EWT73 Series User Manual

Test suite



Chengdu Ebyte Electronic Technology Co.,Ltd.

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1.Development Board Hardware Introduction

1.1.Overview

The EWT73 series development board is developed by Chengdu Yibite Electronic Technology Co., Ltd. based on the E73-M series modules. This series of modules is developed using the original imported chips from the Norwegian NORDIC company. The development board has complete module functions, and most of the module pins on the board have been led out to the pin headers on both sides. Developers can easily connect a variety of peripheral devices through jumpers according to actual needs, and the development board can also be plugged into a breadboard for use.

1.2.Parameter Introduction

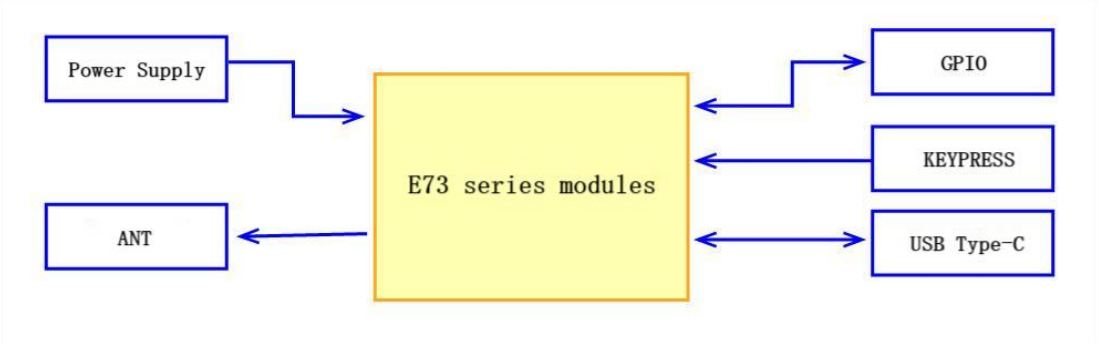
model / parameter	EWT73-2G4M04S1A	EWT73-2G4M04S1B	EWT73-2G4M04S1D	EWT73-2G4M08S1C	EWT73-2G4M08S1E
Physical product					
Modules①	E73-2G4M04S1A	E73-2G4M04S1B	E73-2G4M04S1D	E73-2G4M08S1C	E73-2G4M08S1E
chip	Nrf52810	Nrf52832	Nrf52822	Nrf52840	Nrf52833
Support Agreement	BLE4.2/5.0	BLE4.2/5.0	BLE4.2/5.0	BLE4.2/5.0	BLE5.1
FLASH	192KB	512KB	256KB	1024KB	512KB
RAM	24KB	64KB	16KB	256KB	128KB
Kernel	ARM CORTEX-M4	ARM CORTEX-M4	ARM CORTEX M0	ARM CORTEX-M4	ARM CORTEX-M4
size	60*34mm	60*34mm	60*34mm	60*34mm	60*34mm
Operating temperature②	-40 ~ +85℃	-40 ~ +85℃	-40 ~ +85℃	-40 ~ +85℃	-40 ~ +85℃
Operating humidity③	10% ~ 90%RH	10% ~ 90%RH	10% ~ 90%RH	10% ~ 90%RH	10% ~ 90%RH
Production process④	Lead-free process, machine mounting	Lead-free process, machine mounting	Lead-free process, machine mounting	Lead-free process, machine mounting	Lead-free process, machine mounting

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Note:①Bluetooth module;②Industrial grade;③Relative humidity, no condensation;④ Wireless products must be machine-mounted to ensure batch consistency and reliability.

1.3.Principle

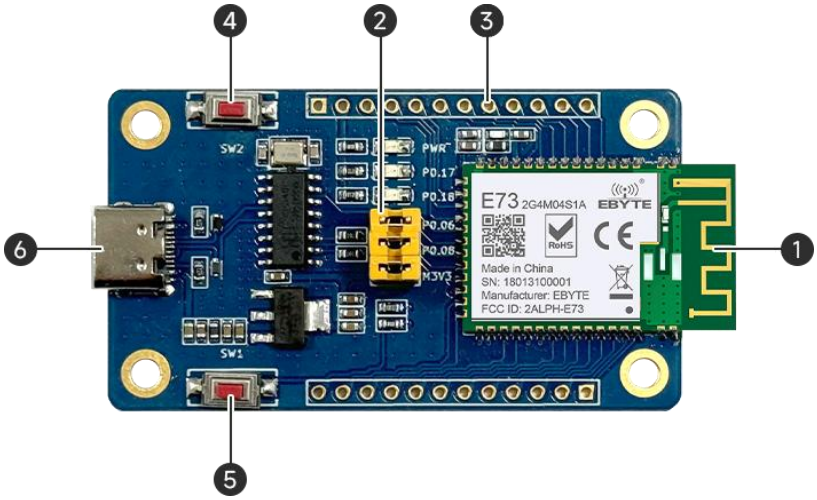


EWT73 series development board principle block diagram

2.Functional Description

2.1.Component Introduction

2.1.1 EWT73-2G4M04S1A&EWT73-2G4M04S1B



This development board takes E73-2G4M04S1A as an example. The two development boards only differ in the modules.

