



Datasheet

External Circular Polarized Active GPS Antenna with Screw Mount

Model: AEGW002

PN: M02-0300220R0A

Description:

Active B1/L1/G1 Band BDS/GPS/GLONASS Antenna

Operating Frequency: 1550 - 1610 MHz

Features:

UV-resistant, impact-resistant, waterproof

Cable: 100 mm RF 1.13

Connector: IPEX 1

Dimensions: Φ 32 x 59.9 mm

Customizable Options: RF cables, connectors

RoHS Compliant





Table of Contents

FEATURES & BENEFITS	1
APPLICATIONS.....	1
ORDER INFORMATION	1
MECHANICAL DIMENSIONS.....	2
REFERENCE GUIDE.....	3
ELECTRICAL PERFORMANCE	4
Passive S11 (dB)	4
Passive Gain (dBic) and Total Efficiency (%)	5
Active Gain (dB)	6
Passive 2D Radiation Patterns (1550-1610 MHz)	8
Passive 3D Radiation Patterns (1550-1610 MHz)	9
Active 3D Radiation Patterns (1550-1610 MHz).....	10
WELCOME ALL ANTENNA OEM/ODM PROJECTS.....	11

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FEATURES & BENEFITS

- Lightweight, low profile and rugged design
- Easy installation with a built-in bolt interface, allowing it to be directly screwed onto devices without the need for additional screws.
- The perfect anti-vandal antenna with a UV and impact-resistant outer shell
- Dustproof and waterproof, durable and stable in harsh environments

APPLICATIONS

- Military, Law Enforcement, or Private Security
- Hand-held/Portable Devices
- Asset and Fleet Tracking
- Scientific Instrumentations
- Oil, Gas, and Mining Industries
- M2M Applications
- Precision Agriculture
- BeiDou B1 Band / GPS L1 Band / GLONASS G1 Band



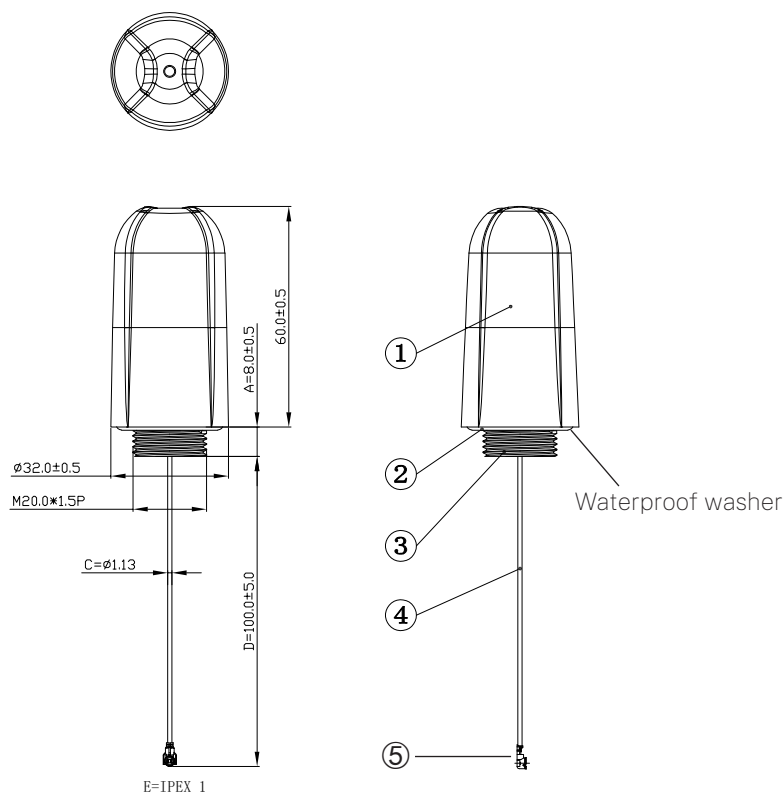
Antenna Image

ORDER INFORMATION

Product Name	External Circular Polarized GPS Antenna with Screw Mount
Part Number	M02-0300220R0A
Dimensions	Ø32 x 59.9 mm
Weight	31 g
Color	Black
Outer Shell Material	PC+ABS+UV
Mounting	Screw mount
Cable	Default IPEX 1 RF 1.13 coaxial cable (Ø 1.13 x 100 mm) , customizable.

