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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

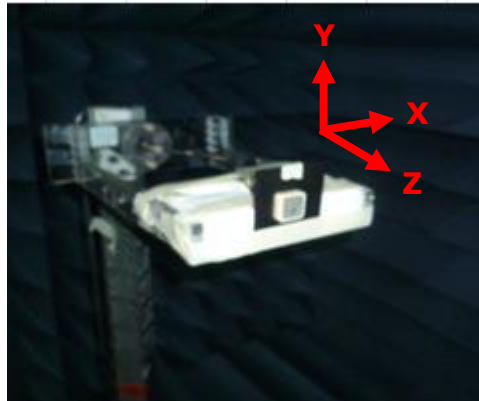## 3.1 Return Loss
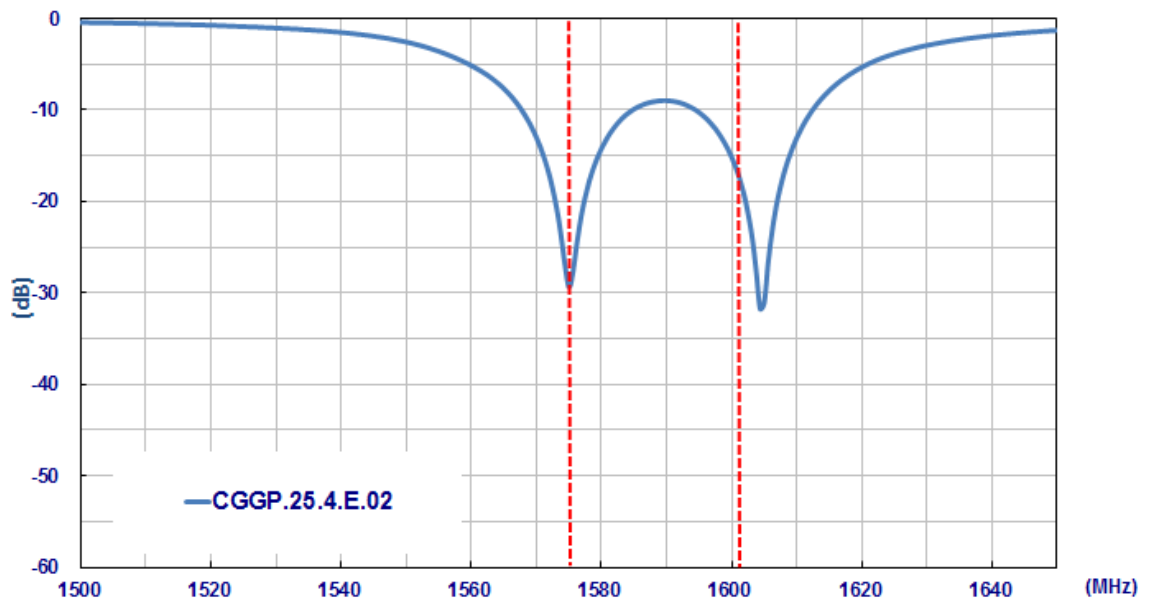
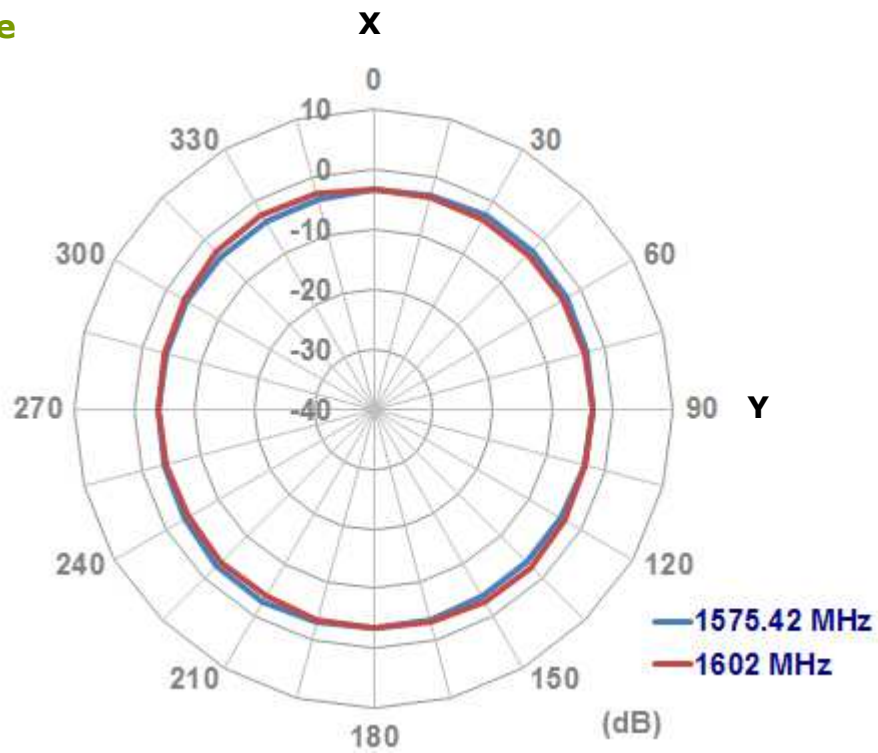## 3.2 Efficiency
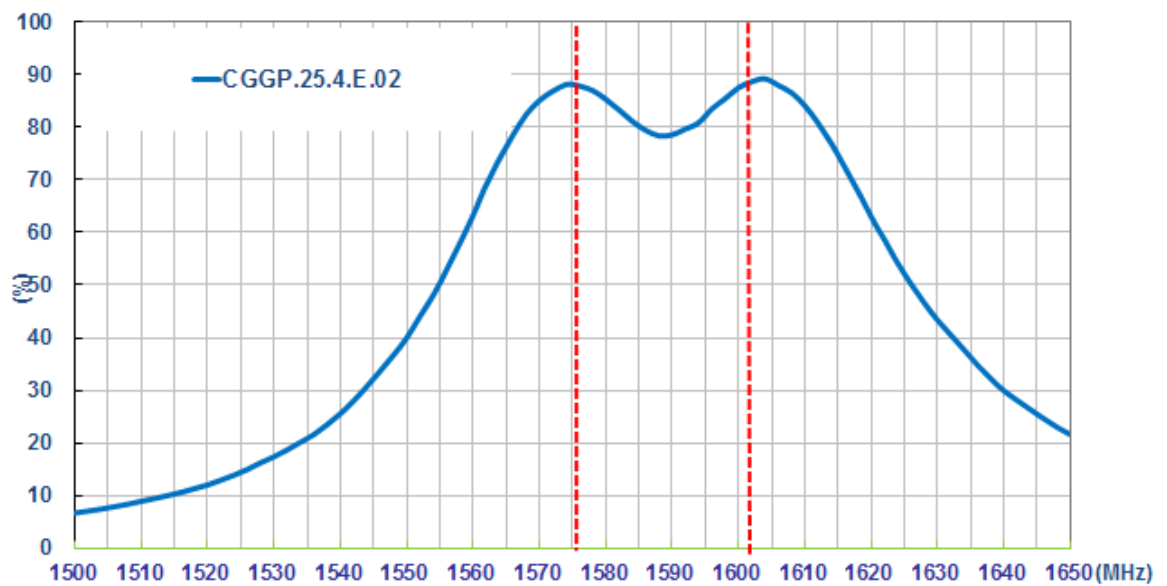
3.3 Average Gain
