



AANE-AP-0172

Request Samples



Check Inventory



49 x 37.5 x 17 mm
RoHS Compliant
MSL Level = N/A

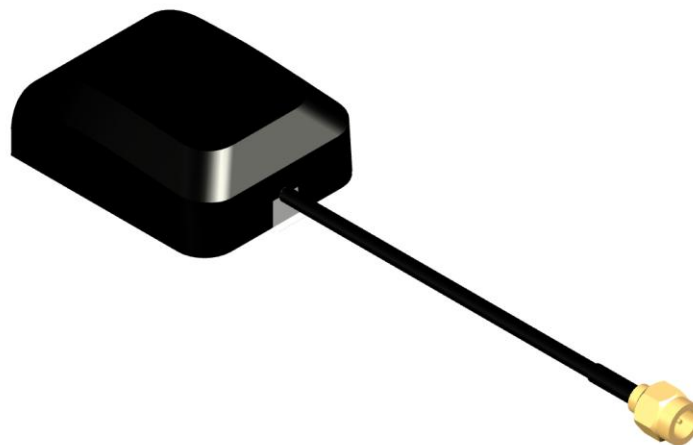
Features

- Multi-Constellation Active GNSS Antenna
- Low Profile with Size 49 x 37.5 x 17 mm
- High LNA Gain of 28 ± 2 dB
- IP67 Weather-Proof Housing
- Pre-Filtering for Enhanced Anti-Jamming Performance
- Low Current Consumption
- Custom Cable & Connector Options Available

Applications

- IoT / M2M
- GPS/GLONASS/Galileo/BeiDou applications
- Fleet Management and Asset Tracking
- Telematics
- Unmanned Aerial Vehicle (UAV)
- Precision Agriculture

Product Image



Multi-Constellation GNSS L1 Magnetic Mount Antenna



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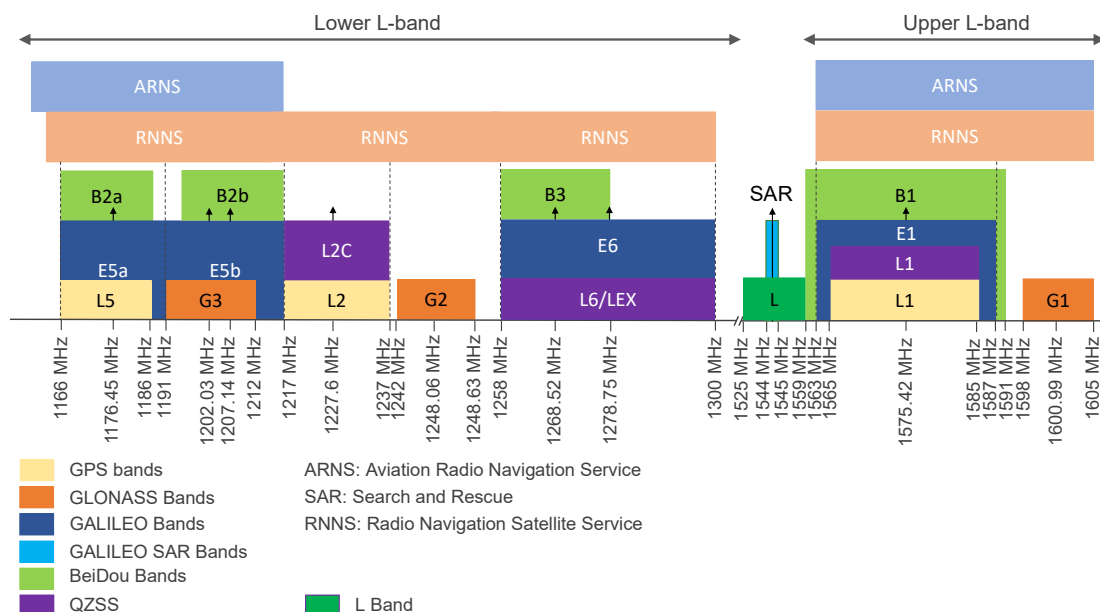
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GNSS Frequency Bands Covered

	L1 1575.42MHz	L2 1227.6MHz	L5 1176.45MHz	
GPS	■	□	□	
GLONASS	■	□	□	
Galileo	■	□	□	□
BeiDou	■	□	□	
QZSS	■	□	□	□
IRNSS/NAVIC			□	
SBAS	■		□	



