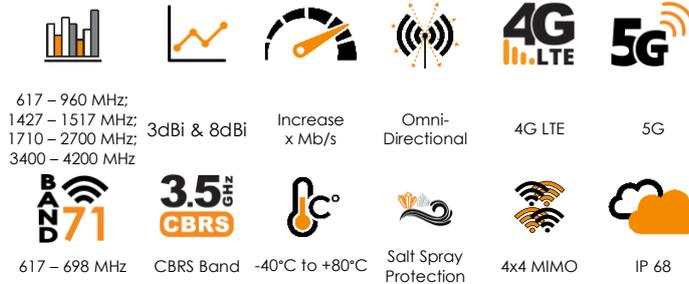


## ANTENNAS | OMNI-904 SERIES

# HIGH GAIN, OMNI-DIRECTIONAL, 4X4 MIMO LTE/5G ANTENNA

617 – 4200 MHz, 3 dBi & 8 dBi



APPLICATION AREAS

- High performance, omni-directional marine & coastal antenna
- 4x4 MIMO capability for improved performance
- Combination of low & high gain omni-directional antennas
- Covers contemporary LTE/5G bands from 617 to 4200 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-904 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 4x4 MIMO capability from its vertically separated radiating elements, all in the same single radome. The antenna design combines two low gain and two high gain omni-directional antennas, which allows for superior pattern control over the entire frequency range. This unique combination of low and high gain omni-directional antennas makes the OMNI-904 a true omni-directional 4x4 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-904 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, 4x4 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

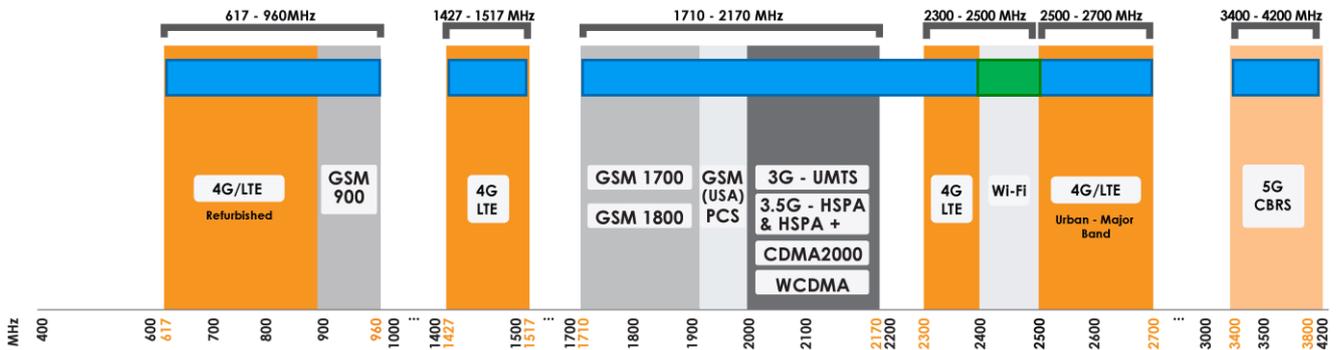
## Application Areas

- 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



### Frequency Bands

The OMNI-904 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-904 works        Indicates the WIFI bands on which OMNI-904 works