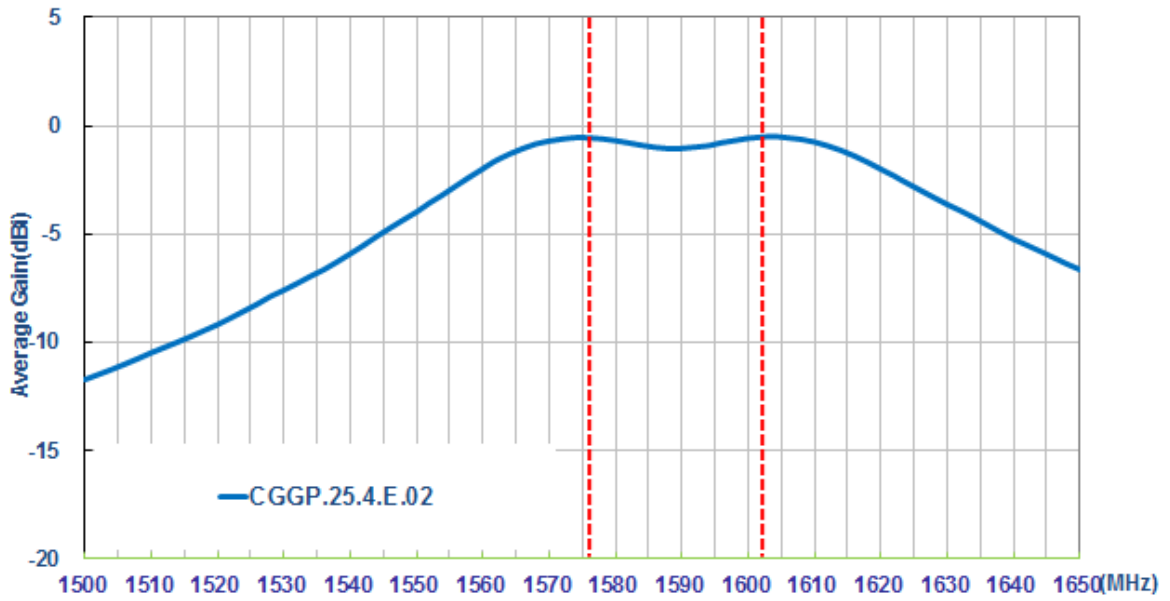
3.4 Peak Gain
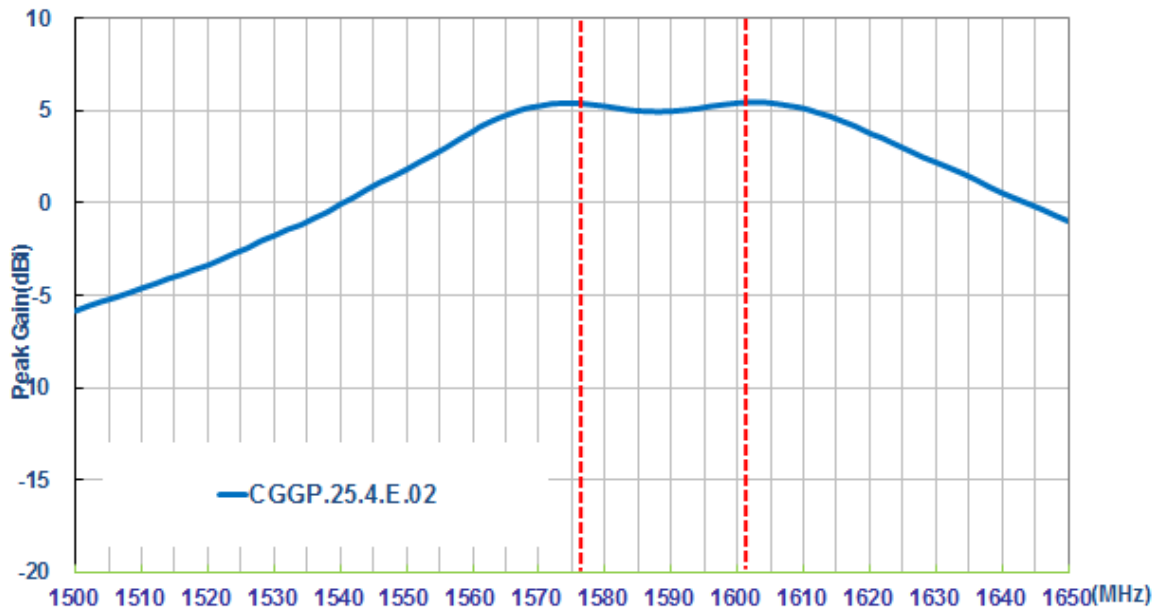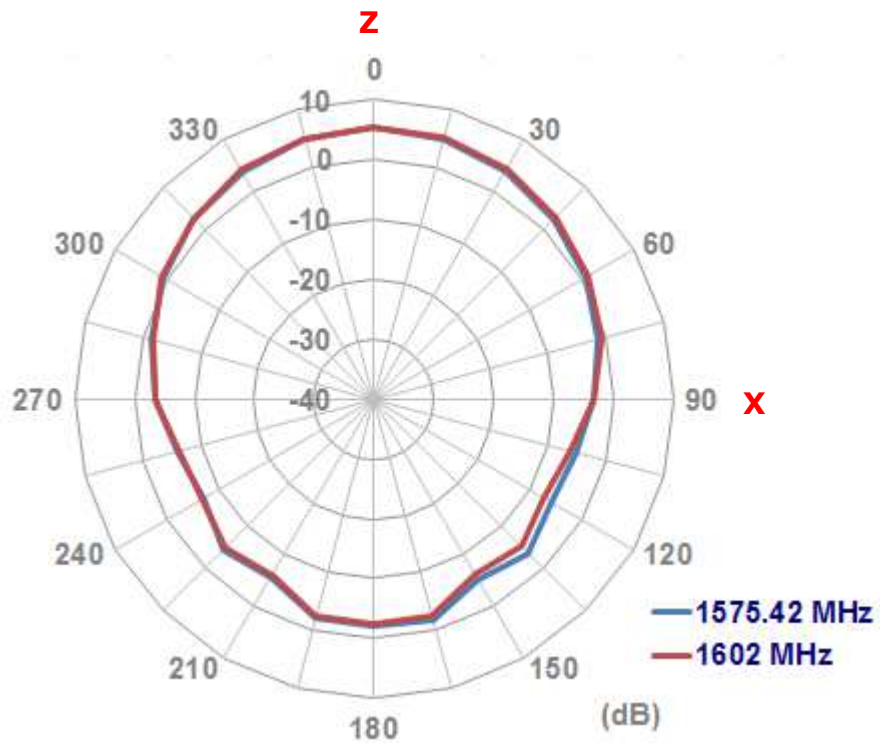
4. Antenna Radiation Pattern

