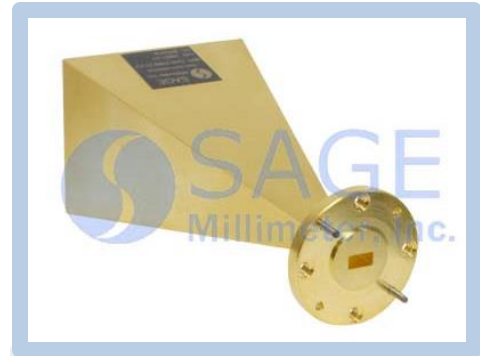




## WR-22 Pyramidal Horn Antenna, 23 dBi Gain

### Description:

**Model SAR-2309-22-S2** is a Q-band pyramidal horn antenna that operates from 33 GHz to 50 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-22 waveguide with UG-383/U flange.



### Features:

- Rectangular Waveguide Interface
- Precisely Machined and Gold Plated
- Linear Polarization
- High Return Loss

### Applications:

- Antenna Ranges
- Antenna Gain Measurements
- System Setups

### Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency	33 GHz		50 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:

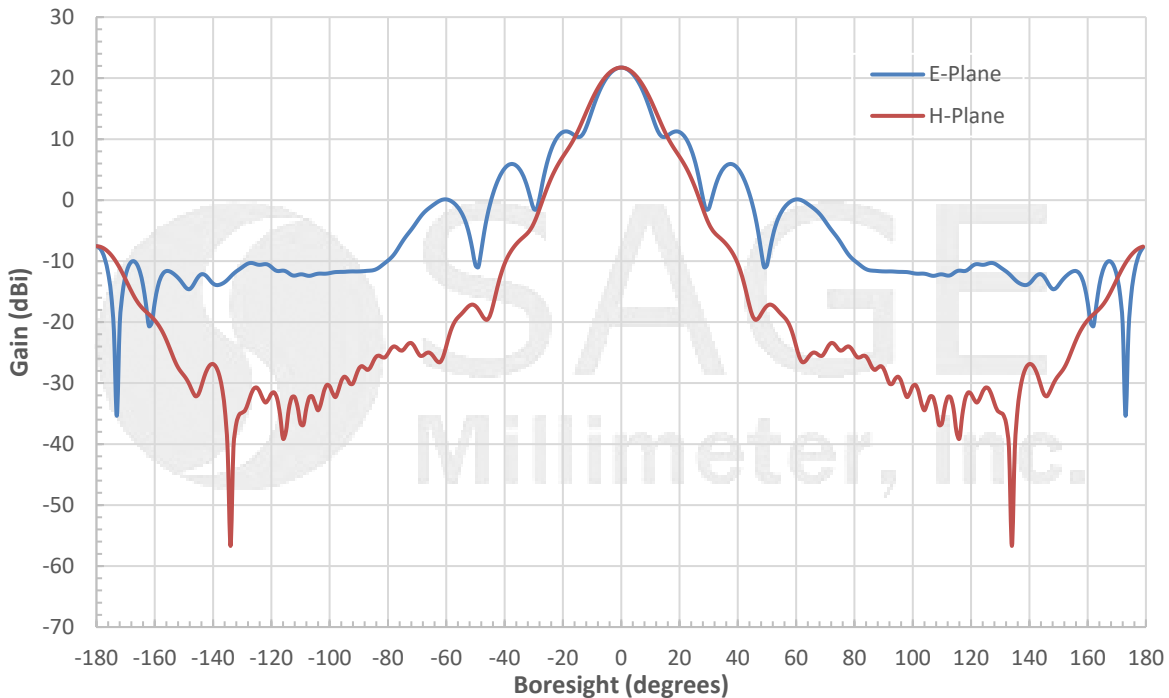
Item	Specification
Antenna Port	WR-22 Waveguide
Flange Type	UG-383/U Flange
Size	3.70" (L) X 1.86" (W) X 1.50"(H)
Material	Aluminum
Finish	Gold Plated
Weight	1.1 Oz
Outline	AR-Q2



