4G/3G/2G External Weatherproof Patch Antenna



APAMS-103

Request Samples | Check Inventory

78 x 25 x 3.8 mm
RoHS Compliant
MSL Level = 1

Description

This weatherproof 4G/3G/2G external patch antenna delivers robust cellular connectivity across 698 - 960 MHz and 1710 - 2700 MHz bands. Housed in a low-profile 78 x 25 x 3.8 mm IP67-rated enclosure, it achieves a high peak gain of 7 dBi with 68% total efficiency for extended range and reliable performance in harsh environments. Supporting LTE-M, NB-IoT, and LTE CAT 1 through CAT 20, this RoHS-compliant, MSL Level 1 antenna features customizable cable and connector options. It is ideal for smart home networking, telecommunications, and traffic monitoring applications requiring durable outdoor installation.



Features

- Frequency Range: 698 - 960 / 1710 - 2700 MHz
- Low Profile with Size 78 x 25 x 3.8 mm
- High Peak Gain up to 7 dBi
- Total Efficiency: 68 %
- Custom Cable Length Options Available
- RoHS Compliant | MSL Level 1

Applications

- LTE-M, Cat M, Cat M1, NB-IoT
- LTE CAT 1 up to CAT 20 Supported
- Smart Home Networking
- Networking & Telecommunication
- Traffic Control and Monitoring

Ordering Information

Part Number	Description	Connector Option
APAMS-103	4G/3G/2G External Weatherproof Patch Antenna with 2000 mm RG-174 cable length & SMA(M) connectors	SMA(M)
APAMS-103-1	4G/3G/2G External Weatherproof Patch Antenna with 1000 mm RG-174 cable length & SMA(M) connectors	SMA(M)

Note: Other options not listed may be available upon request via Abracon online support

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Electrical Specification

Parameters	Typ.		Units
Frequency	698 - 960	1710 - 2700	MHz
Return Loss (Typ.)	< -5.8	< -9.6	dB
VSWR (Typ.)	≤ 3.1	≤ 2.0	:1
Peak Gain (1)	4.3	7.0	dBi
Maximum Total Efficiency (1)	68	49	%
Average Total Efficiency (1)	50	40	%
Minimum Total Efficiency (1)	38	35	%
Polarization	Linear		-
Impedance	50		Ω
Input Power	5		W

Please note: All measurement data is based on the standard configuration (conducted in free space unless otherwise specified).

Mechanical Specification

Parameter	Specification
Antenna Dimension	78 x 25 x 3.8 mm
Housing Material	ABS (Black)
Mounting Type	Adhesive Mount
RF Cable Type	RG-174
RF Cable Length (1)	1000 mm / 2000 mm
RF Connector	SMA (Male)

(1): Fully customizable RF Cable length

Environmental Specification

Parameter	Specification
Operating Temperature	-45ºC to +85ºC
Storage Temperature	-45ºC to +85ºC
RoHS Compliance	Yes
Relative Humidity	Up to 95%

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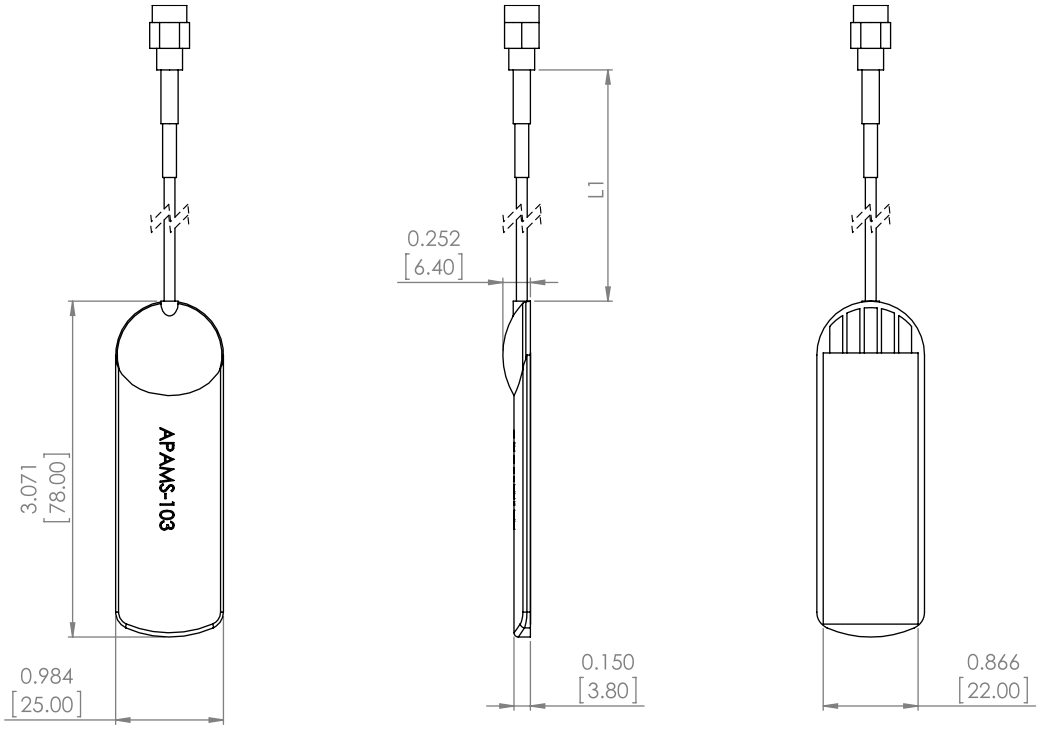


