

## ANTENNAS | PUCK-1 SERIES

# SISO TRANSPORTATION & IOT/M2M ANTENNA

698 - 3800 MHz; LTE SISO, 6 dBi



							
698 – 960 MHz; 1710 – 2700 MHz; 3200 – 3800 MHz	LTE: 6 dBi	Increase x Mb/s	Omni- Directional	4G LTE	5G Ready	CBRS Band	Urban
							
Machine to Machine	IoT	Chemical Protection	IP 68	-40°C to +80°C	Fire Resistant		Rural/Farm

- **LTE high performance multi frequency**
- **2G/3G/4G/LTE antenna (5G Ready)**
- **Wideband – covers wide frequency band, incl. 3.5 GHz CBRS band**
- **Ground plane independent**
- **Robust, vandal resistant and waterproof (IP 68)**
- **Ideal for transportation, marine and IoT/M2M use**
- **Ultra-versatile mounting options for easy installation**



## 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-1 is a SISO antenna, covering the 698 to 3800 MHz band, which 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 (Ø100mm x 36mm (h))
- Careful mechanical design provides ruggedness, corrosion, water and dust resistance (IP68)
- Fire Resistant
- UV Stable Enclosure
- Ground plane independent – performs consistently with and without a ground plane
- 5G Ready – includes the 3.2 GHz to 3.8 GHz CBRS Band
- Easy installation; multi implementation options available:
  - Spigot Mount
  - Magnetic Mount
  - Adhesive Tape Mount
  - Bracket Mount

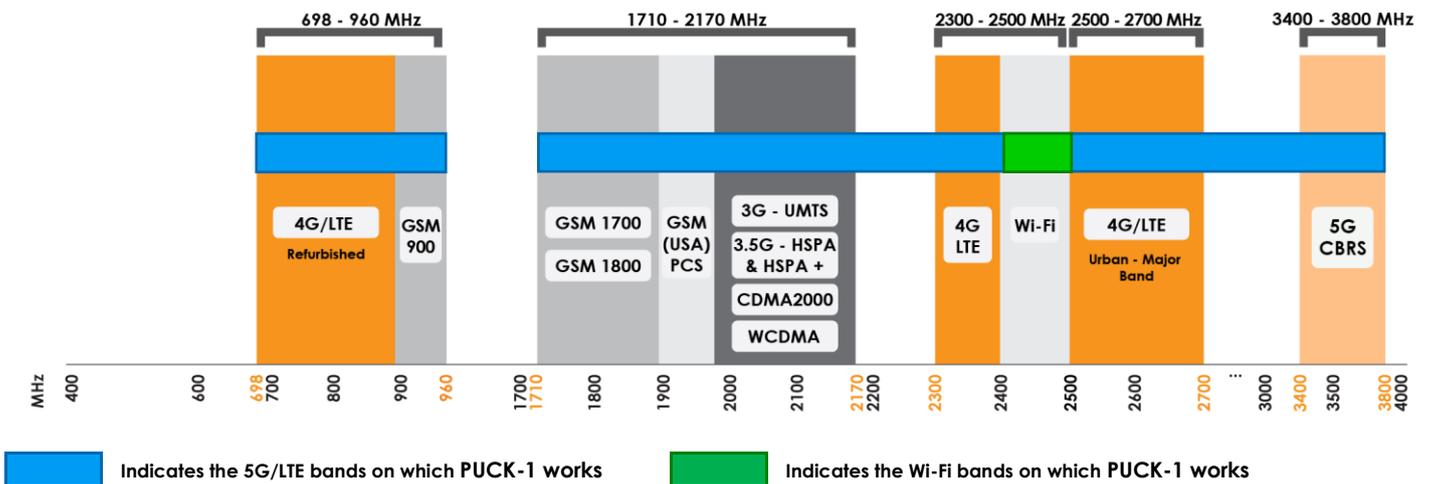
## Application Areas

- Smart Utilities: Smart Power, Gas & Water Metering
- Smart Buildings: Climate control, access control, security, irrigation
- Industrial factory automation, robotic machinery and other M2M systems
- Digital Signage
- Warehouses & Logistic 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



### Frequency Bands – Cellular & Wi-Fi

The PUCK-1 is suitable for the following Cellular frequency bands | 698-960 MHz | 1710-3800 MHz | and the following Wi-Fi frequency bands | 2400-2500 MHz |



### Antenna Derivatives

Product Order Code (SKU)	A-PUCK-0001-V1-01	A-PUCK-0001-V1-01-W
Radome colour	Black	White
Ports	1	1
SISO / MIMO	SISO	SISO
Coax Cable Type	RTK-031	RTK-031
Coax Cable Length	2m	2m
Connector Type	SMA (M)	SMA (M)
EAN	6009880915262	6009710920435

