SRWF-1022 Series Low Power Wireless Transceiver Module User Manual

ShangHai Sunray Technology Co.,Ltd

SRWF-1022 User Manual (V1.1)

I. SRWF-1022

SRWF-1022, the low-power wireless transceiver module is used as the wireless command transceiver in short-ranges, with the small size, weight and power consumption and good stability and reliability. Narrowband low power UHF wireless data transmitters:

II. Feature of SRWF-1022 Low Power RF Module

1. Using oscillator instead of crystal.

The work temperature with oscillator is -40℃ to 80℃(with crystal is -25℃ to 75℃).

2. High reliability, small and light

Single chip radio - frequency integrated circuit and single chip MCU are used for lessened peripheral circuits, high reliability, and low false bit rate.

3. ISM frequency band, requiring on application of frequency point.

Carrier frequency of 470.5~479.5MHz.

4. High anti- interference and low BER(Bit Error Rate)

Based on the GFSK modulation mode, the high- efficiency forward error correction channel encoding technology is used to enhance data's resistance to both burst interference and random interference and the actual bit error rate of 10^{-5}~10^{-6} can be achieved when channel bit error rate is 10^{-2}.

5. Low power consumption

+5V supply power, receiving current is 30±3mA。

III. technology support and after service :

Serial number	Item	Parameter	Note
1	Modulation mode	GFSK	
2	Work frequency	470.5~479.5 MHz	
3	Receive sensitivity	-117 dBm	1200bps@470.5MHz
4	Transmitting current	90±10mA	
5	Receiving current	30±3mA	
6	Sleeping current	5±2uA	
7	Interface velocity	1200/2400/4800/9600/19200bps	
8	Interface mode	VCC,GND,GPIOs	

9	Power supply	+3.3～5VDC	
10	Working temperature	-40℃~80℃	
11	Working humidity	10%~90%(relative humidity without condensation)	
12	Dimension	47mm×26mm×10mm	

Ⅳ. Use SRWF-1022 wireless transceiver module

SRWF-1022 supply 9- pin connector, and its definitions as well as below.

The connection method of each terminal is shown in Table 1.

Table 1

Pin No	Pin Name	Description	Level	Connected to Terminal	Memo
1	GND	Grounding of Power Supply		Grounding of Power Supply	
2	VCC	Power supply DC	＋ 3.3 ～ 5.0V		
3	RXD/TTL	Serial data receiving end	TTL	TXD	COM1
4	TXD/TTL	Serial data transmitting end	TTL	RXD	
5	SGND	Grounding of the signal			
6	A(TX)	GPIO1	TTL	A	For button detect
7	B(RX)	GPIO2	TTL	B	
8	SLEEP	Sleep control (Input)	TTL	Sleep control signal input	Low level enable t>15ms
9	RESET	Reset control (input)	TTL	Reset signal input	Negative pulse reset 1ms

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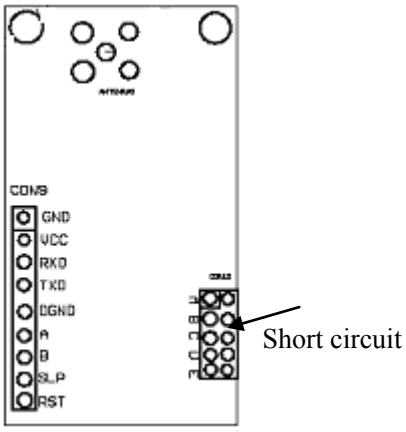
When the level of GPIOs（A and B terminal ）changes, the 1022 module will send out the control command, and the remote receiver will act according to the command received.

Ⅴ.Setting of the channel

1. Before using SRWF-1022, you have to make simple configuration of your

system parameter, such as RF channels.

channel	A	B	C	D	Frequency(MHz)
1	√				470.500
2		√			475.500
3			√		479.500
4				√	471.500
5	√	√			472.000
6	√		√		472.500
7	√			√	473.000
8		√	√		473.500
9		√		√	474.000
10			√	√	474.500
11	√	√	√		476.000
12	√	√		√	476.500
13	√		√	√	477.000
14		√	√	√	477.500
15	√	√	√	√	478.000
16					478.500



There is one group of 5-bit short-circuit wire (JP2) on the bottom right corner of SRWF-1022, defined as A、B、C、D、E respectively . A、B、C, D are used for channel selecting, but E is for parity format:

E=0 (without shorter) parity 8E1/8O1/9N1 (default)

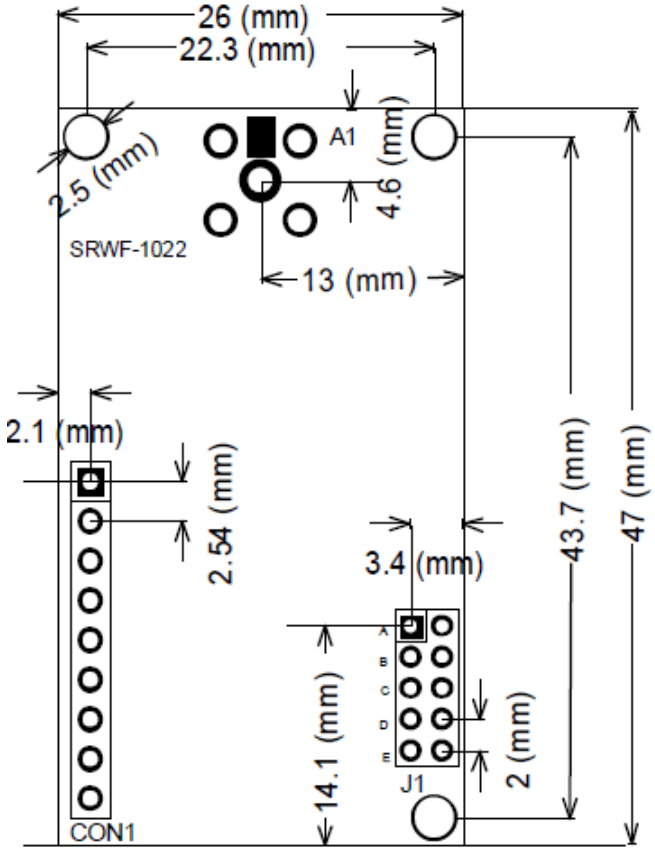
E=1 (with shorter) parity 8N1

2: indicator function

In transmitting mode, the red indicator light will twinkle.

In receiving mode, the green indicator light will twinkle.

Ⅶ. Sketch map of structural size (see below):



Ⅷ. Technology support:

We offer sufficient technology support for user use the module for free; mending broken module one year for free, always offer after service.

To adapt different user structure, we can develop smaller module or various size modules

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NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.
This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
—Reorient or relocate the receiving antenna.
—Increase the separation between the equipment and receiver.
—Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
—Consult the dealer or an experienced radio/TV technician for help.

FCC ID number is not visible when the module is installed inside host(s),
then the outside of the host must display a label “Contains transmitter module FCC ID: RBC-1022”

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:(1)This device may not canse harmful interference, and (2)this device must accept any interference received,including interference that may cause undesired operation.

Caution: The user is cautioned that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.