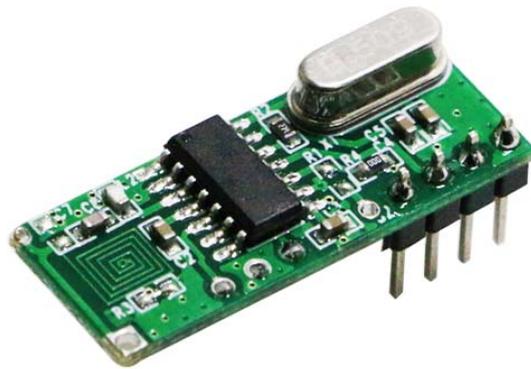


Superheterodyne ASK Wireless Receiving Module

SPECIFICATION

Model No.: DL-RXP4303

Version: V2.0



Before using this module, please read this document carefully, and pay attention to the following important matters:

This module is an electrostatic sensitive product. Please operate it on an anti-static workbench during installation and testing.

The module uses an external antenna by default. The antenna can be a wire antenna or a standard UHF antenna. You can choose a specific antenna according to the actual situation. If the terminal product uses a metal shell, be sure to install the antenna outside the metal shell. Otherwise, the RF signal will be seriously attenuated, which will affect the effective distance.

Metal objects and wires should be kept away from the antenna as much as possible.

When installing the module, nearby objects should be kept at a sufficient safety distance from the module to prevent short circuit damage.

This module should be used in a dry environment. Please do not make any liquid substance come into this module.

Please use an independent voltage regulator circuit to supply power to this module, and avoid sharing with other circuits. The tolerance of the power supply should not be less than 5%.

Limitations:

This module is intended to be embedded in the customer's terminal product application, and does not provide a casing itself. It is not recommended that the customer directly resell this module as a final product without permission.

This series of modules are in accordance with commonly used international standards. If there is any special certification needed, we can adjust certain indicators according to your needs.

This module cannot be applied to life rescue, life-support systems, or any occasion where personal injury or life threatening may cause by equipment failure. Any organization or individual carrying out the above-mentioned applications shall bear all risks at their own.

We will not be responsible for any direct or indirect damage, injury or loss of profits caused by products that use this module.

DL-RXP4303 is a cost-efficient single chip wireless ASK receiving module, it is the most classic ASK receiving module in our Sub-1GHz products, mainly competed with the super-regenerative modules, with all the functions of high-end RF modules, and performs a very high receiving sensitivity. The sensitivity can reach -114 dBm under 3.3V @ 315MHz, which greatly increases the receiving distance. At the same time, this model has a higher integration, with high frequency signal reception functions all on chip.

It is widely used in wireless doorbell, wireless weather report, toy control applications, etc. At the same time, the working mode of the module can be set by a resistor outside the chip, and all RF and IF tuning can be done automatically in the chip, which eliminates the noise handling during the decoding process and facilitates debugging.

This module has a preset CE enabled control pin, which can be well used in power saving mode. It is mainly developed for weather forecasters, can accurately receive data collected in different outdoor environments, and has super anti-interference ability.

1. Features:

- Complete single chip UHF receiver with frequency range of 250-500 MHz
- Operating frequency: 433.92m, 315m (other frequencies can be customized)
- Receiving sensitivity at noise-free mode: - 96dbm (315MHz), - 96dbm (433MHz) - factory defaulted
- Receiving sensitivity at noise mode: -110dbm (315MHz), -110dbm (433MHz)
- Transmission rate: 10kbps (max), fixed automatic tuning
- No need for manual adjustment, and no external adjustable inductance/detector needed
- Working power: 2.7Ma (315MHz, full operation); 1μA (shutdown mode)
- Transmission distance: 300m in an open air (1200BPS)
- Working voltage: 2.4V-5.5V
- Independent 64 byte RXFIFO and TX FIFO
- Single serial port data transmission interface;

