OMNI-902

ANTENNAS | OMNI-902 SERIES

HIGH GAIN, OMNI-DIRECTIONAL, 2X2 MIMO LTE/5G ANTENNA

617 – 4200 MHz, 8 dBi

617 – 960 MHz; 1427 – 1517 MHz; 1710 – 2700 MHz; 3400 – 4200 MHz

8 dBi

Increase x Mb/s

Omni-Directional

4G LTE

5G

617 – 698 MHz

CBRS Band

-40°C to +80°C

Salt Spray Protection

2x2 MIMO

IP 68

APPLICATION AREAS

Marine

- **High performance, omni-directional marine & coastal antenna**
- **2x2 MIMO capability for improved performance**
- **Covers contemporary LTE/5G bands from 617 to 3800 MHz**
- **UV and saltwater protected for marine and coastal conditions**
- **Robust and all-weather proof for harsh conditions at sea (IP 68)**
- **Optional 316 stainless steel mounting bracket available**

Product Overview

The OMNI-902 is a high gain, ultra-wideband antenna, which covers all contemporary LTE/5G frequency bands with excellent balanced gain across all frequencies from 617 to 4200 MHz. The antenna offers 2x2 MIMO capability from its vertically separated radiating elements, all in the same single radome. The antenna design combines two high gain omni-directional antennas, which allows for superior pattern control over the entire frequency range. The combination of high gain omni-directional antennas makes the OMNI-902 a try omni-directional 2x2 MIMO antenna, suitable for marine and coastal applications.

The antenna comes with an IP68 protection rating against dust and water ingress, making it ideal for most severe storms at sea. The radome is also fully salt water protected so that it can be used in highly corrosive environments, thanks to the fiberglass radome material. The OMNI-902 guarantees signal reception almost everywhere and is usable in all part of the world. The ultra-wideband performance makes the antenna future proof, as it covers LTE Band 71 (617 to 698 MHz) as well as the CBRS bands from 3400 to 4200 MHz for inland use.

Features

- High performance, 2x2 MIMO omni-directional antenna
- Wideband antenna for LTE/5G (617 to 4200 MHz)
- Includes Band 71 (617 to 698 MHz) and 3.5 GHz 5G band
- Robust and weather resistant enclosure with IP 68 rating
- UV and salt-water resistant enclosure

Application Areas

- Marine applications: Super Yachts / Boats / Ferries
- Enhanced LTE/4G and 5G reception
- Increase system transmission reliability
- High-end industrial grade router applications
- Industrial and commercial LTE/5G deployment
- Agricultural and farming LTE/5G data distribution

Revised: December 2021

Regulatory Compliance: RoHS 2011/65/EU Compliant | ISO 9001:2015
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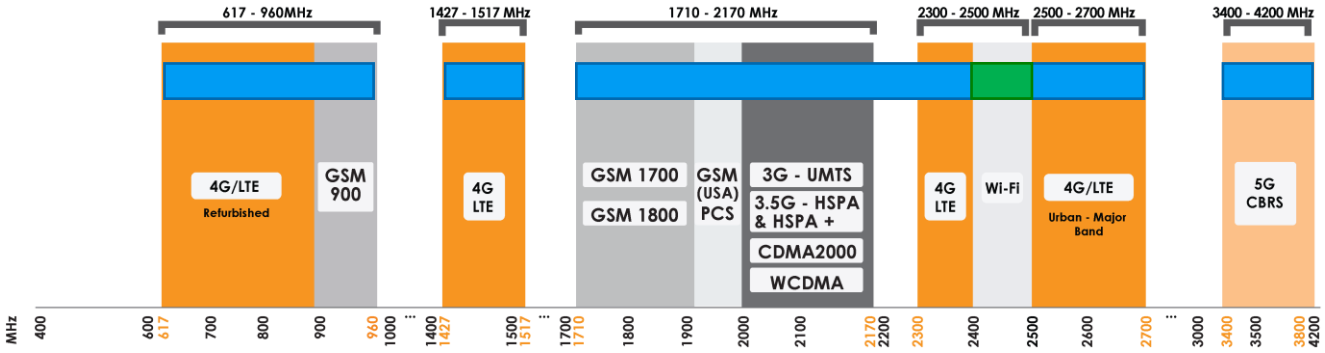
Frequency Bands

