

ANTENNAS | PUCK-14 SERIES

4-IN-1 TRANSPORTATION & INDUSTRIAL IOT/M2M WI-FI ANTENNA

2400 – 2500 MHz, 3300 – 4200 MHz & 5000 – 7200; 4x4 Wi-Fi (MIMO), 9 dBi



 2400 – 2500 MHz 3300 – 4200 MHz 5000 – 7200 MHz	 9 dBi	 2.4 – 2.5 GHz 5.0 – 7.2 GHz	 Omni-Directional	 IIoT	 4x4 MIMO	 Industrial IoT/M2M
 Wi-Fi 6E/7	 Private 5G	 -40°C to +80°C	 Fire Resistant	 IP69K	 E-Mark Certified	 Open Pit Mining

- 4-in-1 high performance omni-directional antenna
- Tri-band Wi-Fi, 2.4 GHz, 5 GHz & 6 GHz frequency bands
- Private 5G compatible at 3.3-4.2 GHz
- Antenna supports Wi-Fi 6/6E/7/Bluetooth
- 4x4 MIMO for improved performance
- Robust, vandal-resistant and waterproof enclosure (IP69K)
- Ultra-versatile mounting options for easy installation

APPLICATION AREAS

-  Industrial IoT/M2M
-  Open Pit Mining
-  Farming/Agriculture
-  Transport/Mobility

Product Overview

The PUCK-14 is a compact, high-performance 4-in-1 antenna system designed for modern connectivity needs across enterprise, industrial IoT (IIoT), and demanding outdoor environments such as open-pit mining operations. It features 4x4 MIMO Wi-Fi capability, operating seamlessly across tri-bands (2.4 GHz, 5 GHz, and 6 GHz) to ensure compatibility with the latest Wi-Fi standards, including 802.11n, 802.11ac, 802.11ax, and 802.11be. It also includes support for private 5G at 3.3–4.2 GHz, enabling reliable, low-latency communications for mission-critical applications.

Designed for high-efficiency wireless performance, the PUCK-14 integrates four high-performance tri-band antennas with support for both Wi-Fi and private 5G networks. The antenna system provides true omnidirectional coverage to ensure consistent signal strength in all directions, along with pattern diversity to reduce dead zones and mitigate interference. This makes it particularly well suited for IIoT deployments, such as connected sensors, automation systems, and fleet management, as well as open-pit mining environments where wide-area coverage, mobility, and reliability are critical.

The design is optimised to maintain stable throughput and efficient radiation performance, even at higher operating frequencies and in challenging RF conditions. Each antenna supports simultaneous multi-band operation, delivering a peak gain of up to 9 dBi for Wi-Fi and up to 6.5 dBi across the 3.3–4.2 GHz band. Despite its compact size, the PUCK-14 achieves an excellent balance between efficiency, coverage, and connection stability, making it an ideal solution for high-density networks and mission-critical connectivity in industrial IoT and large-scale outdoor environments such as open-pit mining sites.

Features

- Small & Low-profile (Ø99.3 x 36 mm)
- Features 4x tri-band Wi-Fi antennas
- Careful mechanical design provides ruggedness, corrosion, water and dust resistance (IP69K)
- RP-SMA and N-Type connectors
- UV Stable Enclosure
- Easy installation; multi-implementation options available:
 - Spigot Mount
 - Magnetic Mount
 - Adhesive Surface Mount
 - Wall & Pole Mount

