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5G/4G + GNSS Combo Flexible PCB Antenna



AANI-FB-0179

Request Samples | Check Inventory

119 x 19 x 0.2 mm
RoHS/RoHS II Compliant
MSL Level = N/A

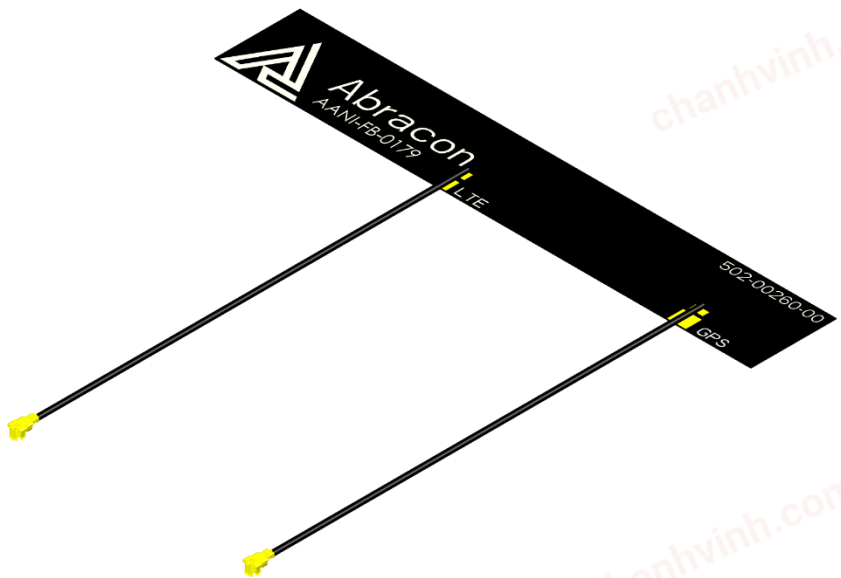
Features

- Cellular Frequency: 698-960/1710-2690/3300-5925 MHz
- GNSS Frequency Range: 1565-1612 MHz
- Cellular / GNSS Peak Gain: 5.7 / 0.9 dBi
- Cellular / GNSS Efficiency: 73 / 30 %
- Ground Plane Independent
- Flexible to Fit Inside Plastic Enclosures
- Fully Customizable Cable Length and Connector Options

Applications

- Internet of Things (IoT) Devices
- LTE-M, Cat M, Cat M1, NB-IoT
- LTE CAT 1 up to CAT 20 Supported
- CBRS and 5G bands Supported
- Smart Home Networking
- Networking & Telecommunication

Product Image



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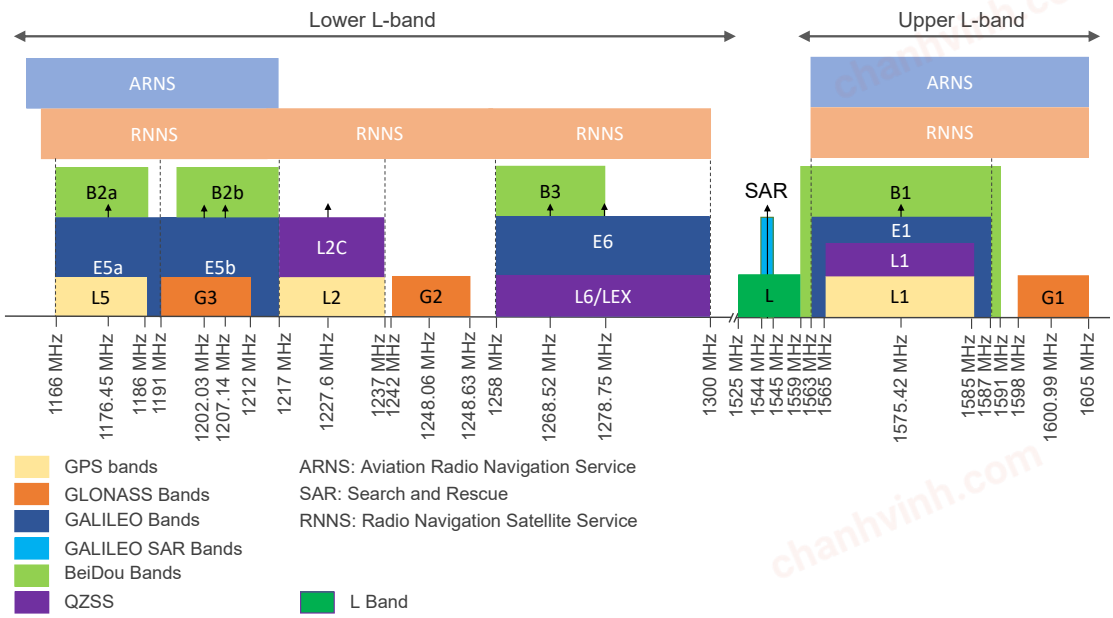


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GNSS Frequency Bands Covered				
GPS	L1 1575.42MHz	L2 1227.6MHz	L5 1176.45MHz	
	■	□	□	
GLONASS	G1 1598.06-1609.31MHz	G2 1242.93-1251.68MHz	G3 1202.025MHz	
	■	□	□	
Galileo	E1 1575.42MHz	E5a 1176.45MHz	E5b 1201.5MHz	E6 1278.75MHz
	■	□	□	□
BeiDou	B1 1561MHz	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

Parameter	Specification					Unit
Operating Frequency	698-960	1565-1612	1710-2690	3300-5000	5150-5925	MHz
Band	5,8,12,13,14, 17,18,19,20, 26,27,28,29	GNSS (L1/G1)	1,2,3,4,7,9,2 3,25,30,35,3 8,39,40	22,42,48,77, 78,79	LTE5200/ Wi-Fi5800	-
VSWR	3.2	1.5	2.5	2.5	3.3	:1
Peak Gain	2.6	0.9	4.6	5.7	3.7	dBi
Maximum Efficiency	73	30	70	71	56	%
Average Efficiency	56	28.5	60	56	41	%
Impedance	50					Ω
Polarization	Linear					-
Radiation Pattern (Azimuth)	Omni-directional					-
Maximum Input Power	5					W

Mechanical Specification

Parameter	Specification
Antenna Dimensions	119 x 19 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)	94 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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Ordering Information

Part Number	Description	Connector Option
AANI-FB-0179-1	5G/4G + GNSS Combo Flexible PCB Antenna with IPEX-1 connector & 94 mm cable length	u.FL/IPEX-1/MHF1
AANI-FB-0179-2	5G/4G + GNSS Combo Flexible PCB Antenna with IPEX-4 connector & 94 mm cable length	w.FL/IPEX-4/MHF4
AANI-FB-0179-3	5G/4G + GNSS Combo Flexible PCB Antenna with IPEX-1 connector & 150 mm cable length	u.FL/IPEX-1/MHF1
AANI-FB-0179-4	5G/4G + GNSS Combo Flexible PCB Antenna with IPEX-4 connector & 150 mm cable length	w.FL/IPEX-4/MHF4
AANI-FB-0179-5	5G/4G + GNSS Combo Flexible PCB Antenna with IPEX-1 connector & 200 mm cable length	u.FL/IPEX-1/MHF1
AANI-FB-0179-6	5G/4G + GNSS Combo Flexible PCB Antenna with IPEX-4 connector & 200 mm cable length	w.FL/IPEX-4/MHF4

