



CLIMAX TECHNOLOGY CO.,LTD.  
大鵬科技股份有限公司

# 零件確認書



料號: 8403SD32F143311

品名: PCB天線板 SD-32-F1-ANT-433 V1.1

規格: 2L 2\*8連片 T:1.6±0.1MM 無鉛噴錫

廠商料號: \_\_\_\_\_

廠商: 寰電實業有限公司

廠牌: \_\_\_\_\_  不限

承認日期: 2023-03-06

備註: PCB確認者-陳品女弋

| 核准  | 主管  | 承辦  |
|---|---|---|
| <div style="text-align: center;"><p>總經理室<br/>2023-03-06<br/>張再發</p></div> | <div style="text-align: center;"><p>硬體<br/>2023-03-06<br/>陳敏忠</p></div> | <div style="text-align: center;"><p>硬體<br/>2023-03-06<br/>施怡玟</p></div> |

# 承 認 書

## SPECIFICATION FOR APPROVAL

致

大鵬科技股份有限公司

送樣日期： 112 年 3 月 3 日

機 種：

Machinery 8403SD32F143311

板材尺寸： 2L FR4 1.6 mm

規格： 無鉛噴錫 2X8 PCS/PNL

此承認書均照貴司GERBER製作

| 認可章 | 簽  | 認 |
|-----|----|---|
|     | 簽准 |   |
|     | 校對 |   |
|     | 設計 |   |

|                  |
|------------------|
| *承認書專用章*         |
| 2023.03.03       |
| 寰電實業有限公司         |
| 代表號:(03)-4937021 |

公司： 寰電實業有限公司  
地址： 桃園市平鎮區復旦路3段111巷2號2樓  
電話： (03)493-7021  
傳真： (03)401-3489



寰電實業有限公司

UNIVERSAL ELECTRONICAL ENTERPRISE CO., LTD.

