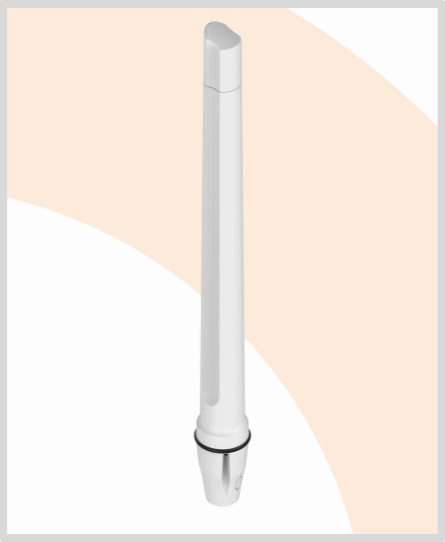
OMNI-498

POYNTING
BEYOND A CONNECTED LIFE

ANTENNAS | OMNI-498 SERIES

OMNI-DIRECTIONAL, MARINE, 2x2 MIMO WI-FI ANTENNA

Dual-Band Wi-Fi; 2400 – 2500 MHz, 3300 – 4200 MHz, 4900 – 7200 MHz; 9.8 dBi



2400 – 2500 MHz
3300 – 4200 MHz
4900 – 7200 MHz

2.4 GHz: 7 dBi
5 GHz: 9.8 dBi

Increase X Mb/s

Omni-Directional

2.4-2.5 GHz
4.9-7.2 GHz

Machine to Machine

Internet of Things

-40°C to +80°C

Salt Spray Protection

2x2 MIMO

6.0 – 7.2 GHz

IP 68

APPLICATION AREAS

Marine

Urban

Rural/Farm

Industrial

- **Dual-band Wi-Fi antenna for 2.4 GHz and 4.9 to 7.2 GHz**
- **2x2 MIMO capability for improved performance**
- **Compliant with IEEE 802.11a/b/g/n/ac/ax wireless standards**
- **UV and saltwater protected for marine and coastal conditions**
- **Robust and all-weather proof for harsh conditions at sea (IP 68)**
- **Various 316-stainless steel mounting brackets available**

Product Overview

The OMNI-498 is a dual-band Wi-Fi omni-directional antenna for marine & coastal deployments. The antenna provides dual-band Wi-Fi coverage in the 2.4 GHz and 4.9 to 7.2 GHz bands, making it ideal for any Wi-Fi access point, whether it is older Wi-Fi technology or new technology that goes up to Wi-Fi 6E (7.2 GHz). The antenna offers 2x2 MIMO capability from its vertically separated radiating elements, allowing for true omni-directional coverage suitable for marine and coastal applications.

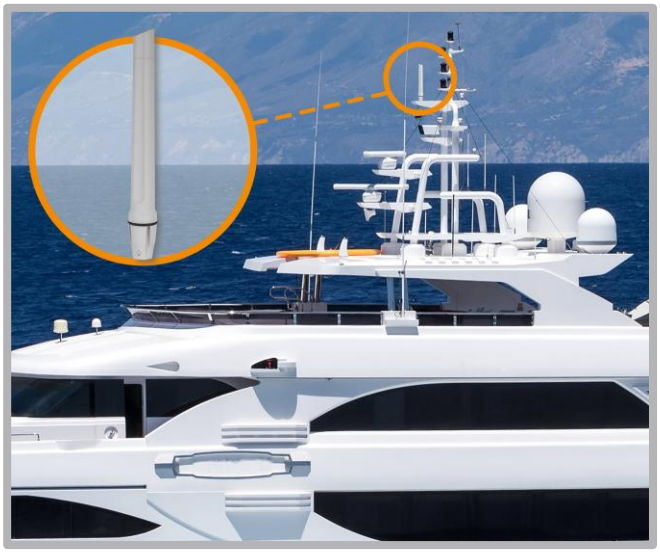
The OMNI-498 is purpose-built for harsh environments with an IP 68 protection rating against dust and water ingress, with the antenna being foam filled, making it ideal for the most severe storms at sea. The radome is fully saltwater protected, so it can be used in highly corrosive environments, thanks to the UV stable ASA radome material.

