

SPECIFICATION

| | |
|-------------|--|
| Part No. | : CGGP.25.4.E.02 |
| Description | : GPS/GLONASS/GALILEO Dual-Band Patch Antenna 25*25*4mm |
| Features | : Dual-band GNSS Operation 1575.42MHz and 1602MHz Resonance 25*25*4mm Pin type Ceramic Patch Antenna Automotive TS16949 Production and Quality Approved RoHS compliant |



1. Introduction

The CGGP.25.4.E.02 is a 25*25*4 mm embedded ceramic GPS/GLONASS/GALILEO Patch antenna. It features a double resonance design at GPS/GALILEO and GLONASS bands, 1575.42 MHz and 1602 MHz respectively. This antenna has been tuned for a center position on a 70mm *70mm ground plane. Return loss is -28 dB at 1575.42MHz and -22 dB at GLONASS. Overall the antenna has greater than 60% efficiency.

For further optimization to customer specific device environments where positioning is off center or a different ground-plane size, custom tuned patch antennas can be supplied.

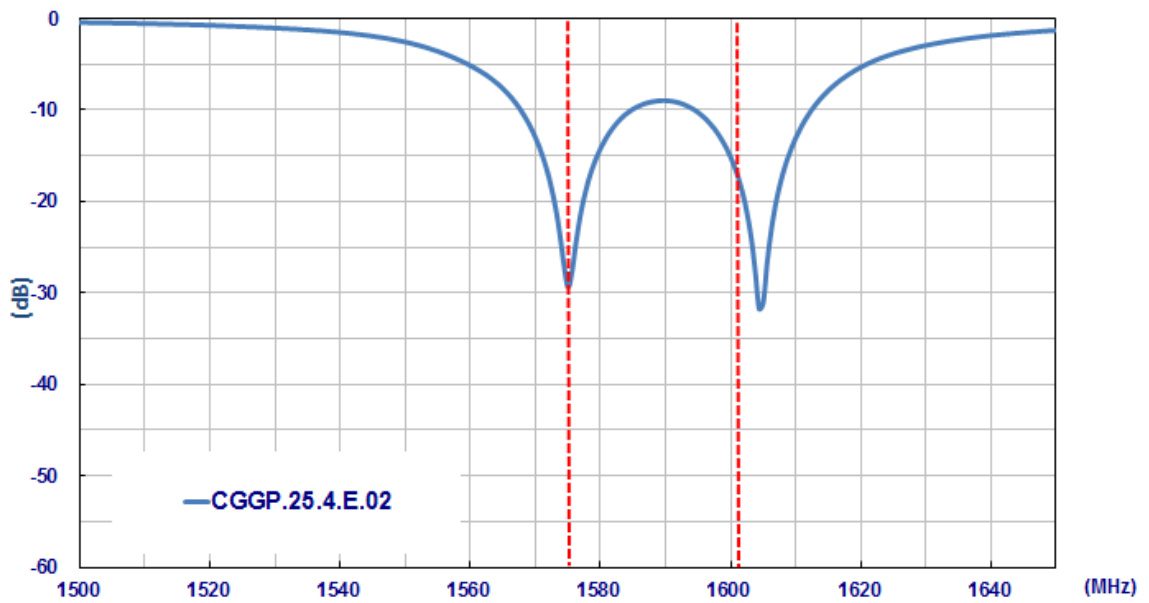
2. Specification

| ELECTRICAL | | |
|-----------------------|----------------------------|-----------|
| Application Bands | GPS/GALILEO | GLONASS |
| Operation Frequency | 1575.42 ±1.023MHz | 1602±5MHz |
| VSWR | 1.8 max | |
| Efficiency | 88.02% | 88.63% |
| Peak Gain | 5.39dBi | 5.46dBi |
| Axial Ratio | ~10 | ~9 |
| Polarization | Linear | |
| Impedance | 50 ohms | |
| MECHANICAL | | |
| Ceramic Dimension | 25 x 25 x 4 mm | |
| Pin Diameter | Φ 0.9 mm | |
| Pin Length | 1.7mm | |
| Weight | 9.5g | |
| ENVIRONMENTAL | | |
| Operation Temperature | -40°C to 105°C | |
| Humidity | Non-condensing 65°C 95% RH | |

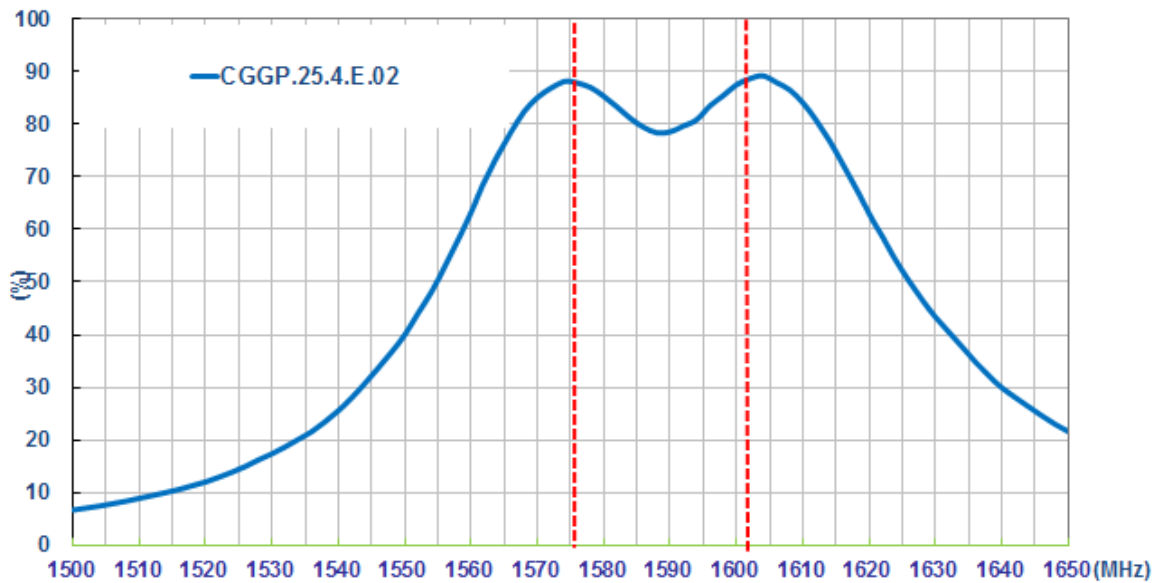
* Antenna properties were measured with the antenna mounted on 70*70mm Ground Plane
Taoglas Part# CGGPD.25.H