\*The coax cable & connector are factory mounted to the antenna

## Electrical Specifications - Cellular

<b>Frequency bands:</b>	698-960 MHz 1710-2700 MHz 3200-3800 MHz
<b>Gain (max):</b>	-1 dBi @ 698-960 MHz 6dBi @ 1710-2700 MHz 6dBi @ 3200-3800 MHz
<b>VSWR:</b>	≤2.5:1 over 85% of the band
<b>Feed power handling:</b>	10 W
<b>Input impedance:</b>	50 Ohm (nominal)
<b>Polarisation:</b>	Linear Vertical
<b>Coax cable loss:</b>	0.56 dB/m @ 900 MHz 0.72 dB/m @ 1800 MHz 0.88 dB/m @ 2400 MHz 1.2 dB/m @ 3000 MHz
<b>DC Short:</b>	Yes

## Product Box Contents

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

## Mechanical Specifications

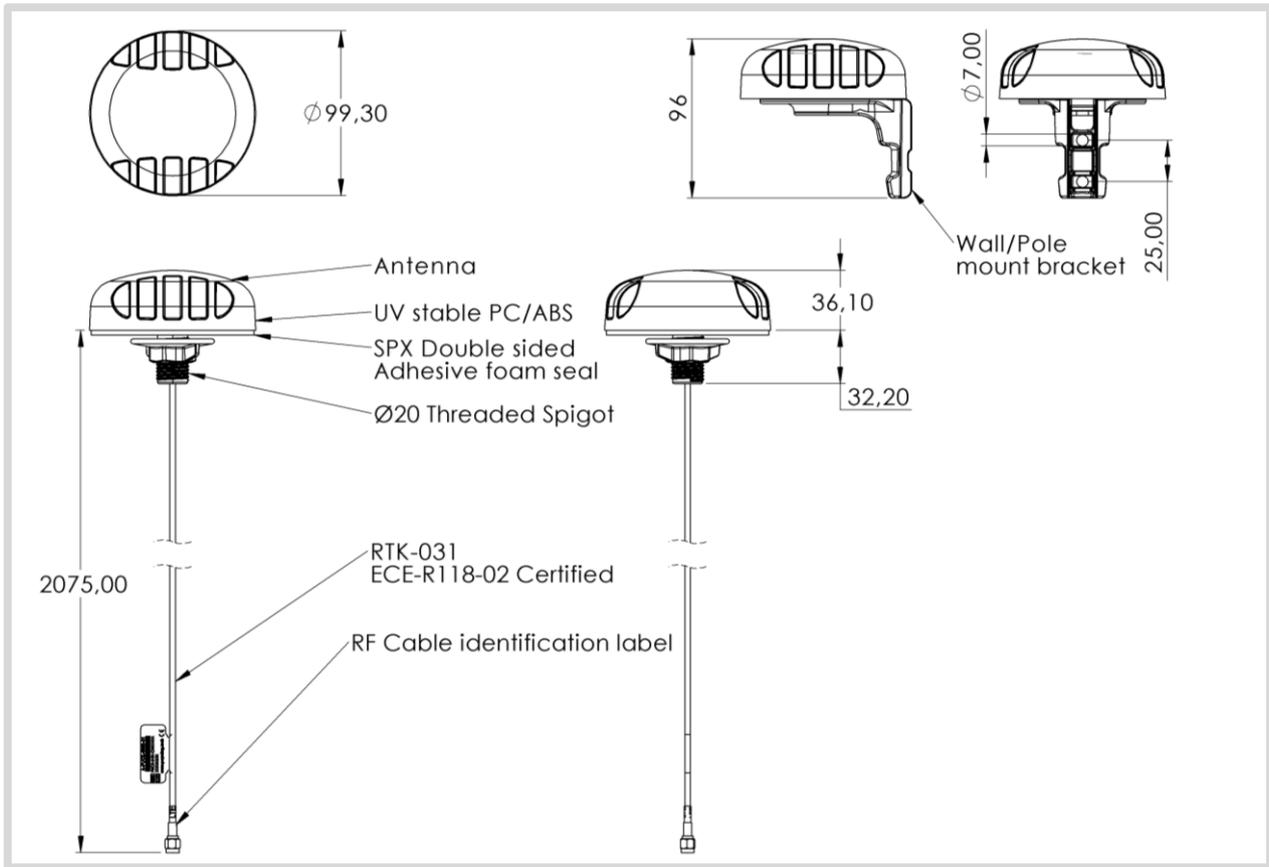
<b>Product dimensions</b>	Ø99.3 mm x 36 mm
<b>Packaged dimensions:</b>	150 mm x 150mm x 120mm
<b>Weight:</b>	0.312kg
<b>Packaged weight:</b>	0.443kg
<b>Radome material:</b>	PC+ABS (Halogen free)
<b>Mounting Type:</b>	Ø20 Threaded Spigot, Pole, Wall, Surface and Magnetic mount

