

SPECIFICATION

Model No. : AA.161

Part No. : AA.161.301111

Product Name : Magnet Mounted GPS-GLONASS Antenna

Feature : 1575MHz – 1610MHz
1.8-5.5V
3m RG174 SMA(M)
IP67 Rated
Custom cables and connectors available
RoHS ✓



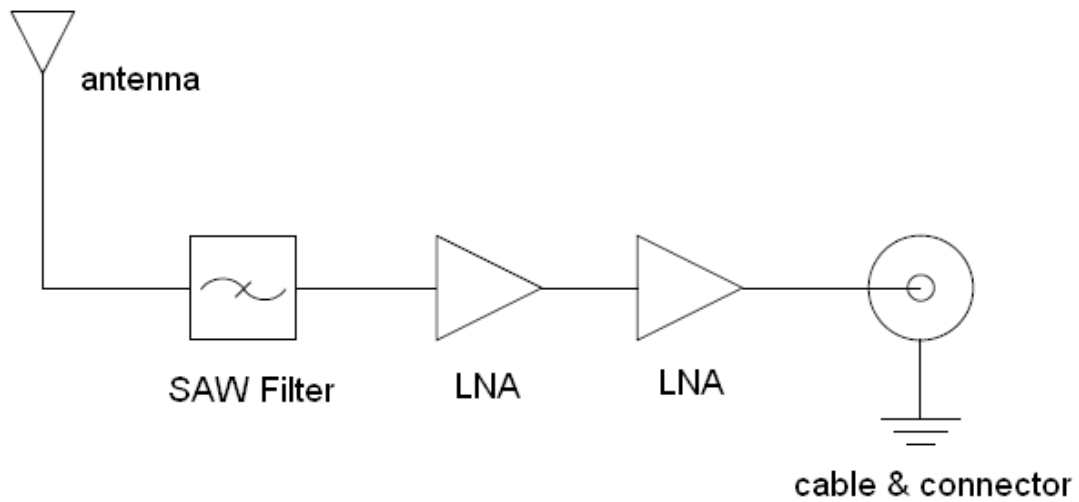
1. Introduction

This antenna is designed for applications which require high positioning accuracy by combining signals from GPS and GLONASS systems. High gain wide-band patch antenna on a large integral ground delivers maximum performance.

2. Specification

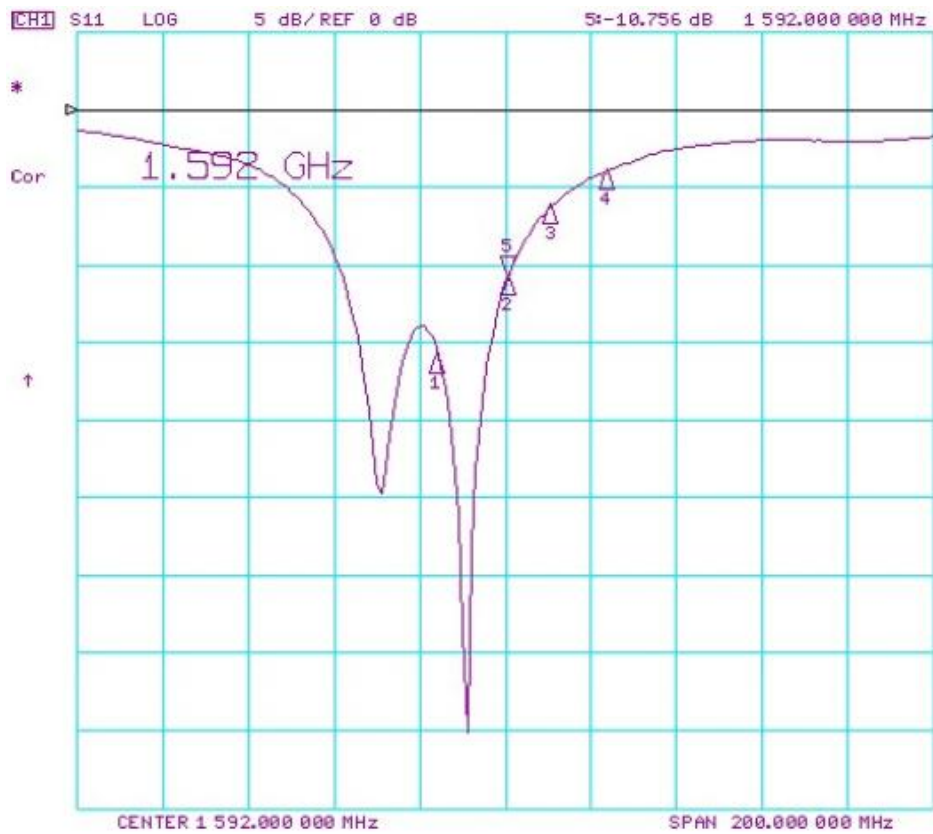
ELECTRICAL			
Centre Frequency	1574~1610MHz		
Antenna Gain	26 ± 3dBic @ zenith @ 1575.42MHz 27 ± 3dBic @ zenith @ 1602MHz		
Axial Ratio	3.0dB max. @ zenith @ center frequency		
Polarization	RHCP		
VSWR	2.0 max.		
Impedance	50Ω		
DC input	1.8V (min.)	3.0V (typ.)	5.5V (max.)
LNA Gain	22dB	28dB	31dB
Noise Figure	2.6dB	2.6dB	2.6dB
Power Consumption	5mA	10mA	23mA
MECHANICAL			
Antenna Dimensions	65.7 x 49.7 mm		
Housing Material	ABS		
Cable	3m RG174 (fully customizable)		
Connector	SMA(M) (fully customizable)		
ENVIRONMENTAL			
Operation Temperature	-40°C to 85°C		
Storage Temperature	-40°C to 105°C		
Relative Humidity	40% to 95%		

