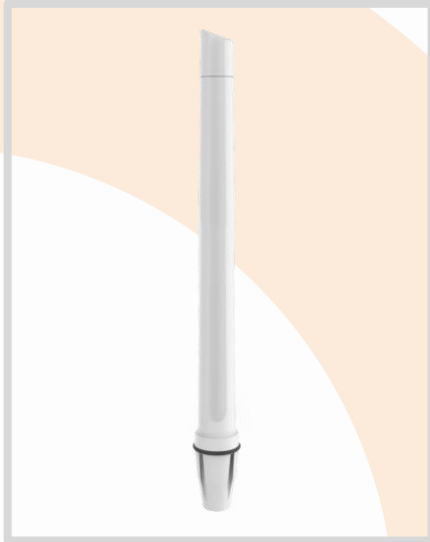


ANTENNAS | OMNI-402 SERIES

OMNI-DIRECTIONAL, MARINE & COASTAL 5G/LTE

ANTENNA

410 – 3800 MHz, 6.2 dBi



 410 – 470 MHz 617 – 960 MHz 1427 – 1517 MHz 1710 – 2700 MHz 3400 – 3800 MHz	 6.2 dBi	 410 – 470 MHz	 Omni-Directional	 5G	 4G LTE	 Marine
 3.5 GHz CBRS	 BAND 71	 IoT	 2x2 MIMO	 -40°C to +80°C	 IP 68	 Transportation
CBRS Band	617 – 698 MHz	Internet of Things				 Urban
						 Rural/Farm

APPLICATION AREAS

- High performance wideband omni-directional marine antenna
- 2X2 MIMO capability for improved performance
- Easy mounting with feed through 1-inch marine standard adapter bracket included
- Robust and all-weather proof for harsh conditions at sea (IP 68)
- Various 316 stainless steel mounting brackets available optionally
- UV and saltwater protected against tempestuous weather conditions

Product Overview

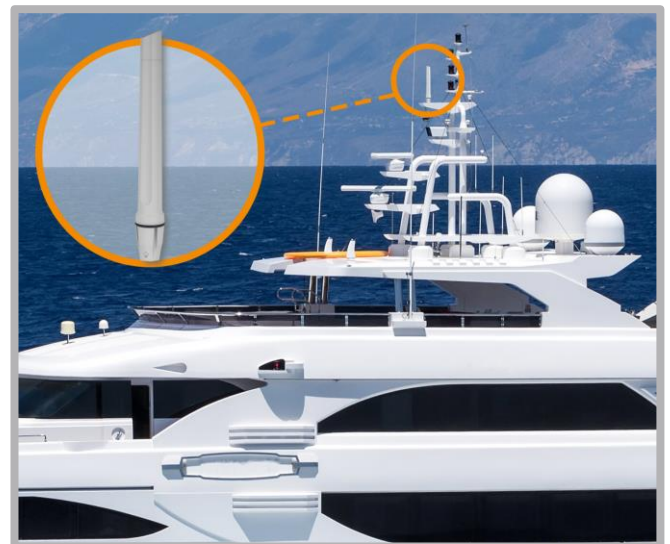
The OMNI-402 is an ultra-wide band antenna, which covers all contemporary LTE operating frequencies with excellent balanced gain across all frequencies. The antenna also offers 2X2 MIMO capability from its vertically separated radiating elements, all in the same radome. The antenna design allows the antenna to have superior pattern control over the entire frequency range making the OMNI-402 a true high performance omni-directional MIMO antenna, suitable for marine and coastal applications. Usable in all parts of the world, the OMNI-402 guarantees signal reception almost everywhere. Poynting Antennas achieves this through new antenna configuration using multiple dipoles and a unique (patented) feed network. The antenna is future proof as it covers the 450 MHz LTE frequency band, which is becoming more popular in various regions and countries. This antenna is also 3400 – 3800 MHz capable for coastal and inland use.

Features

- Medium gain omni-directional antenna
- Antenna is purpose-built for marine and coastal operation
- UV and salt-water resistant
- Robust and weather resistant design with IP 68 rating
- 2X2 MIMO capable for improved performance
- Includes 3.5 GHz CBRS band and is 5G ready

