



POE MANUFACTURING
YOUR GLOBAL TECHNOLOGY
PARTNER

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POE MANUFACTURING
YOUR GLOBAL TECHNOLOGY
PARTNER

Professional Export-Oriented SMT Solution

Efficient Factory Audit Reception · Outstanding Production Strength · Trusted by Global Clients

July - September
2025

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

CATALOGUE.

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Focused on Export, Building Quality

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01 ABOUT POE

Focused on Export, Building Quality



3000m²
Dust-free factory

200+
Professional employees

15000k PCS
PCB assembly capacity

700k
Components sourcing ability

100+
Countries worldwide

4000+
Customers

Core Positioning:

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

Focus on export-oriented SMT processing, with 15 years of experience in the electronic manufacturing industry. Products cover consumer electronics, automotive electronics, industrial control and other fields, serving clients in 100+ countries and regions worldwide.

With the core goal of "meeting international standards and adapting to global needs", we build an integrated service system from SMT production to export delivery.

Core Strengths:

We operate state-of-the-art production facilities and a management system that are in full compliance with international standards, certified under ISO 9001:2015, ISO 14001:2015, and ISO 13485:2016.

Our dedicated export team is well-versed in international customs policies and product certification requirements (including RoHS, REACH, and FCC), ensuring smooth and efficient customs clearance for your orders.

We have established strategic partnerships with leading international logistics providers, offering a comprehensive range of solutions including sea freight, air freight, and express delivery to guarantee on-time delivery of your goods.

Quality Certificates:



02 FULL PROCESS of Client Factory Audit Reception

III Pre-Audit: Precise Preparation (1-3 Days in Advance)

1.Preliminary Communication:

Dedicated salesperson will confirm the visiting date, key focus areas (e.g., production process, quality control system, compliance) and accompanying personnel information with the client.



2.Document Preparation:

Collect factory qualification documents (international certificates, export customs declaration qualifications), production process documents, quality control standards, classify and file them according to client needs.



3.On-Site Preparation:

Arrange a document display area in the meeting room, PPT introduction about company through projection, and prepare interpreters (for clients who are non-native English or Chinese speakers).



During Audit: Professional Reception

1. Arrival Reception:

Upon the client's arrival, the salesperson will escort them to the meeting room, present factory brochures and customized gifts, provide a brief overview of the day's audit process, and arrange coffee or tea breaks.

2. Factory Introduction:

Deliver a presentation via PPT to explain the factory's development history, export business scale, core equipment, quality control system, and international compliance measures, and address the client's initial inquiries.



3. On-Site Visit:

- Conduct the visit in the order of "SMT Placement Workshop → DIP Insertion Workshop → Assembly & Testing Workshop → Quality Control Laboratory → Finished Product Warehouse → Raw Material Warehouse", with a technical supervisor accompanying and explaining at each procedure.
- Key displays: High-precision SMT equipment (e.g., Panasonic, Fuji placement machines), automated testing equipment (AOI optical inspection, X-Ray inspection), ESD anti-static measures, production traceability system.
- Clients are welcome to ask questions at any time. The technical supervisor will demonstrate the operation process on-site and present samples of test reports.



Post-Audit: Efficient Follow-Up

1. Farewell & Feedback:

See the client off, send a thank-you email on the same day, and attach the documents that the client was concerned about during the audit (e.g., test report template, explanation of the export process).



2. Issue Follow-Up:

If the client puts forward improvement suggestions, feedback the improvement plan and timeline within 3 working days; give a detailed reply to the client's questions within 24 hours.



3. Cooperation Promotion:

According to the client's audit feedback, proactively connect with follow-up cooperation matters (e.g., quotation, sample production) and provide exclusive export service plans.



POE One-stop PCBA Manufacturer

- ✓ PCB Manufacturing
- ✓ Components Procurement
- ✓ PCB Assembly
- ✓ Box Assembly
- ✓ Cable Assembly
- ✓ Programming/Testing
- ✓ Conformal Coating

03 DISPLAY of Factory Strength



Hardware Strength: World-Class Equipment and Production Capacity

1. Production Equipment

POE offers comprehensive PCB assembly services spanning from prototype development to mass production. Our state-of-the-art SMT facility is equipped with a range of leading-edge technologies, including world-class fully automated stencil printers, high-precision chip mounters, nitrogen reflow ovens, in-line inspection systems, stencil manufacturing equipment, as well as AOI and X-ray testing machines for thorough quality verification.

