

SAR-2013-42-S2

WR-42 Pyramidal Horn Antenna, 20 dBi Gain

SAR-2013-42-S2 is a K-band pyramidal horn antenna that operates from 18 GHz to 26.5 GHz. The antenna offers 20 dBi nominal gain and a typical half power beamwidth of 15 degrees on the E-plane and 16 degrees on the H-plane, respectively. The antenna supports linear polarized waveforms. The input port of the antenna is a WR-42 waveguide with UG-595/U flange.



Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency Range	18 GHz		26.5 GHz
Gain	18.5 dBi	20 dBi	21 dBi
Polarization		Linear	
3 dB Beamwidth, E-Plane		15°	
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-42 Waveguide
Flange Type	UG-595/U Flange
Material	Aluminum
Finish	Inside: Silver Plated; Outside: Black Paint
Weight	2.5 Oz
Size	3.20" (L) X 2.47" (W) X 1.93"(H)
Outline	AR-K1

ECCN

EAR99

FEATURES

- Rectangular Waveguide Interface
- Precisely Machined
- Linear Polarization
- High Return Loss

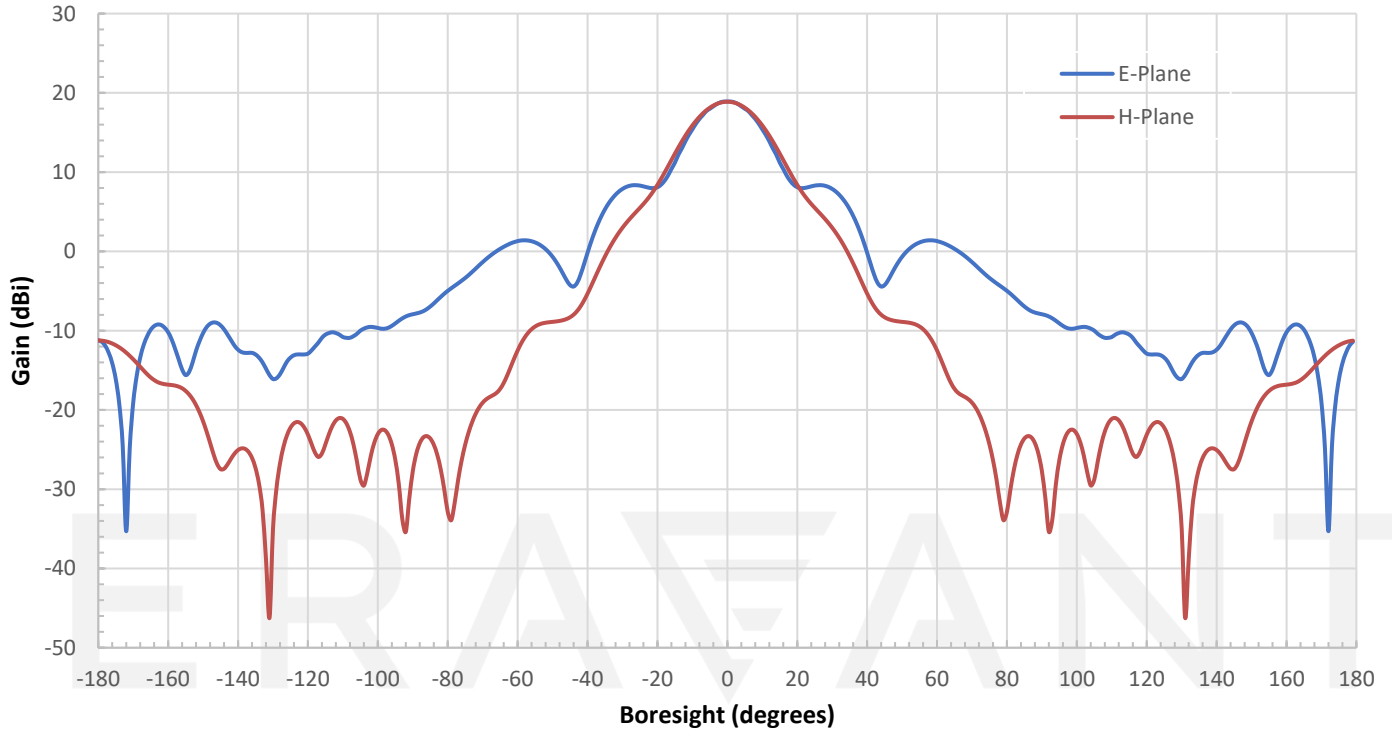
APPLICATIONS

