KINWONG
景旺电子

Kinwong - Technology Profile

To become the most reliable PCB manufacturer in the world.

stock code：603228
www.kinwong.com

Profile of 5 Manufacturing Sites

KINWONG

20,000 m²

F1 Shenzhen (headquarters)

- PCB Division & FPC Division
- Monthly capacity: PCB: **63,000**㎡, FPC: **25,000**㎡
- Employee: **2,300+**

230,000 m²

F2 Longchuan

- 3 product lines: PCB, FPC, MPCB
- Monthly capacity: PCB: **100,000**㎡, FPC: **140,000**㎡, MPCB: **60,000**㎡
- Employee: **6,100+**

240,000 m²

F3 Jiangxi – Smart Factory

- World-leading intelligent PCB factory
- Monthly capacity: PCB: 390,000㎡
- Employee: **3,000+**

150,000 m²

F4 Jinwan – High Tech Factory

- High Layer Count & SLP factory
- Monthly capacity: PCB (High Layer Count): **100,000**㎡ SLP: **60,000**㎡
- Employee:**1600+**

85,000 m²

F5 Fushan

- Monthly capacity: FPC: **65,000**㎡ (Including new energy:50,000㎡)
- Employee: **1,300+**

Five Production Sites Product Types

KINWONG

Location	Products	Monthly Capacity	PCB	FPC	M-PCB	R-Flex	HDI	HLC	HF	Copper Inlay	Module/ Substrate /SIP	FPCA	Factory Specialty
SZ	PCB	63,000㎡	✓			✓	✓	✓	✓				Low Volume, various product technology, special base material, unique processing; Rigid-flex, High Frequency, high layer count heavy copper and HDI covers application field of automotive, telecommunication, industry control, power supply and medical products etc.
	FPC	FPC: 25,000㎡ FPCA: 10KK		✓		✓						✓	Use for Display Module, Touch Screen, Automobile, Industrial Control, UAV, Electronic Cigarette, Smart Home, Medical Industry.
LC	PCB	100,000㎡	✓					✓	✓	✓			Middle & Large Volume; Multi-layer board, applied in telecommunication, power supply, automotive and industrial.
	FPC	FPC: 140,000㎡ FPCA: 80KK		✓		✓						✓	Middle & Large Volume; Use for Automobile, Display Module, Touch Screen, Smartphone, LED backlight, Electronic Cigarette, TWS.
	MPCB	60,000㎡			✓					✓			Middle& Large Volume, Dedicated to thermal management solutions applied in new energy automotive, automotive lighting, power module and other lighting.
JX	PCB	390,000㎡	✓						✓	✓			Large volume normal FR-4 boards; Widely applied in automotive, consumer and telecommunication and etc.,.
ZH 2	Fu Shan FPC	FPC: 45,000㎡ FPCA: 40KK		✓		✓						✓	Middle& Large volume; Use for New Energy Vehicles & Energy Storage, Wireless Charging, Touch Screen, Automobile, TWS, Smart Home, Display Module, 5G etc.
	Jinwan HLC	100,000㎡					✓	✓	✓	✓			Large Volume; Dedicated on high layer count, widely applied in telecommunication, network, server, storage and automobiles.
	Jinwan SLP	60,000㎡					✓				✓		High Volume; Dedicated to SLP, applied in telecommunication, consumer products.

Industry Development Trend & Kinwong Technical Solution

Automotive-Development Trend & KW Technical Solution

KINWONG

- High Power
- High Voltage
- High Current
- Thermal Management Solution

Cu/Aluminum-based IMS

- ✓ Cu Pedestal
- ✓ High Thermal Conductivity
- ✓ Excellent thermal performance
- ✓ Good electrical performance

Heavy Copper

- ✓ Less Thermal Stress
- ✓ Max. 6oz base Cu UL recognized

Cu/AIN Inlay

- ✓ “I”,”T”,”U”-shaped Cu Coin
- ✓ Max. ±30μm height performance

- Higher Transmission Rate
- Lower Loss

High Frequency Millimeter Wave Radar

- ✓ HC/PTFE-based Raw Material
- ✓ Hybrid | Blind Via
- ✓ High Accuracy Copper Image Pattern （±15μm）
- ✓ High Layer Registration(±5mil)

