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Datasheet

GPS External Antenna

Model: AEGC010

PN: M02-0300410R0A

Description:

GPS/GALILEO/BeiDou Passive Patch Antenna

Operating Frequency: 1559-1605 MHz

Features:

High reception sensitivity

Cable:3000 mm RG 174

Connector:SMA Male

Dimensions: 45.7x 38.4 x 13.3 mm

RoHS & Reach Compliant

ABOOSTY

Table of Contents

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FEATURES & BENEFITS

- RHCP
- High Sensitivity & Low Noise
- Multi-GNSS Wideband
- Superior Interference Rejection
- Customizable Cable and Connector

APPLICATIONS

- High-Precision Positioning
- Professional Navigation & Transportation
- Communication & Time Synchronization
- Enhanced Reception in Challenging Environments

Antenna Diagram

ORDER INFORMATION

Product Name	GPS External Antenna
Model	AEGC010
Part Number	M02-0300410R0A
Dimensions	45.7 x 38.4 x 13.3
Weight	49 g
Cable and Connector	Default SMA Male, 3000mm length, RG174 (Ø 2.8 mm) coaxial cable
Mounting	Magnetic / Adhesive Mount
Custom Options	Logo, Packaging, Cable and Connectors

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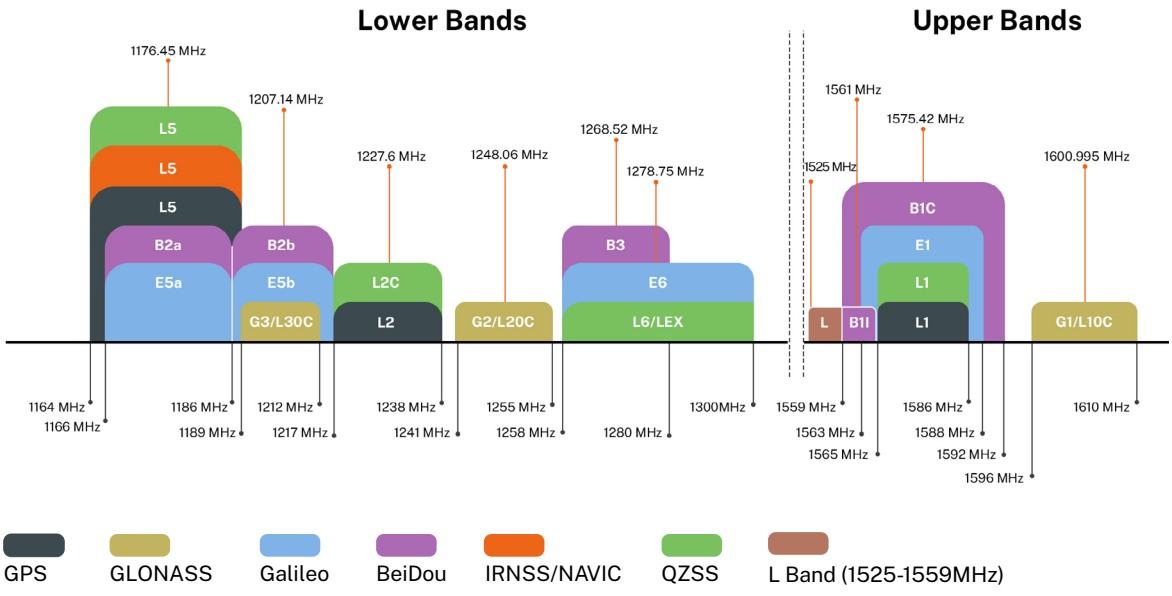
GNSS FREQUENCY BANDS

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).



