TaiDoc D-9050A Medical Device User Manual

User Manual
TD-9050A
Brand Name: TaiDoc
Version 1.0

Contents

Description:

The TD-9050A is a low power and low costs Bluetooth 5.1 BLE module based on the Powerful Arm® Cortex®-M3 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.

Key Features

- 2.4-GHz RF transceiver compatible with Bluetooth low energy 5.1
- Excellent receiver sensitivity (-97dBm for BLE), selectivity, and blocking performance
- 125 kbps, 500 kbps, 1 Mbps, 2 Mbps supported data rates

- Programmable output power up to +5 dBm
- Active-mode RX: 5.9 mA
- Active-mode TX at 0 dBm: 6.1 mA
- Active-mode TX at +5 dBm: 9.1 mA
- 12-bit ADC, 200-ksamples/s, 8-channel analog MUX
- 275KB of nonvolatile memory including 128KB of in-system programmable flash
- Up to 28KB of system SRAM, of which 20KB is ultra-low leakage SRAM
- UART, I2C, and I2S
- AES-128 security module

Applications

- Medical devices
  - SpO2

1. **Pinout and Terminal Description**

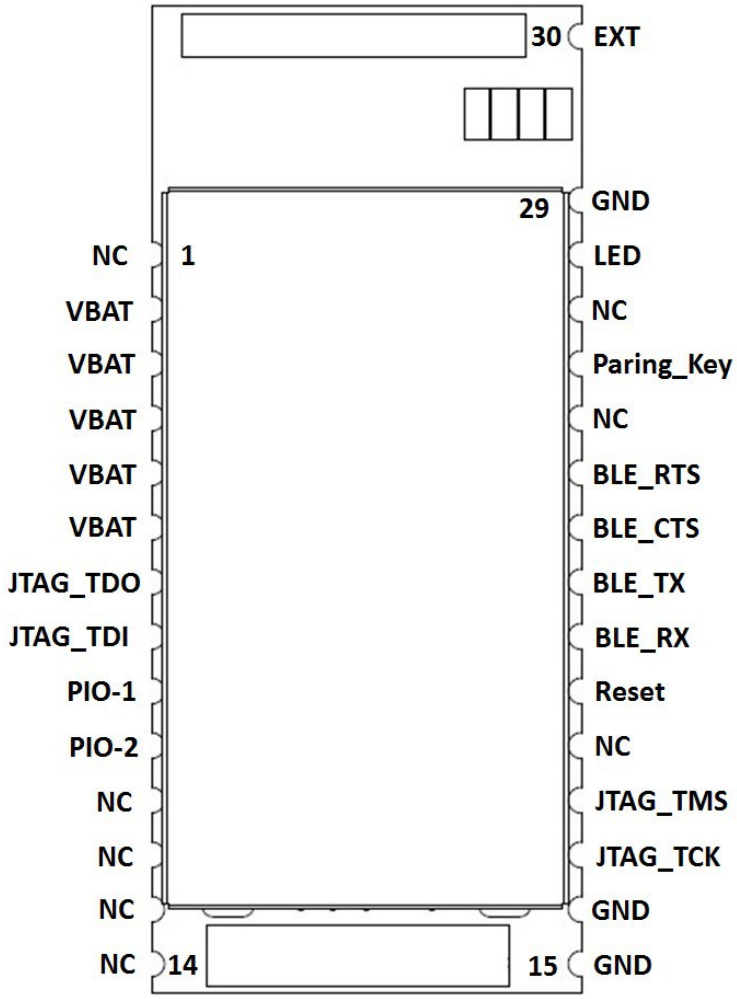


Figure 1: Pinout

Pin	Symbol	I/O Type	Description
1	NC	NC	Not Connect
2	VBAT	P	Power input

3	VBAT	P	Power input
4	VBAT	P	Power input
5	VBAT	P	Power input
6	VBAT	P	Power input
7	JTAGTDO	I/O	GPIO, JTAGTDO
8	JTAGTDI	I/O	GPIO, JTAG TDI
9	P10-1	I/O	GPIO
10	P10-2	I/O	GPIO
11	NC	NC	Not Connect
12	NC	NC	Not Connect
13	NC	NC	Not Connect
14	NC	NC	Not Connect
15	GND	P	GND
16	GND	P	GND
17	JTAG_TCK	I/O	JTACK Clock
18	JTAG_TMS	I/O	JTACK Data
19	NC	NC	Not Connect
20	Reset	I	RESET, active-low
21	BLE_RX	I	UART RX
22	BLE_TX	0	UART TX
23	BLE_CTS	0	UART CTS
24	BLE_RTS	I	UART RTS
25	NC	NC	Not Connect
26	Paring_Key	I	GPIO
27	NC	NC	Not Connect
28	LED	0	LED indicator
29	GND	P	GND