3. Antenna Characteristics

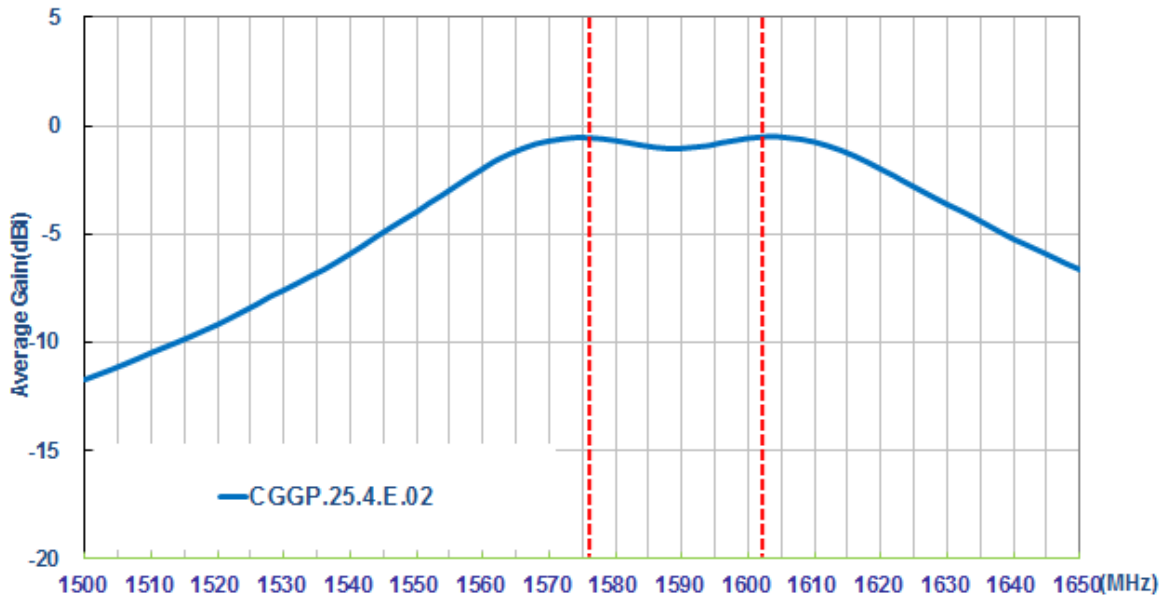
3.1 Return Loss



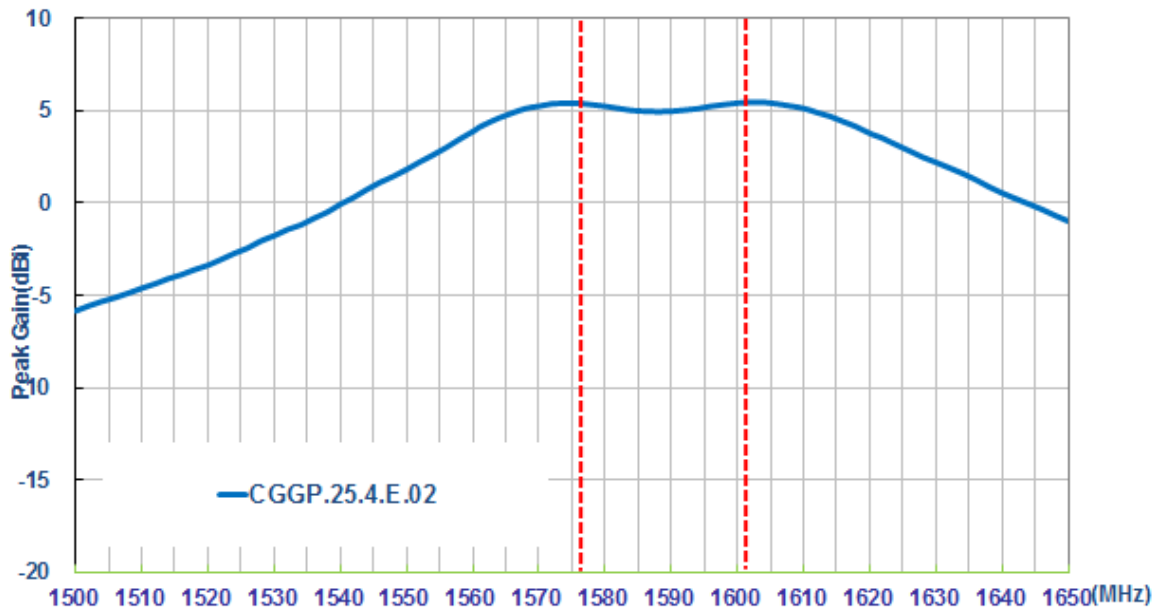
3.2 Efficiency



3.3 Average Gain

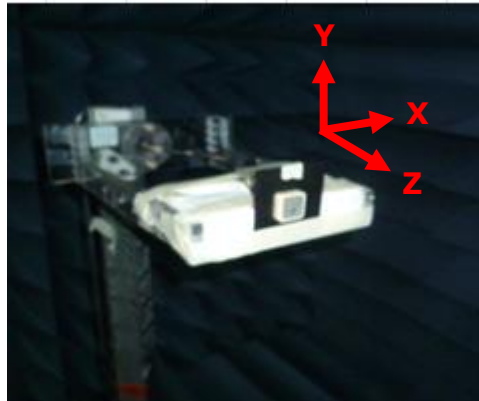


3.4 Peak Gain



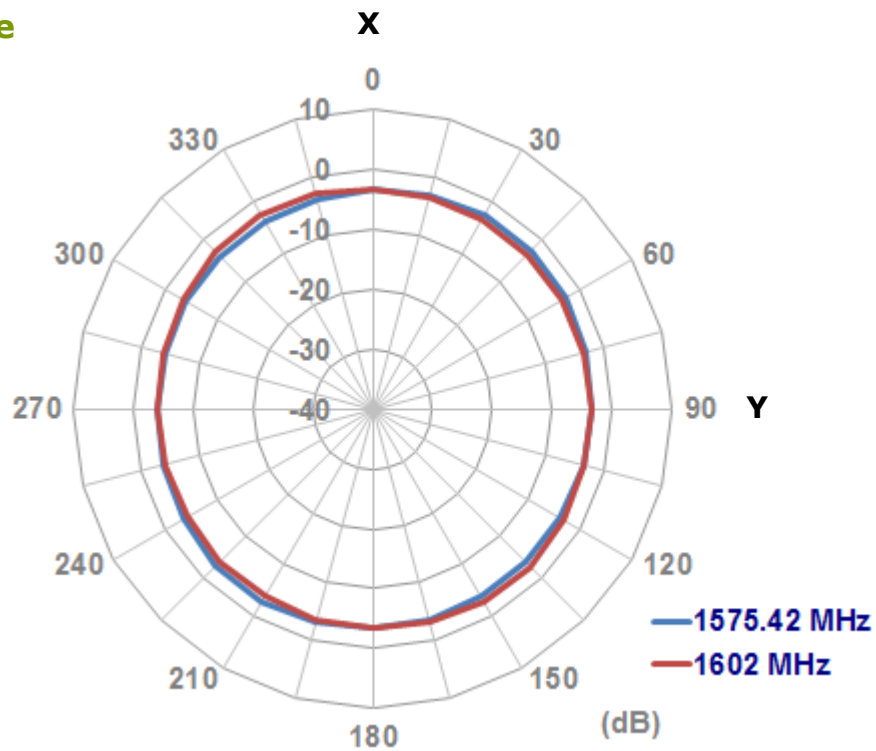
