PUCK-1

ANTENNAS | PUCK-1

SISO LTE TRANSPORTATION & IOT/M2M ANTENNA

SISO LTE



690-960; 1710-2700 & 3200-3800 MHz

LTE: 6 dBi

IoT

SISO Omnidirectional

Machine to Machine

4G LTE

5G LTE Ready

IP 68

-40°C to +80°C

Robust

Chemical Protection

Fire Resistant

- **LTE high performance multi frequency**
- **2G/3G/4G/LTE antenna (5G Ready)**
- **Wideband – covers wide frequency band, incl. the CBRS band**
- **Ground plane independent**
- **Robust, vandal resistant and water proof (IP68) antenna**
- **Ideal for transportation, marine and IoT/M2M use**
- **Ultra-versatile mounting options for easy installation**

APPLICATION AREAS

Urban

Rural/Farm

Marine

Transportation

IoT/Metering

Product Overview

Poynting's new PUCK range offers a small profile antenna for use in the IoT/M2M, Smart Meter, Smart Utilities, Transportation, Marine and the Agricultural/Farming markets. The PUCK (for 2G/3G/4G) covers the 690MHz to 3800MHz band, this includes the most popular international LTE bands. The PUCK exceeds the performance of many competitors due to the attention to design of this high-performance antenna. The radiation patterns of all radiating elements provide an excellent balance between omnidirectionality, pattern diversity and good radiation abilities at the desired elevation, which is often overlooked in such a small size antenna. Despite its small size, this antenna provides excellent performance especially at the higher frequency bands, where performance is critical for LTE throughput and connection stability.

Features

- Small & Low-Profile (100mm x h 36mm)
- Careful mechanical design provides ruggedness, corrosion, water, dust resistance (IP68)
- Fire Resistant (complies with ECE-R 118.02)
- UV Stable Enclosure
- Ground plane independent – performs consistently with and without a ground plane
- 5G Ready; includes 3.2GHz to 3.8GHz CBRS Band
- Easy installation; multi implementation options (as standard)
  - Spigot Mount
  - Magnetic Mount
  - Adhesive Tape Mount
  - Bracket Mount

Application Areas

- Smart Utilities: Smart Power, Gas & Water Metering
- Smart Buildings: Climate control, access control, security, irrigation
- Digital Signage
- Warehouses & Logistic systems
- Industrial factory automation, robotic machinery and other M2M systems
- Transport (Busses, Utility & Public Safety)
- Mining Vehicles & Machinery communications, telemetry and automation (M2M & IoT)
- Agricultural machinery
- Marine: small boats, yachts near to coastlines or inner waters.

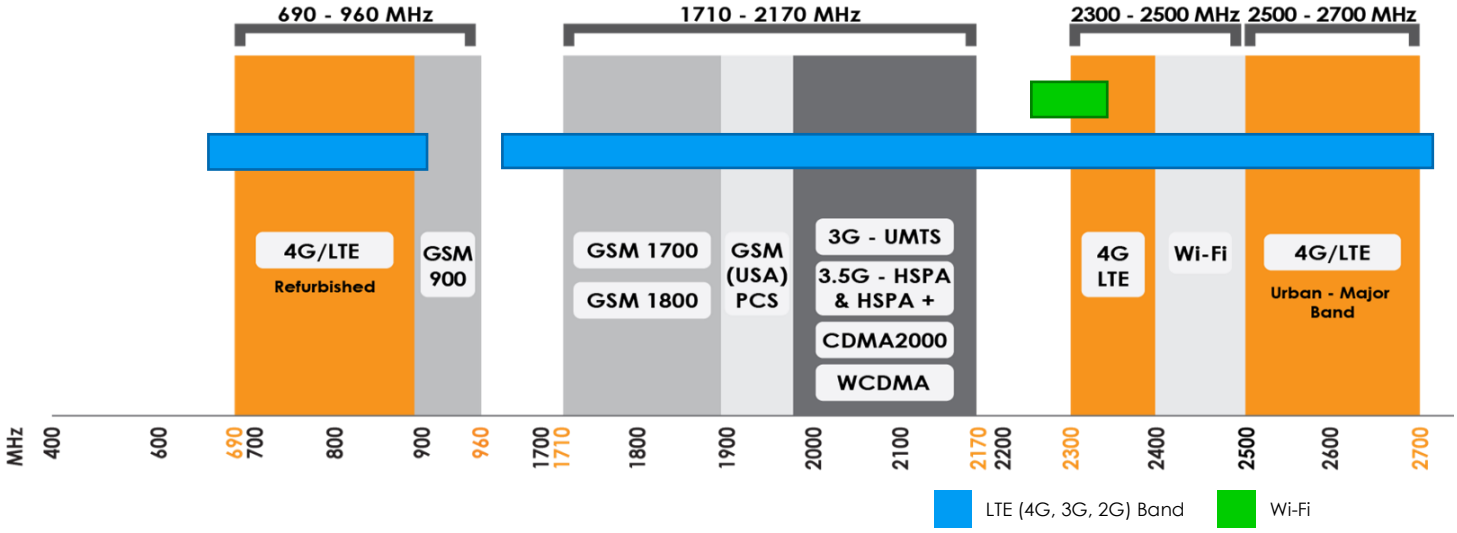
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Revised: February 2020