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

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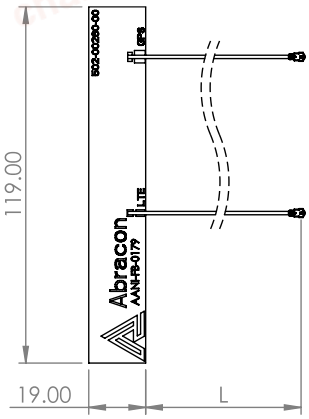


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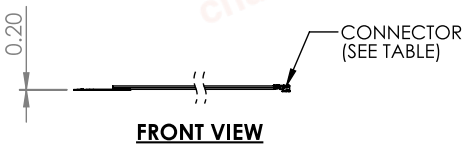
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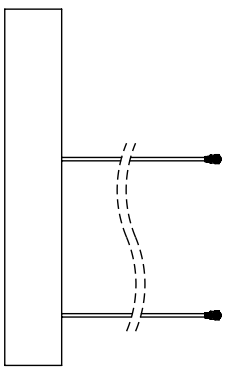
Product Dimensions



TOP VIEW

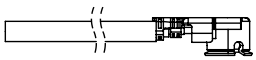


FRONT VIEW

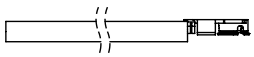


BOTTOM VIEW

CONNECTOR

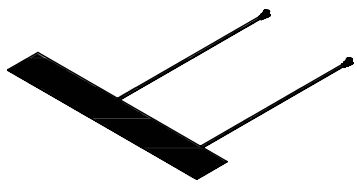


u.FL/IPEX-1/MHF1



w.FL/IPEX-4/MHF4





PART NUMBER	CABLE LENGTH (L)	CONNECTOR
AANI-FB-0179-1	94	u.FL/IPEX-1/MHF1
AANI-FB-0179-2	94	w.FL/IPEX-4/MHF4
AANI-FB-0179-3	150	u.FL/IPEX-1/MHF1
AANI-FB-0179-4	150	w.FL/IPEX-4/MHF4
AANI-FB-0179-5	200	u.FL/IPEX-1/MHF1
AANI-FB-0179-6	200	w.FL/IPEX-4/MHF4

Unit: mm

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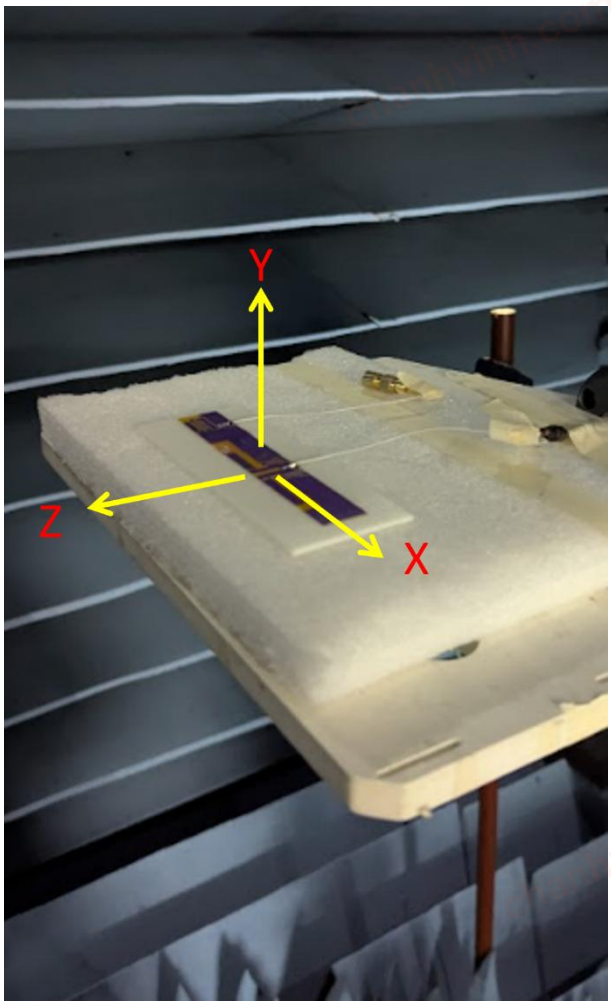


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Measurement Setup photo



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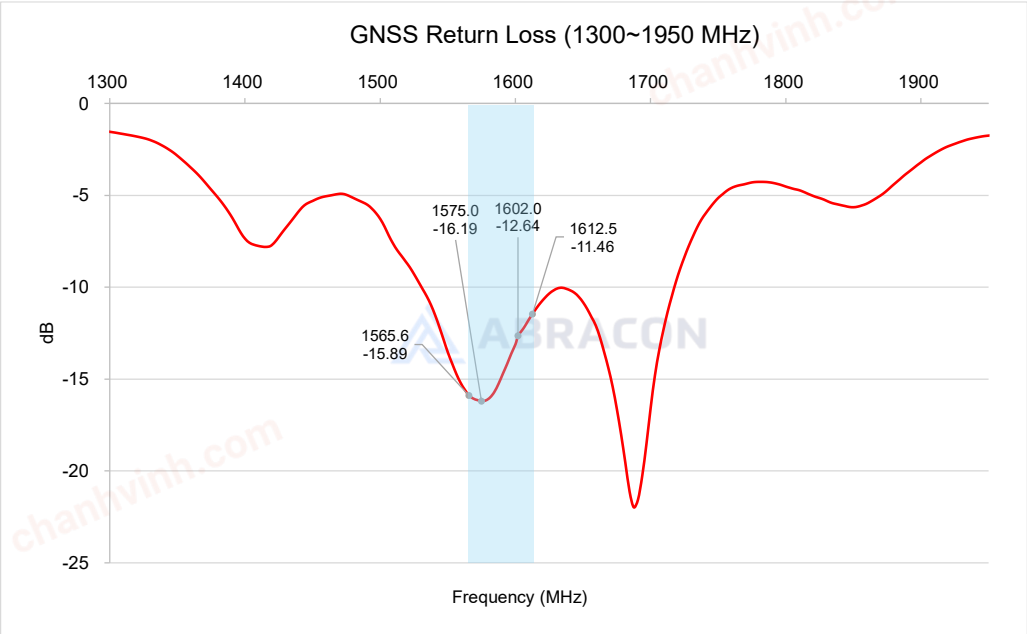


