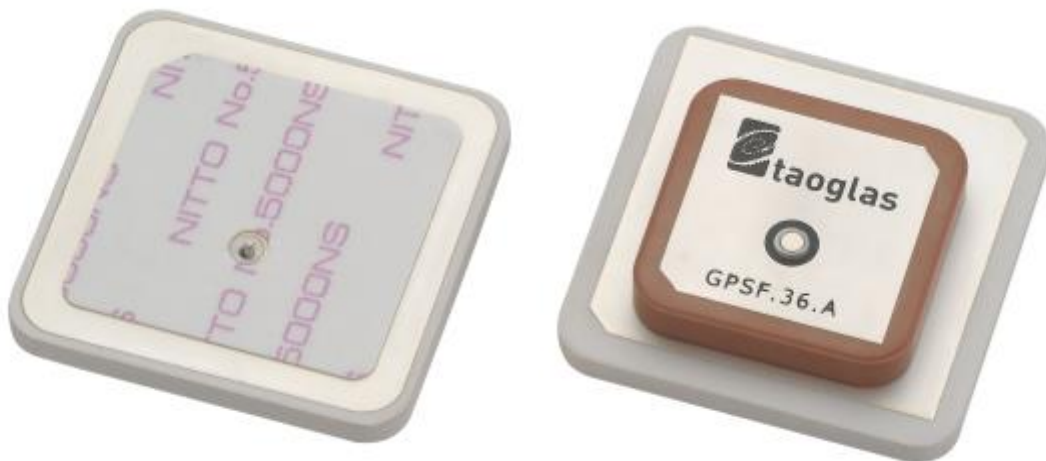


Specification

Part No	:	GPSF.36.7.A.30
Product Name	:	GPS L1/L2 36mm Single Feed Stacked Patch Passive Antenna Low AR
Features	:	Highest Accuracy Low AR < 2.7 GPS Antenna GPS L1+L2 Band Operation Single Feed Patch Assembly L1:1575MHz; AR 1.69 @1575.42 MHz L2:1227MHz; AR 2.70 @1227.6MHz Dims: 36*36*7mm Tuned for Centre Positioning on a 70*70mm Ground-plane Through-Hole Mounting Pin Type RoHS Compliant



1. Introduction

The GPSF.36.7.A.30 is a 36x36mm ceramic GPS L1/L2 low profile, low axial-ratio, embedded stacked passive patch antenna with a 7mm height. It is designed as a high performance yet economical solution for highest accuracy centimeter level tracking in telematics applications.

Typical applicable industries are

- UAVs and Drones
- Transportation
- Autonomous Vehicles
- Marine
- Agriculture
- Navigation

This compact antenna exhibits excellent gain and radiation pattern stability on both L1 and L2 bands, improved reliability of a GPS fix in urban areas, better signal reception with more satellites acquired, and a quicker time to first fix.

The antenna has been tuned and tested on a 70 X 70 mm ground plane, working at GPS 1575.42 MHz and L2 1227.6MHz, with 5.44 dBi gain and 3.10 dBi gain, respectively. It can be easily through-hole mounted on PCB via pin. The double-sided adhesive on the bottom of the patch helps to keep it in place while being assembled.

For further optimization to customer specific device environments, a custom tuned patch antenna and circuit integration service into your device can be supplied, subject to NRE and MOQ. Contact your regional Taoglas office for this requirement, and for support to integrate and test this antenna's performance in your device.

2. Specification

ELECTRICAL		
	GPS L1	GPS L2
Center Frequency	1575.42 MHz	1227.60 MHz
Return loss (dB)	< -10	< -10
Efficiency (%)	91.30	67.57
Peak Gain (dBi)	5.44	3.10
Axial Ratio at Zenith	1.69	2.70
Impedance	50 Ohm	
Polarization	RHCP	

