



**NiceRF** NiceRF Wireless Technology Co., Ltd.

## Product Datasheet V1.0

Walkie Talkie Control Wireless Switch Module  
**SA809-RX**



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## Catalogue

1.Description.....	3
2.Features .....	3
3.Application.....	3
4.Block Diagram .....	3
5.Electrical Characteristics.....	4
6.Interface Description.....	4
7.Function Description.....	4
8.Application Connection .....	6
9.Dimension .....	7

### Note: Revision History

Revision	Date	History
V1.0	2016-03-18	First Release

## 1. Description

SA809-Rx consists of walkie talkie and DTMF decoder, it works with walkie talkie to succeed long range wireless control. Any walkie talkie with DTMF function in the market can be used as transmitter. For example, the GP338 of Motorola. When SA809-RX receives the signal of transmitter, it will decode and compare with the password preset before. The high current mosfet will be driven to output if the input signal are verified. SA809-RX is very high security with 1—10 digital password and 400—480MHz frequency channel. All the parameters can be set freely with our PC software . It can achieve 5—8Km easily with higher output power walkie talkie, and widely used in the application of industrial control, smart home, etc.

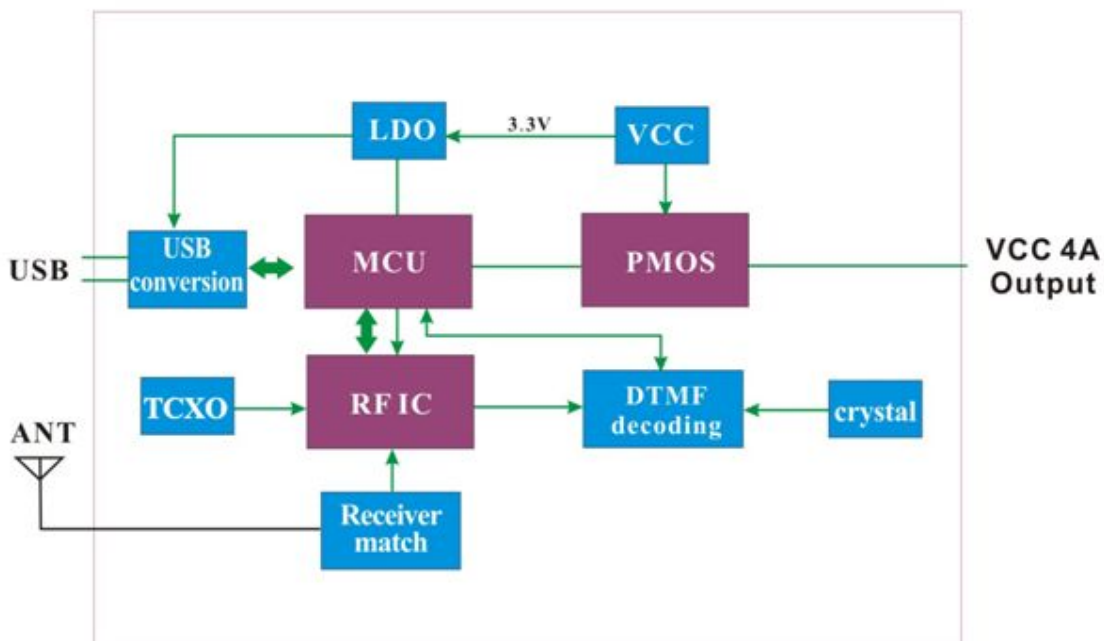
## 2. Features

- Up to 10 digital password
- 6400 channels
- PC configurable parameters
- Walkie talkie with DTMF as transmitter
- Pulse output
- Long distance

## 3. Application

- Access system
- Security system
- Auto remote control
- Large scale mechanical control