### Antenna Overview

	
Ports	4
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*

## Electrical Specifications

<b>Frequency bands:</b>	617 – 960 MHz 1427 – 1517 MHz 1710 – 2700 MHz 3400 – 4200 MHz
<b>Gain (Max): Port 1 &amp; 2</b>	6 dBi @ 617 – 960 MHz 6 dBi @ 1427 – 1517 MHz 8 dBi @ 1710 – 2700 MHz 5 dBi @ 3400 – 4200 MHz
<b>Gain (Max): Port 3 &amp; 4</b>	1 dBi @ 617 – 960 MHz 0 dBi @ 1427 – 1517 MHz 3 dBi @ 1710 – 2700 MHz 0 dBi @ 3400 – 4200 MHz
<b>Gain (Mean): Port 1 &amp; 2</b>	3 dBi @ 617 – 960 MHz 2 dBi @ 1427 – 1517 MHz 6 dBi @ 1710 – 2700 MHz 3.5 dBi @ 3400 – 4200 MHz
<b>Gain (Mean): Port 3 &amp; 4</b>	0 dBi @ 617 – 960 MHz -2 dBi @ 1427 – 1517 MHz 2 dBi @ 1710 – 2700 MHz -2 dBi @ 3400 – 4200 MHz
<b>VSWR:</b>	Port 1 & 2: ≤ 2.5:1 (Across 90% of the bands) Port 3 & 4: <2.5:1
<b>Feed power handling:</b>	10 W
<b>Input impedance:</b>	50 Ohm (nominal)
<b>Polarisation:</b>	Linear Vertical
<b>Coax cable loss:</b>	0.385 dB/m @ 900 MHz 0.507 dB/m @ 1500 MHz 0.565 dB/m @ 1800 MHz 0.788 dB/m @ 3000 MHz
<b>DC short:</b>	Yes

## Product Box Contents

<b>Antenna:</b>	A-OMNI-0904
<b>Mounting bracket:</b>	Wall/ Pole Mount Bracket

## Ordering Information

<b>Commercial name:</b>	OMNI-904
<b>Order product code:</b>	A-OMNI-0904-V1-01
<b>EAN number:</b>	6009710924198

## Mechanical Specifications

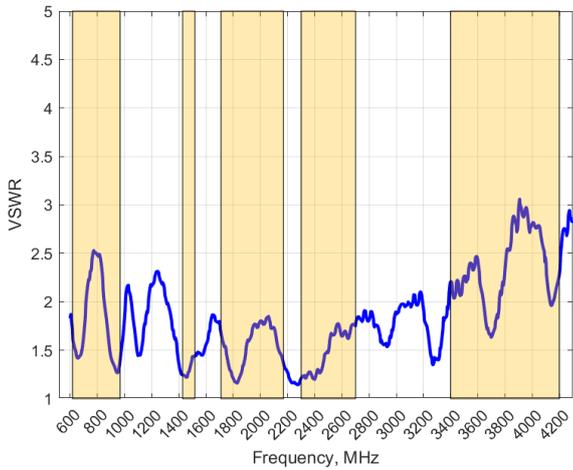
<b>Product dimensions</b>	1654 mm x Ø145 mm (Incl. Mounting Base)
<b>Packaged dimensions:</b>	TBC
<b>Weight:</b>	TBC
<b>Packaged weight:</b>	TBC
<b>Radome material:</b>	Fiberglass with 316 stainless steel caps
<b>Radome colour:</b>	Brilliant White Pantone P 179-1C
<b>Mounting Type:</b>	Pole, Wall and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

## Environmental Specifications, Certification & Approvals

<b>Wind Survival:</b>	<190 km/h
<b>Temperature Range (Operating):</b>	-40°C to +80°C
<b>Environmental Conditions:</b>	Outdoor/Indoor
<b>Water ingress protection ratio/standard:</b>	IP 68
<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 10
<b>Product Safety &amp; Environmental:</b>	Complies with CE and RoHS standards

**Antenna Performance Plots**

**VSWR: Port 1 & 2**



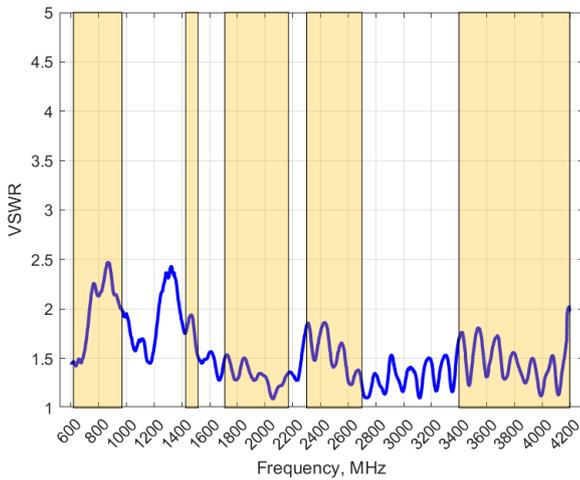
**Voltage Standing Wave Ratio (VSWR)\***

