SPECIFICATION

Part No.	:	**AA.108.301111**
Product Name	:	GPS Antenna AA.108 3M RG-174 SMA(M) Connector
Features	:	Adhesive Mount Covert stylish design Wide band input voltage IP-67 Waterproof Custom designed antennas available upon request
Photos	:	

1.0 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.

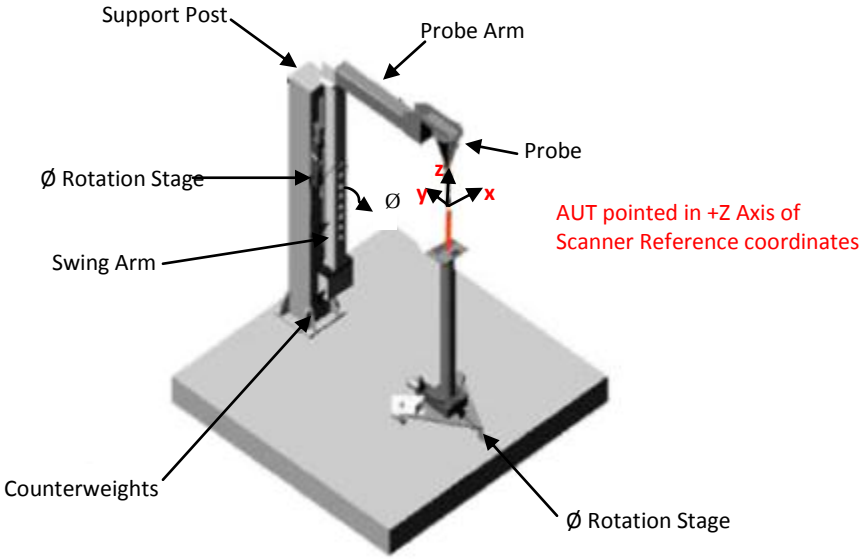
2.0 Electrical Specifications

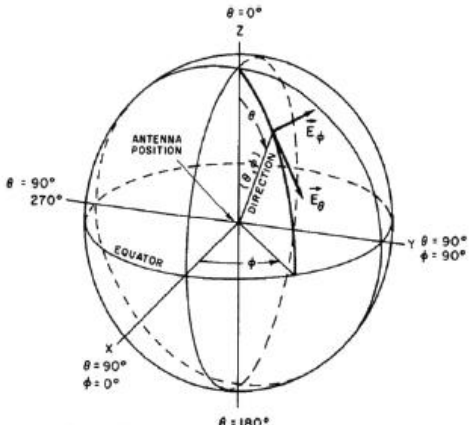
Ceramic Patch Specification	
Outline Dimension	25*25*4mm
Ground Size	25*25*4mm
Center Frequency	1575.42±3MHz
Bandwidth	10MHz
VSWR	1.92 Max
Axial ratio	3dB Typ.
Gain @ Zenith	2dBic Typ.
Impedance	50Ω
Polarization	RHCP

LNA 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		
Noise Figure	1.4dB	1.38dB	1.3dB			
Power Consumption	4.5mA	6.6mA	7mA			
Band Attenuation	40dB @fo±50MHz					
Operating temp	-40°C ~ +85°C					
Storage Temp	-40°C ~ +90°C					

