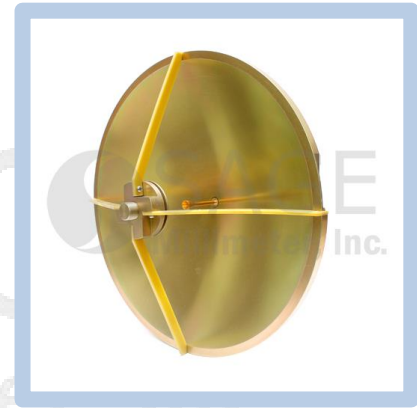


## E Band Cassegrain Antenna, 71 to 86 GHz, 9" Dish

### Descriptions:

**Model SAY-7138634212-12-X1** is an E band Cassegrain antenna that offers a nominal gain of 42 dBi and a half power beamwidth of 1.2 degrees typically across the frequency range of 71 to 86 GHz. The main reflector is fabricated with aluminum to offer a light weight and rugged mechanical structure. The corrugated horn is used to provide the best feed efficiency and the most uniform illumination. The input port is a WR-12 waveguide with a UG-387/U flange. The antenna can support linear polarized waveforms and is designed and manufactured for indoor and outdoor applications. By removing the mode transition, SAGE Millimeter model **SWT-12110-SB**, the input port becomes a 0.110" diameter circular waveguide that can support both linear and circular polarized waveforms.



### Features:

- Rugged Configuration and Low Profile
- Low Loss and High Gain
- High Return Loss

### Applications:

- Communication Systems
- Radar Systems
- EW Systems

### Electrical Specifications:

| Parameter                 | Minimum | Typical | Maximum |
|---------------------------|---------|---------|---------|
| Frequency*                | 71 GHz  |         | 86 GHz  |
| Gain                      |         | 42 dBi  |         |
| 3 dB Beamwidth            |         | 1.2°    |         |
| Sidelobes                 |         | -17 dB  |         |
| Return Loss               |         | 15 dB   |         |
| Specification Temperature |         | +25 °C  |         |
| Operating Temperature     | -40 °C  |         | +85 °C  |

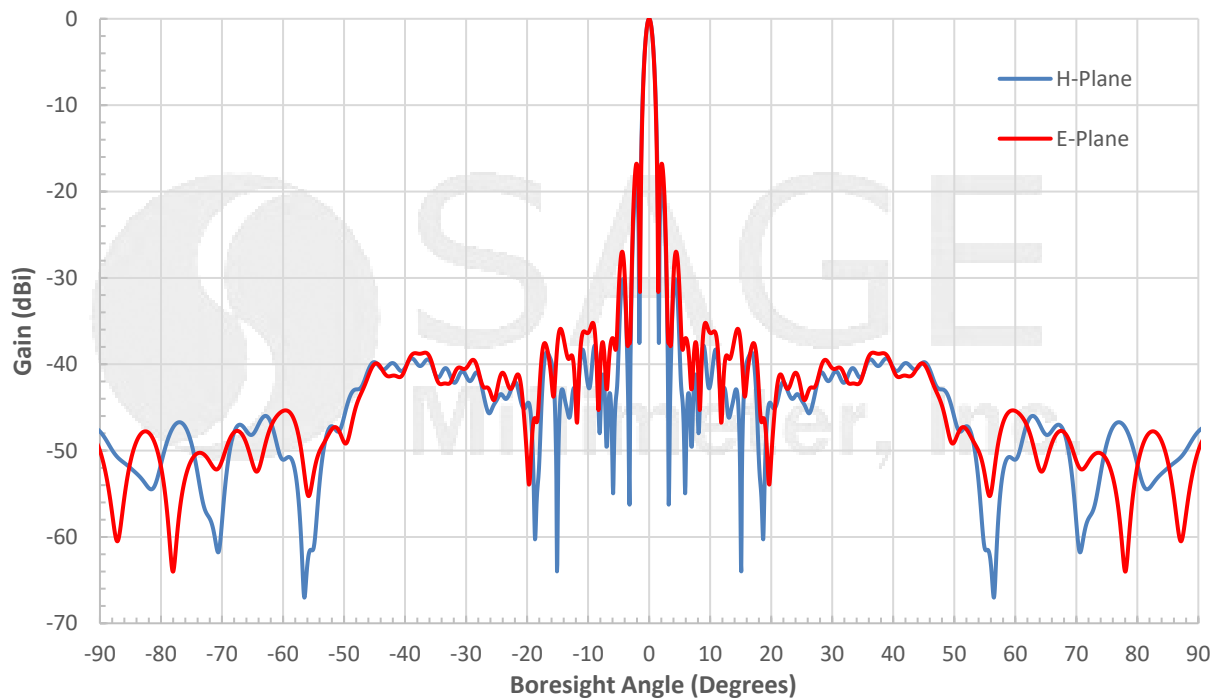
\*The antenna will cover a broader frequency range with some performance degradations.

