

## SAF-2334431535-328-S1-280-DP

### WR-28 Dual Polarized Scalar Feed Horn Antenna, 23 to 44 GHz, 15 dBi

**SAF-2334431535-328-S1-280-DP** is a broadband WR-28 dual polarized scalar feed horn antenna that covers several popular 5G bands in the frequency range of 23 to 44 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 15 dBi nominal gain and a typical half power beamwidth of 35 degrees and -25 dB sidelobe levels, respectively. The antenna exhibits 40 dB typical port isolation between the horizontal and vertical ports. All ports have UG-599/U compatible flanges with 4-40 threaded holes. The OMT (SAT-343-28028- S1), compact square to circular transition (SWT-280328-SA-C-QC), and broadband scalar feed horn (SAF-2234431535-328-S1) can all be purchased separately. Additional customization options, such as converting the waveguide ports to coaxial ports by adding waveguide to coax adapters (SWC-2434431505-282F-R1 or SWC-2434431505-282M-R1), are available under different model numbers.



#### Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency	23 GHz		44 GHz
Gain		15 dBi	
3 dB Beamwidth, E-plane @ 33 GHz		35°	
3 dB Beamwidth, H-plane @ 33 GHz		35°	
Sidelobe Levels		-25 dB	
V and H Port Isolation		40 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-28 Waveguide with UG-599/U Compatible Flange
Material	Aluminum, Brass
Finish	Gold Plated
Weight	5.6 Oz
Outline	AF-CA15-328-280-DP-2

#### ECCN

EAR99

#### FEATURES

- 23 to 44 GHz Operations
- Linear and Circular Polarizations
- Low side lobe levels
- High Port Isolation

