SAF-4036031340-219-S1-188-DP-WPC

WR-19 Dual Polarized Scalar Feed Horn Antenna, 40 to 60 GHz, 13 dBi

SAF-4036031340-219-S1-188-DP-WPC is a dual polarized, WR-19 scalar feed horn antenna assembly that covers several popular 5G bands in the frequency range of 40 to 60 GHz. The antenna 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. 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-19 waveguides with UG-383/U-M anti-cocking flanges and 4-40 threaded holes.

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency	40 GHz	50 GHz	60 GHz
Gain		13 dBi	
3 dB Beamwidth, E-Plane		40°	
3 dB Beamwidth, H-Plane		40°	
Sidelobe Levels		-25 dB	
V and H Port Isolation		35 dB	
Port Return Loss		15 dB	
Specification Temperature		+25°C	
Operating Temperature	-40°C		+85°C

Mechanical Specifications:

Item	Specification
Horizontal and Vertical Ports	WR-19 Waveguide with UG-383/U-M Anti-Cocking Flange
Material	Aluminum
Finish	Gold Plated
Weight	3.5 Oz
Outline	AF-CU13-219-188-A-DP

ECCN

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FEATURES

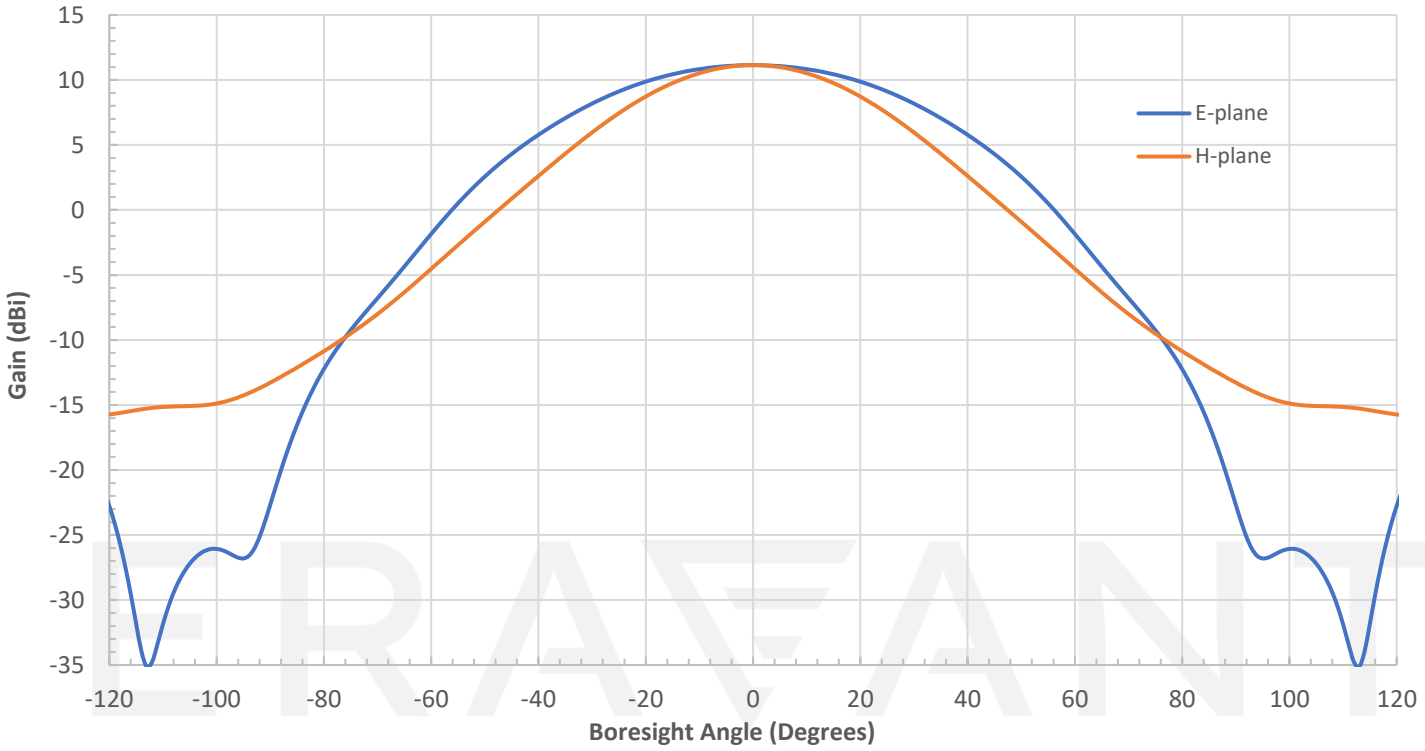
- 40 to 60 GHz Operation
- Linear and Circular Polarization
- High Port Isolation

