



WR-42 Pyramidal Horn Antenna, 14 dBi Gain

Description:

Model SAR-1430-42-S2-D is a K-band pyramidal horn antenna that operates from 18 GHz to 26.5 GHz. The antenna offers 14 dBi nominal gain and 33 degrees half power beamwidth. The antenna supports linear polarized waveforms. The input of this antenna is a WR-42 waveguide with UG-595/U flange. The antenna is designed and manufactured for low cost applications by using die-case method.



Features:

- Rectangular Waveguide Interface
- Low Cost
- Volume Production Ready
- Linear Polarization
- High Return Loss

Applications:

- Antenna Ranges
- Antenna Gain Measurements
- System Setups
- Sensor and Radar Systems
- Communication Systems

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency	18.0 GHz	24.125 GHz	26.5 GHz
Gain		14 dBi	
Polarization	Linear		
3 dB Beamwidth, E-Plane		33°	
3 dB Beamwidth, H-Plane		33°	
Sidelobes, E-Plane		-13 dB	
Sidelobes, H-Plane		-26 dB	
Return Loss		23 dB	
Operating Temperature	-40 °C	+25 °C	+85 °C

Mechanical Specifications:

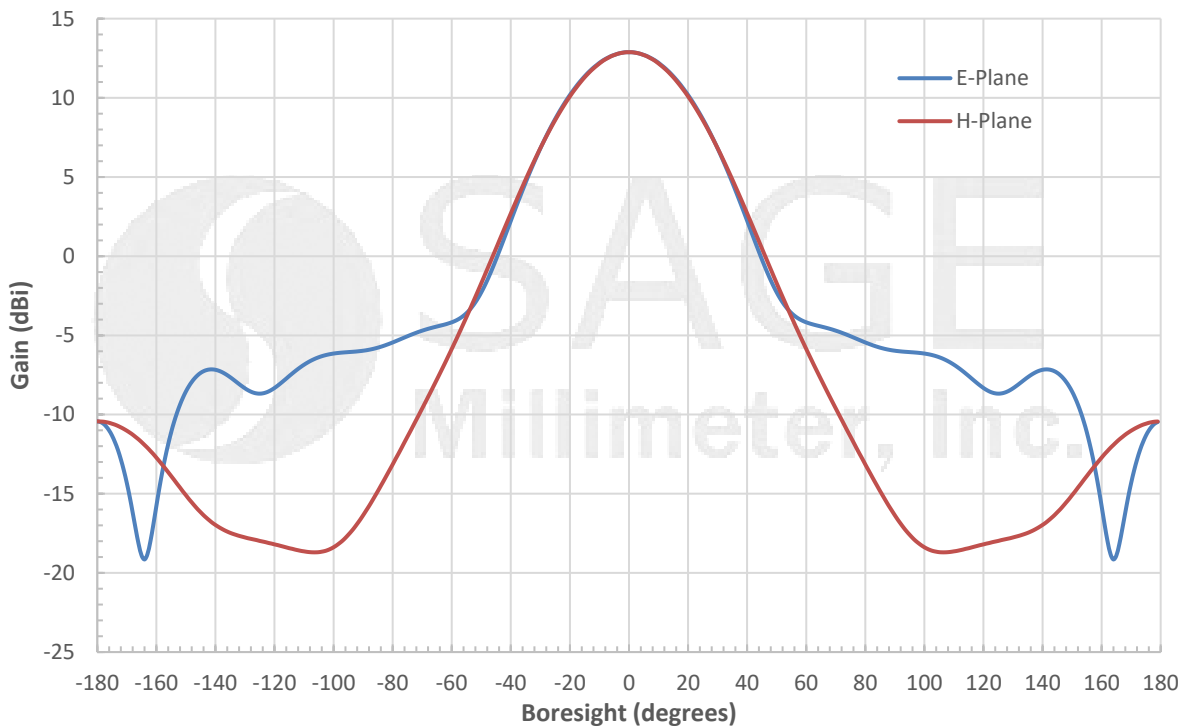
Item	Specification
Antenna Port	WR-42 Waveguide
Flange Type	UG-595/U Flange with 4-40 threaded holes
Size	0.52" (L) X 1.24" (W) X 0.90" (H)
Material	Die Cast Zinc
Finish	Chem Film
Weight	0.6 Oz
Outline	AR-K14-D



