

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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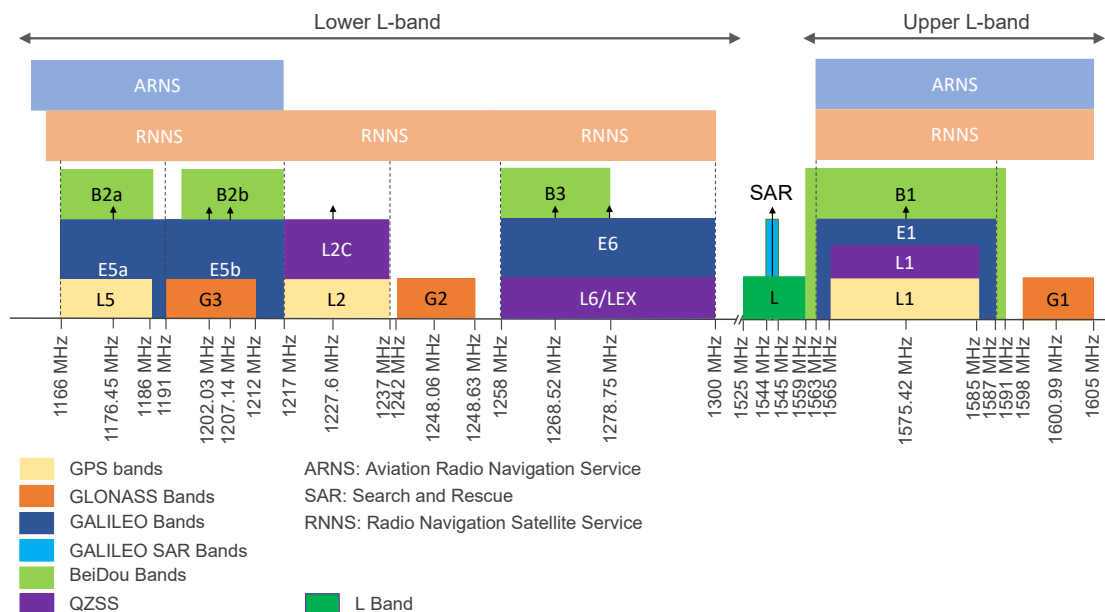
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GNSS Frequency Bands Covered

	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	
	■		□	



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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)	1,2,3,4,7,9,23,25,30,35,38,39,40	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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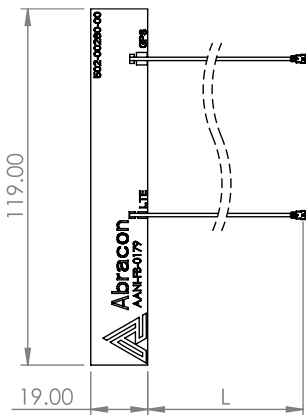


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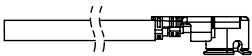
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Product Dimensions

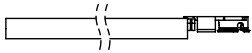


TOP VIEW

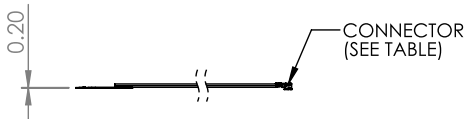
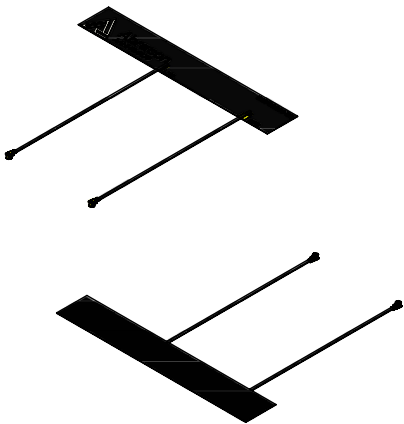
CONNECTOR



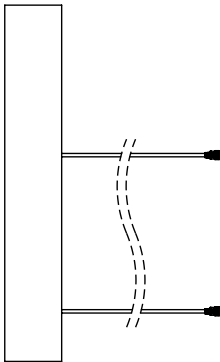
u.FL/IPEX-1/MHF1



w.FL/IPEX-4/MHF4



FRONT VIEW



BOTTOM VIEW

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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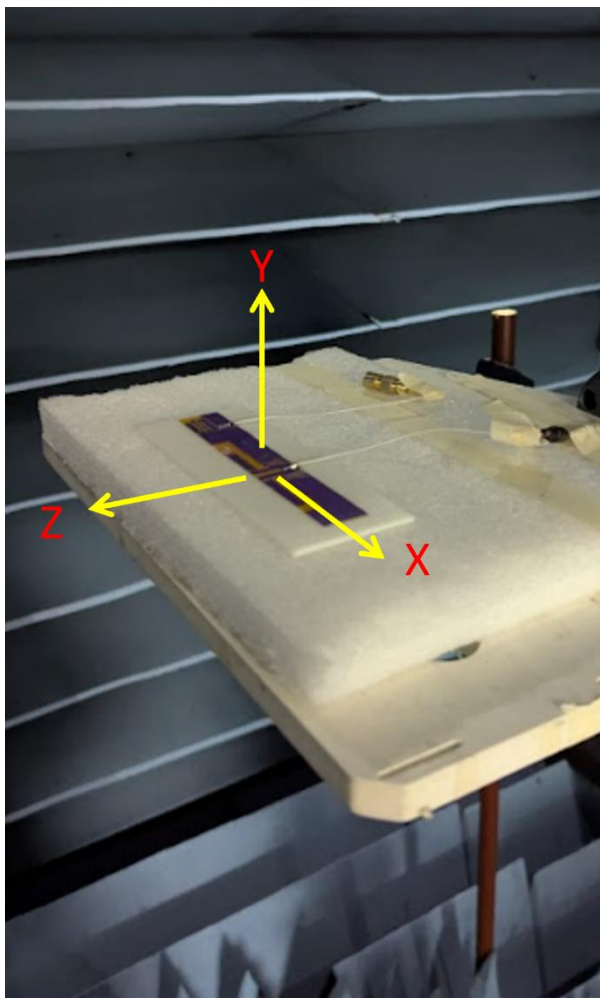


