



Top View

AA.108.301111

Specification

Part No.	AA.108.301111
Product Name	Titan GPS Antenna AA.108
Feature	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

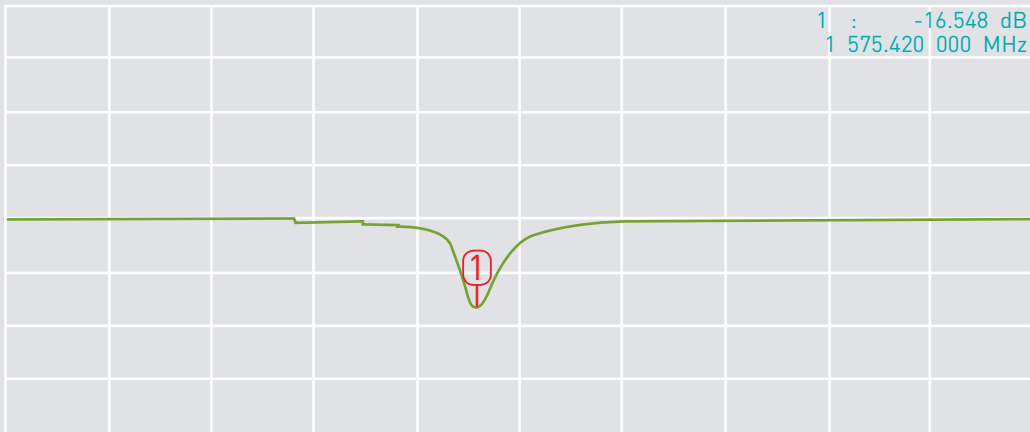
2.2 LNA Specification

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.

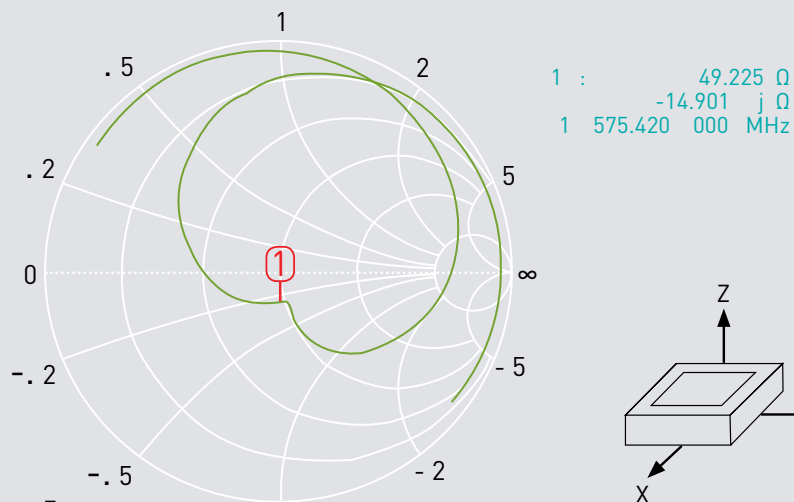
3. Ceramic Antenna S11 (with housing)

