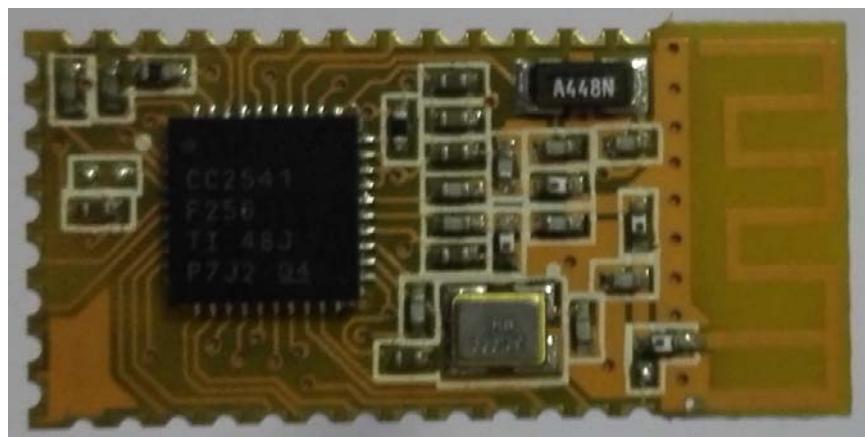


CQ_F01_40/1 BLUETOOTH UART COMMUNICATION MODULE V1.2 USER MANUAL



Version

CQ_F01_40/1 V1.2

Date

2015-05-16

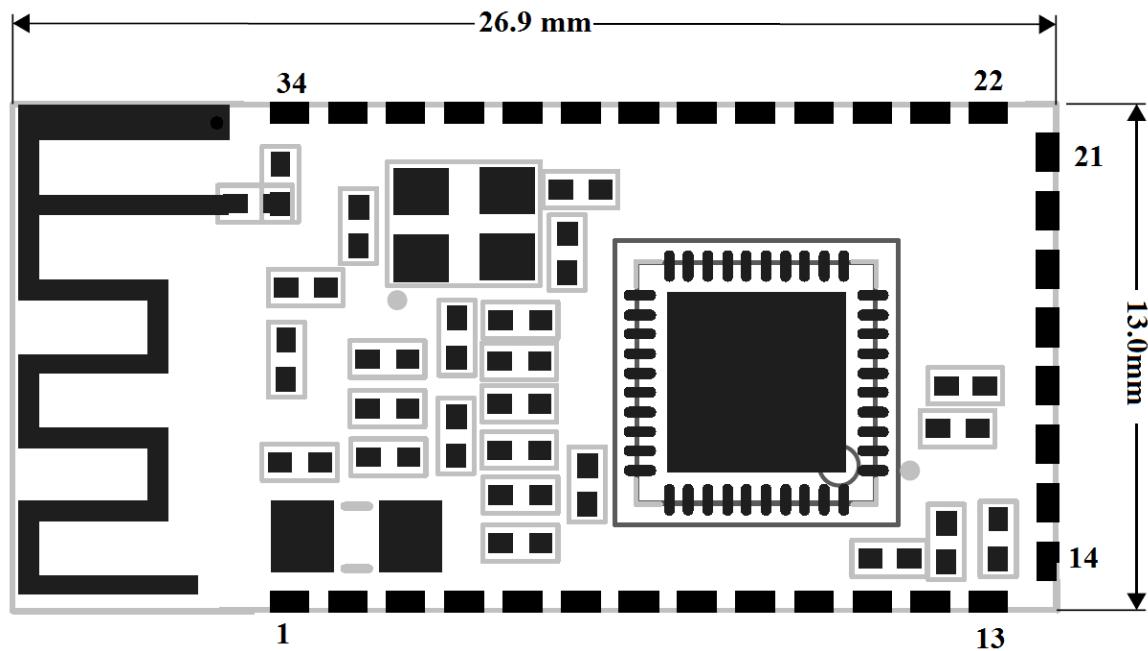
Product introduction

CQ_F01_40/1 Bluetooth UART communication module is a new generation of Bluetooth specification V4.0 BLE Bluetooth protocol based on the transmission module. Wireless working frequency is 2.4GHz ISM, modulation is GFSK. The receiving sensitivity is -93dBm, and iphone4s can achieve 80 meters of super long distance communication under open environment.

The module uses the stamp hole encapsulation, can patch welding, module size is 26.9mm * 13mm * 2.2mm, very convenient to the customer within the embedded application system.

The module uses the CC2541 chip, the configuration of the 256K Byte space, supports AT command, the user can according to need to change role and the serial baud rate, equipment name and other parameters, the use of flexible.

