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**POE PRECISION ELECTRONICS CO.,LTD/
WANFENG CIRCUIT CO.,LTD**

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POE科技·让世界更亲近
POE Manufacturing, Your Global Technology Partner



WISDOM LEADS GLOBAL
ELECTRONIC CORE TECHNOLOGY



**智领全球
电子核心
科技**

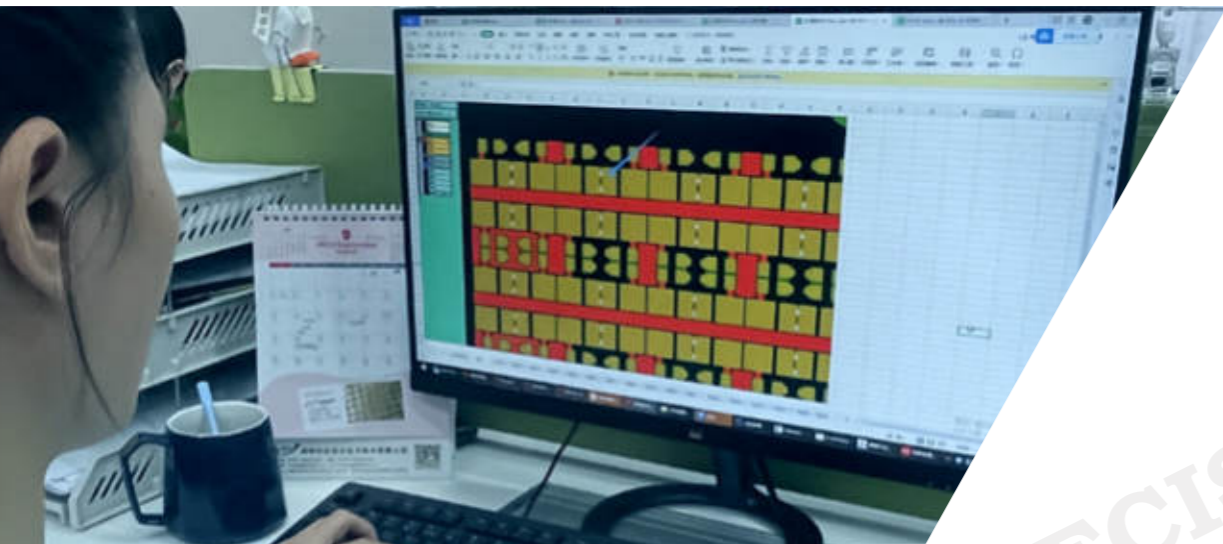


OEM Services for
PCB and PCBAs
Since 1996



CATALOG

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- 02 POE Culture
- 03 EMS Service
- 04 Jobs Involved to Complete Assembled PCB Board
- 05 POE Project Cases
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COMPANY PROFILE



POE as a PCB company has developed to a well-known Turn-Key PCB assembly company over the years, providing high and low volume batches at reasonable prices and high quality, from making the boards to shipping the final product and everything in between.

With imported fully automatic production machines & professional sales team, purchasing team and engineering team located in Shenzhen China, HK, USA and Canada, POE is able to provide customers with low-cost one-stop contract manufacturing service, including PCB fabrication, components procurement, PCB assembly, programming, cable assembly, final PCBA testing, final case assembly, coating, worldwide shipping.

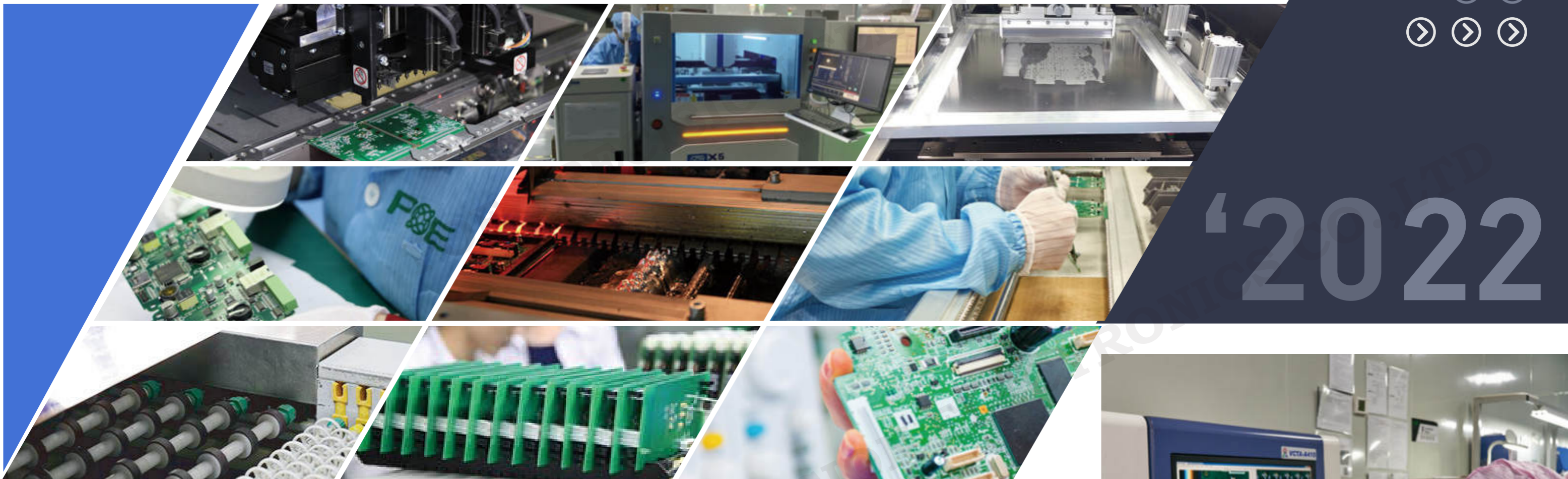
POE customers are primarily from the USA, Canada, Europe, Australia, Israel, Middle East, Brazil, Argentina, Asia...., and in a wide variety of industries like Medical, Telecommunications, Airplane recorder, Automobile, Database information, 5G, IoT, Robot, Industrial, Home appliance, Consumer Electronics ,LED products.