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

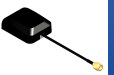


5101 Hidden Creek Ln Spicewood TX 78669
 Phone: 512-371-6159 | Fax: 512-351-8858
 For terms and conditions of sales, please visit:
www.abracon.com

REVISED: 05-28-25

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Multi-Constellation GNSS L1 Magnetic Mount Antenna



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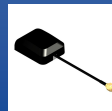


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Electrical Specification

Parameters		Min.	Typ.	Max.	Units	Note
Antenna						
Frequency		GPS: L1 GLONASS: G1 GALILEO: E1 BEIDOU: B1 QZSS: L1 SBAS: L1				
VSWR		≤ 2			-	
Polarization		RHCP			-	(Right Hand Circular Polarization)
Nominal Impedance		50			Ω	
Gain RHCP	1563-1588MHz(L1/E1)	2.1	3.1	3.8	dBic	on 70 × 70 mm 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		≤ 3			dB	1575MHz
LNA						
VSWR		≤ 2.0			-	
DC Input		3.0 ~ 5.0			V	
Gain	1545-1610MHz	28 ± 2			dB	
Current Consumption		15 ~ 25			mA	
Noise Figure		≤ 3.0			dB	

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

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Mechanical Specification

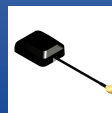
Parameter	Specification
Antenna Dimension	49 x 37.5 x 17 mm
Housing Material	UV Resistant ABS
Mounting Type ⁽¹⁾	Magnetic Mount
RF Connector ⁽¹⁾	SMA(M)
Cable Type ⁽¹⁾	RG-174
Cable Length ⁽¹⁾	1M

(1): Fully customizable mounting type, RF Cable, and Connector

Environmental Specification

Parameter	Specification
Operating Temperature	-40°C to +85°C
Storage Temperature	-40°C to +85°C
IP Rating (housing)	IP67
RoHS Compliance	Yes
Relative Humidity	Up to 95%

Multi-Constellation GNSS L1 Magnetic Mount Antenna



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Ordering Information

Part Number	Description	Connector Option
AANE-AP-0172-1	Multi-Constellation GNSS L1 Magnetic Mount Antenna 1000 mm cable & SMA connector	SMA
AANE-AP-0172-2	Multi-Constellation GNSS L1 Magnetic Mount Antenna 2000 mm cable & SMA connector	SMA
AANE-AP-0172-3	Multi-Constellation GNSS L1 Magnetic Mount Antenna 3000 mm cable & SMA connector	SMA
AANE-AP-0172-4	Multi-Constellation GNSS L1 Magnetic Mount Antenna 3000 mm cable & FAKRA-C SIGNAL BLUE connector	FAKRA-C SIGNAL BLUE

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



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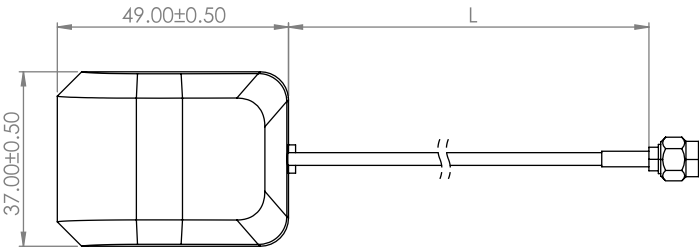


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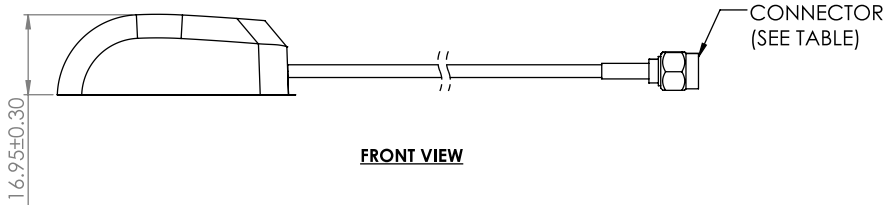