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-904 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

**VSWR: Port 3 & 4**



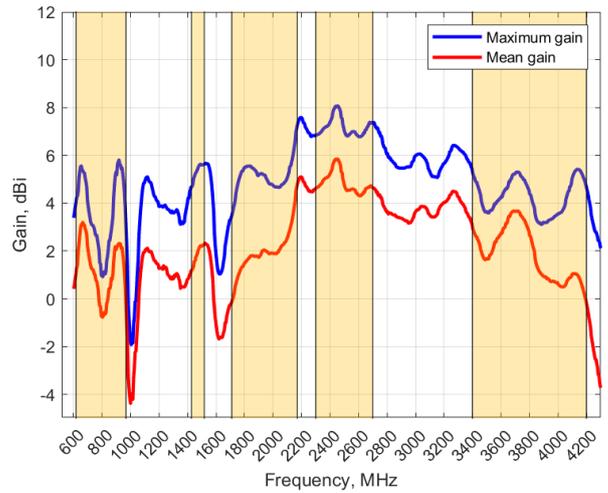
**Voltage Standing Wave Ratio (VSWR)\***

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-904 delivers superior performance across all bands with a VSWR of 2.5:1 or better.

\*VSWR measured with 2m low loss cable

**GAIN (EXCLUDING CABLE LOSS): Port 1 & 2**



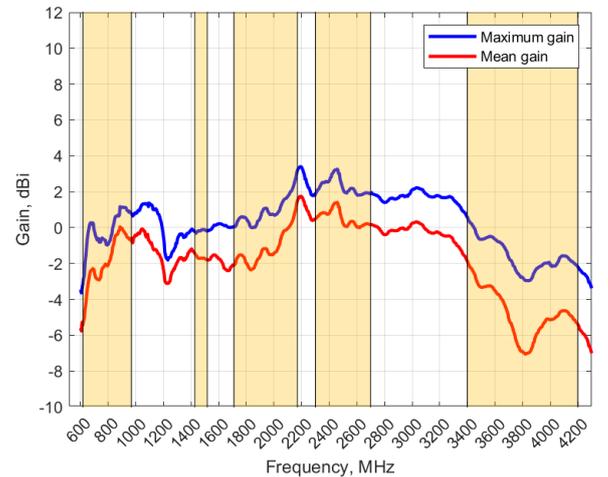
**Gain\* in dBi**

3dBi & 8dBi is the peak gain across all bands from 617 - 4200 MHz

Gain @ 617 – 968 MHz (Max; Mean):	6 dBi ; 3dBi
Gain @ 1427 – 1517 MHz (Max; Mean):	6 dBi ; 2 dBi
Gain @ 1710 – 2700 MHz (Max; Mean):	8 dBi ; 6 dBi
Gain @ 3400 – 4200 MHz (Max; Mean):	5 dBi ; 3.5 dBi

