

## SPECIFICATION

Part No.	:	<b>AA.105.301111</b>
Product Name	:	Titan GPS Antenna AA.105 3M RG174 GPS- SMA (M) Straight
Features	:	Magnetic Mount Covert stylish design Wide band input voltage Gain can be adjusted for your application (10dB~31dB) IP-67 Waterproof  Custom designed antennas available upon request

Photos :



## 1.0 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	2dBi Typ.
Impedance	50Ω
Polarization	RHCP

LNA Specification	
Frequency	1575.42MHz
Impedance	50Ω
VSWR	1.92 Max.
Gain	30dB Typ.
Gain at Connector*	28.4dB
DC Power Input	1.8~5.5V
Noise Figure	1.5dB Typ.
Power Consumption	2.3mA@ 1.8V
	4.7mA @2.7V
	6mA @3.3V
	10.3mA @5V
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.

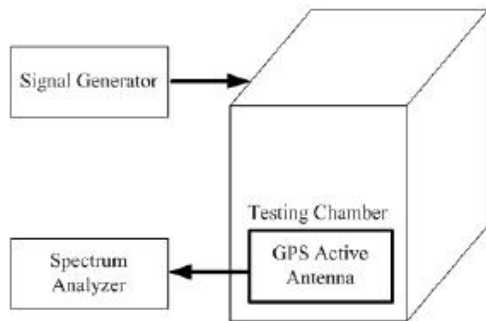




Agilent E5071B Network Analyzer



Anritsu 68147C Signal Generator

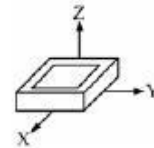
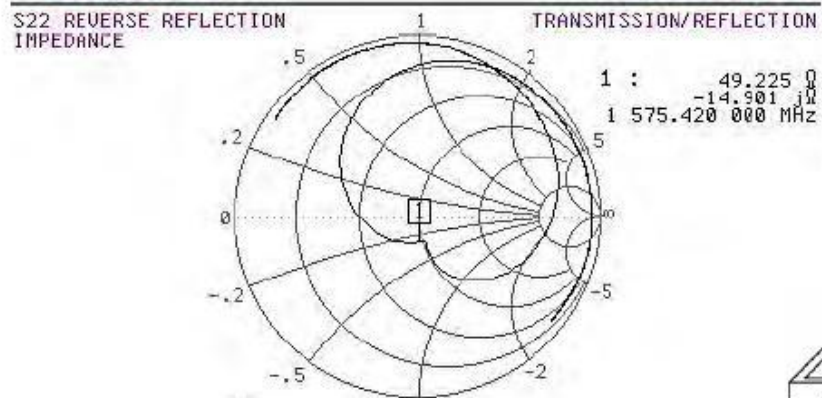
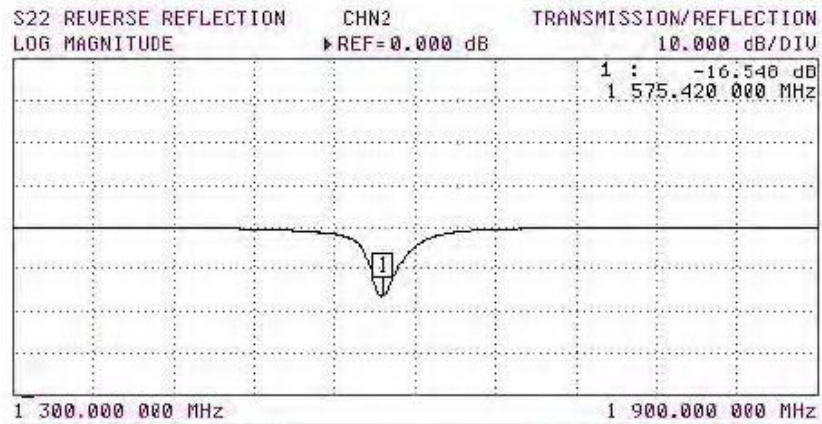


