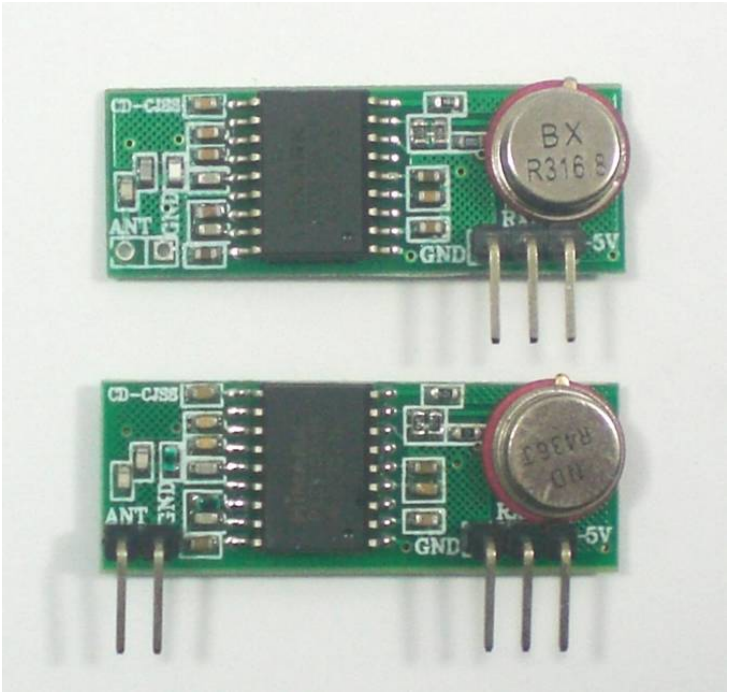
RF-RX-315
RF-RX-433
RF Receiver Module



User's Manual

V1.1

Nov 2008

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1. INTRODUCTION AND OVERVIEW

These RF receiver modules are very small in dimension. The low cost RF Receiver can be used to receive RF signal from transmitter at the specific frequency which determined by the product specifications. Super regeneration design ensure sensitive to weak signal. Cytron Technologies provides 2 types of RF Receiver Modules at either 315MHz or 433MHz for user:

Product Code	Description
RF_RX_315	RF Receiver 315MHz
RF_RX_433	RF Receiver 433MHz

The application includes:

- Industrial remote control, telemetry and remote sensing.
- Alarm systems and wireless reception for various types of low-rate digital signal.
- Remote control for various types of household appliances and electronics projects.

2. PRODUCT SPECIFICATION

2.1 The Specifications of RF Receiver

Except for the frequency and antenna length, RF_RX_315 and RF_RX_433 share the same product specifications as shown in table below:

No.	Specifications	RF Receiver
1.	Operating Voltage	5.0V ± 0.5V
2.	Operating Current	≤5.5mA @5.0V
3.	Operating Principle	Monolithic super heterodyne receiving
4.	Modulation	OOK/ASK
5.	Frequency	315MHz, 433.92MHz
6.	Bandwidth	2MHz
7.	Sensitivity	-100dBm
8.	Rate	＜9.6Kbps (315MHz @-95dBm)
9.	Data Output	TTL
10.	Antenna Length	24cm (315MHz), 18cm (433.92MHz)

2.2 Antenna

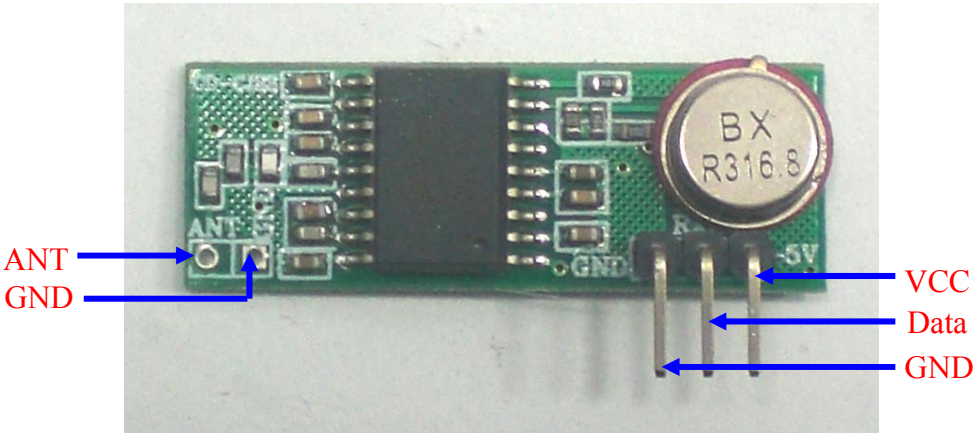
1. User may use any soft or hard wire (likes Drawbars antenna) as antenna. If the soft wire is used, do make sure it is fully extended. The distance of reception will be influence by the length of antenna; **please select the correct length with refer to specifications of RF Receiver above.** (Section 2.1, No. 10). Please keep the RF Receiver Module away from metal objects.

