

POE MANUFACTURING YOUR GLOBAL TECHNOLOGY PARTNER

POE MANUFACTURING
YOUR GLOBAL TECHNOLOGY
PARTNER



2024

WISDOM LEADS GLOBAL ELECTRONIC CORE TECHNOLOGY

FAST QUOTE / FREE DFM CHECK / PCB DESIGN SUPPORT
THE INDUSTRY LEADER FOR LOW COST QUICK TURN PCB SOLUTIONS

POE MANUFACTURING
YOUR GLOBAL TECHNOLOGY
PARTNER

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PCB / FULLY TURNKEY PCB ASSEMBLY / EMS / OEM





POE MANUFACTURING
YOUR GLOBAL TECHNOLOGY
PARTNER

OEM SERVICES FOR PCB AND PCBA.

Business is about building life-long relationships with attentive service, quality products and honest business practices.

Mr Hu Jiwei
General Manager

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Catalogue

01 About POE

Company Culture

At POE, we strive to make the global products of your brand, POE“ Partner Of your Electronics ” Manufacturing, your global technology partner.

POE has established itself as a World well known Turnkey PCB assembly factory for quick turn prototype and mass production PCB fabrication and PCB assembly services with 700,000 components sourcing ability from 100+suppliers. POE is ISO9001:2015, ISO13485:2016, ISO14001:2015, UL, ROHS, Reach and IPC-A-600&IPC-A-610 compliant. Our PCB production capacity can reach 40000sq.m/month and EMS assembling capacity at 150,000,000 components per month.

With Imported State-of-the-Artfully Automatic production machines and our professional International Sales Team, Purchasing Team, production team, administration team and engineering team in China Shenzhen, HK, Singapore, USA and Germany, this allows us to offer our customers low-cost, One-stop PCB Assembly Services, including PCB fabrication, parts procurement, PCB Assembly, Program, Cable Assembly, Final PCBA Testing, Final Case Assembly, Coating, Worldwide Shipping.

Currently, POE 4000+customers from 100+ countries and places are primarily in USA, Canada, Europe, South American, Australia, Israel, Asia and China in a wide variety of industries like appliance, medical, telecommunications, airplane recorder, cloud, smart home, solar panel engery, battery storage, wind, IOT, automobile, computer&database information, industrial automation photonics, LED products and home appliance.

POE CHINA 1-40 LAYER ONE STOP CONTRACT MANUFACTURER



Mission:

As a Full-service PCB Assembly manufacturer, POE provides value-added services to help our clients transition seamlessly from their circuit design to volume production while ensuring customer satisfaction.

Spirit:

Struggle, Breakthrough, Innovation, Challenge, Specialization, Concentration, Absorption, Profession.

Value:

Customer first, quick and efficient, continuous innovation, common growth. Train first-class staff, manufacture first-class products, provide first-class service, establish first-class image.

Vision:

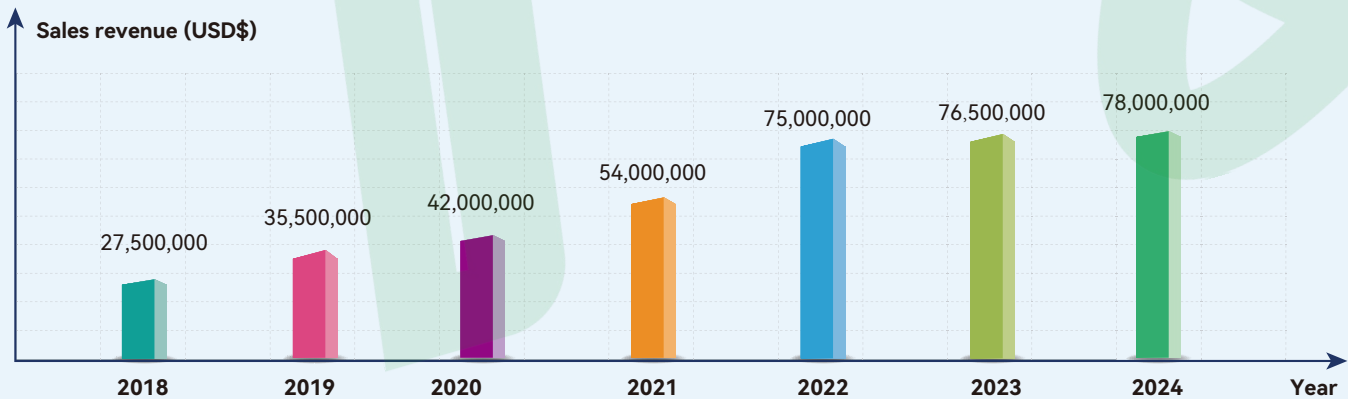
To be a world-class one stop contract PCB/PCBA/EMS provider by connecting designers and manufacturers worldwide and striving for rapid innovation by swiftly bringing ideas into reality.



POE Milestones

Every breakthrough is a milestone in POE's growth, witnessing our rapid pace on the industry track.

- 2011** Shenzhen wanfeng technology Co.,ltd registered and began to export to worldwide.
- 2012** International sales department started to run, new era of POE worldwide market Wanfeng Circuit(HK)Co.,ltd registered in HK.
- 2014** Expanded marketing and sales department, 5 departments started to run.
- 2017** Marketing: Europe, North America, Australia, Asia, South America, Middle East 4000 more customers from 100+ countries and places.
- 2018** UL certificate, move to new office 800m².
- 2019** Shenzhen Kexin precision Electronics co.,ltd factory start to run. Invested one more SMT lines in Nanshan district: 1500m² ROHS certifie.
- 2020** Invested two more SMT lines, PCBA factory expanded and moved to new site: 3000m² IPC standards, ISO9001:2015 and ISO13485: 2016 certified.
- 2022** Moved to new office in central downtown building, worked with famous companies worldwide.
- 2023** POE's U.S. office established.



