

## SAZ-2410-10-S1

### WR-10 Standard Gain Horn Antenna, 24 dBi Gain

**SAZ-2410-10-S1** is a W-band standard gain horn antenna that operates from 75 GHz to 110 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-10 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	75 GHz		110 GHz
Gain		24 dBi	
Polarization	Linear		
3 dB Beamwidth, E-Plane @ 92.5 GHz		9.7°	
3 dB Beamwidth, H-Plane @ 92.5 GHz		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-10 Waveguide
Flange Type	UG-387/U-M Anti-Cocking Flange
Size	2.13" (L) X 0.99" (W) X 0.82" (H)
Material	Brass
Finish	Gold Plated
Weight	1.368 Oz
Outline	AZ-W24-A

#### ECCN

EAR99

#### FEATURES

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

#### APPLICATIONS

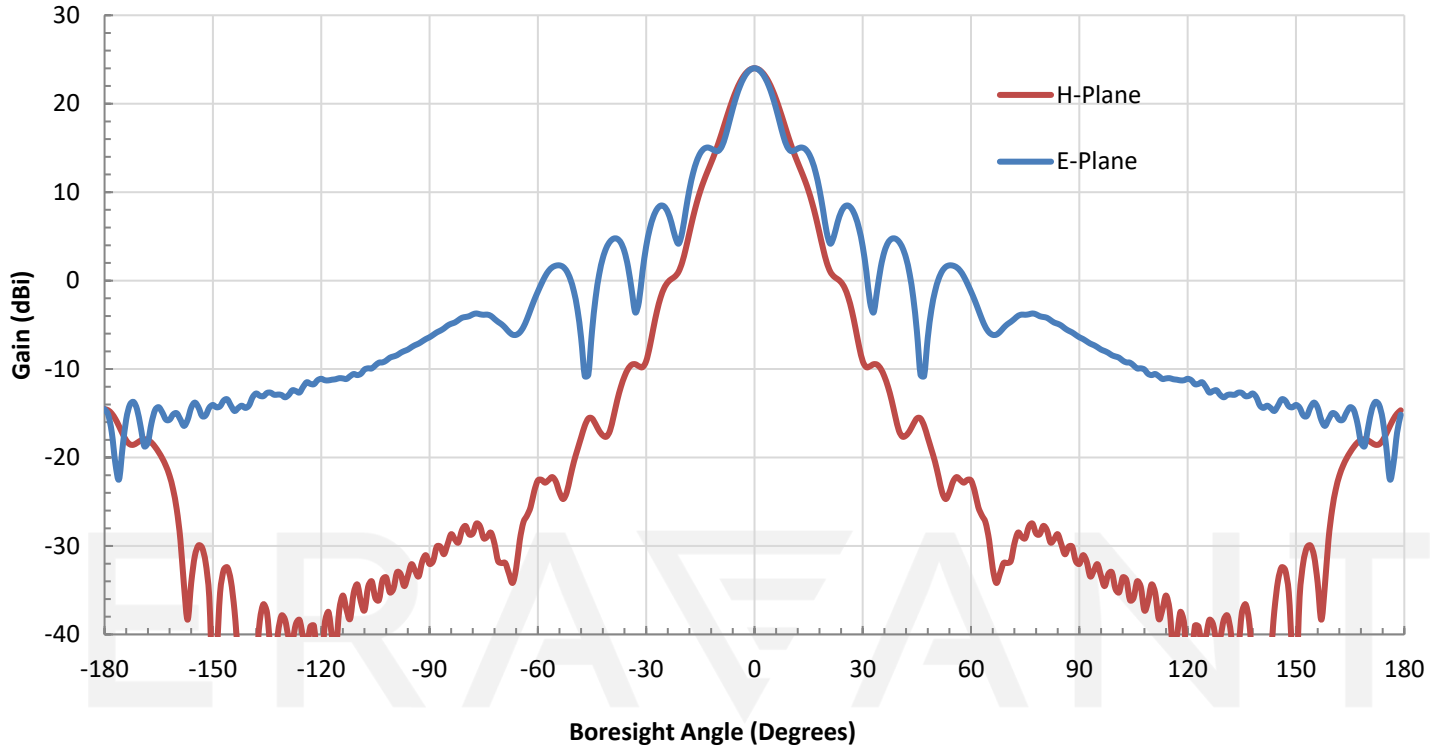
- Antenna Range
- Antenna Gain Measurements
- General System Setups
- Radar/Communication Systems

