www.aboosty.com



Datasheet

Circularly Polarized Passive GPS Embedded Ceramic Patch Antenna

Model: AIGC039

PN: M04-0104680R0A

Description:

GPS/GLONASS/BeiDou/Galileo Passive Patch Antenna

Operating Frequency: 1170-1210 MHz&1559-1610 MHz

Features:

Ceramic Patch Element

Dimensions: 35x35x4+28x28x4 mm

Tuned for 41 × 41 mm Ground Plane

Low Axial Ratio

Adhesive Mount

RoHS Compliant

ABOOSTY

Table of Contents

FEATURES & BENEFITS 1

ANTENNA IMAGE AND MOUNTING 1

ORDER INFORMATION 1

APPLICATIONS 1

GNSS FREQUENCY BANDS 2

REFERENCE GUIDE 3

ELECTRICAL PERFORMANCE 4

- S11 4
- Passive Gain (dBi) and Total Efficiency (%) 5
- 2D Radiation Patterns (1175MHz) 7
- 3D Radiation Patterns (1175MHz) 8
- Passive Gain (dBi) and Total Efficiency (%) 9
- 2D Radiation Patterns (1575MHz) 10
- 3D Radiation Patterns (1575MHz) 11

MECHANICAL DIMENSIONS 12

Global Site: www.aboosty.com China Site: www.aboosty.cn

The materials provided herein, which are intended for illustration purposes only, are believed to be reliable and correct. However, no responsibility is further assumed for inaccuracies or incompleteness, and all such information shall be entirely at the user's risk. All information is subject to change without prior notice.

Copyright © 2026 ShenZhen MyAntenna RF Technology Co., Ltd. All Rights Reserved.
Aboosty™ is owned by Shenzhen MyAntenna RF Technology Co., Ltd. (often abbreviated as MyAntenna).

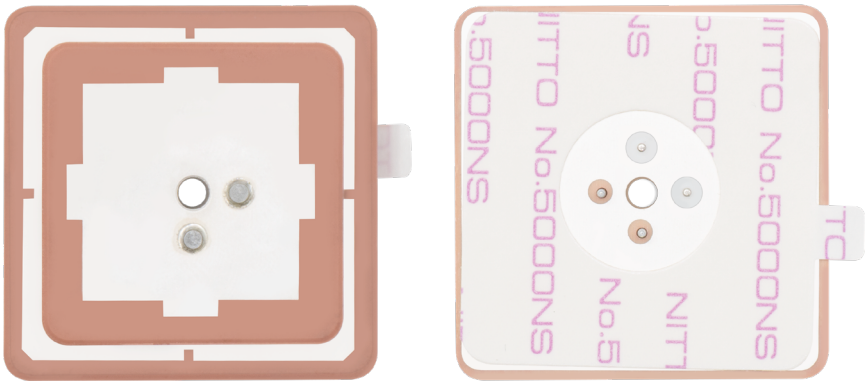
FEATURES & BENEFITS

- Ceramic Patch Element
- Compact, Multi-system Compatible
- 4-Pin Configuration
- Low Axial Ratio
- Adhesive Mount
- Customization Available
- RoHS Compliant
- Covering Bands: GPS/Bei Dou/GLONASS/ Galileo

APPLICATIONS

- Satellite Navigation Receivers
- Geodetic Surveying and Mapping
- Channel Surveying and Mapping
- Precision Agriculture
- Marine Surveying
- Asset and Fleet Tracking
- Oil, Gas, and Mining Industries
- M2M Applications
- Hand-held/Portable Devices

ANTENNA IMAGE AND MOUNTING



ORDER INFORMATION

Product Name	Circularly Polarized Passive GPS Embedded Ceramic Laminated Patch Antenna
Model	AIGC039
Part Number	M04-0104680R0A
Dimensions	35x35x4+28x28x4mm
Weight	39.5 g
Mounting	Internal/Embedded/Adhesive Mount
Custom Options	Logo, Packaging, Cable and Connectors

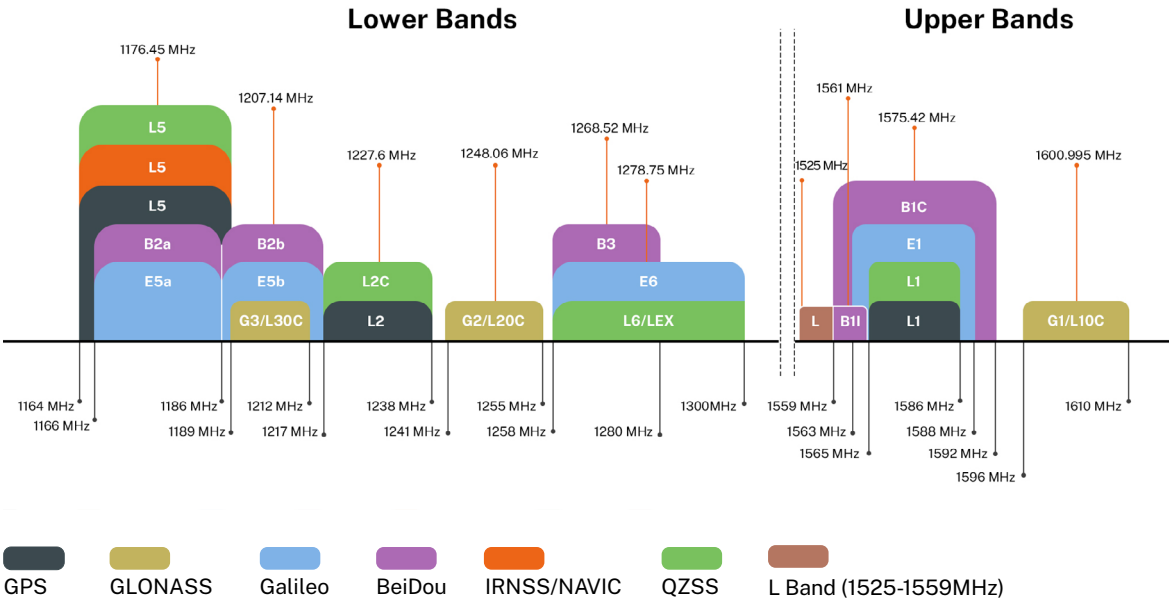
© 2026 MyAntenna RF Technology Co., Ltd

www.aboosty.com
Tel: +86-0755-86503881 Email: support@aboosty.com
410, Building A, Phoenix Zhigu, No. 50 Tiezai Rd, Xixiang Street
Ofiice, Bao'an District, Shenzhen, Guangdong Province, China

