



# Peplink 401

4x4 MIMO 5G Ready Cellular Antenna System with GPS Receiver

## Features

- 4x4 MIMO 5G ready cellular antenna system with GPS receiver
- Cellular frequencies 600-6000 MHz
- B71 Support
- Durable and UV-stable housing
- Black or white color options
- IP68 rated



## Overview

|                          |  |
|--------------------------|--|
| Antenna elements         | 4x LTE, 1x GPS   |
| Cellular frequency bands | 0.3dBi@ 617-960MHz<br>5.1dBi@ 1710-2700MHz<br>5.8dBi@ 3400-4200MHz<br>7.0dBi@ 4900-6000MHz |
| GPS frequency bands      | 1.6dBi, LNA 28dB:<br>1561-1602MHz  |
| IP rating                | IP67   |
| Dimensions               | (Height) 1.42" / 36mm (spigot not included)<br>(Diameter) 5.12" / 130mm                    |
| Coax cable type          | CFD-200 (4G/5G, Wi-Fi)<br>RG-174 (GPS)   |
| Connector Type           | SMA male, QMA male,<br>N-type male   |

## Description

The Peplink Puma 401 is a 5G ready multi-band antenna built for land-based mobile applications. It supports 4x4 MIMO for high bandwidth and solid reliability. It is also 5G ready and supports a wide range of global cellular frequencies. The GPS receiver is equipped with high gain LNA, making it ideal for location tracking.

The Puma 401 has a solid housing made of UV stable plastic materials. Two color options are available (black and white) to fit different deployments. For easier installation, the antenna comes with different cable length options, available in SMA, QMA or N-type.

## Applications

- Public Safety and mission critical connectivity
- Mobile healthcare
- Transportation Connectivity

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## Specification

### Cellular

|                          |  |
|--------------------------|--|
| Antenna elements         | 4 elements   |
| Cellular frequency bands | 0.3dBi@ 617-960MHz<br>5.1dBi@ 1710-2700MHz<br>5.8dBi@ 3400-4200MHz<br>7.0dBi@ 4900-6000MHz |
| VSWR                     | < 2.5 over 85% of the band   |
| Feed power handling      | 10W  |
| Input impedance          | 50 $\Omega$  |
| Polarisation             | Linear   |

### GPS

|                    |                                  |
|--------------------|----------------------------------|
| Frequency range    | 1561-1602 MHz                    |
| Peak gain          | 0.5dBi@1575MHz<br>1.6dBi@1602MHz |
| VSWR               | < 2.5                            |
| Output return loss | 10dB max                         |
| Gain: LNA          | 28 $\pm$ 3dB                     |
| Noise figure       | 1.5dB max at 3.3V                |
| Operating Voltage  | 3.3V                             |
| Power consumption  | 8.5 $\pm$ 2.5mA at 3.3V          |

### Cable

|             |   |
|-------------|---|
| Type        | CFD-200   |
| Loss        | 0.33 dB/m @ 900 MHz<br>0.49 dB/m @ 2000 MHz<br>0.55 dB/m @ 2500 MHz<br>0.87 dB/m @ 5800 MHz |
| Diameter    | 13/64" / 5.0mm  |
| Jacket      | Half matt PVC, UV resistant   |
| Termination | SMA male, QMA male,<br>N-type male  |
| Type        | RG-174  |
| Loss        | 3.4 dB/m @ 1000 MHz<br>4.9 dB/m @ 1800 MHz  |
| Diameter    | 0.1" / 2.7mm  |
| Jacket      | Half matt PVC, UV resistant   |
| Termination | SMA male, QMA male,<br>N-type male  |

### Mounting

|                     |                   |
|---------------------|-------------------|
| Supported types     | Panel, wall, pole |
| Mounting hole       | 1 11/16" / 43mm   |
| Max panel thickness | 19/32" / 15mm     |

### Mechanical

|                     |   |
|---------------------|---|
| Product dimensions  | (Height) 1.42" / 36mm (spigot not included)<br>(Diameter) 5.12" / 130mm |
| Packaged dimensions | 8.90" x 8.46" x 4.29" /<br>226 x 215 x 109mm                            |
| Radome material     | UV stable PC+ABS  |

### Package contents

|          |   |
|----------|---|
| Antenna  | Puma 401  |
| Mounting | Double sided 3M adhesive pad<br>Diameter: 5.08" / 129mm<br>Thickness: 0.08" / 2mm |

