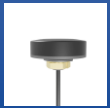


868 / 915 / 2400 MHz External Puck Antenna



AANE-PU-0249

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Ø46.6 x 14.5 mm
RoHS/RoHS II Compliant
MSL Level = 1

Description

This rugged external puck antenna is engineered for demanding industrial IoT applications, offering dual-band support at 868 / 915 MHz (LPWA/Amazon Sidewalk) and 2.4 GHz (Wi-Fi/Bluetooth/Zigbee). Housed in a miniaturized Ø46.6 x 14.5 mm IP67-rated waterproof enclosure with a heavy-duty permanent screw mount, it withstands harsh environmental conditions. Available with SMA or RP-SMA connectors, this RoHS-compliant, MSL Level 1 antenna delivers reliable connectivity for smart lighting, utility metering, traffic monitoring, and energy systems where durability and long-range wireless performance are essential.



Features

- Miniaturized in size: Ø46.6 x 14.5 mm
- Peak Gain: up to 2.1 dBi
- Efficiency: as high as 52.5 %
- Waterproof with IP67 Rating
- Heavy duty permanent screw mount
- SMA plug (male) or RP-SMA plug (female) connector
- [RoHS Compliant](#) | [MSL Level 1](#)

Applications

- Amazon Sidewalk / Mioty / Wi-SUN / M-Bus
- LoRa / LoraWAN / Sigfox / Z-Wave
- Wi-Fi 4/5 (802.11b/g/n/ac)
- Bluetooth® / ZigBee / Thread / Matter
- Smart Lighting
- Utility & Smart Metering
- Traffic Control and Monitoring
- Energy Generation and Storage System

Ordering Information

Part Number	Description	Connector Option
AANE-PU-0249-1	868 / 915 / 2400 MHz External Puck Antenna with SMA(M) connector with 1000 mm cable length	SMA(M)
AANE-PU-0249-2	868 / 915 / 2400 MHz External Puck Antenna with RP-SMA(M) connector with 1000 mm cable length	RP-SMA(M)

Note: Other options not listed may be available upon request via [Abracon online support](#)



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Ø46.6 x 14.5 mm

RoHS/RoHS II Compliant

MSL Level = 1

Electrical Specification

Parameter		Specification			Unit
Operating Frequency		863 - 870	902 - 928	2400 - 2500	MHz
VSWR (Typ.)		1.6	1.5	2.0	:1
Return Loss (Typ.)		-12.8	-14	-9.7	dB
Peak Gain	Free Space	0.3	0.9	2.1	dBi
	With Metal*	0.6	0.9	1.2	dBi
Efficiency (Max)	Free Space	49.8	50.3	48.1	%
	With Metal*	49.8	52.5	35.3	%
Impedance		50			Ω
Polarization		Linear			
Radiation Pattern (Azimuth)		Omni-directional			
Max Power - Ambient 25°C		5			W

*Note: The efficiency and gain measurements in the above table, were taken for the antenna mounted on a 200 x 130 mm metal plate.

Mechanical Specification

Parameter	Specification
Dimensions	Ø46.6 x 14.5 mm
Material ⁽¹⁾	UV Resistant ABS
Recommended Torque for Mounting	0.565 N·m
Color	Black
Antenna Type	Puck
Cable Type ⁽¹⁾	RG-58
Cable Length ⁽¹⁾	1000 m
RF Connector ⁽¹⁾	SMA (M) / RP-SMA (M)

(1): Other cable and connector options available

Environmental Specification

Parameter	Specification
Operating Temperature	-40°C to +85°C
Storage Temperature	-40°C to +85°C
IP Rating	IP67
RoHS Complaint	Yes

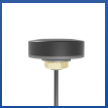


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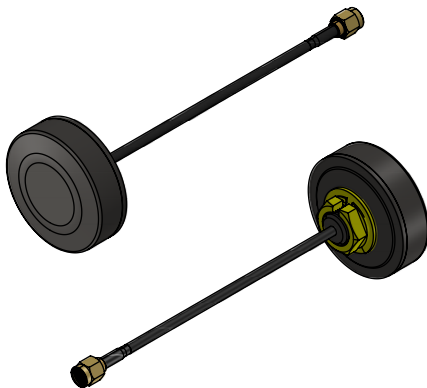
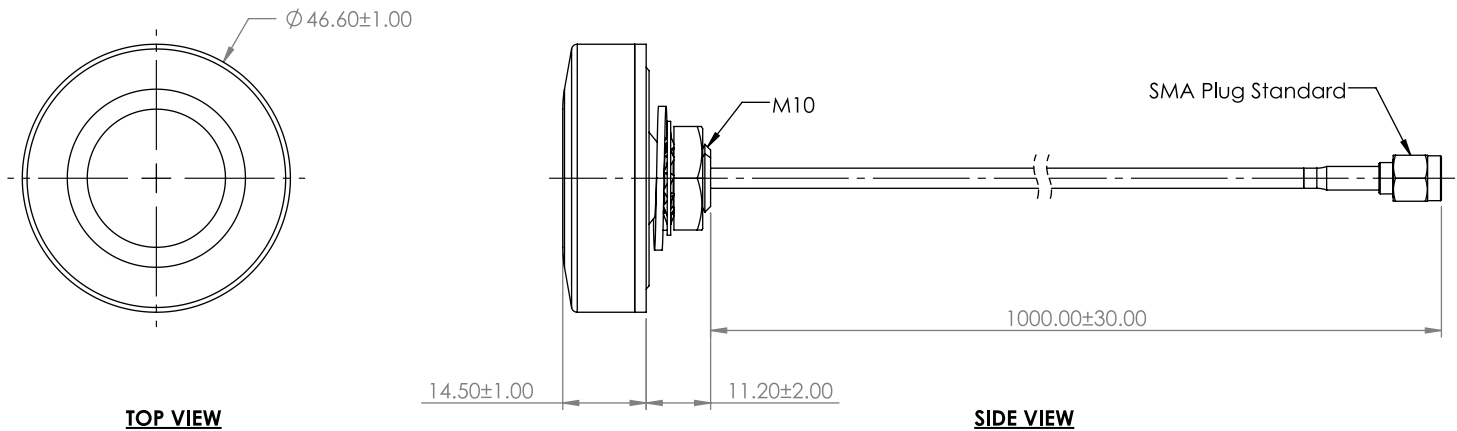


