



Datasheet

Circularly Polarized Passive GPS Embedded Ceramic Patch Antenna

Model: AIGC012

Description:

GPS/GLONASS/BeiDou Passive Patch Antenna

Operating Frequency: 1570-1580 MHz

Features:

Ceramic Patch Element

Linear Polarization

Dimensions: 16 x 6 x 4mm

Tuned for 16 x 6 mm Ground Plane

Low Axial Ratio

Adhesive Mount

RoHS Compliant





Table of Contents

FEATURES & BENEFITS	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
Active 2D Radiation Patterns (1575 MHz)	6
Active 3D Radiation Patterns (1575 MHz)	7
MECHANICAL DIMENSIONS.....	8
ABOOSTY WELCOME ALL ANTENNA OEM/ODM PROJECTS	9

 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 © 2025 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

- 16x6x4mm Embedded Ceramic Patch Element
- Miniaturized, Multi-system Compatible
- Low Axial Ratio
- Adhesive Mount
- RoHS Compliant
- Covering Bands: GPS (L1) / Galileo (E1) / BeiDou (B1)

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

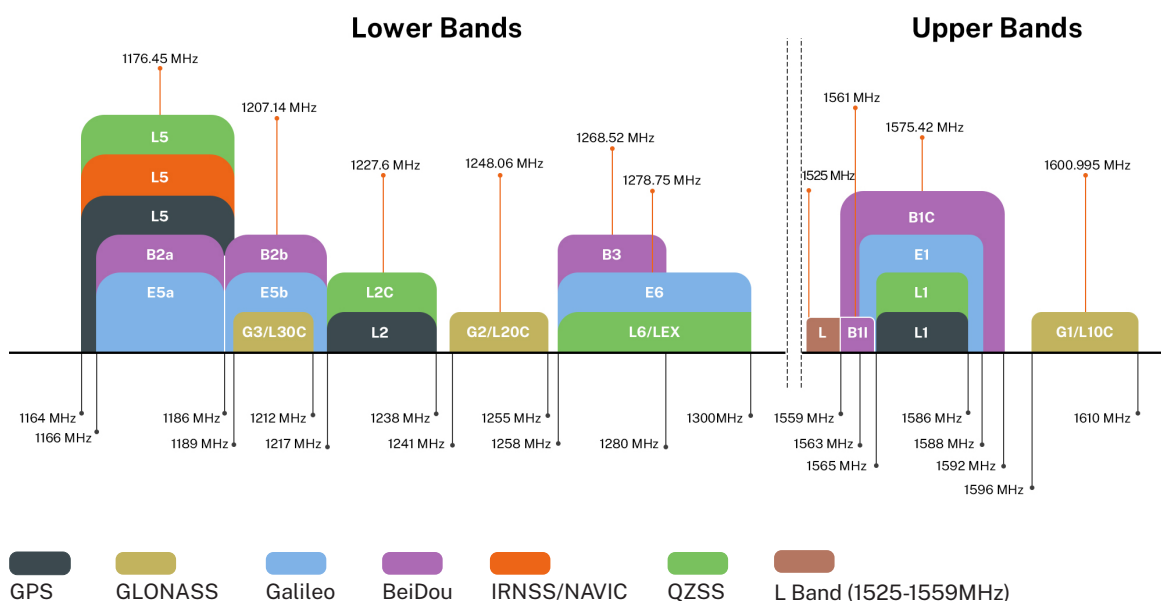
ORDER INFORMATION

Product Name	Circularly Polarized Passive GPS Embedded Ceramic Patch Antenna
Model	AIGC012
Dimensions	16x6x4mm
Weight	2.0g
Mounting	Internal/Embedded/Adhesive Mount
MOQ	500 pcs
Custom Options	Logo, Packaging, Cable and Connectors

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), EGNOS(E1/E5a), SDCM(G1/G2/G3), SNAS(B1,B2a), GAGAN(L1/L5), QZSS(L1/L5), KAZZ(L1/L5).



