

# 866 / 915 / 2450 MHz Weather-Proof Whip Antenna



**AANE-WH-0194**

Request Samples



Check Inventory



Ø10 x 25 mm

RoHS/RoHS II Compliant

MSL Level = 1

## Description

This ultra-low profile weather-proof whip antenna delivers robust tri-band performance for LPWA and ISM networks. Measuring just Ø10 x 25 mm , it supports 866 / 915 / 2400 MHz frequencies with optimized gains of 0.9 / 2.6 / 4.3 dBi and efficiencies up to 75%. Featuring IP67-rated and UV-resistant construction, it ensures long-term reliability in harsh outdoor environments. Available with SMA(M) or RP-SMA(M) connectors, this RoHS-compliant antenna is ideal for smart metering, irrigation systems, environmental sensing, and home automation where compact size, durability, and consistent multi-band coverage are critical.



## Features

- 866 / 915 / 2400 MHz LPWA/ISM antenna
- Peak gain: 0.9 / 2.6 / 4.3 dBi
- High efficiency: 50 / 69 / 75 %
- Ultra-low profile: Ø10 x 25 mm
- IP67 rated and UV resistant
- SMA(M) plug or RP-SMA(M) plug
- [RoHS compliant](#) | [MSL Level 1](#)

## Applications

- LPWA / LoRa / SigFox applications
- Bluetooth / BLE / Matter / Thread
- Intelligent lighting
- Smart metering solutions
- Smart irrigation systems
- Home automation and fire prevention
- Agriculture / environment sensing

## Ordering Information

| Part Number    | Description                                                                                        | Connector Option |
|----------------|----------------------------------------------------------------------------------------------------|------------------|
| AANE-WH-0194-1 | 866 / 915 / 2450 MHz Weather-Proof Whip Antenna with SMA male connector, IP-rated white housing    | SMA(M)           |
| AANE-WH-0194-2 | 866 / 915 / 2450 MHz Weather-Proof Whip Antenna with RP-SMA male connector, IP-rated white housing | RP-SMA(M)        |
| AANE-WH-0194-3 | 866 / 915 / 2450 MHz Weather-Proof Whip Antenna with SMA male connector, IP-rated black housing    | SMA(M)           |
| AANE-WH-0194-4 | 866 / 915 / 2450 MHz Weather-Proof Whip Antenna with RP-SMA male connector, IP-rated black housing | RP-SMA(M)        |

Note: Different connector configurations that are not listed may be available upon request via [Abracon online support](#)



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## Electrical Specification

| Parameter                         | Specification    |           |             | Unit |
|-----------------------------------|------------------|-----------|-------------|------|
| Operating frequency               | 861 - 870        | 902 - 928 | 2400 - 2500 | MHz  |
| VSWR(Typ.) <sup>(1)</sup>         | ≤ 3.6            | < 2.0     | ≤ 2.0       |      |
| Peak gain <sup>(1)</sup>          | 0.9              | 2.6       | 4.3         | dBi  |
| Maximum efficiency <sup>(1)</sup> | 50               | 69        | 75.3        | %    |
| Average efficiency                | 46.3             | 65.5      | 70.3        | %    |
| Impedance                         | 50               |           |             | Ω    |
| Polarization                      | Linear           |           |             |      |
| Radiation pattern (azimuth)       | Omni-directional |           |             |      |
| Input power (ambient 25°C)        | 10               |           |             | W    |

(1): GND plate size:102mm x 102mm

## Mechanical Specification

| Parameters                      | Specifications        |
|---------------------------------|-----------------------|
| Dimension                       | Ø10 x 25 mm           |
| Metal ground plate dimension    | 102 x 102 mm          |
| Material                        | UV resistant ABS      |
| Casing color <sup>(1)</sup>     | Black                 |
| Recommended torque for mounting | < 0.565 N · m         |
| Antenna type                    | Whip (monopole)       |
| RF connector type               | SMA (M) or RP-SMA (M) |
| Mounting method                 | Connector mount       |

(1): Other colors optional

## Environmental Specification

| Parameters            | Specifications   |
|-----------------------|------------------|
| Operating temperature | -40 °C to +85 °C |
| Storage temperature   | -40 °C to +85 °C |
| IP rating             | IP67             |
| RoHS compliant        | Yes              |