3. Antenna Block Diagram

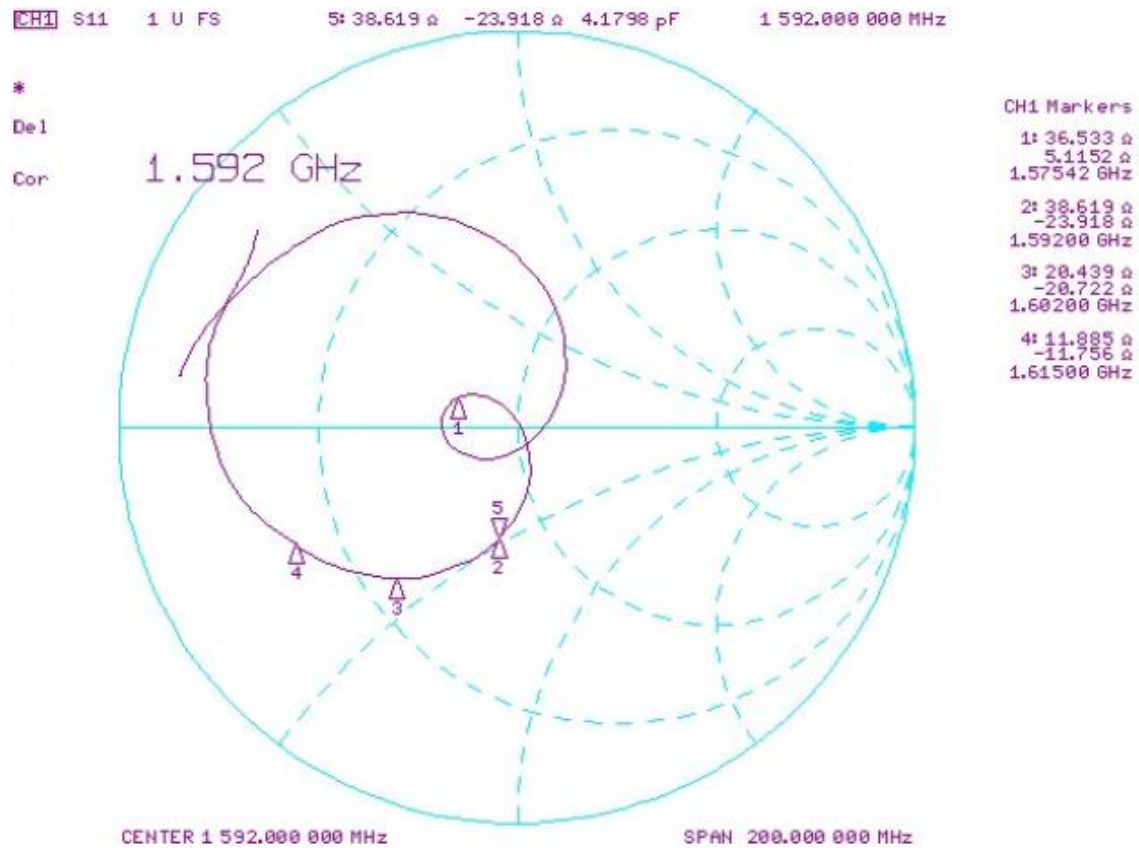


4. Antenna S11 Property

4.1 Return Loss

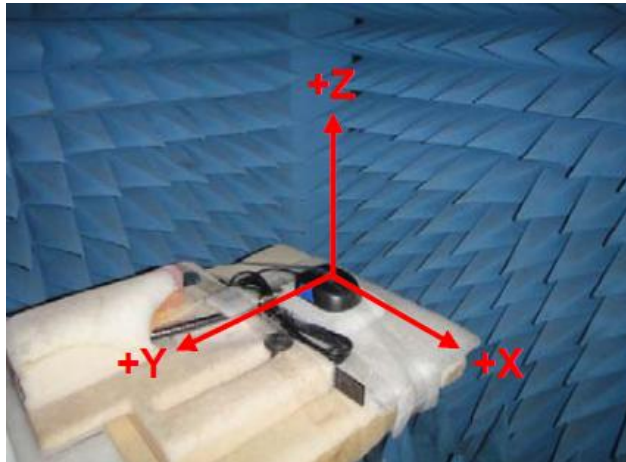


4.2 Impedance

