

## 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.

## Specification

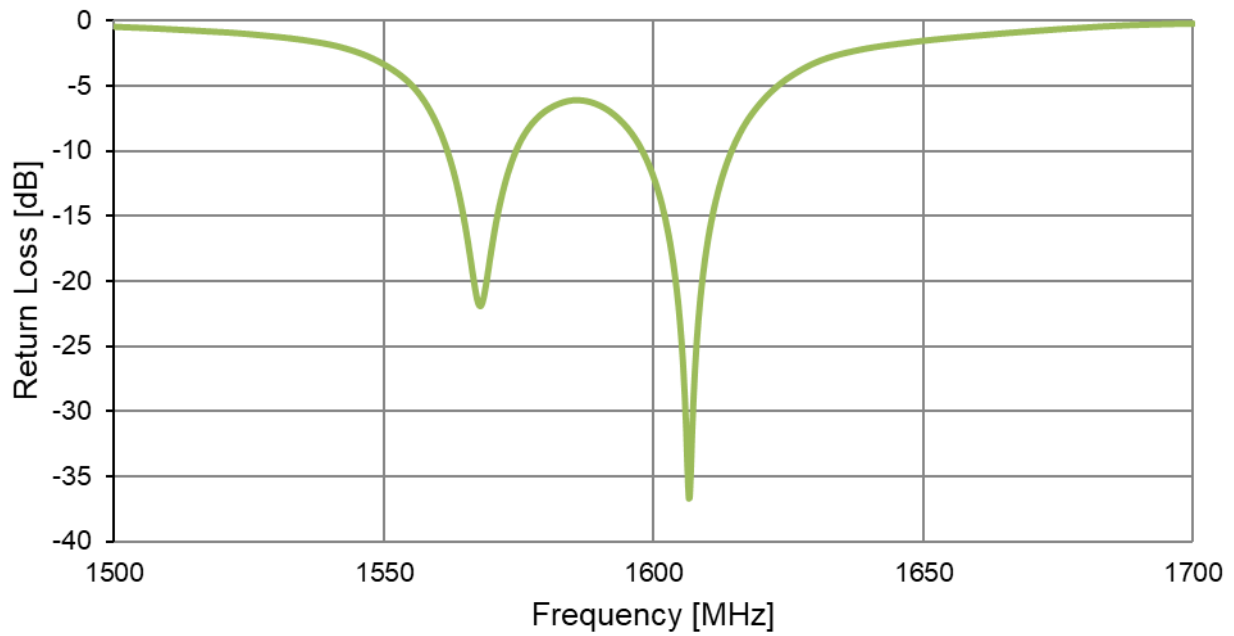
ELECTRICAL			
	BeiDou	GPS/Galileo	GLONASS
Frequency	1561.098MHz ± 2.046MHz	1575.42 ± 1.023MHz	1602 ± 5MHz
VSWR	2.52	2.2	2.07
Efficiency	82.15	85.45	79.76
Peak Gain	4.96	4.99	5.48
Average Gain	-0.854	-0.683	-0.377
Centre Frequency	1582MHz ± 3MHz		
Impedance	50 Ω		
MECHANICAL			
Dimensions	25 x 25 x 4mm		
Material	Ceramic		
Pin Diameter	0.9mm		
Pin Length	2.4mm		
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

