



IBM Japan Ltd.
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April 5, 2002

To whom this may concern

OET Requested Information

FCC ID : ANOCORN1TASUHOP
Applicant : International Business Machines Corporation
Correspondence Reference Number : 22519
731 Confirmation Number : EA935585
Original Requested Date : April 4, 2002

Subject :

1) Please verify that the the device will not be installed by the user and the manual will not have user installation instructions for this transmitter.

Answer: We clarified in the submittal exhibit (Operational_Description.pdf) that "The all wireless features (antennas and cards) are built in the applying equipment by IBM."
So the wireless features are preinstalled by IBM and delivered to customers.

But thanks to the acceptance by the FCC on February/2002(after the submission) of the alternative method to guarantee the unique coupling of a granted transmitter and a separated built_in antenna regarding the Part 15.203, IBM would like to implement this new mechanism from this model.

The new mechanism (VIOS rock) will be available for the integrated mini-PCI WLAN card only, then IBM would like to allow users to replace a broken WLAN card by themselves.

As for the integrated Bluetooth card, we have **no** optional delivery **service parts to users** including the maintenance purpose for a broken card. A broken Bluetooth card will be replaced by the IBM service centers.

Please refer the BIOS rock mechanism to the Atteachment-A, and the users manual will be revised as the Atteachment-B of this correspondence.

Subject :

2) Please address the following RF safety questions.

1. Laptop computers can normally be used on the lap. In that case spacing between antennas in keyboard section and human body will be less than 20 cm. For distances less than 20 cm, MPE estimates do not apply for FCC purposes. If aggregate power for all possible antennas in keyboard section is less than about 10 mW, SAR is probably not needed. Please revise spacings shown in RF exposure exhibit in terms of these comments and considering Suppl C 01-01 Sec 3 footnote 14.

Answer: Please refer to the Atteachment-B of this correspondence.

Sincerely, April 5, 2002

Toshiya Murota
Staff Engineer, EMC Engineering
Yamato Laboratory, IBM Japan Ltd.

Attachment-A: BIOS Rock Function

Antenna Coupling Mechanism regarding the FCC Part 15.203 and RSS 210 §5.5

The following is the mechanism regarding the FCC Part 15.203 and RSS 210 Section 5.5 to prevent an unauthorized connection between the applying mini-PCI wireless card and the built_in antenna of the applying host unit (IBM ThinkPad T30 Series).

1. If the BIOS of ThinkPad T30 Series finds that the base class code of the applying mini-PCI card is "02h", the BIOS regards it as a network mini-PCI card.
2. If the BIOS detects a network mini-PCI code (i.e. ="02h"), the BIOS checks the vender ID, device ID, subvendor ID and subsystem ID of it.
3. If one or more of these IDs was(were) different from supported IBM options **which were authorized by the FCC and Industry Canada to use for ThinkPad T30 Series**, the BIOS will stop the boot and show a POST error with beeps.
4. The BIOS also checks PCI VPD(Vital Product Data) contents. If a product name of mini-PCI card written in VPD, which is provided from Flash ROM of the applying mini-PCI wireless card, was different from supported IBM options, **which were authorized by the FCC and Industry Canada to use for ThinkPad T30 Series**, the BIOS will stop the boot and show a POST error with beeps.

Attachment-B: Revision of the user's Manual

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Appendix C. Wireless regulatory notice

The ThinkPad T30 Series computer must be installed and used in strict accordance with the instructions as described hereafter. This product complies with the following radio frequency and safety standards.

USA - Federal Communications Commissions (FCC)

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

1. This device may not cause harmful interference, and
2. this device must accept any interference received, including interference that may cause undesired operation.

The FCC RF Safety Requirement

The radiated output power of Wireless LAN Mini-PCI Adapter is far below the FCC radio frequency exposure limits. Nevertheless, the ThinkPad T30 shall be used in such a manner that the potential for human contact during normal operation is minimized as follows:

Multiple Transmitter model

If you find the FCC ID “**ANOCORN1TASUHOP**” on the label at the bottom side of your ThinkPad computer, your computer is approved as a Multiple Transmitters device that is permitted to use the integrated Wireless LAN Mini-PCI card and Bluetooth card with two or more wireless option PC Cards in the PC slot simultaneously.

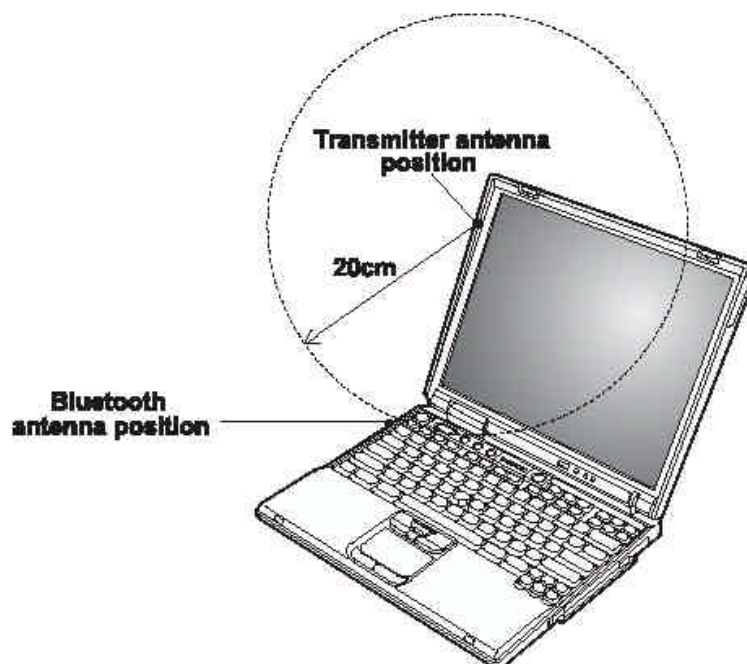
The integrated wireless features (Wireless LAN Mini-PCI card and Bluetooth card) are preinstalled by IBM.

- Please make sure that you are not permitted to install nor replace the integrated Bluetooth card by yourself. If you will have any problem on the integrated Bluetooth card, please contact the IBM Help Center(s) shown in the Chapter 3.
- If your integrated Wireless LAN Mini-PCI card was in trouble and proved to need replacement via the proper step shown in the Chapter 3, IBM will provide the repair parts that you can install by yourself. If you will install an unauthorized module, your ThinkPad computer does not start but only displays an error message and emits beeps.

CAUTION:

To comply with FCC RF exposure compliance requirements, a separation distance of at least 20 cm (8 inches) must be maintained between the built-in antenna for the integrated Wireless LAN Mini-PCI card of this device and all persons.

Also the Bluetooth antenna is built in the left edge portion of keyboard. When you operate the ThinkPad T30 computer on your lap, the separation distance of 20cm (8 inches) can't be maintained. But the transmission power of the Bluetooth module is far below 10mW. Therefore you don't have to care the antenna separation distance for the Bluetooth antenna.

**Use of Wireless options**

Please make sure of the following when you use a Bluetooth option or wireless option PC Card in your ThinkPad computer.

1. Visit the IBM® site at www.ibm.com/pc/qtechinfo/MIGR-39377.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.

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 68 for more detail.