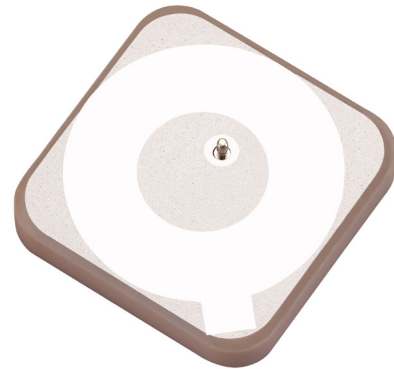




Front



Back

IP.1621.25.4.A.02

## Specification

Iridium Certified

|                     |  |
|---------------------|--|
| <b>Part No.</b>     | IP.1621.25.4.A.02                        |
| <b>Product Name</b> | 4mm thick Iridium Patch Antenna, 1621MHz |
| <b>Feature</b>      | 25mm*25mm*4mm<br>ROHS Compliant          |

## 1. Introduction

This miniaturized ceramic Iridium 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.

Iridium certifies the IP.1621.25.4.A.02 for commercial use in connection with the Iridium Communications systems.

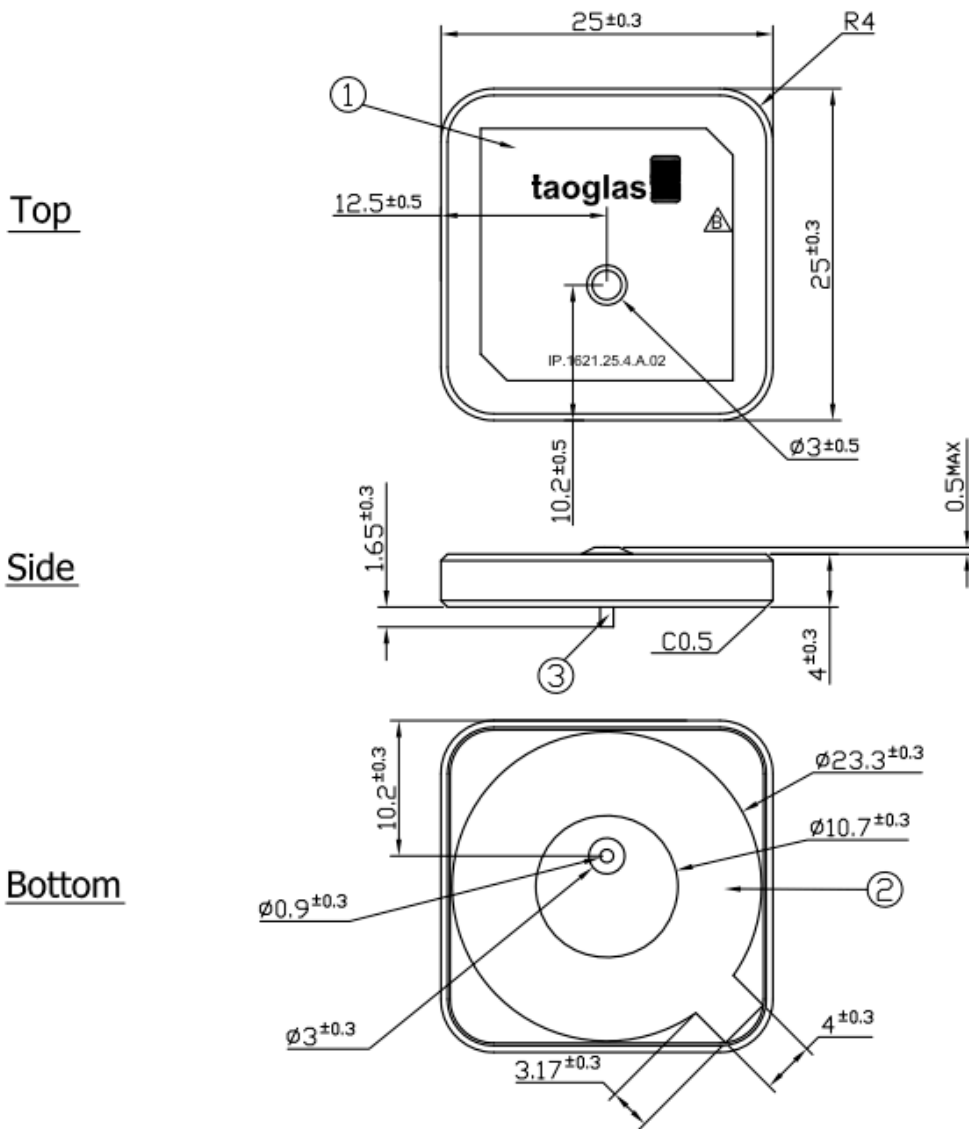
## 2. Key Antenna Performance Indicators

