產 品 承 認 書

Specification for Approval

客戶 (Customer): 訊舟科技股份有限公司

Customer Part No.: 1681-00000211-50Z

Product Description: EW-7822UNX

Lynwave Part No.: ALX21M-222AA8-01

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： 2023 年 06 月 06 日

Approved by	Checked by	Tested by
YungMing	*Lisa Wei*	*Zero Chen*

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

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Taiwan Tel: 02-35018700 Fax: 02-35019833

E-mail: service@lynwave.com

Contents

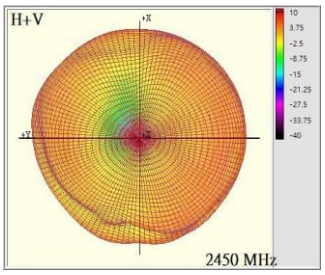
ALX21M-222AA8-01

Features

- Dual band IEEE 802.11 a/b/g/n/ac/ax standard
- 2+5GHz indoor embedded Omni-directional antenna
- High efficiency and quick integration

Applications

- USB Dongle



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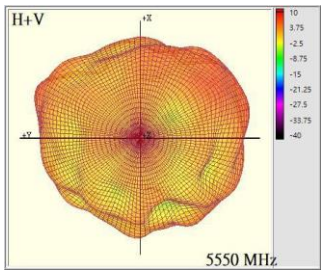

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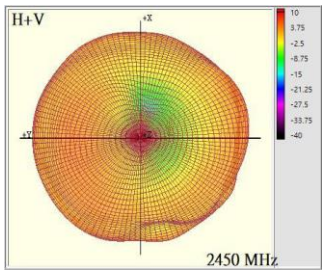

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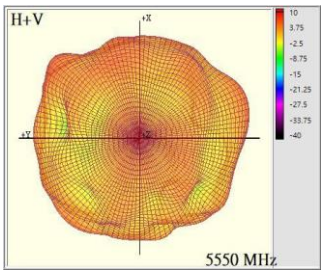


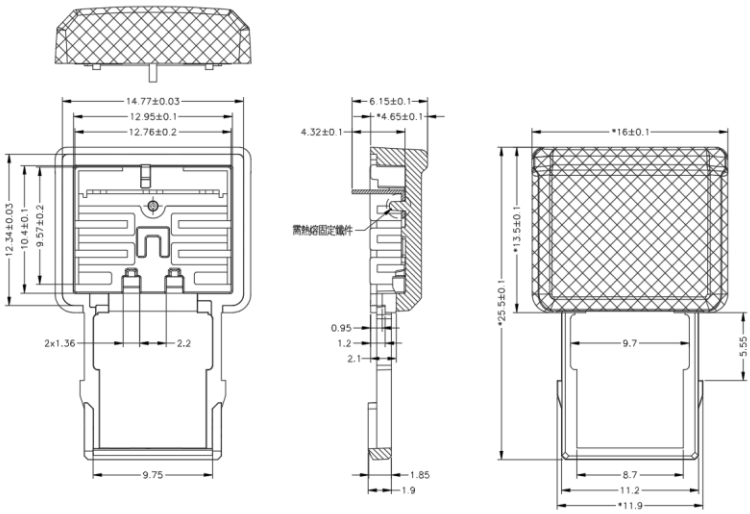
Ant2

Electrical Specification

Category	Specification			
Antenna	1		2	
Frequency (MHz)	2400 - 2500	5150 - 5825	2400 - 2500	5150 - 5825
Peak Gain (dBi)	-0.6	2.6	-0.9	3
VSWR	2.5 : 1			
Polarization	Linear			
Power (Watts)	1			
Impedance (Ohms)	50			
Type	PIFA			

Mechanical Specification

Category	Specification
Dimension (mm)	12.76 x 9.57 x 4.32
Thickness (mm)	0.3
Weight (g)	TBD
Connector	N/A
Cable	N/A
Cable Length (mm)	N/A
Material	Metal (SUS430)
Operating Temp (°C)	-40°C ~ +85°C
Storage Temp (°C)	23 ± 5°C
Storage Humidity (%)	30% ~ 70%



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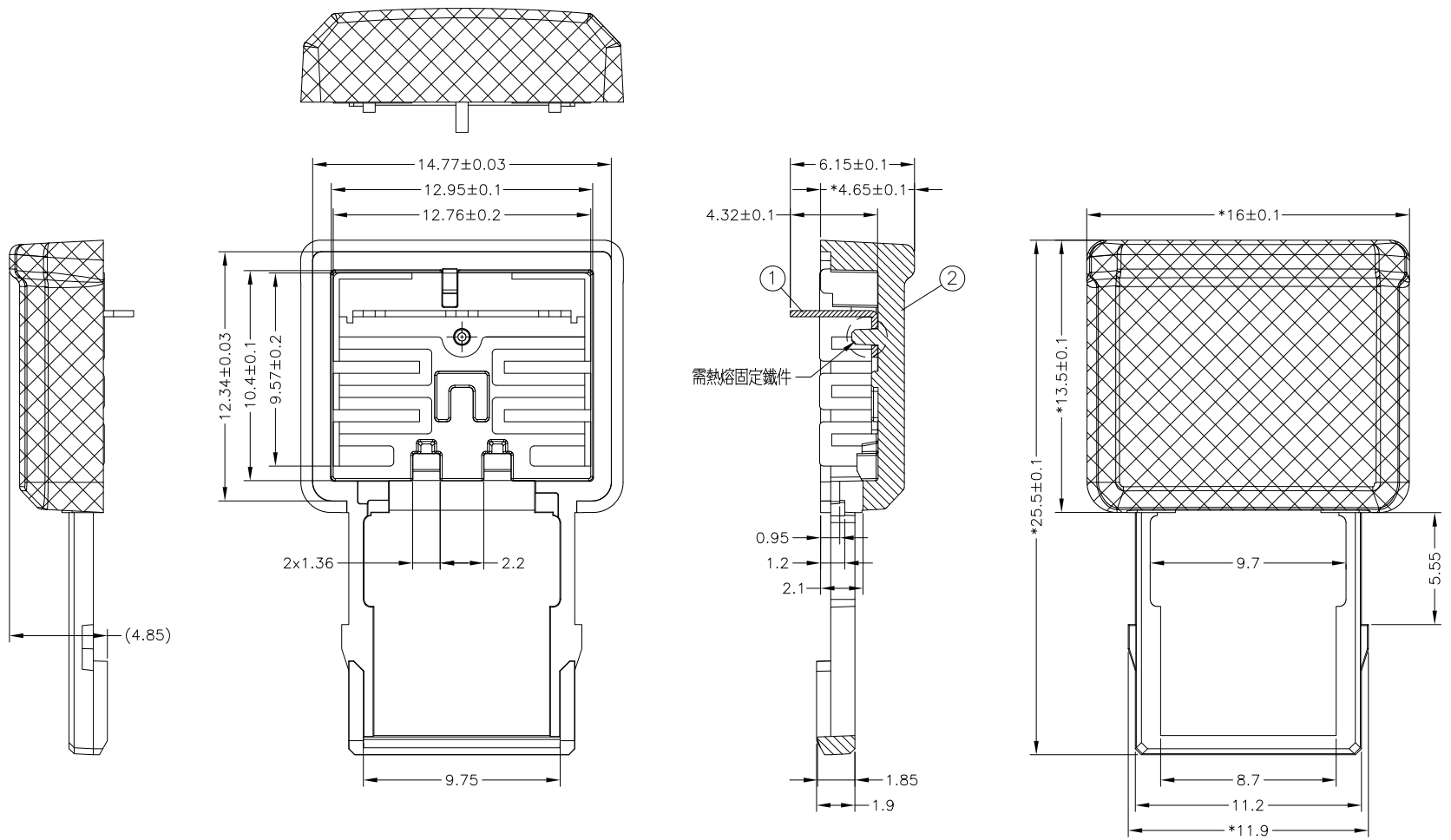
Website: www.lynwave.com
Tel: +886 2 3501 8700
Email: service@lynwave.com

