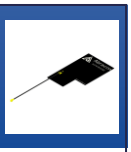
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Full-Band Full-Constellation GNSS FPC Antenna



AANI-FB-0180

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76 x 47 x 0.2 mm
RoHS Compliant
MSL Level = N/A

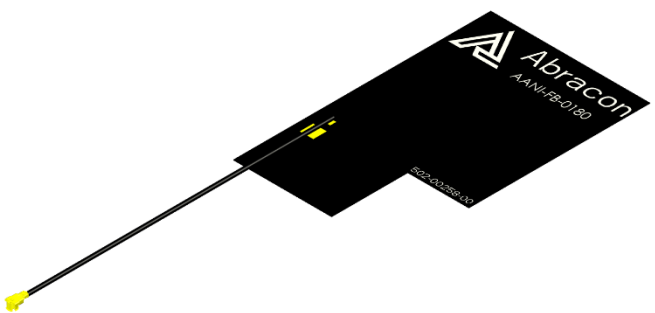
Features

- Multiband Multi-Constellation Passive GNSS Antenna
- GNSS Peak Gain: 4.4 dBi
- GNSS Efficiency: 87 %
- Ground Plane Independent
- Flexible to Fit Inside Plastic Enclosures
- Fully Customizable Cable Length and Connector Options

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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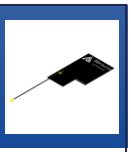
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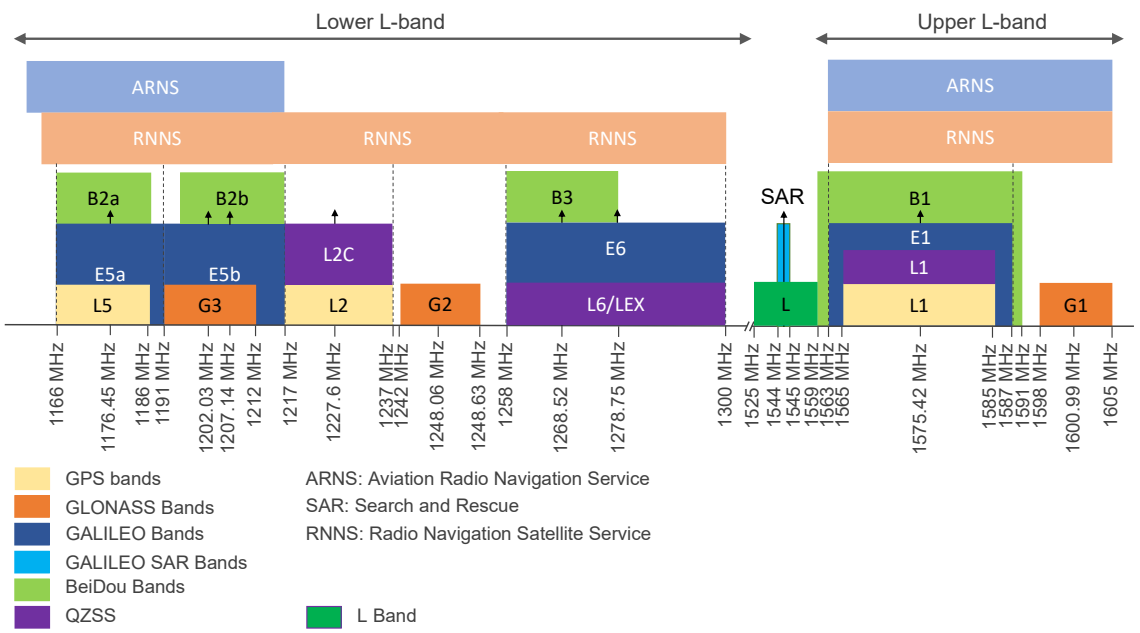


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76 x 47 x 0.2 mm
RoHS Compliant
MSL Level = N/A

NSS 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	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		
			■		
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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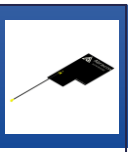
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AANI-FB-0180

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76 x 47 x 0.2 mm
RoHS Compliant
MSL Level = N/A

Electrical Specification

Parameters		Typ.				Units
Operating Frequency (Band)	1166.22-1186.68 (L5)	1212-1242 (L2)	1257.75-1299.75 (L6)	1565.19-1585.65 (L1)	1598.06-1605.37 (G1)	MHz
VSWR	≤ 2					-
Peak Gain	2.9	4.4	4.1	3.4	3.8	dBi
Maximum Efficiency	65.2	87	80.6	63.1	68.4	%
Impedance	50					Ω
Polarization	Linear					-
Radiation Pattern (Azimuth)	Omni-directional					-
Maximum Input Power	5					W

