

## Specification

|                    |                                                                                                                                                                                         |
|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Part No.</b>    | <b>: LPDA.02</b>                                                                                                                                                                        |
| <b>Description</b> | : LPDA.02 Engager External Wide Band Directional LPDA Antenna                                                                                                                           |
| <b>Features</b>    | : Frequency: 698-3900MHz<br>Peak Gain: 7dBi<br>Dimensions: 230*330*32mm<br>Dimensions with Bracket: 230*420*105mm<br>Cable Length: 300mm<br>Connector: SMA(M)<br>RoHS & Reach Compliant |



## 1. Introduction

The LPDA.02 Engager is a wide-band directional LPDA exterior antenna that operates within the 698-3900MHz frequency bands. It is an innovative and future proof solution, ideal for LTE 4G and 2G/3G networks as well as 2.4GHz Wi-Fi.

This wideband design eliminates the need to purchase different antennas for each frequency which simplifies installations since the same antenna can be used for a wide array of wireless applications where extensive coverage is desired.

The LPDA.02 has a 70° beam width in both orthogonal planes. The ABS external housing is robust, UV resistant and IP65 waterproof ensuring it is completely weatherproof and sealed. For various mounting options, it is supplied with tilt and swivel wall and pole brackets. The LPDA.02 has been tested for wind resistance up to 200 km/h

LTE 4G and 2.4GHz Wi-Fi applications demand high speed data uplink and downlink and where required, two LPDA.02 antennas can be mounted in space at 90° to create a MIMO arrangement.

Cable type, length and connectors are customizable for large order volumes. Please contact your regional Taoglas sales office for support.

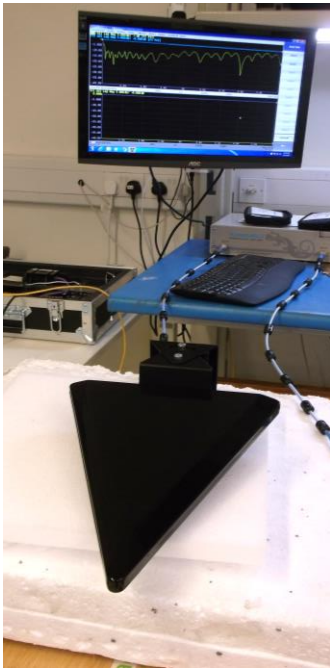
## 2. Specification

| ELECTRICAL                |                                                                                 |            |              |           |           |           |
|---------------------------|---------------------------------------------------------------------------------|------------|--------------|-----------|-----------|-----------|
| Operation Frequency (MHz) | LTE 700<br>GSM 900                                                              | DCS<br>PCS | UMTS<br>HSPA | Wi-Fi     | LTE 2600  | LTE 3500  |
|                           | 698-960                                                                         | 1710~1990  | 1755~2170    | 2400~2500 | 2500~2700 | 3400~3600 |
| Return Loss (dB)          | -10                                                                             | -10        | -10          | -10       | -10       | -6        |
| Efficiency (%)            | 67                                                                              | 64         | 67           | 58        | 60        | 50        |
| Peak Gain (dBi)           | 7                                                                               | 6          | 6            | 5.5       | 5         | 5         |
| Max VSWR                  | 2:1                                                                             | 2:1        | 2:1          | 2:1       | 2:1       | 3:1       |
| Radiation Properties      | Directional                                                                     |            |              |           |           |           |
| Polarization              | Linear                                                                          |            |              |           |           |           |
| Impedance (Ohms)          | 50Ω                                                                             |            |              |           |           |           |
| Max input Power           | 10W                                                                             |            |              |           |           |           |
| MECHANICAL                |                                                                                 |            |              |           |           |           |
| Dimension                 | 230*330*32mm without Bracket<br>230*420*105mm with Bracket                      |            |              |           |           |           |
| Material                  | Body: PC Coated UV Stabilized ABS<br>Bracket: Black Powder Coated 316 Stainless |            |              |           |           |           |
| Connector                 | SMA (M)                                                                         |            |              |           |           |           |
| Weight                    | 819g With Bracket<br>430g Without Bracket                                       |            |              |           |           |           |
| Cable Type                | 300mm RG-174                                                                    |            |              |           |           |           |
| Waterproof Rating         | IP65                                                                            |            |              |           |           |           |
| ENVIRONMENTAL             |                                                                                 |            |              |           |           |           |
| Operation Temperature     | -40°C to 85°C                                                                   |            |              |           |           |           |
| Storage Temperature       | -40°C to 105°C                                                                  |            |              |           |           |           |
| Humidity                  | Non-condensing 65°C 95% RH                                                      |            |              |           |           |           |
| Wind Resistance           | Up to 200km/h                                                                   |            |              |           |           |           |