REFERENCE GUIDE

Antenna	
Frequency	1575±5 MHz
Bandwidth	10MHz
VSWR	<1.8
Peak Gain (dBi)	-0.7 (16×6mm ground plane)
Axial Ratio (dB)	<10
Polarization	Linear
Radiation Pattern	Directional
Input Impedance	50 Ω

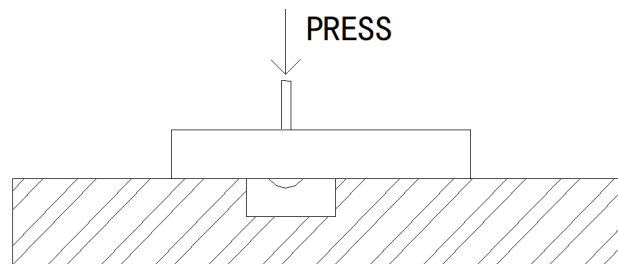
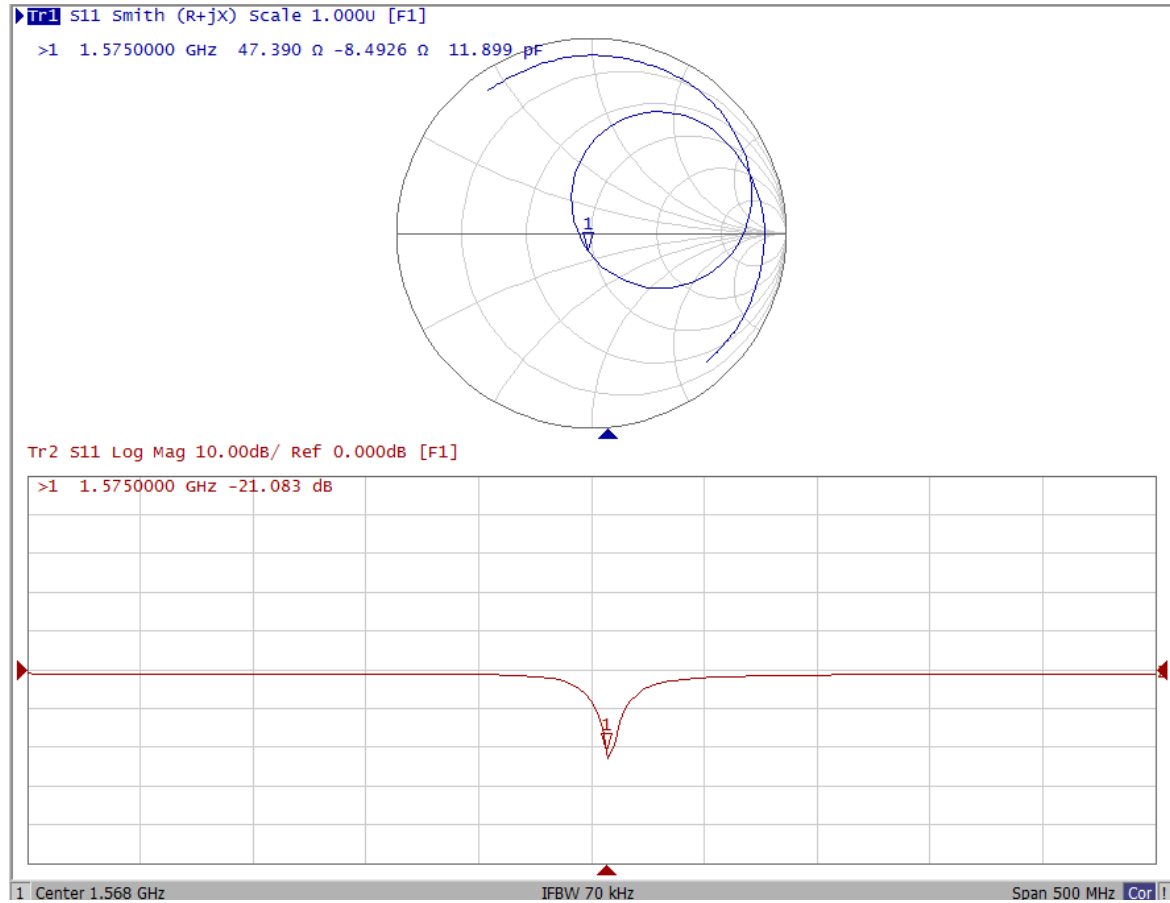
Environmental				
Operating Temperature	-40°C to +85°C			
Storage Temperature	-40°C to +90°C			
Relative Humidity	Non-condensing 65°C 95% RH			
Vibration	Wave Form: Random Vibration			
	Test Time: 30min/Axis			
	Direction: X, Y, Z Axis			
	PSD Break Points for 9.8 RMS (m/s ²)	Frequency (Hz)	50	300
		Acceleration ((m/s ²) ² /Hz)	0.38416	0.38416
RoHS Compliant	Yes			
All data were measured with a 16 x 6 mm ground plane. Application data might vary.				

