Application Document for

FCC Part 15, Subpart C (Intentional Radiators)

Document Number: FCC 19-0213-0

Product Name: ThinkPad X30 Series
(Machine type: 2672, 2673)

FCC ID: ANO20020304T2L

January 14, 2003

EMC Staff Engineer

Toshiya Murota

Signature:

IBM Japan, Ltd.
EMC Engineering
LAB-S59
1623-14, Shimotsuruma,
Yamato-shi Kanagawa-ken 242-8502, Japan
Phone: +81-46-215-6574
Fax: +81-46-273-7420
E-Mail: murota@jp.ibm.com

EMC Engineering Manager / NVLAP signatory

Akihisa Sakurai

Signature:

IBM Japan, Ltd.
EMC Engineering
LAB-S59
1623-14, Shimotsuruma,
Yamato-shi Kanagawa-ken 242-8502, Japan
Phone: +81-46-215-2613
Fax: +81-46-273-7420
E-Mail: akihisa@jp.ibm.com

Portable Product Director

Masaki Kobayashi

Signature:

IBM Japan, Ltd.
Portable Product
LAB-R16
1623-14, Shimotsuruma,
Yamato-shi Kanagawa-ken 242-8502, Japan
Phone: +81-46-215-3889

Portable Systems Director

Arimasa Naitoh

Signature:

IBM Japan, Ltd.
Portable Systems
LAB-R11
1623-14, Shimotsuruma,
Yamato-shi Kanagawa-ken 242-8502, Japan
Phone: +81-46-215-6110

Outline of Submission

1. Objective

This is a Certification Compliance Report for FCC Part 15 subpart C, DTS device.

- The applying equipment : ThinkPad X30 Series
- FCC ID : **ANO20020304T2L**

The device is **composite equipment** with the same FCC ID of Part 15 subpart E, UNII devices.

2. Installation of the applying transmitter

The built-in wireless LAN module is **preinstalled by IBM.** According the FCC Part 15.407(d), a **tamperproof structure** is employed so that the applying wireless module is not able to be removed nor plugged in by users.
Since users can not access to the card, IBM or a responsible party will replace a broken card with a spare part. Refer to "Circuitry Description" document, and page **6** of User's Manual.

3. Product Description

The applying equipment is a compact size laptop computer integrating IEEE 802.11a & b combo Wireless LAN function inside. The wireless module consists of an OEM card (Philips Components, **Model No: PH11107-X**, 802.11 Combo Mini-PCI WLAN Card) and built-in antennas (Inverted F-figure Dual bands antennas × 2).
The specifications of the applying wireless LAN card and the built-in antennas are as follows.

Specification of Wireless-LAN feature

IBM product name of wireless Card	IBM Dual-Band 11a/b Wi-Fi® Wireless Mini PCI Adapter	
Carrier Frequencies	2412MHz ~ 2462MHz	5745MHz ~ 5825MHz
Antenna gain	Peak 1.28 dBi	Peak 0.32 dBi
Conducted transmission power	Max. 17 dBm	Max. 16 dBm
Antenna type	Inverted F-figure type dual band antenna	
	Main antenna : P/N: 08K4083 Auxiliary antenna : P/N: 08K4084	
Antenna cable type And length	Main antenna : coax 394 mm Auxiliary antenna : coax 534 mm	

4. Mounting structure of Wireless LAN card and Antenna

The two inverted F-figure type antennas are built in the left and right side of LCD. Those diversity antennas are not used simultaneously. One of the antennas is selected automatically or manually to have a good quality of radio communication. The selected antenna performs transmission or receiving in half duplex alternatively.