# 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.	Тур.	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**

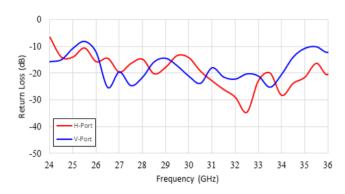


Figure 2. Return Loss

### Isolation

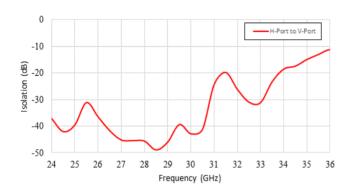


Figure 3. Isolation

#### **Peak Gain**

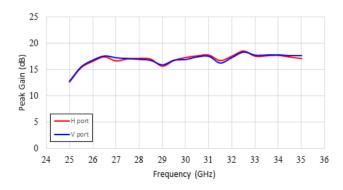


Figure 4. Peak Gain



#### **Cross Polarization**

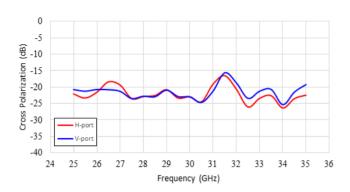


Figure 5. Cross Polarization

### 3 dB Beamwidth

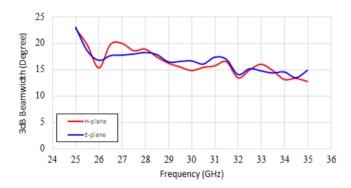


Figure 6. 3 dB Beamwidth

## **Radiation Pattern**

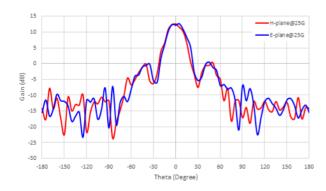


Figure 7. Gain at 25 GHz

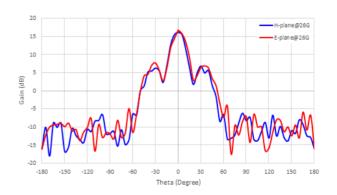


Figure 8. Gain at 26 GHz

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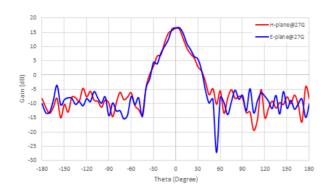


Figure 9. Gain at 27 GHz

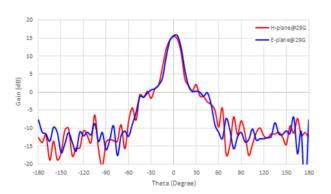


Figure 11. Gain at 29 GHz

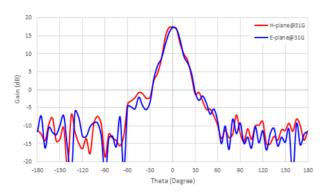


Figure 13. Gain at 31 GHz

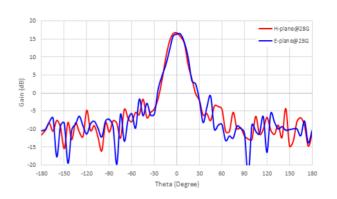


Figure 10. Gain at 28 GHz

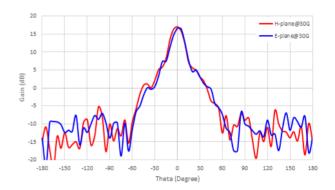


Figure 12. Gain at 30 GHz

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# **Mechnical Outline**

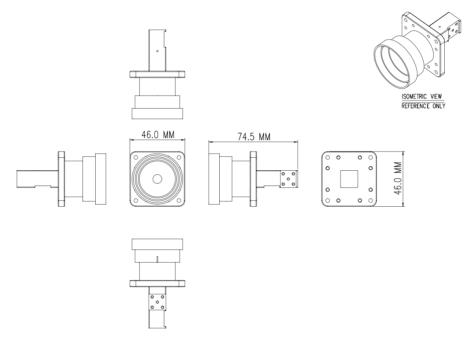


Figure 14. Outline Drawing