

## SAR-1532-04-S2

### WR-04 Pyramidal Horn Antenna, 15 dBi Gain

**SAR-1532-04-S2** is a WR-04 pyramidal horn antenna that operates from 170 GHz to 260 GHz. The antenna offers 15 dBi nominal gain and a typical half power beamwidth of 34 degrees on the E-plane and 30 degrees on the H-plane. The antenna supports linear polarized waveforms. The input of this antenna is a WR-04 waveguide with UG-387/U-M flange.



#### Electrical Specifications:

| Parameter                 | Minimum | Typical | Maximum |
|---------------------------|---------|---------|---------|
| Frequency Range           | 170 GHz |         | 260 GHz |
| Gain                      |         | 15 dBi  |         |
| Polarization              |         | Linear  |         |
| 3 dB Beamwidth, E-Plane   |         | 34°     |         |
| 3 dB Beamwidth, H-Plane   |         | 30°     |         |
| Sidelobes, E-Plane        |         | -16 dB  |         |
| Sidelobes, H-Plane        |         | -24 dB  |         |
| Return Loss               |         | -24 dB  |         |
| Specification Temperature |         | +25°C   |         |
| Operation Temperature     | -40°C   |         | +85°C   |

#### Mechanical Specifications:

| Item         | Specification         |
|--------------|-----------------------|
| Antenna Port | WR-04 Waveguide       |
| Flange Type  | UG-387/U-M Flange     |
| Size         | 0.61" (L) X 0.75" (Ø) |
| Material     | Brass                 |
| Finish       | Gold Plated           |
| Weight       | 0.4 Oz                |
| Outline      | AR-0415               |

#### ECCN

EAR99

#### FEATURES

- Rectangular Waveguide Interface
- Precisely Machined and Gold Plated
- Linear Polarization

#### APPLICATIONS

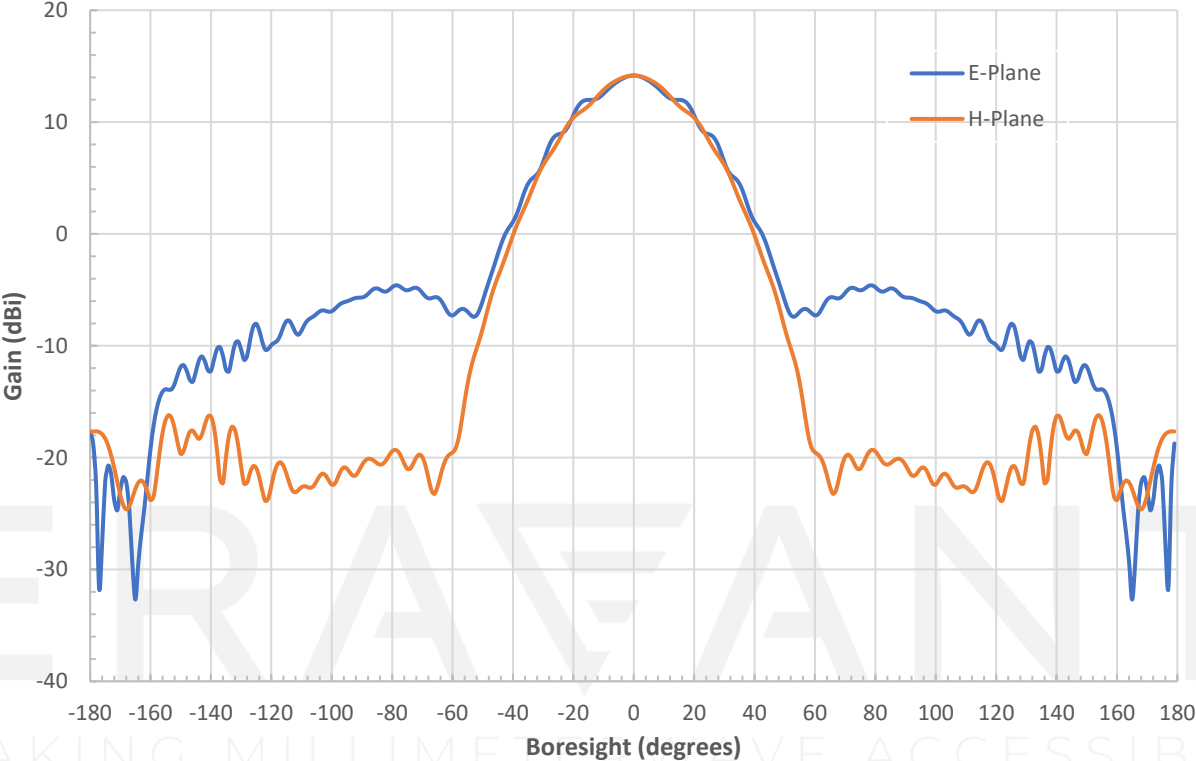
- Antenna Ranges
- Antenna Gain Measurements
- System Setups

