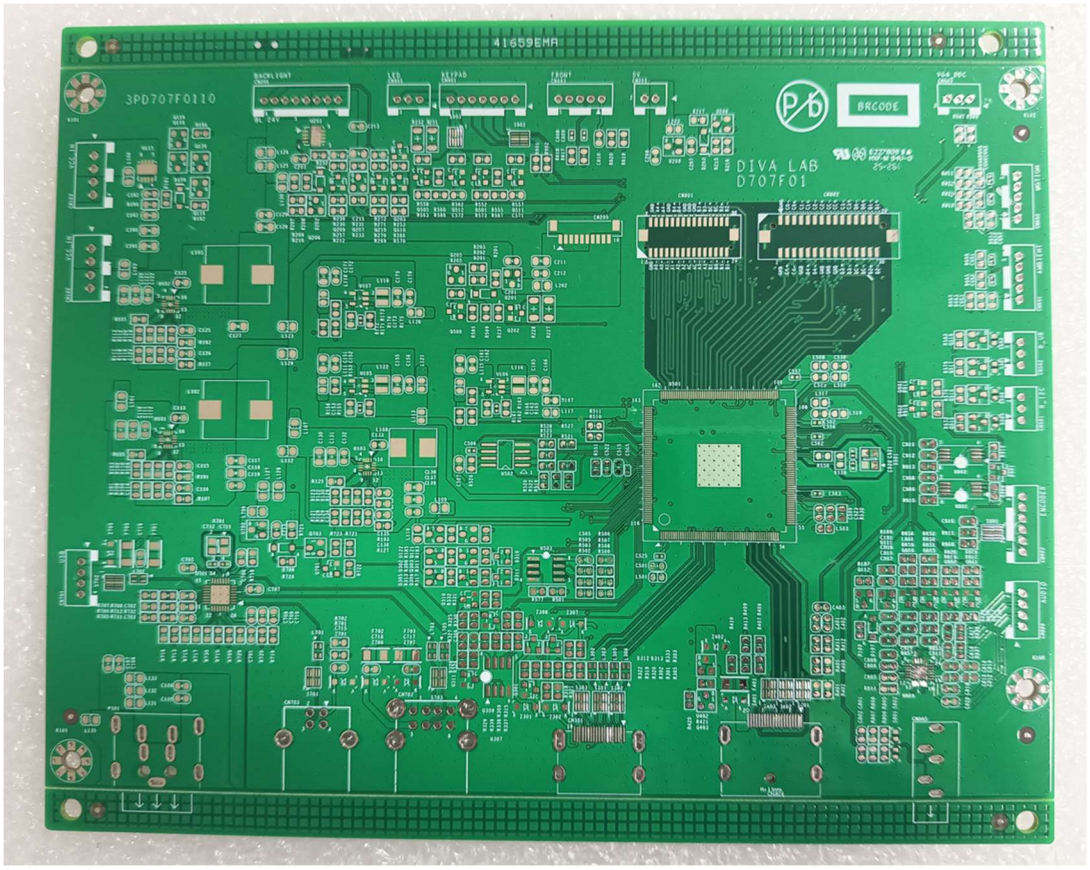
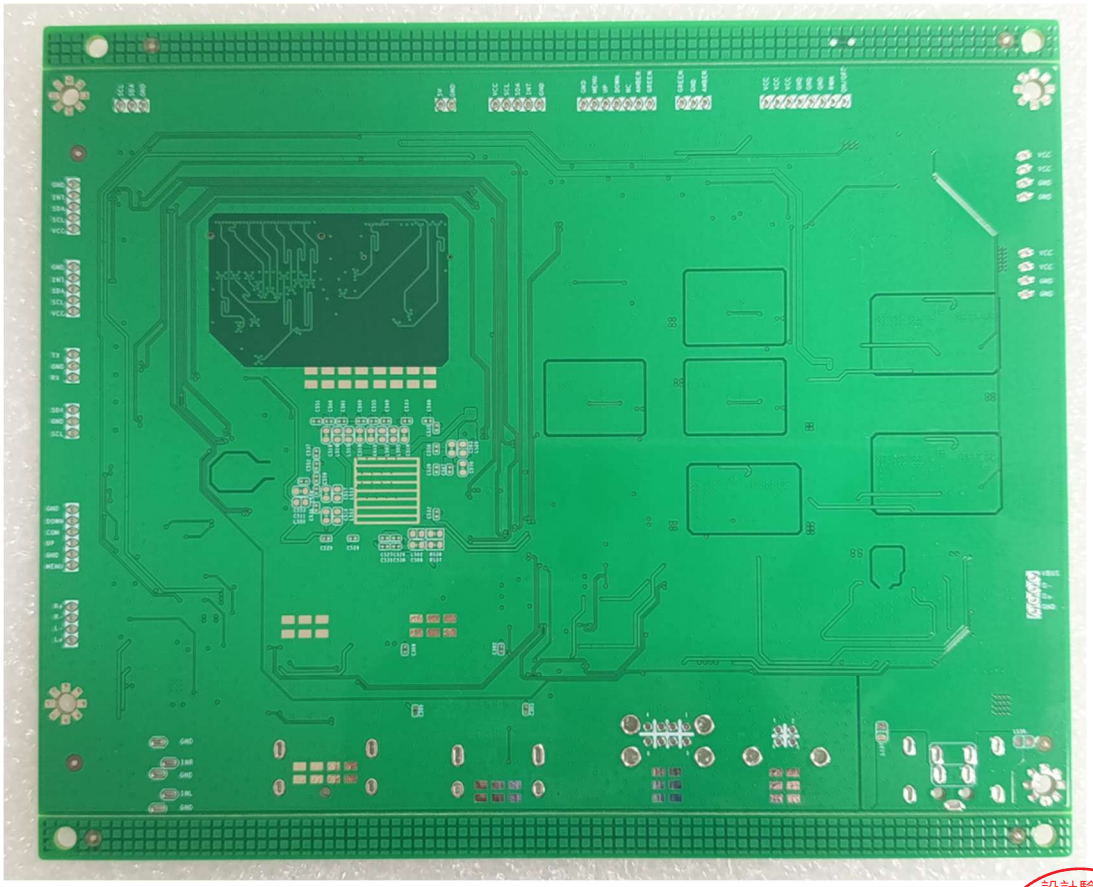






設計驗證
工程課
2026 -03- 31
發行

昆山市华新电路板有限公司

Kunshan Huaxin Printed Circuit Board Co.,Ltd

Sample Acknowledgement

样 品 承 认 书

Customer(顾客名称)： **DIVA**

Customer P/N(顾客料号)：3PD707F0110 (P0339)

Date(日期)：2025.07.02

設計驗證
工程課
2026-03-31
發行

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

E227809

昆山市华新电路板有限公司

Kunshan Huaxin Printed Circuit Board Co.,Ltd

Sample Acknowledgement

样 品 承 认 书

Customer (顾客名称)	DIVA	Customer P/N (顾客料号)	3PD707F0110
KCTC P/N (华新料号)	41659EMA0	Sample QTY. (样板数量)	3SET
INSP. Date (检查日期)	2025.07.02	Acknowledgement Date (确认日期)	2025.07.02

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)	李伯英	程 芬	程 芬
日期 (Date)	2025.07.02	2025.07.02	2025.07.02

一、Capability Inspection（性能检测 ）满足 IPC-A-600&CLASS 3

Description（内容）			Requst（要 求）	Result（结果）	Judgement（判断）
1	Material（板材）	Type（种类）	FR-4 KB6160	FR-4 KB6160	ACC
		Board THK（板厚）	1.6+/-9% mm	1.650 mm	ACC
		Copper THK（铜箔厚度）	J/1/1/J OZ	J/1/1/J OZ	ACC
		Twist & Warp (翘曲度)	1.板弯<长边* 0.55% ； 且<1.6mm 2.板翘 < PCB/Panel 对角线长 *0.55%; 且<1.6mm	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 B HXF-M94V-0	E227809 B HXF-M94V-0	ACC
		Date Cord (周期)	YY WW	2526	ACC
3	Trace (线路)	width (线宽)	0.09+/-10% mm	0.09 mm	ACC
		space (线距)	0.11+/-10% mm	0.11 mm	ACC
		Min.Hole Ring（最小环宽）	≥0.05 mm	0.15 mm	ACC
4	Solder Mask（阻焊）	Type(种类)	HSR-200 GK	HSR-200 GK	ACC
		Color（颜色）	绿色	绿色	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	要求	90ohm+/-10% 100ohm+/-10%	见附件	ACC
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）
	0.254+/-0.076	Y	塞孔			ACC
	0.61+/-0.076	Y	0.675	0.675	0.675	ACC
	0.889+/-0.076	Y	0.950	0.950	0.950	ACC
	0.991+/-0.076	Y	1.050	1.050	1.050	ACC
	1.092+/-0.076	Y	1.150	1.150	1.150	ACC
	2.311+/-0.076	Y	2.350	2.350	2.350	ACC
	2.489+/-0.076	Y	2.550	2.550	2.550	ACC
	0.61+/-0.05	N	0.575	0.575	0.575	ACC
	0.991+/-0.05	N	0.975	0.975	0.975	ACC
	1.60+/-0.05	N	1.575	1.575	1.575	ACC
	2.032+/-0.05	N	2.025	2.025	2.025	ACC
	3.404+/-0.05	N	3.375	3.375	3.375	ACC
	0.813*1.702+/-0.076	Y	0.875*1.69	0.875*1.71	0.875*1.68	ACC
	0.889*1.702+/-0.076	Y	0.950*1.75	0.950*1.75	0.950*1.75	ACC
	0.787*2.01+/-0.076	Y	0.825*1.94	0.825*1.97	0.825*1.96	ACC
	0.813*2.21+/-0.076	Y	0.875*2.17	0.875*2.19	0.875*2.17	ACC
	0.762*2.286+/-0.076	Y	0.825*2.22	0.825*2.27	0.825*2.25	ACC
	0.762*2.286+/-0.076	Y	0.825*2.29	0.825*2.28	0.825*2.27	ACC
	1.016*2.286+/-0.076	Y	1.075*2.28	1.075*2.25	1.075*2.28	ACC
	0.889*2.692+/-0.076	Y	0.950*2.75	0.950*2.70	0.950*2.71	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）
	185.00+/-0.127	184.95	184.99	184.98	ACC
	151.00+/-0.127	151.01	150.97	151.03	ACC
	135.00+/-0.127	134.99	134.98	135.00	ACC
					ACC

