

# GNSS - External Helical Antenna



**AECC0502GB**

Request Samples



Check Inventory



55.6 x Ø27.5 mm  
**RoHS/RoHS II Compliant**  
MSL Level = 1

## Features

- Ultra- Low Profile
- Active GNSS
  - GPS : L1/L2
  - GLONASS : G1/G2
  - BEIDOU/Compass : B1/B2/B3
  - GALIELO : E1/E5b
- IP67 rated
- Easy installation using Connector

## Applications

- IoT
- M2M
- Surveillance
- Autonomous Driving
- Fleet Management & Asset Tracking
- Telematics
- Smart Agriculture / Precision Farming
- Instrumentation

## Product Image



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## Part Number Builder

AECC0502GB □ - □

| Color / UV Coating     |                          |
|------------------------|--------------------------|
| Code                   | Description              |
| <b>S</b><br>(Standard) | Black without UV coating |
| A                      | Black with UV Coating    |
| B                      | White without UV Coating |
| C                      | White with UV Coating    |

| Connector Type         |                |
|------------------------|----------------|
| Code                   | Connector Type |
| <b>S</b><br>(Standard) | SMA (M)        |
| A                      | RP-SMA (M)     |
| B                      | SMB (M)        |
| C                      | N-Type (M)     |
| D                      | TNC (M)        |
| E                      | BNC (M)        |
| F                      | MCX (M)        |
| G                      | MMCX (M)       |

### Example Configurations :

| Part Number           | UV Coating / Color | Connector Type        |
|-----------------------|--------------------|-----------------------|
| AECC0502GB <b>S-S</b> | No / Black         | SMA (M)<br>(Standard) |
| AECC0502GB <b>A-A</b> | Yes / Black        | RP-SMA (M)            |
| AECC0502GB <b>C-C</b> | Yes / White        | N-Type (M)            |

### Note :

- For the standard part number (AECC0502GB**S-S**), please refer to the packaging at the end of the document.
- For custom configurations (AECC0502GB□-□), MOQs, pricing and packaging changes may be applicable.

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## Electrical Specifications

| Parameter            | Specification    |         |         | Unit   |
|----------------------|------------------|---------|---------|--------|
|                      | Min              | Typ     | Max     |        |
| Center Frequency     | GPS              | L1      | 1575.42 | MHz    |
|                      |                  | L2      | 1227.60 |        |
|                      | GLONASS          | G1      | 1602.00 |        |
|                      |                  | G2      | 1246.00 |        |
|                      | BeiDou / Compass | B1      | 1561.10 |        |
|                      |                  | B2      | 1207.14 |        |
|                      |                  | B3      | 1268.52 |        |
|                      | Galileo          | E1      | 1575.42 |        |
| E5b                  |                  | 1207.14 |         |        |
| VSWR                 |                  |         | 2.0     |        |
| Polarization         | RHCP             |         |         |        |
| Peak Gain            |                  |         | 2       | dBi    |
| Impedance            |                  | 50      |         | Ω      |
| Axial Ratio          |                  |         | 3       | dB     |
| Horizontal Coverage  |                  | 360     |         | degree |
| <b>LNA</b>           |                  |         |         |        |
| Gain                 | 31               | 33      | 35      | dBi    |
| Passband Fluctuation |                  | ±2      |         | dB     |
| NF                   |                  |         | 1.5     | dB     |
| VSWR                 |                  |         | 2       |        |
| Supply Voltage (DC)  | 3                |         | 16      | V      |
| Current Consumption  |                  |         | 35      | mA     |

## Mechanical Specifications

| Parameter         | Specification   |
|-------------------|-----------------|
| Antenna Dimension | 55.6 x Ø27.5 mm |
| Housing Material  | PC + ABS        |
| Mounting Type     | Connector       |
| RF Connector      | SMA (M)         |

