



U-Band Lens Corrected Antenna, 40 to 60 GHz

Description:

Model SAL-4036033005-188-S1 is a U-band lens corrected antenna that operates from 40 to 60 GHz. At a center frequency of 50 GHz, the antenna delivers 30 dBi nominal gain, 4.3 degrees typical half power beamwidth on the E-plane, and 5.2 degrees typical half power beamwidth on the H-plane. The antenna employs a low loss lens to offer excellent aperture efficiency and low sidelobe levels. The lens corrected antenna is equipped with a 0.188" diameter circular waveguide and UG-383/U-M flange as its input port. It supports both linear and circular polarized waveforms.



Features:

- Center Fed
- Low Sidelobes
- Linear and Circular Polarized Waveforms

Applications:

- Radar Systems
- Communication Systems
- Sensor Systems

Electrical Specifications:

| Parameter | Minimum | Typical | Maximum |
|---------------------------|---------------------|---------|---------|
| Frequency | 40 GHz | 50 GHz | 60 GHz |
| Gain | | 30 dBi | |
| 3 dB Beamwidth, E-Plane | | 4.3° | |
| 3 dB Beamwidth, H-Plane | | 5.2° | |
| Sidelobes, E-Plane | | -20 dB | |
| Sidelobes, H-Plane | | -17 dB | |
| Return Loss | | 25 dB | |
| Polarization | Linear and Circular | | |
| Specification Temperature | | +25°C | |
| Operation Temperature | -40°C | | +85°C |

Mechanical Specifications:

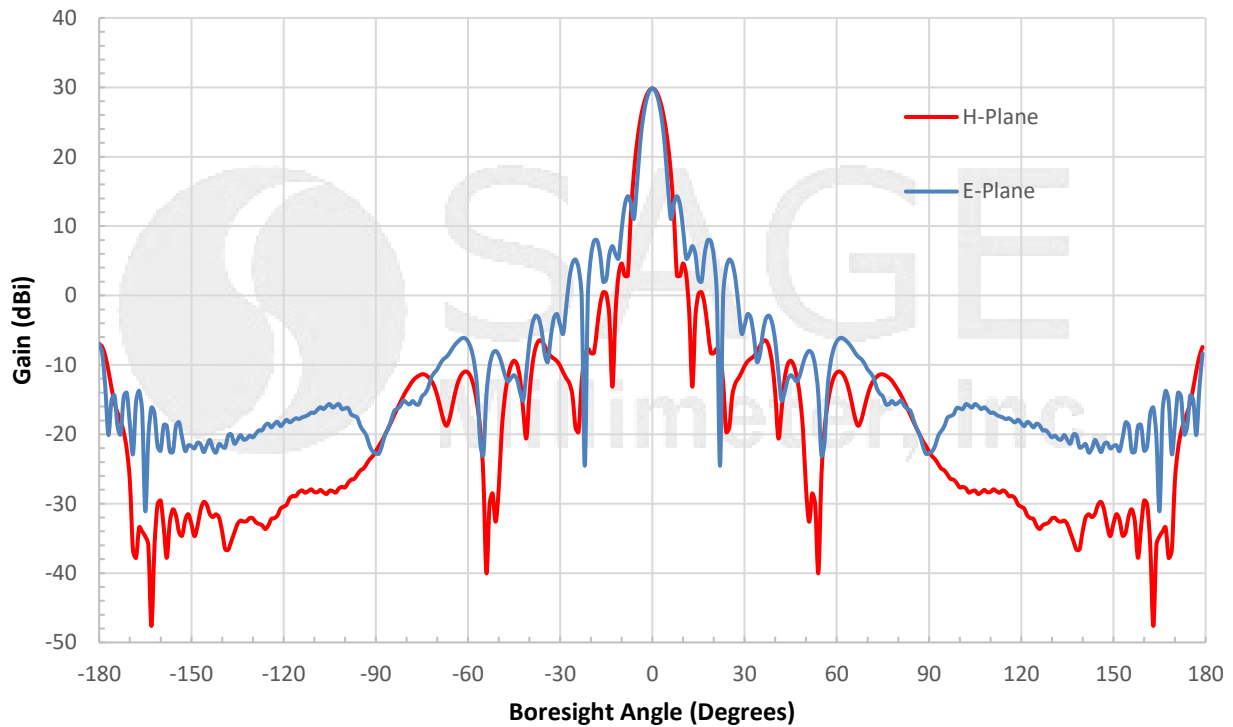
| Parameter | Connector |
|---------------|---|
| Antenna Port | 0.188" Diameter Circular Waveguide with UG-383/U-M Flange |
| Lens Diameter | 3.24" |
| Dimensions | 3.65" (Ø) x 5.91" (L) |
| Horn Material | Aluminum |
| Finish | Gold Plated |
| Weight | 2.1 Oz |
| Outline | AL-CU30-188 |



