

# APPROVAL SHEET

## (RoHS)

|                     |                                                                          |
|---------------------|--------------------------------------------------------------------------|
| CUSTOMER            | : eZEX                                                                   |
| CUSTOMER'S PART NO. | : PCA-2615-2G4C1-A6                                                      |
| DESCRIPTION         | : RF CABLE ASSEMBLY                                                      |
| PART NO.            | : PCA-2615-2G4C1-A6                                                      |
| DATE                | : 2022/08/03                                                             |
| PRODUCTION NAME     | : 美磊科技有限公司                                                               |
| PRODUCTION ADDRESS  | : No.270, Nanfeng Rd., Pingzhen Dist., Taoyuan City 324, Taiwan (R.O.C.) |

美磊科技股份有限公司

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# Mechanical Specification

RoHS COMPLIANT

## MECHANICAL

Body : FR4(黑漆OSP板) T=0.6mm

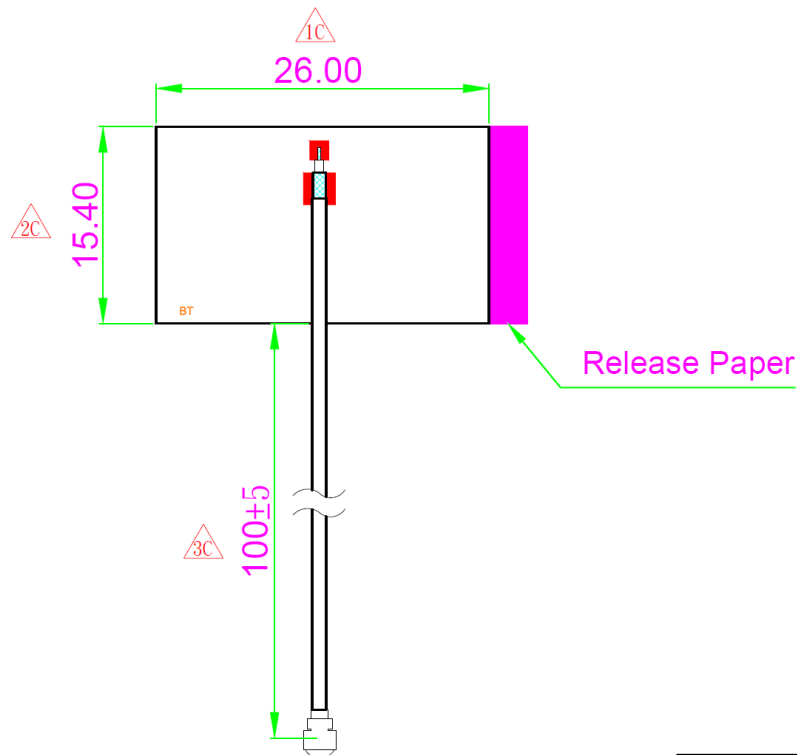
Coaxial Cable :  $\phi 1.37$  Low Loss cable (Yellow)

Connector : 20351-112R-37

Double Tape : G9000

## ELECTRICAL

Frequency : 2.4GHz



IPEX方向管控

單位: mm

| 線長         | 角度              |
|------------|-----------------|
| <100       | $\pm 90^\circ$  |
| 100~199    | $\pm 135^\circ$ |
| $\geq 200$ | 不管控             |

|     |             |          |         |
|-----|-------------|----------|---------|
| △   |             |          |         |
| △   |             |          |         |
| △   |             |          |         |
| △   | New Release | 05/30/22 | Sheng   |
| LTR | DESCRIPTION | DATE     | REQ. BY |

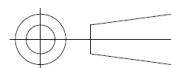
※凡標記  $\triangle C$  記號者, 為品管檢驗之尺寸

|            |               |
|------------|---------------|
| 設計 DR.     | 核准 APPD.      |
| Sheng      | Alvin         |
| 2022/05/30 | 2022/05/30    |
| 版本說明       | REVISION NOTE |

| 容許公差 | TOLERANCE  |
|------|------------|
| .XXX | $\pm 0.20$ |
| .XX  | $\pm 0.35$ |
| .X   | $\pm 0.50$ |
| X    | $\pm 1.00$ |
| ANG  | $\pm 5$    |

| 品名                |
|-------------------|
| ARTICLE           |
| PCA-2615-2G4C1-A6 |

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| 單位 UNIT | 比例 SCALE | 張數 SHEET | 版本 REV. |
|---------|----------|----------|---------|
| mm      | ****     | 1        | A       |



