HK NATER TECH LIMITED

Product Specification

Product Name	WL-UM01WBD-8811CU		
Product Description	IEEE 802.11a/b/g/n/ac (1T1R) WiFi Module USB Interface		
Reversion	V1.04		
Date			
Nater Approve Field			
Engineer	**QC**	**Sales**	
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Customer Approve Field			
Engineer	**Purchasing**	**Manufactory**	**QC**

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1. General Description

WL-UM01WBS-8811CU is a highly integrated USB Wi-Fi module which supports 433Mbps PHY rate. It is compliant with IEEE 802.11ac draft specification,offering feature-rich wireless connectivity and reliable throughput from an extended distance.

WL-UM01WBS-8811CU 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. Applications

- IP Camera
- IP TV
- IP DVD(Internet VOD Player)
- Set Top Box
- Home Gateways
- Gaming Consoles
- DVR

3. Features

- IEEE 802.11a/b/g/n/ac WLANs
- 2.4G /5G ITIR mode
- With support of 433Mbps PHY rate
- IEEE 802.11e QoS Enhancement(WLAN)
- USB LPM/Selective Suspend support
- Fully compliance with USB2.0 High-speed mode.
- IEEE 802.11i(WPA, WPA2). Open, shared key, and pair-wise key authentication services
- Supports for Windows XP 32/64, 2000, Vista 32/64bit, Windows 7 32/64bit, Linux, Android
- RoHS compliance meets nvironment-friendly requirement.
- FCC,CE compliance
- 36.0(L) x 15.0(W) x 3.2mm PCB Antenna
- 27.0(L) x 15.0(W) x 3.2mm I-PEX with Antenna

