

Specification

Part No.	: CGGBP.25.2.A.02
Description	: GPS/GLONASS/BeiDou 25x25x2mm Ceramic Patch Antenna
Features	: 3.25dBi Peak Gain for GPS Band 4.35dBi Peak Gain for GLONASS Band 3.44dBi Peak Gain for BeiDou Band Low profile – 2mm Height Pin Type Ceramic Patch Antenna Automotive TS16949 Production and Quality Approved RoHS compliant



1. Introduction

The CGGBP.25.2.A.02 is a ceramic GPS/Glonass/BeiDou 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 1561MHz, 1575.42MHz and 1602MHz, with 3.44dBi gain, 3.25dBi gain and 4.35dBi 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 CGGBP.25.2. A.02 is manufactured and tested in a TS16949 first tier automotive approved facility.

For large volume GPS/GLONASS/BeiDou 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. _____

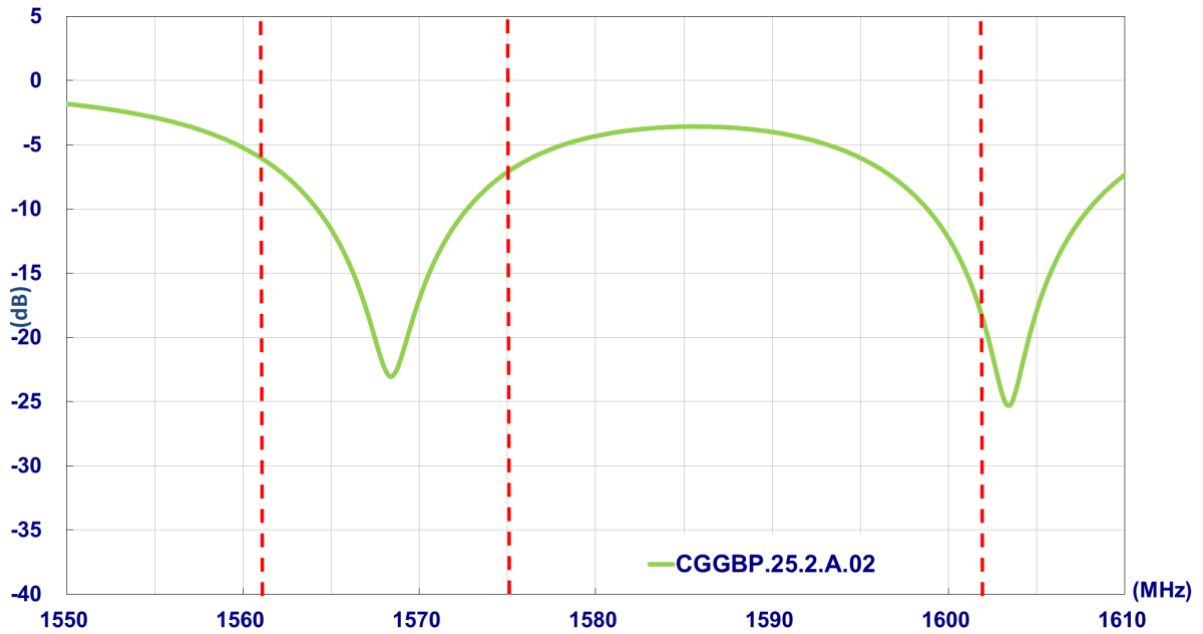
2. Specification

Electrical			
Application Bands	GPS	GLONASS	BeiDou
Operation Frequency (MHz)	1575.42 ±1.023	1602±5	1561.1±5
Return Loss (dB)	-6 max		
Peak Gain (dBi)	3.25	4.35	3.44
Efficiency (%)	53.10	71.57	54.81
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			
Operation Temperature	-40°C to 85°C		
Humidity	Non-condensing 65°C 95% RH		

