

## SAZ-2410-06-S1

### WR-06 Standard Gain Horn Antenna, 24 dBi Gain

**SAZ-2410-06-S1** is a D-band standard gain horn antenna that operates from 110 GHz to 170 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-06 waveguide with UG-387/U-M anti-cocking 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	110 GHz		170 GHz
Gain		24 dBi	
Polarization		Linear	
3 dB Beamwidth, E-Plane @ 140 GHz		9.7°	
3 dB Beamwidth, H-Plane @ 140 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
RF Ports	WR-06 Waveguide
Setting Type	UG-387/U-M Anti-Cocking Flange
Material	Brass
Finish	Gold Plated
Weight	0.68 Oz
Size	1.51" (L) X 0.69" (W) X 0.58" (H)
Outline	AZ-D24-A

#### ECCN

EAR99

#### FEATURES

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

#### APPLICATIONS

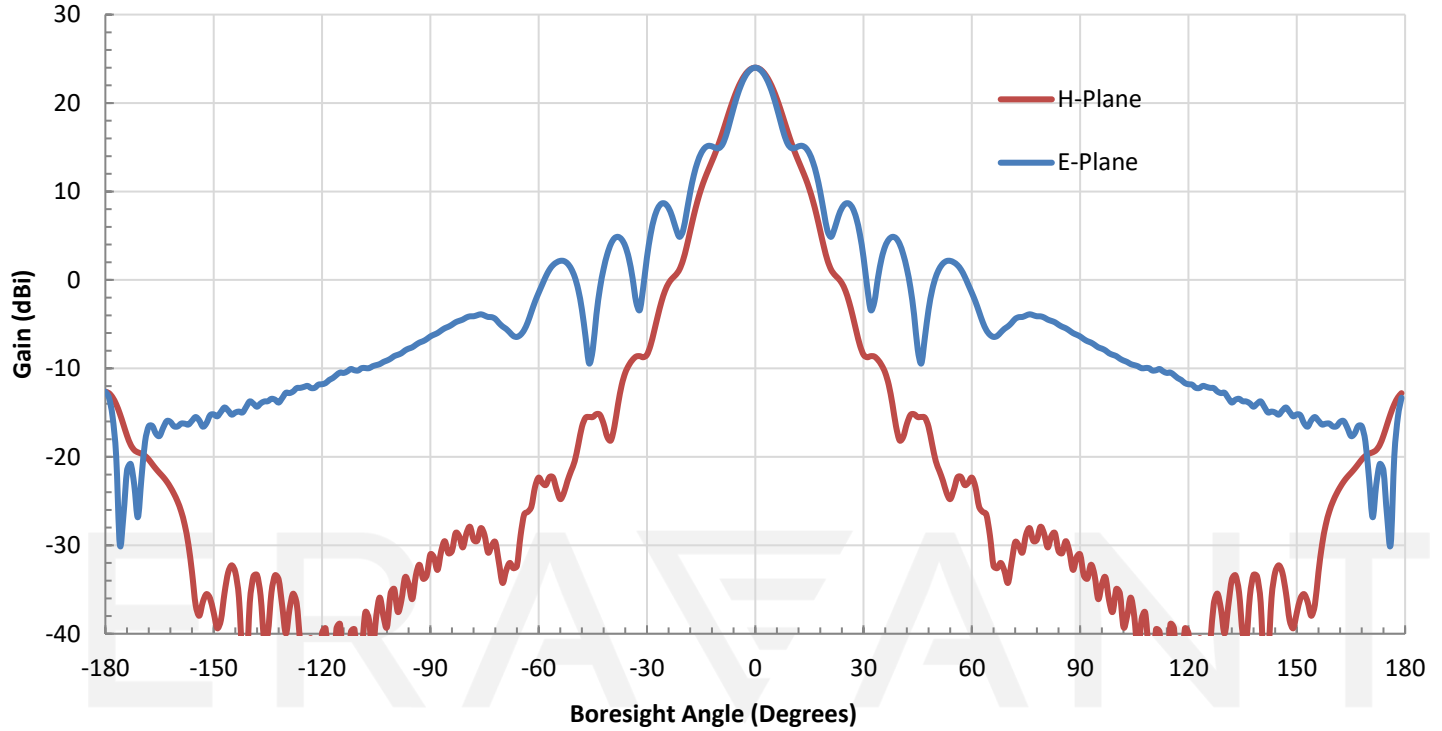
- Antenna Range
- Antenna Gain Measurements
- General System Setups
- Radar/Communication Systems