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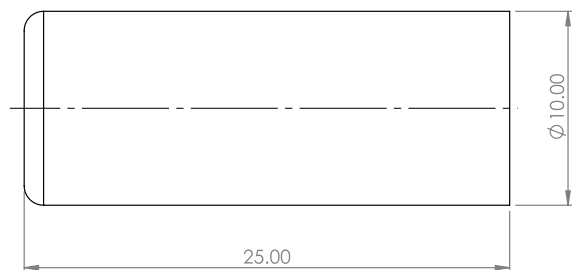


Ø10 x 25 mm

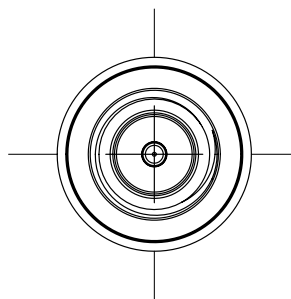
RoHS/RoHS II Compliant

MSL Level = 1

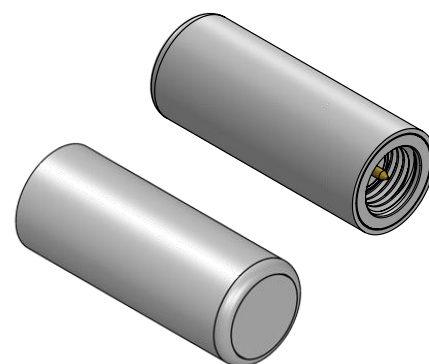
## Product Dimension



**FRONT VIEW**



**SIDE VIEW**



*Unit: mm*

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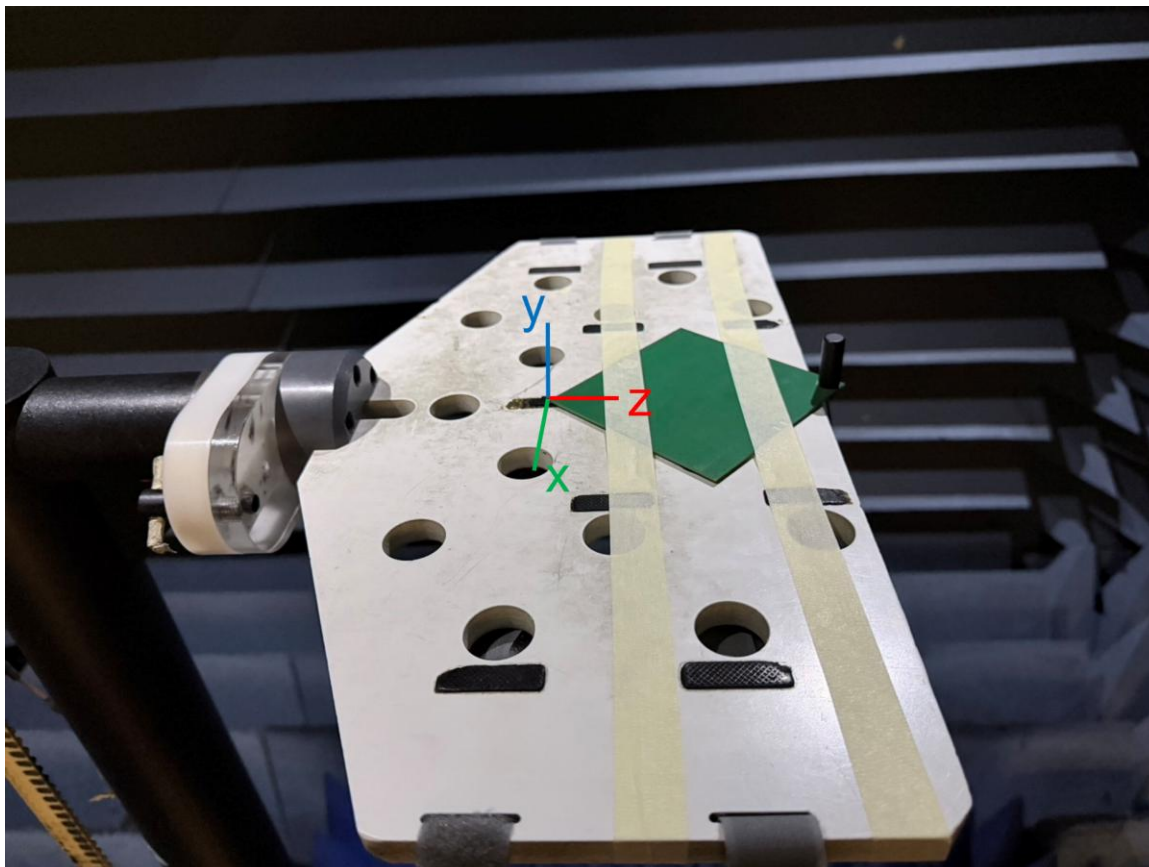