Serial	Main firmware	introduce

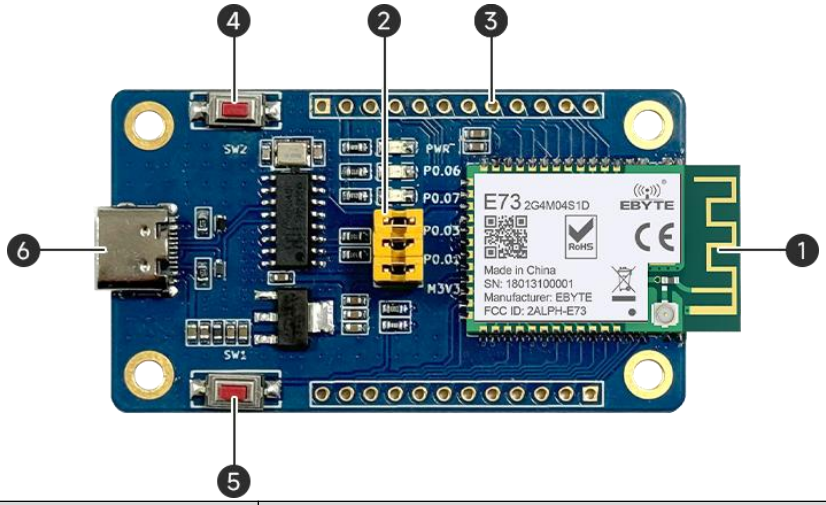
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number		
1	E73-2G4M04S1A&E73-2G4M04S1B	E73-2G4M04S1AandE73-2G4M04S1B is a RF transceiver and protocol stack with a high-performance ARM CORTEX-M4F core and Bluetooth 4.2 and Bluetooth 5.0Bluetooth module,It has abundant peripheral interfaces.
2	5 V to 3.3 V LDO	Module power supply jumper cap and TXD and RXD jumper caps
3	Pin Header	All available GPIO pins are broken out to the board's pin headers. See Pin Headers for more information.
4	SW2 button	Customer customized button development
5	SW1 button	Customer customized button development
6	USB to UART interface	Type-CThe USB interface can be used as the power supply interface of the development board, can be used to burn firmware to the chip, and can also be used as a communication interface to communicate with the chip through the onboard USB to UART bridge.

Note: For specific function instructions, please refer to the user manual of E73-2G4M04S1A&E73-2G4M04S1B.

2.1.2 EWT73-2G4M04S1D



Serial number	Main firmware	introduce
1	EWT73-2G4M04S1D	E73-2G4M04S1D is a small-sized, low-power Bluetooth module developed by Ebyte, comes with high-performance PCB onboard antenna and IPEX antenna base,It has abundant peripheral interfaces.
2	5 V to 3.3 V LDO	Module power supply jumper cap and TXD and RXD jumper caps

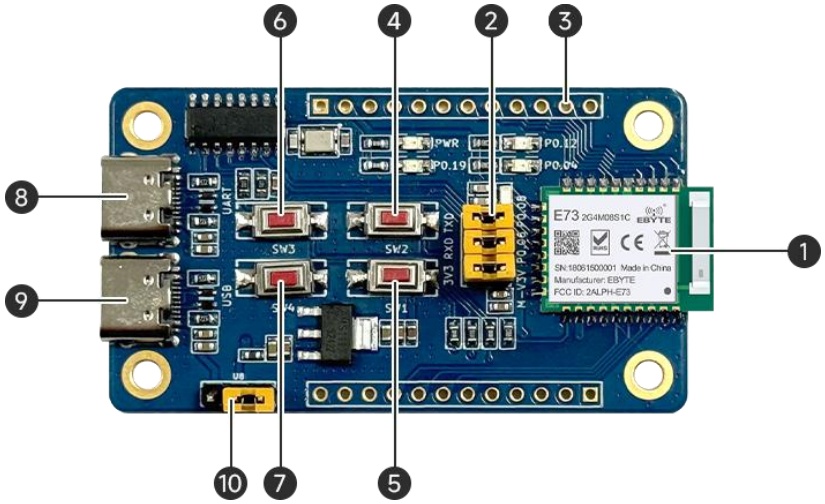
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3	Pin Header	All available GPIO pins are broken out to the board's pin headers. See Pin Headers for more information.
4	SW2 button	Customer customized button development
5	SW1 button	Customer customized button development
6	USB to UART interface	Type-CThe USB interface can be used as the power supply interface of the development board, can be used to burn firmware to the chip, and can also be used as a communication interface to communicate with the chip through the onboard USB to UART bridge.

