



## WR-42 Pyramidal Horn Antenna, 23 dBi Gain

### Description:

**Model SAR-2309-42-S2** is a K-band pyramidal horn antenna that operates from 18 GHz to 26.5 GHz. The antenna offers 23 dBi nominal gain and a typical half power beamwidth of 10 degrees on the E-plane and 11 degrees on the H-plane. The antenna supports linear polarized waveforms. The input of this antenna is a WR-42 waveguide with UG-595/U flange.



### Features:

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

### Applications:

- Antenna Ranges
- Antenna Gain Measurements
- System Setups

### Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency	18 GHz		26.5 GHz
Gain	21.5 dBi	23 dBi	24 dBi
Polarization	Linear		
3 dB Beamwidth, E-Plane		10°	
3 dB Beamwidth, H-Plane		11°	
Sidelobes, E-Plane		-14 dB	
Sidelobes, H-Plane		-30 dB	
Return Loss		23 dB	
Specification Temperature		+25 °C	
Operation Temperature	-40 °C		+85 °C

### Mechanical Specifications:

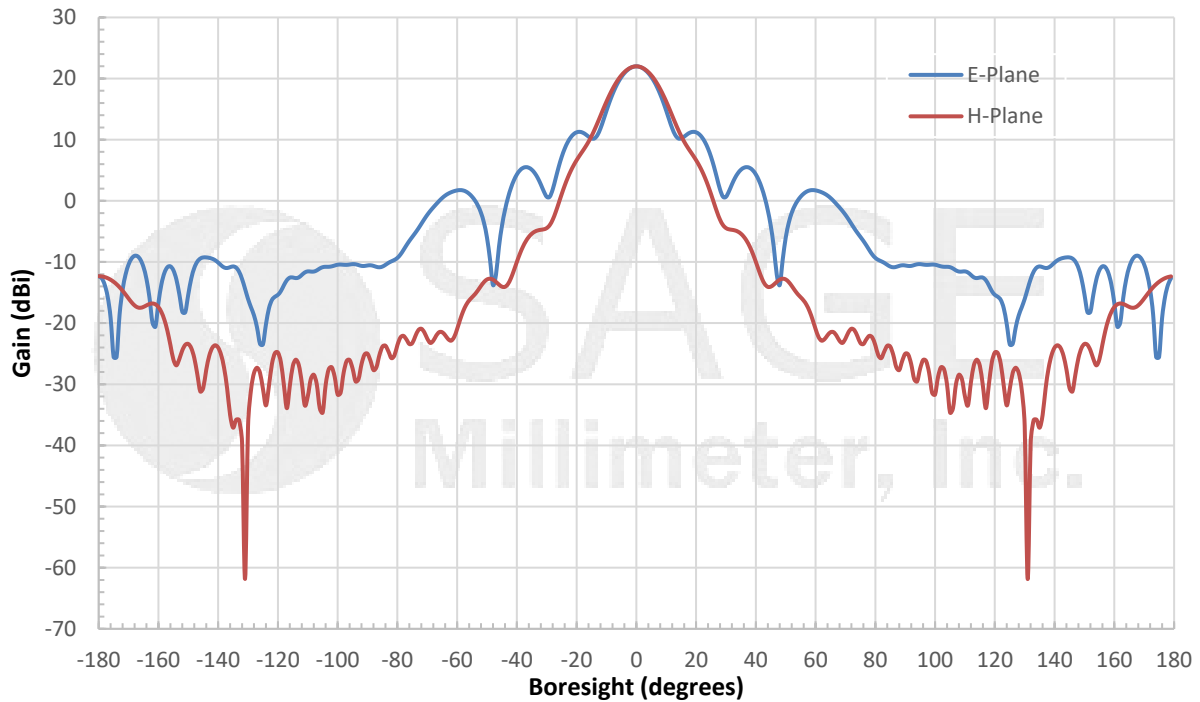
Item	Specification
Antenna Port	WR-42 Waveguide
Flange Type	UG-595/U Flange
Size	6.40" (L) X 3.43" (W) X 2.71"(H)
Material	Aluminum
Finish	Inside: Silver Plated; Outside: Black Paint
Weight	3.0 Oz
Outline	AR-K2