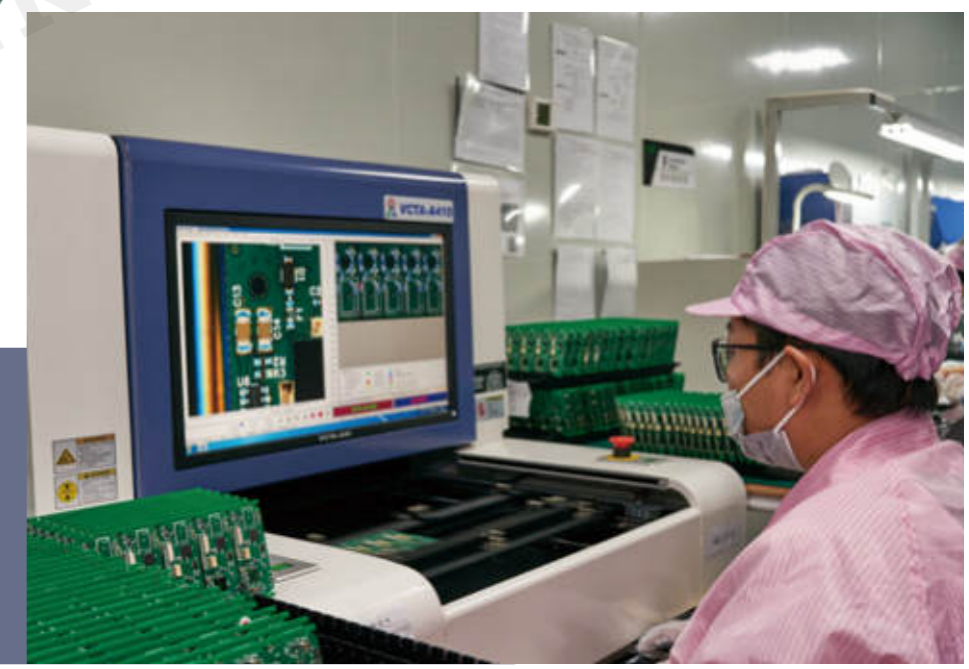
PRECISION ELECTRONICS CO., LTD



'2022



ISO9001:2015/UL94V-0/
ISO13485:2016/IPC III /
IPC II /ROHS/REACH



POE CULTURE

October birthday party is held successfully

In the birthday party, the employees shared their happiness with each other.

At POE, no need to worry about spending your birthday alone anymore, all the employees will accompany you to give you the feeling of your home.



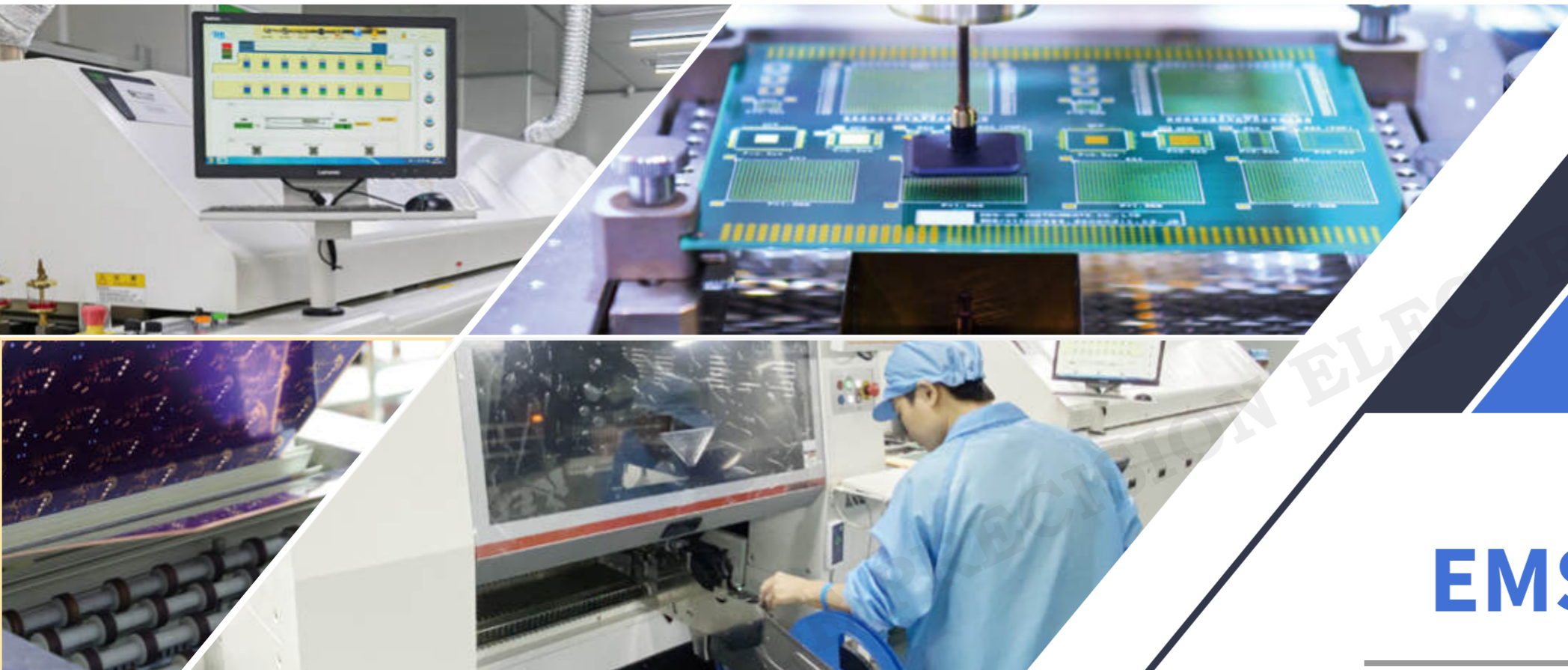
POE organized a hiking activity.

With the arrival of autumn, the weather in Shenzhen became cooler. POE organized a hiking activity.

Enjoying the scenery during the hike promotes mutual understanding among employees, creates opportunities for employee communication and improves team cohesion.

The employees were divided into four groups for the race. Besides competing for speed, a creative photo project was added to let everyone enjoy the fun of hiking.





PCB Contract Manufacturing

POE has over 20 years PCBA EMS (electronic manufacturing service) experience, we provide a full range of sub-assembly, box-build, and integration services customized to each individual product. Except SMT and Through hole assembly of the board, other processes include sub-assembly installation, cable assemblies, wiring harnesses, and fabrication of board enclosures. All these components must work together to ensure a fully-functional circuit.