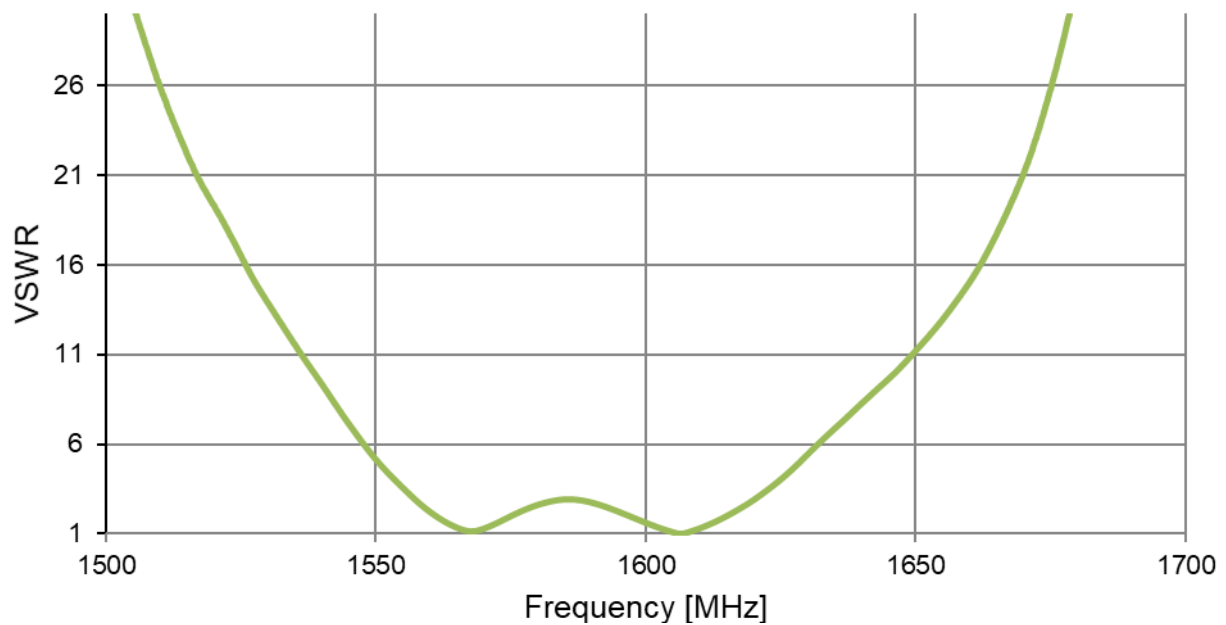
### 3.1. Test Setup



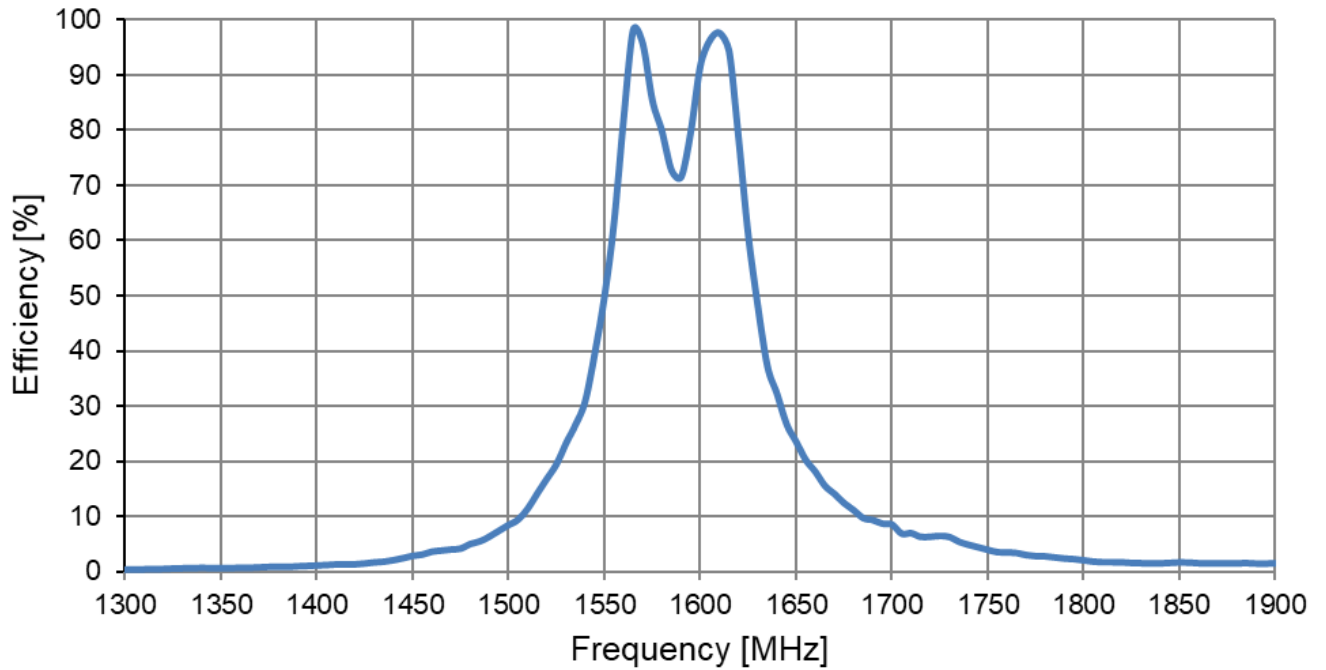
### 3.2. Return Loss



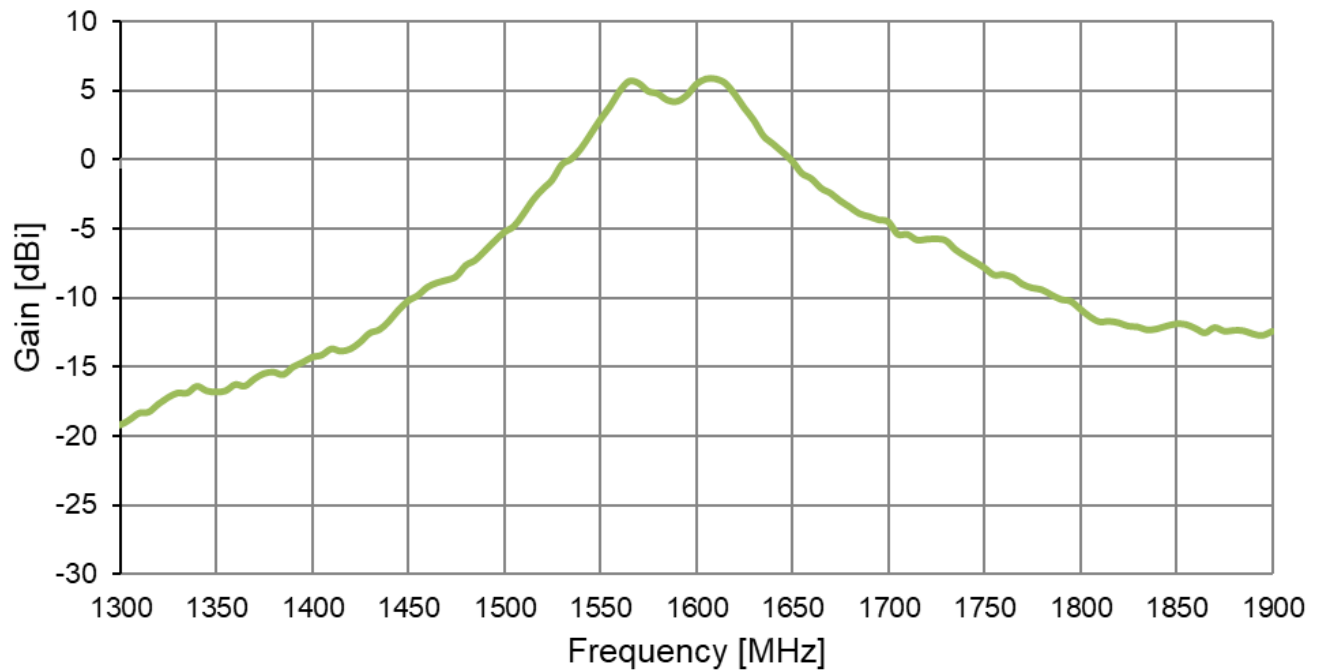
