

## SAL-7531142805-10-S1

## W-Band Lens Corrected Antenna

**SAL-7531142805-10-S1** is a W-Band lens corrected antenna that operates from 75 to 110 GHz. At a center frequency of 94 GHz, the antenna delivers 28 dBi nominal gain, 5.3 degrees typical half power beamwidth on the E-plane, and 6.5 degrees typical half power beamwidth on the H-plane. The antenna employs a low loss lens to offer excellent aperture efficiency and low sidelobes levels. The lens corrected antenna is equipped with a standard WR-10 waveguide with UG-387/U-M flange as its input port. It supports linear polarized waveforms.



## Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency	75 GHz	94 GHz	110 GHz
Gain		28 dBi	
3 dB Beamwidth, E-Plane		5.3°	
3 dB Beamwidth, H-Plane		6.5°	
Sidelobes, E-Plane		-17 dB	
Sidelobes, H-Plane		-25 dB	
Polarization		Linear	
Return Loss		25 dB	
Specification Temperature		+25 °C	
Operating Temperature	-45 °C		+85 °C

## Mechanical Specifications:

Item	Specification
Antenna Port	WR-10 Waveguide with UG-387/U-M Flange
Lens Diameter	1.54"
Lens Material	HDPE
Dimensions	1.64" (Ø) x 2.83" (L)
Horn Material	Aluminum
Finish	Gold Plated
Weight	2.3 Oz
Outline	AL-RW28