Inspection by（检查）：李伯英 Verified by（审核）程 芬

PCB List

ModelNO.		
Part NO.	3PD707F0110	
PCB Spec	PCB size (mm)	185.00*135.00mm
	PNL size	185.00*151.00mm
	Pcs /PNL (mm)	1PCS/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	KB-6160
	Copper thickness	1OZ
	UL Symbol	E227809 B HXF-M94V-0
	Flammability UL Grade	94V-0
Finish PCB	PCB Type	4L
	Copper thickness	1OZ
Conductor	Min.Width	0.09+/-10%mm
	Min Gap	0.11+/-10%mm
Soler Mask	Maker	海田
	Type number	HSR-200 GK
	Thickness	0.42mil (min.>0.15mil at the edge of trace)
	color	Green
Symbol	Maker	昱谷
	Type number	YG-400WB
	Thickness （10-20um）	17.35um
	Color	white
Surface finish treatment	Type	Sn99.9
	Thickness（2-40um）	4.15um
化金 处理及膜厚	Thickness （Au：2~6u" / Ni：＞110u"）	NA
	Gold Finger Beveling Angel (30 ±2°)	NA
板弯 Bow	板弯<长边* 0.55% ; 且<1.6mm (Min. follow IPC criteria)	0.46mm
板翘 Twist	板翘 < PCB/Panel 对角线长 *0.55%; 且<1.6mm (Min. follow IPC criteria)	0.32mm
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	0.02mm
Multi Min. Trace 宽度, 间距	宽度≧4mil ,间距≧ 4mil	PASS
Impedance Control	Characteristic impedance ± 10 % Differential impedance ± 10 %	见附件阻抗测试报告
Lonic Contaminiation	≦1.56ug NaCl/sq.cm^2	0.21ug NaCl/sq.cm^2
BGA & Non BGA via	所有Via Hole需两面塞绿漆，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(绿漆,树脂)	BGA区域铝片塞孔>60%(严格执行)，其他区域连塞带印>20%	1066.82um
Others	Version Number	A

Prepare By：李伯英

Confirm With：程芬

昆山市华新电路板有限公司

Kunshan Huaxin Printed Circuit Board Co.,Ltd

开短路测试报告

日期:2025.07.02

客户编号：3PD707F0110		客户名称：DIVA
本厂编号：41659EMA0	数量：23SET	生产周期：2526

测试条件	测试要求	测试结果
飞针测试（移动探针） 测试电压：110V 测试电流：110MA 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 23SET，最终合格数量为 23SET，产品良率为 100 %。

产品追溯性：

41659EMA0 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； M 代表多面板；94v-0 是最高防火等级；2526. 代表了 25 年第 26 周。

结论：

■ 合格： □ 拒收：

拟　　制	李伯英	批　　准	程 芬

昆山市华新电路板有限公司

HUA XIN Kunshan Huaxin Printed Circuit Board CO.,Ltd

切 片 检 查 报 告

MICROSECTION INSPECTION REPORT

PROD P/N: 41659EMA0 DATE CODE: 25-26 SAMPLE SIZE: 1 PCS

CUSTOMER: DIVA CUST P/N: 3PD707F0110 MICROSECTION NO: ①

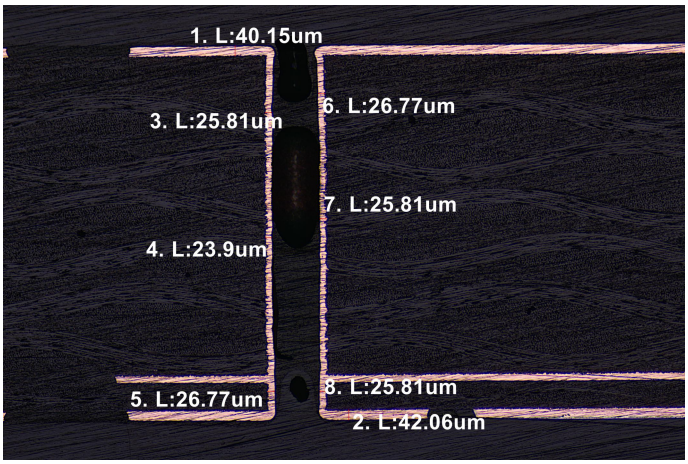
Requirement: (unit:um)

Hole wall copper		***Roughness***		***Tin thickness***		***S/M thickness***	
Min:	***≥20um***	***Drill:***	***/***	***Hole wall:***	***/***	***Conductor surface:***	***≥11.7um***
Ave:	***≥23um***	***Plating:***	***≤20.32um***	***Surface:***	***≥35.56um***	***Conductor corner:***	***≥3.81um***

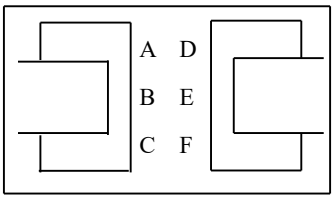
HOLE WALL CROS-SECTION DATA

HOLE WALL COPPER							ROUGHNESS	TIN THK	
A	B	C	D	E	F	AVE	PL	SUR	HOLE
25.81	23.90	26.77	26.77	25.81	25.81	25.81	12.32	/	/
/	/	/	/	/	/	/	/	/	/

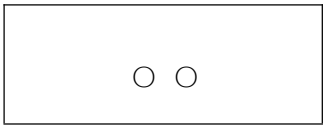
CONDUCTOR COPPER		DIELECTRIC THICKNESS		S/M THICKNESS	
LAYER NO.	RESULT	LAYER NO.	RESULT	CONDUCTOR SURFACE	CONDUCTOR CORNER
1 L1	40.15	L1-L2	121.40	22.02	19.65
2 L2	29.45	L2-L3	1289.56		
3 L3	29.25	L3-L4	119.49	20.63	18.44
4 L4	42.06				



孔铜测量位置



孔位



＃pad *hole

○trace △lami

Disposition: Acc■ Rej □

Tested By: 舒姣芳 Date: 2025.07.02

Approved By: 汪美林 Date: 2025.07.02

QA-23-26-A0

昆山市华新电路板有限公司
HUA XIN Kunshan Huaxin Printed Circuit Board CO.,Ltd

可焊性测试报告

SOLDERABILITY TEST REPORT

PROD P/N：41659EMA0 DATE CODE：25-26

CUSTOMER P/N：3PD707F0110 SAMPLE SIZE：1PCS

CUSTOMER：DIVA

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

FLUX：CH-1001 ETC

TEST CONDITION：BAKING TEMPERATURE：105 ℃, TIME：2 HOURS

SOLDERING TEMP：265 ℃, TIME： 5 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: 舒姣芳 Date: 2025.07.02

Approved By: 汪美林 Date: 2025.07.02

QA-23-26-A0

昆山市华新电路板有限公司
HUA XIN Kunshan Huaxin Printed Circuit Board CO.,Ltd

热应力测试报告

THERMAL STRESS TEST REPORT

PROD P/N：41659EMA0　　DATE CODE：25-26

CUSTOMER P/N：3PD707F0110　　SAMPLE SIZE：1PCS

CUSTOMER：DIVA

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

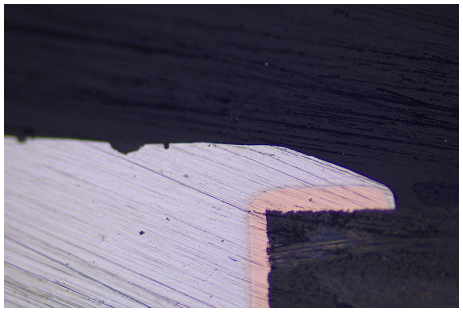
FLUX：CH-1001 ETC

TEST CONDITION：BAKING TEMPERATURE：120 ℃, TIME：4 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.阻焊无气泡、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: 舒姣芳　　Date: 2025.07.02