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

| Parameter                              | Specification  | Notes                  |
|--|----------------|------------------------|
| <b>Range of Receiving Frequency</b>    | 1616~1626.5Mhz |                        |
| <b>Center Frequency</b>                | 1621MHz ±3MHz  | with 50*50mm GND Plane |
| <b>Bandwidth</b>                       | 16MHz          | Return Loss ≤-10dB     |
| <b>VSWR</b>                            | 1.5 max        | Center Frequency       |
| <b>Gain at Zenith</b>                  | +2.0dBi typ.   | Center Frequency       |
| <b>Gain at 10° Elevation</b>           |                | Center Frequency       |
| <b>Axial Ratio</b>                     | 3 dB Max       | Center Frequency       |
| <b>Polarization</b>                    | RHCP           |                        |
| <b>Impedance</b>                       | 50Ω            |                        |
| <b>Frequency Temp Coefficient (Tf)</b> | 0±20ppm/°C     | -40°C to +85°C         |
| <b>Operating Temperature</b>           | -40°C to +85°C |                        |
| <b>Antenna Weight</b>                  | 10g            |                        |

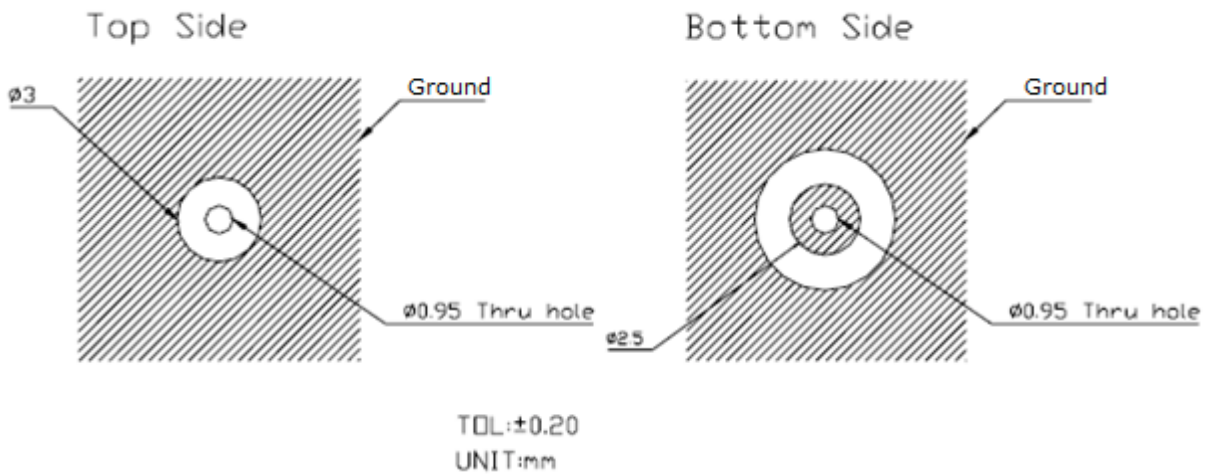
### 3. Mechanical Specifications

#### 3.1 Shape and Dimension

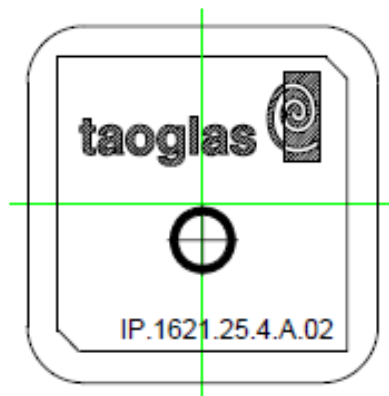


|   | Name                             | Material   | Finish      | QTY |
|---|----------------------------------|------------|-------------|-----|
| 1 | IP.25A Iridium Patch (25x25x4mm) | Ceramic    | Clear       | 1   |
| 2 | Double Sided Adhesive            | NITTO 5015 | White Liner | 1   |
| 3 | Pin                              | Brass      | Tin Plated  | 1   |

