Specification

Part No.	:	**CGGP.25.2.A.02**
Description	:	GPS/GLONASS Dual-Band Ceramic Patch Antenna 25x25x2mm
Features	:	4.24dBi Peak Gain for GPS Band 4.38dBi Peak Gain for GLONASS Band Low profile – 2mm Height Pin Type Ceramic Patch Antenna Automotive TS16949 Production and Quality Approved RoHS compliant

1. Introduction

The CGGP.25.2.A.02 is a ceramic GPS/Glonass passive patch antenna, with a low profile thickness of only 2mm. It is designed for applications in vehicle navigation devices as well as other M2M/IoT devices where space is at a premium. Typical applicable industries are transportation, defense, marine, agriculture, and navigation.

The antenna has been tuned on a 70 x 70 mm ground plane, working at 1575.42MHz and 1602MHz, with 4.24dBi gain and 4.38dBi gain, respectively. The low profile design makes this antenna perfect for applications where space is limited. It can be easily through-hole mounted on PCB via pin. Double sided adhesive on the bottom of the patch helps to keep it in place while undergoing mounting. The CGGP.25.2.A.02 is manufactured and tested in a TS16949 first tier automotive approved facility.

For large volume GPS/GLONASS projects where performance is paramount, tuning for customer specific device environment and ground-plane size is needed, so custom tuned patch antennas should always be used. Taoglas can also provide different pin lengths for these antennas, all subject to potential NRE and MOQ. For more details please contact your regional Taoglas sales office.

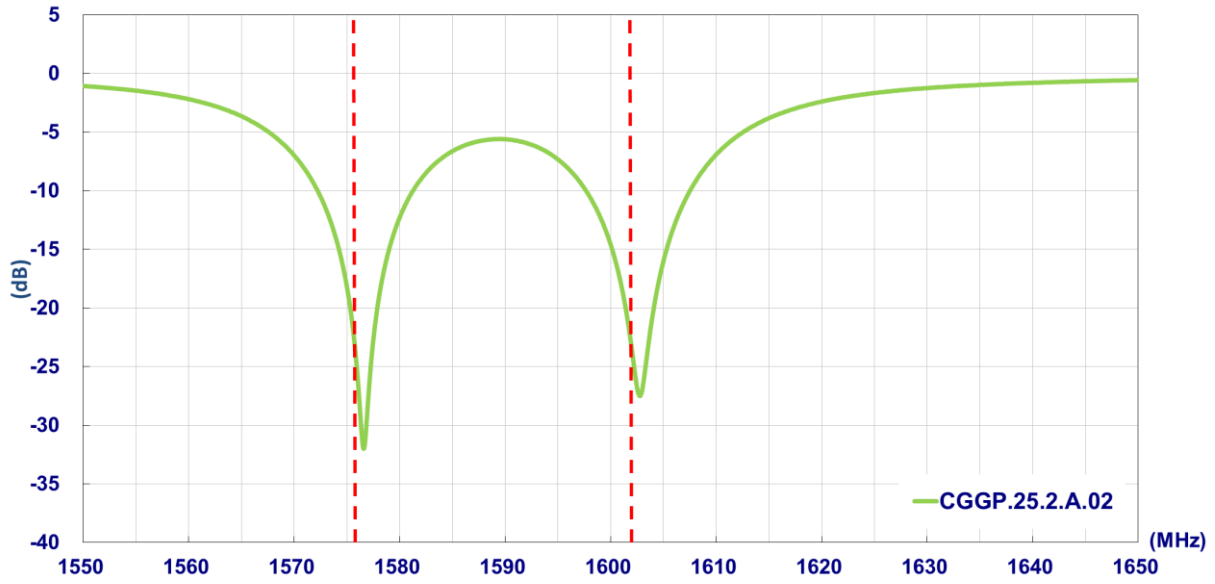
2. Specification

ELECTRICAL		
Application Bands	GPS	GLONASS
Operation Frequency (MHz)	1575.42 ±1.023	1602±5
Return Loss (dB)	-10 max.	
Peak Gain (dBi)	4.24	4.38
Efficiency (%)	67.78	68.28
Impedance	50 ohms	
MECHANICAL		
Ceramic Dimension (mm)	25 x 25 x 2	
Pin Diameter (mm)	0.9	
Pin Length (mm)	2.4	
Weight (g)	4	
ENVIRONMENTAL		
Storage Temperature	-40°C to 85°C	
Operation Temperature	-40°C to 85°C	
Humidity	Non-condensing 65°C 95% RH	