Approved By: 汪美林　　Date: 2025.07.02

QA-23-26-A0

昆山市华新电路板有限公司
HUA XIN Kunshan Huaxin Printed Circuit Board CO.,Ltd

离 子 污 染 测 试 报 告

IONIC CONTAMINATION TEST REPORT

CUSTOMER　　CUSTOMER P/N　　GF　　P/N

客　　户：DIVA　　客 户 编 号：3PD707F0110　　生 产 料 号：41659EMA0

Dated cord　　SAMPLE SIZE

周　　期：25-26　　抽　样　数：1pcs

PROCESS

一、 测试工序

B.O./ OxideReplacement　　W/F　　HASL　　ENTEK　　Ni/Au　　FINAL

黑/棕化 _____ 阻焊 ____ 喷锡 ____ 防氧化 ____ 镍/金 ____ 成品 √

TEST CONDITION

二、 测试条件

设备型号：CT100

1. TIME　　MIN

测试时间：10　　分钟

2. AREA　　SQ CM

测试板尺寸：长 18.5 cm　　宽 15.1 cm　　测试面积 279.35 cm^2

3.SOLVENT TYPE　　%ISO-PROPYLALCOHOL

溶液类型：75　　%异丙醇

4.Baseline

基准值：6　　Us

TEST RESULTS

三、 测试结果

SEC　　Omegamdter　　lonograph

REQUIREMENT

要求 ≤1. 56　　ug NaCl/sq.cm^2

ACTUAL

实际 0.21　　ug NaCl/sq.cm^2

COMMENTS　　评论：

Disposition

评定：

Accept　　Reject　　Rework

接受：■　　拒收：□　　重测：□

Checked By　　Date　　Approved By

检查员：舒姣芳　　日期：2025.07.02　　审核：汪美林

昆山市华新电路板有限公司

HUA XIN Kunshan Huaxin Printed Circuit Board CO.,Ltd

塞孔报告

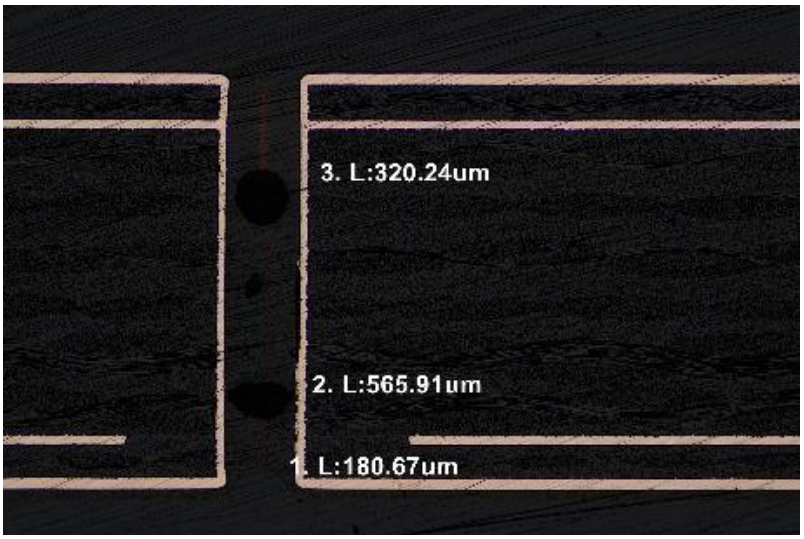
Plugged Test Via Hole

PROD P/N：41659EMA0　　DATE CODE：25-26

CUSTOMER P/N：3PD707F0110　　SAMPLE SIZE：1PCS

CUSTOMER：DIVA

plugged of test via(min. 60%)	spec	actual	
	＞600um	1066.82	um



Disposition: Acc ■　　Rej □

Tested By: 舒姣芳　　Date: 2025.07.02

Approved By: 汪美林　　Date: 2025.07.02

QA-23-26-A0

阻抗测试报告

客户料号：3PD707F0110　　客户名称：DIVA

生产料号：41659EMA0

仪器型号：CITS800s		
阻抗类型	差分阻抗	
阻抗要求	90ohm+/-10%	100ohm+/-10%
阻抗位置	TL	TL/BL
1	91.02	101.02
2	90.41	99.62
3	89.63	100.13
4	90.52	101.05
5	91.32	99.34

END

PREPARED BY:舒姣芳　　APPROVED BY ：汪美林

昆山市华新电路板有限公司

Kunshan Huaxin Printed Circuit Board Co.,Ltd

PCB 板弯/板翘测量

客户：	DIVA	料号：	3PD707F0110	试验日期：	2025.07.02
日期代码：	2526	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：1.板弯<长边* 0.55% ； 且<1.6mm 2.板翘 < PCB/Panel 对角线长 *0.55%; 且<1.6mm					
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	0.36mm	0.42mm	0.25mm	0.55mm	0.36mm	√	
板　　翘	0.35mm	0.42mm	0.29mm	0.35mm	0.44mm	√	

测试结果：　合格

试验：李伯英　　审核：程 芬

昆山市华新电路板有限公司

Kunshan Huaxin Printed Circuit Board Co.,Ltd

PCB 防焊/文字附着力测试

客户：	DIVA	料号：	3PD707F0110	试验日期：	2025.07.02
日期代码：	2526	试验数量：	3SET	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：李伯英　　审核：程 芬

昆山市华新电路板有限公司
Kunshan Huaxin Printed Circuit Board Co.,Ltd

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	< 60. μg NaCL / inch ²	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	< 60. μg NaCL / inch ²	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

TCO'03 Environment Data Sheet (LCD/CRT)

Component/Parts Name: PCB

Model No/Part No: 3PD707F0110

Item	Parts/Components to be Applied?	Criteria	Actual value	Result (Pass/fail)	Remark
A.6.2.1 Cadmium (Cd) and mercury (Hg)	batteries, paint, lacquer, connectors, solder, plastic materials (including PCB oard laminates & AC Adapter)	Hg: < 2 ppm Cd: < 5 ppm	Hg: N.D Cd: N.D	PASS	
A.6.2.2 Lead (Pb)	batteries, paint, lacquer, external cables isolations, plastic materials (including PCB & AC adapters)	Pb: < 50 ppm	N.D	PASS	
A.6.2.3 Brominated and chlorinated flame retarding agents	Plastic material >25g	Br & Cl Flame retardant < 0.5%	N.D	PASS	
A.6.2.4 Information regarding flame retarding agents	Plastic material >25g	Br & Cl Flame retardant < 0.5%	Attachment 1	PASS	**Include PCB, Adapter**
A.6.2.5 Brominated and chlorinated plastics	Plastic material >25g	No Br or Cl	N.D	PASS	**Include PCB, Adapter**
A.6.3.1 Material coding of plastics	Plastic material >25g	Coded accordance to: ISO 11469, ISO 1043-1, -2, -3, -4	/	/	**Include PCB, Adapter**
A.6.3.2 Design for recycling - Mercury lamps	LCD Panel	(1) Easy to take apart (2) Total amount of Hg	1). Attachment 2 2). Attachment 3	/	LCD Monitor
A.6.3.4 Metallization of plastic housing	Plastic Housing, Cover(s)	No internal or external metallization or moulded-in or glued metal parts	/	/	

We hereby guarantee that the above mandate is fulfilled

Signature 李伯英 Name and title in block capitals 程 芬

Date 2025.07.02 Company 昆山市华新电路板有限公司

Attachment 1:
Plastic Material List

PWB name	Weight in grams	Type of plastic	Plastic manufacturer name	Plastic model name	Flame retardant/ plasticizer type	Flame retardant/plasticizer CAS number	Plastic label code
PCB	110.01g /PCS	EPOXY	建滔	KB	TBBP-A	21850-44-2	

Note: This form apply to **PCB, Adapter** & **LCD Panel**

Attachment 2
LCD Back-light Information

Mercury lamp supplier	Lamp ID code	Average mg Hg/lamp	Max. mg Hg/lamp	Min. mg Hg/lamp

LCD identification code	LCD manufacturing company

Attachment 3
Means of LCD Mercury Lamp Disassembly

Please attach Mercury Lamp Disassemble means.

We hereby guarantee that the above information is correct

李伯英
Signature

程 芬
Name and title in block capitals

2025.07.02
Date

昆山市华新电路板有限公司
Company

KB

產 品 技 術 資 料

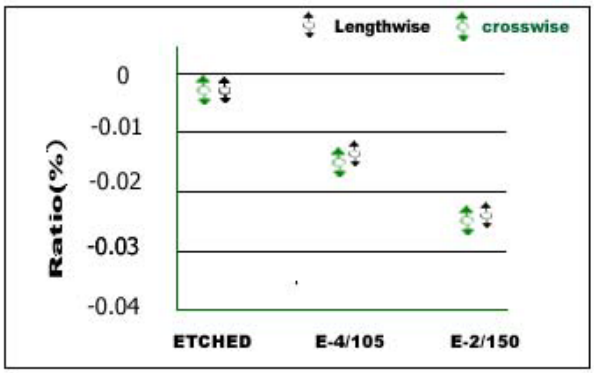
TECHNICAL INFORMATION

KB-6160/6160C（ANSI：FR-4）

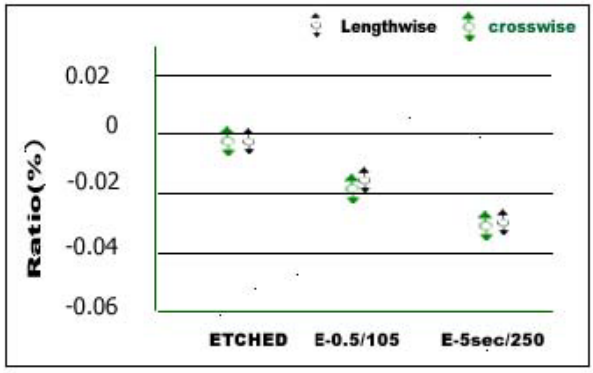
覆銅箔環氧玻纖布層壓板

Speciality Chart 板材特性圖

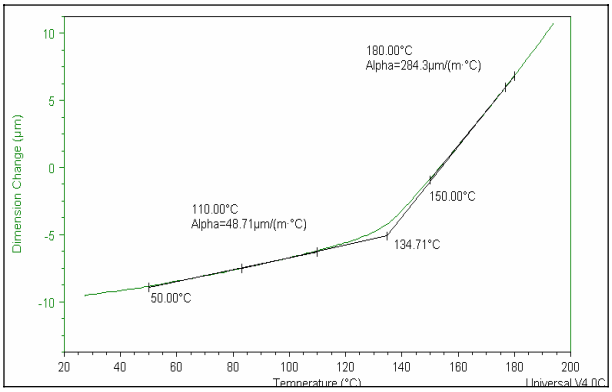
Dimensional stability 尺寸穩定性



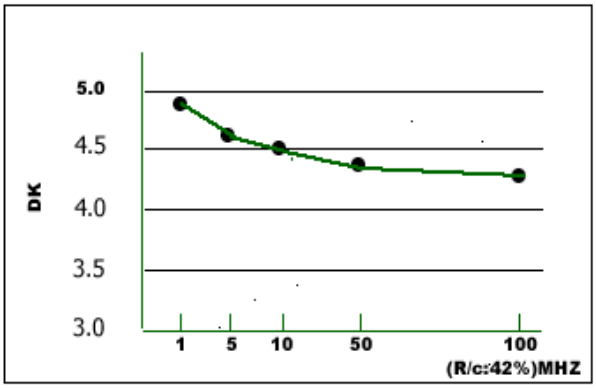
Dimensional stability–PCB process （size:360*310mm）



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.

