chanhvinh.com

Cellular 5G/4G + GNSS Combo Flexible PCB Antenna



AANI-FB-0176

Request Samples | Check Inventory

120 x 50 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: 4.3 / 3.2 dBi
- Cellular / GNSS Efficiency: 84 % / 59 %
- Ground Plane Independent
- Flexible to Fit Inside Plastic Enclosures
- Fully Customizable Cable Length and Connector Options

Applications

- GPS/GLONASS/BEIDOU/GALILEO
- CBRS and 5G Bands Supported
- LTE-M, Cat M, Cat M1, NB-IoT
- LTE CAT 1 up to CAT 20 Supported
- Smart Home Networking
- Networking & Telecommunication

Product Image



ABRACON

5101 Hidden Creek Ln Spicewood TX 78669
Phone: 512-371-6159 | Fax: 512-351-8858
For terms and conditions of sales, please visit:
www.abracon.com

REVISED: 05-26-25

ABRACON IS
ISO9001-2015
CERTIFIED

chanhvinh.com

Cellular 5G/4G + GNSS Combo Flexible PCB Antenna

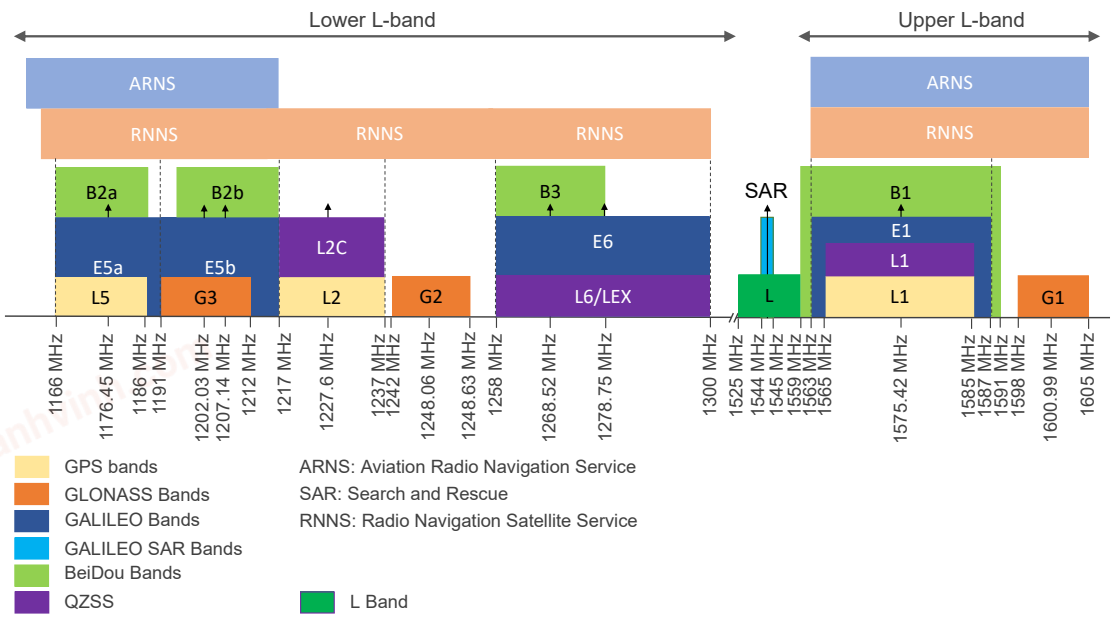


AANI-FB-0176

Request Samples | Check Inventory

120 x 50 x 0.2 mm
RoHS/RoHS II Compliant
MSL Level = N/A

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

ABRACON

5101 Hidden Creek Ln Spicewood TX 78669
Phone: 512-371-6159 | Fax: 512-351-8858
For terms and conditions of sales, please visit:
www.abracon.com

REVISED: 05-26-25

ABRACON IS
ISO9001-2015
CERTIFIED

chanhvinh.com

Cellular 5G/4G + GNSS Combo Flexible PCB Antenna



AANI-FB-0176

Request Samples | Check Inventory

120 x 50 x 0.2 mm
RoHS/RoHS II Compliant
MSL Level = N/A

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	2.65	2.0	3.0	1.97	:1
Peak Gain	3.2	3.2	4.3	4.2	4.2	dBi
Maximum Efficiency	84	59	77	73	59	%
Average Efficiency	70	53	58	58	55	
Impedance	50					Ω
Polarization	Linear					-
Radiation Pattern (Azimuth)	Omni-directional					-
Maximum Input Power	5					W

Mechanical Specification

Parameter	Specification
Antenna Dimensions	120 x 50 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)	128 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

ABRACON

5101 Hidden Creek Ln Spicewood TX 78669
Phone: 512-371-6159 | Fax: 512-351-8858
For terms and conditions of sales, please visit:
www.abracon.com

REVISED: 05-26-25

ABRACON IS ISO9001-2015 CERTIFIED

chanhvinh.com

Cellular 5G/4G + GNSS Combo Flexible PCB Antenna



AANI-FB-0176

Request Samples | Check Inventory

120 x 50 x 0.2 mm
RoHS/RoHS II Compliant
MSL Level = N/A

Ordering Information

Part Number	Description	Connector Option
AANI-FB-0176-1	Cellular 5G/4G + GNSS Combo Flexible PCB Antenna with IPEX-1 connector & 128 mm cable length	u.FL/IPEX-1/MHF1
AANI-FB-0176-2	Cellular 5G/4G + GNSS Combo Flexible PCB Antenna with IPEX-4 connector & 128 mm cable length	w.FL/IPEX-4/MHF4
AANI-FB-0176-3	Cellular 5G/4G + GNSS Combo Flexible PCB Antenna with IPEX-1 connector & 150 mm cable length	u.FL/IPEX-1/MHF1
AANI-FB-0176-4	Cellular 5G/4G + GNSS Combo Flexible PCB Antenna with IPEX-4 connector & 150 mm cable length	w.FL/IPEX-4/MHF4
AANI-FB-0176-5	Cellular 5G/4G + GNSS Combo Flexible PCB Antenna with IPEX-1 connector & 200 mm cable length	u.FL/IPEX-1/MHF1
AANI-FB-0176-6	Cellular 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

ABRACON

5101 Hidden Creek Ln Spicewood TX 78669
Phone: 512-371-6159 | Fax: 512-351-8858
For terms and conditions of sales, please visit:
www.abracon.com

REVISED: 05-26-25

ABRACON IS
ISO9001-2015
CERTIFIED

chanhvinh.com

Cellular 5G/4G + GNSS Combo Flexible PCB Antenna

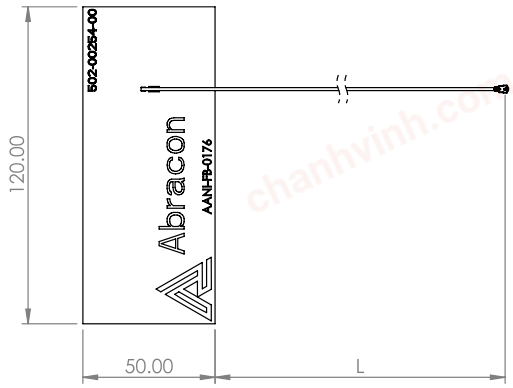


AANI-FB-0176

Request Samples | Check Inventory

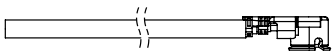
120 x 50 x 0.2 mm
RoHS/RoHS II Compliant
MSL Level = N/A

