

SPECIFICATION

Part No. : **CGGP.35.3.A.02**

Description : 3.5mm thick GPS/GLONASS/GALILEO Patch Antenna,

1575/1610Mhz

Features : Wide-band Operation

35mm*35mm*3.5mm

4dBi Peak Gain (on 50mm*50mm ground-plane)

85% Efficiency (on 50mm*50mm ground-plane)

Pin type

Automotive TS16949 Production and Quality Approved

RoHS Compliant





1. Introduction

This 35mm ceramic GPS/GLONASS/GALILEO patch antenna, by means of a double resonance design, has unique wide-band operation over the whole operating bands of GPS/GALILEO and GLONASS systems from 1575MHz to 1610MHz. It is mounted via pin and double-sided adhesive.

This antenna has been tuned for a center position on a 50mm*50mm ground-plane. It is manufactured and tested in a TS16949 first tier automotive approved facility. For further optimization to customer specific device environments where positioning is off center or on different ground-plane sizes, custom tuned patch antennas can be supplied. Taoglas can also provide different pin lengths for these antennas, subject to potential NRE and MOQ. For more details please contact your regional Taoglas sales office.



2. Specification

ELECTRICAL						
Application Bands	GPS/GALILEO	GLONASS				
Operation Frequency	1575.42 ±1.023MHz	1602±5MHz				
Bandwidth	22MHz min					
VSWR	1.5					
Peak Gain	4dBi					
Gain @ Zenith	4 dBi typ.					
Gain @ 10° Elevation	1.5 dBi typ.					
Axial Ratio	3 dB max					
Impedance	50Ω					
Efficiency	85%					
Frequency Temperature	0 ± 20ppm / oC					
Coefficient (Tf)						
MECHANICAL 25*25*2 5						
Ceramic Dimension	35*35*3.5mm					
Pin Length	1.67mm					
Pin Diameter	0.9mm					
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 50*50mm Ground Plane Taoglas Part #CGGPD.35.A



3. Test Setup

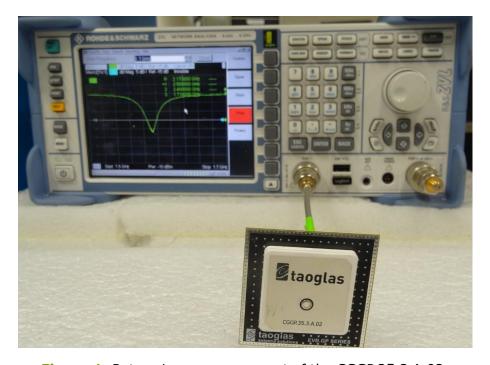


Figure 1. Return Loss measurement of the CGGP.35.3.A.02.



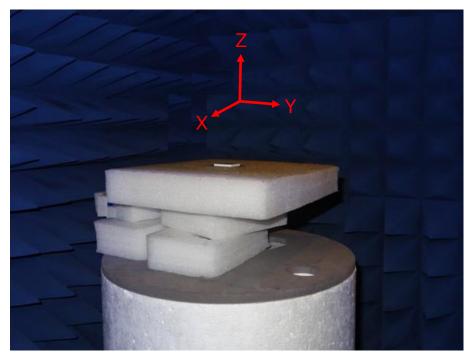


Figure 2. Peak gain, efficiency and radiation pattern measurements of the CGGP.35.3.A.02.

4. Antenna Characteristics

4.1. Return Loss

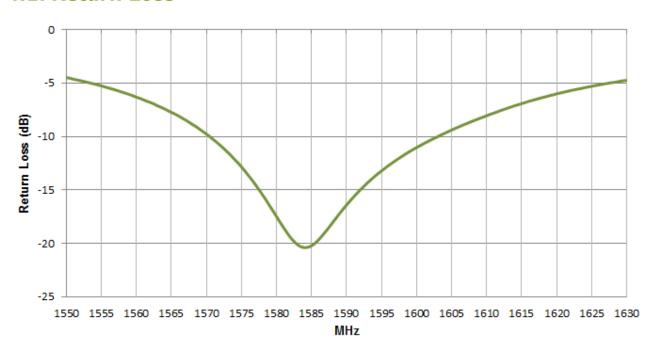


Figure 3. Return Loss of the CGGP.35.3.A.02.



4.2. VSWR

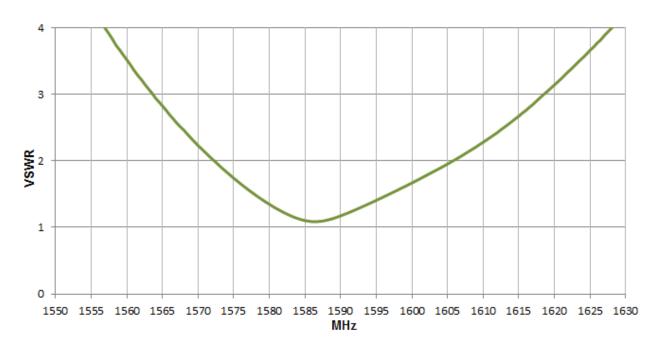


Figure 4. VSWR of the CGGP.35.3.A.02.