Testing Chamber

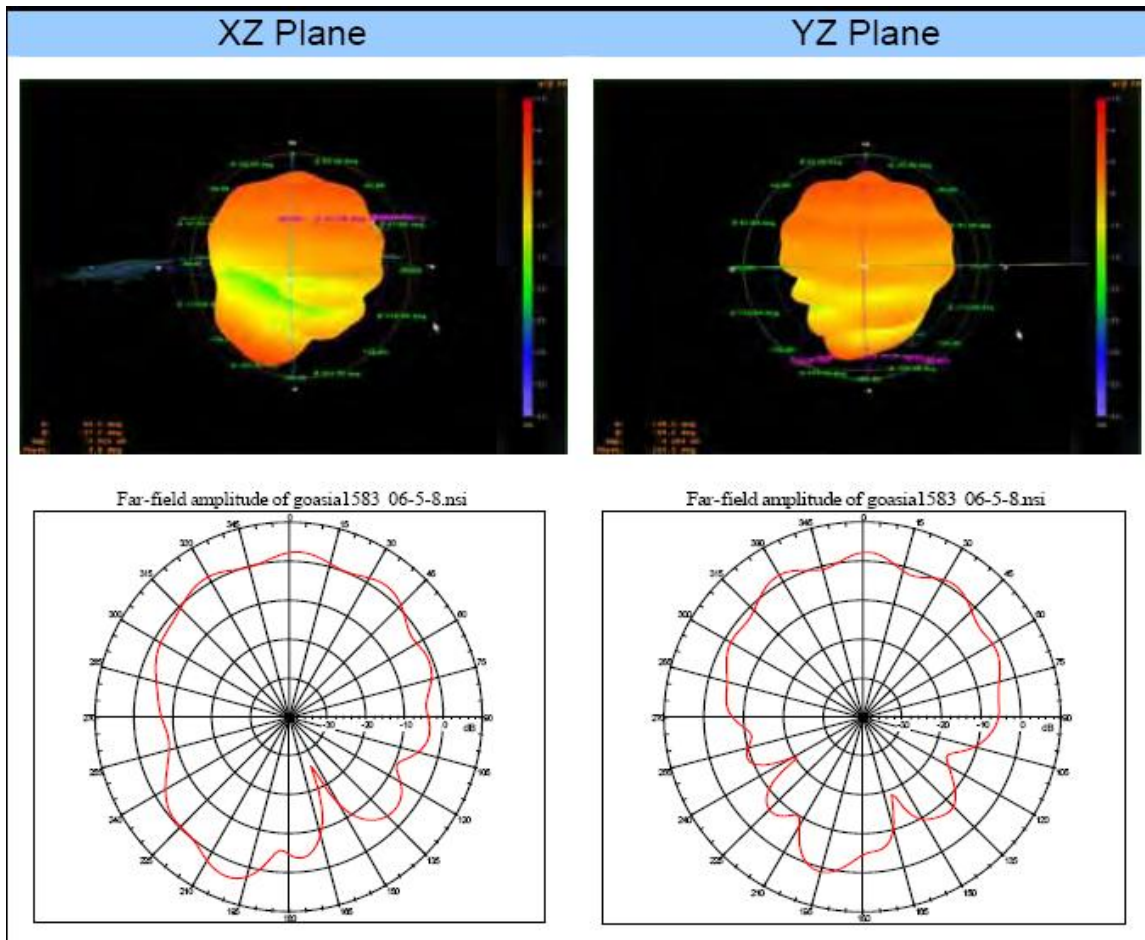


Anritsu MS2721A Spectrum

### 3.0 Ceramic Antenna S11 (with housing)