### Environmental, compliance

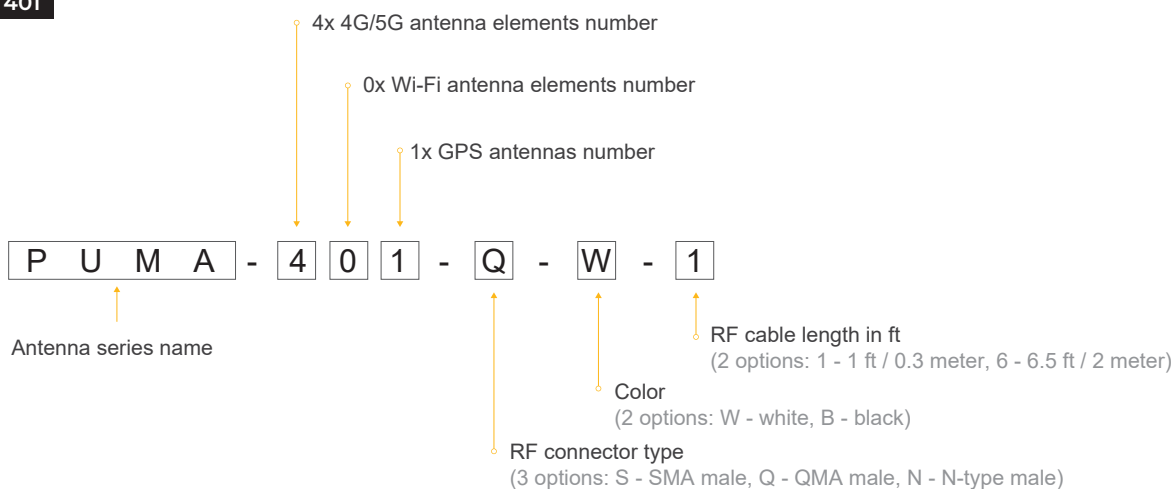
|                       |                                 |
|-----------------------|---------------------------------|
| IP rating             | IP67                            |
| Operating temperature | -40° - 176°F / -40° - 80°C      |
| Storage temperature   | -40° - 176°F / -40° - 80°C      |
| Compliance            | Complies with RoHS requirements |

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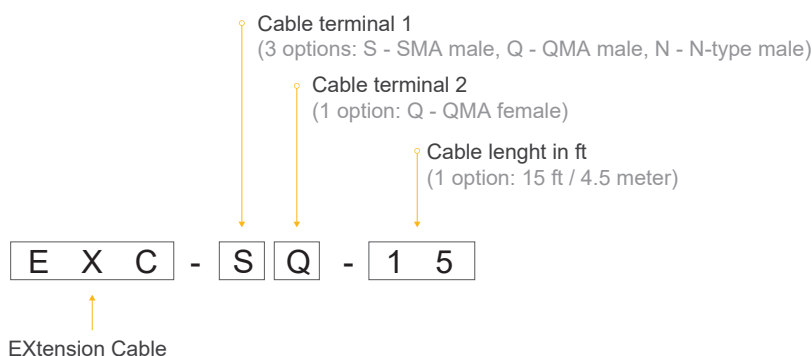
## Ordering information

### Puma 401

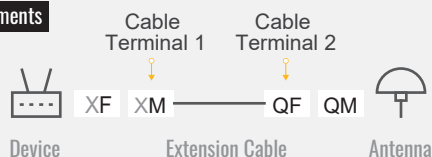


| Product Code   | Description   |
|----------------|---|
| PUMA-401-S-W-6 | 4xLTE, 1xGPS 600-6000MHz, IP67, SMA, White, 6.5ft / 2m    |
| PUMA-401-S-B-6 | 4xLTE, 1xGPS 600-6000MHz, IP67, SMA, Black, 6.5ft / 2m    |
| PUMA-401-Q-W-1 | 4xLTE, 1xGPS 600-6000MHz, IP67, QMA, White, 1 ft / 0.3m   |
| PUMA-401-Q-W-6 | 4xLTE, 1xGPS 600-6000MHz, IP67, QMA, White, 6.5ft / 2m    |
| PUMA-401-Q-B-1 | 4xLTE, 1xGPS 600-6000MHz, IP67, QMA, Black, 1 ft / 0.3m   |
| PUMA-401-Q-B-6 | 4xLTE, 1xGPS 600-6000MHz, IP67, QMA, Black, 6.5ft / 2m    |
| PUMA-401-N-W-6 | 4xLTE, 1xGPS 600-6000MHz, IP67, N-type, White, 6.5ft / 2m |
| PUMA-401-N-B-6 | 4xLTE, 1xGPS 600-6000MHz, IP67, N-type, Black, 6.5ft / 2m |