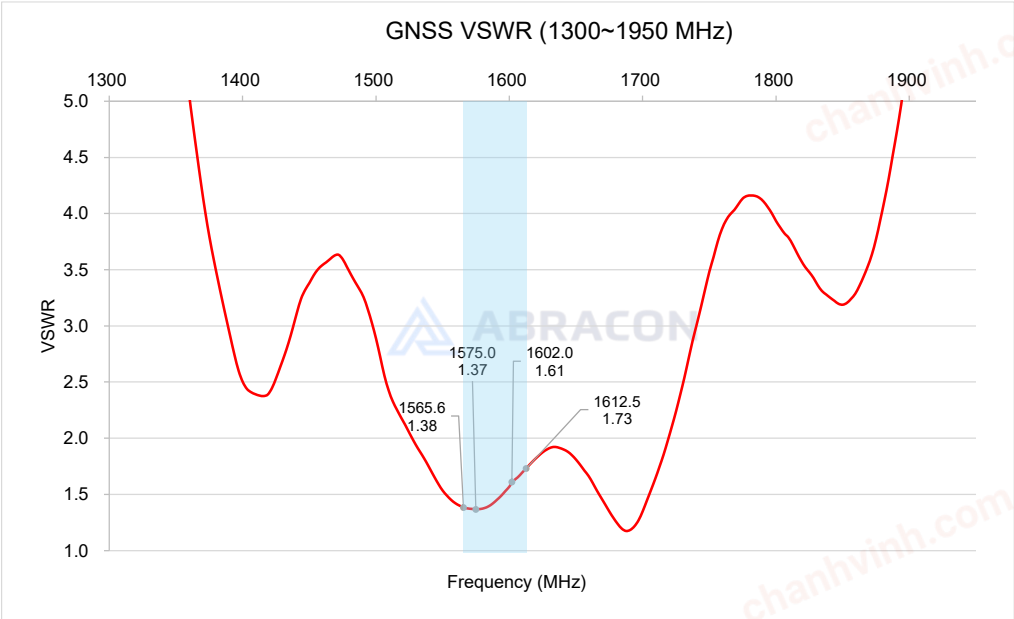
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Reflection Characteristics – GNSS Return Loss & VSWR





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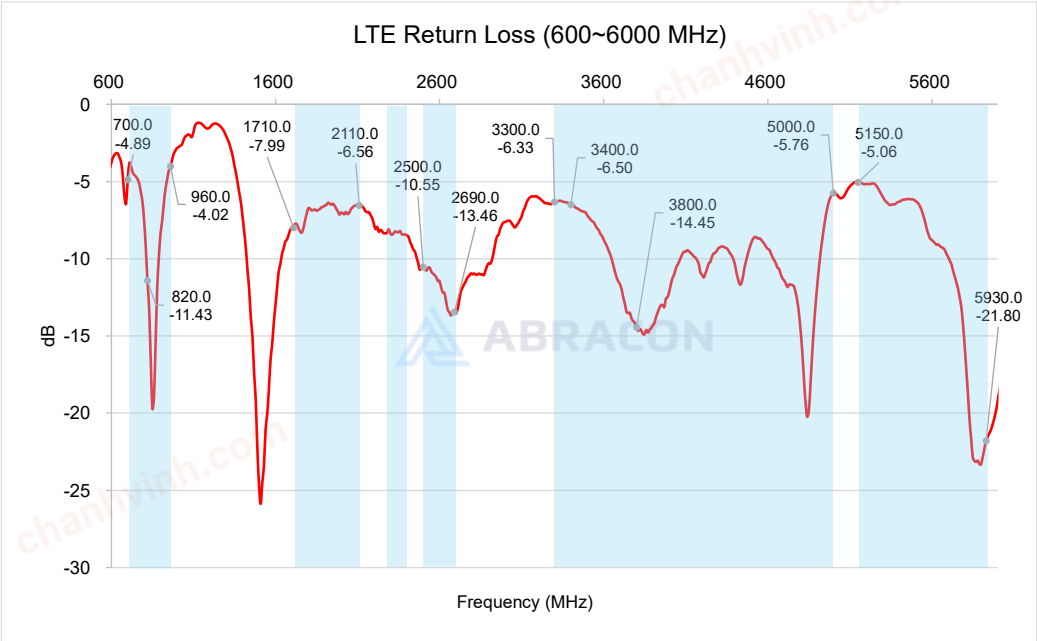


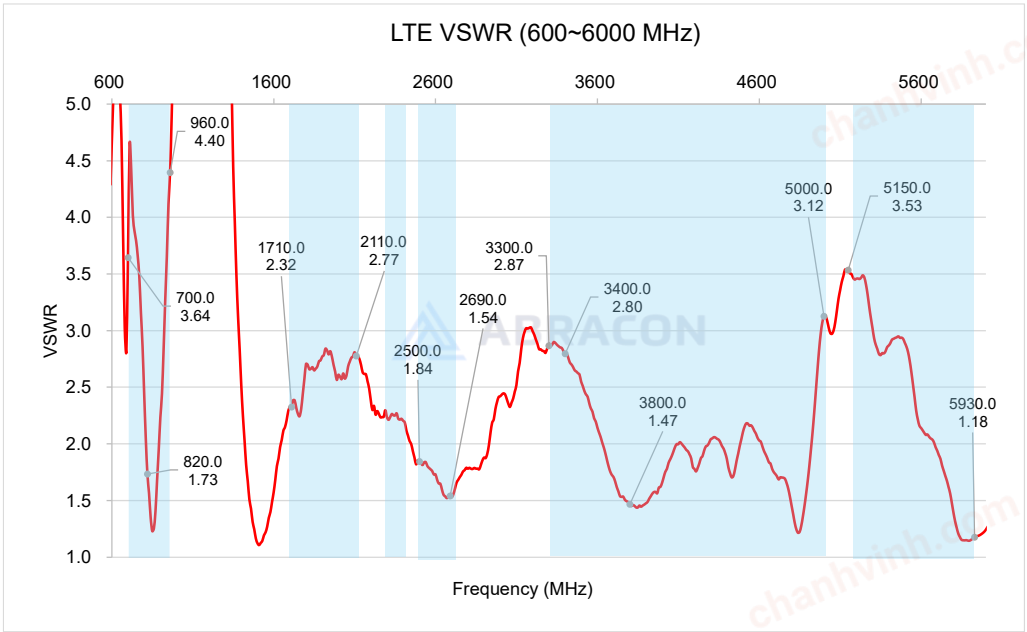
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Reflection Characteristics – LTE Return Loss & VSWR