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

Mechanical Specification

Parameter	Specification
Antenna Dimension	76 x 47 x 0.2 mm
Antenna Type	Flexible PCB
Mounting Type	Adhesive Mount
RF Connector (1)	u.FL/IPEX-1/MHF1
RF Cable Type (1)	Ø1.13 mm
Cable Length (1)	70 ± 2 mm

(1): Fully customizable RF Cable & Connector

Environmental Specification

Parameter	Specification
Operating Temperature	-40°C to +85°C
Storage Temperature	-40°C to +85°C
RoHS Compliance	Yes

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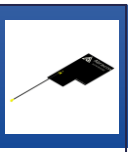
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AANI-FB-0180

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76 x 47 x 0.2 mm
RoHS Compliant
MSL Level = N/A

Ordering Information

Part Number	Description	Connector Option
AANI-FB-0180-1	Full-Band Full-Constellation GNSS FPC Antenna 70 mm cable, and MHF1 connector	u.FL/IPEX-1/MHF1
AANI-FB-0180-2	Full-Band Full-Constellation GNSS FPC Antenna 70 mm cable, and MMCX connector	MMCX
AANI-FB-0180-3	Full-Band Full-Constellation GNSS FPC Antenna 70 mm cable, and SMA connector	SMA
AANI-FB-0180-4	Full-Band Full-Constellation GNSS FPC Antenna 150 mm cable, and MHF1 connector	u.FL/IPEX-1/MHF1
AANI-FB-0180-5	Full-Band Full-Constellation GNSS FPC Antenna 150 mm cable, and MMCX connector	MMCX
AANI-FB-0180-6	Full-Band Full-Constellation GNSS FPC Antenna 150 mm cable, and SMA connector	SMA
AANI-FB-0180-7	Full-Band Full-Constellation GNSS FPC Antenna 200 mm cable, and MHF1 connector	u.FL/IPEX-1/MHF1
AANI-FB-0180-8	Full-Band Full-Constellation GNSS FPC Antenna 200 mm cable, and MMCX connector	MMCX
AANI-FB-0180-9	Full-Band Full-Constellation GNSS FPC Antenna 200 mm cable, and 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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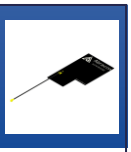
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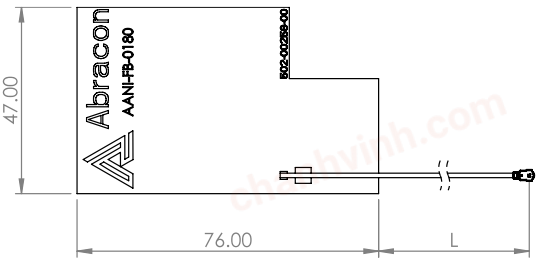


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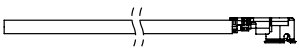
76 x 47 x 0.2 mm
RoHS Compliant
MSL Level = N/A

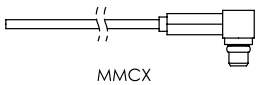
Product Dimension

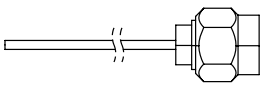


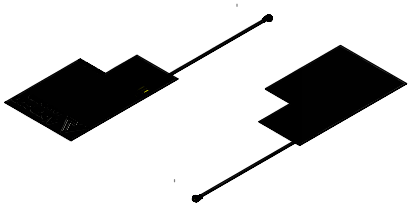
TOP VIEW

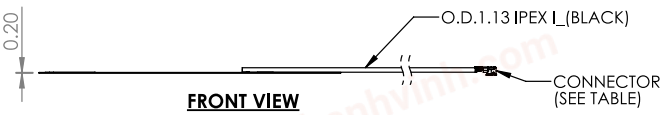
CONNECTOR





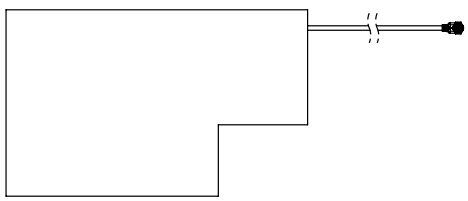






FRONT VIEW

PART NUMBER	CABLE LENGTH (L)	CONNECTOR
AANI-FB-0180-1	70	U.FL/IPEX-1/MHF1
AANI-FB-0180-2	70	MMCX
AANI-FB-0180-3	70	SMA
AANI-FB-0180-4	150	U.FL/IPEX-1/MHF1
AANI-FB-0180-5	150	MMCX
AANI-FB-0180-6	150	SMA
AANI-FB-0180-7	200	U.FL/IPEX-1/MHF1
AANI-FB-0180-8	200	MMCX
AANI-FB-0180-9	200	SMA



