

8 LAYER PCB PROTOTYPE MANUFACTURING

Rapid PCB prototyping services for 8 layer PCB with high quality and low cost.

PCB prototype manufacturing is the most economical solution to reduce the irreversible problems of products after formal batch production, resulting in incalculable economic losses.

Jinghongyi PCB can produce single-sided PCB, 2-layer PCB, 4-layer PCB, 6-layer PCB, 8-layer PCB, 10-layer PCB and even more layers of multi-layer PCB prototype and small and medium-sized mass production for customers.

Among them, the manufacturing of 8-layer circuit boards is more complex, difficult and relatively high cost. However, we generate a lot of 8-layer circuit boards. Therefore, your 8-layer circuit boards should be manufactured by reliable and experienced manufacturers like us. Moreover, there is no minimum quantity limit here. We can start with 1pcs. Most importantly, we offer higher quality products and more

reasonable prices. There are few PCB manufacturers in the world who think about customers like us.

We support a 24-hour, 48-hour, 72-hour rush to solve your urgent needs.

Three common 8-layer PCB stacking modes

1. The first 8-layer PCB stacking mode

This is not a good stacking method because of the poor electromagnetic absorption capacity and power impedance. Its structure is as follows:

Layer 1: Signal 1, Component Surface and Microstrip Line Layer

Layer 2: Signal 2, Internal microstrip alignment layer, better alignment layer (X direction)

Layer 3: Ground

Layer 4: Signal 3, Strip line layers, better line layers (Y direction)

Layer 5: Signal 4. Strip line alignment layer

Layer 6: Power

Layer 7: Signal 5, Internal microstrip alignment layer

Layer 8: Signal 6, Microstrip alignment layer

2. Another 8-layer PCB stacking method

Due to the addition of reference layer and good EMI performance, the impedance of each signal layer can be well controlled. Its structure is as follows:

Layer 1: Signal 1, Component Surface, Microstrip Line Layer, Good Line Layer

Layer 2: Ground, Grounding Layer, Better Absorption Ability of Electromagnetic Wave

Layer 3: Signal 2, Strip line layers, good line layers

Layer 4: Power, The power supply layer and the underlying stratum constitute excellent electromagnetic absorption

Layer 5: Ground, Grounding Layer

Layer 6: Signal 3, Strip line layers, good line layers

Layer 7: Power, Grounding layer, with large power supply impedance

Layer 8: Signal 4, Microstrip alignment layer, good alignment layer

3. The third 8-layer PCB stacking method is also the best one we recommend.

The multi-layer grounding reference plane is adopted in this stacking mode, so it has very good magnetic absorption capacity. The structure is as follows:

Layer 1: Signal 1, Component Surface, Microstrip Line Layer, Good Line Layer

Layer 2: Ground, Grounding Layer, Better Absorption Ability of Electromagnetic Wave

Layer 3: Signal 2, Strip line layers, good line layers

Layer 4: Power, The power supply layer and the underlying stratum constitute excellent electromagnetic absorption

Layer 5: Ground, Grounding Layer

Layer 6: Signal 3, Strip line layers, good line layers

Layer 7: Ground, Grounding Layer, Better Absorption Ability of Electromagnetic Wave

Layer 8: Signal 4, Microstrip alignment layer, good alignment layer

Of course, for choosing how to use several layers of boards and how to stack them, many factors should be considered, such as the number of signal networks on the circuit board, the density of components, the density of PIN, the frequency of signals, the size of boards and so on.

We should consider these factors comprehensively. The more the

number of signal networks, the greater the density of components, the greater the PIN density, and the higher the frequency of signals, the design of multi-layer board should be adopted as far as possible. In order to get good EMI performance, it is best to ensure that each signal layer has its own reference layer.

Sometimes we will encounter a term: false 8-layer PCB, which is not really an 8-layer PCB, but a 6-layer PCB. In order to meet the impedance and thickness requirements of the circuit board, the 6-layer PCB uses three core boards, and the number of 8-layer PCB core boards is the same, so it is called false 8-layer PCB. In addition, fake 8-layer PCB will cost more than conventional 6-layer PCB, so we suggest either accepting fake 8-layer PCB or changing 6-layer PCB to 8-layer PCB.

