Catalog

Note: Revision History

Vevision	Date	Comment
V1.0	2013-5-11	First release
V2.0	2015-9-7	Add ASK demo details

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SRX882 Superheterodyne Receiver

1. Overview

SRX882 is a low cost superheterodyne receiver module with low current consumption. It works well with our ASK transmitter STX882. It complies with the certification of ROHS, FCC, ETSI and CE. The module is easy to use and can be connected to the microcontroller directly.

2. Features

- Frequency Range: 433/315 MHZ
- Superheterodyne modulation
- High sensitivity
- Long distance working with STX882
- Standby mode current < 1uA
- Comply with ROHS, FCC, ETSI,CE
- Small size
- High stability in varies environment

3. Application

- Wireless door bell
- Wireless security alarm
- Wireless industrial control
- Wireless data transmission
- Home automation

4. Electronic Specification

Parameter	Min	TP	Max	Unit	Condition
Operation conditions					
Supply Voltage	2.4	5	5.5	V	
Operating Temperature Range	-30		85	℃	
Latency			20	ms	@315MHZ
			9	ms	@433@HZ
Current consumption					
Consuming current		2.5		mA	@315MHZ
		2.8		mA	@433MHZ
		<2		uA	@CS=1 Or vacant
RF parameters					
Frequency Range	433.82	433.92	434.02	MHZ	@433MHZ
	314.9	315	315.1	MHZ	@315MHZ
Sensitivity		-110	-107	dBm	@1.2Kbps
Air rate	0.1		9.6	kbps	
Receiver bandwidth		200		KHz	

5. Pin definition
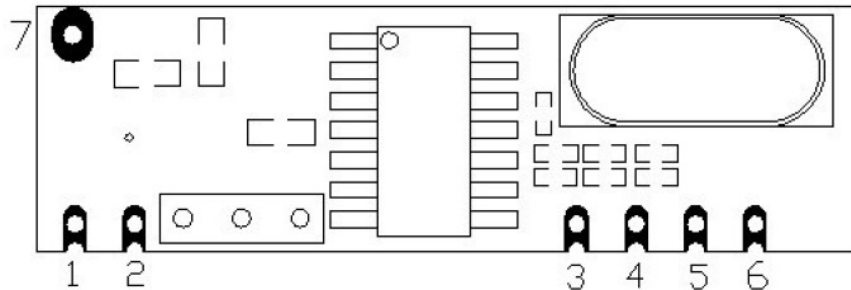
Pin Number	Pin Definitions	Description
1	ANT	Connect with 50 ohm coaxial antenna
2	GND	Connected to power ground
3	VCC	Positive power supply
4	CS	1: Normal working 0: Sleep mode
5	DATA	Data output
6	GND	Connected to power ground
7	ANT	Connect with 50 ohm coaxial antenna

Pin 1 and Pin 7 has the same function, user can choose either of them to use.

6. Machanism Dimension
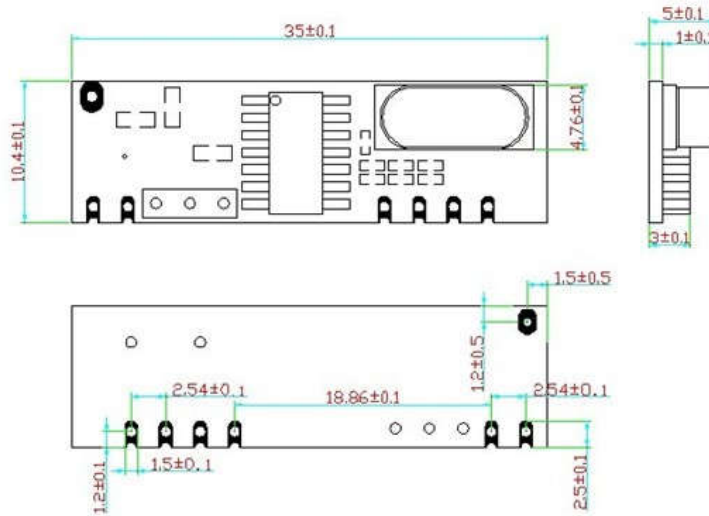
7. Appendix

We have the related DEMO kit for users to test the ASK module.

