E101-C3MN4-PS
E101-C3MN4-XS
Development Board User Manual



Chengdu Ebyte Electronic Technology Co.,Ltd.

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Note :

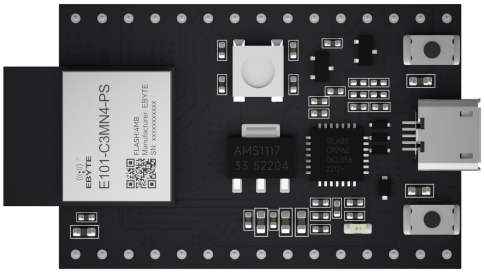
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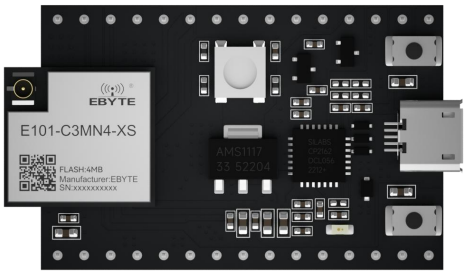
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1 Overview

1.1 Product introduction



E101-C3MN4-PS-TB



E101-C3MN4-XS-TB

E101-C3MN4-PS-TB and E101-C3MN4-XS-TB are two entry-level development boards for developing and testing small-sized E101-C3MN4-PS & E101-C3MN4-XS modules.

This group of development boards has complete Wi-Fi and Bluetooth low energy functions, and most of the pins of the modules on the board have been led out to the pin headers on both sides. Developers can easily connect various peripherals through jumpers according to actual needs. The device can also be used by plugging the development board into the breadboard.

1.2 Parameters

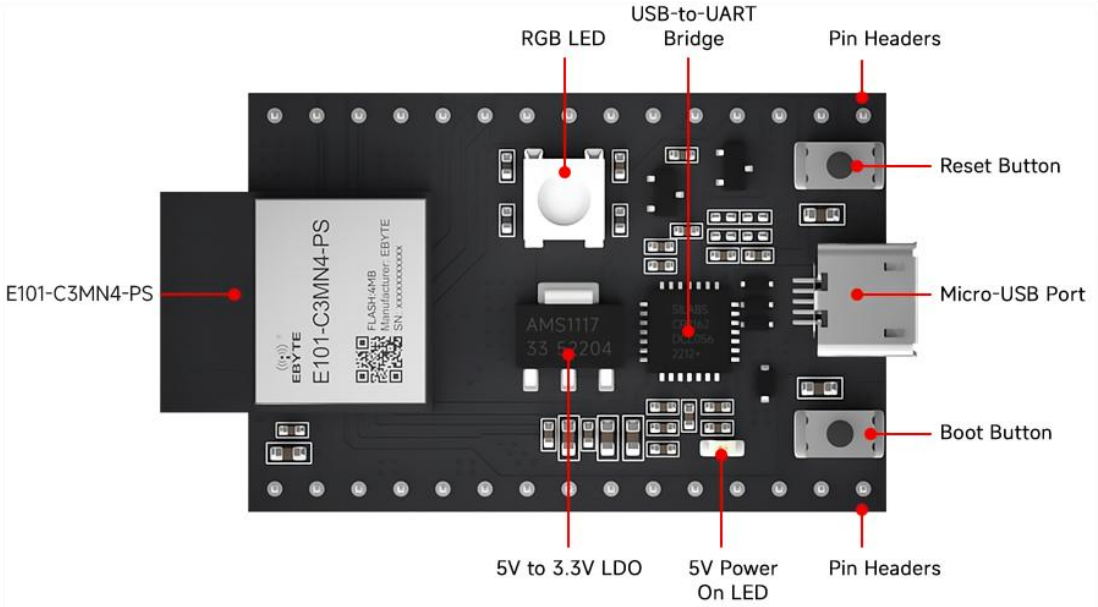
NO.	Name	Value	Notes
1	Support module	E101-C3MN4-PS E101-C3MN4-XS	WiFi serial module
2	Module size	38.91 * 25.4mm	Including USB connector
3	Production Process	Lead-free process, machine sticker	Wireless products must be machine-mounted to ensure batch consistency and reliability
4	Power supply interface	USB	-
5	Communication Interface	TTL	-
6	Operating temperature	-40 ~ +85℃	Industrial grade
7	Working humidity	10% ~ 90%	Relative humidity, non-condensing
8	Storage temperature	-40 ~ +125℃	Industrial grade

