



# Datasheet

GPS External Antenna

**Model:** AEGC010

**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





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 Global Site: [www.aboosty.com](http://www.aboosty.com)  China Site: [www.aboosty.cn](http://www.aboosty.cn)

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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

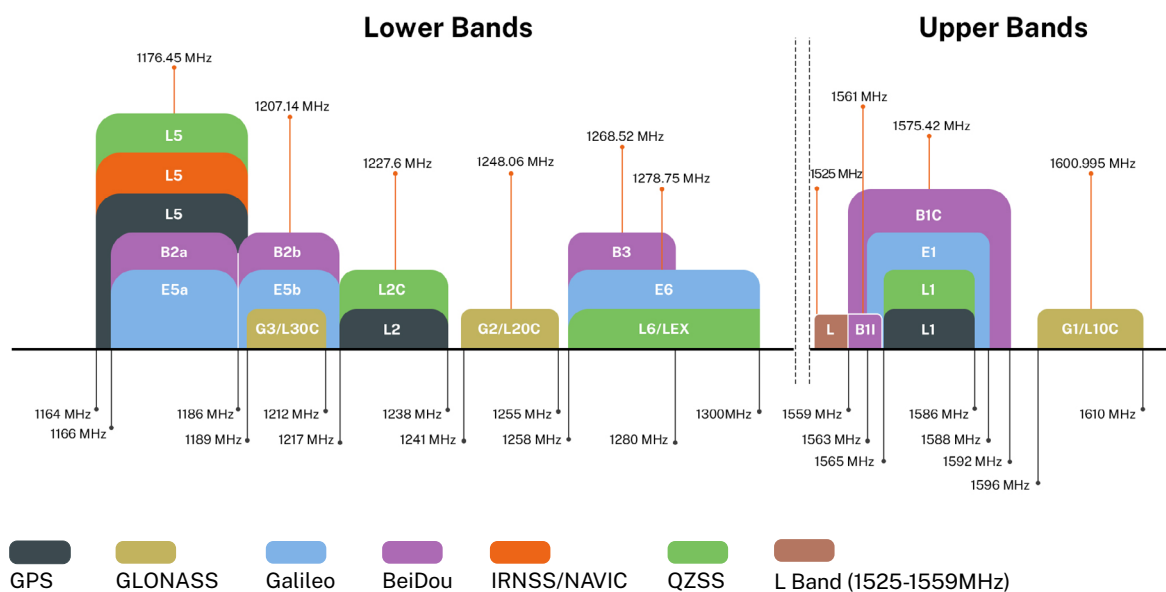
## ORDER INFORMATION

<b>Product Name</b>	GPS External Antenna
<b>Model</b>	AEGC010
<b>Dimensions</b>	45.7 x 38.4 x 13.3
<b>Weight</b>	49 g
<b>Cable and Connector</b>	Default SMA Male, 3000mm length, RG174 (Ø 2.8 mm) coaxial cable
<b>Mounting</b>	Magnetic / Adhesive Mount
<b>Custom Options</b>	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	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 $\Omega$			
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 $\pm$ 0.3 V			
Current Consumption @3.0V	8 $\pm$ 1 mA (@3.3 V)			