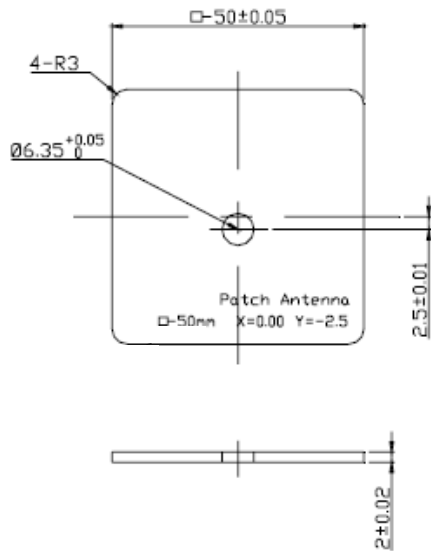
### 3.2 Layout



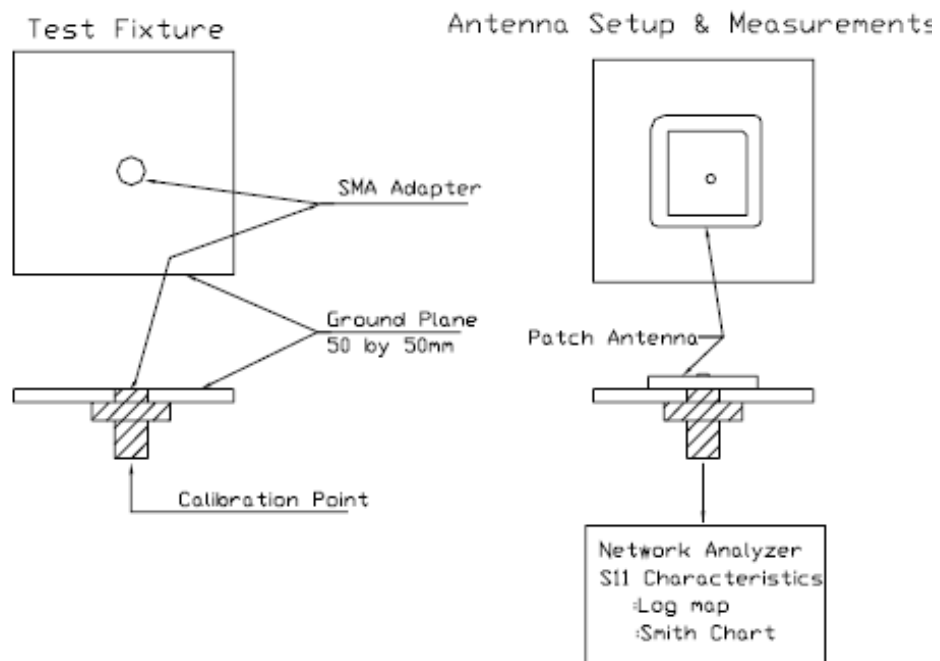
### 3.3 Mark



### 3.4 Test Jig and Dimensions

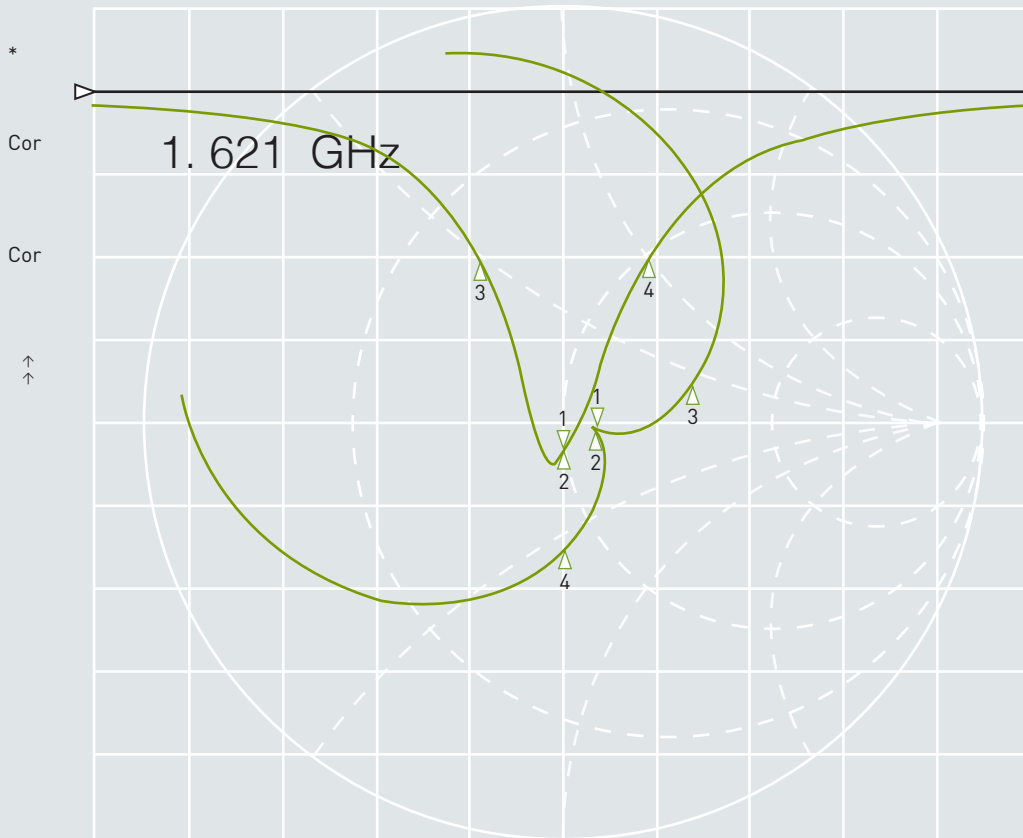


### 3.5 Test Fixture Antenna Setup and Measurements



## 4. Performance testing and results

CH1 RFL LOG 5 dB/REF .3 dB 1: -21.527 dB 1 621.000 000 MHz  
 CH3 RFL 1 U FS 1: 58.865  $\Omega$  -2.1875  $\Omega$  44.884 pF



