

WR-12 Pyramidal Horn Antenna, 20 dBi Gain with 1mm Coax Input

Description:

Model SAR-2013-121M-E2 is an E-band pyramidal horn antenna with a end launch (180°) 1 mm (M) coax connector to cover the frequency range of 60 GHz to 90 GHz. The antenna offers 20 dBi nominal gain and a typical half power beamwidth of 14 degrees on the E-plane and 15 degrees on the H-plane. The antenna supports linear polarized waveforms. The model with 1 mm (F) connector is offered under model number SAR-2013-121F-E2.



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 | 60 GHz | | 90 GHz |
| Gain | | 20 dBi | |
| Polarization | Linear | | |
| 3 dB Beamwidth, E-Plane | | 14° | |
| 3 dB Beamwidth, H-Plane | | 15° | |
| Sidelobes, E-Plane | | -14 dB | |
| Sidelobes, H-Plane | | -30 dB | |
| Return Loss | | 15 dB | |
| Power Handling | | | 10 W (CW) |
| Specification Temperature | | +25 °C | |
| Operating Temperature | -40 °C | | +85 °C |

Mechanical Specifications:

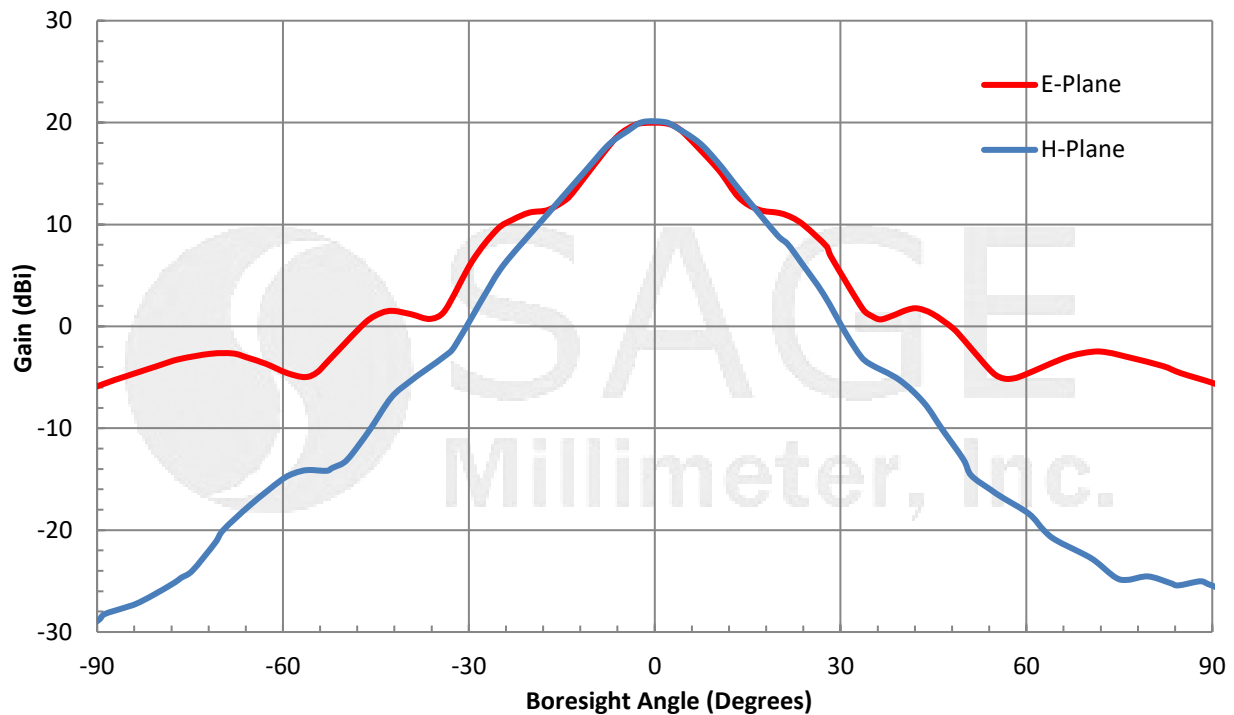
| Item | Specification |
|--------------|----------------------------------|
| Antenna Port | 1 mm Male |
| Material | Brass |
| Finish | Gold Plated |
| Weight | 1 Oz |
| Size | 1.41" (L) X 0.79" (W) X 0.64"(H) |
| Outline | AR-EC1-E |



