

CB3S

# Instruction Manual

## CB3S Wi-Fi & BLE DUAL MODE MODULE SMD

Brand: Generic | Model: CB3S

### 1. Introduction

This manual provides essential information for the proper use, setup, and maintenance of the Generic CB3S Wi-Fi & BLE Dual Mode Module. The CB3S is a compact Surface Mount Device (SMD) designed for integration into various electronic systems requiring wireless communication capabilities.

### 2. Key Features

- **Dual Mode Connectivity:** Supports both Wi-Fi and Bluetooth Low Energy (BLE) for versatile wireless communication.
- **Compact SMD Design:** Facilitates easy integration into space-constrained applications.
- **Low Power Consumption:** Optimized for energy-efficient operation.
- **Wide Application Range:** Suitable for IoT devices, smart home systems, industrial control, and more.

### 3. Product Overview



*Figure 1: Top view of the CB3S module. This image displays the compact size of the module, with the main chip visible, along with the "Model CB3S" text and a CE certification mark.*

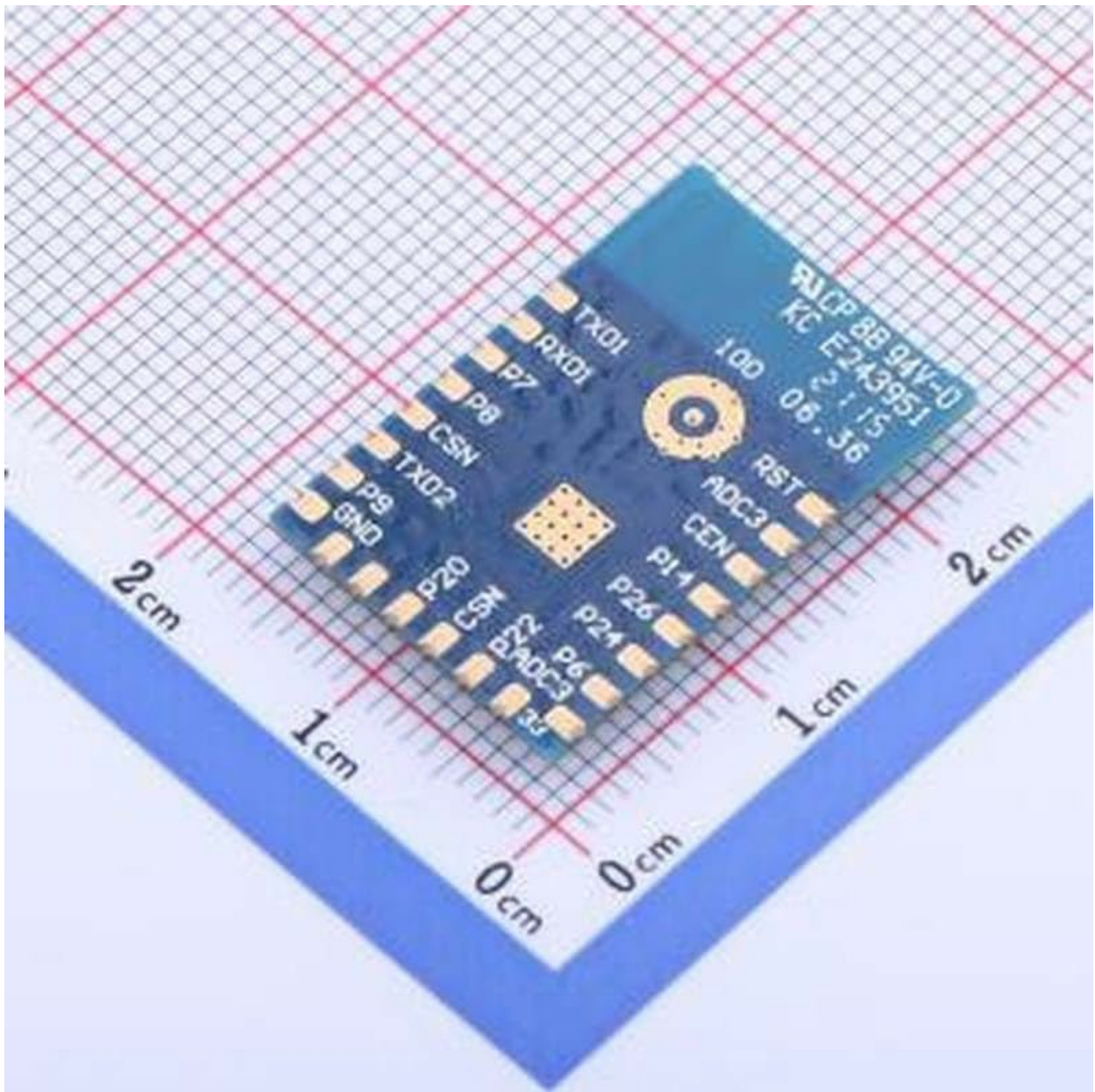


Figure 2: Bottom view of the CB3S module. This image shows the solder pads and pin labels such as TX01, RX01, P7, P8, CSN, TX02, P9, GND, P20, P22, BA0C3, P24, P26, P14, CEN, ADC3, RST, and a central antenna pad, overlaid on a grid for scale.

