

# LTE + GNSS Adhesive Mount Puck Antenna



**AANE-PU-0121**

Request Samples



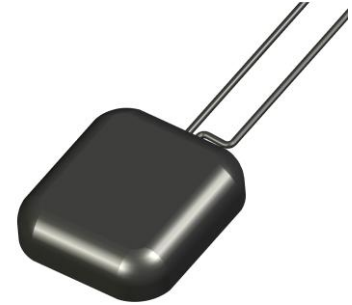
Check Inventory



**59.5 x 52.5 x 16.5 mm**  
**RoHS Compliant**  
**MSL Level = 1**

## Description

This high-performance adhesive mount puck antenna provides robust LTE and multi-constellation GNSS connectivity in an IP67-rated 59.5 x 52.5 x 16.5 mm housing. Featuring a high-gain  $28 \pm 3$  dB LNA with integrated pre-filtering, it delivers superior anti-jamming performance for reliable operation in congested RF environments. With low current consumption and customizable cable/connector options, this RoHS-compliant solution enables easy deployment for asset tracking, traffic monitoring, energy systems, and smart grid applications where weatherproof construction and reliable positioning are essential for industrial telematics and surveillance systems. .



## Features

- Multi-Constellation Active GNSS Antenna
- Low Profile with Size 59.5 x 52.5 x 16.5 mm
- High LNA Gain of  $28 \pm 3$  dB
- IP67 Weather-Proof Housing
- Pre-Filtering for Enhanced Anti-Jamming Performance
- Low Current Consumption
- Custom Cable & Connector Options Available
- [RoHS Compliant | MSL Level 1](#)

## Applications

- Asset Tracking & Telematics
- Traffic Control and Monitoring
- Energy Generation and Storage System
- Data Network Center
- Video Surveillance System
- Smart Grid System
- Industrial Computer

## Ordering Information

Part Number	Description	Connector Option
AANE-PU-0121-1	LTE + GNSS Adhesive Mount Puck Antenna with 1000 mm cable length and SMA connectors	SMA (M) (GNSS) + SMA (M) (LTE)
AANE-PU-0121-2	LTE + GNSS Adhesive Mount Puck Antenna with 2000 mm cable length and SMA connectors	SMA (M) (GNSS) + SMA (M) (LTE)
AANE-PU-0121-3	LTE + GNSS Adhesive Mount Puck Antenna with 3000 mm cable length and SMA connectors	SMA (M) (GNSS) + SMA (M) (LTE)
AANE-PU-0121-4	LTE + GNSS Adhesive Mount Puck Antenna with 2000 mm cable length and FAKRA C (GNSS) + FAKRA D (LTE) short version connector	FAKRA C (GNSS) + FAKRA D (LTE) short version

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



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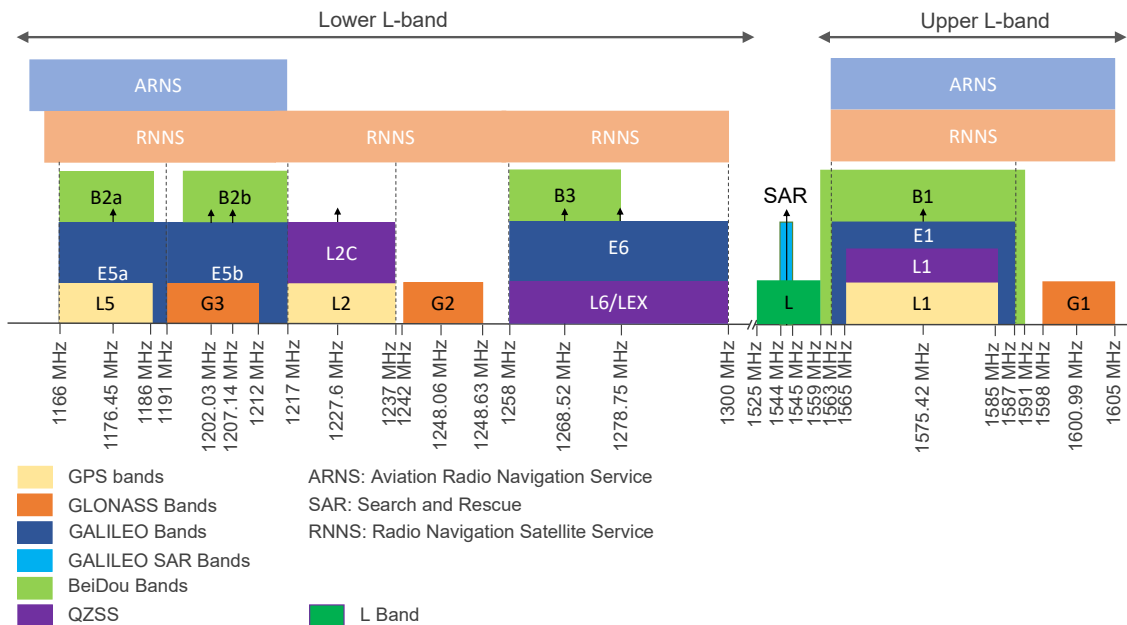
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## GNSS Frequency Bands Covered

GNSS	L1 1575.42MHz	L2 1227.6MHz	L5 1176.45MHz	
	■	□	□	
GLONASS	G1 1598.06-1609.31MHz	G2 1242.93-1251.68MHz	G3 1202.025MHz	
	■	□	□	
Galileo	E1 1575.42MHz	E5a 1176.45MHz	E5b 1201.5MHz	E6 1278.75MHz
	■	□	□	□
BeiDou	B1 1561MHz	B2 1207.14MHz	B3 1268.52MHz	
	□	□	□	
QZSS	L1 1575.42MHz	L2 1227.6MHz	L5 1176.45MHz	L6 1278.75MHz
	■	□	□	□
IRNSS/NAVIC			L5 1176.45MHz	
			□	
SBAS	L1/E1/B1 1575.42MHz		L5/B2a/E5a 1176.45MHz	
	■		□	



Frequency allocation: GNSS systems, upper L bands and lower L bands



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## Electrical Specification

Parameters		Typ.			Units	Note
<b>GNSS Antenna</b>						
Frequency		GNSS: L1 GLONASS: G1 Galileo: E1 QZSS: L1				
VSWR		≤ 2.0			-	
Polarization		RHCP			-	(Right Hand Circular Polarization)
Nominal Impedance		50			Ω	
Peak Gain	1563-1588MHz(L1/E1)	2.1	3.1	3.8	dBic	On 70mm × 70mm ground plane
	1598-1606MHz(G1)	3.2	3.6	3.9		
	1559-1592MHz(B1)	1.3	2.8	3.8		
Efficiency	1563-1588MHz(L1/E1)	33	47	55	%	
	1598-1606MHz(G1)	58	65	69		
	1559-1592MHz(B1)	27	45	55		
Axial Ratio		< 6			dB	
<b>LNA</b>						
VSWR		≤ 2.0			-	
DC Input		3.0	4.0	5.0	V	
LNA Gain	1545-1610MHz	26.0	27.0	28.0	dB	
Current Consumption		≤ 15	≤ 20	≤ 25	mA	
Noise Figure		≤ 3.0			dB	
<b>LTE Antenna</b>						
Frequency		700~960	1710~2690		MHz	
VSWR (Typ.)		≤ 3.0				
Peak Gain <sup>(1)</sup>		7.1	6.9		dB <sub>i</sub>	
Maximum efficiency <sup>(1)</sup>		76	73		%	
Average efficiency <sup>(1)</sup>		55	53		%	
Polarization		Linear				
Impedance		50Ω				