GNSS FREQUENCY BANDS

GNSS Frequency Bands Covered					
GPS	L1	L2	L5		
	●	○	●		
GLONASS	G1	G2	G3		
	●	○	●		
Galileo	E1	E5a	E5b	E6	
	●	●	●	○	
Bei Dou	B1I	B1C	B2a	B2b	B3
	●	●	●	●	○
QZSS (Regional)	L1	L2C	L5	L6	
	●	○	●	○	
IRNSS(Regional)	L5				
	●				
SBAS	L1/E1/B1	L5/B2a/E5a	G1	G2	G3
	●	●	●	○	○

*SBAS systems: WASS(L1/L5), EGNOSS(E1/E5a), SDCM(G1/G2/G3), SNAS(B1,B2a), GAGAN(L1/L5), QZSS(L1/L5), KAZZ(L1/L5).



© 2026 MyAntenna RF Technology Co., Ltd

www.aboosty.com
Tel: +86-0755-86503881 Email: support@aboosty.com
410, Building A, Phoenix Zhigu, No. 50 Tiezai Rd, Xixiang Street
Ofiice, Bao'an District, Shenzhen, Guangdong Province, China

REFERENCE GUIDE

Antenna				
Center Frequency	**1170-1210 MHz**	**1559-1610 MHz**		
Max Efficiency(%)	47.79	47.24		
Peak Gain (dBi)	-0.17	1.31		
Return Loss (dB)	≥ 15			
Axial Ratio (dB)	<3			
Polarization	RHCP			
Radiation Pattern	Directional			
Input Impedance	50 Ω			
Environmental				
Operating Temperature	-40°C to +75°C			
Storage Temperature	-40°C to +85°C			
Relative Humidity	40% to 95%			
Vibration	Wave Form: Random Vibration			
	Test Time: 30min/Axis			
	Direction: X, Y, Z Axis			
	PSD Break Points for 9.8 RMS (m/s^2)	Frequency (Hz)	50	300
		Acceleration $((m/s^2)^2/Hz)$	0.38416	0.38416
RoHS Compliant	Yes			

All data were measured with a 41 x 41 mm ground plane. Application data might vary.

© 2026 MyAntenna RF Technology Co., Ltd

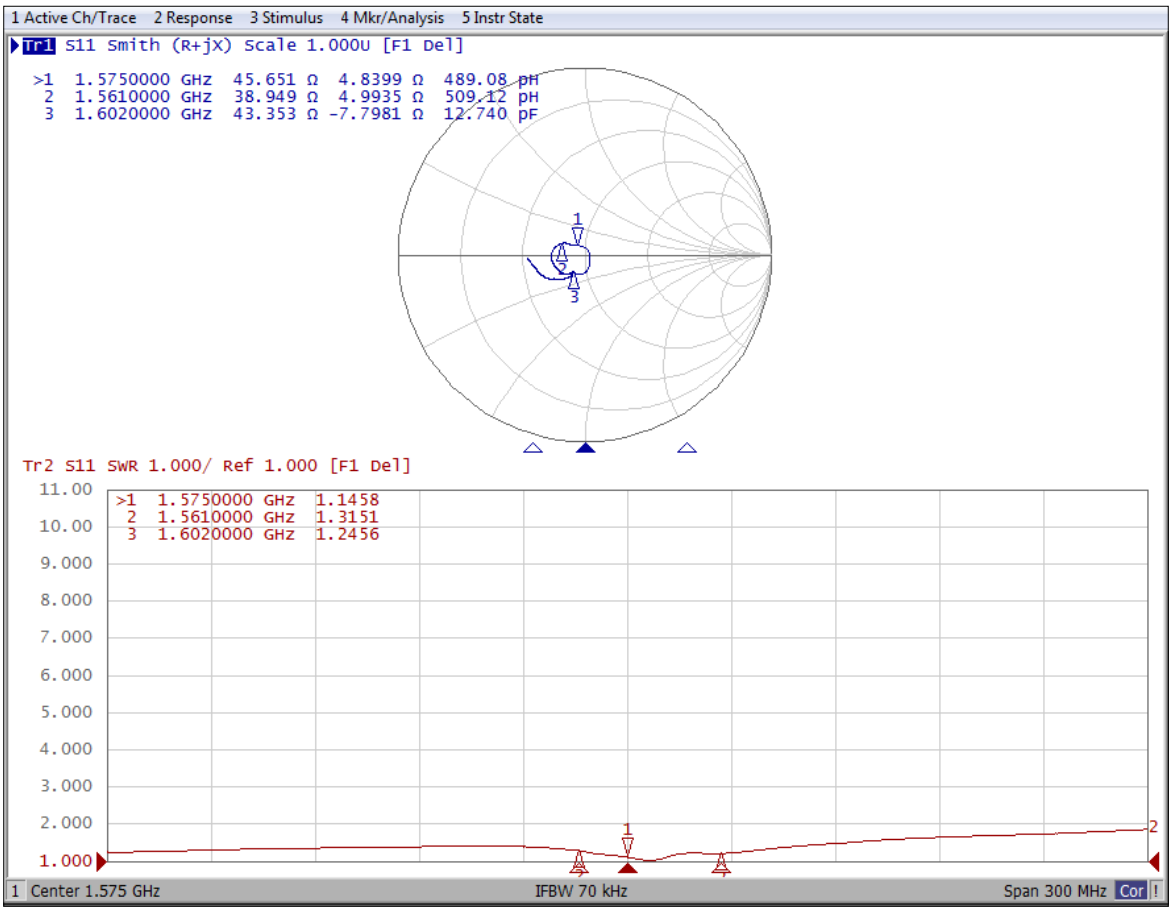
www.aboosty.com
Tel: +86-0755-86503881 Email: support@aboosty.com
410, Building A, Phoenix Zhigu, No. 50 Tiezai Rd, Xixiang Street
Ofiice, Bao'an District, Shenzhen, Guangdong Province, China

