

HTC-BLE01

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Bluetooth 4.0 Low Energy Module



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Product Description

The HTC-BLE01 module is designed base on Nordic nRF51822 radio Transceiver IC, the IC is an ultra-low power 2.4GHz wireless System On chip (SoC) integrating the nRF51 series 2.4GHz transceiver,a 32 bit ARM Cortex-M0 CPU, flash memory and analog and digital peripherals. The module can support Bluetooth low energy and a range of proprietary 2.4GHz Protocols. The application engineers can easily apply the RF module for its application without worrying about the specific impedance matching or soldering fine pitch related radio designing issues.

Features

- Main Chip: nRF51822
- 2.4 GHz transceiver
 - 93dBm sensitivity in Bluetooth low energy mode
 - 250Kbps,1Mbps,2Mbps supported data rates
 - Tx Power -20 to +4dBm in 4 dB steps

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Tx Power -30 dBm Whisper mode

13mA peak RX,10.5mA peak Tx (0dBm)

RSSI(1 dB resolution)

- Flexible Power Management

- Supply voltage range 1.8V to 3.6V

- 2.5us wake-up using 16MHz RCOSC

- 0.4uA@ 3v OFF mode

- 0.5 uA@ 3V in OFF mode +1 region RAM retention

- 2.3uA @3V ON mode,all blocks IDLE

- 8/9/10 bit ADC -8 configurable channels
- 31 General Purpose I/O Pins
- SPI Master
- Two-wire Master(I2C compatible)
- UART(CTS/RTS)
- CPU independent Programmable Peripheral Interconnect(PPI)
- Quadrature Decoder (QDEC)
- AES HW encryption

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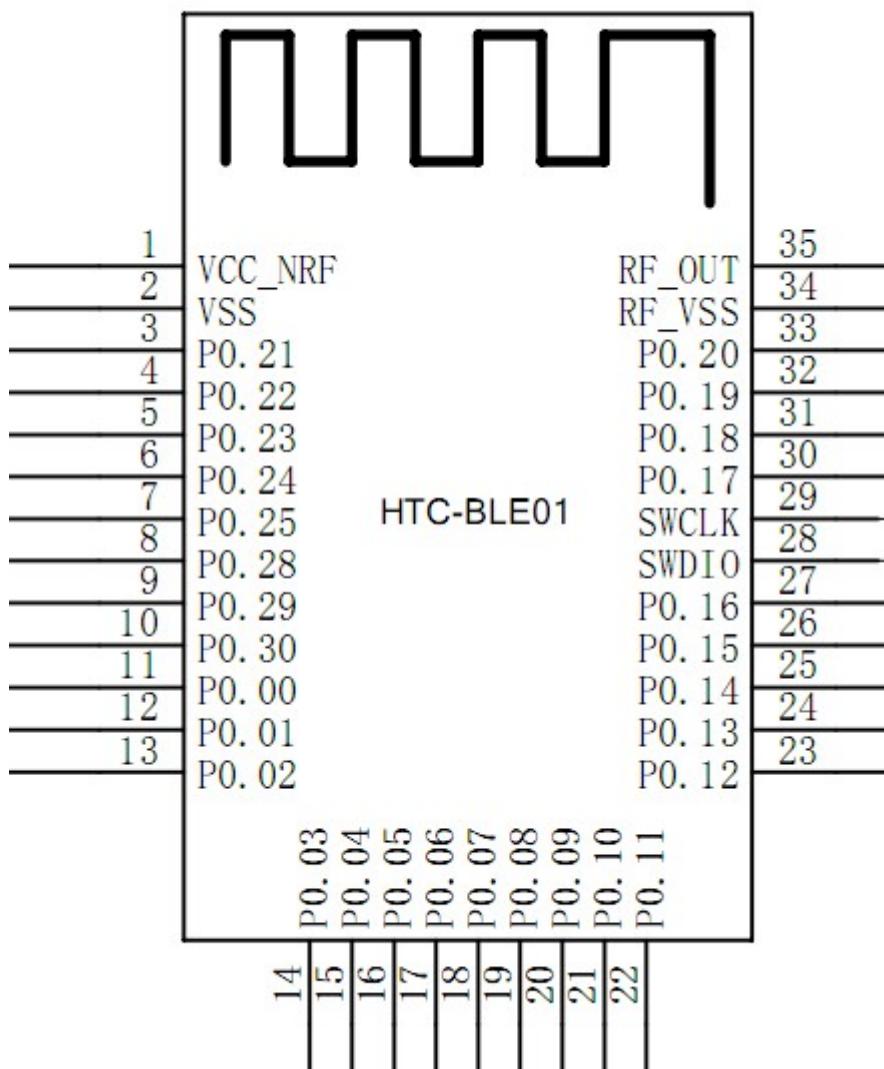
- PCBA Dimension(mm): L15 X W23XH2.1