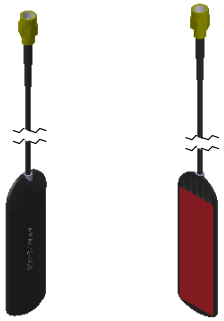
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Product Dimensions





Parameters	Description
L1	1000 mm / 2000 mm
Cable Type	RG174
Connector	SMA (M)
Housing	Black
Mounting Type	Adhesive Tabe

Unit: inches [mm]

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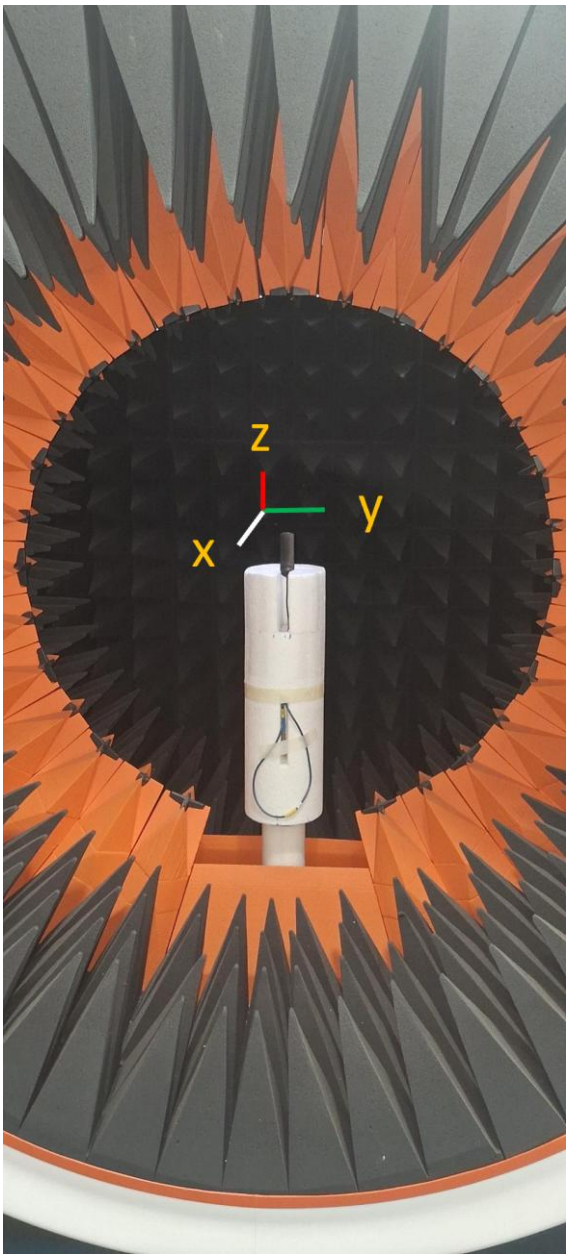


