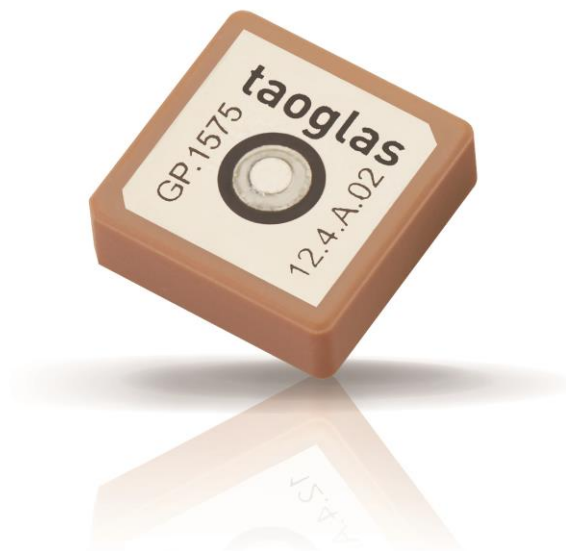


# SPECIFICATION

Part No. : **GP.1575.12.4.A.02**

Product Name : GPS/Galileo Patch Antenna for 1575MHz

Features : Passive GPS/Galileo Patch Antenna  
Centre Frequency: 1575MHz  
Mounted with pin and adhesive tape  
Dimensions: 12mm\*12mm\*4mm  
**RoHS & REACH Compliant**



## 1. Introduction

This miniaturized ceramic GPS/GALILEO patch antenna is based on smart **XtremeGain™** technology. It is mounted via pin and double-sided adhesive and has been selected as optimal solution for the customer device environment.