### 3.3. VSWR



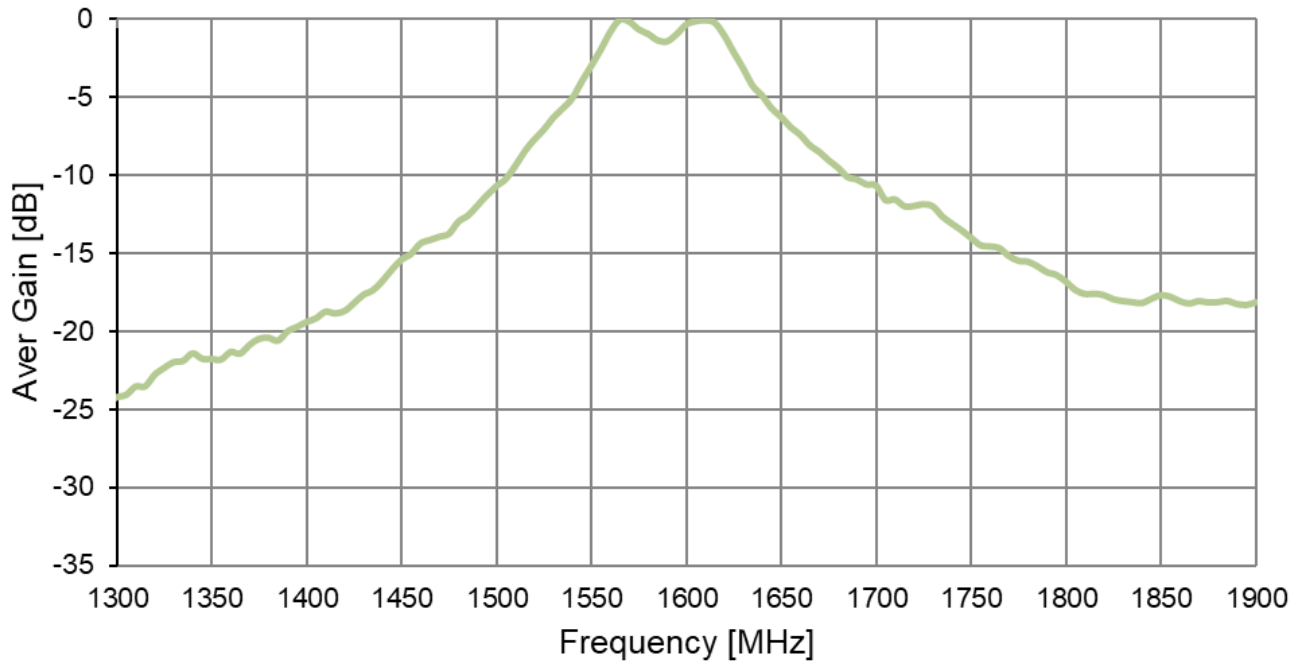
### 3.4. Efficiency



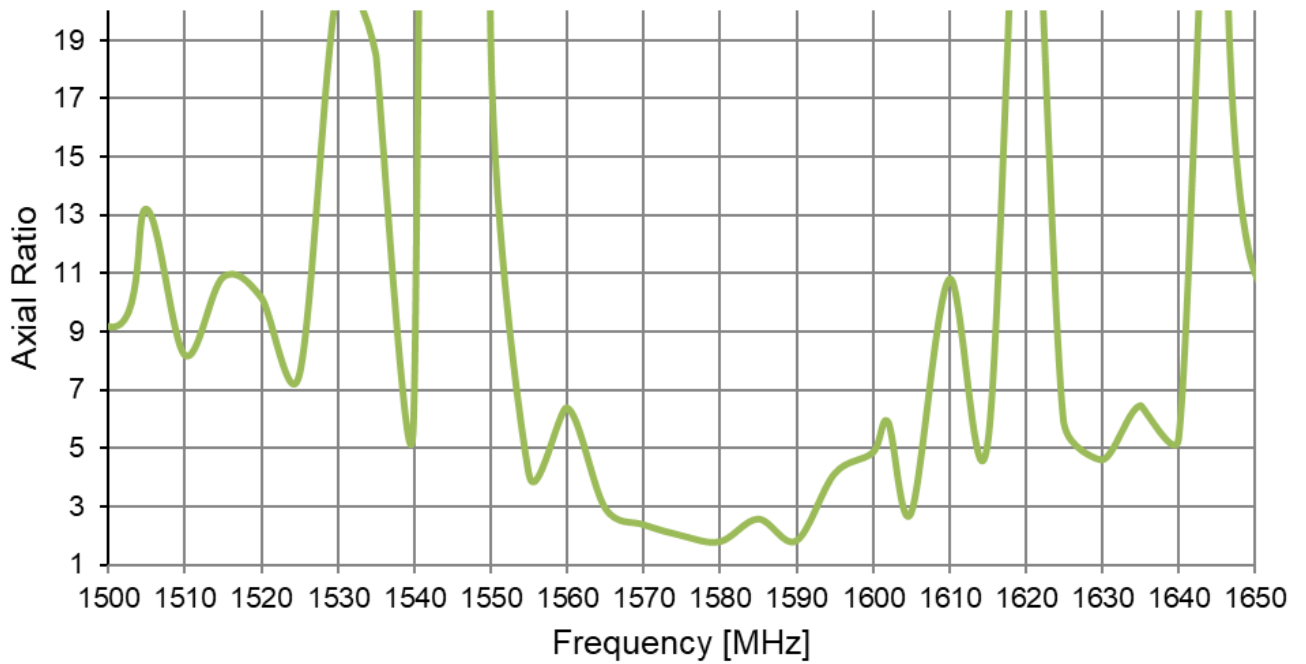
### 3.5. Peak Gain



### 3.6. Average Gain

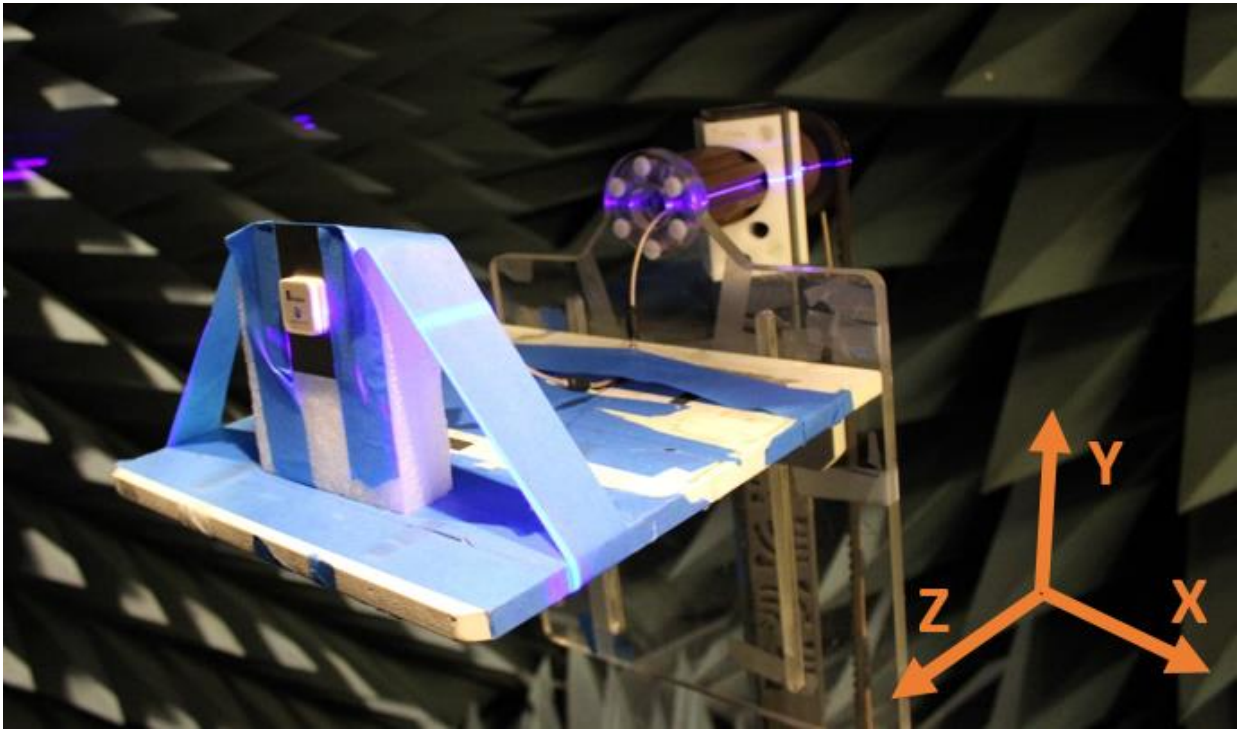