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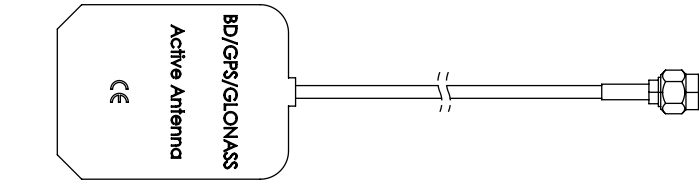
Product Dimension



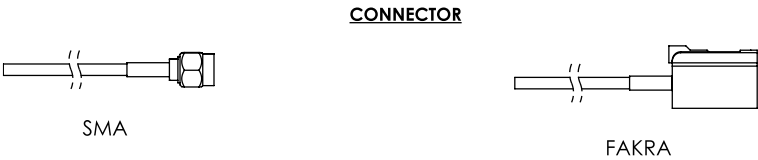
TOP VIEW



FRONT VIEW

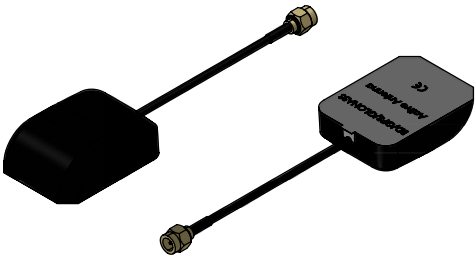


BOTTOM VIEW



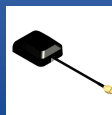
SMA

FAKRA



PART NUMBER	CABLE LENGTH (L)	CONNECTOR
AANE-AP-0172-1	1000	SMA
AANE-AP-0172-2	2000	SMA
AANE-AP-0172-3	3000	SMA
AANE-AP-0172-4	3000	FAKRA

Unit: mm



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Request Samples

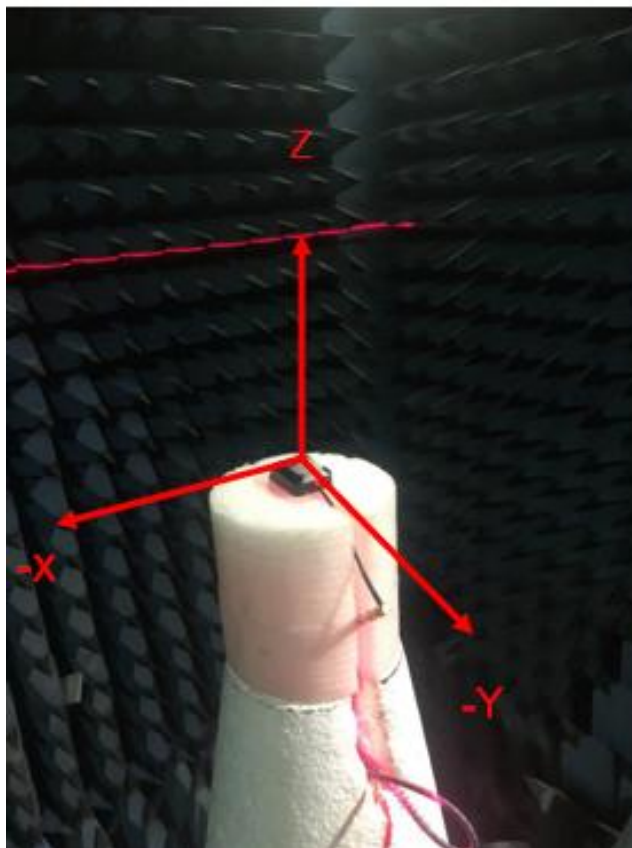


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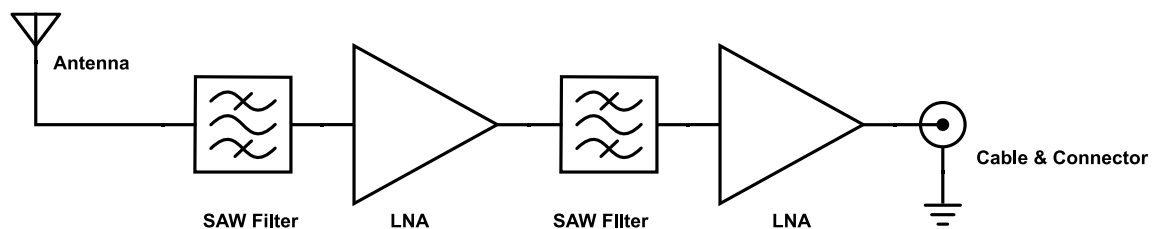