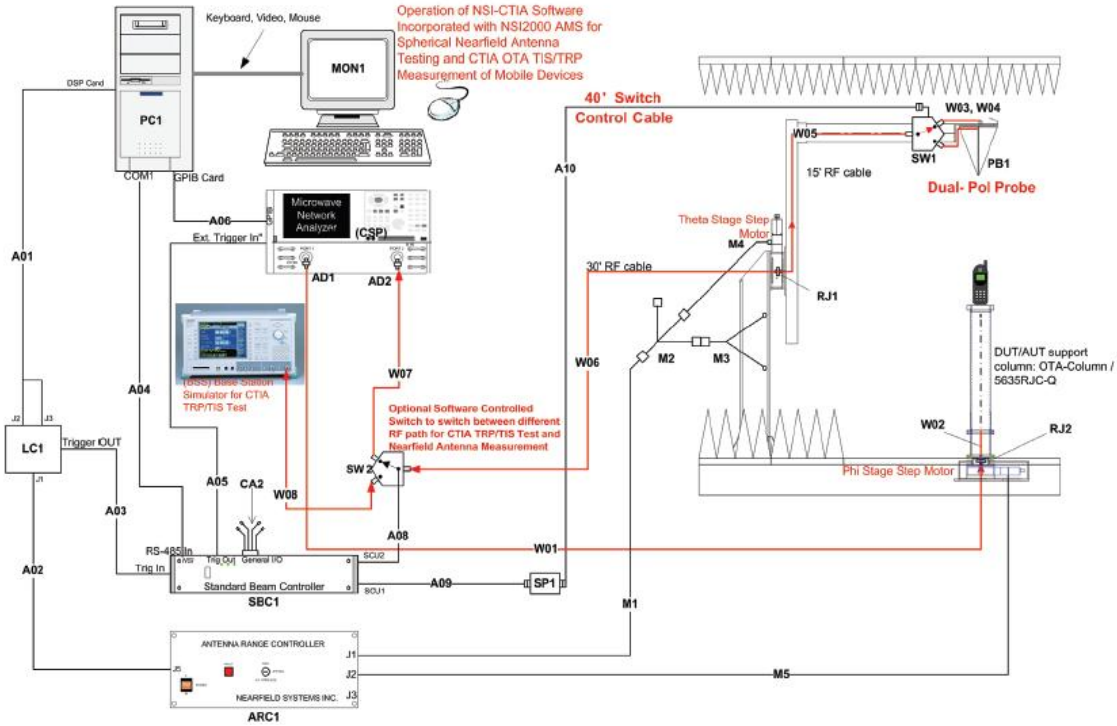
***Formula =** Patch Antenna Average Gain + LNA typical gain – RG174 cable loss @1.2dB per meter = Gain at connector
Gain at the Connector - Patch Gain 2dB + LNA Gain 30dB – Cable loss of 1.2dB per metre (@3m = 3.6dB) = 28.4dB approx.

3.0 Performance Measurement – Test Setup





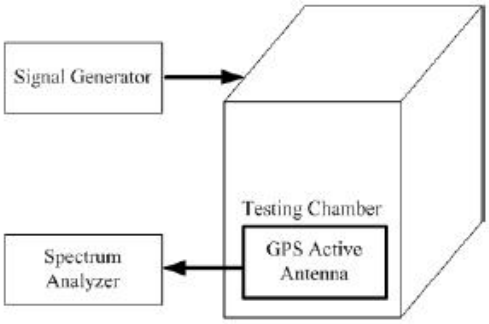
NFT-500S 3D Chamber Coordinate System Definition