Rev	Zone	Description	ENG	Approved	Date
A1		增加尺寸標柱			2023/06/06



備註:

1. ⊠ :曬紋MT11010

No.	Description	Specification	Qty
2	Cover	L25.5 x W16 x H4.85mm, COLOR: BLACK, MATERIAL: PA	1
1	鐵件	L12.76 x W9.57 x H4.32 x T0.3mm, SUS430鍍鎳	1

TOLERANCE	
0~6	±0.05
6~30	±0.10
30~80	±0.15
80~180	±0.20
180~315	±0.25

CUSTOMER	PART NO.	DESCRIPTION:	DWG NO.	REV.
----	----	Antenna	ALX21M-222AA8-01	A1

PROJECTION	UNIT	SCALE	SIZE	SHEET
⊕ ⊣	mm	4:1	A3	1/1

APPROVED:	DESIGNED:	DRAWN:
Alex Lee	Alex Huang	Anna

LYNwave
www.lynwave.com

LYNwave Technology

Antenna & Thermal solution provider

2022

www.lynwave.com

Antenna Test Report

Project Name: **EW-7822UNX**

Model Name:

Feature: **Wifi Dual Band**

Application: **Dongle**

Date	Owner	Revision
01/17	Alex	1. Antenna passive measurement with V1 mockup
02/07	Zino	1. Antenna passive measurement with V1 mockup (new thermal sol.)
05/04	Zino	1. Antenna passive measurement with V2 mockup (without heatsink)
06/23	Zino	1. Antenna passive measurement with T2 mockup
07/06	Zino	1. Add USB GND
07/18	Zino	1. Antenna passive measurement with T3 mockup (Grounding USB)

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Table of Contents

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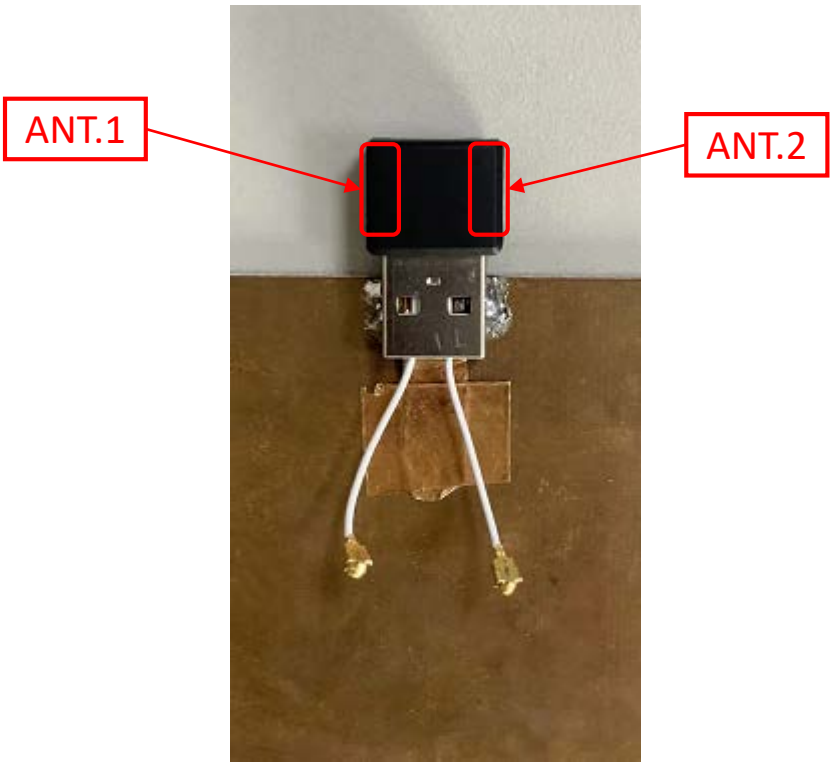
Antenna Placement

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



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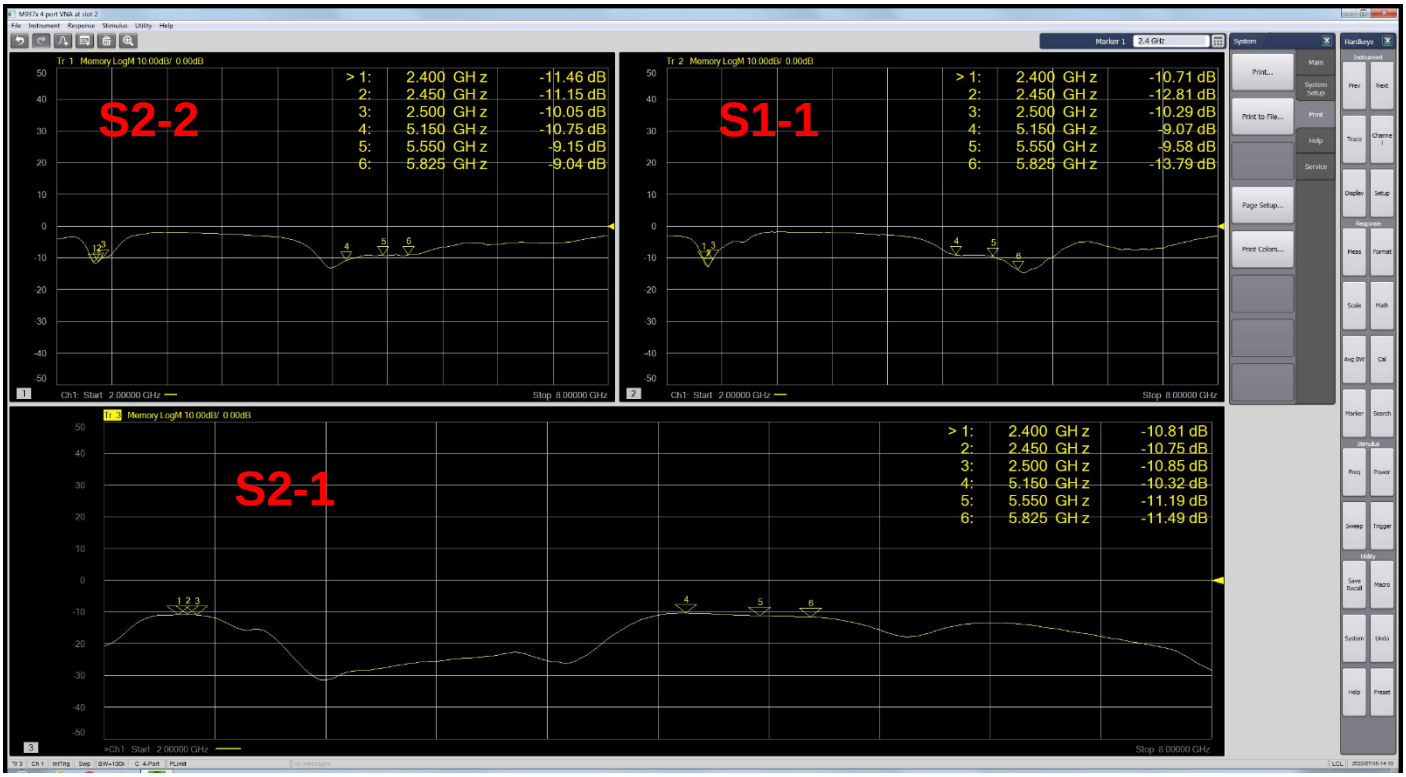
S-Parameters



