

## SPECIFICATION

Part No. : **CGGBP.25.4.A.02**

Product Name : Embedded 25mm  
GPS/GLONASS/GALILEO/BEIDOU Patch  
Antenna, 1561/1575/1602MHz

Feature : 25\*25\*4mm Ceramic patch  
High Gain (up to 3.5dBi)  
Excellent stability on the three GNSS systems  
Optimized radiation patterns  
Pin Mount  
RoHS Compliant



## 1. Introduction

This 25mm square embedded ceramic GPS/GLONASS/GALILEO/BEIDOU patch antenna's wide band of operation leads to excellent gain and radiation pattern stability on all four common commercial GNSS systems worldwide.

Compared to using a smaller antenna, this will translate into the GNSS system having much higher location accuracy, improved reliability of lock in urban areas, better signal reception, with more satellites acquired and a quicker time to first fix.

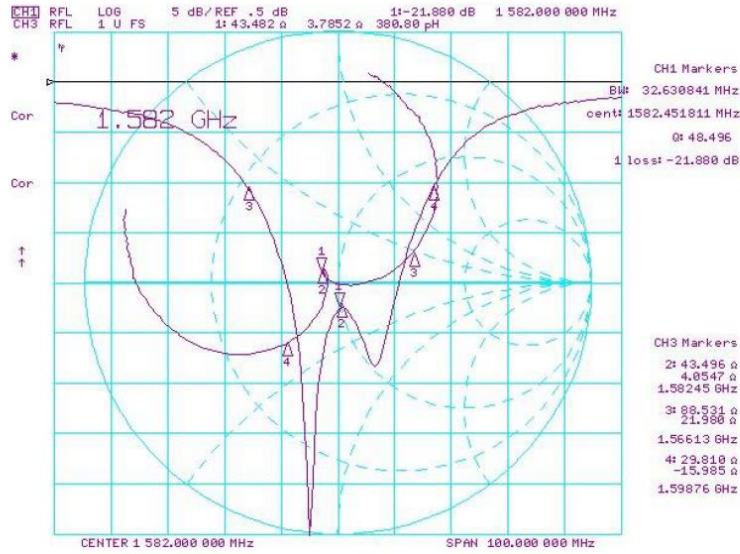
The patch is mounted via pin and double-sided adhesive.

## 2. Specification

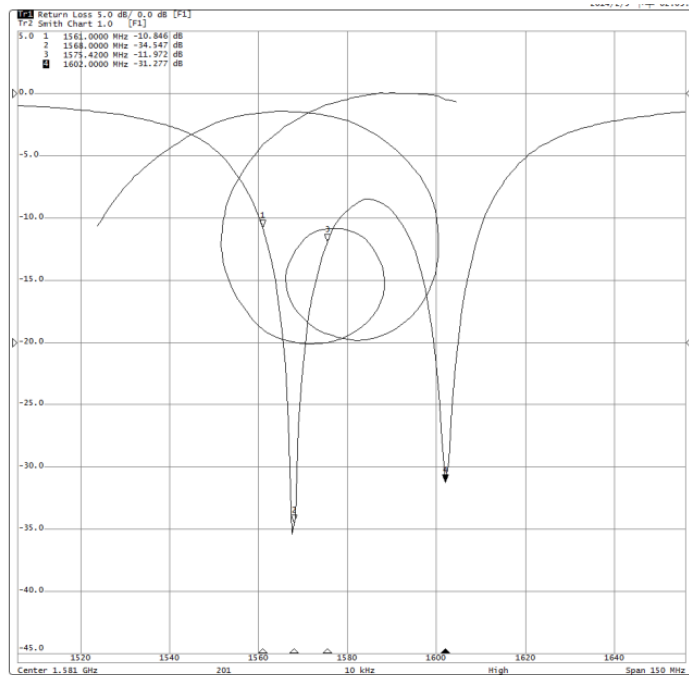
ELECTRICAL	
Frequency	BeiDou: 1561.098MHz $\pm$ 2.046MHz GPS/GALILEO: 1575.42 $\pm$ 1.023MHz GLONASS: 1602 $\pm$ 5MHz
Centre Frequency	1582MHz $\pm$ 3MHz
VSWR	BeiDou: 2.5 max. GPS/GALILEO: 2.5 max. GLONASS: 1.8 max.
Zenith Gain	BeiDou: +2.5 dBi typ. GPS/GALILEO: +1.5dBi typ. GLONASS: +3.5 dBi typ.
Impedance	50 $\Omega$
MECHANICAL	
Dimensions	25 x 25 x 4mm
Material	Ceramic
Pin Diameter	0.9mm
Pin Length	1.65mm
ENVIRONMENTAL	
Operation Temperature	-40°C to 85°C
Storage Temperature	-40°C to 105°C
Humidity	Non-condensing 65°C 95% RH

