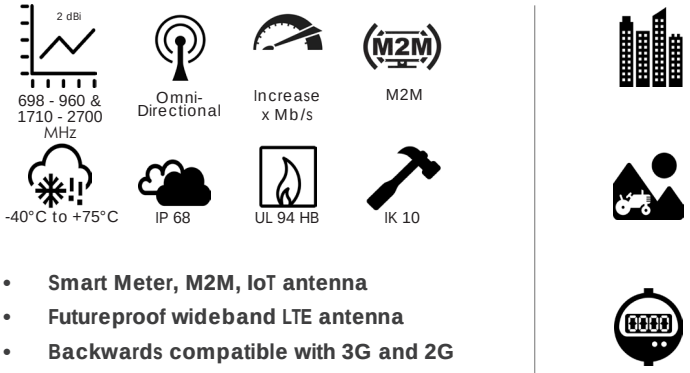
ANTENNAS | OMNI SERIES, SMART METER ANTENNA

OMNI-510-01

ULTRA LOW PROFILE SMART METER ANTENNA, 690MHZ – 2700MHZ



- **Smart Meter, M2M, IoT antenna**
- **Futureproof wideband LTE antenna**
- **Backwards compatible with 3G and 2G technologies**
- **Increased connectivity stability**

Product Overview

The OMNI-510-01 antenna is purposefully designed for ultra- low profile requirements such as Smart Meters. This omni-directional antenna is suitable for indoor and outdoor use, typically mounted on the top or side of smart meter boxes. The OMNI-510-01 antenna is designed with installation simplicity in mind, while covering the LTE frequency bands 698 – 2700MHz.

Features

- Omni-directional antenna
- Wideband - covers wide frequency band
- Easy installation, double sided tape or screw-on
- Stylish, but robust design
- Weather resistant

M2M and IoT Application areas

- Smart Utilities: Smart Power Metering, Gas & Water Metering
- Smart Buildings: Climate control, access control, security, irrigation
- Digital Signage
- Smart Environmental & Water Systems
- Warehouses & Logistic systems
- Industrial factory automation and M2M systems
- Farming & Agricultural M2M & IoT

Can be used with the following IoT technologies:

- Zigbee
- Z-Wave
- LoRaWAN
- Sigfox
- Wi-Fi
- Wi-Fi HaLow
- Cellular Bands (LTE/3G/2G), incl. LTE-M/NB-IoT
- Bluetooth

Revised: July 2019

Regulatory Compliance: RoHS 2011/65/EU Compliant | ISO 9001:2015
Document version: TS-A-OMNI-0510-V1-01 Rev1
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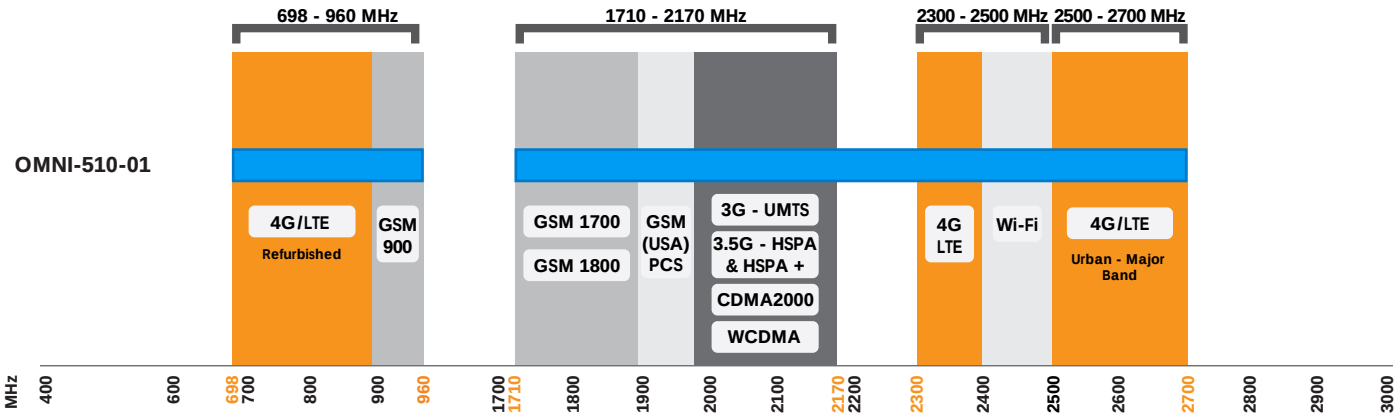
Frequency bands

