LB-LINK®

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BL-R7601MU2

Product Specification

IEEE 802.11b/g/n (1T1R) WLAN USB Module

Version: 3.1

Customer			
Date			
Model Name	BL-R7601MU2		
Part NO.			
Blink Approve Field			
ENGINEER	QC	SALES	
Customer Approve Field			
ENGINEER	QC	MANUFACTORY	PURCHASING

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1. General Description

BL-R7601MU2 product accord with FCC CE is a highly integrated Wi-Fi single chip which support 150 Mbps PHY rate. It fully complies with IEEE802.11n and IEEE802.11b/g standard, offering feature-rich wireless connectivity at high standard, and delivering reliable, cost-effective throughput from an extended distance. Optimized RF architecture and baseband algorithms provide superb performance and lower power consumption. Intelligent MAC design deploys a high efficient DMA engine and hardware data processing accelerators which offloads the host processor.

2. The range of applying

MID, networking camera, STB GPS, E-book, Hard disk player, Network Radios, PSP and other device which need be supported by wireless networking.

3. Product Specification

3.1 Function Block diagram

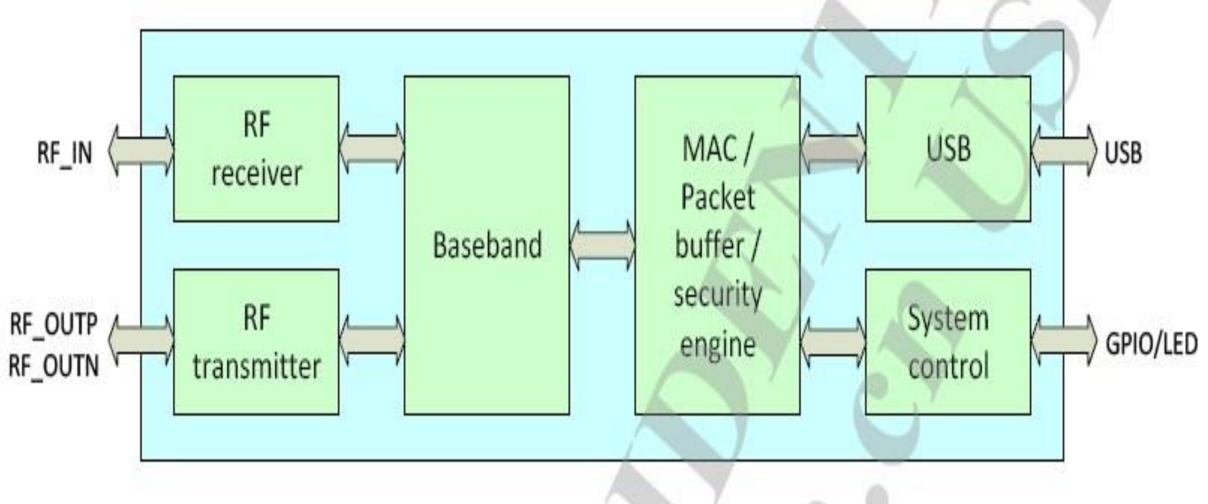


Figure 1 MT7601 block diagram

3.2 Electrical and Performance Specification

Item	Description
Product Name	BL-R7601MU2
Major Chipset	MT7601
Host Interface	USB2.0
Standard	IEEE 802.11b, IEEE 802.11g,IEEE 802.11n
Frequency Range	2.4GHz~2.4835GHz
Modulation Type	802.11b: CCK, DQPSK, DBPSK 802.11g: 64-QAM,16-QAM, QPSK, BPSK 802.11n: 64-QAM,16-QAM, QPSK, BPSK
Working Mode	Infrastructure, Ad-Hoc
Data Transfer Rate	802.11b: 11, 5.5, 2, 1 Mbps 802.11g: 54, 48, 36, 24, 18, 12, 9, 6 Mbps 802.11n: 150Mbps(MAX)
Spread Spectrum	IEEE 802.11b: DSSS (Direct Sequence Spread Spectrum) IEEE 802.11g/n:OFDM (Orthogonal Frequency Division Multiplexing)
Sensitivity @PER	135M:-68dBm@10%PER 54M:-74dBm@10%PER 11M:-86dBm@8%PER 6M: -90dBm@10%PER 1M: -92dBm@8%PER
RF Power(Typical)	135M:14dBm, 54M:15dBm, 11M:17dBm
Antenna type	Connect to the external antenna through the half hole
The transmit distance	Indoor 100M, Outdoor 300M, according -the local environment
Dimension(L*W*H)	13.0*12.3*1.5mm (LxWxH) ， Tolerance: +-0.15mm
Power supply	3.3V +/-0.15V
Power Consumption	standby mode 50mA@3.3V , TX mode 245mA@3.3V
Clock source	40MHz
Working Temperature	0°C to +50°C
Storage temperature	-40°C to +85°C