APPLICATIONS

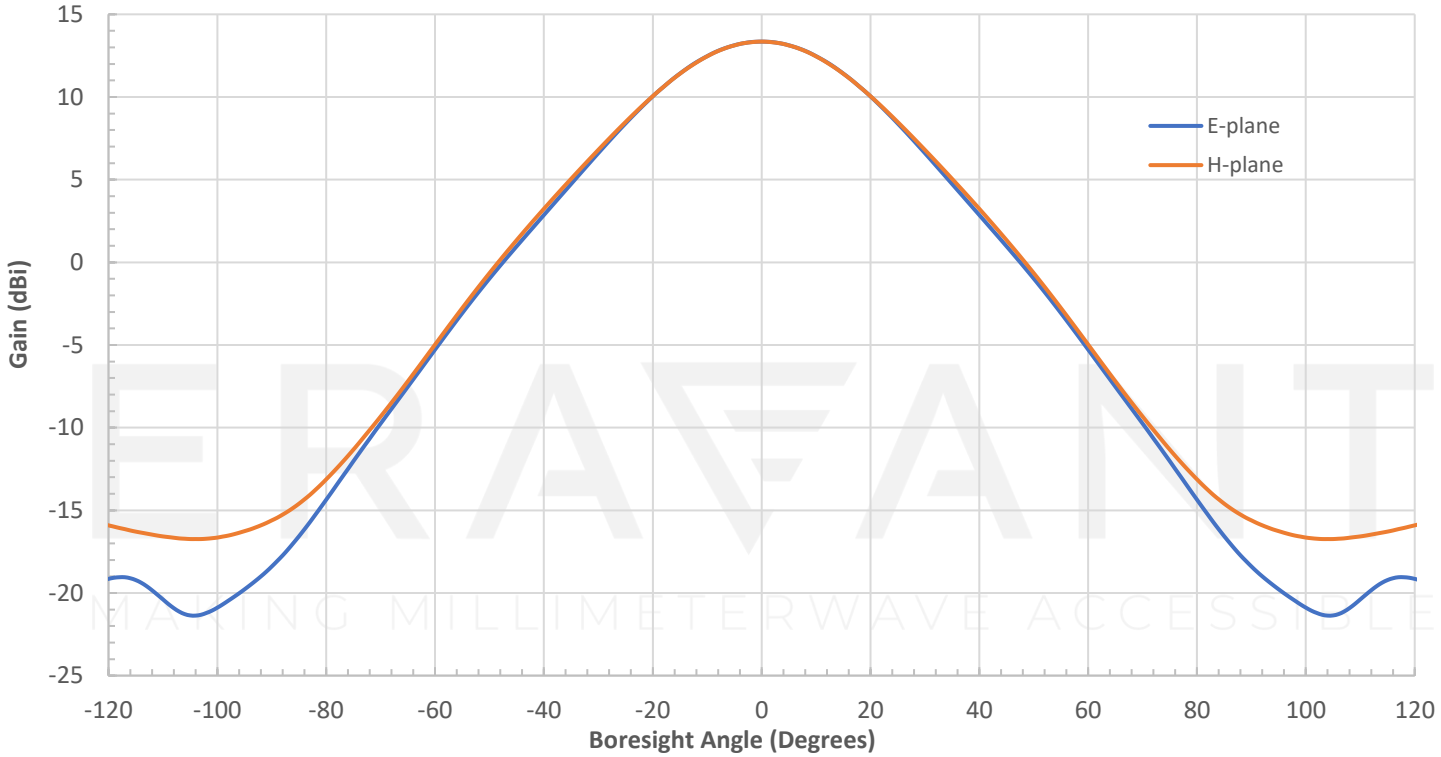
- 5G Systems
- Radar Systems
- Communication Systems
- Circular and Linear Waveform Separation and Combination

