

## SPECIFICATION

Part No.	: <b>CGGP.25.4.E.02</b>
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.

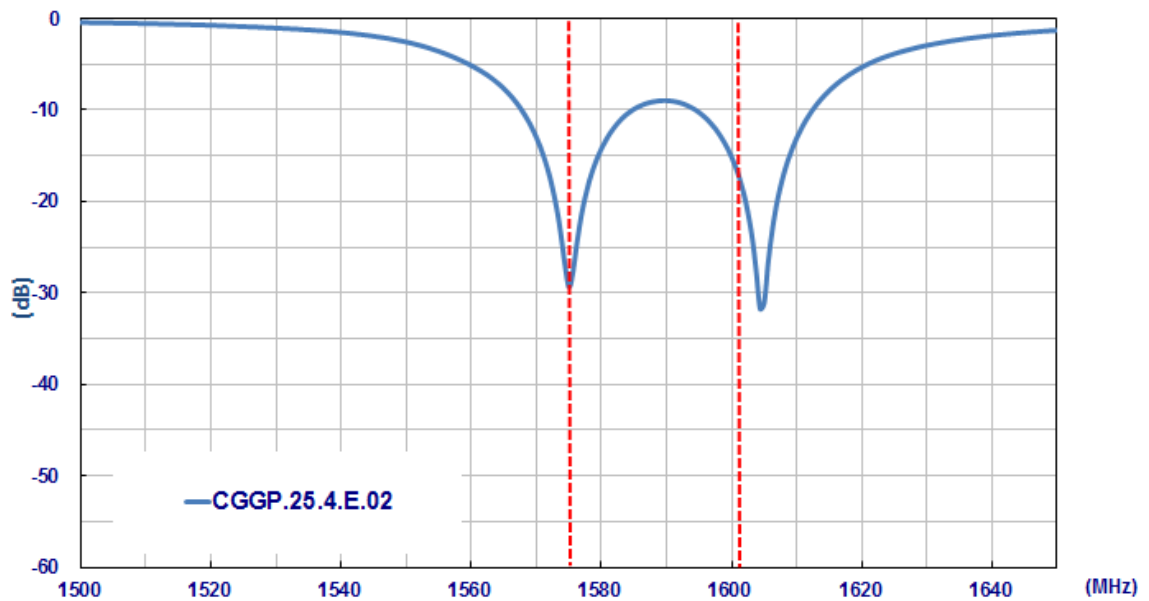
## 2. Specification

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	

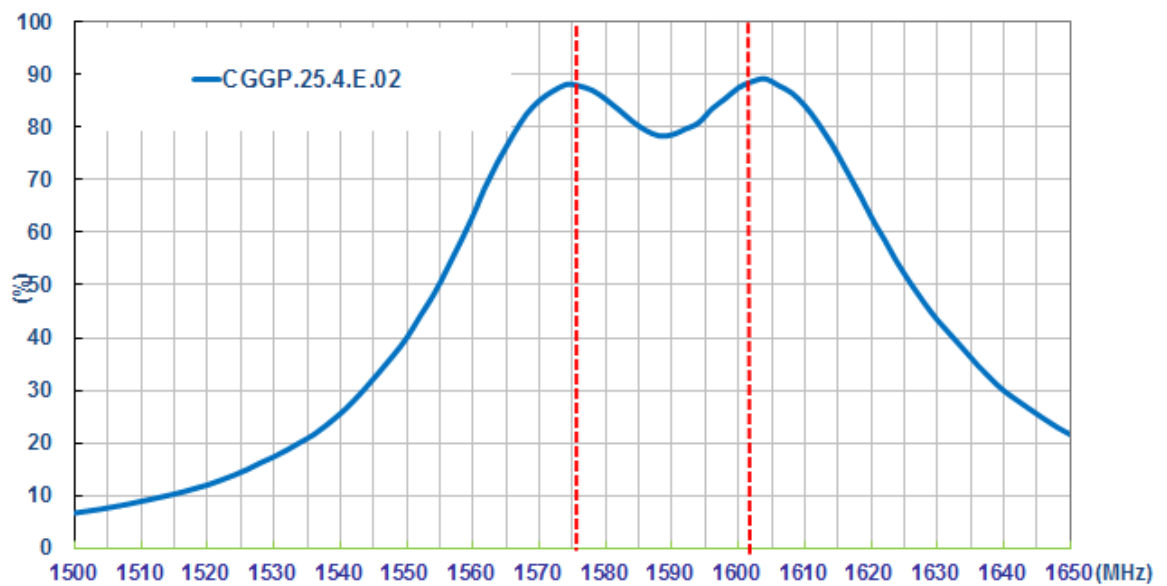
\* Antenna properties were measured with the antenna mounted on 70\*70mm Ground Plane  
Taoglas Part# CGGPD.25.H

