



# Datasheet

Circularly Polarized Passive GPS Embedded Ceramic Patch Antenna

**Model:** AIGC010

**PN:** M04-0103880R0A

**Description:**

GPS/GLONASS/BeiDou Passive Patch Antenna

Operating Frequency: 1560-1576 MHz

**Features:**

Ceramic Patch Element

Dimensions: 15 x 15 x 2mm

Tuned for 15 x 15 mm Ground Plane

Low Axial Ratio

Adhesive Mount

RoHS & Reach 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](http://www.aboosty.com)  China Site: [www.aboosty.cn](http://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

- 15x15x2mm 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

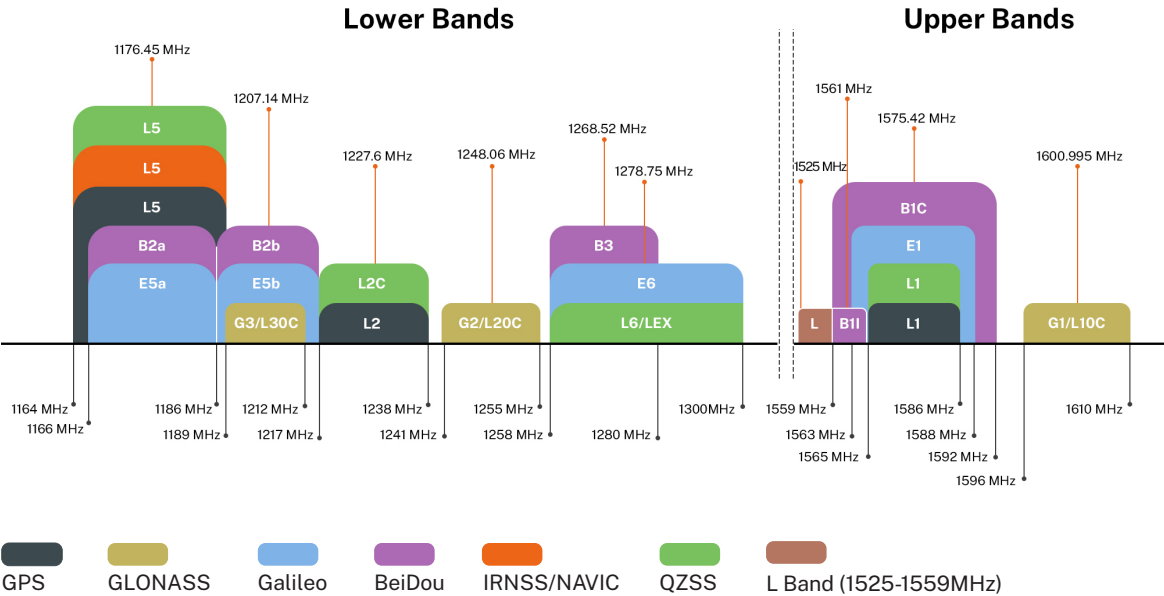
|                |                                                                 |
|----------------|-----------------------------------------------------------------|
| Product Name   | Circularly Polarized Passive GPS Embedded Ceramic Patch Antenna |
| Model          | AIGC010                                                         |
| Part Number    | M04-0103880R0A                                                  |
| Dimensions     | 15x15x2mm                                                       |
| Weight         | 2.3g                                                            |
| 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         | 1568±8 MHz                |
| Bandwidth         | 16MHz                     |
| VSWR              | <1.8                      |
| Peak Gain (dBi)   | -2 (15×15mm ground plane) |
| Axial Ratio (dB)  | <3                        |
| Polarization      | RHCP                      |
| 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<br>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 a 15 x 15 mm ground plane. Application data might vary. |                                                     |                                                     |         |         |

