

## SAO-2434230810-28-S1

### Ka-Band Omidirectional Antenna, 10 Degree, 7.5 dBi Gain

**SAO-2434230810-28-S1** is a full band, WR-28 omidirectional antenna that covers the frequency range of 24 to 42 GHz. This vertically polarized antenna offers 360 degrees azimuth coverage with a 7.5 dBi typical gain and  $\pm 1$  dB nominal gain flatness. The antenna features a half power beamwidth of 10 degrees in its vertical direction. The RF port of the antenna is equipped with WR-28 waveguide with UG-599/U Flange. The version with 2.92 mm (F) interface is offered under model number, **SAO-2434230810-KF-S1**.



#### Electrical Specifications:

| Parameter                 | Minimum | Typical     | Maximum |
|---------------------------|---------|-------------|---------|
| Frequency                 | 24 GHz  |             | 42 GHz  |
| Gain                      |         | 7.5 dBi     |         |
| Azimuth Gain Variation    |         | $\pm 1$ dBi |         |
| Azimuth Beamwidth         |         | 360°        |         |
| 3 dB Vertical Beamwidth   |         | 10°         |         |
| Return Loss               |         | 9 dB        |         |
| Power Handling            |         | 50 W        | 75 W    |
| Specification Temperature |         | +25 °C      |         |
| Operating Temperature     | -40 °C  |             | +85 °C  |

#### Mechanical Specifications:

| Item            | Specification                        |
|-----------------|--------------------------------------|
| RF Port         | WR-28 Waveguide with UG-599/U Flange |
| Body Material   | Aluminum                             |
| Radome Material | HDPE                                 |
| Finish          | Clear Chem Film                      |
| Dimension       | 3.39" (H) x 5.70" (Ø)                |
| Weight          | 2.2 lbs                              |
| Outline         | AO-AC08-010                          |

#### ECCN

EAR99

#### FEATURES

- 360° Azimuth Coverage
- 10° Vertical 3 dB Beamwidth
- Vertically Polarized
- Full Band Operation