HDI

- ✓ 4+N+4
- ✓50μm/50μm Trace Width/Spacing

Rigid-flex board

- ✓ 2~4L FPC
- ✓ Air Gap design
- ✓2+N+2 HDI Rigid-flex

Automotive-Development Trend & KW Technical Solution

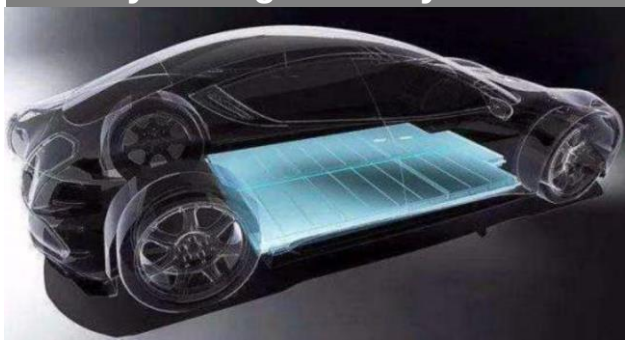
KINWONG

Large-size Display Screen FPC

More Feature ● Last Longer

- Longer Finger Pitch length (>100mm)
- Surface Finish: ENIG
- Mechanical Drill Hole Min. 0.1mm, Laser Blind Via Min. 0.05mm
- Min. Trace Width/Spacing of 45μm/45μm
- Impedance Control

Battery Management System FPC



High Heat Resistance ● High Power

- FPC Length more than 1000mm
- Copper Thickness > 2 OZ
- 3D Stiffener Assembly
- Conformal Coating for Component

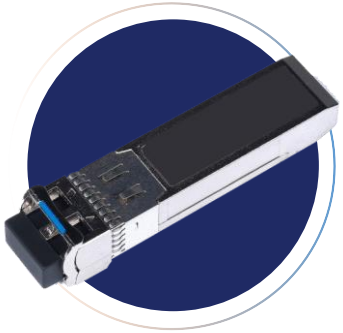
5G Development Trend & KW Technical Solution

KINWONG

High Speed ● Super Transmission Rate ● Lower Loss

High Layer Count

- ✓ Large Panel Size
- ✓ Back Drill Via
- ✓ POFV
- ✓ Skip Via
- ✓ Impedance Control
- ✓ Insertion Loss



Optical Module

- ✓ ENIG/ENEPIG+G/F
- ✓ High Speed Material
- ✓ Hybrid
- ✓ HDI | N+N | Cavity
- ✓ Cu Inlay
- ✓ Segmented/Graded G/F
- ✓ Tight Size Tolerance

Antenna

- ✓ 2L~4L
- ✓ High Frequency Material
- ✓ Hybrid
- ✓ Cavity
- ✓ Strict RF Trace Tolerance

TRX/PA/Base Band/Backplane

- ✓ Large Size
- ✓ Back drilling
- ✓ POFV
- ✓ Half-plated Hole
- ✓ Edge Plating

Consumer Product-Development Trend & KW Technical Solution

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- **High Density ● Small Hole Size**
- **High Capacity**
- **Light weight, Thinner & miniaturized**

HDI

- 3+N+3
- Anylayer
- mSAP
- amSAP
- Min. Trace Width/Spacing of 30μm/30μm
- Stacked/Staggered/Stepped/Skip Vias
- Min. Board Thickness of 0.2mm

5G Cellphone

5G Antenna FPC
5G Transmission Line FPC

- PTFE/LCP/MPI-based Material
- 3L~4L
- Laser Drilled Blind Via
- Copper Filled Via
- Impedance Control
- Insertion Loss Control
- Simulation and Test
- 3D SUS Stiffener

UAV

UAVs FPC

- L1~6L
- Mechanical Drill Hole min. 0.1mm, Laser Blind Via min. 0.05mm
- Min. Trace Width/Spacing of 45μm/45μm
- Surface Finish: ENIG & ENEPIG & OSP
- Impedance Control
- 3D SUS Stiffener