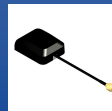
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Measurement Setup



GNSS Block Diagram





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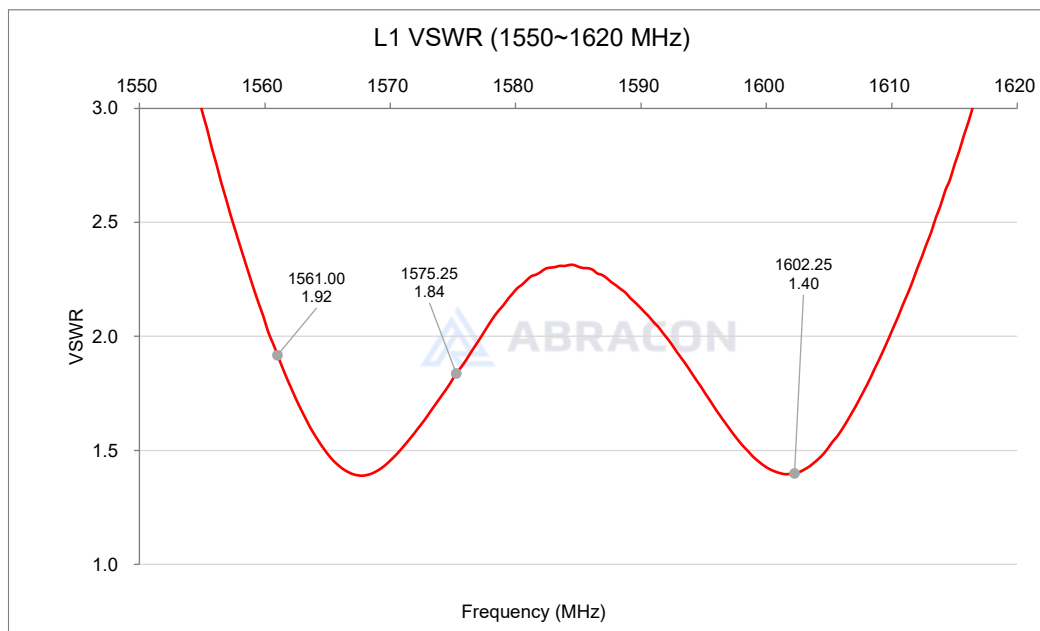
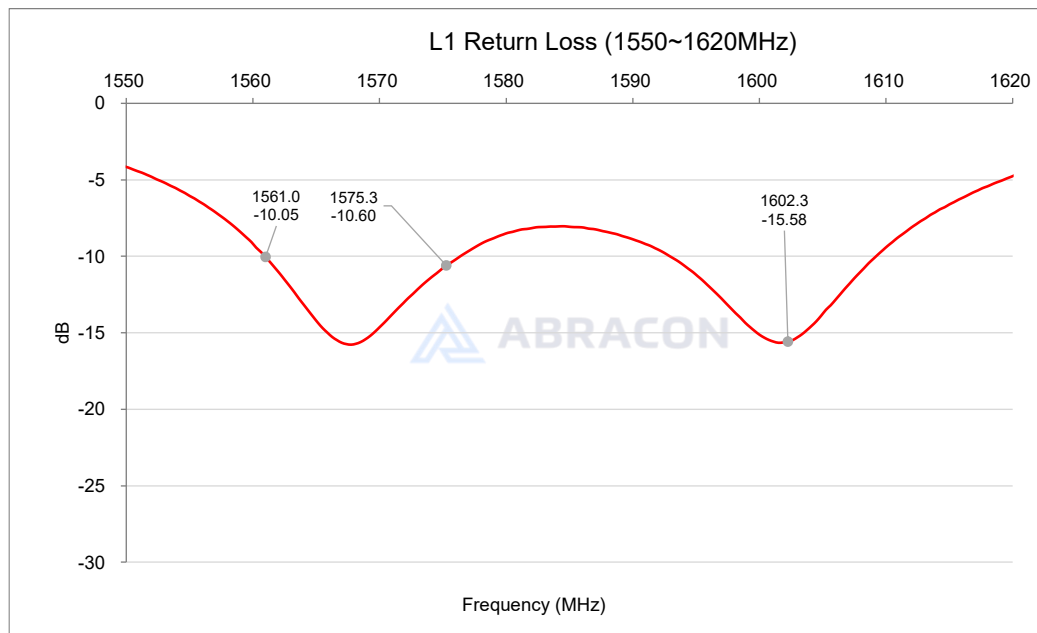


