

## 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

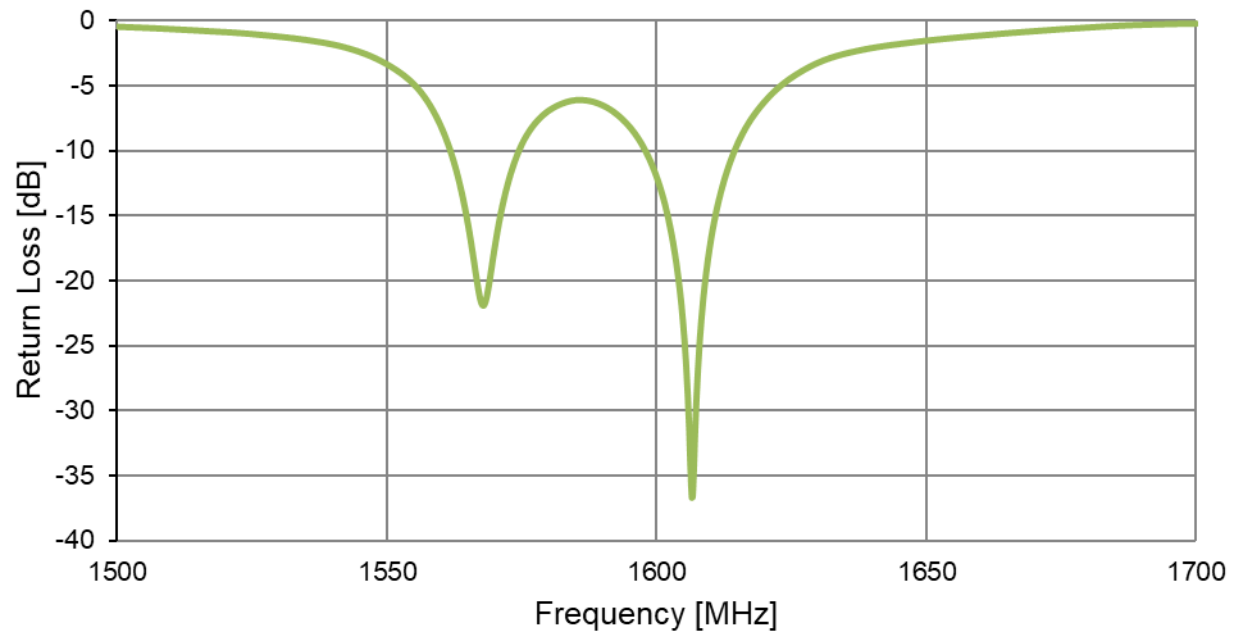
| ELECTRICAL            |                            |                    |             |
|-----------------------|----------------------------|--------------------|-------------|
|                       | BeiDou                     | GPS/GALILEO        | GLONASS     |
| Frequency             | 1561.098MHz ±<br>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            | 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