MECHANICAL DIMENSIONS

REV.	DESCRIPTION	APPD.	DATE
A	INITIAL RELEASED	Chen	2024/12/12



Note:

③④⑤ support customization.
Feel free to contact us for more details.

4	Cable Asm		Black	$\phi 1.13$ mm Coaxial Line, IPEX 1	1	
3	Body Screws		Aluminum	M20*1.5P	1	
2	O-RING		Black	$\phi 28.0 \times 3.1$ mm	1	
1	Body		Black	$\phi 32.0 \times 59.9$ mm	1	
No.	Name	Material	Color	Treatment	Amount	Remark
DIMENSIONS ARE IN MILLIMETERS			CUS P/N:		ABOOSTY 爱比速 TITLE: GPS ANTENNA	
UNLESS OTHERWISE SPECIFIED TOLERANCES ANGLES = $\pm 3^\circ$ UP TO 6 = ± 0.1 6-40 = ± 0.2 40-120 = ± 0.6 120-315 = ± 1.0 ABOVE 315 = ± 1.6			PART NO.: M02-0300220R0A			
			APPD: 陈建坊		DWG NO.:	
			CHKD: 陈建坊		SCALE: 1:1 SHEET: 1/1 REV.: V01	
			DR: 董看玲			



REFERENCE GUIDE

Antenna				
Frequency	1550-1610 MHz			
Technical Features	BeiDou	GPS	GLONASS	
	1561 ± 2 MHz	1575.42 ± 2 MHz	1602 ± 5 MHz	
Frequency Bands	B1 Band	L1 Band	G1 Band	
Passive Efficiency (Max)	34.24 %	33.40 %	29.09 %	
Passive Gain	1.24 dBic	0.87 dBic	0.23 dBic	
Axial Ratio (AR)	<1.5 dB			
Passive VSWR	<2			
Input Impedance	50 Ω			
Polarization	RHCP			
Radiation Pattern	Directional			
LNA				
Active Gain	29.16 dB	27.16 dB	27.31 dB	
LNA Gain	28.71 dB	28.10 dB	27.44 dB	
Noise Figure	1.5 Max			
DC Voltage	3.3 ± 0.3 V			
DC Current	12 ± 2 mA (@3.0 V)			
Environmental				
Operating Temperature	-40°C to +85°C			
Storage Temperature	-40°C to +90°C			
Relative Humidity	Non-condensing 65°C 95% RH			
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)/Hz)		0.38416	0.38416	
RoHS Compliant	Yes			
All data were measured with an 100-mm-long RF 1.13 cable. Application data might vary.				

