



## D Band Gaussian Optics Antenna, 0.059" Dia Circular Waveguide, 6"

### Description:

**Model SAG-1441544601-059-S1** is a 6" D-Band Gaussian antenna that operates from 140 to 150 GHz. The Gaussian antenna delivers a 46 dBi nominal gain and 0.95 degree half power beamwidth. The antenna supports both linear and circular polarized waveforms and employs a corrugated feed horn to offer excellent aperture efficiency, high cross polarization rejections, and low sidelobe levels. This model is equipped with a 0.059" diameter circular waveguide and UG-387/U-M anti-cocking flange as its input port. By adding a mode transition, Eravant model number SWT-06059-SB, the input port becomes a standard WR-06 waveguide, which can support only linear polarized waveforms.



### Features:

- Center Fed
- Low Side Lobes
- Low Cross Polarization
- Linear and Circular Polarization

### Applications:

- Radar Systems
- Communication Systems
- Plasma Systems

### Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency	140 GHz		150 GHz
Gain		46 dBi	
3 dB Beamwidth		0.95°	
Side Lobes		-25 dB	
Polarization	Linear and Circular		
Return Loss		15 dB	
Specification Temperature		+25 °C	
Operating Temperature	-40 °C		+85 °C

### Mechanical Specifications:

Item	Specification
Antenna Port	0.059" Dia Circular Waveguide with UG-387/U-M Anti-Cocking Flange
Material	Aluminum
Finish	Black Anodized
Weight	7.54 lb
Lens Diameter	6.0"
Dimensions	7.31" (H) x 9.38" (L)
Outline	AG-CD46-059-A

