# SAC-2309-075-S2-WPC

## D Band Conical Horn Antenna, 23 dBi Gain

**SAC-2309-075-S2-WPC** is a D-band conical horn antenna that operates from 115 to 140 GHz. The antenna offers 23 dBi nominal gain and a typical half power beamwidth of 11 degrees on the E-plane and 13 degrees on the H-plane. The horn also offers typical sidelobes of -20 dB on the E-plane and -28 dB on the H-plane. The conical horn can support linear and circular polarization. The input of this antenna is a 0.075" diameter circular waveguide with UG-387/U-M anti-cocking flange.



### Electrical Specifications:

| Parameter | Minimum | Typical | Maximum |
|---|---|---|---|
| Frequency Range* | 115 GHz | | 140 GHz |
| Gain | | 23 dBi | |
| 3 dB Beamwidth, E-plane | | 11° | |
| 3 dB Beamwidth, H-plane | | 13° | |
| Sidelobes, E-plane | | -20 dB | |
| Sidelobes, H-plane | | -28 dB | |
| Return Loss | | 23 dB | |
| Specification Temperature | | +25°C | |
| Operating Temperature | -40°C | | +85°C |

*Note: Can operate from 110 to 170 GHz if the dominant mode is maintained.

### Mechanical Specifications:

| Item | Specification |
|---|---|
| Antenna Port | 0.075" Diameter Circular Waveguide |
| Flange Type | UG-387/U-M Anti-Cocking Flange |
| Material | Brass |
| Finish | Gold Plated |
| Weight | 1.0 Oz |
| Size | 1.25" (L) X 0.75" (Ø) |
| Outline | AC-CD2-075-A |

### ECCN

EAR99

### FEATURES

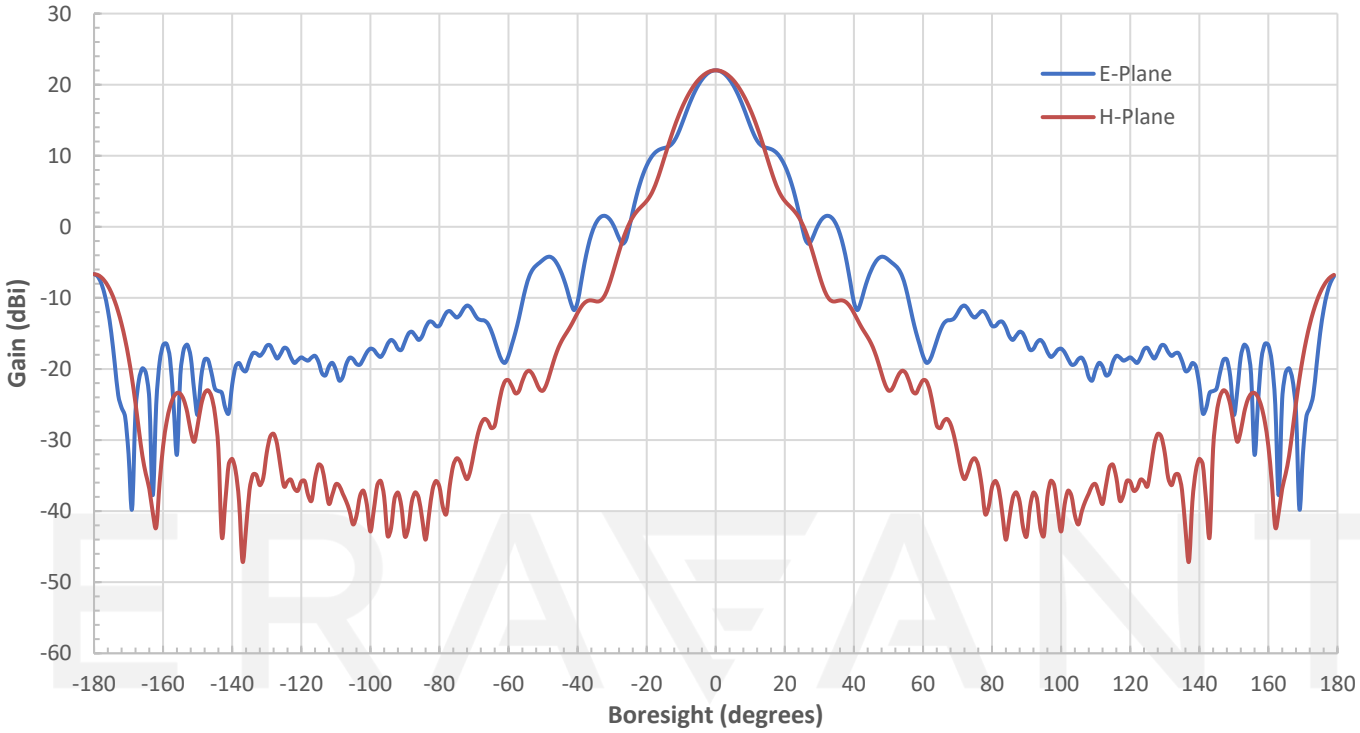
- Circular Waveguide Interface
- Precisely Machined and Gold Plated
- High Return Loss
- Linear and Circular Polarization