#### SUPPLEMENTAL DETAILS

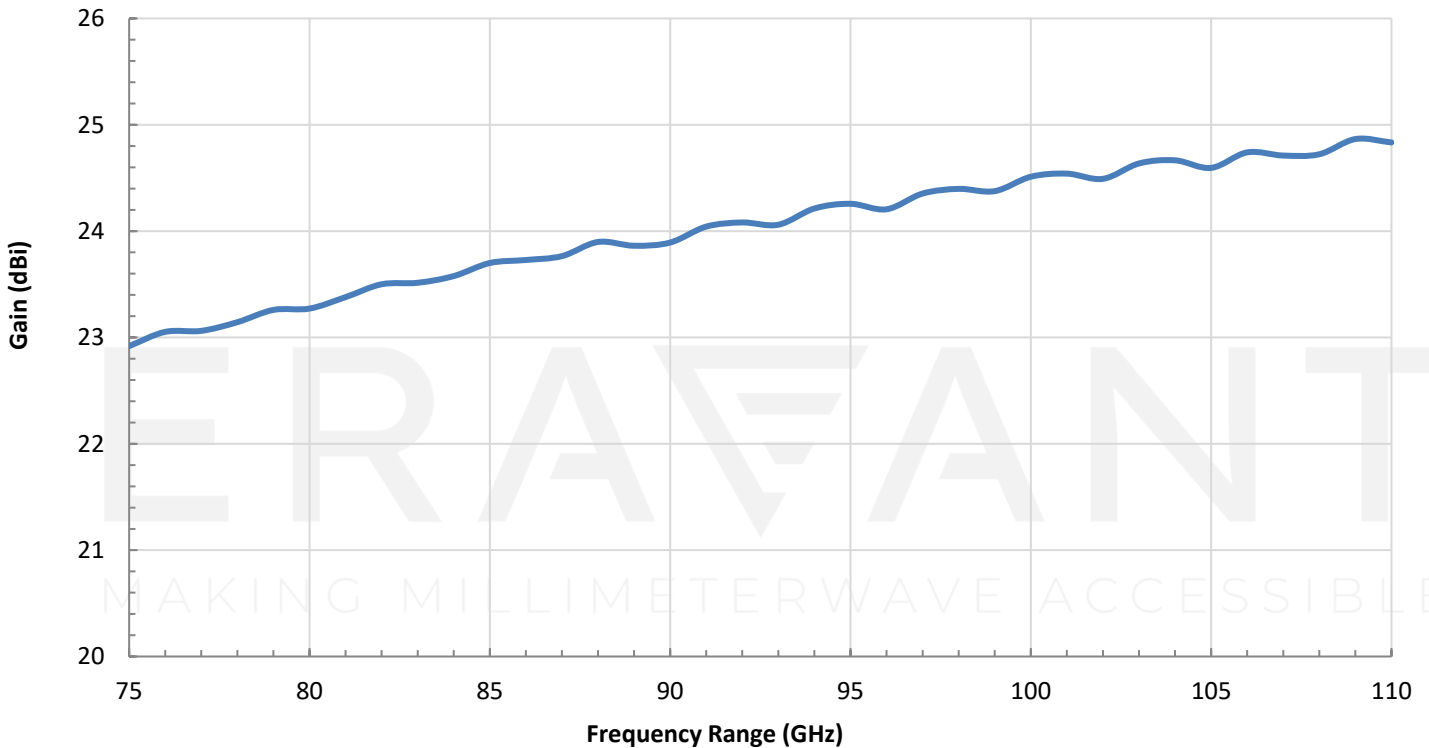


## SAZ-2410-10-S1

### Simulated Antenna Patterns @ 92 GHz

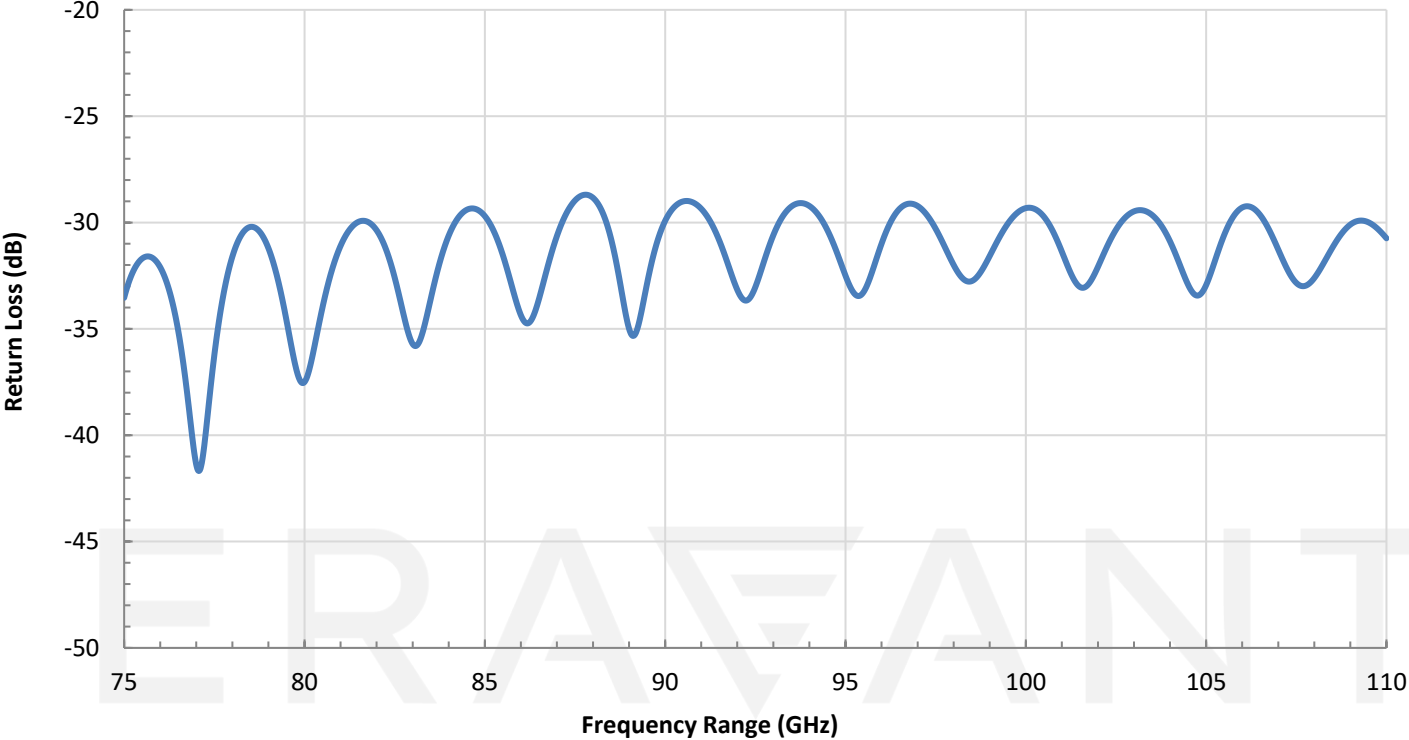