Application Areas

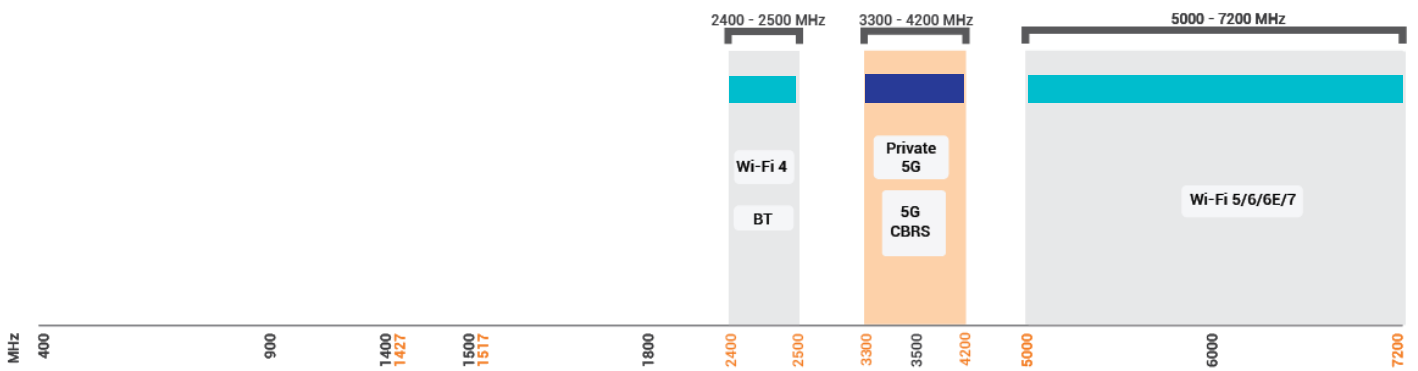
- Smart utilities: Smart power, Gas & Water Metering
- Smart Buildings: Climate control, access control, security, irrigation
- Industrial factory automation, robotic machinery, and other M2M systems
- Digital Signage
- Warehouses & Logistic systems
- Transport (Buses, Utility & Public Safety)
- Mining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

PUCK-14



Frequency Bands

The PUCK-14 is an omni-directional antenna that works from | 2400 – 2500 MHz | 3300 – 4200 MHz | and | 5000 – 7200 MHz |



Indicates the Wi-Fi bands on which PUCK-14 works

Indicates the private 5G/5G/CBRS band on which PUCK-14 works

Antenna Derivatives

Product Order Code (SKU)	A-PUCK-0014-V2-01	A-PUCK-0014-V2-02
Radome Colour	Black	Black
Radome Material	PC+ABS (Halogen free)	PC+ABS (Halogen free)
Ports	4	4
SISO / MIMO	4X4 MIMO	4X4 MIMO
Coax Cable Type	RTK-031	RTK-031
Coax Cable Length	2m	2m
Connector Type	RP-SMA (M)	N-Type (M)
Weight	0.30 kg	0.380 kg
Packaged Weight	0.65 kg	0.815 kg
EAN	6009716250673	6009716250697
E-Mark Certification Number	E1*10R06/01*9551*00	E1*10R06/01*9551*00

Electrical Specifications

Frequency Bands:	2400 – 2500 MHz 3300 – 4200 MHz 5000 – 7200 MHz
Gain (Max):	6.5 dBi @ 2400-2500 MHz 6.5 dBi @ 3300-4200 MHz 9 dBi @ 5000-7200 MHz
VSWR:	<1.8:1
Feed Power Handling:	10 W
Input Impedance:	50 Ohm (nominal)
Polarisation:	Linear Vertical
Coax Cable Loss:	0.91 dB/m @ 2400 MHz 1.65 dB/m @ 5800 MHz
DC Short:	Yes

Product Box Contents

Antenna:	A-PUCK-0014-V2-01
Mounting Bracket:	Ø20 Threaded Spigots (Up to 60mm clamping thickness), Adhesive Surface Mounting, Wall/Pole mount Bracket & Magnetic Mount
Antenna:	A-PUCK-0014-V2-02
Mounting Bracket:	Ø20 Threaded Spigot (Up to 60mm clamping thickness) & Wall/Pole mount Stainless steel bracket

Mechanical Specifications

Product Dimensions:	Ø99.3 mm x 36 mm
Packaged Dimensions:	150 mm x 150mm x 120mm
Mounting Type:	Ø20 Threaded Spigots (Up to 60mm clamping thickness), Adhesive Surface Mounting, Wall/Pole mount Bracket (Plastic/ Stainless steel)& Magnetic Mount