Product size and Pin definition



The CQ_F01_40/1 module has 34 pins, on board PCB antenna, pin specific definitions are listed in the following table:

pin	definition	I/O	explain
1	TXD	output	URAT output, 3.3V TTL level
2	RXD	input,weak pull up	URAT input, 3.3V TTL level
3	NC	NC	
4	NC	NC	
5	NC		
6	DC	input	Debug clock
7	DD	Input/output	Debug data
8	PIO20	input,weak pull up	NC
9	PIO17	input,weak pull up	NC
10	PIO16	input,weak pull up	NC
11	RST	input,pull up	Module reset pin, a low level of not less than 5ms reset
12	VCC	input	Power pin, the requirements of 3.3V DC power supply, the supply current is not less than 100mA
13	GND		Ground
14	NC		
15	NC	NC	
16	NC		
17	NC		
18	PIO15	input,weak pull up	NC
19	PIO14	input,weak pull up	NC
20	NC	NC	
21	GND		Ground
22	GND		Ground
23	NC		
24	PIO13	output	LED output (Note①)
25	PIO11	input,weak pull up	NC
26	PIO12	input,weak pull up	The master module clear memory (Note②)
27	PIO10	input,weak pull up	NC
28	PIO07	input,weak pull up	NC
29	NC		
30	NC		
31	PIO06	input,weak pull up	NC
32	PIO01	input,weak pull up	NC

33	NC		
34	PIO00	input,weak pull up	NC

Electrical characteristics:

parameter	test condition		representative value
working voltage	-		DC2.0V~3.6V
working current (not LED)	slave	MODE0, not connected / connection	8.5mA/9mA
		MODE1, not connected / connection	340µA/1.6mA
		MODE2, not connected / connection	0.4µA/1.6mA
		MODE3, not connected / connection	1.2µA-160µA/1.6mA

AT COMMAND

The AT command to setting module parameter. Connection before, module can operating AT command. Connection after entering serial transparent transmission mode.

Module start is about 150ms, so the best after power on 200ms AT command operation. Unless otherwise indicated, the parameter setting of AT command is effective immediately. At the same time, parameters and functions of modification, the power down will not be lost.

After the success of AT command modify unified returns OK ("AT+RX,AT+VERSION" and so on the view of information command class except), no success does not return any information.

(1) AT COMMAND LIST

	AT Command ("x"- parameter)	Function	Default	Role
1	AT	Test command	-	M/S
2	AT+RESET	Reset the module	-	M/S
3	AT+STOPADV	Stop adv	-	M/S
4	AT+ STARTADV	Start adv	S	M/S
5	AT+NAME=xxxxxxxxxxxx	Revise name	CQ_F01_40/1	M/S
6	AT+MAC?	Get mac address	Hardware address	M/S
7	AT+BAUD=x	Revise UART baud	9600	M/S

Note:

1. The AT command behind no newline; if no special instructions, all AT commands are not transmitted using newline.

(2) COMMAND EXPLAIN

1. Test command

Command:AT
Return:OK.

2. Reset the module

Command:AT+ RESET
Return:OK

The module will automatically restart, please carry out new operation on the restart 200ms!

3. Stop adv

Command:AT+STOPADV
Return:OK

4. Start adv

Command:AT+STARTADV
Return:OK

5. Revise name

Set command:AT+ NAME=xxxxxxxxxxxx Query
command:AT+ NAME= ?

Default setting is CQ_F01_41, You can set the other name (18 characters limit, support the visual ASCII code and part of the escape character. The module supports chinese, but android devices must be converted to "UTF8 code" to normal display. To send more than 18 characters, then only the first 18 characters). Setup is complete, effective after module automatically reset!

Example:

Send:AT+NAME=HCKJ
Return:OKsetNAME

6. Get MAC address

Query command:AT+ADDR=?

The address must be 12 bit "0~F" uppercase characters, namely hexadecimal characters.

Example:

Send:AT+ADDR= ?
Return:1234567890AB

7. Revise UART baud

Set command:AT+BAUD=x (Only modified the UART baud rate)
x:UART baud rate,y: parity bit, As shown in the following table:

Parameter	UART baud :x
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?	View the current baud rate
1200	1200bps
2400	2400bps
4800	4800bps
9600	9600bps (default)
19200	19200bps
38400	38400bps
57600	57600bps
115200	115200bps

Example:

Send:AT+BAUD=19200

Return: OKsetBAUD

UART baud rate modified for 19200bps.

Reference schematic

FCC Statement

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

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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.

This modular complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

If the FCC identification number is not visible when the module is installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module. This exterior label can use wording such as the following:
"Contains Transmitter Module FCC ID: 2AKGU-CQF01 Or Contains FCC ID: 2AKGU-CQF01"

when the module is installed inside another device, the user manual of this device must contain below warning statements;

1. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
 - (1) This device may not cause harmful interference.
 - (2) This device must accept any interference received, including interference that may cause undesired operation.
2. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

The devices must be installed and used in strict accordance with the manufacturer's instructions as described in the user documentation that comes with the product

Any company of the host device which install this modular with limit modular approval should perform the test of radiated emission and spurious emission according to FCC part 15C : 15.247 and 15.209 requirement, Only if the test result comply with FCC part 15C : 15.247 and 15.209 requirement, then the host can be sold legally.