BOTTOM VIEW

Unit: mm

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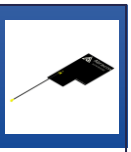
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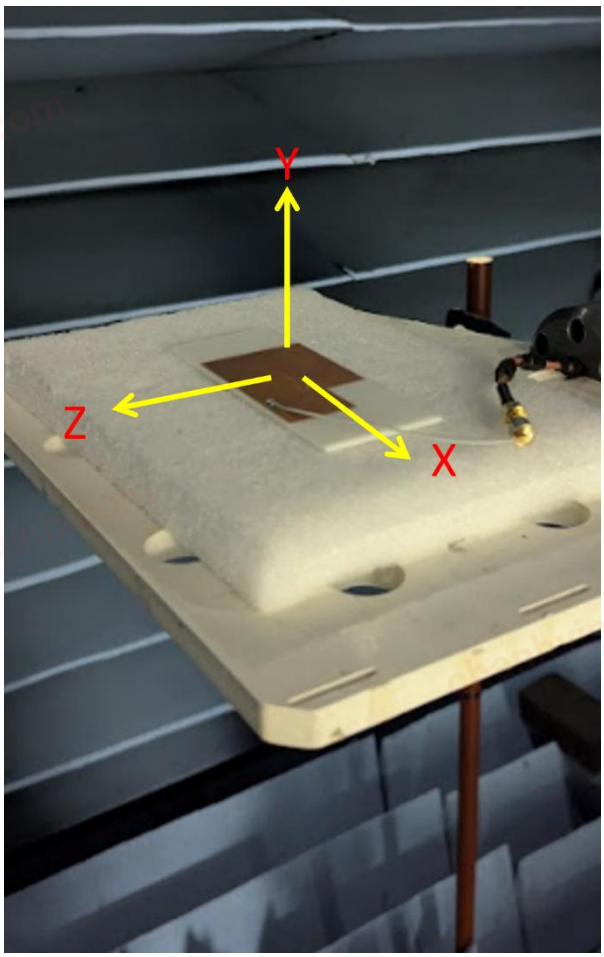


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76 x 47 x 0.2 mm
RoHS Compliant
MSL Level = N/A

Measurement Setup



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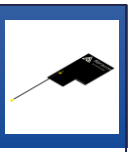
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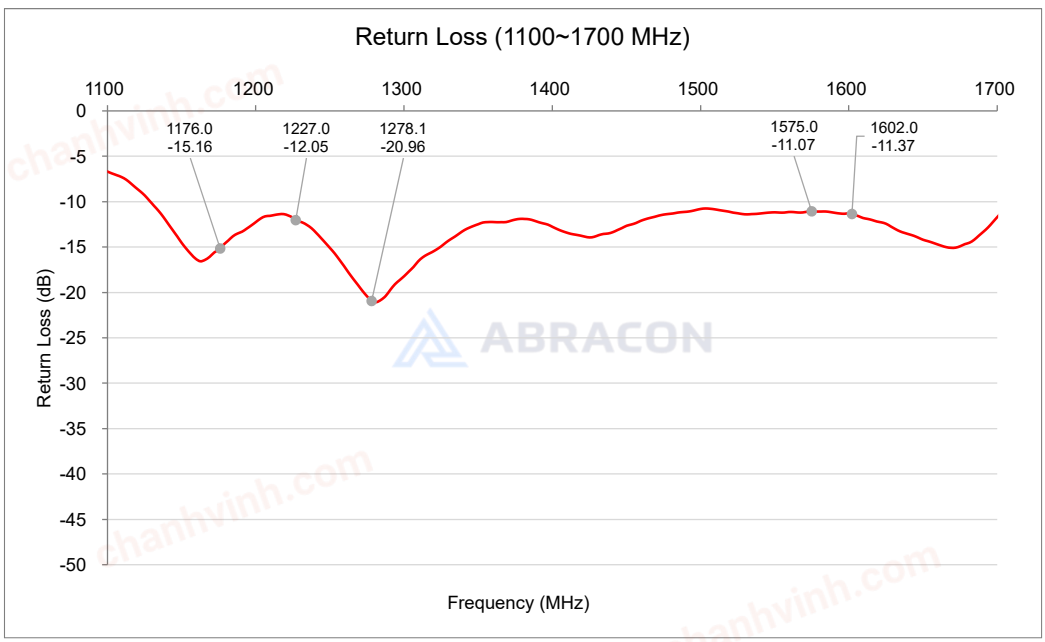