3.3 DC Characteristic

Terms	**Contents**
Specification : IEEE802.11b	
Mode	DSSS / CCK
Frequency	2412 – 2484MHz
Data rate	1, 2, 5.5, 11Mbps

DC Characteristics	min	Typ.	max.	unit
TX mode	239	245	249	mA
Rx mode	91	92	93	mA
Sleep mode	47	48	48	mA
Specification : IEEE802.11g				
Mode	OFDM			
Frequency	2412 - 2484MHz			
Data rate	6, 9, 12, 18, 24, 36, 48, 54Mbps			
DC Characteristics	min	Typ.	max.	unit
TX mode	149	150	153	mA
Rx mode	92	93	100	mA
Sleep mode	46	48	49	mA
Specification : IEEE802.11n				
Mode	OFDM			
Frequency	2412 - 2484MHz			
Data rate	6.5, 13, 19.5, 26, 39, 52, 58.5, 65Mbps			
DC Characteristics	min	Typ.	max.	unit
TX mode	151	152	153	mA
Rx mode	91	92	93	mA
Sleep mode	47	48	49	mA

3.4 RF Characteristic

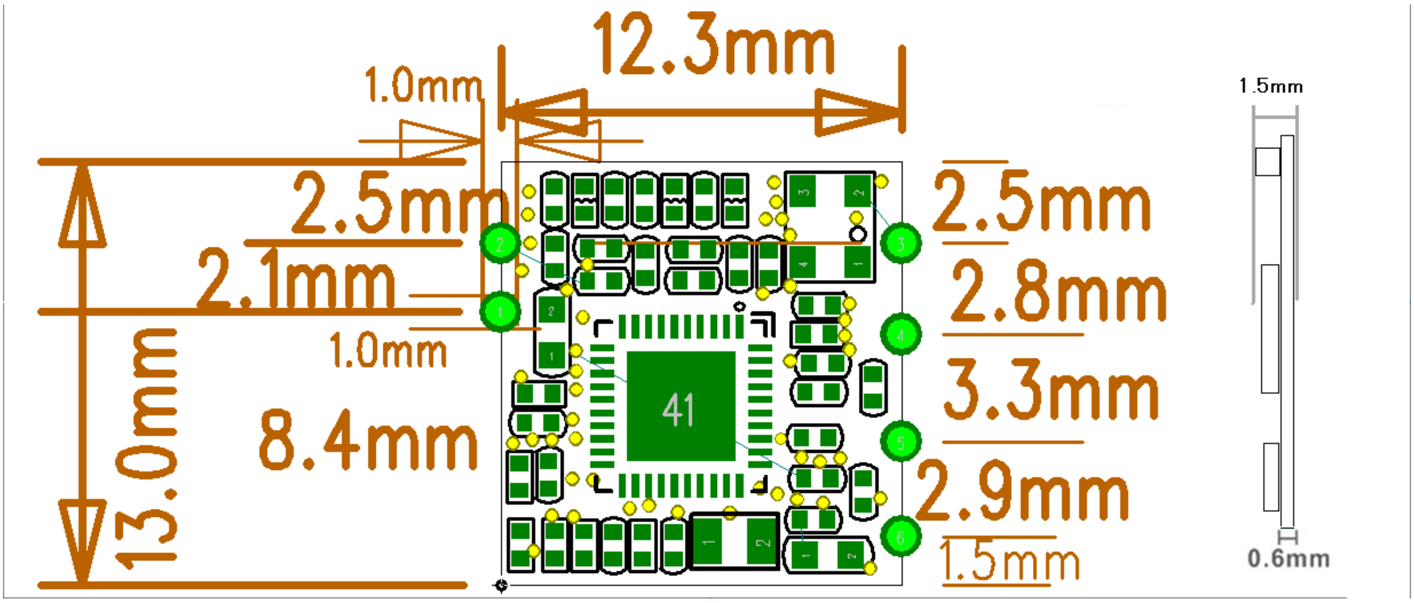
Mode	**Rate(Mbps)**	**Power(dBm)**			**EVM(dB)**			**Sensitivity(dBm)**		
		CH1	CH7	CH13	CH1	CH7	CH13	CH1	CH7	CH13
11b	1	17.43	17.79	17.48	-31.18	-32.78	-31.52	-95	-95	-95
	11	17.50	17.26	17.91	-32.87	-33.15	-33.41	-89	-89	-89
11g	6	17.58	17.28	17.49	-34.21	-33.18	-33.87	-90	-90	-90
	54	16.70	16.57	16.33	-30.42	-31.25	-31.02	-74	-74	-74
11n HT20	MCS0	17.32	17.24	17.48	-28.97	-29.18	-29.65	-88	-88	-88
	MCS7	16.86	16.40	16.12	-30.67	-30.98	-31.70	-70	-70	-70
11n HT40	MCS0	17.54	17.84	17.26	-30.54	-30.21	-30.47	-89	-89	-89
	MCS7	16.38	16.06	16.12	-31.41	-31.28	-31.07	-69	-69	-69