These advanced equipments not only enhance production efficiency but also ensure consistent product quality and reliability, providing customers with complete peace of mind throughout their collaboration with POE.



• Fully Automated Stencil Printers



• 3D SPI Machine



• High Speed Pick&Place Machine



• Nitrogen Reflow Ovens

1.1 Fully Automated Stencil Printers

For circuit boards requiring precision manufacturing, the QFN package used offers excellent thermal performance. However, its leadless design makes it prone to soldering defects.

POE has upgraded its solder paste printer: The new fully automatic model features a simple yet robust structure, precise positioning, and convenient adjustments. It enables high-speed automatic adaptation of pin lifting height for PCBs of varying thicknesses. The printer has been specifically optimized for QFN package solder paste printing, utilizing high-precision stencils to ensure uniformity and accuracy.

- **High-Precision Printing:** Positioning accuracy up to $\pm 0.02\text{mm}$, suitable for high-precision PCB manufacturing.
- **Multiple Model Options:** Available in semi-automatic and fully-automatic configurations, capable of handling PCB boards up to $250\text{mm} \times 700\text{mm}$.
- **Intelligent Adaptability:** Supports flexible production modes and seamless integration with PCB production lines of various specifications.



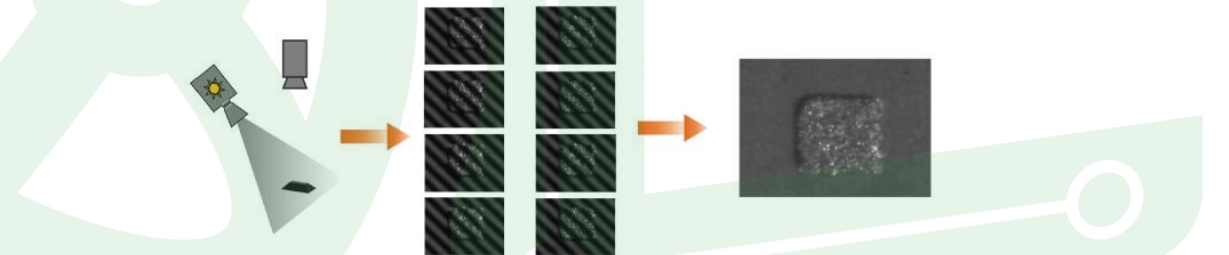
PCB parameters	
Maximum board size(X x Y)	450mm x 350mm
Minimum board size(X x Y)	50mm x 50mm
PCB thickness	0.4mm~6mm
Warpage	$\leq 1\%$ Diagonal
Maximum board weight	3Kg
Board margin gap	Configuration to 3mm
Maximum bottom gap	20mm
Transfer speed	1500mm/s(Max)
Transfer height from the ground	900 \pm 40mm

1.2 3D SPI Machine

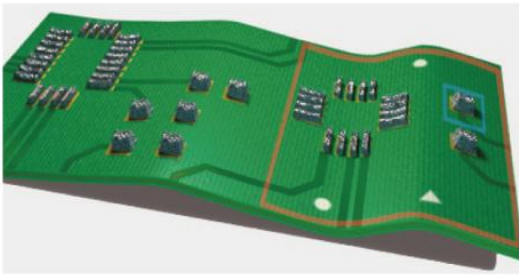
A solder paste inspection machine (SPI machine) measures the height, volume, and area on paste deposits. It also computes stencil offsets and finds defects in your PCBs. This machine can catch defects early in the process, which can save time and money.



- **Principle of Programmable Structured Grating PMP Imaging Technology:** Utilizing Phase Modulated Profilometry (PMP) to achieve 3D measurement of precisely printed solder paste, this technology significantly enhances measurement accuracy while maintaining high-speed inspection capabilities.