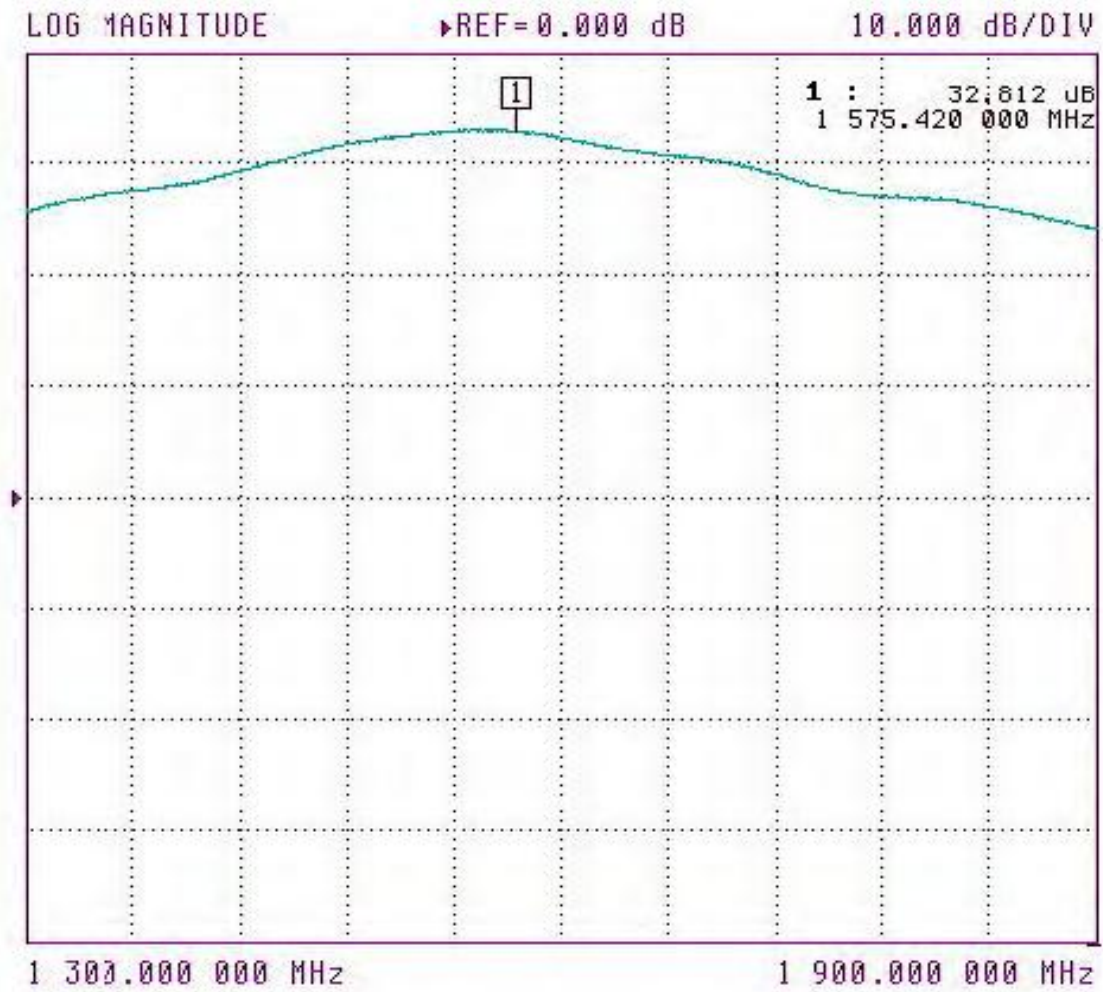


## 4.0 Ceramic Antenna Radiation Pattern (with housing)

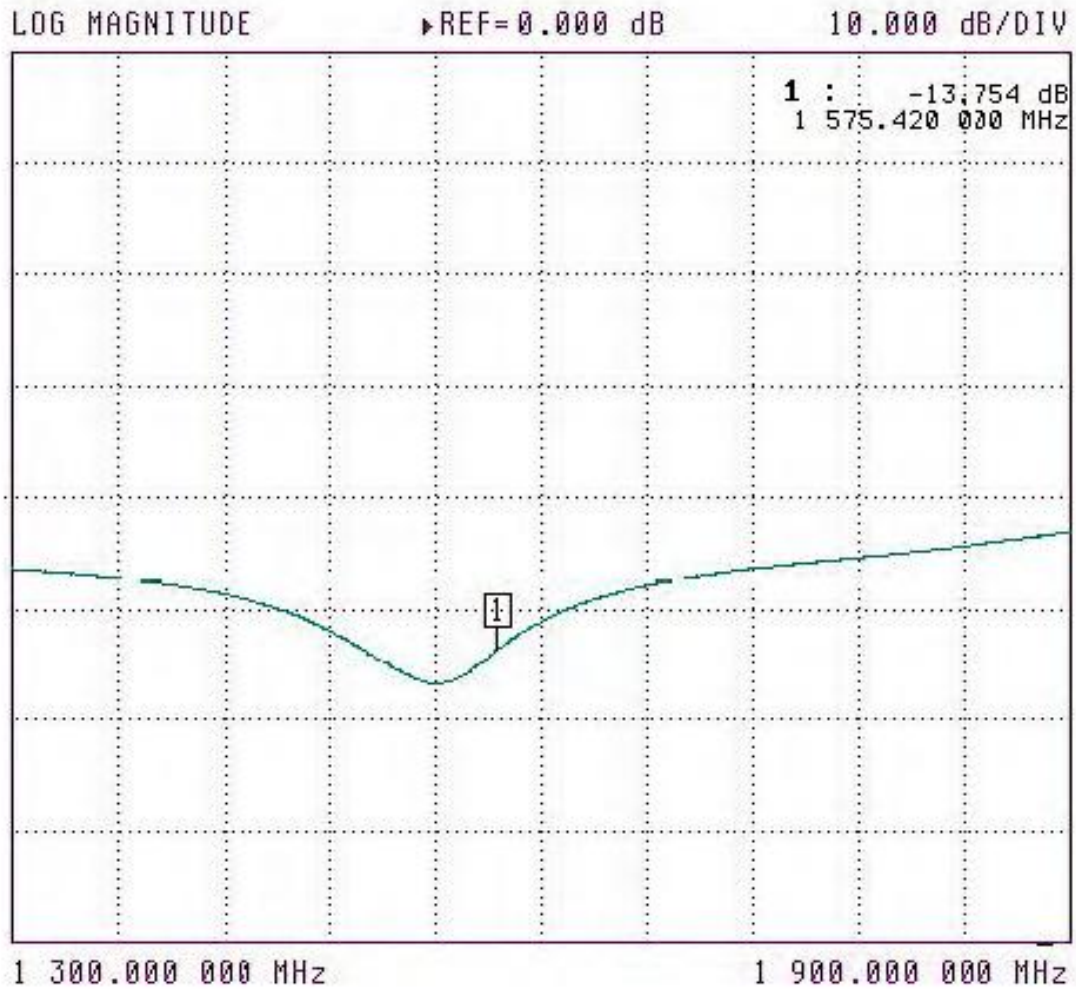