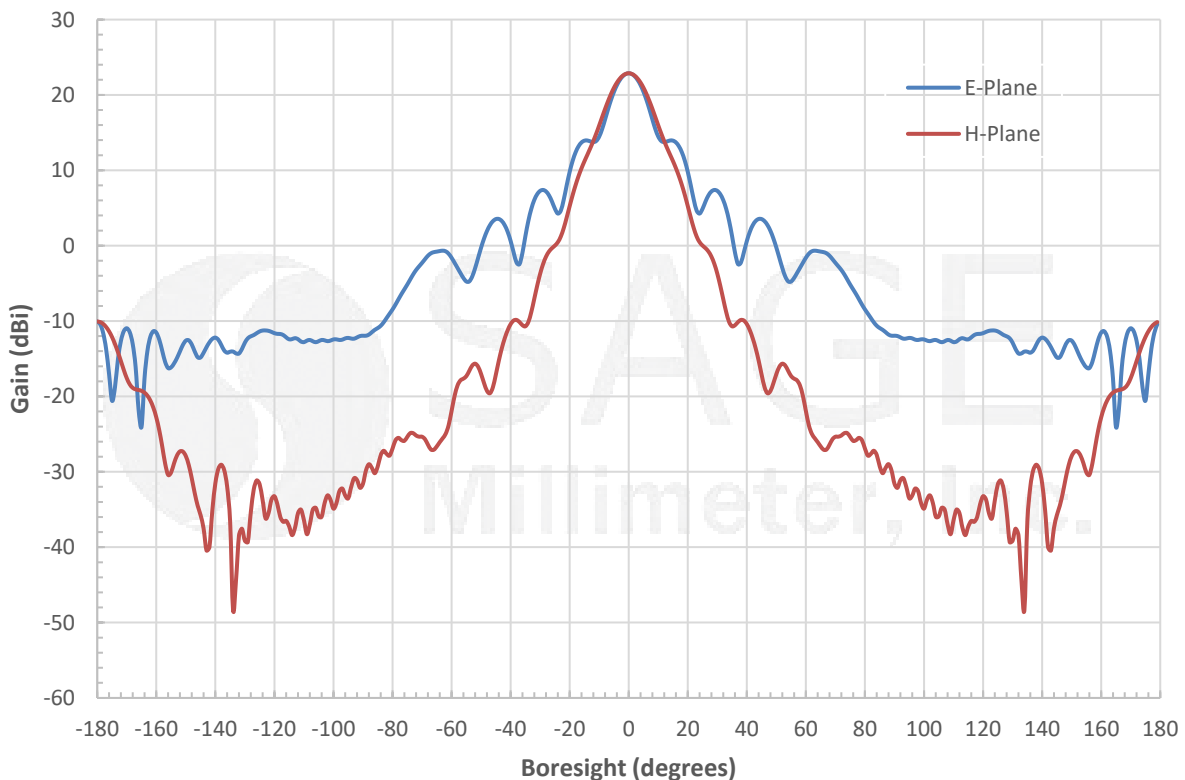


## WR-22 Pyramidal Horn Antenna, 23 dBi Gain

### Simulated Antenna Patterns @ 33 GHz



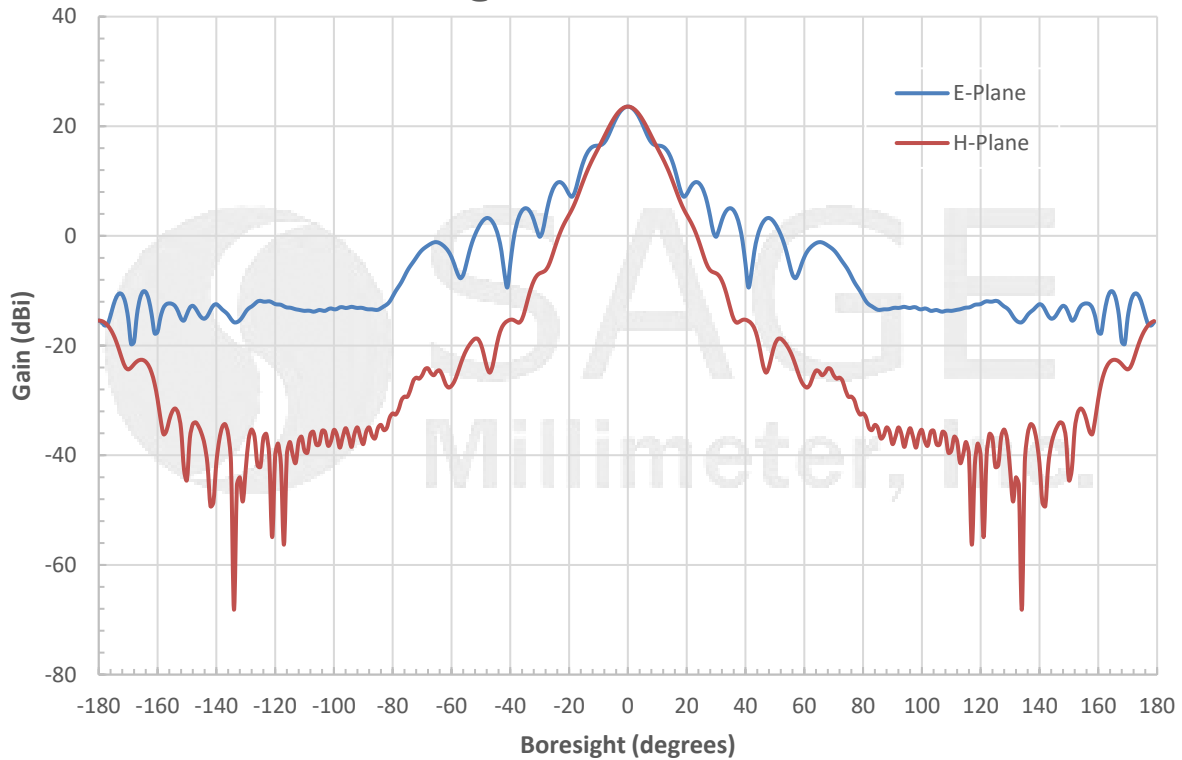
### Simulated Antenna Patterns @ 41 GHz



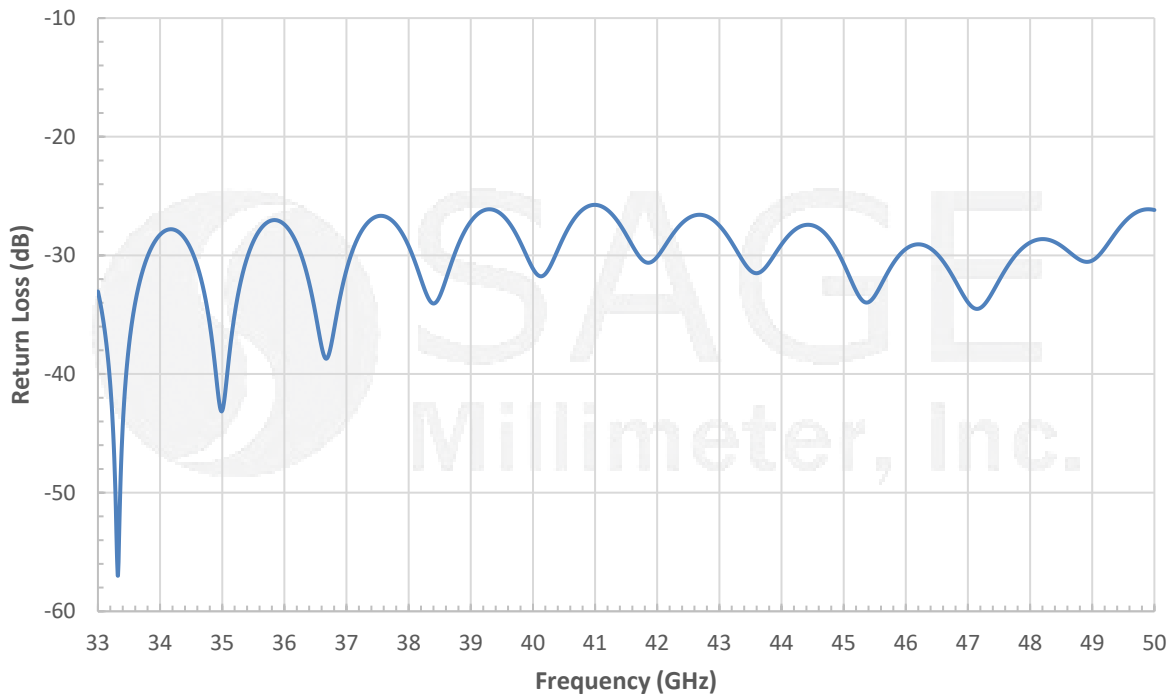