(1): Measured with 1M cable



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RoHS Compliant

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## Mechanical Specification

Parameter	Specification
Antenna Dimension	59.5 x 52.5 x 16.5 mm
Antenna Material	UV Resistant ABS
RF Connector	SMA (M) (GNSS) + SMA (M) (LTE), fully customizable
RF Cable	GNSS & LTE: RG174, fully customizable
Cable Length	1 M, fully customizable
Mount	Adhesive
Additional Resources	<a href="#">Download STEP File, Package Drawing, 3D PDF</a>

## Environmental Specification

Parameter	Specification
Operating Temperature	-40°C to +85°C
Storage Temperature	-40°C to +85°C
IP Rating (housing)	IP67
Mechanical Vibration	10 to 55Hz with 1.5mm amplitude 2hours
RoHS Compliance	Yes



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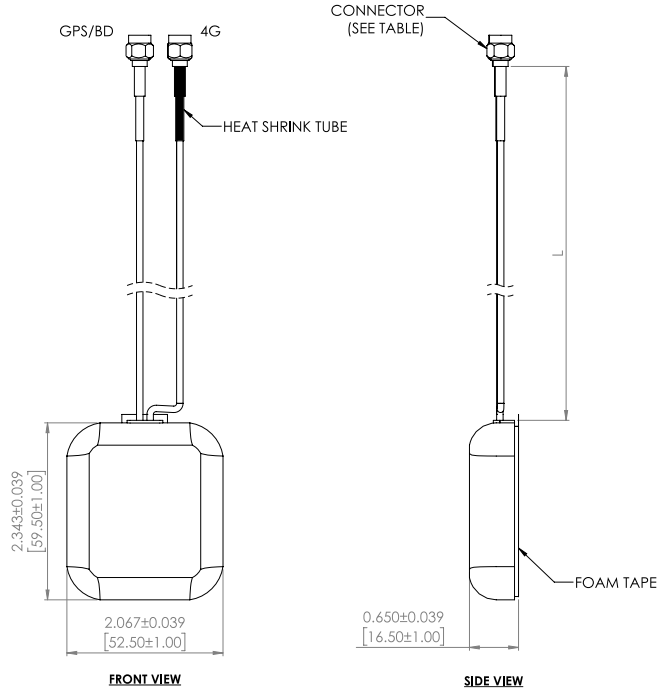


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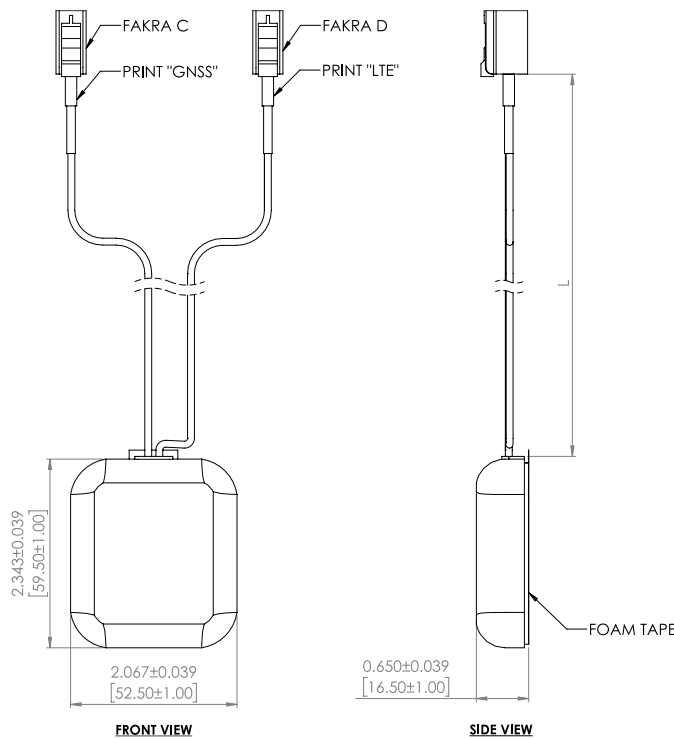


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## Product Dimensions



Part Number	Cable Length (L) (mm)	Connector
AANE-PU-0121-1	1000	SMA (M) (GNSS) + SMA (M) (LTE)
AANE-PU-0121-2	2000	SMA (M) (GNSS) + SMA (M) (LTE)
AANE-PU-0121-3	3000	SMA (M) (GNSS) + SMA (M) (LTE)



Part Number	Cable Length (L) (mm)	Connector
AANE-PU-0121-4	2000	FAKRA C (GNSS) + FAKRA D (LTE) short version

Unit: inches[mm]



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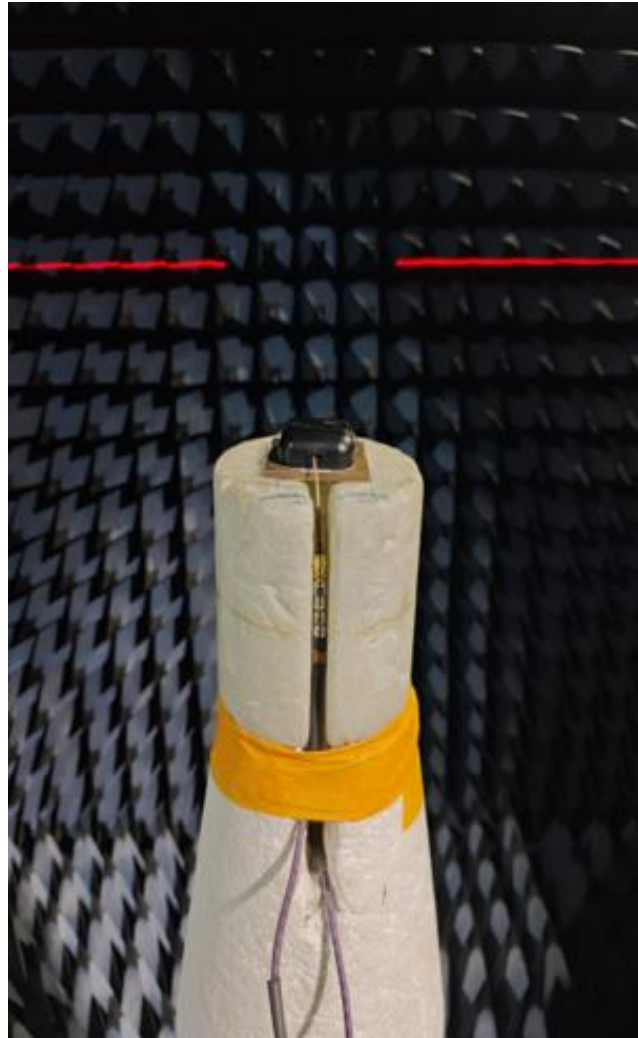


