E51-WiSUN-TB User Manual



Chengdu Ebyte Electronic Technology Co.,Ltd.

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1. Module Introduction

1.1 Features

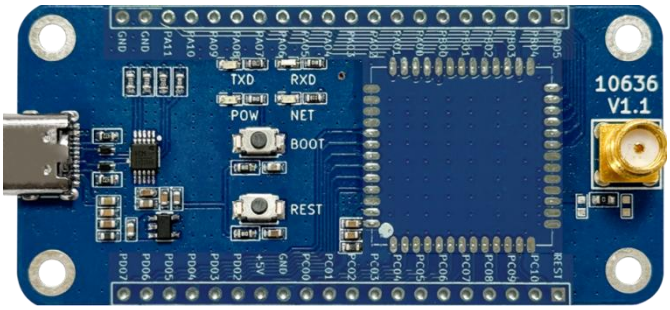


Figure 1 Physical Picture

E51-WiSUN-TB is a test board developed by Chengdu Ebyte Electronic Technology Co., Ltd. specifically for the E51 series Wi-Sun module launched by our company . Available pins have been brought out to the pin headers on both sides. Developers can easily connect a variety of peripheral devices through jumpers according to actual needs, which is convenient for developers to carry out secondary development.

1.2 Parameter Introduction

SN	Parameter name	Parameter Value	Notes
1	Support modules	E51-470NW16S(NR) E51-470NW16S(BR) E51-900NW16S(NR) E51-900NW16S(BR)	Wi-Sun Series Modules
2	Test board size	72*34mm	Error ±0.2mm
3	Production process	Lead-free process, SMT	Wireless products must be machine-mounted to ensure batch consistency and reliability
6	Operating temperature	-40 ~ +85℃	Industrial Grade
7	Operating humidity	10% ~ 90%	Relative humidity, non-condensing
8	Storage temperature	-40 ~ +125℃	Industrial Grade

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2. Functional Description

2.1 Component Introduction

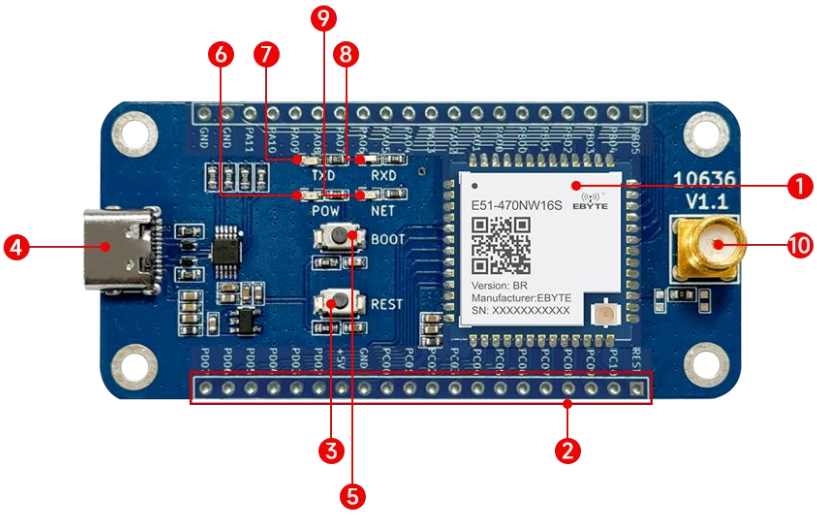


Figure 2 Main components diagram

SN	Main hardware	Introduce
1	E51-470NW16S(NR) E51-470NW16S(BR) E51-900NW16S(NR) E51-900NW16S(BR)	The E51 series modules are designed based on the EFR32FG25 series chip solution.
2	Pin Header	All available GPIO pins are broken out to the board's pin headers.
3	RESET button	Reset button.
4	Type-C USB port	USB interface , which can be used as the power supply of the development board or as the communication interface between the PC and the E51 series modules .
5	BOOT button	Firmware download button
6	POW Light	Power indicator
7	TXD lamp	Flashes when data is transmitted.
8	RXD Light	Flashes when receiving data
9	NET Lamp	Network connection status indicator
10	SMA	SMA antenna socket

For detailed function instructions, please refer to the E51-470NW16S(NR) , E51-470NW16S(BR) , E51-900NW16S(NR) , E51-900NW16S(BR) module user manual.