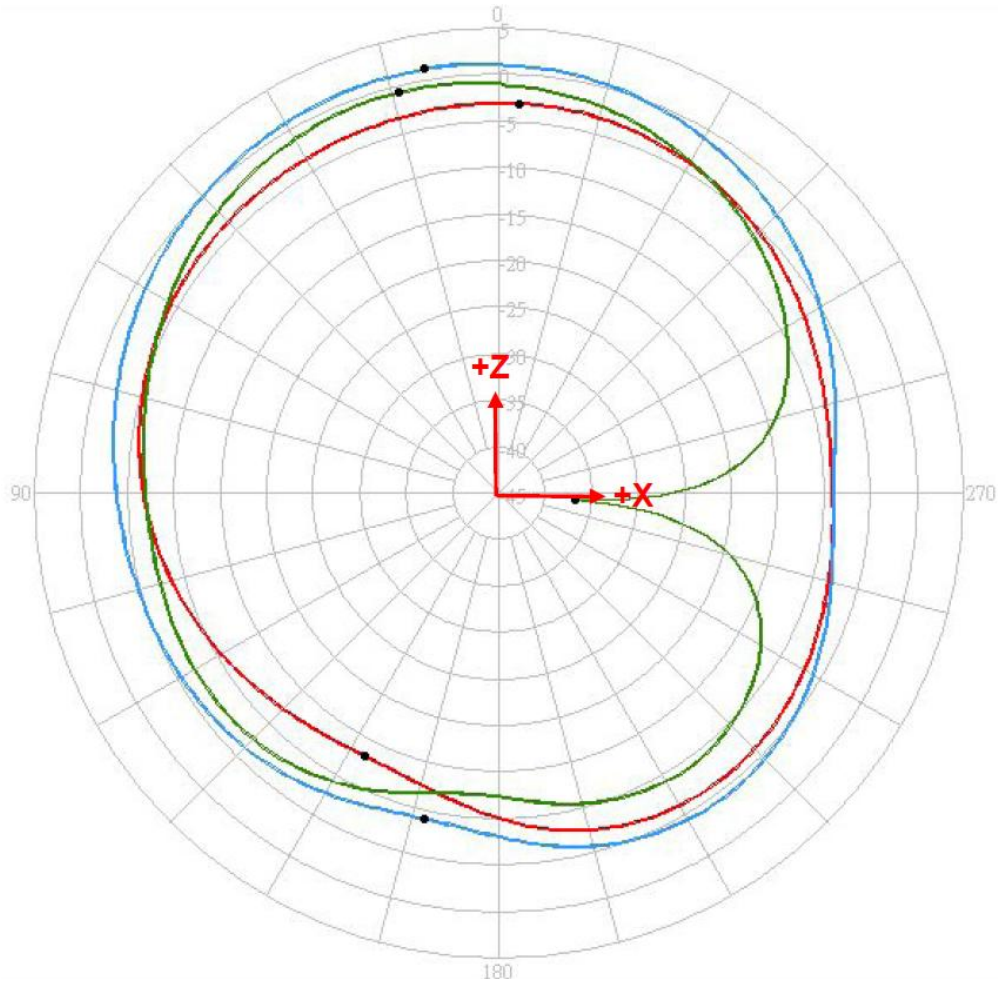


Test Frequency	Return Loss (dB)	Impedance (Ω)	VSWR
1575MHz	-15.8	35.6 + j5.1	1.4
1602MHz	-6.2	20.4 - j20.7	2.9

