

Specification

Part No	:	GGSFTP.50.7.A.08
Product Name	:	50*50*7mm Low Profile Terrablast Stacked Patch Antenna
Feature	:	GPS/GLONASS/GALILEO with GPS L2 band Operation Single Feed Patch Assembly 4.6 dBi peak gain tuned for Centre Positioning on a 70*70mm Ground-plane Ultra-Impact Resistant Patent Pending Design RoHS Compliant



1. Introduction

The GGSFTP.50.7.A.08 is a 50*50mm terrablast GPS/GLONASS/GALILEO with GPS L2 low profile, embedded stacked passive patch antenna with 7mm thickness. The antenna has been tuned and tested on a 70*70mm ground plane, working at GPS 1575.42MHz, 1227.6MHz and GLONASS 1602MHz, with 4.3dBi gain, 2.6dBi gain and 4.6dBi gain, respectively.

The low-profile patch design also utilizes the Taoglas Terrablast material which provides a lightweight and robust solution for applications which require high impact resistance such as drones, ATVs and vehicles and is the ideal embedded solution for applications such as:

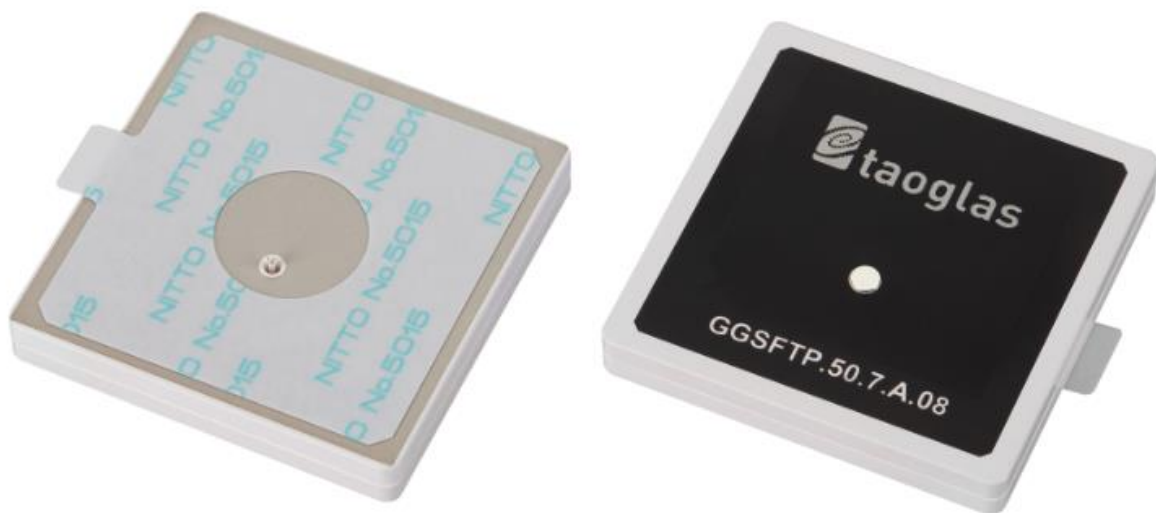
- Precision Transportation
- Tracking and Inventory Management
- Defense
- Marine
- Aviation
- Agriculture
- UAV Navigation
- Surveying
- Improved Weather forecasting

The GGSFTP.50.7.A.08 builds on the success of the groundbreaking series of high precision antennas by Taoglas and is an addition to the ongoing product roadmap. This antenna works well without modifications in most environment but can be tuned and further optimized to different ground planes and enclosures if this is required. Custom antenna modifications are subject to possible NRE and minimum order quantity.

Terrablast antennas are not suitable for SMD reflow. The correct method is manual soldering at a soldering temperature of 380°C +/- 20°C for a duration of 3 to 5 seconds. All Terrablast antennas undergo rigorous temperature, vibration and impact

tests and exceed the highest ISO16750 standards.

For further information, or support to test and integrate Taoglas Terrablast technology please contact your regional Taoglas facility.