### Mechanical Specifications:

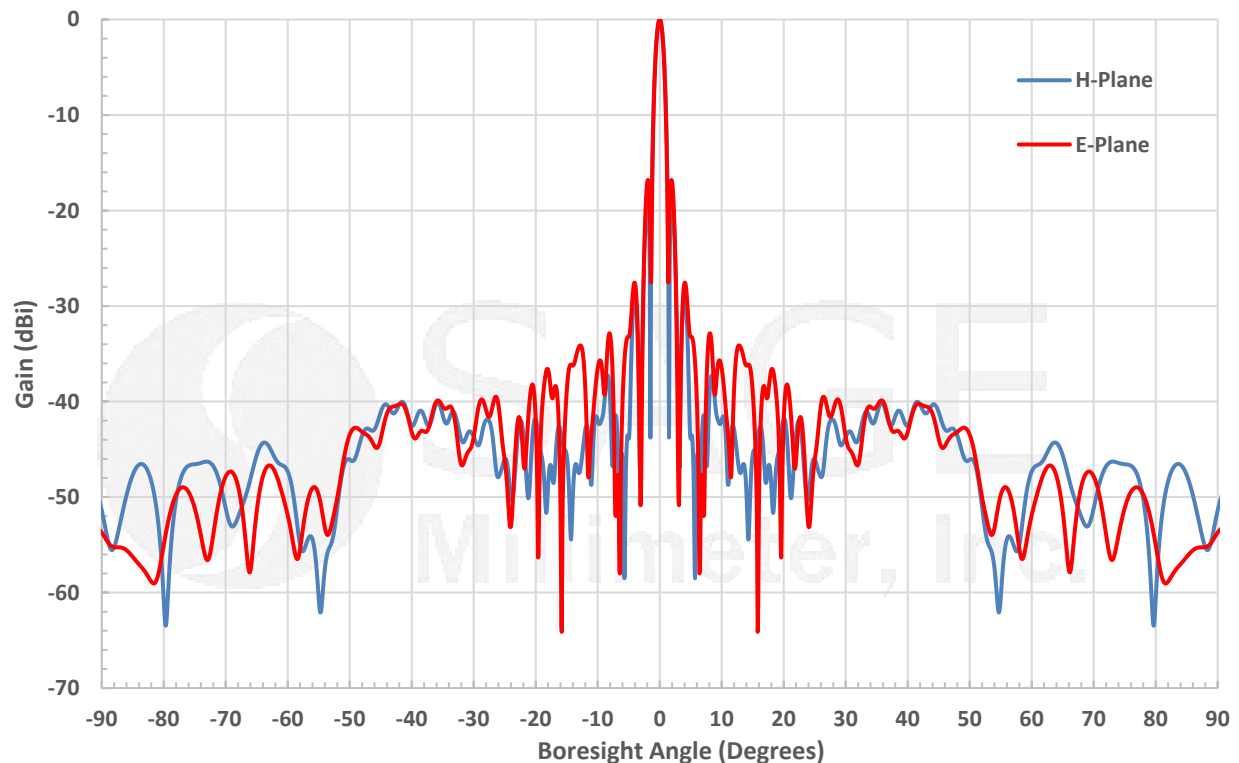
| Parameter          | Specification                        |
|--------------------|--------------------------------------|
| Connector          | WR-12 Waveguide with UG-387/U Flange |
| Reflector Material | Aluminum                             |
| Finish             | Chem Film                            |
| Weight             | 22 Oz                                |
| Reflector Diameter | 9"                                   |
| Outline            | AY-RE42-09-BX1                       |

