

Specification

Part No. : **SP.1615.25.4.A.02**

Product Name : Globalstar 25mm 1615Mhz
Embedded Ceramic Patch Antenna

Features : 25mm*25mm*4mm
Globalstar Approved
Pin Mount
LHCP
RoHS Compliant



1. Introduction

This miniaturized 25mm square ceramic patch antenna is mounted via pin and double-sided adhesive and is the optimal embedded antenna solution for mobile Globalstar applications.

The antenna is tuned to a reference 60mm square ground-plane. With an efficiency of nearly 80% at 1615 MHz, the antenna exhibits excellent upper hemisphere radiation pattern stability. Axial ratio is less than 3 on antenna operational angles, with a minimum axial ratio of 0.54 at zenith. The SP.1615.25.4.A.02 gain and directivity characteristics have been analyzed and approved by Globalstar.

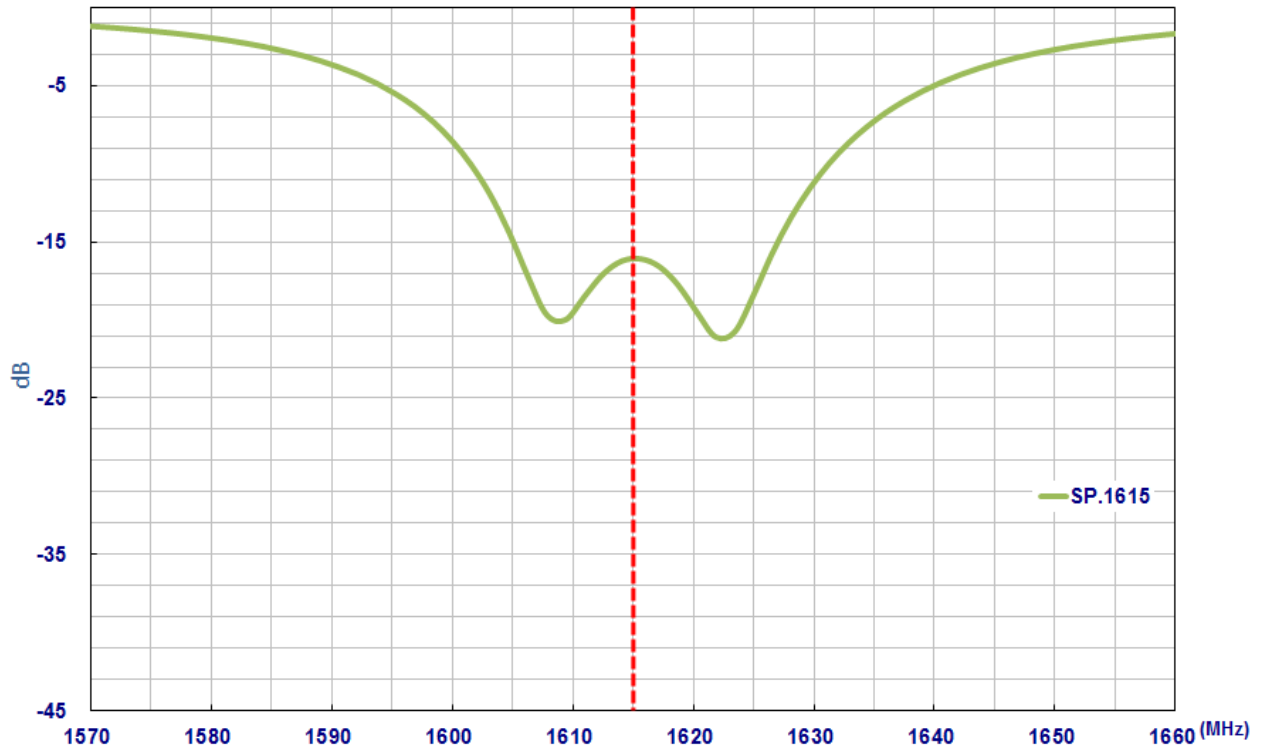
Different device ground-planes and housing environments may require a custom tuned antenna. Taoglas provides testing and support services to characterize this antenna in your device and determine whether a custom tuned solution is necessary. There is a minimum order quantity and possible NRE for a custom solution. Contact your regional Taoglas office for support.