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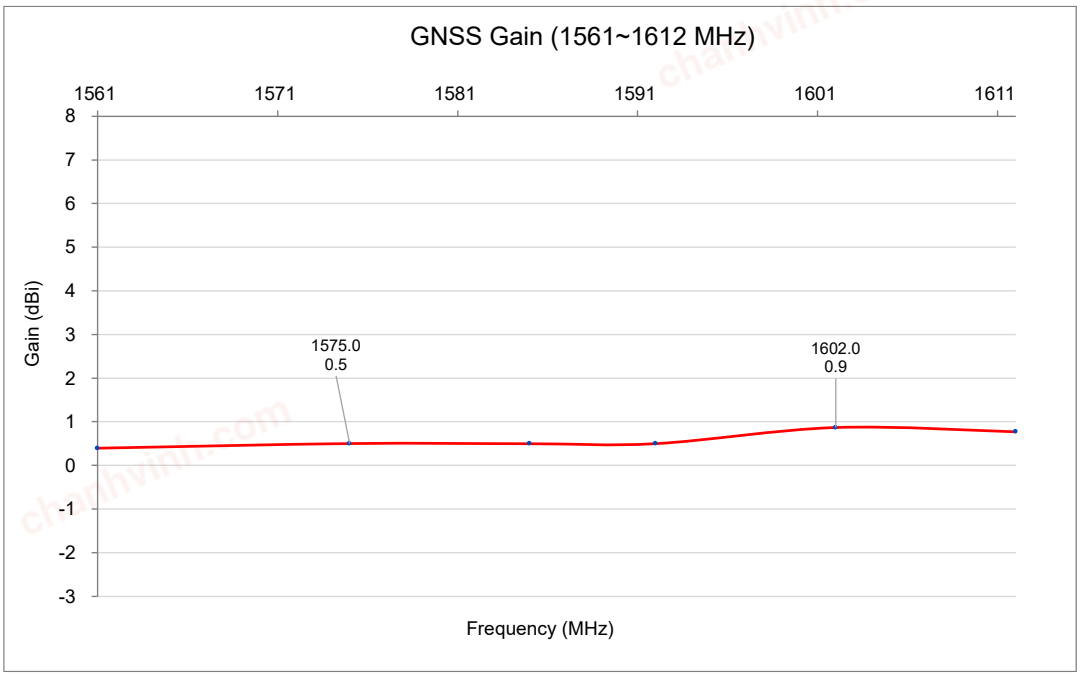


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Radiation Characteristics – GNSS Peak Gain



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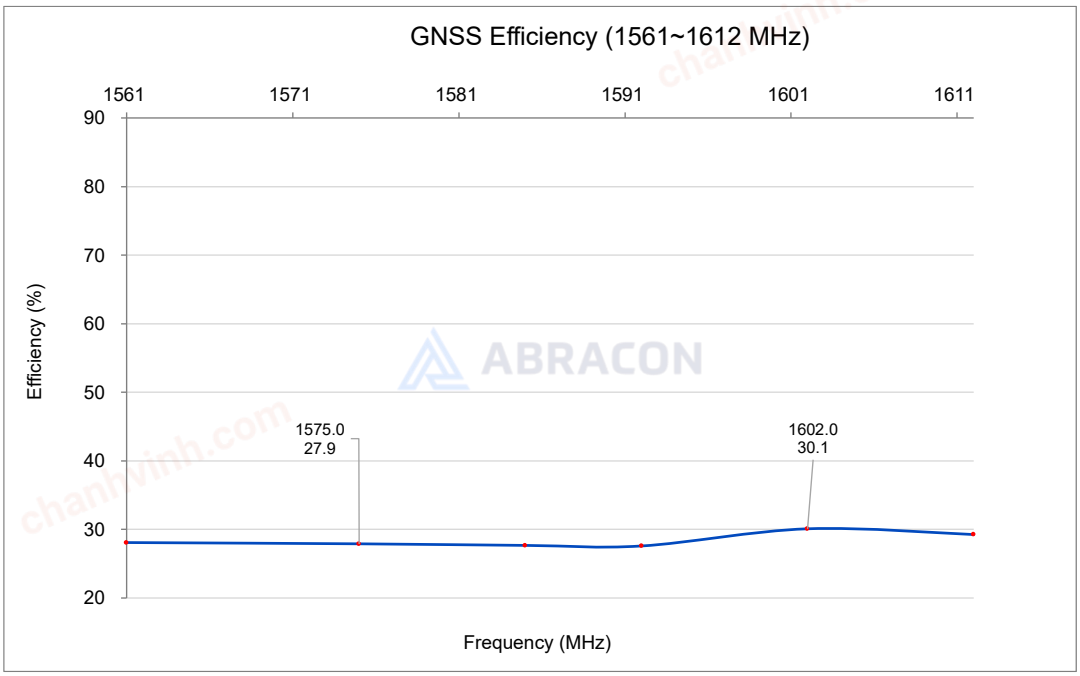


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Radiation Characteristics – GNSS Total Efficiency (%)



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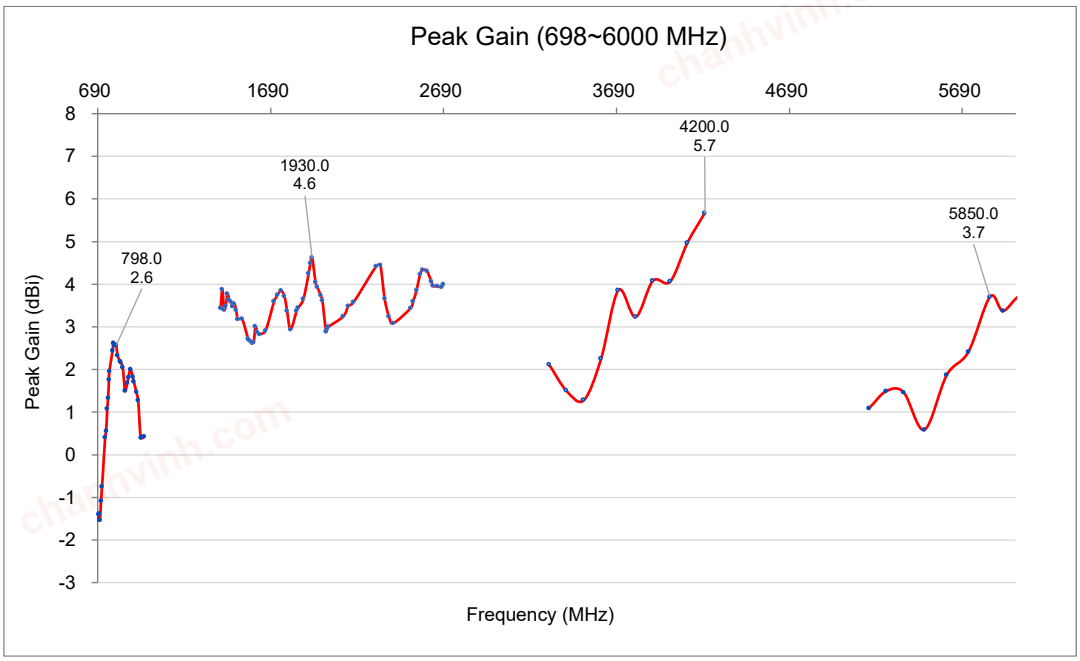