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Measurement Setup



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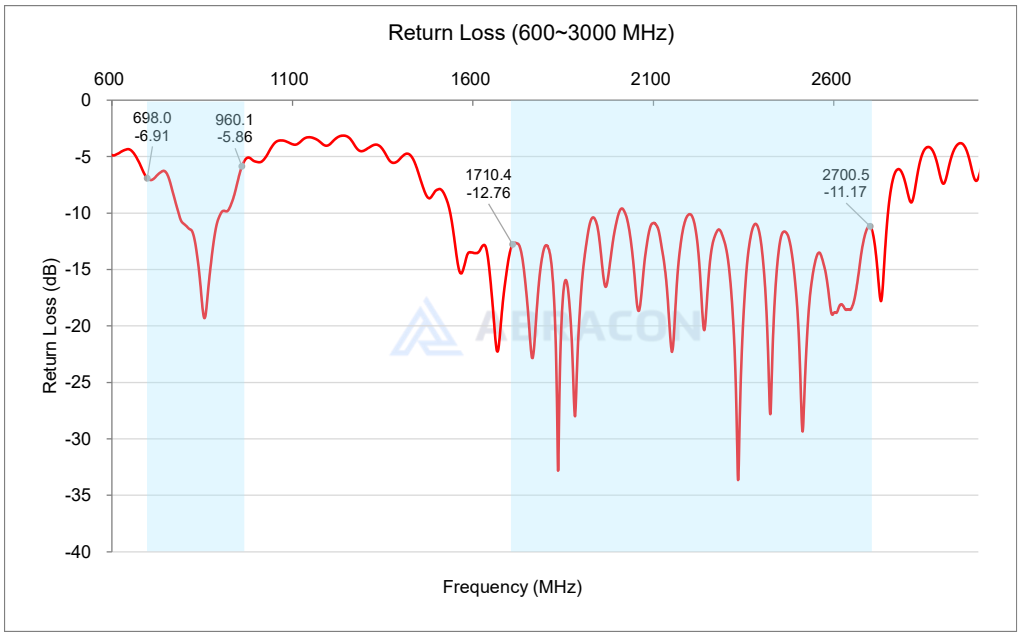


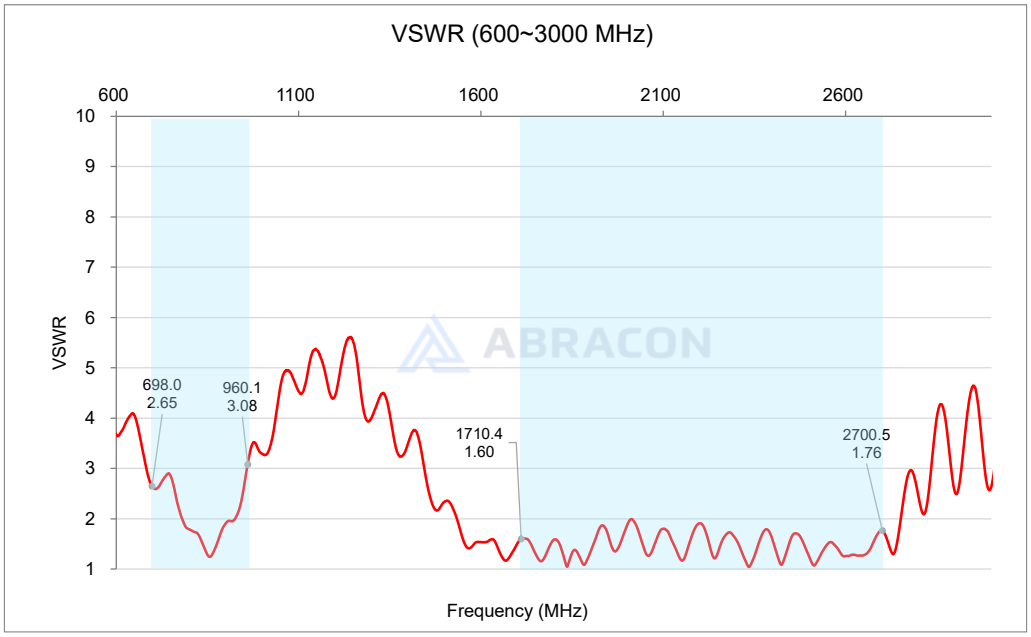
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Reflection Characteristics – Return Loss & VSWR (with 1 m cable length)