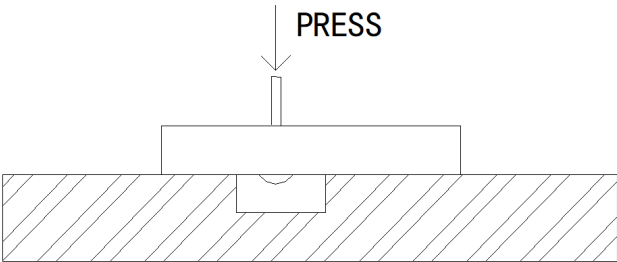
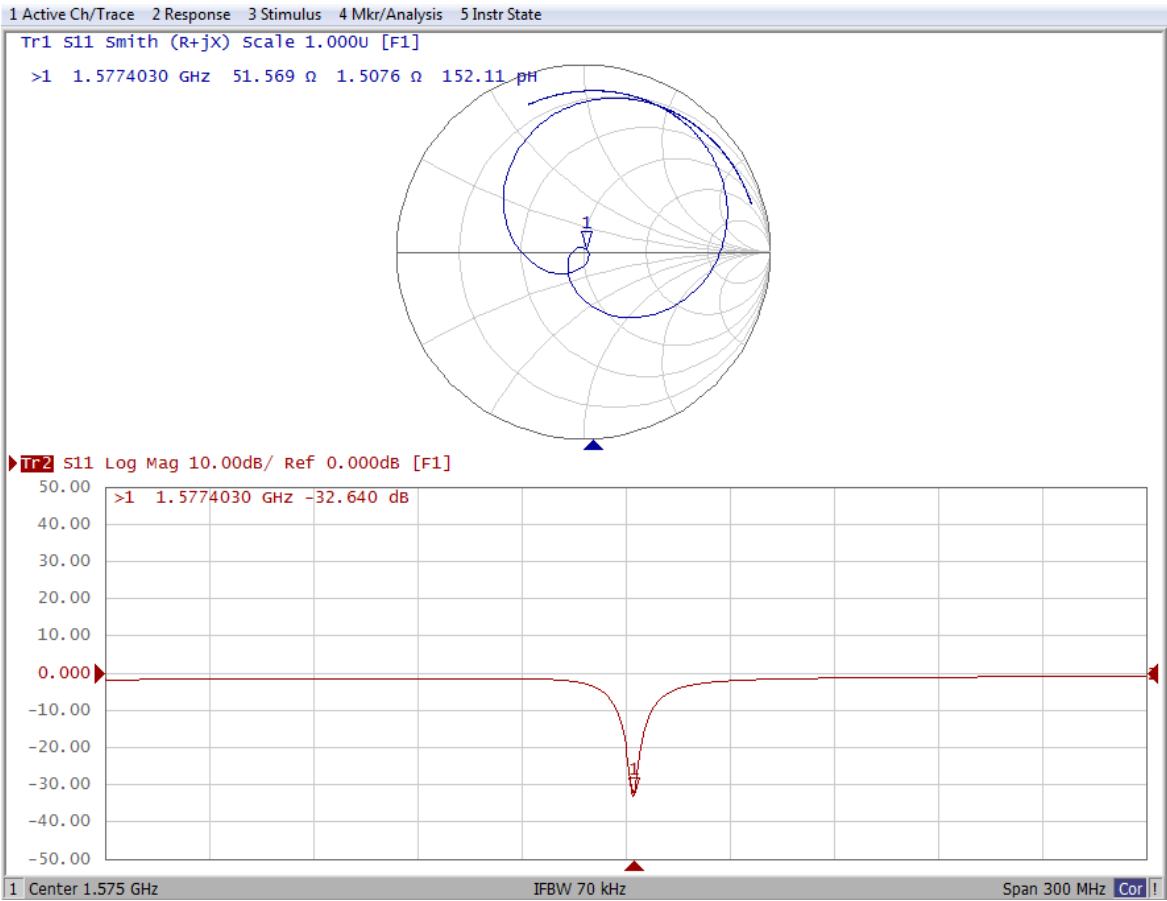