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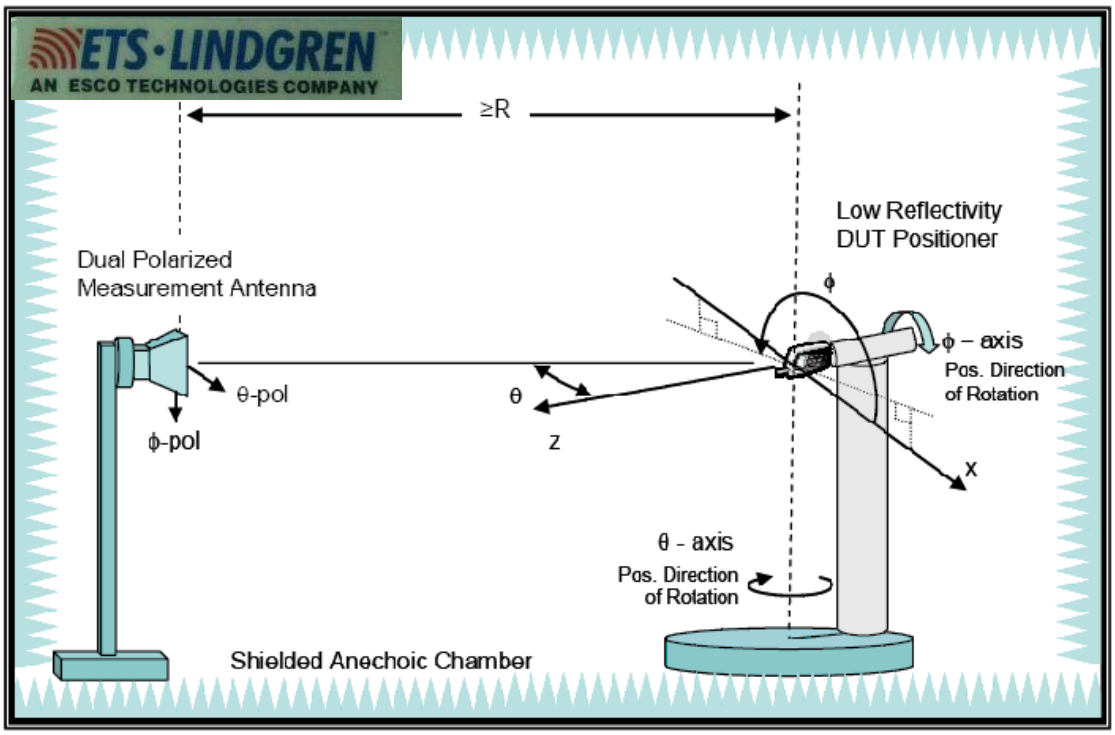
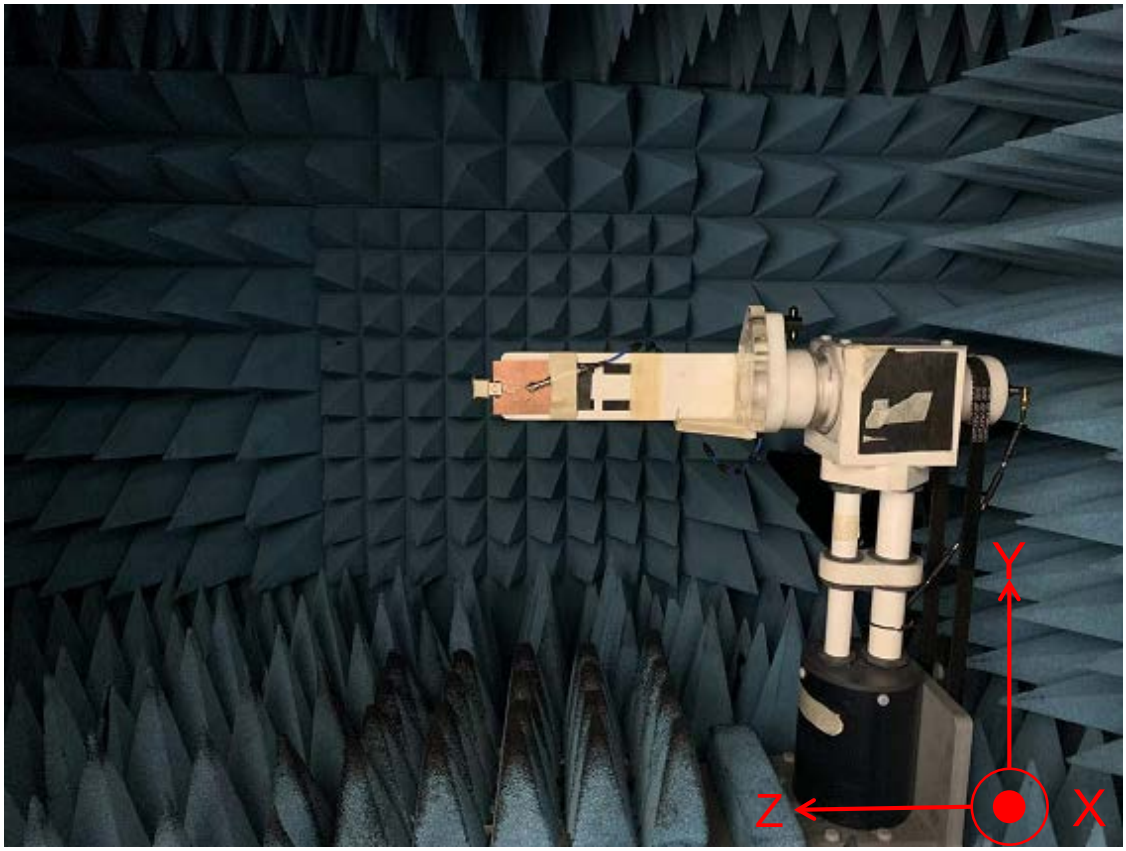
Equipment :
ETS Chamber





