



AANI-AH-0152

Request Samples



Check Inventory



Ø 24 x 47 mm

RoHS Compliant

MSL Level = N/A

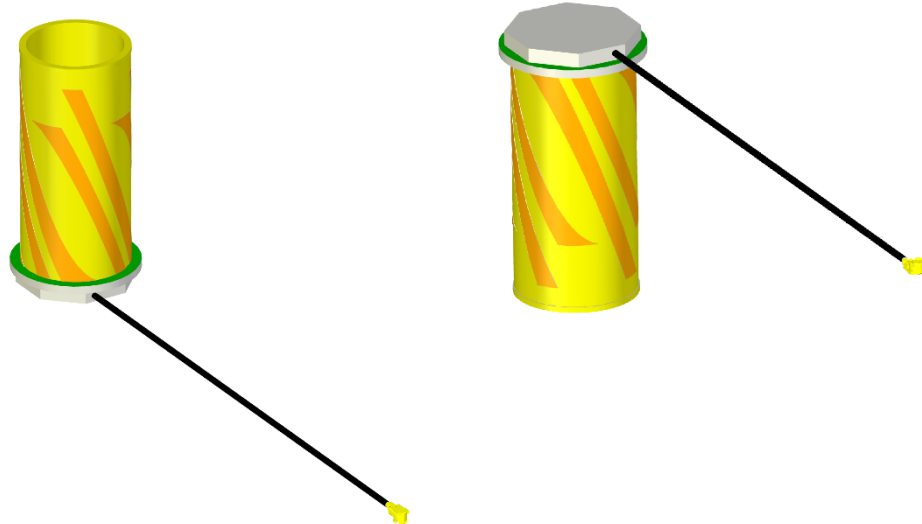
Features

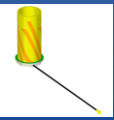
- Multiband Multi-Constellation Active GNSS Antenna
 - GPS: L1/L2
 - GLONASS: G1/G2
 - GALILEO: E1
 - BEIDOU: B1I/B1C/B2b
 - SBAS: L1
- Ultra-Lightweight (7g)
- High LNA Gain of 33 ± 2 dB with Low Noise Figure
- Broad Radiation Beamwidth
- Stable Phase Center for Centi-Meter Accuracy
- Robust Anti-Interference Capability (Pre-Filter Included)
- Customization Options Available to Meet Specific Needs

Applications

- UAVs and Drones
- Robotics and Autonomous Driving
- Real-Time Kinematic (RTK)
- Intelligent Transportation
- Precision Land Survey Positioning
- Precision Agriculture

Product Image





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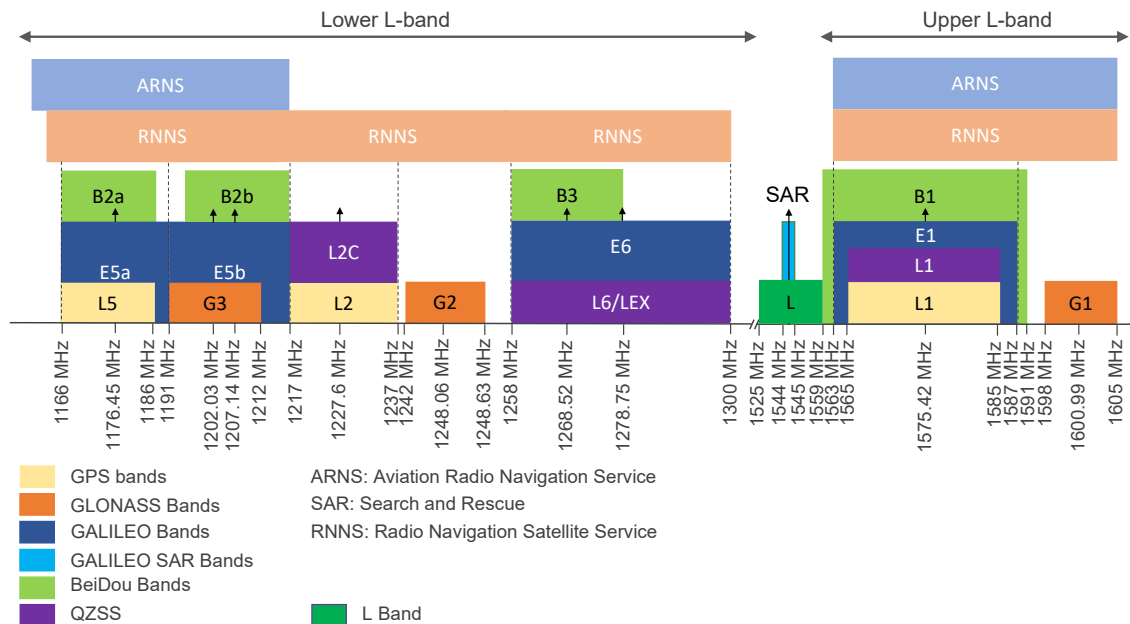
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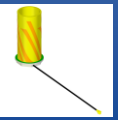
MSL Level = N/A