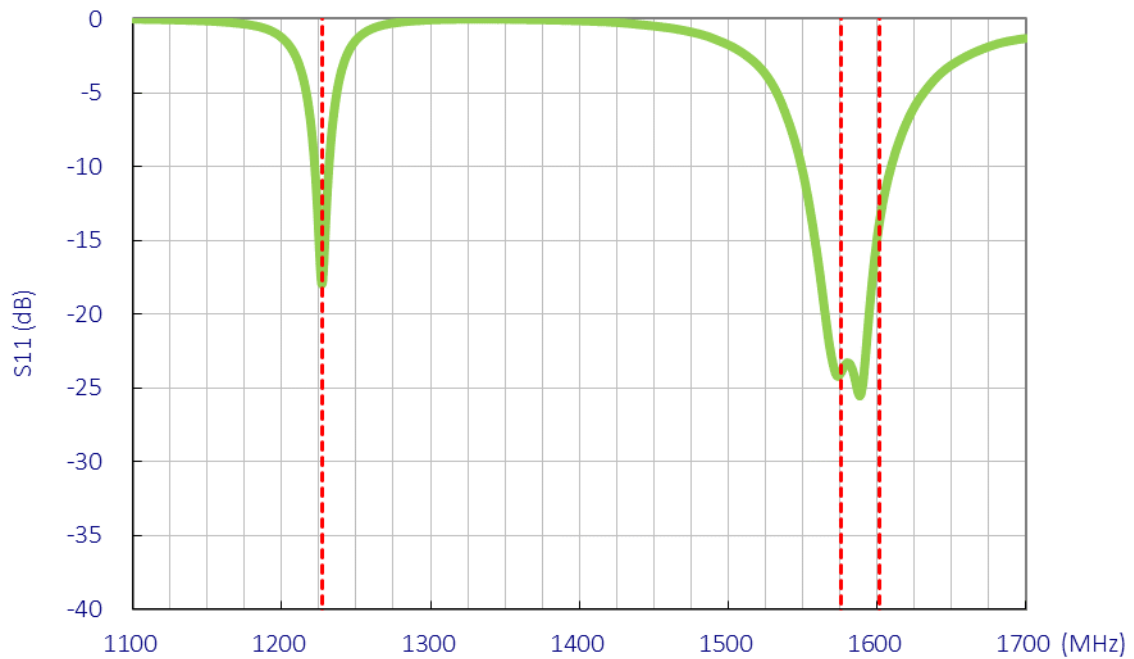
2. Specification

Electrical		
	GPS/GLONASS/Galileo	GPS L2
Frequency	1575.42~1602 MHz	1227.6 MHz
Return Loss	-10dB max.	-10dB max.
Efficiency	77 %	61 %
Average Gain	-1.1 dB	-2.1 dB
Peak Gain	4.6 dBi typ.	2.6 dBi typ.
Polarization	RHCP	RHCP
Impedance	50 Ω	50 Ω
Mechanical		
Dimensions	50 x 50 x 7 mm	
Material	Terrablast	
Pin Diameter	0.9 mm	
Pin Length	1.9 mm	
Weight	36.2g	
Environmental		
Operation Temperature	-30°C to 85°C	
Storage Temperature	-40°C to 95°C	
Humidity	Non-condensing 65°C 95% RH	

