

QIYQTIG JDY-19

QIYQTIG JDY-19 Ultra Low Power BLE 4.2 Module User Manual

Model: JDY-19

1. INTRODUCTION

This manual provides essential instructions for the proper setup, operation, and maintenance of the QIYQTIG JDY-19 Ultra Low Power BLE 4.2 Module. This module is designed for transparent data transmission over Bluetooth Low Energy (BLE) 4.2, operating in the 2.4GHz frequency band. Please read this manual thoroughly before using the module to ensure optimal performance and safety.

2. PRODUCT OVERVIEW

The JDY-19 is a compact Bluetooth 4.2 module engineered for applications requiring low power consumption and reliable wireless serial communication. It facilitates transparent data transfer, allowing devices to communicate wirelessly as if connected by a serial cable. Its small form factor and integrated antenna make it suitable for various embedded projects.

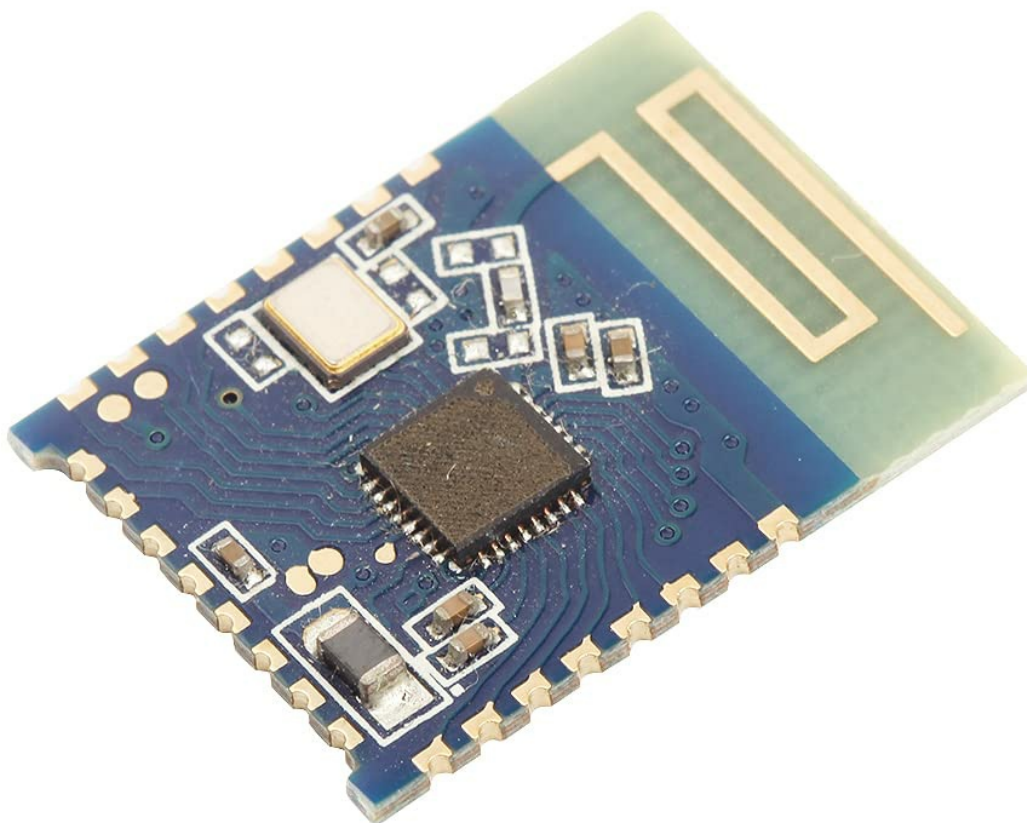


Image 2.1: Top view of the JDY-19 BLE 4.2 Module. This image displays the module's integrated components, including the main processing chip, crystal oscillator, and the PCB antenna trace, all mounted on a blue circuit board with gold-plated castellated pins along the edges.

3. FEATURES

- Based on Bluetooth Low Energy (BLE) 4.2 protocol standard.
- Ultra-low power consumption for extended battery life in portable applications.
- Supports transparent serial port data transmission.
- Operates in the 2.4GHz ISM frequency band.
- Compact design suitable for integration into various electronic projects.

4. SPECIFICATIONS

Parameter	Value
Model	JDY-19
Bluetooth Standard	BLE 4.2

Parameter	Value
Working Frequency Band	2.4GHz
Transmission Type	Transparent Serial Port
Power Consumption	Ultra Low Power

5. PINOUT AND CONNECTION

The JDY-19 module typically features castellated pins for easy integration onto a PCB or breadboard. While a specific pinout diagram is not provided in this document, common connections for a serial BLE module include:

- **VCC:** Power supply input (e.g., 3.3V). Refer to the module's datasheet for exact voltage requirements.
- **GND:** Ground connection.
- **TXD (Transmit Data):** Serial data output from the module. Connect to the RXD pin of your host microcontroller.
- **RXD (Receive Data):** Serial data input to the module. Connect to the TXD pin of your host microcontroller.
- **STATE (Optional):** An indicator pin that may show connection status (e.g., high when connected, low when disconnected).

