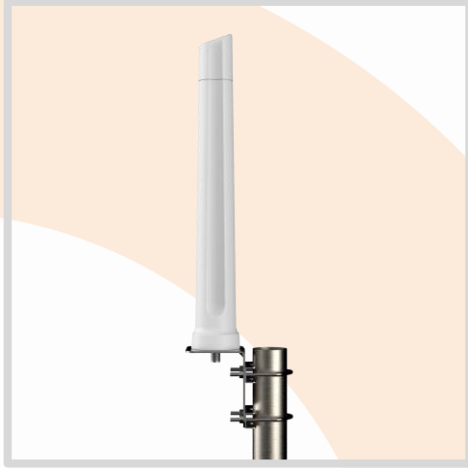
















## ANTENNAS | OMNI-296 SERIES

# OMNI-DIRECTIONAL, DUAL-BAND WI-FI ANTENNA

2400 – 2500 MHz, 3300 – 4200 MHz & 4900 – 7200 MHz; 10dBi



 2400 – 2500 MHz 3300 – 4200 MHz 4900 – 7200 MHz	 10 dBi	 Increase X Mb/s	 Omni- Directional	 5G	 2.4 – 2.5 GHz 5.0 – 7.2 GHz	 Urban	
 CBRS Band	 Machine to Machine	 IoT	 Fire Resistant	 IP 65	 -40°C to +80°C		 Rural/Farm

APPLICATION AREAS

- Dual-band Wi-Fi antenna for 2.4 GHz and 4.9 to 7.2 GHz
- Omni-directional antenna with medium gain
- Complaint with IEEE 802.11 ac/ax/be/b/g/n wireless standard
- Covers the 3.5 GHz CBRS band for future 5G applications
- Vandal and water-resistant enclosure (IP 65)

## Product Overview

The OMNI-296 antenna is a dual-band Wi-Fi omni-directional antenna, developed by Poynting Antennas. The antenna can connect to any Wi-Fi access point whether it is older Wi-Fi technology or new dual-band Wi-Fi technology. The antenna can therefore be used to resolve channel saturation and provide the ultimate in Wi-Fi performance and flexibility. This means that the antenna can also be used for point-to-point links where there is an abundance of RF noise and cluttered environments.

The antenna operates across multiple frequency bands, i.e., 2.4 GHz, 3.3 to 4.2 GHz, and 5 to 7.2 GHz offering excellent utilization of the radio spectrum. The antenna has a maximum gain of 7dBi in the 2.4GHz band and 10dBi in the 5GHz band, which offers the best performance with reliable connections. The antenna also covers the 3.5 GHz CBRS band, which will be used for future 5G technologies with a peak gain of 8dBi. The housing is made of ABS which is a high-impact resistant plastic and is also resistant to acids and other chemicals that may occur in industrial plants. The antenna has an N-Type female connector at its base which can be connected to a cable of the desired type and length.

## Features

- Dual-band Wi-Fi antenna for 2.4 GHz and 5 GHz
- Medium gain omni-directional antenna
- Covers 3.5 GHz CBRS band for future 5G applications
- Robust and weather resistant
- Lightweight design