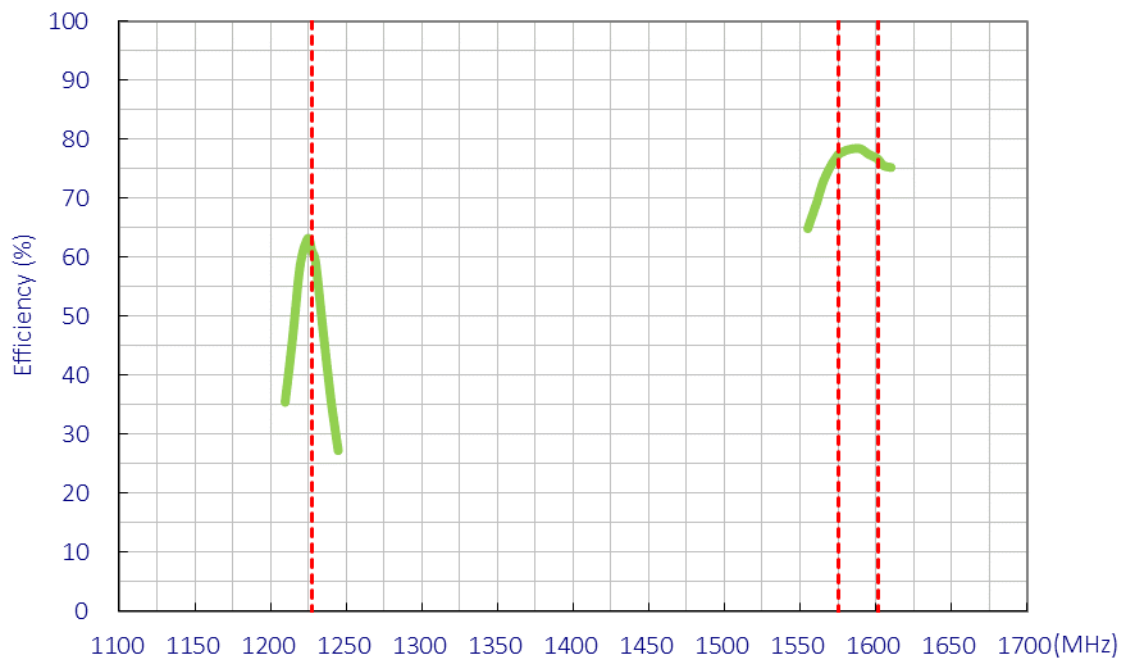
* Antenna properties were measured with the antenna mounted on 70*70mm Ground Plane.