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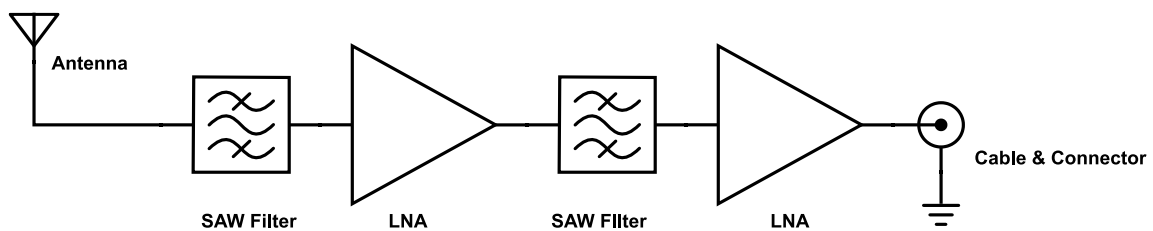


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## Measurement Setup



## GNSS Block Diagram





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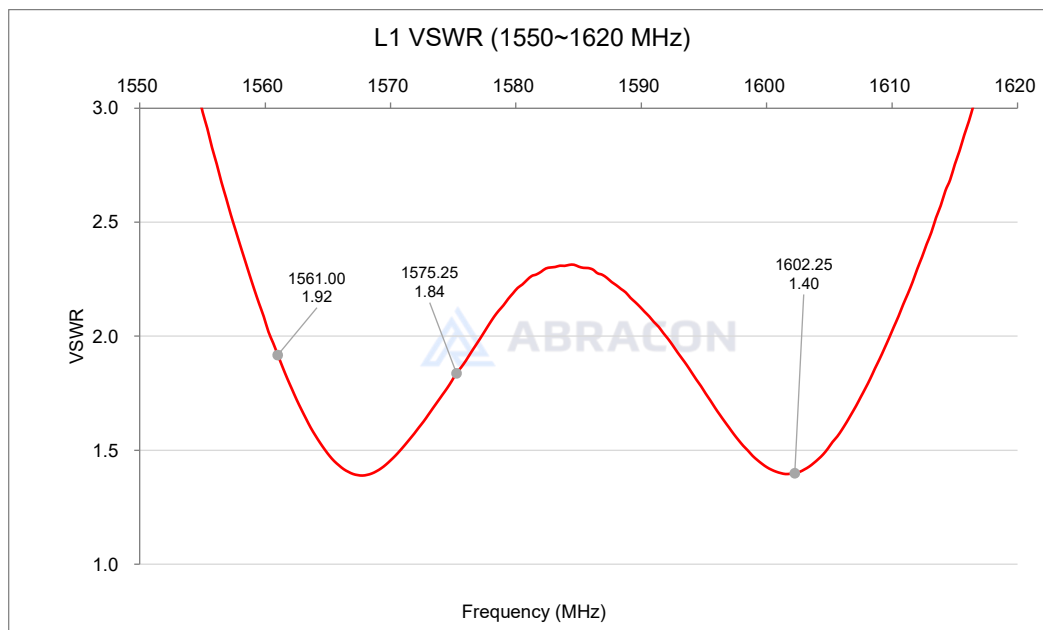
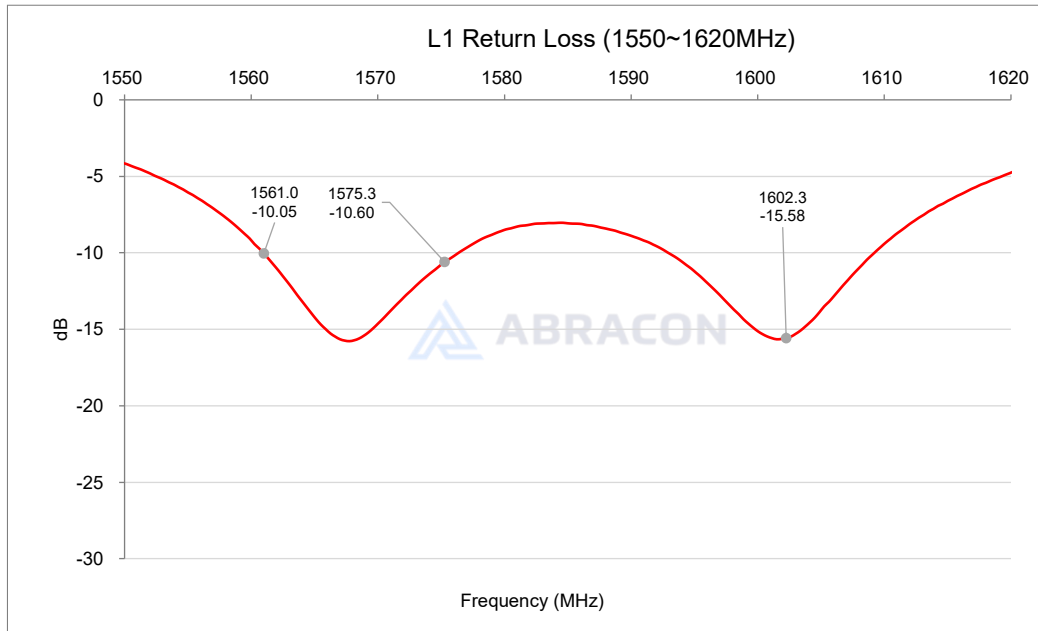


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## GNSS Reflection Characteristics – Return Loss & VSWR





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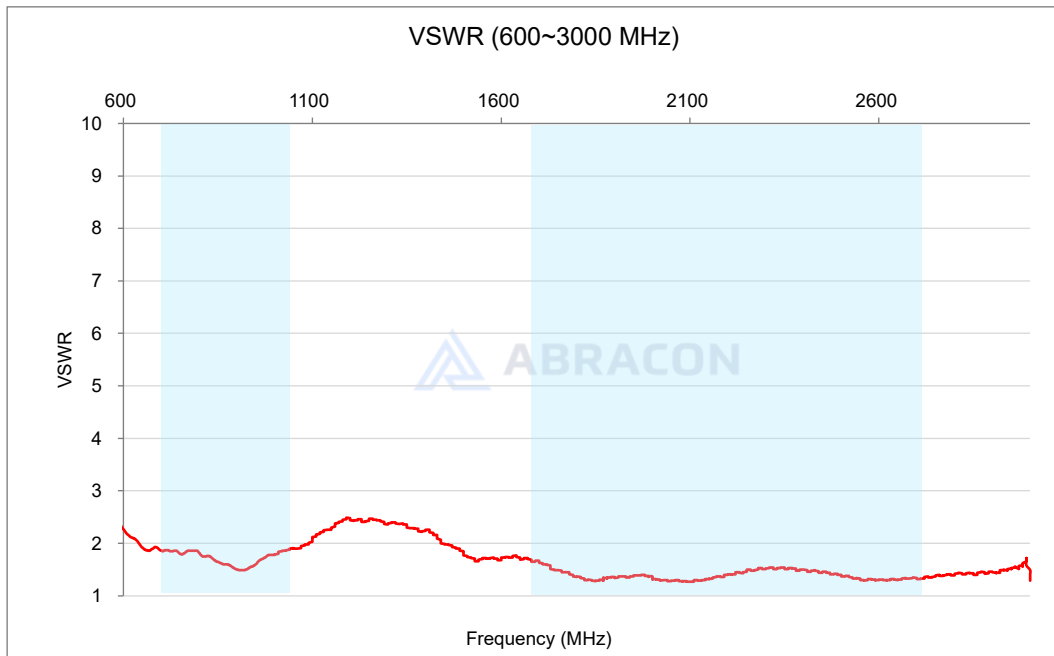
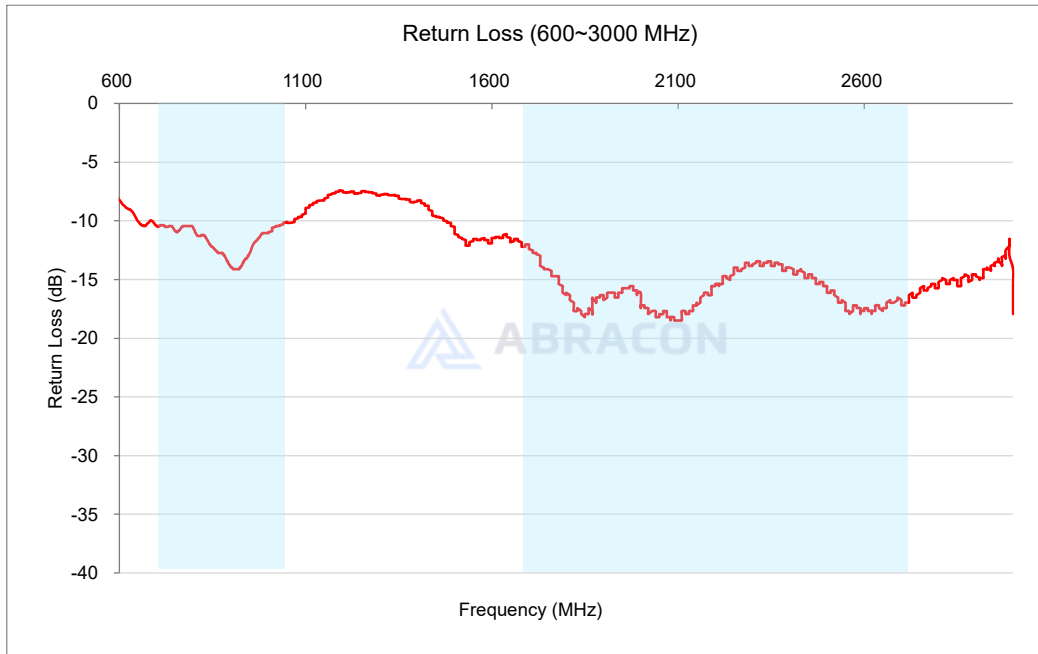


