

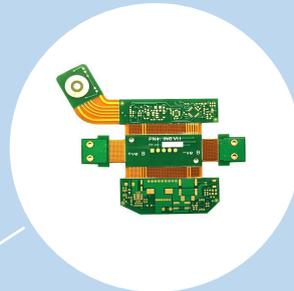
PCBgate
— PCB and PCBA Expert —

PCBGATE GROUP

1. PCB Layout



2. Make FPC/PCB(1-38layers)



7. Finished Product Test



One-stop Service

3. Provide all Components



6. Open Mold & Assembly Housing



5. PCBA Test



4. Assemble Components



— Professional PCB,PCB Assembly Manufacturer —

CONTENTS

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O v e r v i e w

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M a i n B u s i n e s s

3



P r o d u c t L i s t

4



C u s t o m e r
R e p r e s e n t a t i v e s

ABOUT US

PCBGATE GROUP, founded in 2011, is a specialized group company producing various circuit boards, including PCBs, FPCs, and Rigid-Flex PCBs. Over time, we've expanded our services to include PCB-related PCBA assembly solutions to better serve our customers' growing needs.

Our products are applied in multiple industries, including military, medical, instruments, industrial control, automotive electronics, communications, home appliances, and consumer electronics.

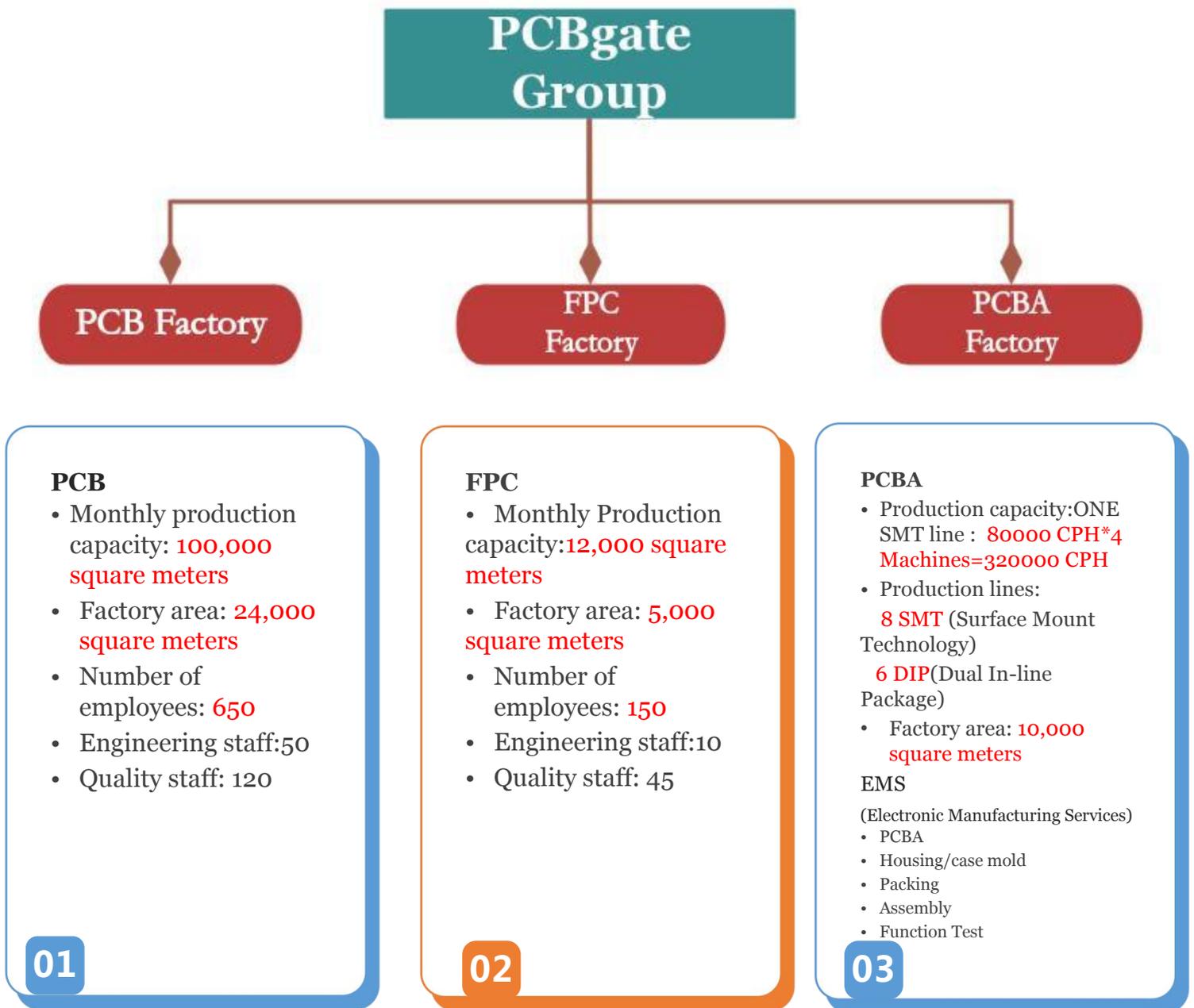
We have got certificates including ISO9001, ISO14001, ISO45001, IATF16949 and ISO13485, UL, are fully qualified to serve large enterprises.

Our products are sold in countries worldwide, including Europe, America, the Middle East, West Asia, etc.