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Measurement Setup photo



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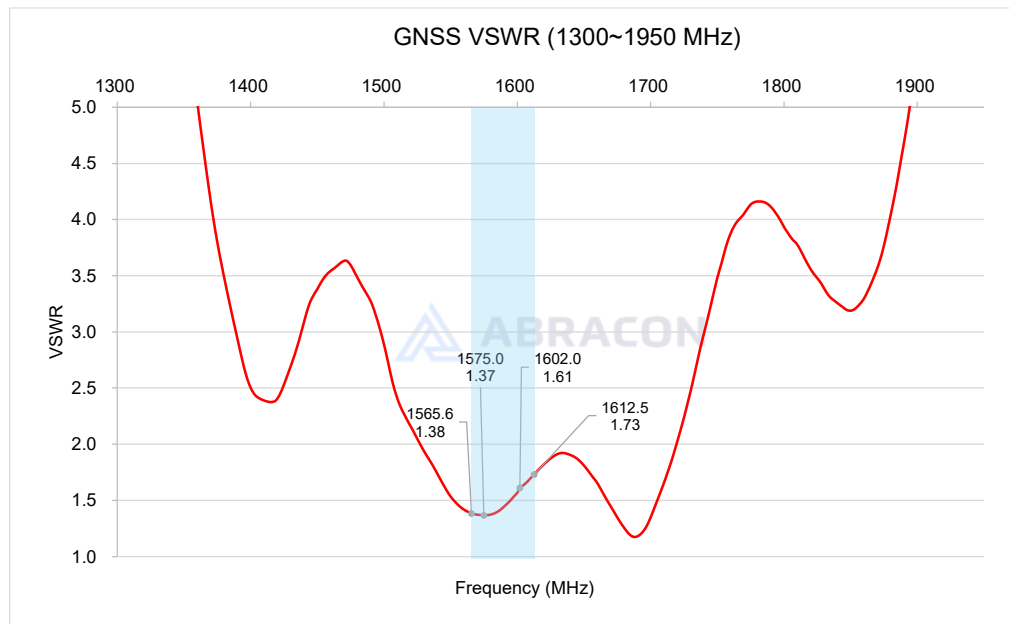
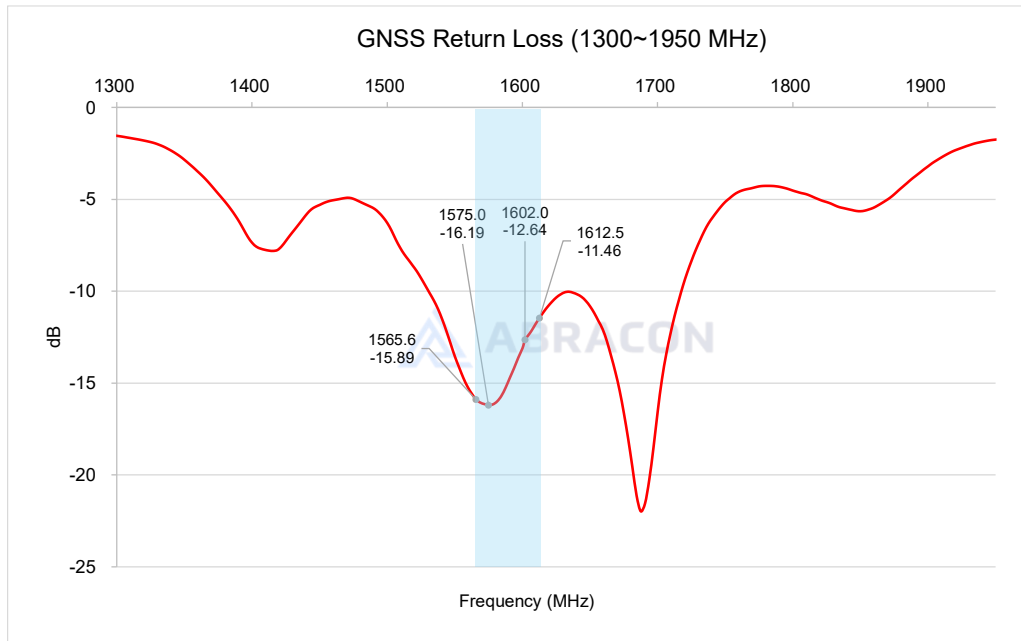


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Reflection Characteristics – GNSS Return Loss & VSWR