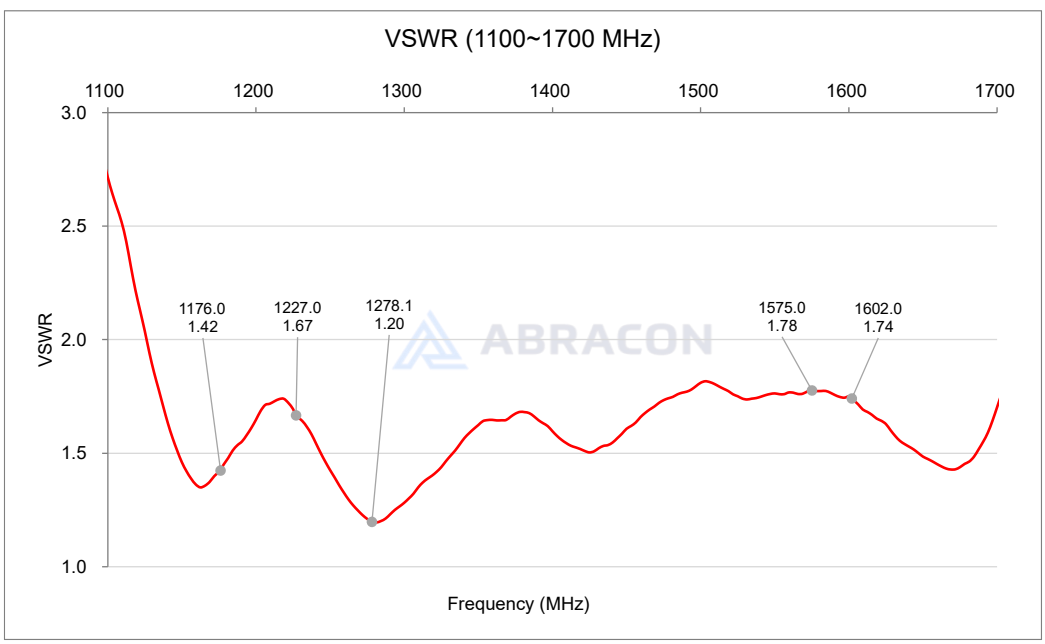
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76 x 47 x 0.2 mm
RoHS Compliant
MSL Level = N/A

Reflection Characteristics – Return Loss & VSWR





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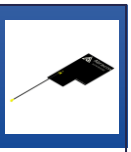
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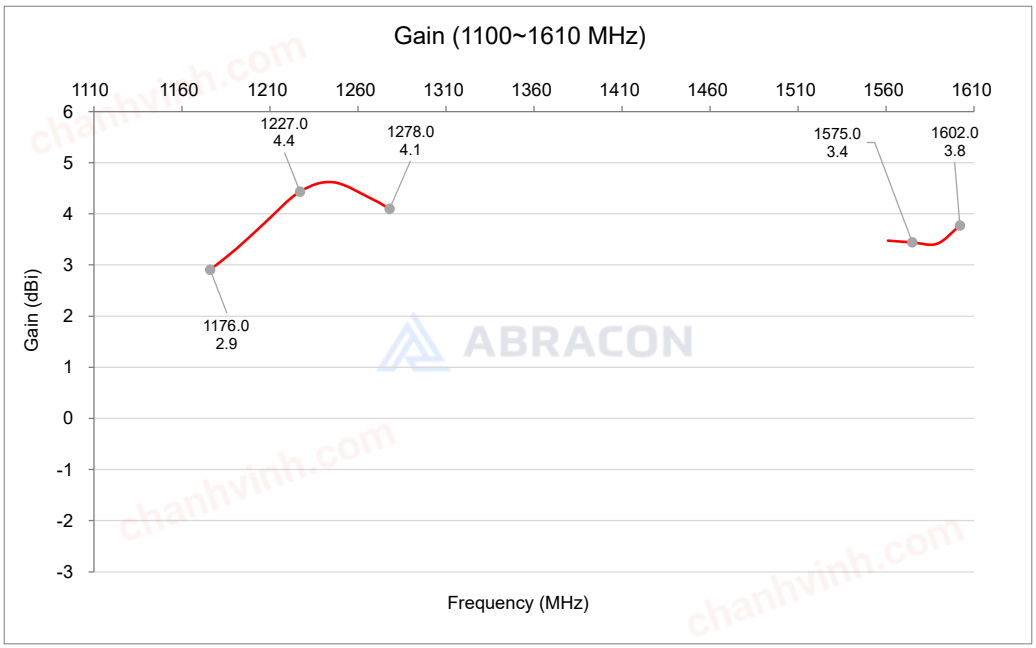