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## LTE Reflection Characteristics – Return Loss & VSWR





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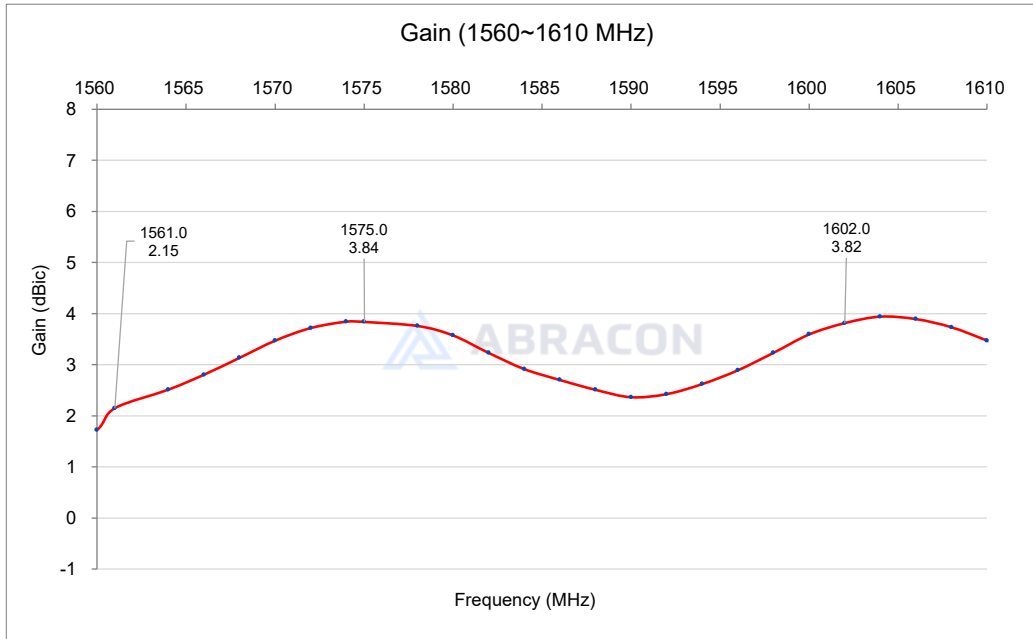
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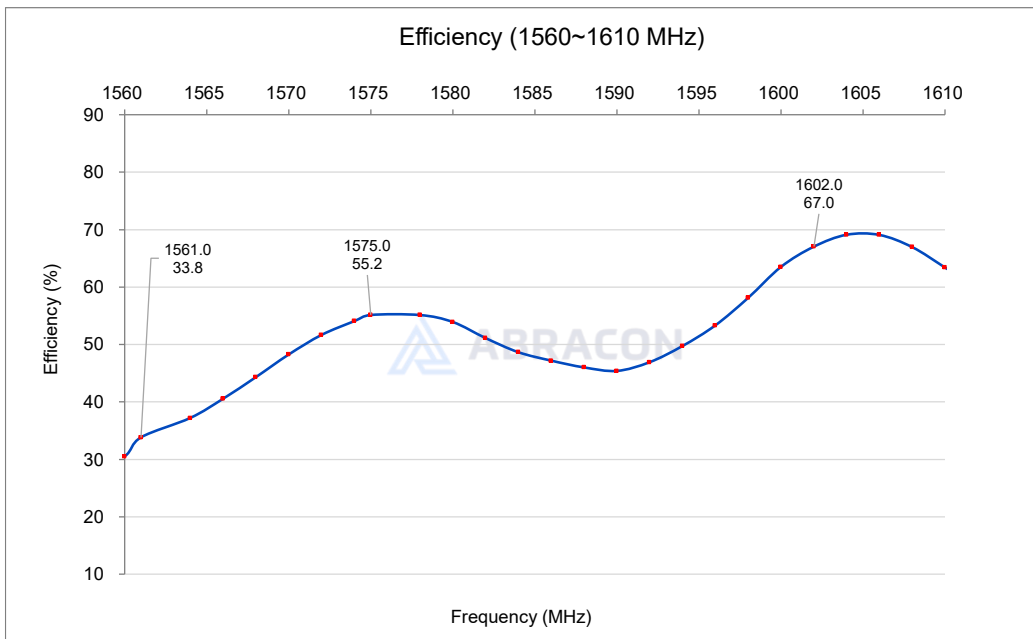
**59.5 x 52.5 x 16.5 mm**  
**RoHS Compliant**  
**MSL Level = 1**

