



**THE DATASHEET OF  
GP.1575.25.4.A.02**



## SPECIFICATION

Part No. : **GP.1575.25.4.A.02**

Product Name : 4mm thick GPS/Galileo Patch Antenna

Features : 25mm\*25mm\*4mm  
Halogen Free  
RoHS and REACH Compliant



## 1. Introduction

This miniaturized ceramic GPS/Galileo patch antenna is based on smart **XtremeGain**™ technology. It is mounted via pin and double-sided adhesive and has been tuned as optimal solution for the customer device environment.

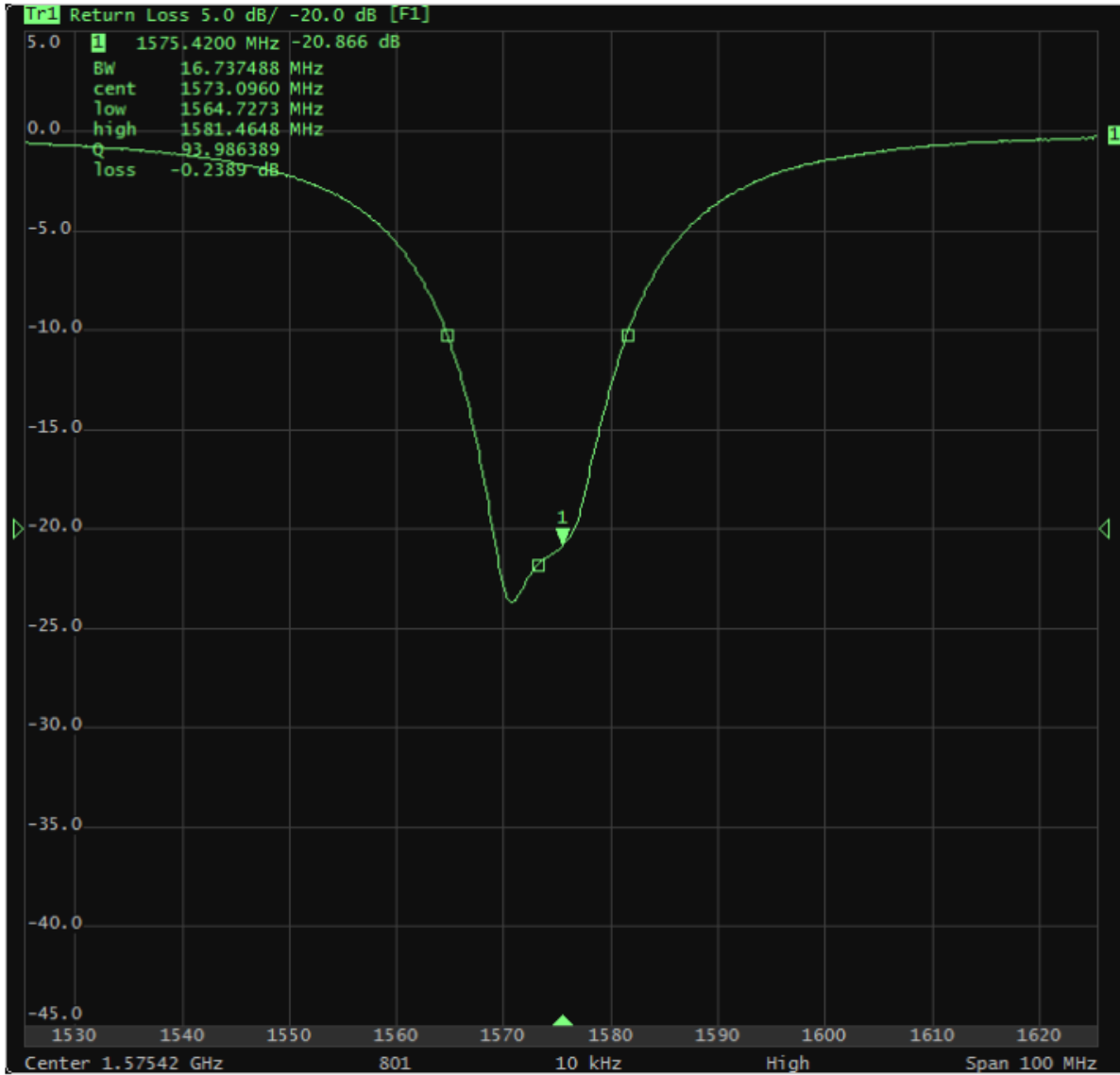
## 2. Specification Table

Original Patch Specification tested on 50\*50mm ground plane

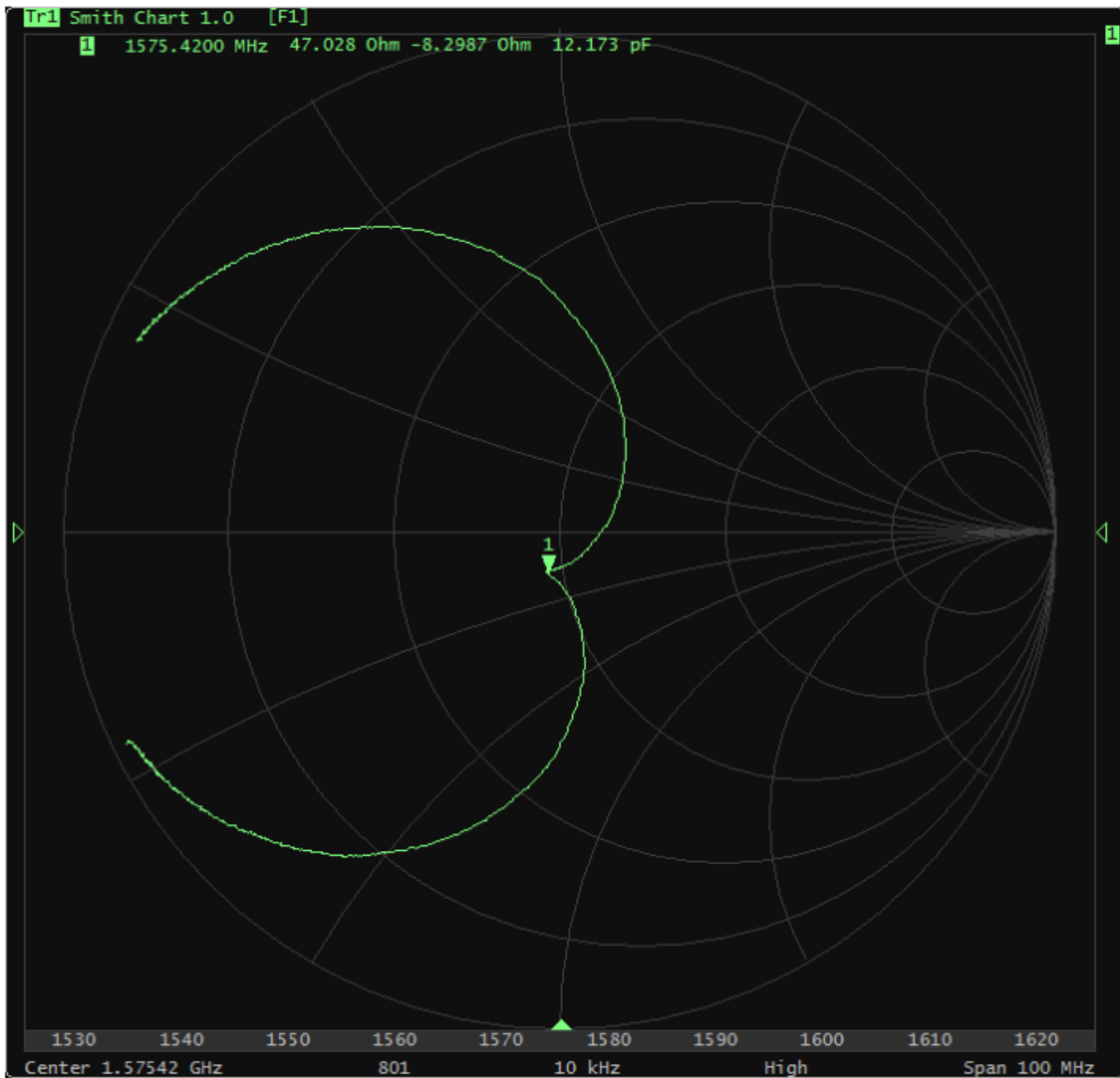
No	Parameter	Specification
1	Range of Receiving Frequency	1575.42MHz +/- 1.023MHz
	Center Frequency	1575MHz +/- 3MHz
2	Impedance	50Ω
3	Bandwidth	10 MHz min Return Loss <-10dB
4	VSWR	2:1
5	Gain toward Zenith	1.55 dBic typ.
6	Gain at 10°Elevation	-2.5 dBic typ.
7	Axial Ratio	3dB Max.
8	Polarization	Right Hand Circular Polarization
9	Frequency Temperature Coefficient ( Tf )	0 ± 20ppm/°C
	Operating Temperature	-40°C to +85°C

