



產品承認書

Specification for Approval

客戶 (Customer): 易通展科技股份有限公司

Customer Part No.: MAEAI4120XXW1GV

Product Description: R18(Antenna)

Lynwave Part No.: AOX21X-051048-00

客戶簽核 (Customer Approval)

客戶承認 Customer Approval	核准 (Authorized)	檢驗 (Approved)
	日期： 年 月 日	

內部簽核 (Signature) 日期： 2022 年 02 月 14 日

Approved by	Checked by	Tested by
<i>YungMing</i>	<i>Lisa Wei</i>	<i>Zero Chen</i>

綠億科技股份有限公司

Lynwave Technology Ltd.

Taiwan: 新北市樹林區學成路 655 號 5 樓
5F., No.655, Xuecheng Rd., Shulin Dist., New Taipei City 238701,
Taiwan Tel: 02-35018700 Fax: 02-35019833
E-mail: service@lynwave.com

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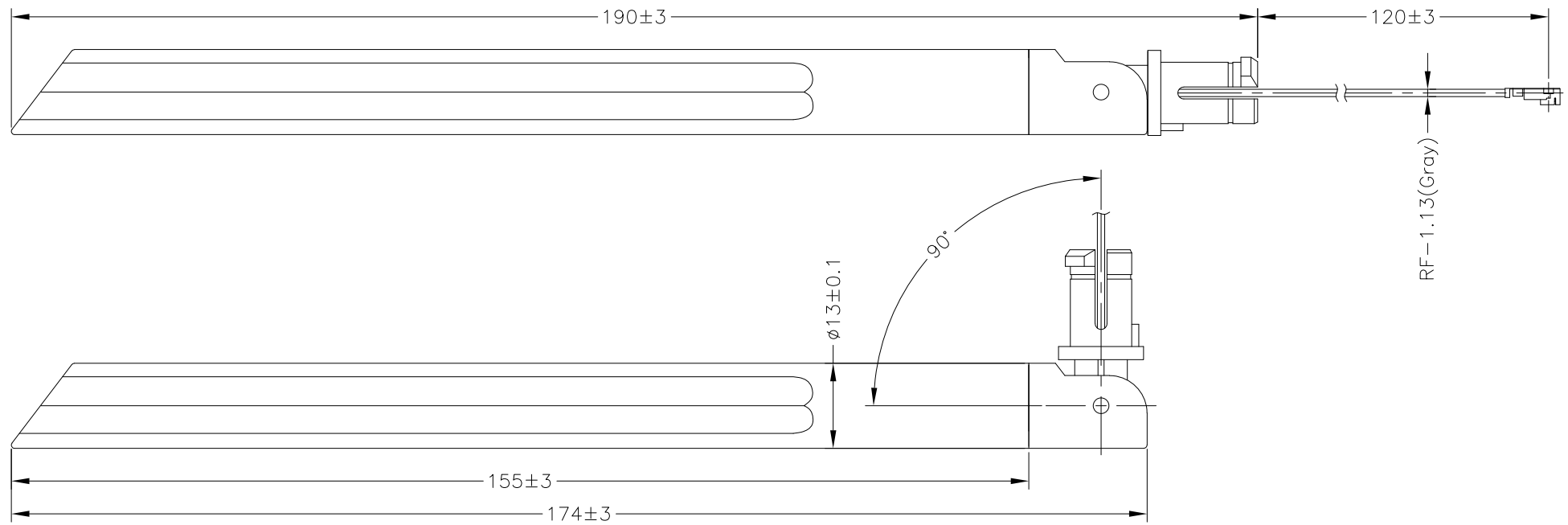
D

C

B

A

Rev	Zone	Description	ENG	Approved	Date



備註：
 1.MHF compatible有方向性，請依照圖面方向生產。
 2.外觀顏色:白色

TOLERANCE	CUSTOMER	PART NO.	DESCRIPTION:		DWG NO.	REV.
			UNIT	SCALE		
XXX. ±1.0	----	----	mm	1:1	ADX21X-051048-00	A0
XX. ±0.5	PROJECTION					
X. ±0.3						
.X ±0.1	APPROVED:	DESIGNED:	DRAWN:			
No. Description	Specification	Qty	.XX ±0.05	-----	Anna	



F

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D

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B

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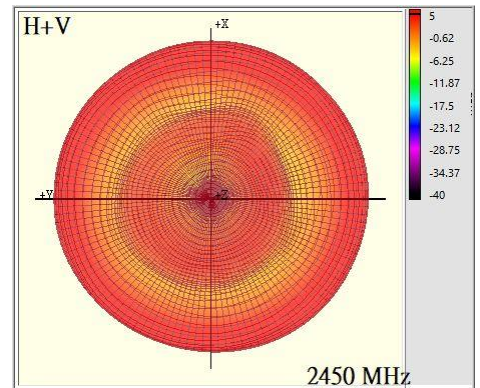
Features

- Single band IEEE 802.11 b/g/n/ax standard
- Case mounting or on board mount
- High efficiency
- Quick integration



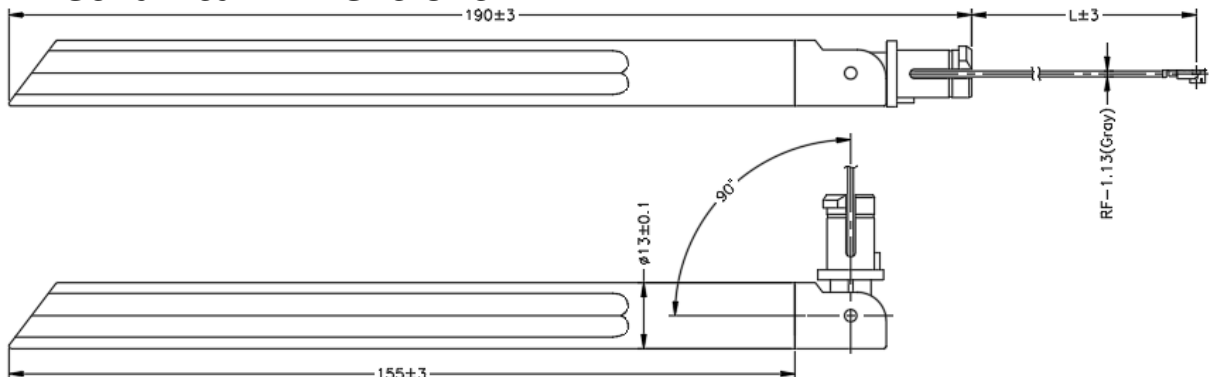
Specification(Preliminary)