## GNSS Radiation Characteristics – Peak Gain & Efficiency

### Peak Gain



### Total Efficiency (%)





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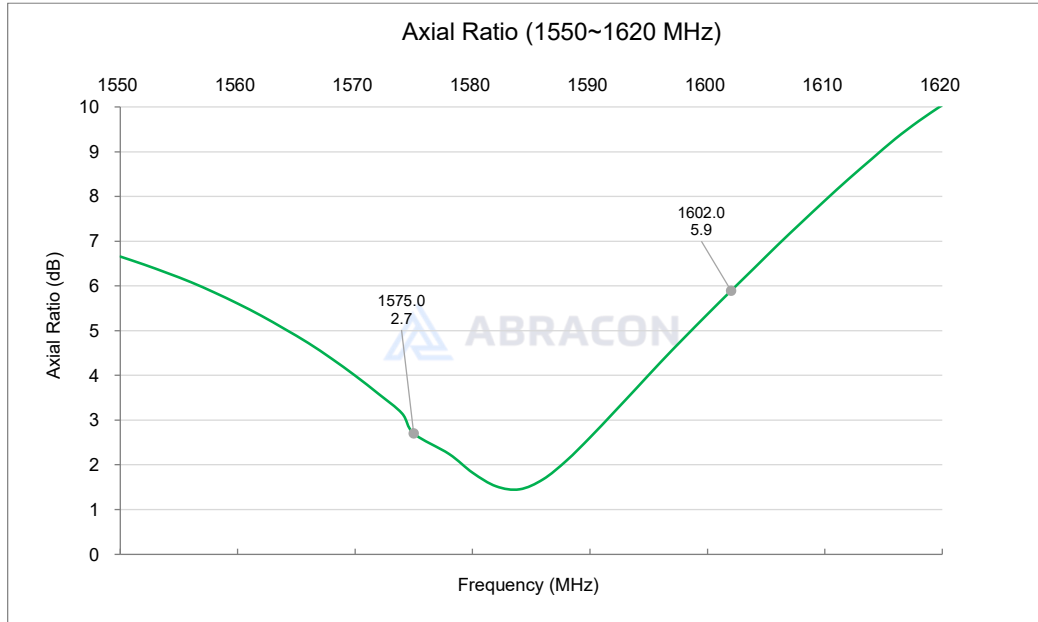


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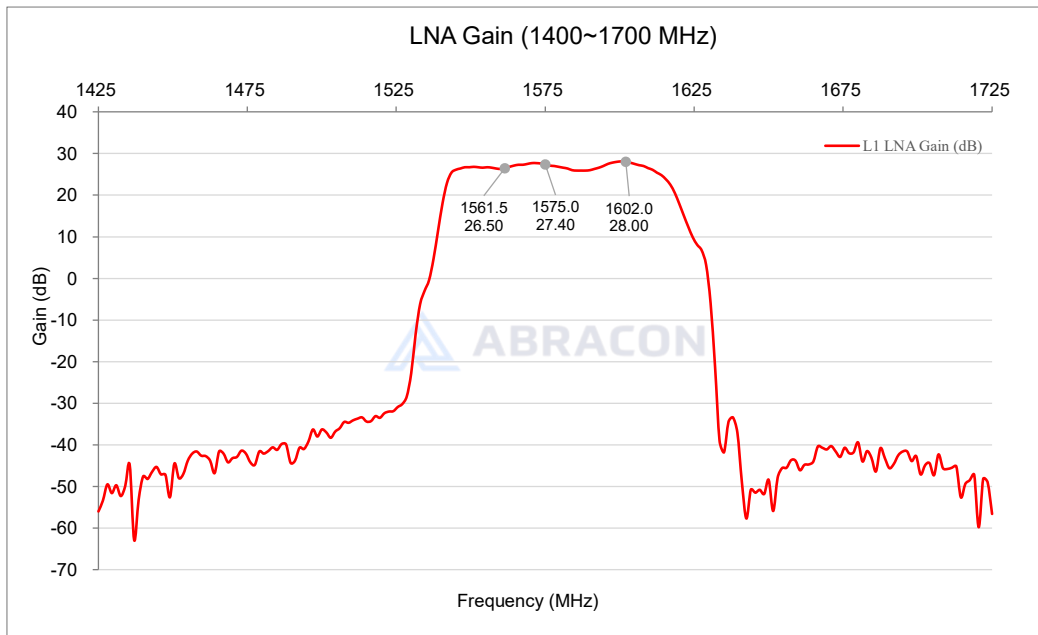


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**RoHS Compliant**  
**MSL Level = 1**

## GNSS Radiation Characteristics – Axial Ratio



## GNSS Characteristics – LNA Gain





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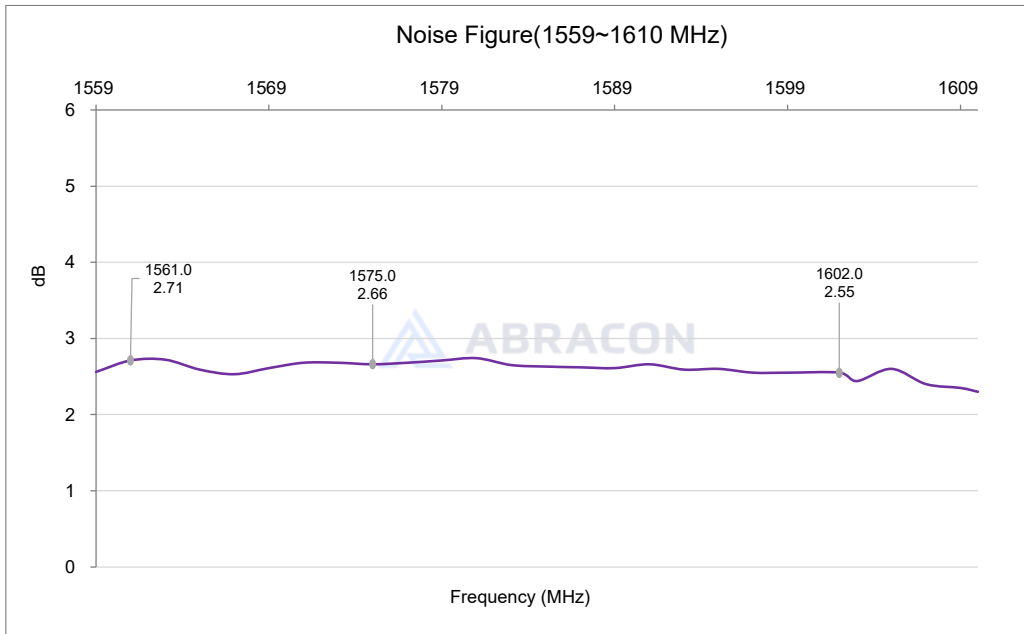


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## LNA Characteristics –Noise Figure





