



Top View



Underside View

AA.108.301111

Specification

| | |
|---------------------|---|
| Part No. | AA.108.301111 |
| Product Name | Titan GPS Antenna AA.108 |
| Feature | <ul style="list-style-type: none"> Adhesive Mount Covert stylish design Wide band input voltage IP-67 Waterproof 3M RG-174 SMA(M) Connector Cable and connector customizable RoHS Compliant |



1. Introduction

Our AA.108 Titan adhesive mount external antenna is ideal for robust, covert installations where durability and small size is paramount. It is ideal for telematics and M2M applications for commercial vehicle installations for fleet management etc. Titan antennas are also widely used for consumer GPS devices when extra sensitivity is required, e.g. navigation devices and speed trap detectors.

The AA.108 is first tier automotive approved IP67 antenna, the part AA.108.301F21 (with GT5 connector) is listed in the global automotive IMDS databases, it has gone through full PPAP design, reliability and quality audits, including audits at the production facility.

2. Electrical Specifications

2.1 Ceramic Patch Specification

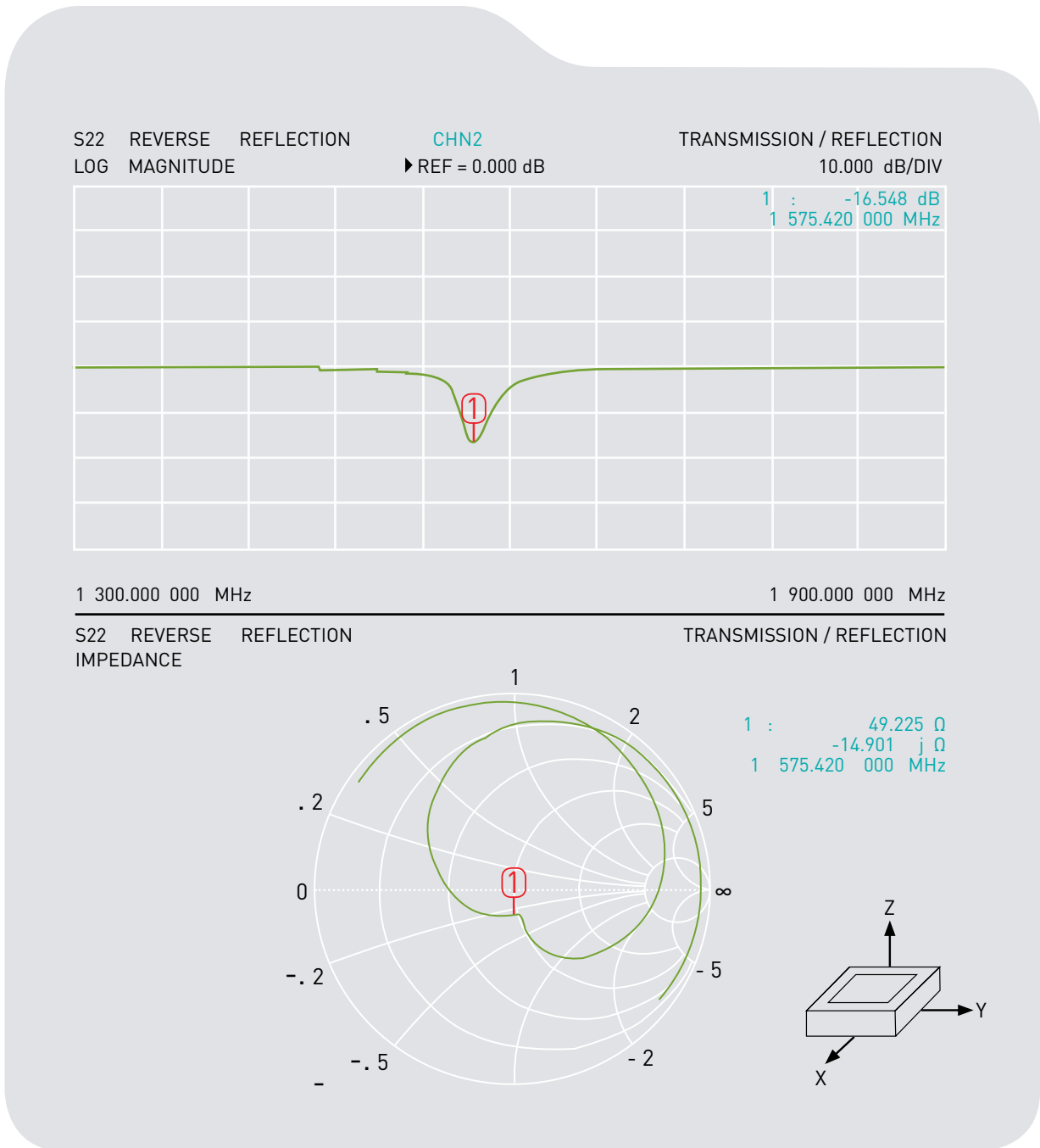
| Parameter | Specification |
|-------------------|---------------|
| Outline Dimension | 25*25*4mm |
| Ground Size | 25*25*4mm |
| Center Frequency | 1575.42±3MHz |
| Bandwidth | 10MHz |
| VSWR | 1.92 Max |
| Axial Ratio | 3dB Typ. |
| Gain @ Zenity | 2dBic Typ. |
| Impedance | 50Ω |
| Polarisation | RHCP |