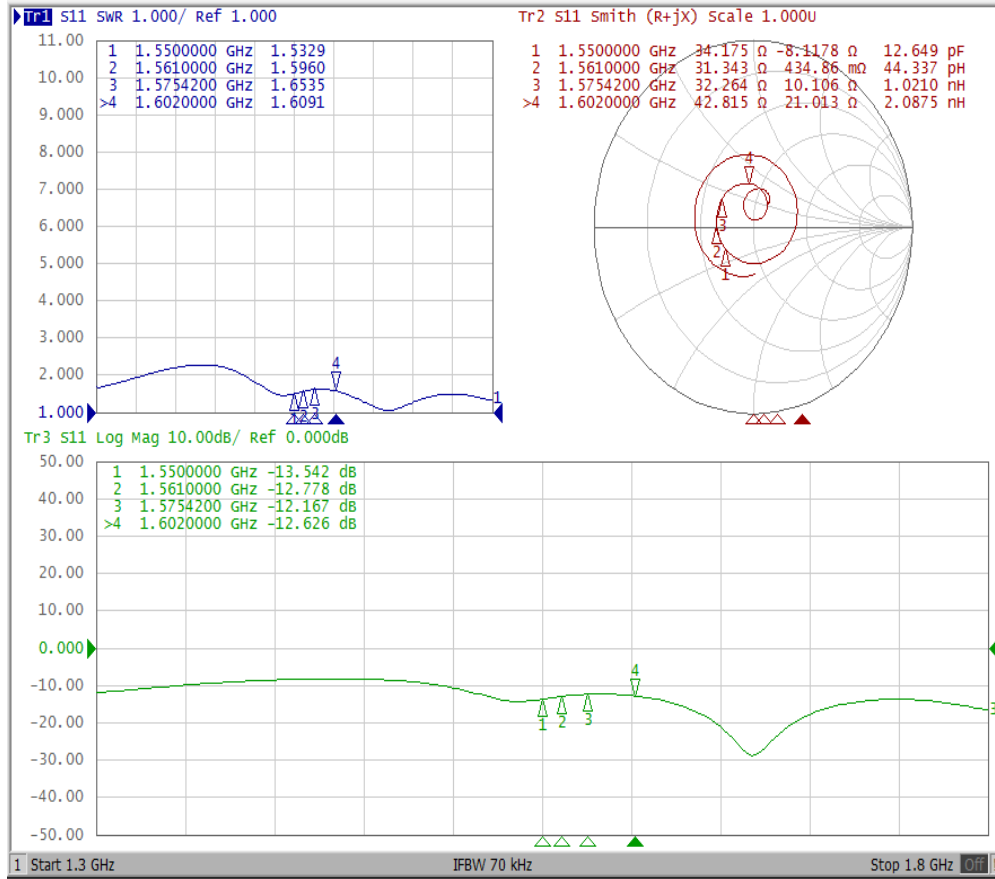


ELECTRICAL PERFORMANCE

© Note

All data displayed in "ELECTRICAL PERFORMANCE" were measured with a 100-mm-long RF 1.13 cable.

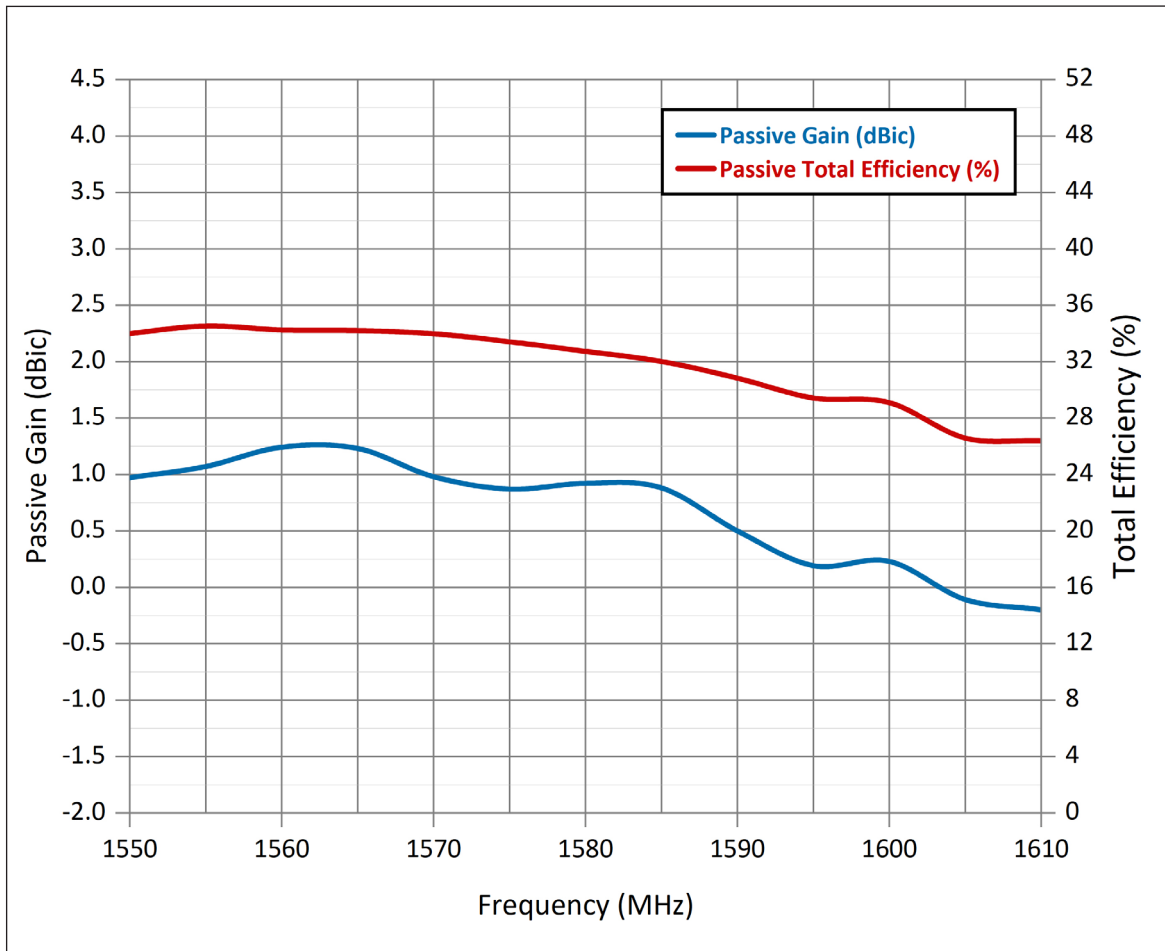
Passive S11 (dB)