Product Dimensions

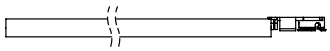


TOP VIEW

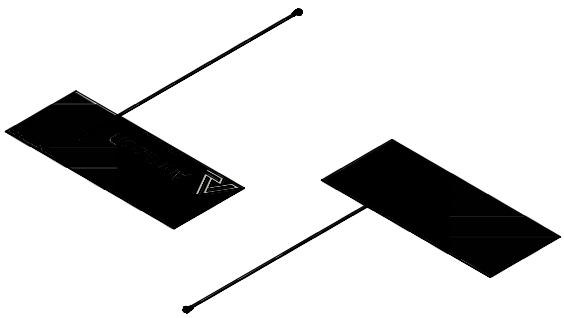
CONNECTOR

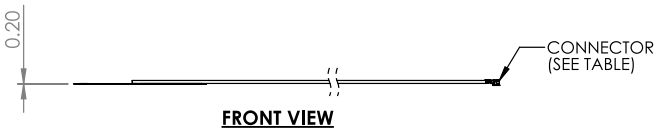


u.FL/IPEX-1/MHF1

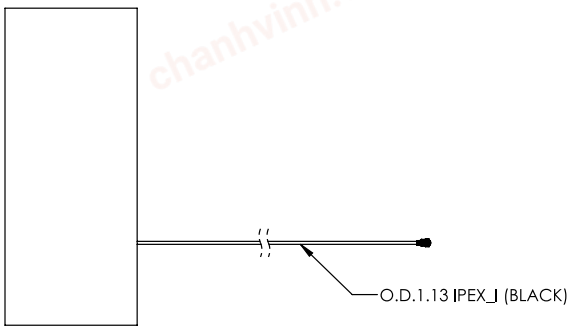


w.FL/IPEX-4/MHF4





FRONT VIEW



BOTTOM VIEW

PART NUMBER	CABLE LENGTH (L)	CONNECTOR
AANI-FB-0176-1	128	u.FL/IPEX-1/MHF1
AANI-FB-0176-2	128	w.FL/IPEX-4/MHF4
AANI-FB-0176-3	150	u.FL/IPEX-1/MHF1
AANI-FB-0176-4	150	w.FL/IPEX-4/MHF4
AANI-FB-0176-5	200	u.FL/IPEX-1/MHF1
AANI-FB-0176-6	200	w.FL/IPEX-4/MHF4

Unit: mm

ABRACON

5101 Hidden Creek Ln Spicewood TX 78669
Phone: 512-371-6159 | Fax: 512-351-8858
For terms and conditions of sales, please visit:
www.abracon.com

REVISED: 05-26-25

ABRACON IS ISO9001-2015 CERTIFIED

chanhvinh.com

Cellular 5G/4G + GNSS Combo Flexible PCB Antenna

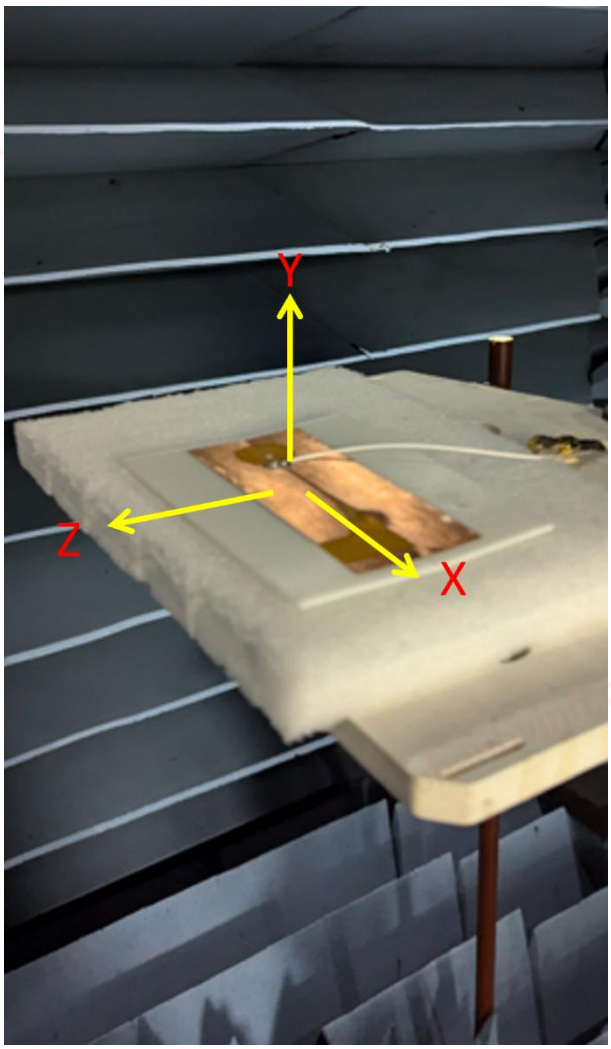


AANI-FB-0176

Request Samples | Check Inventory

120 x 50 x 0.2 mm
RoHS/RoHS II Compliant
MSL Level = N/A

Measurement Setup photo



ABRACON

5101 Hidden Creek Ln Spicewood TX 78669
Phone: 512-371-6159 | Fax: 512-351-8858
For terms and conditions of sales, please visit:
www.abracon.com

