

SAR-2013-19-S2

WR-19 Pyramidal Horn Antenna, 20 dBi Gain

SAR-2013-19-S2 is a U-band pyramidal horn antenna that operates from 40 GHz to 60 GHz. The antenna offers 20 dBi nominal gain and a typical half power beamwidth of 14 degrees on the E-plane and 16 degrees on the H-plane. The antenna supports linear polarized waveforms. The input of this antenna is a WR-19 waveguide with UG-383/U-M flange.



Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency Range	40 GHz		60 GHz
Gain	19 dBi	20 dBi	22 dBi
Polarization		Linear	
3 dB Beamwidth, E-Plane		14°	
3 dB Beamwidth, H-Plane		16°	
Sidelobes, E-Plane		-14 dB	
Sidelobes, H-Plane		-30 dB	
Return Loss		23 dB	
Specification Temperature		+25°C	
Operating Temperature	-40°C		+85°C

Mechanical Specifications:

Item	Specification
Antenna Port	WR-19 Waveguide
Flange Type	UG-383/U-M Flange
Material	Brass
Finish	Gold Plated
Weight	1.4 Oz
Size	1.70" (L) X 1.13" (W) X 0.90"(H)
Outline	AR-U1

ECCN

EAR99

FEATURES

- Rectangular Waveguide Interface
- Precisely Machined and Gold Plated
- Linear Polarization
- High Return Loss