ELECTRICAL PERFORMANCE

ⓘ Note

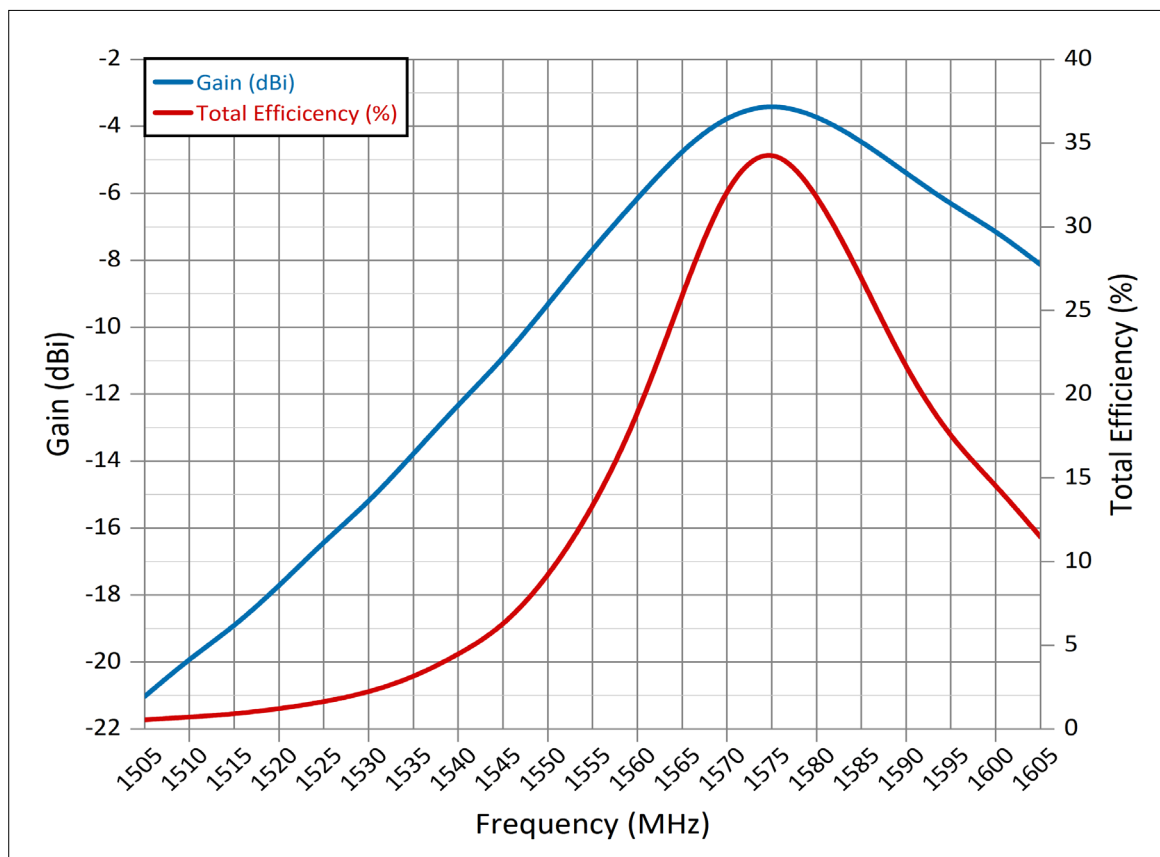
All data displayed in "ELECTRICAL PERFORMANCE" were measured with a 16 x6 mm ground plane.