EMS SERVICE



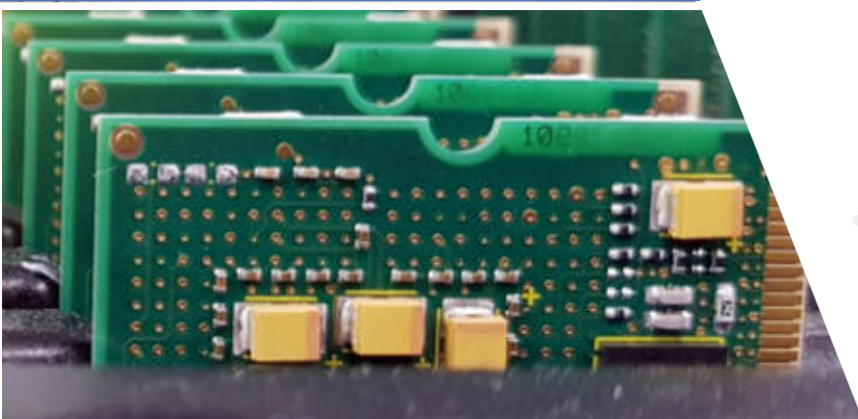
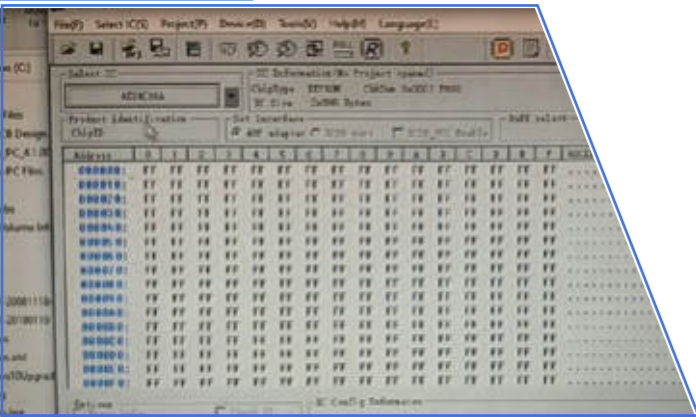
- Programming/Setup
- System integration services
- Mechanical Assembly
- Functional Testing
- Packaging & Labeling
- Enclosure Assembly
- Storage and Shipment
- After-sales services



Programming/ Setup



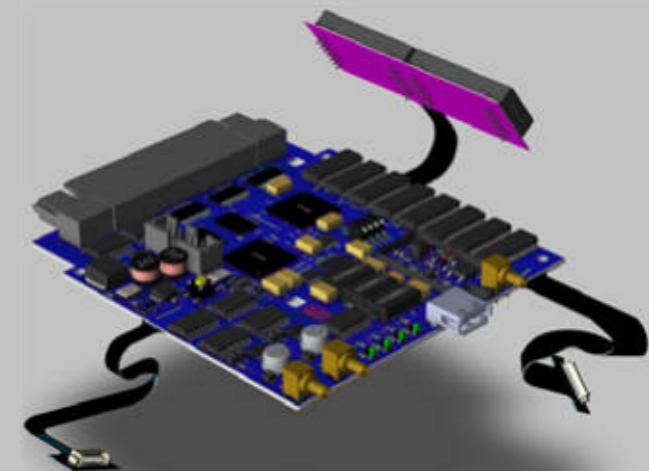
After completion of hardware assembly, an Electronics Manufacturing Service Provider is always able to help with initial factory programming or setup the configuration of the product. The programming content includes, but not limited to firmware or driver installation, date or time setting, manufacturing code, operating system configuration and BIOS update. POE has well experienced programmer and technical team to carry out initial programming for the products. This makes POE easy to work with service provider and enhancing client's confidence on the product before shipment.



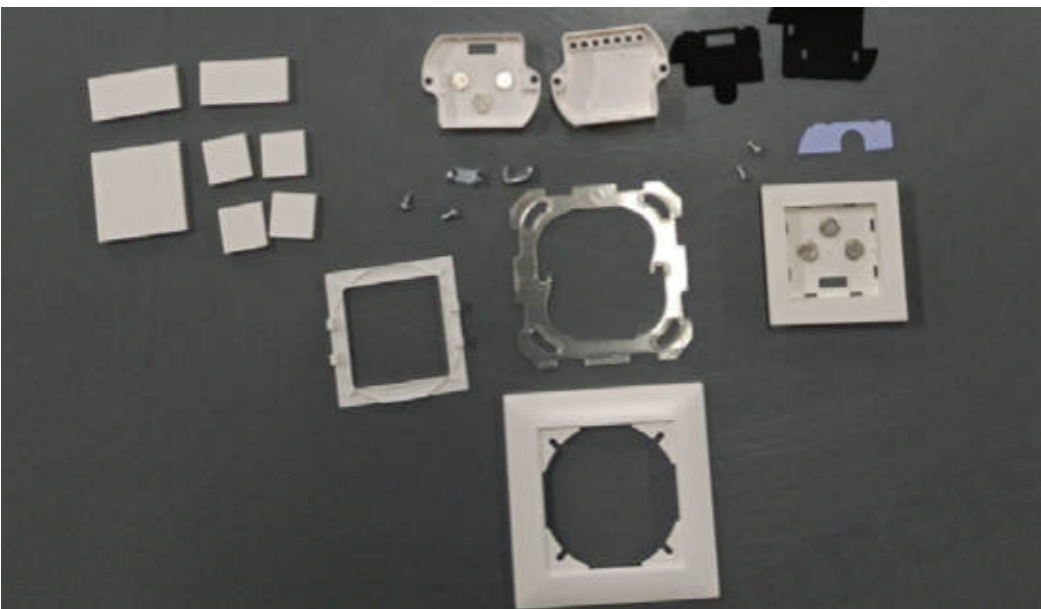
System integration services

System Integration services are core services by a PCB assembly manufacturer. This includes assembly of power modules, heat sink (cooler or fan), memory bank, display, input/output interface connectors, motors and other accessories.

In the manufacturing process specialized components are required such as strip cable, multi strand or single strand wires, RF coaxial connector, cable clips, connectors, terminals or metal body to ground, silicon glue on cooler components and ties etc.



Mechanical Assembly



Mechanical assembly plant and skillful workers are the basic requirements for a printed circuit board EMS manufacturer. Mechanical assembly is a vital requirement after system integration assembly. Mechanical assembly involves riveting, drilling screw holes, tightening nuts and bolts, washers and mechanical locks to assemble core functional components inside final housing.

Assembling simple products with no sub-components are far efficient as compared to assembling products with more than two sub-components. In theory, the higher sub-components, the more labor-hours are required for assembly process. While some EMS PCB manufacturers are unable to provide high quality mechanical assembly services, POE has expertise in this field.

Functional Testing



Functional testing is the key process to verify that the product meets the quality standard. Functional testing includes power on/off test, signal output analysis, resistance testing, keypad testing frequency, aging test or any other test demanded by the customer.

POE is equipped with common functional testing equipment that can satisfy testing demands for most electronics projects. Apart from this POE can offer customized PCB assembly inspection services for some special products. These special tools and testing equipment will be communicated and coordinated with the clients.

As an EMS manufacturer is different from an OEM manufacturer, most of OEM manufacturer are not able to customize test jigs to accommodate client's project demands. POE help customers to build customized test stations thus avoiding delivery of faulty products that can increase customer cost if they are delivered and debugged locally.



Packaging & Labeling



Numerous clients require designing and customizing the package box for their products. POE thus provides this service for packaging. According to package SOP, product must match the correct components, warranty card, user manual, assembly and disassembly instructions etc. for packaging in the box. This service makes sure the user can fully understand how to use and operate the product and components as well as the precautions. This service is part of our manufacturing services offered to our valuable clients.

POE take good care of detail works and little things like labels required by product designer as per work instructions, no matter Barcode, QR Code, serial numbers ect, POE is helpful in placing or printing the logos or labels on the product body.



