



Topside View



Underside View

## Titan

AA.108.301F21

## Specification

<b>Part No.</b>	AA.108.301F21
<b>Product Name</b>	<b>Titan</b> GPS Antenna AA.108
<b>Feature</b>	Adhesive Mount Covert stylish design Wide band input voltage IP-67 Waterproof 3M RG-174 GT5(F) Grey 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, this 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

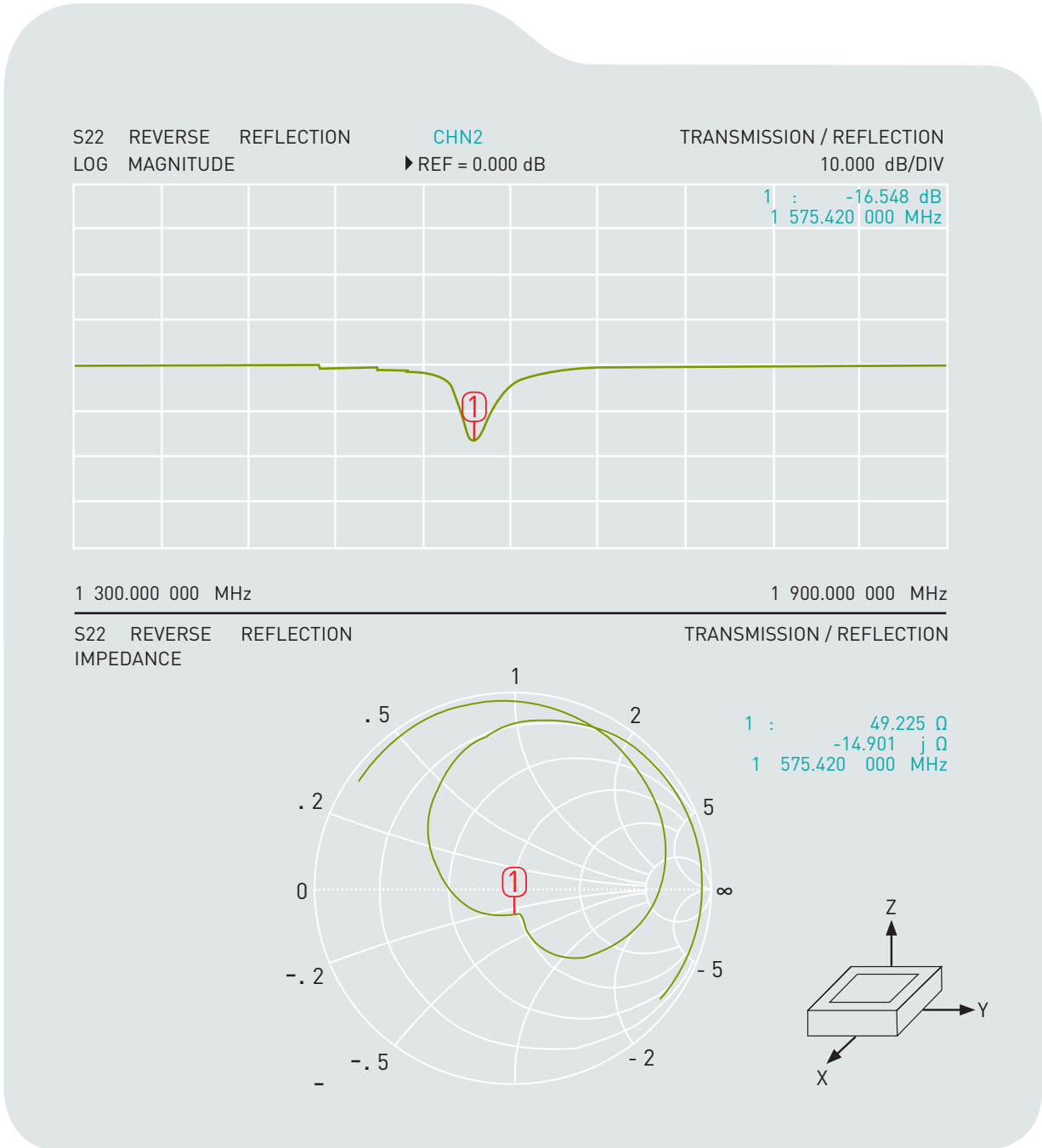
Parameter	Specification
Outline Dimension	25*25*4mm
Ground Size	25*25*4mm
Center Frequency	1575.42±3MHz
Bandwidth	10MHz
VSWR	1.92 Max
Axial ratio	3dB Typ.
Gain @ Zenith	2dBic Typ.
Impedance	50Ω
Polarization	RHCP