(Note: Data were tested with 100 mm of RF 1.13 cable.)



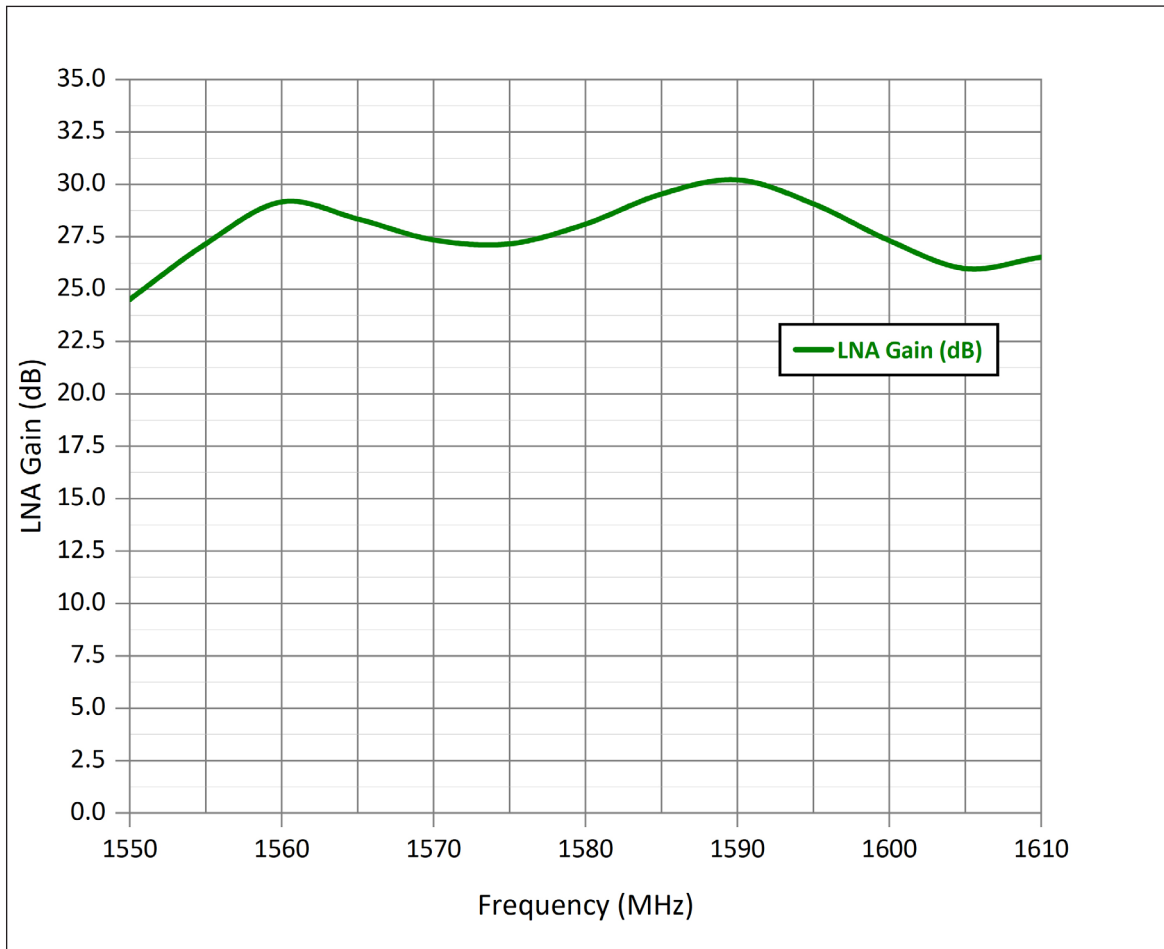
Passive Gain (dBic) and Total Efficiency (%)



(Note: Data were tested with 100 mm of RF 1.13 cable.)



