

# OMNI-403



ANTENNAS | OMNI-403 SERIES

## OMNI-DIRECTIONAL MARINE AND COASTAL LTE ANTENNA

698 - 2700 MHz; 5 dBi



|   |                |                    |                      |                          |           |
|---|----------------|--------------------|----------------------|--------------------------|-----------|
|   |                |                    |                      |                          |           |
| 698 – 960 MHz;<br>1710 – 2170 MHz;<br>2300 – 2700 MHz | 5 dBi          | Increase<br>x Mb/s | Omni-<br>Directional | 4G LTE                   | IoT & M2M |
|   |                |                    |                      |                          |           |
| 2.4 – 2.5 GHz   | -40°C to +80°C | Fire Resistant     | IP 68                | Salt spray<br>protection |           |

APPLICATION AREAS

- Marine
- Urban
- Rural/Farm
- Vehicle

- **Marine quality, low profile, and omni-directional LTE antenna**
- **Robust and all-weather proof for harsh conditions at sea**
- **Easy mounting with feed through a standard 1-inch marine adapter bracket included**
- **Various marine grade 316 stainless steel mounting brackets available optionally**
- **UV and saltwater protected against tempestuous weather conditions, with an IP 68 rating**

### Product Overview

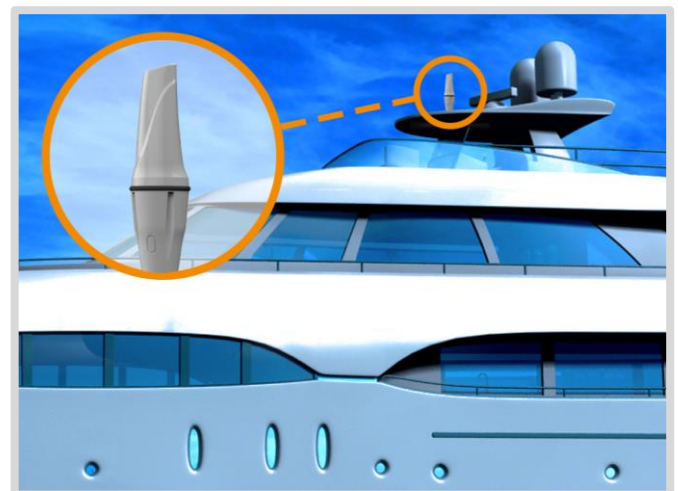
The OMNI-403 is a wideband LTE antenna with a smaller profile radome, which is specifically designed for adverse marine & coastal environments. This antenna covers all contemporary LTE operating frequencies with excellently balanced gain across all frequencies, enhancing LTE performance features, such as multi carrier aggregation (CA). The antenna is designed for superior pattern control over the entire frequency range, making the OMNI-403 an exceptional omni-directional antenna for its size and application. Poynting Antennas achieves this through a new antenna design using multiple dipoles and a unique (patented) feed network. The antenna uses a standard 1-inch (14TPI) marine mount for simplified installation to most standard marine attachments.

### Features

- Medium gain omni-directional antenna
- The antenna is purpose built for marine and coastal applications
- Fits directly to a standard 1-inch (14 TPI) marine mount
- UV and saltwater resistant
- Robust and weather resistant

### Application Areas

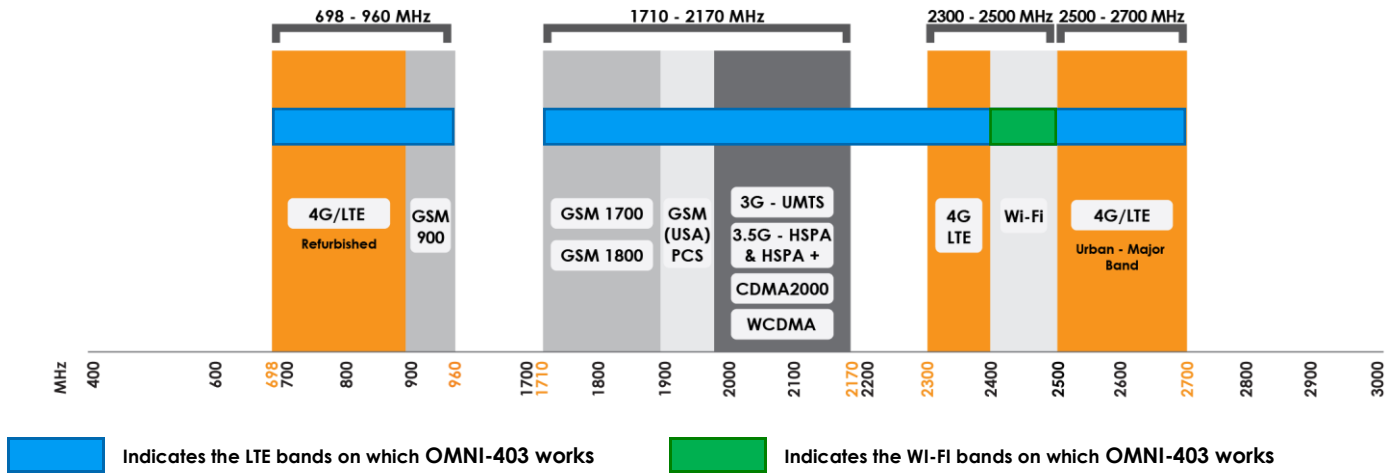
- Marine applications / Yachts / Boats / Ferries
- Enhanced LTE reception
- IoT and M2M applications
- Areas with poor data signal reception
- Improve data transmission connection reliability & stability