#### APPLICATIONS

- 5G Systems
- Communication Links
- EW Systems
- Indoor Local Area Networks

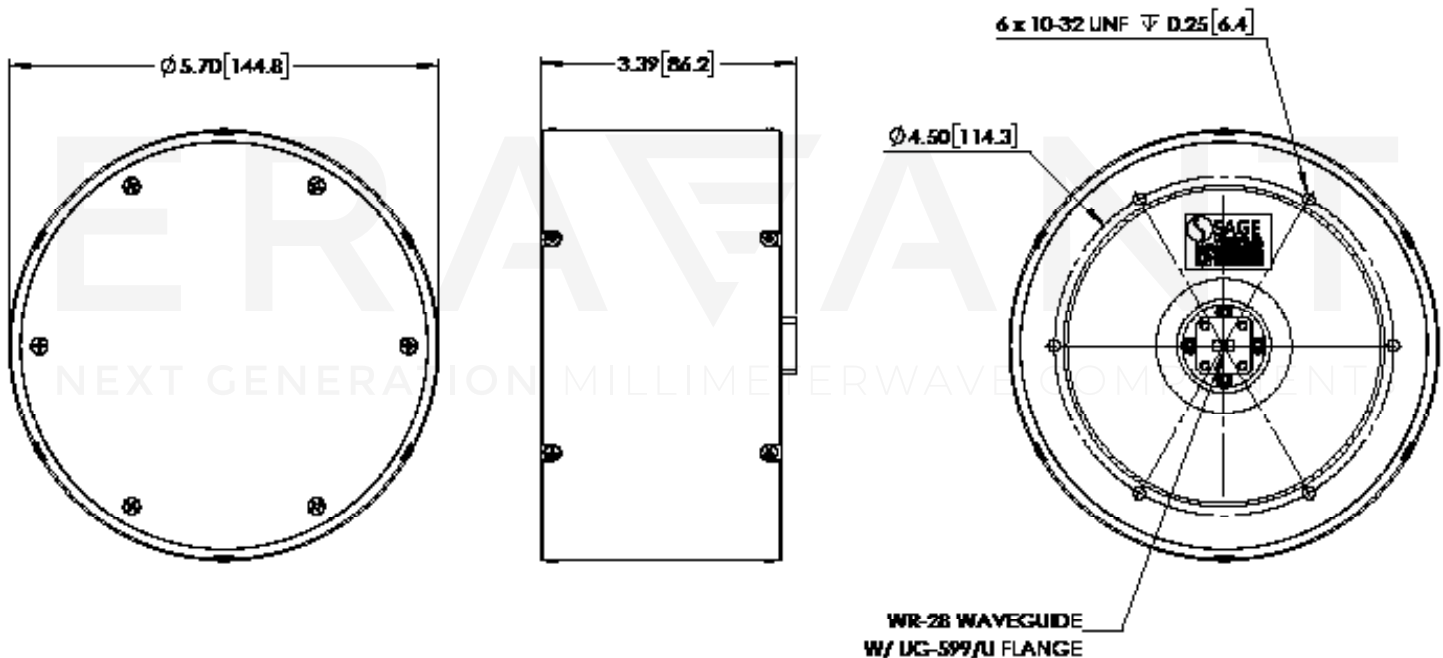
#### SUPPLEMENTAL DETAILS



## SAO-2434230810-28-S1

### Mechanical Outline:

Unless otherwise specified, all dimensions are in inches [millimeters]



### NOTE:

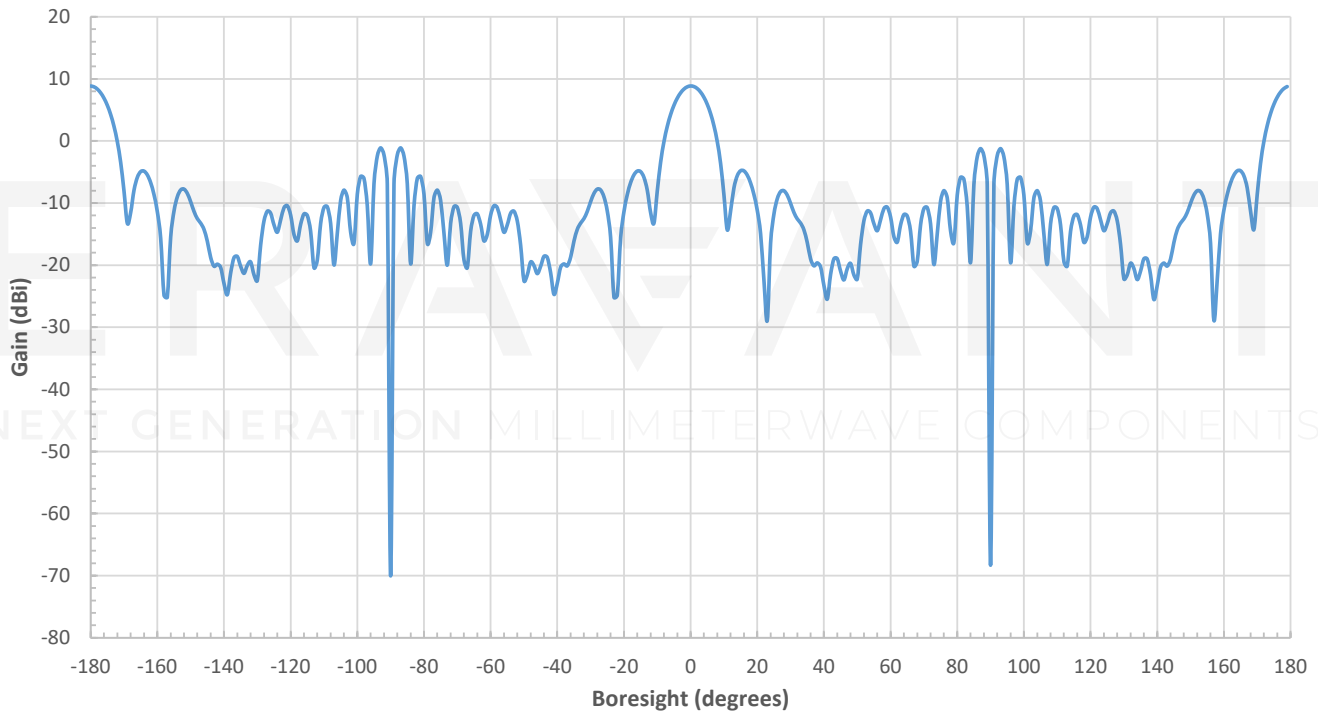
- On condition that test data is provided it is collected from a sample lot. Actual data may vary slightly from unit to unit. All testing is performed under +25 °C room temperature.
- On condition that simulated test data is provided, actual measured data may slightly vary.
- Eravant reserves the right to change the information presented without notice.