\*Antenna gain measured with polarisation aligned standard antenna

**GAIN (EXCLUDING CABLE LOSS): Port 3 & 4**



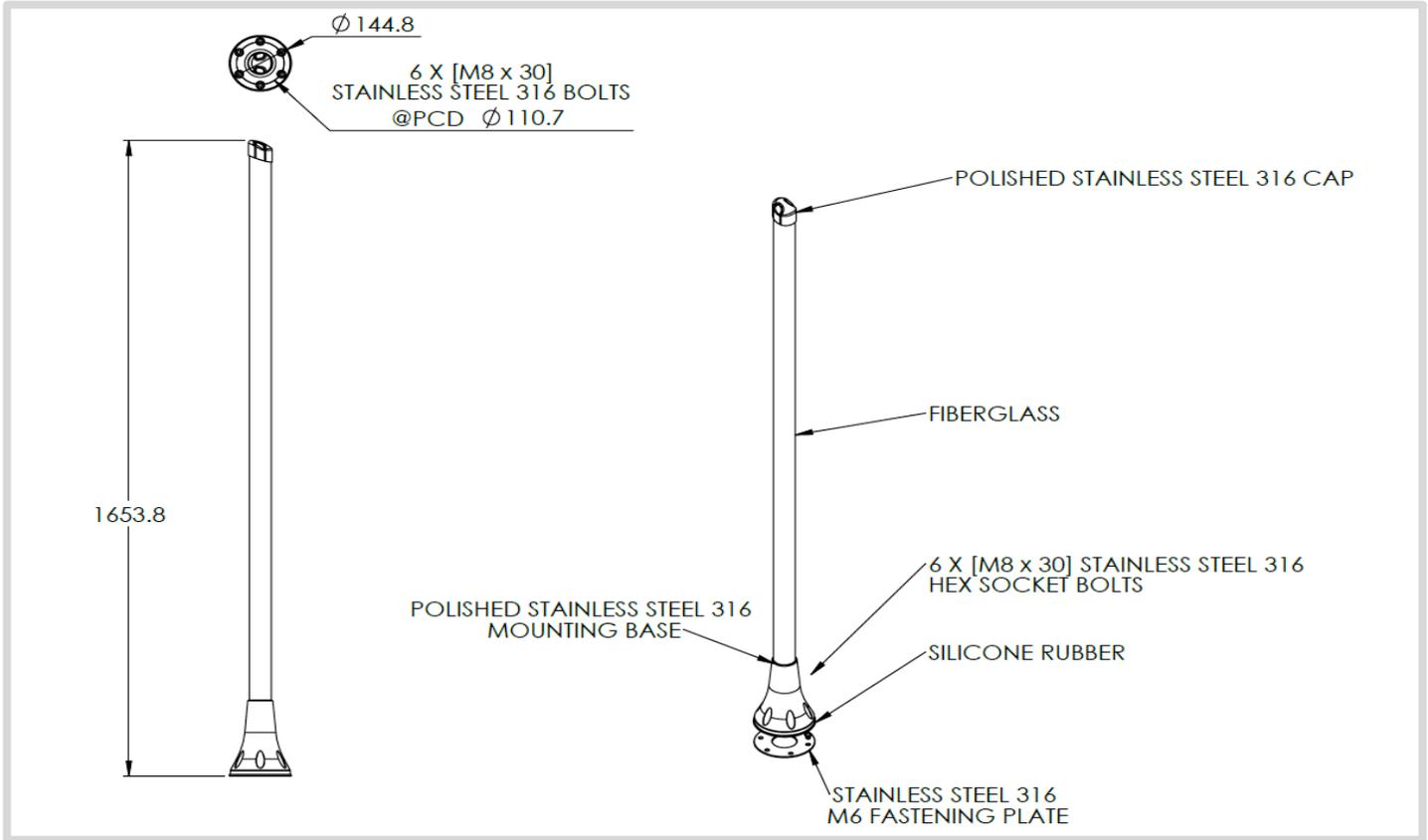
**Gain\* in dBi**

3 dBi is the peak gain across all bands from 617 - 4200 MHz

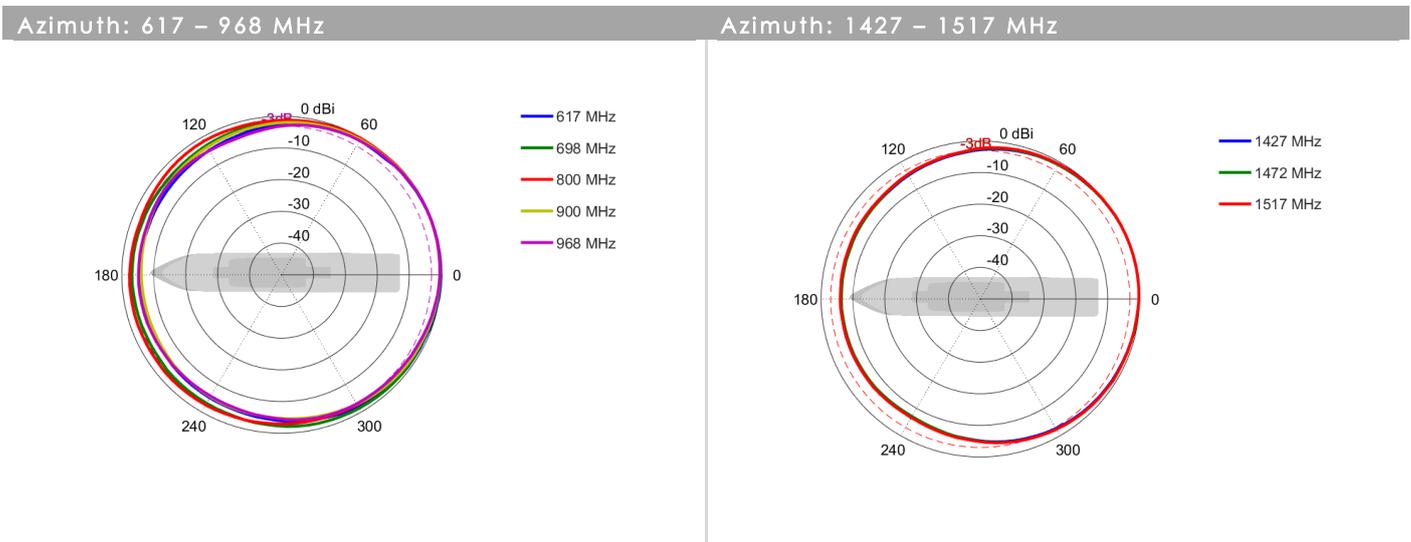
Gain @ 617 – 968 MHz (Max; Mean):	1 dBi ; 0 dBi
