

## SPECIFICATION

Part No. : **CGGBP.18.4.A.02**

Product Name : 18mm\*18mm\*4mm

GPS/GLONASS/GALILEO/BEIDOU

Embedded Patch Antenna

BEIDOU 1561MHz / GPS-GALILEO 1575MHz /

GLONASS 1602MHz

Feature : Dielectric Ceramic

Pin Mount

RoHS Compliant



## 1. Introduction

This 18mm\*18mm square ceramic GPS/GLONASS/GALILEO/BEIDOU patch antenna's wide band of operation leads to excellent gain and radiation pattern stability on all three GNSS system bands.

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.

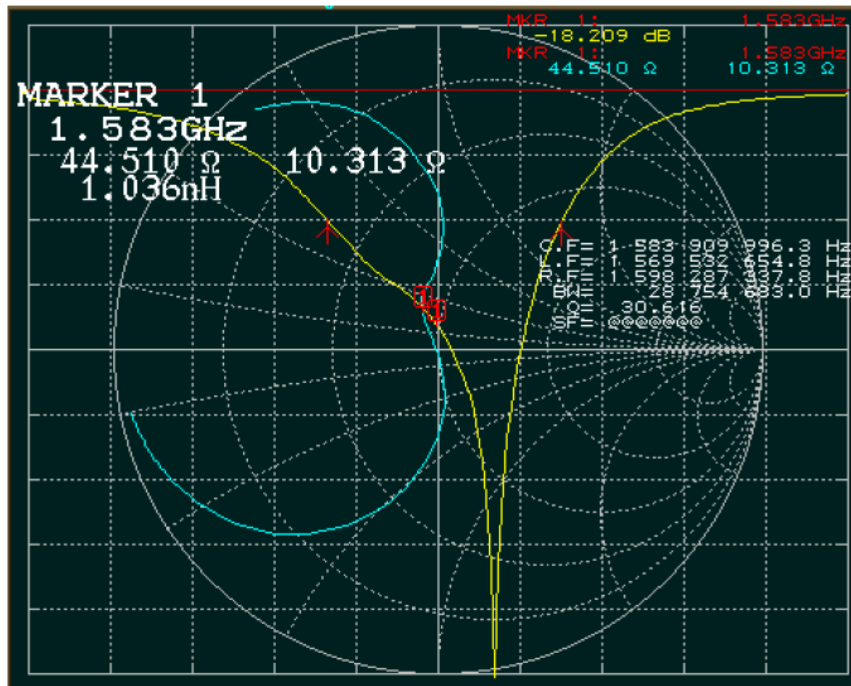
## 2. Specification

ELECTRICAL	
Frequency	BeiDou: 1561.098MHz $\pm$ 2.046MHz GPS: 1575.42 $\pm$ 1.023MHz GLONASS: 1602 $\pm$ 5MHz
Centre Frequency	1583MHz $\pm$ 3MHz
VSWR	BeiDou: 2.8 max. GPS: 2.8 max. GLONASS: 1.8 max.
Bandwidth	26MHz Return Loss @ -10dB
Zenith Gain	BeiDou: +3.0dBi typ. GPS: +2.0dBi typ. GLONASS: +4.0dBi typ.
Impedance	50 $\Omega$
MECHANICAL	
Dimensions	18*18*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

