

About this manual

This manual contains regulatory information for ThinkPad® Edge E145, E445, and E545.

Read first – regulatory information

Read this document before using your computer. This computer complies with the radio frequency and safety standards of any country or region in which it has been approved for wireless use. Install and use your computer according to the following instructions.

If your computer contains a wireless WAN adapter, be sure to also read *ThinkPad Regulatory Notice for the Wireless WAN Adapter*, included with your computer.

The latest Regulatory Notice has been uploaded on the Web site. To refer to it, go to <http://www.lenovo.com/think/support>, and then click **Guides & Manuals**.

Veillez lire le présent document avant d'utiliser votre ordinateur. Cet ordinateur est conforme aux normes de fréquence radio et de sécurité de tous les pays ou régions dans lesquels son utilisation sans fil a été homologuée. Installez et utilisez l'ordinateur en respectant les instructions qui suivent.

Si votre ordinateur contient une carte de réseau étendu (WAN) sans fil, veillez à lire également la consigne réglementaire *ThinkPad Regulatory Notice for the Wireless WAN Adapter*, fournie avec votre ordinateur.

La version la plus récente de la Notice relative à la réglementation a été chargée sur le site Web. Pour la consulter, accédez à <http://www.lenovo.com/think/support>, puis sur **Guides & Manuals**.

USA – Federal Communications Commission (FCC)

I. Approved wireless devices

This section presents the FCC ID and model number of each wireless device.

i) User installable wireless LAN adapter and wireless LAN/Bluetooth combo adapter

ThinkPad Edge E145, E445, and E545

- FCC ID: TX2-RTL8188EE (Model: RTL8188EE)

- FCC ID: QDS-BRCM1058 (Model: BCM943228HMB)
- FCC ID: QDS-BRCM1063 (Model: BCM943142HM)

Notes:

- The PCI Express Mini Cards (Model: BCM943228HMB and BCM943142HM) incorporate two functions: wireless LAN and Bluetooth.
- PCI Express Mini Cards for a wireless LAN marketed in the USA and Canada do not support or function in the extended channels (12ch, 13ch).

II. User installable wireless LAN adapter and wireless LAN/Bluetooth combo adapter

i) Use of the wireless LAN adapter and wireless LAN/Bluetooth combo adapter

If no integrated PCI Express Mini Card has been preinstalled in your computer, you can install one, provided by Lenovo® as an option. Plug the wireless option adapter into the PCI Express Mini Card slot. For the installation procedure, see “Replacing a PCI Express Mini Card for wireless LAN connection” in *User Guide*.

Attention: The computer contains an authentication mechanism. If you install an unauthorized PCI Express Mini Card that is not approved for use in your computer, the computer will not start, but only displays an error message and emits audible beeps.

ii) FCC ID location

There is no FCC ID for the PCI Express Mini Card shown on the enclosure of your computer. Instead you will find an indicator pointing to the location of the FCC ID on the bottom of your computer. The FCC ID is affixed on the approved adapter installed in the PCI Express Mini Card slot, and the FCC ID is visible prior to installation. For the location of the FCC ID indicator and the slot, see “FCC ID and IC Certification number label” in *User Guide*.

iii) FCC RF Exposure compliance

The radiated output power of the PCI Express Mini Card authorized to use for your computer is far below the FCC radio frequency exposure limits. Nevertheless, it shall be used 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 the antennas connected to the PCI Express Mini Cards and all persons. If the distance may not be maintained while the computer is closed, you must select sleep (standby) as the power mode when closing the display.

The transmission antennas for the PCI Express Mini Card are located in the LCD cover. See “Location of the UltraConnect™ wireless antennas” in *User Guide*.

iv) Radio Frequency interference requirements

Each device has been tested and found to comply with the limits for a Class B digital device pursuant to FCC Part 15 Subpart B. Refer to “Electronic emission notices” on page 7.

