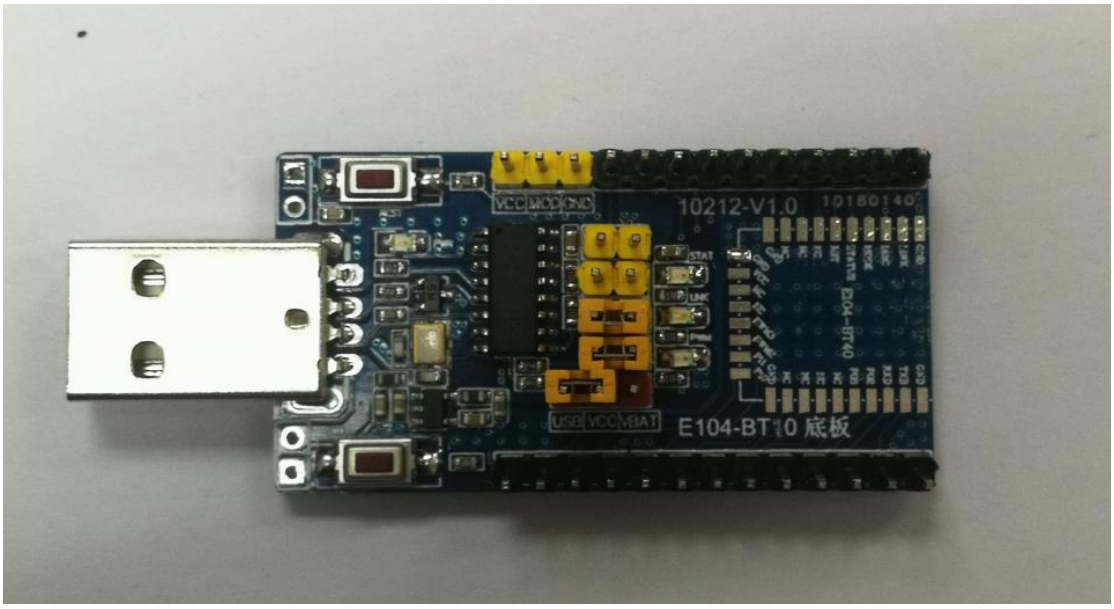
1. Introduction

1.1 Feature introduction

E104-BT40-TB backplane adopts USB interface, which can quickly test the E104-BT40 Bluetooth related features and functions.