- **High-Resolution Image Processing System:** Offers multiple inspection accuracy options from $2.8\mu\text{m}$ to $20\mu\text{m}$ — including $2.8\mu\text{m}$, $4.5\mu\text{m}$, $5\mu\text{m}$, $7\mu\text{m}$, $8\mu\text{m}$, $10\mu\text{m}$, $12\mu\text{m}$, $15\mu\text{m}$, $18\mu\text{m}$, and $20\mu\text{m}$ — to accommodate diverse product portfolios and meet varying requirements for inspection speed.
- **Z-axis Dynamic Compensation + Telecentric Lens Static Compensation:** This system utilizes a high-cost telecentric lens coupled with specialized software testing algorithms. It effectively resolves common optical issues found in standard lenses, such as parallax and distortion, thereby significantly enhancing both inspection accuracy and overall capability.



1.3 High Speed Pick&Place Machine

For 0201, 0402, and 01005 ultra-miniature component placement, these parts are extremely small and require high placement accuracy. POE utilizes high-precision pick-and-place machines with a positioning accuracy of $\pm 0.01\text{mm}$ to ensure precise placement on PCB pads. The current soldering yield for components such as 01005 and 0201 exceeds 99.5%.

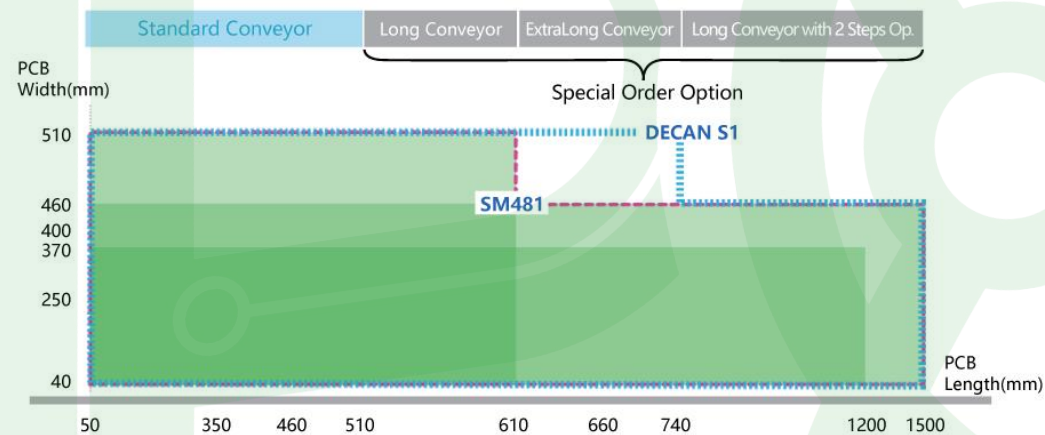
- Max PCB size: 1500mm(L)*460mm(W)
- Increase Actual Throughput
- Improve Placement Quality
- Reduce Material Rejection Rate



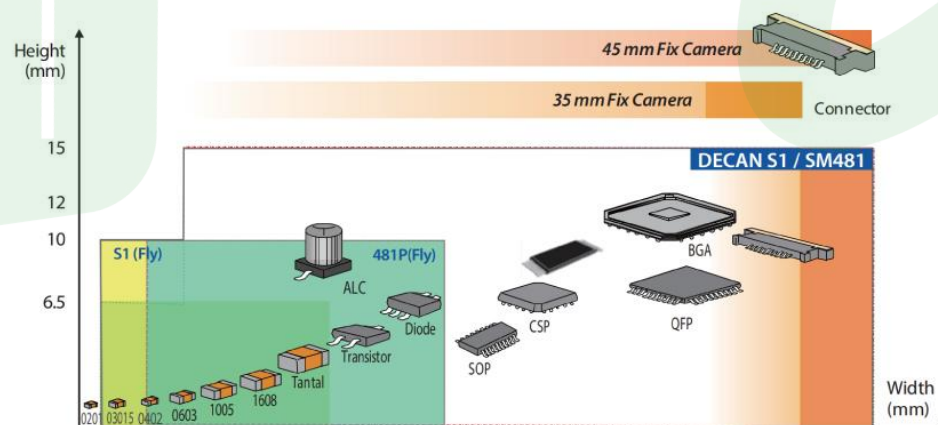
Figure 1. The size of an 0201 component as compared to an 0605 component, an 0603 component, an ant and a matchstick.



- **Extensive PCB handling capacity:** Capable of producing boards measuring 1,500mm (L) x 460mm (W).