KB

產 品 技 術 資 料

TECHNICAL INFORMATION

KB-6160/6160C（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

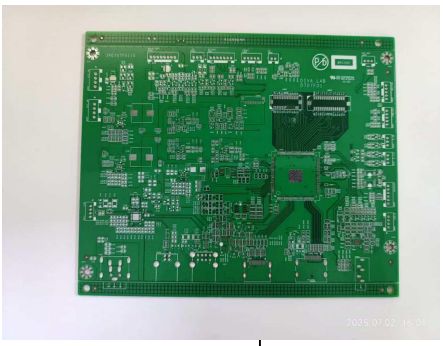
Test Item 測試項目	Unit 單位	Test Method (IPC-TM-650) 測試方法	Test Condition 處理條件	Spec （IPC-4101B） 規格值	Typical Value 典型值
Peel Strength (1OZ) 銅箔剝離強度	N/mm	2.4.8	125℃	≥0.7	1.70
			Float 288℃ / 10Sec	≥1.05	1.75
Thermal stress 熱應力	Sec	2.4.13.1	Float288℃/unetched	≥10	60 No delamination
Bow / Twist 彎弓度/翹曲度	%	2.4.22.1	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

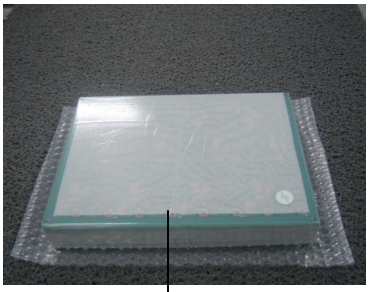
Part Packing Specification

华新料号:41659EMA0　　明基料号：3PD707F0110

包装方法及流程如下：



每SET有1PCS组成



每一小包真空包装 25 SET,
共25PCS.均为同一周期。



每箱包装6包,共150PCS



包装好后用透明胶带封箱



贴标签和GP标识。

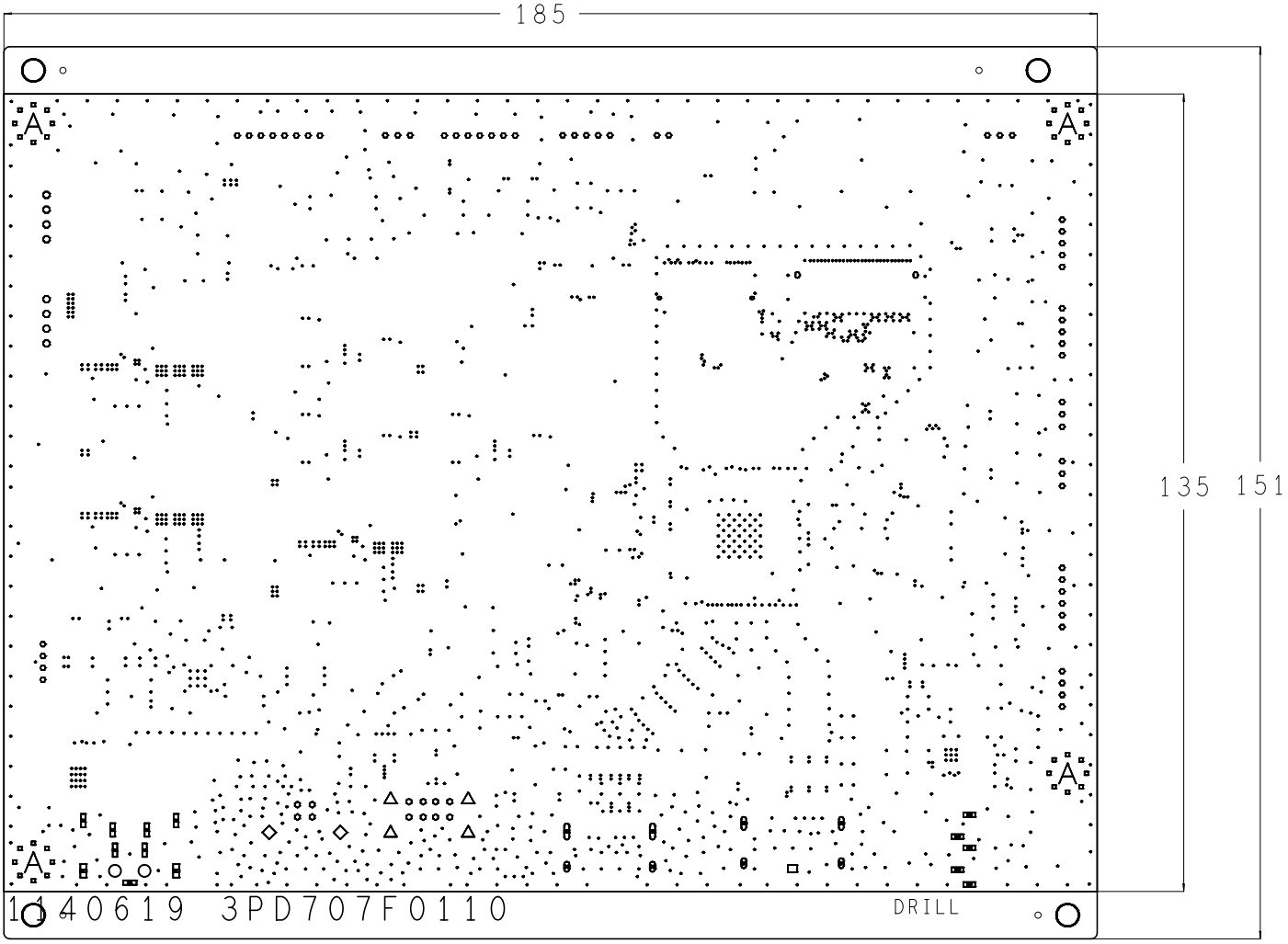