### 2.2 LNA Specification

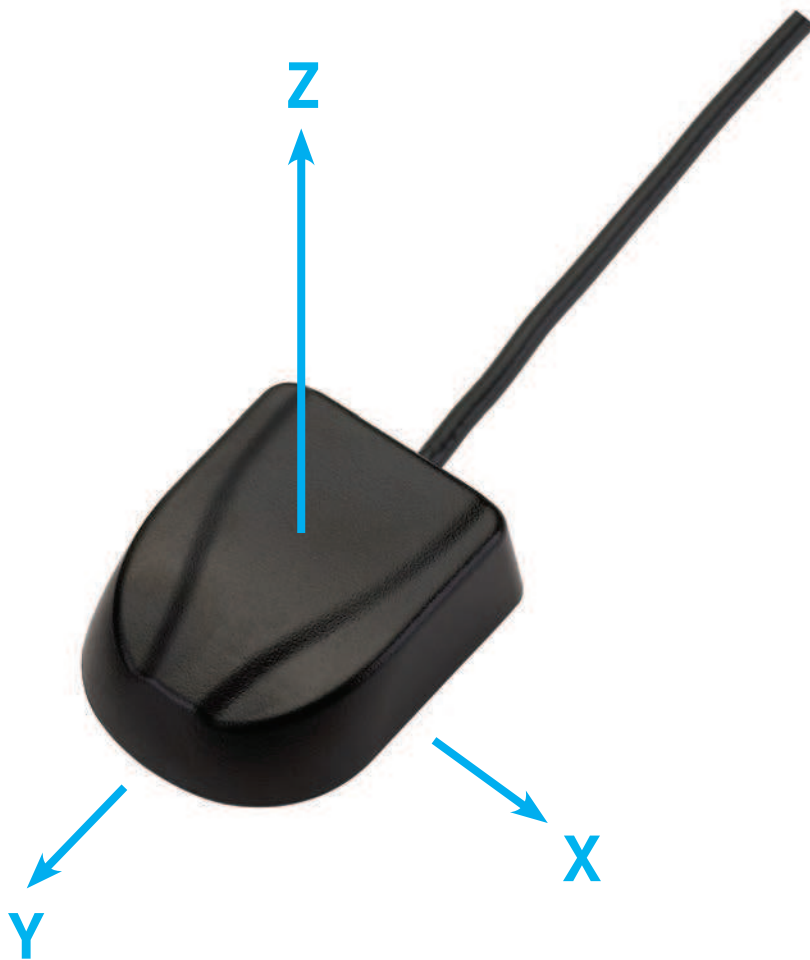
Parameter	Specification
Frequency	1575.42MHz
Impedance	50Ω
VSWR	1.92 Max.
DC Power Input	1.8V      2.5V      2.7V      3.3V      5V      12V
Gain	21.8dB    28dB      29dB      31dB      31dB      31dB
Noise Figure	1.4dB    1.38dB    1.3dB      1.3dB      1.3dB      1.3dB
Power Consumption	4.5mA    6.6mA    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)