Always consult the official JDY-19 datasheet or manufacturer's documentation for the precise pinout and electrical characteristics before making any connections.

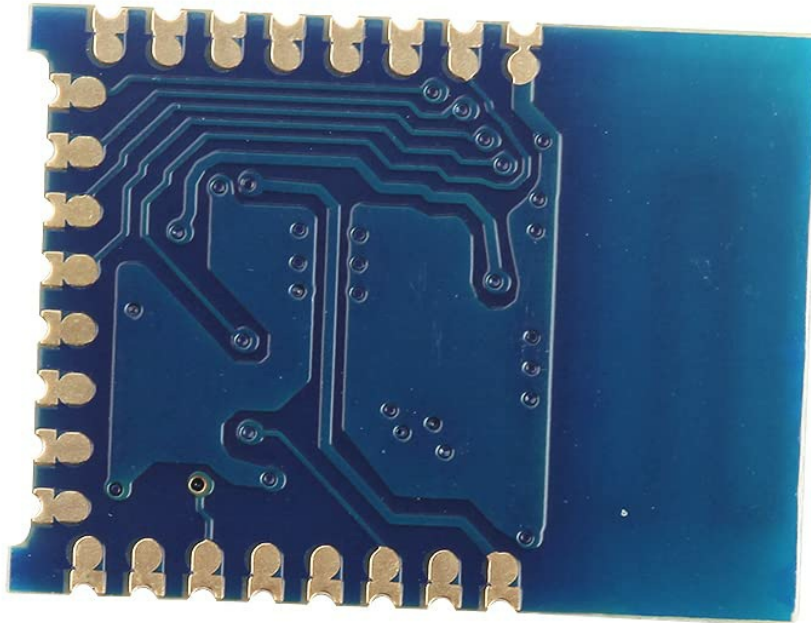


Image 5.1: Bottom view of the JDY-19 BLE 4.2 Module. This image shows the underside of the module, highlighting the solder pads for the castellated pins, which are used for mounting and electrical connections to a host board.

6. SETUP AND OPERATION

6.1 Initial Setup

1. **Power Connection:** Connect the VCC pin to the appropriate power supply (e.g., 3.3V) and GND to ground. Ensure the power supply is stable and within the module's specified voltage range.
2. **Serial Connection:** Connect the module's TXD pin to your microcontroller's RXD pin, and the module's RXD pin to your microcontroller's TXD pin. Ensure both devices share a common ground.
3. **Baud Rate:** The module typically operates at a default baud rate (e.g., 9600 bps). Configure your host device's serial port to match this baud rate for proper communication.

6.2 Transparent Data Transmission

Once powered and connected, the JDY-19 module functions as a transparent serial bridge. This means any data sent to its RXD pin will be transmitted wirelessly via BLE, and any data received wirelessly will be output through its TXD pin.

- **Pairing:** On your smartphone or other BLE-enabled device, scan for available Bluetooth devices. The JDY-19 module should appear with a default name (e.g., "JDY-19"). Select and connect to it. No

pairing code is typically required for transparent modules unless configured otherwise.

- **Data Exchange:** After a successful connection, open a serial terminal application on your host device (e.g., microcontroller) and a BLE serial terminal application on your smartphone. Any data typed into one terminal will appear on the other, demonstrating transparent communication.
- **Configuration (if applicable):** Some JDY-19 modules may support AT commands for changing parameters like device name, baud rate, or power mode. Refer to the specific module's datasheet for details on AT command usage if advanced configuration is required.

7. TROUBLESHOOTING

- **Module Not Powering On:** Verify VCC and GND connections. Ensure the power supply voltage is correct and stable.
- **No Bluetooth Device Found:** Ensure the module is powered on. Check if other BLE devices are discoverable. Try resetting the module by cycling power.
- **Unable to Connect:** Ensure only one device is attempting to connect at a time. Check for interference from other 2.4GHz devices.
- **No Data Transmission:**
 - Verify TXD/RXD connections are correct (TX to RX, RX to TX).
 - Confirm that the baud rate settings on both the module and the host device match.
 - Check if the module is successfully connected to the remote BLE device.
- **Intermittent Connection:** Ensure the module is within range of the connected device. Avoid physical obstructions and sources of electromagnetic interference.

8. MAINTENANCE

The JDY-19 module is a robust electronic component designed for long-term operation with minimal maintenance. Follow these guidelines:

- **Environmental Conditions:** Operate the module within its specified temperature and humidity ranges. Avoid extreme conditions.
- **Cleaning:** If necessary, gently clean the module with a dry, soft cloth. Do not use liquids or abrasive cleaners.
- **Handling:** Handle the module with care to prevent physical damage to components or solder joints. Avoid static discharge by using appropriate ESD precautions.
- **Firmware Updates:** If firmware updates are available from the manufacturer, follow their instructions carefully. Incorrect updates can render the module inoperable.

9. WARRANTY AND SUPPORT

For specific warranty information and technical support regarding your QIYQTIG JDY-19 module, please refer to the product packaging or contact your point of purchase. Keep your purchase receipt as proof of purchase. General support may be available through the manufacturer's website or authorized distributors.

