

ZX-D36 Bluetooth BLE Module Datasheet

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1. Overview

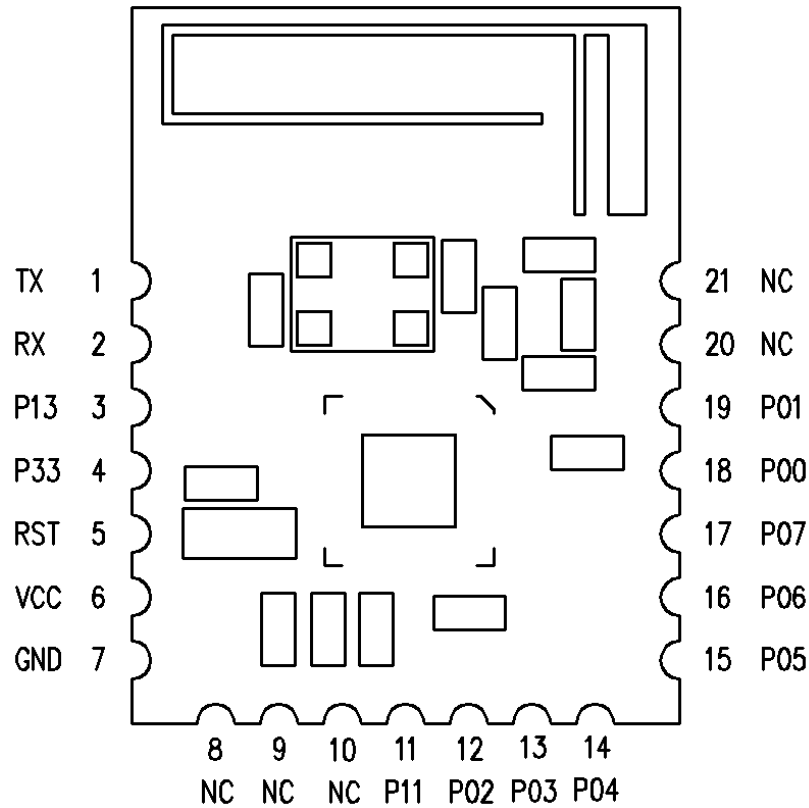
ZXW-D36 is a small size Bluetooth low energy BLE module . The module supports Bluetooth BLE 5.2 protocol, with excellent stability and ultra-low power consumption.



2. Product Features

Classification	Product features	Describe
Bluetooth	Model	ZX-D36
	Bluetooth protocol	BLE 5.2
	Working frequency	2.4GHz
	Transmit power	-20 to 12 dBm
	Receive sensitivity	-96dBm
	Modulation	GFSK modulation
	Air transfer rate	250kbps / 1Mbps / 2Mbps
	Antenna	PCB Antenna
	Communication distance	100m
Hardware	CPU	Embedded 32-bits
	Memory size	80KB RAM
	Peripheral interface	UART/SPI/I2C/ADC/GPIO
	Operating voltage	2V ~ 3.6V
	Transmission current	5.5 mA peak RX, 6.1 mA peak TX, sleep 0.5uA
	Operating temperature	-40℃ ~ +85℃
	Size	13mm X 17mm
Software	UUID service	FFE0 (Service UUID)
		FFE1 (write / notify UUID)
		FFE2 (write UUID)
	Serial port transparent transmission rate	BLE 28KB/S
	Function	BLE transparent transmission

