

# SHENZHEN ZXW TECHNOLOGY CO. , LTD

## ZX-D30 Bluetooth BLE Module Datasheet

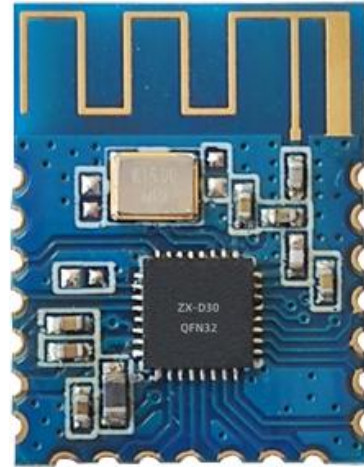
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## 1. Overview

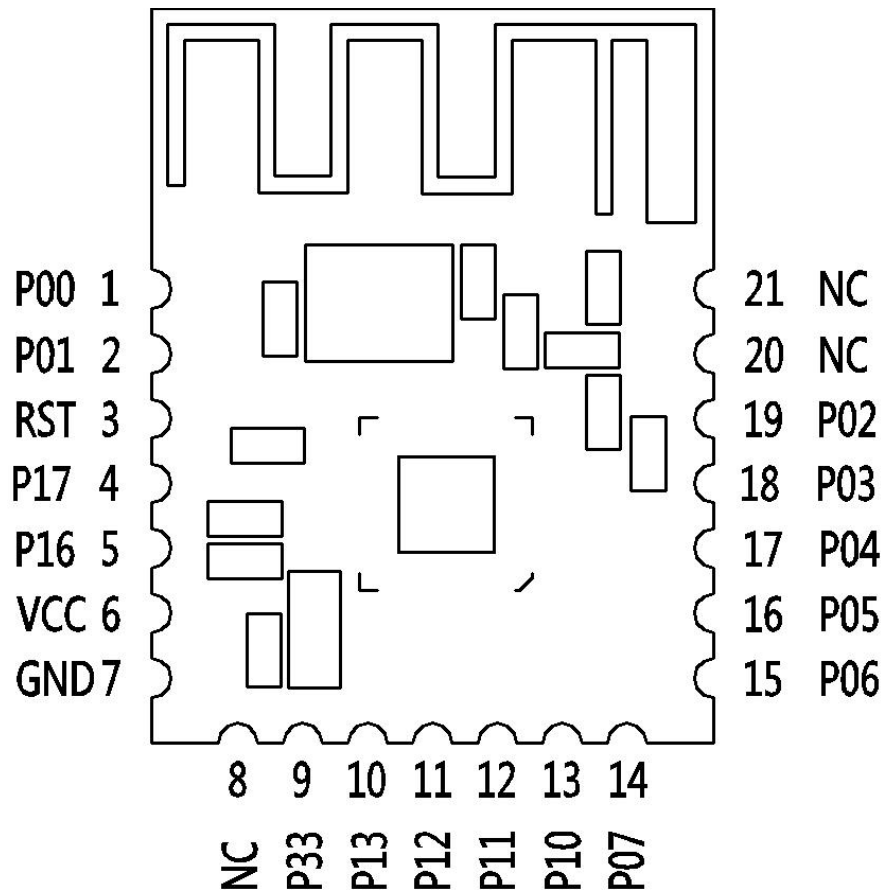
**ZX-D30 is a small size Bluetooth low energy BLE module specially designed by Shenzhen Zhixing Micro Technology Co., Ltd. for Bluetooth wireless data transmission. The module supports Bluetooth BLE 4.2 protocol, with excellent stability and ultra-low power**



## 2. Product Features

Classification	Product features	Describe
Bluetooth	Model	ZX-D30
	Bluetooth protocol	BLE 4.2
	Working frequency	2.4GHz
	Transmit power	-20 to 4 dBm
	Receive sensitivity	-96dBm
	Modulation	GFSK modulation
	Air transfer rate	250kbps / 1Mbps / 2Mbps
	Antenna	PCB Antenna
	Communication distance	50m
Hardware	CPU	ARM968E-S
	Memory size	160 KB flash + 20 KB RAM
	Peripheral interface	UART/SPI/I2C/ADC/GPIO
	Operating voltage	1.8V ~ 3.6V
	Transmission current	5.1 mA peak RX, 4.8 mA peak TX, sleep 0.5uA
	Operating temperature	-40℃ ~ +125℃
	Size	13mm X 17mm
Software	UUID service	FFE0 (Service UUID )
		FFE1 (write / notify UUID)
		FFE2 (write UUID)
	Serial port transparent transmission rate	BLE 4KB/S
	Function	BLE transparent transmission