4.3. Efficiency

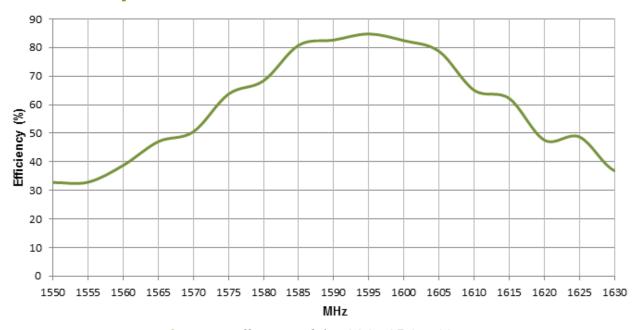


Figure 5. Efficiency of the CGGP.35.3.A.02.



4.4. Peak Gain

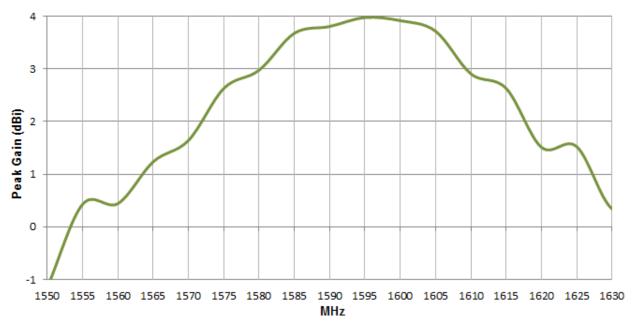


Figure 6. Peak Gain of the CGGP.35.3.A.02.

4.5. 2D Radiation Pattern

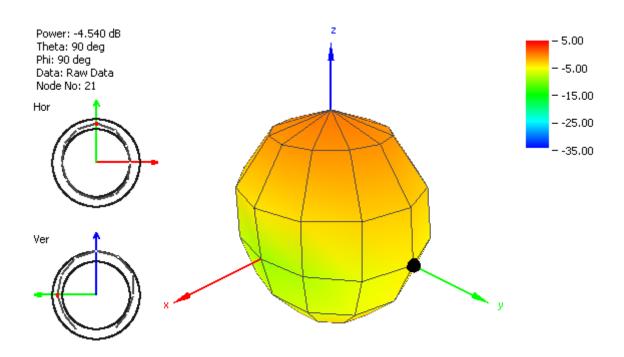




Figure 7. Radiation Pattern of the CGGP.35.3.A.02 at 1560Mhz.

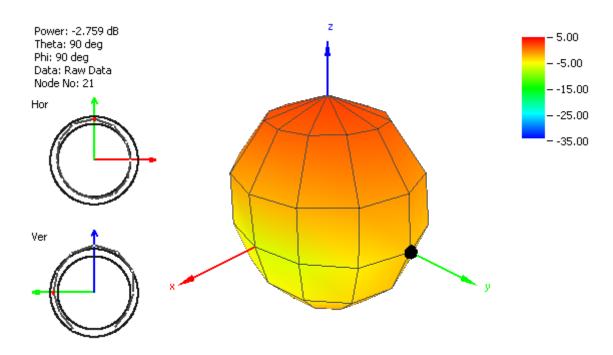


Figure 8. Radiation Pattern of the CGGP.35.3.A.02 at 1575Mhz.

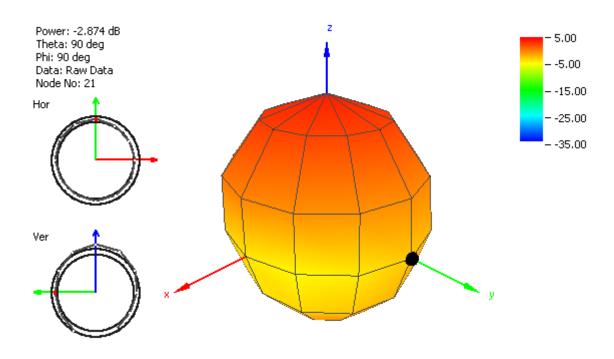


Figure 9. Radiation Pattern of the CGGP.35.3.A.02 at 1590Mhz.



