

APPROVAL SHEET

(RoHS)

CUSTOMER : eZEX

CUSTOMER'S PART NO. : PCA-4212-25GC1-A2

DESCRIPTION : RF CABLE ASSEMBLY

PART NO. : PCA-4212-25GC1-A2

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

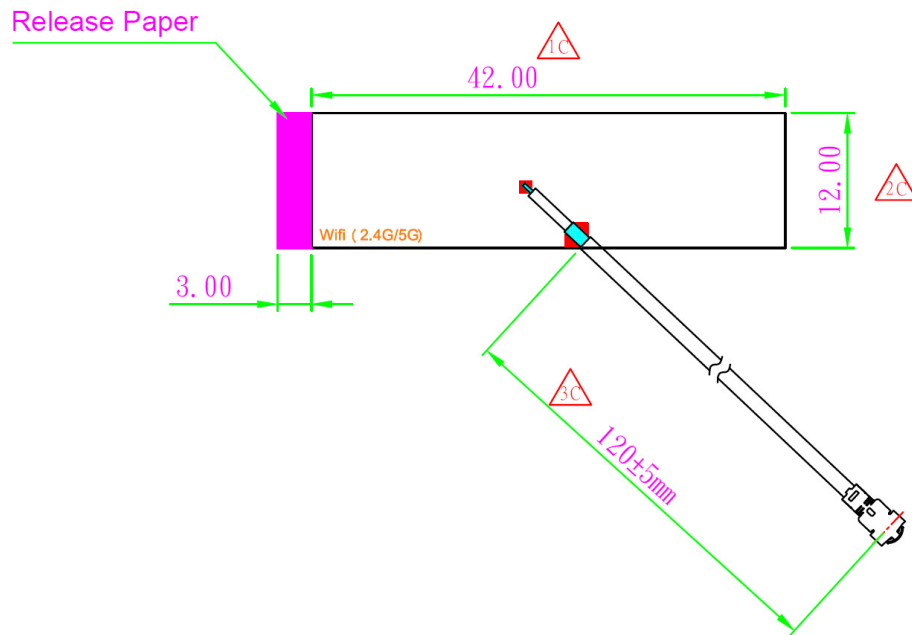
Coaxial Cable : $\phi 1.37$ Low Loss Cable (White)

Connector : 20351-112R-37

Double Tape : G9000

ELECTRICAL

Frequency : 2.4~2.5GHz/5.15~5.85GHz



IPEX方向管控

單位：mm

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

	New Release	05/30/22'	Sheng
LTR	DESCRIPTION	DATE	REQ. BY
設計 DR.		核准 APPD.	
Sheng		Alvin	
2022/05/30		2022/05/30	
版本說明		REVISION NOTE	
MAGLAYERS			

※凡標記 記號者, 為品管檢驗之尺寸

容許公差	TOLERANCE
.XXX	± 0.20
.XX	± 0.35
.X	± 0.50
X	± 1.00
ANG	± 5

品名
ARTICLE
PCA-4212-25GC1-A2

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..... 2.4~2.5GHz /5.15~5.85GHz
- 1.2 Impedance..... 50 Ohm Nominal
- 1.3 VSWR..... <2 dB
- 1.4 Radiation..... Omni-directional
- 1.5 Gain(peak)..... <5dBi
- 1.6 Polarization..... Linear Vertical
- 1.7 Admitted Power..... 1W

