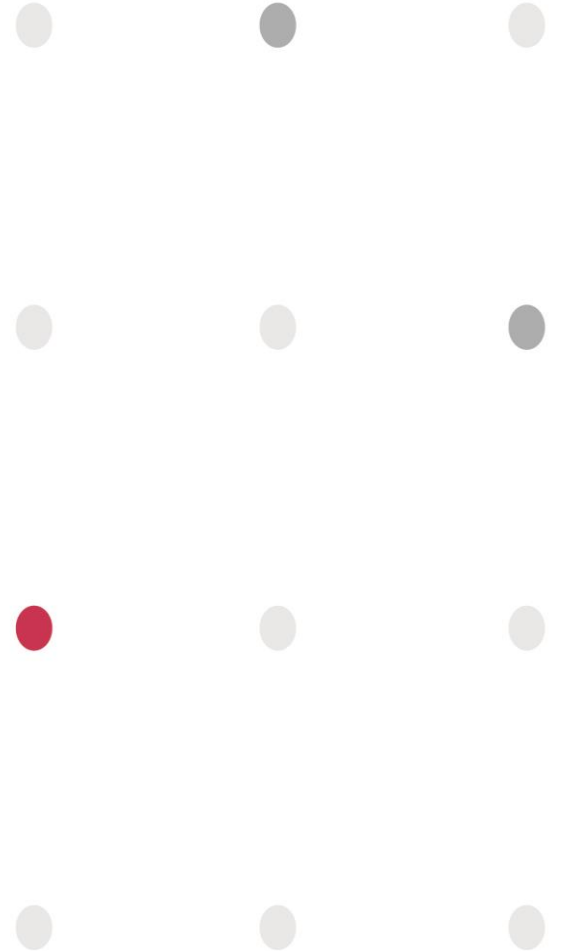


PSA

PASSIVE SYSTEM ALLIANCE  
WALSIN TECHNOLOGY CORPORATION



# 美奇(彩富) N\_minimotor

Presented by

Simon Huang

Walsin Technology Corporation

2022/11/25

<b>Version</b>	<b>Date</b>	<b>Description</b>	<b>Author</b>
V01	2022/08/29	<b>New Release</b>	Bruno
V02	2022/11/25	<b>Final</b> 樣機，天線有加一個holder，確認特性	Simon Huang

# OUTLINE

## 1. Measurement Information

1.1 Experimental Setup

1.2 Antenna Solution Detail

## 2. Antenna Characteristics

2.1 s - parameter

2.2 Antenna Efficiency and Peak Gain

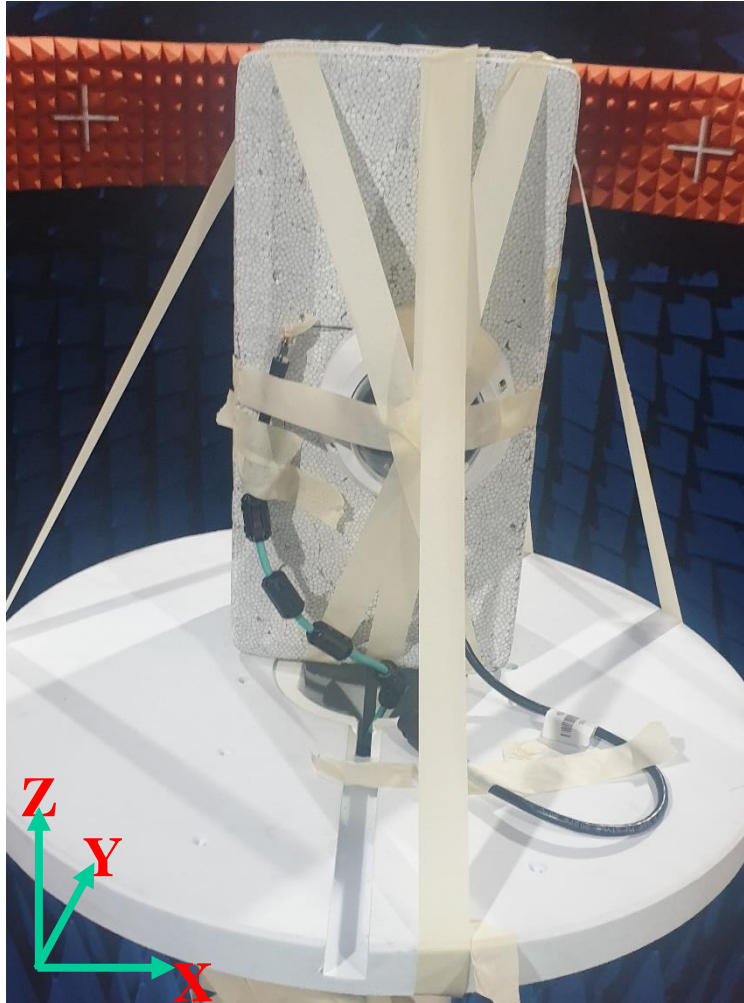
2.3 3 views of antenna & 2D Radiation Patterns

