802.11n, 2.4G 1T1R Wireless LAN USB Module

WN4638R

MediaTek MT7601U

Version 1.0

User Manual

LITEON®

802.11n, 2.4G 1T1R Wireless LAN USB Module

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Version 1.0

Networking B.U.
Lite-on Technology Corporation
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Chung Ho, New Taipei City 235, Taiwan, R.O.C.

Customer Approval: _____(Signature)

_____(Title)

_____(Company)

_____(Date)

(Please Sign Back by FAX. For Confirming the Spec Only, not an Official Agreement for OEM/ODM Business)

CONTENT

FCC WARING STATEMENT

FEDERAL COMMUNICATIONS COMMISSION INTERFERENCE STATEMENT

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

– Reorient or relocate the receiving antenna.

– Increase the separation between the equipment and receiver.

– Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

– Consult the dealer or an experienced radio/TV technician for help.

CAUTION:

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference and

(2) This device must accept any interference received, including interference that may cause undesired operation.

RF exposure warning

This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment must be installed and operated in accordance with provided instructions and must not be co-located or operating in conjunction with any other antenna or transmitter. End-users and installers must be provided with antenna installation instructions and transmitter operating conditions for satisfying RF exposure compliance.

End Product Labeling

This transmitter module is authorized only for use in device where the antenna may be installed such that 20cm may be maintained between the antenna and users. The final end product must be labeled in a visible area with the following: "Contains FCC ID: PPQ-WN4629R " and “Contains transmitter module IC: 4491A - WN4638R”

Information for the OEMs and Integrators

The following statement must be included with all versions of this document supplied to an OEM or integrator, but should not be distributed to the end user.

1) This device is intended for OEM integrators only.

2) Please see the full Grant of Equipment document for other restrictions.

IC WARING STATEMENT

Canada, Industry Canada (IC) Notices

This Class B digital apparatus complies with Canadian ICES-003 and RSS-210. Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Canada, avis d'Industry Canada (IC)

Cet appareil numérique de classe B est conforme aux normes canadiennes ICES-003 et RSS-210.
Son fonctionnement est soumis aux deux conditions suivantes : (1) cet appareil ne doit pas causer d'interférence et (2) cet appareil doit accepter toute interférence, notamment les interférences qui peuvent affecter son fonctionnement.

Radio Frequency (RF) Exposure Information

The radiated output power of the Wireless Device is below the Industry Canada (IC) radio frequency exposure limits. The Wireless Device should be used in such a manner such that the potential for human contact during normal operation is minimized.

This device has also been evaluated and shown compliant with the IC RF Exposure limits under mobile exposure conditions. (antennas are greater than 20cm from a person's body).

Informations concernant l'exposition aux fréquences radio (RF)

La puissance de sortie émise par l'appareil de sans fil est inférieure à la limite d'exposition aux fréquences radio d'Industry Canada (IC). Utilisez l'appareil de sans fil de façon à minimiser les contacts humains lors du fonctionnement normal.

Ce périphérique a également été évalué et démontré conforme aux limites d'exposition aux RF d'IC dans des conditions d'exposition à des appareils mobiles (les antennes se situent à moins de 20 cm du corps d'une personne).

PRODUCT FEATURES

- Operate at ISM frequency Band (2.4GHz)
- IEEE Standards Support, 802.11b, 802.11g and 802.11n
- Fully comply with USB 2.0 high speed mode
- Enterprise level security supporting: WPA, WPA2, WPS, WAPI
- One-stream IEEE 802.11n support for 20MHz and 40MHz bandwidth channels provides PHY layer rates up to 150Mbps
- Support Wi-Fi Direct
- RoHS compliance
- Low Halogen compliance

