GPS/GLONASS/Galileo Active Patch Antenna



APAMPG-130

Request Samples | Check Inventory

44 x 37 x 14 mm
RoHS Compliant
MSL Level = N/A

Features

- GPS/GLONASS/Galileo Active Patch Antenna
- Low Profile with Size 44 x 37 x 14 mm
- High LNA Gain of 28 ± 3 dB
- Low Noise Figure: ≤ 1.55 dB
- Low Current Consumption
- Pre-Filtering for Enhanced Anti-Jamming Performance
- IP66 Weather-Proof Housing

Applications

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

Product Image



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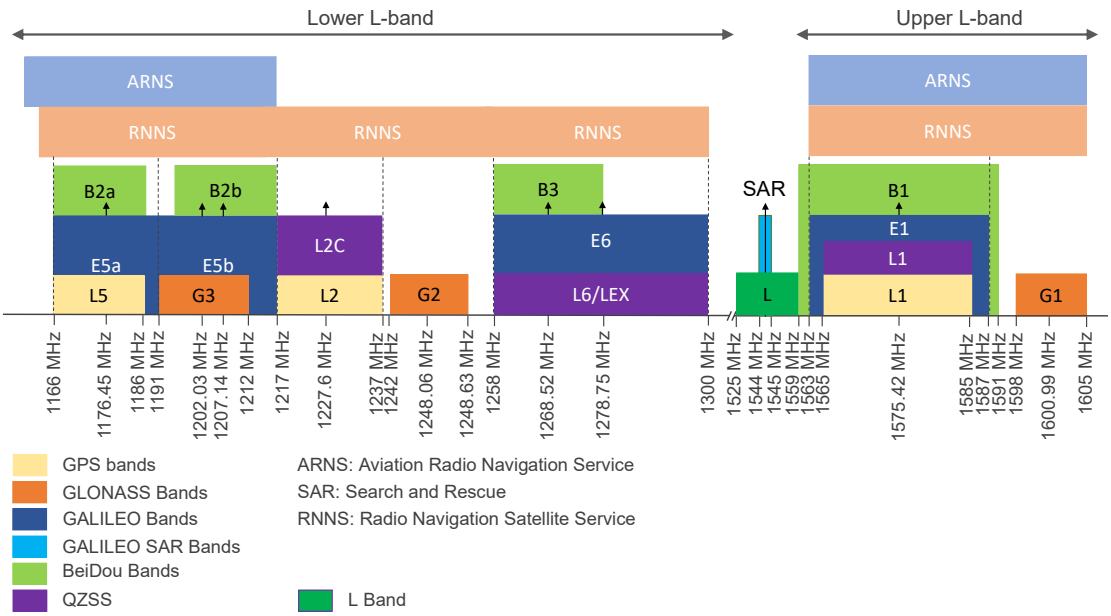


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GNSS Frequency Bands Covered				
GPS	L1 1575.42MHz	L2 1227.6MHz	L5 1176.45MHz	
	■	□	□	
GLONASS	G1 1598.06-1609.31MHz	G2 1242.93-1251.68MHz	G3 1202.025MHz	
	■	□	□	
Galileo	E1 1575.42MHz	E5a 1176.45MHz	E5b 1201.5MHz	E6 1278.75MHz
	■	□	□	□
BeiDou	B1 1561MHz	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			Units	Note
Antenna				
Frequency	1575.42±1.023 (L1/E1)	1601.02±1.15 (G1)	MHz	
VSWR	≤ 2		-	
Peak Gain	4.37	4.62	dBic	on 70 × 70 mm ground plane
Average Gain	-2.2	-1.8	dBic	
Maximum Efficiency	93.8	94.3	%	
Average Efficiency	87.2	93.6	%	
Polarization	RHCP		-	(Right Hand Circular Polarization)
Nominal Impedance	50		Ω	
LNA				
VSWR	2.0		-	
DC Input	3.0 ~ 5.0		V	
Gain	28 ± 3		dB	1545-1610MHz
Current Consumption	9 ± 3		mA	
Noise Figure	≤ 1.55		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	44 x 37 x 14 mm
Mounting Type (1)	Magnetic Mount
RF Connector (1)	SMA-J/SMA(Male)
Cable Type (1)	RG-174
Cable Length (1)	4M

