

AANE-AP-0164

Request Samples



Check Inventory



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

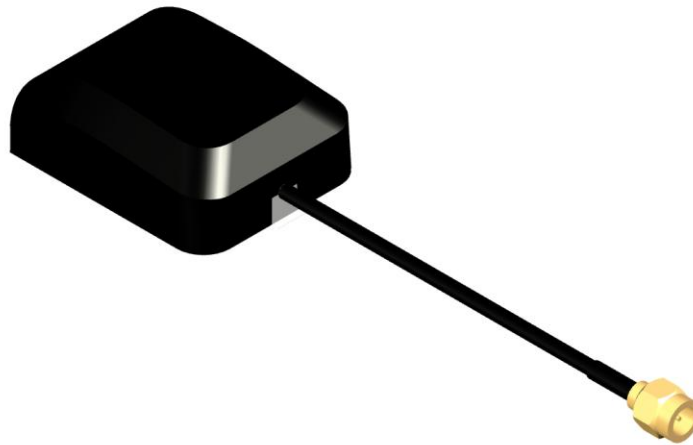
Features

- 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 Adhesive Mount Antenna



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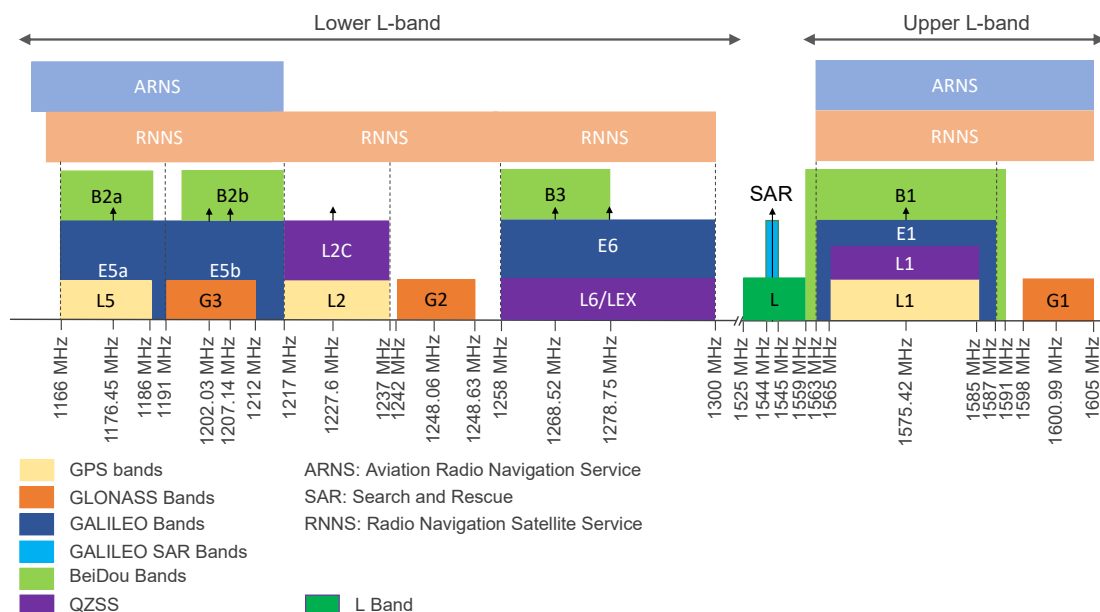
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GNSS Frequency Bands Covered

	L1 1575.42MHz	L2 1227.6MHz	L5 1176.45MHz	
GPS				
GLONASS	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	



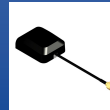
Frequency allocation: GNSS systems, upper L bands and lower L bands



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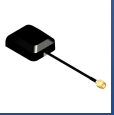


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Electrical Specification

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

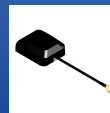
Parameter	Specification
Antenna Dimension	49 x 37.5 x 17 mm
Housing Material	UV Resistant ABS
Mounting Type ⁽¹⁾	Adhesive Mount
RF Connector ⁽¹⁾	SMA(M)
Cable Type ⁽¹⁾	RG-174
Cable Length ⁽¹⁾	1M