### 3. Antenna Characteristics

#### 3.1. S11 Impedance

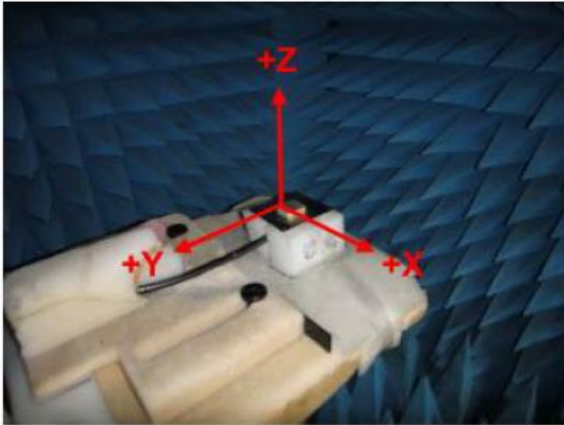


#### 3.2. Return Loss

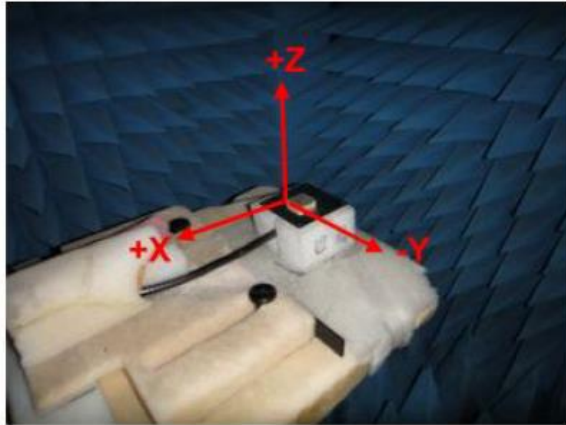


## 4. 2D Antenna Radiation

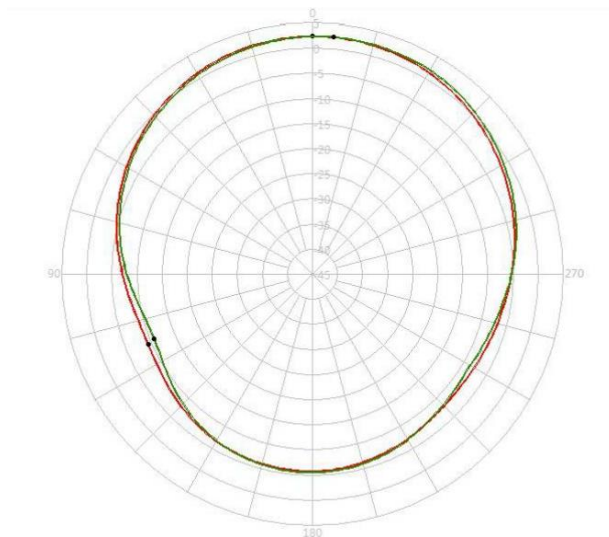
XZ-Plane



YZ-Plane

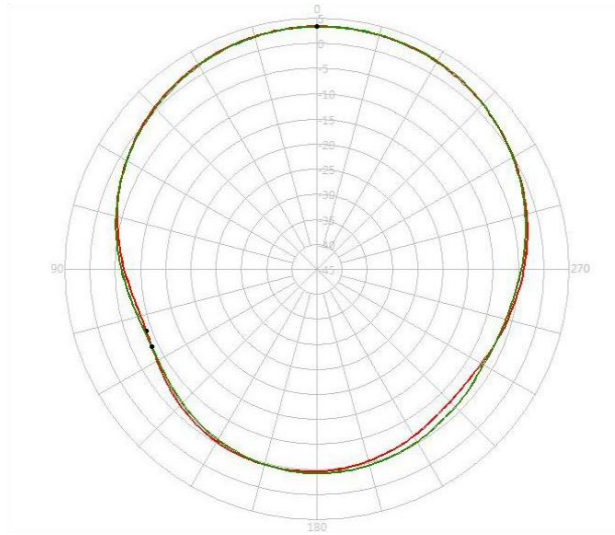


### 4.1. 1575.42MHz



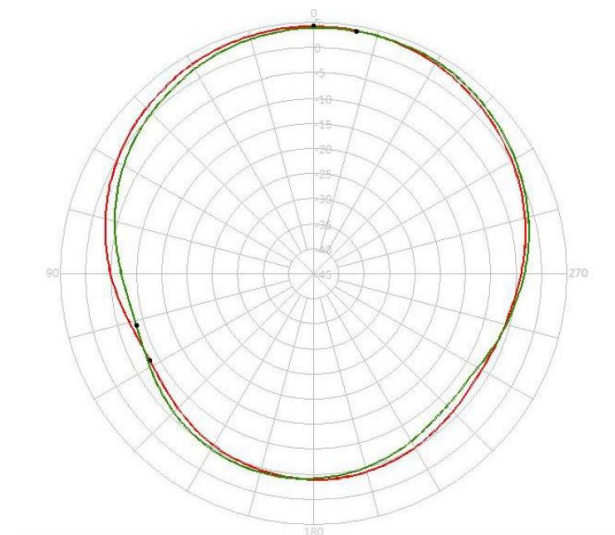
	Peak Gain (dBi)	Average Gain (dBi)
XZ Plane	2.39	-2.26
YZ Plane	2.38	-2.25

