**JZC TELECOM**
Technology

**Shenzhen JZC TELECOM Technology CO.,LTD.**

# JZX811 Spread spectrum wireless data transmission module

## User's Manual



## DVER   2.0

## SHENZHEN JZC TELECOM TECHNOLOGY CO., LTD

# JZX811 Spread spectrum wireless data transmission module

JZX811 data transmission module is a highly integrated spread half duplex wireless data transmission module, the use of "LoRa" of high performance ultra low RF chip and high-speed microcontroller. JZX811 module provides 8 channels, and is equipped with a professional set of software, so that users can change the parameters, the module uses a transparent transmission mode, without the need to write the user set up and transfer procedures, you can transfer any size data. Module size is small, with wide voltage , easy to use.



## Applications：

※ **Water, electricity, gas, heating automatic meter reading system**

※**Wireless smart terminal PDA**

※**Wireless Queue System**

※**Wireless alarm and security system**

※**Smart Card**

※**Medical and electronic instrumentation automation control**

※**Intelligent teaching equipment**

※ **Intelligent home automation and lighting control**

※**Wireless electronic scale**

## Features：

※**Frequency: 428-434MHz 470~510 MHz**

※**Distance:5000m(1200Bps)**

※**Modulation:LoRa**

※**Transparent transmission**

※ **Built-in watchdog to ensure long-term reliable operation**

※**UART/TTL, RS232,RS485 Interface**

※**Convenient and flexible**

※**Almost 512bytes data buffer**

※**Suitable for built-in installation**

JZX811 module is built in wireless data transmission module, the ISM frequency band or national measurement frequency band, without the need to apply frequency; the use of customized communication frequency, transmission power is 100mW (20dB), high sensitivity -139dbm, volume 44mm*27mm*6mm, the industry's smallest number of non line data transmission module, is very convenient for users to do embedded wireless system.

JZX811 module design double 512 bytes large capacity buffer and in the buffer is empty, the user can 1 transmission 512 bytes of data, when setting the baud rate of the air is higher than that of serial port baud rate can infinite length of transmission data, at the same time JZX811 module provides the standard UART/TTL interface, 300/600/1200/2400/4800/9600/19200/38400bps 8 kinds of speed, and three interface test mode. JZX811 module external interface uses transparent data transmission transmission mode and protocol transmission mode. These two ways users do not have to set up, the module will automatically judge, can adapt to the standard or non - standard user agreement, the data collected is the hair of the data.

The module uses the serial port to set up the module parameters, the user only needs to set very few parameters to use. Parameters set up by the company provided software "JZC software V3.16", the use of PC serial port on the line. The second step is a dynamic online setting, serial port command to dynamically modify, the specific method of setting the parameters of the JZX811 module.
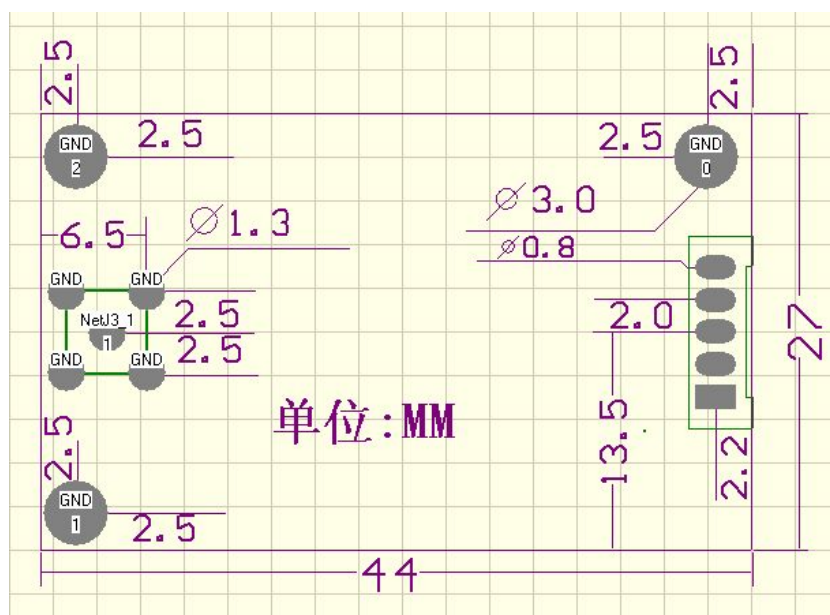
## Module pin definition:

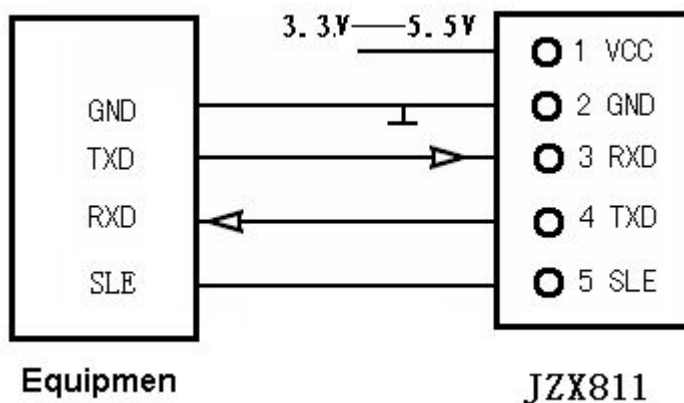| Pin | Definition | Specification | User Terminal | Level | Remark |
|---|---|---|---|---|---|
| JZX811 pin definition | | | | | |
| 1 | VCC | +5V | +5V | DC5V | |
| 2 | GND | Power supply | DGND/AGND | Ground | |
| 3 | RXD | Serial data receiving terminal | TXD | 3.0V | Users sending |
| 4 | TXD | Serial data sending terminal | RXD | 3.0V | Users receiving |
| 5 | SLE | Sleep control input | | TTL | |
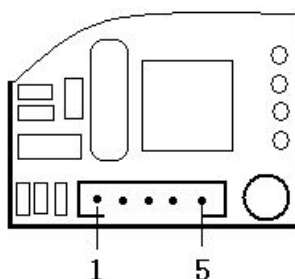


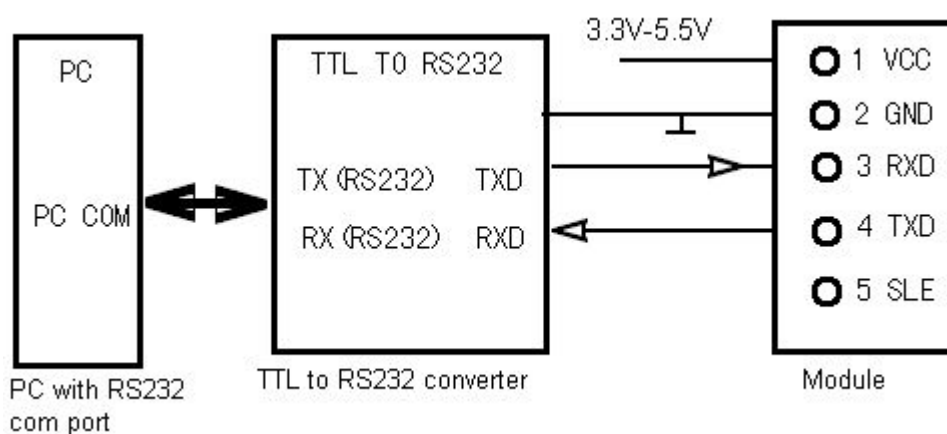## Pin diagram

## Dimension:



单位：MM

## JZX811 connect with customer's equipment:



Note: the module of the SLE pin is left floating or high, the module is in a dormant state. SLE pin

is low, and the module is in normal working condition.

## Module connect with PC:



Note: the JZX811 module is the TTL interface, which must be added to the RS232 to the PC

converter, and the converter must supply the power supply.