(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 Adhesive Mount Antenna



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Ordering Information

Part Number	Description	Connector Option
AANE-AP-0164-1	Multi-Constellation GNSS L1 Adhesive Mount Antenna 1000 mm cable & SMA connector	SMA
AANE-AP-0164-2	Multi-Constellation GNSS L1 Adhesive Mount Antenna 2000 mm cable & SMA connector	SMA
AANE-AP-0164-3	Multi-Constellation GNSS L1 Adhesive Mount Antenna 3000 mm cable & SMA connector	SMA
AANE-AP-0164-4	Multi-Constellation GNSS L1 Adhesive 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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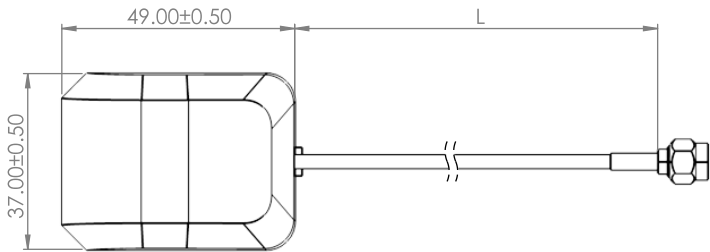


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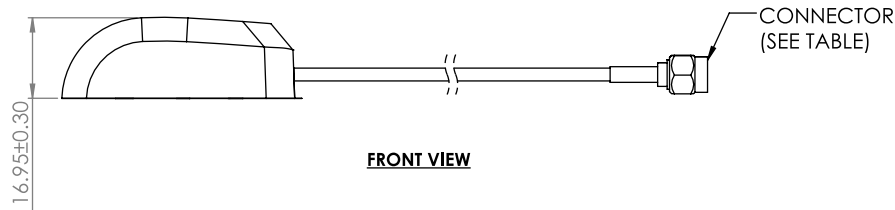


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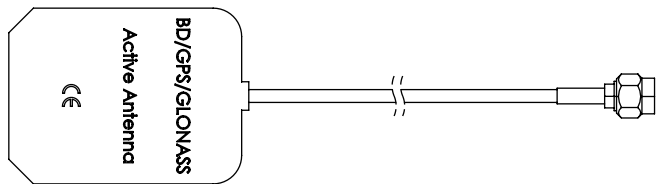
Product Dimension



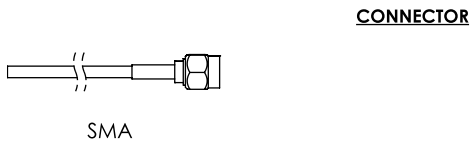
TOP VIEW



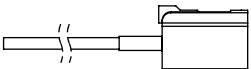
FRONT VIEW



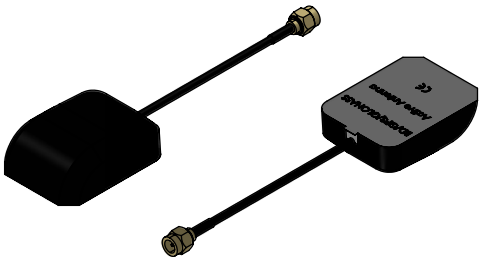
BOTTOM VIEW



SMA



FAKRA



PART NUMBER	CABLE LENGTH (L)	CONNECTOR
AANE-AP-0164-1	1000	SMA
AANE-AP-0164-2	2000	SMA
AANE-AP-0164-3	3000	SMA
AANE-AP-0164-4	3000	FAKRA