When you use a wireless LAN adapter in the 802.11 a/n transmission mode:

- Each device is restricted to indoor use due to its operation in the 5150 to 5250 MHz frequency range. FCC requires these products to be used indoors for the frequency range 5150 to 5250 MHz to reduce the potential for harmful interference to co-channel Mobile Satellite systems.
- High power radars are allocated as primary users of the 5250 to 5350 MHz and 5650 to 5850 MHz bands. These radar stations can cause interference with and/or damage this device.

III. Simultaneous use of RF transmitters

Your computer is approved for simultaneous use of the approved wireless WAN adapter, and one of the approved wireless LAN adapter or wireless LAN/Bluetooth combo adapter. For a list of those transmitters, refer to “I. Approved wireless devices” on page 1 and *ThinkPad Regulatory Notice for the Wireless WAN Adapter*.

Make sure of the following conditions when you use any other external RF option device:

1. When you use any other RF option device, you are requested to confirm that the device conforms to the RF Safety requirement and is approved to use for your computer.
2. You must follow the RF Safety instructions of the RF option device that are included in the user manual of the RF option device.
3. If the RF option device is prohibited to use in conjunction with another transmitters, you must turn off all other wireless features in your computer.

Canada – Industry Canada (IC)

IC Certification number

I. Approved wireless devices

This section presents the IC Certification and model number of each wireless device.

i) User installable wireless LAN adapter and wireless LAN/Bluetooth combo adapter

ThinkPad Edge E145, E445, and E545

- IC: 6317A-RTL8188EE (Model: RTL8188EE)
- IC: 4324A-BRCM1058 (Model: BCM943228HMB)
- IC: 4324A-BRCM1063 (Model: BCM943142HM)

Notes:

- The PCI Express Mini Cards (Model: BCM943228HMB and BCM943142HM) incorporate two functions: wireless LAN and Bluetooth.
- PCI Express Mini Cards for a wireless LAN marketed in the USA and Canada do not support or function in the extended channels (12ch, 13ch).

II. User installable wireless LAN adapter and wireless LAN/Bluetooth combo adapter

There is no certification number of Industry Canada for the PCI Express Mini Card shown on the enclosure of your computer. Instead you will find an indicator pointing to the location of the IC Certification number on the bottom of your computer. The IC certification number is affixed on the approved adapter installed in the PCI Express Mini Card slot, and the IC Certification number is visible prior to installation. For the location of the IC Certification number indicator and the slot, see “FCC ID and IC Certification number label” in *User Guide*.

Attention: The computer contains an authentication mechanism. You can install or remove each wireless adapter by yourself. If you install an unauthorized wireless adapter that is not approved for use in the computer, the computer will not start, but only displays an error message and emits audible beeps.

III. 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.

The transmitter devices have been designed to operate with the antennas integrated in the computer, and having a maximum gain of within 3 dBi.

The maximum antenna gain permitted for devices in the 5250-5350 MHz, 5470-5725 MHz, and 5725-5825 MHz bands complies with the e.i.r.p. limit in section A9.2 of RSS-210.

When you use a wireless LAN adapter in the 802.11 a/n transmission mode:

- The devices for the band 5150–5250 MHz are only for indoor usage to reduce potential for harmful interference to co-channel Mobile Satellite systems.
- High power radars are allocated as primary users (meaning they have priority) of 5250–5350 MHz and 5650–5850 MHz and these radars could cause interference and/or damage to LELAN (Licence-Exempt Local Area Network) devices.

IV. Exposure of humans to RF fields (RSS-102)

The computers employ 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 <http://www.hc-sc.gc.ca/>

The radiated energy from the antennas connected to the wireless adapters conforms to the IC limit of the RF exposure requirement regarding IC RSS-102, Issue 2 clause 4.2.