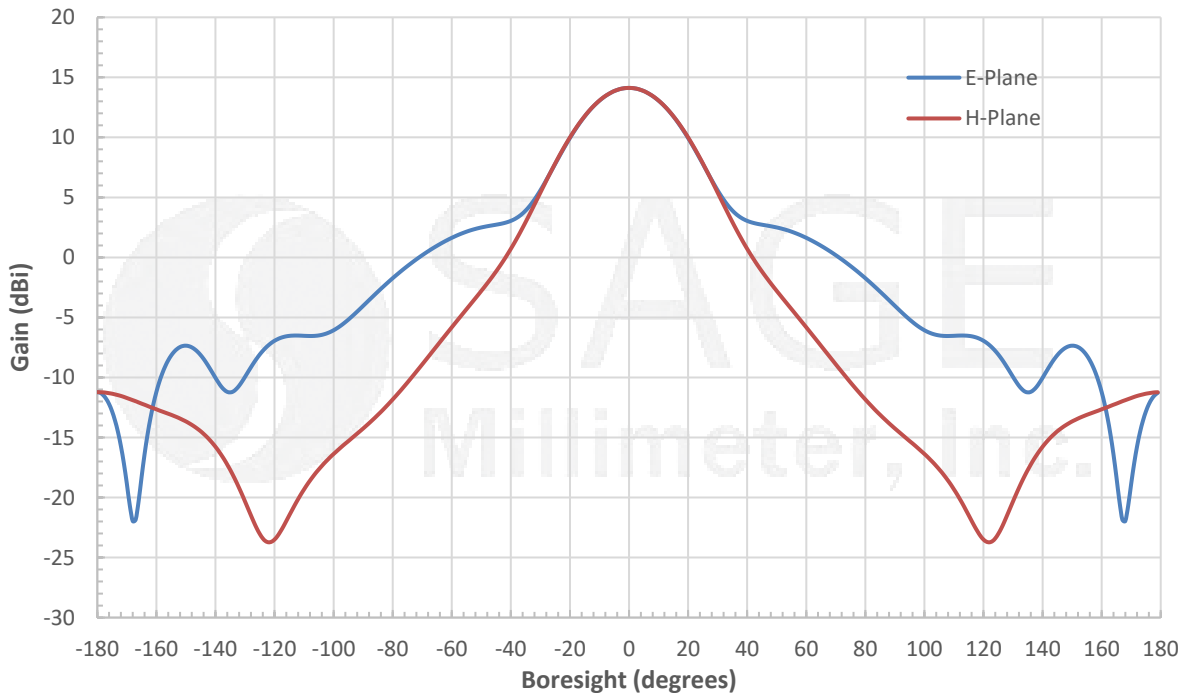


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Simulated Antenna Patterns @ 18 GHz