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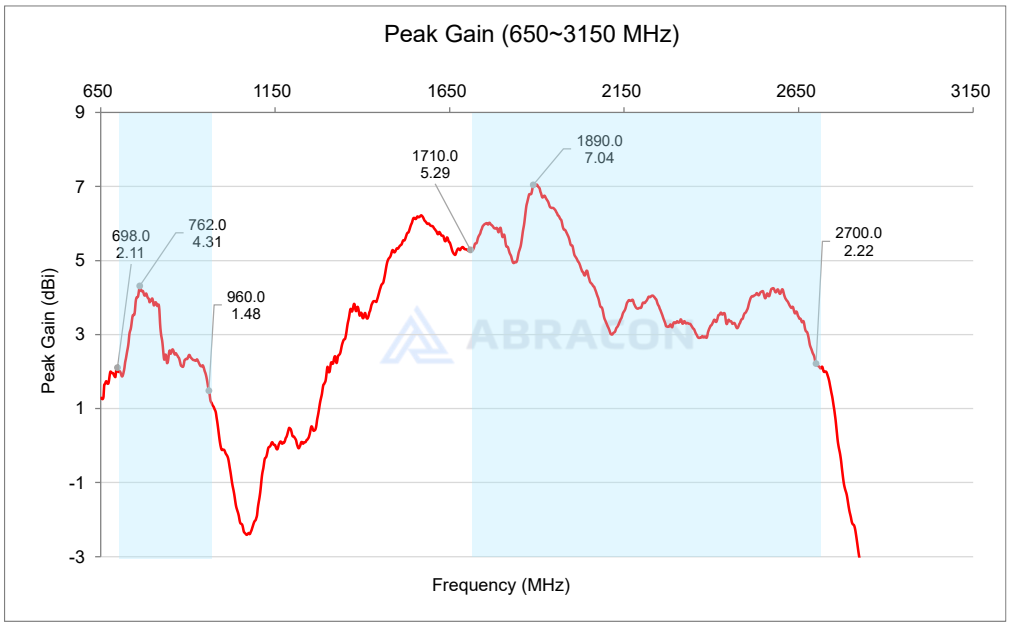
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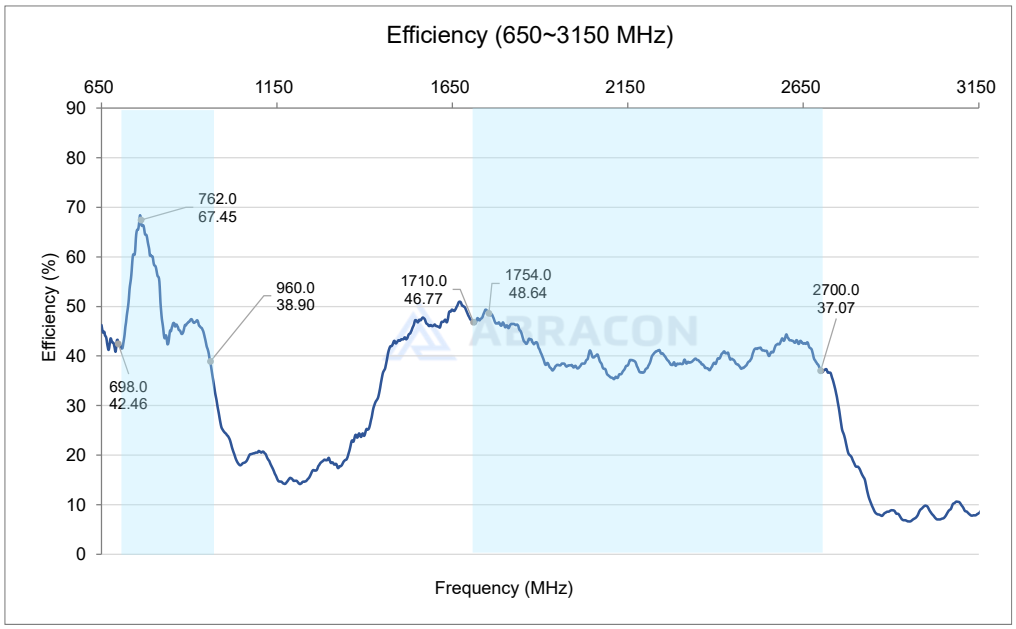
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RoHS Compliant
MSL Level = 1

LTE Radiation Characteristics – Peak Gain & Efficiency (with 1 m cable length)

Peak Gain



Total Efficiency (%)



