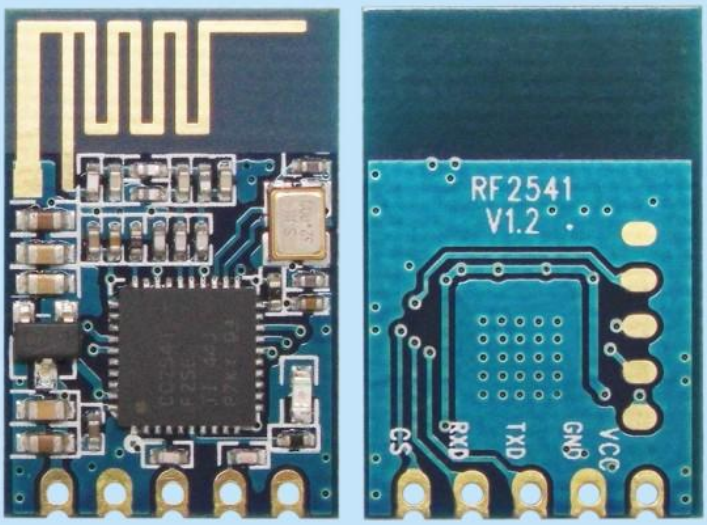
BLE4.0 UART module

Product Specification



Catalogue

1. Description:.....- 3 -

2. Feature:..... - 3 -

3. Application:.....- 3 -

4. Typical application circuit..... - 4 -

5. Specification:..... - 4 -

6. Pinout:.....- 5 -

7. Machanism Dimension(Unit:mm):.....- 6 -

Note: Revision History

Revision	Date	Comment
V1.0	2014-12	First release
V1.1	2017-06	Logo updated
V1.2	2020-12	Update format

1. Description:

RF2541 BLE4.0 UART module is a Bluetooth 4.0 low power consumption module and adopts CC2541 SOC chip from TI. RF2541 communicates with others through UART interface. With all the feature of BLE 4.0, it is easy to use. The features include: low power consumption, long distance and strong anti-interference ability. There are two modules which constructs the master and slave function: RF2541-master and RF2541-slave. Those two modules come with same hardware but different software inside.

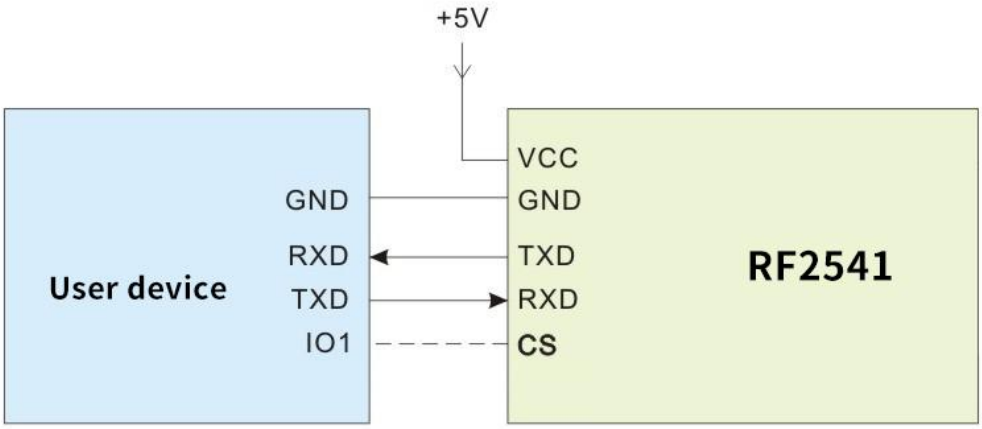
2. Feature:

- Frequency arrange：2379-2496MHz
- Sensitivity up to -99dBm@250kbps
- GFSK modulation
- 2.3-6 V power supply
- Low current in sleep mode <2uA
- Uart interface
- Master and Slave mode
- RSSI output;
- Meet BQB and RoHS standards;
- Point to point, point to multipoint, flexible communication mode;

3. Application:

- Mobile phone peripheral equipment
- Consumer health and medical care
- Human interface devices (keyboard, hand, remote control)
- 2.4 GHz low power energy systems
- Home building automation
- Sports and fitness device

4. Typical application circuit

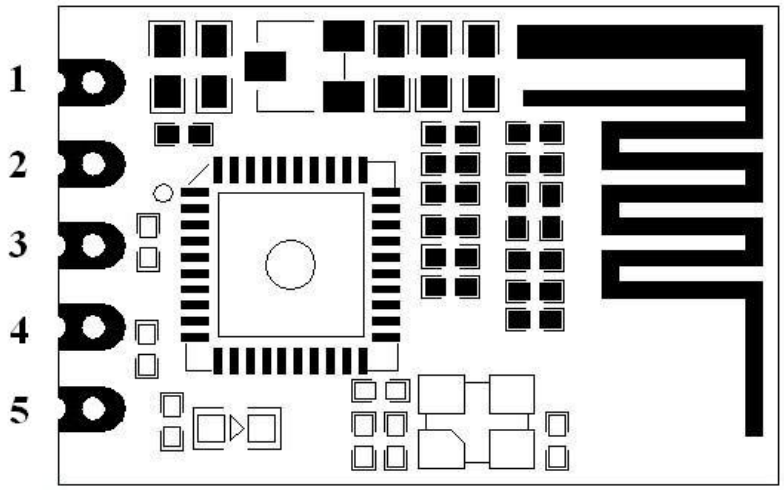


5. Specification:

(The following parameters is tested under VCC = 3.6 and 50 ohm copper axis test instrumentation)

Parameters	Min.	Typ.	Max.	Unit	Condition
Operation Conditions					
Working voltage range	2.3	3.6	6	V	Internal 3.3V regulator voltage
Working Temperature Range	-40		85	℃	
Current Consumption					
RX Current		＜9	25	mA	
TX Current		＜15	400	mA	
Standby Current		1.5	2	uA	
RF Parameters					
Frequency Range	2379		2496	MHz	
Data rate		1000		Kbps	GFSK
Max TX power	-20		0	dBm	
RX sensitivity		-98		dBm	@250Kbps

6. Pinout:



Pin NO.	Pin name	Description
1	VCC	Connect VCC (2.3-6v)
2	GND	Connect GND
3	TXD	Module data Tx pin (level voltage Max 3.3V)
4	RXD	Module data Rx pin (level voltage Max 3.3V)
5	CS	Sleep control / normal mode / configuration mode control Enter configuration mode by pulling low CS Pin in normal mode; Enter sleep mode by sending command in configuration mode; Enter normal mode when pull high CS pin.

7. Machanism Dimension(Unit:mm):