4. Antenna Radiation Pattern

4.1 Measurement Setup

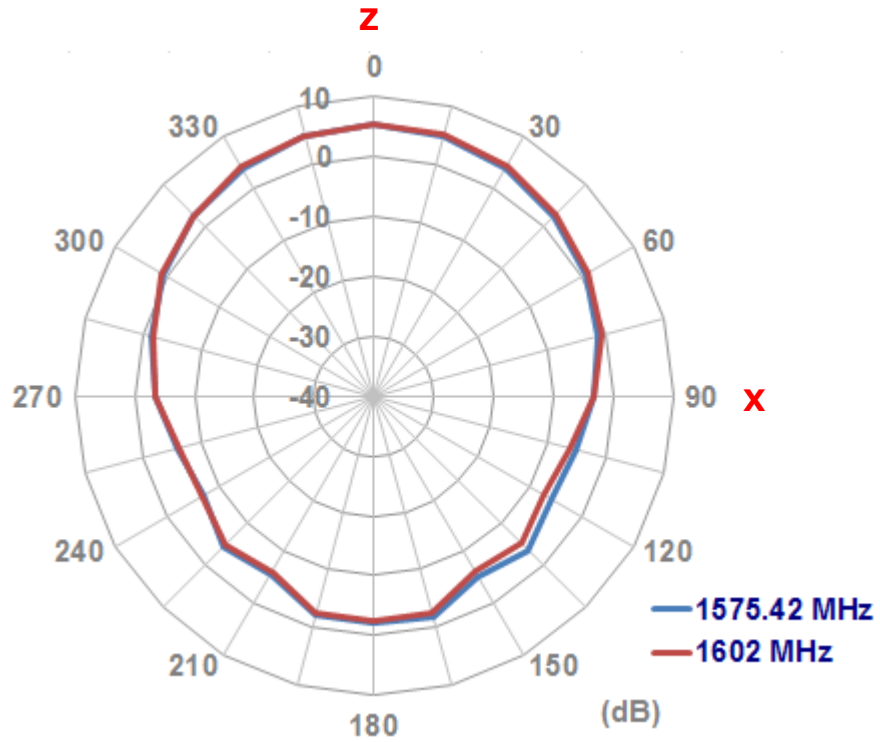


4.2 2D Radiation Pattern

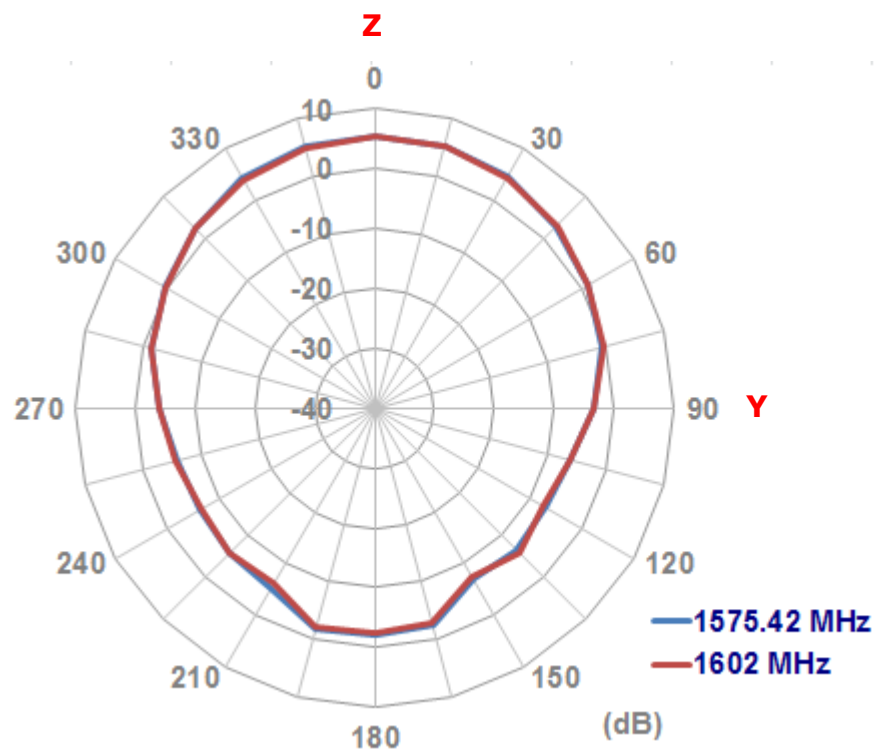
XY Plane



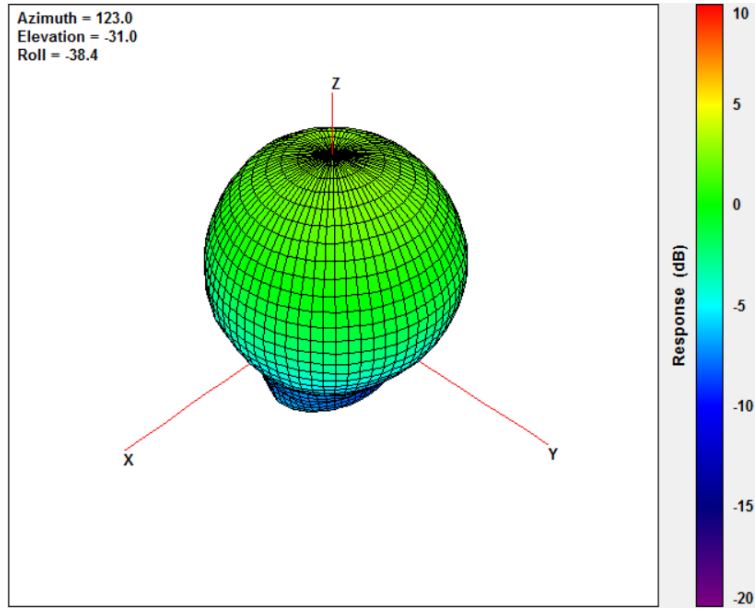
XZ Plane



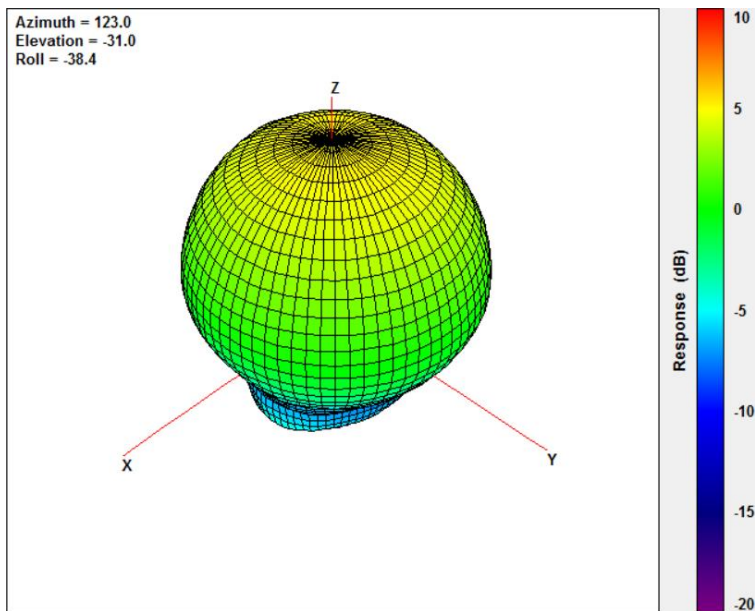
YZ Plane



