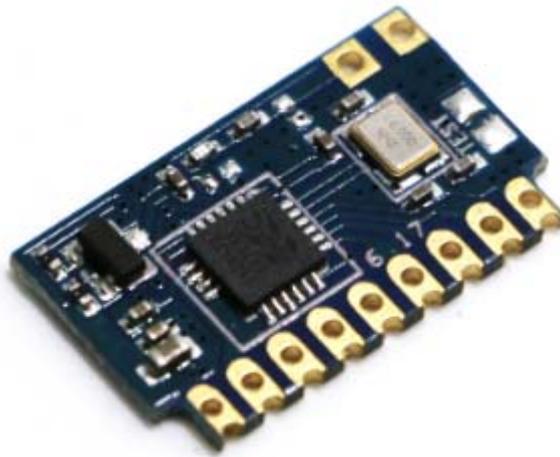


2.4G UART Serial Communication RF Module

SPECIFICATION

Model No.: DL-BK24C

Version: V1.0



Before using this module, please 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.

This module defaults to using an external antenna, you can choose wire antenna or standard UHF antenna, according to the using condition, if there is metal case of the final product, please make sure install the antenna on the metal shell, otherwise it will lead to serious attenuation of radio frequency signals, which will affect the effective use of 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.

File version & update management

DATE	Software Version	Remarks
2016-8-5	V1.0	Standard 2.4G serial communication program

1. Module introduction

1.1 Brief introduction

This DL-BK24C is a compact, low-cost, long-distance 2.4g wireless serial communication module. It adopts cost-effective 2.4g built-in MCU chip, can achieve two-way transparent data transmission with 12dBm transmission power, transceiver distance in an open filed can reach more than 100 meters. It can realize "many to one" or "one to many" with non-interference, all the data will be processed by the product's MCU. The module contains 2.4g initialization and serial communication programs, which do not require any additional programming. It only needs to connect hardware and select the required baud rate and frequency channel to realize wireless data transmission.

The module has 4 baud rate ports (4800/9600/14400/19200) to be selected, while 9600 is default. And there are four frequencies (2457/2463/2468/2473M) to choose, but 2473 is default. The module has a CE sleep control port (default power on). Customers can use the MCU to control the module into the sleep and wake mode, reduce the standby current.

DL-BK24C uses a double-sided solder pad, allowing the user to plug modules directly into the circuit board for wave soldering.

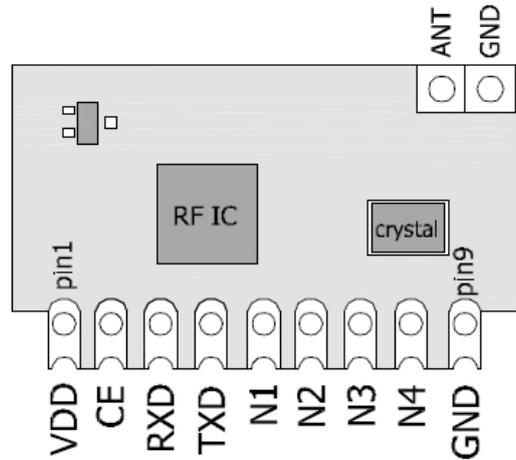
1.2 Features

- Working frequency: 2.4G(4 channels)
- Working voltage: 2.8-3.6V (3.3V is recommended)
- Transmitting power: 12dBm
- Transmitting current: 58mA
- Receiving operating current: 24mA
- Sleep current: 3.5uA
- Receiving sensitivity: -95dBm
- Data baud rate: 4800/9600/14400/19200
- Frequency channel:2457/2463/2468/2473M
- Data transfer mode: Transparent transmission
- Temperature range: -20~60°C

1.3 Typical application

- Intelligent control system, Data transmission,
- Wireless sensor; Wireless Remote Control;
- Wireless security alarm system
- Remote LED, remote curtain
- Wireless remote-control system