Features

- Dual-band Wi-Fi antenna for 2.4 GHz & 4.9 to 7.2 GHz
- 2x2 MIMO capability for improved performance
- High gain omni-directional antenna for Wi-Fi deployments
- Robust and weather-resistant enclosure with an IP 68 rating
- UV and saltwater-protected enclosure for marine applications

Application Areas

- Marine applications: Yachts / Boats / Ferries
- Increase system transmission reliability
- High-end industrial-grade router applications
- Ports and harbour Wi-Fi & WLAN deployments
- Industrial and commercial Wi-Fi deployment



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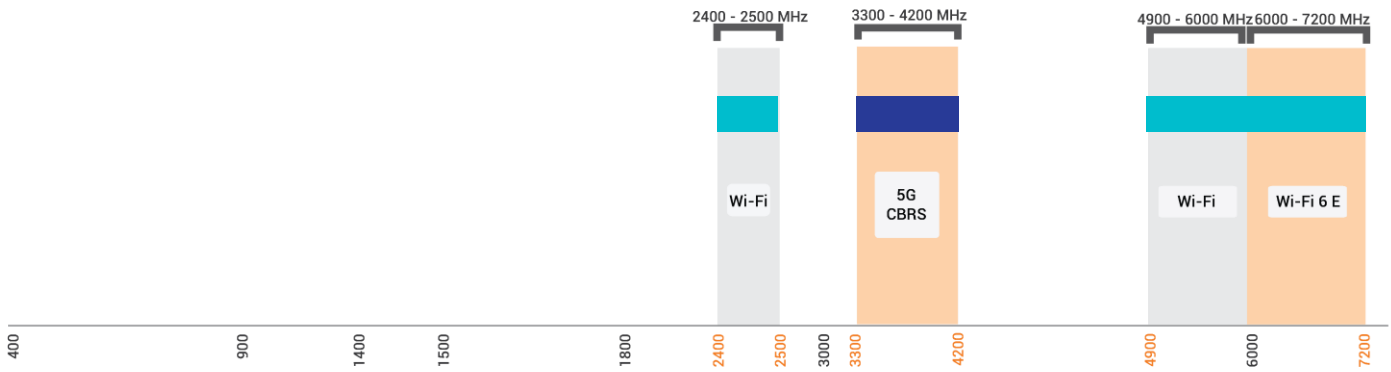
Frequency Bands

The OMNI-498 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-498 works

Indicates the WI-FI bands on which OMNI-498 works

Antenna Overview

	Wi Fi DUALBAND
Ports	2
SISO / MIMO	MIMO
Polarisation	Linear Vertical
Peak Gain	9.8 dBi
Coax Cable Type	2 x Twin HDF 195
Coax Cable Length	2 m
Connector Type	SMA (M)

*The coax cable & connector is factory mounted to the antenna

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Electrical Specifications

Frequency Bands:	2400 – 2500 MHz 3300 – 4200 MHz 4900 – 7200 MHz
Gain (Max):	7 dBi @ 2400 – 2500 MHz 8 dBi @ 3300 – 4200 MHz 9.8 dBi @ 4900 – 7200 MHz
VSWR:	<2:1
Feed Power Handling:	10 W
Input Impedance:	50 Ohm (nominal)
Polarisation:	Linear Vertical
Coax Cable Loss:	0.666 dB/m @ 2400 MHz 0.788 dB/m @ 3000 MHz 1.15 dB/m @ 5800 MHz
DC Short:	Yes

Product Box Contents

Antenna:	A-OMNI-0498-V1-01
Mounting Bracket:	1" (14 TPI) Marine Adapter (BRKT-40) & L-bracket (Ø30-50mm Pole)

Ordering Information

Commercial Name:	OMNI-498
Order Product Code:	A-OMNI-0498-V1-01
EAN Number:	6009710927458

