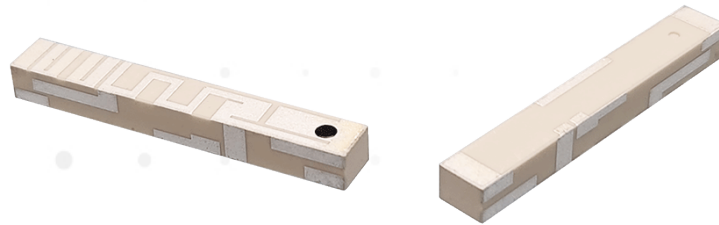




# SPECIFICATION

**2G / 3G / 4G LTE Chip Antenna**



**Model No. : UCCL02**



## 1. General Description

### 1.1 Electrical Properties

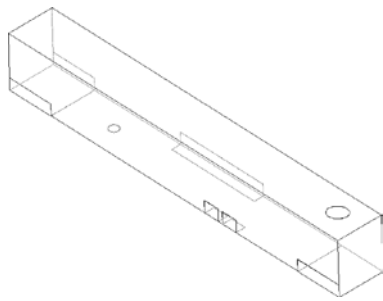
| Parameter  | Description           |         |           |           |           |
|--|-----------------------|---------|-----------|-----------|-----------|
| Frequency Band   | 698~960/1710~2690 MHz |         |           |           |           |
| Nominal Impedance  | 50 $\Omega$           |         |           |           |           |
| Polarization   | Linear                |         |           |           |           |
| V.S.W.R  | <3.5:1                |         |           |           |           |
| (MHz)  | 698~798               | 824~960 | 1710~2170 | 2300~2400 | 2490~2690 |
| Efficiency   | 54 %                  | 58 %    | 55 %      | 75 %      | 65 %      |
| Peak Gain  | 1.3 dBi               | 1 dBi   | 2.6 dBi   | 4.4 dBi   | 4.2 dBi   |
| ※With 37 x 118.5 mm Evaluation Board & 37 x 11.4 mm Clearance Area |                       |         |           |           |           |

### 1.2 Mechanical Properties

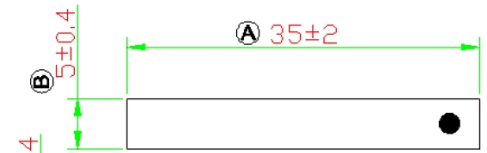
| Parameter                                    | Description |
|--|-------------|
| Dimensions                                   | 35*5*4 mm   |
| Operating Temperature                        | -40°C~85°C  |
| Storage Temperature<br>(With Packing Sealed) | -5°C~40°C   |

## 2. Appearance

### 2.1 Dimensions Of Antenna And Evaluation Board (Unit : mm)



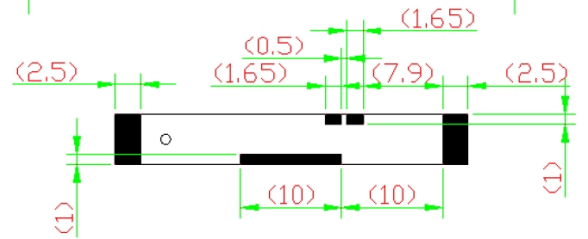
**Top View**



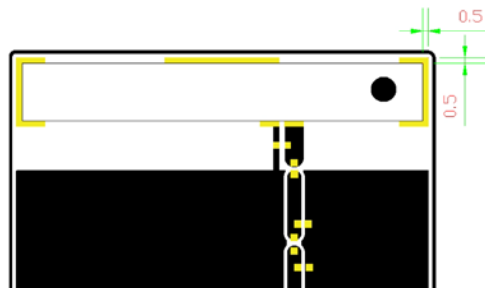
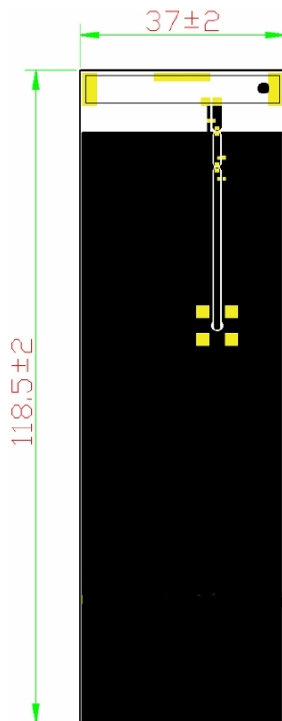
**Front View**