2. Specification Table

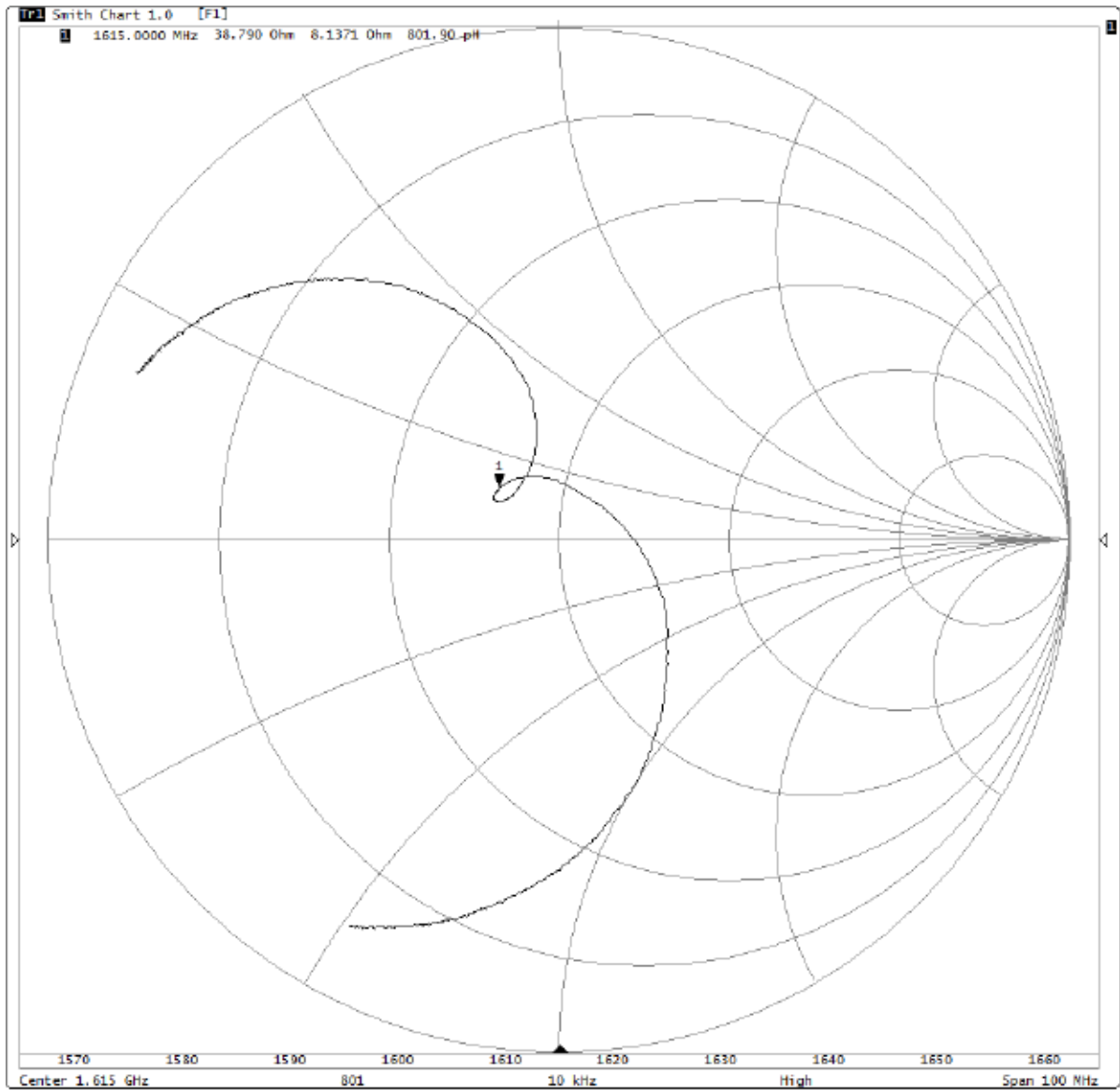
Parameter	Specification	Notes
Range Of Receiving Frequency	1615.68 ± 4.1 MHz	
Center Frequency	1615 MHz ± 3 MHz	With 60×60mm GND Plane
Bandwidth	26 MHz min	Return Loss@-10 dB
VSWR	1.5 max	Center Frequency
Peak Gain	5 dBi	
Polarization	LHCP	Left Hand Circular Polarization
Axial Ratio	3 Max. @ Zenith	
Impedance	50 Ohm	
Weight	5g	
Frequency Temperature Coefficient (τ_f)	-40°C to +105°C	0± 20ppm / °C
Operating Temperature	-40°C to +105°C	