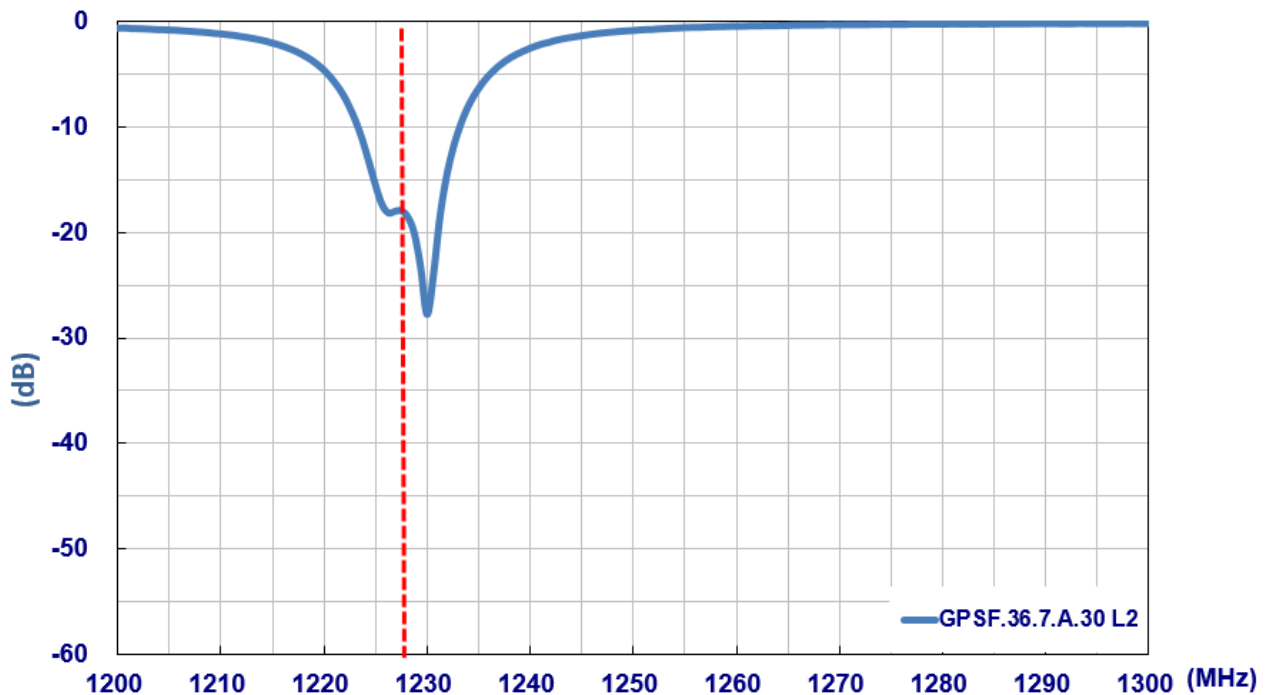
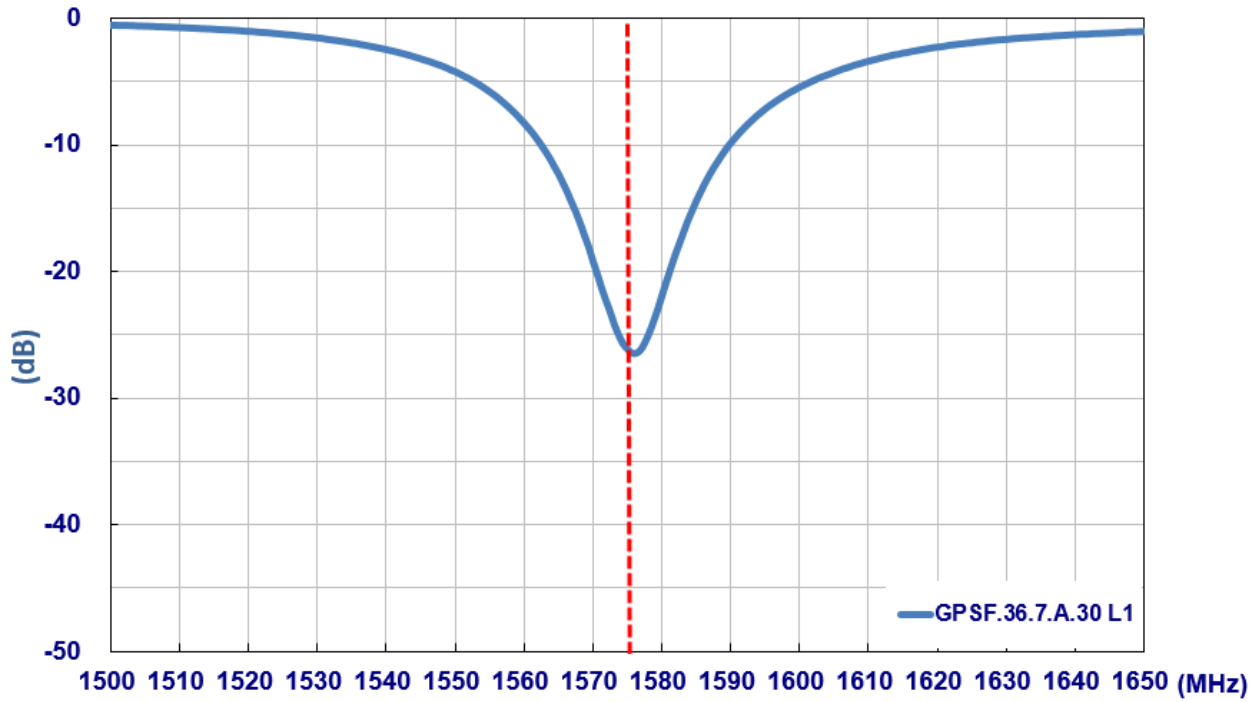
MECHANICAL		
	GPS L1	GPS L2
Ceramic Dimension	25*25*4mm	36*36*3 mm
Pin Diameter	0.80 mm	
Pin Length	1.50 mm	
PCB Dimension	70*70 mm	
Weight	23.4g	

ENVIRONMENTAL	
Operation Temperature	-40°C to 85°C
Humidity	Non-condensing 65°C 95% RH