CH1 Markers  
 BW: 17.896549 MHz  
 cent: 1621.131270 MHz  
 Q: 90.583  
 1 loss: -21.527 dB

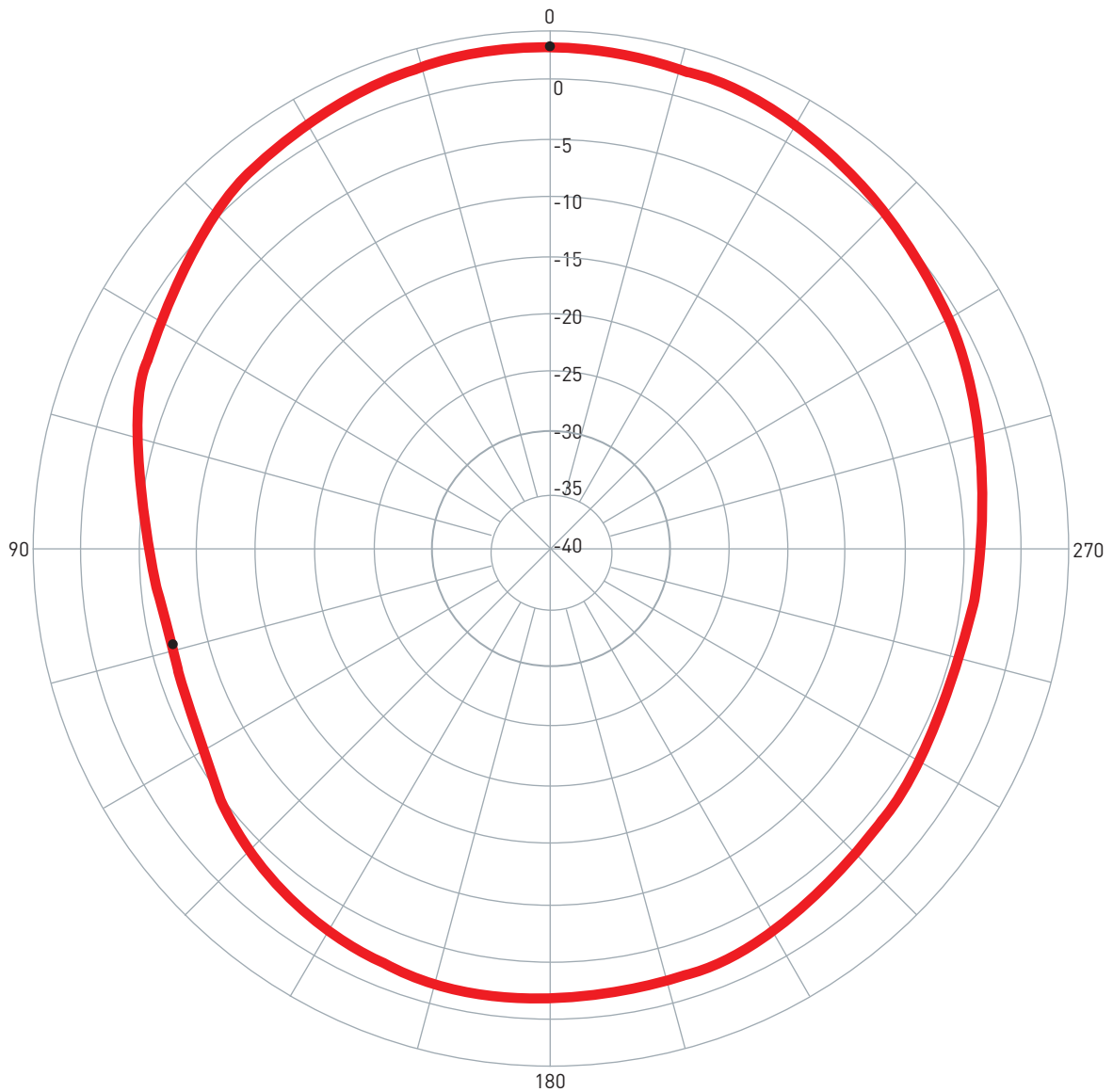
CH3 Markers  
 2: 58.969  $\Omega$   
 -2.3008 m $\Omega$   
 1.62113 GHz  
 3: 92.266  $\Omega$   
 16.277  $\Omega$   
 1.61218 GHz  
 4: 41.121  $\Omega$   
 -28.895  $\Omega$   
 1.63007 GHz