3. Electrical Specifications

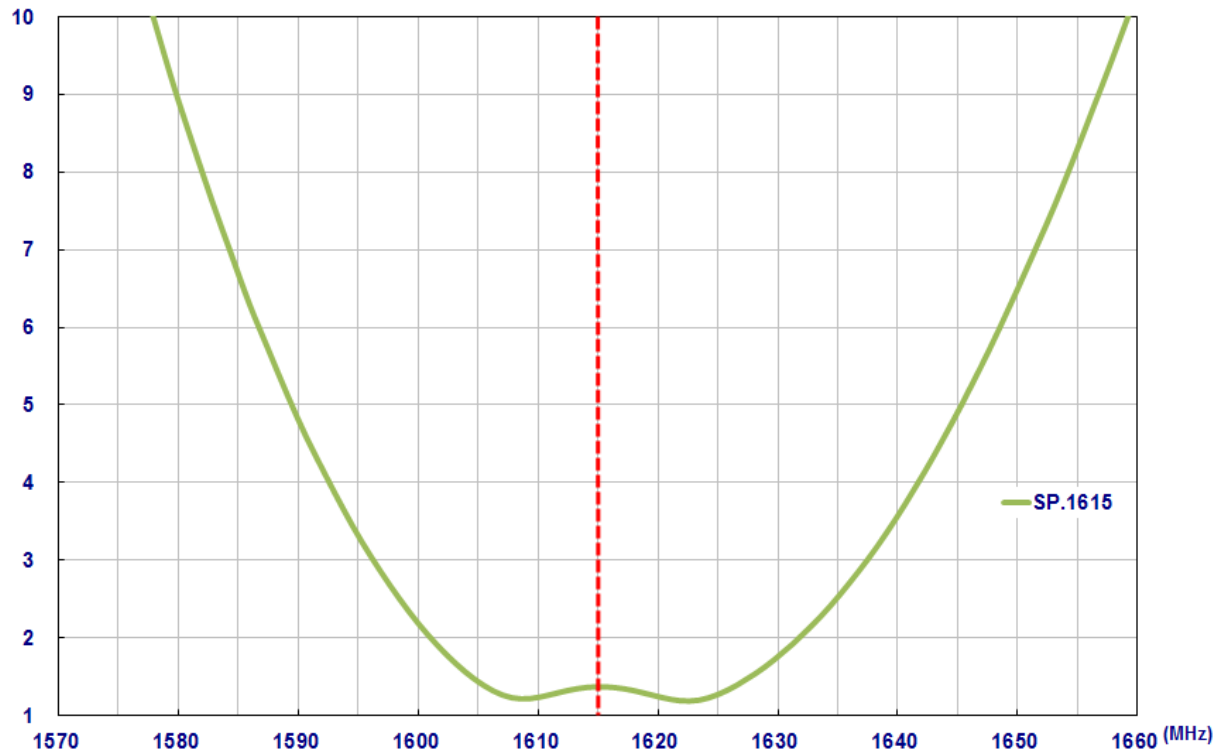
3.1 Return Loss



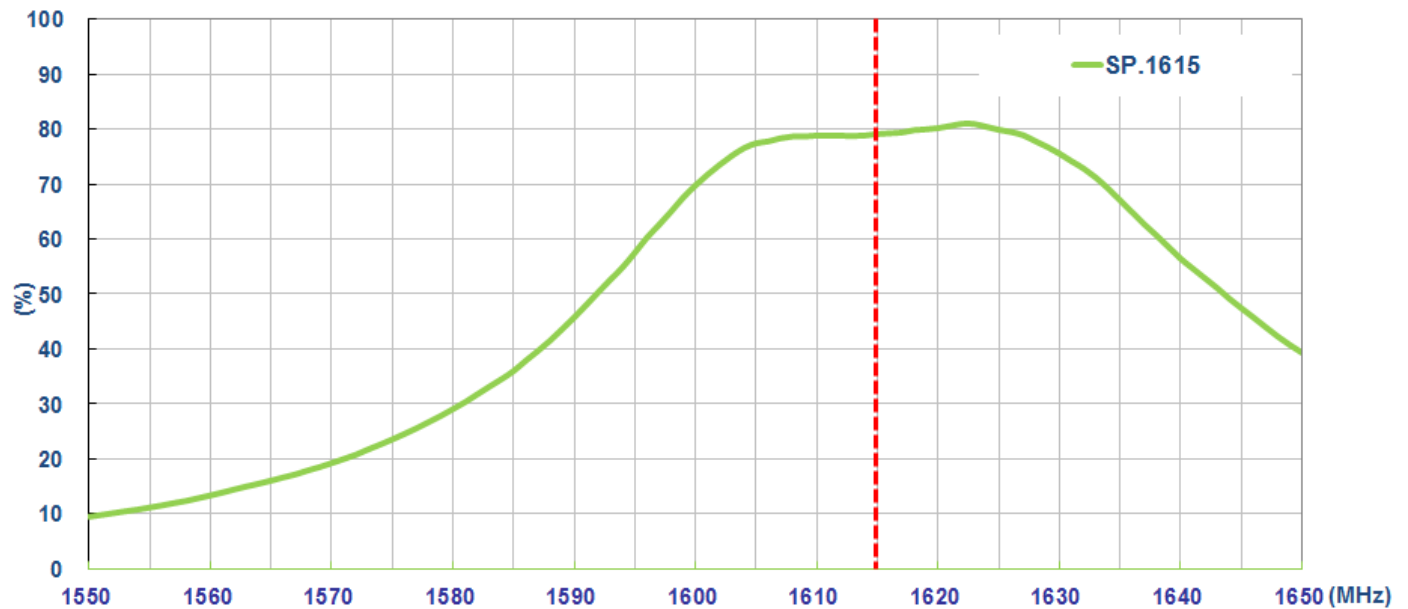
3.2 Smith Chart



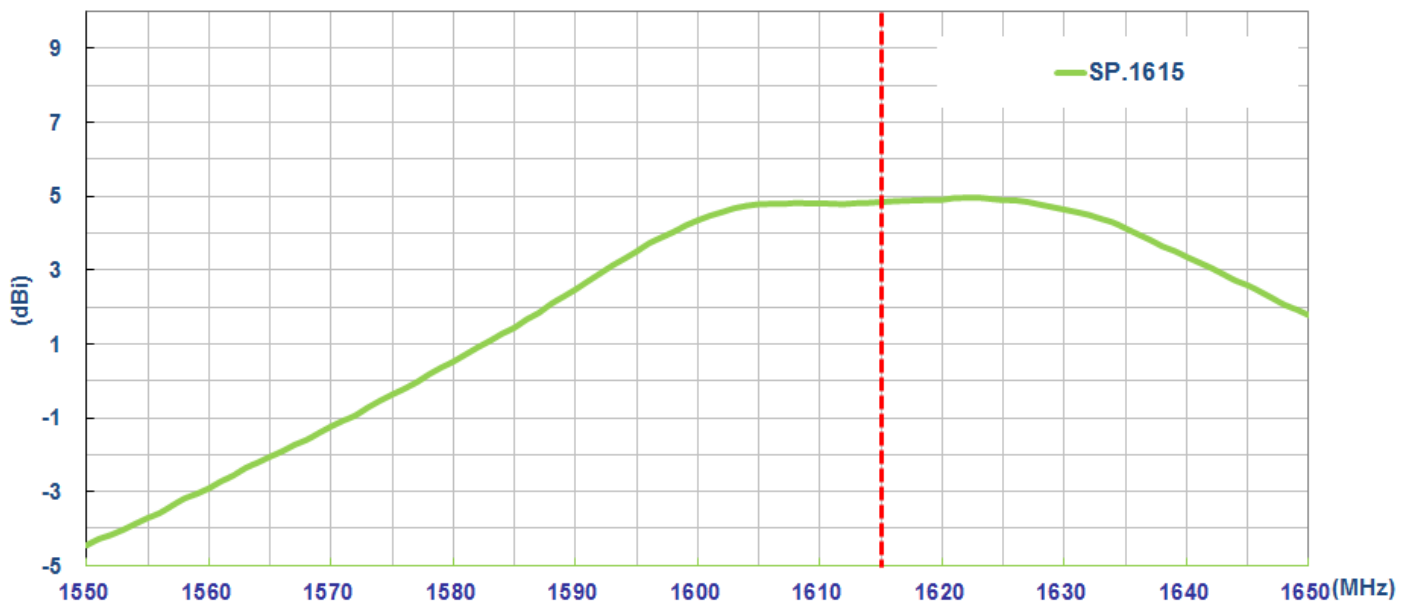
3.3 VSWR



3.4 Efficiency