检查：李伯英
日期：2025.07.02

审核：程 芬
日期：2025.07.02

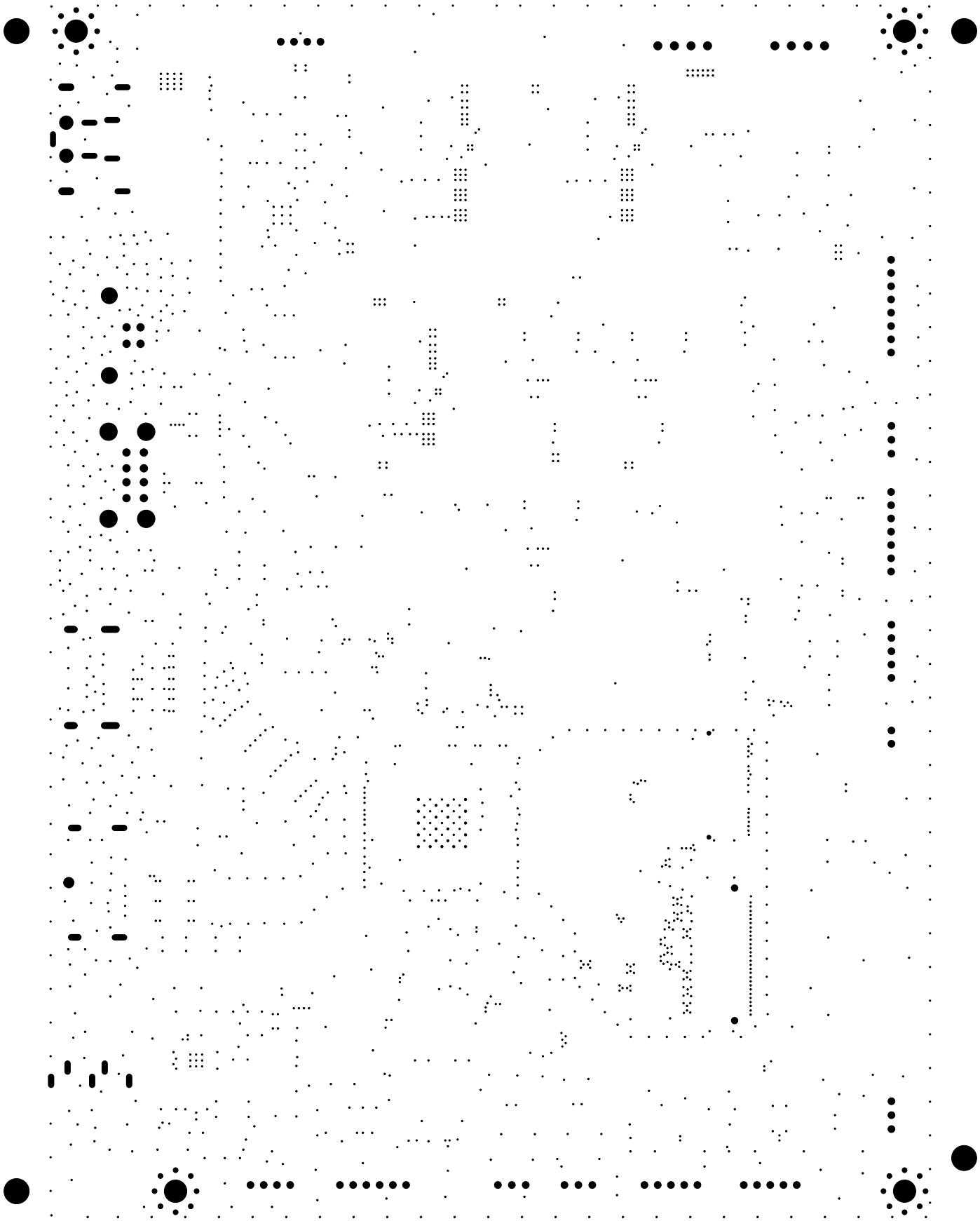
技术数据 TECHNICAL DATA（BOM）

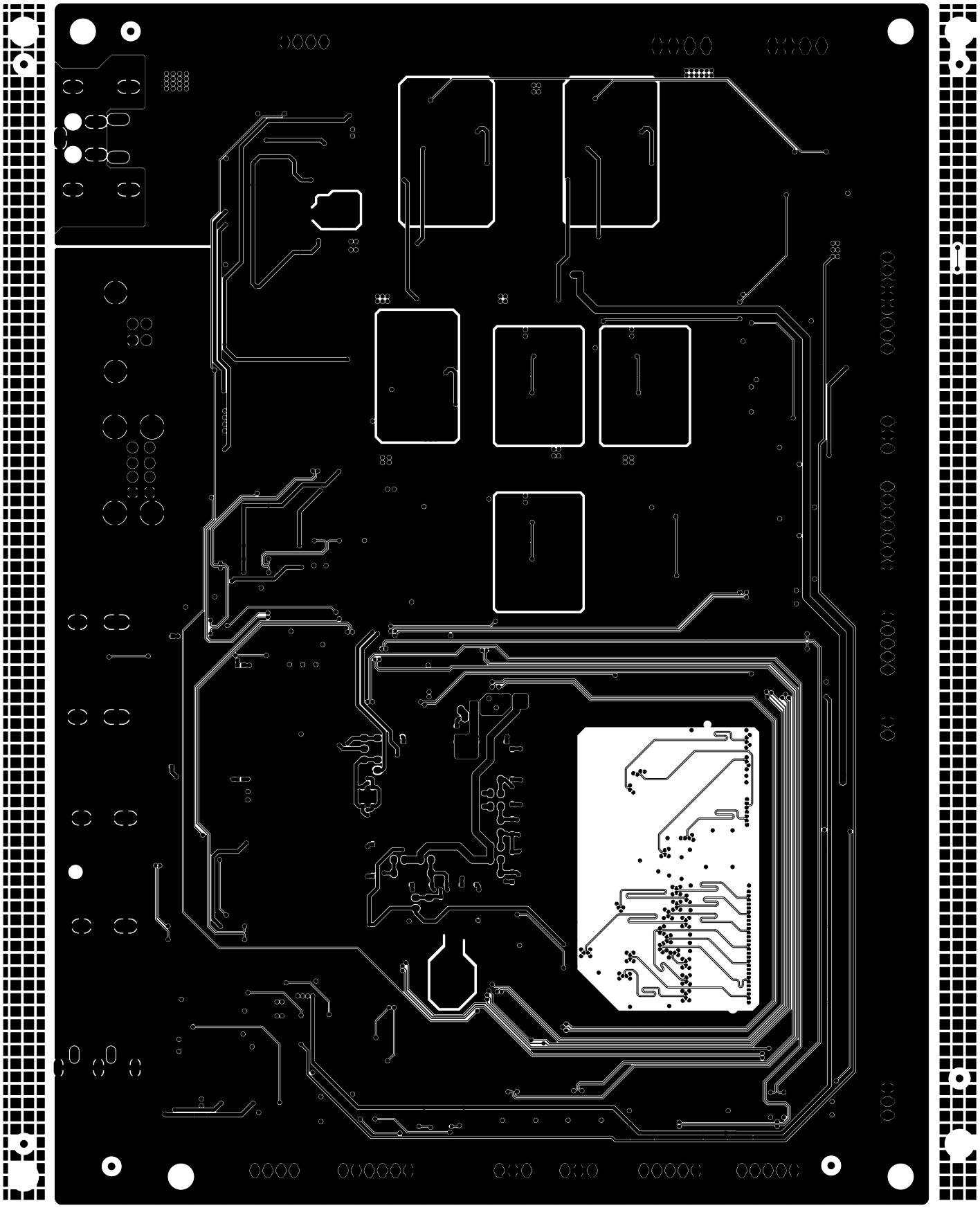
1	产品品种 product type		多层板
2	基板材料 base material		KB6160
3	成品尺寸 finished board size		
	最大成品板尺寸 S/S MAX		185.00×151.00mm
4	成品孔径直径 finished hold dia		
	最小圆孔直径 min hold dia		0.254 mm
	最小异型孔宽度 min abmormity hold dia		
5	导线宽度和导线间距 conductor width & space		
	最小导线宽度 min.width		0.09 mm
	最小导线间距 min.space		0.11 mm
6	阻焊油墨种类 solder mask options		
	丝印光固油墨		NA
	photic cure solder mask		HSR-200 GK
	颜色 colour		绿色
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		无铅喷锡
	无铅喷锡厚度(um)		2-40 um
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		1×1010
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