Note: For specific function instructions, please refer to the user manual of EWT73-2G4M04S1D.

2.1.3 EWT73-2G4M08S1C&EWT73-2G4M08S1E



This development board takes EWT73-2G4M08S1C as an example. The two development boards only differ in the modules.

Serial number	Main firmware	introduce
1	EWT73-2G4M08S1C&EWT73-2G4M08S1E	EWT73-2G4M08S1CandEWT73-2G4M08S1E isBoth are small-sized, low-power, multi-protocol Bluetooth modules developed by Ebyte, using 32M industrial-grade crystal oscillators and having rich peripheral resources such as UART, I2C, SPI, ADC, DMA, PWM, etc.
2	5 V to 3.3 V LDO	Module power supply jumper cap and TXD and RXD jumper caps
3	Pin Header	All available GPIO pins are broken out to the board's pin headers. See Pin Headers for more information.
4	SW2 button	Customer customized button development
5	SW1 button	Customer customized button development
6	SW3 button	Customer customized button development

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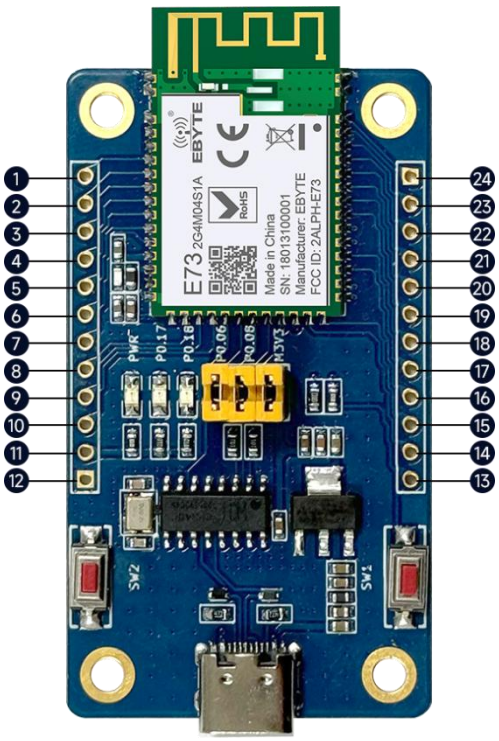
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7	SW4 button	Customer customized button development
8	USB to UART interface	Type-CThe USB interface can be used as the power supply interface of the development board, can be used to burn firmware to the chip, and can also be used as a communication interface to communicate with the chip through the onboard USB to UART bridge.
9	USB interface	Type-CThe USB interface can be used as the power supply interface of the development board, can be used to burn firmware to the chip, and can also be used as a communication interface.
10	USB and UARTJumper cap	Used to switch the transmission mode between USB and UART

Note: For specific function instructions, please refer to the user manual of EWT73-2G4M08S1C&EWT73-2G4M08S1E.

2.2.Pin Definition

2.2.1 EWT73-2G4M04S1A&EWT73-2G4M04S1B



This development board takes E73-2G4M04S1A as an example. The two development boards only differ in the modules.