Extend the lifespan of the PCB by 30%

Fill the reflow oven with nitrogen to reduce oxidation of the solder surface, making the solder paste play a better effect.

02 Industries POE Serve

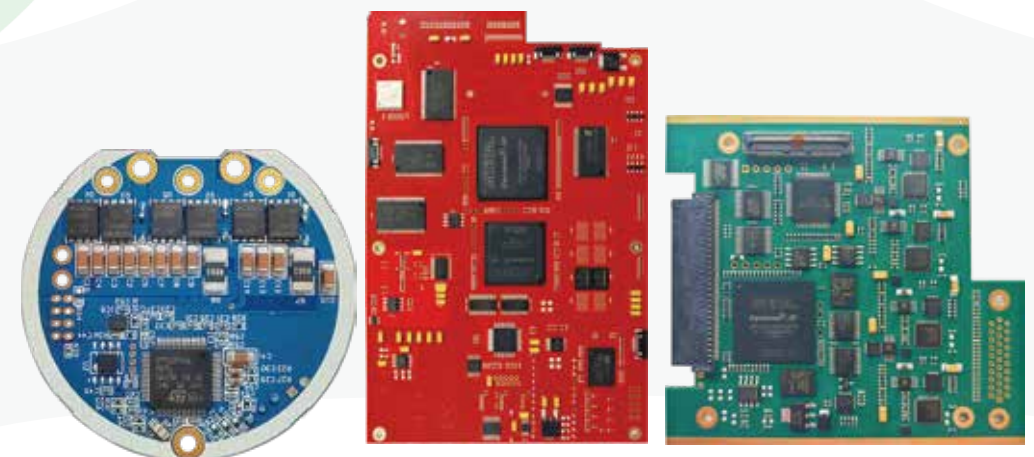
Application

- Our products are widely used in 5G IOT, new energy vehicles, medical equipment, telecommunication, consumer electronics, industrial automation, hi-tech agriculture, green solder panels, LEDs, robot, security devices, smart home appliance and aerospace etc.



PCBA for Aerospace

Aerospace PCBAs, or printed circuit board assemblies for aerospace applications, are designed for extreme environments and high reliability requirements. These types of PCBAs play a vital role in the aerospace industry, ensuring the safety, reliability and efficient operation of aircraft. The following are some specific application examples of Aerospace PCBAs: Flight control systems, Engine control, Communications and Navigation Systems, Environmental monitoring and life support systems, Test and Diagnostic Equipment, Monitoring and Data Recording.



■ POE Security PCBA

Security PCBAs, or Printed Circuit Board Assemblies for security applications, are the core electronic components that make up a variety of security systems and devices. These PCBAs integrate cryptographic processors, sensors, communication modules, and proprietary security algorithms to provide security for homes, commercial establishments, government agencies, and critical infrastructure. The following are some typical application areas for Security PCBAs:

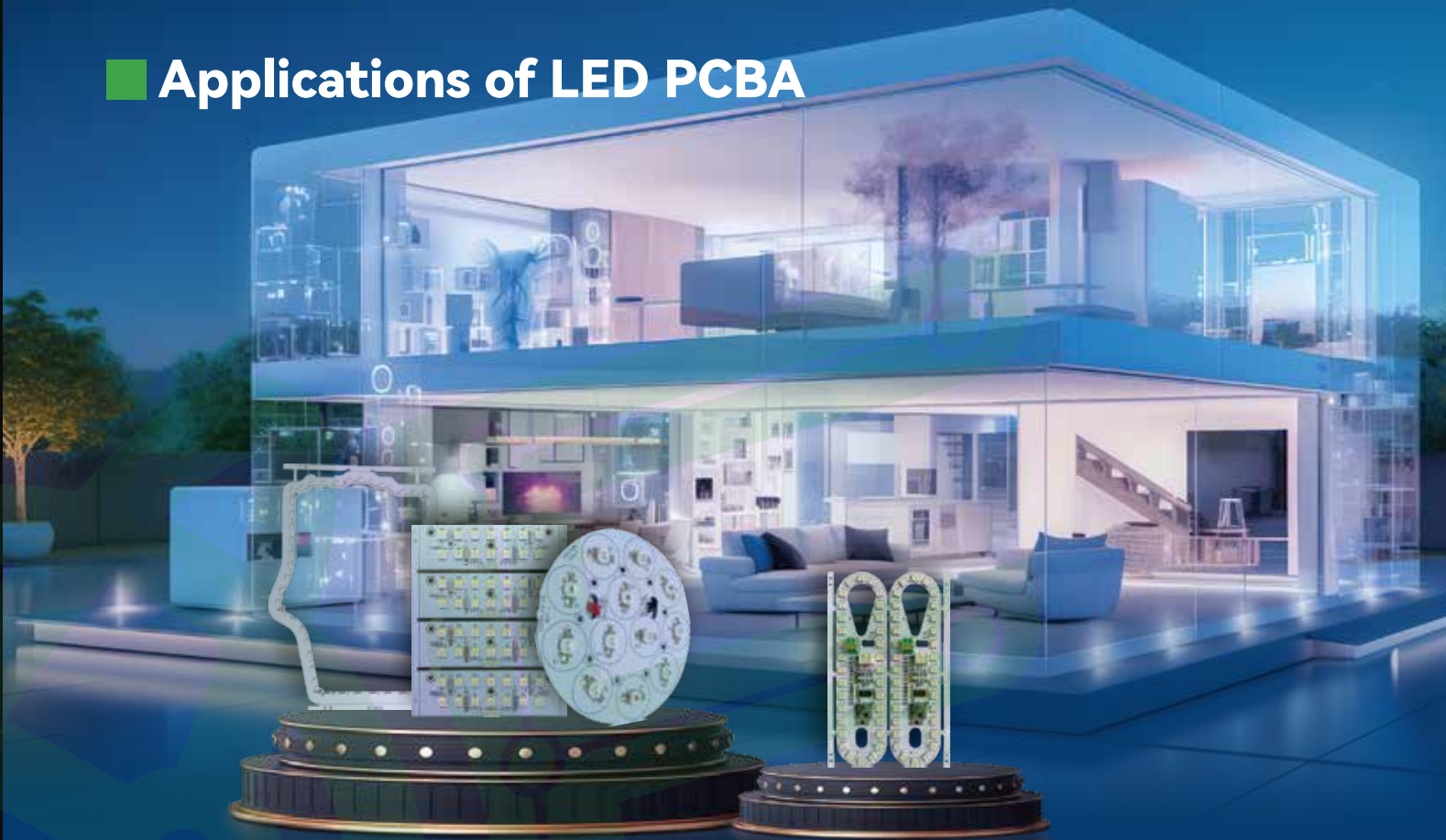
“

POE Security PCB Assembly
10+ years of experience in PCB&PCBA industry.

”



■ Applications of LED PCBA



Lighting industry: This is the most widely used field of LED PCBA, covering home lighting, commercial lighting, industrial lighting, street lighting, as well as landscape lighting and so on.

Display technology: Including indoor and outdoor LED display, TV walls, billboards, stadiums, large screens, etc.

Automotive lighting: Inside and outside the car lighting system, such as headlights, taillights, interior ambient lighting, etc.

Backlighting applications: Electronic display devices such as cell phones, tablet PCs, laptops, LCD TVs, etc.

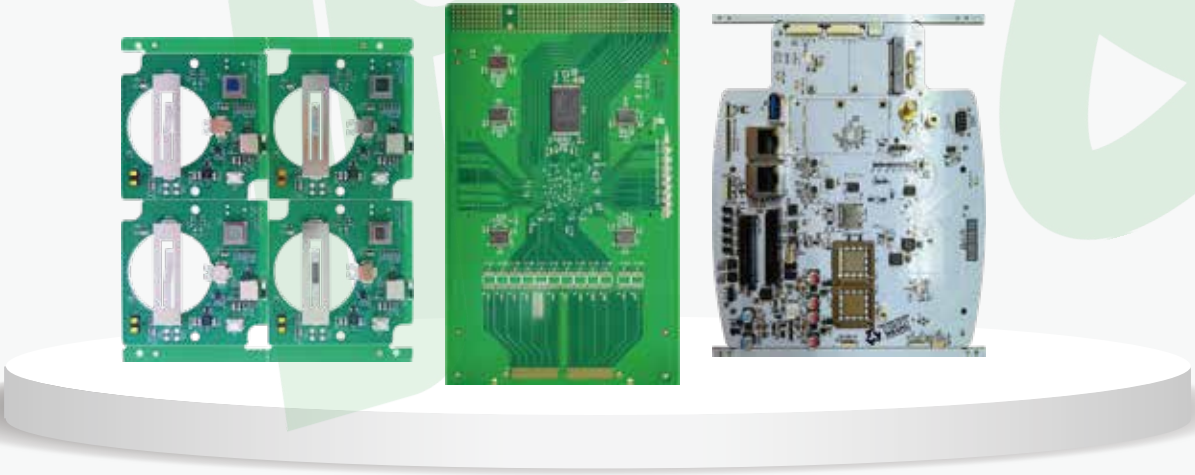
Signs and signaling systems: Including traffic signals, emergency exit signs, aviation runway lights, etc. LED PCBAs are the most ideal choice because of their high brightness and long life.

Medical equipment: Surgical lights, microscope lighting, medical testing instruments, etc.



Intertent of Things (5G IOT)

Commonly used in smart cities (signal lights, cameras, sensors, etc.), autonomous vehicles, healthcare, industrial IoT, smart homes, drones and robotics.



Telecommunications

In the field of communication electronics, telecommunication PCB boards are widely used in wireless networks, transmission networks, broadband data communication and fixed network telecommunication broadband. Related PCBs usually include: backplane PCBs, high-speed multi-layer PCBs, high-frequency microwave PCBs and multifunctional metal core PCBs.

With the apply of 5G communication technology, the frequency of electronic products is getting higher and higher, which requires the printed circuit board not only has electrical connection, but also signal transmission. Signal transmission loss should be paid attention to. When we manufacture the circuit board, we need to use materials with low DK and DF values. It is necessary to change the resin and add middle PP or other materials.



4 Layer PCBA

Material: Rogers4350B
Finish treatment: ENIG
Copper thickness: 1oz
Board thickness: 0.6mm



8 Layer PCBA

Material: FR4 TG150
Finish treatment: ENIG
Copper thickness: 1oz
Board thickness: 1.6mm
Matt Black Solder mask/ White silkscreen