4.1 Measurement Setup

4.2 2D Radiation Pattern

XY Plane

XZ Plane

YZ Plane
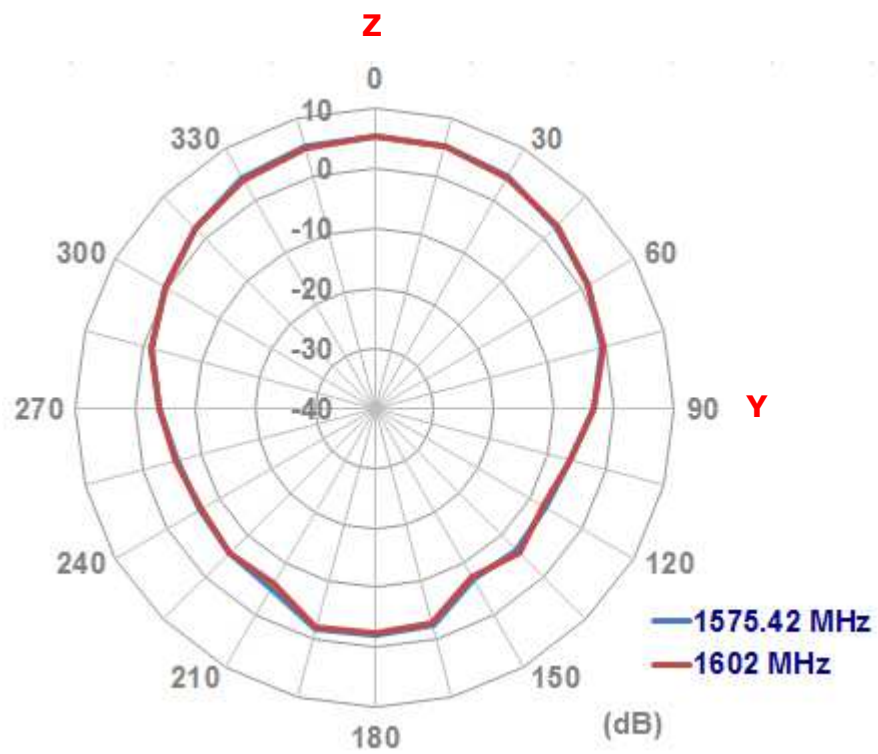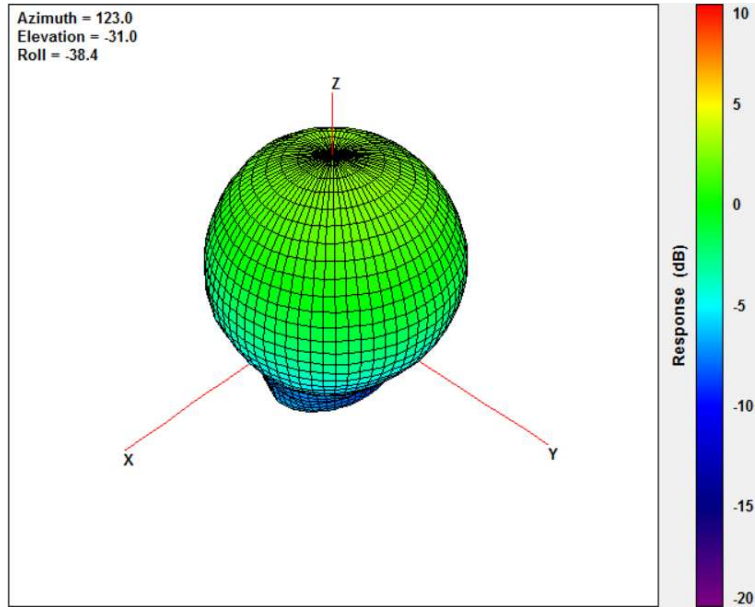