

# Intel® Wireless Adapter Information Guide

Supported wireless adapters:

- Intel® Centrino® Ultimate-N 6350
- Intel® Centrino® Ultimate-N 6300
- Intel® Centrino® Advanced-N + WiMAX 6250
- Intel® Centrino® Advanced-N 6230
- Intel® Centrino® Advanced-N 6205
- Intel® Centrino® Advanced-N 6200
- Intel® Centrino® Wireless-N + WiMAX 6150
- Intel® WiFi Link 5300
- Intel® WiMAX/WiFi Link 5150
- Intel® WiFi Link 5100
- Intel® Wireless WiFi Link 4965AGN
- Intel® PRO/Wireless 3945ABG Network Connection
- Intel® Centrino® Wireless-N 1030
- Intel® Centrino® Wireless-N 100
- Intel® Centrino® Wireless-N 130

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With your WiFi network card, you can access WiFi networks, share files or printers, or even share your Internet connection. All of these features can be explored using a WiFi network in your home or office. This WiFi network solution is designed for both home and business use. Additional users and features can be added as your networking needs grow and change.

This guide contains basic information about Intel adapters. It includes information about several adapter properties that you can set to control and enhance the performance of your adapter with your particular wireless network and environment. Intel® wireless adapters enable fast connectivity without wires for desktop and notebook PCs.

- [Adapter Settings](#)
- [Regulatory Information](#)
- [Specifications](#)
- [Warranty Information](#)
- [Support Information](#)
- [Important Information](#)
- [Glossary](#)

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Intel Corporation assumes no responsibility for errors or omissions in this document. Nor does Intel make any commitment to update the information contained herein.

"IMPORTANT NOTICE FOR ALL USERS OR DISTRIBUTORS:

Intel wireless LAN adapters are engineered, manufactured, tested, and quality checked to ensure that they meet all necessary local and governmental regulatory agency requirements for the regions that they are designated and/or marked to ship into. Because wireless LANs are generally unlicensed devices that share spectrum with radars, satellites, and other licensed and unlicensed devices, it is sometimes necessary to dynamically detect, avoid, and limit usage to avoid interference with these devices. In many instances Intel is required to provide test data to prove regional and local compliance to regional and governmental regulations before certification or approval to use the product is granted. Intel's wireless LAN's EEPROM, firmware, and software driver are designed to carefully control parameters that affect radio operation and to ensure electromagnetic compliance (EMC). These parameters include, without limitation, RF power, spectrum usage, channel scanning, and human exposure.

For these reasons Intel cannot permit any manipulation by third parties of the software provided in binary format with the wireless LAN adapters (e.g., the EEPROM and firmware). Furthermore, if you use any patches, utilities, or code with the Intel wireless LAN adapters that have been manipulated by an unauthorized party (i.e., patches, utilities, or code (including open source code modifications) which have not been validated by Intel), (i) you will be solely responsible for ensuring the regulatory compliance of the products, (ii) Intel will bear no liability, under any theory of liability for any issues associated with the modified products, including without limitation, claims under the warranty and/or issues arising from regulatory non-compliance, and (iii) Intel will not provide or be required to assist in providing support to any third parties for such modified products.

**Note:** Many regulatory agencies consider Wireless LAN adapters to be "modules", and accordingly, condition system-level regulatory approval upon receipt and review of test data documenting that the antennas and system configuration do not cause the EMC and radio operation to be non-compliant."

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August 11, 2010

## Adapter Settings

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The Advanced tab displays the device properties for the WiFi adapter installed on your computer. This version of Intel® PROSet/Wireless WiFi Software is compatible with the following adapters:

- Intel® Centrino® Ultimate-N 6350
- Intel® Centrino® Ultimate-N 6300
- Intel® Centrino® Advanced-N + WiMAX 6250
- Intel® Centrino® Advanced-N 6230
- Intel® Centrino® Advanced-N 6205
- Intel® Centrino® Advanced-N 6200
- Intel® Centrino® Wireless-N + WiMAX 6150
- Intel® WiFi Link 5300
- Intel® WiMAX/WiFi Link 5150
- Intel® WiFi Link 5100
- Intel® Wireless WiFi Link 4965AGN
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- Intel® Centrino® Wireless-N 1030
- Intel® Centrino® Wireless-N 100
- Intel® Centrino® Wireless-N 130

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## How to Access

For Windows\* XP and Windows\* 7 users: At the Intel® PROSet/Wireless WiFi Connection Utility, Advanced Menu click **Adapter Settings**. Select the **Advanced** tab.

Open the Device Manager and click on the WiFi network adapter. Then select the **Advanced** tab.

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## WiFi Adapter Settings Description

Name	Description
<b>802.11n Channel Width (2.4 GHz)</b>	<p>Set high throughput channel width to maximize performance. Set the channel width to <b>Auto</b> or <b>20MHz</b>. Use 20MHz if 802.11n channels are restricted. This setting applies to 802.11n capable adapters only.</p> <p><b>NOTE:</b> This setting <i>does not apply</i> to the following adapters:</p> <ul style="list-style-type: none"><li>• Intel® Wireless WiFi Link 4965AGN (uses 20 MHz channel width only)</li></ul>
<b>802.11n Channel Width (5.2 GHz)</b>	<p>Set high throughput channel width to maximize performance. Set the channel width to <b>Auto</b> or <b>20MHz</b>. Use 20MHz if 802.11n channels are restricted. This setting applies to 802.11n capable adapters only.</p>

	<p><b>NOTE:</b> This setting <i>does not apply</i> to the following adapters:</p> <ul style="list-style-type: none"> <li>• Intel® WiFi Link 1000</li> <li>• Intel® Wireless WiFi Link 4965AGN</li> </ul>
<p><b>802.11n Mode</b></p>	<p>The 802.11n standard builds on previous 802.11 standards by adding multiple-input multiple-output (MIMO). MIMO increases data throughput to improve transfer rate. Select <b>Enabled</b> or <b>Disabled</b> to set the 802.11n mode of the WiFi adapter. Enabled is the default setting. This setting applies to 802.11n capable adapters only.</p> <p><b>NOTE:</b> To achieve transfer rates greater than 54 Mbps on 802.11n connections, WPA2*-AES security must be selected. No security (<b>None</b>) can be selected to enable network setup and troubleshooting.</p> <p>An administrator can enable or disable support for high throughput mode to reduce power-consumption or conflicts with other bands or compatibility issues.</p>
<p><b>Ad Hoc Channel</b></p>	<p>Unless the other computers in the ad hoc network use a different channel from the default channel, there is no need to change the channel.</p> <p><b>Value:</b> Select the permitted operating channel from the list.</p> <ul style="list-style-type: none"> <li>• <b>802.11b/g:</b> Select this option when 802.11b and 802.11g (2.4 GHz) ad hoc band frequency is used.</li> <li>• <b>802.11a:</b> Select this option when 802.11a (5 GHz) ad hoc band frequency is used. This setting <i>does not apply</i> to the Intel® WiFi Link 1000 adapter.</li> </ul> <p><b>NOTE:</b> When an 802.11a channel is not displayed, initiating ad hoc networks is not supported for 802.11a channels.</p>
<p><b>Ad Hoc Power Management</b></p>	<p>Set power saving features for device to device (ad hoc) networks.</p> <ul style="list-style-type: none"> <li>• <b>Disable:</b> Select when connecting to ad hoc networks that contain stations that do not support ad hoc power management</li> <li>• <b>Maximum Power Savings:</b> Select to optimize battery life.</li> <li>• <b>Noisy Environment:</b> Select to optimize performance or connecting with multiple clients.</li> </ul>
<p><b>Ad Hoc QoS Mode</b></p>	<p>Quality of Service (QoS) control in ad hoc networks. QoS provides prioritization of traffic from the access point over a wireless LAN based on traffic classification. WMM (Wi-Fi Multimedia) is the QoS certification of the Wi-Fi Alliance (WFA). When WMM is enabled, the WiFi adapter uses WMM to support priority tagging and queuing capabilities for Wi-Fi networks.</p> <ul style="list-style-type: none"> <li>• <b>WMM Enabled</b> (Default)</li> </ul>

	<ul style="list-style-type: none"> <li>• <b>WMM Disabled</b></li> </ul>
<b>Fat Channel Intolerant</b>	<p>This setting communicates to surrounding networks that this WiFi adapter is not tolerant of 40MHz channels in the 2.4GHz band. The default setting is for this to be turned off (disabled), so that the adapter does not send this notification.</p> <p><b>NOTE:</b> This setting <i>does not apply</i> to the following adapters:</p> <ul style="list-style-type: none"> <li>• Intel® Wireless WiFi Link 4965AG_</li> <li>• Intel® PRO/Wireless 3945ABG Network Connection</li> </ul>
<b>Mixed mode protection</b>	<p>Use to avoid data collisions in a mixed 802.11b and 802.11g environment. Request to Send/Clear to Send (RTS/CTS) should be used in an environment where clients may not hear each other. CTS-to-self can be used to gain more throughput in an environment where clients are in close proximity and can hear each other.</p>
<b>Power Management</b>	<p>Lets you select a balance between power consumption and WiFi adapter performance. The WiFi adapter power settings slider sets a balance between the computer's power source and the battery.</p> <ul style="list-style-type: none"> <li>• <b>Use default value:</b> (Default) Power settings are based on the computer's power source.</li> <li>• <b>Manual:</b> Adjust the slider for the desired setting. Use the lowest setting for maximum battery life. Use the highest setting for maximum performance.</li> </ul> <p><b>NOTE:</b> Power consumption savings vary based on Network (Infrastructure) settings.</p>
<b>Roaming Aggressiveness</b>	<p>This setting lets you define how aggressively your wireless client roams to improve connection to an access point.</p> <ul style="list-style-type: none"> <li>• <b>Default:</b> Balanced setting between not roaming and performance.</li> <li>• <b>Lowest:</b> Your wireless client will not roam. Only significant link quality degradation causes it to roam to another access point.</li> <li>• <b>Highest:</b> Your wireless client continuously tracks the link quality. If any degradation occurs, it tries to find and roam to a better access point.</li> </ul>
<b>Throughput Enhancement</b>	<p>Changes the value of the Packet Burst Control.</p> <ul style="list-style-type: none"> <li>• <b>Enable:</b> Select to enable throughput enhancement.</li> <li>• <b>Disable:</b> (Default) Select to disable throughput enhancement.</li> </ul>
<b>Transmit Power</b>	<p><b>Default Setting:</b> Highest power setting.</p> <p><b>Lowest: Minimum Coverage:</b> Set the adapter to the lowest transmit</p>

	<p>power. Enables you to expand the number of coverage areas or confine a coverage area. Reduces the coverage area in high traffic areas to improve overall transmission quality and avoids congestion and interference with other devices.</p> <p><b>Highest: Maximum Coverage:</b> Set the adapter to a maximum transmit power level. Select for maximum performance and range in environments with limited additional WiFi radio devices.</p> <p><b>NOTE:</b> The optimal setting is for a user to always set the transmit power at the lowest possible level that is still compatible with the quality of their communication. This allows the maximum number of wireless devices to operate in dense areas and reduce interference with other devices that it shares the same radio spectrum with.</p> <p><b>NOTE:</b> This setting takes effect when either Network (Infrastructure) or Device to Device (ad hoc) mode is used.</p>
<b>Wireless Mode</b>	<p>Select which mode to use for connection to a wireless network:</p> <ul style="list-style-type: none"> <li>• <b>802.11a only:</b> Connect the wireless WiFi adapter to 802.11a networks only. Not applicable for all adapters.</li> <li>• <b>802.11b only:</b> Connect the wireless WiFi adapter to 802.11b networks only. Not applicable for all adapters.</li> <li>• <b>802.11g only:</b> Connect the wireless WiFi adapter to 802.11g networks only.</li> <li>• <b>802.11a and 802.11g:</b> Connect the WiFi adapter to 802.11a and 802.11g networks only. Not applicable for all adapters.</li> <li>• <b>802.11b and 802.11g:</b> Connect the WiFi adapter to 802.11b and 802.11g networks only. Not applicable for all adapters.</li> <li>• <b>802.11a, 802.11b, and 802.11g:</b> (Default) - Connect to either 802.11a, 802.11b or 802.11g wireless networks. Not applicable for all adapters.</li> </ul>
<b>OK</b>	Saves settings and returns to the previous page.
<b>Cancel</b>	Closes and cancels any changes.

## Microsoft Windows\* Advanced Options (Adapter Settings)

To access the Windows\* XP Advanced options:

1. Start Windows and log on with administrative privileges.
2. From your desktop, right-click **My Computer** and click **Properties**.
3. Click the **Hardware** tab.
4. Click **Device Manager**.
5. Double-click **Network adapters**.
6. Right-click the name of the installed WiFi adapter that is in use.
7. Click **Properties**.
8. Select the **Advanced** tab.

9. Select the property you want (for example, Mixed Mode Protection, Power Management).
  10. To select a new value or setting, click **Use default value** to clear the checkbox. Then select a new value or setting. To return to the default value, click the **Use default value** checkbox. (The **Use default value** box is not present for all properties, for example, Ad Hoc Channel. In this case, simply select the setting you want.)
  11. To save your settings and exit the window, click **OK**.
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## Regulatory Information

**NOTE:** Due to the evolving state of regulations and standards in the wireless LAN field (IEEE 802.11 and similar standards), the information provided herein is subject to change. Intel Corporation assumes no responsibility for errors or omissions in this document.

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  - Intel® Centrino® Ultimate-N 6300
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  - Intel® Centrino® Advanced-N 6205
  - Intel® Centrino® Advanced-N 6200
  - Intel® Centrino® Wireless-N + WiMAX 6150
  - Intel® WiFi Link 5300
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  - Intel® WiFi Link 5100
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  - Intel® PRO/Wireless 3945ABG Network Connection
  - Intel® Centrino® Wireless-N 1030
  - Intel® Centrino® Wireless-N 100
  - Intel® Centrino® Wireless-N 130
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## Intel WiFi/WiMAX Wireless Adapters

Information in this section supports the following wireless adapters:

- Intel® Centrino® Advanced-N + WiMAX 6250 (model number 622ANXHMWG)
- Intel® WiMAX/WiFi Link 5150 (model numbers 512ANX\_MMW, 512ANX\_HMW)

See [Specifications](#) for complete wireless adapter specifications.

**NOTE:** In this section, all references to the "wireless adapter" refer to all adapters listed above.

The following information is provided:

- [Information for the User](#)
  - [Regulatory Information](#)
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## Information for the User

### Safety Notices

#### USA—FCC and FAA

The FCC with its action in ET Docket 96-8 has adopted a safety standard for human exposure to radio frequency (RF) electromagnetic energy emitted by FCC certified equipment. The wireless adapter meets the Human Exposure limits found in OET Bulletin 65, supplement C, 2001, and ANSI/IEEE C95.1, 1992. Proper operation of this radio according to the instructions found in this manual will result in exposure substantially below the FCC's recommended limits.

The following safety precautions should be observed:

- Do not touch or move antenna while the unit is transmitting or receiving.
- Do not hold any component containing the radio such that the antenna is very close or touching any exposed parts of the body, especially the face or eyes, while transmitting.
- Do not operate the radio or attempt to transmit data unless the antenna is connected; this behavior may cause damage to the radio.
- Use in specific environments:
  - The use of wireless adapters in hazardous locations is limited by the constraints posed by the safety directors of such environments.
  - The use of wireless adapters on airplanes is governed by the Federal Aviation Administration (FAA).
  - The use of wireless adapters in hospitals is restricted to the limits set forth by each hospital.

#### Antenna Use

- In order to comply with FCC RF exposure limits, low gain integrated antennas should be located at a minimum distance of 20 cm (8 inches) or more from the body of all persons.


#### Explosive Device Proximity Warning




**Warning:** Do not operate a portable transmitter (including this wireless adapter) near unshielded blasting caps or in an explosive environment unless the transmitter has been modified to be qualified for such use.


#### Antenna Warnings



 **Warning:** To comply with the FCC and ANSI C95.1 RF exposure limits, it is recommended that for the wireless adapter installed in a desktop or portable computer, the antenna for this wireless adapter to be installed so as to provide a separation distance of at least 20 cm (8 inches) from all persons. It is recommended that the user limit exposure time if the antenna is positioned closer than 20 cm (8 inches).

 **Warning:** The wireless adapter is not designed for use with high-gain directional antennas.


### **Use On Aircraft Caution**

 **Caution:** Regulations of the FCC and FAA prohibit airborne operation of radio-frequency wireless devices (wireless adapters) because their signals could interfere with critical aircraft instruments.

### **Other Wireless Devices**

**Safety Notices for Other Devices in the Wireless Network:** See the documentation supplied with wireless adapters or other devices in the wireless network.

### **Local Restrictions on 802.11a, 802.11b, 802.11g, 802.11n, and 802.16e Radio Usage**

 **Caution:** Due to the fact that the frequencies used by 802.11a, 802.11b, 802.11g, 802.11n, and 802.16e wireless LAN devices may not yet be harmonized in all countries, 802.11a, 802.11b, 802.11g, 802.11n, and 802.16e products are designed for use only in specific countries, and are not allowed to be operated in countries other than those of designated use. As a user of these products, you are responsible for ensuring that the products are used only in the countries for which they were intended and for verifying that they are configured with the correct selection of frequency and channel for the country of use. The device transmit power control (TPC) interface is part of the Intel® PROSet/Wireless WiFi Connection Utility Software. Operational restrictions for Equivalent Isotropic Radiated Power (EIRP) are provided by the system manufacturer. Any deviation from the permissible power and frequency settings for the country of use is an infringement of national law and may be punished as such.

For country-specific information, see the additional compliance information supplied with the product.