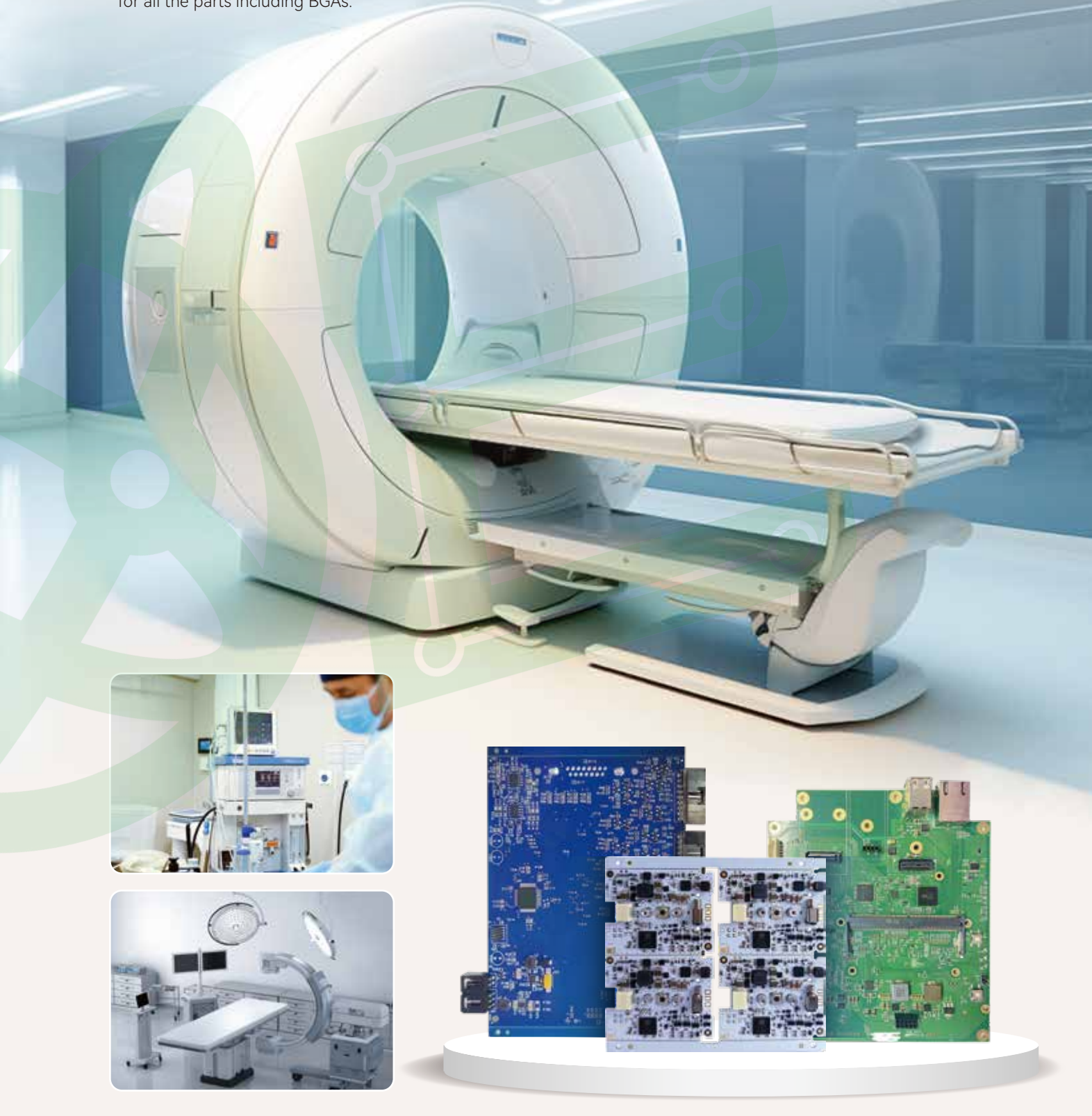
Industrial Automation PCBAs

Common applications of industrial automation PCBs include: robots and automated machines, detection and control systems, Programmable logic controllers (PLCs), motor drives and control systems, human machine interfaces (HMI) and so on.



