

承認書

APPROVAL SHEET

產品品名/Product Model No. :

WiFi Antenna

客戶料號/Customer No. : GLP0400900

發行日期/ Issue Date : 2020/08/07

承認日期/ Approved Date :

2020/09/10

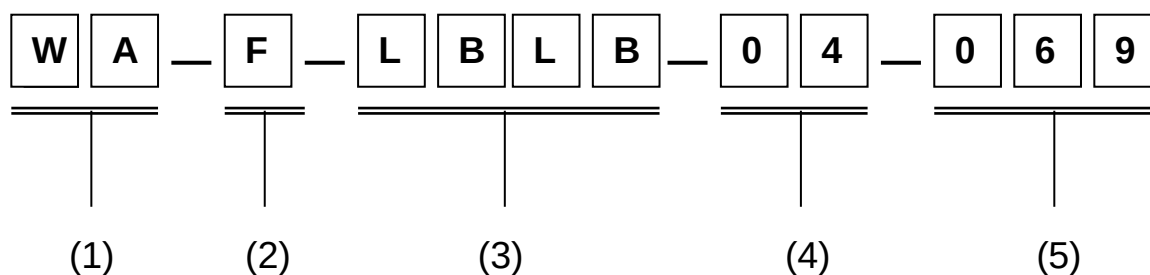
Approved by customer: (signing or stamping here)

Qin Wei



Embedded Dual-Band Antenna for WA-F-LBLB-04-069

1. Explanation of part number :



(1) Product type : Wifi

(2) Material : FPCB

(3) Frequency : 2400~2500 / 5150~5850 MHz

(4) Coaxial Cable Type : Two Cable

(5) Suffix : 069

2. Electrical Specification :

Those specifications were specially defined for **shell cam** model **WiFi Antenna**, and all characteristics were measured under the model's handset testing jig.

2-1. Frequency Band :

Band	Frequency MHz
WiFi	2400~2500/5150~5850 MHz

2-2. Impedance :

50 ohm nominal

2-3. Matching circuit :

None

UNLESS OTHER SPECIFIED TOLERANCES ON :
X=N/A X.X=N/A X.XX=N/A

ANGLES=N/A HOLEDIA=N/A

SCALE : N/A

UNIT : mm

DRAWN BY: 吳京霖

CHECKED BY: 溫祥能

DESIGNED BY: 劉己聖

APPROVED BY: 謝宗霖

TITLE : Embedded Dual-Band Antenna for
WA-F-LBLB-04-069

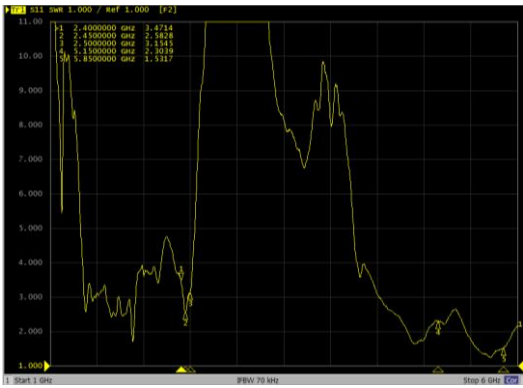
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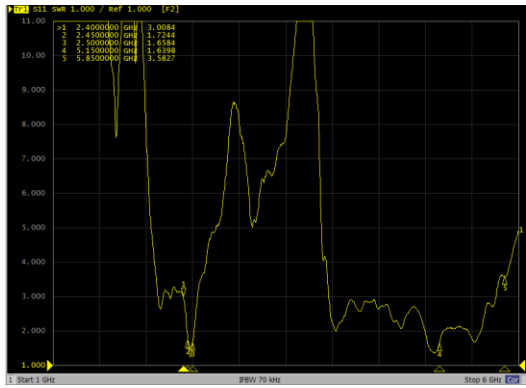


2-4 VSWR :