## 5.0 LNA gain



## 6.0 LNA S22



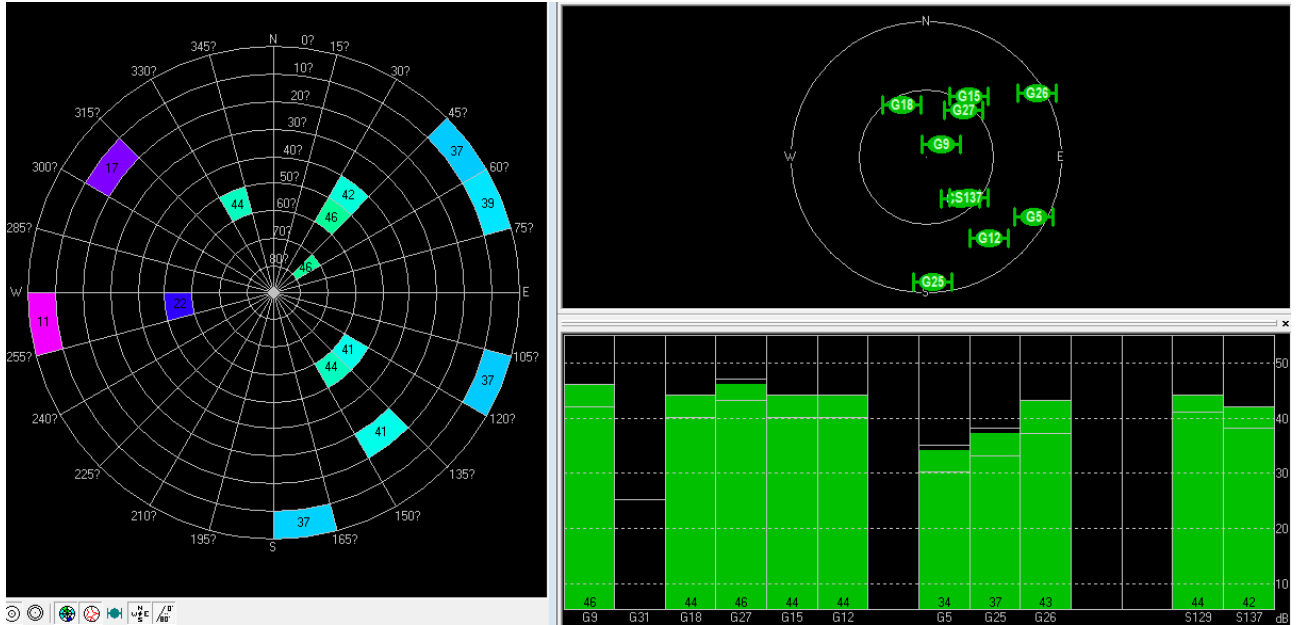


## 7.0 Antenna Field Trial Results

Antenna was plugged on U-blox