PHYSICAL PROPERTIES

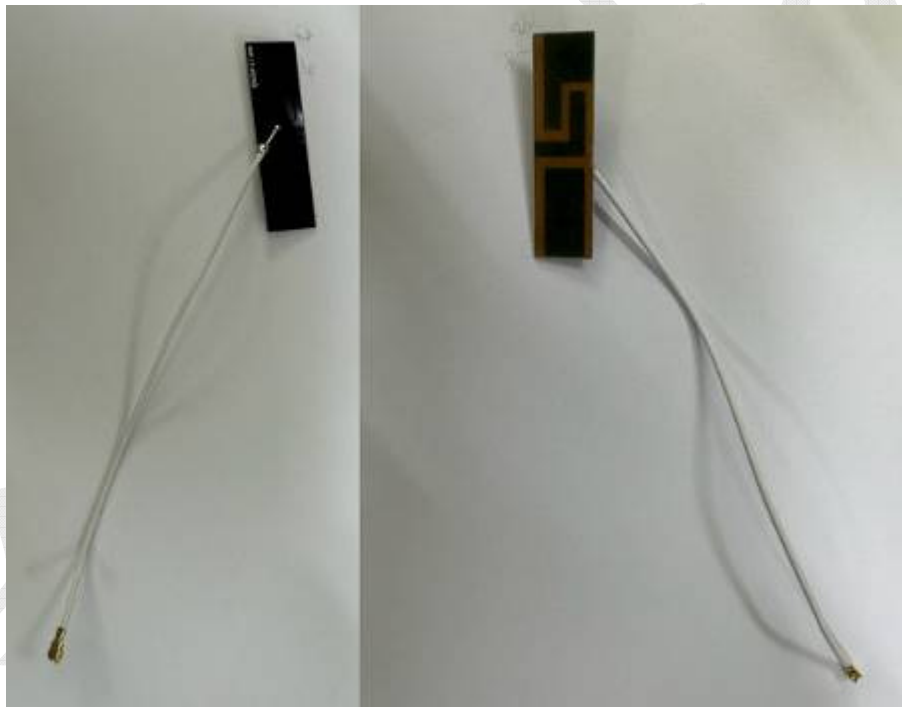
- 2.1 Antenna Material.....FR4 (黑漆 OSP 板)
- 2.2 Cable..... ϕ 1.37Low Loss (White)
- 2.3 Double Tape..... G9000
- 2.4 Connector.....20351-112R-37
- 2.5 Operating Temp.....-20°C ~ +65°C
- 2.6 Storage Temp.....-30°C ~ +75°C