4. Application Block Diagram

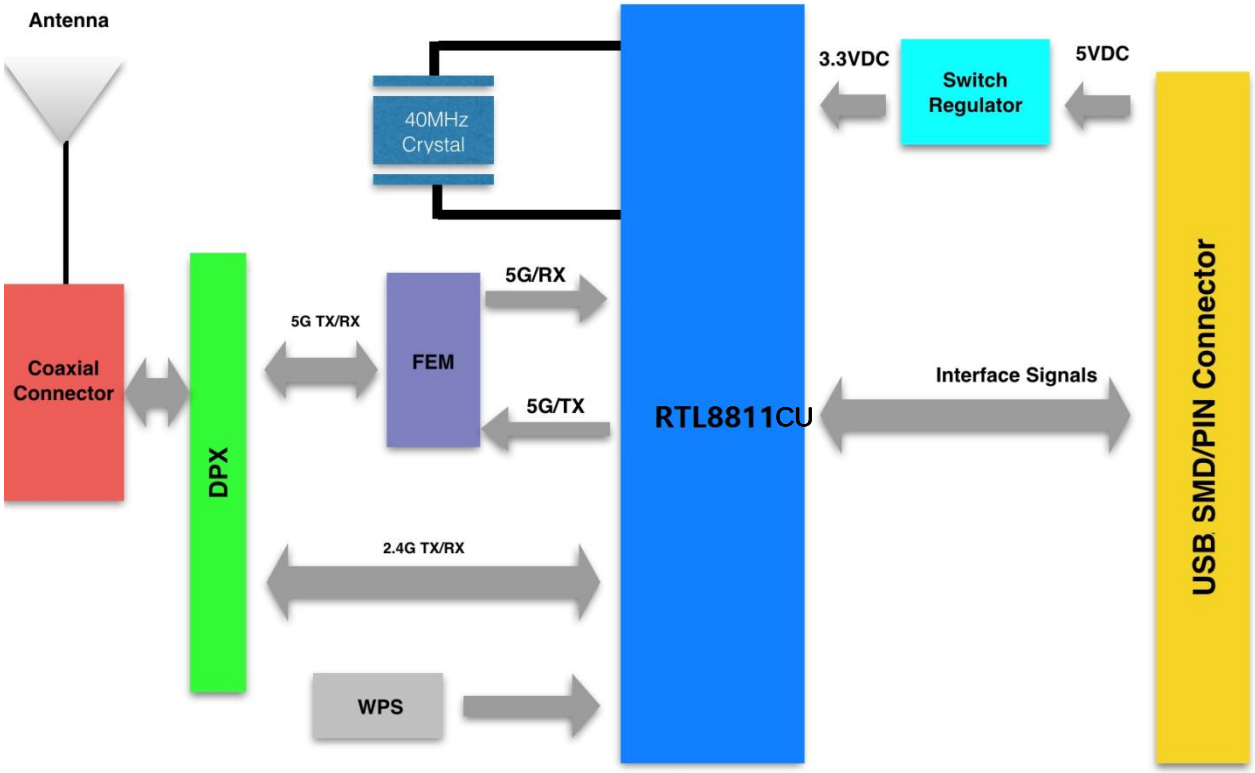


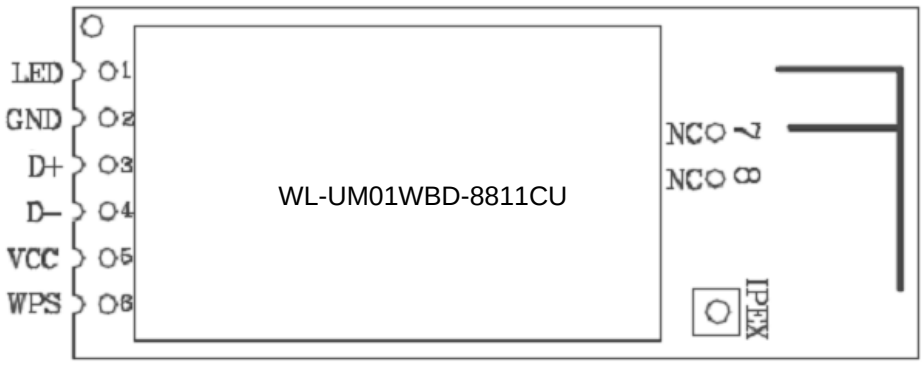
Figure 1: Block Diagram

5. Performance Specification

Hardware Features	
Model	WL-UM01WBD-8811CU
ANTENNA TYPE	IPEX connecter or PCB antenna
Voltage	3.5—5.5V
DIMENTIONS(W×D)	36mm*15mm 27mm*15mm
Wireless Features	
WIRELESS STANDARDS	IEEE 802.11 a/b/g/n/ac
FREQUENCY RANGE	2.4/5GHz
DATA RATES	IEEE 802.11a Standard Mode: 6,9,12,18,24,36,48,54Mbps IEEE 802.11 b Standard Mode: 1,2,5.5,11Mbps
	IEEE 802.11g Standard Mode: 6,9,12,18,24,36,48,54Mbps
	IEEE 802.11n/Draft 2.0 Mode: 130Mbps @ HT20
	150Mbps @ HT40 IEEE 802.11ac Standard Mode: 433Mbps @VHT80
2.4G RECEIVE SENSITIVITY	HT40 MCS15: -69dBm@10% PER(MCS7)
	HT20 MCS15 : -72dBm@10% PER(MCS7)
	54M: -74dBm@10% PER
	11M: -89dBm@ 8% PER
5G RECEIVE SENSITIVITY	VHT80 MCS15: -59dBm@10% PER(MCS9)
	HT40 MCS15: -68dBm@10% PER(MCS7)
	OFDM 54M: -75dBm@10% PER
	OFDM 6M: -90dBm@ 8% PER
MODULATION TECHNOLOGY	802.11 Legacy b/g/n
	DSSS (DBPSK, DQPSK, CCK)
	OFDM (BPSK, QPSK, 16-QAM, 64-QAM)
	802.11ac
	OFDM (256-QAM)