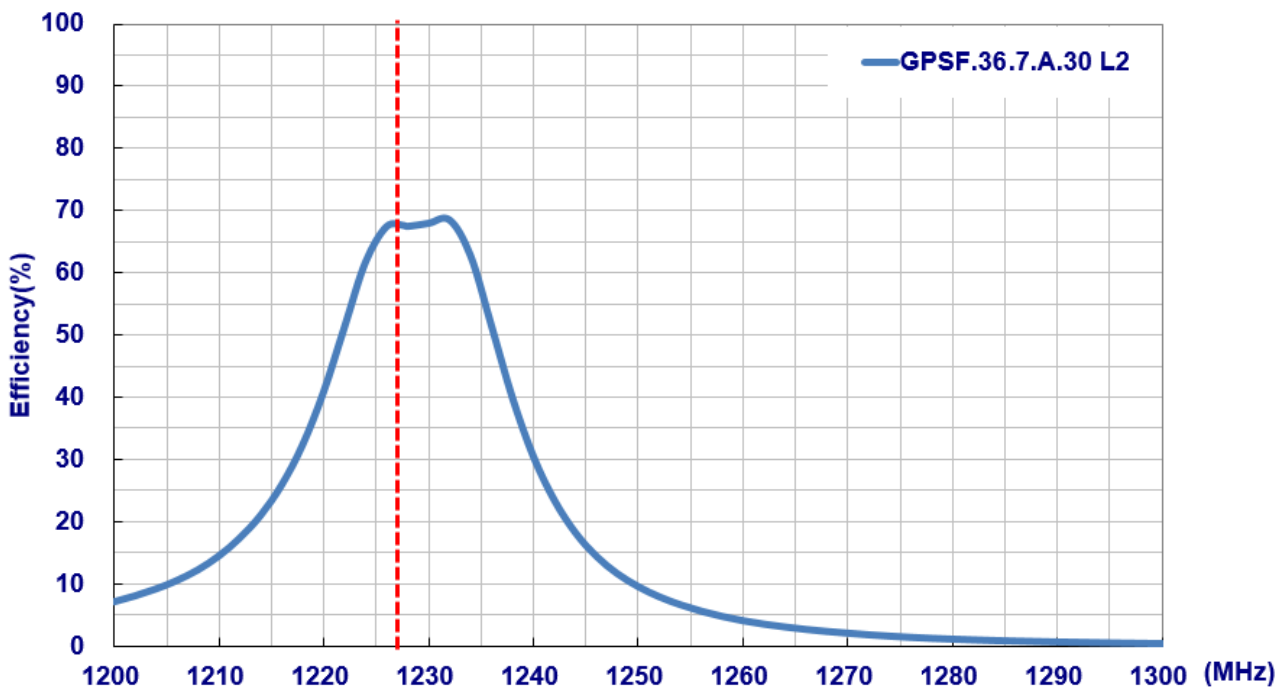
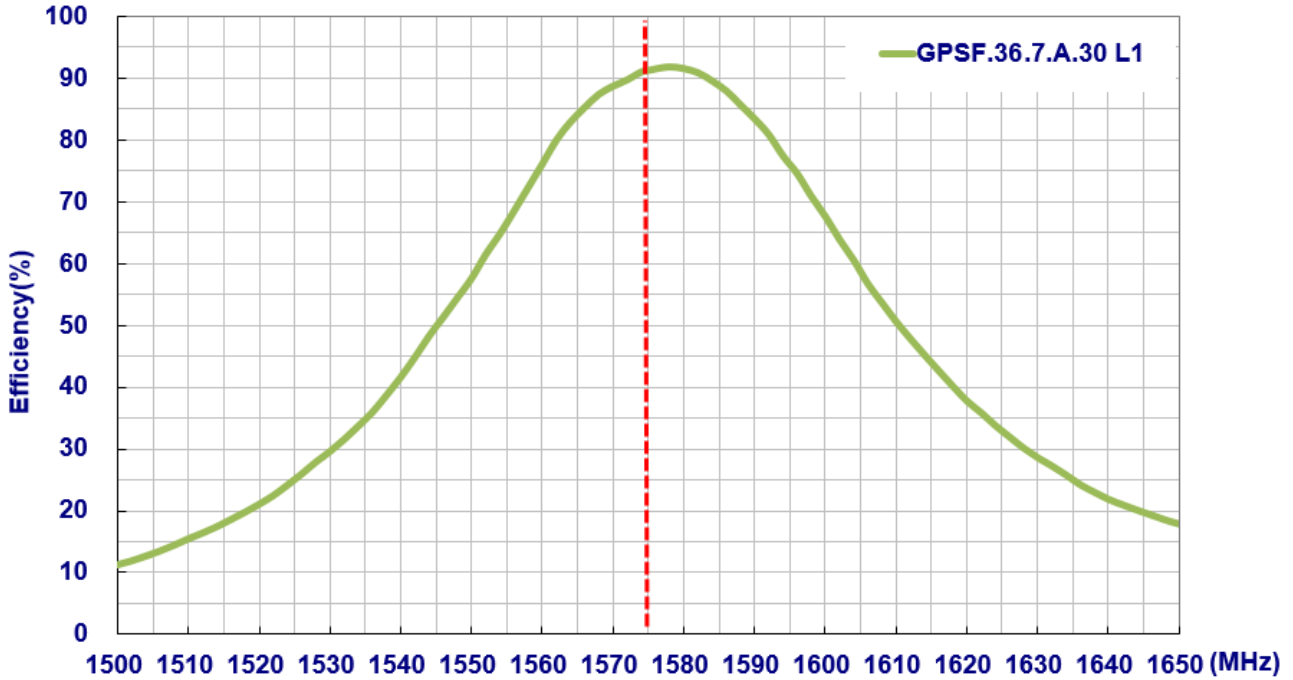
Tested on square 70*70 mm ground-plane.

