

User' s Manual

NO: JDBP-7904-016

Version: Z

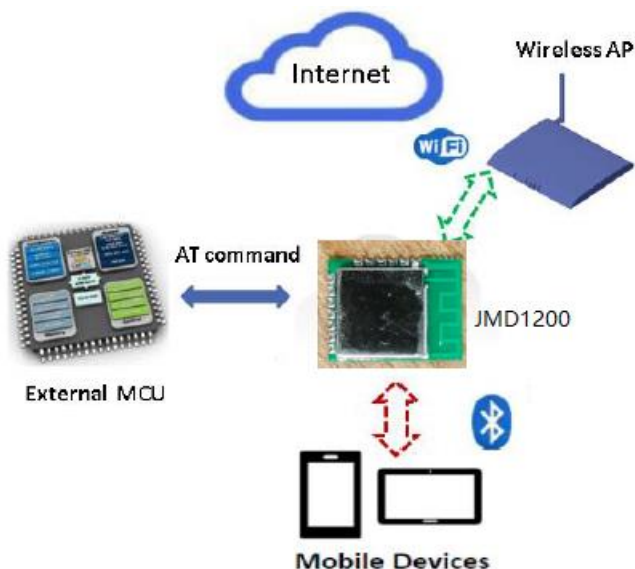
Data of Issue: 2021.12

1. Scope of application

This document describes how to use transparent transmission mode to realize network connection, WiFi data exchange and ble data exchange based on JMD1200.

2. working principle

The transparent transmission reference design includes four main components: Internet of things module jmd1200, mobile device (installing Bluetooth distribution network APP), cloud Internet and external master control device (external MCU). Generally, the external main control equipment connects several sensors and peripherals to collect sensor information or control peripherals. When the data needs to be uploaded to the cloud, the data is packaged into specific network protocol packets (such as HTTP or mqtt packets) and sent through transmission; When receiving cloud control or feedback messages, the main control device obtains specific protocol data packets through op1000, analyzes them, and then controls local peripherals.



3. Reference design application

1. Use at command or Bluetooth distribution network app to complete the connection with wireless AP.
You can also use Bluetooth for network distribution.
2. Use the at command to connect to the cloud server or app and establish a TCP connection. Send and receive TCP data.

4. Use steps

1. The master device uses the UART port connected by io8 / io9 to execute several at commands
2. Send AT command to UART.

“at+cwmode=1\r\n”

“at+cwlap\r\n”

“at+cwjap=”Opu-TEST-AP”,”123456”\r\n”

Example:

```
>at+cwmode=1
OK

>at+cwlap
+CWLAP:3,Opulinks-TEST-AP,-37,44:c3:46:11:41:7f,1
+CWLAP:4,ziroomer,-68,d4:ee:07:52:c8:68,2
+CWLAP:4,ChinaNet-CHca,-58,60:b6:17:50:ab:56,8
+CWLAP:4,UTT-MICHAEL,-45,fc:2f:ef:68:cd:10,9
+CWLAP:4,ChinaNet-eHZU,-67,2c:dd:95:29:3d:e5,9
OK

>at+cwjap="Opulinks-TEST-AP","1234abcd"
WIFI CONNECTED
WIFI GOT IP
OK
```

Or:

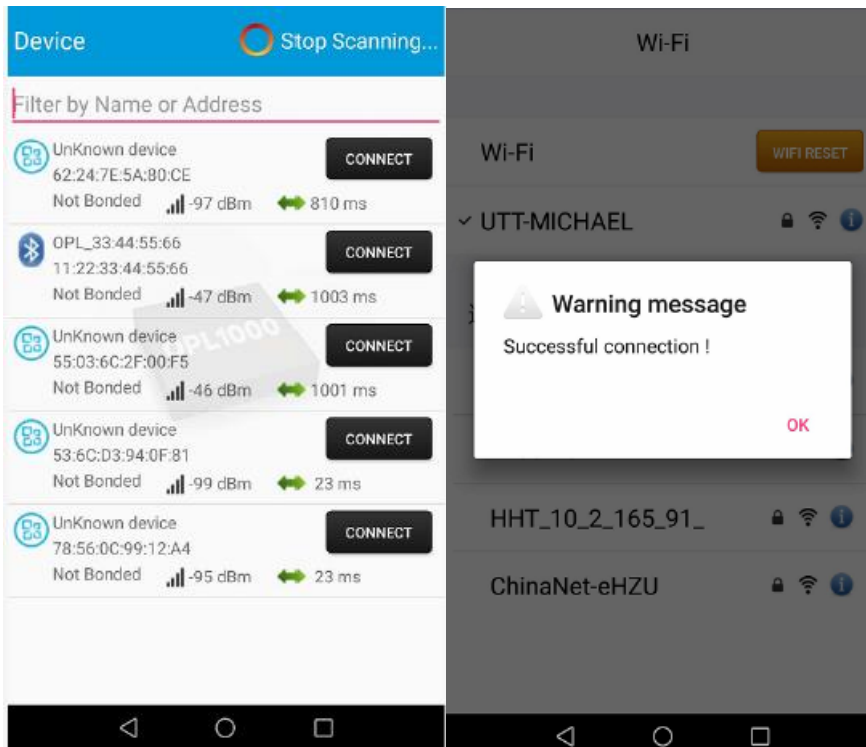
When using the mobile app to complete Bluetooth network distribution, you need to use at + cwmode = 0 to enter the jmd1200 into idle state (no Wi-Fi mode). Then use at + cwmode = 4 to enter blewifi distribution mode. This mode will be saved to flash and the restart will be executed automatically.

at+cwmode=0

at+rst

at+cwmode=4

Reset,use app “opulinks_iot_app.apk” Complete Bluetooth device scanning, connection and AP connection.