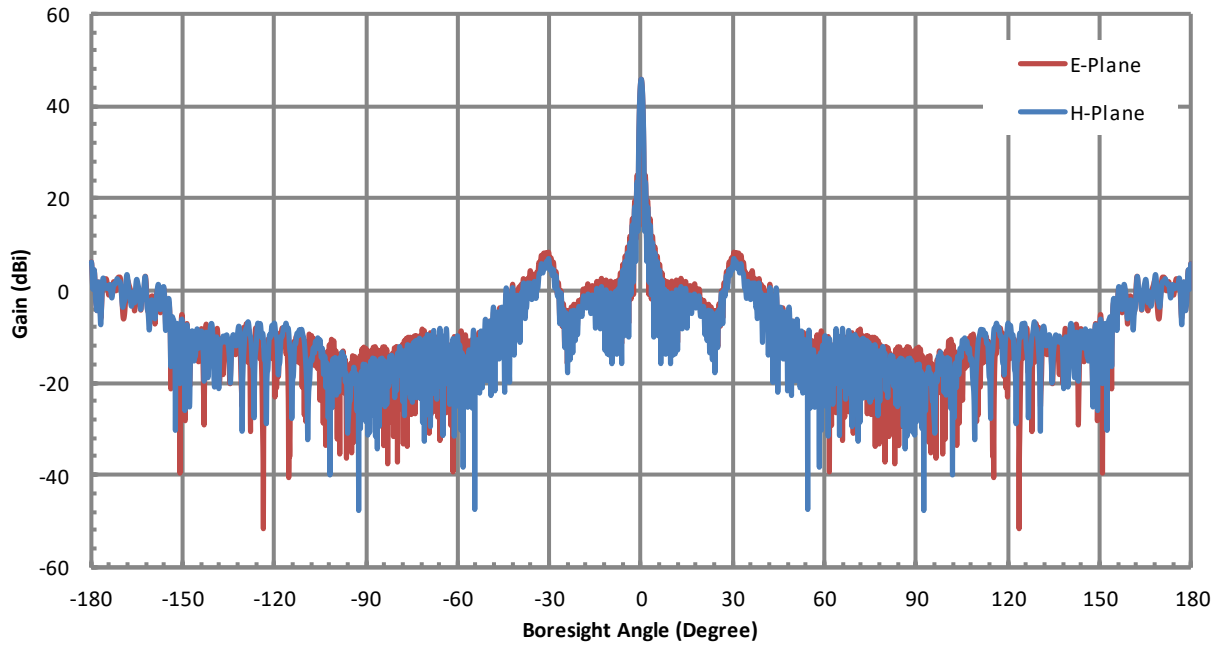


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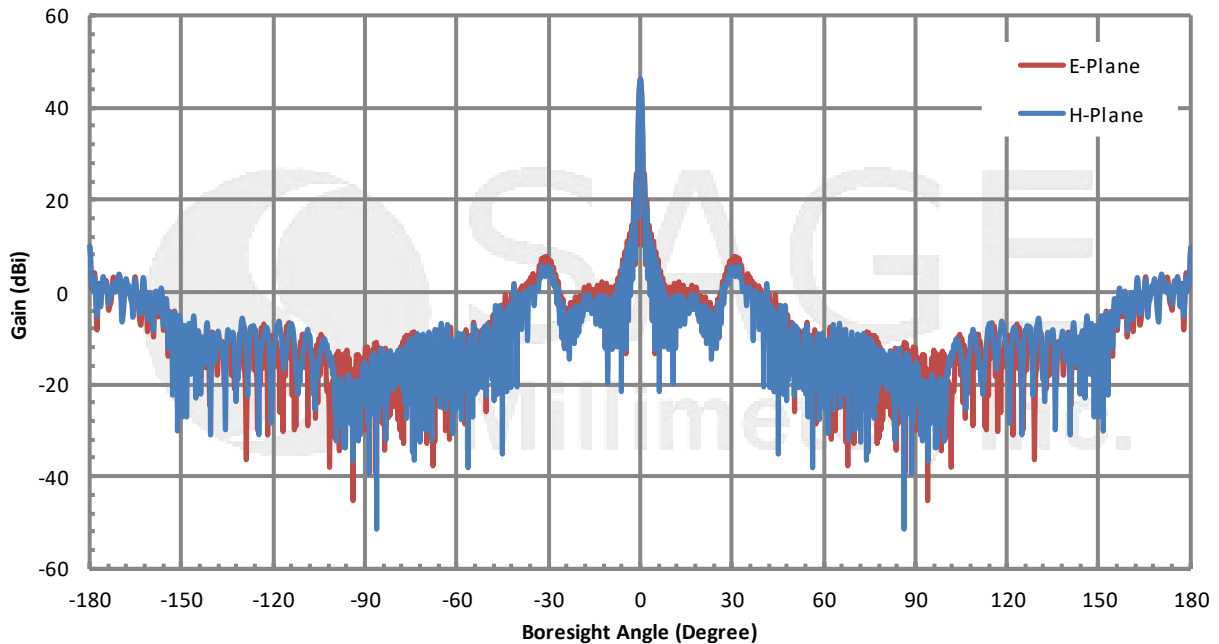


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### Simulated Antenna Pattern @ 140 GHz