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2.2 Pin Definition

The following figure shows the dimensions and pin definition of E51-WiSUN-TB:

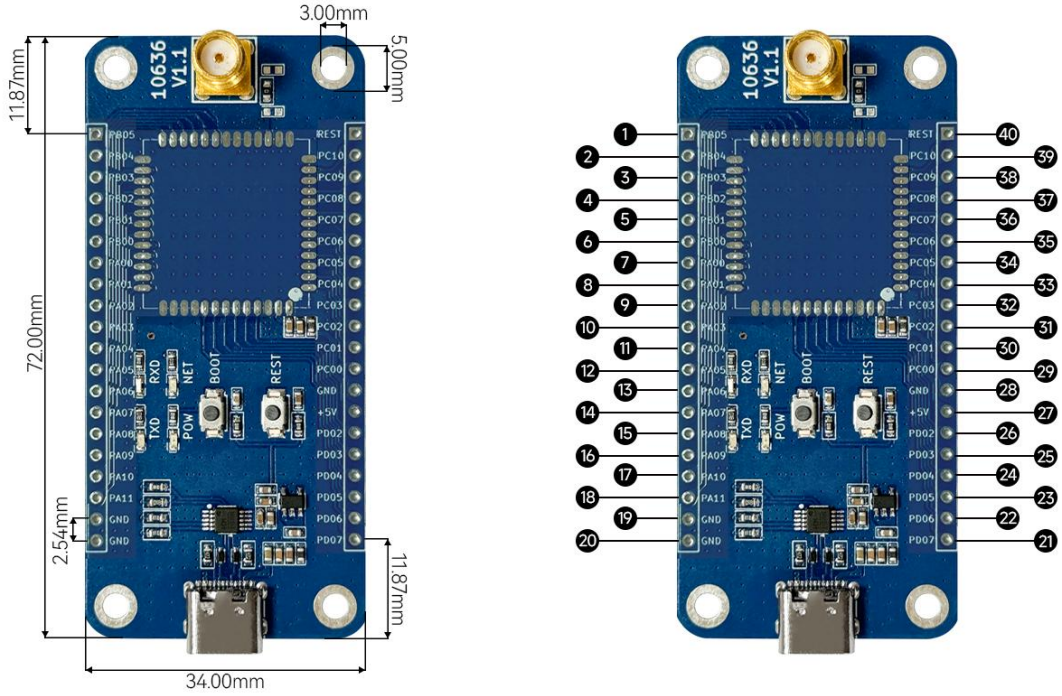


Figure 3 Current test interface diagram

Pin number	Pin Name	type	Pin Purpose
1	PB05	I/0	GPIO
2	PB04	I/0	GPIO
3	PB03	I/0	GPIO
4	PB02	I/0	GPIO
5	PB01	I/0	GPIO
6	PB00	I/0	GPIO
7	PA00	I/0	GPIO
8	PA01	I/0	Program debugging/downloading port SWCLK
9	PA02	I/0	Program debugging/downloading port SWDIO
10	PA03	I/0	GPIO
11	PA04	I/0	GPIO
12	PA05	I/0	RXD indicator
13	PA06	I/0	TXD indicator
14	PA07	I/0	Network indicator light
15	PA08	I/0	GPIO
16	PA09	I/0	GPIO
17	PA10	I/0	GPIO
18	PA11	I/0	GPIO

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19	GND	I/0	Ground wire, connected to the power reference ground
20	GND	I/0	Ground wire, connected to the power reference ground
21	PD07	I/0	GPIO
22	PD06	I/0	GPIO
23	PD05	I/0	GPIO
24	PD04	I/0	GPIO
25	PD03	I/0	GPIO
26	PD02	I/0	GPIO
27	+5V	I/0	Power input +5V
28	GND	I/0	Ground wire, connected to the power reference ground
29	PC00	I/0	GPIO
30	PC01	I/0	GPIO
31	PC02	I/0	GPIO
32	PC03	I/0	GPIO
33	PC04	I/0	GPIO
34	PC05	I/0	GPIO
35	PC06	I/0	GPIO
36	PC07	I/0	GPIO
37	PC08	I/0	GPIO
38	PC09	I/0	GPIO
39	PC10	I/0	GPIO
40	REST	Reset pin	Reset pin, low level is effective

Note: 1. P : power supply; I: input; O: output; T: can be set to high impedance.

Version Information

Version	Revision Date	Revision Notes	Maintainer
1.0	2025-5-28	Initial release	Hao

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