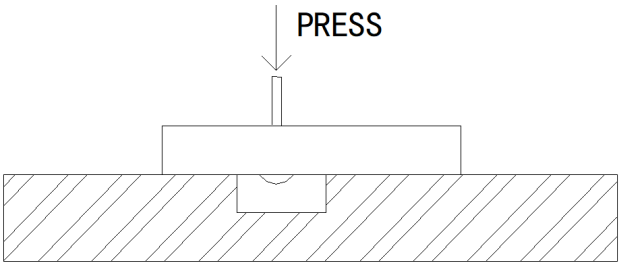
ELECTRICAL PERFORMANCE

◎ Note

All data displayed in "ELECTRICAL PERFORMANCE" were measured with an 41 x 41 mm ground plane.

S11



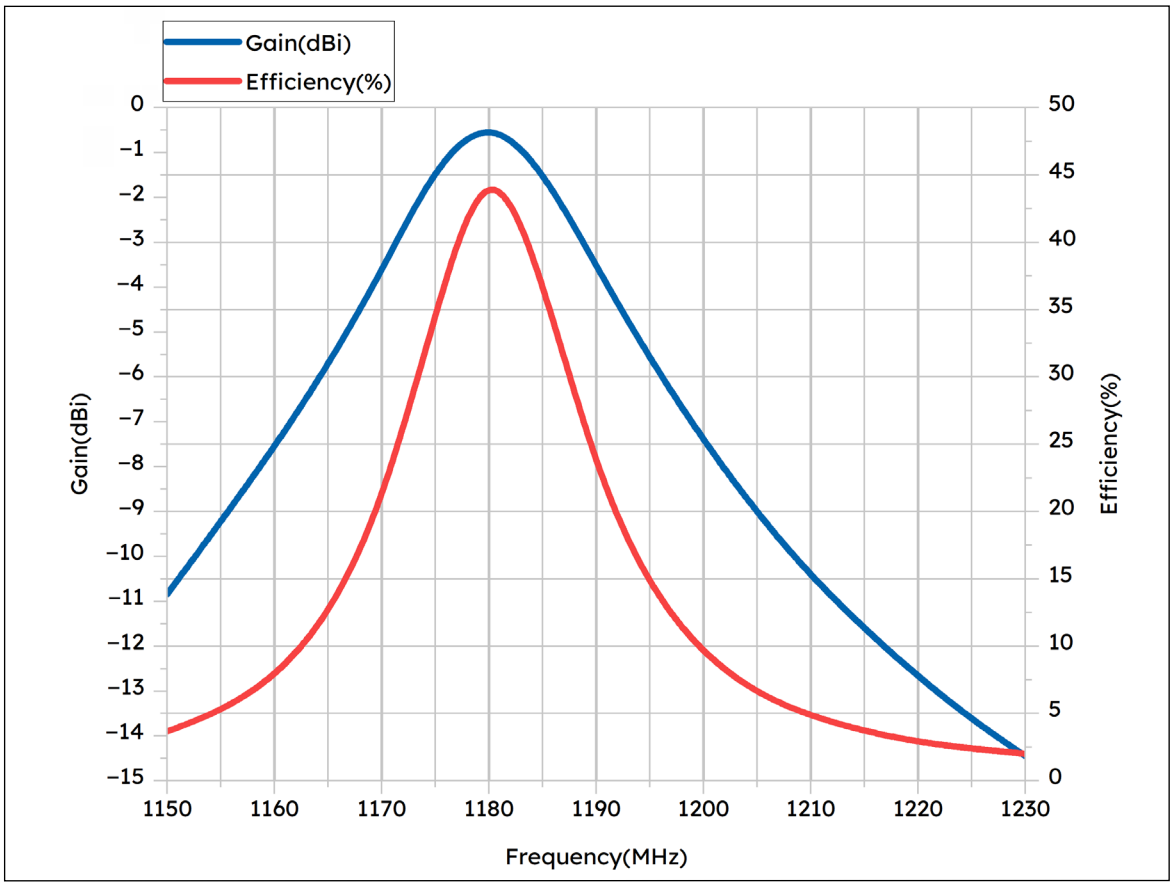


Item	Specification After Test (MHz)
Center Frequency Change	±2.0
-10dB Bandwidth Change	±2.0

© 2026 MyAntenna RF Technology Co., Ltd

www.aboosty.com
Tel: +86-0755-86503881 Email: support@aboosty.com
410, Building A, Phoenix Zhigu, No. 50 Tiezai Rd, Xixiang Street
Ofiice, Bao'an District, Shenzhen, Guangdong Province, China

Passive Gain (dBi) and Total Efficiency (%)