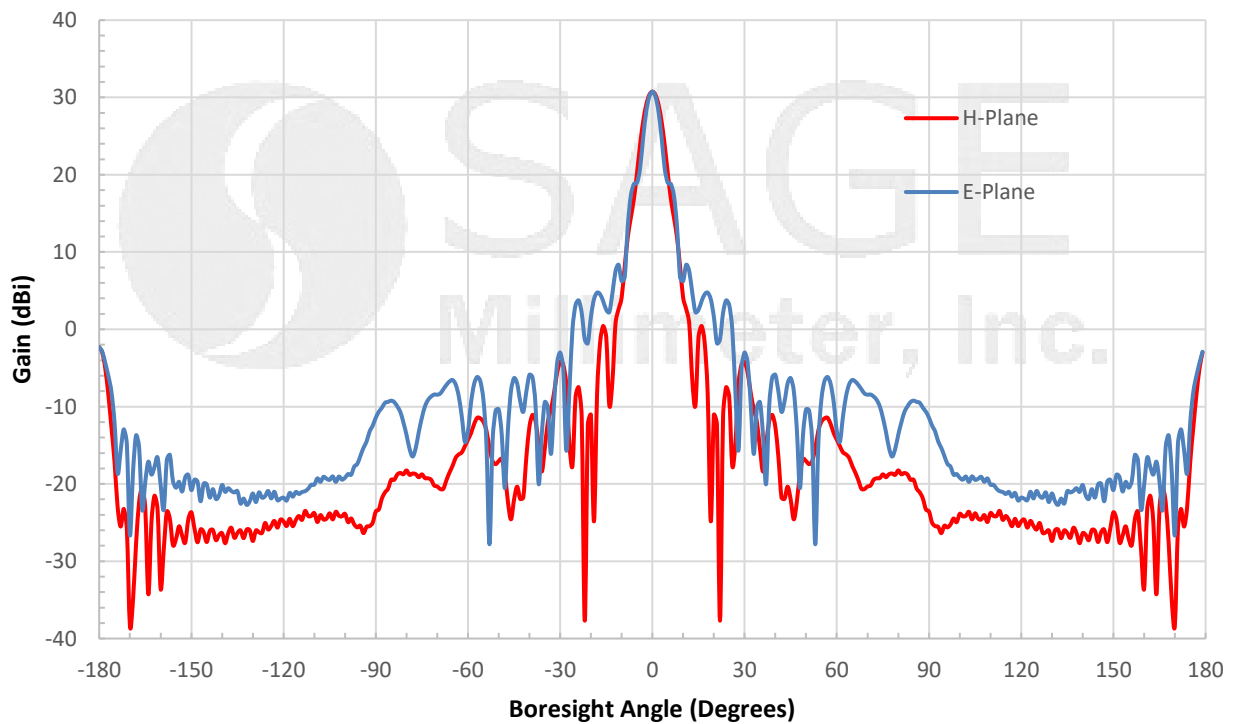


U-Band Lens Corrected Antenna, 40 to 60 GHz

Simulated Antenna Patterns @ 40 GHz



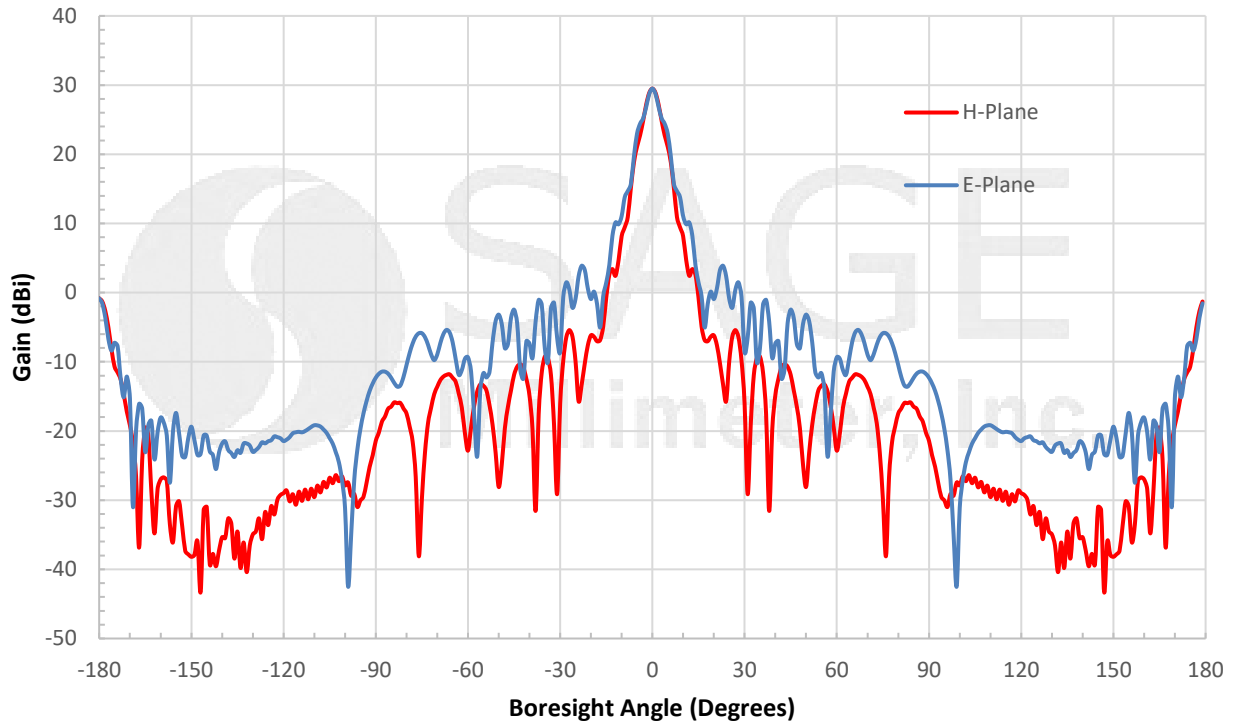
Simulated Antenna Patterns @ 50 GHz



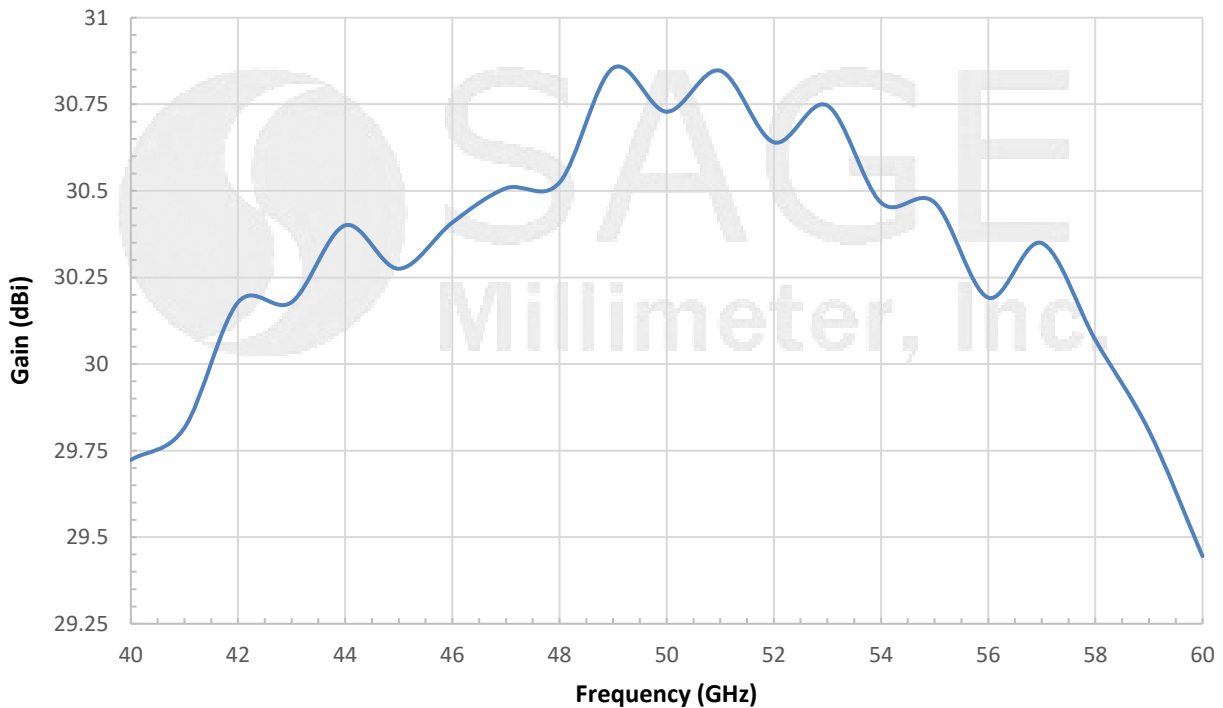


U-Band Lens Corrected Antenna, 40 to 60 GHz

Simulated Antenna Patterns @ 60 GHz



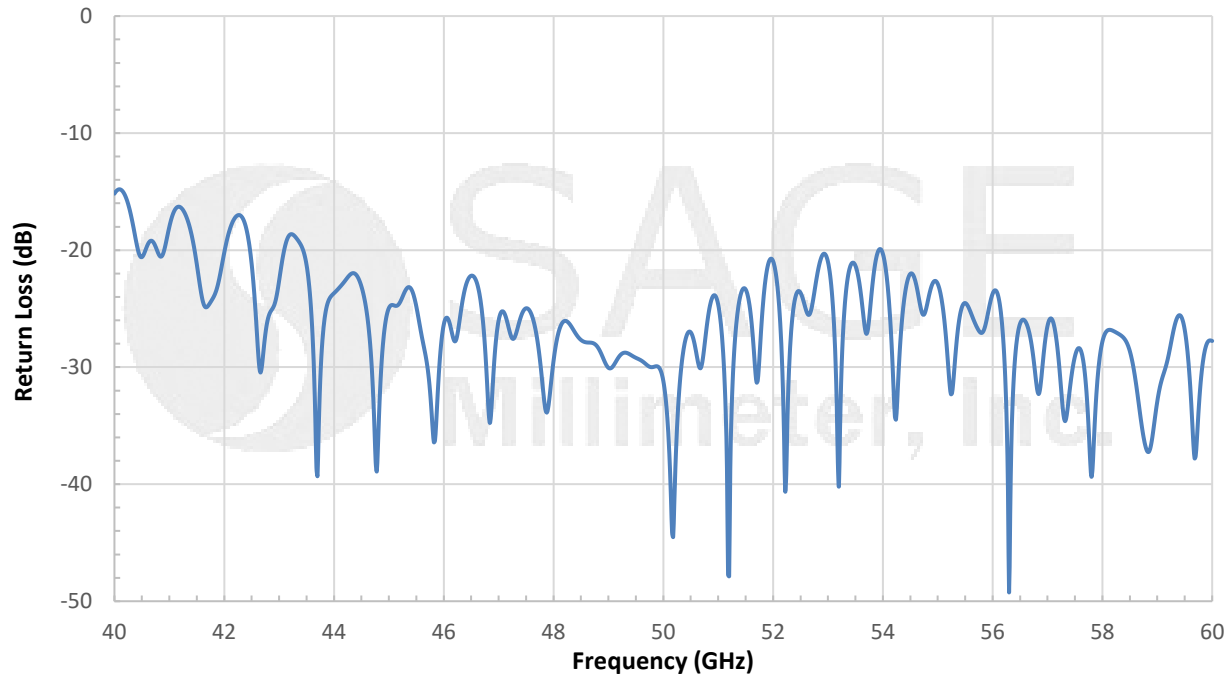