#### SUPPLEMENTAL DETAILS

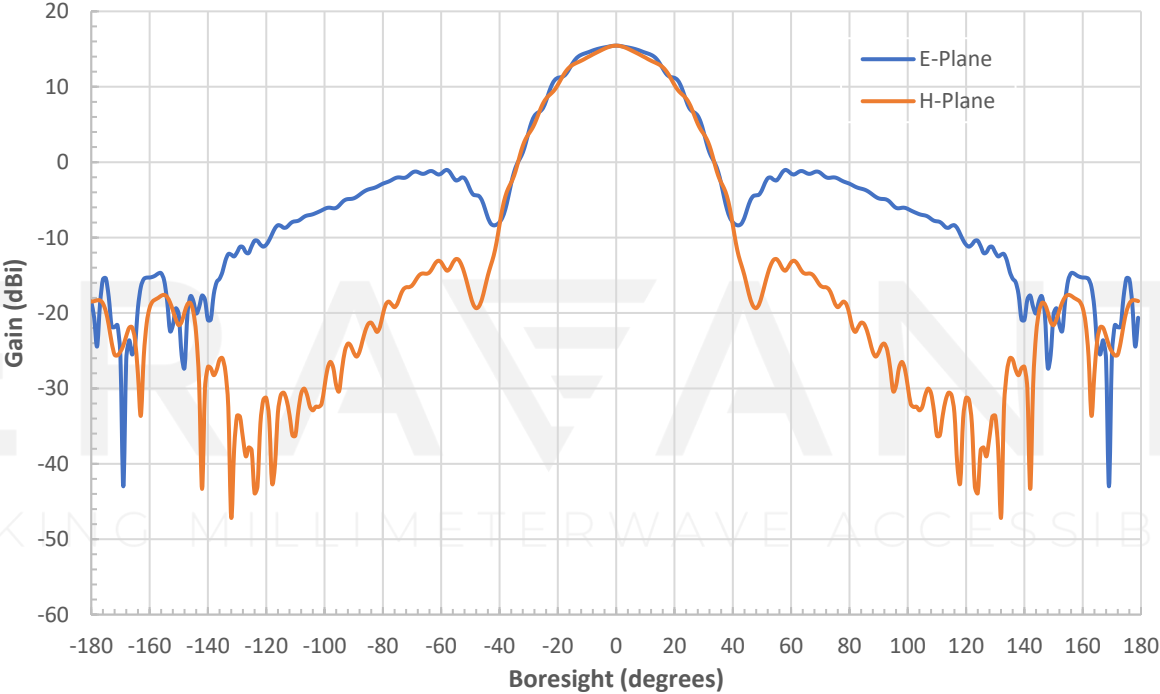
MAKING MILLIMETERWAVE ACCESSIBLE



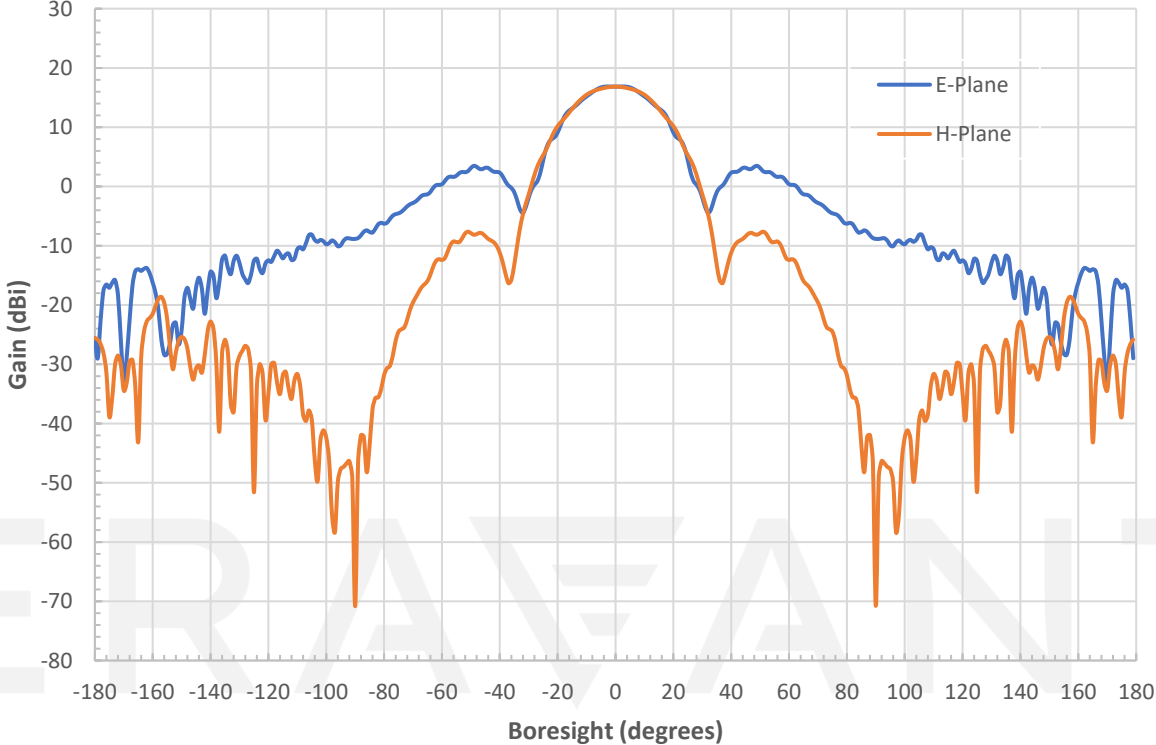
Simulated Antenna Patterns @ 170 GHz



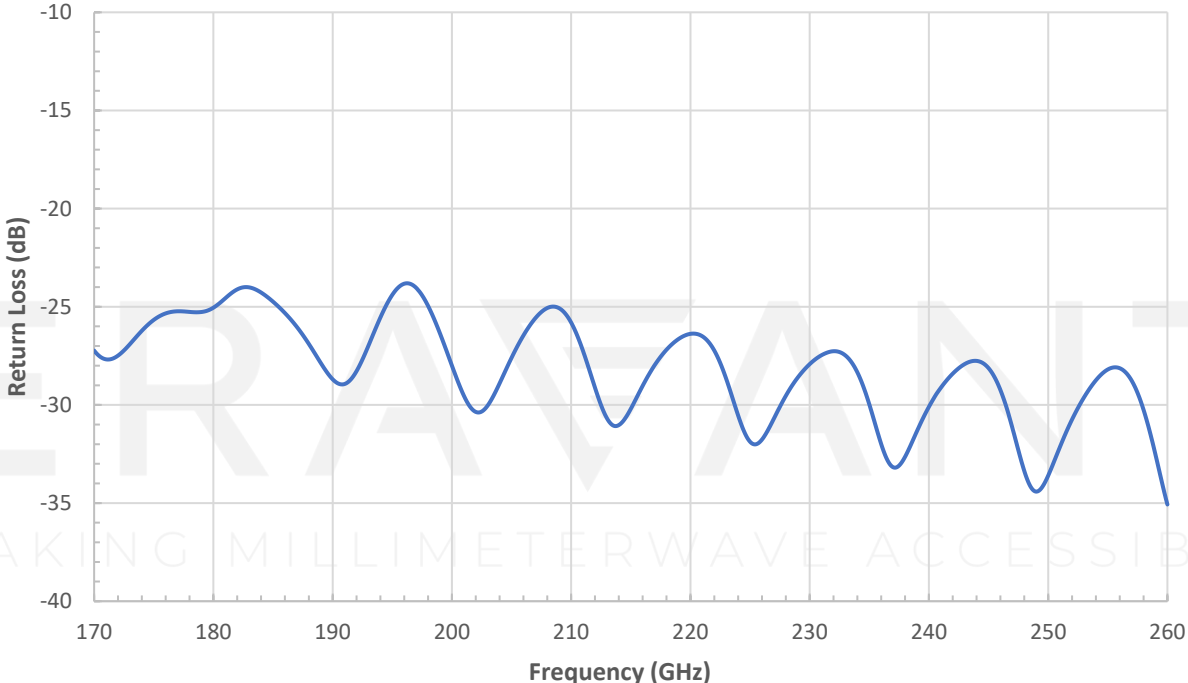
Simulated Antenna Patterns @ 215GHz



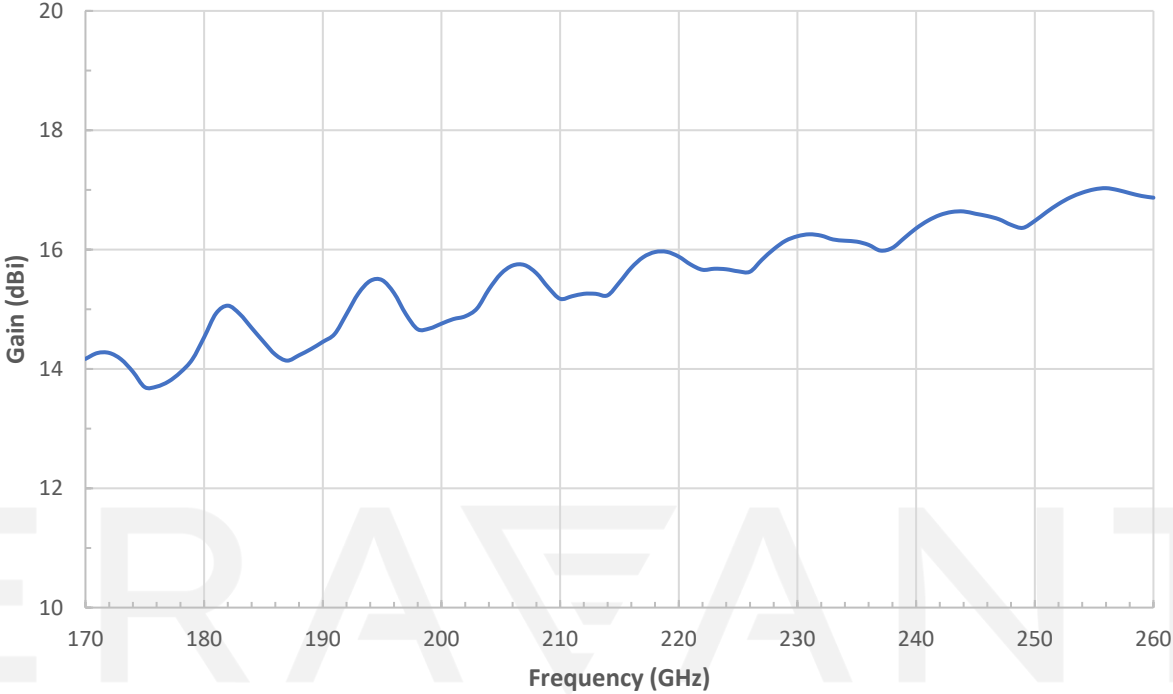
Simulated Antenna Patterns @ 260 GHz