### **Wireless Interoperability**

The wireless adapter is designed to be interoperable with other wireless LAN products that are based on direct sequence spread spectrum (DSSS) radio technology and to comply with the following standards:

- IEEE Std. 802.11b compliant Standard on Wireless LAN
- IEEE Std. 802.11g compliant Standard on Wireless LAN
- IEEE Std. 802.11a compliant Standard on Wireless LAN

- IEEE Std. 802.11n draft 2.0 compliant on Wireless LAN
- IEEE 802.16e-2005 Wave 2 compliant
- Wireless Fidelity certification, as defined by the Wi-Fi Alliance
- WiMAX certification as defined by the WiMAX Forum

## **The Wireless Adapter and Your Health**

The wireless adapter, like other radio devices, emits radio frequency electromagnetic energy. The level of energy emitted by the wireless adapter, however, is less than the electromagnetic energy emitted by other wireless devices such as mobile phones. The wireless adapter operates within the guidelines found in radio frequency safety standards and recommendations. These standards and recommendations reflect the consensus of the scientific community and result from deliberations of panels and committees of scientists who continually review and interpret the extensive research literature. In some situations or environments, the use of the wireless adapter may be restricted by the proprietor of the building or responsible representatives of the applicable organization. Examples of such situations may include:

- Using the wireless adapter on board airplanes, or
- Using the wireless adapter in any other environment where the risk of interference with other devices or services is perceived or identified as being harmful.

If you are uncertain of the policy that applies to the use of wireless adapters in a specific organization or environment (an airport, for example), you are encouraged to ask for authorization to use the adapter before you turn it on.

## **WEEE**



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## **Regulatory Information**

### **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.

- This device is intended for OEM integrators only.
- Please see the full Grant of Equipment document for other restrictions.
- This device must be operated and used with a locally approved access point.

### **Information To Be Supplied to the End User by the OEM or Integrator**

The following regulatory and safety notices must be published in documentation supplied to the end user of the product or system incorporating the Intel® wireless adapter, in

compliance with local regulations. Host system must be labeled with "Contains FCC ID: XXXXXXXX", FCC ID displayed on label.

The Intel® wireless adapter must be installed and used in strict accordance with the manufacturer's instructions as described in the user documentation that comes with the product. Intel Corporation is not responsible for any radio or television interference caused by unauthorized modification of the devices included with the wireless adapter kit or the substitution or attachment of connecting cables and equipment other than that specified by Intel Corporation. The correction of interference caused by such unauthorized modification, substitution or attachment is the responsibility of the user. Intel Corporation and authorized resellers or distributors are not liable for any damage or violation of government regulations that may arise from the user failing to comply with these guidelines.

### **Local Restriction of 802.11a, 802.11b, 802.11g, and 802.11n Radio Usage**

The following statement on local restrictions must be published as part of the compliance documentation for all 802.11a, 802.11b, 802.11g and 802.11n products.



**Caution:** Due to the fact that the frequencies used by 802.11a, 802.11b, 802.11g, 802.11n, and 802.16e wireless LAN devices may not yet be harmonized in all countries, 802.11a, 802.11b, 802.11g, 802.11n, and 802.16e products are designed for use only in specific countries, and are not allowed to be operated in countries other than those of designated use. As a user of these products, you are responsible for ensuring that the products are used only in the countries for which they were intended and for verifying that they are configured with the correct selection of frequency and channel for the country of use. Any deviation from the permissible power and frequency settings for the country of use is an infringement of national law and may be punished as such.

### **FCC Radio Frequency Interference Requirements**

This wireless adapter is restricted to indoor use due to its operation in the 5.15 to 5.25 GHz frequency range. FCC requires this wireless adapter to be used indoors for the frequency range 5.15 to 5.25 GHz to reduce the potential for harmful interference to co-channel Mobile Satellite systems. High power radars are allocated as primary users of the 5.25 to 5.35 GHz and 5.65 to 5.85 GHz bands. These radar stations can cause interference with and /or damage this device.

- This wireless adapter is intended for OEM integrators only.
- This wireless adapter cannot be co-located with any other transmitter unless approved by the FCC.

### **USA—Federal Communications Commission (FCC)**

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

- This device may not cause harmful interference.
- This device must accept any interference that may cause undesired operation.

**NOTE:** The radiated output power of the adapter is far below the FCC radio frequency exposure limits. Nevertheless, the adapter should be used in such a manner that the potential for human contact during normal operation is minimized. To avoid the possibility of exceeding the FCC radio frequency exposure limits, you should keep a distance of at least 20 cm between you (or any other person in the vicinity) and the antenna that is built into the computer. Details of the authorized configurations can be found at <http://www.fcc.gov/oet/ea/> by entering the FCC ID number on the device.

### **Interference Statement**

This wireless adapter 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 wireless adapter generates, uses, and can radiate radio frequency energy. If the wireless adapter is not installed and used in accordance with the instructions, the wireless adapter may cause harmful interference to radio communications. There is no guarantee, however, that such interference will not occur in a particular installation. If this wireless adapter 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 taking one or more of the following measures:

- Reorient or relocate the receiving antenna of the equipment experiencing the interference.
- Increase the distance between the wireless adapter and the equipment experiencing the interference.
- Connect the computer with the wireless adapter to an outlet on a circuit different from that to which the equipment experiencing the interference is connected.
- Consult the dealer or an experienced radio/TV technician for help.

**NOTE:** The adapter must be installed and used in strict accordance with the manufacturer's instructions as described in the user documentation that comes with the product. Any other installation or use will violate FCC Part 15 regulations.

### **Underwriters Laboratories Inc. (UL) Regulatory Warning**

For use in (or with) UL Listed personal computers or compatible.

### **Halogen-Free Label**

Some adapters are packaged with a Halogen-Free label. This claim applies only to halogenated flame retardants and PVC in components. Halogens are below 900 PPM bromine and 900 PPM chlorine.

### **Taiwan**

## 第十二條

經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。

## 第十四條

低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，改善至無干擾時方得繼續使用。

前項合法通信，指依電信法規定作業之無線電通信。

低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

## Radio Approvals

To determine whether you are allowed to use your wireless network device in a specific country, please check to see if the radio type number that is printed on the identification label of your device is listed in the manufacturer's OEM Regulatory Guidance document.

## Regulatory Markings

A list of required regulatory markings can be found on the web at <http://www.intel.com/support/wireless/wlan/>

To find the regulatory information for your adapter, click on the link for your adapter. Then click **Additional Information > Regulatory Documents**.

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## Intel WiFi-Only Adapters, 802.11n Compliant

The information in this section applies to the following products:

- Intel® Centrino® Ultimate-N 6300 (model number 633ANHMW)
- Intel® Centrino® Advanced-N 6200 (model numbers 622ANHMW, 622AGHRU)
- Intel® WiFi Link 5100 (model numbers 512AN\_HMW, 512AG\_HMW, 512AN\_MMW, 512AG\_MMW)
- Intel® WiFi Link 5300 (model numbers 533AN\_HMW, 533AN\_MMW)
- Intel® Wireless WiFi Link 4965AGN (model WM4965AGN)
- Intel® WiFi Link 1000 (model numbers )

See [Specifications](#) for complete wireless adapter specifications.

**NOTE:** In this section, all references to the "wireless adapter" refer to all adapters listed above.

The following information is provided:

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## Information for the User

### Safety Notices

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The following safety precautions should be observed:

- Do not touch or move antenna while the unit is transmitting or receiving.
- Do not hold any component containing the radio such that the antenna is very close or touching any exposed parts of the body, especially the face or eyes, while transmitting.
- Do not operate the radio or attempt to transmit data unless the antenna is connected; this behavior may cause damage to the radio.
- Use in specific environments:
  - The use of wireless adapters in hazardous locations is limited by the constraints posed by the safety directors of such environments.
  - The use of wireless adapters on airplanes is governed by the Federal Aviation Administration (FAA).
  - The use of wireless adapters in hospitals is restricted to the limits set forth by each hospital.

#### Antenna Use


- In order to comply with FCC RF exposure limits, low gain integrated antennas should be located at a minimum distance of 20 cm (8 inches) or more from the body of all persons.


#### Explosive Device Proximity Warning




**Warning:** Do not operate a portable transmitter (including this wireless adapter) near unshielded blasting caps or in an explosive environment unless the transmitter has been modified to be qualified for such use.

#### Antenna Warnings

 **Warning:** To comply with the FCC and ANSI C95.1 RF exposure limits, it is recommended that for the wireless adapter installed in a desktop or portable computer, the antenna for this wireless adapter to be installed so as to provide a separation distance of at least 20 cm (8 inches) from all persons. It is recommended that the user limit exposure time if the antenna is positioned closer than 20 cm (8 inches).

 **Warning:** The wireless adapter is not designed for use with high-gain directional antennas.


### **Use On Aircraft Caution**

 **Caution:** Regulations of the FCC and FAA prohibit airborne operation of radio-frequency wireless devices (wireless adapters) because their signals could interfere with critical aircraft instruments.

### **Other Wireless Devices**

**Safety Notices for Other Devices in the Wireless Network:** See the documentation supplied with wireless adapters or other devices in the wireless network.

### **Local Restrictions on 802.11a, 802.11b, 802.11g and 802.11n Radio Usage**

 **Caution:** Due to the fact that the frequencies used by 802.11a, 802.11b, 802.11g and 802.11n wireless LAN devices may not yet be harmonized in all countries, 802.11a, 802.11b, 802.11g and 802.11n products are designed for use only in specific countries, and are not allowed to be operated in countries other than those of designated use. As a user of these products, you are responsible for ensuring that the products are used only in the countries for which they were intended and for verifying that they are configured with the correct selection of frequency and channel for the country of use. The device transmit power control (TPC) interface is part of the Intel® PROSet/Wireless WiFi Connection Utility Software. Operational restrictions for Equivalent Isotropic Radiated Power (EIRP) are provided by the system manufacturer. Any deviation from the permissible power and frequency settings for the country of use is an infringement of national law and may be punished as such.

For country-specific information, see the additional compliance information supplied with the product.

### **Wireless Interoperability**

The wireless adapter is designed to be interoperable with other wireless LAN products that are based on direct sequence spread spectrum (DSSS) radio technology and to comply with the following standards:

- IEEE Std. 802.11b compliant Standard on Wireless LAN
- IEEE Std. 802.11g compliant Standard on Wireless LAN
- IEEE Std. 802.11a compliant Standard on Wireless LAN
- IEEE Std. 802.11n draft 2.0 compliant on Wireless LAN

- Wireless Fidelity certification, as defined by the Wi-Fi Alliance

## **The Wireless Adapter and Your Health**

The wireless adapter, like other radio devices, emits radio frequency electromagnetic energy. The level of energy emitted by the wireless adapter, however, is less than the electromagnetic energy emitted by other wireless devices such as mobile phones. The wireless adapter operates within the guidelines found in radio frequency safety standards and recommendations. These standards and recommendations reflect the consensus of the scientific community and result from deliberations of panels and committees of scientists who continually review and interpret the extensive research literature. In some situations or environments, the use of the wireless adapter may be restricted by the proprietor of the building or responsible representatives of the applicable organization. Examples of such situations may include:

- Using the wireless adapter on board airplanes, or
- Using the wireless adapter in any other environment where the risk of interference with other devices or services is perceived or identified as being harmful.

If you are uncertain of the policy that applies to the use of wireless adapters in a specific organization or environment (an airport, for example), you are encouraged to ask for authorization to use the adapter before you turn it on.

## **WEEE**



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## **Regulatory Information**

### **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.

- This device is intended for OEM integrators only.
- Please see the full Grant of Equipment document for other restrictions.
- This device must be operated and used with a locally approved access point.

### **Information To Be Supplied to the End User by the OEM or Integrator**

The following regulatory and safety notices must be published in documentation supplied to the end user of the product or system incorporating the Intel® wireless adapter, in compliance with local regulations. Host system must be labeled with "Contains FCC ID: XXXXXXXX", FCC ID displayed on label.



The wireless adapter must be installed and used in strict accordance with the manufacturer's instructions as described in the user documentation that comes with the product. For country-specific approvals, see [Radio Approvals](#). Intel Corporation is not responsible for any radio or television interference caused by unauthorized modification of the devices included with the wireless adapter kit or the substitution or attachment of connecting cables and equipment other than that specified by Intel Corporation. The correction of interference caused by such unauthorized modification, substitution or attachment is the responsibility of the user. Intel Corporation and authorized resellers or distributors are not liable for any damage or violation of government regulations that may arise from the user failing to comply with these guidelines.

### **Local Restriction of 802.11a, 802.11b, 802.11g, and 802.11n Radio Usage**

The following statement on local restrictions must be published as part of the compliance documentation for all 802.11a, 802.11b, 802.11g and 802.11n products.



**Caution:** Due to the fact that the frequencies used by 802.11a, 802.11b, 802.11g and 802.11n wireless LAN devices may not yet be harmonized in all countries, 802.11a, 802.11b, 802.11g and 802.11n products are designed for use only in specific countries, and are not allowed to be operated in countries other than those of designated use. As a user of these products, you are responsible for ensuring that the products are used only in the countries for which they were intended and for verifying that they are configured with the correct selection of frequency and channel for the country of use. Any deviation from permissible settings and restrictions in the country of use could be an infringement of national law and may be punished as such.

### **FCC Radio Frequency Interference Requirements**

This device is restricted to indoor use due to its operation in the 5.15 to 5.25 GHz frequency range. FCC requires this product to be used indoors for the frequency range 5.15 to 5.25 GHz to reduce the potential for harmful interference to co-channel Mobile Satellite systems. High power radars are allocated as primary users of the 5.25 to 5.35 GHz and 5.65 to 5.85 GHz bands. These radar stations can cause interference with and /or damage this device.

- This device is intended for OEM integrators only.
- This device cannot be co-located with any other transmitter unless approved by the FCC.

### **USA—Federal Communications Commission (FCC)**

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

- This device may not cause harmful interference.
- This device must accept any interference that may cause undesired operation.

**NOTE:** The radiated output power of the adapter is far below the FCC radio frequency exposure limits. Nevertheless, the adapter should be used in such a manner that the potential for human contact during normal operation is minimized. To avoid the possibility of exceeding the FCC radio frequency exposure limits, you should keep a distance of at least 20 cm between you (or any other person in the vicinity) and the antenna that is built into

the computer. Details of the authorized configurations can be found at <http://www.fcc.gov/oet/ea/> by entering the FCC ID number on the device.

### **Interference Statement**

This wireless adapter 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 wireless adapter generates, uses, and can radiate radio frequency energy. If the wireless adapter is not installed and used in accordance with the instructions, the wireless adapter may cause harmful interference to radio communications. There is no guarantee, however, that such interference will not occur in a particular installation. If this wireless adapter 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 taking one or more of the following measures:

- Reorient or relocate the receiving antenna of the equipment experiencing the interference.
- Increase the distance between the wireless adapter and the equipment experiencing the interference.
- Connect the computer with the wireless adapter to an outlet on a circuit different from that to which the equipment experiencing the interference is connected.
- Consult the dealer or an experienced radio/TV technician for help.

**NOTE:** The adapter must be installed and used in strict accordance with the manufacturer's instructions as described in the user documentation that comes with the product. Any other installation or use will violate FCC Part 15 regulations.

### **Underwriters Laboratories Inc. (UL) Regulatory Warning**

For use in (or with) UL Listed personal computers or compatible.

### **Halogen-Free Label**

Some adapters are packaged with a Halogen-Free label. This claim applies only to halogenated flame retardants and PVC in components. Halogens are below 900 PPM bromine and 900 PPM chlorine.

### **Brazil**

Este equipamento opera em caráter secundário, isto é, não tem direito a proteção contra interferência prejudicial, mesmo de estações do mesmo tipo, e não pode causar interferência a sistemas operando em caráter primário.

### **Canada—Industry Canada (IC)**

This device complies with RSS210 of Industry Canada.



**Caution:** When using IEEE 802.11a wireless LAN, this product is restricted to indoor use due to its operation in the 5.15- to 5.25-GHz frequency range. Industry Canada requires this product to be used indoors for the frequency range of 5.15 GHz to 5.25 GHz to reduce the potential for harmful interference to co-channel mobile satellite systems. High power radar is allocated as the primary user of the 5.25- to 5.35-GHz and 5.65 to 5.85-GHz bands. These radar stations can cause interference with and/or damage to this device.

The maximum allowed antenna gain for use with this device is 6dBi in order to comply with the E.I.R.P limit for the 5.25- to 5.35 and 5.725 to 5.85 GHz frequency range in point-to-point operation.

This Class B digital apparatus complies with Canadian ICES-003, Issue 4, and RSS-210, No 4 (Dec 2000) and No 5 (Nov 2001).

Cet appareil numérique de la classe B est conforme à la norme NMB-003, No. 4, et CNR-210, No 4 (Dec 2000) et No 5 (Nov 2001).

"To prevent radio interference to the licensed service, this device is intended to be operated indoors and away from windows to provide maximum shielding. Equipment (or its transmit antenna) that is installed outdoors is subject to licensing."

« Pour empêcher que cet appareil cause du brouillage au service faisant l'objet d'une licence, il doit être utilisé à l'intérieur et devrait être placé loin des fenêtres afin de fournir un écran de blindage maximal. Si le matériel (ou son antenne d'émission) est installé à l'extérieur, il doit faire l'objet d'une licence. »

## European Union

The low band 5.15 -5.35 GHz is for indoor use only.

This equipment complies with the essential requirements of the European Union directive 1999/5/EC. See [Statements of European Union Compliance](#).

### European Union Declarations of Conformity

The European Union Declaration of Conformity for each adapter is available at: <http://www.intel.com/support/wireless/wlan/>.

To find the Declaration of Conformity for your adapter, click on the link for your adapter. Then click **Additional Information > Regulatory Documents**.

## Italy

The use of these equipments is regulated by:

1. D.L.gs 1.8.2003, n. 259, article 104 (activity subject to general authorization) for outdoor use and article 105 (free use) for indoor use, in both cases for private use.
2. D.M. 28.5.03, for supply to public of RLAN access to networks and telecom services.