Frequency (MHz)	2400 ~ 2500
Peak Gain (dBi)	4.8
VSWR	2.0:1
Power (Watts)	1
Impedance (Ohms)	50
Dimension (mm)	Ø13 x 190
Color	White
Connector	MHF compatible
Cable length (mm)	120
Operating Temp (°C)	-40°C ~ +85°C



2.45GHz

Mechanical Dimensions



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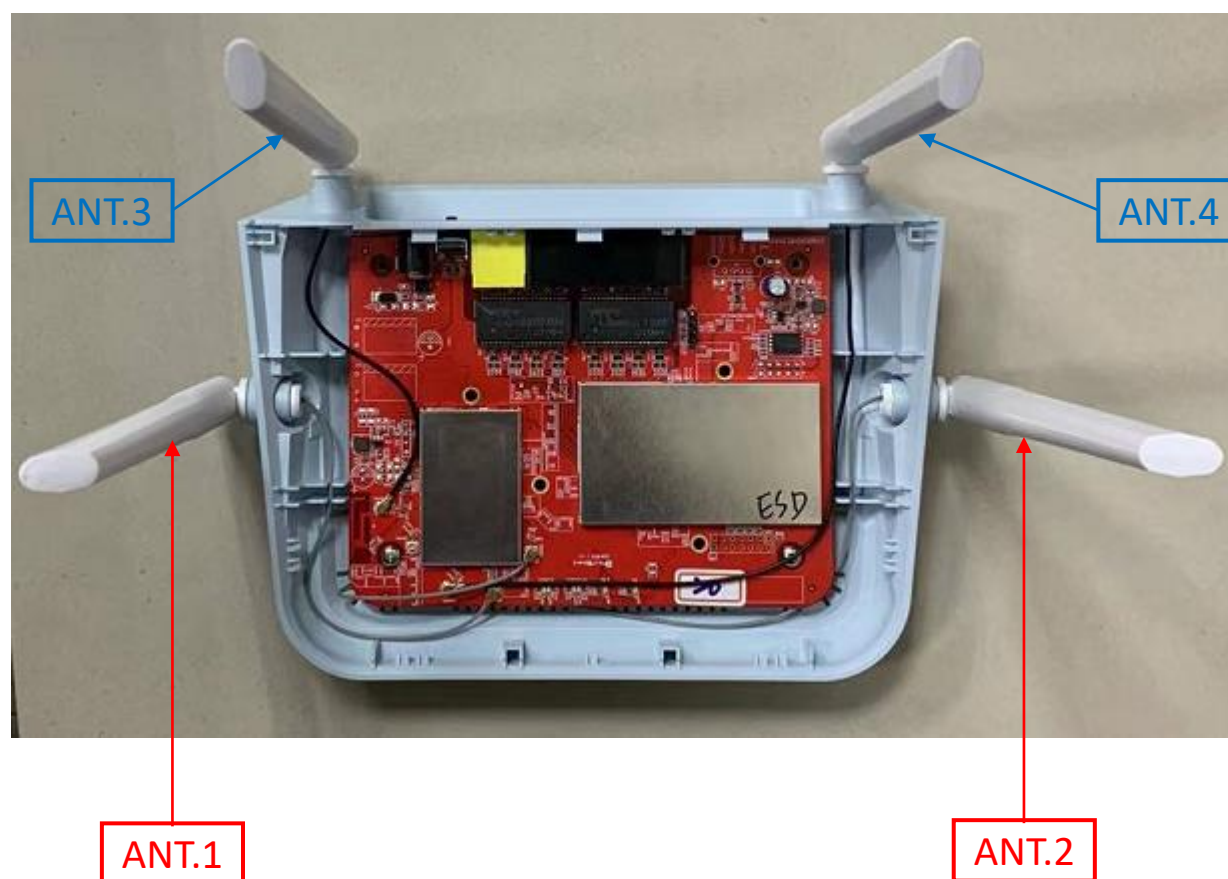
Antenna & Thermal solution provider