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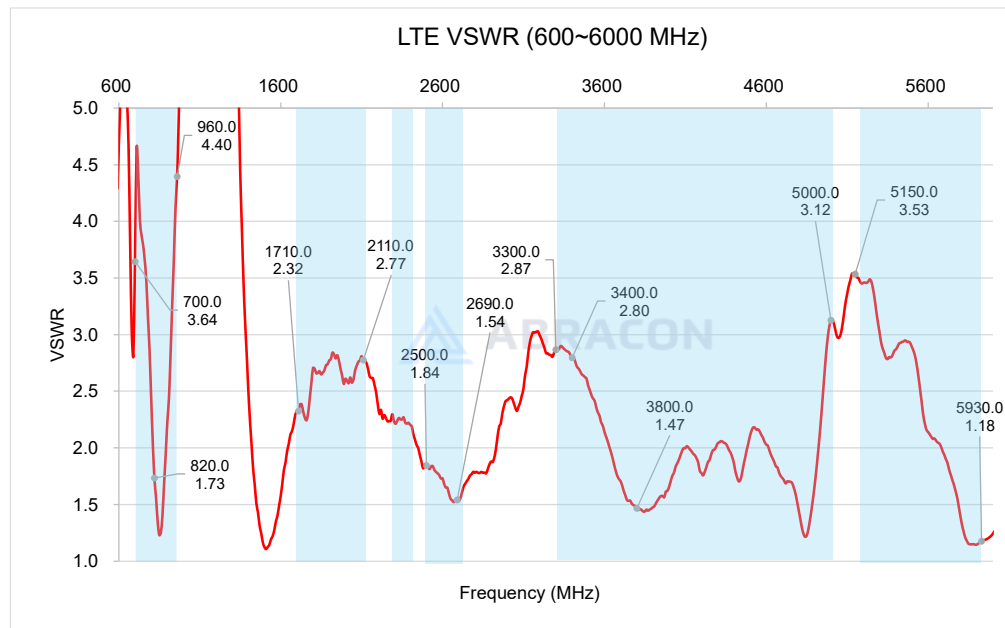
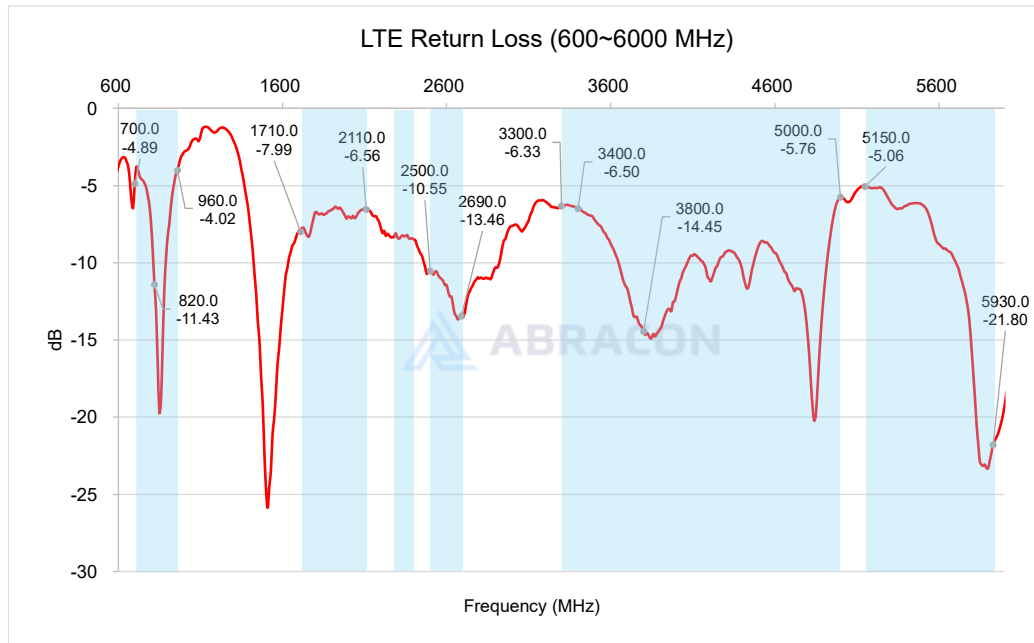


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Reflection Characteristics – LTE Return Loss & VSWR



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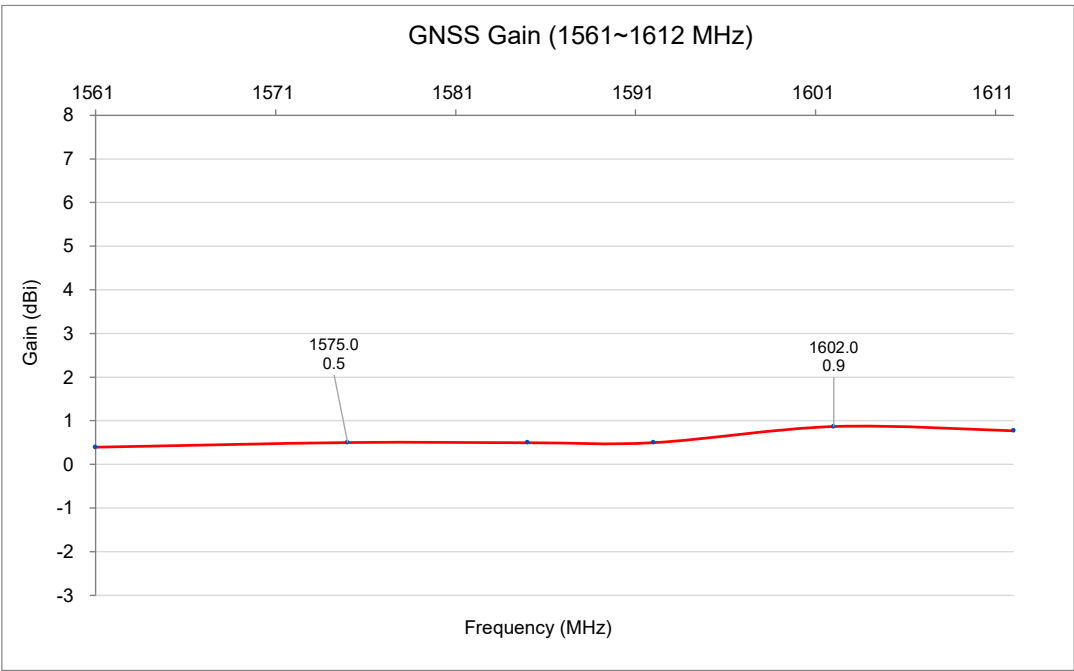


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Radiation Characteristics – GNSS Peak Gain