CENTER 1 621.000 000 MHz

SPAN 100.000 000 MHz

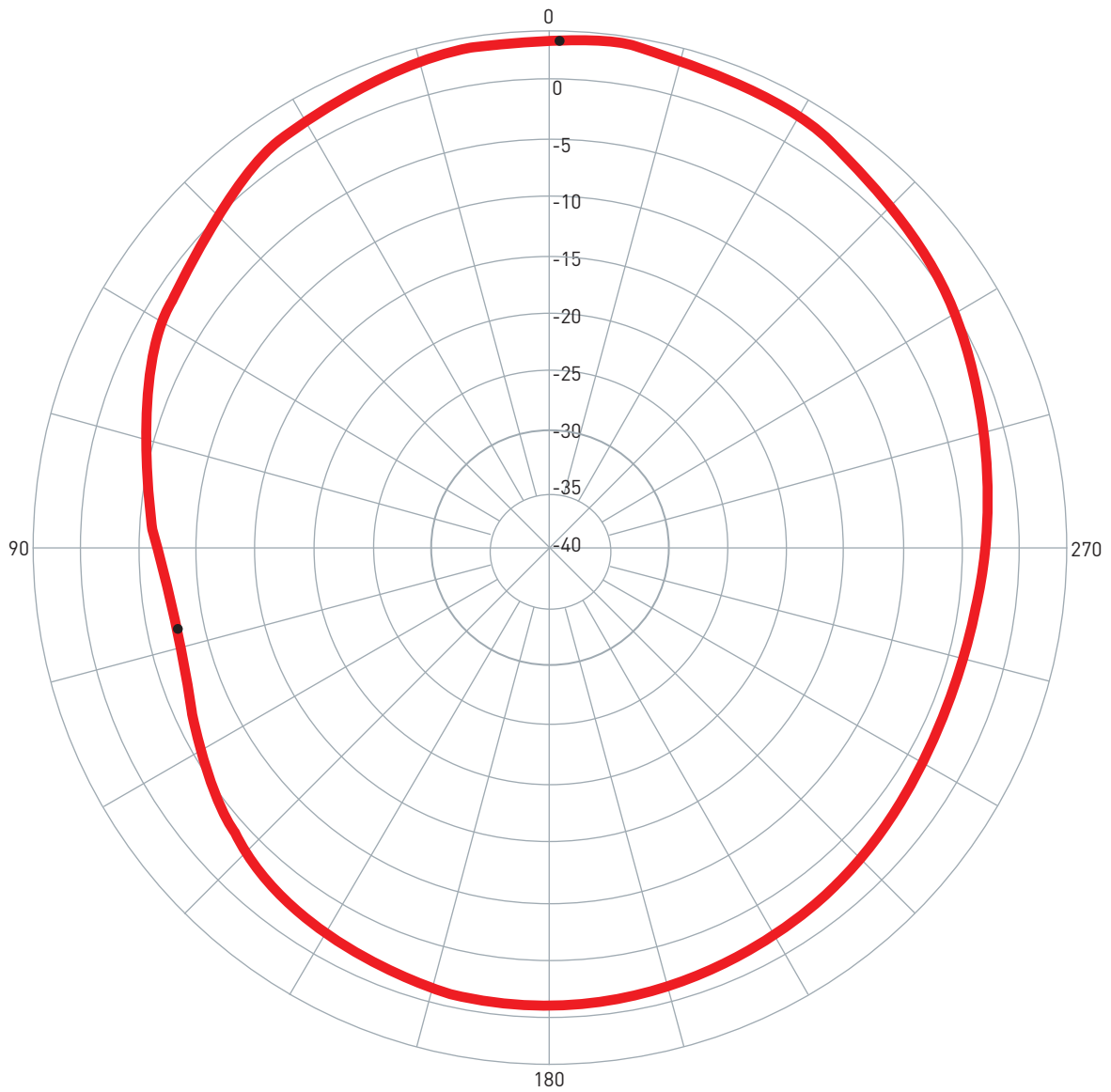
## 4.1 Antenna Gain Chart

### 4.1.1 XZ Plane



| Pattern   | Model No.         | Test Mode | Freq (MHz) | Max Gain(dBi) | Min Gain(dBi)  | Avg. Gain(dBi) | Source Polar. |
|---|-------------------|-----------|------------|---------------|----------------|----------------|---------------|
| 1  | IP.1621.25.4.A.02 | XZ        | 1621.00    | 2.72 / 0.00   | -6.84 / 104.00 | -1.05          | V+H           |