Ø10 x 25 mm

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## Measurement Setup



Antenna measured on 102mm x 102mm GND plane

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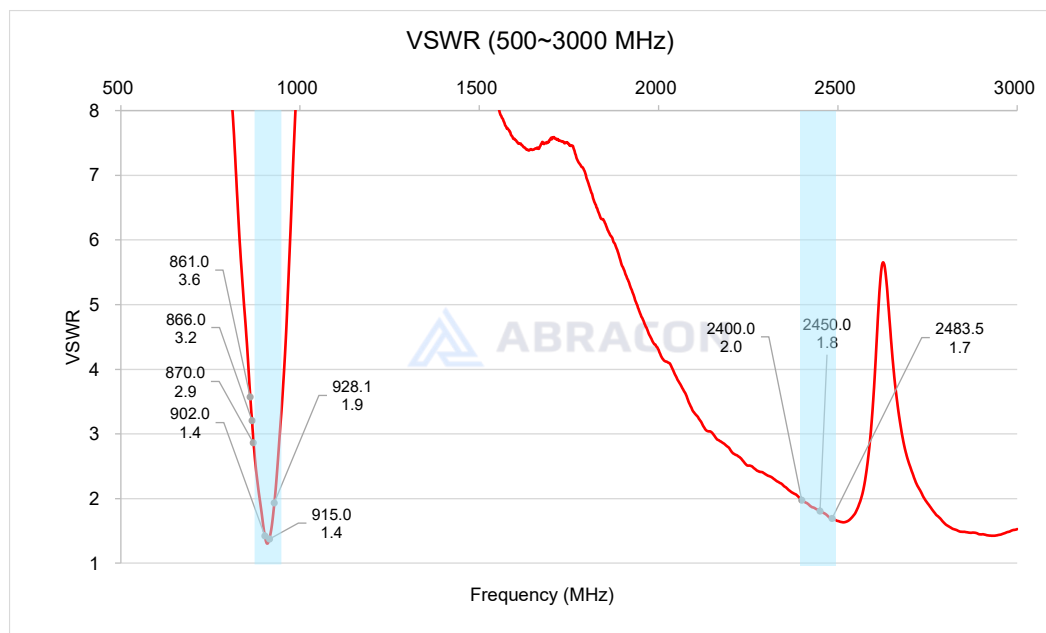
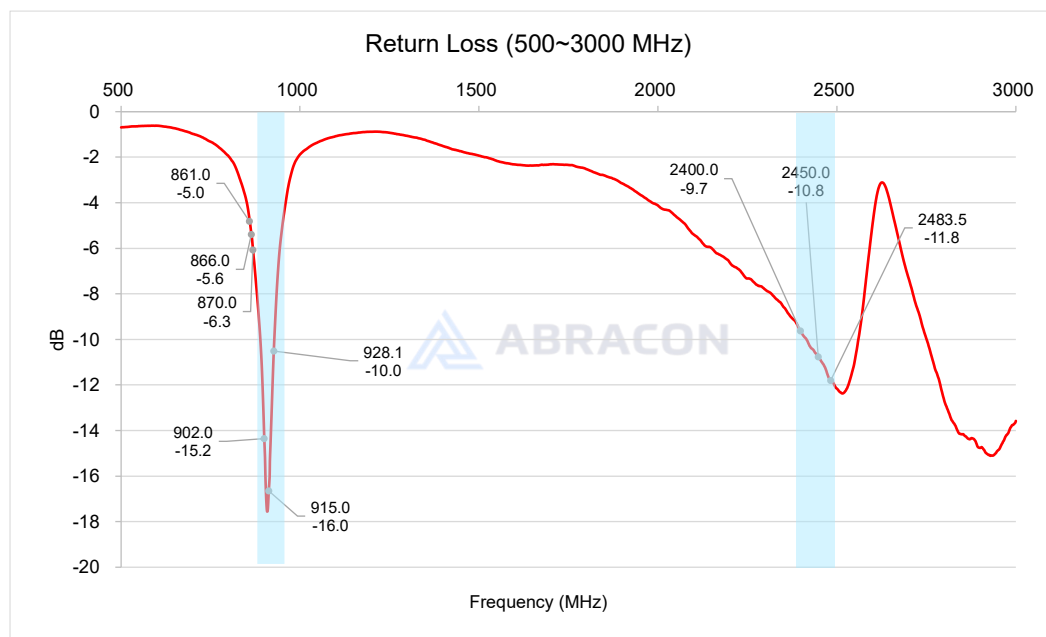