The OMNI-902 is an omni-directional antenna that works from 617 – 960 MHz | 1427 – 1517 MHz | 1710 – 2700 MHz | 3400 – 4200 MHz



Indicates the LTE bands on which OMNI-902 works

Indicates the WIFI bands on which OMNI-902 works

Antenna Overview

	LTE
Ports	2
SISO / MIMO	MIMO
Frequency Bands	617 – 4200 MHz
Polarisation	Vertical
Peak Gain	8 dBi
Coax Cable Type	Twin HDF 195
Coax Cable Length	2m
Connector Type	N-Type (F)

**The coax cable & 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 – 4200 MHz
Gain (Max):	6 dBi @ 617 – 960 MHz 5.8 dBi @ 1427 – 1517 MHz 8 dBi @ 1710 – 2700 MHz 5.5 dBi @ 3400 – 4200 MHz
Gain (Mean):	3 dBi @ 617 – 960 MHz 2 dBi @ 1427 – 1517 MHz 6 dBi @ 1710 – 2700 MHz 3.8 dBi @ 3400 – 4200 MHz
VSWR:	≤ 2.5:1 Across 90% of the bands
Feed power handling:	10 W
Input impedance:	50 Ohm (nominal)
Coax cable loss:	0.385 dB/m @ 900 MHz 0.507 dB/m @ 1500 MHz 0.565 dB/m @ 1800 MHz 0.788 dB/m @ 3000 MHz
Polarisation:	Linear Vertical
DC short:	Yes

Product Box Contents

Antenna:	A-OMNI-0902
Mounting bracket:	Wall/ Pole Mount Bracket

Ordering Information

Commercial name:	OMNI-902
Order product code:	A-OMNI-0902-V1-01
EAN number:	6009710924174

Mechanical Specifications

Product dimensions	1654 mm x Ø145 mm (Incl. Mounting Base)
Packaged dimensions:	TBC
Weight:	TBC
Packaged weight:	TBC
Radome material:	Fiberglass with 316 stainless steel caps
Radome colour:	Brilliant White Pantone P 179-1C
Mounting Type:	Pole, Wall and Surface Mounted

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 68
Salt Spray:	MIL-STD 810G/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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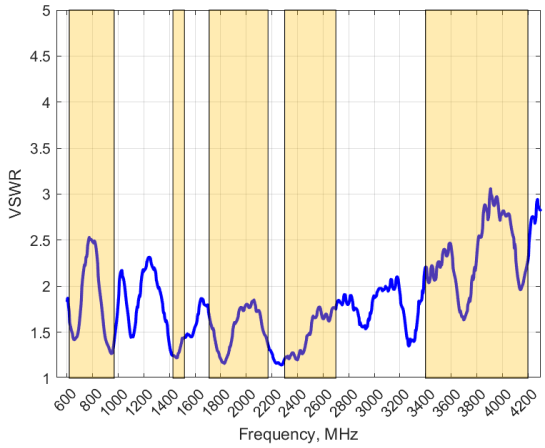
Antenna Performance Plots

VSWR



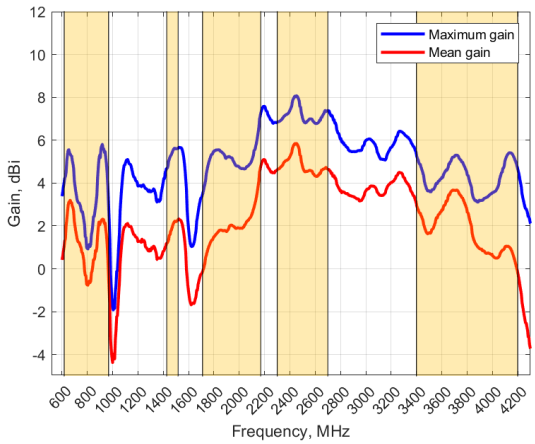
Voltage Standing Wave Ratio (VSWR)*

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-902 delivers superior performance across all bands with a VSWR of 2.5:1 or better across 90% of the bands.