POE can assemble boards with enclosures made of ABS, polycarbonate, polyester, aluminium und stainless steel ect. We equip and assemble enclosures according to individual specifications with a wide variety of built-in and add-on parts including supplied components up to ready-to-connect installation and wiring.

Enclosure Assembly



Storage and Shipment

POE stores electronic parts for customers, also well packed products in warehouse before delivery. These stores are well managed by a warehouse officer and factory guard to maintain appropriate temperature, humidity and under well cleaned shelves for safe storage before delivery. This is a key point during electronics contract manufacturing services.

POE has stable and competitive delivery company who ships the packed products all over the world. In case client needs some other shipping company services, we help them in arranging custom clearance documents to ensure timely delivery.



After-sales services

After product delivery, we can offer repair, maintenance and calibration services for our clients so they would not concern a lot after selling their products. This is the last important part of our EMS manufacturing service. This service save clients cost of hiring skillful technicians for the maintenance job.



Assembled Printed Circuit board, be well completed by different work with good performance.



Sales Representative

- Sales Representative- Well understand customer's demands, gives advice on order plan, and updates production status with great responsibility.



Senior Purchaser

- Senior Purchaser-Over 10 years sourcing experience, supply chain management.



Operation



Engineer(Gerber DRC)

- Operation-Market analysis and prepare in advance.
- Engineer(Gerber DRC) - Checking gerber file to make sure it meets design rule before PCB manufacturing.

Jobs Involved to Complete Assembled PCB Board



SMT Engineer



QE

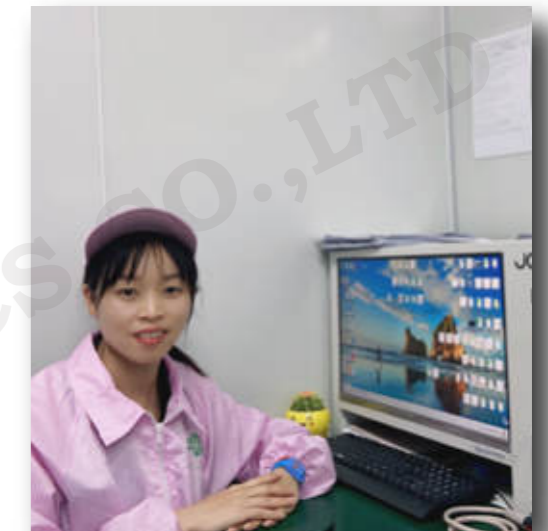
- QE - Checking design file, especially BOM, location file, and silkscreen markings to make sure no possible issue before SMT assembly.
- IQC- Inspecting the components received and make sure the parts are correct and in good condition.
- SMT Engineer- Setting up Pick&Place Machine and monitor the whole process to ensure that workshop operation is in compliance with ISO standard



AOI



Wave Oven Engineer



FAI



IQC

- FAI Inspector-First Article Inspection, it's critical process before volume quantity production.
- AOI- Inspect assembled PCB and see if there are defects, missing, bad soldering parts on boards, 100% testing, - good quality assurance.
- Wave oven Engineer-Skilled in wave soldering parameter adjustment, optimizing PCBA board solder quality enhancement.

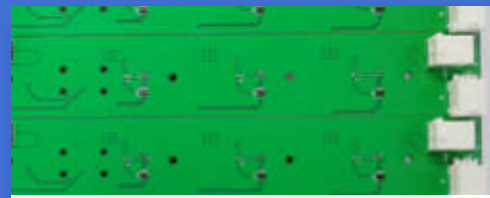
Senior Purchaser-Over 10 years sourcing experience,supply chain management.

For your reference: In the existing design the hole size is 0.65 mm and pad size is 0.85mm. The lead dimension (length x width) of the connector is 0.20mm x 0.40mm. So, the hole size needs to be modified accordingly for tight fitting.

1.Hole size change request



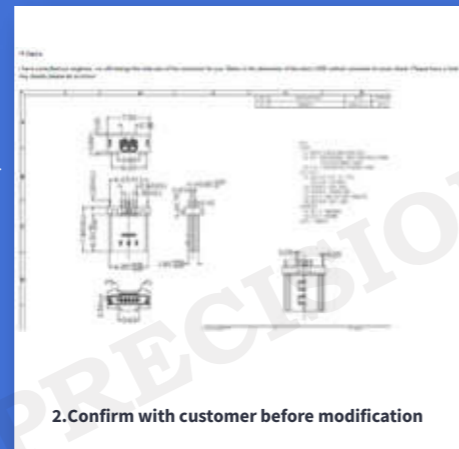
Finished boards 1



Finished boards 2



Finished boards 3



2.Confirm with customer before modification

Hi Alina,
Thank you for the confirmation and clear information about the details. We would like you to proceed with the production process.

Regards

5.Customer confirmed the modified Gerber was ok

Hi Alina,
I had few queries and I would like to mention them below.

1. The connector we need would have a height of 10.75mm as attached in the image below with 5 through hole pins. (Kindly check if the connector height and the number of pins of the connector are right before placing them on the board).

2. Gerber files have the dimension of the hole to be larger (1.1mm) than the previously design (Hole size was 0.65 mm and pad size was 0.85mm). Kindly let me know what the hole size would be before the process along with the attached Gerber files. According to Sapna's mail from 29.September the hole size needs to be optimized for tight fitting - therefore, 1.1mm seems to be too large.

If there is anything wrong with the data we have checked kindly revert back with a reply.

3. Customer's queries



4.Explanation

POE Project Case

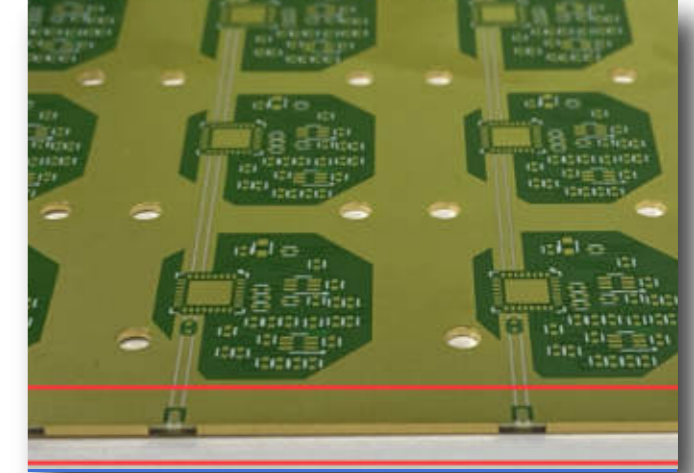
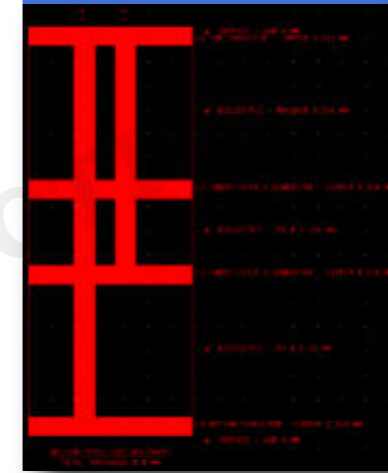
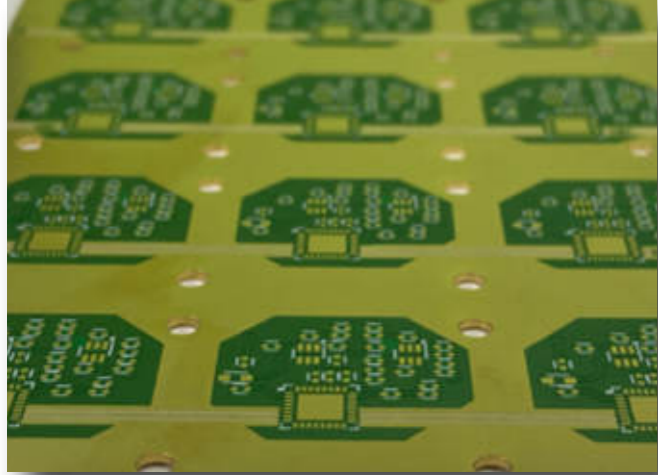
Case One