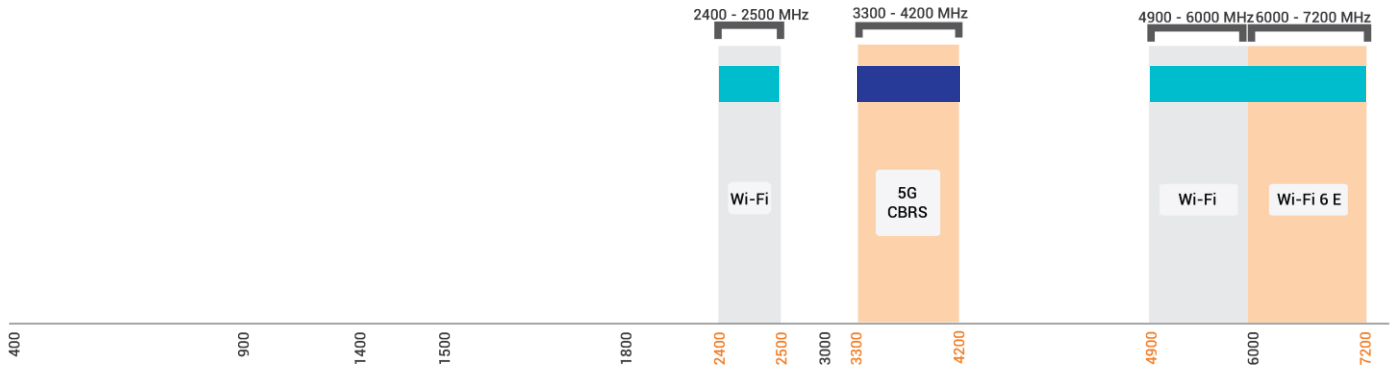
## Application Areas

- Small business
- Building sites and open-cast mines
- Production facilities and factories
- M2M and IoT applications
- Areas with large amounts of machinery (cluttered environments)



### Frequency Bands


The OMNI-296 is an omni-directional antenna that works from | 2400 – 2500 MHz | 3300 – 4200 MHz | and | 4900 – 7200 MHz |



Indicates the 5G/CBRS bands on which OMNI-296 works

Indicates the WI-FI bands on which OMNI-296 works

### Antenna Overview

	
Ports	1
SISO / MIMO	SISO
Frequency Bands	2400 – 2500 MHz 3300 – 4200 MHz 4900 – 7200 MHz
Polarisation	Linear Vertical
Peak Gain	10 dBi
Coax Cable Type	N/A
Coax Cable Length	N/A
Connector Type	N-Type (F)

*\*The connector is factory mounted to the antenna*

**Electrical Specifications**

<b>Frequency Bands:</b>	2400 – 2500 MHz 3300 – 4200 MHz 4900 – 7200 MHz
<b>Gain (Max):</b>	7 dBi @ 2400 – 2500 MHz 8 dBi @ 3300 – 4200 MHz 10 dBi @ 4900 – 7200 MHz
<b>VSWR:</b>	< 2:1
<b>Feed Power Handling:</b>	10 W
<b>Input Impedance:</b>	50 Ohm (nominal)
<b>Polarisation:</b>	Linear Vertical
<b>DC Short:</b>	Yes

**Product Box Contents**

<b>Antenna:</b>	A-OMNI-0296
<b>Mounting Bracket:</b>	Pole up to 50mm diameter wall and Pole mount stainless steel bracket

**Ordering Information**

<b>Commercial name:</b>	OMNI-296
<b>Order product code:</b>	A-OMNI-0296-V2-01
<b>EAN number:</b>	6009710925744

**Mechanical Specifications**

<b>Product Dimensions</b>	485 mm x Ø71 mm (excl. bracket)
<b>Packaged Dimensions:</b>	510 mm x 95 mm x 95 mm
<b>Weight:</b>	0.75 kg
<b>Packaged Weight:</b>	0.91 kg
<b>Radome Material:</b>	ABS (Halogen Free)
<b>Radome Colour:</b>	Brilliant White Pantone P 179-1C
<b>Mounting Type:</b>	Pole and Wall

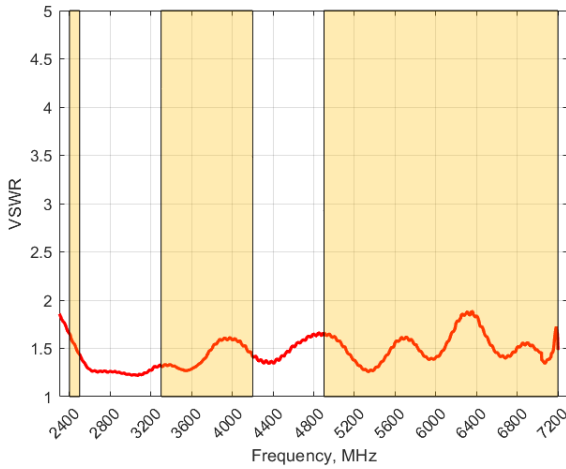
**Environmental Specifications, Certification & Approvals**

<b>Antenna Wind Survival:</b>	≤190 km/h
<b>Temperature Range (Operating):</b>	-40°C to +80°C
<b>Environmental Conditions:</b>	Outdoor/Indoor
<b>Ingress Protection:</b>	IP 65
<b>Salt Spray:</b>	MIL-STD 810G/ASTM B117
<b>Operating Relative Humidity:</b>	Up to 98%
<b>Storage Humidity:</b>	5% to 95% - non-condensing
<b>Storage Temperature:</b>	-40°C to +80°C
<b>Enclosure Flammability Rating:</b>	UL 94-HB
<b>Impact Resistance:</b>	IK 08
<b>Product Safety &amp; Environmental:</b>	Complies with CE and RoHS standards