## Environmental Specifications, Certification & Approvals

<b>Wind Survival:</b>	≤220 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 – 30 minutes up to 1.5m
<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-HBs
<b>Impact resistance:</b>	IK 10
<b>Product Safety &amp; Environmental:</b>	Complies with CE and RoHS standards

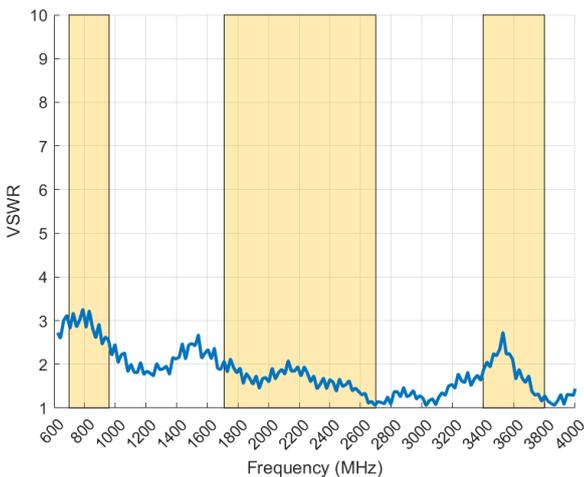


Technical Drawings

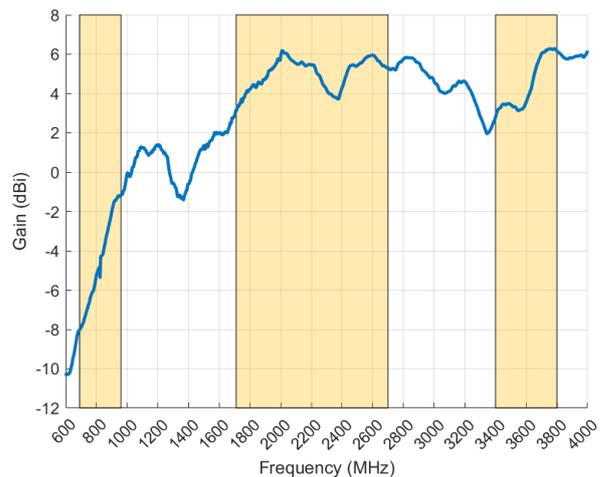


Antenna Performance Plots

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  $\leq 2.5:1$  over 85% of the band

\*Measured with 2m low loss cable

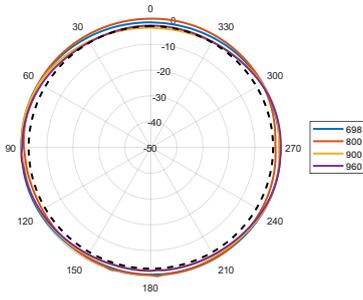
Gain in dBi

6 dBi is the peak gain across all bands from 698-960, 1710-2700 & 3400-3800 MHz

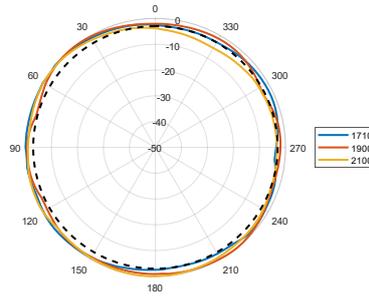
Peak Gain @ different bands:	-1 dBi @698-960MHz
Peak Gain @ different bands:	6 dBi @ 1710-2700MHz
Peak Gain @ different bands:	6 dBi @3400-3800MHz