## 3. Antenna Characteristics

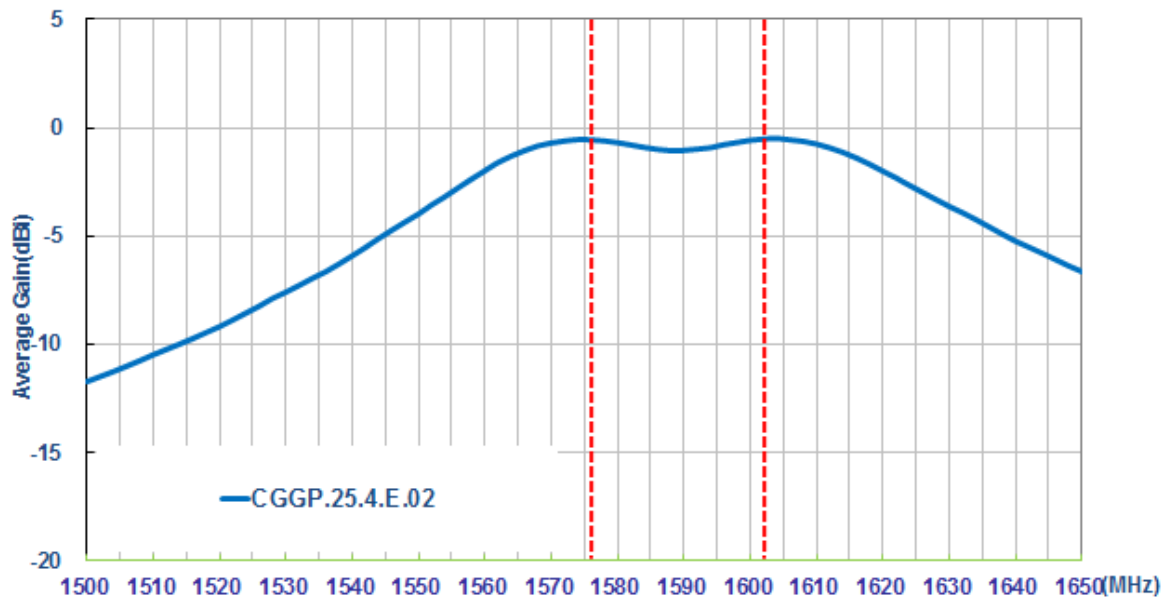
### 3.1 Return Loss



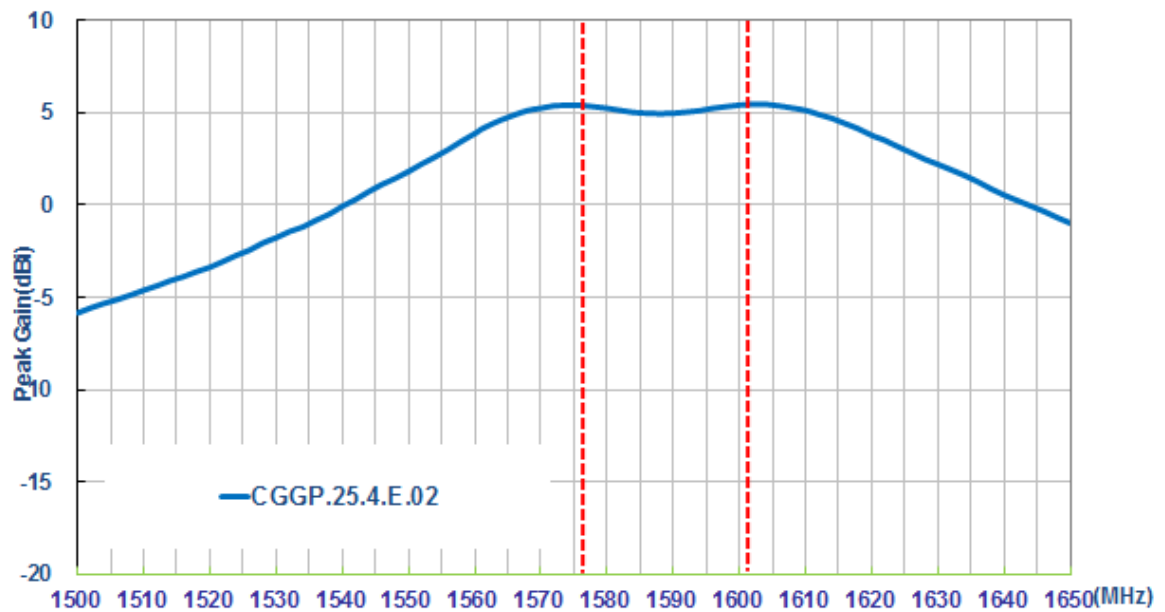
### 3.2 Efficiency



### 3.3 Average Gain

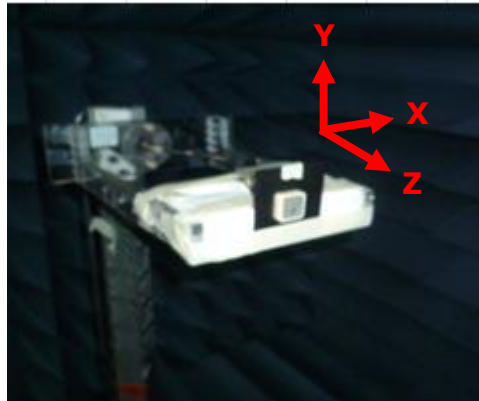