### Extension cable



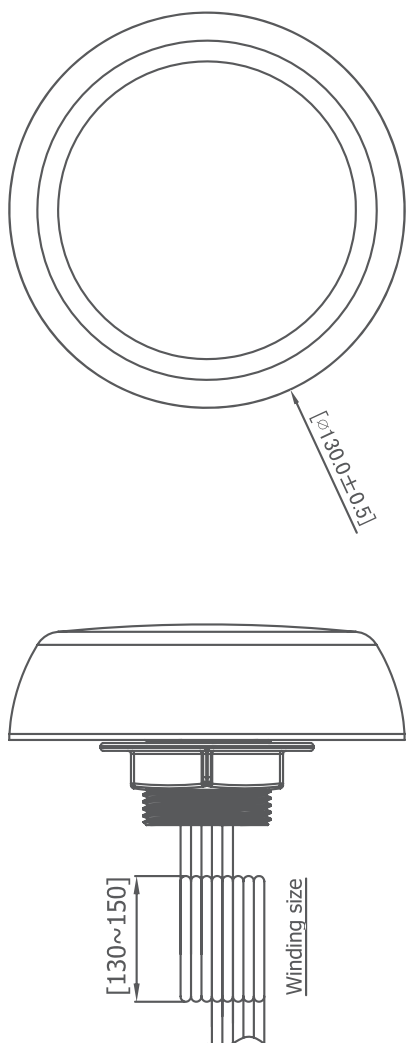
### LTE/GPS elements



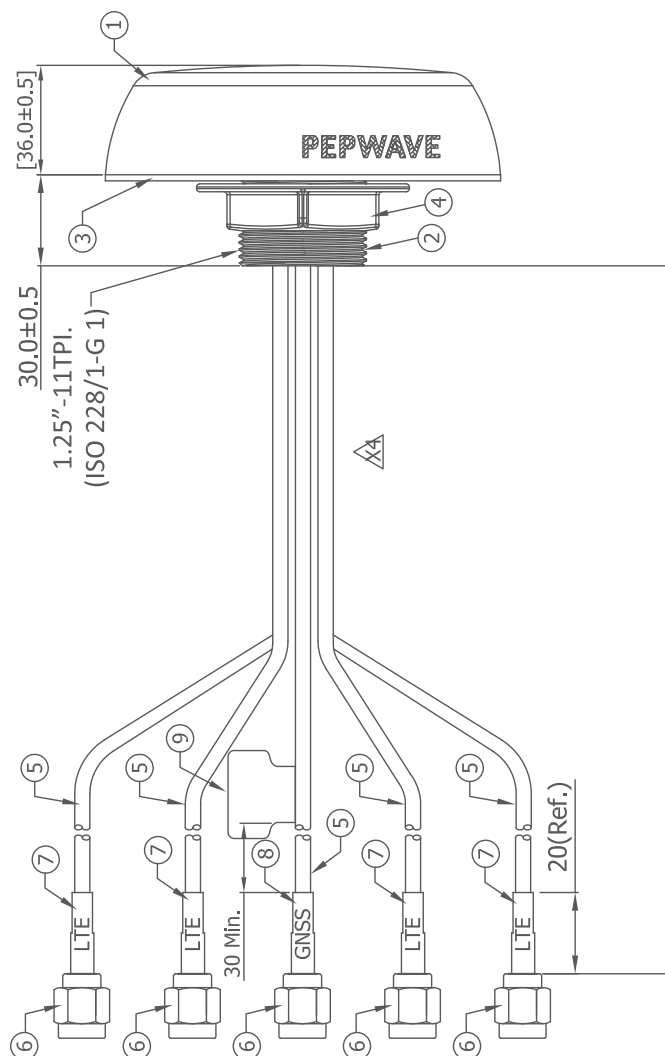
| Product Code | Element type     | Description  |
|--------------|------------------|--|
| EXC-SQ-15    | LTE/GPS elements | Extension coax cable, SMA male to QMA female connector, 15ft / 4.5m    |
| EXC-QQ-15    | LTE/GPS elements | Extension coax cable, QMA male to QMA female connector, 15ft / 4.5m    |
| EXC-NQ-15    | LTE/GPS elements | Extension coax cable, N-type male to QMA female connector, 15ft / 4.5m |