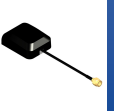
Unit: mm



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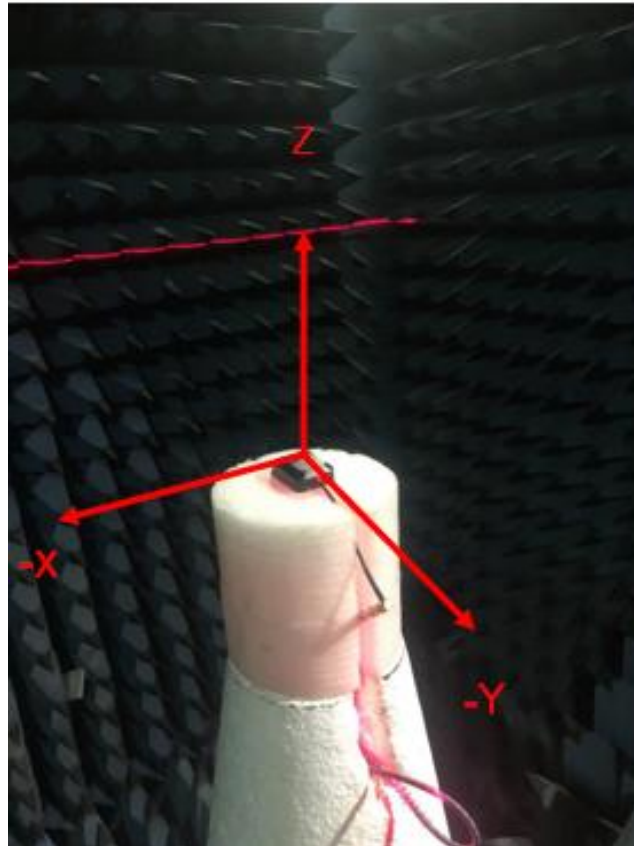


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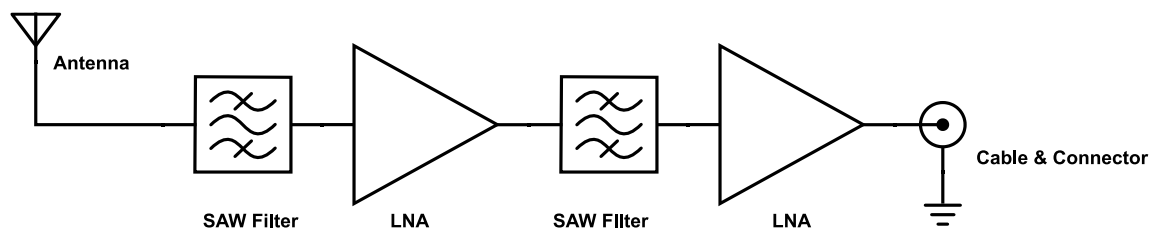


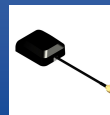
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Measurement Setup