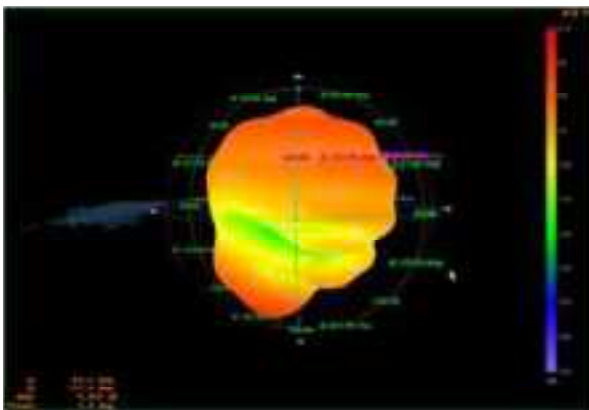


#### 4. Ceramic Antenna Radiation Pattern (with housing)

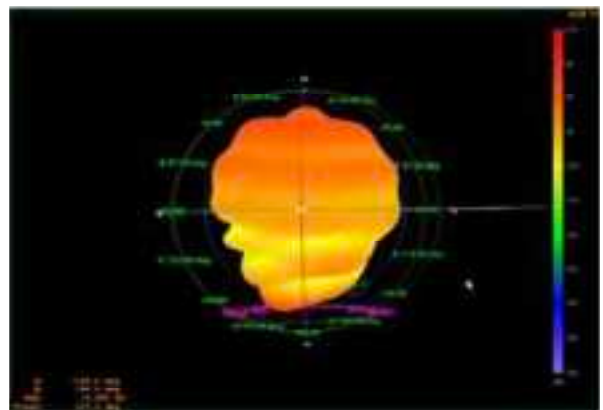


### 4.1 XZ Plane & YZ Plane