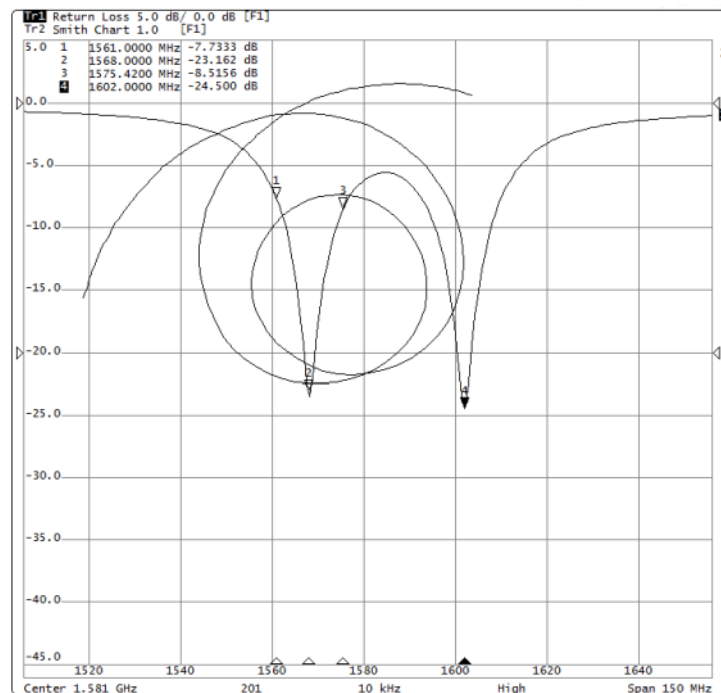
\*measured on a 70\*70mm Ground Plane

## 3. Antenna Characteristics

### 3.1. S11 Impedance

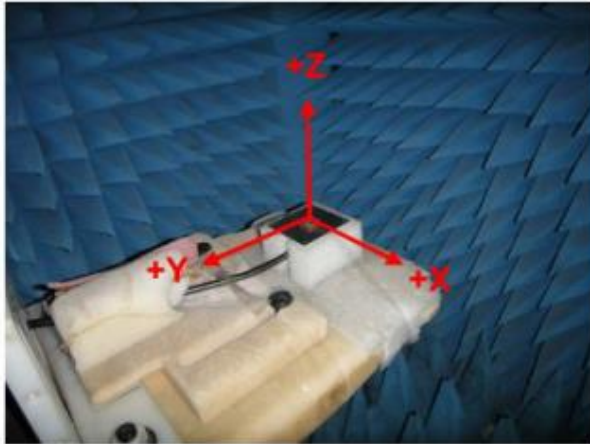


### 3.2. Return Loss

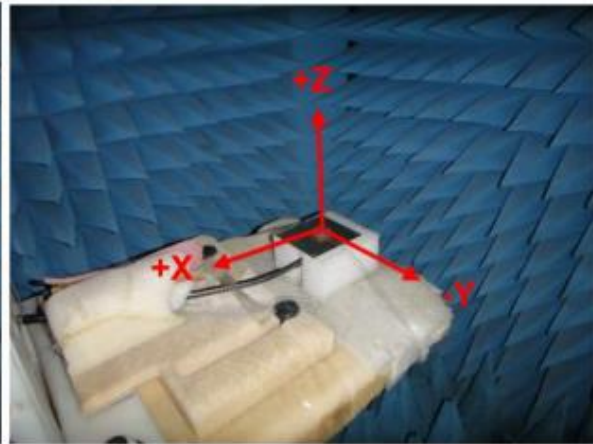