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REFERENCE GUIDE

Antenna				
Frequency	**1559-1605 MHz**			
Bandwidth	50 MHz			
VSWR	<2.0			
Efficiency (%)	68.56			
Peak Gain (dBi)	4.16			
Axial Ratio (dB)	<3			
Connector	SMA Female			
Polarization	RHCP			
Radiation Pattern	Directional			
Input Impedance	50 Ω			
LNA				
Frequency Bands	B1 Band	E1 Band	L1 Band	G1 Band
LNA Gain (dB)	33.8	34.9	34.9	32.6
Input Voltage	3.3 ± 0.3 V			
Current Consumption @3.0V	8 ± 1 mA (@3.3 V)			

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 an 82-mm-long RG316 cable. Application data might vary				

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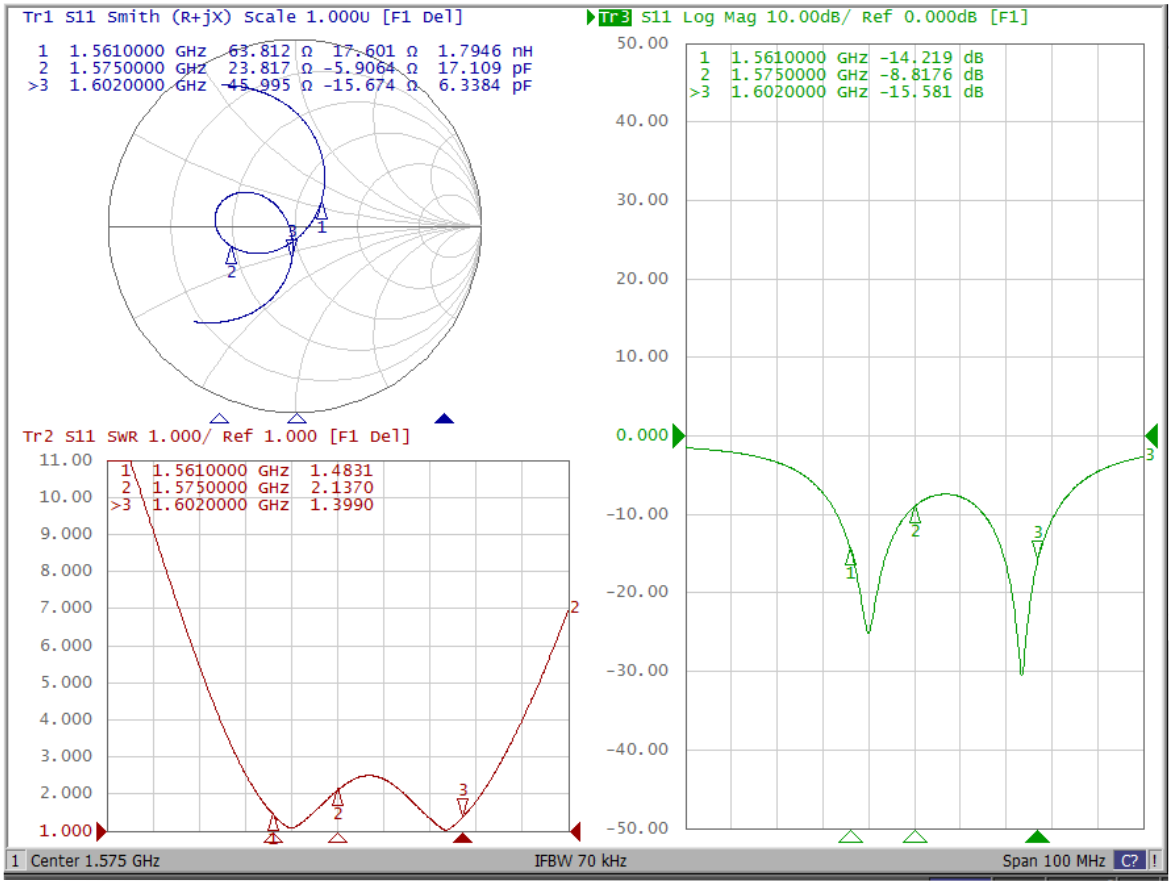
ELECTRICAL PERFORMANCE

