

羅美國際有限公司/LawMate International Co., Ltd.
台北市內湖區文湖街60巷34號3樓/3F, No.34, Lane 60, Wenhua St., Taipei, Taiwan
TEL:+886 2-8797-5728 / FAX:+886 2-8797-5727

Operating manual

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LawMate

WN7601B

WIFI Module

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

Version: 1.0

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0. Revision History

Date	Document revision	Product revision	Change Description
2014/06/18	1.0	V2.7	Update format ,change product size tolerance.

1. General Description

WN7601B product is designed base on Realtek RTL8188ETV chipset .It combines CMOS MAC, Baseband PHY and RF in a single chip for IEEE 802.11a/b/g/n compatible. It supports IEEE802.11i safety protocol, along with IEEE 802.11e standard service quality. It supports the new data encryption on 64/128 bit WEP and safety mechanism on WPA-PSK/WPA2-PSK, WPA/WPA2. It can implement the wireless network function on the laptop/desktop/MID and other wireless devices easily . This module has implemented some efficient mechanisms in its software and hardware to maximize the performance.

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

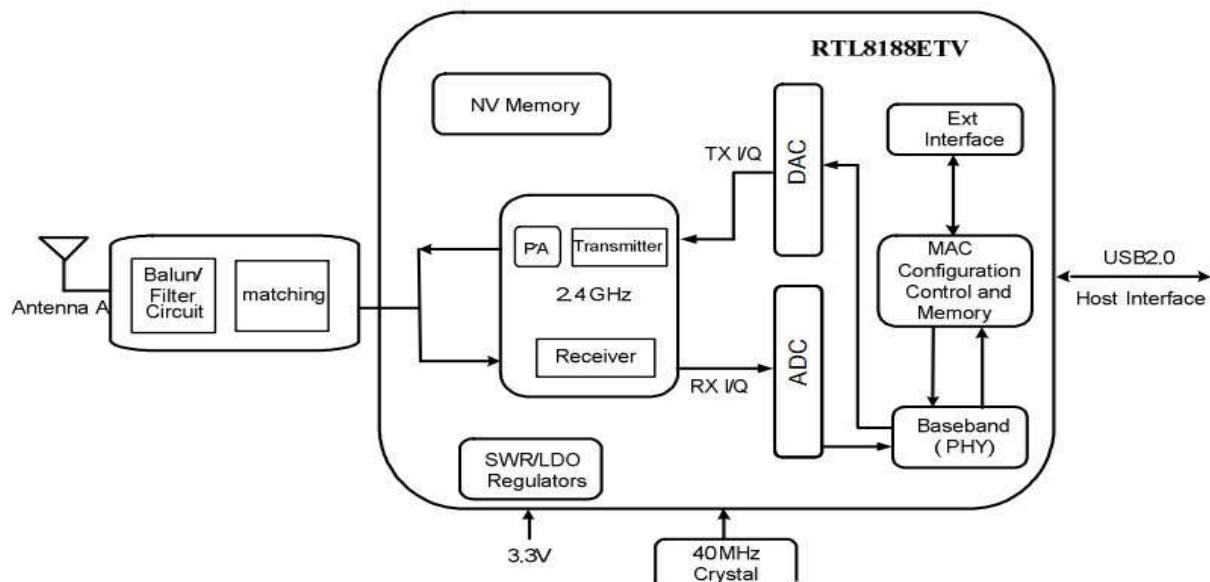


Figure 1. Single-Band 11n (1x1) Solution

3.2 Electrical and Performance Specification

Item	Description
Product Name	WN7601B
Major Chipset	RTL8188ETV
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	1,2,5.5,6,11,12,18,22,24,30,36,48,54,60,90,120 and maximum of 150Mbps
Spread Spectrum	IEEE 802.11b: DSSS (Direct Sequence Spread Spectrum) IEEE 802.11g/n: OFDM (Orthogonal Frequency Division Multiplexing)
Sensitivity @PER	1M: <u>-90dBm@8%PER</u> 6M: <u>-88dBm@10%PER</u> 11M: <u>-86dBm@8%PER</u> 54M: <u>-73dBm@10%PER</u>
RF Power	>15dBm@11b, >14dBm@11g, >13dBm@11n,
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 x 12.3 x 1.55mm (LxWxH) ; Tolerance: +-0.2mm
Power supply	3.3V +/-0.2V
Power Consumption	standby mode 140mA@3.3V, TX mode 280mA@3.3V
Clock source	40MHz
Working Temperature	0°C to +70°C
Storage temperature	-40°C ~ +85°C