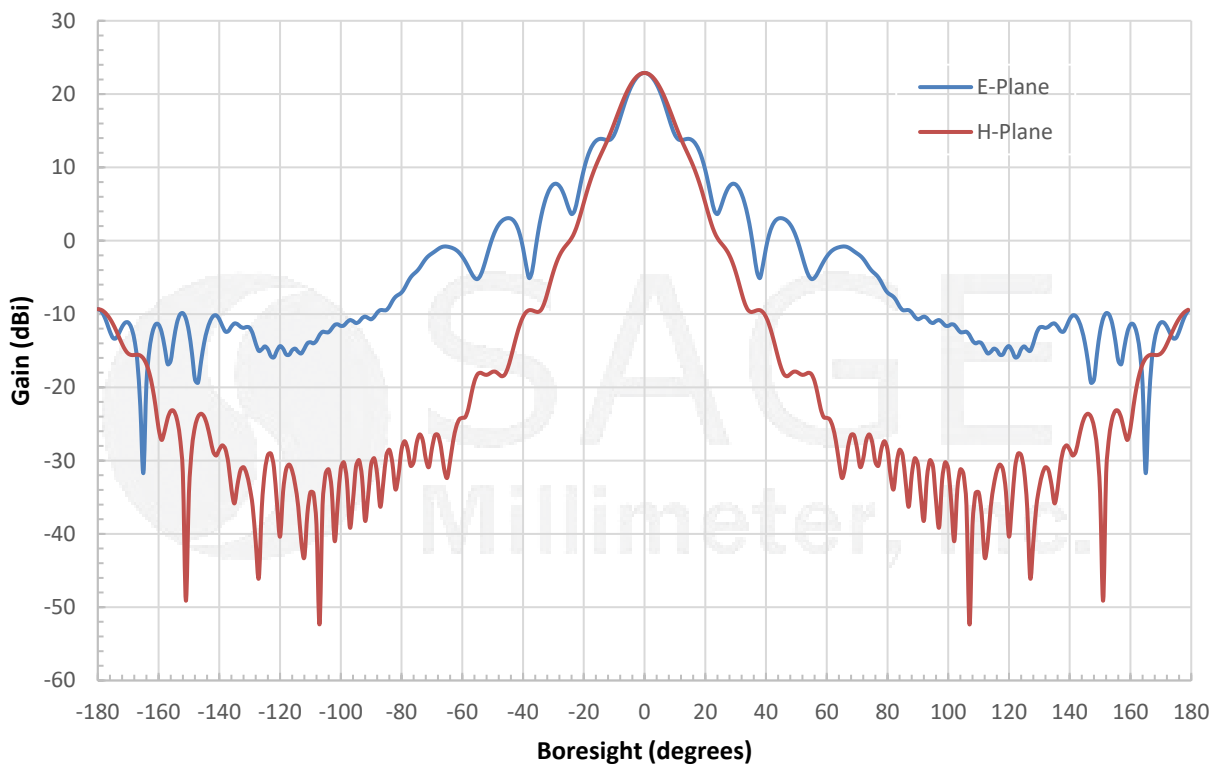


## WR-42 Pyramidal Horn Antenna, 23 dBi Gain

### Simulated Antenna Patterns @ 18 GHz



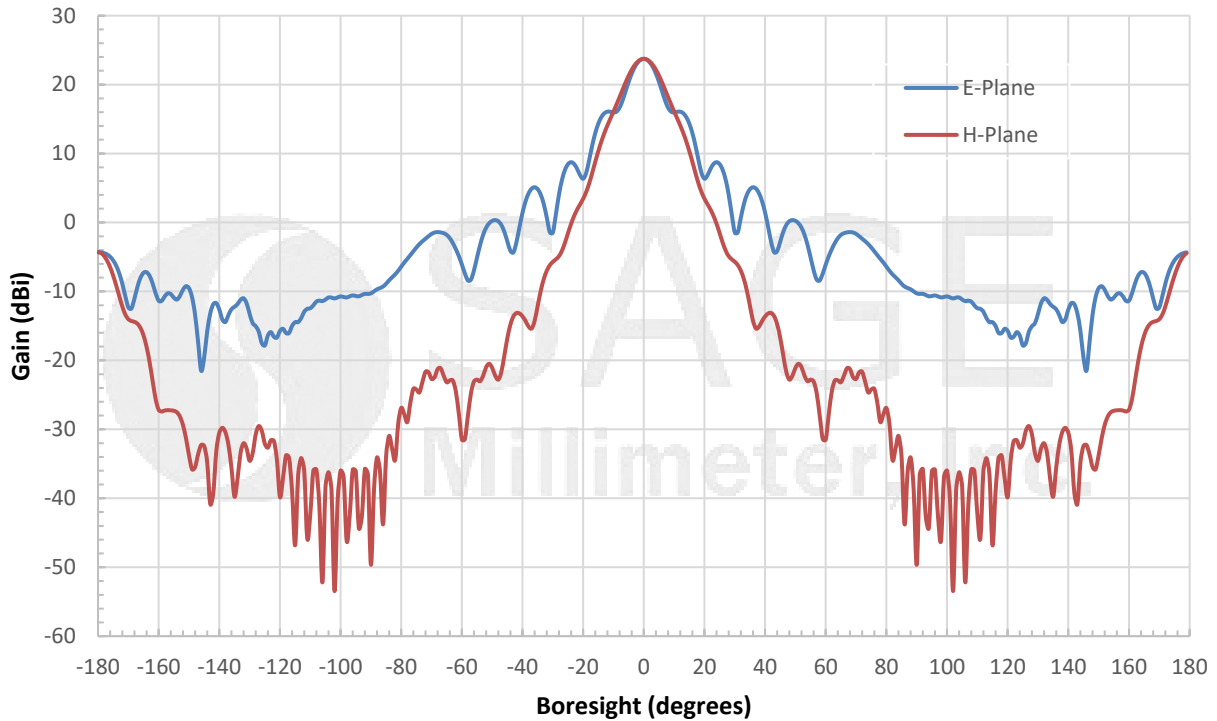
### Simulated Antenna Patterns @ 22 GHz



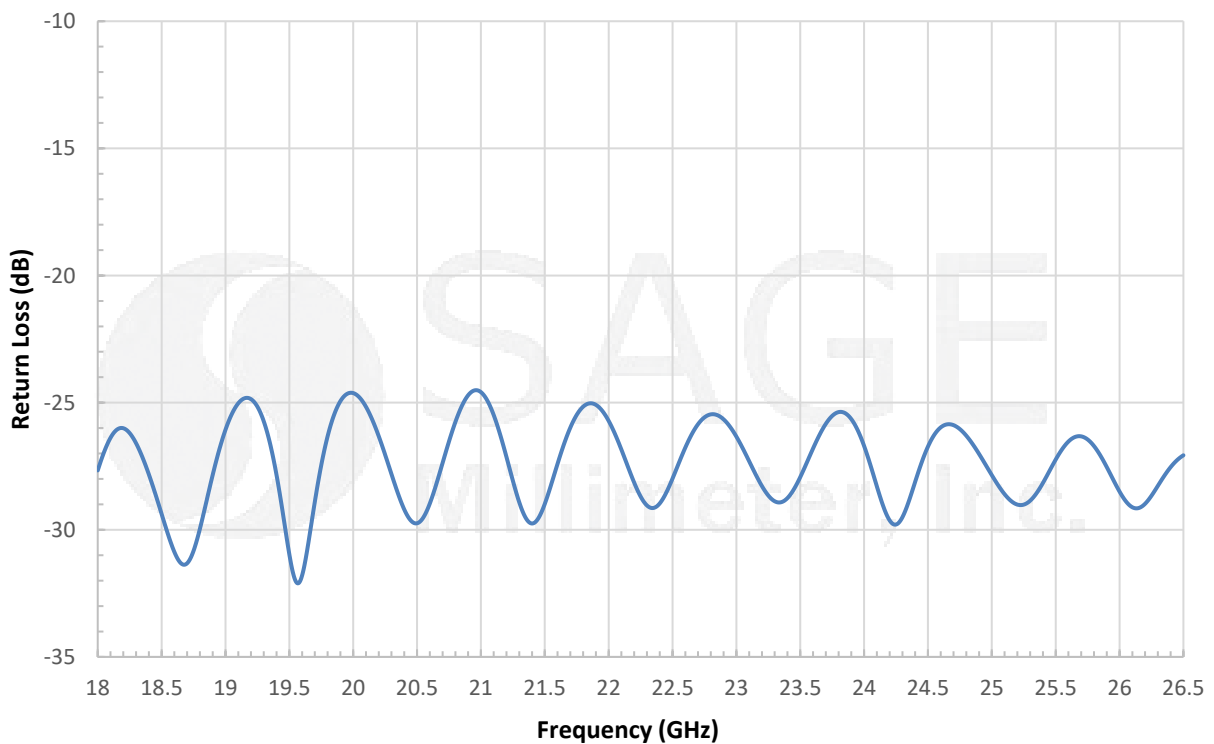


