

ANTENNAS | PUCK-12 SERIES

2-IN-1 TRANSPORTATION & IOT/M2M ANTENNA

2400 - 2500 MHz, 5000 - 6000 MHz; 2X2 Wi-Fi (MIMO), 7.5 dBi



2400 – 2500 MHz; 5000 – 6000 MHz	7.5 dBi	Increase x Mb/s	Omni- Directional	2.4 – 2.5 GHz 5.0 – 6.0 GHz	IoT & M2M
2X2 MIMO	Chemical Protection	-40°C to +80°C	Fire Resistant	IP 68	

- 2-in-1 high performance omni-directional antenna
- Dual-band Wi-Fi, 2.4 GHz and 5 GHz frequency bands
- 2X2 MIMO for improved performance
- Ground plane independent
- Robust, vandal resistant and waterproof enclosure (IP68)
- Ultra-versatile mounting options for easy installation

APPLICATION AREAS

- Urban
- Rural/Farm
- Marine
- Vehicle
- Meter

Product Overview

Poynting's new PUCK range offers a small profile antenna which can be used in the IoT/M2M, Smart Meter, Smart Utilities, Transportation, Marine and the Agricultural/Farming markets. The PUCK-12 consists of a 2-in-1 antenna system within a single housing, featuring 2x2 MIMO Wi-Fi (Dual-band 2.4 GHz & 5 GHz). The antenna provides two separate dual-band Wi-Fi antennas offering concurrent 2.4 GHz and 5 GHz bands, capable of 802.11n and 802.11ac/ax with 2x2 MIMO. 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 Wi-Fi throughput and connection stability.

Features

- Small & Low-Profile (Ø100mm x h 36mm)
- Careful mechanical design provides ruggedness, corrosion, water, dust resistance (IP68)
- Fire Resistant
- 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

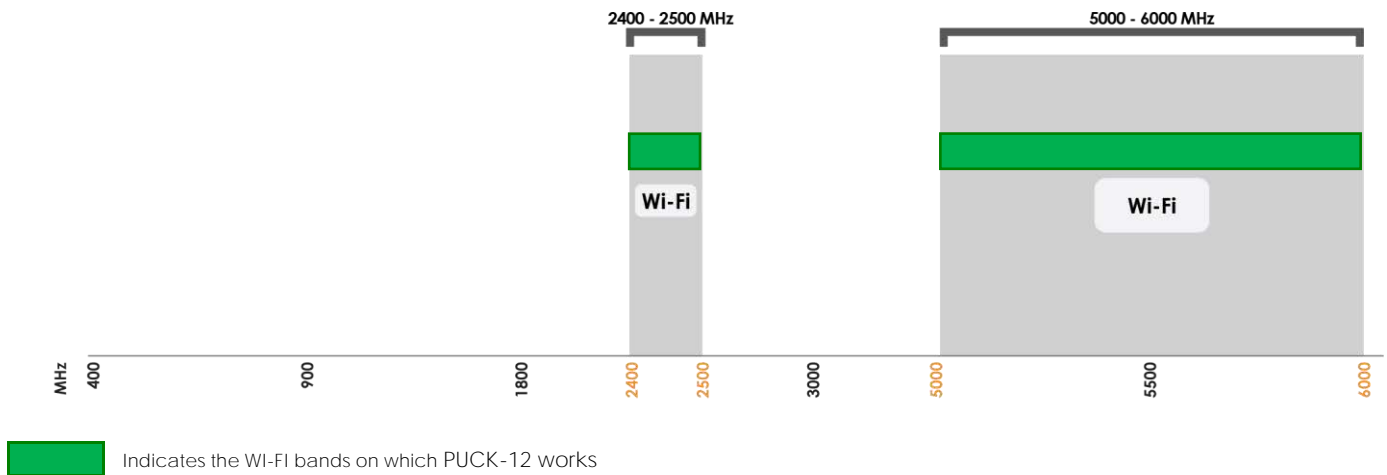
Application Areas

- 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.



Frequency Bands

The PUCK-12 is an omni-directional antenna that works from 2400 – 2500 MHz | 5000 – 6000 MHz



Antenna Overview

Ports	2
SISO / MIMO	2x2 MIMO
Frequency Bands	2400-2500 & 5000-6000 MHz
Polarisation	Linear Vertical
Peak Gain	7.5 dBi
Coax Cable Type	RTK -031
Coax Cable Length	2m
Connector Type	SMA (M) (RP-SMA adapter included)

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

Electrical Specifications

Frequency:	2400-2500 MHz 5000-6000 MHz
Gain (Max) Port 1:	5dBi @ 2400-2500 MHz 7.5dBi @ 5000-6000 MHz
VSWR Port 1:	≤2.5:1 over 95% of the band
Feed power handling:	10 W
Nominal input impedance:	50 Ohm (nominal)
Polarisation:	Linear Vertical
Coax cable loss:	0.91 dB/m @ 2400 MHz 1.65 dB/m @ 5800 MHz
Path to Ground:	Yes

