WB822D Module Datasheet V1.0

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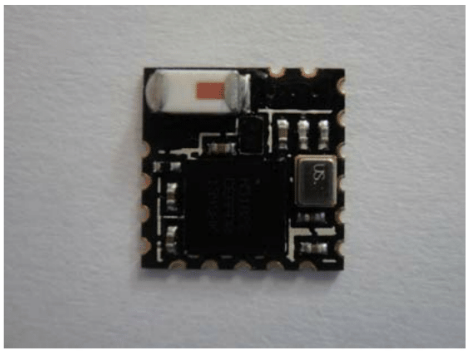
Description

WB822D Module is designed based on nRF51822 RF SoC chip. nRF51822 is an ultra-low power 2.4GHz wireless System on Chip(Soc) integrating the nRF51 series 2.4GHz transceiver, a 32bit ARM Cortex-M0 CPU, flash memory, and analog and digital peripherals. nRF51822 can support Bluetooth low energy and a range of proprietary 2.4GHz protocols, such as Gazell from Nordic Semiconductor.



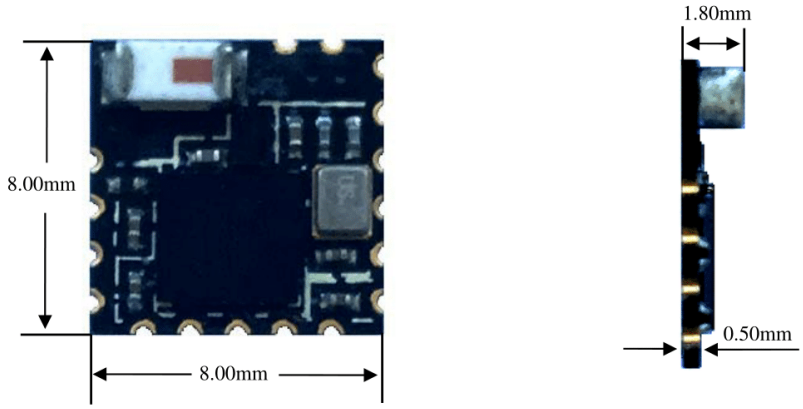
Key Features

- 2.4GHz transceiver
  - -93dBm sensitivity in Bluetooth low energy mode
  - 205kbps, 1 Mbps, 2 Mbps supported data rates
  - TX Power -20 to +4dBm in 4dB steps
  - TX power -30dBm Whisper mode
  - 13mA peak RX, 10.5mA peak TX (0 dBm)
  - 9.7mA peak RX, 8mA peak TX (0dBm) with DC/DC
  - RSSI (1dB resolution)
- ARM Cortex -M0 32 bit processor
  - 275 μA/MHz running from flash memory
  - 1505μA/MHz running from RAM
  - Serial Wire Debug (SWD)
- Flexible Power Management
  - Supply voltage range 1.8V to 3.6V
  - 4.2μs wake-up using 16MHz RCOSC
  - 0.6μA at 3V OFF mode
  - 1.2μA at 3V in OFF mode +1region RAM retention
  - 2.6μA at 3V ON mode, all blocks IDLE
- Tiny Size 8mm X 8mm X 1.7mm
- Operating Temperature: -25℃~+75℃

Applications

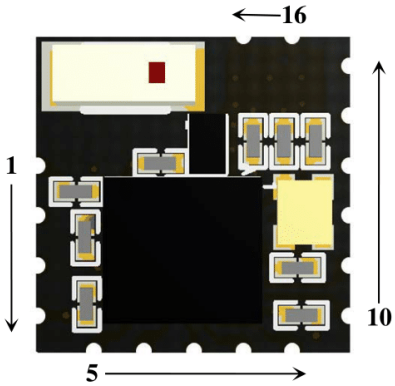
- 2.4-GHz Bluetooth low energy System
- Human-Interface Devices (Keyboard, Mouse, Remote Control)
- Sports and Leisure Equipment
- Proximity/Alert sensors
- Consumer Electronics
- iBeacon Station/Micro-loacation indoor navigation
- Smart Phone Accessories