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76 x 47 x 0.2 mm
RoHS Compliant
MSL Level = N/A

Radiation Characteristics –Passive Peak Gain



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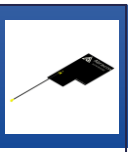
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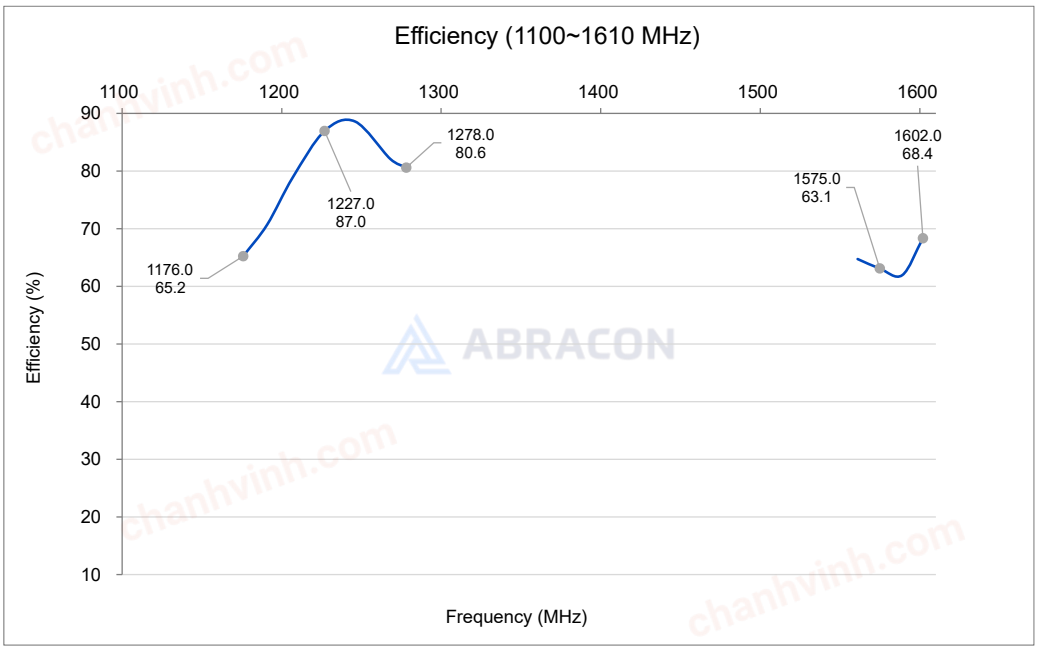


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76 x 47 x 0.2 mm
RoHS Compliant
MSL Level = N/A

Radiation Characteristics –Efficiency



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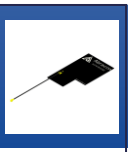
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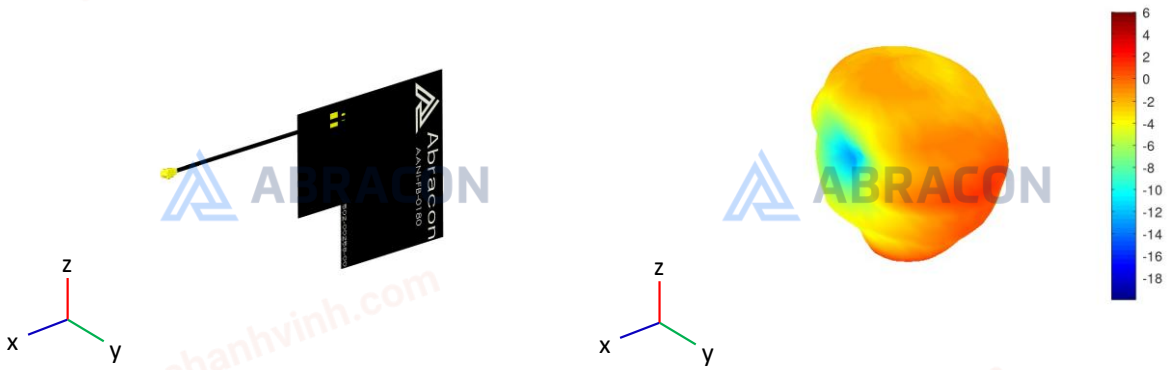
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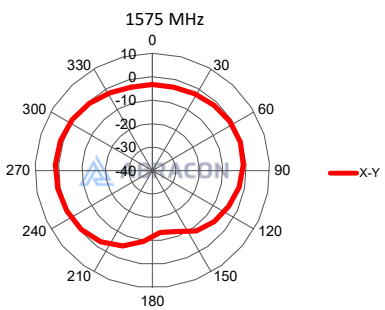
76 x 47 x 0.2 mm
RoHS Compliant
MSL Level = N/A