Freq (MHz)	Gain (dBi)	Effi. (%)
1150	-10.84	3.67
1155	-9.22	5.17
1160	-7.56	7.65
1165	-5.74	12.15
1170	-3.65	20.34
1175	-1.26	34.81
1180	-0.17	47.79
1185	-1.36	37.29
1190	-3.54	22.86
1195	-5.6	14.26
1200	-7.42	9.37
1205	-9.04	6.46
1210	-10.43	4.81
1215	-11.61	3.69
1220	-12.68	2.88

© 2026 MyAntenna RF Technology Co., Ltd

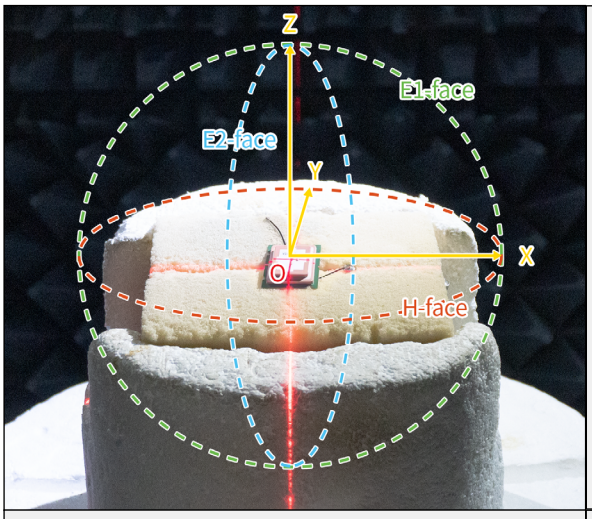
www.aboosty.com
Tel: +86-0755-86503881 Email: support@aboosty.com
410, Building A, Phoenix Zhigu, No. 50 Tiezai Rd, Xixiang Street
Ofiice, Bao'an District, Shenzhen, Guangdong Province, China

1225	-13.63	2.39
1230	-14.45	2.02

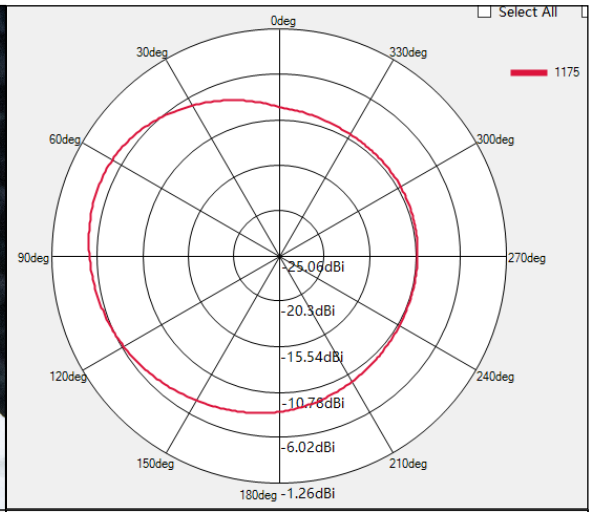
© 2026 MyAntenna RF Technology Co., Ltd

www.aboosty.com
Tel: +86-0755-86503881 Email: support@aboosty.com
410, Building A, Phoenix Zhigu, No. 50 Tiezai Rd, Xixiang Street
Ofiice, Bao'an District, Shenzhen, Guangdong Province, China

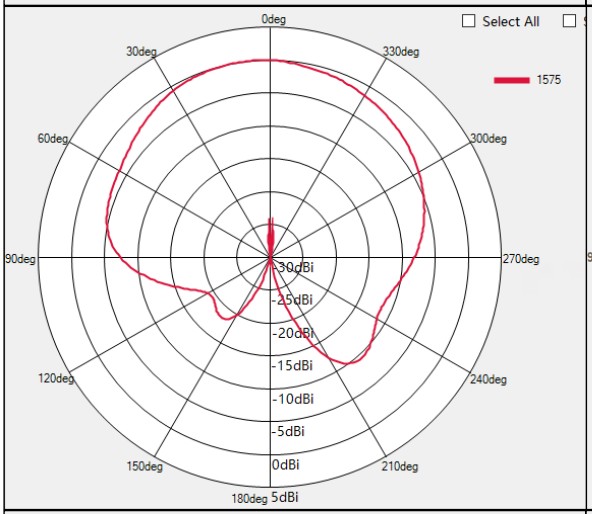
2D Radiation Patterns (1175MHz)



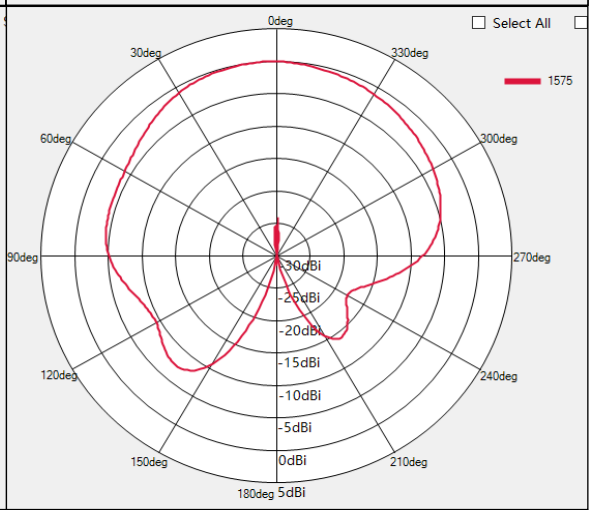
The Antenna in the Aboosty's Anechoic Chamber



