User's Manual

 The attachment is the regulatory notices related to the FCC Part 15C and IC RSS-210 drawn from the user's manual of the Model WM3B2200BG (Intel PRO/Wireless 2200BG Mini-PCI Adapter).

 Please see pages 1 and 9 through 15 for the related portion to the FCC rule concerning the applying LMA transmitter module.

Prepared by T. Murota

Product warranty and notices for Model WM3B2200BG (Intel PRO/Wireless 2200BG Mini-PCI Adapter from IBM)

Intel® PRO/Wireless 2200BG Mini-PCI Adapter from IBM® is supported for use with the following IBM ThinkPad® series:

- IBM ThinkPad R50 Series
- IBM ThinkPad T40 Series
- IBM ThinkPad X40 Series
- IBM ThinkPad X30 Series (X31)

For information concerning series and models announced after the publication of this notice, visit the Web site at www.ibm.com/pc/qtechinfo/MIGR-53286.html

Read first – Regulatory information

Note: To use Intel PRO/Wireless 2200BG Mini-PCI Adapter from IBM, a special type of BIOS, called "BIOS Lock," must be installed on your ThinkPad computer. The "BIOS Lock" will function only on the authorized models named above.

Intel PRO/Wireless 2200BG Mini-PCI Adapter from IBM marketed in US and Canada does not support nor function in the extended channels (12ch, 13ch).

The Intel PRO/Wireless 2200BG Mini-PCI Adapter from IBM complies with the radio frequency and safety standards of any country or region in which it has been approved for wireless use. You are requested to install it and use your ThinkPad computer with this adapter in strict accordance with the instructions as described in the "Wireless regulatory notice" on page 9.

Read first – Safety information

Before installing this product, read the Safety Information.

مج، يجب قراءة دات السلامة

Antes de instalar este produto, leia as Informações de Segurança.

在安装本产品之前，请仔细阅读 Safety Information
(安全信息)。

Prije instalacije ovog produkta obavezno pročitajte Sigurnosne Upute.

Před instalací tohoto produktu si přečtěte příručku bezpečnostních instrukcí.

Læs sikkerhedsforskrifterne, før du installerer dette produkt.

Ennen kuin asennat tämän tuotteen, lue turvaohjeet kohdasta Safety Information.

Avant d'installer ce produit, lisez les consignes de sécurité.

Vor der Installation dieses Produkts die Sicherheitshinweise lesen.

Πριν εγκαταστήσετε το προϊόν αυτό, διαβάστε τις πληροφορίες ασφάλειας
(safety information).

לפני שתתקינו מוצר זה, קראו את הוראות הבטיחות.

A termék telepítése előtt olvassa el a Biztonsági előírásokat!

Prima di installare questo prodotto, leggere le Informazioni sulla Sicurezza.

製品の設置の前に、安全情報をお読みください。

본 제품을 설치하기 전에 안전 정보를 읽으십시오.

Пред да се инсталира овој продукт, прочитајте информацијата за безбедност.

Lees voordat u dit product installeert eerst de veiligheidsvoorschriften.

Les sikkerhetsinformasjonen (Safety Information) før du installerer dette produktet.

Przed zainstalowaniem tego produktu, należy zapoznać się
z książką "Informacje dotyczące bezpieczeństwa" (Safety Information).

Antes de instalar este produto, leia as Informações sobre Segurança.

Перед установкой продукта прочтите инструкции по
технике безопасности.

Pred inštaláciou tohto zariadenia si pečítaje Bezpečnostné predpisy.

Pred namestitvijo tega proizvoda preberite Varnostne informacije.

Antes de instalar este producto lea la información de seguridad.

Läs säkerhetsinformationen innan du installerar den här produkten.

安裝本產品之前，請先閱讀「安全資訊」。

General safety guidelines

Always observe the following precautions to reduce the risk of injury and property damage.

Service

Do not attempt to service a product yourself unless instructed to do so by the IBM Support Center. Use only an IBM authorized service provider who is approved to repair your particular product.