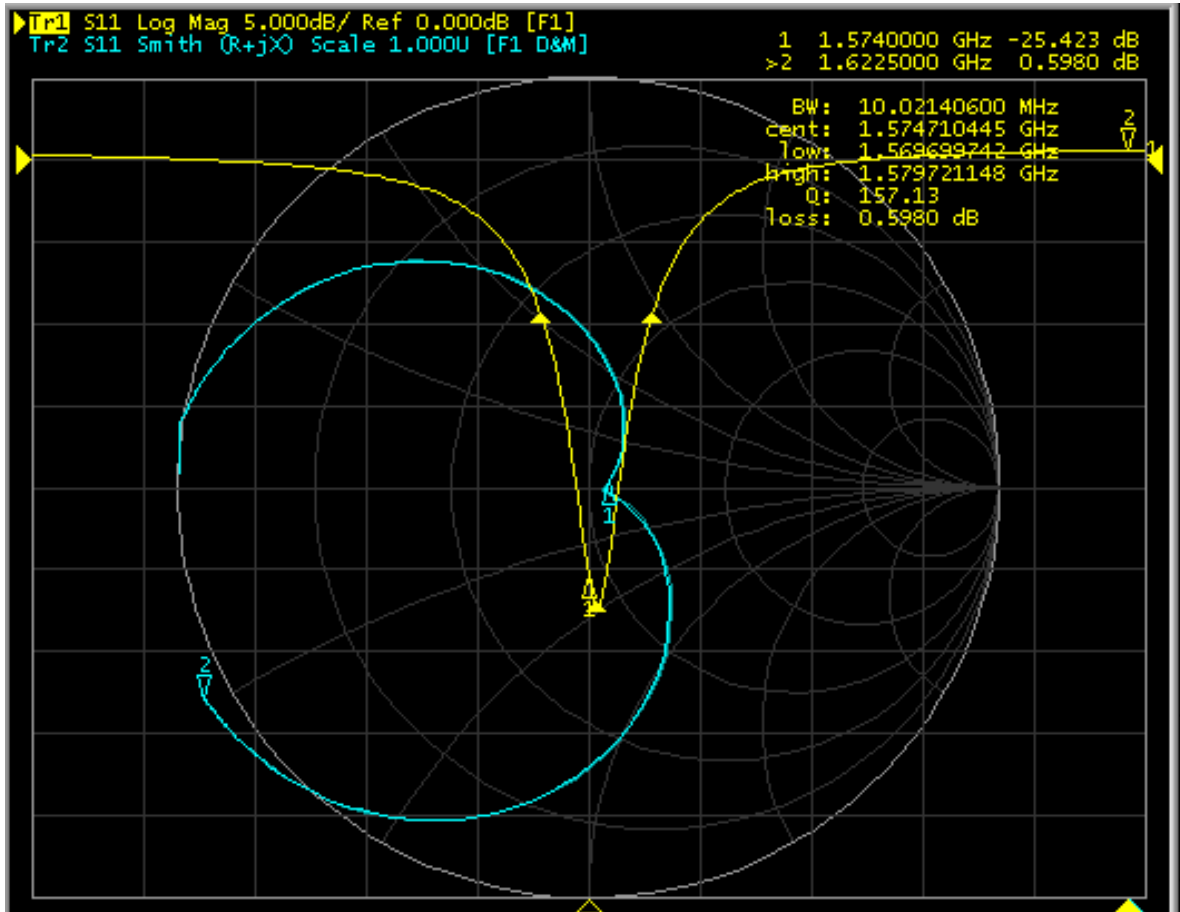
## 2. Specification Table

**Original Patch Specification tested on 50\*50mm ground plane**

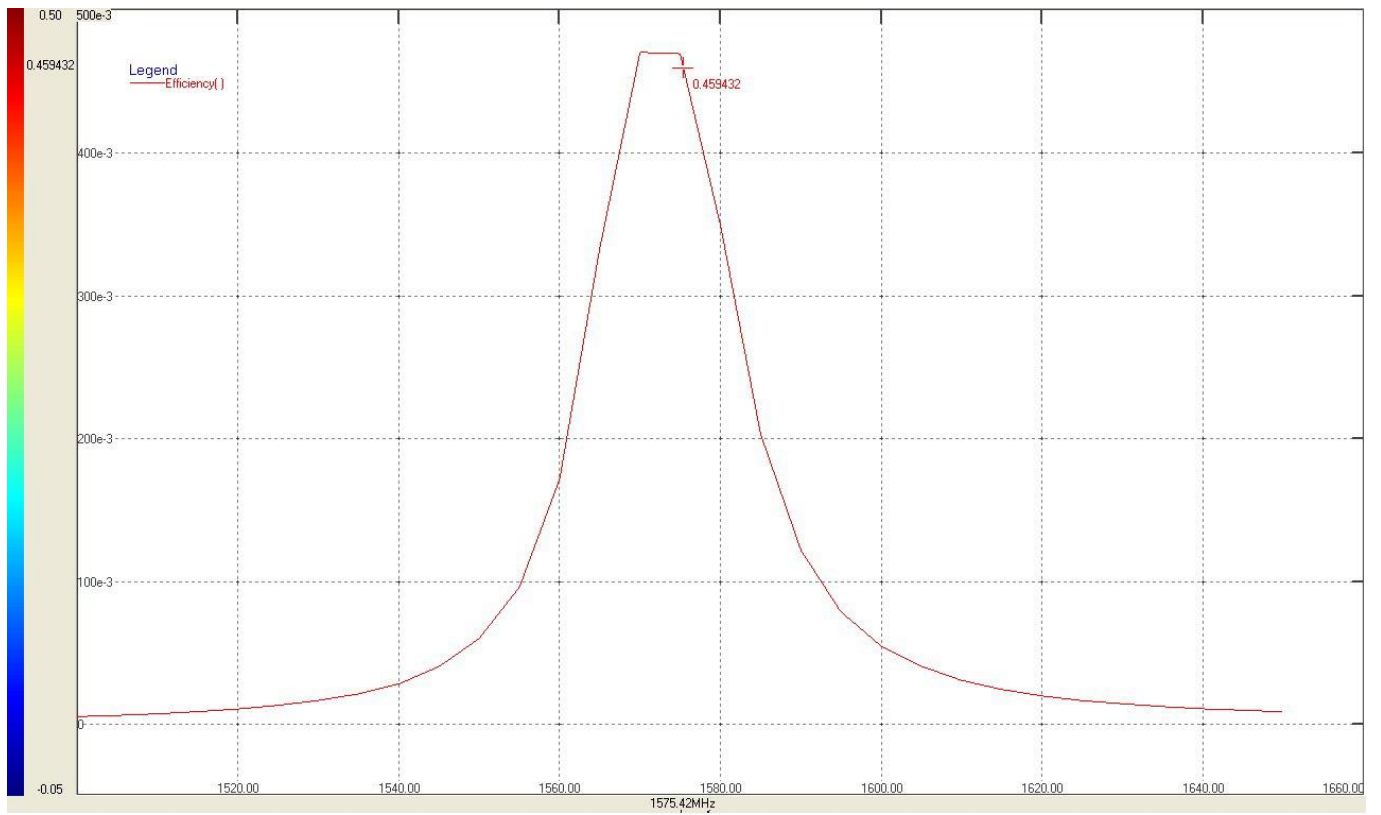
| No | Parameter                                | Specification                      |
|----|------------------------------------------|------------------------------------|
| 1  | Center Frequency                         | 1575MHz +/- 3MHz                   |
| 2  | Impedance                                | 50Ω                                |
| 3  | Bandwidth                                | 8MHz min Return Loss <-10dB        |
| 4  | VSWR                                     | 2                                  |
| 5  | Gain toward Zenith                       | -0.5 dBic<br>typ. Center Frequency |
| 6  | Gain at 10°Elevation                     | -----                              |
| 7  | Axial Ratio                              | 4dB Max.                           |
| 8  | Polarization                             | Right Hand Circular Polarization   |
| 9  | Frequency Temperature Coefficient ( τf ) | 0 ± 20ppm/°C                       |
| 10 | Operating Temperature                    | -40°C to +85°C                     |

