Bluetooth Circuit Board Introduction

JingHongYi PCB (HK) Co., Limited is a leading manufacturer of **multi-layer circuit boards** and **flexible circuit boards** in China. We recommend and provides:

- Bluetooth Circuit Board
- USB Bluetooth Circuit
- Board, Bluetooth Receiver Circuit Board
- Bluetooth Voice Box Module Circuit Board
- Bluetooth Audio Receiver Module Circuit Board
- Bluetooth Power Amplifier Circuit Board for Vehicle Load Bass Gun
- Bluetooth power amplifier circuit board
- Bluetooth keyboard circuit board
- Bluetooth module half-hole circuit board
- loudspeaker Bluetooth circuit board
- Bluetooth mouse circuit board
- Bluetooth PCB antenna
- Bluetooth headset circuit board
- Bluetooth speaker PCB
- Bluetooth Music receiver circuit board
- Bluetooth transmitter circuit board
- Bluetooth audio circuit board
- Bluetooth stereo circuit board
- Bluetooth audio PCB motherboard

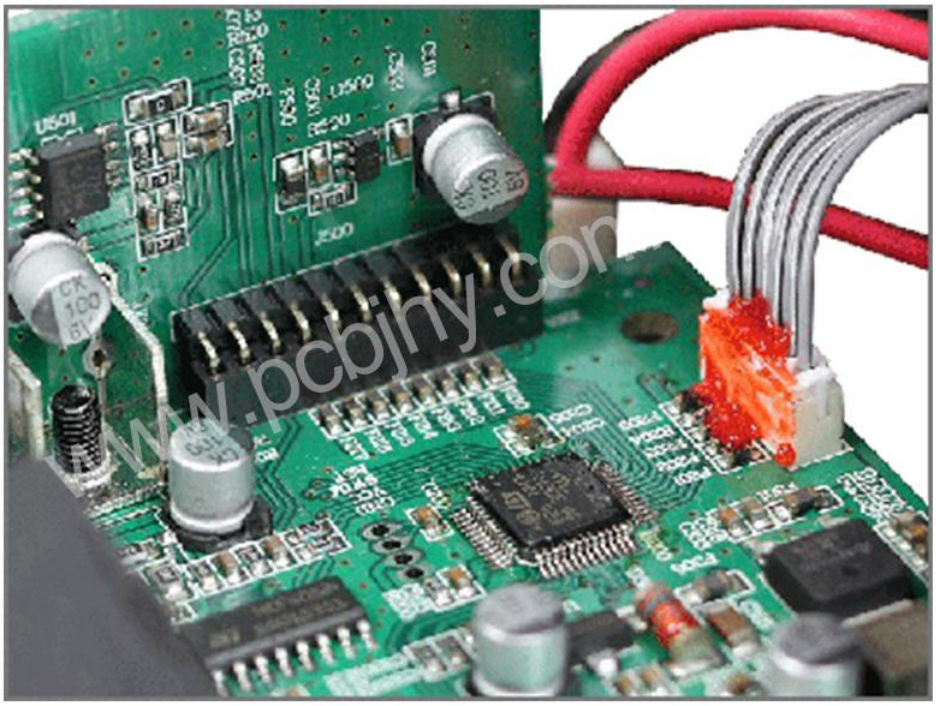
We also provide **prototype manufacturing services** for Bluetooth PCB as mentioned above, as well as small and medium batch production, **assembly services**, and price, pictures, delivery time and other product information.

JINGHONGYI PCB (HK) CO., LIMITED

Professional Quick Turn Prototypes

Small-medium Volume PCB Manufacturer

High Quality PCB Manufacturer

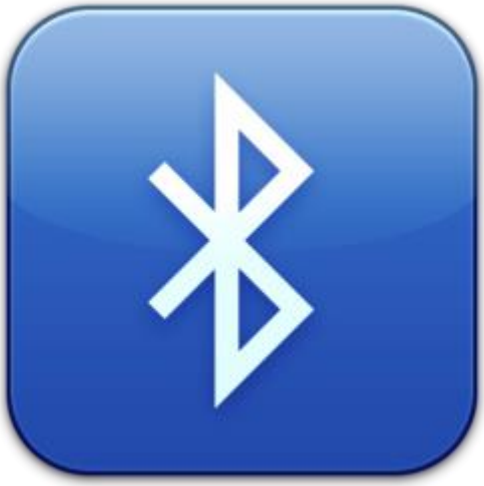


How Bluetooth Technology Works?