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Ø46.6 x 14.5 mm
RoHS/RoHS II Compliant
MSL Level = 1

Product Dimensions



Unit : mm

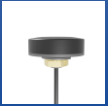


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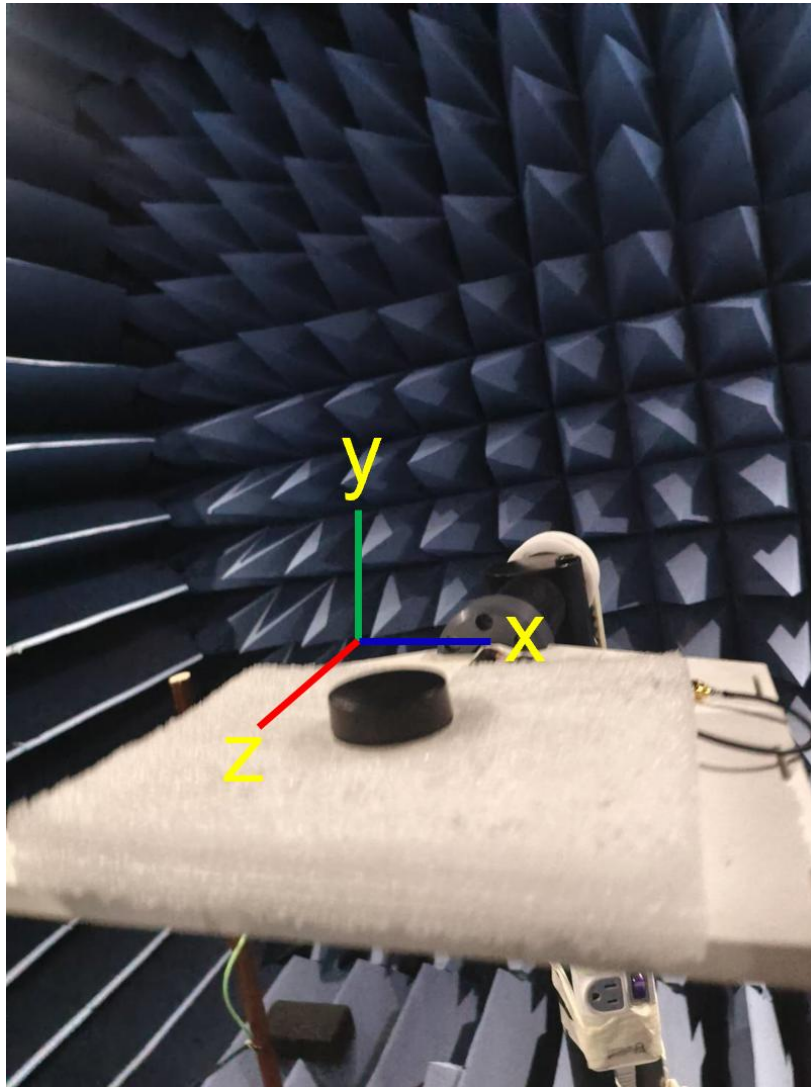


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Ø46.6 x 14.5 mm
RoHS/RoHS II Compliant
MSL Level = 1

Measurement Setup (Free Space)