Mechanical Specifications

Product Dimensions	750 mm x Ø75 mm (Incl. BRKT-40)
Packaged Dimensions:	705 mm x 150 mm x 100 mm
Weight:	0.68 Kg
Packaged Weight:	1.74 Kg
Radome Material:	UV Stable Marine ASA
Radome Colour:	Brilliant White Pantone P 179-1C
Mounting Type:	Standard 1" -14 TPI marine mount & Wall/pole mount

Environmental Specifications, Certification & Approvals

Wind Survival:	≤160 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 08
Product Safety & Environmental:	Complies with CE and RoHS standards

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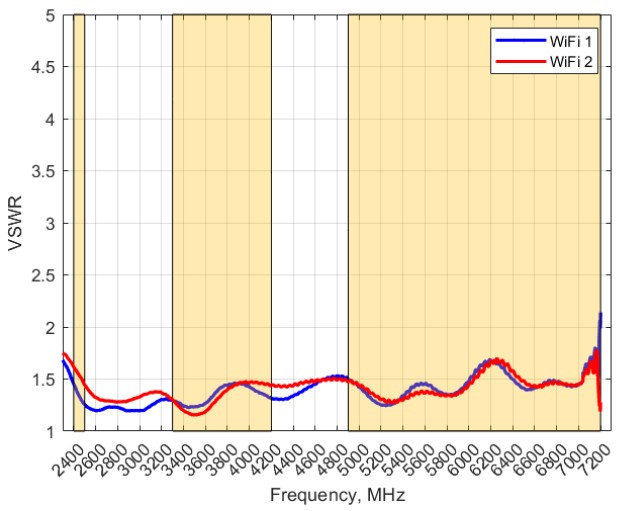
Antenna Performance Plots

VSWR



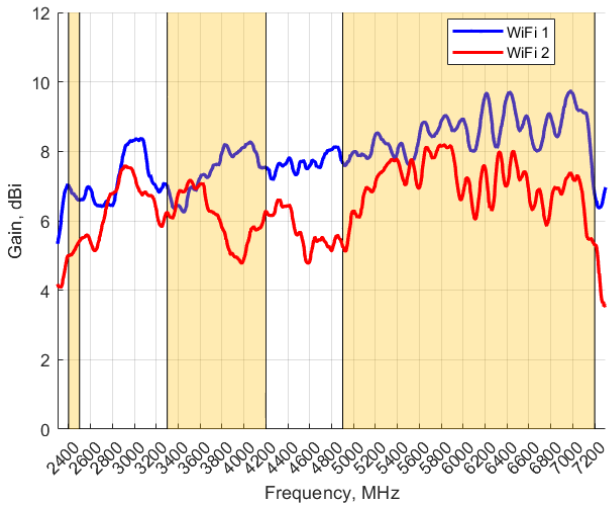
Voltage Standing Wave Ratio (VSWR)*

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-498 delivers superior performance across all bands with a VSWR of <2:1.

VSWR measured with 2m low loss cable.

GAIN (EXCLUDING CABLE LOSS)



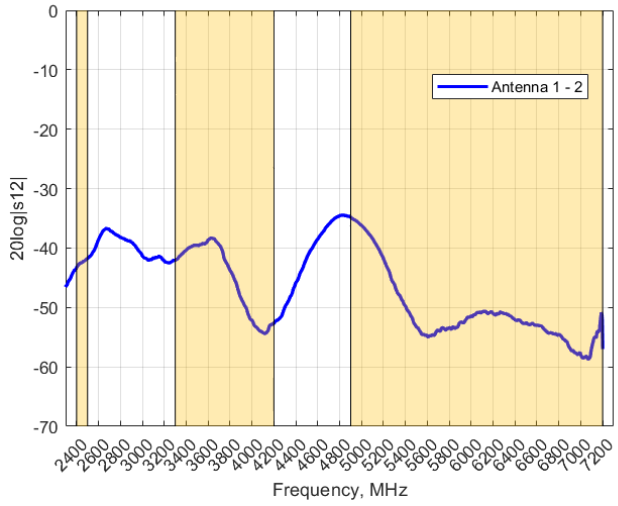
Gain+ in dBi

9.8 dBi is the peak gain across all bands

Gain @ 2400 – 2500 MHz:	7 dBi
Gain @ 3300 – 4200 MHz:	8 dBi
Gain @ 4900 – 7200 MHz:	9.8 dBi