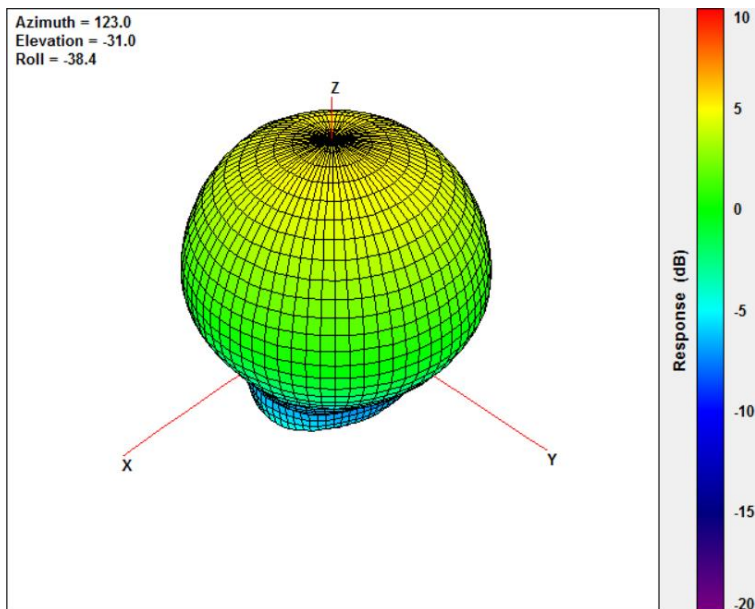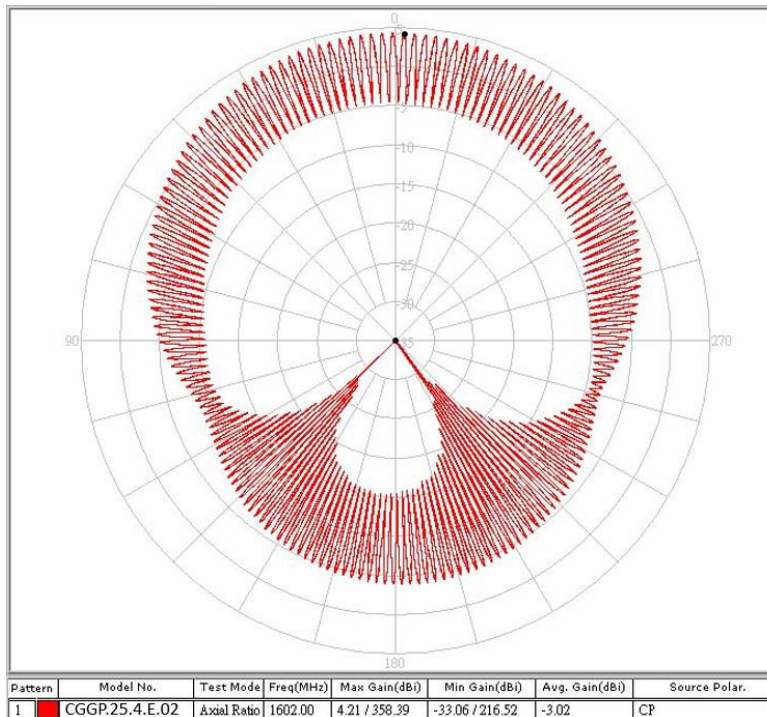
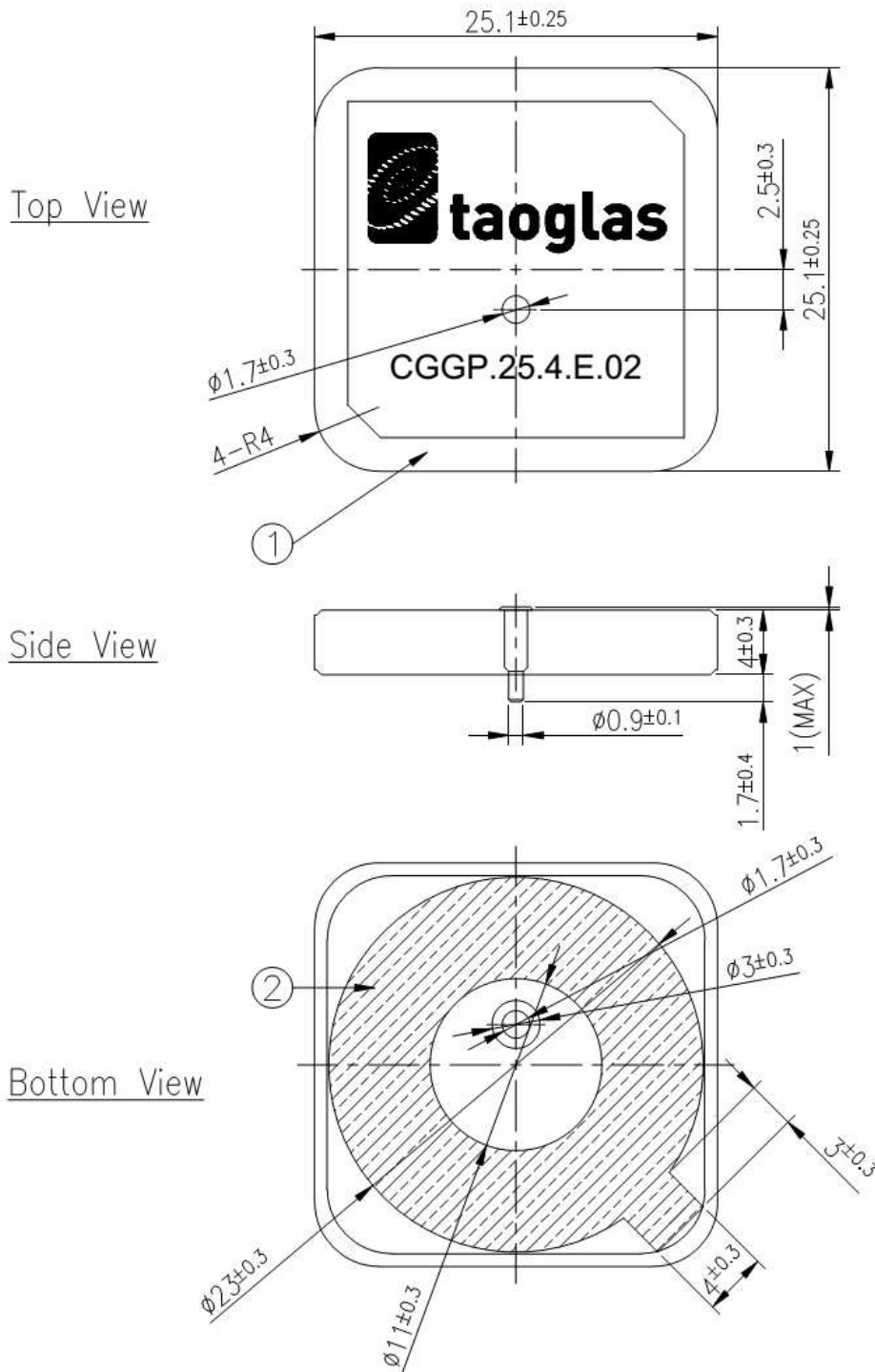## 4.3 3D Radiation Pattern