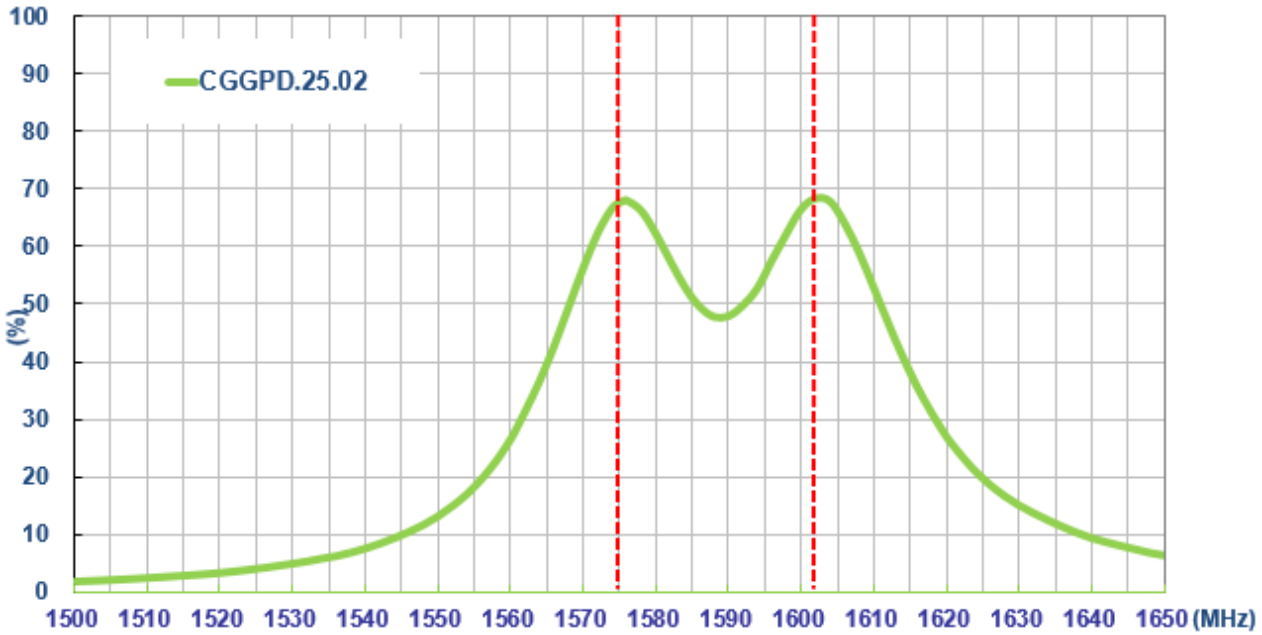
* Antenna properties were measured with the antenna mounted on 70*70mm Ground Plane Taoglas Evaluation Board # CGGPD.25.B