2.4 2D Ant Combine

## 3. Summary

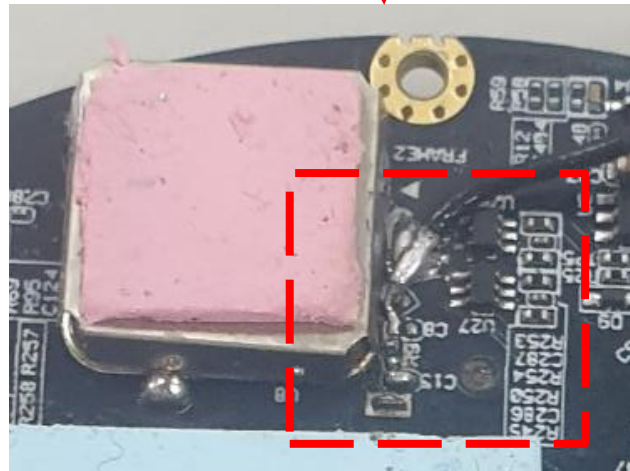
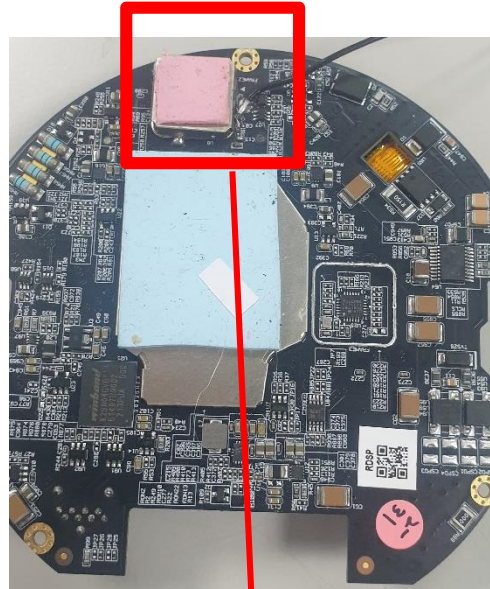
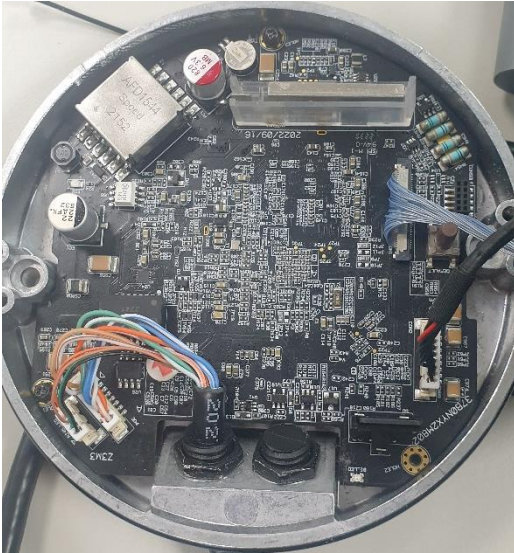
# 1. Measurement Information