Bluetooth technology is a global standard for open wireless data and voice communication. It is a special short-range wireless technology connection based on low-cost short-range wireless connection, which establishes communication environment for fixed and mobile devices.

Bluetooth enables today's portable mobile devices and computer devices to connect to the Internet without cable and wireless access to the Internet.

It can exchange wireless information among many devices, including mobile phones, PDA, wireless headphones, notebook computers, related peripherals and so on.



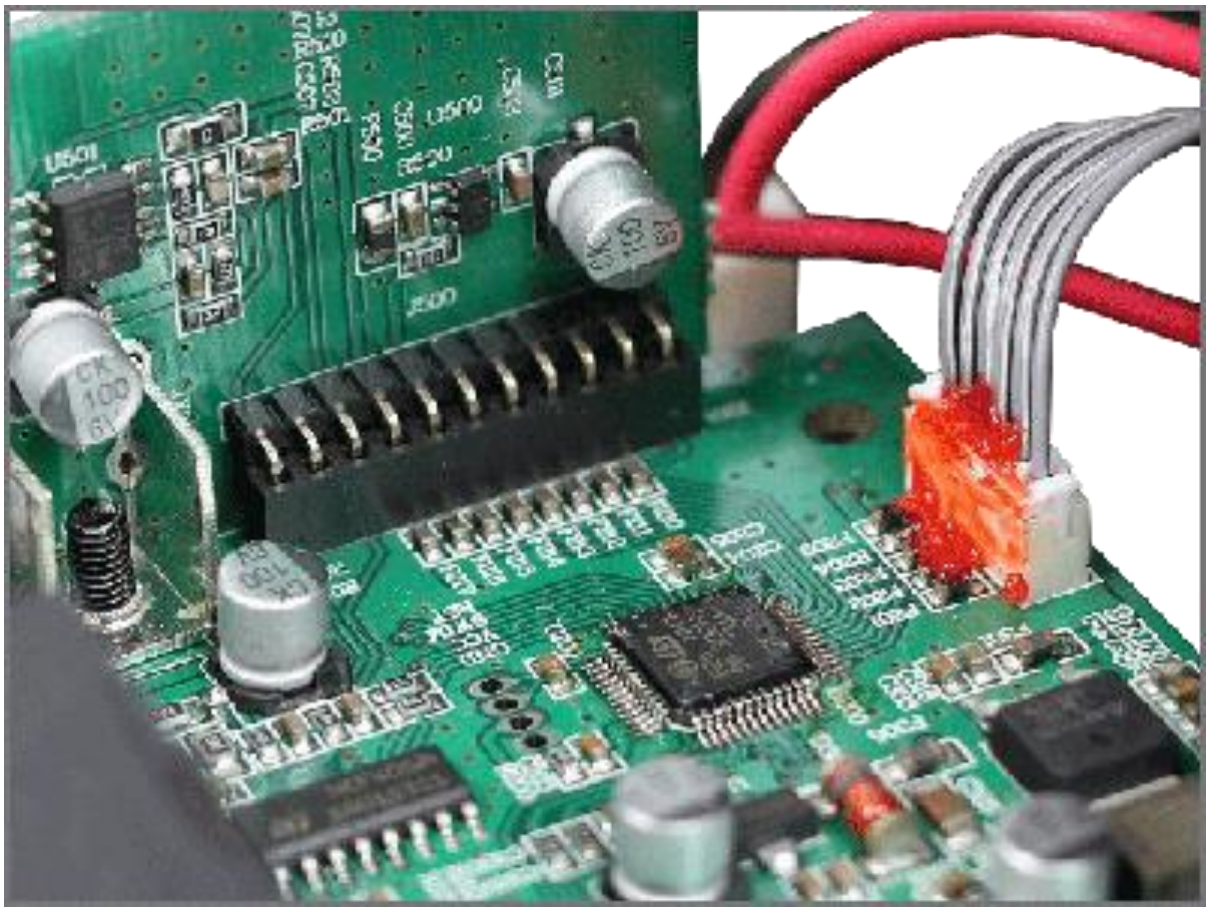
Bluetooth is a low-cost and low-power short-range wireless communication tool. Bluetooth is a communication protocol which operates at the 2.4GHz range,This is a radio-frequency range and is similar to many other contracts of communication including the very utilized WiFi protocol.