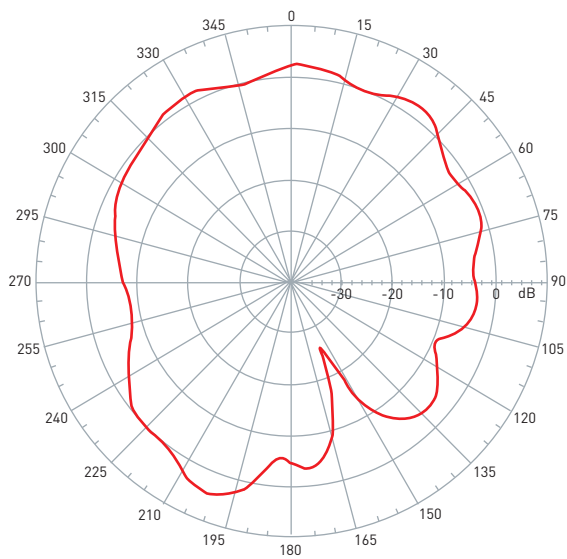
XZ Plane



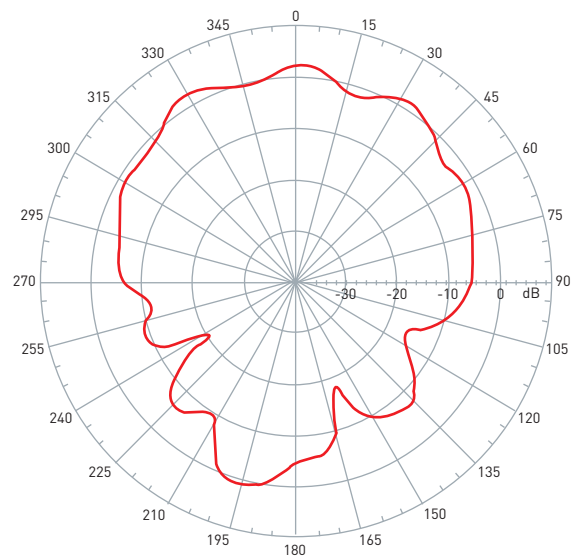
YZ Plane



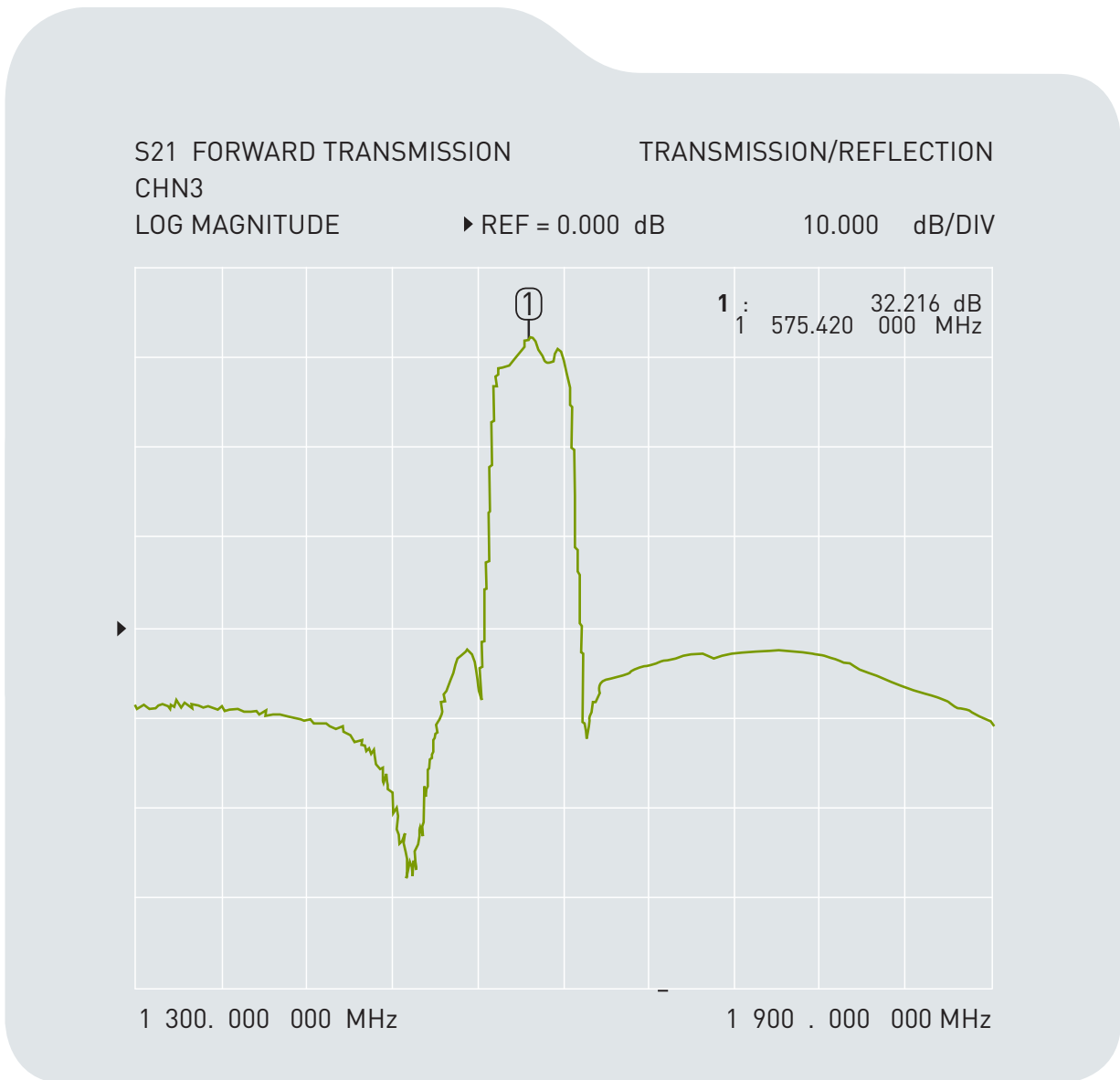
Far-field amplitude of goasial  
1583 06-5-8.nsi