## WR-22 Pyramidal Horn Antenna, 23 dBi Gain

### Simulated Antenna Patterns @ 50 GHz



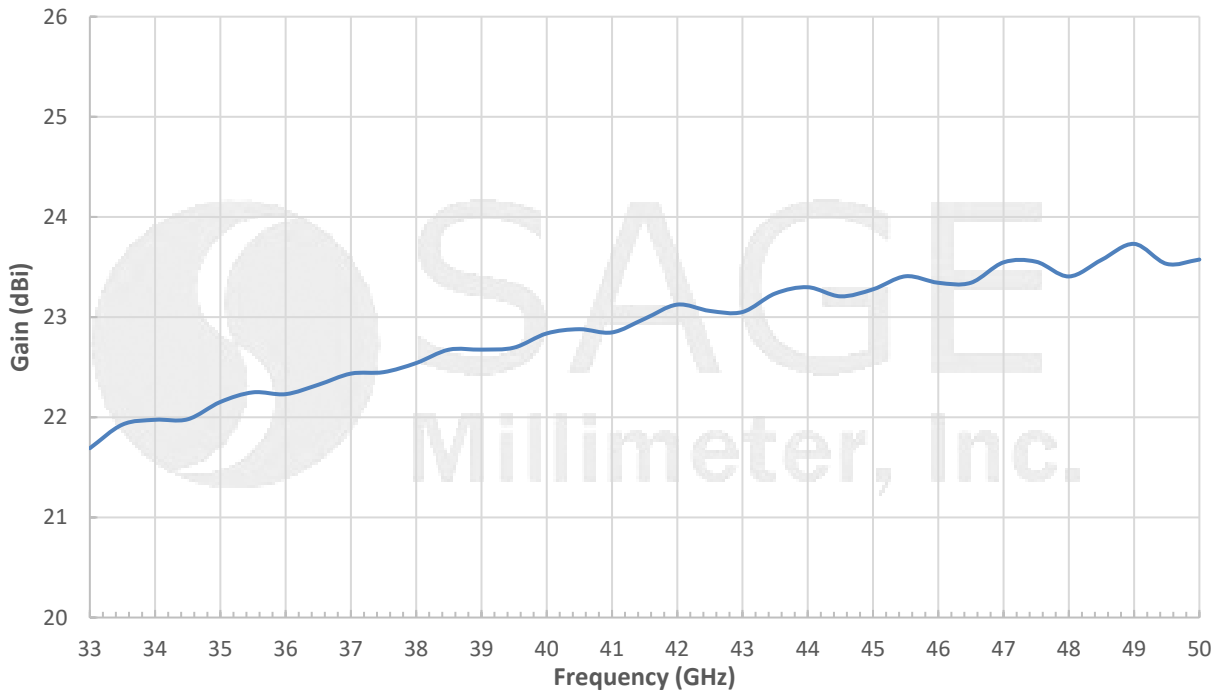
### Simulated Return Loss vs. Frequency



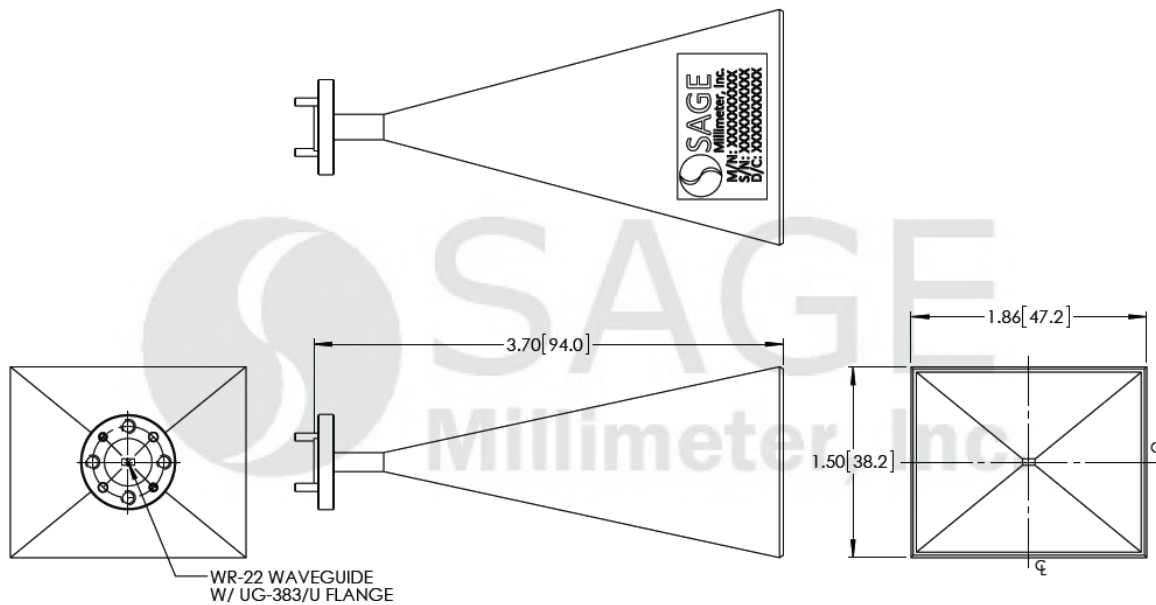


## WR-22 Pyramidal Horn Antenna, 23 dBi Gain

Simulated Gain vs. Frequency



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



## WR-22 Pyramidal Horn Antenna, 23 dBi Gain

### 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.