### 4.2. 1561MHz



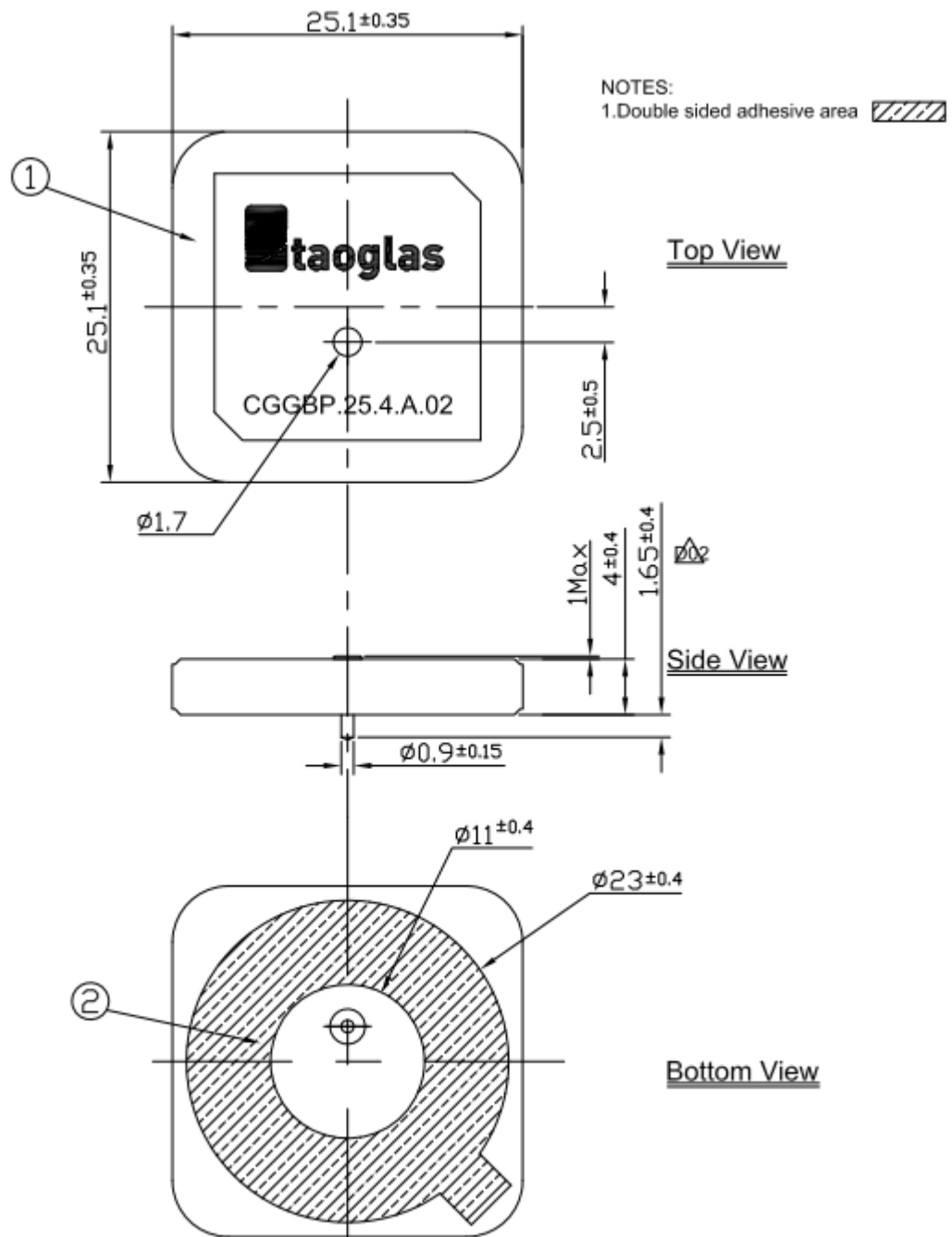
	Peak Gain (dBi)	Average Gain (dBi)
XZ Plane	3.41	-1.20
YZ Plane	3.36	-1.19

### 4.3. 1602MHz



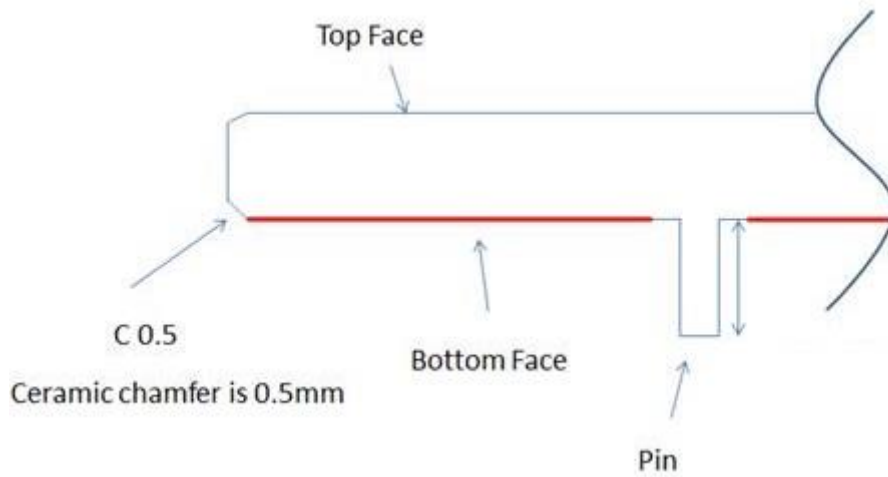
	Peak Gain (dBi)	Average Gain (dBi)
XZ Plane	4.21	-0.48
YZ Plane	3.95	-0.73

## 5. Mechanical Drawing-Patch (Unit: mm)



	Name	Material	Finish	QTY
1	Patch 25x25x4	Ceramic	Clear	1
1	Double sided Adhesive	NITTO5015	White Liner	1

