OMNI-297

ANTENNAS | OMNI-297 SERIES

OMNI DIRECTIONAL, WIDEBAND LTE/5G RHYNO ANTENNA

617 - 3800 MHz; 2 dBi

617 - 960 MHz; 1427 - 1517 MHz; 1710 - 2700 MHz; 3400 - 3800 MHz

2 dBi

Increase x Mb/s

Omni-Directional

4G LTE

5G

2.4 – 2.5 GHz

IoT & M2M

-40°C to +80°C

Fire Resistant

IP 69K

617 – 698 MHz

- **Medium gain, omni directional antenna**
- **Suitable for 5G deployment up to 3800 MHz**
- **Compatible with 4G/3G/2G technologies, supports 2.4 GHz Wi-Fi**
- **Ideal for IoT and M2M applications**
- **Robust and low-profile design**
- **Water and dust ingress protected with IP 69K rating**

APPLICATION AREAS

Urban

Rural/Farm

Meter

Product Overview

The new OMNI-297 antenna forms part of our new "Rhyno" antenna range. The OMNI-297 is wideband cellular antenna that operates from 617 to 3800 MHz, covering the contemporary 5G and LTE frequency bands. The antenna is designed for superior pattern control over the entire frequency range, making the OMNI-297 an exceptional omni-directional antenna for its size. The constant gain across the entire frequency range improves the LTE performance features, such as multi carrier aggregation (CA). The ideal operation for the antenna will be for fixed installations of any cellular bands. It is also ideal for machine to machine (M2M) and internet of things (IoT) applications that communicate through the GSM networks (GPRS/EDGE/3G/HSPA/LTE).

Features

- Suitable for all 5G networks up to 3800 MHz
- Medium gain omni-directional antenna
- Wall or pole mountable for easy installation
- Vandal and dust ingress protected
- Aesthetically pleasing

Application Areas

- Machine to Machine (M2M) and Internet of Things (IoT)
- Poor data signal reception (indoor or outdoor)
- Improves slow data transmission connection
- Increases system transmission reliability
- High-end industrial grade router applications
- Improves reception for mobile offices

Revised: January 2022

Regulatory Compliance: RoHS 2011/65/EU Compliant | ISO 9001:2015
Document version: TS-A-OMNI-0297-V1-01 REV 6.0
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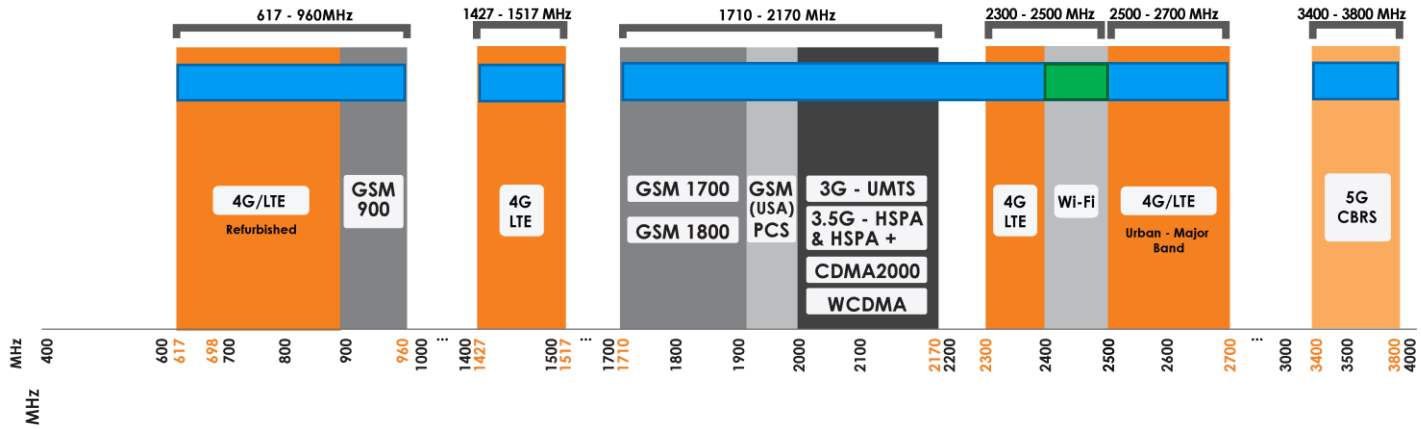
Frequency bands