Gain @ 1427 – 1517 MHz (Max; Mean):	0 dBi ; -2 dBi
Gain @ 1710 – 2700 MHz (Max; Mean):	3 dBi ; 2 dBi
Gain @ 3400 – 4200 MHz (Max; Mean):	0 dBi ; -2dBi

\*Antenna gain measured with polarisation aligned standard antenna

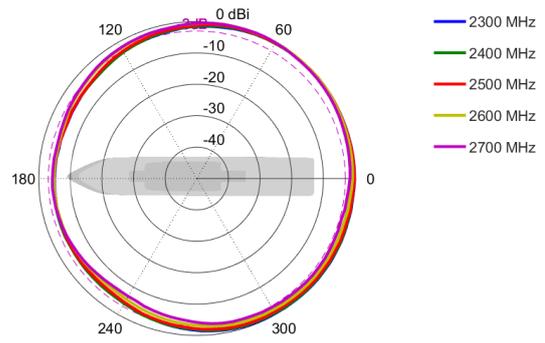
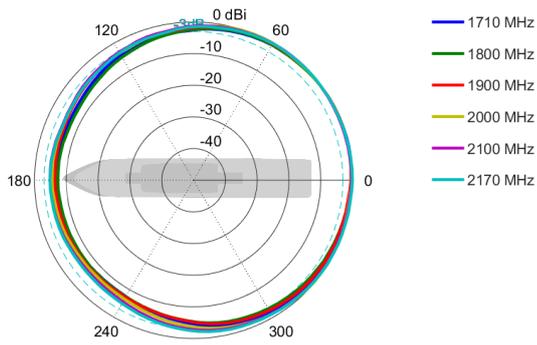
Technical Drawings