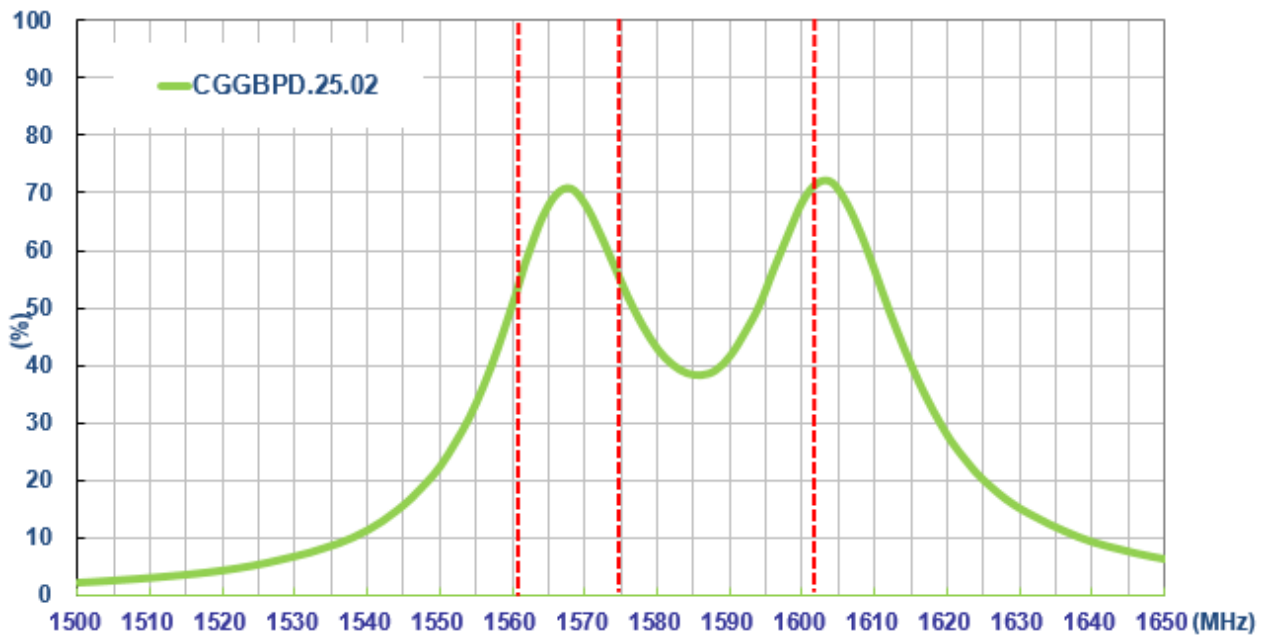
* Antenna properties were measured with the antenna mounted on 70*70mm Ground Plane Taoglas Evaluation Board # CGGBPD.25.B