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

Environmental Specification

Parameter	Specification
Operating Temperature	-40ºC to +85ºC
Storage Temperature	-40ºC to +85ºC
IP Rating (housing)	IP66
RoHS Compliance	Yes
Relative Humidity	Up to 95%

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Ordering Information

Part Number	Description	Connector Option
APAMPG-130	GPS/GLONASS/Galileo Active Patch Antenna with 4000 mm cable & SMA-J/SMA(Male) connector	SMA-J/SMA(Male)

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

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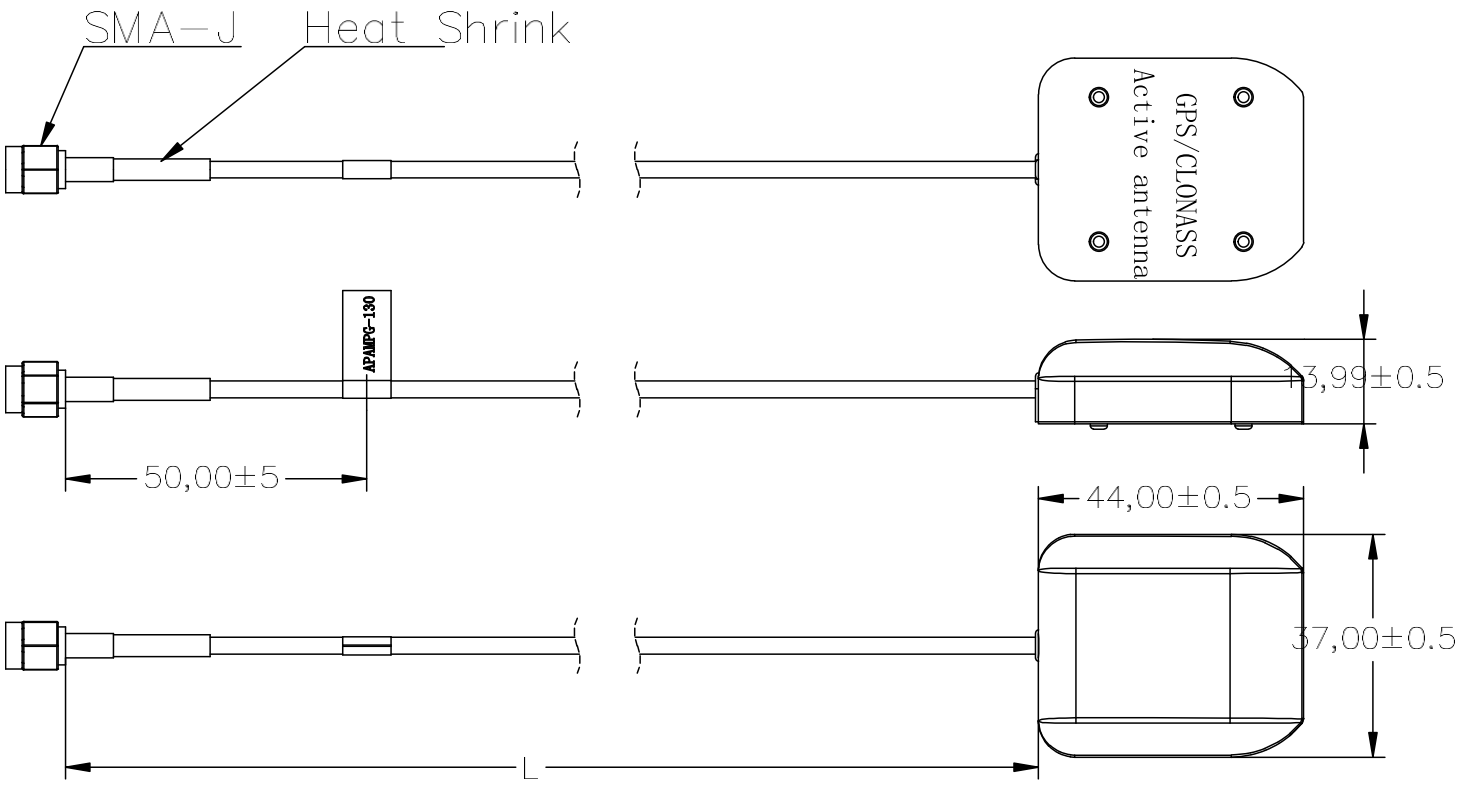


