G-NiceRF®

RF2541-PL2

BLE 4.0 UART RF Module

Product Specification



Catalogue

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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-PL2 is a Bluetooth 4.0 low Power consumption module and adopts CC2541 SOC chip from TI, RF2541-PL2 communicate 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- PL2 master and RF2541- PL2 slave. Those two modules come with same hardware but different software inside.

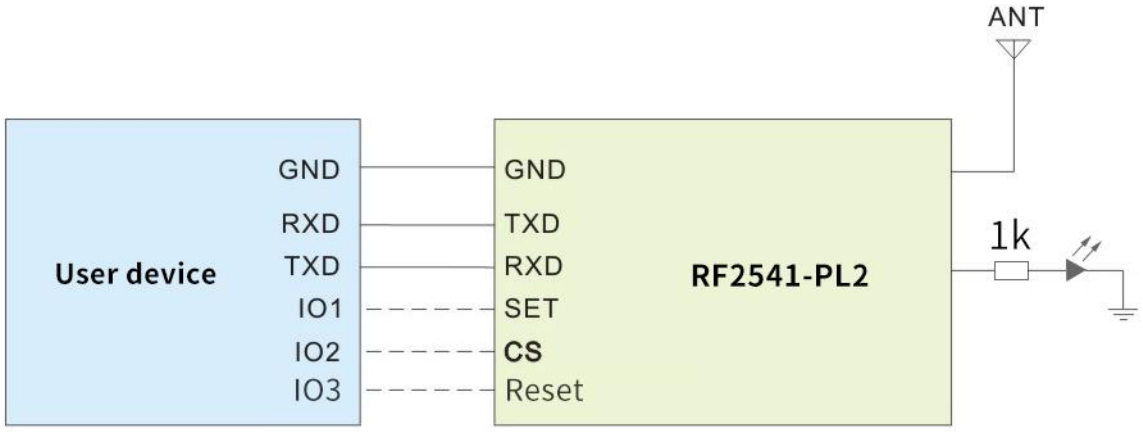
2. Feature:

- Frequency arrange：2379-2496MHz
- Sensitivity up to -99dBm@250kbps
- Data transfer rate :250K,500K,1M,2Mbps
- GFSK modulation
- 2.0-3.6 V power supply
- Low current in sleep mode <2uA
- Uart interface
- Master and Slave mode
- RSSI output, carrier detect indication
- Meet BQB and RoHS standards
- Point to point, 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

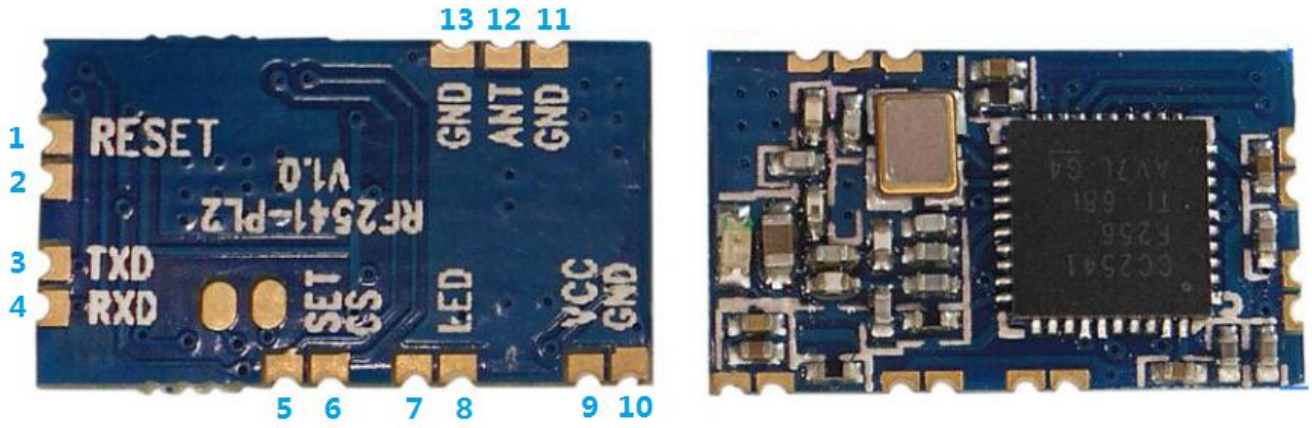


5. Specification:

(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	2.0	3.3	3.6	V	Internal 3.3V regulator voltage
Working Temperature Range	-40		85	℃	
Current Consumption					
RX Current		＜9		mA	
TX Current		＜15		mA	
Standby Current		＜1		uA	
RF Parameters					
Frequency Range	2379		2496	MHz	
Data rate	250		2000	Kbps	GFSK
Max TX power	-20		0	dBm	
RX sensitivity		-98		dBm	@250Kbps

6. Pinout:



Pin NO.	Pin name	Description
1	RESET	Low level reset
3	TXD	Module data Tx pin (level voltage Max 3.3V)
4	RXD	Module data Rx pin (level voltage Max 3.3V)
5	SET	Configuration mode enable (High level to enter into the configuration mode, low level to enter into communication mode)
6	CS	Sleep control, High level to enter into the sleeping mode, Low level to enter into the normal communication mode.
2,7	NC	Vacant
8	LED	Communication status indication, Low level shows disconnected, High level shows connected
9	VCC	Connect VCC (2.0-3.6v)
10、11、13	GND	Connected to ground
12	ANT	Connected to antenna

7. Mechanism Dimension(Unit:mm)