Product Box Contents

Antenna:	A-PUCK-0012-V1-01
Mounting bracket:	Ø20 Threaded Spigots (Up to 60mm clamping thickness), Adhesive Surface Mounting & Magnetic Mount

Ordering Information

Commercial name:	PUCK-12
Order product code:	A-PUCK-00012-V1-01
EAN number:	6009880915248

Mechanical Specifications

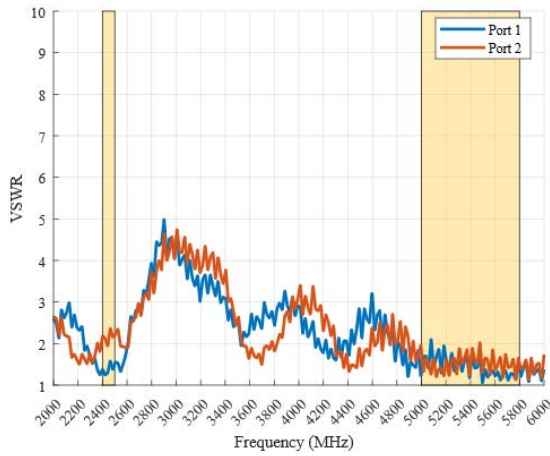
Product dimensions	Ø99.3 mm x 36 mm
Packaged dimensions:	150 mm x 150 mm x 120mm
Weight:	0.376kg
Packaged weight:	0.507kg
Radome material:	PC+ABS (Halogen free)
Radome colour:	Pantone Black
Mounting Type:	Ø20 Threaded Spigot, Pole, Wall, Surface and Magnetic mount

Environmental Specifications, Certification & Approvals

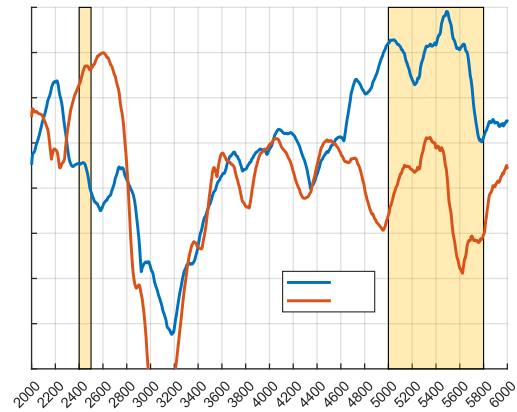
Wind Survival:	<220 km/h
Temperature Range (Operating):	-40°C to +80°C
Environmental Conditions:	Outdoor/Indoor
Water ingress protection ratio/standard:	IP 68 – 30 minutes up to 1.5m
Salt Spray:	MIL-STD 810F/ASTM B117
Operating Relative Humidity:	Up to 98%
Storage Humidity:	5% to 95% - non-condensing
Storage Temperature:	-40°C to +80°C
Enclosure Flammability Rating:	UL 94-HB
Impact resistance:	IK 10
Product Safety & Environmental:	Complies with CE and RoHS standards

Antenna Performance Plots

VSWR: Wi-Fi Antenna



Gain: Wi-Fi 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-12 delivers superior performance across all bands with a VSWR of $\leq 2.5:1$ over 95% of the band