## 1.1 Experimental Setup



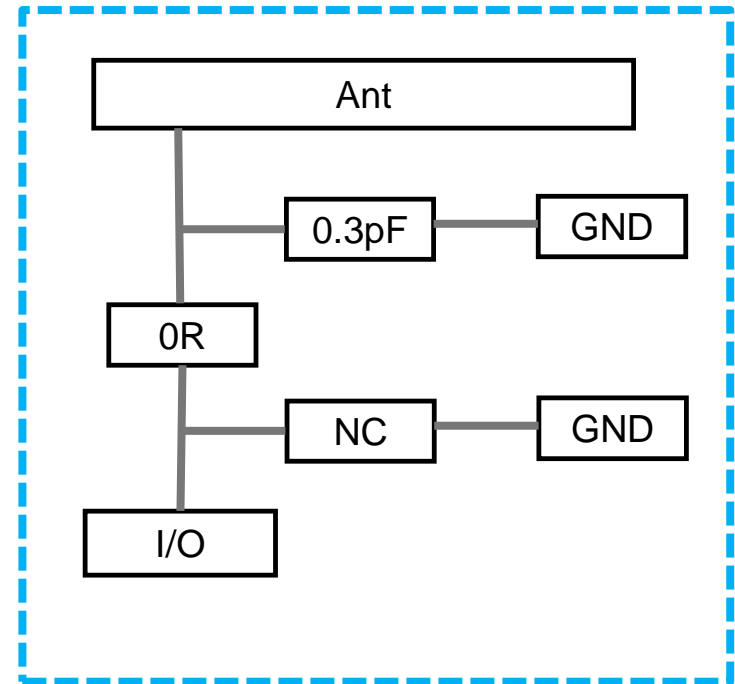
# 1. Measurement Information

## 1.2 Antenna Solution Detail



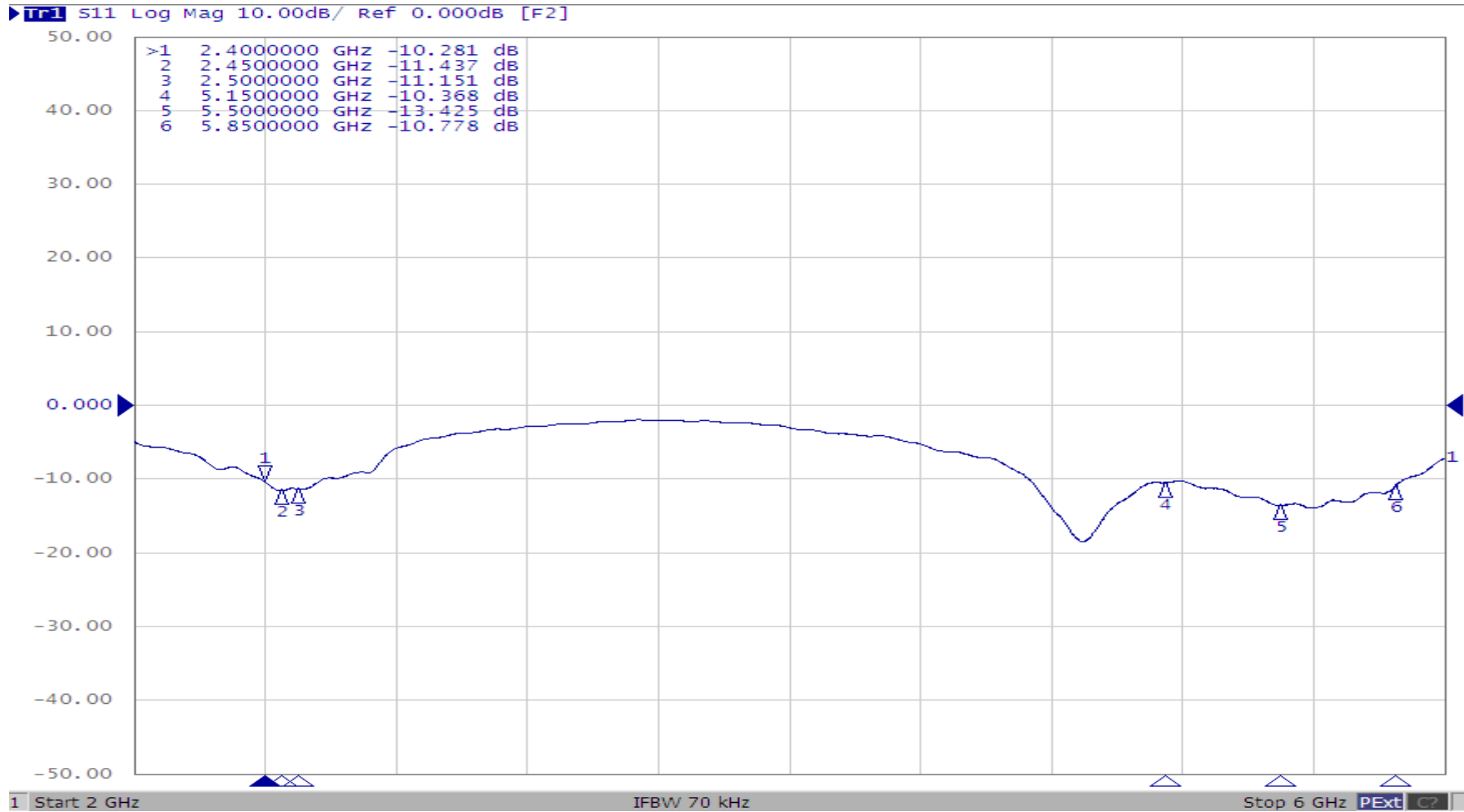
	對應料號
0R	WR04X000PTL
0.3pF	RF15N0R3B500CT

