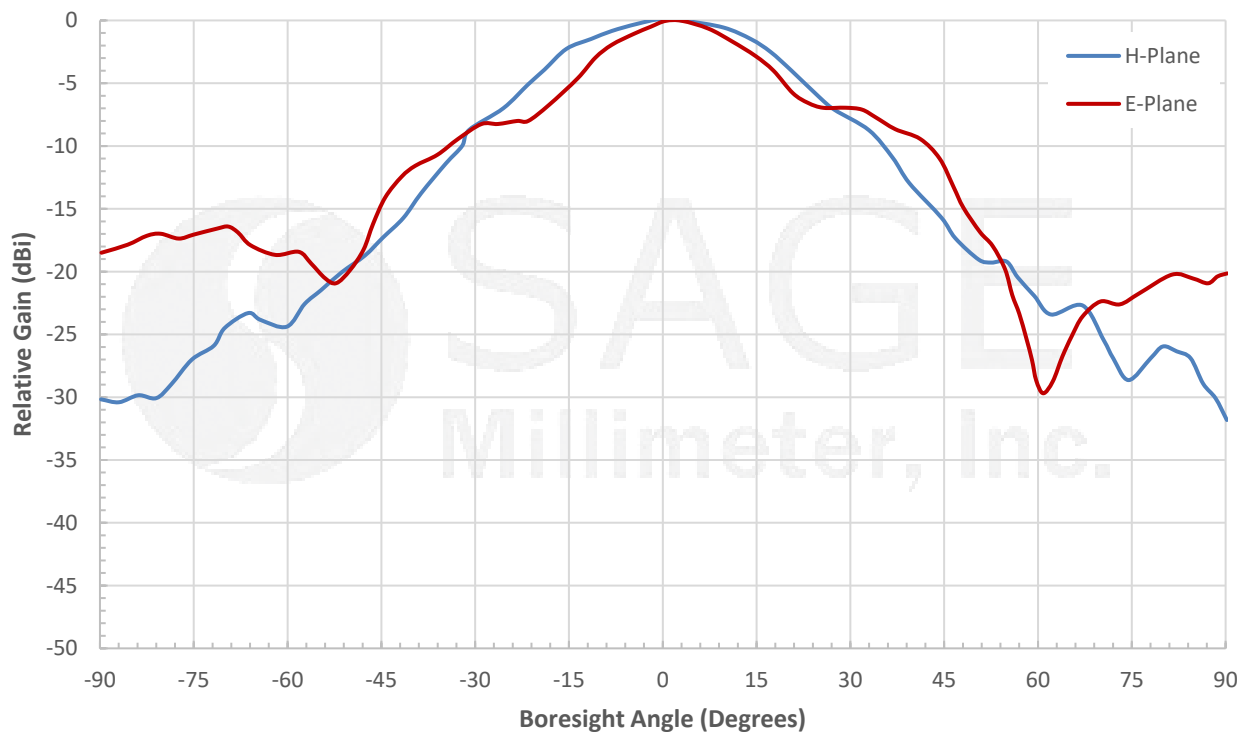


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### Typical Antenna Pattern @ 6 GHz