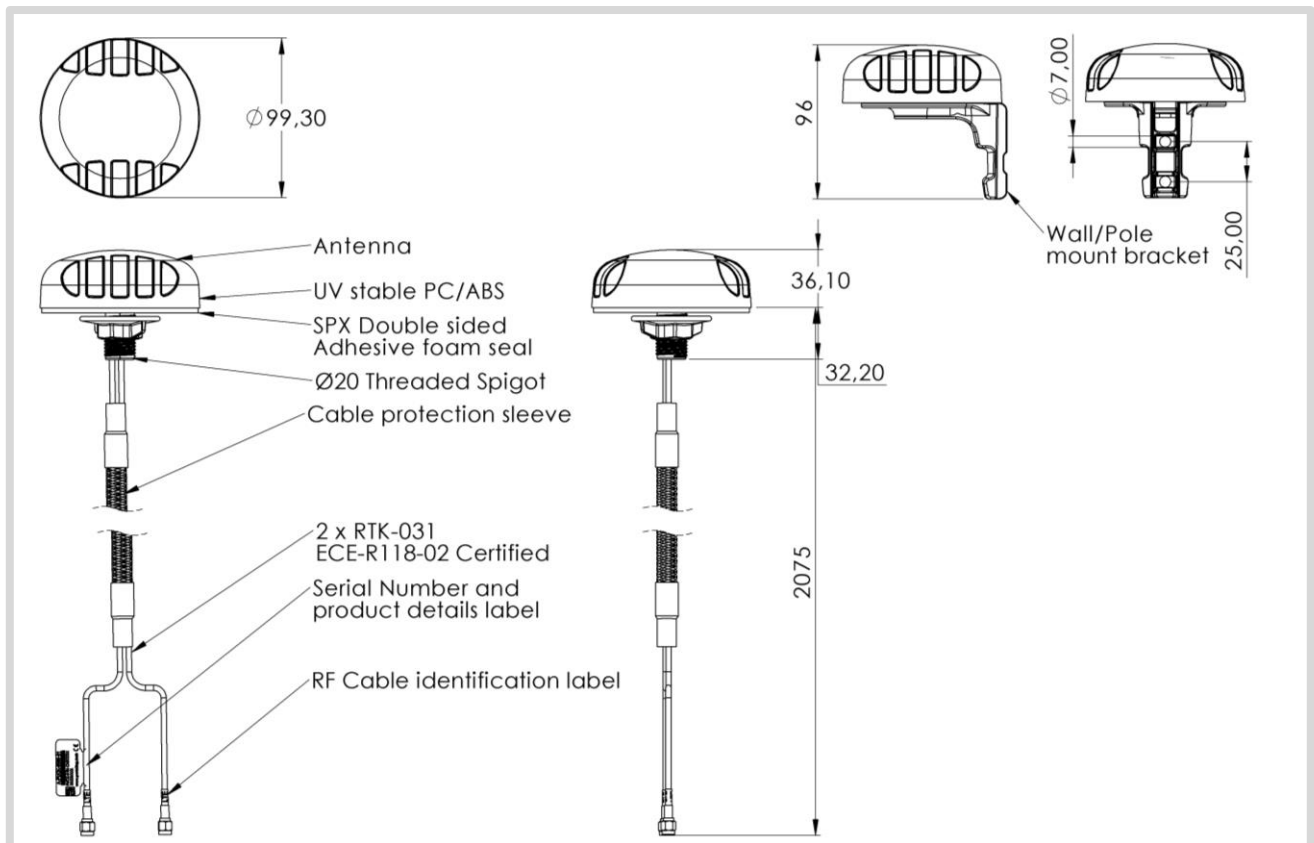
*Measured with 2m low loss cable

Gain in dBi

7.5 dBi is the peak gain across all bands from 2400-2500 & 5000 – 5800 MHz

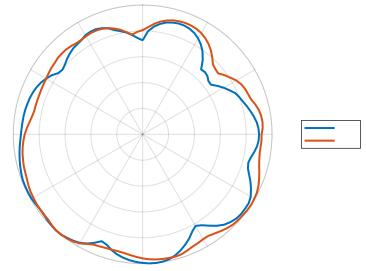
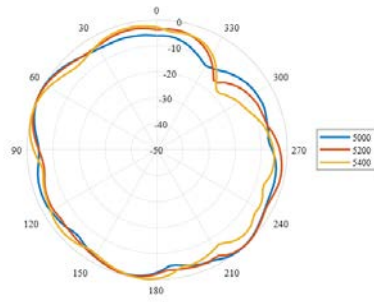
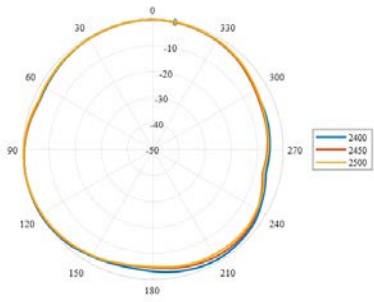
Peak Gain @ different bands: 5.0 dBi @2400-2500 MHz
 Peak Gain @ different bands: 7.5 dBi @ 5000-5800 MHz

Technical Drawings

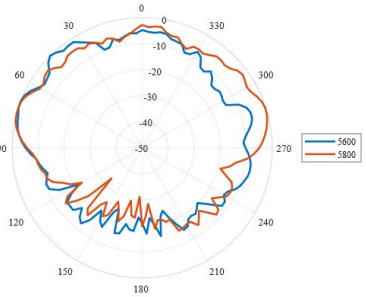
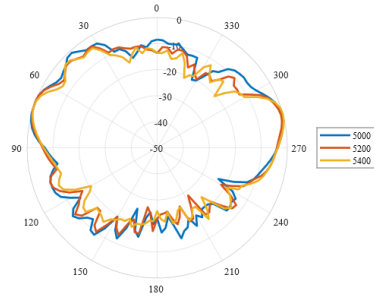
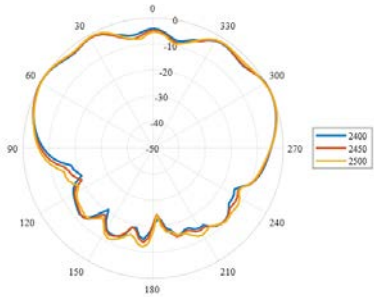