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Gain Table

Ant.1						
Frequency (MHz)	2400	2450	2500	5150	5550	5825
Efficiency(%)	31	32	33	42	43	42
Peak Gain(dBi)	-1.4	-0.9	-0.6	0.4	1.8	2.6
Ant.2						
Frequency (MHz)	2400	2450	2500	5150	5550	5825
Efficiency(%)	33	33	34	41	43	43
Peak Gain(dBi)	-1.7	-1.1	-0.9	0.5	2.8	3.0

The antenna characteristics

- Return loss < -8dB in operating band
- Isolation
  - All Band > 10 dB
- Efficiency
  - WIFI 2.4GHz Band ≥ 30%
  - WIFI 5GHz Band ≥ 40%
- Gain
  - WIFI 2.4GHz Band -1.7 ~ -0.6dBi
  - WIFI 5GHz Band 0.4 ~ 3.0dBi

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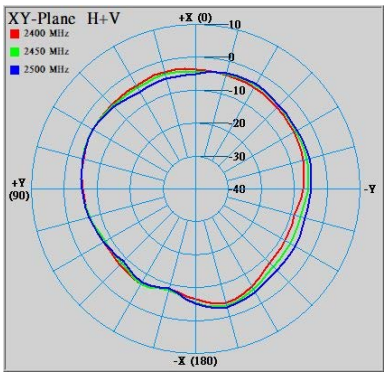
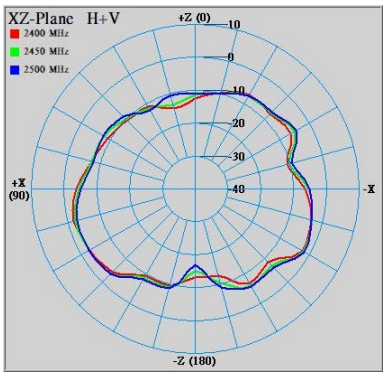
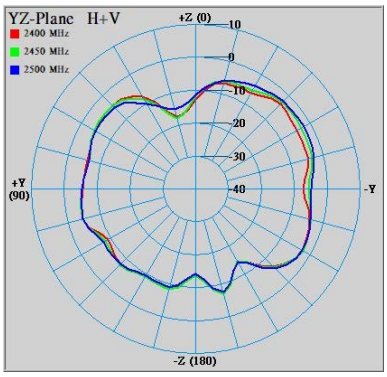
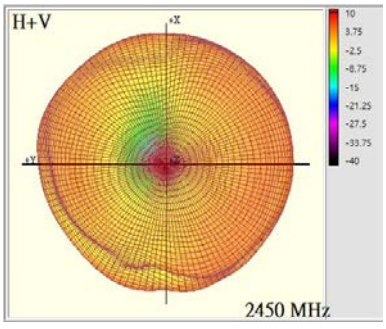
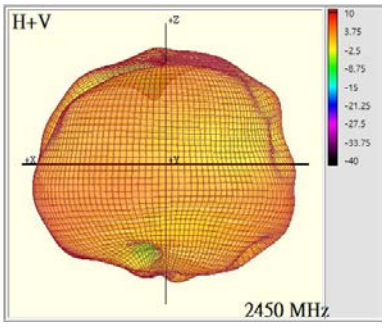
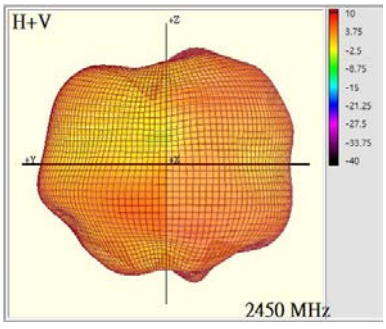
Ant.1_ 2D.3D Radiation Pattern
Frequency(MHz) : 2D. 2400~2500
3D. 2450

Radiation Pattern :

Azimuth Plane	Elevation Plane phi = 0	Elevation Plane phi = 90
		
		

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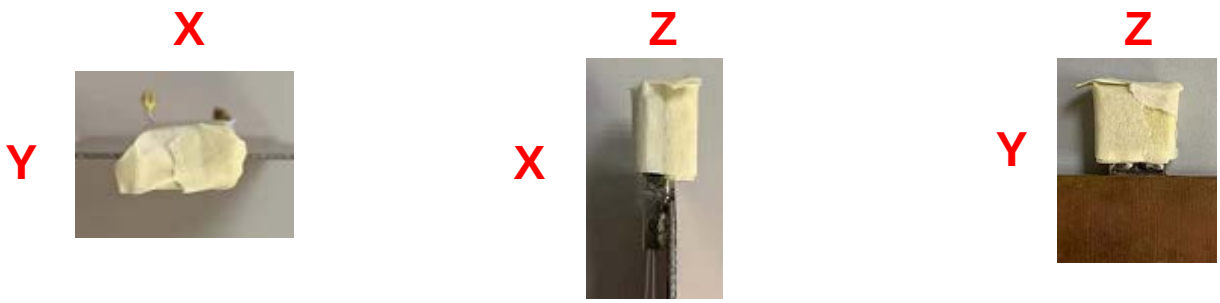

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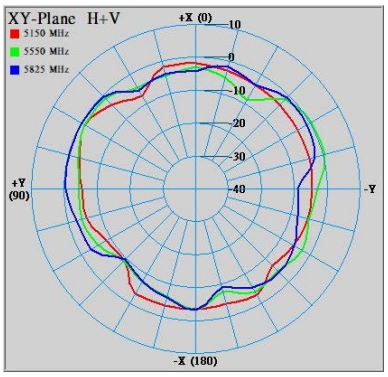
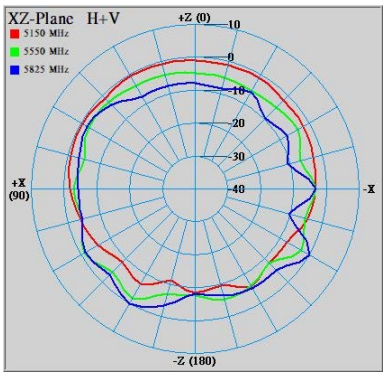
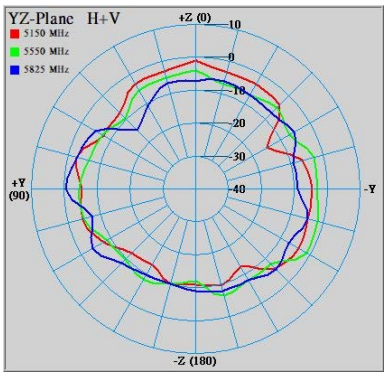
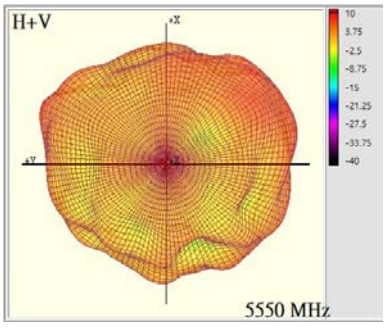
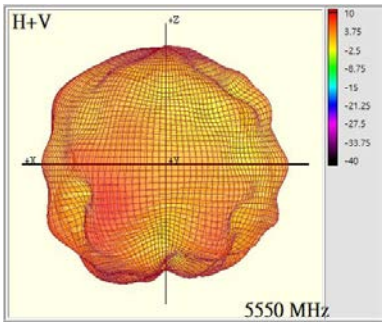
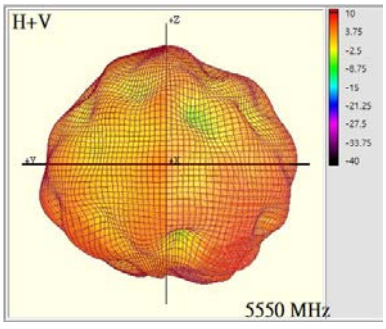
Ant.1_ 2D.3D Radiation Pattern
Frequency(MHz) : 2D. 5150~5825
3D. 5550