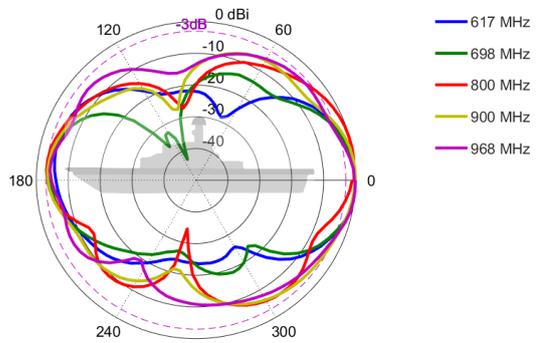
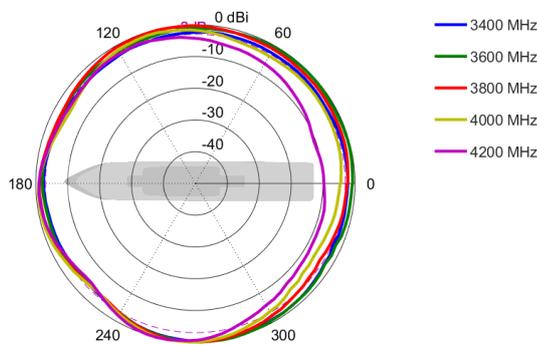
Radiation Patterns: Port 1 & 2



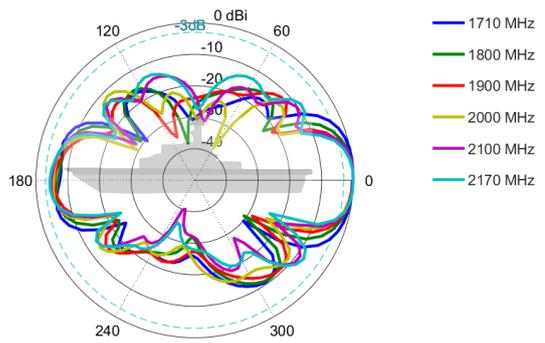
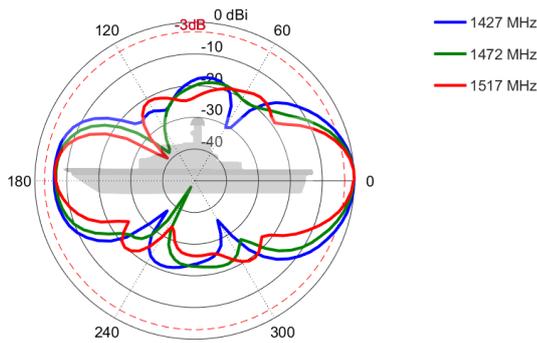
Azimuth: 1710 – 2170 MHz      Azimuth: 2300 – 2700 MHz



Azimuth: 3400 – 4200 MHz      Elevation: 617 – 968 MHz

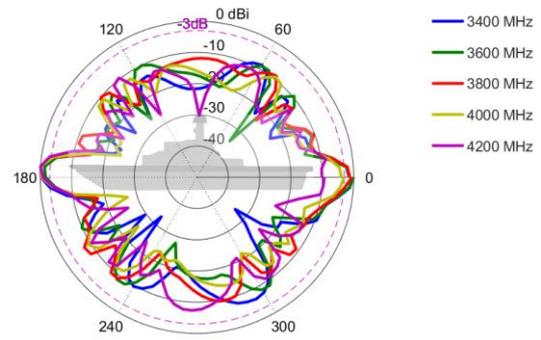
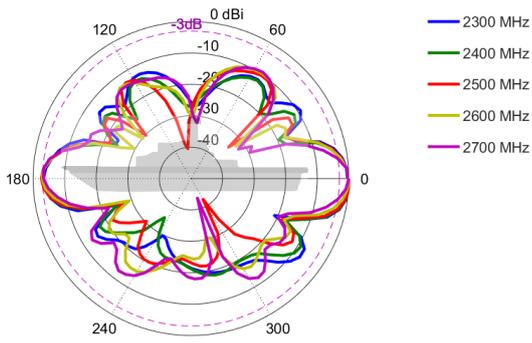