Note: Some parts can be upgraded or replaced by the customer. These parts are referred to as Customer Replaceable Units, or CRUs. IBM expressly identifies CRUs as such, and provides documentation with instructions when it is appropriate for customers to replace those parts. You must closely follow all instructions when performing such replacements. Always make sure that the power is turned off and that the product is unplugged from any power source before you attempt the replacement. If you have any questions or concerns, contact the IBM Support Center.

Power cords and power adapters

Use only the power cords and power adapters supplied by the product manufacturer.

Never wrap a power cord around the power adapter or other object. Doing so can stress the cord in ways that can cause the cord to fray, crack or crimp. This can present a safety hazard.

Always route power cords so that they will not be walked on, tripped over, or pinched by objects.

Protect the cord and power adapters from liquids. For instance, do not leave your cord or power adapter near sinks, tubs, toilets, or on floors that are cleaned with liquid cleansers. Liquids can cause a short circuit, particularly if the cord or power adapter has been stressed by misuse. Liquids can also cause gradual corrosion of the power cord terminals and/or the connector terminals on the adapter which can eventually result in overheating.

Always connect power cords and signal cables in the correct order and ensure that all power cord connectors are securely and completely plugged into receptacles.

Do not use any power adapter that shows corrosion at the ac input pins and/or shows signs of overheating (such as deformed plastic) at the ac input or anywhere on the power adapter.

Do not use any power cords where the electrical contacts on either end show signs of corrosion or overheating or where the power cord appears to have been damaged in any way.

Extension cords and related devices
Ensure that extension cords, surge protectors, uninterruptible power supplies, and power strips that you use are rated to handle the electrical requirements of the product. Never overload these devices. If power strips are used, the load should not exceed the power strip input rating. Consult an electrician for more information if you have questions about power loads, power requirements, and input ratings.

Plugs and outlets
If a receptacle (power outlet) that you intend to use with your computer equipment appears to be damaged or corroded, do not use the outlet until it is replaced by a qualified electrician.

Do not bend or modify the plug. If the plug is damaged, contact the manufacturer to obtain a replacement.

Some products are equipped with a three-pronged plug. This plug fits only into a grounded electrical outlet. This is a safety feature. Do not defeat this safety feature by trying to insert it into a non-grounded outlet. If you cannot insert the plug into the outlet, contact an electrician for an approved outlet adapter or to replace the outlet with one that enables this safety feature. Never overload an electrical outlet. The overall system load should not exceed 80 percent of the branch circuit rating. Consult an electrician for more information if you have questions about power loads and branch circuit ratings.

Be sure that the power outlet you are using is properly wired, easily accessible, and located close to the equipment. Do not fully extend power cords in a way that will stress the cords.

Connect and disconnect the equipment from the electrical outlet carefully

Batteries
All IBM personal computers contain a non-rechargeable coin cell battery to provide power to the system clock. In addition many mobile products such as ThinkPad notebook PCs utilize a rechargeable battery pack to provide system power when in portable mode. Batteries supplied by IBM for use with your product have been tested for compatibility and should only be replaced with IBM approved parts.

Never attempt to open or service any battery. Do not crush, puncture, or incinerate batteries or short circuit the metal contacts. Do not expose the

battery to water or other liquids. Only recharge the battery pack strictly according to instructions included in the product documentation.

Battery abuse or mishandling can cause the battery to overheat, which can cause gasses or flame to "vent" from the battery pack or coin cell. If your battery is damaged, or if you notice any discharge from your battery or the buildup of foreign materials on the battery leads, stop using the battery and obtain a replacement from the battery manufacturer.

Batteries can degrade when they are left unused for long periods of time. For some rechargeable batteries (particularly Lithium Ion batteries), leaving a battery unused in a discharged state could increase the risk of a battery short circuit, which could shorten the life of the battery and can also pose a safety hazard. Do not let rechargeable Lithium-Ion batteries completely discharge or store these batteries in a discharged state.