3.3 DC Characteristic

Terms	Contents
Specification : IEEE802.11b	
Mode	DSSS / CCK
Frequency	2412 – 2462MHz
Data rate	1, 2, 5.5, 11Mbps
DC Characteristics	min
	Typ.
	max.
	unit

TX mode	300	310	320	mA
Rx mode	148	150	155	mA
Sleep mode	140	145	146	mA

Specification : IEEE802.11g

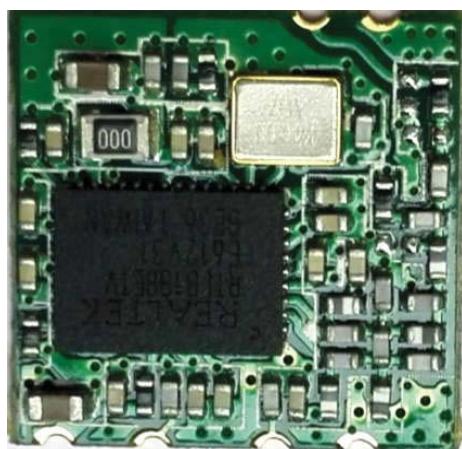
Mode	OFDM			
Frequency	2412 - 2462MHz			
Data rate	6, 9, 12, 18, 24, 36, 48, 54Mbps			
DC Characteristics	min	Typ.	max.	unit
TX mode	280	285	288	mA
Rx mode	140	145	150	mA
Sleep mode	143	145	146	mA

Specification : IEEE802.11n

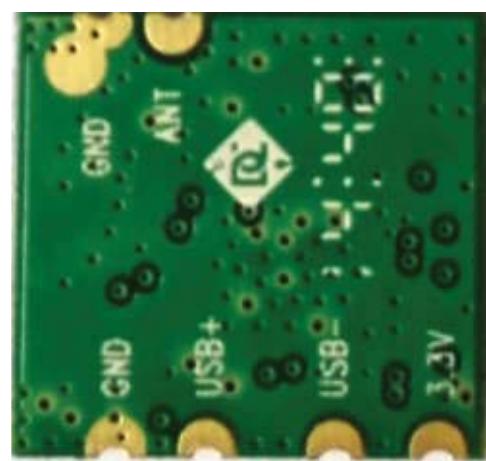
Mode	OFDM			
Frequency	2412 - 2462MHz			
Data rate	6.5, 13, 19.5, 26, 39, 52, 58.5, 65Mbps			
DC Characteristics	min	Typ.	max.	unit
TX mode	280	286	230	mA
Rx mode	148	150	150	mA
Sleep mode	144	145	146	mA