### CAUTION:

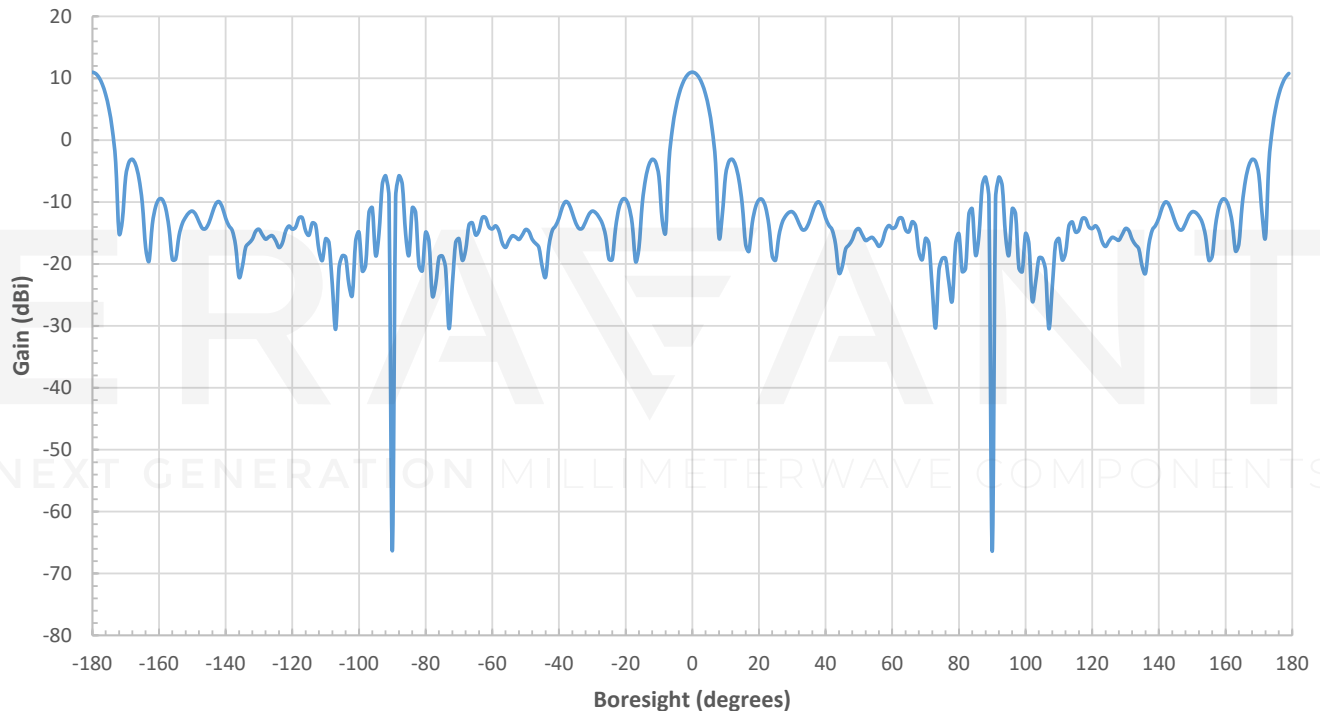
- If a waveguide is present, any foreign objects in the waveguide will cause performance degradation and may damage or destroy the unit.
- Any foreign objects in the antenna will cause performance degradation and possible device damage.
- For 1 mm connectors proper torque should be applied:  $4.0 \pm 0.15$  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.