GNSS Block Diagram





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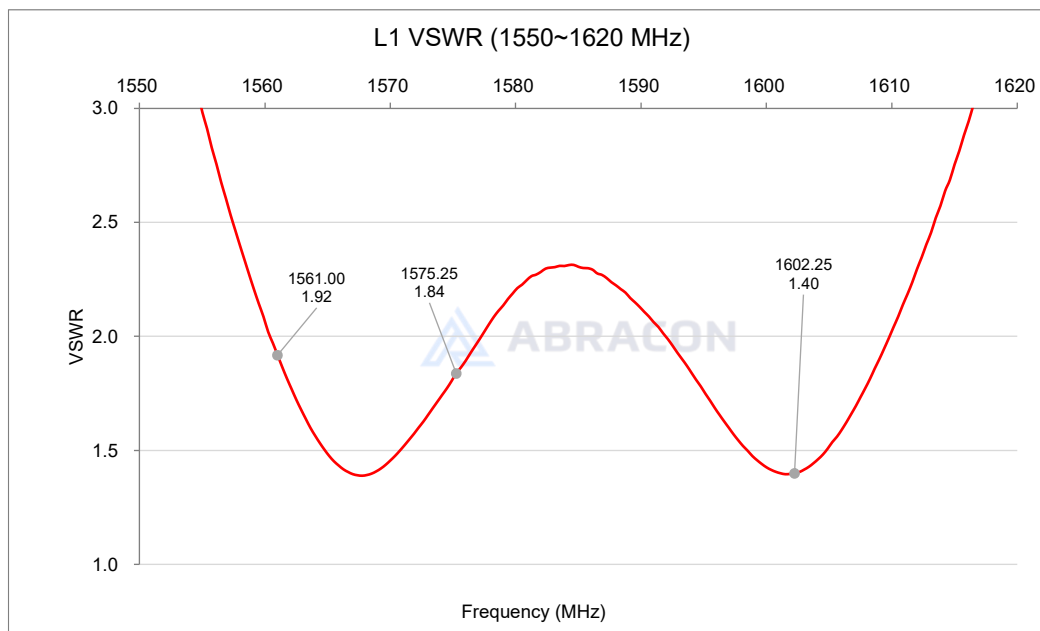
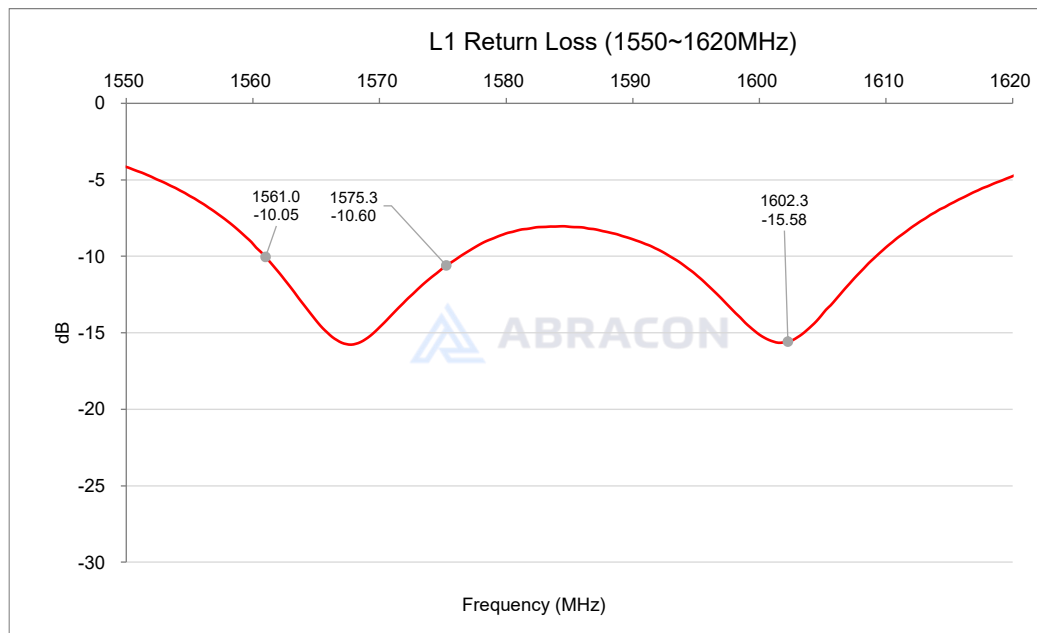


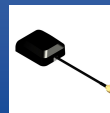
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Reflection Characteristics – Return Loss & VSWR