## ECCN

EAR99

## FEATURES

- Center Fed
- Low Sidelobes
- Low Cross Polarization

## APPLICATIONS

- Radar Systems
- Communication Systems
- Sensor Systems

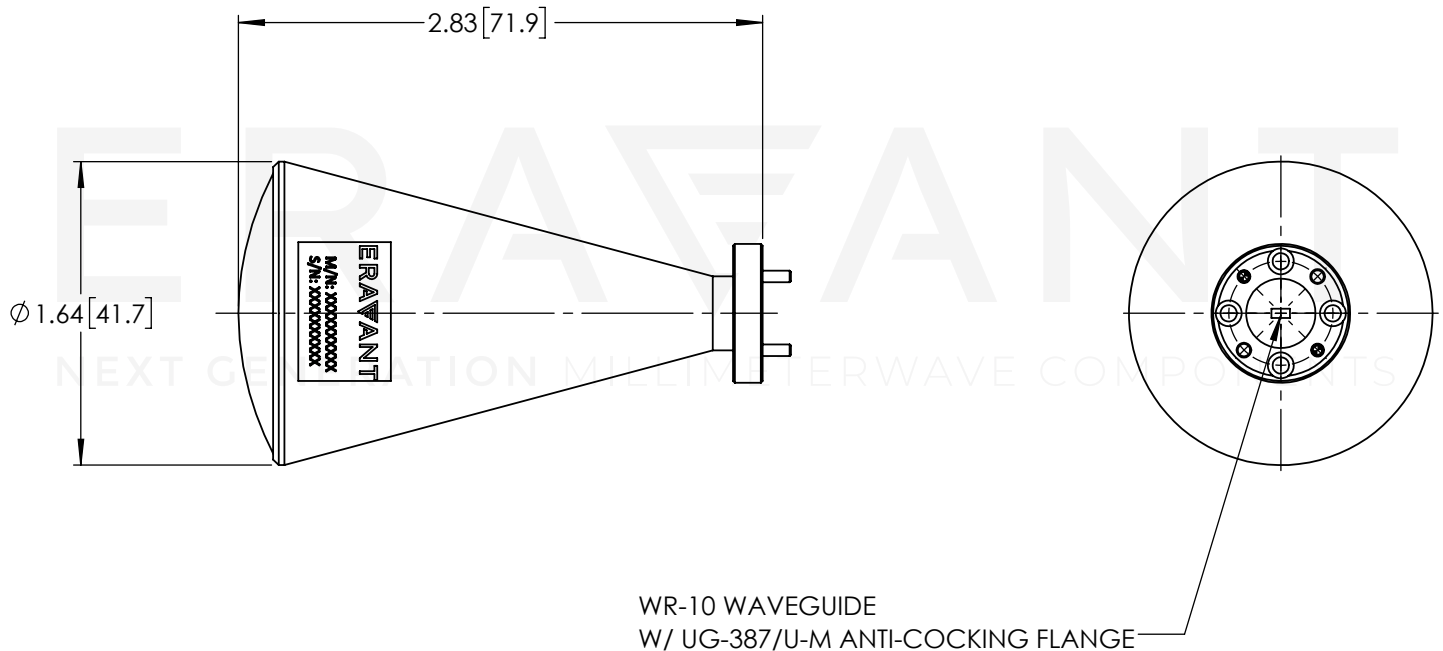
## SUPPLEMENTAL DETAILS



## SAL-7531142805-10-S1

### Mechanical Outline:

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



### NOTE:

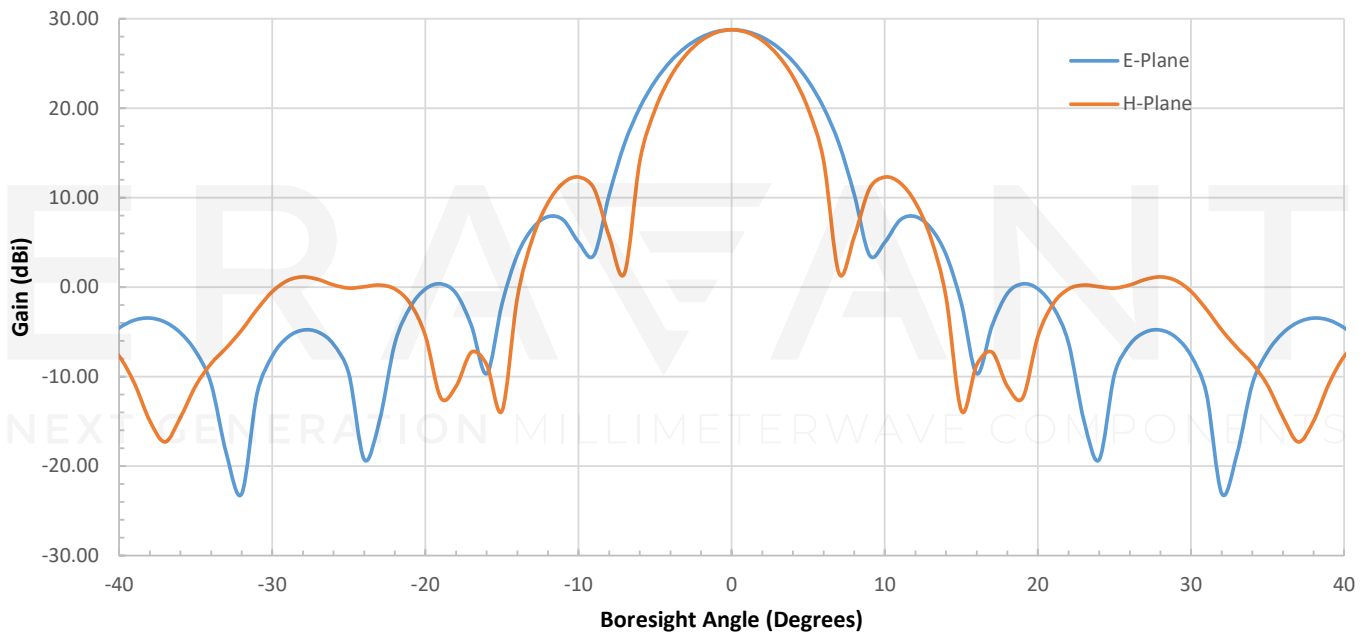
- On condition that test data is provided it is collected from a sample lot. Actual data may vary slightly from unit to unit. All testing is performed under +25 °C room temperature.
- On condition that simulated test data is provided, actual measured data may slightly vary.
- Eravant reserves the right to change the information presented without notice.