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# Antenna Specification

## ELECTRICAL PROPERTIES

- 1.1 Frequency Range.....2.4GHz
- 1.2 Impedance..... 50 Ohm Nominal
- 1.3 VSWR..... <2 dB
- 1.4 Radiation..... Omni-directional
- 1.5 Gain(peak)..... <5 dBi
- 1.6 Polarization..... Linear Vertical
- 1.7 Admitted Power..... 1W

## PHYSICAL PROPERTIES

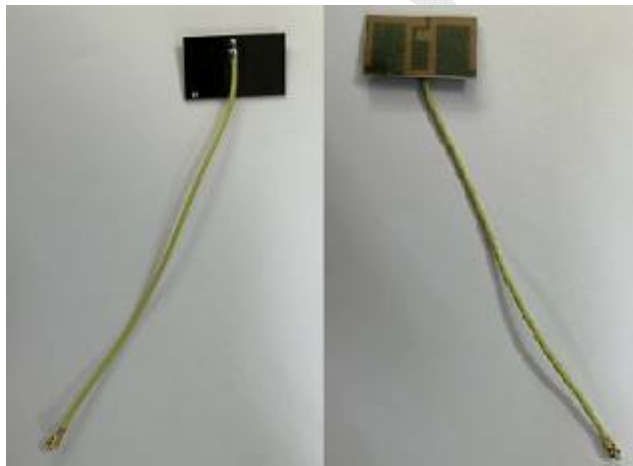
- 2.1 Antenna Material.....FR4 (黑漆 OSP 板)
- 2.2 Cable.....  $\phi$  1.37 Low Loss (Yellow)
- 2.3 Double Tape..... G9000
- 2.4 Connector.....20351-112R-37
- 2.5 Operating Temp.....-20°C ~ +65°C
- 2.6 Storage Temp.....-30°C ~ +75°C



## Specification

| Item | Parameter           | Specification |
|------|---------------------|---------------|
| 1    | Operating Frequency | BT(2.4GHz)    |
| 2    | VSWR                | < 2           |
| 3    | Efficiency          | >60%          |
| 4    | Isolation           | <-20dB        |
| 5    | Peak Gain           | <5dBi         |