θ = 90° Plane XY at 1175 MHz



Φ = 0° Plane XZ at 1175 MHz

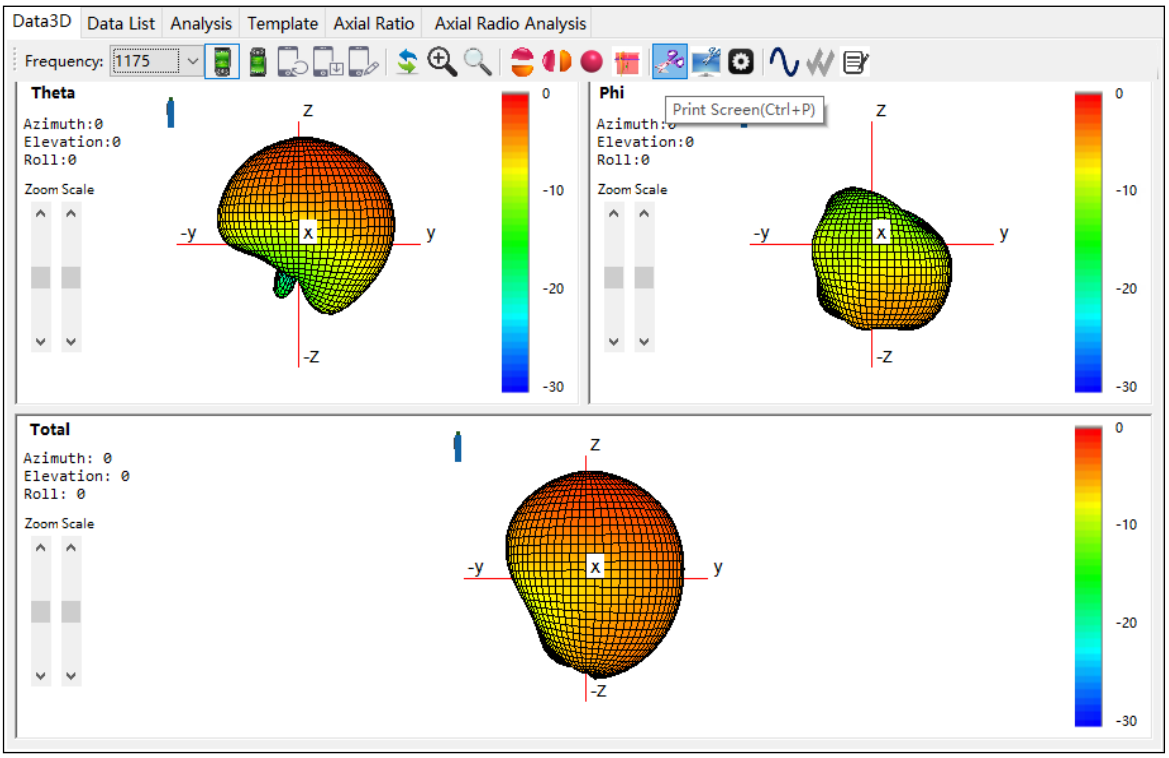


Φ = 90° Plane YZ at 1175 MHz

© 2026 MyAntenna RF Technology Co., Ltd

www.aboosty.com
Tel: +86-0755-86503881 Email: support@aboosty.com
410, Building A, Phoenix Zhigu, No. 50 Tiezai Rd, Xixiang Street
Ofiice, Bao'an District, Shenzhen, Guangdong Province, China

3D Radiation Patterns (1175MHz)

