

## SAZ-2410-34-S1

### WR-34 Standard Gain Horn Antenna, 24 dBi Gain

**SAZ-2410-34-S1** is a standard gain horn antenna that operates from 22 GHz to 33 GHz. The antenna offers 24 dBi nominal gain, a typical half power beamwidth of 9.7 degrees on the E-plane and 11.0 degrees on the H-plane at the center frequency, respectively. The antenna supports linear polarized waveforms. The input of this antenna is a WR-34 waveguide with UG-1530/U flange. The standard gain horn is offered for antenna range calibration purpose mainly, but it can be also used for general purpose system set ups.



#### Electrical Specifications:

| Parameter                          | Minimum | Typical | Maximum |
|------------------------------------|---------|---------|---------|
| Frequency Range                    | 22 GHz  |         | 33 GHz  |
| Gain                               |         | 24 dBi  |         |
| Polarization                       |         | Linear  |         |
| 3 dB Beamwidth, E-Plane @ 27.5 GHz |         | 9.7°    |         |
| 3 dB Beamwidth, H-Plane @ 27.5 GHz |         | 11.0°   |         |
| Sidelobes, E-Plane                 |         | -13 dB  |         |
| Sidelobes, H-Plane                 |         | -36 dB  |         |
| Return Loss                        |         | 23 dB   |         |
| Specification Temperature          |         | +25°C   |         |
| Operating Temperature              | -40°C   |         | +85°C   |

#### Mechanical Specifications:

| Item             | Specification                    |
|------------------|----------------------------------|
| Antenna Port     | WR-34 Waveguide                  |
| UG-1530/U Flange | UG-1530/U Flange                 |
| Material         | Aluminum                         |
| Finish           | Gold Plated                      |
| Weight           | 4 Oz                             |
| Size             | 6.67" (L) X 3.09" (W) X 2.49"(H) |
| Outline          | AZ-324                           |

#### ECCN

EAR99

#### FEATURES

- Rectangular Waveguide Interface
- Precisely Machined and Gold Plated
- Linear Polarization
- High Return Loss

#### APPLICATIONS

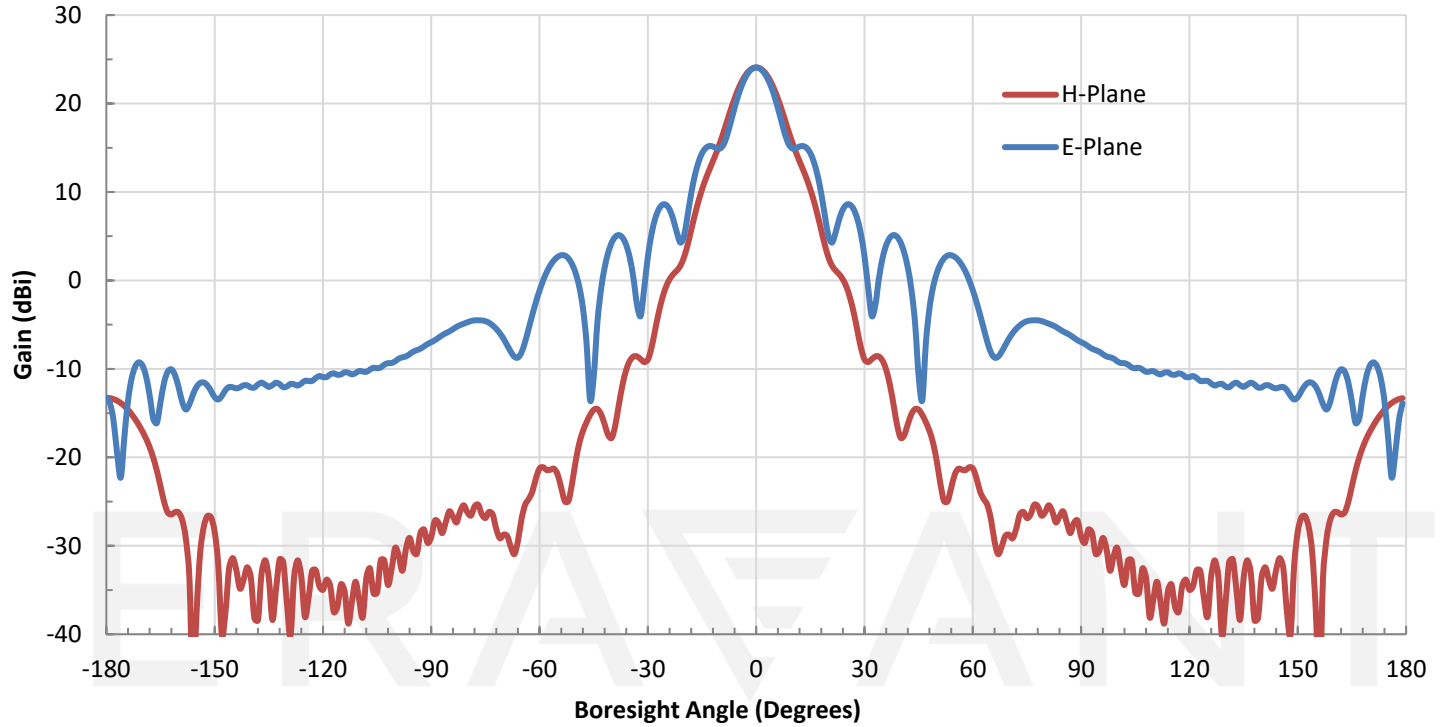
- Antenna Range
- Antenna Gain Measurements
- General System Setups
- Radar/Communication Systems