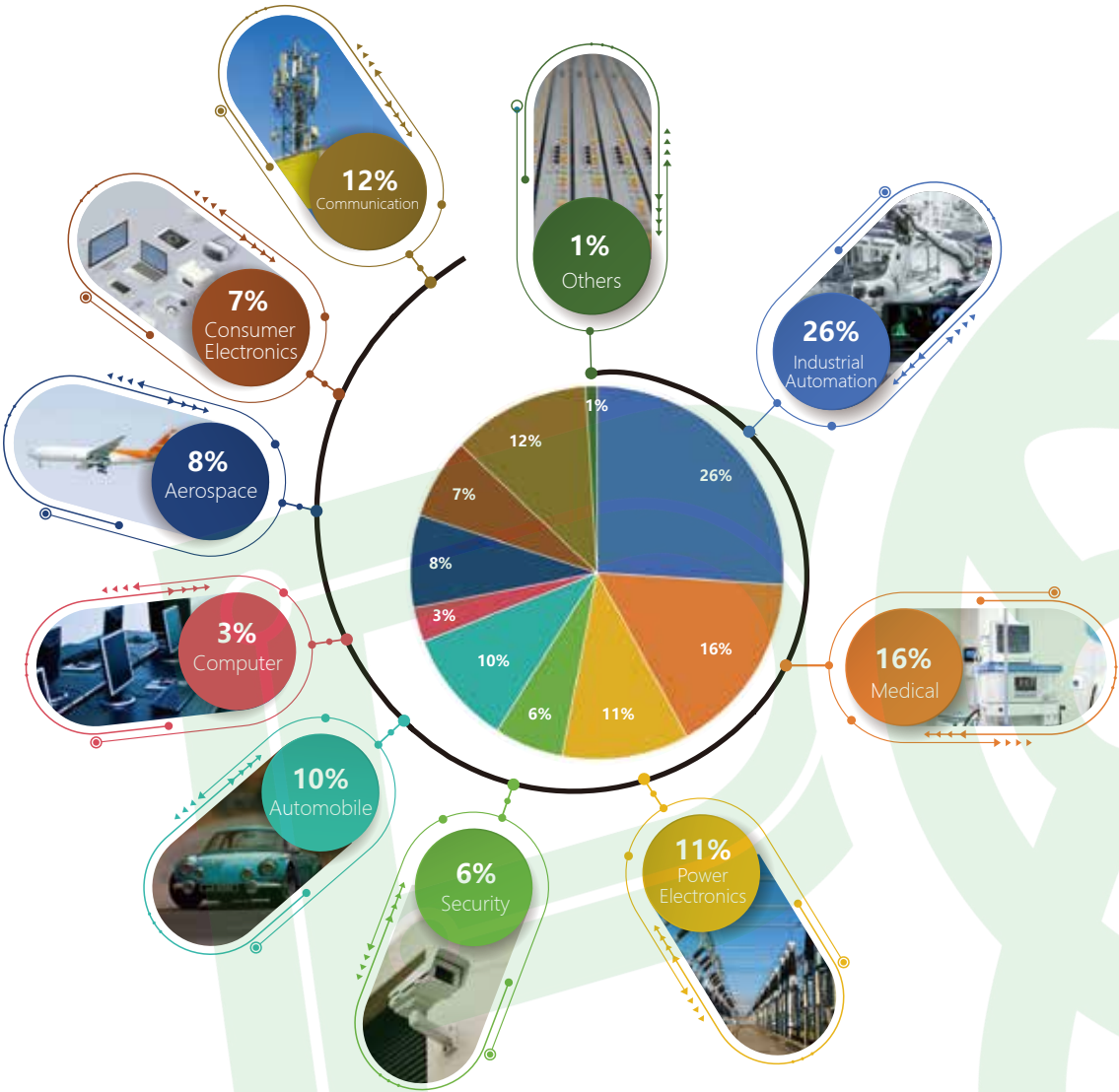
Medical PCBAs

Our Medical Devices teamworks with leading medical brands to produce products across various domains including minimally invasive devices, blood management, cardiology, patient monitoring and neurology, among others. We do AOI and X-RAY for all the parts including BGAs.



POE Global PCB/PCBA/EMS Business Diagram

Our products are widely used in technology products such as drone, smart wearable devices, smart home, bluetooth, vehicle and vehicle navigation, aeronautical instrument, medical instruments, industrial control, robots, mobile phone, laptop, LCD, projector, digital camera, security product, printer etc.



General statistics

Industrial Automation	26 %	Computer	3 %
Medical	16 %	Aerospace	8 %
Power Electronics	11 %	Consumer Electronics	7 %
Security	6 %	Communication	12 %
Automobile	10 %	Others	1 %

10+ Year	4000+ Customers
200+ workers facility	100+ Countries worldwide

Product Applications



03 POE Manufacturing Service

1) PCB

POE can produce PCB products from 1-40 layers of multilayer boards, rigid boards, flexible boards, rigid-flex boards, HDI, aluminum substrates, high-frequency boards, etc.