### 3.7. Axial Ratio



## 4. 2D Antenna Radiation

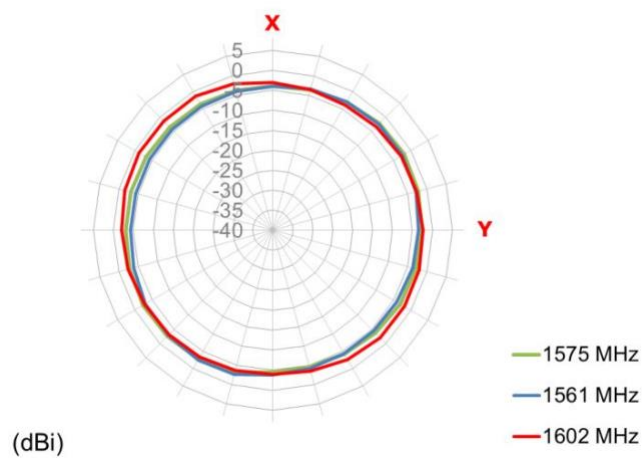
### 4.1. Test Setup



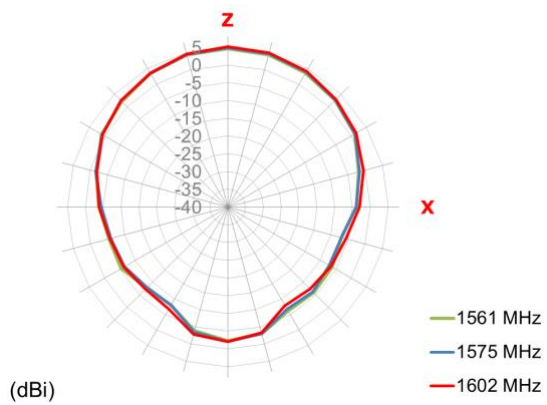


## 4.2. Radiation Patterns

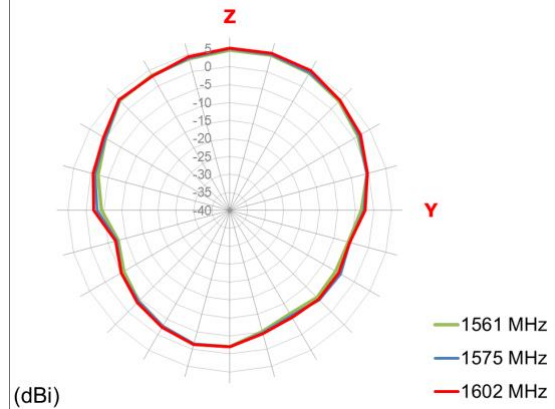
