

# n257 Optimized Dual-Polarized Horn Antenna

ANT-HA-2531-DP

The ANT-HA-2531-DP is a corrugated conical horn antenna that covers frequencies from 25 to 31 GHz. It is a dual-polarized horn antenna that supports both horizontal and vertical linear waveforms. It has high port isolations and high cross-polarization rejections. The antenna is equipped with 2.92 mm coaxial connectors. It is ideal for use in 5G FR2 mobile communication and test equipment applications.

## Features

- Operating frequency 25 to 31 GHz
- Dual and linear polarization
- Very low side lobe levels
- High port isolations and cross-polarization rejections
- Corrugated structure
- 2.92 mm coaxial connectors



Figure 1. Photo of Horn Antenna

## RF Specifications

Parameter	Conditions	Unit	Min.	Typ.	Max.
Frequency	---	GHz	25	28	31
Return Loss	---	dB	---	15	---
Isolation	---	dB	---	35	---
Peak Gain	---	dB	---	17	---
Cross Polarization	---	dB	---	30	---
3dB Beamwidth	---	deg	---	18	---

## Package Specifications

Parameter	Conditions	Unit	Specification
Horizontal and Vertical Ports	---	---	2.92 mm (K-type)
Antenna Type	---	---	Corrugated structure
Material	---	---	Aluminum
Finish	---	---	Gold plated
Weight	---	g	85
Dimension	Length	mm	74.5
	Width	mm	46
	Height	mm	46