S22 REVERSE REFLECTION CHN2 TRANSMISSION / REFLECTION
LOG MAGNITUDE ► REF = 0.000 dB 10.000 dB/DIV



1 300.000 000 MHz 1 900.000 000 MHz

S22 REVERSE REFLECTION TRANSMISSION / REFLECTION
IMPEDANCE

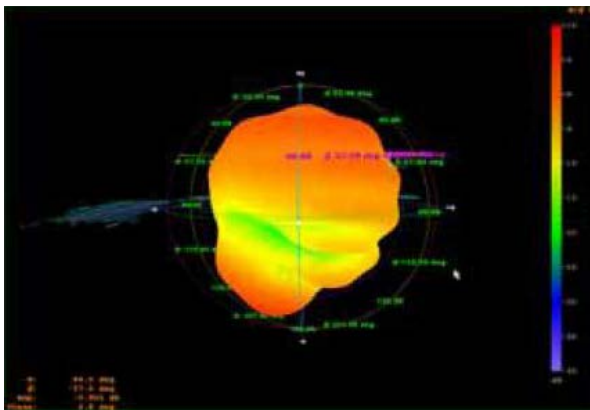


4. Ceramic Antenna Radiation Pattern (with housing)

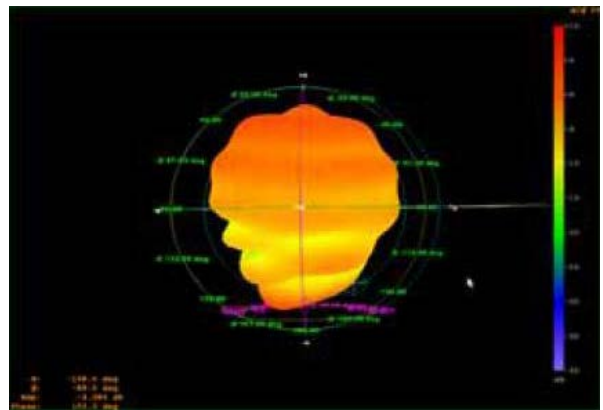


4.1 XZ Plane & YZ Plane

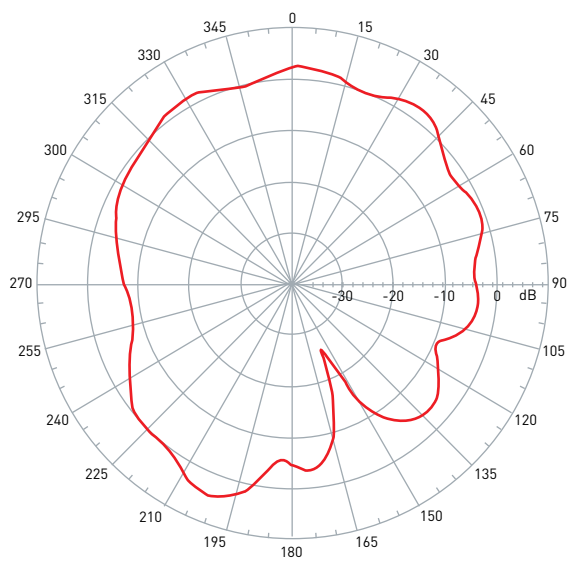
XZ Plane



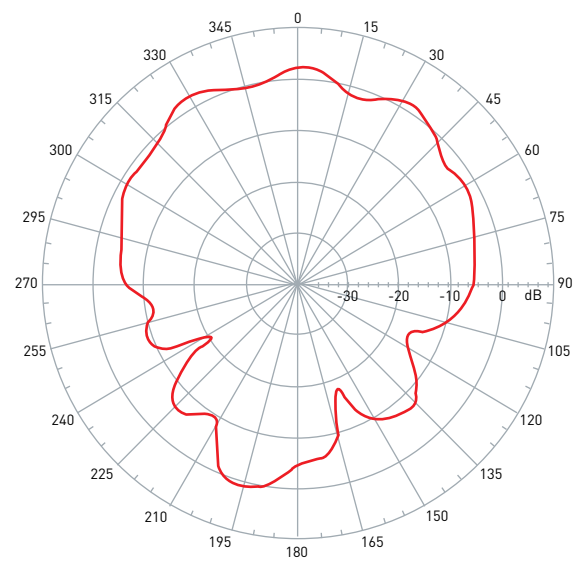
YZ Plane



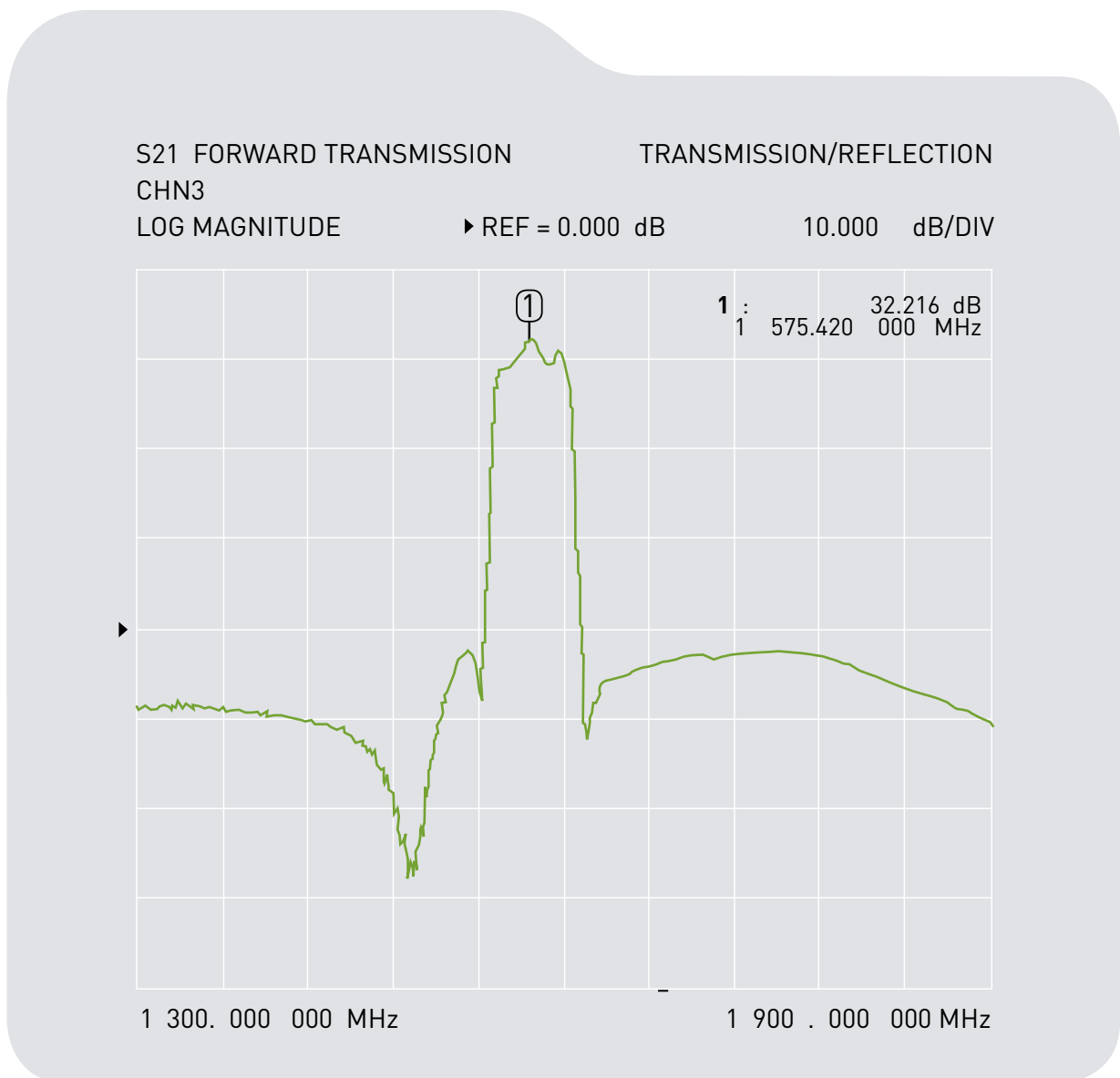
Far-field amplitude of goasial
1583 06-5-8.nsi