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## Technical drawing



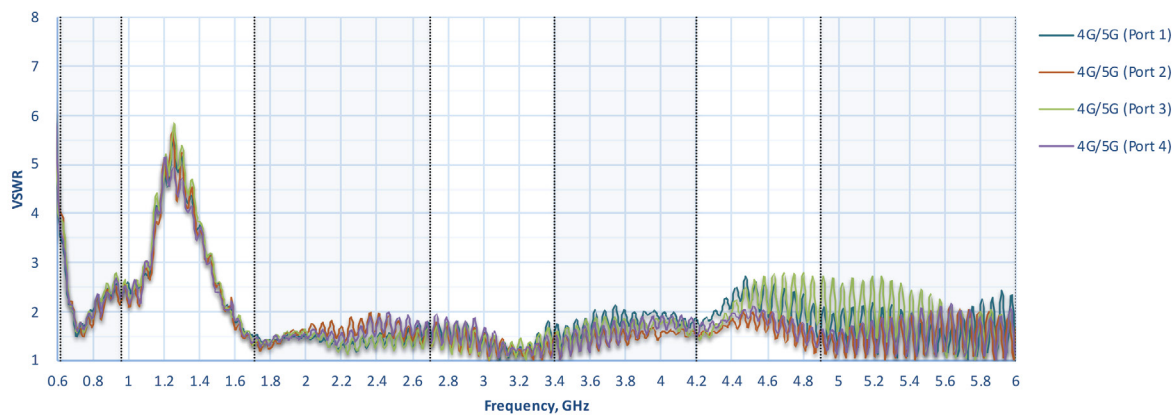
# Puma 401



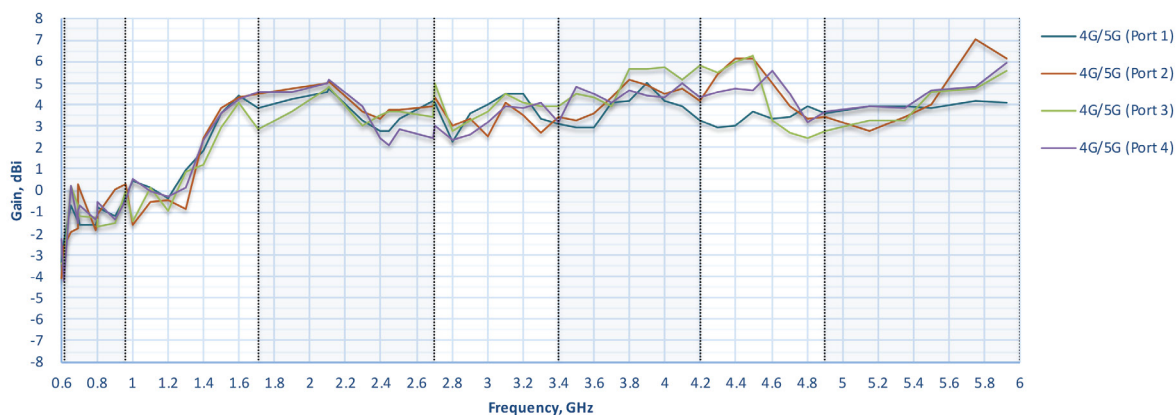
## Index

| No. | Description                   | Qty |
|-----|-------------------------------|-----|
| 1   | Antenna top cover (PC+ABS)    | 1   |
| 2   | Antenna bottom cover (PC+ABS) | 1   |
| 3   | Double sided 3M adhesive pad  | 1   |
| 4   | Hexagon NUT (PC+ABS)          | 1   |
| 5   | Cable CFD-200 (4G/5G)         | 5   |
| 6   | 4G/5G, GPS antenna connector  | 5   |
| 7   | LTE cable marking             | 4   |
| 8   | GPS cable marking             | 1   |
| 9   | Label                         | 1   |

## Cellular Antenna VSWR

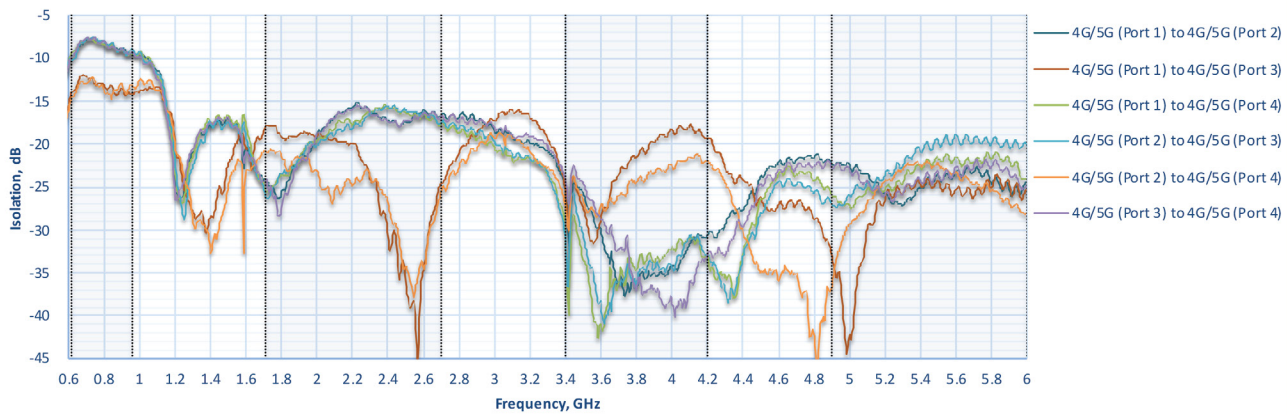


## Cellular Antenna Gain

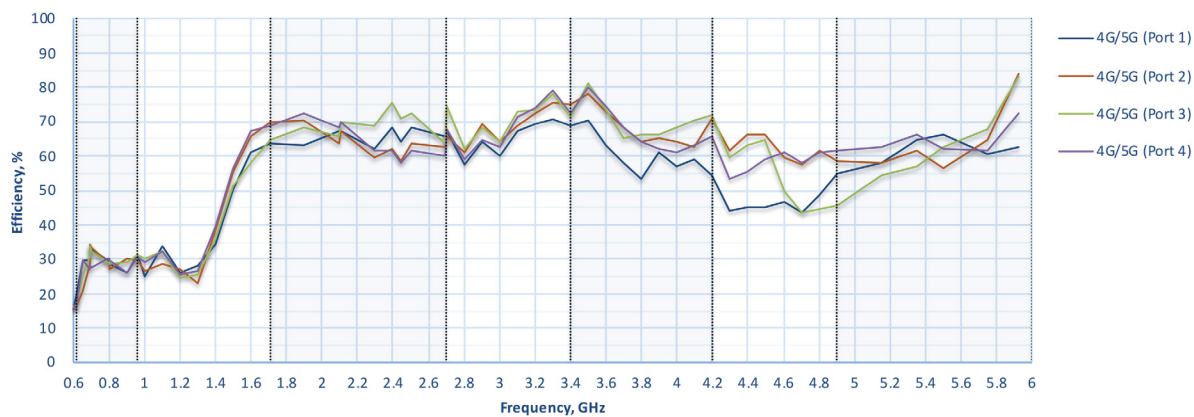


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## Cellular Antenna Isolation