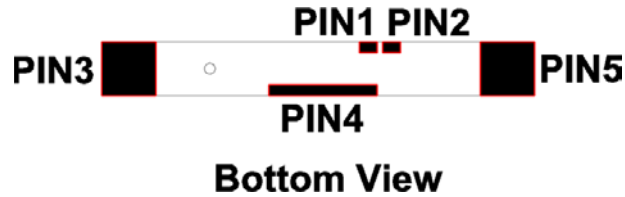
**Bottom View**



**Back View**



## 2.2 PIN Definitions



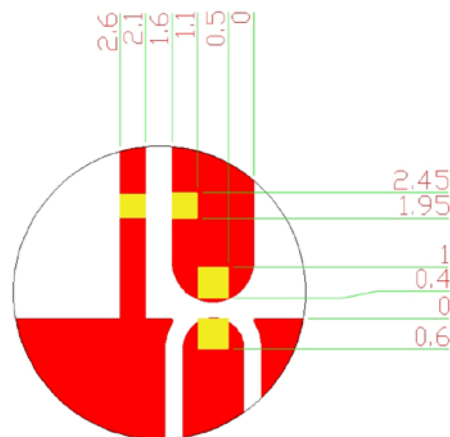
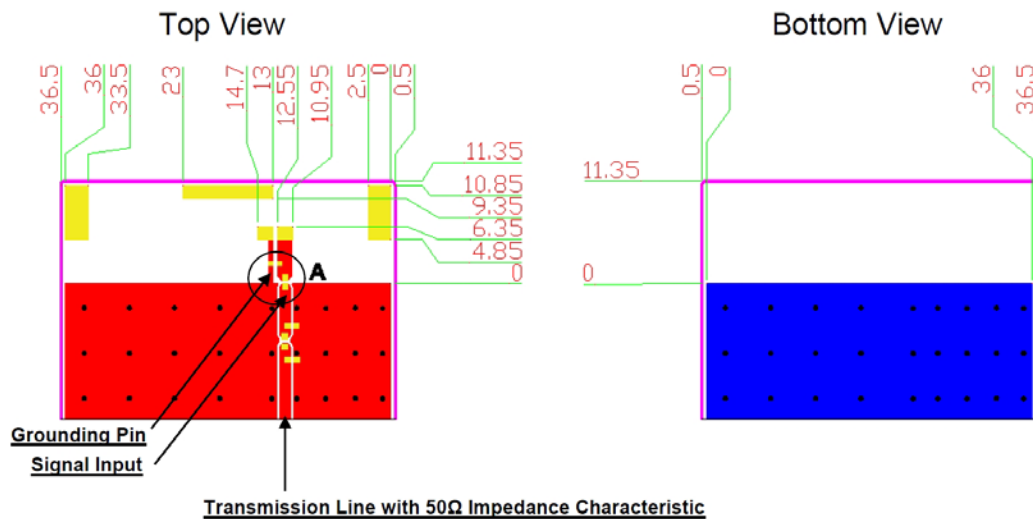
| Item          | PIN 1           | PIN 2  | PIN 3~5 |
|---------------|-----------------|--------|---------|
| Soldering Pad | Tuning / Ground | Signal | N/C     |

## 3. Layout Guide (Unit : mm)

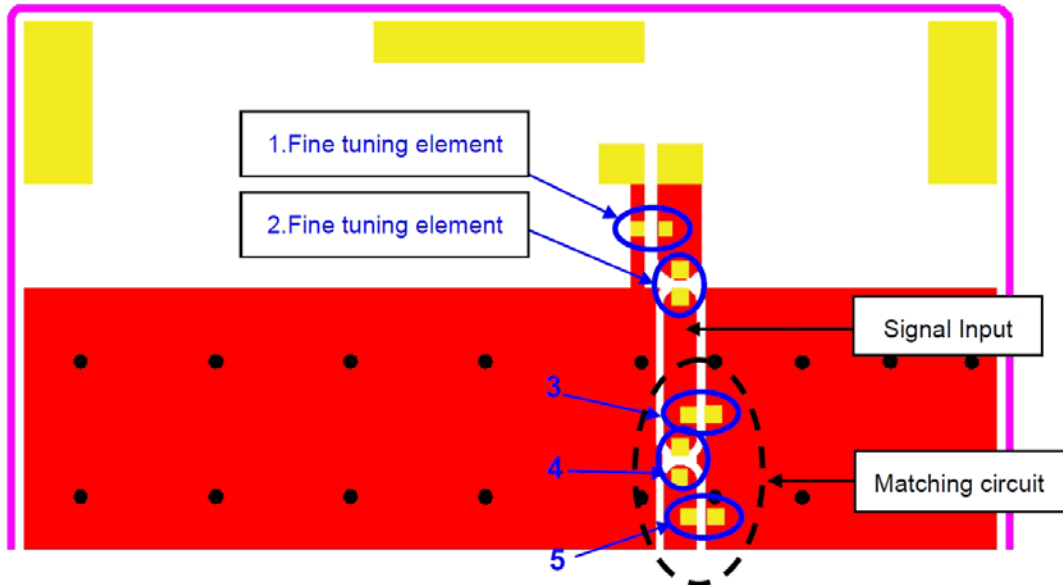
The solder land pattern (yellow marking areas) is shown as below.

Recommendation on matching circuit will be provided according to customer's installation conditions.