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Product Dimension



Unit: mm

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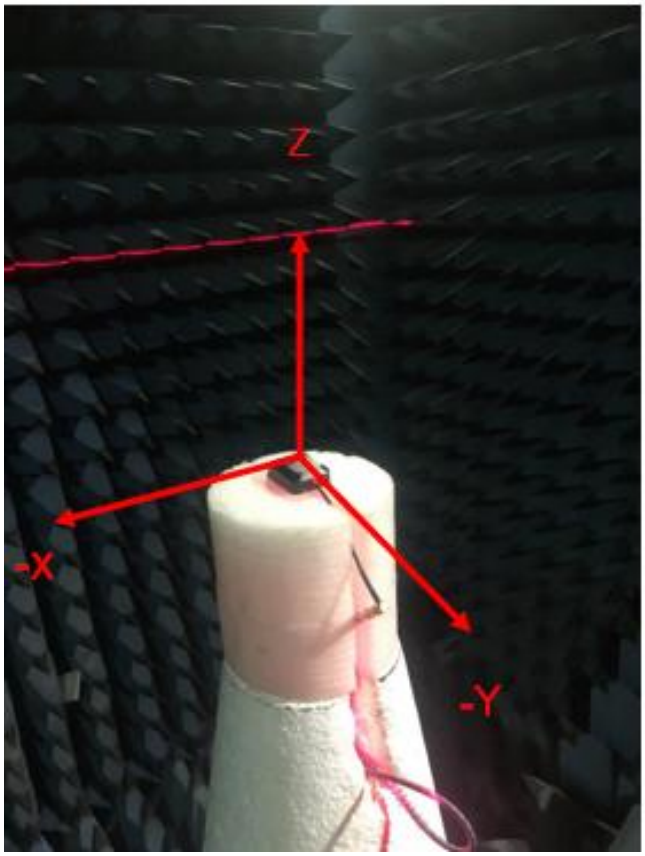


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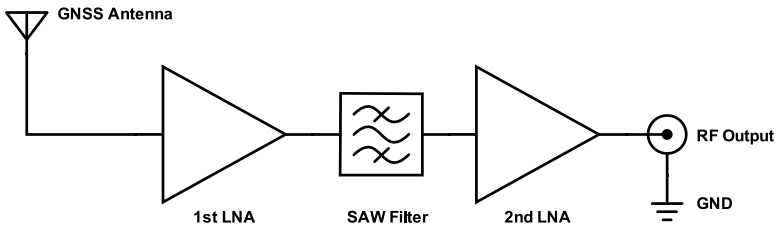
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Measurement Setup



GNSS Block Diagram



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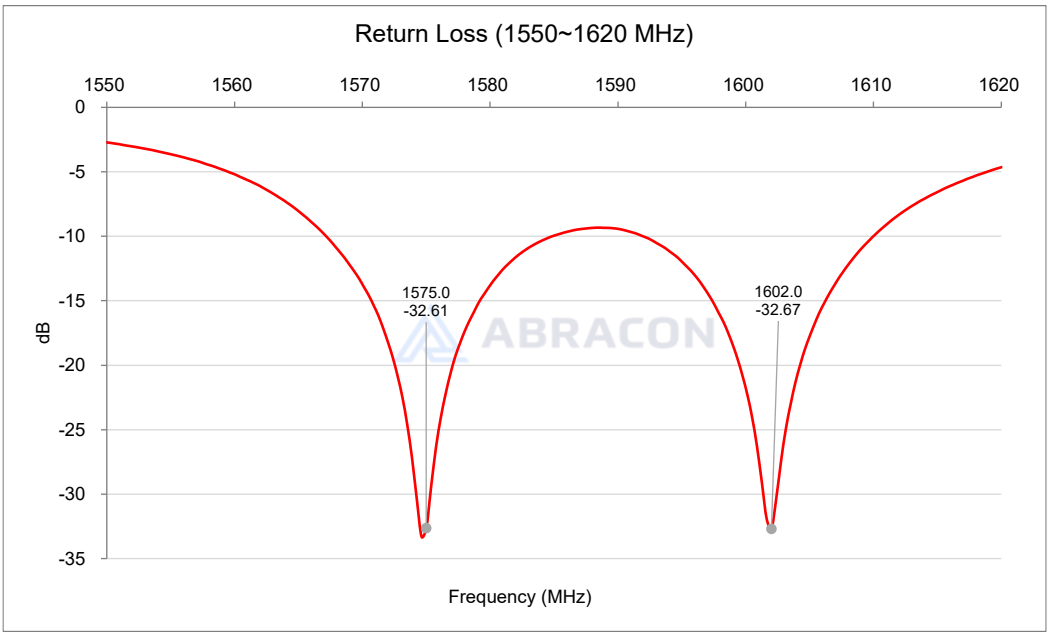