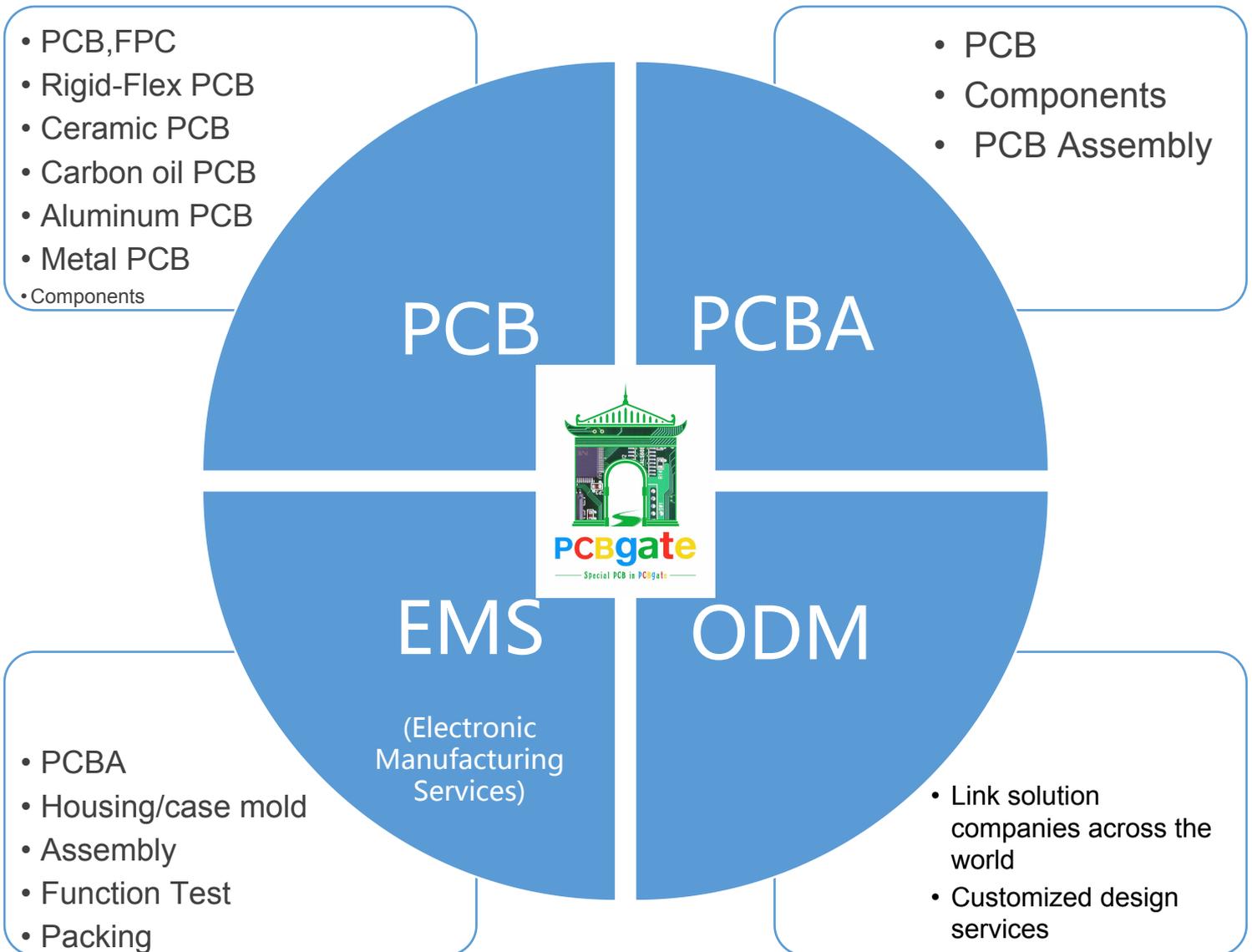


ABOUT PCBGATE GROUP

Organizational Structure

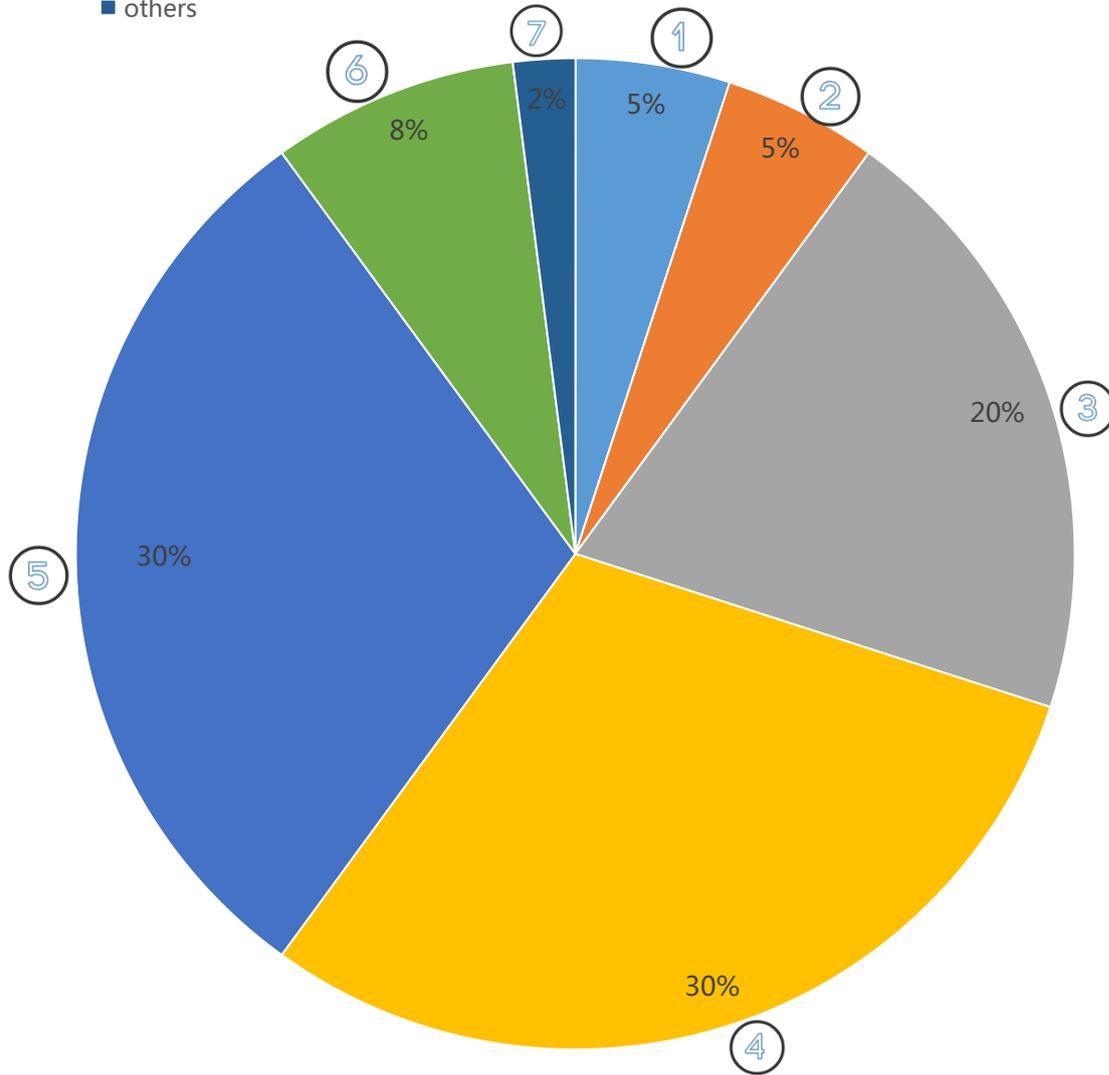


Main Businesses



Industry Segments Served

- Military industry
- Medical industry
- Automotive electronics
- Instruments and meters
- Home Appliance & Electronic Consumer
- Smart Lock&New Energy
- others