## 3. Electrical Specifications

### 3.1 Smith Chart

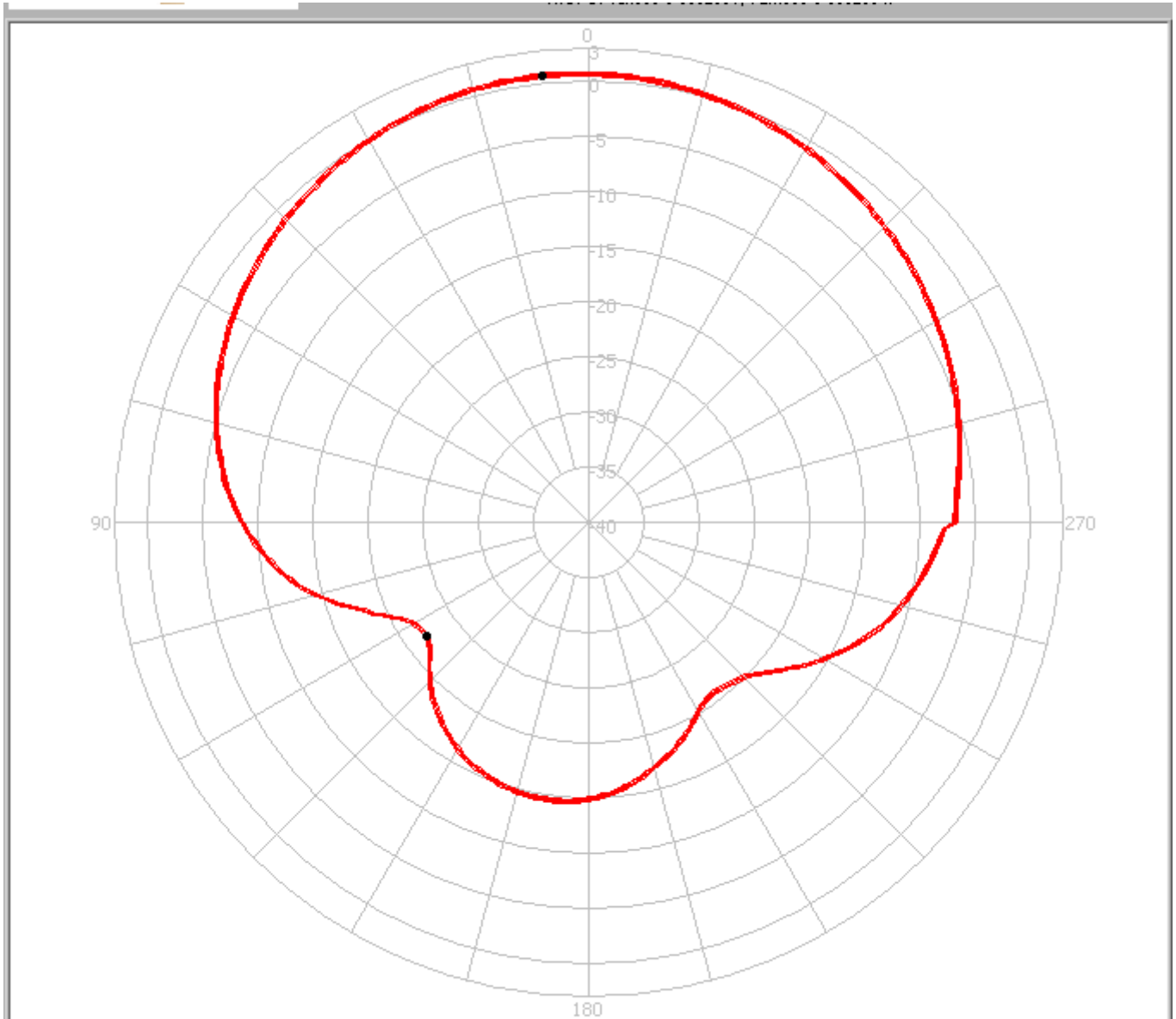


### 3.2 Efficiency



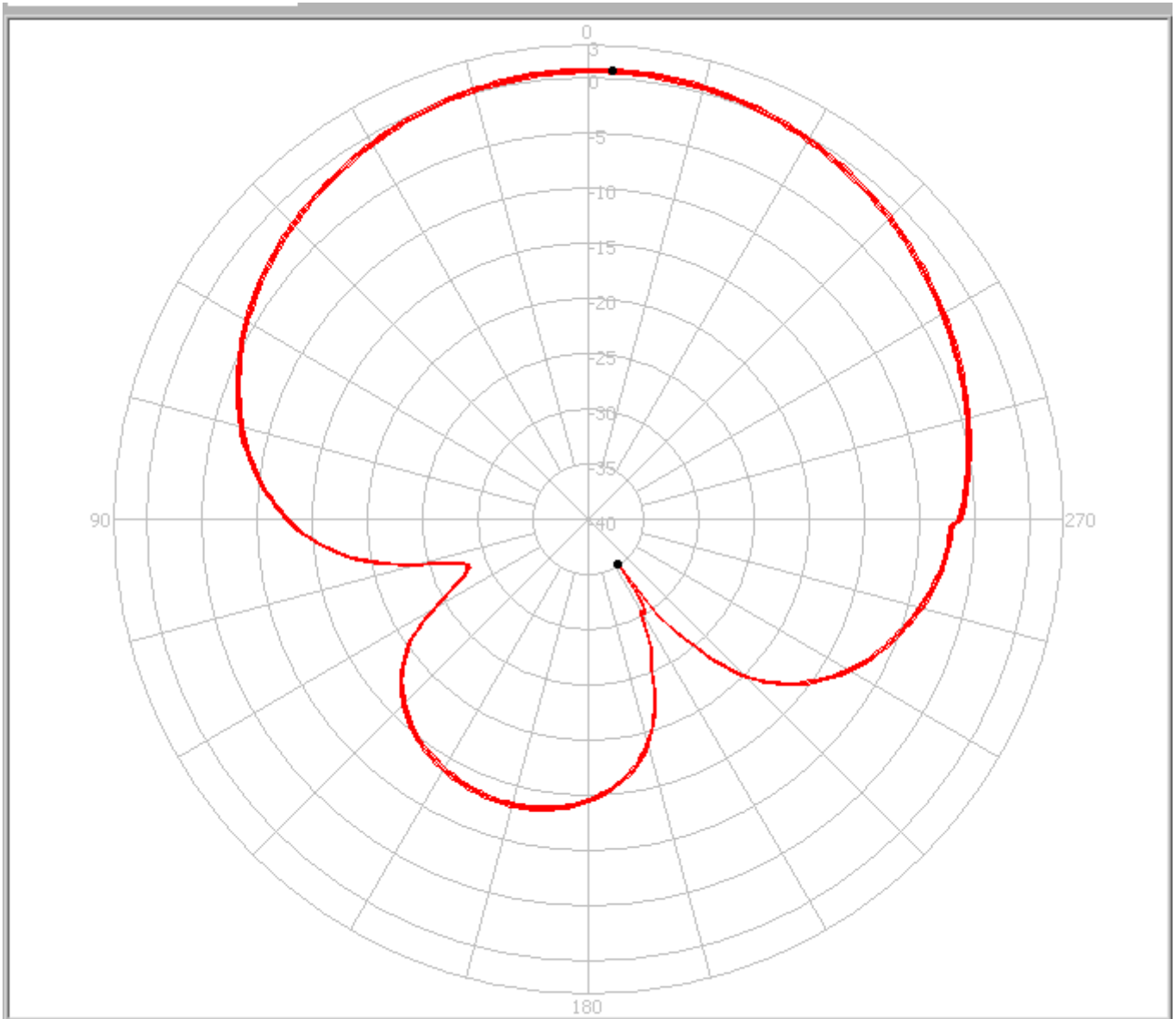
## 4. 2D Radiation Patterns

### 4.1 XZ Plane Radiation



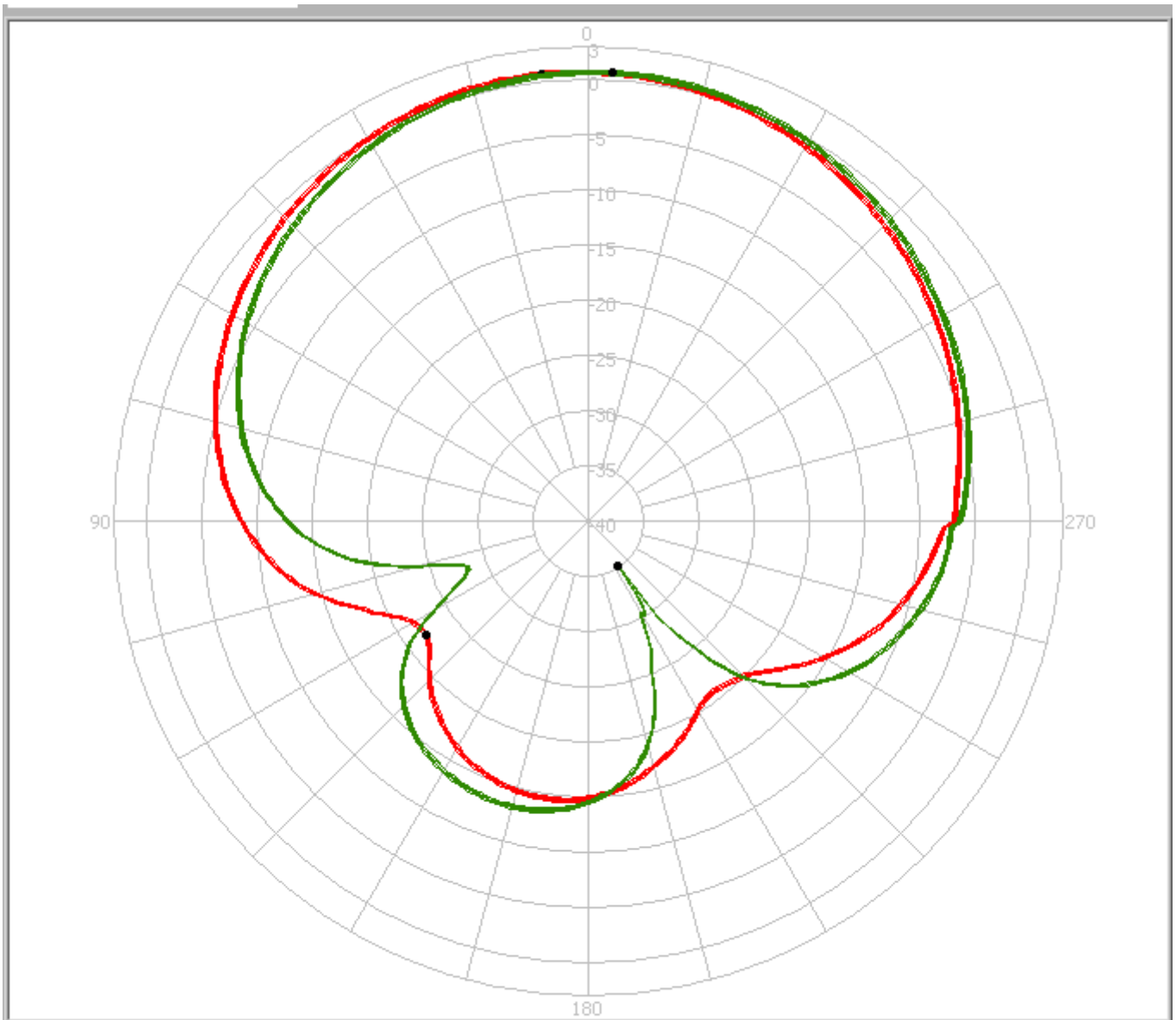
| Pattern | Model No. | Test Mode | Freq(MHz) | Max Gain(dBi) | Min Gain(dBi)   | Avg. Gain(dBi) | Source Polar. | Date      |
|---------|-----------|-----------|-----------|---------------|-----------------|----------------|---------------|-----------|
| 1       | DA12      | XZ        | 1575.42   | 0.70 / 6.00   | -22.04 / 125.00 | -4.37          | RHCP          | 2010/3/11 |