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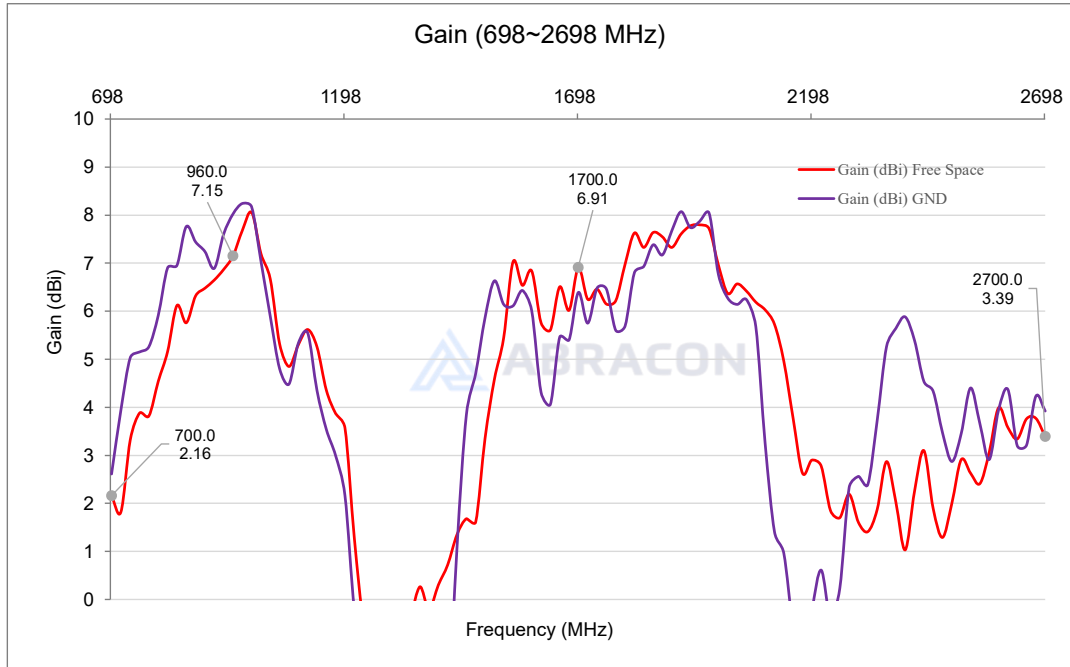
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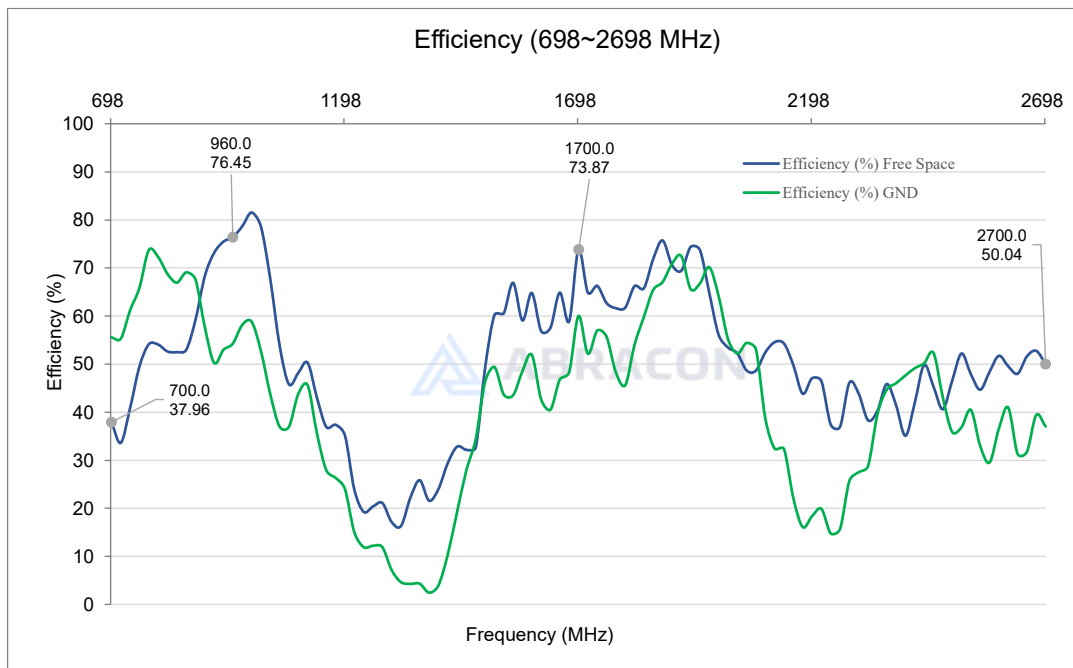
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## LTE Radiation Characteristics – Peak Gain & Efficiency (with 1M cable length)

### Peak Gain



### Total Efficiency (%)





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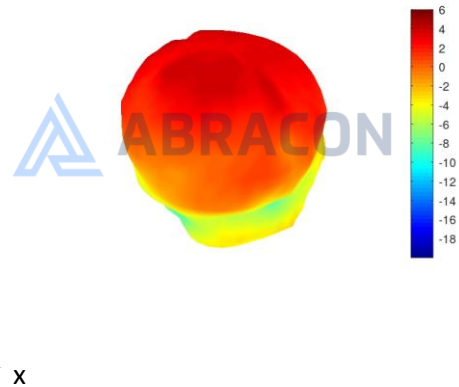
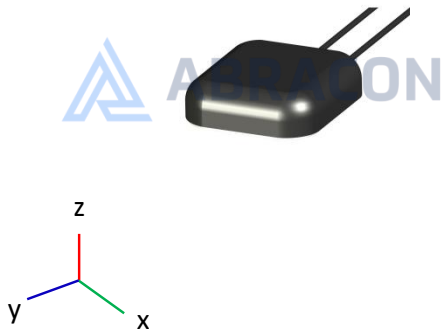
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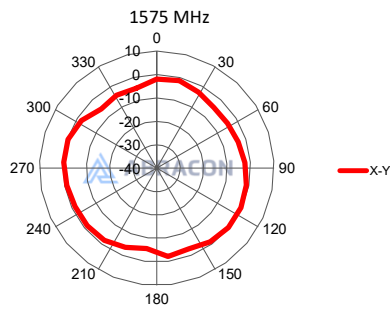
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## GNSS Radiation Characteristics – 3D & 2D Pattern

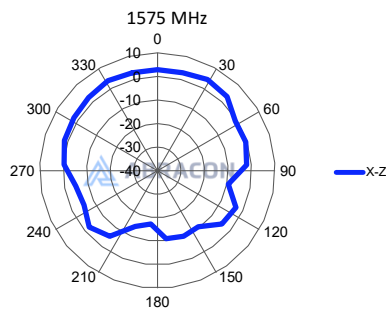
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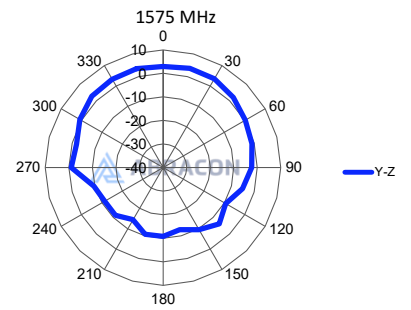
XY plane



XZ plane



YZ plane



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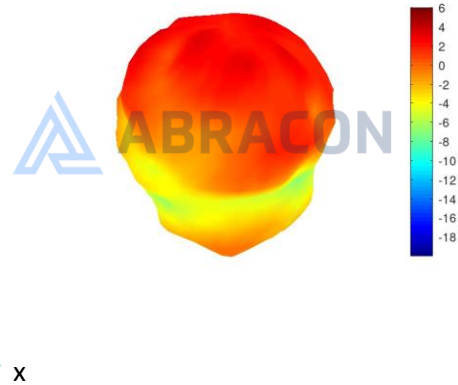
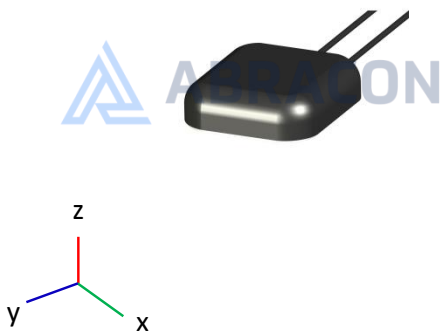