Qualification Certificates



PCB Produce Lines



Automatic drawing line



Automatic copper deposition line



Automatic reflow line



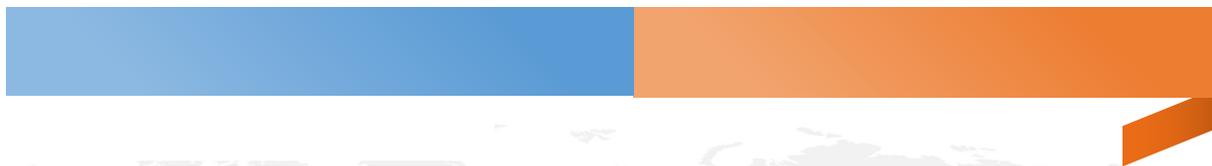
Automatic vertical walking line



Automatic drawing line



Automatic drawing line



Oven



automatic exposure machine



X-Ray target machine



Text printer



Hot melt machine

Production Equipments



PCB press



Dual-press automatic laminator



Acid vacuum etching line



automatic exposure machine



Automatic laminator



DI machine



Drilling machine



CNC drilling and tapping machine



Grinding machine

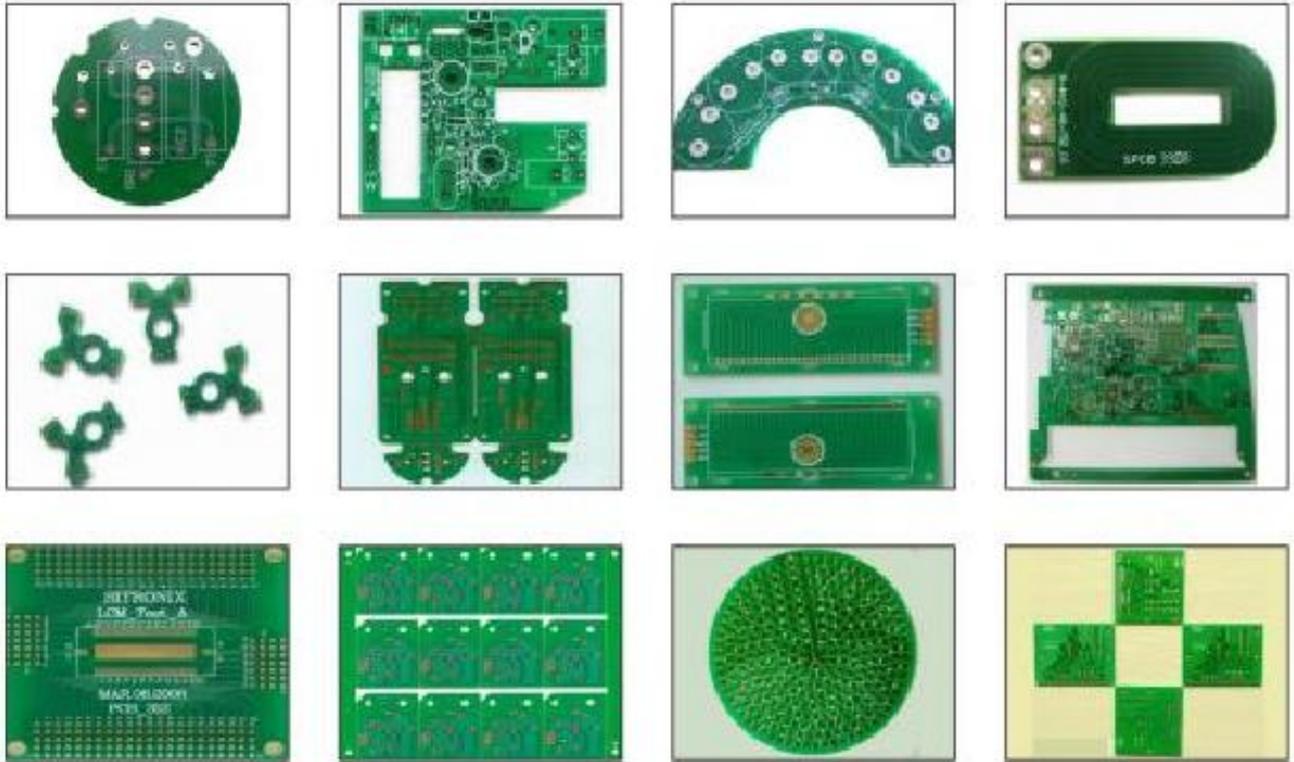


CNC drilling and tapping machine

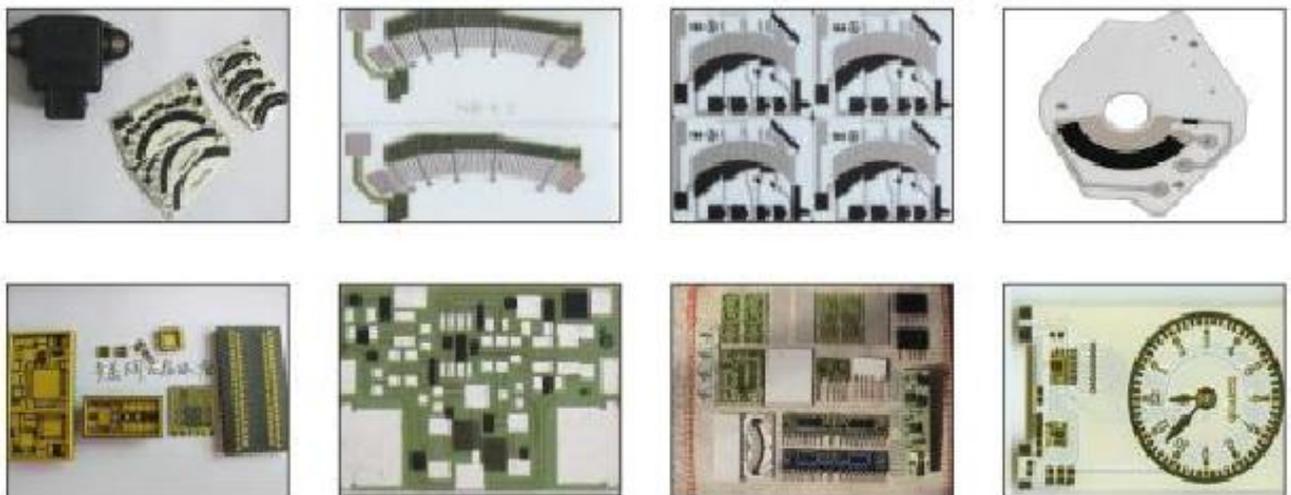
PCB Manufacturing Capacity

Item	Specification
Material	FR-4, FR1,FR2, CEM-1,CEM-3; Rogers,Teflon,Arlon; Aluminum Base, Copper Base,Ceramic etc.
Remarks	High Tg CCL is Available(Tg>=180°C)
Finish Board Thickness	0.2 mm~6.00mm(8mil-126mil)
Surface Finish	Gold finger(>=0.13um), Immersion Gold(0.025-0075um), Plating Gold(0.025-3.0um), HASL(5-20um), OSP(0.2-0.5um)