# ELECTRICAL PERFORMANCE

ⓘ **Note**

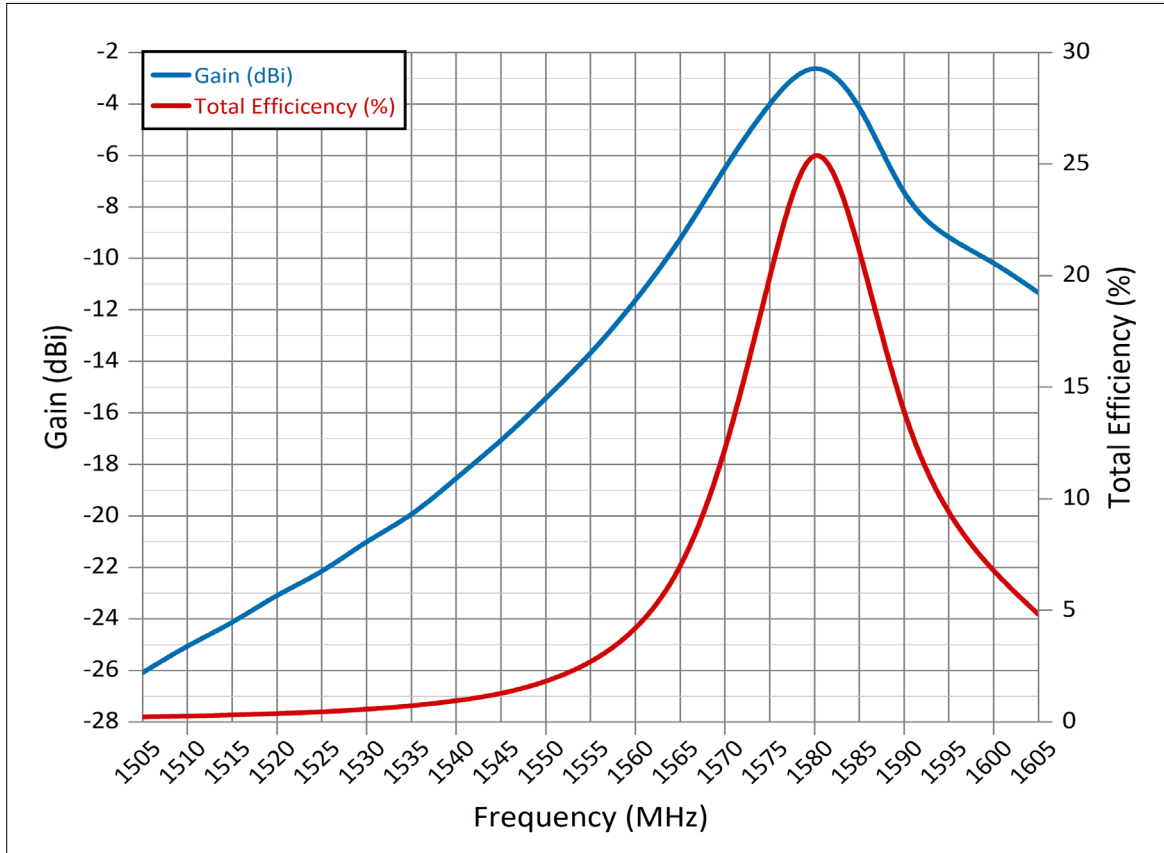
All data displayed in "ELECTRICAL PERFORMANCE" were measured with a 15 x15 mm ground plane.