REVISED: 05-26-25

ABRACON IS
ISO9001-2015
CERTIFIED

chanhvinh.com

Cellular 5G/4G + GNSS Combo Flexible PCB Antenna

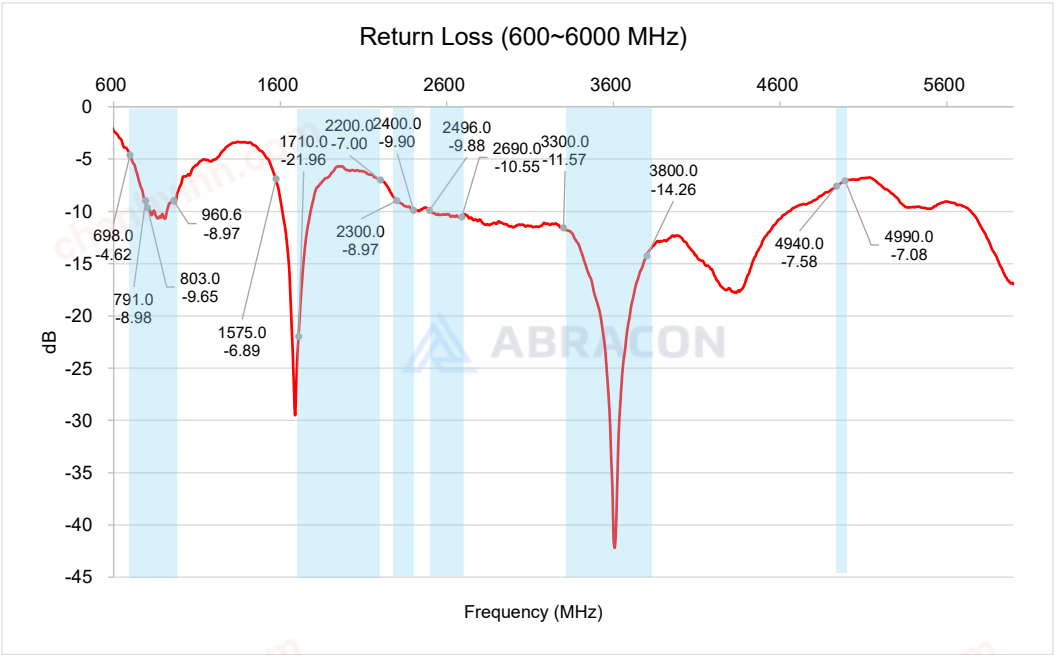


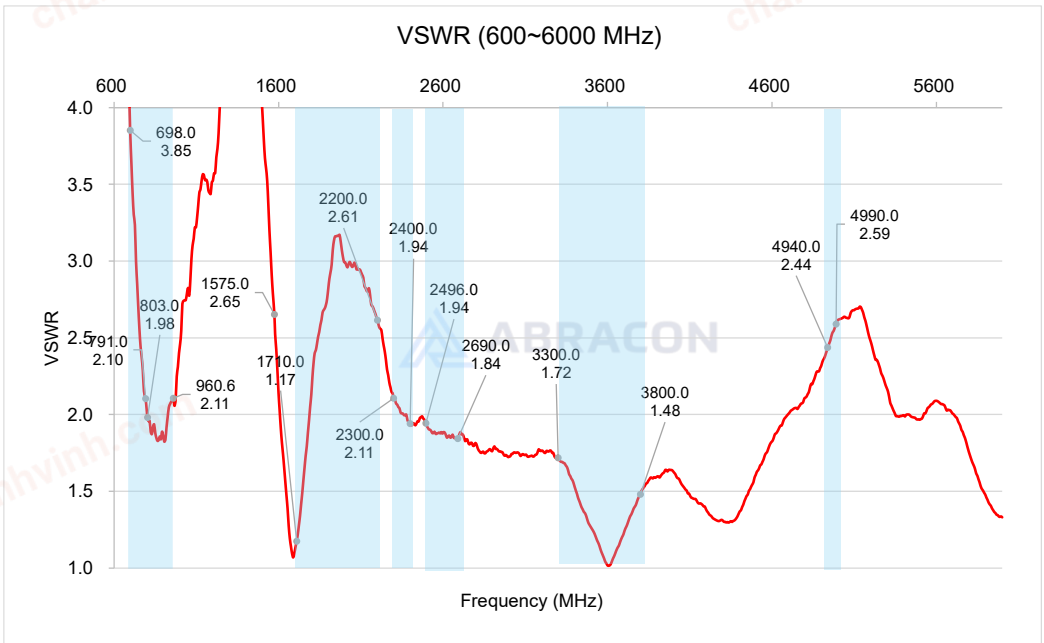
AANI-FB-0176

Request Samples | Check Inventory

120 x 50 x 0.2 mm
RoHS/RoHS II Compliant
MSL Level = N/A

Reflection Characteristics – Return Loss & VSWR





ABRACON

5101 Hidden Creek Ln Spicewood TX 78669
Phone: 512-371-6159 | Fax: 512-351-8858
For terms and conditions of sales, please visit:
www.abracon.com

REVISED: 05-26-25

ABRACON IS ISO9001-2015 CERTIFIED

chanhvinh.com

Cellular 5G/4G + GNSS Combo Flexible PCB Antenna

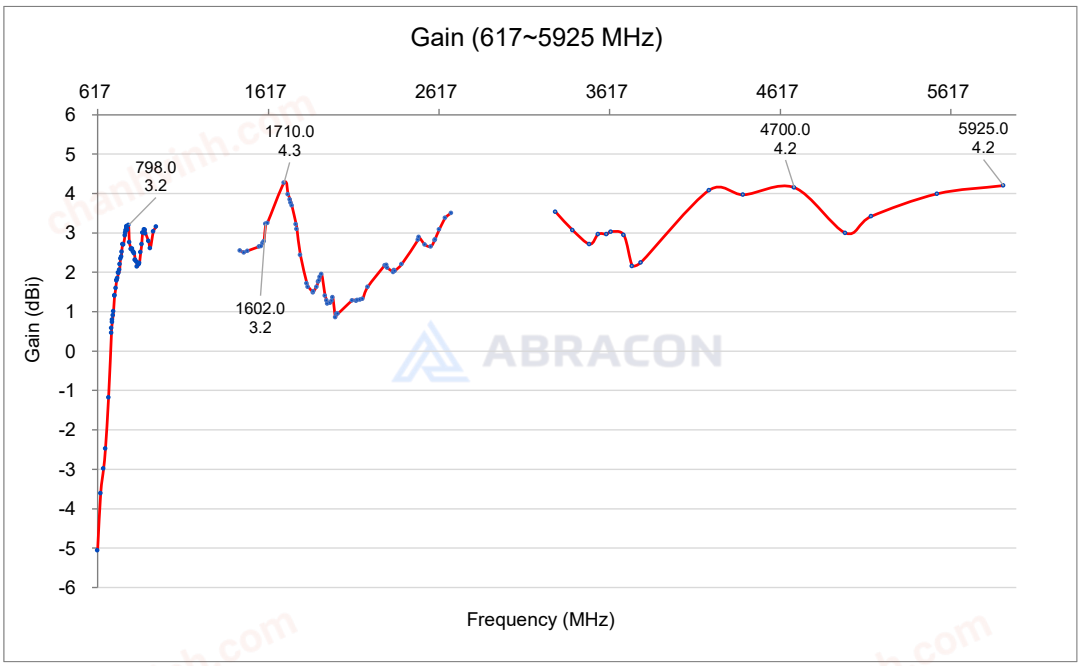


AANI-FB-0176

Request Samples | Check Inventory

120 x 50 x 0.2 mm
RoHS/RoHS II Compliant
MSL Level = N/A

Radiation Characteristics – Peak Gain



ABRACON

5101 Hidden Creek Ln Spicewood TX 78669
Phone: 512-371-6159 | Fax: 512-351-8858
For terms and conditions of sales, please visit:
www.abracon.com