+Antenna gain measured with polarisation aligned standard antenna

Isolation



Isolation

Isolation is a measurement of the amount of energy leaked from one port to another. A good isolation is under -20 dB.

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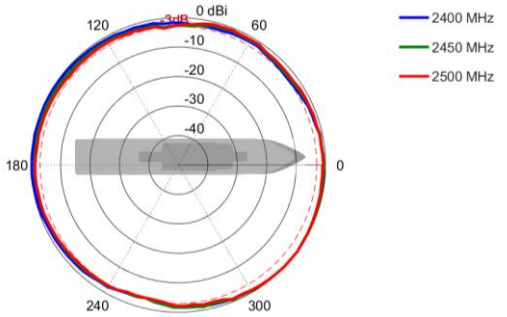
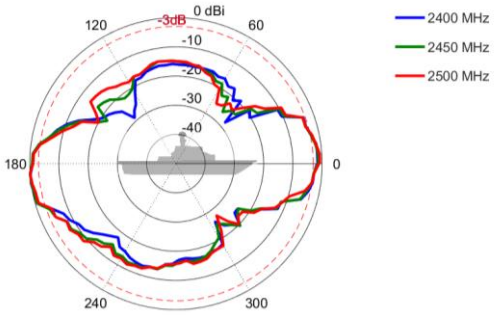
MIMO Radiation Patterns