- Antenna Ranges
- Antenna Gain Measurements
- System Setups

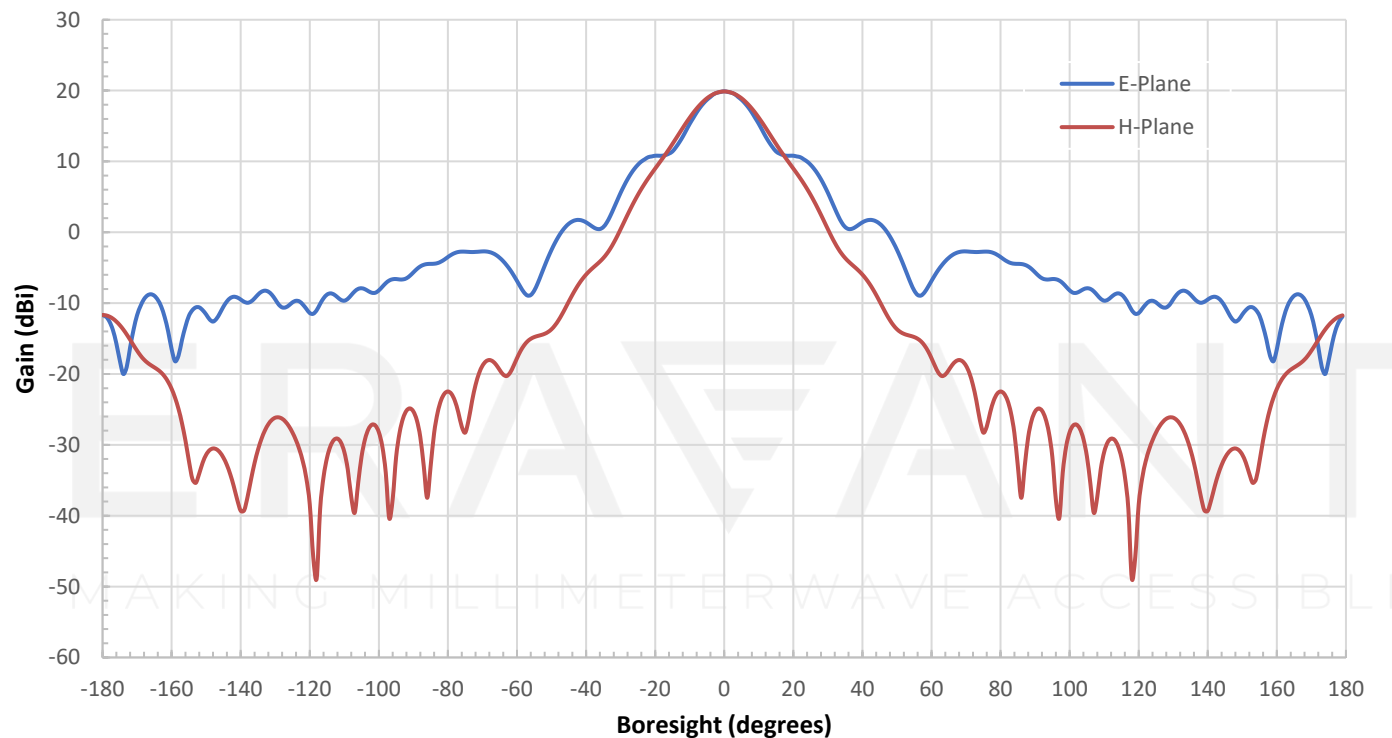
SUPPLEMENTAL DETAILS



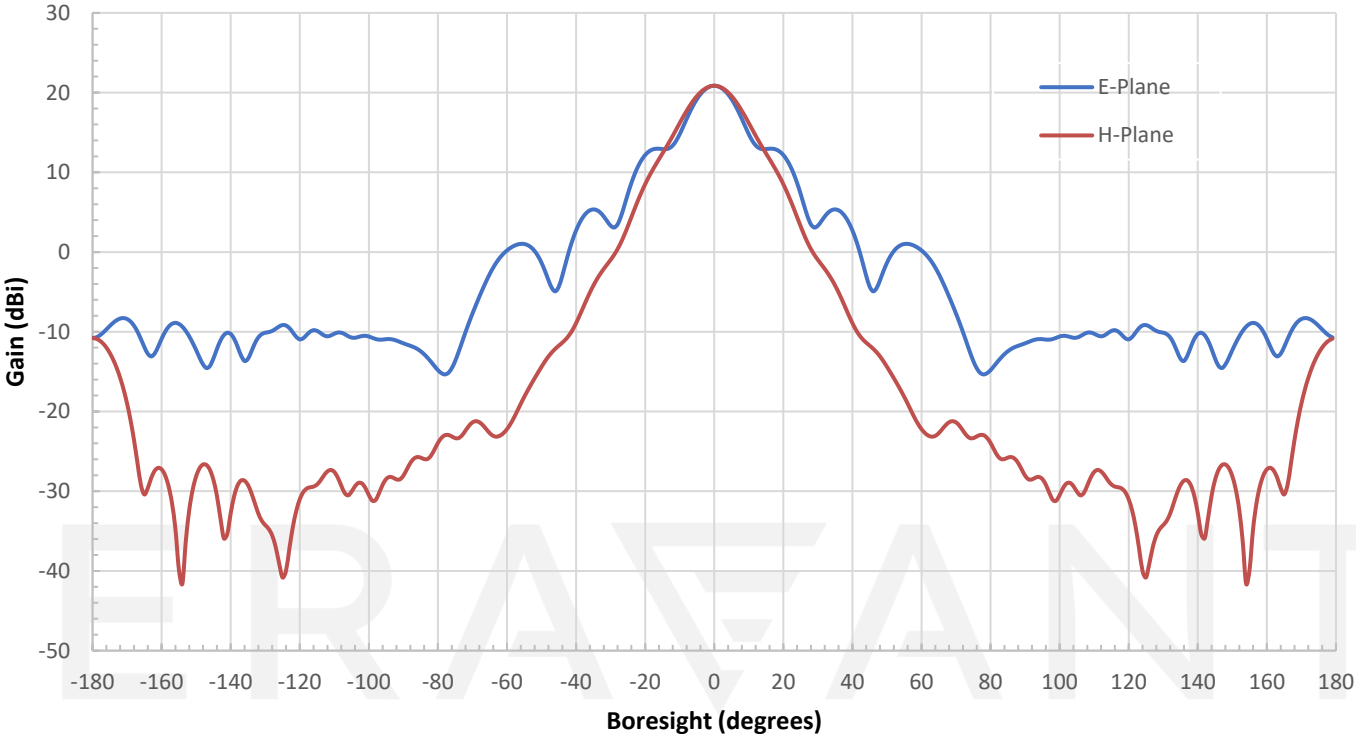
Simulated Antenna Patterns @ 18 GHz



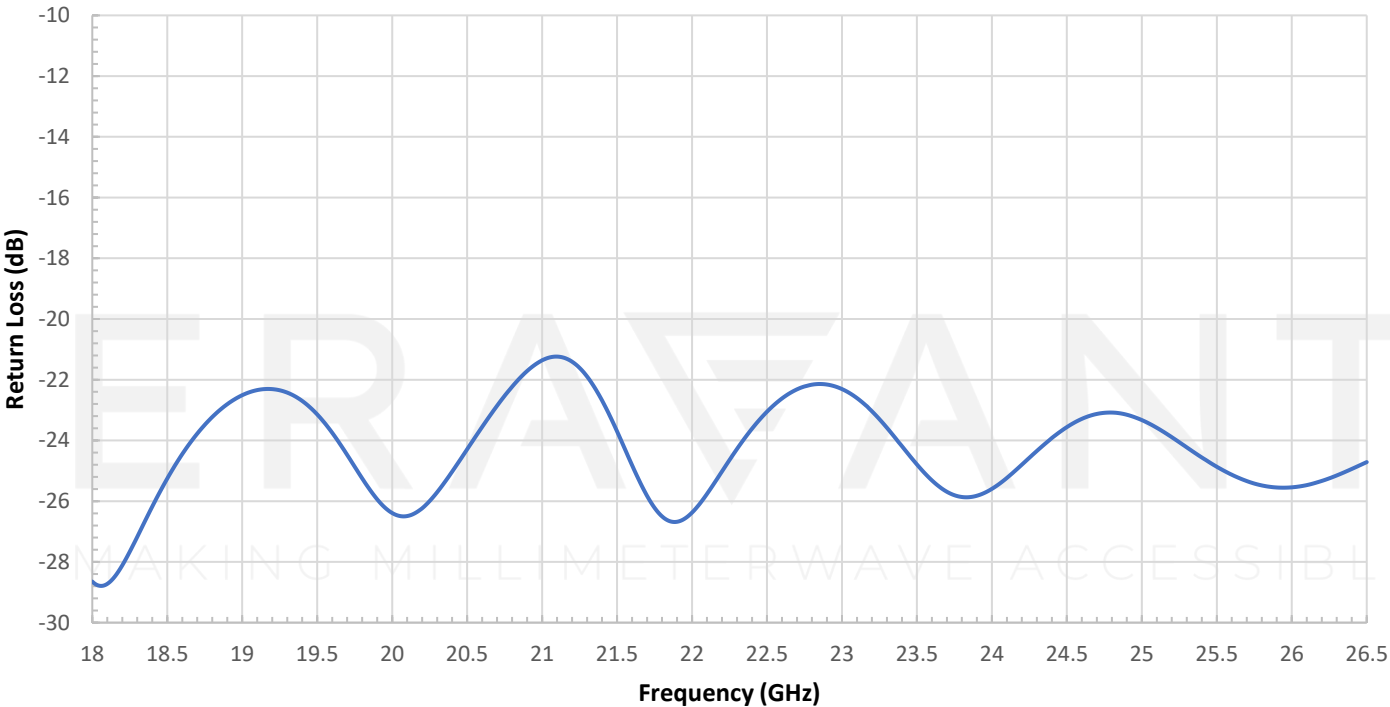
Simulated Antenna Patterns @ 22 GHz



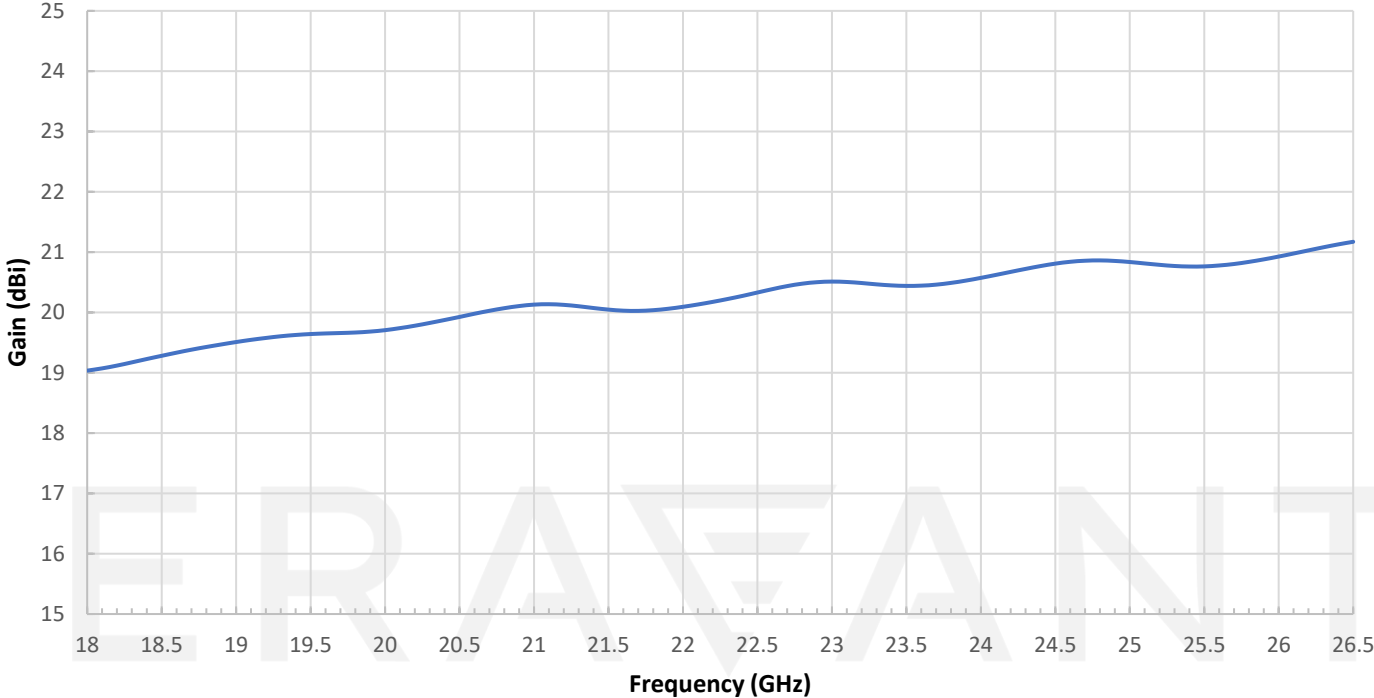