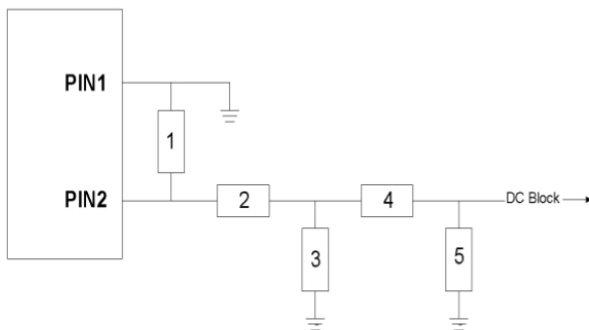
### With 37 x 118.5 mm Evaluation Board



## 4. Frequency Tuning And Matching Circuit



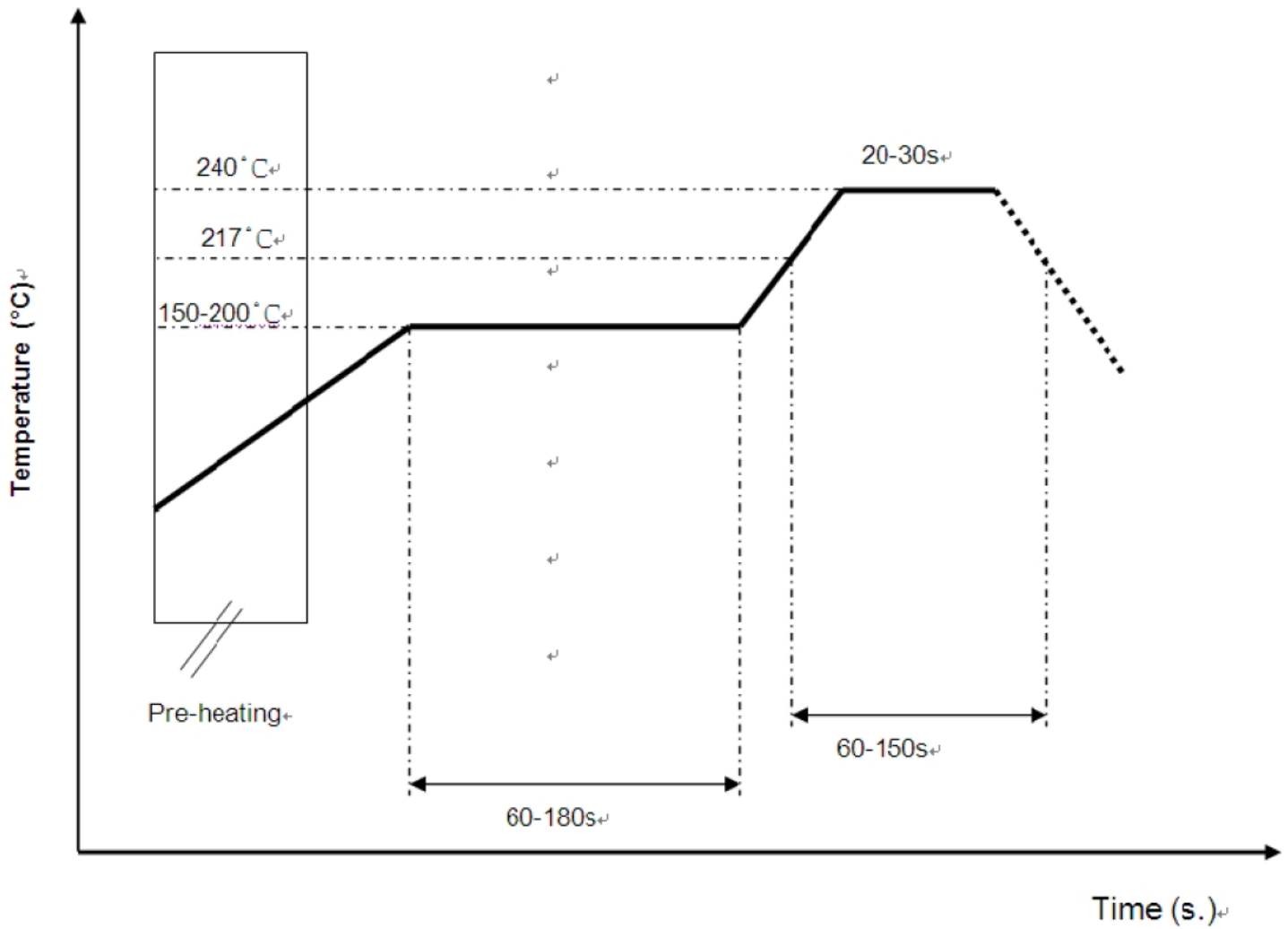
With the following recommended values of matching and tuning components, the covering frequency bands will be about 698~960 & 1710~2690 MHz at our standard 37x118.5 mm evaluation board.



| System Matching Circuit Component |                     |        |               |
|-----------------------------------|---------------------|--------|---------------|
| Location                          | Description         | Vendor | Tolerance     |
| 1                                 | Fine tuning element | MURATA | $\pm 0.1$ nH  |
| 2                                 | Fine tuning element | MURATA | $\pm 0.05$ pF |
| 3                                 | N/C                 | -      | -             |
| 4                                 | 0 $\Omega$ , (0402) | -      | -             |
| 5                                 | N/C                 | -      | -             |

※These are typical reference values which may need to be changed when circuit boards or part vendors are different.