# For software testing and change parameters
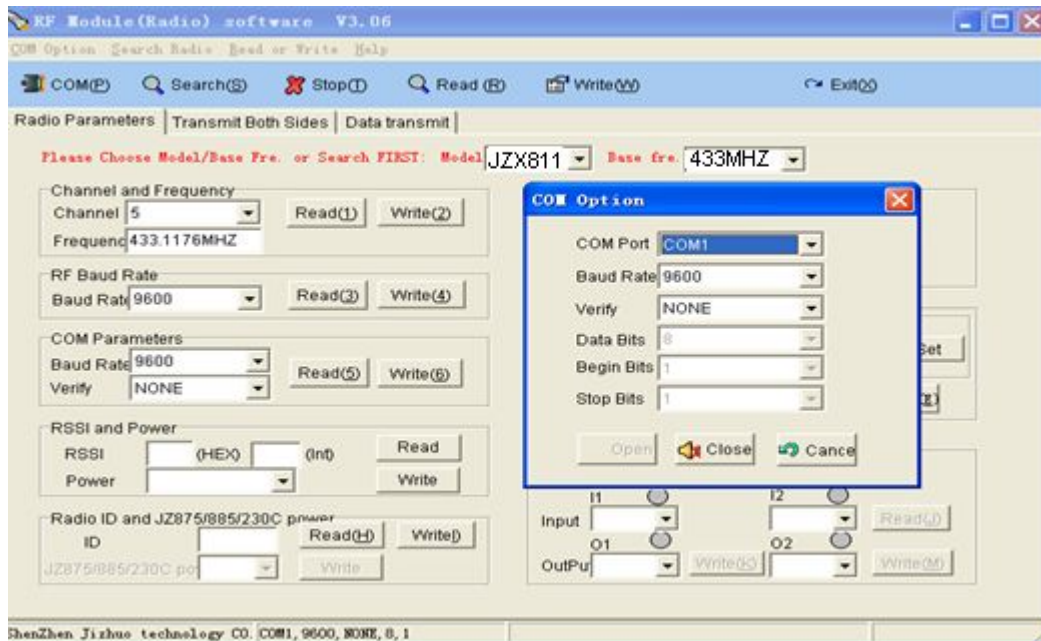


A. JZX811 module and PC connection, and then the power supply, choose the serial port.

B. radio detection, when the test to the radio (software will prompt detection success), you can read or change a single parameter.

C. Setting parameter.When you choose the parameters you want, set up first, and then read the parameter after setting up,to check whether the parameter you want or not.

Note: two or more modules communicate with each other, the frequency of each module and the air speed must be consistent.

Modules communicate with the user equipment, the module and the user's serial parameters must be consistent.

# Model of interoperability:

JZX811 micro power wireless data transmission module can communicate with all of the JZX81 series models. When you pay attention to the following points:

A. select all the channels to communicate with each other.

B. the air speed of your communication module is the same.

C. the power of the communication module, the interface connection has been good.

## Sleep Mode:

JZX811 has two version: non dormancy and dormancy. The current of sleep JZX811 is 10uA. The sleep function of JZX811 is the hardware wake mode. The hardware wake is input to the high level of the fifth pin input through the interface, and the input is low.

If the user use a JZX811 with a sleep function, but does not want to use the sleep function, can be achieved through the JZX811 fifth feet to the ground.