Bluetooth communication structure includes a single main device, which can connect to up to seven other devices. Each slave station communicates serially with the master station, and the communication between slaves can only be completed through the master station, which plays the role of a mediator. Bluetooth devices cover a range of 1 centimeter to up to 100 meters, Maximum transmission distance in open and barrier-free environment is 15 meters.

Each Bluetooth device can maintain a low power consumption mode in idle time, thereby reducing energy consumption. In order for two Bluetooth devices to communicate, their unique code must be exchanged. Therefore, communication between two Bluetooth devices can only be carried out with the approval of the user.

In the process of Bluetooth receiving, please do not close to other transmitting signal devices, such as routers, high-power power supply, etc., because it is easy to cause signal interference.

Bluetooth Circuit



A Bluetooth circuit is the central part of a Bluetooth and contains components such as the integrated circuit, capacitors and source of power. The IC contains a charger and voltage regulator. The Bluetooth module includes information on the configuration and the setting.

Bluetooth technology replaces the method of wire and cable communication between devices.

Bluetooth circuits work by using radio signals. Bluetooth circuit effectively replaces infrared technology, which is a great progress of infrared technology. It also effectively solves the limitation that infrared technology can only connect two devices.

Luckily due to technological advancements, the Bluetooth circuit uses low power signals to avoid any interruption from the other devices. That is, therefore, the reason why most Bluetooth devices only work within a range of 10 meters out of which the connection can be lost.

Bluetooth Circuit Board, Bluetooth PCB

A complete Bluetooth circuit board must contain antennas that help send and receive information. Bluetooth circuit must include at least two inductors, whose function is to fine-tune the impedance of antenna to improve performance.

There is another auxiliary circuit board in the speaker. It connects audio cable, power button and USB power supply. The auxiliary board is equipped with two LEDs.

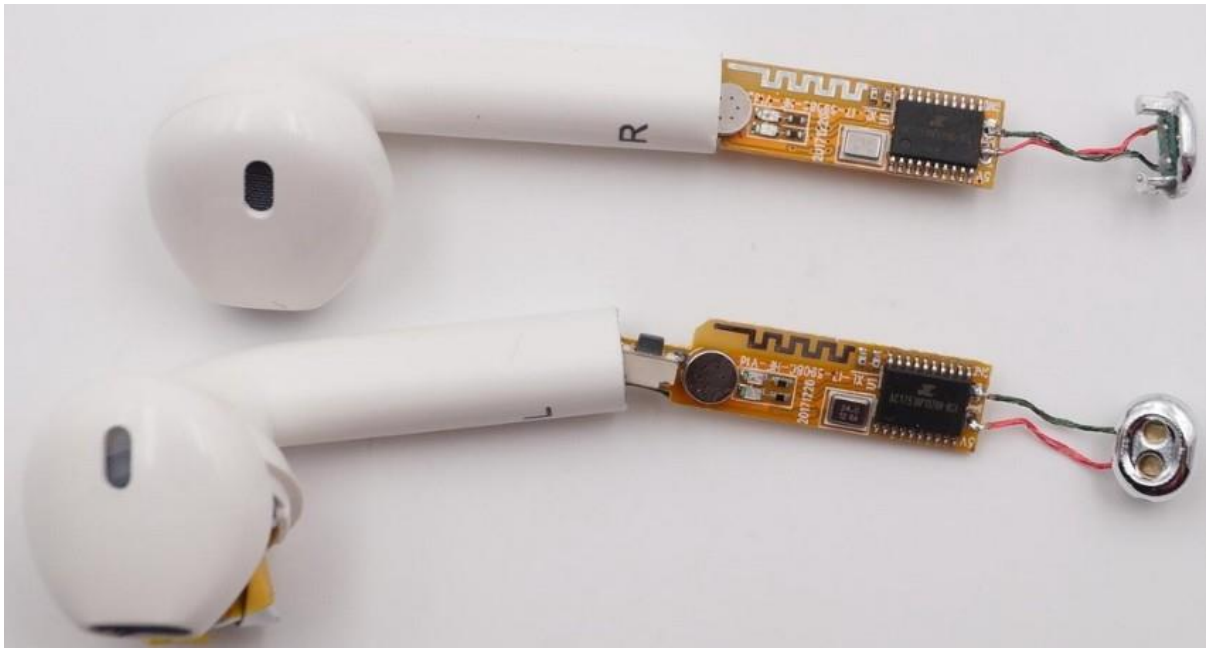
The presence of a printed circuit board close to the antenna may lower the resonance frequency. And so it is recommended that the thickness of the PCBs used in Bluetooth should be about 1,6mm.