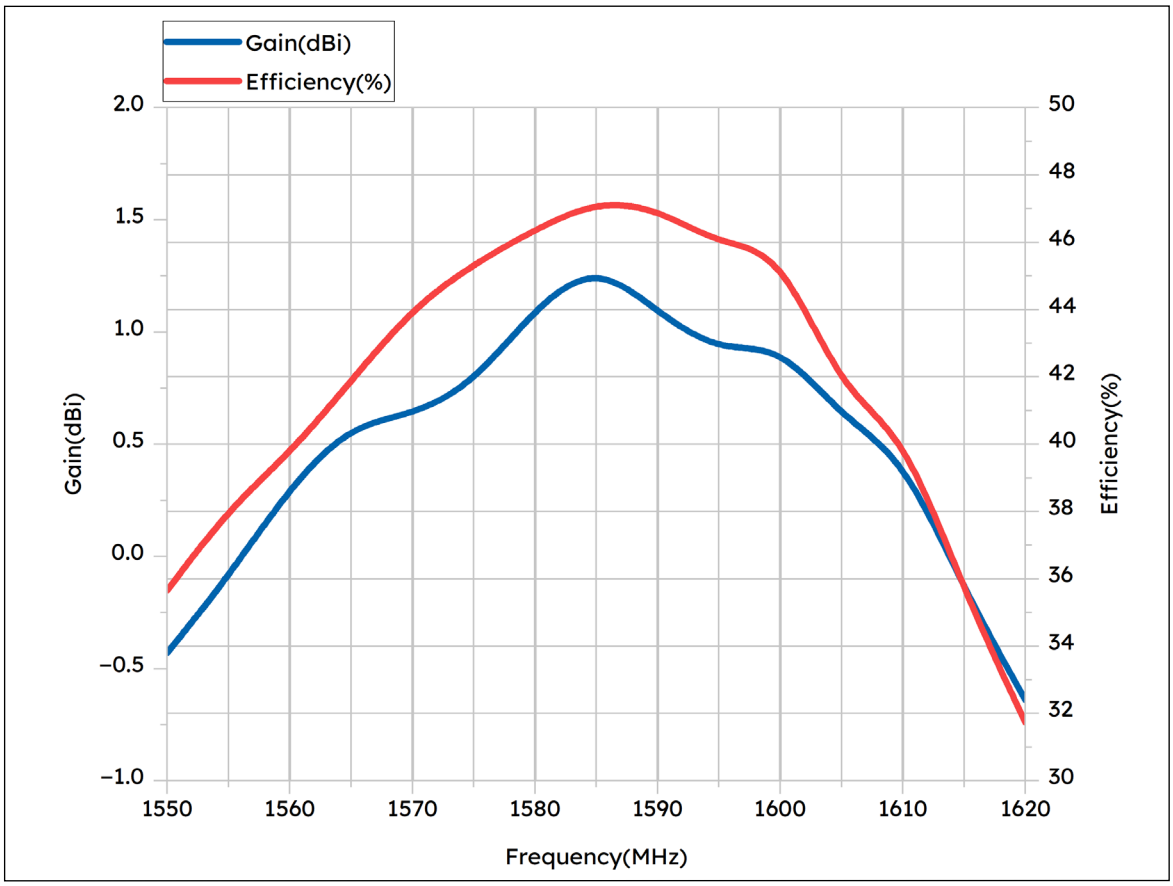


3D at 1175 MHz, Gain= -1.26 dBi

© 2026 MyAntenna RF Technology Co., Ltd

www.aboosty.com
Tel: +86-0755-86503881 Email: support@aboosty.com
410, Building A, Phoenix Zhigu, No. 50 Tiezai Rd, Xixiang Street
Ofiice, Bao'an District, Shenzhen, Guangdong Province, China

Passive Gain (dBi) and Total Efficiency (%)

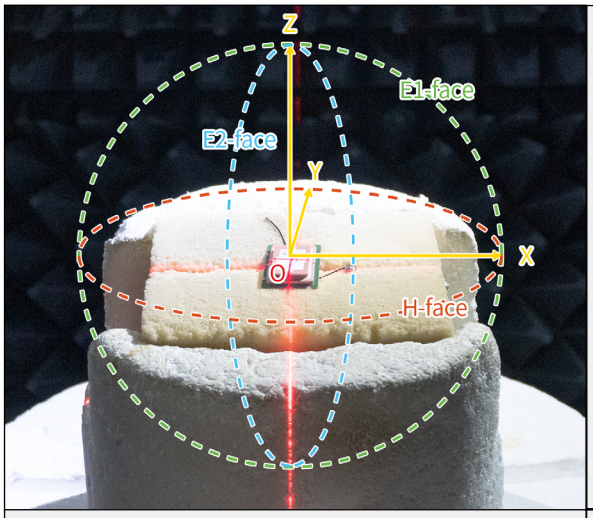


Freq (MHz)	Gain (dBi)	Effi. (%)
1550	-0.43	35.66
1555	-0.09	38.07
1560	0.31	39.73
1565	0.59	41.88
1570	0.63	44.05
1575	0.77	45.36
1580	1.11	46.38
1585	1.31	47.24
1590	1.09	47.01
1595	0.91	45.93
1600	0.95	45.81
1605	0.62	41.51
1610	0.45	40.42
1615	-0.15	35.6
1620	-0.64	31.73

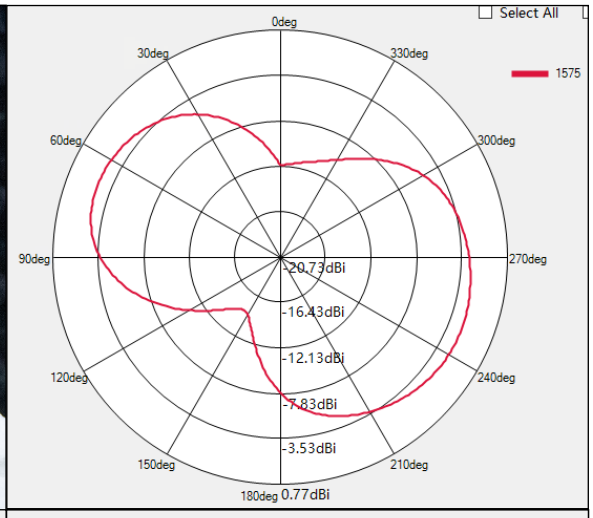
© 2026 MyAntenna RF Technology Co., Ltd

www.aboosty.com
Tel: +86-0755-86503881 Email: support@aboosty.com
410, Building A, Phoenix Zhigu, No. 50 Tiezai Rd, Xixiang Street
Ofiice, Bao'an District, Shenzhen, Guangdong Province, China

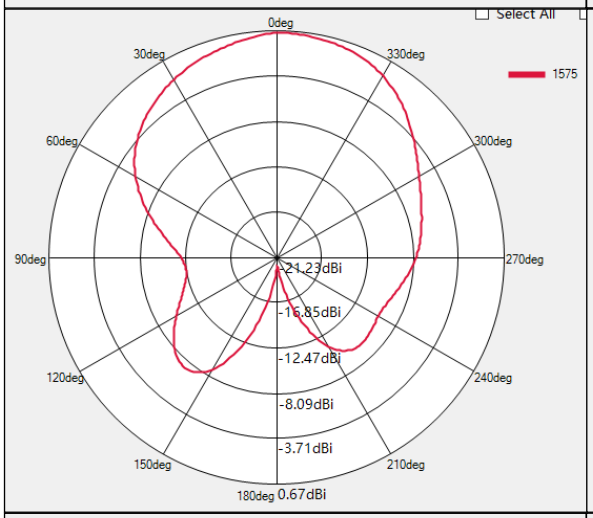
2D Radiation Patterns (1575MHz)



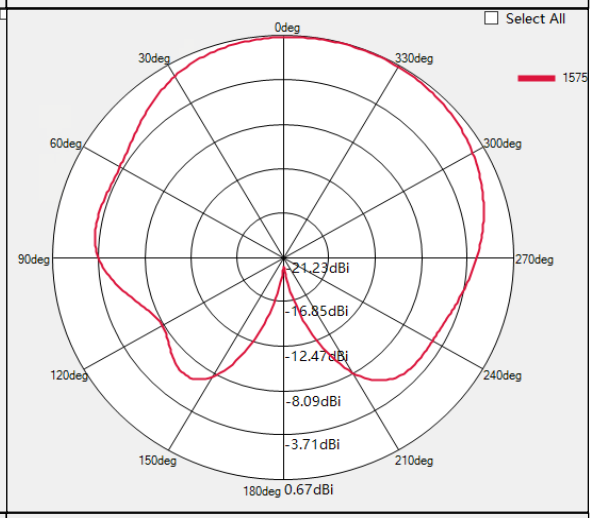
The Antenna in the Aboosty's Anechoic Chamber