4.3 3D Radiation Pattern



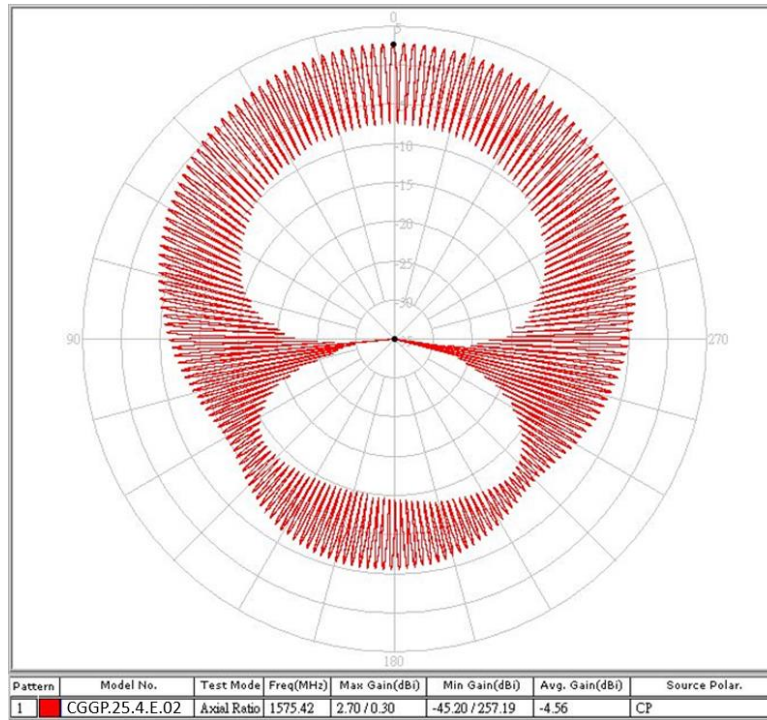
@1575.42MHz



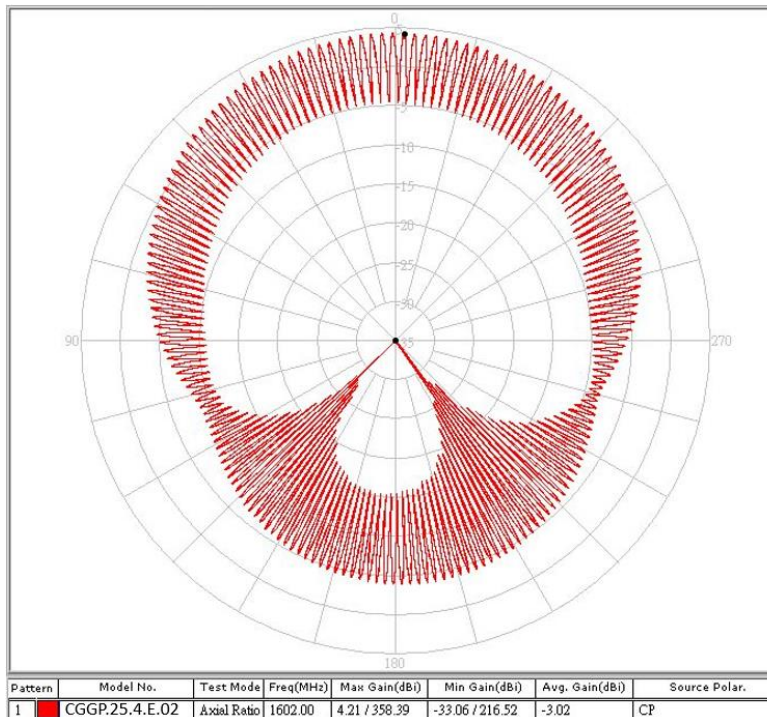
@1575.42MHz

5. Axial Ratio

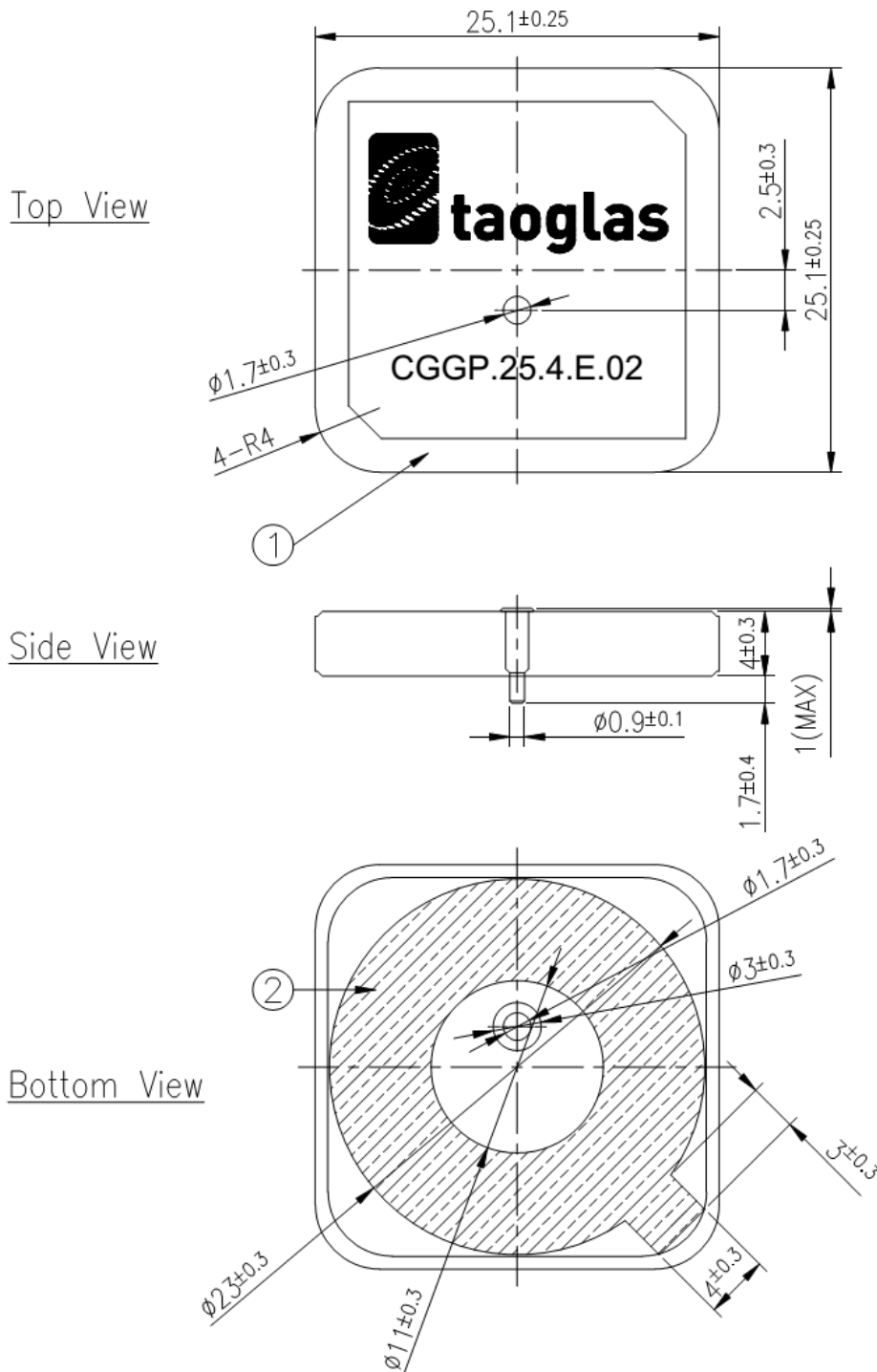
5.1 1575.42 MHz



5.2 1602 MHz



6. Mechanical Drawing



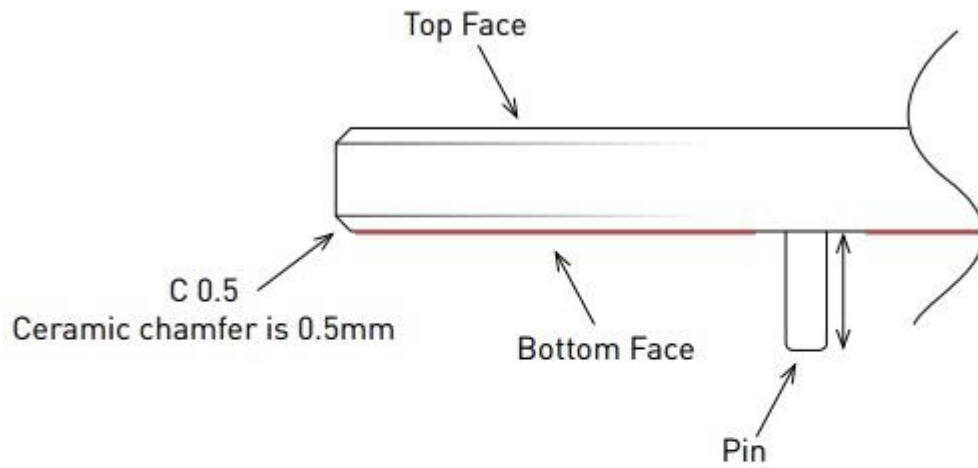
NOTE:

1. Double sided adhesive area. 

| | Name | Material | Finish | QTY |
|---|-------------------------|------------|-------------|-----|
| 1 | CGGP.25 Patch 25x25x4mm | Ceramic | Clear | 1 |
| 2 | Double sided Adhesive | NITTO 5015 | White Liner | 1 |