Ø10 x 25 mm

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## Reflection Characteristics – Return Loss & VSWR



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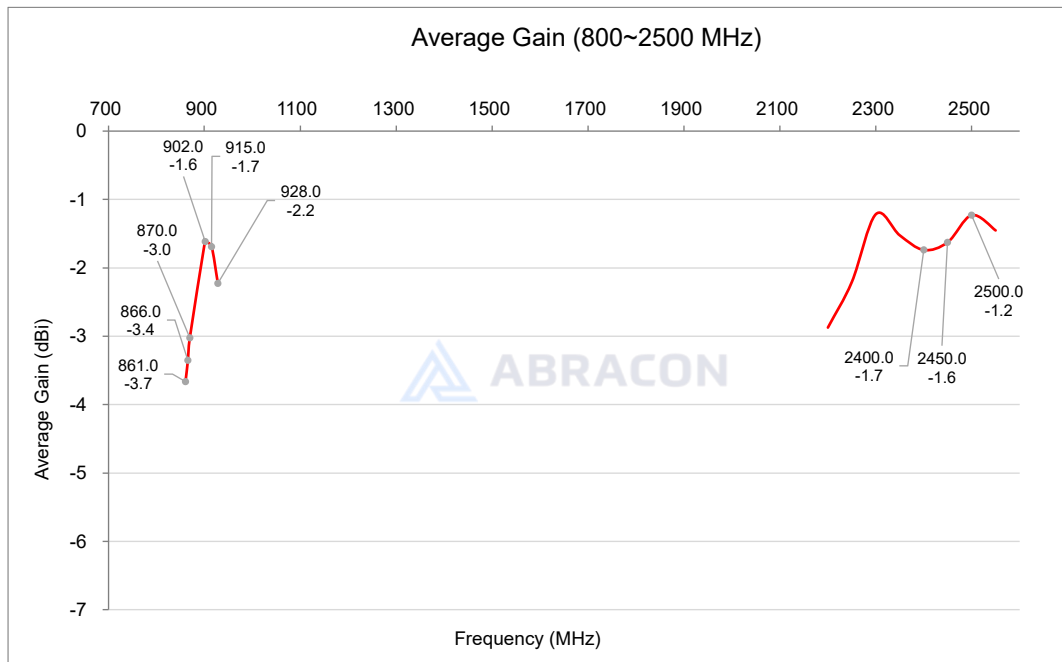
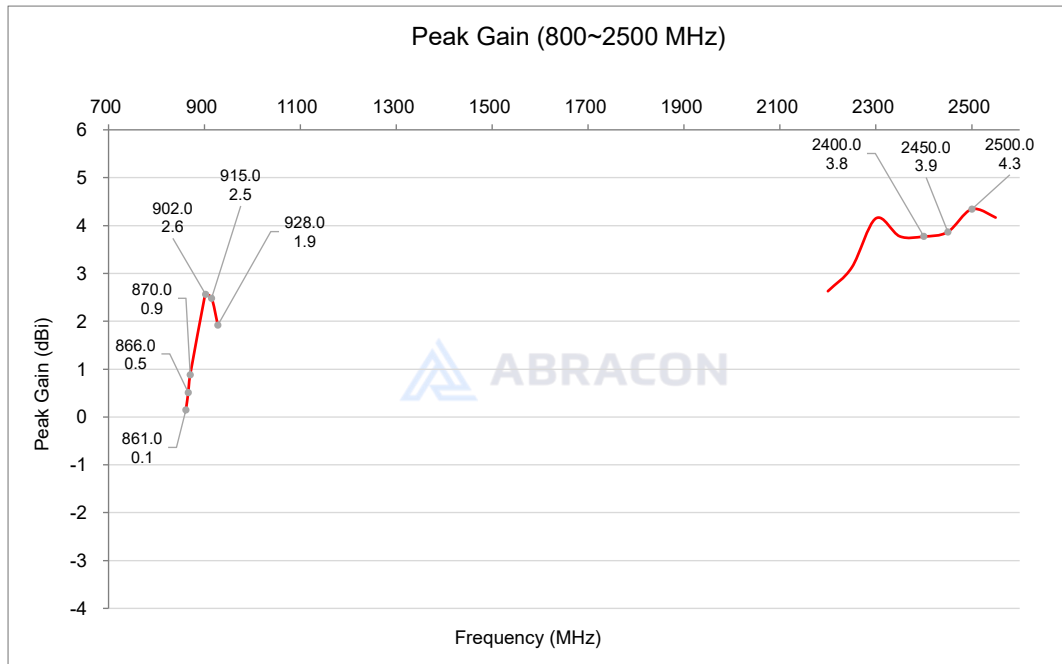