3.4 Product Photo

TOP

Bottom

3.5 Mechanical Specification



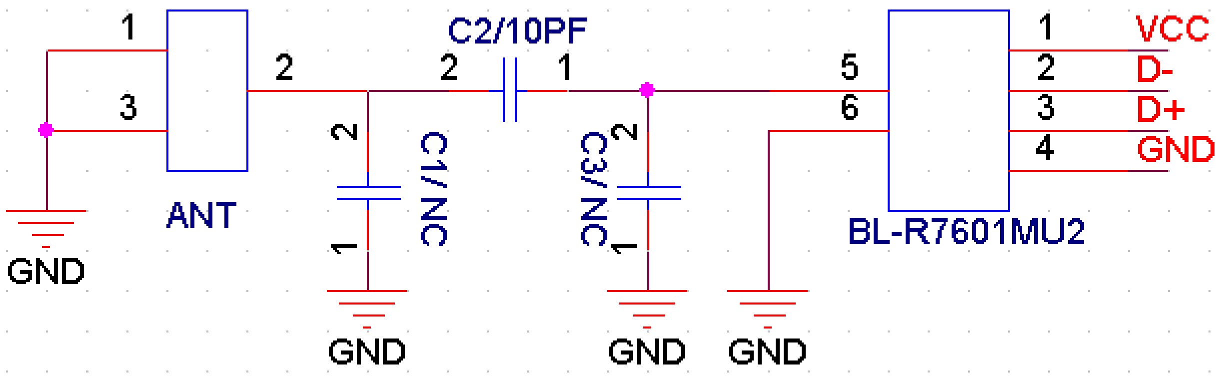
13.0mm*12.3mm*1.5mm Tolerance: +-0.15mm

3.6 Product Pin Definition

4. Supported platform

Operating System	CPU Framework	Driver
WIN2000/XP/VISTA/WIN7	X86 Platform	Enable
LINUX2.4/2.6	ARM, MIPSII	Enable
WINCE5.0/6.0	ARM ,MIPSII	Enable

5. WiFi RF Circuit reference pictures

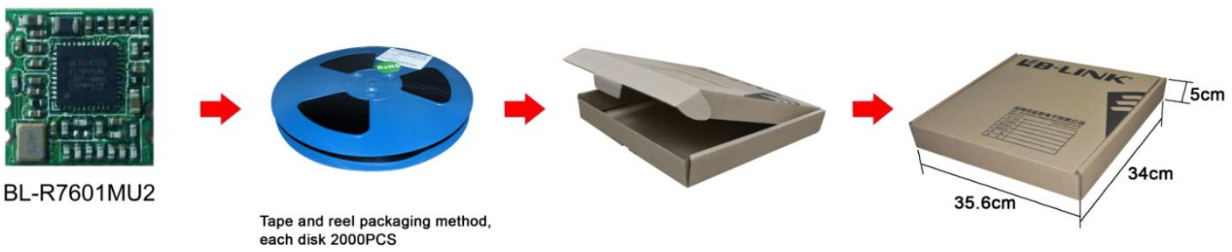


Note: 1.Pls reserve a “pi” circuit for antenna matching.