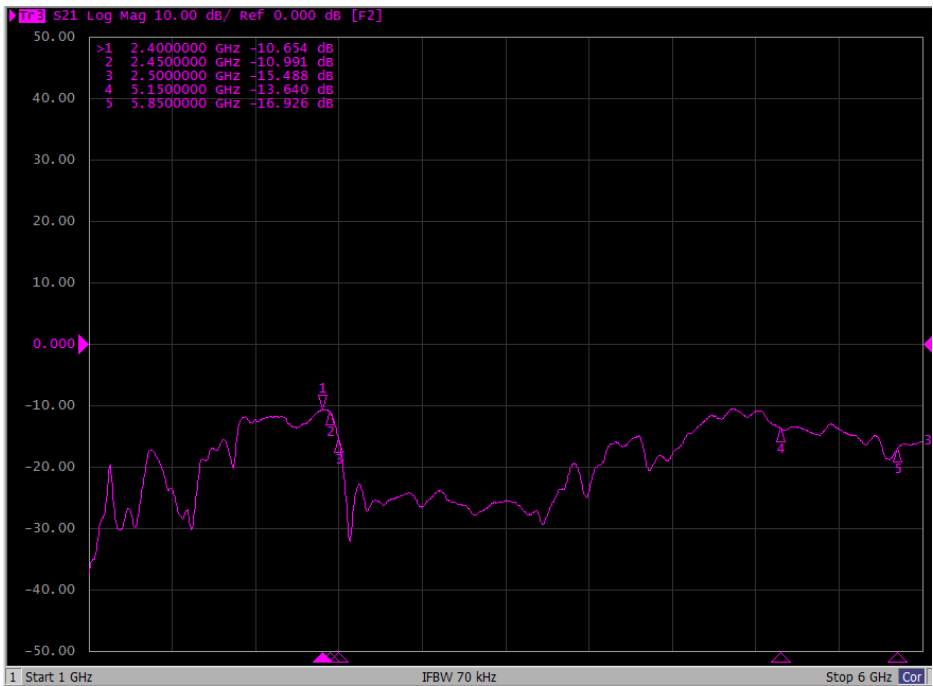
Ant1



Ant2



Isolation



UNLESS OTHER SPECIFIED TOLERANCES ON :
X=N/A X.X=N/A X.XX=N/A
ANGLES=N/A HOLEDIA=N/A

SCALE : N/A	UNIT : mm
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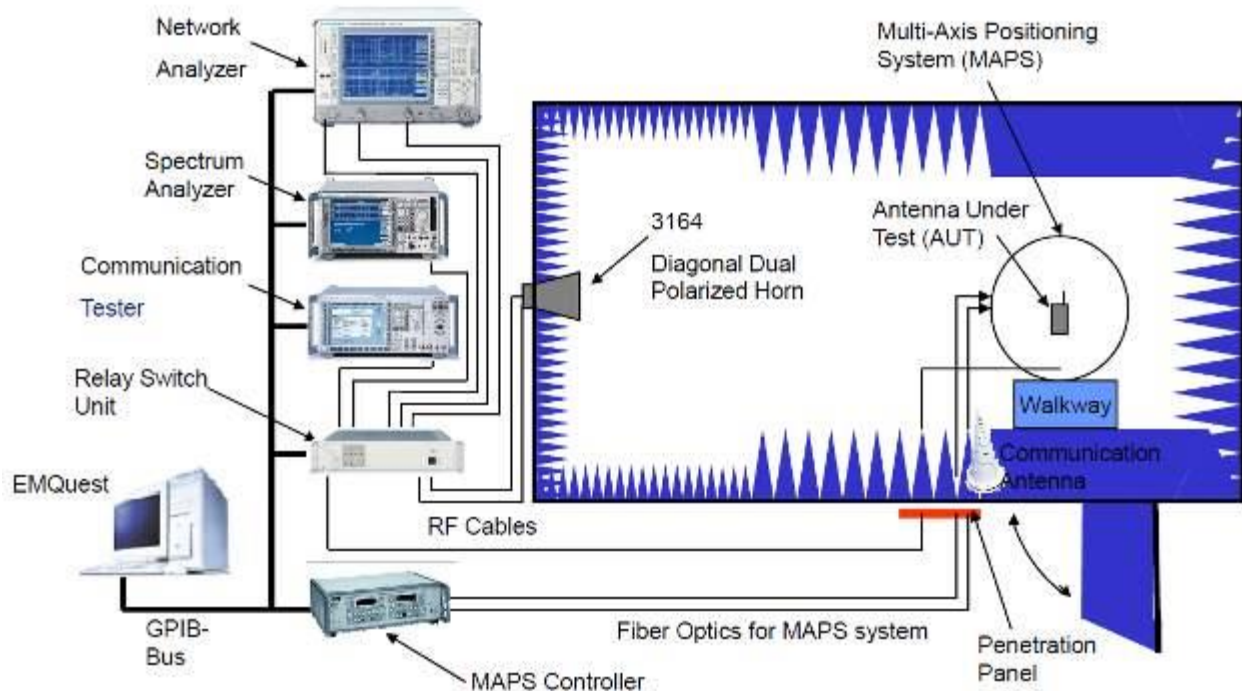
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2-5 Gain and Radiation Pattern