## 5. Soldering Conditions

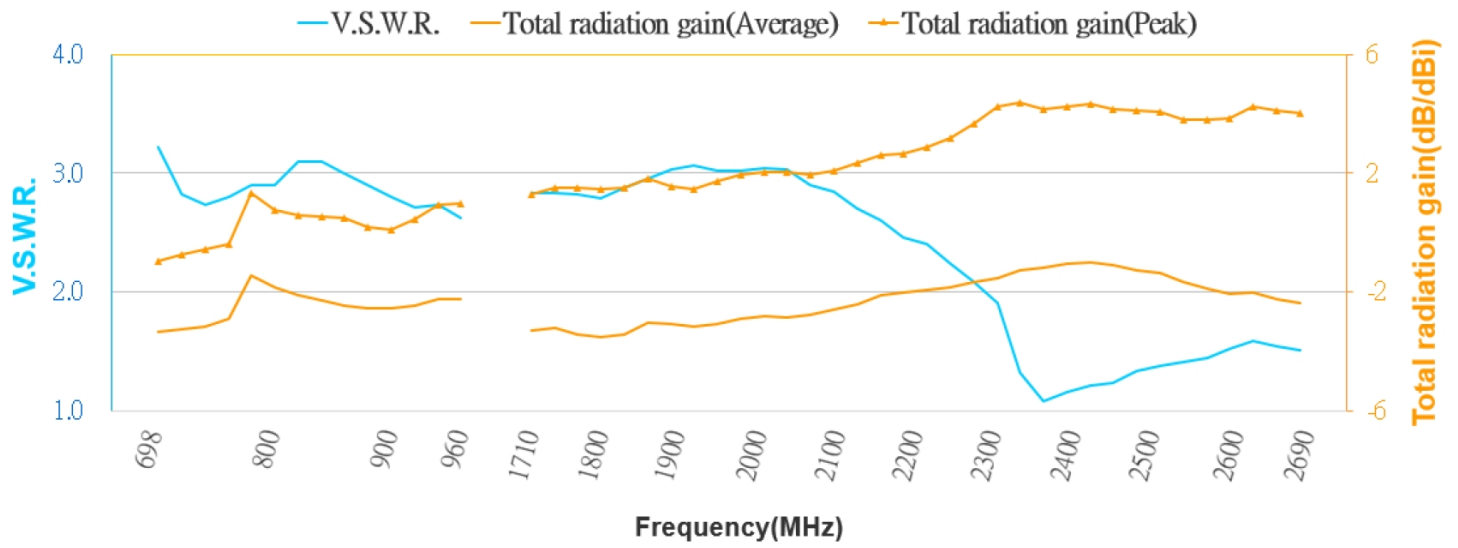


※Recommended solder paste alloy : SAC305(Sn96.5/Ag3/Cu0.5) Lead free solder paste.