Regulatory Compliance: RoHS 2011/65/EU Compliant | ISO 9001:2015
Document version: TS-PUCK-0001-V1-01 REV2
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Frequency Bands – Cellular & Wi-Fi

The PUCK-1 is suitable for the following Cellular frequency bands | 690-960 MHz | 1710-2170 MHz | 2300-2500 MHz | 2500-2700 MHz | 3200-3800 MHz | and the following Wi-Fi frequency bands | 2400-2500 MHz |



Antenna Overview

	LTE
Ports	1
MIMO	SISO
Frequency Bands	690 MHz - 3800 MHz
Peak Gain	6 dBi
Coax Cable Type	RTK-031
Coax Cable Length	2m
Connector Type	SMA Male

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Electrical Specifications - Cellular

Frequency bands:	690-960 MHz 1710-2700 MHz 3200-3800 MHz
Gain (max):	6 dBi
VSWR:	≤2.5:1 over 85% of the band
Feed power handling:	10 W
Input impedance:	50 Ohm (nominal)
Polarisation:	Linear Vertical
Coax 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
DC Short:	Yes

Coax Cable & Connector Type -Cellular

Cable length:	2m ±5%
Coax cable type:	RTK-031
Connector type:	SMA (Male)

The coax cables & connectors are factory mounted to the antenna

Product Box Contents

Antenna:	A-PUCK-0001-V1-01
Mounting bracket:	Ø20 Threaded Spigots (Up to 60mm clamping thickness), Adhesive Surface Mounting & Magnetic Mount

Ordering Information

Commercial name:	PUCK-1
Order product code:	A-PUCK-0001-V1-01
EAN number:	6009880915262

Mechanical Specifications

Product dimensions	Ø99.3 mm x 36 mm
Packaged dimensions:	150 mm x 150mm x 120mm
Weight:	0.312kg
Packaged weight:	0.443kg
Radome material:	PC+ABS (Halogen free)
Radome colour:	Pantone Black
Mounting Type:	Ø20 Threaded Spigot, Pole, Wall, Surface and Magnetic mount