### Simulated Gain vs. Frequency

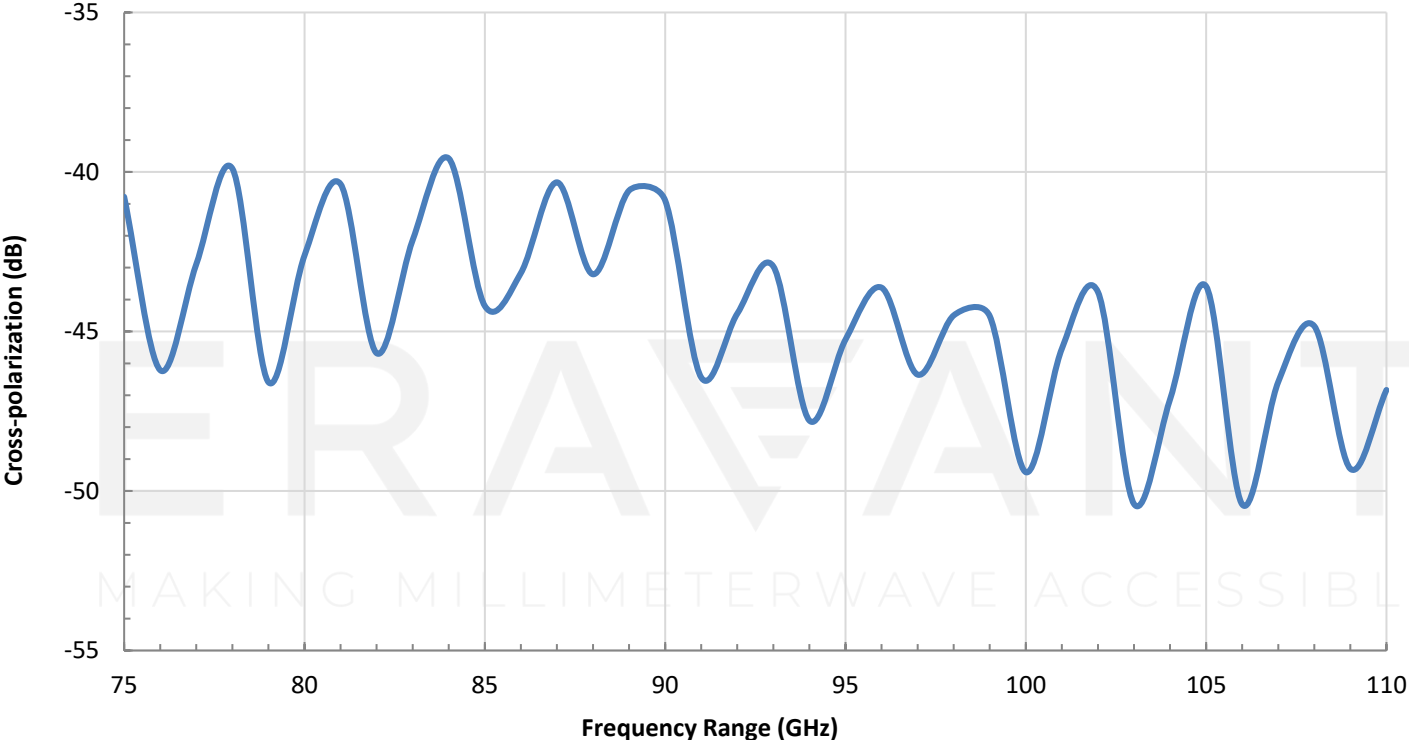


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Simulated Return Loss vs. Frequency