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Radiation Characteristics – LTE Peak Gain



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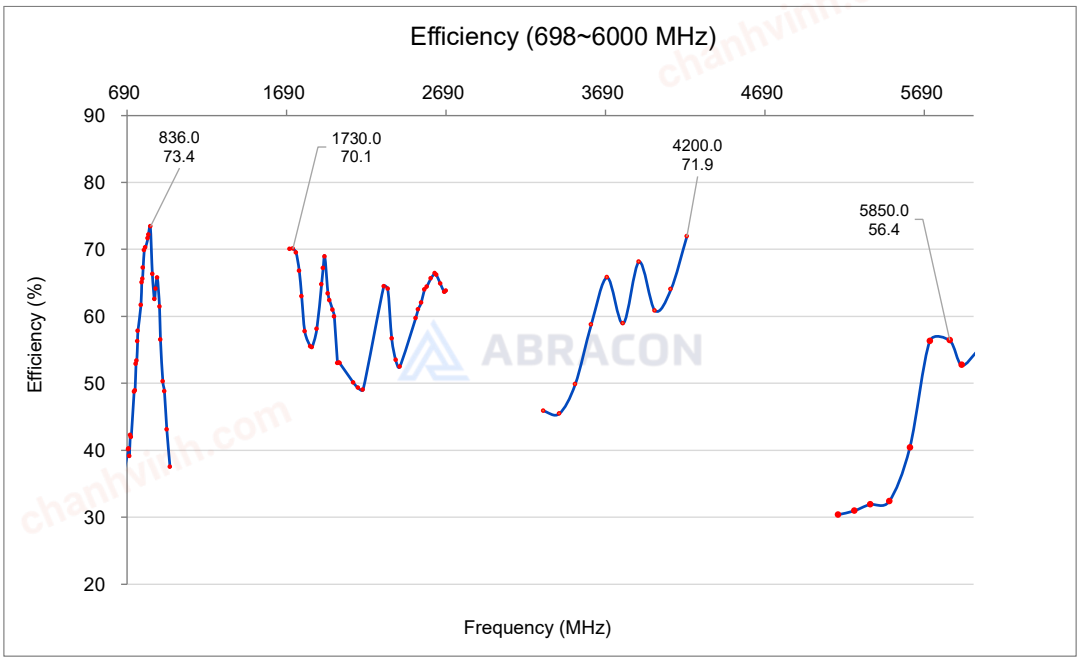


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Radiation Characteristics – LTE Total Efficiency (%)



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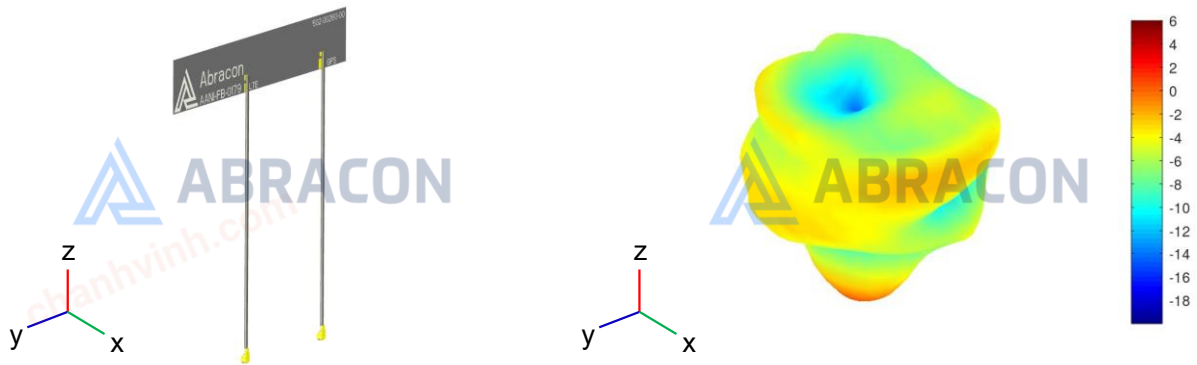
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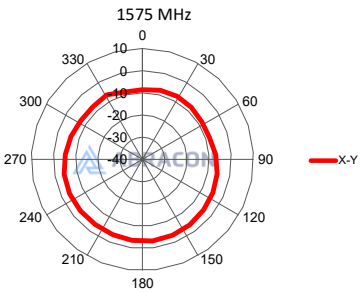
119 x 19 x 0.2 mm
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Radiation Characteristics – 3D & 2D pattern

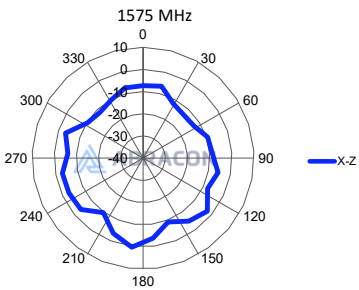
3D & 2D Pattern @ 1575 MHz



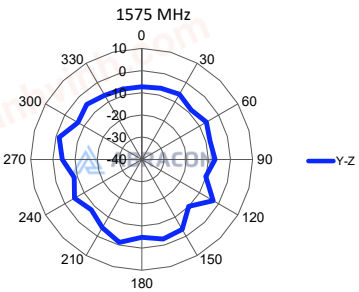
XY plane



XZ plane



YZ plane



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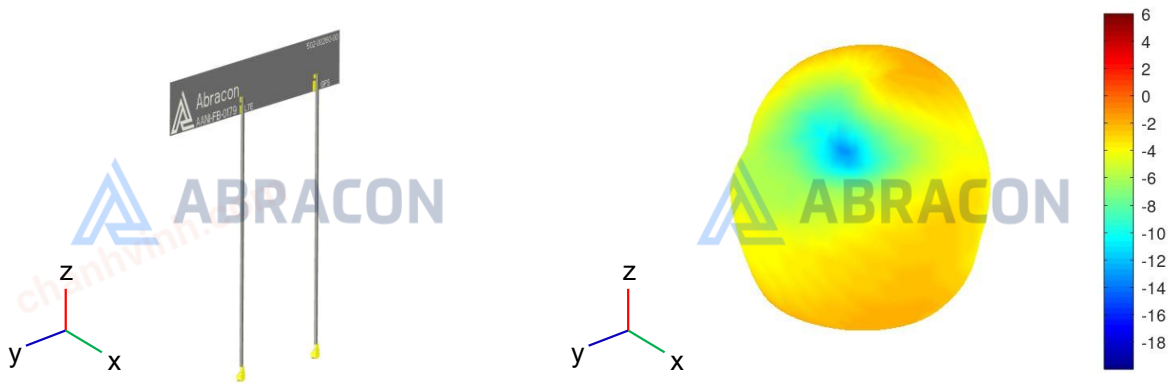