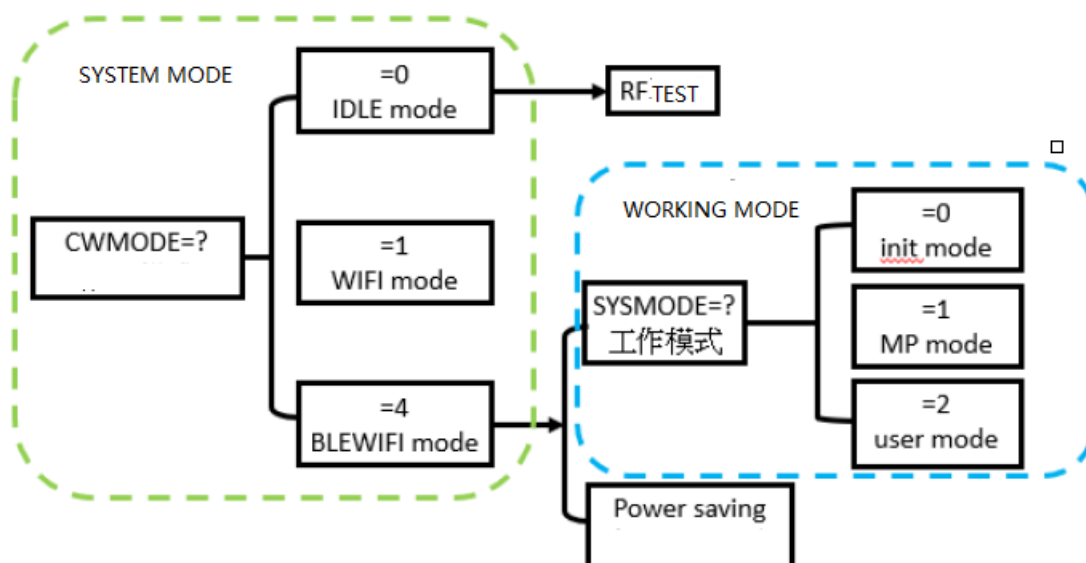


3. Data transceiver

```
at+cwmode=1
at+cwlap
at+cwjap="Opulinks-TEST-AP","1234abcd"
AT+CIPSTART="TCP","www.baidu.com",80
AT+CIPMODE=1
AT+CIPSEND
GET /s?wd=arduino HTTP/1.1
Host: www.baidu.com
Connection: close

+++
AT+CIPCLOSE
```

5. Mode introduction



6. FCC Statement

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.

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 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.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

The device must not be co-located or operating in conjunction with any other antenna or transmitter.

7. IC Statement

This device complies with RSS247 of Industry Canada. Cet appareil se conforme à RSS247 de Canada d'Industrie. This device complies with Industry Canada license-exempt RSS standard(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. appareils radio exempts de licence. Son

fonctionnement est sujet aux deux conditions suivantes: (1) le dispositif ne doit pas produire de brouillage préjudiciable, et (2) ce dispositif doit accepter tout brouillage reçu, y compris un brouillage susceptible de provoquer un fonctionnement indésirable.

RF exposure information:

This device complies with FCC and IC radiation exposure limits set forth for an uncontrolled environment.

Cet appareil est conforme aux limites d'exposition aux rayonnements de la FCC et de l'IC établies pour un incontrôlé environnement.

The device should be installed and operated with a minimum distance of 20cm between the radiator and your body.

L'appareil doit être installé et utilisé avec une distance minimale de 20cm entre le radiateur et votre corps.

Module Statement

The JMD1200 module has received Federal Communications Commission (FCC) CFR47 Telecommunications, Part 15 Subpart C “Intentional Radiators” single -modular approval in accordance with Part15.212 Modular Transmitter approval. It’s also has been certified for use in Canada under Innovation, Science and Economic Development Canada (ISED, formerly Industry Canada) Radio Standards Procedure (RSP) RSP-100, Radio Standards Specification (RSS) RSS-Gen and RSS-247. Single-modular transmitter approval is defined as a complete RF transmission sub-assembly, designed to be incorporated into another device, that must demonstrate compliance with FCC & IC rules and policies independent of any host. A transmitter with a modular grant can be installed in different end-use products (referred to as a host, host product, or host device) by the grantee or other equipment manufacturer, then the host product may not require additional testing or equipment authorization for the transmitter function provided by that specific module or limited module device.

The user must comply with all of the instructions provided by the Grantee, which indicate installation and/or operating conditions necessary for compliance.

The host product itself is required to comply with all other applicable FCC & IC equipment authorizations regulations, requirements and equipment functions that are not associated with the transmitter module portion. For example, compliance must be demonstrated: to regulations for other transmitter components within a host product; to requirements for unintentional radiators(Part 15 Subpart B & ICES-003), such as digital devices, computer peripherals, radio receivers, etc.; and to additional authorization requirements for the non-transmitter functions on the transmitter module (i.e., Suppliers Declaration of Conformity (SDoC) or certification) as appropriate (for example, Bluetooth and Wi-Fi transmitter modules may also contain digital logic functions).

LABELING AND USER INFORMATION REQUIREMENTS

The JMD1200 module has been labelled with its own FCC ID & IC number, and if the FCC ID & IC number is not visible when the module is installed inside another device, then the outside of the finished product into which the module is installed must also display a label referring to the enclosed module. This exterior label can use wordings follows:

Contains Transmitter Module

FCC ID: 2AQVU0025, IC: 28012-JMD1200A

or

Contains FCC ID: 2AQVU0025

Contains IC: 28012-JMD1200A

8. 变更记录

版本	日期	变更内容
Z	2021. 10. 10	Create

9. 备注

无;