Application Areas

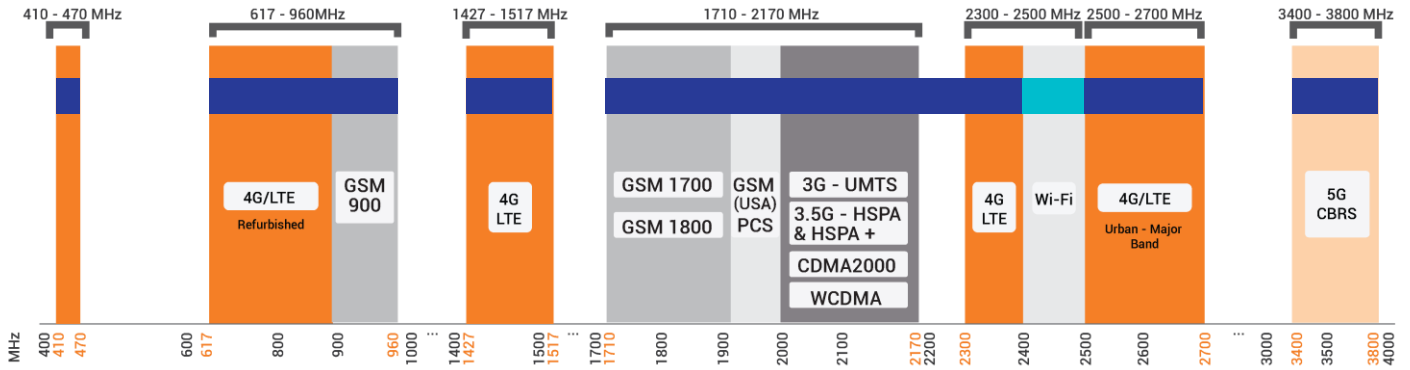
- Marine applications / Yachts / Boats / Ferries
- Enhanced LTE reception
- IoT and M2M
- Poor data signal reception
- Improve data transmission connection reliability & stability
- Wi-Fi applications



OMNI-402


Frequency Bands

The OMNI-402 is an omni-directional antenna that works from | 410- 470 MHz | 617 – 960 MHz | 1427 – 1517 MHz | 1710 – 2700 MHz | and | 3400 – 3800 MHz |



Indicates the 4G/5G bands on which OMNI-402 works Indicates the WI-FI bands on which OMNI-402 works

Antenna Overview

	
Ports	2
SISO / MIMO	2x2 MIMO
Frequency Bands	410 – 3800 MHz
Polarisation	Linear Vertical
Peak Gain	6.2 dBi
Coax Cable Type	Twin HDF 195
Coax Cable Length	2m
Connector Type	SMA (M)

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

Electrical Specifications

Frequency Bands:	410 – 470 MHz 617 – 960 MHz 1427 – 1517 MHz 1710 – 2700 MHz 3400 – 3800 MHz
Gain (Max):	1 dBi @ 410 – 470 MHz 2 dBi @ 617 – 960 MHz 4 dBi @ 1427 – 1517 MHz 6.2 dBi @ 1710 – 2700 MHz 2.5 dBi @ 3400 – 3800 MHz
VSWR:	<2.5:1 across 90% of the band
Feed Power Handling:	10 W
Input Impedance:	50 Ohm (nominal)
Coax Cable Loss:	0.25 dB/m @ 400 MHz 0.385 dB/m @ 900 MHz 0.507 dB/m @ 1500 MHz 0.565 dB/m @ 1800 MHz 0.666 dB/m @ 2400 MHz 0.788 dB/m @ 3000 MHz
DC Short:	Yes

Product Box Contents

Antenna:	A-OMNI-0402
Mounting Bracket:	1" (14 TPI) Marine Adapter (BRKT-40) & L-bracket (Ø30-50mm Pole)

Ordering Information

Commercial Name:	OMNI-402
Order Product Code:	A-OMNI-0402-V1
EAN Number:	6009710923702

Mechanical Specifications

Product Dimensions:	750 mm x Ø75 mm (Incl. BRKT-40)
Packaged Dimensions:	704 mm x 147 mm x 100 mm
Weight:	0.86 kg
Packaged Weight:	1.7 kg
Radome Material:	UV Stable Marine ASA
Radome Colour:	Brilliant White Pantone P 179-1 C
Mounting Type:	Standard 1" -14 TPI marine mount & Wall/pole mount

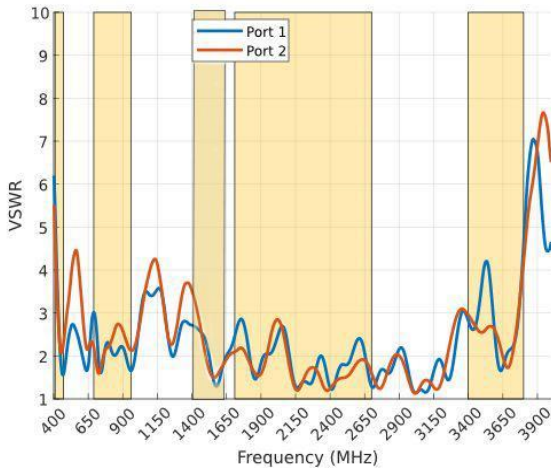
Environmental Specifications, Certification & Approvals