@1575.42MHz

@1575.42MHz

5. Axial Ratio

5.1 1575.42 MHz

Pattern		Model No.	Test Mode	Freq(MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.
1		CGGP.25.4.E.02	Axial Ratio	1575.42	2.70 / 0.30	-45.20 / 257.19	-4.56	CP

5.2 1602 MHz

Pattern		Model No.	Test Mode	Freq(MHz)	Max Gain(dBi)	Min Gain(dBi)	Avg. Gain(dBi)	Source Polar.
1		CGGP.25.4.E.02	Axial Ratio	1602.00	4.21 / 358.39	-33.06 / 216.52	-3.02	CP

6. Mechanical Drawing

Top View

25.1±0.25

2.5±0.3

25.1±0.25

Ø1.7±0.3

4-R4

CGGP.25.4.E.02

①

Side View

4±0.3

1(MAX)

Ø0.9±0.1

1.7±0.4

Bottom View

②

Ø1.7±0.3

Ø3±0.3

3±0.3

4±0.3

Ø23±0.3

Ø11±0.3

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
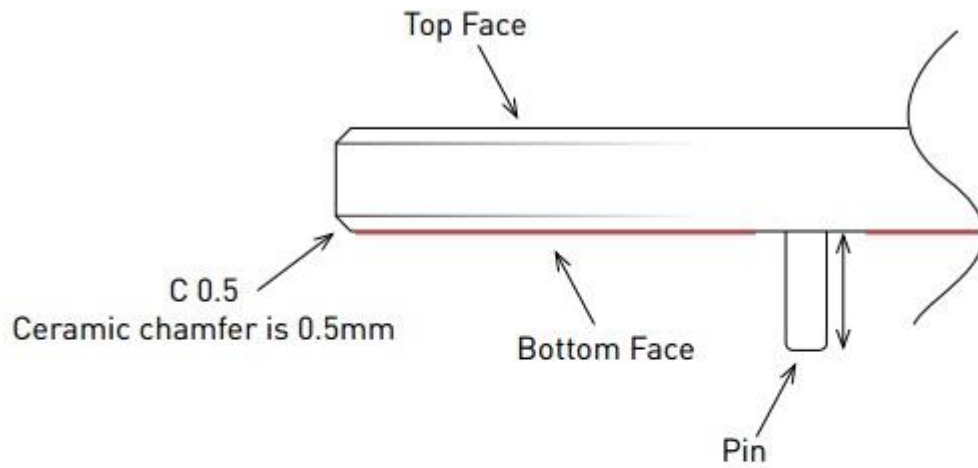
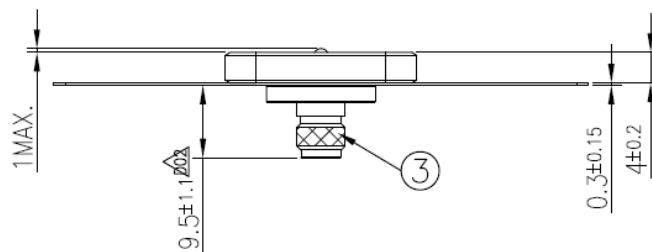**Red Line** shows the adhesive without Liner – thickness 0.08~0.1mm
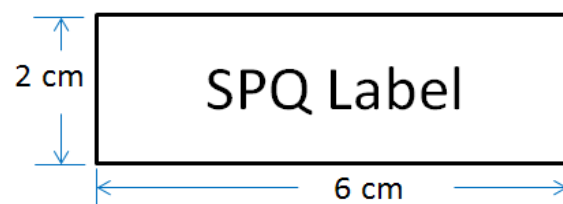
7. PCB Footprint Recommendation