Pin number	Pin Name	Pin Type	Pin Purpose
1	P0.25	I/O	MCU GPIO

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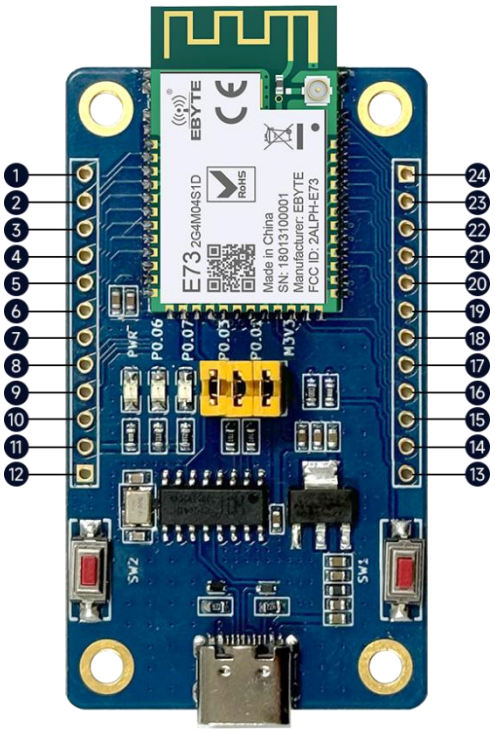
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2	P0.26	I/O	MCU GPIO
3	P0.27	I/O	MCU GPIO
4	P0.28	I/O	MCU GPIO
5	P0.29	I/O	MCU GPIO
6	P0.30	I/O	MCU GPIO
7	P0.31	I/O	MCU GPIO
8	P0.02	I/O	MCU GPIO
9	P0.03	I/O	MCU GPIO
10	P0.04	I/O	MCU GPIO
11	3.3V	-	Power supply, 1.8 ~ 3.6V DC (Note: voltage higher than 3.6V will cause permanent damage to the module)
12	GND	-	Ground wire, connected to the power reference ground
13	P0.11	I/O	MCU GPIO
14	P0.12	I/O	MCU GPIO
15	P0.15	I/O	MCU GPIO
16	P0.16	I/O	MCU GPIO
17	P0.19	I/O	MCU GPIO
18	P0.20	I/O	MCU GPIO
19	P0.21	I/O	MCU GPIO
20	SWCLK	I/O	Serial Wire Debug clock input for debugging and programming
twenty one	SWDIO	I/O	Serial Wire Debug and Programming Debug
twenty two	P0.22	I/O	MCU GPIO
twenty three	P0.23	I/O	MCU GPIO
twenty four	P0.24	I/O	MCU GPIO

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2.2.2 EWT73-2G4M04S1D



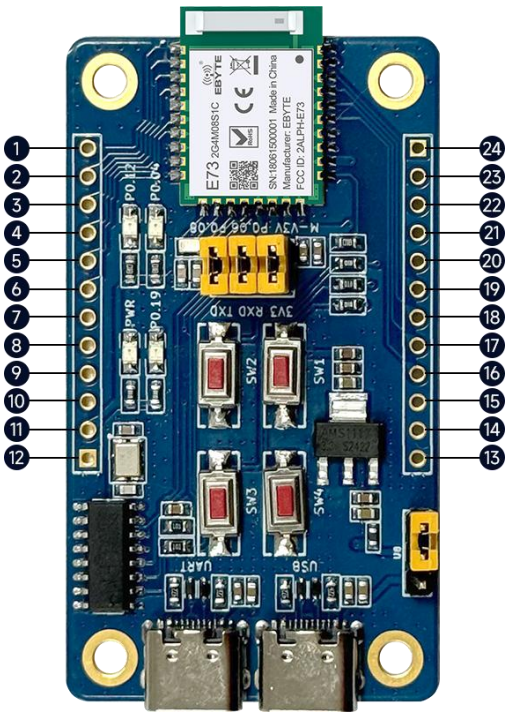
Pin number	Pin Name	Pin Type	Pin Purpose
1	P0.21	I/O	MCU GPIO
2	P0.22	I/O	MCU GPIO
3	P0.23	I/O	MCU GPIO
4	P0.24	I/O	MCU GPIO
5	P0.25	I/O	MCU GPIO
6	P0.28	I/O	MCU GPIO
7	P0.29	I/O	MCU GPIO
8	P0.30	I/O	MCU GPIO
9	P0.04	I/O	MCU GPIO
10	P0.05	I/O	MCU GPIO
11	GND	-	Ground wire, connected to the power reference ground
12	3.3V	-	Power supply, 2.1 ~ 3.6V DC (Note: voltage higher than 3.6V will cause permanent damage to the module)
13	GND	-	Ground wire, connected to the power reference ground
14	P0.10	I/O	MCU GPIO
15	P0.11	I/O	MCU GPIO
16	P0.12	I/O	MCU GPIO
17	P0.13	I/O	MCU GPIO
18	P0.14	I/O	MCU GPIO
19	P0.15	I/O	MCU GPIO
20	P0.16	I/O	MCU GPIO

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twenty one	SWDIO	I/O	Serial Wire Debug and Programming Debug
twenty two	SWCLK	I/O	Serial Wire Debug clock input for debugging and programming
twenty three	P0.17	I/O	MCU GPIO
twenty four	P0.18	I/O	MCU GPIO
25	P0.19	I/O	MCU GPIO
26	P0.20	I/O	MCU GPIO

2.2.3 EWT73-2G4M08S1C&EWT73-2G4M08S1E



This development board takes EWT73-2G4M08S1C as an example. The two development boards only have different modules and the same pin definitions.