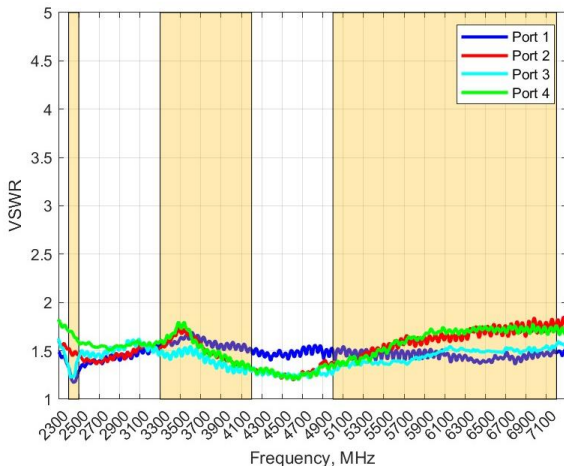
Environmental Specifications, Certification & Approvals

Wind Survival:	<220 km/h
Temperature Range (Operating):	-40°C to +80°C
Environmental Conditions:	Outdoor/Indoor
Water Ingress Protection Ratio/Standard:	IP69K
Salt Spray:	MIL-STD 810G/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



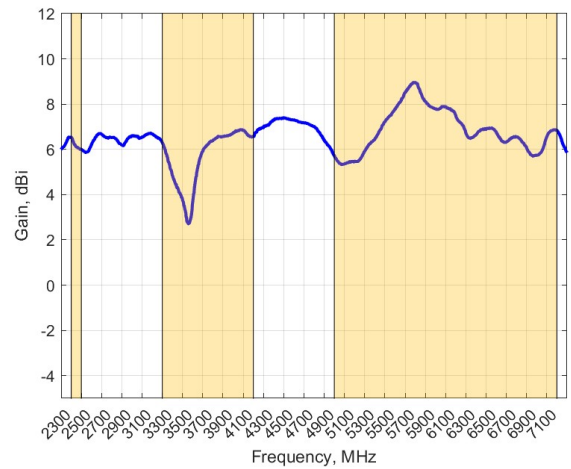
Voltage Standing Wave Ratio (VSWR)*

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-14 delivers superior performance across all bands with a VSWR of <1.8:1.

**Measured with 2m low loss cable, 650 x 650 mm ground plane, and unused ports terminated with 50Ω load.*

GAIN (Excluding Cable Loss): Wi-Fi Antenna



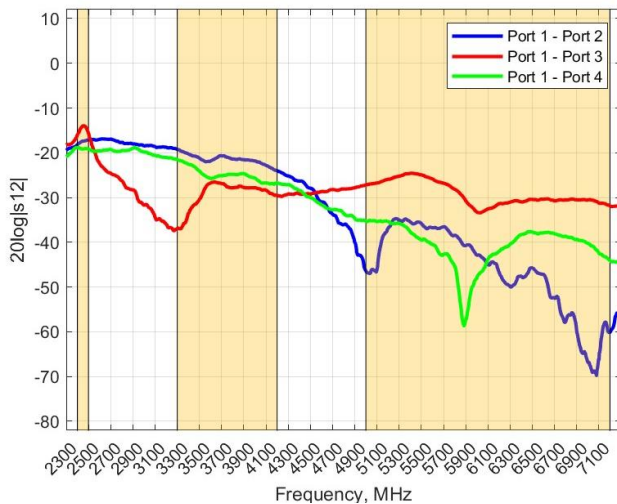
Gain* in dBi

9 dBi is the peak gain across all bands from 2400 – 2500 MHz, 3300 – 4200 & 5000 – 7200 MHz

Gain @ 2400 – 2500 MHz:	6.5 dBi
Gain @ 3300 – 4200 MHz:	6.5 dBi
Gain @ 5000 – 7200 MHz:	9 dBi