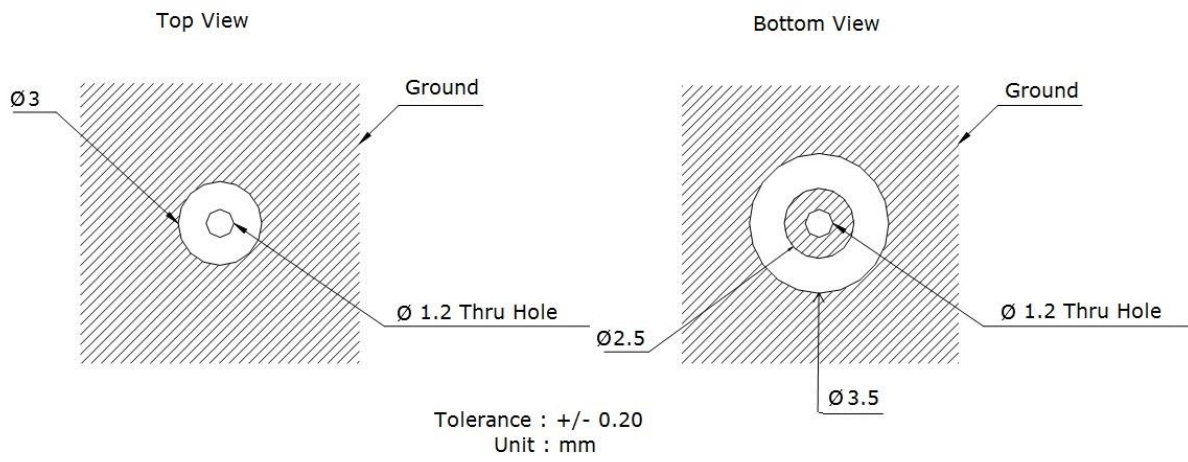
Unit:mm

6.1. Adhesive Thickness

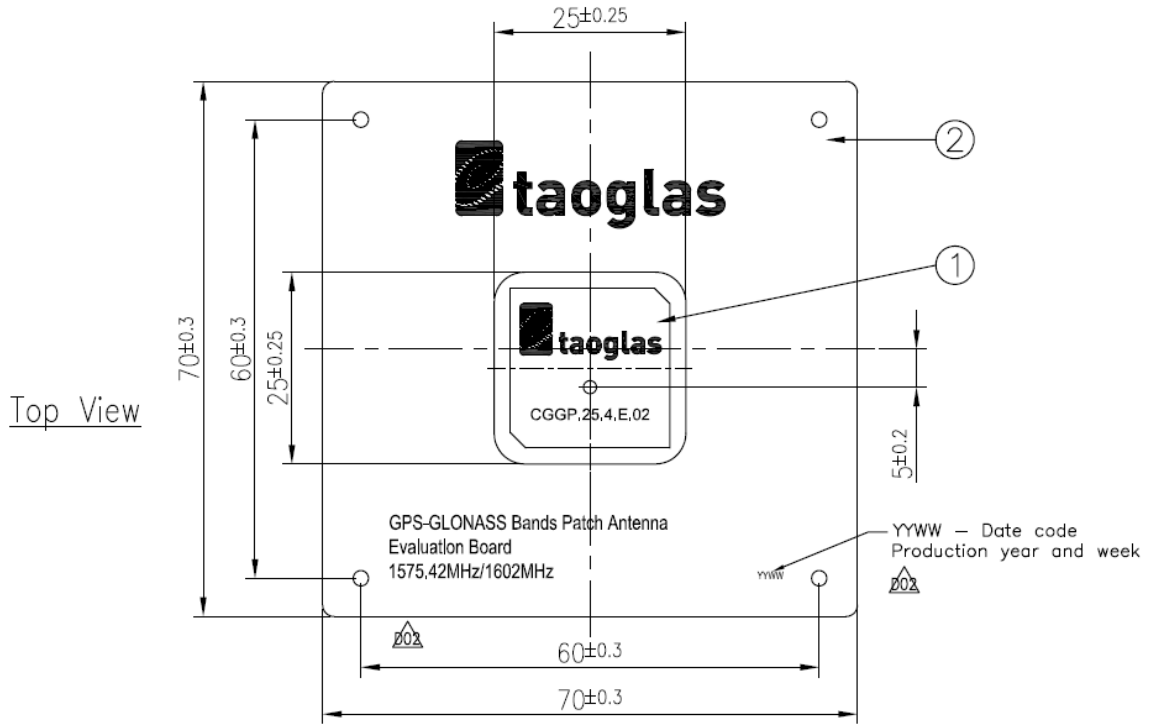


Red Line shows the adhesive without Liner - thickness 0.08-0.1mm

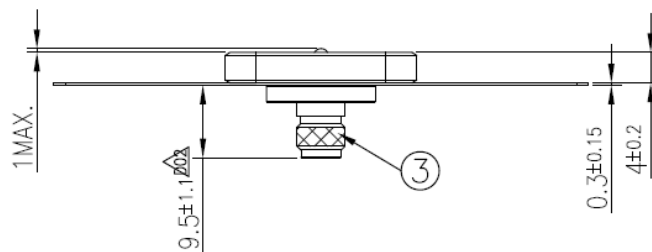