桃園市平鎮區復旦路3段111巷2號2樓

TEL(03)4937021 FAX:(03)4931602

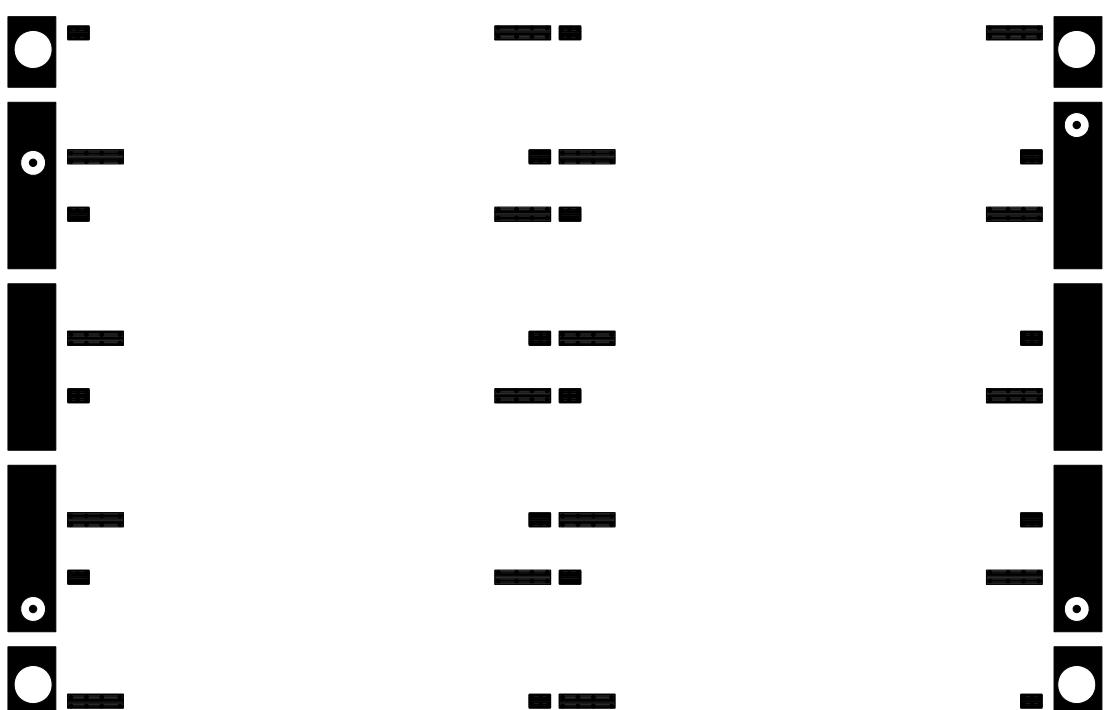
E-mail:kwpcb.one@msa.hinet.net

## PCB 製作規格表

客戶名稱: 大鵬

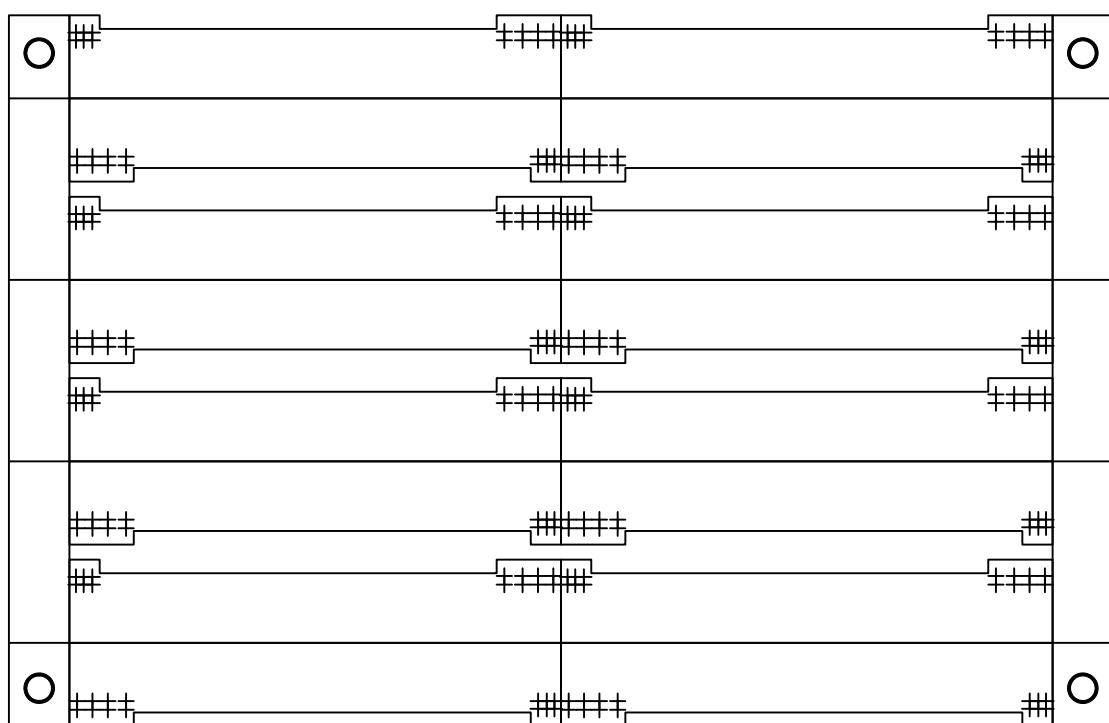
日期: 112/03/03

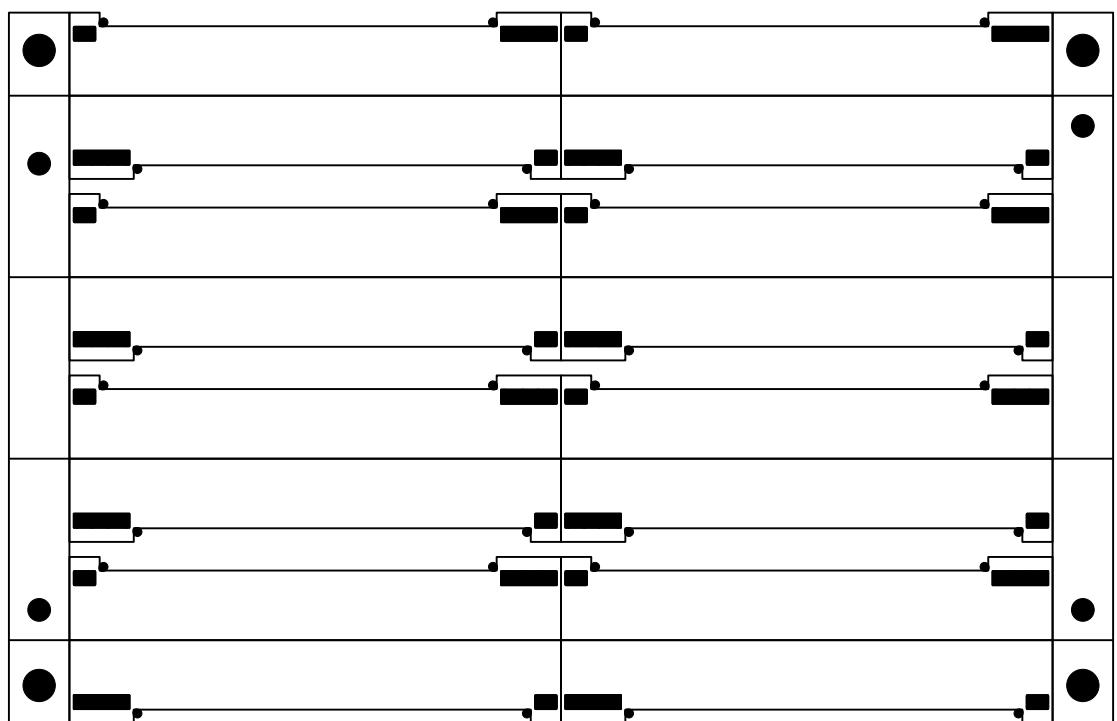
|   |                 |      |  |
|---|-----------------|------|--|
| 客戶料號  | 8403SD32F143311 | 廠內料號 |  |
| 1. PCB 層數: <input type="checkbox"/> 單面板 <input checked="" type="checkbox"/> 雙面板 <input type="checkbox"/> 四層板 <input type="checkbox"/> _____板  |                 |      |  |
| 2. PCB 材質: <input checked="" type="checkbox"/> FR-4 <input type="checkbox"/> CEM-1 <input type="checkbox"/> 電木板 <input type="checkbox"/> 其他   |                 |      |  |
| 3. PCB 成品板厚: <input checked="" type="checkbox"/> 1.6mm <input type="checkbox"/> 1.2mm <input type="checkbox"/> 1.0mm <input type="checkbox"/> 0.85mm <input type="checkbox"/> ____mm  |                 |      |  |
| 4. 銅箔厚度: <input type="checkbox"/> 內層 ____oz 外層 <input checked="" type="checkbox"/> 1.0oz <input type="checkbox"/> 0.5oz <input type="checkbox"/> 2oz  |                 |      |  |