## 4.2 YZ Plane Radiation



| Pattern | Model No. | Test Mode | Freq(MHz) | Max Gain(dBi) | Min Gain(dBi)   | Avg. Gain(dBi) | Source Polar. | Date      |
|---------|-----------|-----------|-----------|---------------|-----------------|----------------|---------------|-----------|
| 1       | DA12      | YZ        | 1575.42   | 0.65 / 357.00 | -35.14 / 214.00 | -4.50          | RHCP          | 2010/3/11 |

### 4.3 XY Plane Radiation




| Pattern | Model No. | Test Mode | Freq(MHz) | Max Gain(dBi) | Min Gain(dBi)   | Avg. Gain(dBi) | Source Polar. | Date      |
|---------|-----------|-----------|-----------|---------------|-----------------|----------------|---------------|-----------|
| 1       | DA12      | XZ        | 1575.42   | 0.70 / 6.00   | -22.04 / 125.00 | -4.37          | RHCP          | 2010/3/11 |
| 2       | DA12      | YZ        | 1575.42   | 0.65 / 357.00 | -35.14 / 214.00 | -4.50          | RHCP          | 2010/3/11 |

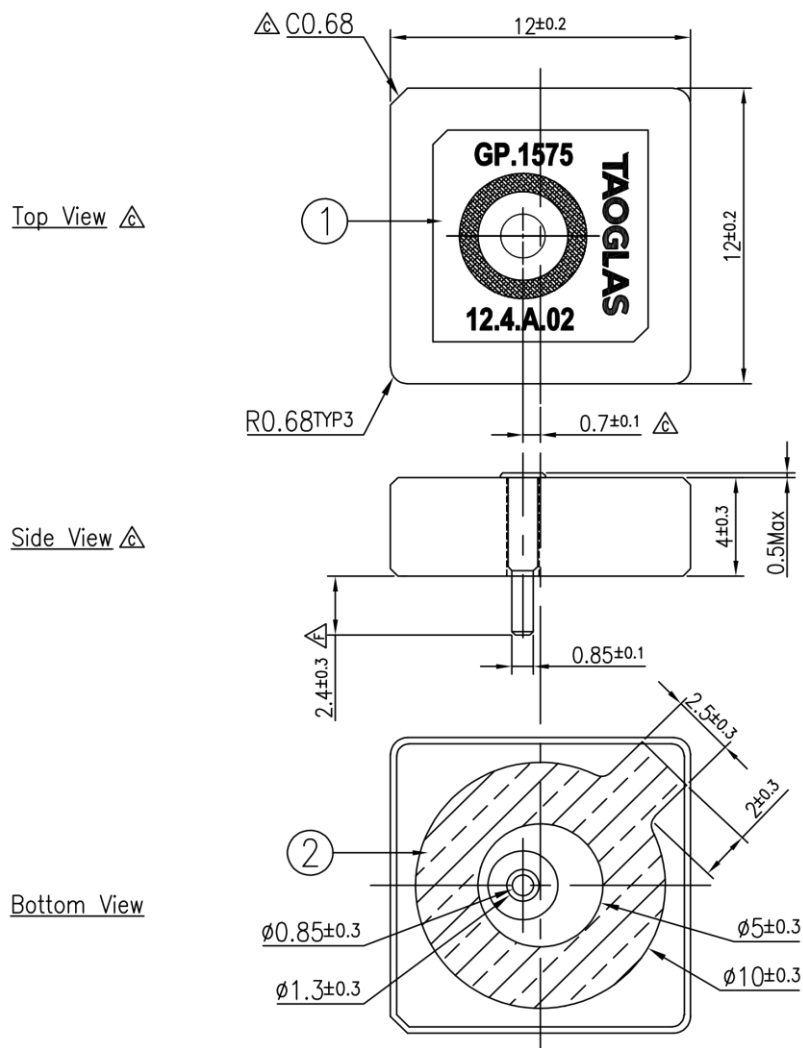
## 5. Mechanical Drawing

ISO NO.: EDW-12-8-0026



STATE: Release

NOTES: 1. Double sided adhesive area. 

| REV. | DESCRIPTION  | ENG.   | APPROVED | DATE       |
|------|--------------|--------|----------|------------|
| △ A  | EC-21-08-010 | Mickey | Buluto   | 2021/03/02 |