Specification

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

Antenna Picture



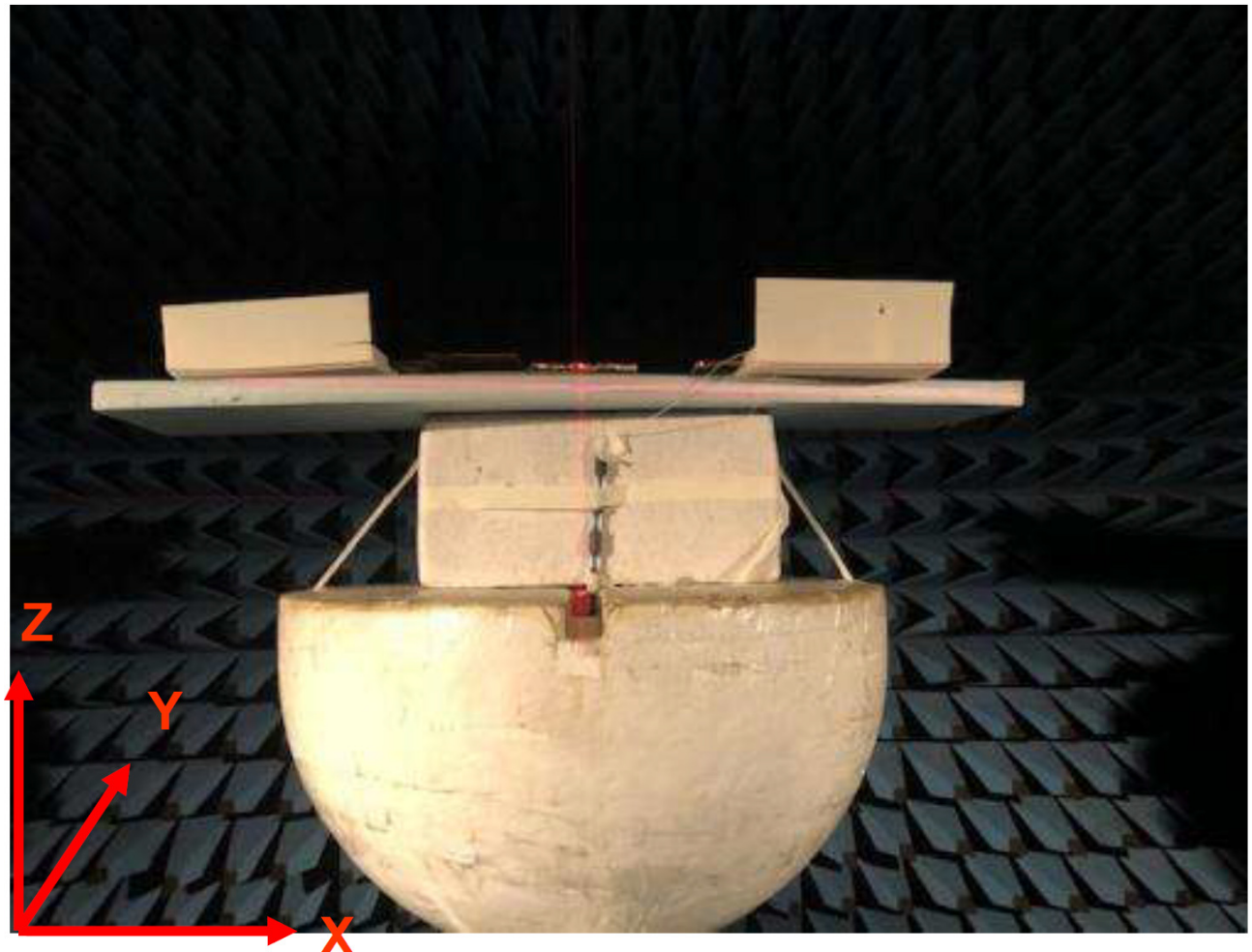
Coordinate System

Note

WiFi PCB Dimension : 42* 12* 0.6mm, Cable Length : 120mm