### 3. Electrical Specification

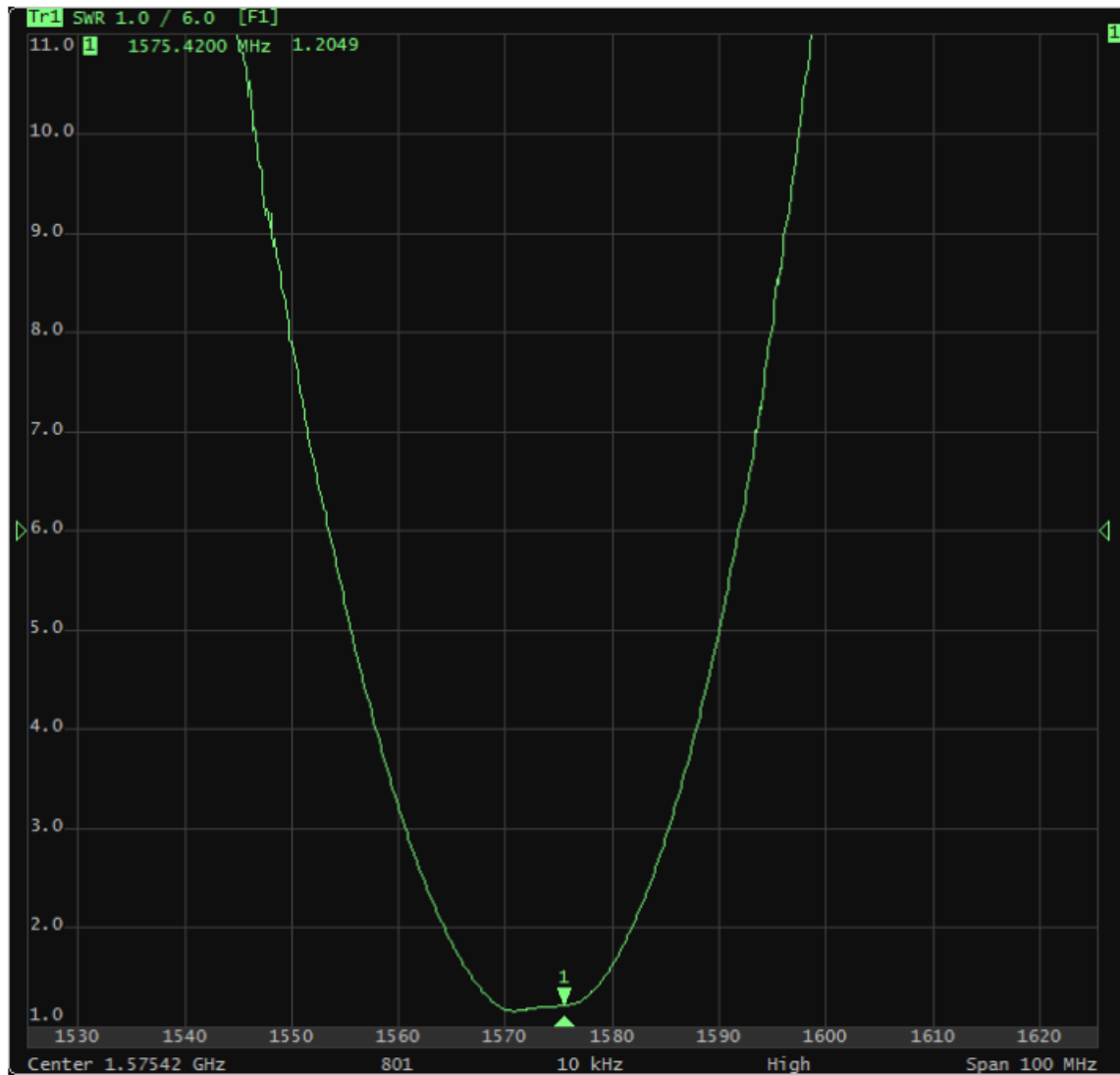
#### 3.1 Return Loss



### 3.2 Smith Chart

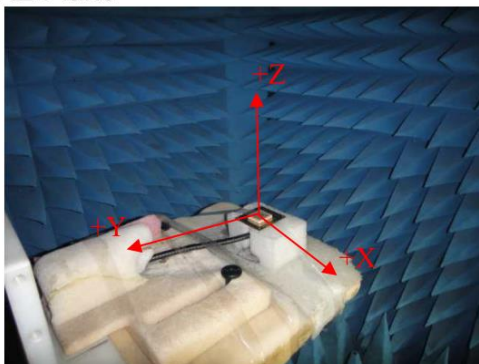


### 3.3. VSWR

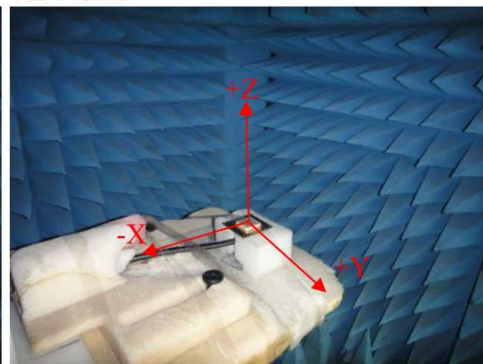


