EWT104-BT15SP User Manual



成都亿佰特电子科技有限公司
Chengdu Ebyte Electronic Technology Co.,Ltd.

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Contents

Disclaimer and Copyright Notice 1
1 Overview 2
1.1 Product Introduction 2
1.2 Features 2
2 Hardware Description 3
2.1 Dimensions and Interface Definitions 3
2.2 Pin Definitions 3
3 FAQ 4
3.1 Poor Transmission Range 4
3.2 Module Damage 5
3.3 High Bit Error Rate 5
Revision History 5
About Us 5

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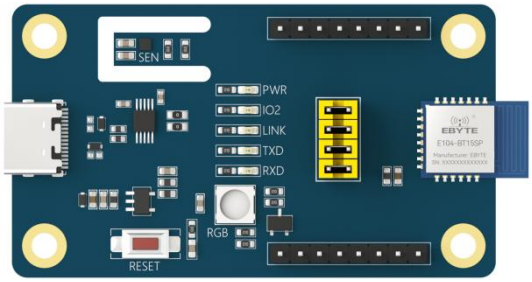
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1 Overview

1.1 Product Introduction

The EWT104-BT15SP is an evaluation kit designed by EBYTE for the E104-BT15SP module. It substantially shortens the development cycle. For detailed information about the E104-BT15SP, download the relevant documents from the official website.



EWT104-BT15SP

1.2 Features

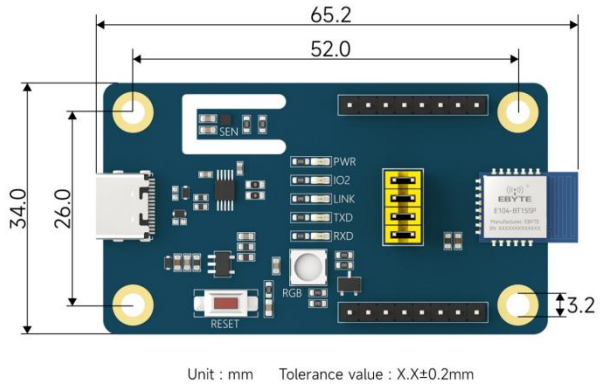
- Standard USB Type-C interface for plug-and-play operation;
- Rich onboard peripherals for convenient use;
- Integrated high-performance CH340X chip.

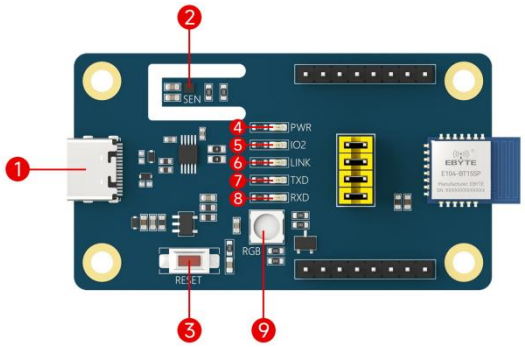
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2 Hardware Description

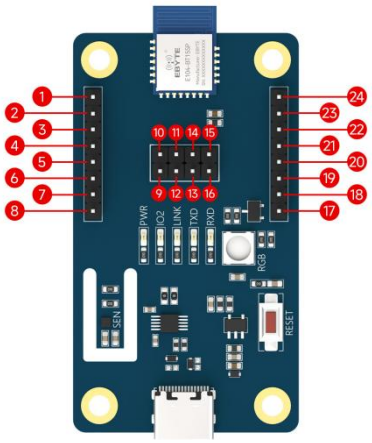
2.1 Dimensions and Interface Definitions





No.	Label	Description	Remarks
1	Type-C	DC 5.0 V power and communication interface	Standard USB Type-C interface; plug and play
2	SEN	Temperature and humidity sensor	HDC2010 sensor
3	RESET	Reset button	-
4	PWR	Power indicator	Steady on when power is normal
5	IO2	Indicator	-
6	LINK	Connection status indicator	-
7	TXD	UART transmit indicator	-
8	RXD	UART receive indicator	-
9	RGB	RGB indicator	WS2812E indicator

2.2 Pin Definitions



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Pin No.	Pin Name	Direction	Description
1	IO1	Output	Switch control or single-wire return-to-zero-code output
2	IO2	Output	Switch control or single-wire return-to-zero-code output
3	RESTORE	Input	Internally pulled up. Apply a falling edge and hold low for at least 5 s to restore all parameters to factory settings and restart the module automatically.
4	SWS	Input/Output	Programming pin
5	LINK	Output	Connection status output; high indicates an active connection
6	IO3	Output	Switch control or single-wire return-to-zero-code output
7	IO4	Output	Switch control or single-wire return-to-zero-code output
8	RESET	Input	Reset pin; active low
9	3.3V	Output	Power supply
10	WKP	-	Reserved; no connection required
11	RXD	Input	Module UART receive pin
12	TXD	Output	Onboard UART transmit pin
13	RXD	Input	Onboard UART receive pin
14	TXD	Output	Module UART receive pin
15	VCC	Input	Module power input
16	3.3V	Output	Power supply
17	GND	-	Power ground
18	GND	-	Power ground
19	PWM1	Output	PWM control pin
20	PWM2	Output	PWM control pin
21	PWM3	Output	PWM control pin
22	PWM4	Output	PWM control pin
23	SDA	Input/Output	I2C_SDA (serial data line)
24	SCL	Input/Output	I2C_SCL (serial clock line)

3 FAQ

3.1 Poor Transmission Range

- Temperature, humidity, and co-channel interference can increase the packet loss rate;
- The ground absorbs and reflects radio waves, so tests performed close to the ground yield poorer results;
- Seawater strongly absorbs radio waves, resulting in poor performance near the sea;
- Metal objects near the antenna, or installation inside a metal enclosure, can cause severe signal attenuation;
- At room temperature, a supply voltage below the recommended value reduces transmit power;
- The antenna may be poorly matched to the module or of insufficient quality.

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3.2 Module Damage

- Verify that the supply voltage is within the recommended range. Exceeding the maximum voltage can permanently damage the module;
- Ensure that the power supply is stable and does not fluctuate sharply or frequently;
- Use electrostatic-discharge protection during installation and operation, as RF components are sensitive to static electricity;
- Avoid excessive humidity during installation and operation, as some components are moisture-sensitive;
- Unless required by the application, avoid operating the module at extremely high or low temperatures.

3.3 High Bit Error Rate

- Co-channel interference may be present nearby. Move away from the source or change the frequency or channel;
- An unstable power supply can corrupt data. Ensure that the power source is reliable;
- Poor-quality or excessively long extension cables and feeder cables can also increase the bit error rate.

Revision History

Version	Revision Date	Description	Prepared by
1.0	2026-09-01	Initial release	Bin

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Hotline：4000-330-990

Technical support: service@cdebyte.com

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Address: B5 Mold Park, 199# Xiqu Ave, High-tech District, Sichuan, China

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