3. Antenna Characteristcs

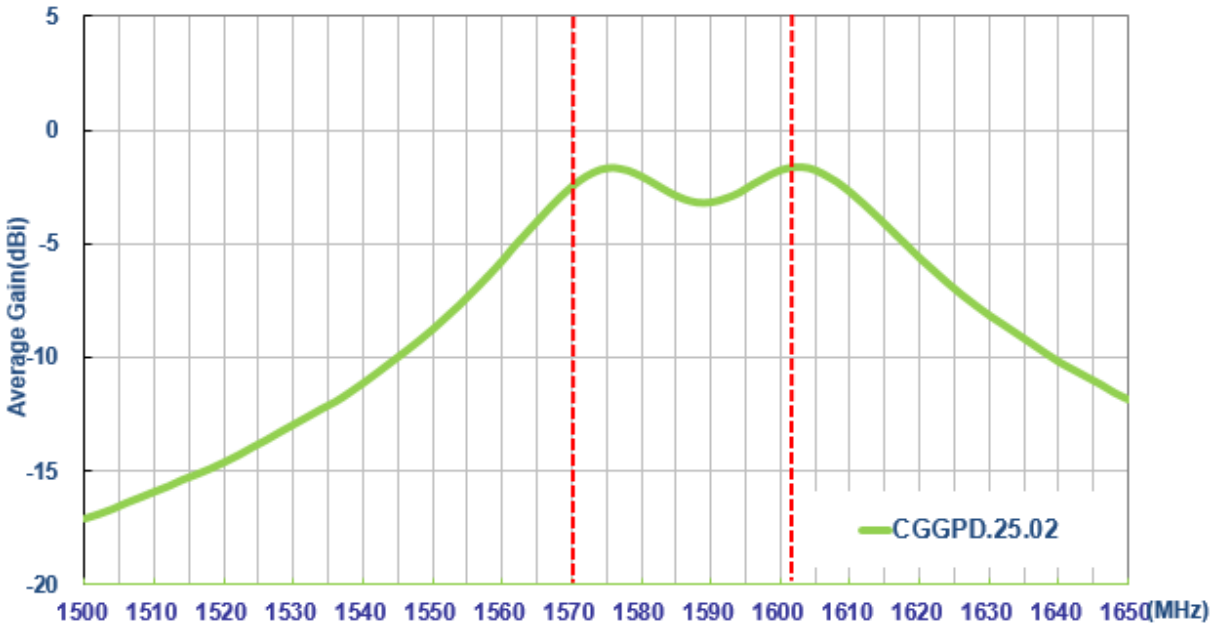
3.1 Return Loss



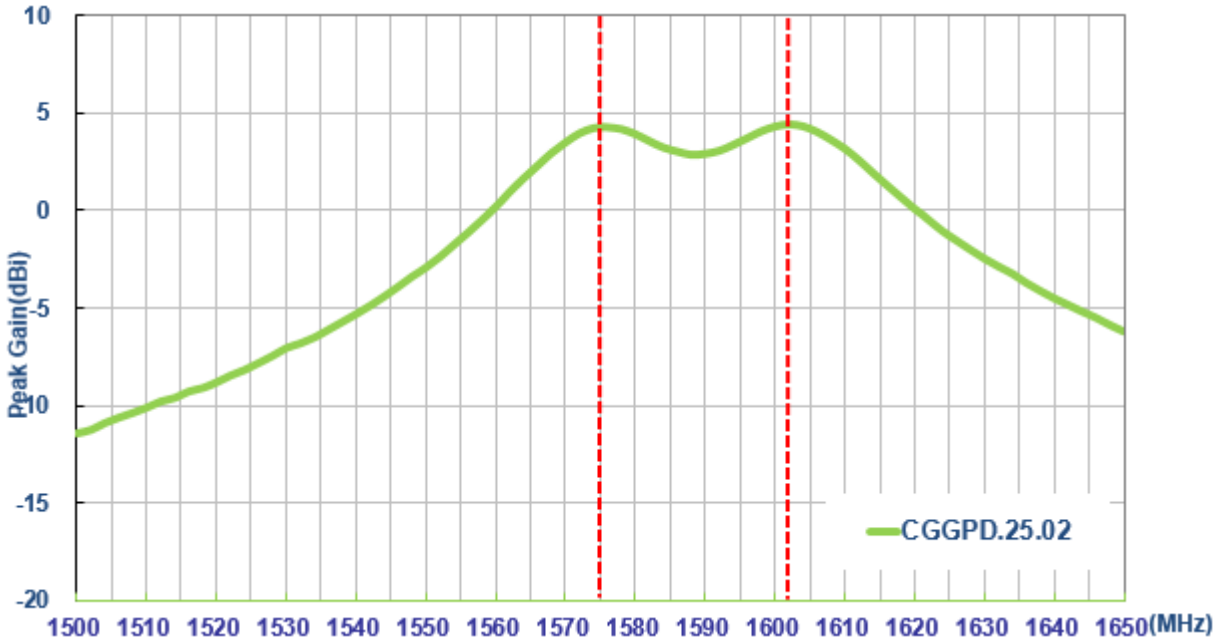
3.2 Efficiency



3.3 Average Gain



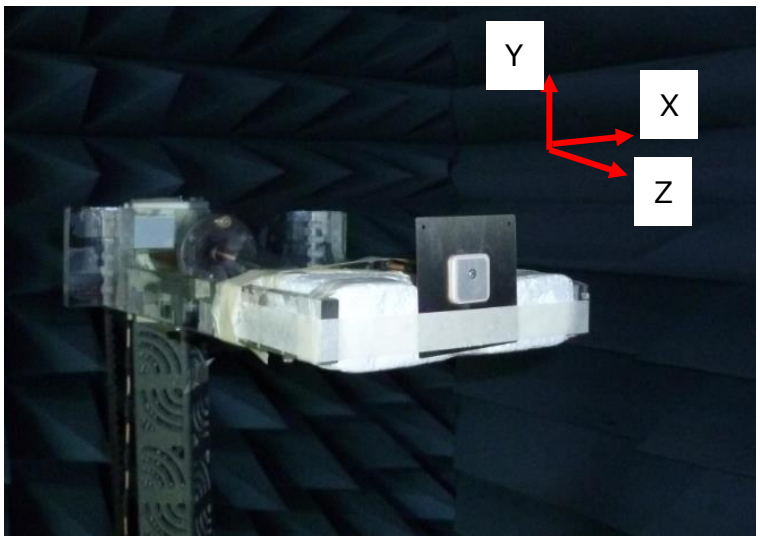
3.4 Peak Gain



4. Antenna Radiation Pattern

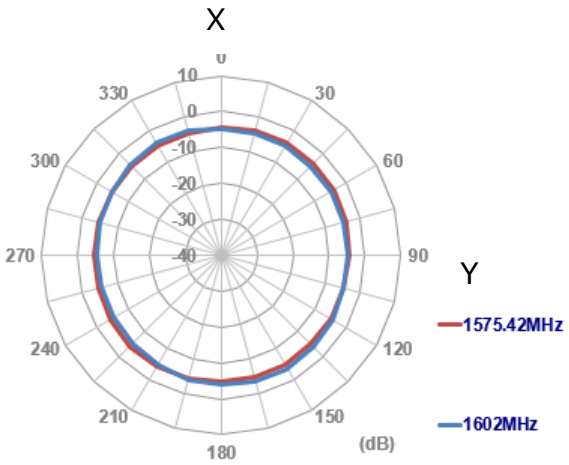
4.1. Measurement Setup

The CGGP.25.2.A.02 antenna is tested with 70mm*70mm ground plane in a CTIA certified ETS-Lindgren Anechoic Chamber. The test setup is shown below.

