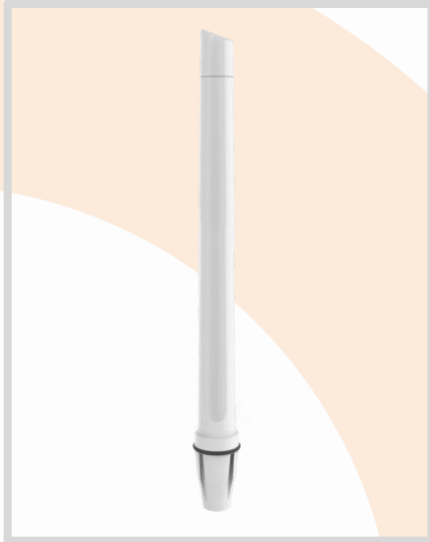


ANTENNAS | OMNI-402-5G SERIES

OMNI-DIRECTIONAL, MARINE & COASTAL 5G/4G ANTENNA

410 – 4200 MHz; 5.8 dBi, 2x2 MIMO



- High performance, wideband omni-directional marine antenna
- 2x2 MIMO capability for improved performance
- Easy mounting with feed through 1inch marine standard adapter bracket included
- Robust and all-weather proof for harsh conditions at sea (IP 68)
- UV and saltwater protect against adverse weather conditions
- Various 316-stainless steel mounting brackets available optionally



APPLICATION AREAS

Product Overview

The OMNI-402-5G is an ultra-wideband antenna, which covers all contemporary 5G/LTE operating frequencies with excellent balanced gain across all frequencies. The antenna operates from 410 to 4200 MHz, with a peak gain of 5.8 dBi across the ultra-wideband. The antenna also offers 2x2 MIMO capability from its vertically separated elements, further enhancing overall performance. The antenna design allows superior pattern control over the entire frequency range, making the OMNI-402 a true high-performance omni-directional MIMO antenna, ideal for the marine and coastal applications.

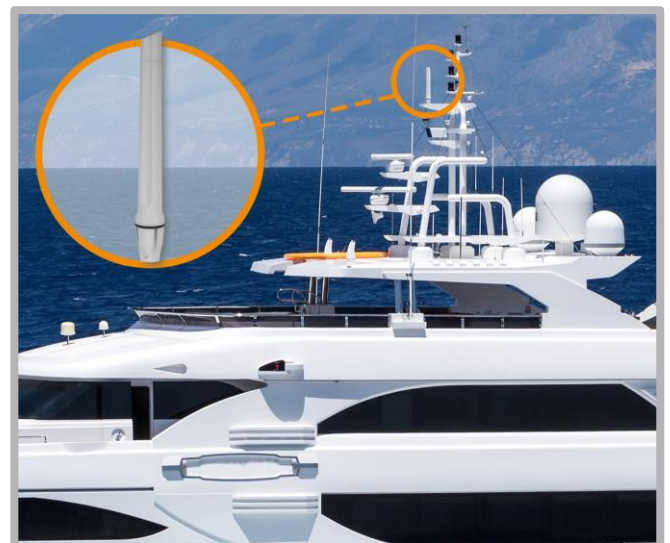
The OMNI-402 is usable in all parts of the world, guaranteeing signal reception almost everywhere. Poynting achieves this through a new antenna configuration using multiple dipoles and a unique (patented) feed network. The antenna is future-proof as it covers the lower 450 MHz LTE frequency and the upper 4.2 GHz 5G band for coastal and inland applications.