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



5. LNA gain



6. LNA S22

S22 FORWARD TRANSMISSION

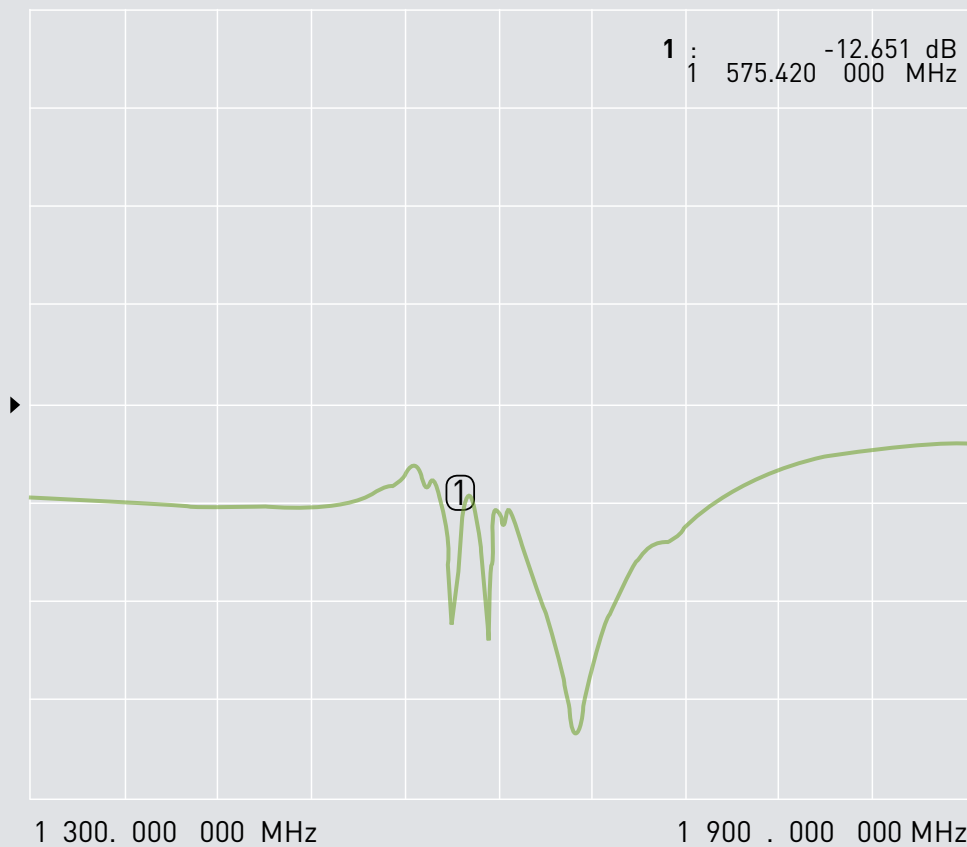
TRANSMISSION/REFLECTION

CHN2

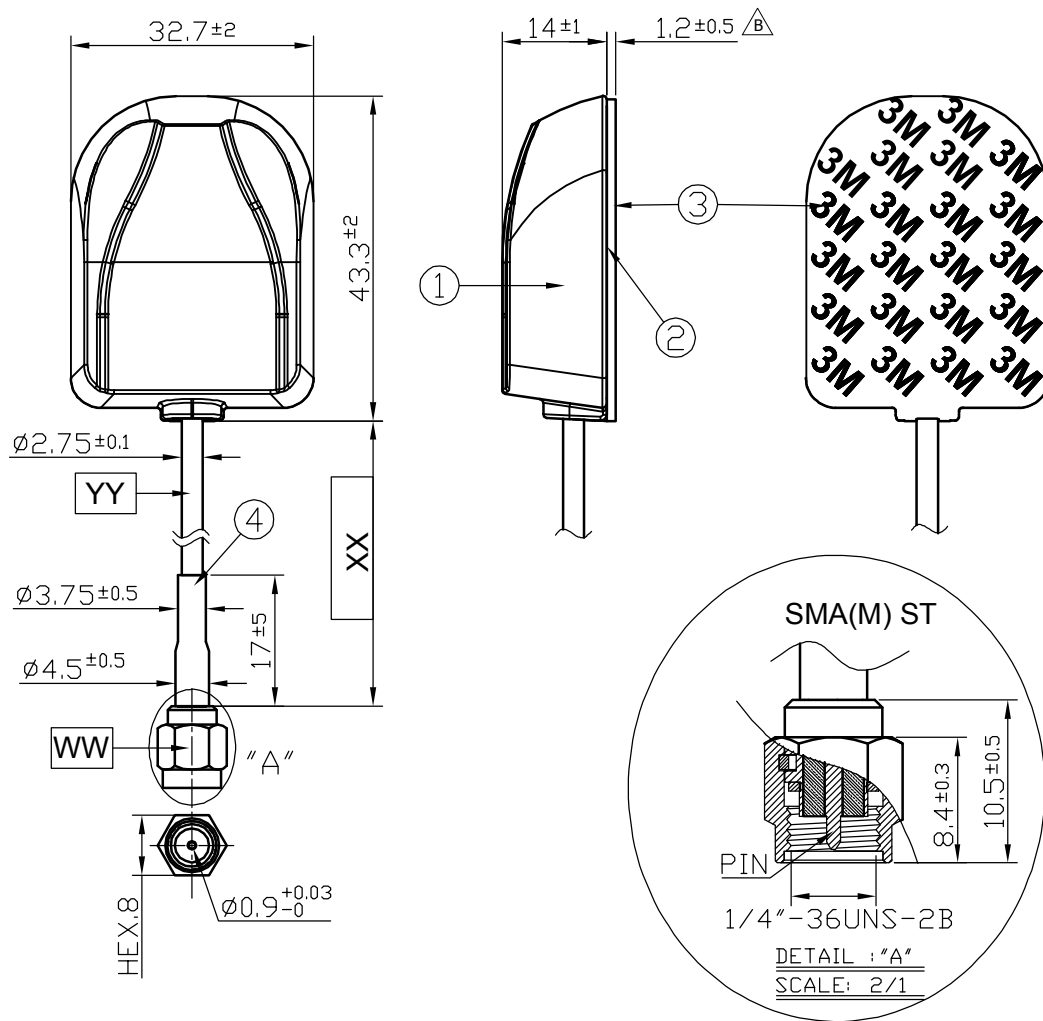
LOG MAGNITUDE