GNSS Frequency Bands Covered

System	Band	Frequency Range	Support
GPS	L1	1575.42MHz	■
	L2	1227.6MHz	■
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	B1C	1575.42MHz	■
	B2b	1207.14MHz	■
	B2a	1176.45MHz	□
	B3	1268.52MHz	□
	B1I	1561MHz	■
L-Band	L-Band	1542MHz	□
QZSS	L1	1575.42MHz	■
	L2	1227.6MHz	■
	L5	1176.45MHz	□
	L6	1278.75MHz	□
IRNSS/NAVIC	L5	1176.45MHz	□
	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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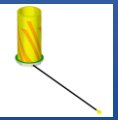
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MSL Level = N/A

Electrical Specification

Parameters		Typ.			Units	Note
Antenna						
Frequency		GPS: L1/L2 GLONASS: G1/G2 GALILEO: E1 BEIDOU: B1I/B2b/B2c QZSS: L1/L2 SBAS: L1				
VSWR		≤ 2			-	
Polarization		RHCP			-	(Right Hand Circular Polarization)
Nominal Impedance		50			Ω	
Gain RHCP (maximum)	1575.42MHz (L1)	4.9			dBic	
	1227.60MHz (L2)	4.4				
Axial Ratio	1575.42MHz (L1)	0.7			dB	
	1227.60MHz (L2)	0.6				
PCO	L1	27.5			mm	
	L2	27.5				
PCV		< 1.5			mm	
LNA						
Noise Figure		≤ 1.5			dB	
Gain		33 ± 2			dB	
VSWR		≤ 2.0			-	
Group Delay Ripple		≤ 15			ns	
Operating Voltage		3.3	5	12	V	
Current Consumption		34	34	34	mA	

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	Ø 24 x 47 mm
Weight	7g
RF Connector	I-PEX MHF® I (fully customizable)
RF Cable Type	Ø 1.13mm
Cable Length	Ø100 ± 2 mm (fully customizable)

Environmental Specification

Parameter	Specification
Operating Temperature	-40°C to +85°C
Storage Temperature	-40°C to +85°C
RoHS Compliance	Yes
ESD Circuit Protection	15kV Air Discharge
Relative Humidity	Up to 95%

L1/L2 GNSS Embedded Quad Helix Antenna



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Ordering Information

Part Number	Description	Connector Option
AANI-AH-0152-1	L1/L2 GNSS Embedded Quad Helix Antenna with 100 mm cable & MHF1 connector	MHF1
AANI-AH-0152-2	L1/L2 GNSS Embedded Quad Helix Antenna with 100 mm cable & MMCX connector	MMCX
AANI-AH-0152-3	L1/L2 GNSS Embedded Quad Helix Antenna with 100 mm cable & SMA connector	SMA

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



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ABRACON IS
ISO9001-2015
CERTIFIED

L1/L2 GNSS Embedded Quad Helix Antenna



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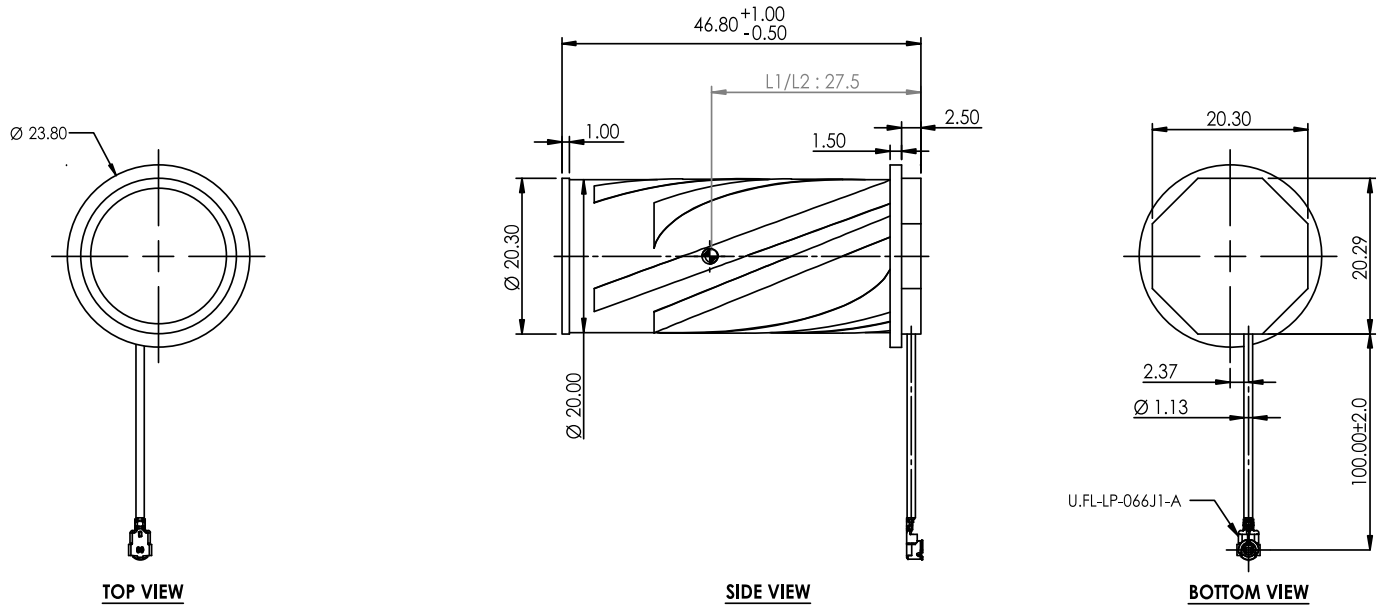
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Product Dimension