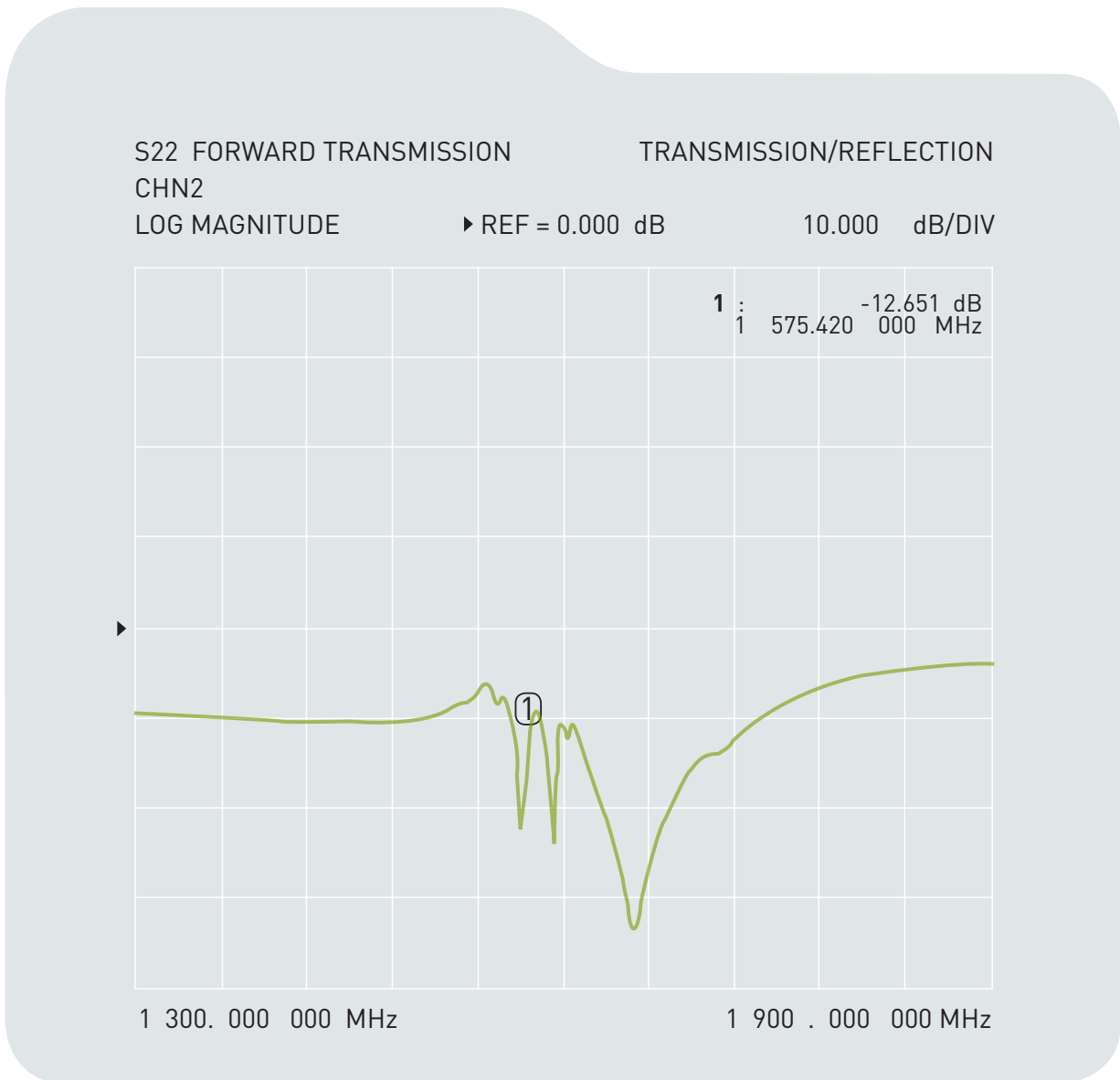
Far-field amplitude of goasial  
1583 06-5-8.nsi