Shape	Routing、Punch、V-cut、Chamfer
Surface Treatment	Solder Mask(black, green, white, red, blue, thickness>=12um, Block, BGA)
	Silkscreen(black, yellow, white)
	Peel able-mask(red, blue, thickness>=300um)
Minimum Core	0.075mm(3mil)
Copper Thickness	1/2 oz min; 12oz max
Min Trace Width & Line Spacing	0.075mm/0.075mm(3mil/3mil)
Min Hole Diameter for CNC Drilling	0.1mm(4mil)
Min Hole Diameter for Punching	0.6mm(35mil)
Biggest panel size	2000mm * 700mm
Hole Position	+/-0.075mm(3mil) CNC Drilling
Conductor Width(W)	+/-0.05mm(2mil) or +/-20% of original
Hole Diameter(H)	PTH: +/-0.075mm(3mil)
	Non PTH: +/-0.05mm(2mil)
Outline Tolerance	+/-0.1mm(4mil) CNC Routing
Warp & Twist	0.70%
Insulation Resistance	10Kohm-20Mohm
Conductivity	<50ohm
Test Voltage	10-300V
Panel Size	110 x 100mm(min)
	2000 x 700mm(max)
Layer-layer misregistration	4 layers:0.15mm(6mil)max
	6 layers:0.25mm(10mil)max
Min spacing between hole edge to circuitry pattern of an inner layer	0.25mm(10mil)
Min spacing between board outline to circuitry pattern of an inner layer	0.25mm(10mil)
Board thickness tolerance	4 layers:+/-0.13mm(5mil)