REVISED: 05-26-25

ABRACON IS
ISO9001-2015
CERTIFIED

chanhvinh.com

Cellular 5G/4G + GNSS Combo Flexible PCB Antenna

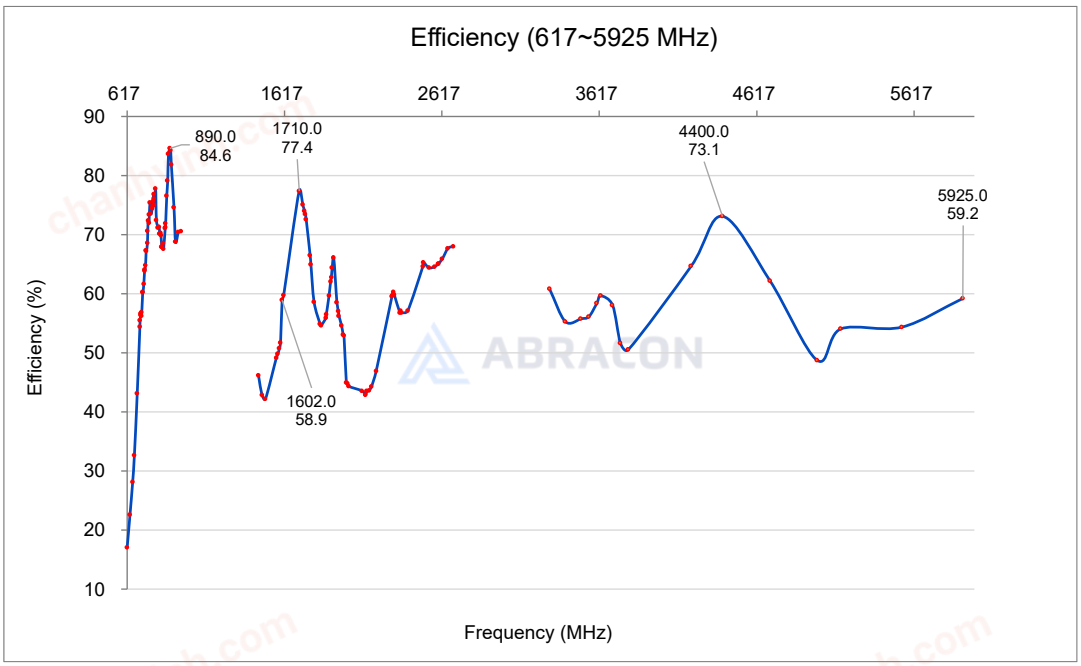


AANI-FB-0176

Request Samples | Check Inventory

120 x 50 x 0.2 mm
RoHS/RoHS II Compliant
MSL Level = N/A

Radiation Characteristics – Total Efficiency (%)



ABRACON

5101 Hidden Creek Ln Spicewood TX 78669
Phone: 512-371-6159 | Fax: 512-351-8858
For terms and conditions of sales, please visit:
www.abracon.com

REVISED: 05-26-25

ABRACON IS
ISO9001-2015
CERTIFIED

chanhvinh.com

Cellular 5G/4G + GNSS Combo Flexible PCB Antenna



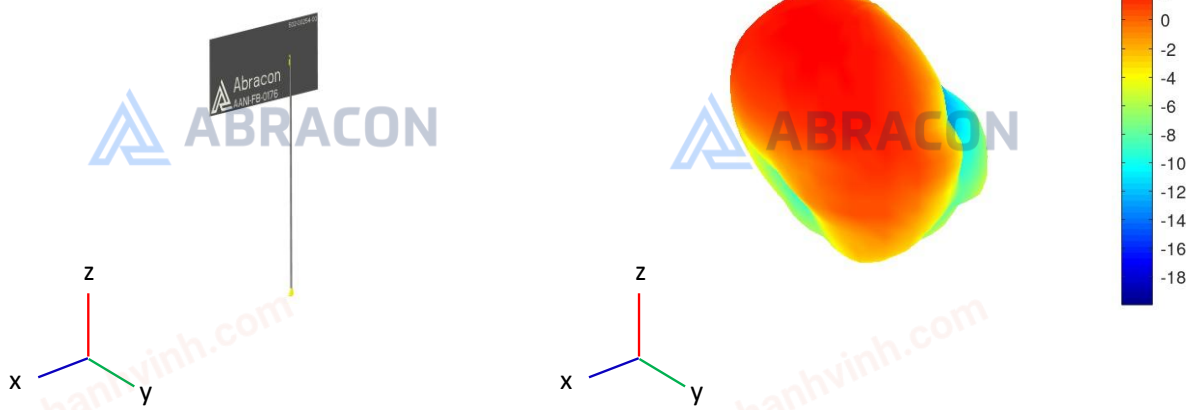
AANI-FB-0176

Request Samples | Check Inventory

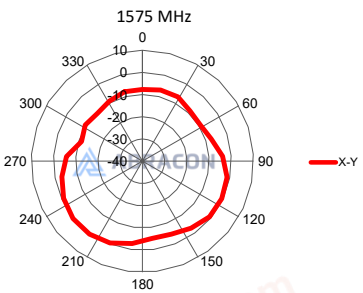
120 x 50 x 0.2 mm
RoHS/RoHS II Compliant
MSL Level = N/A

Radiation Characteristics – 3D & 2D pattern

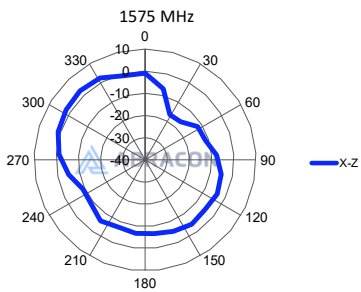
3D & 2D Pattern @ 1575 MHz



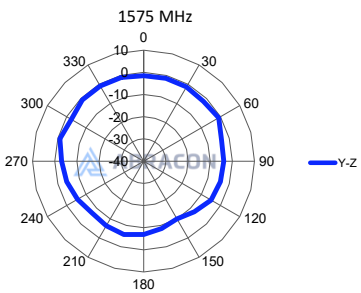
XY plane



XZ plane



YZ plane



ABRACON

5101 Hidden Creek Ln Spicewood TX 78669
Phone: 512-371-6159 | Fax: 512-351-8858
For terms and conditions of sales, please visit:
www.abracon.com