Mechanical Drawing



Tolerance:±0.2mm

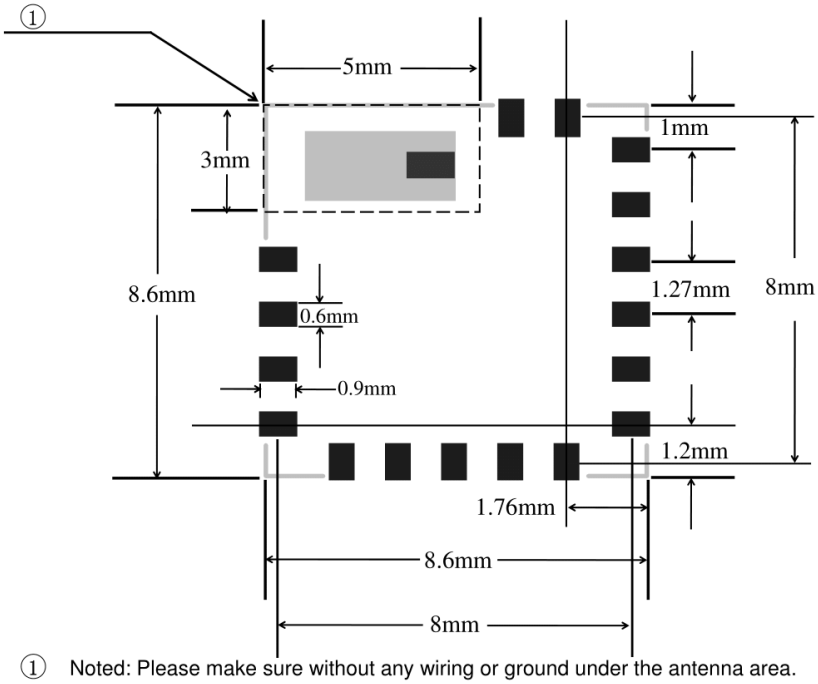
Terminal Description



Pad Number	Name	Function	Description
1	SWDIO/nRESET	Digital I/O	Programming I/O
2	SWDCLK	Digital input	HW debug and flash programming I/O
3	VDD	Power	1.8V - 3.6V Power Supply
4	GND	GND	Ground
5	P0.05/AIN6	Digital I/O Analog input	General purpose I/O ADC input 6
6	P0.03/AIN4	Digital I/O Analog input	General purpose I/O ADC input 4
7	P0.01/AIN2	Digital I/O	General purpose I/O

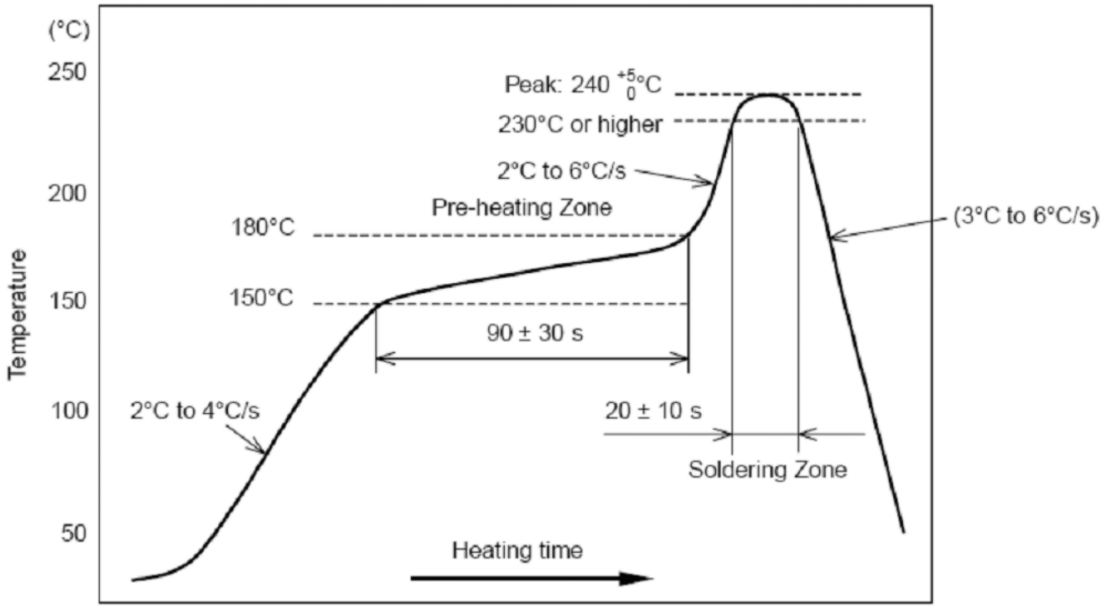
		Analog input	**ADC input 2**
8	**P0.02/AIN3**	**Digital I/O** **Analog input**	**General purpose I/O** **ADC input 3**
9	**P0.00/ARE F0**	**Digital I/O** **Analog input**	**General purpose I/O** **ADC Reference voltage**
10	**P0.27/AIN1 /XL1**	**Digital I/O** **Analog input**	**General purpose I/O** **ADC input 1** **Crystal connection for 32.768kHz crystal oscillator or external 32.768kHz crystal reference**
11	**P0.26/AIN0 /XL2**	**Digital I/O** **Analog input** **Analog output**	**General purpose I/O** **ADC input 0** **Crystal connection for 32.768kHz crystal oscillator**
12	**P0.24**	**Digital I/O**	**General purpose I/O**
13	**P0.21**	**Digital I/O**	**General purpose I/O**
14	**P0.22**	**Digital I/O**	**General purpose I/O**
15	**P0.25**	**Digital I/O**	**General purpose I/O**
16	**GND**	**GND**	**Ground**
17	**GND**	**GND**	**Ground**

Recommended PCB Layout for Package



① Noted: Please make sure without any wiring or ground under the antenna area.

Soldering Recommendations



Contact details

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