FR4 PCB



Ceramic /Pottery/Crockery PCB



Ceramic PCB Tech Specification

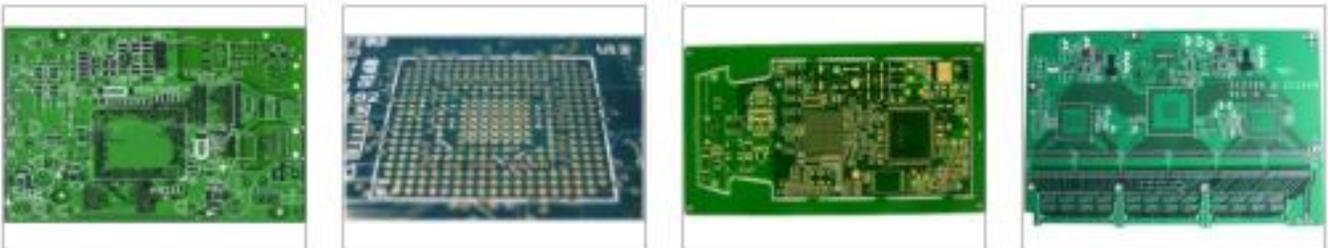
Item	Test Condition	unite	senior
Material	Aluminium nitride Ceramic /Alumina 99.5%/Alumina 99%		
Color status			
average crystal size		μm	3-5
volume density		g/cm ³	≥3.74
water absorption		%	0
Vickershardness	Load 4.9	Gpa	≥ 15
flexural Strength	Bending moment 80mm	Mpa	≥324
Linear Coefficient of Thermal Expansion	20-500°C20-800°C	1 × 10 ⁻⁵ mm/°C	605-7.56.5-8.0
thermal conductivity	20°C	W(m-k)	≥ 170
Dielectric intensity		Kv/mm	≥ 12
Volume Resistance	20°C300°C500°C	Ω-cm	≥ 10 ¹⁴ ≥ 10 ¹¹ ≥ 10 ⁹
Dielectric Constant	1MHz		9.3-10.6
dielectric loss	1MHz		3 × 10 ⁻⁴
Thermal-shock	850°C	times	≥7
roughness of the surface	Ra(λ2)	μm	0.20-0.75

Advanced PCB

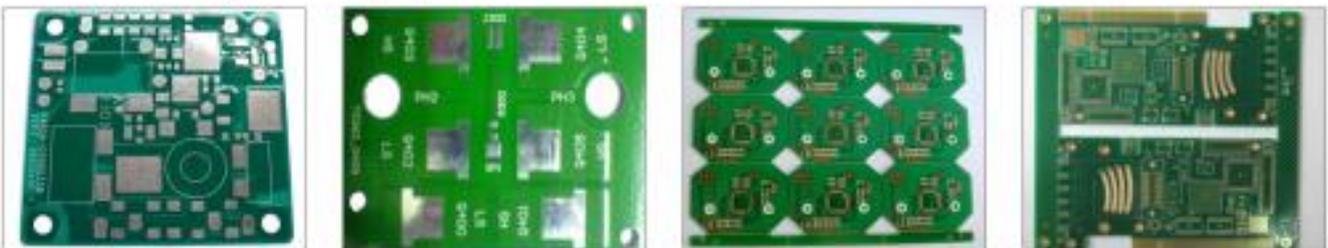
HDI PCB



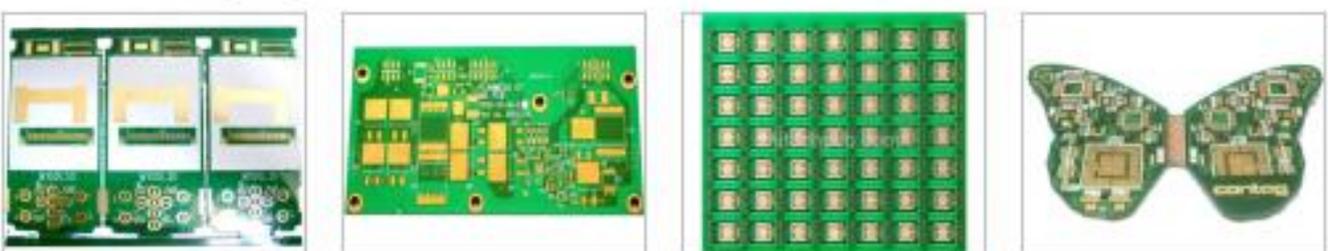
BGA PCB



Heavy copper PCB



Heavy gold/Au PCB



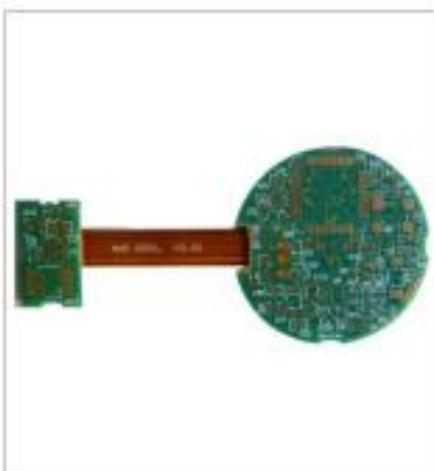
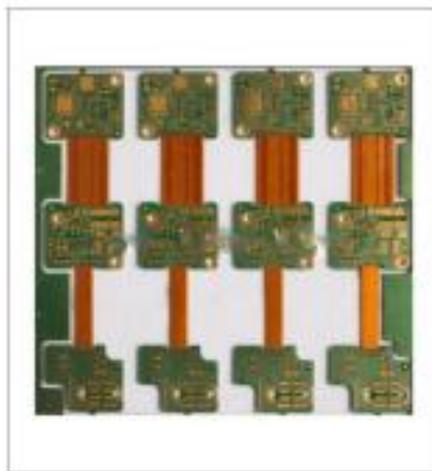
FPC Tech Specification