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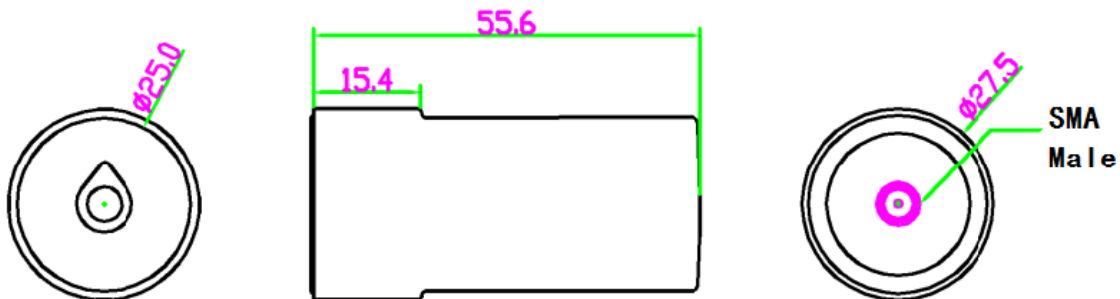


55.6 x Ø27.5 mm  
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## Environmental Specification

| Parameter             | Specification                          |
|-----------------------|--|
| Operating Temperature | -40°C to +85°C                         |
| Storage Temperature   | -40°C to +85°C                         |
| IP Rating             | IP67                                   |
| UL Rating             | UL-94 V0                               |
| RoHS Compliance       | Yes                                    |
| PB Free               | Yes                                    |
| MSL                   | 1                                      |
| ESD Sensitive         | Yes                                    |
| Relative Humidity     | Up to 95%                              |
| Vibration             | 10 ~ 55 Hz with 1.5 mm amplitude 2 hrs |

## Product Dimension



Unit : mm

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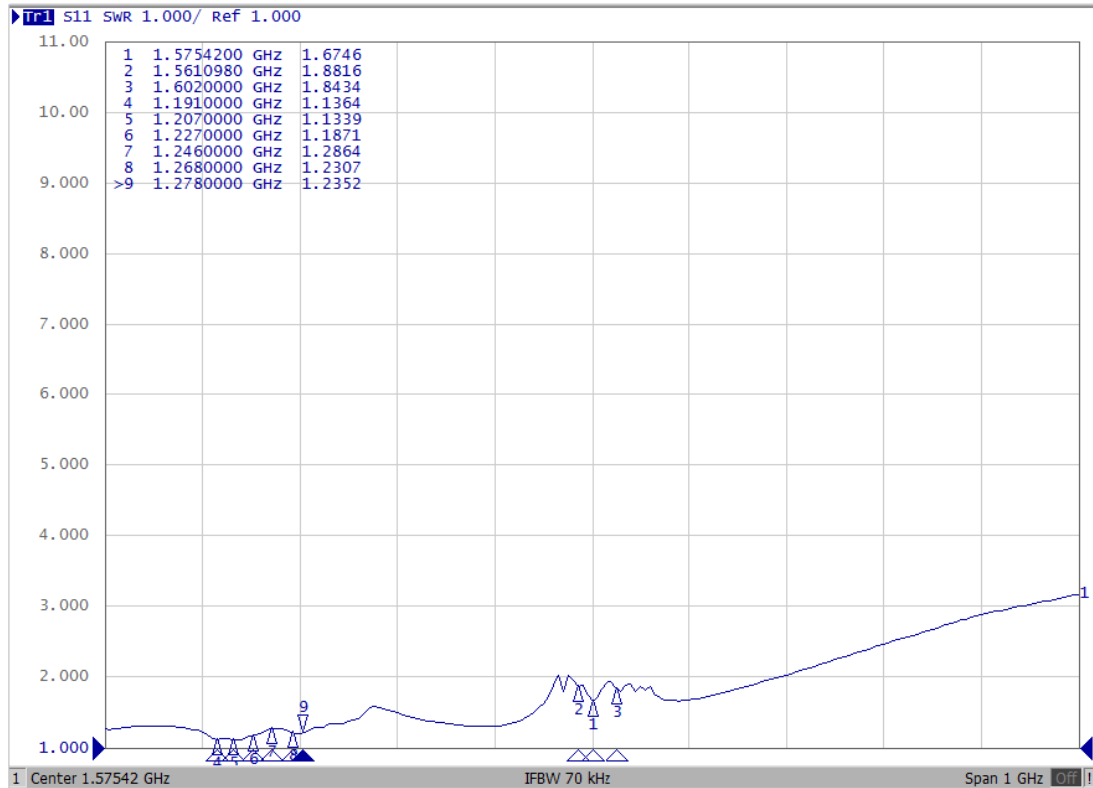