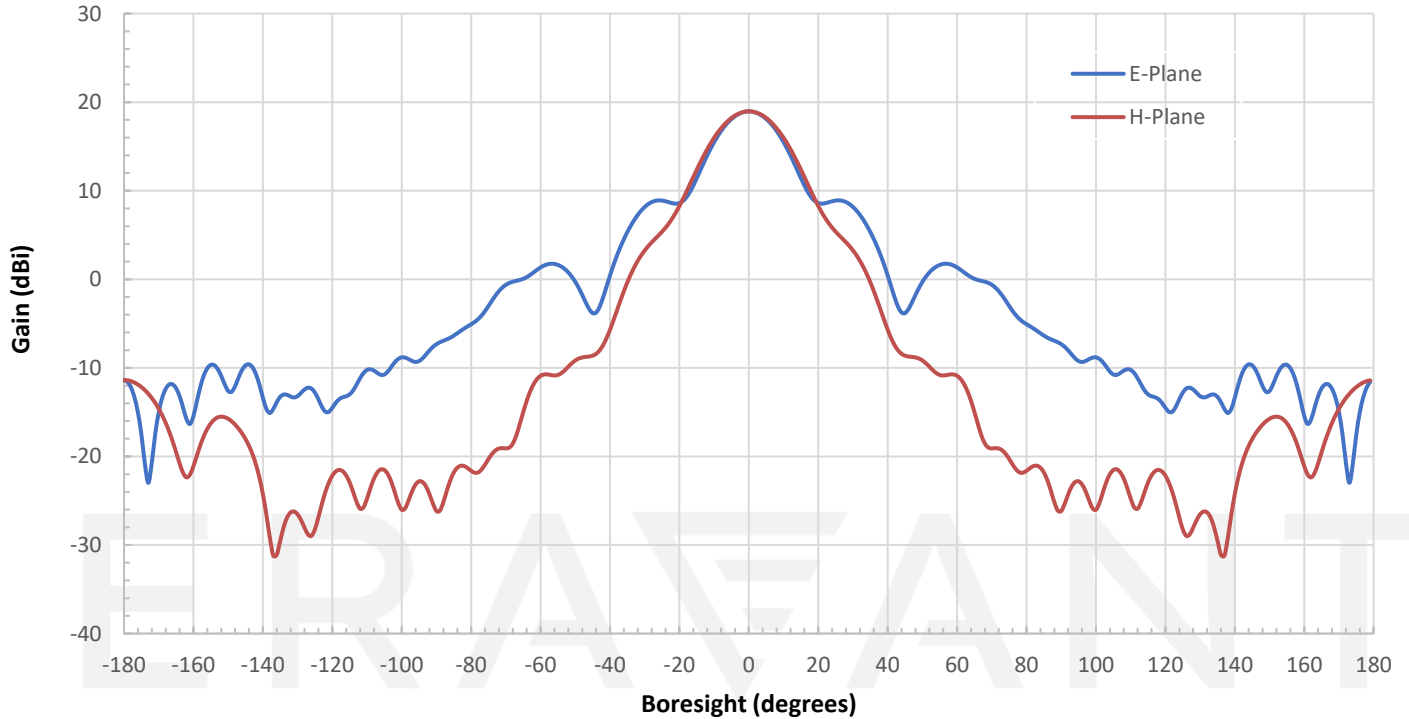
APPLICATIONS

- Antenna Ranges
- Antenna Gain Measurements
- System Setups

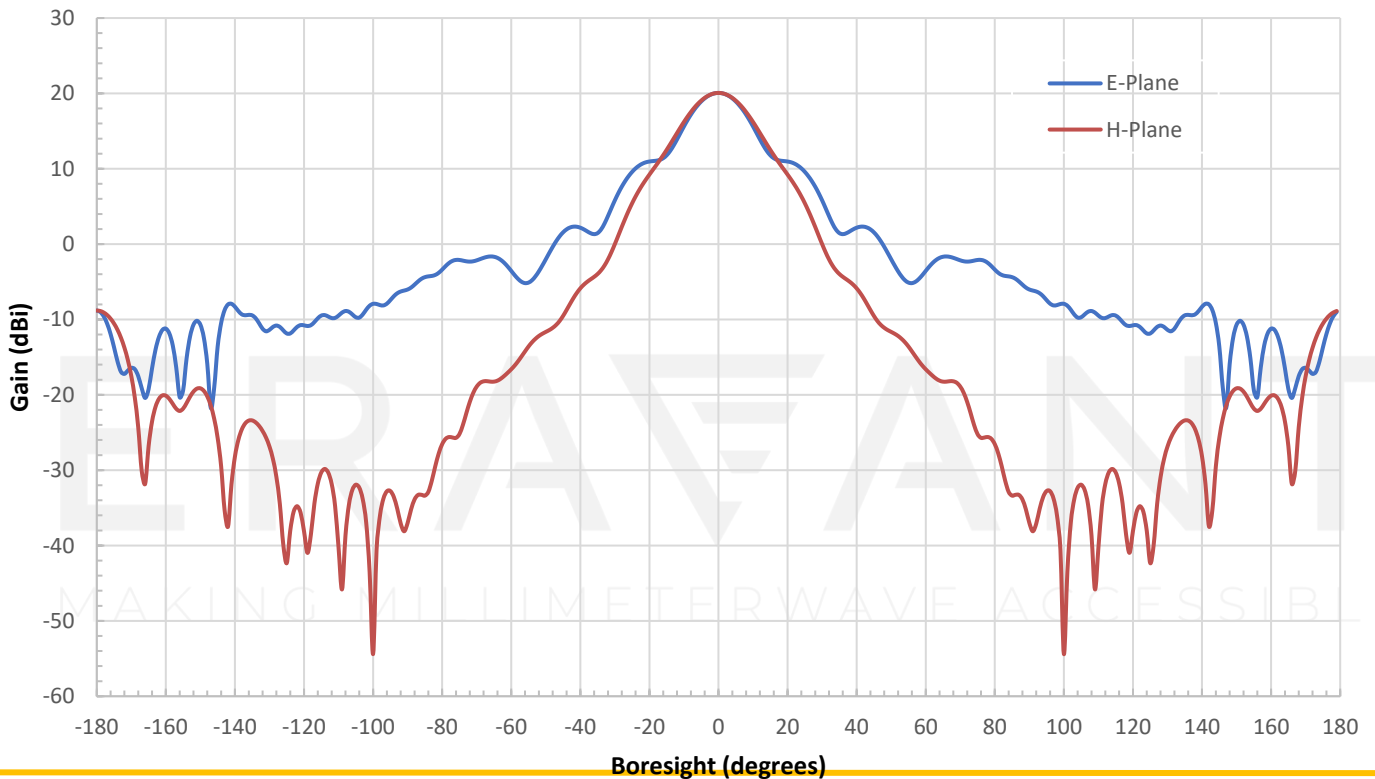
SUPPLEMENTAL DETAILS



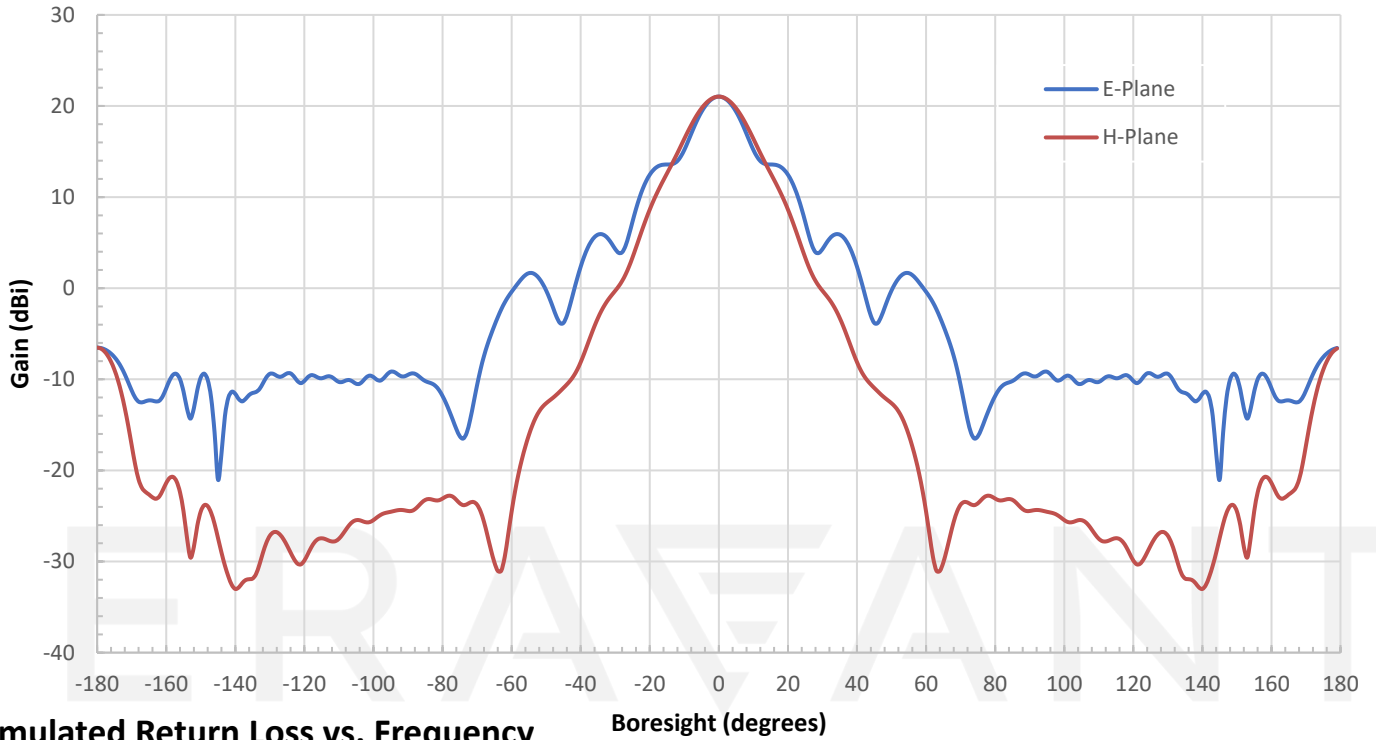
Simulated Antenna Patterns @ 40 GHz



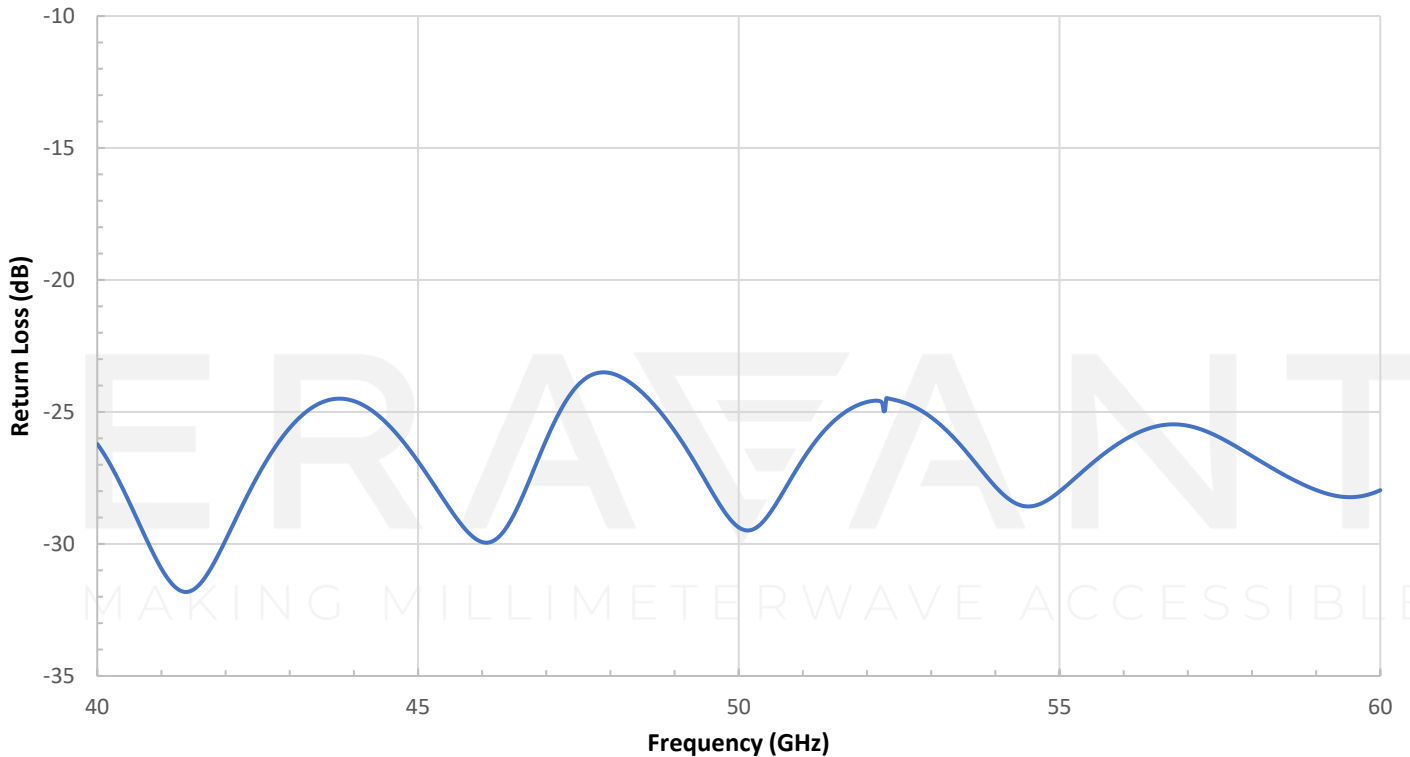
Simulated Antenna Patterns @ 50 GHz