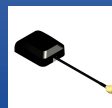
Check Inventory



49 x 37.5 x 17 mm
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Reflection Characteristics – Return Loss & VSWR





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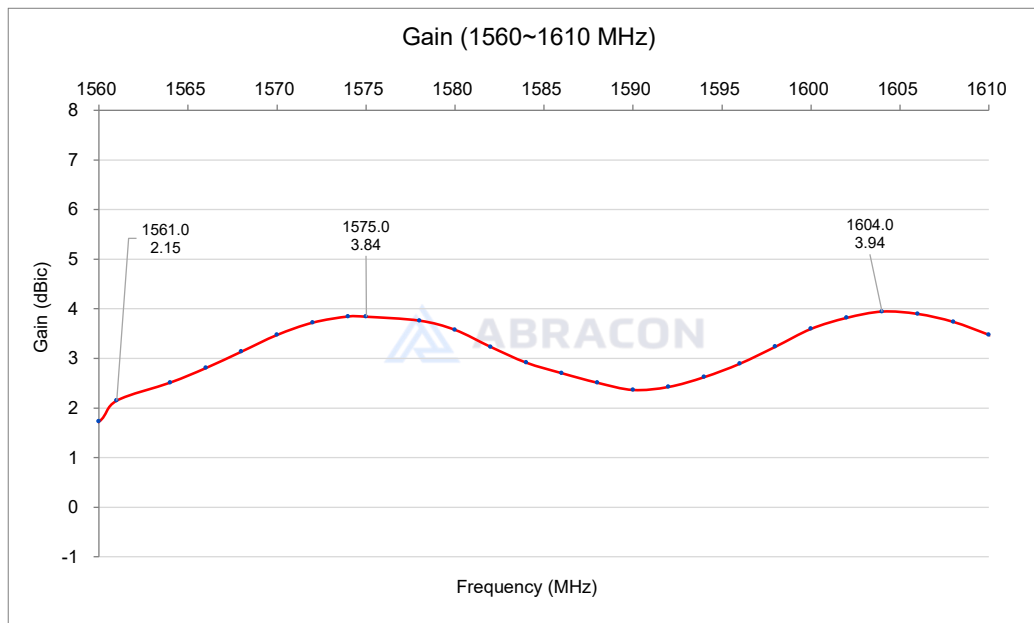


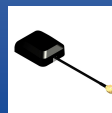
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Radiation Characteristics –Passive Peak Gain





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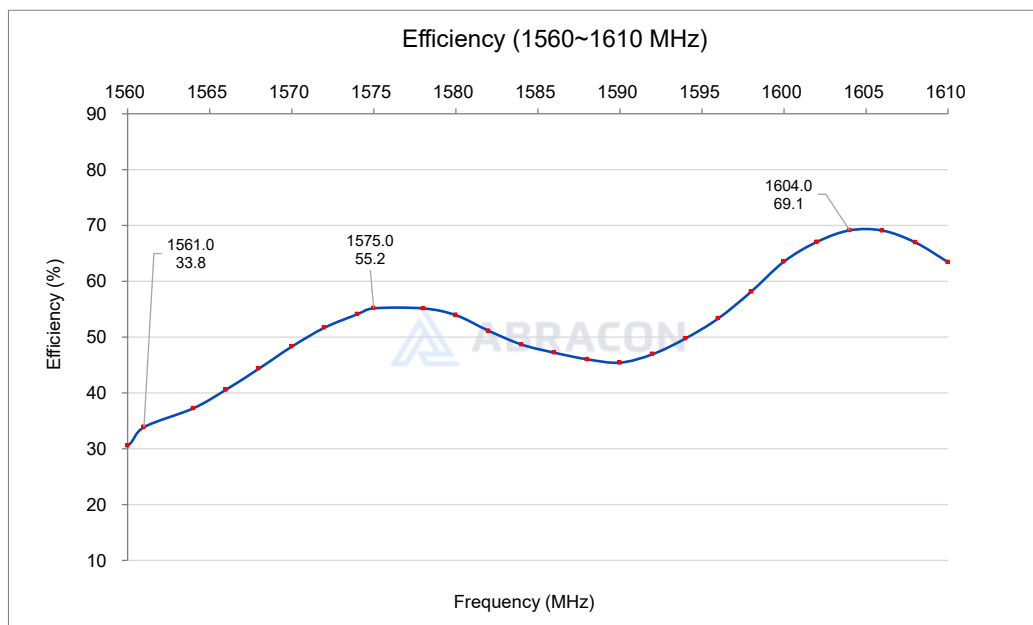