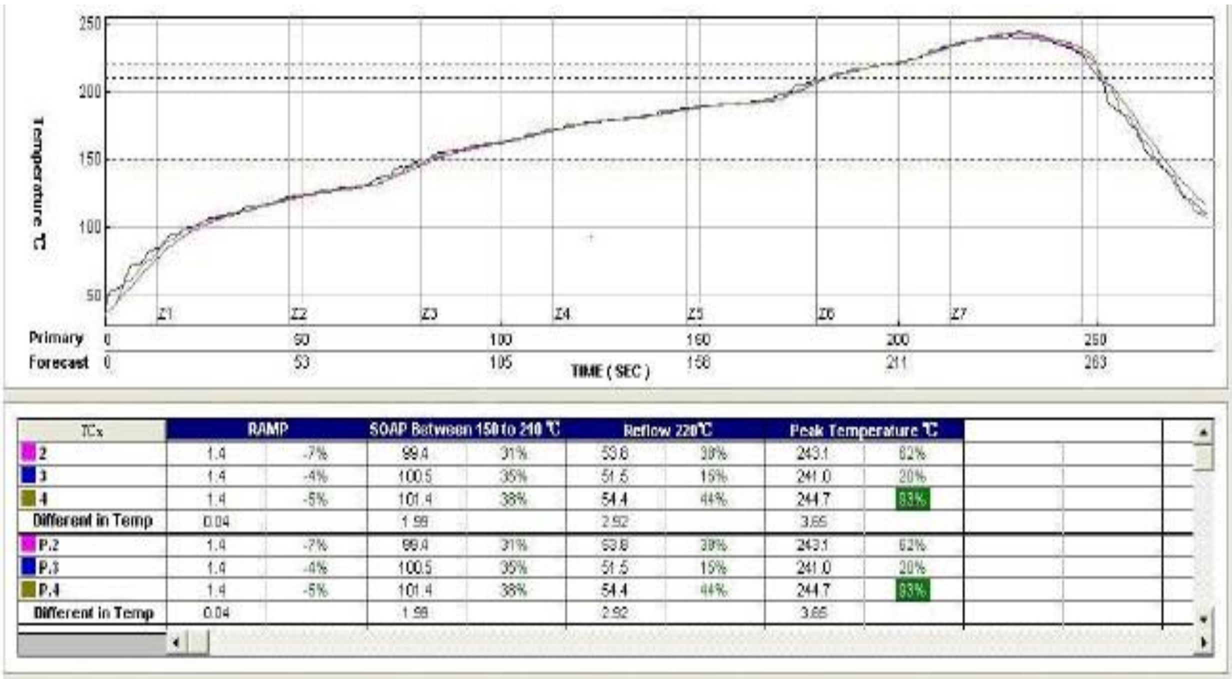
2. The RF circuit needs to keep 50 Ω impedance.

3. The USB differential pair needs to keep 90 Ω impedance.

6. Package Information



7. Typical Solder Reflow Profile



TCx	RAMP		SOAP Between 150 to 210 ℃		Reflow 220℃		Peak Temperature ℃	
🟪 2	1.4	-7%	99.4	31%	53.8	38%	243.1	62%
🟦 3	1.4	-4%	100.5	35%	51.5	15%	241.0	20%
🟫 4	1.4	-5%	101.4	38%	54.4	44%	244.7	83%
Different in Temp	0.04		1.99		2.92		3.65	
🟪 P.2	1.4	-7%	99.4	31%	53.8	38%	243.1	62%
🟦 P.3	1.4	-4%	100.5	35%	51.5	15%	241.0	20%
🟫 P.4	1.4	-5%	101.4	38%	54.4	44%	244.7	83%
Different in Temp	0.04		1.99		2.92		3.65	

8. Precautions for use

1. Pls handle the module under ESD protection.
2. Reflow soldering shall be done according to the solder reflow profile. Peak temperature 245℃.
3. Products require baking before mounting if humidity indicator cards reads >30% temp <30 degree C, humidity < 70% RH, over 96 hours.
   Baking condition: 125 degree C, 12 hours
   Baking times: 1 time
4. Storage Condition: Moisture barrier bag must be stored under 30 degree C, humidity under 85% RH. The calculated shelf life for the dry packed product shall be a 12 months from the bag seal date. Humidity indicator cards must be blue, <30%.