2-5.1 Measure method

1. Using a low loss coaxial cable to link a standard handset jig
2. Fixed this handset jig on chamber's rotator plane
3. Linking jig into network analyzer port and using a probing horn antenna to collect data.
4. Using another standard gain horn antenna to calibrated those data

2-5.2 Chamber definition



1. An anechoic chamber (10mx3mx3m) which satisfied far-field condition was applied to avoid multi-path effect
2. The quiet room region is 50cmx50cmx50cm at the center of rotator
3. The distance between DUT and standard antenna is 9.14m
4. Two measurement antennas is 3164-06 (300MHz - 6GHz) and 3164-05 (2 - 18GHz)

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2-5.3 Gain data

Ant1

Frequency (MHz)	Peak Gain (dBi)	Efficiency (%)
2400	-1.85	16.6
2450	0.91	30.69
2500	0.27	22.03
5150	2.79	40.83
5250	1.65	38.11
5350	2.43	41.59
5470	3.57	38.99
5600	4.72	47.75
5725	4.21	52.48
5785	4.16	52.6
5850	4.75	50.58

Ant2

Frequency (MHz)	Peak Gain (dBi)	Efficiency (%)
2400	0.28	21.98
2450	1.01	24.95
2500	1.37	35.65
5150	2.51	37.24
5250	1.64	36.22
5350	2.14	35.08
5470	2.12	30.48
5600	2.42	31.12
5725	1.61	26.79
5785	0.77	23.33
5850	1.66	24.15
2400	0.28	21.98
2450	1.01	24.95
2500	1.37	35.65

UNLESS OTHER SPECIFIED TOLERANCES ON :
X=N/A X.X=N/A X.XX=N/A
ANGLES=N/A HOLEDIA=N/A



SCALE : N/A	UNIT : mm
DRAWN BY: 吳京霖	CHECKED BY: 溫祥能
DESIGNED BY: 劉己聖	APPROVED BY: 謝宗霖

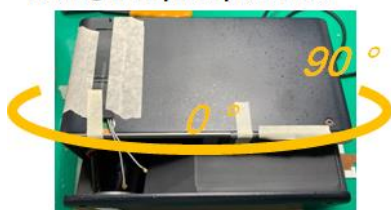
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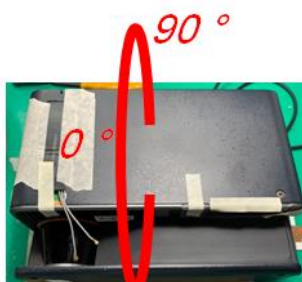
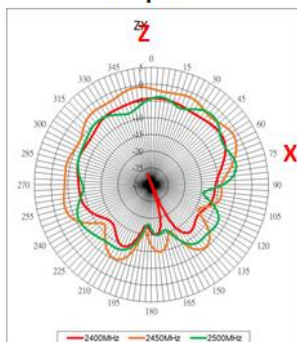
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2-5.4 2D Radiation Pattern

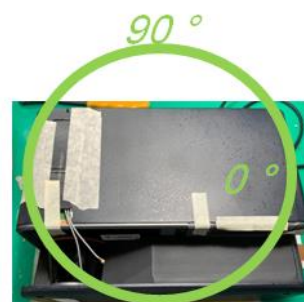
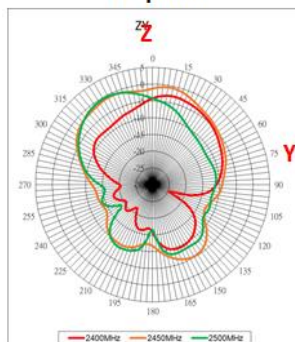
Ant1 @ 2400/2450/2500MHz