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





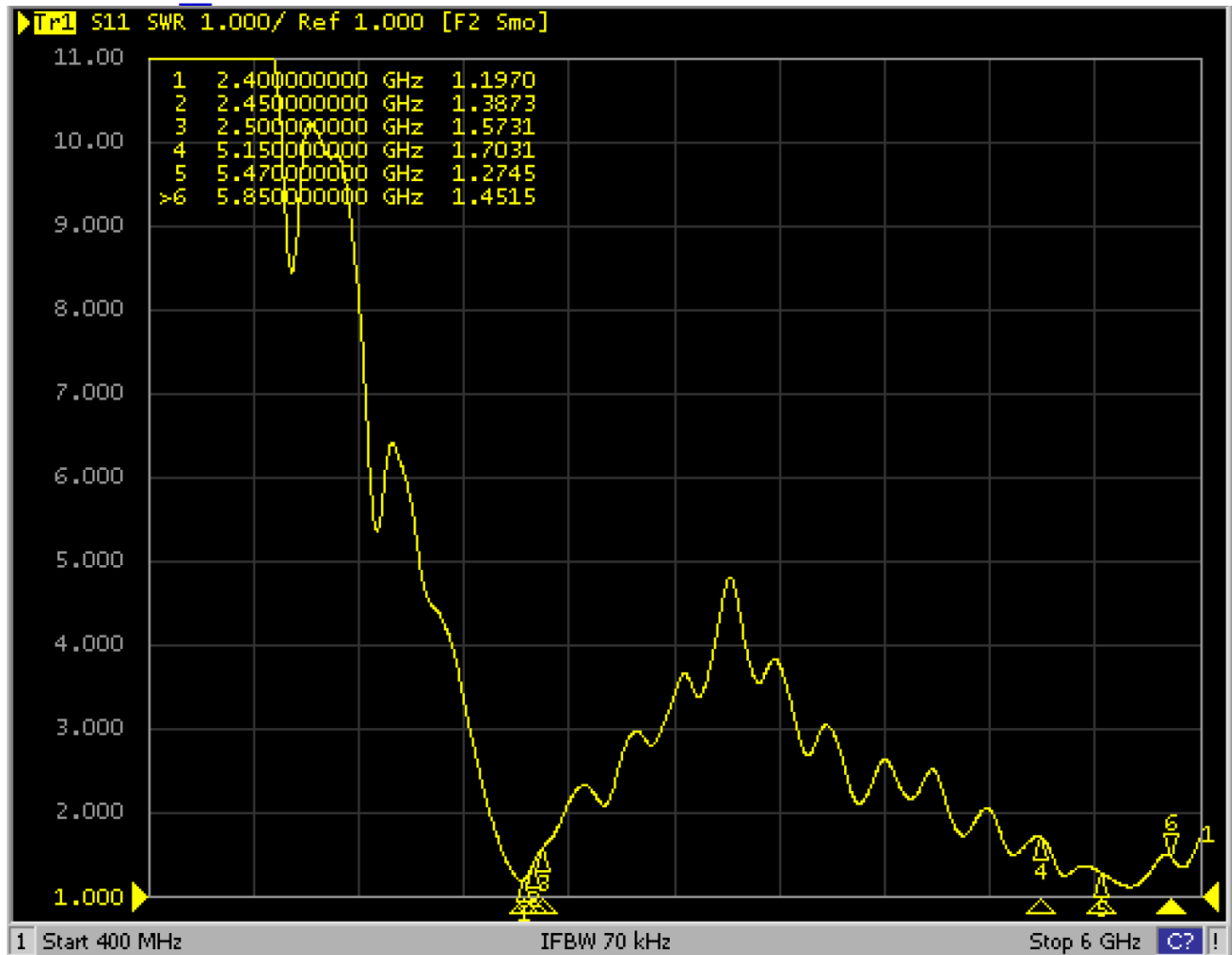
Test Report

ELECTRICAL CHARACTERISTICS

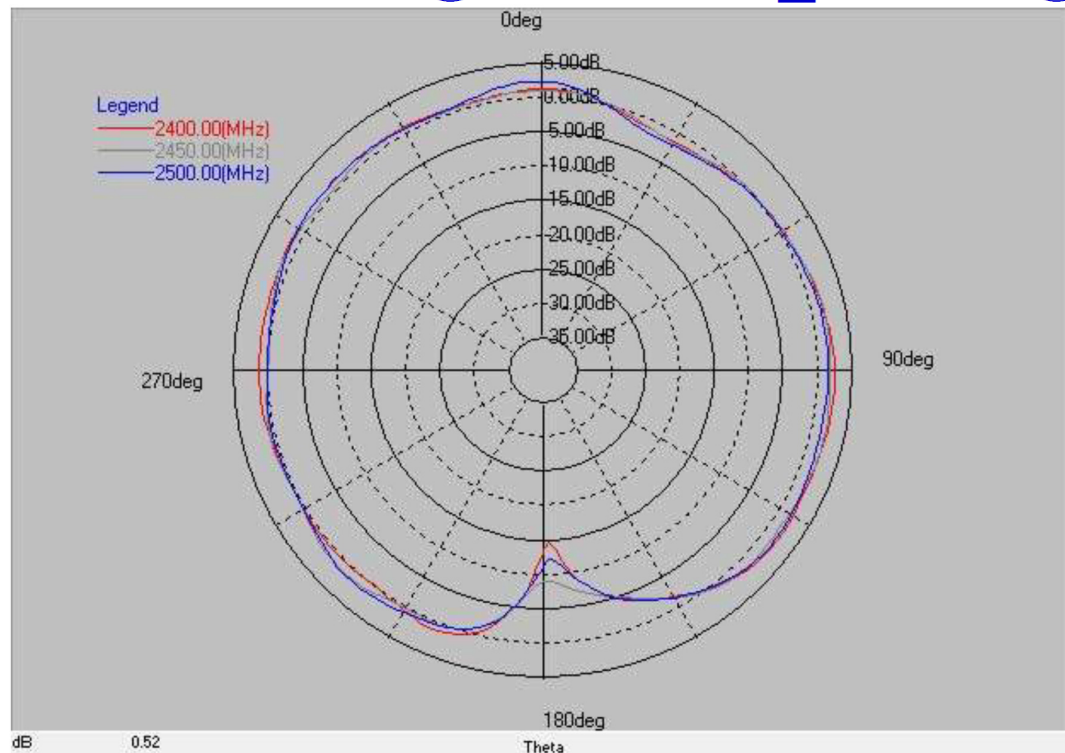
P/NO: PCA-4212-25GC1-A2

Spec: 2.4~2.5GHz /5.15~5.85GHz