L'uso degli apparati è regolamentato da:

1. D.L.gs 1.8.2003, n. 259, articoli 104 (attività soggette ad autorizzazione generale) se utilizzati al di fuori del proprio fondo e 105 (libero uso) se utilizzati entro il proprio fondo, in entrambi i casi per uso private.
2. D.M. 28.5.03, per la fornitura al pubblico dell'accesso R-LAN alle reti e ai servizi di telecomunicazioni.

## Japan

Indoor use only.

## Korea

당해 무선설비는 운용 중 전파혼신 가능성이 있음

## Morocco

The Intel® Wireless WiFi Link 4965AGN adapter is not approved for operation in Morocco. For all other adapters in this section: The operation of this product in the radio channel 2 (2417 MHz) is not authorized in the following cities: Agadir, Assa-Zag, Cabo Negro, Chaouen, Goulmima, Oujda, Tan Tan, Taourirt, Taroudant and Taza.

The operation of this product in the radio channels 4, 5, 6 et 7 (2425 - 2442 MHz) is not authorized in the following cities: Aéroport Mohamed V, Agadir, Aguelmous, Anza, Benslimane, Béni Hafida, Cabo Negro, Casablanca, Fès, Lakbab, Marrakech, Merchich, Mohammédia, Rabat, Salé, Tanger, Tan Tan, Taounate, Tit Mellil, Zag.

## Taiwan

### 第十二條

經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、功率或變更原設計之特性及功能。

### 第十四條

低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，改善至無干擾時方得繼續使用。

前項合法通信，指依電信法規定作業之無線電通信。

低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

## Radio Approvals

To determine whether you are allowed to use your wireless network device in a specific country, please check to see if the radio type number that is printed on the identification label of your device is listed in the manufacturer's OEM Regulatory Guidance document.

## Regulatory Markings

A list of required regulatory markings can be found on the web at <http://www.intel.com/support/wireless/wlan/>

To find the regulatory information for your adapter, click on the link for your adapter. Then click **Additional Information > Regulatory Documents**.

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## Intel® WiFi Adapters

The information in this section applies to the following products:

- Intel® Wireless WiFi Link 4965AG\_ (model WM4965AG\_)
- Intel® PRO/Wireless 3945ABG Network Connection (model WM3945ABG)
- Intel® PRO/Wireless 3945BG Network Connection (model WM3945BG)

See [Specifications](#) for complete wireless adapter specifications.

**NOTE:** In this section, all references to the "wireless adapter" refer to all adapters listed above.

**NOTE:** The information in this section regarding 5 GHz band operation (IEEE 802.3a) does *not* apply to the Intel PRO/Wireless 3945BG adapter, which does not operate in the 5 GHz band.

The following information is provided:

- [Information for the User](#)
- [Regulatory Information](#)

## Information for the User

### Safety Notices

#### USA—FCC and FAA

The FCC with its action in ET Docket 96-8 has adopted a safety standard for human exposure to radio frequency (RF) electromagnetic energy emitted by FCC certified equipment. The wireless adapter meets the Human Exposure limits found in OET Bulletin 65, supplement C, 2001, and ANSI/IEEE C95.1, 1992. Proper operation of this radio according to the instructions found in this manual will result in exposure substantially below the FCC's recommended limits.

The following safety precautions should be observed:

- Do not touch or move antenna while the unit is transmitting or receiving.
- Do not hold any component containing the radio such that the antenna is very close or touching any exposed parts of the body, especially the face or eyes, while transmitting.
- Do not operate the radio or attempt to transmit data unless the antenna is connected; this behavior may cause damage to the radio.
- Use in specific environments:
  - The use of wireless adapters in hazardous locations is limited by the constraints posed by the safety directors of such environments.
  - The use of wireless adapters on airplanes is governed by the Federal Aviation Administration (FAA).
  - The use of wireless adapters in hospitals is restricted to the limits set forth by each hospital.

### **Antenna Use**

- In order to comply with FCC RF exposure limits, low gain integrated antennas should be located at a minimum distance of 20 cm (8 inches) or more from the body of all persons.

### **Explosive Device Proximity Warning**



**Warning:** Do not operate a portable transmitter (including this wireless adapter) near unshielded blasting caps or in an explosive environment unless the transmitter has been modified to be qualified for such use.

### **Antenna Warnings**



**Warning:** To comply with the FCC and ANSI C95.1 RF exposure limits, it is recommended that for the wireless adapter installed in a desktop or portable computer, the antenna for this wireless adapter to be installed so as to provide a separation distance of at least 20 cm (8 inches) from all persons. It is recommended that the user limit exposure time if the antenna is positioned closer than 20 cm (8 inches).



**Warning:** The wireless adapter is not designed for use with high-gain directional antennas.

### **Use On Aircraft Caution**



**Caution:** Regulations of the FCC and FAA prohibit airborne operation of radio-frequency wireless devices (wireless adapters) because their signals could interfere with critical aircraft instruments.

### **Other Wireless Devices**

**Safety Notices for Other Devices in the Wireless Network:** See the documentation supplied with wireless adapters or other devices in the wireless network.

### **Local Restrictions on 802.11a, 802.11b, and 802.11g Radio Usage**



**Caution:** Due to the fact that the frequencies used by 802.11a, 802.11b, and 802.11g wireless LAN devices may not yet be harmonized in all countries, 802.11a, 802.11b, and 802.11g products are designed for use only in specific countries, and are not allowed to be operated in countries other than those of designated use. As a user of these products, you are responsible for ensuring that the products are used only in the countries for which they were intended and for verifying that they are configured with the correct selection of frequency and channel for the country of use. The device transmit power control (TPC) interface is part of the Intel® PROSet/Wireless WiFi Connection Utility. Operational restrictions for Equivalent Isotropic Radiated Power (EIRP) are provided by the system manufacturer. Any deviation from the permissible power and frequency settings for the country of use is an infringement of national law and may be punished as such.

For country-specific information, see the additional compliance information supplied with the product.

### **Wireless Interoperability**

The wireless adapter is designed to be interoperable with other wireless LAN products that are based on direct sequence spread spectrum (DSSS) radio technology and to comply with the following standards:

- IEEE Std. 802.11b compliant Standard on Wireless LAN
- IEEE Std. 802.11g compliant Standard on Wireless LAN
- IEEE Std. 802.11a compliant Standard on Wireless LAN
- Wireless Fidelity certification, as defined by the Wi-Fi Alliance

### **The Wireless Adapter and Your Health**

The wireless adapter, like other radio devices, emits radio frequency electromagnetic energy. The level of energy emitted by the wireless adapter, however, is less than the electromagnetic energy emitted by other wireless devices such as mobile phones. The wireless adapter operates within the guidelines found in radio frequency safety standards and recommendations. These standards and recommendations reflect the consensus of the scientific community and result from deliberations of panels and committees of scientists who continually review and interpret the extensive research literature. In some situations or environments, the use of the wireless adapter may be restricted by the proprietor of the building or responsible representatives of the applicable organization. Examples of such situations may include:

- Using the wireless adapter on board airplanes, or
- Using the wireless adapter in any other environment where the risk of interference with other devices or services is perceived or identified as being harmful.

If you are uncertain of the policy that applies to the use of wireless adapters in a specific organization or environment (an airport, for example), you are encouraged to ask for authorization to use the adapter before you turn it on.

## WEEE



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## Regulatory Information

### 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.

- This device is intended for OEM integrators only.
- Please see the full Grant of Equipment document for other restrictions.
- This device must be operated and used with a locally approved access point.

### Information To Be Supplied to the End User by the OEM or Integrator

The following regulatory and safety notices must be published in documentation supplied to the end user of the product or system incorporating the Intel® wireless adapter, in compliance with local regulations. Host system must be labeled with "Contains FCC ID: XXXXXXXX", FCC ID displayed on label.

The Intel® wireless adapter must be installed and used in strict accordance with the manufacturer's instructions as described in the user documentation that comes with the product. For country-specific approvals, see [Radio Approvals](#). Intel Corporation is not responsible for any radio or television interference caused by unauthorized modification of the devices included with the wireless adapter kit, or the substitution or attachment of connecting cables and equipment other than that specified by Intel Corporation. The correction of interference caused by such unauthorized modification, substitution or attachment is the responsibility of the user. Intel Corporation and its authorized resellers or distributors are not liable for any damage or violation of government regulations that may arise from the user failing to comply with these guidelines.

### Local Restriction of 802.11a, 802.11b, and 802.11g Radio Usage

The following statement on local restrictions must be published as part of the compliance documentation for all 802.11a, 802.11b, and 802.11g wireless adapters.



**Caution:** Due to the fact that the frequencies used by 802.11a, 802.11b, 802.11g and 802.11n wireless LAN devices may not yet be harmonized in all countries, 802.11a, 802.11b, 802.11g and 802.11n products are designed for use only in specific countries, and are not allowed to be operated in countries other than those of designated use. As a user of these products, you are responsible for ensuring that the products are used only in the countries for which they were intended and for verifying that they are configured with the



correct selection of frequency and channel for the country of use. Any deviation from permissible settings and restrictions in the country of use could be an infringement of national law and may be punished as such.

## **FCC Radio Frequency Interference Requirements**

**NOTE:** The following paragraph does *not* apply to the Intel PRO/Wireless 3945BG adapter, which does not operate in the 5 GHz bands.

This device is restricted to indoor use due to its operation in the 5.15 to 5.25 GHz frequency range. FCC requires this product to be used indoors for the frequency range 5.15 to 5.25 GHz to reduce the potential for harmful interference to co-channel Mobile Satellite systems. High power radars are allocated as primary users of the 5.25 to 5.35 GHz and 5.65 to 5.85 GHz bands. These radar stations can cause interference with and /or damage this device.

The wireless adapter is intended for OEM integrators only.

### **USA—Federal Communications Commission (FCC)**

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

- This device may not cause harmful interference.
- This device must accept any interference that may cause undesired operation.

**NOTE:** The radiated output power of the adapter is far below the FCC radio frequency exposure limits. Nevertheless, the adapter should be used in such a manner that the potential for human contact during normal operation is minimized. To avoid the possibility of exceeding the FCC radio frequency exposure limits, you should keep a distance of at least 20 cm between you (or any other person in the vicinity) and the antenna that is built into the computer. Details of the authorized configurations can be found at <http://www.fcc.gov/oet/ea/> by entering the FCC ID number on the device.

### **Interference Statement**

This wireless adapter 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 wireless adapter generates, uses, and can radiate radio frequency energy. If the wireless adapter is not installed and used in accordance with the instructions, the wireless adapter may cause harmful interference to radio communications. There is no guarantee, however, that such interference will not occur in a particular installation. If this wireless adapter 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 taking one or more of the following measures:

- Reorient or relocate the receiving antenna of the equipment experiencing the interference.
- Increase the distance between the wireless adapter and the equipment experiencing the interference.

- Connect the computer with the wireless adapter to an outlet on a circuit different from that to which the equipment experiencing the interference is connected.
- Consult the dealer or an experienced radio/TV technician for help.

**NOTE:** The wireless adapter must be installed and used in strict accordance with the manufacturer's instructions as described in the user documentation that comes with the product. Any other installation or use will violate FCC Part 15 regulations.

## **Underwriters Laboratories Inc. (UL) Regulatory Warning**

For use in (or with) UL Listed personal computers or compatible.

### **Brazil**

Este equipamento opera em caráter secundário, isto é, não tem direito a proteção contra interferência prejudicial, mesmo de estações do mesmo tipo, e não pode causar interferência a sistemas operando em caráter primário.

### **Canada—Industry Canada (IC)**

This device complies with RSS210 of Industry Canada.



**Caution:** When using IEEE 802.11a wireless LAN, this wireless adapter is restricted to indoor use due to its operation in the 5.15- to 5.25-GHz frequency range. Industry Canada requires this product to be used indoors for the frequency range of 5.15 GHz to 5.25 GHz to reduce the potential for harmful interference to co-channel mobile satellite systems. High power radar is allocated as the primary user of the 5.25- to 5.35-GHz and 5.65 to 5.85-GHz bands. These radar stations can cause interference with and/or damage to this device.

The maximum allowed antenna gain for use with this wireless adapter is 6dBi in order to comply with the E.I.R.P limit for the 5.25- to 5.35 and 5.725 to 5.85 GHz frequency range in point-to-point operation.

This Class B digital apparatus complies with Canadian ICES-003, Issue 4, and RSS-210, No 4 (Dec 2000) and No 5 (Nov 2001).

Cet appareil numérique de la classe B est conforme à la norme NMB-003, No. 4, et CNR-210, No 4 (Dec 2000) et No 5 (Nov 2001).

"To prevent radio interference to the licensed service, this wireless adapter is intended to be operated indoors and away from windows to provide maximum shielding. Equipment (or its transmit antenna) that is installed outdoors is subject to licensing."

« Pour empêcher que cet appareil cause du brouillage au service faisant l'objet d'une licence, il doit être utilisé à l'intérieur et devrait être placé loin des fenêtres afin de fournir un écran de blindage maximal. Si le matériel (ou son antenne d'émission) est installé à l'extérieur, il doit faire l'objet d'une licence. »

### **European Union**

The low band 5.15 -5.35 GHz is for indoor use only.

This equipment complies with the essential requirements of the European Union directive 1999/5/EC. See [Statements of European Union Compliance](#).

### **European Union Declarations of Conformity**

The European Union Declaration of Conformity for each adapter is available at:  
<http://www.intel.com/support/wireless/wlan/>.

To find the Declaration of Conformity for your adapter, click on the link for your adapter. Then click **Additional Information > Regulatory Documents**.

### **Italy**

The use of these equipments is regulated by:

1. D.L.gs 1.8.2003, n. 259, article 104 (activity subject to general authorization) for outdoor use and article 105 (free use) for indoor use, in both cases for private use.
2. D.M. 28.5.03, for supply to public of RLAN access to networks and telecom services.

L'uso degli apparati è regolamentato da:

1. D.L.gs 1.8.2003, n. 259, articoli 104 (attività soggette ad autorizzazione generale) se utilizzati al di fuori del proprio fondo e 105 (libero uso) se utilizzati entro il proprio fondo, in entrambi i casi per uso private.
2. D.M. 28.5.03, per la fornitura al pubblico dell'accesso R-LAN alle reti e ai servizi di telecomunicazioni.

### **Japan**

Indoor use only.

### **Korea**

당해 무선설비는 운용 중 전파혼신 가능성이 있음

### **Taiwan**

## 第十二條

經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。

## 第十四條

低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，改善至無干擾時方得繼續使用。

前項合法通信，指依電信法規定作業之無線電通信。

低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

## Radio Approvals

To determine whether you are allowed to use your wireless network device in a specific country, please check to see if the radio type number that is printed on the identification label of your device is listed in the manufacturer's OEM Regulatory Guidance document.

## Regulatory Markings

A list of required regulatory markings can be found on the web at <http://www.intel.com/support/wireless/wlan/>

To find the regulatory information for your adapter, click on the link for your adapter. Then click **Additional Information > Regulatory Documents**.

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## Statements of European Compliance

- [Intel® Centrino® Ultimate-N 6300 Adapter](#)
- [Intel® Centrino® Advanced-N 6200 Adapter](#)
- [Intel® WiFi Link 5300 Adapter](#)
- [Intel® WiFi Link 5100 Adapter](#)
- [Intel WiFi Link 1000 Adapter](#)
- [Intel® Wireless WiFi Link 4965AGN Adapter](#)
- [Intel® Wireless WiFi Link 4965AG Adapter](#)
- [Intel® PRO/Wireless 3945ABG Network Connection](#)
- [Intel® PRO/Wireless 3945BG Network Connection](#)

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## Intel® Centrino® Ultimate-N 6300 Adapter

This equipment complies with the essential requirements of the European Union directive 1999/5/EC.

Česky [Czech]	Intel® Corporation tímto prohlašuje, že tento Intel® Centrino® Ultimate-N 6300 je ve shodě se základními požadavky a dalšími příslušnými ustanoveními směrnice 1999/5/ES.
Dansk [Danish]	Undertegnede Intel® Corporation erklærer herved, at følgende udstyr Intel® Centrino® Ultimate-N 6300 overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF.
Deutsch [German]	Hiermit erkläre Intel® Corporation, dass sich das Gerät Intel® Centrino® Ultimate-N 6300 in Übereinstimmung mit den grundlegenden Anforderungen und den übrigen einschlägigen Bestimmungen der Richtlinie 1999/5/EG befindet.
Esti [Estonian]	Käesolevaga kinnitab Intel® Corporation seadme Intel® Centrino® Ultimate-N 6300 vastavust direktiivi 1999/5/EÜ põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.
English	Hereby, Intel® Corporation, declares that this Intel® Centrino® Ultimate-N 6300 is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.
Español [Spanish]	Por medio de la presente Intel® Corporation declara que el Intel® Centrino® Ultimate-N 6300 cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE.
Ελληνική [Greek]	ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ Intel® Corporation ΔΗΛΩΝΕΙ ΟΤΙ Intel® Centrino® Ultimate-N 6300 ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 1999/5/ΕΚ.
Français [French]	Par la présente Intel® Corporation déclare que l'appareil Intel® Centrino® Ultimate-N 6300 est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE.
Italiano [Italian]	Con la presente Intel® Corporation dichiara che questo Intel® Centrino® Ultimate-N 6300 è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.
Latviski [Latvian]	Ar šo Intel® Corporation deklarē, ka Intel® Centrino® Ultimate-N 6300 atbilst Direktīvas 1999/5/EK būtiskajām prasībām un citiem ar to saistītajiem noteikumiem.
Lietuvių [Lithuanian]	Šiuo Intel® Corporation deklaruoja, kad šis Intel® Centrino® Ultimate-N 6300 atitinka esminius reikalavimus ir kitas 1999/5/EB Direktyvos nuostatas.
Nederlands [Dutch]	Hierbij verklaart Intel® Corporation dat het toestel Intel® Centrino® Ultimate-N 6300 in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG.
Malti [Maltese]	Hawnhekk, Intel® Corporation, jiddikjara li dan Intel® Centrino® Ultimate-N 6300 jikkonforma mal-ħtiġijiet essenzjali u ma provvedimenti oħrajn relevanti li hemm fid-Dirrettiva 1999/5/EC.
Magyar [Hungarian]	Alulírott, Intel® Corporation nyilatkozom, hogy a Intel® Centrino® Ultimate-N 6300 megfelel a vonatkozó alapvető követelményeknek és az 1999/5/EC irányelv egyéb előírásainak.
Norsk [Norwegian]	Intel® Corporation erklærer herved at utstyret Intel® Centrino® Ultimate-N 6300 er i samsvar med de grunnleggende krav og øvrige relevante krav i

	direktiv 1999/5/EF.
Polski [Polish]	Niniejszym, Intel® Corporation, oświadcza, że Intel® Centrino® Ultimate-N 6300 jest zgodne z zasadniczymi wymaganiami oraz innymi stosownymi postanowieniami Dyrektywy 1999/5/WE.
Português [Portuguese]	Intel® Corporation declara que este Intel® Centrino® Ultimate-N 6300 está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.
Slovensko [Slovenian]	Šiuo Intel® Corporation izjavlja, da je ta Intel® Centrino® Ultimate-N 6300 v skladu z bistvenimi zahtevami in ostalimi relevantnimi določili direktive 1999/5/ES.
Slovensky [Slovak]	Intel® Corporation týmto vyhlasuje, že Intel® Centrino® Ultimate-N 6300 spĺňa základné požiadavky a všetky príslušné ustanovenia Smernice 1999/5/ES.
Suomi [Finnish]	Intel® Corporation vakuuttaa täten että Intel® Centrino® Ultimate-N 6300 tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.
Svenska [Swedish]	Härmed intygar Intel® Corporation att denna Intel® Centrino® Ultimate-N 6300 står i överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.
Íslenska [Icelandic]	Hér með lýsir Intel® Corporation yfir því að Intel® Centrino® Ultimate-N 6300 er í samræmi við grunnkröfur og aðrar kröfur, sem gerðar eru í tilskipun 1999/5/EC.