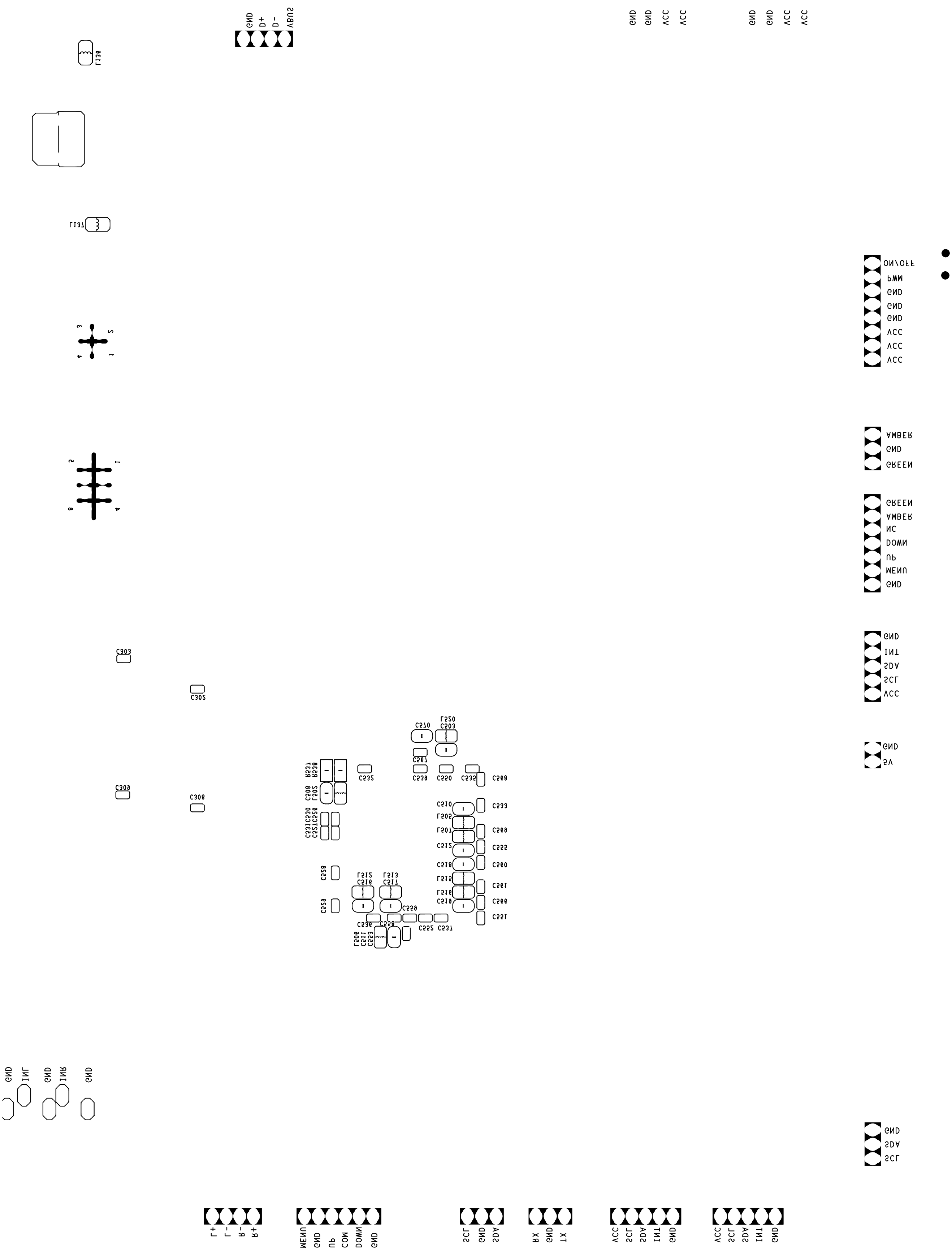
UNIT: MM

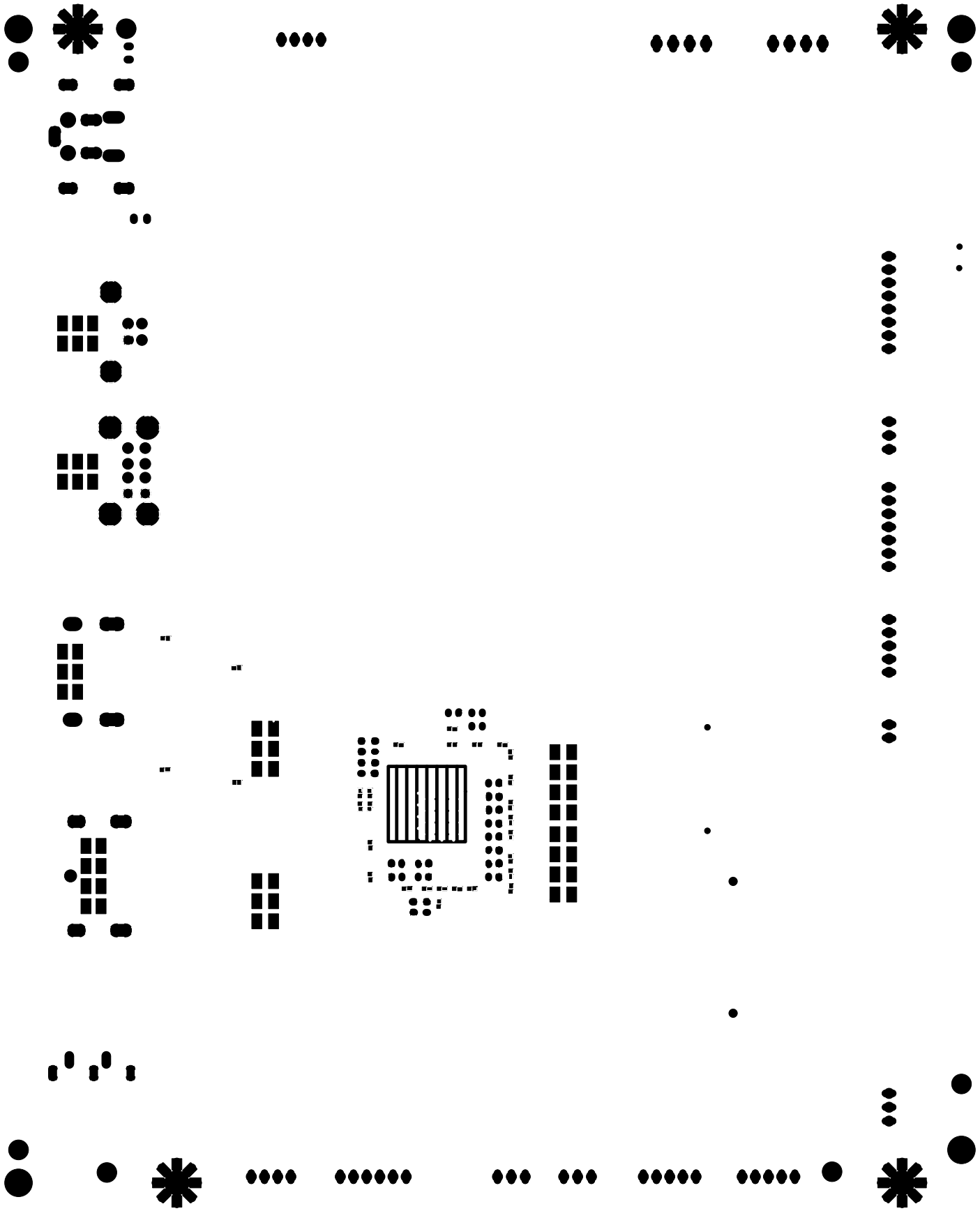


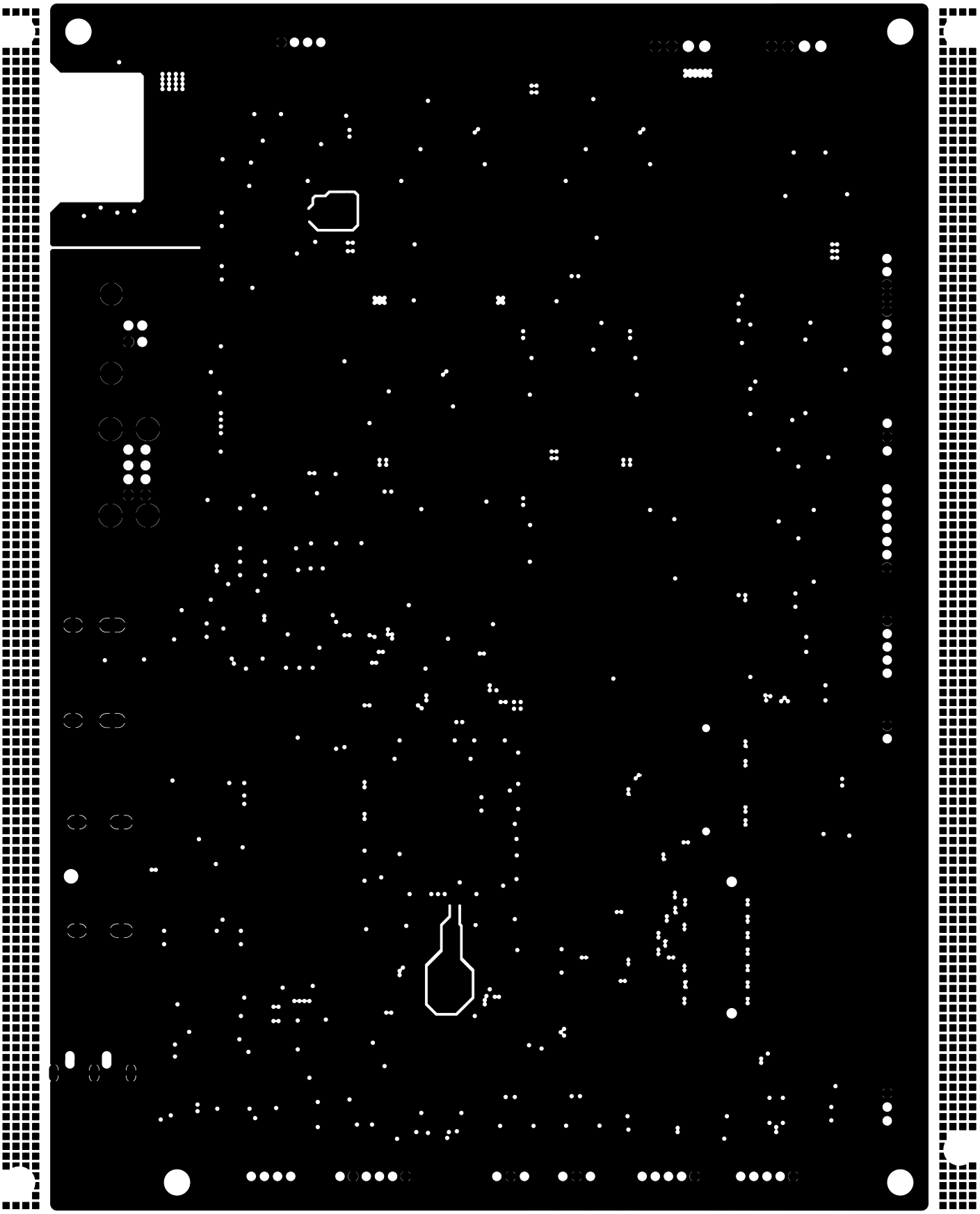
DRILL CHART: TOP to BOTTOM			
ALL UNITS ARE IN MILS			
FIGURE	FINISHED_SIZE	PLATED	QTY
·	10.0	PLATED	1842
▫	24.0	PLATED	32
◦	35.0	PLATED	58
◦	39.0	PLATED	12
◦	43.0	PLATED	8
◇	91.0	PLATED	2
△	98.0	PLATED	4
·	24.0	NON-PLATED	2
◦	39.02	NON-PLATED	2
□	63.0	NON-PLATED	1
○	80.0	NON-PLATED	2
A	134.0	NON-PLATED	4
▯	67.0x32.0	PLATED	2
▯	67.0x35.0	PLATED	2
▬	79.0x31.0	PLATED	5
▯	87.0x32.0	PLATED	2
▮	90.0x30.0	PLATED	6
▬	90.0x30.0	PLATED	1
▮	90.0x40.0	PLATED	2
▯	106.0x35.0	PLATED	2