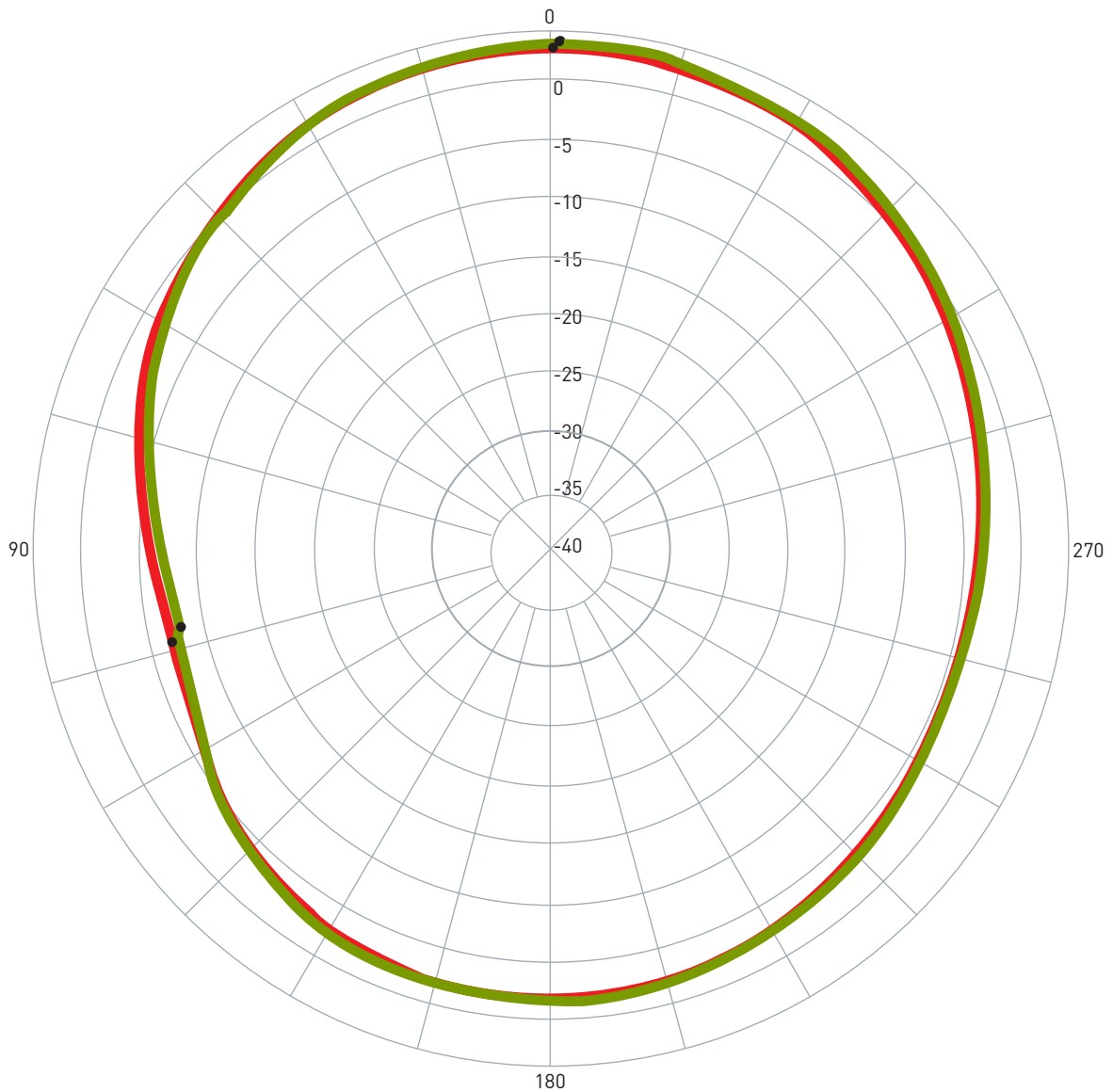
### 4.1.2 YZ Plane Radiation



| Pattern   | Model No.         | Test Mode | Freq (MHz) | Max Gain(dBi) | Min Gain(dBi)  | Avg. Gain(dBi) | Source Polar. |
|---|-------------------|-----------|------------|---------------|----------------|----------------|---------------|
| 1  | IP.1621.25.4.A.02 | YZ        | 1621.00    | 3.00 / 358.99 | -7.57 / 101.85 | -0.86          | V+H           |