S11



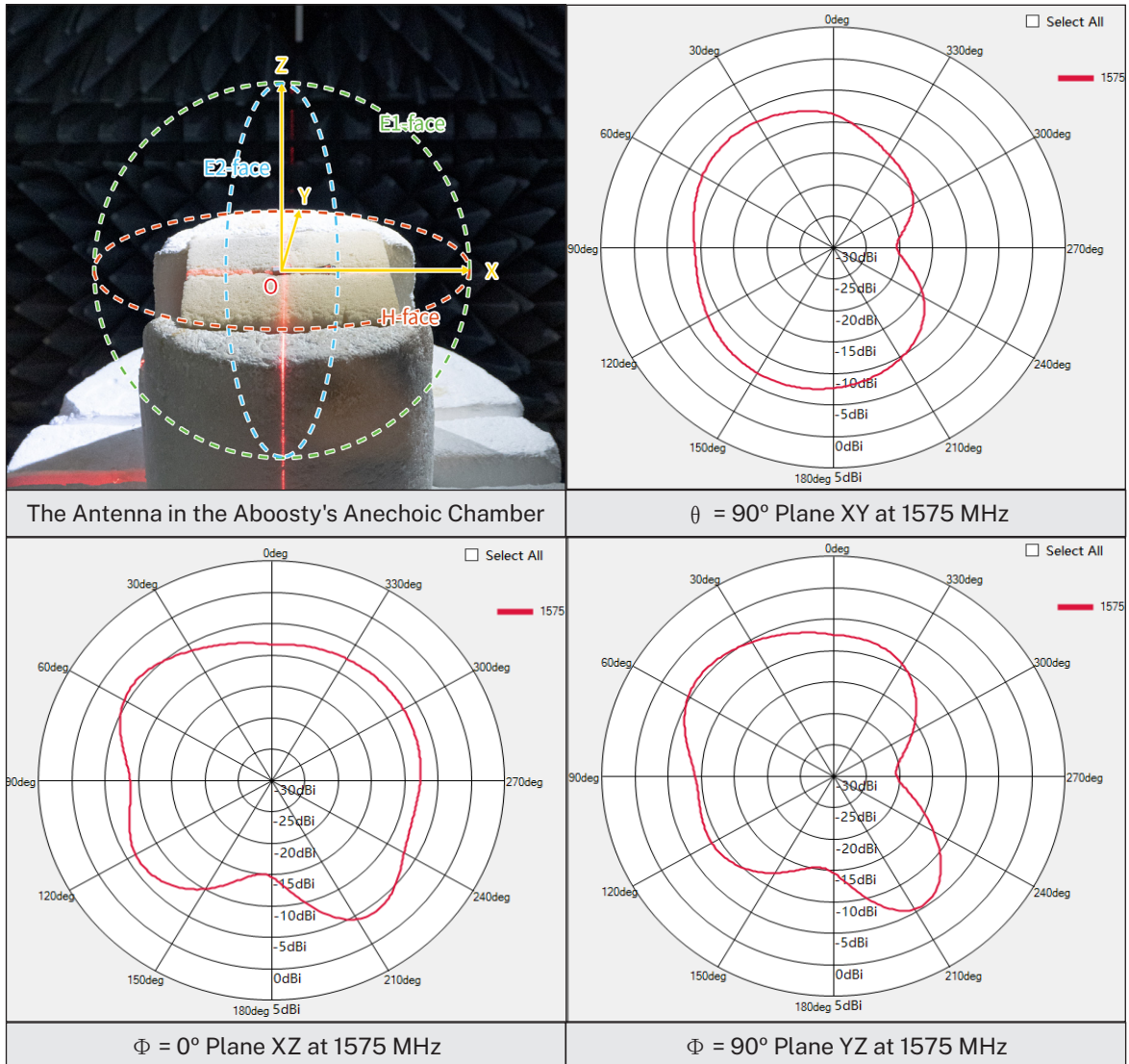
Item	Specification After Test (MHz)
Center Frequency Change	±3.0
-10dB Bandwidth Change	±3.0

Passive Gain (dBi) and Total Efficiency (%)

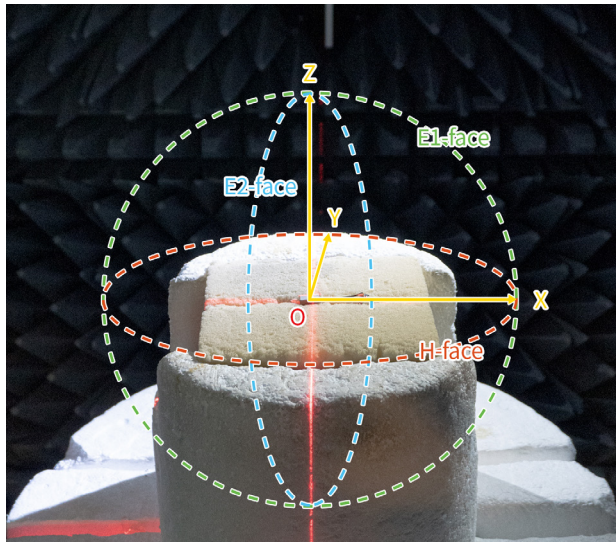


Freq (MHz)	Gain (dBi)	Efficiency (%)	Freq (MHz)	Gain (dBi)	Efficiency (%)
1505	-21.02	0.57	1560	-6.14	18.59
1510	-19.89	0.73	1565	-4.68	26.02
1515	-18.93	0.9	1570	-3.66	32.83
1520	-17.72	1.22	1575	-3.29	35.16
1525	-16.4	1.63	1580	-3.66	32.12
1530	-15.22	2.2	1585	-4.43	26.99
1535	-13.77	3.1	1590	-5.39	21.44
1540	-12.3	4.45	1595	-6.33	17.33
1545	-10.95	6.09	1600	-7.11	14.59
1550	-9.31	9.05	1605	-8.13	11.48
1555	-7.65	13.15			