POE received the request from the customer to help modify the size of the hole.

Engineer changed the hole size according to the datasheet and sent the modified Gerber files to customer to check.

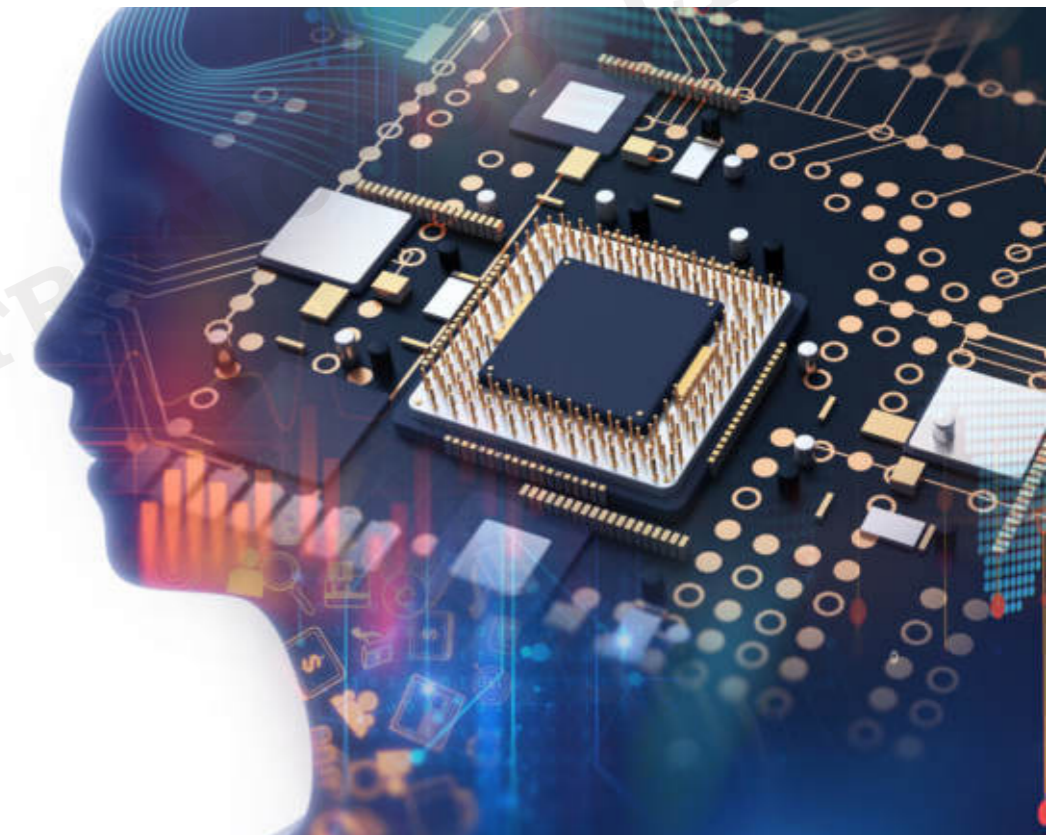
The customer finally confirmed that the modified information was ok

PCB finished production.



Case Two

1. The board is FR4+Rogers RO4350 mixed press with blind hole and edge plating, advanced high performance PCB with special board material.
2. PCBs with whole board immersion gold surface treatment are easily to be scratched, and we used dust-free paper to separate each one when packing to avoid such issue.
3. POE Engineers make Stack-up structure per customer's design requirements.



Case Three



Blue-gray 2



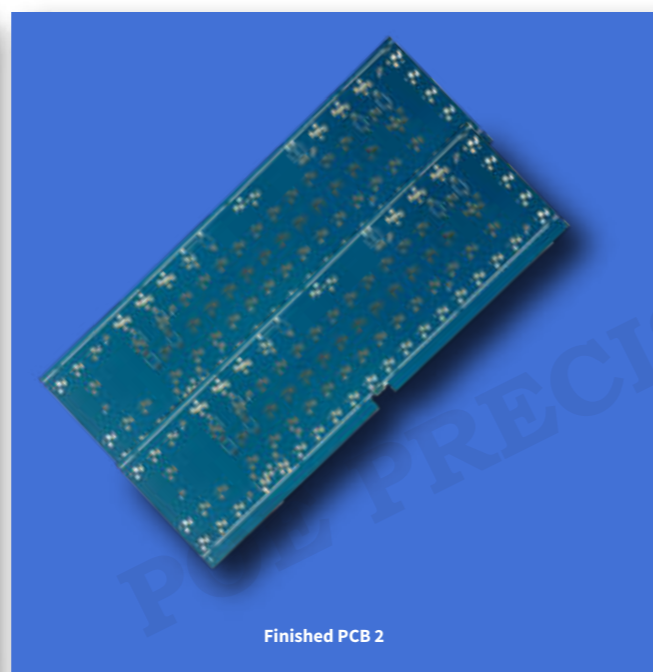
Blue-gray



Tune the soldermask Ink and test the color



Finished PCB 2



Finished PCB 2

POE received the Pantone from customer. The technician adjusted the ink according to Pantone until the customer was satisfied with the color! Here's a picture of the finished color on the PCB.