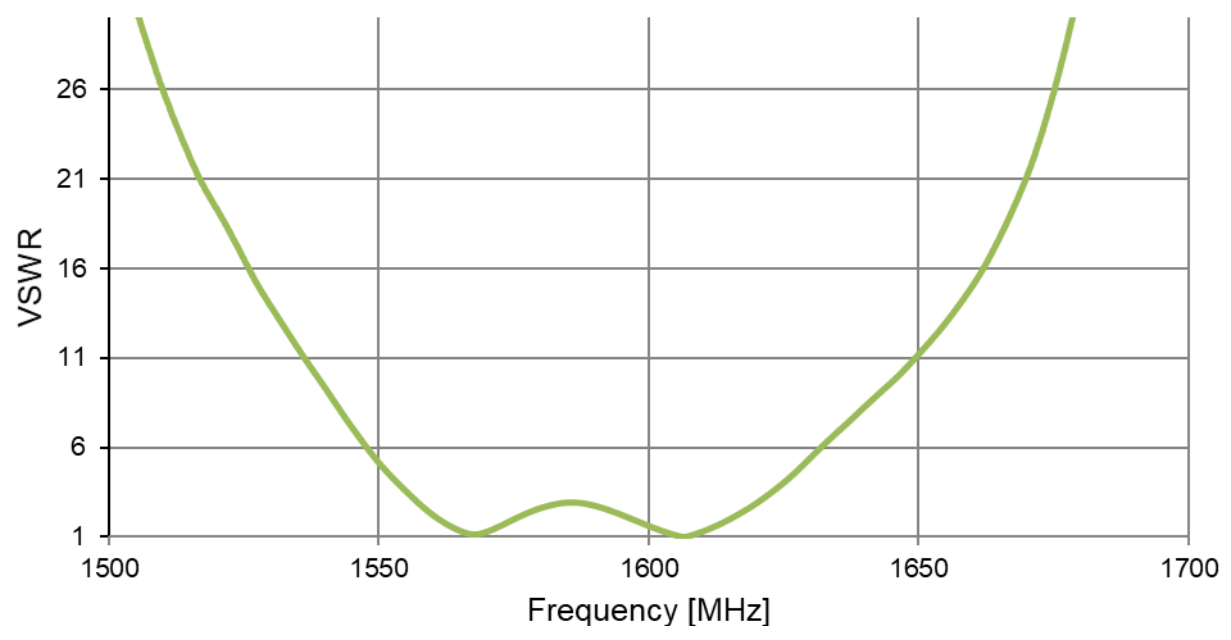
### 3.1. Test Setup



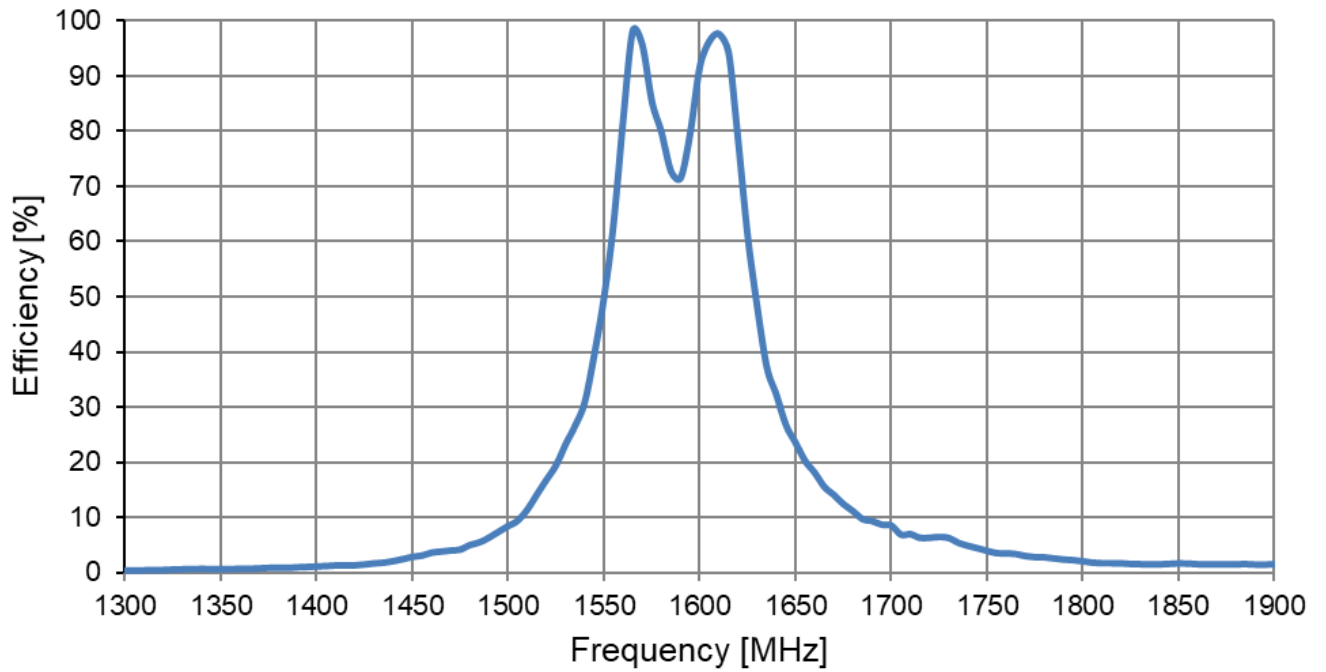
### 3.2. Return Loss



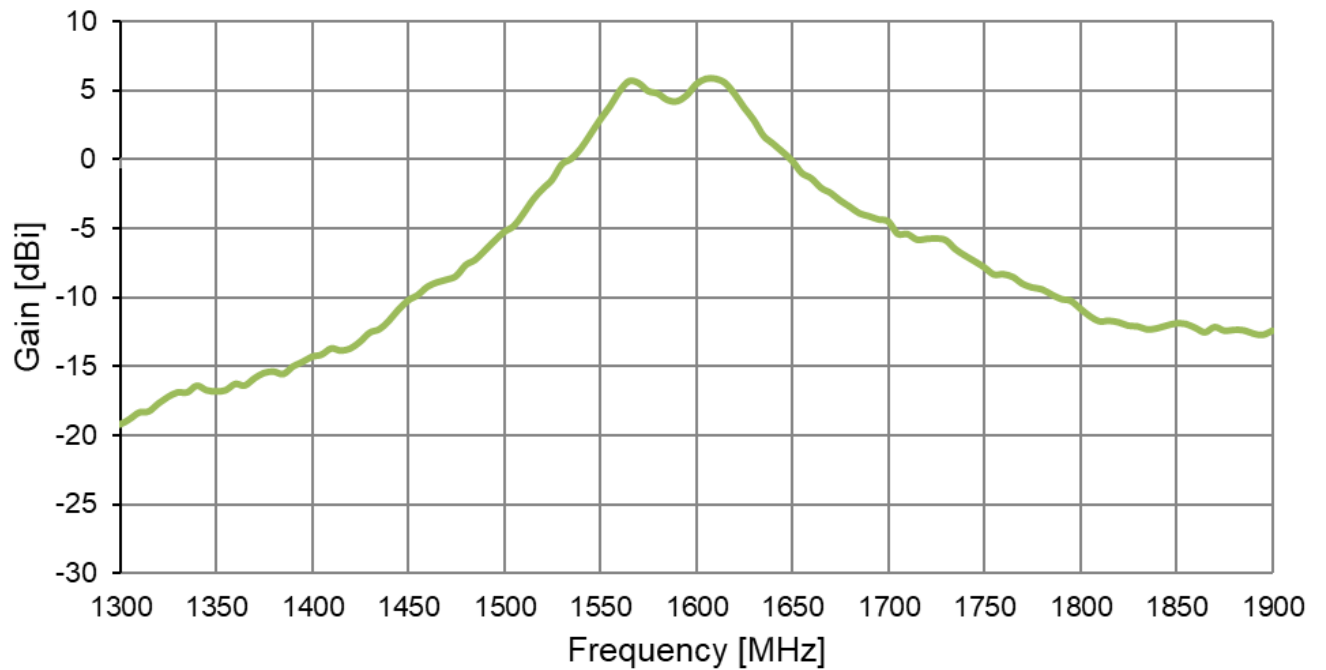
### 3.3. VSWR



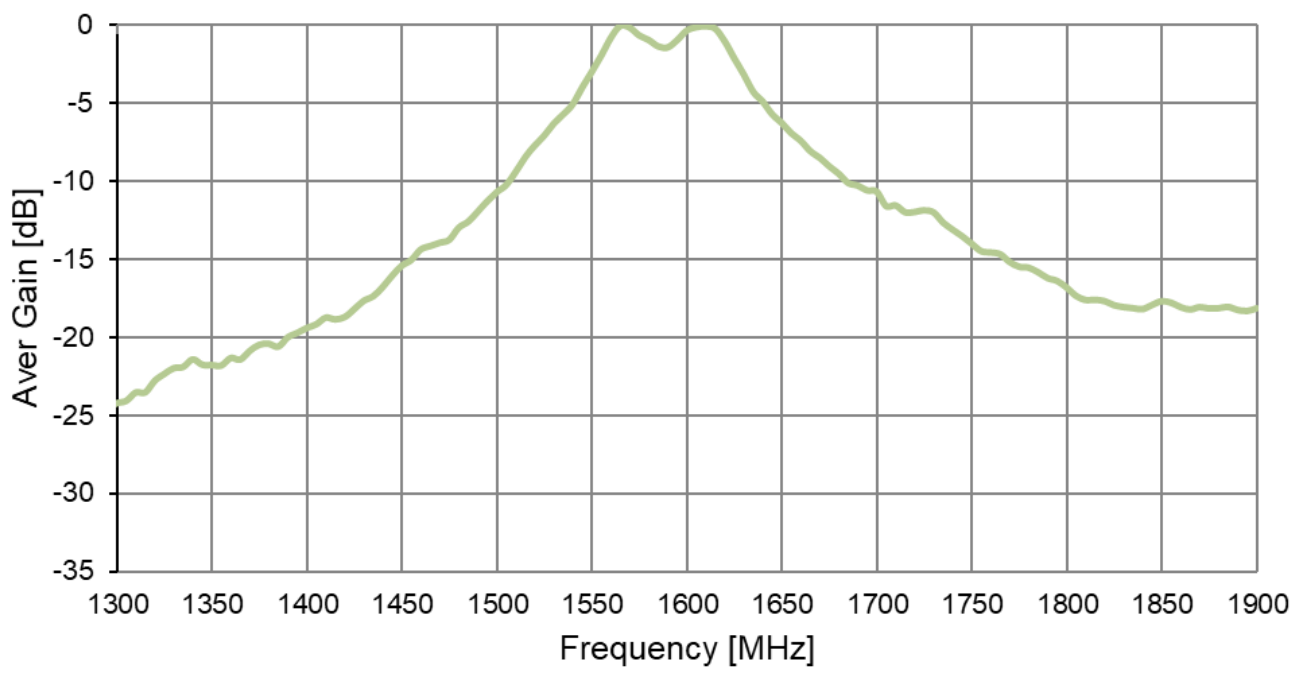