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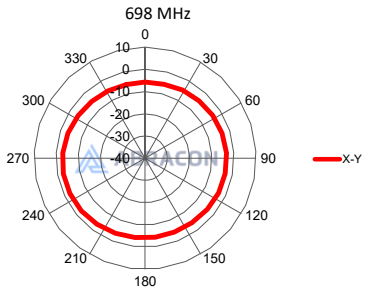
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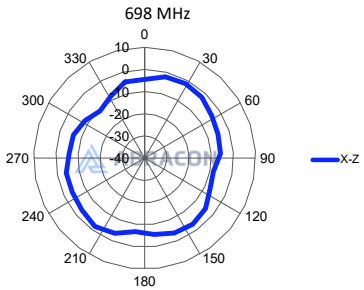
3D & 2D Pattern @ 698 MHz



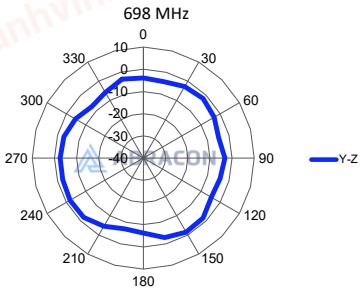
XY plane



XZ plane



YZ plane



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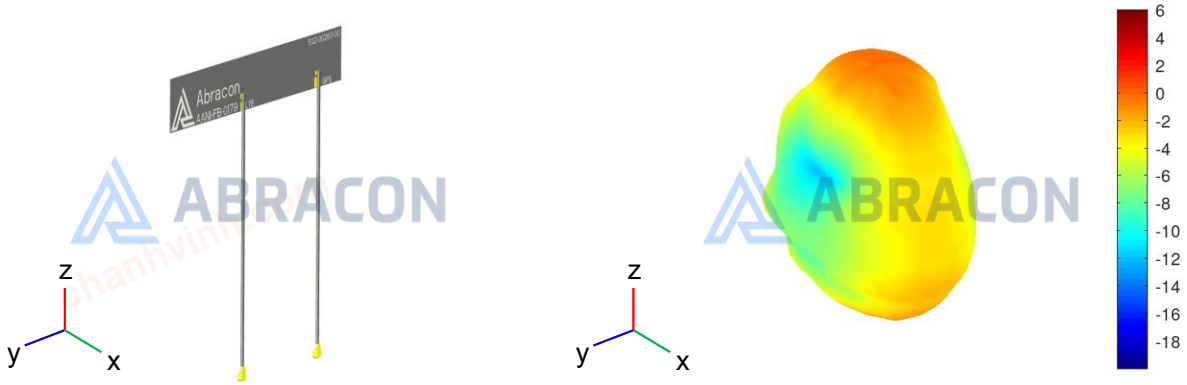


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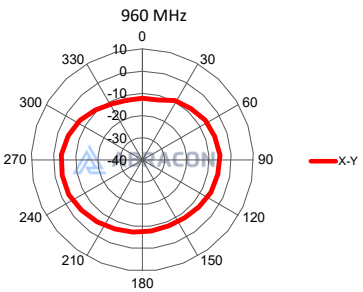
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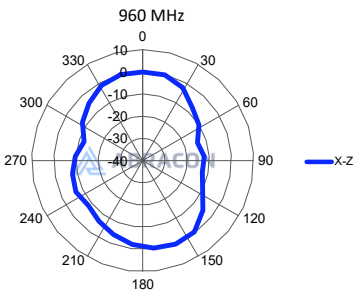
3D & 2D Pattern @ 960 MHz



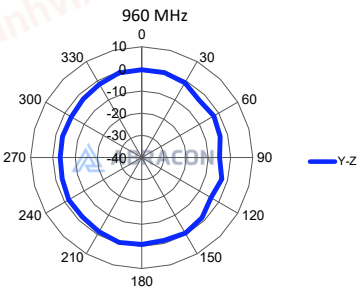
XY plane



XZ plane



YZ plane



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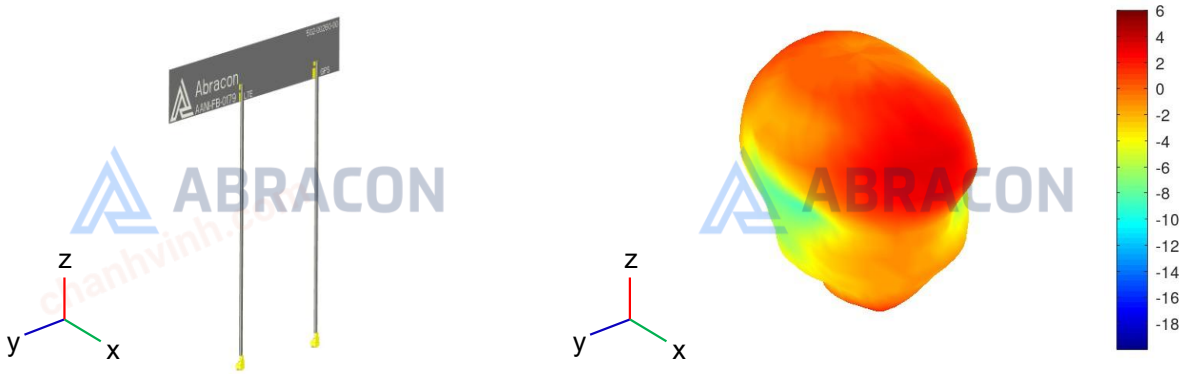


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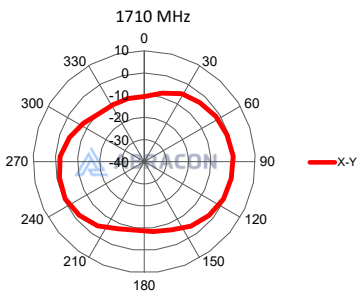
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119 x 19 x 0.2 mm
RoHS/RoHS II Compliant
MSL Level = N/A

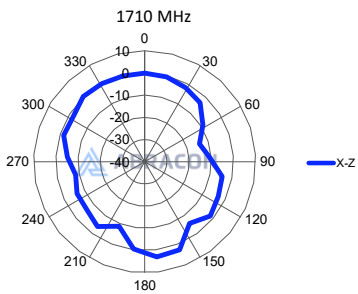
3D & 2D Pattern @ 1710 MHz



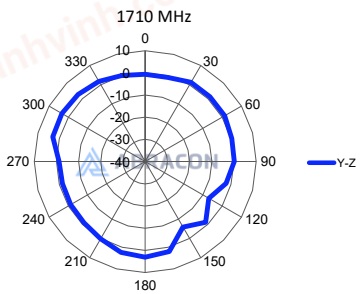
XY plane



XZ plane



YZ plane



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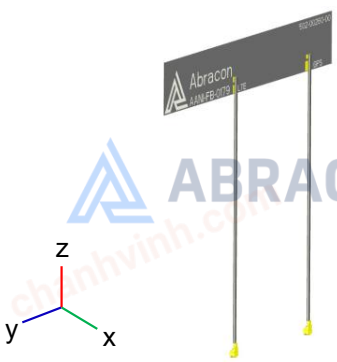