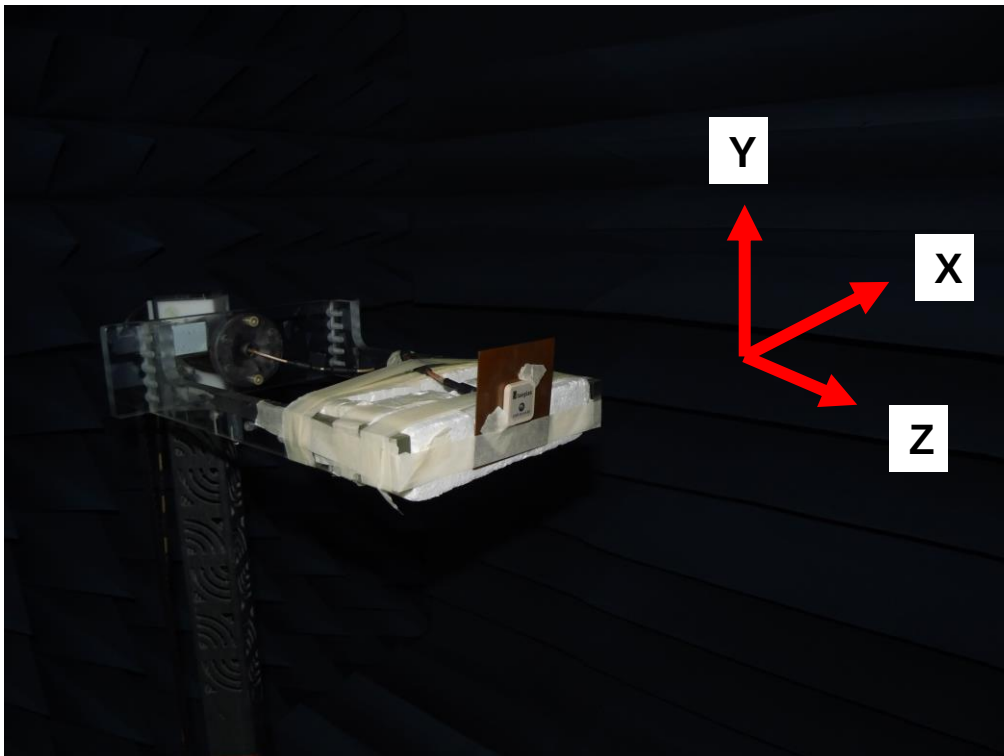


3.5 Peak Gain

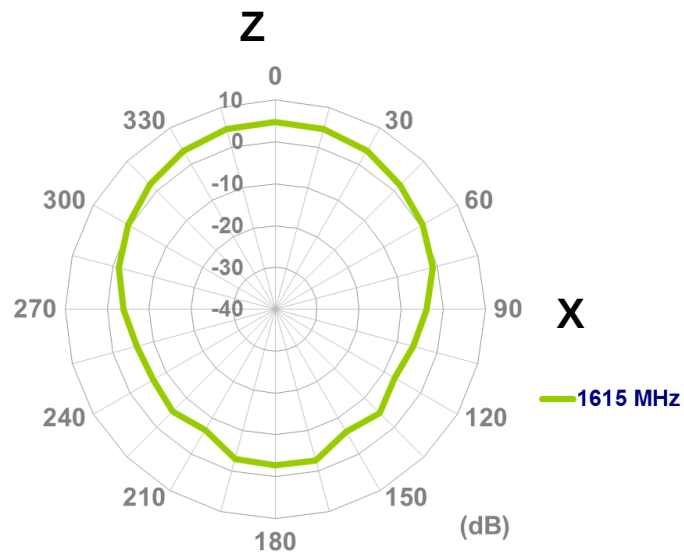


3.6 Radiation Pattern

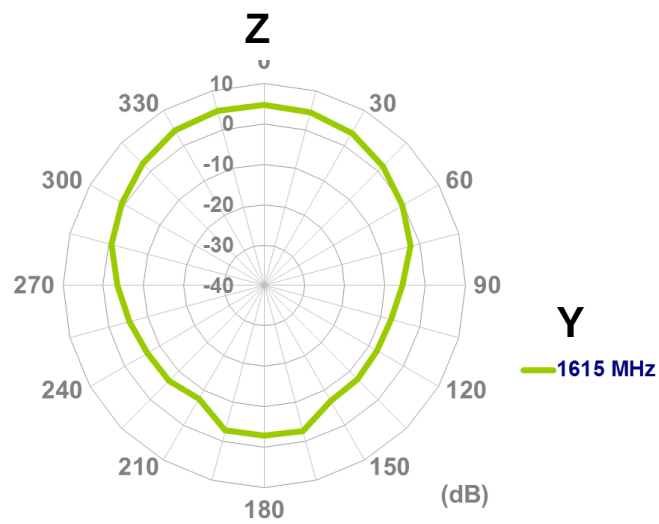
The antenna was test in a ceritifed ETS Anchoic Chamber, the setup is as below,