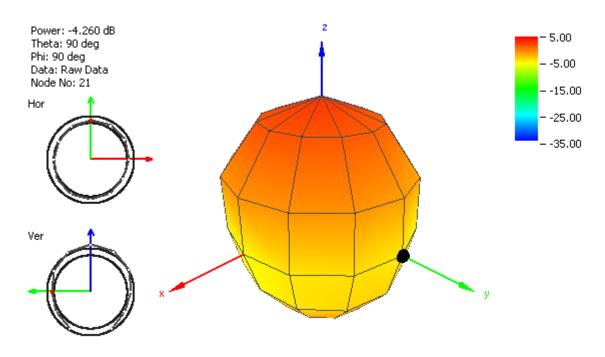
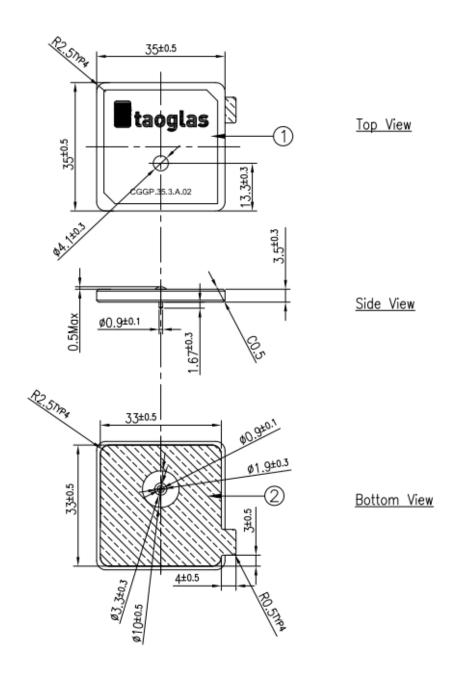


Figure 10. Radiation Pattern of the CGGP.35.3.A.02 at 1610Mhz.

5. Mechanical Drawing (Unit: mm)



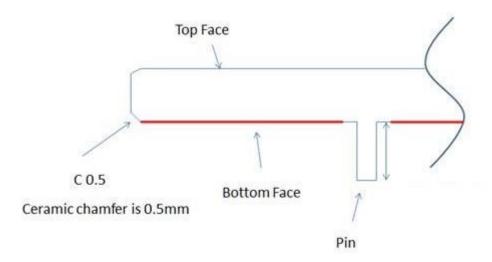


NOTES: 1.Double sided adhesive area.

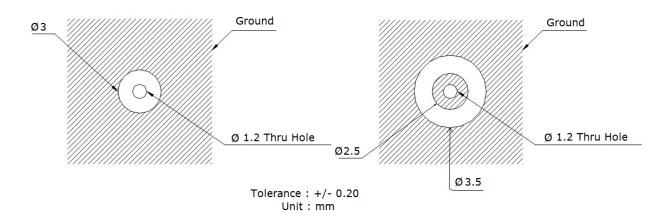
	Name	P/N	Material	Finish	QTY
1	CGGP.35 Patch 35x35x3.5	001513C080007A	Ceramic	Clear	1
2	Double sided Adhesive	001013C020007A	NITTO 5015	White Liner	1

5.1. Adhesive Thickness



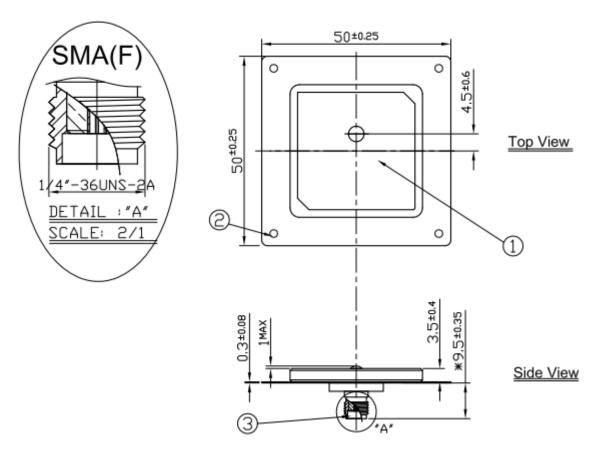


6. PCB Footprint Recommendation





7. Evaluation Board CGGPD.35.A (Unit: mm)



	Name	Material	Finish	QTY
1	CGGP.35 Patch 35x35	Ceramic	Clear	1
2	Ground-Plane(50x50x0.3mm)	Brass	Silver	1
3	SMA(F) ST	Brass	Gold	1



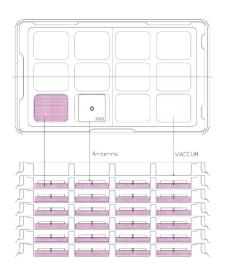
8. Packaging

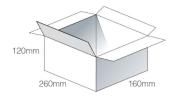
CGGP.35.3.A.02

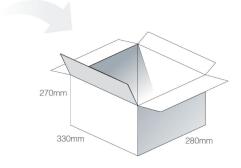
Packaging Specifications

12 Pieces CGGP.35 per tray Dimensions - Diameter 250*150*20mm Weight - 220g

6 Trays per Small Carton 72 Pieces CGGP.35 Carton Dimensions - 260*160*120 Weight - 1.37Kg

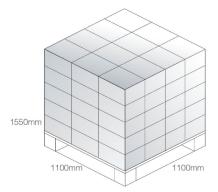






4 Small Cartons per 1 Large Carton 288 Pieces CGGP.35 per Large Carton Carton Dimensions - 330*280*270 Weight - 6Kg

Pallet Dimensions 1100*1100*1550mm 60 Cartons per Pallet 12 Cartons per layer 5 Layers



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