*Matching values*



## 2. Antenna Characteristics

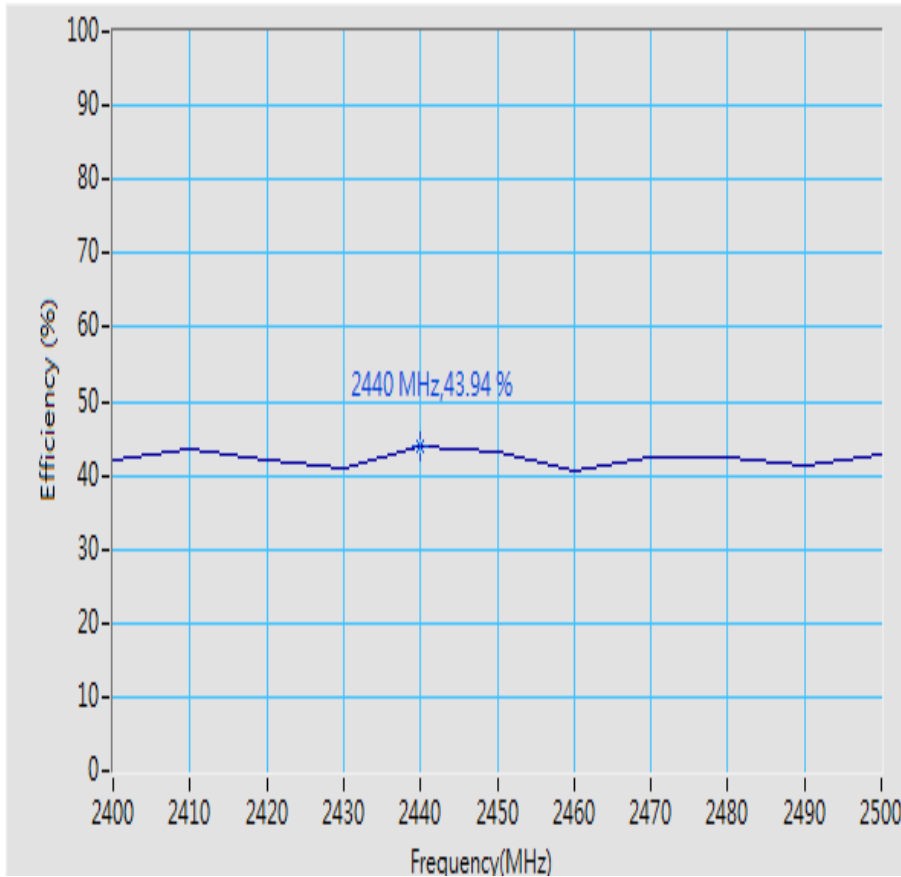
### 2.1 s - parameter



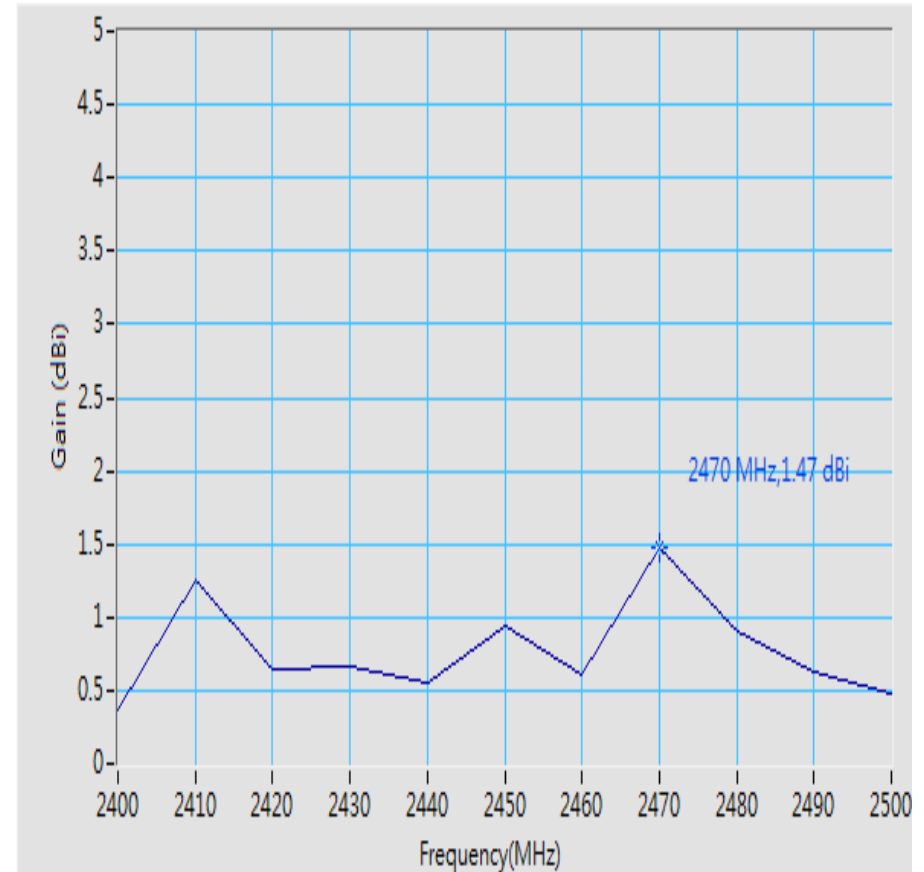
## 2. Antenna Characteristics

2400 – 2500 MHz

