

专注·责任·创新·严谨·追求  
Focus·Responsibility·Innovation·preciseness·Pursuit

协而盛

盛而昌



公众号



网站

**惠州市协昌电子有限公司**  
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**惠州市协昌电子有限公司**

HUIZHOU XIECHANG ELECTRONICS CO.,LTD

专注PCB制造与服务

Focus on printed circuit board manufacturing and service

以品质为根本  
以客户为中心  
以诚信为生命  
以环保为己任



公司成立2005年7月，  
专注PCB制造产业高新技术企业。

The company was established in July 2005,  
focusing on PCB manufacturing industrial  
high-tech enterprises.

- 投资1.8亿,在潼侨自建花园式工业园54000m<sup>2</sup>,打造标准化生产车间,引进行业内智能化生产设备,实现月产能30000m<sup>2</sup>/500款。

Invest 180 million yuan to build a 54000 square meter garden style industrial park in Tongqiao, Building standardized production workshops and introducing intelligent production within the industry Equipment, achieving a monthly production capacity of 30000 square meters/500 models.

- 拥有深耕行业多年的技术团队持续创新,不断优化生产工艺,满足全球客户多元化、定制化需求,为客户提供高性价比的优质产品及服务。

With a technical team that has been deeply involved in the industry for many years, we continuously innovate and optimize production processes,Meet the diverse and customized needs of global customers,To provide customers with high-quality products and services with high cost-effectiveness.

- 与TCL、德赛智能、蓝微、LG、财富之舟、德彩、RTX、万和、伟创力、无限动力、瑞立科密、大族元亨、唐群等全球优质企业建立长期合作伙伴关系,并得到客户的高度赞誉。

With TCL, DESAY, Blue way, LG, Fortuneship, Dicolor, RTX, Vanward, Flex,Free dynamics, Ruili Kormee, YAHAM and TANGTRING other global quality enterprises to establish long-term partnership,And get high praise from customers.

- 拥有完善的大型污水处理系统,实施公司可持续发展战略,打造绿色节能企业。

Having a comprehensive large-scale sewage treatment system, the implementation company can Continuing the development strategy and building a green and energy-saving enterprise.

- 协昌集团是一家跨行业、现代化、集团化的企业,是以协昌电子的PCB制造业为核心主导产业,以协昌实业的房地产开发为成熟基础产业,协昌彩印、协昌贸易为辅助产业的战略格局。

Xiechang Group is a cross-industry, modern, group enterprise, with the PCB manufacturing industry of Xiechang Electronics as the core leading industry, real estate development of Xiechang Industry as the mature basic industry, and Xiechang color printing and Xiechang Trade as the auxiliary industry strategic pattern.

我们一直致力向中国及世界市场提供优质、价格合理的PCB产品。我们凭借科技创新、设备升级,不断降低成本,提升品质,为员工、顾客及合作伙伴创造更大价值,赢取他们的信赖——这是我们得以持续发展的源泉。

we have been committed to providing high-quality and reasonably priced PCB products to the Chinese and global markets. We rely on technological innovation and equipment upgrades to continuously reduce costs, improve quality, create greater value for employees, customers, and partners, and win their trust - this is the source of our sustainable development.

专 注 P C B 制 造 与 服 务  
Focus on printed circuit board manufacturing and service

以品质为根本  
以客户为中心  
以诚信为生命  
以环保为己任

Taking quality as fundamental  
Taking customer as centricity  
Taking integrity as life  
Taking environmental protection  
as our responsibility

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## 企业愿景 Corporate Vision



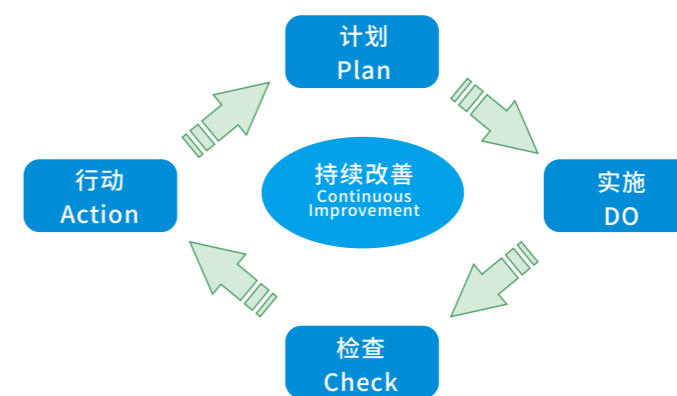
## 企业简介 Company Introduction

惠州市协昌电子有限公司是协昌集团旗下独资的高科技企业，是一家专业的线路板制造高新技术企业。公司立足多品种、中大批量、快速交货的市场定位，制造高品质、高精度的印制线路板，产品广泛应用于 LED 液晶显示、汽车电子、消费电子、通讯设备、工业控制及自动化等领域。公司通过ISO9001、ISO14001、IATF16949和UL等一系列认证，产品符合REACH和ROHS标准，拥有现代化标准化生产车间、先进且完备的生产及检测设备、专业技能精湛的高素质团队，多年来团队保持专注及创新力，持续提升工艺，达到生产 1-10 层玻璃纤维板，满足客户多元化及定制化需求，成为客户值得信赖的供应商。