**S11**



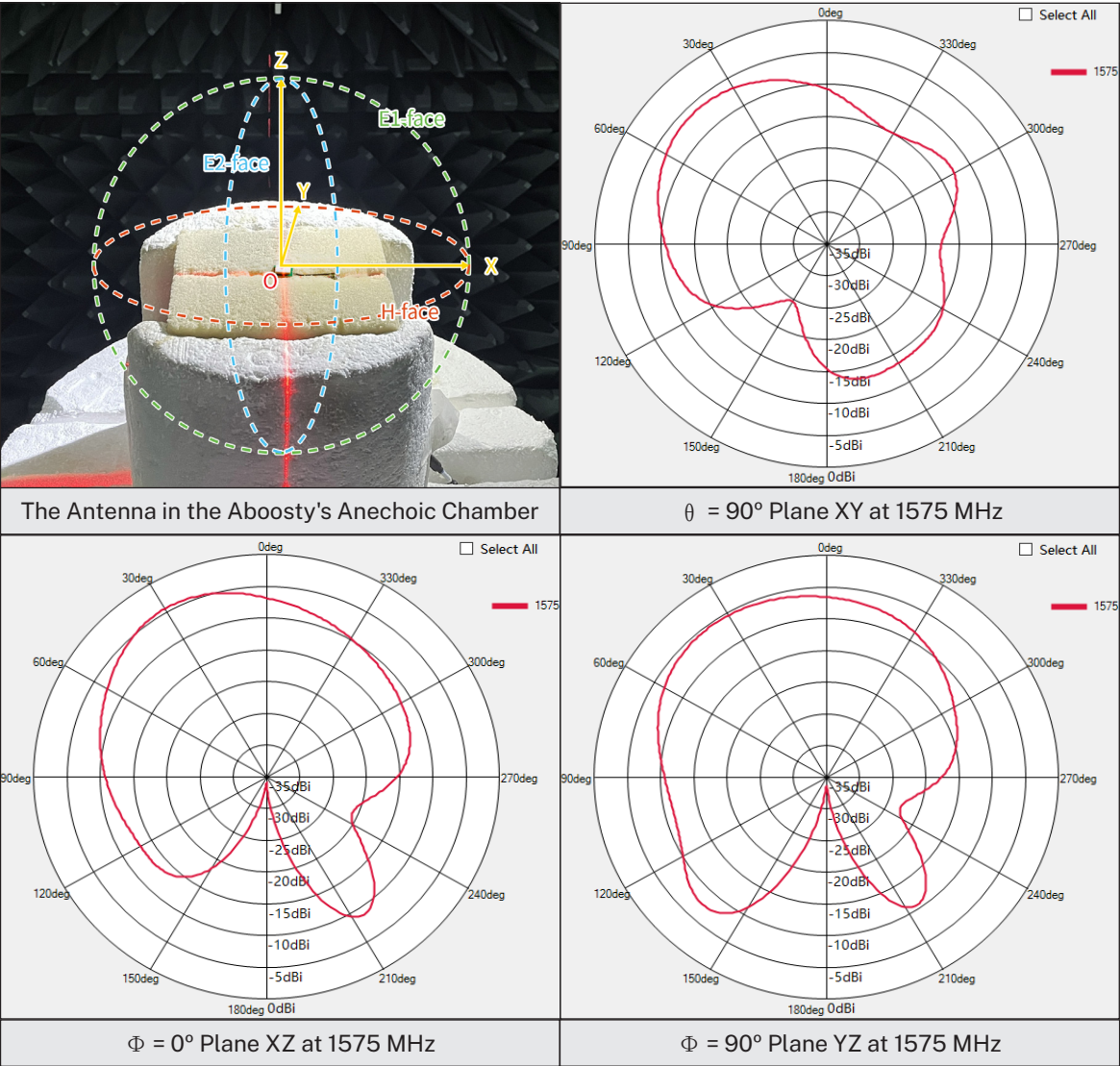
| Item                    | Specification After Test (MHz) |
|-------------------------|--------------------------------|
| Center Frequency Change | ±2.0                           |
| -10dB Bandwidth Change  | ±2.0                           |