The OMNI-297 is a marine antenna that works from | 617 - 960 MHz | 1427 – 1517 MHz | 1710 - 2700 MHz | 3400 - 3800 MHz



Indicates the LTE bands on which **OMNI-297** works

Indicates the WI-FI bands on which **OMNI-297** works

Antenna Overview

	LTE
Ports	1
SISO / MIMO	SISO
Frequency Bands	617 – 3800 MHz
Peak Gain	2 dBi
Coax Cable Type	RG 58
Coax Cable Length	0.6 m
Connector Type	SMA (M)

**The cable and connector are factory mounted to the antenna*

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Electrical Specifications

Frequency bands:	617 - 960 MHz 1427 - 1517 MHz 1710 - 2700 MHz 3400 - 3800 MHz
Gain (peak):	-3.5 dBi @ 617 - 960 MHz -1 dBi @ 1427 – 1517 MHz 2 dBi @ 1710 - 2700 MHz 1.8 dBi @ 3400 - 3800 MHz
VSWR:	≤ 2.5:1 over 90% of the bands
Feed power handling:	10 W
Input impedance:	50 Ohm (nominal)
Polarisation:	Linear Vertical
Coax cable loss:	0.535 dB/m @ 900 MHz 0.76 dB/m @ 1500 MHz 0.79 dB/m @ 1800 MHz 0.97 dB/m @ 2400 MHz 1.1 dB/m @ 3000 MHz
DC short:	Path to Ground

Product Box Contents

Antenna:	A-OMNI-0297
Mounting bracket:	Included L-Bracket, Adhesive Surface Mount

Ordering Information

Commercial name:	OMNI-297
Order product code:	A-OMNI-0297-V1-01
EAN number:	6009710920909

Mechanical Specifications

Product dimensions:	155 mm x Ø70 mm
Packaged dimensions:	240 mm x 100 mm x 85 mm
Weight:	0.35 Kg
Packaged weight:	0.53 Kg
Radome material:	UV Stable ASA
Radome colour:	Grey Pantone 429C
Mounting Type:	Wall and Pole Mount Using Bracket, Surface Mount Using Adhesive Disc

Environmental Specifications, Certification & Approvals

Wind Survival:	≤190 km/h
Temperature Range (Operating):	-40°C to +80°C
Environmental Conditions:	Outdoor/Indoor
Water ingress protection ratio/standard:	IP 69K
Salt Spray:	MIL-STD 810F/ASTM B117
Operating Relative Humidity:	Up to 98%
Storage Humidity:	5% to 95% - non-condensing
Storage Temperature:	-40°C to +80°C
Enclosure Flammability Rating:	UL 94-HB
Impact resistance:	IK 10
Product Safety & Environmental:	Complies with CE and RoHS standards

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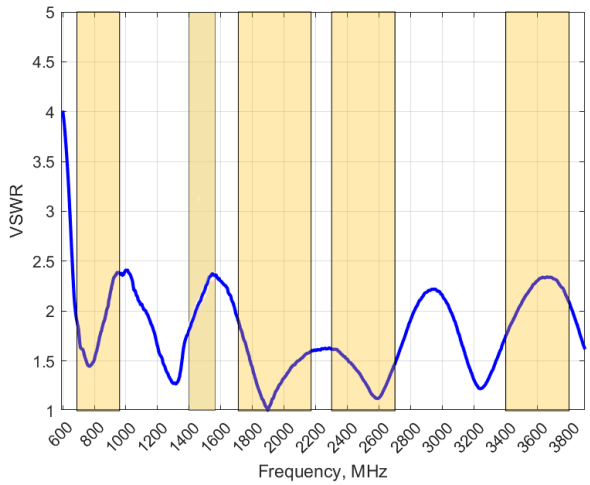
Antenna Performance Plots