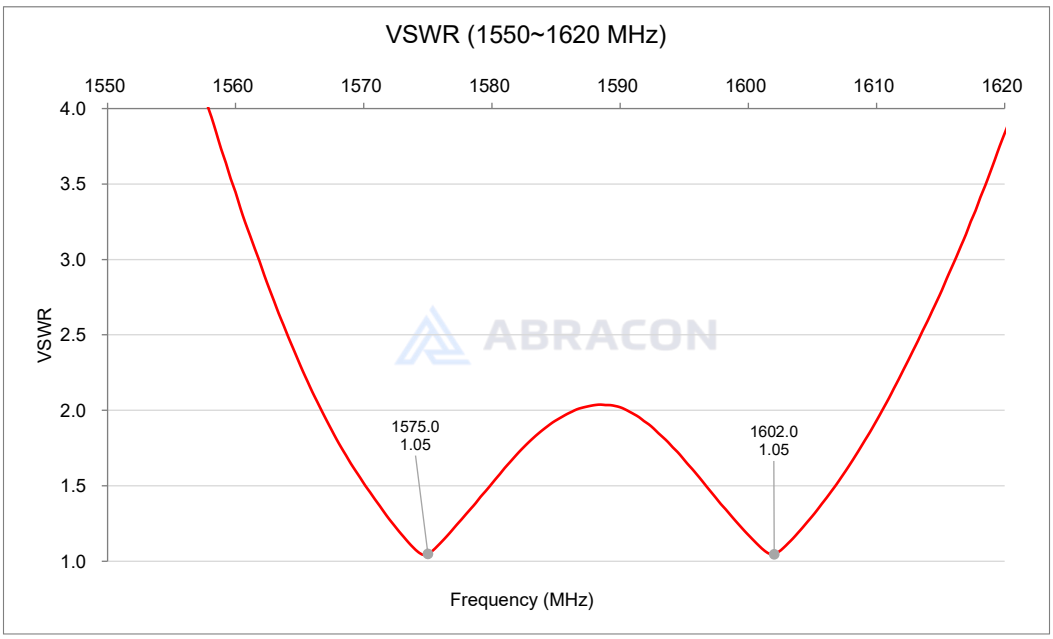
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Reflection Characteristics – Return Loss & VSWR





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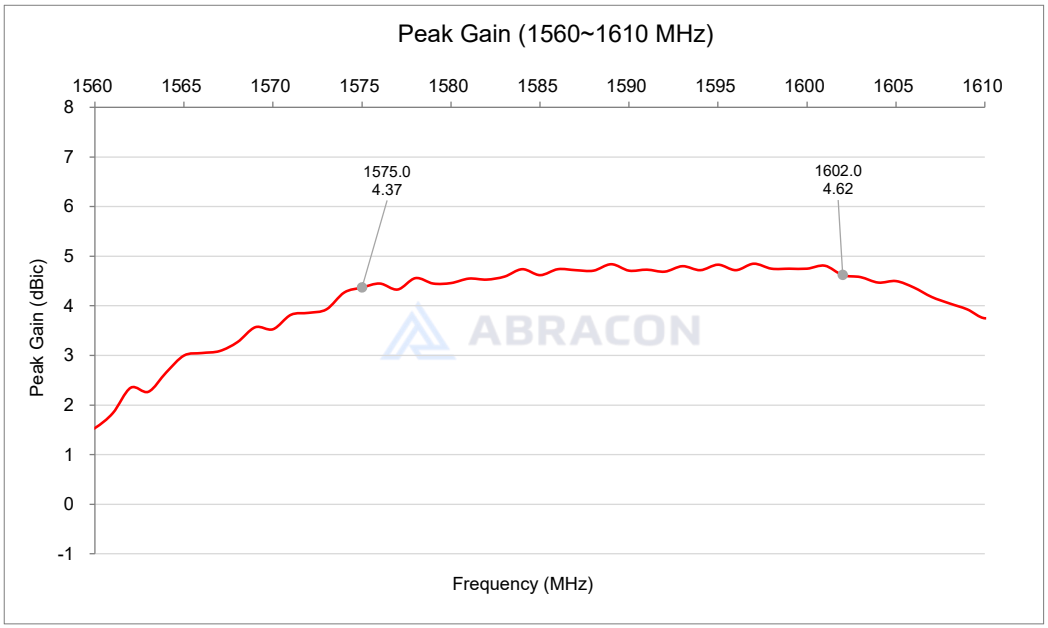