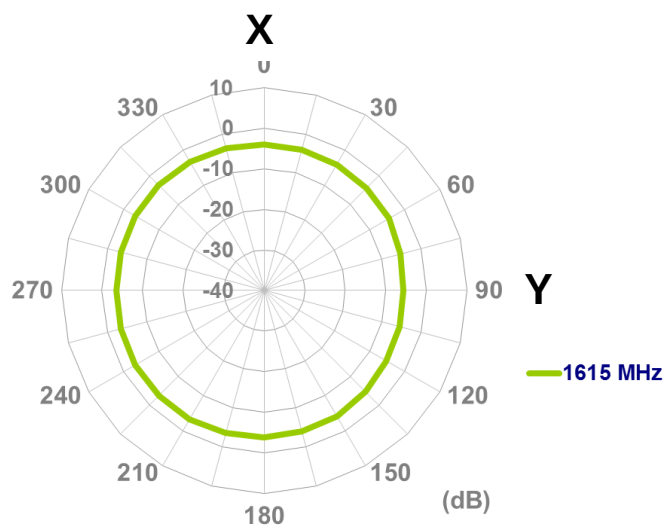
3.4.1 XZ-Plane



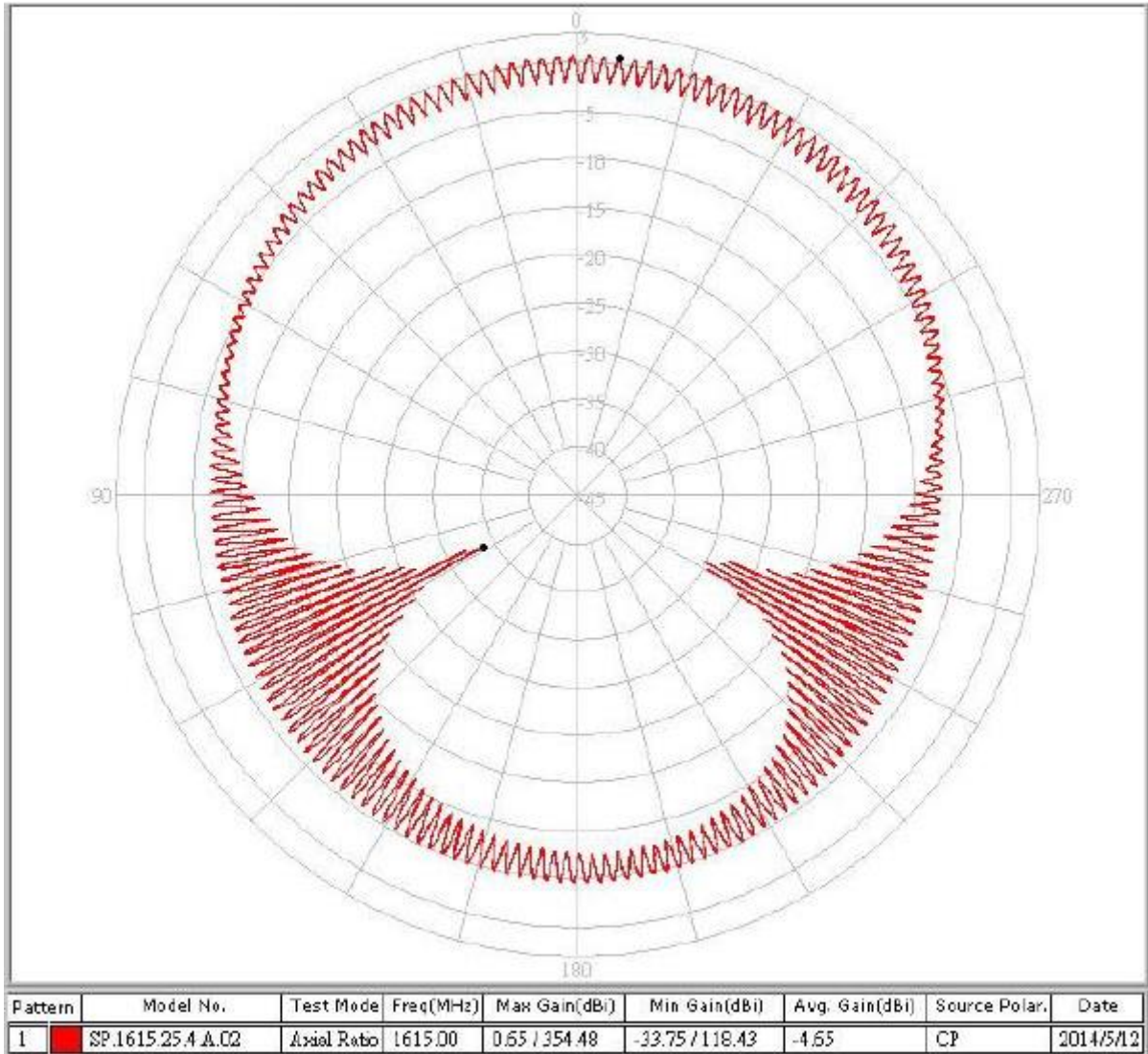
3.4.2 YZ-Plane



3.4.3 XY-Plane

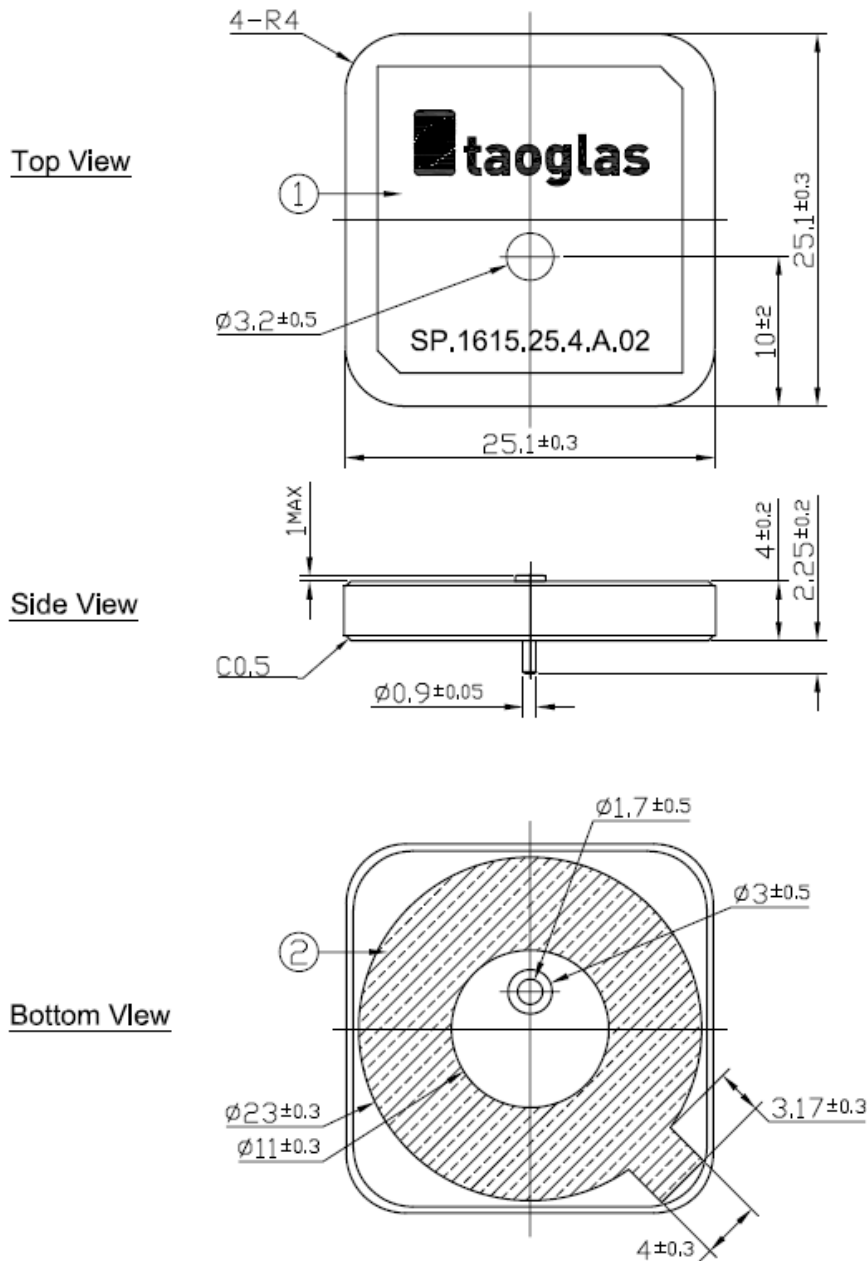


3.5 Axial Ratio