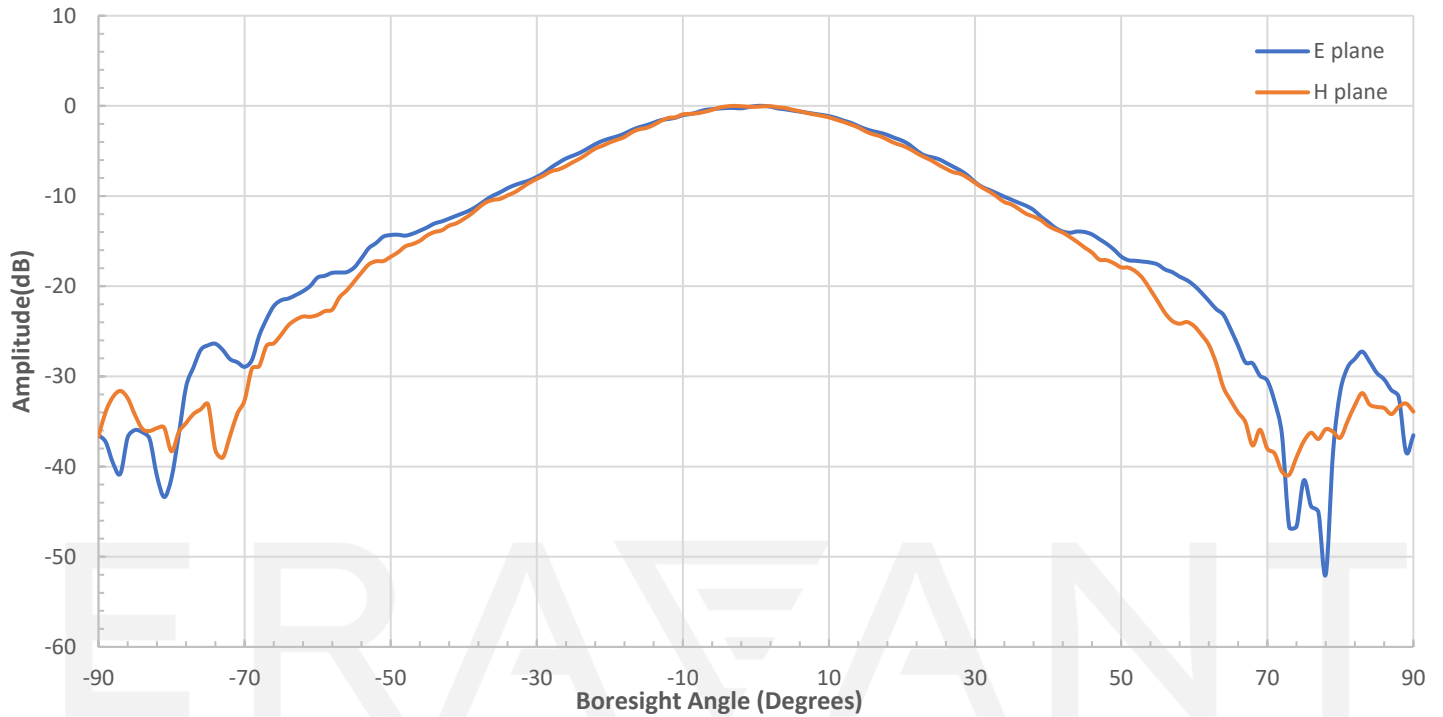
#### APPLICATIONS

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

