

V-Band Choke Flange Feed Horn Antenna, 50 to 75 GHz, 10 dBi Gain

Description:

Model SAH-5037531060-165-S1 is a V-band choke flange feed horn antenna that operates from 50 to 75 GHz. The antenna offers a nominal gain of 10 dBi, typical half power beamwidth in E and H plane of 60 degrees and typical side lobe levels of -30 dB for both E and H plane. The antenna port is a 0.165" diameter circular waveguide with a UG-385/U-M anti-cocking flange that supports both linear and circular polarized waveforms. A dual polarized configuration with an integrated orthomode transducer is available under the model **SAF-5037531060-165-S1-148-DP**.



Features:

- Full Band Operation
- Circular Waveguide Interface
- Low Sidelobe Level
- Linear and Circular Polarization

Applications:

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

Electrical Specifications:

| Parameter | Minimum | Typical | Maximum |
|----------------------------------|---------|---------|---------|
| Frequency | 50 GHz | | 75 GHz |
| Gain | | 10 dBi | |
| 3 dB Beamwidth, E-plane @ 62 GHz | | 60° | |
| 3 dB Beamwidth, H-plane @ 62 GHz | | 60° | |
| Sidelobe Levels | | -30 dB | |
| Return Loss | | 20 dB | |
| Specification Temperature | | +25 °C | |
| Operating Temperature | -40 °C | | +85 °C |

Mechanical Specifications:

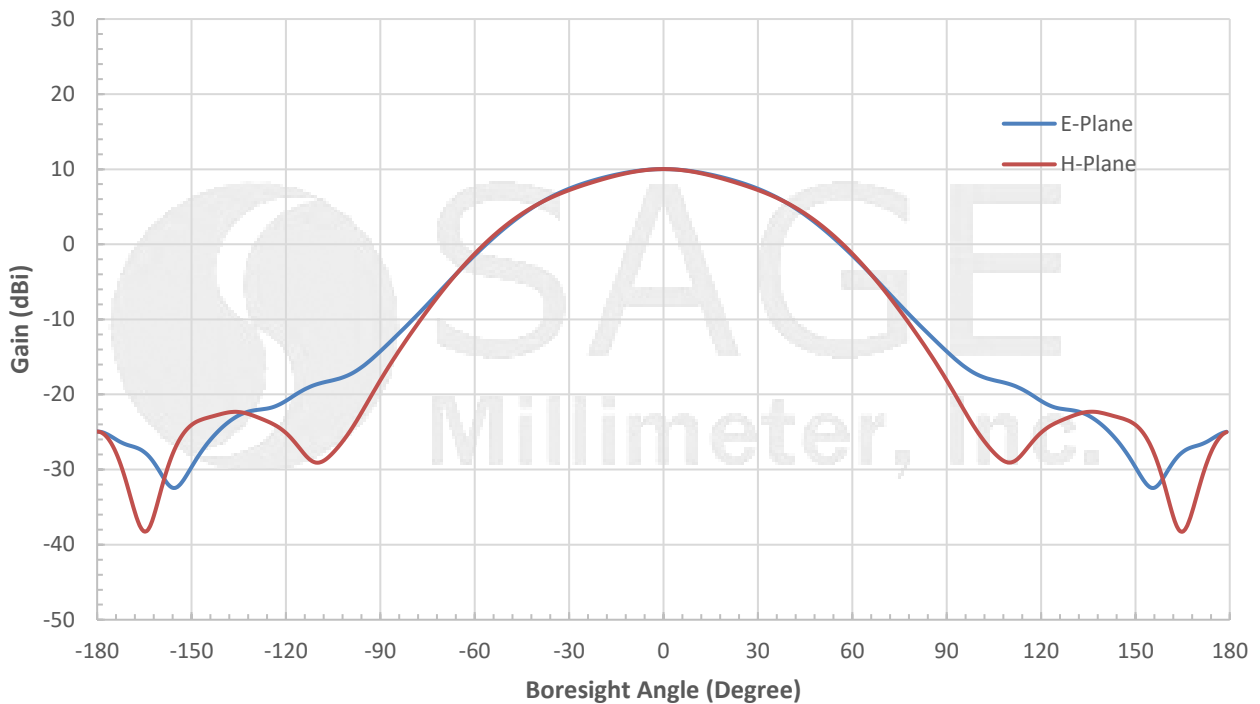
| Item | Specification |
|--------------|--|
| Antenna Port | 0.165" Diameter Circular Waveguide with UG-385/U-M Anti-Cocking Flange |
| Material | Brass |
| Finish | Gold Plated |
| Weight | 1.0 Oz |
| Size | 0.75" (L) x 0.93" (Ø) |
| Outline | AH-CV10-165-A |