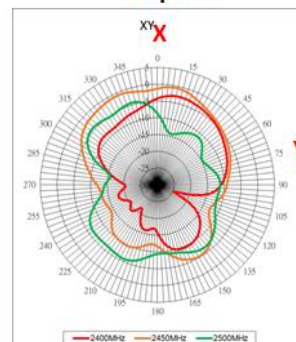
XZ-plane



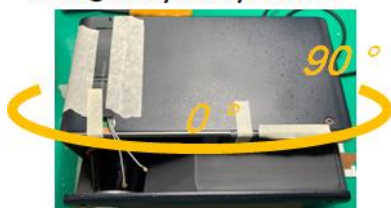
YZ-plane



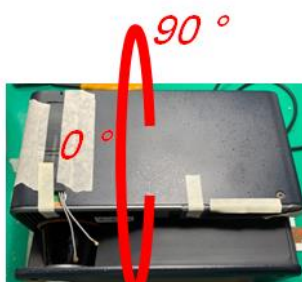
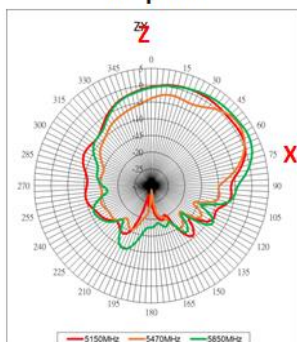
XY-plane



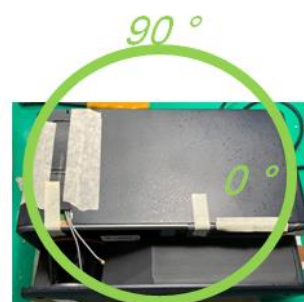
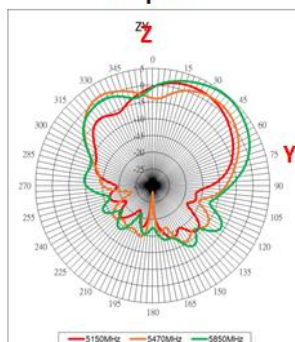
Ant1 @ 5150/54700/5850MHz



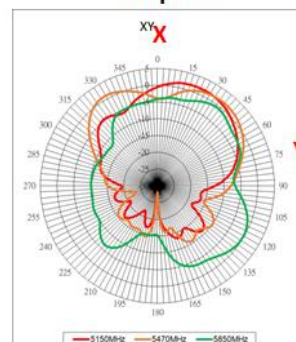
XZ-plane



YZ-plane



XY-plane



UNLESS OTHER SPECIFIED TOLERANCES ON :
X=N/A X.X=N/A X.XX=N/A
ANGLES=N/A HOLEDIA=N/A

SCALE : N/A

UNIT : mm

DRAWN BY: 吳京霖

CHECKED BY: 溫祥能

DESIGNED BY: 劉己聖

APPROVED BY: 謝宗霖

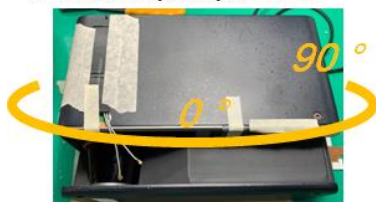
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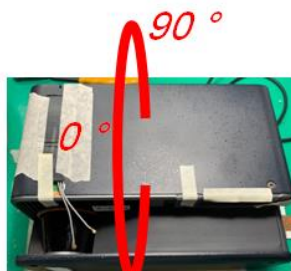
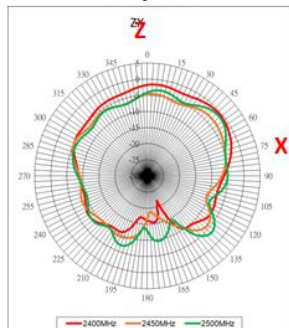
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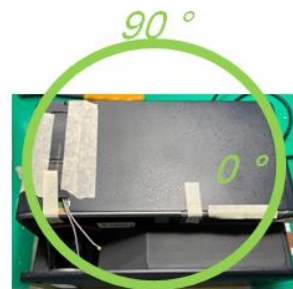
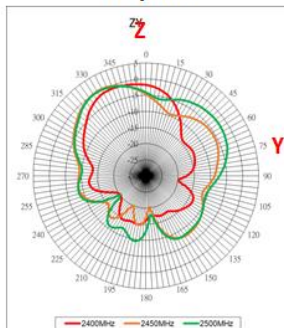
Ant2 @ 2400/2450/2500MHz