Configuration of NFC-500S 3D Chamber

Agilent E5071B Network Analyzer

Anritsu 68147C Signal Generator



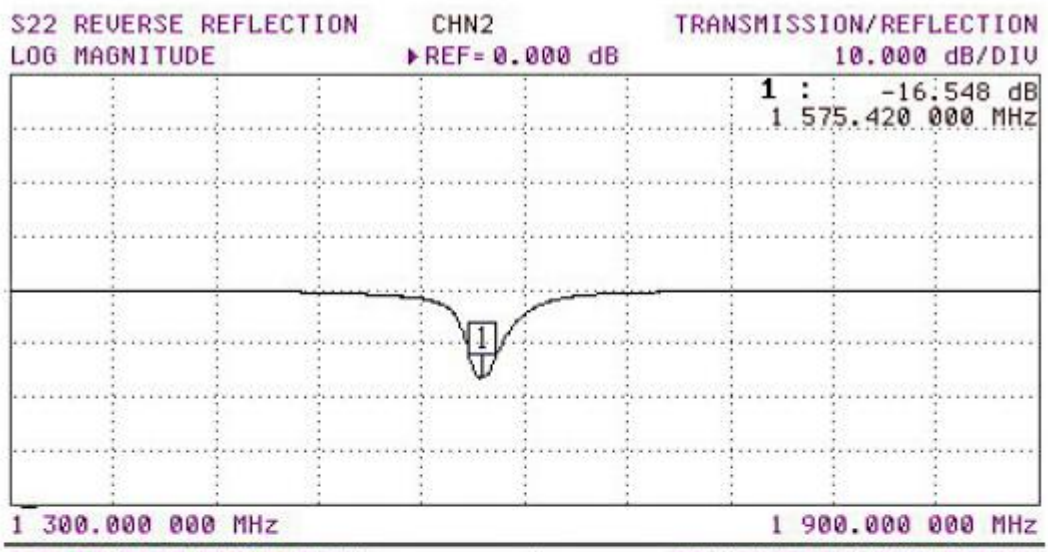
Testing Chamber

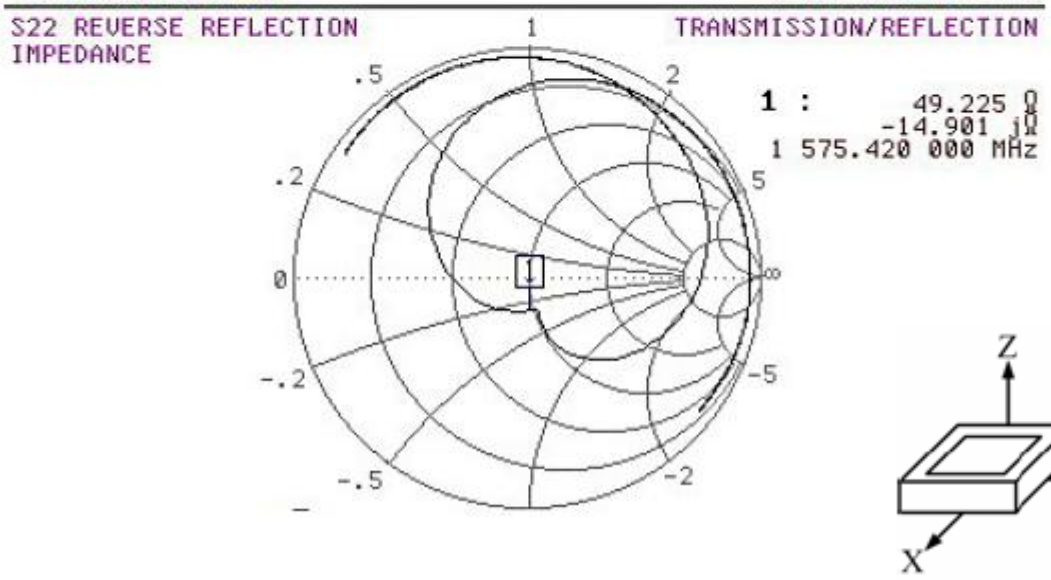
Anritsu MS2721A Spectrum

1. Note: The antenna is measured in free space
