OMNI-121
ALL-BAND GSM OMNI-DIRECTIONAL ANTENNA

Product Overview

This medium gain omni-directional antenna covers the GSM 900, GSM1800 / UMTS and LTE frequency bands. It is a light-weight antenna that is easy to install. This is a cost-effective omni-directional solution as it comes with a 8m cable. This antenna is a popular choice for installers because of its versatile base station. It is also ideal for machine to machine (M2M) applications that are communicating through GSM network (GPRS/EDGE/3G/HSPA/LTE)

Features

- Medium gain omni-directional antenna
- Wall and pole mountable
- Base station agile
- Water resistant
- Lightweight
- Covers most international GSM and LTE bands

Application areas

- Enables rural and remote wireless service provision
- M2M communications (ATMs, financial data processing, telemetry etc)
- Extending wireless data to weak signal areas (can extend connectivity range by factor of 3 or more)
- Poor data signal reception (indoor or outdoor)
- Slow data transmission connection
- Unstable connection
- Increase system transmission reliability
Frequency bands

The OMNI-121 works on the 690 - 960 MHz, 1710 - 2170 and 2500 - 2700 MHz bands.

Antenna Performance Plots

**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-121 delivers superior performance across all bands with a VSWR of 2.5:1 or better.

**Gain** (excluding cable loss)

Gain* in dBi

6 dBi is the peak gain across all bands from 860 - 2700 MHz

- Gain @ 690 - 960 MHz: 4 dBi
- Gain @ 1710 - 2170 MHz: 6 dBi
- Gain @ 2500 - 2700 MHz: 4 dBi
Radiation Patterns

H-Plane: 860 - 960 MHz

H-Plane: 1700 - 2200 MHz

H-Plane: 2500 - 2700 MHz
## Electrical Specifications

<table>
<thead>
<tr>
<th>Frequency Bands</th>
<th>Gain (Max)</th>
<th>VSWR</th>
<th>Feed Power Handling</th>
<th>Input Impedance</th>
<th>Polarisation</th>
<th>Cable loss</th>
<th>DC Short</th>
</tr>
</thead>
<tbody>
<tr>
<td>690-960 MHz</td>
<td>6 dBi</td>
<td>&lt;2.5:1</td>
<td>10 W</td>
<td>50 Ohm (nominal)</td>
<td>Linear Vertical</td>
<td>0.35 dB/m @ 900 MHz</td>
<td>Yes</td>
</tr>
<tr>
<td>1710-2170 MHz</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.53 dB/m @ 2000 MHz</td>
<td></td>
</tr>
<tr>
<td>2500-2700 MHz</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.6 dB/m @ 2500 MHz</td>
<td></td>
</tr>
</tbody>
</table>

## Environmental Specifications

| Wind Survival:       | 160 km/h |
| Temperature Range (Operating): | -40°C to +70°C |
| Environmental Conditions: | Outdoor/Indoor |
| Operating Relative Humidity: | Up to 98% |
| Storage Humidity: | 5% to 95% - non condensing |
| Storage Temperature: | -40°C to +70°C |

## Mechanical Specifications

| Product Dimensions (L x W x D): | 555 mm x 50 mm x 50 mm |
| Weight: | 0.50 kg |
| Packaged Weight: | 0.65 kg |
| Radome Material: | ABS (Halogen Free) |
| Radome Colour: | Pantone - Cool Gray (1C) RAL - 7047 Pantone - Black RAL - Black |

## Product Box Contents

- **Antenna:** A-OMNI-0121-V3
- **Mounting Bracket:** Pole up to 50mm diameter Wall and Pole mount stainless steel bracket
- **Cable Length:** 8m
- **Cable Type:** HDF 195
- **Connector:** SMA (m)

The connector is factory mounted to the antenna.

## Certification Approvals and Standards

- **Flammability rating:** UL 94-V1 EN 13823
- **Water Ingress Protection Ratio/Standard:** IP 65
- **Impact resistance:** IK 08
- **Salt Spray:** MIL-STD 810F/ASTM B117
- **Product Safety:** Complies with UL, CE, EN, CSA and IEC standards

## Ordering Information

- **Commercial name:** OMNI-121
- **Order Product Code:** A-OMNI-0121-V3
- **EAN number:** 6009693810709

## Additional Accessories Available

- **Extension Cables:** Up to 15m HDF 195
- Various connectors available
- Installation poles and brackets available

For more detailed information and availability in your region, visit our web site: [www.poynting.tech](http://www.poynting.tech)

## Contact Poynting

**Poynting Antennas (Pty) Ltd - Head Office**

Unit 4, N1 Industrial Park
Landmarks Avenue,
Samrand, 0157
South Africa

**Phone:** +27 (0) 12 657 0050
**E-mail:** sales@poynting.co.za

**Poynting Europe**

Regus Business Center Neue Messe Riem
Kronstadter Straße 4
81677 München
Germany

**Phone:** +49 89 208026538
**E-mail:** sales-europe@poynting.tech

---

*OMNI-121*  
©2015 Poynting Antennas (Pty) Ltd. All rights reserved.  
Product Specifications may change without prior notice  
Revised: October 2015