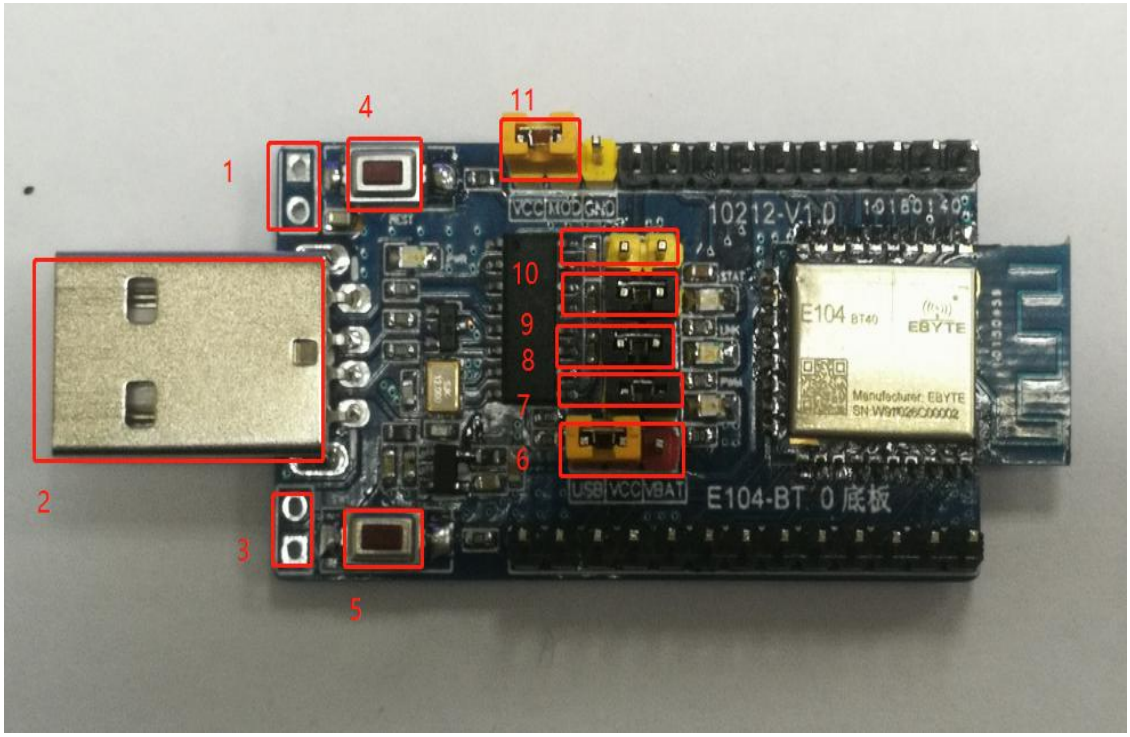
1.2 Electrical parameters

No.	Parameter name	Parameter value	Comment
1	Support module	E104-BT40	Dual-mode Bluetooth to serial port module
2	Module process		With USB connector
3	Production process	Lead-free process, SMT	Batch consistency and reliability are ensured via SMT

4	Power supply interface	USB or external power supply	-
5	Communication Interface	USB	
6	Operating temperature	-40~+85℃	Industrial grade
7	Operating humidity	10%~90%	Relative humidity, non-condensing
8	Storage temperature	-40~+125℃	Industrial grade

2.Function description

2.1 Pin definition



Pin No.	Pin name	Pin direction	Use
1	VBAT	Input	External 3.3V power supply
2	USB	Input	USB 5V power supply
3	+5V	Input	External 5V power supply, same as USB
4	RESET	Input	Reset pin
5	P10	Input	Test the P10 pin, press it for low level
6	VCC	-	Two alternative power supply modes: USB / 5V and VBAT
7	RX	Input	Serial data input
8	TX	Output	Serial data output
9	PWM2	Output	Output PWM2, connected to PWM LED
10	DISC	Input	Default pull-up input, the jumper cap is connected, and a falling edge is generated, that is, the connection is disconnected
11	MODE	Input	Low level switches to AT command mode, high level switches to data transparent transmission mode (effective when connected)）

2.2 Function test

Test function	Description
Transparent transmission test	The module acts as a slave, and a mobile phone, computer or other host module acts as a master to establish a Bluetooth master-slave connection to achieve transparent data transmission. 1. The module is connected to the computer USB. The 6-pin jumper cap is selected to be powered by USB. The 7-pin-RX and 8-pin-TX pins are respectively shorted with jumper caps, MOD, DISC is floating; 2. The module is connected to the computer USB interface, the power indicator is always on, the STAT indicator flashes at 1HZ, and the module is powered on normally. The module automatically enters the broadcast (BLE) or query scan status (SPP). After the host initiates the connection and establishes the connection, the STAT and LINK LED are always on, indicating that the Bluetooth connection is successful. 3. Open the serial port, the default baud rate is 115200, the data bit is 8, 1 stop bit, no parity bit, no flow control.
Disconnect	1. Establish a Bluetooth connection by according to transparent transmission test. 2. After the module is connected, the jumper cap is shorted to pin 10, that is, DISC, and the connection is disconnected
Parameter modification	1.The module is in the configuration mode when it is not connected, and the MODE pin is left floating. 2. Pull the MODE pin low to establish a connection and at this time it is in AT command

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	mode. 3. The MODE pin is left floating. After the module is connected, pull the MODE pin low and wait for about 200ms before the module enters the AT command mode; Pull the MODE pin high and wait for about 200ms, the module exits the AT command mode and switches to transparent transmission mode(MODE pin takes effect after connection) 4. After the module is disconnected, it is also in AT command mode
PWM test	Module is powered on, for example: AT + PWM2 = 100 command sets PWM2 output, observe that PWM LED is always on; AT + PWM2 = 50, PWM LED 1HZ frequency flashes
IO input test	The module is powered on, and this is the configuration mode. Send the command AT + P10 ?, the default result is high level, press the key corresponding to pin 5 and send the above command at the same time, the result is low level.

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