Elevation: 1427 – 1517 MHz      Elevation: 1710 – 2170 MHz



Elevation: 2300 – 2700 MHz

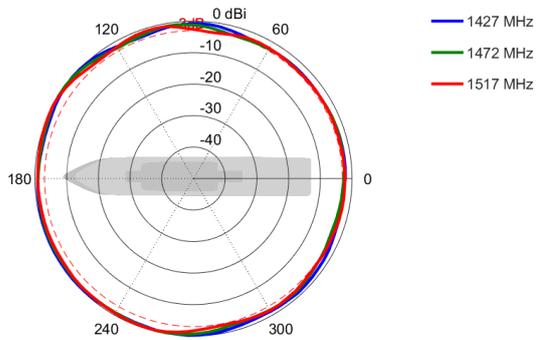
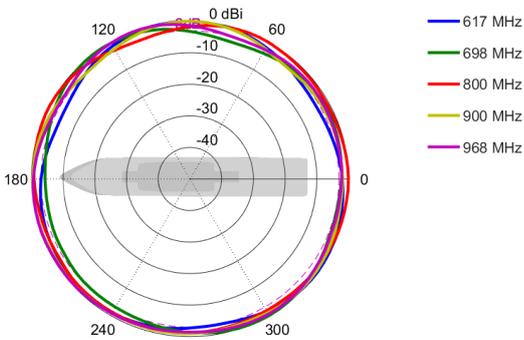
Elevation: 3400 – 4200 MHz



**Radiation Patterns: Port 3 &4**

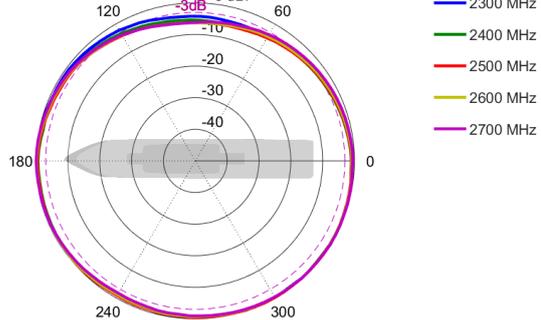
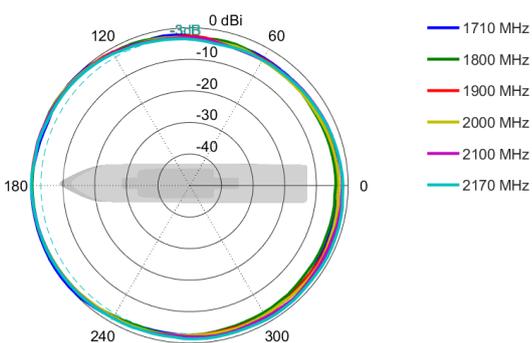
Azimuth: 617 – 968 MHz

Azimuth: 1427 – 1517 MHz

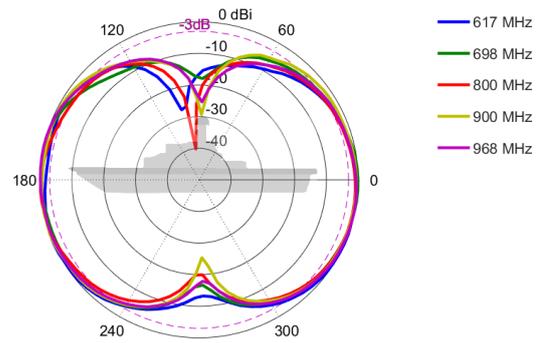
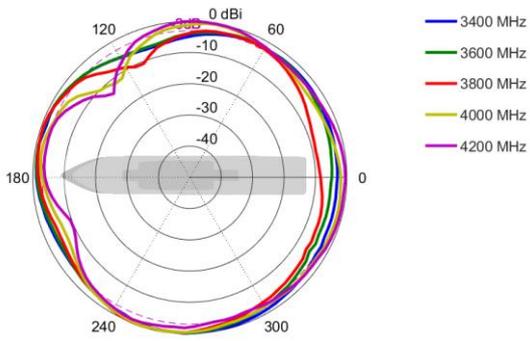


