

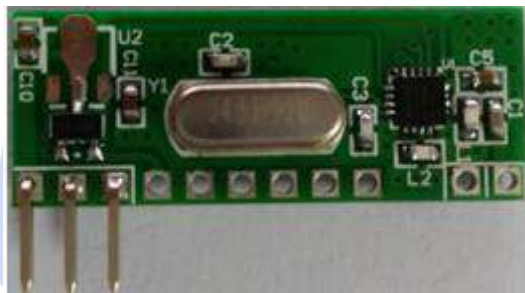


**Type: -40~85C ASK/OOK/FSK Superhet Receiver Module**

**Model: CY121**

### 1. Description:

The CY121 is an ASK/OOK/FSK compatible super heterodyne wireless receiving module with high performance for ISM frequency band. With the adoption of European brand RF wireless data transferring/receiver chipsets, the module has advantages at high receiving sensitivity, small size and low cost. It solves the problem on space for the small-sized product. From wireless signal input to data output can be done without any electrical circuit. User only use extra simple data decode circuit can achieve wireless products development.



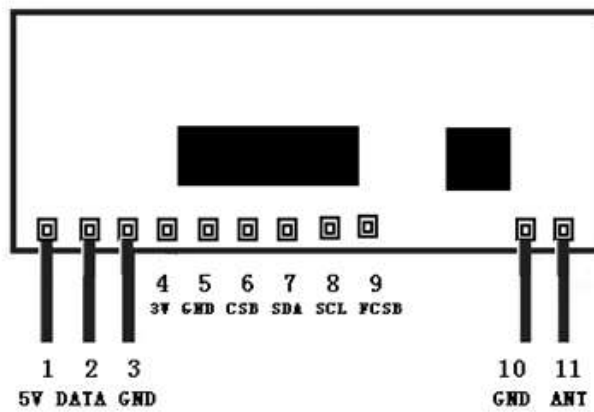
### 2. Features:

- Frequency: 300M – 960M (ASK/FSK);
- High sensitivity -109dBm;
- Supply voltage: 3.6V – 5.5V;
- Operating temperature: -40°C ~ 85°C, work normally even in the severe temperature environment;
- Excellent inhibiting ability for local oscillator radiation: multiple receivers receive signals from one transmitter simultaneously without any mutual interference and influence on range;
- 31.5\*12\*5mm;

### 3. Application

- Remote door openers
- Remote keyless entry
- Wireless security systems
- Remote control
- Wireless door ring
- Wireless data transmission

### 4. Pin Description



CY121 Shape & Pin

Pin Name	Pin Definition
<b>5V</b>	Connect to positive power supply
<b>VDD</b>	Connect to positive power supply
<b>GND</b>	Connect to negative power supply
<b>3V</b>	Interior configuration program port
<b>GND</b>	Interior configuration program port
<b>CSB</b>	Interior configuration program port
<b>SDA</b>	Interior configuration program port
<b>SCL</b>	Interior configuration program port
<b>FCSB</b>	Interior configuration program port
<b>GND</b>	Connect to negative power supply
<b>ANT</b>	Antenna input

**Note 1:** CY121 is come with standard three PINs (**without the ANT and GND pins**). Please notify us if you would like 5 PINs



**Note 2:** ANT pin is a 50 ohm antenna input.

The length is about: 23cm for 315MHz; 17cm for 433.92MHz; 8.6cm for 868.325 MHz; 8.2cm for 915 MHz

## 5. Electrical Characteristics:

Condition: Ta=25°C Vcc=3.3V Frequency=315MHz FSK

Characteristics	Specification			Unit	Note
	Min.	Typ.	Max.		
Frequency Range		315		MHz	
Modulation	FSK				
RF Sensitivity		-108		dBm	50Ohm antenna input directly/1K Kbps
Receiving Bandwidth		25		KHz	
Supply Voltage, VDD	3.6	5	5.5	V	
Current	3.5	4.0	4.5	mA	
Image Rejection		35		dB	
Decoding output max. voltage		3.3		V	RL=500K
Decoding output min. voltage		0		V	
Operating Temperature	-40		85	°C	