Top View

Ø3   Ground

Ø 1.2 Thru Hole

Bottom View

Ground

Ø 1.2 Thru Hole

Ø2.5

Ø3.5

Tolerance : +/- 0.20
Unit : mm
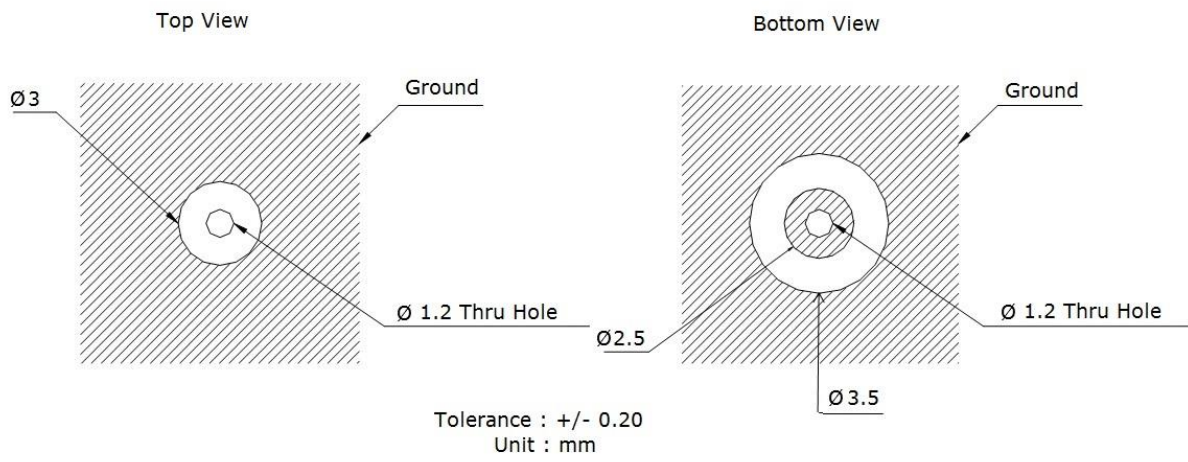
8. Evaluation Board (CGGPD.25.H)
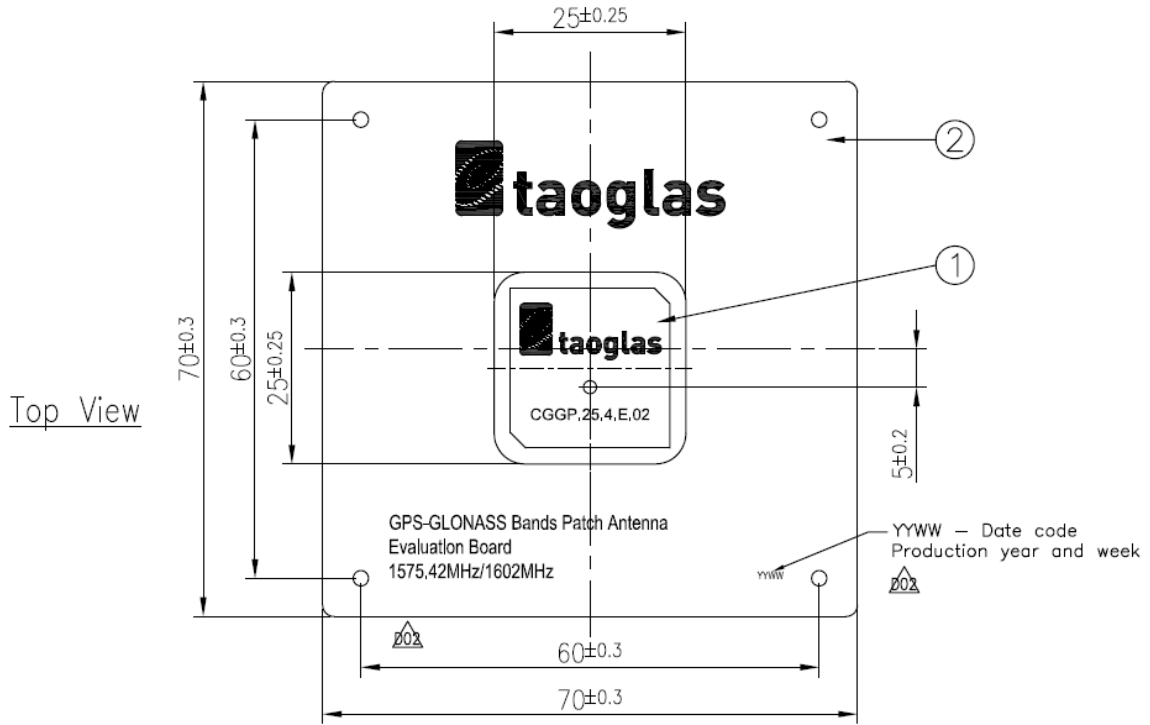
Top View