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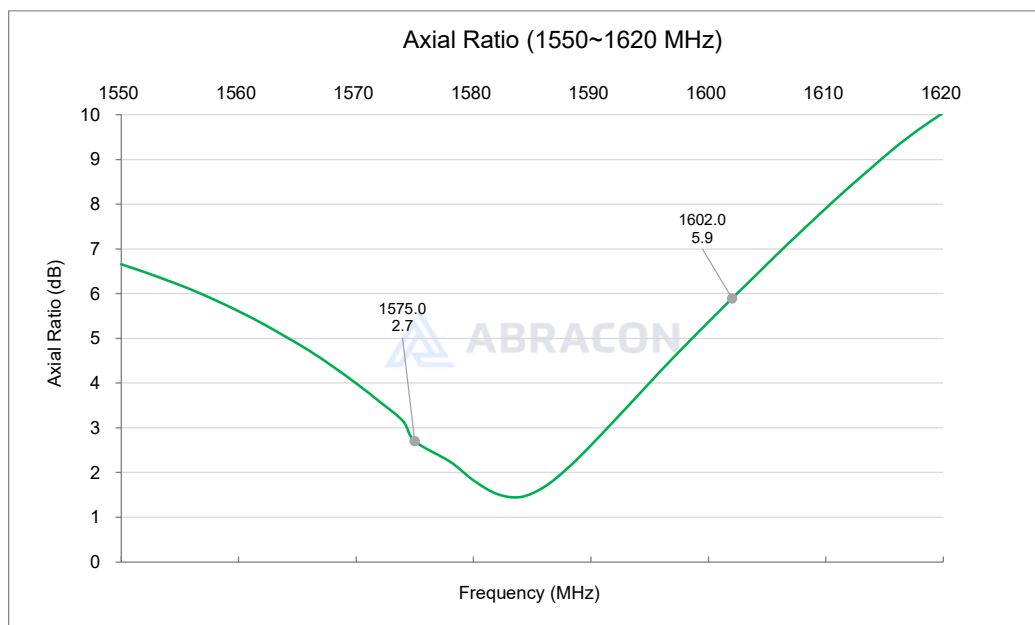


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Radiation Characteristics –Passive Efficiency



GNSS Radiation Characteristics – Axial Ratio



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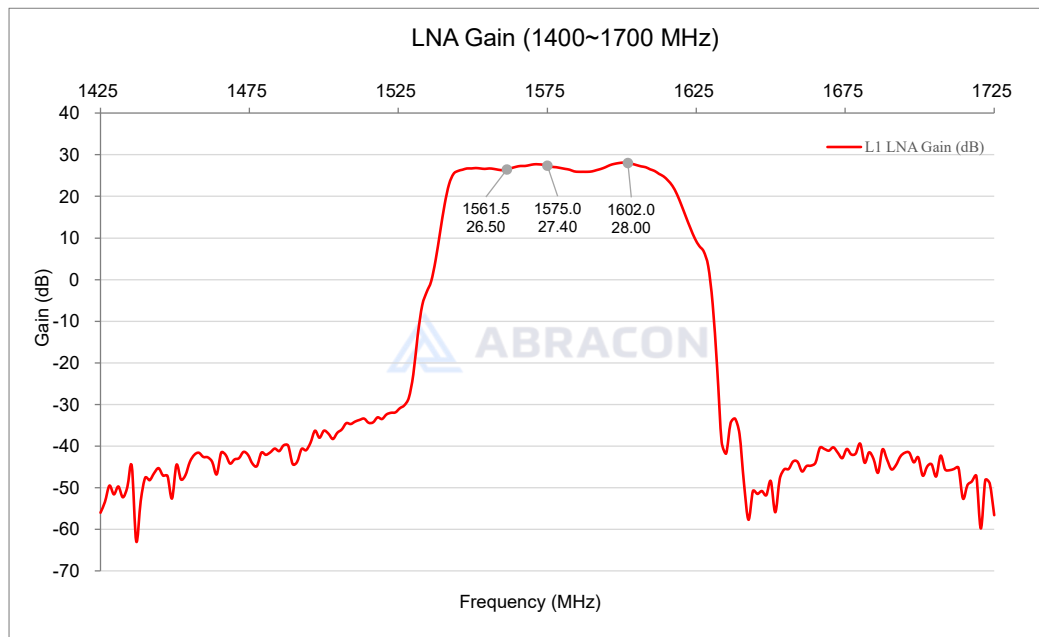