REVISED: 05-26-25

ABRACON IS ISO9001-2015 CERTIFIED

chanhvinh.com

Cellular 5G/4G + GNSS Combo Flexible PCB Antenna

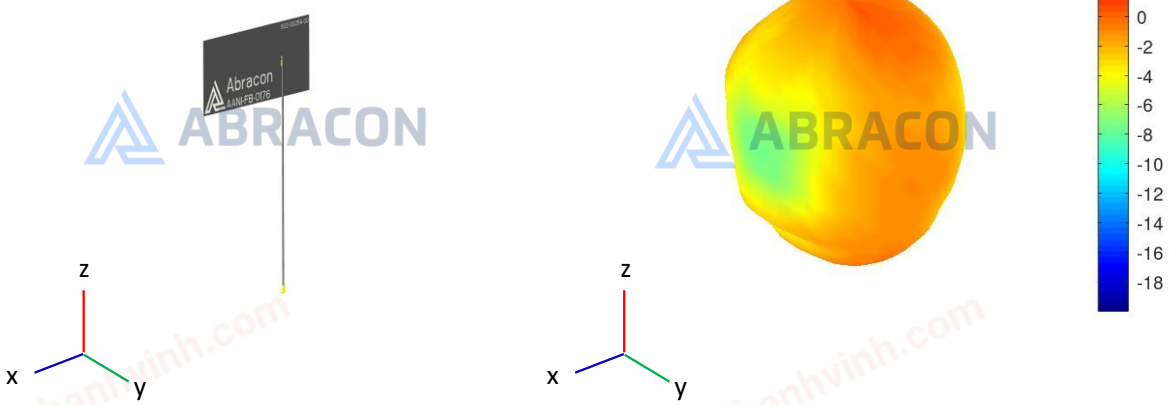


AANI-FB-0176

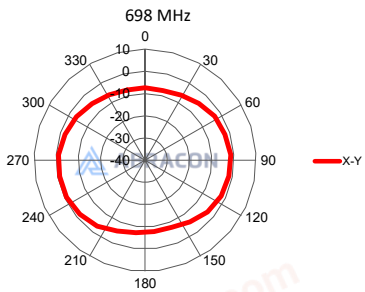
Request Samples | Check Inventory

120 x 50 x 0.2 mm
RoHS/RoHS II Compliant
MSL Level = N/A

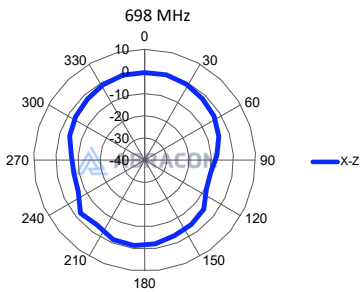
3D & 2D Pattern @ 698 MHz



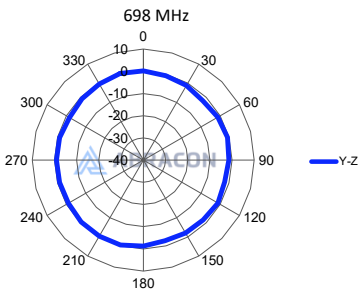
XY plane



XZ plane



YZ plane



ABRACON

5101 Hidden Creek Ln Spicewood TX 78669
Phone: 512-371-6159 | Fax: 512-351-8858
For terms and conditions of sales, please visit:
www.abracon.com

REVISED: 05-26-25

ABRACON IS
ISO9001-2015
CERTIFIED

chanhvinh.com

Cellular 5G/4G + GNSS Combo Flexible PCB Antenna

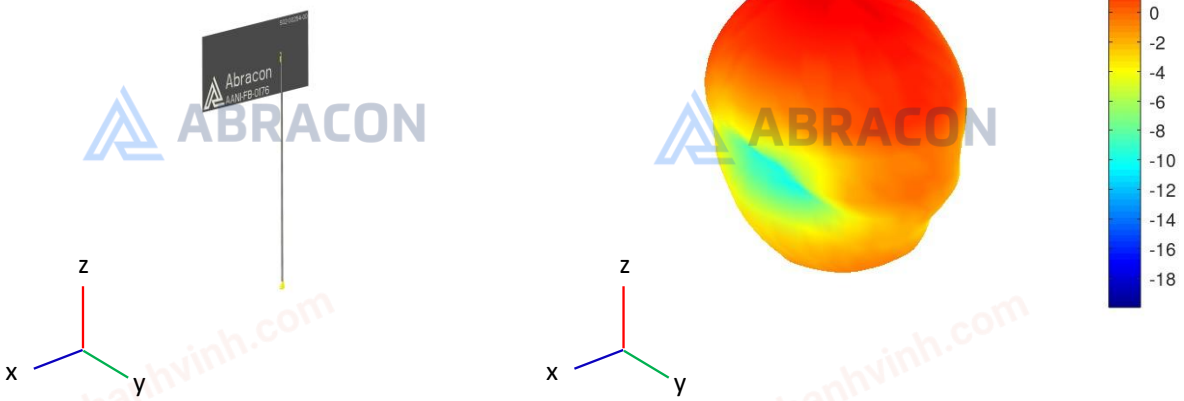


AANI-FB-0176

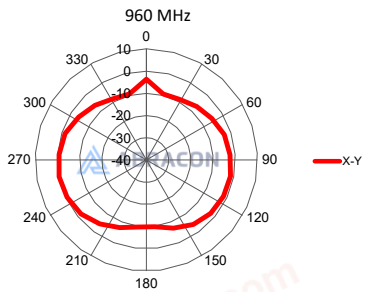
Request Samples | Check Inventory

120 x 50 x 0.2 mm
RoHS/RoHS II Compliant
MSL Level = N/A

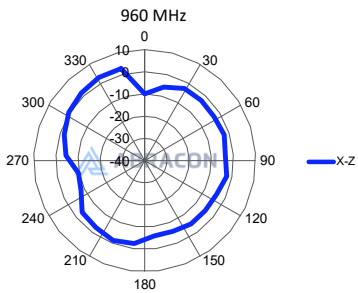
3D & 2D Pattern @ 960 MHz



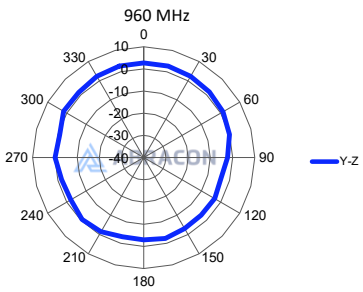
XY plane



XZ plane



YZ plane



ABRACON

5101 Hidden Creek Ln Spicewood TX 78669
Phone: 512-371-6159 | Fax: 512-351-8858
For terms and conditions of sales, please visit:
www.abracon.com