### 3.4. Efficiency



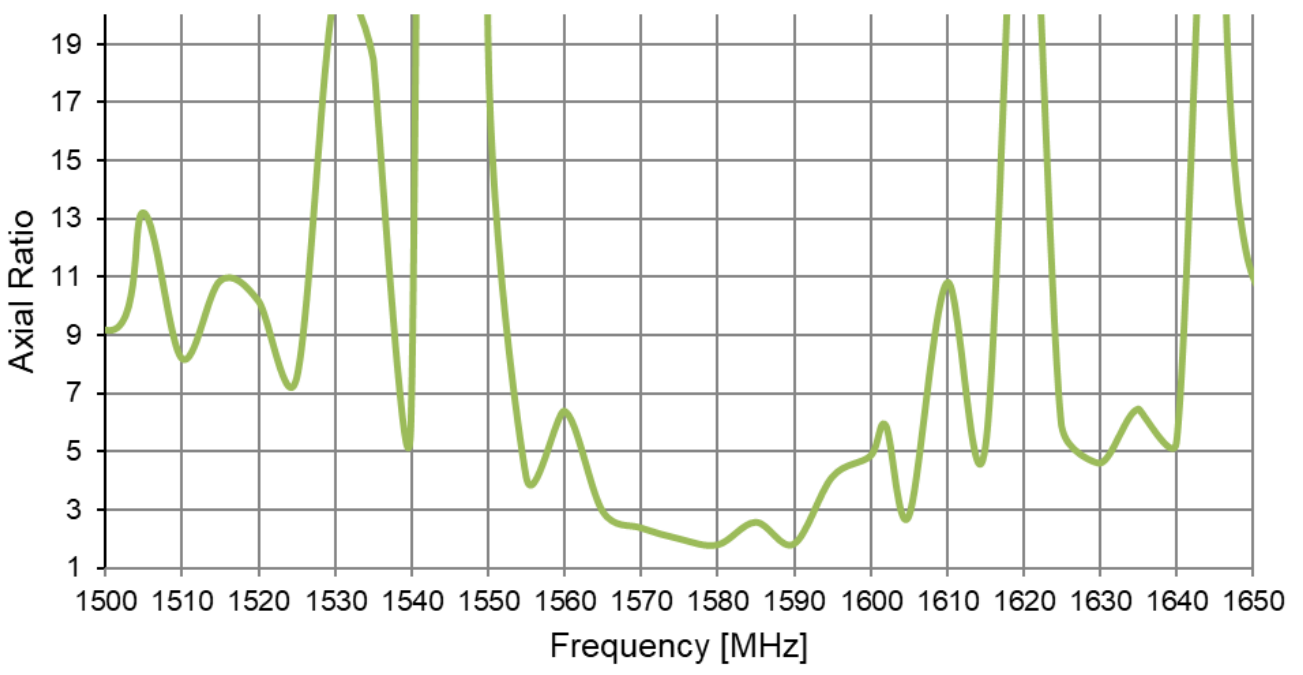
### 3.5. Peak Gain



### 3.6. Average Gain

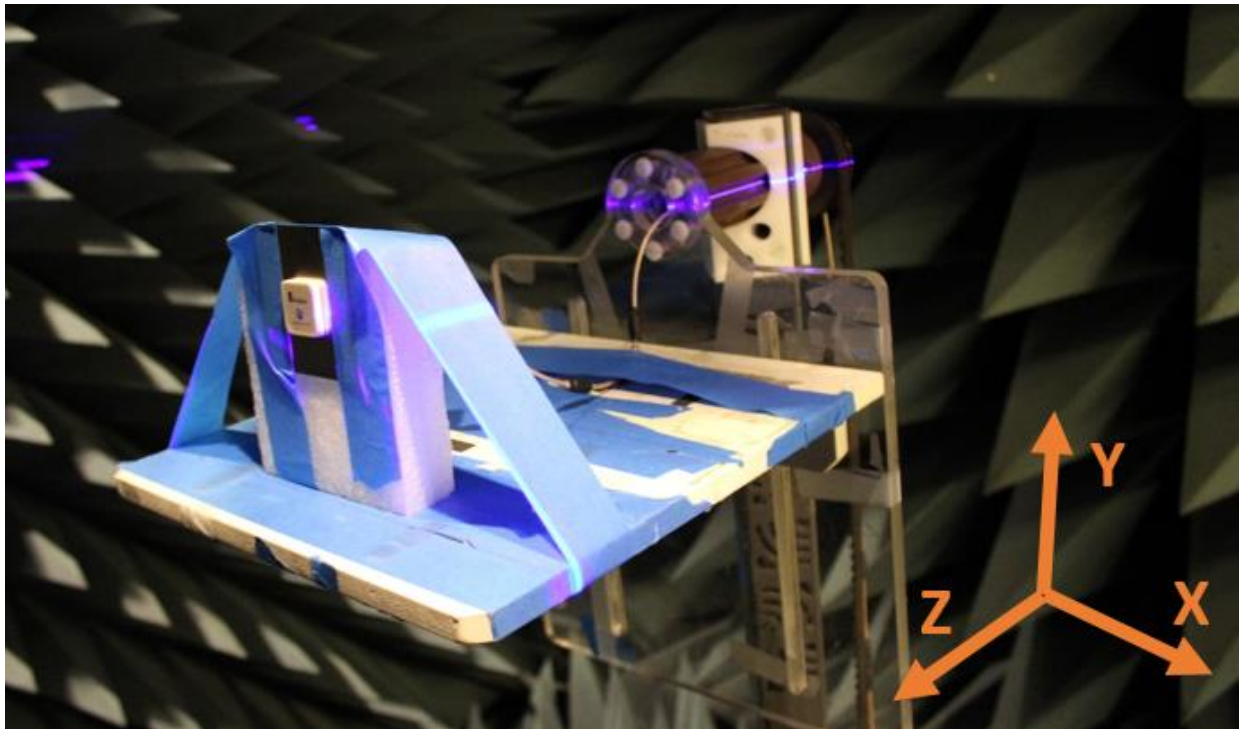


### 3.7. Axial Ratio



## 4. 2D Antenna Radiation

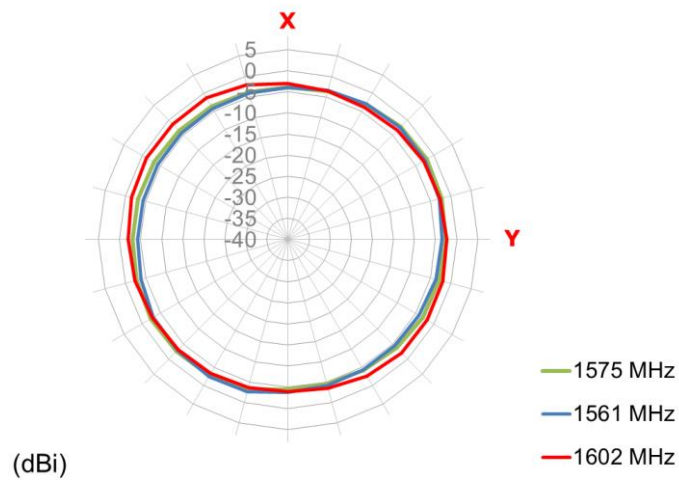