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## Radiation Characteristics – Peak Gain & Average Gain



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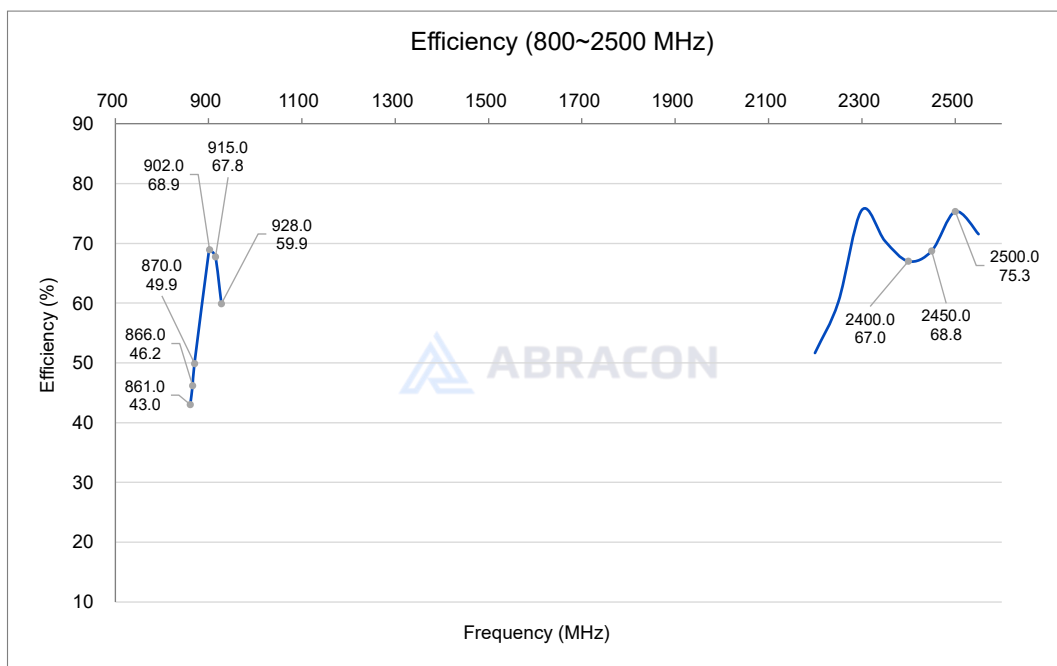


Ø10 x 25 mm

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## Radiation Characteristics – Total Efficiency (%)