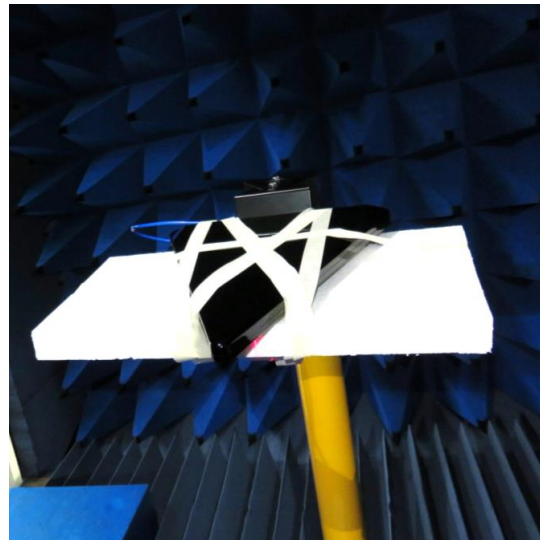
## 3. Antenna Characteristics

### 3.1 Set up

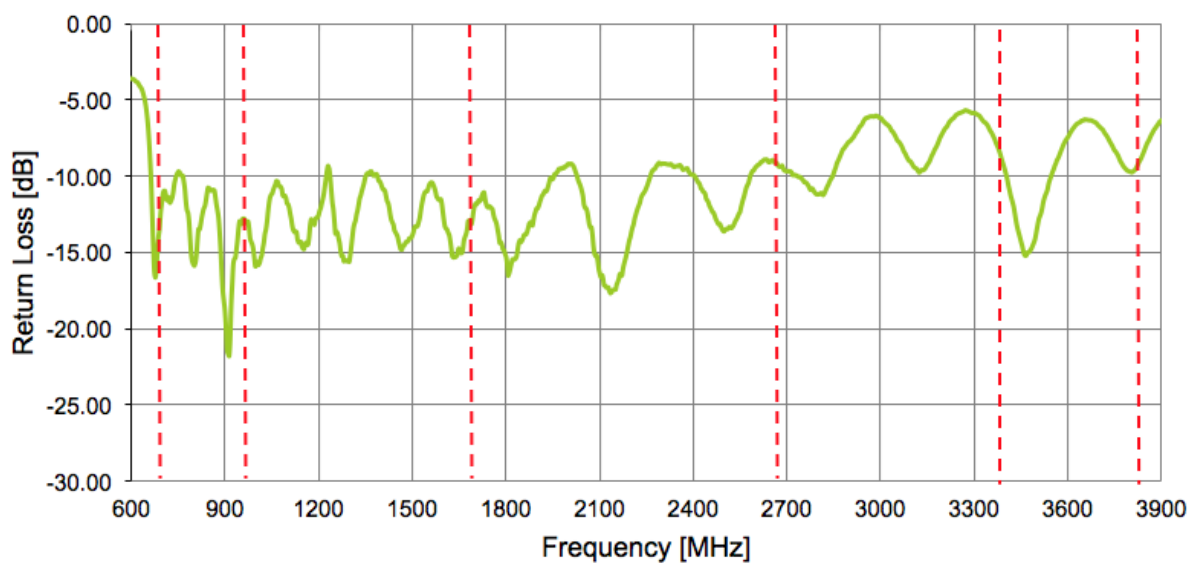
Return Loss and VSWR Measurement