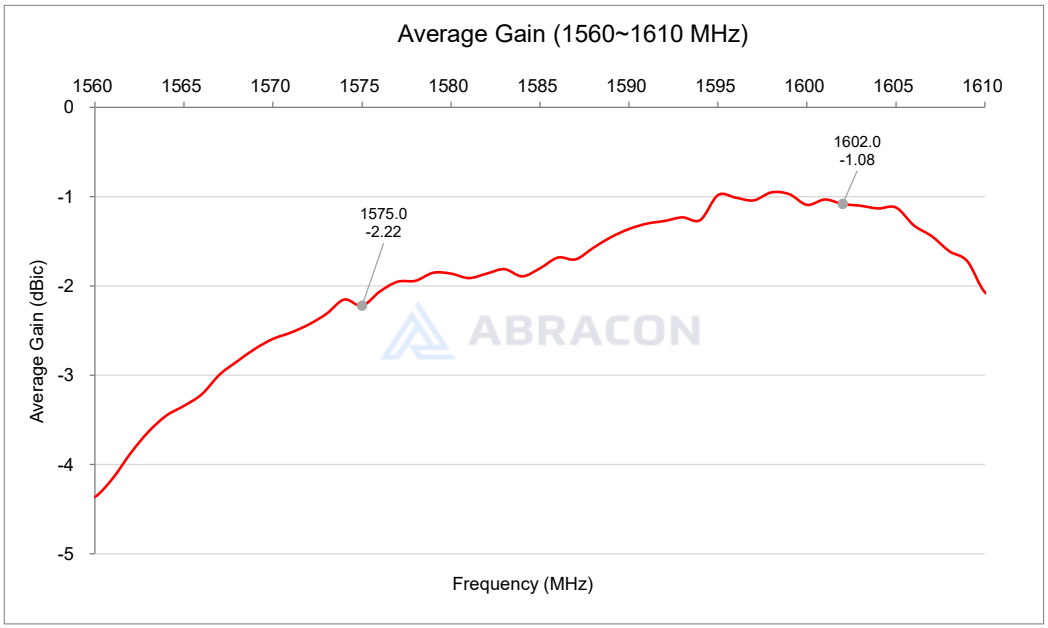
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44 x 37 x 14 mm
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Radiation Characteristics –Passive Gain





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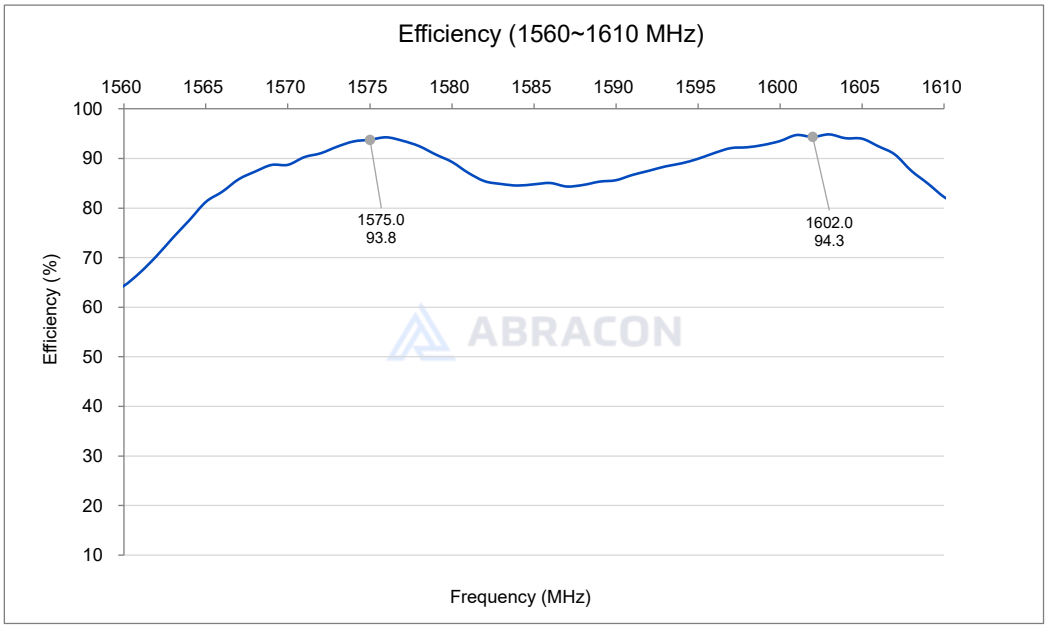