Case Four



FAB DRAWING

Layer Stack Legend						
Layer	Material	Thickness	Dielectric Material	Type	Gerber	
Top Overlay				Legend	GTO	
Top Solder	Surface Material	0.025mm	SM-002	Solder Mask	GTS	
Top Surface Finish	Nickel, Gold	0.004mm		Surface Finish		
1-TOP	CF-004	0.018mm		Signal	GTL	
	Prepreg	0.100mm	PP-006	Dielectric		
2-GND	CF-004	0.035mm		Internal Plane	GP1	
	Core	0.100mm	PP-006	Dielectric		
3-SIGNAL	CF-004	0.018mm		Signal	G1	
	Prepreg	1.000mm	PP-001	Dielectric		
4-PWR	CF-004	0.018mm		Internal Plane	GP2	
	Core	0.100mm	PP-006	Dielectric		
5-GND	CF-004	0.035mm		Internal Plane	GP3	
	Prepreg	0.100mm	PP-006	Dielectric		
6-BOTTOM	CF-004	0.018mm		Signal	GBL	
Bottom Surface Finish	Nickel, Gold	0.004mm		Surface Finish		
Bottom Solder	Surface Material	0.025mm	SM-002	Solder Mask	GBS	
Bottom Overlay				Legend	GBO	
Total thickness: 1.6						

This board requires specific material and different copper thickness. It's difficult to mate 699 position connector and repair if there is soldering joint issue, so we need to use X-ray machine to inspect the soldering joint.



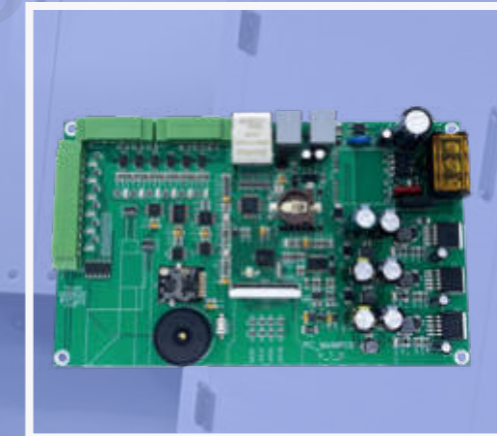
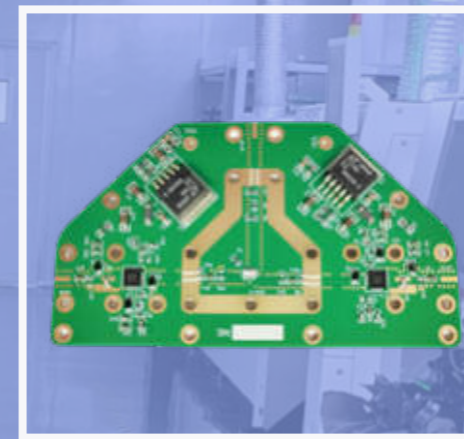
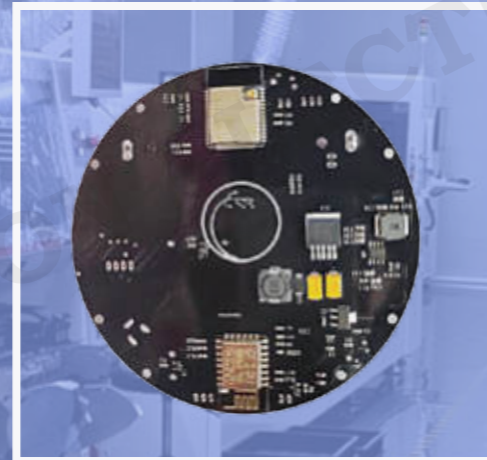
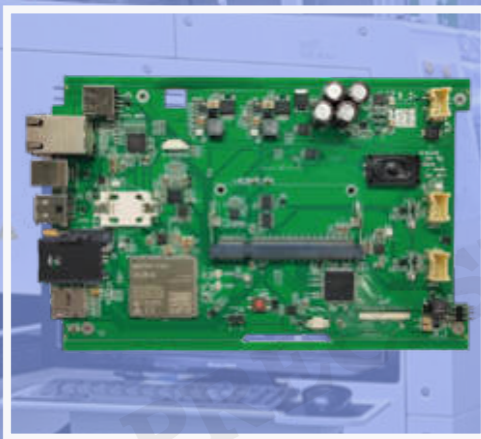
POE Products

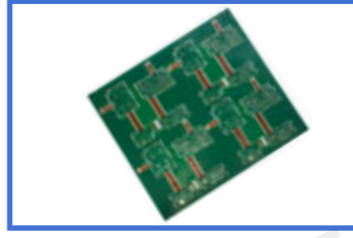
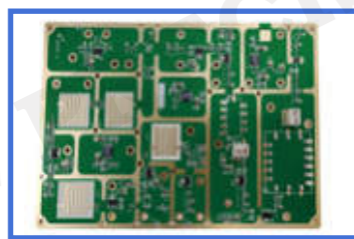
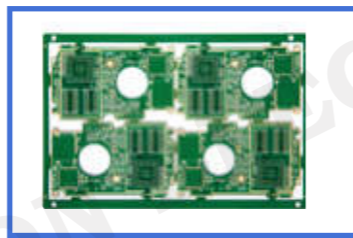
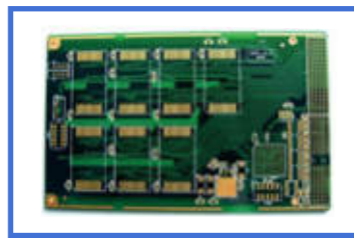
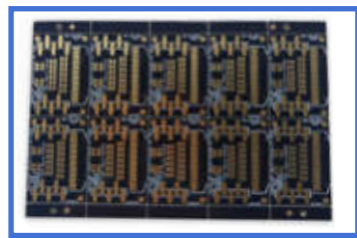


POE

The logo consists of the letters 'P', 'O', and 'E' in a bold, sans-serif font. The letter 'O' is replaced by a stylized atomic symbol with three elliptical orbits and a central nucleus. The logo is centered within a white circular area that has a slight drop shadow, giving it a 3D appearance. The background of the slide is a complex circuit board design with various components, traces, and arrows in orange and blue.