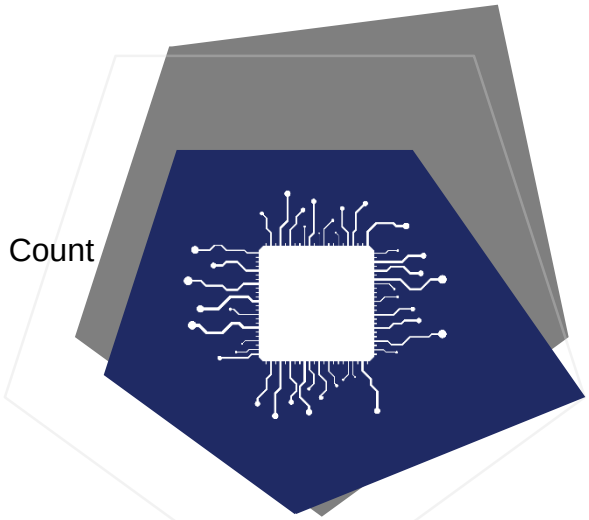
Industrial & Medical-Development Trend & KW Technical Solution

KINWONG

Long Term Reliability ● High Stability

Rigid-Flex

- ENIG/LF HASL/OSP
- Max.16L
- Max. 6L Flexible Layer Count
- Flexible Area with Different Layer Count
- CVL at Rigid
- HDI
- Gold Finger Design
- Dispensing
- ±10% Impedance Control



Semi-flex

- Max. 2L Bendable Layer
- Bending Area Thickness 0.25mm±0.05mm
- Bending Angle 0~180°

Portable ● Miniaturized ● Intelligent

Rigid-flex

- Bendable and 3D assembly for small size
- Middle/High Tg Base Material
- Soldermask Plugging

Kinwong Product Line & Technology Roadmap of Sites

PCB Technology Roadmap

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Technology items	2022	2023	2024
Max.Layer Count	18L	24L	32L
Max. Delivery Panel Size	594*699mm	620*950mm	620*950mm
Min.Core Excl.Cu Thickness	0.075mm	0.05mm	0.05mm
Final Board Thickness	0.4~3.6mm	0.4~4.5mm	0.4~5.0mm
Min.Inner Layer Trace Width/Spacing	0.076mm/0.076mm	0.06mm/0.06mm	0.06mm/0.06mm
Min.Outer Layer Trace Width/Spacing	0.076mm/0.076mm	0.065mm/0.076mm	0.065mm/0.076mm
Min.Mechanically Drilled Hole Size	0.2mm	0.15mm	0.15mm
Min.Laser Drilled Hole Size	0.1mm	0.1mm	0.1mm
Max.Aspect Ratio for Mechanically Drilled Through Hole	12:1	18:1	20:1
Max.Aspect Ratio for Laser Drilled Blind Via	0.8:1	1:1	1:1
Soldermask Registration	±0.05mm	±0.040mm	±0.040mm
Min.Soldermask Dam	0.075mm	0.05mm	0.05mm
Min. BGA Pitch	0.55mm	0.5mm	0.40mm
Depth Control Routing Tol.	±0.05mm	±0.05mm	±0.05mm
Min.Single-ended Impedance Tol.	+/-8%	+/-7%	+/-5%
Min.Differential Impedance Tol.	+/-8%	+/-7%	+/-5%
Surface Finish	LF HASL, HASL, ENIG, Immersion Tin, Immersion Ag, OSP, Gold Finger, ENEPIG		
Base Material	General Tg, Middle Tg, High Tg, Halogen Free, High Frequency(Low Dk/Df), High Speed (Middle/Low/Very Low/Ultra Low Loss), High Thermal Conductivity , Low CTE and so on.		