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Radiation Characteristics –Passive Efficiency



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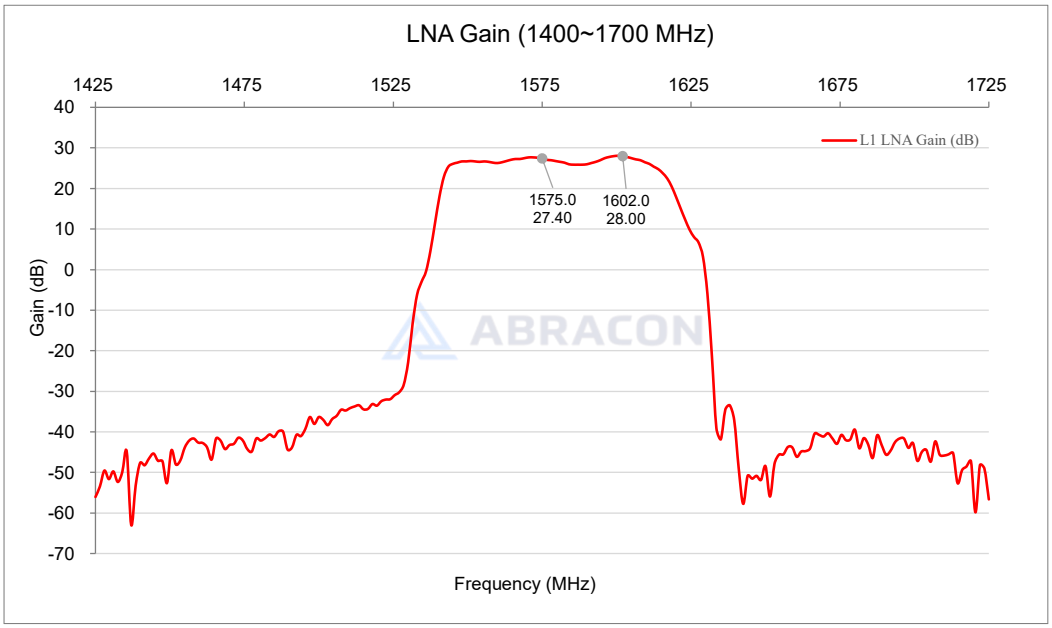


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RoHS Compliant
MSL Level = N/A