Radiation Characteristics – 3D & 2D Pattern

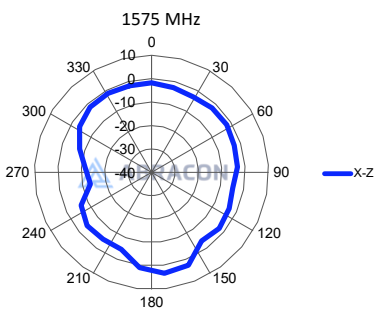
1575MHz (L1 Band)



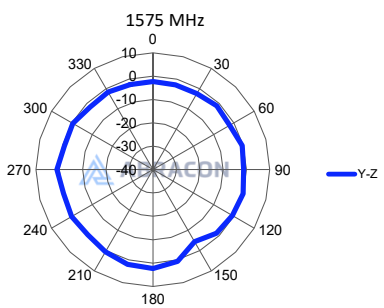
XY plane



XZ plane



YZ plane



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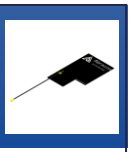
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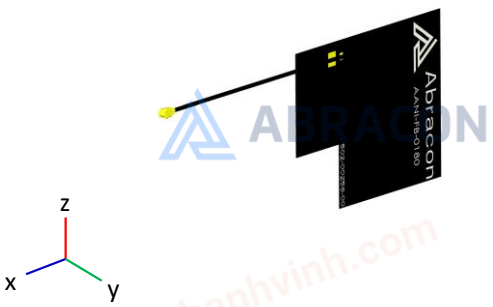


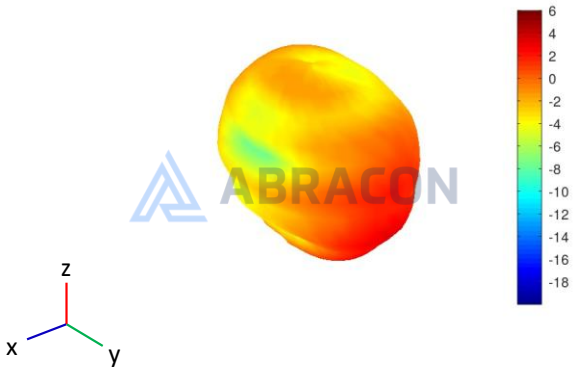
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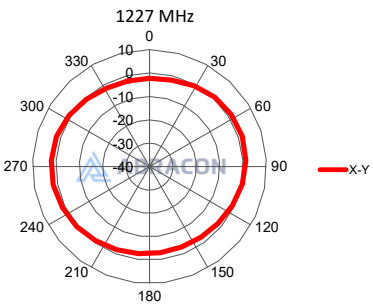
76 x 47 x 0.2 mm
RoHS Compliant
MSL Level = N/A

1227MHz (L2 Band)