SUPPLEMENTAL DETAILS

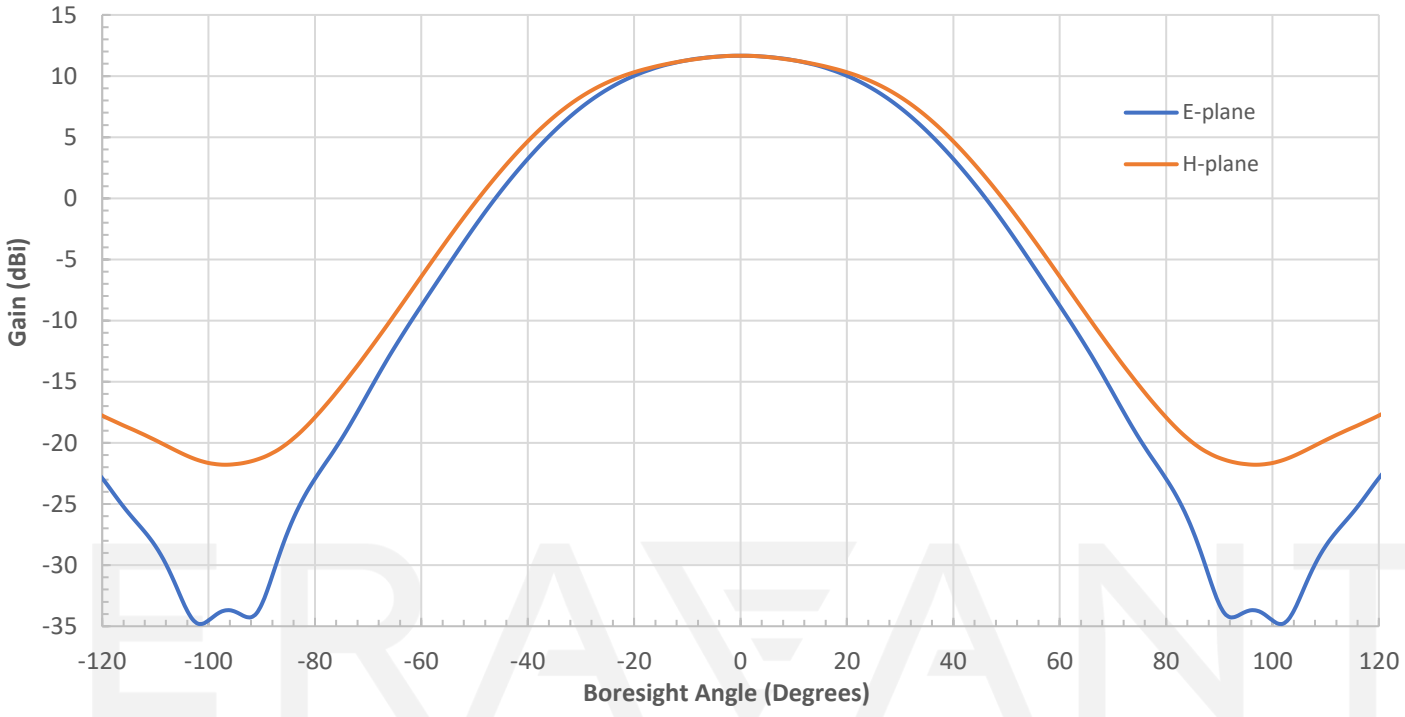
Simulated Antenna Patterns @ 40 GHz



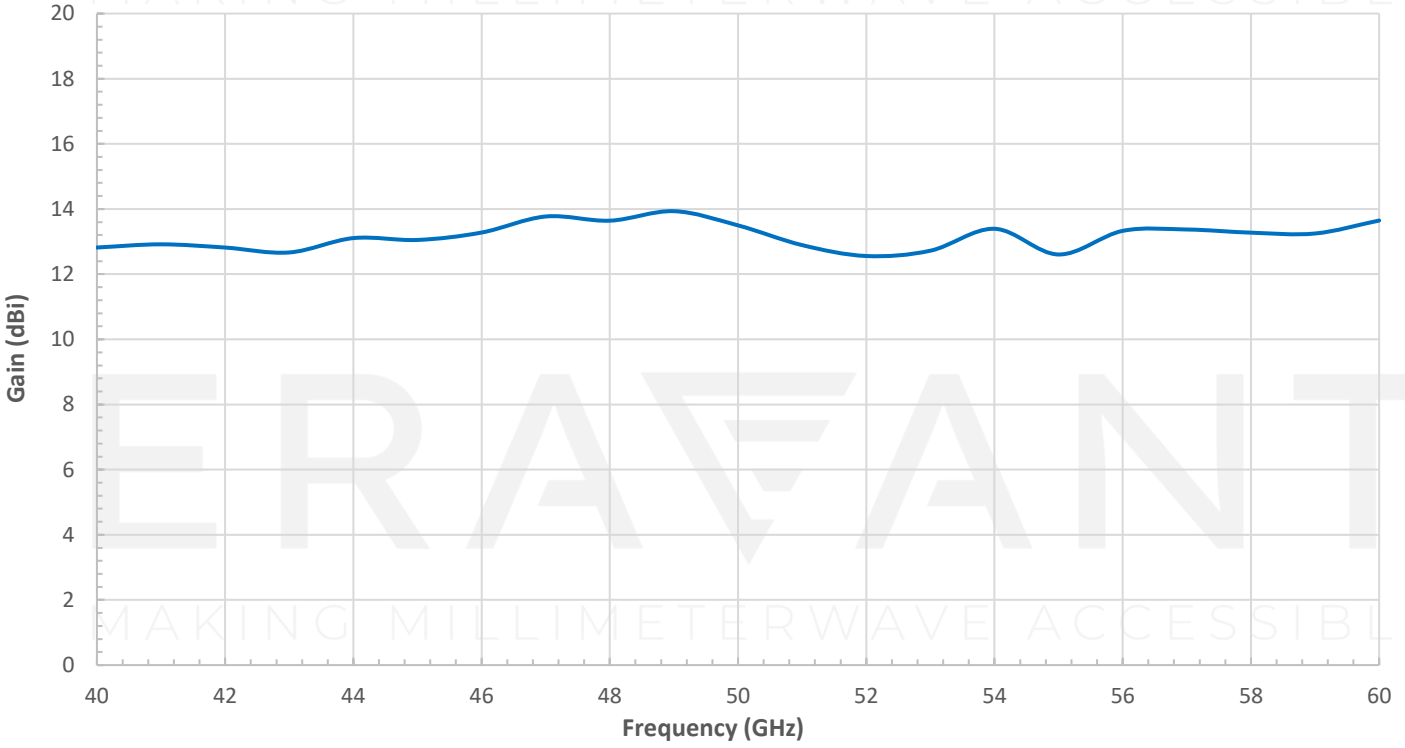
Simulated Antenna Patterns @ 50 GHz



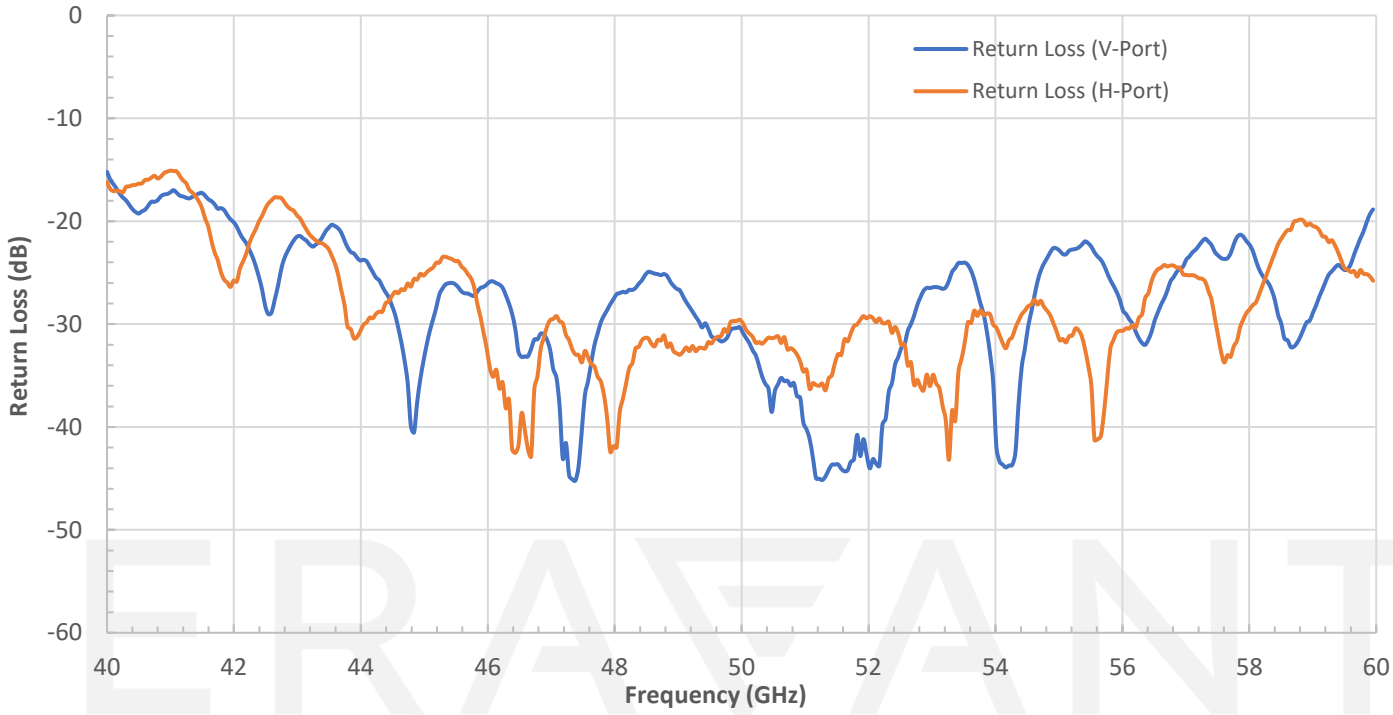
Simulated Antenna Patterns @ 60 GHz