- **The higher-resolution camera expands the component recognition range:** 03015~16mm Fly Camera to perform full-field imaging.



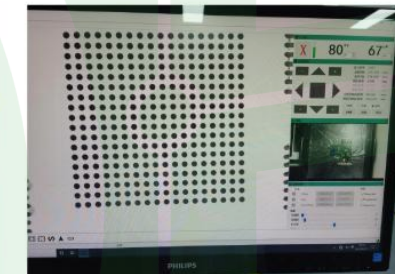
1.4 Nitrogen Reflow Ovens

POE has introduced nitrogen-protected soldering to reduce oxidation, significantly improving solder joint quality, especially for high-reliability applications like aerospace and medical devices. The system employs an imported high-temperature, high-speed motor with stepless frequency control and a recirculating hot air system for efficient heat transfer. Combined with advanced thermal insulation materials, it ensures rapid heating, excellent temperature uniformity, and precise control within $\pm 1^\circ\text{C}$. This results in an accurate temperature profile that meets the requirements of various welding processes, guaranteeing high welding quality.

- Nitrogen SMT reflow ovens with 10 temperature zones.
- 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.



Passing through the air furnace, there are white bubbles



The nitrogen furnace is completely black without any bubbles

Using a nitrogen reflow technique has the following advantages:

- (1) Prevents oxidation in components during heating.
- (2) Improves the wetting power of welding and speed up the wetting speed.
- (3) Reduces the generation of solder balls, bridging and obtain better welding quality.
- (4) Avoid solder balls, bridging and assure best solder joint quality.
- (5) 99.99% nitrogen in the reflow oven shines the solder pads and reach the best performance.
- (6) Assure stable soldering and speed up the soldering speed.
- (7) Prevent oxidation during reflow heating.



1.5 SMT PCB Assembly Equipment Details (Partial)

NO.	Equipment	Model	Qty	Brand
1	Automatic Loading Machine	GW-01	1	GUOWEI
2	Solder Printing Machine	CP-400	1	CP
3	Medium Speed Placement Machine	SM481PLUS	1	Samsung
4	Reflow Soldering Machine	CR-0802	1	HELLER
5	Voltage Stabilizer	MZVC-15KVA	2	MK
6	Automatic Loading Machine	ZCW-02	1	ZSW
7	Solder Printing Machine	GDK-X5	1	Hetian Goodall
8	High Speed Placement Machine	SM471PLUS	1	Samsung
9	Medium Speed Placement Machine	SM481PLUS	1	Samsung
10	Reflow Soldering Machine	CR-1002	1	HELLER
11	Solder Printing Inspection	RX	1	HTGD
12	Air Compressor	100	1	Air Compressor
13	Nitrogen Reflow Oven	CR2-1003DN	1	HB
14	Reflow Oven	CR-0802	2	HB
15	Solder Paste Mixer	GW-JB90A	1	GUOWEI
16	First Article Inspection	FAI-JCX830	1	JCY
17	Automatic Optic Inspection Machine	VCTA-A410	2	VCTA
18	X-ray Machine	AX-8200 MAX	1	Unicomp
19	Wave Soldering Machine	HWE-350	1	JieBao
20	Fully Automatic Forming Machine	SC-104A	1	ShengChuan
21	Automatic Forming Machine	SC-104C	1	ShengChuan
22	Semi-Automatic Forming Machine	SC-106A	1	ShengChuan
23	Manual Washer		1	JIETUO
24	Dry ice cleaning Machine	TM-128	2	TianMai

* For a complete list of equipment specifications, please contact us at sales@poe-pcba.com.

2. Scale of production workshop

POE operates a 3,000m² highly automated, turnkey PCB assembly facility in a cleanroom environment, capable of running three production lines simultaneously. We offer rapid-turn prototyping and large-scale production services for both PCB fabrication and assembly, supported by a sourcing network of over 700,000 components from more than 100 suppliers.

POE complies with ISO 9001:2015, ISO 13485:2016, ISO 14001:2015, UL, RoHS, REACH, and IPC-A-600 & IPC-A-610 standards. Our monthly production capacity reaches 40,000 square meters for PCB fabrication and 15,000,000 components for EMS assembly.