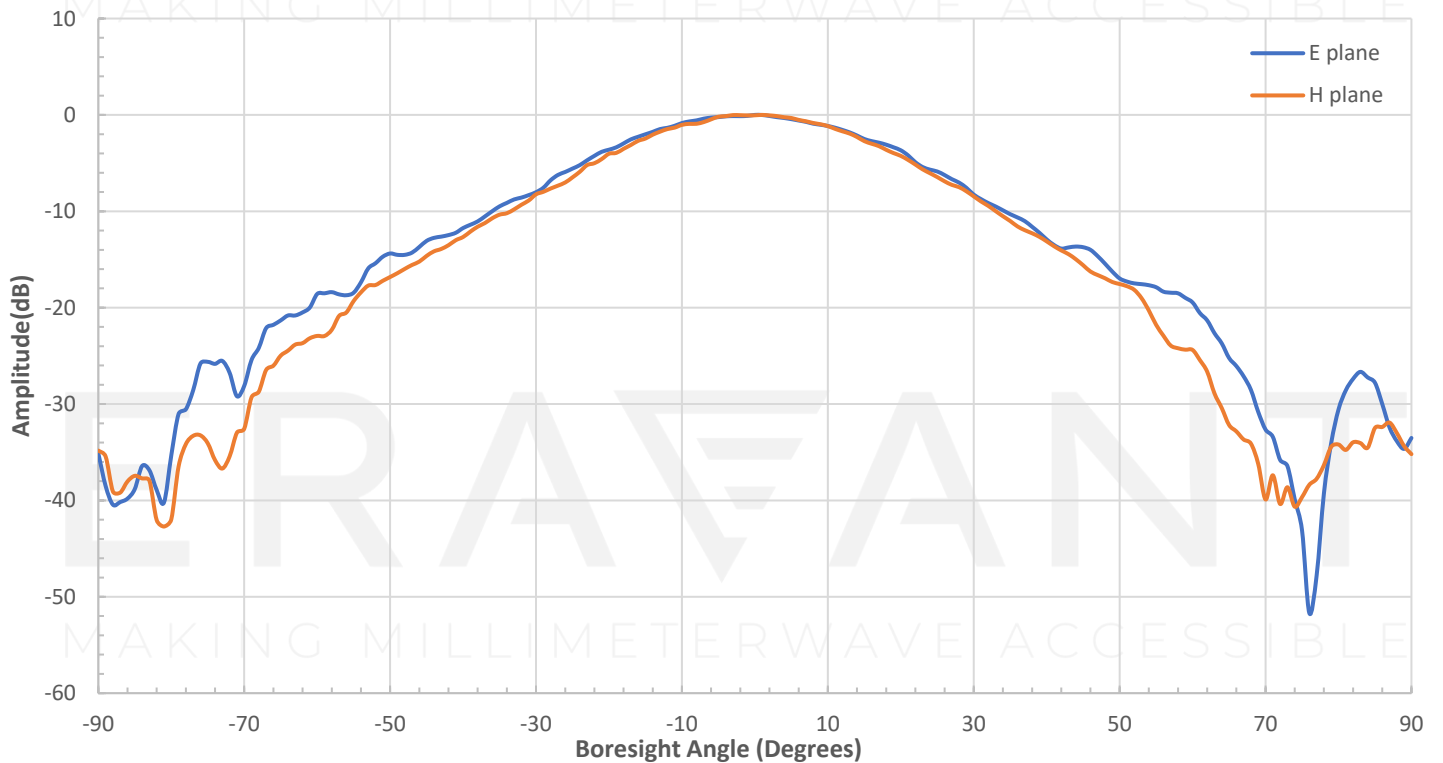
#### SUPPLEMENTAL DETAILS



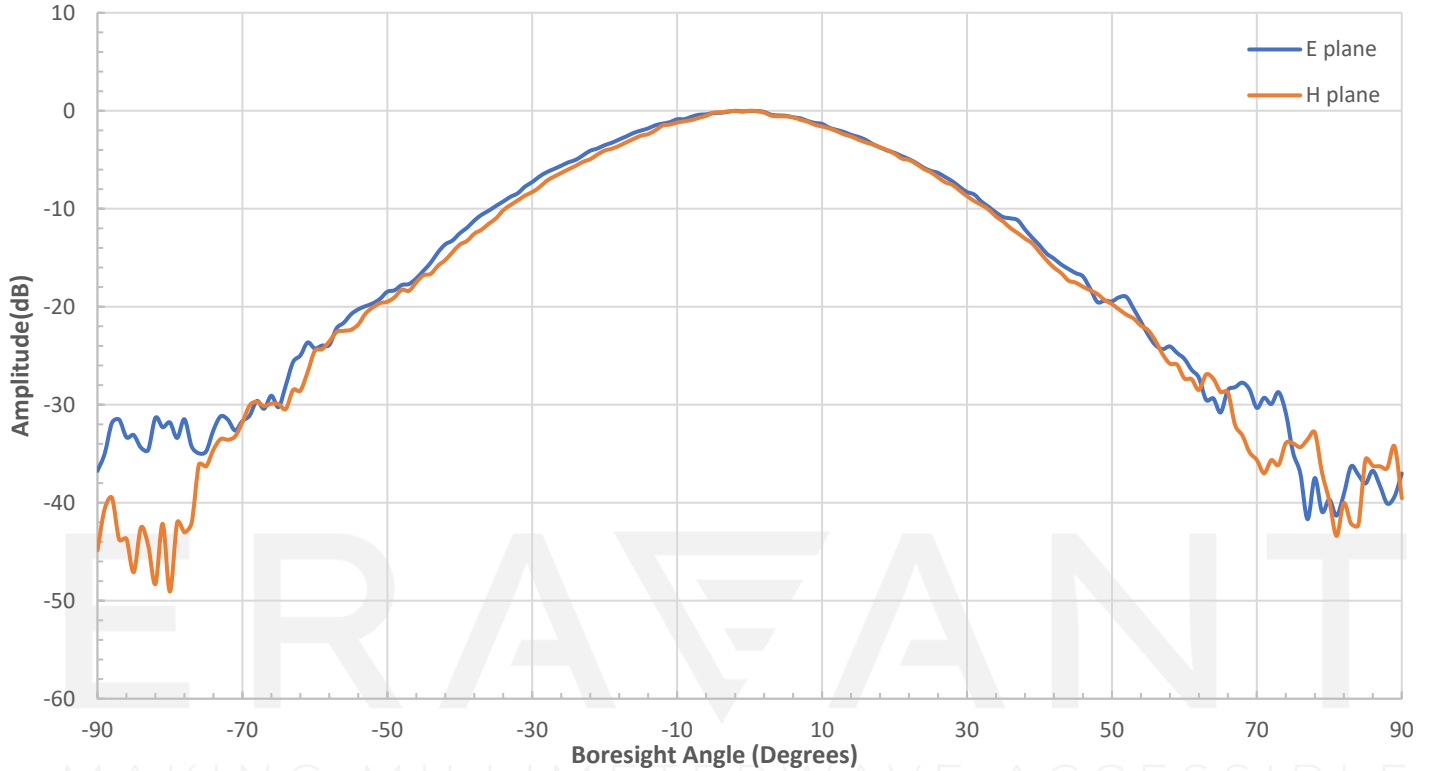
### Measured Patterns at 24 GHz (H-port)