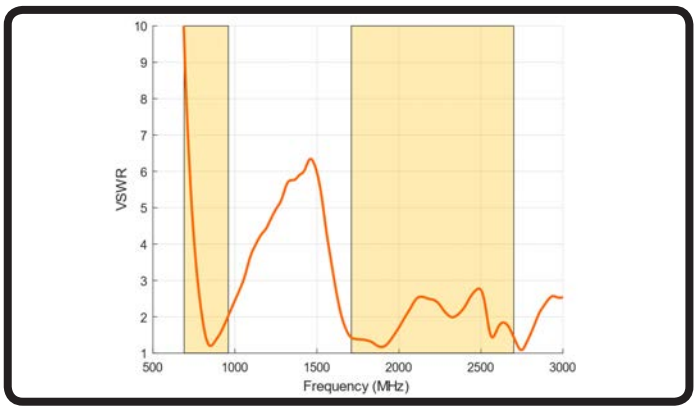
The OMNI-510-01 works across the following LTE bands: 1-21, 23-28, 30, 33-41

Indicates the bands on which this antenna works

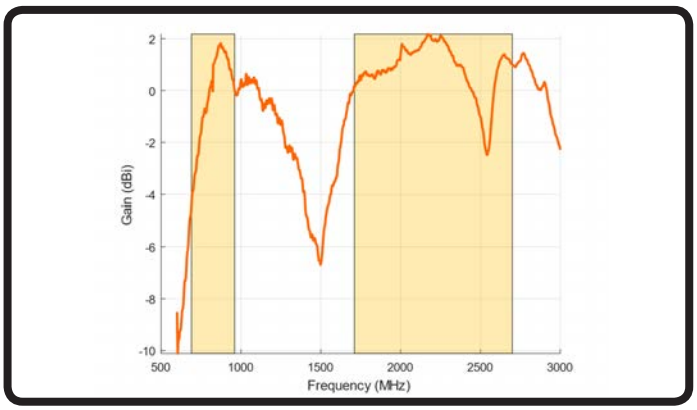


Antenna Performance Plots

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-510-01 delivers superior performance across all bands with a VSWR of 2.5:1 or better across 90% of the band.

Gain* in dBi

2 dBi is the peak gain across all bands from 698 - 2700 MHz

Gain @ 698 - 960 MHz:	2 dBi
Gain @ 1710 - 2700 MHz:	2 dBi

*Antenna gain measured with polarisation aligned standard antenna

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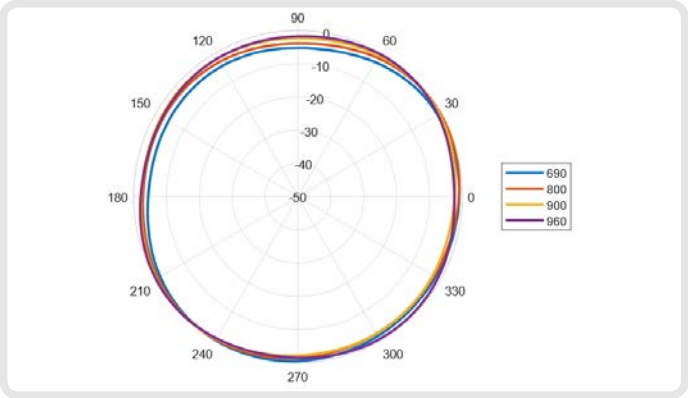
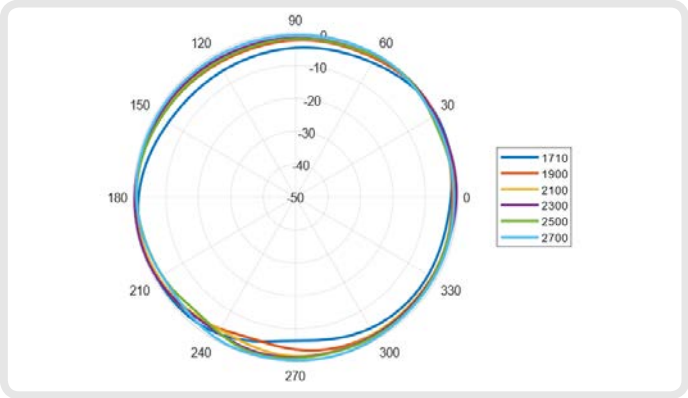
Radiation Patterns - Antenna mounted vertically