## Cellular Antenna Efficiency

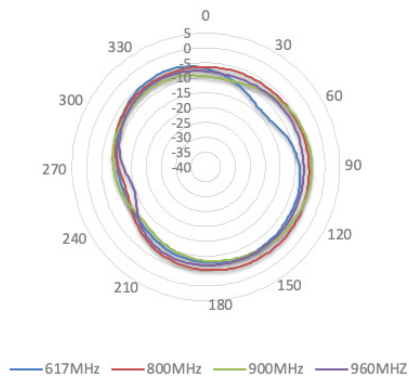


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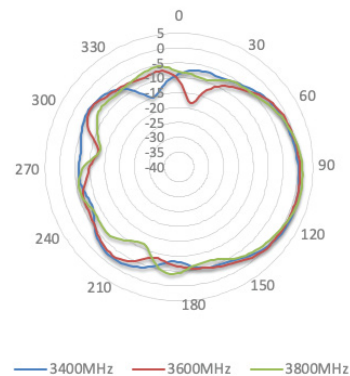


## Radiation patterns (Azimuth)

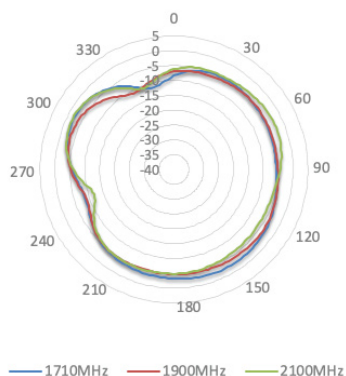
617-960 MHz



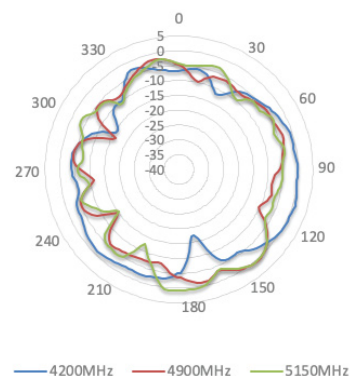
3400-3800 MHz



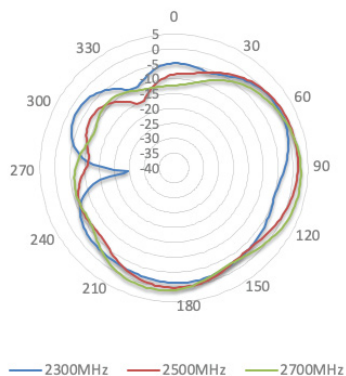
1710-2100MHz



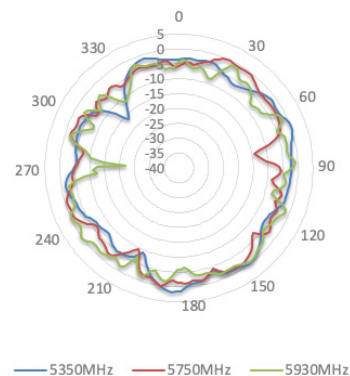
4200-5150 MHz



2300-2700 MHz



5350-5925 MHz

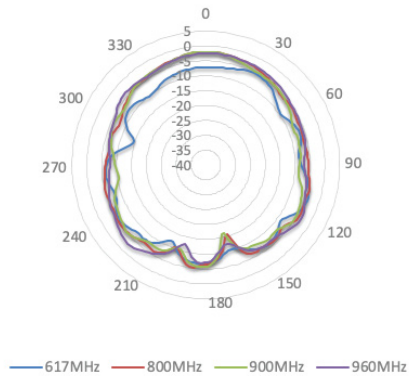


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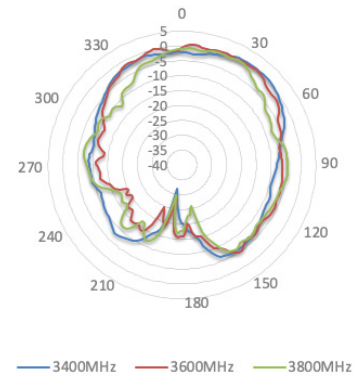