► REF = 0.000 dB

10.000 dB/DIV

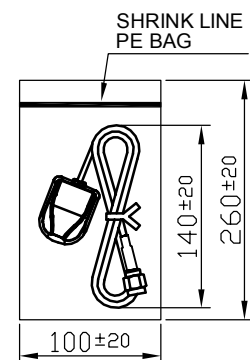


7. Drawing



	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



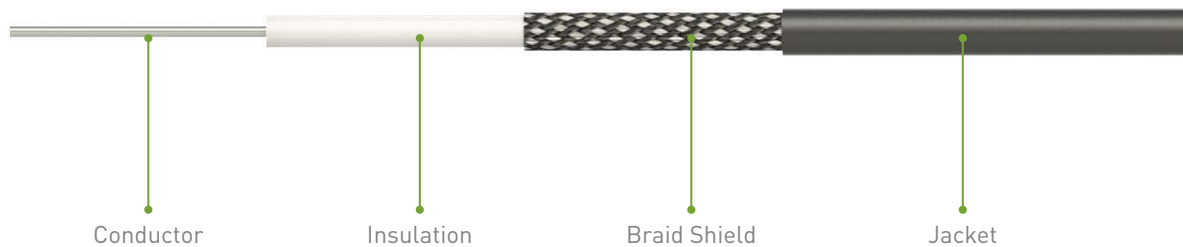
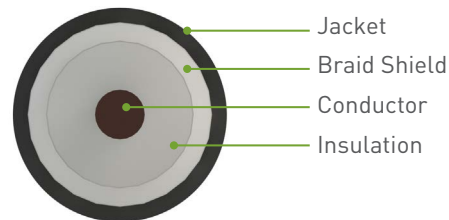
Unit : mm