REVISED: 05-26-25

ABRACON IS ISO9001-2015 CERTIFIED

chanhvinh.com

Cellular 5G/4G + GNSS Combo Flexible PCB Antenna

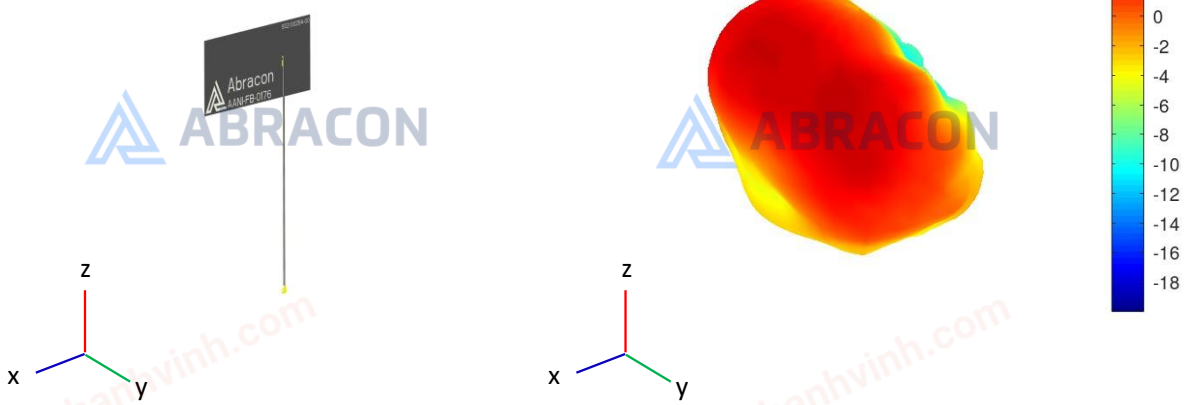


AANI-FB-0176

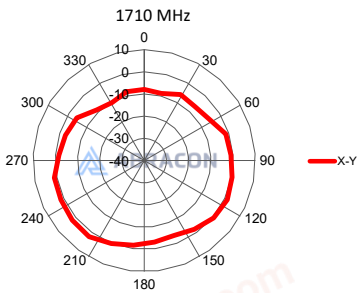
Request Samples | Check Inventory

120 x 50 x 0.2 mm
RoHS/RoHS II Compliant
MSL Level = N/A

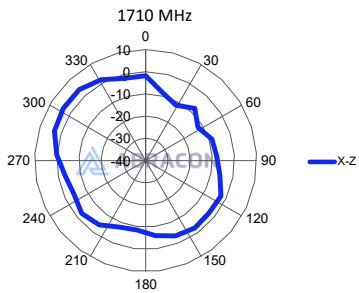
3D & 2D Pattern @ 1710 MHz



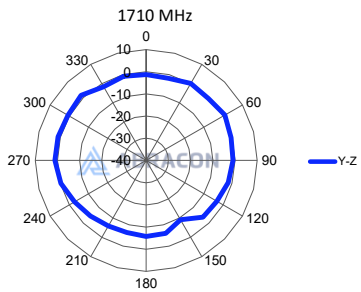
XY plane



XZ plane



YZ plane



ABRACON

5101 Hidden Creek Ln Spicewood TX 78669
Phone: 512-371-6159 | Fax: 512-351-8858
For terms and conditions of sales, please visit:
www.abracon.com

REVISED: 05-26-25

ABRACON IS
ISO9001-2015
CERTIFIED

chanhvinh.com

Cellular 5G/4G + GNSS Combo Flexible PCB Antenna

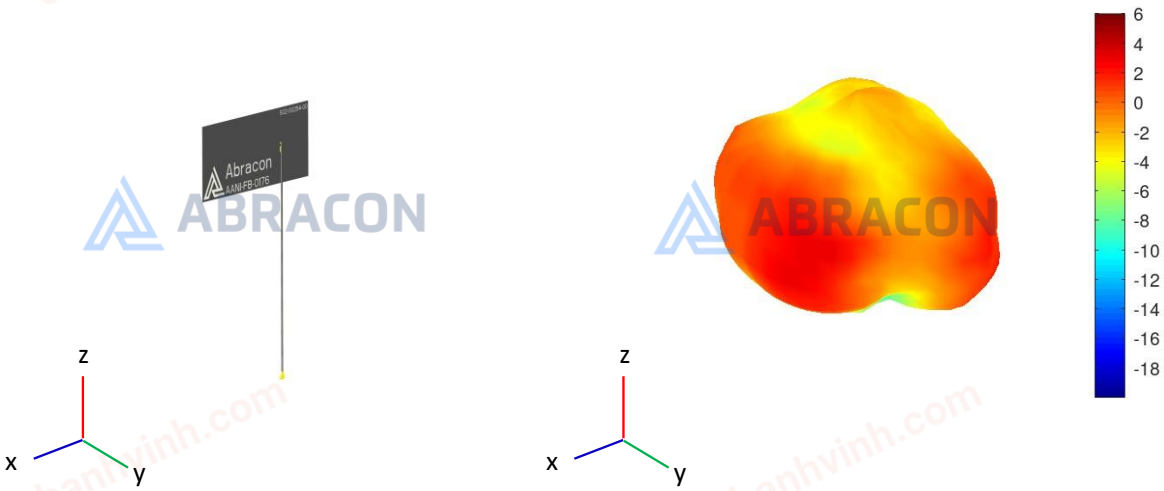


AANI-FB-0176

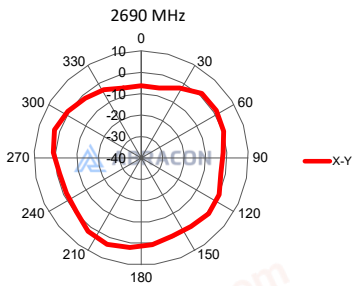
Request Samples | Check Inventory

120 x 50 x 0.2 mm
RoHS/RoHS II Compliant
MSL Level = N/A

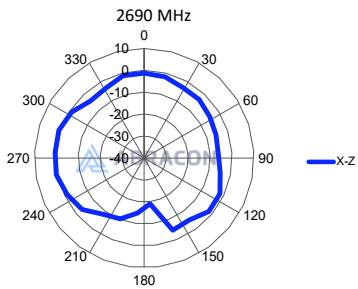
3D & 2D Pattern @ 2690 MHz



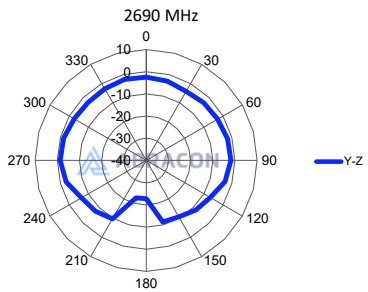
XY plane



XZ plane



YZ plane



ABRACON

5101 Hidden Creek Ln Spicewood TX 78669
Phone: 512-371-6159 | Fax: 512-351-8858
For terms and conditions of sales, please visit:
www.abracon.com