◎ **Note**

All data displayed in "ELECTRICAL PERFORMANCE" were measured with a 82-mm-long RG316 cable

S11



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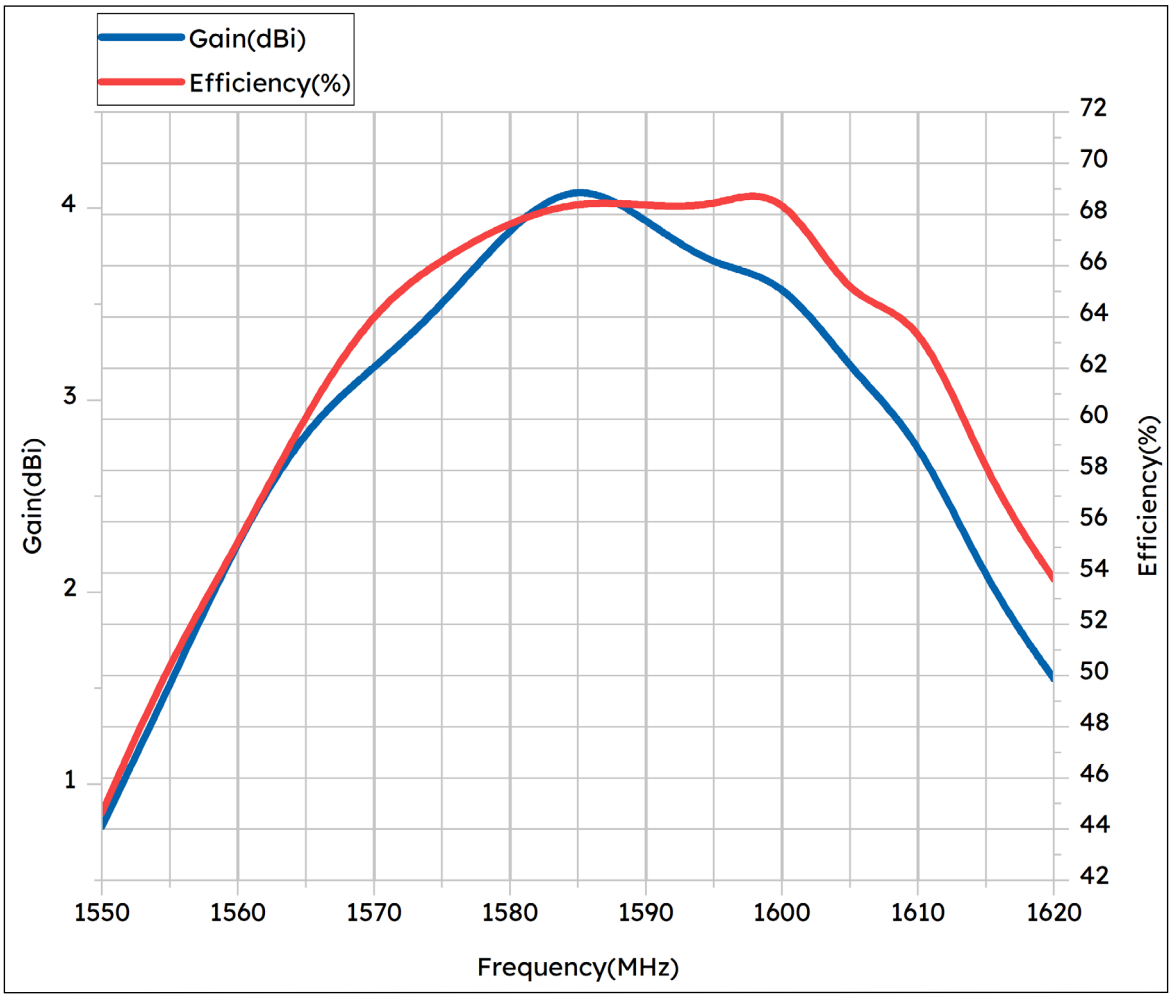
Passive Gain (dBi) and Total Efficiency (%)