2.3 Important Notes

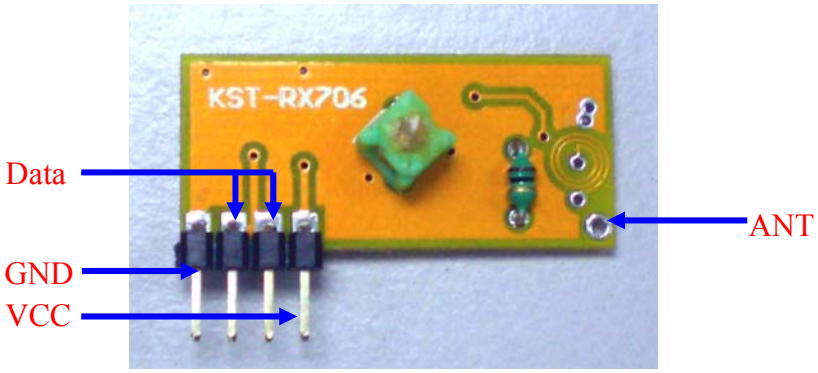
1. If the module is used with microcontroller, the clock frequency should be under 4MHz. Please try to keep a distance between oscillator and the RF Receiver module to avoid the disturbance from oscillator.
2. The voltage supply need to stable and the ripple voltage need to be as low as possible, multi-level filtering are needed. (For example, add ferrite bead, inductor and capacitor.)

3. PRODUCT LAYOUT

3.1 RF_RX_315MHz

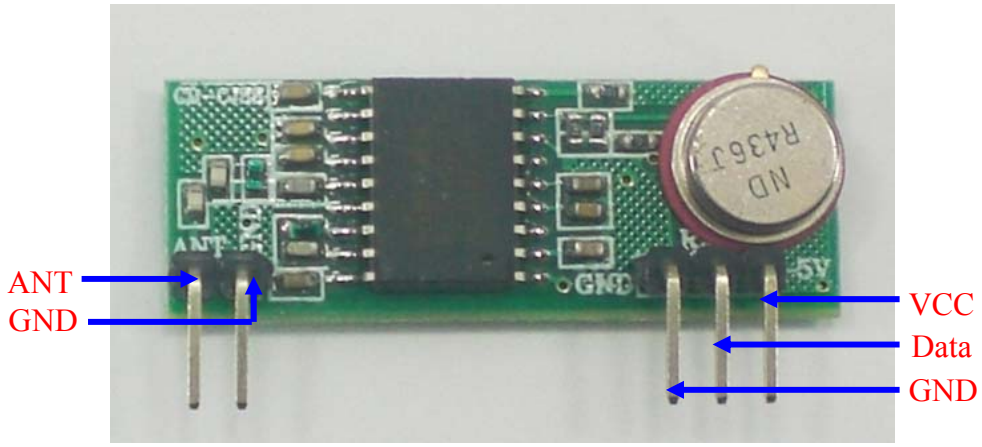


Label	Description
ANT	The hole to solder and connect antenna. (Please select the correct antenna length, which is 24cm)
VCC	The power supply (5V) to the receiver.
GND	The Ground of the receiver. (The 2 GND are internally connected each other.)
Data	The Data pin of the receiver.



Label	Description
ANT	The hole to solder and connect antenna. (Please select the correct antenna length, which is 24cm)
VCC	The power supply (5V) to the receiver.
GND	The Ground of the receiver.
Data	The Data pin of the receiver. (The 2 Data pins are internally connected each other.)

3.1 RF_RX_433MHz



Label	Description
ANT	The pin to connect antenna. (Please select the correct antenna length, which is 18cm)
VCC	The power supply (5V) to the receiver.
GND	The Ground of the receiver. (The 2 GND are internally connected each other.)
Data	The Data pin of the receiver.

4. GETTING STARTED

Solder or connect the antenna to the RF Receiver Module, **please select the correct length with refer to specification of RF receiver at Section 2.1, No. 10.** There are 2 GND on the module which are internally connected each other. Connect the 3-pin header to your circuit so that the GND pin connects to ground of the circuit board, the VCC pin connects to VCC of the circuit board and the Data pin connects to your microcontroller's I/O pin. Please refer Cytron product, Sending data using RF module (Product code: PR16) for example application of RF Receiver. The details description and schematics of PR16 can be downloaded from http://www.cytron.com.my/PR16.asp

Note: The RF receiver module should be use in pair with RF transmitter module.

5. WARRANTY

- Product warranty is valid for 6 months.
- Warranty only applies to manufacturing defect.
- Damage caused by mis-use is not covered under warranty.
- Warranty does not cover freight cost for both ways.

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