## Radiation patterns (Elevation 1)

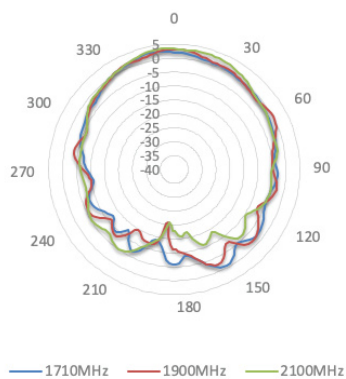
617-960 MHz



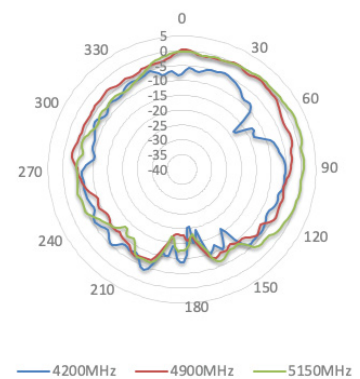
3400-3800 MHz



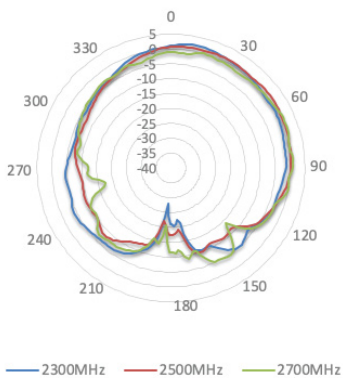
1710-2100MHz



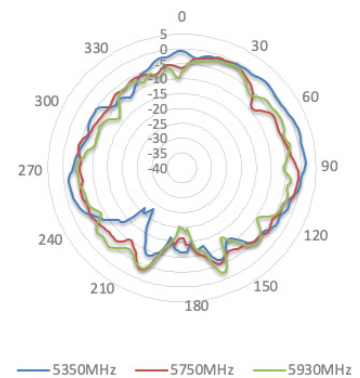
4200-5150 MHz



2300-2700 MHz



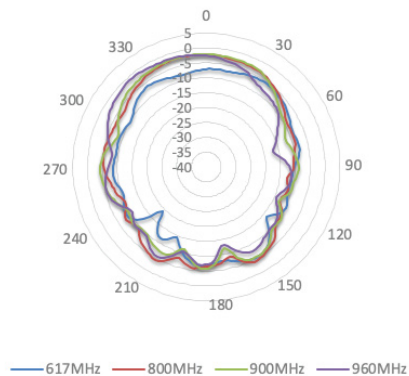
5350-5925 MHz



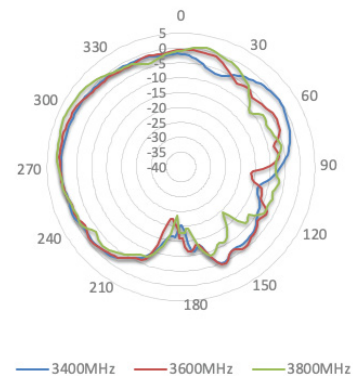
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## Radiation patterns (Elevation 2)