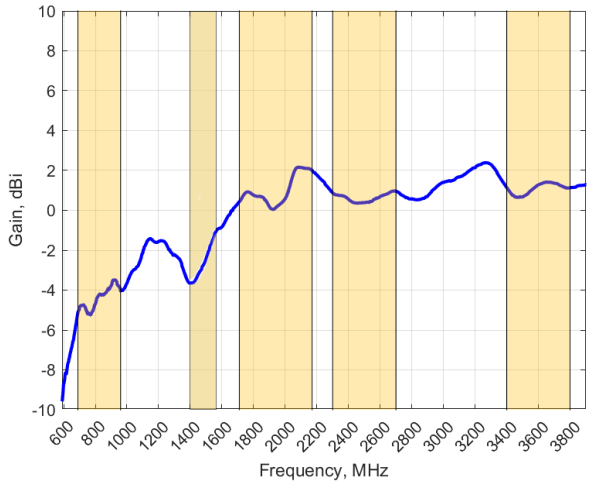


Voltage Standing Wave Ratio (VSWR)*

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-297 delivers superior performance across all bands with a VSWR of <2.5:1over 90% of the bands.

**Antenna VSWR measured with 2m low loss cable*



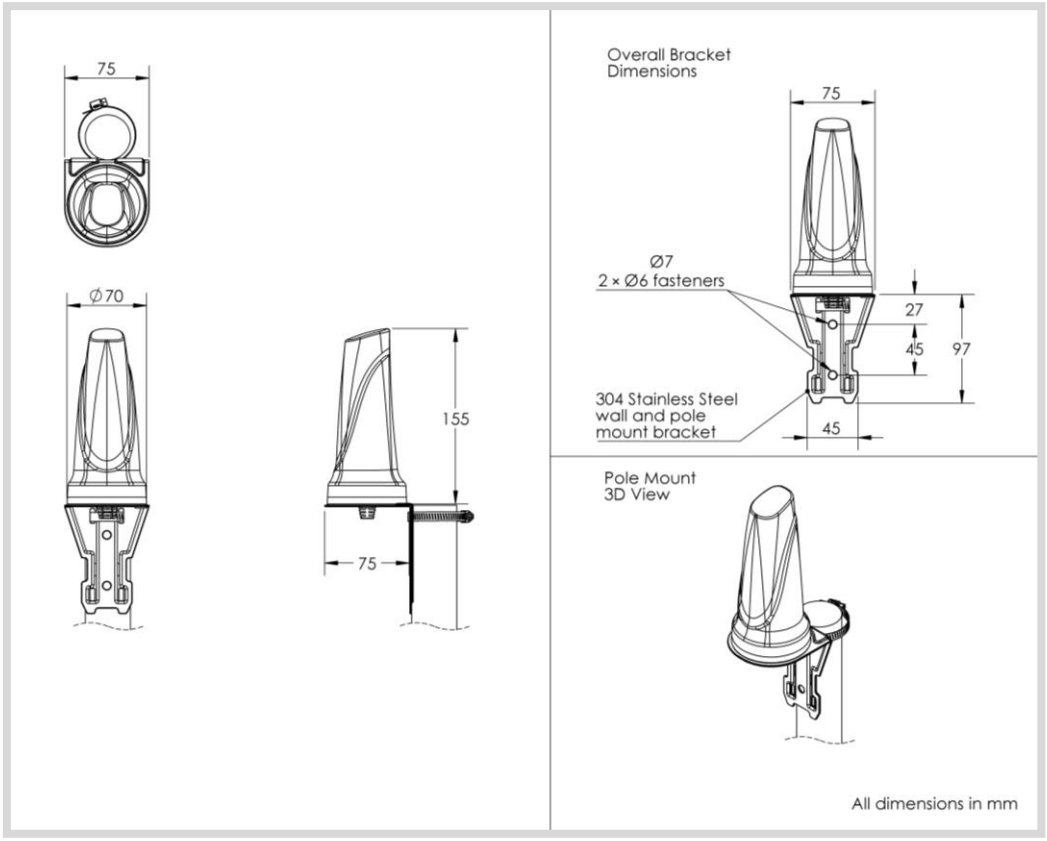
Gain+ in dBi

2dBi is the peak gain across all bands from 617 – 3800 MHz

Gain @ 617 – 960 MHz	-3.5 dBi
Gain @ 1427 – 1517 MHz	-1 dBi
Gain @ 1710 – 2700 MHz	2 dBi
Gain @ 3400 – 3800 MHz	1.8 dBi