Numéro d'homologation IC

I. Périphériques sans fil homologués

Cette section présente le numéro d'homologation IC et le numéro de modèle de chaque périphérique sans fil.

i) Module sans fil installable par l'utilisateur

ThinkPad Edge E145, E445, and E545

- IC: 6317A-RTL8188EE (Model: RTL8188EE)
- IC: 4324A-BRCM1058 (Model: BCM943228HMB)
- IC: 4324A-BRCM1063 (Model: BCM943142HM)

Remarque:

- Les cartes mini-PCI Express (Modèle : BCM943228HMB et BCM943142HM) intègrent deux fonctions : réseau local sans fil et Bluetooth.
- Les cartes de réseau local sans fil Express mini-PCI commercialisées aux États-Unis et au Canada ne prennent pas en charge les canaux étendus (12ch, 13ch) et ne fonctionnent donc pas sur de tels canaux.

II. Module sans fil installable par l'utilisateur

Le boîtier de votre ordinateur ne comporte pas de numéro d'homologation IC (Industry Canada) pour la carte mini-PCI Express; mais sous votre ordinateur, vous trouverez un indicateur pointant vers l'emplacement du numéro d'homologation IC. Pour connaître l'emplacement du numéro d'homologation IC, consultez la section correspondante dans *User Guide*. Le numéro d'homologation IC figure sur la carte homologuée installée dans le logement pour carte mini-PCI Express et est visible avant l'installation. Pour savoir où se trouve cet emplacement, consultez la section correspondante dans *User Guide*.

Attention: L'ordinateur contient un mécanisme d'authentification. Vous pouvez installer ou désinstaller tout dispositif sans fil. Si vous installez une carte sans fil qui n'est pas homologuée dans votre ordinateur, l'ordinateur ne démarrera pas mais affichera un message d'erreur et générera des bips sonores.

III. Remarque relative aux appareils de communication radio de faible puissance sans licence (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.

Les périphériques d'émission sont conçus pour fonctionner avec des antennes intégrées à l'ordinateur et ayant un gain maximal de moins de 3 dBi.

Le gain d'antenne maximal pour les périphériques dans les bandes de fréquence 5250-5350 MHz, 5470-5725 MHz, et 5725-5825 MHz est conforme à la limite p.i.r.e énoncée dans la section A9.2 de la CNR-210.

Lorsque vous utilisez la carte pour réseau local sans fil en mode de transmission 802.11 a/n:

- Tout appareil destiné à la bande 5150-5250 MHz devra être exclusivement utilisé en intérieur afin de réduire les risques de perturbations électromagnétiques gênantes sur les systèmes de satellite mobile dans un même canal.
- Les radars à forte puissance sont désignés comme les utilisateurs principaux (c'est-à-dire qu'ils sont prioritaires) des bandes 5250-5350 MHz et 5650-5850 MHz. Ils peuvent provoquer des perturbations électromagnétiques sur les appareils de type LELAN (réseau de communication local sans licence) ou les endommager.

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

L'ordinateur utilise des antennes intégrales à faible gain qui n'émettent pas un champ électromagnétique supérieur aux normes imposées par le Ministère de la santé canadien pour la population. Consultez le Safety Code 6 sur le site Web du Ministère de la santé canadien à l'adresse <http://www.hc-sc.gc.ca/>

L'énergie émise par les antennes reliées aux adaptateurs sans fil respecte la limite d'exposition aux radiofréquences telle que définie par Industrie Canada dans la clause 4.2 du document CNR-102.

Electronic emission notices

Federal Communications Commission (FCC) Declaration of Conformity

- Model: RTL8188EE

Note: The wireless LAN/Bluetooth combo adapters (Models: BCM943228HMB and BCM943142HM) underwent certification process for the FCC Part 15 Subpart B compliance under each respective FCC ID number.

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

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult an authorized dealer or service representative for help.

Lenovo is not responsible for any radio or television interference caused by unauthorized changes or modifications to this equipment. Unauthorized change or modifications could avoid the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Responsible Party:
Lenovo (United States) Incorporated
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Telephone: 1-919-294-5900



Industry Canada Class B Emission Compliance Statement

This Class B digital apparatus complies with Canadian ICES-003.

Avis de conformité à la réglementation d'Industrie Canada

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

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