

SPECIFICATIONS

IEEE 802.11 b/g/n 2.4GHz 1T1R

Wi-Fi 1T1R Module

WL-UM01C-7601 (USB module)

Version1.2

1. Overview

The UM01C-7601 is a highly integrated Wi-Fi module which supports 150 Mbps PHY rate. It fully complies with IEEE 802.11n and IEEE 802.11 b/g standards, offering feature-rich wireless connectivity. At high standards, and delivering reliable, cost-effective throughput over an extended distance. Optimized RF architecture and baseband algorithms provide superb performance and low power consumption. Intelligent MAC design deploys a highly efficient DMA engine and hardware data processing accelerators which offloads the host processor. The MT7601 is designed to support standard based features in the areas of security, quality of service and international regulations, giving end users the greatest performance any time and in any circumstance.

2. Features

- IEEE 802.11 b/g/n client
- Embedded high-performance 32-bit RISC microprocessor
- Highly integrated RF with 55nm CMOS technology
- 1T1R mode with support of 150Mbps PHY rate

- Integrate high efficiency switching regulator
- Best-in-class power consumption performance
- Compact 5mm x 5mm QFN40L package
- 1/2/3/4-wire PTA Wi-Fi / Bluetooth coexistence support
- 802.11 d/h/k compliant
- Security support for WFA WPA/WPA2 personal, WPS2.0, WAPI
- Supports 802.11w protected managed frames
- QoS support of WFA WMM, WMM PS
- Supports Wi-Fi Direct
- Fully compliance with USB v2.0 High-speed mode
- Per packet transmit power control
- Antenna diversity
- Auto-calibration

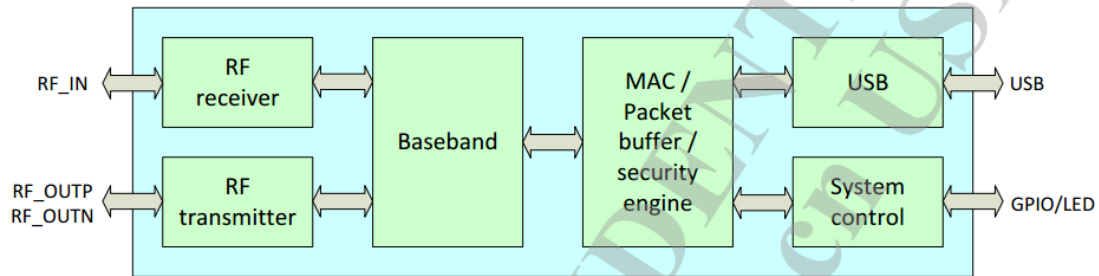
3. Applications

- Desk-Top PC
- Note-book
- TV
- Blue-ray Disk
- Tablet PC
- Set-top box

4. General Specification

Model	WL-UM01C-7601
Product Name	WLAN 11n USB module
Major Chipset	MTK 7601
Standard	802.11b/g/n
Data Transfer Rate	1,2,5.5,6,11,12,18,22,24,30,36,48,54,60,90,120 and maximum of 150Mbps
Modulation Method	BPSK/ QPSK/ 16-QAM/ 64-QAM
Frequency Band	2.412~2.4835 GHz ISM Band
Spread Spectrum	IEEE 802.11b: DSSS (Direct Sequence Spread Spectrum) IEEE 802.11g/n:OFDM (Orthogonal Frequency Division Multiplexing)
RF Output Power	< 15dBm@11n,< 18dBm@11b,< 15dBm@11g
Operation Mode	Ad hoc, Infrastructure
Receiver Sensitivity	11Mbps -86dBm@8%,54Mbps -74dBm@10%,130Mbps -66dBm@10%
Operation Range	Up to 180 meters in open space
LED	
OS Support	Windows 2000,XP32-64,Vista 32/64,Win7 32/64, Linux,Mac, Android, WIN CE
Security	WEP, TKIP, AES, WPA, WPA2
Interface	USB 2.0
Power Consumption	DC 3.3V
Operating Temperature	-10 ~ +70° C ambient temperature
Storage Temperature	-10 ~ 30°C ambient temperature
Humidity	5 to 90 % maximum (non-condensing)
Dimension	12.9032 x 12.192 x 1.6mm (LxWxH) +-0.2MM