Items	Capabilities
Layers	FPC : 1 to 6 Layers, Rigid Flex : 2 to 10 Layers
Regular Base Materials	Kapton, Polyimide (PI) ,Polyester (PET) ,PC
Base Copper Thickness	1/3 oz to 6oz
Regular Base Material Thickness	12.5um to 50um (FPC)
	0.1mm to 3.2mm (Rigid)
Regular Coverlay Thickness	27um to 50um
Regular Adhesive Thickness	12um to 25um
Blind or Buried Vias	Yes
Impedance Control	Yes
Min.Line Width/Spacing	0.04mm/0.04mm
Surface Finishing	Electroplate Ni/Au (Flash gold/Soft gold/Hard gold) , ENIG, Immersion Tin, plated silver,immersion silver,OSP,HASL
Outline Fabrication	Die cut, laser cut, CNC routing, V-scoring
Hole to edge(Hard tool/Die Cut)	$\pm 0.1/\pm 0.2$ mm
Edge to edge(Hard tool/Die Cut)	$\pm 0.05/\pm 0.2$ mm
Circuit to edge(Hard tool/Die Cut)	$\pm 0.07/\pm 0.2$ mm

FPC-Flexible print circuit



Rigid-flex PCB



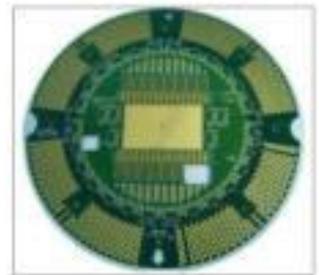
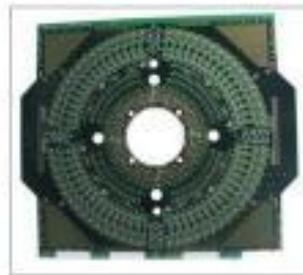
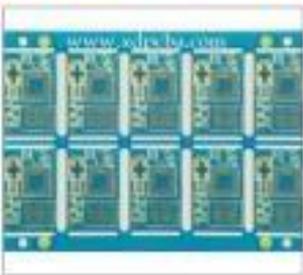
Carbon Oil PCB Tech Specification

Handle PCB(PS2,XBOX.etc)	
Main technical parameter	
Rang of total resistance	1K Ω -1M Ω
Resistance tolerance:	$\pm 10\%$
Resistance to heat :	260 $^{\circ}$ C $\pm 5^{\circ}$ C , 5sec , $\Delta TR \leq \pm 50\%$
Durability:	1 Million cycles Min

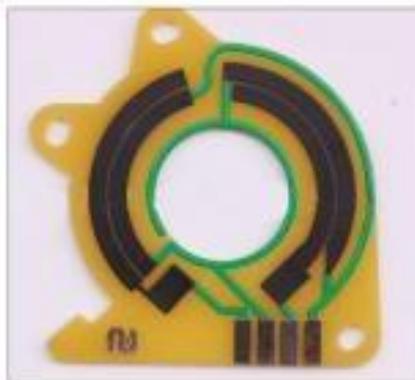
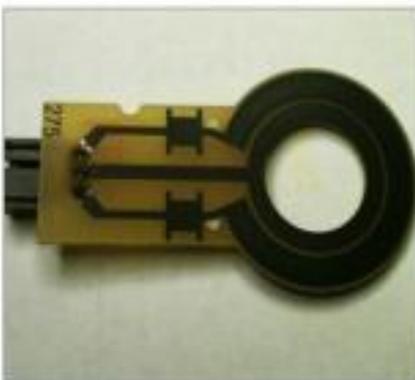
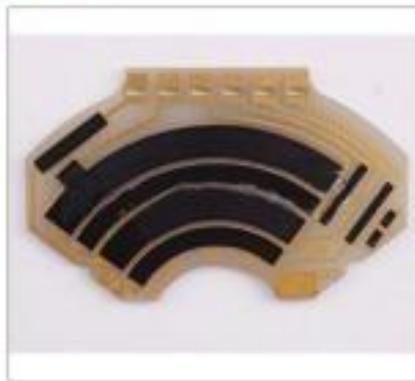
Automobile component(Use for windscreen wiper. light and air-condition)	
Main technical parameter	K-1M Ω
Resistance taper:	linear
Resistance tolerance:	$\pm 1\%$
Linearity tolerance:	$\pm 1\%$
Durability:	1 Million cycles Min
TCR:	with ± 1000 PPM(-30 $^{\circ}$ C--+70 $^{\circ}$ C)

Electricital Component in speed control,etc.	
Main technical parameter	R Ω -3M Ω
Resistance tolerance:	$\pm 1\%$
Linearity tolerance:	$\pm 1\%$
Durability:	1 Million cycles Min