3. Warehousing and Logistics

POE is committed not only to delivering high-quality products but also to ensuring complete and secure packaging. We adhere to particularly stringent standards for export goods, meeting moisture-proof and compression-resistant requirements for both sea and air freight. Furthermore, we provide diverse shipping options, including express, air, and sea freight (with expedited services available). Moreover, our newly expanded and upgraded warehouse offers enhanced security and helps clients effectively reduce costs.

• Warehouse Upgrade

Larger and smarter warehousing: with the most stable production and delivery capabilities

Smart Warehousing: Full Supply Chain Tracking

- A more efficient, organized, and secure storage environment
- Ensure traceability in the production process
- Meet short and long-term storage needs



• Global logistics (Expedited service is available)

A full range of sea and air logistics system to provide you with the most convenient logistics experience, rapid response to save your time.



POE Strength

1. R&D Team

15 engineers, among whom 5 have more than 10 years of experience in the SMT industry.



2. Technical Certifications

POE meets patent certificates for SMT process, testing technology and international technical standard certifications, e.g., IPC-A-610 Acceptability of Electronic Assemblies certification (on page 2 of this booklet).

3. Quality Control Strength

15-Stage Quality Tracking Points | 99.98% Real-Time FPY (First Pass Yield)



04 COOPERATION CASES

Quarterly Excellent Case Display

Green Solar Panels PCBA



5G IOT PCBA



EV Charge PCBA



Medical PCBA



Automobile PCBA



Industrial PCBA



Robot PCBA



POE MANUFACTURING
YOUR GLOBAL TECHNOLOGY PARTNER

**One-stop
turnkey PCBA service**

Qualified PCBA Supplier to meet personalized Needs



LED PCBA



Smart Electronics PCBA



Smart Home PCBA



Security PCBA



Hi-Tech Agricultural PCBA



Power Control PCBA



Home Appliance PCBA



Case Showcase

In the field of advanced precision manufacturing, clients' requirements for specialized processes often epitomize the deep integration of cutting-edge research and innovative design.

Our clients span multiple industries across various continents, including but not limited to medical, IoT, robotics, smart home, and green new energy fields.

01



• Application in Medical industry

02



• Application in IoT industry

03



• Application in Robots industry

04



• Application in Green Energy industry

1. Application in Medical industry

POE's biggest advantage in the field of medical PCBA is that it only manufactures products that fully comply with the latest standards of medical PCBA.

POE provides fully integrated Class I, II and III medical device manufacturing capabilities. From production, assembly, packaging and logistics, POE brings OEM medical technology to life.

- a. **Production Capacity:** Sufficient production lines and equipment are in place to meet all customer order requirements.
- b. **Quality Assurance:** Production lines are equipped with high-precision chip mounters, multiple AOI systems, X-Ray inspection, FAI tools, and SPI, supported by an experienced QC team operating 24/7 to ensure product quality.
- c. **Flexible Planning:** Customized production plans are developed according to customer delivery and quality specifications.
- d. **Professional Support:** A dedicated team of engineers and account managers is available to address issues, with responses provided within 1-24 hours.
- e. **Transparent Communication:** Customers can track production progress in real time via phone or video conference.

POE Medical-Grade PCBA Services

- ISO9001:2015: International certification standard for quality management systems (QMS)
- ISO13485:2016: Quality management system standard for medical device manufacturers
- IPC-A-610: Standard for the acceptability of electronic components
- UL 94: Flammability standard for materials used in electronic products
- IPC III: Regulations for PCBA quality and reliability
- Clean, static-free working environment



2. Application in IoT industry

Design tweaks are common in IoT startups—but they can be costly if not managed right. POE proactively suggested assembling 5 test prototypes before full bulk production. When the customer later needed firmware and hardware updates, these prototypes let us validate changes without scrapping entire batches. Our flexibility saved them weeks of rework and thousands in costs.

- **Speed = Opportunity:** Missing a trade show or launch window can set you back months. Our rush service turns urgency into momentum.
- **Flexibility = Savings:** Design changes and small batches shouldn't be a burden. We adapt to your needs, not the other way around.
- **One-Stop Service = Peace of Mind:** From PCB design optimization to testing and logistics, we handle the details so you can focus on innovation.

Whether you're launching a smart wearable, IoT device, or AI hardware, POE is your partner for turning prototypes into scalable, market-ready products.