Simulated Antenna Patterns @ 60 GHz

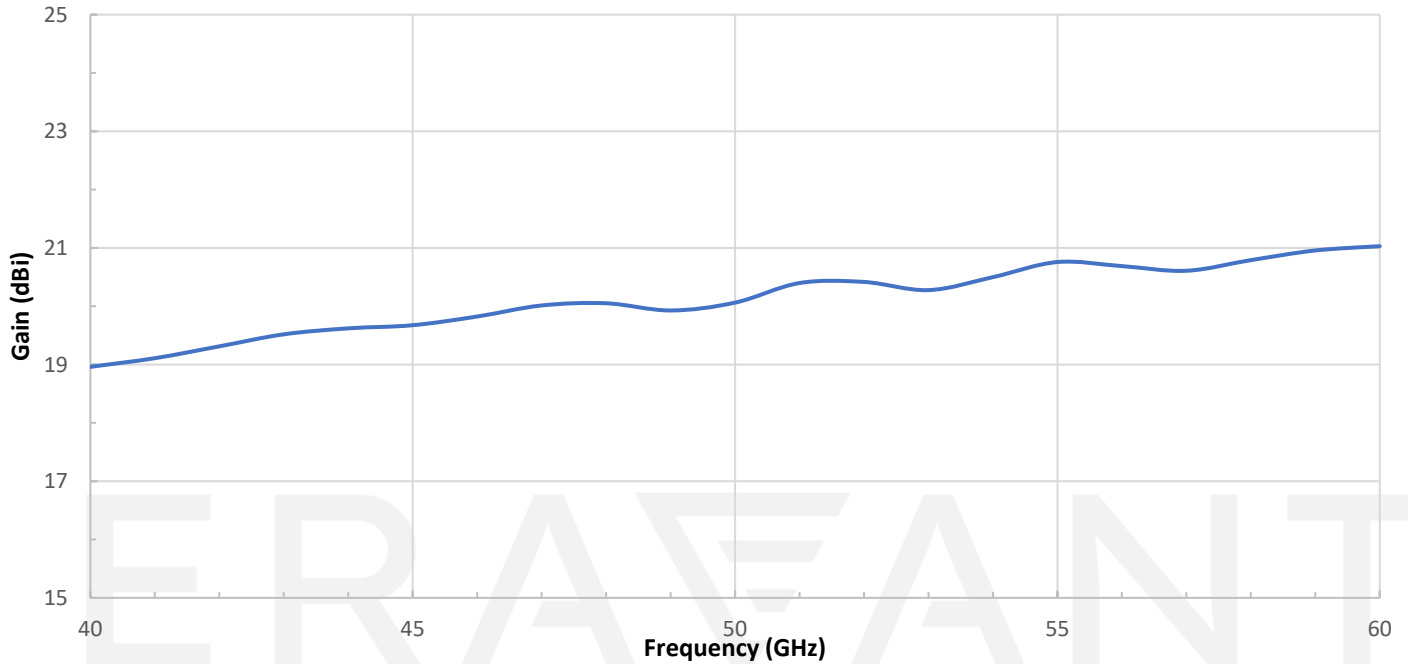


Simulated Return Loss vs. Frequency

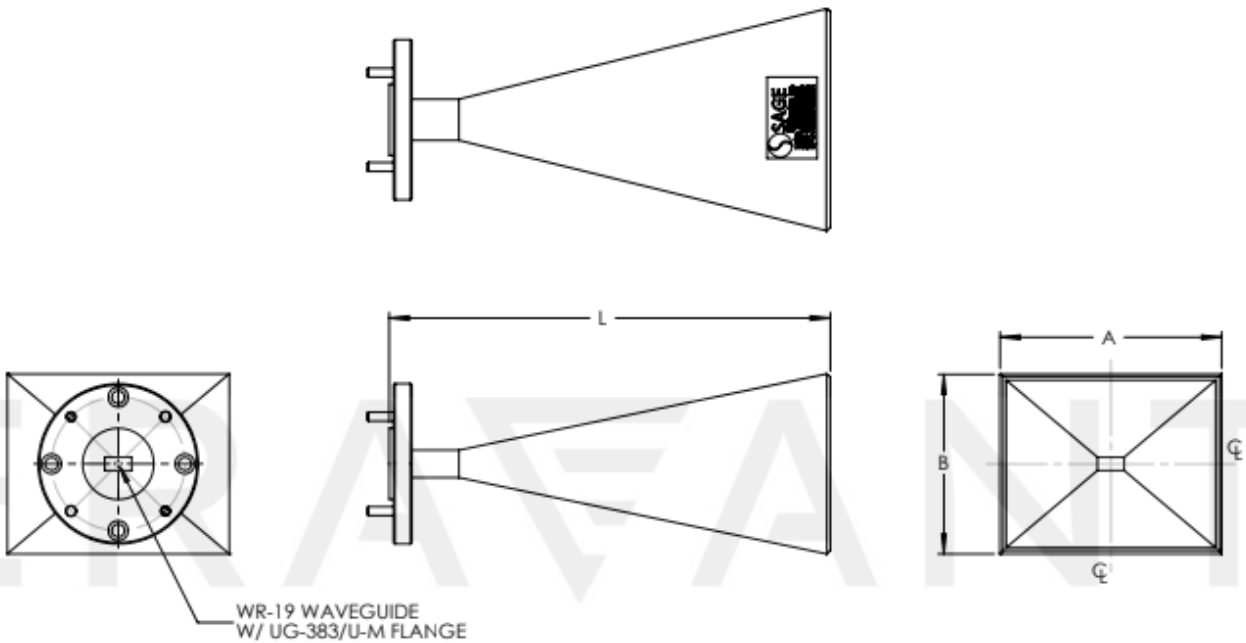


SAR-2013-19-S2

Simulated Gain vs. Frequency



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



PART NO.	DWG NO.	A	B	L	GAIN
SAR-2013-19-S2	AR-U1	1.16[29.5]	0.92[23.4]	1.70[43.2]	20 dBi
SAR-2309-19-S2	AR-U2	1.57[39.9]	1.28[32.5]	3.10[78.7]	23 dBi
SAR-2507-19-S2	AR-U3	1.96[49.8]	1.58[40.1]	4.80[121.9]	25 dBi

NOTE:

- This antenna is a mature product. The reasons for only providing simulated data can be found in the following blog [here](#).
- Eravant reserves the right to change the information presented without notice.

CAUTION:

- If a waveguide is present, any foreign objects in the waveguide will cause performance degradation and may damage or destroy the unit.
- Any foreign objects in the antenna will cause performance degradation and possible device damage.

ERAVANT
MAKING MILLIMETERWAVE ACCESSIBLE

ERAVANT
MAKING MILLIMETERWAVE ACCESSIBLE