

SAF-4036031340-219-S1

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

SAF-4036031340-219-S1 is a WR-19 scalar feed horn antenna assembly that covers several popular 5G bands in the frequency range of 40 to 60 GHz. At center frequency, the horn antenna exhibits 13 dBi nominal gain and a typical half power beamwidth of 40 degrees. The antenna has a return loss of 20 dB, and -25 dB side lobe levels on the E-Plane and H-Plane. The antenna is equipped with a $\varnothing 0.219$ " circular waveguide with a UG-383/U-M flange.



Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency	40 GHz		60 GHz
Gain		13 dBi	
3 dB Beamwidth, E-plane		40°	
3 dB Beam Width, H-plane		40°	
Side Lobe, E-plane		-25 dB	
Side Lobe, H-plane		-25 dB	
Return Loss		20 dB	
Polarization	Linear and Circular		
Specification Temperature		+25°C	
Operating Temperature	-40°C		+85°C

Mechanical Specifications:

Item	Specification
RF Ports	0.219" Dia Circular Waveguide with UG-383/U-M Flange
Material	Brass
Finish	Gold Plated
Weight	0.86 Oz
Size	0.63" (L) x 0.70" (Ø)
Outline	AF-CU13-219

ECCN

EAR99

FEATURES

- 40 TO 60 GHz Operations
- Linear and Circular Polarization
- High Return Loss
- Low Side Lobe Levels