## 4. 2D Antenna Radiation

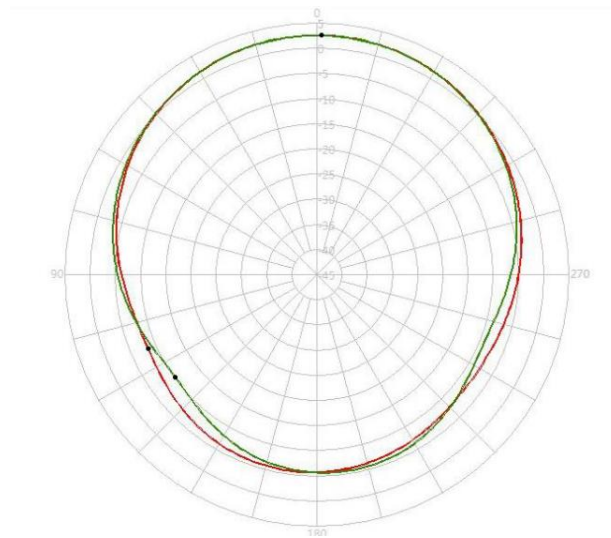
XZ-Plane



YZ-Plane

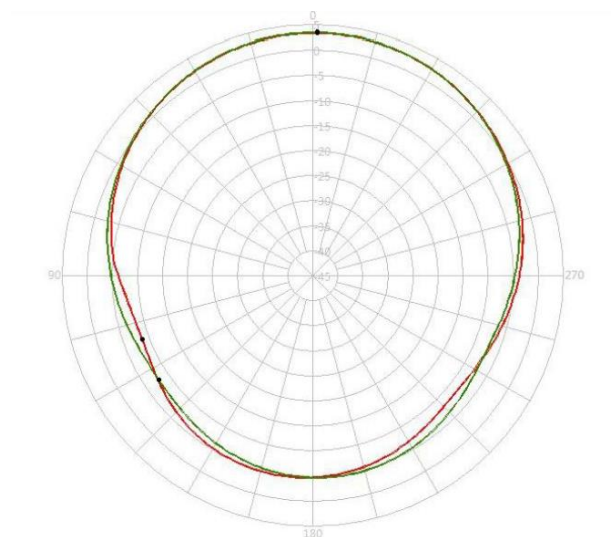


#### 4.1. 1575.42MHz Free Space



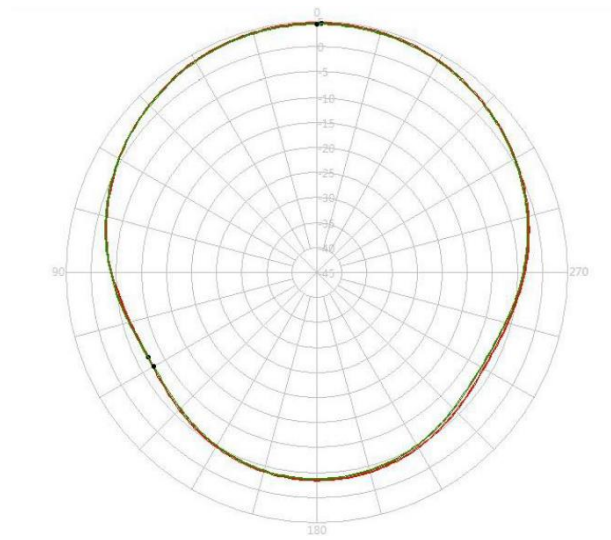
	Peak Gain (dBi)	Average Gain (dBi)
XZ Plane	2.57	-1.97
YZ Plane	2.56	-2.07

