

SAR-2018-112-S5

WR-112 Pyramidal Horn Antenna, 20 dBi Gain

SAR-2018-112-S5 is a pyramidal horn antenna that operates from 6.57 GHz to 9.99 GHz. The antenna offers 20 dBi nominal gain and a typical half power beamwidth of 17.3 degrees on the E-plane and 17.5 degrees on the H-plane. The antenna supports linear polarized waveforms. The input of the antenna is WR-112 waveguide with UG-51/U flange.



Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency Range	6.57 GHz		9.99 GHz
Gain		20 dBi	
Polarization		Linear	
3 dB Beamwidth, E-Plane		17.3°	
3 dB Beamwidth, H-Plane		17.5°	
Side Lobes, E-Plane		-13 dB	
Side Lobes, H-Plane		-20 dB	
Return Loss		18 dB	
Power Handling			50 W (CW)
Specification Temperature		+25 °C	
Operating Temperature	-40 °C		+85 °C

Mechanical Specifications:

Item	Specification
Antenna Port	WR-112 Waveguide with UG-51/U
Material	Aluminum
Finish	Black Paint
Weight	1.1 lbs
Size	11.42" (L) x 5.65" (W) x 4.23" (H)
Outline	AR-H1

ECCN

EAR99

FEATURES

- Inline Configuration
- Linear Polarization
- DC Short Circuit at Input

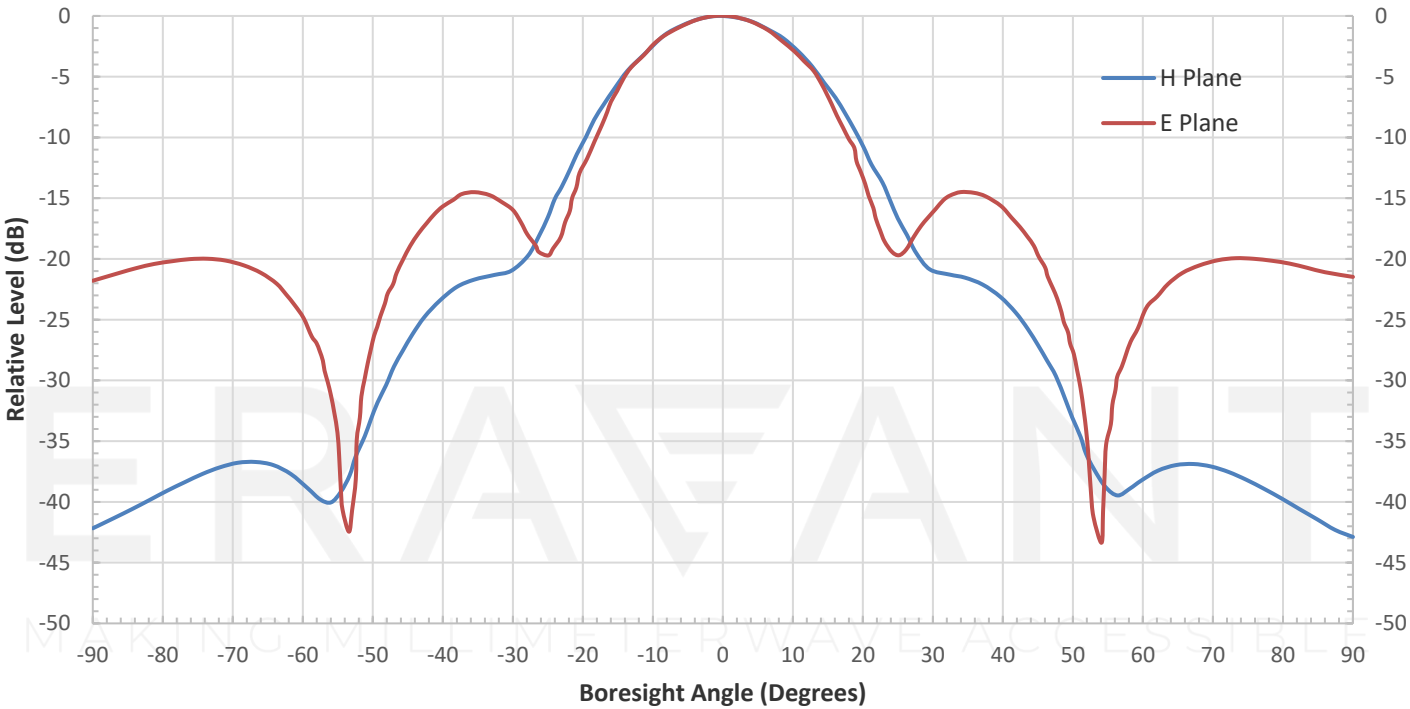
APPLICATIONS

- Antenna Ranges
- Antenna Gain Measurements
- System Setups

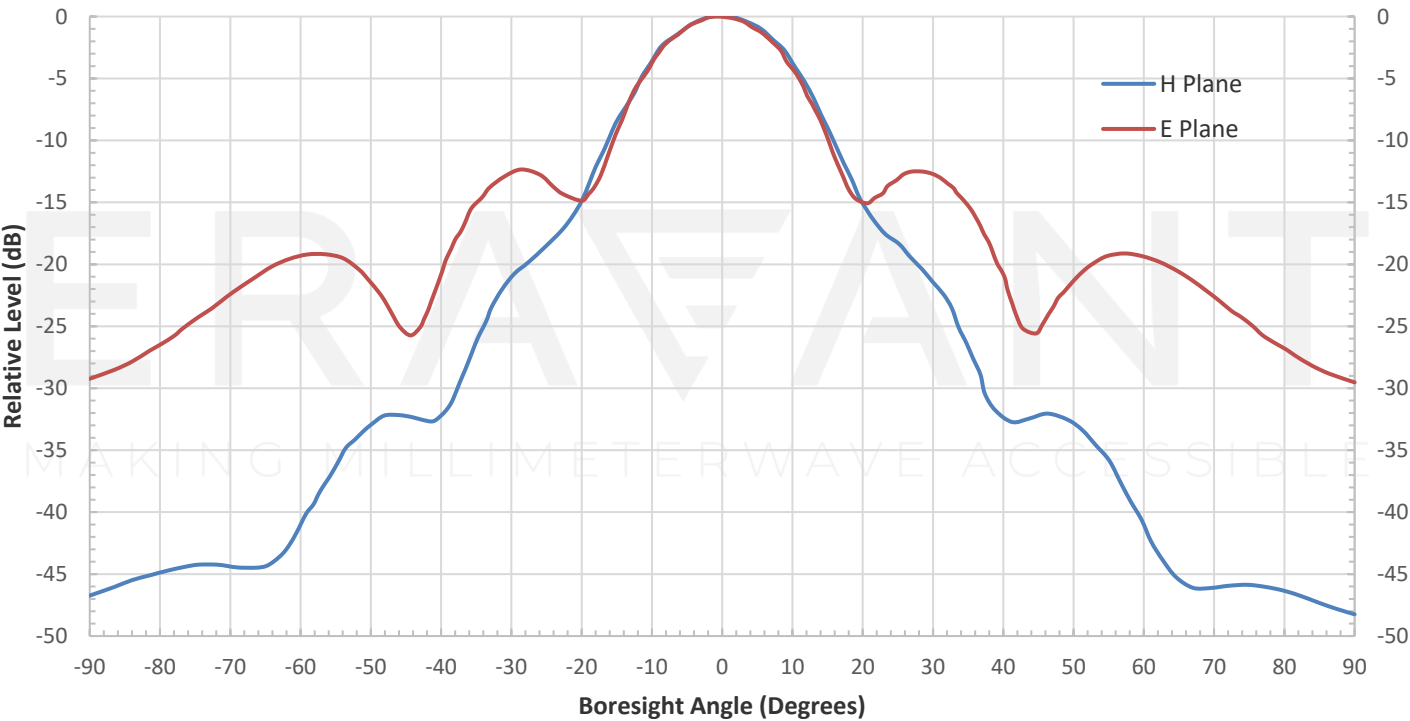
SUPPLEMENTAL DETAILS



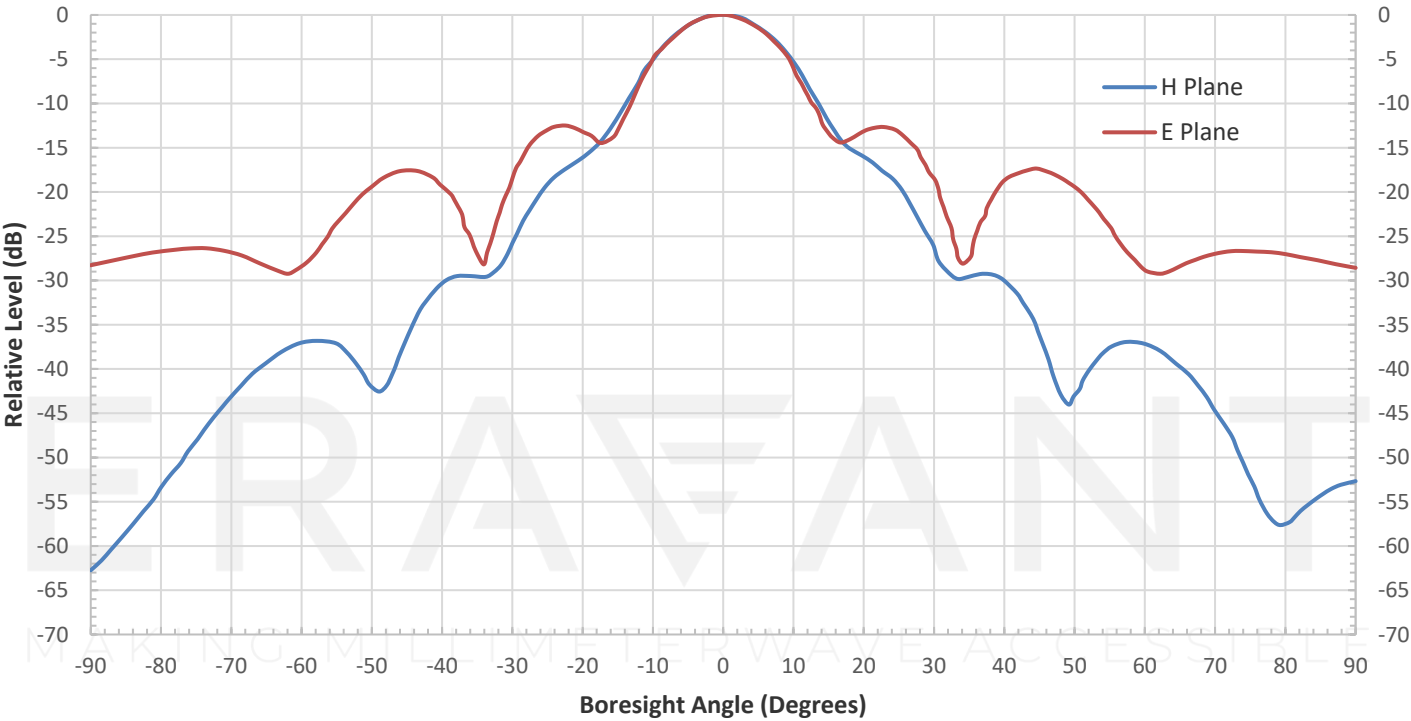
Measured Antenna Patterns @ 6.57 GHz



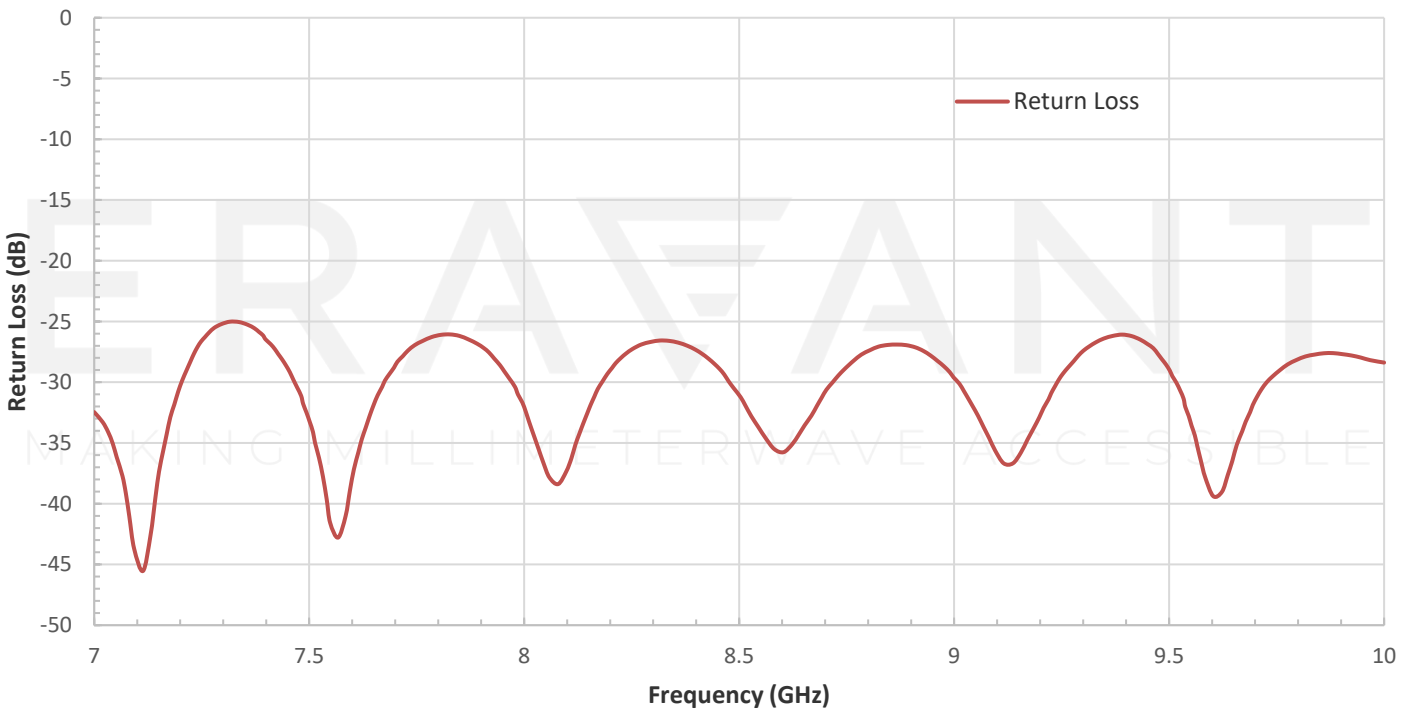