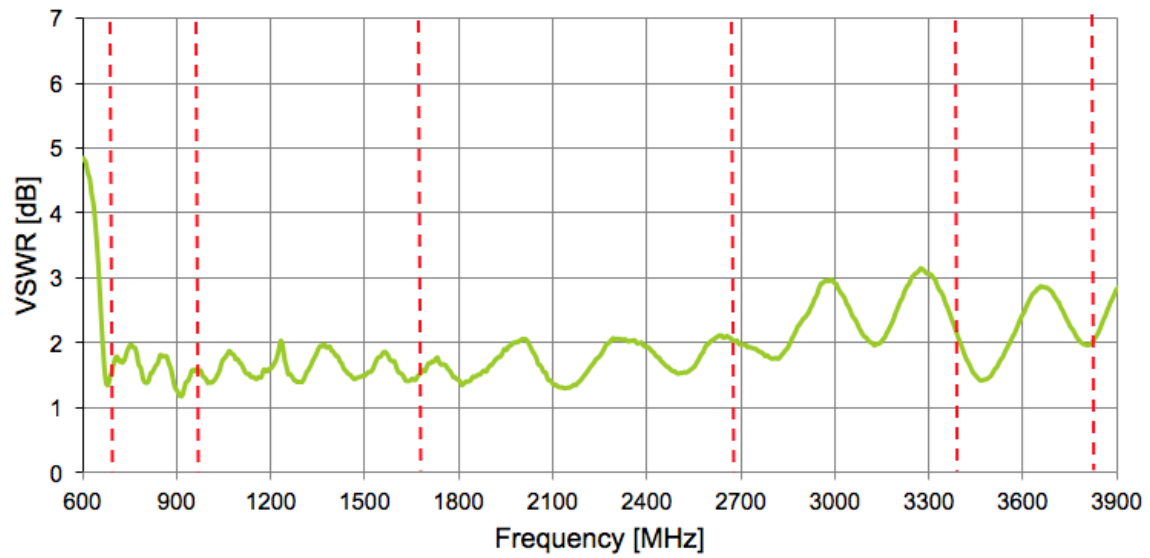
Efficiency and Gain Measurement



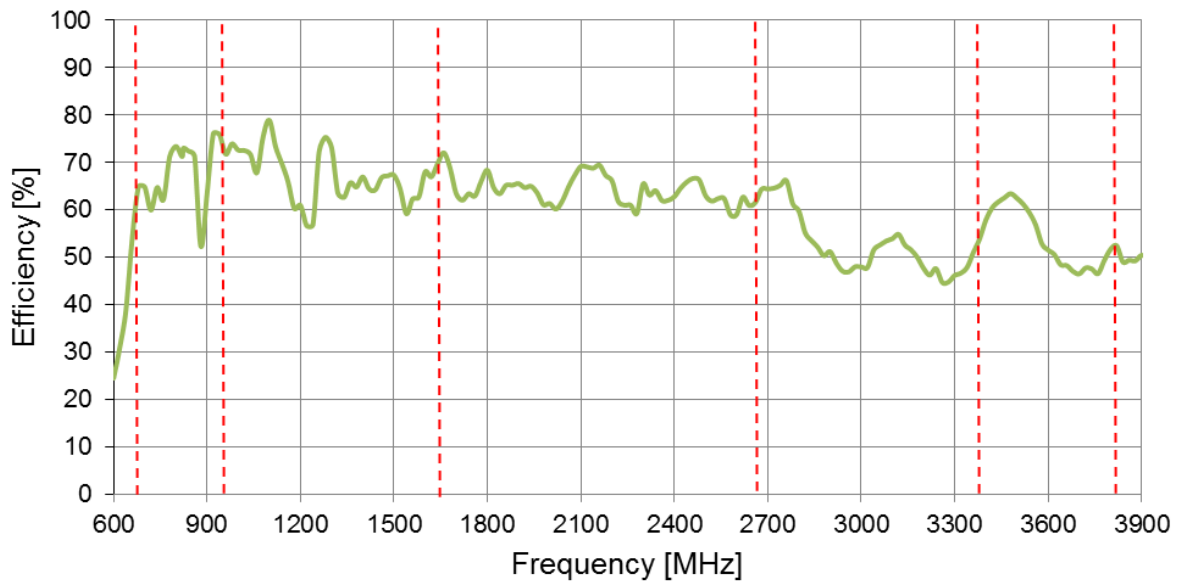
### 3.2 Return Loss



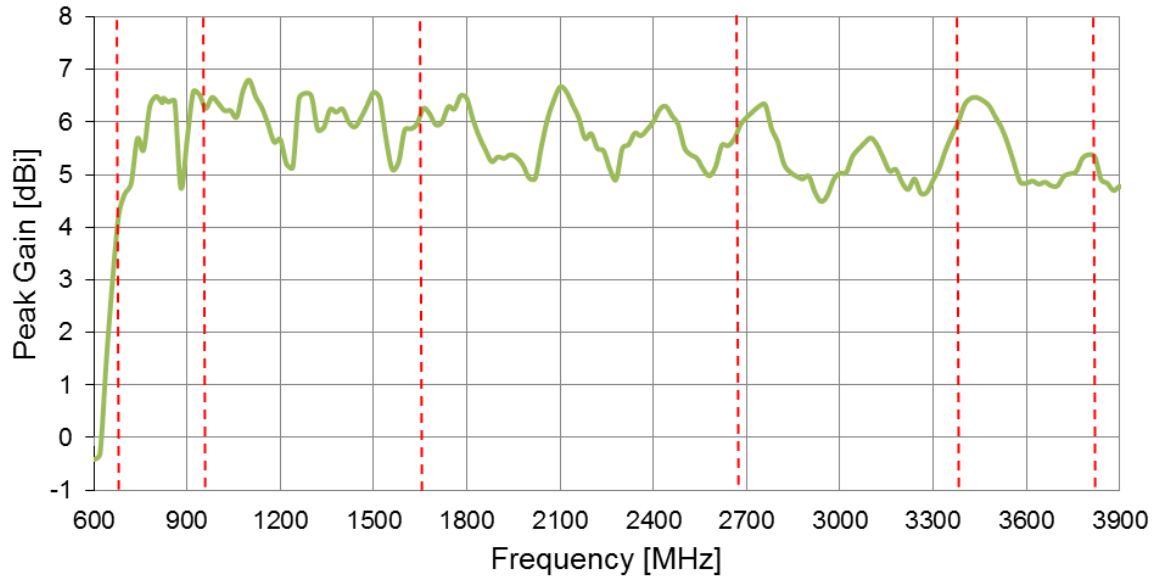