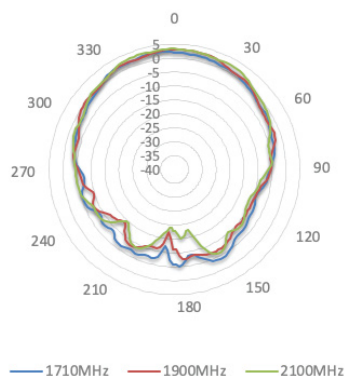
617-960 MHz



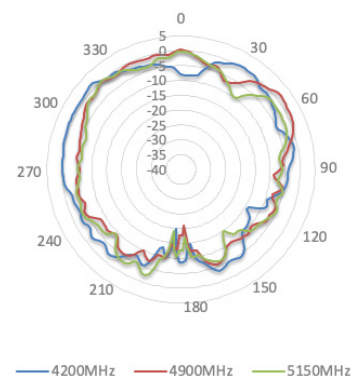
3400-3800 MHz



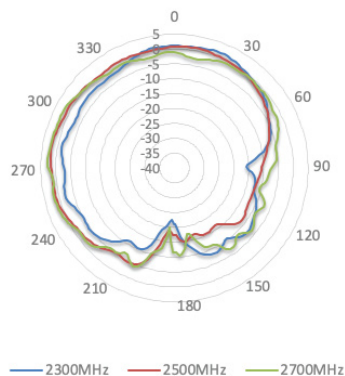
1710-2100 MHz



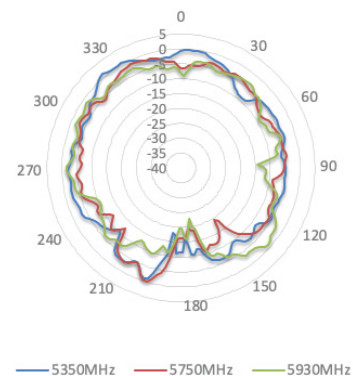
4200-5150 MHz



2300-2700 MHz



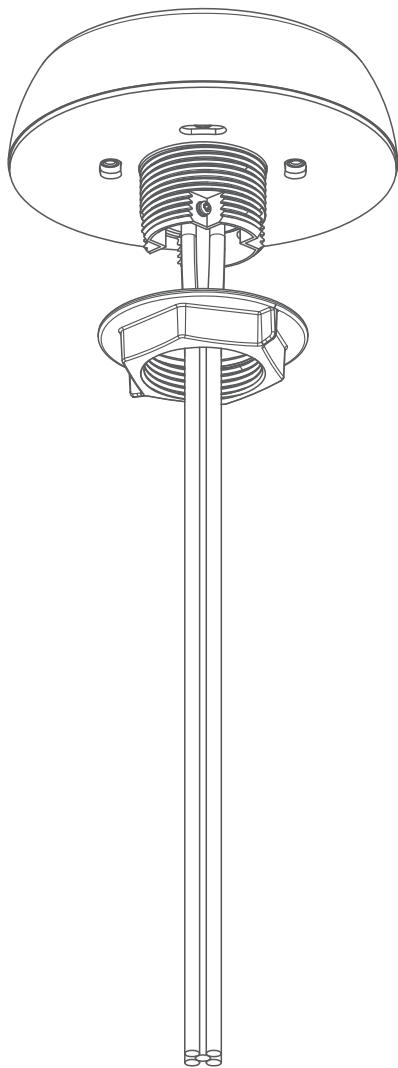
5350-5925 MHz



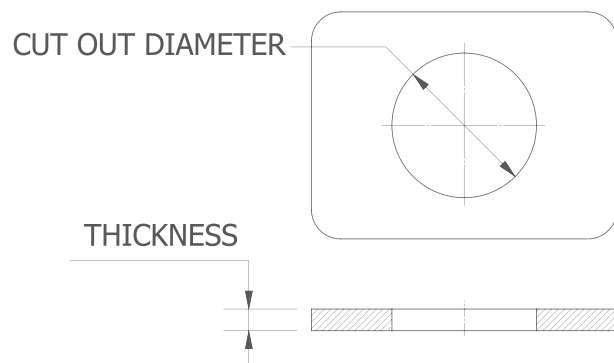
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## Installation recommendation

### Panel Mount



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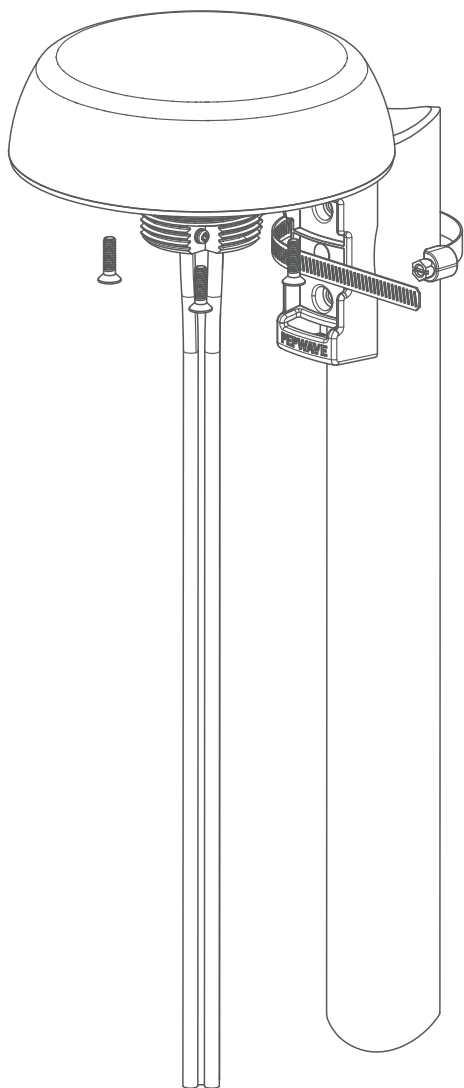


### Notes

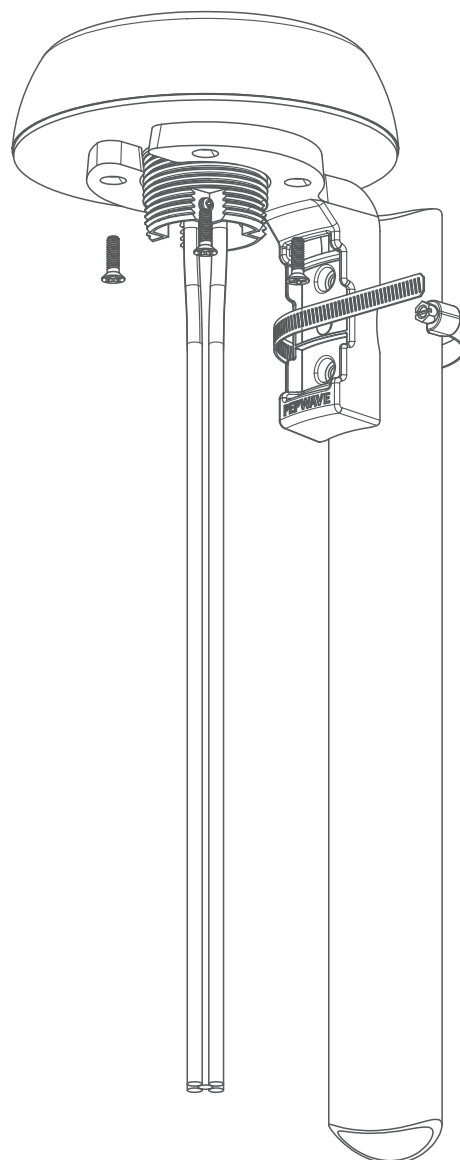
- Cover panel surface to protect the paint work. When drilling a hole, start with a small one, then increase it.
- Cut out diameter should be 1 11/16" / 43mm.  
Maximum allowed panel thickness - 15mm.
- After a drill clean up the surface and apply some paint around the hole to prevent corrosion. Attach the antenna.