7. PCB Footprint Recommendation



8. Evaluation Board (CGGPD.25.H)

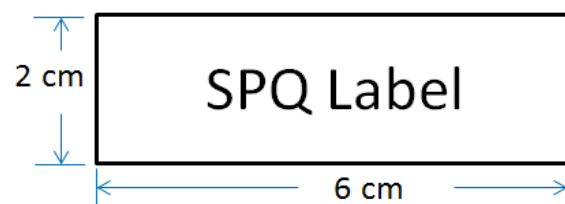
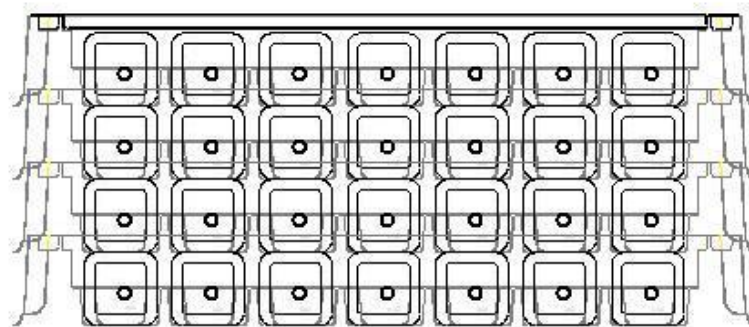
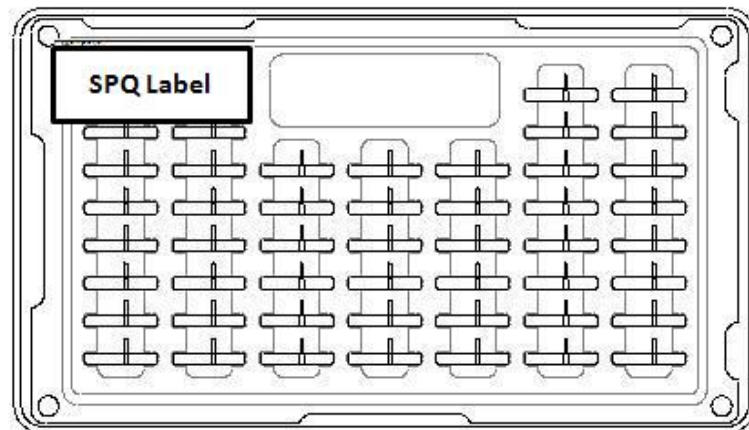
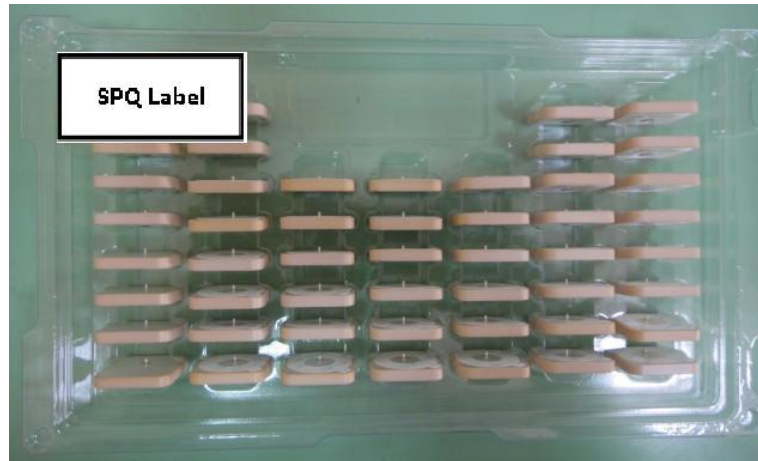