### CAUTION:

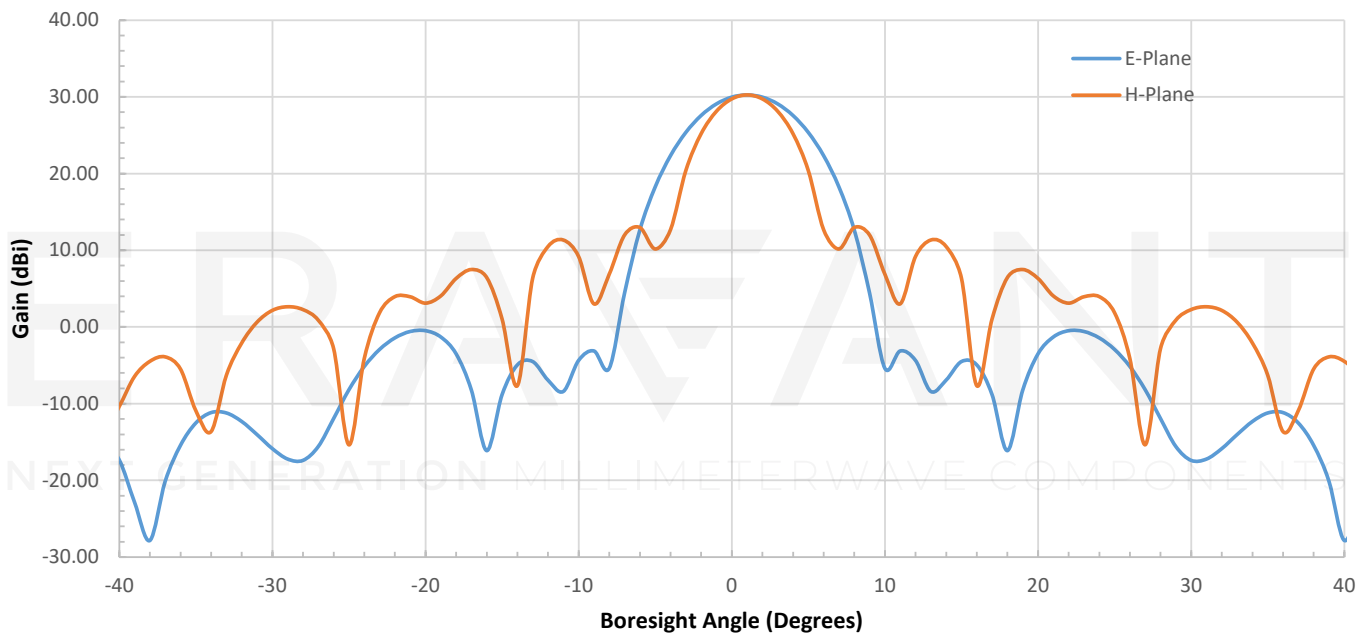
- If a waveguide is present, any foreign objects in the waveguide will cause performance degradation and may damage or destroy the unit.
- Any foreign objects in the antenna will cause performance degradation and possible device damage.
- For 1 mm connectors proper torque should be applied:  $4.0 \pm 0.15$  inch-pounds ( $0.45 \pm 0.02$  Nm). Torque wrench model [SCH-06004-S1](#) is highly recommended.
- For 1.35 mm, 1.85 mm, 2.4 mm, 2.92 mm, and SMA connectors proper torque should be applied:  $8.0 \pm 0.15$  inch-pounds ( $0.90 \pm 0.02$  Nm). Torque wrench model [SCH-08008-S1](#) is highly recommended.