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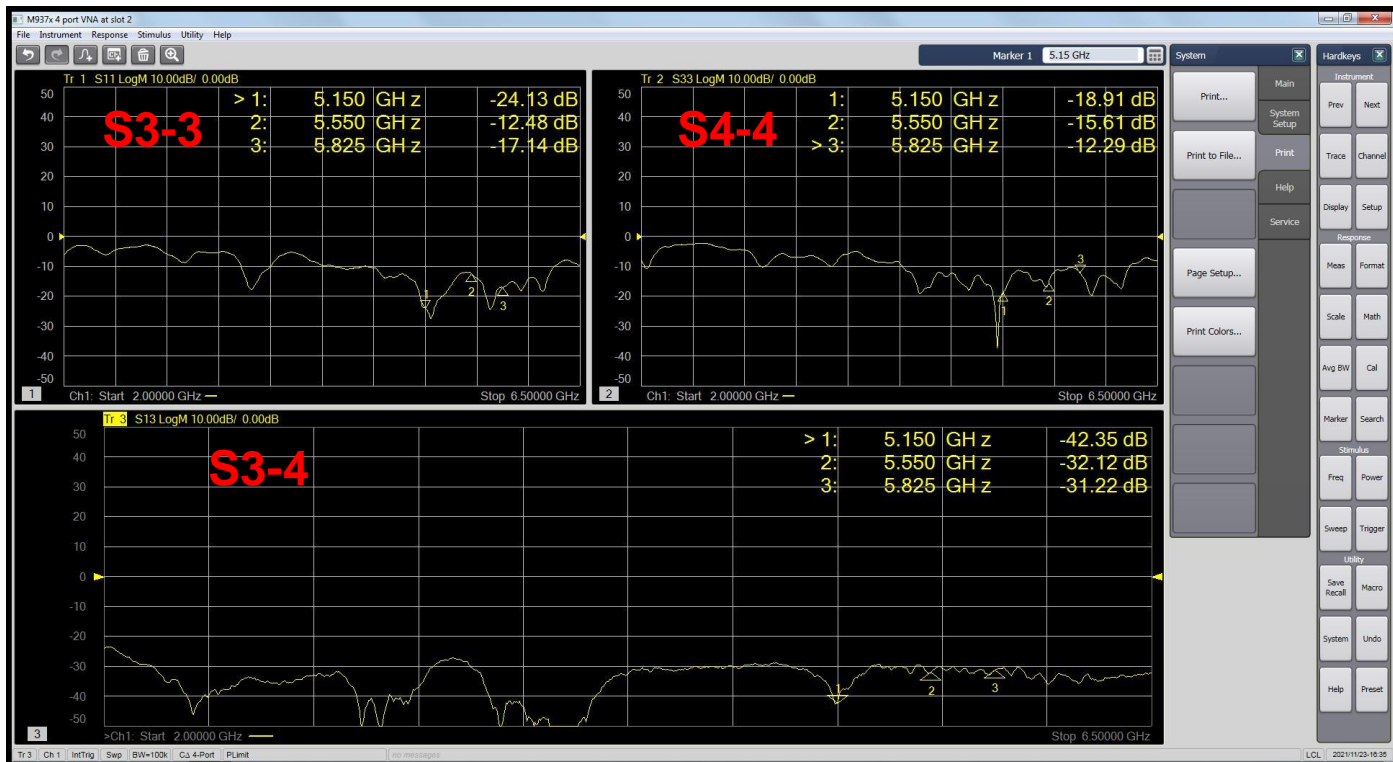
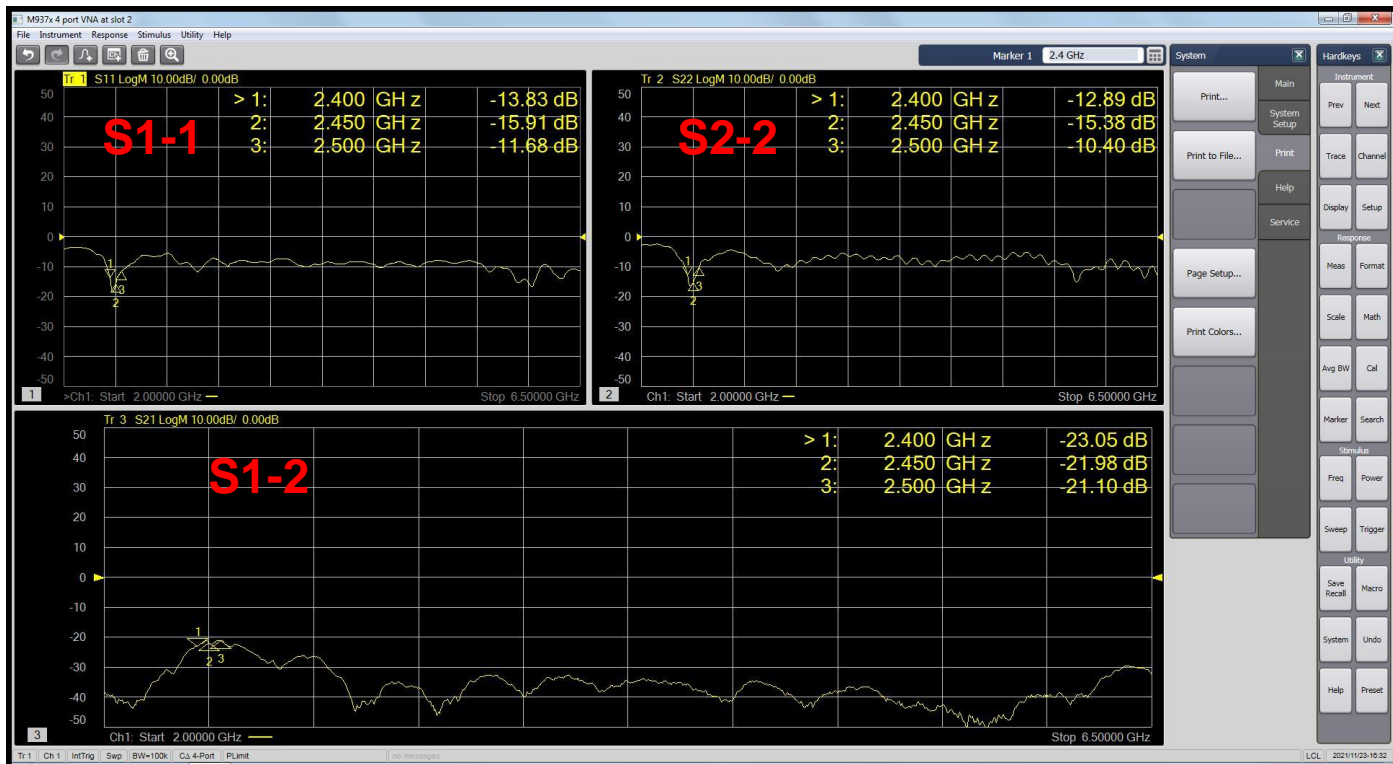
- A. Antenna RF Characteristics
 - 1. Antenna Placement
 - 2. S-Parameters
 - 3. Equipment
 - 4. Gain Table
 - 5. 2D/3D Radiation Pattern
 - 6. Summary