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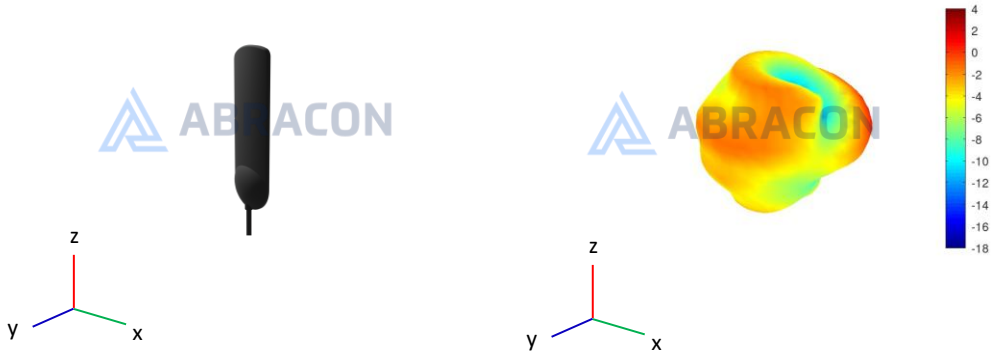
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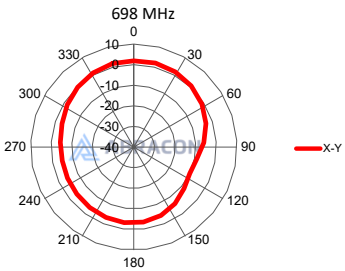
78 x 25 x 3.8 mm
RoHS Compliant
MSL Level = 1

LTE Radiation Characteristics – 3D & 2D Pattern (with 1 m cable length)

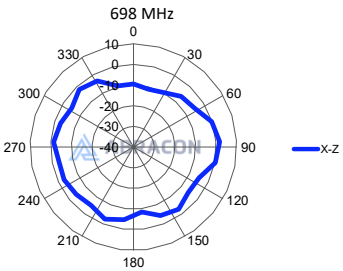
3D & 2D Pattern @ 698 MHz



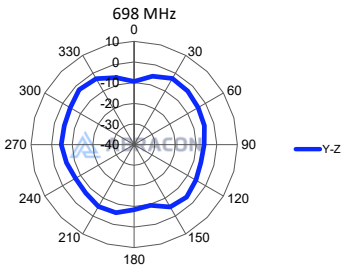
XY plane



XZ plane



YZ plane



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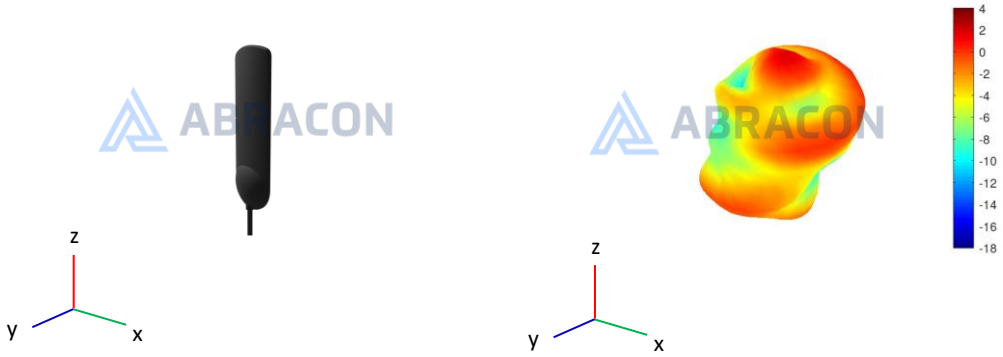


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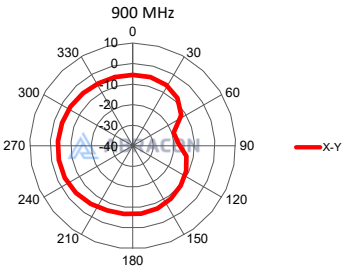
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78 x 25 x 3.8 mm
RoHS Compliant
MSL Level = 1