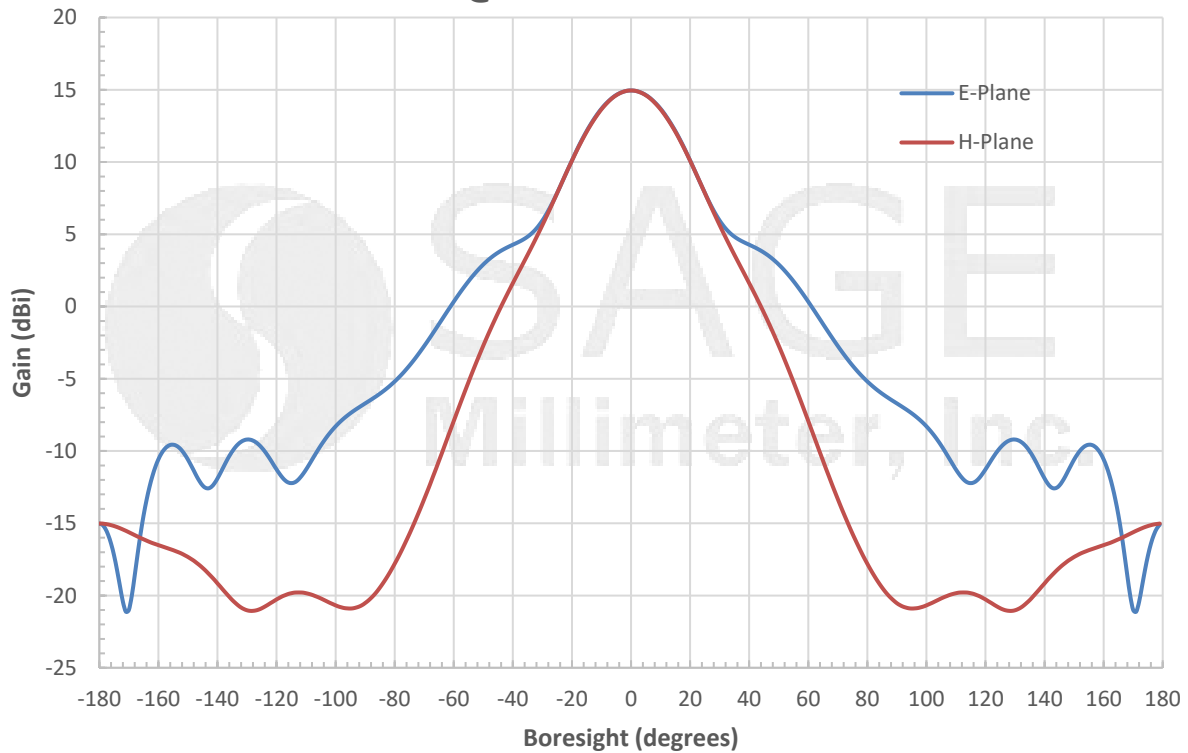
Simulated Antenna Patterns @ 22.25 GHz



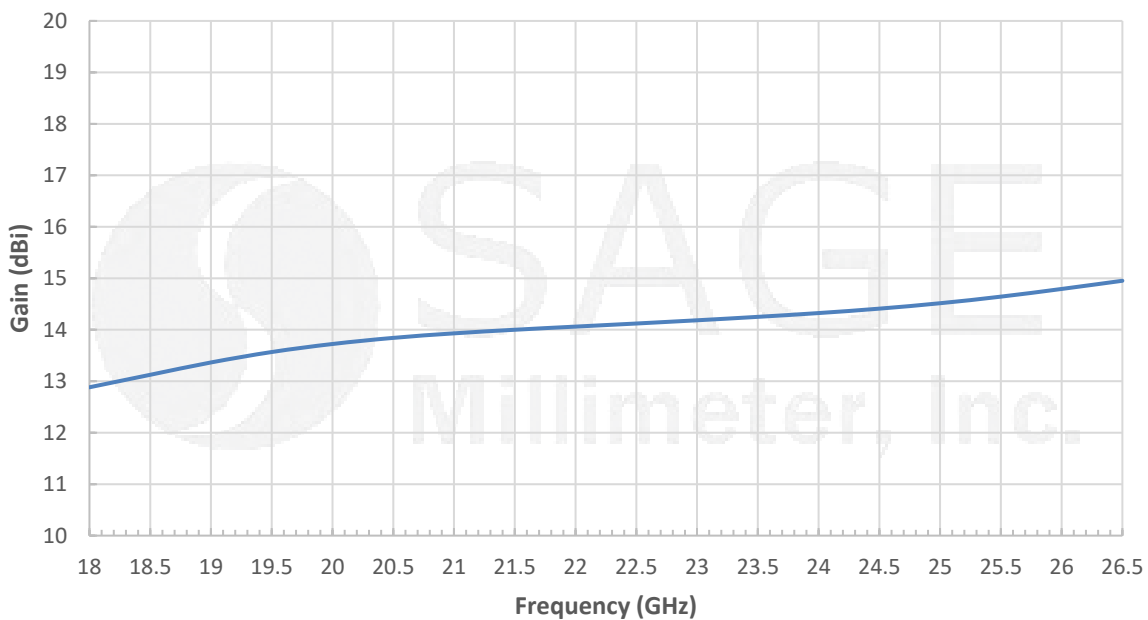


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Simulated Antenna Patterns @ 26.5 GHz