Antenna Placement

Antenna	Description	Frequency
Ant.1	Single 2.4G	2400 MHz ~ 2500 MHz
Ant.2	Single 2.4G	2400 MHz ~ 2500 MHz
Ant.3	Single 5G	5150 MHz ~ 5825 MHz
Ant.4	Single 5G	5150 MHz ~ 5825 MHz



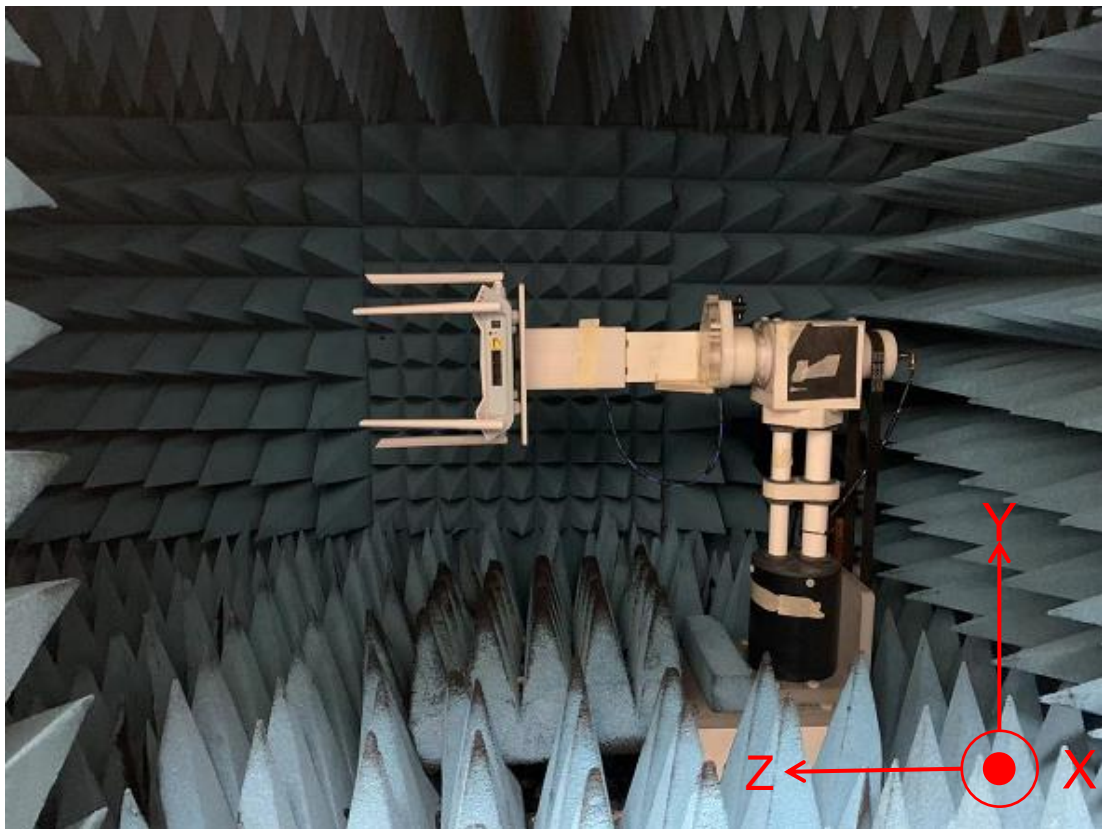
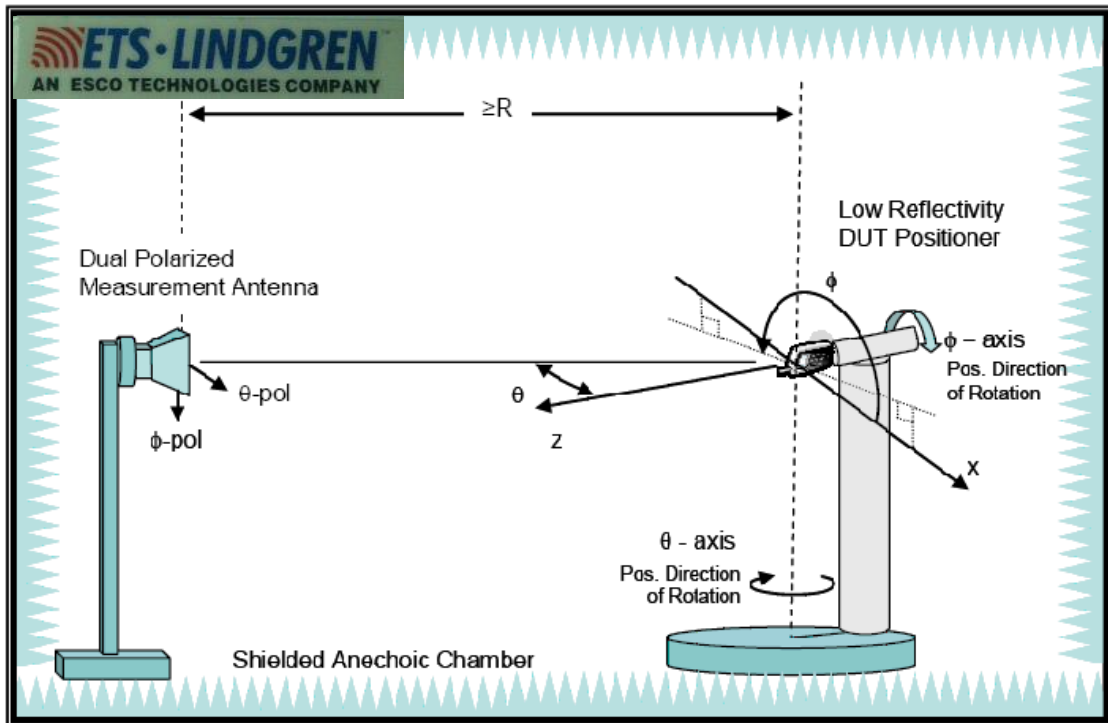
S-Parameters