Applications

- Computer peripherals and I/O devices
 - Mouse
 - Keyboard
 - Multi-touch trackpad
- Interactive entertainment devices
 - Remote control
 - 3D Glasses
 - Gaming controller
- Personal Area Networks
 - Health/fitness sensor and monitor Devices
 - Medical devices
 - Key-fobs+wrist watch
- Remote control toys

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Device Pinout Diagram



Pin Definition

Pin	Pin name	Pin function	Description
1	VCC_NRF	Power	1.8~3.6V Power supply
2	VSS	Ground	Ground
3	P0.21	SPI_CLK Digital I/O	SPI clock General purpose I/O pin
4	P0.22	SPI_MOSI Digital I/O	SPI data input General purpose I/O pin
5	P0.23	Digital I/O	General purpose I/O pin
6	P0.24	SPI_MISO Digital I/O	SPI data output General purpose I/O pin
7	P0.25	SPI_CS Digital I/O	Chip select for SPI General purpose I/O pin
8	P0.28	Digital I/O	General purpose I/O pin
9	P0.29	Digital I/O	General purpose I/O pin
10	P0.30	Digital I/O	General purpose I/O pin
11	P0.00 AREFO	BUTTON0 Digital I/O Analog input	Optional Button key function General purpose I/O pin ADC Reference voltage
12	P0.01 AIN2	MFB BUTTON1 Digital I/O Analog input	Multi-Function push button key Optional Button key function General purpose I/O pin ADC input2
13	P0.02 AIN3	PWR_LOCK BUTTON2 Digital I/O Analog input	PWR_LOCK Optional Button key function General purpose I/O pin ADC input3
14	P0.03 AIN4	I2C_SDA BUTTON3 Digital I/O Analog input	I2C serial clock line Optional Button key function General purpose I/O pin ADC input4
15	P0.04 AIN5	Digital I/O Analog input	General purpose I/O pin ADC input5

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16	P0.05 AIN6	I2C_SCL BUTTON4 Digital I/O Analog input	I2C serial data line Optional Button key function General purpose I/O pin ADC input6
17	P0.06 AIN7 AREFF1	Digital I/O Analog input Analog input	General purpose I/O pin ADC input7 ADC Reference voltage
18	P0.07	Digital I/O	General purpose I/O pin
19	P0.08	LED0 Digital I/O	LED driver 0 General purpose I/O pin
20	P0.09	LED1 Digital I/O	LED driver 1 General purpose I/O pin
21	P0.10	Digital I/O	General purpose I/O pin
22	P0.11	LED2 Buzzer_Driver Digital I/O	LED driver 2 Buzzer_Driver General purpose I/O pin
23	P0.12	LED3 SPI_Slave_TX_IND Digital I/O	LED driver 3 SPI_Slave_TX_IND General purpose I/O pin
24	P0.13	Digital I/O	General purpose I/O pin
25	P0.14	Digital I/O	General purpose I/O pin
26	P0.15	WAKEUP_nRF51 Digital I/O	Wakeup Module For external MCU, Active low. General purpose I/O pin
27	P0.16	UART_RX Digital I/O	UART data input General purpose I/O pin
28	SWDIO/ nRESET	Digital I/O	System reset(Active low).Also HW Debug and flash programming I/O
29	SWDCLK	Digital input	HW debug and flash programming I/O
30	P0.17	Digital I/O	General purpose I/O pin
31	P0.18	UART_TX Digital I/O	UART data output General purpose I/O pin
32	P0.19	Digital I/O	General purpose I/O pin
33	P0.20	Wakeup_MCU Digital I/O	Wakeup external MCU General purpose I/O pin

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34	RF-VSS	RF Ground	Ground
35	RF-OUT	RF OUT	Connect External Antenna pin

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Outline Dimension (Module Foot print)