PRODUCT SPECIFICATIONS

MAIN CHIPSET

MAC/ Baseband/ RF: MediaTek MT701U

FUNCTIONAL SPECIFICATIONS

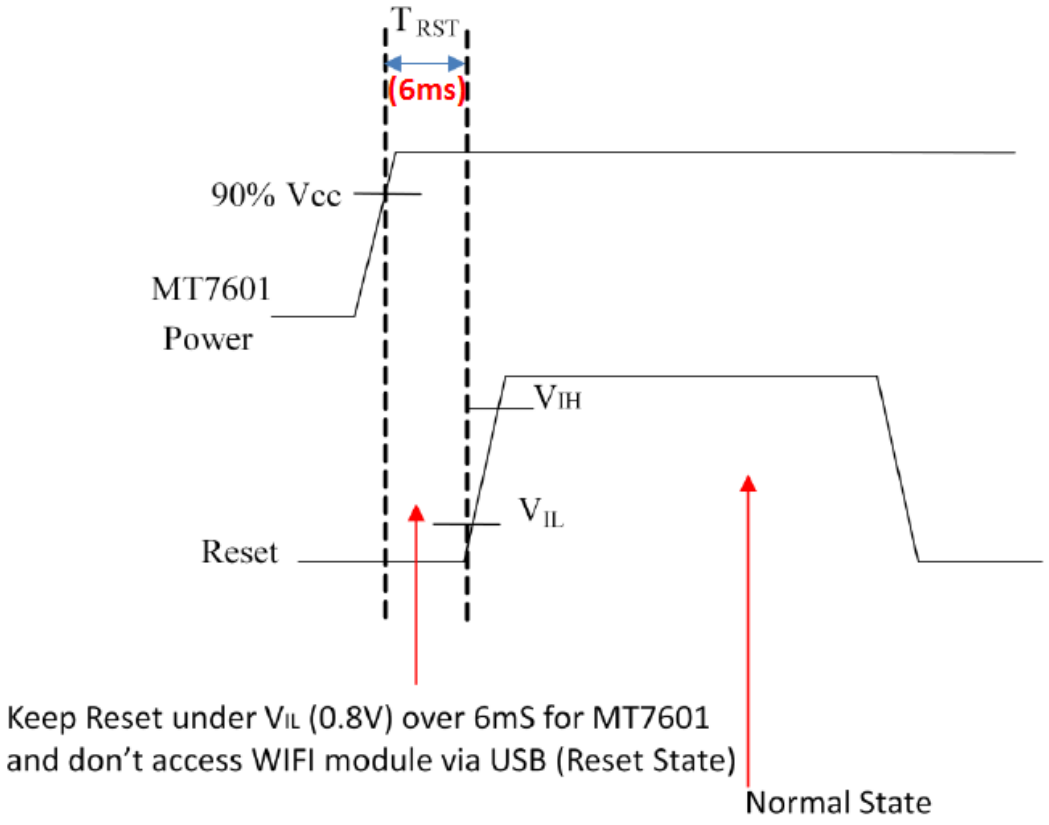
Wi-Fi Function	
Standard	IEEE802.11b; IEEE 802.11g; IEEE 802.11n
Bus Interface	USB2.0
Data Rate	***802.11b:*** 11, 5.5, 2, 1 Mbps ***802.11g:*** 54, 48, 36, 24, 18, 12, 9, 6 Mbps ***802.11n:*** MCS 0 to 7 for HT20MHz MCS 0 to 7 for HT40MHz
Media Access Control	CSMA/CA with ACK
Modulation Techniques	***802.11b***: CCK, DQPSK, DBPSK ***802.11g***: 64QAM, 16QAM, QPSK, BPSK ***802.11n***: BPSK, QPSK, 16QAM, 64QAM
Network Architecture	Ad-hoc mode (Peer-to-Peer) Infrastructure mode
Operation Channel	***2.4GHz*** 11: (Ch. 1-11) – United States 13: (Ch. 1-13) – Europe 14: (Ch. 1-14) – Japan
Frequency Range	***802.11bg*** 2.412 ~ 2.462 GHz
Transmit Output Power – 1x1 **(Tolerance: ±1.5dBm)**	***802.11b:*** 17 dBm@11Mbps ***802.11g:*** 16 dBm@54Mbps ***802.11n:*** **20MHz:** 15 dBm@MCS7 **40MHz:** 14 dBm@MCS7
Receiver Sensitivity	***802.11b:*** -84 dBm@11Mbps ***802.11g:*** -71 dBm@54Mbps ***802.11n:*** **20MHz** -70 dBm@MCS7 **40MHz** -67 dBm@MCS7