3. Antenna Characteristics

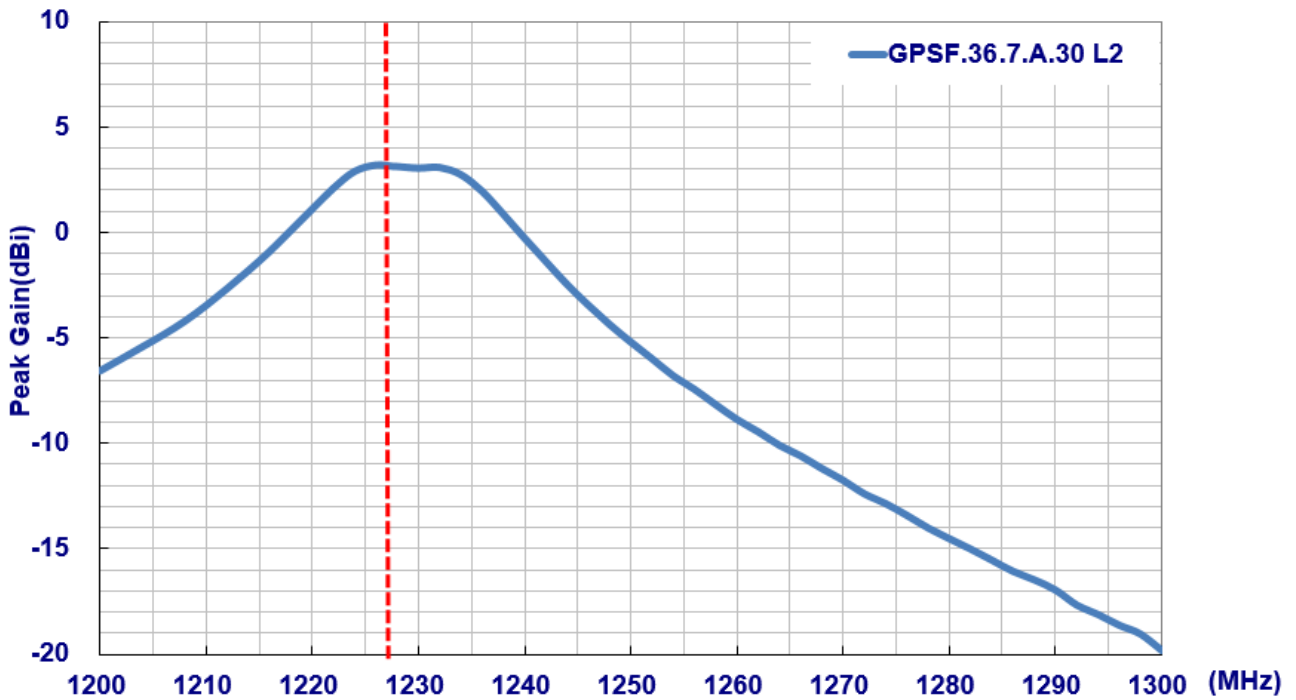
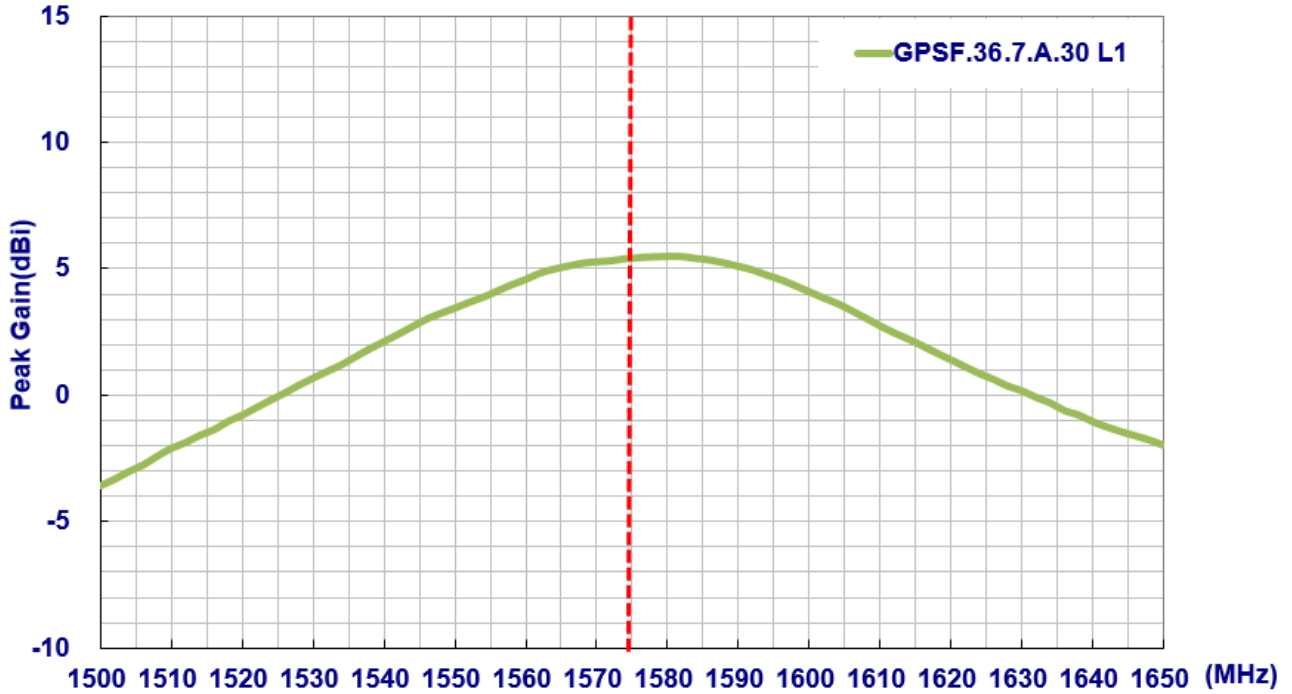
3.1. Return Loss