### OMNI-403

## Frequency Bands

The OMNI-403 is an omni-directional antenna that works from 698 – 960 MHz and 1710 – 2700 MHz



## Antenna Overview

|                   |  |
|-------------------|--|
|                   |  |
| Ports             | 1  |
| SISO / MIMO       | SISO   |
| Frequency Bands   | 698 - 2700 MHz   |
| Polarisation      | Linear Vertical  |
| Peak Gain         | 5 dBi  |
| Coax Cable Type   | N/A  |
| Coax Cable Length | N/A  |
| Connector Type    | N-Type (F)   |

\*The connector is factory mounted to the antenna

## Electrical Specifications

|                             |   |
|-----------------------------|---|
| <b>Frequency bands:</b>     | 698 – 960 MHz<br>1710 – 2170 MHz<br>2300 – 2700 MHz                       |
| <b>Gain (max):</b>          | 2.8 dBi @ 698-960 MHz<br>5 dBi @ 1710-2170 MHz<br>4.5 dBi @ 2300-2700 MHz |
| <b>VSWR:</b>                | <2:1  |
| <b>Feed power handling:</b> | 10 W  |
| <b>Input impedance:</b>     | 50 Ohm (nominal)  |
| <b>DC short:</b>            | Path to ground  |

## Product Box Contents

|                          |   |
|--------------------------|---|
| <b>Antenna:</b>          | A-OMNI-0403                             |
| <b>Mounting bracket:</b> | 1" (14 TPI) Marine Adapter<br>(BRKT-40) |

## Ordering Information

|                            |                   |
|----------------------------|-------------------|
| <b>Commercial name:</b>    | OMNI-403          |
| <b>Order product code:</b> | A-OMNI-0403-V1-01 |
| <b>EAN number:</b>         | 6009710920633     |

## Mechanical Specifications

|                             |                                      |
|-----------------------------|--------------------------------------|
| <b>Product dimensions</b>   | 252 mm x Ø75 mm (Incl. BRKT-40)      |
| <b>Packaged dimensions:</b> | 288 mm x 97 mm x 97 mm               |
| <b>Weight:</b>              | 0.35 kg                              |
| <b>Packaged weight:</b>     | 0.50 kg                              |
| <b>Radome material:</b>     | UV Stable Marine ASA                 |
| <b>Radome colour:</b>       | Brilliant White<br>Pantone P 179-1 C |
| <b>Mounting Type:</b>       | Standard 1" -14 TPI Marine Mount     |

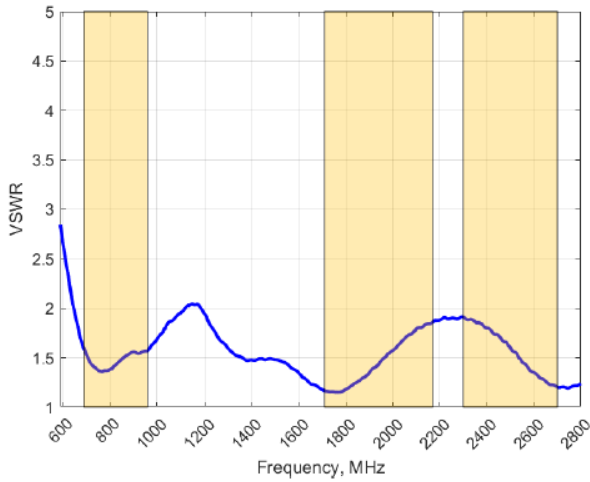
## Environmental Specifications, Certification & Approvals

|   |                                     |
|---|-------------------------------------|
| <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 810F/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 |