5. Radiation Patterns



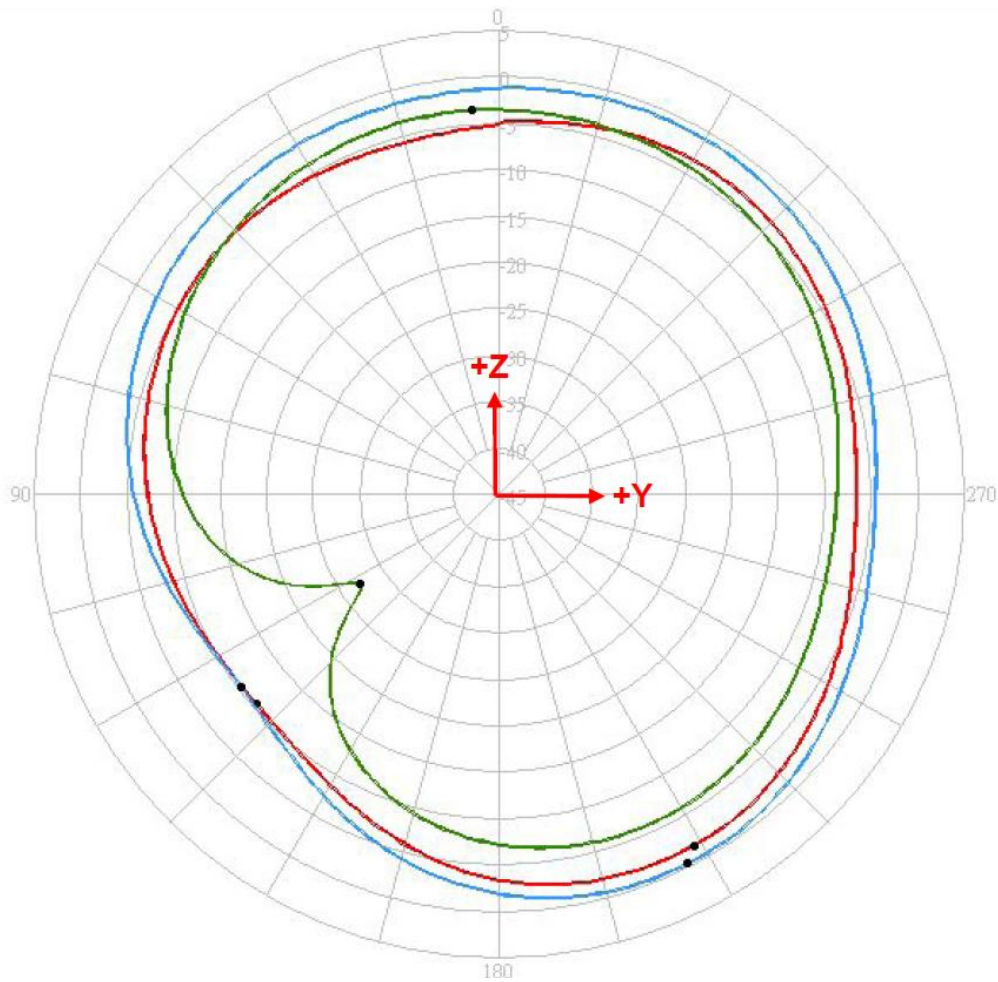
1575.42MHz XZ Plane



	Peak Gain	Zenith Gain
Horizontal	-3.0	-3.1
Vertical	-0.6	-0.9
Total	1.3	1.1

(unit : dBi)

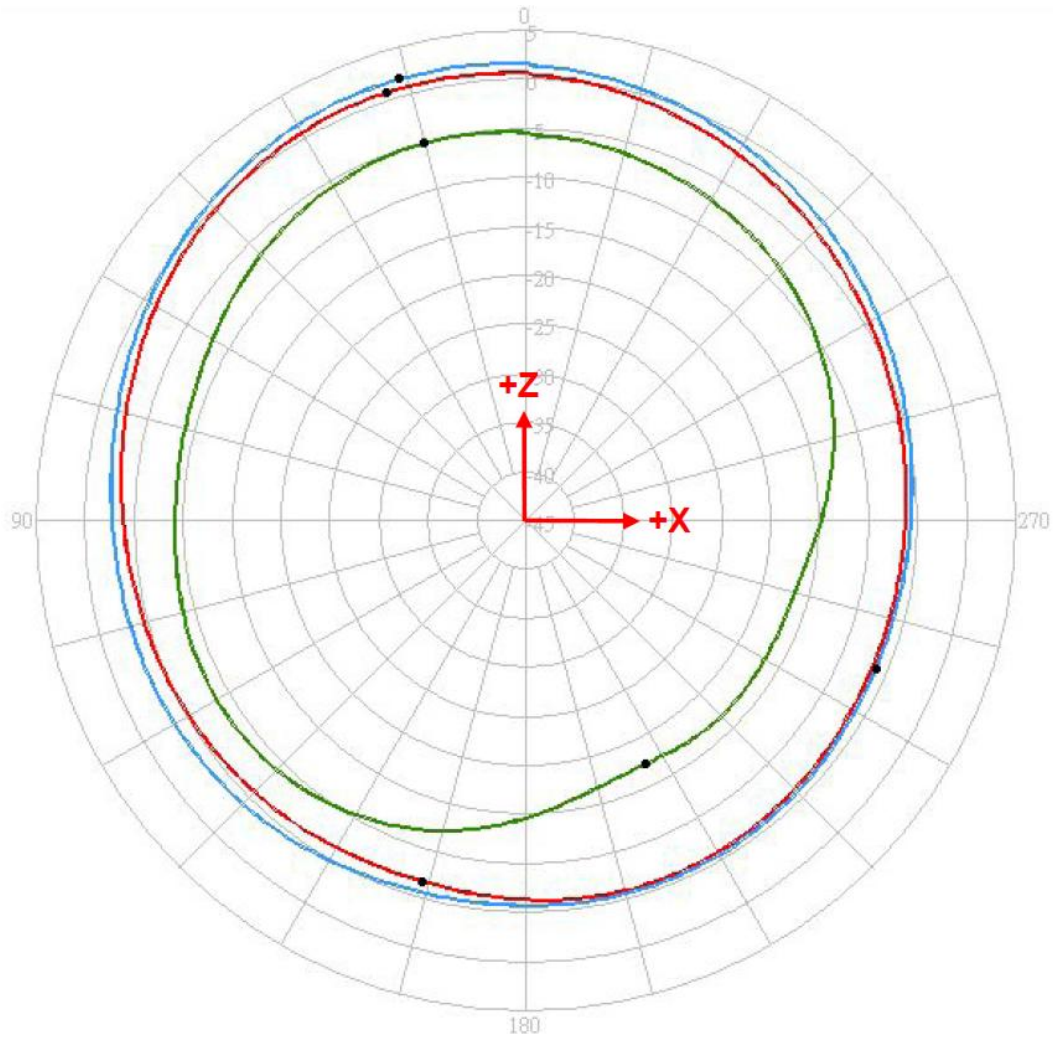
1575.42MHz YZ Plane



	Peak Gain	Zenith Gain
Horizontal	-1.7	-5.2
Vertical	-3.5	-3.5
Total	-0.3	-1.3

(unit : dBi)