#### 4.2. 1561MHz Free Space



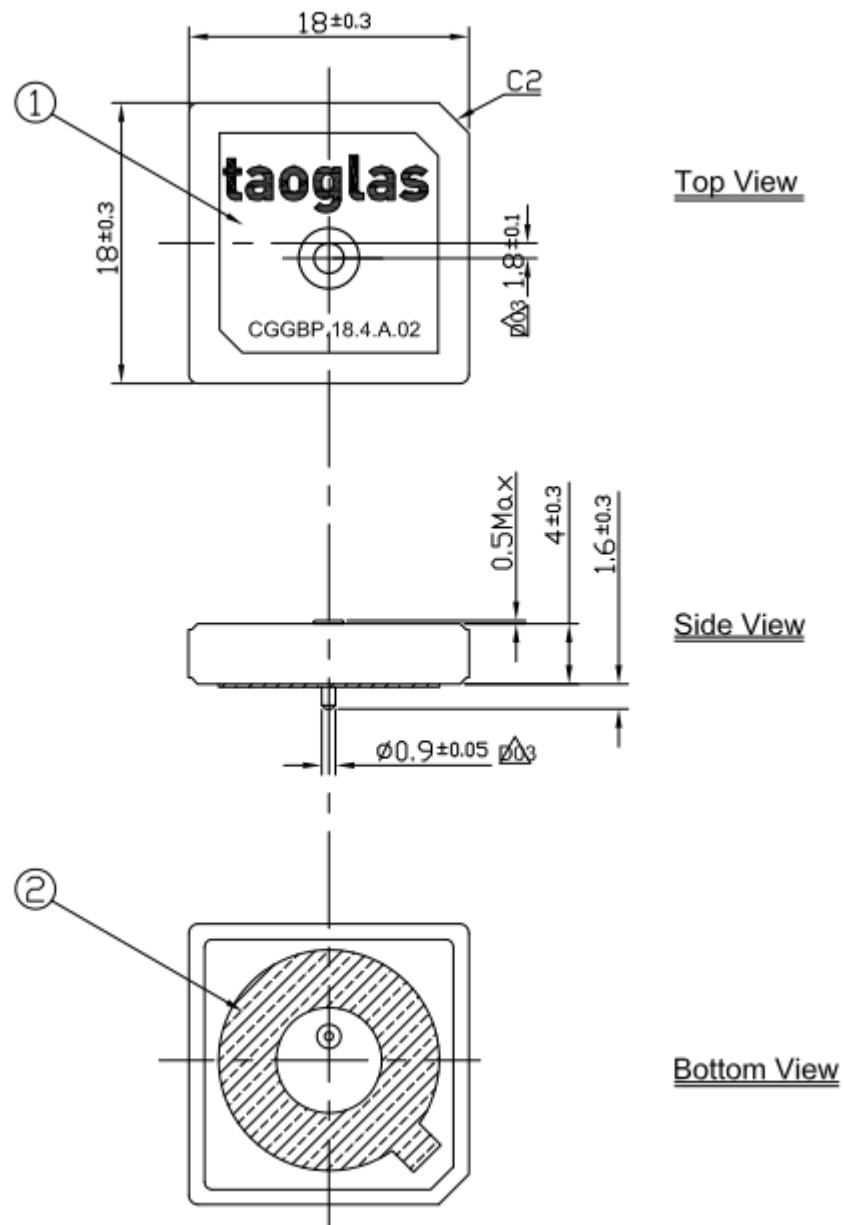
	Peak Gain (dBi)	Average Gain (dBi)
XZ Plane	3.32	-1.18
YZ Plane	3.45	-1.11