Antenna Wind Survival:	<160 km/h
Temperature Range (Operating):	-40°C to +80°C
Environmental Conditions:	Outdoor/Indoor
Ingress Protection:	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



Antenna Performance Plots

VSWR



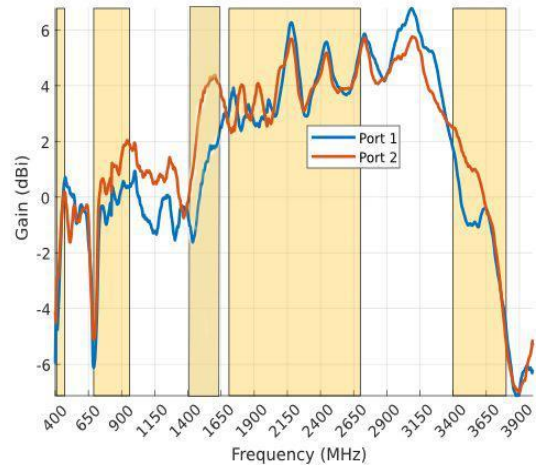
Voltage Standing Wave Ratio (VSWR)*

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-402 delivers superior performance across all bands with a VSWR of 2.5:1 or better across 90% of the bands.

*VSWR measured with a 2m low loss cable.

GAIN (EXCLUDING CABLE LOSS)



Gain* in dBi

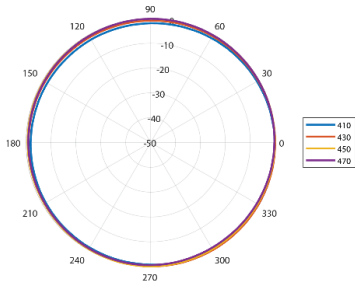
6.2 dBi is the peak gain across all bands from 410 – 3800 MHz

Gain @ 410 – 470 MHz:	1 dBi
Gain @ 617 – 960 MHz:	2 dBi
Gain @ 1427 – 1517 MHz:	4 dBi
Gain @ 1710 – 2700 MHz:	6.2 dBi
Gain @ 3400 – 3800 MHz:	2.5 dBi

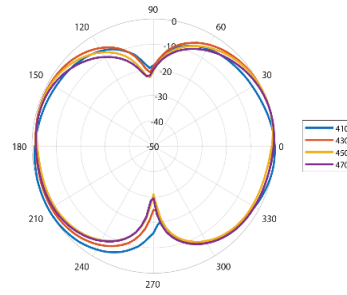
*Antenna gain measured with polarisation aligned standard antenna