### 3.3 VSWR



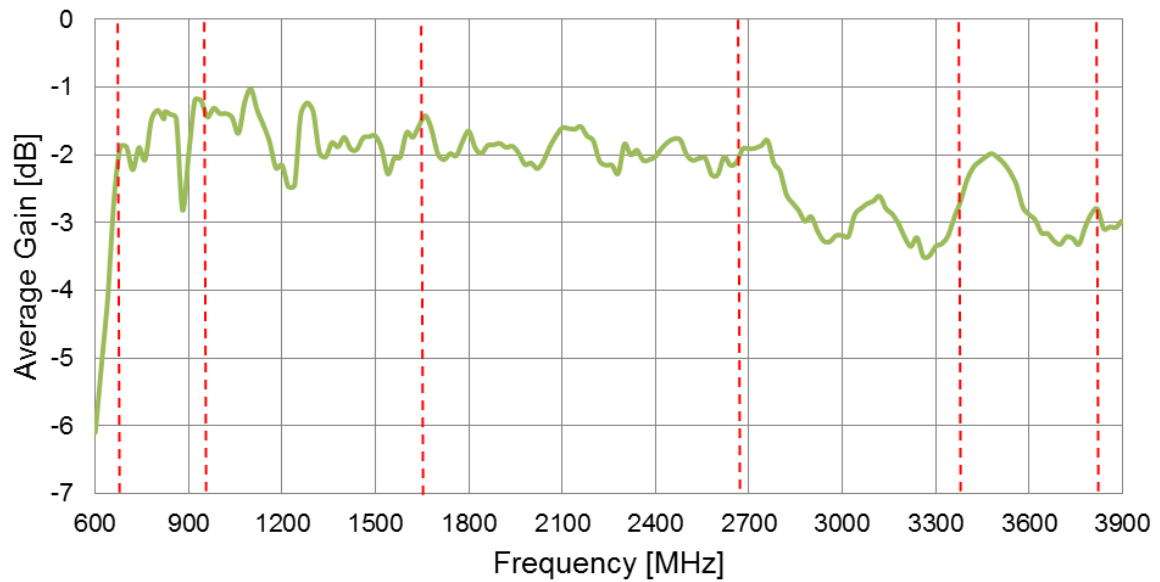
### 3.4 Efficiency



### 3.5 Peak Gain

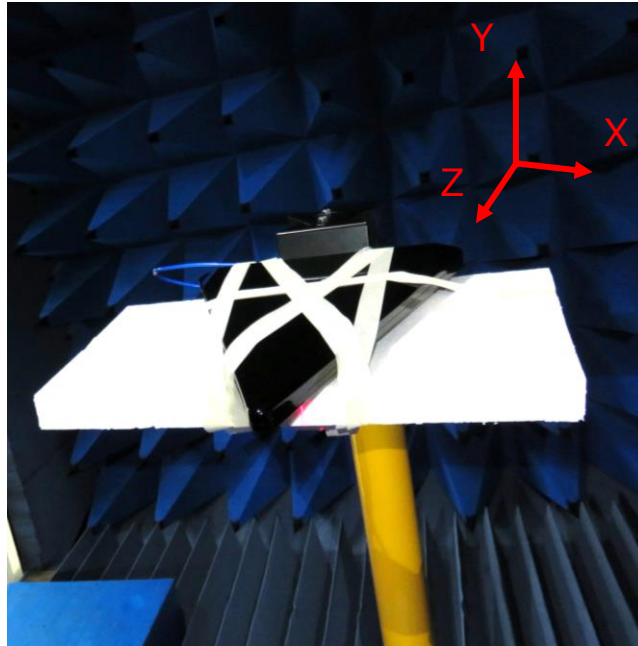