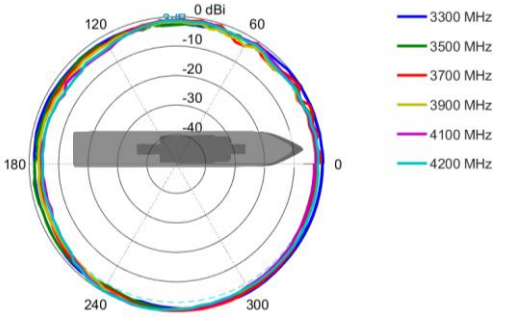
Azimuth: 2400 – 2500 MHz



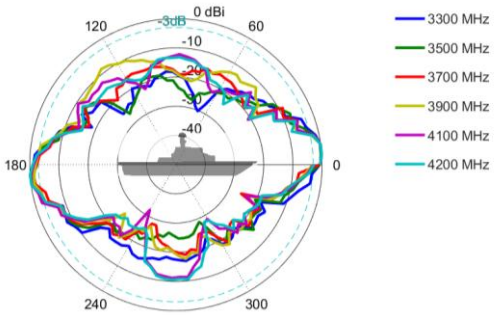
Elevation: 2400 – 2500 MHz



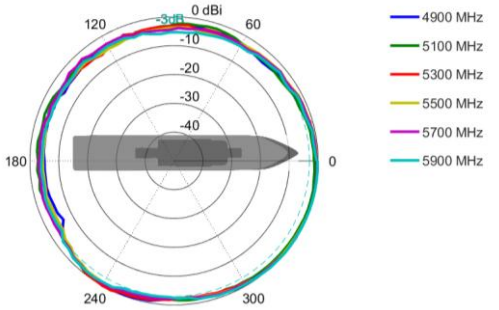
Azimuth: 3300 – 4200 MHz



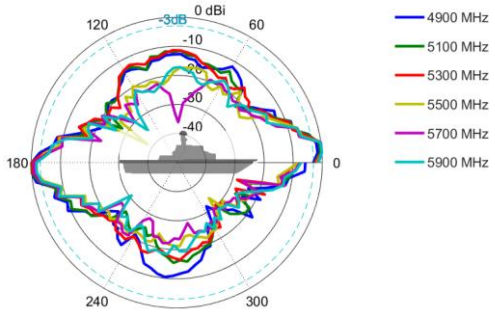
Elevation: 3300 – 4200 MHz



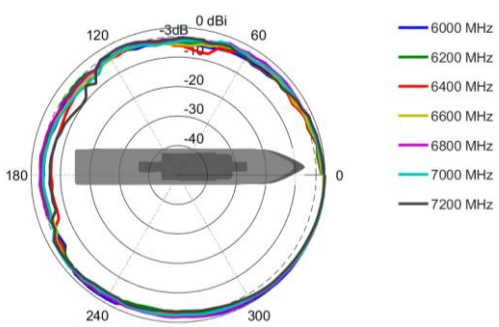
