

SAR-1725-42-S2

WR-42 Pyramidal Horn Antenna, 17 dBi Gain

SAR-1725-42-S2 is a WR-42 Pyramidal horn antenna that operates from 18 to 26.5 GHz. The antenna offers 17 dBi nominal gain and a typical half power beamwidth of 25 degrees on the E-plane and 25 degrees on the H-plane, respectively. The antenna supports linear polarized waveforms. The input of this antenna is a WR-42 Waveguide with UG-595/U flanges. Other antennas with different gain and antenna ports are offered under different model numbers.



Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency	18 GHz		26.5 GHz
Gain		17 dBi	
Polarization		Linear	
3 dB Beamwidth, E-Plane		25 °	
3 dB Beamwidth, H-Plane		25 °	
Sidelobe Levels, E-Plane		-13 dB	
Sidelobe Levels, H-Plane		-20 dB	
Return Loss		15 dB	
Specification Temperature		+25 °C	
Operation Temperature	-40 °C		+85 °C

Mechanical Specifications:

Item	Specification
Antenna Port	WR-42 Waveguide
Flange Type	UG-595/U Flange
Material	Aluminum
Finish Inner	Silver Plated
Finish Outer	Black Paint
Weight	1.7 Oz
Dimensions	3.25" (L) x 1.51" (H) x 1.18" (W)
Outline	AR-K17

ECCN

EAR99

FEATURES

- Rectangular Waveguide Interface
- Linear Polarization
- High Return Loss

APPLICATIONS

- Antenna Ranges
- Antenna Gain Measurements
- System Setups

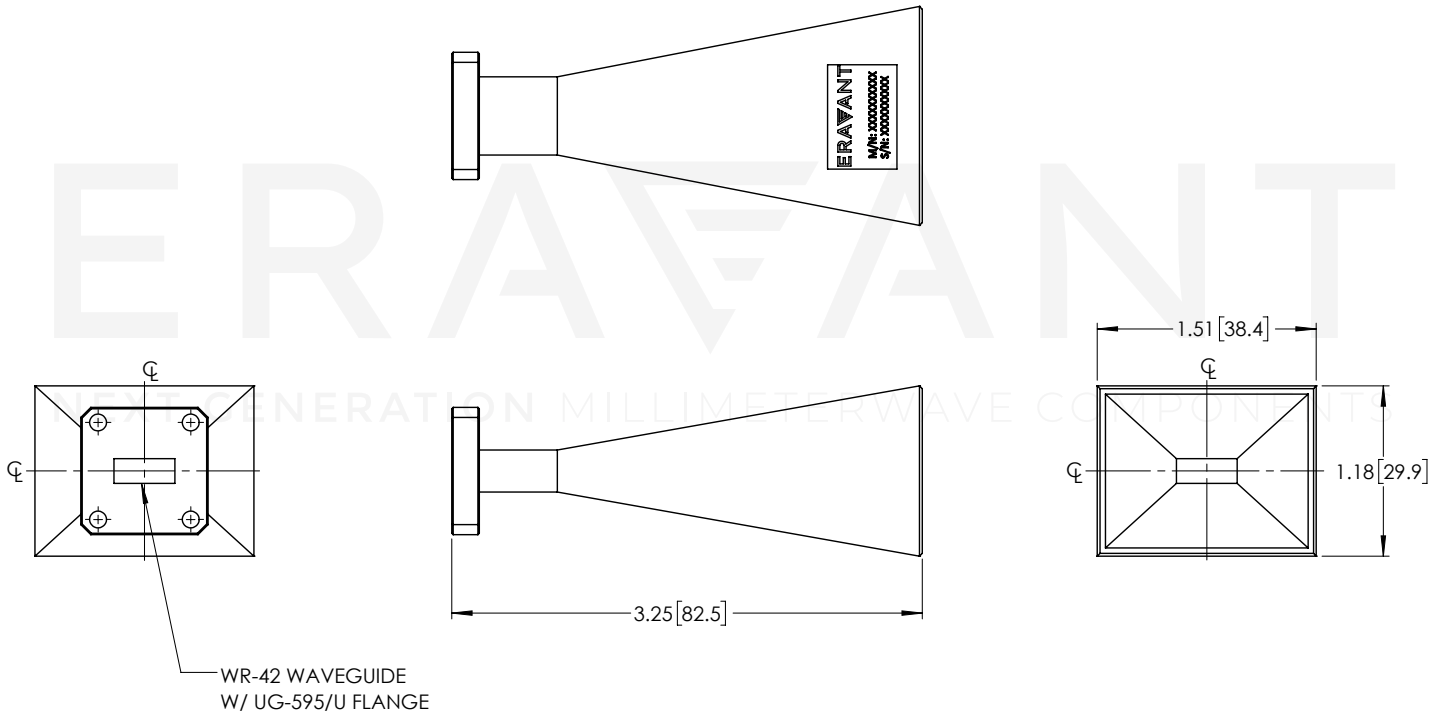
SUPPLEMENTAL DETAILS



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Mechanical Outline:

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



NOTE:

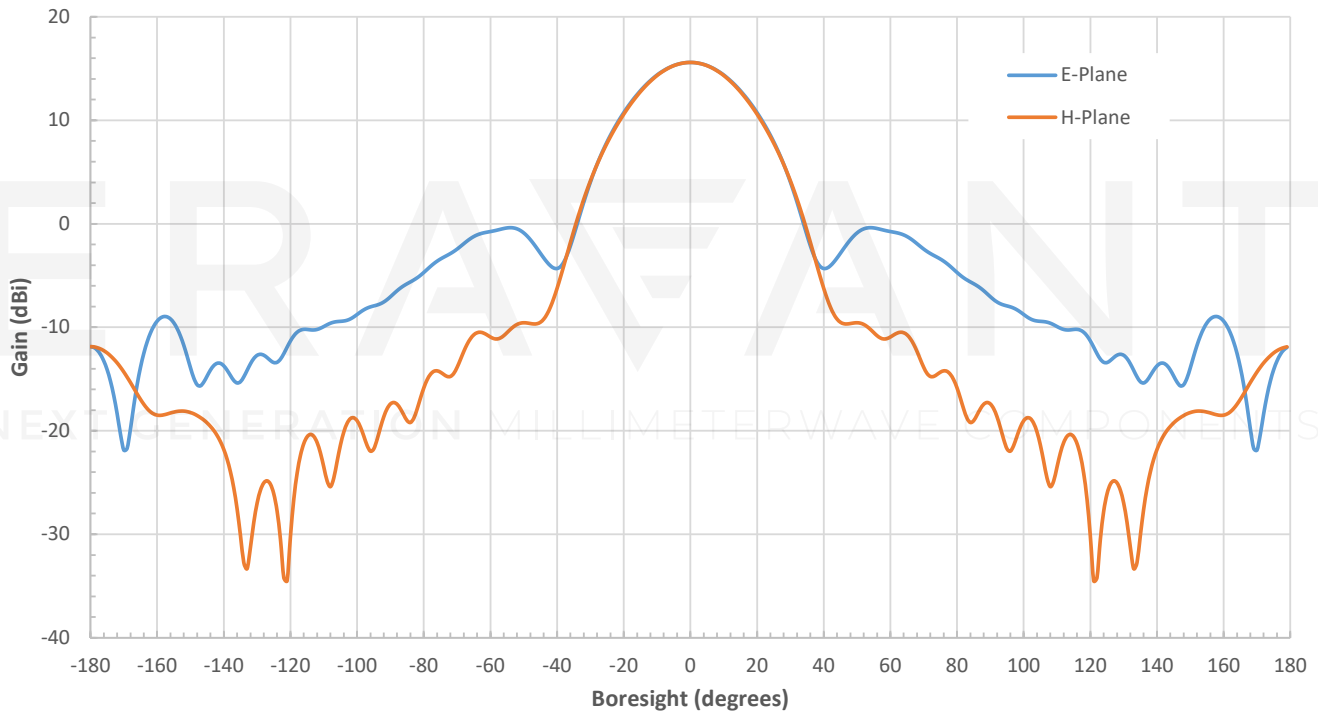
- This antenna is a mature product. The reasons for only providing simulated data can be found in the following blog here.
- All testing is performed under +25 °C room temperature.
- Eravant reserves the right to change the information presented without notice.