S-Parameters



Equipment : ETS Chamber



Gain Table

Ant.1			
Frequency (MHz)	2400	2450	2500
Efficiency(%)	73	75	71
Peak Gain(dBi)	4.1	4.6	4.4
Ant.2			
Frequency (MHz)	2400	2450	2500
Efficiency(%)	72	74	70
Peak Gain(dBi)	3.9	4.2	4.0
Ant.3			
Frequency (MHz)	5150	5550	5825
Efficiency(%)	75	74	72
Peak Gain(dBi)	4.5	5.0	4.9
Ant.4			
Frequency (MHz)	5150	5550	5825
Efficiency(%)	73	76	75
Peak Gain(dBi)	4.6	4.8	4.4

The antenna characteristics

- Return loss < -10dB in operating band
- Isolation
 - All Band > 20 dB
- Efficiency
 - WIFI 2.4 GHz Band $\geq 70\%$
 - WIFI 5 GHz Band $\geq 70\%$
- Gain
 - WIFI 2.4 GHz Band 3.9~4.6dBi
 - WIFI 5 GHz Band 4.4~5.0dBi

Ant.1_2.4GHz 2D.3D Radiation Pattern

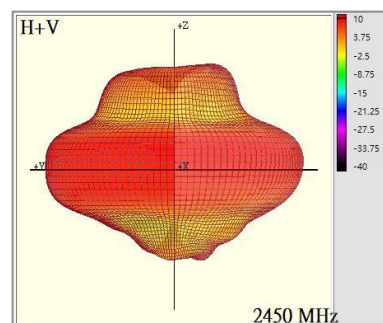
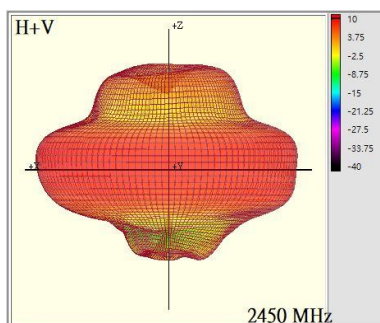
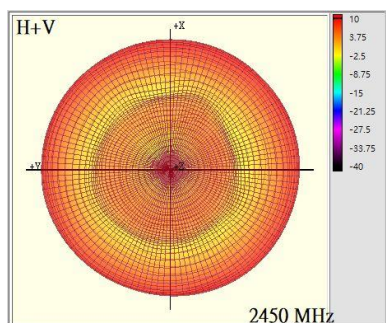
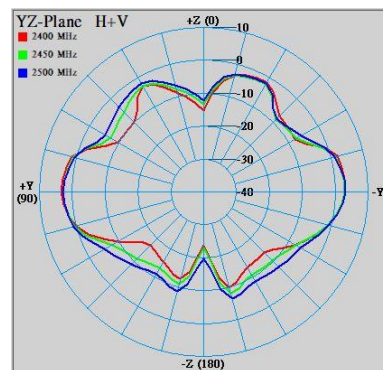
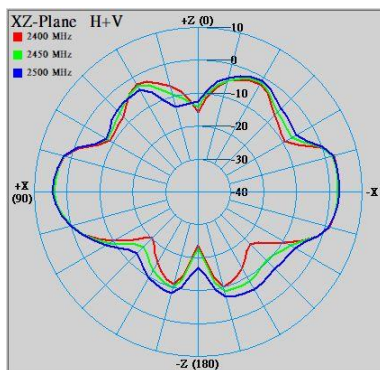
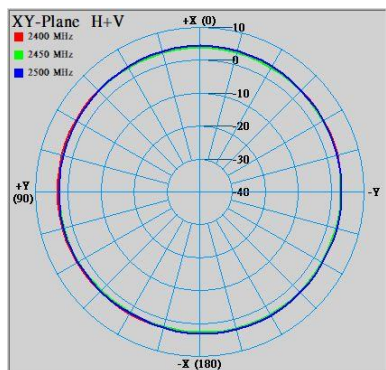
Frequency(MHz) : 2D. 2400~2500
3D. 2450

Radiation Pattern :

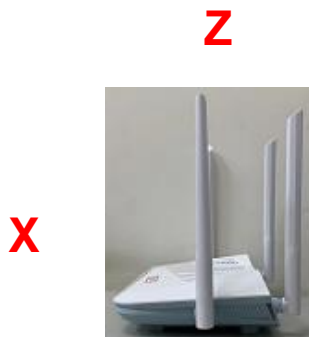
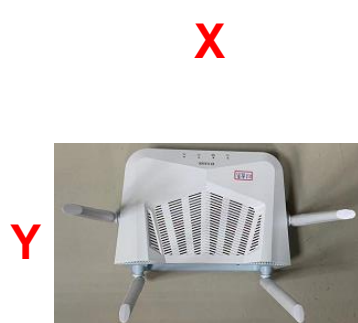
Azimuth Plane

Elevation Plane
phi = 0

Elevation Plane
phi = 90



Setup :

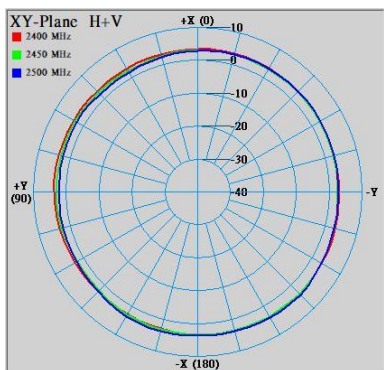


Ant.2_2.4GHz 2D.3D Radiation Pattern

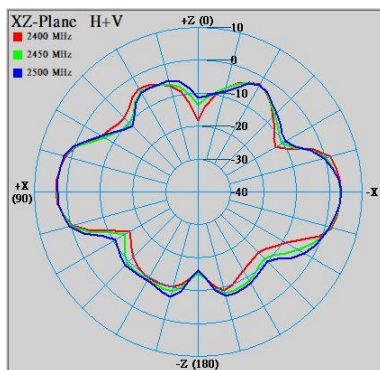
Frequency(MHz) : 2D. 2400~2500
3D. 2450

Radiation Pattern :