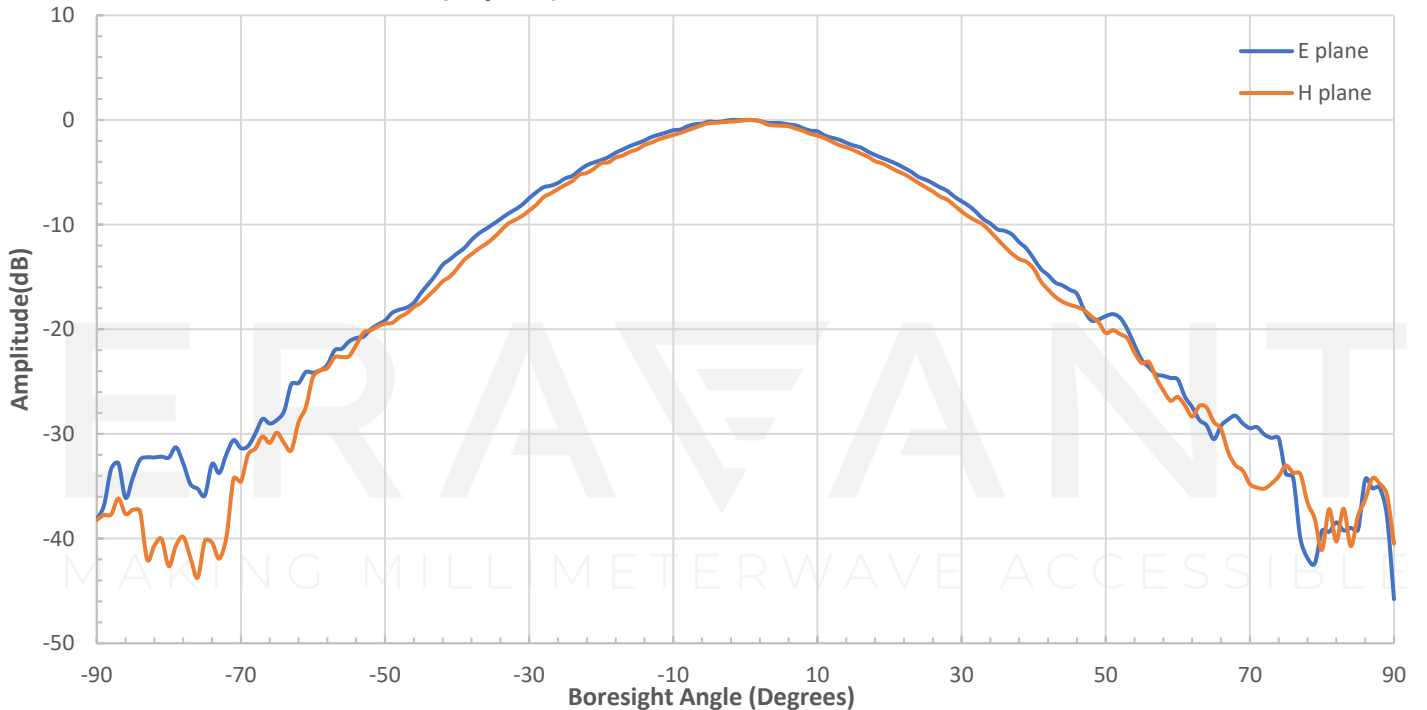
### Measured Patterns at 24 GHz (V-port)



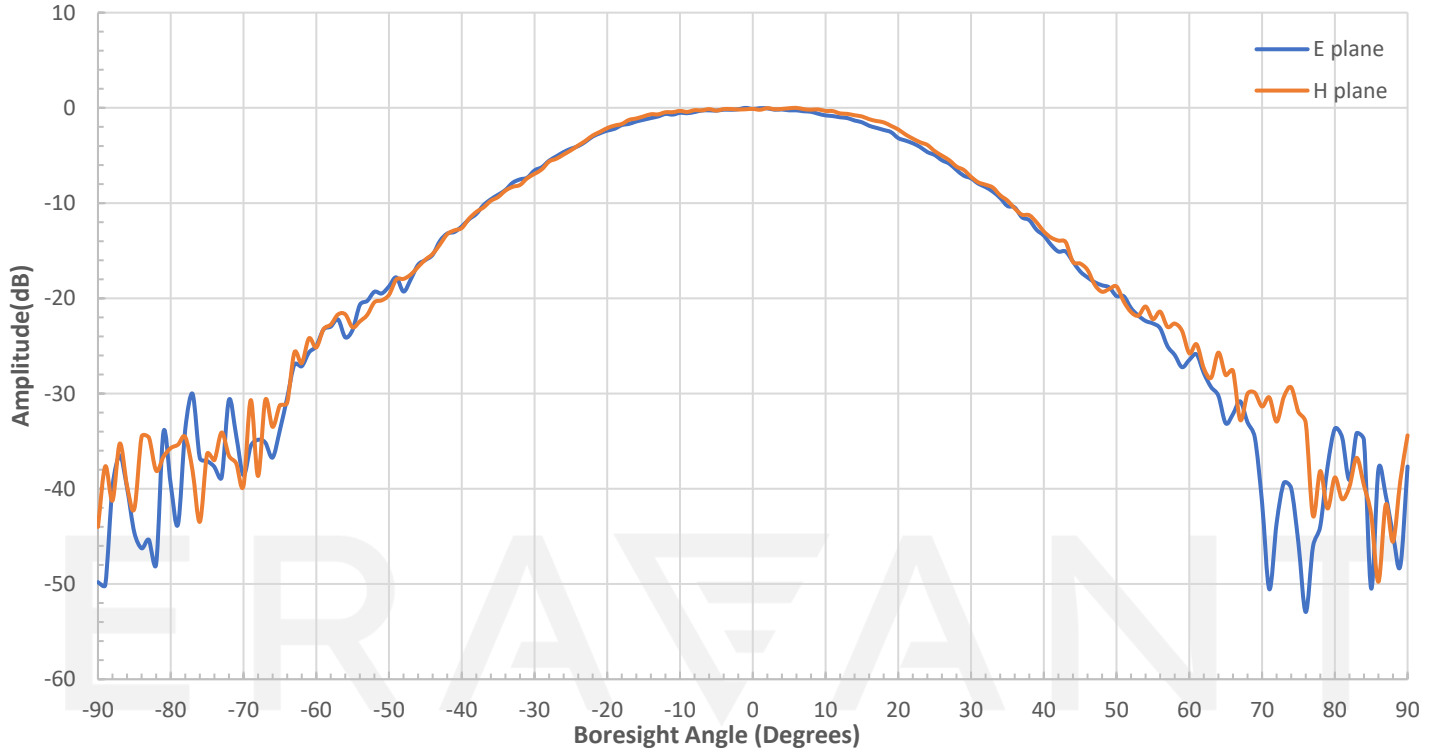
### Measured Patterns at 33 GHz(H-port)



