

## SAF-3335031725-250-S1

### Q Band Scalar Feed Horn Antenna, 17 dBi Gain

**SAF-3335031725-250-S1** is a Q-band scalar feed horn antenna that operates from 33 to 50 GHz. The antenna offers a 17 dBi nominal gain, 25 degree typical half power beamwidth, and -25 dB typical side lobe level. The scalar feed horn is equipped with a 0.250" diameter circular waveguide that supports both linear and circular polarization. A rectangular waveguide port configuration that only supports linear polarization is available under a different model number.



### Electrical Specifications:

| Parameter                 | Minimum | Typical             | Maximum |
|---------------------------|---------|---------------------|---------|
| Frequency Range           | 33 GHz  | 41.5 GHz            | 50 GHz  |
| Gain                      |         | 17 dBi              |         |
| 3 dB Beamwidth, E-plane   |         | 25°                 |         |
| 3 dB Beamwidth, H-plane   |         | 25°                 |         |
| Side Lobes, E-plane       |         | -25 dB              |         |
| Side Lobes, H-plane       |         | -25 dB              |         |
| Return Loss               |         | 20 dB               |         |
| Polarization              |         | Linear and Circular |         |
| Specification Temperature |         | +25 °C              |         |
| Operating Temperature     | -40 °C  |                     | +85 °C  |

### Mechanical Specifications:

| Item         | Specification                      |
|--------------|------------------------------------|
| Antenna Port | 0.250" Diameter Circular Waveguide |
| Flange Type  | UG-383/U Anti-cocking Flange       |
| Material     | Brass                              |
| Finish       | Gold Plated                        |
| Weight       | 1.6 Oz                             |
| Outline      | AF-CQ17-250-A                      |

### ECCN

EAR99

### FEATURES

- Circular Waveguide Interface
- Precisely Machined
- Low Side Lobe Level
- High Return Loss
- Linear and Circular Polarization