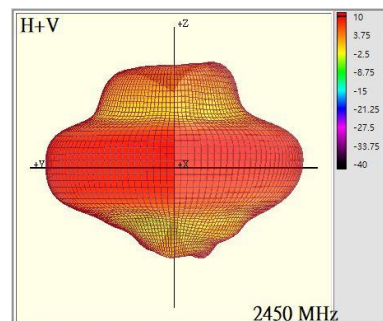
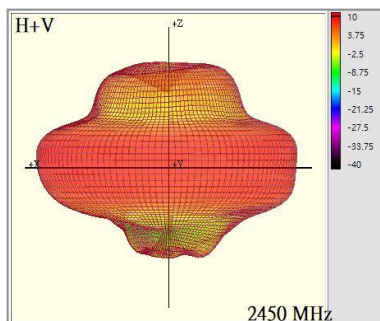
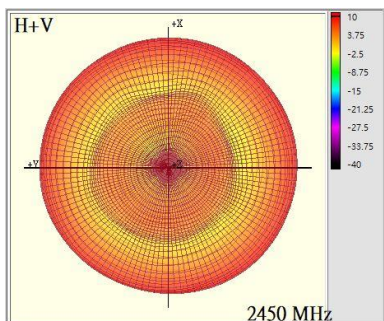
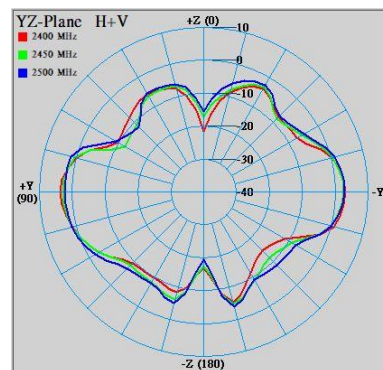
Azimuth Plane



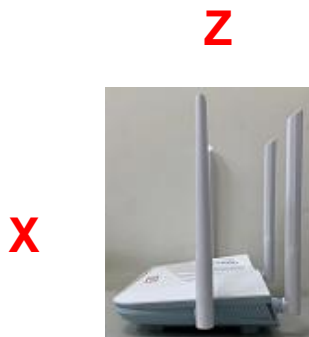
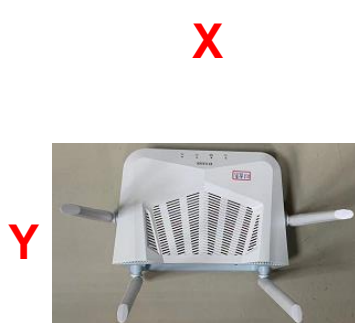
Elevation Plane
phi = 0



Elevation Plane
phi = 90



Setup :

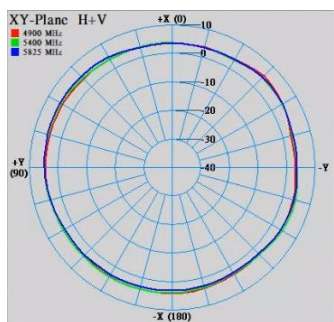


Ant.3_5GHz 2D.3D Radiation Pattern

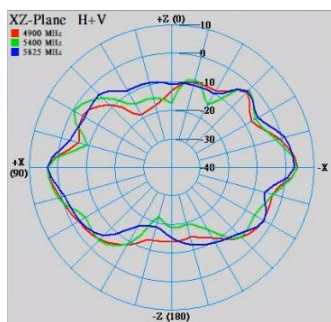
Frequency(MHz) : 2D. 5150~5825
3D. 5550

Radiation Pattern :

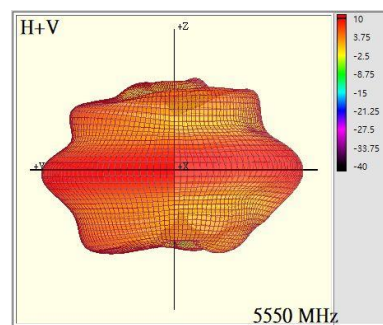
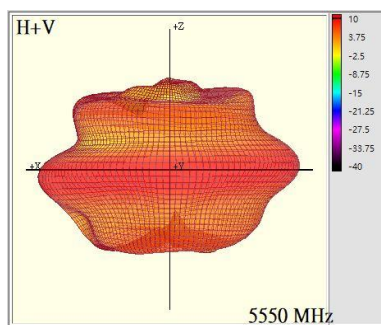
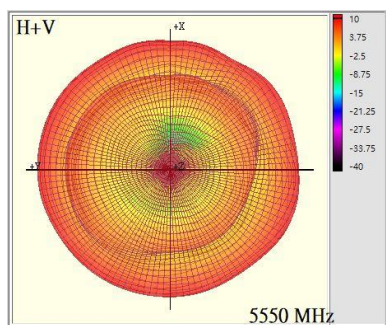
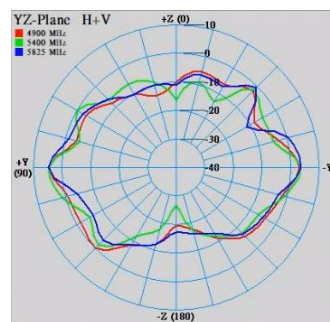
Azimuth Plane