## Intel® Centrino® Advanced-N 6200 Adapter

This equipment complies with the essential requirements of the European Union directive 1999/5/EC.

Česky [Czech]	Intel® Corporation tímto prohlašuje, že tento Intel® Centrino® Advanced-N 6200 je ve shodě se základními požadavky a dalšími příslušnými ustanoveními směrnice 1999/5/ES.
Dansk [Danish]	Undertegnede Intel® Corporation erklærer herved, at følgende udstyr Intel® Centrino® Advanced-N 6200 overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF.
Deutsch [German]	Hiermit erkläre Intel® Corporation, dass sich das Gerät Intel® Centrino® Advanced-N 6200 in Übereinstimmung mit den grundlegenden Anforderungen und den übrigen einschlägigen Bestimmungen der Richtlinie 1999/5/EG befindet.
Esti [Estonian]	Käesolevaga kinnitab Intel® Corporation seadme Intel® Centrino® Advanced-N 6200 vastavust direktiivi 1999/5/EÜ põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.
English	Hereby, Intel® Corporation, declares that this Intel® Centrino® Advanced-N 6200 is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.
Español [Spanish]	Por medio de la presente Intel® Corporation declara que el Intel® Centrino® Advanced-N 6200 cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE.

Ελληνική [Greek]	ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ Intel® Corporation ΔΗΛΩΝΕΙ ΟΤΙ Intel® Centrino® Advanced-N 6200 ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 1999/5/ΕΚ.
Français [French]	Par la présente Intel® Corporation déclare que l'appareil Intel® Centrino® Advanced-N 6200 est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE.
Italiano [Italian]	Con la presente Intel® Corporation dichiara che questo Intel® Centrino® Advanced-N 6200 è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.
Latviski [Latvian]	Ar šo Intel® Corporation deklarē, ka Intel® Centrino® Advanced-N 6200 atbilst Direktīvas 1999/5/ΕΚ būtiskajām prasībām un citiem ar to saistītajiem noteikumiem.
Lietuvių [Lithuanian]	Šiuo Intel® Corporation deklaruoja, kad šis Intel® Centrino® Advanced-N 6200 atitinka esminius reikalavimus ir kitas 1999/5/EB Direktyvos nuostatas.
Nederlands [Dutch]	Hierbij verklaart Intel® Corporation dat het toestel Intel® Centrino® Advanced-N 6200 in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG.
Malti [Maltese]	Hawnhekk, Intel® Corporation, jiddikjara li dan Intel® Centrino® Advanced-N 6200 jikkonforma mal-ħtiġijiet essenzjali u ma provvedimenti oħrajn relevanti li hemm fid-Dirrettiva 1999/5/EC.
Magyar [Hungarian]	Alulírott, Intel® Corporation nyilatkozom, hogy a Intel® Centrino® Advanced-N 6200 megfelel a vonatkozó alapvető követelményeknek és az 1999/5/EC irányelv egyéb előírásainak.
Norsk [Norwegian]	Intel® Corporation erklærer herved at utstyret Intel® Centrino® Advanced-N 6200 er i samsvar med de grunnleggende krav og øvrige relevante krav i direktiv 1999/5/EF.
Polski [Polish]	Niniejszym, Intel® Corporation, oświadczam, że Intel® Centrino® Advanced-N 6200 jest zgodne z zasadniczymi wymaganiami oraz innymi stosownymi postanowieniami Dyrektywy 1999/5/WE.
Português [Portuguese]	Intel® Corporation declara que este Intel® Centrino® Advanced-N 6200 está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.
Slovensko [Slovenian]	Šiuo Intel® Corporation izjavlja, da je ta Intel® Centrino® Advanced-N 6200 v skladu z bistvenimi zahtevami in ostalimi relevantnimi določili direktive 1999/5/ES.
Slovensky [Slovak]	Intel® Corporation týmto vyhlasuje, že Intel® Centrino® Advanced-N 6200 spĺňa základné požiadavky a všetky príslušné ustanovenia Smernice 1999/5/ES.
Suomi [Finnish]	Intel® Corporation vakuuttaa täten että Intel® Centrino® Advanced-N 6200 tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.
Svenska [Swedish]	Härmed intygar Intel® Corporation att denna Intel® Centrino® Advanced-N 6200 står i överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.
Íslenska [Icelandic]	Hér með lýsir Intel® Corporation yfir því að Intel® Centrino® Advanced-N 6200 er í samræmi við grunnkröfur og aðrar kröfur, sem gerðar eru í tilskipun 1999/5/EC.



## Intel® WiFi Link 5300 Adapter

This equipment complies with the essential requirements of the European Union directive 1999/5/EC.

Česky [Czech]	Intel® Corporation tímto prohlašuje, že tento Intel® WiFi Link 5300 je ve shodě se základními požadavky a dalšími příslušnými ustanoveními směrnice 1999/5/ES.
Dansk [Danish]	Undertegnede Intel® Corporation erklærer herved, at følgende udstyr Intel® WiFi Link 5300 overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF.
Deutsch [German]	Hiermit erkläre Intel® Corporation, dass sich das Gerät Intel® WiFi Link 5300 in Übereinstimmung mit den grundlegenden Anforderungen und den übrigen einschlägigen Bestimmungen der Richtlinie 1999/5/EG befindet.
Esti [Estonian]	Käesolevaga kinnitab Intel® Corporation seadme Intel® WiFi Link 5300 vastavust direktiivi 1999/5/EÜ põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.
English	Hereby, Intel® Corporation, declares that this Intel® WiFi Link 5300 is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.
Español [Spanish]	Por medio de la presente Intel® Corporation declara que el Intel® WiFi Link 5300 cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE.
Ελληνική [Greek]	ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ Intel® Corporation ΔΗΛΩΝΕΙ ΟΤΙ Intel® WiFi Link 5300 ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 1999/5/EK.
Français [French]	Par la présente Intel® Corporation déclare que l'appareil Intel® WiFi Link 5300 est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE.
Italiano [Italian]	Con la presente Intel® Corporation dichiara che questo Intel® WiFi Link 5300 è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.
Latviski [Latvian]	Ar šo Intel® Corporation deklarē, ka Intel® WiFi Link 5300 atbilst Direktīvas 1999/5/EK būtiskajām prasībām un citiem ar to saistītajiem noteikumiem.
Lietuvių [Lithuanian]	Šiuo Intel® Corporation deklaruoja, kad šis Intel® WiFi Link 5300 atitinka esminius reikalavimus ir kitas 1999/5/EB Direktyvos nuostatas.
Nederlands [Dutch]	Hierbij verklaart Intel® Corporation dat het toestel Intel® WiFi Link 5300 in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG.
Malti [Maltese]	Hawnhekk, Intel® Corporation, jiddikjara li dan Intel® WiFi Link 5300 jikkonforma mal-ħtiġijiet essenzjali u ma provvedimenti oħrajn relevanti li hemm fid-Dirrettiva 1999/5/EC.
Magyar [Hungarian]	Alulírott, Intel® Corporation nyilatkozom, hogy a Intel® WiFi Link 5300 megfelel a vonatkozó alapvető követelményeknek és az 1999/5/EC irányelv egyéb előírásainak.
Norsk [Norwegian]	Intel® Corporation erklærer herved at utstyret Intel® WiFi Link 5300 er i samsvar med de grunnleggende krav og øvrige relevante krav i direktiv



	1999/5/EF.
Polski [Polish]	Niniejszym, Intel® Corporation, oświadcza, że Intel® WiFi Link 5300 jest zgodne z zasadniczymi wymaganiami oraz innymi stosownymi postanowieniami Dyrektywy 1999/5/WE.
Português [Portuguese]	Intel® Corporation declara que este Intel® WiFi Link 5300 está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.
Slovensko [Slovenian]	Šiuo Intel® Corporation izjavlja, da je ta Intel® WiFi Link 5300 v skladu z bistvenimi zahtevami in ostalimi relevantnimi določili direktive 1999/5/ES.
Slovensky [Slovak]	Intel® Corporation týmto vyhlasuje, že Intel® WiFi Link 5300 spĺňa základné požiadavky a všetky príslušné ustanovenia Smernice 1999/5/ES.
Suomi [Finnish]	Intel® Corporation vakuuttaa täten että Intel® WiFi Link 5300 tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.
Svenska [Swedish]	Härmed intygar Intel® Corporation att denna Intel® WiFi Link 5300 står i överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.
Íslenska [Icelandic]	Hér með lýsir Intel® Corporation yfir því að Intel® WiFi Link 5300 er í samræmi við grunnkröfur og aðrar kröfur, sem gerðar eru í tilskipun 1999/5/EC.

## Intel® WiFi Link 5100 Adapter

This equipment complies with the essential requirements of the European Union directive 1999/5/EC.

Česky [Czech]	Intel® Corporation tímto prohlašuje, že tento Intel® WiFi Link 5100 je ve shodě se základními požadavky a dalšími příslušnými ustanoveními směrnice 1999/5/ES.
Dansk [Danish]	Undertegnede Intel® Corporation erklærer herved, at følgende udstyr Intel® WiFi Link 5100 overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF.
Deutsch [German]	Hiermit erkläre Intel® Corporation, dass sich das Gerät Intel® WiFi Link 5100 in Übereinstimmung mit den grundlegenden Anforderungen und den übrigen einschlägigen Bestimmungen der Richtlinie 1999/5/EG befindet.
Esti [Estonian]	Käesolevaga kinnitab Intel® Corporation seadme Intel® WiFi Link 5100 vastavust direktiivi 1999/5/EÜ põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.
English	Hereby, Intel® Corporation, declares that this Intel® WiFi Link 5100 is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.
Español [Spanish]	Por medio de la presente Intel® Corporation declara que el Intel® WiFi Link 5100 cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE.
Ελληνική [Greek]	ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ Intel® Corporation ΔΗΛΩΝΕΙ ΟΤΙ Intel® WiFi Link 5100 ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 1999/5/ΕΚ.

Français [French]	Par la présente Intel® Corporation déclare que l'appareil Intel® WiFi Link 5100 est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE.
Italiano [Italian]	Con la presente Intel® Corporation dichiara che questo Intel® WiFi Link 5100 è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.
Latviski [Latvian]	Ar šo Intel® Corporation deklarē, ka Intel® WiFi Link 5100 atbilst Direktīvas 1999/5/EK būtiskajām prasībām un citiem ar to saistītajiem noteikumiem.
Lietuvių [Lithuanian]	Šiuo Intel® Corporation deklaruoja, kad šis Intel® WiFi Link 5100 atitinka esminius reikalavimus ir kitas 1999/5/EB Direktyvos nuostatas.
Nederlands [Dutch]	Hierbij verklaart Intel® Corporation dat het toestel Intel® WiFi Link 5100 in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG.
Malti [Maltese]	Hawnhekk, Intel® Corporation, jiddikjara li dan Intel® WiFi Link 5100 jikkonforma mal-ħtiġijiet essenzjali u ma provvedimenti oħrajn rilevanti li hemm fid-Dirrettiva 1999/5/EC.
Magyar [Hungarian]	Alulírott, Intel® Corporation nyilatkozom, hogy a Intel® WiFi Link 5100 megfelel a vonatkozó alapvető követelményeknek és az 1999/5/EC irányelv egyéb előírásainak.
Norsk [Norwegian]	Intel® Corporation erklærer herved at utstyret Intel® WiFi Link 5100 er i samsvar med de grunnleggende krav og øvrige relevante krav i direktiv 1999/5/EF.
Polski [Polish]	Niniejszym, Intel® Corporation, oświadczam, że Intel® WiFi Link 5100 jest zgodne z zasadniczymi wymaganiami oraz innymi stosownymi postanowieniami Dyrektywy 1999/5/WE.
Português [Portuguese]	Intel® Corporation declara que este Intel® WiFi Link 5100 está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.
Slovensko [Slovenian]	Šiuo Intel® Corporation izjavlja, da je ta Intel® WiFi Link 5100 v skladu z bistvenimi zahtevami in ostalimi relevantnimi določili direktive 1999/5/ES.
Slovensky [Slovak]	Intel® Corporation týmto vyhlasuje, že Intel® WiFi Link 5100 spĺňa základné požiadavky a všetky príslušné ustanovenia Smernice 1999/5/ES.
Suomi [Finnish]	Intel® Corporation vakuuttaa täten että Intel® WiFi Link 5100 tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.
Svenska [Swedish]	Härmed intygar Intel® Corporation att denna Intel® WiFi Link 5100 står i överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.
Íslenska [Icelandic]	Hér með lýsir Intel® Corporation yfir því að Intel® WiFi Link 5100 er í samræmi við grunnkröfur og aðrar kröfur, sem gerðar eru í tilskipun 1999/5/EC.

## Intel® WiFi Link 1000 Adapter

This equipment complies with the essential requirements of the European Union directive 1999/5/EC.

Česky [Czech]	Intel® Corporation tímto prohlašuje, že tento Intel® WiFi Link 1000 je ve shodě se základními požadavky a dalšími příslušnými ustanoveními směrnice 1999/5/ES.
Dansk [Danish]	Undertegnede Intel® Corporation erklærer herved, at følgende udstyr Intel® WiFi Link 1000 overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF.
Deutsch [German]	Hiermit erklärt Intel® Corporation, dass sich das Gerät Intel® WiFi Link 1000 in Übereinstimmung mit den grundlegenden Anforderungen und den übrigen einschlägigen Bestimmungen der Richtlinie 1999/5/EG befindet.
Esti [Estonian]	Käesolevaga kinnitab Intel® Corporation seadme Intel® WiFi Link 1000 vastavust direktiivi 1999/5/EÜ põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.
English	Hereby, Intel® Corporation, declares that this Intel® WiFi Link 1000 is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.
Español [Spanish]	Por medio de la presente Intel® Corporation declara que el Intel® WiFi Link 1000 cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE.
Ελληνική [Greek]	ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ Intel® Corporation ΔΗΛΩΝΕΙ ΟΤΙ Intel® WiFi Link 1000 ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 1999/5/EK.
Français [French]	Par la présente Intel® Corporation déclare que l'appareil Intel® WiFi Link 1000 est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE.
Italiano [Italian]	Con la presente Intel® Corporation dichiara che questo Intel® WiFi Link 1000 è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.
Latviski [Latvian]	Ar šo Intel® Corporation deklarē, ka Intel® WiFi Link 1000 atbilst Direktīvas 1999/5/EK būtiskajām prasībām un citiem ar to saistītajiem noteikumiem.
Lietuvių [Lithuanian]	Šiuo Intel® Corporation deklaruoja, kad šis Intel® WiFi Link 1000 atitinka esminius reikalavimus ir kitas 1999/5/EB Direktyvos nuostatas.
Nederlands [Dutch]	Hierbij verklaart Intel® Corporation dat het toestel Intel® WiFi Link 1000 in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG.
Malti [Maltese]	Hawnhekk, Intel® Corporation, jiddikjara li dan Intel® WiFi Link 1000 jikkonforma mal-htigijiet essenzjali u ma provvedimenti oħrajn rilevanti li hemm fid-Dirrettiva 1999/5/EC.
Magyar [Hungarian]	Alulírott, Intel® Corporation nyilatkozom, hogy a Intel® WiFi Link 1000 megfelel a vonatkozó alapvető követelményeknek és az 1999/5/EC irányelv egyéb előírásainak.
Norsk [Norwegian]	Intel® Corporation erklærer herved at utstyret Intel® WiFi Link 1000 er i samsvar med de grunnleggende krav og øvrige relevante krav i direktiv 1999/5/EF.
Polski [Polish]	Niniejszym, Intel® Corporation, oświadczam, że Intel® WiFi Link 1000 jest zgodne z zasadniczymi wymaganiami oraz innymi stosownymi postanowieniami Dyrektywy 1999/5/WE.