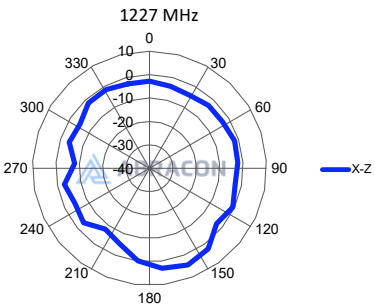




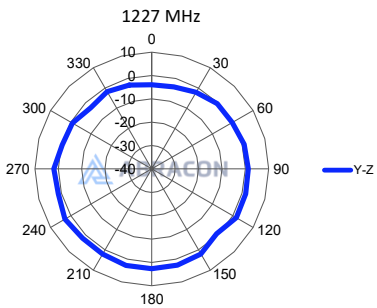
XY plane



XZ plane



YZ plane



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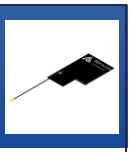
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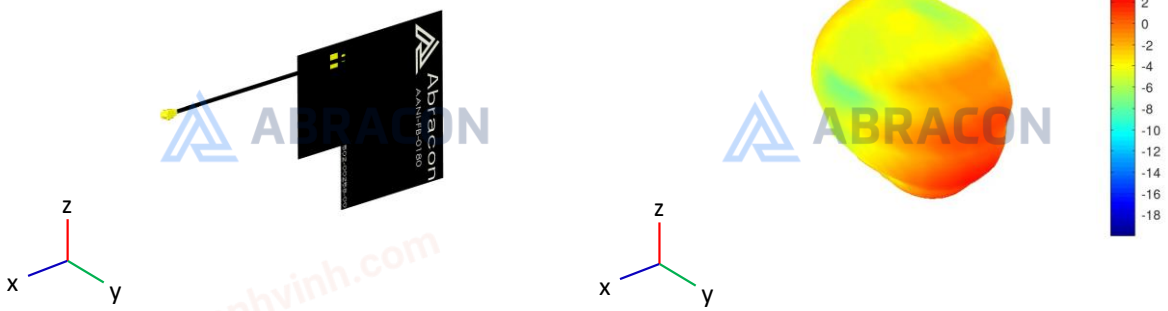


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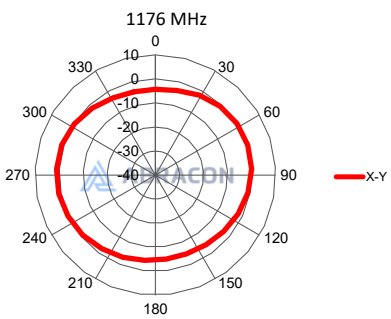
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76 x 47 x 0.2 mm
RoHS Compliant
MSL Level = N/A

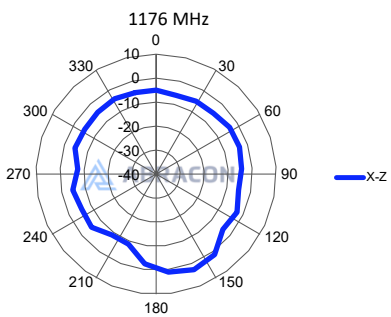
1176MHz (L5 Band)



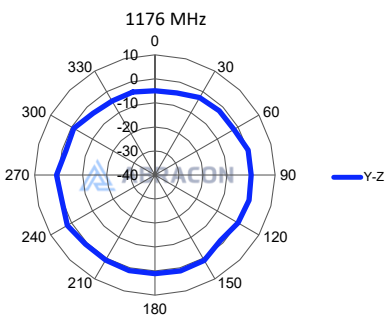
XY plane



XZ plane



YZ plane



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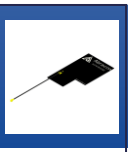
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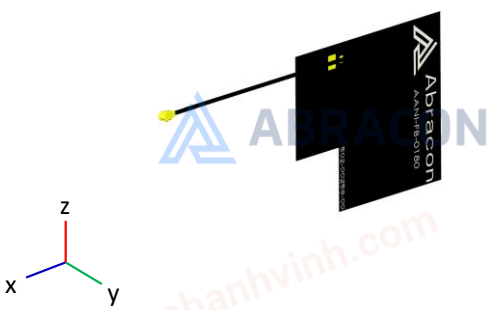


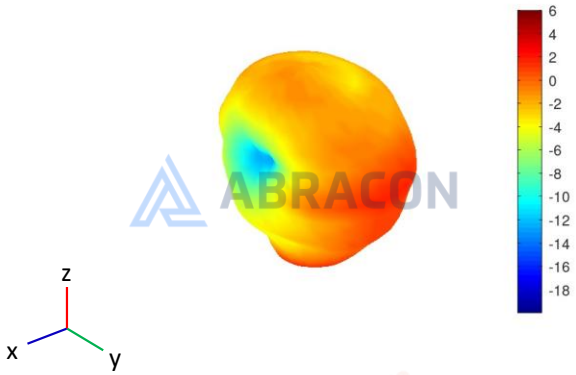
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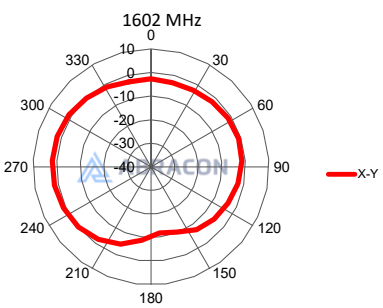
76 x 47 x 0.2 mm
RoHS Compliant
MSL Level = N/A