θ = 90° Plane XY at 1575 MHz



Φ = 0° Plane XZ at 1575 MHz

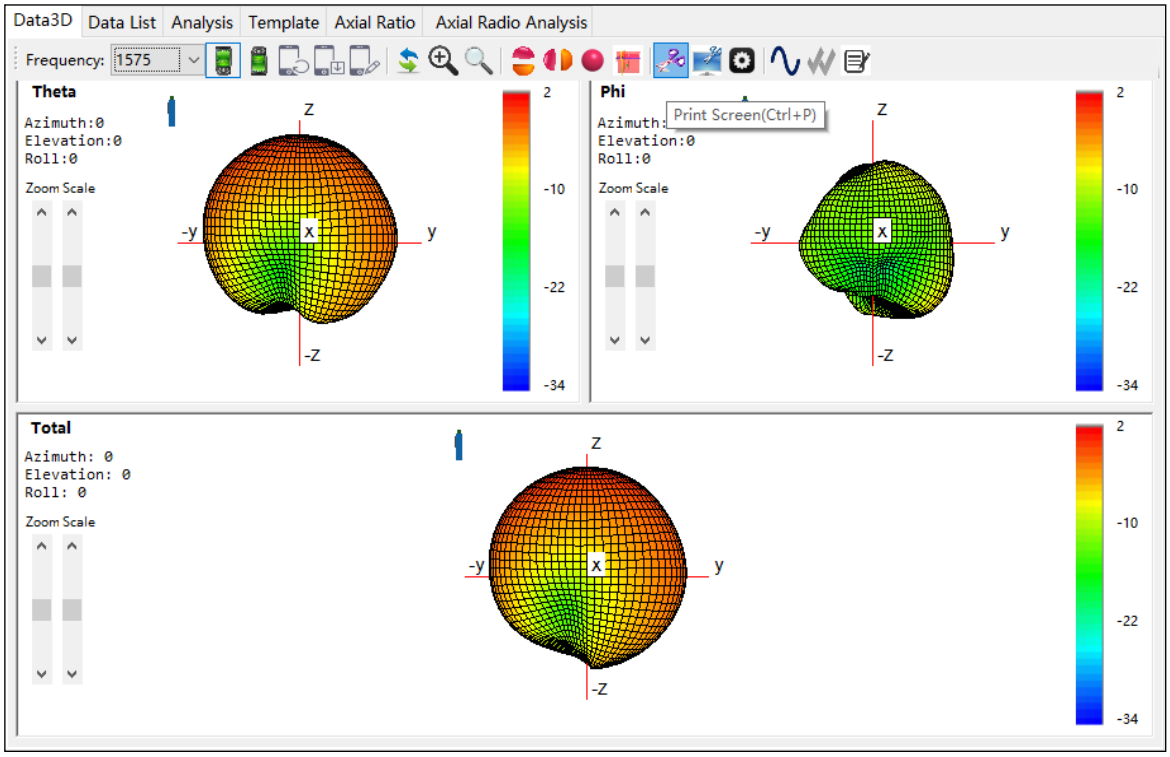


Φ = 90° Plane YZ at 1575 MHz

© 2026 MyAntenna RF Technology Co., Ltd

www.aboosty.com
Tel: +86-0755-86503881 Email: support@aboosty.com
410, Building A, Phoenix Zhigu, No. 50 Tiezai Rd, Xixiang Street
Ofiice, Bao'an District, Shenzhen, Guangdong Province, China

3D Radiation Patterns (1575MHz)



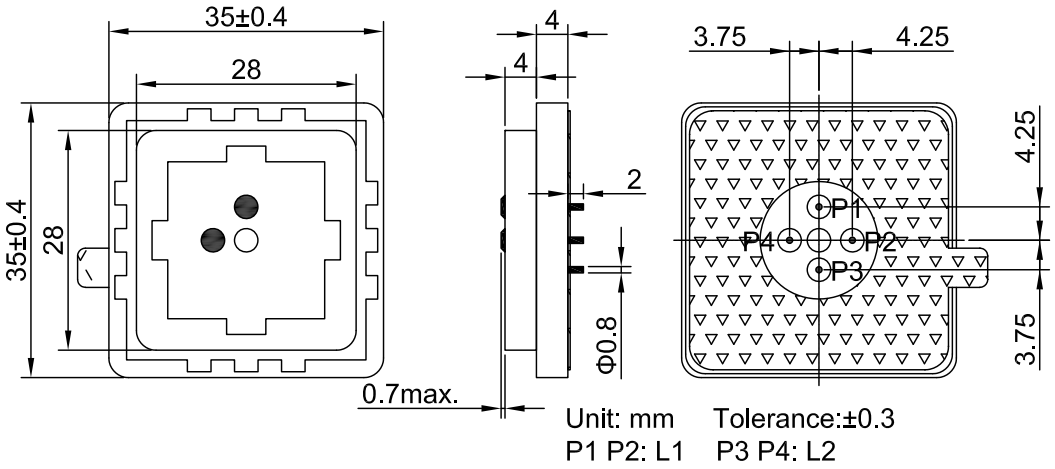
3D at 1575 MHz, Gain= 0.77 dBi

© 2026 MyAntenna RF Technology Co., Ltd

www.aboosty.com
Tel: +86-0755-86503881 Email: support@aboosty.com
410, Building A, Phoenix Zhigu, No. 50 Tiezai Rd, Xixiang Street
Ofiice, Bao'an District, Shenzhen, Guangdong Province, China