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## Test Measurement - VSWR



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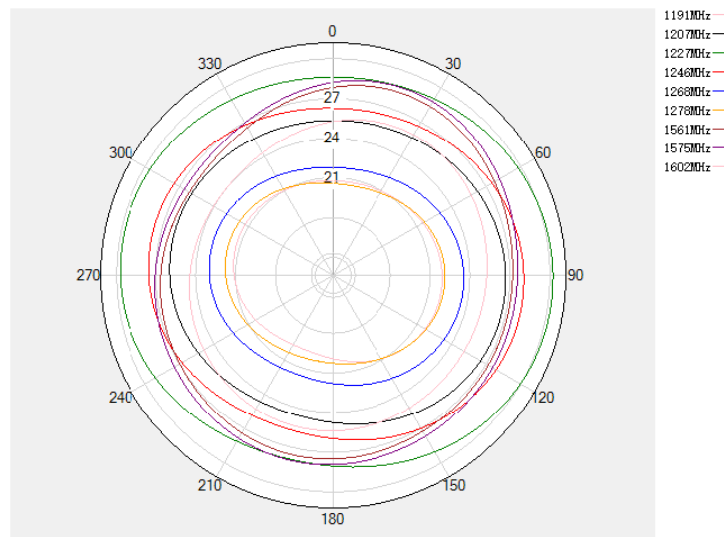


55.6 x Ø27.5 mm  
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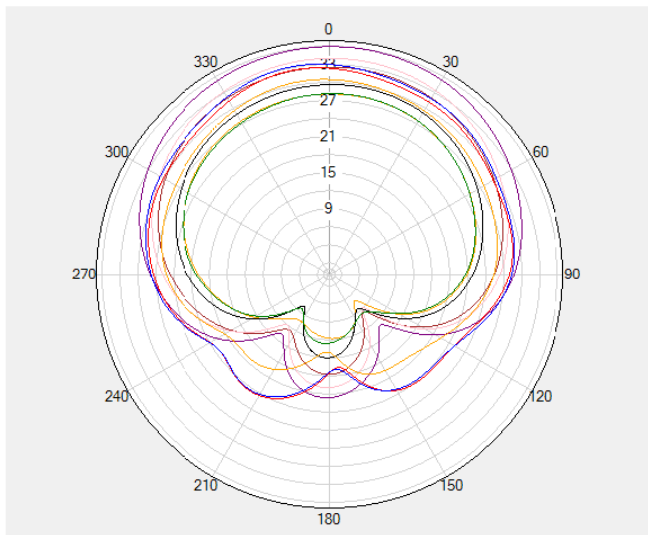
## Radiation Characteristics

### 2D Pattern

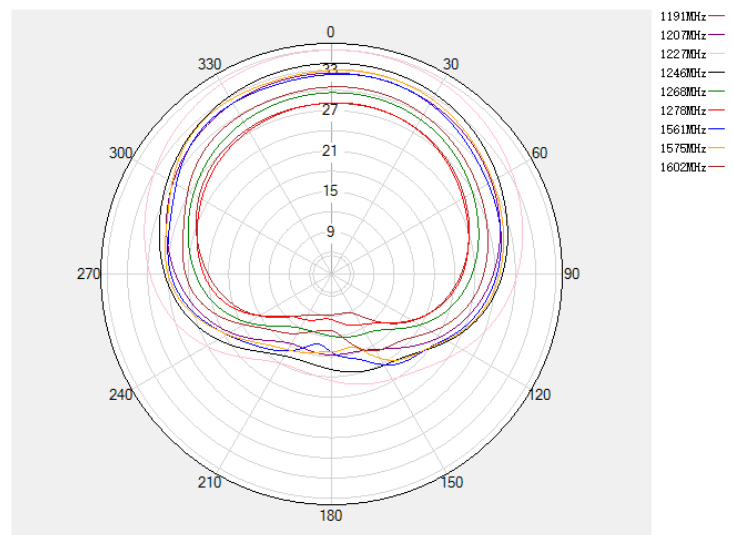
#### XY - Plane



#### XZ - Plane



#### YZ - Plane



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## Packaging Information

Number of Antenna/ Carton : 72 pcs  
Dimension of the Carton : 560 x 300 x 240 mm  
Weight of 1 pc of Antenna : 35 g  
Weight of the Carton : 3 kg

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