## SAO-2434230810-28-S1

Simulated E-Plane Antenna Pattern @ 24 GHz

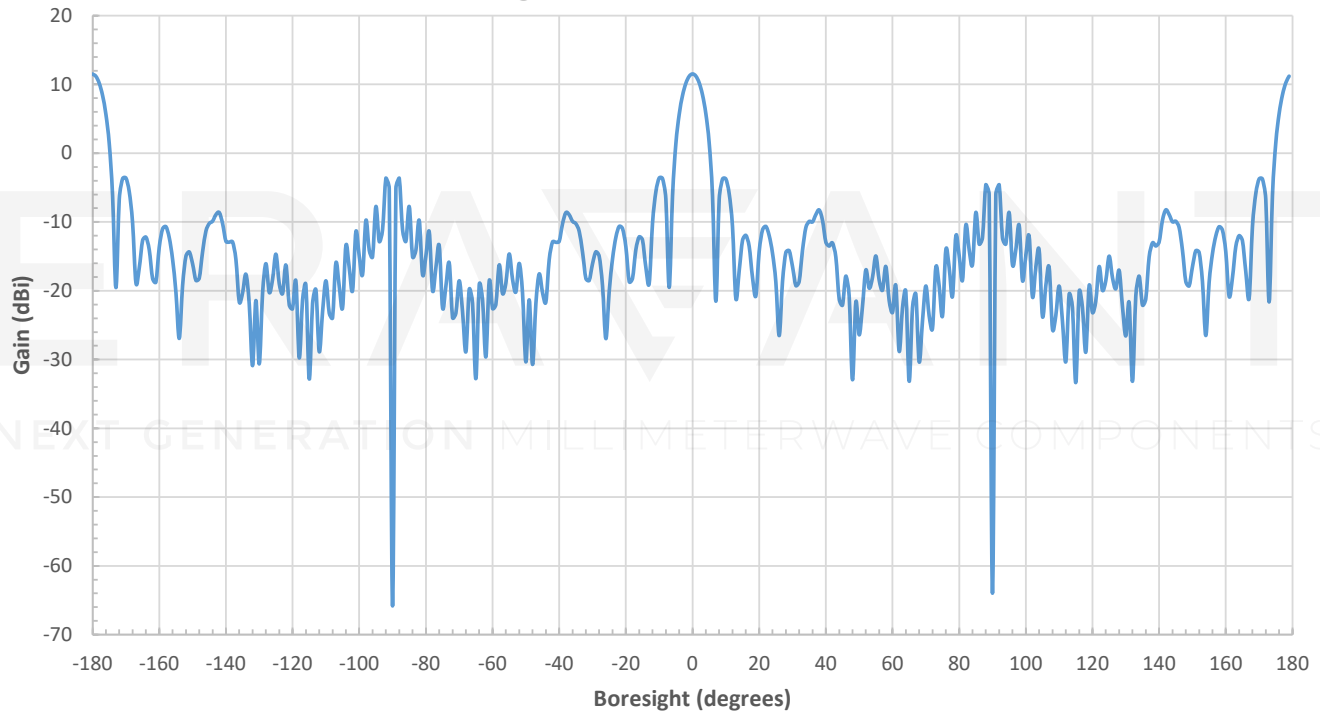


Simulated E-Plane Antenna Pattern @ 33 GHz

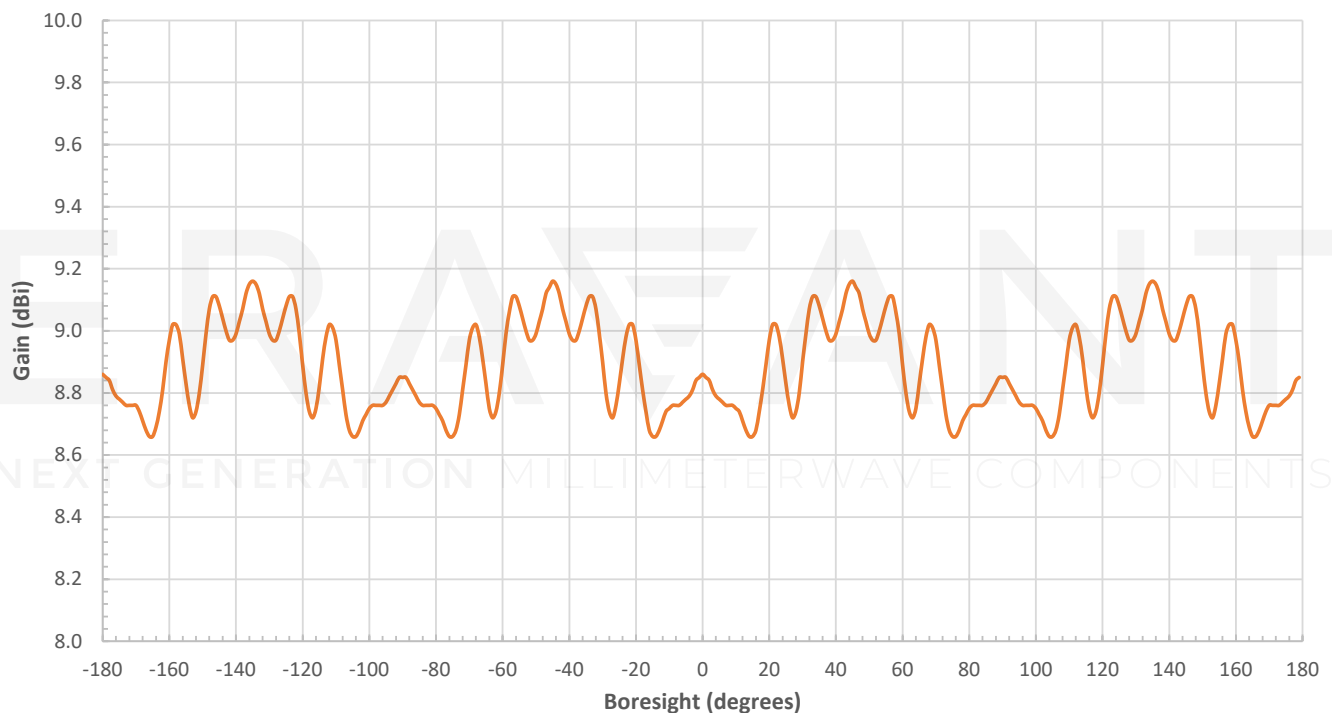


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Simulated E-Plane Antenna Pattern @ 42 GHz