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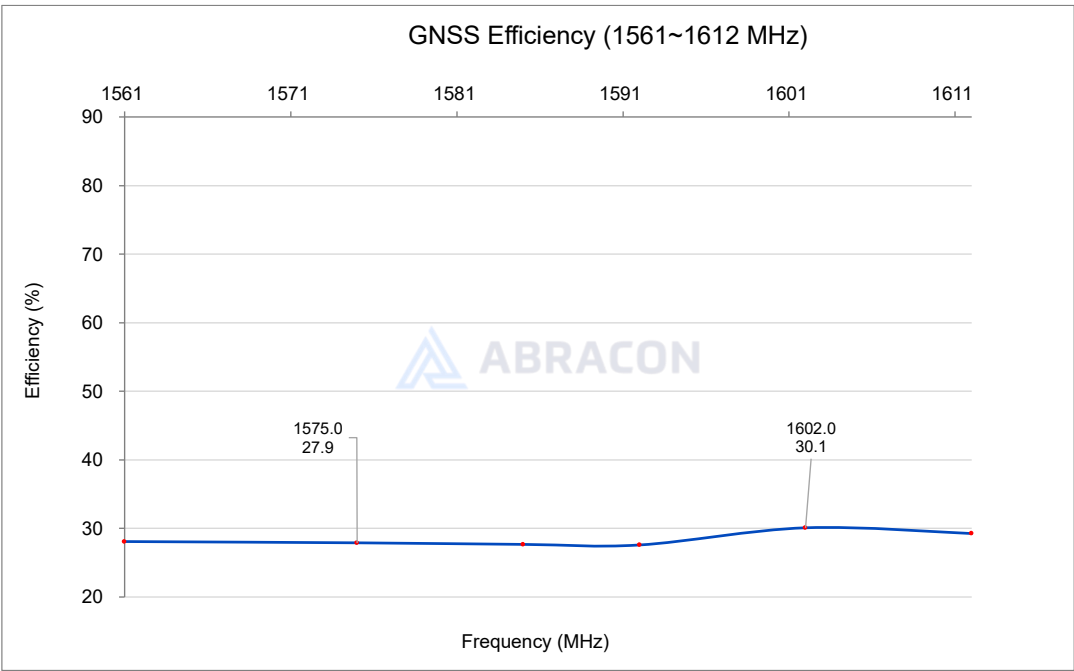


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Radiation Characteristics – GNSS Total Efficiency (%)



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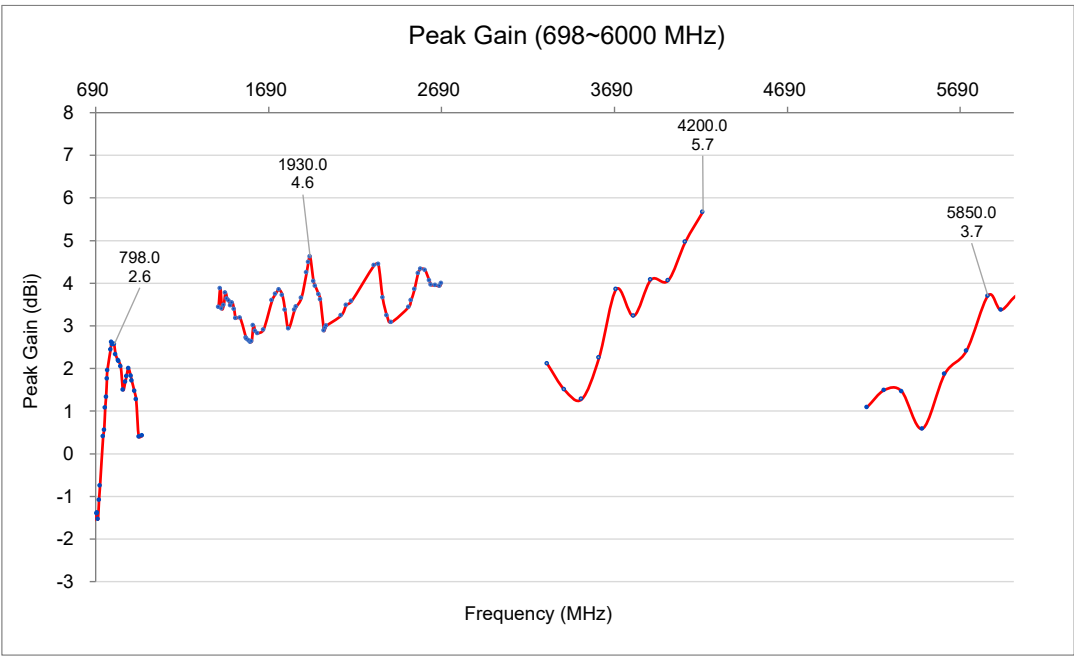


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119 x 19 x 0.2 mm
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MSL Level = N/A

Radiation Characteristics – LTE Peak Gain



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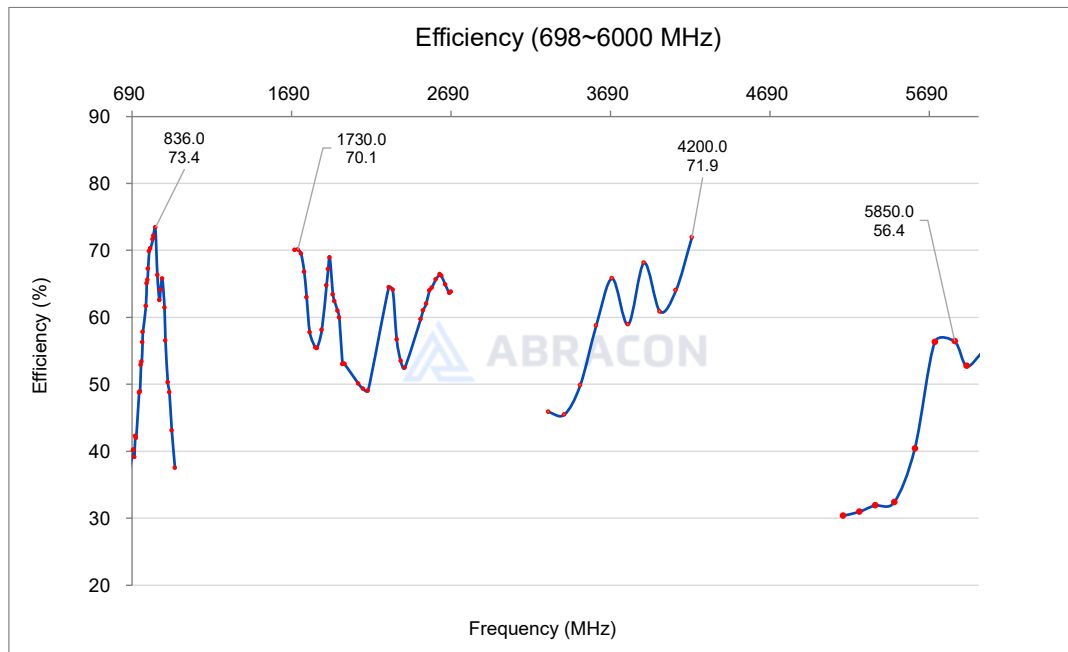