3. Antenna Characteristics

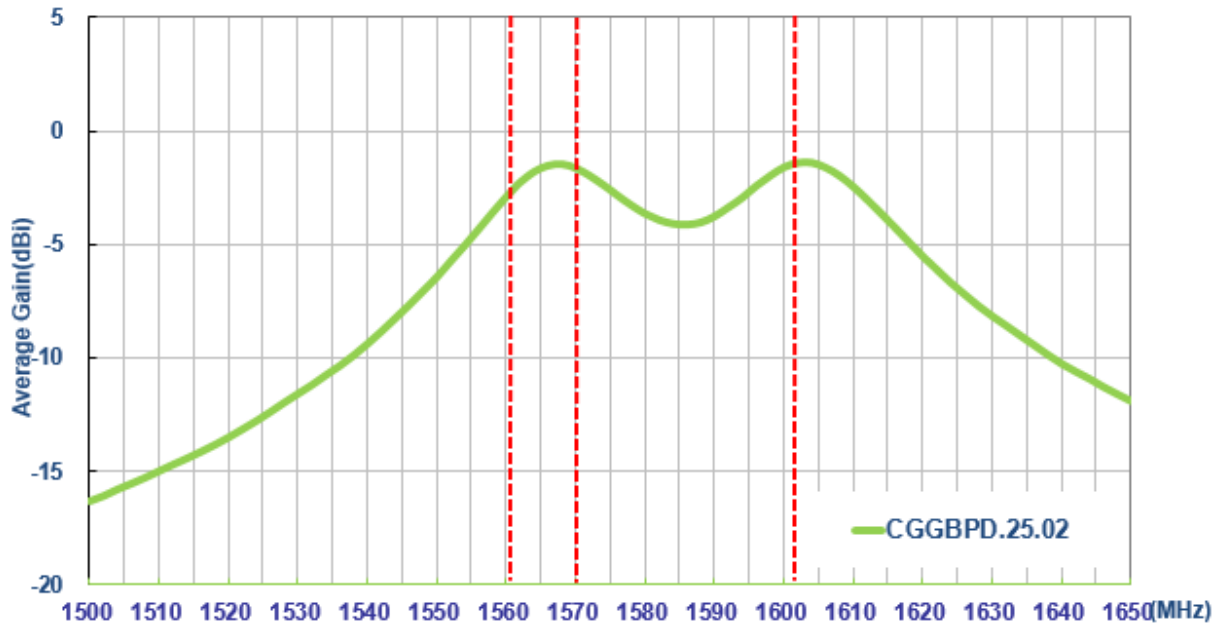
3.1 Return Loss



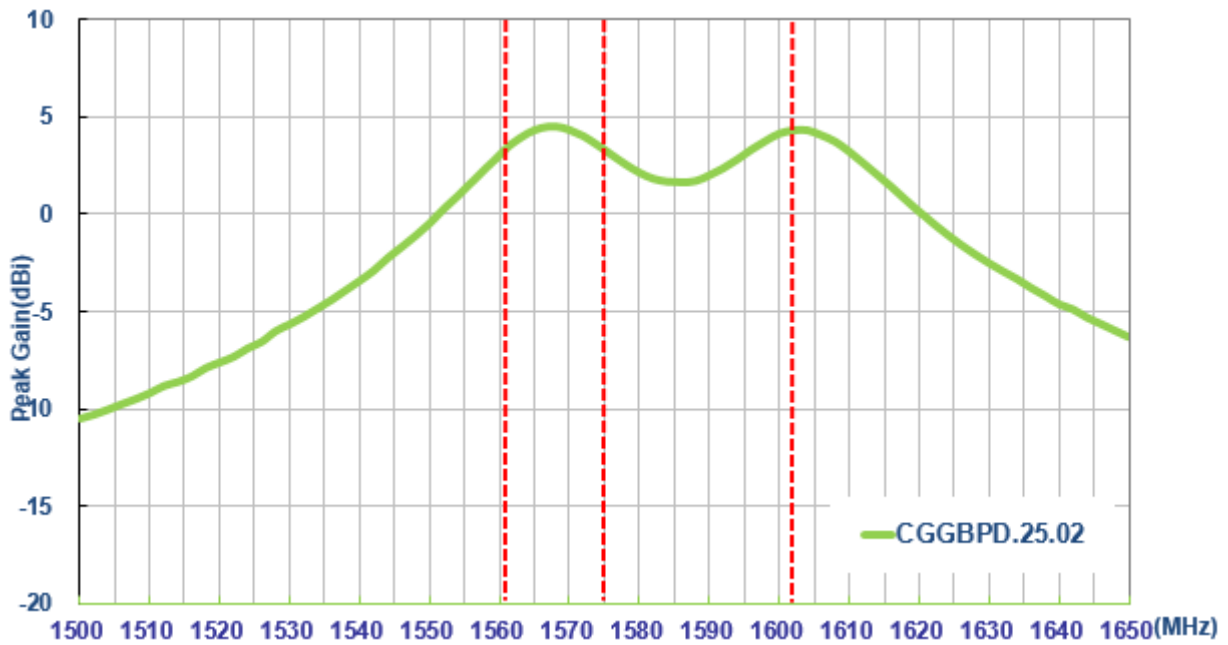
3.2 Efficiency



3.3 Average Gain



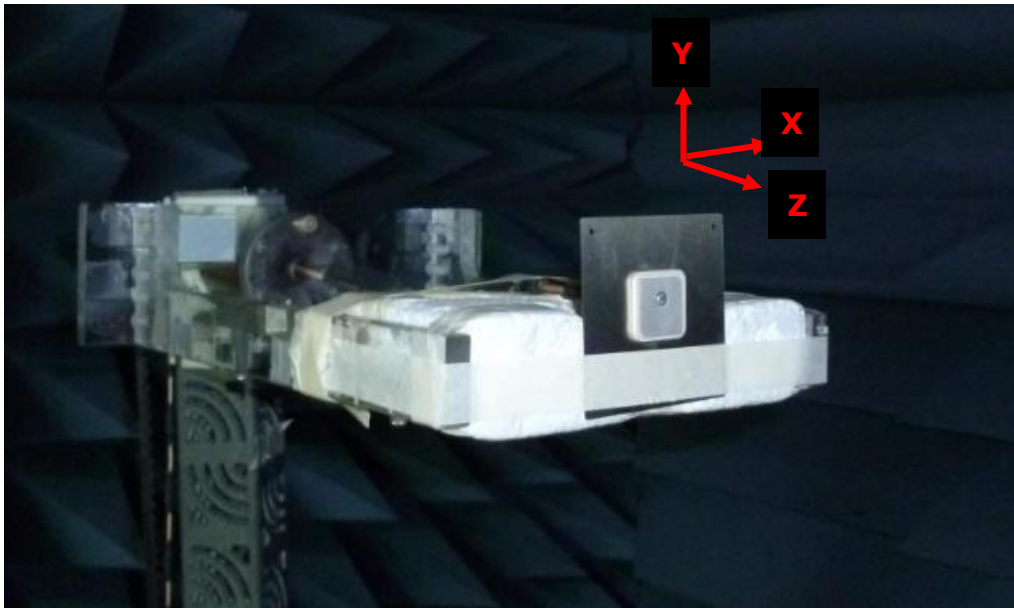
3.4 Peak Gain



4. Antenna Radiation Pattern

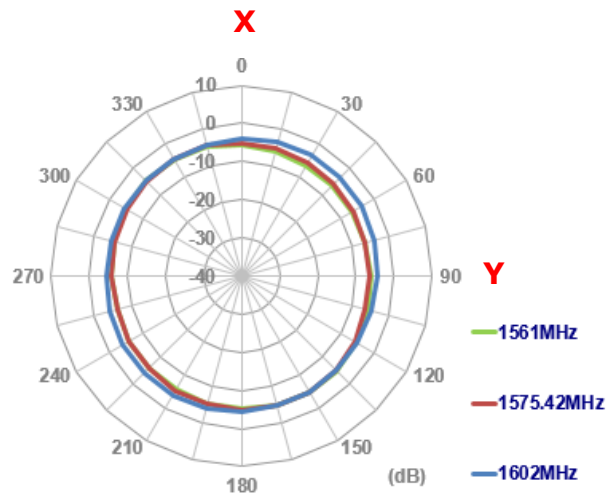
4.1. Measurement Setup

The CGGBP.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.