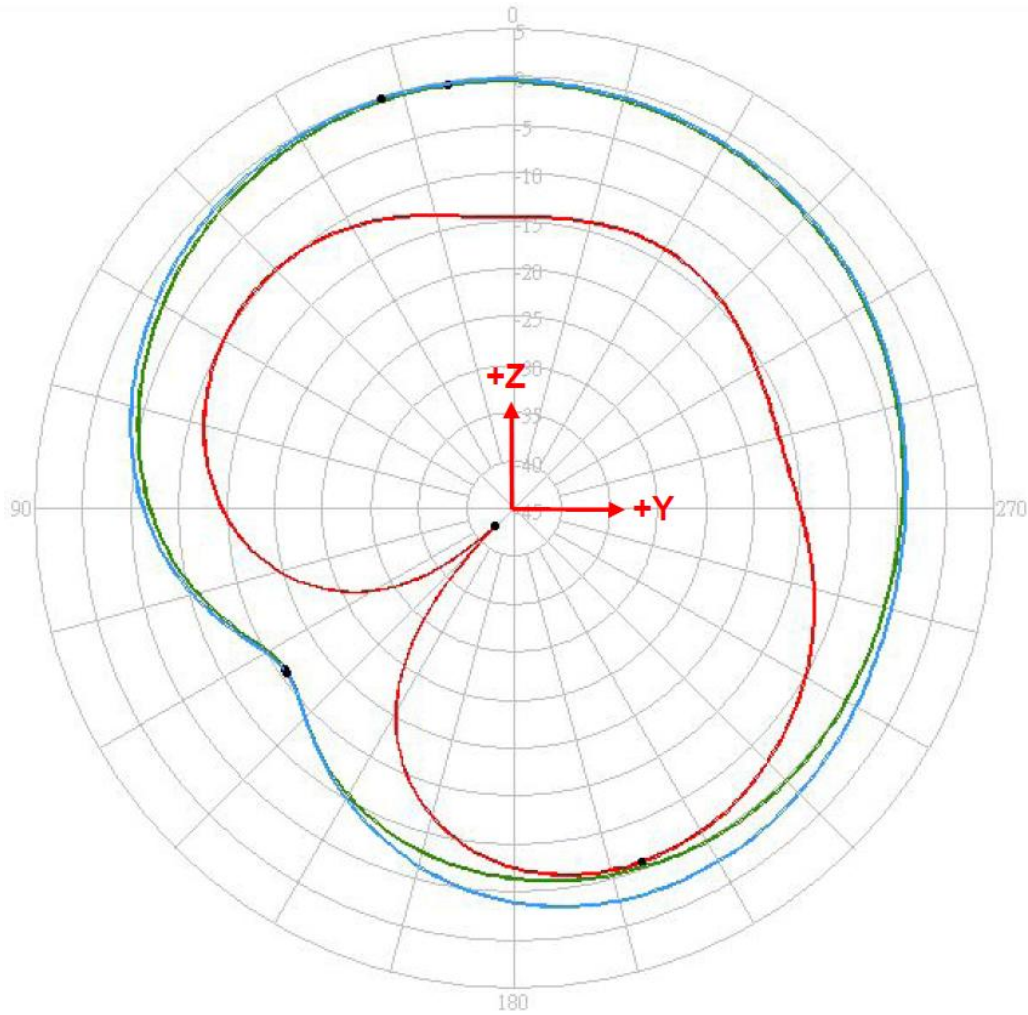
1602MHz XZ Plane



	Peak Gain	Zenith Gain
Horizontal	0.8	0.6
Vertical	-5.2	-5.4
Total	1.8	1.6

(unit : dBi)

