

## WR-08 Standard Gain Horn Antenna, 24 dBi Gain

### Description:

**Model SAZ-2410-08-S1** is a F-band standard gain horn antenna that operates from 90 GHz to 140 GHz. The antenna offers 24 dBi nominal gain, a typical half power beamwidth of 9.6 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-08 waveguide with UG-387/U-M 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.



### 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

### Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency	90 GHz		140 GHz
Gain		24 dBi	
Polarization		Linear	
3 dB Beamwidth, E-Plane @ 115GHz		9.6°	
3 dB Beamwidth, H-Plane @ 115GHz		11.0°	
Sidelobes, E-Plane		-13 dB	
Sidelobes, H-Plane		-36 dB	
Return Loss		23 dB	
Specification Temperature		+25 °C	
Operation Temperature	-40 °C		+85 °C

### Mechanical Specifications:

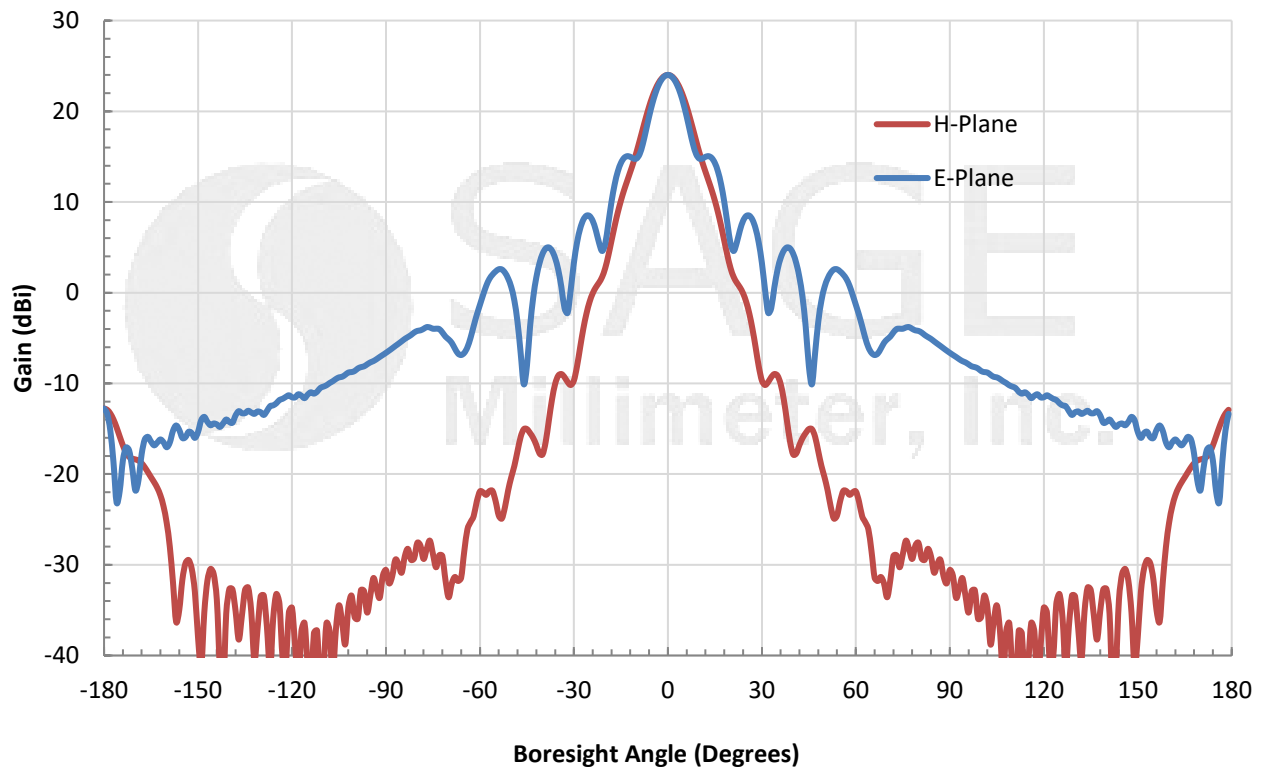
Item	Specification
Antenna Port	WR-08 Waveguide
Flange Type	UG-387/U-M Flange
Size	1.77" (L) X 0.82" (W) X 0.68" (H)
Material	Brass
Finish	Gold Plated
Weight	0.759 Oz
Outline	AZ-F24