AANI-AH-0152-1



TOP VIEW

SIDE VIEW

BOTTOM VIEW

Antenna phase center offset: L1/L2:27.5mm

Unit: mm



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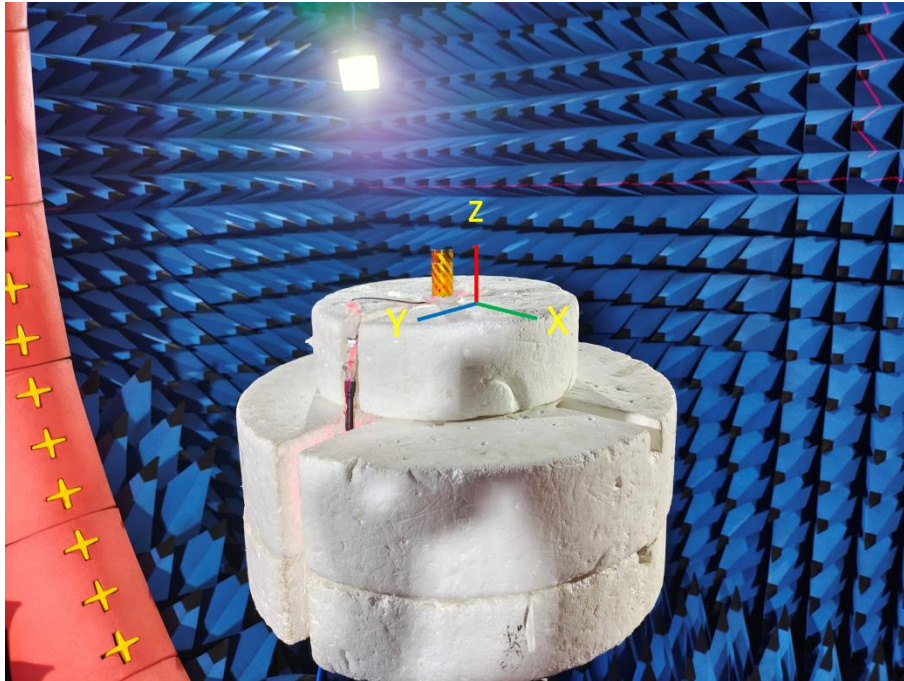