In Bluetooth circuit board design, we recommend that you do not place any metal, including copper, near the area marked with GND, and that GND pins need to be connected to the plane. Switching the vias could be done to avoid any emissions from the PCB.

Bluetooth Audio Receiver Circuit Board, Bluetooth Audio Circuit

In the existing technology, Bluetooth radio frequency signal of Bluetooth audio circuit board may be coupled to the audio differential output, and the TDMA noise is directly introduced into the audio circuit. For this reason, LC filter circuit is usually set up at the audio differential output to filter 2.4 GHZ signal from the audio output signal.

Bluetooth Headset Circuit Board



Headphone circuit board, mainly used in common headphone electronic products, headphones - the symbol of human portable audio, headphones are a pair of conversion units, it receives the signals from media players or receivers, using speakers close to the ear to convert them into audible sound.

Along with the popularity of portable electronic devices, it has been successfully used in mobile phones, radios, walkman, portable games and digital audio players and other electronic products. At present, in addition to ordinary headphones, there are the following kinds: Head-wearing Bluetooth headset so on.

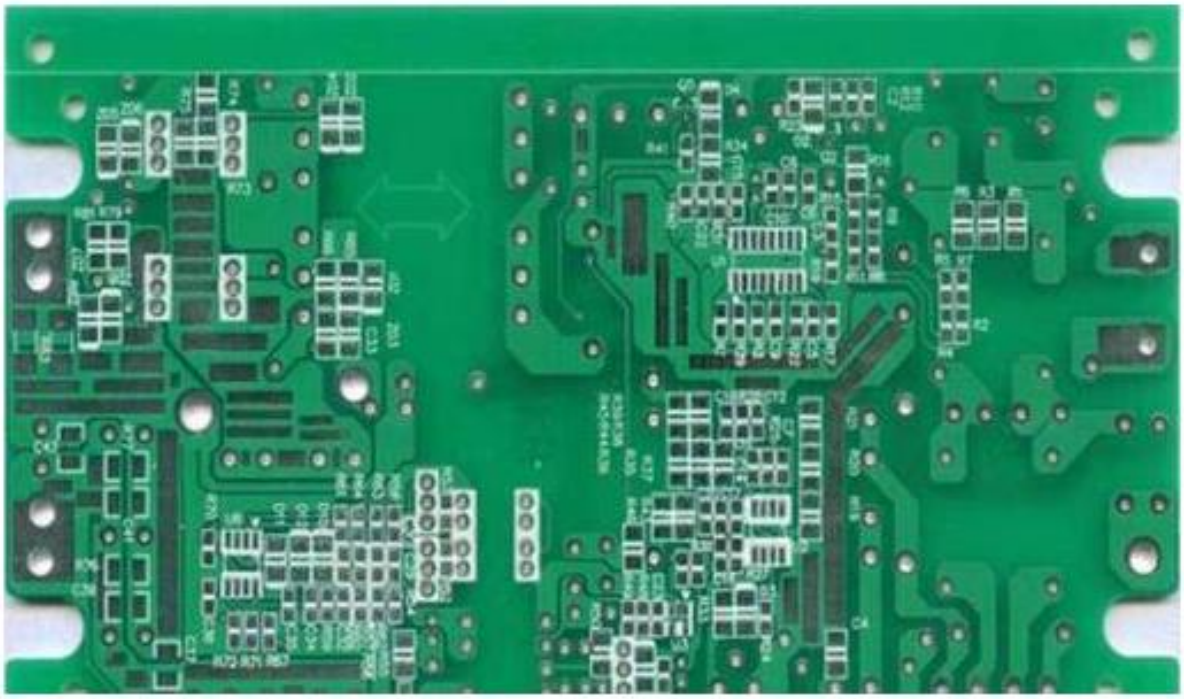
The existing Bluetooth headset PCB circuit board - generally four-layer circuit board, the first layer is the signal layer I, the second layer is the ground layer, the third layer is the power layer, the fourth layer is the signal layer. In order to improve the overall performance of the system, make the impedance of the component power supply path as low as possible, and prevent the system voltage, component voltage and inter-component voltage from falling too much, the layers are usually laid on the ground.

Head-wearing Bluetooth headset PCB has become one of the most popular products in PCB industry. Our company specializes in all kinds of Bluetooth headset PCB production, central control Bluetooth small headset PCB processing, mono-voice Bluetooth headset PCB production and other one-stop services.