## 6. Performance

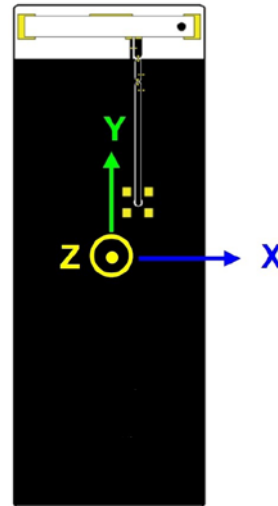
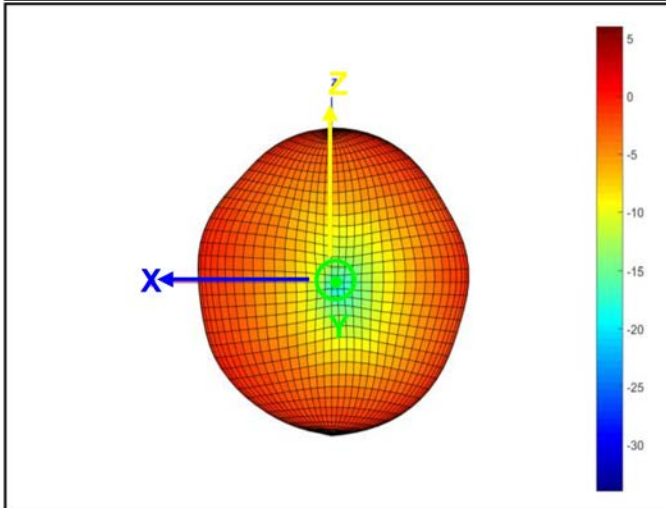
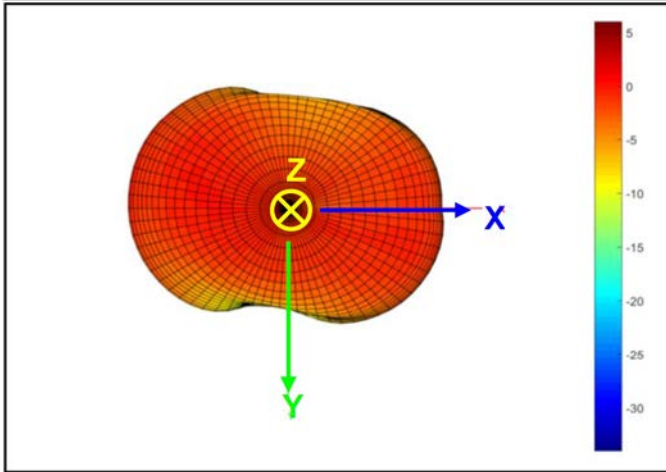
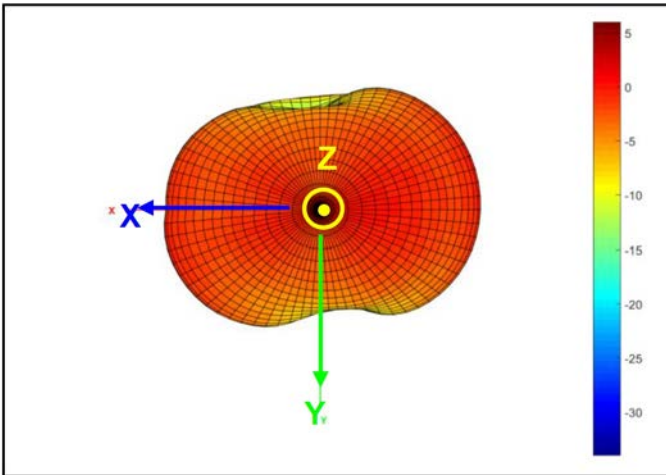
### 6.1 V.S.W.R. , Average Gain , Peak Gain



## 6.2 3D Radiation Pattern

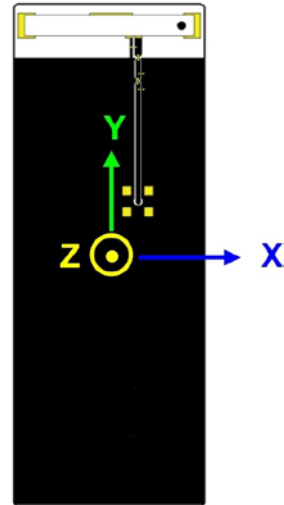
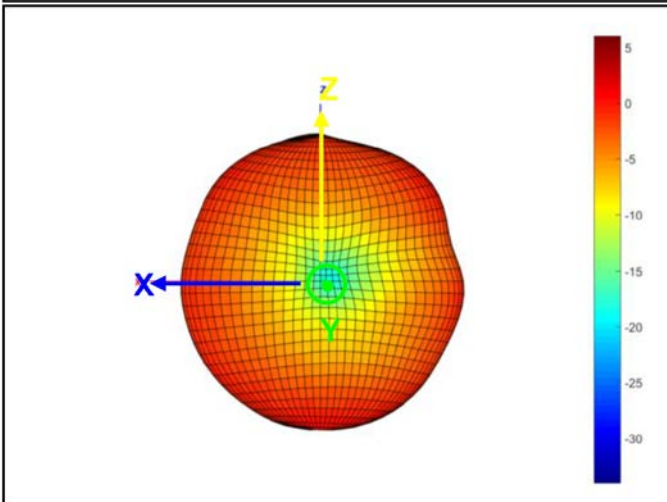
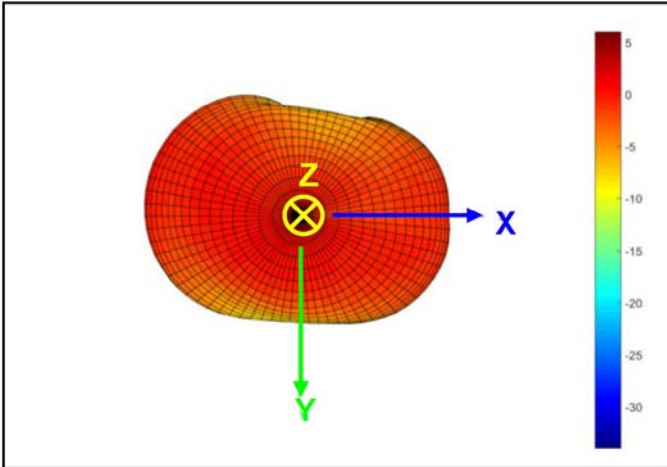
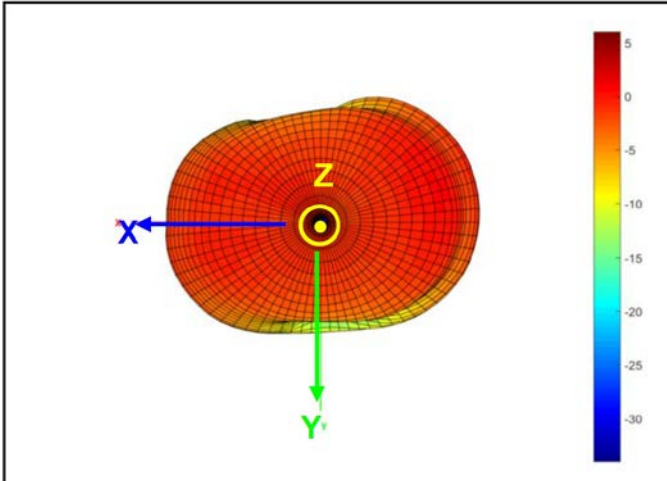
698~798 MHz