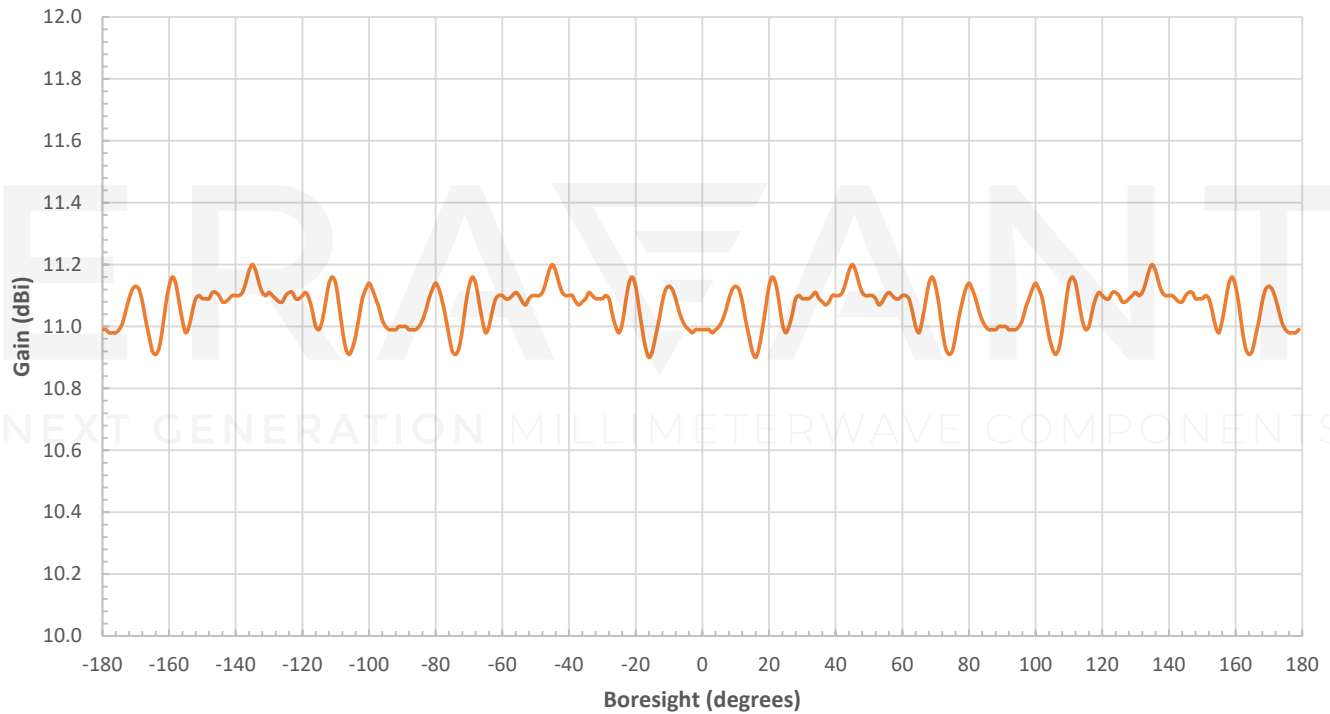


Simulated H-Plane Antenna Pattern @ 24 GHz

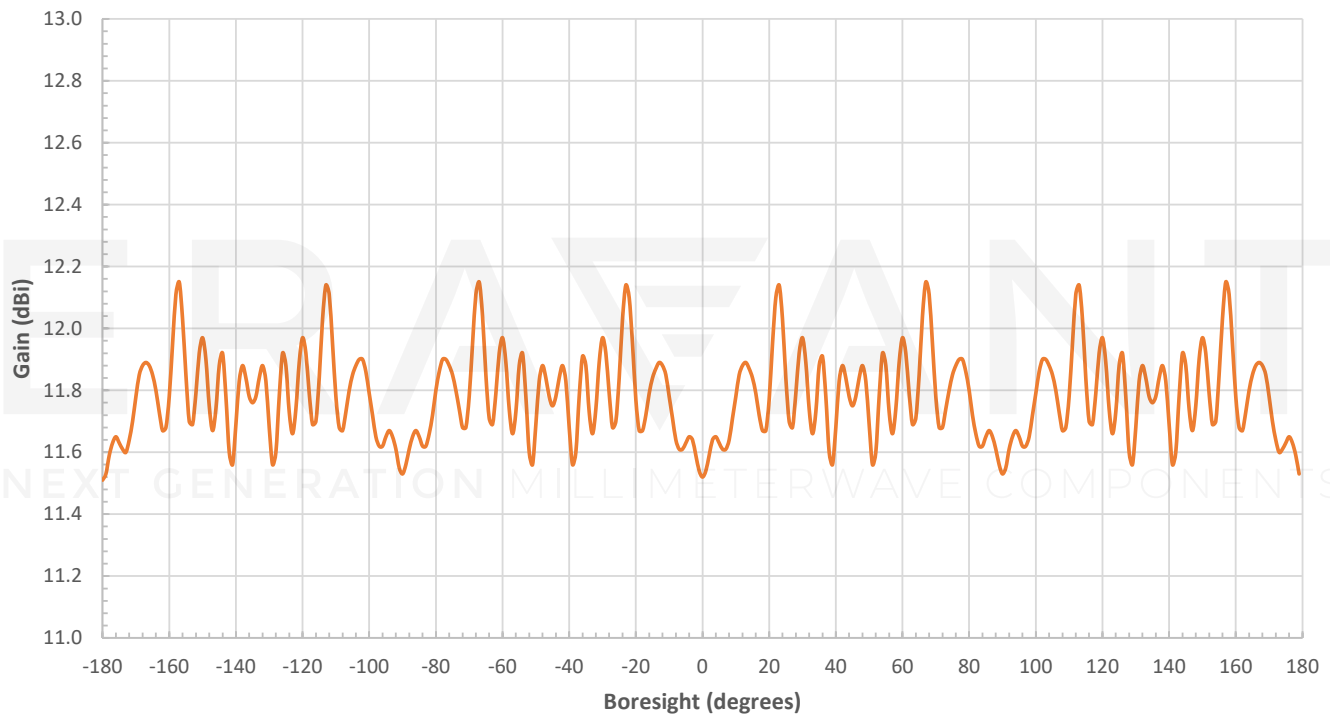


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Simulated H-Plane Antenna Pattern @ 33 GHz