XY Plane



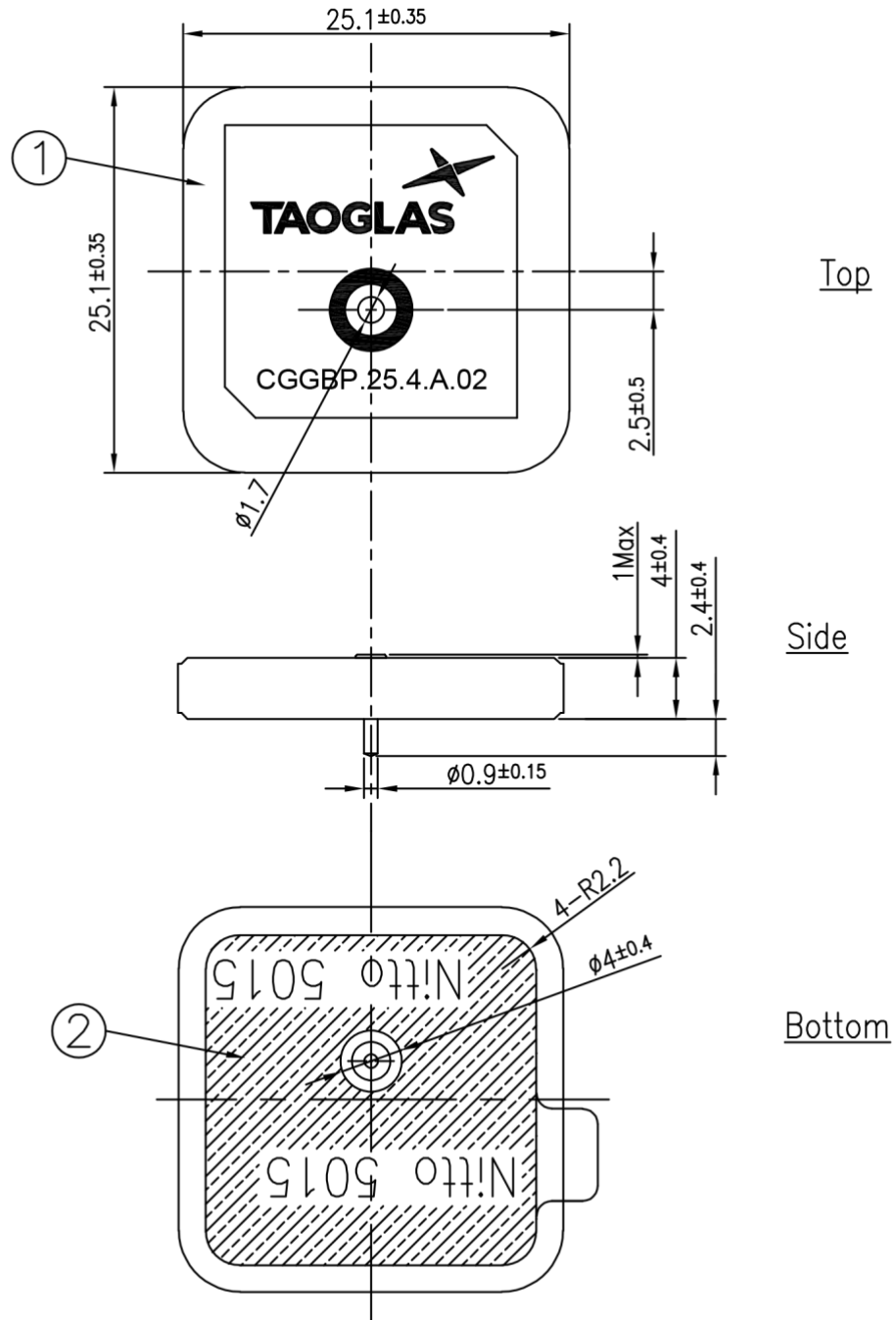
XZ Plane





YZ Plane



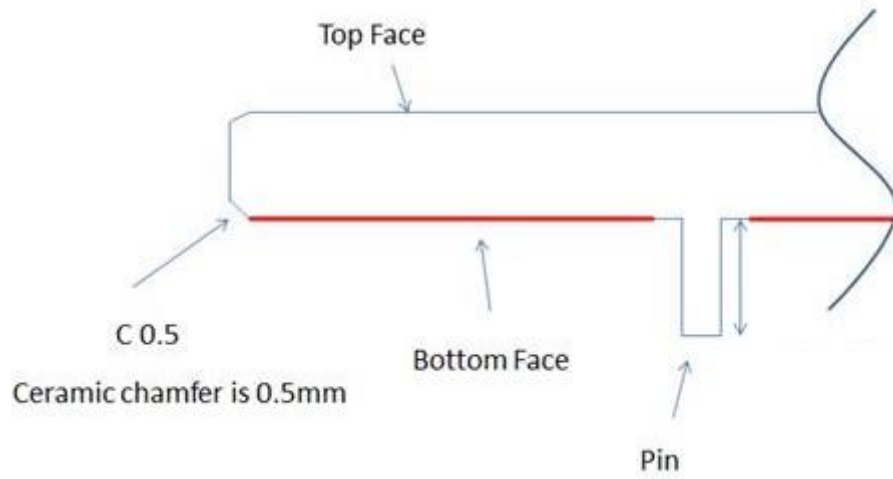
## 5. Mechanical Drawing-Patch (Unit: mm)



NOTES: 1. Double sided adhesive area.   
 2. Soldermask Area. 

	Name	P/N	Material	Finish	QTY
1	Patch 25x25x4	001513E010007A	Ceramic	Clear	1
2	Double sided Adhesive	001513E010007A	NITTO 5015	White Linter	1

