

# PRODUCT SPECIFICATION

## 802.11b/g, 54Mbps Wireless LAN USB Module

### WN4300R

Version 1.1

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#### Change History:

Revision	Date	Author	Change List
Version 1.0	2006/11/23	Vita Lee	Preliminary
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(Please Sign Back by FAX. For Confirming the Spec Only, not an Official Agreement for OEM/ODM Business)

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## PRODUCT FEATURES

- Operate at ISM frequency bands (2.4GHz) with 54Mbps data rate
- USB 2.0 support for data rates up to 12Mbps full speed and 480Mbps high speed
- IEEE standards support: IEEE 802.11b, 802.11g
- Enterprise level security which can apply WPA2 certification
- Rohs compliance
- Wi-Fi Multimedia (WMM) supported. WMM is a component of the IEEE 802.11e wireless LAN standard for quality of service (QoS).

## Product specifications

### Main chipset

Baseband / MAC: Ralink RT2571WF

RF: Ralink RT2528L

### Functional Specifications

<b>Standard</b>	IEEE802.11b; IEEE 802.11g; IEEE 802.11i, WMM	
<b>Bus Interface</b>	Universal Serial Bus (USB2.0)	
<b>Data Rate</b>	802.11g compliant: 11, 5.5, 2, 1 (DSSS/CCK); 6, 9, 12, 18, 24, 36, 48, 54 (OFDM) Mbps data rates	
<b>Media Access Control</b>	CSMA/CA with ACK	
<b>Radio Technology</b>	<b>802.11b:</b> DSSS (Direct Sequence Spread Spectrum) / CCK <b>802.11g:</b> DSSS/CCK, OFDM (Orthogonal Frequency Division Multiplexing)	
<b>Modulation Techniques</b>	<b>802.11b</b> DSSS: CCK @ 11, 5.5 Mbps DQPSK @ 2 Mbps DBPSK @ 1 Mbps	<b>802.11g</b> OFDM: BPSK @ 6, 9 Mbps QPSK @ 12, 18 Mbps 16-QAM @ 24, 36 Mbps 64-QAM @ 48, 54 Mbps
<b>Network architecture</b>	Ad-hoc mode (Peer-to-Peer ) Infrastructure mode	
<b>Operating Channel</b>	<b>802.11b &amp; g</b> 11: (Ch. 1-11) – N. America	
<b>Frequency Range</b>	<b>802.11 b &amp; g</b> 2.412 ~ 2.462 GHz – N. America	

<b>Receiver Sensitivity</b>	<b>802.11b</b> @FER<8% 11 Mbps: -84 dBm 5.5 Mbps: -85 dBm 2 Mbps: -89 dBm 1 Mbps: -92 dBm	<b>802.11g</b> @PER<10% 54 Mbps: -70 dBm 48 Mbps: -71 dBm 36 Mbps: -76 dBm 24 Mbps: -80 dBm 18 Mbps: -83 dBm 12 Mbps: -86 dBm 9 Mbps: -87 dBm 6 Mbps: -87 dBm
<b>Security</b>	64-bit, 128-bit, 256-bit WEP, TKIP, AES, WPA, WPA2	
<b>Operating Voltage</b>	5 V $\pm$ 5% I/O supply voltage	
<b>OS supported</b>	<ul style="list-style-type: none"> <li>• Windows XP Pro/Home</li> <li>• Windows XP SP1 Pro/Home</li> <li>• Windows XP SP2 Pro/Home</li> <li>• Windows XP 64-bit</li> <li>• Windows Media Center Edition</li> <li>• Windows Vista (supported Q2, 2007)</li> </ul>	
<b>Power Consumption</b>	<b>802.11b</b> Rx: 236 mA Tx: 333 mA Standby: 200 mA	<b>802.11g</b> Rx: 236 mA Tx: 300 mA Standby: 200 mA
<b>Antenna Type</b>	Dual antenna connector	

\*Enviromental factors dependent

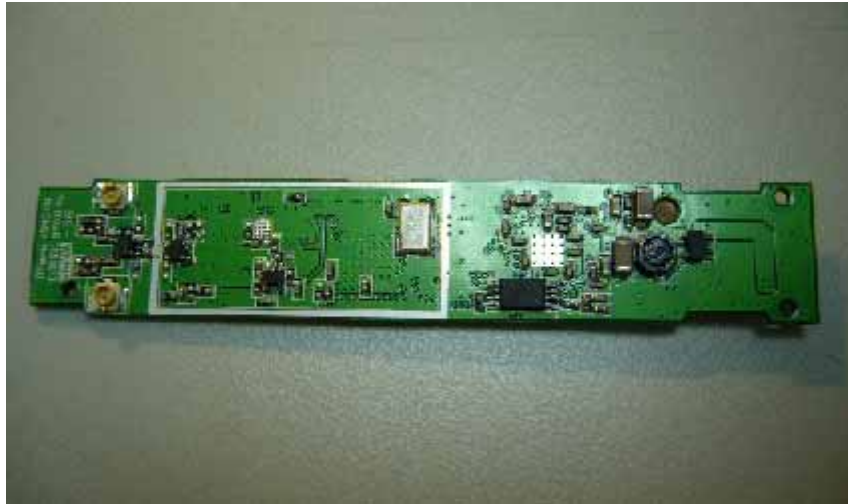
### Mechanical

Dimensions (Length x Width x Height): 78.2 mm x 14 mm x mm

Weight: g ( oz)

### Product ID





**Block Diagram**  
TBD

## **ENVIRONMENTAL**

### **Operating**

Operating Temperature: 0 to 45 °C (32 to 113 °F)  
Relative Humidity: 5-90% (non-condensing)

### **Storage**

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

## Federal Communication 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 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.

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

### **IMPORTANT NOTE: FCC Radiation Exposure Statement:**

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

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.

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. End-users are not been provided with the module installation instructions.

OEM integrators and end-users must be provided with transmitter operating conditions for satisfying RF exposure compliance.

This module available in the USA/Canada market, only channel 1~11 can be operated.

Selection of other channels is not possible.

End Product Labelling:

The final end product must be labeled in a visible area with the following " Contains TX FCC ID: PPQWN4300R ". If the size of the end product is larger than the palm of the hand, then the following FCC part 15.19 statement has to also be available on the label: This device complies with Part 15 of 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.

### Industry Canada Notice to Users

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.

This device has been designed to operate with the antennas listed below, and having a maximum gain of 3dBi. Antennas not included in this list or having a gain greater than 3dBi are strictly prohibited for use with this device. The required antenna impedance is 50ohms.

#### Antenna

Ant.	Brand	Antenna Type	Connector	Gain (dBi)
1	Wistron	PIFA (INTERNAL)	UFL	3.00
2	Wistron	Dipole (W/O cable)-XCC	Reversed-SMA	2.00
3	Wistron	Dipole (With 1m cable)-XCD	Reversed-SMA	2.00
4	Joymax	Dipole (With 1m cable)	Reversed-SMA	1.95

#### Internal cable for Dipole Antenna

1	26cm-1.37Ø
2	26cm-1.13Ø
3	9.5cm-1.37Ø
4	9.5cm-1.13Ø