**Antenna gain measured with polarisation aligned standard antenna*

Isolation

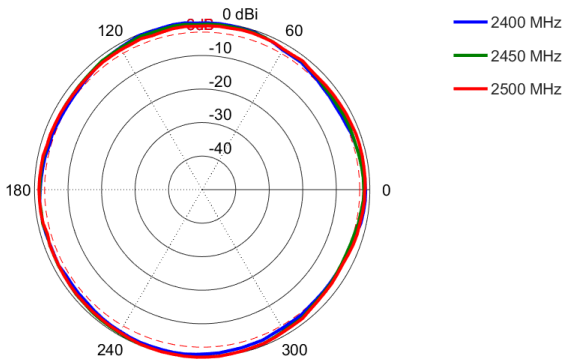


Isolation

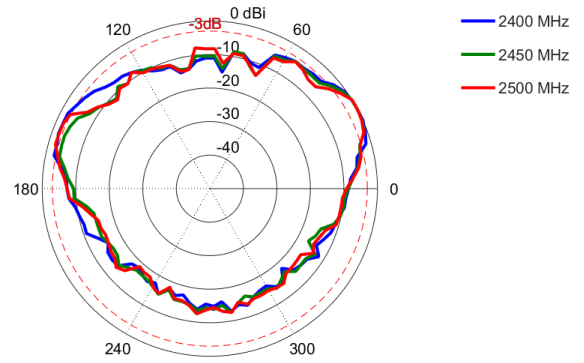
Isolation is a measure of how much energy from one port leaks into another port undesirably. Isolation of 0 dB between 2 ports means that there are no isolation and the energy from 1 port excitation is visible on another port. Isolation of -30 dB or more means that <0.1% of 1 port's energy is leaked into another. A good isolation is under -10 dB.