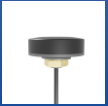


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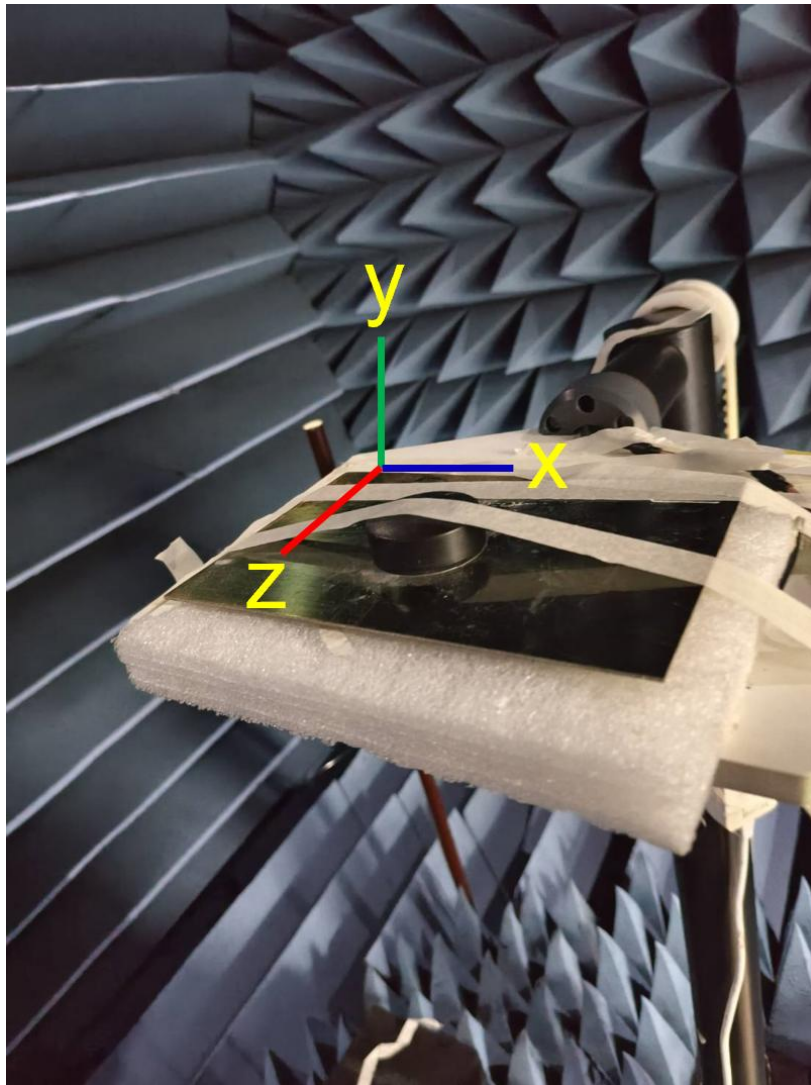


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Ø46.6 x 14.5 mm
RoHS/RoHS II Compliant
MSL Level = 1

Measurement Setup (on 200 x 130 mm Metal Plate)



868 / 915 / 2400 MHz External Puck Antenna



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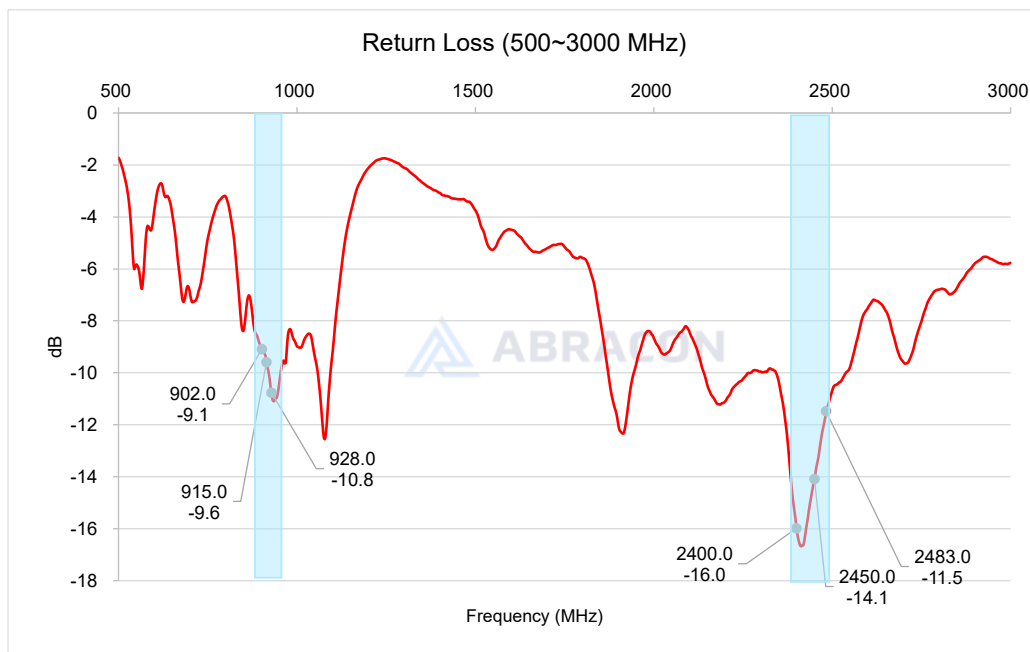
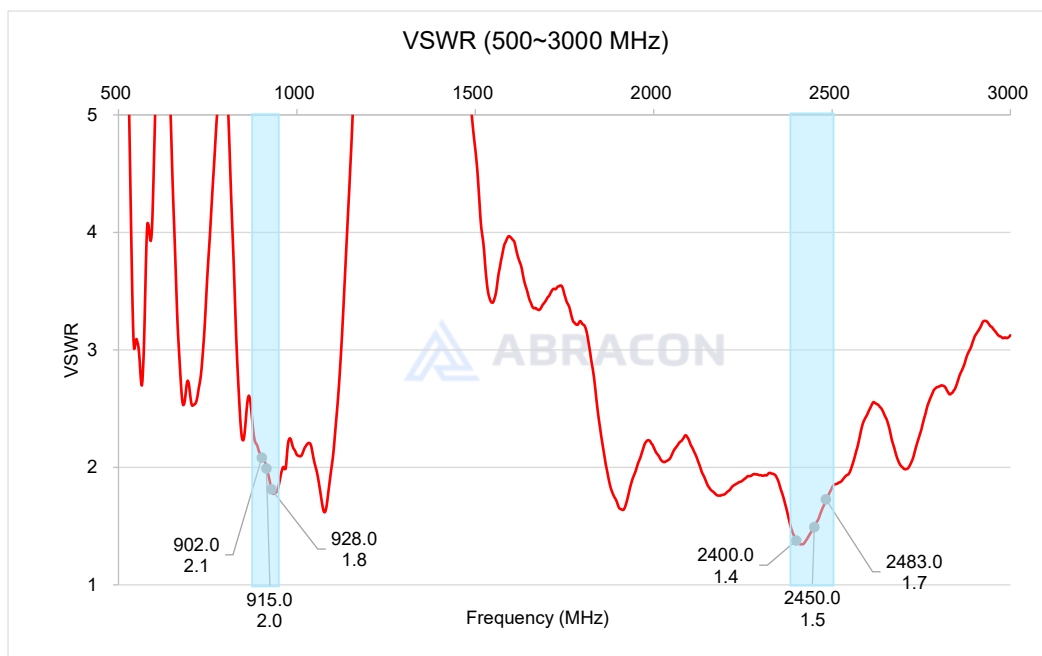


