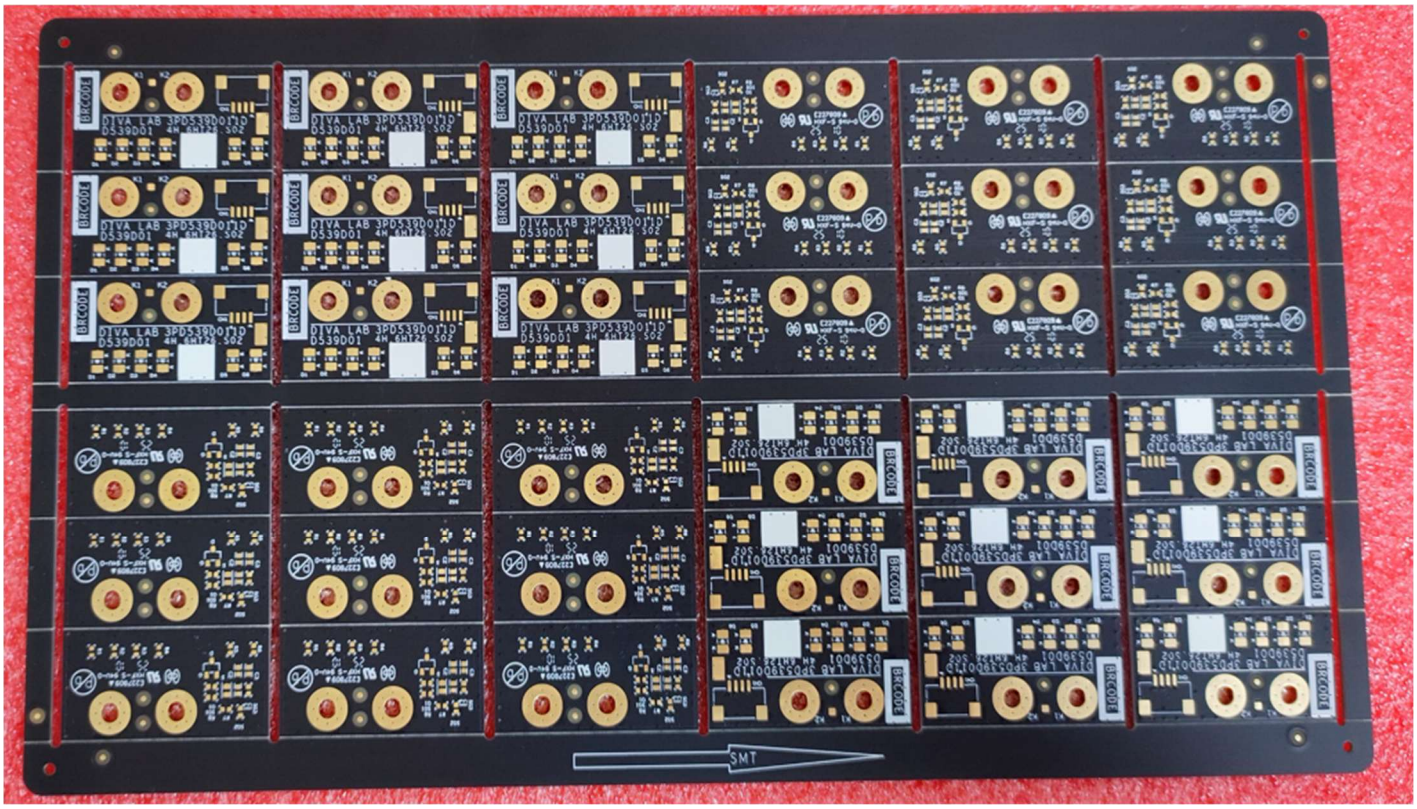
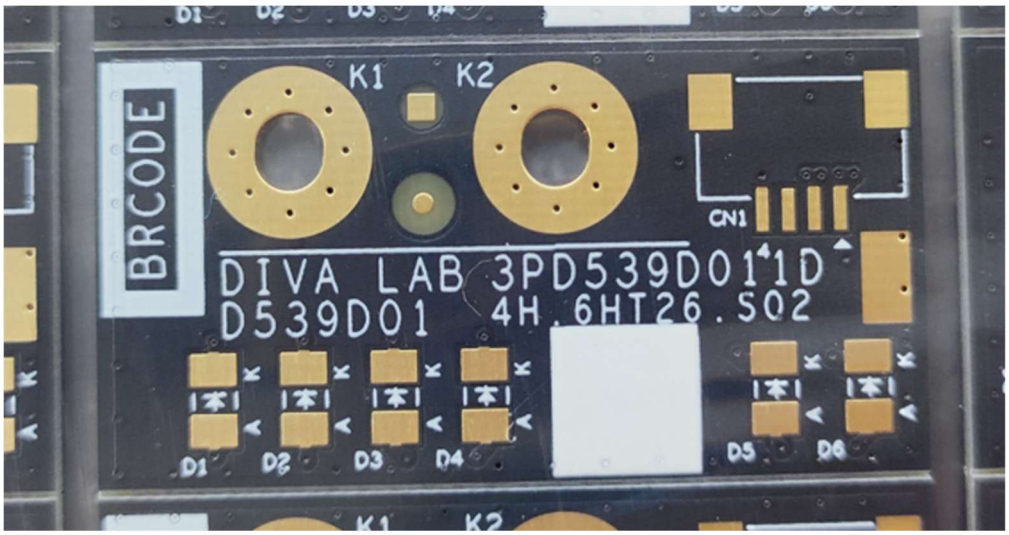
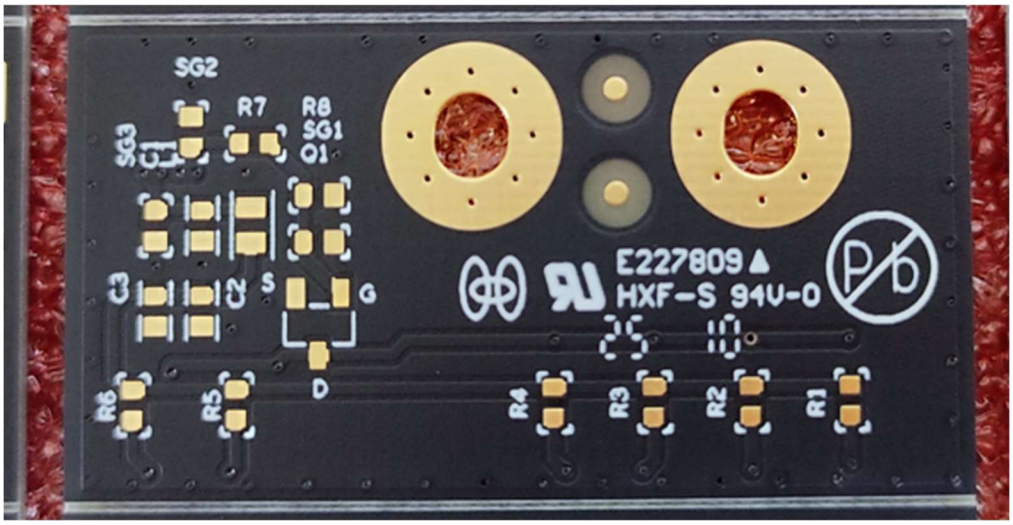






設計驗證
工程課
2025 -04- 02
發行

昆 山 市 华 新 线 路 板 有 限 公 司

KUNSHAN CHINA THRIVE CIRCUIT BOARD CO LTD

Sample Acknowledgement

样 品 承 认 书

Customer(顾客名称)：**鈺緯科技** DIVA

Customer P/N(顾客料号)：**3PD539D011D**



Date(日期)：2025-3-11

Address： NO.7 Qianyang Road，Qiandeng Town，Kunshan ， Jiangsu PR China

（昆山市千灯镇千扬路 7 号）

Tel： Factory 0512-57472099 ； Marketing 0512-57462303 57461784

Fax： Factory 0512-57472089 ； Marketing 0512-57462301

E-mail：huaxing@pub.ks.js.cn

Webside：www.hxpcb.com

Postcode: 215341

一、Capability Inspection（性能检测 ）

Description（内容）			Requst（要 求）	Result（结果）	Judgement（判断）
1	Material（板材）	Type（种类）	KB6164	KB6164	ACC
		Board THK（板厚）	1.6±9%	1.61	ACC
		Copper THK（铜箔厚度）	H/H OZ	H/H OZ	ACC
		Twist & Warp（翘曲度）	<0.55%	见附页	ACC
2	Legend & Marking（字符 & 标记）	Color(颜色)	白色	白色	ACC
		UL Mark（UL 标记）	E227809 HXF-S 94V-0	E227809 HXF-S 94V-0	ACC
		Date Cord（周期）	YY WW	25 10	ACC
		width（最小线宽 mm）	0.508±15%	0.506	ACC
		space（最小线距 mm）	0.254±15%	0.256	ACC
		width（阻抗线宽 mm）	/	/	/
		space（阻抗线距 mm）	/	/	/
		Min.Hole Ring（最小环宽 mm）	0.127±10%	0.121	ACC
4	Solder Mask（阻焊）	Type(种类)	海田	海田	ACC
		Color（颜色）	哑光黑色	哑光黑色	ACC
		Solvent Test（溶济测试）	No Attack（无脱色）	无脱色	ACC
		Tape Test（胶带测试）	No Peel Off（无脱落）	阻焊，字符无剥离	ACC
		Solderability Test（可焊性测试）	可焊性良好	上锡良好	ACC
5	Open/Short（开/短路）	Electron Test（通断测试）	100% Testing Passed（100% 测试通过）	100% 测试通过	ACC
6	阻抗测试	阻抗测试仪	/	/	/
7	Contrast Engineer Date（与工程资料对比）	Contrast Drill Drawing(孔与分孔图)		无多孔、少孔	
		Contrast Trance Film(与原装线路菲林)		核对无误	
		Contrast Solder Mask Film （与原装阻焊菲林)		核对无误	
		Contrast Legend Film(与原装字符菲林)		核对无误	
		Other （其他）		无	

二、 Hole Size & Slot Size(孔径及槽的尺寸) Unit(单位):mm

Code(代号)	Dim. & Tol.（尺寸和公差）	PTH（镀通孔）	Measurement（实测尺寸）			Judgement（判断）
1	0.30±0.076	Y	塞孔无法测			/
2	2.00±0.05	N	2.025	2.025	2.025	ACC
3	3.20*3.60±0.076	Y	3.22*3.61	3.23*3.62	3.24*3.63	ACC

三、 Mechanical Dimension Inspection（外型尺寸检查） Unit(单位):mm

Code(序号)	Dim. & Tol.（尺寸和公差）	Measurement（实测尺寸）			Judgement（判断）
1	261.00±0.127	261.01	261.02	261.03	ACC
2	152.80±0.127	152.83	152.82	152.81	ACC