## 4. 2D Radiation Patterns

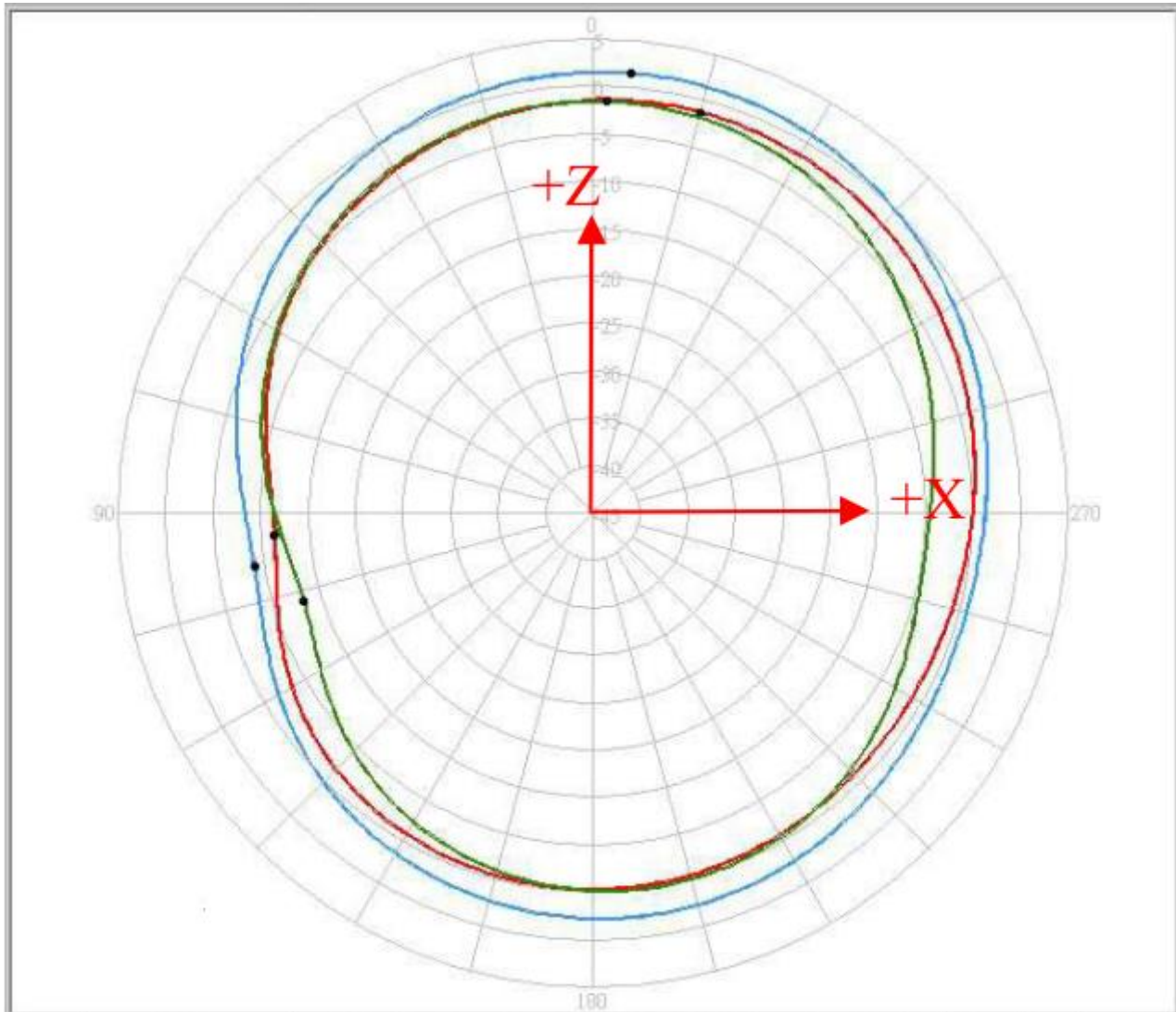
XZ-Plane



YZ-Plane

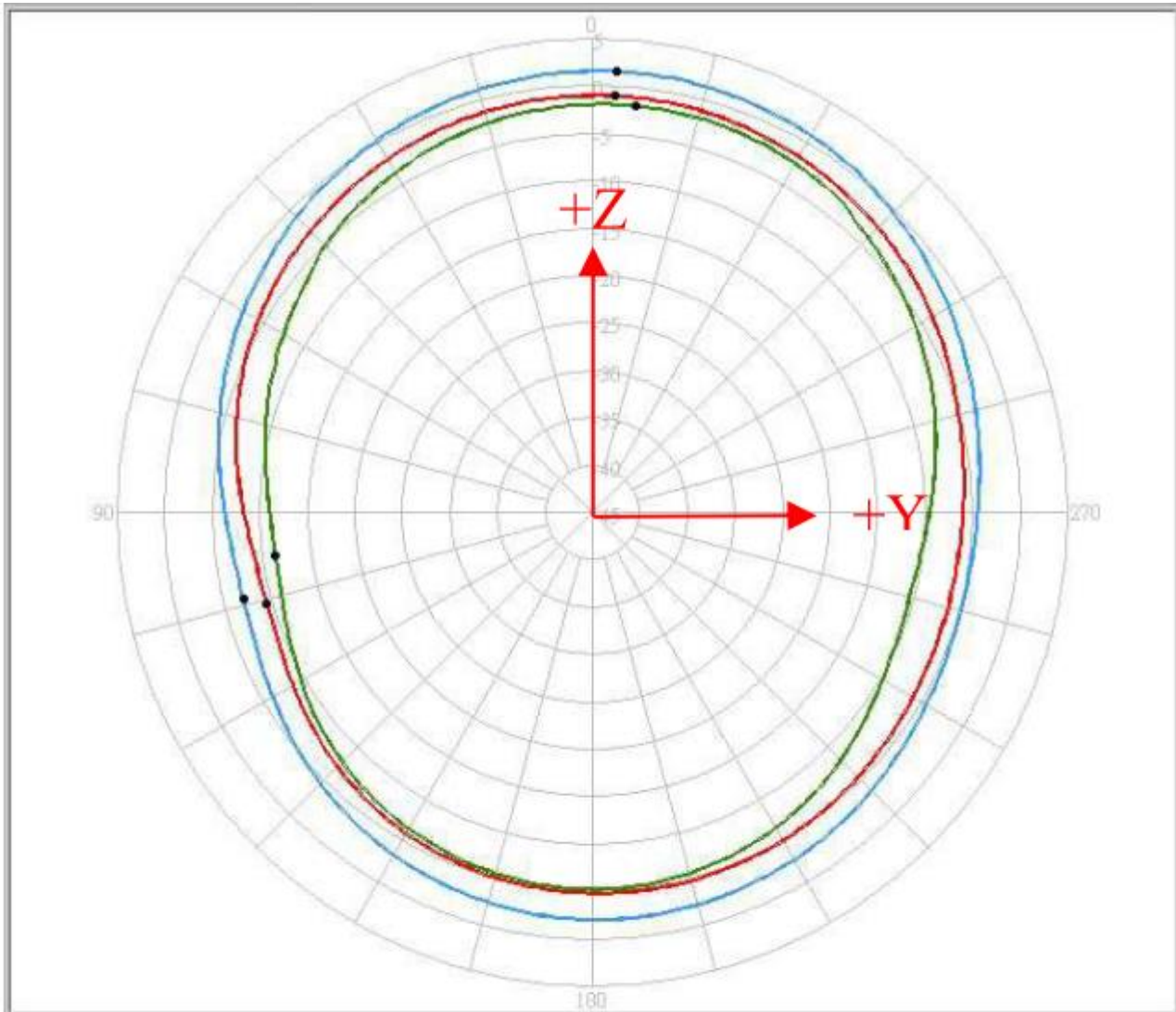


## 4.1 XZ Patterns



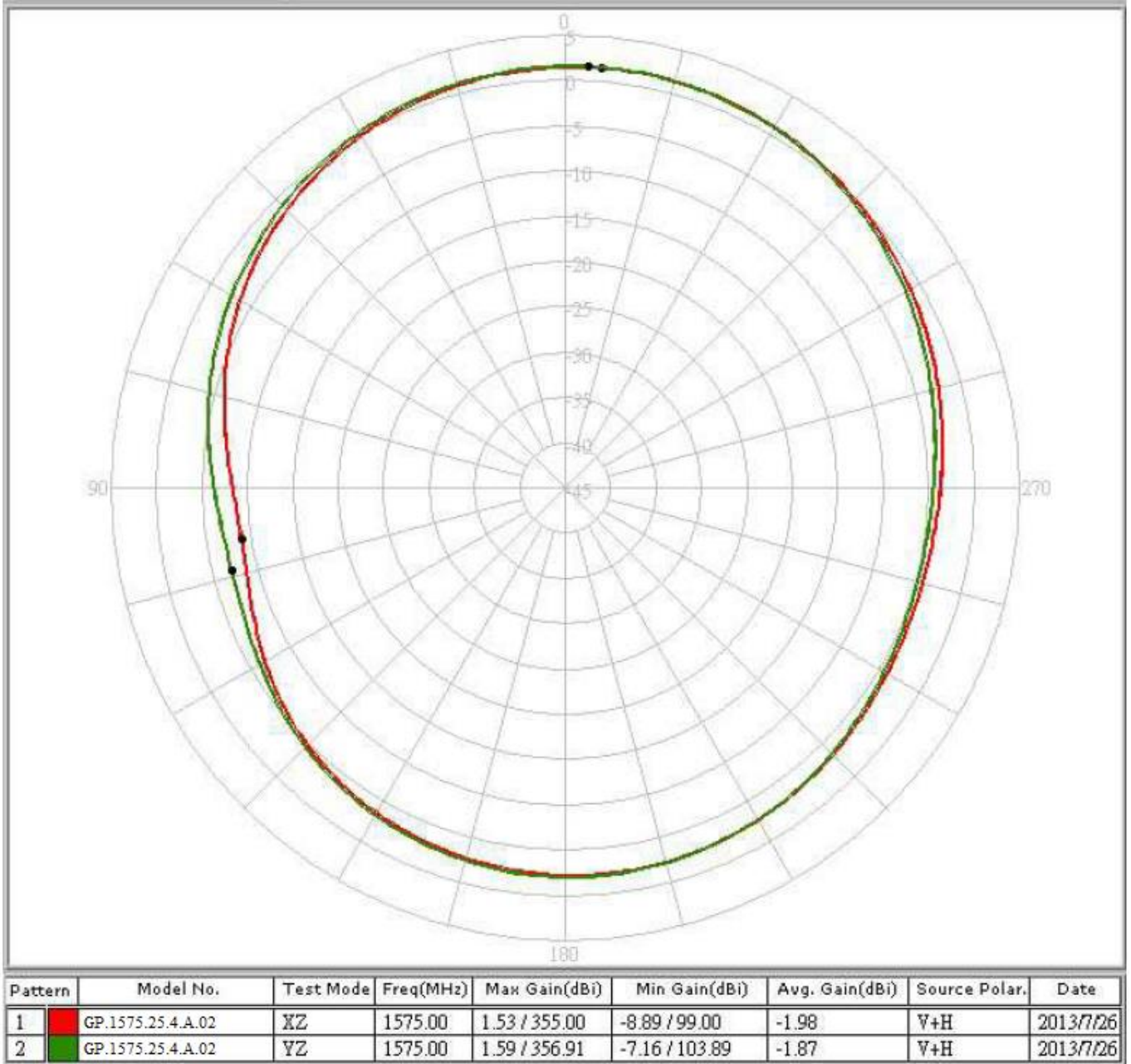
Pattern	Model No.	Test Mode	Freq(MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.	Date
1	GP.1575.25.4.A.02	XZ	1575.00	-1.28 / 345.00	-11.43 / 94.00	-4.54	Hor.	2013/7/26
2	GP.1575.25.4.A.02	XZ	1575.00	-1.60 / 358.00	-13.17 / 107.00	-5.50	Ver.	2013/7/26
3	GP.1575.25.4.A.02	XZ	1575.00	1.53 / 355.00	-8.89 / 99.00	-1.98	Y+H	2013/7/26