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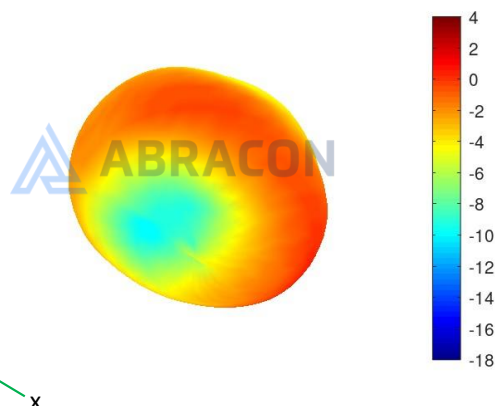
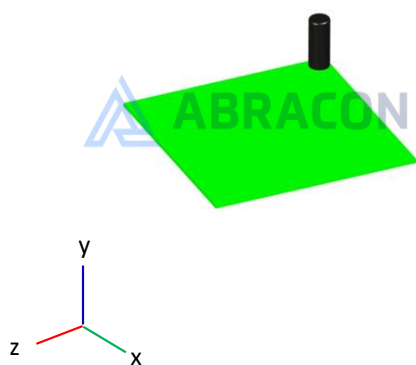
Ø10 x 25 mm

RoHS/RoHS II Compliant

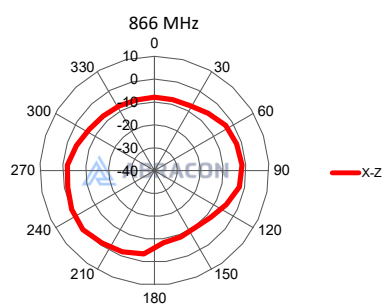
MSL Level = 1

## Radiation Characteristics – 3D & 2D Pattern

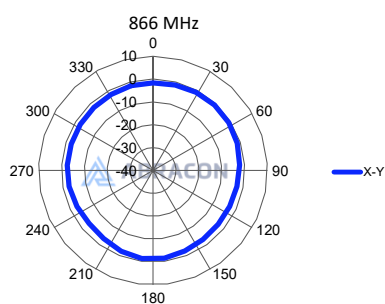
866MHz



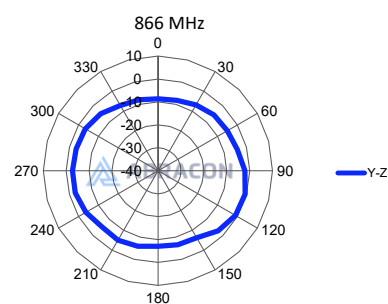
XZ plane



XY plane



YZ plane



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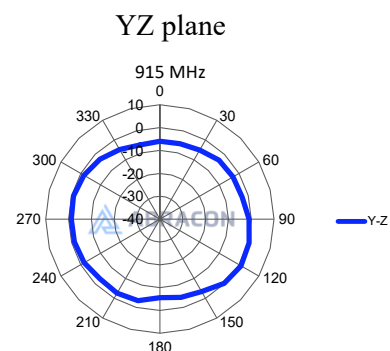
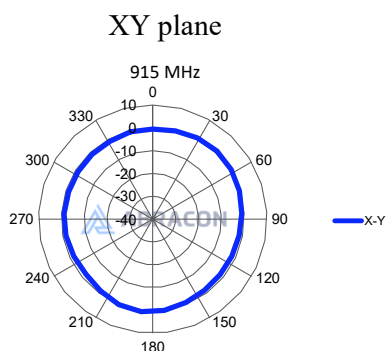
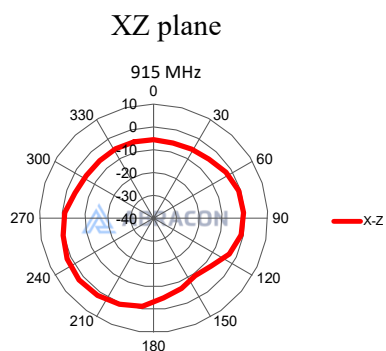
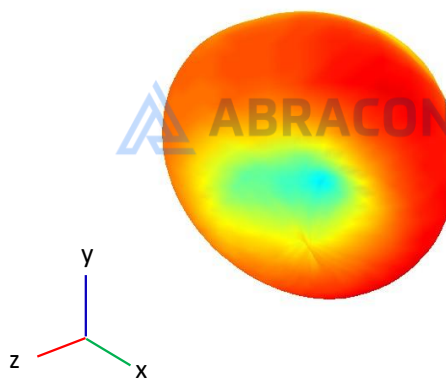
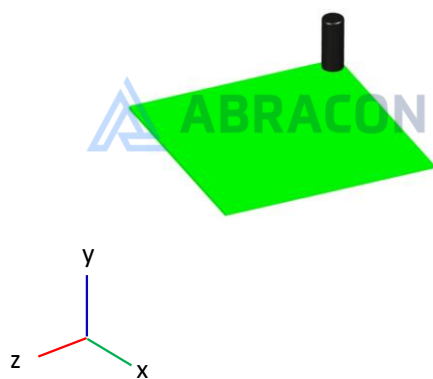