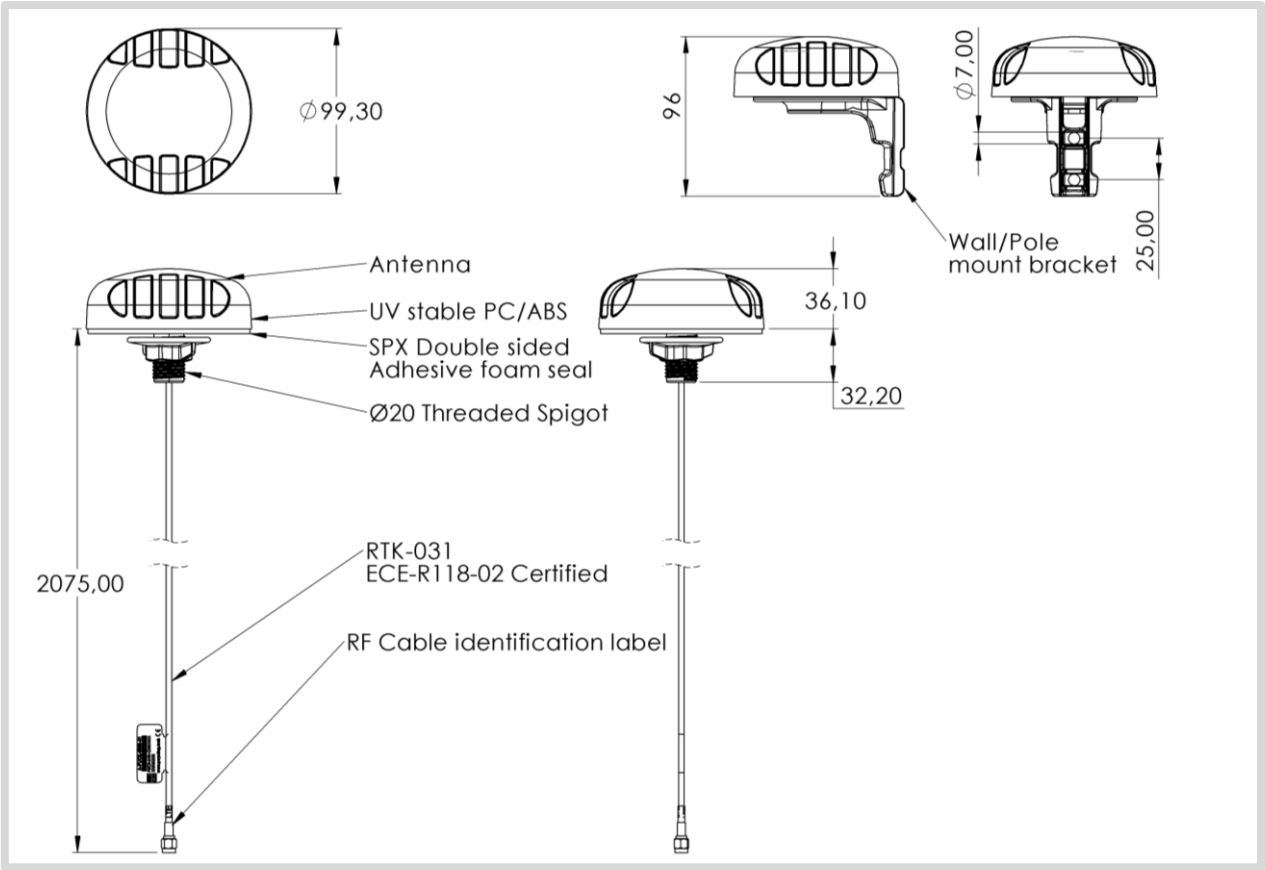
Environmental Specifications, Certification & Approvals

Wind Survival:	<220 km/h
Temperature Range (Operating):	-40°C to +80°C
Environmental Conditions:	Outdoor/Indoor
Water ingress protection ratio/standard:	IP 68 – 30 minutes up to 1.5m
Salt Spray:	MIL-STD 810F/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, ECE-R118.02 Certified cables
Impact resistance:	IK 10
Product Safety & Environmental:	Complies with CE and RoHS standards,

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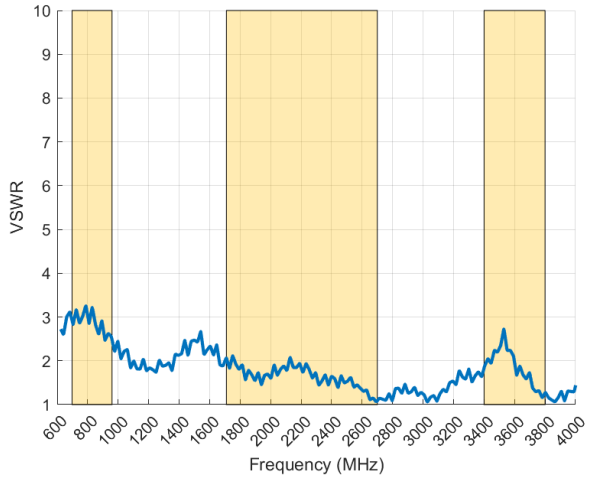
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Technical Drawings