2. Applications:

- Wireless sensor;
- Home automation;
- Automated data collection;
- Industrial remote control, telemetry;
- Data monitoring and transmission;
- Home Appliance Control;

5. Technical Parameter

DC characteristics

Description	Min.	Typi.	Max.	Unit
Supply voltage	2.4		5.5	V
Working current (RX)		2.7		mA
Standby current		1		uA

Table 2: DC characteristics of the Module

RF characteristics (Unless otherwise stated, the temperature is 25 °C, and VCC is 3.3V)

No	Characteristics	Technical Parameter			Unit
		Min.	Typi.	Max.	
1	Frequency range	250	315/433	500	MHz
2	Antenna signal input peak value	-20	-10		dBm
3	Receive sensitivity (noise mode)		-110		dBm
4	Receive sensitivity (noise-free mode)		-96		dBm
5	Transmission rate		2.5	10	Kbps
6	IF bandwidth (RBW)		180		KHz
7	10:1 duty ratio		250		kHz
8	Receiving current		2.7		mA
9	Standby current (No CE pin as default, customizable)		1		uA

Table 3: High frequency characteristic table of the module

6. Connection between module and terminal equipment (TTL electrical level)

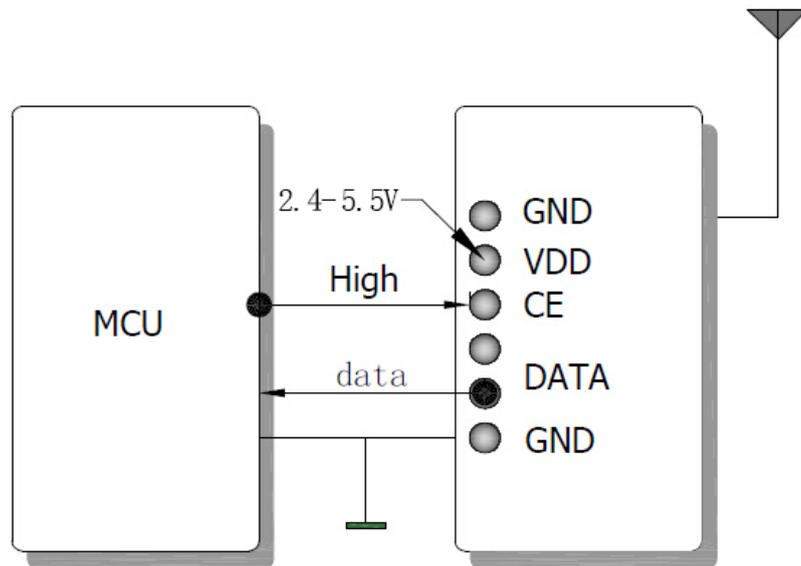


Figure 2: Wiring diagram for module application

7. Notices in module application

Considering the complexity of data transmission over the air, the radio frequency modulation method of the data, and some inherent characteristics of electromagnetic waves, the following issues should be considered during the application process.

1. The electromagnetic interference of the application environment will affect the actual distance of the remote control. Electromagnetic wave interference is divided into mainboard power supply interference, TFT screen data cable interference, Flash data exchange interference; and airborne carrier frequency interference, noise interference, high-power signal source interference, etc.
2. Factors such as product size, internal space, and coating of the shell will cause the attenuation of the wireless signal, which will affect the remote-control distance. Usually the narrow internal space of the product is not conducive to the extension of the antenna. The outer shell should avoid metal or metal plating as much as possible.
3. To choose a proper antenna is very important. The antenna is an important part of the communication system, and its performance directly affects the indicators of the communication system. We must pay attention to its performance (antenna type, antenna electrical performance) when selecting the antenna. Please feel free to contact us for consultation or recommendation, if you need.

8. Contact us

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★ Data collection, Smart home, Internet of Things applications, Wireless remote-control technology, Remote active RFID, Antennas ★

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