Ø46.6 x 14.5 mm

RoHS/RoHS II Compliant

MSL Level = 1

Reflection Characteristics – Return Loss & VSWR (Free space)



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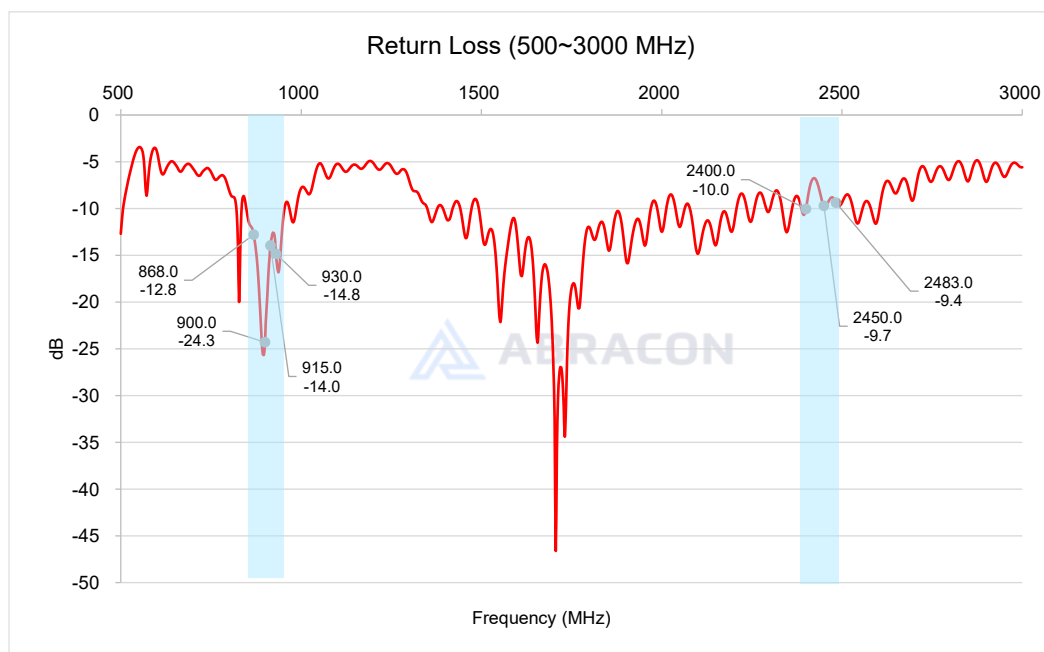
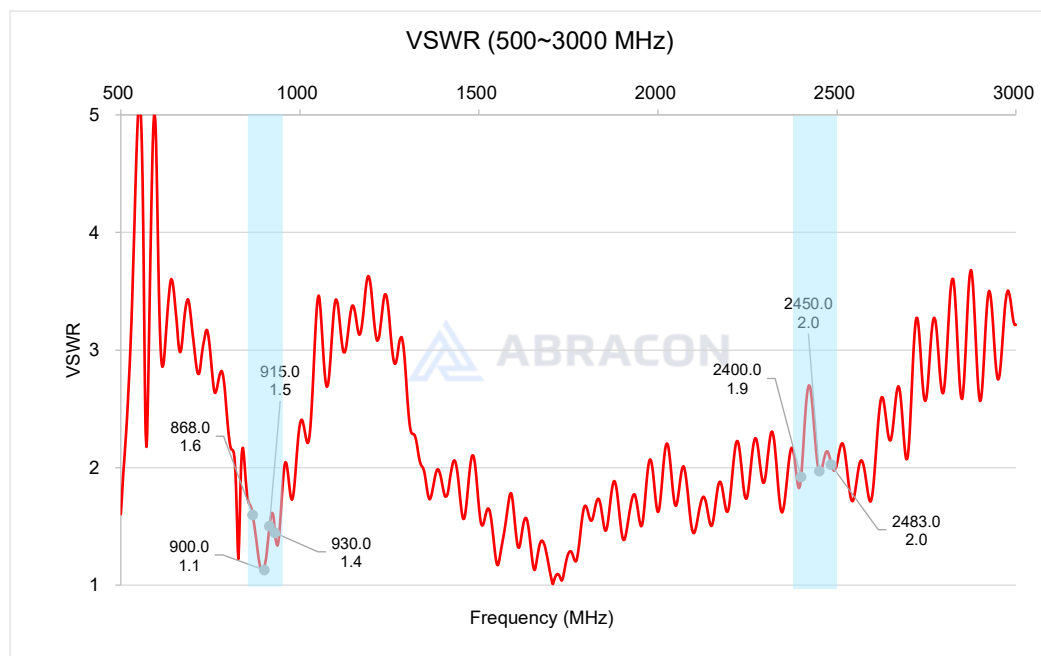


