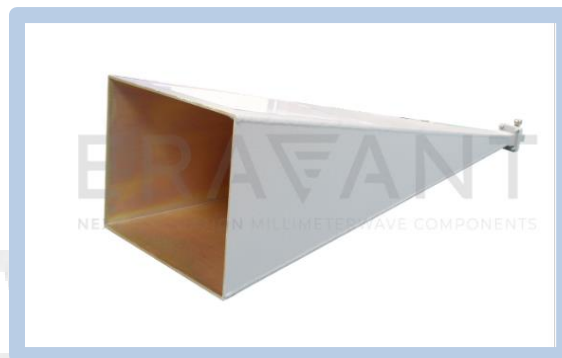




WR-90 Pyramidal Horn Antenna, 25 dBi Gain with N Type Coax Input

Description:

Model SAR-2510-90NF-R3 & SAR-2510-90NM-R3 are X-band pyramidal horn antenna with a right angle (90°) N type coax connector to cover the frequency range of 8.2 GHz to 12.4 GHz. The antenna offers 25 dBi nominal gain and a typical half power beamwidth of 9 degrees on the E-plane and 11 degrees on the H-plane. The antenna supports linear polarized waveforms.



Features:

- Inline Configuration
- Linear Polarization
- DC Short Circuit at Input

Applications:

- Antenna Ranges
- Antenna Gain Measurements
- System Setups

Electrical Specifications:

| Parameter | Minimum | Typical | Maximum |
|---------------------------|---------|---------|-----------|
| Frequency | 8.2 GHz | | 12.4 GHz |
| Gain | | 25 dBi | |
| Polarization | | Linear | |
| 3 dB Beamwidth, E-Plane | | 9° | |
| 3 dB Beamwidth, H-Plane | | 11° | |
| Side Lobes, E-Plane | | -13 dB | |
| Side Lobes, H-Plane | | -36 dB | |
| Return Loss | | 18 dB | |
| Power Handling | | | 50 W (CW) |
| Specification Temperature | | +25 °C | |
| Operating Temperature | -40 °C | | +85 °C |

Mechanical Specifications:

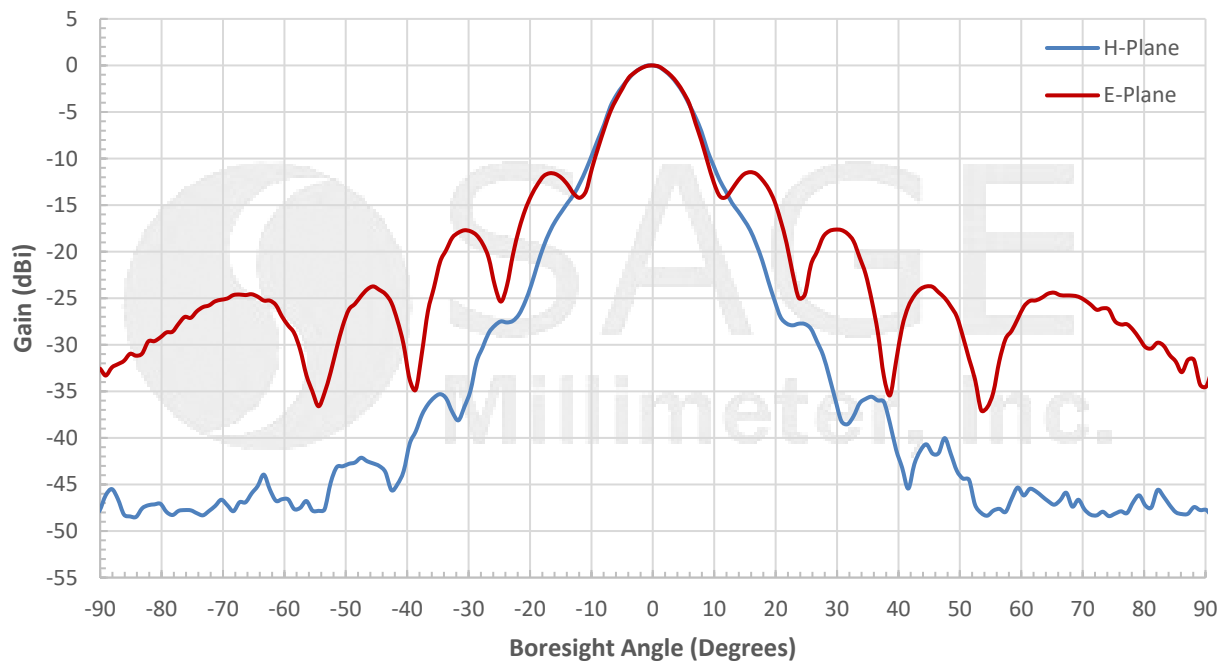
| Item | Specification |
|--------------------|--|
| Antenna Port (F) | N Type Female for Model Number: SAR-2510-90NF-R3 |
| Antenna Port (M) | N Type Male for Model Number: SAR-2510-90NM-R3 |
| Material | Aluminum |
| Connector Material | Stainless Steel |
| Finish | Anti-Corrosion Paint |
| Weight | 6.38 lbs |
| Size | 30.51" (L) X 9.84" (W) X 7.09" (H) |
| Outline | AR-XC3-R-H1 |