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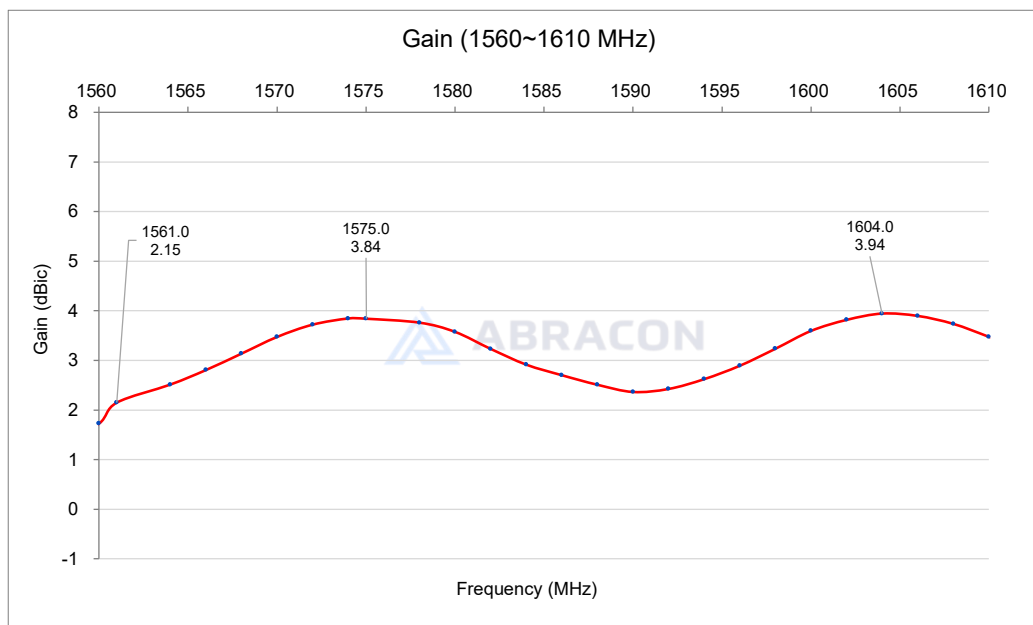


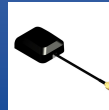
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Radiation Characteristics –Passive Peak Gain



**AANE-AP-0164**

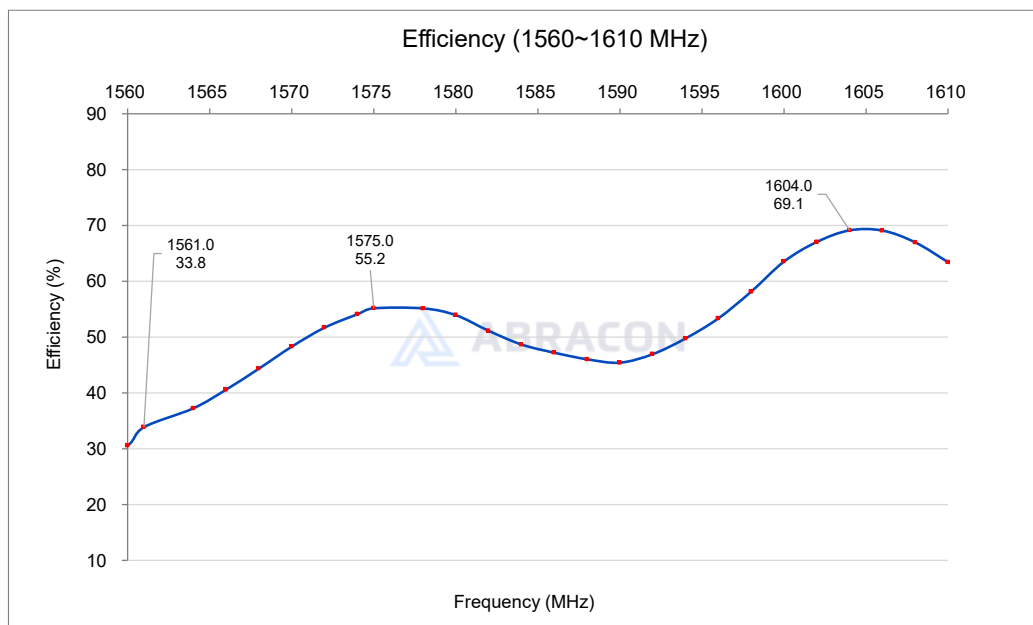
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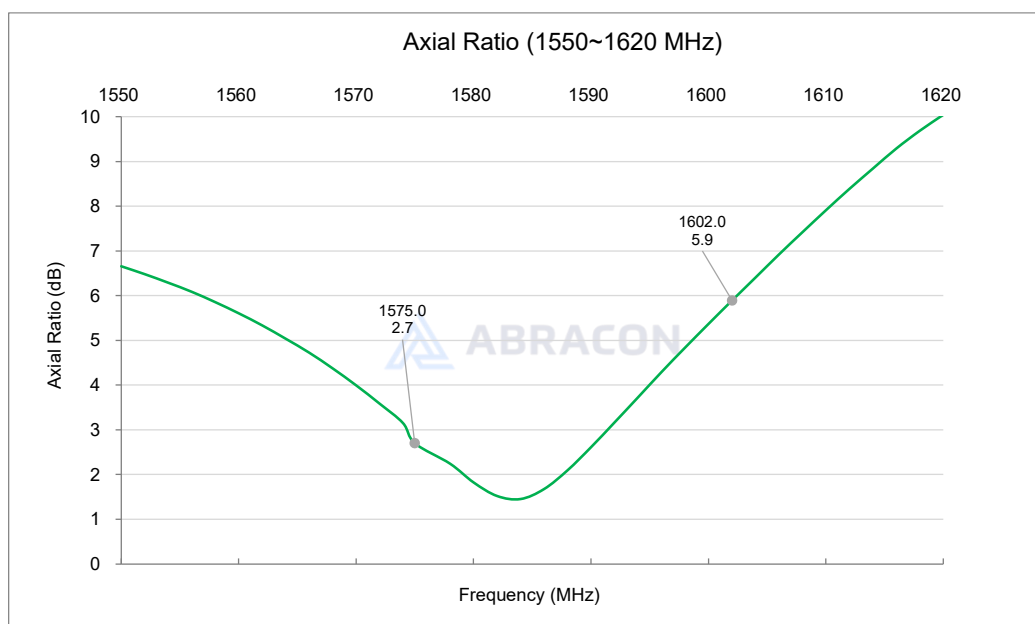
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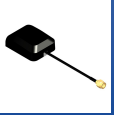
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Radiation Characteristics –Passive Efficiency