Radiation Patterns

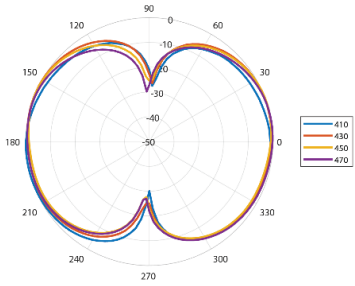
Azimuth: 410 - 470 MHz



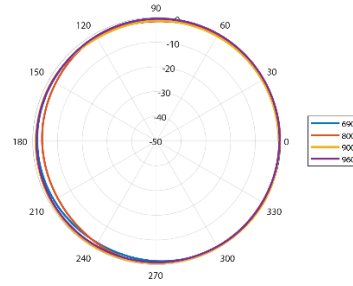
Elevation 1: 410 - 470 MHz



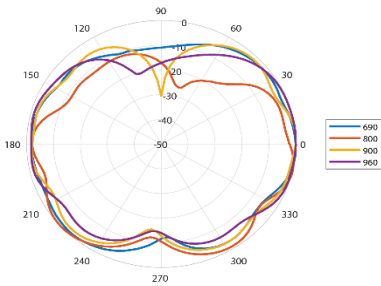
Elevation 2: 410 - 470 MHz



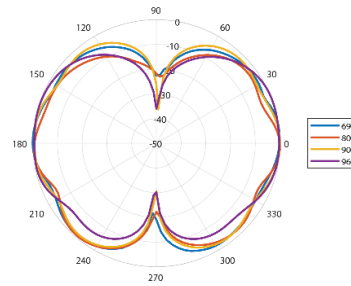
Azimuth: 690 - 960 MHz



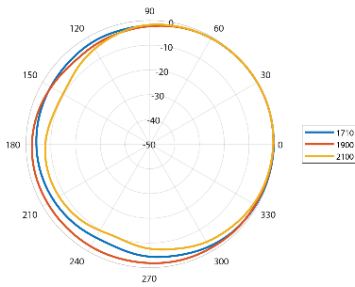
Elevation 1: 690 - 960 MHz



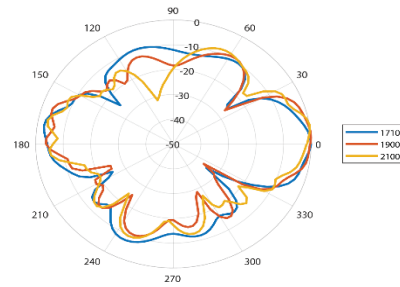
Elevation 2: 690 - 960 MHz



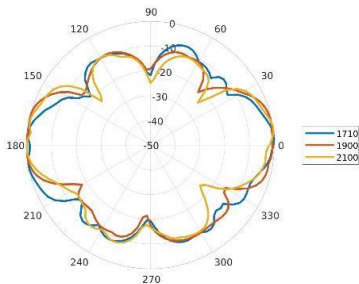
Azimuth: 1710 - 2100 MHz



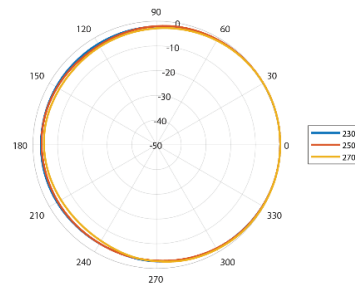
Elevation 1: 1710 - 2100 MHz



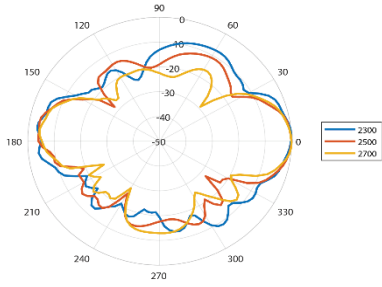
Elevation 2: 1710 - 2100 MHz



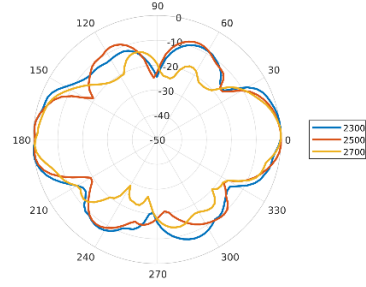
Azimuth: 2300 - 2700 MHz



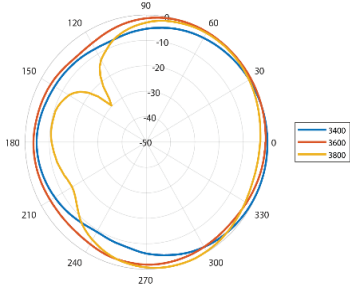
Elevation 1: 2300 – 2700 MHz