3. Antenna Characteristics

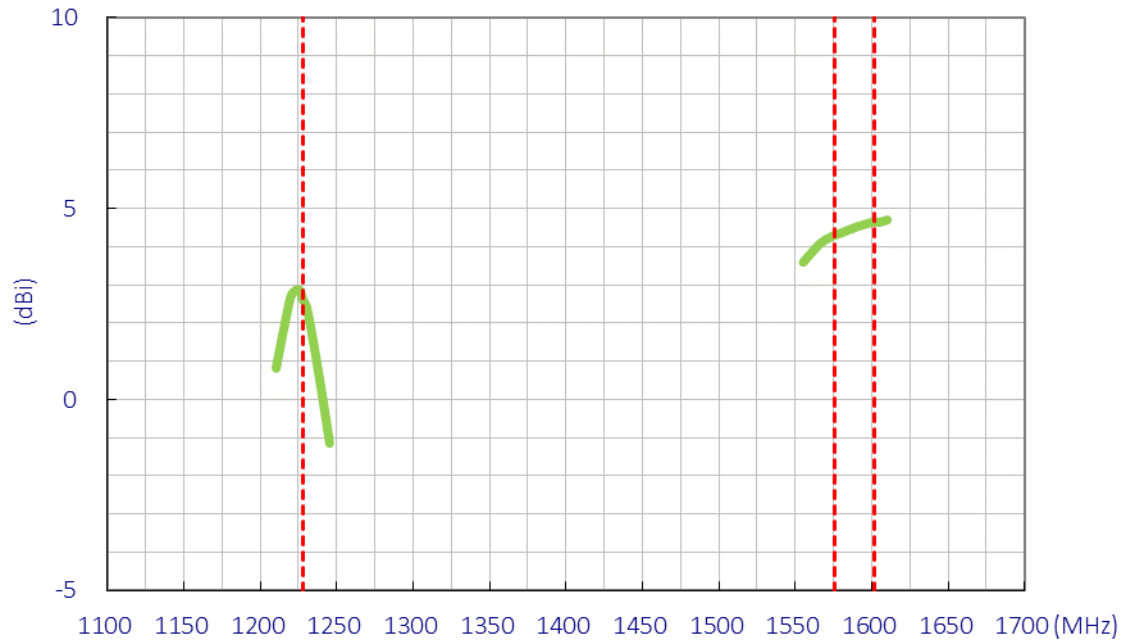
3.1 Return Loss



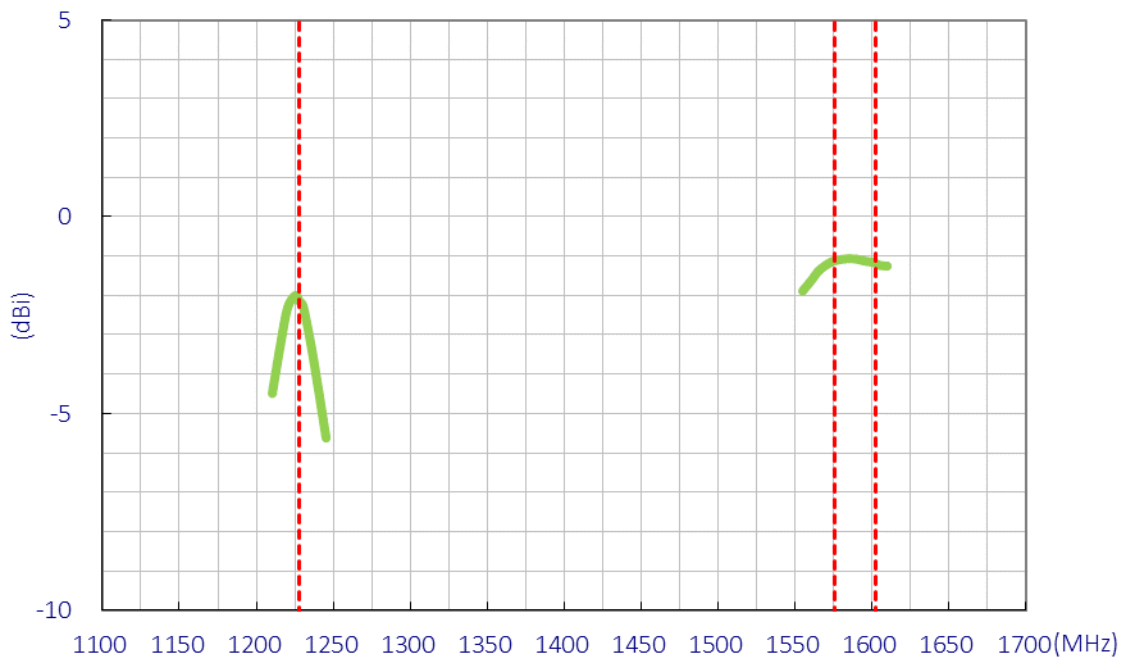
3.2 Efficiency



3.3 Peak Gain