## 4.2 YZ Patterns



Pattern	Model No.	Test Mode	Freq(MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.	Date
1	GP.1575.254.A.02	YZ	1575.00	-1.00 / 356.97	-9.42 / 105.88	-4.18	Hor.	2013/7/26
2	GP.1575.254.A.02	YZ	1575.00	-1.88 / 353.83	-11.35 / 97.71	-5.68	Ver.	2013/7/26
3	GP.1575.254.A.02	YZ	1575.00	1.59 / 356.91	-7.16 / 103.89	-1.87	V+H	2013/7/26

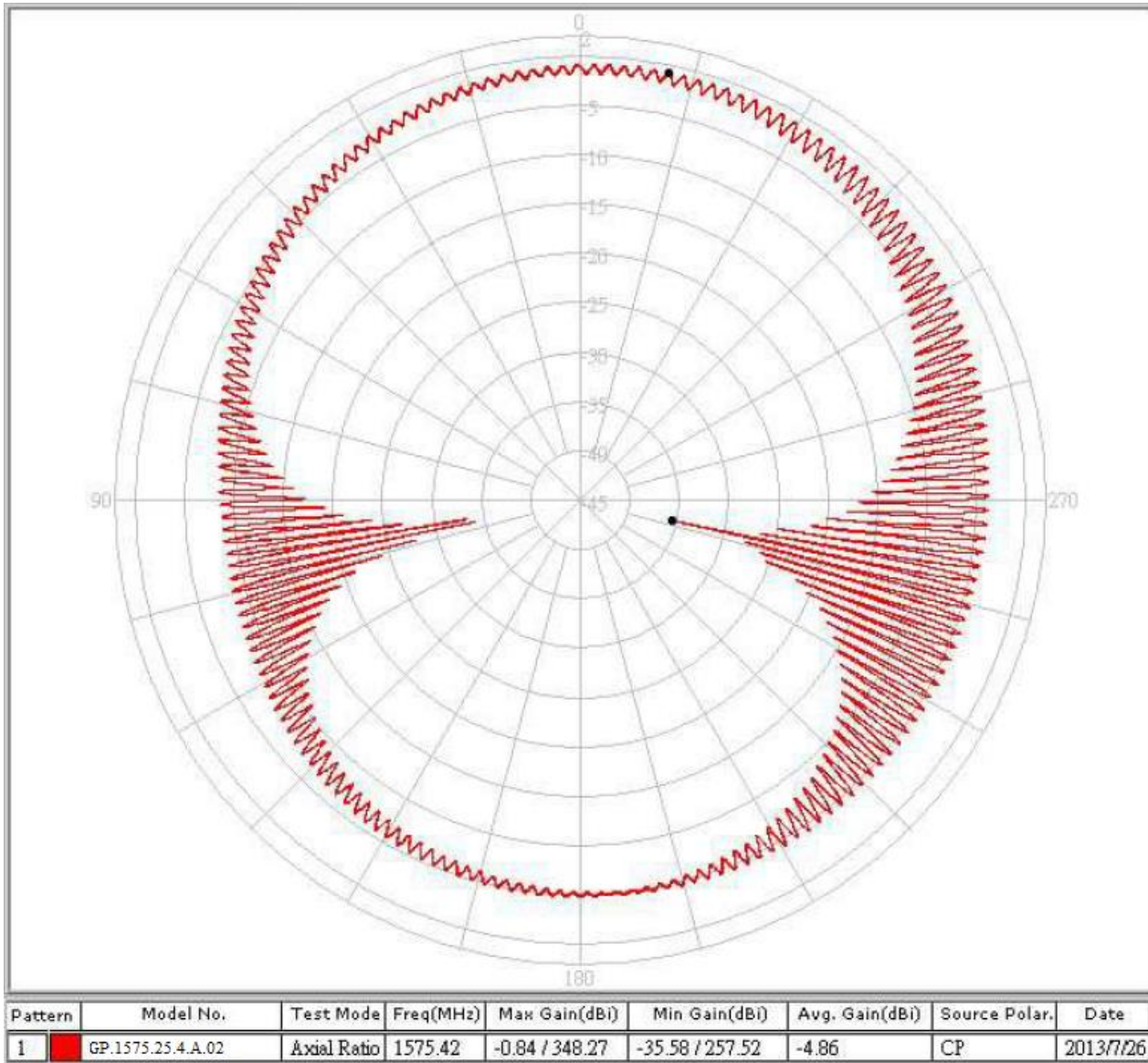
## 5. Gain Pattern Value



Angle	XZ-Plane	YZ-Plane
90°	-8.37	-6.59
75°	-6.12	-4.70
60°	-3.66	-2.80
45°	-1.65	-1.05
30°	-0.11	0.26
15°	0.94	1.14
<b>0°</b>	<b>1.45</b>	<b>1.55</b>
345°	1.46	0.00
330°	0.99	0.00
315°	0.11	0.57
300°	-1.10	-0.82
285°	-2.45	-2.45
270°	-3.69	-3.94

(Unit : dBi)