MECHANICAL DIMENSIONS

REV.	DESCRIPTION	APPD.	DATE
A	INITIAL RELEASED	Chen	2026/02/02



DIMENSIONS ARE IN MILLIMETERS

UNLESS OTHERWISE SPECIFIED TOLERANCES
ANGLES = ±3°
UP TO 6 = ±0.1
6-40 = ±0.2
40-120 = ±0.6
120-315 = ±1.0
ABOVE 315 = ±1.6

CUS P/N: AIGC039

PART NO.: M04-0104680R0A

APPD: 陈建功

CHKD: 陈建功

DR: 董春雄

ABOOSTY 爱比迪

TITLE: 35x35x4+28x28x4mm

DWG NO.:

SCALE	SHEET	REV.
1:1	1/1	V01

© 2026 MyAntenna RF Technology Co., Ltd

www.aboosty.com
Tel: +86-0755-86503881 Email: support@aboosty.com
410, Building A, Phoenix Zhigu, No. 50 Tiezai Rd, Xixiang Street
Ofiice, Bao'an District, Shenzhen, Guangdong Province, China

ABOOSTY WELCOME ALL ANTENNA OEM/ODM PROJECTS

Why Choose ABOOSTY

10+ years in antenna R&D, production, and OEM/ODM

MES system supported factory; 50M+ units annual output capacity

Factory directly competitive price

Quick price and lead time estimate

Innovative and patented design solutions

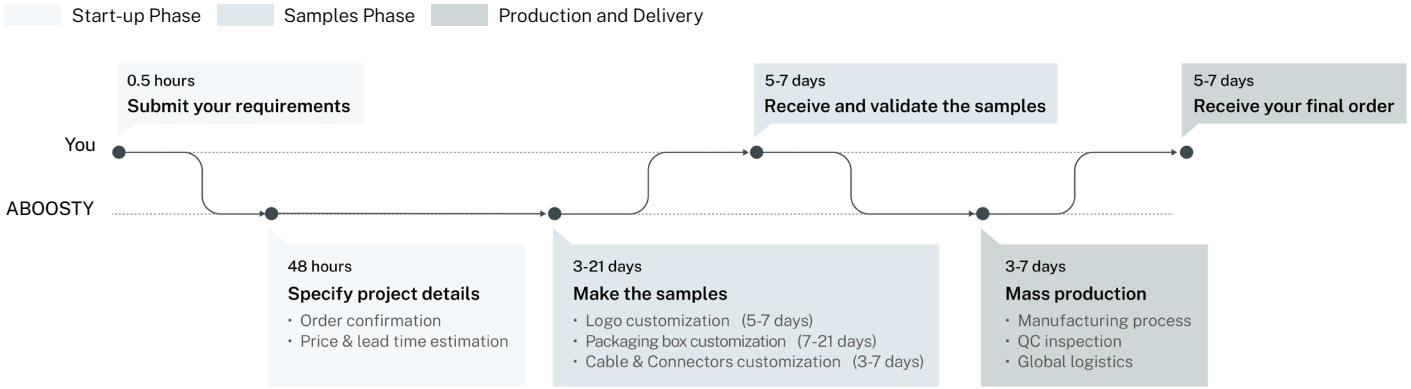
Professional team support & prompt reply within 24h

What We Provide

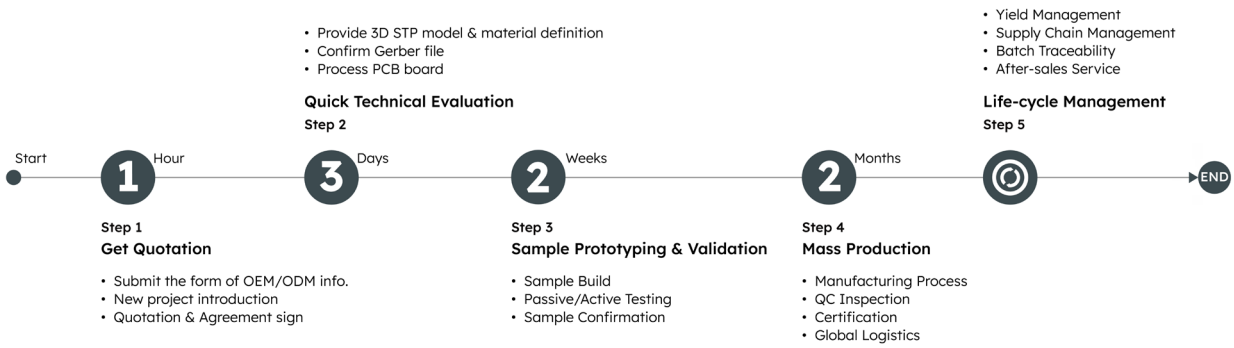
	Light Customization	Deep Customization
OEM/ODM Services	• Logo • Packaging • Cables & Connectors	• In-depth tailoring for specific applications • Functional enhancements • Environmental adaptations • Vertical certifications • ...

Custom Process

Light Customization Process



Deep Customization Process



Note: You can let us handle the PCB prototyping or do it yourself. Choosing self-prototyping may add 2 to 5 weeks to the timeline.

Boost Your Signal
with Our Antennas

ABOOSTY



A Globally Leading Manufacturer and Supplier of Multi-band Combination Antennas

Contact us:

support@aboosty.com

+86-13924678201

Find us (Global):

www.aboosty.com

Search to follow us or to get technical support.

@Aboosty

Aboosty Antenna

Or click here to reach us directly.

国内官网: www.aboosty.cn

微信扫一扫以获取技术支持
Scan with WeChat App

微信扫一扫关注公众号
Scan with WeChat App