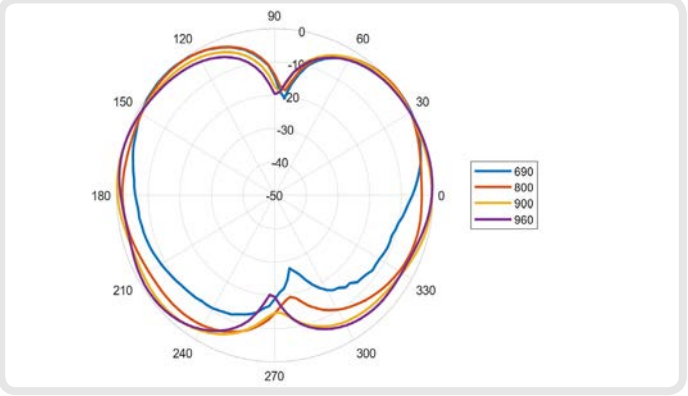
Elevation: 690 - 960 MHz (top view)



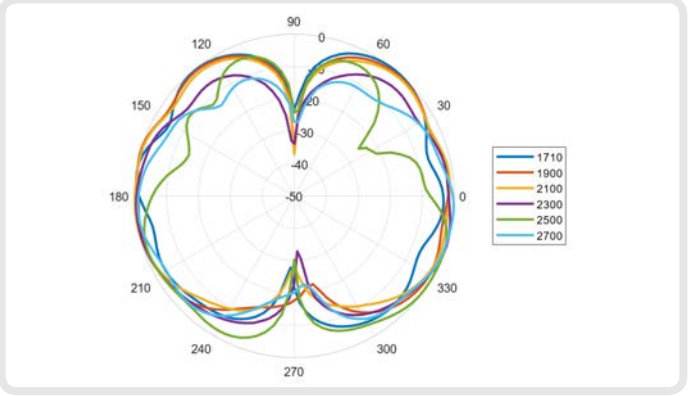
Elevation: 1710 - 2700 MHz (top view)



Azimuth: 690 - 960 MHz (side view)

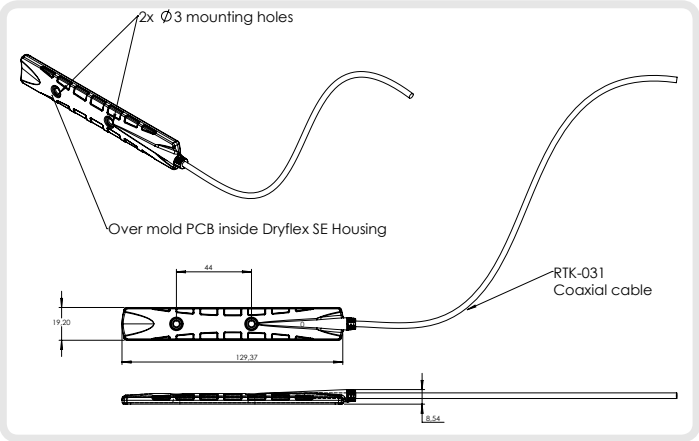


Azimuth: 1710 - 2700 MHz (side view)



Electrical Specifications

Frequency Band 1:	698 - 960 MHz
Frequency Band 2:	1710 - 2700 MHz
Gain (Max):	2 dBi
VSWR:	< 2.5:1 over 90% of the band
Feed Power Handling:	10 W
Input impedance:	50 Ohm (nominal)
Polarisation:	Linear Horizontal / Vertical (installation dependent)
Cable loss:	0.45 dB/m @ 900 MHz 0.71 dB/m @ 2000 MHz 0.79 dB/m @ 2500 MHz 0.9 dB/m @ 3000 MHz
Cable:	RTK-031
Cable length:	1m
Connector:	RA SMA(m)



Certification Approvals and Standards

Cable Flammability rating:	UL 94-HB
Water Ingress Protection Ratio/ Standard:	IP 68 (NEMA 4X)
Impact resistance:	IK 10
Salt Spray:	MIL-STD 810F/ASTM B117
Product Safety:	Complies with UL, CE, EN, CSA and IEC standards

Mechanical Specifications

Product Dimensions (L x W x D):	138mm x 26mm x 10mm
Packaging Material:	Poly bag
Packaged Dimensions:	TBC
Weight:	TBC
Packaged Weight:	TBC
Radome Material:	TPE (Thermoplastic Elastomer)
Radome Colour:	Pantone Black or Cool Gray 1C (TBC)
Mounting:	Adhesive backing or Screw mount

Environmental Specifications

Wind Survival:	160 km/h
Temperature Range (Operating):	-40°C to +75°C
Environmental Conditions:	IP68 (excl. connector)
Operating Relative Humidity:	Up to 98%
Storage Humidity:	5% to 95% non-condensing
Storage Temperature:	-40°C to +75°C

Ordering Information

Commercial name:	OMNI-510-01
Order Product Code:	A-OMNI-0510-V1-01
EAN number:	TBC

For more detailed information and availability in your region, visit our web site: 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
Kronstadler Straße 4
81677 München
Germany

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

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