### APPLICATIONS

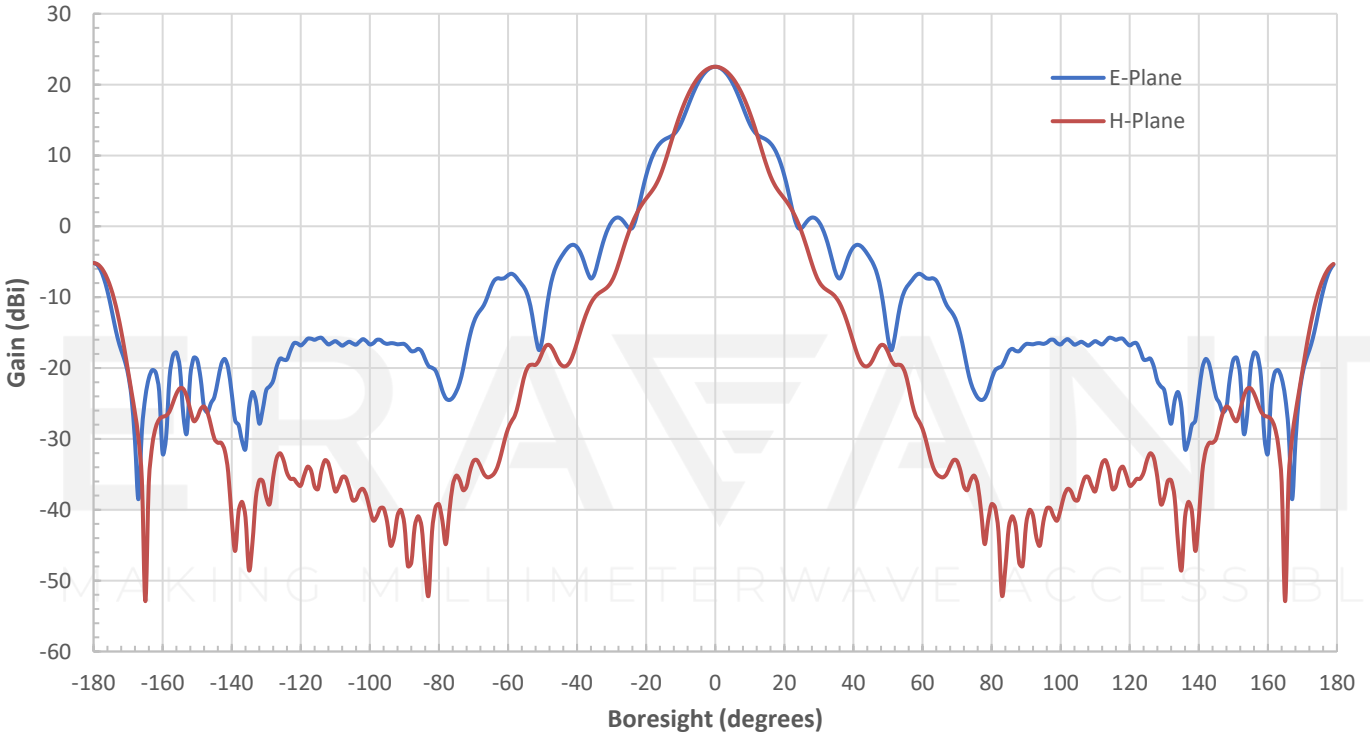
- Antenna Ranges
- Feed Horns
- System Setups