Ø 24 x 47 mm

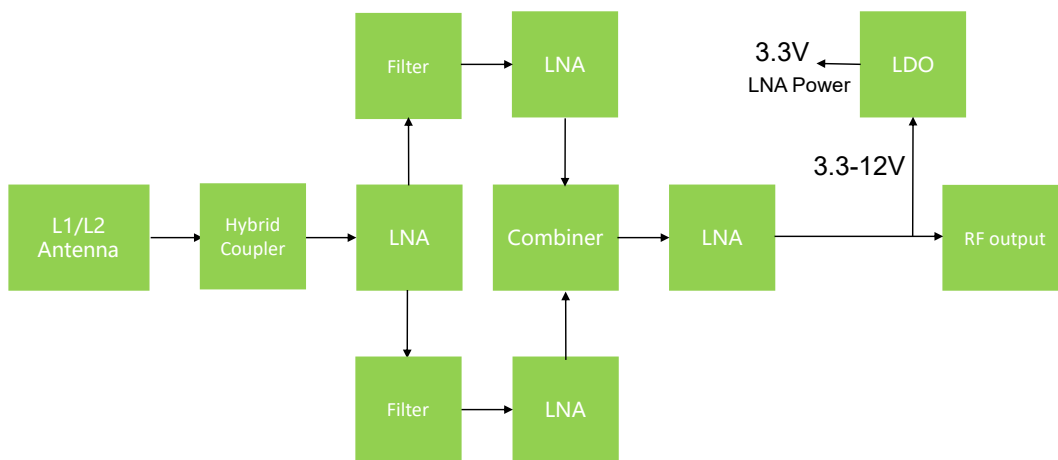
RoHS Compliant

MSL Level = N/A

Measurement Setup



GNSS Block Diagram





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Request Samples

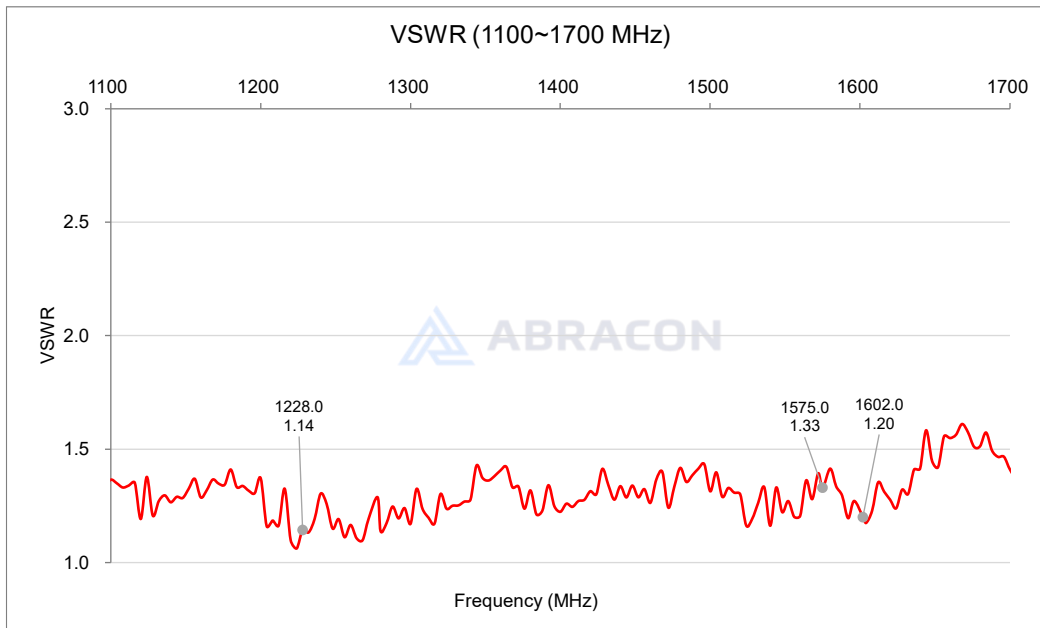
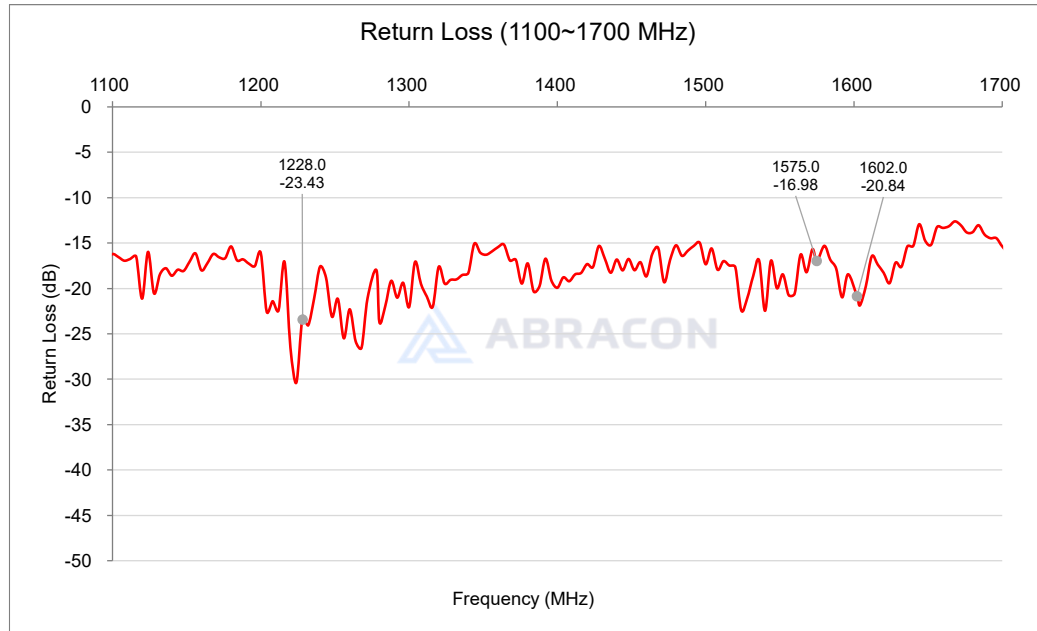