## 5.1. Adhesive Thickness



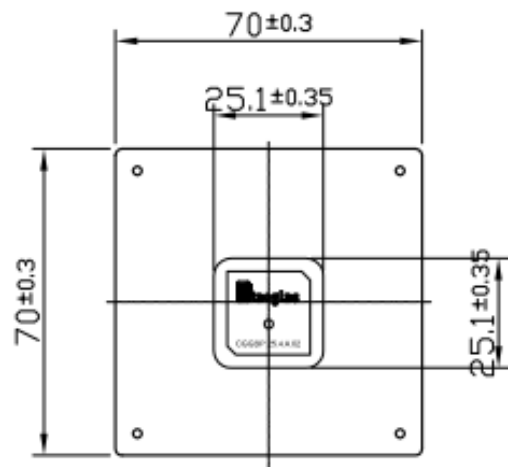
**Red Line** shows the adhesive without Liner – thickness 0.08~0.1mm



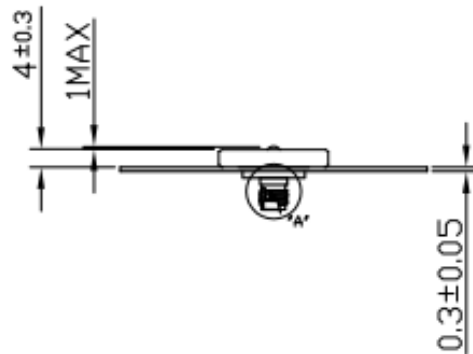
## 6. CGGBPD.25.A EVB

	Name	Material	Finish	QTY
1	Patch(25x25x4mm)	Ceramic	Clear	1
2	Ground-Plane(70x70x0.3mm)	Brass	Silver	1
3	SMA(F) ST	Brass	Gold	1

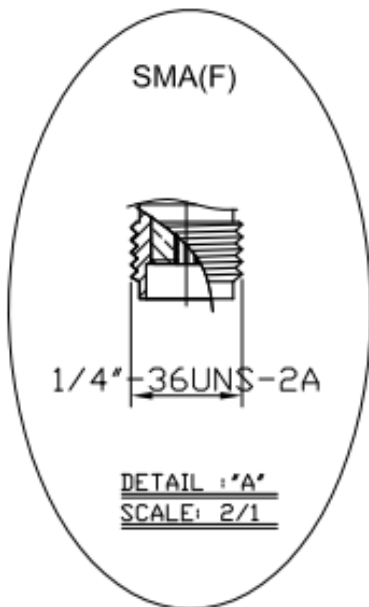
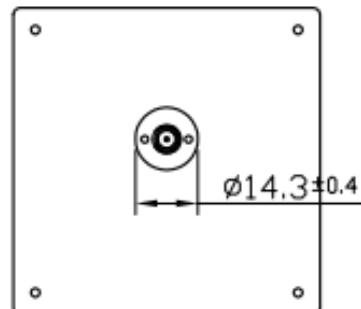
Top View