**VSWR measured with 2m low loss cable*

GAIN (EXCLUDING CABLE LOSS)



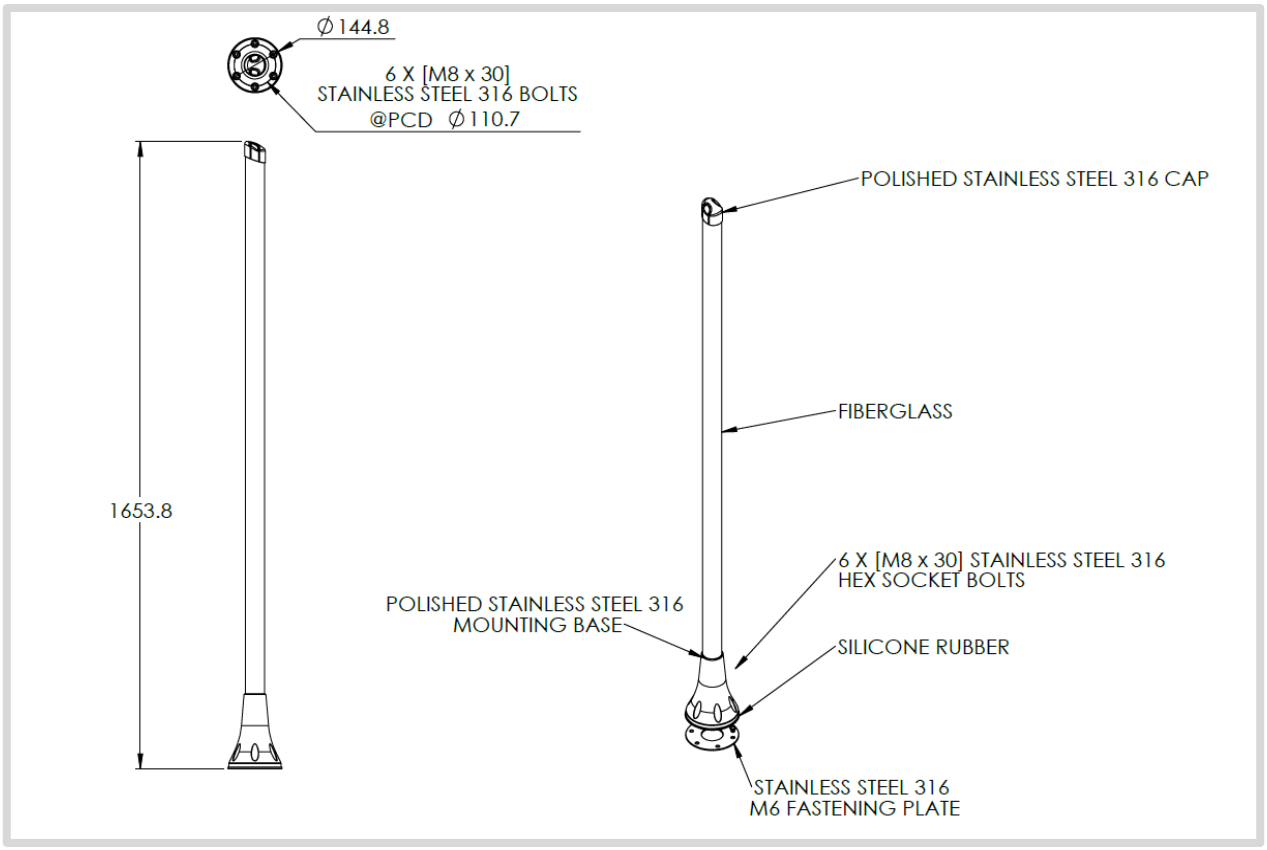
Gain⁺ in dBi

8 dBi is the peak gain across all bands from 617 – 4200 MHz

Gain @ 617 – 968 MHz (Max; Mean):	6 dBi ; 3 dBi
Gain @ 1427 – 1517 MHz (Max; Mean):	5.8 dBi ; 2 dBi
Gain @ 1710 – 2700 MHz (Max; Mean):	8 dBi ; 6 dBi
Gain @ 3400 – 4200 MHz (Max; Mean):	5.5 dBi ; 3.8 dBi