### 4.1. Test Setup



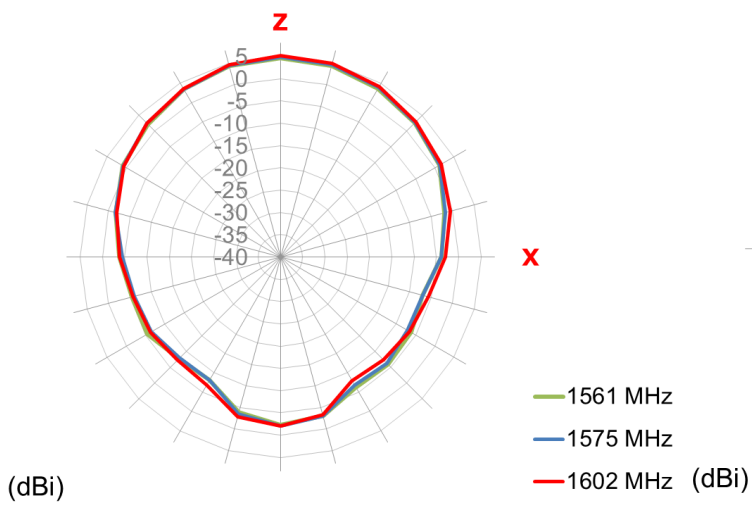


## 4.2. Radiation Patterns

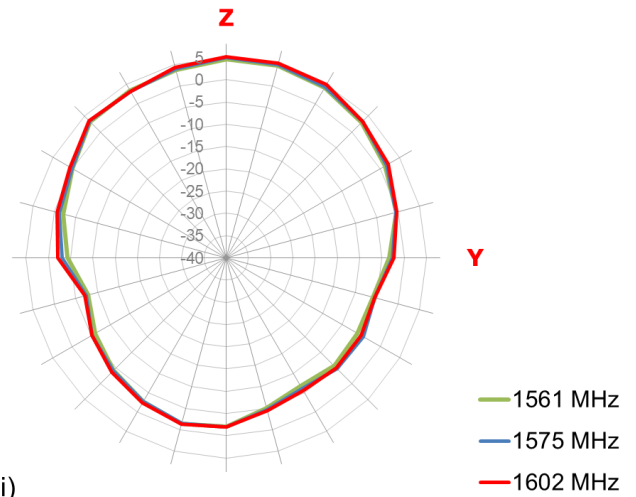
XY Plane



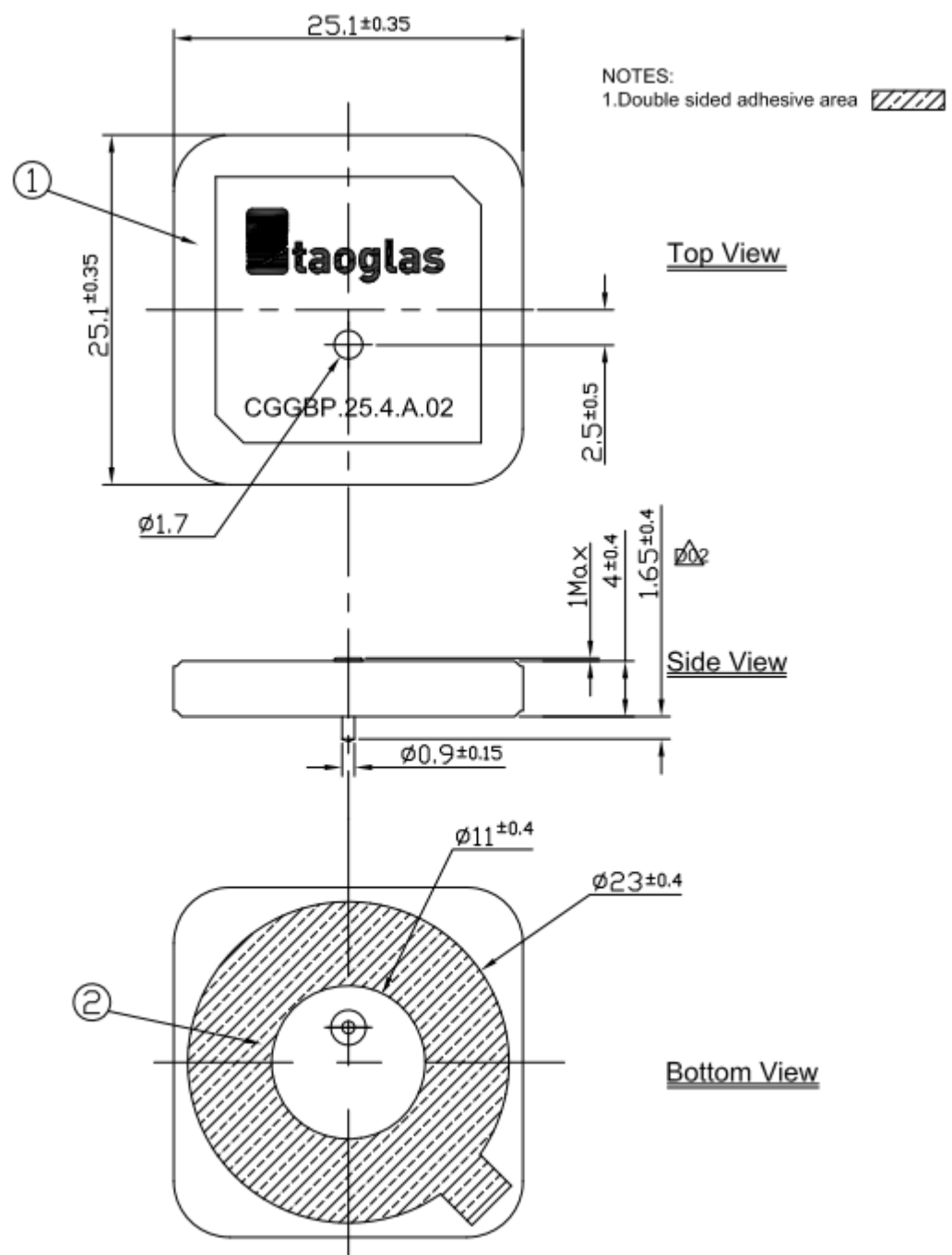
XZ Plane