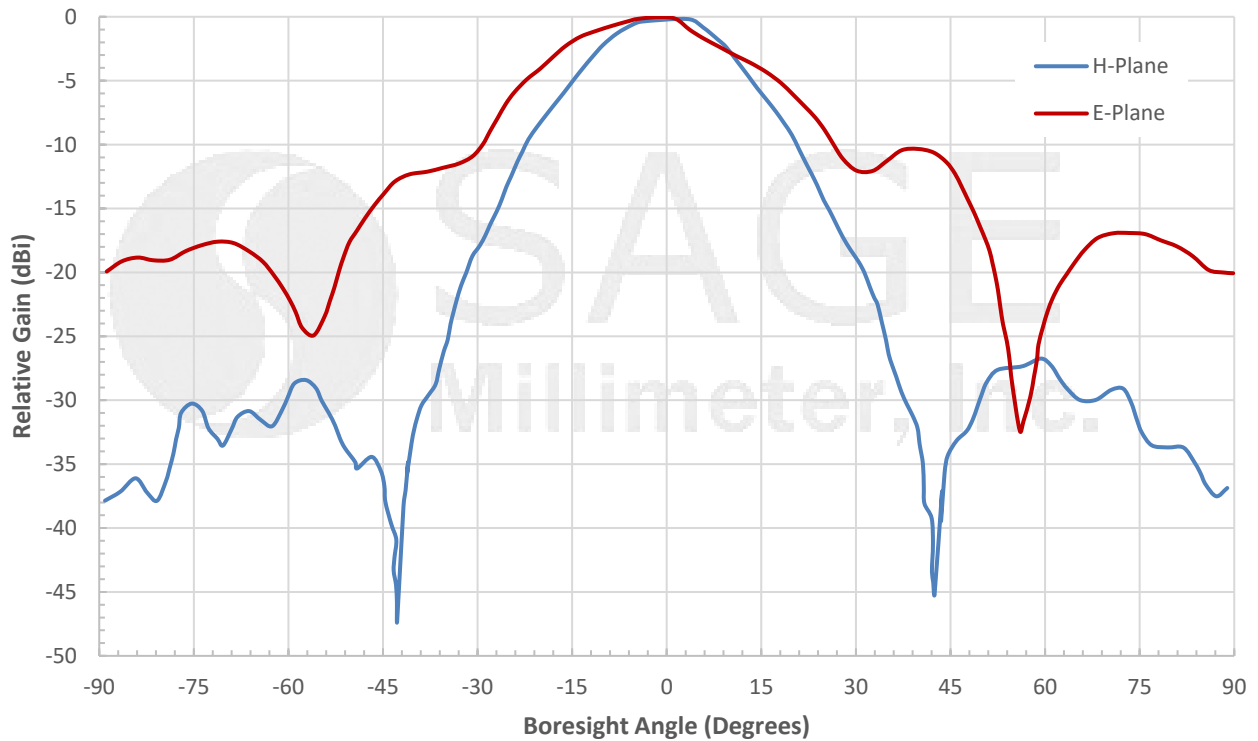
### Typical Antenna Pattern @ 16 GHz



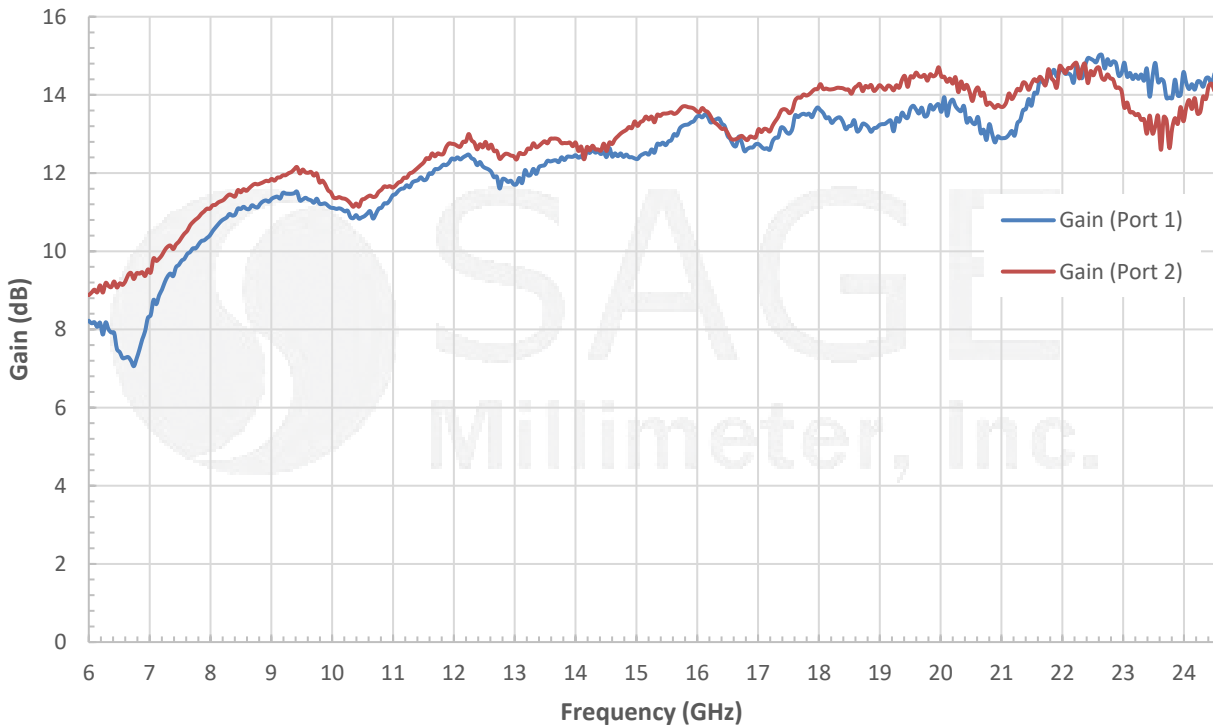


## Quad-Ridged, Dual Polarized Horn Antenna, 6 to 24.5 GHz

Typical Antenna Pattern @ 24.5 GHz



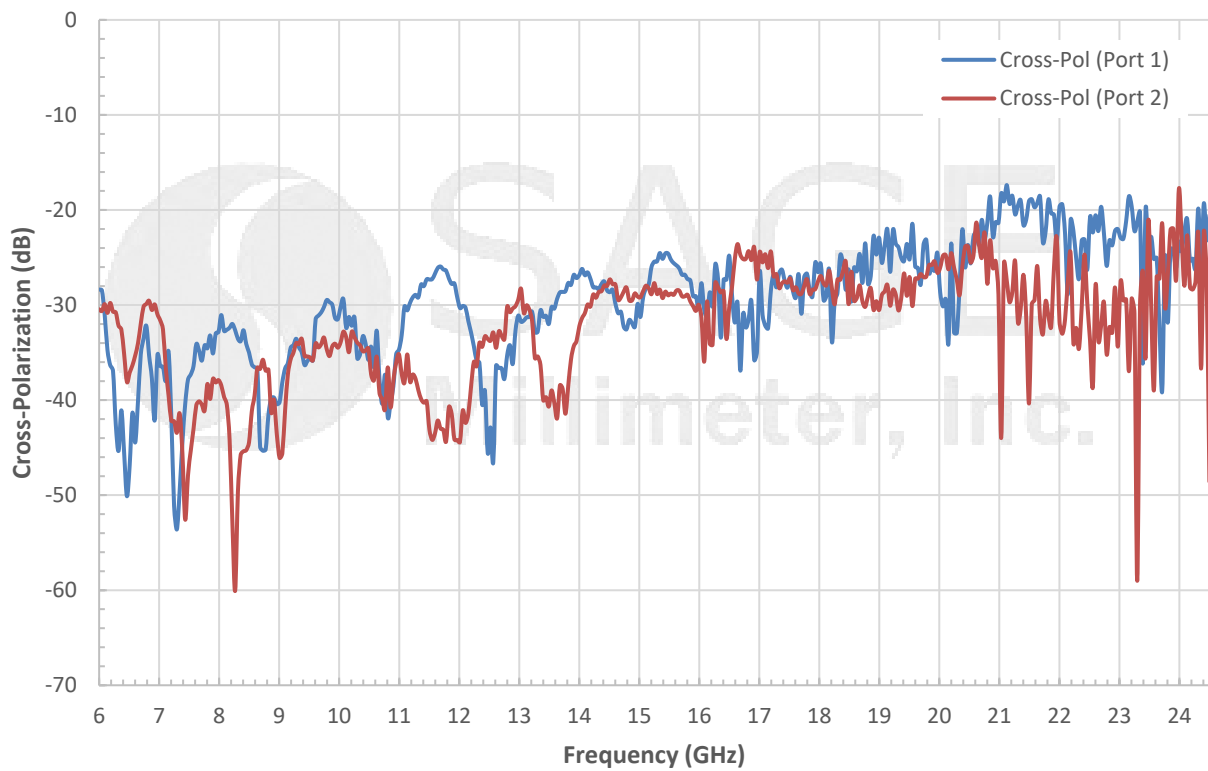
Typical Measured Gain vs Frequency



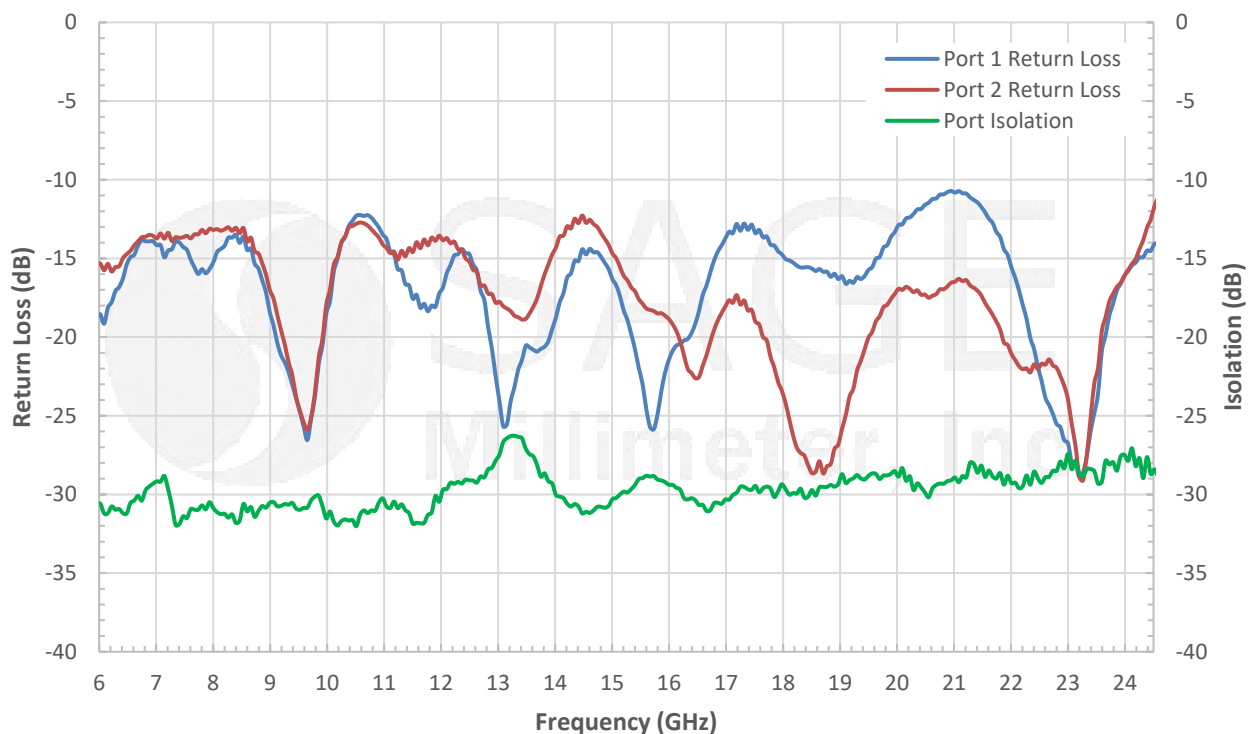