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2. Components introduction

2.1 Components and interfaces



2 Main component diagram

No.	Name	Functions
1	E101-C3MN4-PS & E101-C3MN4-PS U	E101-C3MN4-PS & E101-C3MN4-PS U are general-purpose Wi-Fi and Bluetooth low energy dual-mode modules with PCB onboard antennas. This module integrates the ESP32-C3FN4 chip with 4 MB embedded flash. Since the flash is directly packaged in the chip, the E101-C3MN4-PS module has a smaller package size.
2	5V to 3.3V LDO	Power converter, input 5 V, output 3.3 V.
3	5 V power indicator	This indicator lights up when the board is connected to USB power.
4	Pin	All available GPIO pins (except the flash's SPI bus) have been routed to the board's pin headers. Please see pin headers for more information.
5	Boot key	Download button. Hold down the Boot key and press the Reset key to enter the "Firmware Download" mode, and download the firmware through the serial port.
6	Micro-USB interface	USB interface. It can be used as the power supply for the development board or as the communication interface between the PC and the ESP32-C3FN4 chip.
7	Reset key	Reset button.
8	USB to UART bridge	Single-chip USB to UART bridge providing transfer rates up to 1 Mbps.
9	RGB LED	Addressable RGB LED, driven by GPIO8.

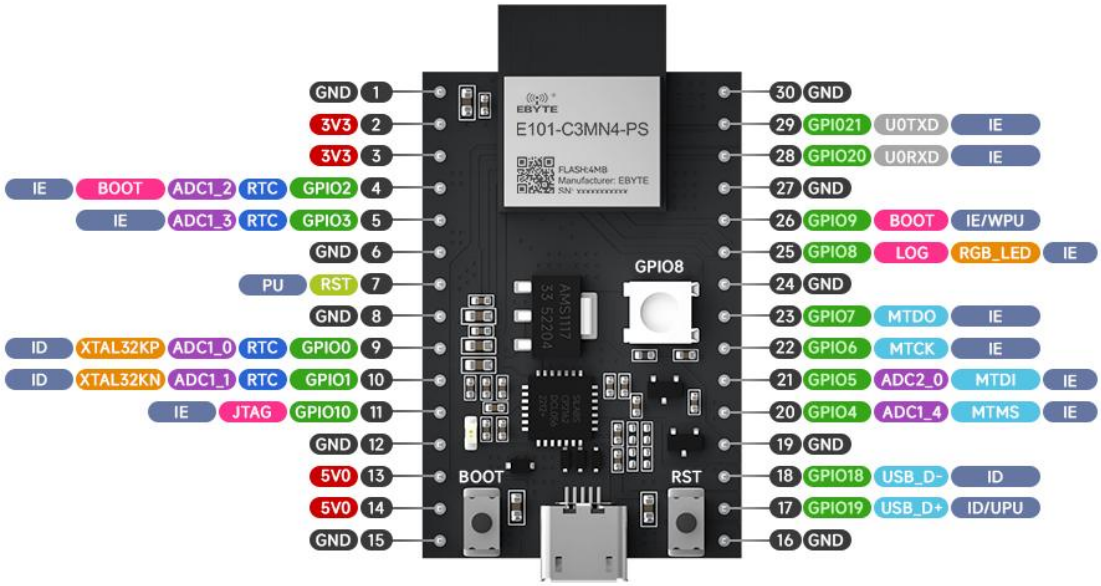
Note: For specific function instructions, please refer to the user manual of E101-C3MN4-PS & E101-C3MN4-PS U.

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2.2 Pin Definition

The following positive illustration shows the E101-C3MN4-PS-TB as an example:



Current test interface diagram

NO.	Name	Type	Functions
GND	G	ground	
2	3V3	P	3.3V power supply
3	3V3	P	3.3V power supply
4	IO2	I/O/T	GPIO2, ADC1_CH2, FSPIQ
5	IO3	I/O/T	GPIO3, ADC1_CH3
6	GND	G	ground
7	RST	I	CHIP_PU
8	GND	G	ground
9	IO1	I/O/T	GPIO1, ADC1_CH1, XTAL_32K_N
10	IO1	I/O/T	GPIO1, ADC1_CH1, XTAL_32K_N
11	IO10	I/O/T	GPIO10, FSPICS0
12	GND	G	ground
13	5V	P	5V power supply
14	5V	P	5V power supply
15	GND	G	ground
16	GND	G	ground
17	IO19	I/O/T	GPIO19
18	IO18	I/O/T	GPIO18
19	GND	G	ground
20	IO4	I/O/T	GPIO4, ADC1_CH4, FSPIHD, MTMS
21	IO5	I/O/T	GPIO5, ADC2_CH0, FSPIWP, MTDI
22	IO6	I/O/T	GPIO6, FSPICLK, MTCK