4. Mechanical Drawing

4.1 Antenna

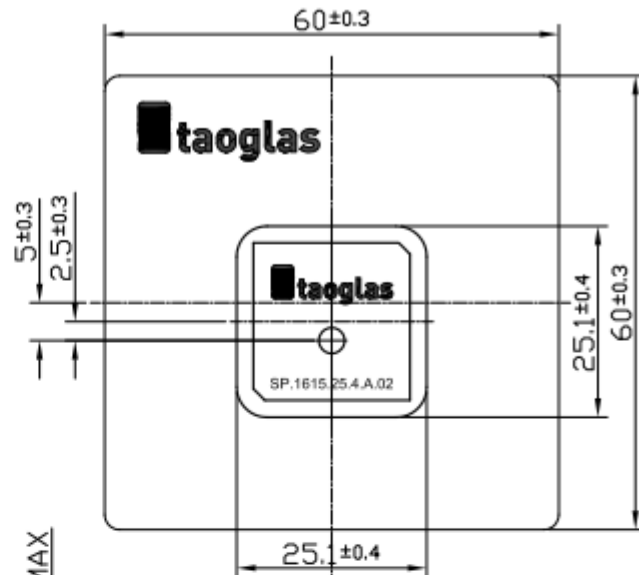


	Name	Material	Finish	QTY
1	SP.1615.25 Patch 25x25x4	Ceramic	Clear	1
2	Double sided Adhesive	NITTO 5015	White Liner	1