Radiation Pattern :

Azimuth Plane	Elevation Plane phi = 0	Elevation Plane phi = 90
		
		

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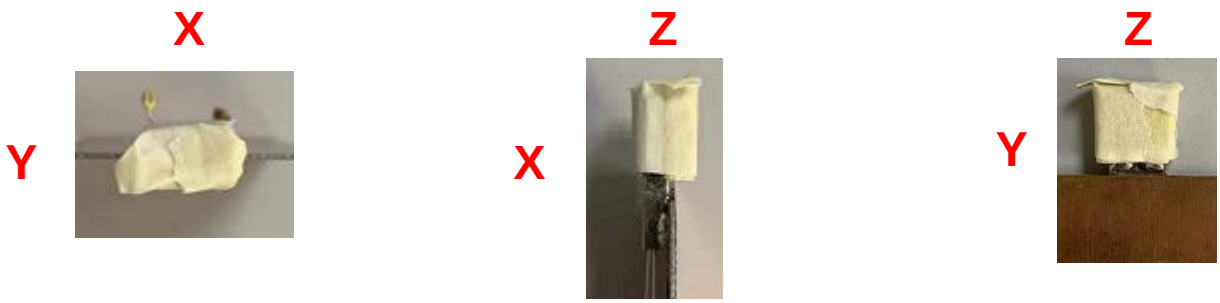

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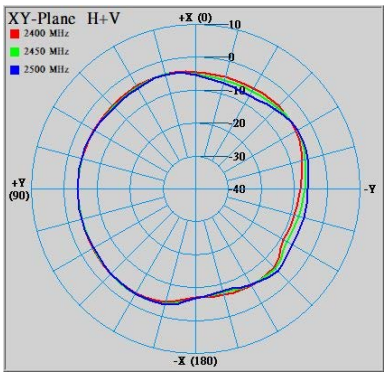
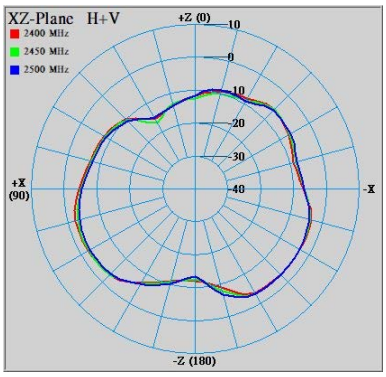
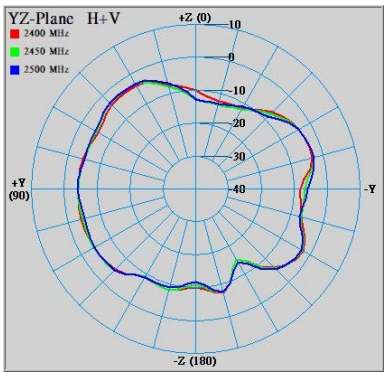
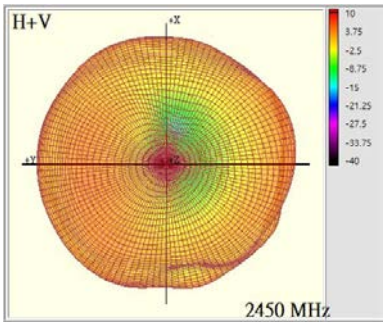
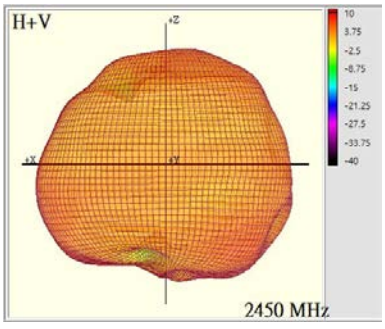
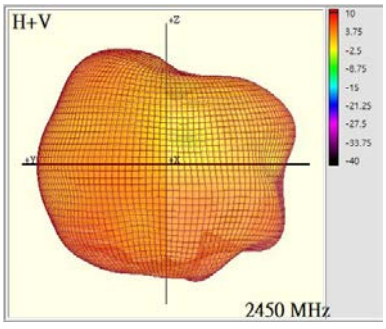
Ant.2_ 2D.3D Radiation Pattern
Frequency(MHz) : 2D. 2400~2500
3D. 2450

Radiation Pattern :

Azimuth Plane	Elevation Plane phi = 0	Elevation Plane phi = 90
		
		

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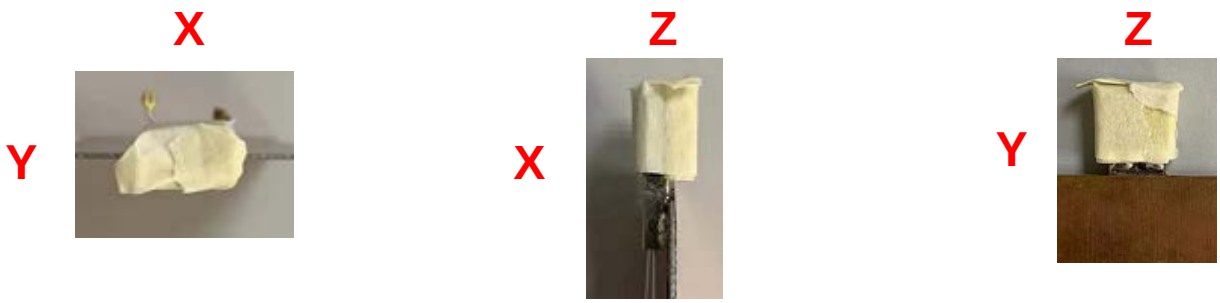