Ø46.6 x 14.5 mm

RoHS/RoHS II Compliant

MSL Level = 1

Reflection Characteristics – Return Loss & VSWR (on 200 x 130 mm Metal Plate)



868 / 915 / 2400 MHz External Puck Antenna



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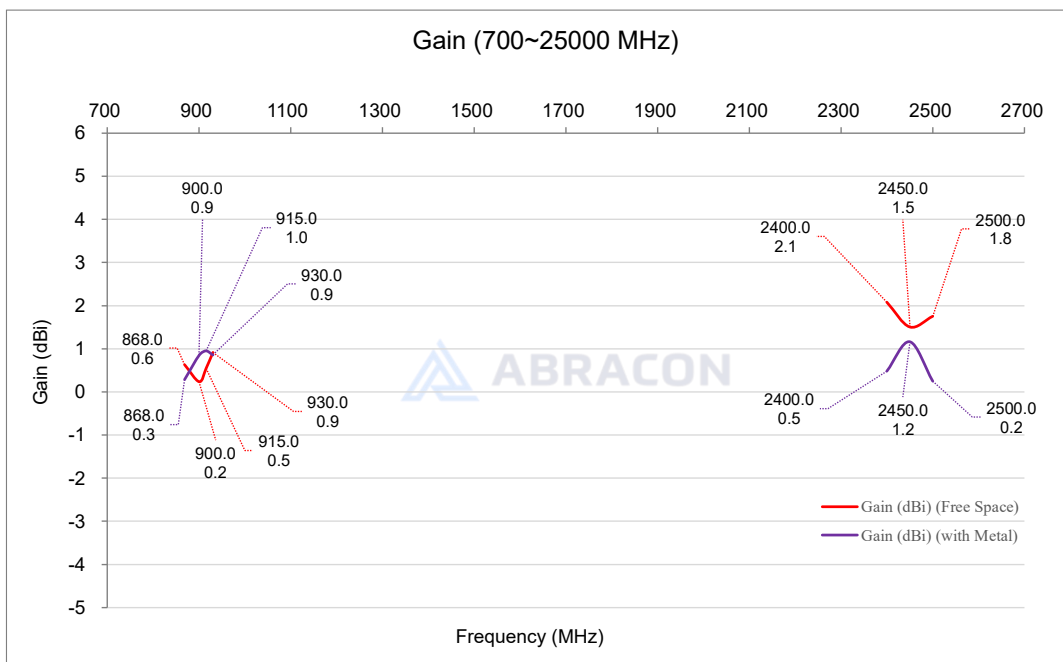


Ø46.6 x 14.5 mm

RoHS/RoHS II Compliant

MSL Level = 1

Radiation Characteristics – Maximum Gain

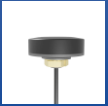


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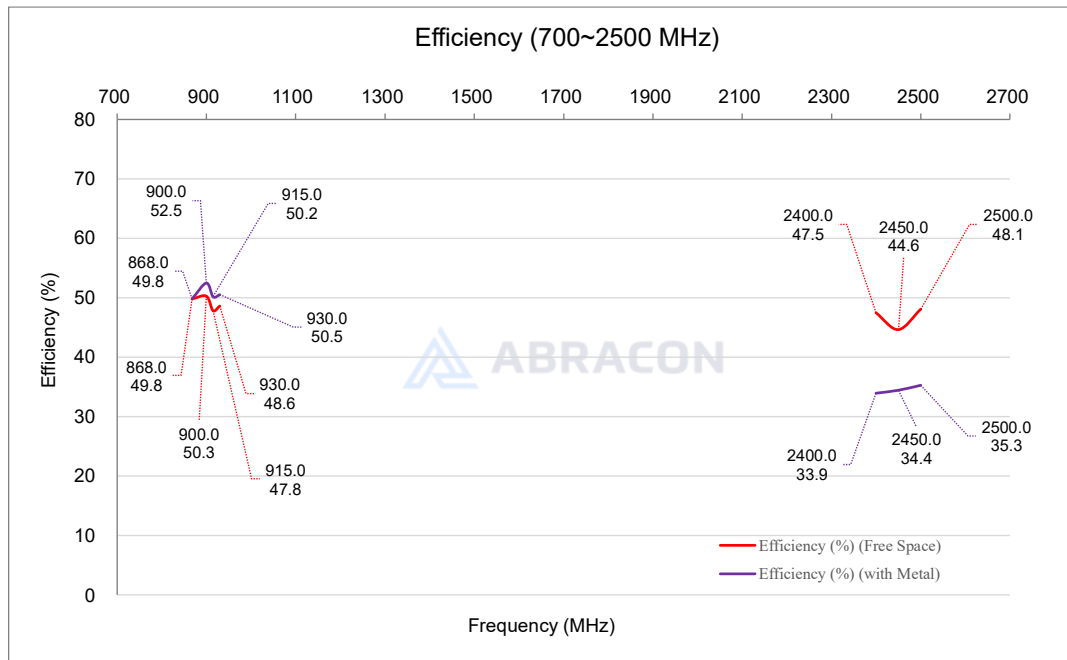


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Ø46.6 x 14.5 mm
RoHS/RoHS II Compliant
MSL Level = 1

Radiation Characteristics – Total Efficiency (%)