Antenna Performance Plots

**VSWR**



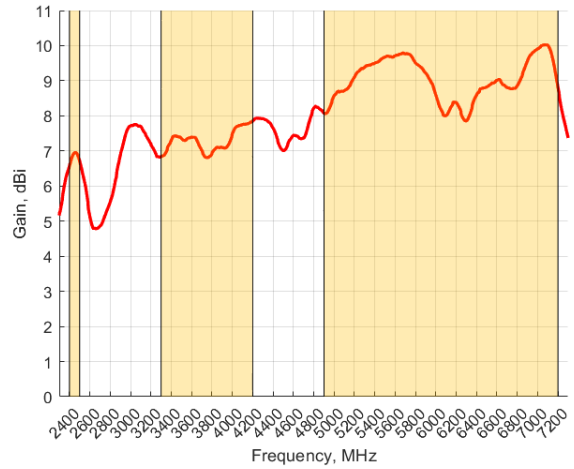
**Voltage Standing Wave Ratio (VSWR)\***

VSWR is a measure of how efficiently radio-frequency power is transmitted from a power source, through a transmission line, into a load. In an ideal system, 100% of the energy is transmitted which corresponds to a VSWR of 1:1.

The OMNI-296 delivers superior performance across all bands with a VSWR of <2:1.

*\*VSWR measured without a cable*

**GAIN (EXCLUDING CABLE LOSS)**



**Gain\* in dBi**

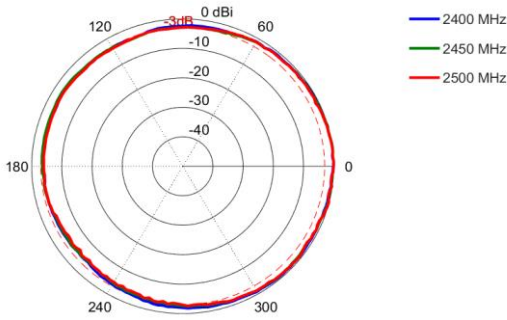
10 dBi is the peak gain across all bands from 2400 – 7200 MHz

Gain @ 2400 – 2500 MHz:	7 dBi
Gain @ 3300 – 4200 MHz:	8 dBi
Gain @ 4900 – 7200 MHz:	10 dBi

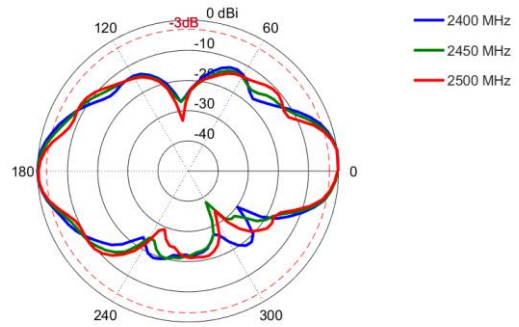
*\*Antenna gain measured with polarisation aligned standard antenna*