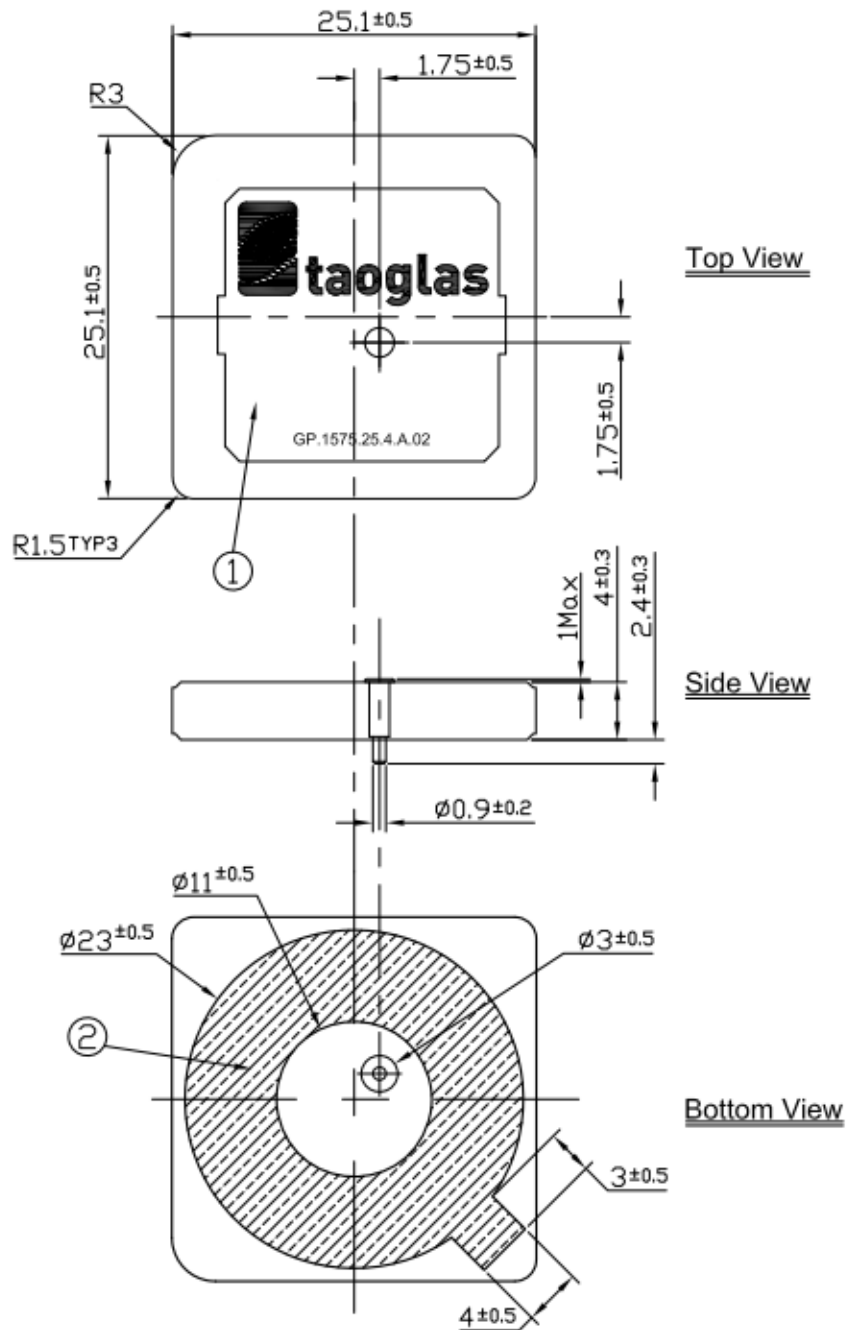
## 6. Axial Ratio Pattern



Angle	Axial Ratio
90°	10.17
75°	3.27
60°	2.03
45°	1.51
30°	1.14
15°	0.87
<b>0°</b>	<b>0.83</b>
345°	1.14
330°	1.88
315°	2.94
300°	4.58
285°	6.86
270°	12.88

( At 1575.42MHz )

## 7. 2D Mechanical Drawing

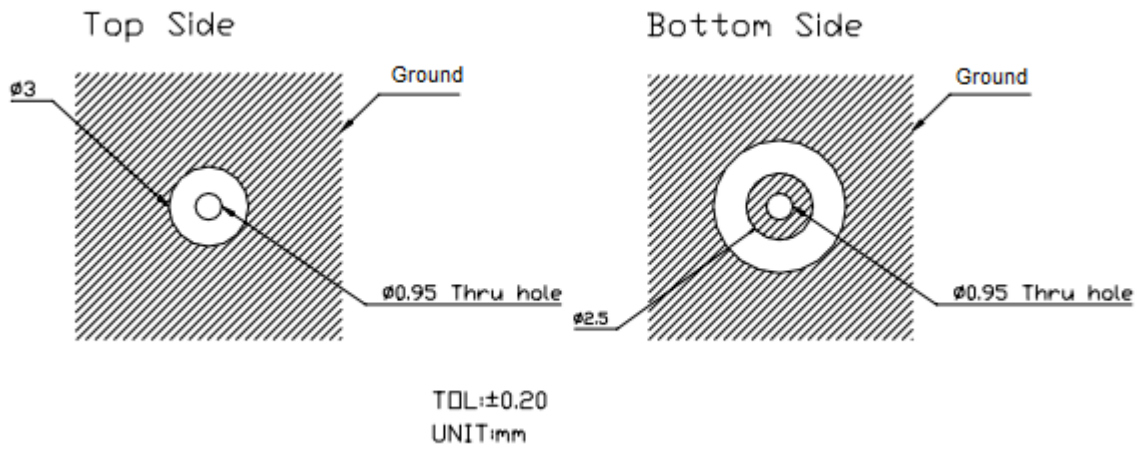


**NOTES:**

1. Double sided adhesive area 

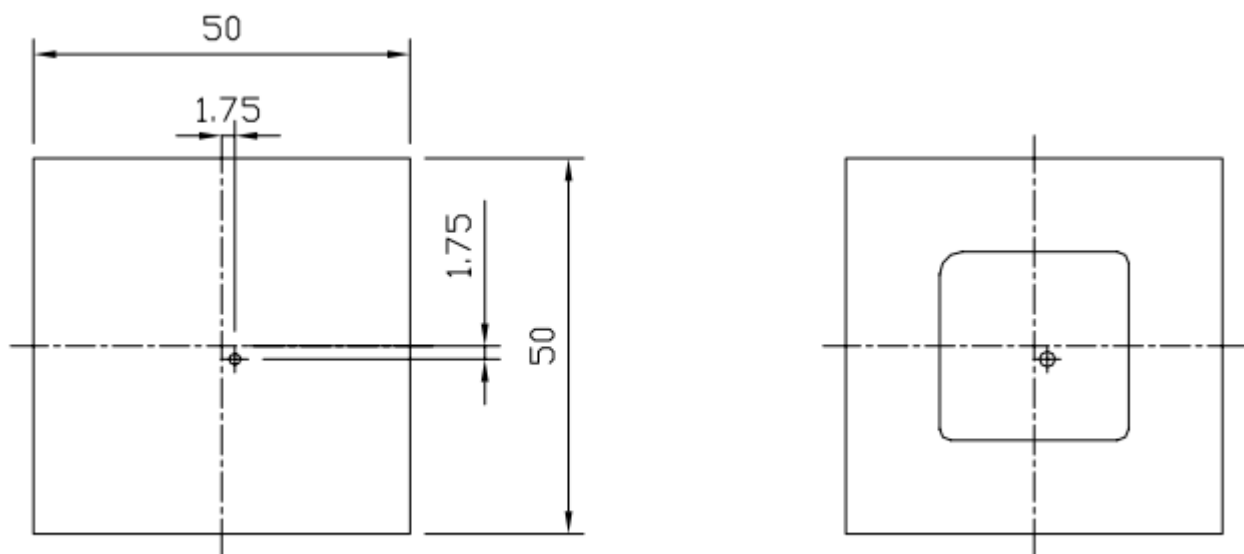
	Name	Material	Finish	QTY
1	GP.1575 Patch 25x25x4	Ceramic	Clear	1
2	Double sided Adhesive	NITTO 5015	White Liner	1