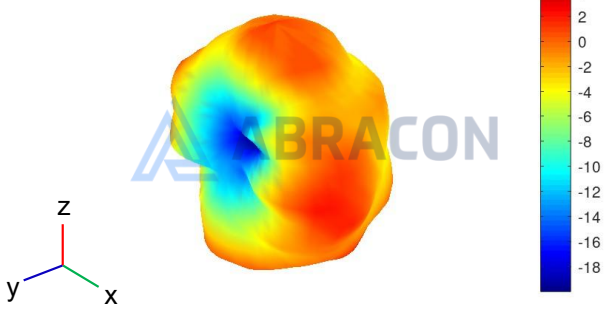
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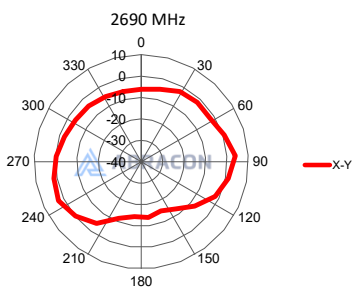
119 x 19 x 0.2 mm
RoHS/RoHS II Compliant
MSL Level = N/A

3D & 2D Pattern @ 2690 MHz

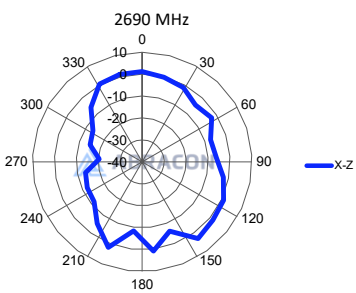




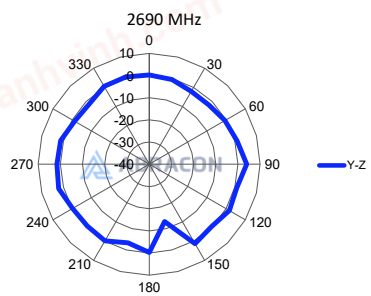
XY plane



XZ plane



YZ plane



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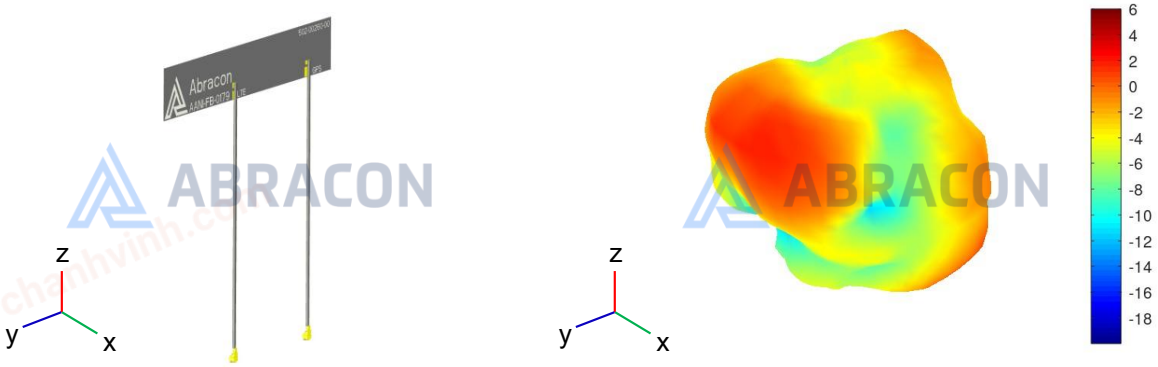


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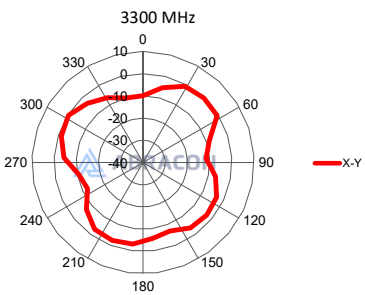
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119 x 19 x 0.2 mm
RoHS/RoHS II Compliant
MSL Level = N/A

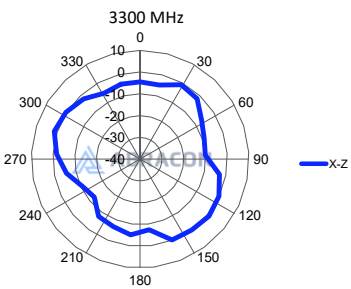
3D & 2D Pattern @ 3300 MHz



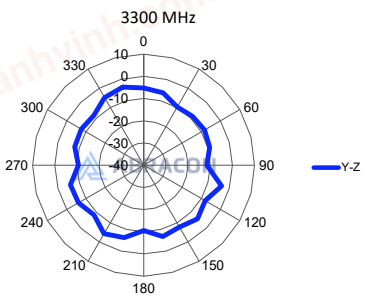
XY plane



XZ plane



YZ plane



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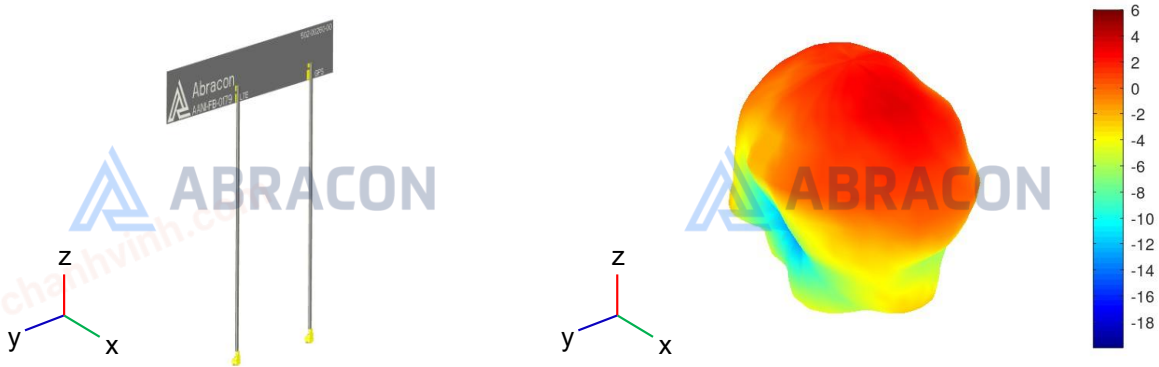