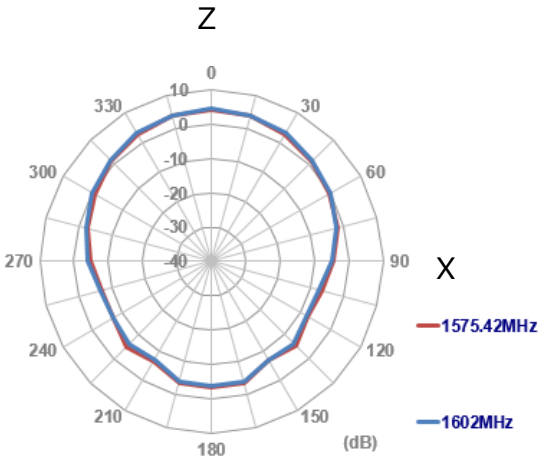


4.2. 2D Radiation Pattern

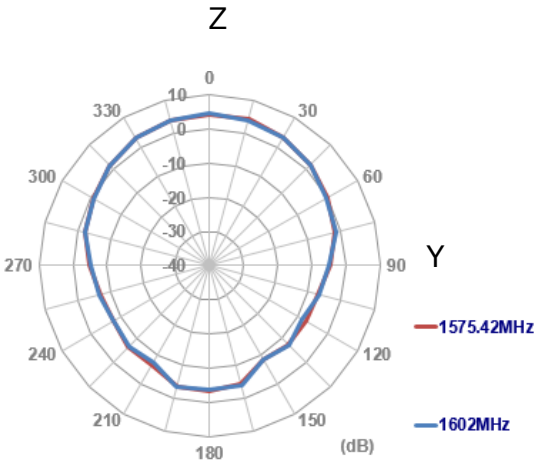
XY Plane



XZ Plane

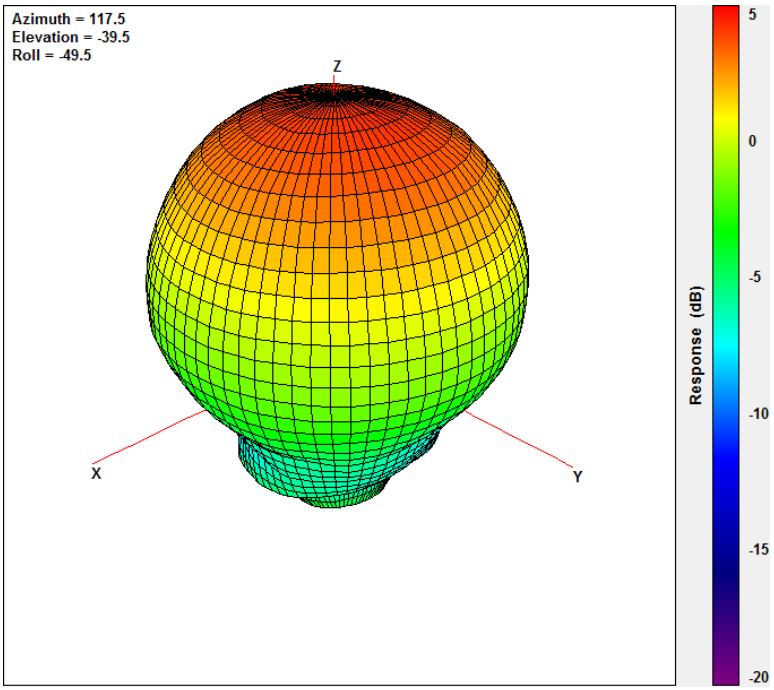


YZ Plane

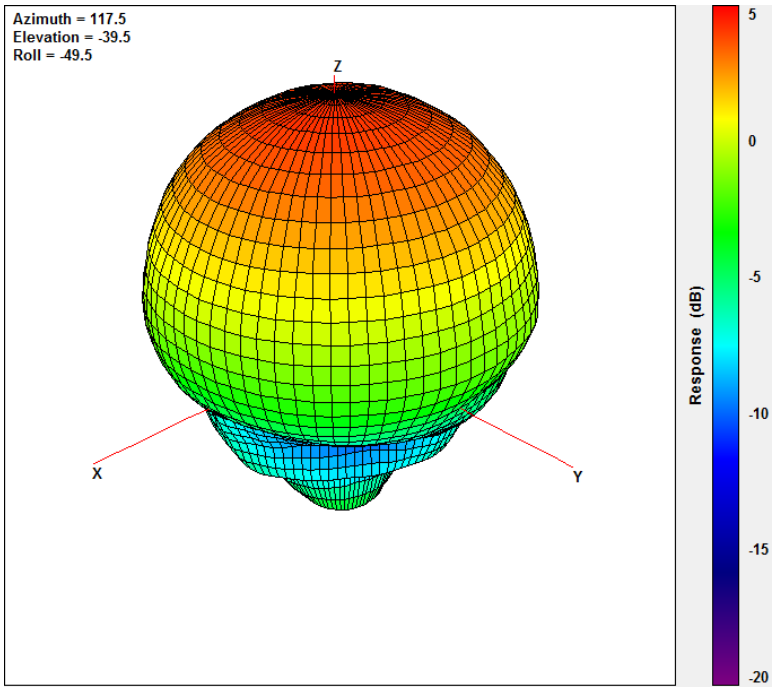


4.3. 3D Radiation Pattern

1575.42MHz