**Radiation Patterns**

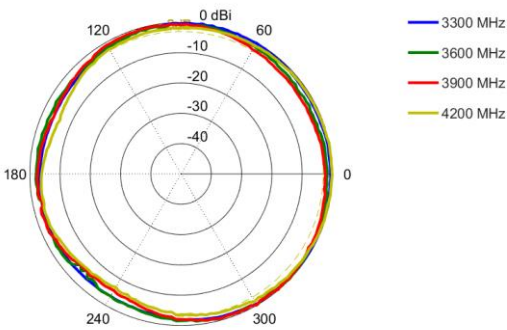
**Azimuth: 2400 - 2500 MHz**



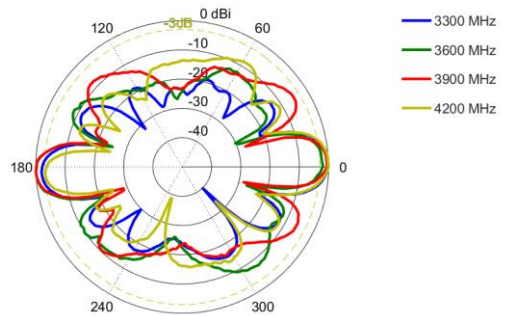
**Elevation: 2400 - 2500 MHz**



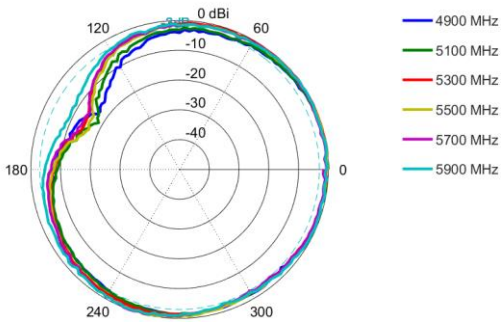
**Azimuth: 3300 - 4200 MHz**



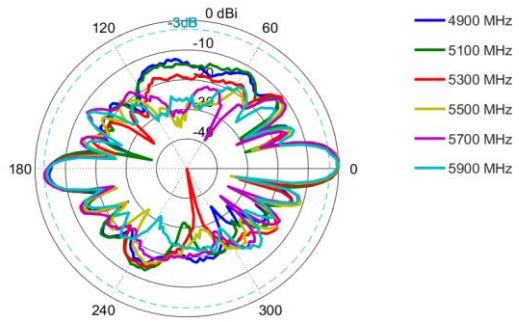
**Elevation: 3300 - 4200 MHz**



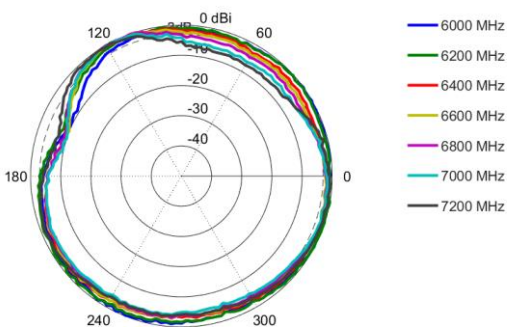
**Azimuth: 4900 - 5900 MHz**



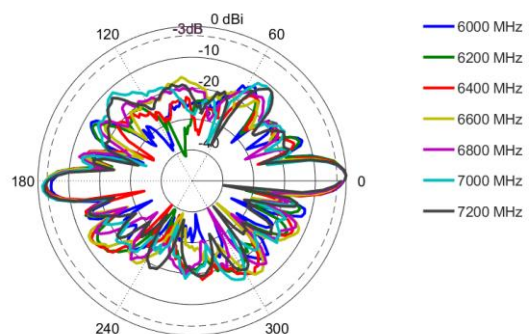
**Elevation: 4900 - 5900 MHz**



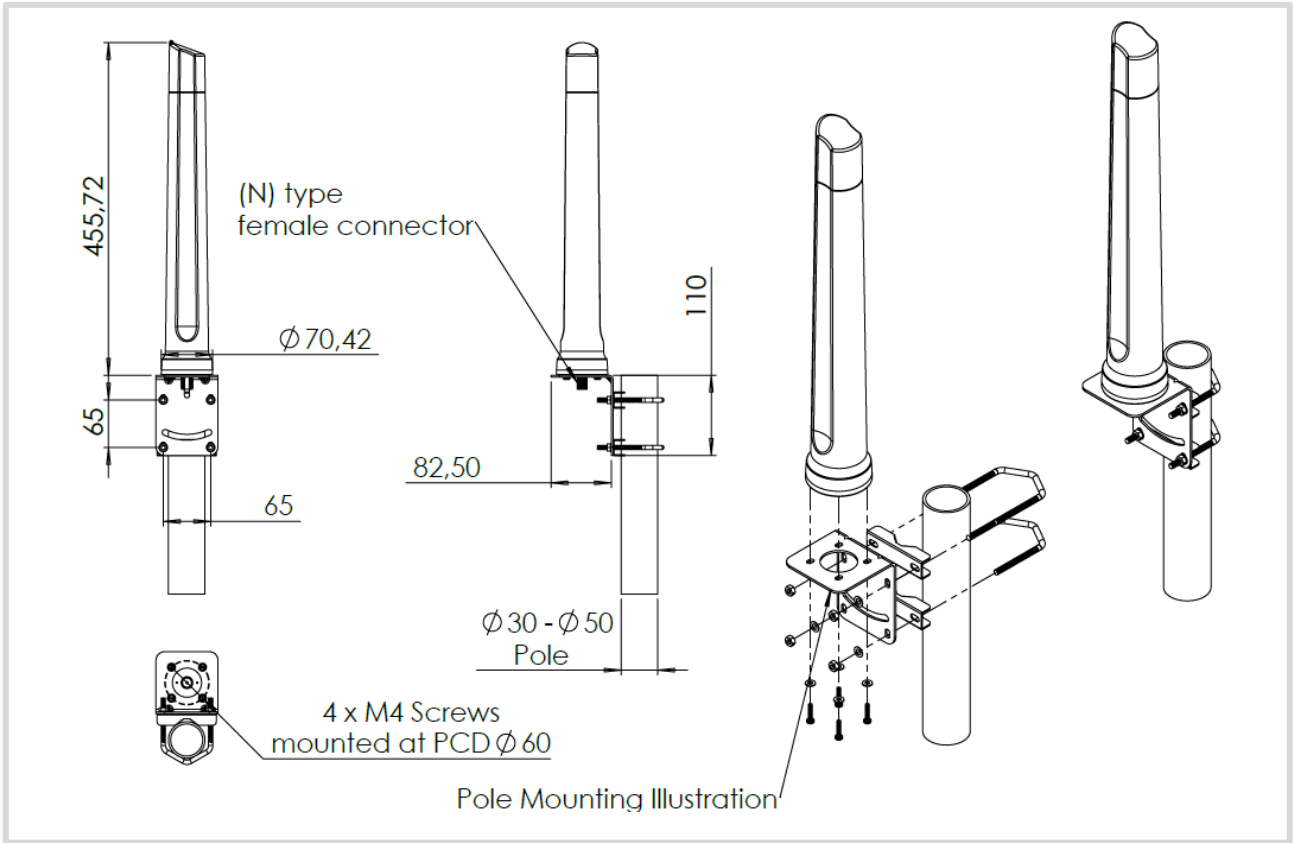
**Azimuth: 6000 - 7200 MHz**



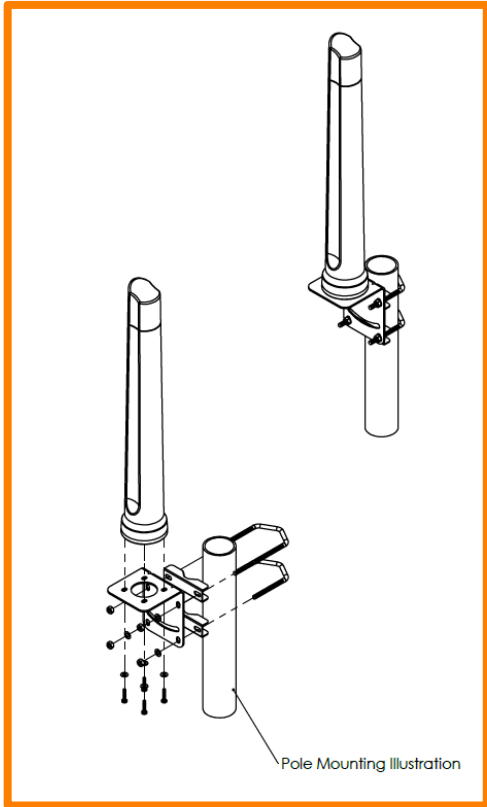
**Elevation: 6000 - 7200 MHz**



Technical Drawings

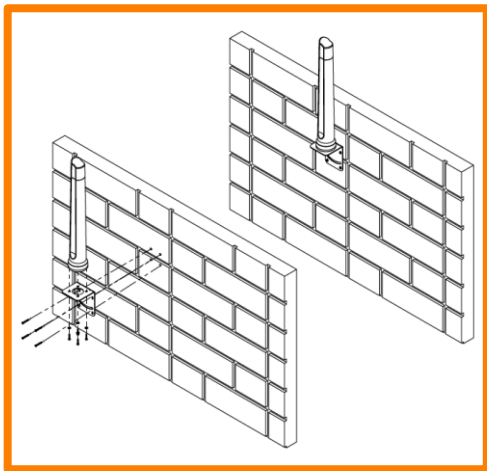


**Mounting Options**



**Pole Mount**

Pole/Wall Mounting bracket (included)



**Wall Mount**

Pole/Wall Mounting bracket (included)

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## Additional Accessories

Extension Cables: Up to 15m HDF 195  
Various connectors available  
Installation poles and brackets available

See accessories technical specifications on [www.poynting.tech](http://www.poynting.tech)

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