GNSS Radiation Characteristics – Axial Ratio



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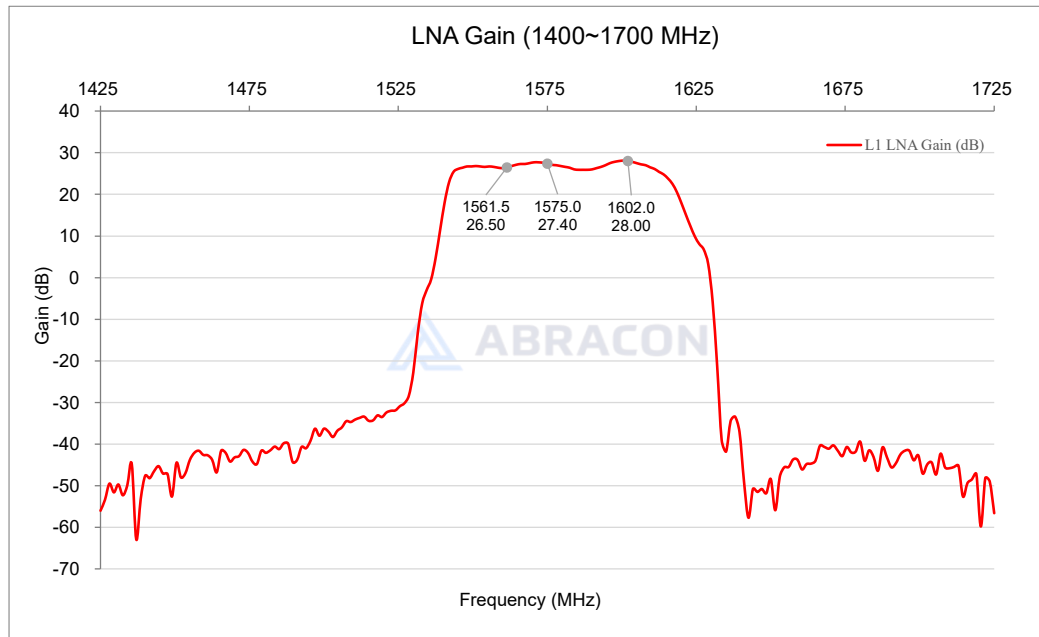