YZ Plane

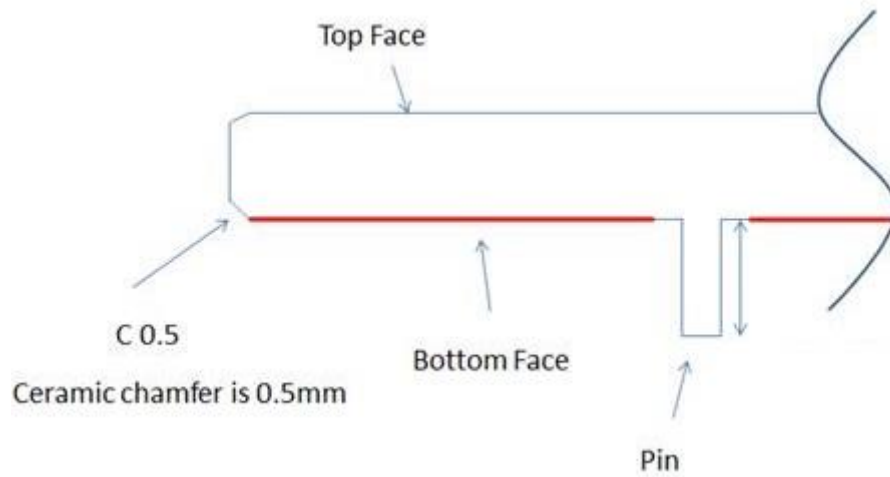


## 5. Mechanical Drawing-Patch (Unit: mm)



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

## 5.1. Adhesive Thickness

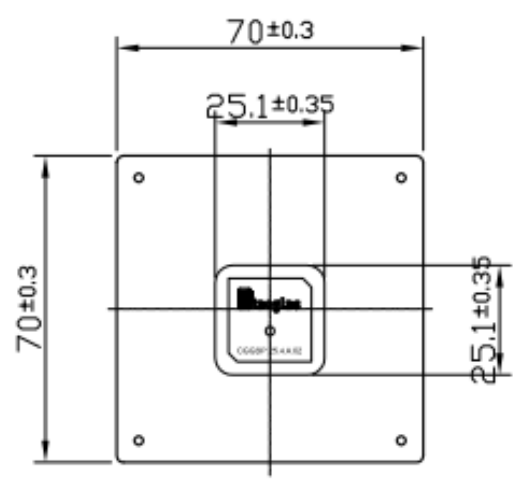