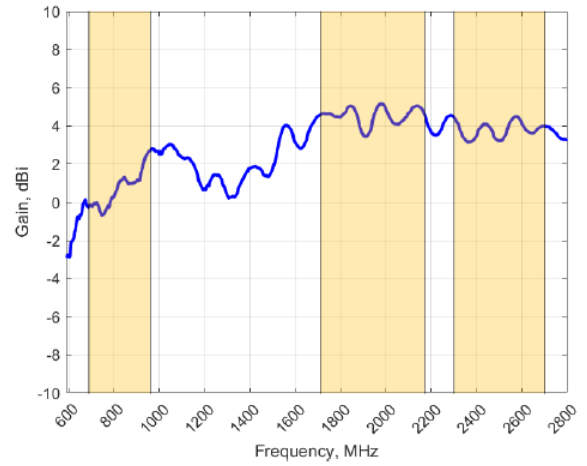


## Antenna Performance Plots

VSWR



GAIN (EXCLUDING CABLE LOSS)



### 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-403 delivers superior performance across all bands with a VSWR of 2:1 or better across 90% of the bands.

### Gain\* in dBi

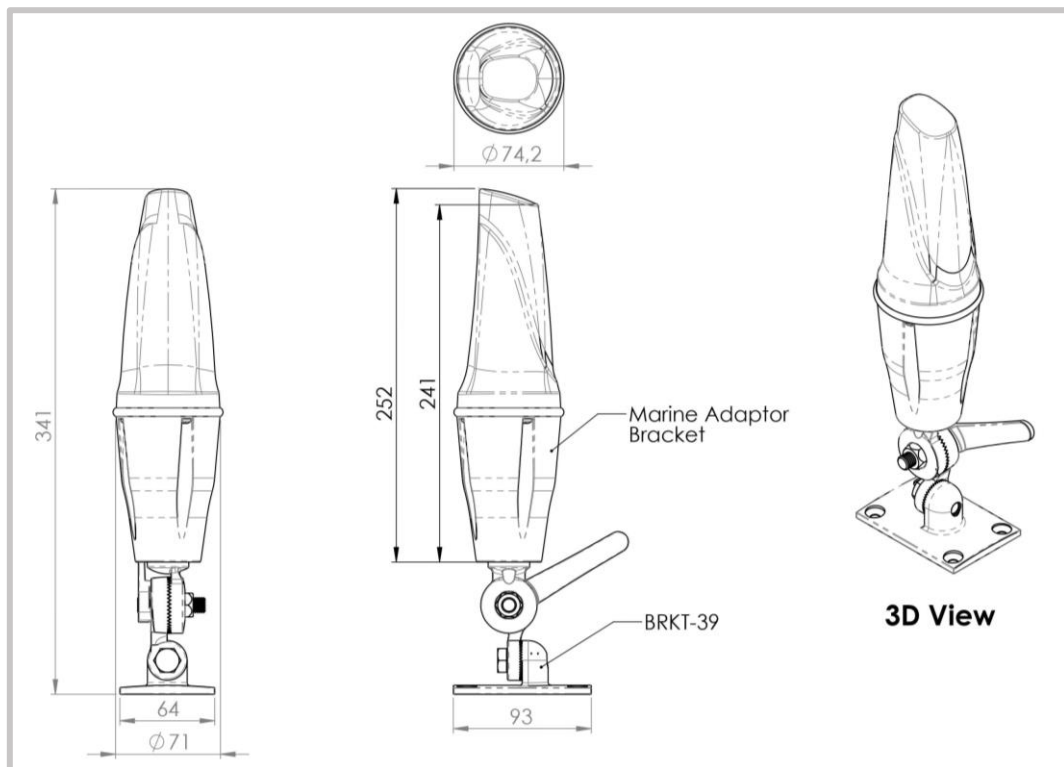
5 dBi is the peak gain across all bands from 698 – 2700 MHz

|                         |         |
|-------------------------|---------|
| Gain @ 698 – 960 MHz:   | 2.8 dBi |
| Gain @ 1710 – 2170 MHz: | 5 dBi   |
| Gain @ 2300 – 2700 MHz: | 4.5 dBi |

\*Antenna gain measured with polarisation aligned standard antenna

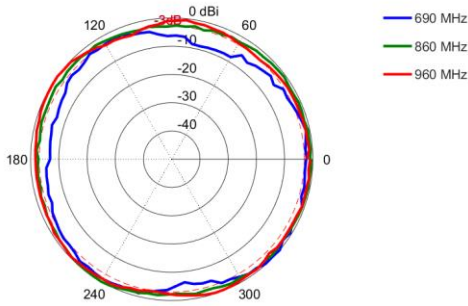
## Technical Drawings

With standard Marine Mounting and BRKT-39 (not included)