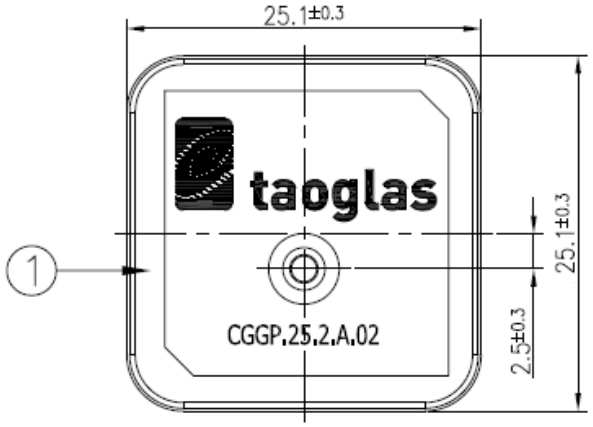


1602MHz

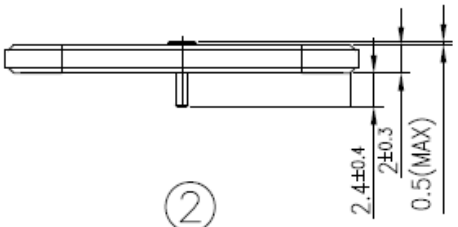


5. Mechanical Drawing

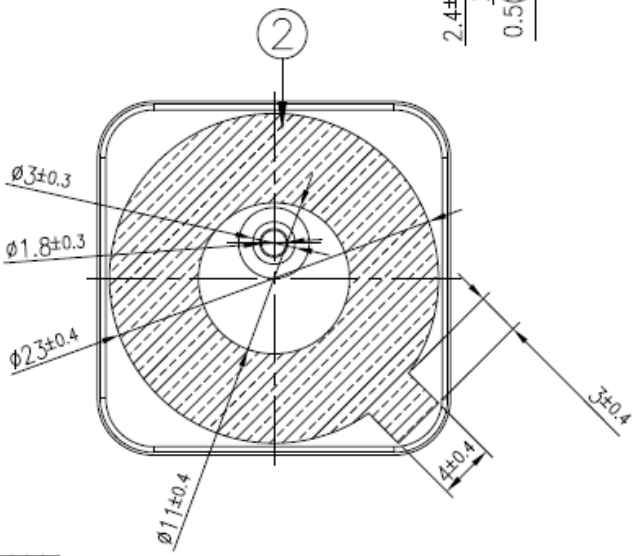
Top



Side



Bottom

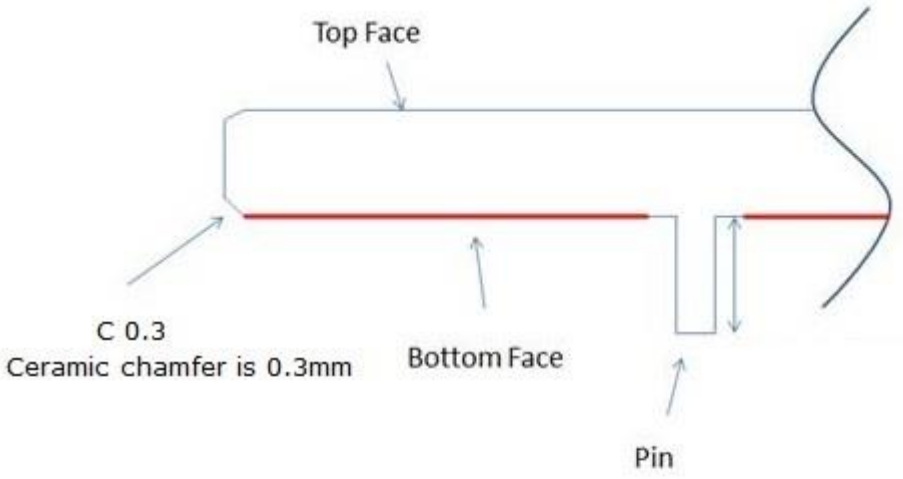


Note:
1.Double sided adhesive area.