Red Line shows the adhesive without Liner – thickness 0.08~0.1mm

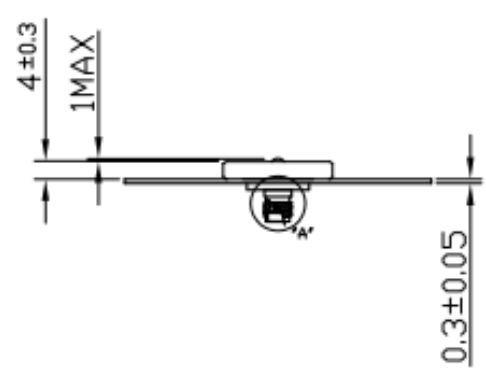
### 5.2. CGGBP.D.25.A EVB

|   | 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   |

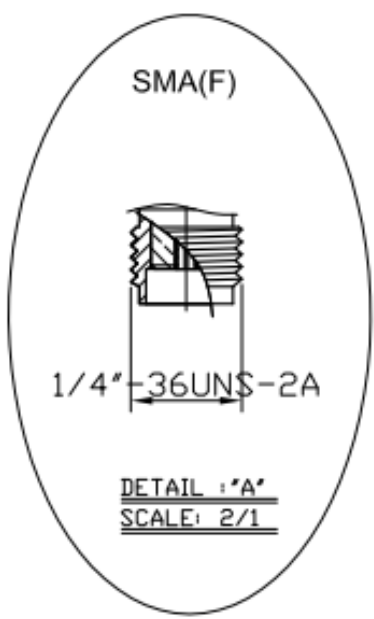