## 5. LNA gain

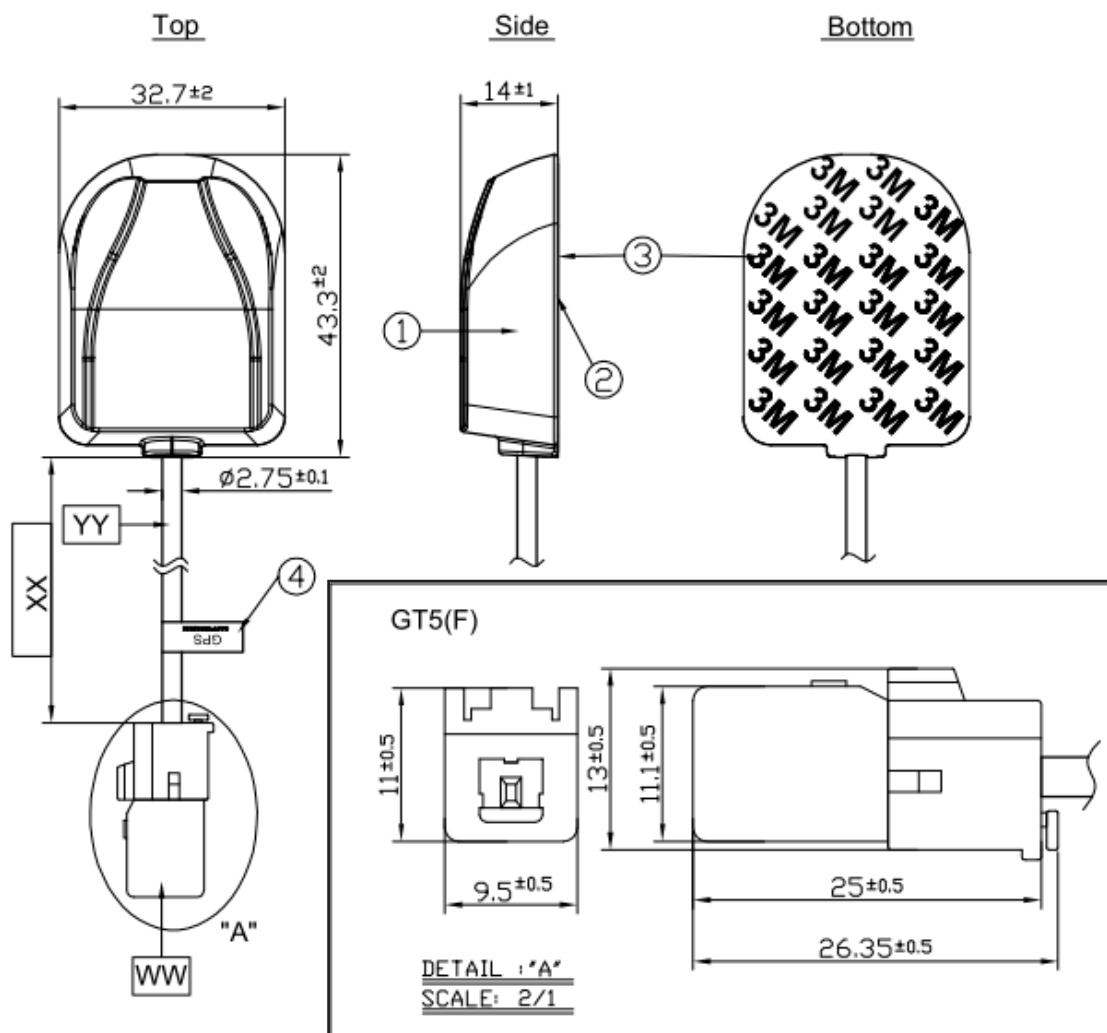


## 6. LNA S22





## 7. Drawing



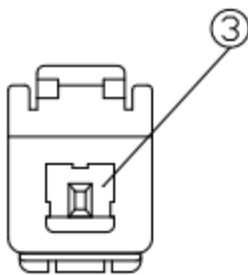
	Name	Material	Finish	QTY
1	GPS Antenna Housing Top	PC	Black	1
2	GPS Antenna Housing Bottom	PC	Black	1
3	Double Sided Adhesive	3M 4612	White Linear	1
4	GPS Label	Coate Paper	Oranger	1