Features

- Ultra-wideband, medium gain, omni-directional antenna
- 2x2 MIMO capability for improved performance
- Purpose-built for marine and coastal applications
- UV and salt-water resistant radome
- Robust and weather-resistant design with an IP68 rating

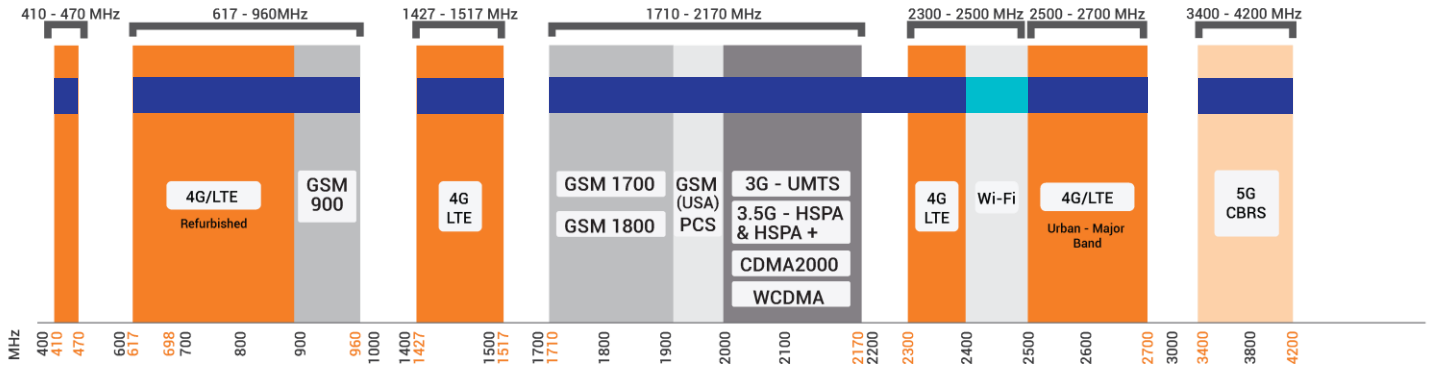
Application Area

- Marine applications: Yachts / Boats / Ferries
- Enhanced 5G/LTE reception
- Poor data signal reception
- Improve data transmission connection reliability & stability
- Wi-Fi applications



Frequency Bands


The OMNI-402-5G is an omni-directional antenna that works from | 410 - 470 MHz | 617 – 960 MHz | 1427 – 1517 MHz | 1710 – 2700 MHz | and | 3400 – 4200 MHz |



Indicates the 5G/LTE bands on which OMNI-402-5G works

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

Antenna Overview

| | |
|-------------------|---|
| |  |
| Ports | 2 |
| SISO / MIMO | 2x2 MIMO |
| Frequency Bands | 410 – 4200 MHz |
| Polarisation | Linear Vertical |
| Peak Gain | 5.8 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 – 4200 MHz |
| Gain (Max): | -5 dBi @ 410 – 470 MHz 2 dBi @ 617 – 960 MHz 4.2 dBi @ 1427 – 1517 MHz 5.8 dBi @ 1710 – 2700 MHz 5.8 dBi @ 3400 – 4200 MHz |
| VSWR: | <3:1 across 90% of the band |
| Feed Power Handling: | 10 W |
| Input Impedance: | 50 Ohm (nominal) |
| Polarisation: | Linear Vertical |
| 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-V2-01 |
| Mounting Bracket: | 1" (14 TPI) Marine Adapter (BRKT-40) & L-bracket (Ø30-50mm Pole) |

Ordering Information

| | |
|----------------------------|-------------------|
| Commercial Name: | OMNI-402-5G |
| Order Product Code: | A-OMNI-0402-V2-01 |
| EAN Number: | 6009710927120 |

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: | 1.72 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 |

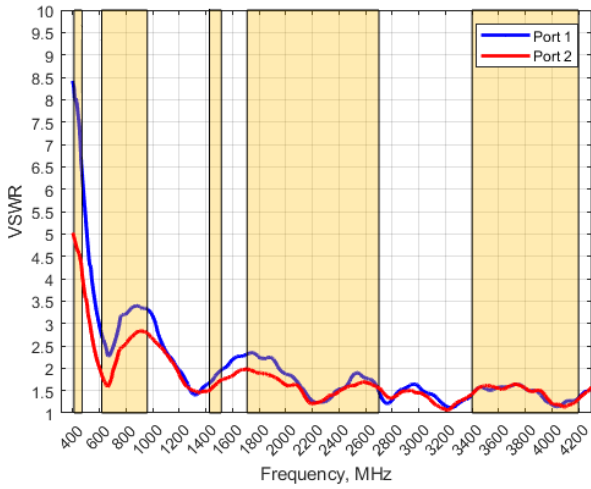
Environmental Specifications, Certification & Approvals

| | |
|---|-------------------------------------|
| 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 |