## Antenna Picture



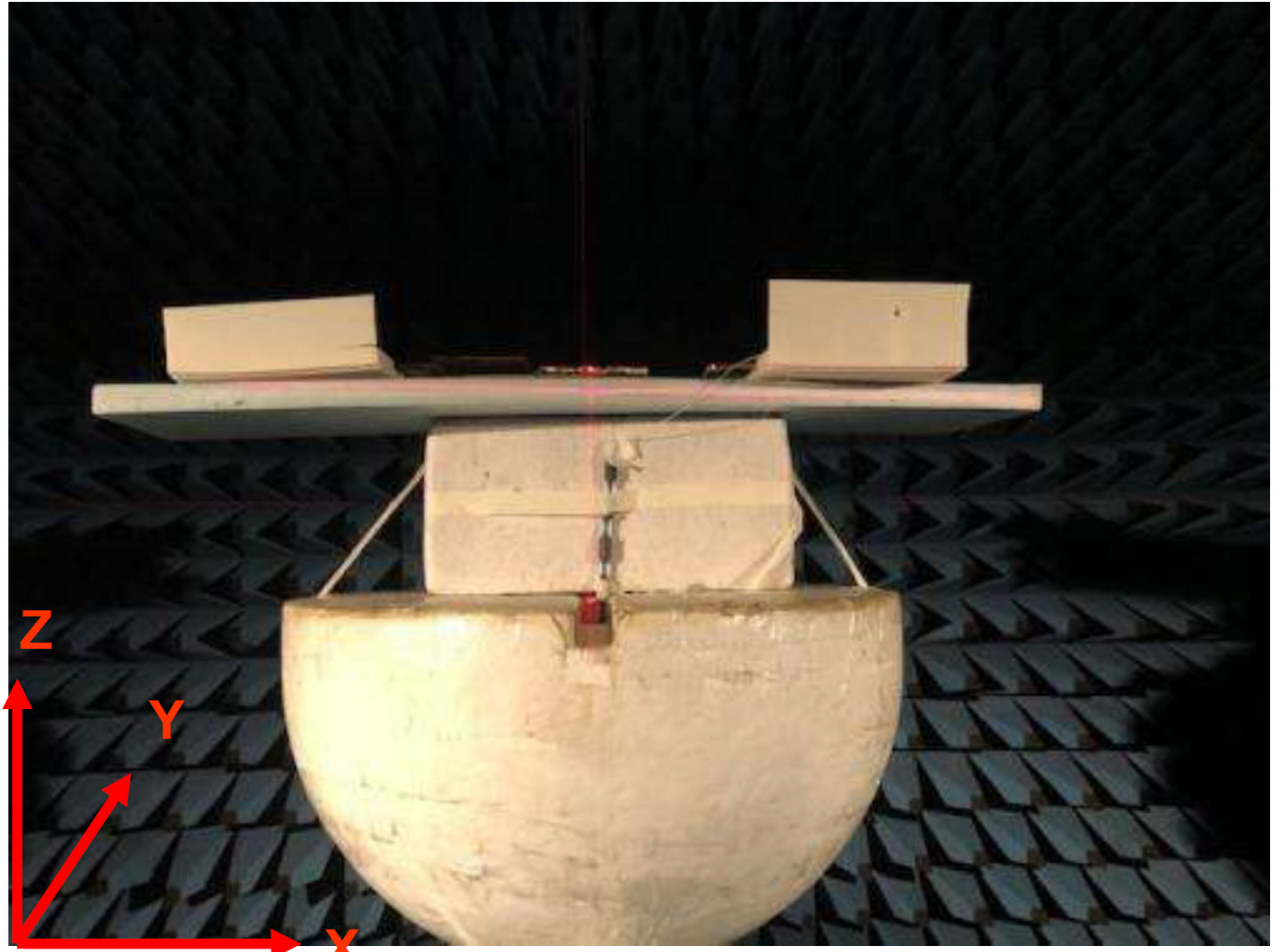
## Coordinate System

### Note

BT PCB Dimension : 26\* 15\* 0.6mm, Cable Length : 100mm

Antenna Cable : 0. D 1.37 Low loss +IPEX Conn.