POE IOT PCBA Services

- ISO9001:2015 Quality Management System Compliance
- ISO 14001:2015 Environmental Management System Certification
- IPC Standards Manufacturing Capabilities
- Strict Material Traceability and Documentation Control
- Professional DFM/DFA Optimization
- Advanced Testing and Inspection Equipment

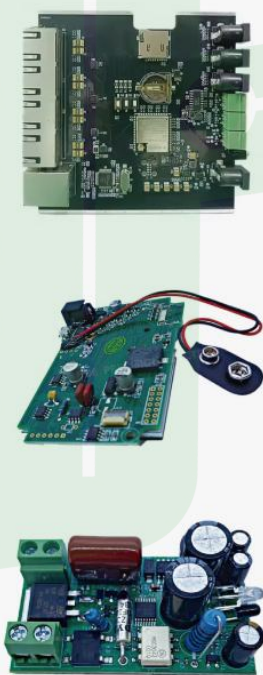


3. Application in Robots industry

- **Supplier Experience & Service:** Possesses extensive experience and successful cases in the PCBA robotics field, offering more tailored professional solutions and reliable technical support.
- **Precision Placement:** High-precision SMT robots are the core of the SMT production line. They utilize multi-axis coordination and vision systems to accurately place miniature components onto predetermined PCB positions, far exceeding manual capabilities in both speed and accuracy.
- **Quality Inspection & Testing:** Automated Optical Inspection (AOI), X-Ray inspection, and Functional Circuit Testing (FCT) significantly enhance inspection efficiency and accuracy.
- **Precision Coating & Dispensing:** Accurate application of conformal coating, thermal paste, etc., to protect circuit boards and improve reliability.
- One-on-one efficient and rapid response, fast quotation
- 100% original components, guaranteeing quality
- Fast delivery requirements, all production typically delivered within 1 month
- Flexibility in handling minor processing changes during production
- Functional Circuit Testing (FCT) performed on all PCBA boards

Robot PCBA

Customized PCB Assembly Solutions to Meet Diverse Industry Requirements.