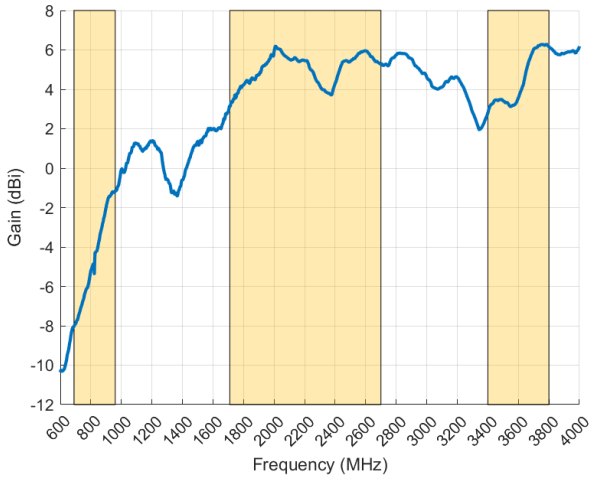


Antenna Performance Plots

VSWR: Cellular Antenna



Gain: Cellular Antenna



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 PUCK-1 delivers superior performance across all bands with a VSWR of ≤2.5:1 over 85% of the band

*Measured with 2m low loss cable

Gain in dBi

6 dBi is the peak gain across all bands from 690-960, 1710-2700 & 3400-3800 MHz

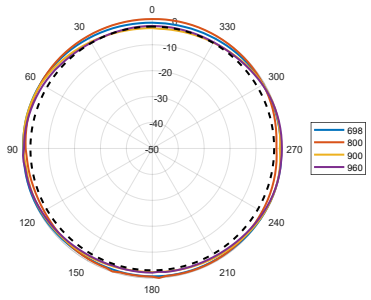
Peak Gain @ different bands:	-1 dBi @690-960MHz
Peak Gain @ different bands:	6.0 dBi @ 1710-2700MHz
Peak Gain @ different bands:	6.0 dBi @3400-3800MHz

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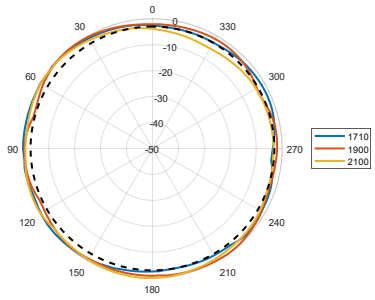
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Radiation Patterns – Cellular