REVISED: 05-26-25

ABRACON IS
ISO9001-2015
CERTIFIED

chanhvinh.com

Cellular 5G/4G + GNSS Combo Flexible PCB Antenna

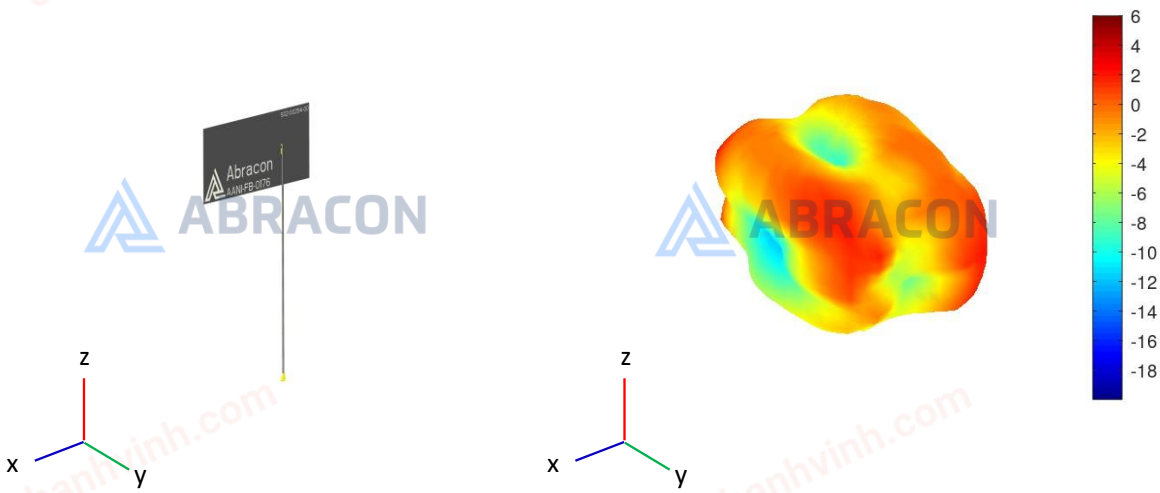


AANI-FB-0176

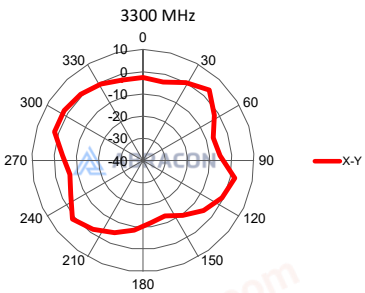
Request Samples | Check Inventory

120 x 50 x 0.2 mm
RoHS/RoHS II Compliant
MSL Level = N/A

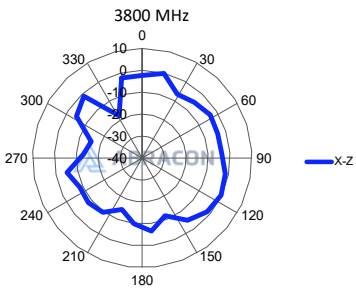
3D & 2D Pattern @ 3300 MHz



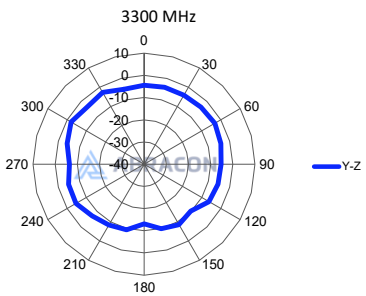
XY plane



XZ plane



YZ plane



ABRACON

5101 Hidden Creek Ln Spicewood TX 78669
Phone: 512-371-6159 | Fax: 512-351-8858
For terms and conditions of sales, please visit:
www.abracon.com

REVISED: 05-26-25

ABRACON IS ISO9001-2015 CERTIFIED

chanhvinh.com

Cellular 5G/4G + GNSS Combo Flexible PCB Antenna

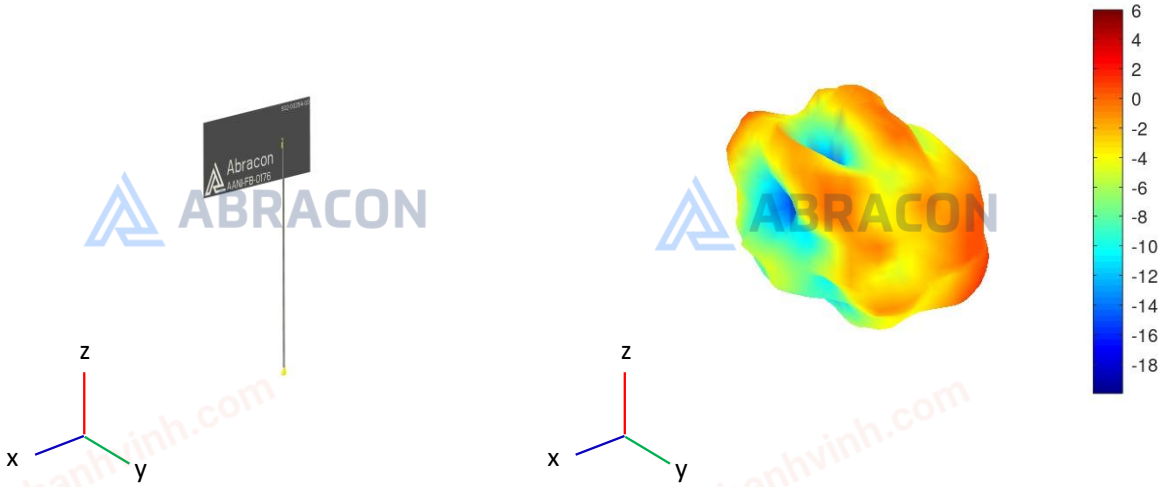


AANI-FB-0176

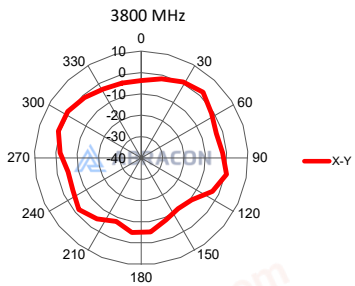
Request Samples | Check Inventory

120 x 50 x 0.2 mm
RoHS/RoHS II Compliant
MSL Level = N/A

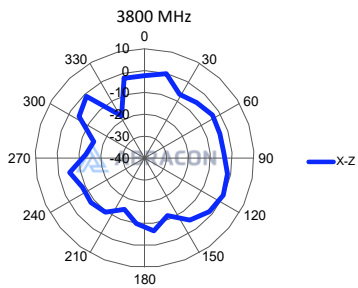
3D & 2D Pattern @ 3800 MHz



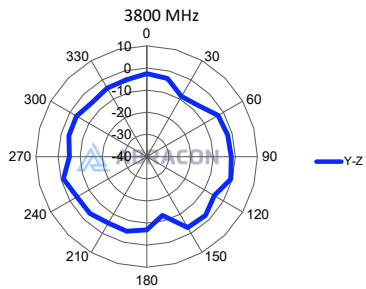
XY plane



XZ plane



YZ plane



ABRACON

5101 Hidden Creek Ln Spicewood TX 78669
Phone: 512-371-6159 | Fax: 512-351-8858
For terms and conditions of sales, please visit:
www.abracon.com