## SAL-7531142805-10-S1

**Simulated Antenna Pattern @ 75 GHz**

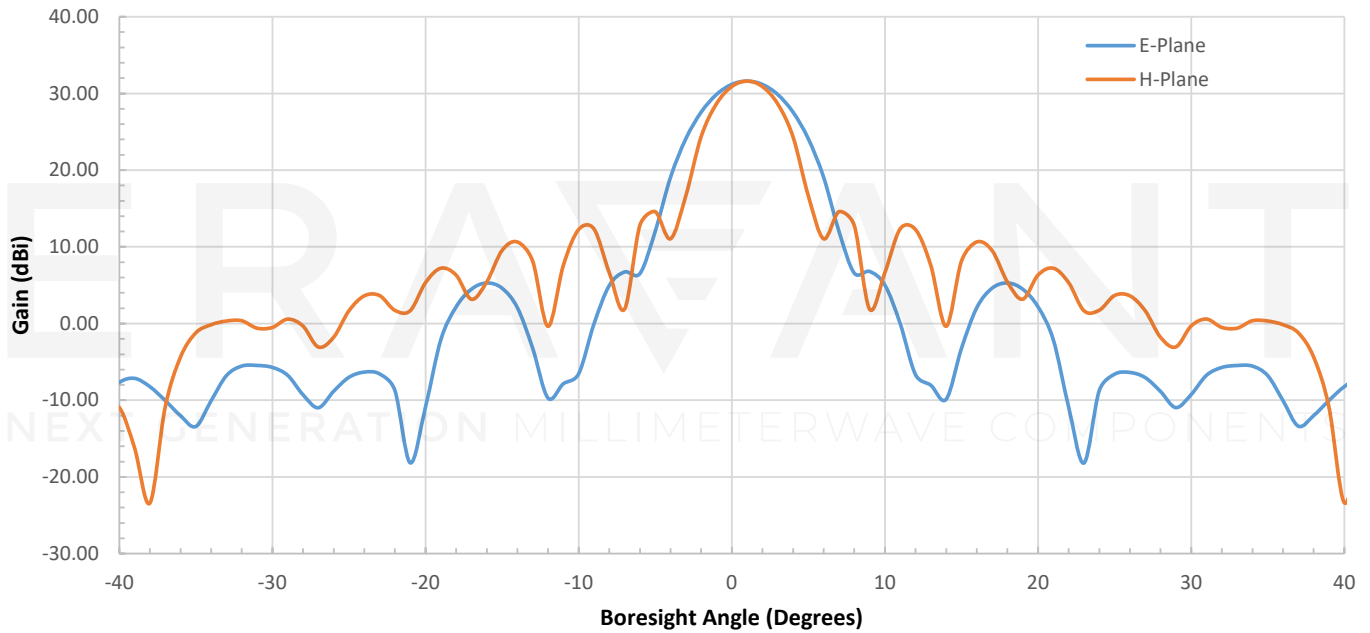


**Simulated Antenna Pattern @ 93 GHz**

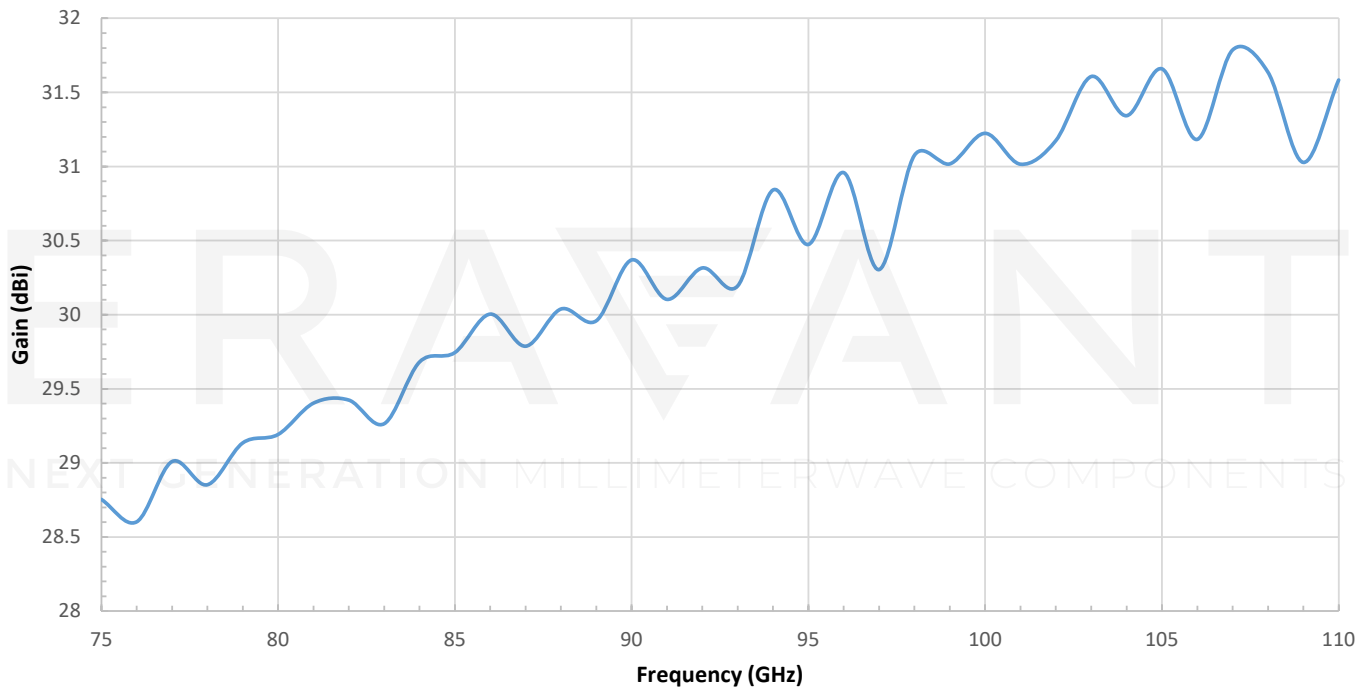


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## Simulated