### 2.2 Antenna Efficiency and Peak Gain



**Maximum Efficiency at 2440 MHz : 43.94 %**



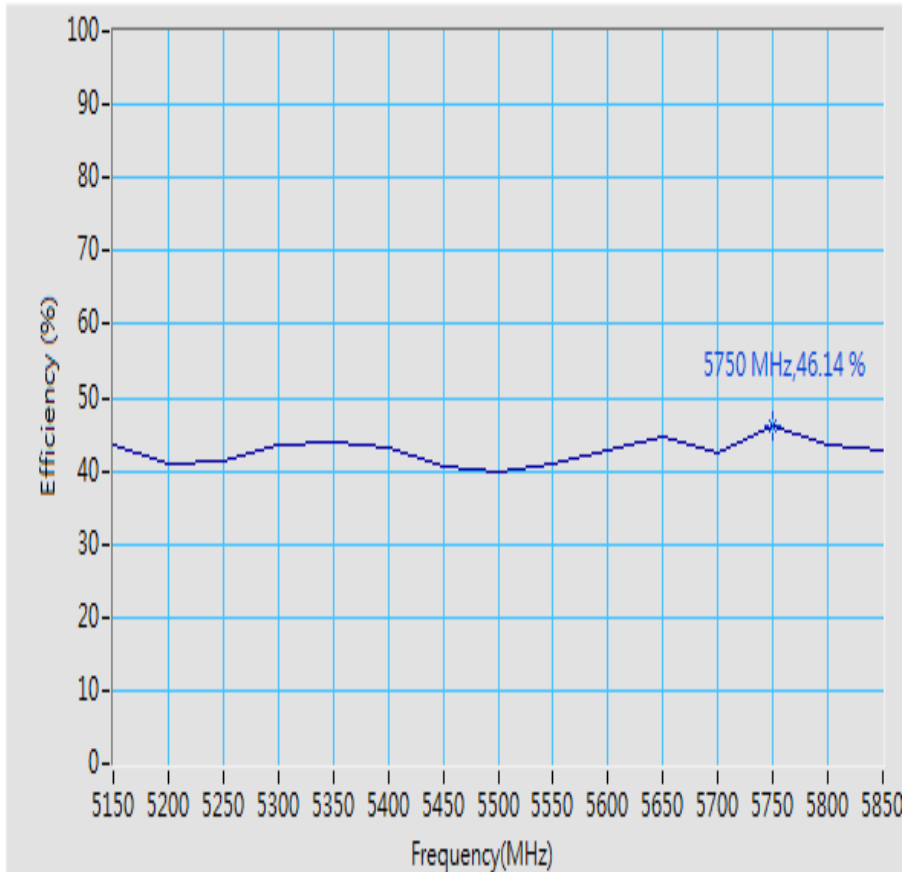
**Maximum Peak Gain at 2470 MHz : 1.47 dBi**