## 4. Setup and Integration

The CB3S module is designed for Surface Mount Technology (SMT) assembly. Proper soldering techniques are crucial for reliable operation. Consult the module's datasheet for detailed pinout diagrams, recommended footprint, and soldering profiles.

### 4.1. Power Supply

Ensure the power supply voltage and current meet the module's specifications. Refer to the *Specifications* section for details. Stable power is critical for Wi-Fi and BLE performance.

### 4.2. Antenna Connection

The module typically includes an integrated antenna or provides an external antenna connector. For optimal wireless performance, ensure the antenna is not obstructed and is placed away from metallic objects.

### 4.3. Data Interface

The CB3S module communicates via standard interfaces such as UART, SPI, or I2C. Connect the module's data pins to your host microcontroller or processor according to your application's design. Verify correct voltage levels for data lines.

## 5. Operating Instructions

Once integrated and powered, the CB3S module can be controlled via AT commands or a dedicated SDK, depending on its firmware. Refer to the module's programming guide or SDK documentation for specific instructions on:

- Initializing Wi-Fi connection (station mode, access point mode).
- Scanning for Wi-Fi networks.
- Establishing BLE connections (advertiser, scanner, GATT client/server).
- Sending and receiving data over Wi-Fi/BLE.
- Firmware updates.

*Note: Specific commands and procedures depend on the firmware loaded onto the module.*

## 6. Specifications

The following table outlines the general specifications for the CB3S module. For detailed electrical characteristics and environmental ratings, consult the official datasheet.

Attribute	Value
Model	CB3S
Connectivity	Wi-Fi, Bluetooth Low Energy (BLE)
Form Factor	SMD (Surface Mount Device)
Manufacturer	Generic
ASIN	B0F18FTKML
Date First Available	March 12 2025

## 7. Maintenance and Care

The CB3S module is a robust electronic component, but proper handling and environmental conditions are essential for its longevity.

- **Handling:** Always handle the module by its edges to avoid damaging components or solder pads. Use anti-static precautions when handling.
- **Environment:** Operate and store the module within its specified temperature and humidity ranges. Avoid exposure to extreme temperatures, moisture, dust, or corrosive substances.
- **Cleaning:** If necessary, clean the module gently with a soft, dry, lint-free cloth. Do not use harsh chemicals or abrasive materials.
- **Firmware Updates:** Regularly check for and apply firmware updates from the manufacturer or solution provider to ensure optimal performance and security.

## 8. Troubleshooting

This section addresses common issues you might encounter with the CB3S module.

### 8.1. Module Not Powering On

- **Check Power Supply:** Verify that the power supply voltage and current meet the module's requirements.
- **Check Connections:** Ensure all power and ground connections are secure and correctly soldered.
- **Polarity:** Confirm correct power polarity.

### 8.2. Wi-Fi/BLE Connectivity Issues

- **Antenna:** Ensure the antenna is properly connected (if external) and not obstructed.
- **Signal Strength:** Check the distance to the access point or BLE device. Reduce interference from other electronic devices.
- **Firmware:** Ensure the module's firmware is up-to-date and correctly configured for the desired network.
- **Network Credentials:** Double-check Wi-Fi SSID and password.

### 8.3. Communication Errors (UART/SPI/I2C)

- **Wiring:** Verify all data lines (TX, RX, CLK, MOSI, MISO, etc.) are correctly connected to the host controller.
- **Voltage Levels:** Ensure voltage levels are compatible between the module and the host.
- **Baud Rate/Clock Speed:** Confirm that communication parameters (e.g., baud rate for UART, clock speed for SPI/I2C) are correctly set on both ends.

## 9. Warranty Information

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Specific warranty details for the Generic CB3S module are typically provided by the seller or manufacturer at the time of purchase. Please refer to your purchase documentation or contact the seller directly for information regarding warranty coverage, terms, and conditions.

## 10. Support

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For technical support, detailed datasheets, programming guides, or further assistance with the CB3S module, please refer to the resources provided by the manufacturer or your supplier. Online forums and communities dedicated to similar modules may also offer valuable insights and solutions.