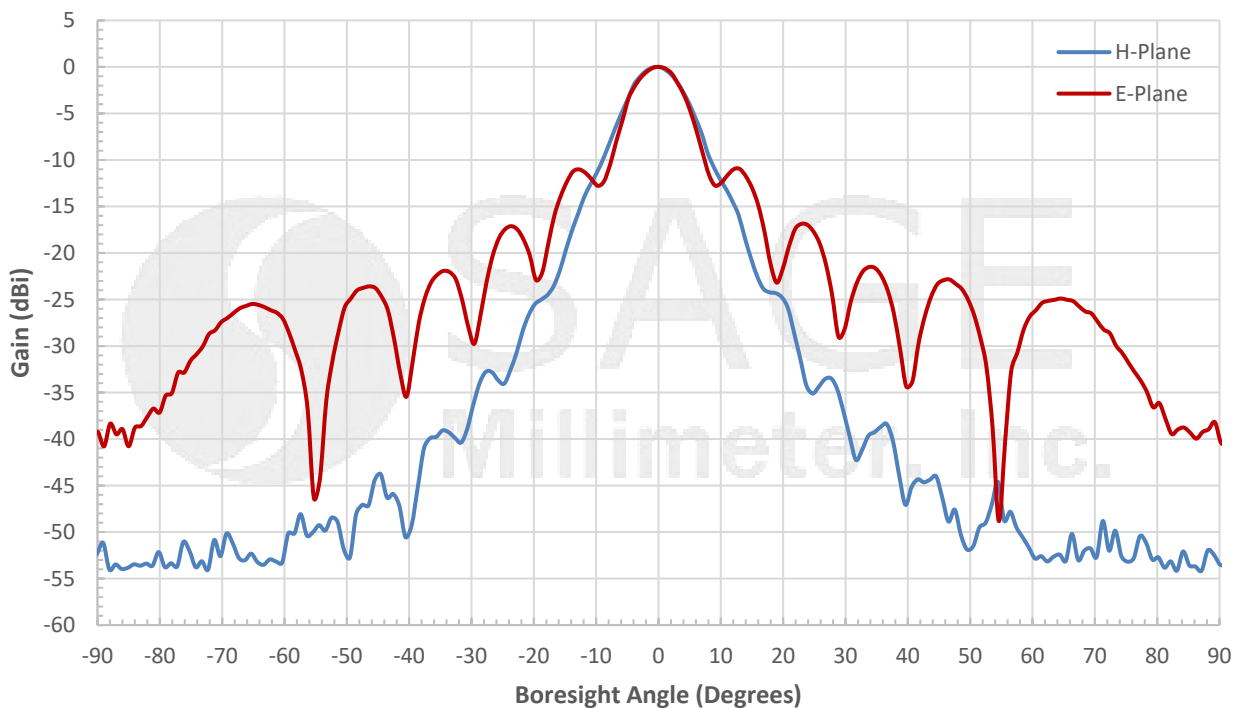


WR-90 Pyramidal Horn Antenna, 25 dBi Gain with N Type Coax Input

Simulated Antenna Patterns @ 8.2 GHz



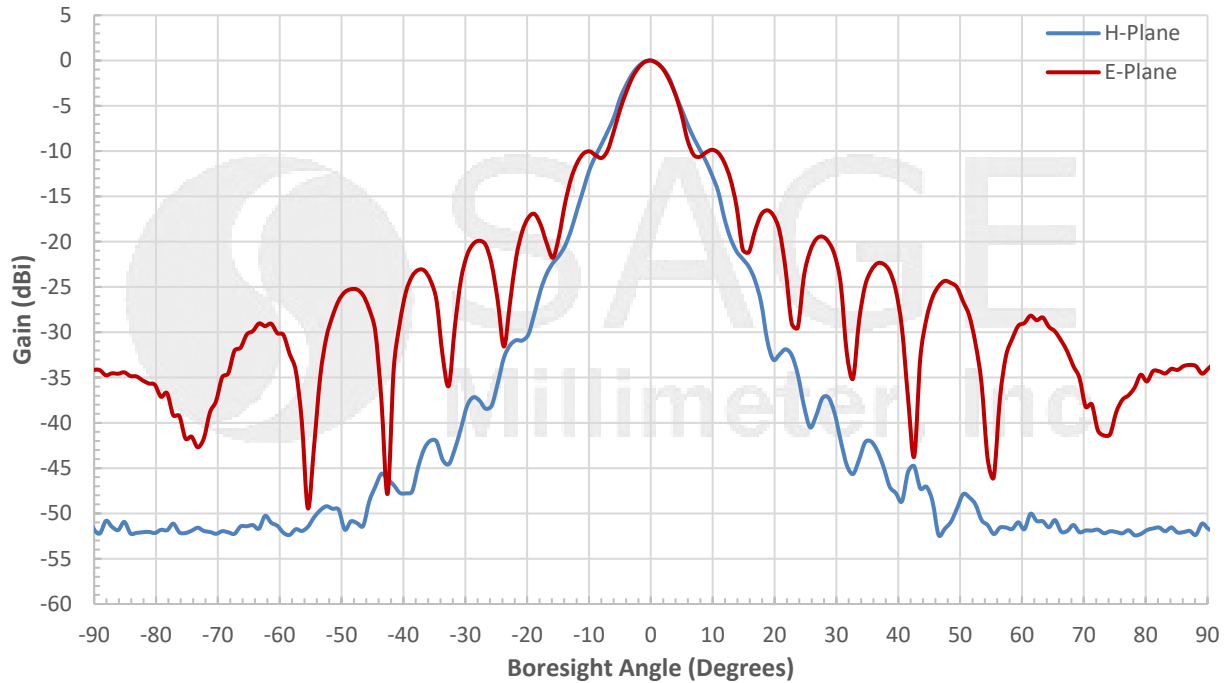
Simulated Antenna Patterns @ 10.3 GHz



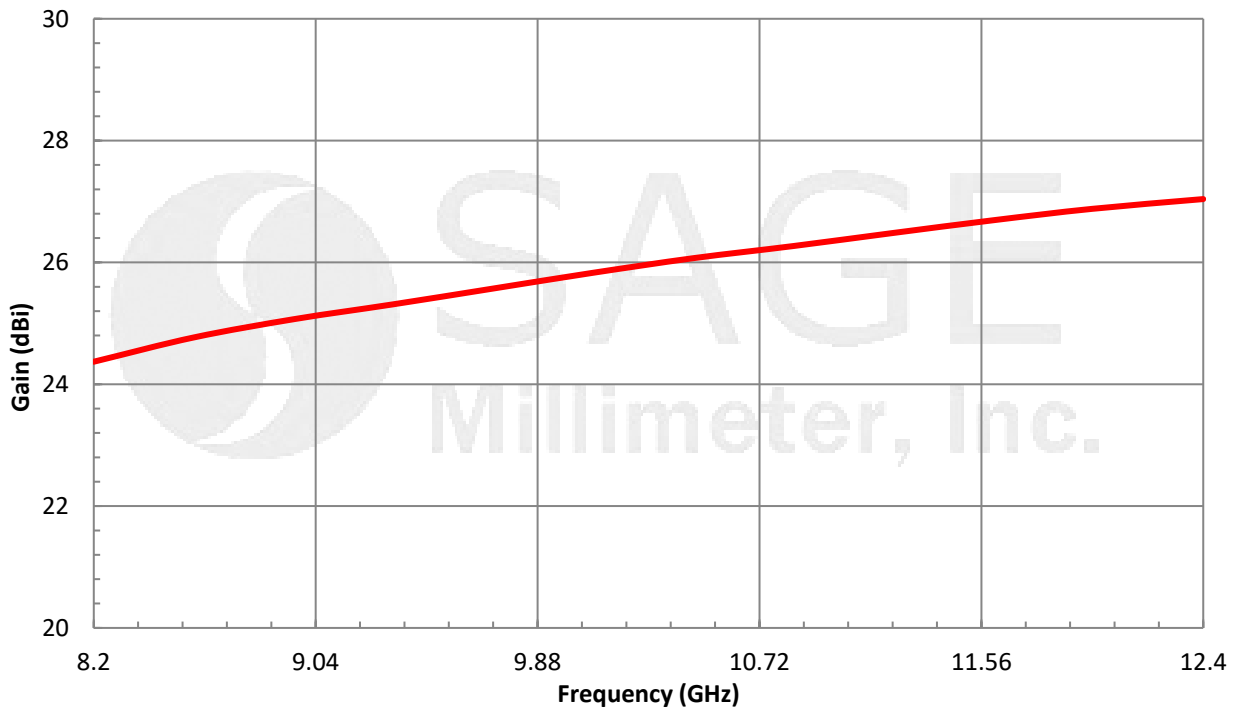


WR-90 Pyramidal Horn Antenna, 25 dBi Gain with N Type Coax Input

Simulated Antenna Patterns @ 12.5 GHz



Measured Gain vs. Frequency