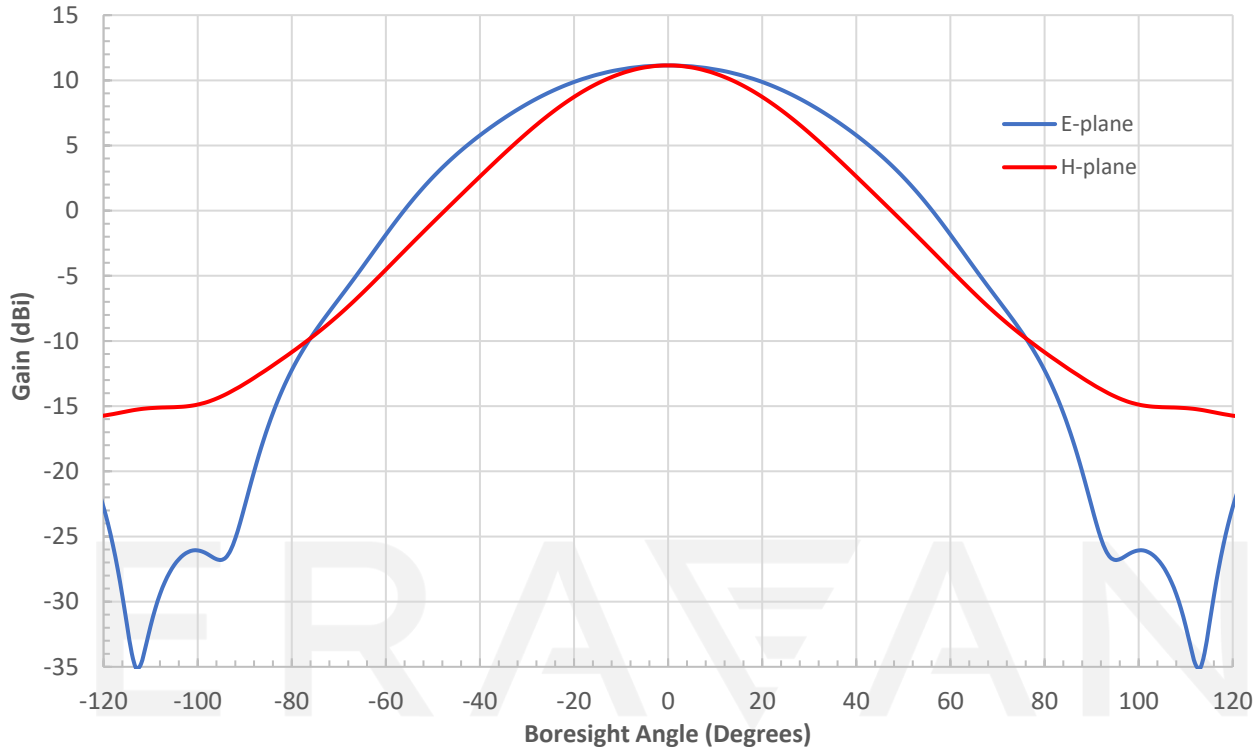
APPLICATIONS

- Feed Horn for Gaussian Optical Antennas
- Feed Horn for Cassegrain Antennas
- Rapid System Setups
- Engineering Setups