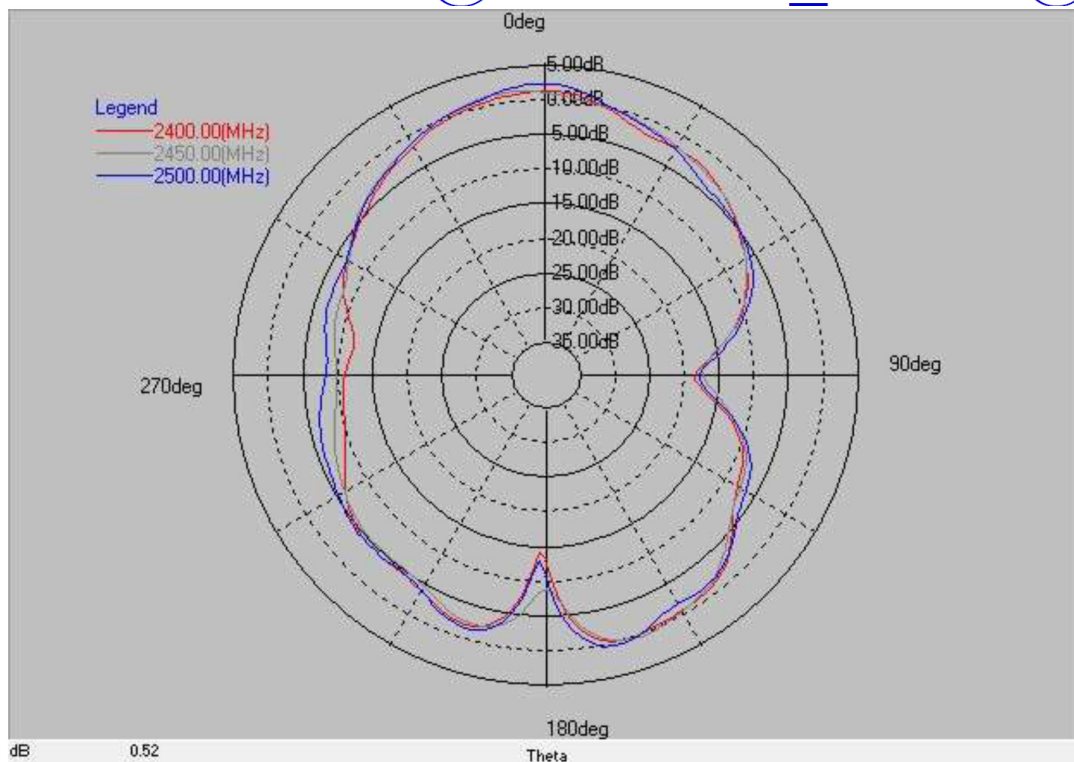
VSWR WiFi 2.4/5GHz



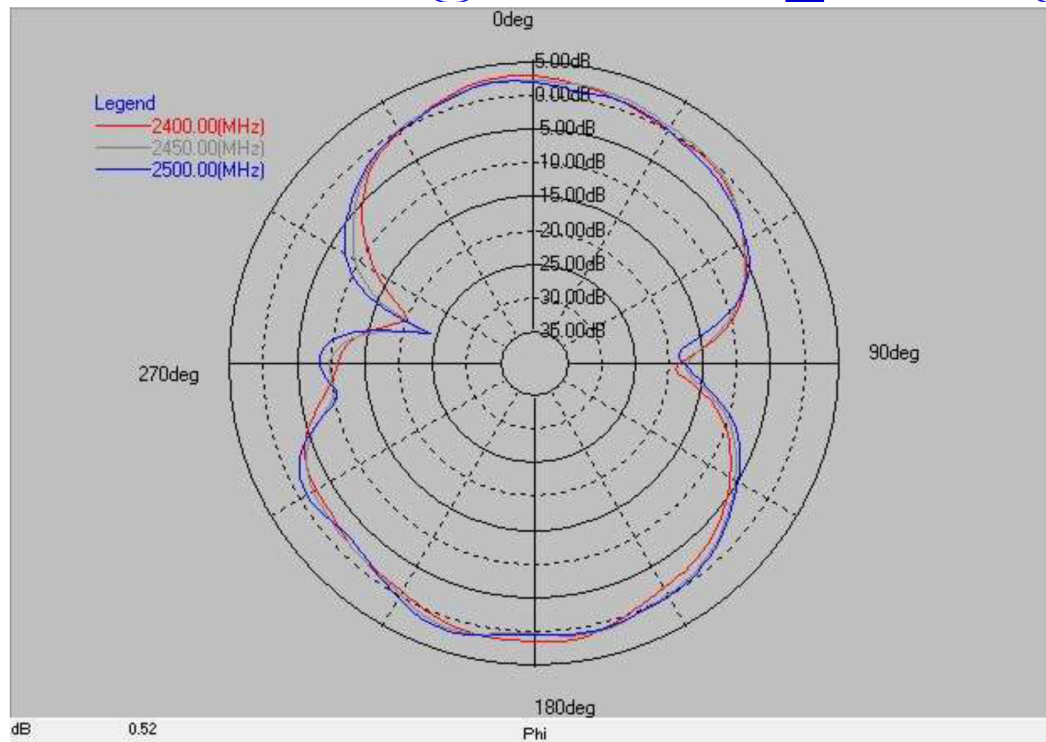
2D Gain Pattern @ZX Plane _ WiFi @2G



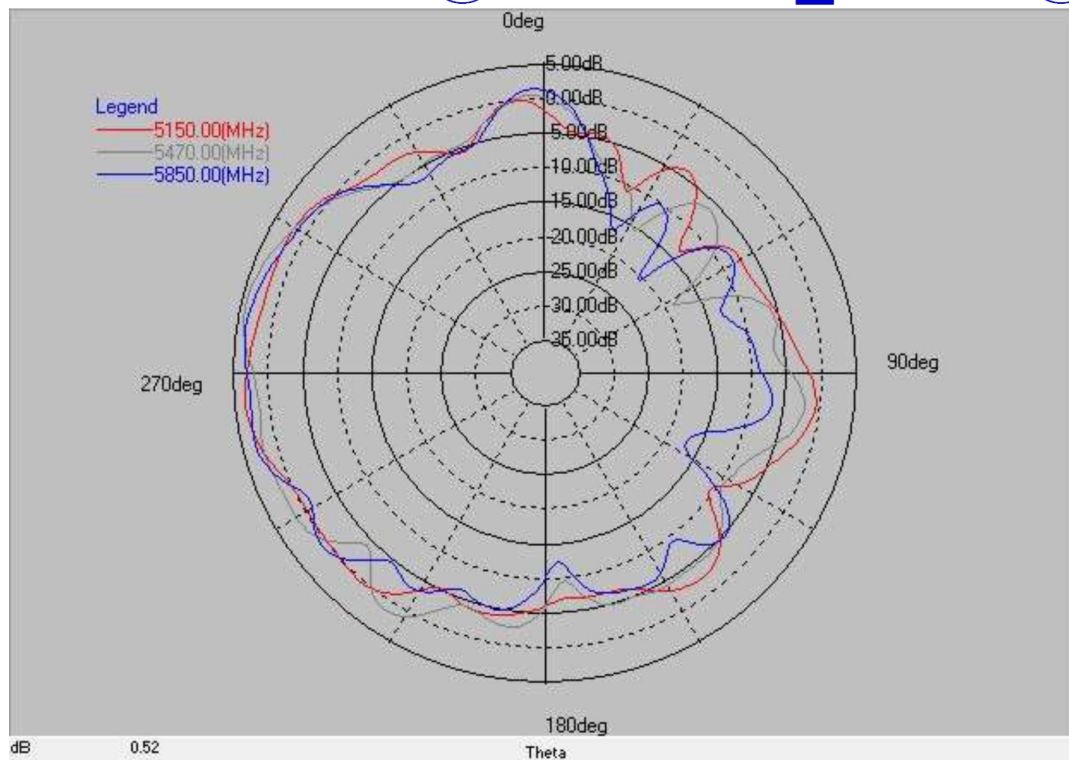