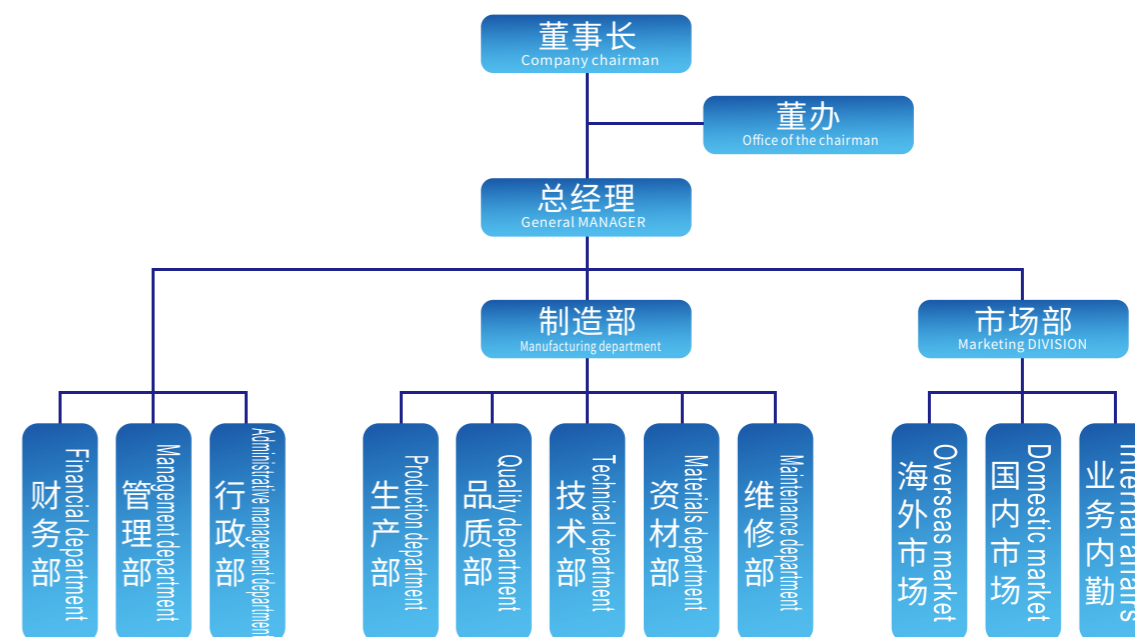
Huizhou Xiechang Electronics Co., Ltd. is a wholly-owned high-tech enterprise under the Xiechang Group, and a professional high-tech enterprise in circuit board manufacturing. Based on a market positioning of multiple varieties, medium to large quantities, and fast delivery, the company manufactures high-quality and high-precision printed circuit boards, which are widely used in LED LCD displays, automotive electronics, consumer electronics, communication equipment, industrial control, and automation fields. The company has passed a series of certifications such as ISO9001, ISO14001, IATF16949, and UL, and its products comply with REACH and ROHS standards. It has a modern standardized production workshop, advanced and complete production and testing equipment, and a highly skilled team. For many years, the team has maintained focus and innovation, continuously improving the process, and achieving the production of 1-10 layers of fiberglass panels, meeting the diversified and customized needs of customers, becoming a trustworthy supplier for customers.

## 企业理念 ENTERPRISE PHILOSOPHY

企业精神 Enterprise spirit	以人为本 诚信经营 创新进取 和谐发展	Putting people first and operating with integrity Innovative, enterprising, and harmonious development
服务理念 Service concept	永怀感恩 共生共荣	Forever Gratefulness, Coexistence, and Prosperity
企业使命 Enterprise mission	以品质为根本 以诚信为生命 以客户为中心 以环保为己任	Taking quality as fundamental Taking integrity as life Taking customer as centrlicity Taking environmental protection as our responsibility
品质政策 Quality policy	品质管理体系	Quality Management System



## 公司架构 COMPANY STRUCTURE





## 合作客户 Cooperative Customer

在这个充满机遇和挑战的时代,我们非常荣幸能够与您携手共进,共同书写属于我们的辉煌篇章  
In this era full of opportunities and challenges, we are honored to work together with you to write a brilliant chapter that belongs to us