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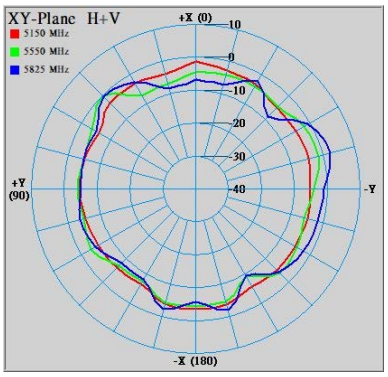
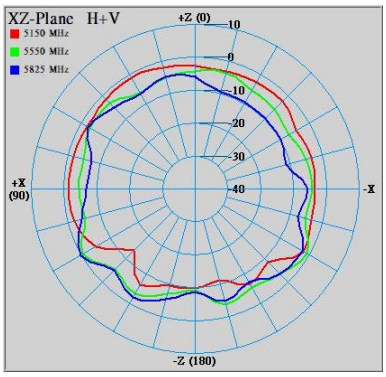
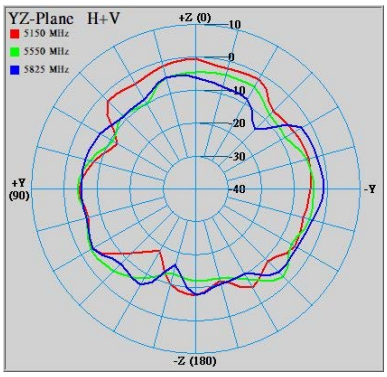
Ant.2_ 2D.3D Radiation Pattern
Frequency(MHz) : 2D. 5150~5825
3D. 5550

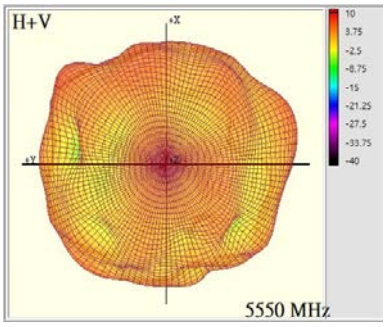
Radiation Pattern :

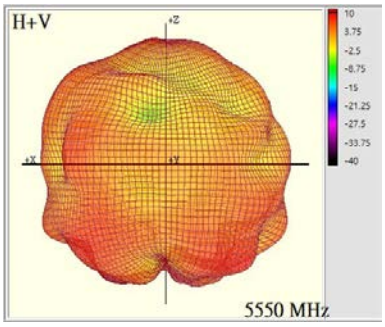
Azimuth Plane	Elevation Plane phi = 0	Elevation Plane phi = 90

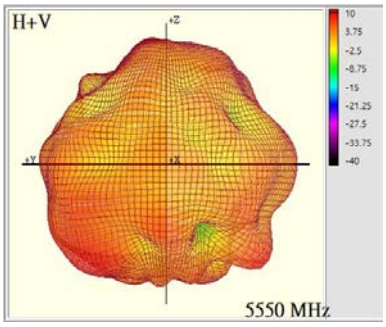












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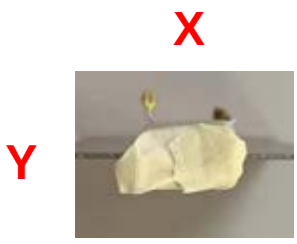

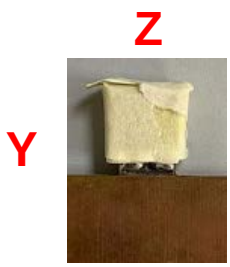

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https://lynwave.en.alibaba.com/

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LYNWAVE TECHNOLOGY LIMITED

日期：2023/5/29

出貨檢驗記錄

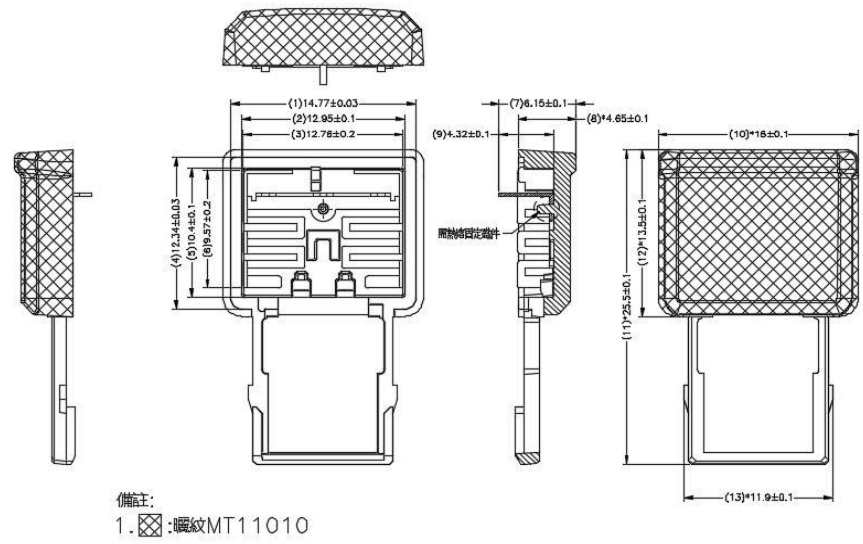
版次:A1

客戶名稱	Edimax	客戶料號	1681-00000211-50Z
		客戶訂單編號	
成品料號	ALX21M-222AA8-01	數量	抽樣數量
		200 Pcs	32 Pcs
		抽樣水準	允收水準
		MIL-STD-105E 一般水準 / II級	AQL 0.65

項目	檢驗項目	檢驗內容	檢測工具	抽樣檢驗結果	
				OK	NG
1	外觀檢驗	綠億外觀檢驗規範	目視	ok	
2	尺寸量測	重要尺寸量測	卡尺,鋼尺,投影	ok	

判定結果: ☐ Accept ☐ Reject ☐ EDC

成品尺寸量測圖



項目	規格值	儀器	取樣實測值					判定	備註
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1	14.77±0.03	卡尺/CCD	14.74	14.74	14.74	14.75	14.74	ok	
2	12.95±0.1	卡尺/CCD	13.01	13	13.04	13.02	13.01	ok	
3	12.76±0.2	卡尺/CCD	12.78	12.78	12.75	12.76	12.76	ok	
4	12.34±0.03	卡尺/CCD	12.31	12.33	12.32	12.32	12.31	ok	
5	10.4±0.1	卡尺/CCD	10.45	10.43	10.44	10.42	10.44	ok	
6	9.57±0.2	卡尺/CCD	9.5	9.51	9.53	9.53	9.51	ok	
7	6.15±0.1	卡尺/CCD	6.08	6.06	6.07	6.07	6.08	ok	
8	*4.65±0.1	卡尺/CCD	4.57	4.58	4.57	4.59	4.58	ok	
9	4.32±0.1	卡尺/CCD	4.3	4.32	4.31	4.3	4.32	ok	
10	*16±0.1	卡尺/CCD	15.98	15.98	15.99	15.98	15.97	ok	
11	*25.5±0.1	卡尺/CCD	25.48	25.48	25.50	25.48	25.50	ok	
12	*13.5±0.1	卡尺/CCD	13.50	13.53	13.51	13.50	13.52	ok	
13	*11.9±0.1	卡尺/CCD	11.80	11.82	11.81	11.82	11.82	ok	
14	外觀:依外觀檢驗標準	目視/投影	ok	ok	ok	ok	ok	ok	