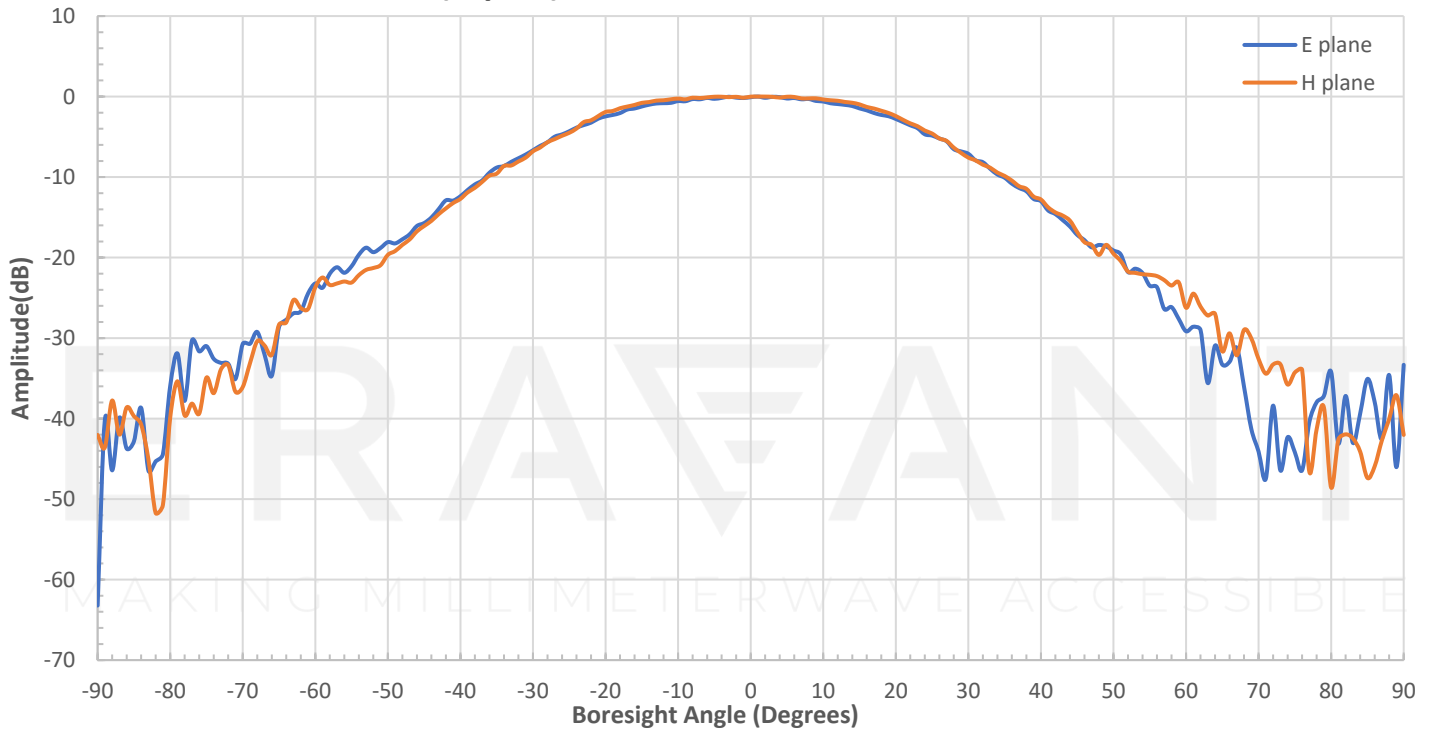
### Measured Patterns at 33 GHz (V-port)