### 4.3. 1602MHz Free Space



	Peak Gain (dBi)	Average Gain (dBi)
XZ Plane	4.72	0.08
YZ Plane	4.52	-0.08

## 5. Mechanical Drawing

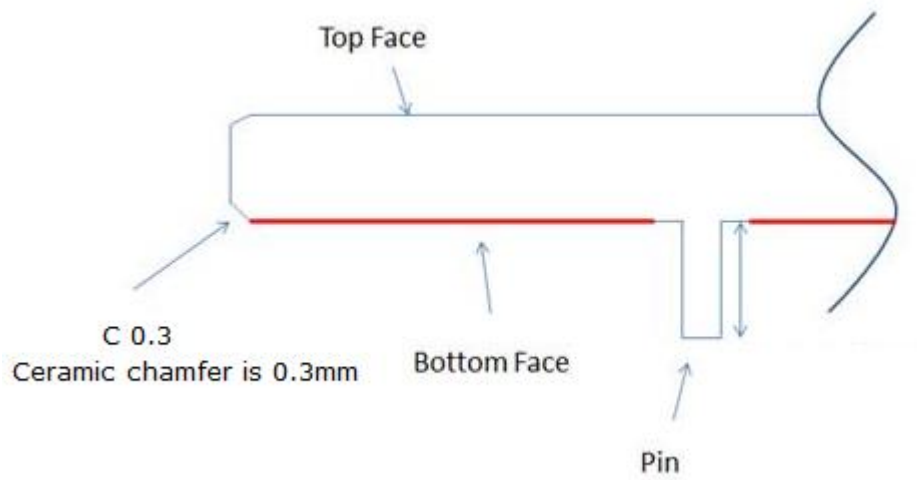


### NOTES:

1. Double sided adhesive area 

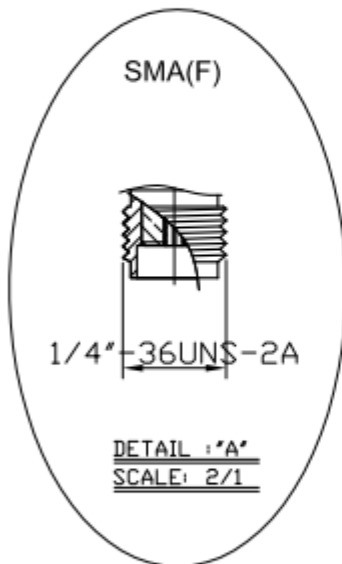


## 5.1. Adhesive Thickness

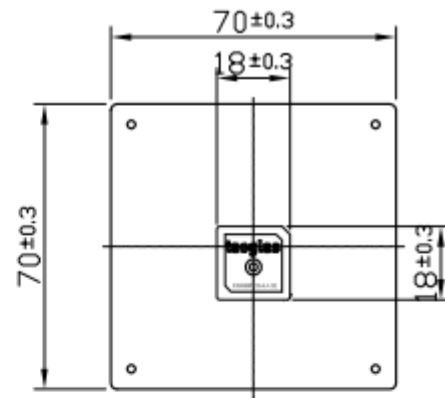


**Red Line** shows the adhesive without Liner – thickness 0.08~0.1mm

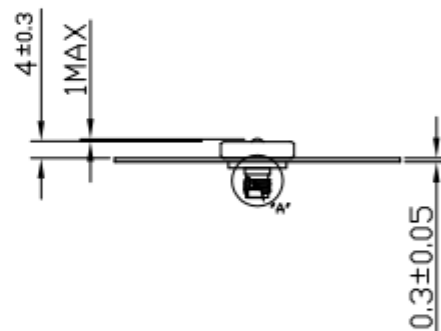
## 6. CGGBPD.18.A EVB



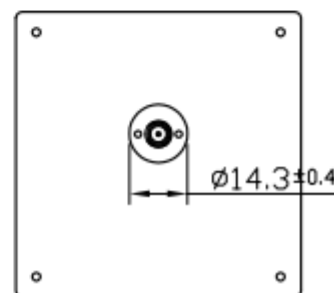
Top View



Side View



Bottom View

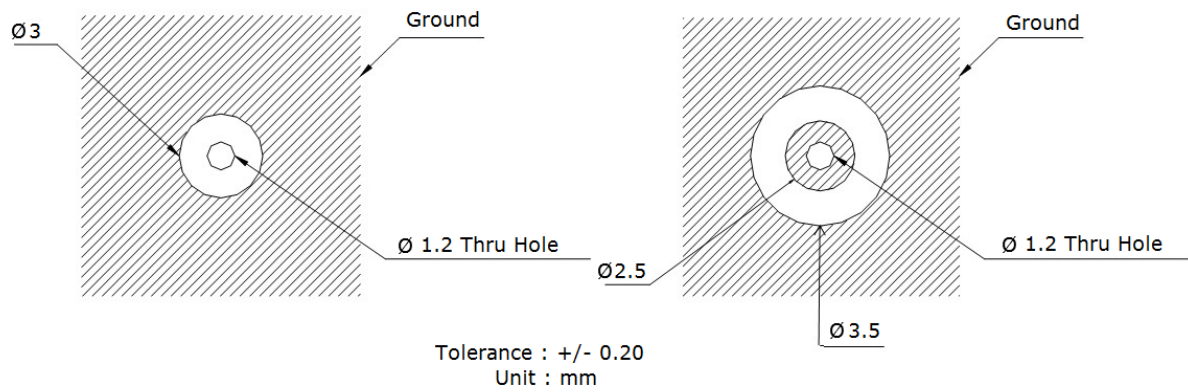


	Name	Material	Finish	QTY
1	Patch(18x18x4mm)	Ceramic	Clear	1
2	Ground-Plane(70x70x0.3mm)	Brass	Silver	1
3	SMA(F) ST	Brass	Gold	1