Auditor：胡继光　　Check：邓赞

Remark:

信赖性测试报告

品名：天线			料号：ALX21M-222AA8-01			日期：2022/07/11		
ITEM	测试项目	测试条件	判定标准	测试数量	工具	测试记录	判定	备注
1	外观	灯光强度：800~1000Lux；检验角度为检验者的眼睛与受检查物表面呈30~45° 角；检验距离为30-45cm(眼睛与被测物直线距离)；检验视力为0.7以上；观查时间为7-10秒；	无凹凸點、异物残留、变形、脏污、生锈，电镀不良，魚眼、橘皮 、刮伤:、 毛边等	50PCS	目测/显微镜	无凹凸點、异物残留、变形、脏污、生锈，等不良	OK	
2	盐雾	1.盐水溶液：浓度5%±1%，PH值6.5-7.2 2.试验室温度：35±1° C 3.盐水桶温度：35±1° C 4.压力桶温度：47±1° C 5.试验室相对湿度：95%-98% 6.压缩空气压力：1.00±0.01kg/cm² 7.样品放置角度：15° -30° 8.喷雾收集量：1-2ml/(80cm²hr)	试验时间试验后无氧化蚀点、发黑、发黄现象	10PCS	盐雾机	镀层无锈点、腐蚀等	OK	
3	附着性	随机抽取一段产品产品用百格法测试有无镀层起皮、剥落现象	切口面平滑，无镀层镀落	5PCS	3M胶/显微镜	无镀层起皮、脱落现象	OK	
4	高温高湿	1.温度：80±5° C 2.湿度：95% ±15° C 3.时间： 72 hr	常温静置12H检查外观和附着力	10PCS	高温高湿试验机	外观无斑点、起泡、变色，附着力测试合格	OK	

制作：栗新梅　　审核：/　　核准：杨水林

綠億科技股份有限公司

LYNwave Technology Limited

色差报告

項目 Item	色差	日期 Date	2022-08-01
测试项目 Evaluation item	以下、試験内容参照	担当者 Tester	封荣桓
		評価号機 Serial Number	TF 機號 1、2、3、4、5
場所 Testing location			
使用計测器 Use facilities	Colorimeter 3nh NR110		
判定結果 Judgment	Pass		

試験内容

■色差(光源 D65 或是 C)

① 量産品：ΔE＜1.0 以内

試験結果 Result

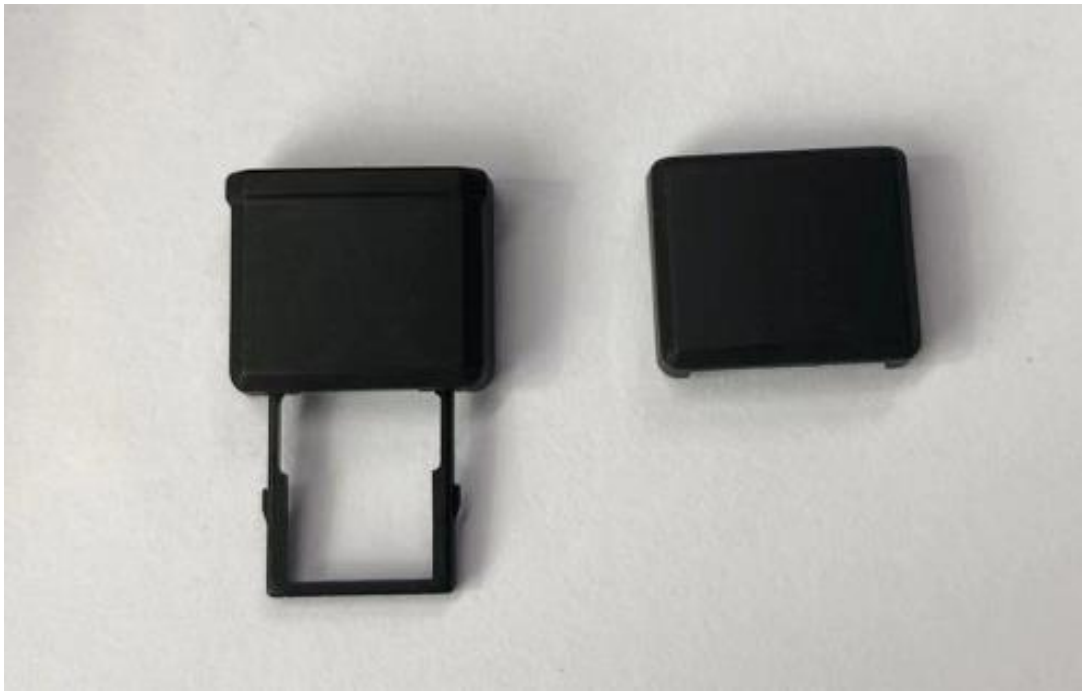
1：量産品ΔE＜1.0 以内（和色板比较）

色差	#1	#2	#3	#4	#5
上盖	0.36	0.42	0.43	0.39	0.47
下盖	0.39	0.44	0.45	0.38	0.46

L 值	#1	#2	#3	#4	#5
上盖	28.72	28.78	28.64	28.47	28.52
下盖	28.53	28.65	28.69	28.49	28.73

a 值	#1	#2	#3	#4	#5
上盖	0.12	0.14	0.15	0.16	0.18
下盖	0.06	0.08	0.09	-0.02	-0.05

b 值	#1	#2	#3	#4	#5
上盖	0.92	0.91	0.94	0.85	0.82
下盖	0.90	0.82	0.84	0.86	0.93



N130A(GF)-BK5 Product information

Ver: 202007A01

Description:

- This product is a thermal engineering plastic developed by Nanoplus Tech. It is aimed to replace aluminum heat sinks for heat dissipating applications.

Material Properties

Test Item (测试项目)	Test Method (测试标准)	Test Condition (测试条件)	Unit (单位)	Typical Values (典型值)
1. General Properties (一般性质):				
Material (材质)	N/A	N/A	N/A	PA6
Environmental (環保)	RoHS, Reach	N/A	N/A	Certified
Color (颜色)	Visual	N/A	N/A	Black
Specific Gravity (比重)	ASTM D792	23 ℃	N/A	1.54
Shrinkage (收缩率)	ISO 294-4-03	23 ℃	%	0.5 – 0.7
Melt Flow Index (熔融指数)	ASTM D1238	245 ℃/5 kg	g/10min	50
2. Mechanical strength (机械性能):				
Tensile Strength (拉伸强度)	ASTM D638-10	5.0 mm/ min	Mpa	55
Elongation at Break (伸长率)	ASTM D638-10	5.0 mm/ min	%	8
Flexural Strength (弯曲强度)	ASTM D790-10	2.54 mm/ min	Mpa	85
Flexural Modulus (弯曲模量)	ASTM D790-10	2.54 mm/ min	Mpa	3500
Izod Notched Impact Strength (冲击强度)	ASTM D256-10	3.2 mm	J/M	35
3. Electric Properties (电气性能):				
Surface Resistivity (表面电阻)	ESD TM11.11-2006	N/A	Ohms/sq	$X*10^{13}$
4. Thermal Properties (热性能):				
Thermal Conductivity (导热系数) (Hot Disk)	ISO 22007-2.2	N/A	W/mK	1.0
HDT (热变形温度)	ASTM D648-07	3.2 mm ,1.81 Mpa	℃	160
Flammability (防火等级)	UL94	N/A	N/A	V0