### 3.4 Peak Gain



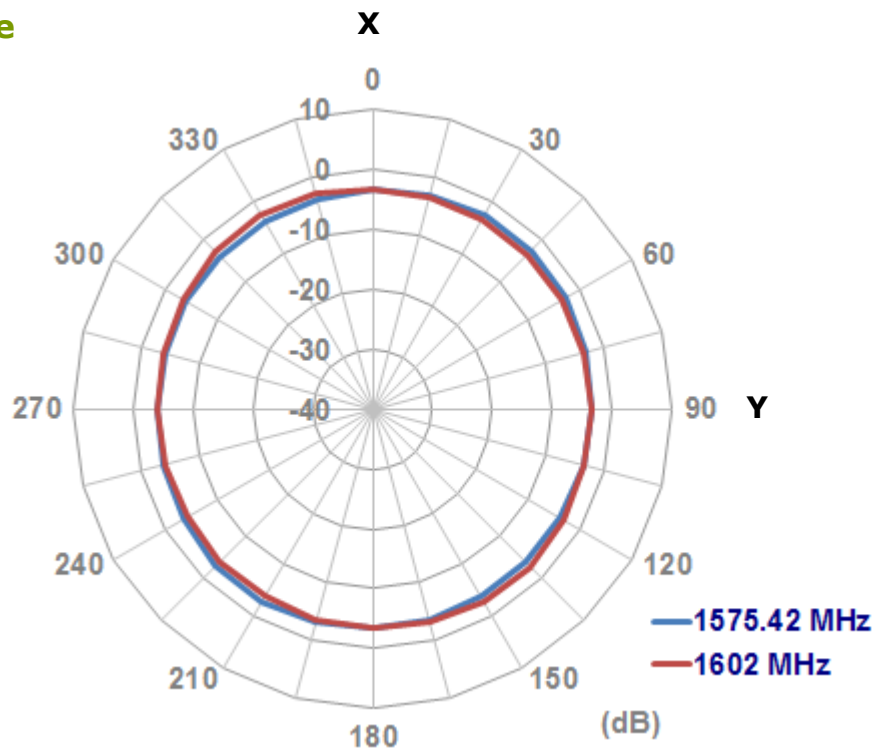
## 4. Antenna Radiation Pattern

### 4.1 Measurement Setup

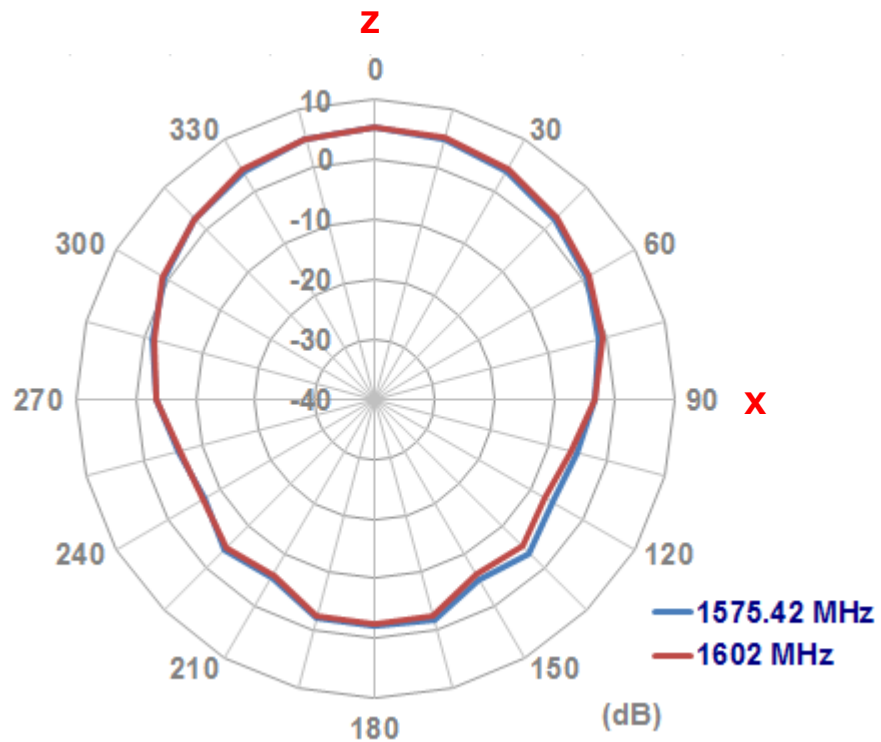