| 5. 電鍍: <input checked="" type="checkbox"/> 無鉛噴錫 <input type="checkbox"/> 化金 2 U <input type="checkbox"/> 鍍金 <input type="checkbox"/> 噴錫+金手指 <input type="checkbox"/> OSP <input type="checkbox"/> _____   |                 |      |  |
| 6. 防焊: 2 面. 顏色: <input checked="" type="checkbox"/> 綠色 <input type="checkbox"/> 藍色 <input type="checkbox"/> 黃色 <input type="checkbox"/> 黑色 <input type="checkbox"/> _____色  |                 |      |  |
| 7. 文字: 2 面. 顏色: <input checked="" type="checkbox"/> 白色 <input type="checkbox"/> 黑色 <input type="checkbox"/> _____色  |                 |      |  |
| 8. 外型: 單片尺寸 65 x 11 mm. PNL 排板: 2 x 8 PCS/PNL<br>連片 PNL 尺寸 146 x 94 mm  |                 |      |  |
| 9. 金手指規格: 鍍金厚度 ____ U 斜邊角度 ____ 斜邊深度 ____   |                 |      |  |
| 10. 測試: <input checked="" type="checkbox"/> 外測 <input type="checkbox"/> 開治具 <input type="checkbox"/> 其它 _____   |                 |      |  |
| 11. 附件: <input checked="" type="checkbox"/> 客戶成品孔徑表 <input checked="" type="checkbox"/> 機構圖 <input checked="" type="checkbox"/> 材質證明 <input checked="" type="checkbox"/> 底片 1 套<br><input checked="" type="checkbox"/> 實物板 1 片 <input checked="" type="checkbox"/> UL 黃卡 <input checked="" type="checkbox"/> 外測報告 |                 |      |  |

