

# GPS Active Antenna Module - Magnet Base

**APAMP-127****ESD Sensitive**RoHS/RoHS II compliant  
Lead in copper alloy exemption (6c); and Lead in glass exemption (7c-I)

38.0 X 34.0 X 12mm

**MSL level: Not Applicable**

## FEATURES:

- High Reliability/Sensitivity
- Compact Size
- Easy to install (magnet base)
- ROHS Compliant

## TYPICAL APPLICATIONS:

- Automotive Navigation
- Automotive Monitoring
- Personal Tracking

## STANDARD SPECIFICATIONS:

### Antenna

| Parameters               | Min.    | Typ.    | Max.    | Units    | Note                               |
|--------------------------|---------|---------|---------|----------|------------------------------------|
| Center Frequency         | 1574.40 | 1575.42 | 1576.44 | MHz      |                                    |
| Bandwidth                | 10.0    |         |         | MHz      |                                    |
| VSWR at Center Frequency |         |         | 1.5:1   |          |                                    |
| Polarization Model       | RHCP    |         |         |          | (Right Hand Circular Polarization) |
| Impedance                |         | 50      |         | $\Omega$ |                                    |
| Gain                     |         | 5       |         | dBic     | (Based on 70× 70mm ground plane)   |
| Operating Temperature    | -40     |         | +80     | °C       |                                    |
| Storage Temperature      | -45     |         | +85     | °C       |                                    |

### Low Noise Amplifier (LNA)

| Parameters                             | Min.    | Typ.    | Max.    | Units | Note           |
|----------------------------------------|---------|---------|---------|-------|----------------|
| Center Frequency                       | 1574.40 | 1575.42 | 1576.44 | MHz   |                |
| DC Voltage                             | 3.0     |         | 5.0     | V     |                |
| Gain                                   | 25      | 28      | 31      | dB    | (+25°C ± 10°C) |
| Out-of-band Rejection (Absolute Value) | 19      |         |         | dB    | (Fo+100MHZ)    |
|                                        | 21      |         |         | dB    | (Fo-100MHZ)    |
| Output VSWR                            |         |         | 2.0     |       |                |
| Noise Figure                           |         |         | 1.8     |       |                |
| DC current                             |         | 7.5     | 9.5     | mA    | (At 3.0V)      |

### Overall (Complete module including RF connector)

| Parameters       | Min.    | Typ.    | Max.    | Units    | Note               |
|------------------|---------|---------|---------|----------|--------------------|
| Center Frequency | 1574.40 | 1575.42 | 1576.44 | MHz      |                    |
| Gain             | 25      | 28      | 31      | dBic     |                    |
| Output VSWR      |         |         | 2.0     |          |                    |
| Impedance        |         | 50      |         | $\Omega$ |                    |
| ESD Protection   |         |         | ±8      | kV       | (Direct discharge) |
|                  |         |         | ±15     | kV       | (Air discharge)    |



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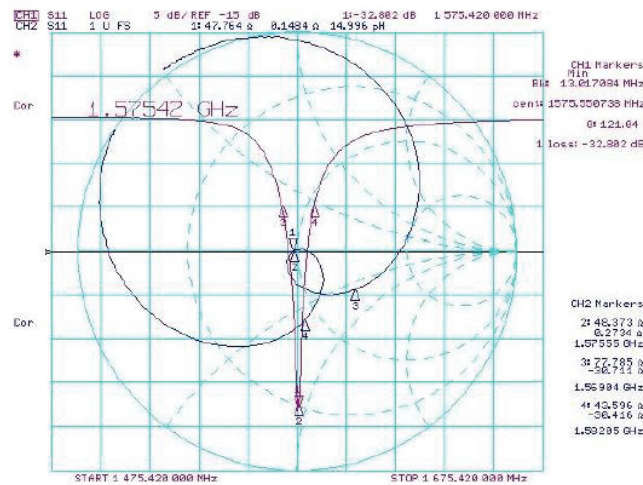
Lead in copper alloy exemption (6c); and Lead in glass exemption (7c-1)

RoHS/RoHS II compliant



38.0 X 34.0 X 12mm

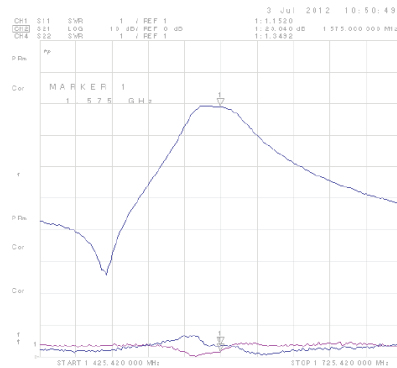
## ANTENNA'S IMPEDANCE AND RETURN-LOSS CHARACTERISTICS



S11: Input VSWR

Test condition: 25x25mm ground

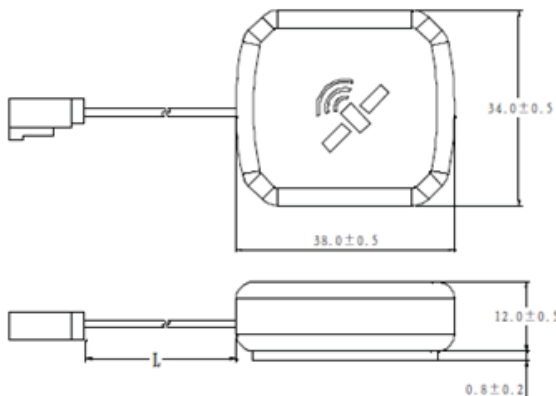
## LNA REFLECTION PROFILE



S21: LNA Gain

Test condition: DC 5.0V  
S21=29.04dB

## OUTLINE DRAWING:

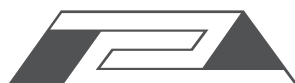


Top View

Side View

| Parameters           | Description        |
|----------------------|--------------------|
| L (Cable Length)     | 250±10cm           |
| Antenna              | Dielectric Ceramic |
| RF Cable             | RG174              |
| RF Cable Attenuation | 1.3dB/m            |
| PCB                  | FR4                |
| RF Connector         | FAKRA-C            |
| Shielding            | Tinplate           |
| Thickness            | 12.8mm             |
| Mounting Type        | Magnet Base        |

Unit:mm



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## PRODUCT IMAGE:



## PACKAGING:

Each 475 x 215 x 215 mm size carton includes 100 pieces of antenna.



### CAUTION:

- (1) Do not apply excess mechanical stress to the component body or terminations. Do not attempt to re-form or bend the components as this will cause damage to the component.
- (2) Do not expose the component to open flame.
- (3) This specification applies to the functionality of the component as a single unit. Please insure the component is thoroughly evaluated in the application circuit.

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