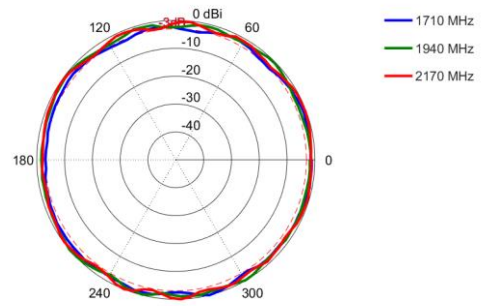


**Radiation Patterns**

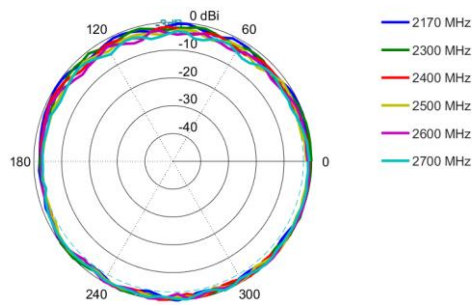
Azimuth: 698 – 960 MHz



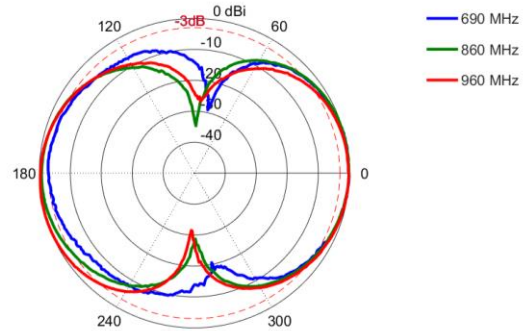
Azimuth: 1710 – 2170 MHz



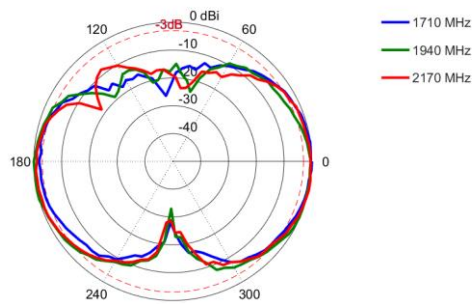
Azimuth: 2170 – 2700 MHz



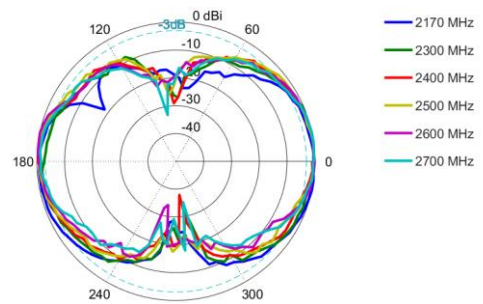
Elevation: 698 – 960 MHz



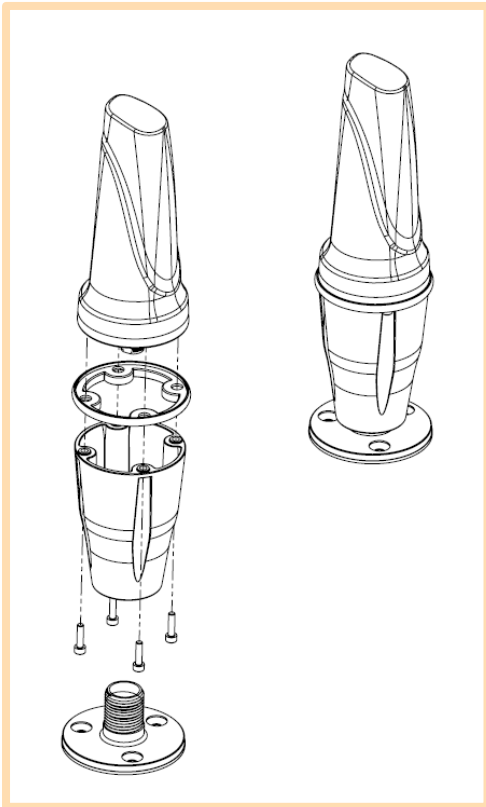
Elevation: 1710 – 2170 MHz



Elevation: 2170 – 2700 MHz



## Mounting Options



### 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

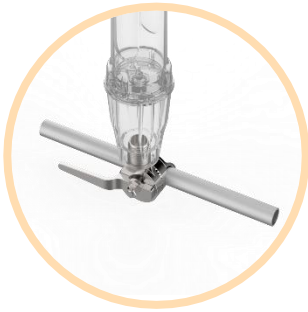
Also available: BRKT-41 with 1.25" – 11TPI female adapter (Optional)

## 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](http://www.poynting.tech)

## Contact Poynting

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