### 3.6 Average Gain



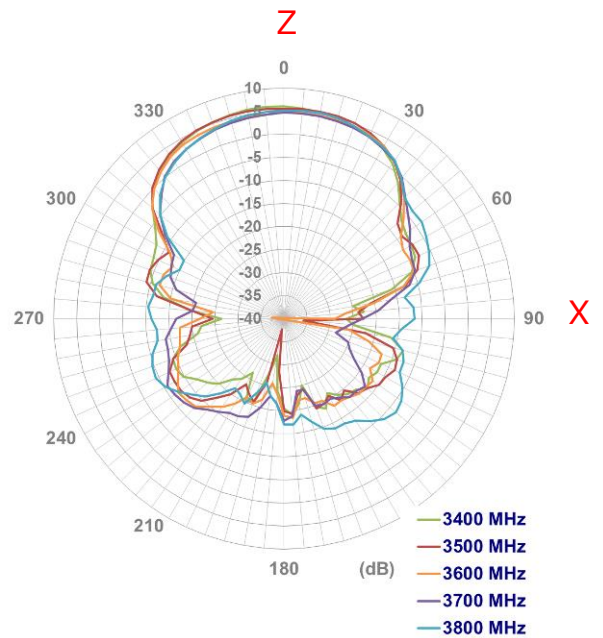
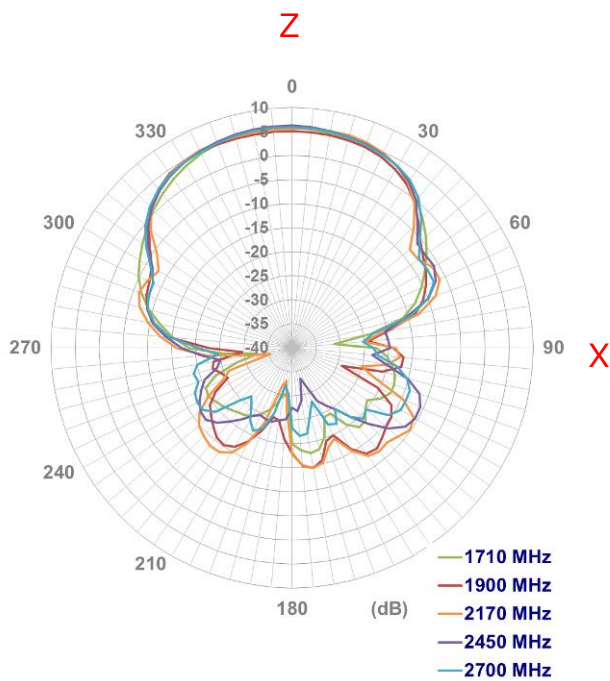
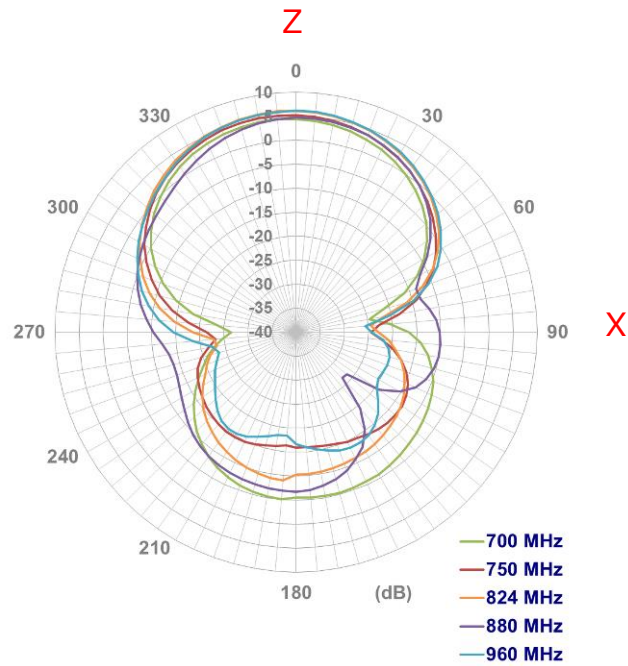
## 4. Antenna Radiation Pattern