3.4 Product Photo

TOP

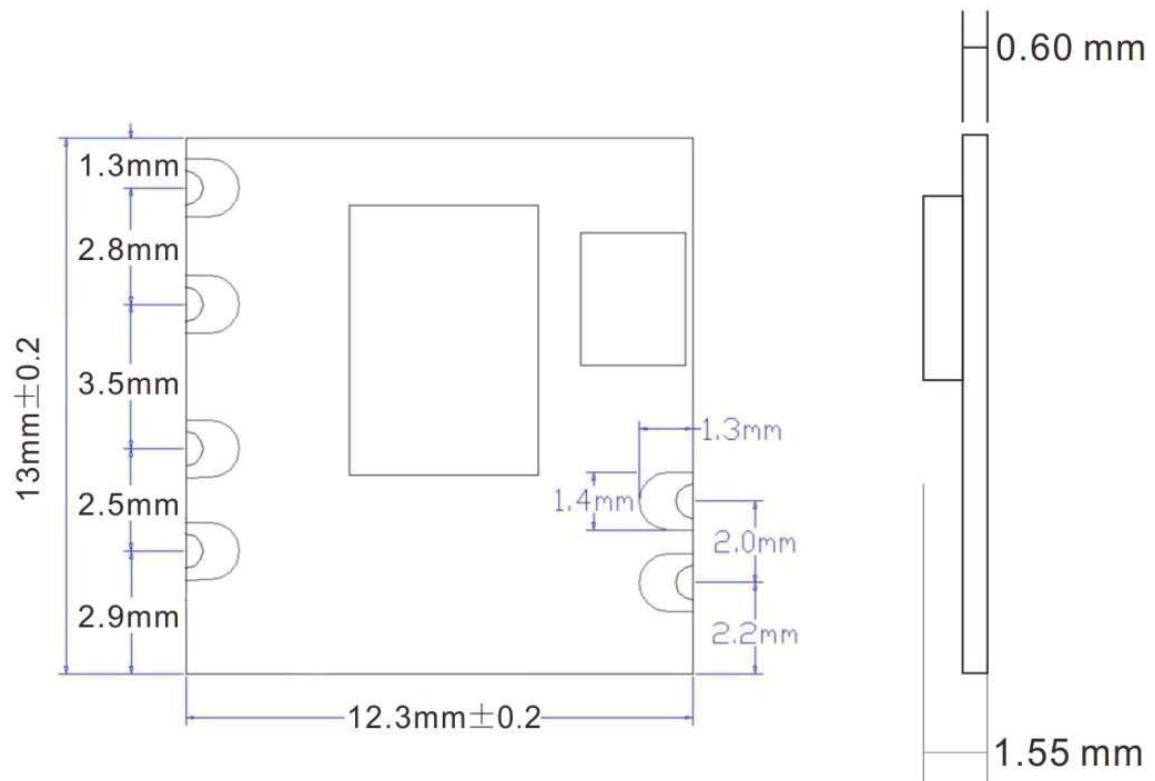


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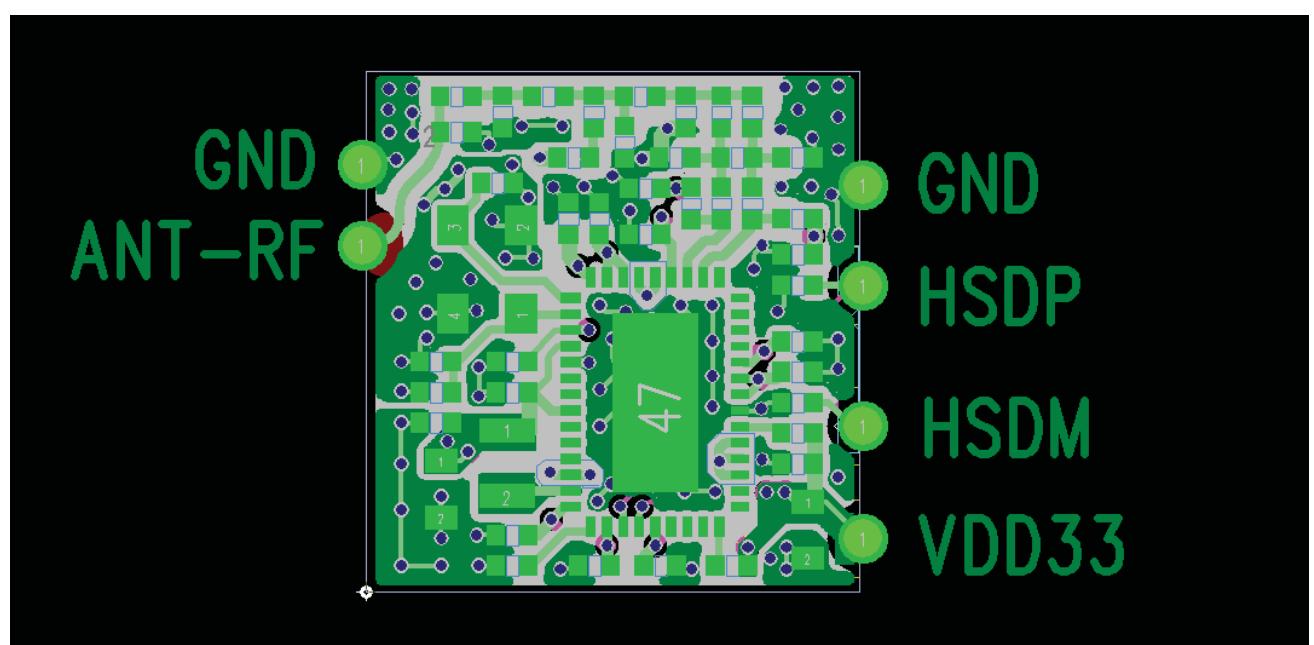