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

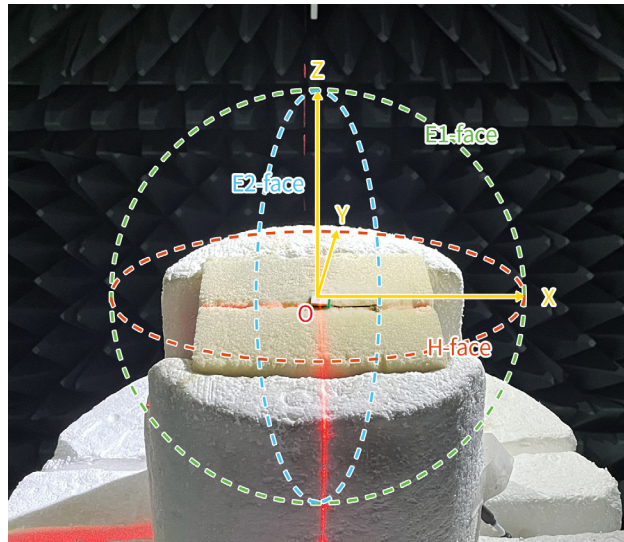


| Freq (MHz) | Gain (dBi) | Efficiency (%) | Freq (MHz) | Gain (dBi) | Efficiency (%) |
|------------|------------|----------------|------------|------------|----------------|
| 1505       | -26.07     | 0.24           | 1560       | -11.67     | 4.03           |
| 1510       | -25.01     | 0.27           | 1565       | -9.31      | 6.58           |
| 1515       | -24.16     | 0.32           | 1570       | -6.42      | 11.74          |
| 1520       | -23.03     | 0.39           | 1575       | -3.89      | 20.07          |
| 1525       | -22.21     | 0.46           | 1580       | -2.03      | 27.69          |
| 1530       | -20.94     | 0.58           | 1585       | -3.75      | 21.4           |
| 1535       | -20.02     | 0.73           | 1590       | -7.89      | 13.24          |
| 1540       | -18.52     | 0.95           | 1595       | -9.25      | 9.13           |
| 1545       | -17.09     | 1.26           | 1600       | -10.13     | 6.69           |
| 1550       | -15.43     | 1.79           | 1605       | -11.33     | 4.83           |
| 1555       | -13.71     | 2.62           |            |            |                |

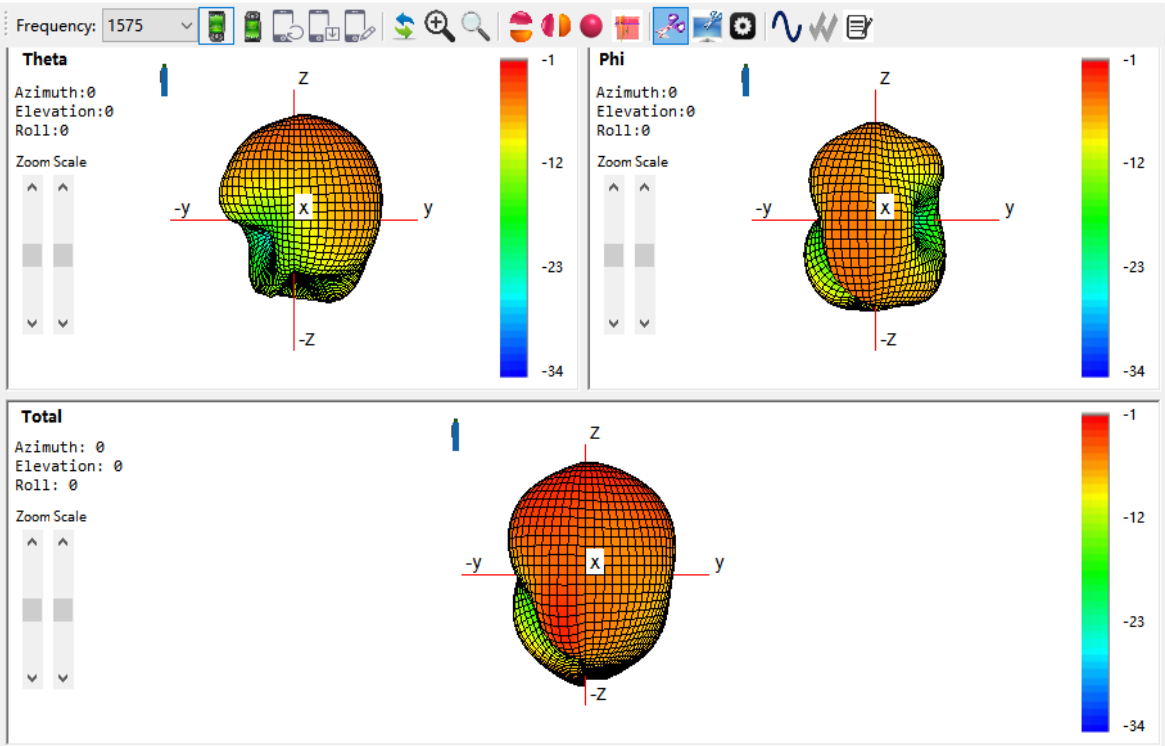
### Active 2D Radiation Patterns (1575 MHz)