Side View

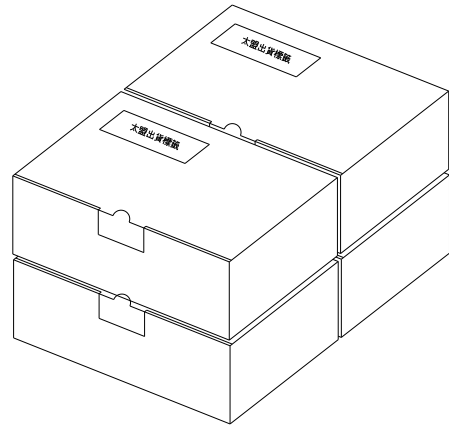
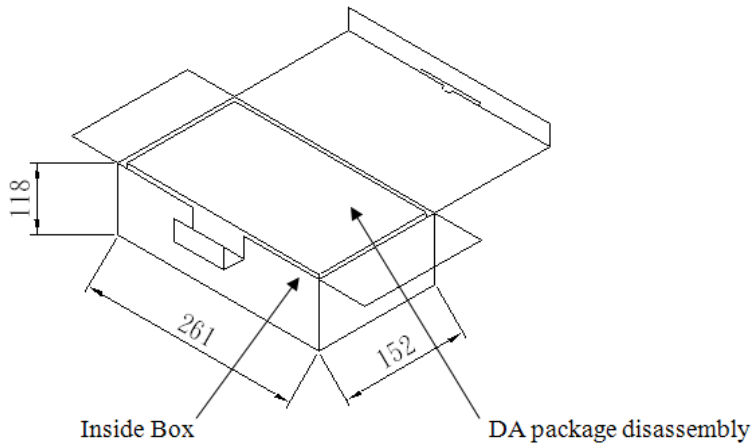


| | Name | P/N | Material | Finish | QTY |
|---|---------------------------|----------------|----------|--------|-----|
| 1 | CGGP.25 Patch 25x25x4mm | 001515H040007A | Ceramic | Clear | 1 |
| 2 | Ground-Plane(70x70x0.3mm) | 000514B000007A | Brass | Silver | 1 |
| 3 | SMA(F) ST | 200413L000007A | Brass | Gold | 1 |

9. Packaging

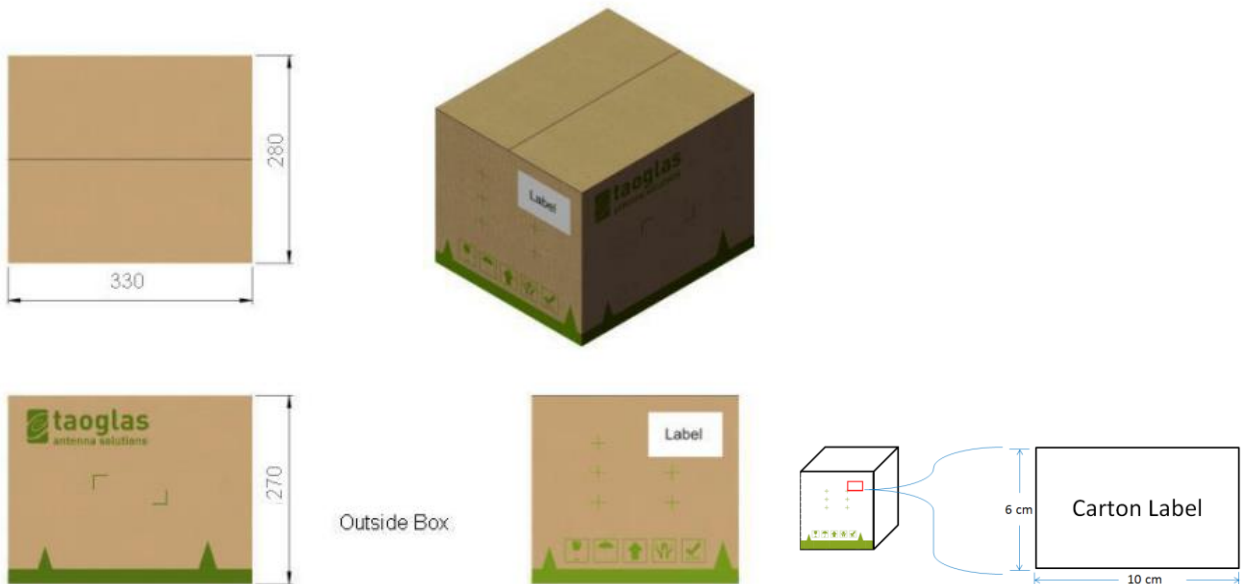


200 Units / Inside Carton (261*152*118mm)



800 Units / Outside Carton (330*280*270mm)

Total Weight :9.3 kg



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