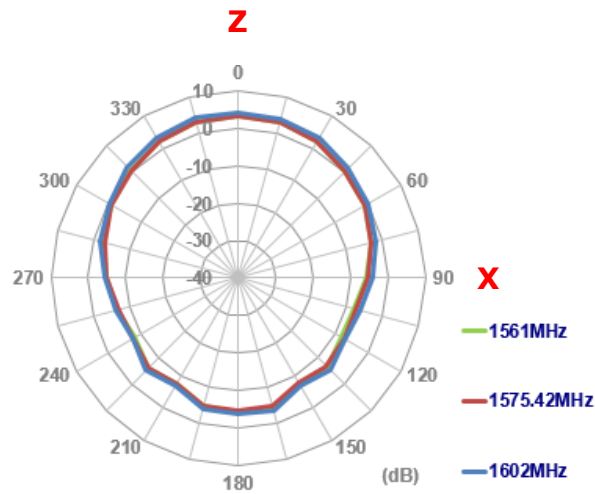


4.2. 2D Radiation Pattern

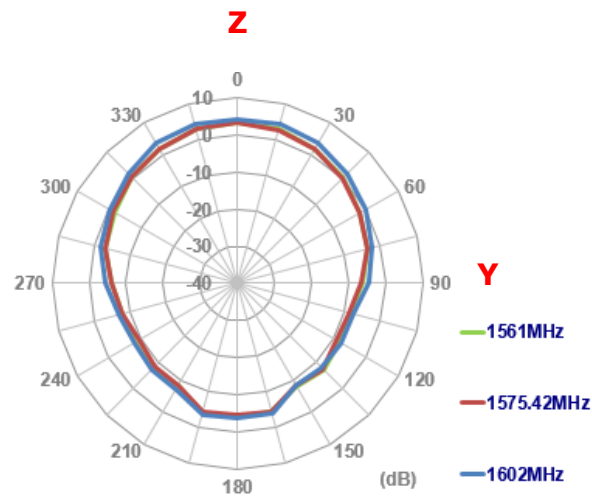
XY Plane



XZ Plane

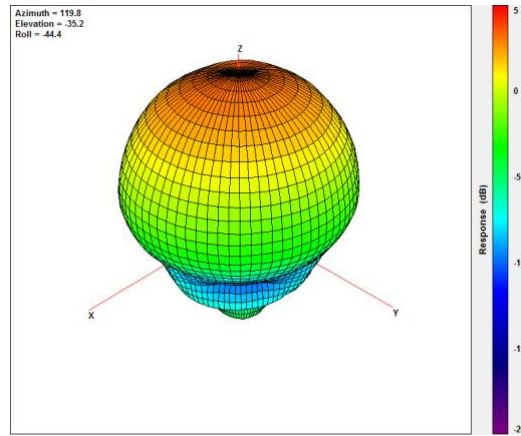


YZ Plane

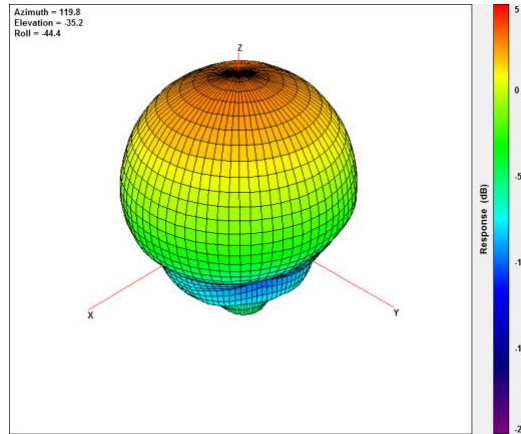