Freq (MHz)	Gain (dBi)	Efficiency (%)	Freq (MHz)	Gain (dBi)	Efficiency (%)
1550	0.78	44.65	**1605**	3.16	64.35
1555	1.52	50.64	**1610**	2.82	64.43
1560	2.28	55.12	**1615**	2.05	57.71
1565	2.87	60.28	**1620**	1.55	53.76
1570	3.17	64.34			
1575	3.49	66.29			
1580	3.91	67.75			
1585	4.16	68.56			
1590	3.94	68.37			
1595	3.69	68.26			
1600	3.65	69.38			

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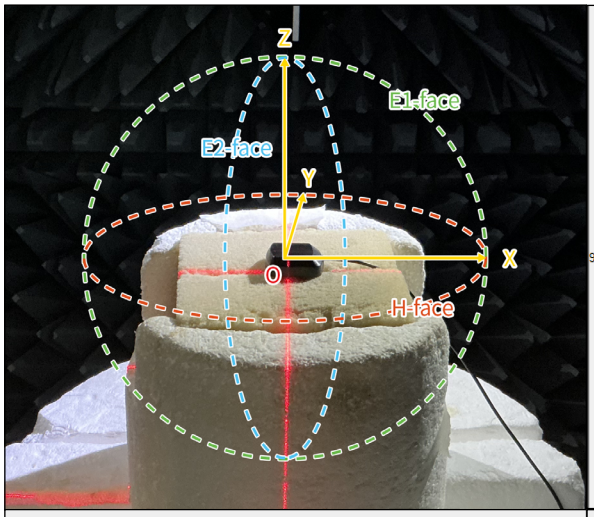
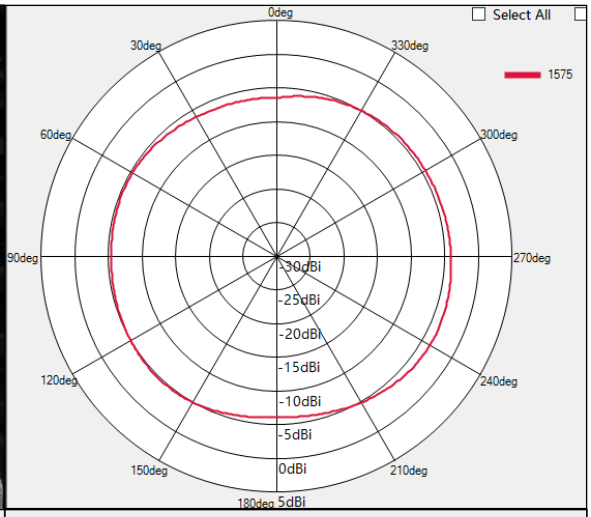
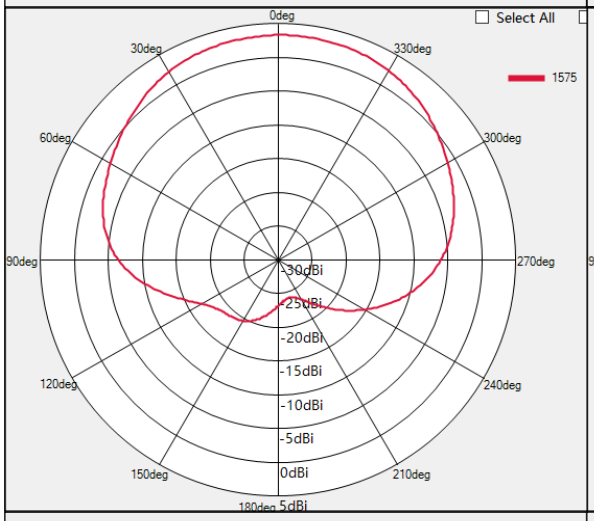
2D and 3D Radiation Patterns (1575 MHz)