Security	WPA, WPA2, WPS, WEP 64b&128bit, IEEE 802.1X, IEEE 802.11i
Operating Voltage	3.3V ± 10% I/O supply voltage
OS Supported	Microsoft Windows Win7/Win8; Linux based
Power Consumption	***TX Mode:*** TBD *mA* ***RX Mode:*** TBD *mA* ***Idle Mode:*** TBD *mA* ***Sleep Mode:*** TBD *mA*
Antenna Type	PIFA Antenna

PIN ASSIGMENT

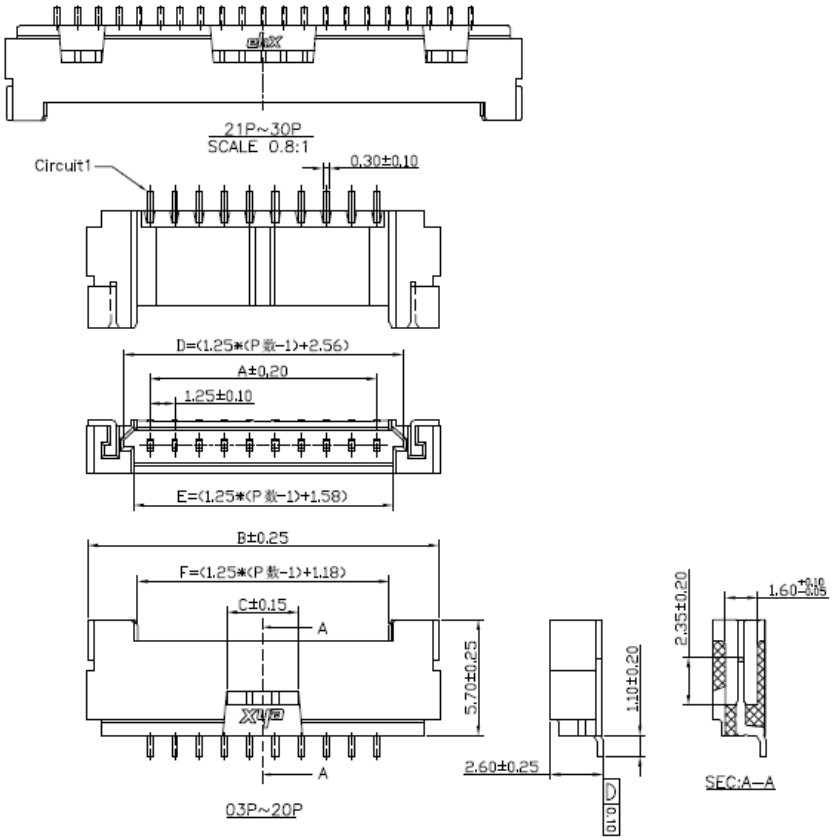
Pin.	Pin Define	Status
1	+3.3V	YES
2	USB_D-	YES
3	USB_D+	YES
4	GND	YES
5	Reset#	YES

RESET TIMING SPEC



USB CONNECTOR SPEC

No. of Contacts	DIMENSIONS		
	A	B	C
2	1.25	7.45	3.50
3	2.50	8.70	3.50
4	3.75	9.95	3.50
5	5.00	11.20	3.50
6	6.25	12.45	3.50
7	7.50	13.70	3.50
8	8.75	14.95	3.50
9	10.00	16.20	3.50
10	11.25	17.45	3.50
11	12.50	18.70	5.00
12	13.75	19.95	5.00
13	15.00	21.20	5.00
14	16.25	22.45	5.00
15	17.50	23.70	5.00
20	23.75	29.95	5.00
25	30.00	36.20	6.00
30	36.25	42.45	6.00



Ordering Code: S1315 – XX R V X – S03– K
① ②③ ④ ⑤ ⑥

① Series NO.