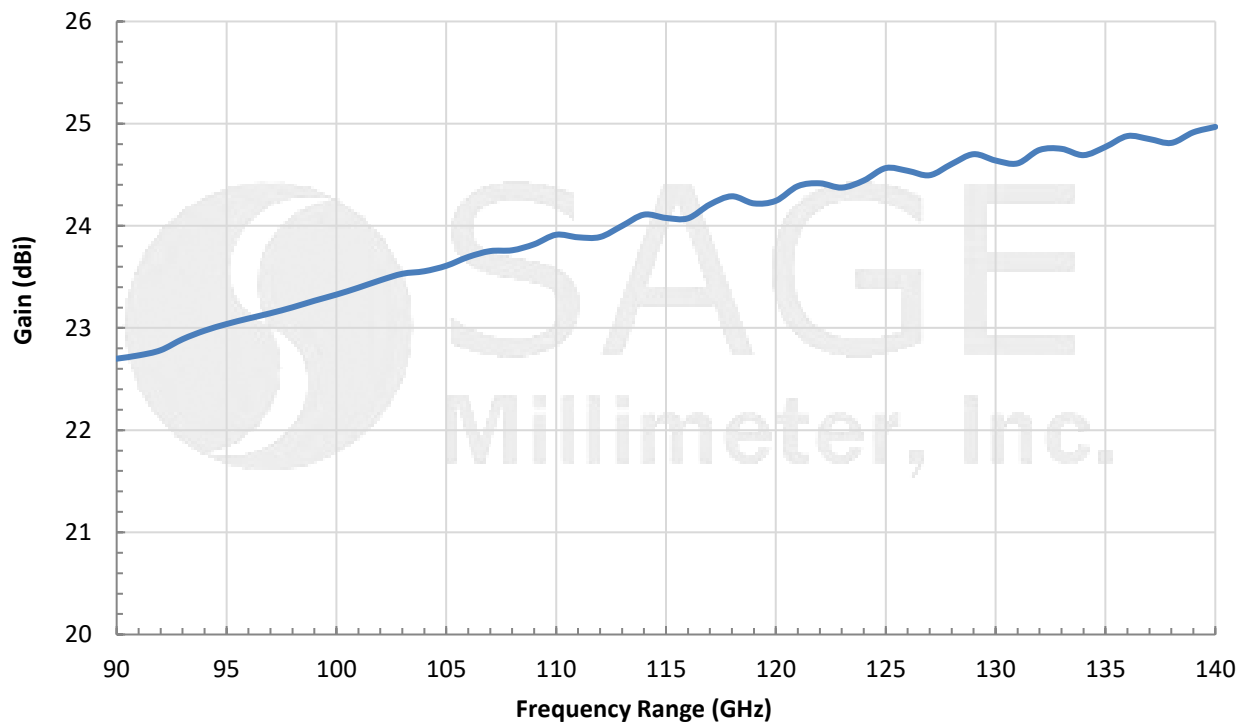


## WR-08 Standard Gain Horn Antenna, 24 dBi Gain

### Simulated Antenna Patterns @ 115 GHz



### Simulated Gain vs. Frequency



## WR-08 Standard Gain Horn Antenna, 24 dBi Gain

## Simulated Gain vs. Frequency in Tabular Format

Frequency (GHz)	Gain (dBi)	Frequency (GHz)	Gain (dBi)
90	22.7	116	24.1
91	22.7	117	24.2
92	22.8	118	24.3
93	22.9	119	24.2
94	23.0	120	24.2
95	23.0	121	24.4
96	23.1	122	24.4
97	23.1	123	24.4
98	23.2	124	24.4
99	23.3	125	24.6
100	23.3	126	24.5
101	23.4	127	24.5
102	23.5	128	24.6
103	23.5	129	24.7
104	23.6	130	24.6
105	23.6	131	24.6
106	23.7	132	24.7
107	23.8	133	24.8
108	23.8	134	24.7
109	23.8	135	24.8
110	23.9	136	24.9
111	23.9	137	24.9
112	23.9	138	24.8
113	24.0	139	24.9
114	24.1	140	25.0
115	24.1		



## WR-08 Standard Gain Horn Antenna, 24 dBi Gain

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

Frequency (GHz)	Beamwidth (Degrees)	Frequency (GHz)	Beamwidth (Degrees)
90	12.8	116	10.9
91	12.6	117	10.8
92	12.4	118	10.7
93	12.4	119	10.7
94	12.3	120	10.7
95	12.2	121	10.6
96	12.1	122	10.6
97	12.1	123	10.6
98	12.0	124	10.5
99	11.9	125	10.4
100	11.8	126	10.4
101	11.8	127	10.4
102	11.7	128	10.3
103	11.6	129	10.2
104	11.6	130	10.3
105	11.5	131	10.2
106	11.4	132	10.1
107	11.3	133	10.1
108	11.3	134	10.1
109	11.3	135	10.0
110	11.1	136	9.9
111	11.1	137	10.0
112	11.1	138	10.0
113	11.0	139	9.7
114	10.9	140	9.6
115	10.9		