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MSL Level = N/A

Radiation Characteristics – LTE Total Efficiency (%)



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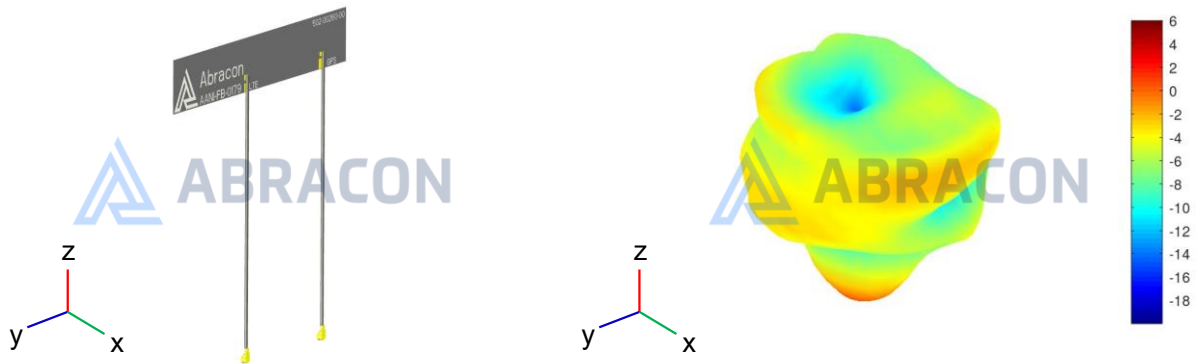
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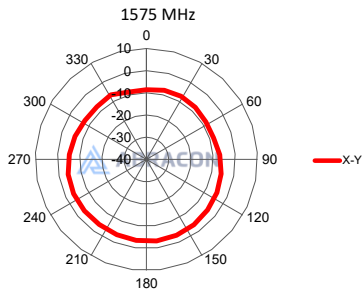
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Radiation Characteristics – 3D & 2D pattern

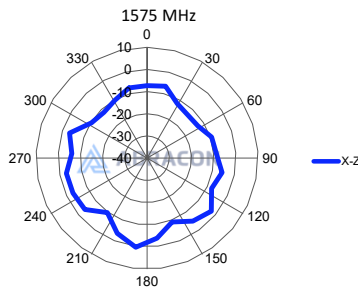
3D & 2D Pattern @ 1575 MHz



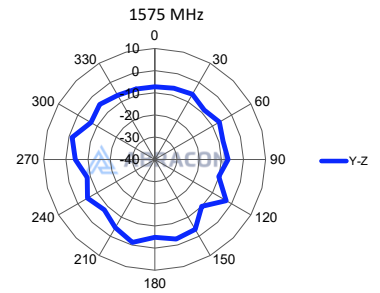
XY plane



XZ plane



YZ plane



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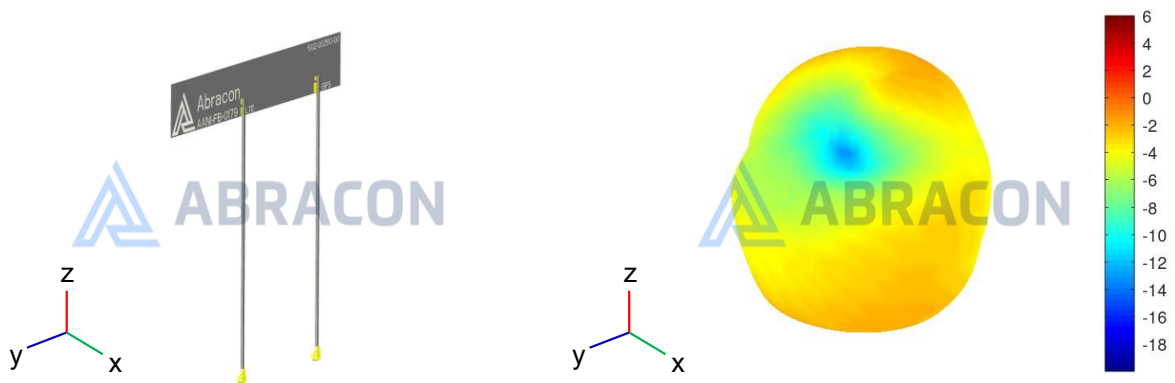


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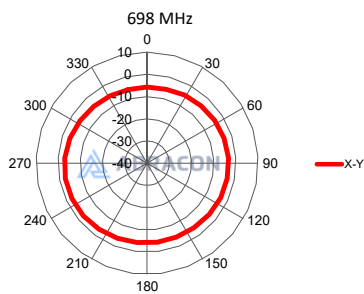


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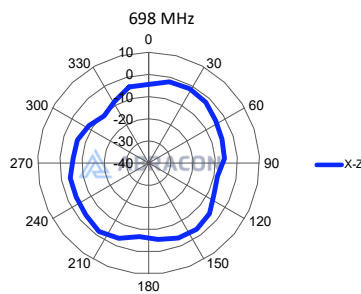
3D & 2D Pattern @ 698 MHz