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LNA Characteristics –LNA Gain



LNA Gain & Power Consumption		
Voltage	LNA Gain (Typ.)	Power Consumption
3.0 V	26 dB	15 mA
4.0 V	27 dB	20 mA
5.0 V	28 dB	25 mA



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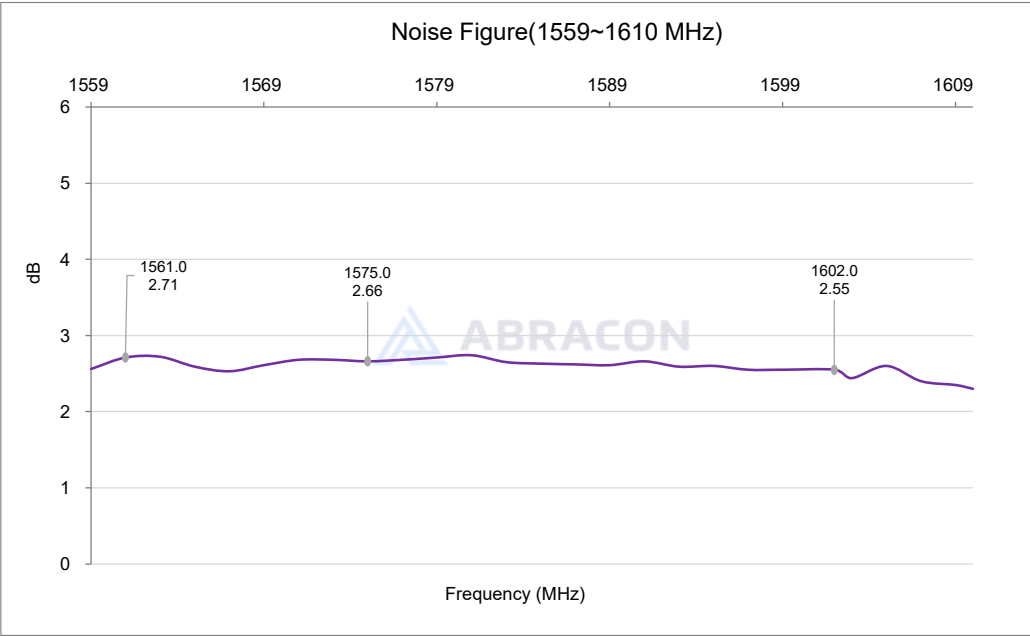


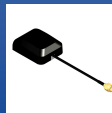
Check Inventory



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LNA Characteristics –Noise Figure





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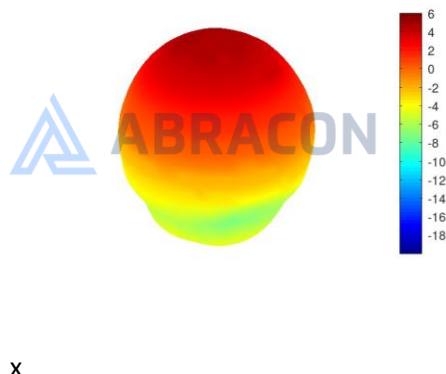
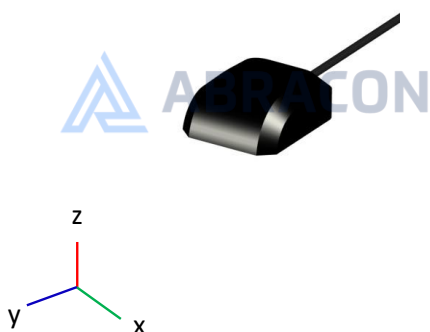
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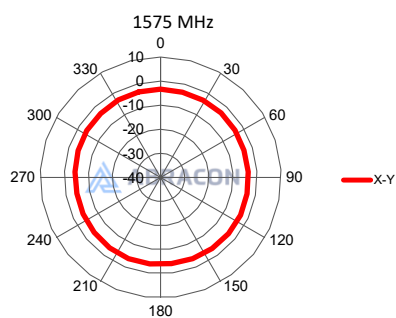
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Radiation Characteristics – 3D & 2D Pattern