## 7.1 Layout Dimension

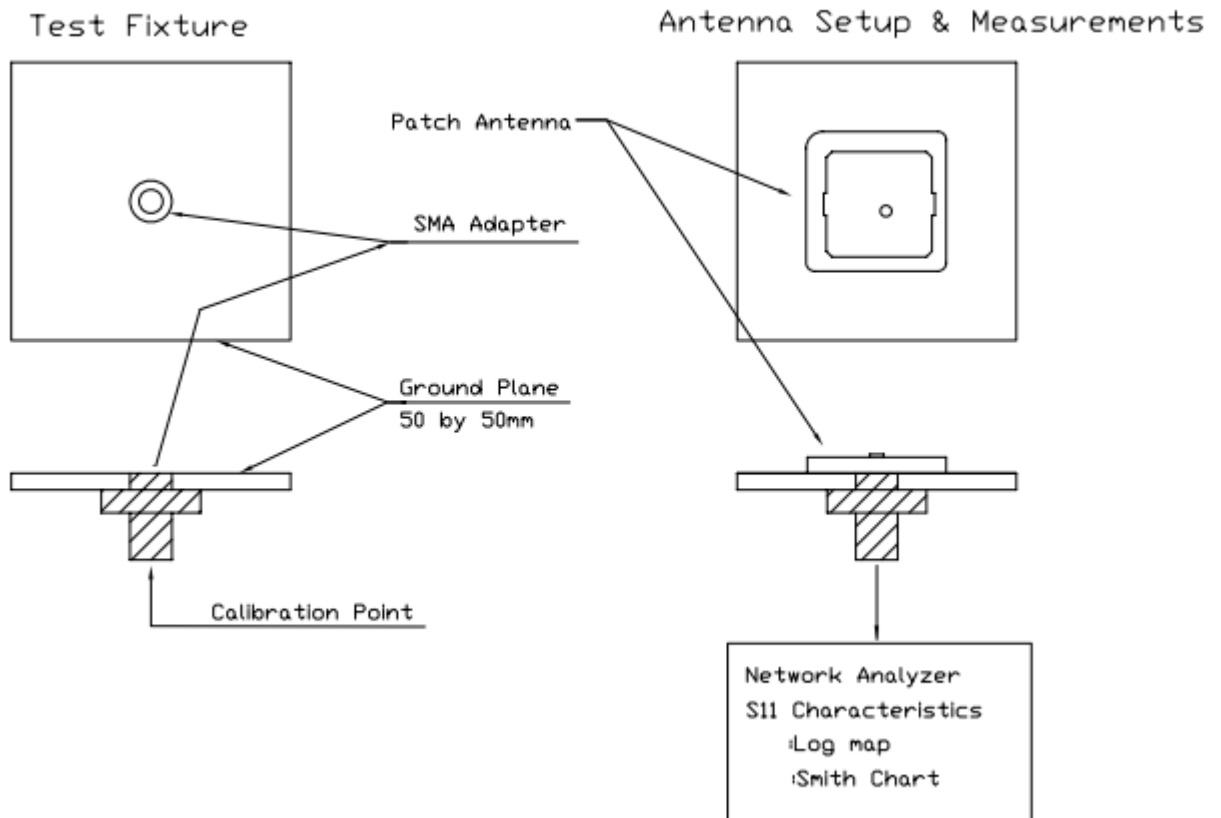


\*Note Layout Dimensions may be affected by the thickness of the PCB

## 8. Test Jig and Dimension



## 8.1 Test Fixture Antenna Setup and Measurements

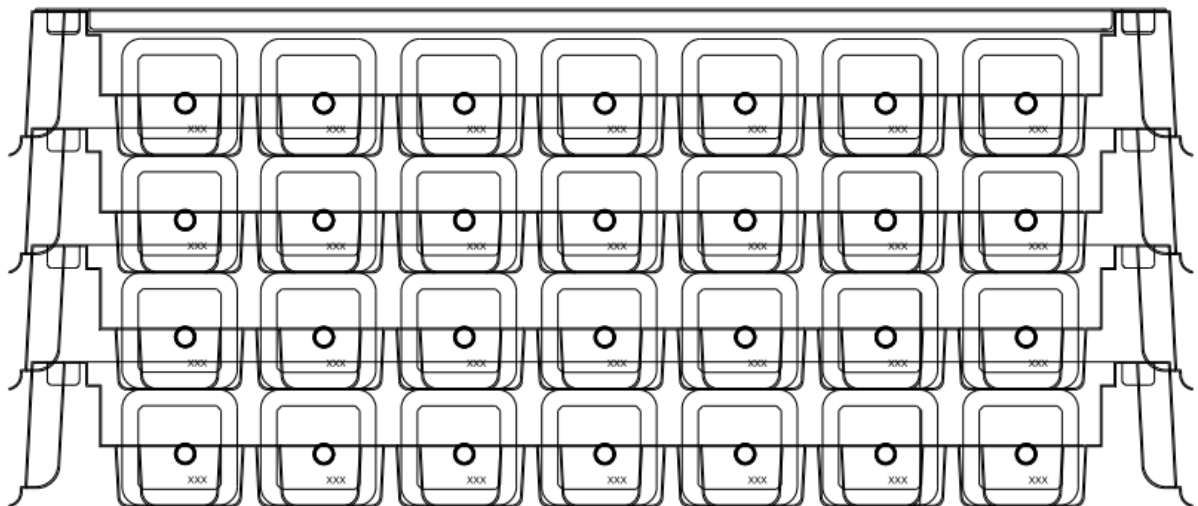
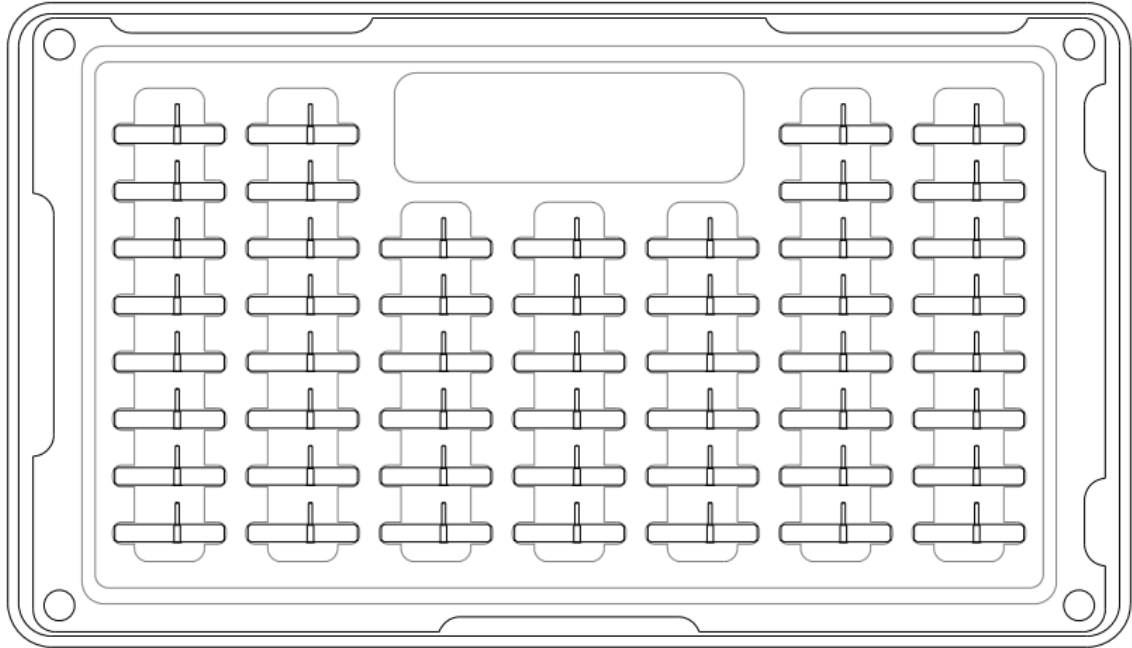