2.2 LNA Specification

| Parameter | Specification | | | | | |
|-------------------|----------------|--------|-------|-------|-------|-------|
| Frequency | 1575.42MHz | | | | | |
| Impedance | 50Ω | | | | | |
| VSWR | 1.92 Max. | | | | | |
| DC Power Input | 1.8V | 2.5V | 2.7V | 3.3V | 5V | 12V |
| Gain | 21.8dB | 28dB | 29dB | 31dB | 31dB | 31dB |
| Noise Figure | 1.4dB | 1.28dB | 1.3dB | 1.3dB | 1.3dB | 1.3dB |
| Power Consumption | 4.5mA | 6.6mA | 7mA | 7mA | 7mA | 7mA |
| Band Attenuation | 40dB @fo±50MHz | | | | | |
| Operating temp | -40°C ~ +85°C | | | | | |
| Storage Temp | -40°C ~ +90°C | | | | | |

*Formula = Patch Antenna Average Gain + LNA typical gain – RG174 cable loss @1.2dB per meter = Gain at connector
 Gain at the Connector - Patch Gain 2dB + LNA Gain 30dB – Cable loss of 1.2dB per metre (@3m = 3.6dB) = 28.4dB approx.

3. Ceramic Antenna S11 (with housing)

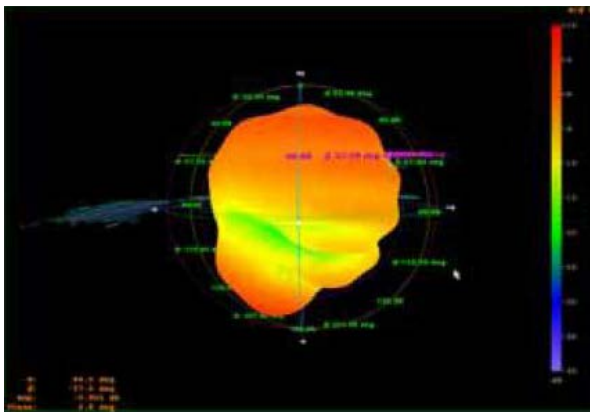


4. Ceramic Antenna Radiation Pattern (with housing)

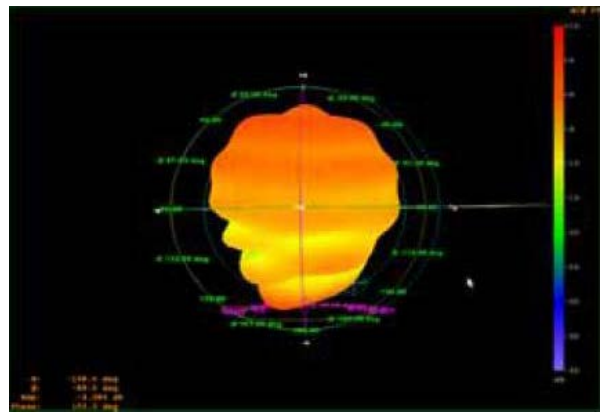


4.1 XZ Plane & YZ Plane

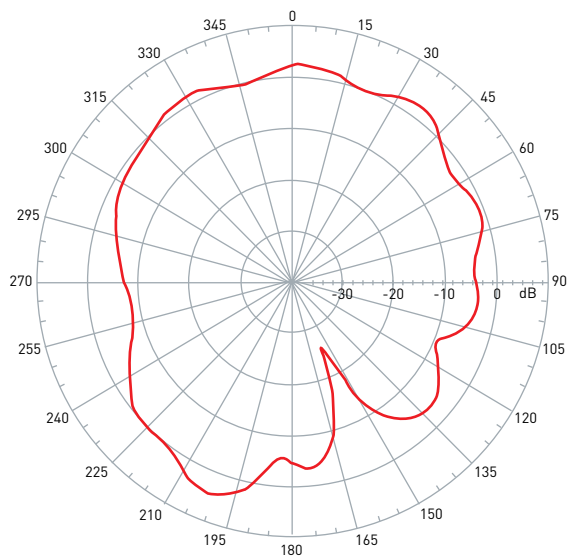
XZ Plane



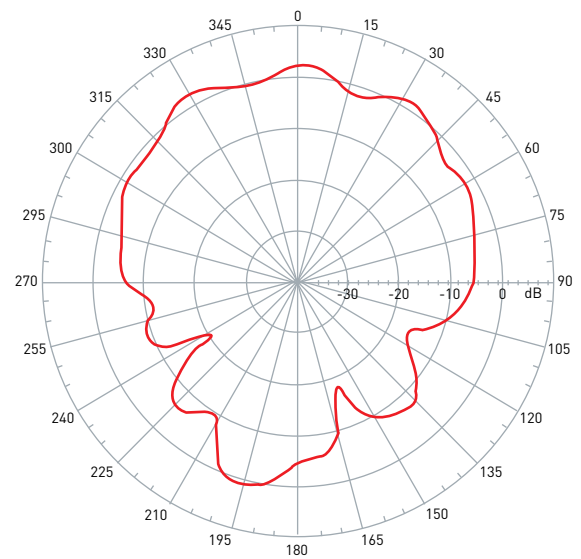
YZ Plane



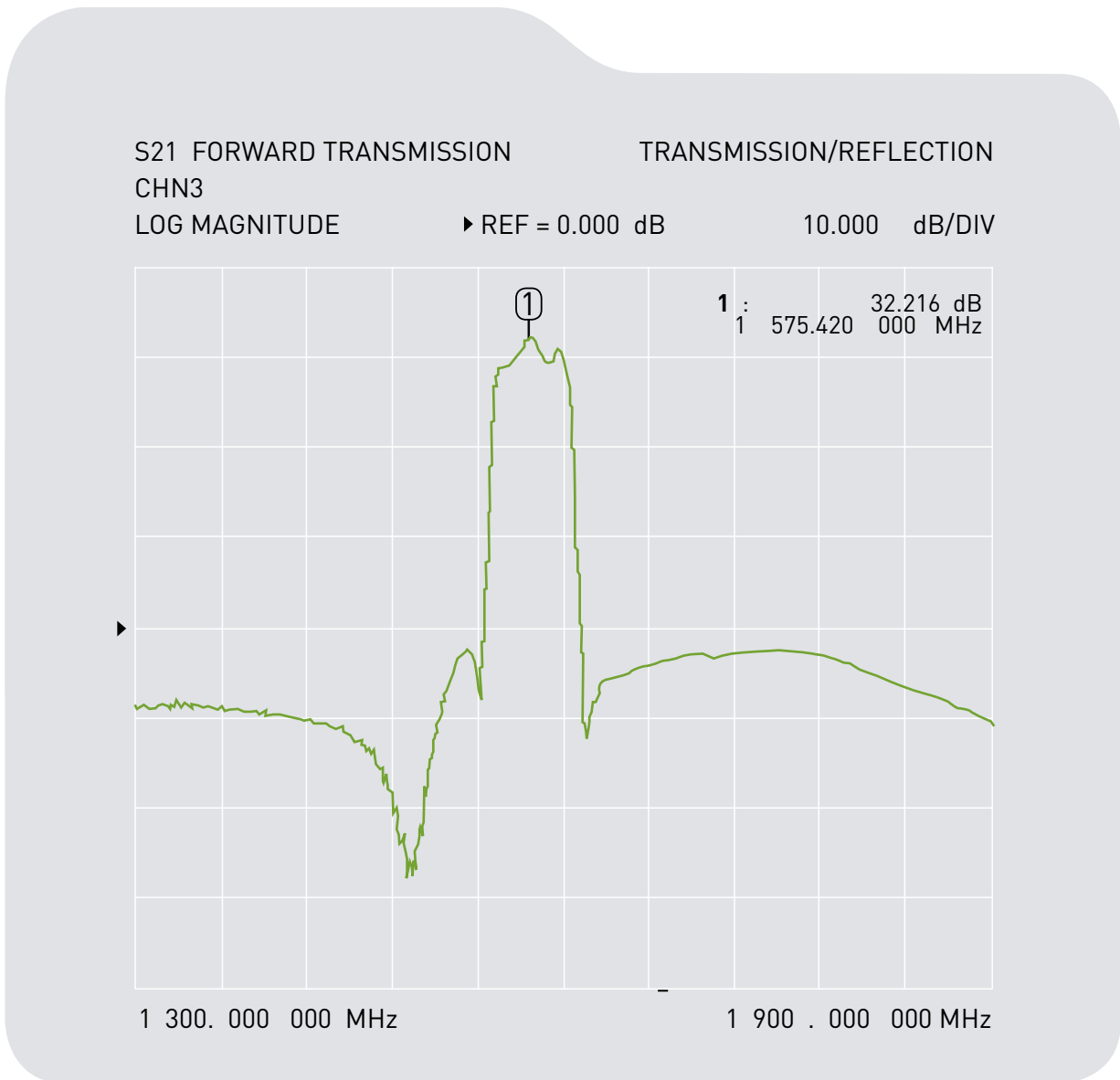
Far-field amplitude of goasial
1583 06-5-8.nsi