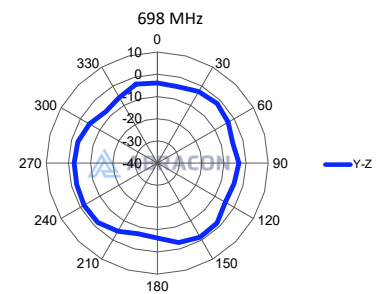
XY plane



XZ plane



YZ plane



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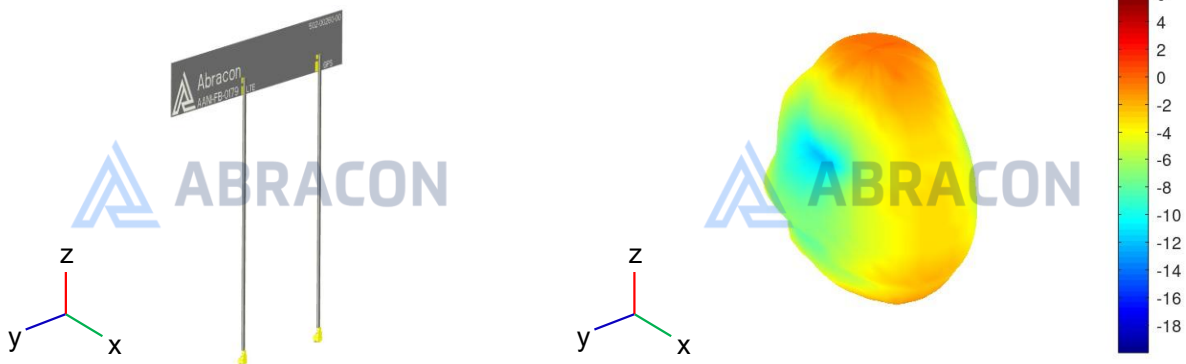


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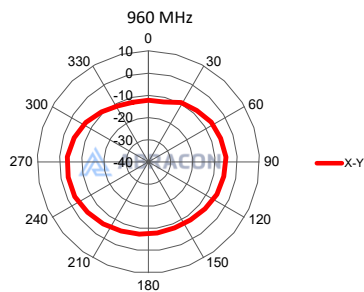


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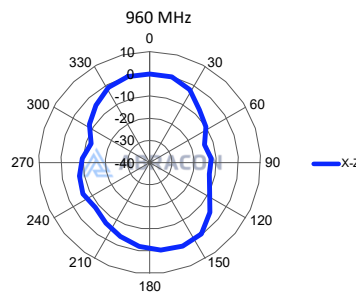
3D & 2D Pattern @ 960 MHz



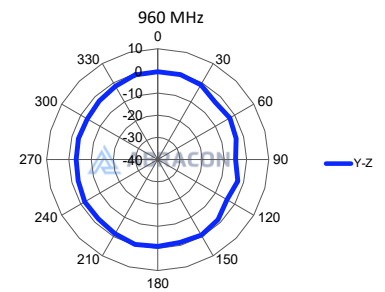
XY plane



XZ plane



YZ plane



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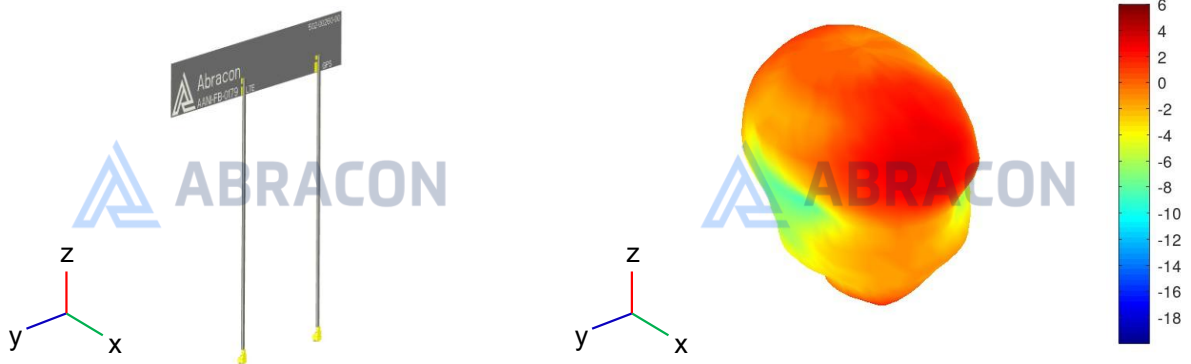


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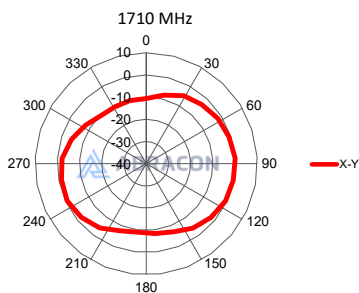


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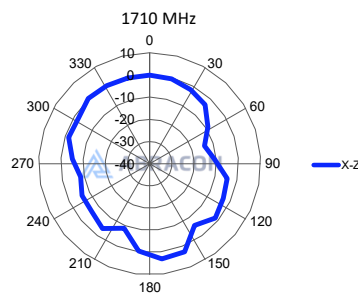
3D & 2D Pattern @ 1710 MHz



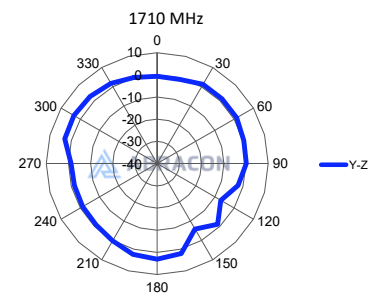
XY plane



XZ plane



YZ plane



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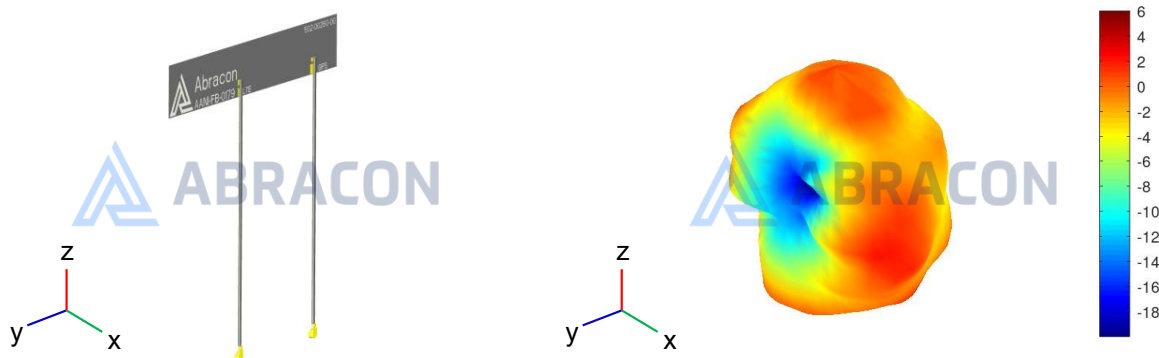