TCL

TCL

DESAY  
德赛智能

德赛智能

LG

LG

Vanward  
万和

万和

Blueway

蓝微

flex  
LIVE SMARTER

伟创力

Dicolor

德彩

RTX

RTX

FORTUNE  
SHIP

财富之舟

财富之舟

KORMEE

瑞立科密

YAHAM

大族元亨

FD 无限动力

无限动力

## 发展历程

DEVELOPMENT HISTORY

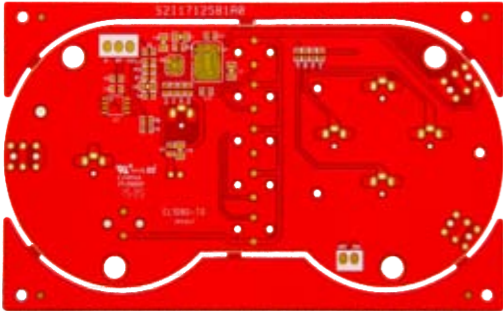


# 产品展示

## PRODUCT DISPLAY

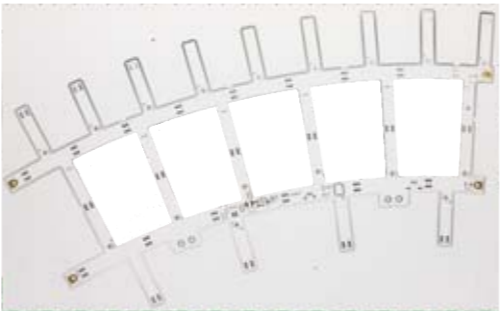
协昌电子完善的生产质量控制与产品质量检验系统, 既是产品质量的最佳保证, 也是对广大客户值得信赖的承诺

Xiechang Electronics has a well-established production quality control and product quality inspection system. It is not only the best guarantee of product quality, but also a trustworthy commitment to our customers



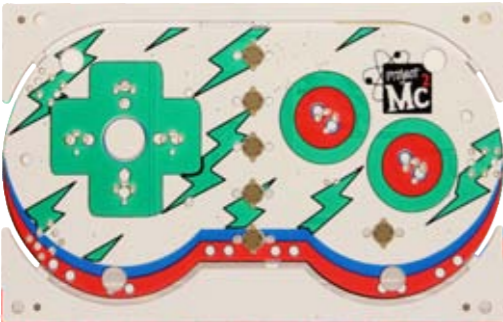
表面工艺：沉金板  
线宽/线距：4/4mil  
最小孔径：0.2mm  
层数：2层  
说明：双面红油模冲板

Surface Finishing : Immersion Gold  
Line Width/Line Spacing : 4/4mil  
Minimum Hole Size : 0.2mm  
Product Layer : 2-Layer  
Product Description : Double Side With Red Oil Mold Punching Board



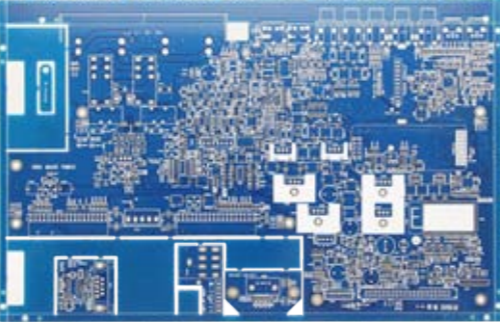
表面工艺：有铅喷锡  
线宽/线距：4/4mil  
最小孔径：0.25mm  
层数：2层  
说明：异形屏灯板

Surface Finishing : Hot Air Level  
Line Width/Line Spacing : 4/4mil  
Minimum Hole Size : 0.25mm  
Product Layer : 2-Layer  
Product Description : LED Board With Special-Shaped Screen



表面工艺：沉金板  
线宽/线距：4/4mil  
最小孔径：0.25mm  
层数：2层  
说明：彩色阻焊板

Surface Finishing : Immersion Gold  
Line Width/Line Spacing : 4/4mil  
Minimum Hole Size : 0.25mm  
Product Layer : 2-Layer  
Product Description : Color solder mask board



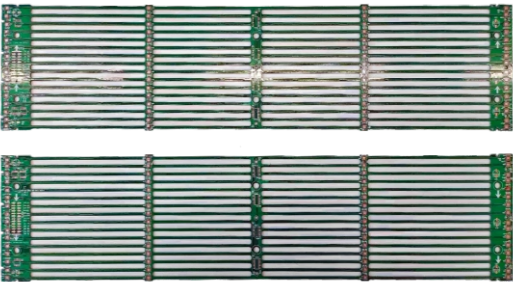
表面工艺：有铅喷锡  
线宽/线距：4/4mil  
最小孔径：0.2mm  
层数：8层  
说明：汽车ABS板

Surface Finishing : Hot Air Level  
Line Width/Line Spacing : 4/4mi  
Minimum Hole Size : 0.2mm  
Product Layer : 8-Layer  
Product Description : Automotive ABS Board