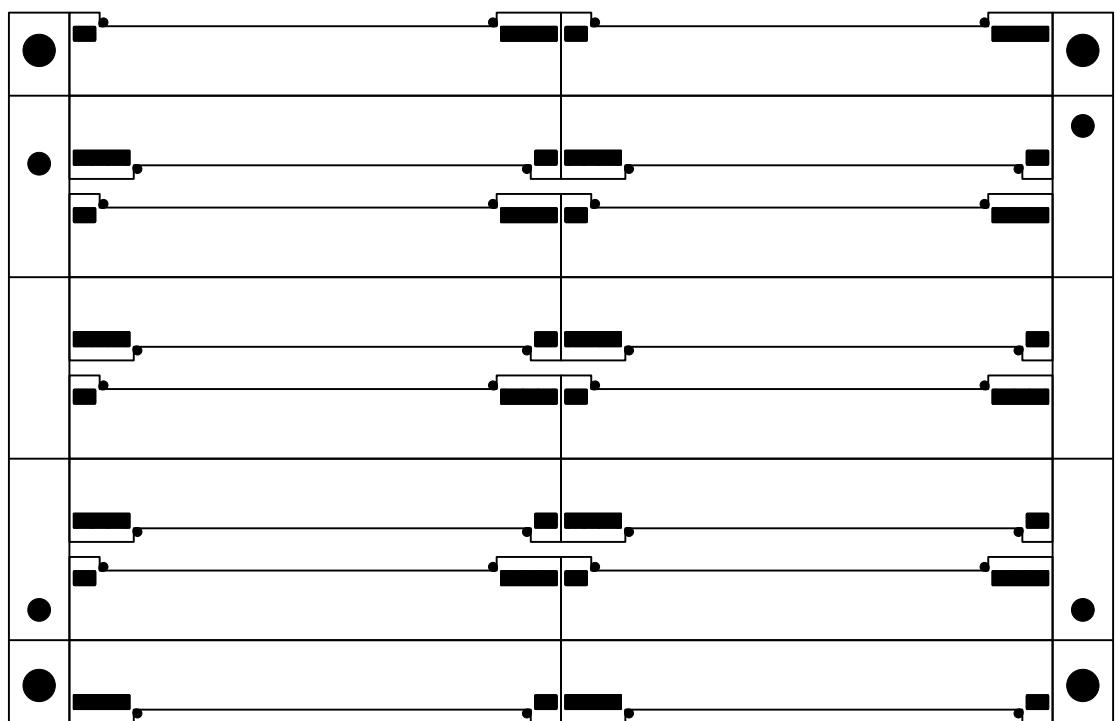


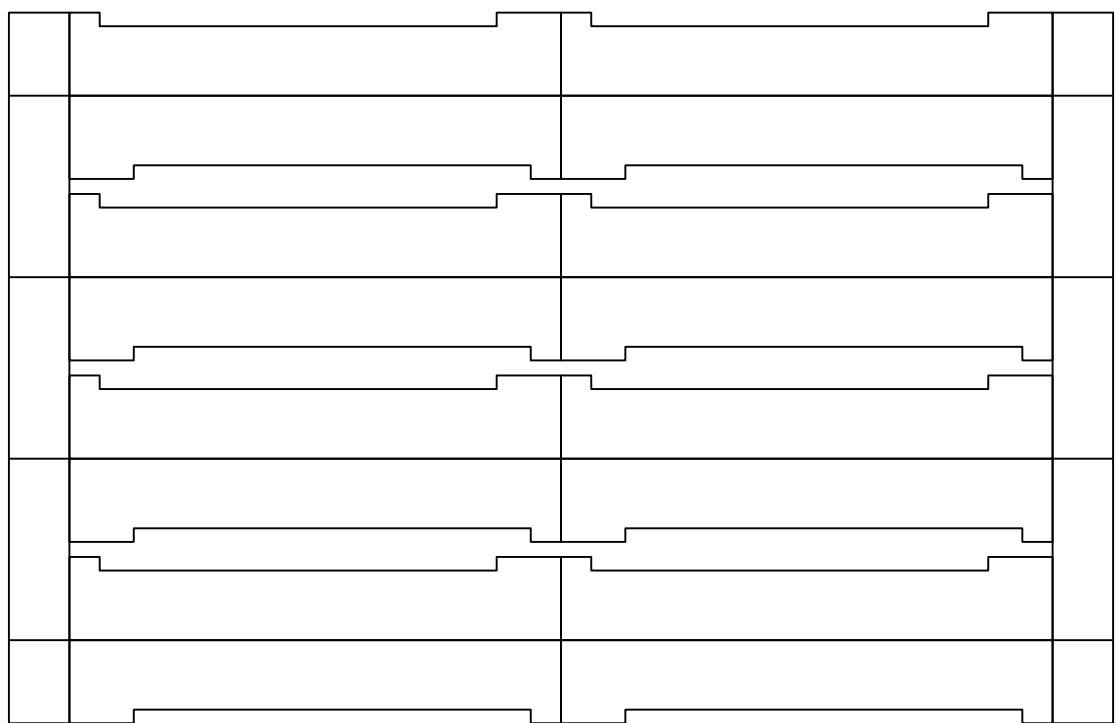
1.6無鉛噴錫防焊綠色文字白色

| SIZE  | QTY | SYM | PLATED | TOL    |
|-------|-----|-----|--------|--------|
| 11.81 | 14  | +   | YES    | +/-0.0 |