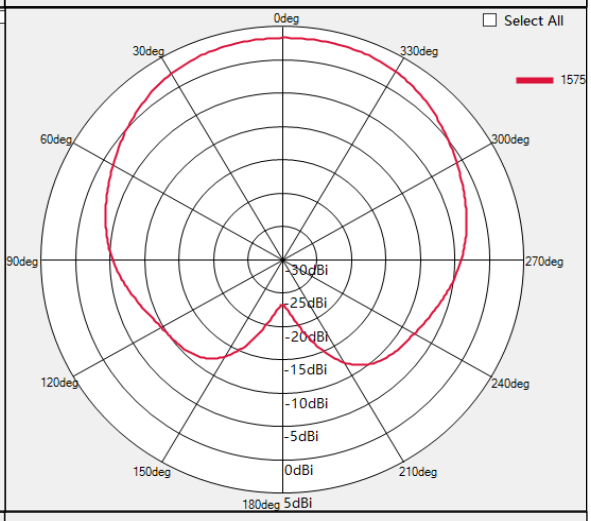
The Antenna in the Aboosty's Anechoic Chamber



θ = 90° Plane XY at 1575 MHz



Φ = 0° Plane XZ at 1575 MHz



Φ = 90° Plane YZ at 1575 MHz

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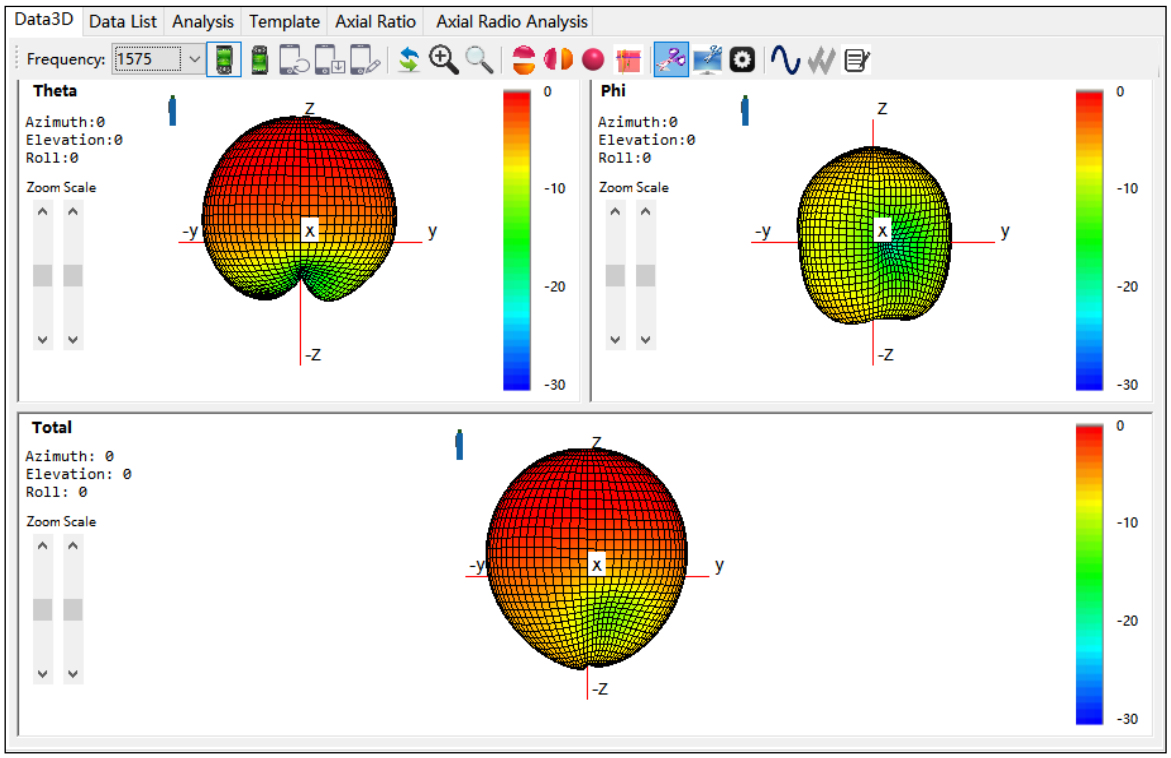