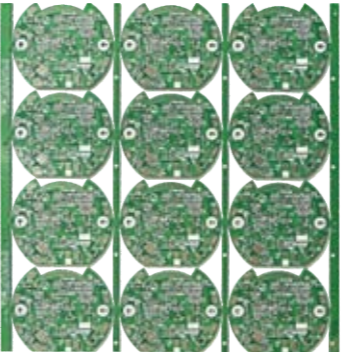
表面工艺：沉金板  
线宽/线距：4/3mil  
最小孔径：0.5mm（四边半孔）  
层数：4层  
说明：模组类

Surface Finishing : Immersion Gold  
Line Width/Line Spacing : 4/3mil  
Minimum Hole Size : 0.5 mm ( Half-Holes In Four Sides )  
Product Layer : 4-Layer  
Product Description : Module Class Board



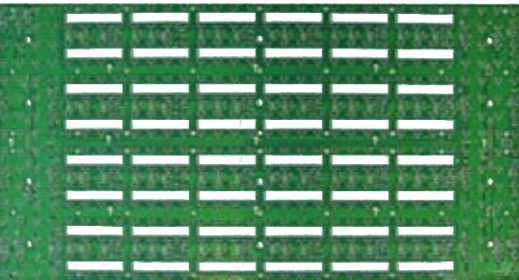
表面工艺：无铅喷锡  
线宽/线距：3/3mil  
最小孔径：0.2mm  
层数：6层  
说明：透明屏

Surface Finishing : Lead Free Hot Air Level  
Line Width/Line Spacing : 3/3mil  
Minimum Hole Size : 0.2mm  
Product Layer : 6-Layer  
Product Description : LED Board With Transparent Screen



表面工艺：无铅喷锡  
线宽/线距：3/3mil  
最小孔径：0.3mm  
层数：6层  
说明：电池板

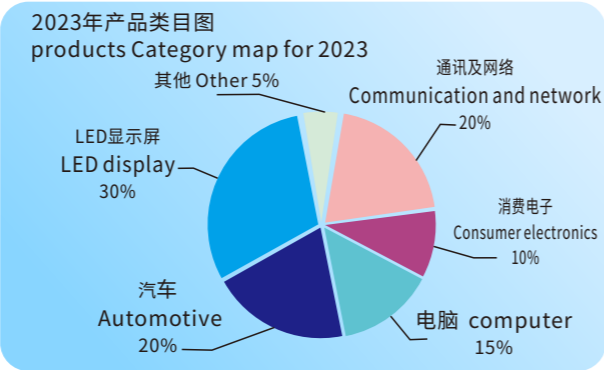
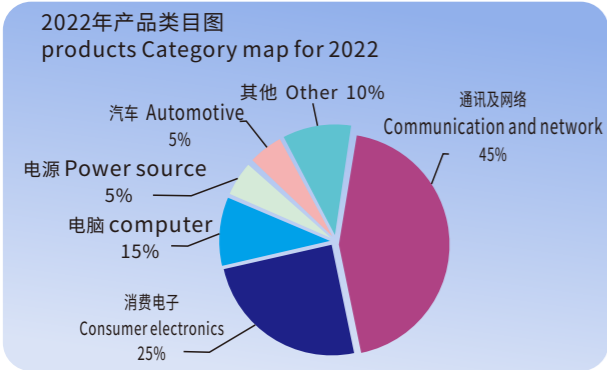
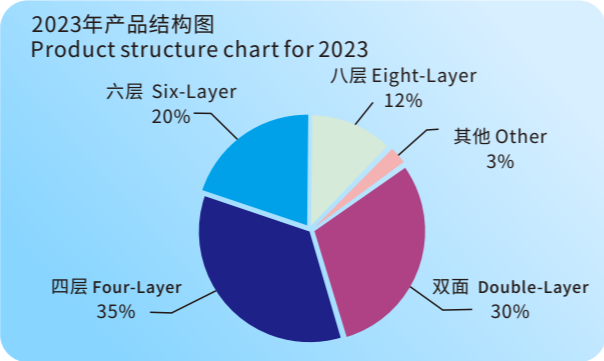
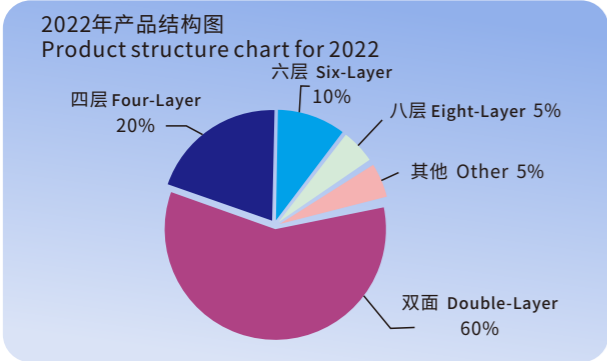
Surface Finishing : Lead Free Hot Air Level  
Line Width/Line Spacing : 3/3mil  
Minimum Hole Size : 0.3mm  
Product Layer : 6-Layer  
Product Description : Battery Board