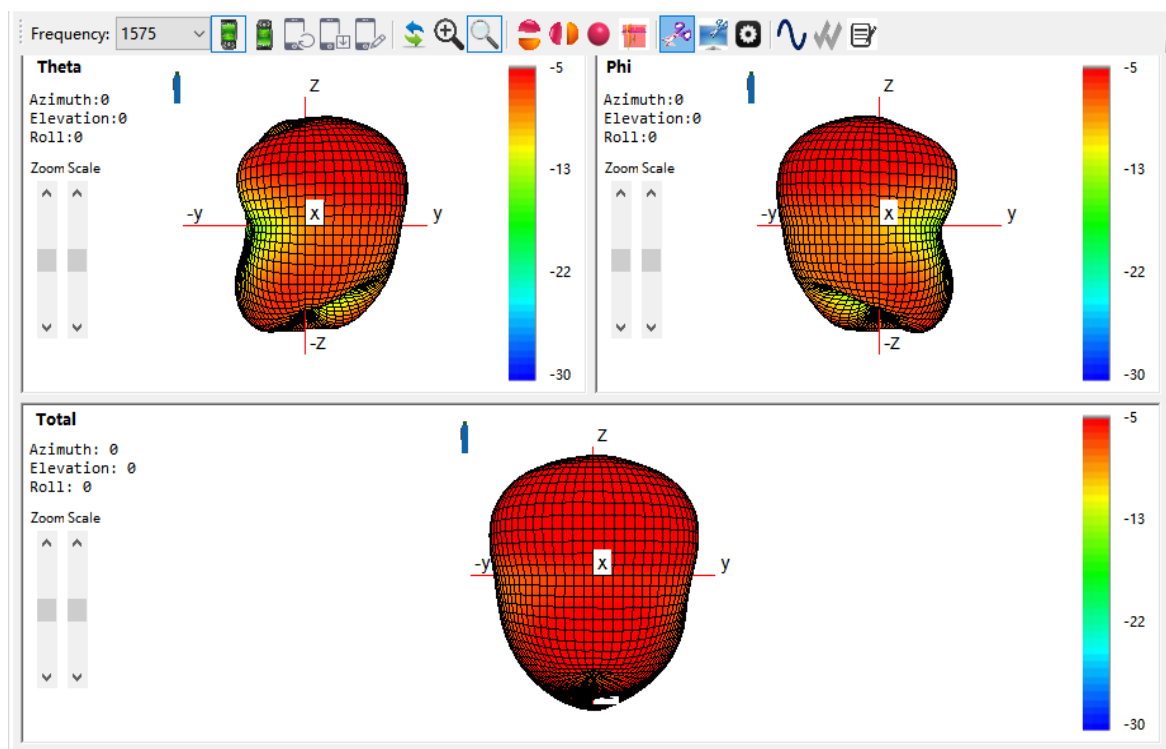
Active 2D Radiation Patterns (1575 MHz)



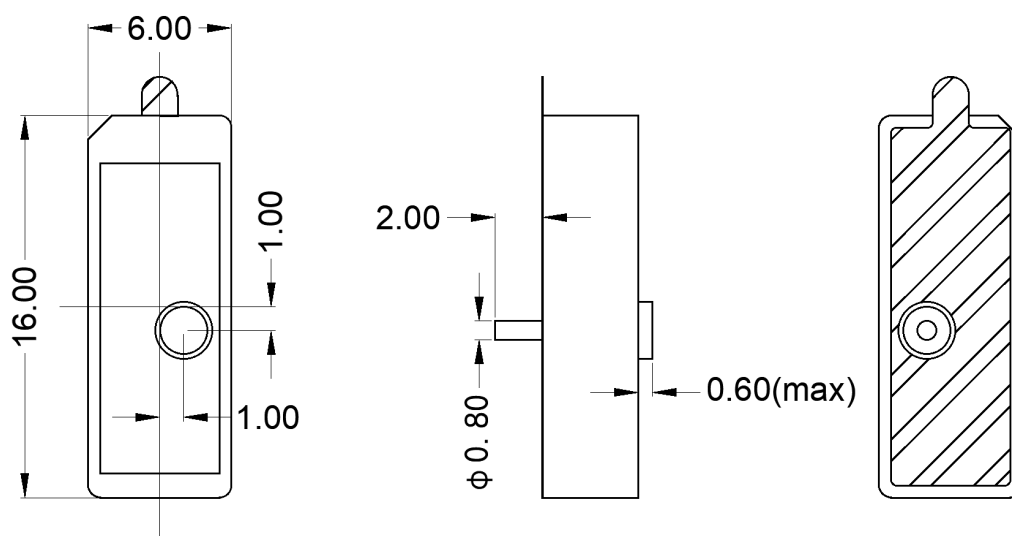
Active 3D Radiation Patterns (1575 MHz)