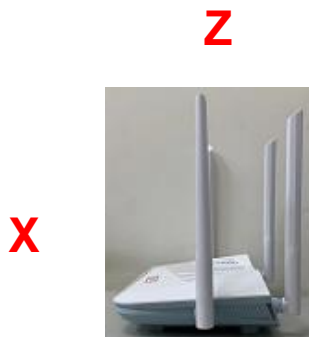
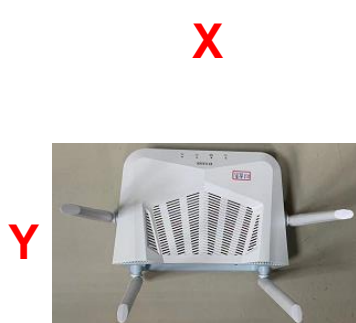
Elevation Plane
phi = 0



Elevation Plane
phi = 90



Setup :

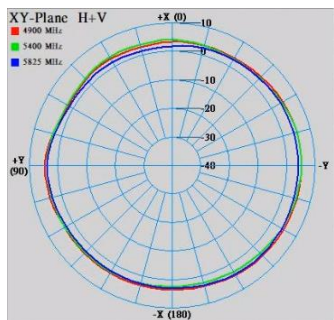


Ant.4_5GHz 2D.3D Radiation Pattern

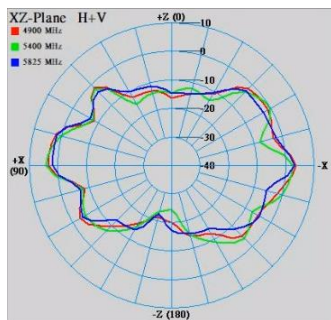
Frequency(MHz) : 2D. 5150~5825
3D. 5550

Radiation Pattern :

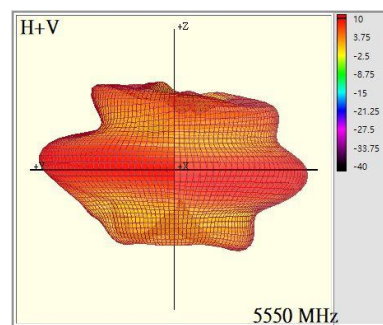
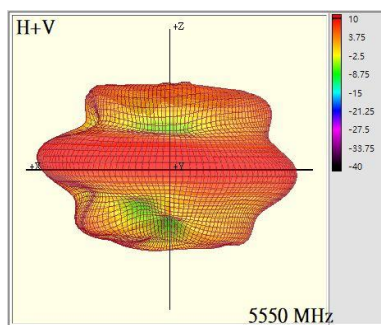
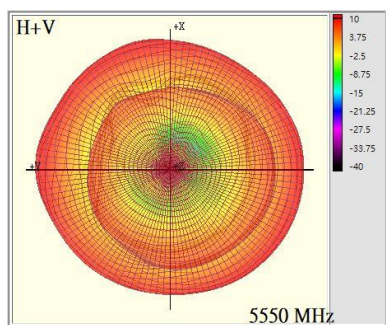
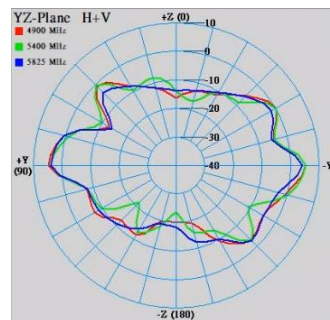
Azimuth Plane



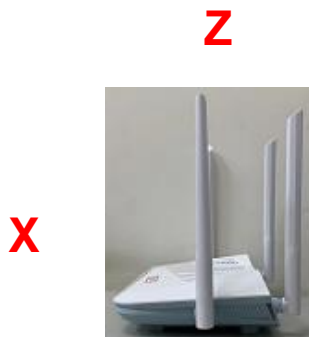
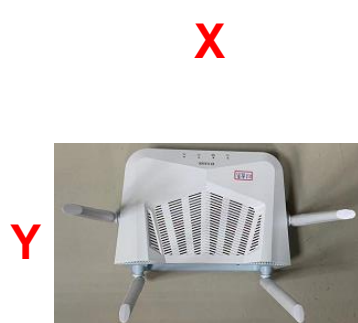
Elevation Plane
phi = 0



Elevation Plane
phi = 90



Setup :



Summary

- The antenna test is finish ◦

www.lynwave.com



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<https://www.linkedin.com/company/lynwave-technology-ltd./>



<https://lynwave.en.alibaba.com/>

熔體流動測試報告

部門	注塑		圖面版本	/版		
料號	六脚刀鋒天线		測試日期	2021/8/20		
模號			塑膠材質	TPEE		
穴號 / 穴數			荷重 kg	2.16		
設定溫度℃	260		烘烤時間H	烘烤時間2H, 烘烤溫度120℃		
測試結果 (單位:g/10min)	MI值規格	第一次切料	第二次切料	第三次切料	MI平均值	判定
	≦20	14.6	15.0	15.4	15.00	OK

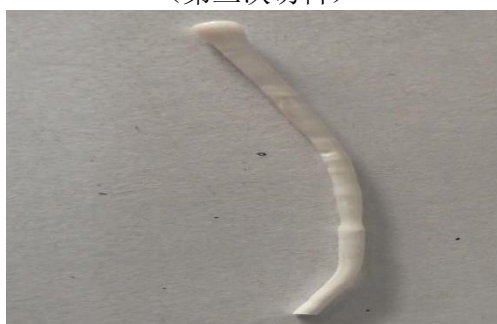
(第一次切料)



(第二次切料)



(第三次切料)



測
試
照
片

备注：测试样品由QC提供

測試判定	<input checked="" type="checkbox"/> 合格 <input type="checkbox"/> 不合格	主管審核	測試者
		向继江	杨辉丽

冰醋酸試驗報告

生产部门	注塑	試驗日期	2021/8/20
品名規格	六脚刀锋天线	綜合判定	OK
零件編碼			

試驗目的：新產品開發試驗 設計變更試驗
量產追蹤試驗 其他特殊需求試驗

設備名稱：冰醋酸 99.5%

試驗規格：浸泡冰醋酸3分鐘後，用清水沖洗乾淨，用20倍放大鏡全檢不可破裂

試驗時間：3 分鐘

試驗數量：3PCS



試驗前产品状态



試驗后产品状态

Sample	外觀檢驗	判定
1	無破裂	OK
2	無破裂	OK
3	無破裂	OK

補充說明：
 測試樣品由QC提供.