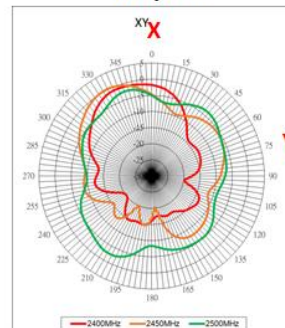
XZ-plane



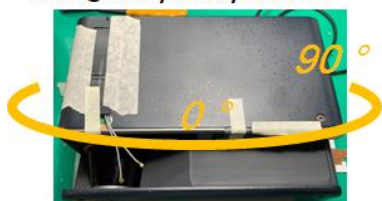
YZ-plane



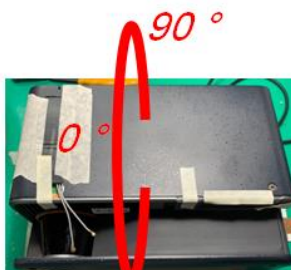
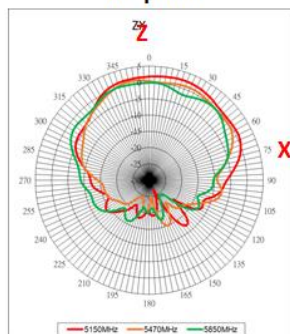
XY-plane



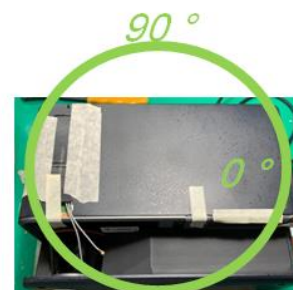
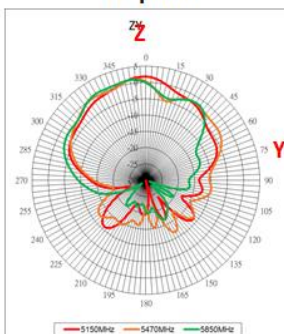
Ant2 @ 5150/54700/5850MHz