2. RG-174 cable attenuation as below

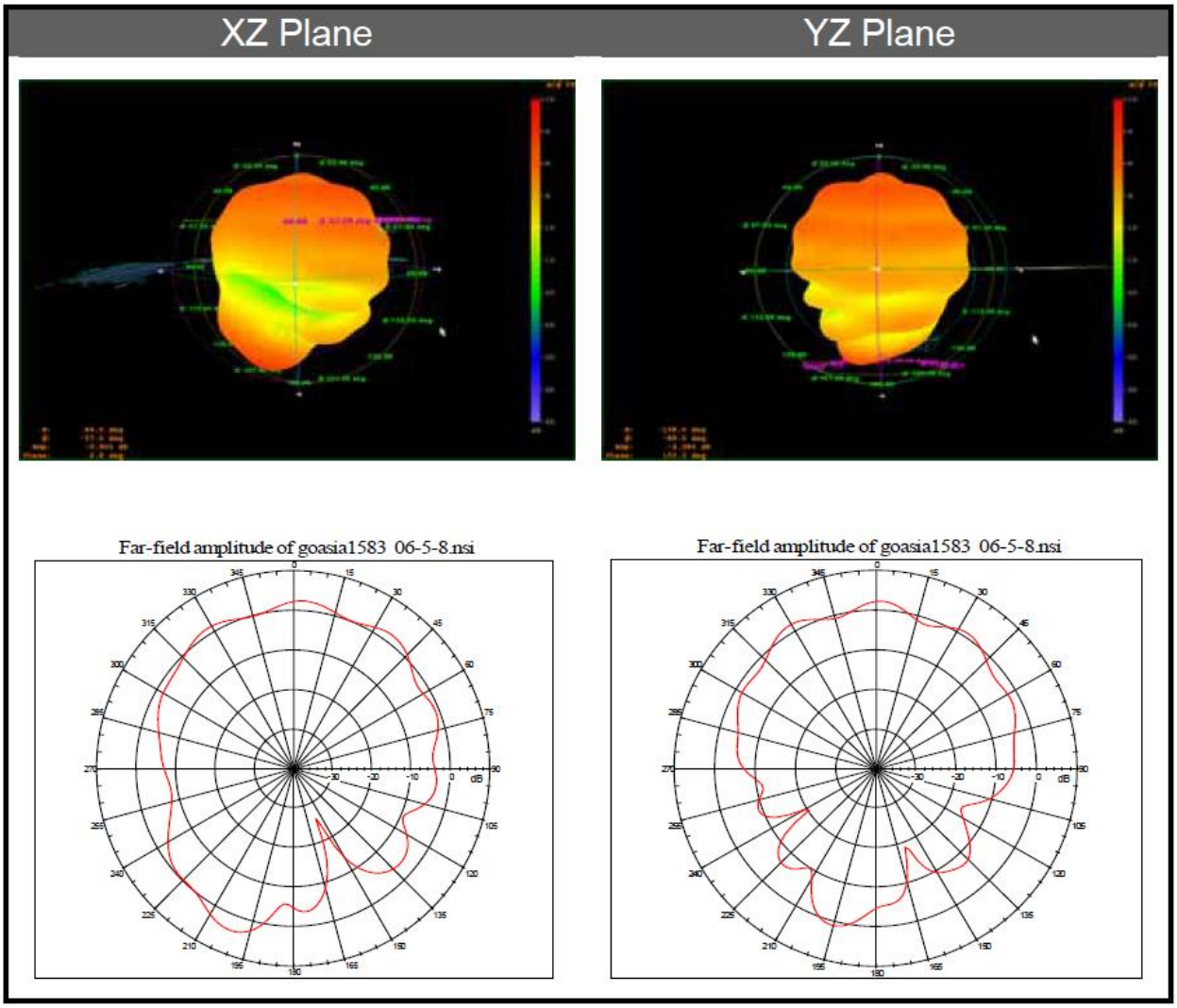
RG-174 cable attenuation(dB/100mm)												
GHz	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6
RG-174	67	110	127	153	168	183	207	229	252	272	291	311