⁺Antenna gain measured with polarisation aligned standard antenna

Technical Drawings



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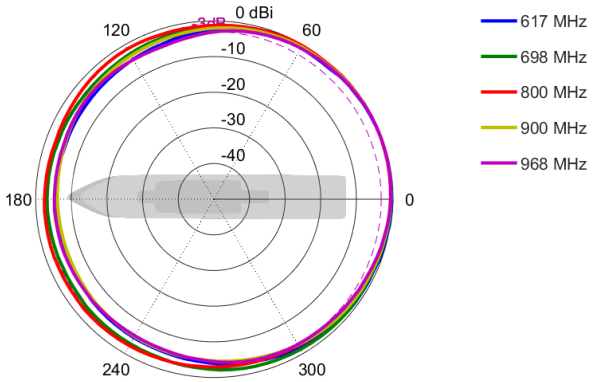
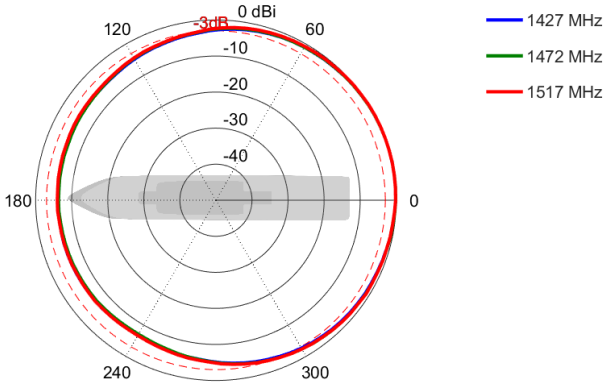
Radiation Patterns