Azimuth: 1710 – 2170 MHz

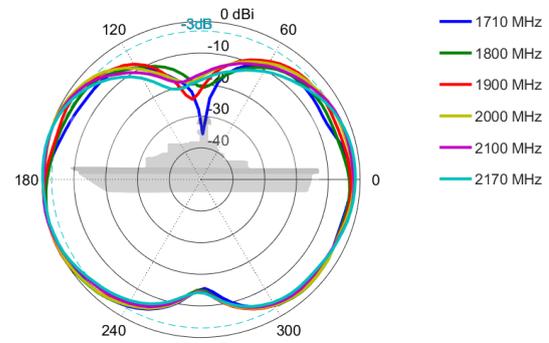
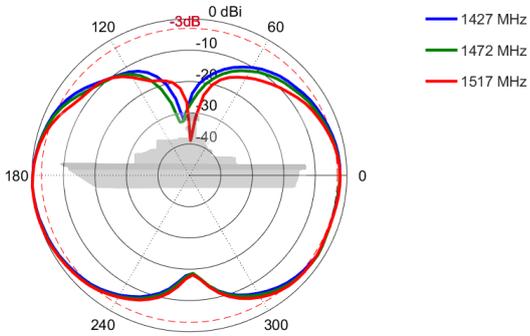
Azimuth: 2300 – 2700 MHz



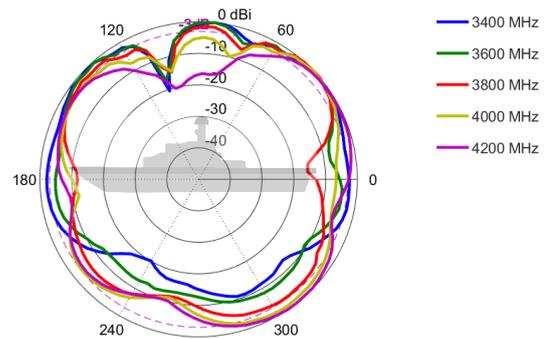
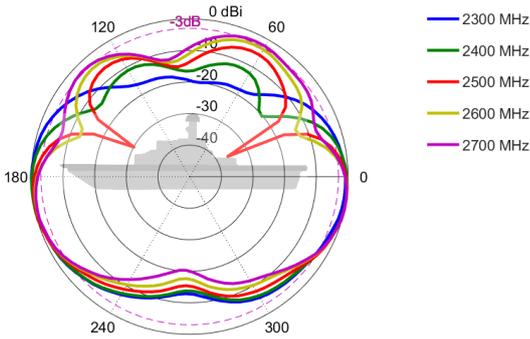
Azimuth: 3400 – 4200 MHz      Elevation: 617 – 968 MHz



Elevation: 1427 – 1517 MHz      Elevation: 1710 – 2170 MHz



Elevation: 2300 – 2700 MHz      Elevation: 3400 – 4200 MHz



## Mounting Options



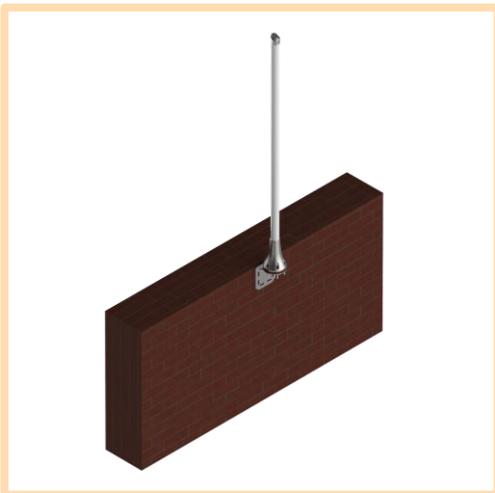
### Surface Mount

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)

## Additional Accessories



### BRKT-90

Narwhal Series Marine Bracket, 316 S/S

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

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**Phone:** +27 (0) 12 657 0050

**E-mail:** [sales@poynting.co.za](mailto:sales@poynting.co.za)

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