Check Inventory



Ø 24 x 47 mm
RoHS Compliant
MSL Level = N/A

Reflection Characteristics – Return Loss & VSWR





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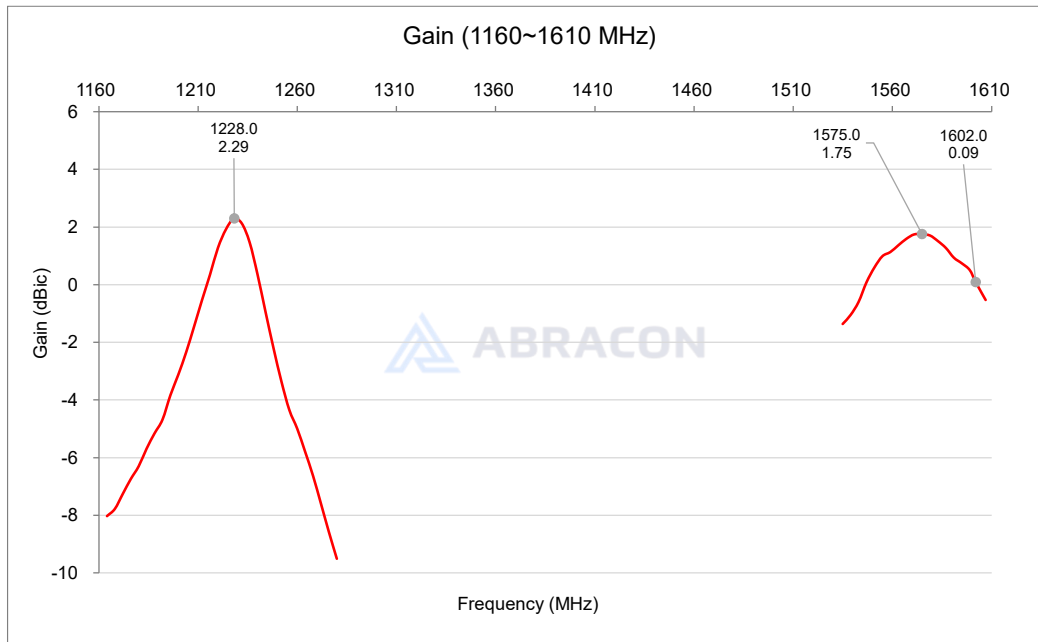


Ø 24 x 47 mm

RoHS Compliant

MSL Level = N/A

Radiation Characteristics –Passive Peak Gain





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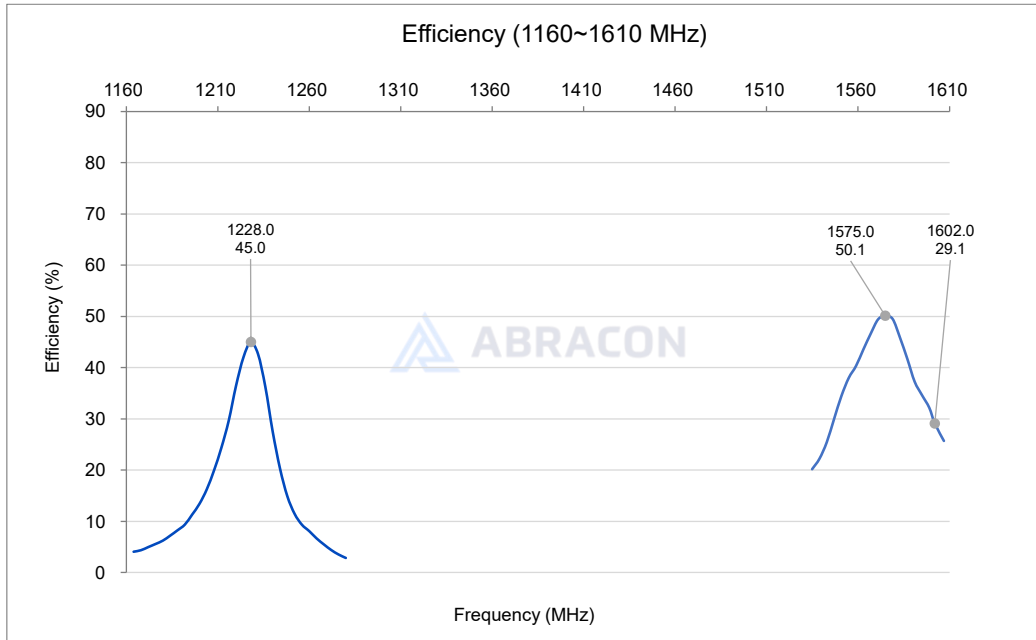