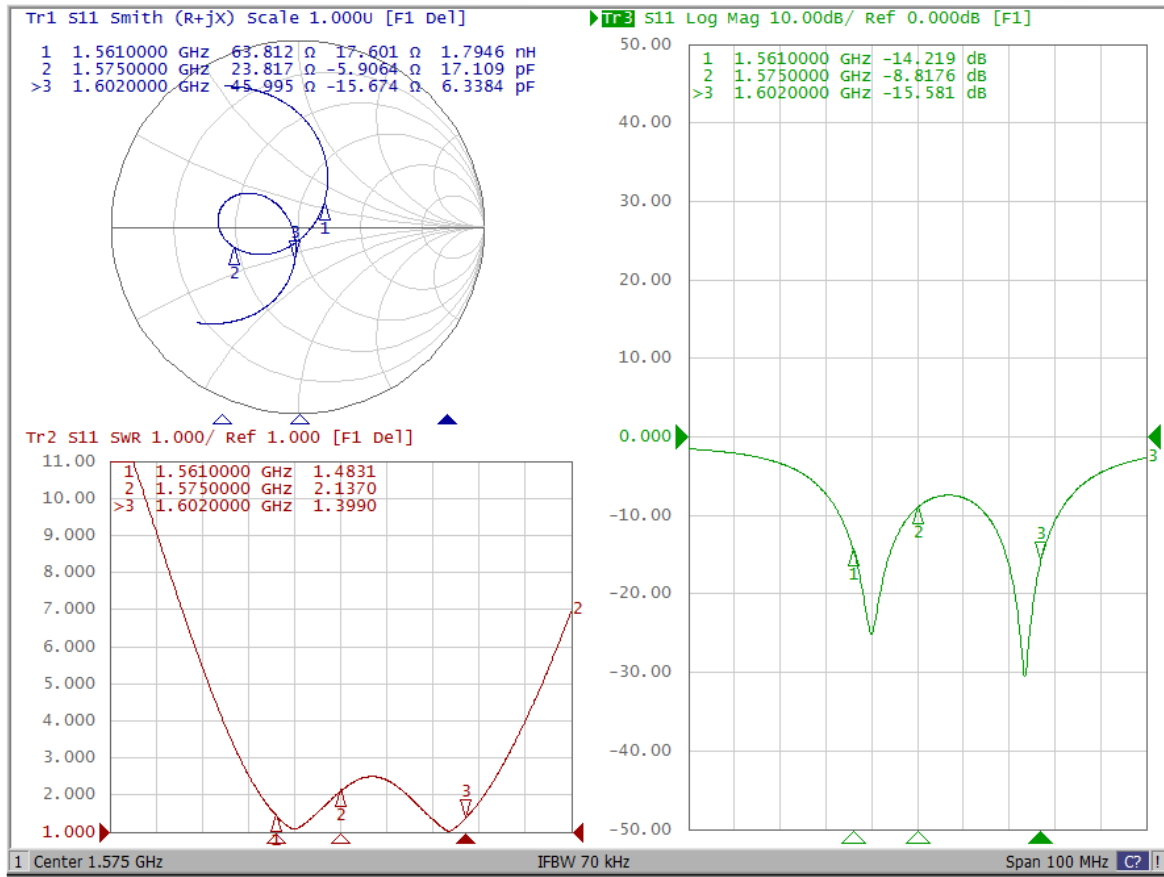
Environmental				
Operating Temperature	-40°C to +75°C			
Storage Temperature	-40°C to +85°C			
Relative Humidity	40% to 95%			
Vibration	Wave Form: Random Vibration			
	Test Time: 30min/Axis			
	Direction: X, Y, Z Axis			
	PSD Break Points for 9.8 RMS (m/s <sup>2</sup> )	Frequency (Hz)	50	300
Acceleration ((m/s <sup>2</sup> ) <sup>2</sup> /Hz)		0.38416	0.38416	
RoHS Compliant	Yes			
All data were measured with an 82-mm-long RG316 cable. Application data might vary				