## E Band Cassegrain Antenna, 71 to 86 GHz, 9" Dish

Simulated Antenna Pattern @ 71 GHz

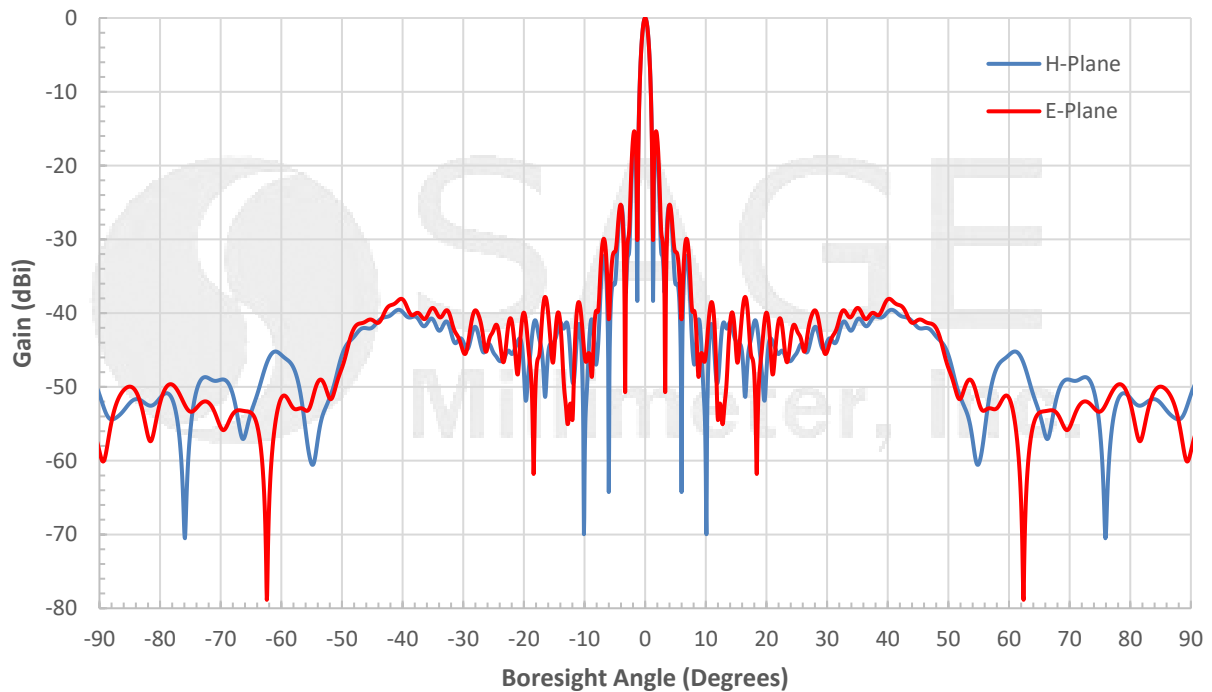


Simulated Antenna Pattern @ 76 GHz

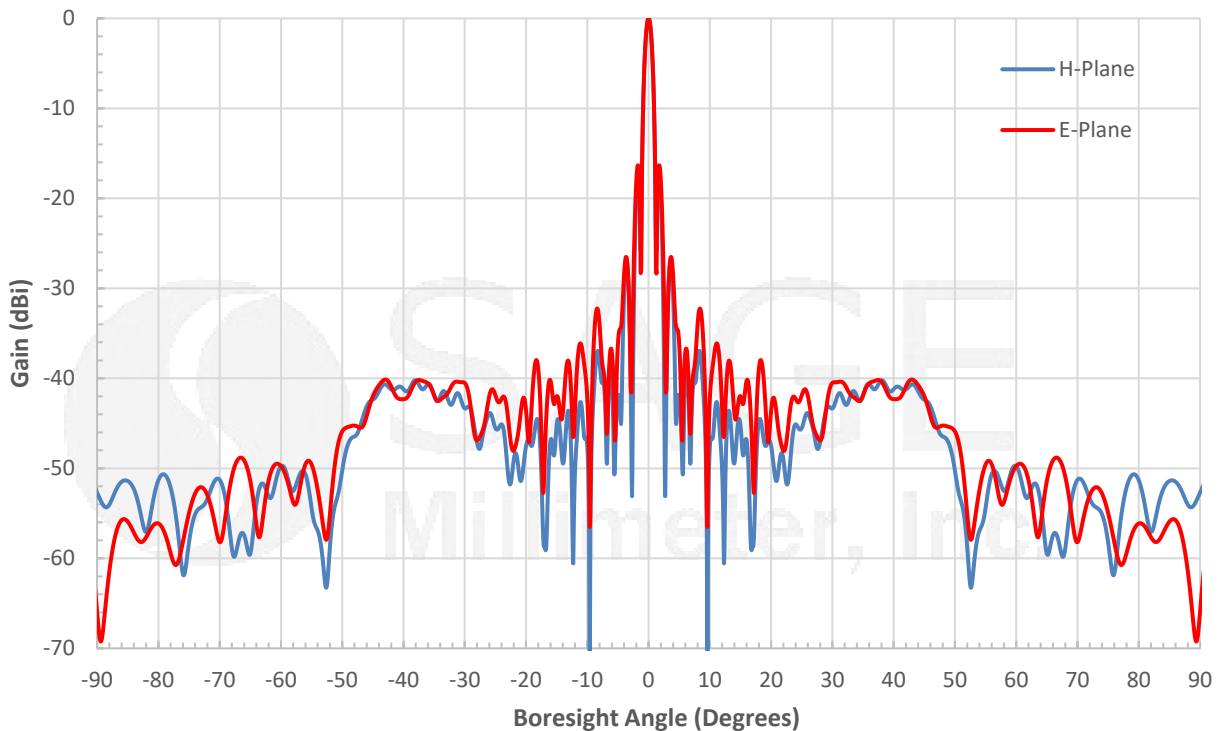


## E Band Cassegrain Antenna, 71 to 86 GHz, 9" Dish

### Simulated Typical Antenna Pattern @ 80 GHz

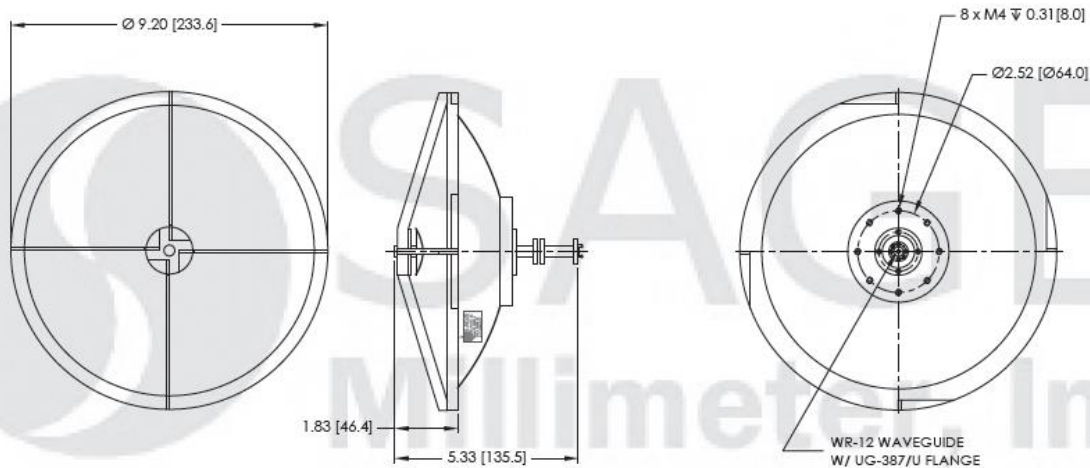


### Simulated Antenna Pattern @ 86 GHz



## E Band Cassegrain Antenna, 71 to 86 GHz, 9" Dish

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



**Note:**

- All data presented is simulated. Actual data may vary, slightly.
- SAGE Millimeter, Inc. reserves the right to change the information presented without notice.

**Caution:**

- Foreign objects in the waveguide will affect device performance and may damage the antenna.