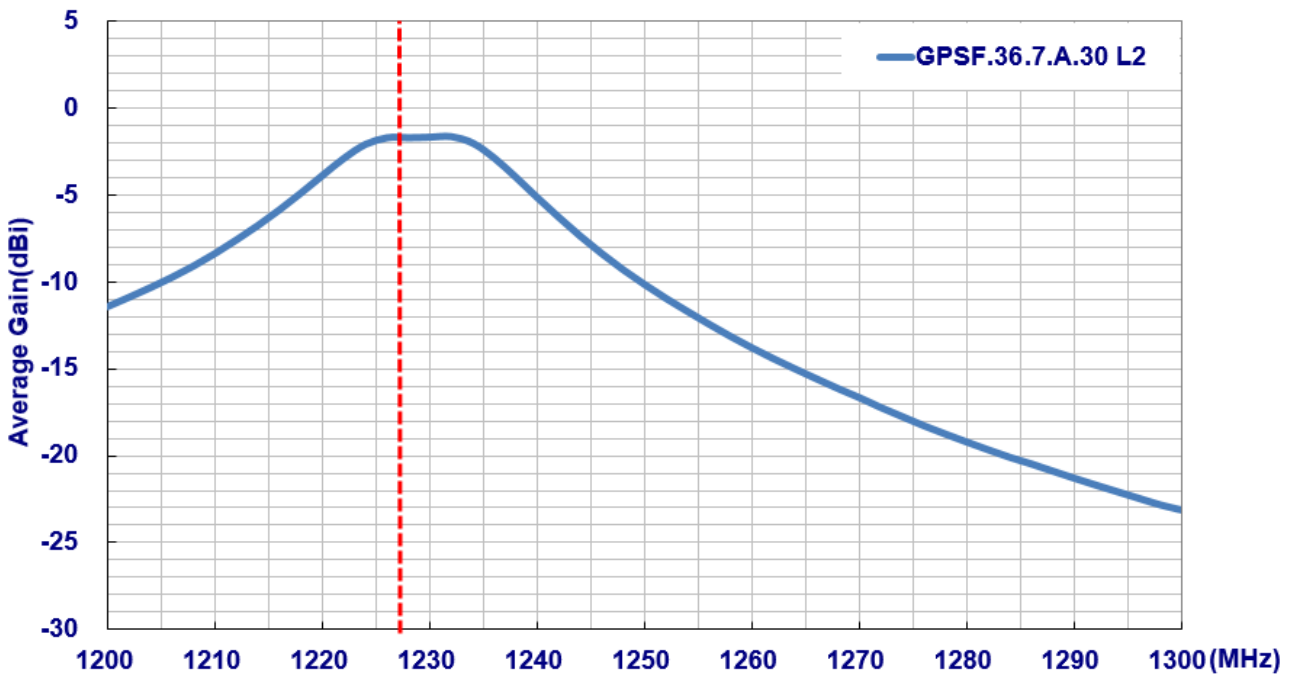
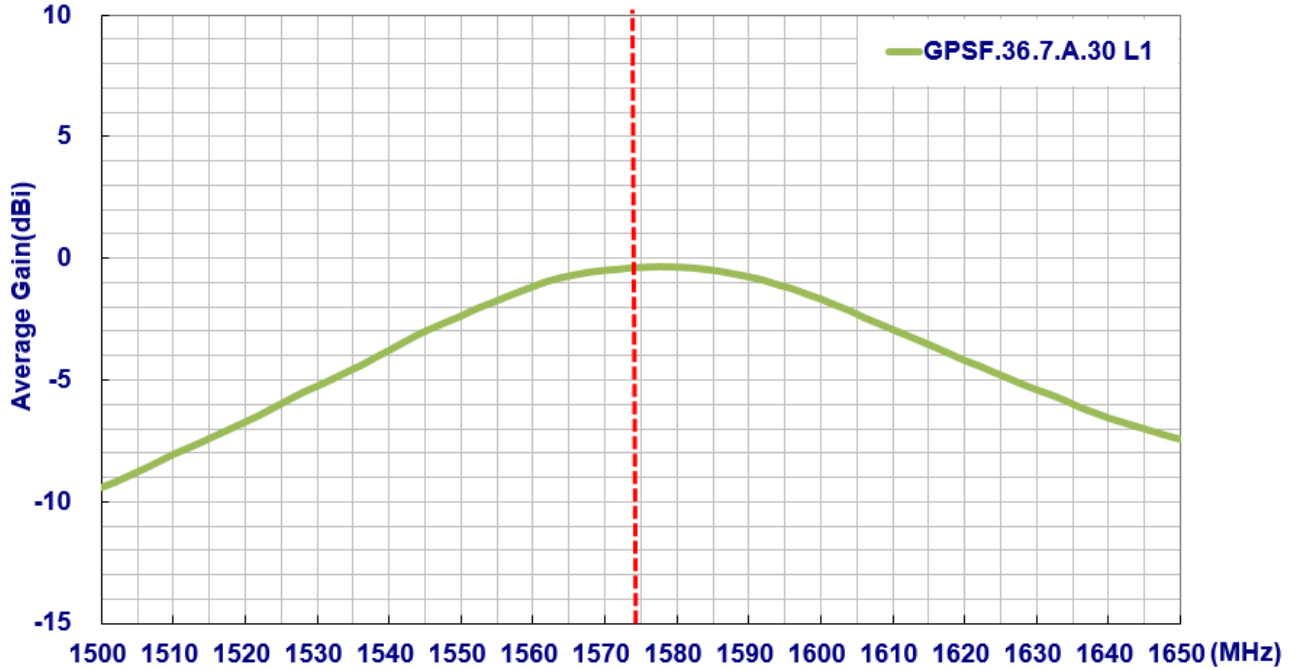
3.2. Efficiency