Copyright © 2023 by Eravant

## Simulated Antenna Patterns @ 115 GHz



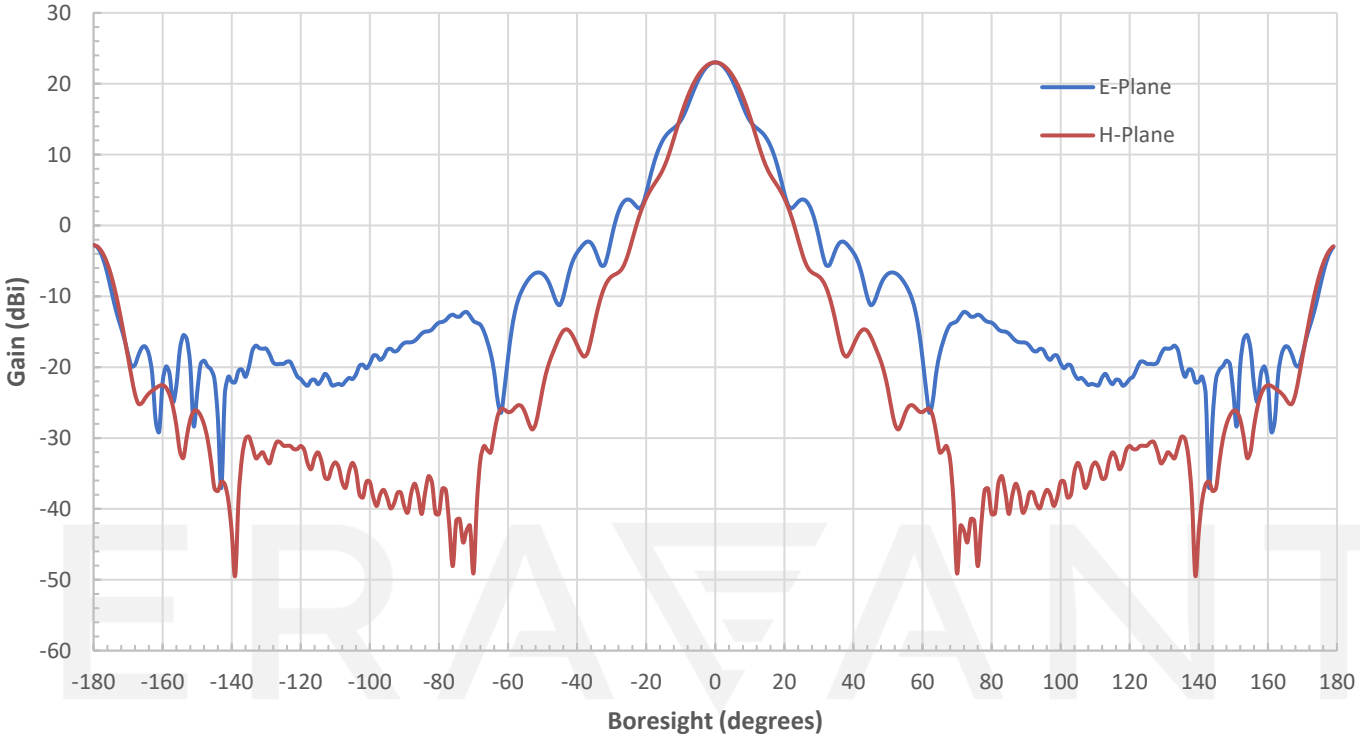

## Simulated Antenna Patterns @ 127.5 GHz



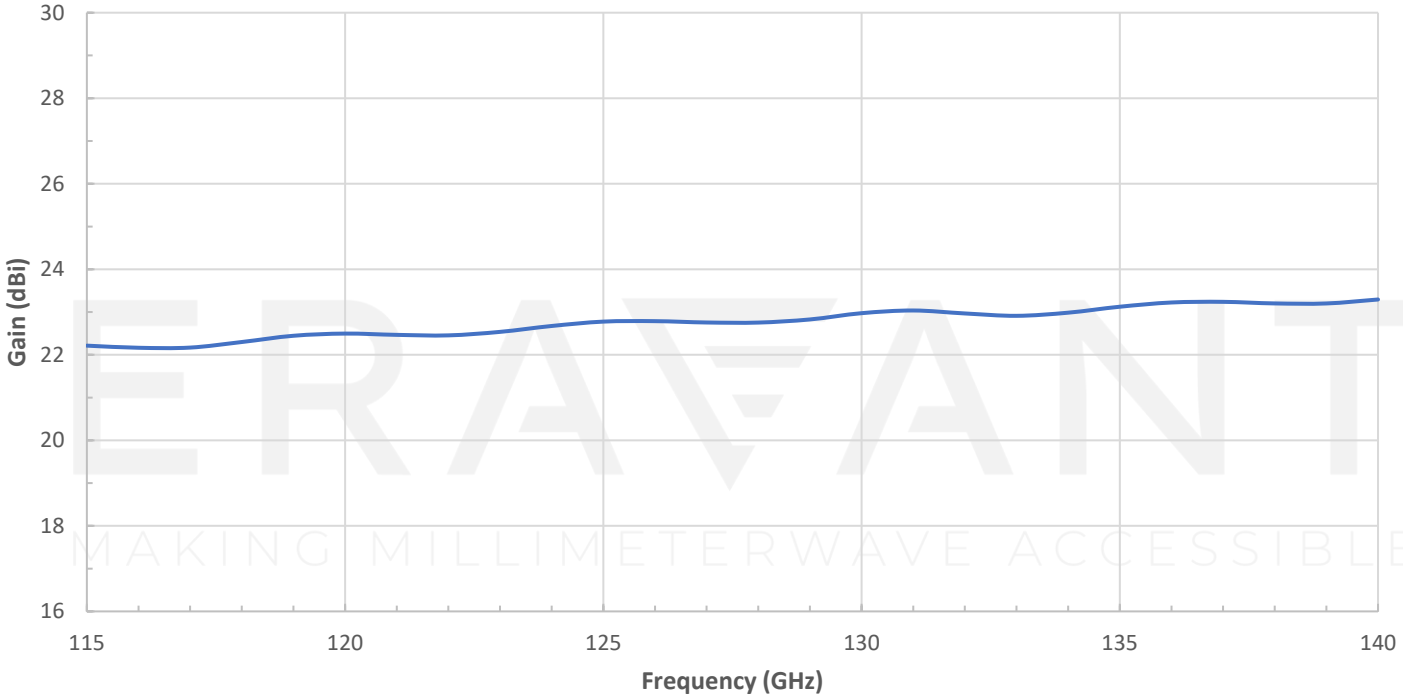


Copyright © 2023 by Eravant