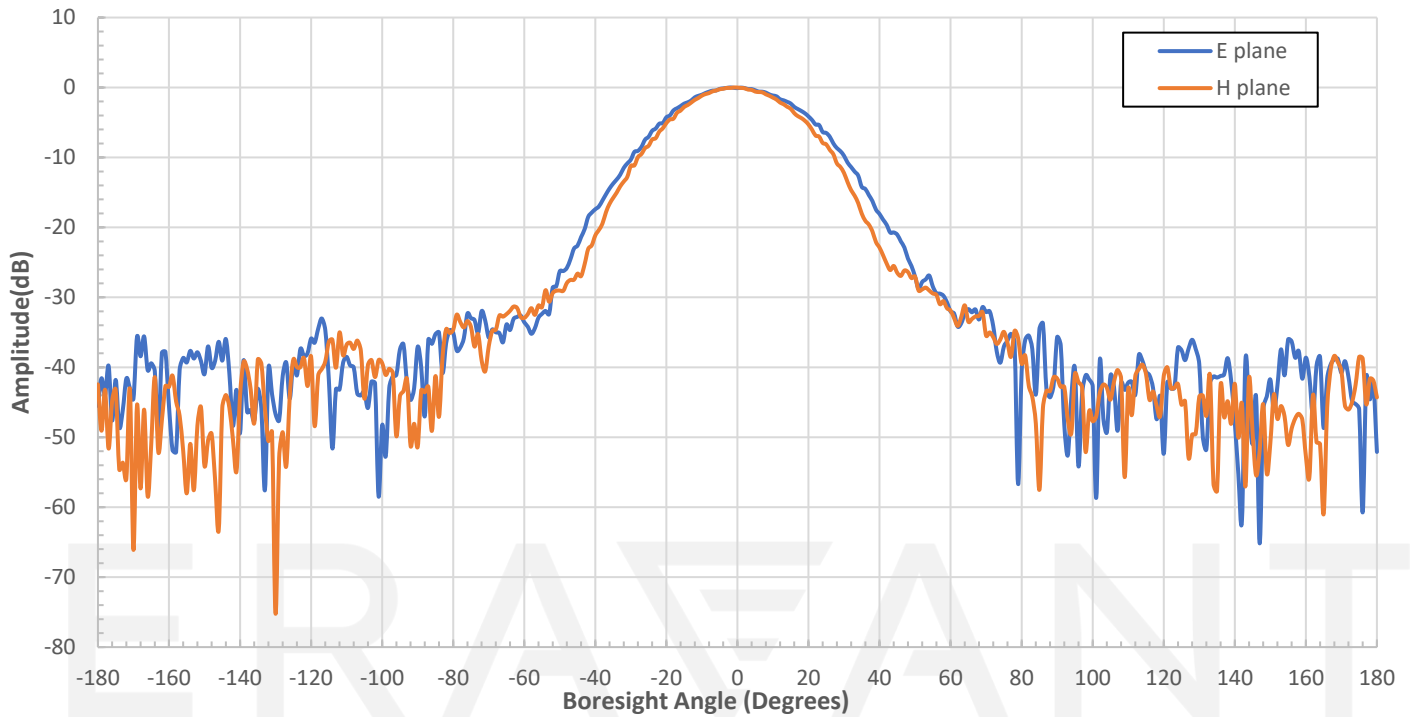
### APPLICATIONS

- Feed Horn for Gaussian Optical Antennas
- Feed Horn for Cassegrain Antennas
- Rapid System Setups
- Engineering Setups