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### Typical Measured Cross-Polarization vs Frequency



### Typical Measured Return Loss and Isolation vs Frequency

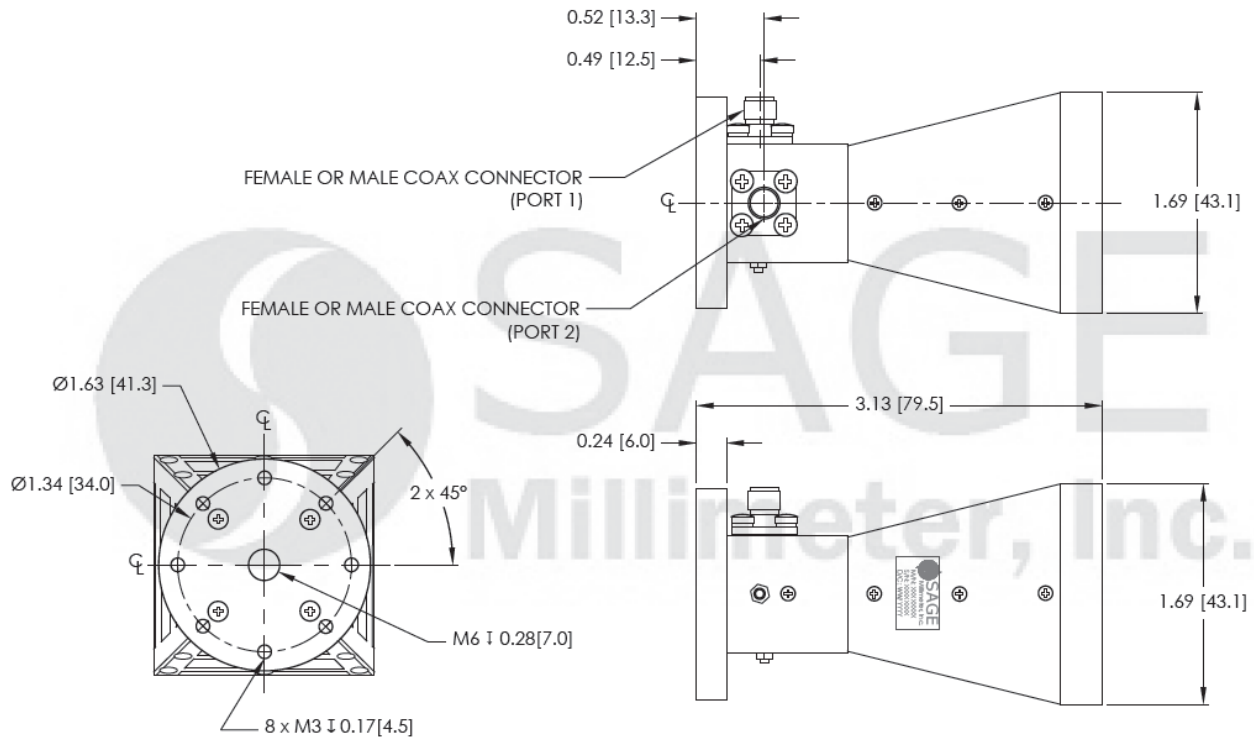


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**Mechanical Outline:** (Unless otherwise specified, all dimensions are in inches [millimeters])



**Note:**

- All data presented is collected from a sample lot. Actual data may vary unit to unit.
- All testing was performed under +25 °C room temperature.
- SAGE Millimeter, Inc. 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.
- Proper torque, 8.0 ± 0.15 inch-pounds (0.90 ± 0.02 Nm), should be applied. **SAGE Millimeter torque wrench, model SCH-08008-S1, is highly recommended.**