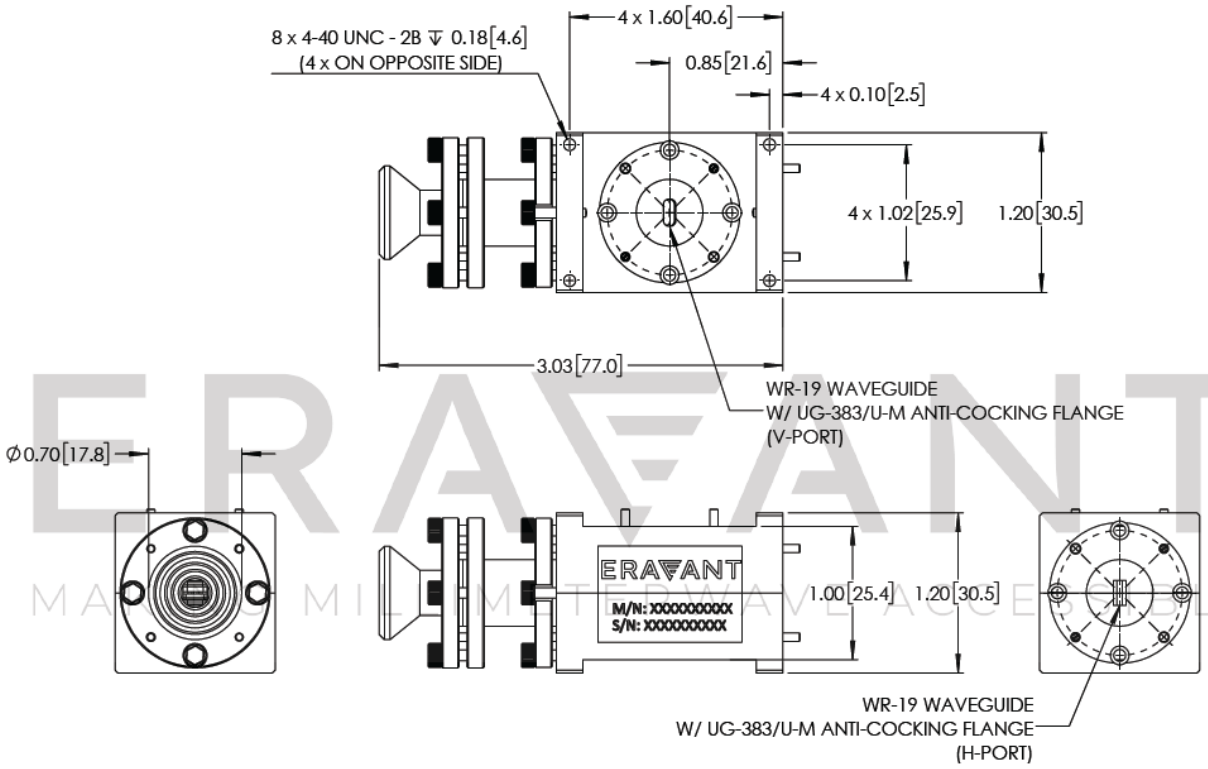
Measured Gain vs. Frequency



Measured Return Loss vs. Frequency



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



NOTE:

- Antenna Patterns and 3 dB Beamwidth are simulated. Actual data may vary.
- Gain, Port Return Loss, and Isolation data presented is collected from a sample lot. Actual data may vary slightly unit to unit.
- 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 waveguide will cause performance degradation and may damage or destroy the unit.

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