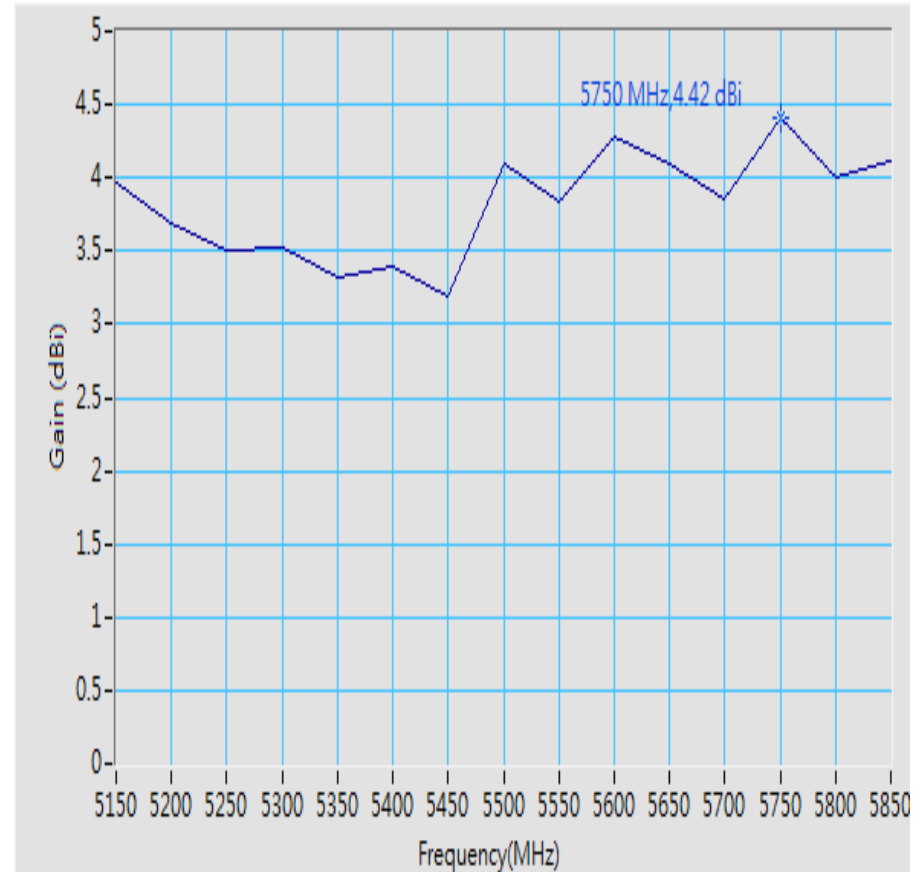
## 2. Antenna Characteristics

5150 – 5850 MHz

### 2.2 Antenna Efficiency and Peak Gain



**Maximum Efficiency at 5750 MHz : 46.14 %**



**Maximum Peak Gain at 5750 MHz : 4.42 dBi**

## 2. Antenna Characteristics

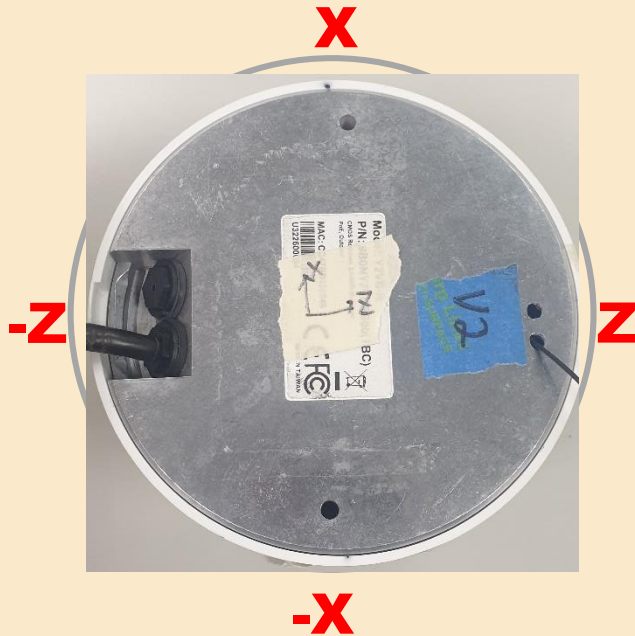
### 2.2 Antenna Efficiency and Peak Gain

<b>Frequency (MHz)</b>	<b>Efficiency (%)</b>	<b>Peak Gain (dBi)</b>
<b>2400</b>	<b>42.16</b>	<b>0.38</b>
<b>2450</b>	<b>43.33</b>	<b>0.94</b>
<b>2500</b>	<b>42.66</b>	<b>0.47</b>
<b>5150</b>	<b>43.45</b>	<b>3.96</b>
<b>5500</b>	<b>39.94</b>	<b>4.10</b>
<b>5850</b>	<b>42.72</b>	<b>4.11</b>