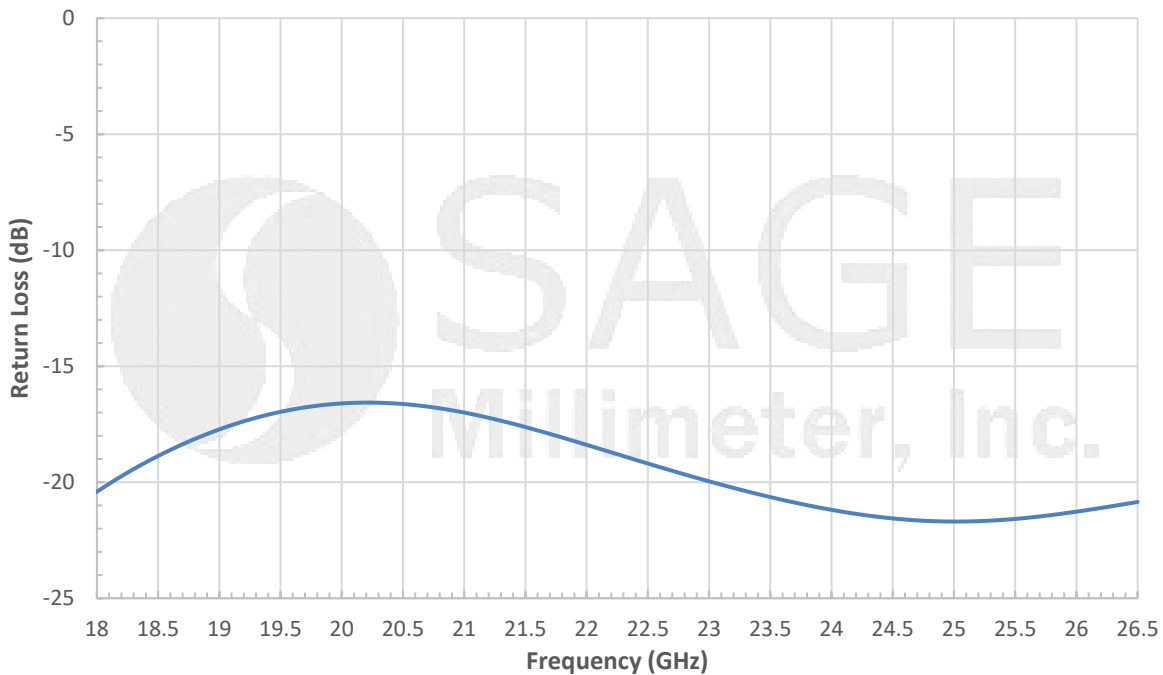
Simulated Gain vs. Frequency



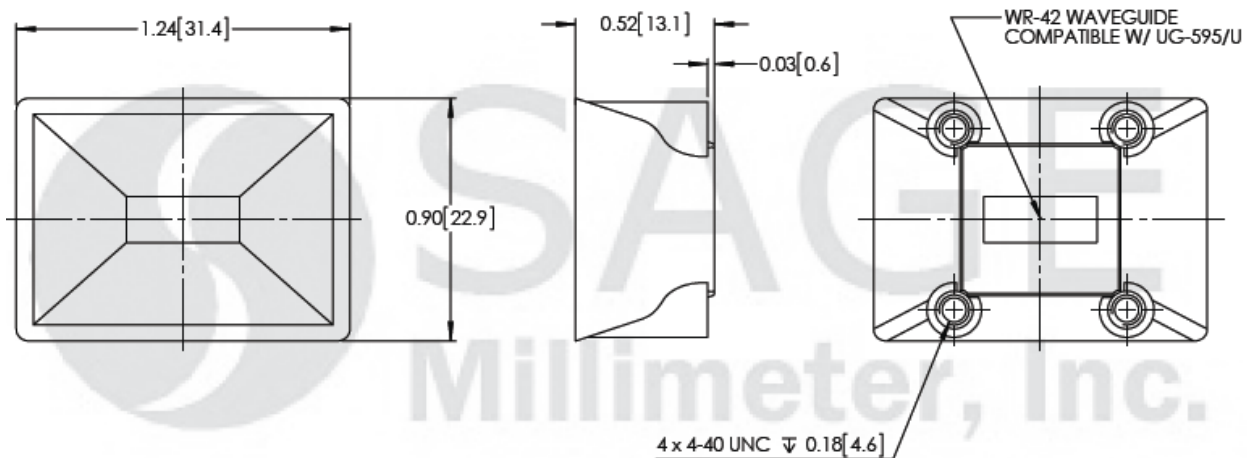


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Simulated Return Loss vs. Frequency



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:

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



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