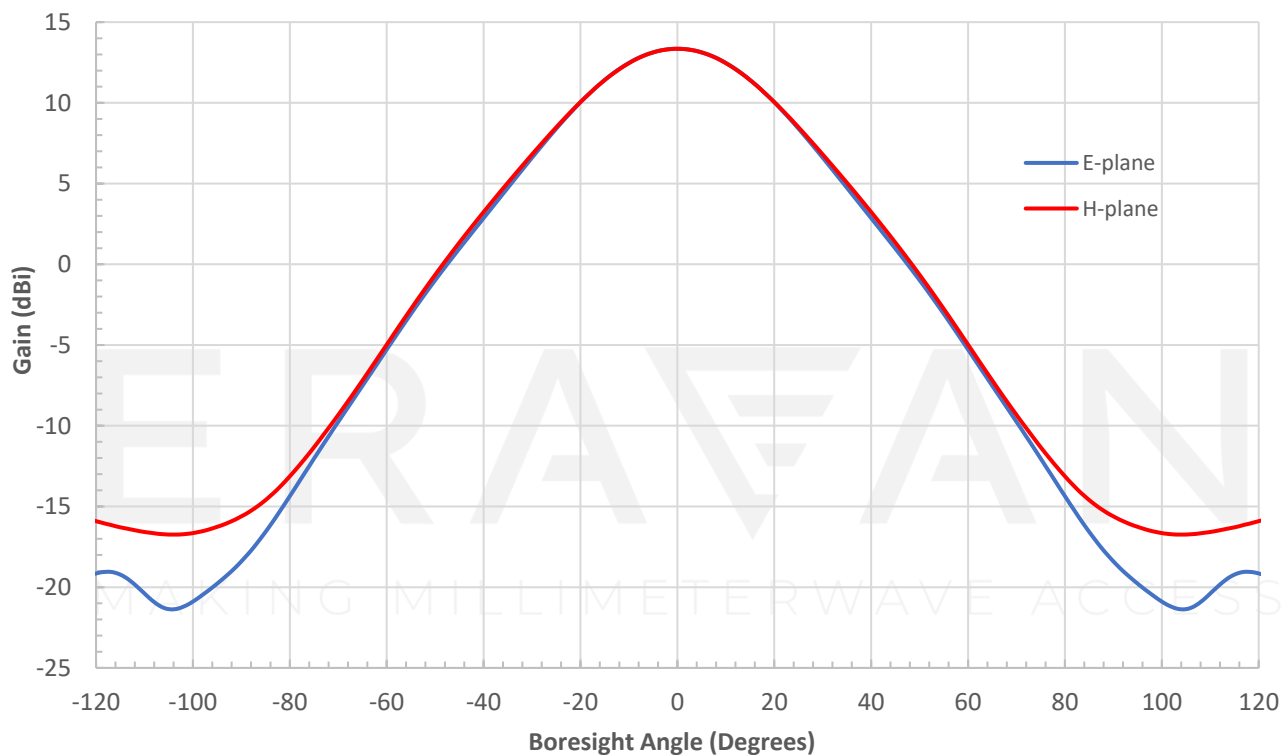
SUPPLEMENTAL DETAILS



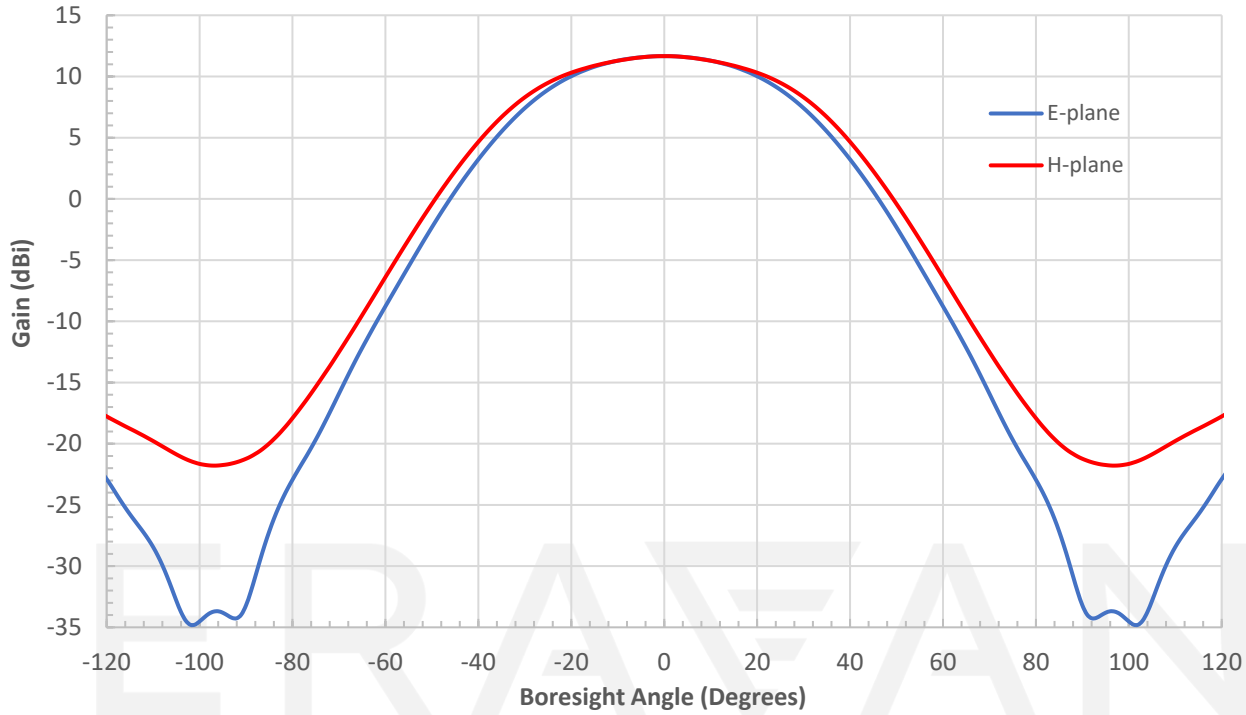
Simulated Antenna Patterns @ 40 GHz



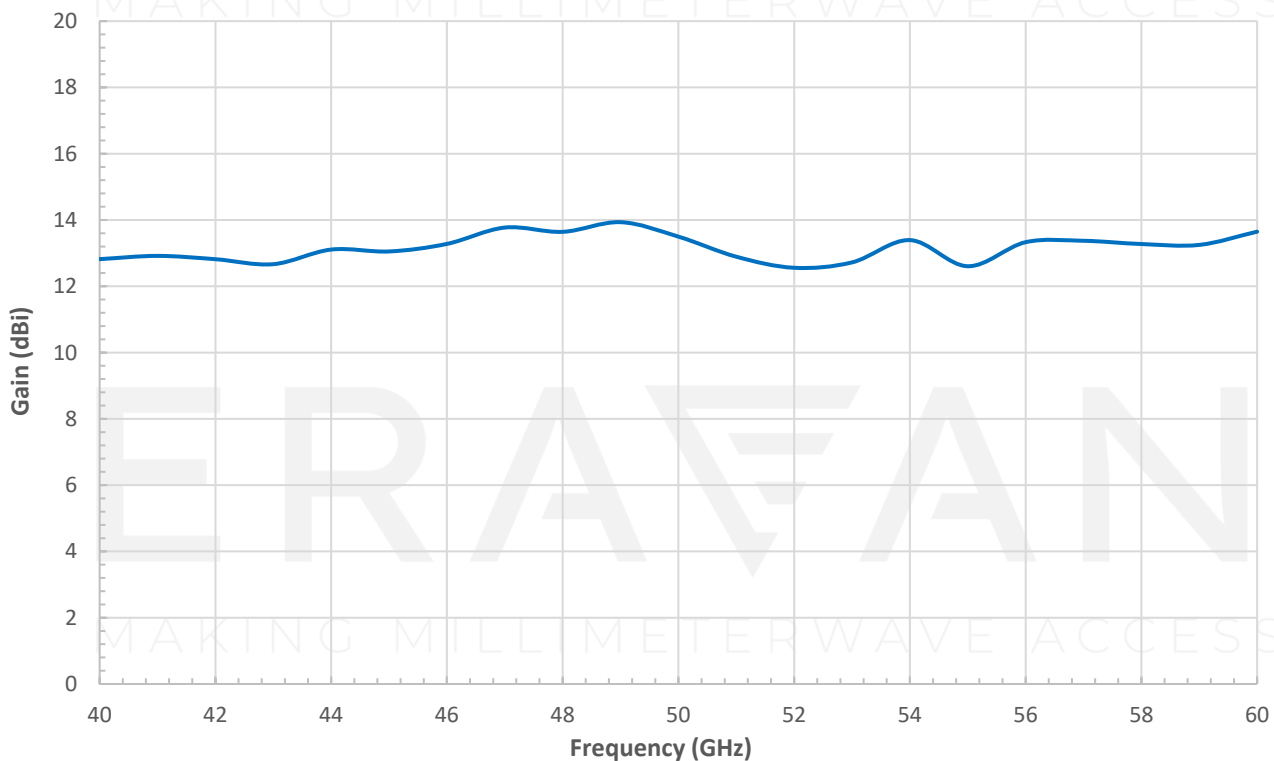
Simulated Antenna Patterns @ 50 GHz



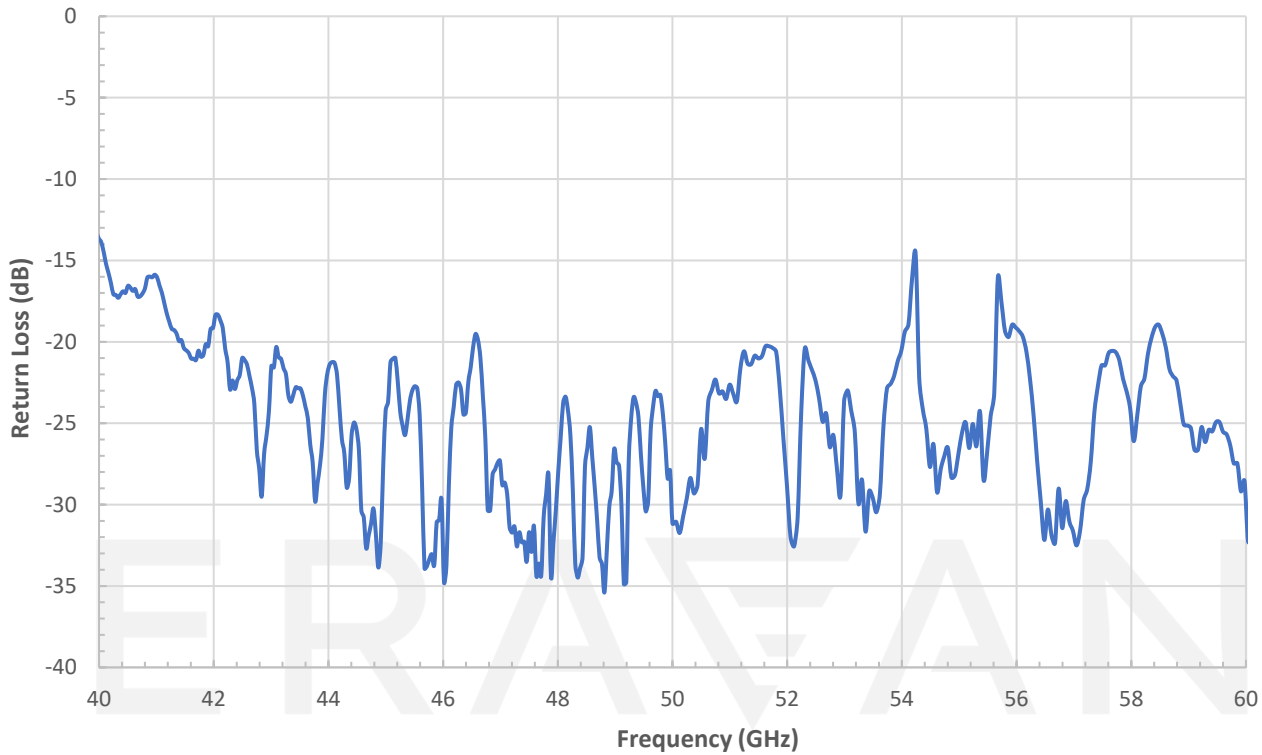
Simulated Antenna Patterns @ 60 GHz



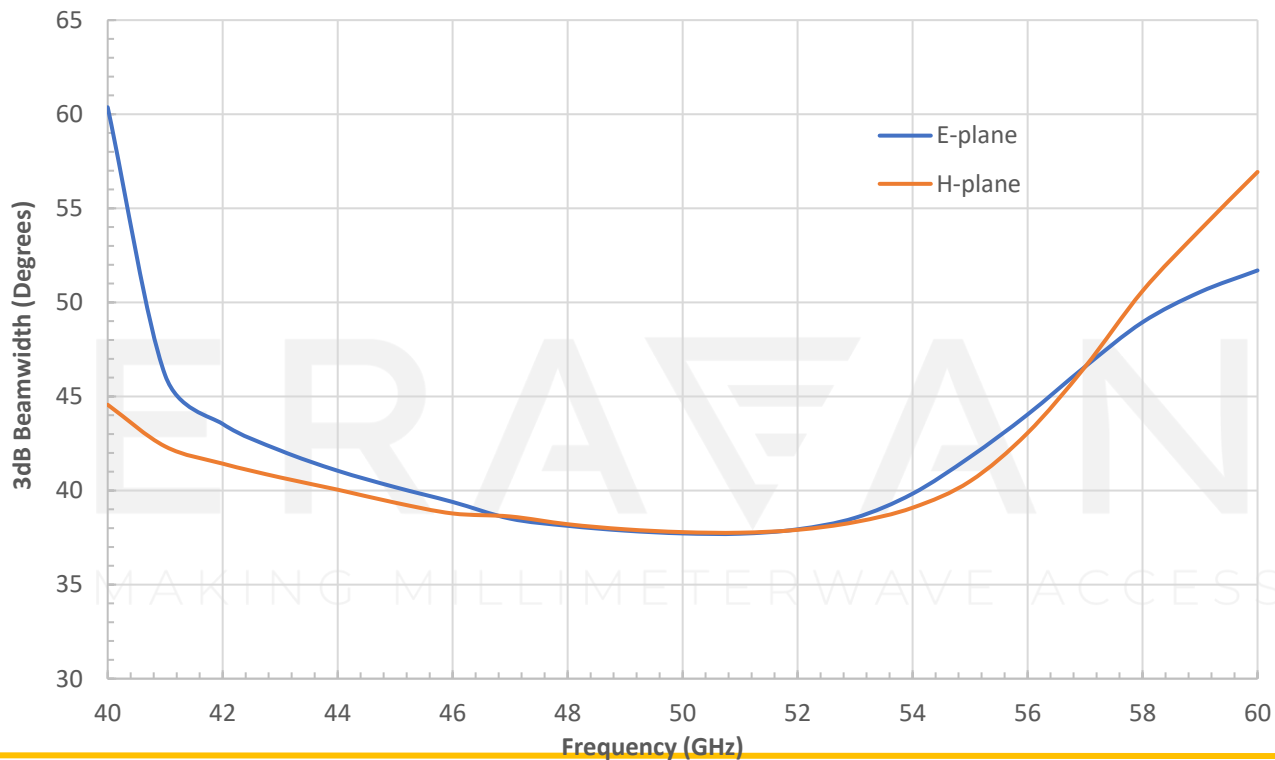