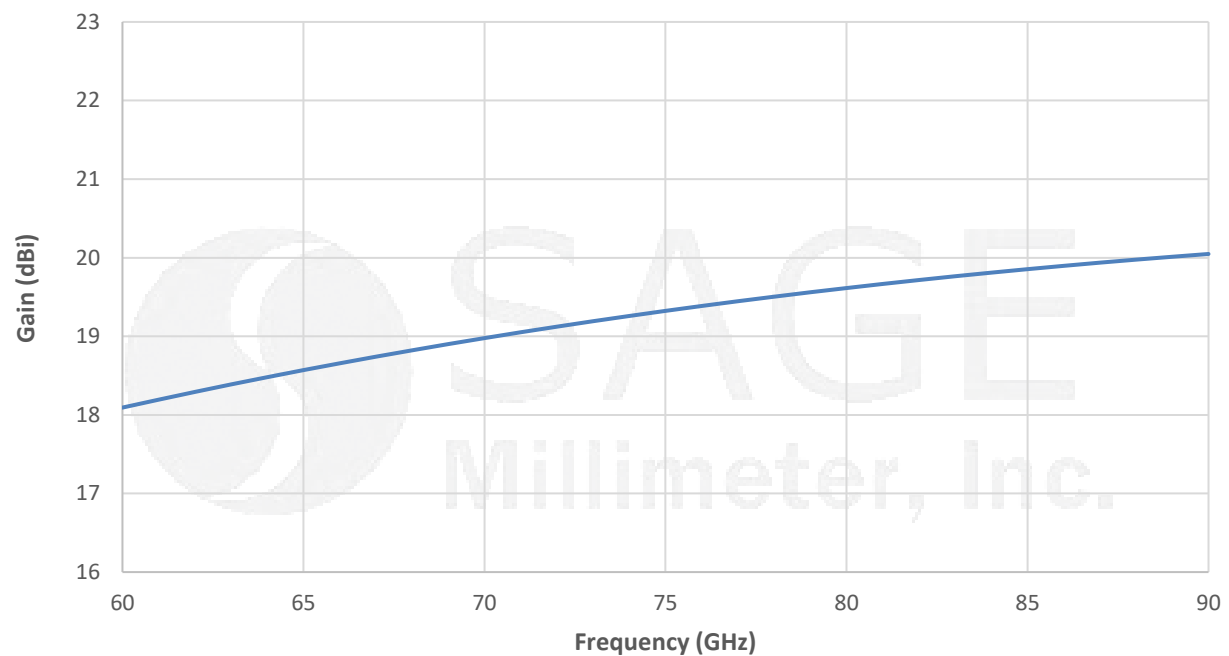


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Typical Antenna Pattern @ 75 GHz