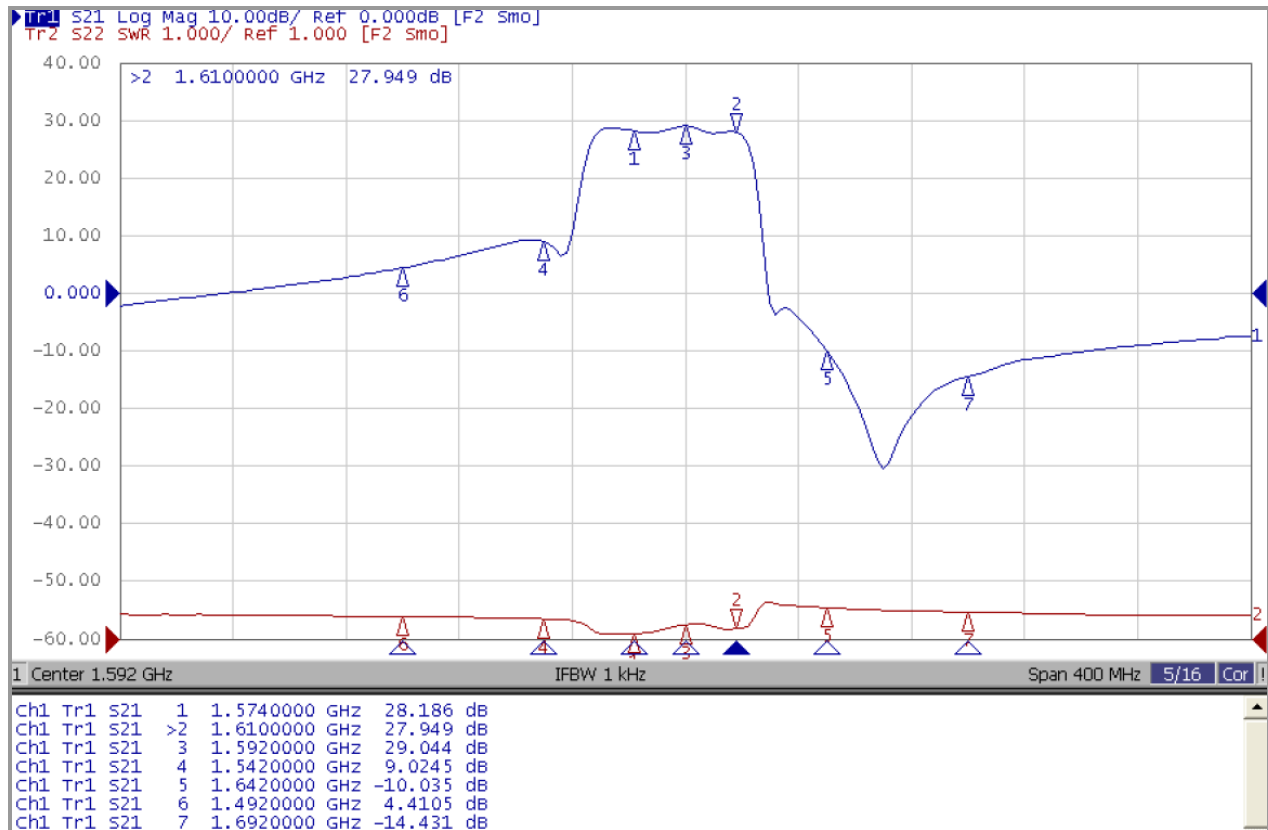
1602MHz YZ Plane



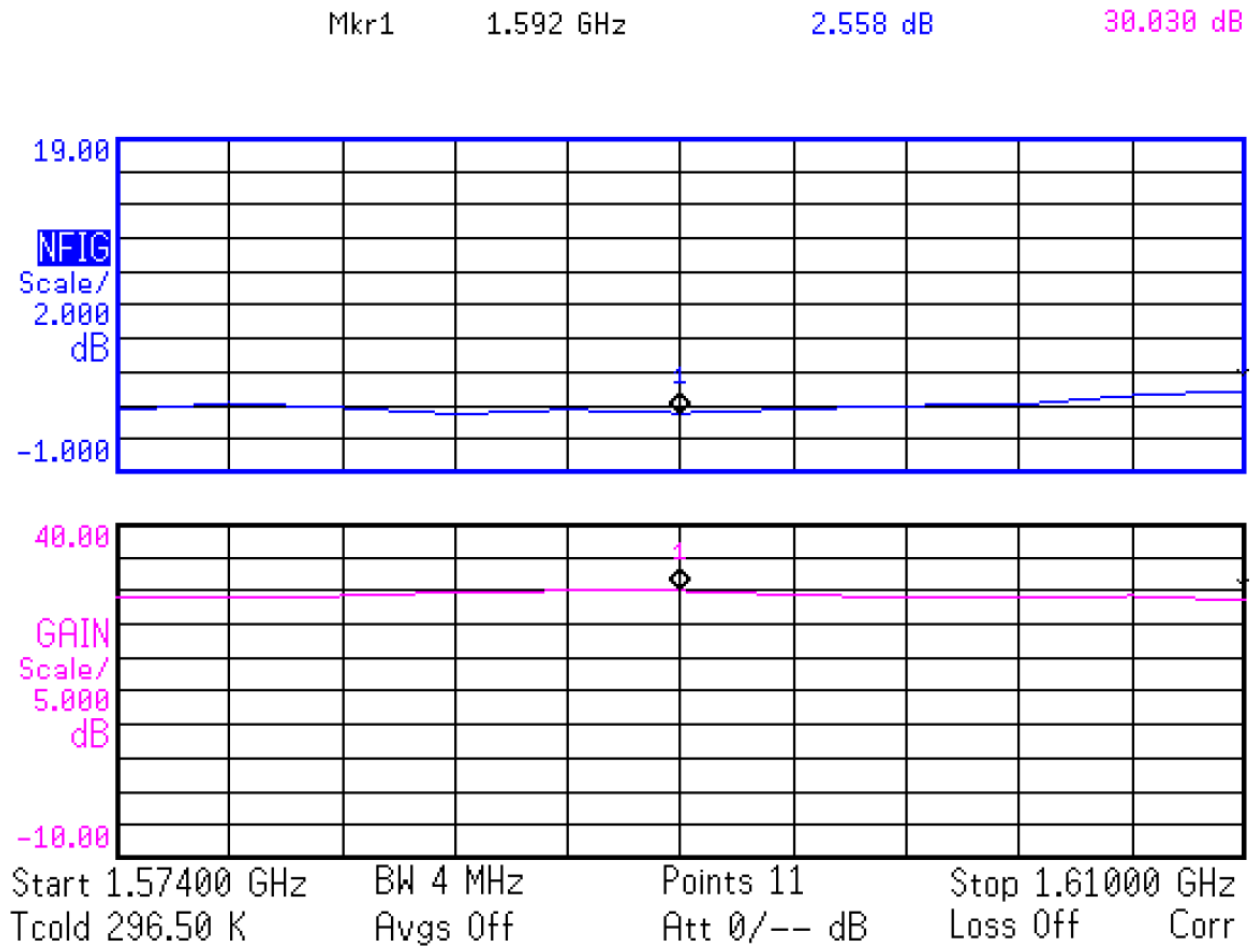
	Peak Gain	Zenith Gain
Horizontal	-5.8	-14.7
Vertical	-0.4	-0.4
Total	-0.2	-0.3

(unit : dBi)