Inspection by（检查）：沈宇飞 Verified by（审核）柯敏

PCB List		
ModelNO.		
Part NO.	3PD539D011D	
PCB Spec	PCB size (mm)	39.50*21.30 mm
	PNL size	261.00*152.80 mm
	Pcs /PNL (mm)	36PCS/1PNL
	Thickness	1.6+/-9% mm
	Outline Tolerance(mm)	+/-0.127
	SLOT Tolerance(mm)	+0.1/-0
	PCB hole tolerance(mm)	PTH：±0.076mmNPTH：±0.05mm
	V-cut 残厚(mm)	0.53±0.08mm
Raw Material	Grade	FR-4
	Maker	建滔
	CCL Name	KB6164
	Copper thickness	1OZ
	UL Symbol	
	Flammability UL Grade	94V-0
Finish PCB	PCB Type	2L
	Copper thickness	1OZ
Conductor	Min.Width	0.508+/-10% mm
	Min Gap	0.254+/-10% mm
Soler Mask	Maker	海田
	Type number	HSR-200 MK
	Thickness	0.46mil (min.>0.15mil at the edge of trace)
	color	Black
Symbol	Maker	昱谷
	Type number	YG-400WB
	Thickness （10-20um ）	17.22um
	Color	white
Surface finish treatment	Type	NA
	Thickness (0.2um-0.4um)	NA
化金 处理及镍厚与金厚	Thickness （ Au：2~6u" / Ni： > 110u" ）	镍厚2.55UM;金厚0.055UM
	Gold Finger Beveling Angel (30 ±2°)	NA
板弯 Bow	板弯<长边* 0.55% ; 且<1.6mm (Min. follow IPC criteria)	0.28mm
板翘 Twist	板翘 < PCB/Panel 对角线长 *0.55%; 且<1.6mm (Min. follow IPC criteria)	0.19mm
槽与相邻Trace之距离	≧ 0.5 mm	PASS
PTH 孔铜厚度	Min. > 0.8 mil , Avg. ≧ 0.9 mil	PASS
Hole Quality	PTH 孔环不得有毛边 /毛刺 /破孔 /缺角 /翘铜 /凸起现象	PASS
焊点偏, 孔偏，文字偏移	<0.1mm	0.05mm
Multi Min. Trace 宽度, 间距	宽度≧4mil ,间距≧ 4mil	PASS
Impedance Control	Characteristic impedance ± 10 % Differential impedance ± 10 %	PASS
Lonic Contaminiation	≦1.56ug NaCl/sq.cm^2	0.33ug NaCl/sq.cm^2
BGA & Non BGA via	所有Via Hole需两面塞黑漆，不得假性漏铜(BGA 处严格执行)，不能具有焊锡性（除非Gerber特别定义）	PASS
Via塞孔填充量(蓝漆,树脂)	BGA区域铝片塞孔>60%(严格执行)，其他区域连塞带印>20%	1053.98um
Others	Version Number	A

Prepare By：沈宇飞　　Confirm With：王平

昆 山 市 华 新 线 路 板 有 限 公 司

KUNSHAN CHINA THRIVE CIRCUIT BOARD CO LTD

开短路测试报告

日期：2025-3-11

客户编号：3PD539D011D		客户名称：鈺緯科技 DIVA
本厂编号：2165AUTA0	数量：6SET	生产周期：25 10
测试条件	测试要求	测试结果
飞针测试（移动探针） 测试电压：250V 导通电阻：50Ω 绝缘电阻：34MΩ	无开路、短路	100% PASS

备注：

良率：

本料号板子生产数量为 6SET，最终合格数量为 6SET，产品良率为 100 %。

产品追溯性：

2165AUTA0 板子的每个 pcs 上都有标记如下：




是华新厂标；E227809 是华新厂 UL 标记； S 代表双面板；94v-0 是最高防火等级；25 10. 代表了 25 年第 10 周。

结论：

■ 合格： □ 拒收：

拟 制	沈宇飞	批 准	柯敏

PCB 板弯/板翘测量

客户：	鈺緯科技 DIVA	料号：	3PD539D011D	试验日期：	2025-3-11
日期代码：	25 10	试验数量：	5SET	测量设备：	PIN 针
测量方法：参见：Qisda Display Product’ s PCB General Rule					
判定标准：板弯≤0.55%.板翘≤0.55%					
备注：					
测试结果：合格					

项 目	测量值					判定	
	1 号板	2 号板	3 号板	4 号板	5 号板	合格	不合格
板 弯	0.23%	0.19%	0.33%	0.31%	0.32%	√	
板 翘	0.20%	0.15%	0.21%	0.31%	0.30%	√	

测试结果： 合格

试验：沈宇飞 审核：柯敏

PCB 防焊/文字附着力测试

客户：	鈺緯科技 DIVA	料号：	3PD539D011D	试验日期：	2025-3-11
日期代码：	25 10	试验数量：	6SET	测量设备：	3M 胶带
测量方法：参见：Qisda Display Product’ s PCB General Rule					
判定标准： 防焊层及文字均不能脱落。					
备注：					
测试结果：合格					

编 号	防焊附着力	文字附着力	判定	
			合格	不合格
1 ·	☐ 脱落 ■ 无脱落	☐ 脱落 ■ 无脱落	√	
2 ·	☐ 脱落 ■ 无脱落	☐ 脱落 ■ 无脱落	√	
3 ·	☐ 脱落 ■ 无脱落	☐ 脱落 ■ 无脱落	√	
4 ·	☐ 脱落 ■ 无脱落	☐ 脱落 ■ 无脱落	√	
5 ·	☐ 脱落 ■ 无脱落	☐ 脱落 ■ 无脱落	√	

测试结果：合格

检测： 沈宇飞　　审核：柯敏

切片检查报告

MICROSECTION INSPECTION REPORE

PROD P/N：2165AUTA0 **DATE CODE**：25 10 **SAMPLE SIZE**：2PCS

CUSTOMER：鈺緯科技 DIVA **CUST P/N**：3PD539D011D MICROSECTION NO：①

Requirement:(unit:um)

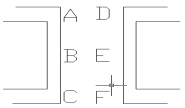
HOLE WALL COPPER	Roughness	Tin thickess	S/M thickness
Min: ≥20um	Drill: \	Hole wall: \	Conductor surface:: ≥11.7um
Ave: ≥25um	Plating: \	Surface: \	Conductor corner: ≥3.81um

HOLE WALL CROS-SECTION DATA

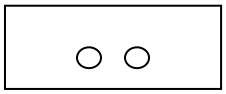
HOLE WALL COPPER							ROUGHNESS		TIN THK	
A	B	C	D	E	F	AVE	DR	PL	SUR	HOLE
25.6	25.8	25.7	25.3	25.2	25.1	25.45	\	\	\	\
25.8	25.7	25.3	25.6	25.8	25.7	25.65	\	\	\	\
\	\	\	\	\	\	\	\	\	\	\

CONDUCTOR COPPER		DIELECTRIC THICKNESS		S/M THICKNESS	
LAYER NO.	RESULT	LAYER NO.	RESULT	CONDUCTOR SURFACE	CONDUCTOR CORNER
1 L1	38.5			21.4	13.2
2 L2	37.4			16.6	9.8

孔铜测量位置



孔位



Disposition: Acc■ Rei □

Tested By: 沈宇飞 Date: 2025-3-11

Approved By: 王平 Date: 2025-3-11

昆 山 市 千 灯 华 新 线 路 板 厂

KUNSHAN CHINA THRIVE CIRCUIT BOARD FACTORY

可焊性测试报告

SOLDERABILITY TEST REPORT

PROD P/N： 2165AUTA0 DATE CODE： 25 10

CUSTOMER P/N： 3PD539D011D SAMPLE SIZE： 5PCS

CUSTOMER： 鈺緯科技 DIVA

APPARATUS ：OVEN，SOLDER POT，THERMOMETER， GRADUATED MAGNIFIER 10X

FLUX： CH-1001 ETC

TEST CONDITION：BAKING TEMPERATURE： 106 ℃, TIME： 2 HOURS

SOLDERING TEMP： 260 ℃, TIME： 10 SECONDS.

TEST METHOD： FLOAT SOLDER

TEST RESULT

ITEM（项目）	APPROVAL STANDARD(允许标准)	TEST RESULT （测试结果）
APPEARANCE OBSERVATION （外观观察）	1、NO BLISTERS 、SHIFTING OF THE S/M （阻焊无起泡、脱落现象） 2、NO DISCOLOR 、SHIFTING OF THE LEGEND （文字无变色、脱落现象） 3、NO DELAMINATION、MEASLING OF THE BAORD（无爆板、白点） 4、NO BLOW-HOLE OF THE PTHs（无吹孔）	1 阻焊无起泡、脱落现象 2 文字无变色、脱落现象 3 无爆板、白点 4 无吹孔
SOLDERBILITY （吃锡性）	GOOD SOLDERBILITY OVER 95% （吃锡 95%以上良好）	吃锡 100%

Disposition: Acc ■ Rej □

Tested By: 沈宇飞 Date: 2025-3-11

Approred By: 王平 Date: 2025-3-11

QA26-C 02-2006

热应力测试报告
THERMAL STRESS TEST REPORT

PROD P/N：2165AUTA0 DATE CODE：25 10

CUSTOMER P/N：3PD539D011D SAMPLE SIZE：5PCS

CUSTOMER：鈺緯科技 DIVA

APPARATUS：OVEN，SOLDER POT，THERMOCOUPLE INDICATOR，STOPWATCH，MICROSCOPE

FLUX：CH-1001

TEST CONDITION：BAKING TEMPERATURE：126 ℃, TIME：6 HOURS

SOLDERING TEMP：288 ℃, TIME 10 SECONDS.

TEST METHOD：DIP SOLDER

TEST RESULT

ITEM（项目）	APPROVAL STANDARD(允许标准)	TEST RESULT （测试结果）
APPEARANCE OBSERVATION （外观观察）	1、NO BLISTERS 、SHIFTING OF THE S/M （阻焊无起泡、脱落现象） 2、NO DISCOLOR 、SHIFTING OF THE LEGEND （文字无变色、脱落现象） 3、NO DELAMINATION、MEASLING OF THE BAORD（无爆板、白点）	1、阻焊无起泡、脱落现象 2、文字无变色、脱落现象 3、无爆板、白点
MICROSECTION OBSERVATION（切片观察）	1、NO COMER CRACK （无崩角） 2、NO RUPTURE OF THE PLATING（镀层无断裂）	1、无崩角 2、镀层无断裂
		

Disposition: Acc ■ Rej □

Tested By:沈宇飞 Date:2025-3-11

Approved By:王平 Date:2025-3-11

昆 山 市 千 灯 华 新 线 路 板 厂

KUNSHAN CHINA THRIVE CIRCUIT BOARD FACTORY

塞孔报告

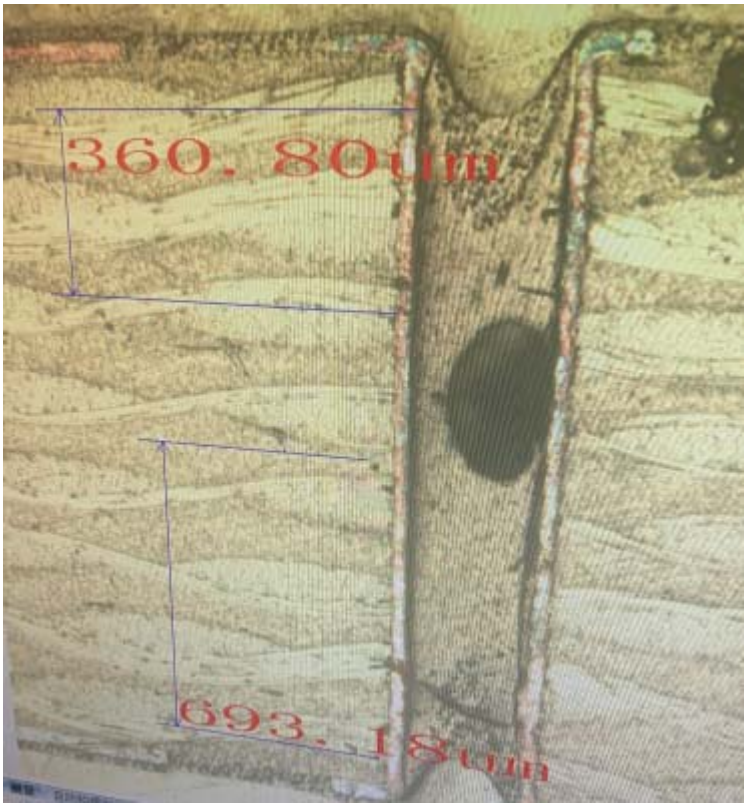
Plugged Test Via Hole

PROD P/N: 2165AUTA0 DATE CODE: 25 10

CUSTOMER P/N: 3PD539D011D SAMPLE SIZE: 1PCS

CUSTOMER: 鈺緯科技 DIVA

plugged of test via(min. 60%)	spec	actual	
	＞600um	1053.98	um



Disposition: Acc ■ Rej □

Tested By: 沈宇飞 Date: 2025-3-11

Approved By: 柯敏 Date: 2025-3-11

QA26-C 02-2006

PCB Material Supplier List

以下是 Display 2008-09-27 的 PCB 素材板合格供应商清单，请 PCB 厂商遵循。如果需导入新的板材厂商，必须在 Qisda 核实并加入这张 PCB Material Supplier List 表格后方可使用。