WIRELESS SECURITY	Supports WEP64/128, WPA, WPA2, TKIP, WAPI, and AES hardware encryption			
5GHZ TRANSMIT POWER	IEEE 802.11ac: 11-14dBm @AC80 MCS7			
2.4GHZ TRANSMIT POWER	IEEE 802.11n: 14-17dBm @HT40 MCS7 14-17dBm@HT20 MCS7			
	IEEE 802.11g: 15-17dBm			
	IEEE 802.11b: 16-20dBm			
WORK MODE	AP/Ad-Hoc / Infrastructure mode			
Others				
POWER Consumption@25°C	Status	POWER	2.4G/mA	5G/mA
	Transmission HT40/MCS 15	5.0V	150	160
	Receiving HT40/MCS15	5.0V	90	90
SYSTEM REQUIREMENTS	Windows 7(32/64bits), Windows Vista(32/64bits), Windows XP(32/64bits), Windows 2000,Linux,Android			
ENVIRONMENT	Operating Temperature: -20℃~70℃			
	Storage Temperature: -40℃~125℃			
	Operating Humidity: 10%~90% non-condensing			
	Storage Humidity: 5%~90% non-condensing			

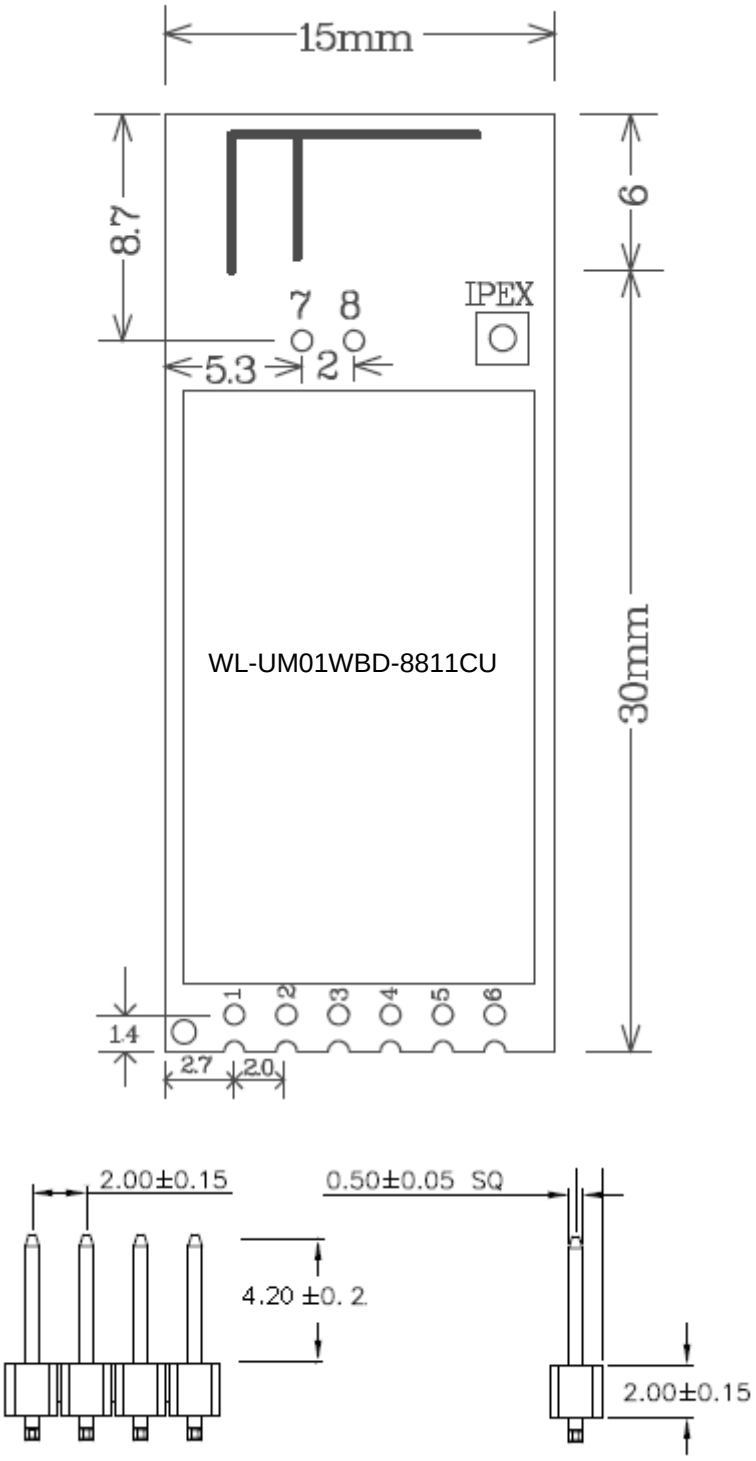
6. Module Pinout



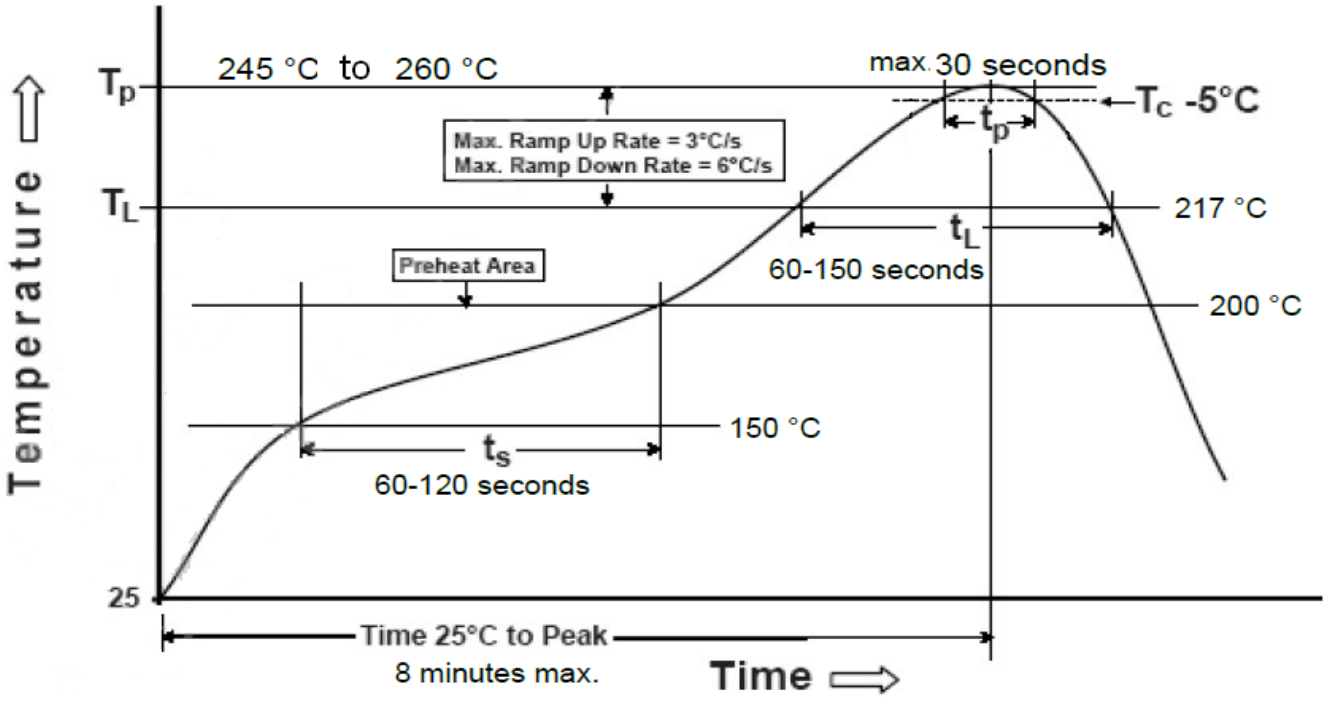
7. Electrical Characteristics

Pin No.	Pin name	I/O	Description	Remark
1	LED	O	LED pin	
2	GND	G	Ground	
3	D+	I/O	USB Interface DP	
4	D-	I/O	USB Interface DM	
5	VCC	P	Module Power Supply	
6	WPS	I	WPS pin	
7	NC			
8	NC			

8. PCB Footprint and Dimensions



9 . Manufacturing Process Recommendations



Typical Leadfree Soldering Profile

Note：The final soldering temperature chosen at the factory depends on additional external factors like choice of soldering paste ,size ,thickness and properties of the baseboard ,etc. Exceeding the maximum soldering temperature in the recommended soldering profile may permanently damage the module.

10. Reference Design Schematic