Side View



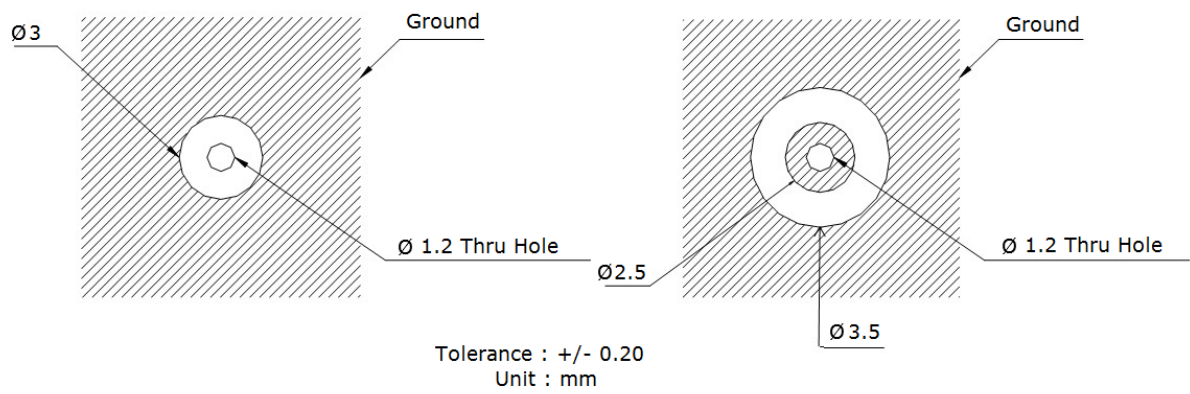
Bottom View





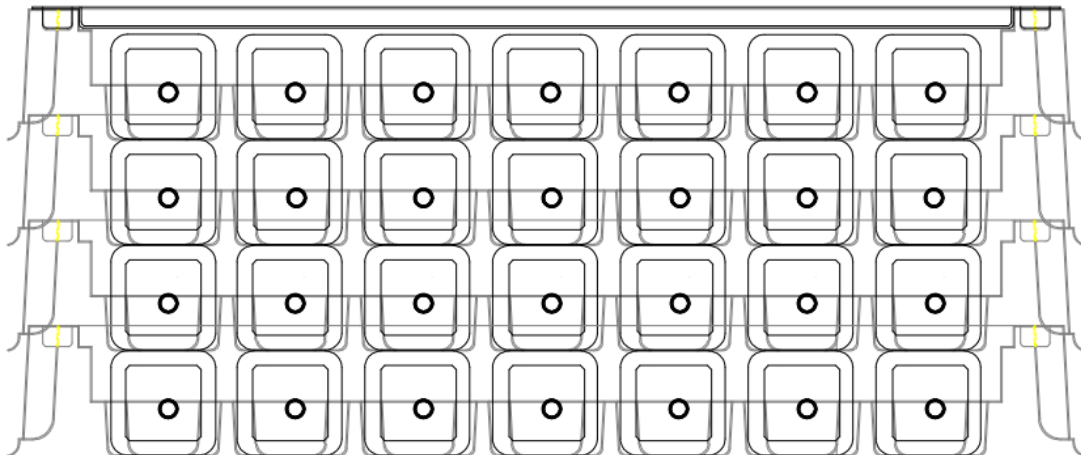
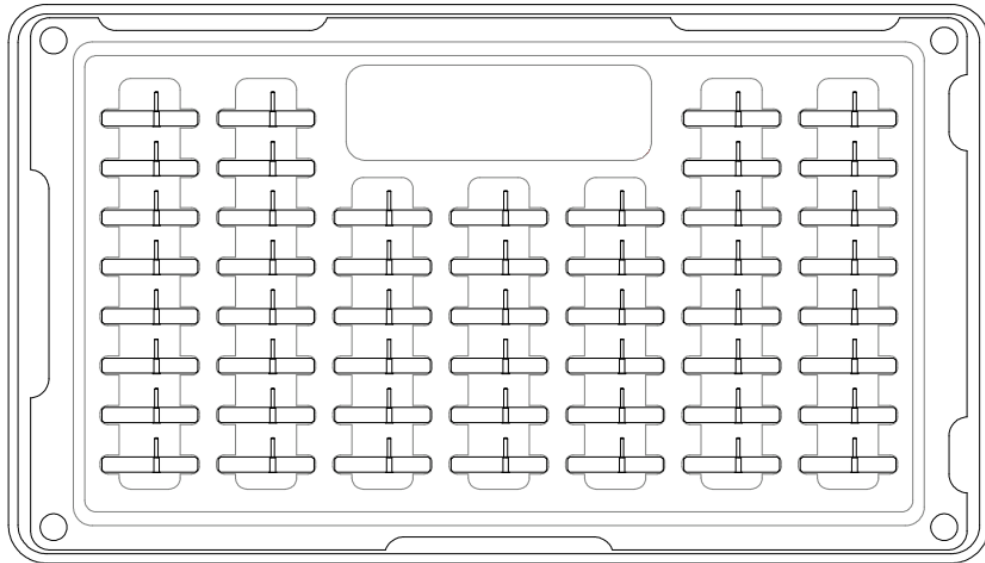
CGGBP.25.4.A.02 Patch on 70\*70mm Ground Plane