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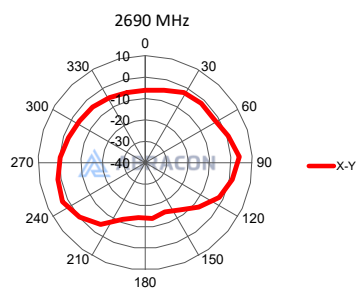


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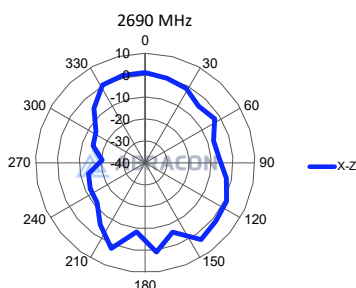
3D & 2D Pattern @ 2690 MHz



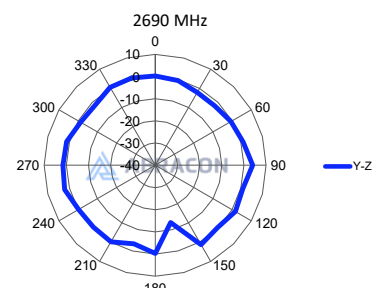
XY plane



XZ plane



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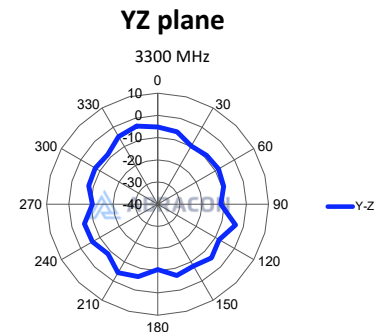
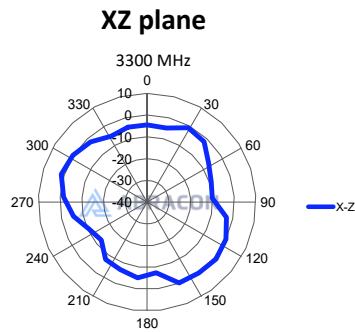
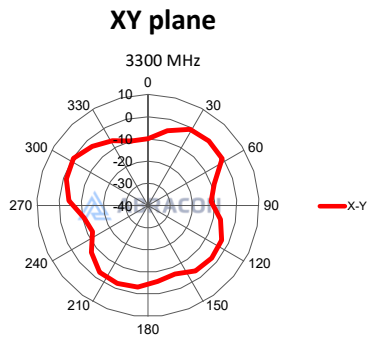
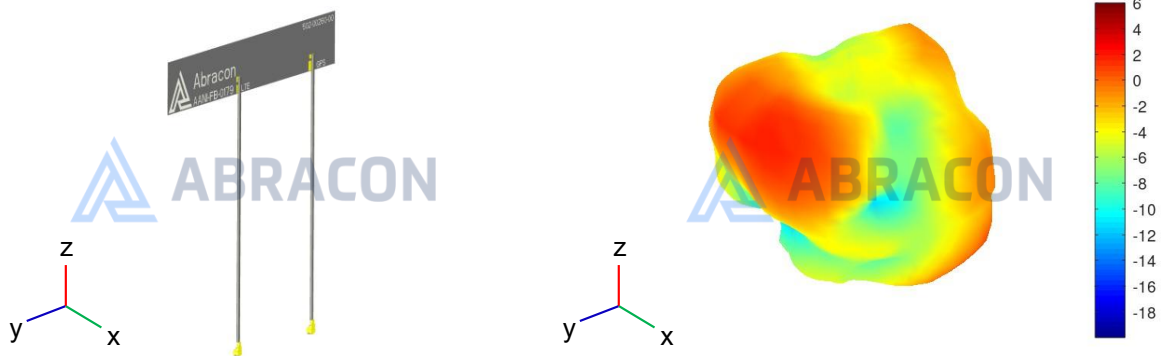


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3D & 2D Pattern @ 3300 MHz



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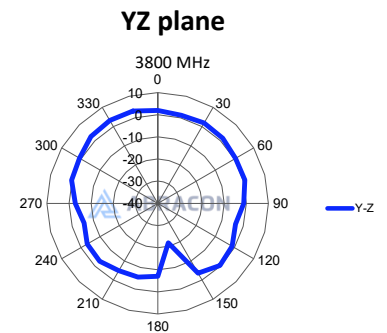
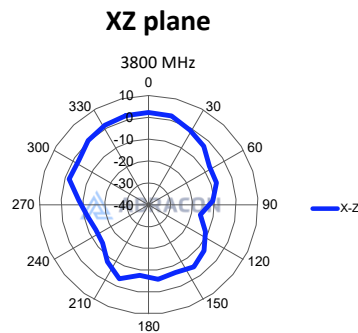
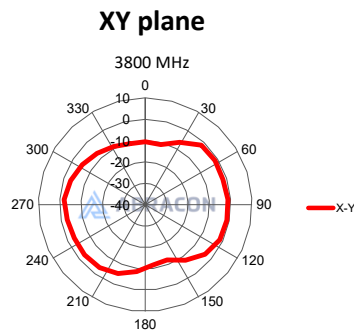
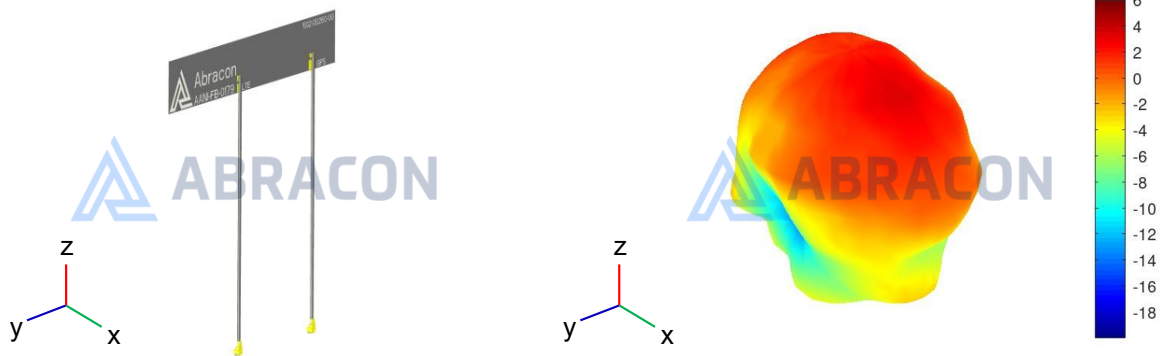