Here are the detailed parameters of a headset Bluetooth headset circuit board we have produced.

Name: Bluetooth Headset Circuit Board
Specification: 32.18mm*12.35mm
Material: FR-4
Layer: Double-sided PCB
Thickness: +/-10
(All PCBs are customized to customer requirements)

Bluetooth Transmitter Circuit



Bluetooth transmitter circuit facilitates music transmission to stereo system. It can also pair your Bluetooth with other devices so that you can enjoy wireless music. The circuit must have a charging system and reclaimable batteries.

The transmitter circuit includes several components, including an LED indicator.

Recyclable batteries in the Bluetooth transmitter circuit can last up to 10 hours. In this case, lithium batteries are preferred because they are durable.

It ensures that you can listen to music for a long time without running out of battery power.

Batteries contain a small circuit designed to protect the circuit from overcurrent, overdischarge, overcharge voltage and short-circuit current.

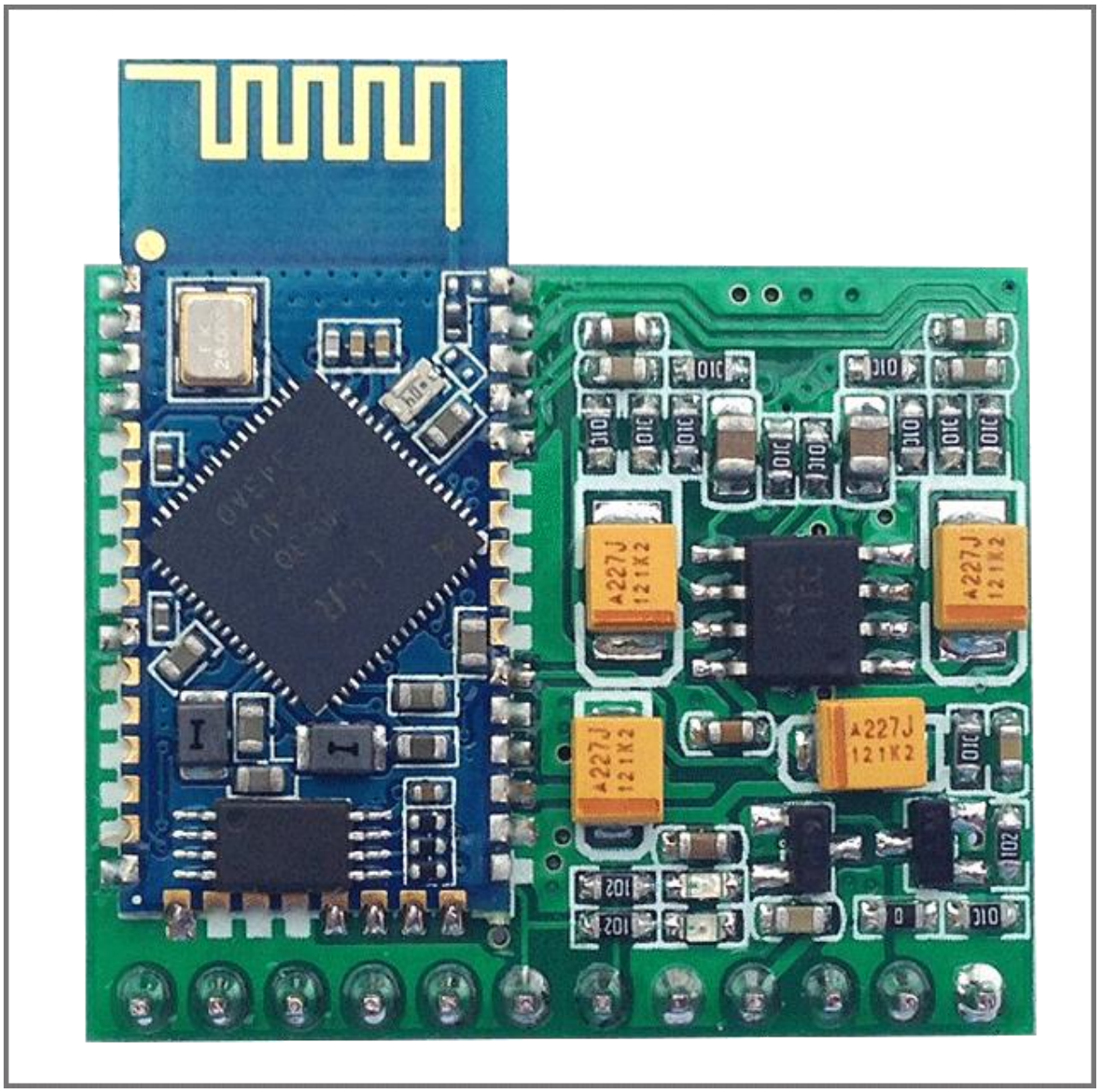
Please note that the service provided by the speaker is handled in the main circuit board. The circuit board includes voltage regulation, battery charging, Bluetooth and audio amplification.