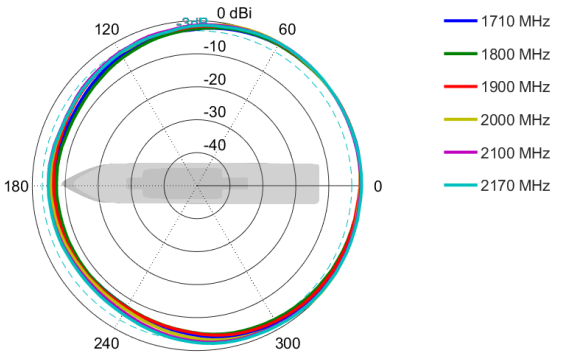
Azimuth: 617 – 968 MHz



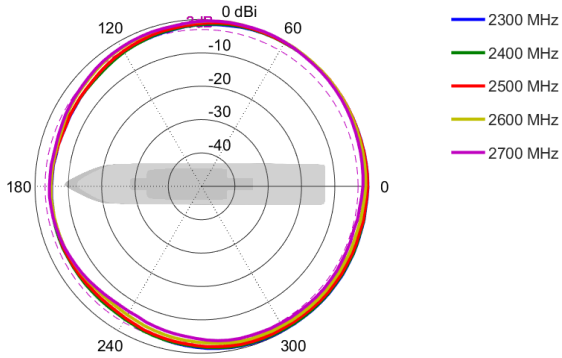
Azimuth: 1427 – 1517 MHz



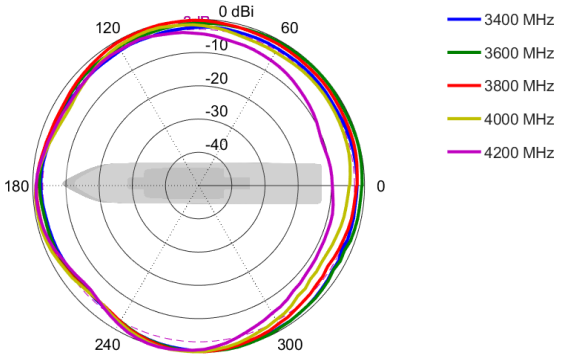
Azimuth: 1710 – 2170 MHz



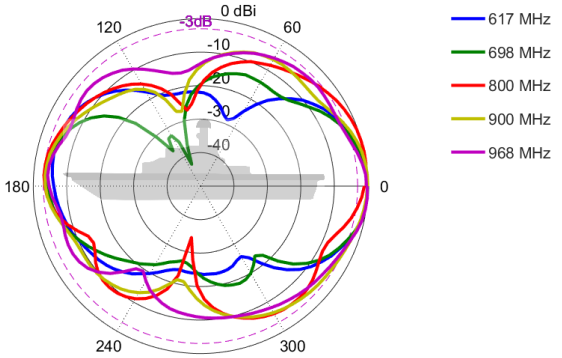
Azimuth: 2300 – 2700 MHz



Azimuth: 3400 – 4200 MHz



Elevation: 617 – 968 MHz



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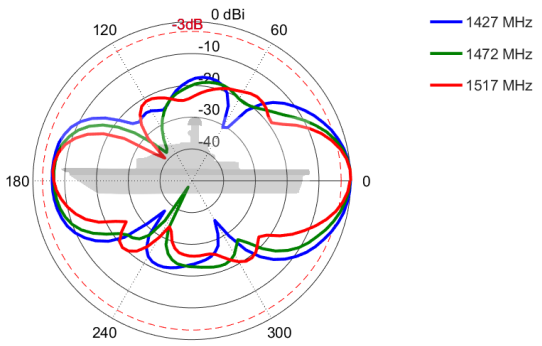
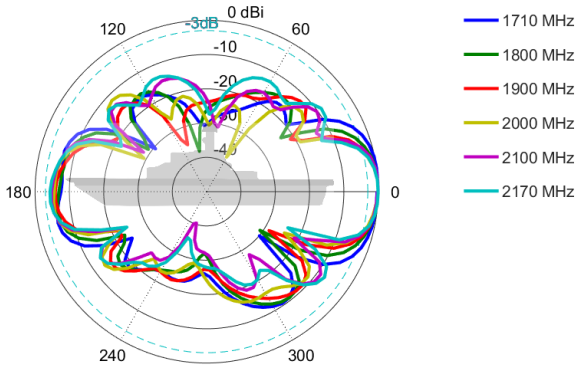
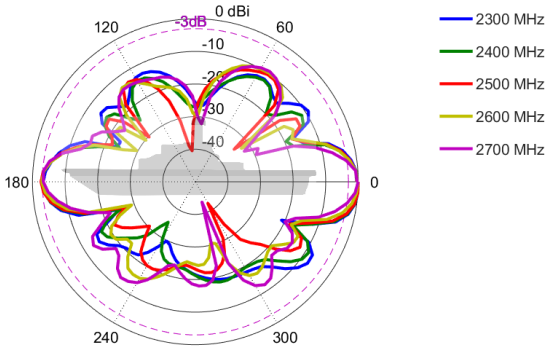
Elevation: 1427 – 1517 MHz



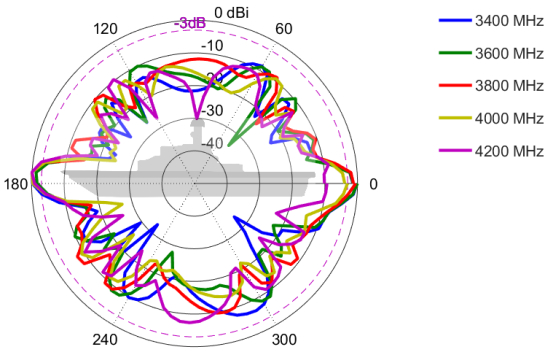
Elevation: 1710 – 2170 MHz



Elevation: 2300 – 2700 MHz



Elevation: 3400 – 4200 MHz



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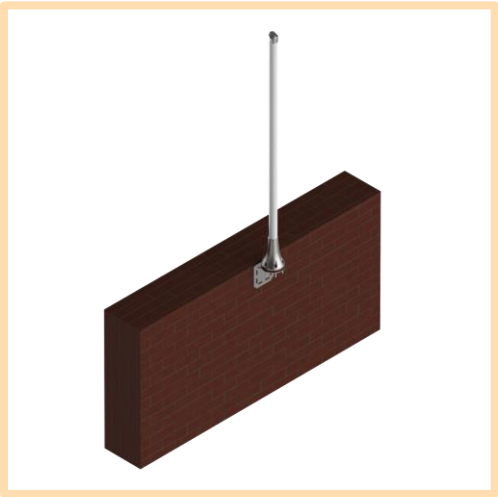
Mounting Options

Surface Mount

Surface mount using included base and mounting plate

Pole Mount

Pole mount using optional A-BRKT-090 (Not included)



Wall Mount

Wall mount using optional A-BRKT-090 (Not included)

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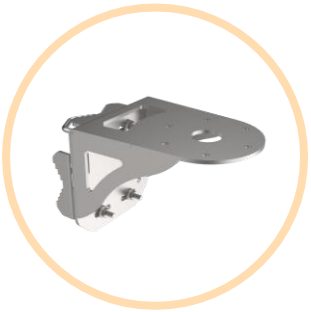
Additional Accessories



BRKT-90

Narwhal Series Marine Bracket, 316 S/S

See accessories technical specifications on www.poynting.tech

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