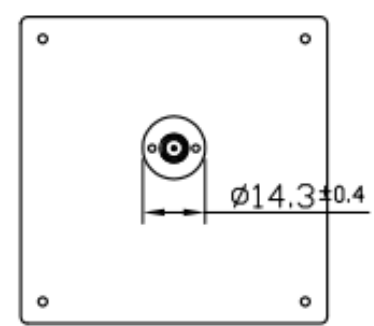
Top View



Side View



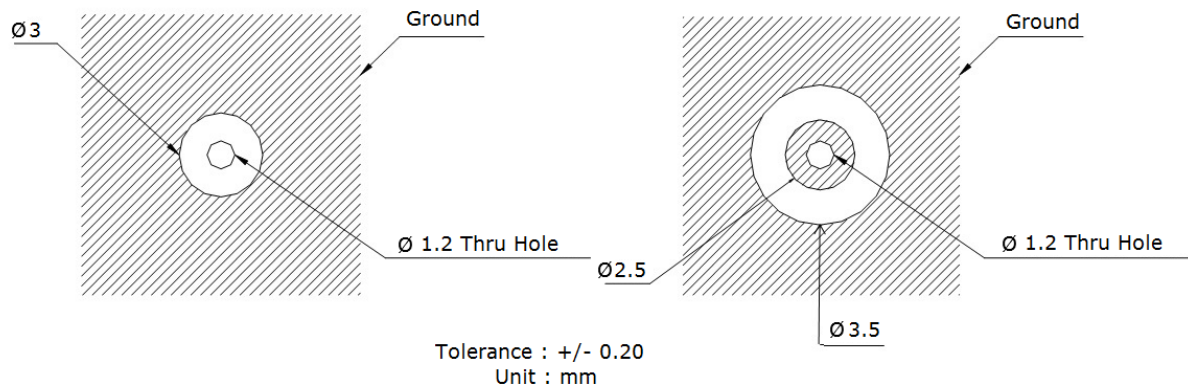
Bottom View





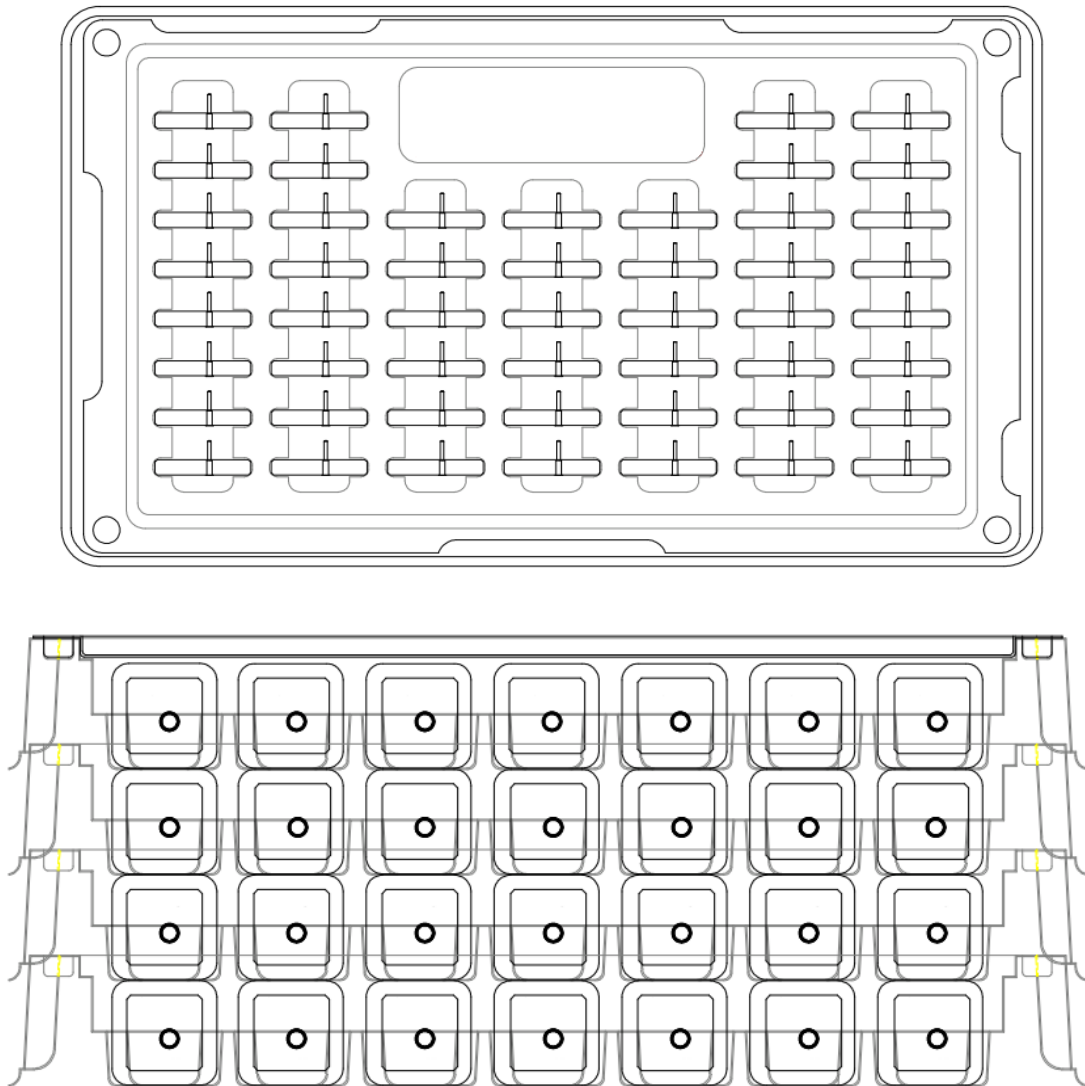
CGGBP.25.4.A.02 Patch on 70\*70mm Ground Plane