Heat and product ventilation

Computers generate heat when turned on and when batteries are charging. Notebook PCs can generate a significant amount of heat due to their compact size. Always follow these basic precautions:

- Do not leave the base of your computer in contact with your lap or any part of your body for an extended period when the computer is functioning or when the battery is charging. Your computer produces some heat during normal operation. Extended contact with the body could cause discomfort or, potentially, a skin burn.
- Do not operate your computer or charge the battery near flammable materials or in explosive environments.
- Ventilation slots, fans and/or heat sinks are provided with the product for safety, comfort, and reliable operation. These features might inadvertently become blocked by placing the product on a bed, sofa, carpet, or other flexible surface. Never block, cover or disable these features.

CD and DVD drive safety

CD and DVD drives spin discs at a high speed. If a CD or DVD is cracked or otherwise physically damaged, it is possible for the disc to break apart or even shatter when the CD drive is in use. To protect against possible injury due to this situation, and to reduce the risk of damage to your machine, do the following:

- Always store CD/DVD discs in their original packaging
- Always store CD/DVD discs out of direct sunlight and away from direct heat sources
- Remove CD/DVD discs from the computer when not in use
- Do not bend or flex CD/DVD discs, or force them into the computer or their packaging

- Check CD/DVD discs for cracks before each use. Do not use cracked or damaged discs

Wireless related information

Wireless interoperability

Wireless LAN Mini-PCI Adapter is designed to be interoperable with any wireless LAN product that is based on Direct Sequence Spread Spectrum (DSSS) and/or Orthogonal Frequency Division Multiplexing (OFDM) radio technology, and is compliant to:

- The IEEE 802.11b/g Standard on Wireless LANs, as defined and approved by the Institute of Electrical and Electronics Engineers.
- The Wireless Fidelity (WiFi) certification as defined by the WECA (Wireless Ethernet Compatibility Alliance).

Usage environment and your health

Wireless LAN Mini-PCI Adapter emits radio frequency electromagnetic energy like other radio devices. However, the level of energy emitted is much less than the electromagnetic energy emitted by wireless devices such as a cell phone.

Because Wireless LAN Mini-PCI Adapter operates within the guidelines found in radio frequency safety standards and recommendations, IBM believes Wireless LAN Mini-PCI Adapter is safe for use by consumers. 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 Wireless LAN Mini-PCI Adapter Card may be restricted by the proprietor of the building or responsible representatives of the organization. These situations may include:

- Using the integrated Wireless LAN Mini-PC1 Adapter on board of airplanes, or in hospitals
- In any other environment where the risk of interference to other devices or services is perceived or identified as harmful.

If you are uncertain of the policy that applies on the use of wireless devices in a specific organization (e.g. airport or hospital), you are encouraged to ask for authorization to use Wireless LAN Mini-PCI Adapter prior to turning on the ThinkPad computer.

Wireless regulatory notice

USA—Federal Communications Commission (FCC)

The Model WM3B2200BG (Intel PRO/Wireless 2200BG Mini-PCI Adapter from IBM, FCC ID: ANO20040501CX2) complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:
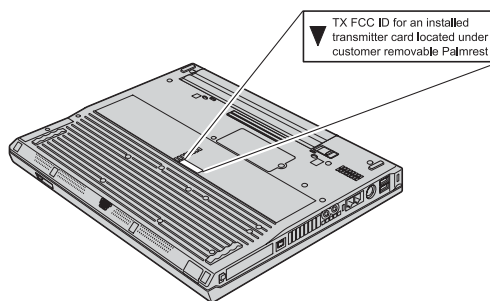
1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.
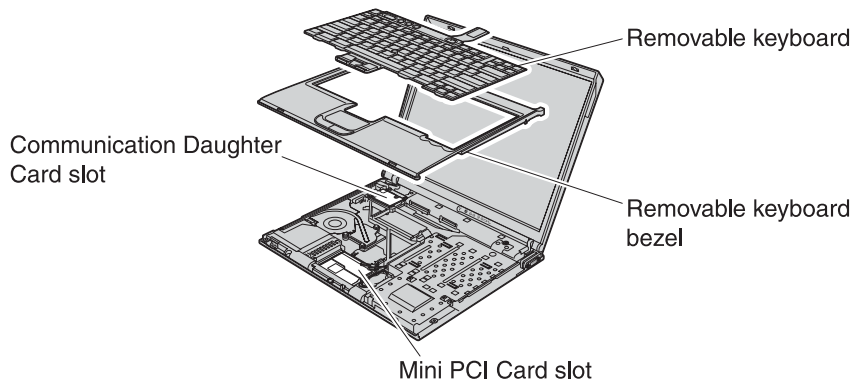
i) FCC ID and installation