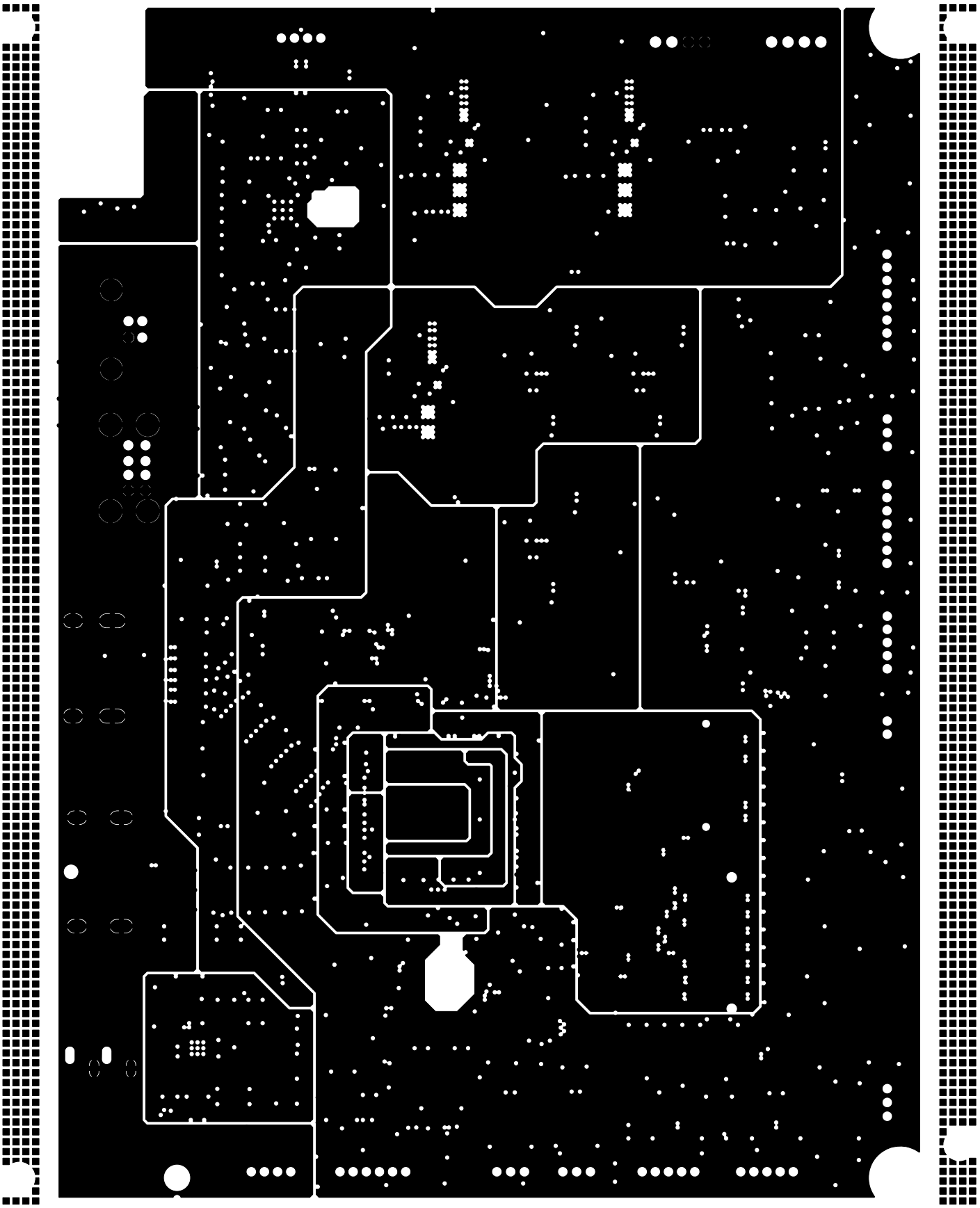


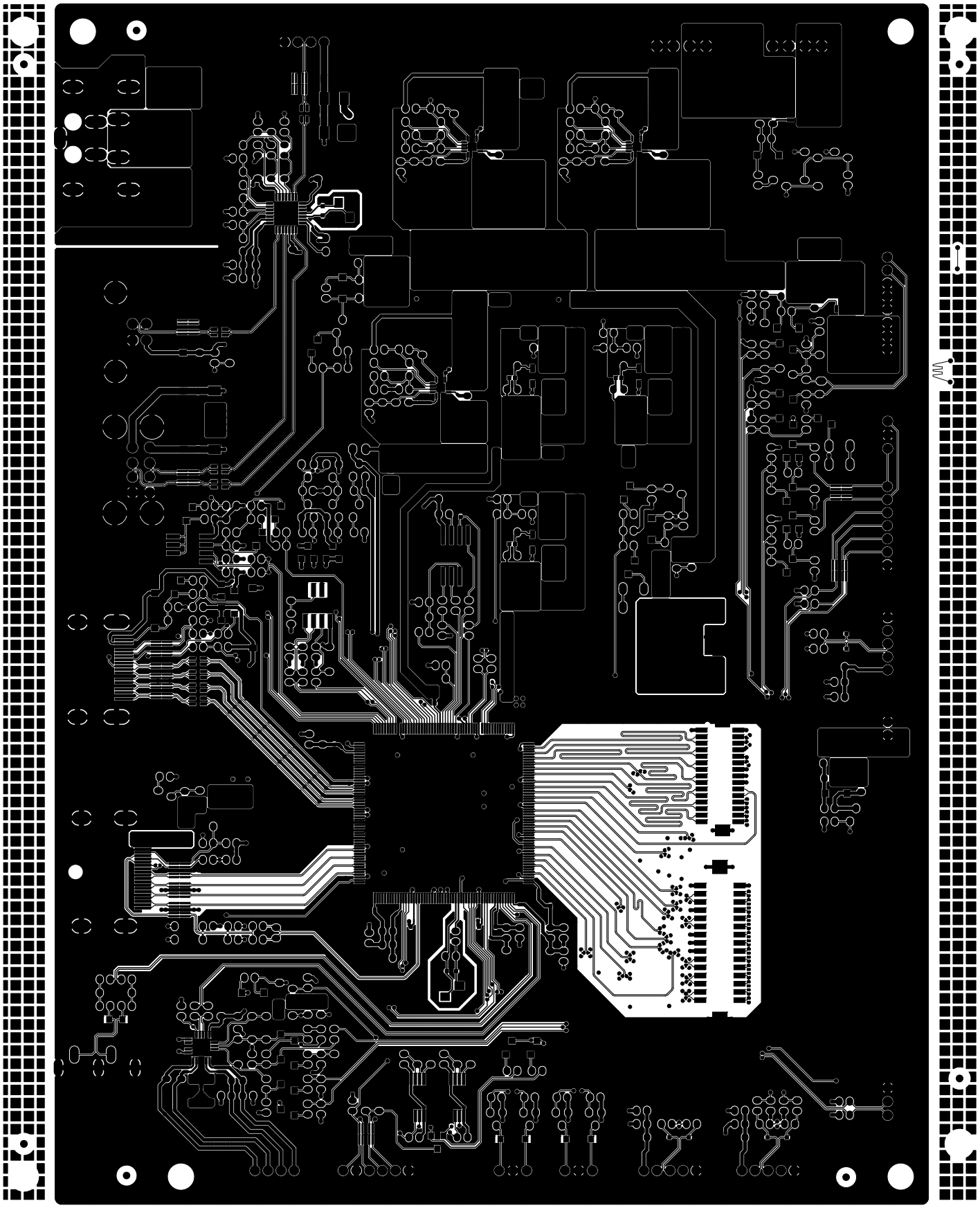


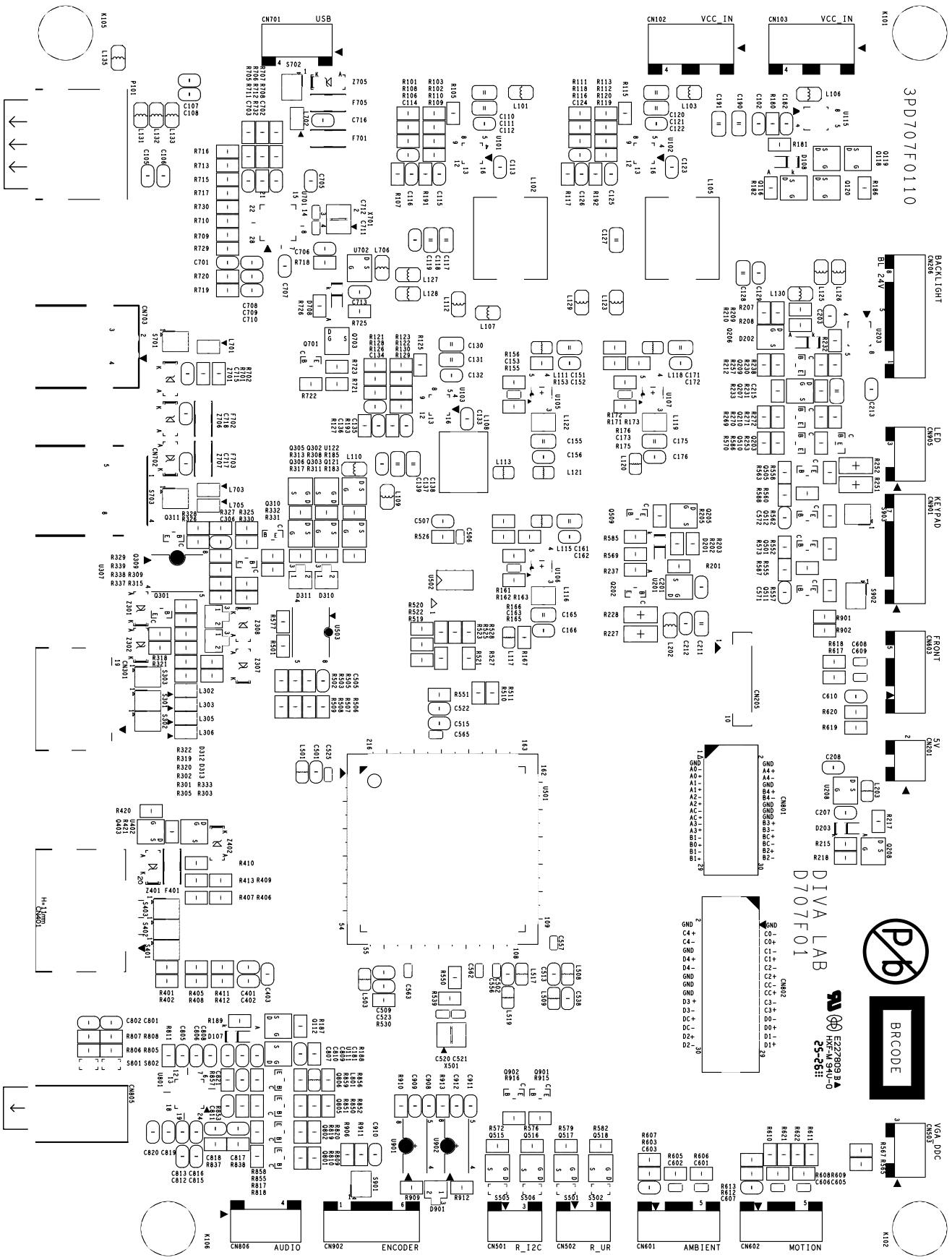

GND D+ D- VBUS
L136
L137
GND GND VCC VCC
GND GND VCC VCC
ON/OFF PWM GND GND GND VCC VCC VCC
AMBER GND GREEN
GREEN AMBER NC DOWN UP MENU GND
GND INT SDA SCL VCC
GND 5V
C303
C302
C306
C308
GND INL GND INR GND
GND SDA SCL
L+ L- R- R+
MENU GND UP COM DOWN GND
SCL GND SDA
RX GND TX
VCC SCL SDA INT GND
VCC SCL SDA INT GND