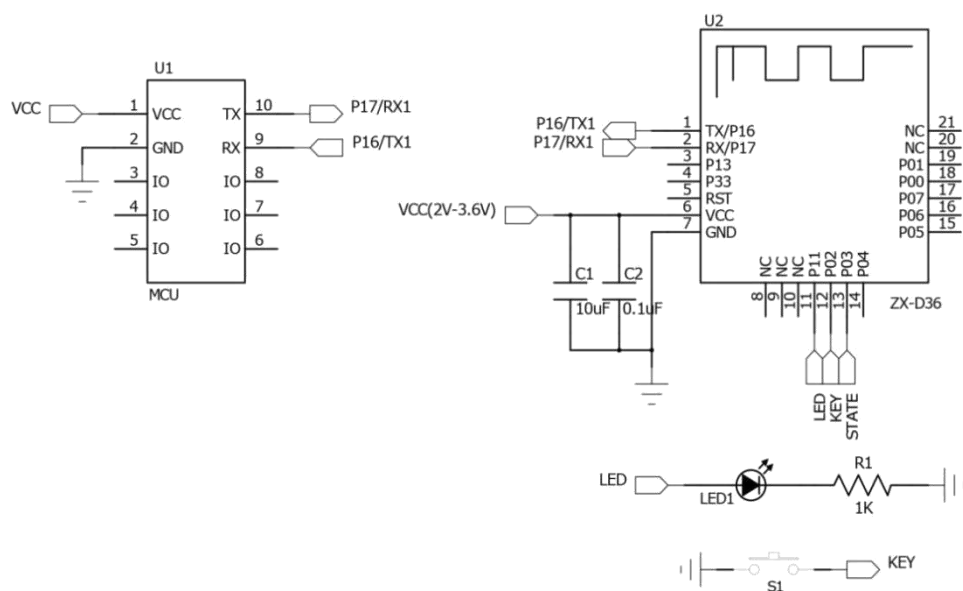
3. Pin Definition



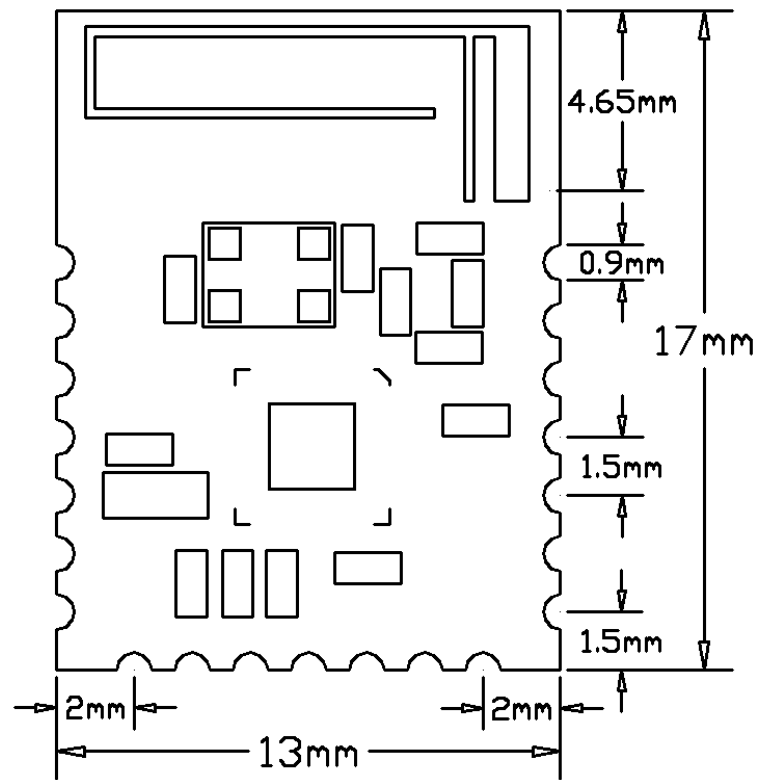
Pin	Name	Type	Function
1	TX/P16	I/O	TXD
2	RX/P17	I/O	RXD
3	P13	I/O	Programmable input and output pins
4	P33	I/O	Programmable input and output pins
5	RST	Reset	Programmable input and output pins
6	VCC	Power	Power (2- 3.6V)
7	GND	GND	GND
8	NC	NC	NC
9	NC	NC	NC
10	NC	NC	NC
11	P11	I/O	LED
12	P02	I/O	KEY
13	P03	I/O	STATE

14	P04	I/O	AT
15	P05	I/O	Programmable input and output pins
16	P06	I/O	Programmable input and output pins
17	P07	I/O	Programmable input and output pins
18	P00	I/O	Programmable input and output pins
19	P01	I/O	Programmable input and output pins
20	NC	NC	NC
21	NC	NC	NC

4. Application schematic diagram



5. Dimensions



Federal Communication Commission Statement (FCC, U.S.)

The device complies with the FCC rules, Part 15. 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. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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 instruction manual, 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:

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

RF warning statement:

The device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction.

Important Note:

In the event that these conditions cannot be met (for example certain laptop configurations or co-location with another transmitter), then the FCC authorization is no longer considered valid and the FCC ID cannot be

used on the final product. In these circumstances, the OEM integrator will be responsible for re-evaluating the

end product (including the transmitter) and obtaining a separate FCC authorization.

End Product Labeling

The final end product must be labeled in a visible area with the following"

Contains FCC ID: 2A5ZY-ZX-D36"

Manual Information to the End User

The OEM integrator has to be aware not to provide information to the end user regarding how to install or remove this RF module in the user's manual of the end product which integrates this module.

The end user manual shall include all required regulatory information/warning as show in this manual.

Integration instructions for host product manufactures according to KDB 996369 D03 OEM

2.2 List of applicable FCC rules

CFR 47 FCC PART 15 SUBPART C has been investigated. It is applicable to the modular transmitter

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

Not applicable.

2.5 Trace antenna designs

Not applicable.

2.6 RF exposure considerations

FCC Radiation Exposure Statement

The device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction.

2.7 Antennas

This radio transmitter FCC ID: 2A5ZY-ZX-D36 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.

BLE Antenna:

Operating Frequency: 2402-2480MHz

Antenna Type: PCB Antenna; Antenna Gain(Peak): 0.60 dBi.

2.8 Label and compliance information

The final end product must be labeled in a visible area with the following " Contains TX FCC ID: 2A5ZY-ZX-D36". If the size of the end product is larger than 8x10cm, then the following FCC part 15.19 statement has to also be available on the label:

This device complies with Part 15 of 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.

2.9 Information on test modes and additional testing requirements

Host manufacturer is strongly recommended to confirm compliance with FCC requirements for the transmitter when the module is installed in the host.

2.10 Additional testing, Part 15 Subpart B disclaimer

Host manufacturer is responsible for compliance of the host system with module installed with all other applicable requirements for the system such as Part 15 B.

2.11 Note EMI Considerations

Host manufacture is recommended to use D04 Module Integration Guide recommending as "best practice" RF design engineering testing and evaluation in case non-linear interactions generate additional noncompliant limits due to module placement to host components or properties.

2.12 How to make changes

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. According to the KDB 996369 D02 Q&A Q12, that a host manufacture only needs to do an evaluation (i.e., no C2PC required when no emission exceeds the limit of any individual device (including unintentional radiators) as a composite. The host manufacturer must fix any failure.