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3D & 2D Pattern @ 3800 MHz



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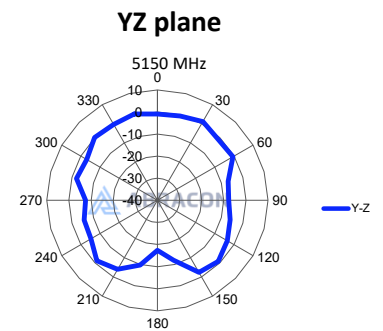
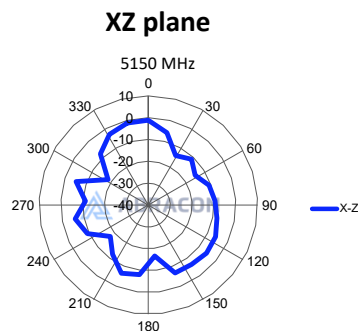
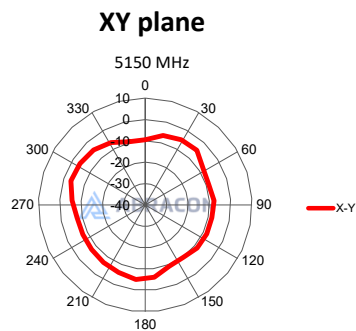
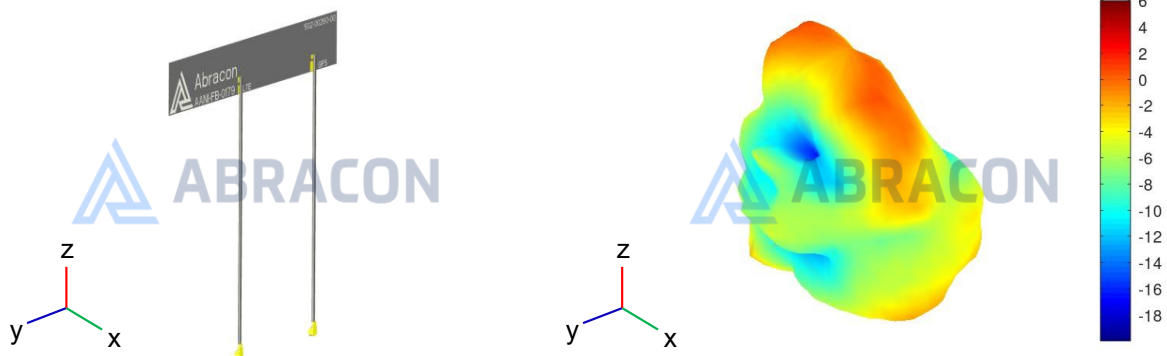


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119 x 19 x 0.2 mm
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3D & 2D Pattern @ 5150 MHz



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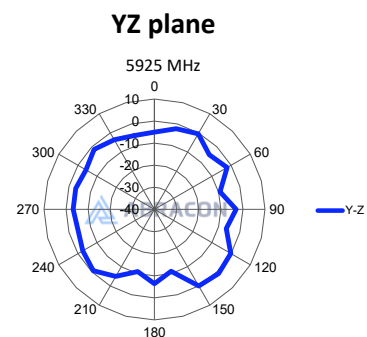
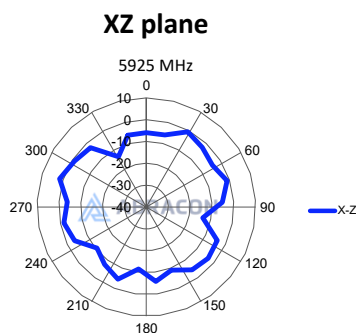
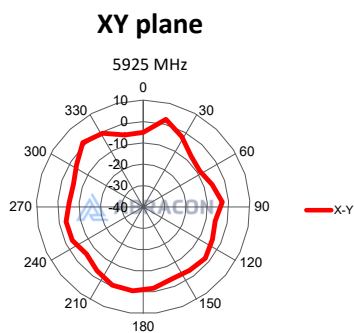
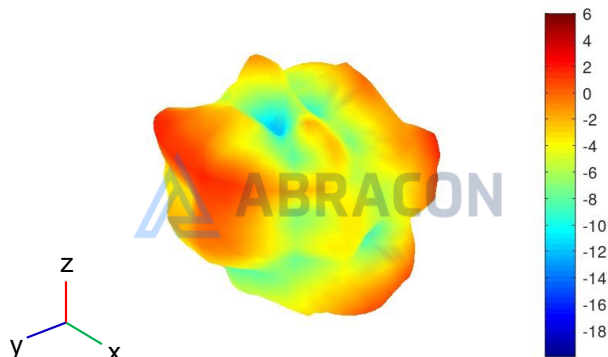
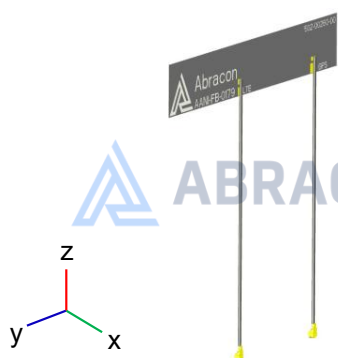


Check Inventory



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

3D & 2D Pattern @ 5925 MHz



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

Packaging

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