3D Gain Pattern @ 748 MHz (Unit : dBi)

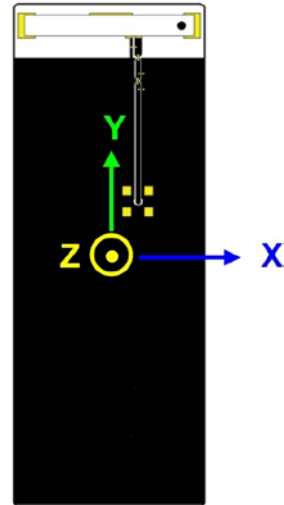
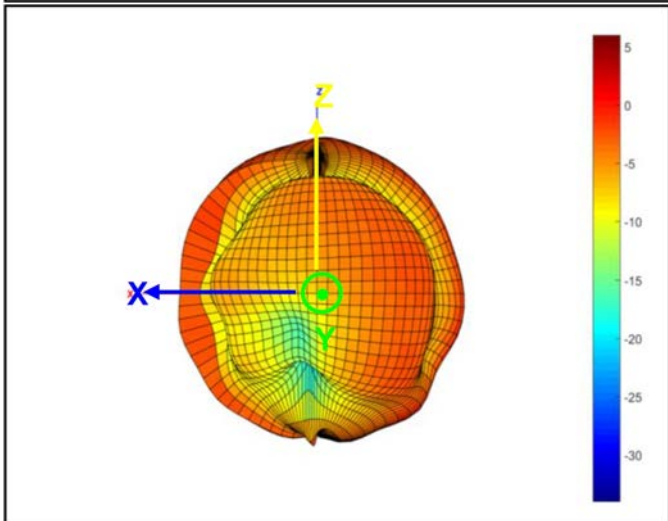
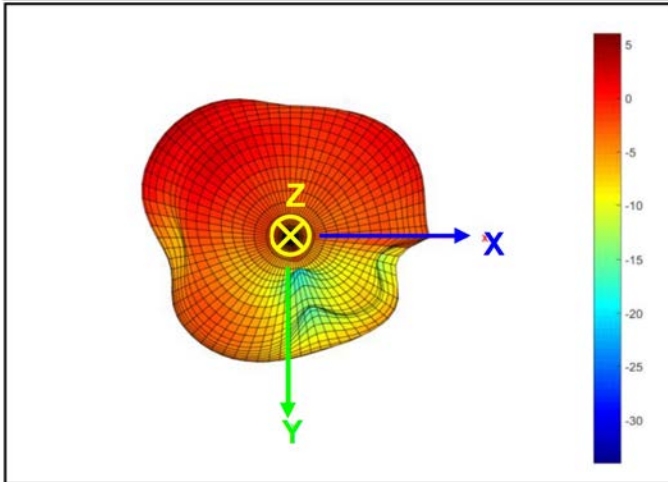
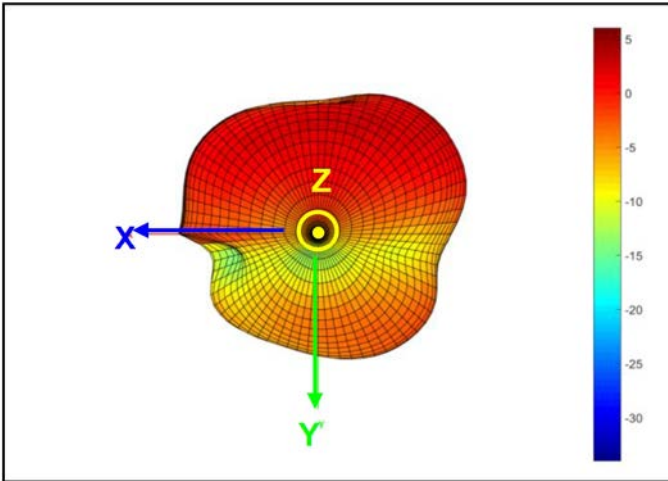