Radiation Patterns

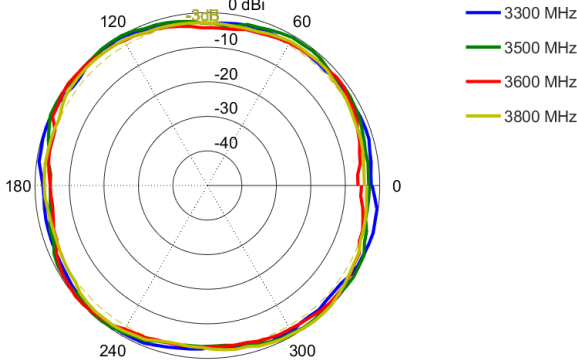
Azimuth: 2400 – 2500 MHz



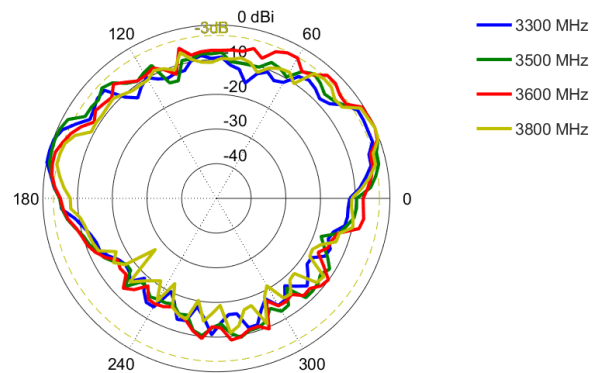
Elevation: 2400 – 2500 MHz



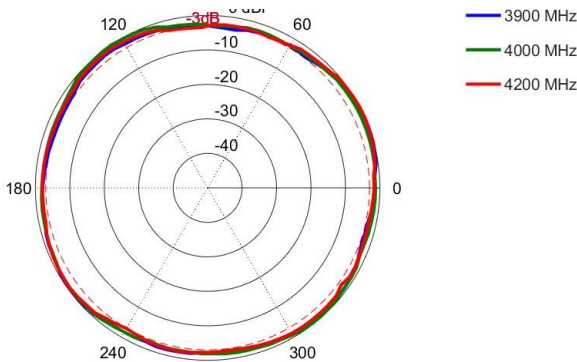
Azimuth: 3300 – 3800 MHz



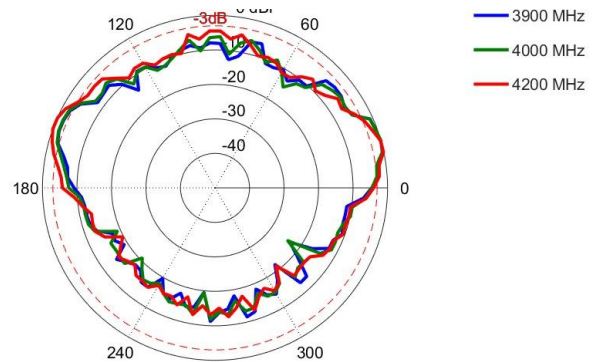
Elevation: 3300 – 3800 MHz



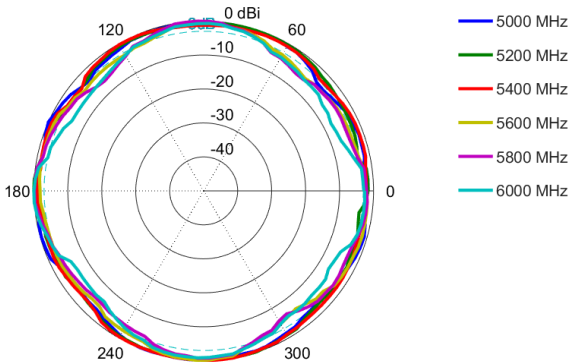