### 4.2 2D Radiation Pattern

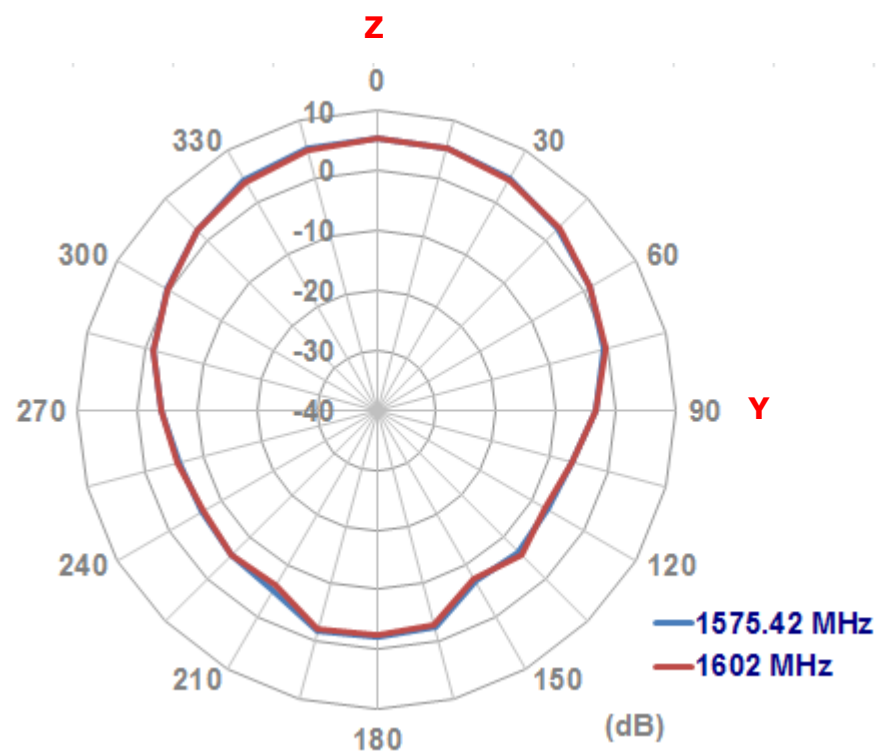
#### XY Plane



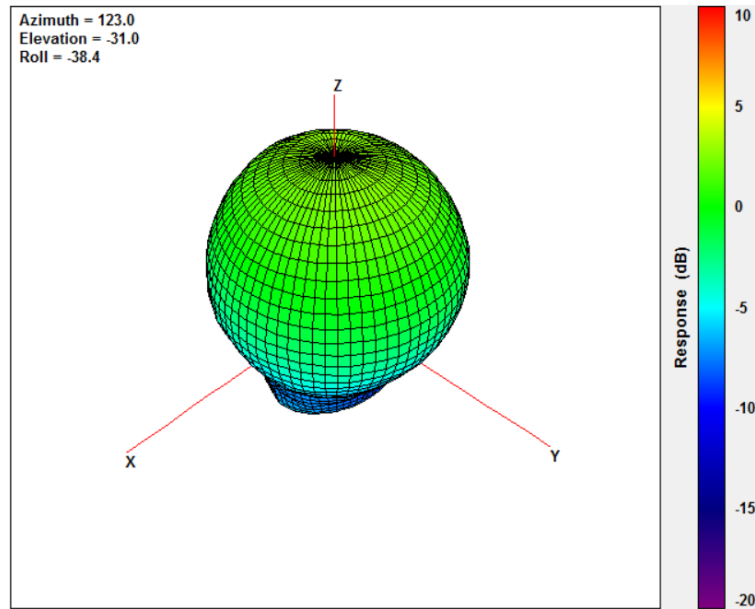
## XZ Plane



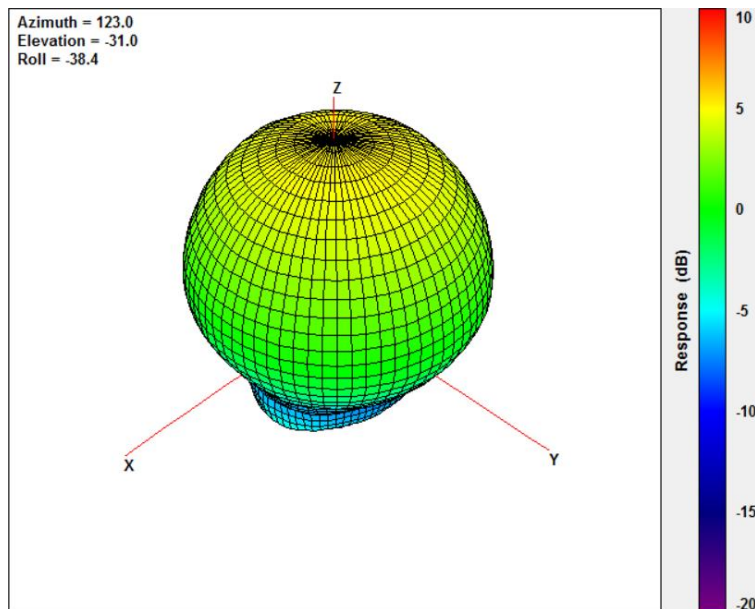
## YZ Plane



## 4.3 3D Radiation Pattern



@1575.42MHz