5. Block Diagram



6. Electrical Specifications

1) DC Characteristics

Current Consumption	Min.	Typ.	Max.	Unit
TX Mode	-	110	-	mA

2) RF Characteristics for IEEE802.11b (11Mbps mode unless otherwise specified)

Items	Contents			
Specification	IEEE802.11b			
Mode	DSSS/CCK			
Channel frequency	2400 ~ 2483 MHz			
Data rate	1,2,5.5,11Mbps			
TX Characteristics	Min.	Typ.	Max.	Unit
Power Level	17	18	19	dBm

3) RF Characteristics for IEEE802.11g (54Mbps mode unless otherwise specified)

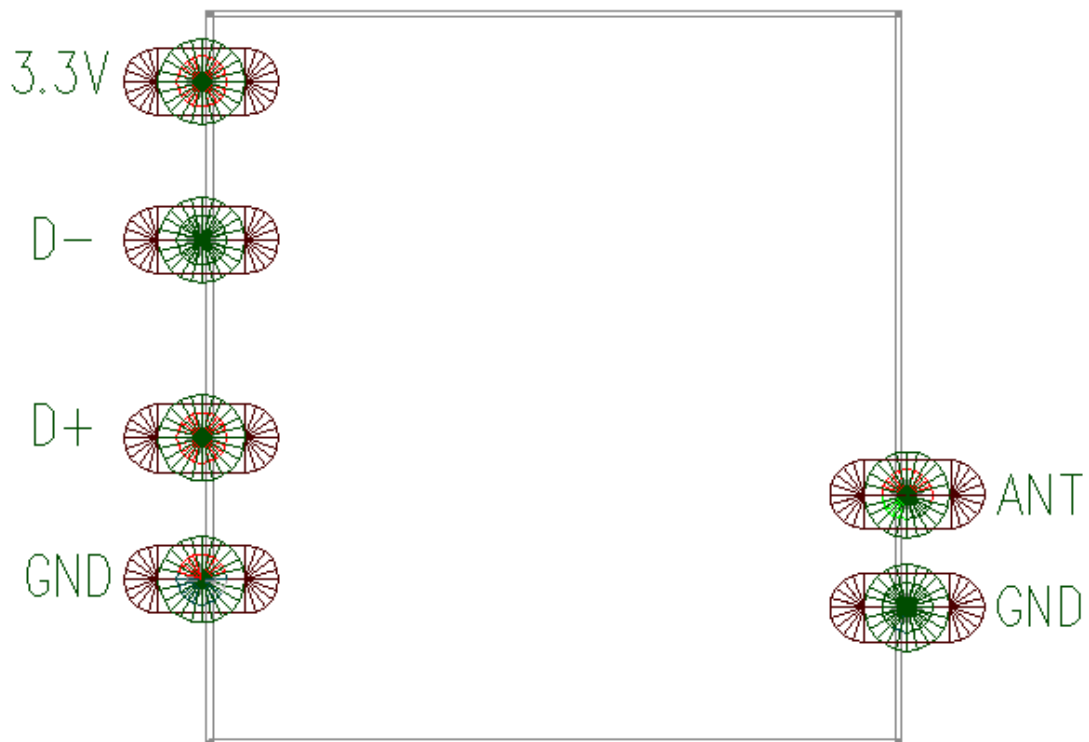
Items	Contents			
Specification	IEEE502.11g			
Mode	OFDM			
Channel frequency	2400 ~ 2483 MHz			
Data rate	6,9,12,18,24,36,48,54Mbps			
TX Characteristics	Min	Typ	Max	Unit
	14	15	16	dbm
RX Characteristics	Min	Typ	Max	Unit
	-	-75		ppm
Minimum Input Level Sens. (PER ≤ 10%)	-	-75		ppm
Maximum Input Level (PER ≤ 10%)	-20	-		ppm