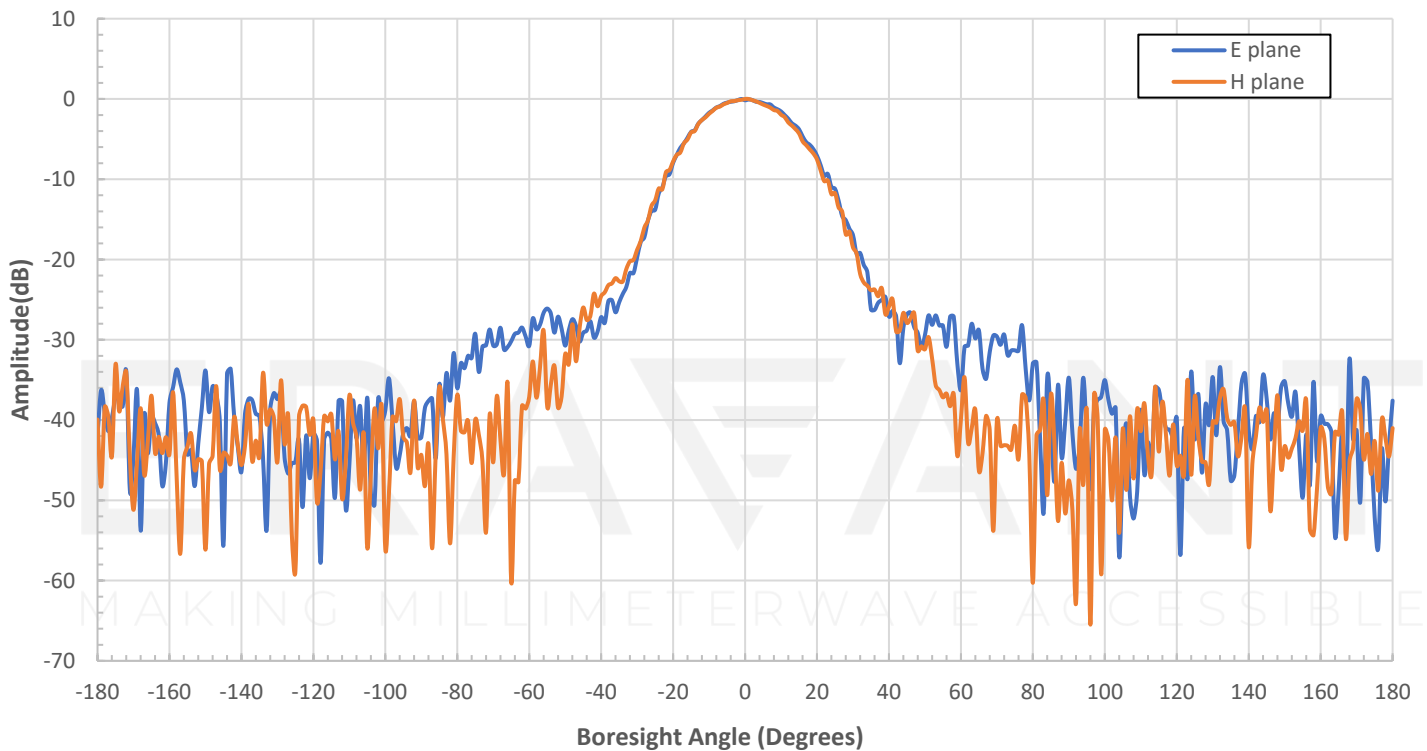
### SUPPLEMENTAL DETAILS



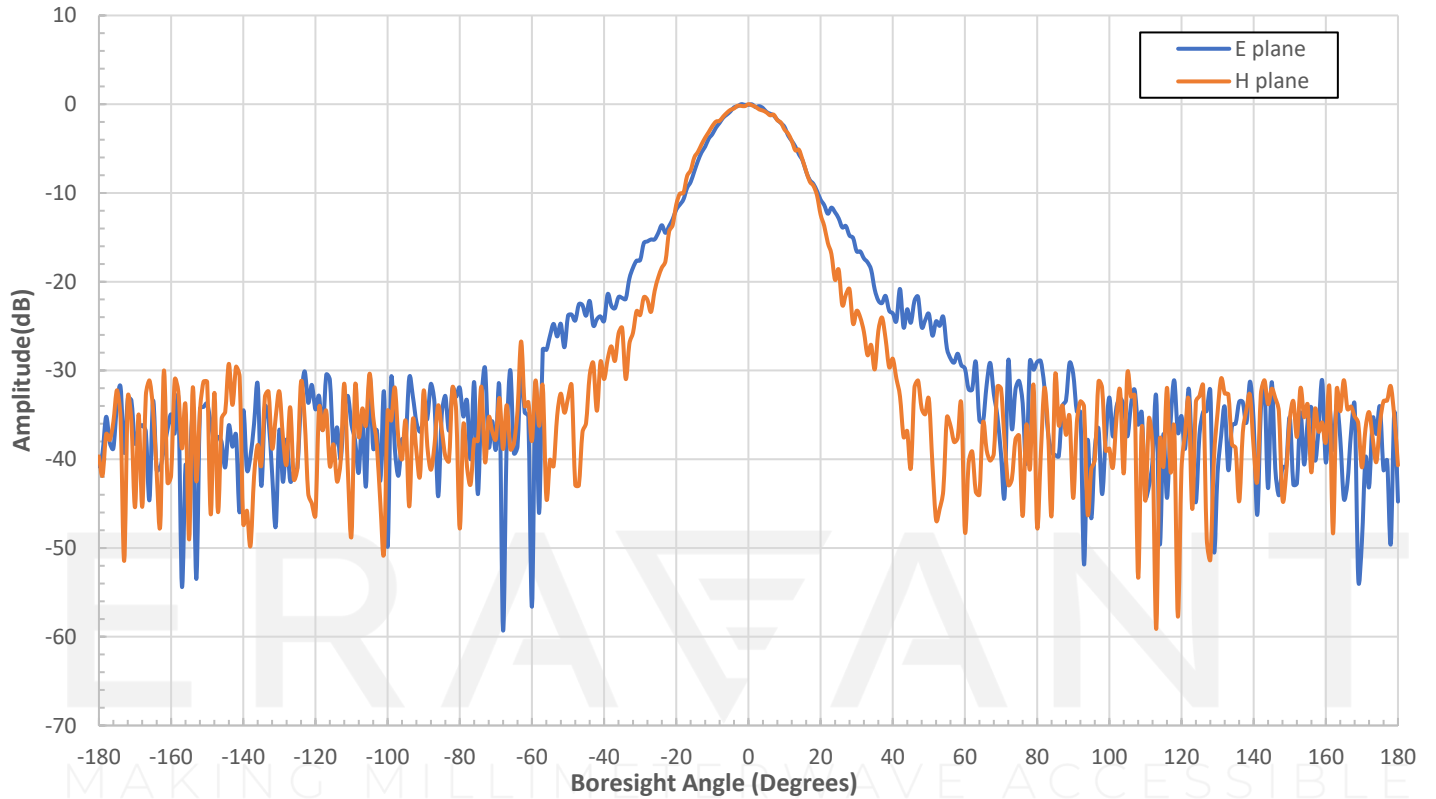
### Measured Patterns at 33 GHz



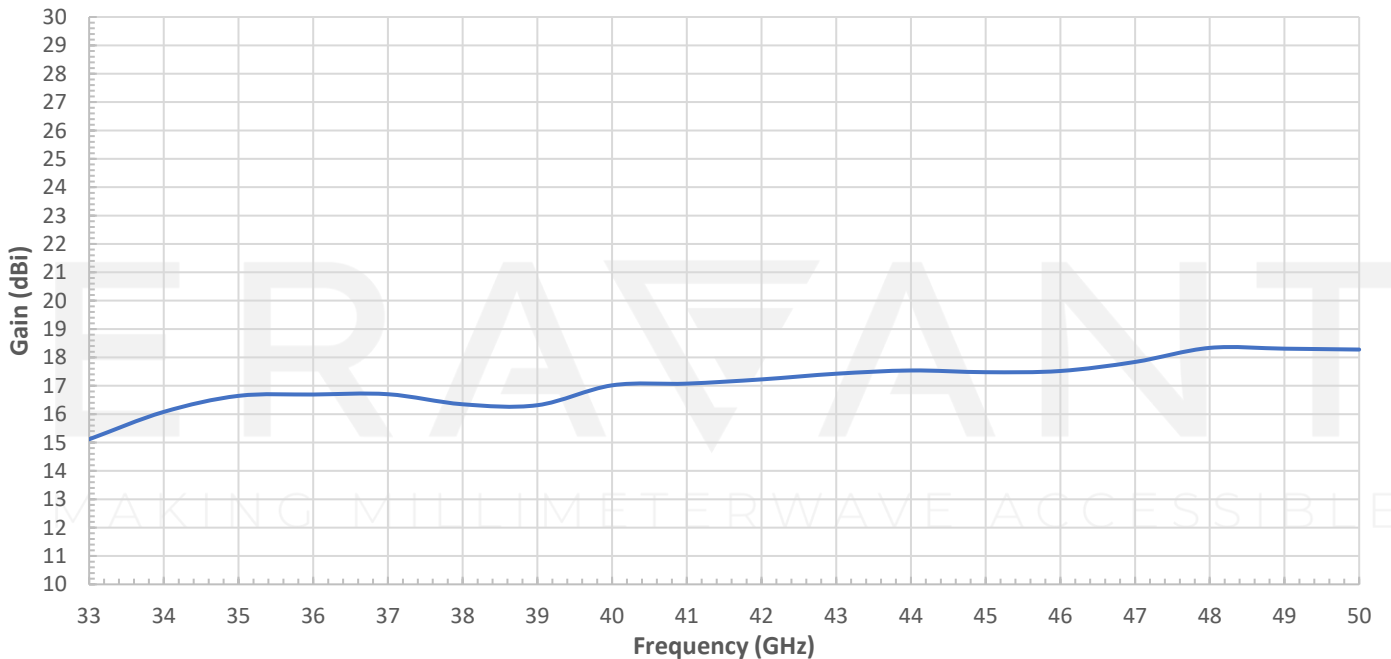
### Measured Patterns at 41.5 GHz



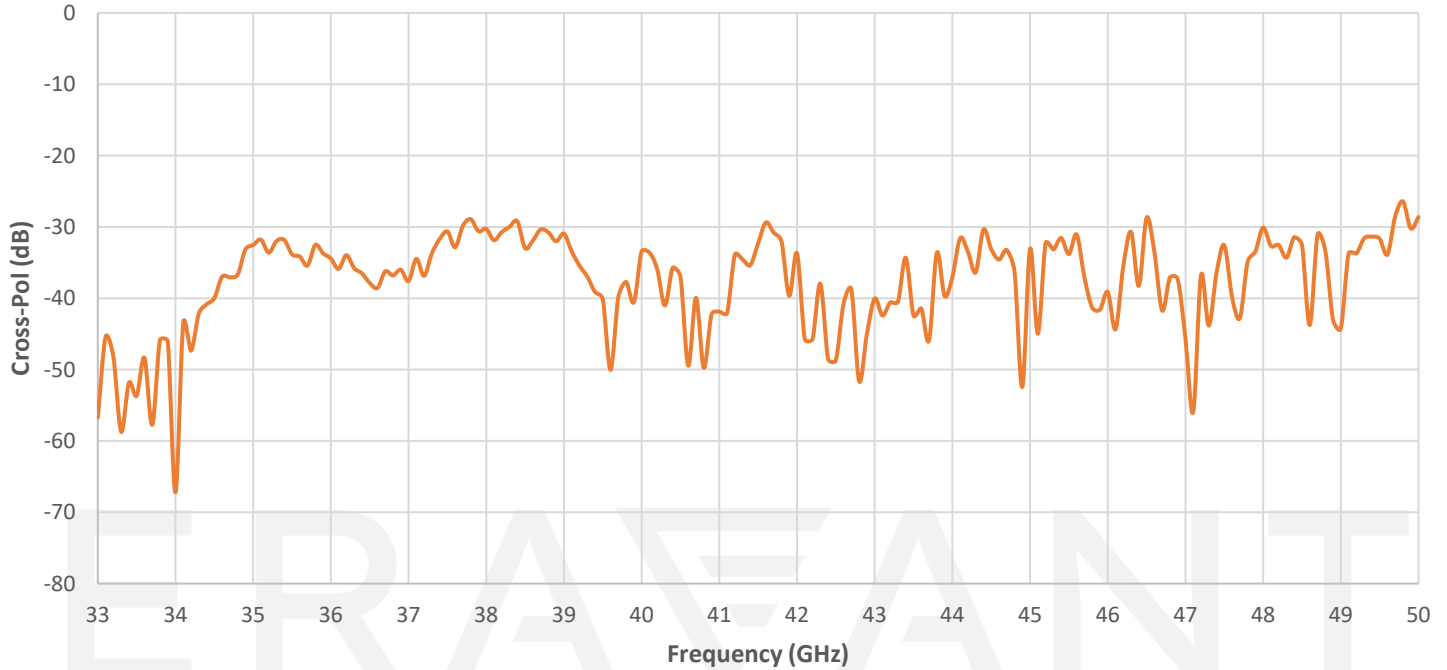