② Circuits number

③ R: Right Angle

④ V: Prefix "V" means lead free plating

⑤ Plating Code:

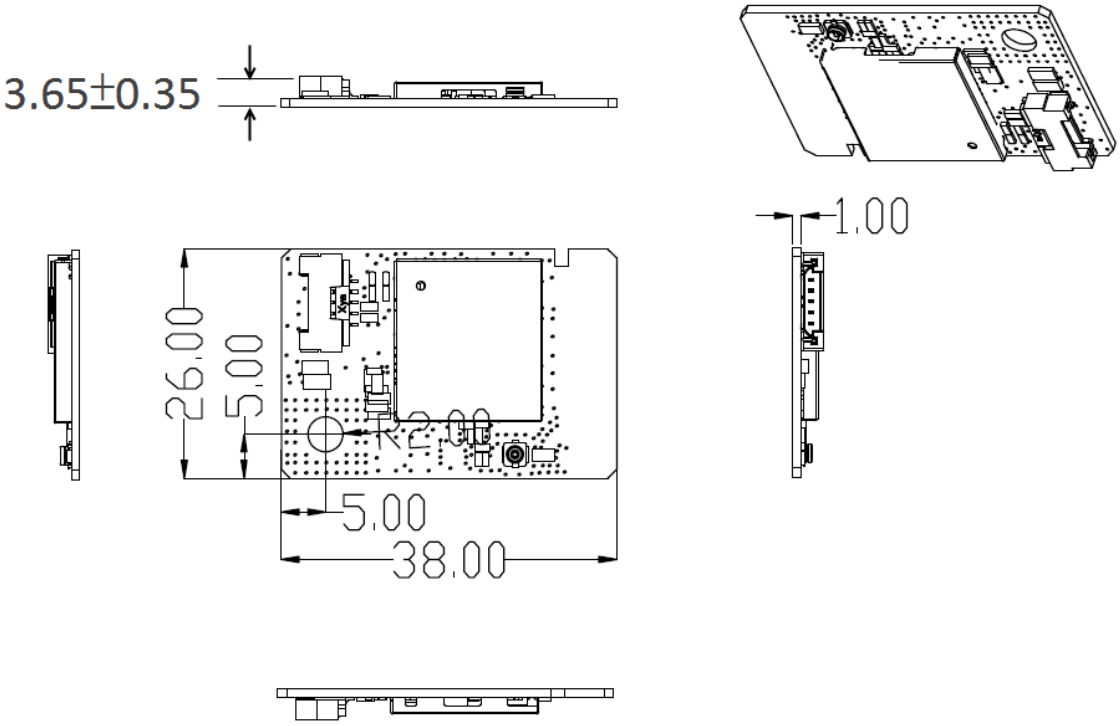
⑥ Packing:
Null: Tube
K: Reel
C: FILM+REEL

Definition			Code
◎ Tin plated:			A
◎ Gold plated:			
flash	B	15μ"	F
10μ"	E	30μ"	J
◎Duplex plating:			
flash	K	15μ"	P
10μ"	N	30μ"	U

NOTES: (UNLESS OTHERWISE SPECIFIED)

1.Temperature range: −25°C~+85°C
2.Voltage rating: 150V,AC,DC
3.Current rating: 1A
4.Contact resistance: 20mΩ Max.
5.Insulation resistance: 500M ΩMin.
6.Withstand voltage: 500V,AC/minute
7.Material: Housing: PA6T,UL94V−0,Natural
Contact: Phosphor Bronze, Gold plated
Clip: Brass, Gold plated

MECHANICAL



Unit: mm
Tolerance: ±0.10mm

EEPROM INFORMATION

Reg Domain	Worldwide Channel 1~11 Active Scan Channel 12~14 Passive Scan
	Offset 0x38 for 5G: 0xFF Offset 0x39 for 2.4G: 0xFF
Vendor ID	0x148F
Product ID	0x7601

ENVIRONMENTAL

Operating

Operating Temperature: 0 to 60 °C (32 to 140 °F)
Relative Humidity: 5-90% (non-condensing)

Storage

Temperature: -20 to 70 °C (-4 to 158 °F)
Relative Humidity: 5-95% (non-condensing)