Azimuth: 4900 – 5900 MHz



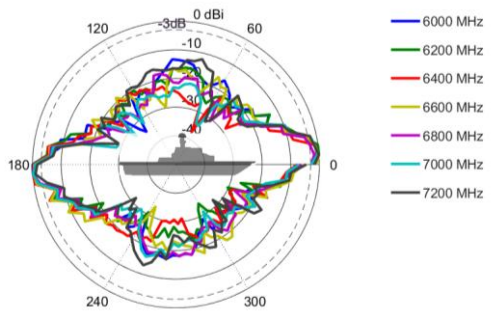
Elevation: 4900 – 5900 MHz



Azimuth: 6000 – 7200 MHz



Elevation: 6000 – 7200 MHz



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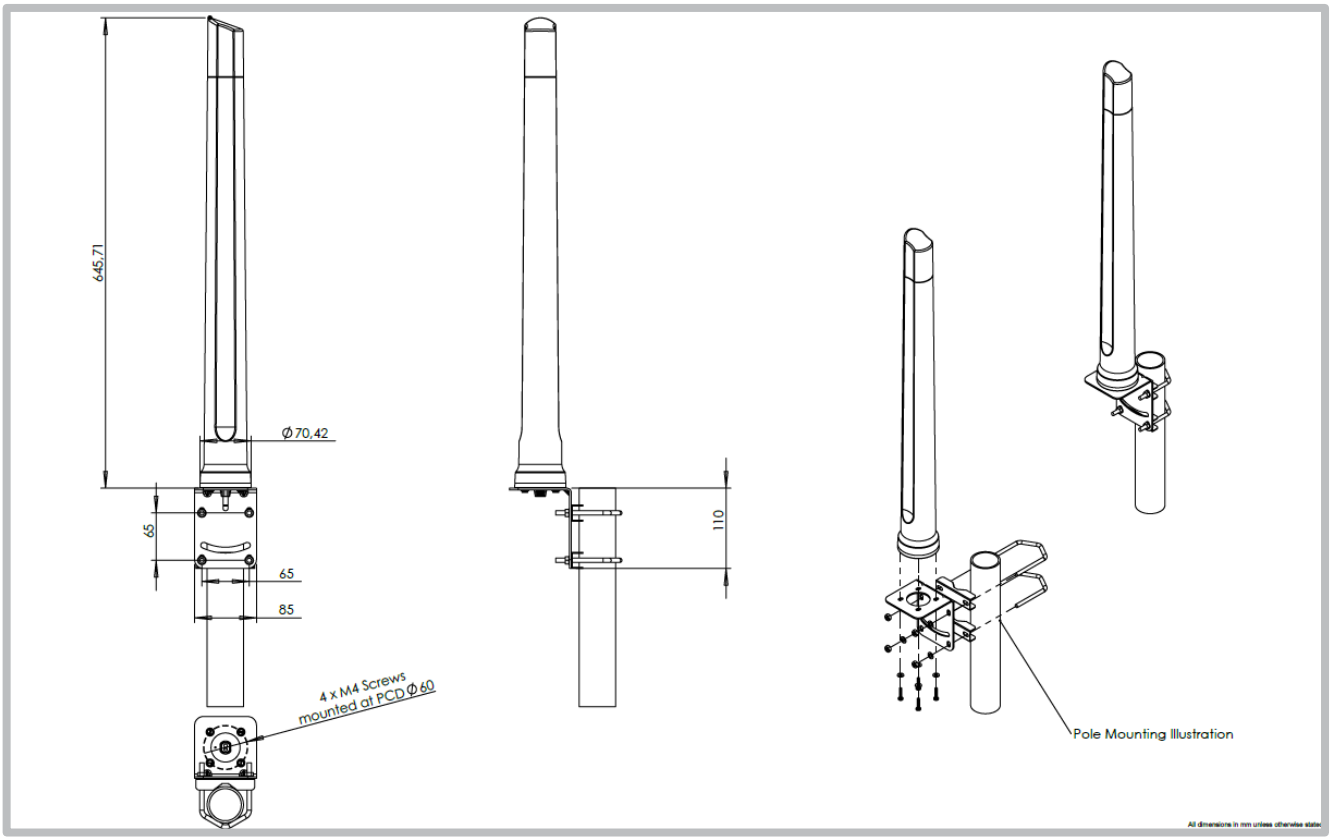
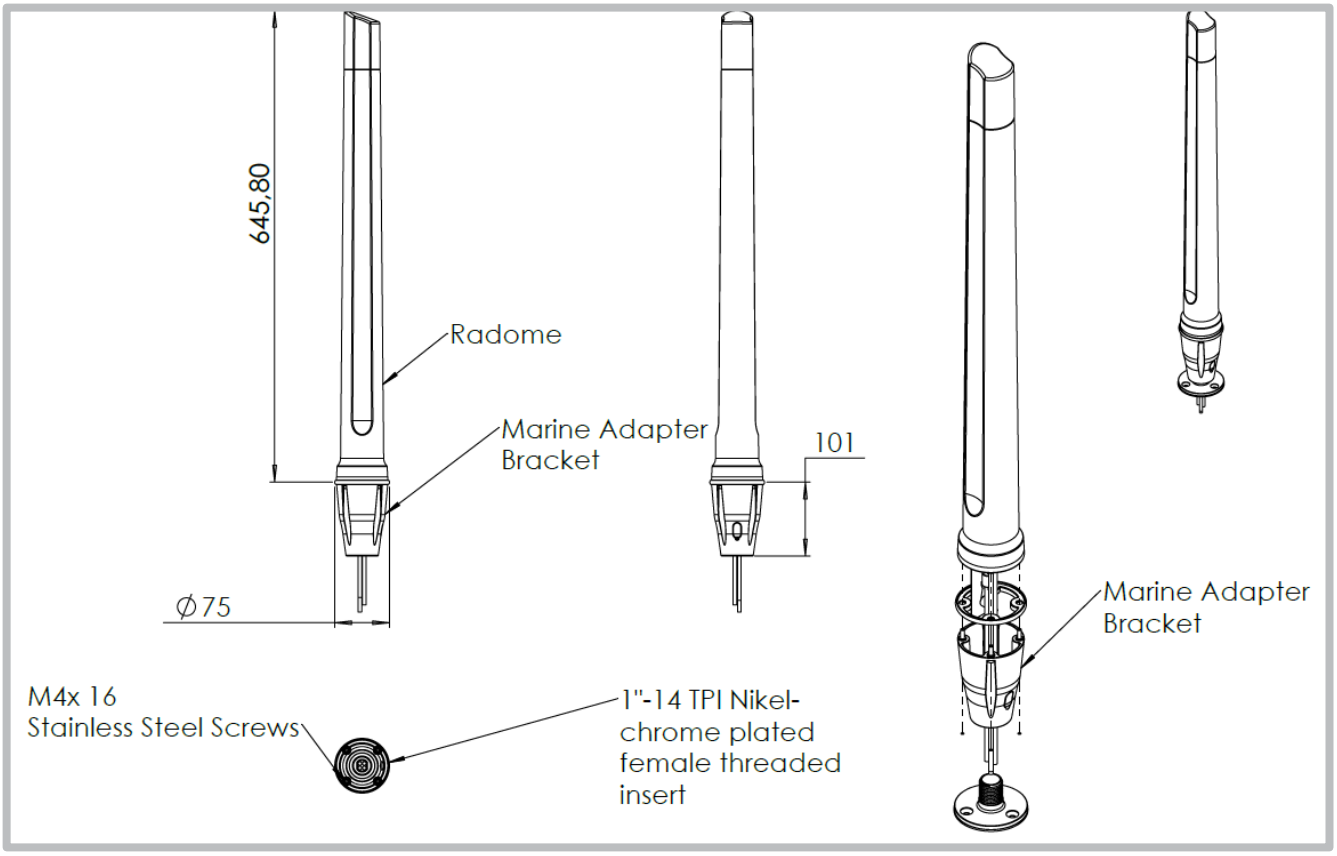
Technical Drawings