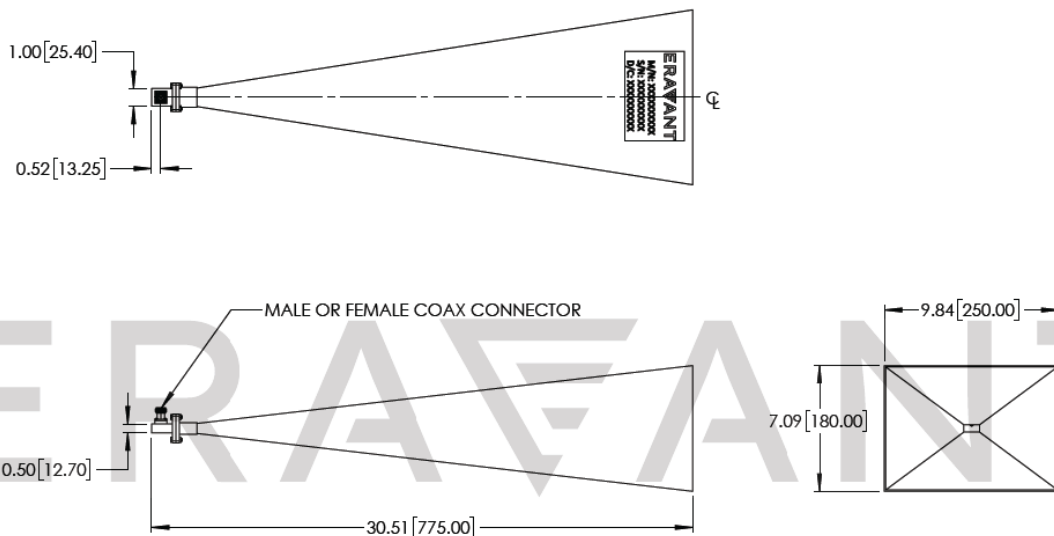


WR-90 Pyramidal Horn Antenna, 25 dBi Gain with N Type Coax Input

Measured Gain vs. Frequency in Tabular Format

| Frequency (GHz) | Gain (dBi) | Frequency (GHz) | Gain (dBi) |
|-----------------|------------|-----------------|------------|
| 8.20 | 24.37 | 10.47 | 26.07 |
| 8.58 | 24.77 | 10.85 | 26.27 |
| 8.96 | 25.07 | 11.22 | 26.48 |
| 9.33 | 25.31 | 11.60 | 26.69 |
| 9.71 | 25.57 | 11.98 | 26.88 |
| 10.09 | 25.83 | 12.40 | 27.04 |

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



Note:

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

Caution:

- Proper torque, 8.0 ± 0.15 inch-pounds (0.90 ± 0.02 Nm), should be applied. **SAGE Millimeter torque wrench, model SCH-08008-S1, is highly recommended.**
- Any foreign objects in the horn antenna will cause performance degradation and possible device damage.