PCB Material Type	Supplier/Material
FR-1 (1L)	斗山 (DS)
FR-1 (1L)	长春 (L)
FR-1 (1L)	长兴 (EC)
FR-1 (1L)	建韬 (Kingboard)
FR-4 (2L-6L)	南亚 (NAYA)
FR-4 (2L-6L)	联鑫
FR-4 (2L-6L)	台光 (EMC)
FR-4 (2L-6L)	ISOLA
FR-4 (2L-6L)	建韬 (Kingboard)
FR-4 (2L-6L)	联茂 (ITEQ)
FR-4 (2L-6L)	斗山 (DS)
FR-4 (2L-6L)	腾辉
CEM-1 (1L)	斗山 (DS)
CEM-1 (1L)	长春 (L)
CEM-1 (1L)	长兴 (EC)
CEM-1 (1L)	建韬 (Kingboard)
CEM-1 (1L)	南亚 (NAYA)

Supplier:

单层板信赖性测试项目

	测试项目	测试方法	抽样频率
1	剥离强度	IPC-TM-650 2.4.28.1	1PCS /每客户机种/每季度
2	离子污染度测试	< 6.0 μg NaCL / inch	1PCS /每客户机种/每季度
3	冷热冲击	(-65℃/60 分~125℃/60 分) 1 循环 共 100 循环试验	1PCS /每客户机种/每季度
4	SIR 测试	85℃ @ 85%RH, X96hrs @ 50V bias	1PCS /每客户机种/每季度
5	耐湿性	40℃ @ 90%RH, 1000H	1PCS /每客户机种/每季度

多双层板信赖性测试报告

	测试项目	测试方法	抽样频率
1	离子污染度测试	< 6.0 μg NaCL / inch	1PCS/每客户机种/季度
2	Peel Strength 测试	IPC-TM-650 2.4.8	1PCS/每客户机种/季度
3	耐湿性测试	IPC-TM-650 2.6.3	1PCS/每客户机种/季度
4	SIR 测试	85℃ @ 85%RH, X96hrs @ 50V bias	1PCS/每客户机种/季度
5	thermal shock 测试	IPC -TM-650. 2.6.7.2	1PCS/每客户机种/季度
6	温度循环测试	IPC-TM-650 2.6.3	1PCS/每客户机种/季度

KB

產 品 技 術 資 料

TECHNICAL INFORMATION

KB-6160（ANSI：FR-4）

覆銅箔環氧玻纖布層壓板

特 點

- 優異的尺寸穩定性
- 優良的耐熱性能和機械性能
- 耐漏電起痕指數（CTI150V/175V/300V/600V）
- 符合 IPC-4101B 的規範要求

Features

- Excellent dimensional stability
- Excellent heat resistance and mechanical properties
- CTI value150V/175V/ 300V / 600V
- IPC-4101B specification is applicable .

應用領域

- 電腦、攝像機、儀器儀錶、通訊設備等

Application

- Computer , VCR, Instrumentation, Communication equipment etc.

General Properties 一般特性

Test Item 測試項目	Unit 單位	Test Method (IPC-TM-650) 測試方法	Test Condition 處理條件	Spec （IPC-4101B） 規格值	Typical Value 典型值
Peel Strength (1OZ) 銅箔剝離強度	N/mm	2.4.8	125℃	≥0.7	1.70
			Float 288℃ / 10Sec	≥1.05	1.75
Thermal stress 熱應力	Sec	2.4.13.1	Float288℃/unetched	≥10	60 No delamination
Bow / Twist 彎弓度/翹曲度	%	2.4.22.1	A	≤ 1.0	021 / 0.39
Flexural Strength 抗彎強度	N/mm^2	2.4.4	Warp	≥415	560
			Fill	≥345	410
Flammability 燃燒性	Rating	UL94	UL94	UL94 V-0	V-0
Glass Transition (Tg) 玻璃化转变温度	℃	2.4.25	E-2/105（DSC）	≥130	135
Surface Resistance 表面電阻	MΩ	2.5.17.1	C-96/35/90	$\geq 1.0\times10^4$	1.0×10^6
Volume Resistance 體積電阻	MΩ-cm	2.5.17.1	C-96/35/90	$\geq 1.0\times10^6$	1.0×10^8
Dielectric Constant 介電常數	—	2.5.5.2	Etched/@1 MHZ	≤5.4	4.5
Loss Tangent 介質損耗	—	2.5.5.2	Etched/@1 MHZ	≤0.035	0.022
Arc Resistance 耐電弧性	Sec	2.5.1	D-48/50+D-0.5/23	≥60	125
Moisture Absorption 吸水率	%	2.6.2.1	D-24/23	≤0.80	0.12
Z-Axis Expansion A-轴热膨胀系数	ppm/℃	2.4.24	E-2/105 TMA	—	48/284
Comparative Tracking Index 相比漏電起痕指數	V	IEC 112	Etched/0.1%NH_4Cl	AABUS	150 /175 300 / 600

Remarks: 可提供不同 CTI 等級的板材 The CCL may offer different CTI grade.
Specimen Thickness: 1.6 mm 1/1 樣品厚度：1.6 mm 1/1
A=Maintain original shape,do not make handling 保持原樣,不作處理
C= Temperature and humidity conditioning 在恒溫恒濕的空氣中處理
E=Temperature conditioning 在恒溫的空氣中處理
D= Temperature conditioning immersion in distilled water. 浸在恒溫的水中處理

KB

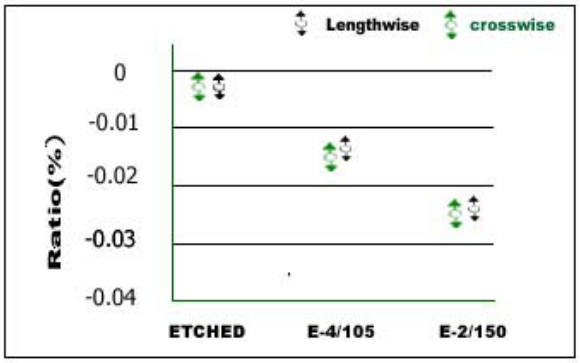
產 品 技 術 資 料
TECHNICAL INFORMATION

KB-6160（ANSI：FR-4）

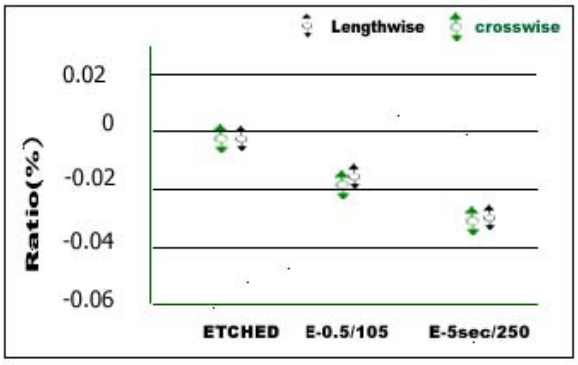
覆銅箔環氧玻纖布層壓板

Speciality Chart 板材特性圖

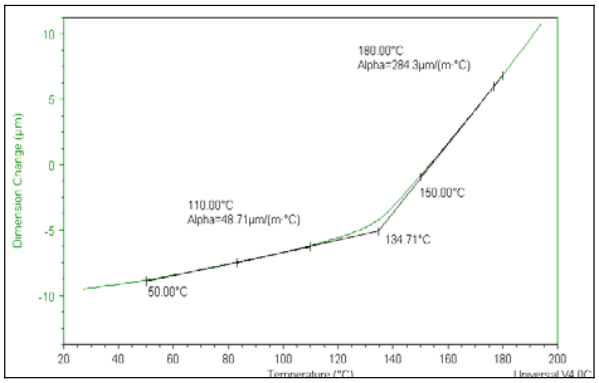
Dimensional stability　尺寸穩定性



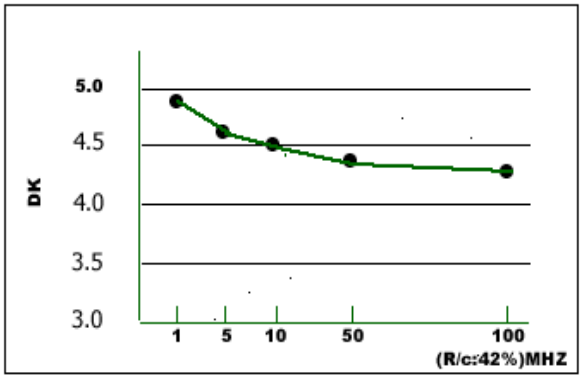
Dimensional stability–PCB process （size:360*310mm）



Thermal expansion of Z-direction (test by TMA)



Dielectric constant　介電常數



Purchasing Information / 採購資訊

Base colour 基板顏色	Thickness 厚度	Copper Cladding 銅箔厚度	Regular Size（mm） 常規尺寸	CTI Value CTI 值
白色 white	0.5mm ~ 3.5mm	18 μ m, 35 μ m, 70 μ m.	1020*1220mm （40″*48″） 1067*1220mm （42″*48″） 915*1220mm （36″*48″） 1041*1245mm （41″*49″）	150V/175V 300V/600V

Note: Other sheet size and thickness could be available upon request.
可根據客戶要求提供其他尺寸和厚度.

ONLINE CERTIFICATIONS DIRECTORY

ZPMV2.E227809
Wiring, Printed - Component

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

Page Bottom

Wiring, Printed - Component

See General Information for Wiring, Printed - Component

KUNSHAN HUAXIN CIRCUIT BOARD CO LTD E227809
7 QIAN YANG HWY
QIANDENG TOWN
KUNSHAN, JIANGSU 215341 CHINA

	Cond Width				Max			Max			
		Min	Cond		Area	Solder		Oper		Meets	C
	Min	Edge	Thk	SS/	Diam	Limits		Temp	Flame	UL796	T
Type	mm(in)	mm(in)	mic(mil)	DS	mm(in)	C	sec	C	Class	DSR	I
Multilayer printed wiring boards.											
HS-2	0.075 (0.003)	0.23 (0.009)	17 (0.67) Int:34	DS	38.1 (1.5)	260	5	130	V-0	▲	-
HS-3	0.075 (0.003)	0.12 (0.005)	17 (0.67) Int:34	DS	38.1 (1.5)	288	5	130	V-0	▲	-
HX-M	0.15 (0.006)	0.43 (0.017)	17 (0.67)	DS	25.4 (1.0)	260	7	130	V-0	All	*
HX-M (I)	0.21 (0.008)	0.21 (0.008)	17 (0.67) Int:102	DS	25.4 (1.0)	260	7	130	V-0	All	*
HX-N	0.15 (0.006)	0.43 (0.017)	17 (0.67)	DS	12.7 (0.5)	260	7	130	V-0	All	*
HXF-M	0.10 (0.004)	0.12 (0.005)	17 (0.67) Int:34	DS	25.4 (1.0)	260	10	130	V-0	All	-
Single layer printed wiring boards.											
HX-S	0.15 (0.006)	0.43 (0.017)	17 (0.67)	DS	25.4 (1.0)	260	7	130	V-0	All	*
HX-S (I)	0.14 (0.006)	0.42 (0.017)	17 (0.67)	DS	25.4 (1.0)	260	7	130	V-0	-	*
HX-S (II)	0.14 (0.006)	0.42 (0.017)	17 (0.67)	DS	25.4 (1.0)	260	7	130	V-0	All	*
HX-S (III)	0.21 (0.008)	0.21 (0.008)	17 (0.67) Int:102	DS	25.4 (1.0)	260	7	130	V-0	All	*
HX-SA	0.20 (0.008)	0.60 (0.024)	17 (0.67)	DS	25.4 (1.0)	260	7	120	V-0	All	*
HX-SB	0.20 (0.008)	0.40 (0.016)	17 (0.67)	DS	25.4 (1.0)	260	7	130	V-0	All	*
HXF-S	0.10 (0.004)	0.12 (0.005)	17 (0.67)	DS	25.4 (1.0)	260	10	130	V-0	▲	-
JHS-S	0.15 (0.006)	0.15 (0.006)	17 (0.67)	DS	25.4 (1.0)	260	7	130	V-0	All	-

* - CTI PLC is marked on individual board.