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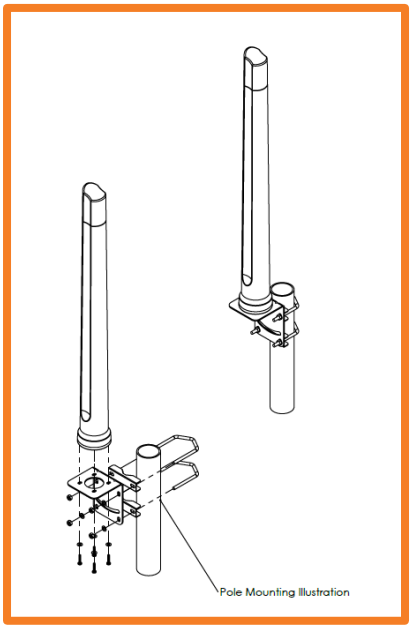
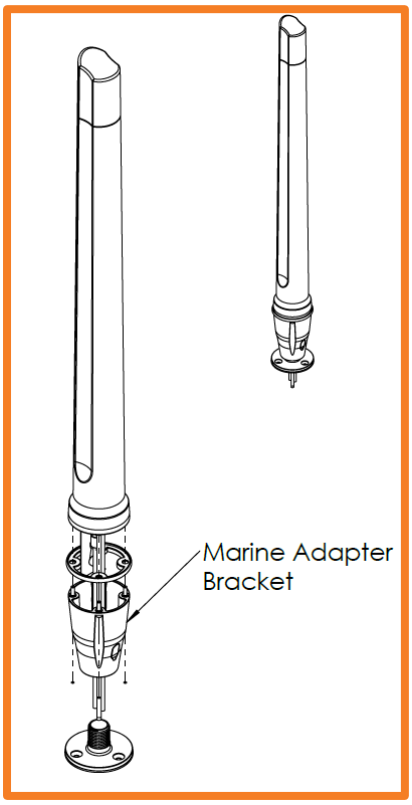
Mounting Options



Pole Mount

L-Bracket 316 Stainless Steel – included
(For Ø 30-50mm pole)



Marine Bracket Mount

1" -14 TPI female adapter – included
Mounts to standard marine brackets:
- BRKT-37: Flat Mount - Optional
- BRKT-38: Ratchet Mount - Optional
- BRKT-39: Rail Mount - Optional

See Optional Accessories below

Also available: BRKT-41 with 1.25" – 11TPI female adapter (Optional)
See Accessories below

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Additional Accessories

BRKT-37

Marine flat mount antenna bracket 1"-14TPI 316 Stainless Steel

BRKT-38

Marine ratchet rail mount antenna bracket 1"-14TPI 316 Stainless Steel

BRKT-39

Heavy duty marine mount antenna bracket 1"-14TPI 316 Stainless Steel

See accessories technical specifications on www.poynting.tech

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