3D at 1575 MHz, Gain= 3.49 dBi

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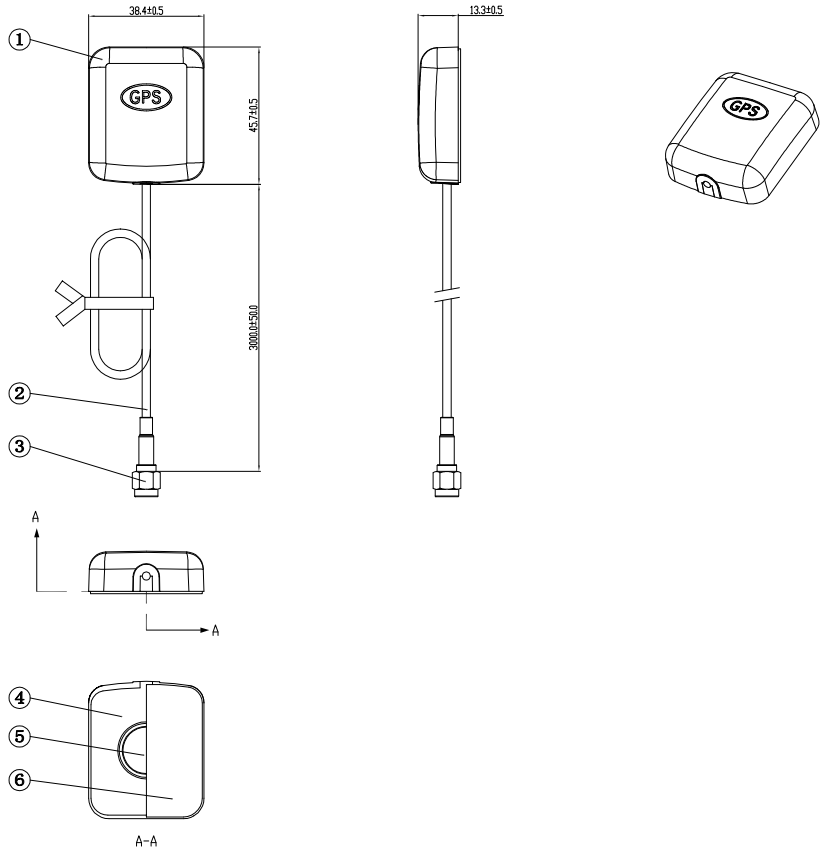
MECHANICAL DIMENSIONS

REV.	DESCRIPTION	APPD.	DATE
A	INITIAL RELEASED	Chen	2025.12.04



No.	Name	Material	Color	Treatment	Amount	Remark
6	Label		Silvery		1	
5	Magnet		Silvery		1	
4	Base	ABS	Black	44.5*36.8*5.1mm	1	
3	SMA	Cu	Golden	1/4''-36UNS-B	1	
2	RG174 Coaxial Line	Cu/PVC	Black	Φ2.8*3000.0mm	1	
1	Cover	ABS	Black	45.7*38.4*13.3mm	1	

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: GPS外置天线方盒带字

PART NO.: M02-0300410R0A

APPD: 陈建功

CHKD: 曹雅玲

DR: 林水伟

ABOOSTY 爱比速

TITLE: GPS外置天线方盒带字

DWG NO.:

SCALE	SHEET	REV.
1:1	1/1	V01

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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