Metal PCB



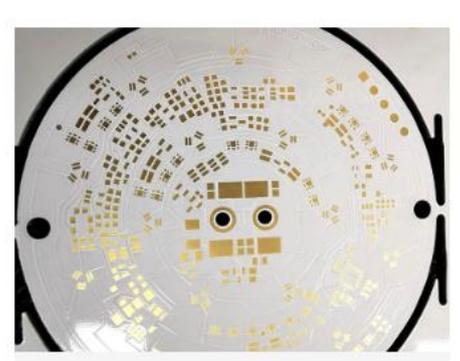
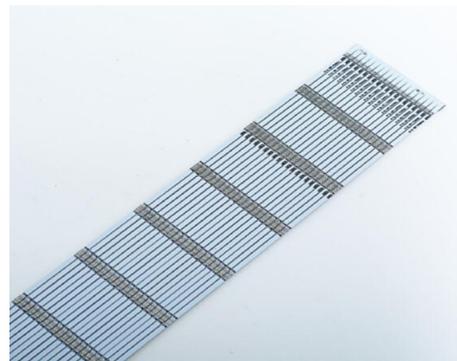
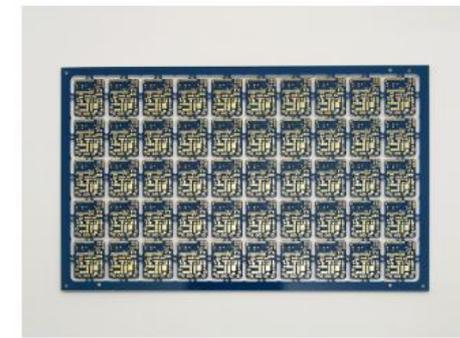
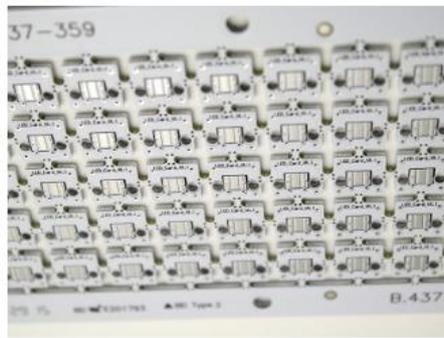
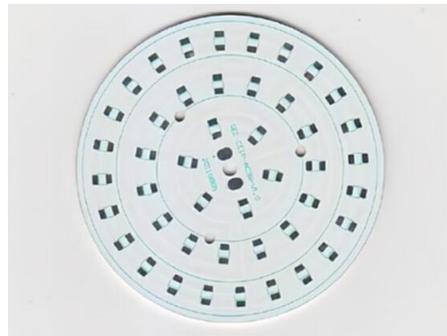
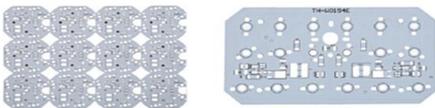
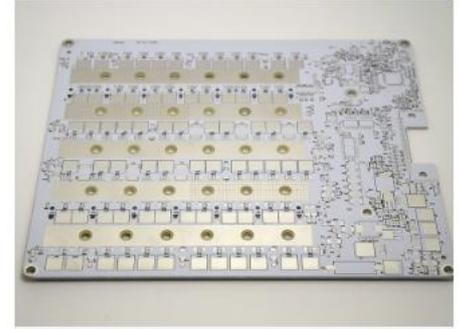
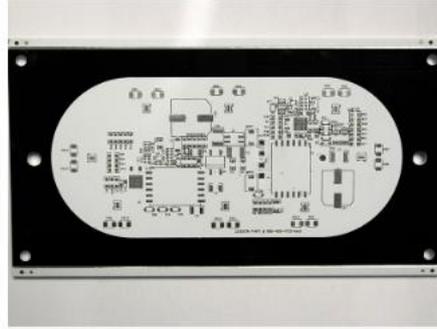
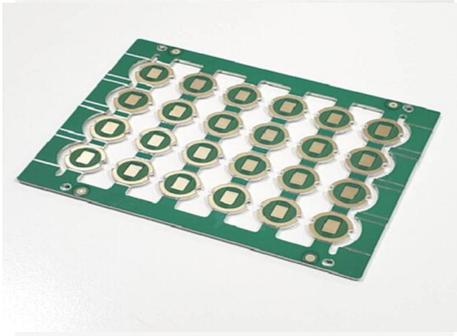
Carbon Oil PCB



Aluminum PCB Tech Specification

Item	
Type of Alum board	single board, Insulation board, double sided board
Finish Board Thickness	0.4mm~ 3.0mm
Copper Thickness	1 OZ--6 OZ
Min.Trace Width & Line Spacing	0.15mm
Biggest size	120cm*60cm
Type for surface treatment	OSP.HASL, Immersion Gold ,Immersion Tin (lead free)
OSP	0.20~ 0.40um
Thickness of Ni	2.50~ 3.50um
Thickness of Au	0.05~ 0.10um
Thickness of tin	5~ 20um
Thickness of immersion silver	0.15~ 0.40um
Thermal conductivity	1.0W~ 3.0W
Dielectric Thickness	50um~ 150um
Thermal resistance	0.05°C/W~ 1.7°C/W
Minimum completed hole dimension	±0.10mm
Tolerance for Hole Diameter	±0.075mm
Minimum Drilling Hole Diameter	φ0.8mm
Mask between pins	0.15mm-0.35mm
Minimum spacing between Pad and Pad	0.18mm-0.35mm
Outline tolerance	±0.10mm
Minimum thickness for V-cut	0.25mm
Outside copper thickness	18~ 105um
Core copper thickness	18~ 35um