## 2. Antenna Characteristics

### 2.3 3 views of antenna

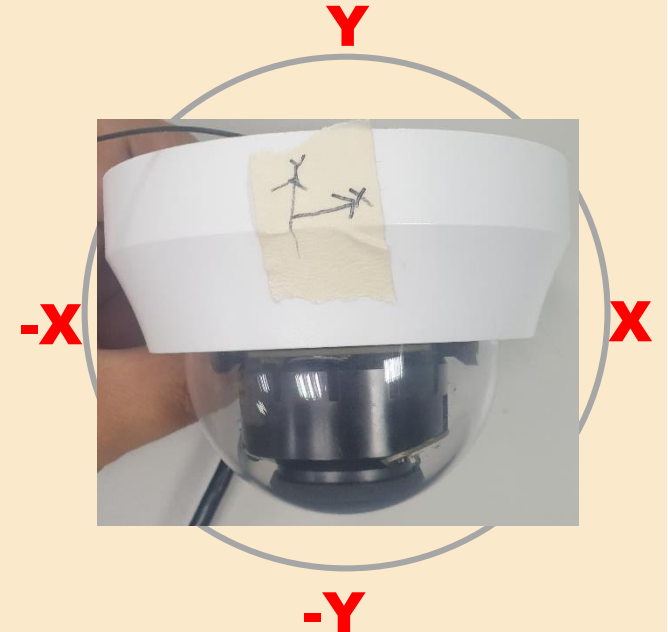
X-Z plane



Y-Z plane



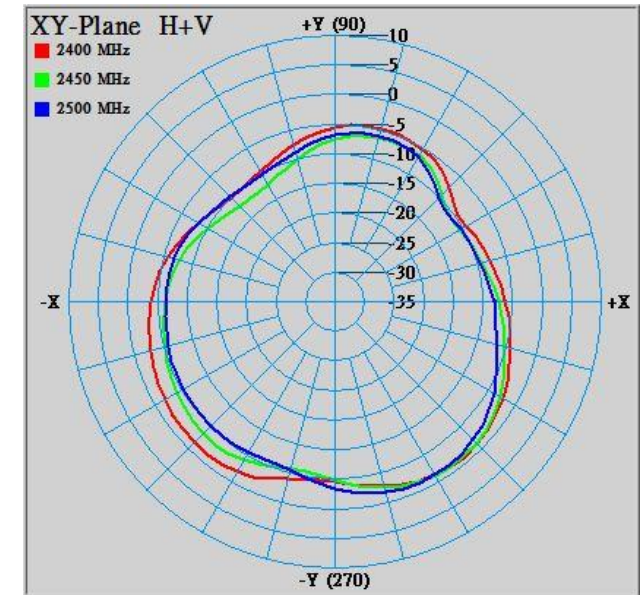
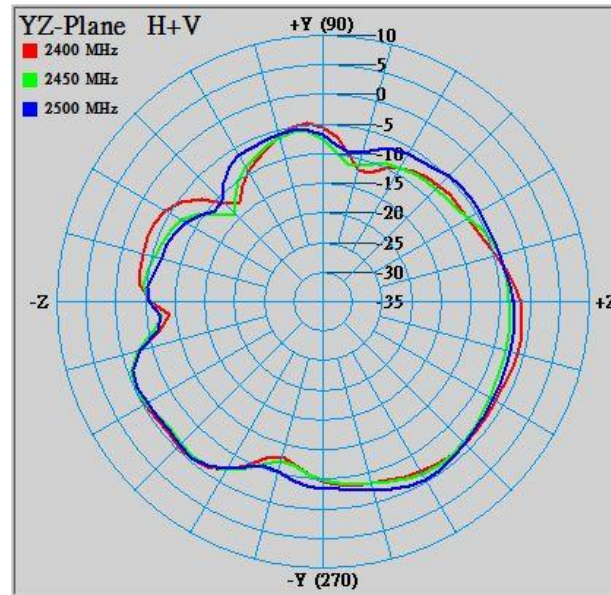
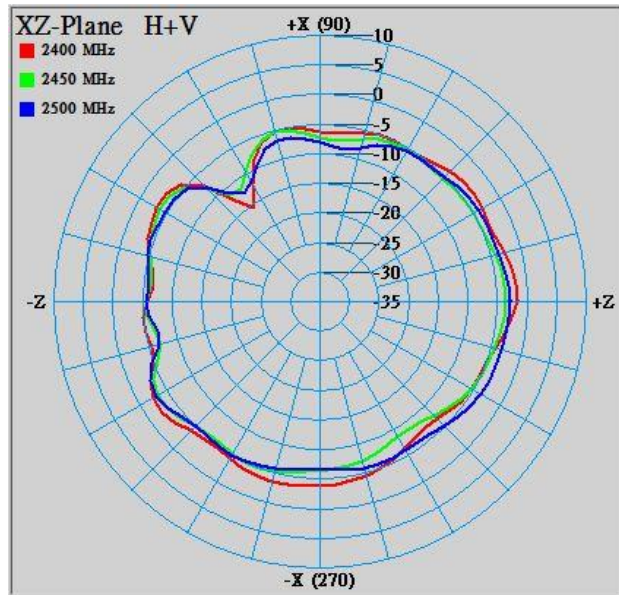
X-Y plane