### 4.1 Measurement Setup



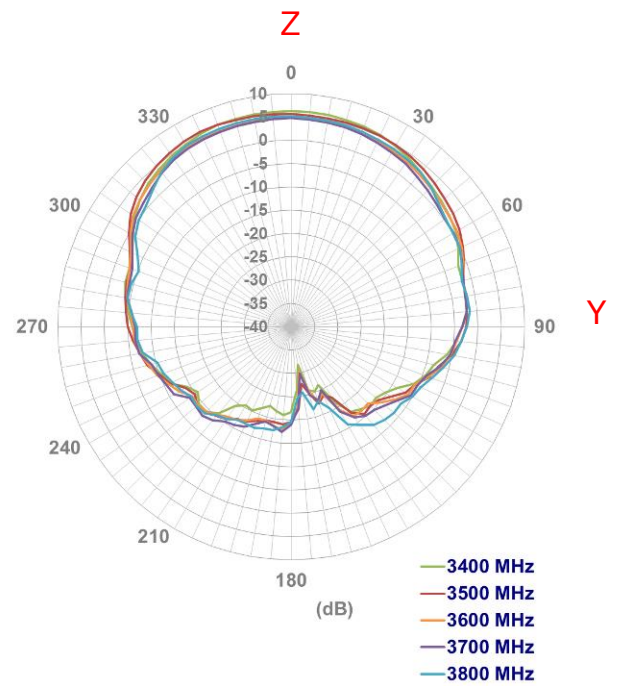
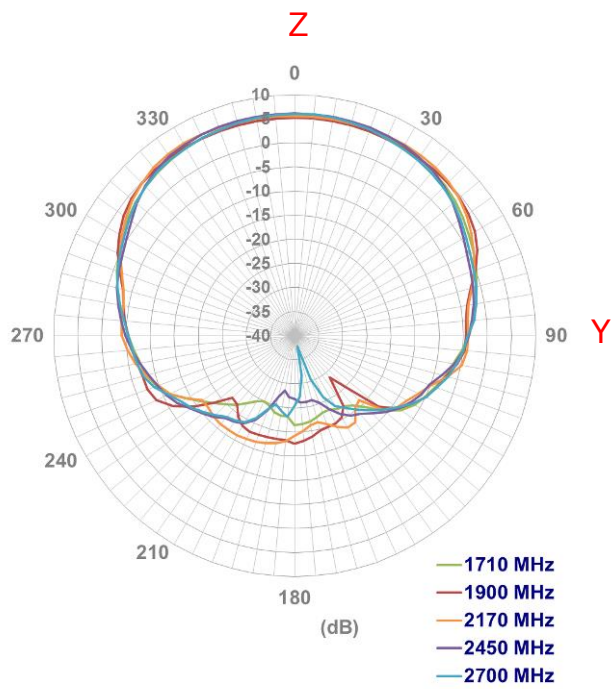
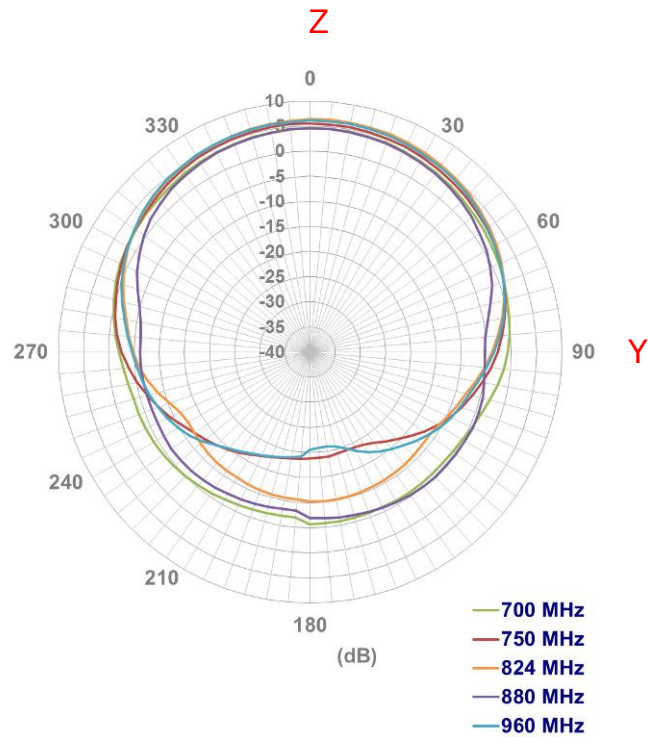
## 4.2 2D Radiation Pattern