PCBA Products





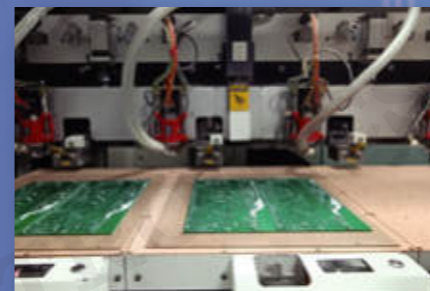
Drilling Machine



PTH



Circuit Etching



CNC Outline



LDI

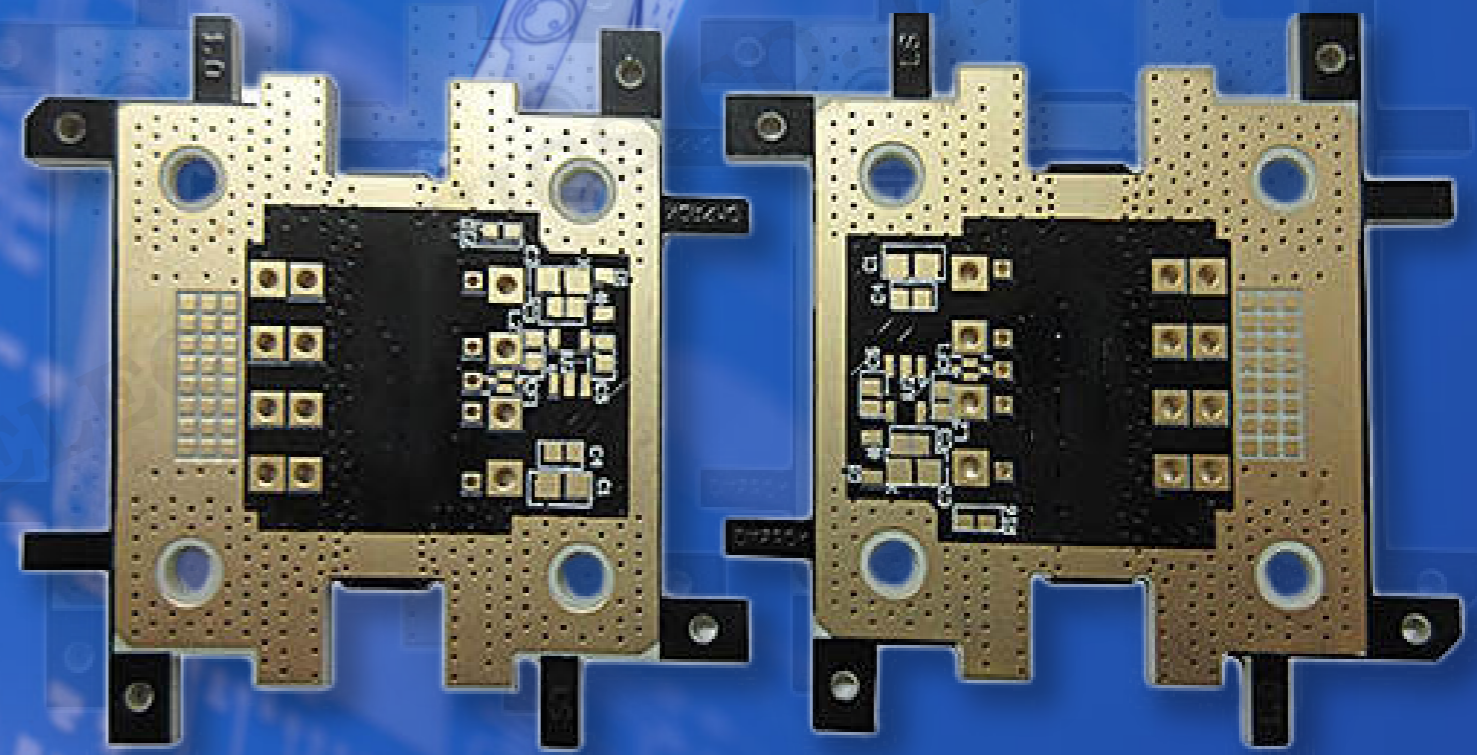
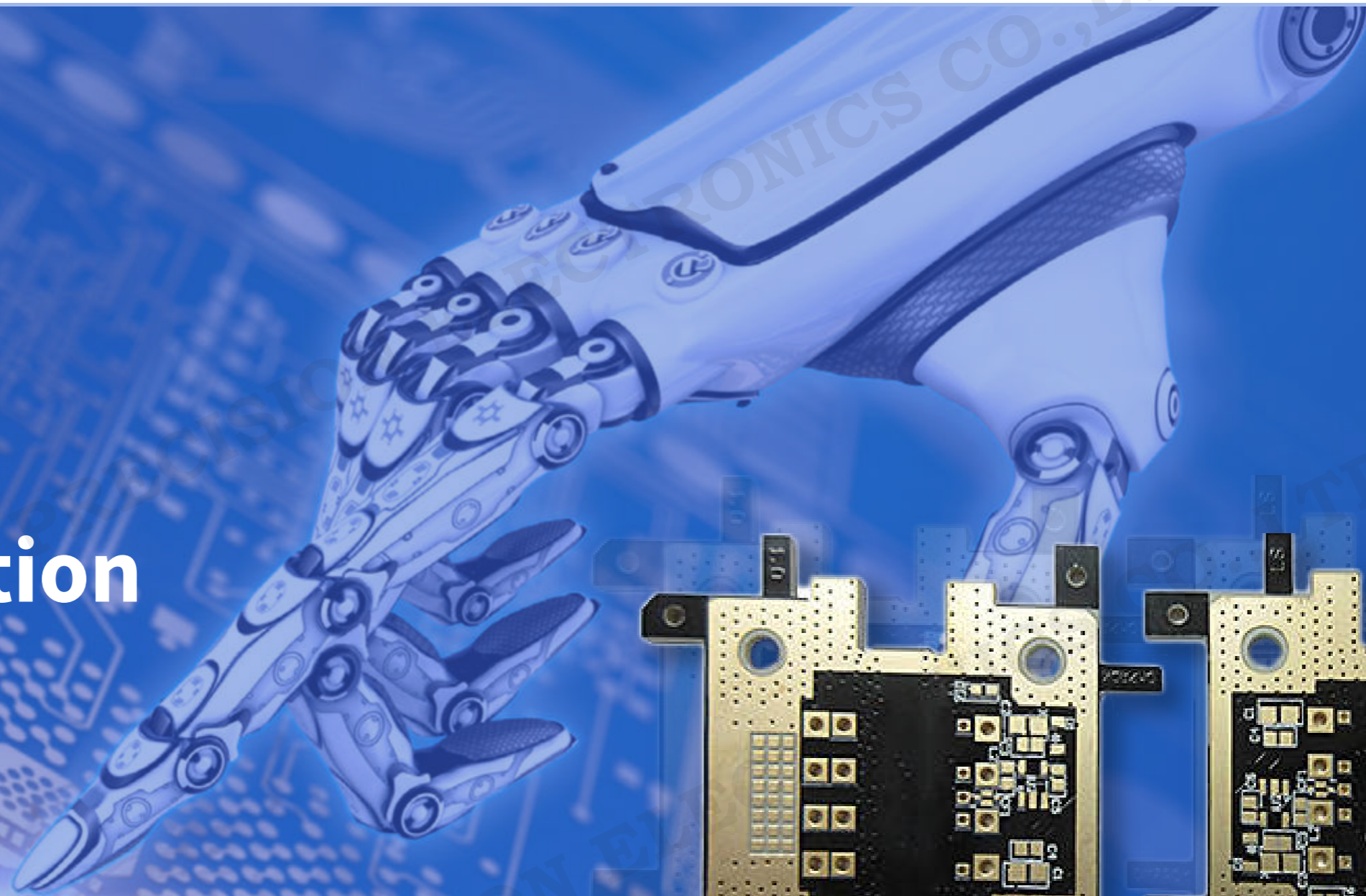