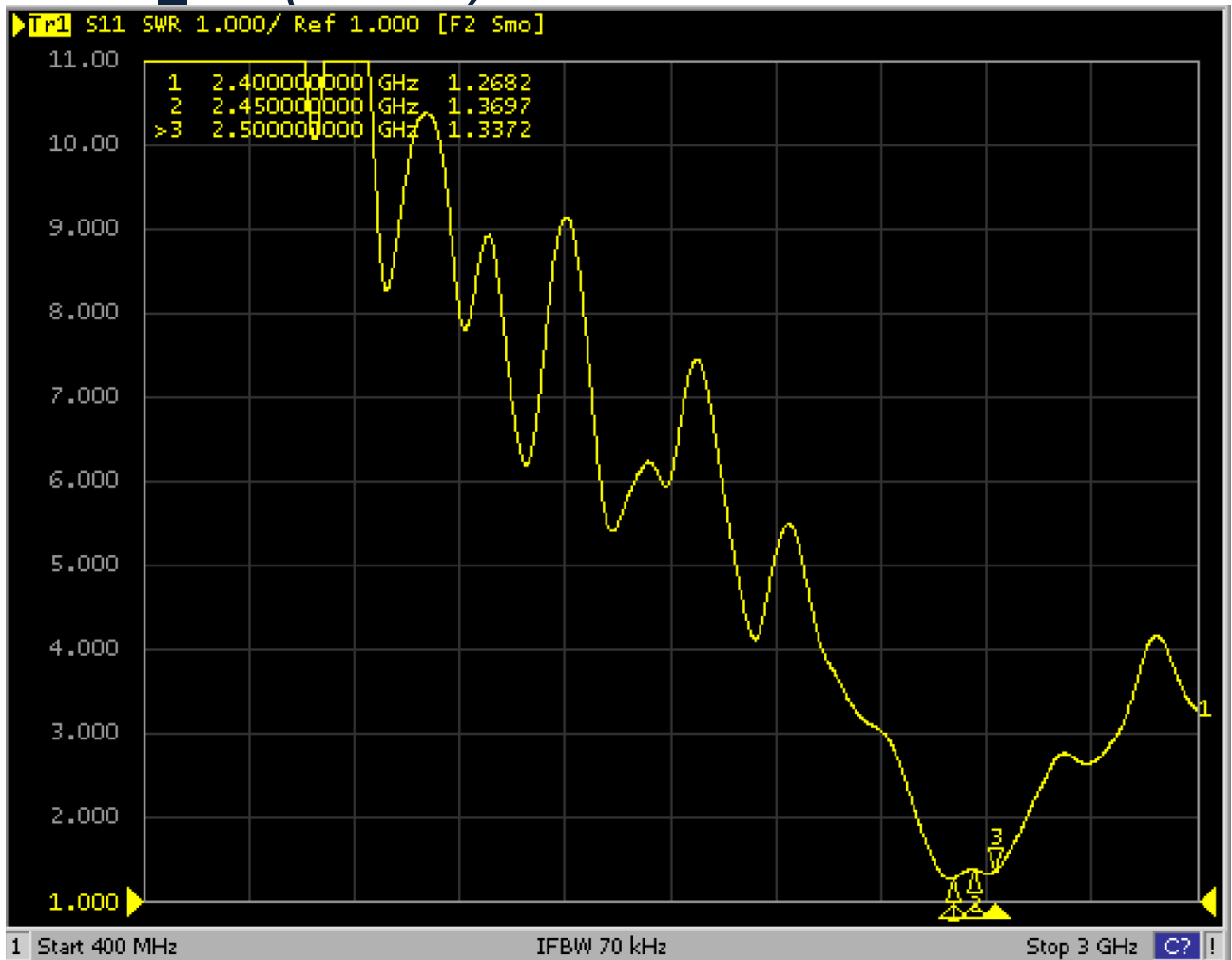
# Test Report

## ELECTRICAL CHARACTERISTICS