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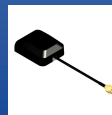


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LNA Characteristics –LNA Gain



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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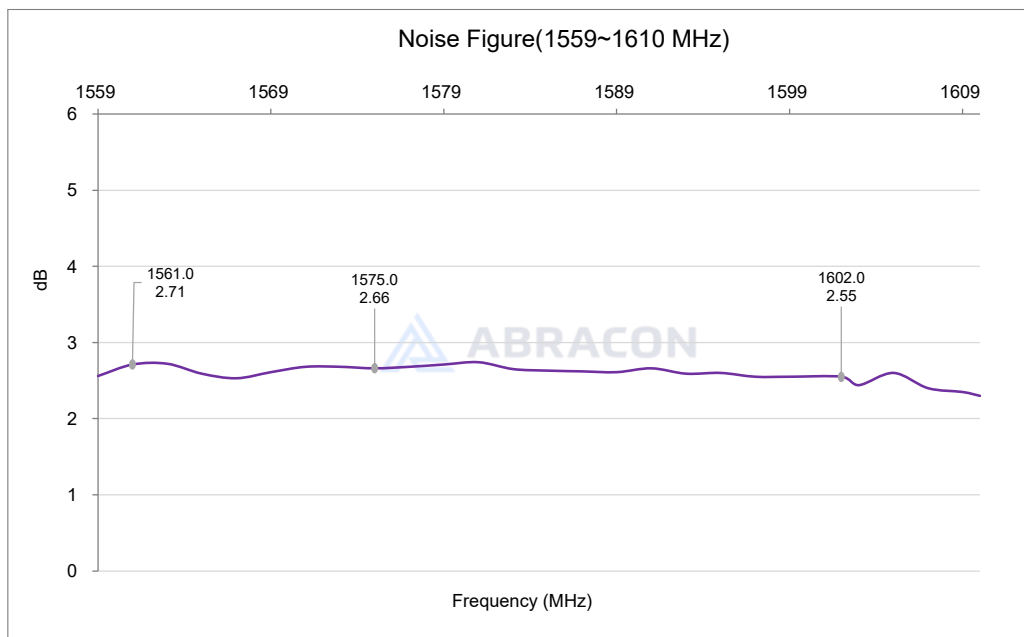


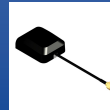
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LNA Characteristics –Noise Figure





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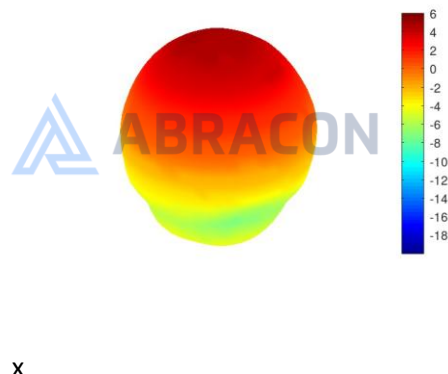
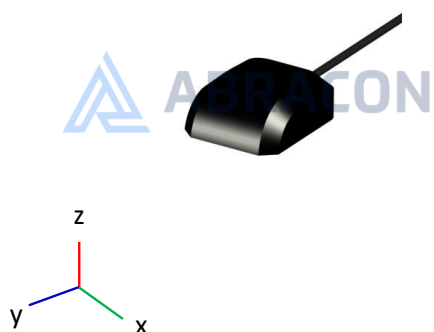
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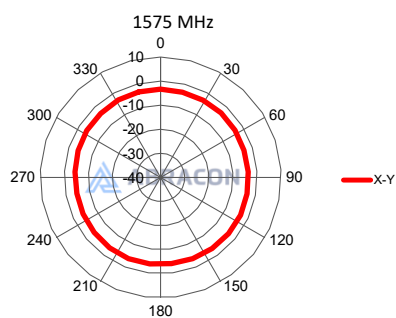
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Radiation Characteristics – 3D & 2D Pattern