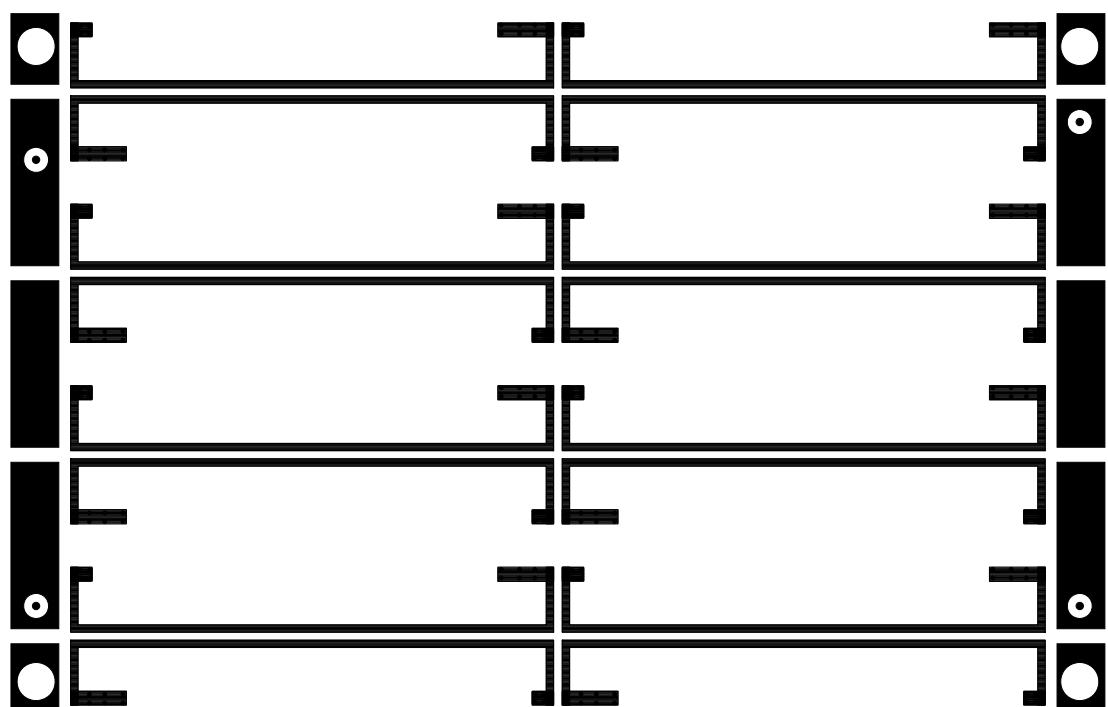






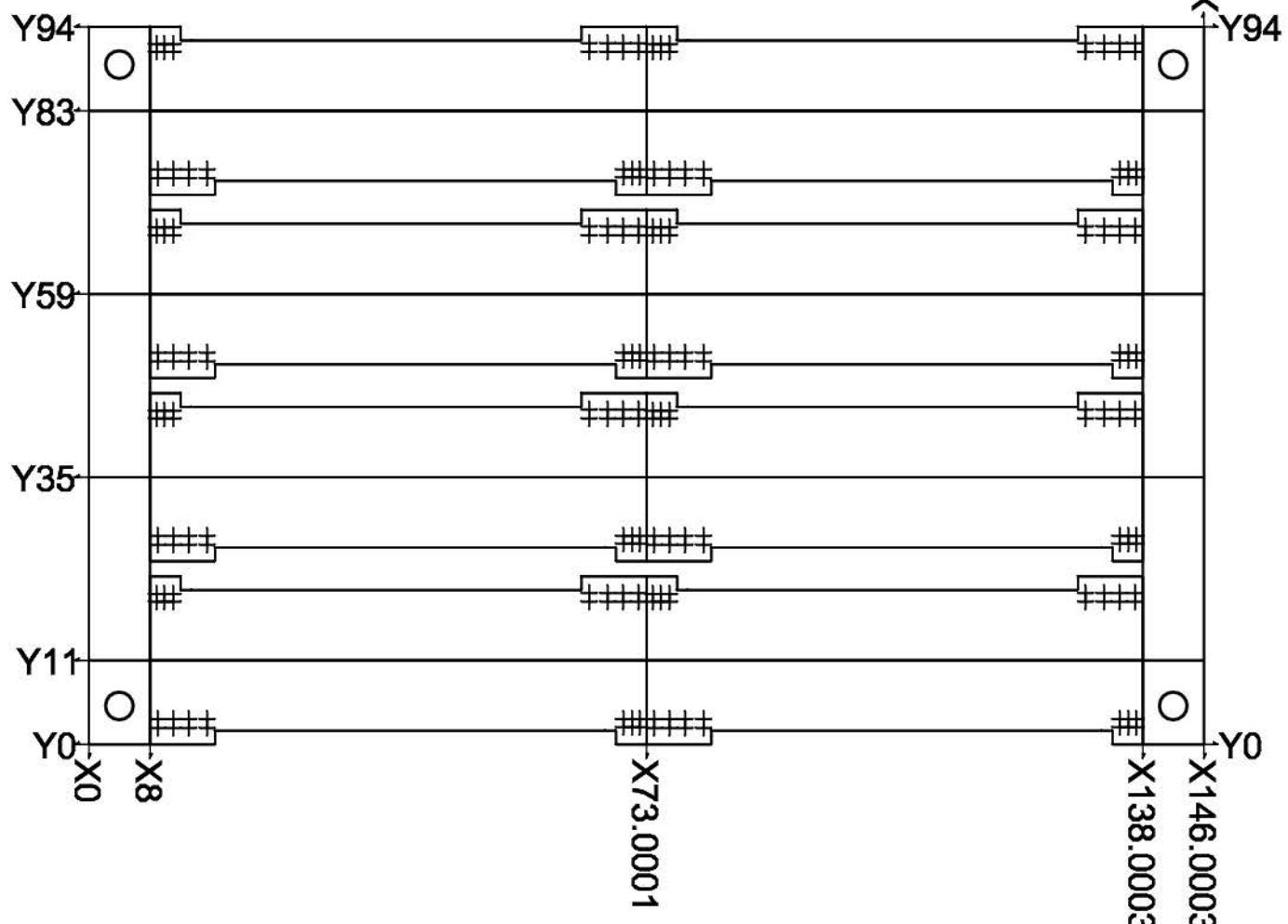


8403SD32F143311



1.6無鉛噴錫防焊綠色文字白色

| SIZE  | QTY | SYM | PLATED | TOL    |
|-------|-----|-----|--------|--------|
| 11.81 | 14  | +   | YES    | +/-0.0 |





ONLINE CERTIFICATIONS DIRECTORY

## ZPMV2.E340029 Wiring, Printed - Component

Enhanced searching capability for this category can be found in UL's iQ Family of Databases ([iq.ul.com](http://iq.ul.com)).