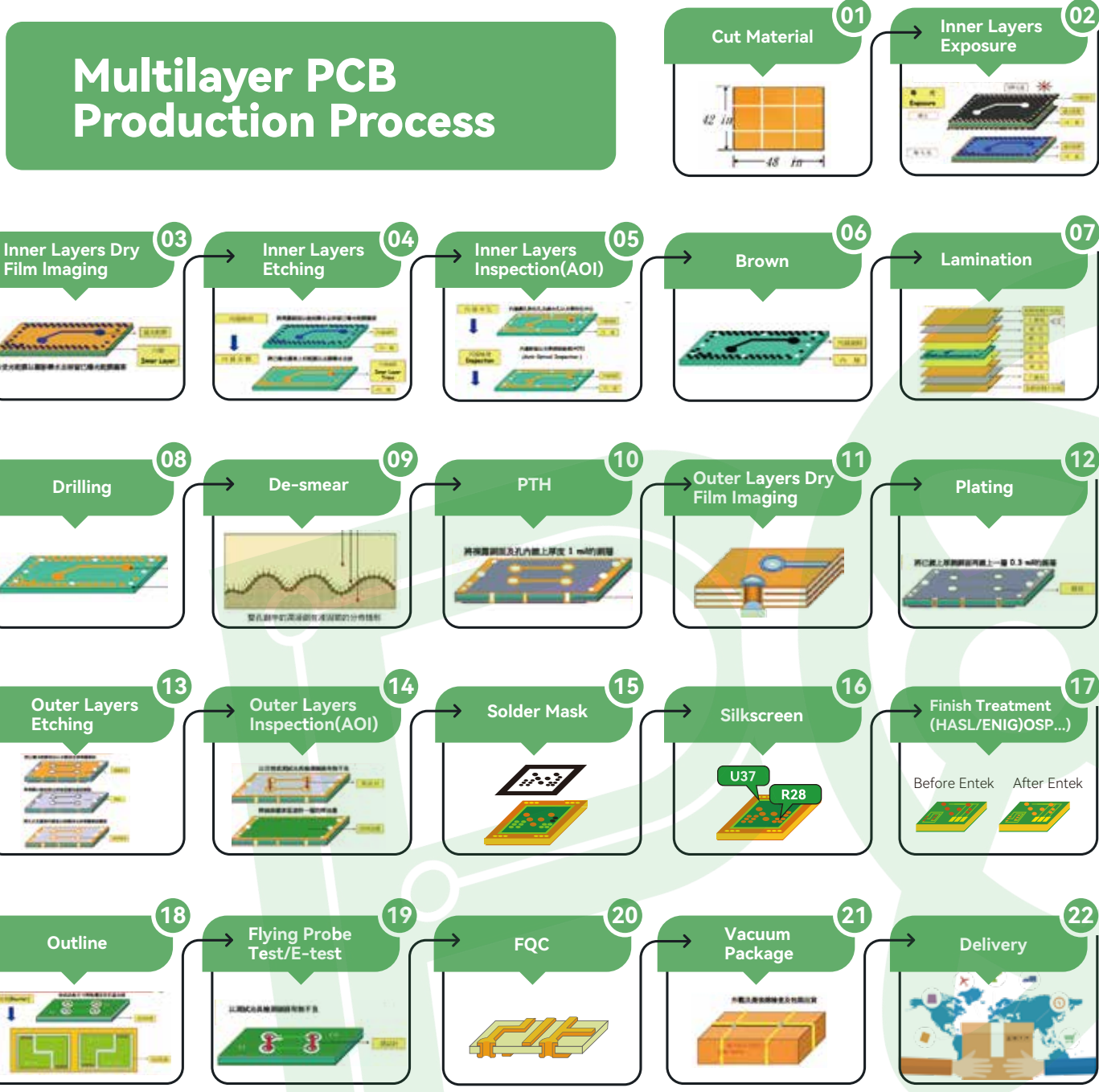
Standard PCB Manufacturing Capabilities

Standard PCB manufacturing capabilities	
ITEM	Capability
Layers	1-40
Thicker Copper	1-10oz
Products Type	HF(High-Frequency)&(Radio Frequency)board, Impedance controlled board, HDI board, BGA&Fine Pitch board
Solder Mask	Nanya&Taiyo; LPI & Matt Red, green, yellow, white, blue, black.
Base Material	FR4(Shengyi China、 ITEQ, KB A+, HZ), HI-TG, FR06, Rogers, Taconic、 Argon、 Nalco、 Isola and so on
Finished Surface	Conventional HASL, Lead-free HASL, Flash Gold, ENIG (Immersion Gold), OSP(Entek), Immersion Tin, Immersion Silver, Hard Gold
Selective Surface Treatment	ENIG(Immersion Gold)+OSP, ENIG(Immersion Gold)+Gold Finger, Flash Gold +Gold Finger, Immersion Silver+Gold Finger, Immersion Tin+Gold Finger
Technical Specification	Minimum Line Width/Gap: 3.5/3.5mil(laser drill) Minimum Hole Size: 0.15mm(mechanical drill/4mil(laser drill) Minimum Annular Ring:4mil Max Copper Thickness: 10oz Max Production Size: 900×1200mm Board Thickness: D/S: 0.2-7.0mm, Multilayers: 0.40-7.0mm, Min Solder Mask Bridge: 0.08mm Aspect ratio:15:1 Plugging Visa Capability: 0.2-0.8mm
Tolerance	Plated holes tolerance: 0.08mm(min±0.05) Non-plated hole tolerance: 0.05min(min+0/-0.05mm or+0.05/-0mm) Outline Tolerance: 0.15min(min±0.10mm) Functional test: Impedance Control Tolerance: 50ohm +/-10% Impedance Control Tolerance: 50ohm +/-5 ohm

Standard PCB Material List

Quick-turn/Standard PCB Material list			
Material	Items	PCB prototype capacity (area<1m2:)	Small and medium batch (area>1m2)
	General Tg FR4	Shengyi S1141, Kingboard KB6160A, Goldenmax GF212	Shengyi S1141, Kingboard KB6160A, Goldenmax GF212
	Medium Tg FR4	Shengyi S1150G, Kingboard KB6165F, Kingboard KB6165G (halogen-free)	Shengyi S1150G, Kingboard KB6165F, Kingboard KB6165G (halogen-free)
	High Tg FR4	Shengyi S1165(halogen-free), Kingboard KB6167G(halogen-free), Kingboard KB6167F	Shengyi S1165(halogen-free), Kingboard KB6167G(halogen-free), Kingboard KB6167F
	Aluminum	Goldenmax GL12, CS-AL-88/89 AD2, JQ-143 1-8 layer mixed FR-4	Goldenmax GL12, CS-AL-88/89 AD2, JQ-143 1-8 layer mixed FR-4

PCB Fabrication Process & PCB Factory Show



China 1-40L PCB manufacturing Prototype & Production (test/low price/TOP/best/hot)