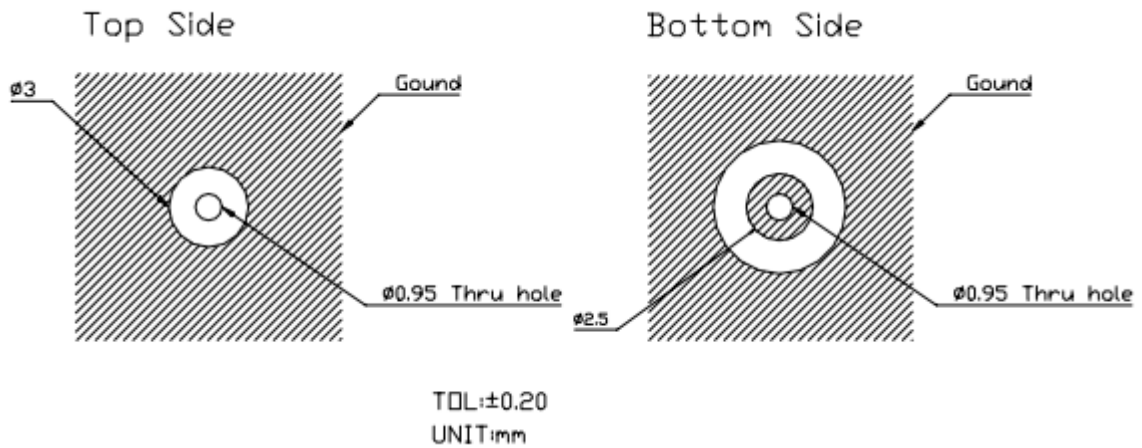


| △ | Name                  | P/N            | Material  | Finish      | QTY |
|---|-----------------------|----------------|-----------|-------------|-----|
| 1 | GP.1575 Patch         | 001517F050000A | Ceramic   | Brown       | 1   |
| 2 | Double sided Adhesive | 001517F050000A | Tesa 4672 | White Liner | 1   |

|                                                                                                            |                                                                                                                                                                                                                                                                             |            |            |        |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|------------|--------|
| APPROVED BY: Joanna                                                                                        |  <p>TW Design Centre<br/>This drawing and its inherent design concepts are property of Taoglas. Not to be copied or given to third parties without the written consent of Taoglas.</p> |            |            |        |
| CHECK BY: Joanna                                                                                           |                                                                                                                                                                                                                                                                             |            |            |        |
| DRAWN BY: Sandy                                                                                            |                                                                                                                                                                                                                                                                             |            |            |        |
| DATE: 2012/01/31                                                                                           |                                                                                                                                                                                                                                                                             |            |            |        |
| UNLESS OTHERWISE SPECIFIED TOLERANCES ON:                                                                  | XX±0.3<br>X±0.3<br>XX±0.2<br>X±0.2<br>XX±0.1<br>X±0.1                                                                                                                                                                                                                       |            |            |        |
| THIRD ANGLE PROJECTION  | TITLE : GPS Patch Antenna<br>1575MHz Ceramic Patch<br>PART NO. : GP.1575.12.4.A.02                                                                                                                                                                                          |            |            |        |
|                                                                                                            | UNIT: mm                                                                                                                                                                                                                                                                    | SCALE: 4:1 | PAGES: 1/1 | REV. F |