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### Wiring, Printed - Component

[See General Information for Wiring, Printed - Component](#)

**CHUN SHIN ENTERPRISE CO LTD**

E340029

31 LANE 197 CHENG TAI RD, SEC 2  
WUKU HSIANG, TAIPEI 24870 TAIWAN

| Cond Width                                 |              |              |                      | Max    |            | Max  |       | Meets | C     |     |   |
|--|--------------|--------------|----------------------|--------|------------|------|-------|-------|-------|-----|---|
| Min  | Cond         | SS/          | Area                 | Solder | Oper       |      |       |       |       |     |   |
| Min  | Edge         | Thk          | DS/                  | Diam   | Limits     | Temp | Flame | UL796 | T     |     |   |
| Type                                       | mm(in)       | mm(in)       | mic(mil)             | DSO    | mm(in)     | C    | sec   | C     | Class | DSR | I |
| <b>Multilayer printed wiring boards.</b>   |              |              |                      |        |            |      |       |       |       |     |   |
| 4  | 0.15 (0.006) | 0.15 (0.006) | 17 (0.67)<br>Int:102 | DS     | 50.8 (2.0) | 288  | 10    | 130   | V-0   | All | 3 |
| <b>Single layer printed wiring boards.</b> |              |              |                      |        |            |      |       |       |       |     |   |
| 2  | 0.15 (0.006) | 0.15 (0.006) | 17 (0.67)            | DS     | 50.8 (2.0) | 288  | 10    | 120   | V-0   | -   | 3 |
| 3  | 0.15 (0.006) | 0.15 (0.006) | 17 (0.67)            | DS     | 50.8 (2.0) | 288  | 10    | 120   | V-0   | All | 3 |

Marking: Company name or trademark "YF" and type designation. May be followed by a suffix to denote factory identification.

Last Updated on 2010-11-11

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NAN YA PLASTICS CORPORATION  
COPPER CLAD LAMINATE  
QUALITY TEST REPORT

2. Chung-Yang Ind. Park,  
Hsin-Kang Hsiang,  
Jiayih, Taiwan

TEL: (05)3772111 FAX: (05)3771640

DATE: 2018/05/03  
PALLET NO:

CUSTOMER: 宇賀實業

ORDER NO: HC51.56V1

LOT NO: 8427242D

MATERIAL SPEC: UV BLOCK, FR-4-86 H/H 1.50mm 1245mm x 0940mm W/NU (OVERALL THICKNESS)

IPC DESIGNATION: L21 0580 EXC HH/HH B/A 49" x 37" (f x g)  
L21 0590 IN HH/HH B/A 49" x 37" (f x g)