## WR-42 Pyramidal Horn Antenna, 23 dBi Gain

### Simulated Antenna Patterns @ 26.5 GHz



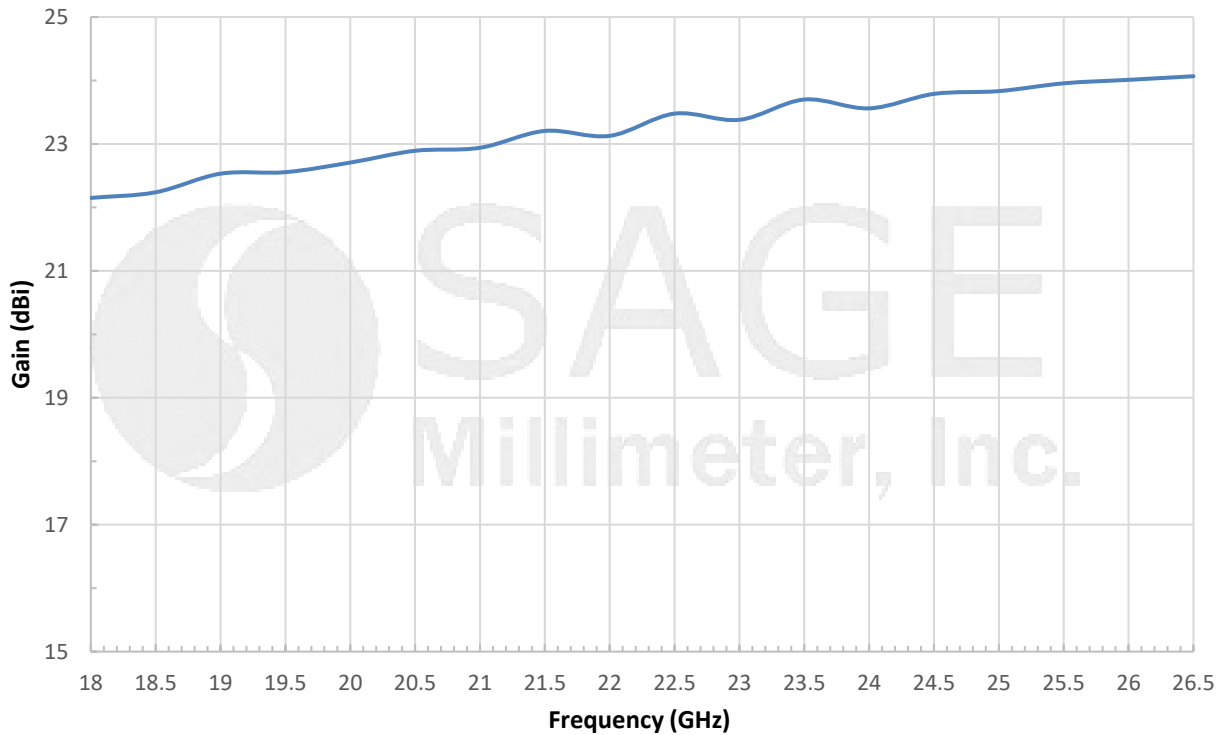
### Simulated Return Loss vs. Frequency



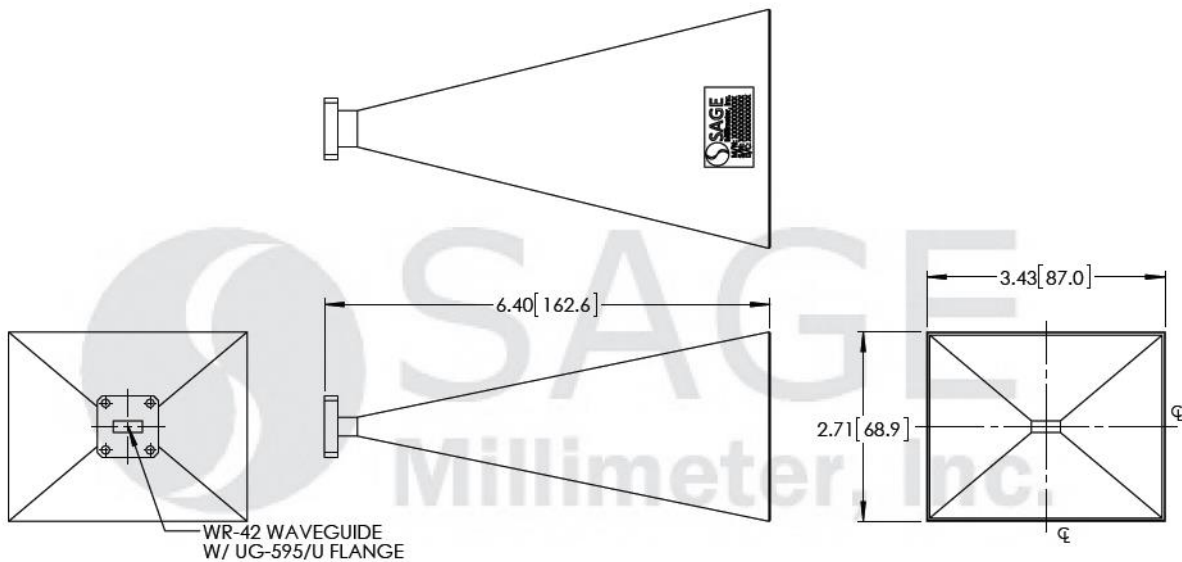


## WR-42 Pyramidal Horn Antenna, 23 dBi Gain

Simulated Gain vs. Frequency



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





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**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.