2. Pin Definitions



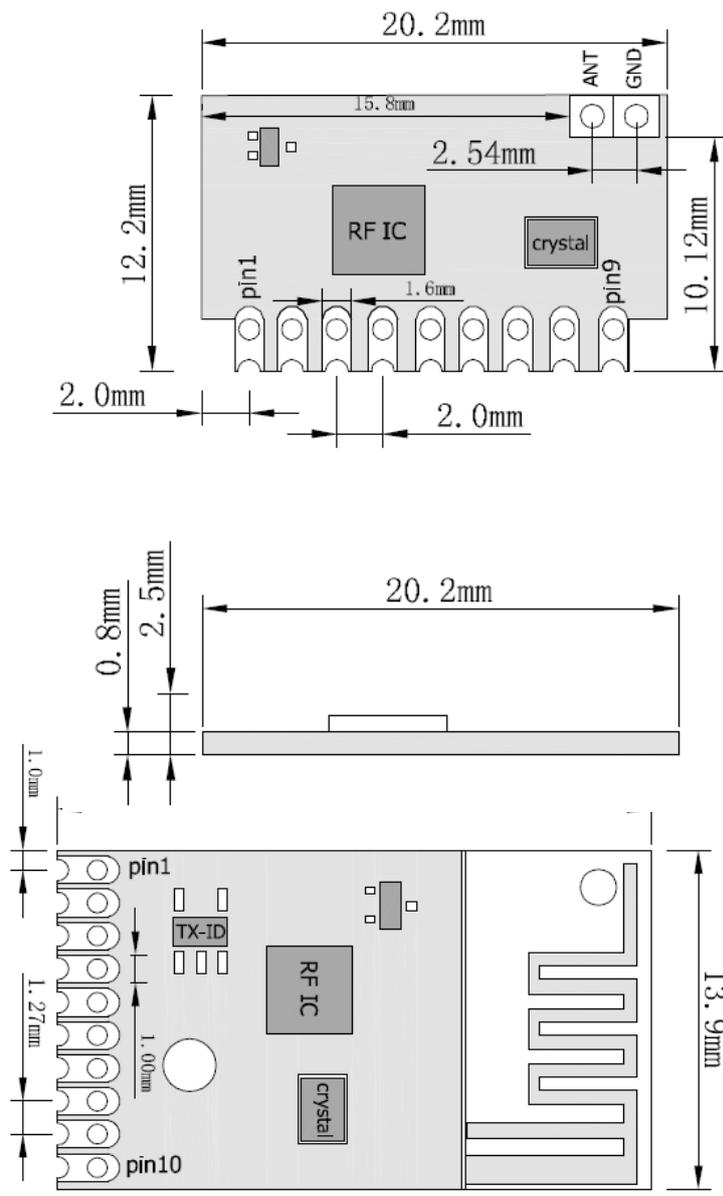
Pin No	Pin's Name	Description
1	VDD	Positive power supply 2.8~3.6V, 3.3V is recommended
2	CE	Sleep Port (defaulted high-level, activate sleeping mode in low level)
3	RXD	Data output TTL (connect product TX)
4	TXD	Data input TTL (connect product RX)
5~6	N1 N2	Baud rate selection (defaulted 9600, as shown in the selection table below)
7~8	N3 N4	The frequency channel is suspended by default at 2473M, as shown in the selection table
9	GND	For grounding

N1	N2	波特率
1	1	9600 (默认)
0	1	4800
1	0	14400
0	0	19200

N3	N4	频率
1	1	2473 (默认)
1	0	2468
0	1	2463
0	0	2458

Note: The module must be reset once after the baud rate or frequency conversion. The baud rate and frequency channel must be consistent before communication. It is recommended to set ports with hardware.

3. Module size

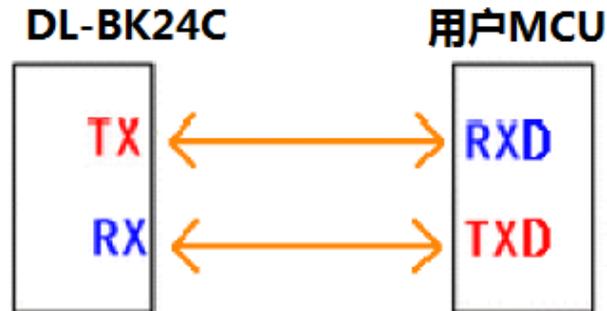


4. Description of Low-power Consumption Mode

CE port of this Serial Communication Module (DL-BK24C) was defaulted high-level, it will in the working state (receiving mode) after power on. When the data level of TX port is detected, it will be converted to transmitting mode immediately. When the data is sent, it will be converted to receiving mode immediately

If the standby power consumption needs to be reduced, the CE port can be shift low level by the MCU and entered into the sleep mode. The sleep mode cannot transmit or receive signals, so the scanning signal needs to be awakened periodically by the MCU.

5. Module connection diagram



6. Contact us

Shenzhen DreamLnk Technology Co., Ltd

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

Office Add.: Room 603, Unit C, Zone A, Huameiju Business Center, Xihu Rd., Bao'an District, Shenzhen, Guangdong Province, China

Factory Add.: 5th Floor, Building B, Huazhi Innovation Valley, No. 7 Yuhua Street, 138 Industrial Zone, Tangxia Town, Dongguan, Guangdong Province, China

TEL.: +86-755-29369047

FAX: +86-755-27844601

Mobile: +86 13760215716

Wechat: wsj_james

E-mail: james@dreamlnk.com

Web: www.iot-rf.com