Radiation Patterns

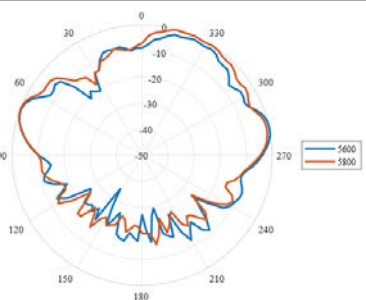
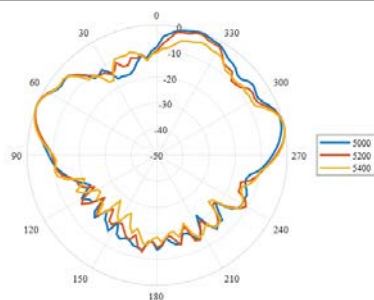
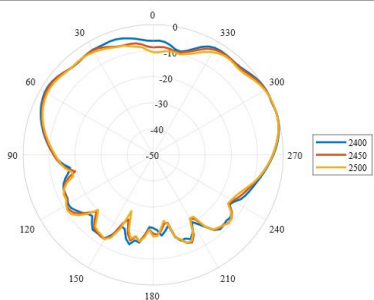
Azimuth (Top View): 2400–2500 MHz Azimuth (Top View): 5000–5400 MHz Azimuth (Top View): 5600–5800 MHz



Elevation1 (Side View): 2400–2500 MHz Elevation1 (Side View): 5000–5400 MHz Elevation (Side View): 5600–5800 MHz



Elevation2 (Side View): 2400–2500 MHz Elevation2 (Side View): 5000–5400 MHz Elevation2 (Side View): 5600–5800 MHz

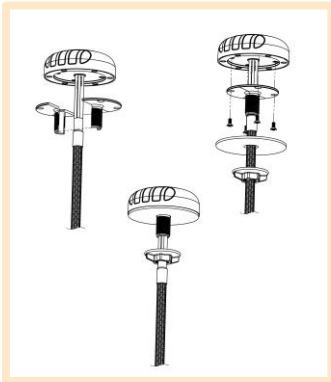


Mounting Options

Many Mounting Possibilities – included as standard

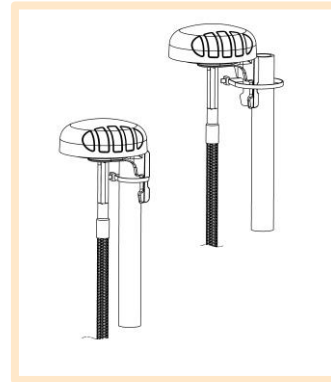
Poynting's new PUCK antenna range provides easy installation with the multiple mounting options. This includes as standard:

- 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



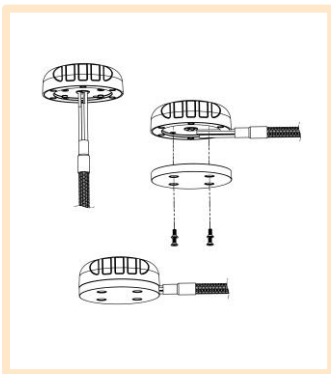
Spigot Mount

Removable 40mm & 80mm threaded spigot (included)



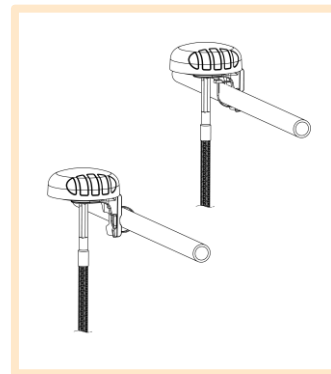
Vertical Pole Mount

Pole/Wall Mounting bracket (included)



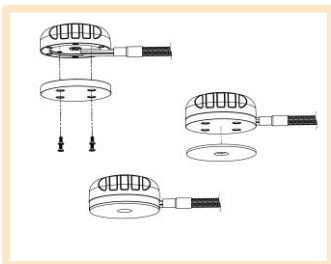
Magnetic Mount

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



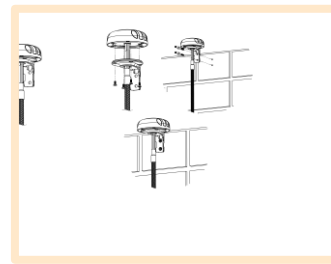
Horizontal Pole Mount

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)

Additional Accessories

See accessories technical specifications on www.poynting.tech

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