FPC Technology Roadmap

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Technology items		2022	2023	2024
Finished Board Thickness		0.05~0.8mm	0.05~0.8mm	0.05~0.8mm
Min.Laser Drilled Hole Size		Ø0.05mm	Ø0.05mm	Ø0.035mm
Min.Mechanical Drilled Hole Size		Ø0.1mm	Ø0.1mm	Ø0.1mm
Max.Mechanical Drilled Hole Size		Ø6.3mm	Ø6.3mm	Ø6.3mm
Min.Trace Width/Spacing		0.04mm/0.04mm	0.04mm/0.04mm	0.035mm/0.035mm
Min.Annular Ring of Single/Double-sided Board		0.1mm(Panel Plating) 0.125mm(Button Plating)	0.1mm(Panel Plating) 0.125mm(Button Plating)	0.1mm(Panel Plating) 0.1mm(Button Plating)
Min.Inner Layer Annular Ring of Multi-layer Board		0.125mm	0.125mm	0.1mm
Min.Outer Layer Annular Ring of Multi-layer Board		0.1mm(Panel Plating) 0.125mm(Button Plating)	0.1mm(Panel Plating) 0.125mm(Button Plating)	0.09mm(Panel Plating) 0.125mm(Button Plating)
Min.Coverlay Bridge		0.3mm	0.3mm	0.3mm
Min.Soldermask Opening		0.25mm	0.25mm	0.25mm
Min.Single-ended Impedance Tolerance		±8%	±7%	±6%
Min.Differential Impedance Tolerance		±8%	±7%	±7%
Min.Coverlay Opening		Ø0.5mm	Ø0.5mm	Ø0.5mm
		0.5mm*0.5mm	0.5mm*0.5mm	0.5mm*0.5mm
Coverlay Registration	Machine Alignment	±0.1mm	±0.1mm	±0.1mm
	Fixture	±0.1mm	±0.1mm	±0.1mm
Max.Layer Count	Flex Board	6L	6L	8L
	Air-gap Board	6L	6L	6L
	Rigid-flex Board	8L	10L	12L
	Rigid-flex Board HDI	8L	10L	12L
Surface Finish		Gold Plating、ENIG、OSP、ENIG+OSP、Gold Plating+OSP、Gold Plating+ENIG		

MPCB Technology Roadmap

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Technology items		2022	2023	2024
Max. Layer Count		8L	8L	8L
Max. Panel Size		610*710mm	610*710mm	610*710mm
Metal Base Thickness		0.5~4.0mm	0.5~4.0mm	0.4~4.0mm
Min. Dielectric Thickness		0.038mm	0.038mm	0.038mm
Min. FR4 Core Thickness excl.Cu		0.076mm	0.076mm	0.076mm
Etching Tolerance		±15% (Width≥0.15mm)	±25um（@1oz)	±20um（@1oz)
		±20% (Width＜0.15mm)	±35um（@2oz)	±30um（@2oz)
			±50um（@3oz)	±50um（@3oz)
			±15%（＞3oz)	±15%（＞3oz)
Min. Inner Layer Trace Width/Spacing		0.076mm/0.076mm	0.076mm/0.076mm	0.076mm/0.076mm
Min. Outer Layer Trace Width/Spacing		0.076mm/0.076mm	0.076mm/0.076mm	0.076mm/0.076mm
Min. Drilled Hole Size	Aluminum Base	0.55mm (≥1/2 of board thickness)	0.50mm (≥1/2 of board thickness)	0.50mm (≥1/2 of board thickness)
	Copper Base	0.60mm (≥3/4 of board thickness)	0.60mm (≥3/4 of board thickness)	0.60mm (≥3/4 of board thickness)
Drilling Hole Tolerance		＋0.05/-0mm	＋0.05/-0mm	＋0.05/-0mm
Puching Hole Tolerance		＋0.03/-0mm	＋0.03/-0mm	＋0.03/-0mm
Min.Counter-sink Hole	1/3/5 Series Aluminum Base	0.6mm	0.6mm	0.6mm
	6 Series Aluminum Base/Copper Base	0.8mm	0.8mm	0.8mm
Countersink Hole Depth Tolerance		±0.05mm	±0.04mm	±0.03mm
Soldermask Registration		±0.04mm	±0.04mm	±0.04mm
Breakdown Voltage of Raw Material		6KVAC	6KVAC	6KVAC
Metal Base Type		Aluminum Base, Copper-Base, Stainless Steel Base		
T/C(Thermal Conductivity)		D5470：1-3W/m.K T0220：1-8W/m.K	D5470：1-3W/m.K T0220：1-12W/m.K	D5470：1-3W/m.K T0220：1-12W/m.K
Surface Finish		OSP, ENIG, Immersion Ag, Immersion Tin, LF HASL, ENEPIG		