# ELECTRICAL PERFORMANCE

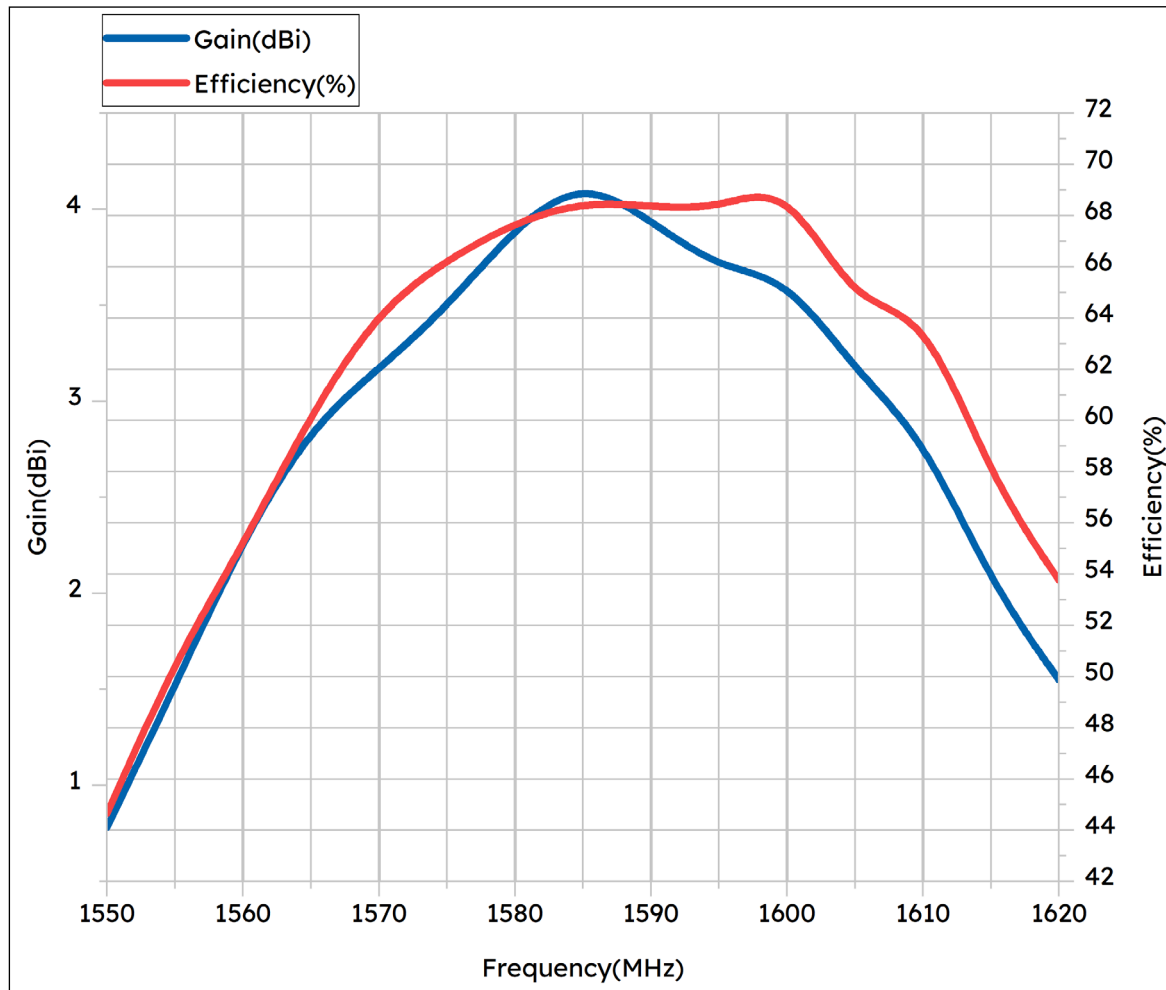
© Note

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