4.0 Ceramic Antenna S11 (with housing)

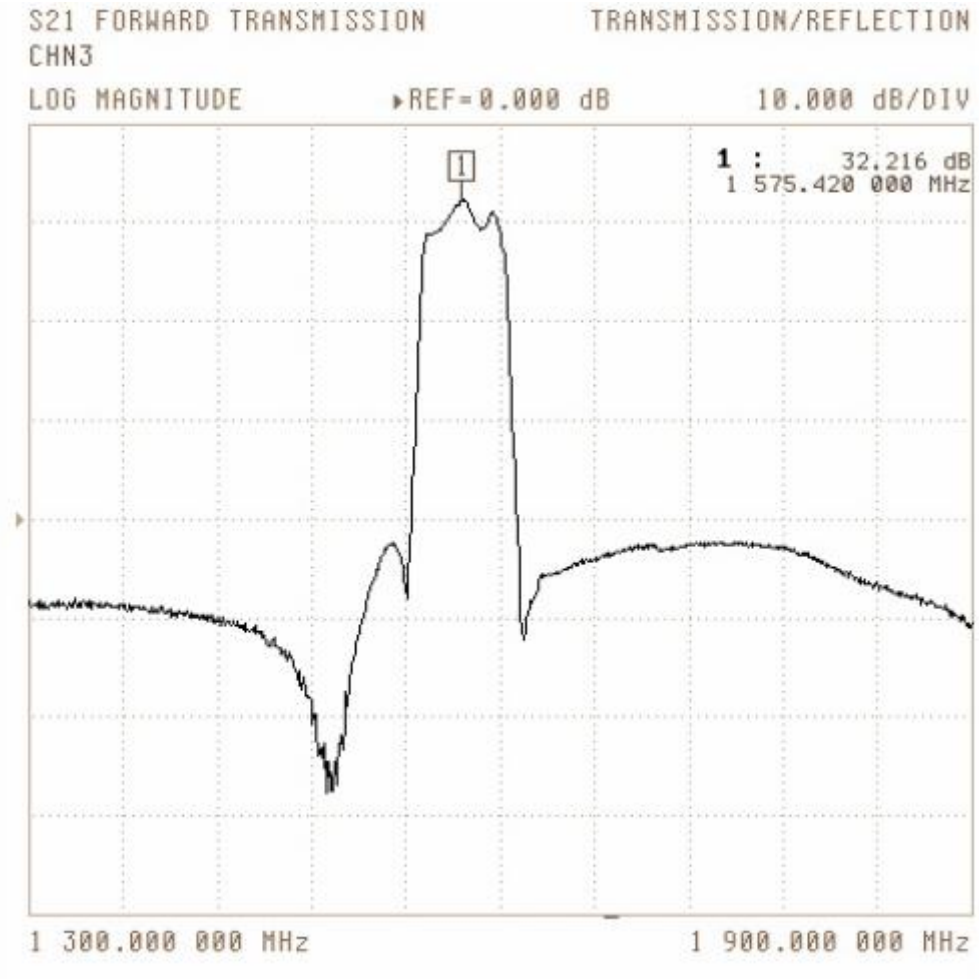




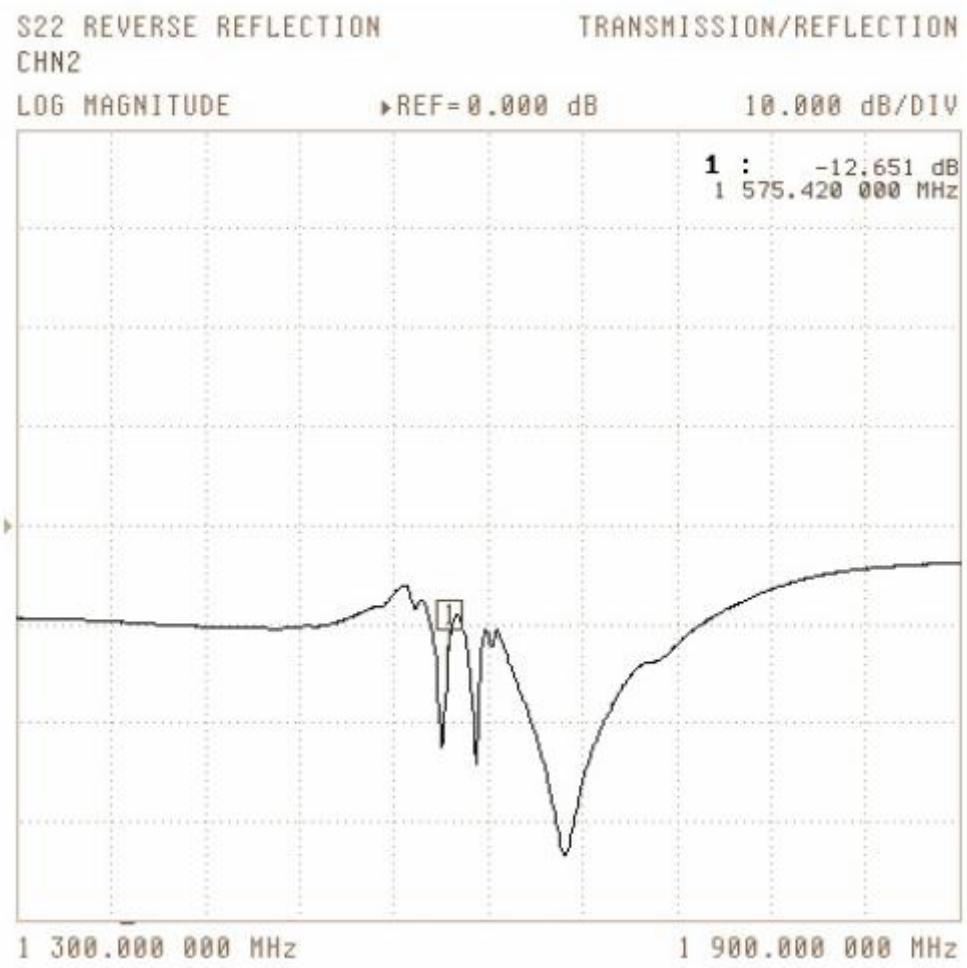
5.0 Ceramic Antenna Radiation Pattern (with housing)