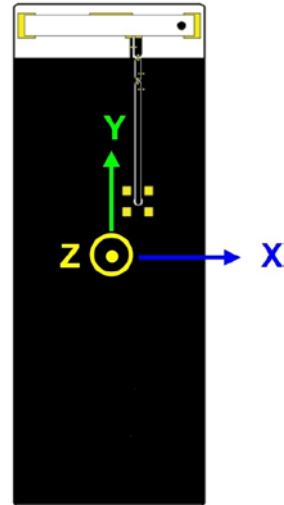
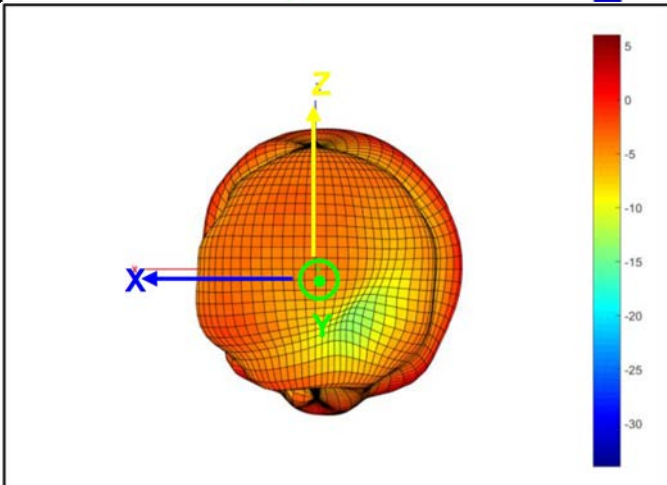
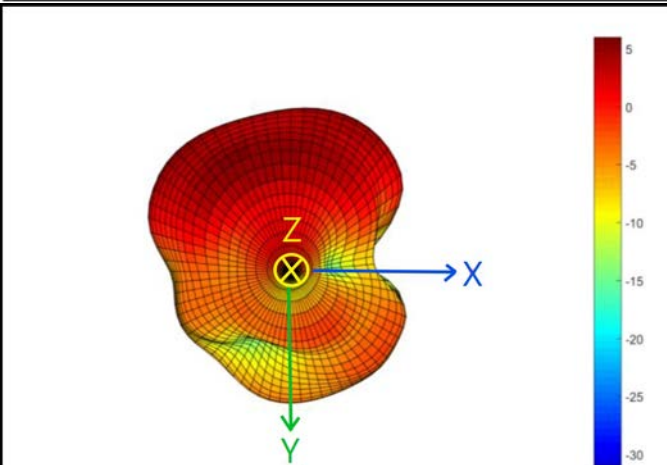
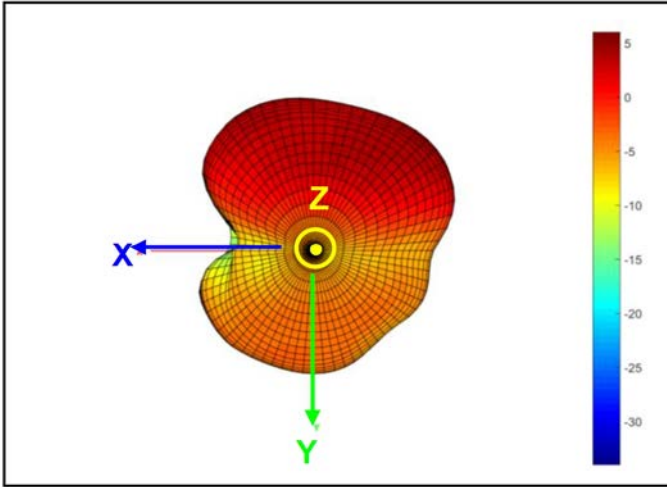
**824~960 MHz**  
3D Gain Pattern @ 890 MHz (Unit : dBi)