Zhuhai HLC Technology Roadmap

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Technology items	2022	2023	2024
Layer count (max)	24	32	40
Working panel size (max)	24.5"*37.5" (620mmX950mm)	24.5"*37.5" (620mmX950mm)	24.5"*37.5" (620mmX950mm)
Board thickness （max）	3.5mm	4.0mm	5.0mm
Min Line W/S	I/L: 2.5mil/2.5mil O/L: 4mil/4mil(POFV)	I/L: 2.5mil/2.5mil O/L: 3.5mil/4mil(POFV)	I/L: 2.0mil/2.0mil O/L: 3.5mil/3.5mil(POFV)
Min DHS(mil)	6mil	6mil	6mil
Aspect ratio (by drill bit)	18:1	20:1	22:1
Min core thickness	2mil	2mil	1mil
Overall layer registration	5mil	5mil	5mil
Impedance tolerance	+/-8%	+/-7%	+/-5%
Back drill stub	2-10mil	2-10mil	2-8mil
POFV	Yes	Yes	Yes
Skip-via(L1-3)	Yes	Yes	Yes
HDI	3+N+3	3+N+3	3+N+3
N+N	Yes	Yes	Yes
Embedded Coin	Yes	Yes	Yes
Embedded capacitor	No	Yes	Yes
High-speed Material	Mid loss: TU862HF,IT-170GRA1,EM828G,M2,S7040G, NPG-1711,IS415,H175HF etc Low loss: M4/M4S, S7439, TU872SLK, IT958G, NPG-170D, TU863+, I-speed, EM888S,FR408HR etc; Very low loss: M6, IT968,TU883, Synamic 6, EM891, EM528,Meteorwave1000/2000,I-Tera,LW-900G,DS-7409DV ; Ultra low loss: M7, TU933+, Synamic 6N,EM890K,Meteorwave3000/4000,Tachyon100G,IT988GSE,LW910G,DS-7409DVN. Super low loss： M8, EM892K, TU943N,Synamic8G,IT998G,Meteorwave8000,DS-7409DJN.		
High Frequency Material	Ceramic: RO4350B,S7136H,RO4730G3,Aerowave300 PTFE: TC350, TC350,TC350plus,RO3003,RO3006,TLX,RF-35A,RF-30,TSM-DS3.		

Zhuhai SLP Technology Roadmap

KINWONG

Item/Year		2022	2023	2024
Technology Application		Subtractive、mSAP	Subtractive、mSAP、amSAP	
Structure	Max Layer	16L	18L	
	Stack-up	1+N+1，2+N+2，3+N+3，4+N+4，Anylayer		
	Pnl Size	18.3x24.3, 20.3x24.3, 21.3x24.3		
Line Width / Spacing [um]	35/40	HVM		
	30/30	HVM		
	25/25	Q3:PQ/ Q4:HVM		
	20/20		Q2:PQ/ Q3:HVM	
BMV Open Diameter [um]		65	60	50
BMV Pad Diameter [um]		140	120	110
PTH Open Diameter [mm]		0.15		
Core Thickness [um]		50	40 / Q3 (Coreless)	25(Coreless)
Thinnest Prepreg Type		1017	1010	
Board Thk (min/max) [mm]		0.3/2.2	0.25/2.2	
SR Opening Size [um]		80		70
SR Registration [um]		20	15	

SMT Technical Capability

KINWONG

Category And Feature		Description	2022		2023		2024	
			Mass Production	Advanced	Mass Production	Advanced	Mass Production	Advanced
SMT	Min. Chip Component	Component	0201	01005	01005	01005	08004	08004
	Min. BGA Pitch	Component	0.4mm	0.35mm	0.35mm	0.3mm	0.3mm	0.3mm
	Min. BTB Connector Pitch	Component	0.35mm	0.3mm	0.35mm	0.3mm	0.3mm	0.3mm
	Component Center to Outline	Tolerance	±0.2mm	±0.15mm	±0.2mm	±0.15mm	±0.15mm	±0.13mm
	Conformal Coating Thickness	Maximum	0.15mm	0.13mm	0.15mm	0.13mm	0.13mm	0.13mm
	Under Fill	Maximum	0.8mm	0.7mm	0.7mm	0.65mm	0.7mm	0.65mm
	Conformal Coating Overflow	Maximum	0.6mm	0.5mm	0.5mm	0.45mm	0.5mm	0.45mm
	Distance From Solder Pad to Stiffener	Minimum	1.5mm	1.5mm	1.5mm	1.5mm	1.5mm	1.5mm
	Distance Between Solder Pads	Minimum	±0.2mm	±0.15mm	±0.2mm	±0.15mm	±0.15mm	±0.13mm
	Work Size	Minimum	50x50mm	50x50mm	50x50mm	50x50mm	50x50mm	50x50mm
	Work Size	Maximum	400x340mm	400x340mm	400x340mm	510x460mm	510x460mm	510x460mm
	Pick and Place Accuracy	Tolerance	±40um	±30um	±40um	±30um	±30um	±25um
	Distance Between components (same type)	Minimum	0.3mm	0.2mm	0.2mm	0.15m	0.2mm	0.15mm
	2D Barcode Area	Minimum	3x3mm	3x3mm	3x3mm	2.5X2.5mmm	2.5X2.5mm	2X2mmm