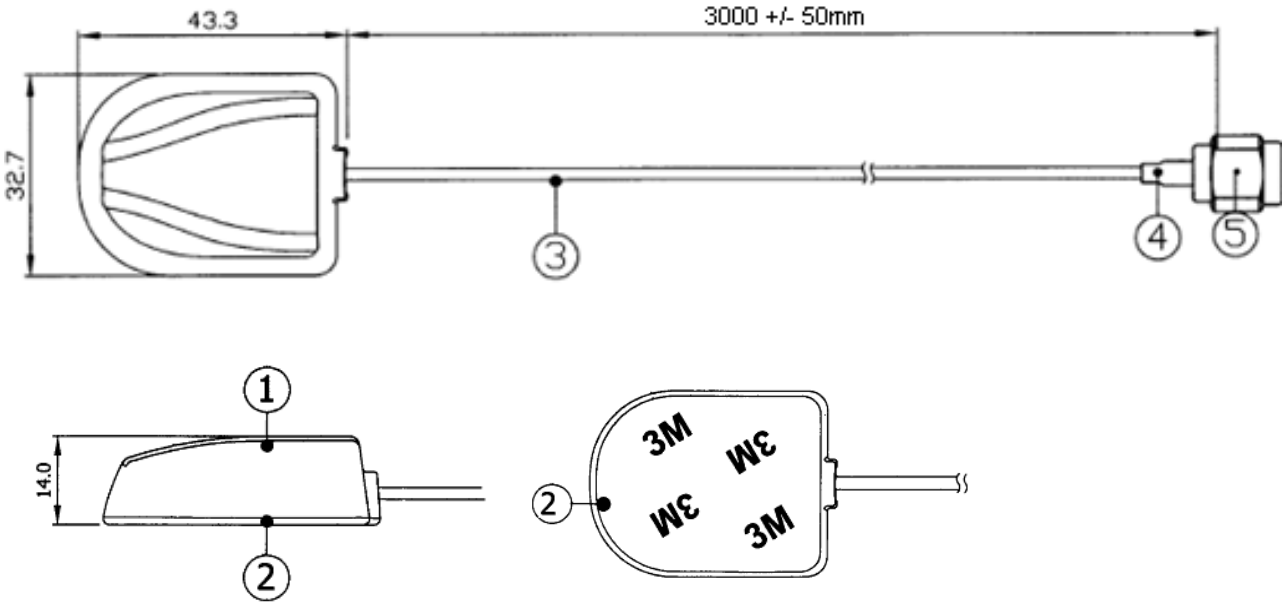
6.0 LNA gain



7.0 LNA S22



8.0 Drawing



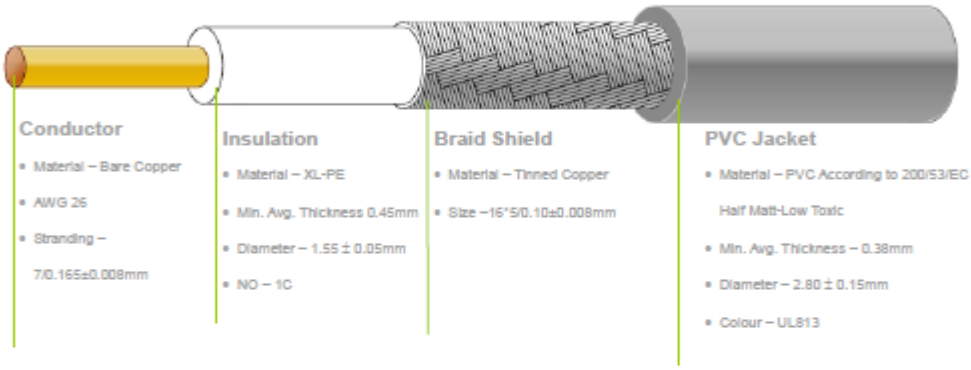
1. Titan GPS Antenna (43.3mm*32.7mm*14mm)
2. 3M Double Sided Adhesive (No Magnet)
3. Cable: RG-174 3M
4. Tube: Heat shrink tube - Black
5. Connector: SMA(M)

9.0 RG-174 Cable Specification

RG-174 Coaxial Cable

Cable conforming to 2002/95/CE (RoHS)

Structure and Dimensions



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