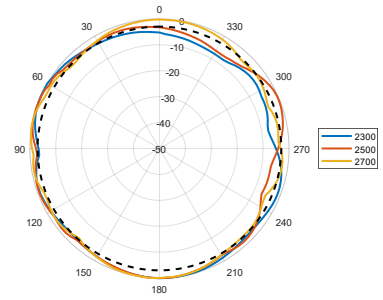
Azimuth (Top View): 690–960 MHz



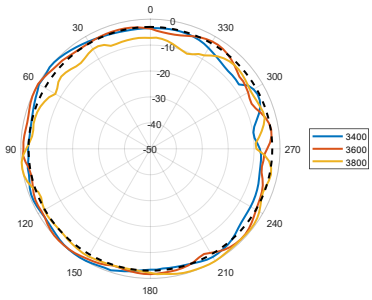
Azimuth (Top View): 1710–2100 MHz



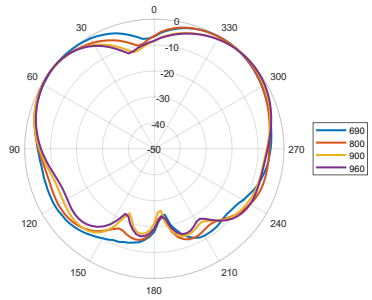
Azimuth (Top View): 2300–2700 MHz



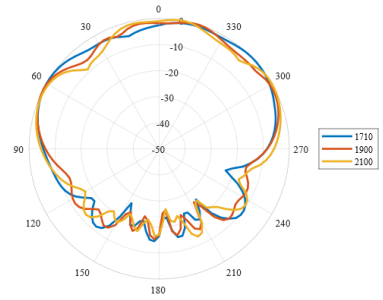
Azimuth (Top View): 3400–3800 MHz



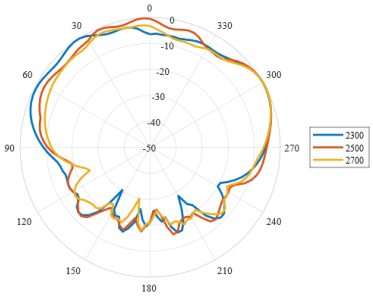
Elevation (Side View): 690–960 MHz



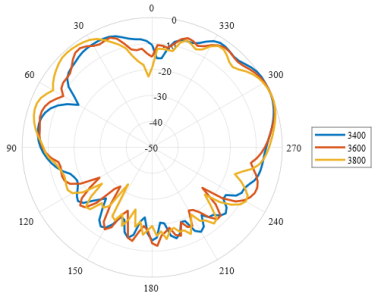
Elevation (Side View): 1710–2100 MHz



Elevation (Side View): 2300–2700 MHz



Elevation (Side View): 3400–3800 MHz



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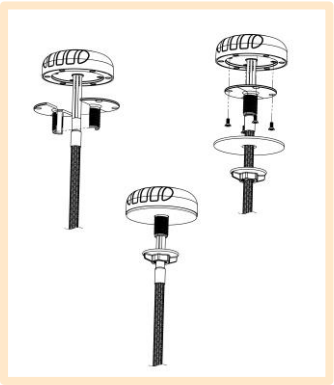
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Mounting Options

Many Mounting Possibilities – included as standard

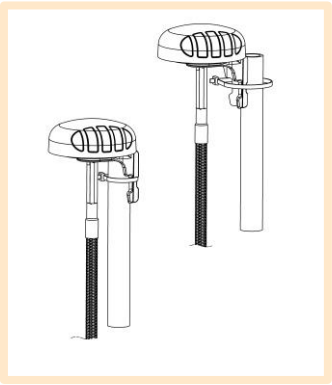
Poynting's new PUCK antenna range provides easy installation with the multiple mounting options. This includes as standard:

- Spigot Mount - two different lengths included (40mm & 80mm)
- Vertical Pole mount (inner & outer mounting for smaller and larger poles)
- Horizontal Pole Mount (e.g. marine rails)
- Magnetic Mount
- Surface Mount (Double Sided Tape)
- Wall Mount



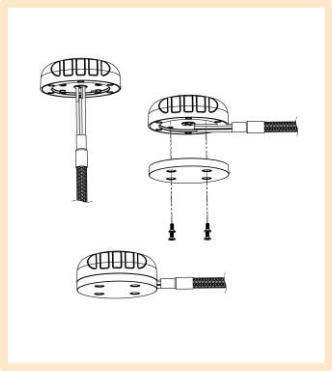
Spigot Mount

Removable 40mm & 80mm threaded spigot (included)



Vertical Pole Mount

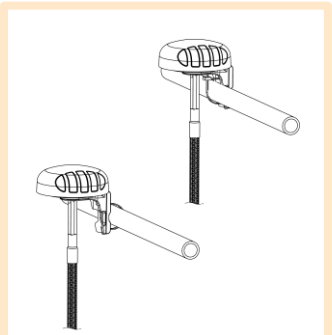
Pole/Wall Mounting bracket (included)



Magnetic Mount

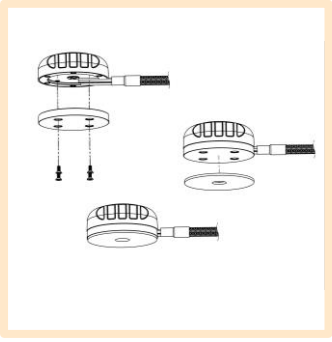
Magnetic Base (included)

For temporary and low mobility installations.



Horizontal Pole Mount

Pole/Wall Mounting bracket (included)



Surface Mount

Adhesive Surface Mounting (included) or can also be directly secured with longer M4 bolts (not included) to the female threaded inserts located in the antenna base



Wall Mount

Pole/Wall Mounting bracket (included)

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Additional Accessories

See accessories technical specifications on www.poynting.tech

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