Marking: Company name or trademark  , type designation and Recognized Component Mark,  . May be followed by a suffix to denote factory identification.

Last Updated on 2009-09-17

Questions? Notice of Disclaimer Page Top

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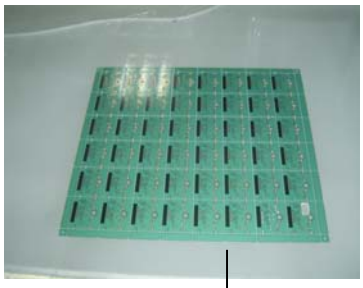
An independent organization working for a safer world with integrity, precision and knowledge.



Part Packing Specification

华新料号:2165AUTA0　　明基料号： 3PD539D011D

包装方法及流程如下：



每SET有36PCS组成



每一小包真空包装 25 SET,
共900PCS.均为同一周期。



每箱包装8包,共7200PCS



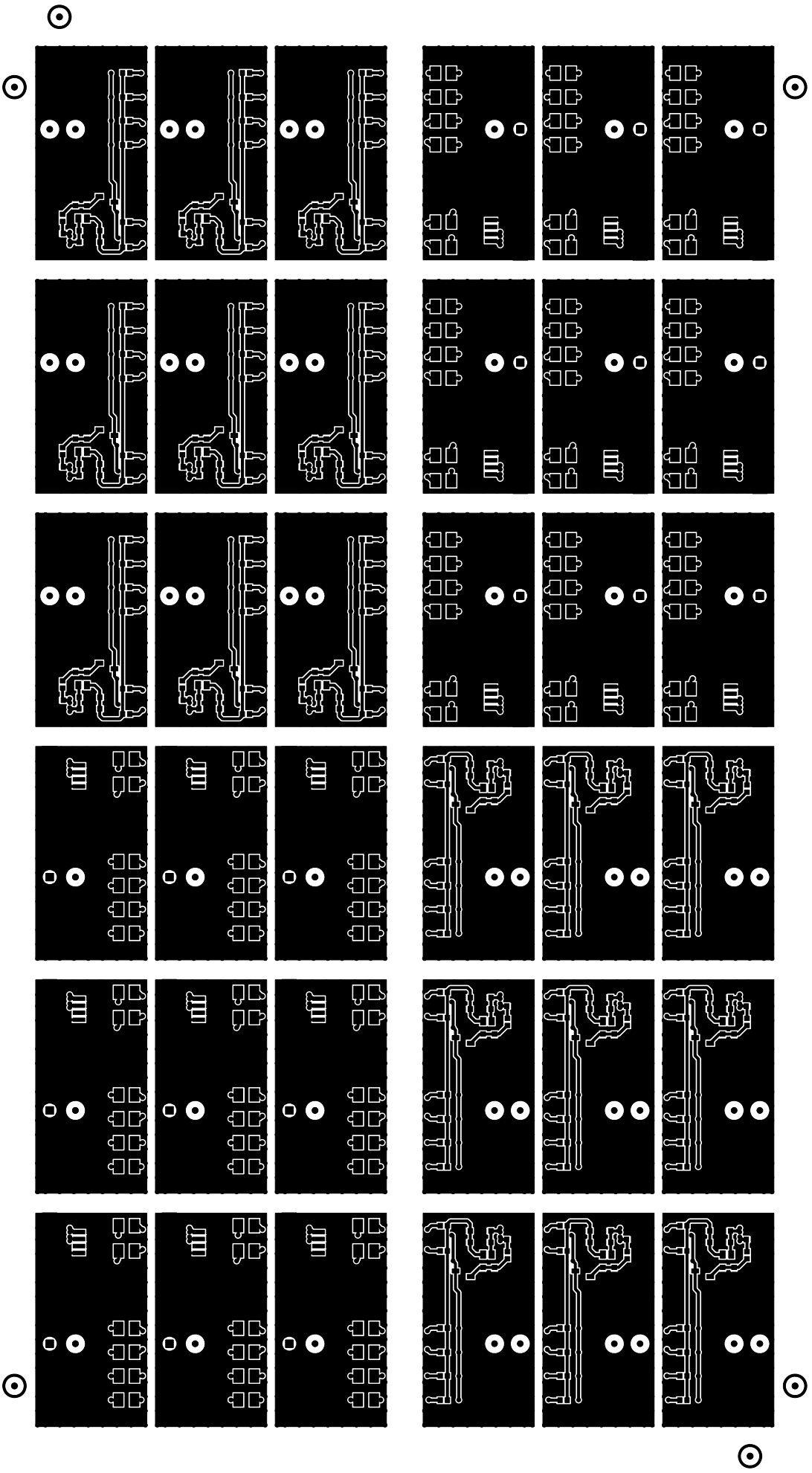