Antenna Performance Plots

VSWR



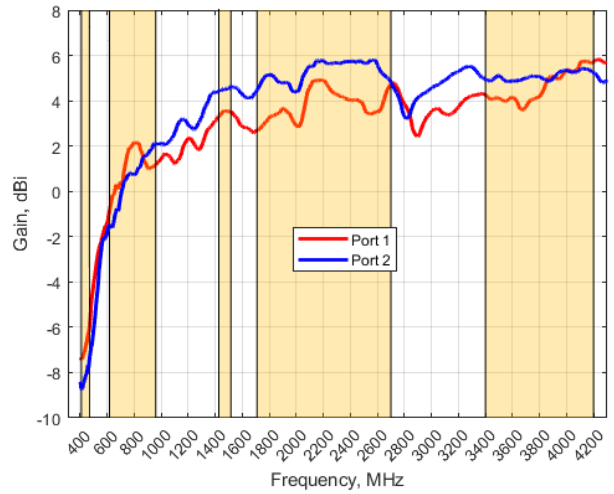
Voltage Standing Wave Ratio (VSWR)*

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, corresponding to a VSWR of 1:1.

The OMNI-402-5G delivers superior performance across all bands with a VSWR of 3:1 or better across 90% of the bands.

*VSWR measured with a 2m low loss cable.

GAIN (EXCLUDING CABLE LOSS)



Gain* in dBi

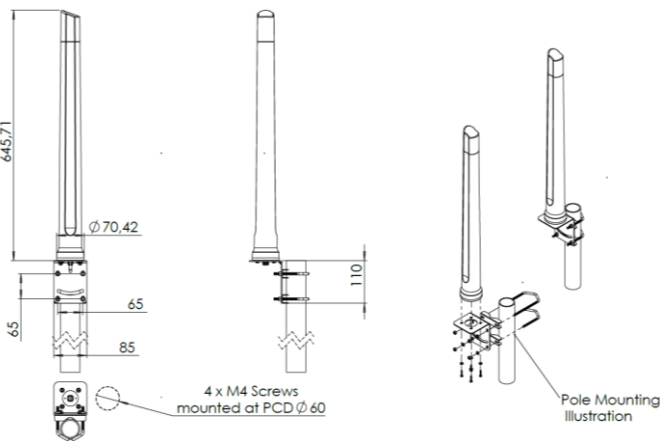
5.8 dBi is the peak gain across all bands from 410 – 4200 MHz

| | |
|-------------------------|---------|
| Gain @ 410 – 470 MHz: | -5 dBi |
| Gain @ 617 – 960 MHz: | 2 dBi |
| Gain @ 1427 – 1517 MHz: | 4.2 dBi |
| Gain @ 1710 – 2700 MHz: | 5.8 dBi |
| Gain @ 3400 – 4200 MHz: | 5.8 dBi |

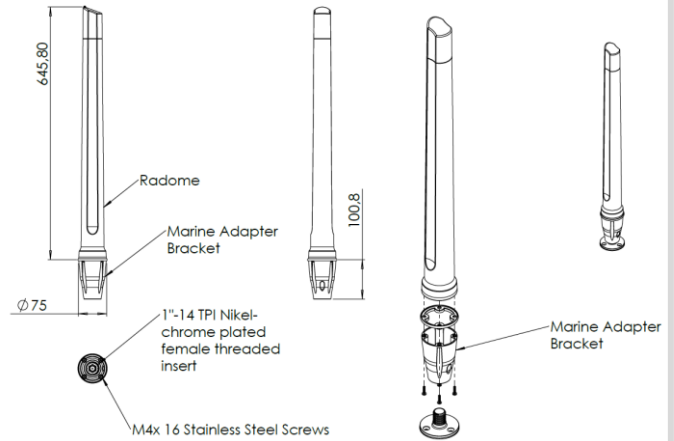
*Antenna gain measured with polarisation aligned standard antenna