## 4. Block Diagram

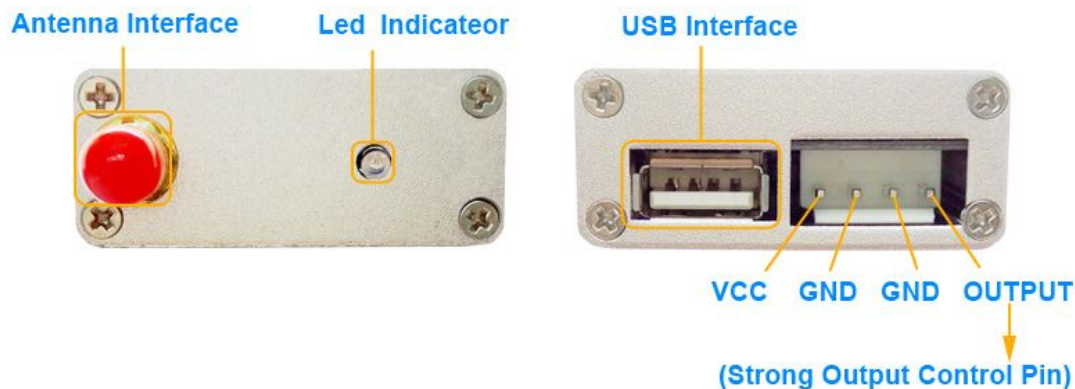


## 5. Electrical Characteristics

Parameters	Min.	Typ.	Max.	Unit	Condition
Working condition					
Voltage range	3.3	5	6.0	V	
Operating Temperature	-40	25	+85	°C	
Current consumption					
Rx current		<80		mA	
Sleep current	10		75	uA	
Output		6V /4A			
RF parameters					
Sensitivity		-124		dBm	
Frequency	400		480	MHz	

## 6. Interface Description

SA809-RX interface description as below:



## 7. Function Description

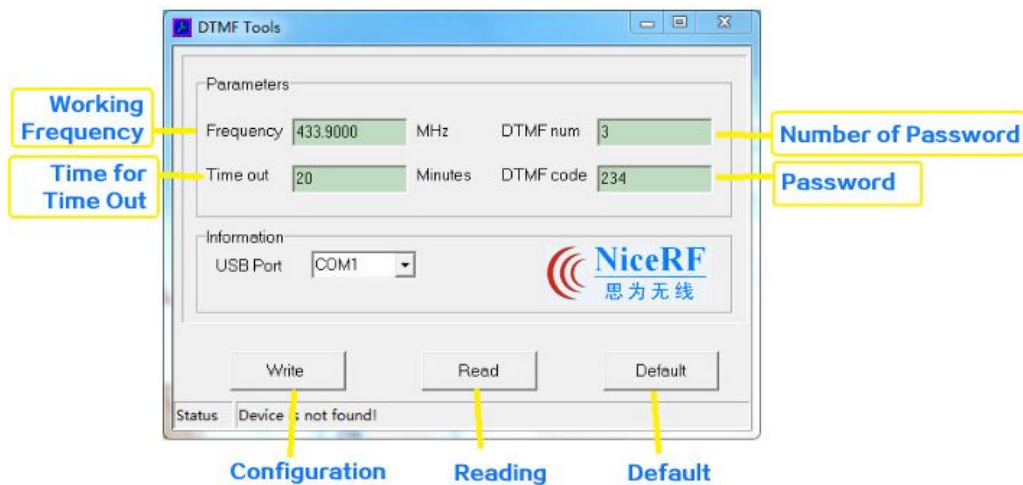
When power on, it will enter into the Timeout status(Default 20 minutes, this timeout can be set as 0 –30minutes ), after time out, it will switch into DTMF receiving mode automatically. In this mode, if correct passwords are received, the output with Mosfet will output 3 seconds pulse( high level with 3s then low level ). SA809-RX has the sensitivity up to -124dBm, and can achieve 8km range with normal walkie talkie with DTMF function. SA809-RX uses 0.5PPM TCXO crystal, 12.5KHz narrowband, industrial design , all the features make long time working stably in varies temperature environment. The frequency, password, time for timeout can be set and stored in the EEPROM , which will keep unchanged even powered off.