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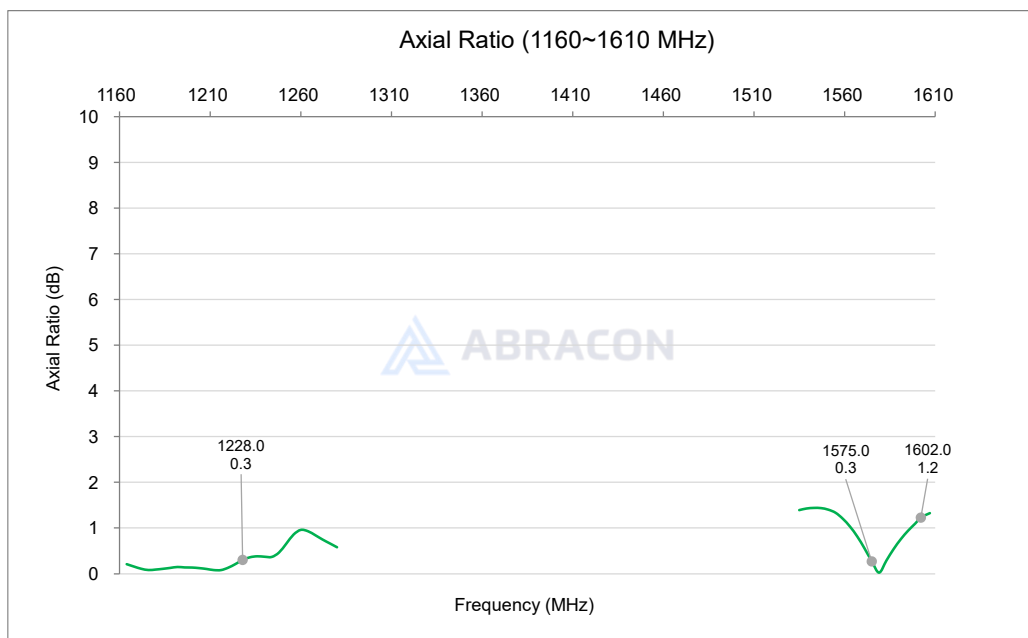


Ø 24 x 47 mm
RoHS Compliant
MSL Level = N/A

Radiation Characteristics –Efficiency



Axial Ratio





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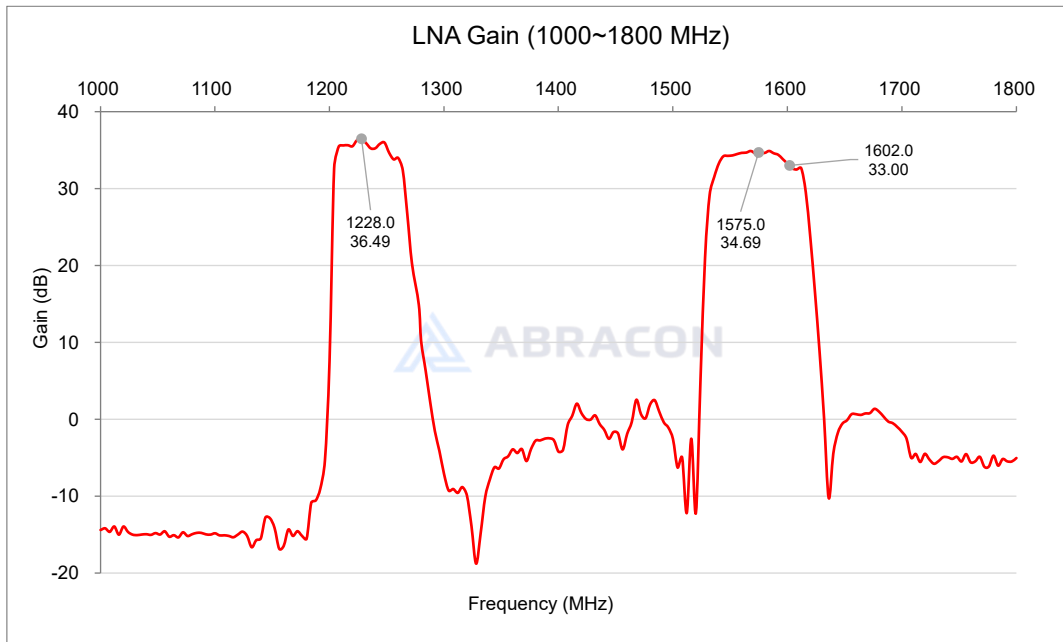


