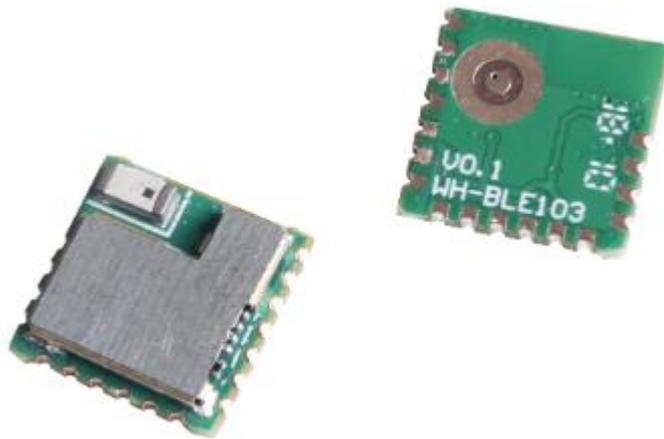


# WH-BLE103 Datasheet

File Version:V1.0.1



# 1. Product Overview

WH-BLE103 is low-power BLE module which support BLE4.2 protocol and user can realize communication through simple configuration. The module can be used for point-to-point transparent transmission and encryption transmission. Module can work at master mode or slave mode. User can set one module as master, the other one as slave for transparent transmission. Or develop APP according to standard BLE protocol to communicate with module. BLE103 supports one-to-many broadcast mode and iBeacon protocol. And also support modifying 128bit format UUID to be compatible with other BLE modules. WH-BLE103 is reliable BLE module with various functions and high compatibility.

# 2. Product Features

- Compatible with USR-BLE101 in function and encapsulation, add external version and GPIO
- Ultra tiny size 10\*10\*2mm
- Support BLE4.2 protocol, compatible with low version
- The low power broadcast mode is 300μA on average, and the sleep mode is 500nA on average. Multiple wake-up modes
- Master and slave integration. Quick-switch
- A variety of configuration methods, support AT commands
- Support for one to many broadcast mode, built-in iBeacon protocol
- Support Mesh networking and quickly build Bluetooth network.
- Bluetooth to UART data transmission
- 1.7V~3.6V single power supply
- Far transmission distance. Point to point transmission distance up to 60m
- Support 128bit format UUID modification, can communicate with other manufacturers module.

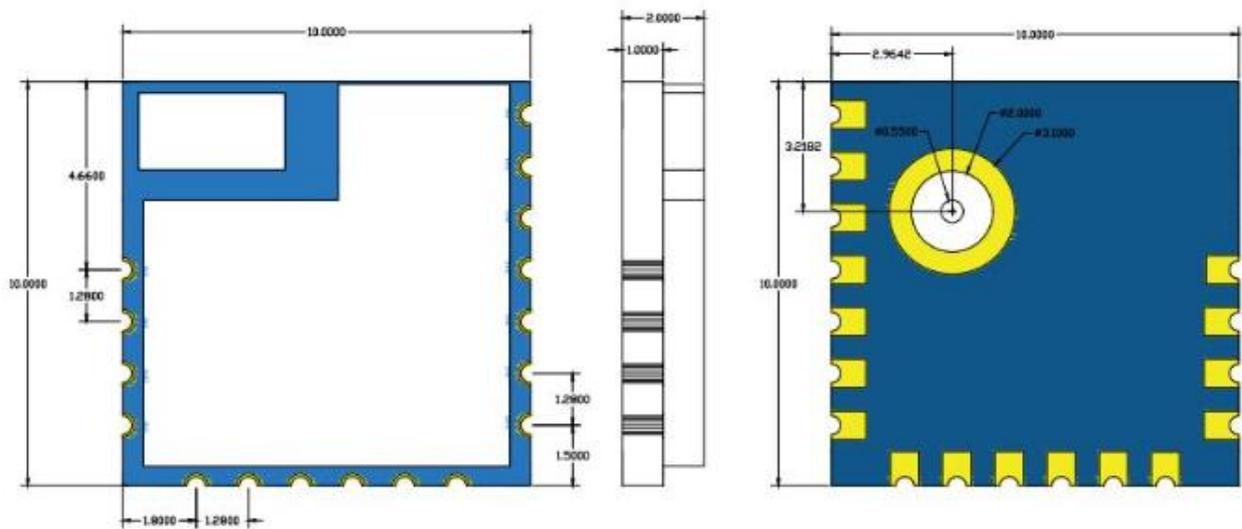
# 3. Product Specifications

Wireless parameters	
Wireless standard	802.15.1
Frequency range	2.402GHz—2.480GHz
Transmitting power	-19dBm~+8dBm(Configurable)
Receiving sensitivity	-78dBm
Antenna	Built in: Antenna External: RF pin
Transmission distance	Module to module transmission distance up to 60m(Open area, maximum transmitting power, ceramic antenna)
Hardware parameters	
Working voltage	1.7~3.6V
Working current	Average 2.40mA & 3.3V Slave machine standby Average 4.50mA & 3.3V Host standby

	Average 2.40mA & 3.3V Broadcasting is not dormant Average 0.290mA & 3.3V Slave machine deep sleep Average 0.290mA & 3.3V Broadcasting deep sleep
Size	10*10*2(mm)(L*W*H)
<b>Serial port</b>	
Serial number	TTL*1
Standard	3.3V-TTL
Data bit	5bit, 6bit, 7bit, 8bit
Stop bit	1, 2
Check bit	None. even, odd
baud rate	1200bps—1Mbps
Cache	512byte
Flow control	None
<b>Software parameters</b>	
Equipment type	Host/slave machine
Security mechanism	128bit AES
Encryption type	PC1 encryption
Working mode	Main device mode / slave device mode / broadcast mode / Mesh networking mode
Set command	AT + command
User configuration	Serial port AT command, Transparent transmission AT command
<b>Work environment</b>	
Work temperature	-40~85° C
Storage temperature	-40~85° C

## 4. Product Dimensions

Unit: mm



## 5. Contact Us

Company: Jinan USR IOT Technology Limited

Address: Floor 11, Building 1, No. 1166 Xinluo Street, Gaoxin District, Jinan, Shandong, 250101, China

Web: [www.usriot.com](http://www.usriot.com)

Support: [h.usriot.com](http://h.usriot.com)

Email: [sales@usr.cn](mailto:sales@usr.cn)

Tel: 86-531-88826739/86-531-55507297

## 6. Disclaimer

This document provide the information of WH-BLE103 products, it hasn't been granted any intellectual property license by forbidding speak or other ways either explicitly or implicitly. Except the duty declared in sales terms and conditions, we don't take any other responsibilities. We don't warrant the products sales and use explicitly or implicitly, including particular purpose merchantability and marketability, the tort liability of any other patent right, copyright, intellectual property right. We may modify specification and description at any time without prior notice.

## 7. Update History

2018-04-11 V1.0.0 Established.

2018-08-28 V1.0.1 Modification of partial parameter values