XZ Plane

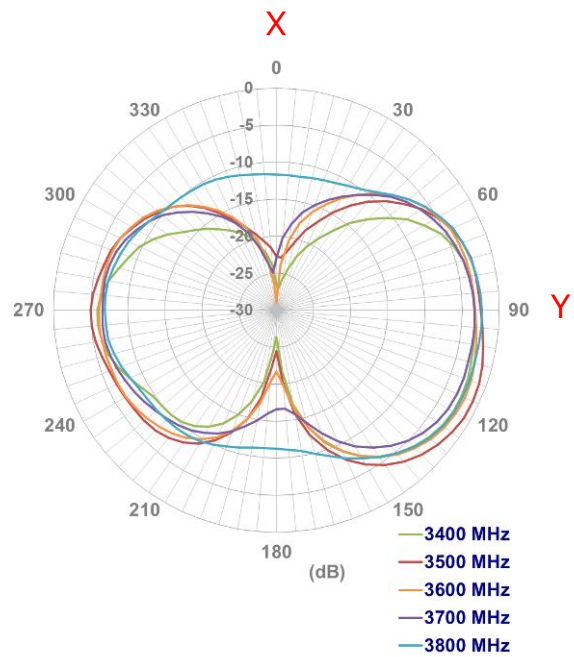
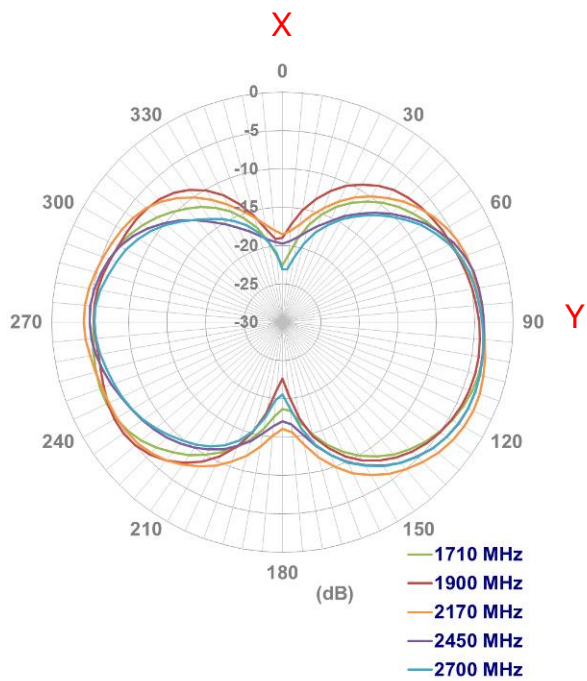
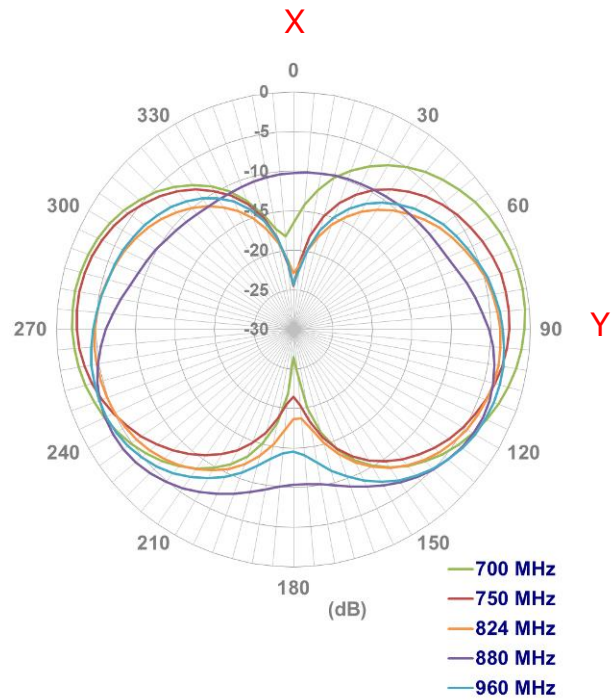