Simulated Cross-polarization vs. Frequency



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### Simulated Gain vs. Frequency in Tabular Format

Frequency (GHz)	Gain (dBi)	Frequency (GHz)	Gain (dBi)
75	22.9	93	24.1
76	23.1	94	24.2
77	23.1	95	24.3
78	23.1	96	24.2
79	23.3	97	24.4
80	23.3	98	24.4
81	23.4	99	24.4
82	23.5	100	24.5
83	23.5	101	24.5
84	23.6	102	24.5
85	23.7	103	24.6
86	23.7	104	24.7
87	23.8	105	24.6
88	23.9	106	24.7
89	23.9	107	24.7
90	23.9	108	24.7
91	24.0	109	24.9
92	24.1	110	24.8

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

Frequency (GHz)	Beamwidth (Degrees)	Frequency (GHz)	Beamwidth (Degrees)
75	12.4	93	10.9
76	12.3	94	10.8
77	12.1	95	10.7
78	12.1	96	10.7
79	12.0	97	10.6
80	11.8	98	10.5
81	11.8	99	10.6
82	11.7	100	10.4
83	11.5	101	10.3
84	11.5	102	10.4
85	11.4	103	10.3
86	11.3	104	10.2
87	11.3	105	10.3
88	11.2	106	10.1
89	11.1	107	10.1
90	11.1	108	10.2
91	11.0	109	9.7
92	10.9	110	10.0

MAKING MILLIMETERWAVE ACCESSIBLE

## SAZ-2410-10-S1

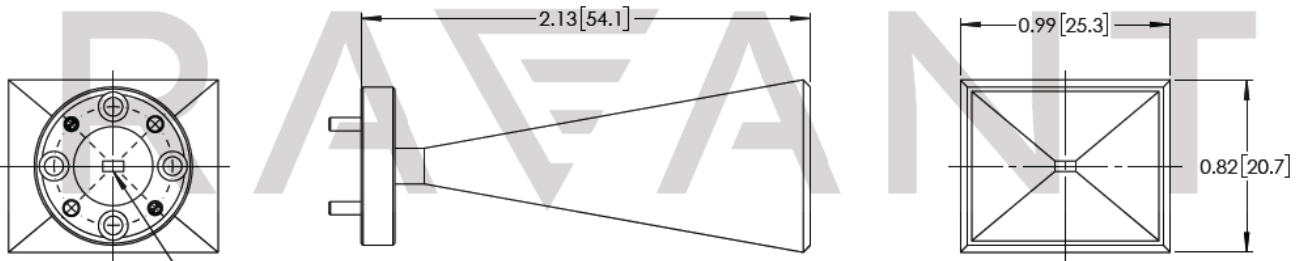
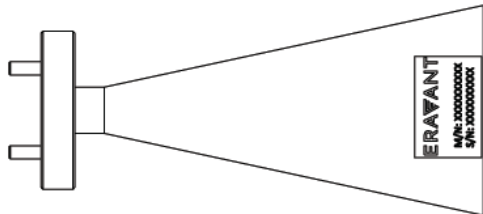
### Simulated Half Power Beamwidth (E-Plane) vs. Frequency in Tabular Format

Frequency (GHz)	Beamwidth (Degrees)	Frequency (GHz)	Beamwidth (Degrees)
75	11.3	93	9.5
76	11.1	94	9.2
77	11.0	95	8.9
78	11.0	96	8.9
79	10.8	97	8.8
80	10.8	98	8.4
81	10.7	99	8.4
82	10.6	100	8.3
83	10.5	101	8.0
84	10.5	102	8.0
85	10.3	103	7.9
86	10.3	104	7.6
87	10.2	105	7.7
88	10.1	106	7.7
89	10.0	107	7.4
90	10.0	108	7.4
91	9.7	109	7.3
92	9.4	110	7.0

#### Mechanical Outline:

Unless otherwise specified, all dimensions are in inches [millimeters]

MAKING MILLIMETERED WAVE ACCESSIBLE



WR-10 WAVEGUIDE  
W/ UG-387/U-M ANTI-COCKING FLANGE

**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.

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