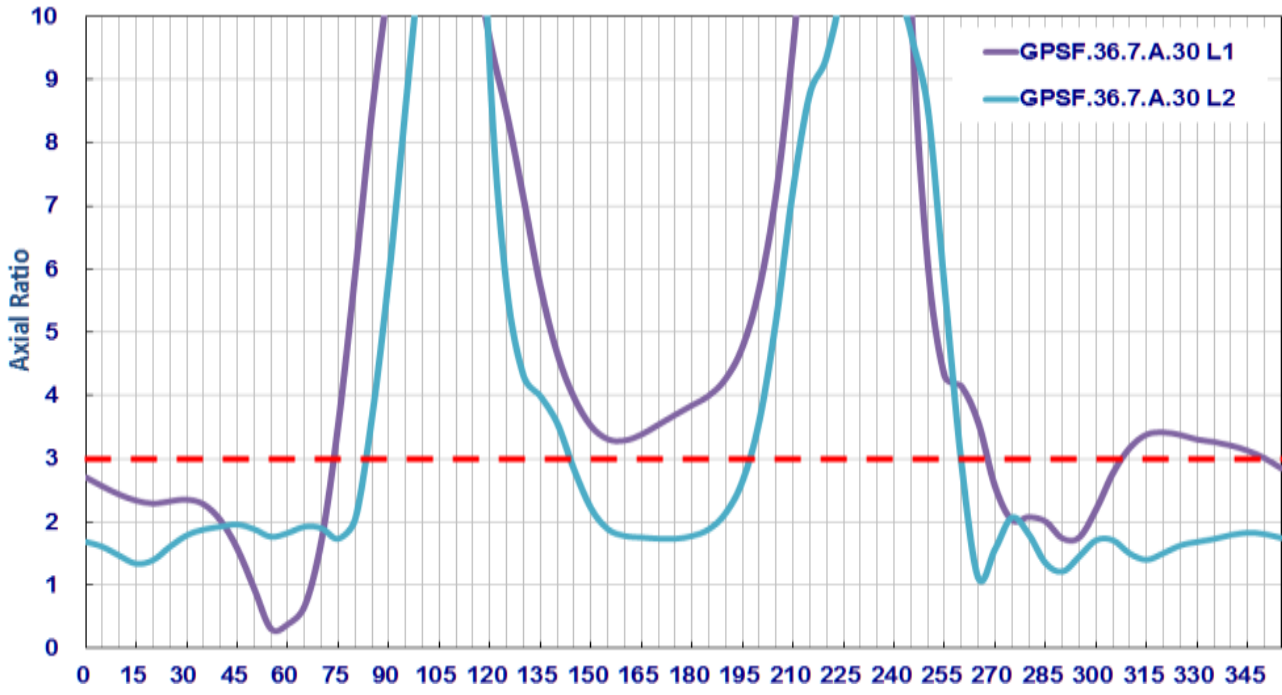
3.3. Peak Gain



3.4. Average Gain



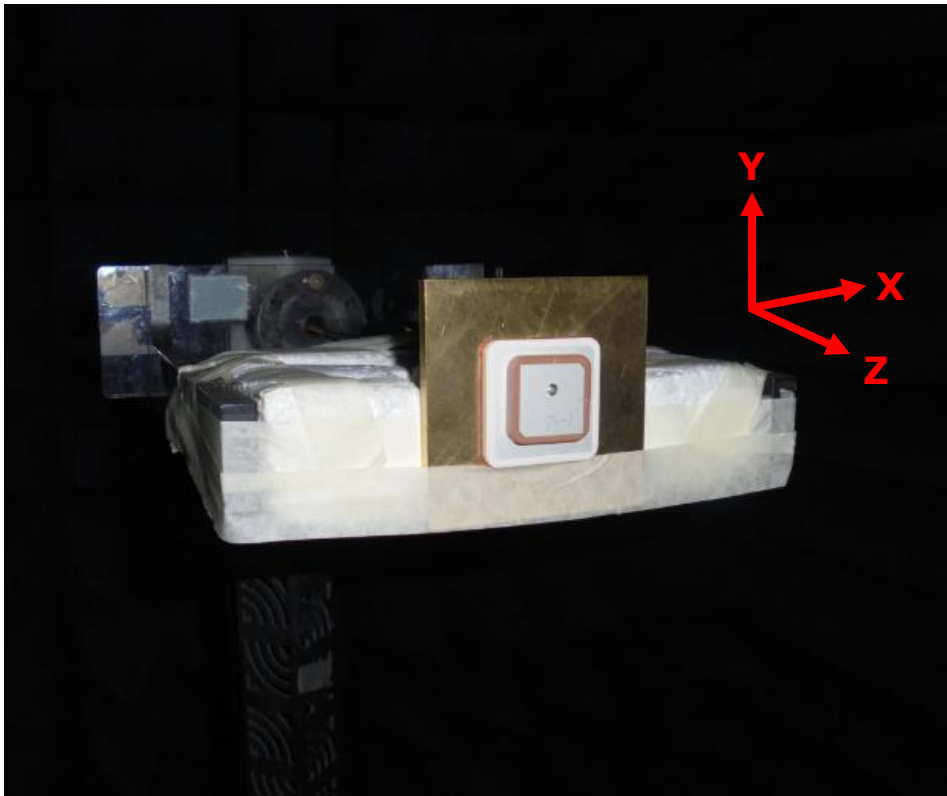
4. Axial Ratio



5. Antenna Radiation Pattern

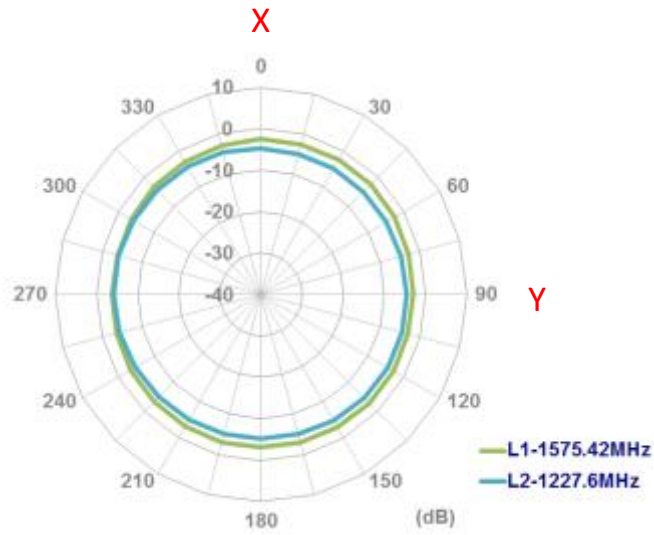
5.1. Measurement Setup

The GPSF.36.7.A.30 antenna is tested in free-space on a 70 mm X 70 mm ground plane in an Anechoic Chamber. The test setup is shown below.