EVK-6H evaluation kit to capture satellites signal.

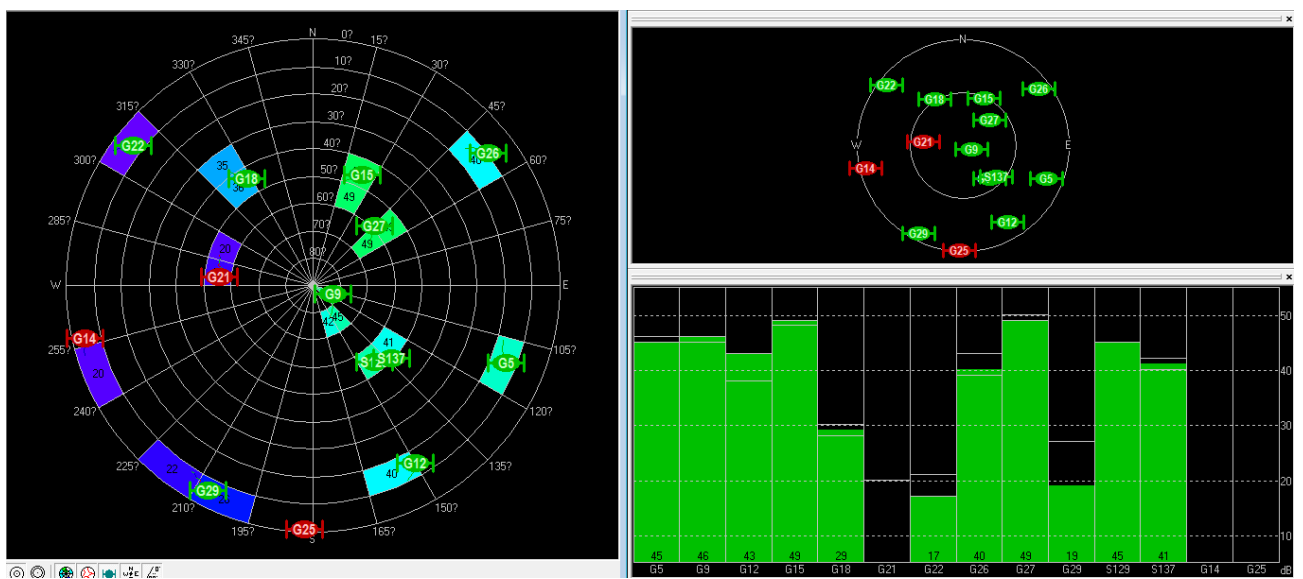
- **1.8 V**

Cold Start needs 40 about seconds.