#### SUPPLEMENTAL DETAILS

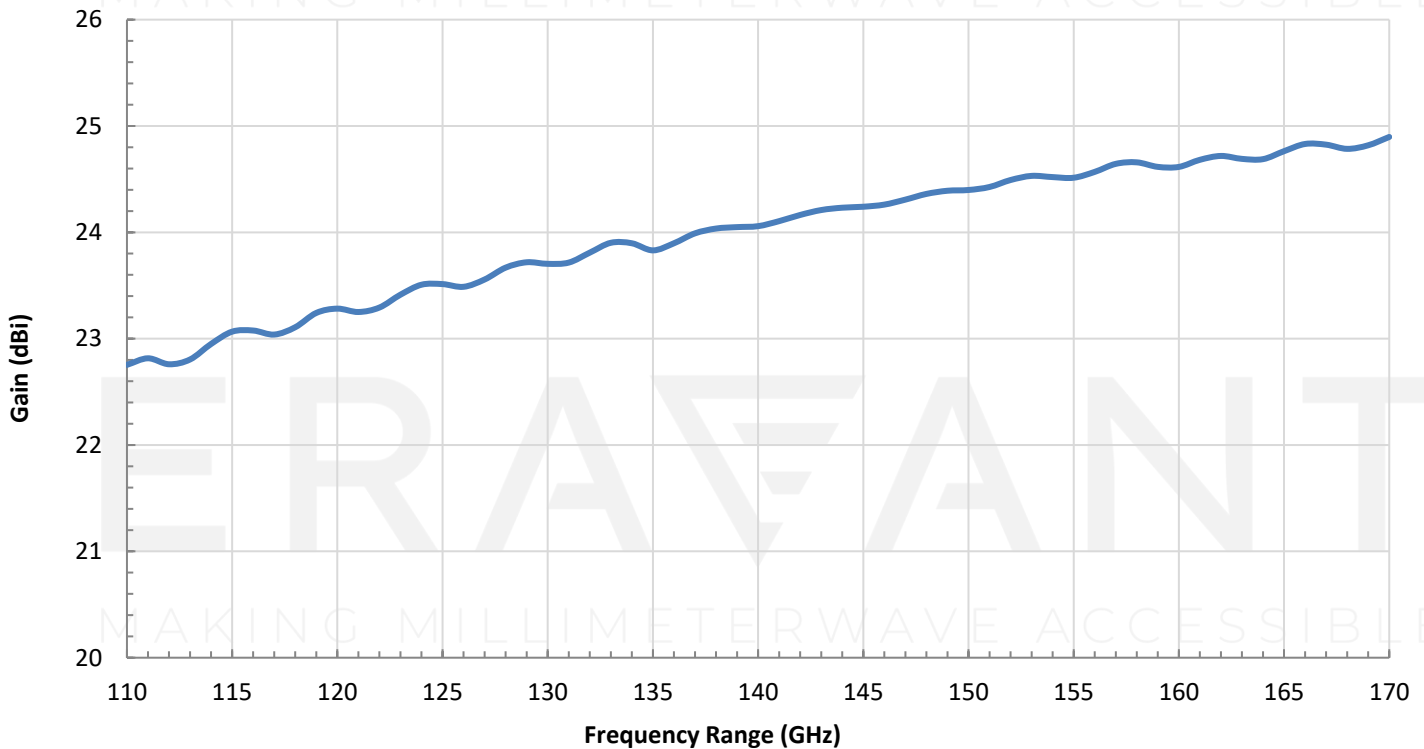


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### Simulated Antenna Patterns @ 140 GHz



### Simulated Gain vs. Frequency



Simulated Gain vs. Frequency in Tabular Format

Frequency (GHz)	Gain (dBi)	Frequency (GHz)	Gain (dBi)
110	22.8	141	24.1
111	22.8	142	24.2
112	22.8	143	24.2
113	22.8	144	24.2
114	23.0	145	24.2
115	23.1	146	24.3
116	23.1	147	24.3
117	23.0	148	24.4
118	23.1	149	24.4
119	23.2	150	24.4
120	23.3	151	24.4
121	23.3	152	24.5
122	23.3	153	24.5
123	23.4	154	24.5
124	23.5	155	24.5
125	23.5	156	24.6
126	23.5	157	24.6
127	23.6	158	24.7
128	23.7	159	24.6
129	23.7	160	24.6
130	23.7	161	24.7
131	23.7	162	24.7
132	23.8	163	24.7
133	23.9	164	24.7
134	23.9	165	24.8
135	23.8	166	24.8
136	23.9	167	24.8
137	24.0	168	24.8
138	24.0	169	24.8
139	24.1	170	24.9
140	24.1		