Technical Drawings

With standard L-bracket mounting

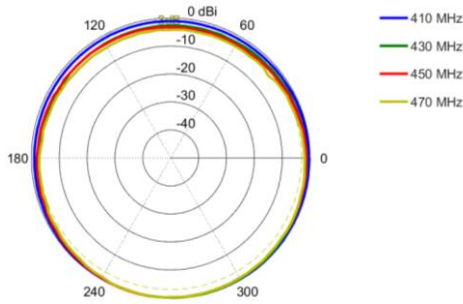


With standard marine mounting

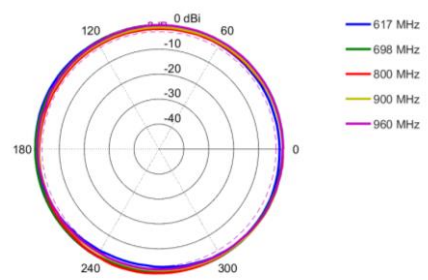


Radiation Patterns

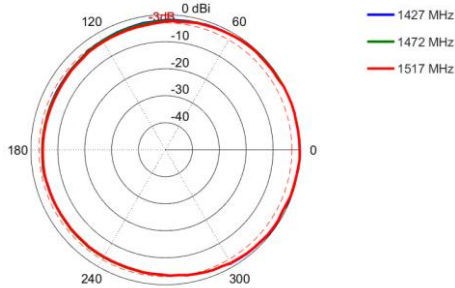
Azimuth: 410 – 470 MHz



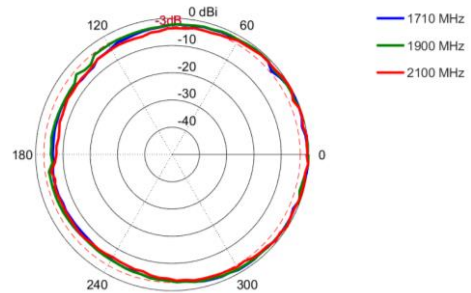
Azimuth: 617 – 960 MHz



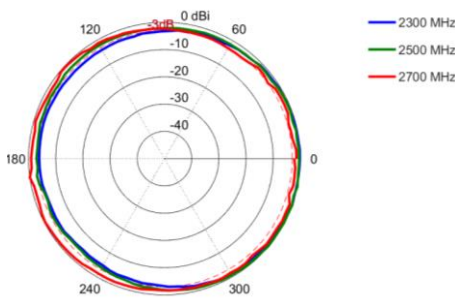
Azimuth: 1427 – 1517 MHz



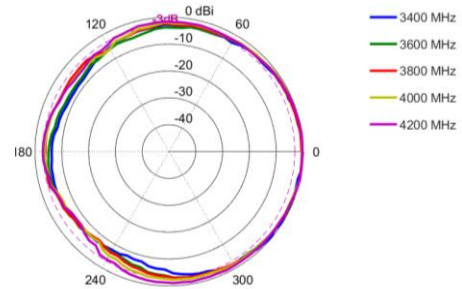
Azimuth: 1710 – 2100 MHz



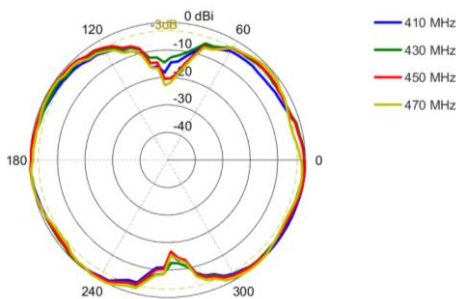
Azimuth: 2300 – 2700 MHz



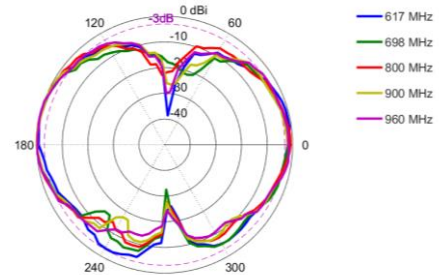
Azimuth: 3400 – 4200 MHz