At the end of the circuit board, you will get a microphone with volume increase/decrease/pause control.

USB Bluetooth Circuit Board

USB Bluetooth circuit board, a kind of **USB circuit board**, you can refer to our introduction of USB circuit board.

Bluetooth Circuit Board Kit



The Bluetooth circuit has a board kit that ensures you effectively play music or any other content that's from your phone. That achieved wirelessly through advanced technology. The Bluetooth circuit board is available in three formats:

- As a single entity.
- With 65mm speakers.
- With 100mm speakers.

The Bluetooth circuit board ensures seamless audio quality and connectivity as it is a vital part of the Bluetooth devices. It is the central part that controls the entire device. Without

this kit, the connectivity and complete functionality of the Bluetooth device would be paralyzed.

It is light in weight thus being advantageous in the sense of manufacturing different devices. That means that whichever the device you decide to design, you can easily incorporate the Bluetooth circuit board kit. It is used in both the small and large devices.

The interface for the circuit board kit is easy and straight to the point. The design of this kit is in such a manner that it tries to connect to the last device that it was paired to whenever the Bluetooth in the device is turned on again.

In cases where the device it was last paired to be off or not available, the Bluetooth circuit board kit is programmed to try and match with another device that is close to it or within its range.

How to Design a Bluetooth Low Energy PCB Circuit Board ?

Designing a new Bluetooth product, or any wireless product, can be somewhat challenging for the inexperienced. This is primarily due to the complexity of the PCB layout for the RF (radio frequency) section. Fortunately, in BLE microchips, most of the RF circuitry is internal, so you don't need to worry about much more than the layout for the antenna.

Bluetooth Low Energy is a very popular open wireless standard for short-range communication. The range is typically about 50 feet, although this can be significantly increased with the use of a range extender circuit that either increases the receiver sensitivity, increases the transmission power, or both.

As the name implies, Bluetooth LE is a low-energy version of "classic" Bluetooth and thus is more appropriate for ultra-small devices powered by a single watch battery. BLE is the primary wireless technology for Internet of Things (IoT) products.

Why Choose US?

After eight years of efforts, the company has formed a production scale with a monthly capacity of 40,000 square meters. The company's main products include 2-12 layer printed circuit boards, which are widely used in computer, communication, automobile, digital

products and other electronic industries, and are sold to domestic and foreign markets. The company's main customers are Gree, Midea, Vanward, CHIGO, Panasonic, MSI, ZTE, Logitech, Hisense and other well-known enterprises at home and abroad.

All products have passed the following certification,

1. Our company is approved by UL, TS16949, ISO-9001, and RoHS compliance.
3. The production process is strictly controlled according to QC080000 standard.
4. Purchasing and processing of raw materials meet the requirements of RoHS and WEEE directives.

Focus on PCB manufacturing for 8 years. Experienced and trustworthy

1. Jinghongyi PCB is a leading circuit board manufacturer in China.
2. We have a group of high-quality R&D team and professional management personnel to provide you with better service.

Large-scale production with monthly output of up to 40,000 square meters. Product quality and timely delivery are guaranteed.

1. We have advanced production equipment and testing technology, such as fully automatic gold sinking line, fully automatic copper sinking line, fully automatic plating line, fully automatic CNC drilling machine and other fully automatic production lines.
2. Production capacity of 40,000 square meters per month

24-hour rapid prototyping, 7-day on-time delivery, with guaranteed delivery service

1. Price response within one hour and 24-hour round-the-clock service
2. 24-hour expert-level technical support and all-weather production operation
3, 24-hour rapid prototyping to provide you with on-time delivery time

The product of the same quality, Jinghongyi PCB, provides more affordable price and better performance-price ratio.

1. Reducing cost by mass purchasing and batch production

2. Let you enjoy the price lower than that of the same industry and the quality higher than that of the same industry.

Relevant Reading: Bluetooth Circuit Board Design Guidelines