表面工艺：喷锡+电金  
线宽/线距：4/4mil  
最小孔径：0.3mm  
层数：6层  
说明：LED灯屏

Surface Finishing : Hot Air Level + Hard Gold  
Line Width/Line Spacing : 4/4mil  
Minimum Hole Size : 0.3mm  
Product Layer : 6-Layer  
Product Description : LED Light Board

产品结构  
Product structure



制程能力  
MANUFACTURING CAPABILITY

Material 材料	CEM-3,FR1,CEM-1,FR-4(Normal to High Tg), High CTIFR-4,Aluminum Base	Peel Strength 剥离强度	1.4N/mm
Surface finish 表面工艺	HAL, HASL Leadfree, ENIG,OSP,Gold Finger, Immersion Silver	S/M Abrasion 阻焊硬度	>6H
Core thickness 芯板厚度	0.2-3.2mm	Thermal stress 热应力	288℃ 10Sec
Prepreg type PP型号	1080, 2116, 7628, 106 (外发代工)	Test Voltage 测试电压	20-300V
Max board size 最大板子尺寸	22.8X27inch/580X700mm	Max. aspect ratio 最大纵横比	10:1
Copper thickness 铜厚	Min. base copper 1/3 OZ Max. base copper 6 OZ	Impedance control 阻抗	(50Ω- 100Ω)±10%(Standard)、 (50Ω- 100Ω)±8% (Advanced)
Min hole size 最小孔径	8mil/0.2mm	Current breakdown 击穿电流	10A
PTH dia. Tolerance PTH孔径公差	±0.075mm/3mil(Standard), ±0. 05mm/2mil (Advanced)	Slot size tolerance 槽尺寸公差	± 0.075mm(board thickness≤1.0mm)、 ± 0.10mm (board thickness> 1.00mm)

制程能力  
MANUFACTURING CAPABILITY

Design	Type 项目	Detail 参数		Nomarl 常规能力	Limite极限能力
线路设计 Circuit Design	Inner layer line width /space 内层线宽/线距	Base Copper 基铜	HOZ	3.0/3.0mil	3.0/2.5mil
			1OZ	4.0/4.0mil	3.5/3.2mil
			2OZ	5.5/5.5mil	5.0/4.5mil
			3OZ	8.0/7.5mil	7.0/7.0mil
	Outer Linewidth/ Space 外层线宽/线距		HOZ	4.0/3.5mil	3.5/3.0mil
			1OZ	5.0/5.0mil	5.0/4.5mil
			2OZ	8.0/8.0mil	8.0/7.0mil
			3OZ	10.0/10.0mil	10/9mil
	Distance between hole to copper(Inner Layer) 孔到内层铜安全距离	Drill Diameter钻孔直径		钻孔直径+ 300um	钻孔直径+ 250um
	导通孔焊盘大小 Pass hole pad size	Drill Diameter钻孔直径		钻孔直径+ 200um	钻孔直径+ 175um
	BGA Manufacture ability BGA 制作能力	Surface Finish 表面处理	HAL 有铅喷锡	0.30mm	0.25mm
			Lead Free 无铅喷锡	0.30mm	0.25mm
			ENIG 沉金	0.25 mm	0.20mm
			OSP 抗氧化	0.25 mm	0.20mm
PAD/PAD Space ( no solder dam)焊盘,焊盘间无阻焊桥的最小间距	Surface Finish 表面处理	HAL 有铅喷锡	6.0mil	5.0mil	
		ENIG 沉金	5.5mil	4.5mil	

Main Process 主要工序	Equipment 设备名称	month capacity 月产能	ability 制作能力
Drill 钻孔	六轴东台钻机、hole check验孔机	3.0万㎡	0.1-6.0mm厚度, 0.2-6.5mm直径, 精度±0.05mm
PTH 沉铜	自动沉铜线 Automatic sinking	3.0万㎡	0.3-3.2mm厚度, 最小孔径: 0.2mm
	自动板电线 automati Plate		
Dry film 线路	自动贴膜机 Automatic laminating	4.0万㎡	0.3-3.2mm厚度, 3.5mil/3.5mil
	LED曝光机 LEDExposure machine		
	LDI曝光机 LDlExposure machine		
	平行光曝光机 Parallel light exposure		
	显影线 development		
pattern plating 图形电镀	自动图形电镀线 Automatic graphic	3.0万㎡	0.6-3.2mm厚度, 最小孔径0.2mm
Ses Etch 蚀刻	SES自动蚀刻线 SES Etching line	4.0万㎡	0.4-3.2mm厚度,蚀刻公差±10%
AOI check	AOI 外观检测机 AOI Appearance	2.5万㎡	0.1-4.0mm厚度,最小线宽/线距0.05/0.05mm
solder mask阻焊	半自动丝印机 Semi-automatic	3.0万㎡	0.3-3.2mm厚度,曝光对位精度±0.05mm
	LED曝光机 LEDExposure machine		
	CCD曝光机 CCD Exposure machine		
	显影线 development		
Outline成型	锣机、二次元 Milling machine\Quadratic element	2.5万㎡	0.1-3.2mm厚度, 锣板成型公差±0.10mm
	冲床 punch		
	V-Cut		