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

Frequency (GHz)	Beamwidth (Degrees)	Frequency (GHz)	Beamwidth (Degrees)
110	11.2	141	9.8
111	11.1	142	9.6
112	11.1	143	9.5
113	11.0	144	9.6
114	11.0	145	9.5
115	10.9	146	9.4
116	10.9	147	9.4
117	10.8	148	9.4
118	10.7	149	9.3
119	10.7	150	9.2
120	10.7	151	9.3
121	10.6	152	9.3
122	10.6	153	9.1
123	10.6	154	9.1
124	10.5	155	9.2
125	10.4	156	9.2
126	10.4	157	9.0
127	10.4	158	9.0
128	10.3	159	9.1
129	10.2	160	9.1
130	10.3	161	8.9
131	10.2	162	8.9
132	10.1	163	9.1
133	10.1	164	9.1
134	10.1	165	8.8
135	10.0	166	8.9
136	10.0	167	9.2
137	10.0	168	9.0
138	9.9	169	8.7
139	9.7	170	9.0
140	9.8		



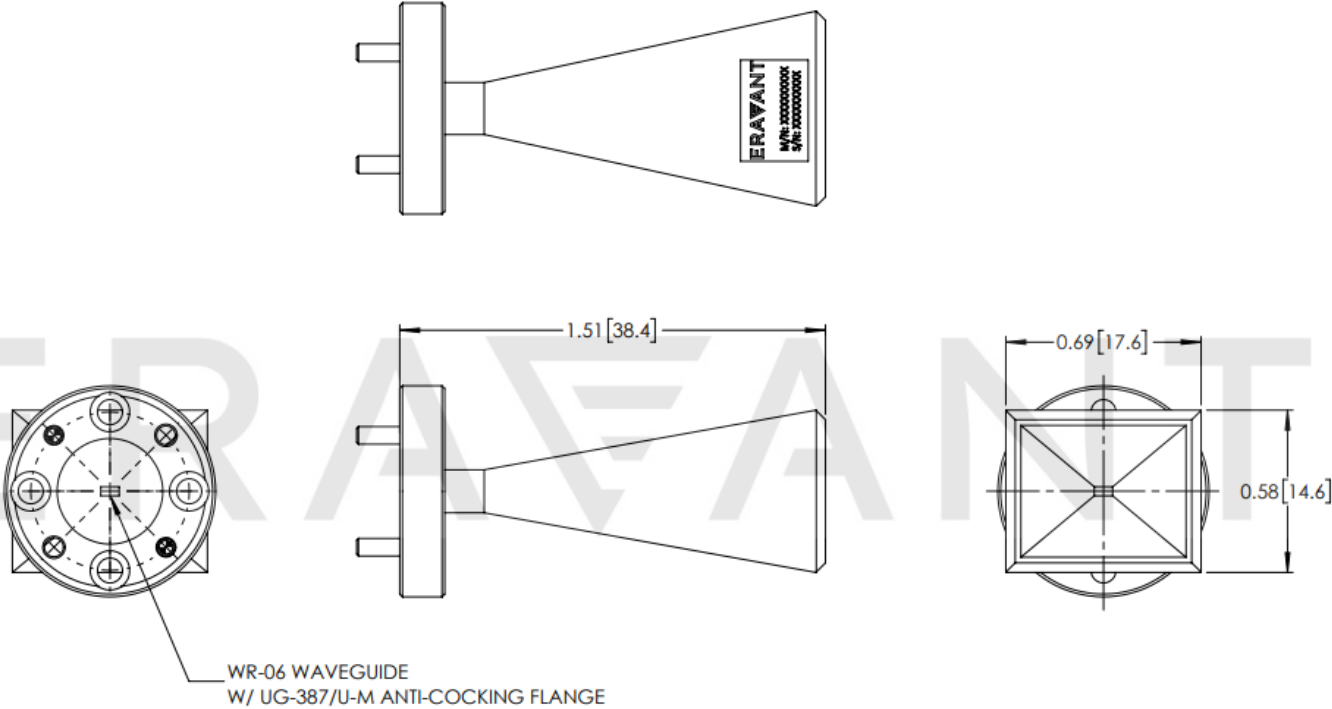
Simulated Half Power Beamwidth (H-Plane) vs. Frequency in Tabular Format

Frequency (GHz)	Beamwidth (Degrees)	Frequency (GHz)	Beamwidth (Degrees)
110	9.9	141	7.0
111	10.0	142	7.0
112	10.1	143	6.8
113	9.7	144	6.8
114	9.3	145	6.8
115	9.4	146	6.7
116	9.5	147	6.6
117	9.1	148	6.7
118	8.8	149	6.7
119	8.9	150	6.6
120	9.0	151	6.5
121	8.6	152	6.5
122	8.4	153	6.6
123	8.5	154	6.6
124	8.4	155	6.5
125	8.0	156	6.5
126	8.0	157	6.5
127	8.1	158	6.5
128	7.9	159	6.4
129	7.7	160	6.4
130	7.7	161	6.5
131	7.7	162	6.5
132	7.5	163	6.4
133	7.5	164	6.4
134	7.5	165	6.5
135	7.4	166	6.4
136	7.2	167	6.3
137	7.2	168	6.5
138	7.2	169	6.6
139	7.1	170	6.4
140	7.0		



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**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:**

- 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.