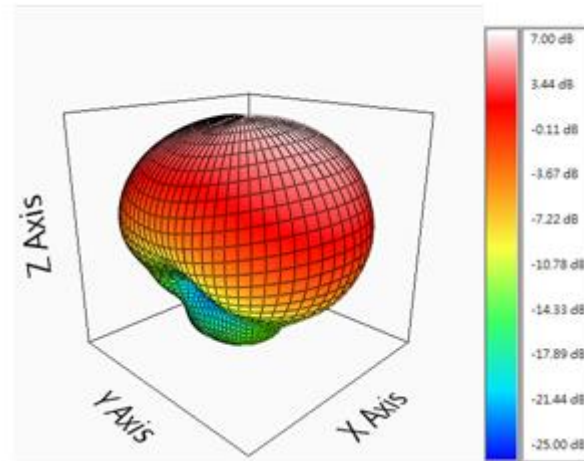
## YZ Plane



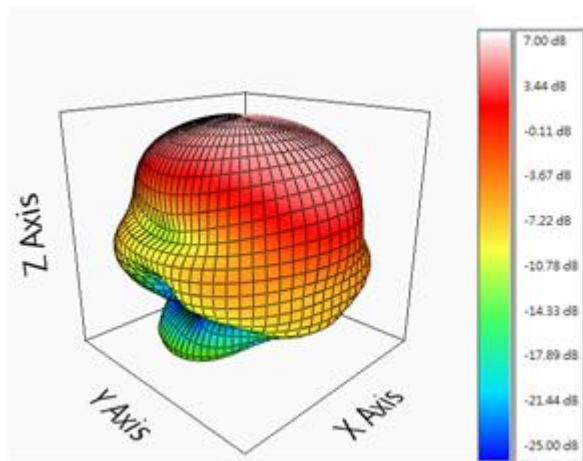
## XZ Plane



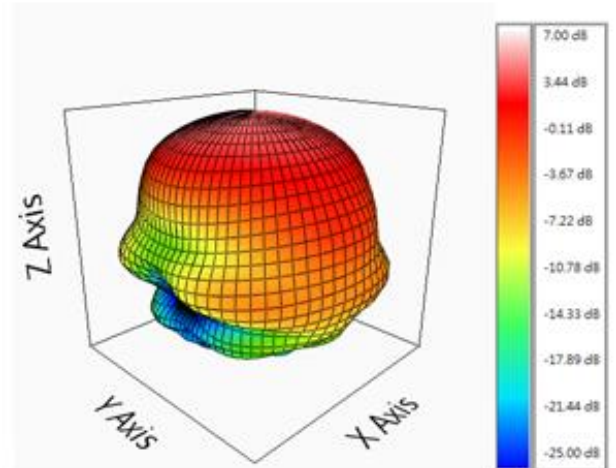
### 4.3 3D Radiation Pattern



824MHz

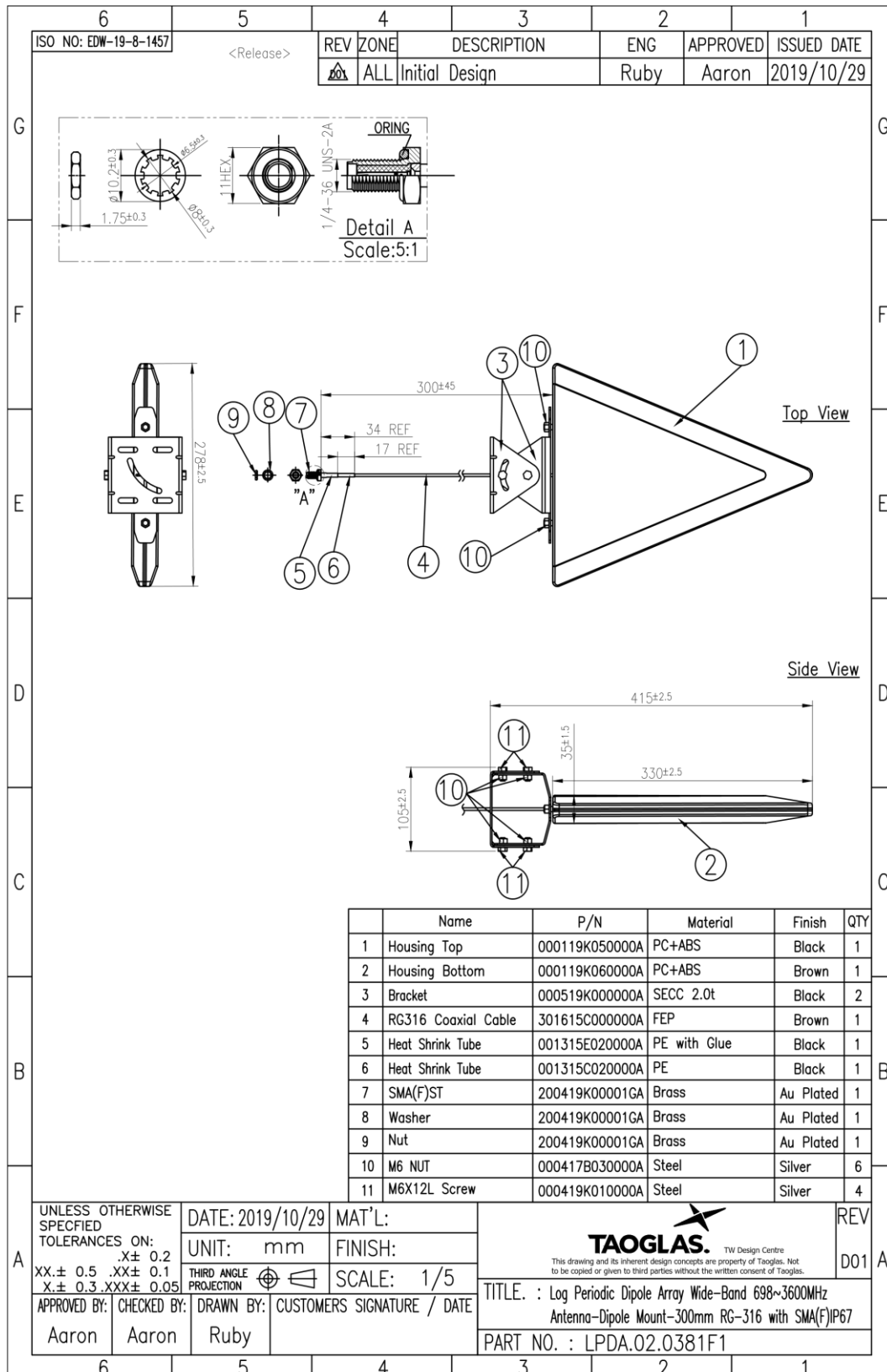


2170MHz



3600MHz

## 5. Mechanical Drawing (Unit: mm)



## **6. Packaging**

Currently under development.

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