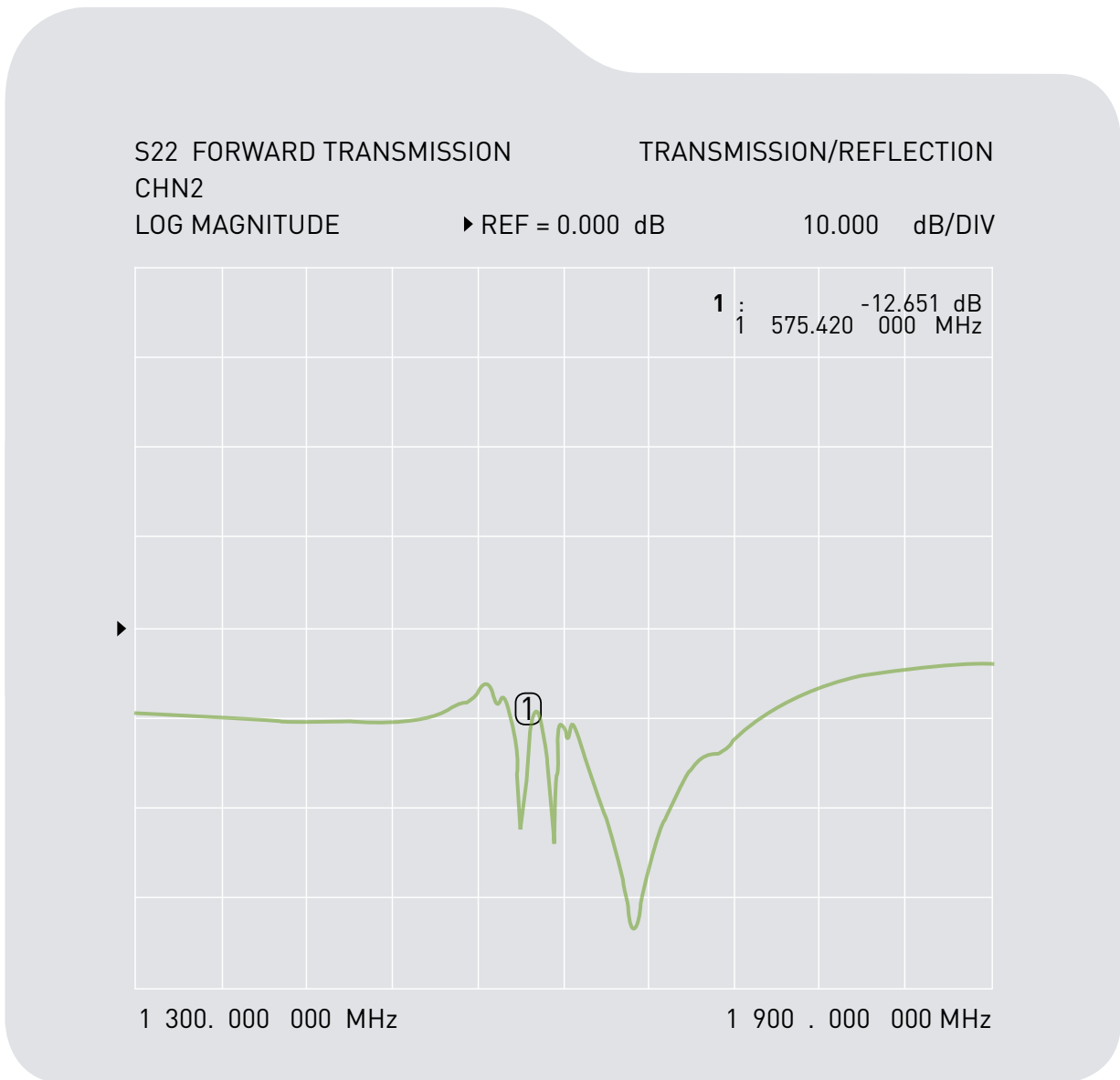
Far-field amplitude of goasial
1583 06-5-8.nsi