6. LNA Gain and Out Band Rejection @3.0V

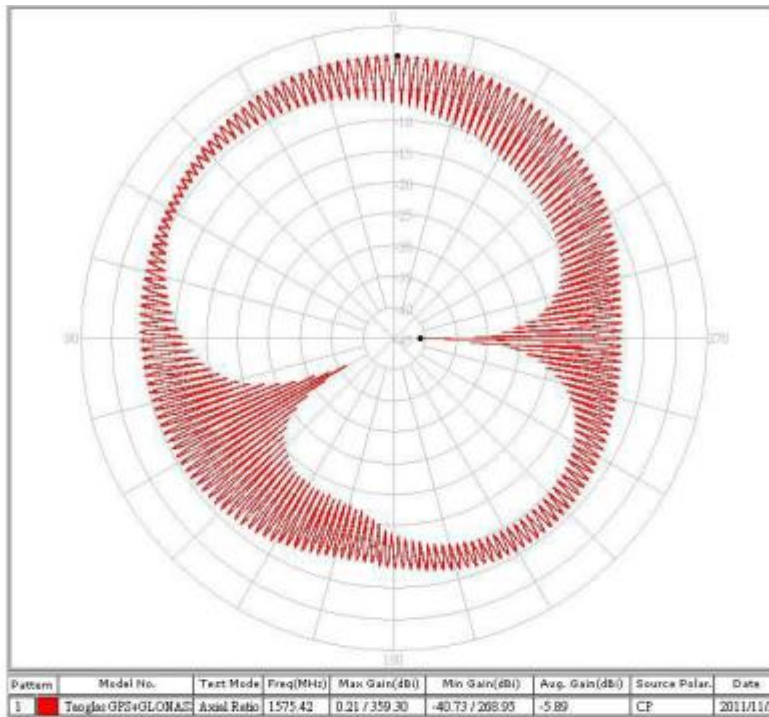


7. LNA Noise Figure @3.0V



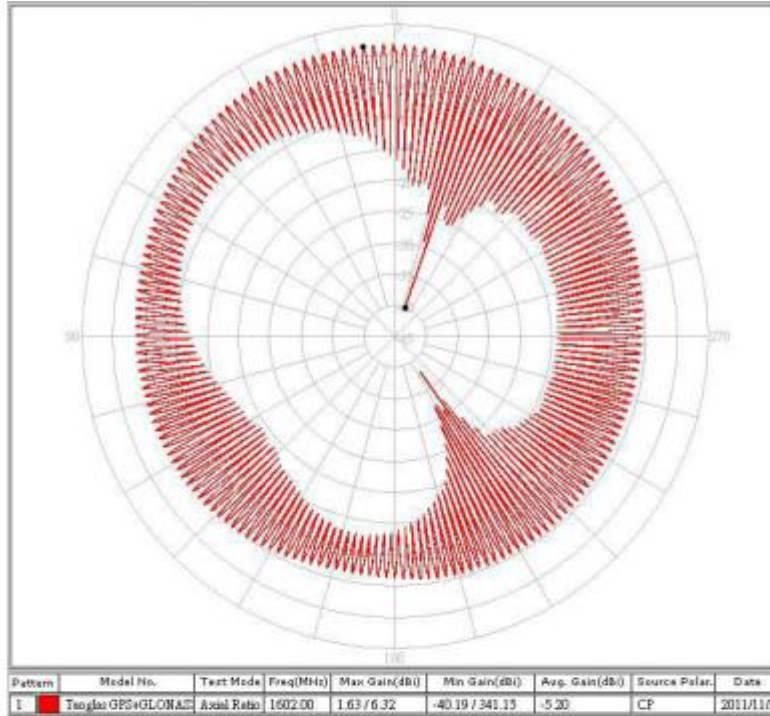
8. Axial Ratio

1575.42MHz Axial Ratio



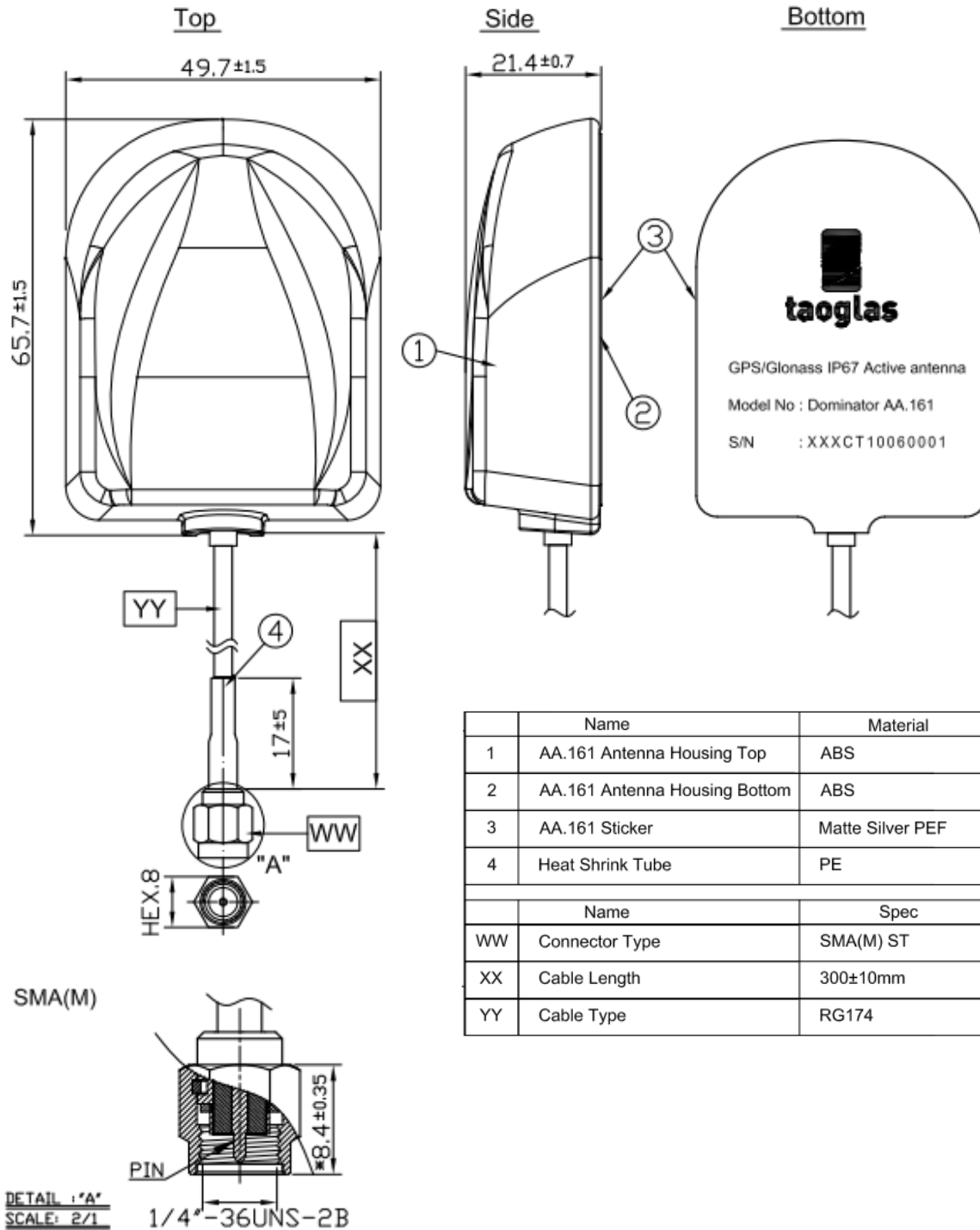
Angle	Axial Ratio
90°	6.97
75°	3.06
60°	1.27
45°	1.89
30°	3.62
15°	5.30
0°	7.10
345°	9.03