+Antenna gain measured with polarisation aligned standard antenna

Technical Drawings



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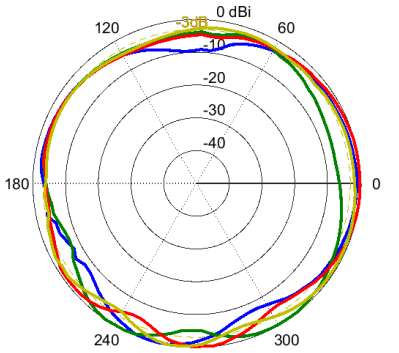
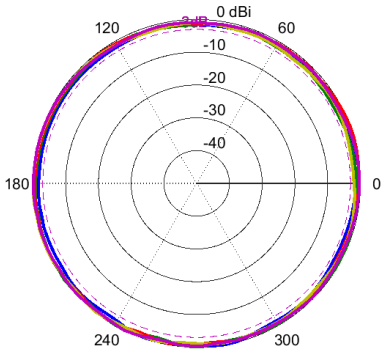
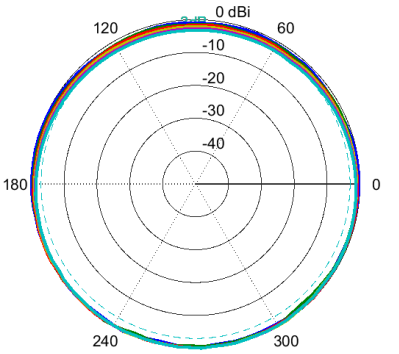
Radiation Patterns



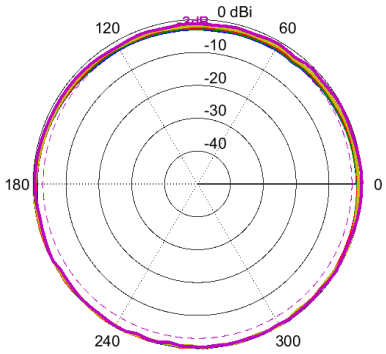
690 MHz
780 MHz
870 MHz
960 MHz



1710 MHz
1850 MHz
1950 MHz
2050 MHz
2170 MHz



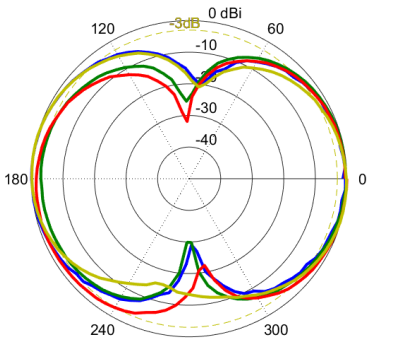
2170 MHz
2300 MHz
2400 MHz
2500 MHz
2600 MHz
2700 MHz