30	EXT	0	TEST

2. **Power supply**

   The module accept 3.0V to 3.3V 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**

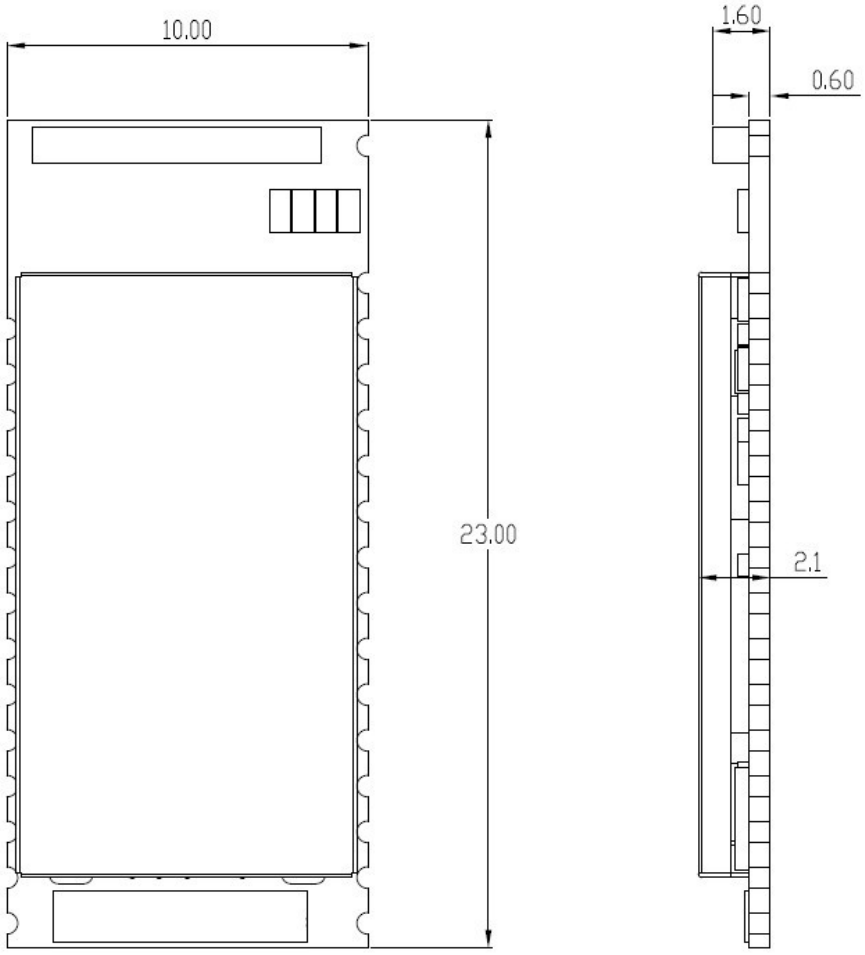
   This is a standard UART interface for communicating with other serial devices.

   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 baud rate : 115200, data bit : 8, parity bit : n, stop bit : 1

Dimension



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.

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.

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s).
Operation is subject to the following two conditions:

1. This device may not cause interference, and
2. This device must accept any interference, including interference that may cause undesired operation of the device.

Caution: Exposure to Radio Frequency Radiation

1. To comply with the Canadian RF exposure compliance requirements, this device and its antenna must not be co-located or operating in conjunction with any other antenna or transmitter.
2. To comply with RSS 102 RF exposure compliance requirements, a separation distance of at least 20 cm must be maintained between the antenna of this device and all persons.

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Documents / Resources

	**TaiDoc D-9050A Medical Device** [pdf] User Manual 9050A01, TM79050A01, D-9050A, D-9050A Medical Device, Medical Device