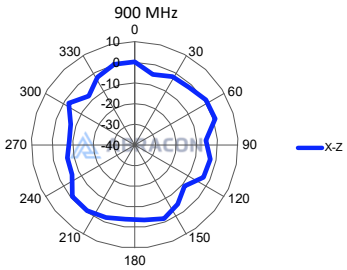
3D & 2D Pattern @ 900 MHz



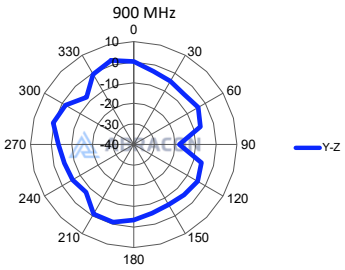
XY plane



XZ plane



YZ plane



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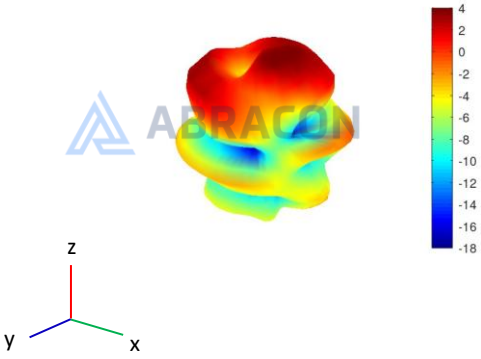
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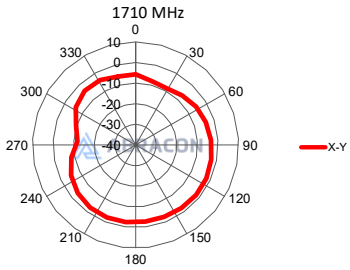
78 x 25 x 3.8 mm
RoHS Compliant
MSL Level = 1

3D & 2D Pattern @ 1710 MHz

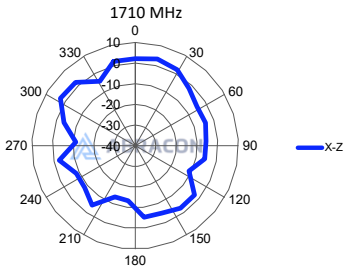




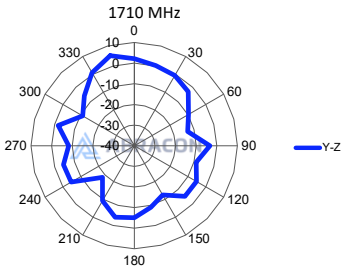
XY plane



XZ plane



YZ plane



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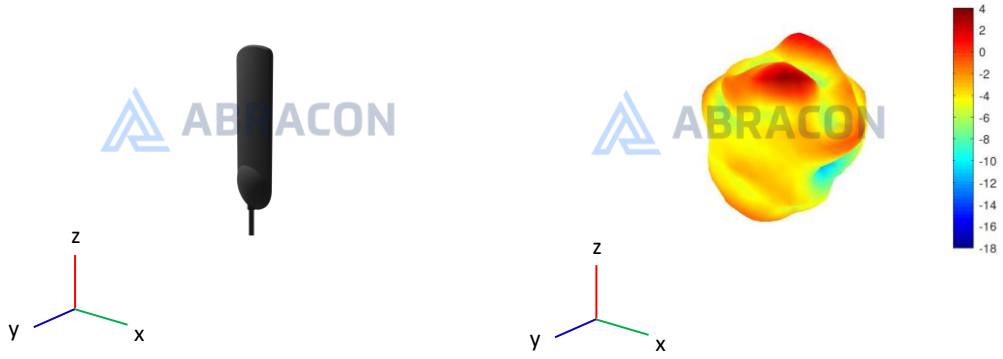


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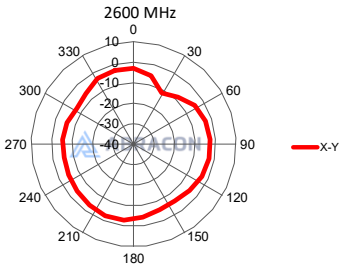
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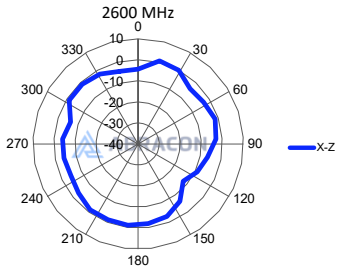
3D & 2D Pattern @ 2600 MHz



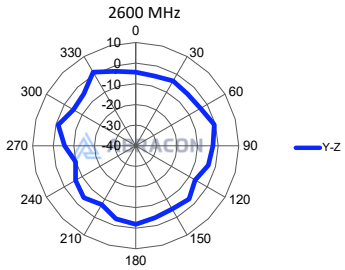
XY plane



XZ plane



YZ plane



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Packaging

Each 475 x 215 x 215 mm size carton includes 100 pieces of antenna.





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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