

Zwave wireless module Manual

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The tri-band transceiver, operating frequency of the international ISM band 433/868~915MHz GMSK modulation, anti-interference ability, especially suitable for industrial control applications using the DSS PLL frequency synthesizer technology, and excellent frequency stability and high sensitivity-100dBm low operating voltage (2.7V), small power consumption, standby only 1uA, to meet the requirements of low power devices, the maximum transmit power up to 10dBm with multiple channels (up to 170), in particular, to meet the special needs multi-channel work

occasions, the work rate up to 76.8 Kbps

Electrical Characteristics

1. Frequency band: 433/868~915MHz
2. Channel number: 170
3. Function: transmitter / receiver
4. Frequency stabilization method: PLL
5. Modulation mode: the FSK / GMSK
6. Maximum output power: 10dBm
7. Sensitivity:-100dBm
8. Maximum operating rate: 76.8Kbit / s
9. Working voltage: 2.7 - 3.3 V

Pin Description

The pins of this module are shown as below:

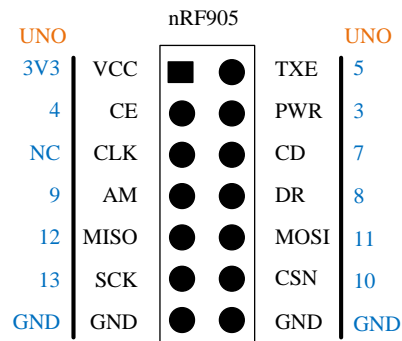
| | | | |
|------|---|---|------|
| VCC | ■ | ● | TXE |
| CE | ● | ● | PWR |
| CLK | ● | ● | CD |
| AM | ● | ● | DR |
| MISO | ● | ● | MOSI |
| SCK | ● | ● | CSN |
| GND | ● | ● | GND |

1. VCC ---- Power supply.
2. TXE ---- RF module mode selecting.
3. CE ---- Enable RF module for transmit and receive.
4. PWR ---- Power up chip.
5. CLK ---- Output clock, divided crystal oscillator full swing clock.
6. CD ---- Carrier detect.
7. AM ---- Address matched.
8. DR ---- Receive and transmit ready.
9. MISO ---- SPI master input slave output.
10. MOSI ---- SPI mater output slave input.
11. SCK ---- SPI clock.
12. CSN ---- SPI enable.
13. GND ---- Ground.
14. GND ---- Ground.

Example

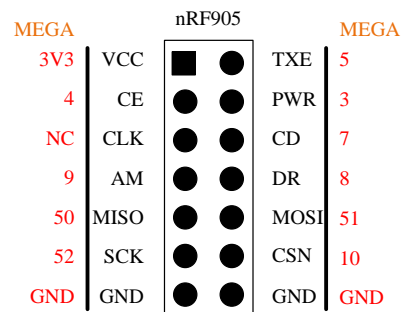
Connect with Arduino

Connect with Arduino UNO/Due:



nRF905

Connect with Arduino Mega:



Code

Click here to download [the library for Arduino](#). There are two examples. One is sending data and the other is receiving data.

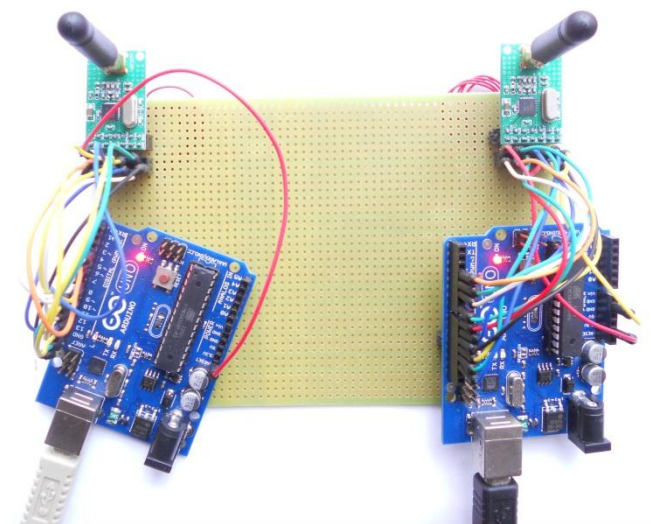
Since different countries have different Zwave bands, you should set the frequency in the code. We made it very easy to change it.

```
nrf905.write_config(US);
```

Just enter your country or area as a parameter in this function. In fact, you have choices:

| | |
|-------------|-----------|
| US | 908.42Mhz |
| EUROPE | 868.42MHz |
| AFRICA | 868.42MHz |
| CHINA | 868.42MHz |
| HK | 919.82MHz |
| JAPAN | 853.42MHz |
| AUSTRALIA | 921.42MHz |
| NEW_ZEALAND | 921.42MHz |
| BRASIL | 921.42MHz |
| RUSSIA | 896MHz |

Upload the two examples into 2 Arduino boards, one to send data and the other to receive data.



Then open the Serial Monitor of the receiving board, you will get receive some data like follows:

```
Hi, Arduino 0  
Hi, Arduino 1  
Hi, Arduino 2
```

Warn

We can't guarantee all the NRF905 modules in the market are compatible with our code. In fact, we test some and they are not.

Disclaimer and Revisions

The information in this document may change without notice. Please mail to service@elehouse.com or visit www.elehouse.com for more information.

Revision History

| Rev. | Date | Author | Description |
|-------------|-----------------------------|---------------|--------------------|
| A | Jun. 5 th , 2012 | Wilson Shen | Initial version |