Active Gain (dB)

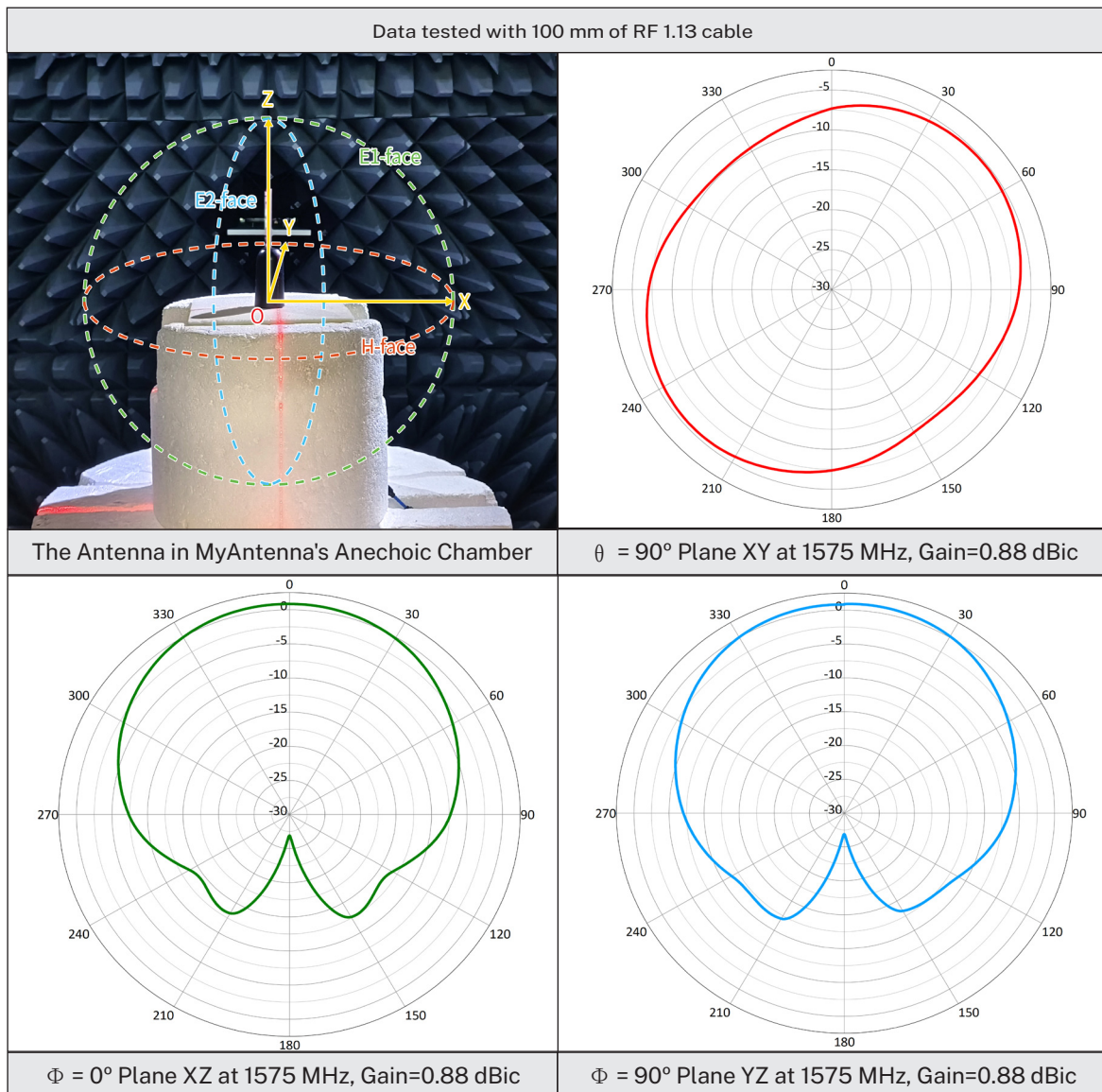


(Note: Data were tested with 100 mm of RF 1.13 cable.)