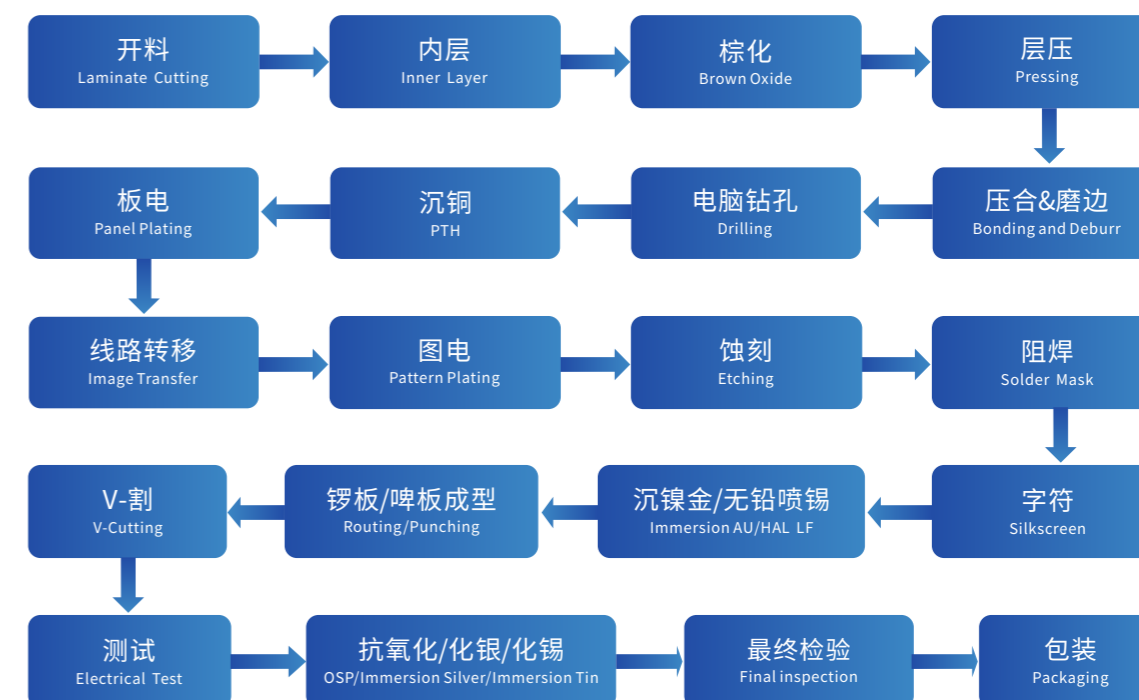
## 环境政策 ENVIRONMENTAL POLICY

公司环保证照齐全, 废气、废水处理设施均符合国家标准要求, 可生产排放废水96万吨/年; 配备专业环保运营管理团队, 确保废弃物的排放符合环境保护法规的同时, 致力于减少资源浪费, 实施可持续发展。



The company has complete environmental protection certificates, and its waste gas and wastewater treatment facilities meet national standards. It can produce and discharge 960000 tons of wastewater per year; Equipped with a professional environmental protection operation and management team, ensuring that waste discharge complies with environmental protection regulations while committed to reducing resource waste and implementing sustainable development.

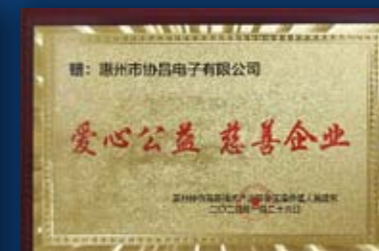
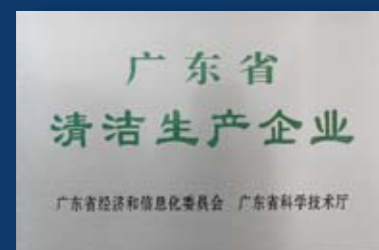
## 工艺流程 PROCESS FLOW