2) PCB Assembly

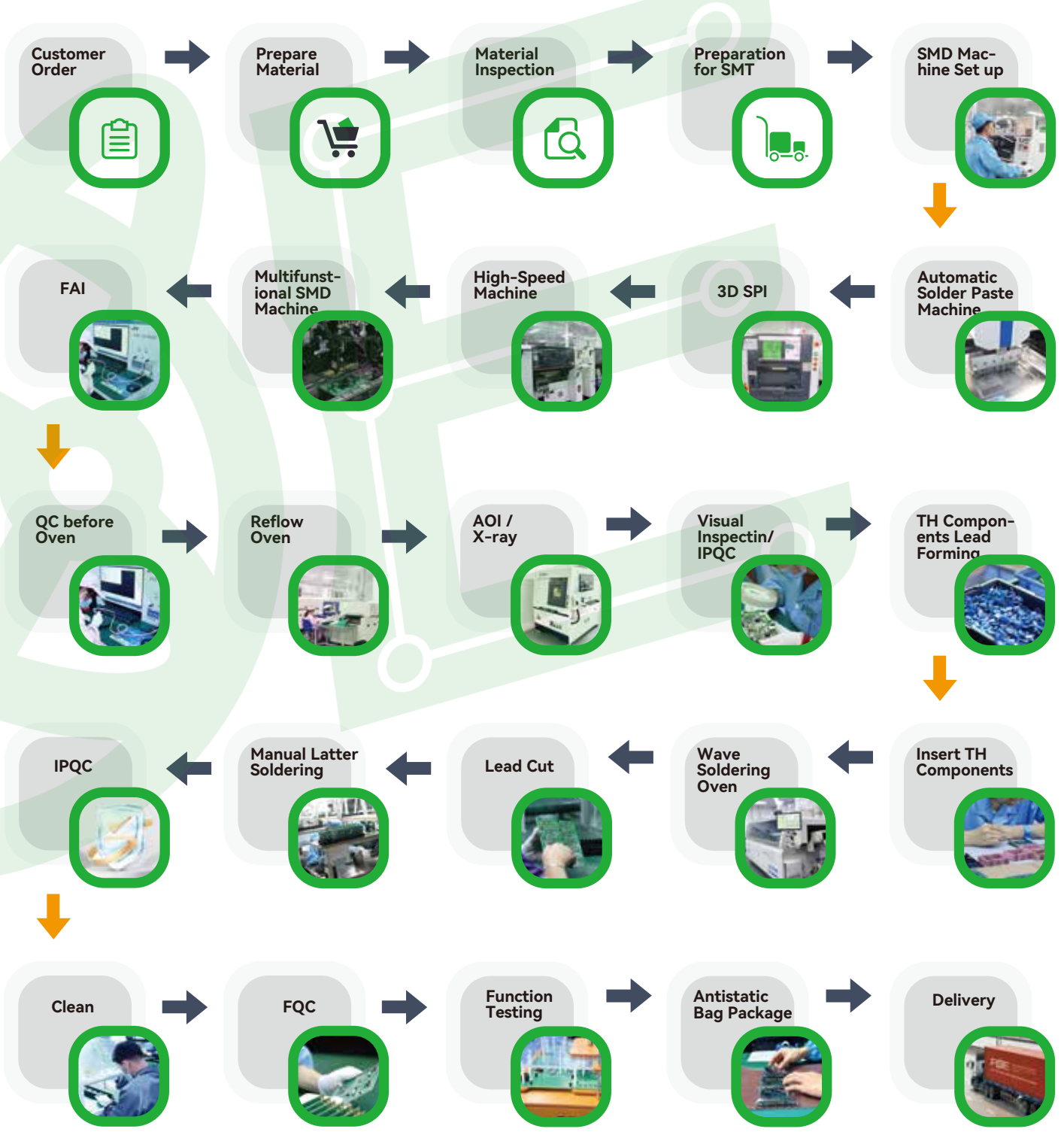
POE is a leading PCB Assembly provider, and support quick turn samples, low to medium volume scheduled production. With professional engineers and technicians team, we can make your R&D work easy and save your time. In addition, our professional customer service team will keep in close contact with you to ensure satisfactory quality and delivery time.

Fulfilling thousands of orders from all over the world every day, POE has become a leading supplier of PCB and PCBA services with consistent quality and excellent service.



PCB Assembly Process

In POE, quality is always priority. For each product, we gather all our brains to have a global analysis and round up the potential risk in production and after market. The PCB assembly production flow chart below illustrates ways the POE process is safe or goes beyond the normal standard.



PCB Assembly Capability

PCB Assembly Capability		
ITEM		PCBA Capability
1. Lead Time		Our assembly time ranges from 24 hours to a few weeks. Please choose appropriate time option to fit your schedule and budget. Due to the complexity of how to determine the turn time of PCBA services, our policy is that turn-time begins immediately after all the parts are ready and all the PCB files(Gerber files/other PCB files, etc.), Centroid(Pick&Place PNP file, or XY Data or files in other formats), BOM, and all other necessary data or documents/images/photos are complete for our assembly work.
2. Parts Source	Consigned/Kitted	please send us all the components with BOM file and detailed packing list indicating item number, customer or manufacturer's part number and quantity in kit.
	Turn-key	With our wide and powerful network of parts sourcing, we offer Turn-key PCBA service. We do not mark upon the parts cost. Considering the big price gap between different suppliers, we only source from reliable suppliers who may have no price advantages. We will always ask for your approval before making any decisions.
	Partial Turn-key /Combo	This is our regular practice which you offer the main devices and components, while we source the rest for you. Just like the Turn-key service, we will ask for your approval on every details of the parts concerning price, quality and availability.
3. Assembly Options		We offer Surface Mount(SMT), Thru-Hole(THT)and hybrid of both. We also offer single or double-sided placement.
4. Types of Solder		We offer both leaded and lead-free(RoHS Compliant)assembly services for our customers. Please choose one to best fit your PCB and the parts on the PCB.
5. Stencils		We use laser cut stainless steel stencils to ensure high reliability for fine pitch and BGA components. Nano coating is available upon request.
6. Minimum Order		We offer both leaded and lead-free(RoHS Compliant)assembly services for our customers. Please choose one to best fit your PCB and the parts on the PCB.
7. Component Size		<ul style="list-style-type: none">•Passive Component: we can accept components as small as 01005, 0201, 0402.•BGA: We have the ability to handle BGA of 0.3mm pitch for rigid PCBs and 0.4mm for flex boards with X-ray testing. (The details can be confirmed according to the board design.)•Fine Pitch Parts: we can assemble 0.25mm fine pitch parts.
8. Component Package		We accept parts in Reels, Cut Tape, Tube & Tray, Loose Parts and Bulk.
9. Board Dimension		<ul style="list-style-type: none">•Min Board Size: 50mm ×100mm (Boards smaller than this size need to be panelized)•Max Board Size: 250mmx500mm
10. Board Shape		We can assemble boards in Rectangular, Circular and any Odd Shapes. (For shapes other than rectangle, you need to panelize the boards in an array, and add break-away rails at the two longer paralleled edges of the panelized boards to ensure that the boards can beassembled by the machine.)
11. Board Type		Currently we handles Rigid boards mostly. As we have the ability to handle flex and rigid-flex boards, please contact poe@pcbamake.com if your boards are of flex or rigid-flex.
12. Repair&Rework		Repair and rework can be difficult, but we do. Our BGA reballing service with which we can safely remove the misplaced BGA, reballit and put it back on the PCB correctly. It is cost-effective.