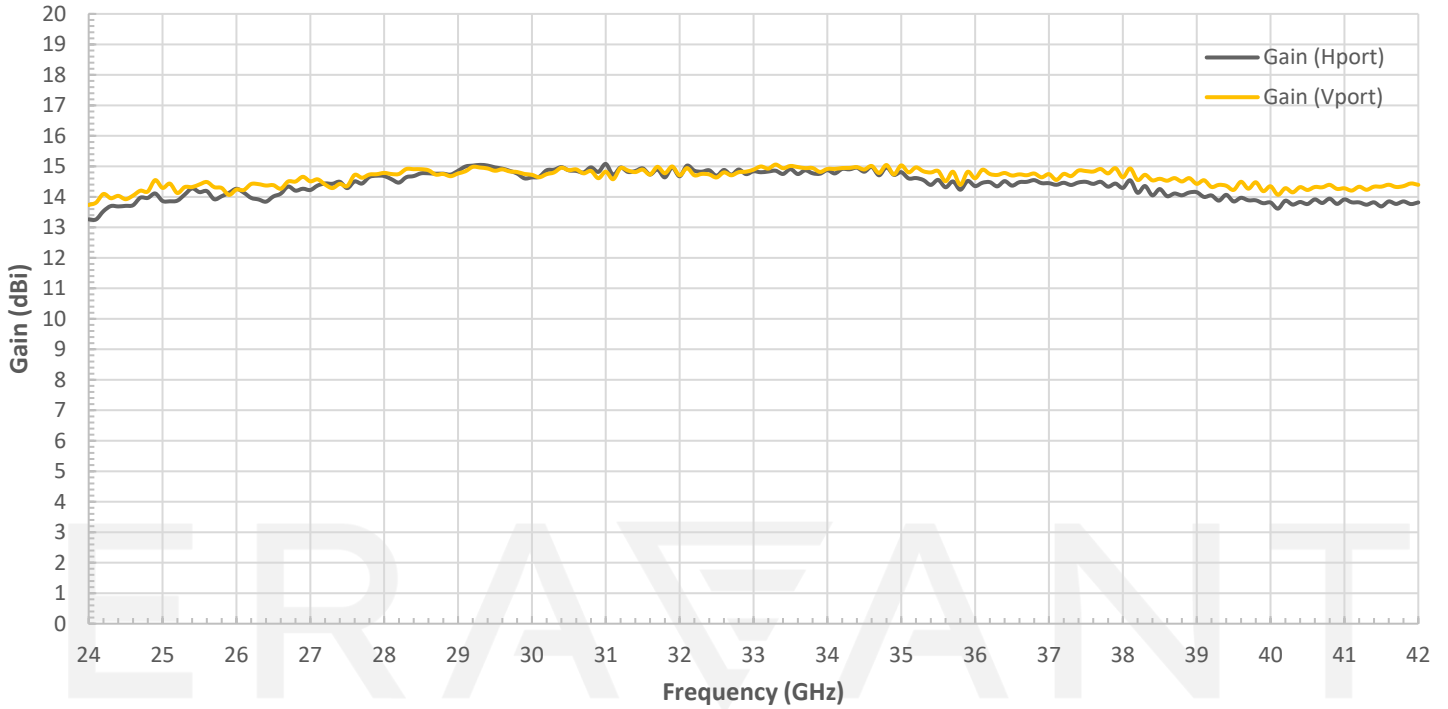
### Measured Patterns at 42 GHz (H-port)