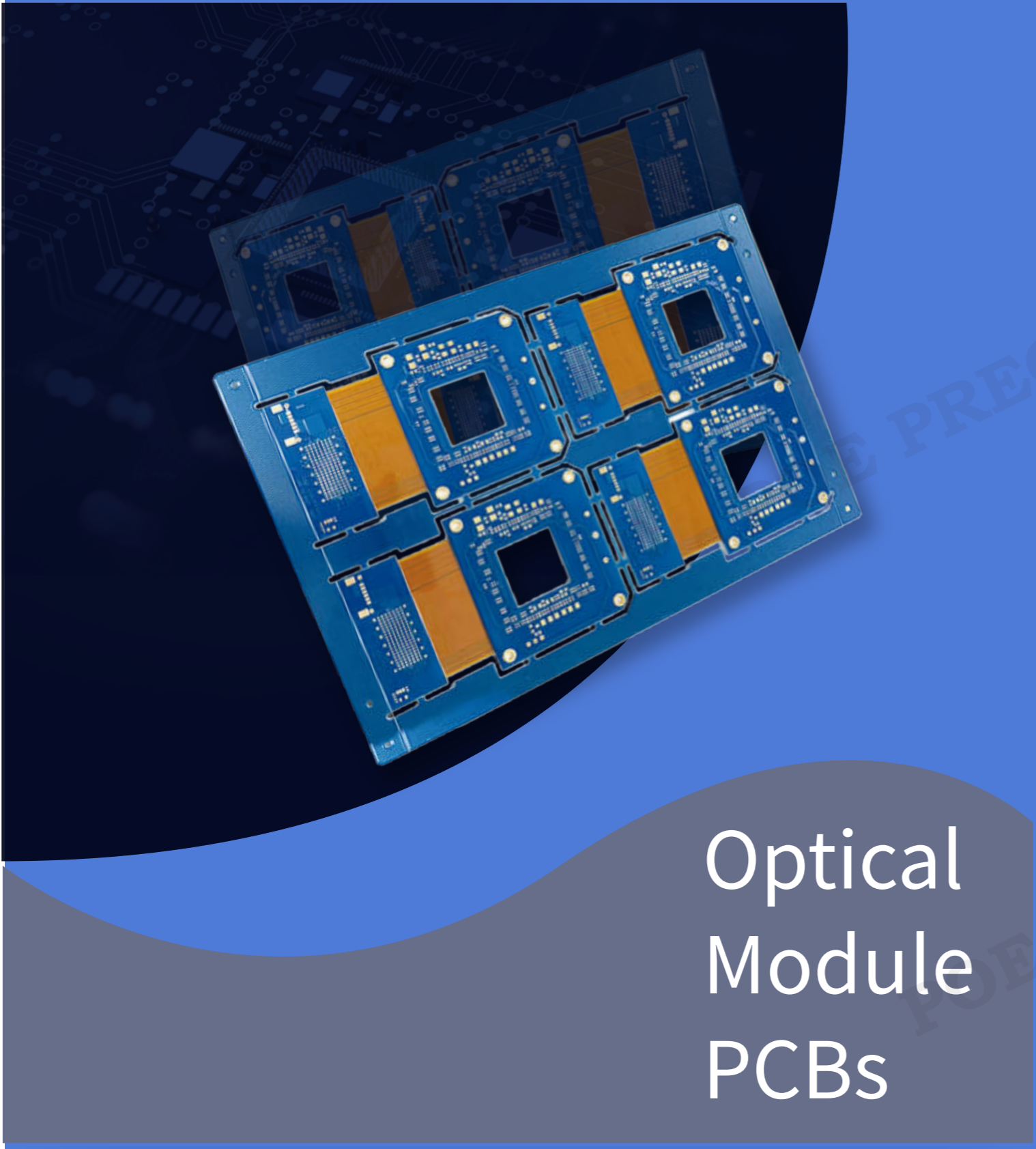
Sink Copper

PCB Products



Application Board Shows



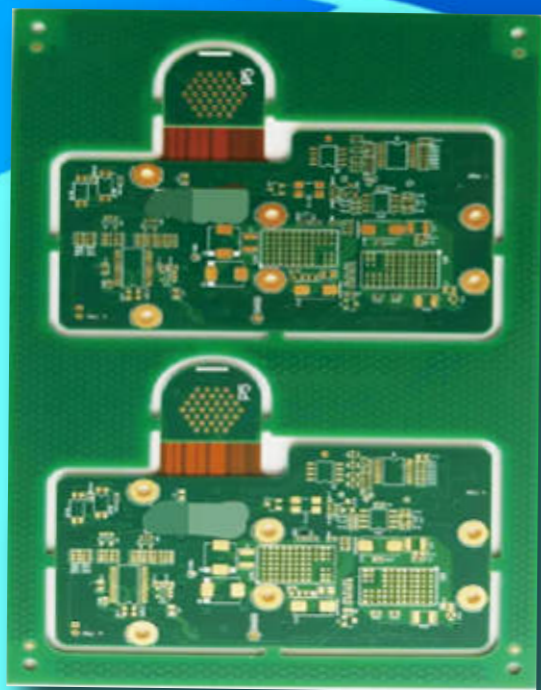


Optical
Module
PCBs



5G Communication
PCBs

Aerospace PCBs



POE PCB is used in a variety of aviation equipment including planes, space shuttles, satellites and radio communications systems.

RF Antenna PCBs



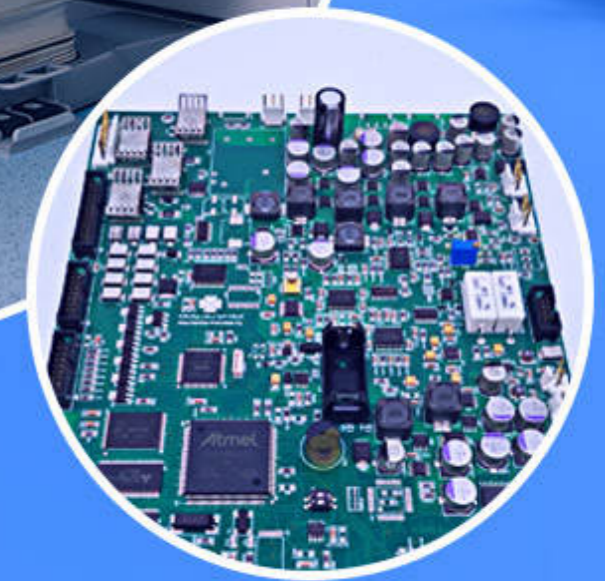
Industry Control PCBs



These industries have high-power machinery and equipment, which are driven by high-power and high-current-driven circuits. For this reason, most of customers choose POE to get the best quality PCB products.

Medical PCBs

Health comes from medical treatment,
and the core of medical equipment is PCB



POE PRECISION ELECTRONICS LTD