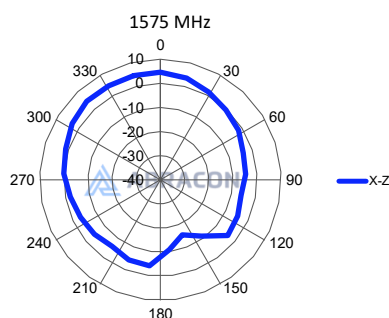
1575MHz



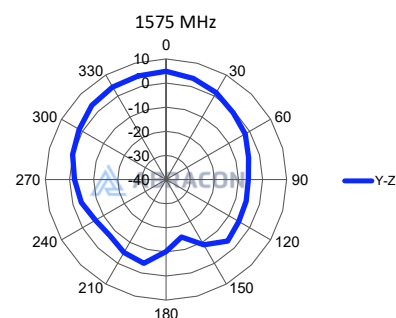
XY plane



XZ plane



YZ plane



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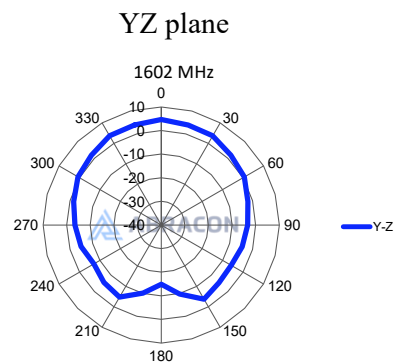
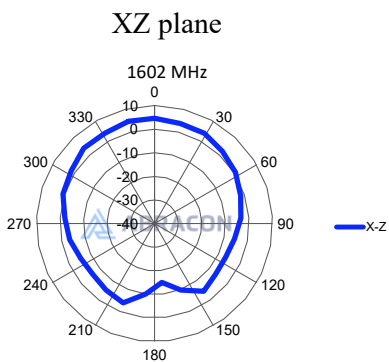
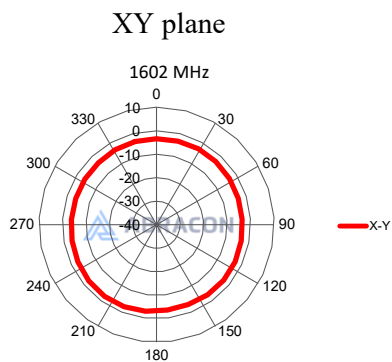
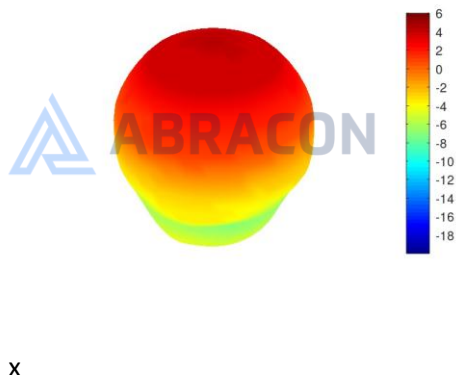
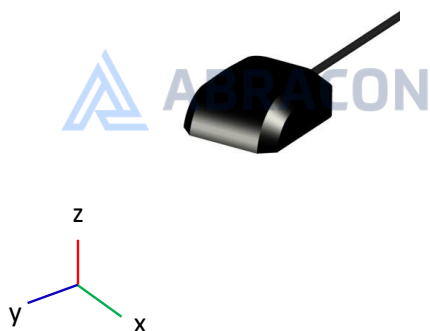


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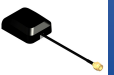


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1602MHz



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Packaging

1000 pcs antennas per carton

Dimensions: 630 x 460 x 105 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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