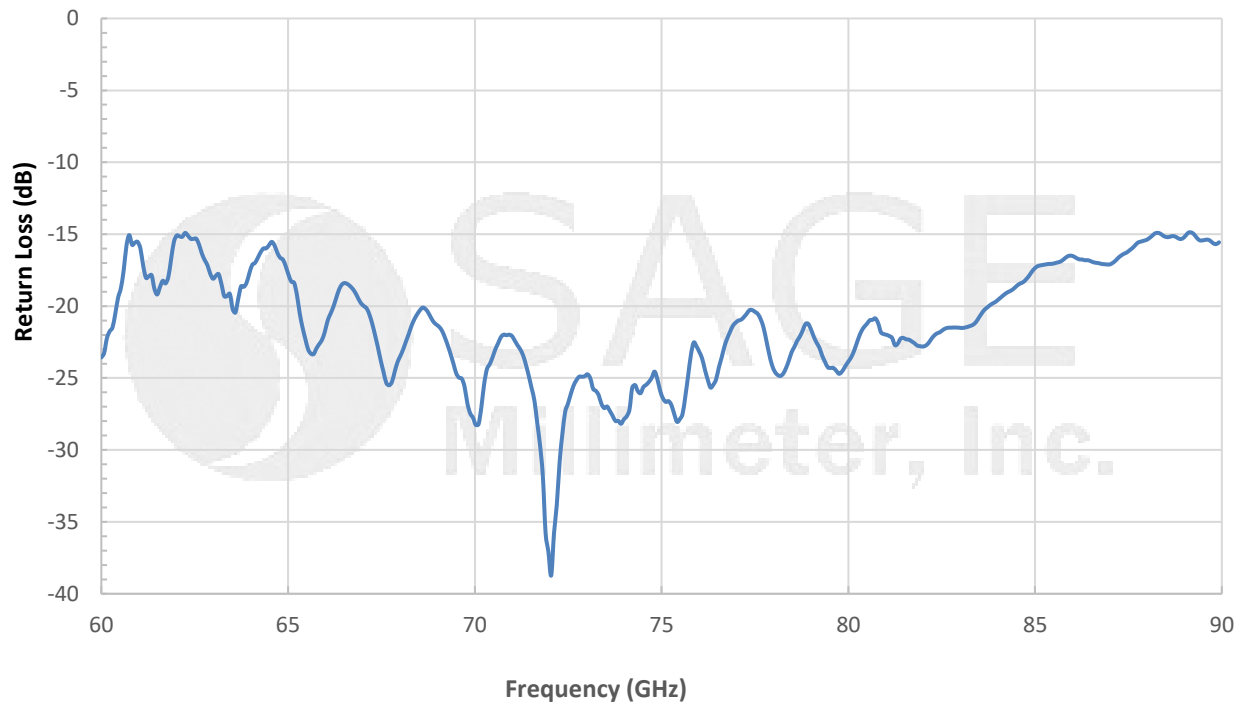
Typical Gain vs. Frequency



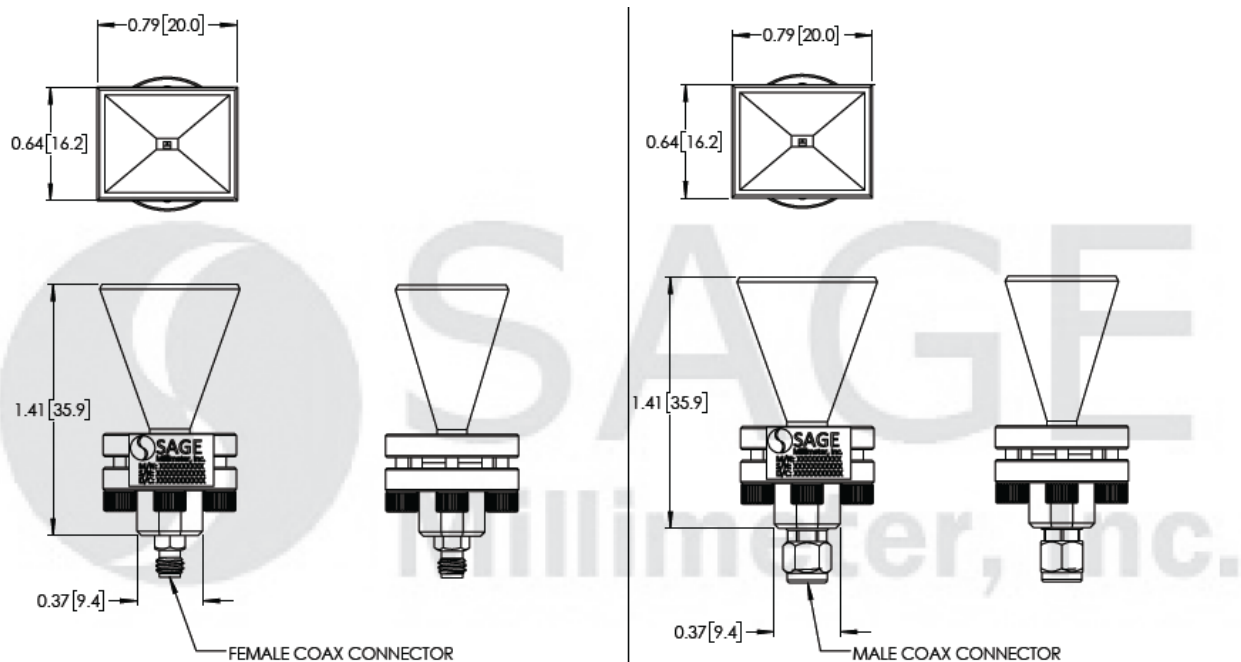


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Typical Return Loss vs. Frequency



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



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Note:

- The antenna pattern and gain data presented is simulated. Actual data may vary, slightly.
- The return loss 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.
- SAGE Millimeter, Inc. reserves the right to change the information presented without notice.

Caution:

- Any foreign objects in the waveguide will cause performance degradation and possible device damage.
- Proper torque, 4.0 ± 0.15 inch-pounds (0.45 ± 0.02 Nm), should be used. **SAGE Millimeter torque wrench, model SCH-06004-S1, is highly recommended.**