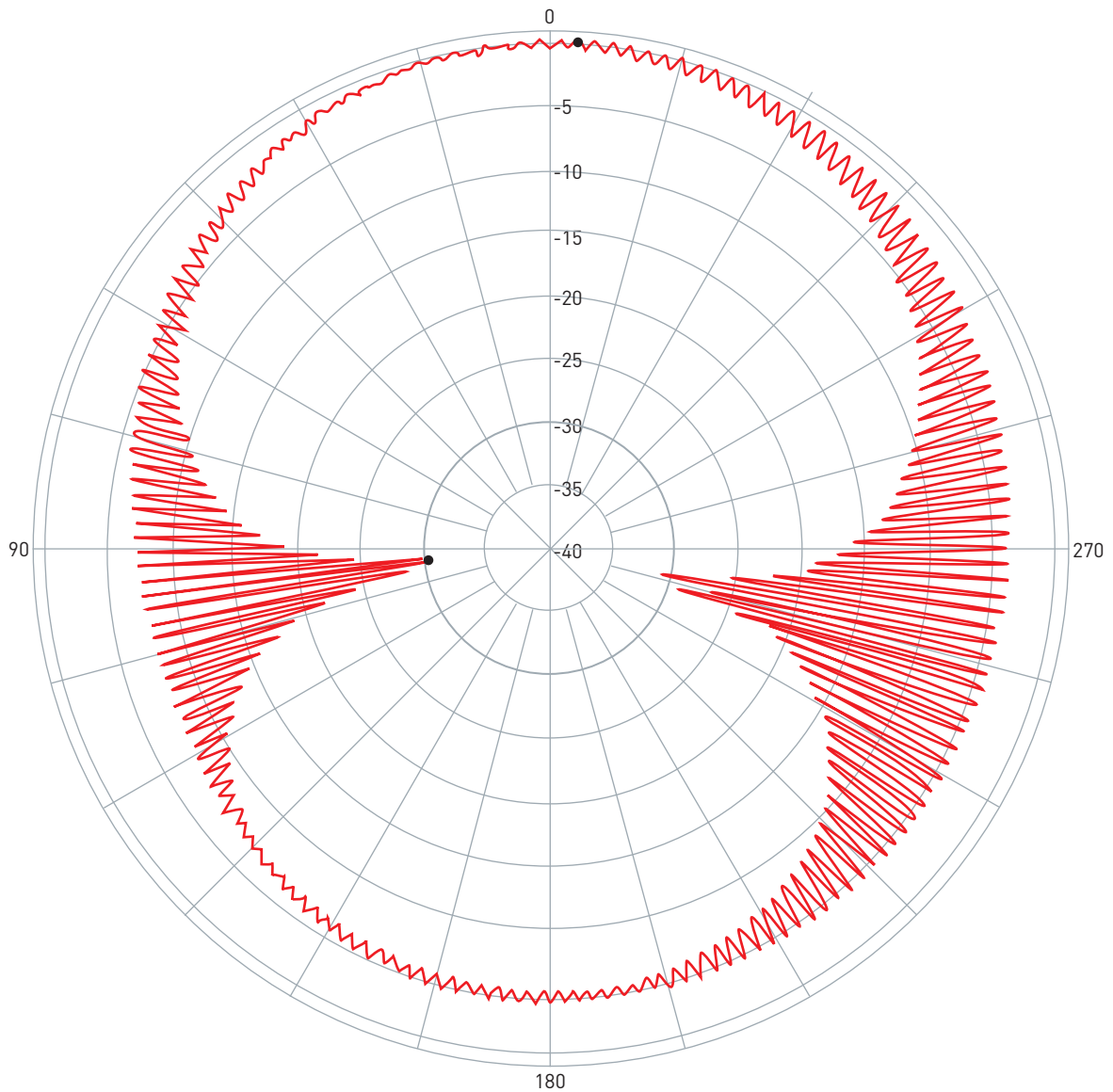


### 4.1.3 XZ + YZ Plane Radiation



| Pattern   | Model No.         | Test Mode | Freq (MHz) | Max Gain(dBi) | Min Gain(dBi)  | Avg. Gain(dBi) | Source Polar. |
|---|-------------------|-----------|------------|---------------|----------------|----------------|---------------|
| 1  | IP.1621.25.4.A.02 | XZ        | 1621.00    | 2.72 / 1.00   | -6.84 / 104    | -1.05          | V+H           |
| 2  | IP.1621.25.4.A.02 | YZ        | 1621.00    | 3.00 / 358.99 | -7.57 / 101.85 | -0.86          | V+H           |