## 2. Antenna Characteristics

2400 – 2500 MHz

### 2.3 2D Radiation Patterns

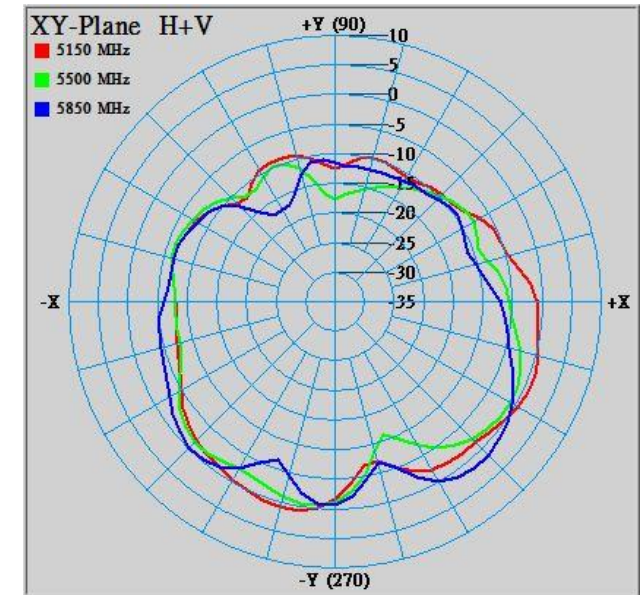
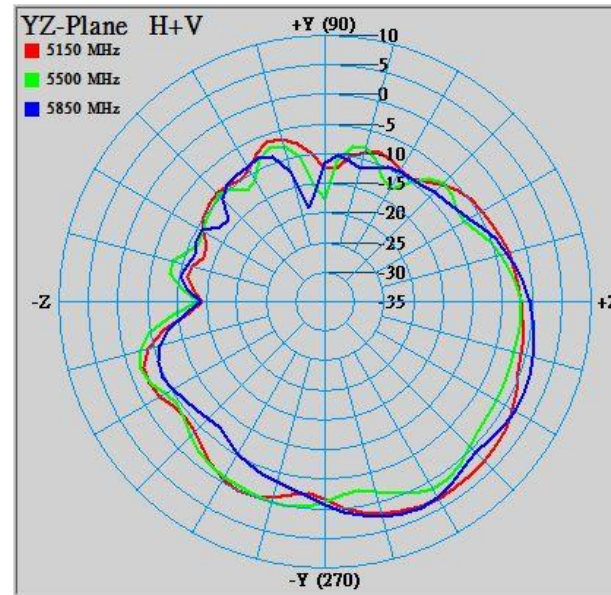
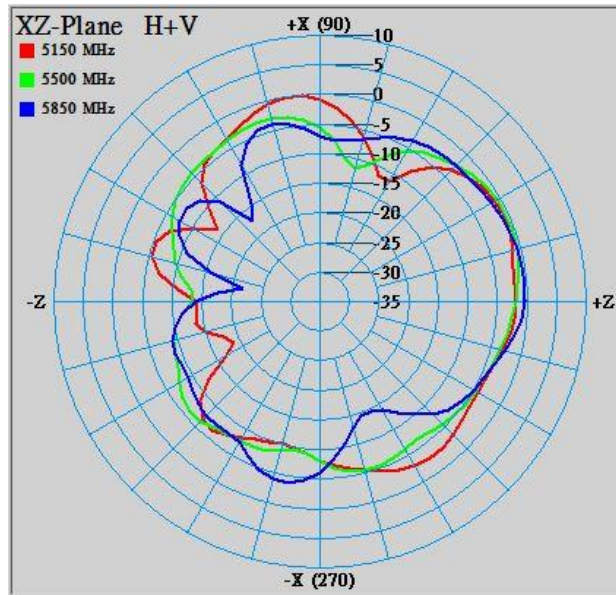


Frequency [MHz]	ZX plane		ZY plane		XY plane	
	Max Value	Average	Max Value	Average	Max Value	Average
2400	-1.6	-4.58	0	-3.65	-0.92	-4.16
2450	-3.19	-5.63	-0.04	-4.19	-0.97	-5.41
2500	-2.89	-5.31	-0.27	-3.59	-1.19	-5.63

## 2. Antenna Characteristics

5150 – 5850 MHz

### 2.3 2D Radiation Patterns



Frequency [MHz]	ZX plane		ZY plane		XY plane	
	Max Value	Average	Max Value	Average	Max Value	Average
5150	0.04	-4.5	3.48	-2.15	1.16	-3.64
5500	-0.22	-4.82	1.57	-3.5	-0.35	-5.17
5850	-0.15	-5.29	3.4	-2.67	1.69	-4.27

### 3. Summary

- The performance of antennas is shown in table

<b>2400 – 2500 MHz</b>	<b>Maximum Efficiency</b>	<b>2440 MHz → 43.94 %</b>
	<b>Maximum Gain (dBi)</b>	<b>2470 MHz → 1.47 dBi</b>
<b>5150 – 5850 MHz</b>	<b>Maximum Efficiency</b>	<b>5750 MHz → 46.14 %</b>
	<b>Maximum Gain (dBi)</b>	<b>5750 MHz → 4.42dBi</b>

匹配電路上加上一顆0.3pF接地，可得到較好的天線特性

# Thank you

本資料均屬機密，僅供指定之收件人使用，未經寄件人許可不得揭露、複製或散佈本信件。

This message and any attachments are confidential and may be legally privileged. Any unauthorized review, use or distribution by anyone other than the intended recipient is strictly prohibited. If you are not the intended recipient, please immediately notify the sender, completely delete this documents, and destroy all copies. Your cooperation will be highly appreciated.