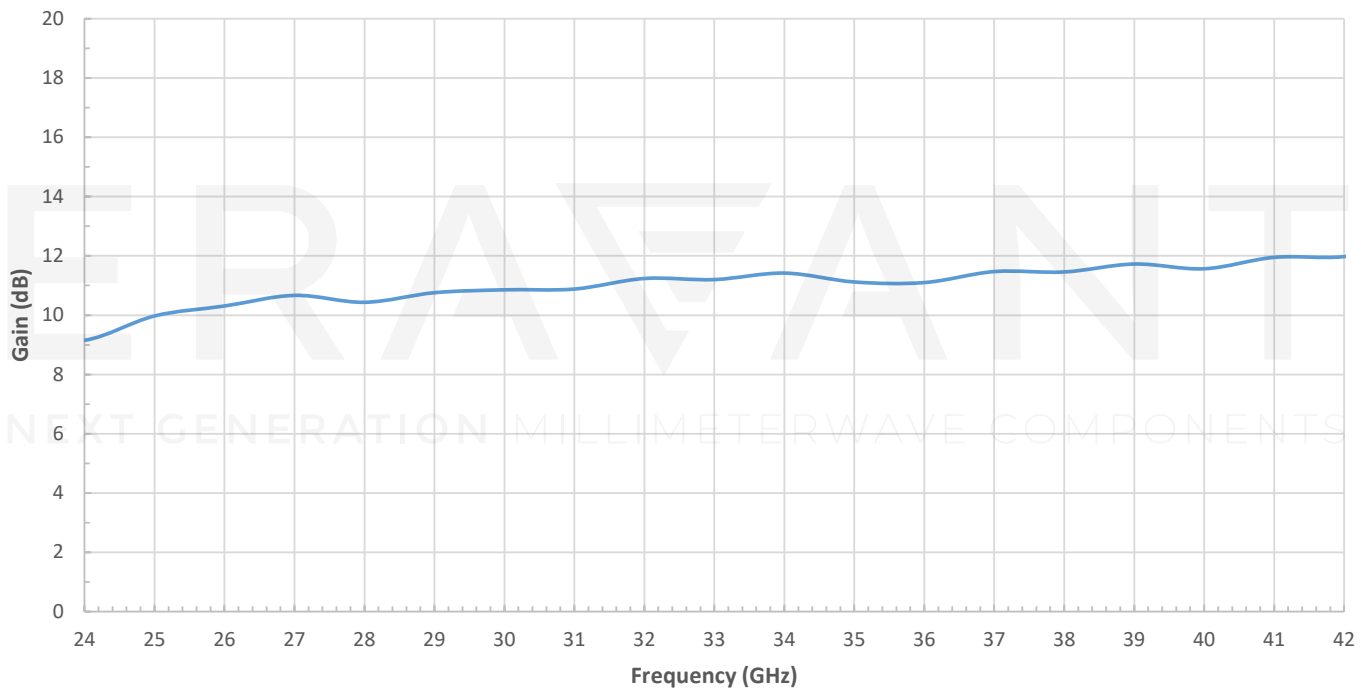


Simulated H-Plane Antenna Pattern @ 42 GHz



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Simulated Gain vs. Frequency



Simulated Return Loss vs. Frequency