This adapter is a user installable wireless LAN Mini-PCI Card. Your ThinkPad computer into which you can plug the card has no FCC ID on its enclosure. Instead, you will find an indicator pointing the location of the FCC ID at the bottom side of your ThinkPad computer as shown below. The FCC ID is affixed on the adapter installed in the Mini-PCI Card slot.
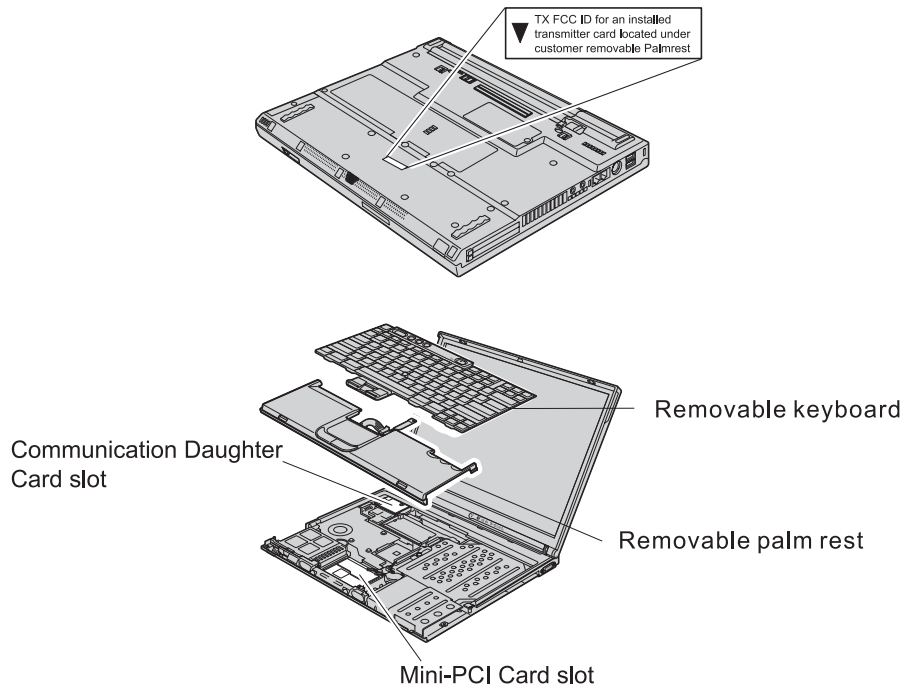
If no integrated wireless LAN Mini-PCI Card has been preinstalled in your ThinkPad computer, you can install one provided by IBM as an option. Please plug the option wireless card into the Mini-PCI Card slot as shown below.
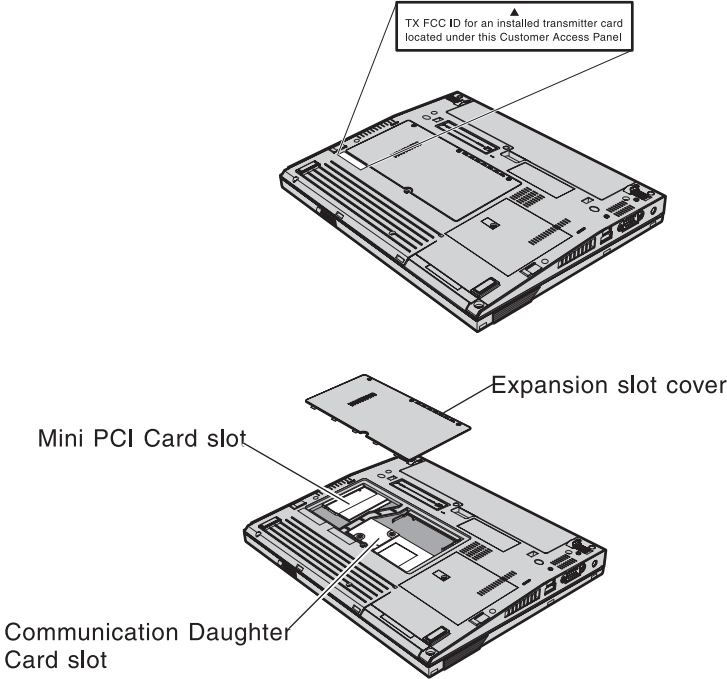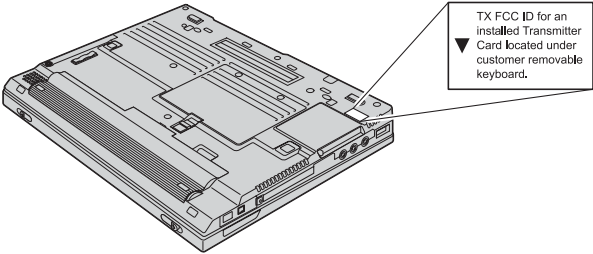
IBM ThinkPad R50 Series