### 5.3. PCB Footprint Recommendation



## 6. Packaging

### 6.1. Inner Tray

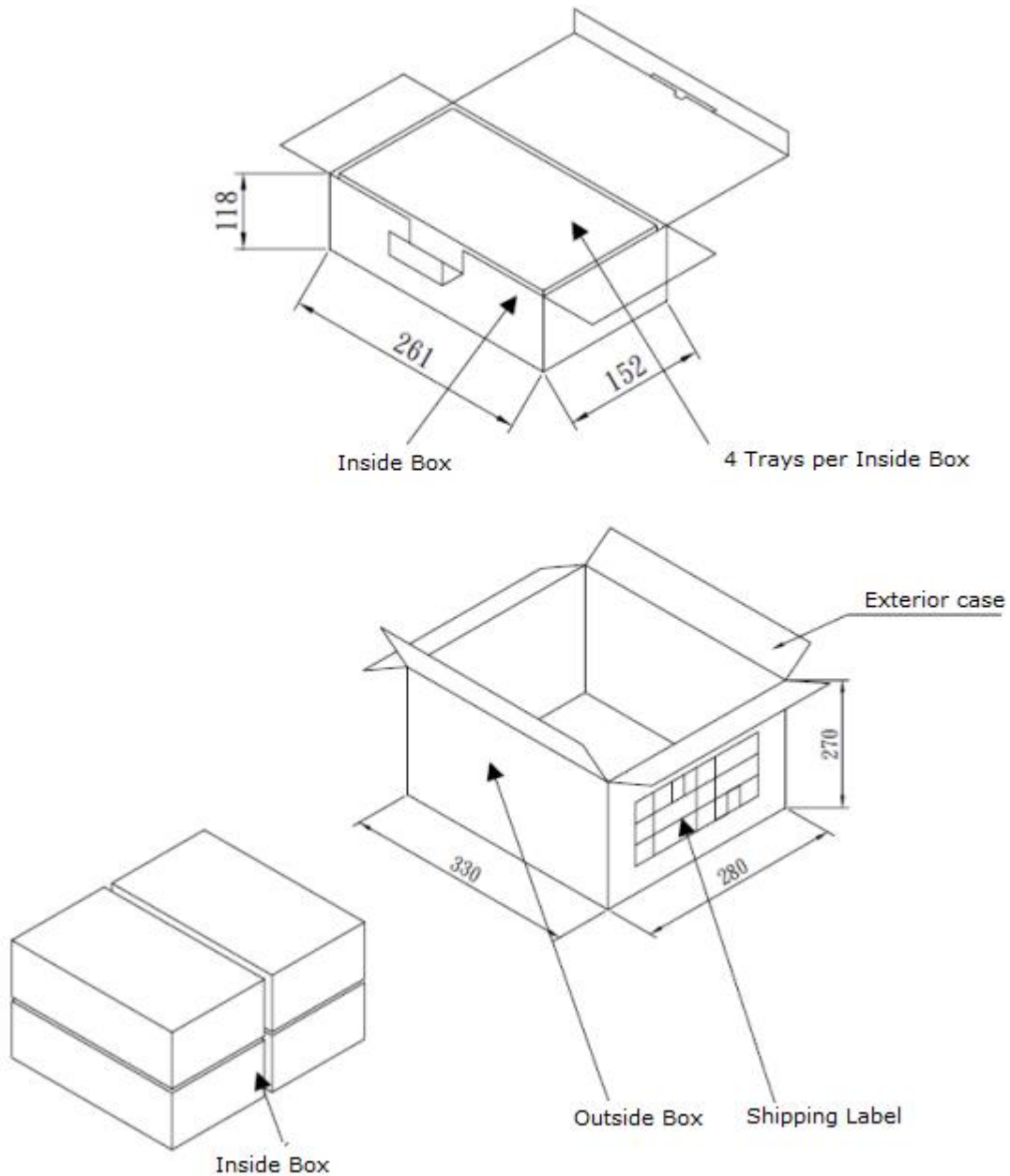


50 pieces per tray

4 Trays per Inside Box = 200

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

## 6.2. Carton



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