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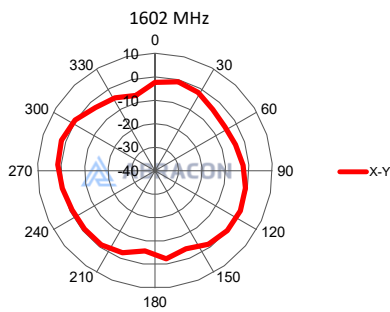


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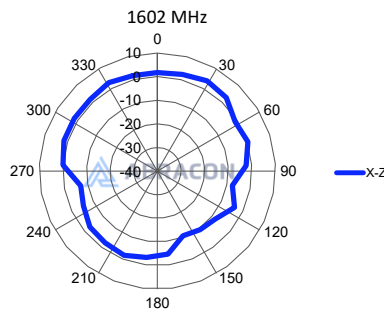
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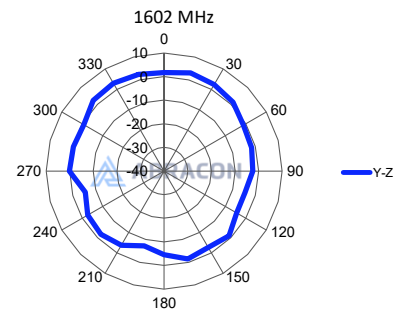
XY plane



XZ plane



YZ plane



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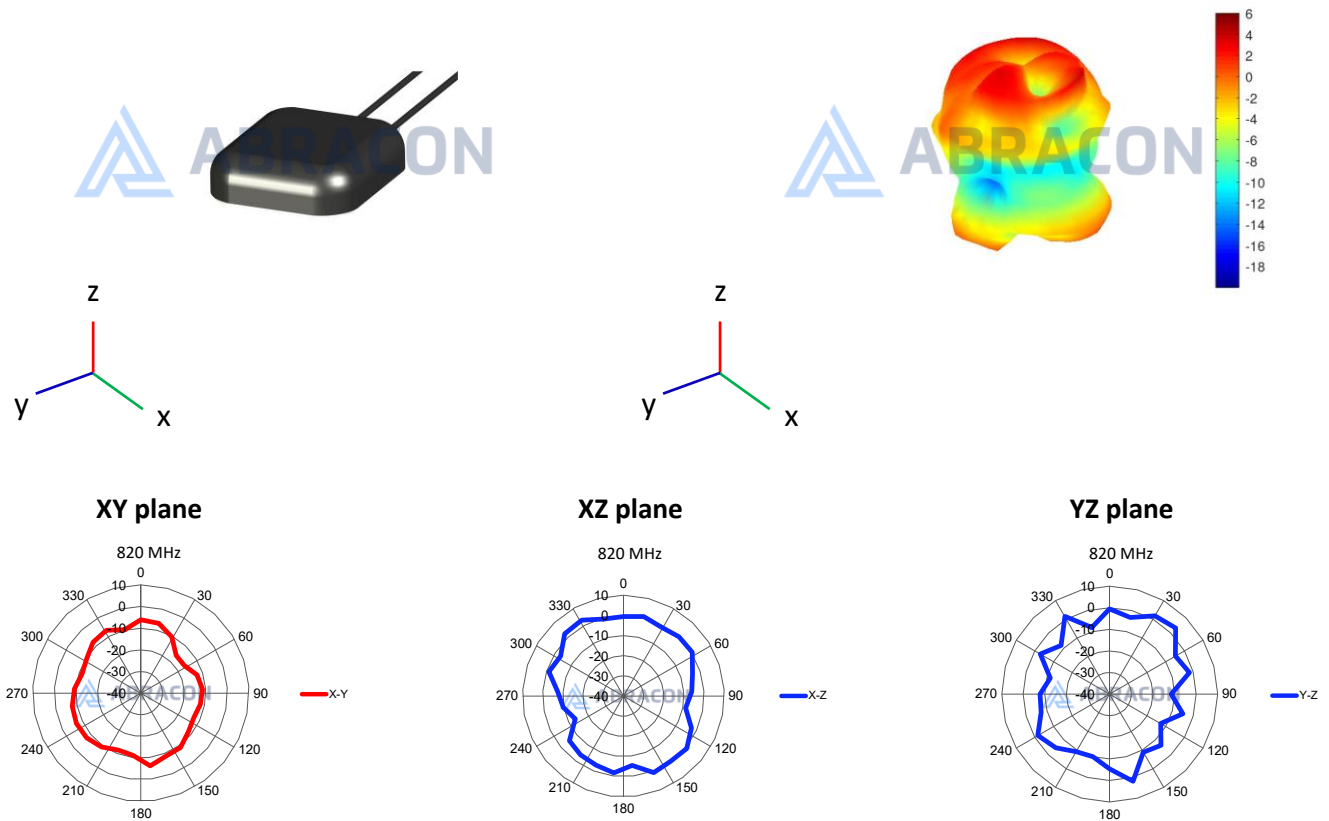
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## LTE Radiation Characteristics – 3D & 2D Pattern

### 3D & 2D Pattern @ 820 MHz



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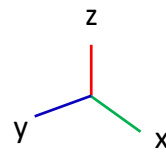
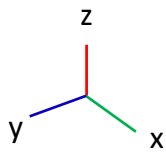
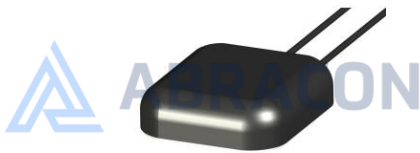


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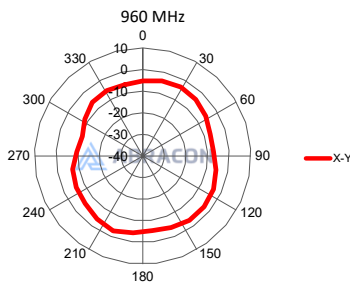


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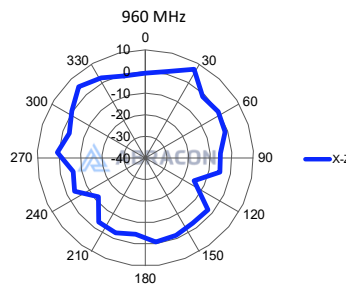
## 3D & 2D Pattern @ 960 MHz



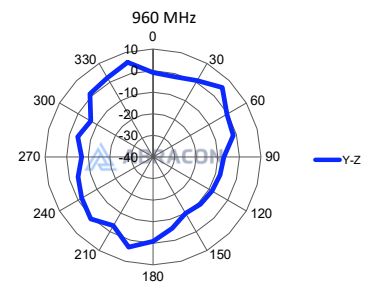
**XY plane**



**XZ plane**



**YZ plane**



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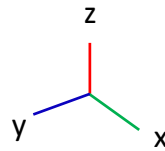
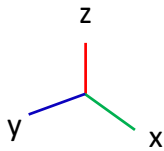
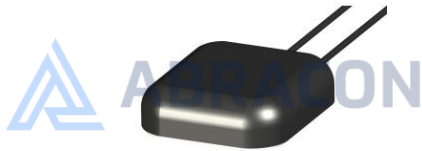


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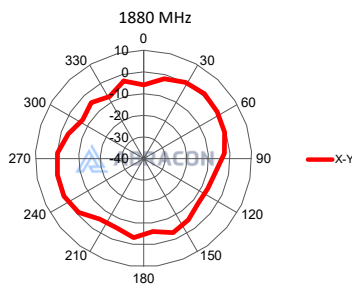