## WR-08 Standard Gain Horn Antenna, 24 dBi Gain

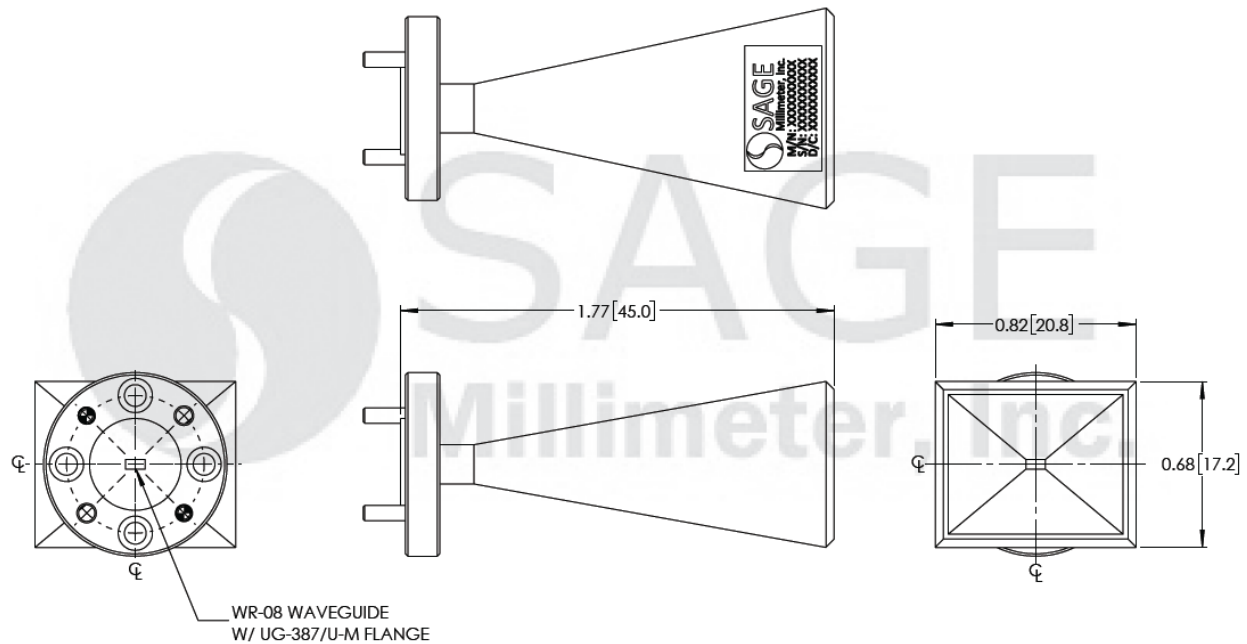
## Simulated Half Power Beamwidth (E-Plane) vs. Frequency in Tabular Format

Frequency (GHz)	Beamwidth (Degrees)	Frequency (GHz)	Beamwidth (Degrees)
90	11.6	116	9.5
91	11.4	117	9.1
92	11.4	118	8.7
93	11.3	119	8.8
94	11.2	120	9.0
95	11.1	121	8.6
96	11.0	122	8.3
97	11.0	123	8.4
98	10.9	124	8.4
99	10.8	125	8.0
100	10.7	126	7.9
101	10.7	127	8.1
102	10.6	128	8.0
103	10.5	129	7.6
104	10.5	130	7.6
105	10.4	131	7.8
106	10.3	132	7.6
107	10.2	133	7.3
108	10.2	134	7.5
109	10.2	135	7.5
110	10.0	136	7.2
111	9.9	137	7.0
112	10.0	138	7.2
113	9.8	139	7.2
114	9.3	140	6.8
115	9.3		



## WR-08 Standard Gain Horn Antenna, 24 dBi Gain

**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 standard gain horn antenna for accuracy. See Blog [here](#) for further information.
- The antenna electrical performance is guaranteed through accurate mechanical tolerance control. Each antenna is examined by CMM (coordinate Measuring Machine) inspection and measurement process.
- A calibration certificate can be issued with a fee under part number FTA-0150-S1-SAZ.
- Eravant reserves the right to change the information presented without notice.

**Caution:**

- Any foreign objects in the antenna will cause performance degradation and possible device damage.