If you want more information, these two pages may help you: [8 Layer PCB Stackup Guidelines](#), [8 layer PCB manufacturing](#)

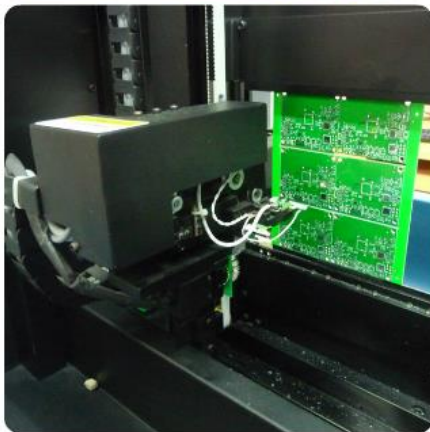
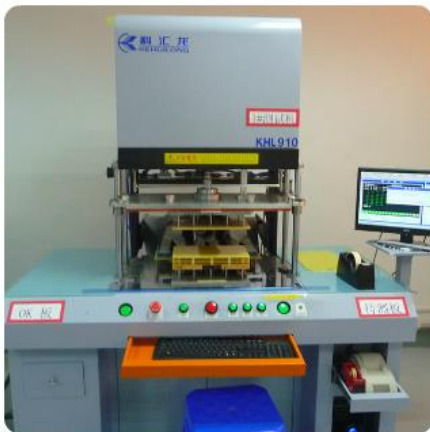
8 Layer PCB manufacture Price

For ordinary graphics cards and motherboards, the use of 4-layer PCB can basically meet the needs, and the cost of 6-layer PCB is about twice that of 4-layer PCB. 8-layer PCB is four times that of 4-layer PCB. Therefore, the general customers use 4-layer PCB.

However, it is undeniable that this is to some extent a cost-saving way, but at the expense of product stability.

Because if we use 6 or 8-layer PCB, we can have enough wiring space and more consideration of ground wire and power supply. So, we don't need to be too strict with the tightness of wiring. In this way, the line width and electromagnetic interference between wires will be fully considered. The stability of the board is obviously better than that of the 4-layer printed circuit board. Of course, this can not be generalized, because different wiring engineers have different levels and abilities.

PCB prototype fabrication



Prototype PCB Manufacturing Capability

Learn more about JHY PCB by exploring the manufacturing capability of PCB Prototyper below. We can do more than you can imagine.

Item	Manufacturing Capability
Number of Layers	1 – 8layers
Order Quantity	5pcs – 100pcs
Laminate	FR-4 Standard
Maximum PCB Size (Length x Width)	600*1000mm
Board Dimensions tolerance	$\pm 0.1\text{mm}$ – $\pm 0.3\text{mm}$
Board Thickness	0.4mm – 4mm
Board Thickness Tolerance	$\pm 0.1\text{mm}$ – $\pm 10\%$
Copper Thickness	1–6OZ
Min Tracing/Spacing	2mil/2mil

Solder Mask Color	Green, White, Blue, Black, Red, Yellow
Silkscreen Color	White, Black
Surface Finish	HASL, LF HASL, ENIG
Test	Flying probe, Testing Fixture

Why choose us?

- Save money&time! Achieve peace of mind!
- A professional and trustworthy PCB prototype manufacturer.
- Fastest PCB Prototype.
- One stop solution for various PCB&SMT Stencil.
- Low cost for simple PCB.
- Affordable price for high-tech PCB.
- Minimum orders 1pcs.
- 24-hour online customer service.
- Professional PCB engineer for one-to-one service.
- Shipment on time.
- Guarantee good service and quality from PCB quotation to delivery.

Certification(UL:E466618, TS16949, ISO9001.RoHS)

IPI ADDENDUM

NOTICE OF COMPLETE AND AUTHORIZATION TO APPLY THE IPI

Our Reference: File E466618, Vol. 1 Project No: N/A
 Your Reference: N/A
 Project Scope: USR - Addition of new PWB Types JPX-D and JPY

This addendum covers products manufactured at the following location:
 SHENZHEN JINGHONGYI ART CIRCUIT LTD
 Zhi Chen
 4/F NO. 15of Building Wanxia, Tongfuyu Industry Shajing Baoan
 Shenzhen Guangdong, China
 974662

Before you may begin shipping product with the UL Mark at the above man inspection (IPI) must be successfully performed by a UL representative at the following location:
 SHENZHEN JINGHONGYI ART CIRCUIT LTD
 Zhi Chen
 4/F NO. 15of Building Wanxia, Tongfuyu Industry Shajing Baoan
 Shenzhen Guangdong, China
 974662

The IPI is intended to confirm that your manufacturing location is capable of meeting UL's requirements. YOU MAY NOT SHIP PRODUCTS WITH THE UL MARK UNTIL YOU HAVE COMPLETED AND UL HAS FOUND THE PRODUCTS AT THE FACTOR REQUIREMENTS. Once the IPI has been successfully completed, you will be authorized to use the UL Mark.