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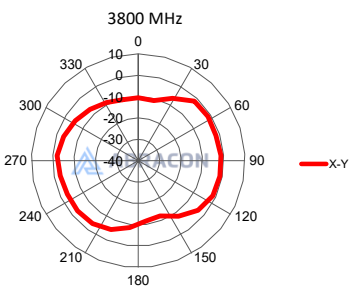
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119 x 19 x 0.2 mm
RoHS/RoHS II Compliant
MSL Level = N/A

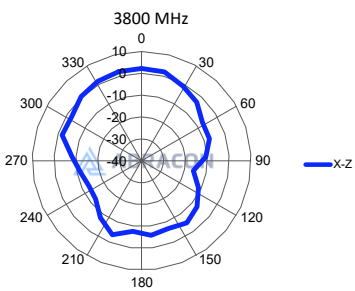
3D & 2D Pattern @ 3800 MHz



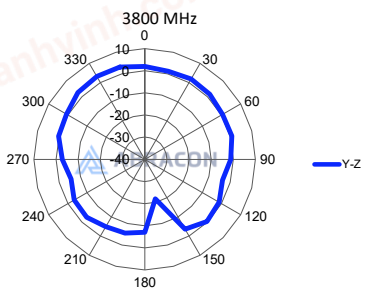
XY plane



XZ plane



YZ plane



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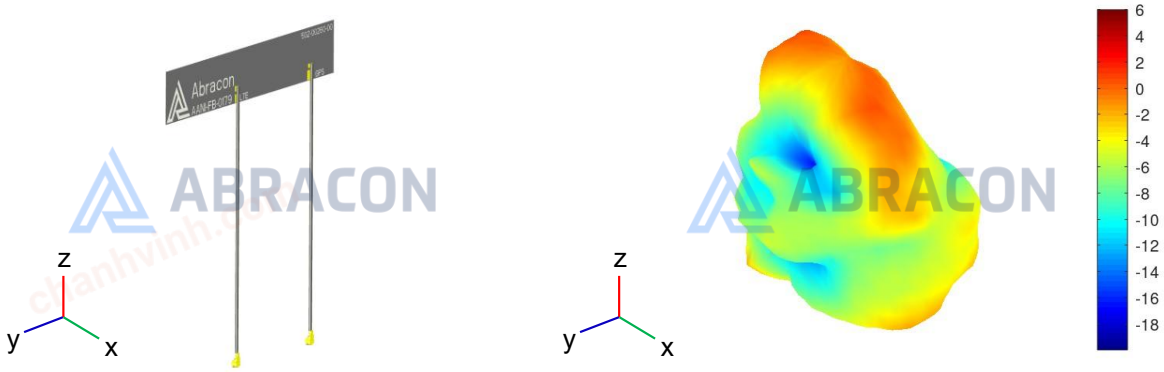


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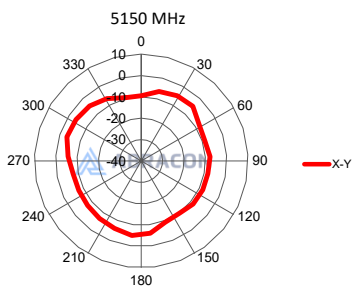
Request Samples | Check Inventory

119 x 19 x 0.2 mm
RoHS/RoHS II Compliant
MSL Level = N/A

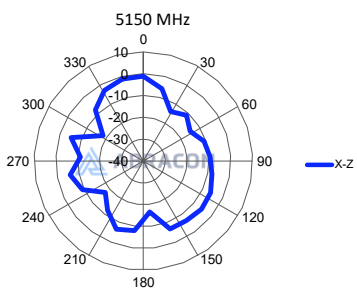
3D & 2D Pattern @ 5150 MHz



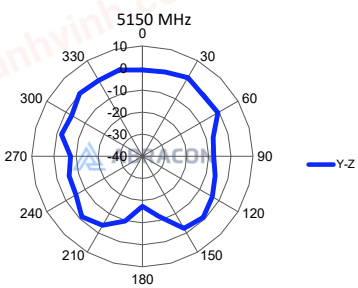
XY plane



XZ plane



YZ plane



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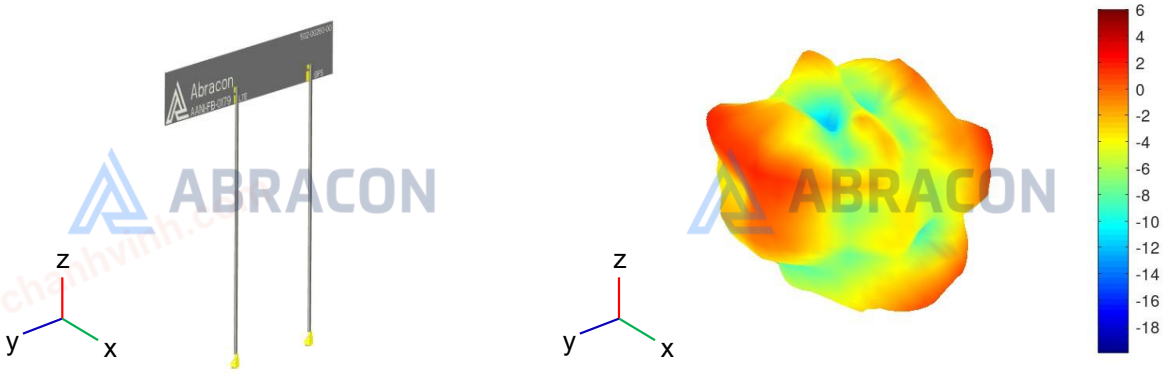


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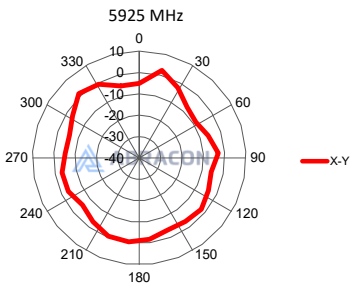
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119 x 19 x 0.2 mm
RoHS/RoHS II Compliant
MSL Level = N/A

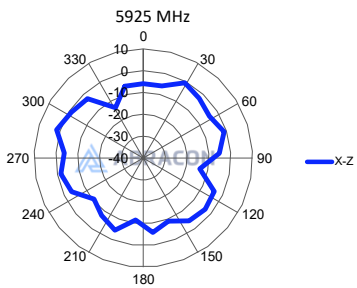
3D & 2D Pattern @ 5925 MHz



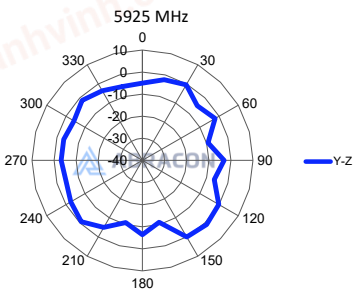
XY plane



XZ plane



YZ plane



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119 x 19 x 0.2 mm
RoHS/RoHS II Compliant
MSL Level = N/A

Packaging

1. Number of Antenna/ bags: 50 pcs
2. Total Pcs / package: 500 pcs

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