REQUIREMENT: IPC-4101E

UL FILE: E98983

GLASS FIBER: NAN YA Hsin-Kang Taiwan

COPPER FOIL: NAN YA Hsin-Kang Taiwan

EPOXY RESIN: NAN YA Mailiao Taiwan

NAN YA PLASTICS  
COPPER CLAD LAMINATE  
QUALITY ASSURANCE

| TEST ITEM                | UNIT  | TEST METHOD                | SPECIFICATION  | RESULTS   |
|--------------------------|-------|----------------------------|--|-----------|
| VISUALS                  | -     | IPC-4101E                  | B  | OK        |
| SURFACE & SURSURFACE     | -     | IPC-4101E                  | B  | OK        |
| METAL THICKNESS(UP)      | μm    | IPC-4101E                  | Haz: 15.54-19.00   | 18.41     |
| METAL THICKNESS(DOWN)    | μm    | IPC-4101E                  | Haz: 15.54-19.00   | 16.74     |
| PERMITTIVITY(1MHz)       | -     | C-24/23/50                 | 5.4 ↓  | 4.67      |
| PERMITTIVITY(1GHz)       | -     | C-24/23/50                 | 5.4 ↓  | 4.47      |
| LOSS TANGENT(1MHz)       | -     | C-24/23/50                 | 0.035 ↓  | 0.017     |
| LOSS TANGENT(1GHz)       | -     | C-24/23/50                 | 0.035 ↓  | 0.011     |
| SURFACE RESISTIVITY      | MΩ    | C-98/35/90                 | <0.50mm: 10^4 ↑ ; ≥0.50mm: ---   | 2.3E7     |
| SURFACE RESISTIVITY      | MΩ    | E-24/125                   | 10^3 ↑   | 4.4E6     |
| VOLUME RESISTIVITY       | MΩ-cm | C-98/35/90                 | <0.50mm: 10^6 ↑ ; ≥0.50mm: ---   | 7.2E8     |
| VOLUME RESISTIVITY       | MΩ-cm | E-24/125                   | 10^3 ↑   | 3.2E6     |
| ARC RESISTANCE           | sec   | D-48/50+D-0.5/23           | 60 ↑   | 121       |
| FLEXURAL STRENGTH        | N/mm² | LENGTHWISE A               | 415 ↑  | 484       |
| FLEXURAL STRENGTH        | N/mm² | CROSSWISE A                | 345 ↑  | 423       |
| THERMAL STRESS           | -     | 288°C x 40sec              | NO. BLISTER DELAMINATION   | OK        |
| WARP AND TWIST           | %     | A                          | SINGLE DOUBLE<br>0.5-0.78mm: 2.0 ↓ 1.5 ↓<br>>0.79mm: 1.5 ↓ 1.0 ↓   | 0.41      |
| PRESSURE VESSEL          | -     | 15psi x30min + 260°Cx20sec | IPC-TM-650   | OK        |
| MOISTURE ABSORPTION      | %     | E-1/105+D6SH-D24/23        | 0.80 ↓   | 0.081     |
| PEEL STRENGTH(UP)        | lb/in | AFTER THERMAL STRESS       | <0.5mm: 4.57 ↑ ; ≥0.5mm: 6.0 ↑<br>NP-180/NPG-200/NPC-180:<br><0.5mm: 3.5 ↑ ; ≥0.5mm: 5.0 ↑<br><0.5mm: 4.57 ↑ ; ≥0.5mm: 6.0 ↑<br>NP-180/NPG-200/NPC-180:<br><0.5mm: 3.5 ↑ ; ≥0.5mm: 5.0 ↑ | 9.21      |
| PEEL STRENGTH(DOWN)      | lb/in | AFTER THERMAL STRESS       | <0.5mm: 3.5 ↑ ; ≥0.5mm: 5.0 ↑  | 8.71      |
| TG GLASS TRANSITION TEMP | °C    | K-2/105                    | 138.2/138.8  |           |
| FLAMMABILITY             | sec   | C 48/29/50                 | UL-94-V0   | OK        |
|                          |       | E-24/125                   | VDR-0860   |           |
| Dielectric Breakdown     | kV    | D-48/50+D-0.5/23           | 40 ↑   | 51        |
| CONSTRUCTION             | -     | A                          | 7628*8   | 7628*8    |
| THICKNESS(MAX.)          | mm    | A                          | ≤1.2mm: CLASS C/M; >1.2mm: CLASS B/L   | 1.519     |
| THICKNESS(MIN.)          | mm    | A                          | ≤1.2mm: CLASS C/M; >1.2mm: CLASS B/L   | 1.498     |
| THICKNESS(AVG.)          | mm    | A                          | ≤1.2mm: CLASS C/M; >1.2mm: CLASS B/L   | 1.508     |
| COPPER ROUGHNESS(S/S)UP  | μm    | IPC-4562                   | Ra: ≤0.1/Rz: ≤2.5 TYPE:HTE   | 0.23/2.24 |
| COPPER ROUGHNESS(M/S)UP  | μm    | IPC-4562                   | Ra: ≤1.3/Rz: ≤7.5  | 1.18/6.01 |

THIS IS TO CERTIFY THAT THE MATERIAL BEING FURNISHED TO YOU MEETS THE IPC-4101E, RoHS AND SS-00259.  
THE RESULTS OF THIS QUALITY TEST REPORT IS PASS.

APPROVED BY

*N. C. Cheng*



Pb