Ø 24 x 47 mm

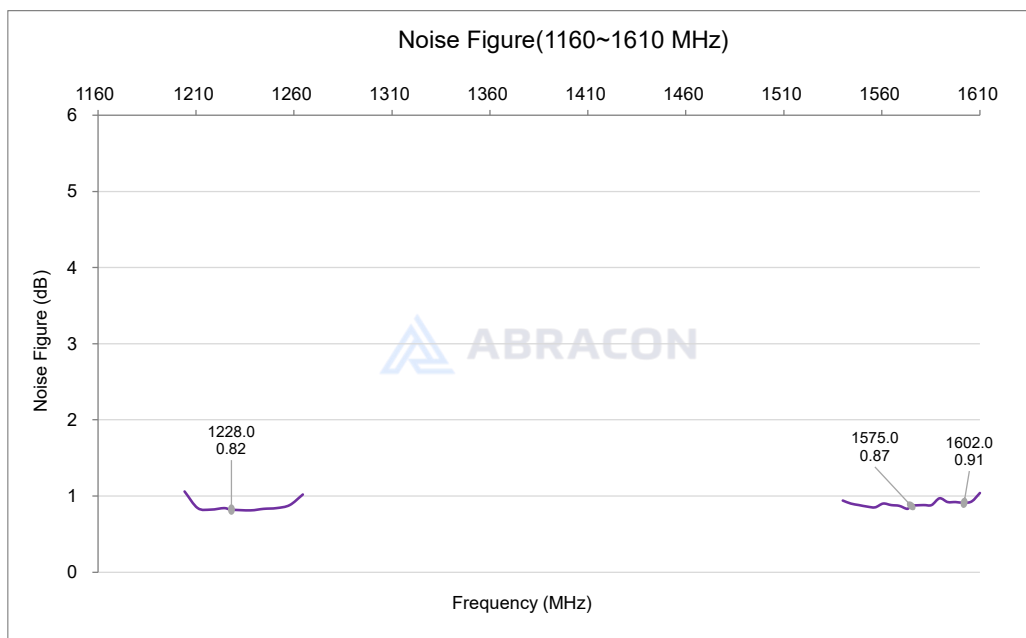
RoHS Compliant

MSL Level = N/A

Radiation Characteristics –LNA Gain



Noise Figure





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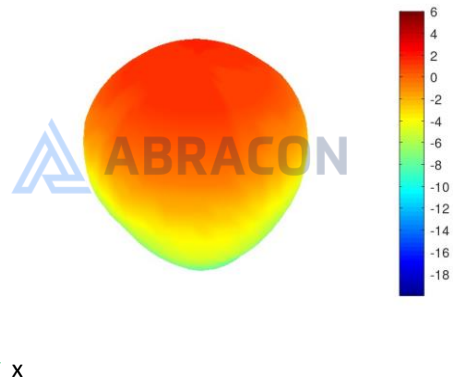
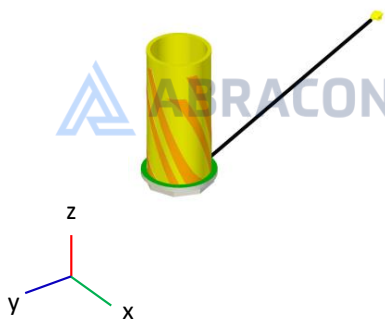
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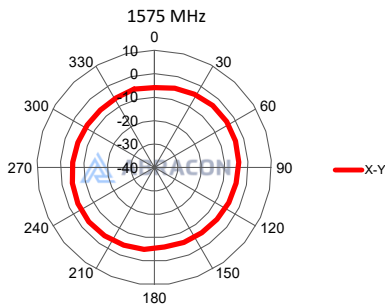
MSL Level = N/A

Radiation Characteristics – 3D & 2D Pattern

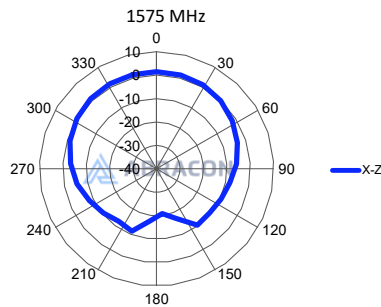
1575MHz (L1 Band)