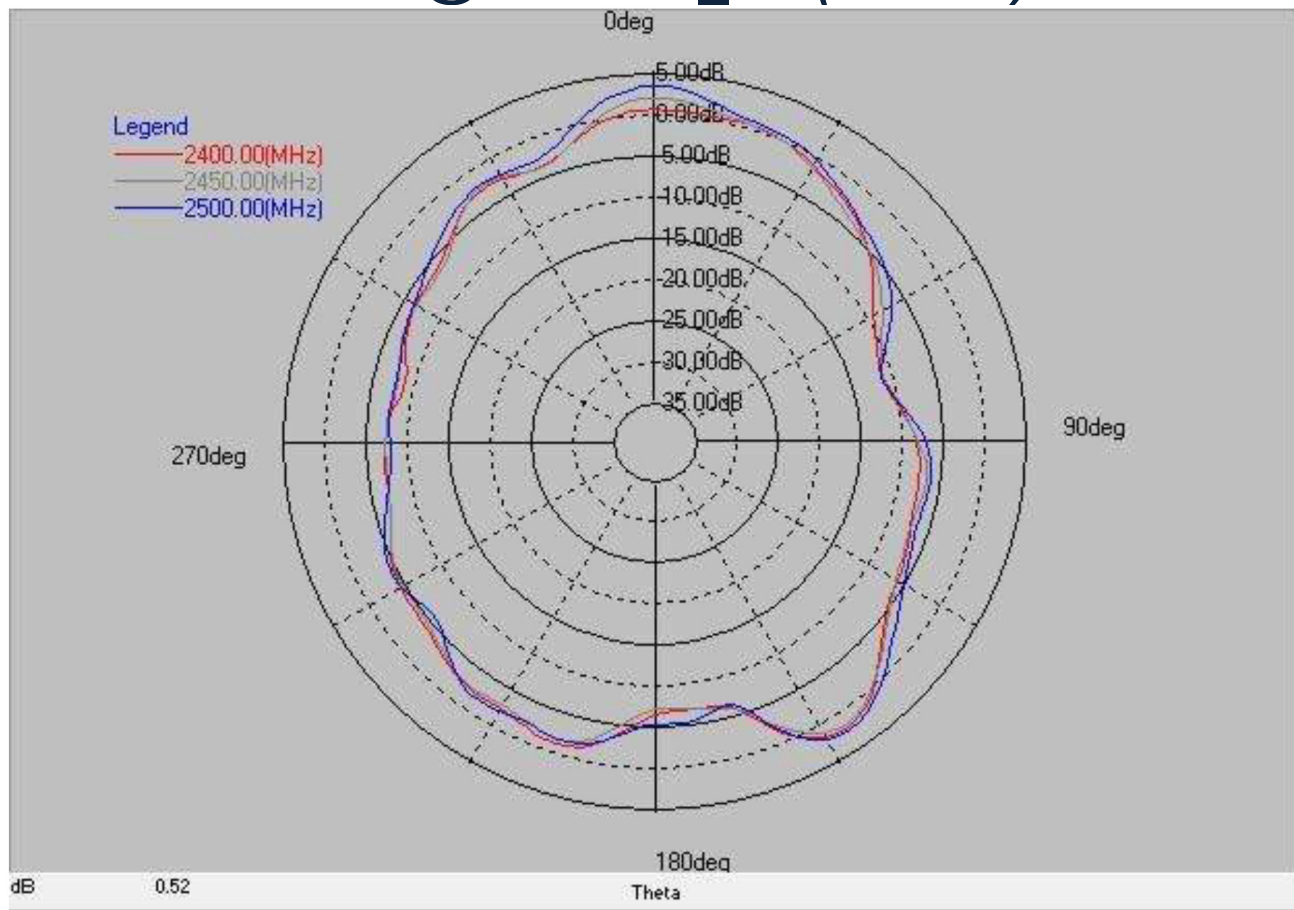
P/NO: PCA-2615-2G4C1-A6

Spec: 2.4GHz

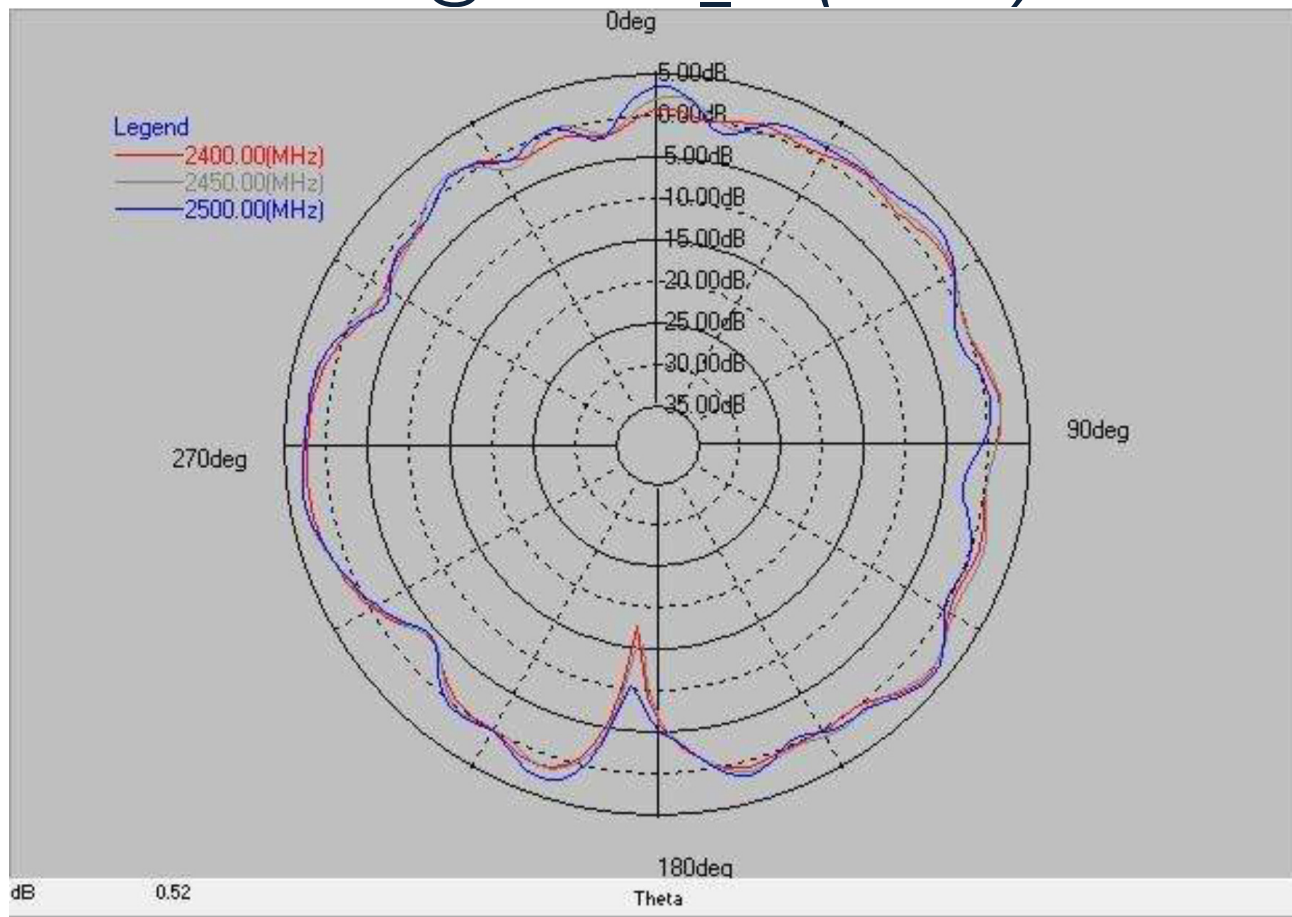