Technical Capability of New Energy

KINWONG

Items	Technical Capability
Process Capability	Mounting, assembly, solder, spot welding, selective wave soldering, dispensing, testing, punching, bending, full-process MES traceability and automation
Product Size Capability	Batch 1300mm, Sample 1500mm
Working Temperature And Humidity Range	-40℃~125℃，5%~95%RH
Line Resistance Range	Within 10%
Overcurrent Protection	When tested according to the fusing current defined by customer, the Fuse etched on the line fuses within 1.5s, and the FPC component does not catch fire or drip.
Insulation And Voltage-resistant Performance	Insulation between circuits：≥100MΩ（@500V_{DC}，60s）；Voltage-resistant between circuits：1600V_{DC}，60s，leakage current ≤1mA；Insulation between line and surface：≥500MΩ（@1000V_{DC}，60s）；Insulation between line and surface：27000V_{DC}，60s，leakage current ≤1mA；
High Temperature And High Humidity Performance	After being placed in an environment of 85°C and 85%RH for 1008 hours, the FPC components have no obvious corrosion, and the circuit resistance, NTC resistance, performance of insulation and voltage-resistant, and the welding strength of nickel sheets and NTC all meet requirements.
Hot And Cold Impact Performance	After being placed in an alternating temperature environment of -40℃~125℃ for 1008h, the FPC components have good appearance, circuit resistance, NTC resistance, performance of insulation and voltage-resistant, and the welding strength of nickel sheets and NTC all meet requirements.
Salt Spray Resistance	In an environment with a temperature of 35±2°C, after continuous spraying with NaCl solution with a concentration of 5% and a pH value of 6.5~7.2 for 96 hours, the appearance of the FPC components has no obvious corrosion, and the circuit resistance, NTC resistance, performance of insulation and voltage-resistant, and the welding strength of nickel sheets and NTC all meet requirements.
Electrolyte Immersion Resistance	After immersing the FPC module in a conventional electrolyte at a temperature of 25±3°C for 24 hours, the PI film of the FPC module has no corrosion and damage, and other parts have no obvious dissolution or deformation, and the weight change is less than 10%
Scraping Resistance	After 3000 scratches, the wear amount does not exceed 20% of the material thickness (@load 1kg; running length 25.4mm; speed 45 cycles/min; friction medium CS-17)
Bending Resistance Performance	Bending at 90°, 800 times on each side (@60 times/min, R=2.5mm), the FPC components have good appearance, and the circuit resistance, NTC resistance, performance of insulation and voltage-resistant all meet requirements
Flame Retardant	FPC components meet UL94 V-0 class requirements

JiangXi Operational Excellence
Zhuhai Jinwan Plant
Longchuang SMT MES System

JiangXi Operational Excellence

Quality, Cost and Efficiency Come from the Perfect Process Layout!