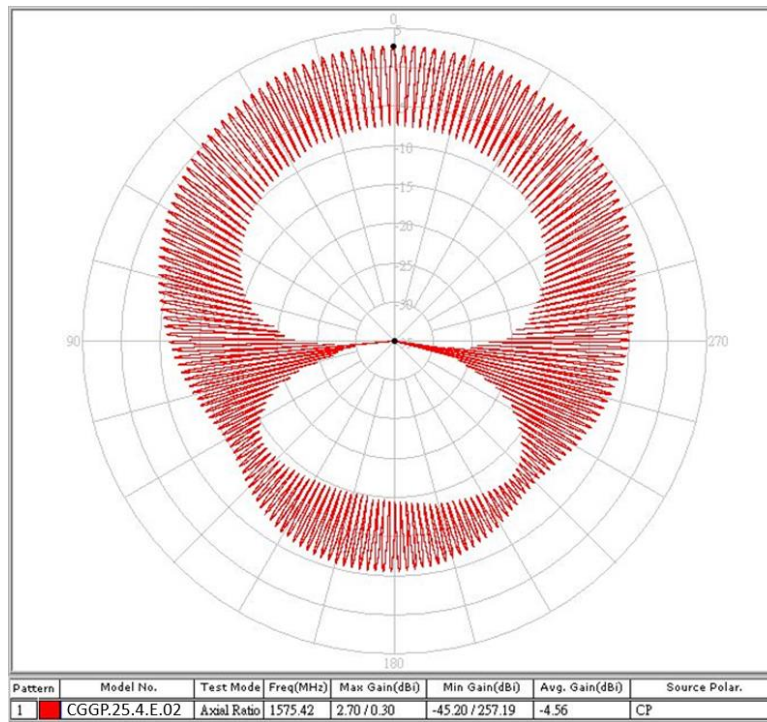


@1575.42MHz

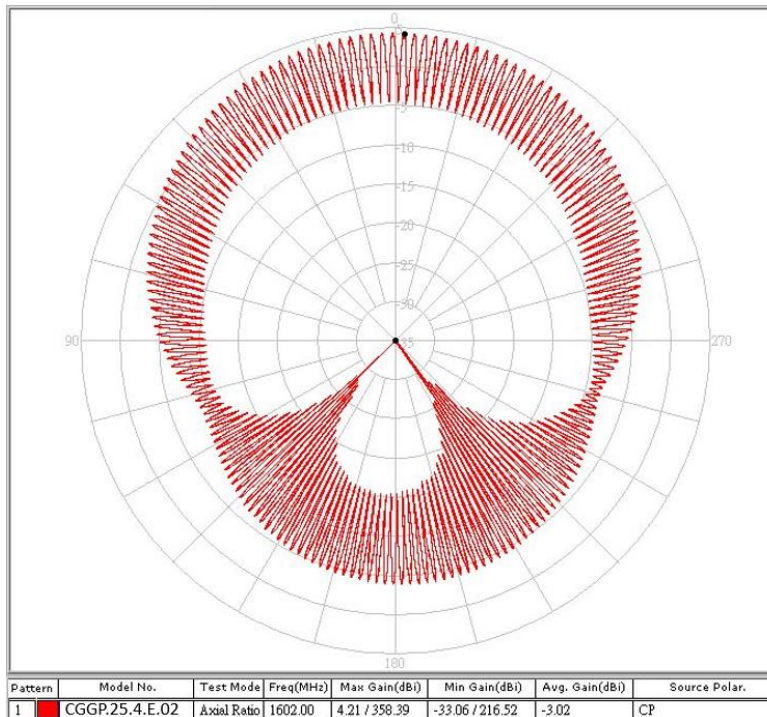


## 5. Axial Ratio

### 5.1 1575.42 MHz

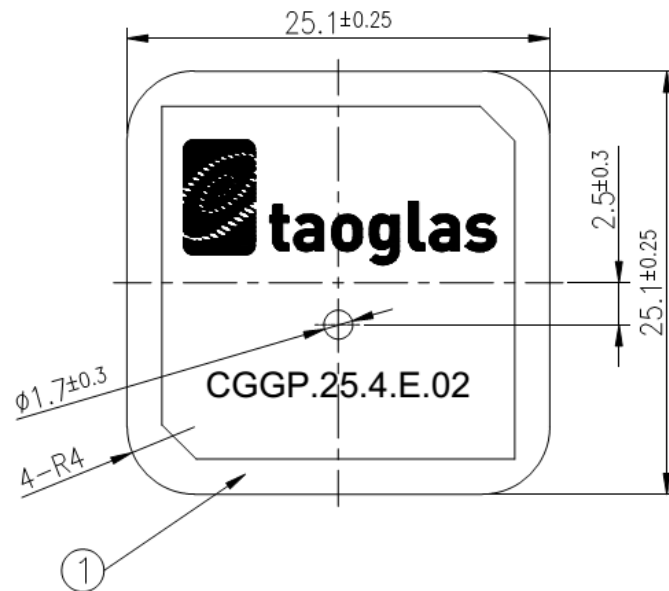