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 $\pm$ 0.008mm	200/53/EC - Half Matt-Low Toxic
• Stranding -	• Diameter - 1.55 $\pm$ 0.05mm		• Min. Avg. Thickness - 0.38mm
7/0.165 $\pm$ 0.008mm	• NO - 1C		• Diameter - 2.80 $\pm$ 0.15mm
			• Colour - UL813

Electrical & Physical Specification

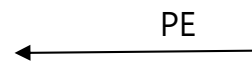
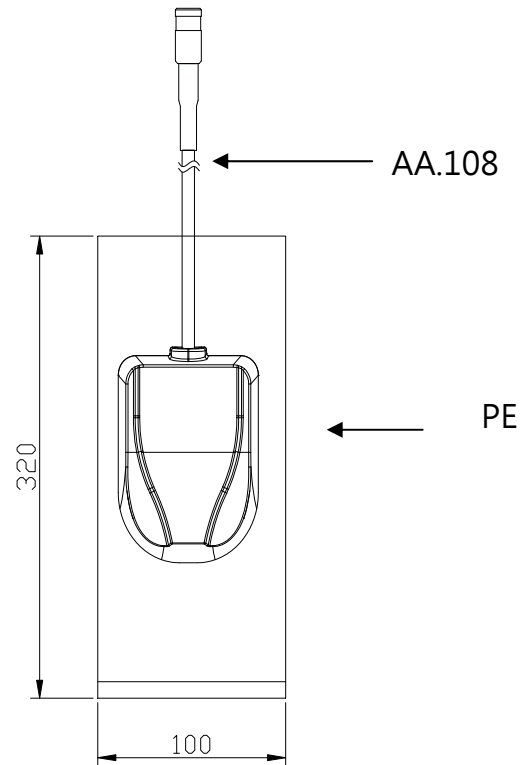
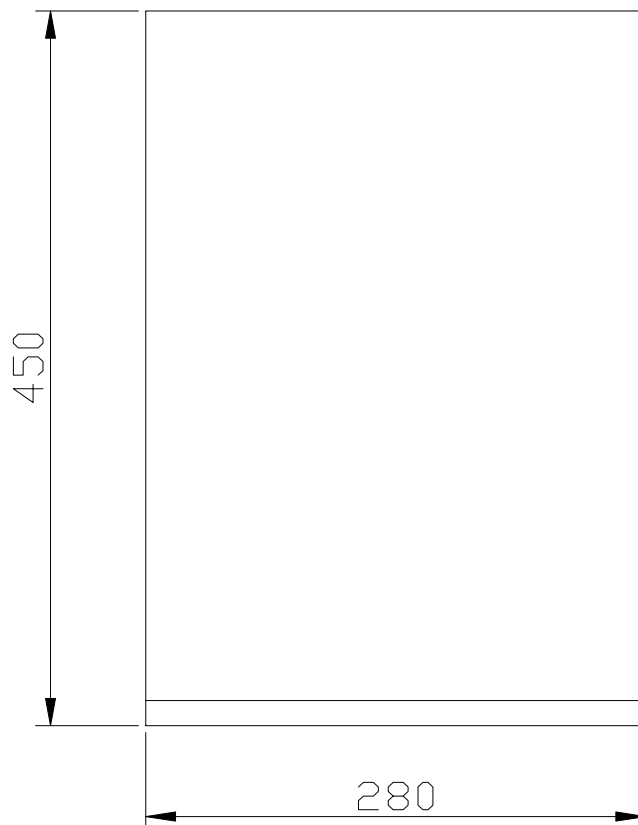
1	Temperature rating	80°C
2	Voltage	30V
3	Capacitance nominal (1KHz)	30.8 pF/ft
4	Conductor Resistance at 20°C	MAX 26AWG: 148.94Ω/km
5	Impedance	50 $\pm$ 5 Ω

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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