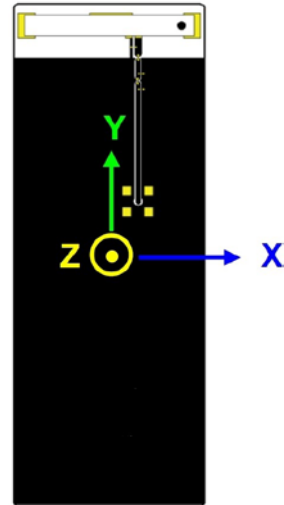
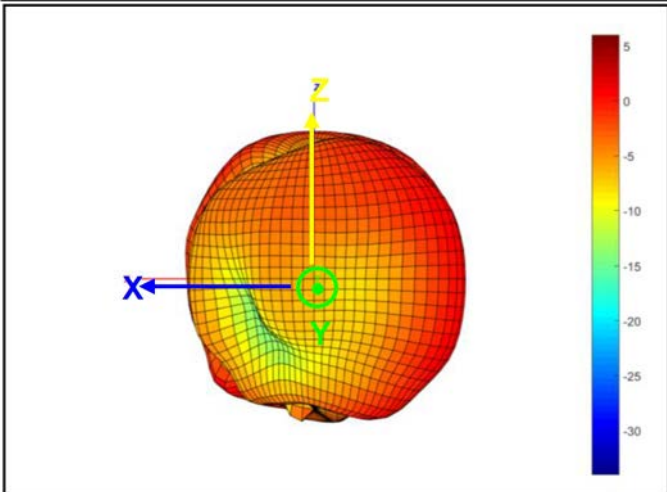
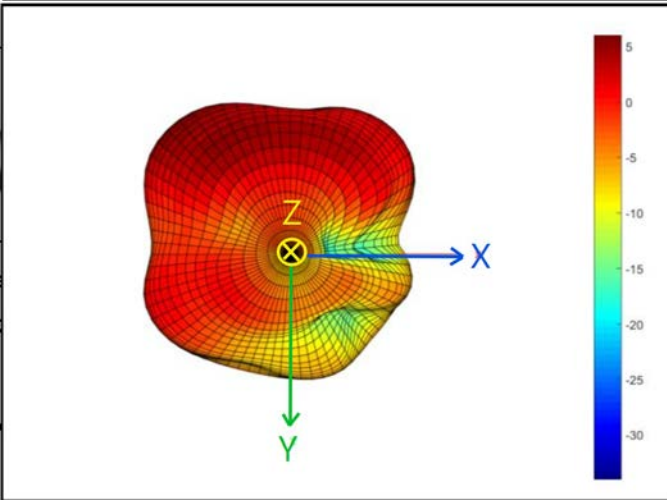
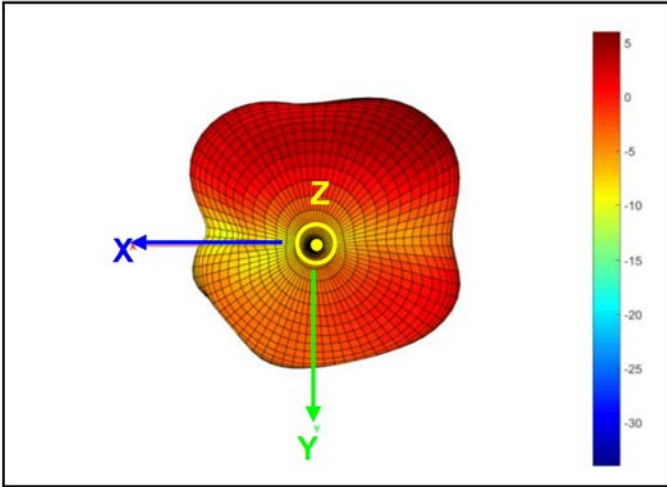
**1710~2170 MHz**  
3D Gain Pattern @ 1950 MHz (Unit : dBi)



**2300~2400 MHz**  
3D Gain Pattern @ 2350 MHz (Unit : dBi)

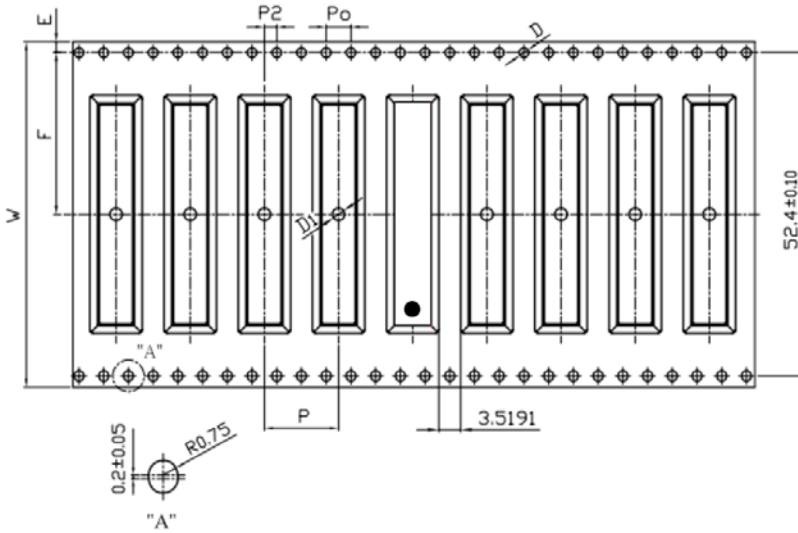


**2490~2690 MHz**  
3D Gain Pattern @ 2590 MHz (Unit : dBi)



## 7. Packing

- Tape :



| Feature | Specifications | Tolerances     |
|---------|----------------|----------------|
| W       | 56.00          | ±0.30          |
| P       | 12.00          | ±0.10          |
| E       | 1.75           | ±0.10          |
| F       | 26.20          | ±0.15          |
| P2      | 2.00           | ±0.15          |
| D       | 1.50           | +0.10<br>-0.00 |
| D1      | 2.00           | ±0.10          |
| Po      | 4.00           | ±0.10          |
| 10Po    | 40.00          | ±0.20          |

- Reel : 1,000 pcs