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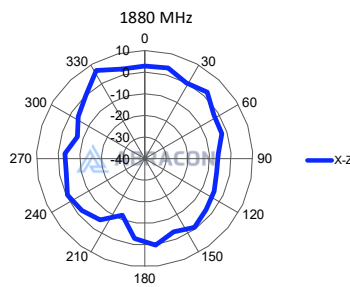
## 3D & 2D Pattern @ 1880 MHz



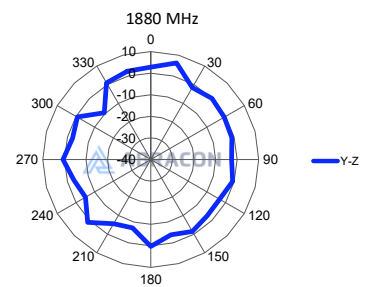
**XY plane**



**XZ plane**



**YZ plane**



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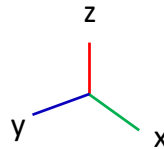
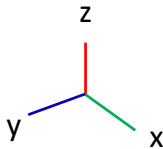
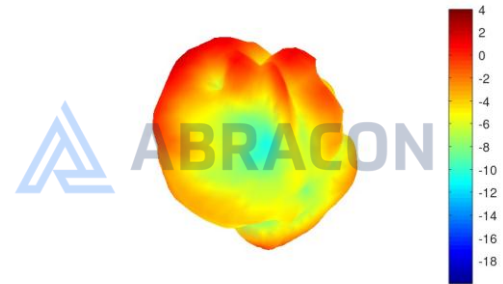
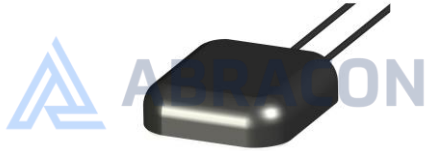


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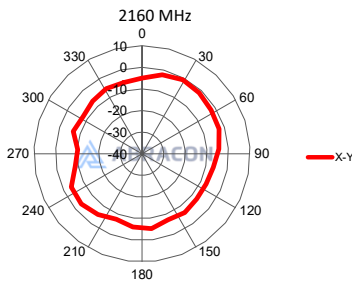


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**RoHS Compliant**  
**MSL Level = 1**

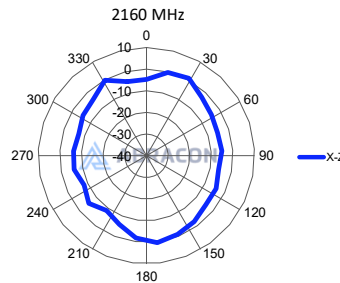
## 3D & 2D Pattern @ 2160 MHz



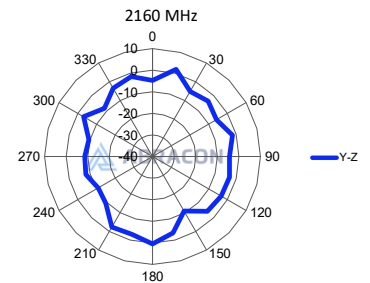
**XY plane**



**XZ plane**



**YZ plane**



12117 Bee Caves Rd, Bldg-3, Suite 200 Bee  
Cave, TX 78738  
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**REVISED: 08-26-24**

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CERTIFIED

# LTE + GNSS Adhesive Mount Puck Antenna



**AANE-PU-0121**

Request Samples

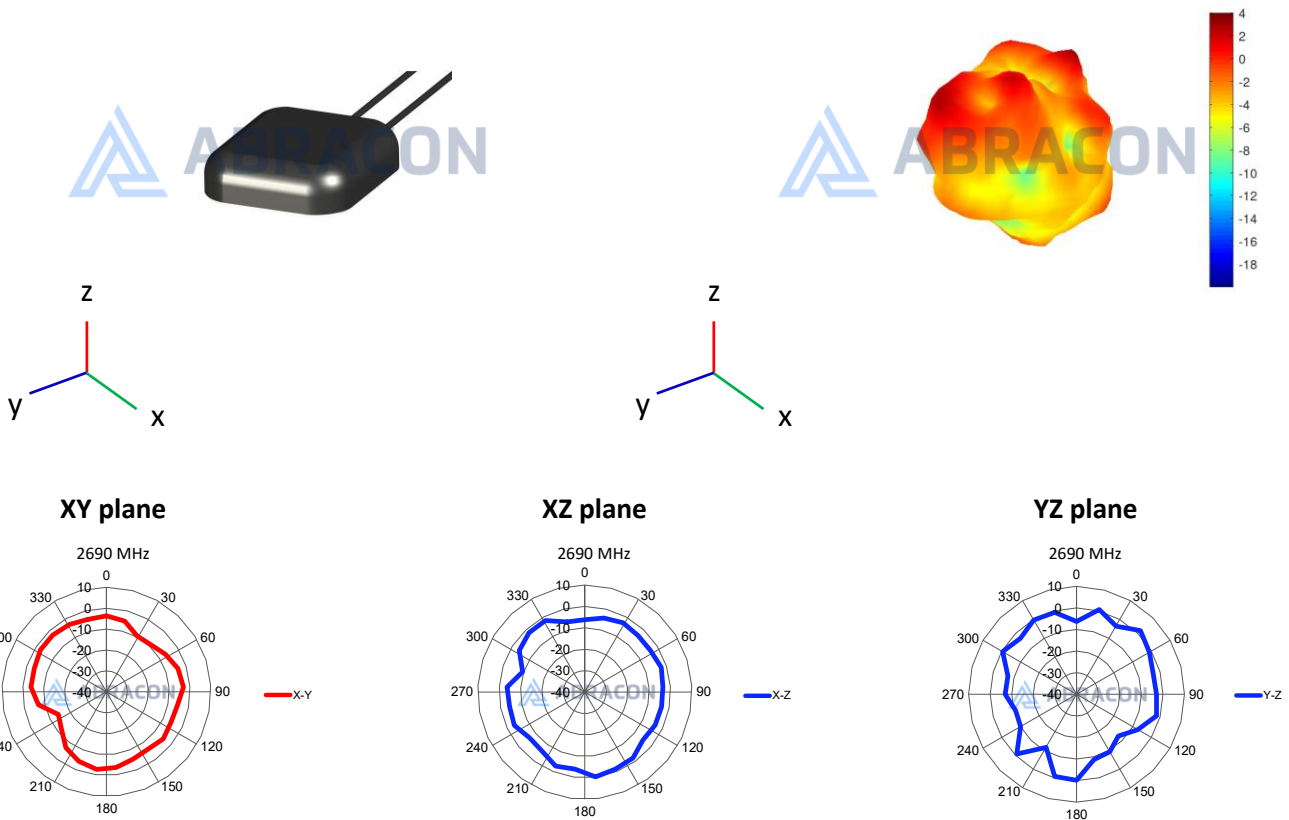


Check Inventory



**59.5 x 52.5 x 16.5 mm**  
**RoHS Compliant**  
**MSL Level = 1**

## 3D & 2D Pattern @ 2690 MHz



# LTE + GNSS Adhesive Mount Puck Antenna



**AANE-PU-0121**

Request Samples



Check Inventory



59.5 x 52.5 x 16.5 mm

RoHS Compliant

MSL Level = 1

## Packaging

1 pcs / PE Bag

50 pcs / Carton

Carton Dimension: 63.5×46.5×10.5cm

**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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