4.3. 3D Radiation Pattern

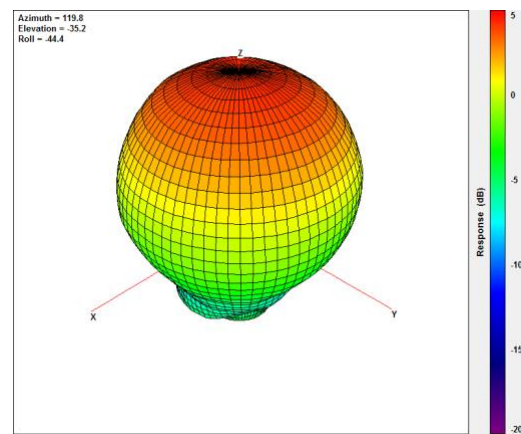
1561MHz



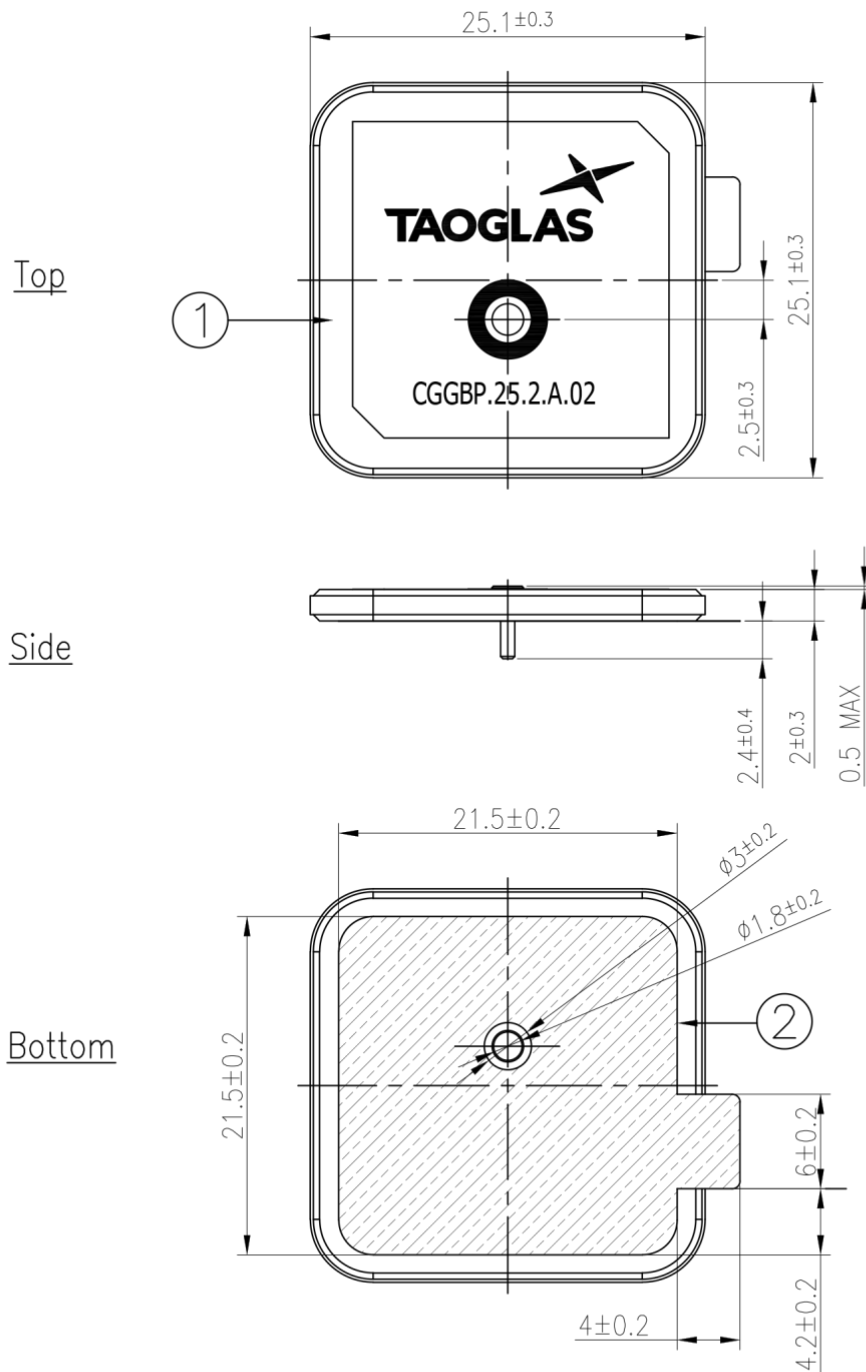
1575.42MHz



1602MHz




5. Mechanical Drawing



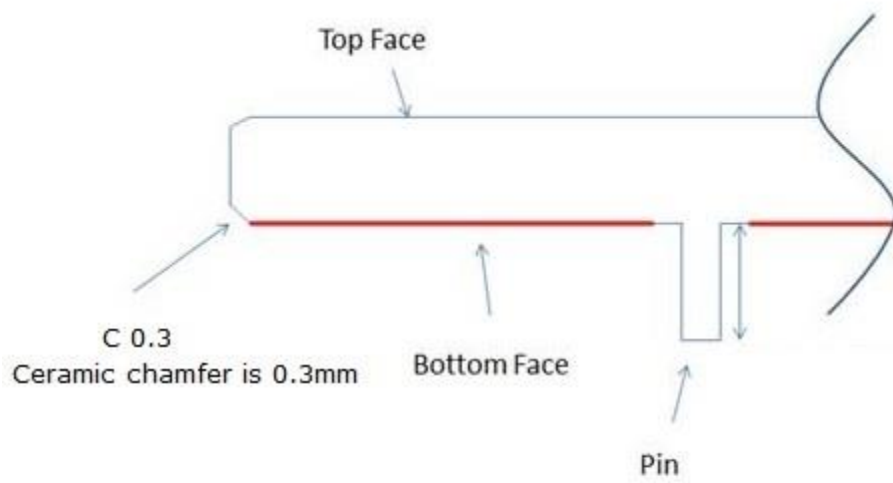
Note:

1. Double sided adhesive area. 

2. Soldermask Area. 

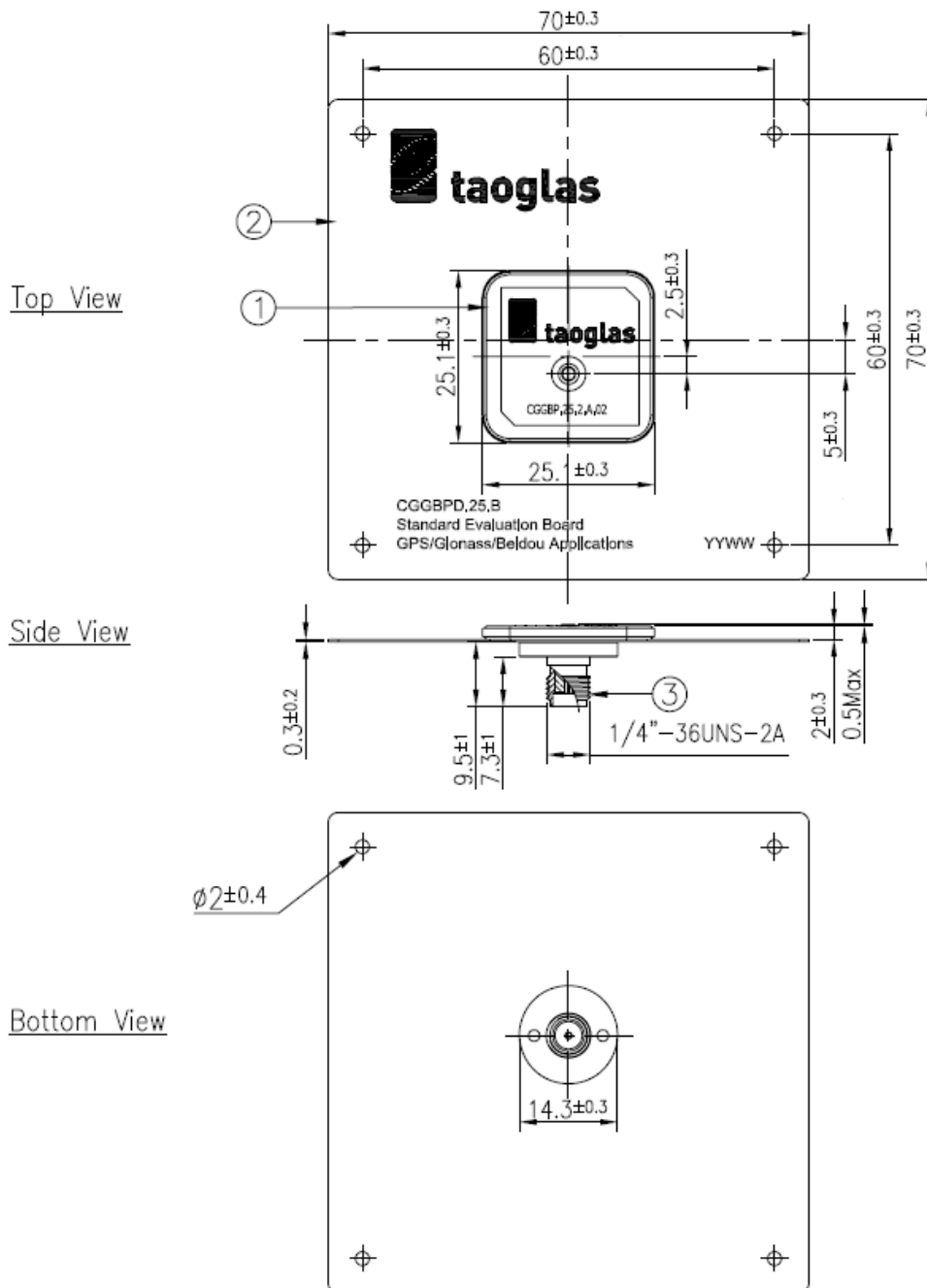
	Name	P/N	Material	Finish	QTY
1	Patch(25*25*2mm)	001515F030007A	Ceramic	Clear	1
2	Double sided Adhesive	001516B020000A	NITTO 5015	White Liner	1