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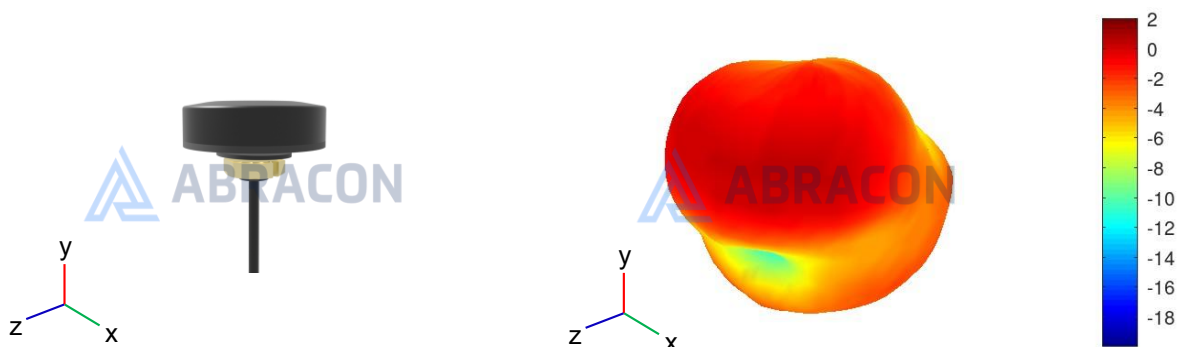
Ø46.6 x 14.5 mm

RoHS/RoHS II Compliant

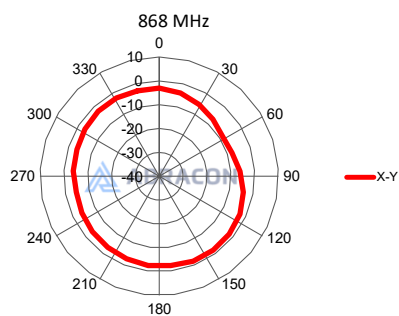
MSL Level = 1

Radiation Characteristics – 3D & 2D Pattern (Free Space)

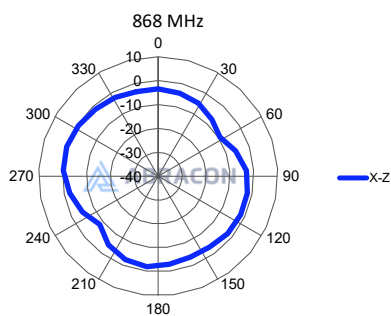
868MHz



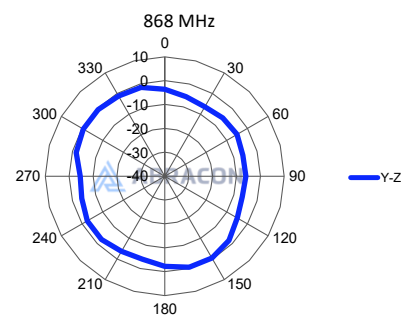
XY plane



XZ plane



YZ plane



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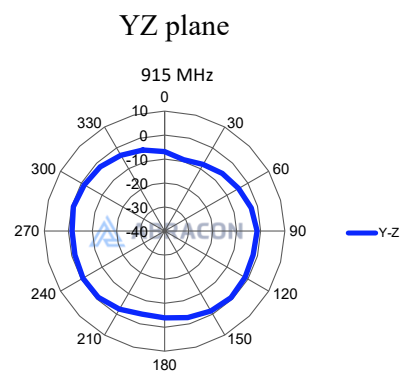
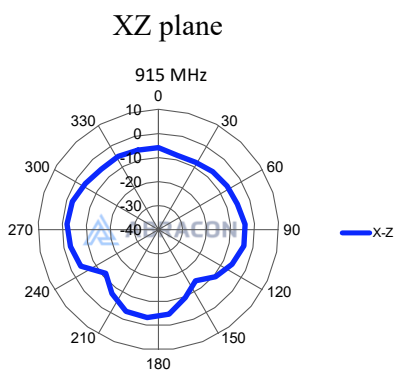
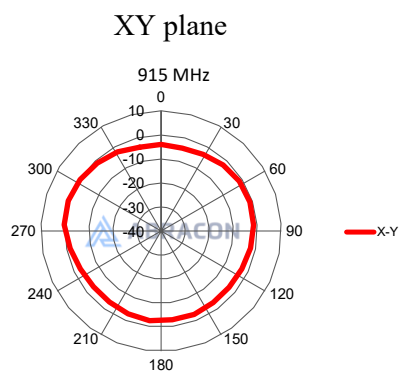
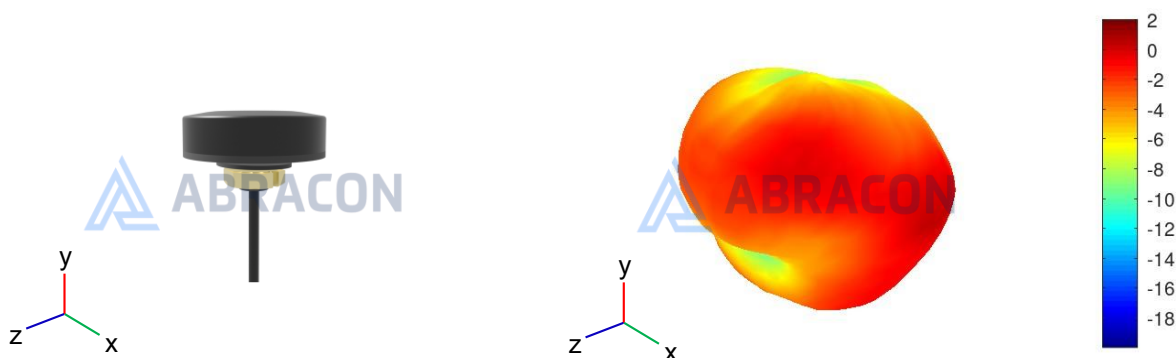