Português [Portuguese]	Intel® Corporation declara que este Intel® WiFi Link 1000 está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.
Slovensko [Slovenian]	Šiuo Intel® Corporation izjavlja, da je ta Intel® WiFi Link 1000 v skladu z bistvenimi zahtevami in ostalimi relevantnimi določili direktive 1999/5/ES.
Slovensky [Slovak]	Intel® Corporation týmto vyhlasuje, že Intel® WiFi Link 1000 spĺňa základné požiadavky a všetky príslušné ustanovenia Smernice 1999/5/ES.
Suomi [Finnish]	Intel® Corporation vakuuttaa täten että Intel® WiFi Link 1000 tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.
Svenska [Swedish]	Härmed intygar Intel® Corporation att denna Intel® WiFi Link 1000 står i överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.
Íslenska [Icelandic]	Hér með lýsir Intel® Corporation yfir því að Intel® WiFi Link 1000 er í samræmi við grunnkröfur og aðrar kröfur, sem gerðar eru í tilskipun 1999/5/EC.

## Intel® Wireless WiFi Link 4965AGN Adapter

This equipment complies with the essential requirements of the European Union directive 1999/5/EC.

Česky [Czech]	Intel® Corporation tímto prohlašuje, že tento Intel® Wireless WiFi Link 4965AGN je ve shodě se základními požadavky a dalšími příslušnými ustanoveními směrnice 1999/5/ES.
Dansk [Danish]	Undertegnede Intel® Corporation erklærer herved, at følgende udstyr Intel® Wireless WiFi Link 4965AGN overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF.
Deutsch [German]	Hiermit erklärt Intel® Corporation, dass sich das Gerät Intel® Wireless WiFi Link 4965AGN in Übereinstimmung mit den grundlegenden Anforderungen und den übrigen einschlägigen Bestimmungen der Richtlinie 1999/5/EG befindet.
Esti [Estonian]	Käesolevaga kinnitab Intel® Corporation seadme Intel® Wireless WiFi Link 4965AGN vastavust direktiivi 1999/5/EÜ põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.
English	Hereby, Intel® Corporation, declares that this Intel® Wireless WiFi Link 4965AGN is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.
Español [Spanish]	Por medio de la presente Intel® Corporation declara que el Intel® Wireless WiFi Link 4965AGN cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE.
Ελληνική [Greek]	ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ Intel® Corporation ΔΗΛΩΝΕΙ ΟΤΙ Intel® Wireless WiFi Link 4965AGN ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 1999/5/ΕΚ.
Français [French]	Par la présente Intel® Corporation déclare que l'appareil Intel® Wireless WiFi Link 4965AGN est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE.

Italiano [Italian]	Con la presente Intel® Corporation dichiara che questo Intel® Wireless WiFi Link 4965AGN è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.
Latviski [Latvian]	Ar šo Intel® Corporation deklarē, ka Intel® Wireless WiFi Link 4965AGN atbilst Direktīvas 1999/5/EK būtiskajām prasībām un citiem ar to saistītajiem noteikumiem.
Lietuvių [Lithuanian]	Šiuo Intel® Corporation deklaruoja, kad šis Intel® Wireless WiFi Link 4965AGN atitinka esminius reikalavimus ir kitas 1999/5/EB Direktyvos nuostatas.
Nederlands [Dutch]	Hierbij verklaart Intel® Corporation dat het toestel Intel® Wireless WiFi Link 4965AGN in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG.
Malti [Maltese]	Hawnhekk, Intel® Corporation, jiddikjara li dan Intel® Wireless WiFi Link 4965AGN jikkonforma mal-ħtiġijiet essenzjali u ma provvedimenti oħrajn relevanti li hemm fid-Direttiva 1999/5/EC.
Magyar [Hungarian]	Alulírott, Intel® Corporation nyilatkozom, hogy a Intel® Wireless WiFi Link 4965AGN megfelel a vonatkozó alapvető követelményeknek és az 1999/5/EC irányelv egyéb előírásainak.
Norsk [Norwegian]	Intel® Corporation erklærer herved at utstyret Intel® Wireless WiFi Link 4965AGN er i samsvar med de grunnleggende krav og øvrige relevante krav i direktiv 1999/5/EF.
Polski [Polish]	Niniejszym, Intel® Corporation, oświadcza, że Intel® Wireless WiFi Link 4965AGN jest zgodne z zasadniczymi wymaganiami oraz innymi stosownymi postanowieniami Dyrektywy 1999/5/WE.
Português [Portuguese]	Intel® Corporation declara que este Intel® Wireless WiFi Link 4965AGN está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.
Slovensko [Slovenian]	Šiuo Intel® Corporation izjavlja, da je ta Intel® Wireless WiFi Link 4965AGN v skladu z bistvenimi zahtevami in ostalimi relevantnimi določili direktive 1999/5/ES.
Slovensky [Slovak]	Intel® Corporation týmto vyhlasuje, že Intel® Wireless WiFi Link 4965AGN spĺňa základné požiadavky a všetky príslušné ustanovenia Smernice 1999/5/ES.
Suomi [Finnish]	Intel® Corporation vakuuttaa täten että Intel® Wireless WiFi Link 4965AGN tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.
Svenska [Swedish]	Härmed intygar Intel® Corporation att denna Intel® Wireless WiFi Link 4965AGN står i överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.
Íslenska [Icelandic]	Hér með lýsir Intel® Corporation yfir því að Intel® Wireless WiFi Link 4965AGN er í samræmi við grunnkröfur og aðrar kröfur, sem gerðar eru í tilskipun 1999/5/EC.

## Intel® Wireless WiFi Link 4965AG Adapter

This equipment complies with the essential requirements of the European Union directive 1999/5/EC.

Česky [Czech]	Intel® Corporation tímto prohlašuje, že tento Intel® Wireless WiFi Link 4965AG_ je ve shodě se základními požadavky a dalšími příslušnými ustanoveními směrnice 1999/5/ES.
Dansk [Danish]	Undertegnede Intel® Corporation erklærer herved, at følgende udstyr Intel® Wireless WiFi Link 4965AG_ overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF.
Deutsch [German]	Hiermit erkläre Intel® Corporation, dass sich das Gerät Intel® Wireless WiFi Link 4965AG_ in Übereinstimmung mit den grundlegenden Anforderungen und den übrigen einschlägigen Bestimmungen der Richtlinie 1999/5/EG befindet.
Esti [Estonian]	Käesolevaga kinnitab Intel® Corporation seadme Intel® Wireless WiFi Link 4965AG_ vastavust direktiivi 1999/5/EÜ põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.
English	Hereby, Intel® Corporation, declares that this Intel® Wireless WiFi Link 4965AG_ is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.
Español [Spanish]	Por medio de la presente Intel® Corporation declara que el Intel® Wireless WiFi Link 4965AG_ cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE.
Ελληνική [Greek]	ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ Intel® Corporation ΔΗΛΩΝΕΙ ΟΤΙ Intel® Wireless WiFi Link 4965AG_ ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 1999/5/EK.
Français [French]	Par la présente Intel® Corporation déclare que l'appareil Intel® Wireless WiFi Link 4965AG_ est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE.
Italiano [Italian]	Con la presente Intel® Corporation dichiara che questo Intel® Wireless WiFi Link 4965AG_ è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.
Latviski [Latvian]	Ar šo Intel® Corporation deklarē, ka Intel® Wireless WiFi Link 4965AG_ atbilst Direktīvas 1999/5/EK būtiskajām prasībām un citiem ar to saistītajiem noteikumiem.
Lietuvių [Lithuanian]	Šiuo Intel® Corporation deklaruoja, kad šis Intel® Wireless WiFi Link 4965AG_ atitinka esminius reikalavimus ir kitas 1999/5/EB Direktyvos nuostatas.
Nederlands [Dutch]	Hierbij verklaart Intel® Corporation dat het toestel Intel® Wireless WiFi Link 4965AG_ in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG.
Malti [Maltese]	Hawnhekk, Intel® Corporation, jiddikjara li dan Intel® Wireless WiFi Link 4965AG_ jikkonforma mal-ħtiġijiet essenzjali u ma provvedimenti oħrajn relevanti li hemm fid-Dirrettiva 1999/5/EC.
Magyar [Hungarian]	Alulírott, Intel® Corporation nyilatkozom, hogy a Intel® Wireless WiFi Link 4965AG_ megfelel a vonatkozó alapvető követelményeknek és az 1999/5/EC irányelv egyéb előírásainak.
Norsk [Norwegian]	Intel® Corporation erklærer herved at utstyret Intel® Wireless WiFi Link 4965AG_ er i samsvar med de grunnleggende krav og øvrige relevante krav i direktiv 1999/5/EF.
Polski	Niniejszym, Intel® Corporation, oświadczam, że Intel® Wireless WiFi Link



[Polish]	4965AG_ jest zgodne z zasadniczymi wymaganiami oraz innymi stosownymi postanowieniami Dyrektywy 1999/5/WE.
Português [Portuguese]	Intel® Corporation declara que este Intel® Wireless WiFi Link 4965AG_ está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.
Slovensko [Slovenian]	Šiuo Intel® Corporation izjavlja, da je ta Intel® Wireless WiFi Link 4965AG_ v skladu z bistvenimi zahtevami in ostalimi relevantnimi določili direktive 1999/5/ES.
Slovensky [Slovak]	Intel® Corporation týmto vyhlasuje, že Intel® Wireless WiFi Link 4965AG_ spĺňa základné požiadavky a všetky príslušné ustanovenia Smernice 1999/5/ES.
Suomi [Finnish]	Intel® Corporation vakuuttaa täten että Intel® Wireless WiFi Link 4965AGN tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.
Svenska [Swedish]	Härmed intygar Intel® Corporation att denna Intel® Wireless WiFi Link 4965AG_ står i överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.
Íslenska [Icelandic]	Hér með lýsir Intel® Corporation yfir því að Intel® Wireless WiFi Link 4965AG_ er í samræmi við grunnkröfur og aðrar kröfur, sem gerðar eru í tilskipun 1999/5/EC.

## Intel® PRO/Wireless 3945ABG Network Connection

This equipment complies with the essential requirements of the European Union directive 1999/5/EC.

Česky [Czech]	Intel® Corporation tímto prohlašuje, že tento Intel® PRO/Wireless 3945ABG Network Connection je ve shodě se základními požadavky a dalšími příslušnými ustanoveními směrnice 1999/5/ES.
Dansk [Danish]	Undertegnede Intel® Corporation erklærer herved, at følgende udstyr Intel® PRO/Wireless 3945ABG Network Connection overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF.
Deutsch [German]	Hiermit erkläre Intel® Corporation, dass sich das Gerät Intel® PRO/Wireless 3945ABG Network Connection in Übereinstimmung mit den grundlegenden Anforderungen und den übrigen einschlägigen Bestimmungen der Richtlinie 1999/5/EG befindet.
Esti [Estonian]	Käesolevaga kinnitab Intel® Corporation seadme Intel® PRO/Wireless 3945ABG Network Connection vastavust direktiivi 1999/5/EÜ põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.
English	Hereby, Intel® Corporation, declares that this Intel® PRO/Wireless 3945ABG Network Connection is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.
Español [Spanish]	Por medio de la presente Intel® Corporation declara que el Intel® PRO/Wireless 3945ABG Network Connection cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE.
Ελληνική	ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ Intel® Corporation ΔΗΛΩΝΕΙ ΟΤΙ Intel® PRO/Wireless

[Greek]	3945ABG Network Connection ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 1999/5/EK.
Français [French]	Par la présente Intel® Corporation déclare que l'appareil Intel® PRO/Wireless 3945ABG Network Connection est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE.
Italiano [Italian]	Con la presente Intel® Corporation dichiara che questo Intel® PRO/Wireless 3945ABG Network Connection è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.
Latviski [Latvian]	Ar šo Intel® Corporation deklarē, ka Intel® PRO/Wireless 3945ABG Network Connection atbilst Direktīvas 1999/5/EK būtiskajām prasībām un citiem ar to saistītajiem noteikumiem.
Lietuvių [Lithuanian]	Šiuo Intel® Corporation deklaruoja, kad šis Intel® PRO/Wireless 3945ABG Network Connection atitinka esminius reikalavimus ir kitas 1999/5/EB Direktyvos nuostatas.
Nederlands [Dutch]	Hierbij verklaart Intel® Corporation dat het toestel Intel® PRO/Wireless 3945ABG Network Connection in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG.
Malti [Maltese]	Hawnhekk, Intel® Corporation, jiddikjara li dan Intel® PRO/Wireless 3945ABG Network Connection jikkonforma mal-ħtiġijiet essenzjali u ma provvedimenti oħrajn rilevanti li hemm fid-Dirrettiva 1999/5/EC.
Magyar [Hungarian]	Alulírott, Intel® Corporation nyilatkozom, hogy a Intel® PRO/Wireless 3945ABG Network Connection megfelel a vonatkozó alapvető követelményeknek és az 1999/5/EC irányelv egyéb előírásainak.
Norsk [Norwegian]	Intel® Corporation erklærer herved at utstyret Intel® PRO/Wireless 3945ABG Network Connection er i samsvar med de grunnleggende krav og øvrige relevante krav i direktiv 1999/5/EF.
Polski [Polish]	Niniejszym, Intel® Corporation, oświadczam, że Intel® PRO/Wireless 3945ABG Network Connection jest zgodne z zasadniczymi wymaganiami oraz innymi stosownymi postanowieniami Dyrektywy 1999/5/WE.
Português [Portuguese]	Intel® Corporation declara que este Intel® PRO/Wireless 3945ABG Network Connection está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.
Slovensko [Slovenian]	Šiuo Intel® Corporation izjavlja, da je ta Intel® PRO/Wireless 3945ABG Network Connection v skladu z bistvenimi zahtevami in ostalimi relevantnimi določili direktive 1999/5/ES.
Slovensky [Slovak]	Intel® Corporation týmto vyhlasuje, že Intel® PRO/Wireless 3945ABG Network Connection spĺňa základné požiadavky a všetky príslušné ustanovenia Smernice 1999/5/ES.
Suomi [Finnish]	Intel® Corporation vakuuttaa täten että Intel® PRO/Wireless 3945ABG Network Connection tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.
Svenska [Swedish]	Härmed intygar Intel® Corporation att denna Intel® PRO/Wireless 3945ABG Network Connection står i överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.
Íslenska	Hér með lýsir Intel® Corporation yfir því að Intel® PRO/Wireless 3945ABG



[Icelandic]	Network Connection er í samræmi við grunnkröfur og aðrar kröfur, sem gerðar eru í tilskipun 1999/5/EC.
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## Intel® PRO/Wireless 3945BG Network Connection

This equipment complies with the essential requirements of the European Union directive 1999/5/EC.

Česky [Czech]	Intel® Corporation tímto prohlašuje, že tento Intel® PRO/Wireless 3945BG Network Connection je ve shodě se základními požadavky a dalšími příslušnými ustanoveními směrnice 1999/5/ES.
Dansk [Danish]	Undertegnede Intel® Corporation erklærer herved, at følgende udstyr Intel® PRO/Wireless 3945BG Network Connection overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF.
Deutsch [German]	Hiermit erklärt Intel® Corporation, dass sich das Gerät Intel® PRO/Wireless 3945BG Network Connection in Übereinstimmung mit den grundlegenden Anforderungen und den übrigen einschlägigen Bestimmungen der Richtlinie 1999/5/EG befindet.
Esti [Estonian]	Käesolevaga kinnitab Intel® Corporation seadme Intel® PRO/Wireless 3945BG Network Connection vastavust direktiivi 1999/5/EÜ põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.
English	Hereby, Intel® Corporation, declares that this Intel® PRO/Wireless 3945BG Network Connection is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.
Español [Spanish]	Por medio de la presente Intel® Corporation declara que el Intel® PRO/Wireless 3945BG Network Connection cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE.
Ελληνική [Greek]	ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ Intel® Corporation ΔΗΛΩΝΕΙ ΟΤΙ Intel® PRO/Wireless 3945BG Network Connection ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 1999/5/EK.
Français [French]	Par la présente Intel® Corporation déclare que l'appareil Intel® PRO/Wireless 3945BG Network Connection est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE.
Italiano [Italian]	Con la presente Intel® Corporation dichiara che questo Intel® PRO/Wireless 3945BG Network Connection è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.
Latviski [Latvian]	Ar šo Intel® Corporation deklarē, ka Intel® PRO/Wireless 3945BG Network Connection atbilst Direktīvas 1999/5/EK būtiskajām prasībām un citiem ar to saistītajiem noteikumiem.
Lietuvių [Lithuanian]	Šiuo Intel® Corporation deklaruoja, kad šis Intel® PRO/Wireless 3945BG Network Connection atitinka esminius reikalavimus ir kitas 1999/5/EB Direktyvos nuostatas.
Nederlands [Dutch]	Hierbij verklaart Intel® Corporation dat het toestel Intel® PRO/Wireless 3945BG Network Connection in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG.

Malti [Maltese]	Hawnhekk, Intel® Corporation, jiddikjara li dan Intel® PRO/Wireless 3945BG Network Connection jikkonforma mal-ħtiġijiet essenzjali u ma provvedimenti oħrajn relevanti li hemm fid-Dirrettiva 1999/5/EC.
Magyar [Hungarian]	Alulírott, Intel® Corporation nyilatkozom, hogy a Intel® PRO/Wireless 3945BG Network Connection megfelel a vonatkozó alapvető követelményeknek és az 1999/5/EC irányelv egyéb előírásainak.
Norsk [Norwegian]	Intel® Corporation erklærer herved at utstyret Intel® PRO/Wireless 3945BG Network Connection er i samsvar med de grunnleggende krav og øvrige relevante krav i direktiv 1999/5/EF.
Polski [Polish]	Niniejszym, Intel® Corporation, oświadcza, że Intel® PRO/Wireless 3945BG Network Connection jest zgodne z zasadniczymi wymaganiami oraz innymi stosownymi postanowieniami Dyrektywy 1999/5/WE.
Português [Portuguese]	Intel® Corporation declara que este Intel® PRO/Wireless 3945BG Network Connection está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.
Slovensko [Slovenian]	Šiuo Intel® Corporation izjavlja, da je ta Intel® PRO/Wireless 3945BG Network Connection v skladu z bistvenimi zahtevami in ostalimi relevantnimi določili direktive 1999/5/ES.
Slovensky [Slovak]	Intel® Corporation týmto vyhlasuje, že Intel® PRO/Wireless 3945BG Network Connection spĺňa základné požiadavky a všetky príslušné ustanovenia Smernice 1999/5/ES.
Suomi [Finnish]	Intel® Corporation vakuuttaa täten että Intel® PRO/Wireless 3945BG Network Connection tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.
Svenska [Swedish]	Härmed intygar Intel® Corporation att denna Intel® PRO/Wireless 3945BG Network Connection står i överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.
Íslenska [Icelandic]	Hér með lýsir Intel® Corporation yfir því að Intel® PRO/Wireless 3945BG Network Connection er í samræmi við grunnkröfur og aðrar kröfur, sem gerðar eru í tilskipun 1999/5/EC.