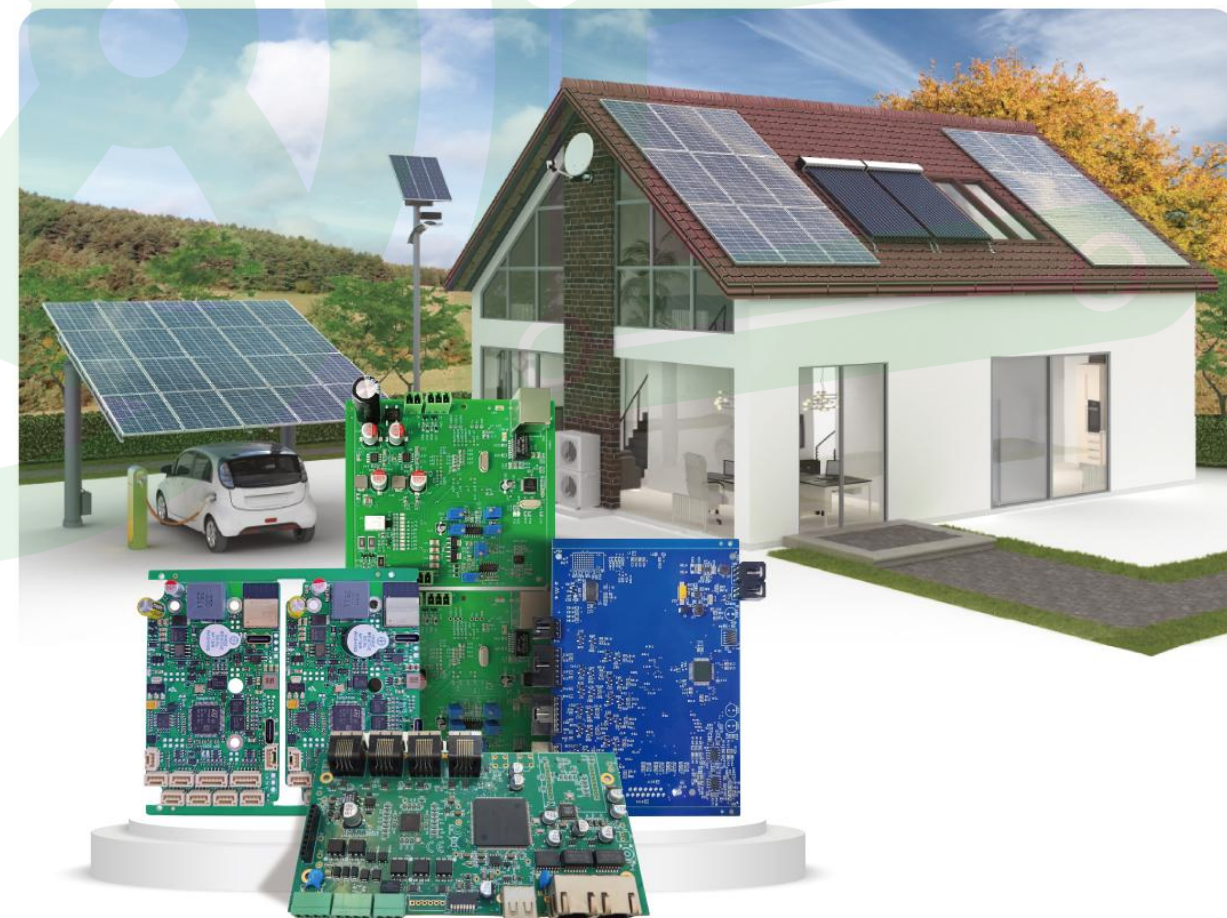


4. Application in Green Energy industry

Printed Circuit Board Assemblies (PCBA) in the new energy sector are subject to more stringent design and manufacturing requirements due to the unique application environments and high standards involved. POE is equipped with sufficient SMT and DIP production lines, supported by a team of professional and stable rework technicians, ensuring the capability to fulfill customer order demands.

Cooperation Flexibility and Responsiveness

- **On-Time Delivery:** Maintain timely communication with the customer and develop flexible production plans tailored to their delivery schedule.
- **Product UL Certification:** Provide end-to-end support for the customer's UL certification process, including assisting and accompanying UL auditors during factory inspections. Help the customer establish long-term compliance mechanisms to ensure ongoing certification validity and stable market access.
- **Component Substitution solution:** Source high-quality, cost-effective alternative components in the Chinese market based on the customer's BOM and pricing requirements, meeting both quality and cost targets.
- **Gerber Design Modification:** PCB designers assist the customer in optimizing Gerber panelization and adding required silk-screen information, such as UL certification model, UL mark, production date, and product model, to meet certification and production needs.



05 NO ADDITIONAL TARIFFS

US & European Markets • Tariff-Free Advantage



PCBA Export: Cost Advantage with Tariff Exemption

As a seasoned PCBA manufacturer with rich export expertise, we guarantee tariff exemption for shipments to the US and Europe. We strictly adhere to international trade regulations and industry standards (RoHS, UL, IPC), ensuring smooth customs clearance and transparent pricing—no hidden tariff costs, directly reducing your procurement expenses.

Whether you need rigid PCBs, flexible PCBs, or HDI boards, our tariff-free solution, combined with reliable quality and on-time delivery, makes us your trusted global technology partner.

06 WELCOME CUSTOMERS to visit POE factory



Discover Our World-PCB&PCBA manufacturing Capabilities

We cordially invite global clients and industry partners to visit our state-of-the-art manufacturing facilities. Witness firsthand how we deliver:

- **Cutting-Edge POE Production:** Advanced PCB&PCBA manufacturing processes ensuring precision and scalability.
- **360° Customer Support:** 24/7 multilingual technical assistance and one-stop turnkey PCBA service.
- **Certified Quality Assurance:** ISO-certified systems guaranteeing reliability across industrial/commercial applications.

Cooperation Process



Cooperation Invitation

POE looks forward to joining hands with global clients. With professional SMT technology, comprehensive export services and strict quality control systems, we will escort your products to the world and create a win-win future together!"

Schedule Your Factory Tour & Partnership Discussion Today:

Email: sales@poe-pcba.com / orders@pcbamake.com

Phone Number: +86-755-2531-2250

Online Booking: www.poe-pcba.com / www.pcbamake.com

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POE linkedIn



POE YouTube



POE Twitter



POE Tik Tok