## 9. Packaging

50 pieces per Tray

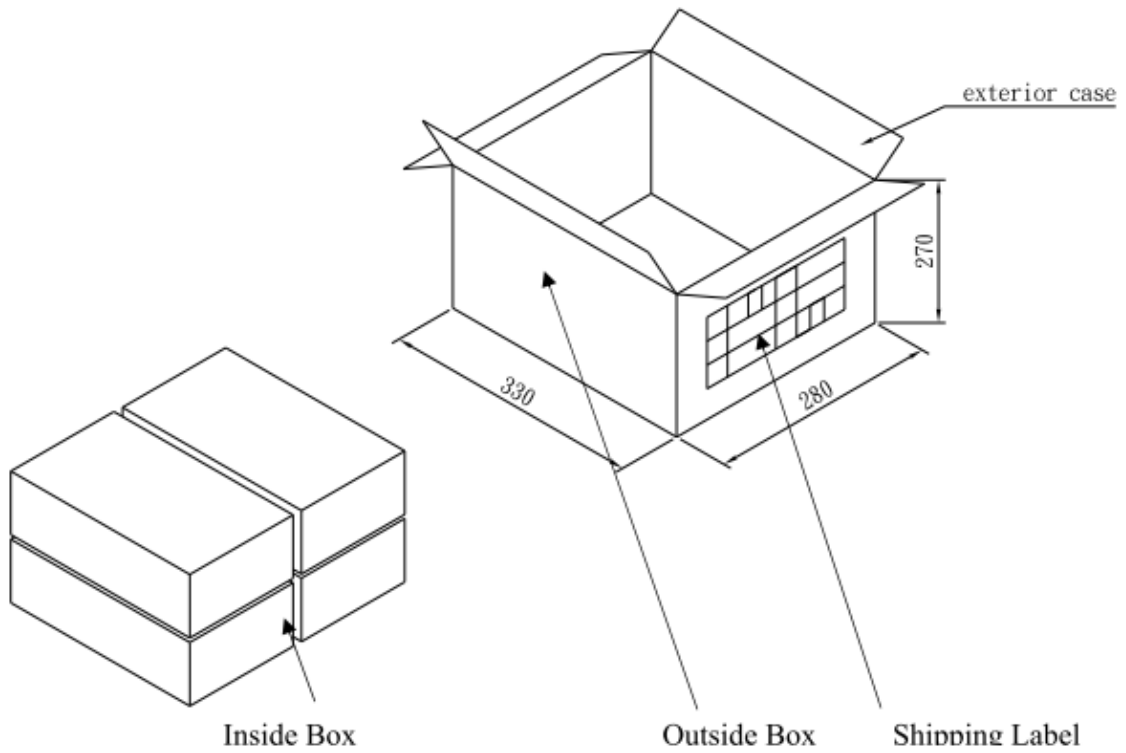
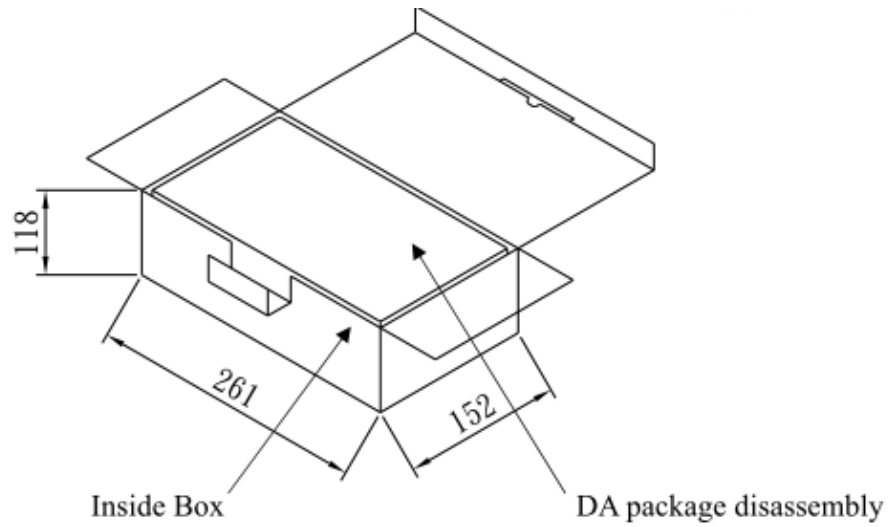
200 per Inner Carton

4 x 200 – 800 pieces per Outer Carton





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