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## Specifications

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- [Intel® Centrino® Ultimate-N 6300](#)
- [Intel® Centrino® Advanced-N + WiMAX 6250](#)
- [Intel® Centrino® Advanced-N 6200](#)
- [Intel® WiMAX/WiFi Link 5150](#)
- [Intel® WiFi Link 5300](#)
- [Intel® WiFi Link 5100](#)
- [Intel® WiFi Link 1000](#)
- [Intel® Wireless WiFi Link 4965AGN](#)
- [Intel® Wireless WiFi Link 4965AG](#)
- [Intel® PRO/Wireless 3945ABG Network Connection](#)
- [Intel® PRO/Wireless 3945BG Network Connection](#)

## Intel® Centrino® Advanced-N 6200 and Intel® Centrino® Ultimate-N 6300

Form Factor	PCI Express* Full-Mini Card and Half-Mini Card	
Dimensions	Full-Mini Card: Width 2.00 in x Length 1.18 in x Height 0.18 in (50.95 mm x 30 mm x 4.5 mm) Half-Mini Card: Width 1.049 in x Length 1.18 in x Height 0.18 in (26.64 mm x 30 mm x 4.5 mm)	
Antenna Interface Connector	Hirose U.FL-R-SMT mates with cable connector U.FL-LP-066	
Antenna Diversity	On-board diversity	
Connector Interface	52-pin Mini Card edge connector	
Voltage	3.3 V	
Operating Temperature	0 to +80 degrees Celsius	
Humidity	50% to 95% non-condensing (at temperatures of 25 °C to 35 °C)	
<b>Frequency Modulation</b>	<b>5 GHz (802.11a/n)</b>	<b>2.4 GHz (802.11b/g/n)</b>
Frequency band	5.15 GHz - 5.85 GHz (dependent on country)	2.400 - 2.4835 GHz (dependent on country)
Modulation	BPSK, QPSK, 16 QAM, 64 QAM	CCK, DQPSK, DBPSK
Wireless Medium	5 GHz UNII: Orthogonal Frequency Division Multiplexing (OFDM)	2.4 GHz ISM: Orthogonal Frequency Division Multiplexing (OFDM)
Channels	4 to 12 (dependent on country)	Channel 1-11 (US only) Channel 1-13 (Japan, Europe)
IEEE 802.11n Data Rates	<b>Intel® Centrino® Ultimate-N 6300</b> Tx/Rx: 450, 405, 360, 300, 270, 243, 240, 216.7, 195, 180, 173.3, 150, 144, 135, 130, 120, 117, 115.5, 90, 86.667, 72.2, 65, 60, 57.8, 45, 43.3, 30, 28.9, 21.7, 15, 14.4, 7.2 Mbps	
	<b>Intel® Centrino® Advanced-N 6200</b> Tx/Rx: 300, 270, 243, 240, 180, 150, 144, 135, 130, 120, 117, 115.5, 90, 86.667, 72.2, 65, 60, 57.8, 45, 43.3, 30, 28.9, 21.7, 15, 14.4, 7.2 Mbps	
IEEE 802.11a Data Rates	54, 48, 36, 24, 18, 12, 9, 6 Mbps	
IEEE 802.11g Data Rates	54, 48, 36, 24, 18, 12, 9, 6 Mbps	

IEEE 802.11b Data Rates	11, 5.5, 2, 1 Mbps
<b>General</b>	
Operating Systems	<ul style="list-style-type: none"> <li>• Microsoft Windows* XP (32-bit and 64-bit)</li> <li>• Windows Vista* (32-bit and 64-bit)</li> <li>• Windows* 7 (32-bit and 64-bit)</li> </ul>
Wi-Fi Alliance* certification	Wi-Fi* certification for 802.11b, 802.11g, 802.11a, 802.11h, 802.11d, WPA-Personal, WPA-Enterprise, WPA2-Personal, WPA2-Enterprise, WMM, WMM Power Save, EAP-SIM, LEAP, PEAP, TKIP, EAP-FAST, EAP-TLS, EAP-TTLS, EAP-AKA
Cisco Compatible Extensions certification	Cisco Compatible Extensions, v4.0
WLAN Standard	IEEE 802.11g, 802.11b, 802.11a, 802.11n
Architecture	Infrastructure or ad hoc (peer-to-peer) operating modes
Security	WPA-Personal, WPA2-Personal, WPA-Enterprise, WPA2-Enterprise, AES-CCMP 128-bit, WEP 128-bit and 64-bit; 802.1X: EAP-SIM, LEAP, PEAP, TKIP, EAP-FAST, EAP-TLS, EAP-TTLS, EAP-AKA
Product Safety	UL, C-UL, CB (IEC 60590)

## Intel® Centrino® Advanced-N + WiMAX 6250

Form Factor	PCI Express* Full-Mini Card and Half-Mini Card	
Dimensions	<p>Full-Mini Card: Width 2.00 in x Length 1.18 in x Height 0.18 in (50.95 mm x 30 mm x 4.5 mm)</p> <p>Half-Mini Card: Width 1.049 in x Length 1.18 in x Height 0.18 in (26.64 mm x 30 mm x 4.5 mm)</p>	
Antenna Interface Connector	Hirose U.FL-R-SMT mates with cable connector U.FL-LP-066	
Antenna Diversity	On-board diversity	
Connector Interface	52-pin Mini Card edge connector	
Voltage	3.3 V	
Operating Temperature	0 to +80 degrees Celsius	
Humidity	50% to 95% non-condensing (at temperatures of 25 °C to 35 °C)	
<b>Frequency Modulation</b>	<b>5 GHz (802.11a/n)</b>	<b>2.4 GHz (802.11b/g/n)</b>
Frequency band	5.15 GHz - 5.85 GHz (dependent on country)	2.400 - 2.4835 GHz (dependent on country)
Modulation	BPSK, QPSK, 16 QAM, 64 QAM	CCK, DQPSK, DBPSK

Wireless Medium	5 GHz UNII: Orthogonal Frequency Division Multiplexing (OFDM)	2.4 GHz ISM: Orthogonal Frequency Division Multiplexing (OFDM)
Channels	4 to 12 (dependent on country)	Channel 1-11 (US only) Channel 1-13 (Japan, Europe)
IEEE 802.11n Data Rates	<b>Intel® Centrino® Advanced-N + WiMAX 6250</b>  Tx/Rx: 300, 270, 243, 240, 180, 150, 144, 135, 130, 120, 117, 115.5, 90, 86.667, 72.2, 65, 60, 57.8, 45, 43.3, 30, 28.9, 21.7, 15, 14.4, 7.2 Mbps	
IEEE 802.11a Data Rates	54, 48, 36, 24, 18, 12, 9, 6 Mbps	
IEEE 802.11g Data Rates	54, 48, 36, 24, 18, 12, 9, 6 Mbps	
IEEE 802.11b Data Rates	11, 5.5, 2, 1 Mbps	
<b>General</b>		
Operating Systems	<ul style="list-style-type: none"> <li>• Microsoft Windows* XP (32-bit and 64-bit)</li> <li>• Windows Vista* (32-bit and 64-bit)</li> <li>• Windows* 7 (32-bit and 64-bit)</li> </ul>	
Wi-Fi Alliance* certification	Wi-Fi* certification for 802.11b, 802.11g, 802.11a, 802.11h, 802.11d, WPA-Personal, WPA-Enterprise, WPA2-Personal, WPA2-Enterprise, WMM, WMM Power Save, EAP-SIM, LEAP, PEAP, TKIP, EAP-FAST, EAP-TLS, EAP-TTLS, EAP-AKA	
Cisco Compatible Extensions certification	Cisco Compatible Extensions, v4.0	
WLAN Standard	IEEE 802.11g, 802.11b, 802.11a, 802.11n	
Architecture	Infrastructure or ad hoc (peer-to-peer) operating modes	
Security	WPA-Personal, WPA2-Personal, WPA-Enterprise, WPA2-Enterprise, AES-CCMP 128-bit, WEP 128-bit and 64-bit; 802.1X: EAP-SIM, LEAP, PEAP, TKIP, EAP-FAST, EAP-TLS, EAP-TTLS, EAP-AKA	
Product Safety	UL, C-UL, CB (IEC 60590)	
<b>WiMAX</b>		
Frequency band	2.5-2.7 GHz (3A Profile)	
Modulation	UL - QPSK, 16 QAM  DL - QPSK, 16 QAM, 64 QAM	
Wireless Medium	Duplex mode: TDD operations	Scalable OFDMA (SOFDMA): 512 and 1024 FFT
	sub-carrier permutation: PUSC	Channel bandwidths: 5 MHz and 10 MHz
WiMAX Network Release Feature	SPWG/NWG Release 1.0	

set	SPWG/NWG Release 1.5
Rate Performance	10 Mbps DL and 4 Mbps UL @ peak rate (OTA performance, 10MHz channel)
RF Transmitter Output Power	Compliance with Power class 2
<b>WiMAX General</b>	
Operating Systems	<ul style="list-style-type: none"> <li>• Microsoft Windows* XP (32-bit and 64-bit)</li> <li>• Windows Vista* (32-bit and 64-bit)</li> <li>• Windows* 7 (32-bit and 64-bit)</li> </ul>
Standard Compliance	802.16e-2005 Corrigenda 2 (D4)
WiMAX System Profile Feature set	Mobile WiMAX release 1, Wave II Profile 3A
Security	Key Management Protocol (PKMv2)
Encryption	128-bit CCMP (Counter-Mode/CBC-MAC) based on AES encryption

## Intel® WiMAX/WiFi Link 5150

<b>WiFi / WiMAX</b>	
Form Factor	PCI Express* Mini Card or Half-Mini Card
SKUs	Intel® WiMAX/WiFi Link 5150 - 1x2 MC/HMC
Dimensions	<p>Mini Card: Width 2.0 in x Length 1.18 in x Height 0.18 in (50.80 mm x 30 mm x 4.5 mm)</p> <p>Half-Mini Card: Width 1.049 in x Length 1.18 in x Height 0.18 in (26.64 mm x 30 mm x 4.5 mm)</p>
Antenna Interface Connector	Hirose U.FL-R-SMT mates with cable connector U.FL-LP-066
Antenna Diversity	On-board diversity
Connector Interface	53-pin Mini Card edge connector
Voltage	3.3 V
Operating Temperature	0 to +80 degrees Celsius
Humidity	50% to 90% non-condensing (at temperatures of 25 °C to 35 °C)
<b>WiFi</b>	
<b>Frequency Modulation</b>	<b>5 GHz (802.11a/n)</b> <b>2.4 GHz (802.11b/g/n)</b>
Frequency band	5.15 GHz - 5.85 GHz (dependent on country)                      2.41-2.474 GHz (dependent on country)

Modulation	BPSK, QPSK, 16 QAM, 64 QAM	CCK, DQPSK, DBPSK
Wireless Medium	5 GHz UNII: Orthogonal Frequency Division Multiplexing (OFDM)	2.4 GHz ISM: Orthogonal Frequency Division Multiplexing (OFDM)
Channels	4 to 12 (dependent on country)	Channel 1-11 (US only) Channel 1-13 (Japan, Europe)
IEEE 802.11n Data Rates	<b>Intel® WiFi Link 5150</b>  Tx only: 300, 270, 243, 240, 180 Tx/Rx: 150, 144, 135, 130, 120, 117, 115.5, 90, 86.667, 72.2, 65, 60, 57.8, 45, 43.3, 30, 28.9, 21.7, 15, 14.4, 7.2 Mbps	
IEEE 802.11a Data Rates	54, 48, 36, 24, 18, 12, 9, 6 Mbps	
IEEE 802.11g Data Rates	54, 48, 36, 24, 18, 12, 9, 6 Mbps	
IEEE 802.11b Data Rates	11, 5.5, 2, 1 Mbps	
<b>WiFi General</b>		
Operating Systems	<ul style="list-style-type: none"> <li>• Microsoft Windows* XP (32-bit and 64-bit)</li> <li>• Windows Vista* (32-bit and 64-bit)</li> <li>• Windows* 7 (32-bit and 64-bit)</li> </ul>	
Wi-Fi Alliance* certification	Wi-Fi* certification for 802.11b, 802.11g, 802.11a, 802.11h, 802.11d, WPA-Personal, WPA-Enterprise, WPA2-Personal, WPA2-Enterprise, WMM, WMM Power Save, EAP-SIM, LEAP, PEAP, TKIP, EAP-FAST, EAP-TLS, EAP-TTLS	
Cisco Compatible Extensions certification	Cisco Compatible Extensions, v4.0	
WLAN Standard	IEEE 802.11g, 802.11b, 802.11a, 802.11n	
Architecture	Infrastructure or ad hoc (peer-to-peer) operating modes	
Security	WPA-Personal, WPA2-Personal, WPA-Enterprise, WPA2-Enterprise, 802.1X: EAP-SIM, LEAP, PEAP, EAP-FAST, EAP-TLS, EAP-TTLS, EAP-AKA	
Encryption	AES-CCMP 128-bit, WEP 128-bit and 64-bit, CKIP, TKIP	
Product Safety	UL, C-UL, CB (IEC 60590)	
<b>WiMAX</b>		
Frequency band	2.5-2.7 GHz (3A Profile)	
Modulation	UL - QPSK, 16 QAM  DL - QPSK, 16 QAM, 64 QAM	
Wireless Medium	Duplex mode: TDD operations	Scalable OFDMA (SOFDMA): 512 and 1024 FFT
	sub-carrier permutation: PUSC	Channel bandwidths: 5 MHz and 10 MHz

WiMAX Network Release Feature set	SPWG/NWG Release 1.0 SPWG/NWG Release 1.5
Rate Performance	10 Mbps DL and 4 Mbps UL @ peak rate (OTA performance, 10MHz channel)
RF Transmitter Output Power	Compliance with Power class 2
<b>WiMAX General</b>	
Operating Systems	<ul style="list-style-type: none"> <li>• Microsoft Windows* XP (32-bit and 64-bit)</li> <li>• Windows Vista* (32-bit and 64-bit)</li> <li>• Windows* 7 (32-bit and 64-bit)</li> </ul>
Standard Compliance	802.16e-2005 Corrigenda 2 (D4)
WiMAX System Profile Feature set	Mobile WiMAX release 1, Wave II Profile 3A
Security	Key Management Protocol (PKMv2)
Encryption	128-bit CCMP (Counter-Mode/CBC-MAC) based on AES encryption

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## Intel® WiFi Link 5100 and Intel® WiFi Link 5300

Form Factor	PCI Express* Full-Mini Card and Half-Mini Card	
Dimensions	Full-Mini Card: Width 2.00 in x Length 1.18 in x Height 0.18 in (50.95 mm x 30 mm x 4.5 mm)  Half-Mini Card: Width 1.049 in x Length 1.18 in x Height 0.18 in (26.64 mm x 30 mm x 4.5 mm)	
Antenna Interface Connector	Hirose U.FL-R-SMT mates with cable connector U.FL-LP-066	
Antenna Diversity	On-board diversity	
Connector Interface	52-pin Mini Card edge connector	
Voltage	3.3 V	
Operating Temperature	0 to +80 degrees Celsius	
Humidity	50% to 95% non-condensing (at temperatures of 25 °C to 35 °C)	
<b>Frequency Modulation</b>	<b>5 GHz (802.11a/n)</b>	<b>2.4 GHz (802.11b/g/n)</b>
Frequency band	5.15 GHz - 5.85 GHz (dependent on country)	2.400 - 2.4835 GHz (dependent on country)



Modulation	BPSK, QPSK, 16 QAM, 64 QAM	CCK, DQPSK, DBPSK
Wireless Medium	5 GHz UNII: Orthogonal Frequency Division Multiplexing (OFDM)	2.4 GHz ISM: Orthogonal Frequency Division Multiplexing (OFDM)
Channels	4 to 12 (dependent on country)	Channel 1-11 (US only) Channel 1-13 (Japan, Europe)
IEEE 802.11n Data Rates	<b>Intel® WiFi Link 5300</b>	
	450, 405, 360, 300, 270, 243, 240, 216.7, 195, 180, 173.3, 150, 144, 135, 130, 120, 117, 115.5, 90, 86.667, 72.2, 65, 60, 57.8, 45, 43.3, 30, 28.9, 21.7, 15, 14.4, 7.2 Mbps	
IEEE 802.11n Data Rates	<b>Intel® WiFi Link 5100</b>	
	300, 270, 243, 240, 180, 150, 144, 135, 130, 120, 117, 115.5, 90, 86.667, 72.2, 65, 60, 57.8, 45, 43.3, 30, 28.9, 21.7, 15, 14.4, 7.2 Mbps	
IEEE 802.11a Data Rates	54, 48, 36, 24, 18, 12, 9, 6 Mbps	
IEEE 802.11g Data Rates	54, 48, 36, 24, 18, 12, 9, 6 Mbps	
IEEE 802.11b Data Rates	11, 5.5, 2, 1 Mbps	
<b>General</b>		
Operating Systems	<ul style="list-style-type: none"> <li>• Microsoft Windows* XP (32-bit and 64-bit)</li> <li>• Windows Vista* (32-bit and 64-bit)</li> <li>• Windows* 7 (32-bit and 64-bit)</li> </ul>	
Wi-Fi Alliance* certification	Wi-Fi* certification for 802.11b, 802.11g, 802.11a, 802.11h, 802.11d, WPA-Personal, WPA-Enterprise, WPA2-Personal, WPA2-Enterprise, WMM, WMM Power Save, EAP-SIM, LEAP, PEAP, TKIP, EAP-FAST, EAP-TLS, EAP-TTLS, EAP-AKA	
Cisco Compatible Extensions certification	Cisco Compatible Extensions, v4.0	
WLAN Standard	IEEE 802.11g, 802.11b, 802.11a, 802.11n	
Architecture	Infrastructure or ad hoc (peer-to-peer) operating modes	
Security	WPA-Personal, WPA2-Personal, WPA-Enterprise, WPA2-Enterprise, AES-CCMP 128-bit, WEP 128-bit and 64-bit; 802.1X: EAP-SIM, LEAP, PEAP, TKIP, EAP-FAST, EAP-TLS, EAP-TTLS, EAP-AKA	
Product Safety	UL, C-UL, CB (IEC 60590)	