**VSWR\_BT (2.4GHz)**



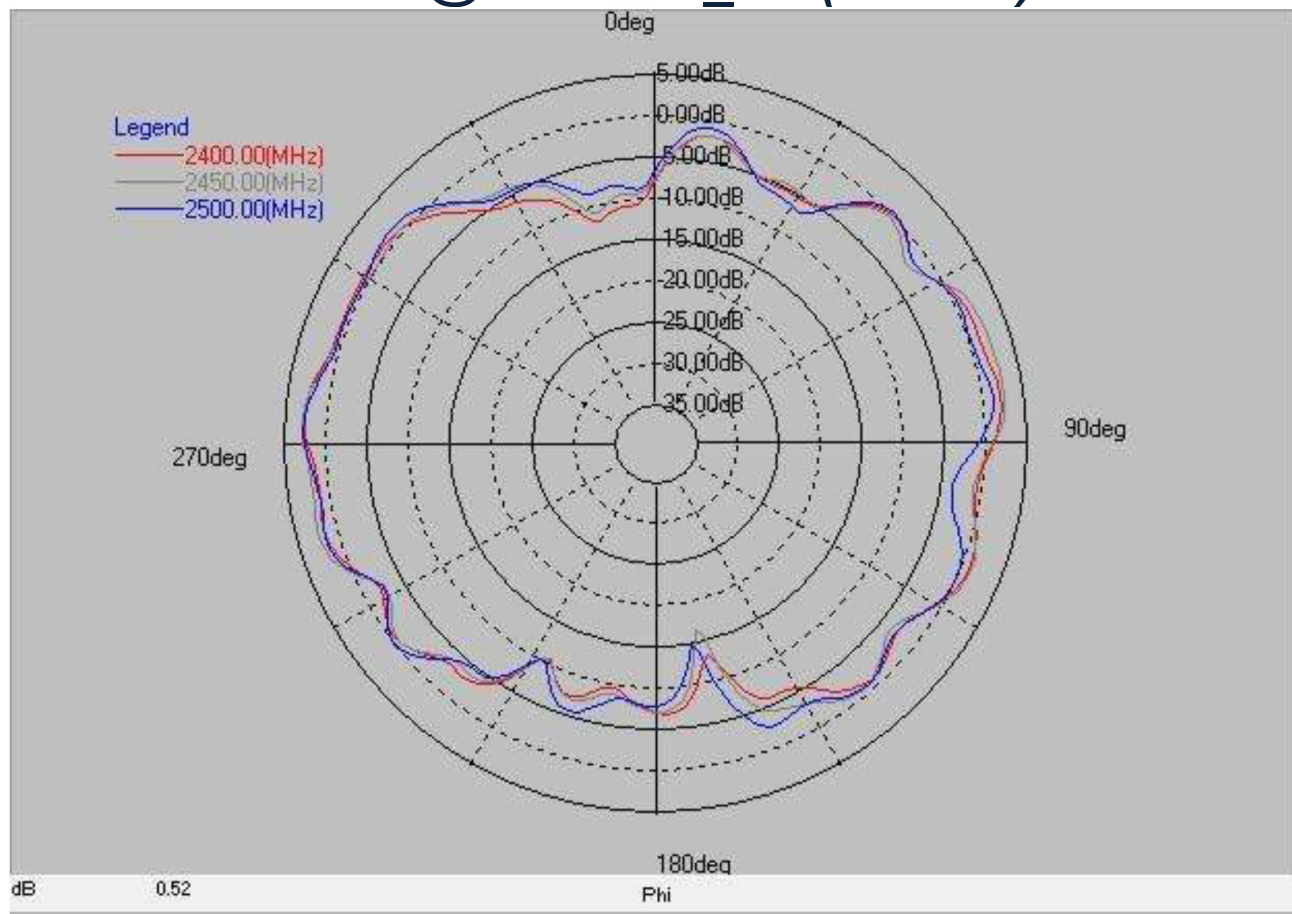
## 2D Gain Pattern @ZX Plane\_BT (2.4GHz)