**Radiation Patterns – Cellular**

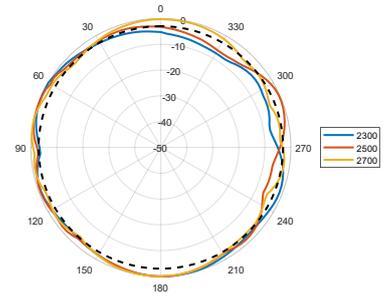
Azimuth (Top View): 698–960 MHz



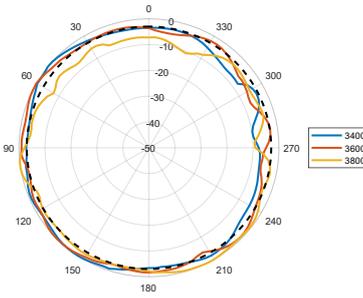
Azimuth (Top View): 1710–2100 MHz



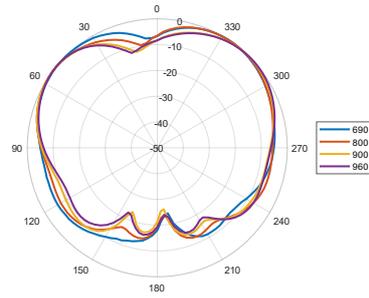
Azimuth (Top View): 2300–2700 MHz



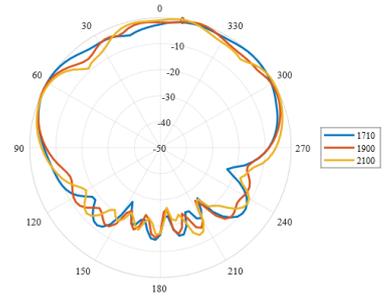
Azimuth (Top View): 3400–3800 MHz



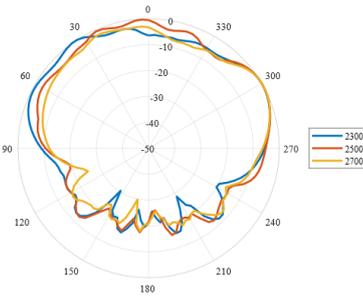
Elevation (Side View): 698–960 MHz



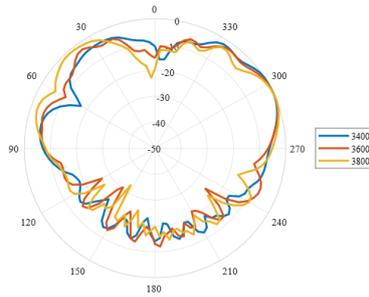
Elevation (Side View): 1710–2100 MHz



Elevation (Side View): 2300–2700 MHz



Elevation (Side View): 3400–3800 MHz

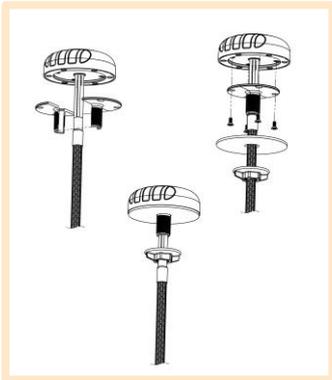


**Mounting Options**

**Many Mounting Possibilities – included as standard**

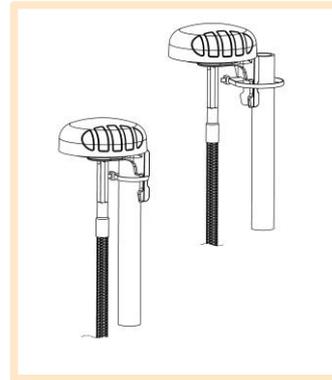
Poynting's new PUCK antenna range provides easy installation with the multiple mounting options. This includes as standard:

- 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



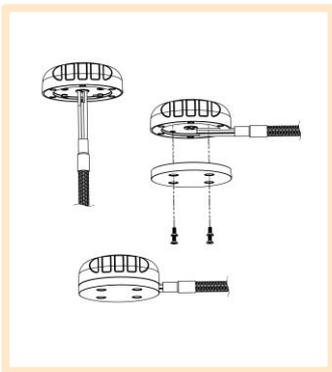
**Spigot Mount**

Removable 40mm & 80mm threaded spigot (included)



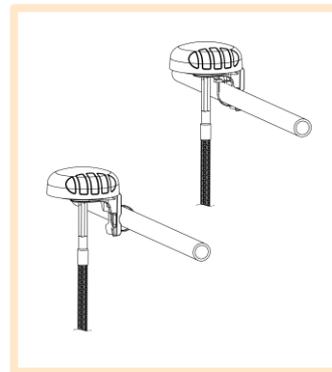
**Vertical Pole Mount**

Pole/Wall Mounting bracket (included)



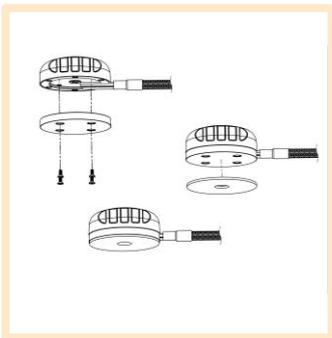
**Magnetic Mount**

Magnetic Base (included)  
For temporary and low mobility installations.



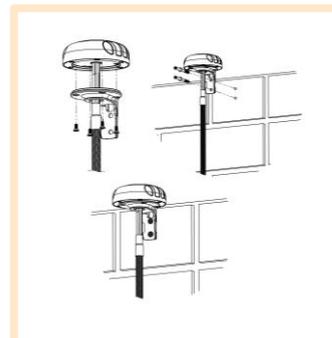
**Horizontal Pole Mount**

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

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