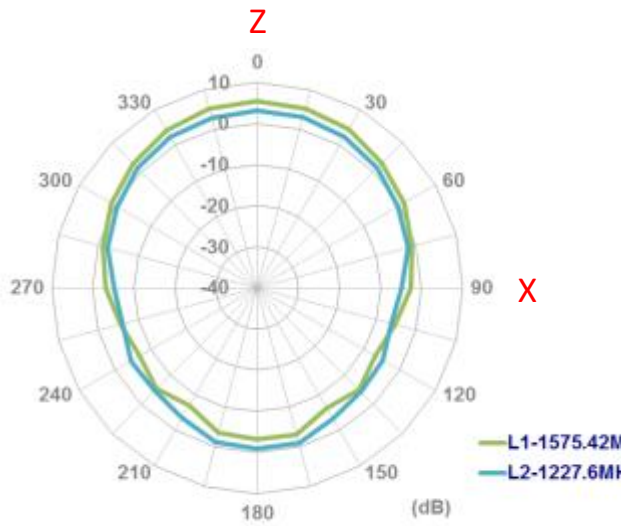


5.2. 2D Radiation Pattern

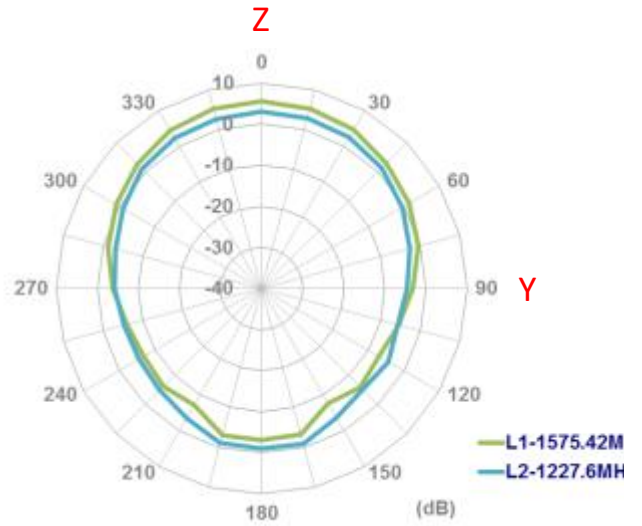
XY Plane



XZ Plane

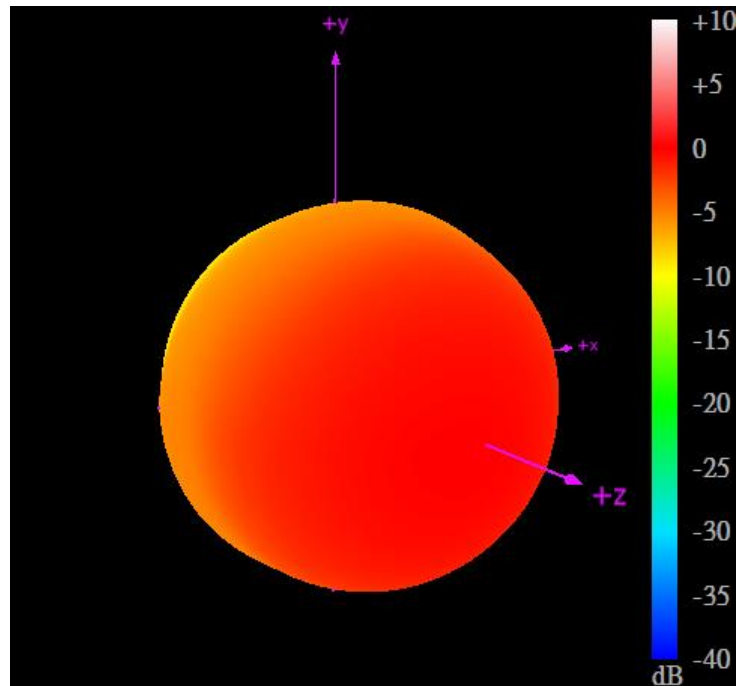


YZ Plane

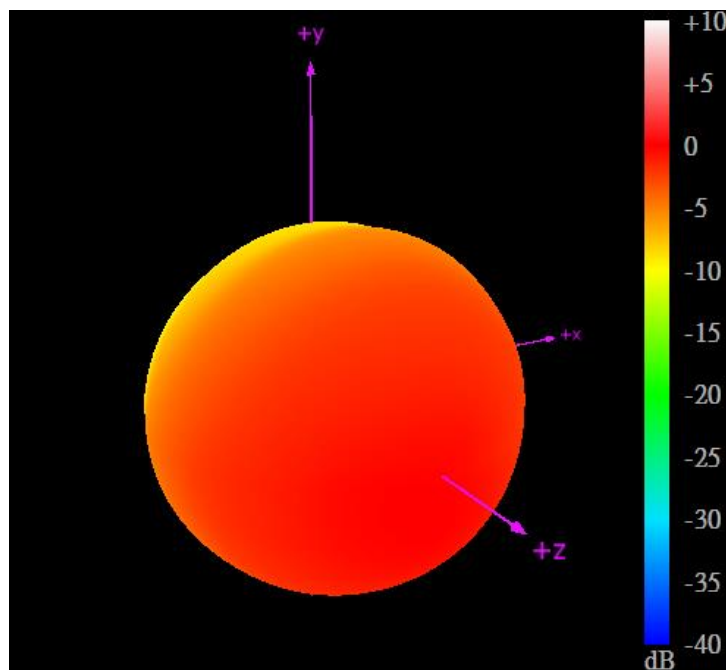


5.3. 3D Radiation Pattern

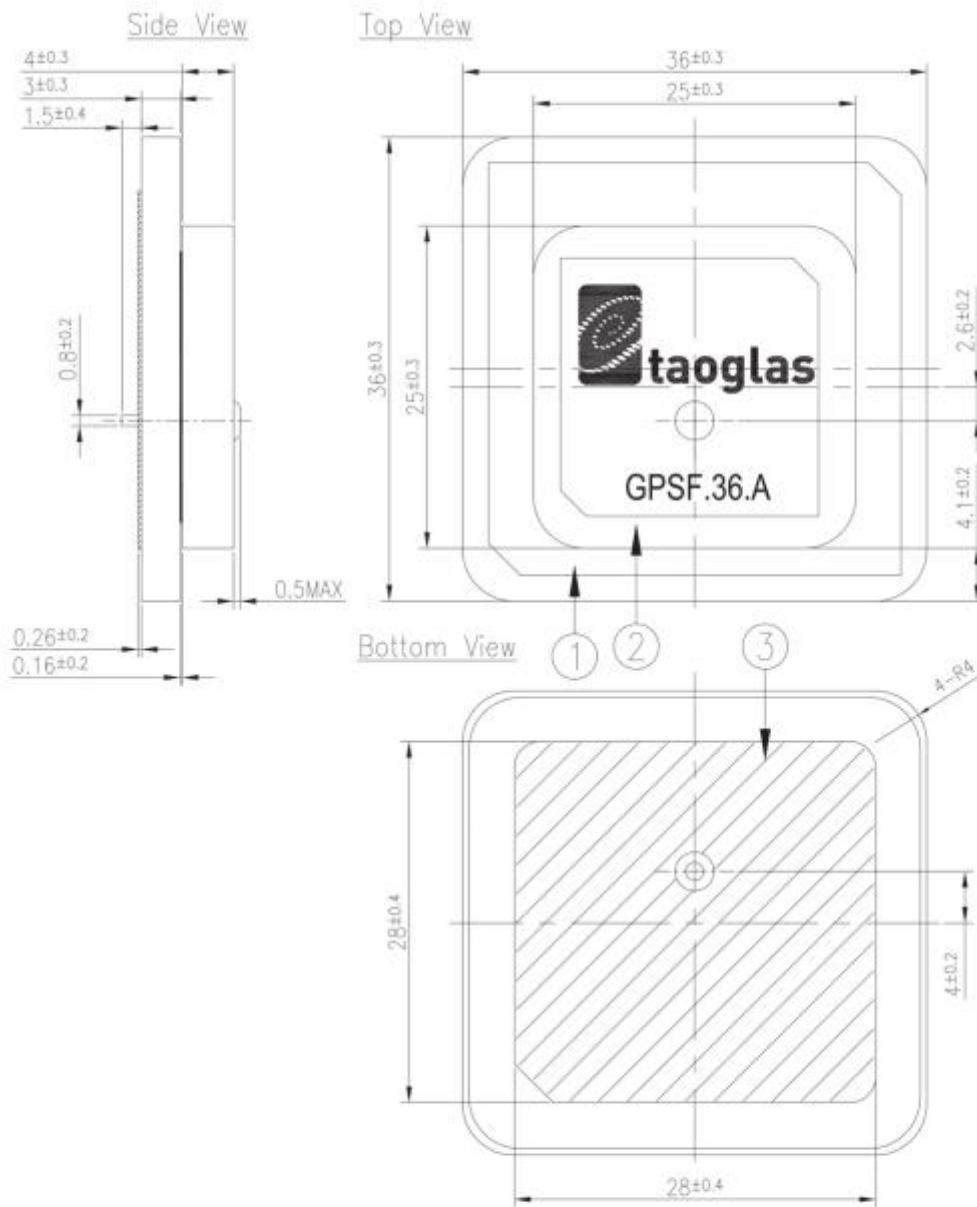
GPS_L1_1575.42MHz



GPS_L2_1227.6MHz



6. Mechanical Drawing (Unit: mm)

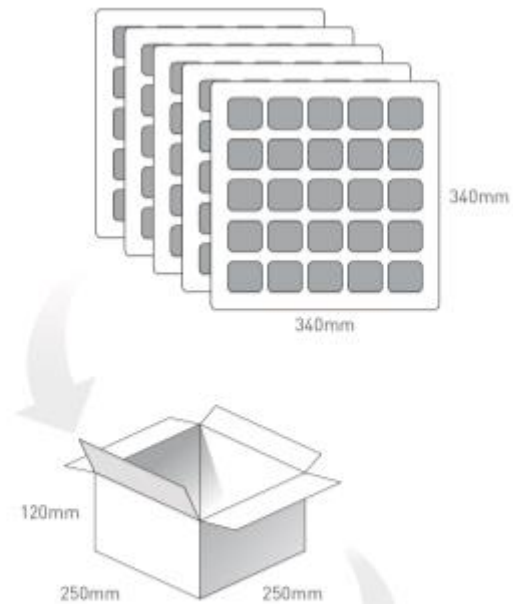


	Name	Material	Finish	QTY
1	Patch(36*36*3mm)	Ceramic	White	1
2	Patch(25*25*4mm)	Ceramic	Reddish Brown	1
3	Double Sided Adhesive	NITTO 5000NS	White Liner	1