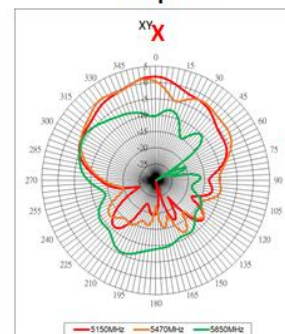
XZ-plane



YZ-plane



XY-plane



UNLESS OTHER SPECIFIED TOLERANCES ON :
 X=N/A X.X=N/A X.XX=N/A
 ANGLES=N/A HOLEDIA=N/A



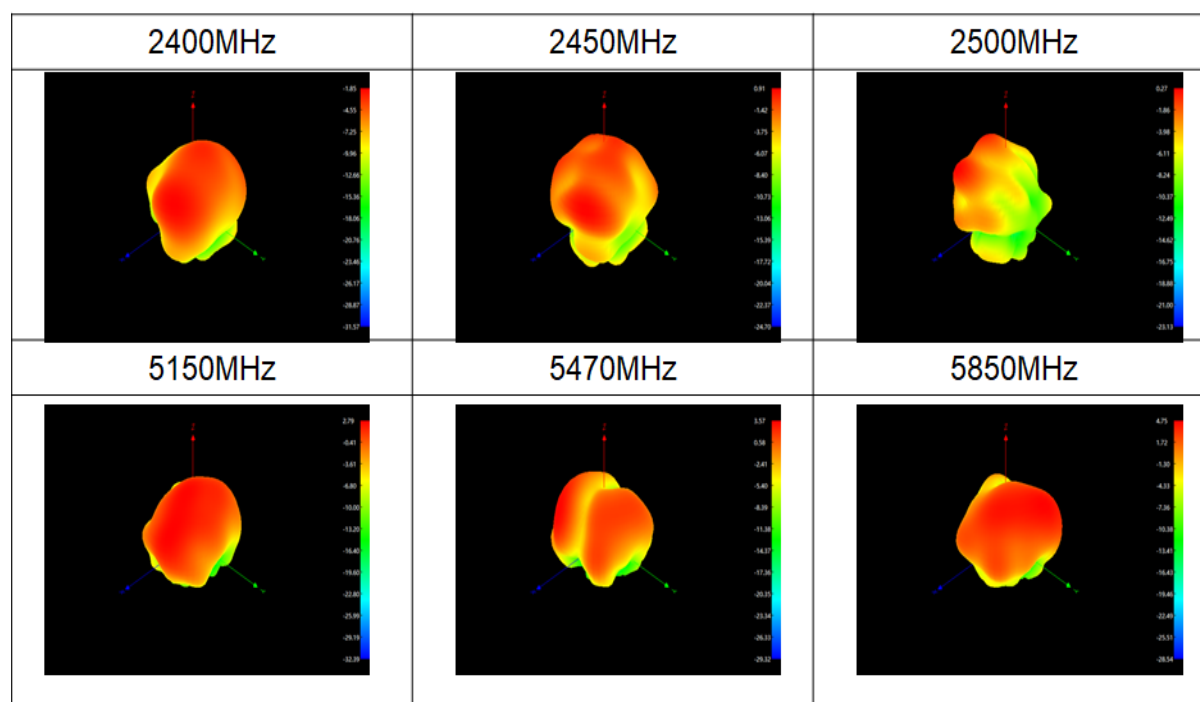
SCALE : N/A	UNIT : mm
DRAWN BY: 吳京霖	CHECKED BY: 溫祥能
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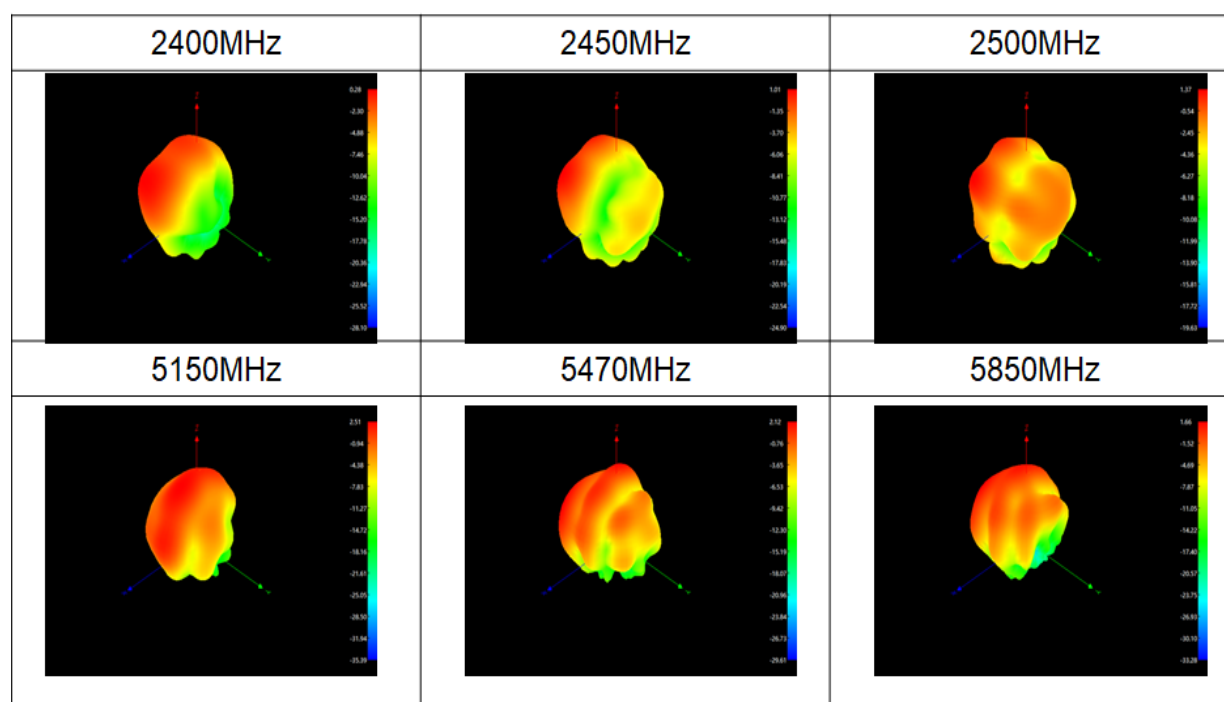
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3D Radiation Pattern