4) RF Characteristics for IEEE802.11n (MCS7 mode unless otherwise specified)

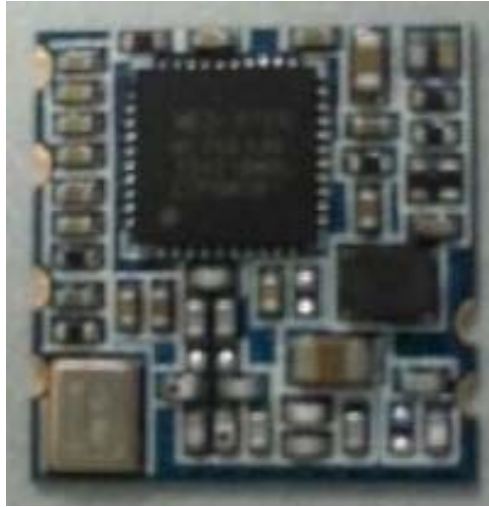
Items	Contents			
Specification	IEEE502.11g			
Mode	OFDM			
Channel frequency	2400 ~ 2483 MHz			
Data rate	6,9,12,18,24,36,48,54Mbps			
TX Characteristics	Min	Typ	Max	Unit
	14	15	16	dbm
RX Characteristics	Min	Typ	Max	Unit
	-	-71		ppm
Minimum Input Level Sens. (PER ≤ 10%)	-	-71		ppm
Maximum Input Level (PER ≤ 10%)	-20	-		ppm

7. Pin Definition

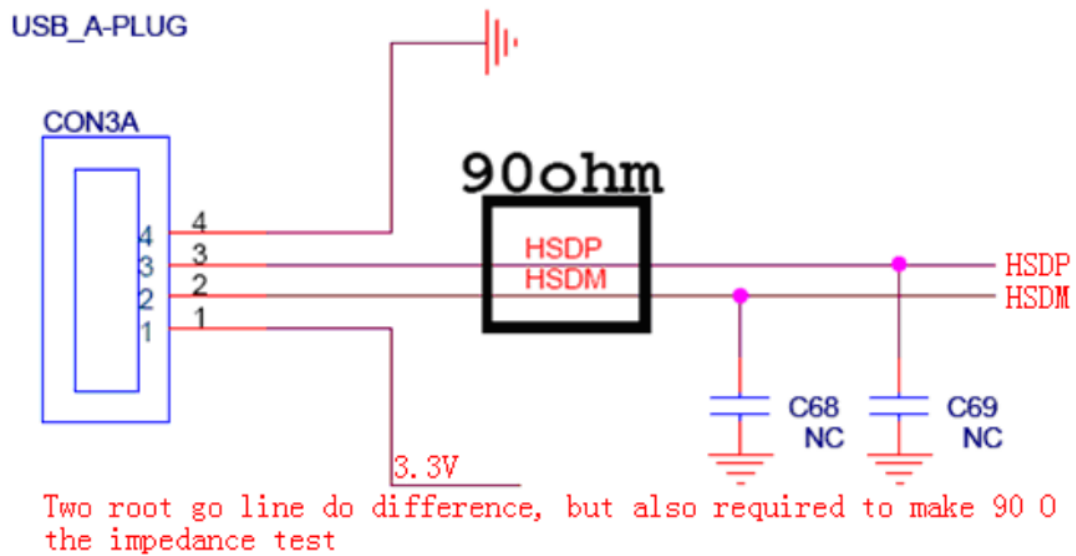
Pin	Definition	I/O	Power	Description
1	3.3V			VDD3.3V±0.1V
2	D-			USB D-
3	D+			USB D+
4	GND			Groud
5	GND			Groud
6	ANT			WIFI ANT OUTPUT