包装好后用透明胶带封箱

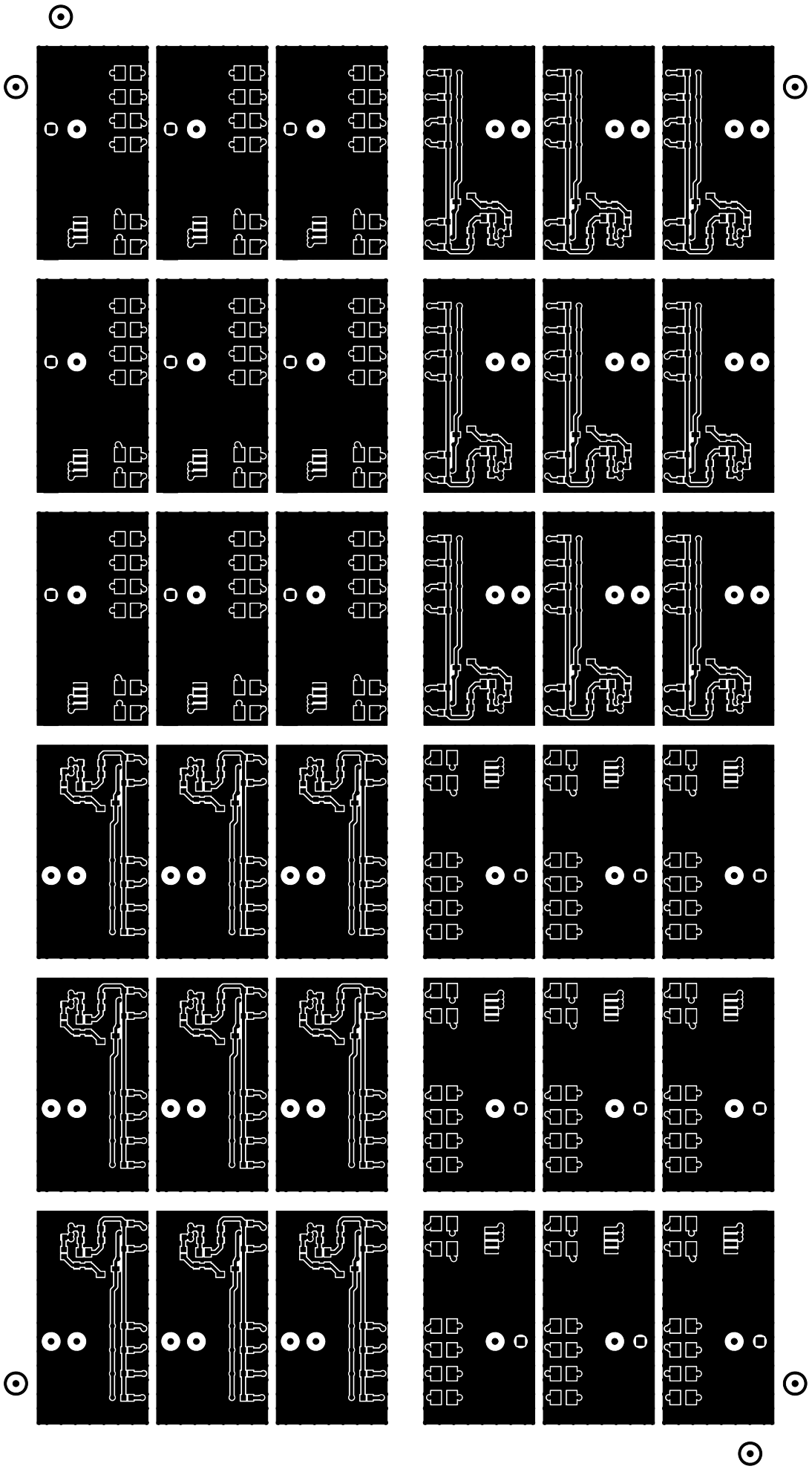


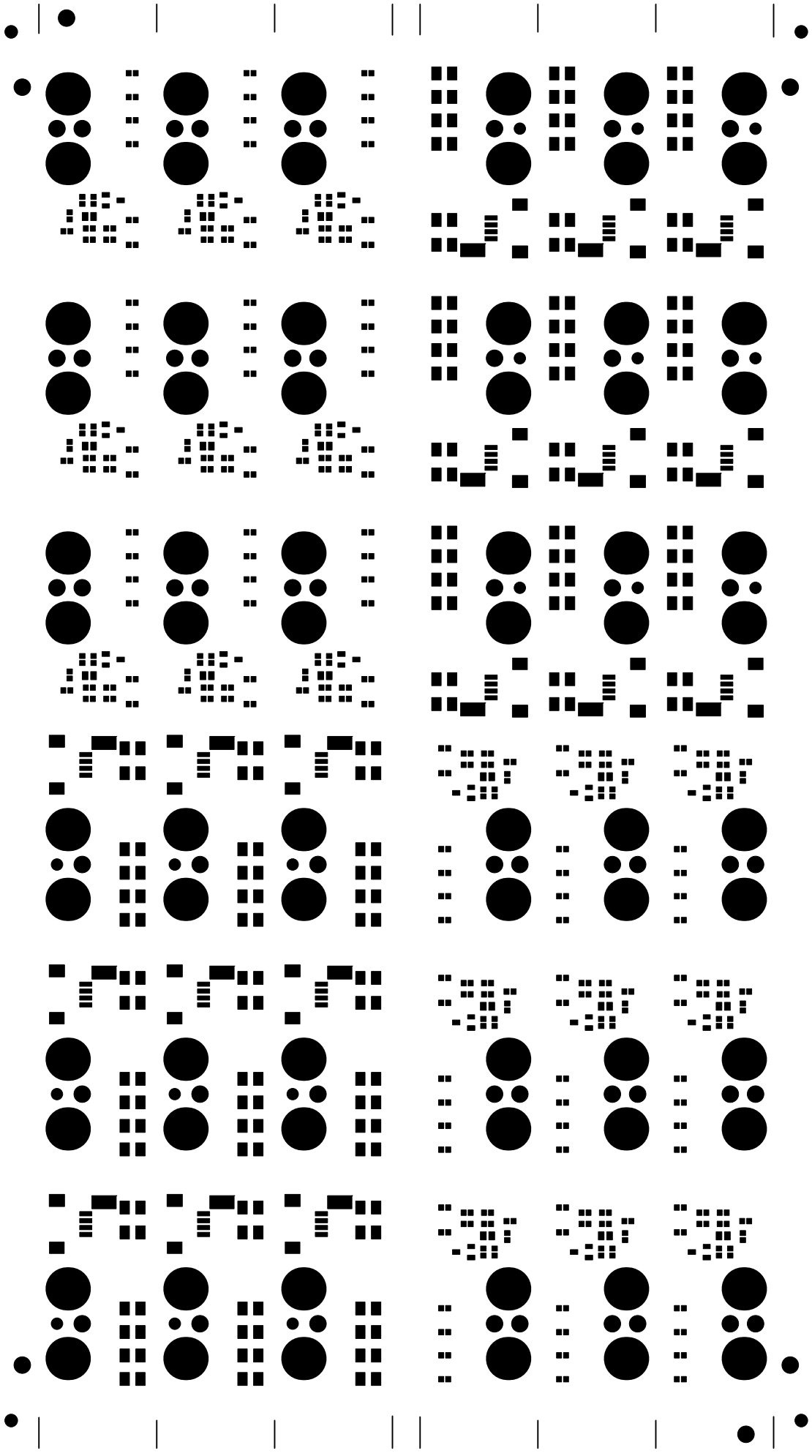
贴标签和GP标识。

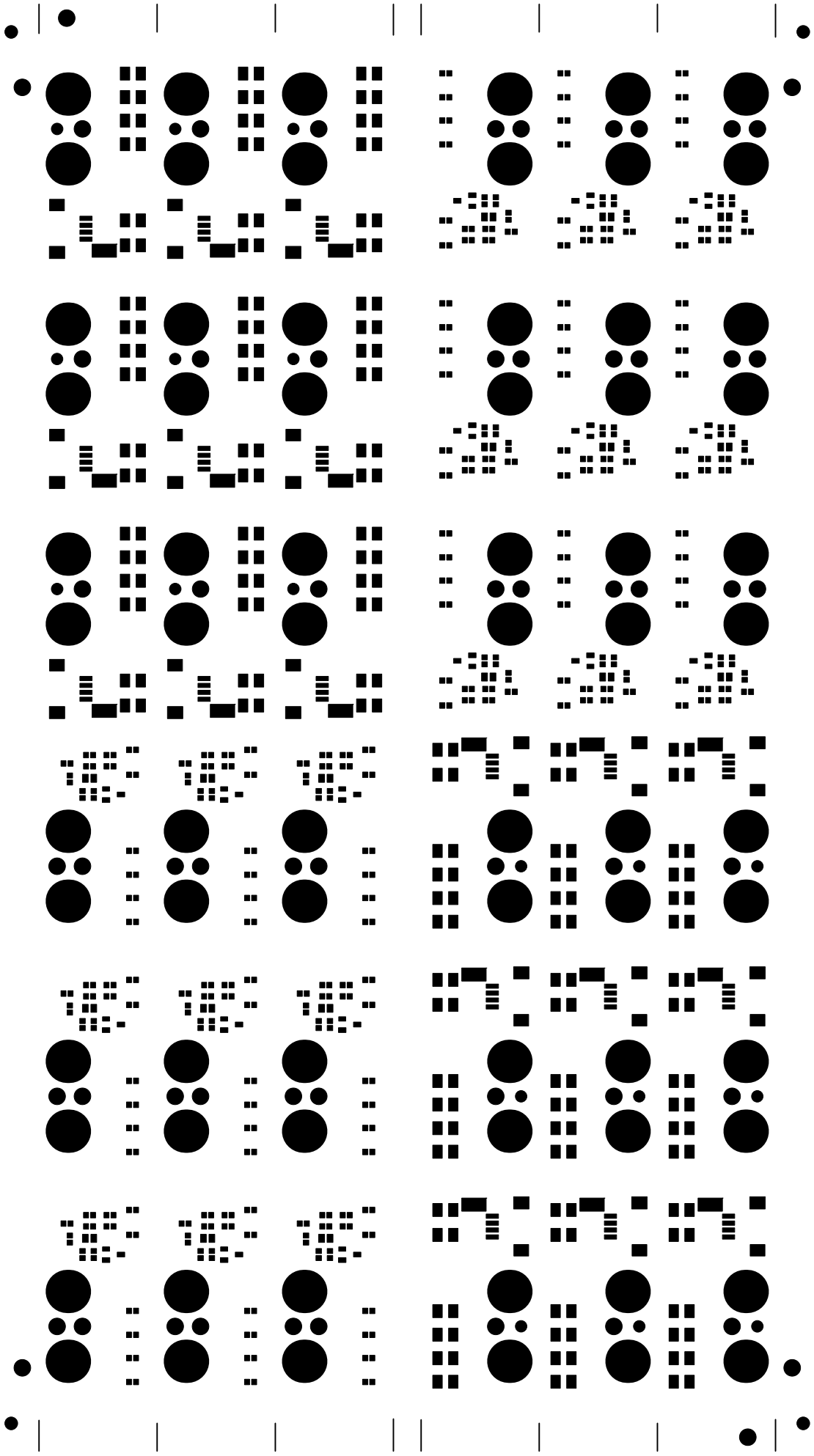
检查：沈宇飞
日期：2025-3-11

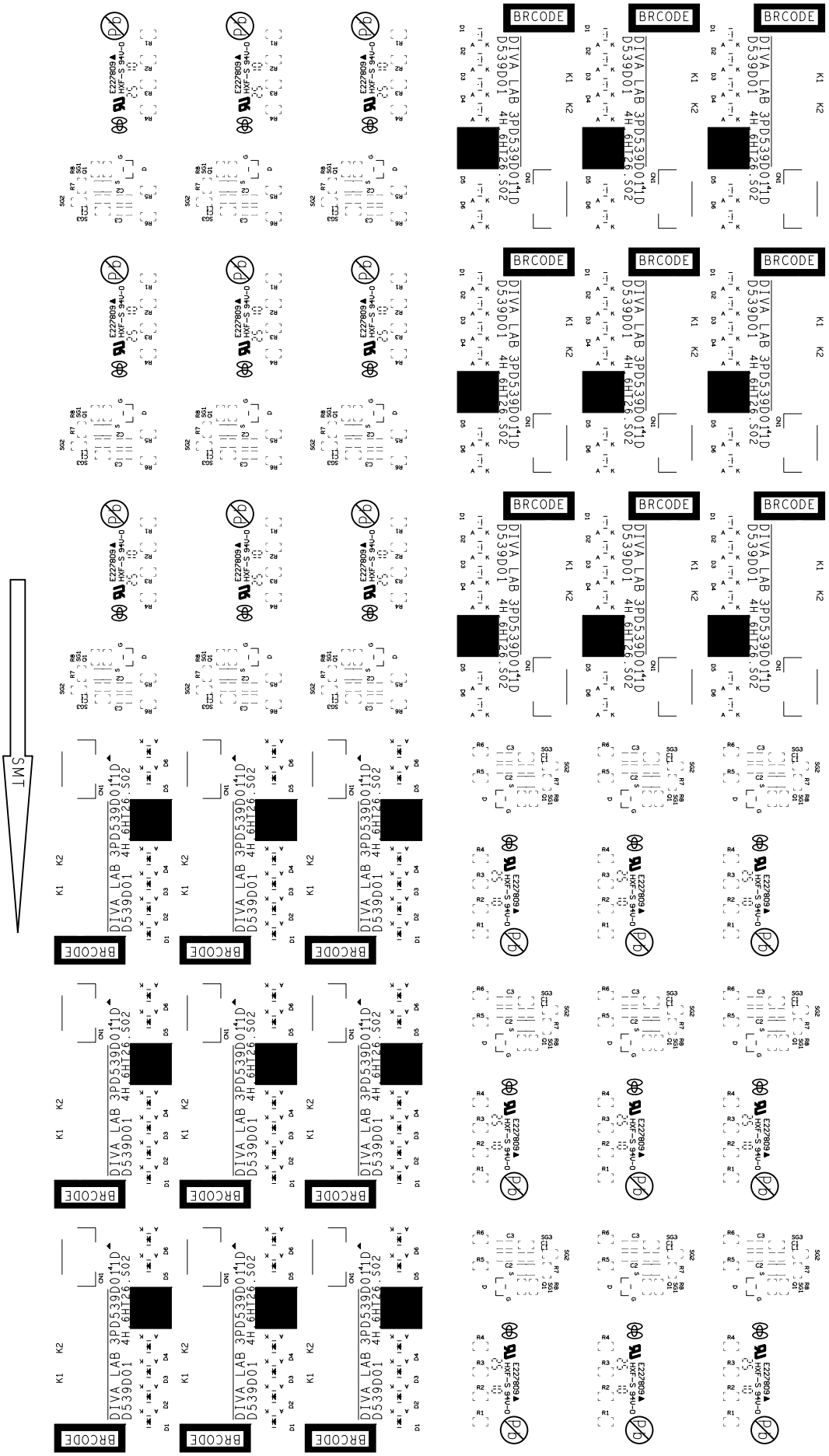
审核：柯敏
日期：2025-3-11

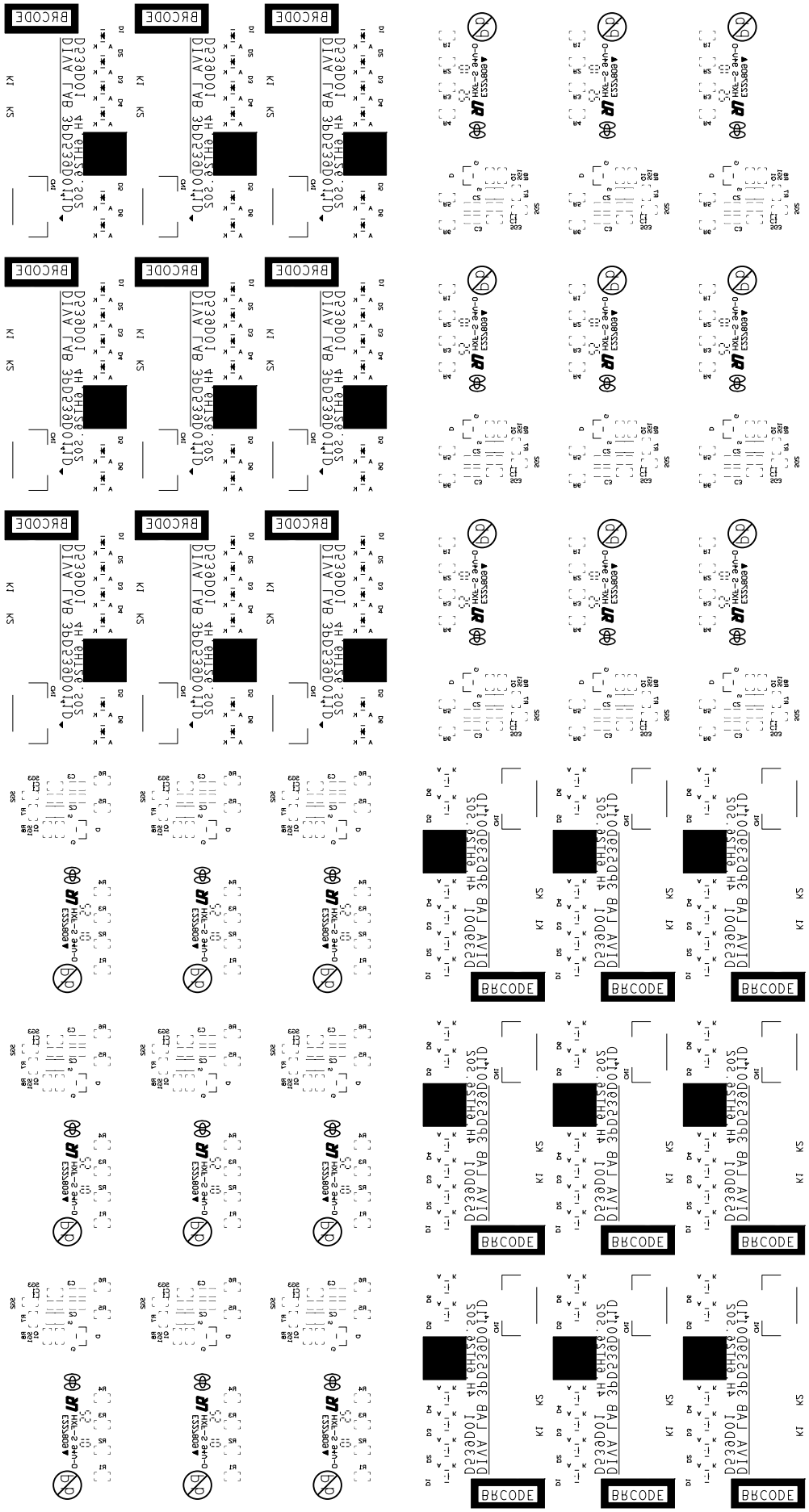




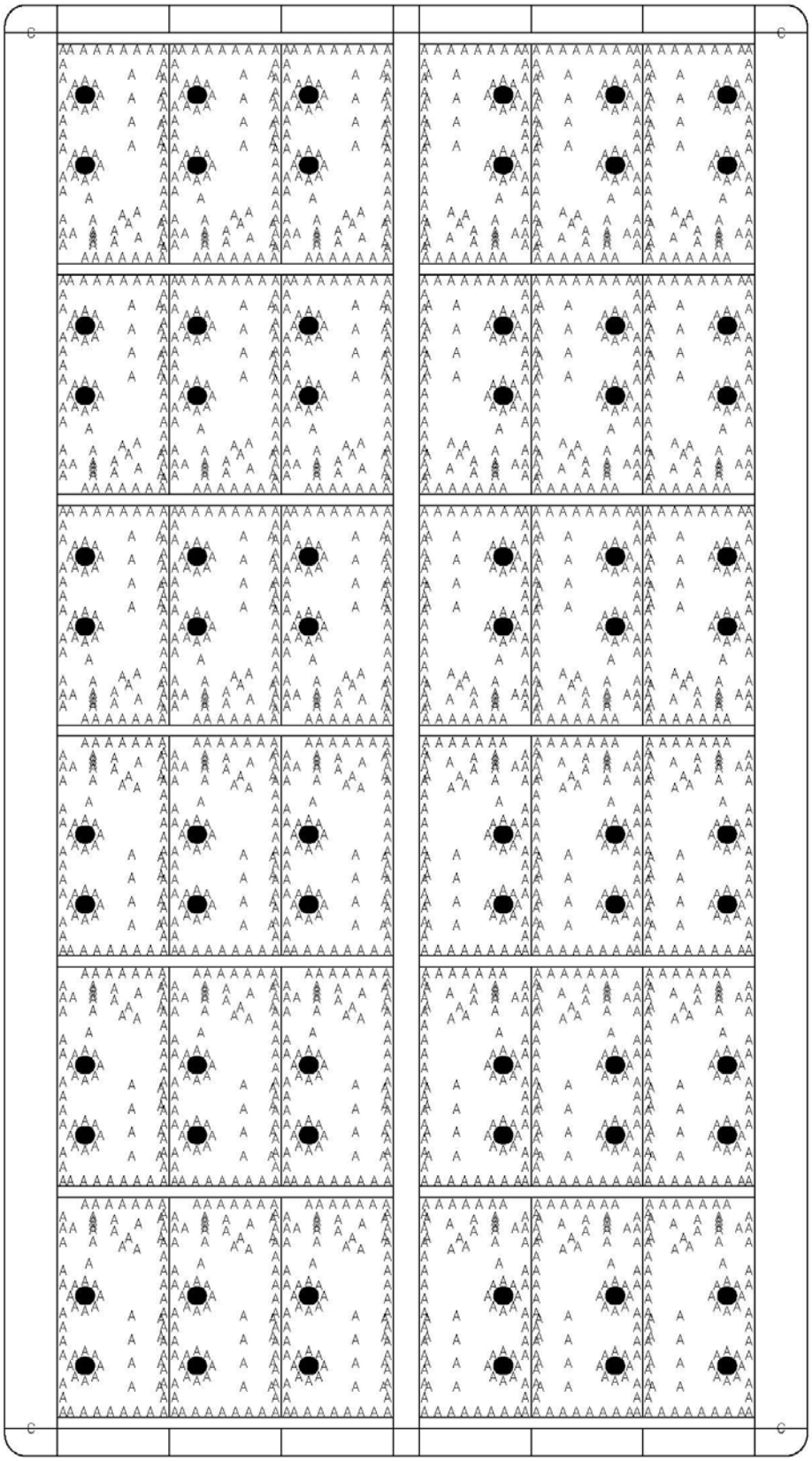





SM1
BRCODE
DIVA LAB 3PD539D011D
D539D01 4H 6HT26.S02
K1 K2
CN1
D1 D2 D3 D4 D5 D6
R1 R2 R3 R4 R5 R6 R7 R8
C1 C2 C3
SG1 SG2 SG3
E227809▲
HXF-S 94V-0

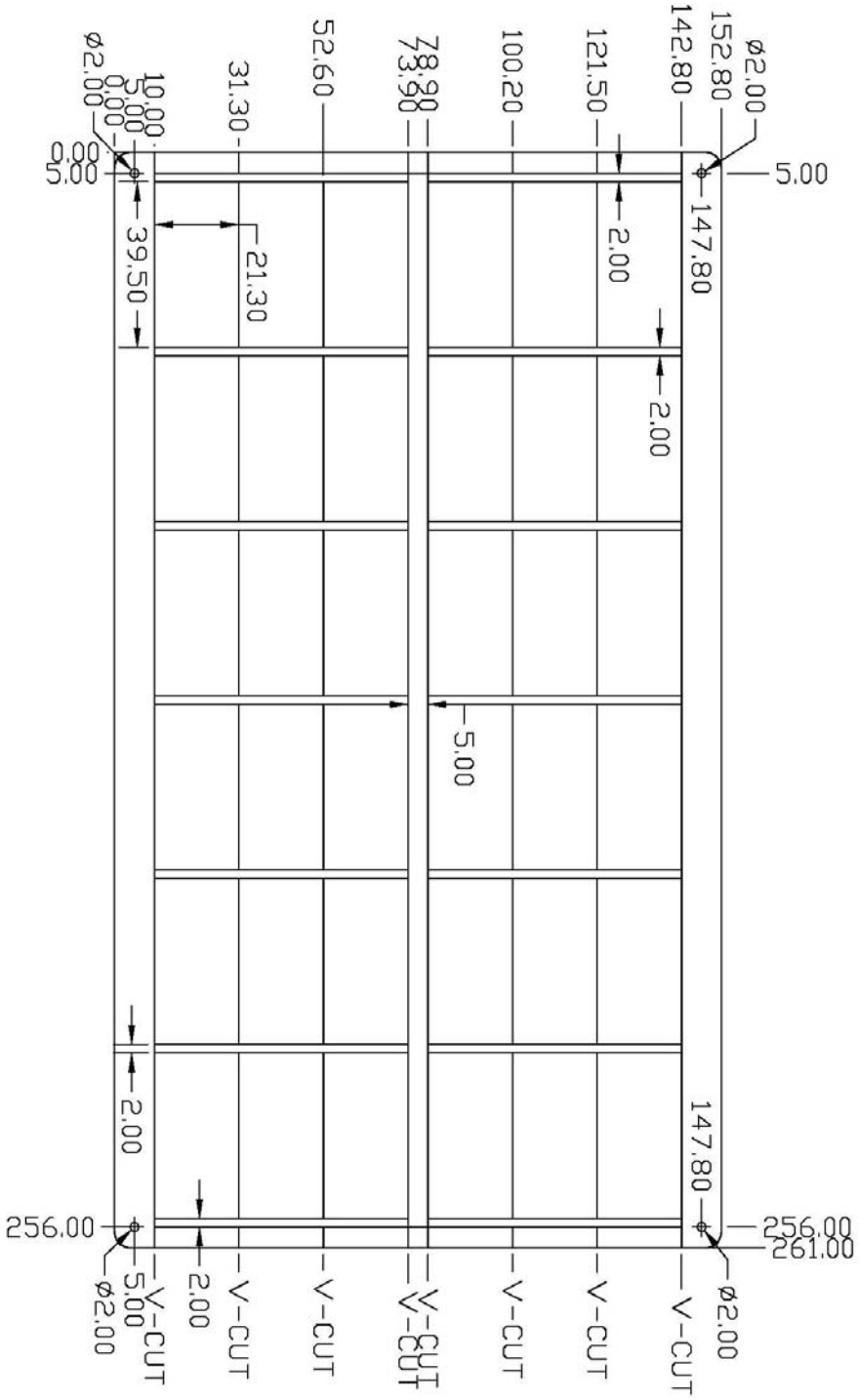


CAM350 PRO V 7.5.1 : Thu Dec 19 09:02:29 2024 - 2.cam