PCB Assembly Factory Show

01



1.Document review

02



2. Incoming material inspection

03



3. Solder paste printing

04



4. High-speed SMT patch

05



5. FAI

06



6. Reflow soldering

07



7. X-ray

08



8. Wave soldering

09



9. AOI

10



10. ICT

11



11. Conformal coating

12



12. Check conformal coating

13



13. Completely assembled product

14



14. Inspection

15



15. Packaging

16



16. OQC

17



17. Express delivery

18



18. Global logistics (Expedited service is available)

3) Value-added Service



Cable Assembly

1. Functional Testing

Is your product functionally fit for release? This question depends on how customer focused you are. Without consistently delivering a compelling experience, brands or enterprises cannot boost customer satisfaction. Programming loading and Functional testing services validate that an application performs as per with the desired functionality specifications and competently meets the end-user expectations. Our functional testing solutions aid our clients in increasing their client base, enjoying greater ROI and gaining a better market standing.



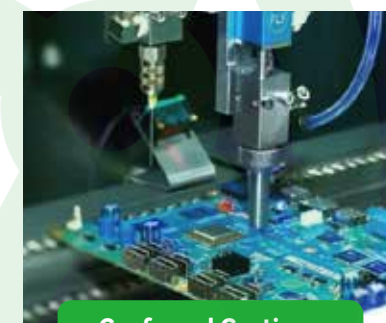
PCB Engineering Solution

2. 3D printing Enclosure We Provide

POE provides industrial 3D printing services for the production of a wide range of high-quality 3D printed parts. Our internal capabilities include additive manufacturing technology. Whether your electronic products require precision plastic or metal cases, we can provide you with the best solution. We cooperate with reliable plastic and metal factories and can provide production services, including PC/PVC/ABS/Metal... gloss or polished surfaces of various materials. Engraving can also be carried out according to your design.

3. PCB Design & Layout Service

POE design team are sophisticated with printed circuit board design and layout services for 20+ years in terms of medical devices, musical instruments, RF converter, smart consumer products, system controllers for solar power, temperature & humidity monitor, IOT units etc.



Conformal Coatings

4. Cable Assembly

Due to our deep industry knowledge and rich experience, we can support customers to produce a series of complex and specific cable assembly applications. Which include but not limited to audio/video cable, computer cable, flat cable, LCD cable, network cable, power cable assemblies.

5. PCB Engineering Solution

POE routinely works with end customers in a consulting capacity to ensure the board specs are the best fit for the end application and within budget. We are PCB experts and this is one way that we differentiate ourselves from brokers in this industry. We know PCBs and are passionate about working with our customers to impact their competitiveness, time to market, R&D on new products or more.



Kitting Carton BOX &FOAM

6. Conformal Coatings

Different types of conformal coating materials or chemistries are used depending on the specific needs of your PCB are. Acrylic Resin (AR): It is the most commonly used because it is economic and protects a broad range of contamination.

7. Kitting Carton BOX &FOAM

POE Kitting service is an electronic component kitting and assembly service which enables you to create your own personalized kit. It comes complete with electronic packaging service.



Worldwide Shipping Logistics

8. Worldwide Shipping Logistics

We can provide diversified transportation services, including express, air and sea freight.

100% quality inspection:
X-ray, ICT, functional testing & AOI

One-stop Manufacturing Solution: PCB fabrication, parts procurement, assembly, QC, programming, testing, packaging, cable assembly, conformal coating & global shipping.

04 POE Quality Control

150 Million

Per month EMS assembling capacity

99.5%

Pass rate

> 98%

Customer satisfaction

0.1%

Quality complaint rate

PCB Assembly Manufacturing Quality Control

At POE, all the boards will go through the most stringent tests other than the basic visual check. We adopt most of the testing and inspecting equipment used in the industry, such as Flying Probe Tester, X-Ray Inspection Machine, Automated Optical Inspection (AOI) Machine.

InPut Process Quality Control

- Solder Paste Inspection
- Offline Automatic Optical Inspection
- X-ray Inspection
- QA Random Inspection
- First Aritical Inspection
- Online Automatic Optical Inspection
- Manual Inspection
- Outgoing Quality Control



Certificate



Enviromental Management

Since being first exposed to the concept of sustainable development of the system in 2015, POE has continuously improved its social responsibility concepts and practices, and formed a social responsibility management model based on international standards such as ISO14001, etc. One of the important long-term development strategies. In 2016, we improved on the previous social responsibility management model and established a CSR management committee to promote the company to better identify and respond to the opportunities and challenges encountered in the practice of social responsibility.

We follow relevant laws, regulations and other requirements. Reducing material and energy consumption and reasonably disposing of waste to buildon the foundation towards achieving clean production; Ensuring agood production environ-ment to guarantee that production safety and our employees are healthy; Providing each and every employee with train-ing that spreads our environmental direction to strengthen environmental awareness and fulfill environmental responsi-bilities; Periodically reviewing our environmental management system in order to continue to improve it and prevent any negative impact on the environment.



05 Marketing

Currently, POE has 4000+ customers from 100+ countries and places. And we've been to a lot of trade shows (includes Germany, Czech Republic, USA, HK, Brazil, Vietnam and Australia) and visited a lot of customers in various countries.



POE MANUFACTURING YOUR GLOBAL TECHNOLOGY PARTNER Customer Worldwide Sincerely Cooperation

Develop together to meet win-win cooperation with best service.