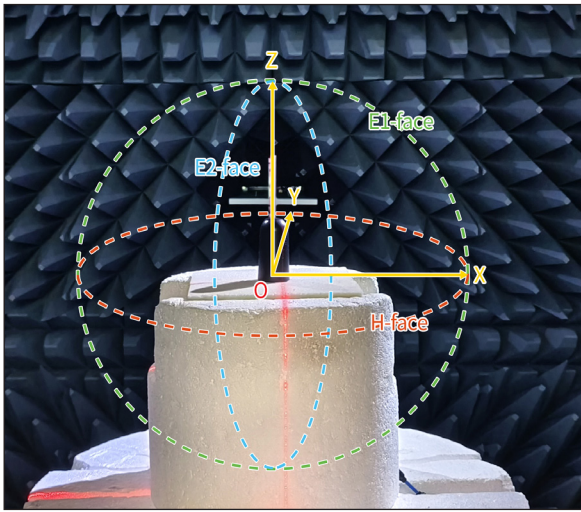


Antenna Data			
Freq (MHz)	Passive Gain (dBic)	Passive Efficiency (%)	Active Gain (dB)
1550	0.97	33.99	24.5
1555	1.07	34.52	27.16
1560	1.24	34.24	29.16
1565	1.23	34.2	28.34
1570	0.98	33.98	27.34
1575	0.87	33.4	27.16
1580	0.92	32.73	28.1
1585	0.88	32	29.53
1590	0.5	30.82	30.21
1595	0.19	29.41	29.07
1600	0.23	29.09	27.31
1605	-0.11	26.57	25.98
1610	-0.2	26.38	26.52

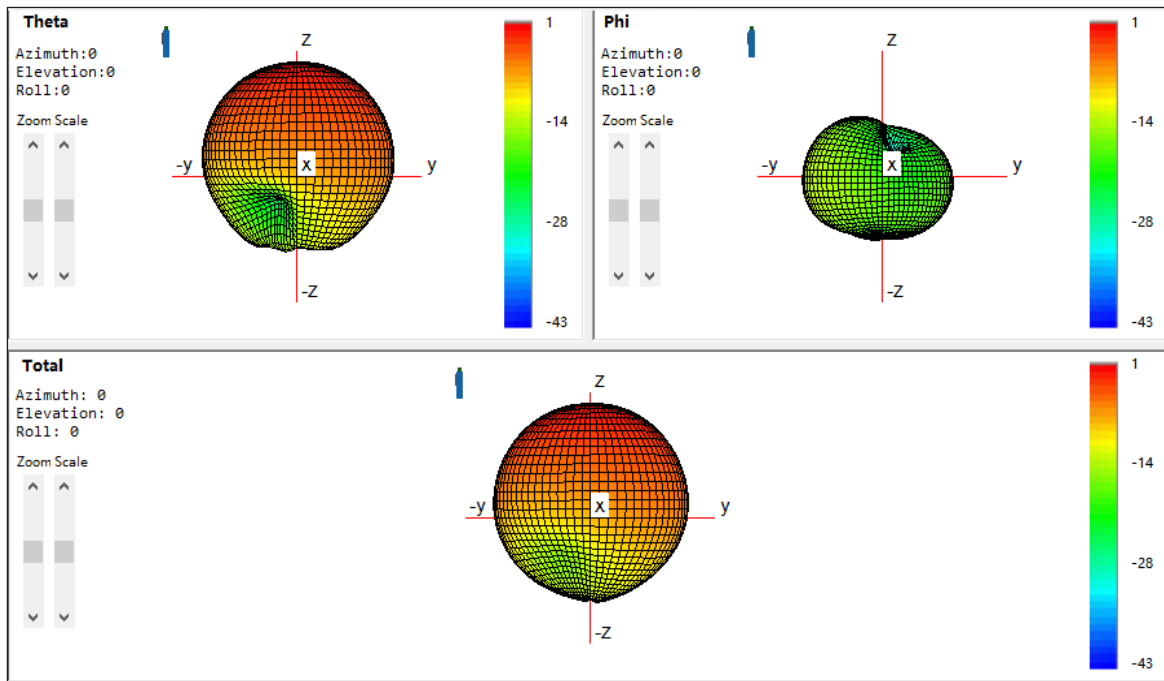
Passive 2D Radiation Patterns (1550-1610 MHz)