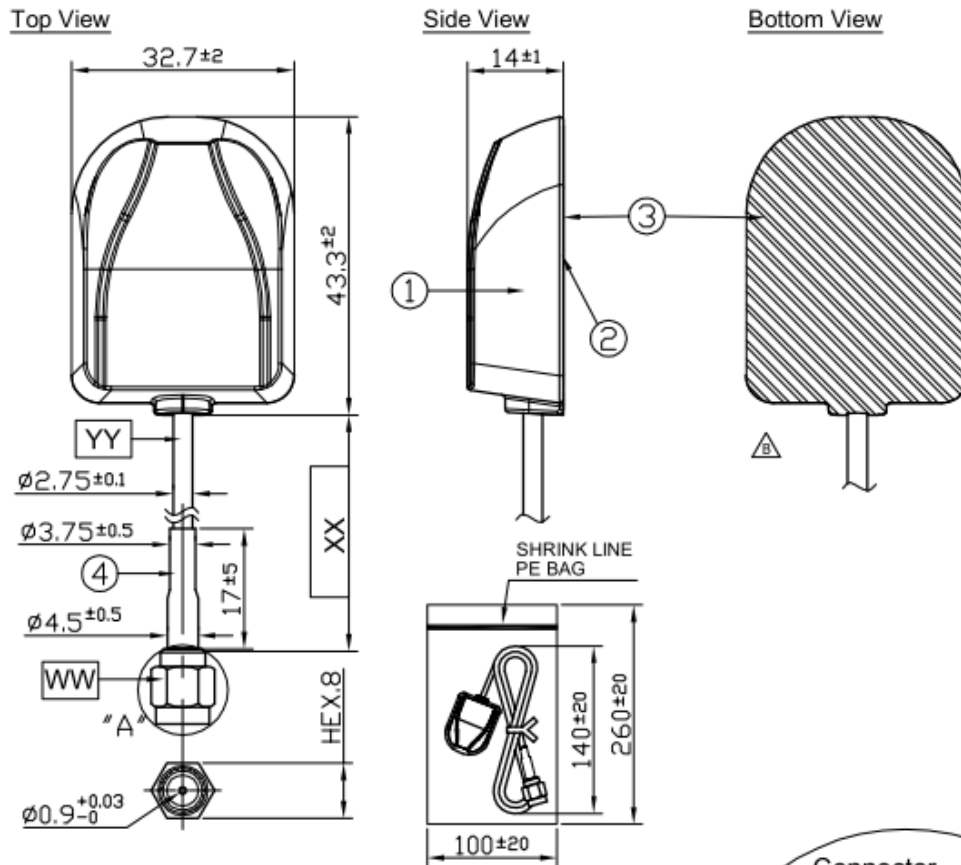


- **3.3V**

Cold Start needs 40 about seconds.




## 8.0 Drawing

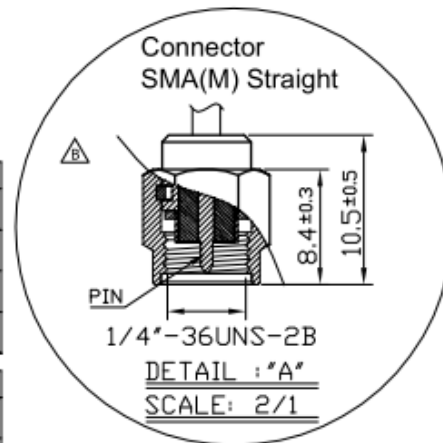


**NOTES:**

1. Sticker area. 

	Name	Material	Finish	QTY
1	GPS Antenna Top	PC	Black	1
2	GPS Antenna Bottom	PC	Black	1
3	Sticker 	Matte Silver PET	Silver	1
4	Heat Shrink Tube	PE	Black	1

	Name	Spec	Finish	QTY
WW	Connector Type	SMA(M) Straight	Gold	1
XX	Cable Length	3000±30mm	Black	1
YY	Cable Type	RG174	Black	1



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