	Name	Material	Finish	QTY
WW	Connector Type	GT5(F)	Gray	1
XX	Cable Length	3000±30mm	Black	1
YY	Cable Type	RG174	Black	1

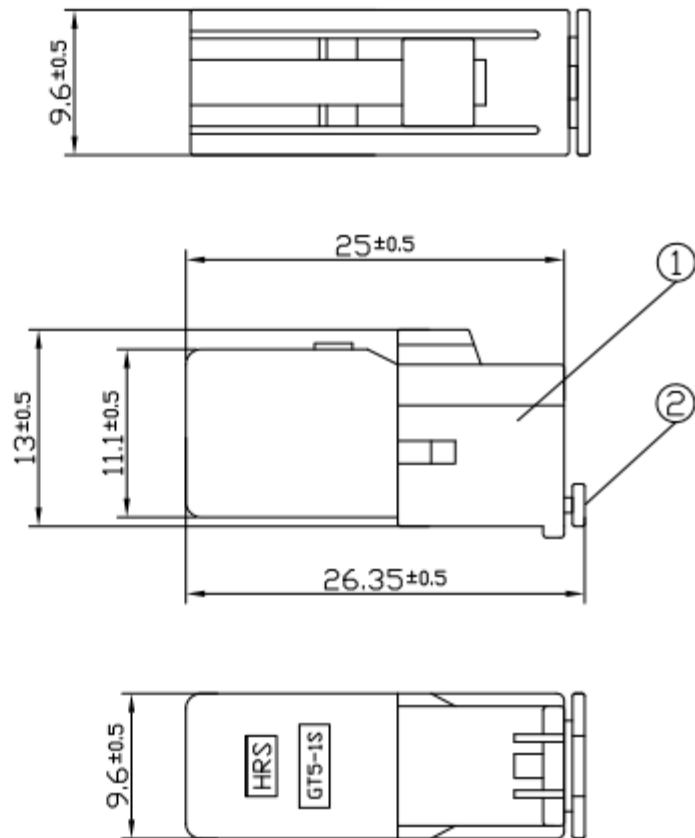
Unit : mm

## 7.1 Connector

Front View



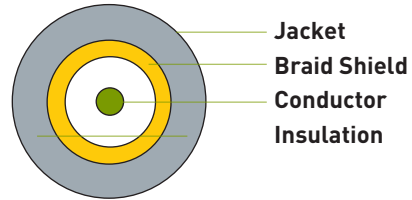
Side View



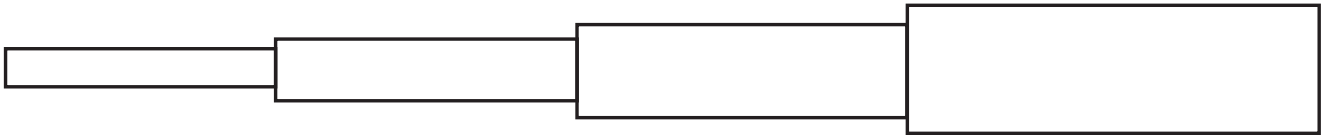
## 8. RG-174 Cable Specification

### RG-174 Coaxial Cable

Cable conforming to 2002/95/CE (RoHS)



### Structure and Dimensions



#### Conductor

- Material - Bare Copper
- AWG 26
- Stranding -  
7/0.165 ± 0.008mm

#### Insulation

- Material - XL-PE
- Min.Avg.Thickness 0.45mm
- Diameter - 1.55 ± 0.05mm
- NO - 1C

#### Braid Shield

- Material - Tinned Copper
- Size - 16\*5/0/10 ± 0.008mm

#### PVC Jacket

- Material - PVC According to 200/53/EC - Half Matt-Low Toxic
- Min. Avg. Thickness - 0.38mm
- Diameter - 2.80 ± 0.15mm
- Colour - UL813