Simulated Antenna Patterns @ 26.5 GHz



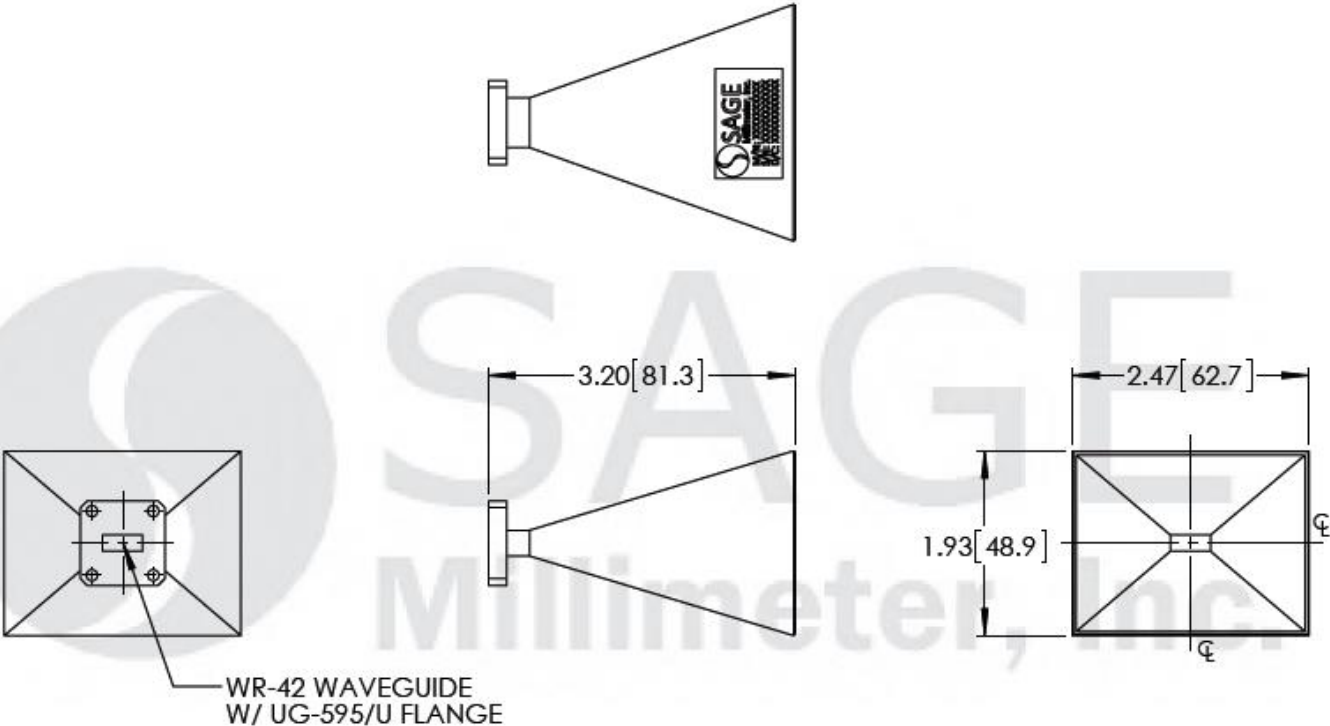
Simulated Return Loss vs. Frequency



Simulated Gain vs. Frequency



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](#).
- 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.

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