Simulated Return Loss vs. Frequency



Simulated Gain vs. Frequency

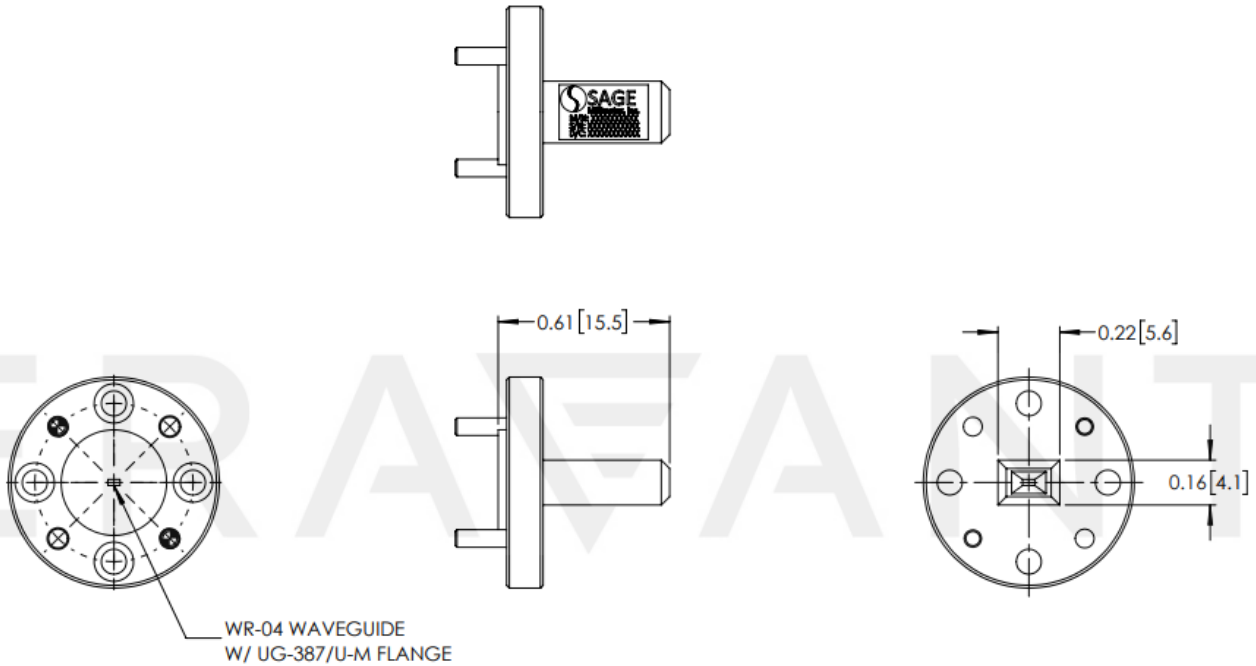


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**Mechanical Outline:** (Unless otherwise specified, all dimensions are in inches [millimeters])



### NOTE:

- On condition that test data is provided it is collected from a sample lot. Actual data may vary slightly from unit to unit. All testing is performed under +25 °C room temperature.
- On condition that simulated test data is provided, actual measured data may slightly vary.
- 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.
- For 1 mm connectors proper torque should be applied:  $4.0 \pm 0.15$  inch-pounds ( $0.45 \pm 0.02$  Nm). Torque wrench model [SCH-06004-S1](#) is highly recommended.
- For 1.35 mm, 1.85 mm, 2.4 mm, 2.92 mm, and SMA connectors proper torque should be applied:  $8.0 \pm 0.15$  inch-pounds ( $0.90 \pm 0.02$  Nm). Torque wrench model [SCH-08008-S1](#) is highly recommended.