### Measured Patterns at 50 GHz



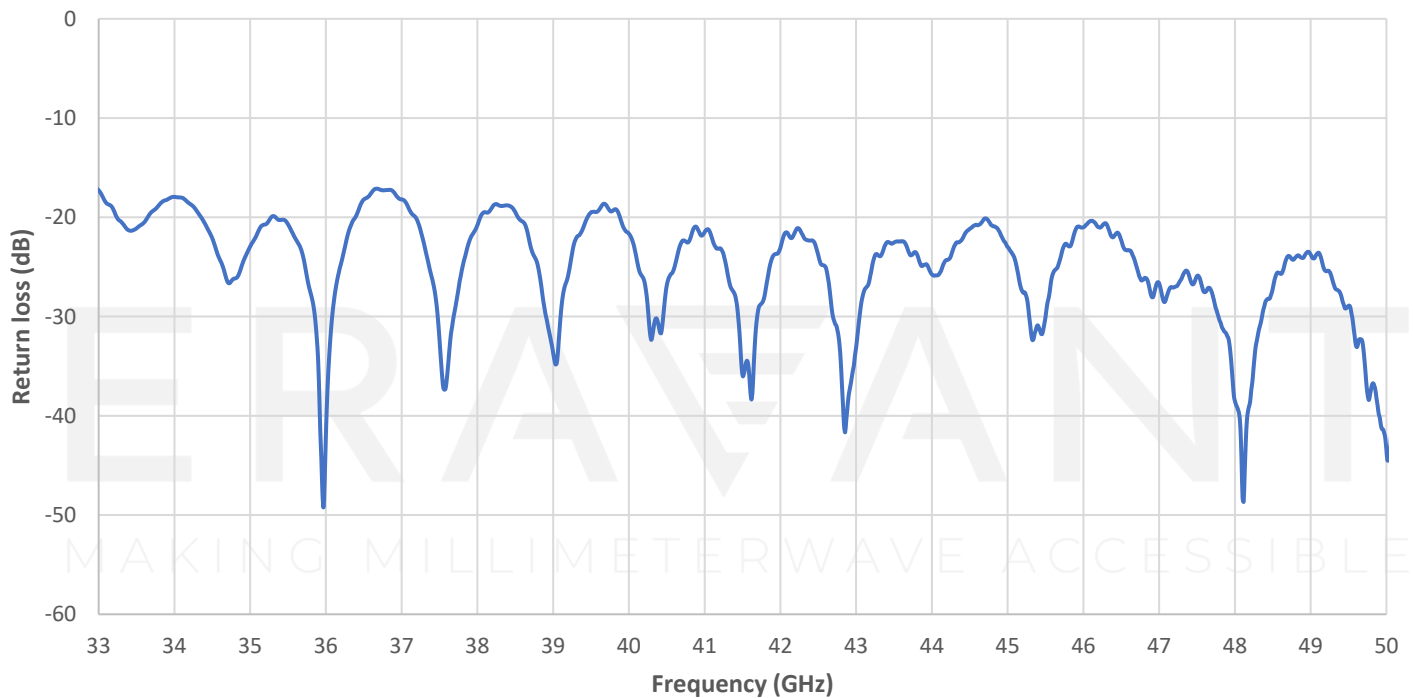
### Measured Gain vs Frequency



### Measured Cross-pol vs Frequency

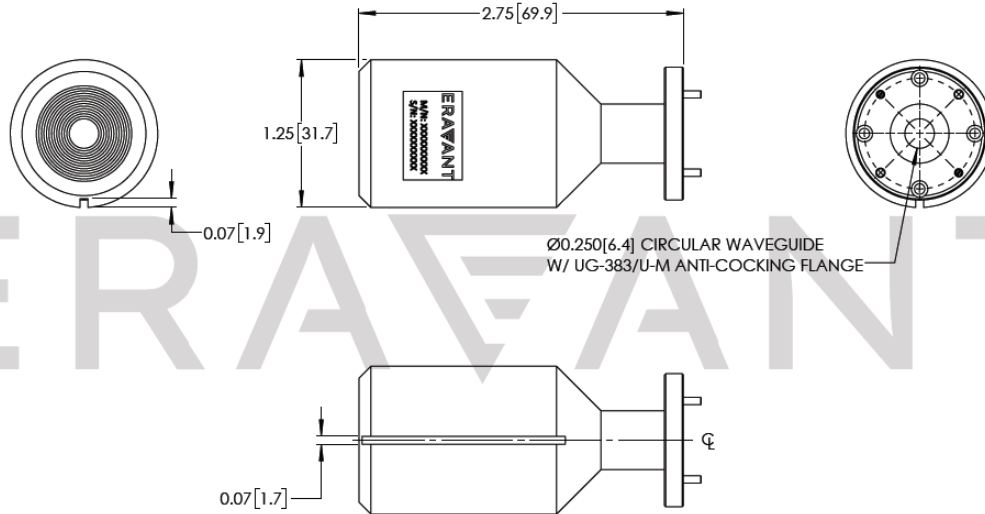


### Measured Return Loss vs Frequency



## SAF-3335031725-250-S1

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



**NOTE:**

- Test data provided is collected from a sample lot. Actual data may vary slightly from unit to unit. All testing is performed under +25 °C room temperature.
- Eravant reserves the right to change the information presented without notice.

**CAUTION:**

- Any foreign objects in the antenna will cause performance degradation and possible device damage.