### Electrical & Physical Specification

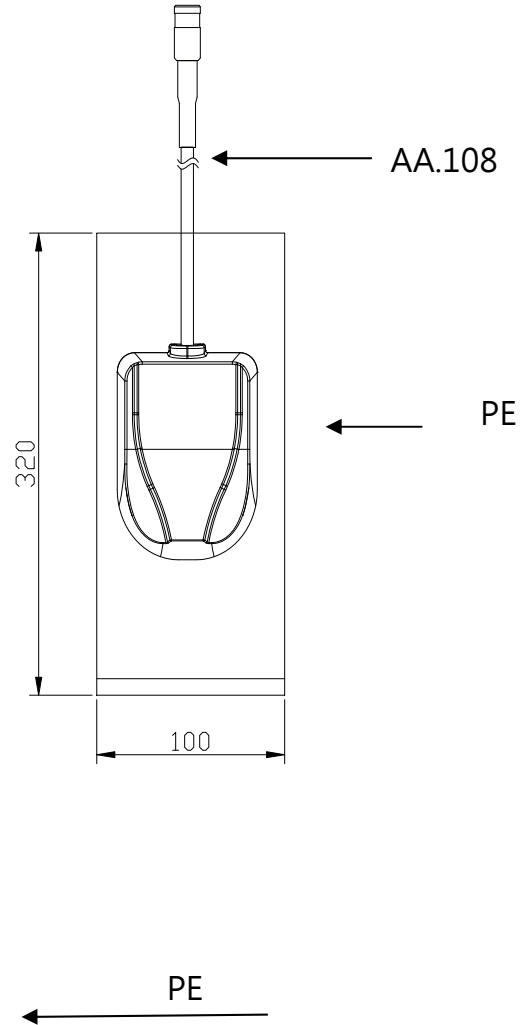
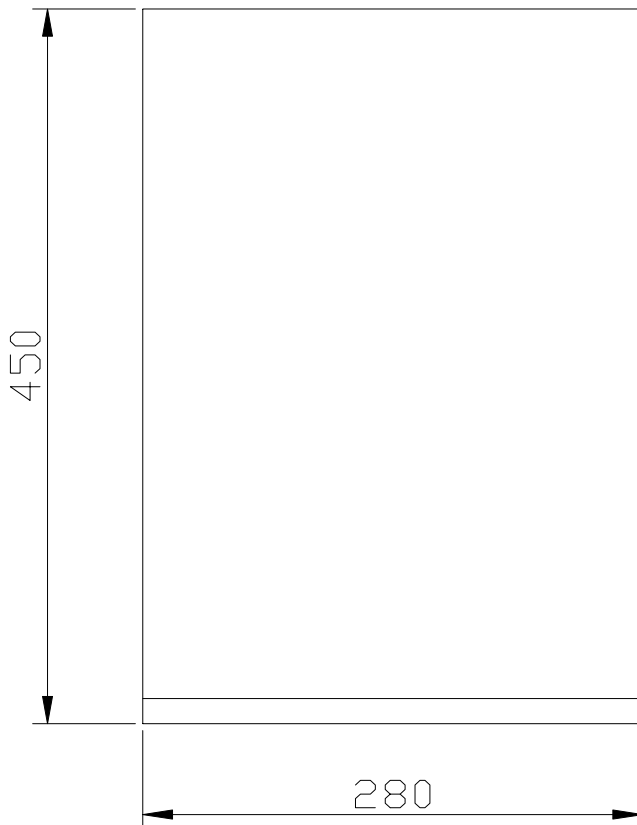
1	Temperature rating	80°C
2	Voltage	30V
3	Capacitance nominal (1KHz)	30.8 pF/ft
4	Conductor Resistance at 20°C	MAX 26AWG: 148.94Ω/km
5	Impedance	50 ± 5 Ω

#### 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

## 9. 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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