Azimuth: 3900 – 4200 MHz



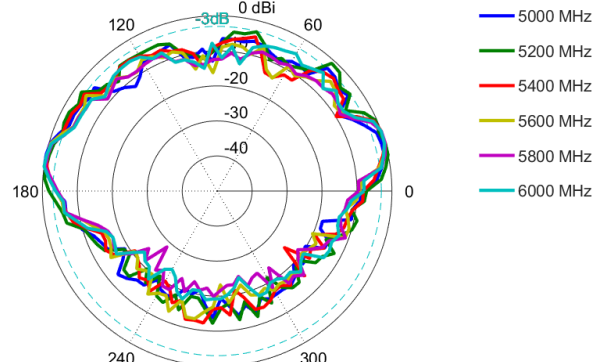
Elevation: 3900 – 4200 MHz



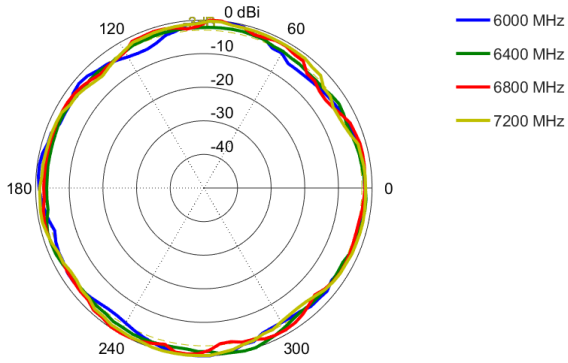
Azimuth: 5000 – 6000 MHz



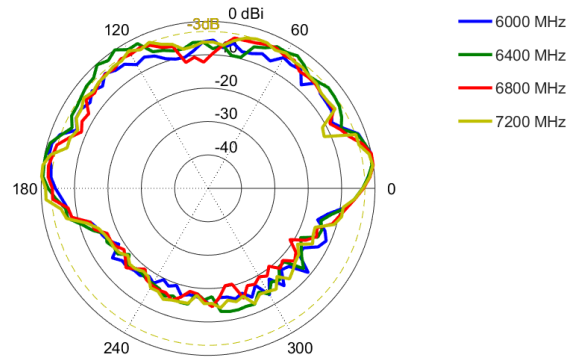
Elevation: 5000 – 6000 MHz



Azimuth: 6000 – 7200 MHz

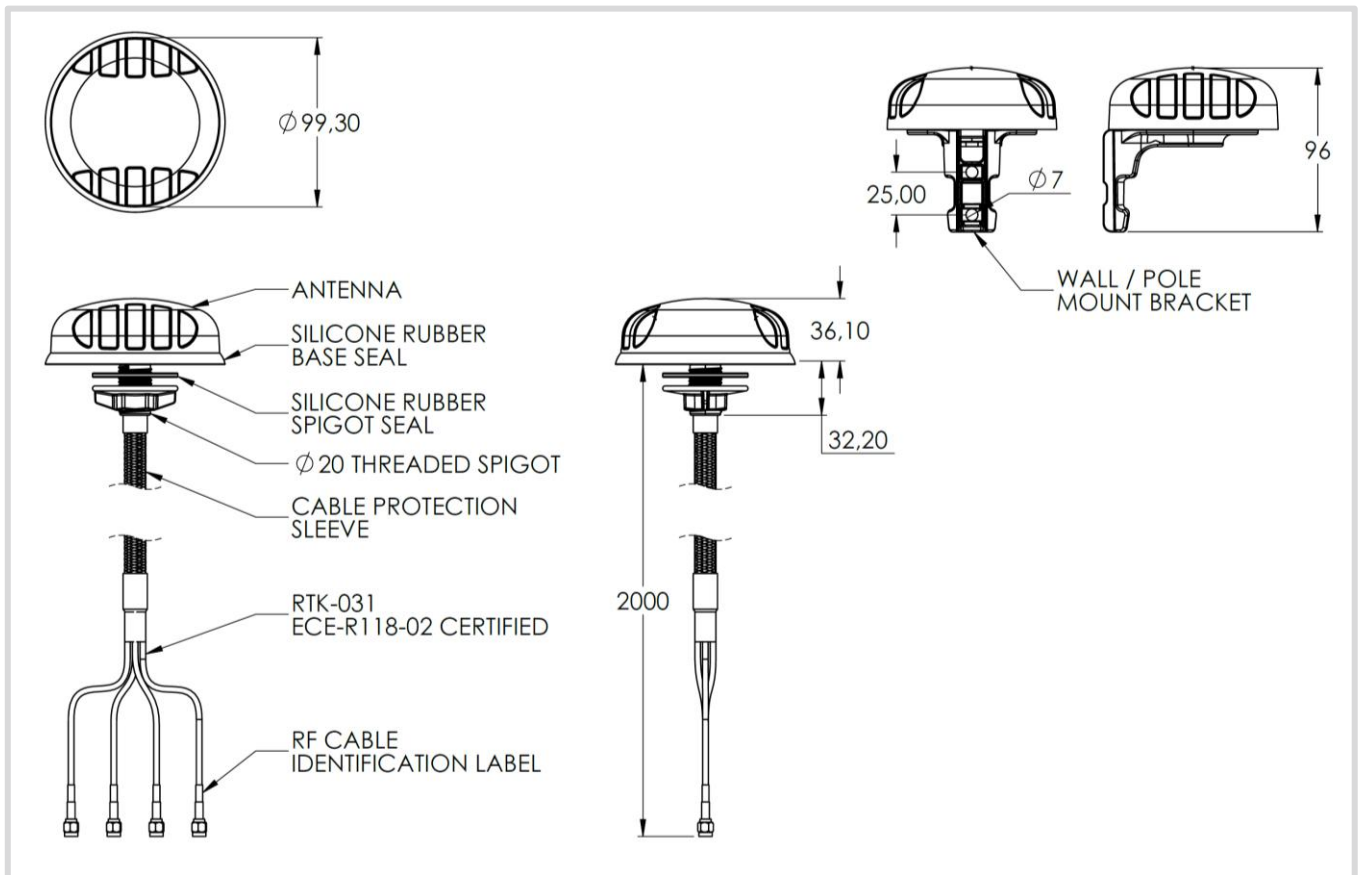