## Intel® WiFi Link 1000

**WiFi / WiMAX**

Form Factor	PCI Express* Mini Card and Half-Mini Card
SKUs	Intel® WiFi Link 1000 - 1X2 MC/HMC
Dimensions	Mini Card: Width 2.0 in x Length 1.18 in x Height 0.18 in (50.80 mm x 30 mm x 4.5 mm)  Half-Mini Card: Width 1.049 in x Length 1.18 in x Height 0.18 in (26.64 mm x 30 mm x 4.5 mm)
Antenna Interface Connector	Hirose U.FL-R-SMT mates with cable connector U.FL-LP-066
Antenna Diversity	On-board diversity
Connector Interface	52-pin Mini Card edge connector
Voltage	3.3 V
Operating Temperature	0 to +80 degrees Celsius
Humidity	50% to 90% non-condensing (at temperatures of 25 °C to 35 °C)
<b>WiFi</b>	
Frequency Modulation	2.4 GHz (802.11b/g/n)
Frequency band	2.41-2.474 GHz (dependent on country)
Modulation	BPSK, QPSK, 16 QAM, 64 QAM, CCK, DQPSK, DBPSK
Wireless Medium	2.4 GHz ISM: Orthogonal Frequency Division Multiplexing (OFDM)
Channels	Channel 1-11 (US) Channel 1-13 (Japan, Europe) Channels 4 to 12 (Other countries, dependent on country)
IEEE 802.11n Data Rates	300, 270, 243, 240, 180, 150, 144, 135, 130, 120, 117, 115.5, 90, 86.667, 72.2, 65, 60, 57.8, 45, 43.3, 30, 28.9, 21.7, 15, 14.4, 7.2 Mbps
IEEE 802.11g Data Rates	54, 48, 36, 24, 18, 12, 9, 6 Mbps
IEEE 802.11b Data Rates	11, 5.5, 2, 1 Mbps
<b>WiFi General</b>	
Operating Systems	Microsoft Windows* XP (32 and 64 bit) and Windows Vista* (32 and 64 bit)
Wi-Fi Alliance* certification	Wi-Fi* certification for 802.11b, 802.11g, 802.11h, 802.11d, WPA-Personal, WPA-Enterprise, WPA2-Personal, WPA2-Enterprise, WMM, WMM Power Save, EAP-SIM, LEAP, PEAP, TKIP, EAP-FAST, EAP-TLS, EAP-TTLS
Cisco Compatible Extensions certification	Cisco Compatible Extensions, v4.0
WLAN Standard	IEEE 802.11g, 802.11b, 802.11n
Architecture	Infrastructure or ad hoc (peer-to-peer) operating modes

Security	WPA-Personal, WPA2-Personal, WPA-Enterprise, WPA2-Enterprise, 802.1X: EAP-SIM, LEAP, PEAP, EAP-FAST, EAP-TLS, EAP-TTLS, EAP-AKA
Encryption	AES-CCMP 128-bit, WEP 128-bit and 64-bit, CKIP, TKIP
Product Safety	UL, C-UL, CB (IEC 60590)

## Intel® Wireless WiFi Link 4965AGN

Form Factor	PCI Express* Mini Card	
Dimensions	Width 2.00 in x Length 1.18 in x Height 0.18 in (50.95 mm x 30 mm x 4.5 mm)	
Antenna Interface Connector	Hirose U.FL-R-SMT mates with cable connector U.FL-LP-066	
Antenna Diversity	On-board diversity	
Connector Interface	52-pin Mini Card edge connector	
Voltage	3.3 V	
Operating Temperature	0 to +80 degrees Celsius	
Humidity	50% to 95% non-condensing (at temperatures of 25 °C to 35 °C)	
<b>Frequency Modulation</b>	<b>5 GHz (802.11a/n)</b>	<b>2.4 GHz (802.11b/g/n)</b>
Frequency band	5.15 GHz - 5.85 GHz (dependent on country)	2.400 - 2.4835 GHz (dependent on country)
Modulation	BPSK, QPSK, 16 QAM, 64 QAM	CCK, DQPSK, DBPSK
Wireless Medium	5 GHz UNII: Orthogonal Frequency Division Multiplexing (OFDM)	2.4 GHz ISM: Orthogonal Frequency Division Multiplexing (OFDM)
Channels	4 to 12 (dependent on country)	Channel 1-11 (US only) Channel 1-13 (Japan, Europe)
IEEE 802.11n Data Rates	<b>Rx:</b> 300, 270, 243, 240, 180 <b>Rx/Tx:</b> 150, 144, 135, 130, 120, 117, 115.5, 90, 86.667, 72.2, 65, 60, 57.8, 45, 43.3, 30, 28.9, 21.7, 15, 14.4, 7.2	
IEEE 802.11a Data Rates	54, 48, 36, 24, 18, 12, 9, 6 Mbps	
IEEE 802.11g Data Rates	54, 48, 36, 24, 18, 12, 9, 6 Mbps	
IEEE 802.11b Data Rates	11, 5.5, 2, 1 Mbps	
<b>General</b>		
Operating Systems	<ul style="list-style-type: none"> <li>• Microsoft Windows* XP (32-bit and 64-bit)</li> <li>• Windows Vista* (32-bit and 64-bit)</li> </ul>	

	<ul style="list-style-type: none"> <li>Windows* 7 (32-bit and 64-bit)</li> </ul>
Wi-Fi Alliance* certification	Wi-Fi* certification for 802.11b, 802.11g, 802.11a, 802.11h, 802.11d, WPA-Personal, WPA-Enterprise, WPA2-Personal, WPA2-Enterprise, WMM, WMM Power Save, EAP-SIM, LEAP, PEAP, TKIP, EAP-FAST, EAP-TLS, EAP-TTLS, EAP-AKA
Cisco Compatible Extensions certification	Cisco Compatible Extensions, v4.0
WLAN Standard	IEEE 802.11g, 802.11b, 802.11a, 802.11n
Architecture	Infrastructure or ad hoc (peer-to-peer) operating modes
Security	WPA-Personal, WPA2-Personal, WPA-Enterprise, WPA2-Enterprise, AES-CCMP 128-bit, WEP 128-bit and 64-bit; 802.1X: EAP-SIM, LEAP, PEAP, TKIP, EAP-FAST, EAP-TLS, EAP-TTLS, EAP-AKA
Product Safety	UL, C-UL, CB (IEC 60590)

## Intel® Wireless WiFi Link 4965AG\_

This is a version of Intel Wireless WiFi 4965AGN with 8-2.11n capabilities disabled. 802.11n refers to: IEEE P802.11n / D2.0 Draft Amendment to STANDARD [FOR] Information Technology-Telecommunications and information exchange between systems-Local and Metropolitan networks-Specific requirements-Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) specifications: Enhancements for Higher Throughput.

Form Factor	PCI Express Mini Card	
Dimensions	Width 2.00 in x Length 1.18 in x Height 0.18 in (50.95 mm x 30 mm x 4.5 mm)	
Antenna Interface Connector	Hirose U.FL-R-SMT mates with cable connector U.FL-LP-066	
Antenna Diversity	On-board diversity	
Connector Interface	52-pin Mini Card edge connector	
Voltage	3.3 V	
Operating Temperature	0 to +80 degrees Celsius	
Humidity	50% to 95% non-condensing (at temperatures of 25 °C to 35 °C)	
<b>Frequency Modulation</b>	<b>5 GHz (802.11a)</b>	<b>2.4 GHz (802.11b/g)</b>
Frequency band	5.15 GHz - 5.85 GHz (dependent on country)	2.400 - 2.4835 GHz (dependent on country)
Modulation	BPSK, QPSK, 16 QAM, 64 QAM	CCK, DQPSK, DBPSK
Wireless Medium	5 GHz UNII: Orthogonal Frequency Division Multiplexing (OFDM)	2.4 GHz ISM: Orthogonal Frequency Division Multiplexing (OFDM)

Channels	4 to 12 (dependent on country)	Channel 1-11 (US only) Channel 1-13 (Japan, Europe)
IEEE 802.11a Data Rates	54, 48, 36, 24, 18, 12, 9, 6 Mbps	
IEEE 802.11g Data Rates	54, 48, 36, 24, 18, 12, 9, 6 Mbps	
IEEE 802.11b Data Rates	11, 5.5, 2, 1 Mbps	
<b>General</b>		
Operating Systems	<ul style="list-style-type: none"> <li>• Microsoft Windows* XP (32-bit and 64-bit)</li> <li>• Windows Vista* (32-bit and 64-bit)</li> <li>• Windows* 7 (32-bit and 64-bit)</li> </ul>	
Wi-Fi Alliance* certification	Wi-Fi* certification for 802.11b, 802.11g, 802.11a, WPA, WPA2, WMM, EAP-SIM	
Cisco Compatible Extensions certification	Cisco Compatible Extensions, v4.0	
WLAN Standard	IEEE 802.11g, 802.11b, 802.11a	
Architecture	Infrastructure or ad hoc (peer-to-peer) operating modes	
Security	WPA-Personal, WPA2-Personal, WPA-Enterprise, WPA2-Enterprise, AES-CCMP 128-bit, WEP 128-bit and 64-bit; 802.1X: EAP-SIM, LEAP, PEAP, TKIP, EAP-FAST, EAP-TLS, EAP-TTLS, EAP-AKA	
Product Safety	UL, C-UL, CB (IEC 60590)	

## Intel® PRO/Wireless 3945ABG Network Connection

Form Factor	PCI Express Mini Card	
Dimensions	Width 2.00 in x Length 1.18 in x Height 0.18 in (50.95 mm x 30 mm x 4.5 mm)	
Antenna Interface Connector	Hirose U.FL-R-SMT mates with cable connector U.FL-LP-066	
Dual Diversity Antenna	On-board dual diversity switching	
Connector Interface	52-pin Mini Card edge connector	
Voltage	3.3 V	
Operating Temperature	0 to +80 degrees Celsius	
Humidity	50 to 92% non-condensing (at temperatures of 25 °C to 55 °C)	
<b>Frequency Modulation</b>	<b>5 GHz (802.11a)</b>	<b>2.4 GHz (802.11b/g)</b>

Frequency band	5.15 GHz - 5.85 GHz	2.400 - 2.4835 GHz (dependent on country)
Modulation	BPSK, QPSK, 16 QAM, 64 QAM	CCK, DQPSK, DBPSK
Wireless Medium	5 GHz UNII: Orthogonal Frequency Division Multiplexing (OFDM)	2.4 GHz ISM: Orthogonal Frequency Division Multiplexing (OFDM)
Channels	4 to 12 non-overlapping, dependent on country	Channel 1-11 (US only) Channel 1-13 (Japan, Europe)
Data Rates	54, 48, 36, 24, 18, 12, 9, 6 Mbps	11, 5.5, 2, 1 Mbps
<b>General</b>		
Operating Systems	<ul style="list-style-type: none"> <li>• Microsoft Windows* XP (32-bit and 64-bit)</li> <li>• Windows Vista* (32-bit and 64-bit)</li> <li>• Windows* 7 (32-bit and 64-bit)</li> </ul>	
Wi-Fi Alliance* certification	Wi-Fi* certification for 802.11b, 802.11g, 802.11a, 802.11h, 802.11d, WPA-Personal, WPA-Enterprise, WPA2-Personal, WPA2-Enterprise, WMM, WMM Power Save, EAP-SIM, LEAP, PEAP, TKIP, EAP-FAST, EAP-TLS, EAP-TTLS, EAP-AKA	
Cisco Compatible Extensions certification	Cisco Compatible Extensions, v4.0	
WLAN Standard	IEEE 802.11g, 802.11b, 802.11a	
Architecture	Infrastructure or ad hoc (peer-to-peer) operating modes	
Security	WPA-Personal, WPA2-Personal, WPA-Enterprise, WPA2-Enterprise, AES-CCMP 128-bit, WEP 128-bit and 64-bit; 802.1X: EAP-SIM, LEAP, PEAP, TKIP, EAP-FAST, EAP-TLS, EAP-TTLS, EAP-AKA	
Product Safety	UL, C-UL, CB (IEC 60590)	

## Intel® PRO/Wireless 3945BG Network Connection

Form Factor	PCI Express Mini Card
Dimensions	Width 2.00 in x Length 1.18 in x Height 0.18 in (50.95 mm x 30 mm x 4.5 mm)
Antenna Interface Connector	Hirose U.FL-R-SMT mates with cable connector U.FL-LP-066
Dual Diversity Antenna	On-board dual diversity switching
Connector Interface	52-pin Mini Card edge connector
Voltage	3.3 V
Operating Temperature	0 to +80 degrees Celsius
Humidity	50 to 92% non-condensing (at temperatures of 25 °C to 55 °C)
<b>Frequency</b>	<b>2.4 GHz (802.11b/g)</b>

<b>Modulation</b>	
Frequency band	2.400 - 2.4835 GHz (dependent on country)
Modulation	CCK, DQPSK, DBPSK
Wireless Medium	2.4 GHz ISM: Orthogonal Frequency Division Multiplexing (OFDM)
Channels	Channel 1-11 (US only) Channel 1-13 (Japan, Europe)
IEEE 802.11g Data Rates	54, 48, 36, 24, 18, 12, 9, 6, 5.5, 2, 1 Mbps
IEEE 802.11g Data Rates	11, 5.5, 2, 1 Mbps
<b>General</b>	
Operating Systems	<ul style="list-style-type: none"> <li>• Microsoft Windows* XP (32-bit and 64-bit)</li> <li>• Windows Vista* (32-bit and 64-bit)</li> <li>• Windows* 7 (32-bit and 64-bit)</li> </ul>
Wi-Fi Alliance* certification	Wi-Fi* certification for 802.11b, 802.11g, WPA, WPA2, WMM, EAP-SIM, LEAP, PEAP, TKIP, EAP-FAST, EAP-TLS, EAP-TTLS, EAP-AKA
Cisco Compatible Extensions certification	Cisco Compatible Extensions, v4.0
WLAN Standard	IEEE 802.11g, 802.11b
Architecture	Infrastructure or ad hoc (peer-to-peer) operating modes
Security	WPA-Personal, WPA2-Personal, WPA-Enterprise, WPA2-Enterprise, AES-CCMP 128-bit, WEP 128-bit and 64-bit; 802.1X: EAP-SIM, LEAP, PEAP, TKIP, EAP-FAST, EAP-TLS, EAP-TTLS, EAP-AKA
Product Safety	UL, C-UL, CB (IEC 60590)

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## Warranty

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### Product Warranty Information

#### One-Year Limited Hardware Warranty

#### Limited Warranty

In this warranty statement, the term "Product" applies to the following devices:

- Intel® Centrino® Ultimate-N 6350
- Intel® Centrino® Ultimate-N 6300
- Intel® Centrino® Advanced-N + WiMAX 6250
- Intel® Centrino® Advanced-N 6230
- Intel® Centrino® Advanced-N 6205

- Intel® Centrino® Advanced-N 6200
- Intel® Centrino® Wireless-N + WiMAX 6150
- Intel® WiFi Link 5300
- Intel® WiMAX/WiFi Link 5150
- Intel® WiFi Link 5100
- Intel® WiFi Link 1000
- Intel® Wireless WiFi Link 4965AGN
- Intel® Wireless WiFi Link 4965AG\_
- Intel® PRO/Wireless 3945ABG Network Connection
- Intel® PRO/Wireless 3945\_BG Network Connection

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- **REPLACE** the Product with another product, OR, if Intel is unable to repair or replace the Product,
- **REFUND** the then-current Intel price for the Product at the time a claim for warranty service is made to Intel under this Limited Warranty.

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**WEEE**



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## Online Support

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## Important Information

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- [Safety Information](#)
  - [Third Party Software Notices](#)
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## Safety Information

It is important that you read the safety information regarding your WiFi adapter. Please see the **User's Guide** for safety and regulatory notices.

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## **zlib.h -- interface of the 'zlib' general purpose compression library, version 1.2.3, July 18th, 2005**

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Mark Adler madler@alumni.caltech.edu

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## Adapter Driver

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Issue Date: 29/07/2002

This file contains the definitions required to use AES (Rijndael) in C.

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## Glossary of Terms

Term	Definition
802.11	The 802.11 standard refers to a family of specifications developed by the IEEE for wireless LAN technology. The 802.11 specifies an over-the-air interface between a wireless client and a base station or between two wireless clients and provides 1 or 2 Mbps transmission in the 2.4 GHz band using either frequency hopping spread spectrum (FHSS) or direct sequence spread spectrum (DSSS).
802.11a	The 802.11a standard specifies a maximum data transfer rate of 54 Mbps and an operating frequency of 5 GHz. The 802.11a standard uses the Orthogonal Frequency Division Multiplexing (OFDM) transmission method. Additionally, the 802.11a standard supports 802.11 features such as WEP encryption for security.
802.11b	802.11b is an extension to 802.11 that applies to wireless networks and provides 11 Mbps transmission (with a fallback to 5.5, 2 and 1 Mbps) in the 2.4 GHz band. 802.11b uses only DSSS. Throughput data rate 5+ Mbps in the 2.4 GHz band.