Measured Antenna Patterns @ 8.28 GHz



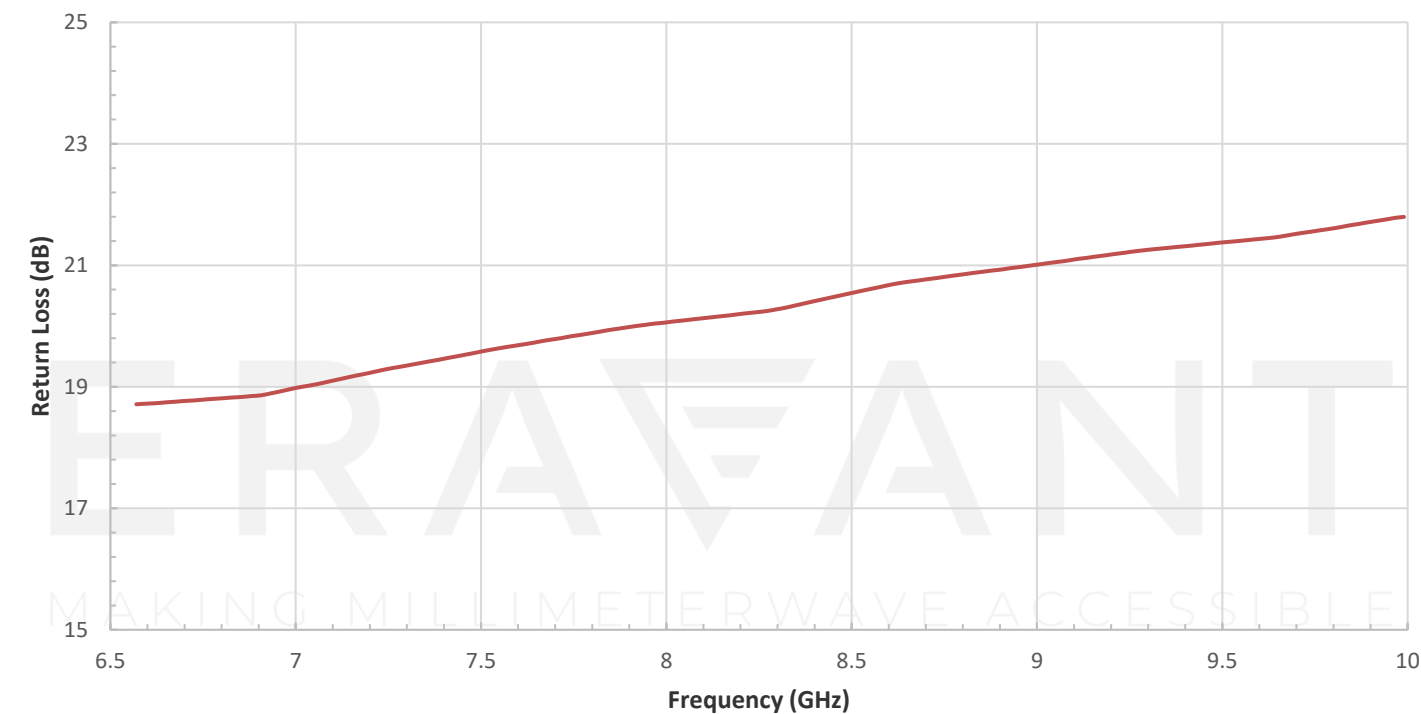
Measured Antenna Patterns @ 9.99 GHz



Typical Return Loss vs. Frequency



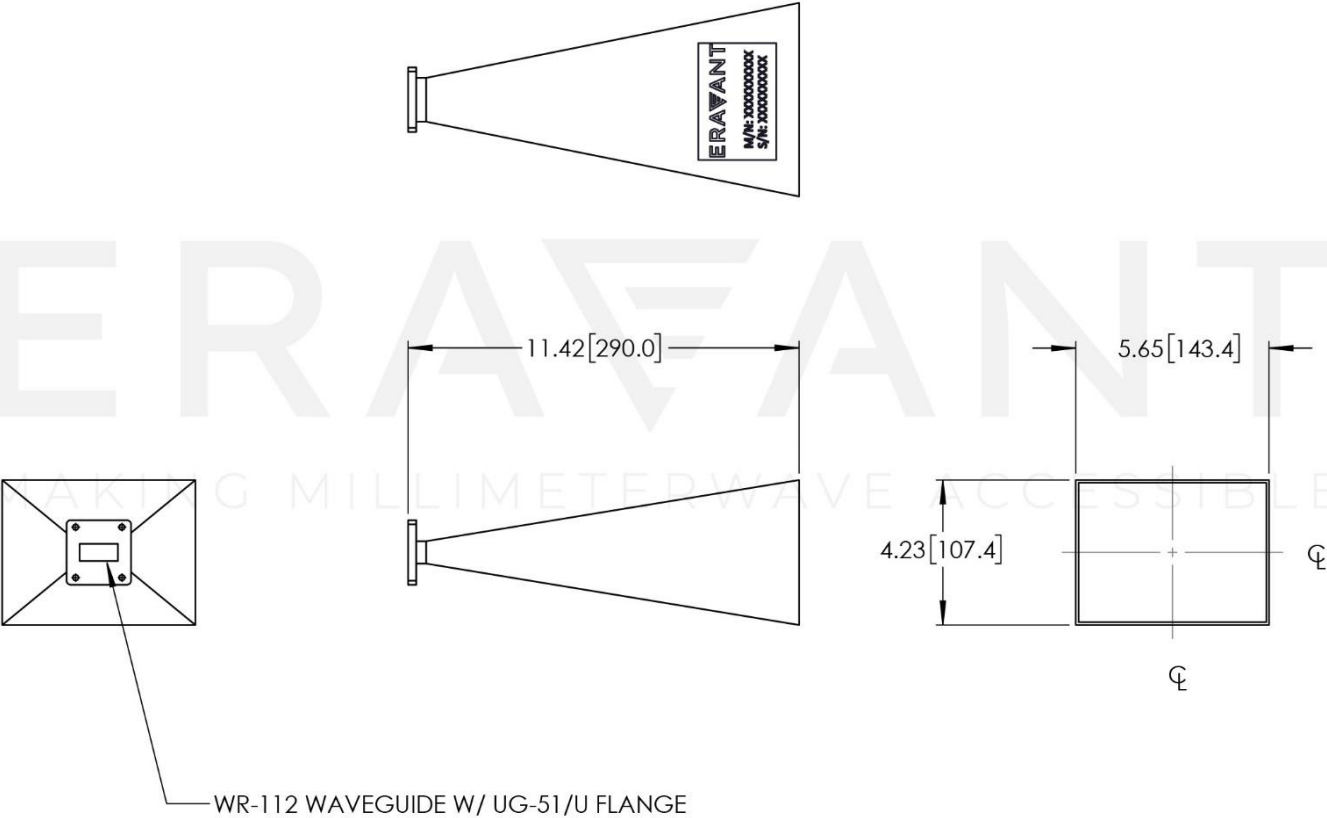
Measured Gain vs. Frequency



Measured Gain vs. Frequency in Tabular Format

Frequency (GHz)	Gain (dB)	Frequency (GHz)	Gain (dB)
6.57	18.71	8.43	20.44
6.88	18.85	8.74	20.80
7.19	19.22	9.05	21.05
7.50	19.57	9.36	21.29
7.81	19.90	9.67	21.48
8.12	20.14	9.99	21.80

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



NOTE:

- This antenna is a mature product. The reasons for only providing simulated data can be found in the following blog [here](#).
- All testing is performed under +25 °C case temperature.
- Eravant reserves the right to change the information presented without notice.

CAUTION:

- Any foreign objects in the horn antenna will cause performance degradation and possible device damage.