### 5.2 1602 MHz

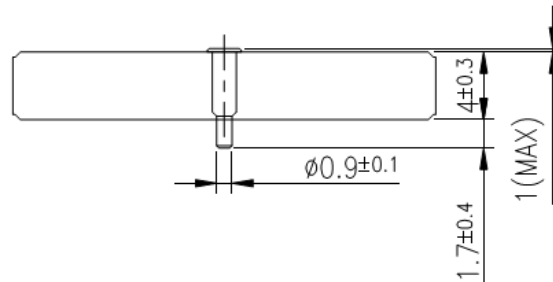


## 6. Mechanical Drawing

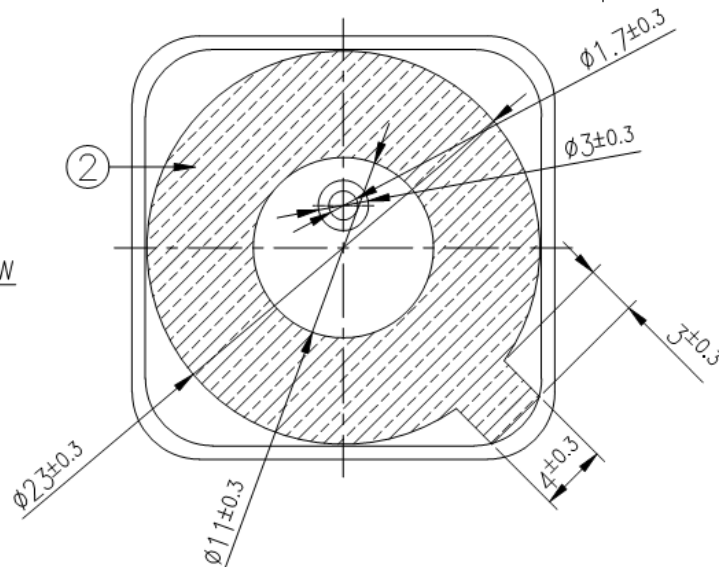
Top View



Side View



Bottom View



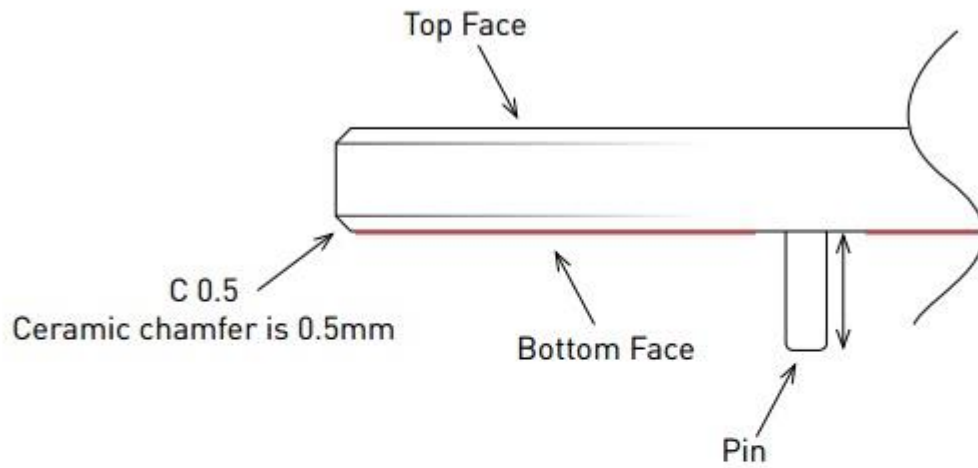
NOTE:

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

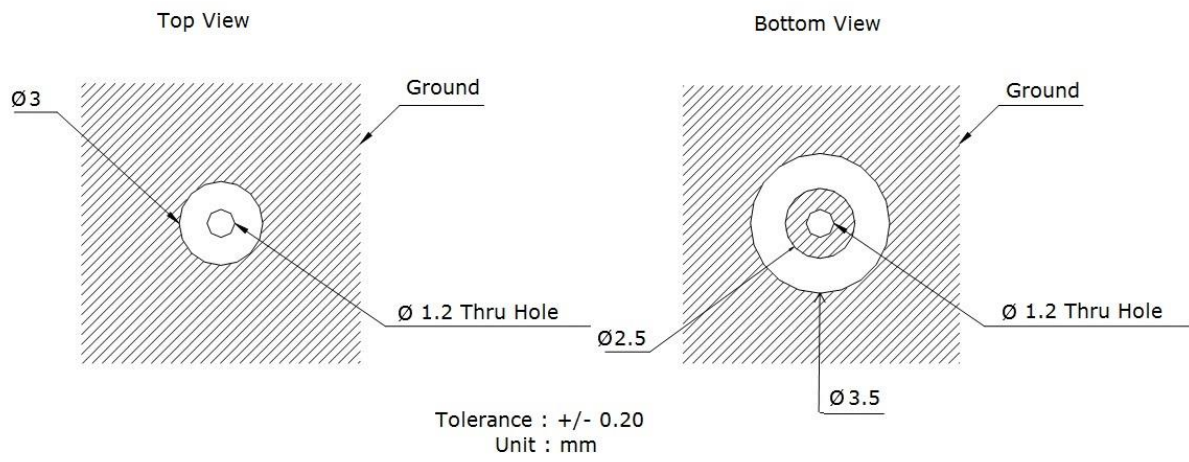
Unit:mm

## 6.1. Adhesive Thickness

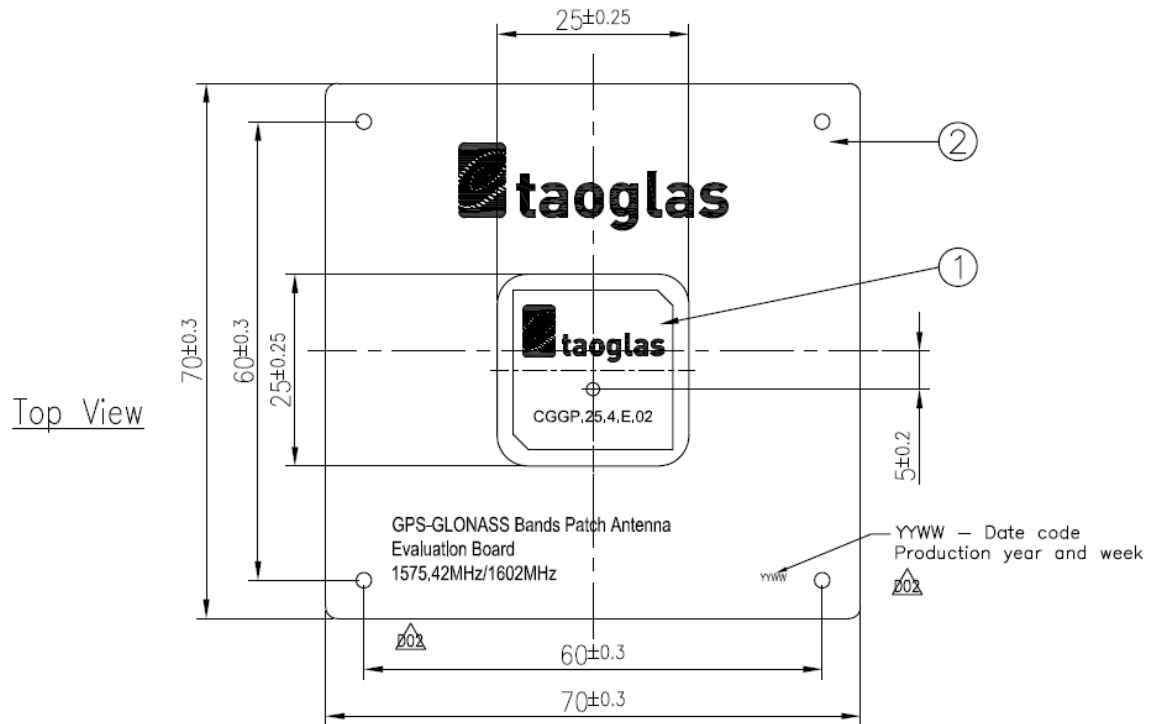


**Red Line** shows the adhesive without Liner – thickness 0.08–0.1mm

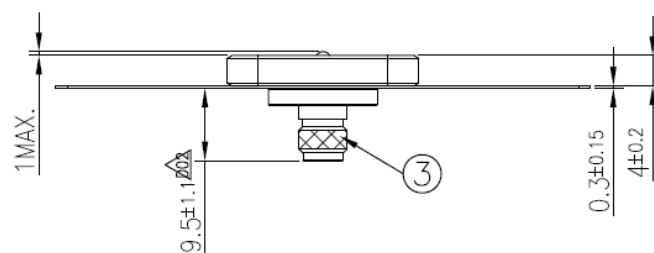
## 7. PCB Footprint Recommendation



## 8. Evaluation Board (CGGPD.25.H)

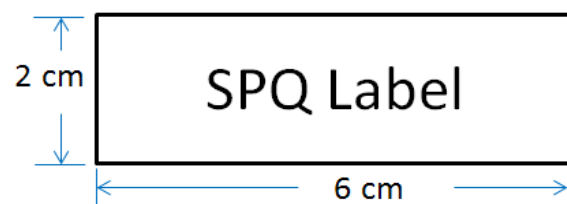
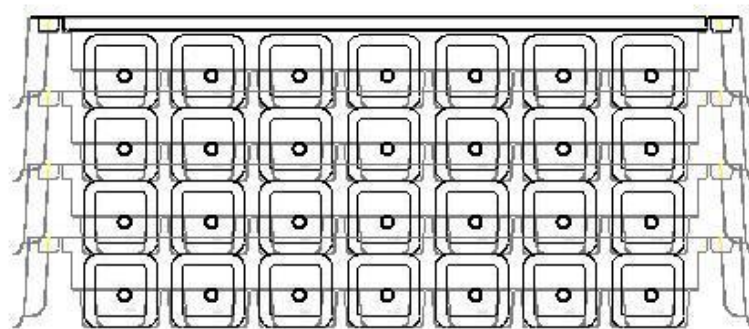
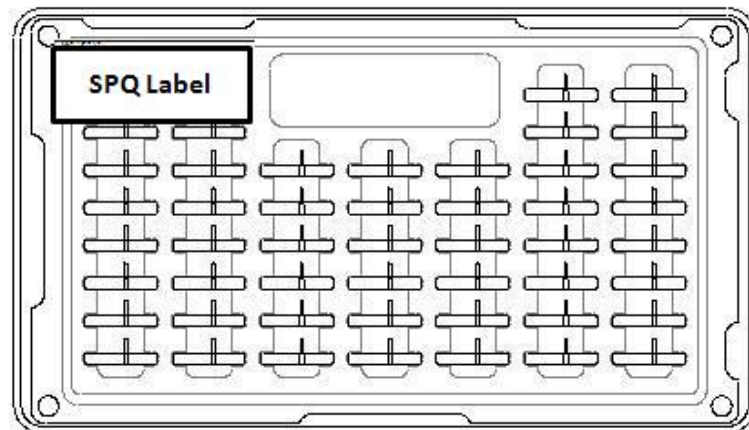
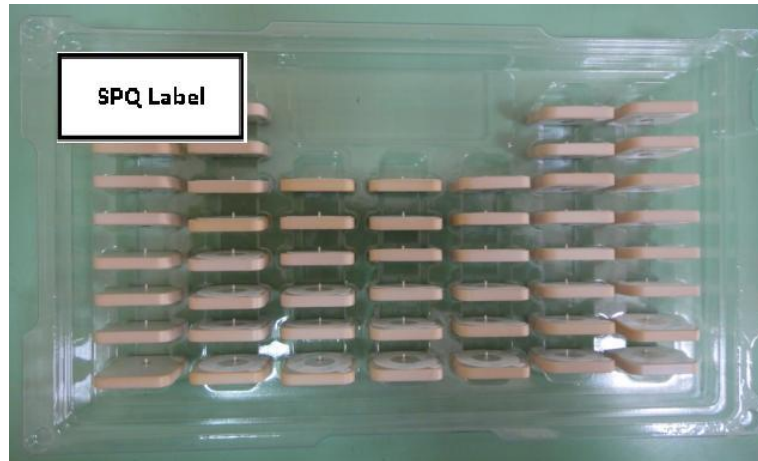


Side View

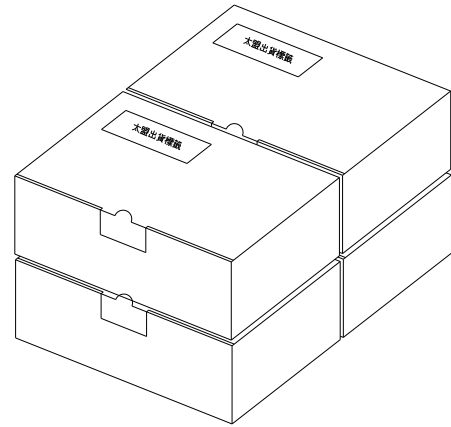