8. Peripheral principle diagram reference

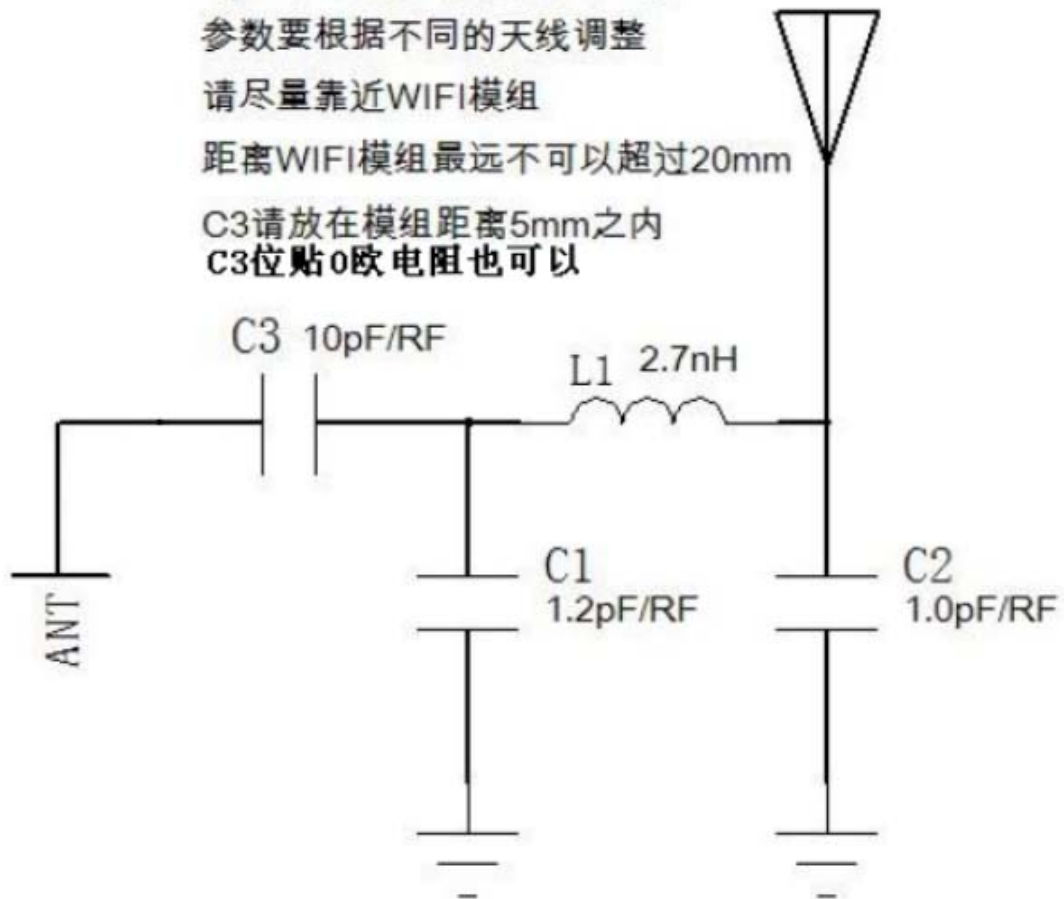


USB interface electrical characteristics



WIFI ANT

此部分需要做50R的单线阻抗
layout走线请走弧型线或直线
参数要根据不同的天线调整
请尽量靠近WIFI模组
距离WIFI模组最远不可以超过20mm
C3请放在模组距离5mm之内
C3位贴0欧电阻也可以



9. Size reference

Mechanical

Dimensions (mm)	Length	Width	Height
	12.9032	12.192	1.6
	(Tolerance:±0.2mm)	(Tolerance:±0.2mm)	(Tolerance:±0.2mm)