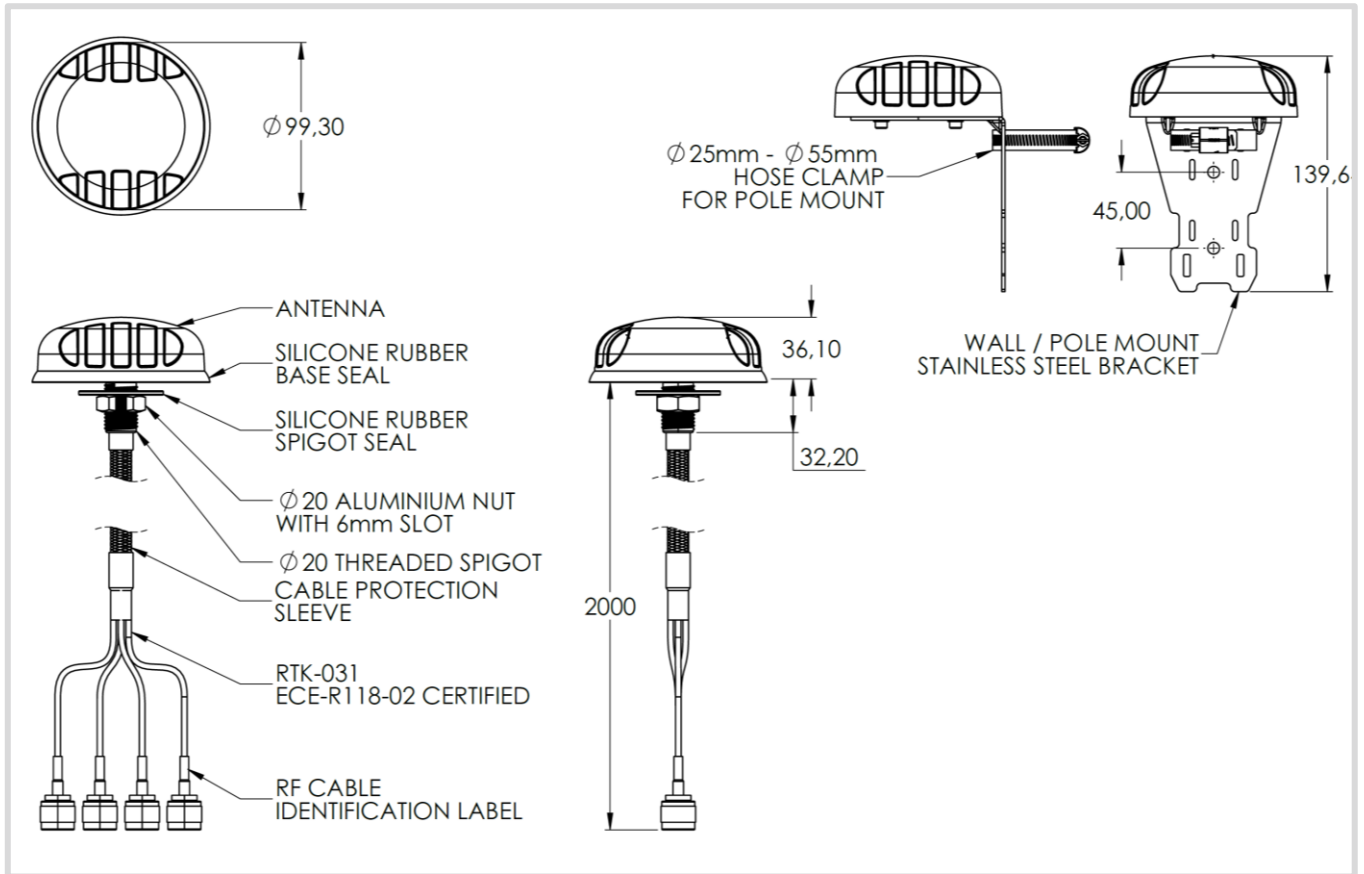
Elevation: 6000 – 7200 MHz



Technical Drawings

A-PUCK-0014-V2-01





Mounting Options

Many Mounting Possibilities – A-PUCK-0014-V2-01

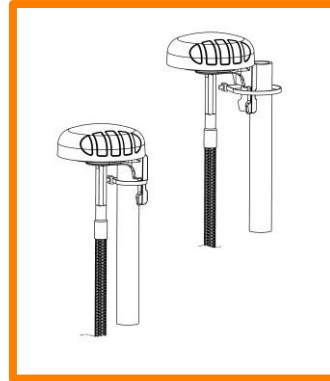
Poynting’s new PUCK antenna range provides easy installation with the multiple mounting options. This includes as standard:

- Spigot Mount - two different lengths included (35mm & 75mm)
- 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



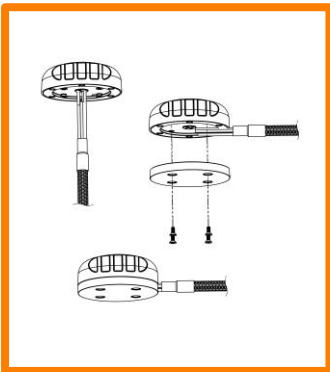
Spigot Mount

Removable 35mm & 75mm threaded spigot (included)



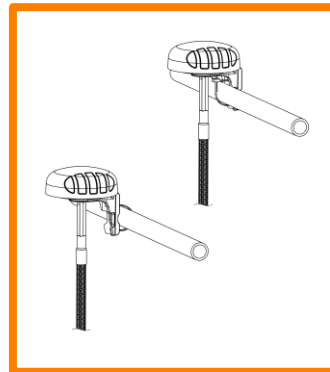
Vertical Pole Mount

Pole/Wall Mounting bracket (included)



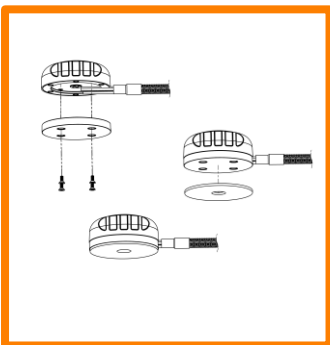
Magnetic Mount

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



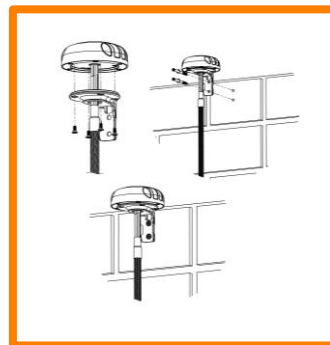
Horizontal Pole Mount

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)

Mounting Options

Mounting Possibilities for A-PUCK-0014-V2-02

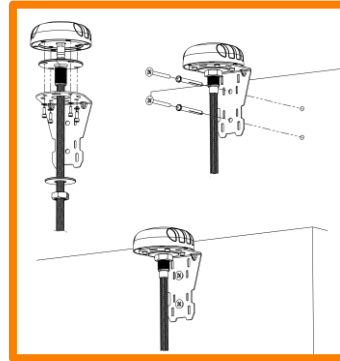
Poynting’s new PUCK antenna range provides easy installation with the multiple mounting options:

- Spigot Mount - included (35mm)
- Vertical Pole mount (inner & outer mounting for smaller and larger poles)
- Wall Mount



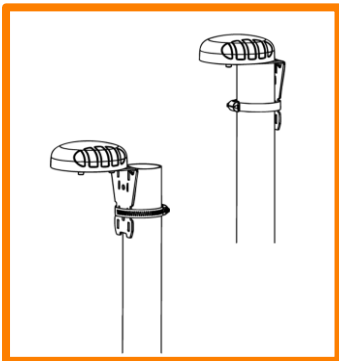
Spigot Mount

Removable 35mm threaded spigot (included)



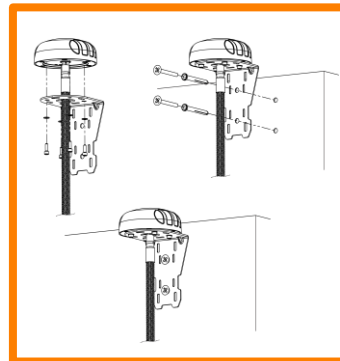
Wall Mount

Removable 35mm threaded spigot with the A-BRKT-069-V1-01 (included)



Vertical Pole Mount

Pole/Wall Mounting using A-BRKT-069-V1-01 (included)



Wall Mount

Pole/Wall Mounting using A-BRKT-069-V1-01 (included)

Additional Accessories

See accessories technical specifications on www.poynting.tech

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