Unit:mm

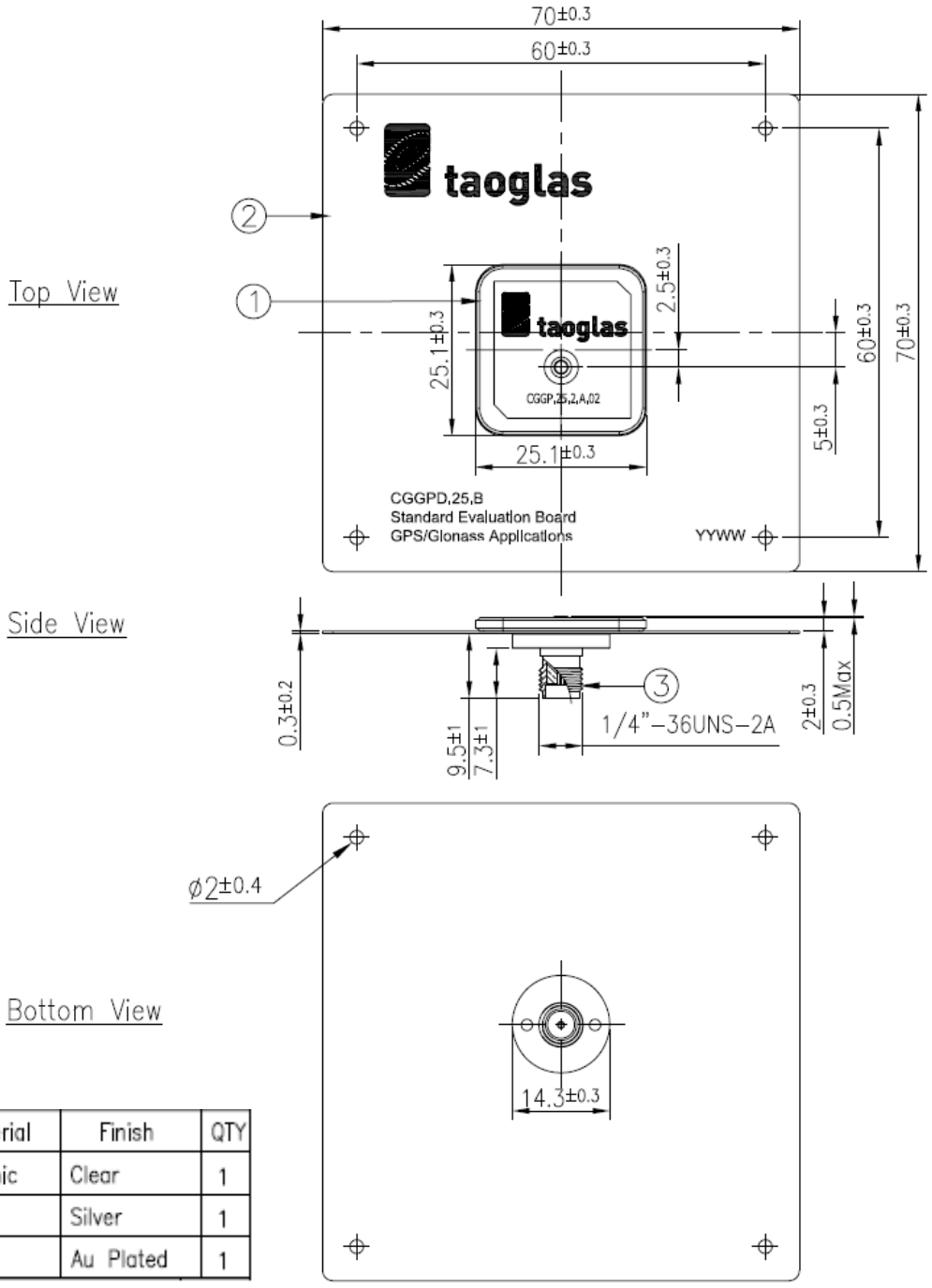
	Name	Material	Finish	QTY
1	Patch(25*25*2mm)	Ceramic	Clear	1
2	Double sided Adhesive	NITTO 5015	White Liner	1