CGGBP.18.4.A.02 Patch on 70\*70mm Ground Plane

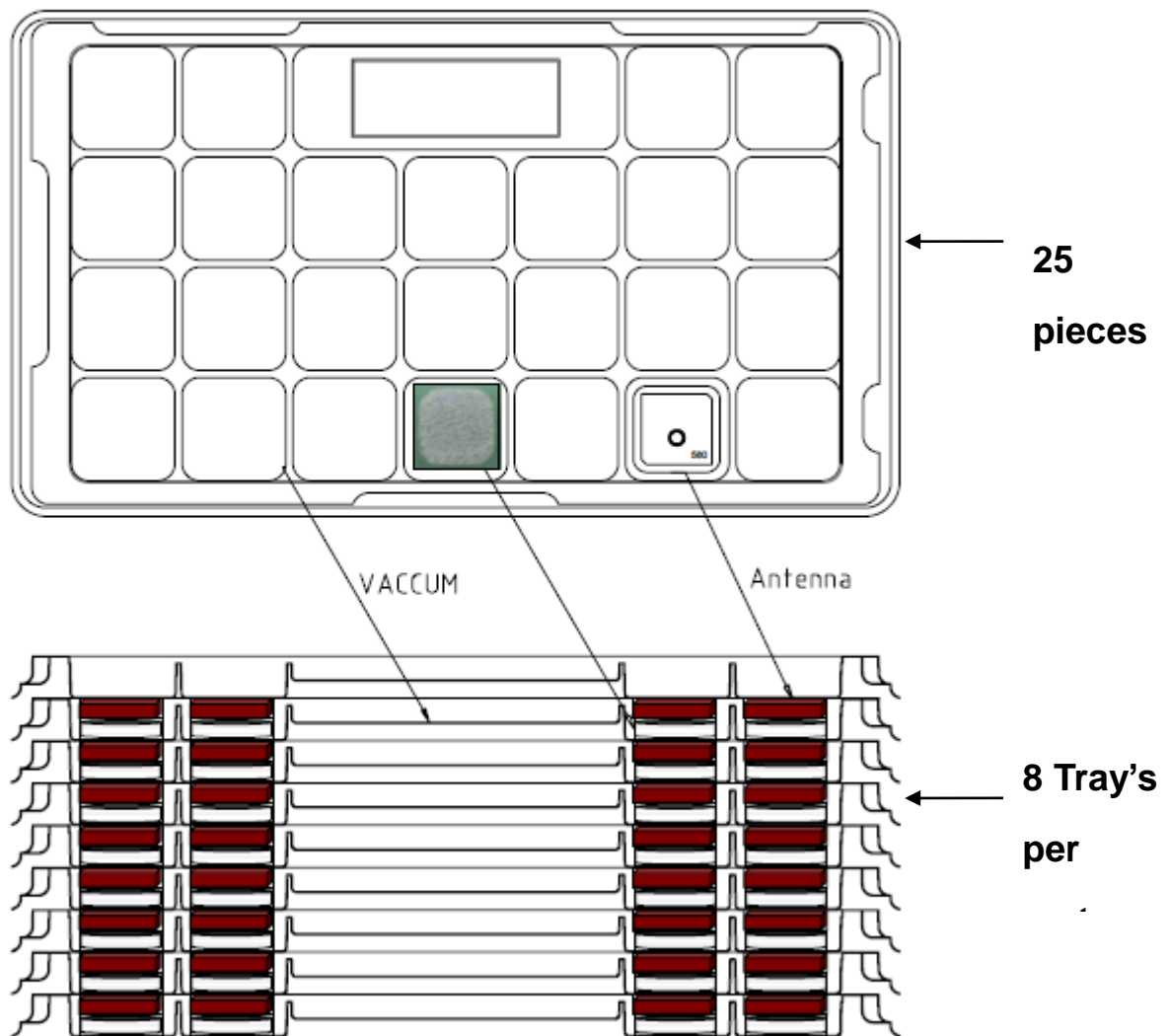
## 7. PCB Footprint Recommendation



## 8. Packaging

### 8.1. Inner Tray

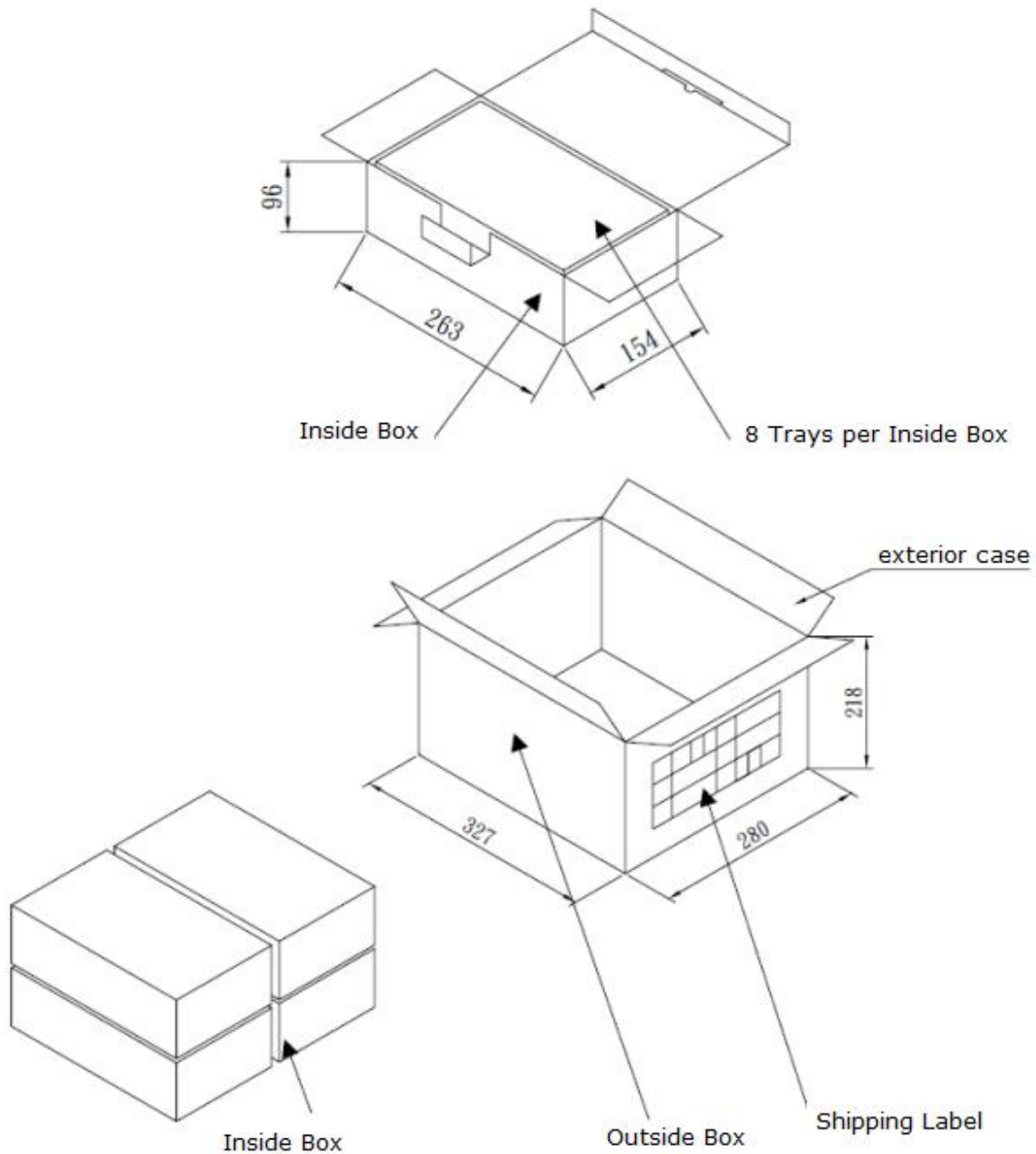
Per Tray: 25 pieces



## 8.2. Carton

Per Carton(Inside Box) – 8 Trays = 200 pieces

Outer Carton (Outside Box)– 4 Cartons = 800 pieces



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