CAUTION:

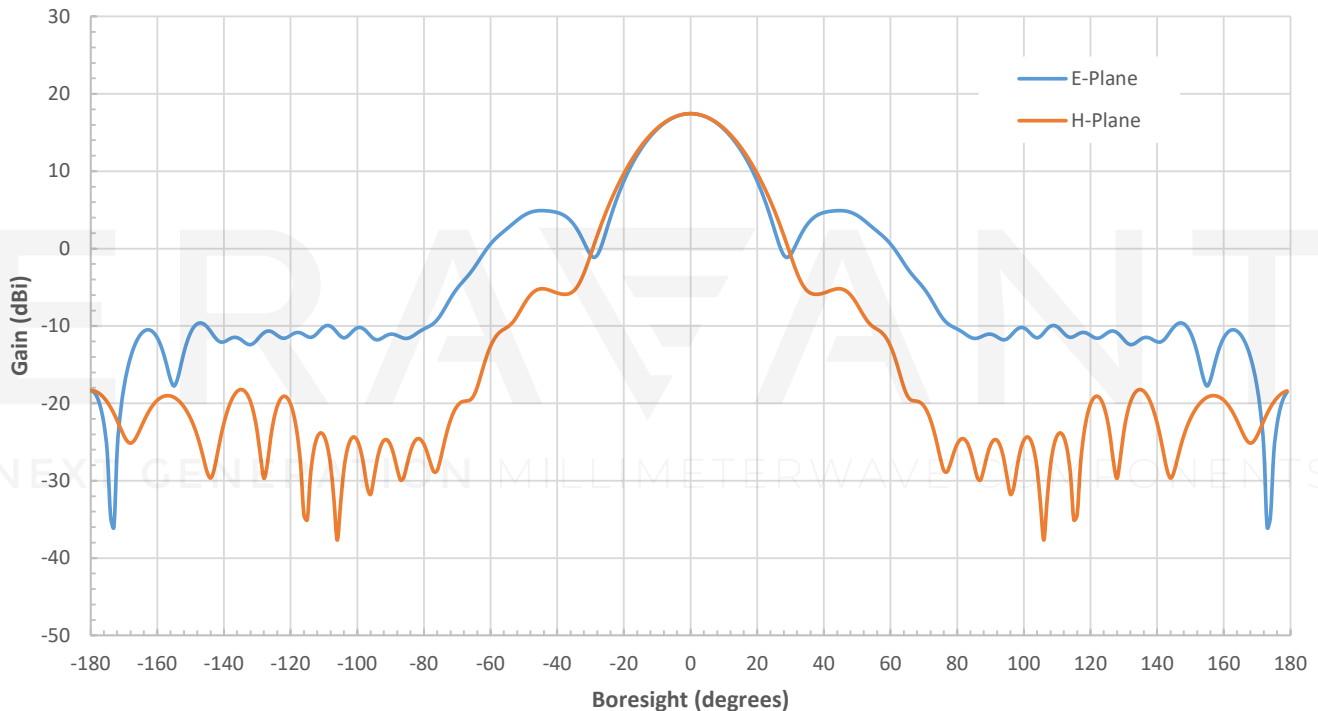
- If a waveguide is present, any foreign objects in the waveguide will cause performance degradation and may damage or destroy the unit.
- Any foreign objects in the antenna will cause performance degradation and possible device damage.
- For 1 mm connectors proper torque should be applied: 4.0 ± 0.15 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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Simulated Antenna Patterns @ 18 GHz