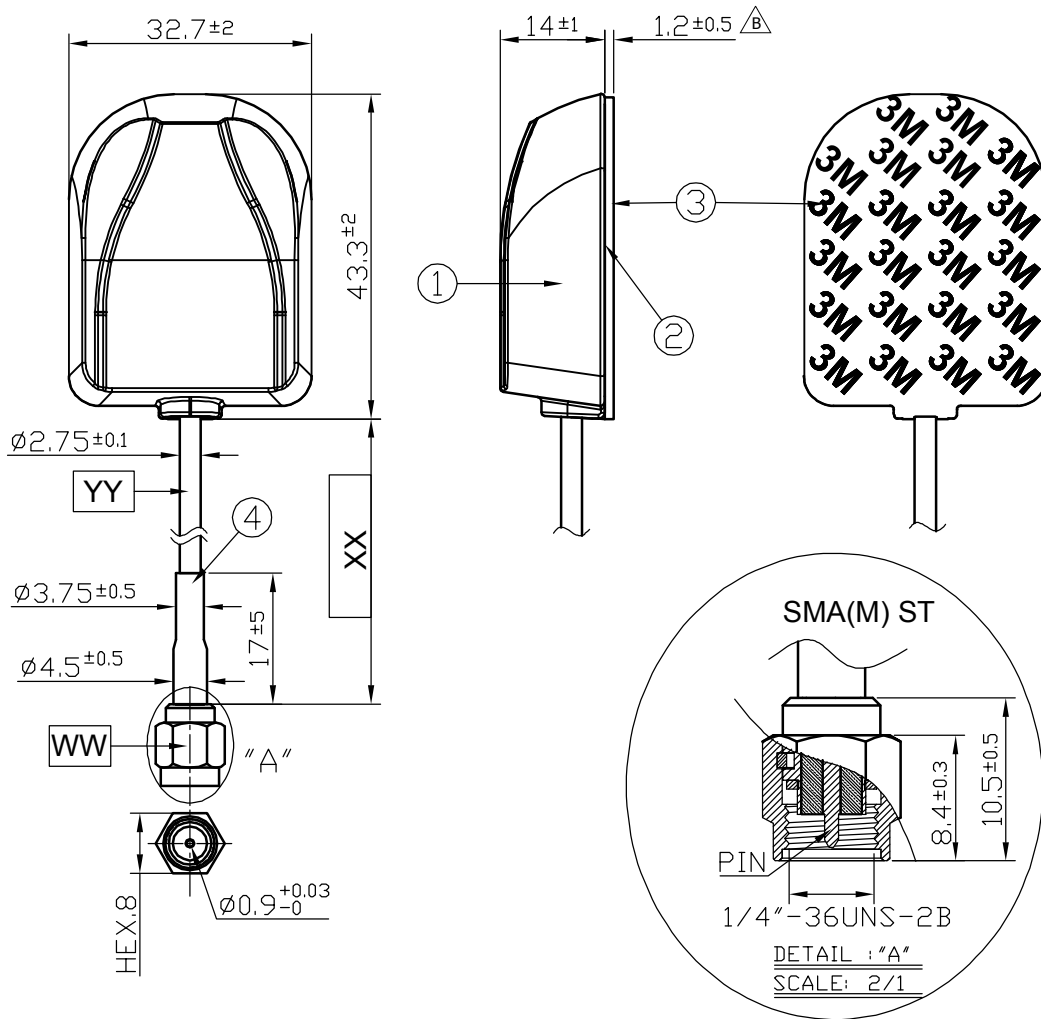
5. LNA gain



6. LNA S22

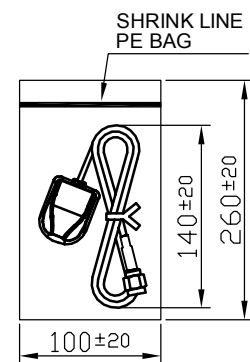


7. Drawing



| | Name | Material | Finish | QTY |
|---|----------------------------|----------|--------|-----|
| 1 | GPS Antenna Housing Top | PC | Black | 1 |
| 2 | GPS Antenna Housing Bottom | PC | Black | 1 |
| 3 | Double Sided Adhesive | 3M 4612 | White | 1 |
| 4 | Heat Shrink Tube | PE | Black | 1 |

| | Name | Material | Finish | QTY |
|----|----------------|------------|--------|-----|
| WW | Connector Type | SMA (M) ST | Gold | 1 |
| XX | Cable Length | 3000±30mm | Black | 1 |
| YY | Cable Type | RG174 | Black | 1 |

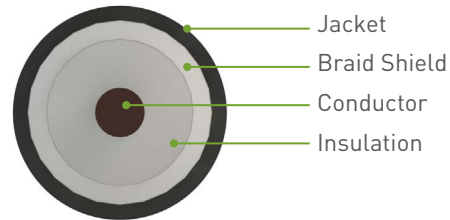


Unit : mm

8. RG-174 Cable Specification

RG-174 Coaxial Cable

Cable conforming to 2002/95/CE (RoHS)



Structure and Dimensions



| Conductor | Insulation | Braid Shield | PVC Jacket |
|--------------------------|----------------------------|------------------------------|---------------------------------|
| • Material - Bare Copper | • Material - XL-PE | • Material - Tinned Copper | • Material - PVC According to |
| • AWG 26 | • Min.Avg.Thickness 0.45mm | • Size - 16*5/0/10 ± 0.008mm | 200/53/EC - Half Matt-Low Toxic |
| • Stranding - | • Diameter - 1.55 ± 0.05mm | | • Min. Avg. Thickness - 0.38mm |
| 7/0.165 ± 0.008mm | • NO - 1C | | • Diameter - 2.80 ± 0.15mm |
| | | | • Colour - UL813 |