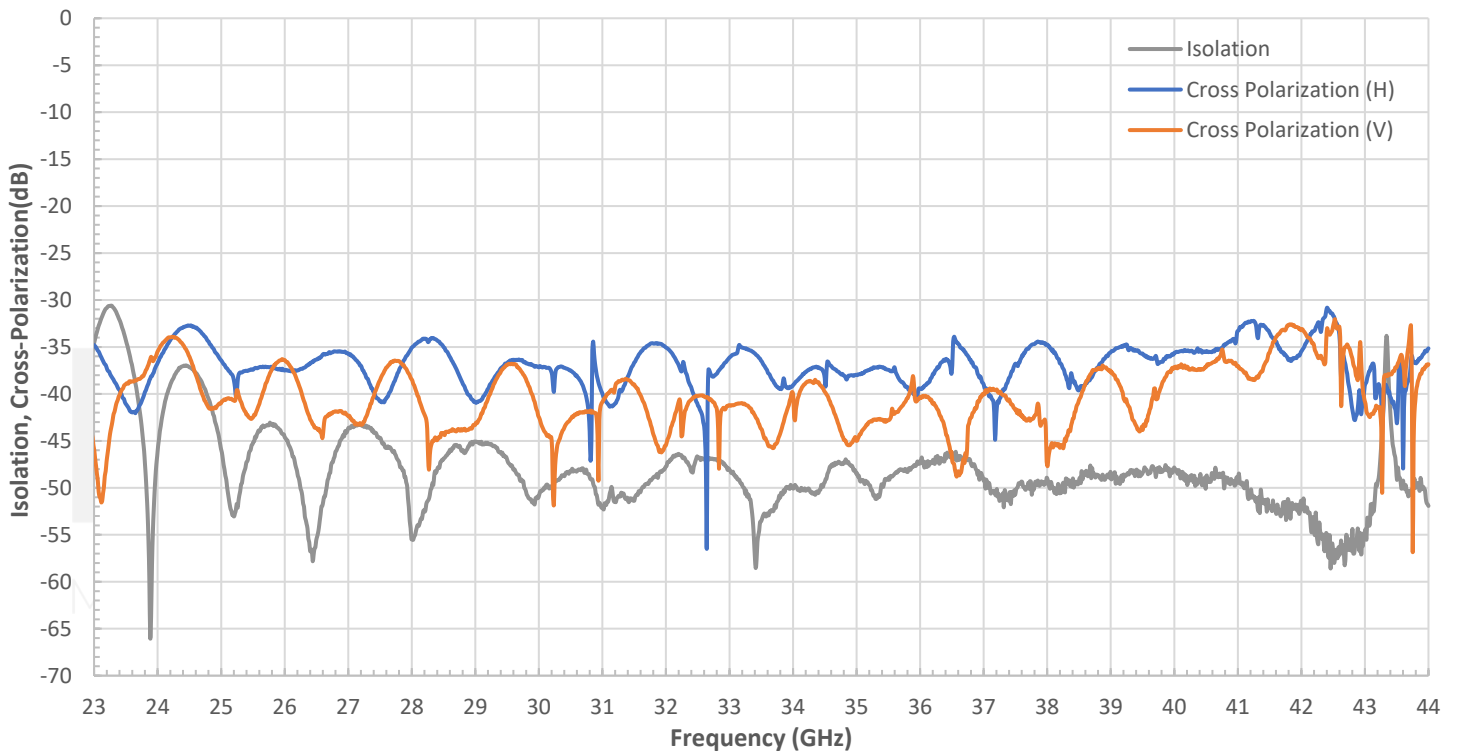
### Measured Patterns at 42 GHz (V-port)