Ø10 x 25 mm

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915MHz



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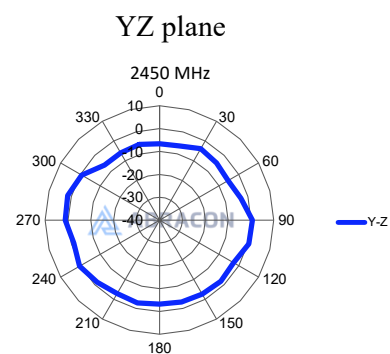
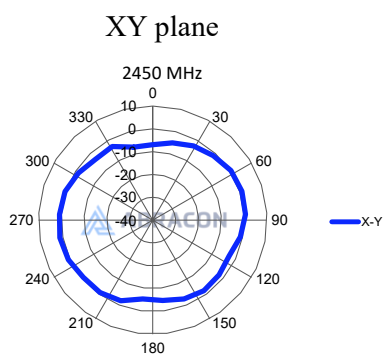
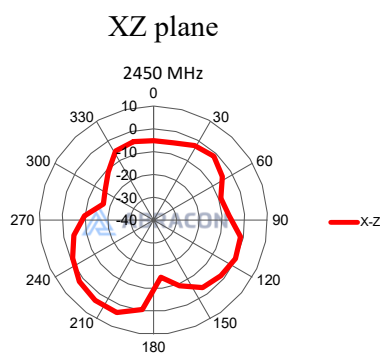
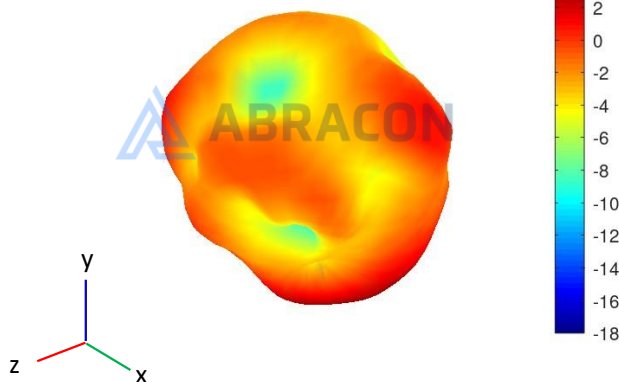
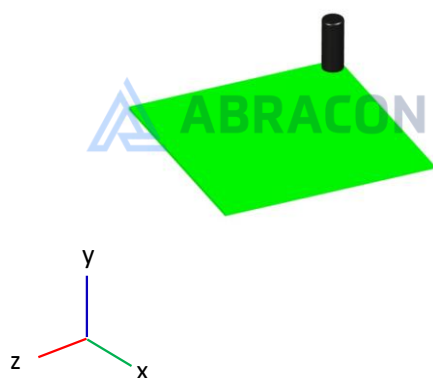


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2450MHz



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## Packaging

Number of antennas / PE bag: 25 pcs

Number of PE bags / carton: 16

Total antennas / carton: 400 pcs

Carton dimensions: 270 x 270 x 270 mm

**ATTENTION:** Abracon LLC's products are Commercial-Off-The-Shelf ('COTS'), which are designed, intended, and validated for use in commercial, industrial, and automotive applications. The customer is responsible for testing and verifying the performance of an Abracon solution to meet their system-level requirements.



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