Suggestions on typical processing conditions (典型加工条件建议)

Baking Temperature (干燥温度)	Baking Time （干燥时间）	Mold Temperature （适当模温）	Barrel Temperature （料筒温度）
80-100℃	4-6hrs	80-110℃	240-280℃

(1) 数据为典型值，只作为客户使用的参考，不作为品质指标最低值或最高值的保证及其他任何用途的保证。由于材料在实际应用中会出现不同的产品结构、生产设备、及工艺条件等，我们不可能对这些条件全面了解，所以不能保证本产品所有应用的正确与适用性。

(2) 本司不排除对文本的信息与数据进行修改而不预先通知的可能，客户有责任确定本文件里的产品和信息是否适合客户使用，纳诺科技对文本信息不承担任何责任与义务，也未提供任何保证。用户在使用前应详细了解本产品并咨询本公司，经双方确认后决定最佳应用方案。

Kunshan Nano New Material Technology Co., Ltd. Phone: +86-0512-55199601 Fax: +86-0512-36871731

PlusThermal®

UL Product iQ™

QMFZ2.E465590 - Plastics - Component

Plastics - Component

See General Information for Plastics - Component

KUNSHAN NANO NEW MATERIAL TECHNOLOGY CO LTD E465590
38 Wulian Road
Kunshan Development & Hi-Tech Mode Area
KUNSHAN, JIANGSU 215316 CHINA

Material Dsg	Color	Min. Thk mm	Flame Class	HWI	HAI	RTI Elec	RTI Mech Imp	RTI Mech Str	HVTR	D495	CTI
PA66/PA6, furnished as pellets.											
N120D(GF)	WT	0.8	V-0	0	0	115	105	115	-	-	2
		3.0	V-0	0	0	115	120	130			
Polyamide 6 (PA6), furnished as pellets.											
N110A, N110B, N110C											
	BK	0.8	V-0	3	0	65	65	65	-	-	-
		1.6-1.76	V-0	1	0	65	65	65			
N120A, N120B, N120C, N120D, N120E, N120F											
	NC	0.8	V-0	2	0	65	65	65	-	-	-
		1.6-1.76	V-0	1	0	65	65	65			

N130A,N130B,N130C	GY	0.8	V-0	2	0	65	65	65	-	-	-
		1.6-1.76	V-0	1	0	65	65	65			
N140(X)	WT	0.8	V-0	-	-	115	105	115	-	-	-
		3.2	V-0	-	-	115	120	130			
N320(X)	WT	0.8	V-0	2	0	95	85	95	-	-	0
		1.6	V-0	0	0	95	85	95			
		3.2	V-0	0	0	95	95	105			
Polyphenylene Sulfide (PPS), furnished as pellets.											
N220A,N220B,N220C,N220D,N220E,N220F											
	WT	0.8	V-0	2	0	130	130	130	-	-	2
		1.6-1.76	V-0	2	0	130	130	130			
N230A, N230B, N230C											
	GY	0.8	V-0	3	0	130	130	130	-	-	-
		1.6	V-0	2	0	130	130	130			
Polyphenylene Sulfide (PPS).											
N210A,N210B,N210C	BK	0.8	V-0	3	0	130	130	130	-	-	-
		1.6-1.76	V-0	2	0	130	130	130			
Polypropylene (PP), furnished as pellets.											
N170(X)	ALL	0.7	V-2	-	-	65	65	65	-	-	-
		3.2	V-2	-	-	65	65	65			
Silicone "Room Temperature Vulcanizing" (RTV), furnished as paste.											
NT213	NC	2.0	V-0	1	0	105	105	105	-	4	0

Silicone Rubber (SIR), furnished as two liquid components.											
NT221	BK	2.0	V-0	0	0	150	150	150	-	-	0
		3.0	V-0	0	0	150	150	150			

(X) - Replaced by A, B, C, D, E, F. The suffix is unconcerned with formula or constituent changes.

Marking: Company name or trademark NanoplusTech and material designation on container, wrapper or finished part.

Last Updated on 2020-06-12

INSPECION CERIFICATE

NOWSTAR INC.

NO,75,LANE81,WENCENROAD

TAINAN,RAIWAN

D:E-22.06.14

CERTIFCATAENO:85669533

COILNO		NAMEOFARTICLE				SINE	TYPE	STATE	WEIGHT(KG)
		COLDROLLEDSTAINDESSSTEELSTROPINCOLL				0.3	430	2B	1054
		屈服强度 (N/mm²)	抗拉强度 (N/mm²)	延伸率%	Thickness(mm)				
制造番号	Min	250	480	30	0.29				
lotNo	Max			30	0.31				
XS20220422012		250	480	30	0.292				

CHEMICAL,COMPOSITION(%)									HARD NESS		
Mpositon		C	SI	Mn	P	S	Cr	MO	HV	MO	
LotNo	Min						16.00		200		
	Max	0.120	1.00	1.00	0.040	0.030	18.00		250		
XS20220422012		0.044	0.26	0.34	0.020	0.001	16.17		220		
								QCManager	Liu ming quan	shen he	zhou ge jian

业务专用章

綠億科技股份有限公司
LYNwave Technology Limited

包裝規範書

產品名稱	Edimax_EW-7822UNX	客戶名稱	Edimax	版次	B
綠億料號		客戶料號		製作日期	2022/8/20

產品包裝說明

一、包裝：
(1)清除產品表面油污
(2)98pcs/盤
(3)每盤交錯放置
(3)最上層放一個空吸塑盤保護

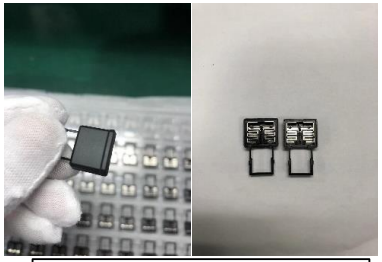
二、裝箱：
(1)每箱30盤，共 2940pcs
(2)用PE膜完全纏繞Tray盤
(3)紙箱底部4邊放珍珠棉保護
(4)完成裝箱後，貼上指定標籤

註:
以實際裝箱數量為準
包裝時包裝人員需戴指套，手不得直接接觸產品

產品包裝圖示

1

2



產品對比樣板自檢合格，全檢正、反面，側邊不可有划傷，髒汙，雜點等不良

3

4

5

6

核准：徐永銘　　審核：魏詩怡　　製表：黃昱宸