Condition: Ta=25°C Vcc=3.3V Frequency=315MHz ASK

Characteristics	Specification			Unit	Note
	Min.	Typ.	Max.		
Frequency Range		315		MHz	
Modulation	ASK				
RF Sensitivity		-109		dBm	50Ohm antenna input directly/1K Kbps
Receiving Bandwidth		160		KHz	
Supply Voltage, VDD	3.6	5	5.5	V	
Current	3.5	4.0	4.5	mA	
Image Rejection		35		dB	
Decoding output max. voltage		3.3		V	RL=500K
Decoding output min. voltage		0		V	
Operating Temperature	-40		85	°C	



Condition: Ta=25°C Vcc=5.0V Frequency=433.92MHz FSK

Characteristics	Specification			Unit	Note
	Min.	Typ.	Max.		
Frequency Range		433.92		MHz	
Modulation	FSK				
RF Sensitivity		-108		dBm	50Ohm antenna input directly/1K Kbps
Receiving Bandwidth		60		KHz	
Supply Voltage, VDD	3.6	5.5	3.6	V	
Current	3.8	4.3	4.8	mA	
Image Rejection		35		dB	
Decoding output max. voltage		3.3		V	RL=500K
Decoding output min. voltage		0		V	
Operating Temperature	-40		85	°C	

Condition: Ta=25°C Vcc=5.0V Frequency=433.92MHz ASK

Characteristics	Specification			Unit	Note
	Min.	Typ.	Max.		
Frequency Range		433.92		MHz	
Modulation	ASK				
RF Sensitivity		-109		dBm	50Ohm antenna input directly/1K Kbps
Receiving Bandwidth		160		KHz	
Supply Voltage, VDD	3.6	5	5.5	V	
Current	3.8	4.3	4.8	mA	
Image Rejection		35		dB	
Decoding output max. voltage		3.3		V	RL=500K
Decoding output min. voltage		0		V	
Operating Temperature	-40		85	°C	



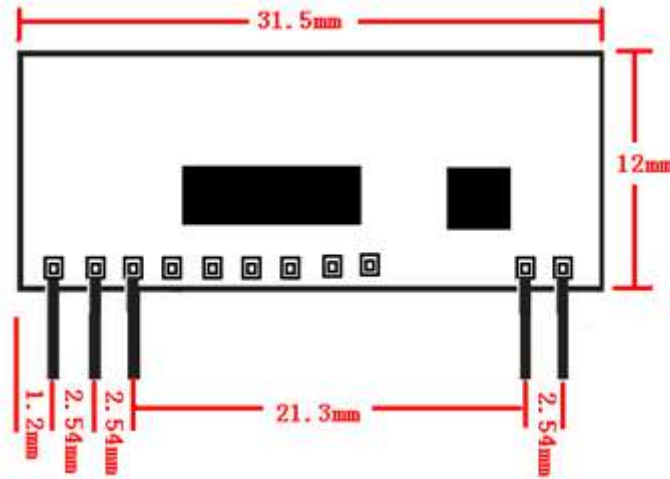
Condition: Ta=25°C Vcc=5.0V Frequency=868.325MHz FSK

Characteristics	Specification			Unit	Note
	Min.	Typ.	Max.		
Frequency Range		868.325		MHz	
Modulation	FSK				
RF Sensitivity		-108		dBm	50Ohm antenna input directly/1K Kbps
Receiving Bandwidth		60		KHz	
Supply Voltage, VDD	3.6	5	5.5	V	
Current	5.2	5.7	6.2	mA	
Image Rejection		35		dB	
Decoding output max. voltage		3.3		V	RL=500K
Decoding output min. voltage		0		V	
Operating Temperature	-40		85	°C	

Condition: Ta=25°C Vcc=5.0V Frequency=868.325MHz ASK

Characteristics	Specification			Unit	Note
	Min.	Typ.	Max.		
Frequency Range		868.325		MHz	
Modulation	ASK				
RF Sensitivity		-109		dBm	50Ohm antenna input directly/1K Kbps
Receiving Bandwidth		160		KHz	
Supply Voltage, VDD	3.6	5	5.5	V	
Current	5.2	5.7	6.2	mA	
Image Rejection		35		dB	
Decoding output max. voltage		3.3		V	RL=500K
Decoding output min. voltage		0		V	
Operating Temperature	-40		85	°C	

## 6. Mechanical Size: (Unit: MM)



CY121 Dimension

## 7. Caution

Because of the low drive current of data output pin, if directly drive MCU, please do not connect I/O port of this MCU with pull-up resistor or pull-down resistor and disable the interior pull-up resistor or pull-down resistor of this MCU.

For more information and assistance, please contact us as follows:

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