TOOL CHART

No.	Size(mm)	Count	Legend
4	0.30	2880	A
6	1.60	144	B
7	2.00	4	C
8	3.20	216	D
	Total	3244	


ø2.00
152.80
142.80
121.50
100.20
78.90
73.90
52.60
31.30
10.00
5.00
0.00
ø2.00
0.00
5.00
5.00
147.80
2.00
2.00
39.50
21.30
5.00
2.00
147.80
256.00
256.00
261.00
ø2.00
V-CUT
V-CUT
V-CUT
V-CUT
V-CUT
V-CUT
V-CUT
2.00
5.00
ø2.00

“Qisda 與 Diva 合作的 EMS 機種”

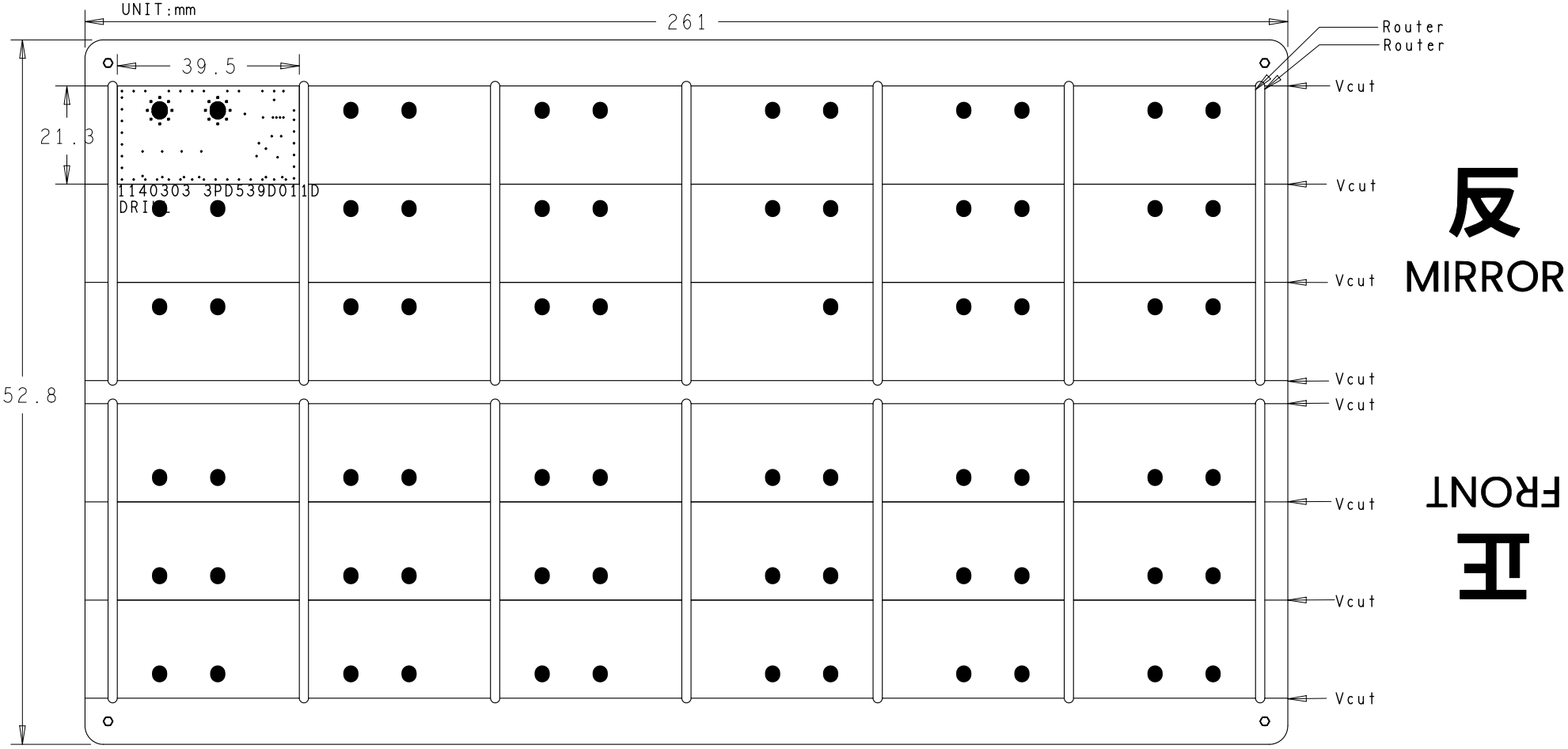
Printing information

DIVA	Layer:NCDRILL_LEGEND	Part No.:4H.6HT26.S02	
	Filename:LED BD	Date:03-03-25	Rev.:1
	Model No.:RGT2422AMII	Sheet 7 of 9	
	Doc. No.: 9J.6HT5P.000-Q30-305-002		