Quality

- Chemical Analysis On-line
- Parameter Collection
- Copper & board thickness In-line test
- Traceability by Lot
- Smart Warehouse

Cost

- Electricity and water dose monitor
- Energy saving system

Efficiency

- Board Cutting - Trimming - Rounding – Cleaning - Baking
- Inner Layer Pretreatment – Coating – Exposure – DES - Brown Oxidation
- Pressing - PP Cutting - Pre-lay – Composing – Lamination - Decomposing
- AGV Logistics

JiangXi Intelligent Manufacturing

KINWONG

1

Realize material FIFO

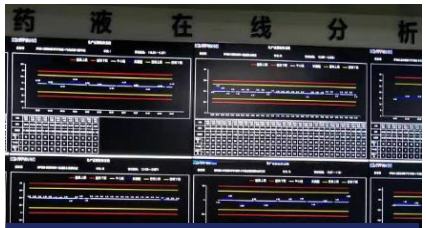
2

Dynamic inventory with real time control

3

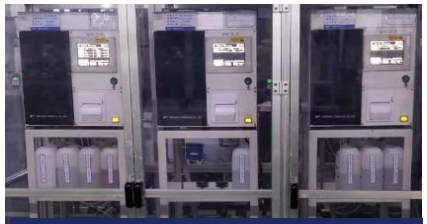
EBS seamless interfaced with smart warehouse

The application of smart warehouse ensures the speed and accuracy of data input in all aspects of warehouse management, realizing FIFO and quality assurance of raw materials.



SPC for Chemical

Auto Dosing System



On-line Chemical Analysis

Concentration : On line chemical analysis, Auto-dosing system can add or adjust.

Lot Control & Traceability

1

CCD reading code

CCD reading code to identify product info in whole process

2

Capture code after product cleaning finished

Stack by lot No.# and date code

3

Capture code before Packaging

Distinguish lot No.# and date code

Realize lot management in the whole PCB process by on line reading code and classification system, which can avoid different product mixed, and same product but in different date code mixed when shipping.

AGV Logistics

1

Adjust the route flexibly according to requirement

2

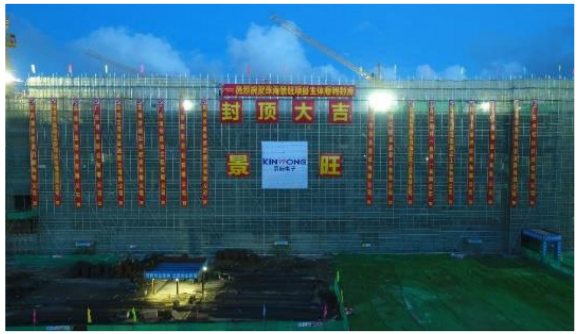
Order with Reasonable distribution

3

Reduction of scratch caused by handling

AGV logistics can make the transportation in high-efficiency, transferring the raw materials/semi-finished products to production line at beginning process, then end process to WIP or finished product warehouse, and the material output after sorting, which can reduce the possibility of handling, as well as the scrap .

Zhuhai HLC & SLP Plant



HLC (High Layer Count)

Capacity planning: 100K m²/Month

Equipment Installation and Full Process Trial Run: March, 2021

Ramp up Plan m²/Month

2021.4	2021.7	2021.11	2022.5
20K	50K	75K	100K

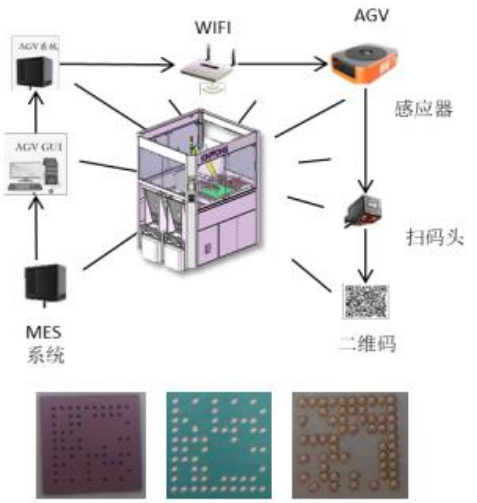
SLP (Substrate Like PCB)

Capacity planning: 60K m²/Month

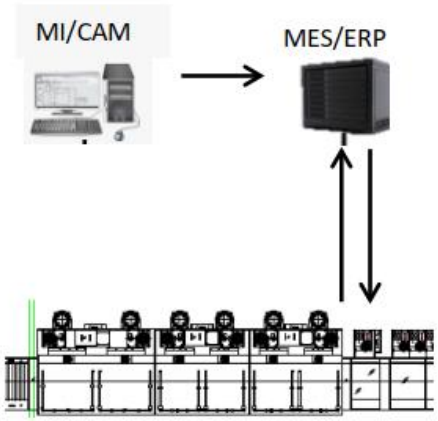
Equipment Installation and Full Process Trial Run: May 2021