## 4.2 Axial Ratio



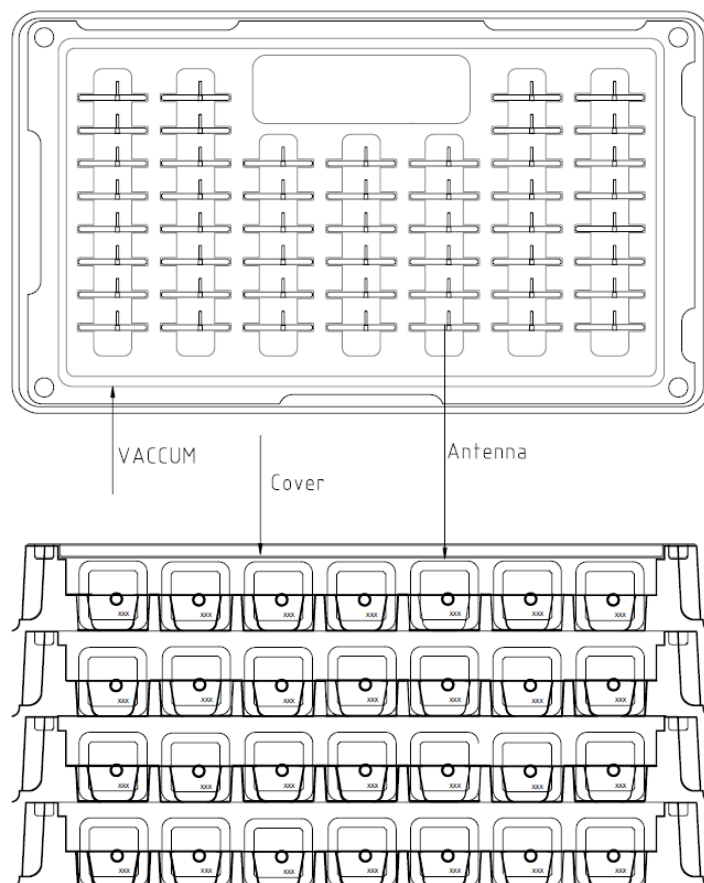
| Pattern | Model No.         | Test Mode   | Freq (MHz) | Max Gain(dBi) | Min Gain(dBi)  | Avg. Gain(dBi) | Source Polar. |
|---------|-------------------|-------------|------------|---------------|----------------|----------------|---------------|
| 1       | IP.1621.25.4.A.02 | Axial Ratio | 1621.00    | 0.13 / 356.87 | -30.61 / 95.76 | -4.00          | CP            |

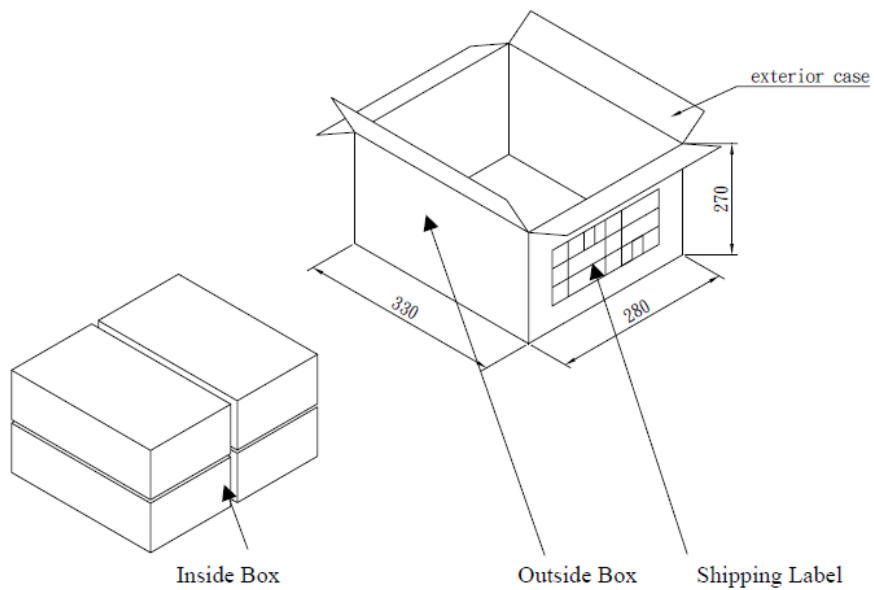
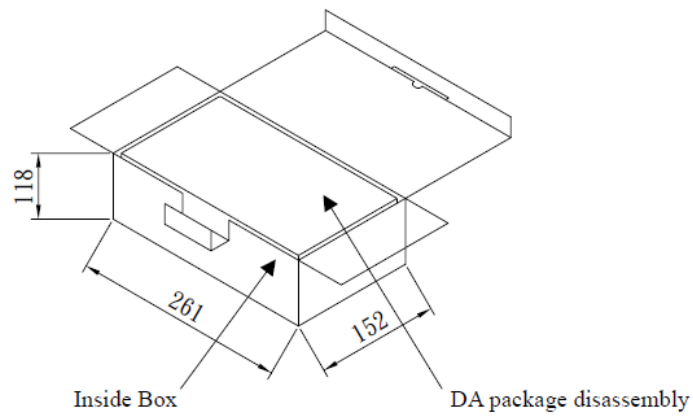
## 9. Packaging

Per Tray: 50 pieces

Per Carton (Inside Box) - 4 Trays = 200 pieces

Outer Carton (Outside Box) - 4 Cartons = 800 pieces





Taoglas makes no warranties based on the accuracy or completeness of the contents of this document and reserves the right to make changes to specifications and

product descriptions at any time without notice. Taoglas reserves all rights to this document and the information contained herein.

Reproduction, use or disclosure to third parties without express permission is strictly prohibited.  
Copyright © Taoglas Ltd.