## Simulated Antenna Patterns @ 140 GHz



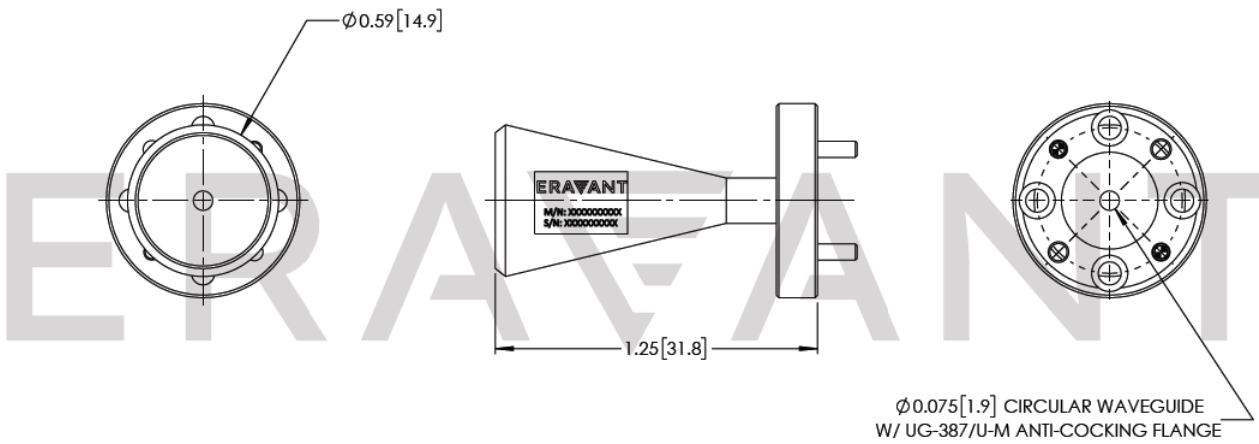

## Simulated Gain vs. Frequency





Copyright © 2023 by Eravant

**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.

MAKING MILLIMETERWAVE ACCESSIBLE


Copyright © 2023 by Eravant