### Measured Gain vs Frequency

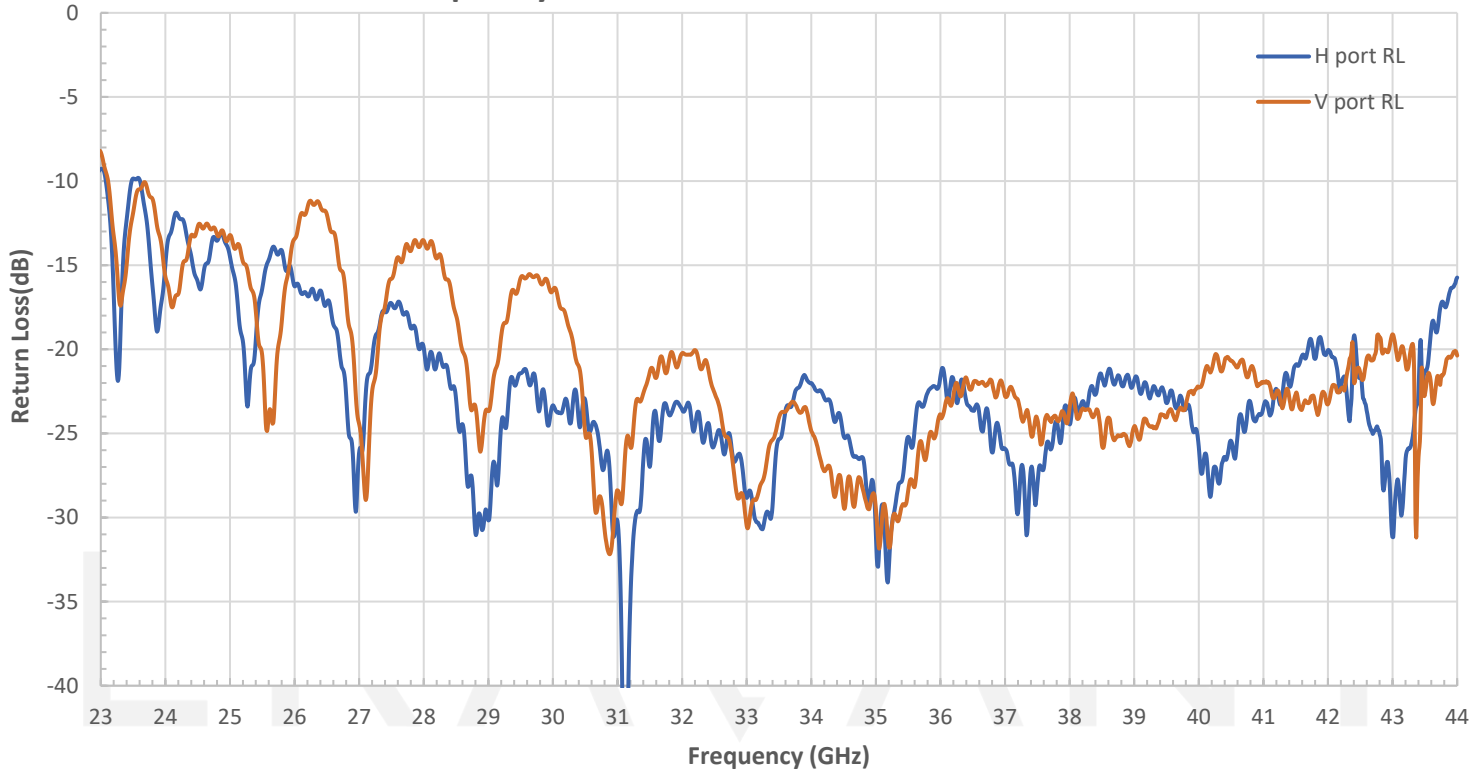


### Measured Isolation, Cross-Polarization vs Frequency

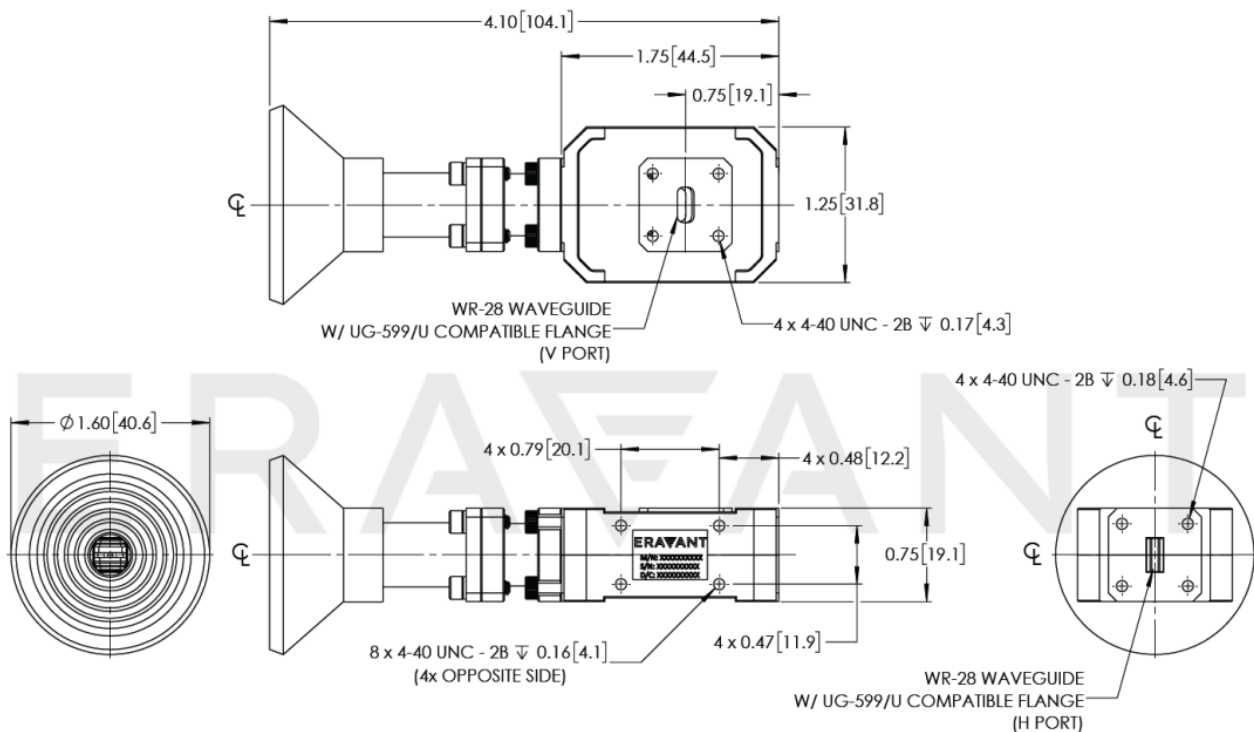


## SAF-2334431535-328-S1-280-DP

### Measured Return Loss vs Frequency



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



**NOTE:**

- Data provided is from a sample lot, actual measured data may vary from unit to unit.
- 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.