Ant1



Ant2



UNLESS OTHER SPECIFIED TOLERANCES ON :
X=N/A X.X=N/A X.XX=N/A

ANGLES=N/A HOLEDIA=N/A

SCALE : N/A

UNIT : mm

DRAWN BY: 吳京霖

CHECKED BY: 溫祥能

DESIGNED BY: 劉己聖

APPROVED BY: 謝宗霖

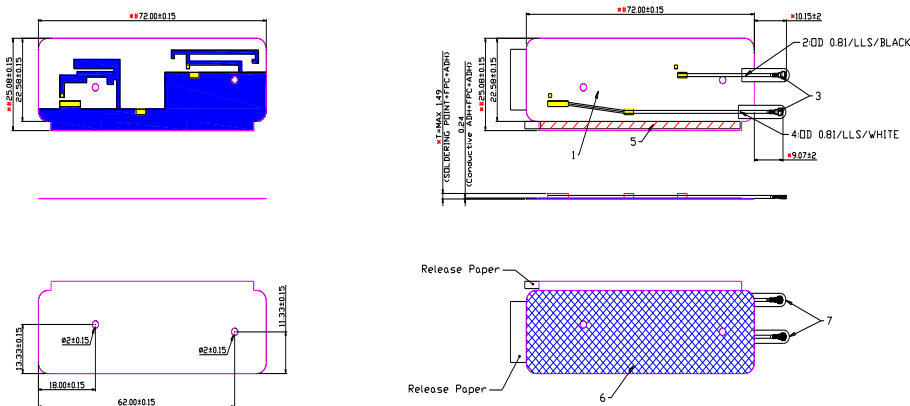
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3. Antenna Drawing :



- FPC NOTES:
1. MATERIAL: ED COPPER 0.5 oz./Pl.1mil
厚度 0.5oz.P[1]mil
 2. FPC THICKNESS: 0.05±0.03mm
厚度 0.05±0.03mm
 3. ORANGE & BLUE COVERED WITH COPPER.
黃色 & 藍色銅箔
 4. YELLOW BARE COPPER, SURFACE TREATMENT: CHEMICAL
黃色裸銅箔, 表面處理: 化學
 5. TOP SURFACE COVERED WITH BLACK INK.
PAD 底外, 正反面黑色油墨
 6. NO SINKS, EJECTOR MARKS, GATES, FLASHES, SILVER STREAKS, JETTING OR OTHER SURFACE IMPERFECTIONS PERMITTED.
外觀無破損不可有缺料, 變形, 潰齒, 刮傷, 任何傷痕, 頂白。

7. MARK: * * * ARE THE KEY DIMENSIONS.
毛邊, 批鋒, 油漬殘留
8. MARK: # # # ARE CPK DIMENSIONS.
* # 表示重要尺寸
9. APPEARANCE CLASS: CLASS 2
外觀等級 CLASS 2

NOTE:

1. 外觀標準, 需完整無破損, 不可有變形、斷污、毛邊、翹曲、裂縫、褶疊等情形。
Appearance standard: They must be complete. It means those must not have the deformation, dirt, burrs, warps, cracks, folds, etc.
2. 工程圖上 * * * 號為重點尺寸標註指示。
Mark: * * * are the key dimensions.
3. 工程圖上 # # # 號為CPK量測尺寸標註指示。
Mark: # # # are CPK dimensions.
4. DQC & FQC 只需量測重點尺寸 & CPK.
CPK & KEY dimensions for DQC & FQC.
5. 不含有一級管理物質。
Not include 1st-grade managed materials.
6. 符合GP要求。
Comply with GP standard.

REV.P0

ITEM	DESCRIPTION	MATERIAL SPECIFICATION	QUAN-TITY	UNIT
1	FPCB	72x25.08x1.49 mm	1	PCS
2	Cable	OD 0.81 LLS BLACK	1	PCS
2	Connector	IPEX MHF 4 I-PEX Equivalent(compatible)	1	PCS
3	Cable	OD 0.81 LLS WHITE	1	PCS
4	Connector	IPEX MHF 4 I-PEX Equivalent(compatible)	1	PCS
5	Conductive Adhesive	JC205	1	PCS
6	Adhesive	3M467	1	PCS
7	Tube	OD 2.0*20 mm	1	PCS

UNLESS OTHER SPECIFIED TOLERANCES ON :
X=N/A X.X=N/A X.XX=N/A

ANGLES=N/A HOLEDIA=N/A

SCALE : N/A UNIT : mm

DRAWN BY: 吳京霖 CHECKED BY: 溫祥能

DESIGNED BY: 劉己聖 APPROVED BY: 謝宗霖

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4. Packing Specification :

- (1) 每 PCS 穿套管。
- (2) 10PCS 裝入 120*80 自封袋。
- (3) 200 包裝入 215*215*213 小內箱中。



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ANGLES=N/A HOLEDIA=N/A



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