## Details as followings:

Module in the working state to sleep state, it is necessary to SLE pin from low to high, if the module is idle (no transmit / receive data) MCU to sleep within about 1ms; If you are in the collection and development data, the data will be processed the frame side to sleep. Module in sleep state to work state, it is necessary to SLE pin from high to low, MCU is working on several ms to enter into the state, but in order to send data to the stability of the user side should be more than 60ms latency available for data transmission.
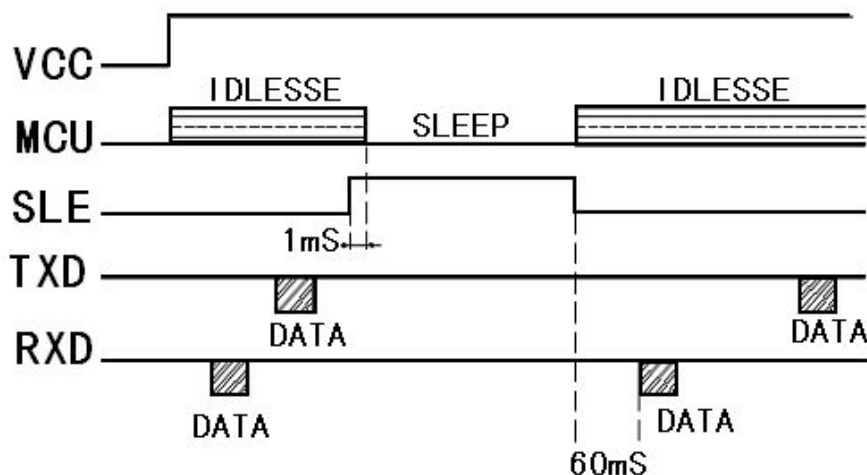
## Transform on transceiver and receiver:

End user devices receiving the data sent by the module, and then transferred to the data center must have sent more than 1ms delay.
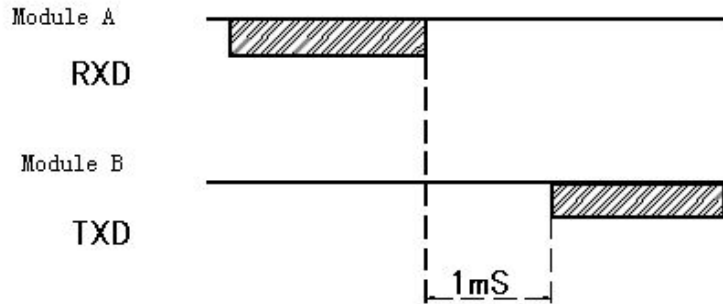


# JZX811 regular parameter

**Channel: The Fifth channel; 433MHZ**
**Serial port speed: 9600BPS**
**Serial port verification: Null**
**Airborne speed: 9600BPS**

| 433MHZ | | 490MHZ | |
|---|---|---|---|
| 1 | 432.2052MHZ | 1 | 488.5120MHZ |
| 2 | 432.7630MHZ | 2 | 489.1072MHZ |
| 3 | 433.1072MHZ | 3 | 489.6023MHZ |
| 4 | 433.6354MHZ | 4 | 490.1243MHZ |
| 5 | 434.1278MHZ | 5 | 490.7654MHZ |
| 6 | 434.6832MHZ | 6 | 491.1357MHZ |
| 7 | 435.1054MHZ | 7 | 491.7450MHZ |
| 8 | 435.7230MHZ | 8 | 492.1540MHZ |

# Technical specification of JZX811

| Technical specification | |
|---|---|
| **Modulation：** | LoRa |
| **Frequency：** | 433MHz/490MHz        Users could customize |
| **Transmit Power：** | 100mW(20 dB) |
| **Receiver sensitivity：** | -139dBm |
| **Transmit Current：** | <120mA |
| **Receive Current：** | <15mA |
| **Sleep Current:** | <10uA |
| **Channel Rate：** | 300/600/1200/2400/4800/9600/19200/38400Bit/s   customized |
| **Serial Port Rate：** | 300/600/1200/2400/4800/9600/19200/38400Bit/s   customized |
| **Interface：** | TTL、RS232、RS485 |
| **Interface-data-format：** | 8E1/8N1/8O1        customized |
| **Working Power：** | DC 3.0-5.5V or 2.5~3.6V |
| **Working Temperature：** | -20℃～75℃ |
| **Working humidity：** | 10%～90% Relative humidity, no condensing |
| **Size：** | 44mm*27mm*6mm |
| **Communicated Model：** | JZX811/JZX813/JZX815/JZX818 |

**Note: All of the rights of final interpretation and modification by our company**