## Typical Performances

### Return Loss

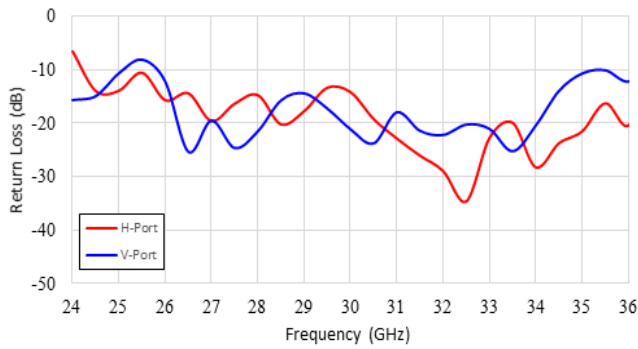


Figure 2. Return Loss

### Isolation

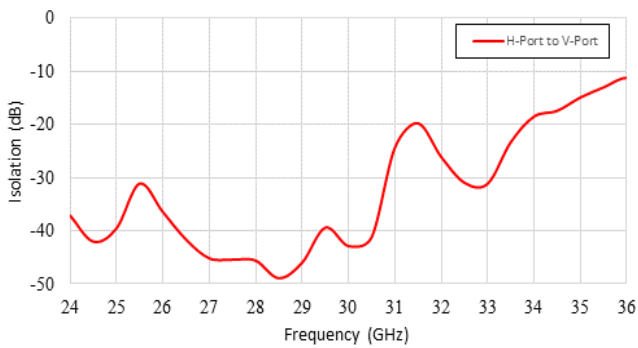


Figure 3. Isolation

### Peak Gain

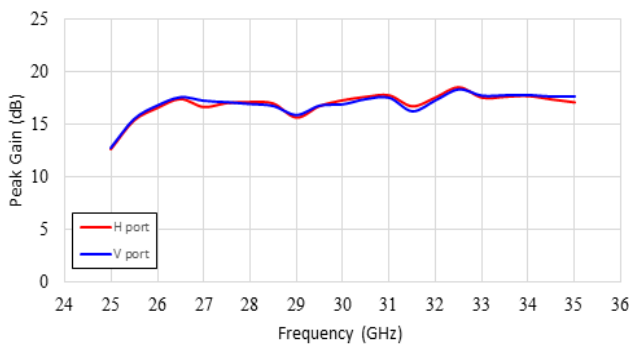


Figure 4. Peak Gain

### Cross Polarization

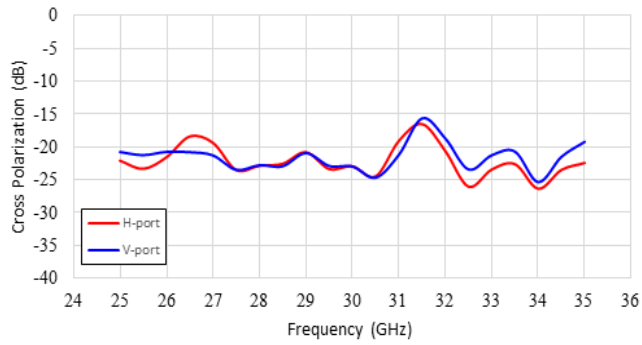


Figure 5. Cross Polarization

### 3 dB Beamwidth

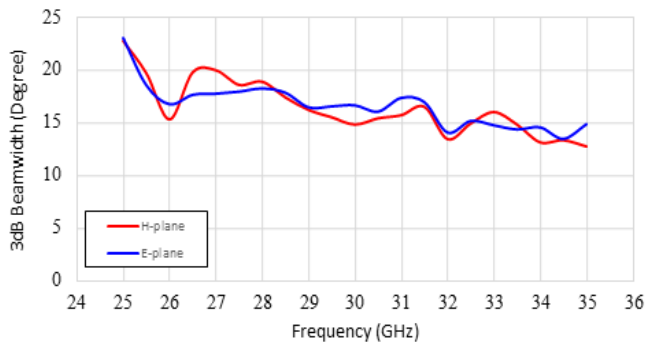


Figure 6. 3 dB Beamwidth

### Radiation Pattern

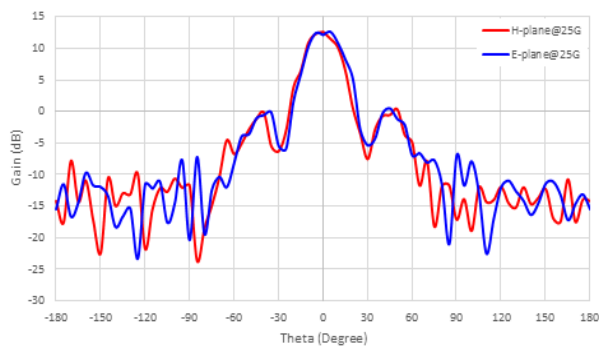


Figure 7. Gain at 25 GHz

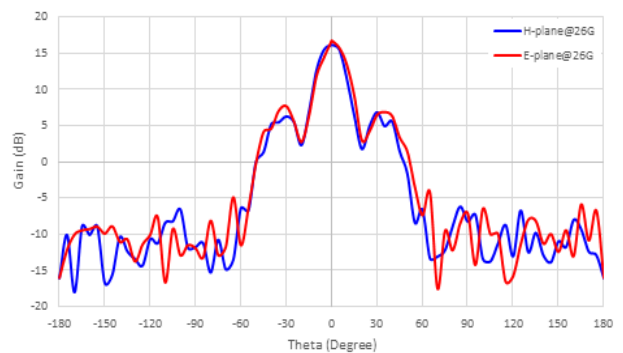


Figure 8. Gain at 26 GHz

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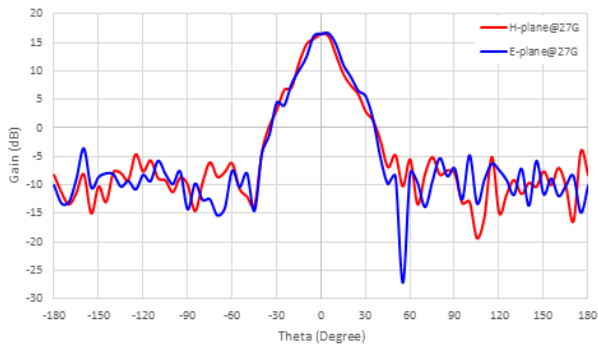