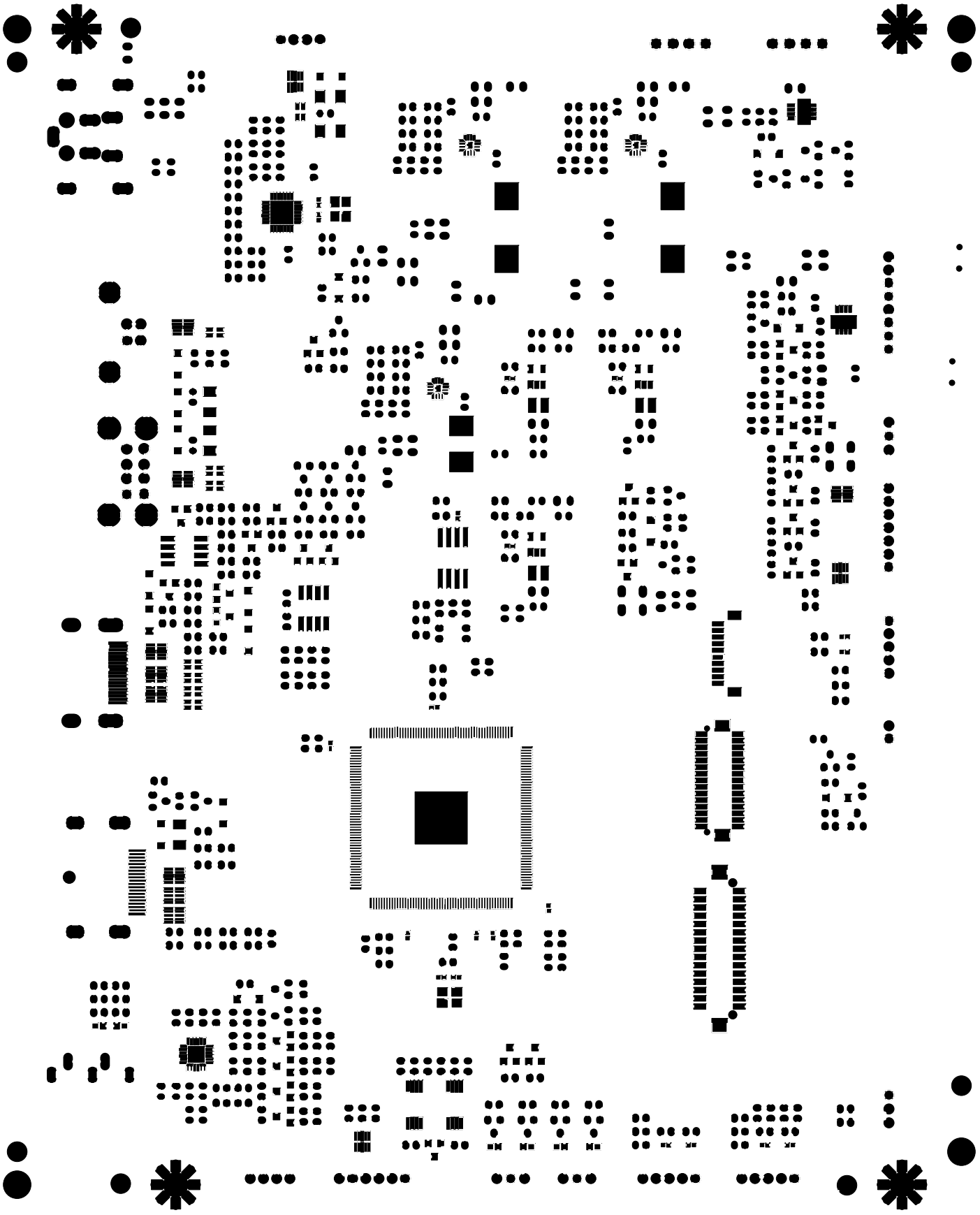









3PD707F0110
41659EMA
DIVA LAB
D707F01
BRCODE
USB
VCC_IN
BACKLIGHT
LED
KEYPAD
FRONT
5V
VGA_DDC
AUDIO
ENCODER
R_I2C
R_UR
AMBIENT
MOTION



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:

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.

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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]	[illegible]	BGA / SMD IC Pad	OK
A-2	Electroless Nickel /Immersion Gold Thickness (If no specified)	Au : 2 ~ [illegible]	BGA / SMD IC Pad	OK
A-3	OSP Thickness	0.25 ~ 0.45 μm [Ref. Page 8/9, HCl/~C3]	PCB trace / pad	OK
A-4	Immersion Silver Thickness	0.5 ~ 16μ" [Ref. Page 8/9, HCl/~C4]	BGA / SMD IC Pad	OK
A-5	Immersion Tin Thickness	≥30 μ"	BGA / SMD IC Pad	OK
A-6	Plated Gold Thickness	Au : ≥30 μ" / [illegible]	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 補償 tolerance	≤ 10 % (If No Specified)	Wing pad 補償	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 corner	OK
A-19	防焊厚度	Core 銅厚 PP 另一防焊	PCB	OK
A-20	PCB outline dimension tolerance	±0. 27 mm	Outline	OK

No.	Final Surface Finish	Spec	Checking Area	Vendor Check
B-1	Solder Mask color	1. GP Halogen free PCB 顏色 2. The other 顏色 (If gerber file no specified)	Solder mask	ok
B-2	Solder Mask Coating Thickness (If no specified)	1. Min. 0.4 mil & Min. > 0.15 mil at the edge of trace 2. 不得有漏銅/板性漏銅現象	Conductor / Trace	ok
B-3	BGA & Non BGA via	除非Gerber file 的焊墊開口定義有指定將via 開口線表示於 (如開口線, 電測用孔一) 所有Via Holes 開口處皆可通過(不得有空氣鎖/不能具有開口線)	Via	ok
B-4	Solder resist coverage	不容許開口線/文字/標示線之均勻分佈及 Pad 上、及其上層分布之不規則 PTH 不能有	Pad / PTH	ok
B-5	V-Cut Thickness → Support (If no specified)	1/3 板厚±0.05 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	單腳圓電作接位置如有特別之標示如遇加工等原則	標示之自然圓點內空與電作 Pad 防焊線外緣之間隔 ≥ 0.3mm (將封位置不遮蓋)	Component Pad	ok
B-11	Copper Purity Elongation and Tensile Strength (If no specified)	Purity > 99.5% pure Tensile strength > 36,000 PSI (245 MPa), Elongation > 12%	PTH	ok

No.	Final Surface Finish	Spec.	Checking Area	Vendor Check
B-12	客戶版本公司 Logo Marking	檔案: Gerber 有明列,否則需上加入	PCB Marking	ok
B-13	The other Marking (如果 PCB gerber file 上對本項目有定義, 請 PCB 廠商應將 gerber 上之定義，如其未包括確定義，則遵照本規定)	1. 需 Marking Date Code 2. 需 Marking PCB 耐燃等級(如94V-0) 3. 需 Marking PCB 廠商簽 Brand/Logo 4. 需 Marking 客公司 PCB 料號 5. 需 Marking UL 安規標記(如圖 1 所示) 及其數值 (如 E000XX) 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 無鹵素規格, 需 Marking "HF" 標記 (如圖 3 所示) 圖3 圖4 (UL type designation) GX G-1 ... GDC 94V-0 1- 1 C003 093 : E82152 4H.0Y001 A00 以上之標示/標記禁止印刷於屬材上	PCB Marking	ok

No.	Final Surface Finish	Spec.	Checking Area
C-1	Gold Finger Bevoid Edge	IPC-A-600G Class-II (If No Specified)	Board Edge
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	Conductor / 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

Vendor Check: OK

No	Copper Foil	Internal layer foil thickness	External conductor thickness	PTH copper thickness, [mil]		Blind via thickness copper, [mil]		Buried via thickness, copper [mil]	
				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
D-2	1/2 OZ	> 0.49 mil	> 1.40 mil						
D-3	1.0 OZ	> 0.98 mil	> 1.60 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)			

Vendor Check: OK

No.	Raw material requirement for Pb-free (Laminate/ Prepreg)		Vendor Check
G-1	Normal Tg(if No Specified)	Tg > 140 , Td > 310 ℃ , T260 > 30 min , T288 > 5 min	ok
G-2	Mid Tg (if No Specified)	Tg > 150 , Td > 336 ℃ , T260 > 40 min , T288 > 10 min	
G-3	Hi Tg (if no Specified)	Tg > 170 , Td > 360 ℃ , 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 (ppm)	Bromine (ppm)	Chlorine + Bromine (ppm)	ok
E-4	Normal Tg FR4 Halogen free	> 140	> 338	> 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
IBD	Item G1, G2, G5, G6, G7, G9, G10

OK

No.	Item	Test Method	Spec.	Test Freq.	Sampling Size	vendor check
F1	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
F2	Bow And Twist	IPC-TM-650 2.4.22	Twist < 0.50 % Bow < 0.50 % [illegible] Page [illegible]			
F3	Surface Plating Adhesion	IPC-TM-650 2.4.[illegible]	No Peel Off , No Flaking			
F4	Thermal Shock (Real Soldier)	IPC-TM-650 . 2.6.8 288 ℃ x 10 Sec -> 20 ℃ x 10 Min -> x 6 Cycles	1. Resistance change < 10 % 2. No Plating Crack / Break No voids , No Delamination No Sepcation ,No blistering No Measling .			
F5	Dimensional Inspection		Follow Gerber			
F6	Impedance Control (If No Specified)	IPC-TM-650 2.5.5.7	Characteristic Impedance ± 5 % 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. 表/裏面 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 [illegible]	> 10 x 10 [illegible]			
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	[illegible]	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.	< 5 defects / cm² [1 kv × 15 ~ 20 Scope]			
G-7	Reveal Simulation	IPC-TM-650 2.4.36	No Delaminating / Separation No Land Lifting			
G-8	Surface Resistivity	IPC-TM-650 2.5.17 [illegible]	> 10 x 10 [illegible]			
G-9	Electro-migration	Bellcore GR-78-core 13.2.7 -85℃ @ 85%RH × 500nm @ 50V bias Test voltage 100VDC	1. Bellcore GR-78-Core 13.2.7 2. Ciation 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] [illegible]	1. Resistance change < 10 % 2. No Plating Crack / Break No Voids No Delaminating No Separation No blistering No Meading			
G-11	Ionic contamination	IPC-TM-650 2.3.25 Test Liquid > 45 M.Ω. x 15 Min.	< 6.0 μg NaCl / inch², [HASL ≤ 9.0μg NaCl / inch²]	1. 双/垂 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(FZ) / SMDF2(LX) / SMD(FZ)-Plus	0.25 μm ~ 0.40 μm	OK
H02	Cookson Electronics (Enthone Inc.)	Entek Plus CU - 106 HT / Entek Plus CU - 106A(K)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 (750970 . 750988)	10~14μ" (1.5 x 1.5 /2 x 2 mm pad) 5.5~6μ" (5 x 5 mm 以上 pads)	OK
H04	Cookson Electronics (Enthone Inc.)	Alpha STAR **	10~14μ" (1.5 x 1.6 / 2 x 2 mm pad) 5~8μ" (5 x 5 mm 以上 pads)	

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

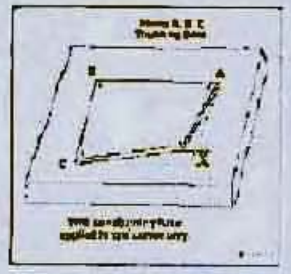
** PCB 經 HASL / OSP / Imm Ag Process 最多只能進行二次 (含重工)

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. Al PTH Solder fill up > 100 %	OK

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

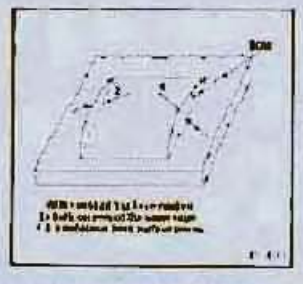
* The flux for solderability test shall be a standard activated rosin flux (Type ROL1)

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	04B	Plated Gold Thickness		04D	Immersion Tin Thickness			
03	PTH Copper Thickness (BGA via Min)	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, Arc, Twist	



Measuring method of PCB Twist

X : < 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 郭宮生