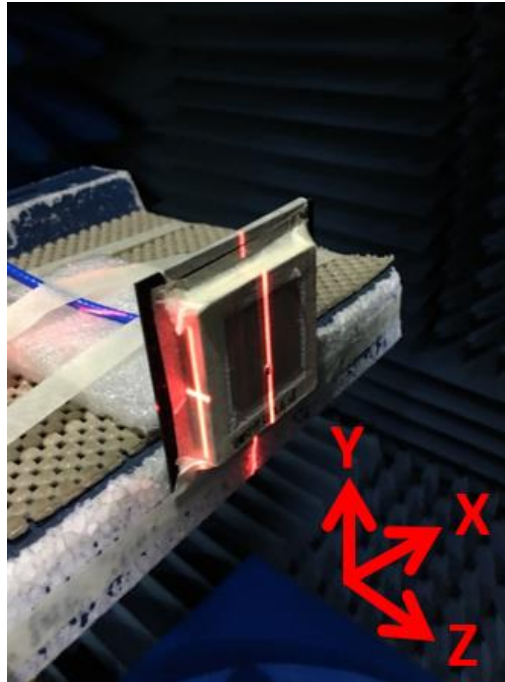


3.4 Average Gain

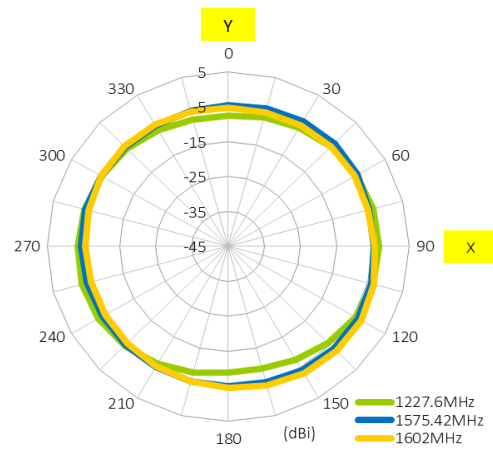


4. 2D Antenna Radiation

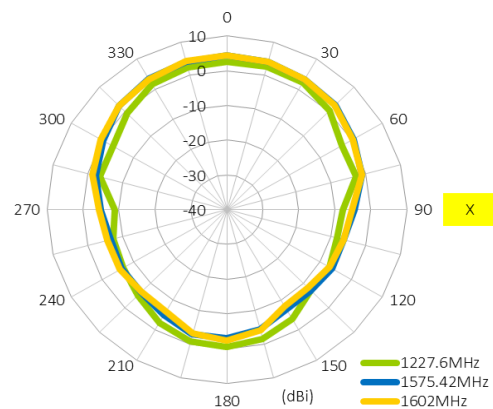
4.1 Test Setup