Ramp up Plan m²/Month

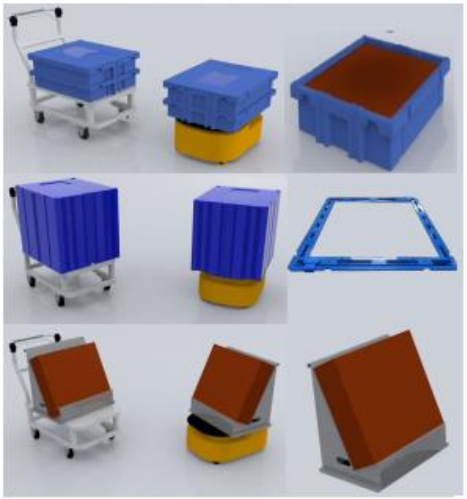
2021.6	2021.10	2022.5	2023.5
10K	30K	60K	60K



The full-process QR code traceability system, which can be controlled to each PCS, the size of the QR code is 2*2mm



All processing parameters are defined in the MI/CAM system and automatically downloaded to the equipment through MES/ERP.



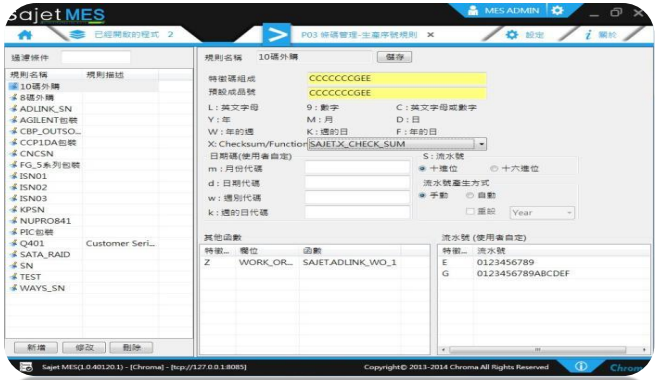
Different Carriers with AGV according to the product characteristics of each process.

Barcode Management, LOT Management and Trace System

- Reading code before production
- Scanning code in the processes
- Scanning code while packing

Customizable barcode format, compatible with various industry standards.

Using the online reading-code classification system, we have made all processes of production under LOT management.



LC SMT — MES Control Chart

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》 Label
》 Code print
》 Laser carving

Prepare component

》 Outbound and inbound
》 Service life management
》 Component banning

》 Parameter
》 Fool proof
》 Screening of orbit

SMT Loading
》 Error proof
》 Trace
》 Feeder management
》 Component and bill
》 initial workpiece
》 Automatic stop when there is an anomaly

PDA

Start → Binding code → Baking → Produc-tion → Printing → SPI → SMT mounting → Reflow soldering → AOI → Repair → SCRAP → Ana-lysis → ICT → FQC IPQA → Packing & shipment → End

Image CCD platform
》 Fool-proofing
》 Digital collection
》 Primary and secondary code relevance

Parameter collection

》 Parameter management

Data
Assistant

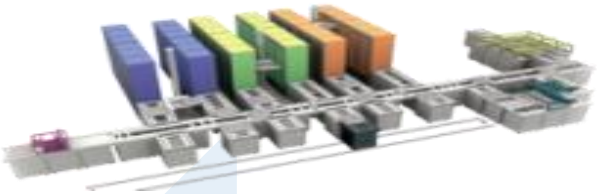
Data collection
》 Planning bill
》 BOM
》 Program

Management
》 Stencil
》 Solder paste
》 squeegee
》 Tool

》 Upload temperature

Repair
》 OK and retest
》 Defect analysis, upload picture

OK
NG
NG



Automatic packing scanning platform
》 Fool-proofing
》 Data collection
》 SN binds with inner box lable

Assembly
》 CCD scan primary code
》 Initial workpiece / spot check

Dispensing
》 Defect
》 Fool proof
》 data statistics

AOI
》 Fool proof
》 Data collection
》 Good rate statistics

IPQC& IPQA

Dispen -sing

Assembly& Punching

Punching
》 DCN scan code and monitor fixture
》 Initial workpiece / spot check

Curing glue

QC
》 Defect
》 Fool proof and good rate statistics

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