Electrical & Physical Specification

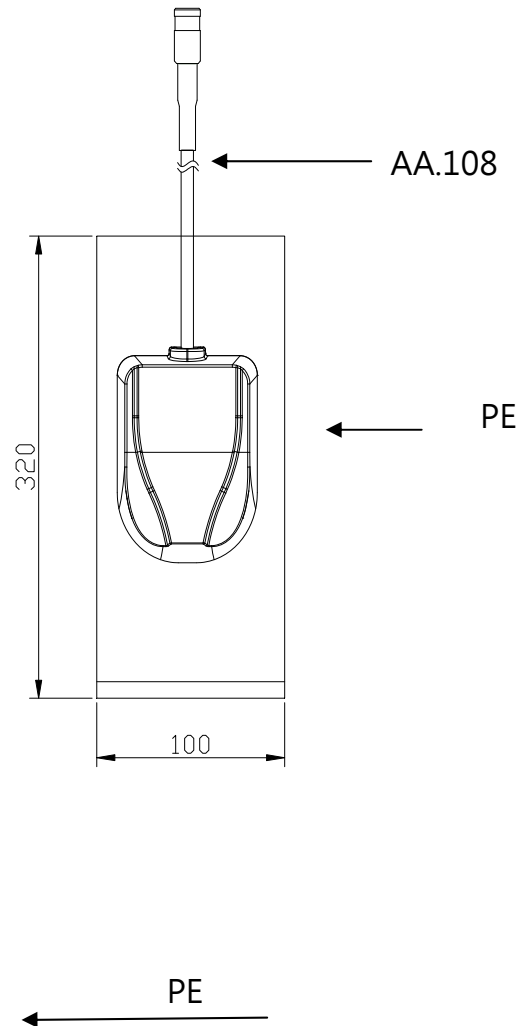
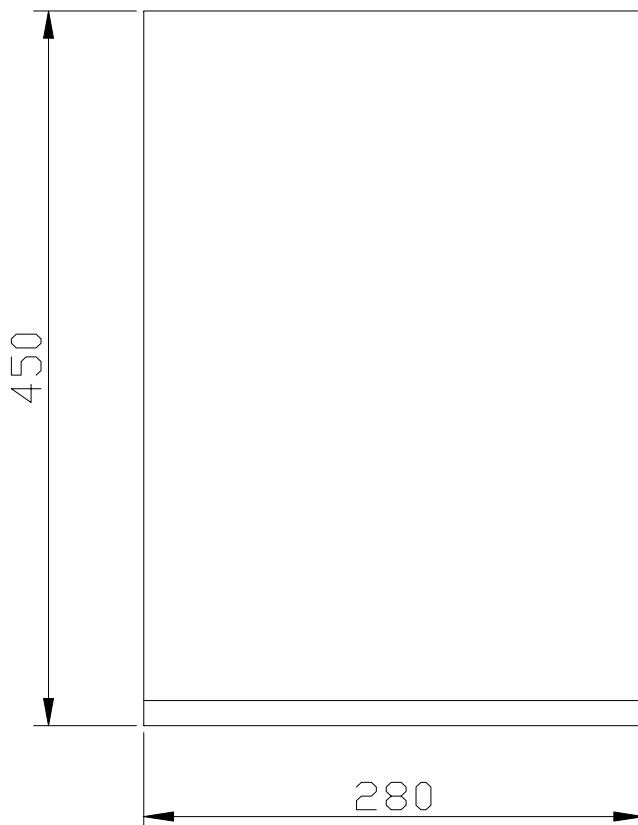
| | | |
|---|------------------------------|-----------------------|
| 1 | Temperature rating | 80°C |
| 2 | Voltage | 30V |
| 3 | Capacitance nominal (1KHz) | 30.8 pF/ft |
| 4 | Conductor Resistance at 20°C | MAX 26AWG: 148.94Ω/km |
| 5 | Impedance | 50 ± 5 Ω |

RG-174 cable attenuation (dB/100mm)

| GHz | 0.5 | 1 | 1.5 | 2 | 2.5 | 3 | 3.5 | 4 | 4.5 | 5 | 5.5 | 6 |
|--------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| RG-174 | 67 | 110 | 127 | 153 | 168 | 183 | 207 | 229 | 252 | 272 | 291 | 311 |

8. Packaging

| |
|---------------------------------|
| 1pcs antenna per small PE bag |
| 20 small PE bags per big PE bag |
| 20pcs antennas per big PE bag |



Unit : mm

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