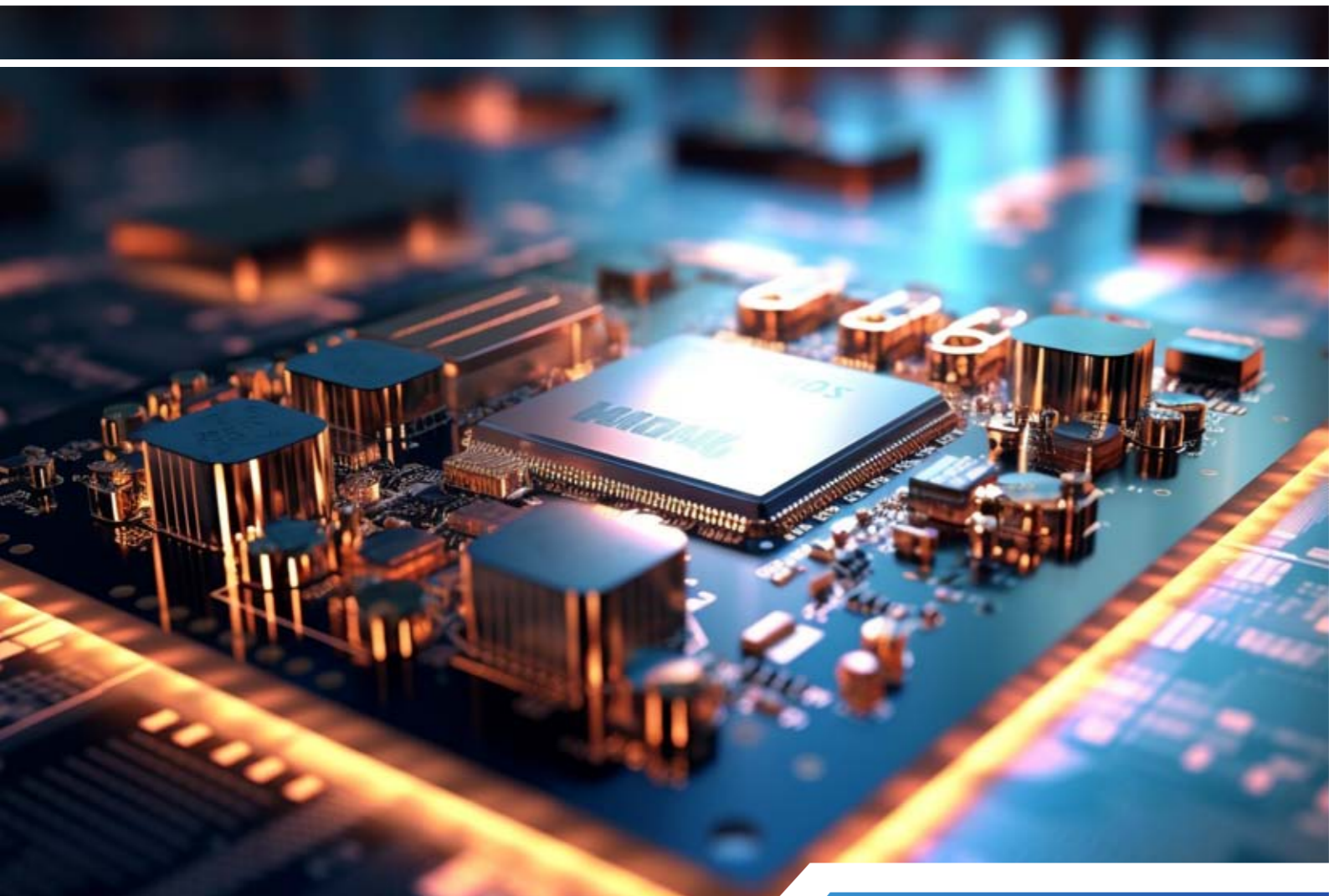


## 产品生产周期 PRODUCTION SCHEDULE(DAYS)

项目 Items	双面板 Double-Side	四层板 Four-Layer	六层板 Six-Layer	八层板 Eight-Layer	十层板 Ten-Layer	十二层及以上板 twelve-layer and above
样品制作 Sample	3-4天	5-6天	7-8天	9-10天	12-13天	15-16天
量产制作 Mass Production	8-10天	9-14天	12-16天	13-18天	16-20天	18-22天

# COMPANY HONORS 公司荣誉





## 生产设备

PRODUCTION EQUIPMENT

协昌电子完善的生产质量控制与产品质量检验系统,既是产品质量的最佳保证,也是对广大客户值得信赖的承诺。公司的生产运营均采用国际标准管理方式,严格按照质量保证体系管理企业并引进国际先进的生产线,使产品完全达到高水平的国际质量标准要求。

Xiechang Electronics has a well-established production quality control and product quality inspection system,It is not only the best guarantee of product quality, but also a trustworthy commitment to our customers.The production and operation of the company adopt international standard management methods and strictly manage the enterprise in accordance with the quality assurance system,And introduce internationally advanced production lines to ensure that the products fully meet high-level international quality standards