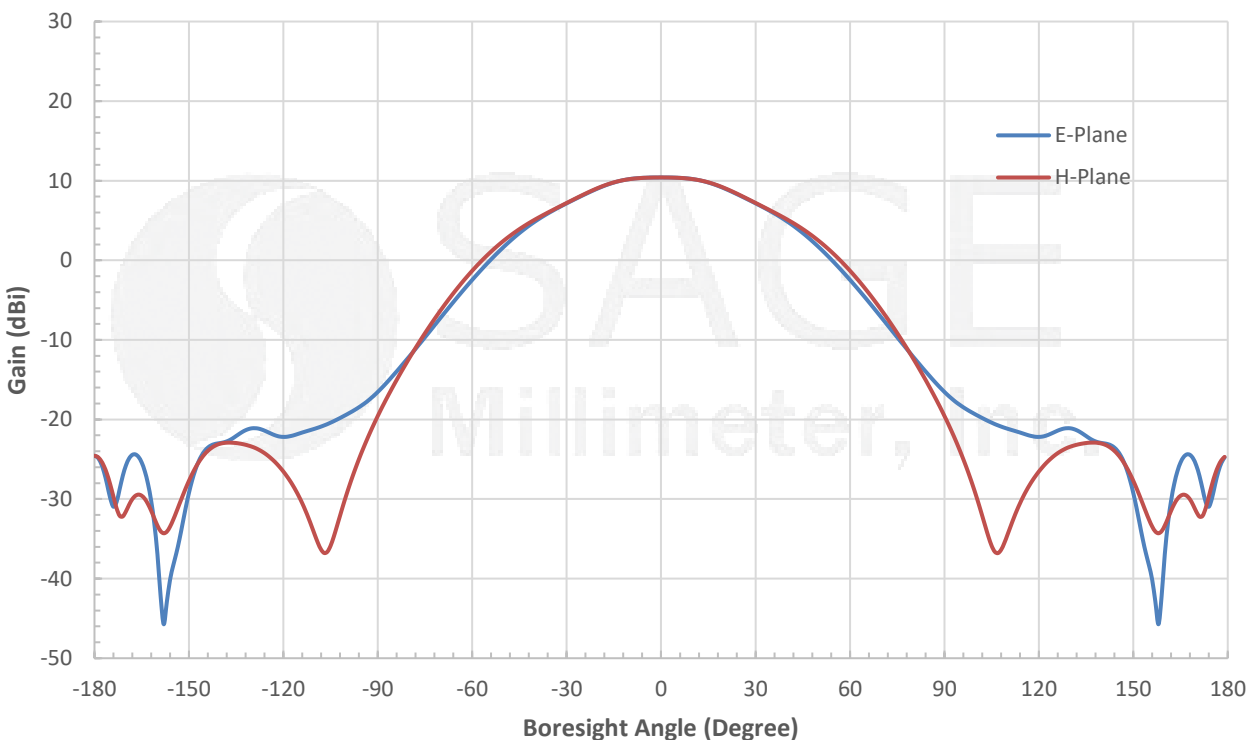


V-Band Choke Flange Feed Horn Antenna, 50 to 75 GHz, 10 dBi Gain

Simulated Antenna Patterns @ 50 GHz



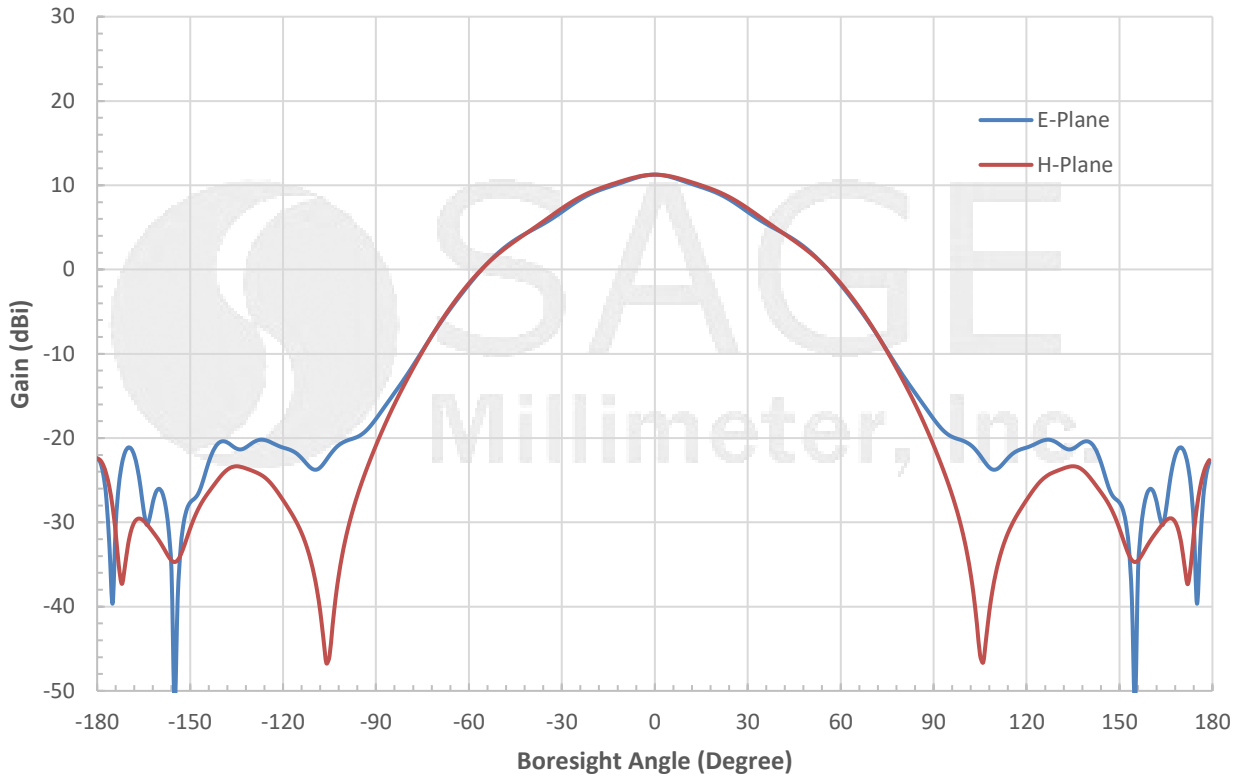
Simulated Antenna Patterns @ 62 GHz



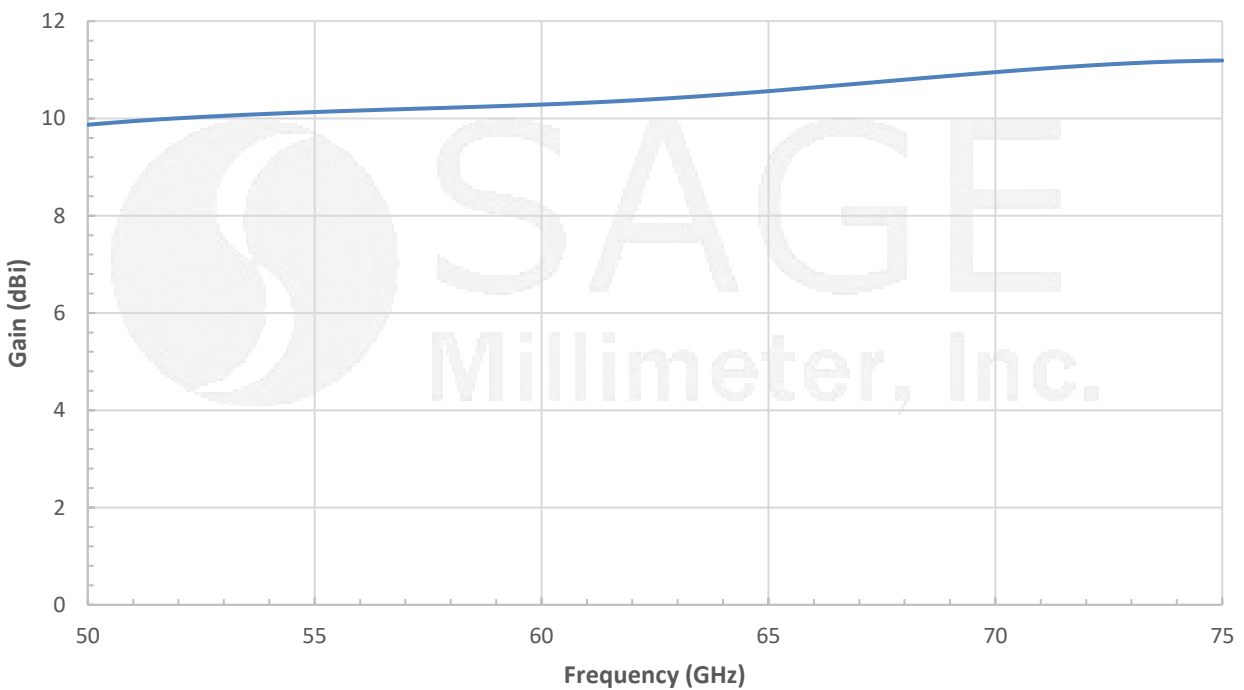