2D Gain Pattern @ZY Plane _ WiFi @2G



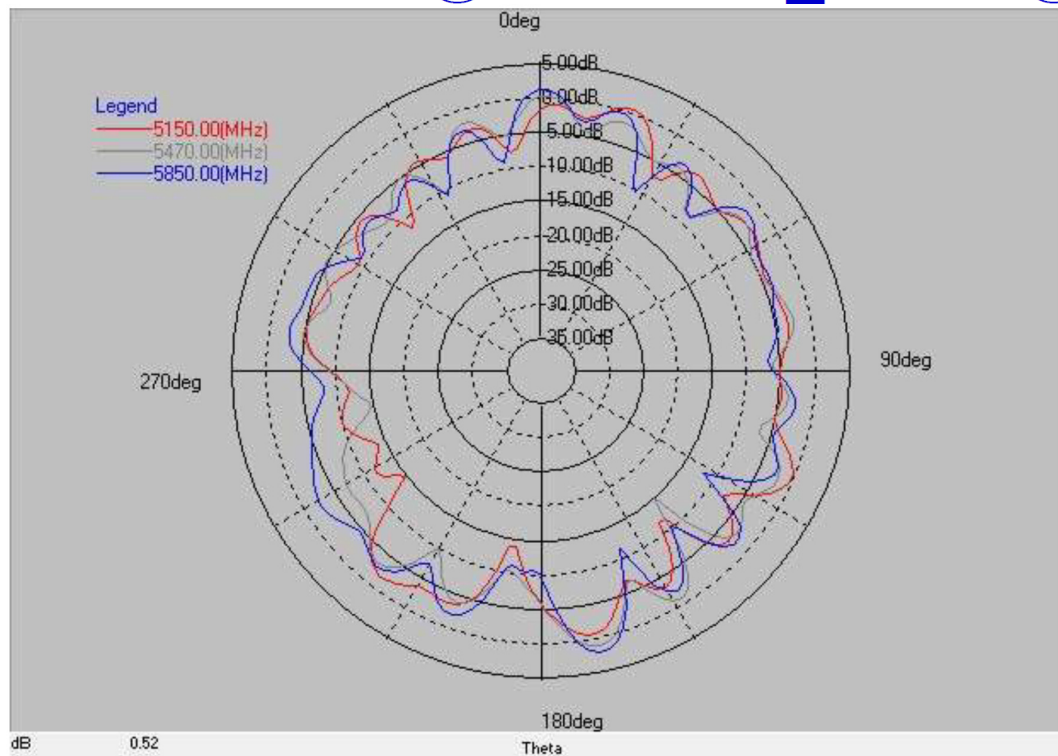
2D Gain Pattern @XY Plane _ WiFi @2G



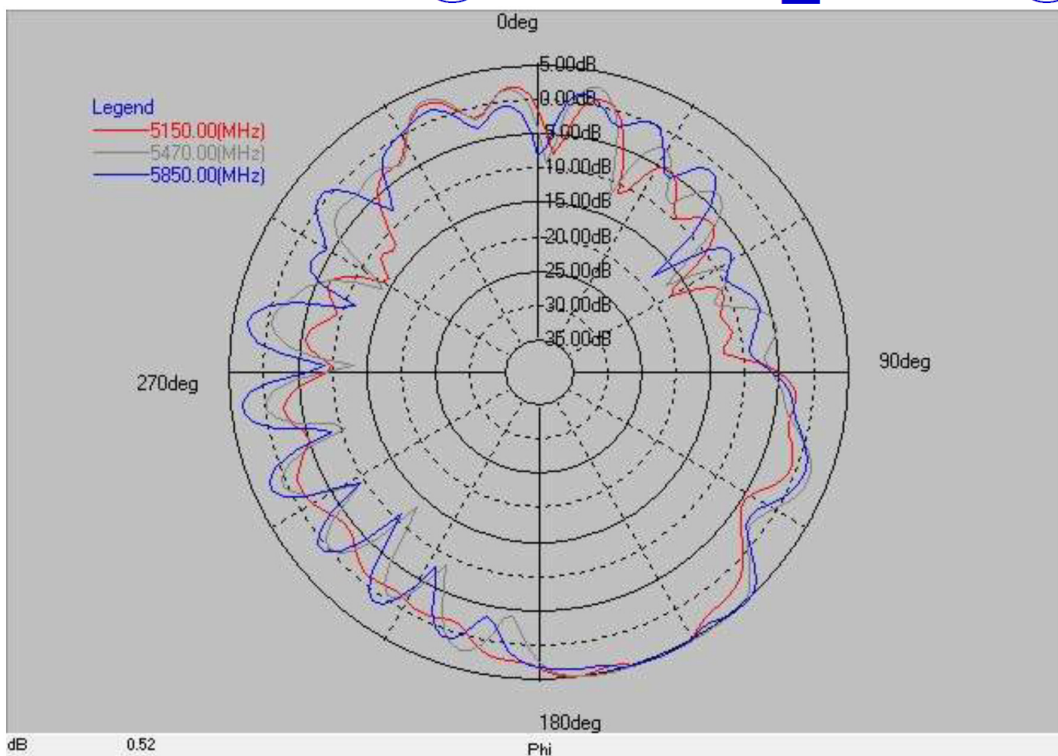
2D Gain Pattern @ZX Plane _ WiFi @5G



2D Gain Pattern @ZY Plane _ WiFi @5G



