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User Manual

TD-9030A

Brand Name: TaiDoc

FCC ID: TM79030A01

Version 1.0
2014-07

Description:

The TD-9030A is a low power and low costs Bluetooth 4.0 BLE module based on the 32 bit ARMR Cortex™-M0 CPU .Perfect for communication and cable replacement between your device and a smartphone, computer or other devices. It is easy to setup and use thanks to real and virtual UART interface and AT commands.

Key Features

- 2.4 GHz transceiver
  - -93 dBm sensitivity in Bluetooth® low energy mode
  - 250 kbps, 1 Mbps, 2 Mbps supported data rates
  - TX Power -20 to +4 dBm in 4 dB steps
  - TX Power -30 dBm Whisper mode
  - 13 mA peak RX, 10.5 mA peak TX (0 dBm)
  - RSSI (1 dB resolution)
- ARM® Cortex™-M0 32 bit processor
  - 275 μA/MHz running from flash memory
  - 150 μA/MHz running from RAM
- Memory
  - 256 kB or128 kB embedded flash program
  - memory
  - 16 kB RAM
- UART (CTS/RTS)

Applications

- Medical devices
  - BGM
  - BPM

1. Pinout and Terminal Description

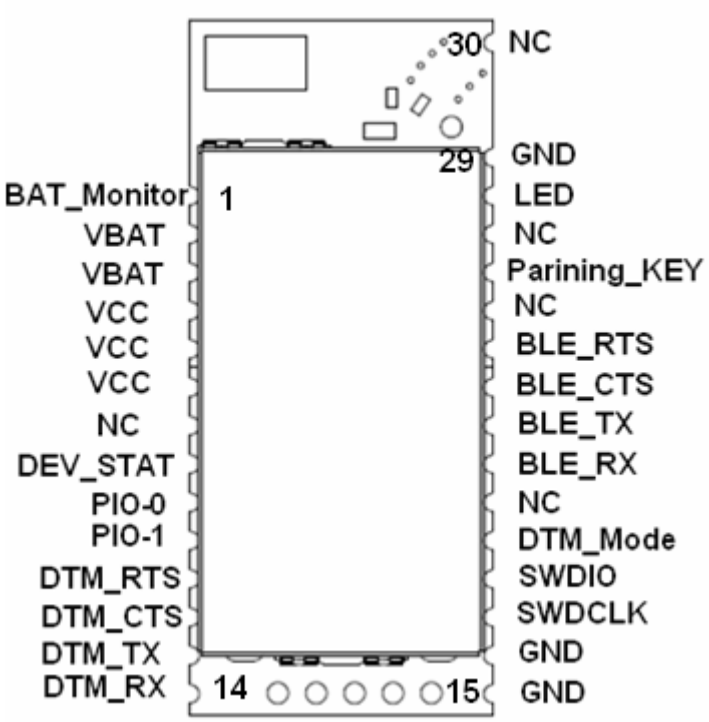


Figure 1: Pinout

Pin	Symbol	I/O Type	Description
1	BAT_Monitor	I	Battery Voltage Monitor
2	VBAT	P	Power input
3	VBAT	P	Power input
4	VCC	P	Power Output
5	VCC	P	Power Output
6	VCC	P	Power Output
7	NC	NC	Not Connect
8	DEV_STAT	O	Wakeup Device
9	PIO-0	I/O	GPIO
10	PIO-1	I/O	GPIO
11	DTM_RTS	I	UART RTS signal (Note.1)
12	DTM_CTS	O	UART CTS signal (Note.1)
13	DTM_TX	O	UART TX signal (Note.1)
14	DTM_RX	I	UART RX signal (Note. 1)
15	GND	P	GND

16	GND	P	GND
17	SWDCLK	I	JTACK Clock
18	SWDIO	I/O	JTACK Data
19	DTM_Mode	I	Set Low to DTM Mode Set High to BLE Mode
20	NC	NC	Not Connect
21	BLE_RX	I	UART RX
22	BLE_TX	O	UART TX
23	BLE_CTS	O	UART CTS
24	BLE_RTS	I	UART RTS
25	NC	NC	Not Connect
26	Paring_Key	I	Set Low to Paring Device
27	NC	NC	Not Connect
28	LED	O	LED indicator
29	GND	P	GND
30	NC	NC	Not Connect

Note.1 DTM is Direct Test Mode。

2. Power supply

The Module accept 3.1V to 4.2V DC voltage input，Power supply should guarantee good ripple suppression and enough current.

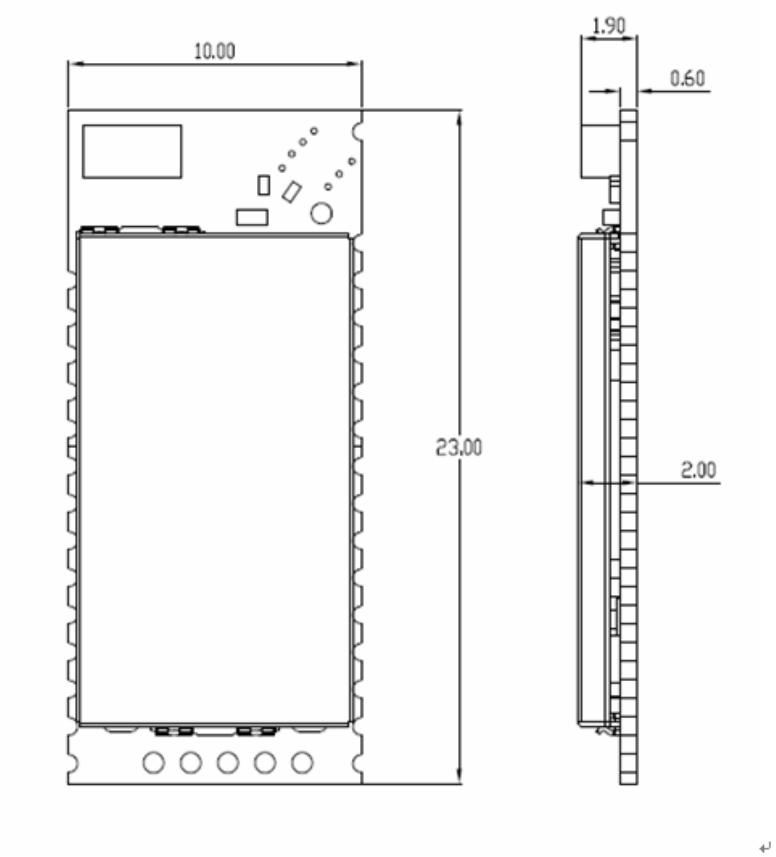
3. Antenna

The module integrates a chip antenna so there’s no need to use antenna on customer’s PCB.

4. UART interface

This is a standard UART interface for communicating with other serial devices. The UART interface provides a simple mechanism for communicating with other serial devices using the RS232 protocol.
The UART CTS and RTS signals can be used to implement RS232 hardware flow control where both are active low indicators.
Default parameter set is 19200,8,n,1

5. Dimension



FEDERAL COMMUNICATIONS COMMISION (FCC) STATEMENT

15.21

You are cautioned that changes or modifications not expressly approved by the part responsible for compliance could void the user's authority to operate the equipment.

15.105(b)

Federal Communications Commission (FCC) Statement

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.

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 of the device.

FCC RF Radiation Exposure Statement:

1. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
2. This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. End users must follow the specific operating instructions for satisfying RF exposure compliance.

根據 NCC 低功率電波輻射性電機管理辦法 規定:	
第十二條	經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。
第十四條	低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。前項合法通信，指依電信法規定作業之無線電通信。低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。