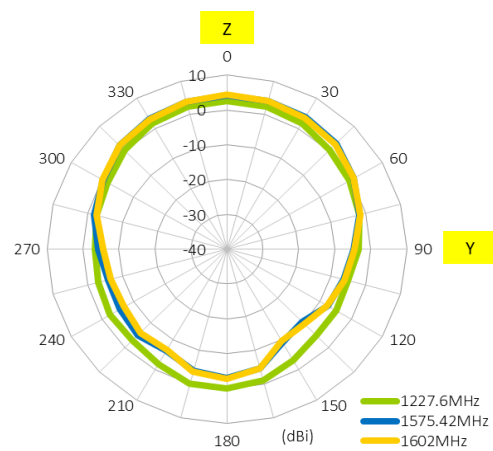
4.2 X-Y Plane



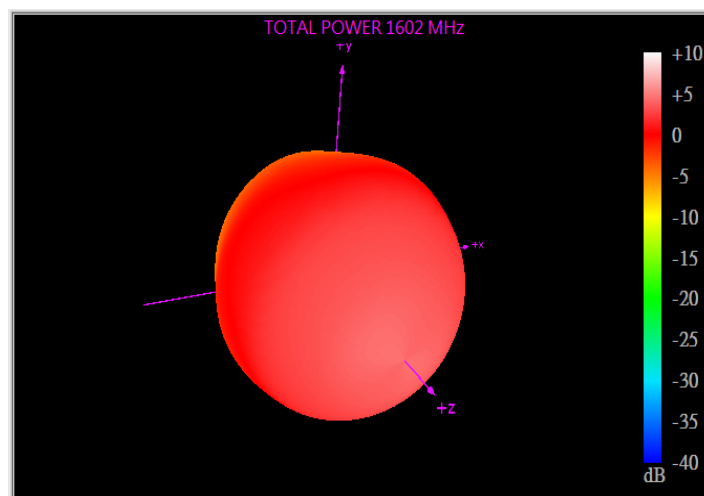
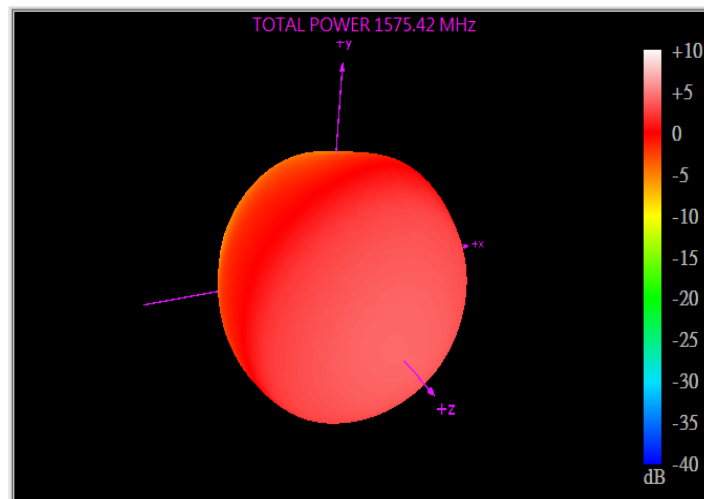
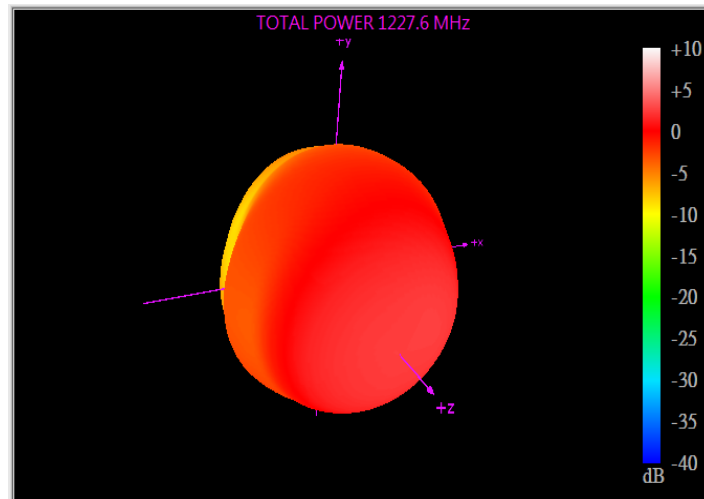
X-Z Plane