7. Packaging

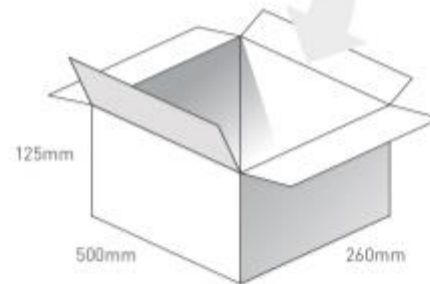
Packaging Specifications

25 pcs GPSF.36.7.A.30 per tray
 Each tray in vacuumed PE bag
 Tray Dimensions - 340*340*27mm
 Weight - .7Kg per tray

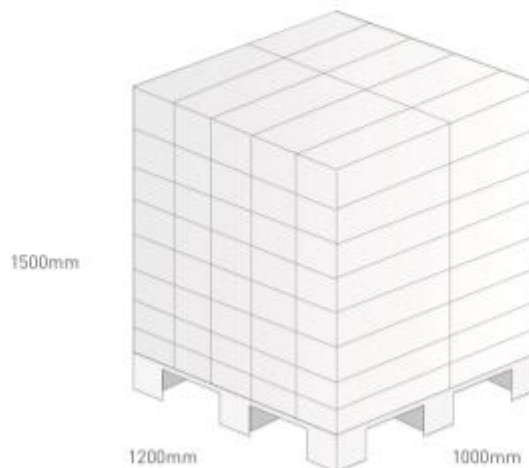


8 Trays per Carton - 200 pcs
 Carton Dimensions - 250*250*120mm
 Weight - 5.5Kg

400 pcs - Carton Dimensions - 500*260*125mm
 Weight - 12Kg



Pallet Dimensions 1200*1000*1500mm
 80 Cartons per Pallet
 10 Cartons per layer
 8 Layers



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