Measured Gain vs. Frequency



Measured Return Loss vs. Frequency

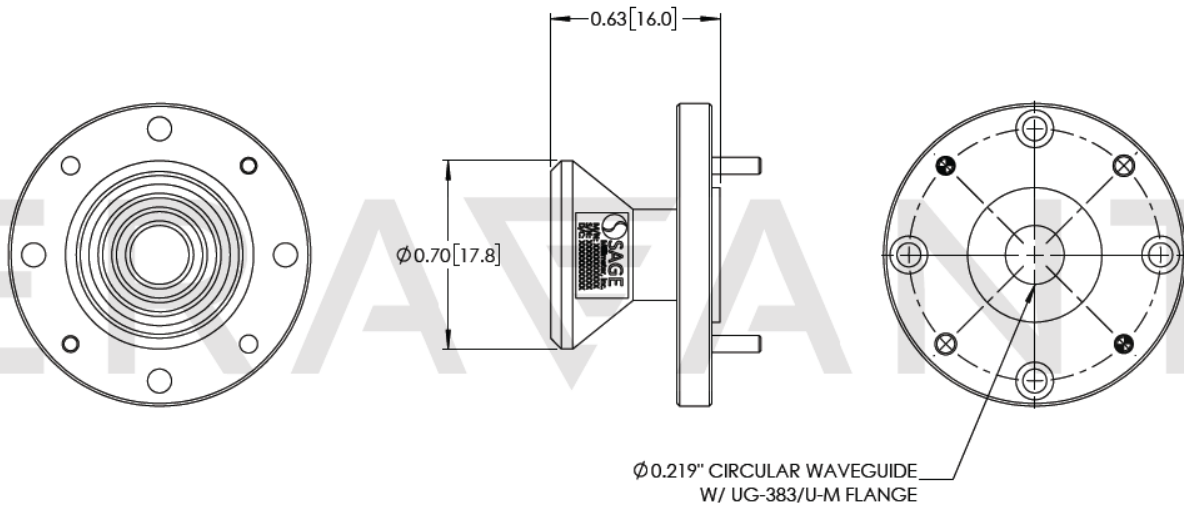


Simulated 3dB Beamwidth vs. Frequency



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



NOTE:

- Gain and Return Loss data presented are collected from a sample lot. Actual data may vary unit to unit, slightly.
- Antenna patterns and 3 dB beamwidth are simulated. Actual data may vary.
- On condition that test data is provided it is collected from a sample lot. Actual data may vary slightly from unit to unit. All testing is 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.
- For 1 mm connectors proper torque should be applied: 4.0 ± 0.15 inch-pounds (0.45 ± 0.02 Nm). Torque wrench model SCH-06004-S1 is highly recommended.
- For 1.35 mm, 1.85 mm, 2.4 mm, 2.92 mm, and SMA connectors proper torque should be applied: 8.0 ± 0.15 inch-pounds (0.90 ± 0.02 Nm). Torque wrench model [SCH-08008-S1](#) is highly recommended.

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