Instructions for the IPI will be sent to our inspection center nearest to you, shortly to make arrangements for the IPI.

抄送:	Shenzhen Inspection Center (For Manufacturer No. 974662)
	深圳检验中心 (上述工厂标号974662)
	3/F, Galaxy Wind Building, Keyuan Road, Nanshan District, Shenzhen, China (P.C.: 518057)
	深圳市南山区科苑北路银河风云大厦三楼, 邮编: 518057
	电话: 86-755- 861130536
	联系人: Mr. Bill Zhang张振宇
	邮箱地址: szic@sz.cpsc.com

CERTIFICATION EUROPE

Certificate of Registration

This is to Certify that the Quality Management System of

Shenzhen Jing Hongyi Circuit Manufacturing Co., Ltd.

No. 15 plant, 4 Southwest side, Tongfuyu Industry Shajing Baoan, Shenzhen, China

Has been audited to the following Quality Management System Standard:

IATF 16949:2016

This system is valid for:

Technology development, production and service of circuit board

Date of issue: Apr. 20, 2018

This certificate will not remain valid if the holder does not accept at least one surveillance audit at the period of the certificate in which the surveillance audit mark is in the designated position on the certificate.

12months

24months

Issued by: **Juno**

CERTIFICATION EUROPE(HONGKONG)LIMITED WWW.CCE-EP.COM

SGS

Test Report No. SZXEC1701145601

SHENZHEN JINGHONGYI CIRCUIT CO.,LTD
 4/F NO.15 OF BUILDING WANXIA TONGFUYU INDUSTRY SHAJING BAOAN CHINA

The following sample(s) was/were submitted and identified on behalf of:

SGS Job No.: RP17-011090 - SZ
 Date of Sample Received: 21 Nov 2017
 Testing Period: 21 Nov 2017 - 24 Nov 2017
 Test Requested: Selected test(s) as requested by client.
 Test Method: Please refer to next page(s).
 Test Results: Please refer to next page(s).
 Conclusion: Based on the performed tests on submitted samples, the following substances were not detected: Mercury, Cadmium, Hexavalent chromium, Polybrominated diphenyl ethers (PBDEs), Bis(2-ethylhexyl) phthalate (DEHP), Butyl phthalate (DBP), and Diisobutyl phthalate (DIBP) in accordance with the RoHS Directive (EU) 2015/863 amending Directive 2002/95/EC.

Signed for and on behalf of
 SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

Kenny

Kenny Li
 Approved Signatory



SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch
 3/F, Galaxy Wind Building, Keyuan Road, Nanshan District, Shenzhen, China (P.C.: 518057)
 电话: 86-755- 861130536
 联系人: Mr. Bill Zhang张振宇
 邮箱地址: szic@sz.cpsc.com

PCB Shipment

JHY PCB offers flexible shipping methods for our customers, you may choose from one of the methods below.



JHY PCB 's Packing Way

- Use one professional PCB vacuum bag, with desiccant inside.
Vacuum compressed totally.
- Paste label and RoHs mark. Use second vacuum bag to protect boards again, vacuum compressed, make sure no exception.
- Microsection report and Tin testing board are put together with PCB in cartons. COC (Certificate of Conformity) will be sent to customer by email in PDF.
- Several layers of thick EPE (Expandable polyethylene) are filled fully in gaps between PCBs and cartons. The thickness of 1 layer EPE is 10mm.
- Neutral Packing is adopted if no special requirements. Strong and thick cartons (Thickness: 10mm, 7 layers). Different sizes of cartons are designed to meet the demand of different PCB size. All packages are within weight limit of cartons. For mass production order, no exceed 21kg per carton normally.
- All cartons sealed with strong adhesive tape should be sealed twice so as to make them more durable.
- Solid PP/PET strapping is used outside of cartons.
- Shipping mark, fragile mark and postcode label are all pasted clearly.