Passive 3D Radiation Patterns (1550-1610 MHz)

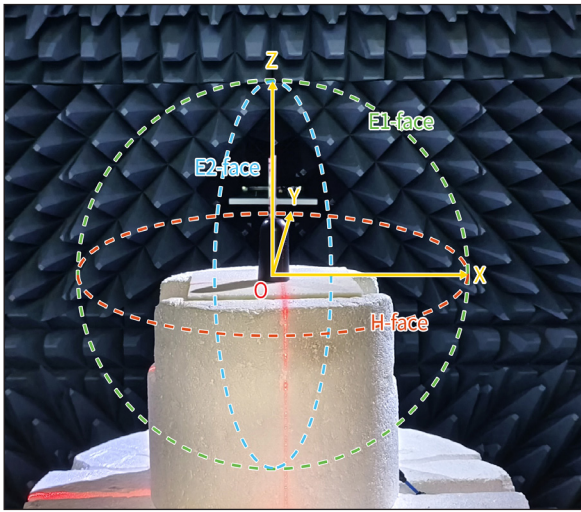


The Antenna in MyAntenna's Anechoic Chamber

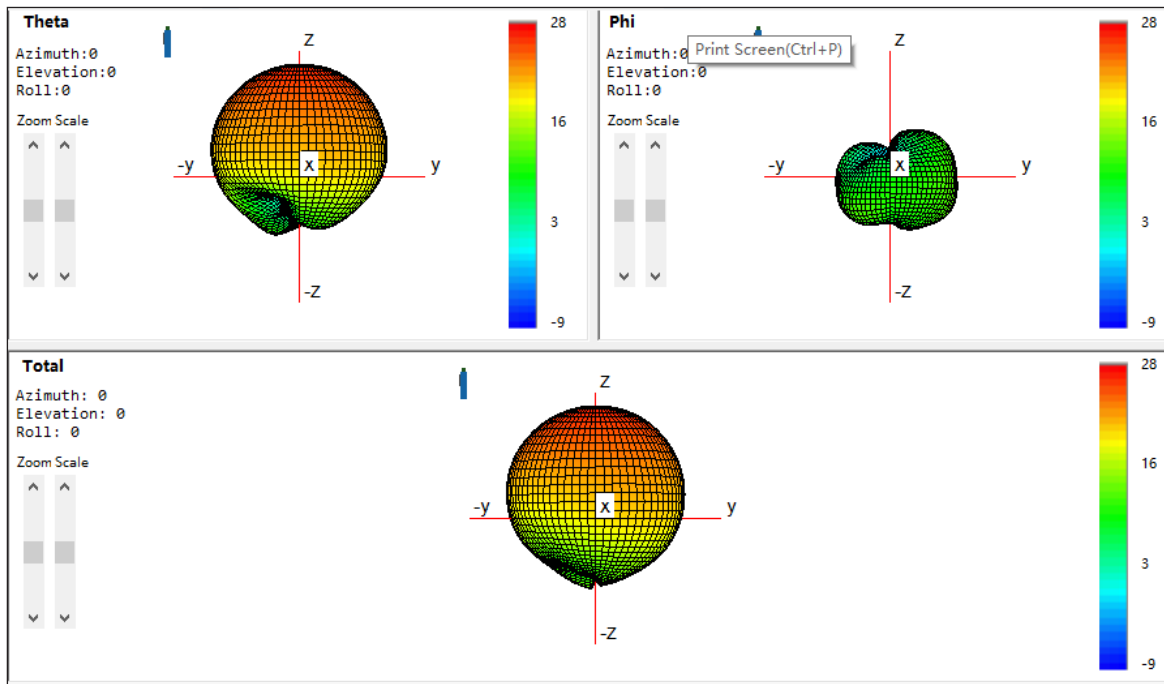


(Note: Data were tested with 100 mm of RF 1.13 cable.)

Active 3D Radiation Patterns (1550-1610 MHz)









The Antenna in MyAntenna's Anechoic Chamber



(Note: Data were tested with 100 mm of RF 1.13 cable.)