TX FCC ID for an installed transmitter card located under customer removable Palmrest

Removable keyboard

Communication Daughter
Card slot

Removable keyboard
bezel

Mini PCI Card slot

IBM ThinkPad T40 Series

TX FCC ID for an installed
transmitter card located under
customer removable Palmrest

Removable keyboard

Communication Daughter
Card slot

Removable palm rest

Mini-PCI Card slot

IBM ThinkPad X40 Series

TX FCC ID for an installed transmitter card located under this Customer Access Panel

Expansion slot cover

Mini PCI Card slot

Communication Daughter Card slot

IBM ThinkPad X30 Series

TX FCC ID for an installed Transmitter Card located under customer removable keyboard.

Mini-PCI Card slot

Removable keyboard

Communication Daughter
Card slot
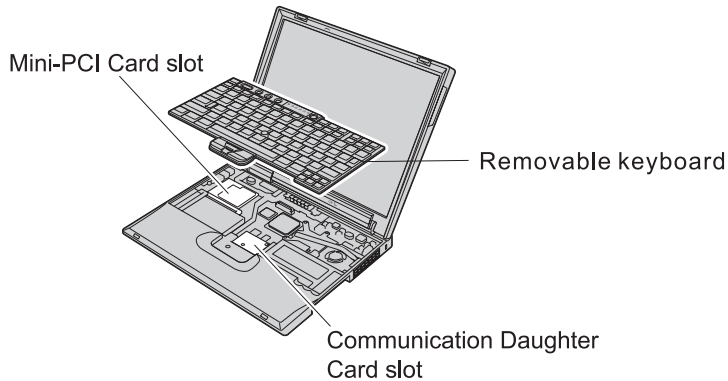
**Attention: The specified ThinkPad computers contain an authentication
mechanism**
To use Intel PRO/Wireless 2200BG Mini-PCI Adapter from IBM, your
ThinkPad computer must be an authorized model on which a special type of
BIOS, called "BIOS Lock," is installed. Refer to page 1 for the available host
PC.