## 2D Gain Pattern @ZY Plane\_BT (2.4GHz)



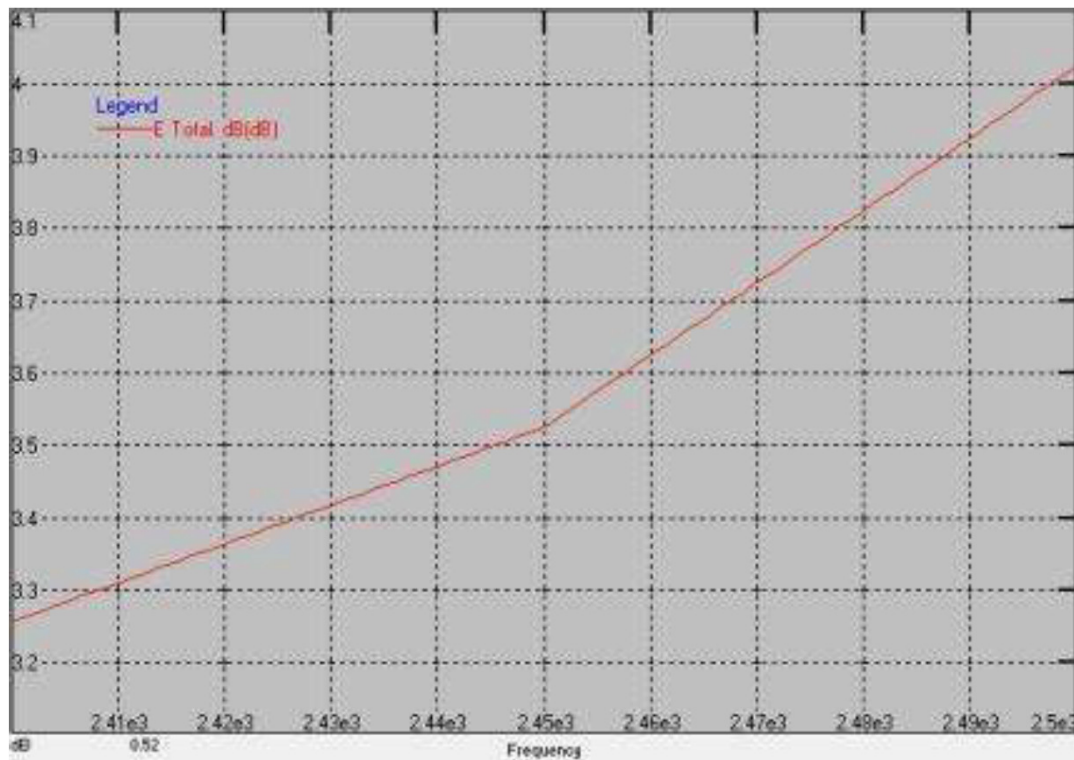
## 2D Gain Pattern @XY Plane\_BT (2.4GHz)



