

About this manual

This manual contains regulatory information for the following ThinkPad® products.

- ThinkPad E450 and E455

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**.

Veuillez 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, veuillez 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 and Bluetooth combo card

- FCC ID: PPD-QCNFA335 (Model: QCNFA335)

Notes:

- The wireless LAN, and the Bluetooth features operate at different frequencies exclusively, and transmit radio frequencies simultaneously.
- The wireless LAN cards marketed in the USA and Canada do not support or function in the extended channels (12ch, 13ch).

II. User installable wireless LAN and Bluetooth combo card

If no integrated wireless LAN/Bluetooth combo card has been preinstalled in your computer, you can install one, provided by Lenovo® as an option. Plug the wireless LAN card into the wireless LAN card slot. For the installation procedure, see “Replacing a wireless LAN card” in *User Guide*.

Attention: The computer contains an authentication mechanism. If you install an unauthorized wireless communication 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.

i) FCC ID location

There is no FCC ID for the wireless LAN 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 card installed in the wireless LAN 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 information” in *User Guide*.

ii) FCC RF Exposure compliance

The total radiated energy from the antennas connected to one of the wireless LAN cards conforms to the FCC limit of the SAR (Specific Absorption Rate) requirement regarding 47 CFR Part 2 section 1093, when the computer was tested in conventional notebook computer orientation.

The transmission antennas for the wireless LAN card are located in the LCD cover. See “Location of the UltraConnect™ wireless antennas” in *User Guide*.

iii) 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 5.

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 LAN/Bluetooth combo card and one of the approved wireless WAN cards. 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)

I. Approved wireless devices

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

i) User installable wireless LAN and Bluetooth combo card

- IC: 4104A-QCNFA335 (Model: QCNFA335)

Notes:

- The wireless LAN, and the Bluetooth features operate at different frequencies exclusively, and transmit radio frequencies simultaneously.
- The wireless LAN cards marketed in the USA and Canada do not support or function in the extended channels (12ch, 13ch).

II. User installable wireless LAN and Bluetooth combo card

There is no certification number of Industry Canada for the wireless communication 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 4 computer. The IC certification number is affixed on the approved card installed in the corresponding 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 information” in *User Guide*.

Attention: The computer contains an authentication mechanism. You can install or remove each wireless card by yourself. If you install an unauthorized wireless card 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 card 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 cards conforms to the Canada Portable RF exposure limit regarding IC RSS-102 Issue 4 clause 4.1 set forth for an uncontrolled environment, and are safe for intended operation in the conventional setting. The further RF exposure reduction can be achieved if the product can be kept as far as possible from the user body or set the device to lower output power if such function is available.

I. Périphériques sans fil homologués

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

i) Carte sans fil installable par l'utilisateur

- IC: 4104A-QCNFA335 (Model: QCNFA335)

Remarque:

- Les fonctions de réseau local sans fil et Bluetooth sont opérationnelles à des fréquences différentes exclusivement et émettent des fréquences radio simultanément.
- Les cartes de réseau local sans fil Express mini-PCI commercialisées aux Etats-Unis et au Canada ne prennent pas en charge les canaux étendus (12ch, 13ch) et ne fonctionnent donc pas sur de tels canaux. Les cartes de réseau local sans fil commercialisées aux Etats-Unis et au Canada ne prennent pas en charge les canaux étendus (12ch, 13ch) et ne fonctionnent donc pas sur de tels canaux.

II. Carte sans fil installable par l'utilisateur

Le numéro de certification IC (Industrie Canada) pour la carte de communication sans fil ne figure pas sur le boîtier de votre ordinateur. En revanche, sous votre ordinateur, vous trouverez une indication vous précisant l'emplacement du numéro de certification IC. Le numéro de certification IC figure sur la carte homologuée installée dans le logement correspondant et est visible avant l'installation. Pour connaître l'emplacement du numéro de certification IC et du logement, reportez-vous à la section « Etiquette d'identification FCC et du numéro de certification IC » du Guide d'utilisation.

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. Conformité des appareils de radiocommunication aux limites d'exposition humaine aux radiofréquences (CNR-102)

Les ordinateurs utilisent des antennes intégrales à faible gain qui n'émettent pas un champ électromagnétique supérieur aux normes imposées par Santé Canada pour la population. Consultez le Code de sécurité 6 sur le site Internet de Santé Canada à l'adresse <http://www.hc-sc.gc.ca/>

L'énergie émise par les antennes reliées aux cartes sans fil respecte la limite d'exposition aux radiofréquences émises par les appareils portables au Canada telle que définie par Industrie Canada dans la clause 4.1 du document CNR-102, version 4 pour un environnement non contrôlé et permet d'affecter sans danger le produit à l'usage auquel il est destiné. La réduction de l'exposition aux radiofréquences est possible si le produit peut être conservé aussi loin que possible du corps de l'utilisateur ou en définissant une puissance de sortie plus faible si une telle fonction est disponible.

Electronic emission notices

Federal Communications Commission (FCC) Declaration of Conformity

Model: QCNFA335

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 void 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
1009 Think Place-Building One
Morrisville, NC 27560
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.

Usage environment and your health

Wireless feature (such as wireless WAN, wireless LAN, and Bluetooth and so on) emits radio frequency electromagnetic energy like other radio devices. However, the level of energy emitted is far much less than the electromagnetic energy emitted by wireless devices like for example mobile phones.

Due to the fact that wireless feature operates within the guidelines found in radio frequency safety standards and recommendations, Lenovo believes the wireless feature 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 situation or environment, the use of wireless feature might be restricted by the proprietor of the building or responsible representatives of the organization. These situations and areas may for example include:

- Using the wireless feature on board of airplanes, in hospitals or near petrol stations, blasting areas (with electro-explosive devices), medical implants or body-worn electronic medical devices, such as pace makers.
- 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 (such as airport or hospital), you are encouraged to ask for authorization to use wireless feature prior to turning on the tablet.

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