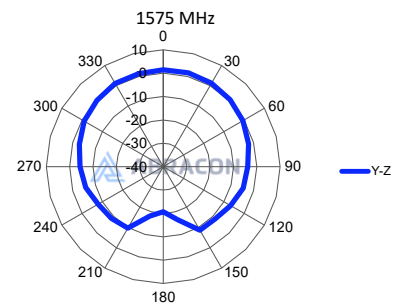
XY plane



XZ plane



YZ plane



L1/L2 GNSS Embedded Quad Helix Antenna



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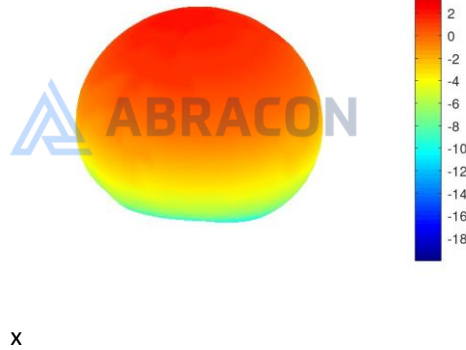
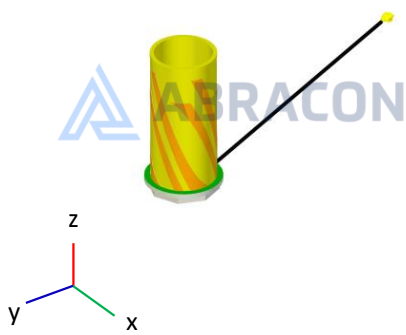


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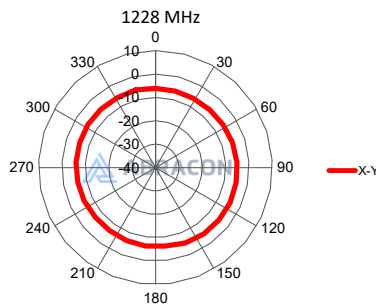
RoHS Compliant

MSL Level = N/A

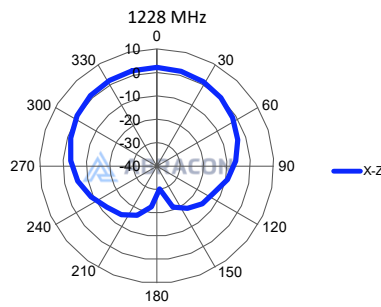
1228MHz (L2 Band)



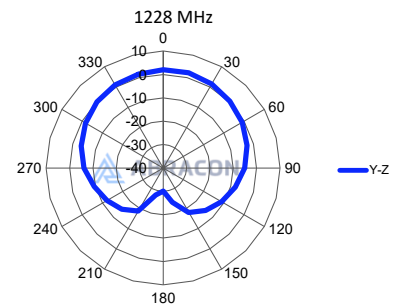
XY plane



XZ plane



YZ plane



L1/L2 GNSS Embedded Quad Helix Antenna



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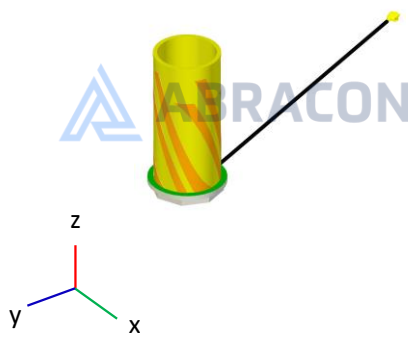


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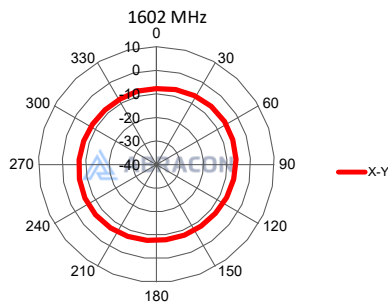
RoHS Compliant

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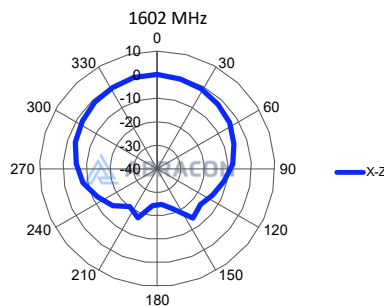
1602MHz (G1 Band)



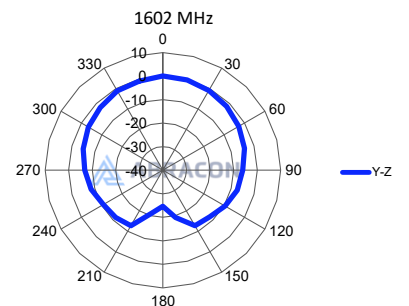
XY plane

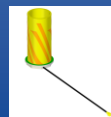


XZ plane



YZ plane





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Packaging

50 pcs antennas per carton

Dimensions: 445 x 330 x 196 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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