5.1 Adhesive Thickness



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

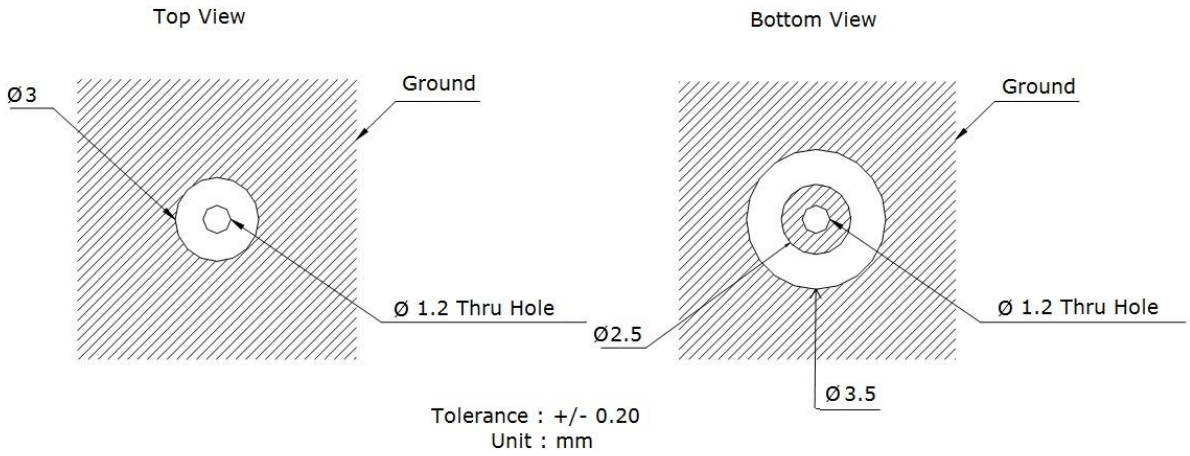
6. Evaluation Board (CGGPD.25.B)



	Name	Material	Finish	QTY
1	Patch(25*25*2mm)	Ceramic	Clear	1
2	Ground-Plane	Brass	Silver	1
3	SMA(F)ST	Brass	Au Plated	1

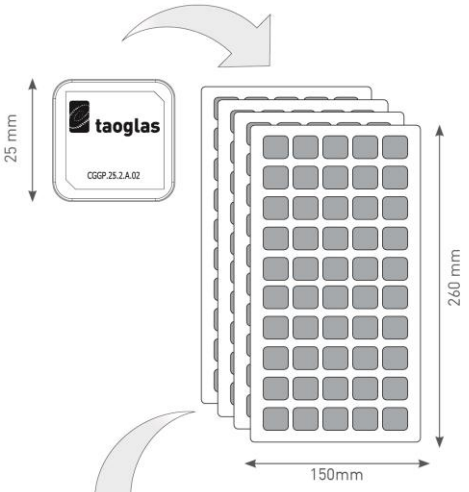
Unit:mm

7. PCB Footprint Recommendation

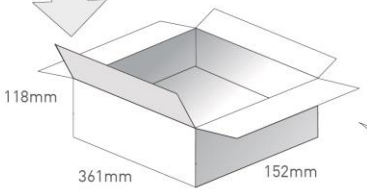


8. Packaging

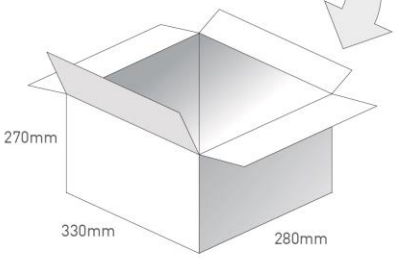
50 pcs CGGP.25.2.A.02 per tray
Tray Dimensions - 260*150*32mm
Weight - 310g



200 pcs CGGP.25.2.A.02 per Inner Carton
Inner Carton Dimensions - 361*152*118mm
Weight - 1.35kg



800 pcs CGGP.25.2.A.02 per Carton
Carton Dimensions - 330*280*270mm
Weight - 5.9kg



Pallet Dimensions 1200*1000*1550mm
60 Cartons per Pallet
12 Cartons per layer
5 Layers