Simulated Gain vs Frequency



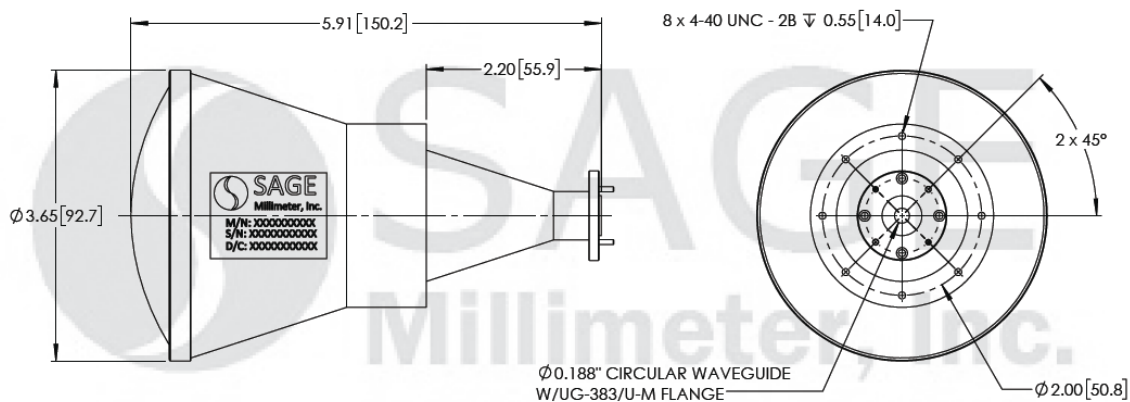


U-Band Lens Corrected Antenna, 40 to 60 GHz

Simulated Return Loss vs Frequency



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



Note:

- Return Loss data presented is collected from a sample lot. Actual data may vary slightly from unit to unit.
- Antenna Pattern and Gain data presented is simulated. Through a high precision machining process, actual performance will be close to the simulation.
- SAGE Millimeter, Inc. reserves the right to change the information presented without notice.

Caution:

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



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