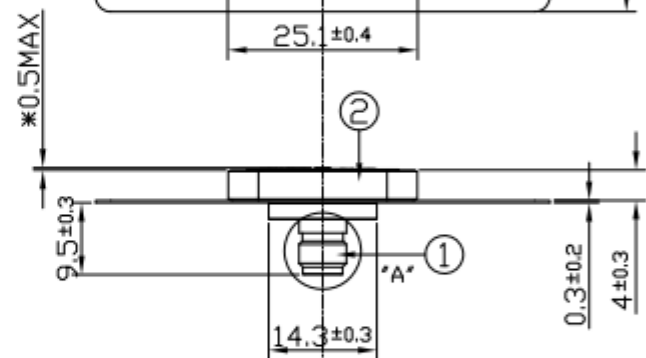
4.2 SPD.25A Evaluation Board



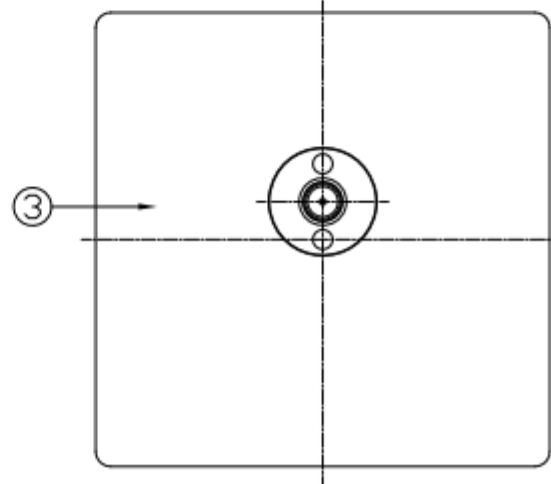
Top View



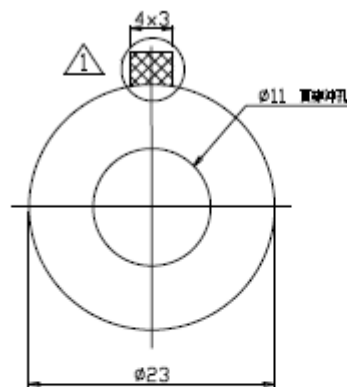
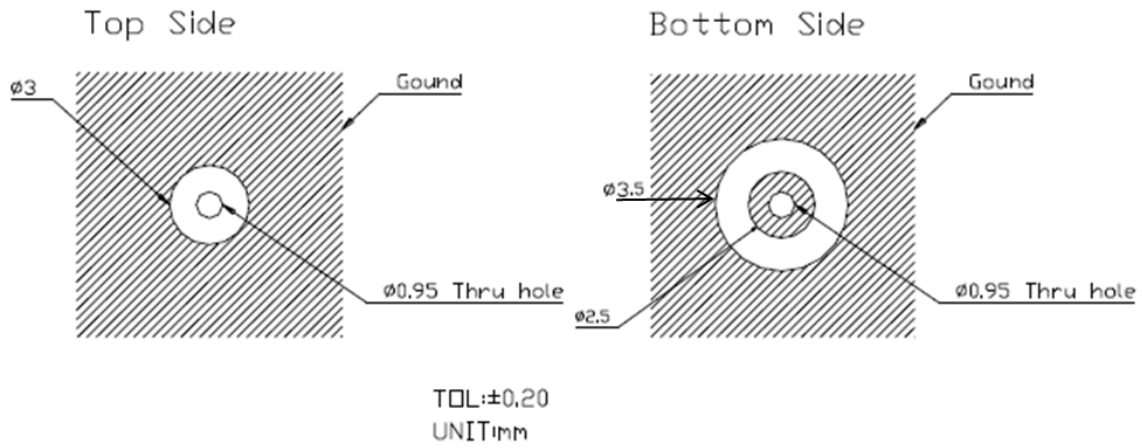
Side View



bottom View

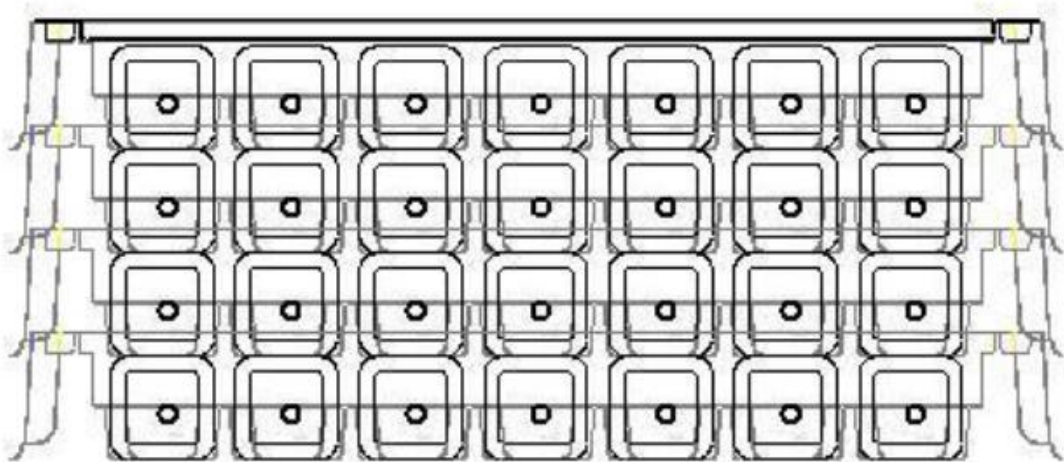
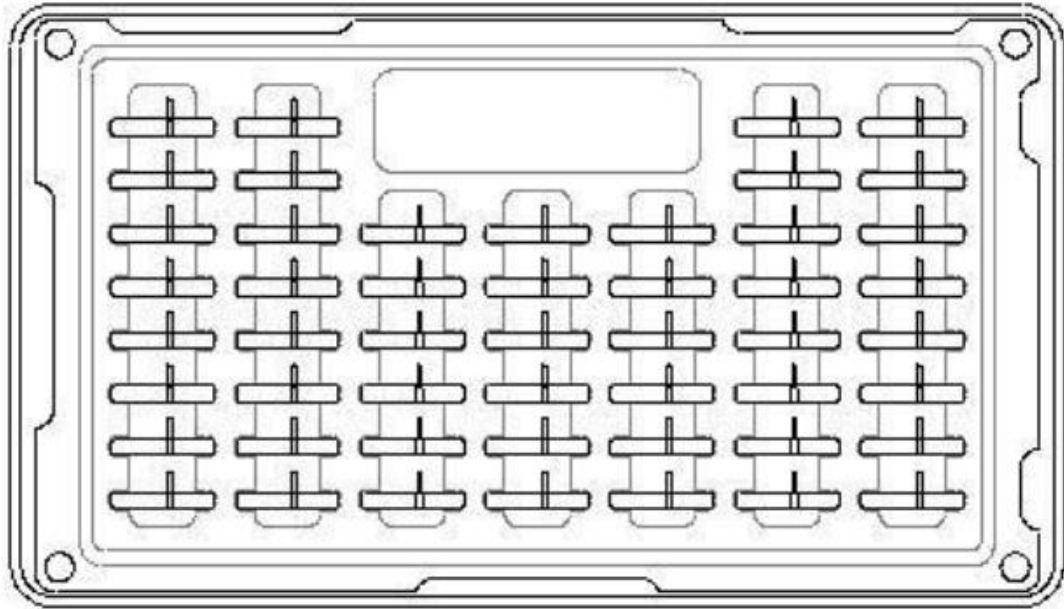