330°	9.61
315°	9.56
300°	9.11
285°	10.55
270°	31.83

1602MHz XZ Plane

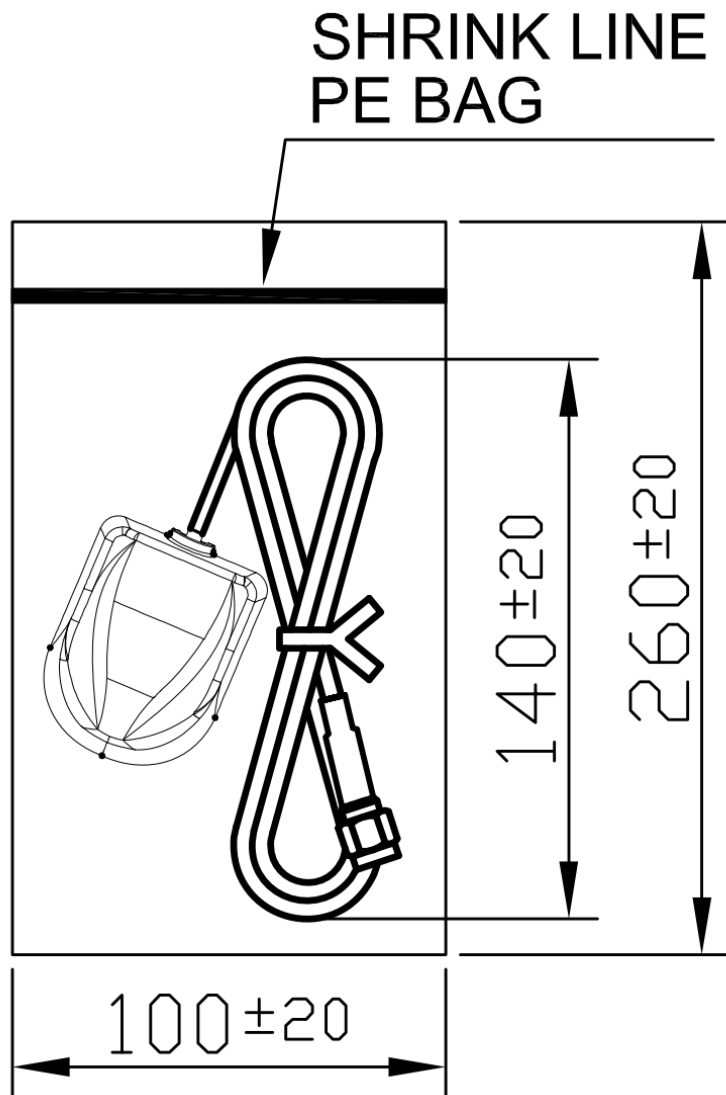


Angle	Axial Ratio
90°	8.46
75°	6.32
60°	5.84
45°	6.97
30°	9.11
15°	12.43
0°	17.25
345°	25.33
330°	22.57
315°	15.29
300°	14.09
285°	13.39
270°	13.23

9. Drawing



10. Packaging



Units per Outer Carton: 100pcs