Layer	Side
L1	Top
L2	Bottom
L3	
L4	
L5	
L6	
L7	
L8	
L9	
L10	

CTI value:XXXXXX	Tg:Normal TG	
Material(LAM)	FR-4	
Thickness	1.6 mm	
PCS(W*L)	21.3 X 39.5 mm	
PNL(W*L)	152.8X261mm+-0.127mm	
PCB Utility Rate	XX.XX %	
Impedance control	XXX ohm	
Surface Finishes	ENIG	
PCS/PNL	36 / 1	
V-Cut: x8	Router: x14	
SXX Printing	Top White	Bottom White
AXX Printing	Top White	Bottom White
JR Q’ty	JRxx/xxx	
JW Q’ty	JWxx/xxx	
Other	N/A	

DRILL CHART: TOP to BOTTOM			
ALL UNITS ARE IN MILS			
FIGURE	FINISHED_SIZE	PLATED	QTY
·	10.0	PLATED	64
·	12.0	PLATED	16
○	79.0	NON-PLATED	4
◎A	142.0x126.0	PLATED	2



CAM350 PRO V 7.5.1 : Tue Mar 11 10:27:40 2025 - (Untitled)

Sample Acknowledgement
样 品 承 认 书

Customer (顾客名称)	**鈺緯科技 DIVA**	Customer P/N (顾客料号)	3PD539D011D
KCTC P/N (华新料号)	2165AUTA0	Sample QTY. (样板数量)	3SET
INSP. Date (检查日期)	2025-3-11	Acknowledgement Date (确认日期)	2025-3-11

Customer Acknowledgement Result (客户确认结果)			
☐ PASS (合格) ☐ REJ (不合格) ☐Rework Sample (再做样) ☐Requst Corrective , See Remark (需改善, 见备注)。			
Should Requst Corrective the items when batch produce (批量生产时应改善事项):			
Remark (备注):			
Approved by (批准)		Date (日期)	

	Inspection by (检查)	Verified by (审核)	Approved by (批准)
签名 (Signature)	沈宇飞	柯敏	王平
日期 (Date)	2025-3-11	2025-3-11	2025-3-11

昆 山 市 华 新 线 路 板 有 限 公 司

KUNSHAN CHINA THRIVE CIRCUIT BOARD CO LTD

技术数据 TECHNICAL DATA（BOM）			
1	产品品种 product type		双面板/多层板
2	基板材料 base material		FR-4
3	成品尺寸 finished board size		
	最大成品板尺寸 S/S MAX		261×152.8 mm
4	成品孔径直径 finished hold dia		
	最小圆孔直径 min hold dia		0.30 mm
	最小异型孔宽度 min abmormity hold dia		3.20 mm
5	导线宽度和导线间距 conductor width & space		
	最小导线宽度 min.width		0.508 mm
	最小导线间距 min.space		0.254 mm
6	阻焊油墨种类 solder mask options		
	丝印光固油墨		NA
	photic cure solder mask		海田
	颜色 colour		哑光黑色
7	文字印刷 legend printing		
	文字印刷颜色 legend printing colour		白色
	字符最小宽度 min.legend width		0.127 mm
8	表面处理 surface treatment		化学镍金
	镍厚≥2.54UM;金厚≥0.05UM		镍厚 2.55UM;金厚 0.055UM
9	电检测 electronic testing		
	测试方法 method		双面测试
	最大可测试尺寸 max.testing panel size		450×380 mm
10	V 形槽 “V” CUT		
	深度误差 depth tolerance		±0.08 mm
	定位槽精度 positioning tolerance		±0.127 mm
11	外形加工公差 profile tolerance		±0.127 mm
12	翘曲度 D/S and ML warp		< 0.55%
13	光绘 laser photoop lotter system		
	最大绘图面积 max.plot.area		660×508 mm
	精度 accruacy		8000×4000
	重复精度 repeatability		0.0127 mm
14	绝缘电阻 insulation resistance		1×10^{10}
15	抗剥强度 peel strebgth		> 1.4N/MM
16	阻焊剂硬度 solder mask abrasion		> 5H
17	耐热冲击 thermal strength		288℃±5℃ 10sec
18	可燃性 falmmability		94V-0
19	通断测试电压 E-test voltage		150V~250V

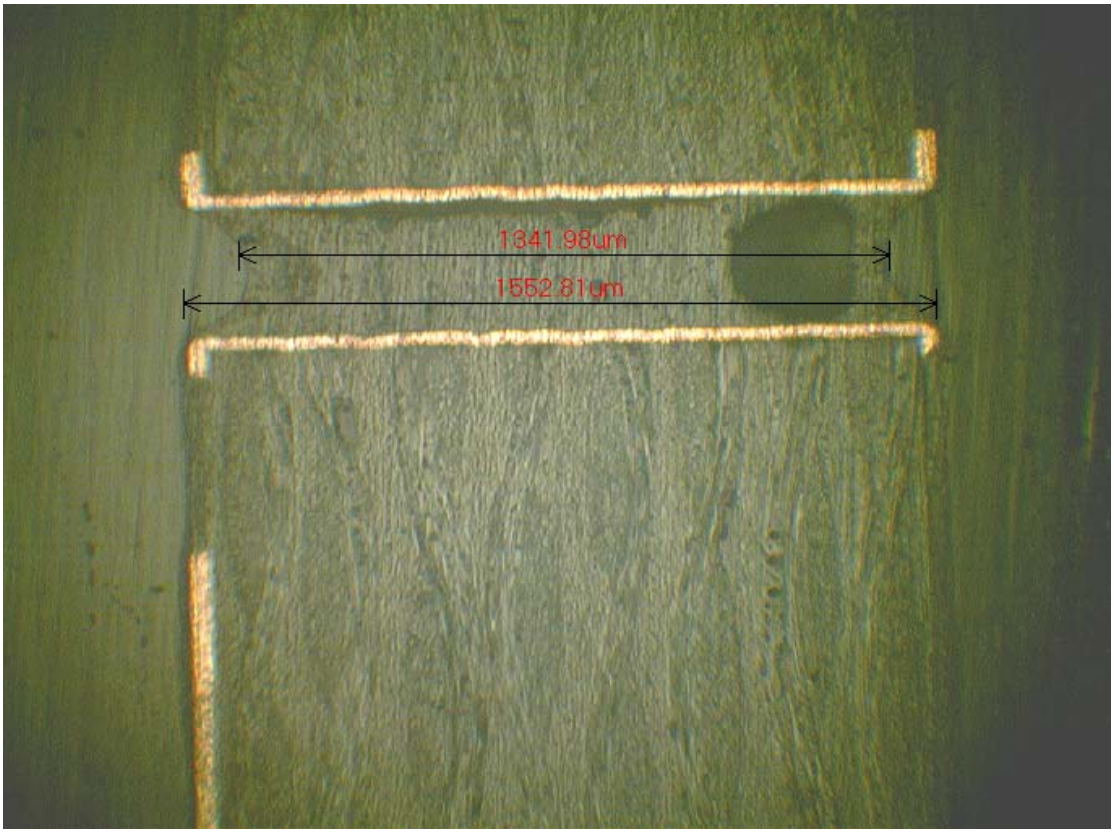
昆山市华新电路板有限公司

塞孔切片报告

PROD P/N：2165AUTA0 DATE CODE：25 10

CUSTOMER P/N: 3PD539D011D SAMPLE SIZE：1PCS

CUSTOMER：鈺緯科技 DIVA 塞孔饱满度：86%



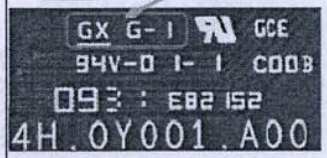
Disposition: Acc■ Rej □

测试员：沈宇飞 审核：王平

Qisda Display Product's PCB General Rule

No.	Final Surface Finish	Spec.	Checking Area	Vendor Check
A-1	Sn/Ag/Cu (Sn/Cu) Thickness(HASL)	120 μ" ~ 600 μ"	BGA / SMD IC Pad	OK
A-2	Electroless Nickel /Immersion Gold Thickness (If no specified)	Au : 2 ~ 6 μ" / Ni : >110 μ"	BGA / SMD IC Pad	OK
A-3	OSP Thickness	0.25 ~ 0.45 μm (Ref. Page 8/9 , H01/H02)	PCB trace / pad	OK
A-4	Immersion Silver Thickness	6.5 ~ 16μ" (Ref. Page 8/9, H03/H04)	BGA / SMD IC Pad	OK
A-5	Immersion Tin Thickness	≧35 μ"	BGA / SMD IC Pad	OK
A-6	Plated Gold Thickness	Au : ≧30 μ" / Ni : > 110 μ"	Gold Finger	OK
A-7	Conductor Width / Pad / Spacing Tolerance (Spec. > 10 mil.)	± 15 % (If No Specified)	Conductor / Pad	OK
A-8	Conductor Width / Pad / Spacing Tolerance (Spec. ≦ 10 mil.)	± 10 % (If No Specified)	Conductor / Pad	OK
A-9	Connector wing pad 間距 tolerance	≦ 10 % (If No Specified)	Wing pad 間距	OK
A-10	Holes Registration ---- PTH hole (Minimum annular ring)	≧ 6 mil (If No Specified)	PTH	OK
A-11	Holes Registration ---- Via hole (Minimum annular ring)	> 1 mil (If No Specified)	Via	OK
A-12	Hole Roughness	≦ 0.75 mil.(If no specified)	BGA via /Via/PTH	OK
A-13	Wicking	< 4.0 mil	Hole / PTH	OK
A-14	Hole Diameter Tolerance (If no specified)	PTH : ± 3 mil. , Un-plated : ± 2 mil.	PTH / BGA via	OK
A-15	Internal Layer Foil (If no specified)	1 OZ	PTH / BGA via	OK
A-16	External Layer Foil (If no specified)	0.5 OZ	PTH / BGA via	OK
A-17	Cleanliness (Ionic contamination)	< 6.0 μg NaCl / inch²; (HASL ≦9.0μg NaCl / inch²)	PCB	OK
A-18	Adding radius of finished board 4 corners.	R x 79 mil (R x 2 mm)	Panel's corners	OK
A-19	材料方向	Core 需與 PP 同一方向	PCB	OK
A-20	PCB outline dimension tolerance	± 0.127 mm	Outline	OK

No.	Final Surface Finish	Spec.	Checking Area	Vendor Check
B-1	Solder Mask color	1. GP Halogen free PCB : 藍色 2. The others : 綠色 (If gerber file no specified)	Solder mask	Ok
B-2	Solder Mask Coating Thickness (If no specified)	1. Min. 0.46 mil, & Min. > 0.15 mil at the edge of trace. 2. 不得有漏銅/假性漏銅現象	Conductor / Trace	Ok
B-3	BGA & Non BGA via	除非Gerber file 防焊層開口定義有指定該via禁止綠漆塞孔外（如噴錫孔, 電測用孔—），所有Via Holes 需兩面塞綠漆(不得假性露銅/不能具有錫蝕性)	Via	Ok
B-4	Solder resist coverage	不容許綠漆/文字/標示漆沾附於孔環及 Pad 上，及禁止侵犯流入或殘留於 PTH 孔壁處	Pad / PTH	Ok
B-5	V-Cut Thickness --- Support (If no specified)	1/3 板厚±0.08 mm(板厚≧1.6 mm); 0.45 mm ±0.08 mm(板厚<1.6 mm)	Support	Ok
B-6	V-Cut Angle	30°, 45° (If No Specified)	V Cut	Ok
B-7	Gold Finger Beveling Angle (Θ)	30 ± 2° (If No Specified)	Gold Finger	Ok
B-8	Finish Board Thickness Tolerance	±9 % (If no specified)	PCB thickness	Ok
B-9	Dielectric Thickness	> 3.5 mil (If no specified)	Dielectric	Ok
B-10	焊錫面零件腳位置如有特別之標示如套加白漆圓圈	標示之白漆圓圈內經與零件 Pad 防焊漆外緣之間隙 ≧ 0.3mm (線材位置不適用)	Component Pad	Ok
B-11	Copper Purity Elongation and Tensile Strength (If no specified)	Purity > 99.5% pure, Tensile strength > 36,000 PSI [248 MPa], Elongation > 12%.	PTH	Ok