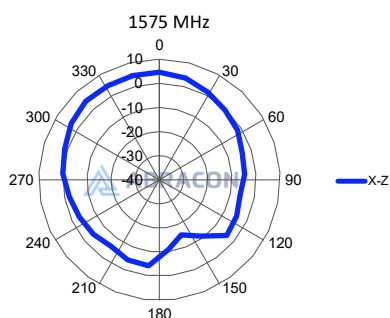
1575MHz



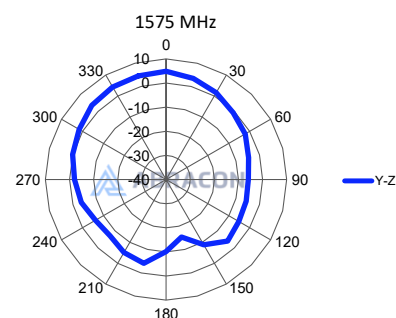
XY plane



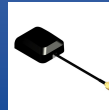
XZ plane



YZ plane



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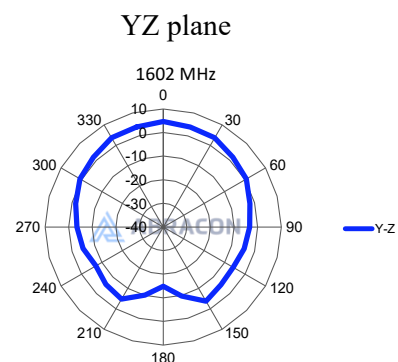
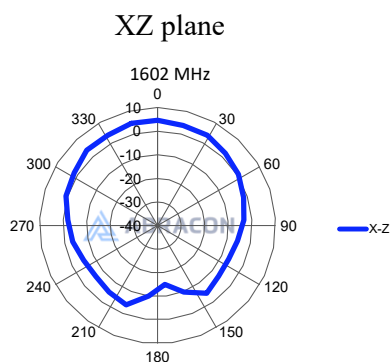
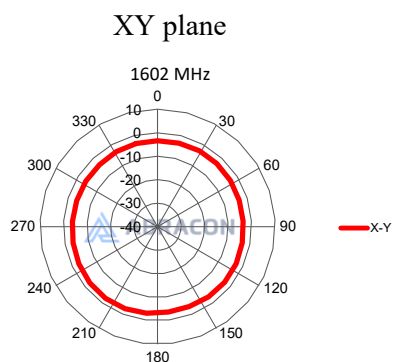
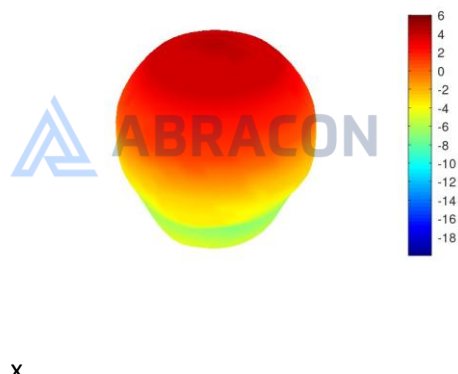
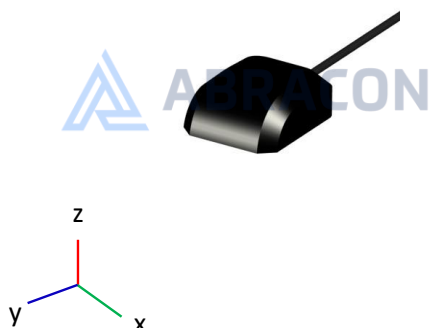


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1602MHz



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