### 3. Pin Definition



Foot layout (bottom view)

Pin	Name	Type	Function
1	P00	I/O	TXD / Programmable input and output pins
2	P01	I/O	RXD / Programmable input and output pins
3	RST	I/O	RESET PIN (Active low)
4	P17	I/O	Programmable input and output pins
5	P16	I/O	Programmable input and output pins
6	VCC	POWER	POWER (1.8 - 3.6V)
7	GND	GND	GND
8	NC	NC	NC
9	P33	I/O	Programmable input and output pins
10	P13	I/O	Programmable input and output pins
11	P12	I/O	Programmable input and output pins
12	P11	I/O	Programmable input and output pins
13	P10	I/O	Programmable input and output pins
14	P07	I/O	Programmable input and output pins
15	P06	I/O	Programmable input and output pins
16	P05	I/O	Programmable input and output pins
17	P04	I/O	Programmable input and output pins

18	P03	I/O	Programmable input and output pins
19	P02	I/O	Programmable input and output pins
20	NC	NC	NC
21	NC	NC	NC

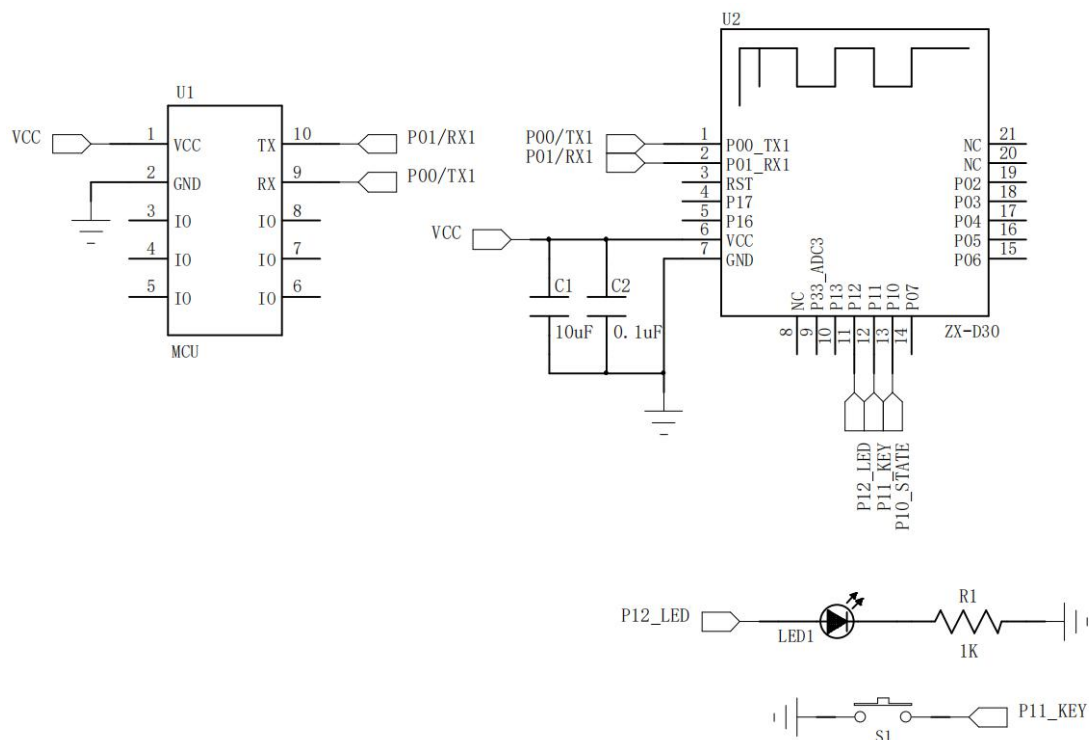
Some pin I/O port functions::

I/O	Function description
P10	Bluetooth connection status output pin: connected (high level) not connected (low level)
P11	Function input button pin: button short press: disconnect bluetooth