## 5.1. Adhesive Thickness

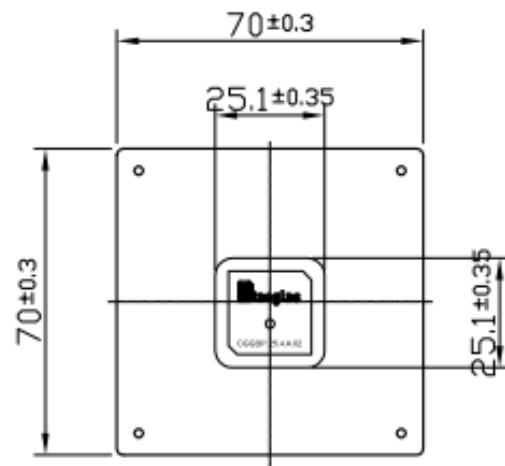


Red Line shows the adhesive without Liner – thickness 0.08~0.1mm

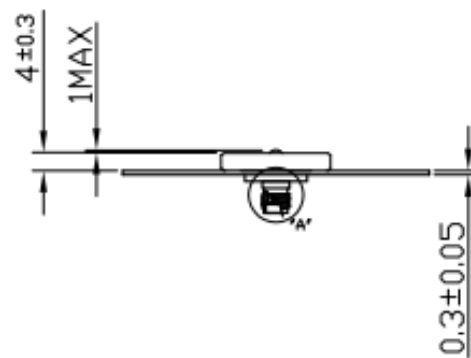
## 5.2. CGGBP.D.25.A EVB

	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

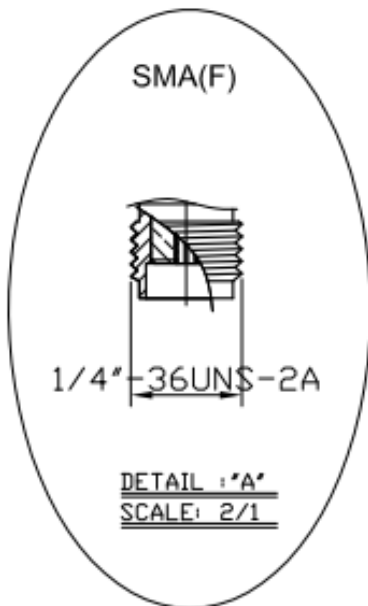
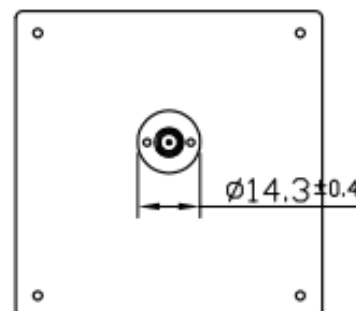
Top View



Side View



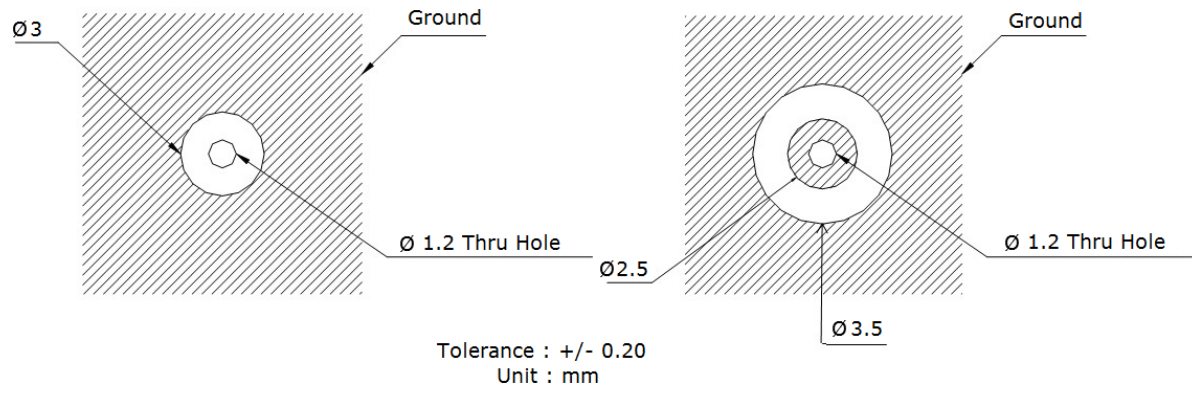
Bottom View





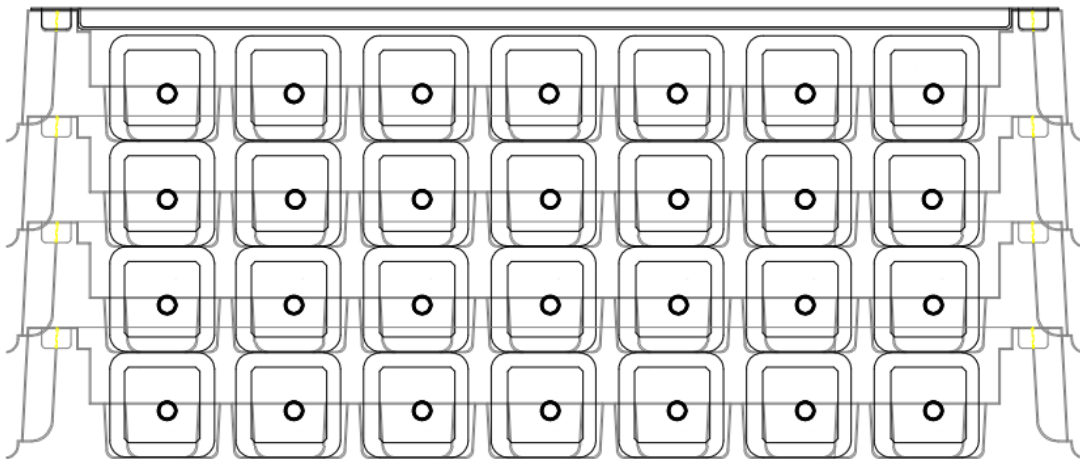
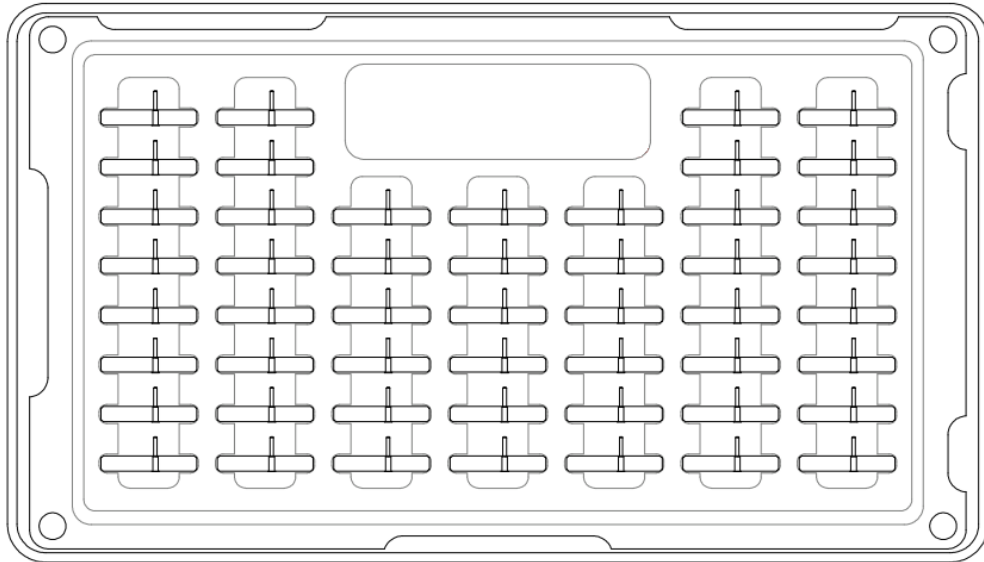
CGGBP.25.4.A.02 Patch on 70\*70mm Ground Plane