Ø46.6 x 14.5 mm

RoHS/RoHS II Compliant

MSL Level = 1

915MHz



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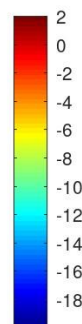
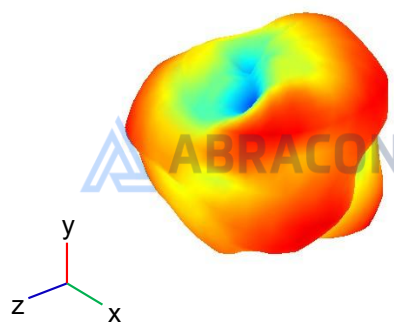
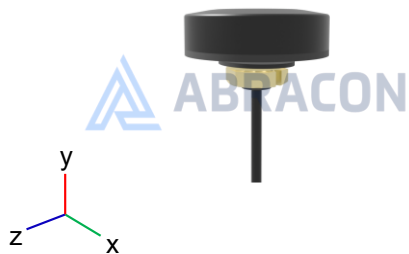


Ø46.6 x 14.5 mm

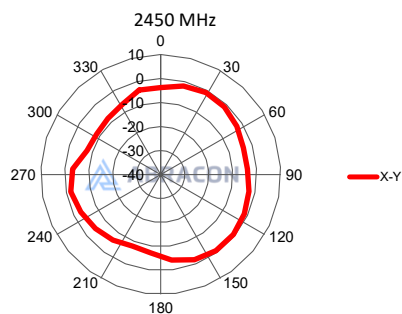
RoHS/RoHS II Compliant

MSL Level = 1

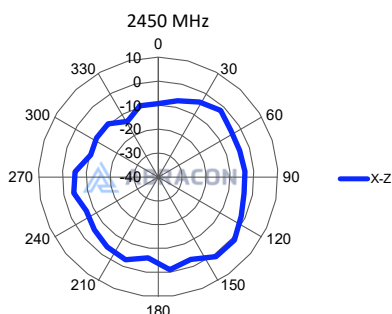
2450MHz



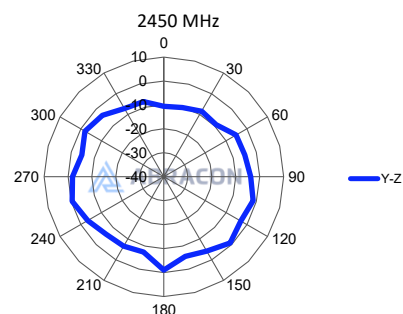
XY plane



XZ plane



YZ plane



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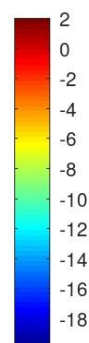
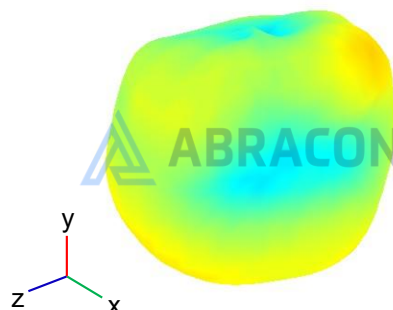
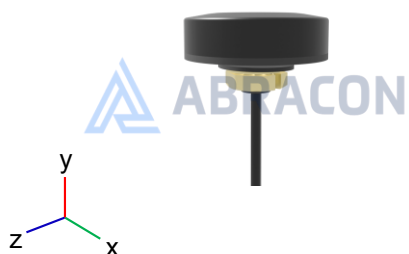
Ø46.6 x 14.5 mm

RoHS/RoHS II Compliant

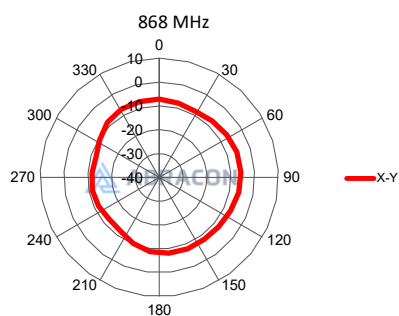
MSL Level = 1

Radiation Characteristics – 3D & 2D Pattern (on 200 x 130 mm Metal Plate)