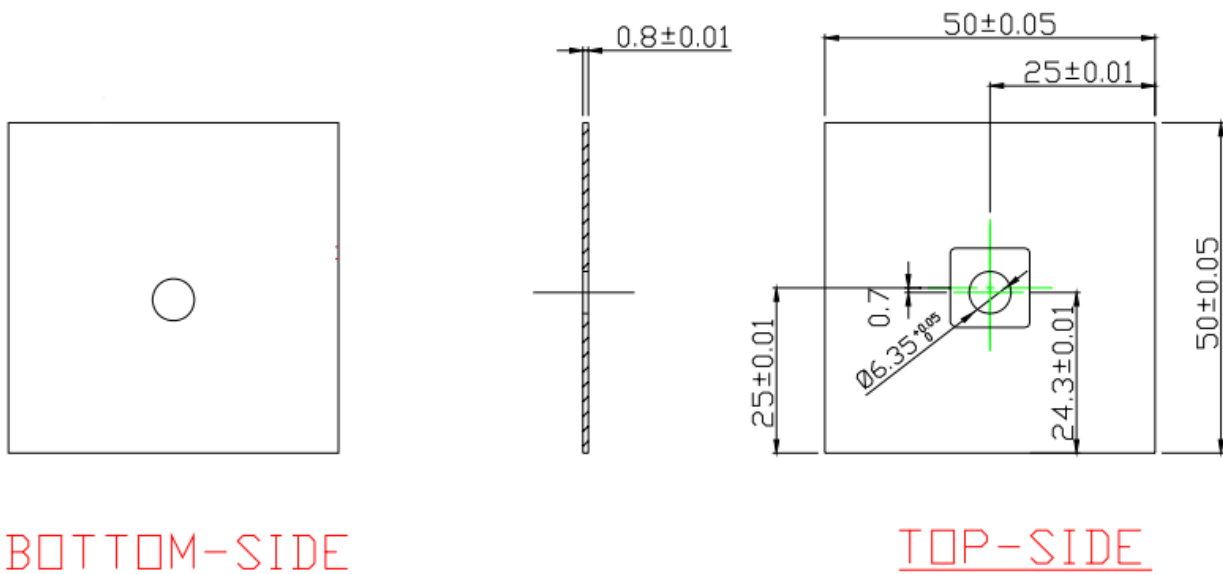


## 5.1 Layout Dimension

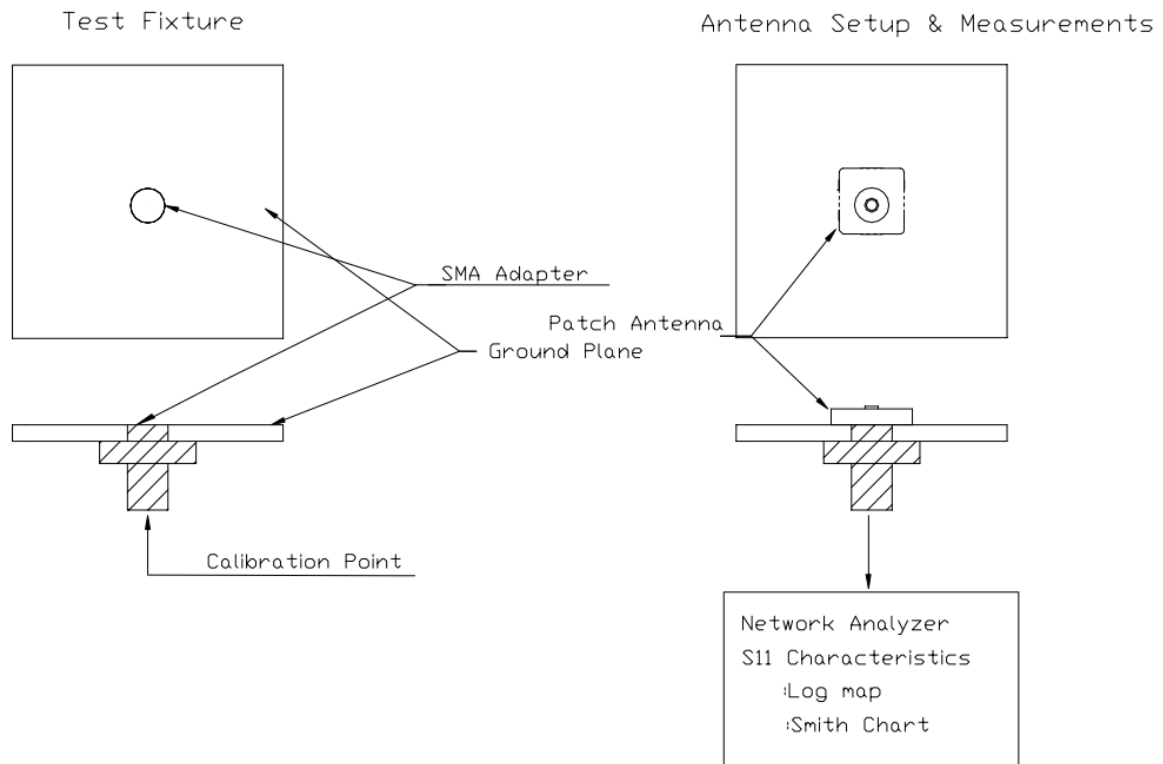


\*Note Layout Dimensions may be affected by the thickness of the PCB

## 6. Test Jig and Dimension

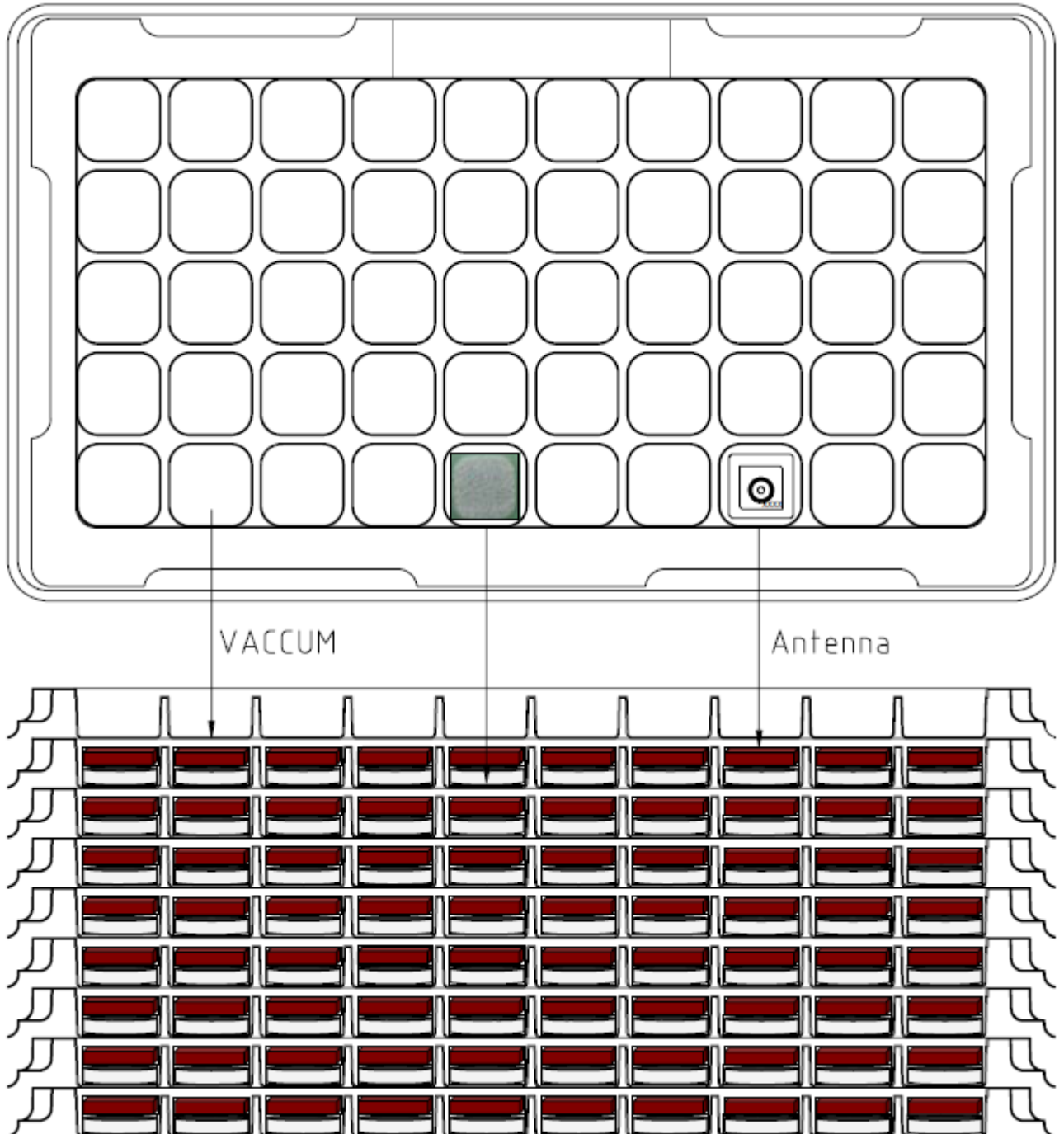