LNA Characteristics –LNA Gain



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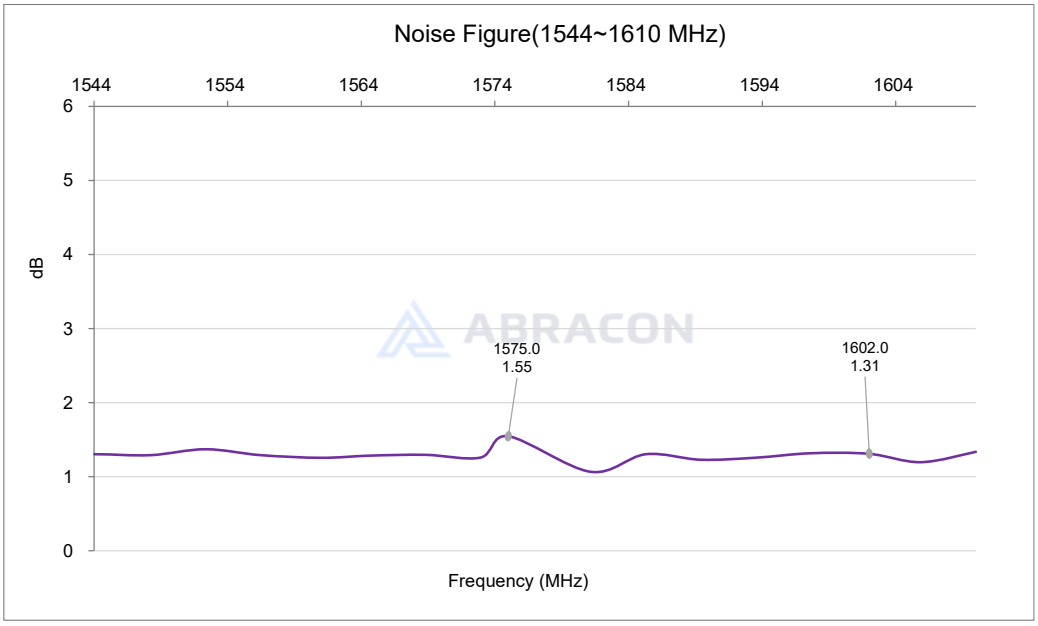


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LNA Characteristics –Noise Figure



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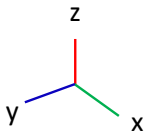
44 x 37 x 14 mm
RoHS Compliant
MSL Level = N/A

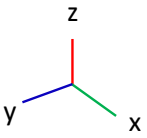
Radiation Characteristics – 3D & 2D Pattern

1575MHz

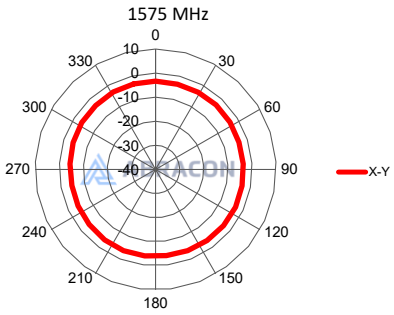




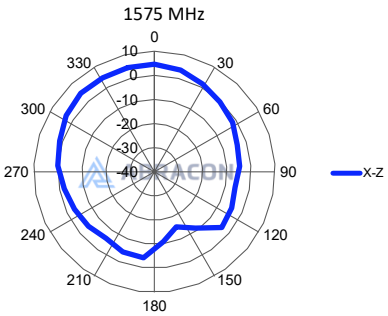




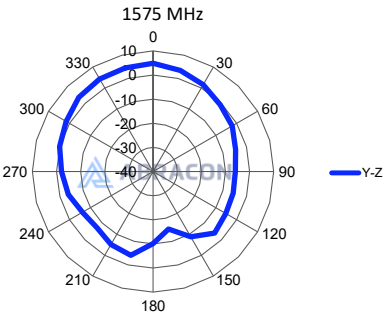
XY plane



XZ plane



YZ plane



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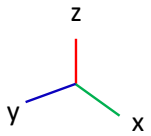
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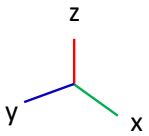
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1602MHz

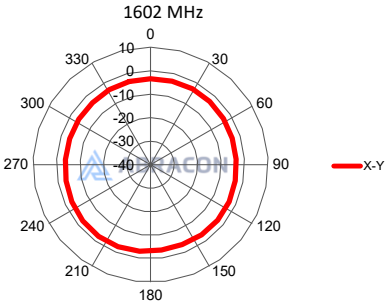




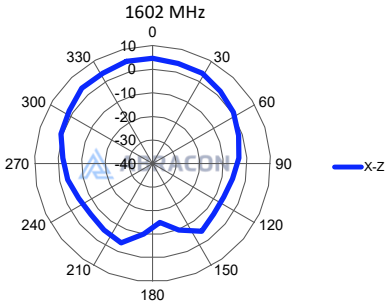




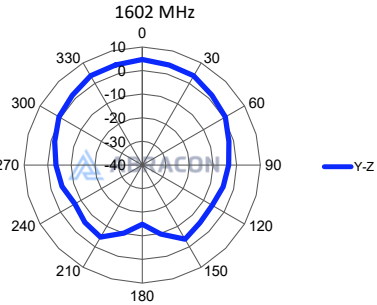
XY plane



XZ plane



YZ plane



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Packaging

100 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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