#### SUPPLEMENTAL DETAILS

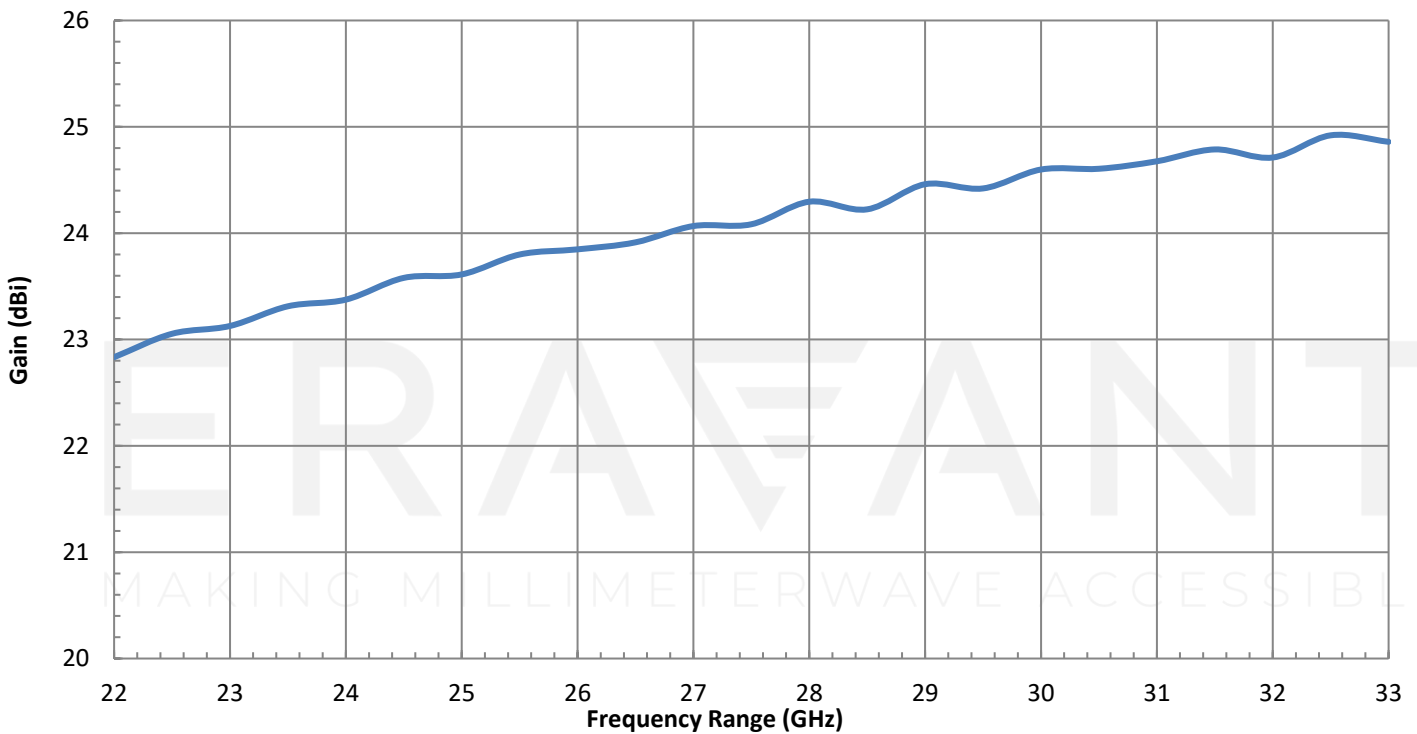


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### Typical Antenna Patterns @ 27.5 GHz



### Typical Gain vs. Frequency



### Simulated Gain vs. Frequency in Tabular Format

| Frequency (GHz) | Gain (dBi) | Frequency (GHz) | Gain (dBi) |
|-----------------|------------|-----------------|------------|
| 22              | 22.8       | 28              | 24.3       |
| 22.5            | 23.1       | 28.5            | 24.2       |
| 23              | 23.1       | 29              | 24.5       |
| 23.5            | 23.3       | 29.5            | 24.4       |
| 24              | 23.4       | 30              | 24.6       |
| 24.5            | 23.6       | 30.5            | 24.6       |
| 25              | 23.6       | 31              | 24.7       |
| 25.5            | 23.8       | 31.5            | 24.8       |
| 26              | 23.9       | 32              | 24.7       |
| 26.5            | 23.9       | 32.5            | 24.9       |
| 27              | 24.1       | 33              | 24.9       |
| 27.5            | 24.1       |                 |            |