5.1 Adhesive Thickness



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

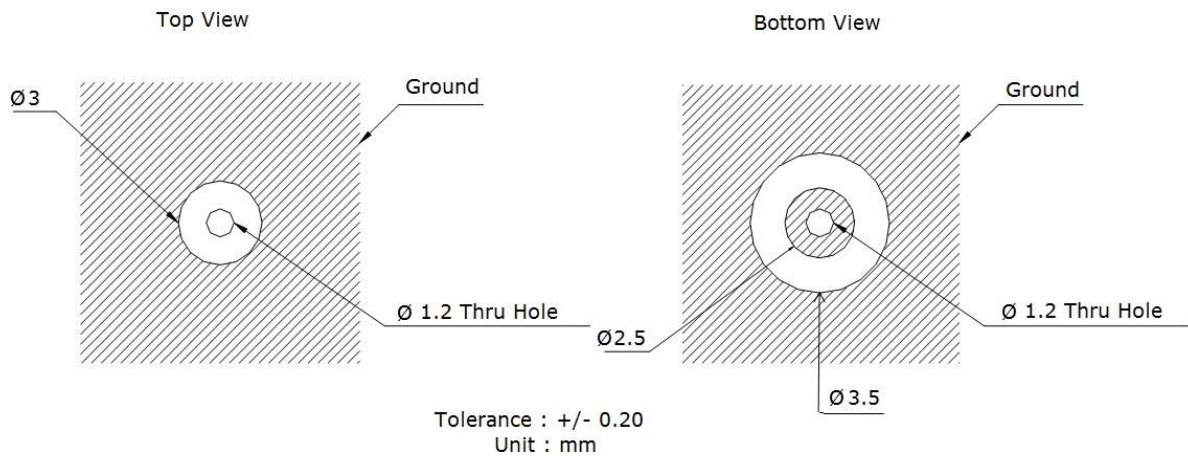
6. Evaluation Board (CGGBP.D.25.B)



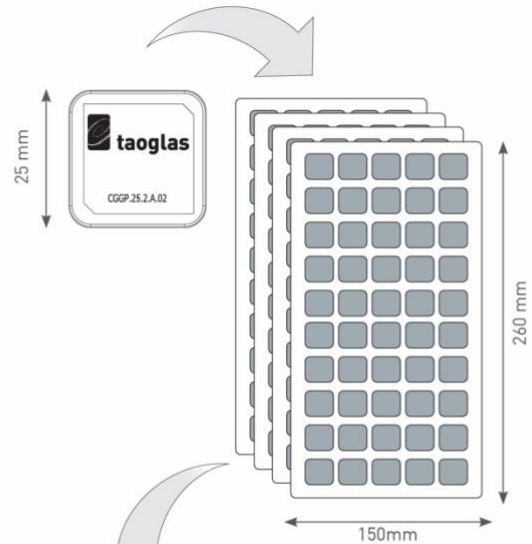
Unit: mm

	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

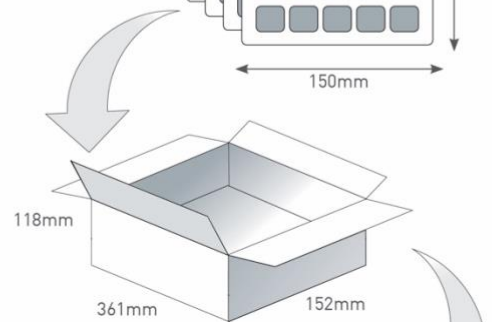
7. PCB Footprint Recommendation



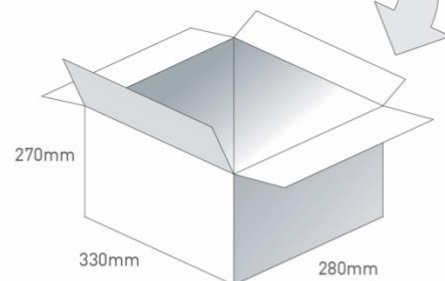
8. Packaging



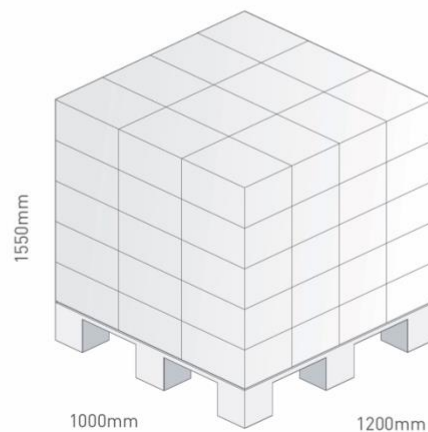
50 pcs CGGP.25.2.A.02 per tray
 Tray Dimensions - 260*150*32mm
 Weight - 310g



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

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