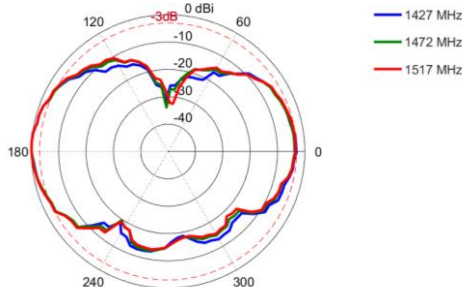
Elevation: 410 – 470 MHz



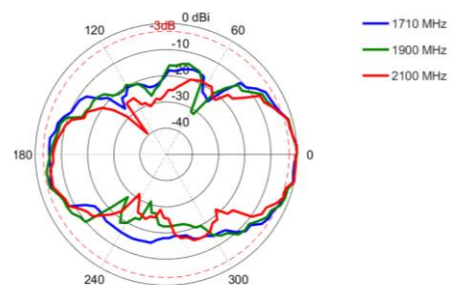
Elevation: 617 – 960 MHz



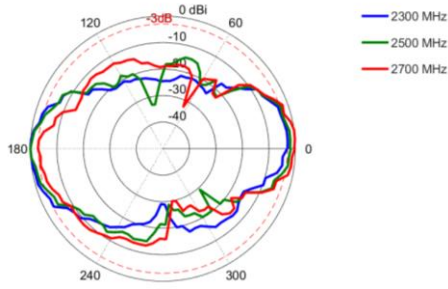
Elevation: 1427 – 1517 MHz



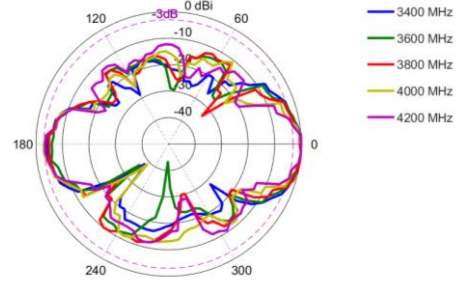
Elevation: 1710 – 2100 MHz



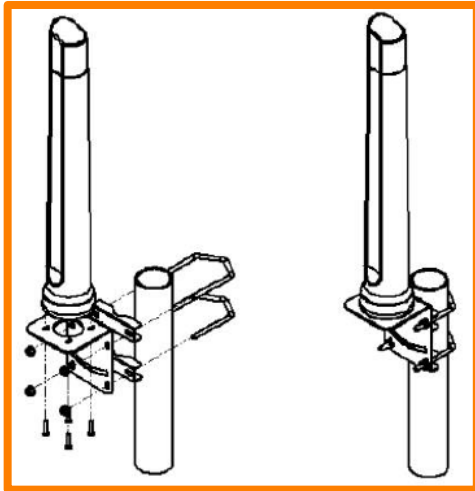
Elevation: 2300 – 2700 MHz



Elevation: 3400 – 4200 MHz

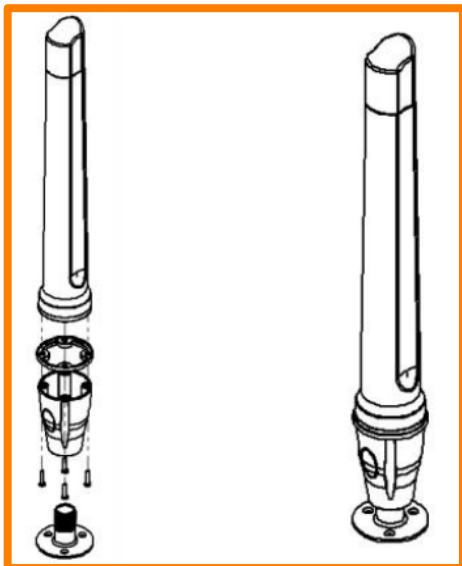


Mounting Options



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

Additional 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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