## S11

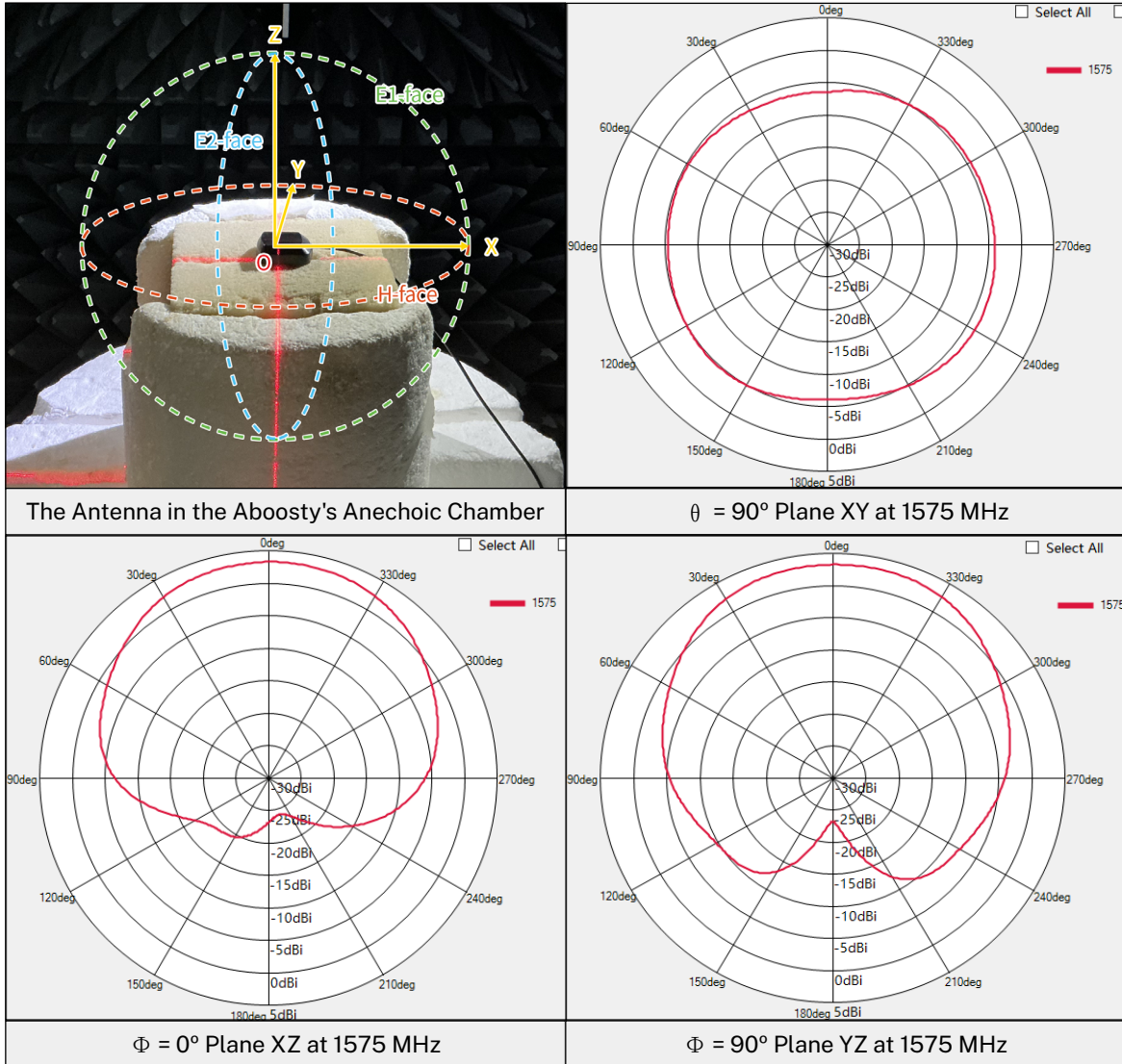


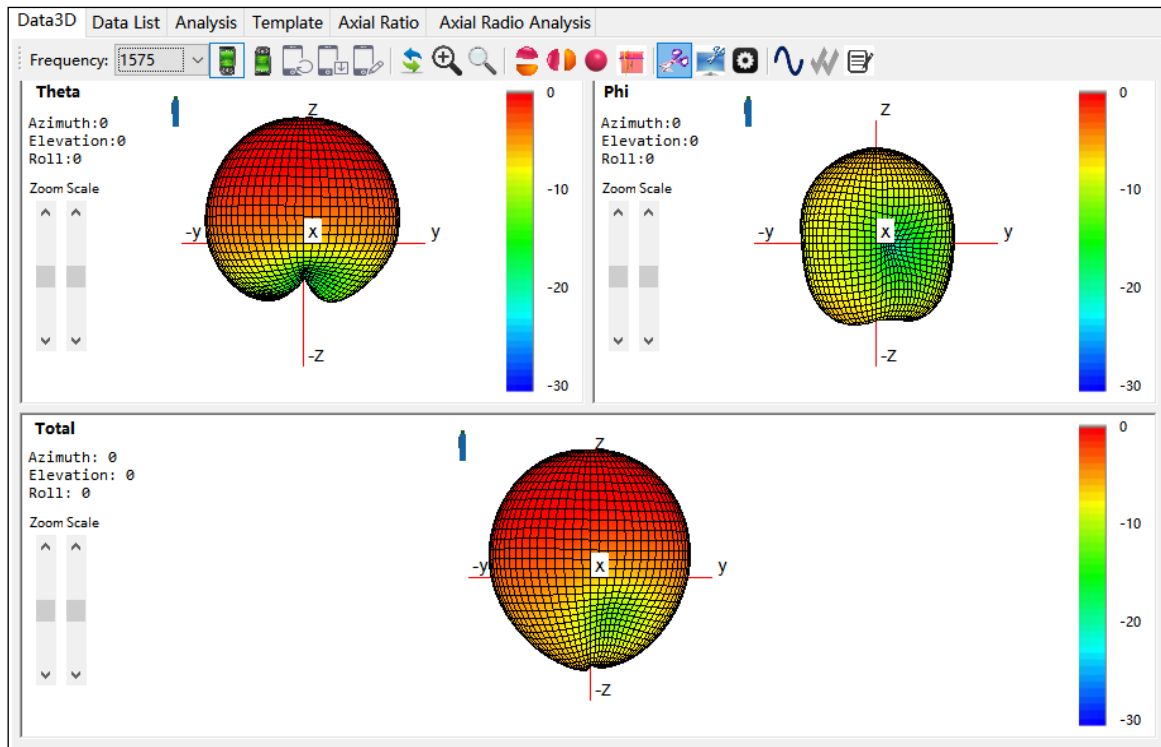
### Passive Gain (dBi) and Total Efficiency (%)