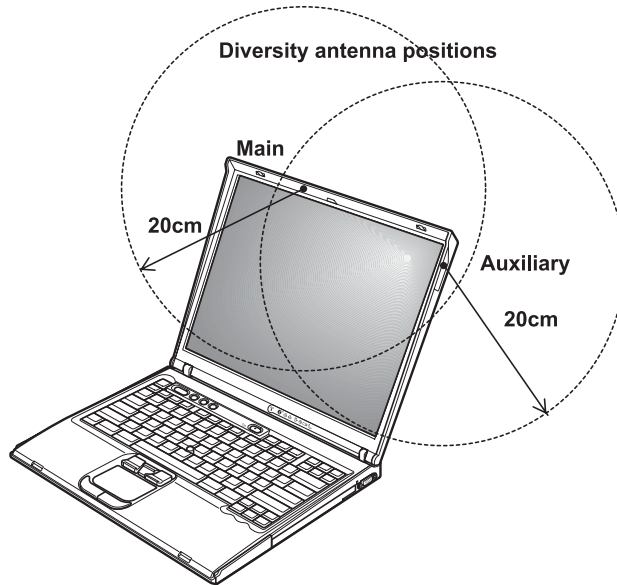**ii) The FCC RF safety requirement**

The radiated output power of the wireless LAN Mini-PCI Card is far below
the FCC radio frequency exposure limits. Nevertheless, you need to use it in
such a manner that the potential for human contact during normal operation
is minimized as follows:

**Caution: To comply with FCC RF exposure compliance requirements, a
separation distance of at least 20 cm (8 inches) must be maintained between
all persons and the antennas built-in to the screen section for the integrated
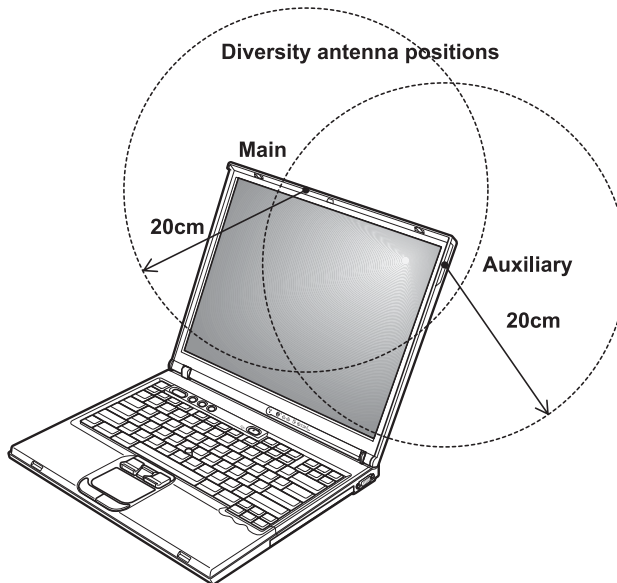Wireless LAN Mini-PCI Card.**
**You are not allowed to disable "Stand-by mode" for the power management
function, if you can't maintain the sufficient antenna separation (at least 20
cm) in any case the LCD is left opened or closed.**

Note: The transmission diversity function is implemented for the Card. The
function does not emit radio frequencies simultaneously from both
antennas. One of the antennas is selected automatically or manually (by
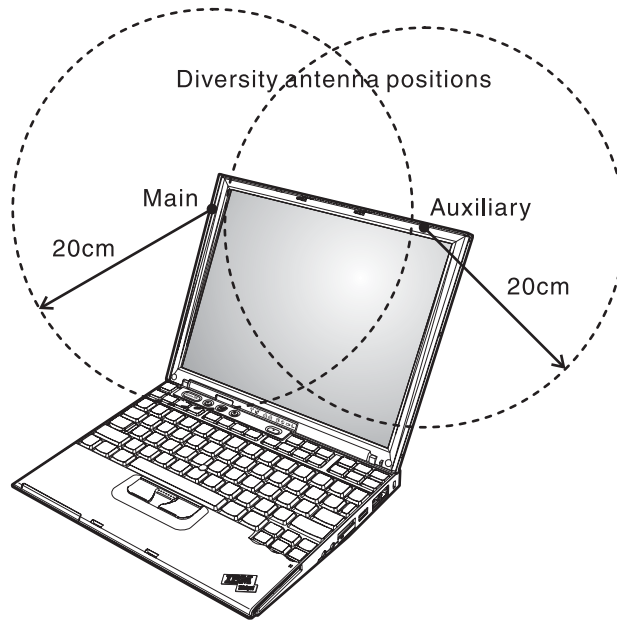users) to have good quality of radiocommunication.