The Antenna in the Aboosty's Anechoic Chamber



MECHANICAL DIMENSIONS



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



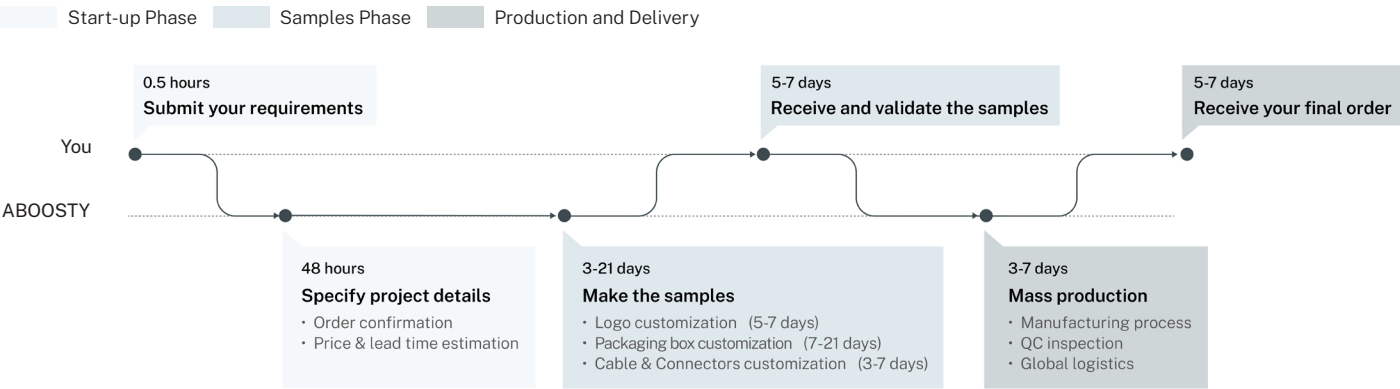
Professional team support & prompt reply within 24h

What We Provide

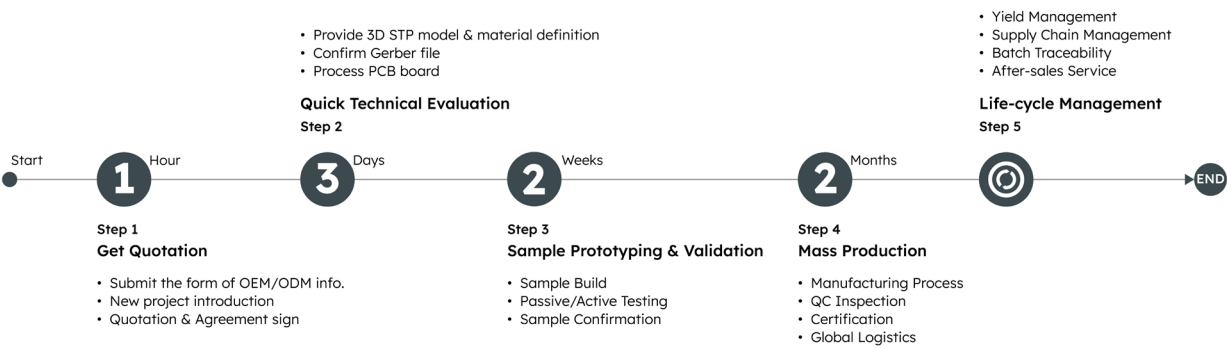
OEM/ODM Services	Light Customization	Deep Customization
	• Logo • Packaging • Cables & Connectors	• In-depth tailoring for specific applications • Functional enhancements • Environmental adaptations • Vertical certifications • ...

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