WELCOME ALL ANTENNA OEM/ODM PROJECTS

Why Choose ABOOSTY

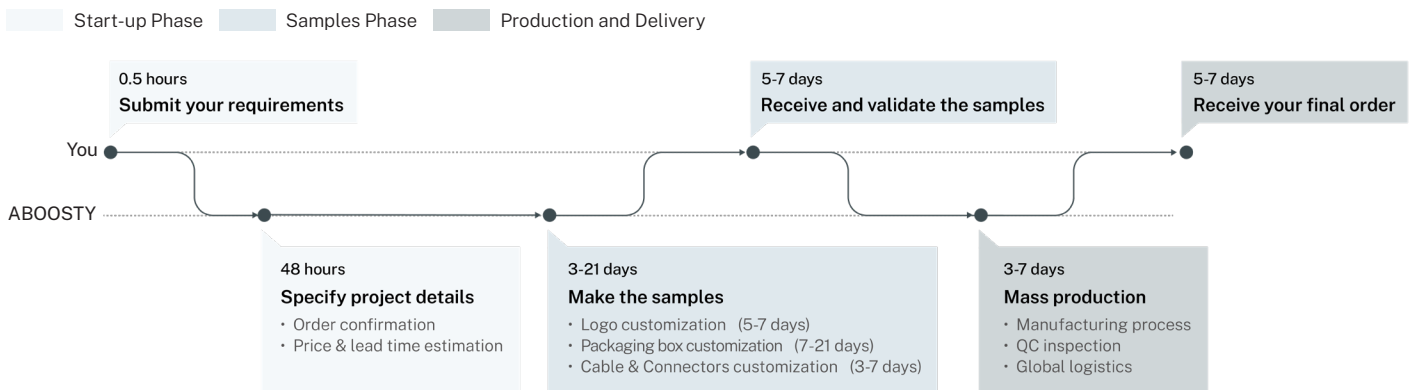
					
10+ years in antenna R&D, production, and OEM/ODM	MES system supported factory; 50M+ units annual output capacity	Factory directly competitive price	Quick price and lead time estimate	Innovative and patented design solutions	Professional team support & prompt reply within 24h

What We Provide

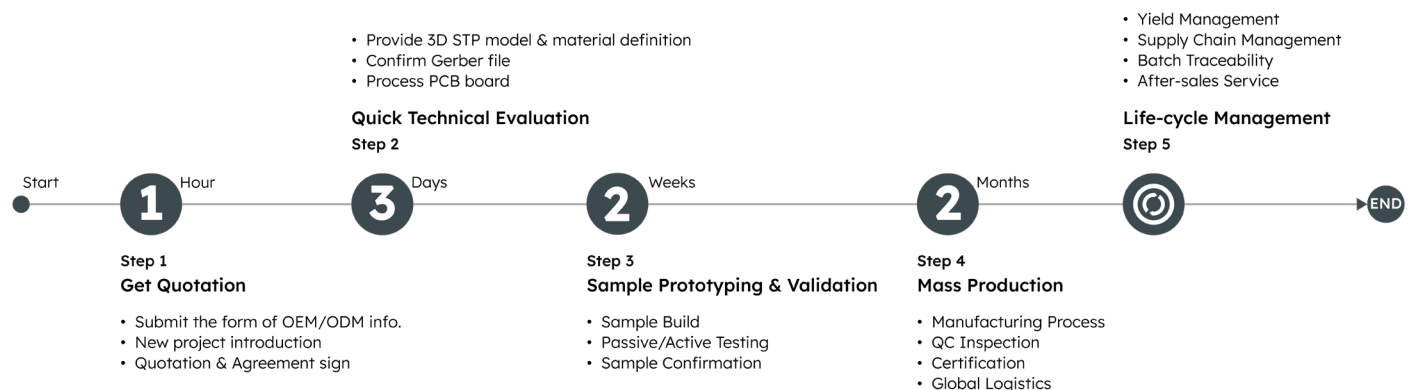
OEM/ODM Services	Light Customization	Deep Customization
	<ul style="list-style-type: none"> • Logo • Packaging • Cables & Connectors 	<ul style="list-style-type: none"> • In-depth tailoring for specific applications • Functional enhancements • Environmental adaptations • Vertical certifications • ...

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
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