## 6.1 Test Fixture Antenna Setup and Measurements

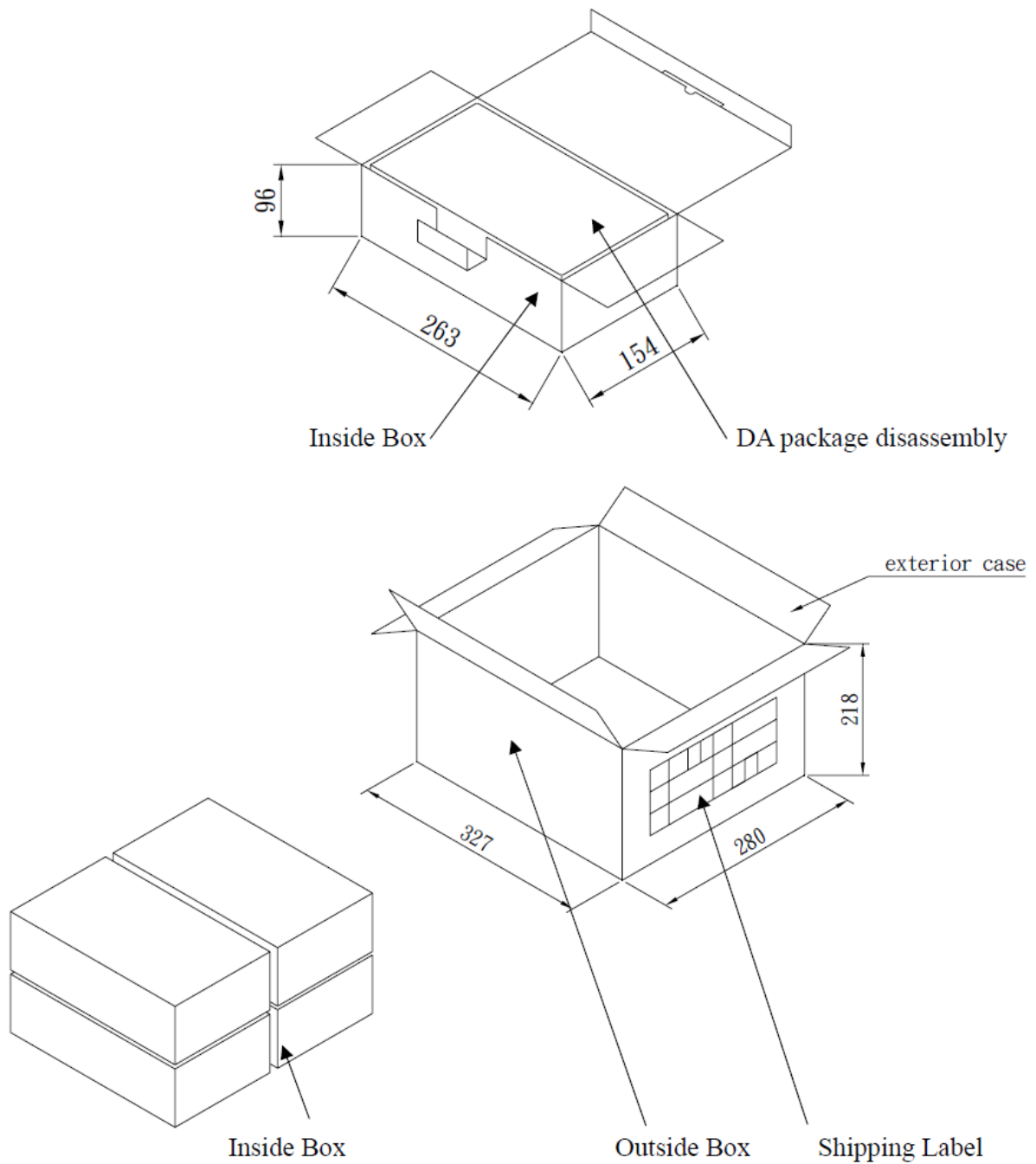


## 7. Packaging

Pieces per Inner Carton: 400



## Packing



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