Figure 9. Gain at 27 GHz

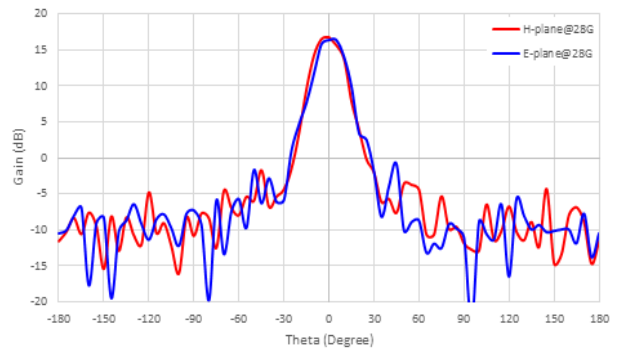


Figure 10. Gain at 28 GHz

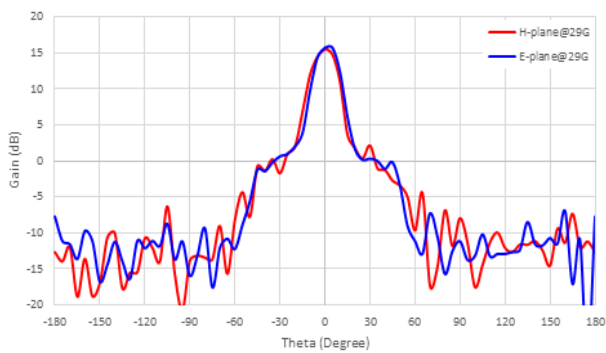


Figure 11. Gain at 29 GHz

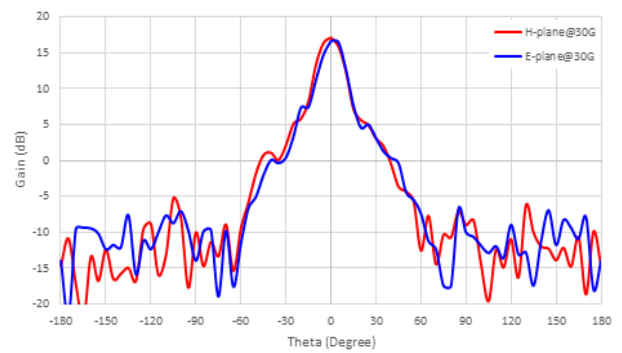


Figure 12. Gain at 30 GHz

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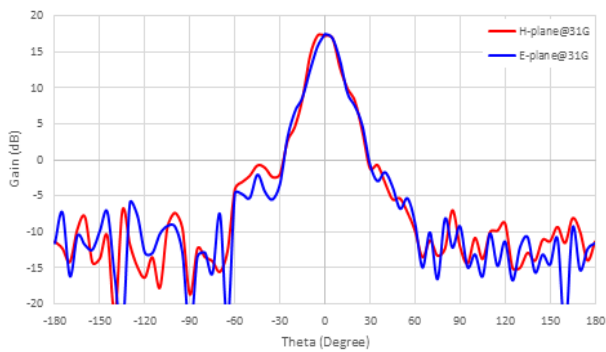


Figure 13. Gain at 31 GHz

## Mechanical Outline

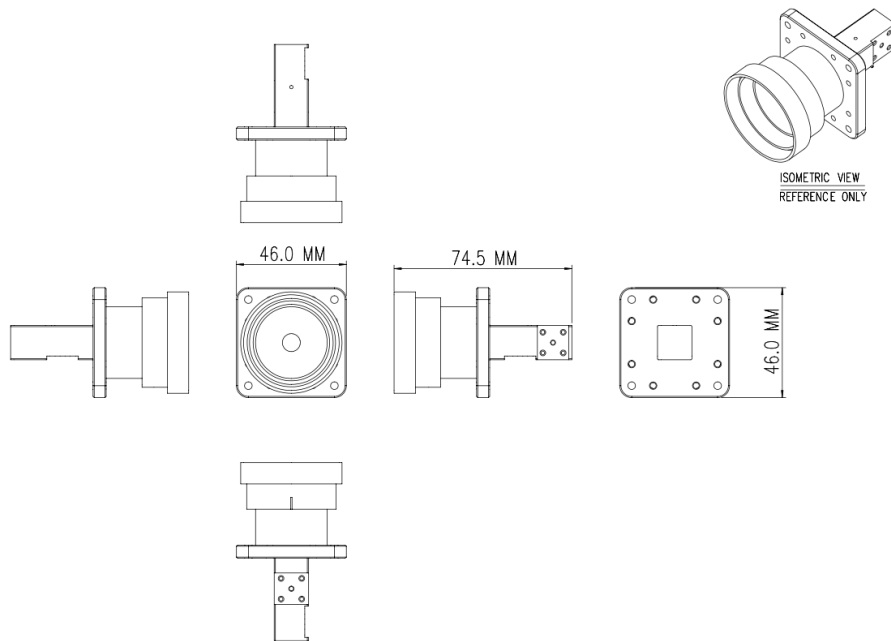


Figure 14. Outline Drawing