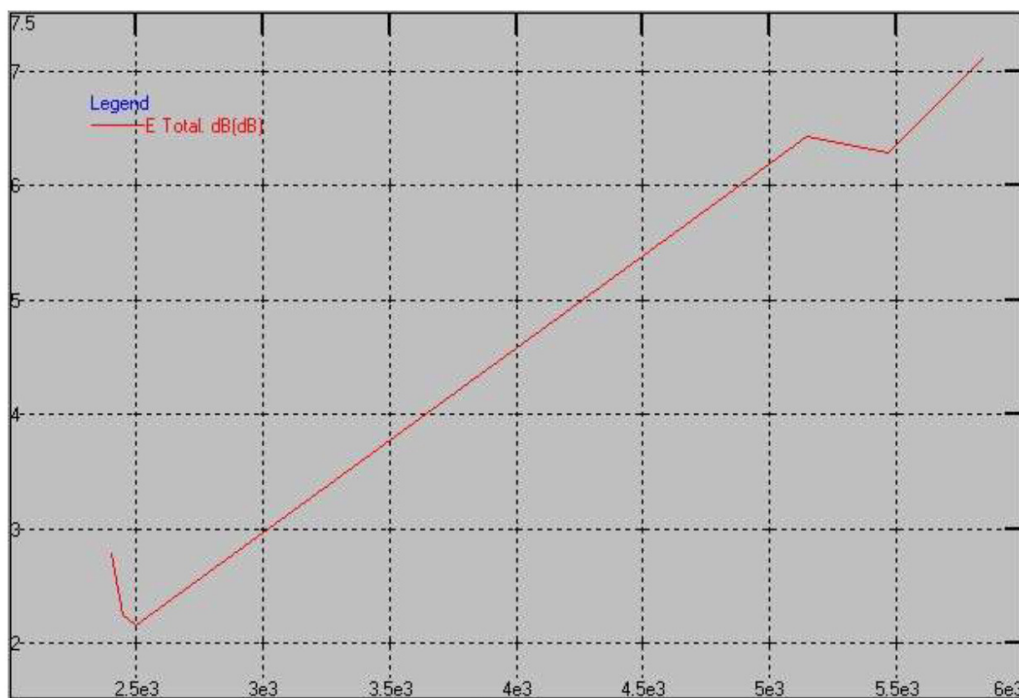
2D Gain Pattern @XY Plane _ WiFi @5G



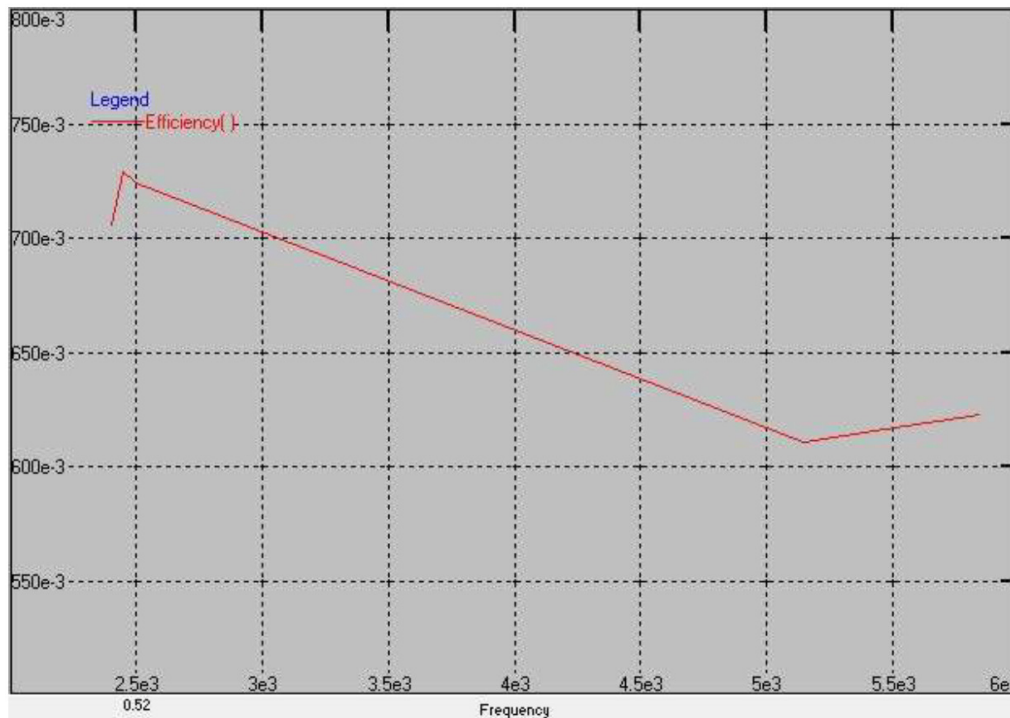
3D Peak Gain & Efficiency_ WiFi 2.4/5GHz

Frequency (MHz)	Efficiency	Efficiency . dB	E Total. dB
2400	71%	-1.51	2.79
2450	73%	-1.37	2.25
2500	72%	-1.40	2.16
5150	61%	-2.14	6.43
5470	62%	-2.10	6.28
5850	62%	-2.06	7.12

Peak Gain



Efficiency



Summary

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