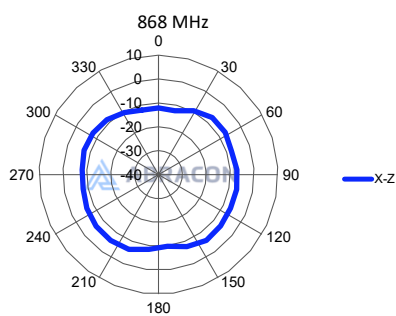
868MHz



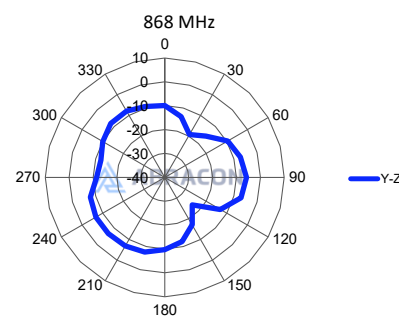
XY plane



XZ plane



YZ plane



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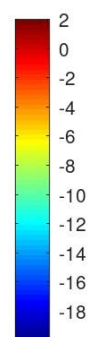
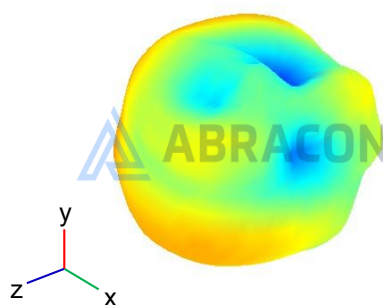
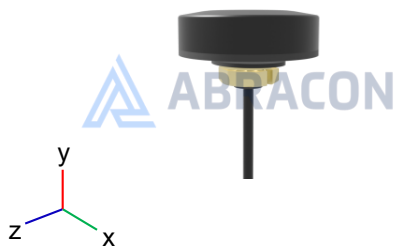


Ø46.6 x 14.5 mm

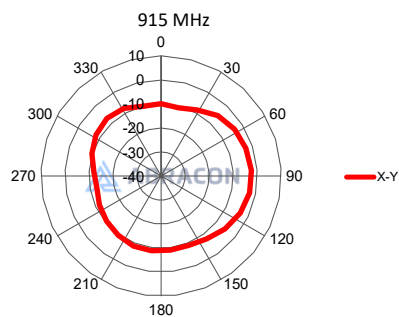
RoHS/RoHS II Compliant

MSL Level = 1

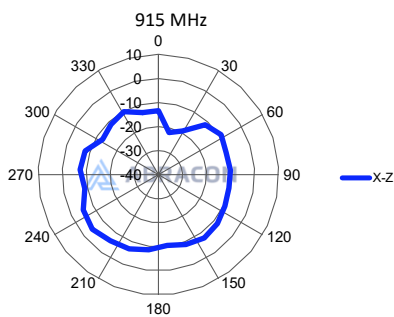
915MHz



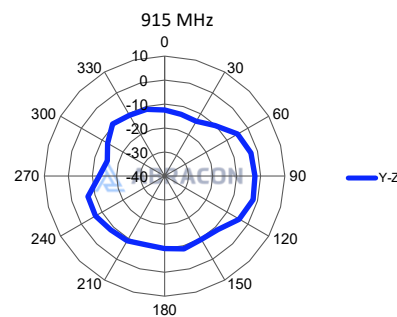
XY plane



XZ plane



YZ plane



868 / 915 / 2400 MHz External Puck Antenna



AANE-PU-0249

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Check Inventory

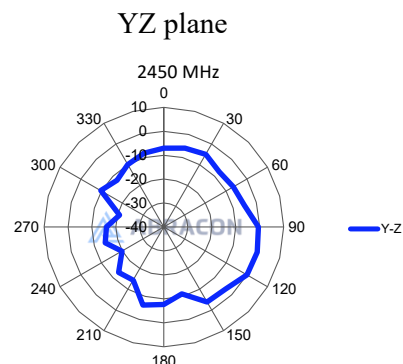
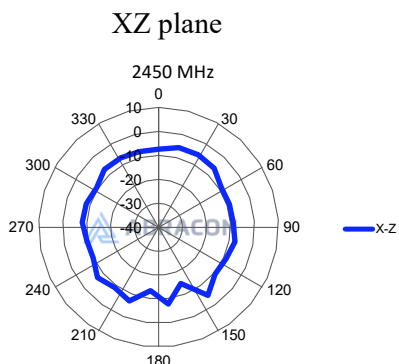
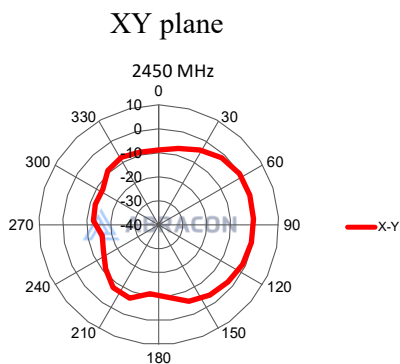
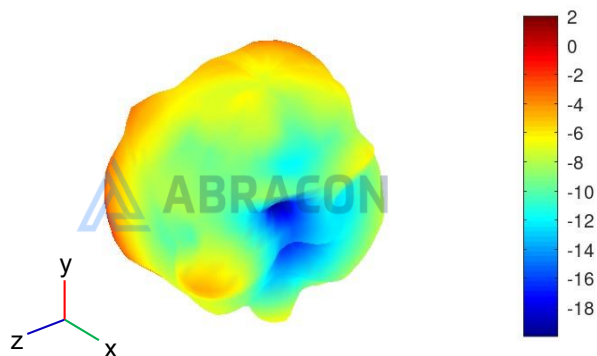
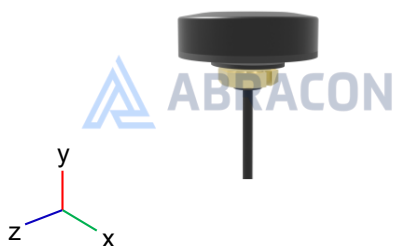


Ø46.6 x 14.5 mm

RoHS/RoHS II Compliant

MSL Level = 1

2450MHz

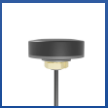


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Ø46.6 x 14.5 mm
RoHS/RoHS II Compliant
MSL Level = 1

Packaging

Number of antennas / PE bag: 20 pcs

Number of PE bags / carton: 5

Total antennas / carton: 100 pcs

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