核 准	张昊	確 認	向继平	製 表	杨辉丽
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實照



实际生产地&零件单重

生产地	零件	材质	单重
广东东莞	杆套	TPEE	9.530g
广东东莞	上固	PC+PBT	1.867g
广东东莞	下固	PC+PBT	1.449g
广东东莞	铆钉	POM	0.025g

Antenna 成品編碼原則

共 14 碼

X X X X X X - X X X X X X - X X

① ② ③ ④~⑤ ⑥ ⑦~⑧ ⑨ ⑩~⑪ ⑫ 【⑬~⑭】←2017 年改為最後二碼流水號

E.g.

ALA120-092031-125055

ALA150-051020-000000

ALX17P-051XX0-00

ALX18M-221AA0-00

AEX19P-051AA0-00

Number	Item
①	Product category A – Antenna C – Cable Assembly → 另有 Cable Assembly 編碼原則 S – Smart antenna M – Module I – Integration system O – Outdoor antenna (e.g. Patch)
②	Research and development L – Lynwave O – Purchased E – OEM
③	應用類別碼 X –
④~⑤	Years 取西元的末 2 碼, 例: 2018 年取 “18”
⑥	Antenna Material P – PCB F – FPCB M – Metal X – Other

<p>⑦~⑧</p>	<p>Frequency band</p> <p>01 – LTE (791~960MHz,1710~2170MHz,2500~2690MHz)</p> <p>02 – LoRa (780~1020 MHz)</p> <p>03 – Z-wave (868~915MHz)</p> <p>04 – DECT (1880~1920MHz)</p> <p>05 – 11 b / g / n (2400~2500MHz)</p> <p>06 –低頻 (470~510MHz)</p> <p>07 – 2G/3G (868~960MHz,1710~2170MHz)</p> <p>08 – 13.56MHz</p> <p>09 – 11 a / n / ac / ax (5150~5825MHz)</p> <p>10 – GPS (1575MHz) 、 (1565~1585MHz)</p> <p>11 –其他 (e.g.RFID)</p> <p>12 – Numerous Frequency band</p> <p>15 – 5GNR</p> <p>16 – WiFi 6E (5950~7225MHz)</p> <p>21 – GSM+IMT (880/920/960MHz,1920/2000/2170MHz)</p> <p>22 – 11 a / b / g / n / ac / ax (2400~2500MHz+5150~5825MHz)</p> <p>23 – GPRS (850/900/1800/1900MHz)</p>
<p>⑨</p>	<p>Antenna type</p> <p>0 – Monopole</p> <p>1 – Dipole</p> <p>2 – PIFA</p> <p>3 – Loop</p> <p>4 – Chip</p> <p>5 – Coil</p> <p>6 – Numerous types</p> <p>7 – Patch</p>
<p>⑩~⑪</p>	<p>Antenna gain</p> <p>XX – Embedded 及 Other product 適用 → 僅 2017 年使用 目前不使用</p> <p>AA – Embedded 及 Other product 適用</p> <p>----- ↓ 以下 patch 及 外接 dipole 適用</p> <p>01 – 1 dBi</p> <p>02 – 2 dBi</p> <p>…以此類推</p>
<p>⑫</p>	<p>流水號 (主體不同時)</p> <p>0 ~ 9 ~ A ~ Z (不使用 I 與 O) , 共 34 碼可用</p>
<p>⑬~⑭</p>	<p>流水號 (線材/輔料不同時)</p> <p>00~99</p>

水口料比例如下：

水口料比例		
材料	原料	水口
POM	100%	0%
TPEE	100%	0%
PC+PBT	100%	0%

LYNwave 綠億科技股份有限公司

LYNwave Technology Limited

包裝規範書

產品名稱	Dipole天線	客戶名稱		版次	A
綠億料號		客戶料號		製作日期	2021/8/5

產品包裝說明

產品包裝圖示

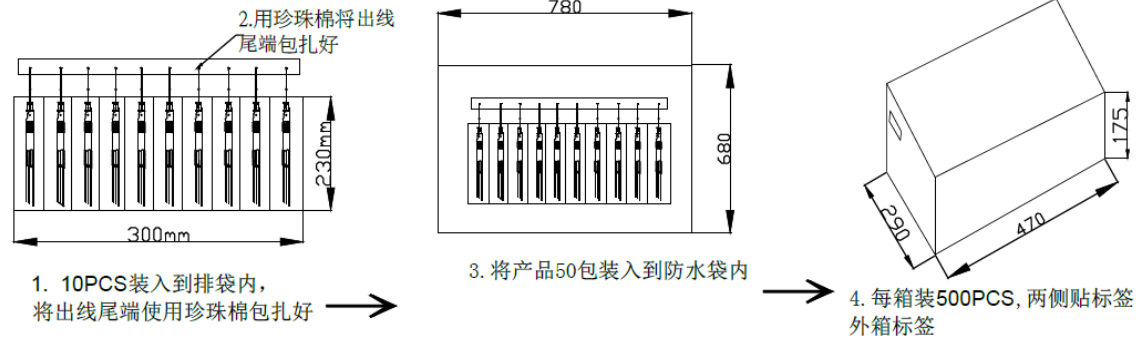
一、包裝：

- (1) 10 pcs/排袋
- (2) 將出線尾端使用珍珠棉包紮好
- (3) 將50包裝入到防水袋內
- (4) 每箱500 pcs

二、裝箱：

- (1) 每箱50袋
- (2) 外箱須貼外箱標籤
- (3) 封箱並用打包袋固定

註：以實際裝箱數量為準



核准：徐永銘

審核：張良鉅

製表：魏詩怡