## 7. PCB Footprint Recommendation



## 8. Packaging

### 8.1. Inner Tray

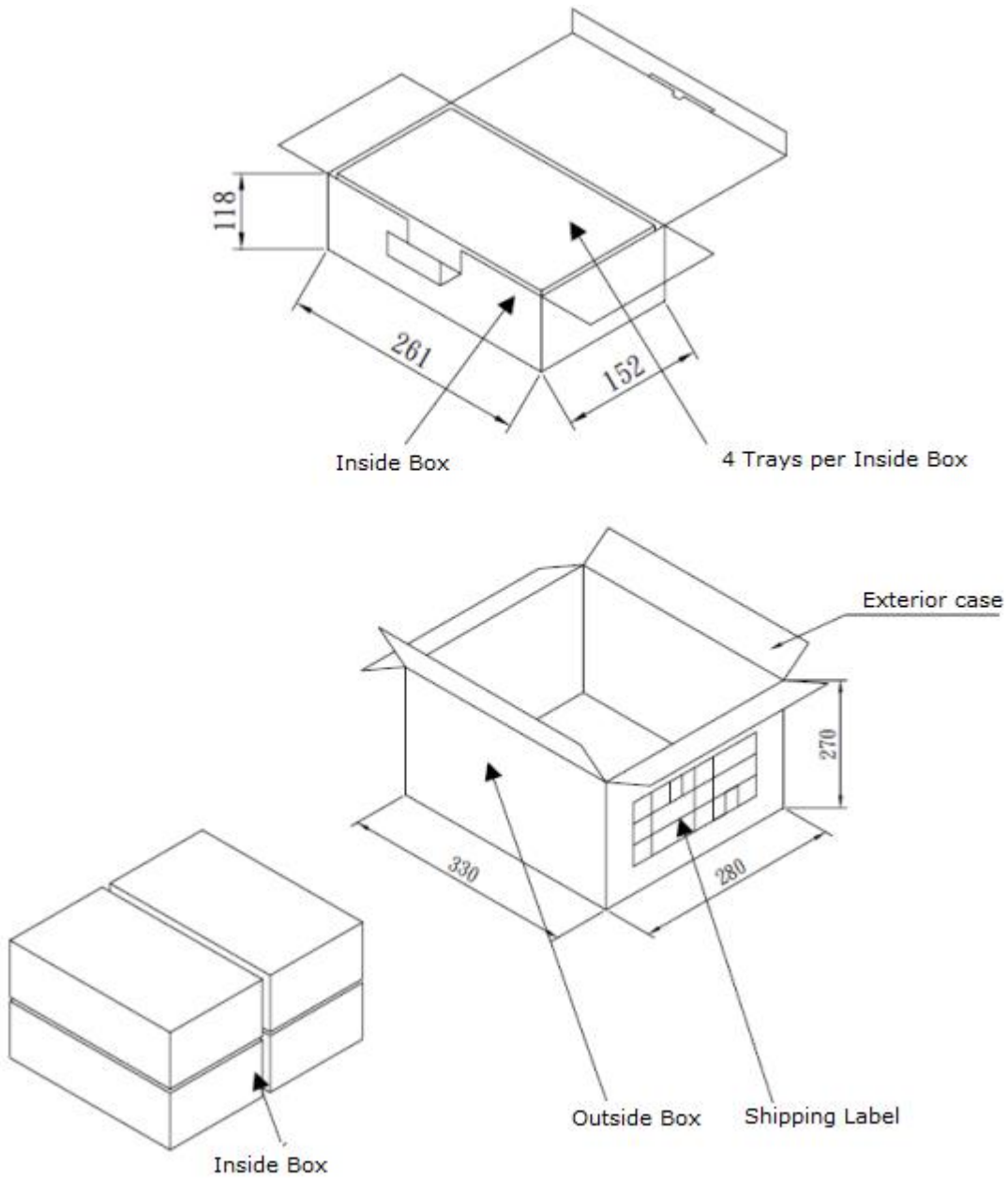


50 pieces per tray

4 Trays per Inside Box = 200

4 Inside Boxes per Outer Carton -Outer Carton contains 800 pieces

## 8.2. Carton



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