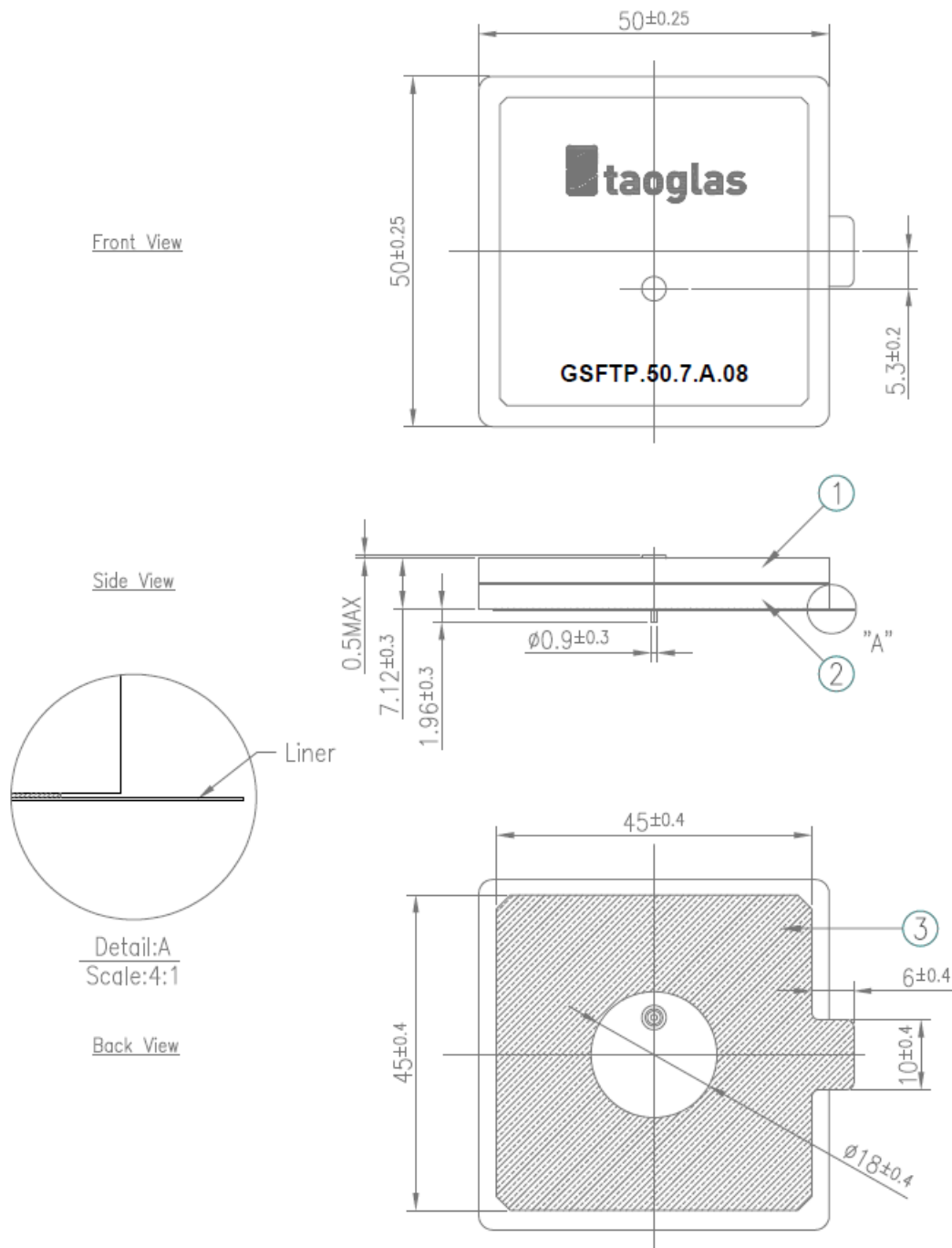
Y-Z Plane



5. 3D radiation pattern

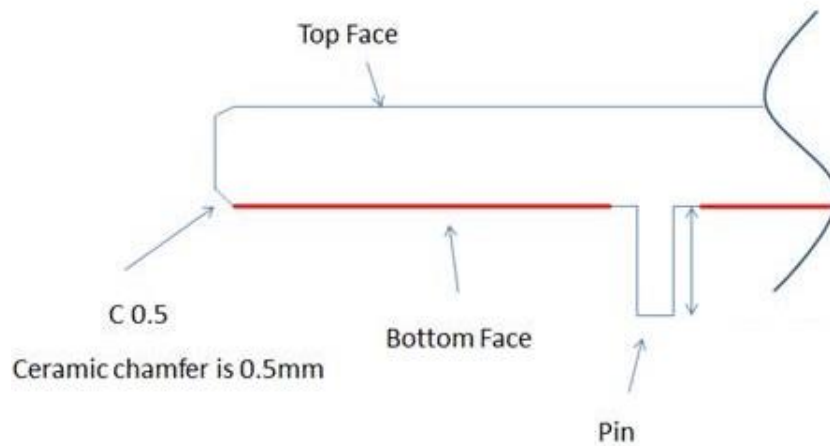


6. Mechanical Drawing-Patch



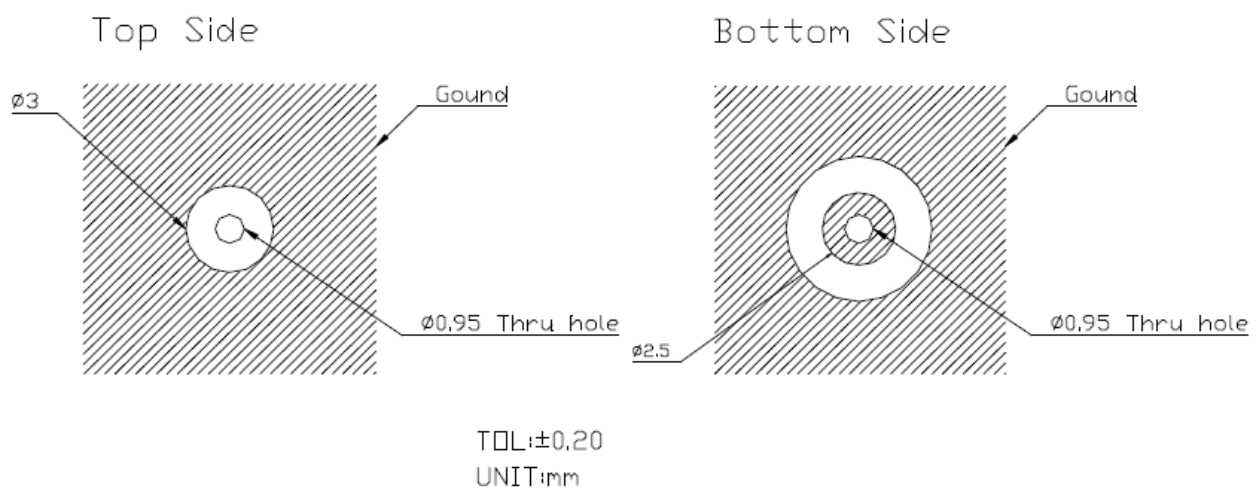
	Name	P/N	Material	Finish	QTY
1	Patch-1(50x50x3.5mm)	001518H110000A	Terrablast	Clear	1
2	Patch-2(50x50x3.5mm)	001518H120000A	Terrablast	Clear	1
3	Double Sided Adhesive	001518H120000A	NITTO 5015	White Liner	1