IBM ThinkPad R50 Series

Diversity antenna positions

Main

20cm

Auxiliary

20cm

IBM ThinkPad T40 Series

Diversity antenna positions

Main

20cm

Auxiliary

20cm

13

IBM ThinkPad X40 Series

Diversity antenna positions

Main — 20cm

Auxiliary — 20cm

IBM ThinkPad X30 Series

Diversity antenna positions

Main antenna — 20cm

Auxiliary antenna — 20cm
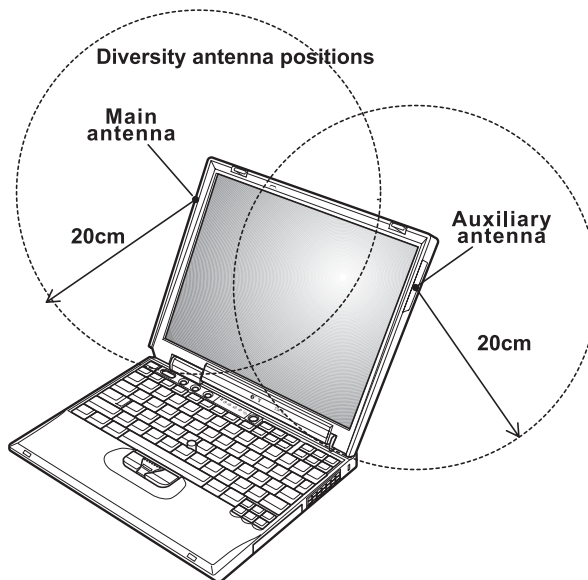
Use of wireless options

The Intel PRO/Wireless 2200BG Mini-PCI Adapter from IBM is approved for co-located use with the specific granted *Bluetooth* module in the CDC slot, and one or more wireless option PC Cards in the PC Card slot or USB port simultaneously. Make sure of the following conditions before using these wireless features.

1. Visit the IBM site at www.ibm.com/pc/qtechinfo/MIGR-53286.html and confirm the updated list of RF option devices that have been approved to cooperate with the integrated wireless feature.

2. When you use any other RF option device that is not listed on the IBM site, all other wireless features including the integrated transmitter in your ThinkPad computer are required to be turned off.

3. Users are requested to follow the RF Safety instructions on wireless option devices that are included in the RF option device's user's manual.

iii) Interference Statement

An improper installation or unauthorized use may cause harmful interference to radio communications. Also, any tampering of the internal antenna will void the FCC certification and your warranty. Refer to the "Electronic emission notices" on page 60 of this document for more detail.

Canada — Industry Canada (IC)

IC certification number

The certification number of Industry Canada for the Model WM3B2200BG (Intel PRO/Wireless 2200BG Mini-PCI Adapter from IBM, IC: 349E-WM3B22BG) is affixed on the module installed in the Mini-PCI Card slot as shown on pages 9 to 11.

Installation

The adapter is a user installable wireless LAN Mini-PCI Card. If no integrated wireless LAN Mini-PCI Card has been preinstalled in your ThinkPad computer, you can install one provided by IBM as an option. Please plug the optional wireless card into the Mini-PCI Card slot as shown on pages 10 to 12.

Attention: The specified ThinkPad computers contain an authentication mechanism

To use Intel PRO/Wireless 2200BG Mini-PCI Adapter from IBM, your ThinkPad computer must be an authorized model on which a special type of BIOS, called "BIOS Lock," is installed. Refer to page 1 for the available host PC.

Low Power License-Exempt Radiocommunication Devices (RSS-210)

Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Exposure of humans to RF fields (RSS-102)

The IBM ThinkPad employs low gain integral antennas that do not emit RF field in excess of Health Canada limits for the general population; consult Safety Code 6, obtainable from Health Canada's Web site at www.hc-sc.gc.ca/rpb

Numéro d'homologation IC

Le numéro d'homologation IC (Industrie Canada) pour la carte mini-PCI de réseau local sans fil Intel PRO/Wireless 2200BG Mini-PCI Adapter from IBM (IC: 349E-WM3B22BG) est apposé sur le module installé dans l'emplacement pour carte mini-PCI, comme indiqué aux pages 9 et 11.