## Installation recommendation

### Pole Mount



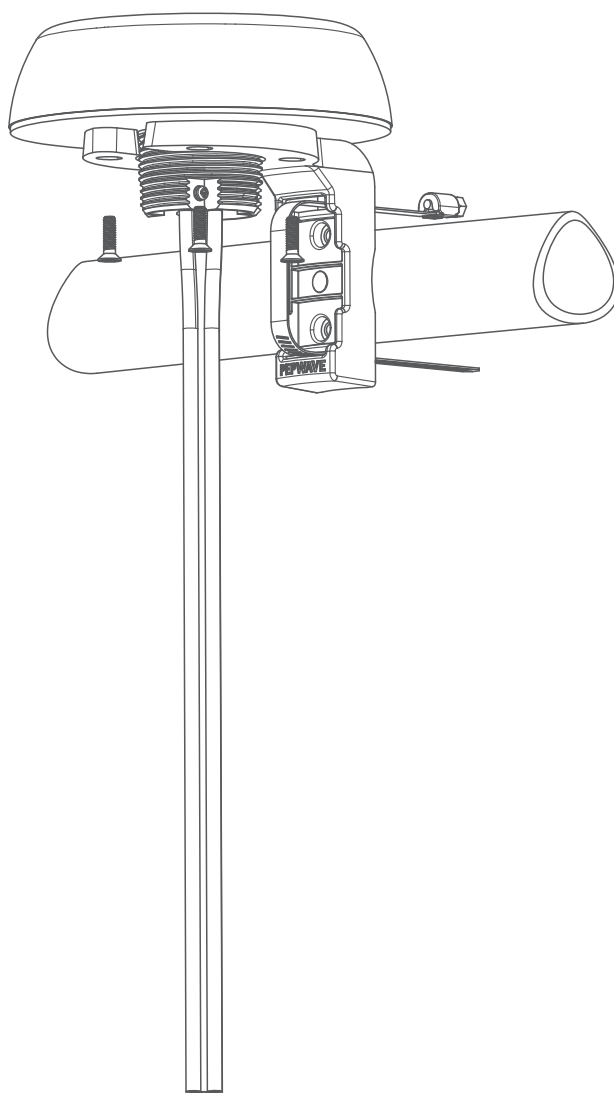
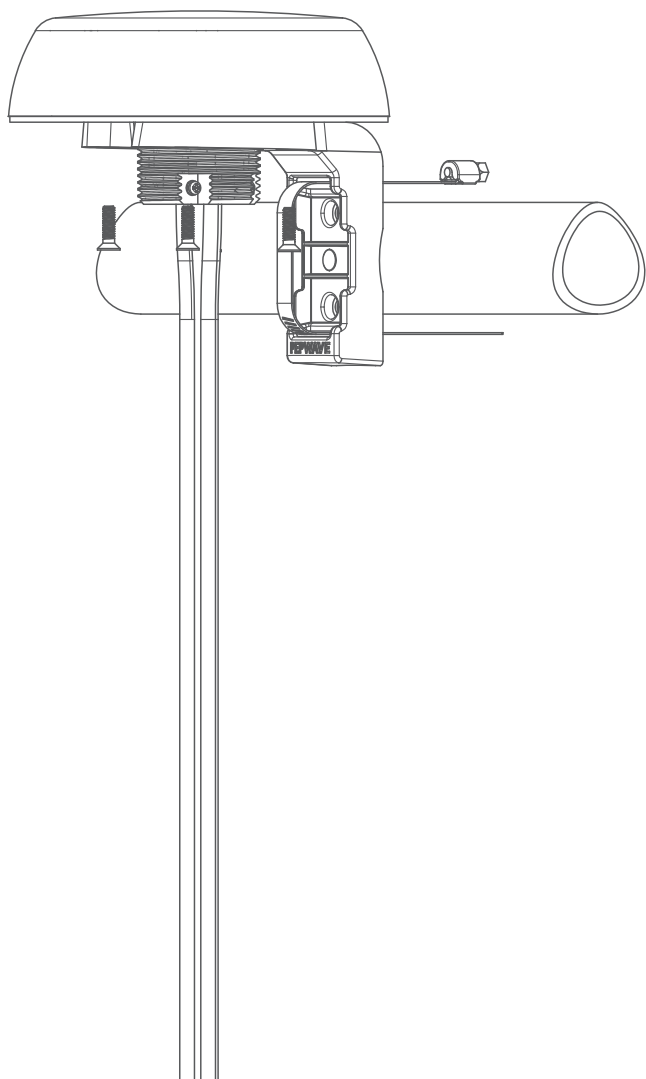
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## Installation recommendation

Horizontal Pole Mount

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## Installation recommendation

Wall Mount

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