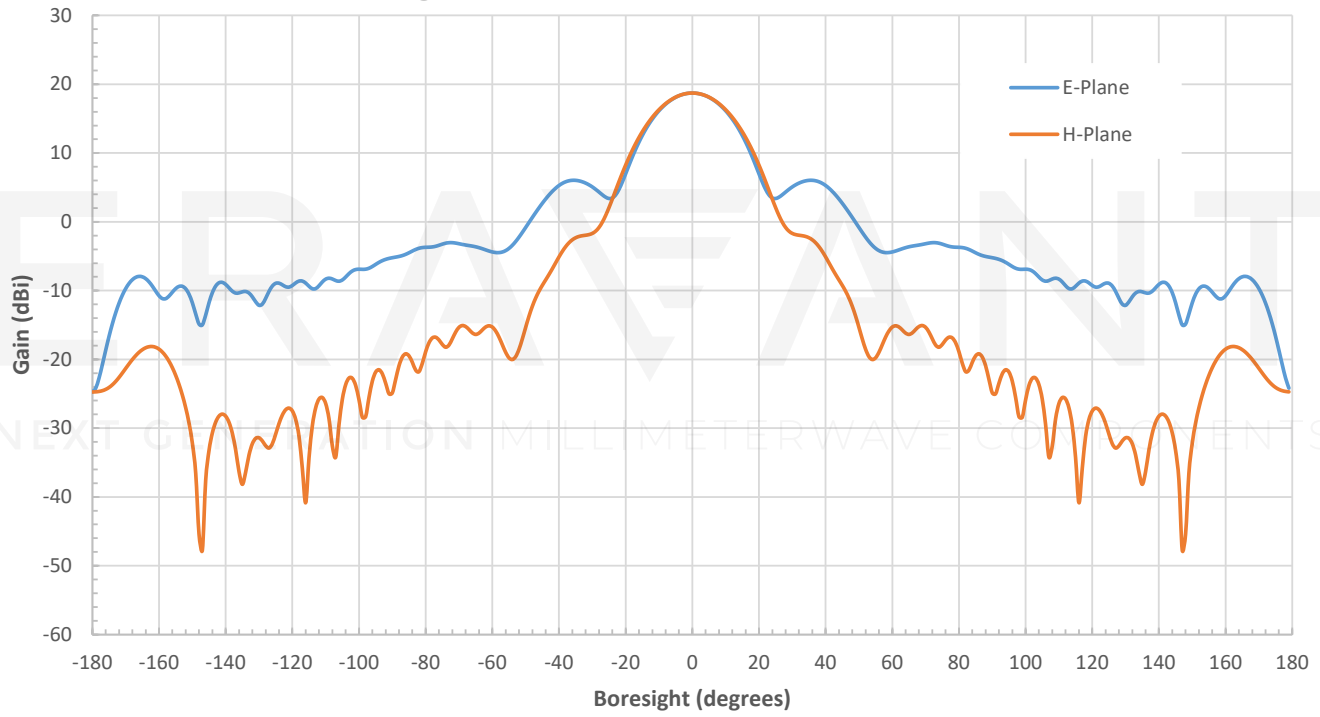


Simulated Antenna Patterns @ 22.25 GHz

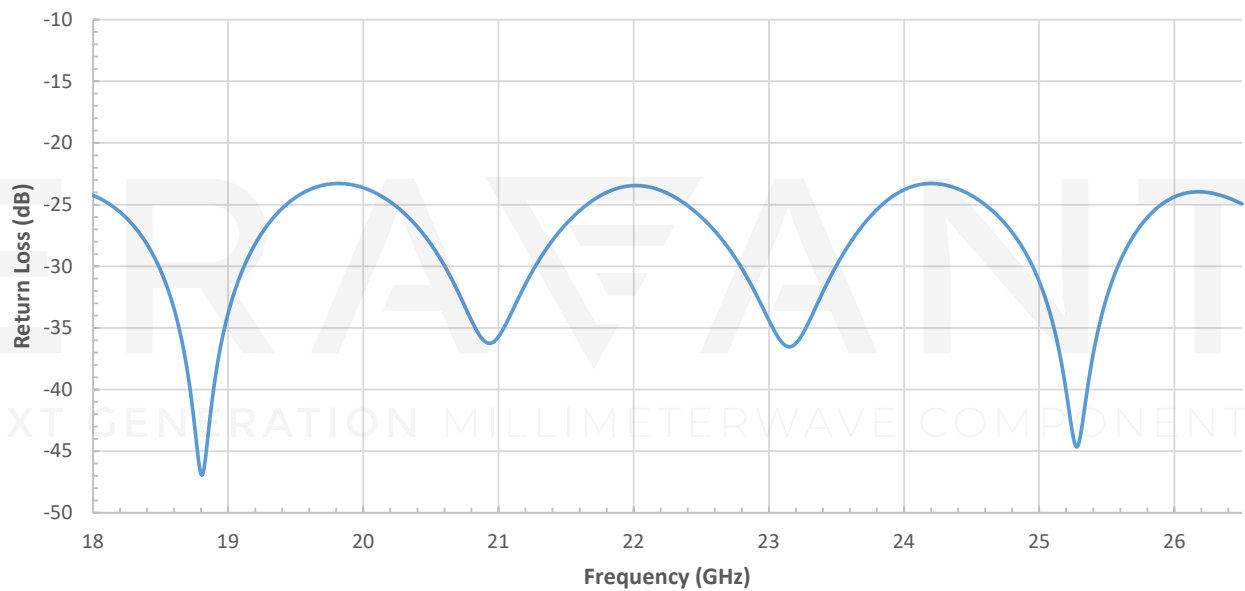


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Simulated Antenna Patterns @ 26.5 GHz



Simulated Return Loss vs. Frequency



SAR-1725-42-S2

Simulated Gain vs. Frequency