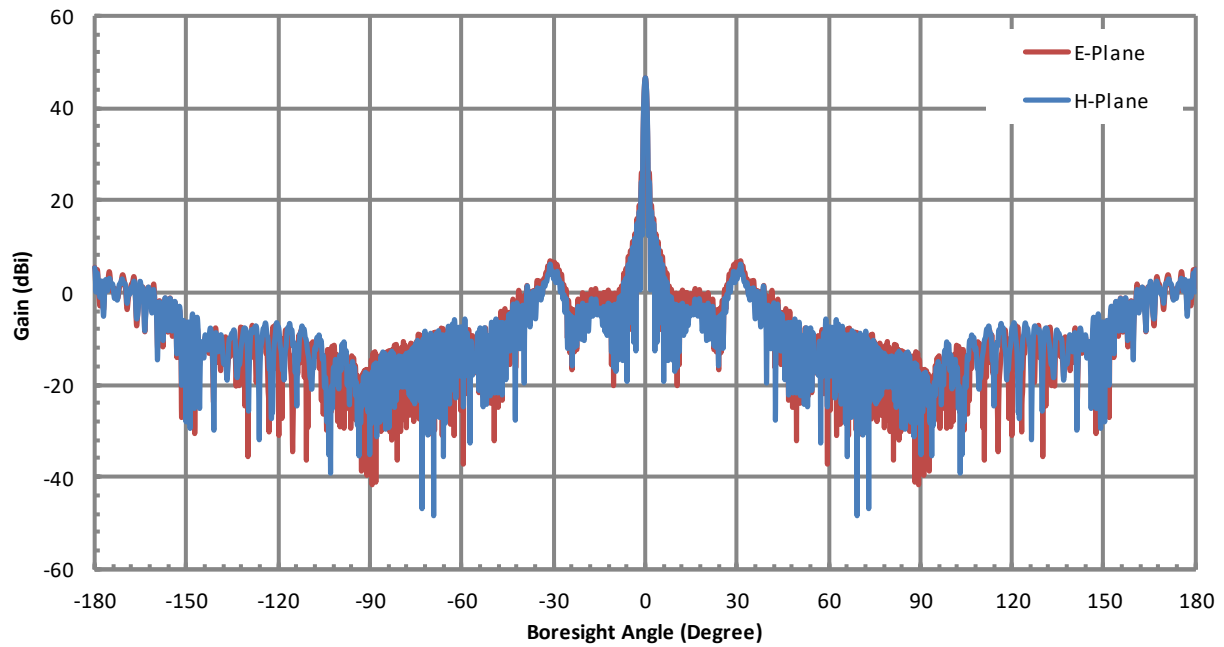
### Simulated Antenna Pattern @ 145 GHz



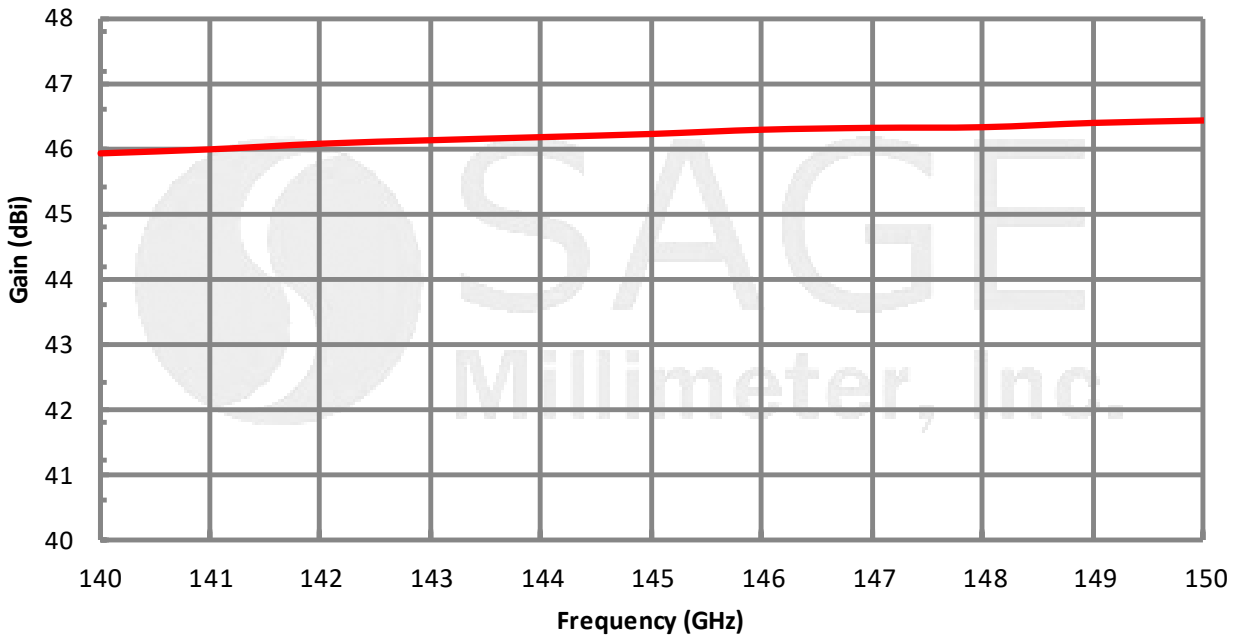


## D Band Gaussian Optics Antenna, 0.059" Dia Circular Waveguide, 6"

### Simulated Antenna Pattern @ 150 GHz



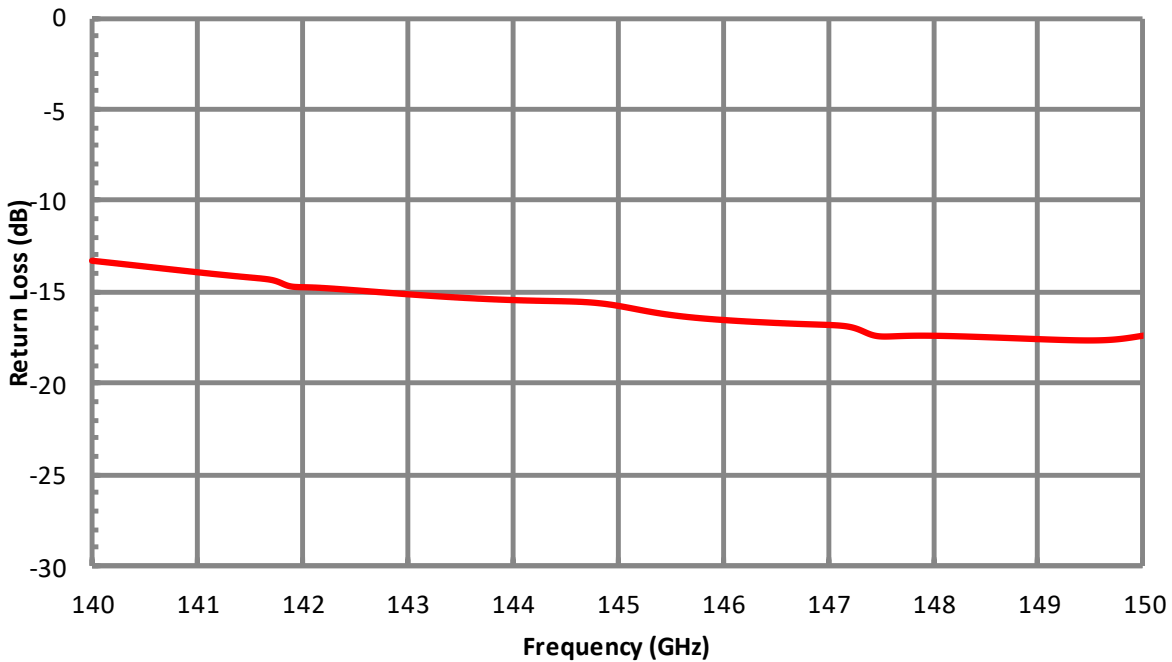
### Simulated Gain vs. Frequency



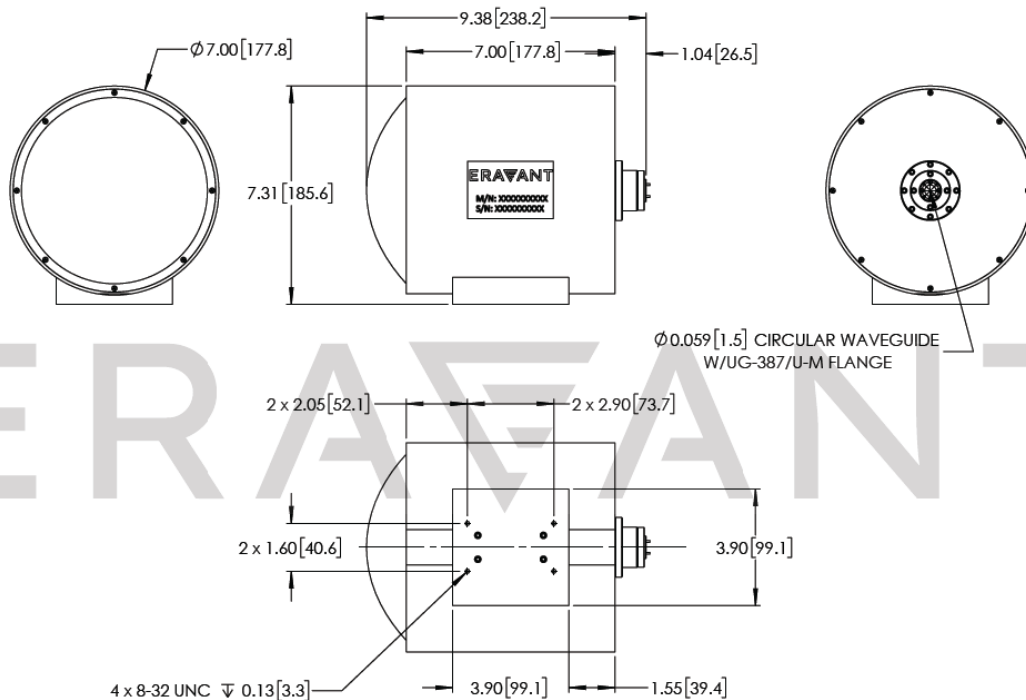


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### Simulated Return Loss vs. Frequency



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





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### Note:

- Eravant reserves the right to change the information presented without notice.
- The operation frequency of the antenna can be extended to a wider range with small performance degradation at the edges of the band.

### Caution:

- Foreign objects in the waveguide will affect the antenna performance and may damage the antenna.