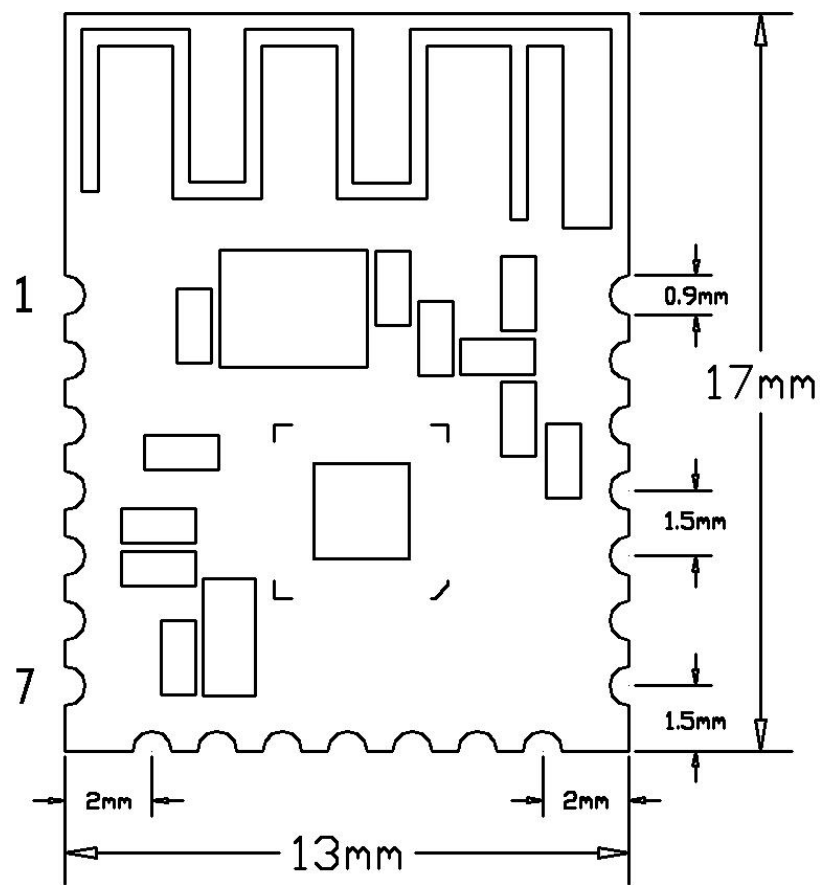
LED status indicator (pin P12 is lit at high level):

LED display	Connection Status
(500ms/on, 500ms/off)	not connected
Long bright	connected

#### 4. Application schematic diagram



## 5. Dimensions



Federal Communications Commission (FCC) Statement. This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) this device must accept any interference received,

including interference that may cause undesired operation. Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide Reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Warning: Changes or modifications made to this device not expressly approved by Shenzhen Zhixing Micro Technology Co., Ltd may void the FCC authorization to operate this device. Note: The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.

**RF exposure statement:**

This device complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. The transmitter installation and use is not restricted

## Integration instructions for host product manufacturers according to KDB 996369 D03 OEM Manual v01

### 2.2 List of applicable FCC rules

FCC Part 15.247.

### 2.3 Specific operational use conditions

This module is stand-alone modular. If the end product will involve the Multiple simultaneously transmitting condition or different operational conditions for a stand-alone modular transmitter in a host, host manufacturer have to consult with module manufacturer for the installation method in end system.

### 2.4 Limited module procedures

Additional testing and certification is necessary when specific host originally granted with this module.

### 2.5 Trace antenna designs

Not applicable. The module has its own antenna, and doesn't need a host's printed board microstriptrace antenna etc.

### 2.6 RF exposure considerations

This device complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

### 2.7 Antennas

This radio transmitter **2A5ZY-ZX-D30** has been approved by Federal Communications Commission to operate with the antenna types listed below, with the maximum permissible gain indicated. Antenna types not included in this list that have a gain greater than the maximum gain indicated for any type listed are strictly prohibited for use with this device.

Model name	Antenna type	Antenna gain
ZX-D30	PCB	1.20dBi

### 2.8 Label and compliance information

The final end product must be labeled in a visible area with the following" Contains FCC ID:2A5ZY-ZX-D30".

### 2.9 Information on test modes and additional testing requirements

Host Host manufacturer which install this modular with limit modular approval should perform the test of radiated emission and spurious emission according to FCC part 15C:15.247 requirement, only if the test result comply with FCC part 15.247 requirement, then the host can be sold legally.

### 2.10 Additional testing, Part 15 Subpart B disclaimer

The module is only FCC authorized for the specific rule parts listed on the grant, and that the host product manufacturer is responsible for compliance to any other FCC rules that apply to the host not covered by the modular transmitter grant of certification. The final host product still requires Part 15 Subpart B compliance testing with the modular transmitter installed.