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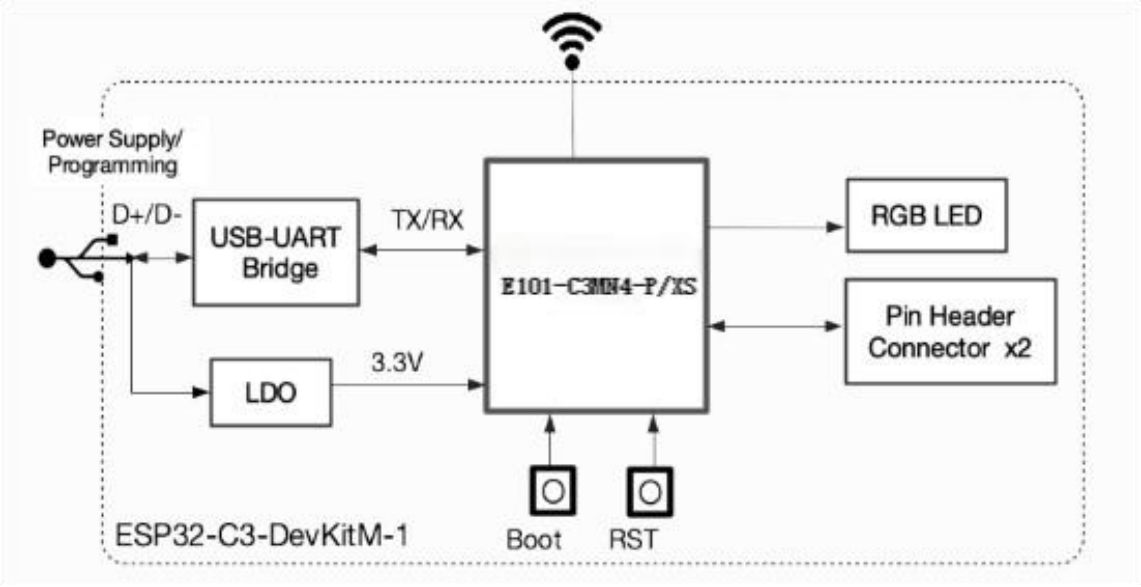
23	IO7	I/O/T	GPIO7, FSPID, MTDO
24	GND	G	ground
25	IO8	I/O/T	GPIO8, RGB LED
26	IO9	I/O/T	GPIO9
27	GND	G	ground
28	RX	I/O/T	GPIO20, U0RXD
29	TX	I/O/T	GPIO21, U0TXD
30	GND	G	ground

Notes:

1. P: power supply ; I: input; O: output; T: can be set to high impedance.
2. GPIO2, GPIO8, and GPIO9 are the strapping pins of the ESP32-C3FN4 chip. During chip power-on and system reset, the strapping pin controls the chip function according to the binary voltage value of the pin. For the specific description and application of the strapping pins, please refer to the chapter on strapping pins in the ESP32-C3 chip manual .
3. The power supply mode is Micro-USB interface power supply (default), 5V and GND pin header power supply, 3V3 and GND pin header power supply.

2.3 Function introduction

E101-C3MN4-PS-TB&E101-C3MN4-XS-TB The main components and connection methods are shown in the following diagram:



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3 Program Burning Guide

- Before powering on, make sure the E101-C3MN4-PS-TB & E101-C3MN4-XS-TB are intact.
- Tools to prepare: E101-C3MN4-PS-TB or E101-C3MN4-XS-TB, USB 2.0 cable (Standard A to Micro-B , computer -Windows, Linux or macOS. Please make sure to use Appropriate USB cables, some cables are for charging only, not for data transfer and programming.
- Connect the USB data cable, and burn the program from computer software;

4 Revision History

Version	revision date	Revision Notes	Name
1.0	2022-10-27	initial version	Hao
1.1	2023-11-6	Content correction	Hao

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