4.3 PCB Footprint Recommendation



- 1. NITTO : NO.5015
- 2. Double-coated adhesive tape for industrial use
- 3. Thickness : 0.12mm

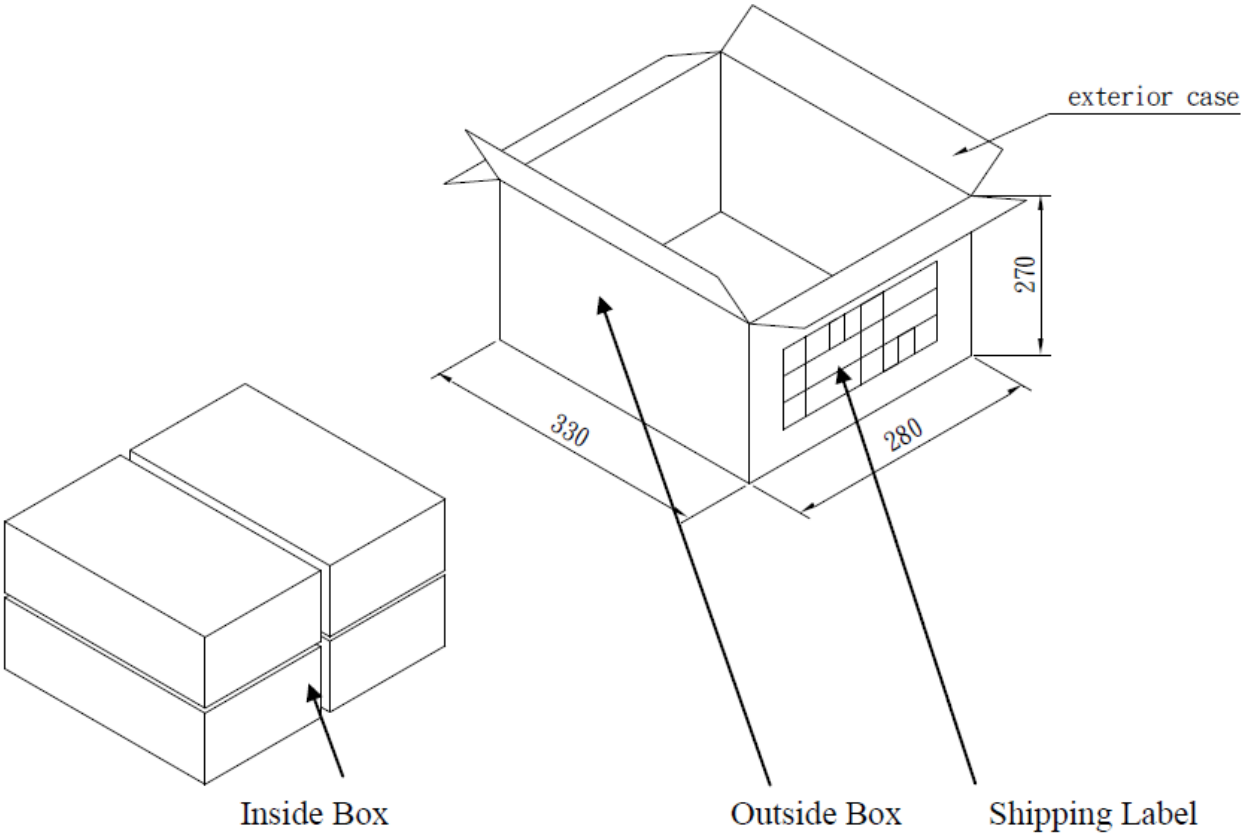
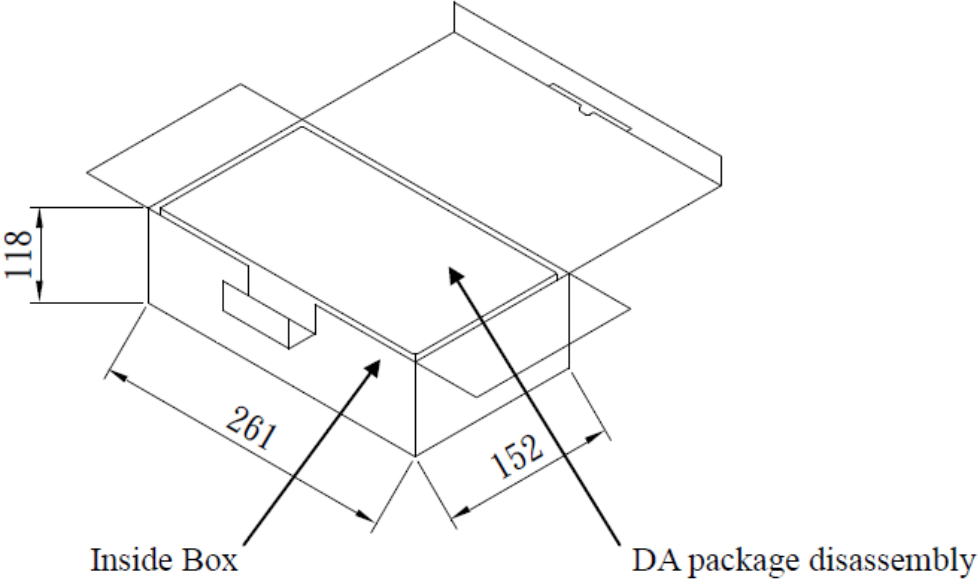
5. Packaging



50 pieces per tray

200 pieces per inner carton

800 pieces per outer carton



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