Antenna Pattern @ 110 GHz

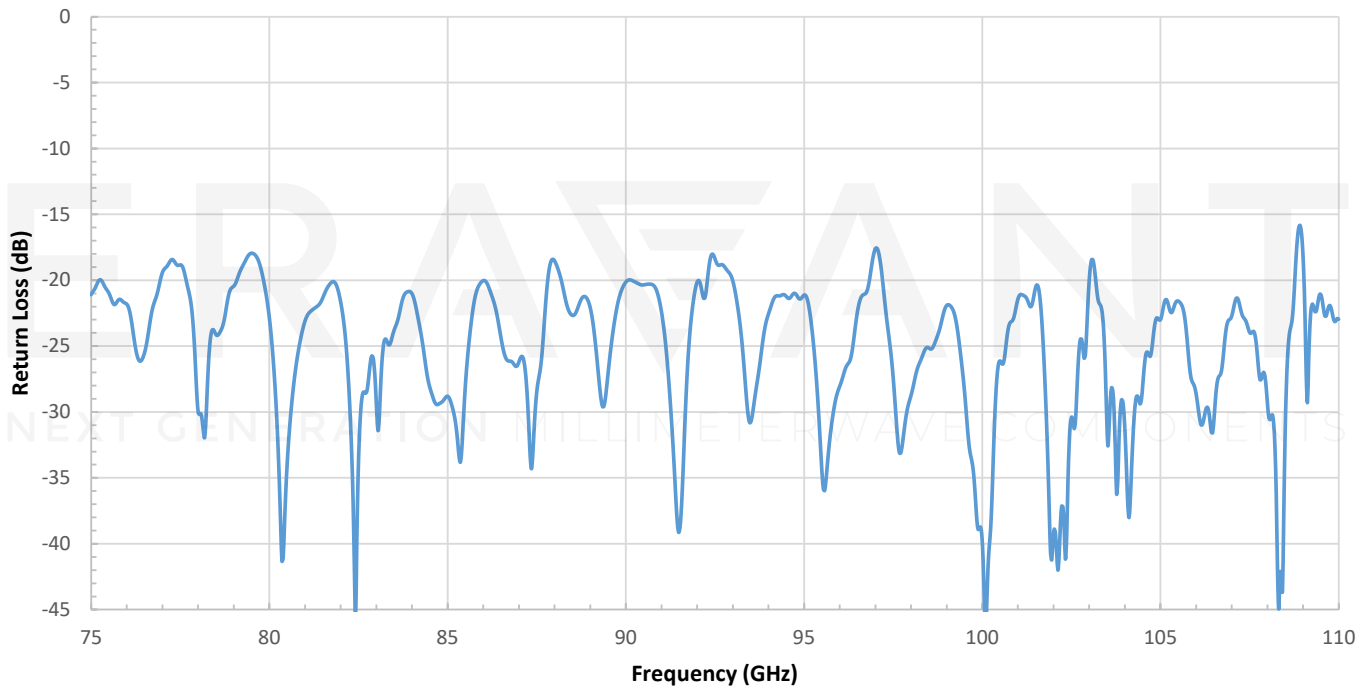


## Simulated Gain vs. Frequency



**SAL-7531142805-10-S1**

**Typical Return Loss vs. Frequency**



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