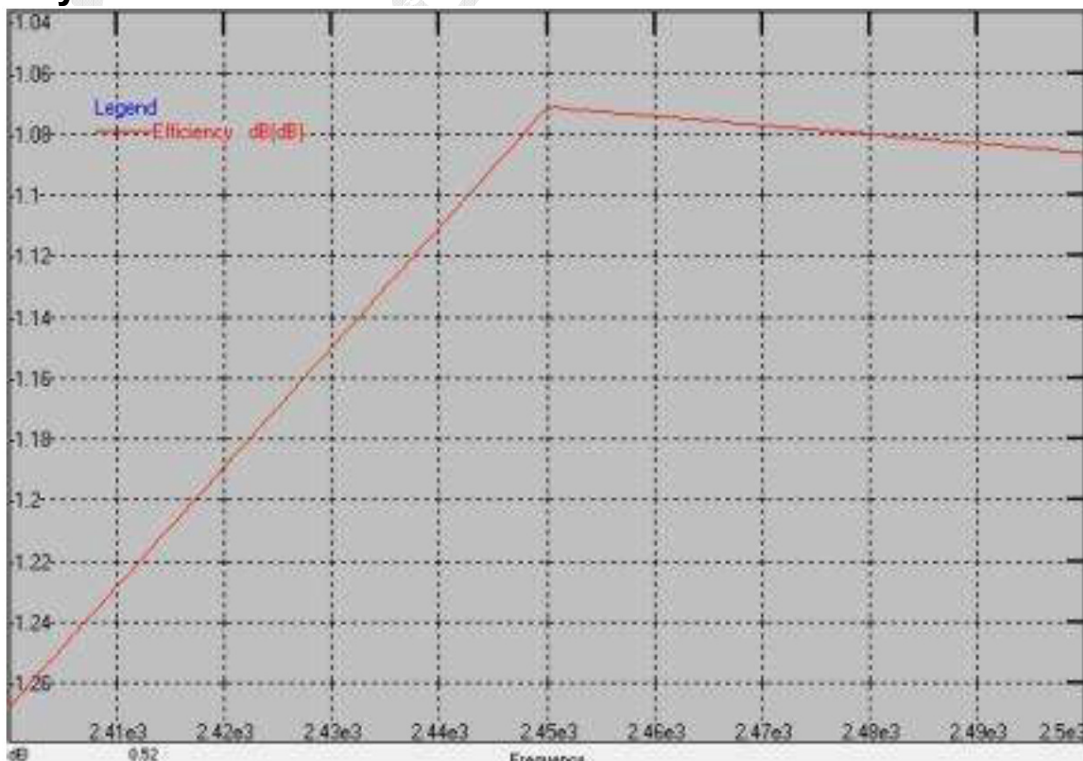
## 3D Peak Gain&Efficiency\_BT (2.4GHz)

| Frequency (MHz) | Efficiency | Efficiency . dB | E Total. dB |
|-----------------|------------|-----------------|-------------|
| 2400            | 75%        | -1.27           | 3.26        |
| 2450            | 78%        | -1.07           | 3.53        |
| 2500            | 78%        | -1.09           | 4.02        |

### Peak Gain



### Efficiency



# Summary

- Exchange WiFi and BT Location and calbe length. all antenna efficiency can >60% for handmade prototype test result.
- eFinally test result need real device to do test.

麥 智 科 技