3.6 Mechanical Specification

Module dimension: Typical (L x W x H): 13mmx12.3mmx1.55mm Tolerance : +/-0.2mm



3.7 Product Pin Definition



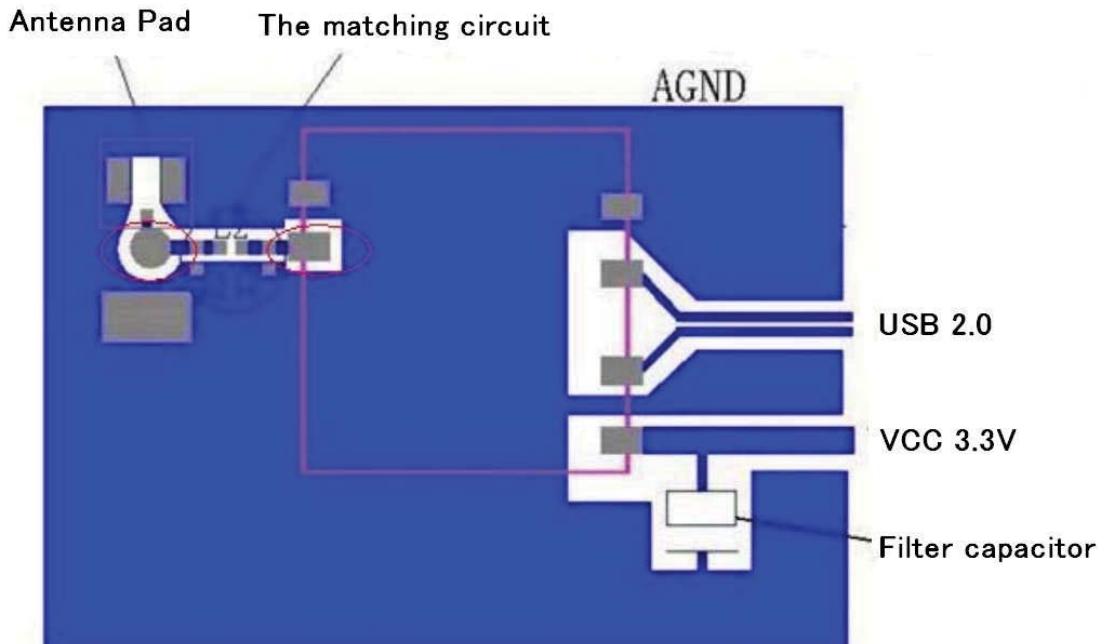
4. Supported platform

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. Peripheral Schematic Reference Design

(Layout suggestion)

Reference resources



Note: the RF line to ensure an impedance of 50 ohms

6. Package Information



FCC Warning:

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 to this device not explicitly approved by manufacturer could void your authority to operate this 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.

“To comply with FCC RF exposure compliance requirements, this grant is applicable to only mobile configurations. The antennas used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.”

If the FCC identification number is not visible when the module is installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module. This exterior label can use wording such as the following: Contains Transmitter Module FCC ID: "2AHTXWN7601B" or Contains FCC ID: "2AHTXWN7601B" or Any similar wording that expresses the same meaning may be used.