Pin number	Pin Name	Pin Type	Pin Purpose
1	P1.11	I/O	MCU GPIO
2	P1.10	I/O	MCU GPIO
3	AIN1	I/O	MCU GPIO
4	AIN4	I/O	MCU GPIO
5	P1.13	I/O	MCU GPIO
6	AIN0	I/O	MCU GPIO
7	AIN5	I/O	MCU GPIO
8	AIN7	I/O	MCU GPIO
9	AIN6	I/O	MCU GPIO
10	P0.26	I/O	MCU GPIO
11	3.3V	-	Power supply, 3.3V DC (Note: voltage higher than 3.6V

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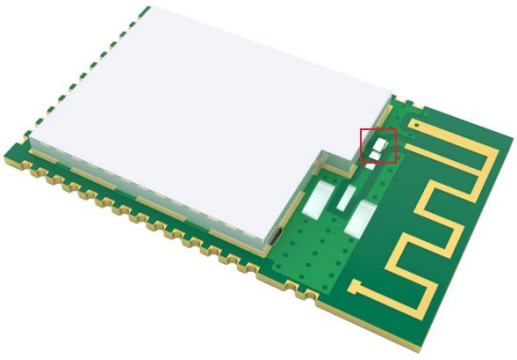
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			will cause permanent damage to the module)
12	GND	-	Ground wire, connected to the power reference ground
13	GND	-	Ground wire, connected to the power reference ground
14	GND	-	Ground wire, connected to the power reference ground
15	GND	-	Ground wire, connected to the power reference ground
16	P0.13	I/O	MCU GPIO
17	P0.24	I/O	MCU GPIO
18	SWDIO	I/O	Serial Wire Debug clock input for debugging and programming
19	SWCLK	I/O	Serial Wire Debug and Programming Debug
20	P0.22	I/O	MCU GPIO
twenty one	P1.00	I/O	MCU GPIO
twenty two	P1.02	I/O	MCU GPIO
twenty three	P1.04	I/O	MCU GPIO
twenty four	P1.06	I/O	MCU GPIO

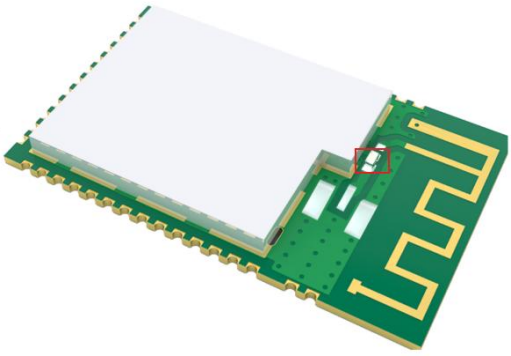
2.3Development Board Interface Description

2.3.1How to connect an external antenna

(1) EWT73-2G4M04S1A&EWT73-2G4M04S1BIPEX antenna base is reserved on thePad interfaceIf the user needs an external antenna, pleaseSolder the last matching capacitor of the module to the position in the circle in the figure below, and then solder an IPEX antenna socket. For details, see the antenna selection section in the corresponding module manual..



PCB Antenna(Default)

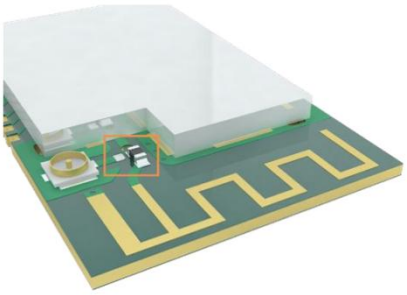


IPEX Antenna

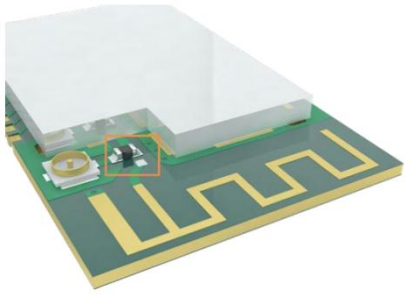
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(2) EWT73-2G4M04S1DIPEX antenna base is reserved on thePad interfaceIf the user needs an external antenna, pleaseSolder the last matching capacitor of the module to the position in the circle in the figure below, and then solder an IPEX antenna socket. For details, see the antenna selection section in the corresponding module manual..



PCB Antenna(Default)



IPEX Antenna

Revision History

Version	Revision Date	Revision Notes	Maintainer
1.0	2025-3-27	Initial release	All

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