**SA809-RX Interface Diagram**



**How to configure SA809-Rx?**

- A>Install the USB Driver and PC software in computer.
- B>Connect module with USB cable.
- C>Connect module with computer(PC software) through USB Bridge Board
- D> open the PC software , SA809-RX enter setting mode ,shown as below.



The frequency can be 400~480MHz, the frequency interval is 12.5KHz, 6400 channels in total. The frequency of transmitter should be same as this set frequency.

Up to 10 numbers of digits can be used as password( At least 1 digit and maximum 10 digits ). Any numbers combination between 0 –9,999,999,999 can be used.

The time for timeout can be set from 0 –30 minutes. It has no timeout when it is set as 0. During the timeout period, SA809-RX won't receive the signal from any transmitter.

Our standard transmitter SA809-TX can also be used as transmitter. Refer to the datasheet of SA809-TX for details.

Working steps, for example,

Step1: set “234” in SA809-RX as passwords, and other parameters.

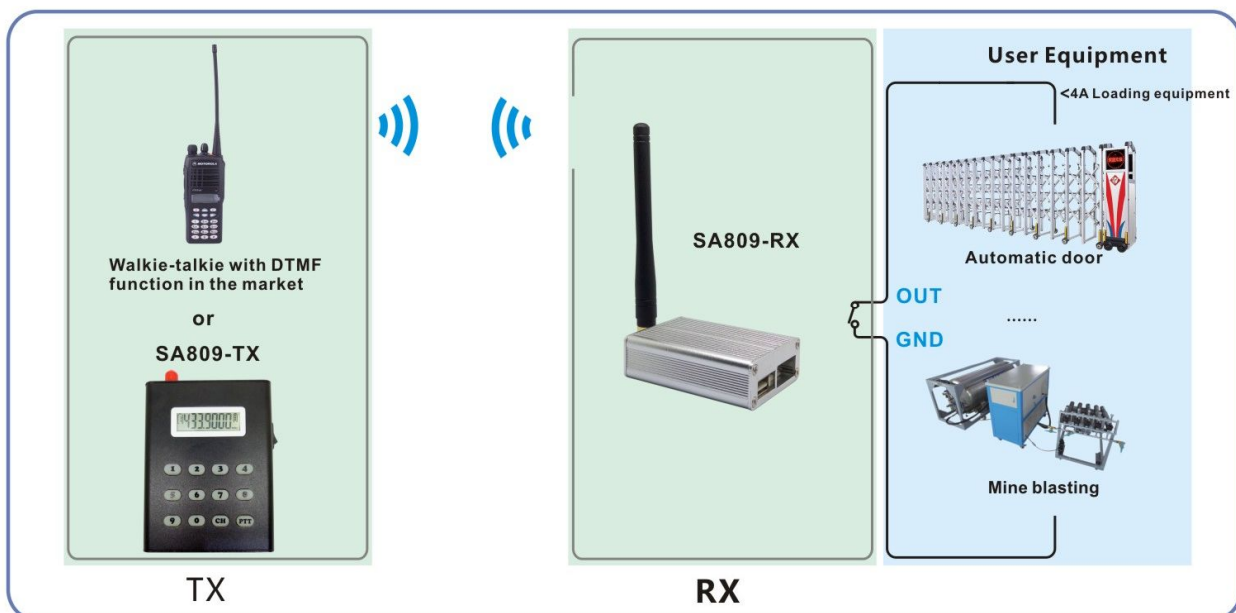
Step2: SA809-Rx runs and wait for time out.

Step3: SA809-Rx timeout .

Step4: transmitter send the password (“234”) in the same frequency as SA809-RX

Step5: SA809-RX output to control user equipment

## 8. Application Connection



**9. Dimension**