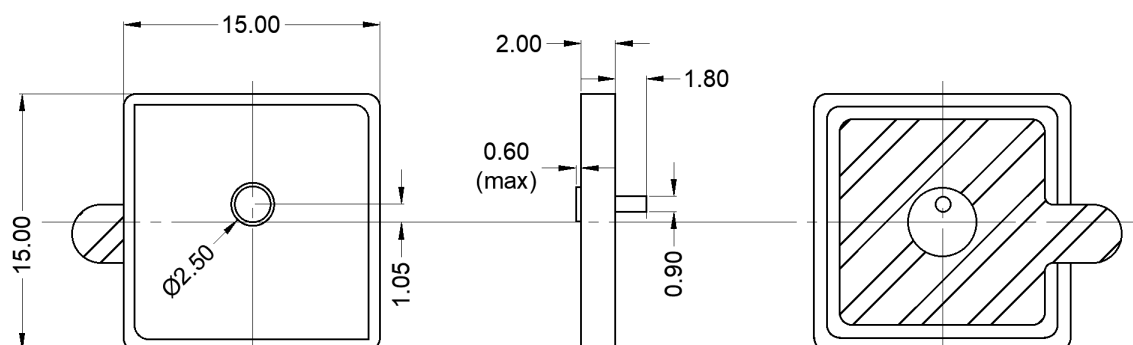
Active 3D Radiation Patterns (1575 MHz)



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



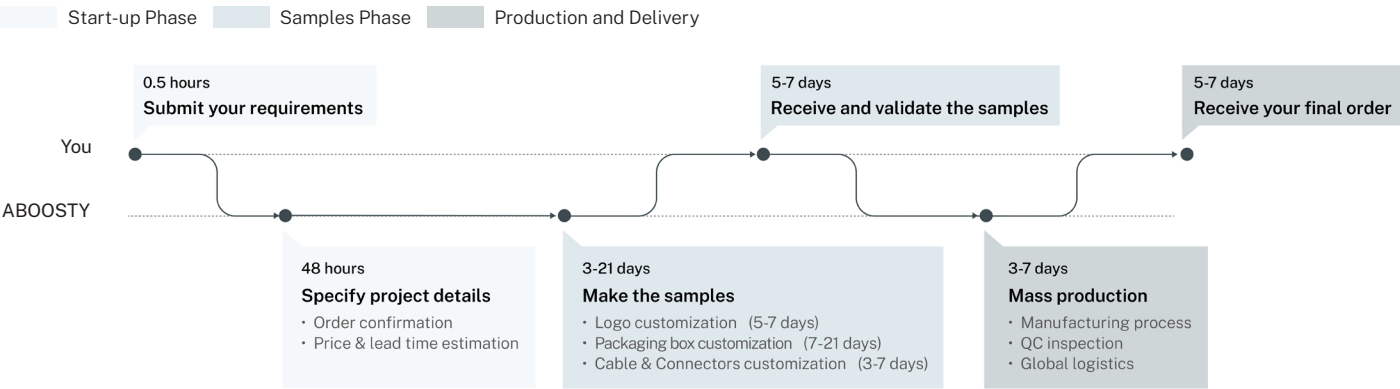
Professional team support & prompt reply within 24h

## What We Provide

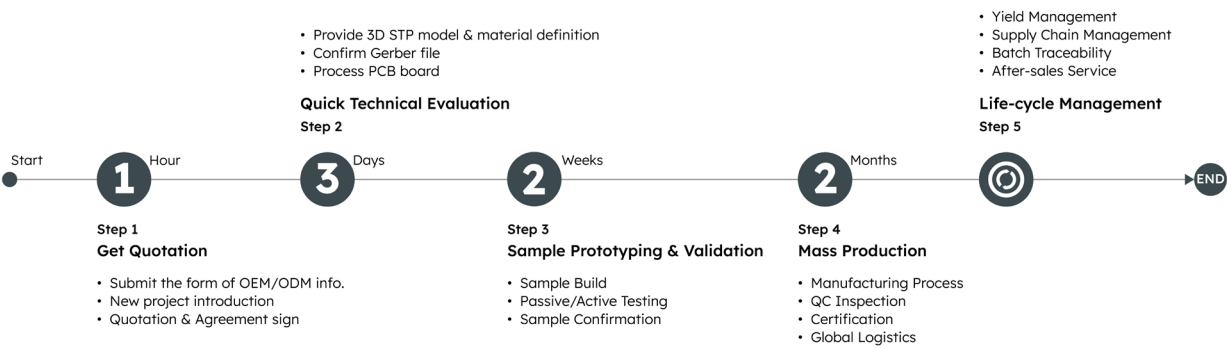
| OEM/ODM Services | Light Customization                                                                                          | Deep Customization                                                                                                                                                                                                   |
|------------------|--------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                  | <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

Contact us:

 [support@aboosty.com](mailto:support@aboosty.com)

 +86-13924678201

Find us (Global):

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