V-Band Choke Flange Feed Horn Antenna, 50 to 75 GHz, 10 dBi Gain

Simulated Antenna Patterns @ 75 GHz



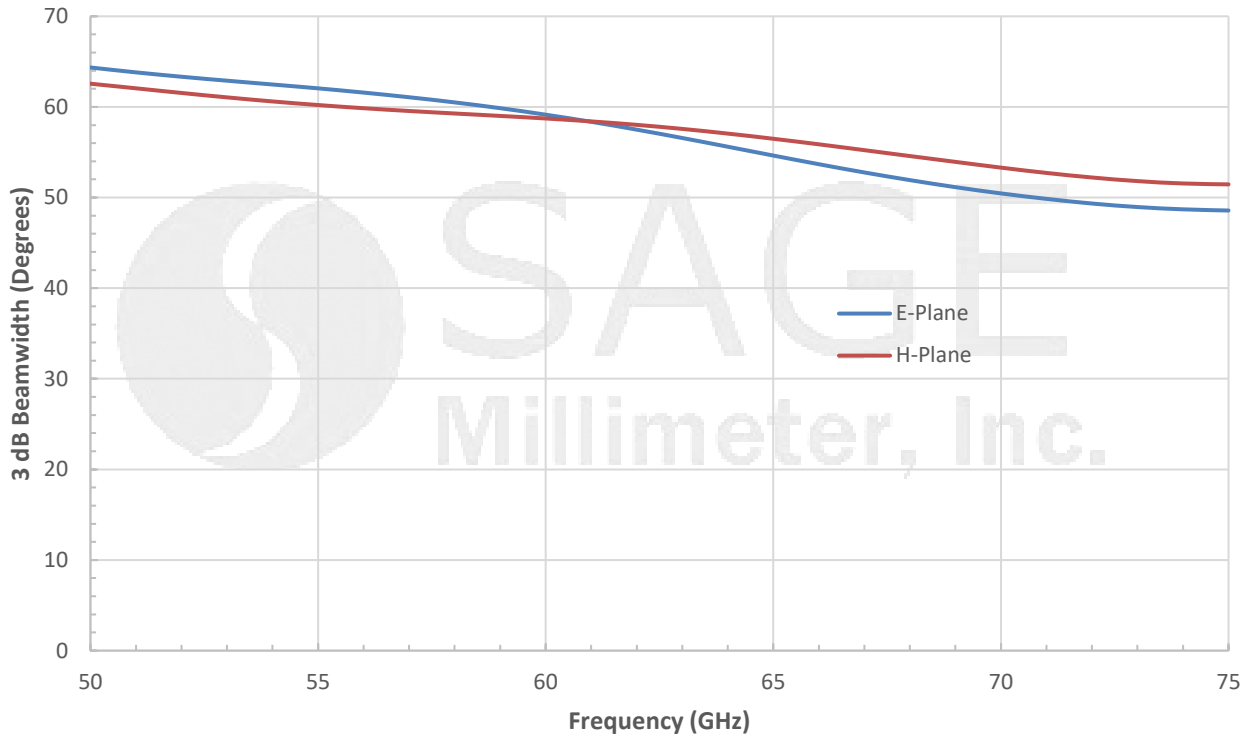
Simulated Gain vs. Frequency



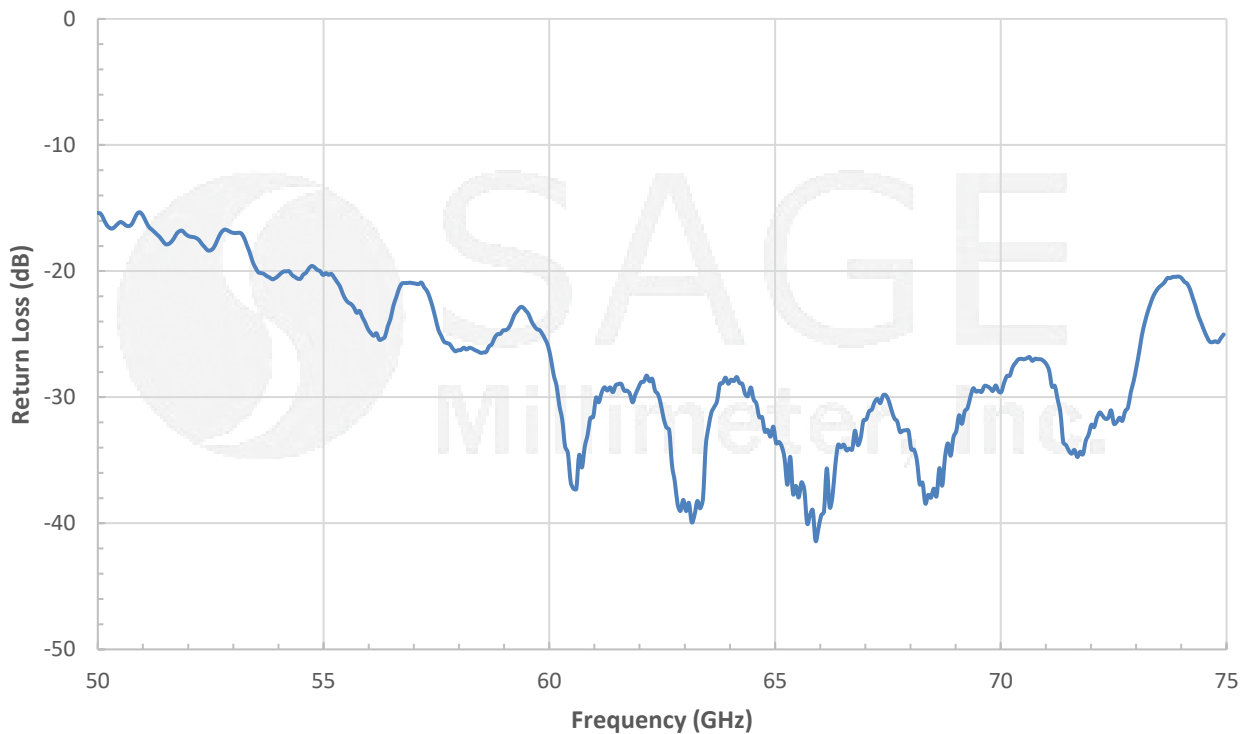


V-Band Choke Flange Feed Horn Antenna, 50 to 75 GHz, 10 dBi Gain