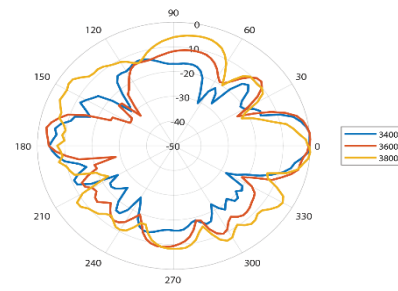
Elevation 2: 2300 – 2700 MHz



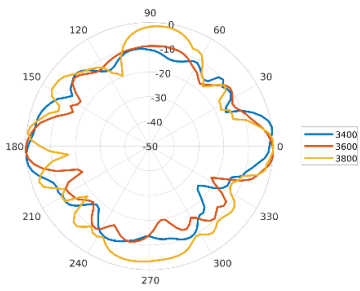
Azimuth: 3400 – 3800 MHz



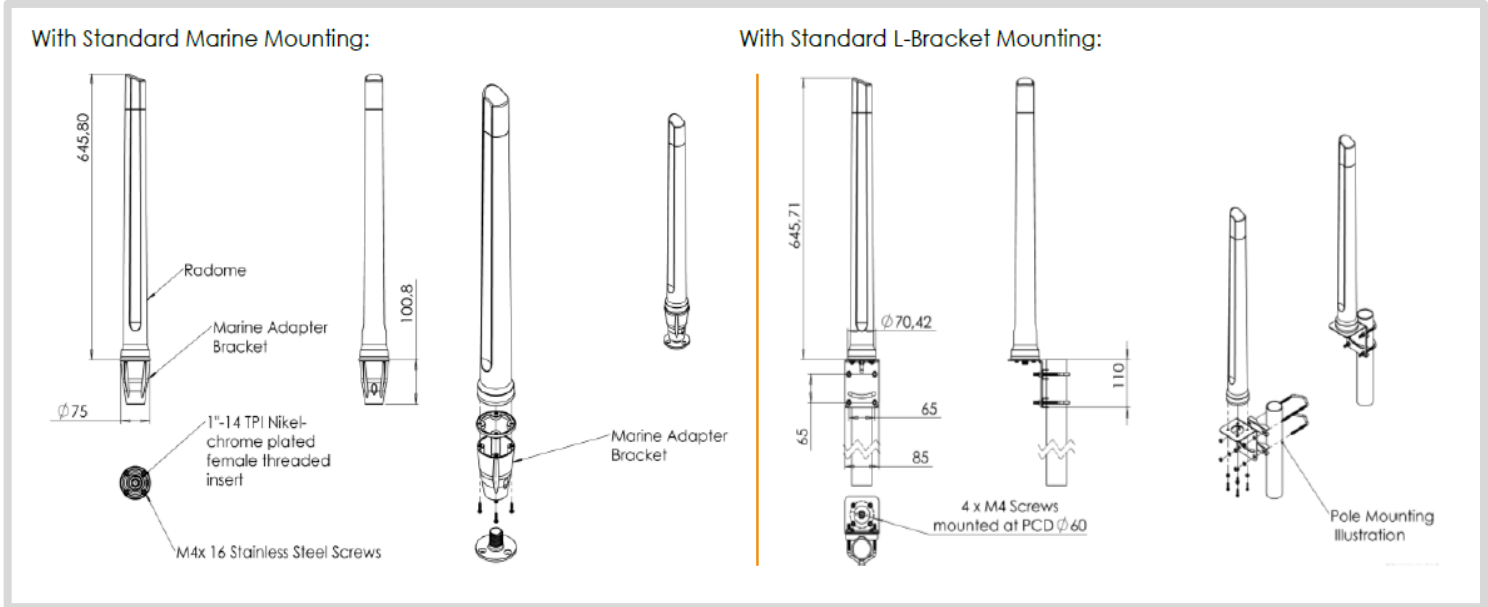
Elevation 1: 3400 – 3800 MHz



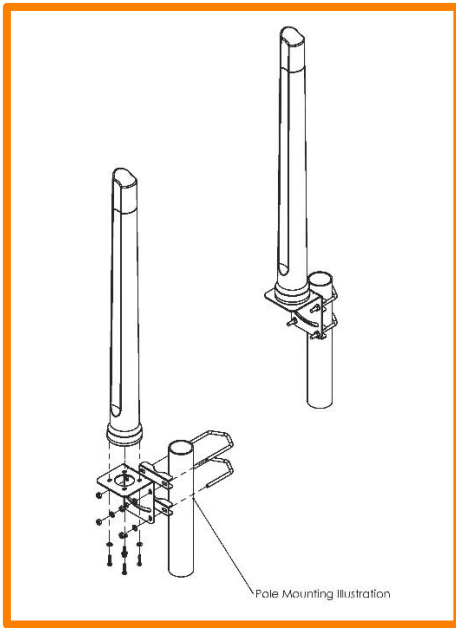
Elevation 2: 3400 – 3800 MHz



Technical Drawings

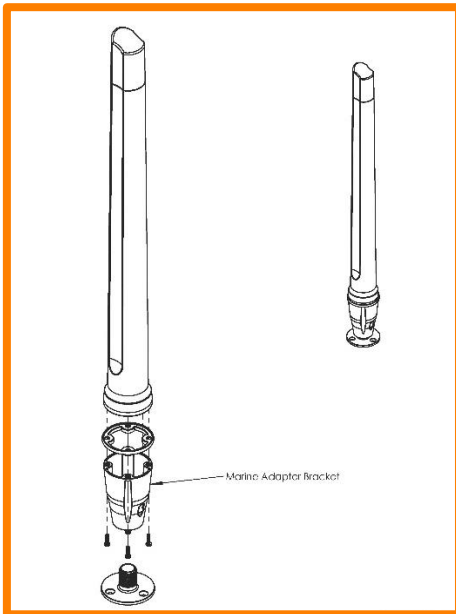


Mounting Options



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

Optional Accessories

**BRKT-37**

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

**BRKT-38**

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

**BRKT-39**

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

See accessories technical specifications on www.poynting.tech

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