Aluminum PCB



PCB Assembly



Fully automatic solder paste printer



AOI optical inspection



SMT high-speed placement machine



Nitrogen reflow



X-Ray



Conformal coating sprayer



SPI solder paste thickness tester

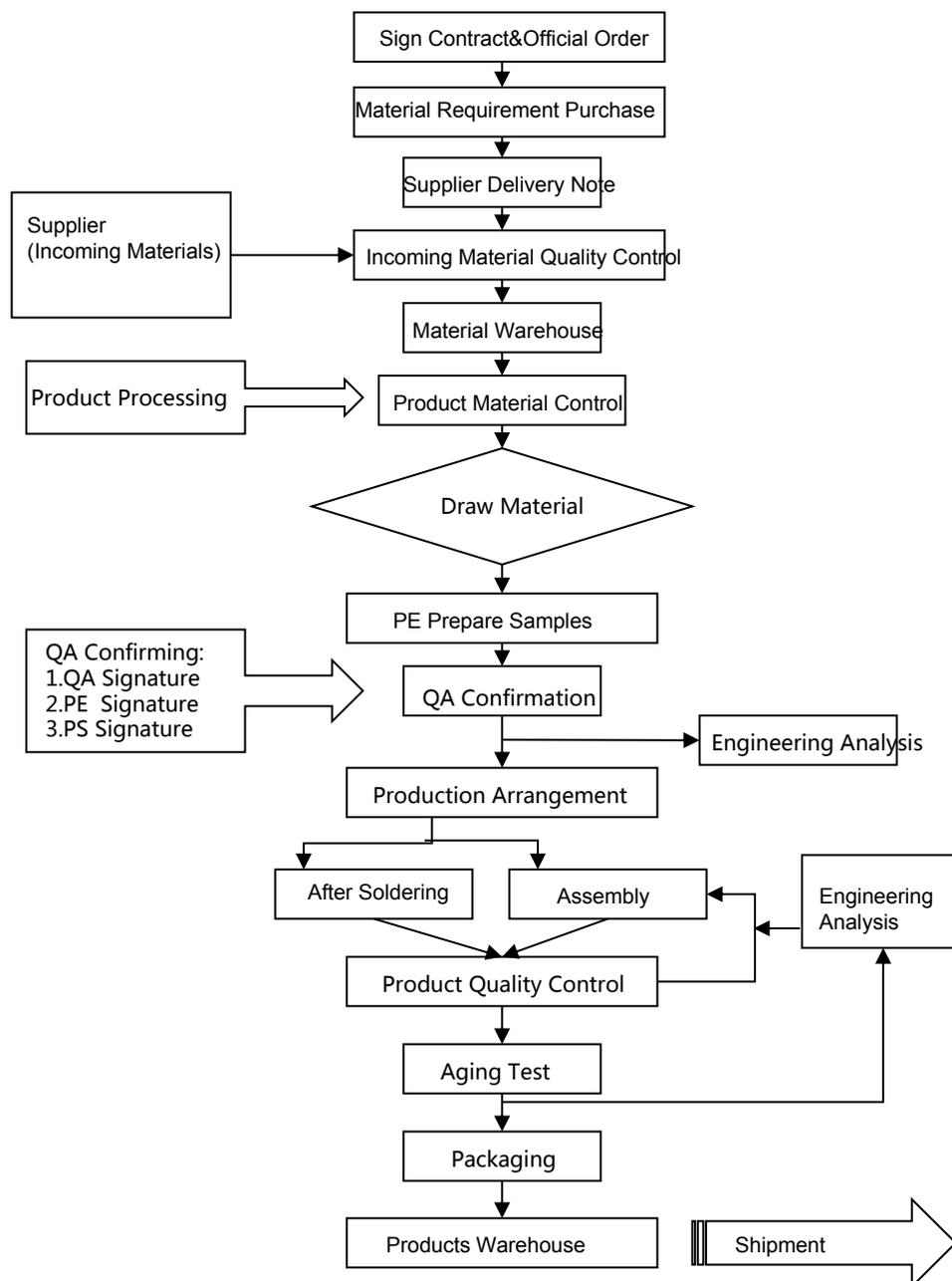


Automatic wave soldering machine



First piece inspection

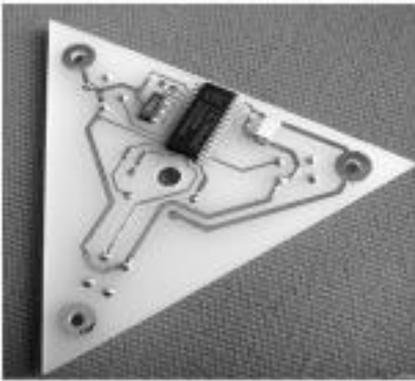
PCBA Process Chart



PCBA Technical requirement:

- 1) Professional Surface-mounting and Through-hole soldering Technology
- 2) Various package sizes like 01005,0201,0402,0603,0805,1206 components SMT technology
- 3) ICT(In Circuit Test),FCT(Functional Circuit Test) technology
- 4) PCB Assembly With UL,CE,FCC,Rohs Approval
- 5) Nitrogen gas reflow soldering technology for SMT
- 6) 8 High-standard SMT Produce Lines &6 Solder Assembly Produce Lines
- 7) High density interconnected board placement technology capacity.

PCB Assembly



PCB Assembly



Customer Representatives

Germany:

SIEMENS

Sweden: Fosieborg AB

Italy:

elenos group **labware**

Argentina:

SMT CIIECA
CENTRO TECNOLÓGICO

Slovenia :

SELTRON
VARČNO OGREVANJE

Iran:

ROUSE روزه

Russia:

REDMOND **StarLine**

United Kingdom:

eEnergy

Switzerland: swissponic

Turkey:

VESTEL **Ford**

Portugal:

CWJ POWER ELECTRONICS

Hungary:

LETT

United States:

UBIQUITY ROBOTICS

Donaldson
FILTRATION SOLUTIONS

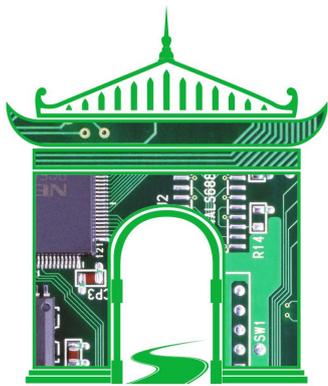
FETCO

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PCBgate

— PCB and PCBA Expert —

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