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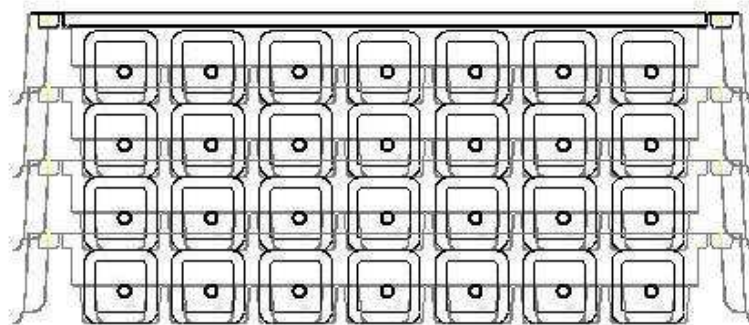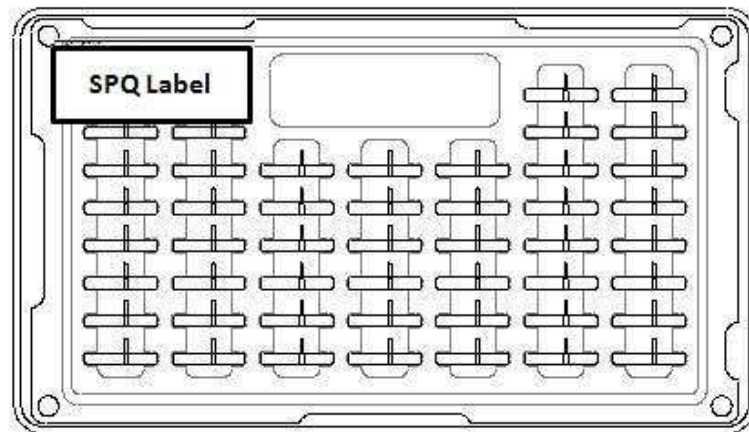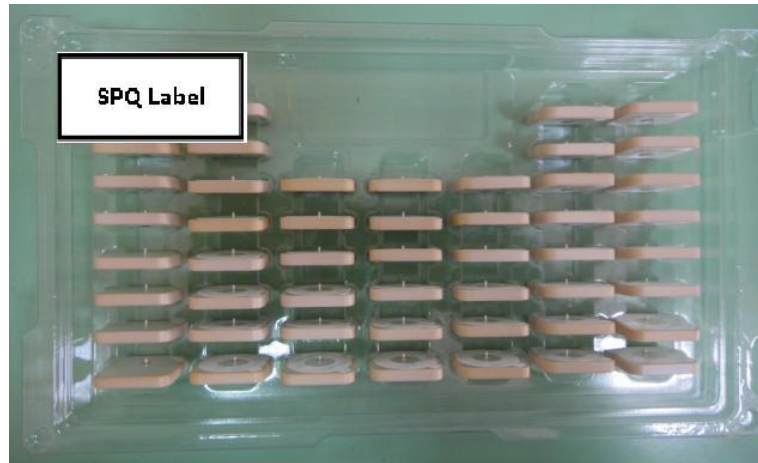
200 Units / Inside Carton (261*152*118mm)

118

261

152

Inside Box

DA package disassembly
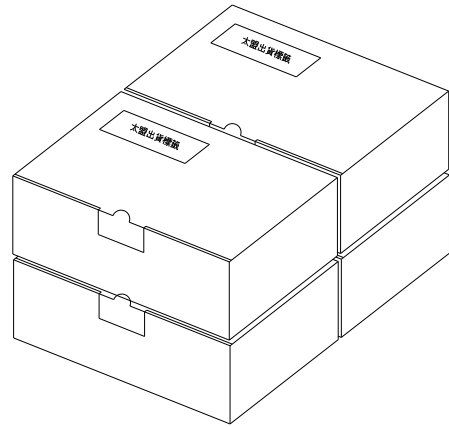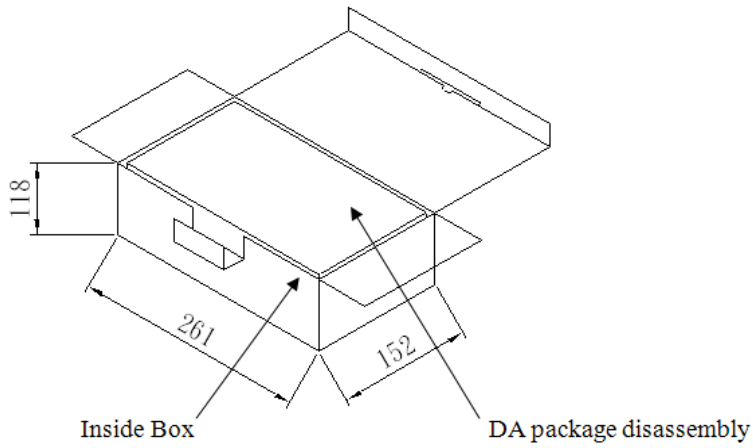
800 Units / Outside Carton (330*280*270mm)
Total Weight :9.3 kg

280

330

270

Outside Box

Label

Carton Label

6 cm

10 cm
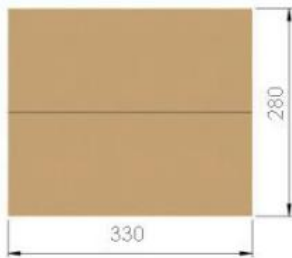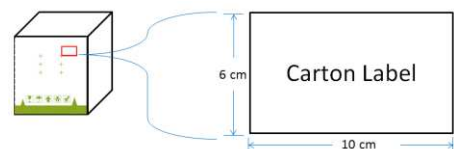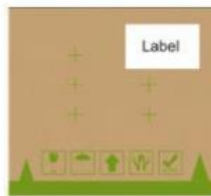
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