802.11g	The 802.11g standard specifies a maximum data transfer rate of 54 Mbps, an operating frequency of 2.4GHz, and WEP encryption for security. 802.11g networks are also referred to as Wi-Fi* networks.
802.11n	A task group of the IEEE 802.11 committee has defined a new draft specification that provides for increased throughput speeds of up to 540 Mbps. The specification provides for Multiple-Input-Multiple-Output (MIMO) technology, or using multiple receivers and multiple transmitters in both the client and access point, to achieve improved performance. The specification is expected to be approved in the late 2008 timeframe.
802.1X	802.1X is the IEEE Standard for Port-Based Network Access Control. This is used in conjunction with EAP methods to provide access control to wired and wireless networks.
AAA Server	Authentication, Authorization and Accounting Server. A system to control access to computer resources and track user activity.
Access Point (AP)	A device that connects wireless devices to another network. For example, a wireless LAN, Internet modem or others.
Ad Hoc Network	A communication configuration in which every computer has the same capabilities, and any computer can initiate a communication session. Also known as a peer-to-peer network, a device to device network or a computer-to-computer network.
AES-CCMP	Advanced Encryption Standard - Counter CBC-MAC Protocol is the new method for privacy protection of wireless transmissions specified in the IEEE 802.11i standard. AES-CCMP provides a stronger encryption method than TKIP. The AES algorithm is capable of using cryptographic keys of 128, 192, and 256 bits to encrypt and decrypt data in 128-bit blocks. AES-CCMP uses the AES block cipher, but restricts the key length to 128 bits. AES-CCMP incorporates two sophisticated cryptographic techniques (counter mode and CBC-MAC) to provide improved security between the mobile client and the access point.
Authentication	Verifies the identity of a user logging onto a network. Passwords, digital certificates, smart cards and biometrics are used to prove the identity of the client to the network. Passwords and digital certificates are also used to identify the network to the client.
Available network	One of the networks listed under Available networks on the Wireless Networks tab of the Wireless Network Connection Properties (Windows* XP environment). Any wireless network that is broadcasting and is within receiving range of the WiFi adapter appears on the list.
BER	Bit Error Rate. The ratio of errors to the total number of bits being sent in a data transmission from one location to another.
Bit Rate	The total number of bits (ones and zeros) per second that a network connection can support. Note that this bit rate will vary, under software control, with different signal path conditions.
Broadcast SSID	Used to allow an access point to respond to clients on a wireless network by sending probes.
BSSID	A unique identifier for each wireless client on a wireless network. The



	Basic Service Set Identifier (BSSID) is the Ethernet MAC address of each adapter on the network.
CA (Certificate Authority)	A corporate certification authority implemented on a server. In addition, Internet Explorer's certificate can import a certificate from a file. A trusted CA certificate is stored in the root store.
CCX (Cisco Compatible eXtension)	Cisco Compatible Extensions Program ensures that devices used on Cisco wireless LAN infrastructure meet the security, management and roaming requirements.
Certificate	Used for client authentication. A certificate is registered on the authentication server (for example, RADIUS server) and used by the authenticator.
CKIP	Cisco Key Integrity Protocol (CKIP) is a Cisco proprietary security protocol for encryption in 802.11 media. CKIP uses a key message integrity check and message sequence number to improve 802.11 security in infrastructure mode. CKIP is Cisco's version of TKIP.
Client computer	The computer that gets its Internet connection by sharing either the host computer's connection or the access point's connection.
DSSS	Direct Sequence Spread Spectrum. Technology used in radio transmission. Incompatible with FHSS.
EAP	Short for Extensible Authentication Protocol, EAP sits inside of Point-to-Point Protocol's (PPP) authentication protocol and provides a generalized framework for several different authentication methods. EAP is supposed to head off proprietary authentication systems and let everything from passwords to challenge-response tokens and public-key infrastructure certificates all work smoothly.
EAP-AKA	EAP-AKA (Extensible Authentication Protocol Method for UMTS Authentication and Key Agreement) is an EAP mechanism for authentication and session key distribution, using the Universal Mobile Telecommunications System (UMTS) Subscriber Identity Module (USIM). The USIM card is a special smart card used with cellular networks to validate a given user with the network.
EAP-FAST	<p>EAP-FAST, like EAP-TTLS and PEAP, uses tunneling to protect traffic. The main difference is that EAP-FAST does not use certificates to authenticate.</p> <p>Provisioning in EAP-FAST is negotiated solely by the client as the first communication exchange when EAP-FAST is requested from the server. If the client does not have a pre-shared secret Protected Access Credential (PAC), it can request to initiate a provisioning EAP-FAST exchange to dynamically obtain one from the server.</p> <p>EAP-FAST documents two methods to deliver the PAC: manual delivery through an out-of-band secure mechanism, and automatic provisioning.</p> <ul style="list-style-type: none"> <li>• Manual delivery mechanisms can be any delivery mechanism that the administrator of the network feels is sufficiently secure for their network.</li> </ul>

	<ul style="list-style-type: none"> <li>Automatic provisioning establishes an encrypted tunnel to protect the authentication of the client and the delivery of the PAC to the client. This mechanism, while not as secure as a manual method may be, is more secure than the authentication method used in LEAP.</li> </ul> <p>The EAP-FAST method can be divided into two parts: provisioning, and authentication. The provisioning phase involves the initial delivery of the PAC to the client. This phase only needs to be performed once per client and user.</p>
EAP-GTC	The EAP-GTC (Generic Token Card) is similar to the EAP-OTP except with hardware token cards. The request contains a displayable message, and the response contains the string read from the hardware token card.
EAP-OTP	EAP-OTP (One-Time Password) is similar to MD5, except it uses the OTP as the response. The request contains a displayable message. The OTP method is defined in RFC 2289.
EAP-SIM	<p>Extensible Authentication Protocol-Subscriber Identity Module (EAP-SIM) authentication can be used with:</p> <ul style="list-style-type: none"> <li>Network Authentication types: Open, Shared, and WPA*-Enterprise, WPA2*-Enterprise.</li> <li>Data Encryption types: None, WEP and CKIP.</li> </ul> <p>A SIM card is a special smart card that is used by Global System for Mobile Communications (GSM) based digital cellular networks. The SIM card is used to validate your credentials with the network</p>
EAP-TLS	A type of authentication method that uses EAP and a security protocol called the Transport Layer Security (TLS). EAP-TLS uses certificates that use passwords. EAP-TLS authentication supports dynamic WEP key management.
EAP-TTLS	A type of authentication method that uses EAP and Tunneled Transport Layer Security (TTLS). EAP-TTLS uses a combination of certificates and another security method such as passwords.
Encryption	Scrambling data so that only the authorized recipient can read it. Usually a key is needed to interpret the data.
FHSS	Frequency-Hop Spread Spectrum. Technology used in radio transmission. Incompatible with DSSS.
File and printer sharing	A capability that allows a number of people to view, modify, and print the same file(s) from different computers.
Fragmentation threshold	The threshold at which the wireless adapter breaks the packet into multiple frames. This determines the packet size and affects the throughput of the transmission.
GHz (Gigahertz)	A unit of frequency equal to 1,000,000,000 cycles per second.
Host computer	The computer that is directly connected to the Internet via a modem or network adapter.
Infrastructure	A wireless network centered around an access point. In this

network	environment, the access point not only provides communication with the wired network, but also mediates wireless network traffic in the immediate neighborhood.
IEEE	Institute of Electrical and Electronics Engineers (IEEE) is an organization involved in defining computing and communications standards.
Internet Protocol (IP) address	The address of a computer that is attached to a network. Part of the address designates which network the computer is on, and the other part represents the host identification.
LAN (Local Area Network)	A high-speed, low-error data network covering a relatively small geographic area.
LEAP (Light Extensible Authentication Protocol)	A version of Extensible Authentication Protocol (EAP). LEAP is a proprietary extensible authentication protocol developed by Cisco that provides a challenge-response authentication mechanism and dynamic key assignment.
MAC (Media Access Control) Address	A hardwired address applied at the factory. It uniquely identifies network hardware, such as a wireless adapter, on a LAN or WAN.
Mbps (Megabits-per-second)	Transmission speed of 1,000,000 bits per second.
MHz (Megahertz)	A unit of frequency equal to 1,000,000 cycles per second.
MIC (Michael)	Message Integrity Check (commonly called Michael).
MS-CHAP	An EAP mechanism used by the client. Microsoft Challenge Authentication Protocol (MS-CHAP) Version 2, is used over an encrypted channel to enable server validation. The challenge and response packets are sent over a non-exposed TLS encrypted channel.
ns(Nanosecond)	1 billionth (1/1,000,000,000) of a second.
OFDM	Orthogonal Frequency Division Multiplexing.
Open authentication	Allows any device network access. If encryption is not enabled on the network, any device that knows the Service Set Identifier (SSID) of the access point can gain access to the network.
PEAP	Protected Extensible Authentication Protocol (PEAP) is an Internet Engineering Task Force (IETF) draft protocol sponsored by Microsoft, Cisco, and RSA Security. PEAP creates an encrypted tunnel similar to the tunnel used in secure web pages (SSL). Inside the encrypted tunnel, a number of other EAP authentication methods can be used to perform client authentication. PEAP requires a TLS certificate on the RADIUS server, but unlike EAP-TLS there is no requirement to have a certificate on the client. PEAP has not been ratified by the IETF. The IETF is currently comparing PEAP and TTLS (Tunneled TLS) to determine an authentication standard for 802.1X authentication in 802.11 wireless systems. PEAP is an authentication type designed to take advantage of server-side EAP-Transport Layer Security (EAP-TLS) and to support various authentication methods, including user passwords and one-time passwords, and Generic Token Cards.
Peer-to-Peer mode	A wireless network structure that allows wireless clients to communicate directly with each other without using an access point.

Power save mode	The state in which the radio is periodically powered down to conserve power. When the portable computer is in Power Save mode, received packets are stored in the access point until the wireless adapter wakes up.
Preferred network	One of the networks that has been configured. Such networks are listed under Preferred networks on the Wireless Networks tab of the Wireless Network Connection Properties (Windows* XP environment).
RADIUS (Remote Authentication Dial-In User Service)	RADIUS is an authentication and accounting system that verifies user's credentials and grants access to requested resources.
RF (Radio Frequency)	The international unit for measuring frequency is Hertz (Hz), which is equivalent to the older unit of cycles per second. One MegaHertz (MHz) is one million Hertz. One GigaHertz (GHz) is one billion Hertz. For reference: the standard US electrical power frequency is 60 Hz, the AM broadcast radio frequency band is 0.55 -1.6 MHz, the FM broadcast radio frequency band is 88-108 MHz, and microwave ovens typically operate at 2.45 GHz.
Roaming	Movement of a wireless node between two micro cells. Roaming usually occurs in infrastructure networks built around multiple access points. Current wireless network roaming is only supported in the same subnet of a network.
RTS threshold	The number of frames in the data packet at or above which an RTS/CTS (request to send/clear to send) handshake is turned on before the packet is sent. The default value is 2347.
Shared key	An encryption key known only to the receiver and sender of data. This is also referred to as a pre-shared key.
SIM (Subscriber Identity Module)	A SIM card is used to validate credentials with the network. A SIM card is a special smart card used by GSM-based digital cellular networks.
Silent mode	Silent Mode Access Points or Wireless Routers have been configured to not broadcast the SSID for the wireless network. This makes it necessary to know the SSID in order to configure the wireless profile to connect to the access point or wireless router.
Single Sign On	Single Sign On feature set allows the 802.1X credentials to match your Windows log on user name and password credentials for wireless network connections.
SSID (Service Set Identifier)	SSID or network name is a value that controls access to a wireless network. The SSID for your wireless network card must match the SSID for any access point that you want to connect with. If the value does not match, you are not granted access to the network. Each SSID may be up to 32 alphanumeric characters long and is case-sensitive.
stealth	A stealth access point is one that has the capability and is configured to not broadcast its SSID. This is the WiFi network name that appears when a DMU (Device Management Utility, such as Intel® PROSet/Wireless WiFi Connection Utility) scans for available wireless networks. Although this can enhance wireless network security, it is

	commonly considered a weak security feature. To connect to a stealth access point, a user must specifically know the SSID and configure their DMU accordingly. The feature is not a part of the 802.11 specification, and is known by differing names by various vendors: closed mode, private network, SSID broadcasting.
TKIP (Temporal Key Integrity Protocol)	Temporal Key Integrity protocol improves data encryption. Wi-Fi Protected Access* uses its TKIP. TKIP provides important data encryption enhancements including a re-keying method. TKIP is part of the IEEE 802.11i encryption standard for wireless networks. TKIP is the next generation of WEP, the Wired Equivalency Protocol, which is used to secure 802.11 wireless networks. TKIP provides per packet key mixing, a message integrity check and a re-keying mechanism, thus fixing the flaws of WEP.
TLS (Transport Layer Security)	A type of authentication method using the Extensible Authentication Protocol (EAP) and a security protocol called the Transport Layer Security (TLS). EAP-TLS uses certificates which use passwords. EAP-TLS authentication supports dynamic WEP key management. The TLS protocol is intended to secure and authenticate communications across a public network through data encryption. The TLS Handshake Protocol allows the server and client to provide mutual authentication and to negotiate an encryption algorithm and cryptographic keys before data is transmitted.
TTLS (Tunneled Transport Layer Security)	These settings define the protocol and the credentials used to authenticate a user. In TTLS, the client uses EAP-TLS to validate the server and create a TLS-encrypted channel between the client and server. The client can use another authentication protocol. Typically password-based protocols challenge over this encrypted channel to enable server validation. The challenge and response packets are sent over a non-exposed TLS encrypted channel. TTLS implementations today support all methods defined by EAP, as well as several older methods (CHAP, PAP, MS-CHAP and MS-CHAP-V2). TTLS can easily be extended to work with new protocols by defining new attributes to support new protocols.
WEP (Wired Equivalent Privacy)	Wired Equivalent Privacy, 64- and 128-bit (64-bit is sometimes referred to as 40-bit). This is a low-level encryption technique designed to give the user about the same amount of privacy that he would expect from a LAN. WEP is a security protocol for wireless local area networks (WLANs) defined in the 802.11b standard. WEP is designed to provide the same level of security as that of a wired LAN. WEP aims to provide security by data over radio waves so that it is protected as it is transmitted from one end point to another.
WEP Key	Either a pass phrase or hexadecimal key. The pass phrase must be 5 ASCII characters for 64-bit WEP or 13 ASCII characters for 128-bit WEP. For pass phrases, 0-9, a-z, A-Z, and ~!@#\$%^&*()_+ `-={} []\:"';'<>?,./ are all valid characters. The hex key must be 10 hexadecimal characters (0-9, A-F) for 64-bit WEP or 26 hexadecimal characters (0-9, A-F) for 128-bit WEP.
Wi-Fi* (Wireless Fidelity)	Is meant to be used generically when referring of any type to 802.11 network, whether 802.11b, 802.11a, or dual-band.
WiMAX	WiMAX, the Worldwide Interoperability for Microwave Access, is a

	telecommunications technology aimed at providing wireless data over long distances in a variety of ways, from point-to-point links to full mobile cellular type access. It is based on the IEEE 802.16 standard. The name WiMAX was created by the WiMAX Forum, which was formed in June 2001 to promote conformance and interoperability of the standard. The forum describes WiMAX as "a standards-based technology enabling the delivery of last mile wireless broadband access as an alternative to cable and DSL."
Wireless router	A stand-alone wireless hub that allows any computer that has a wireless network adapter to communicate with another computer within the same network and to connect to the Internet.
WLAN (Wireless Local-Area Network)	A type of local-area network that uses high-frequency radio waves rather than wires to communicate between nodes.
WPA* (Wi-Fi Protected Access)	This is a security enhancement that strongly increases the level of data protection and access control to a wireless network. WPA is an interim standard that will be replaced with the IEEE's 802.11i standard upon its completion. WPA consists of RC4 and TKIP and provides support for BSS (Infrastructure) mode only. WPA and WPA2 are compatible.
WPA2* (Wi-Fi Protected Access 2)	This is the second generation of WPA that complies with the IEEE TGI specification. WPA2 consists of AES encryption, pre-authentication and PMKID caching. It provides support for BSS (Infrastructure) mode and IBSS (ad hoc) mode. WPA and WPA2 are compatible.
WPA-Enterprise	<p>Wi-Fi Protected Access-Enterprise applies to corporate users. A new standards-based, interoperable security technology for wireless LAN (subset of IEEE 802.11i draft standard) that encrypts data sent over radio waves. WPA is a Wi-Fi standard that was designed to improve upon the security features of WEP as follows:</p> <ul style="list-style-type: none"> <li>• Improved data encryption through the temporal key integrity protocol (TKIP). TKIP uses a hashing algorithm to scramble the encryption keys and adds an integrity-checking feature to ensure that the keys have not been tampered with.</li> <li>• User authentication, which is generally missing in WEP, through the extensible authentication protocol (EAP). WEP regulates access to a wireless network based on a computer's hardware-specific MAC address, which is relatively simple to be sniffed out and stolen. EAP is built on a more secure public-key encryption system to ensure that only authorized network users can access the network.</li> </ul> <p>WPA is an interim standard that will be replaced with the IEEE's 802.11i standard upon its completion.</p>
WPA-Personal	Wi-Fi Protected Access-Personal provides a level of security in the small network or home environment.
WPA-PSK (Wi-Fi Protected-Access Pre-Shared Key)	WPA-PSK mode does not use an authentication server. It can be used with the data encryption types WEP or TKIP. WPA-PSK requires configuration of a pre-shared key (PSK). You must enter a pass phrase or 64 hex characters for a pre-shared key of length 256-bits.

	The data encryption key is derived from the PSK.
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