ASK demo Kit include transmitter kit and receiver kit. In the transmitter, several encoders (HT12E, EV1527, PT2262 and MCU) are included. In the receiver, the MCU decode the signal for all the encoders. With this demo, user can evaluate the performance of the RF module. It is easy to use and helpful especially in field test. Customer can contact sales for the source code related to this demo kit.
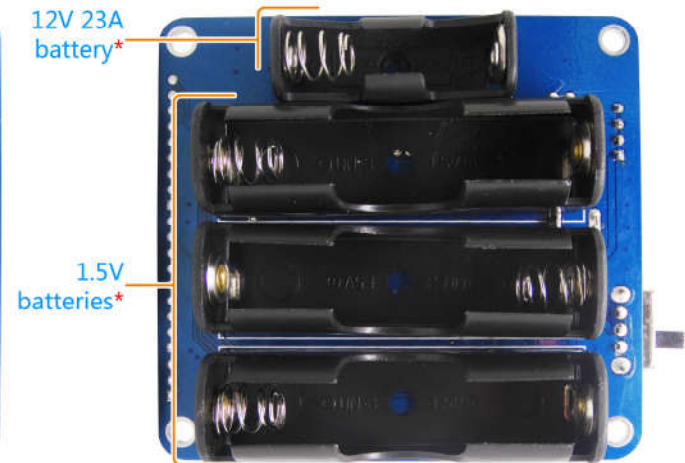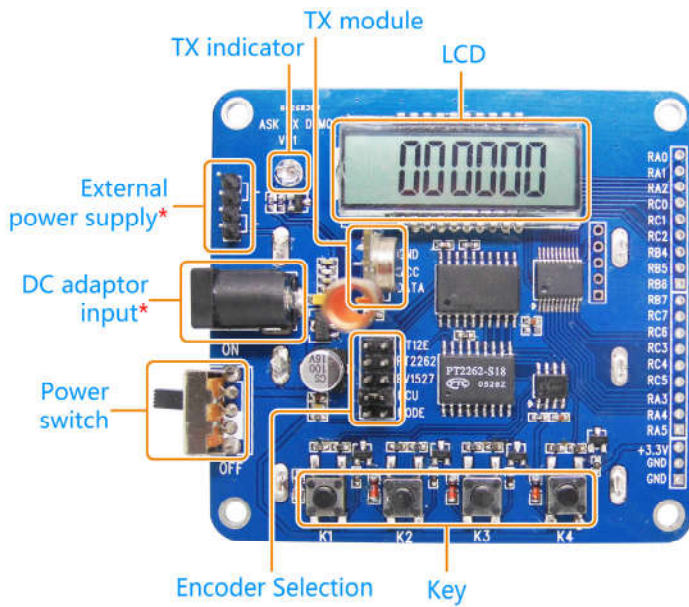
Transmitter kit is for STX882.

Receiver kit has 2 versions, one for SRX882, another for SRX887.

7.1. Features:

- HT12E / EV1527 / PT2262 / MCU encoder
- LCD display
- 3V ~ 12V
- Very easy to use

- Manchester encode / decode
- High stability in varies nvironment
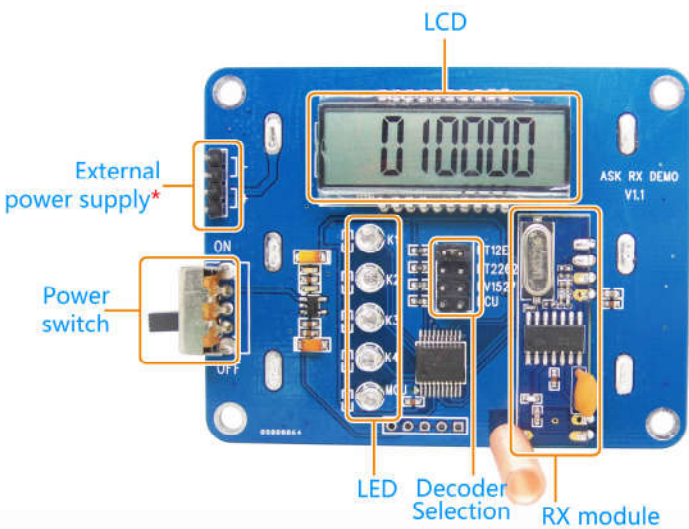- Superheterodyne modulation
- Wild voltage range