6.1 Adhesive Thickness



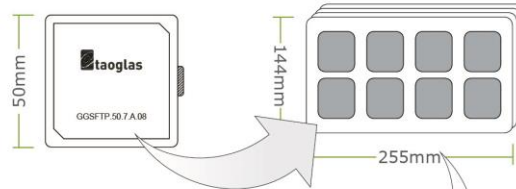
Red Line shows the adhesive without Liner – thickness 0.08~0.1mm

7. PCB Footprint Recommendation

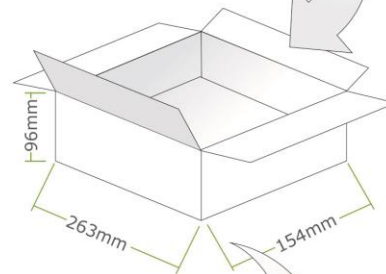


8. Packaging

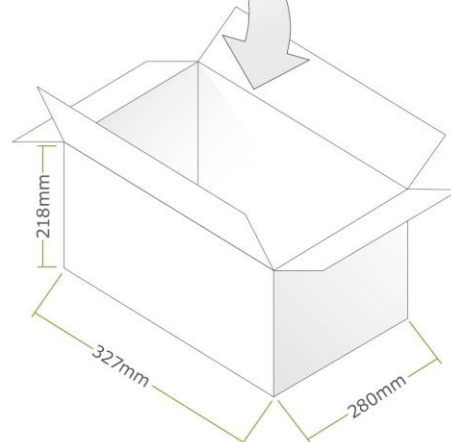
8 pcs GGSFTP.50.7.A.08 per Tray
Tray Dimensions - 255*144*8mm
Weight - 288g



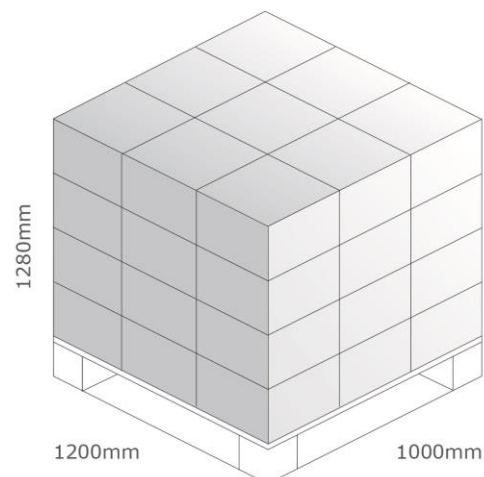
40 pcs GGSFTP.50.7.A.08 per Small Carton
Carton Dimensions - 263*154*96mm
Weight - 1.9kg



160 pcs GGSFTP.50.7.A.08 per Large Carton
Large Carton Dimensions - 327*280*218mm
Weight - 7.8kg



Pallet Dimensions:
1200mm*1000mm*1280mm
36 Cartons per Pallet
9 Cartons per Layer, 4 Layers



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