### 5.3. PCB Footprint Recommendation



## 6. Packaging

### 6.1. Inner Tray

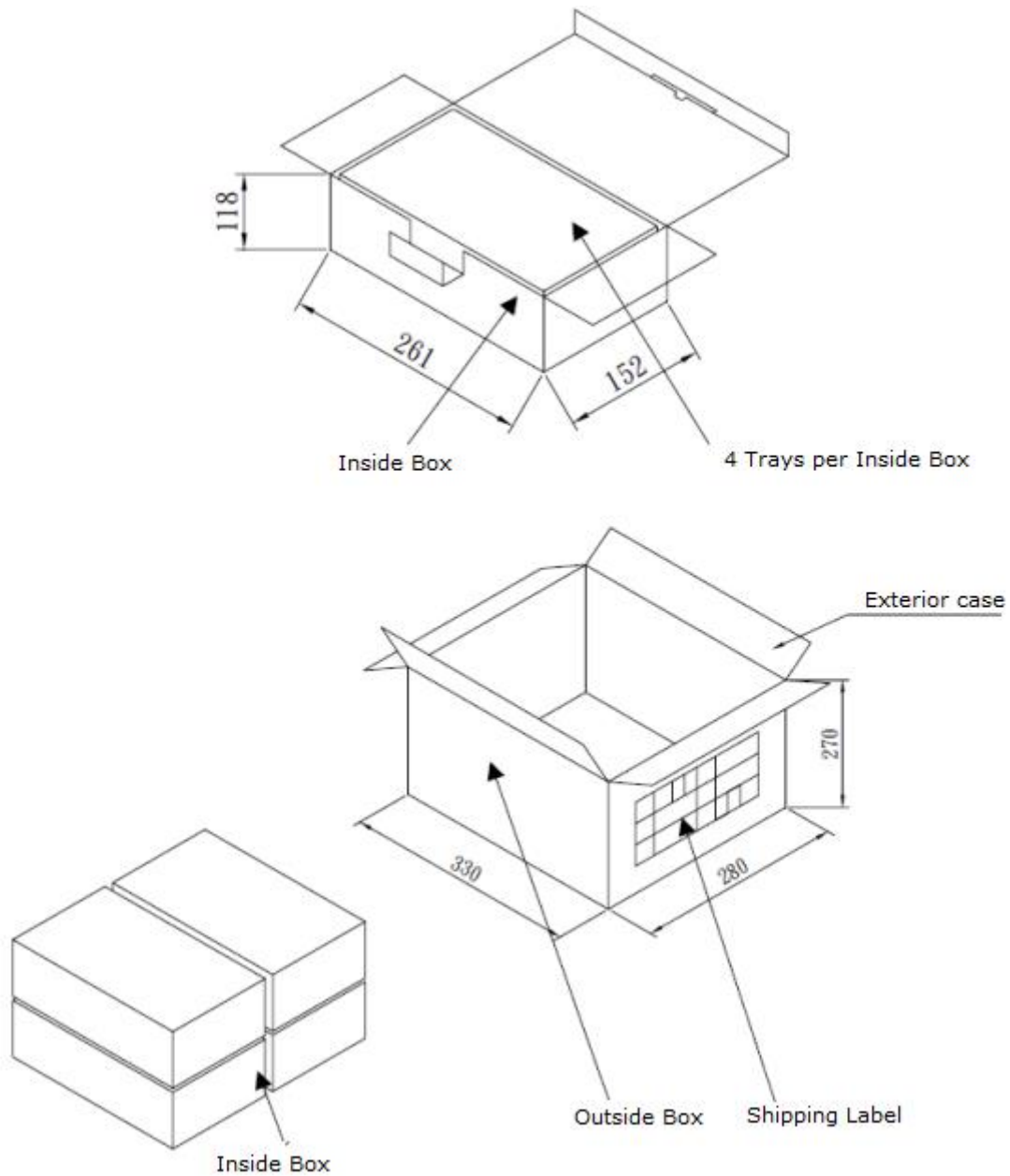


50 pieces per tray

4 Trays per Inside Box = 200

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

## 6.2. Carton



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