

1.1 Pin Description:

- 1, VDD: 3.3V or 5V power supply positive
- 2, GND: Power negative
- 3, TXD: serial output module, connected microcontroller or USB to serial RXD
- 4, RXD: module serial input connected microcontroller or USB to serial TXD
- 5, CMD: enter upgrade mode or AT mode pin, active low

1.2 Special note:

1.2.1 CMD pin functions:

- 1, on the ground before power: the module into upgrade mode, firmware upgrades
- 2, the electrical grounding, the module into AT mode, AT mode is used to configure the module parameters. After power if vacant, Module enters pass-through mode. After power can be switched AT mode and transparent mode via CMD foot Freedom

1.2.2 Power

- 1, the module's serial port level TTL level, do not communicate with GND short
- 2, when the transmitter module current can reach 120mA, when receiving a current of about 30mA, note the use of grain
Smaller wave power supply

1.3 AT command

The format of the instruction code

1.3.1 AT + BAUD = x (baud rate settings)

Baud rate setting command module supports different baud rates to suit different applications. Generally speaking, if the amount of data, but the high reliability requirements of data, it is recommended to choose a lower wave Special rate; if a large amount of data, the short distance transmission, it is recommended to select a higher baud rate. (Note: Porter For additional information about the unified rate, data bits, one stop bit and no parity.) Note that the internal module is provided, a wireless data frame for each packet data bytes, Therefore, when continuous transmission of data, the sender baud rate proposal is less than the receiving end, so there is enough to allow the receiver module Enough time to transfer data. The author at the time of testing two computers to transmit data, set the baud rate to the sender , The receiving end of a successful transmission of a picture size is about (Note: PC software assistant Tintin serial, serial chip used, the operating system EC is).

The following table shows the different baud rate settings, after sending the command, if set up, the module

Returns the character " If unsuccessful, it returns the character ".

Table 1 baud rate setting table

Baud Rate	AT command	Baud Rate	Instruction
2400	AT+BAUD=0	38400	AT+BAUD=5
4800	AT+BAUD=1	57600	AT+BAUD=6
9600	AT+BAUD=2	115200	AT+BAUD=7
1440	AT+BAUD=3	128000	AT+BAUD=8
19200	AT+BAUD=4	256000	AT+BAUD=9

Macro definitions:

```
#define UART_BAUD_2400 '0'
#define UART_BAUD_4800 '1'
#define UART_BAUD_9600 '2'
#define UART_BAUD_14400 '3'
#define UART_BAUD_19200 '4'
#define UART_BAUD_38400 '5'
#define UART_BAUD_57600 '6'
#define UART_BAUD_115200 '7'
#define UART_BAUD_128000 '8'
#define UART_BAUD_256000 '9'
```

1.3.2 AT + FREQ = xx (frequency setting)

In order to set the frequency shifted with other radio module supports setting different transmission

Frequency (Note: Frequency

). When the two modules to transmit data, you need to set the frequency to be consistent, whether

You cannot communicate. After sending the command, if the setting is successful, the module returns the character ' ', if you set

Unsuccessful, it returns the character ".

, The range could theoretically take any value, with the code

Representation. The actual set frequency is:

$$F = (2402 + x \times x) \text{ Hz}$$

1.3.3 AT + ID = xxxx (ID setting)

The code may take any. Not all the same.

The module supports two -byte identifier, two modules communicate with each other, in addition to frequency consistent outside,

Identifiers must be consistent, otherwise cannot communicate.

Meaning that the test many identifiers sent, the receiver can be set different numbers,

Switching the sender number to achieve. Theoretically support a number of modules.

After sending the command, if the setting is successful, the module returns the character ' ', if the set is unsuccessful,

Returns the character ' '.

1.3.4 AT + RETRY = xx (number of retransmissions set)

The code may take any.

Set each frame of data retransmission times, higher the setting, the more reliable the data is sent, but data Delay will be longer, it is recommended that at the time as a remote control, try to set a larger value, in order to ensure reliability.

1.3.5 AT + BAUD? (Baud queries)

Baud baud query command to query the module, the return value is a byte, for example, the module Potter Rate is set, the return value " (), the baud rate is set, the return value To " ().

1.3.6 AT + FREQ? (Frequency queries)

Frequency to the frequency of the query query command module , the return value is a byte , the actual frequency value needs through
Had calculated conversion Note:

1.3.7 AT + ID? (ID check)

Query command to query the module number , the return value is two bytes.

1.3.8 AT + RETRY? (Check the number of retransmissions)

When sending data query module , if transmission fails , repeat transmission times . Such return
The module each time you send data up to try to repeat sending times.

1.3.9 AT + INF (software version information query)

Software version query to query the current version of the software module .

1.3.10 AT + RESET (reset configuration parameters)

Set the parameter module reset to the default parameters.

Reset returns the following information