1602MHz (G1 Band)

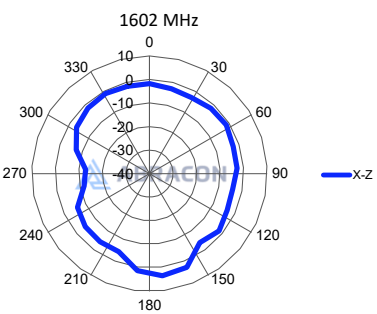




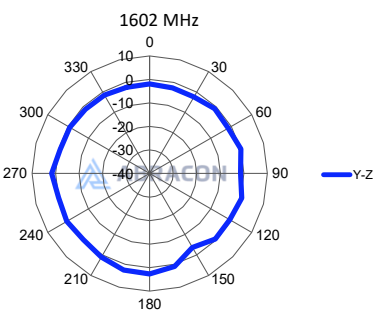
XY plane



XZ plane



YZ plane



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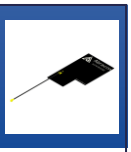
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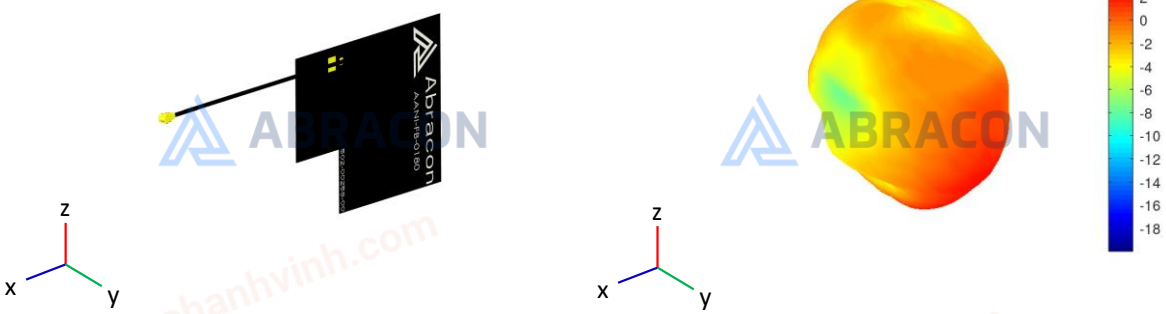


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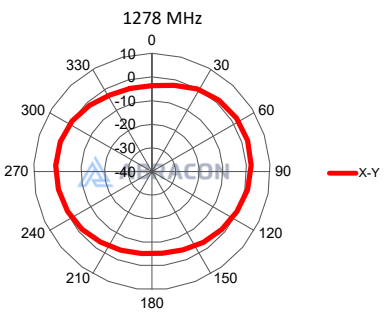
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76 x 47 x 0.2 mm
RoHS Compliant
MSL Level = N/A

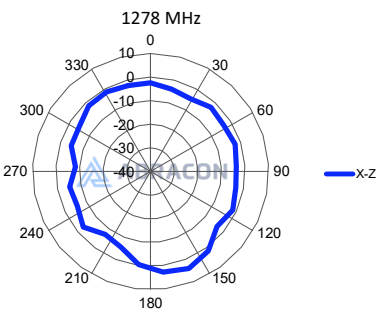
1278MHz (L6 Band)



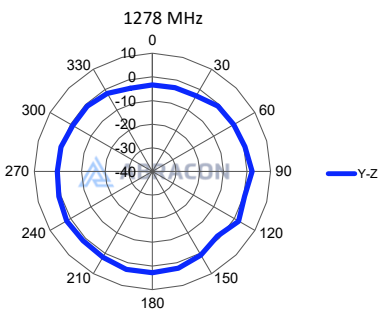
XY plane



XZ plane



YZ plane



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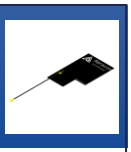
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76 x 47 x 0.2 mm
RoHS Compliant
MSL Level = N/A

Packaging

1. Number of Antenna/ bags: 50 pcs
2. Total Pcs / package: 1000 pcs

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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