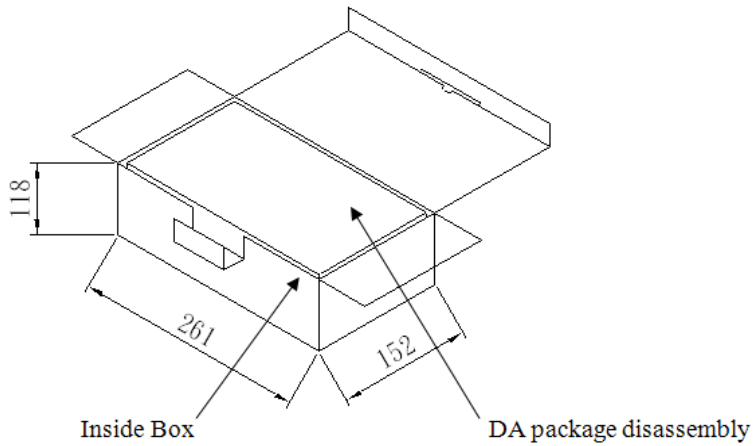


	Name	P/N	Material	Finish	QTY
1	CGGP.25 Patch 25x25x4mm	001515H040007A	Ceramic	Clear	1
2	Ground-Plane(70x70x0.3mm)	000514B000007A	Brass	Silver	1
3	SMA(F) ST	200413L000007A	Brass	Gold	1

## 9. Packaging

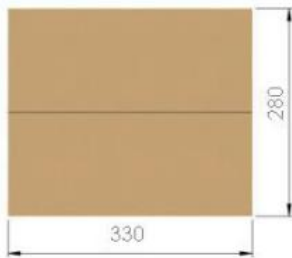


200 Units / Inside Carton (261\*152\*118mm)

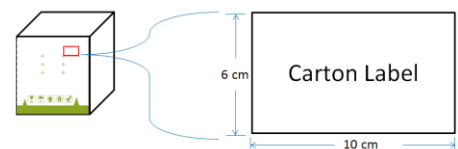
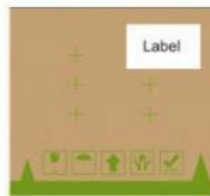


800 Units / Outside Carton (330\*280\*270mm)

Total Weight :9.3 kg



Outside Box



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