Installation

La carte est une carte mini-PCI de réseau local sans fil qui peut être installée par l'utilisateur. Si aucune carte intégrée de ce type n'a été préinstallée sur votre ordinateur ThinkPad, vous pouvez en installer une qu'IBM peut vous fournir comme option. Veuillez connecter la carte sans fil en option pages 10 et 12.

Avertissement concernant la protection du BIOS:

Pour pouvoir utiliser la carte mini-PCI de réseau local sans fil Intel PRO/Wireless 2200BG Mini-PCI Adapter from IBM, votre ordinateur ThinkPad doit être un des modèles homologués sur lequel un type spécial de BIOS (appelé "BIOS Lock,") est installé. Reportez-vous à la page 1 pour consulter la liste des PC hôte disponibles.

Permis d'émission à faible puissance – Cas des appareils de communications radio (CNR-210)

Le fonctionnement de ce type d'appareil est soumis aux deux conditions suivantes: (1) Cet appareil ne doit pas perturber les communications radio, et (2) cet appareil doit supporter toute perturbation, y compris les perturbations qui pourraient provoquer son dysfonctionnement.

Exposition des êtres humains aux champs radioélectriques (RF) (CNR-102)

Le ThinkPad utilise des antennes intégrales à faible gain qui n'émettent pas un champ électromagnétique supérieur aux normes imposées par le Ministére de la santé canadien pour la population. Consultez le Safety Code 6 sur le site Web du Ministére de la santé canadien à l'adresse "www.hc-sc.gc.ca/rpb".

Europe — EU Declaration of Conformity for Intel PRO/Wireless 2200BG Mini-PCI Adapter from IBM

CE 0336 ①

Products intended for sale within the European Union are marked with the Conformité Européenne (CE) Marking, which indicates compliance with the applicable Directives and European Norms, and amendments, identified below.

- Hereby, Intel Corporation SA, declares that this Intel PRO/Wireless 2200BG Mini-PCI Adapter from IBM is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC. Usage of the 2.4GHz band are restricted to indoor use.

- Intel Corporation SA vakuuttaa täten että Intel PRO/Wireless 2200BG Mini-PCI Adapter from IBM tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen. Taajuusalueet 2,4 GHz on tarkoitettu vain sisätiloissa tapahtuvaa käyttöä varten.

- Hierbij verklaart Intel Corporation SA dat het toestel Intel PRO/Wireless 2200BG Mini-PCI Adapter from IBM in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG. Het gebruik van de 2.4 GHz-band is beperkt tot gebruik binnenshuis.

- Bij deze verklaart Intel Corporation SA dat dezeIntel PRO/Wireless 2200BG Mini-PCI Adapter from IBM voldoet aan de essentiële eisen en aan de overige relevante bepalingen van Richtlijn 1999/5/EC. Het gebruik van de 2.4 GHz-band is beperkt tot gebruik binnenshuis.

- Par la présente Intel Corporation SA déclare que l'appareil Intel PRO/Wireless 2200BG Mini-PCI Adapter from IBM est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE. L'utilisation de la bande passante de 2,4 GHz est limitée à un usage interne.

- Par la présente, Intel Corporation SA déclare que ce Intel PRO/Wireless 2200BG Mini-PCI Adapter from IBM est conforme aux exigences essentielles et aux autres dispositions de la directive 1999/5/CE qui lui sont applicables. L'utilisation de la bande passante de 2,4 GHz est limitée à un usage interne.

- Härmed intygar Intel Corporation SA att denna Intel PRO/Wireless 2200BG Mini-PCI Adapter from IBM står I överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG. 2,4 GHz-bandet får endast användas inomhus.

- Undertegnede Intel Corporation SA erklærer herved, at følgende udstyr Intel PRO/Wireless 2200BG Mini-PCI Adapter from IBM overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF. Brug af 2,4 GHz bånd er begrænset til indendørs brug.

The manual consists of total 64 pages with 5.4M bytes of large file size.
Hereafter, we would like to omit the unnecessary pages other than US and Canadian descriptions.

Prepared by T. Murota