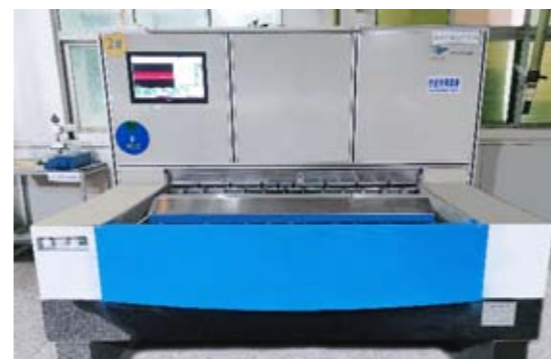
持续创新 品质至上  
Continuous innovation Quality first



数控钻孔机  
CNC drilling machine



数控铣边机  
CNC milling machine



电脑自动 V-CUT机  
Computer automatic V-CUT machine



沉铜自动线  
Automatic Cu immersion line

生产设备  
PRODUCTION EQUIPMENT



龙门电镀线  
Pattern plating line (plated resist)



VCP线  
Vertical Continuous Plating



LDI曝光机  
Laser Direct Imaging



阻焊CCD曝光机  
Automatic imaging alignment Exposure machine(for sold mask)



自动压膜机  
Film pressing machine



自动退膜、蚀刻线  
Etching line

生产设备  
PRODUCTION EQUIPMENT



自动丝印机  
Text printing machine



文字喷涂机  
Text spray painting equipment



专用测试机  
Test machine



高速飞针机  
High Speed Fly Probe Tester



AVI外观检查机  
Automated Visual Inspection machine



成品验孔机  
Hole inspection machine



二次元  
Two dimension  
measuring instrument



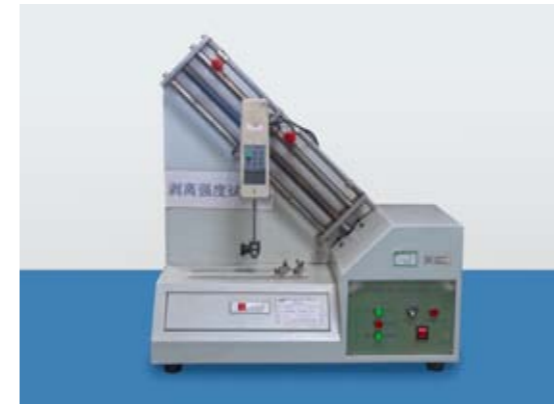
阻抗测试仪  
impedance tester



离子污染测试仪  
Ionic contamination tester



成品孔铜测量仪  
Copper thickness gage milum



铜箔拉力测试仪  
pull tensile force tester



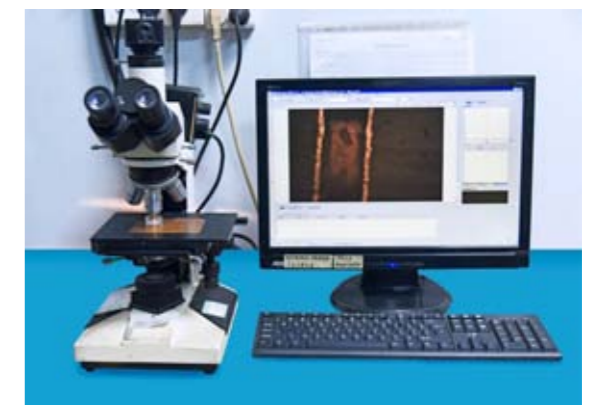
恒温恒湿箱  
Constant temperature  
and humidity box



回流焊机  
ReflowOven



RoHS测试仪  
RoHS inspection monitor



金相显微镜  
Metallographic microscope

## 检测设备 DETECTION EQUIPMENT

在协昌人心中，  
有一种信念矢志不渝。  
它是品牌价值的精髓所在，  
它让每件PCB产品  
卓然不群，永恒典范！  
成就非凡，其实并非伟人专利  
使命、责任、动力人皆有之  
正因为如此，记录会被打破；  
历史会被改写；高峰会被征服。  
成就，不是终点，  
而是用一生来谱写的永恒华章。  
协昌成就永恒！

In the hearts of Xiechang people,  
There is a belief that never changes.  
It is the essence of brand value,  
It makes every PCB product  
Stand out from the crowd, eternal model!  
Extraordinary achievement is not the  
monopoly of great men Mission,  
Mission、Responsibility、Motivation, everyone has them!  
That's why records are broken;  
History will be rewritten; The summit  
was conquered.  
Achievement is not the end,  
It is an eternal chapter to be written in a lifetime.  
xiechang achieve eternity!

## ■ 企业愿景 ■

— Corporate Vision —

未来，协昌人将持续创新，不断超越，努力成为电子行业发展的领跑者，为客户提供更优质的PCB解决方案，成为全球电子产业的理想合作伙伴，为智能化、高效能的未来世界做出积极贡献。

In the future, Xiechang people will continue to innovate and surpass, striving to become leaders in the development of the electronics industry, providing customers with better PCB solutions, becoming an ideal partner in the global electronics industry, and making positive contributions to an intelligent and efficient future world.