REVISED: 05-26-25

ABRACON IS
ISO9001-2015
CERTIFIED

chanhvinh.com

Cellular 5G/4G + GNSS Combo Flexible PCB Antenna

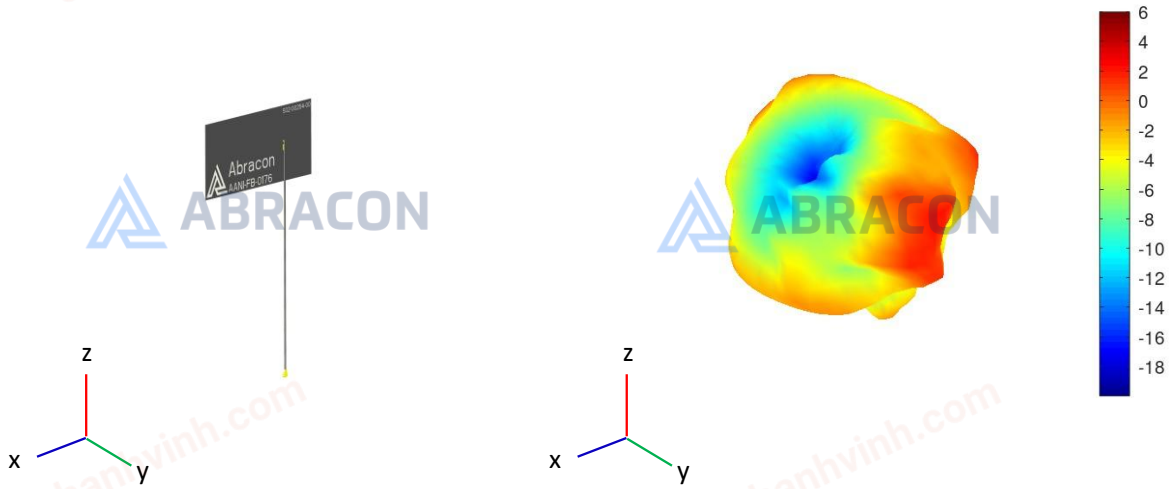


AANI-FB-0176

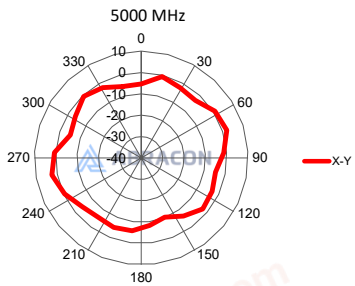
Request Samples | Check Inventory

120 x 50 x 0.2 mm
RoHS/RoHS II Compliant
MSL Level = N/A

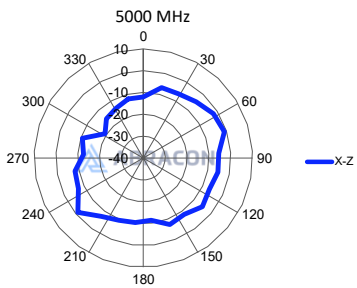
3D & 2D Pattern @ 5000 MHz



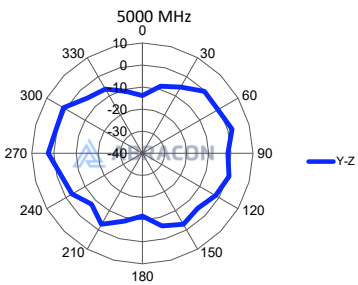
XY plane



XZ plane



YZ plane



ABRACON

5101 Hidden Creek Ln Spicewood TX 78669
Phone: 512-371-6159 | Fax: 512-351-8858
For terms and conditions of sales, please visit:
www.abracon.com

REVISED: 05-26-25

ABRACON IS ISO9001-2015 CERTIFIED

chanhvinh.com

Cellular 5G/4G + GNSS Combo Flexible PCB Antenna

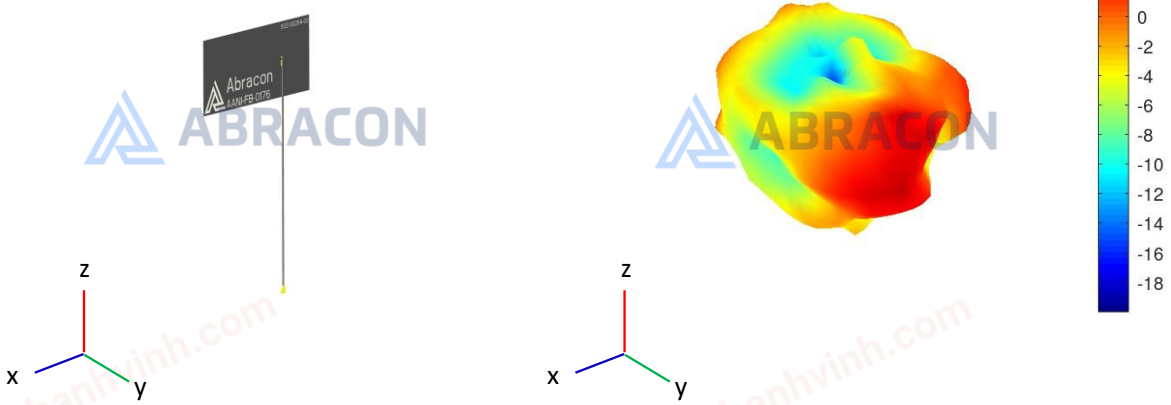


AANI-FB-0176

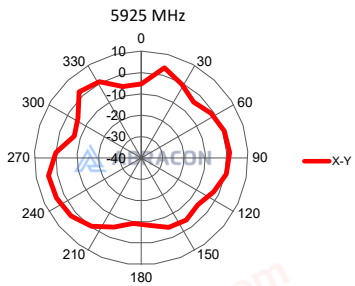
Request Samples | Check Inventory

120 x 50 x 0.2 mm
RoHS/RoHS II Compliant
MSL Level = N/A

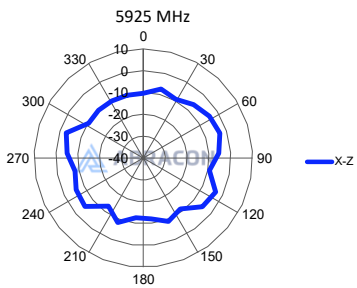
3D & 2D Pattern @ 5925 MHz



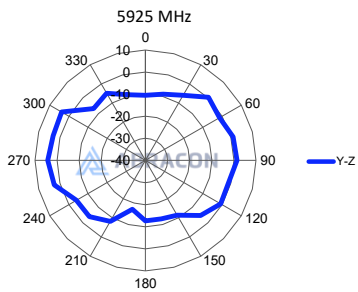
XY plane



XZ plane



YZ plane



ABRACON

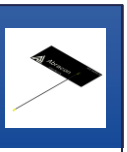
5101 Hidden Creek Ln Spicewood TX 78669
Phone: 512-371-6159 | Fax: 512-351-8858
For terms and conditions of sales, please visit:
www.abracon.com

REVISED: 05-26-25

ABRACON IS ISO9001-2015 CERTIFIED

chanhvinh.com

Cellular 5G/4G + GNSS Combo Flexible PCB Antenna



AANI-FB-0176

Request Samples | Check Inventory

120 x 50 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.

ABRACON

5101 Hidden Creek Ln Spicewood TX 78669
Phone: 512-371-6159 | Fax: 512-351-8858
For terms and conditions of sales, please visit:
www.abracon.com

REVISED: 05-26-25

ABRACON IS
ISO9001-2015
CERTIFIED