3400 MHz
3500 MHz
3600 MHz
3700 MHz
3800 MHz

ition (Side View): 617 – 960 MHz

Elevation (Side View): 1710 – 2170 MHz



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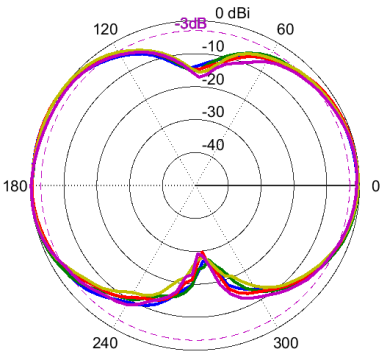

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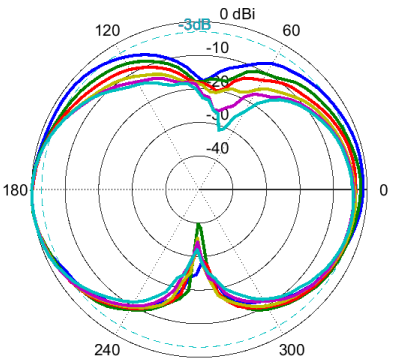

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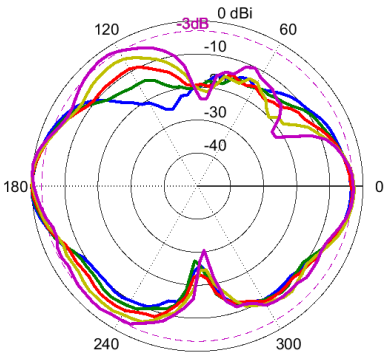

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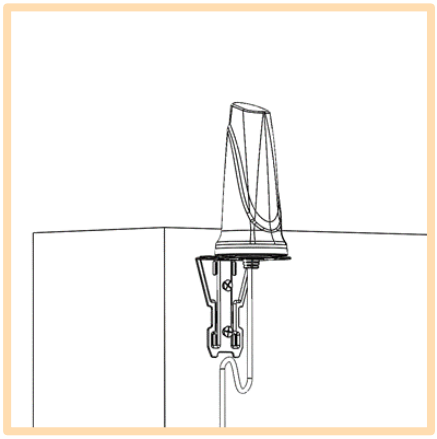
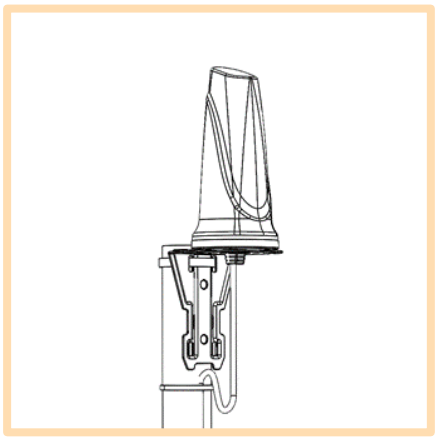
Mounting Options



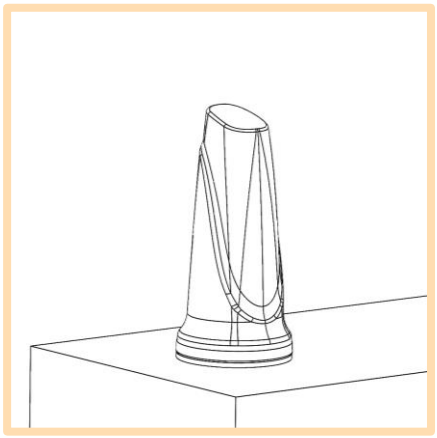
Wall/Cabinet Mount

Wall/Cabinet mounted using included L-Bracket



Pole Mount

Pole mounted using included L-Bracket and cable clamp



Surface Mount

Surface mounted using included adhesive disc

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Optional Accessories

See accessories technical specifications on www.poynting.tech

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