7.2.   Structure explanation:

Transmitter
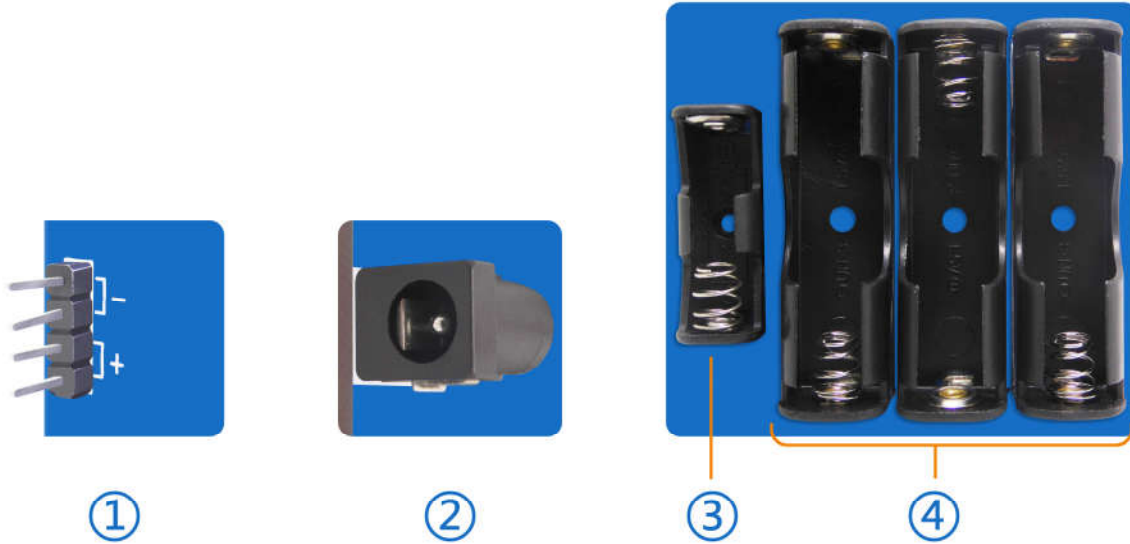

Receiver

7.3.   Functions:

Operation Steps:

1. Power on.

2. Select the encoder and decoder (both the transmitter and receiver should be same)

3. Start to Tx and Rx by pressing key or transmit automatically

7.4. Detailed Description

7.4.1 Power supply (Transmitter / Receiver)

1. External power supply

2. 5V DC adaptor   (Transmitter only)

3. 12V 23A battery   (Transmitter only)

4. AA battery

Note: Only one of the power supply can be selected , the voltage range is 3V ~ 12V

7.4.2 Encoder selection

1. The encoder is selected when short caps put on

2. The encoder on the Transmitter and Receiver should be same.

3. Only one encoder can be selected, for example:

Transmitter　　　　　　　　　　　　　　　　**Receiver**

Encoder HT12E is selected.

4. MODE selection is valid only when MCU is selected, and it will enter automatic mode when it is valid

(Both MCU and Mode has cap on). In automatic mode it send message every 1s automatically.

Transmitter　　　　　　　　　　　　　　　　**Receiver**

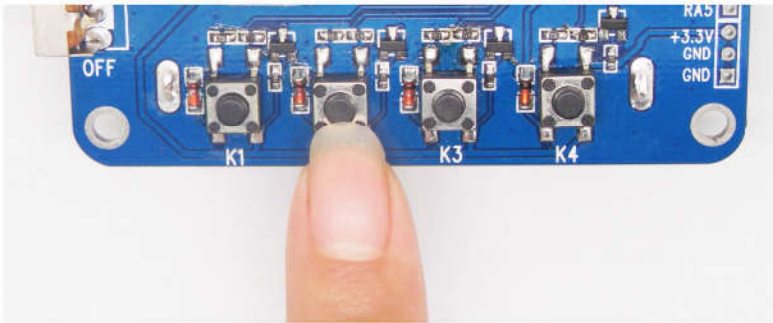Key mode (key trigger the transmission)

Automotic mode

7.4.3 Key & LED

1. The LEDs of the receiver are corresponding to the keys on the transmitter

2. The led of MCU will light on when in automatic mode

| Transmitter | Receiver |

7.4.4 LCD

The LCD display reset to 000000 after power on, and increase 1 when one packet send out or received

| Transmitter | Receiver |

8. FAQ:

a) Why can not communicate?

1) Check if there is power connection error,if DEMO in normal working；

2) Check if the transmitter and receiver decode and encode mode are the same；

3) Check if module are broken（see if the light flash when power on）

b) Why transmit range is not long?

1) Power supply ripple is too large;

2) Antenna type does not match or improperly installed;

3) Surrounding co-channel interference;

4) The surrounding environment is harsh, strong interference sources