Simulated 3 dB Beamwidth vs. Frequency



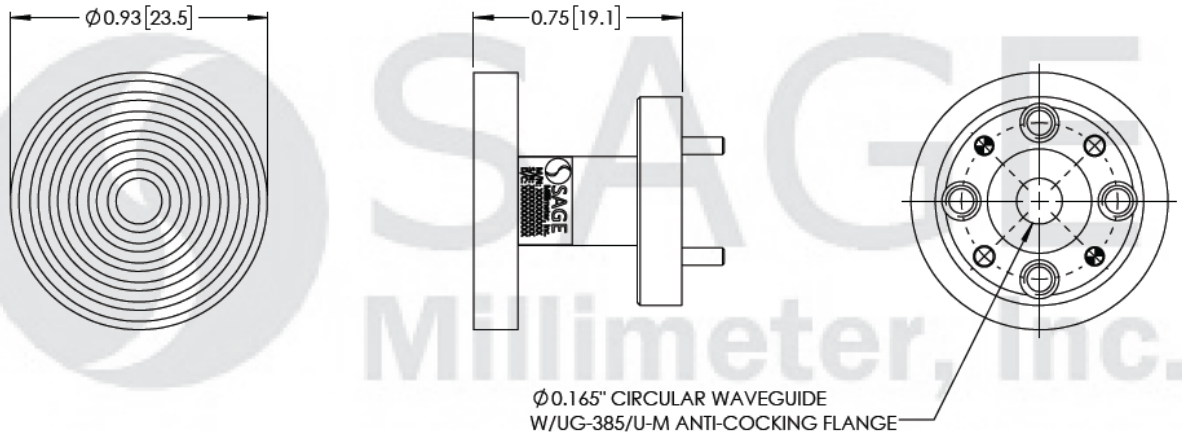
Typical Return Loss vs Frequency





V-Band Choke Flange Feed Horn Antenna, 50 to 75 GHz, 10 dBi Gain

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



Note:

- Antenna Patterns, Gain, & 3 dB Beamwidth data are simulated. Actual data may vary, slightly.
- Return Loss data 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 antenna or waveguide will cause performance degradation and possible device damage.