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			

## 2D and 3D Radiation Patterns (1575 MHz)





3D at 1575 MHz, Gain= 3.49 dBi

# MECHANICAL DIMENSIONS

5		6		7		8		
REV.	DESCRIPTION			APPD.	DATE			
A	INITIAL RELEASED			Chen	2025.12.04			
A								A
B								B
C								C
D								D
E	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		
	No.	Name	Material	Color	Treatment	Amount	Remark	
F	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		<b>ABOOSTY</b> 爱比迪 TITLE: GPS外置天线方盒带字		
				PART NO.:				
				APPD: 陈建功		DWG NO.:		
				CHKD: 董有强		SCALE: 1:1    SHEET: 1/1    REV.: V01		
			DR: 科北布					
5		6		7		8		

# 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



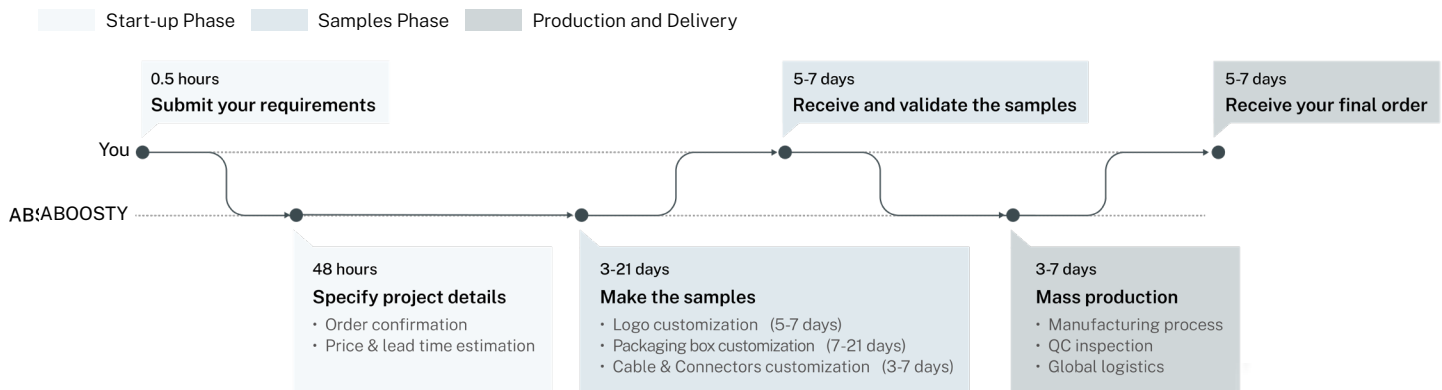
Professional team support & prompt reply within 24h

## What We Provide

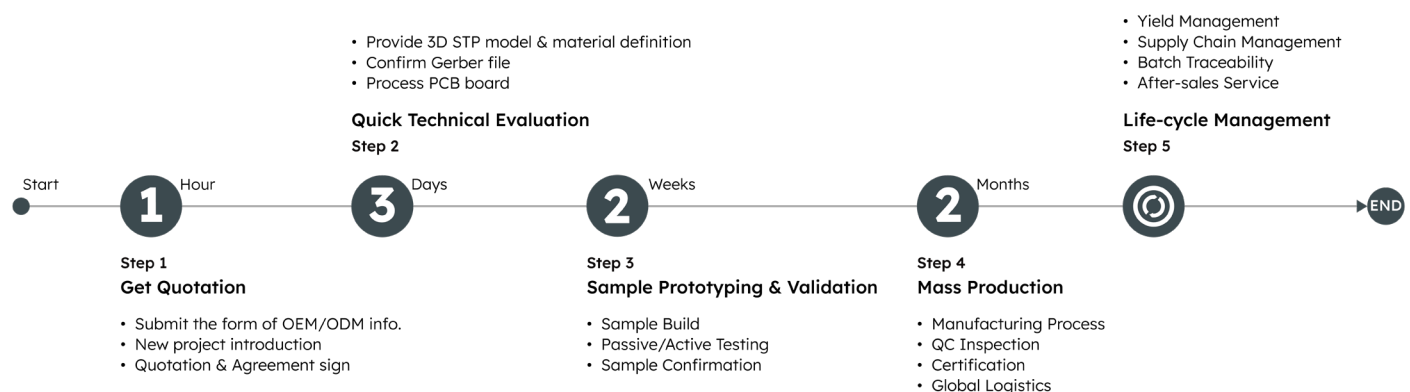
OEM/ODM Services	Light Customization	Deep Customization
	<ul style="list-style-type: none"> <li>• Logo</li> <li>• Packaging</li> <li>• Cables &amp; Connectors</li> </ul>	<ul style="list-style-type: none"> <li>• In-depth tailoring for specific applications</li> <li>• Functional enhancements</li> <li>•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

## 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

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