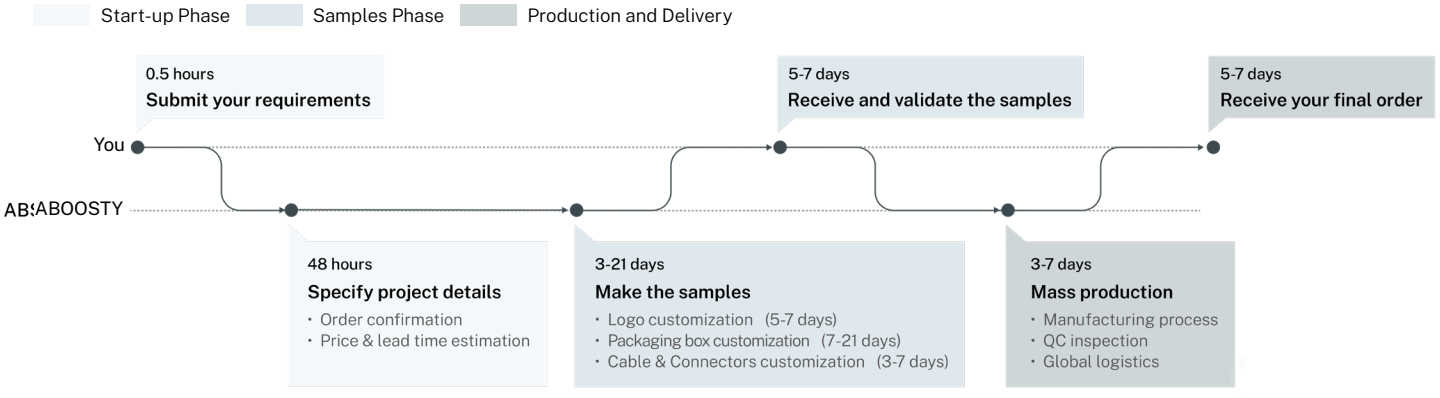
Professional team support & prompt reply within 24h

What We Provide

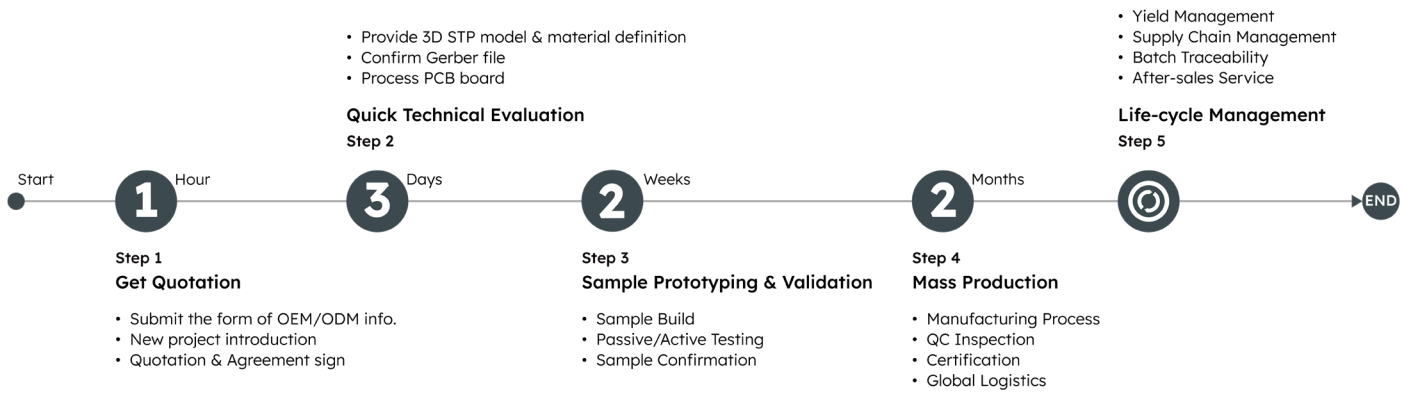
	Light Customization	Deep Customization
OEM/ODM Services	• Logo • Packaging • Cables & Connectors	• In-depth tailoring for specific applications • Functional enhancements • Environmental adaptations • Vertical certifications • ...

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

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