No.	Final Surface Finish	Spec.	Checking Area	Vendor Check
B-12	客戶或本公司 Logo Marking	除非 Gerber 有明列,否則禁止加入	PCB Marking	ok
B-13	The other Marking (如果 PCB gerber file 上對本項目有定義, 請 PCB 廠遵循該 gerber 上之定義，如其未做明確定義，則遵循本規定)	1. 需 Marking Date Code 2. 需 Marking PCB 耐燃等級(如94V-0) 3. 需 Marking PCB 製造廠 Brand/Logo 4. 需 Marking 本公司 PCB 料號 5. 需 Marking UL 安規標記(如圖 1 所示)及其號碼 (如 EXXXXXX) 6. 需 Marking UL Type designation 標記(如圖 4 所示)  圖 1  圖 2 7. 需 Marking e1 標記(如圖 2 所示) 8. 如為 Halogen free 無鹵素板材, 需 Marking "HF" 標記 (如圖 3 所示)  圖 3 圖4 (UL type designation)  以上之標示/標記禁止印刷於廢材上	PCB Marking	ok

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No.	Final Surface Finish	Spec.	Checking Area	Vendor Check
C-1	Gold Finger Board Edge	IPC -A- 600G Class-II (if No Specified)	Board Edge	ok
C-2	Gold Finger Surface	IPC -A- 600G Class-II (if No Specified)	Contact Finger	
C-3	Base Material Surface / Surface Plating	IPC -A- 600G Class-II (if No Specified)	Board Surface	
C-4	Holes Plated Through	IPC -A- 600G Class-II (if No Specified)	Hole / PTH	
C-5	Conductive Patterns (Definition/Dimensional)	IPC -A- 600G Class-II (if No Specified)	Conductor / Trace	
C-6	Dielectric Material	IPC -A- 600G Class-II (if No Specified)	Dielectric	
C-7	Conductors / Traces / Pads / Lands / Ground / Voltage Planes	IPC -A- 600G Class-II (if No Specified)	Conductor / Pad	
C-8	Solder Mask Surface	IPC -A- 600G Class-II (if No Specified)	PCB Surface	
C-9	Marking / Legend	IPC -A- 600G Class-II (if No Specified)	PCB	

No.	Copper Foil	Internal layer foil thickness	External conductor thickness	PTH copper thickness , [mil]		Blind vias thickness copper, (mil)		Buried vias thickness, copper (mil)		Vendor Check
				Min.	Avg.	Min.	Avg.	Min.	Avg.	
D-1	3/8 OZ	> 0.33 mil	> 1.0 mil	> 0.80	≧ 0.90	> 0.45	> 0.55	> 0.65	> 0.75	ok
D-2	1/2 OZ	> 0.49 mil	> 1.40 mil							
D-3	1.0 OZ	> 0.98 mil	> 1.80 mil							
D-4	2.0 OZ	> 2.35 mil	> 3.15 mil							
D-5	Final finish board open test		≦ 50Ω (If no specified)		Final finish board short test			> 10MΩ (If no specified)		

No.	Raw material requirement for Pb-free (Laminate/ Prepreg)		Vendor Check
E-1	Normal Tg(If No Specified)	Tg > 140 , Td > 310 ℃ , T260 > 30 min , T288 > 5 min	ok
E-2	Mid Tg (If No Specified)	Tg > 150 , Td > 335 ℃ , T260 > 40 min , T288 > 10 min	
E-3	Hi Tg (If No Specified)	Tg > 170 , Td > 350 ℃ , T260 > 50 min , T288 > 20 min	ok

No.	Base material	PCB Laminate/Prepreg / Ink / Paint spec. for Halogen free								Vendor Check
		Tg (℃)	Td (℃)	T260 (min.)	T288 (min.)	T300 (min.)	Chlorine (dppm)	Bromine (dppm)	Chlorine + Bromine (dppm)	ok
E-4	Normal Tg FR4 Halogen free	> 140	> 335	> 35	> 10	-	< 900	< 900	< 1500	ok
E-5	Mid Tg FR4 Halogen free	> 150	> 340	> 40	> 15	-	< 900	< 900	< 1500	ok
E-6	Halogen free Ink /Solder resist	-	-	-	-	-	< 900	< 900	< 1500	ok
E-7	Halogen free Paint	-	-	-	-	-	< 900	< 900	< 1500	ok
E-8	PCB finish board (Halogen free Normal Tg)	> 140	> 335	> 35	> 10	-	< 900	< 900	< 1500	ok
E-9	PCB finish board (Halogen free Mid Tg)	> 150	> 340	> 40	> 15	-	< 900	< 900	< 1500	ok

PCB Reliability test items by PCB vendor	
Must	Item F1, F2, F3, F4, F5, F6, , G2, G3, G4, G5, G8, G10, G11
TBD	Item G1, G2, G5, G6, G7, G9, G10

ok

No.	Item	Test Method	Spec.	Test Freq.	Sampling Size	vendor check
F-1	S/M Adhesion	IPC-TM-650 2.4.28.1	No Peel Off , No Flaking	Per D/C Lot (If No Specified)	Per D/C Lot x 1 pcs. (If No Specified)	OK
F-2	Bow And Twist	IPC-TM-650 2.4.22	Twist : < 0.50 % Bow : < 0.50 % "量測方式請參考 Page 9/9"			
F-3	Surface Plating Adhesion	IPC-TM-650 2.4.1	No Peel Off , No Flaking			
F-4	Thermal Stress (Float Solder)	IPC-TM-650 , 2.6.8. 288 ℃ x 10 Sec. -->20 ℃ x 10 Min. -->x 4 Cycles	1. Resistance change < 10 % 2. No Plating Crack / Break No voids , No Delamination No Separation ,No blistering No Measling ,			
F-5	Outline dimension		Follow Gerber			
F-6	Impedance Control (If No Specified)	IPC-TM-650 2.5.5.7.	Characteristic impedance ± 8 % Differential impedance ± 10 %		100 %	

No.	Item	Test Method	Spec.	Test Freq.	Sampling Size	vendor check
G-1	Dielectric Withstanding Voltage	IPC-TM-650 2.5.7. DC : 500 +15 / -0 V . 30 sec	No Leakage / Sparkling . No Breakdown Between Test Layer	1. 次/半年 2. F.A.I. Of new Model (If No Specified)	1片 / Model (If No Specified)	ok
G-2	Volume Resistivity	IPC-TM-650 2.5.17 C/96/35/90	>1.0 x 10^{13} Ω-cm			
G-3	Peel Strength	IPC-TM-650 2.4.8	0.5 OZ > 6 lb / inch . 1.0 OZ > 8 lb / inch . 2.0 OZ > 10 lb / inch			
G-4	Bonding Strength	IPC-TM-650 2.4.21	> 500 lb / inch²			
G-5	玻璃轉換溫度	IPC – TM-650 2.4.24	Tg ≧ Spec. , △ Tg ≦ 4℃			
G-6	Porosity Of Gold Plating	IPC-TM-650 , 2.3.24 70% HNO3 Vapor x 30 Min.	< 8 defects / cm² (By x 15 ~ 20 Scope)			
G-7	Rework Simulation	IPC-TM-650 2.4.36	No Delaminating / Separation , No Land Lifting			
G-8	Surface Resistivity	IPC-TM-650 2.5.17 C/96/35/90	>1.0 x 10^{10} Ω			
G-9	Electro -migration	Bellcore GR-78-core 13.2.7 : 85℃@ 85%RH , x 500hrs @ 50V bias , Test voltage : 100VDC	1. Bellcore GR-78-Core 13.2.7 2. Option inspection(30X) should no evidence of whisker growth			
G-10	Thermal Shock	IPC-TM-650 2.6.7.2 -65 ℃x 30 Min. ---> 125 ℃x 30 Min. ---> (> 500 cycles) 溫度變化須於 2分鐘內完成	1. Resistance change < 10 % 2. No Plating Crack / Break No voids , No Delaminating No Separation .No blistering No Measling ,			
G-11	Ionic contamination	IPC-TM-650 2.3.25 Test liquid > 45 M Ω, x 15 Mn.	< 6.0 µg NaCl / inch² , (HASL ≦ 9.0µg NaCl / inch²)	1. 次/季 2. FAI of new model		

NO.	OSP chemical solution type for PCB surface finish			Vendor Check
	OSP chemical solution supplier	OSP chemical solution type	OSP thickness	
H01	Shikoku Chemicals Corp.	Glicoat - SMD(F2) / SMDF2(LX) / SMD(F2)-Plus	0.25 μm ~ 0.40 μm	ok
H02	Cookson Electronics (Enthone Inc.)	Entek Plus CU – 106 HT / Entek Plus CU - 106A(X)HT	0.30 μm ~ 0.45 μm	

NO.	Immersion Ag chemical solution type for PCB surface finish			Vendor Check
	Imm Ag chemical solution supplier	**Imm Ag chemical solution type**	**Imm Ag thickness**	
H03	Mac Dermid	Sterling™ Silver (75097# , 75098#)	10~ 16 μ" (1.5 x1.5 /2 x 2 mm pad) 6.5 ~8 μ" (5 x 5 mm 以上 pads)	ok
H04	Cookson Electronics (Enthone Inc.)	Alpha STAR #	10~ 14 μ" (1.5 x 1.5 / 2 x 2 mm pad) 6 ~ 8 μ" (5 x 5 mm 以上 pads)	

* PCB must be packaged by vacuum within 12 hrs while OSP/Imm Ag is finished

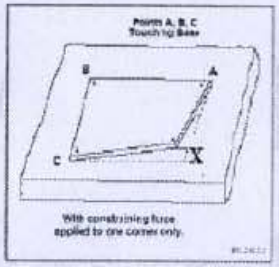
** PCB 於 HASL / OSP / Imm Ag Process 最多只能進行二次（含重工）

No.	Solderability test (Insp. In per D/C Lot x 2 pcs.)			Vendor Check
	Product type	Test Method	Spec.	
I-01	Pb-free	Reflow x 2 times (Peak temp. Avg. > 245 ℃, above 217 ℃ time Avg . > 50 sec.) -----> Wave soldering(250 ~ 255 ℃ x 2.2~2.6 sec.)	1. Wetting > 100 % 2. All PTH Solder fill up x 100 %	ok

*** The composition of Pb-free solder alloy to be used in test shall be : Sn-Ag-Cu (SAC305)**

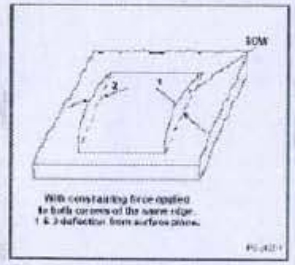
*** The fux for solderability test shall be a standard activated rosin flux (Type ROL1)**

PCB 出貨之檢驗項目即應附之檢驗及量測報告									Vendor Check
01	Internal Layer Foil Thickness	04A	Sn Thickness(HASL)	04C	ENIG Thickness				OK
02	External Conductor Thickness	04C	Plated Gold Thickness	04D	Immersion Tin Thickness				
03	PTH Copper Thickness (BGA via /via)	04E	OSP Thickness	04F	Immersion Silver Thickness				
05	Solder Mask Coating Thickness	06	Conductor Width / Spacing Tolerance						
07	Finish Board Thickness Tolerance	08	Hole Roughness (Via / PTH)			09	Wicking		
10	Thermal Stress	11	Solderability	12	S/M Adhesion	13	Bow And Twist		



Measuring method of PCB Twist

X : < $\overline{AC}$ (PCB/Panel 對角線長) x 0.5 %



Measuring method of PCB Bow

1 + 2 : < (PCB/Panel 邊線長) x 0.5 %

Check By 吳文霞

Approval By 郭官生