RoHS Compliant

# GA-005 – High Performance GPS Active Antenna





## Overview

Built-in SAW filter and high gain LNAs, GA-005 is a high performance, low power, variable bias voltage, GPS active antenna. It's an ideal companion to GPS receivers. There are two sub-models GA-005A and GA-005X with different housings.

## Applications

- Automatic vehicle location
- Fleet management
- Electronic-mapping application
- Security system

## Features

- Compact
- Low power consumption
- Variable bias voltages
- High gain, low noise
- Variable cable length and connectors are available
- Magnetic mounting
- IP66+ Water-resistance

## Technical Specifications

| | |
|---|---|
| Working Voltage | 3.0 ~ 5.0V |

### Antenna Performance Data

### Ceramic Patch

| | |
|---|---|
| Size | 25mm*25mm*4mm |
| Center Frequency | 1575.42±2 MHz |
| V.S.W.R | 1.5:1 |
| Bandwidth | 10 MHz min |
| Impendence | 50 ohm |
| Peak Gain | 5.0 dBic |
| Test Ground Size | 70mm*70mm |
| Polarization | R.H.C.P. |

### LNA

| | |
|---|---|
| Gain | 27 ± 3dB (25℃±10℃) |
| Noise Figure | 1.5 dB (25℃±10℃) |
| Output VSWR | 2.0 Max |
| Voltage | 3.0~5.0 V |
| Current | 13 mA @ 5.0V Typical (GA-005A)<br>10 mA @ 3.0V Typical (GA-005X) |

### Filter

| | |
|---|---|
| Center Frequency (fc) | 1575.42 MHz |
| Insertion Loss | Max. 3.0dB (at 25 ± 5℃)<br>Max. 3.5dB (at -40 ~ +85℃) |
| Bandwidth | fc ± 5MHz |
| VSWR | 2.0 Max |
| Ripple | Max 0.5dB |
| Attenuation | Min 25dB (fc+100MHz)<br>Min 40dB (fc-100MHz) |
| Impendence | 50 ohm |

### Environmental Data

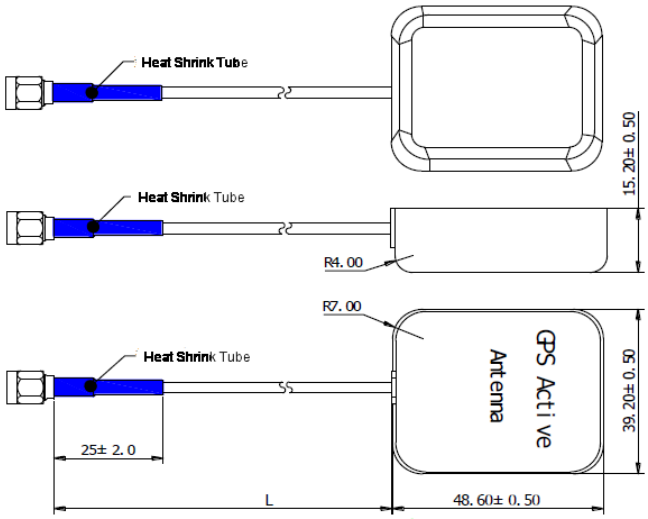
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|---|---|
| Operating temperature | -40 ~ 80℃ |
| Storage temperature | -45 ~ 85℃ |
| Vibration | 10Hz to 50Hz, 1g |
| Waterproof | IP66 (GA-005A)<br>IP67 (GA-005X) |

### Mechanical Data

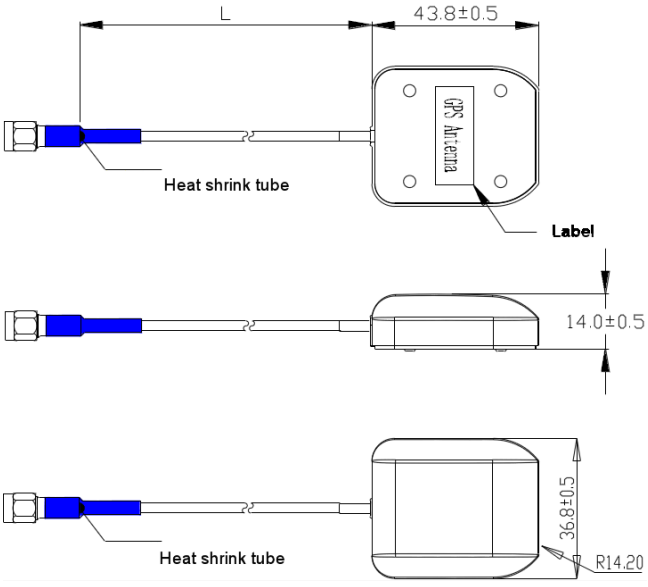
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| | |
|---|---|
| Dimension<br>GA-005A<br>GA-005X | ± 0.5mm deviation<br>48.6 (L) x 39.2 (W) x 15.2 (H) mm<br>43.8 (L) x 36.8 (W) x 14.0 (H) mm |
| Cable Type | RG174/U |
| Cable Length | 1.5m, 3m (default), 5m, 10m, etc.<br>± 0.1 m |
| RF Connector | SMA (default)<br>MCX, MMCX, SMB, GT5 |

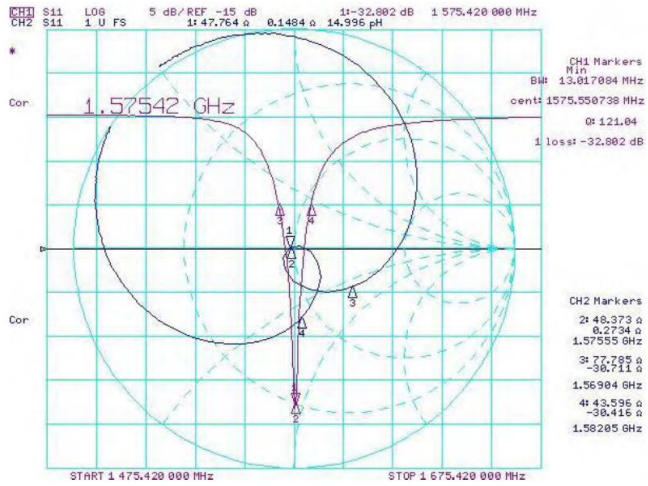
GA-005A:




GA-005X:




## Passive Antenna Characteristics




## LNA Characteristics




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