### Simulated Half Power Beamwidth (E-Plane) vs. Frequency in Tabular Format

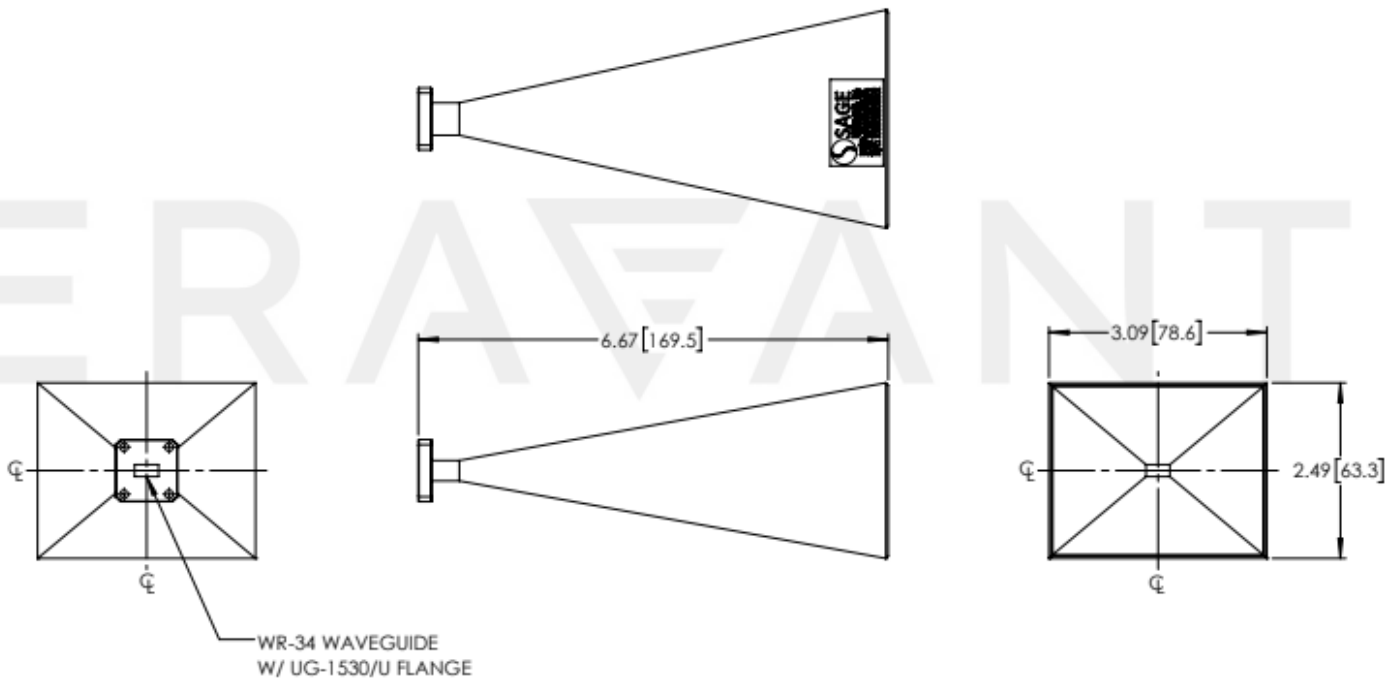
| Frequency (GHz) | Beamwidth (Degrees) | Beamwidth (Degrees) | Beamwidth (Degrees) |
|-----------------|---------------------|---------------------|---------------------|
| 22              | 11.8                | 28                  | 9.4                 |
| 22.5            | 11.5                | 28.5                | 9.4                 |
| 23              | 11.2                | 29                  | 9.1                 |
| 23.5            | 11.0                | 29.5                | 9.1                 |
| 24              | 10.9                | 30                  | 8.9                 |
| 24.5            | 10.6                | 30.5                | 8.9                 |
| 25              | 10.5                | 31                  | 8.6                 |
| 25.5            | 10.2                | 31.5                | 8.6                 |
| 26              | 10.2                | 32                  | 8.6                 |
| 26.5            | 9.9                 | 32.5                | 8.4                 |
| 27              | 9.8                 | 33                  | 8.4                 |
| 27.5            | 9.7                 |                     |                     |

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### Simulated Half Power Beamwidth (H-Plane) vs. Frequency in Tabular Format

| Frequency (GHz) | Beamwidth (Degrees) | Frequency (GHz) | Beamwidth (Degrees) |
|-----------------|---------------------|-----------------|---------------------|
| 22              | 13.2                | 28              | 10.9                |
| 22.5            | 12.8                | 28.5            | 10.8                |
| 23              | 12.7                | 29              | 10.6                |
| 23.5            | 12.4                | 29.5            | 10.6                |
| 24              | 12.2                | 30              | 10.4                |
| 24.5            | 12.1                | 30.5            | 10.4                |
| 25              | 11.8                | 31              | 10.2                |
| 25.5            | 11.7                | 31.5            | 10.1                |
| 26              | 11.5                | 32              | 10.1                |
| 26.5            | 11.3                | 32.5            | 9.9                 |
| 27              | 11.2                | 33              | 9.9                 |
| 27.5            | 11.0                |                 |                     |

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



**NOTE:**

- All data presented is simulated by a full EM simulator. Eravant recommends using simulated data over measured for pyramidal horn antenna for accuracy. See Blog [here](#) for further information.
- Eravant reserves the right to change the information presented without notice.

**CAUTION:**

- If a waveguide is present, any foreign objects in the waveguide will cause performance degradation and may damage or destroy the unit.
- Any foreign objects in the antenna will cause performance degradation and possible device damage.

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