

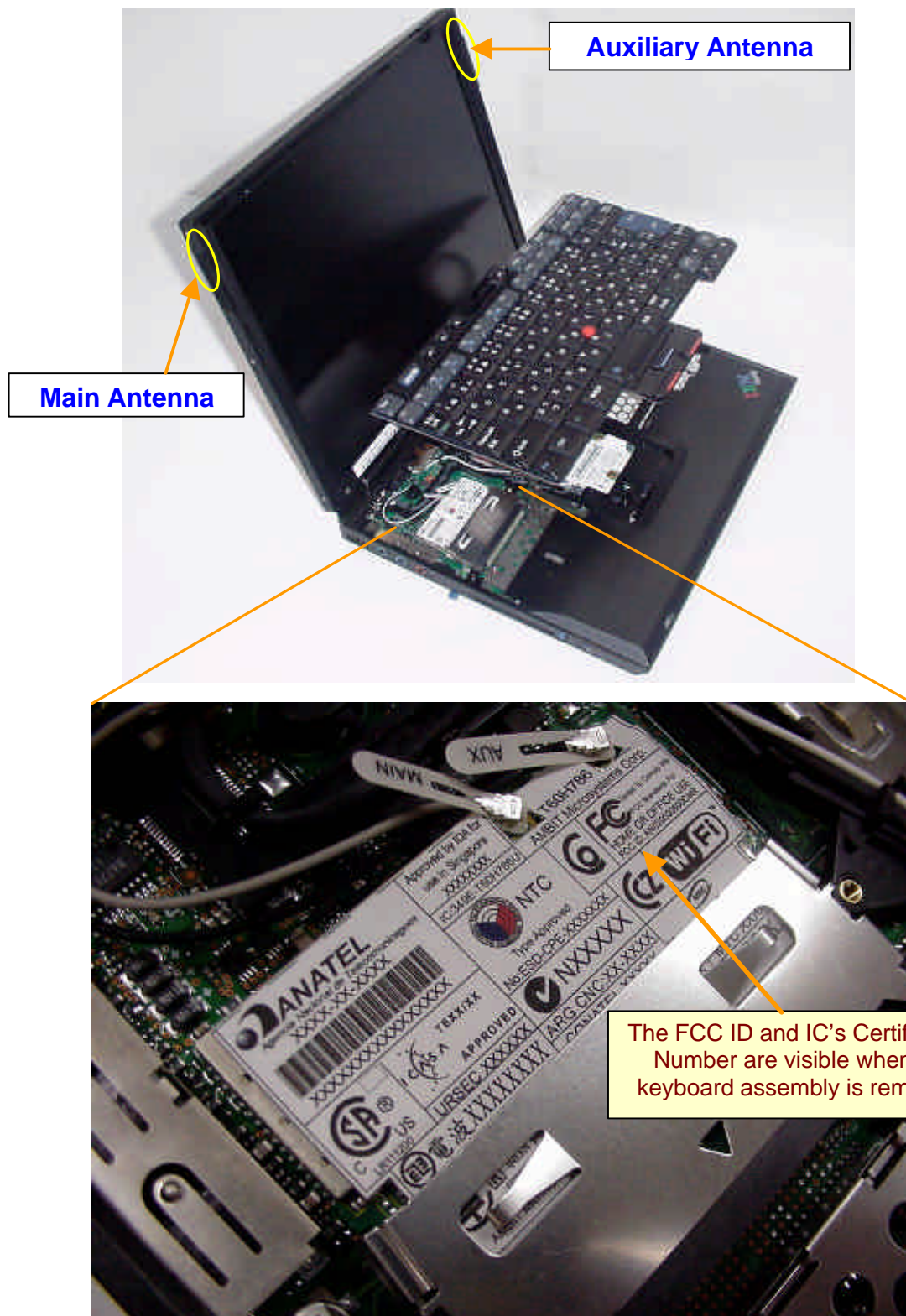
# Host Unit Antenna Information

<b>1. Antenna Info of ThinkPad X30 Series</b>	<b>2</b>
1.1 Host PC Information	2
1.2 Host PC Labeling	4
1.3 Antenna Specifications	6
1.3.1 <i>Transmission Antenna assembly overview</i>	6
1.3.2 <i>Antenna Locations</i>	7
1.3.3 <i>Exterior Photos of Antennas</i>	8
<b>2. Antenna Info of ThinkPad X40 Series</b>	<b>9</b>
2.1 Host PC Information	9
2.2 Host PC Labeling	11
2.3 Antenna Specifications	13
2.3.1 <i>Transmission Antenna assembly overview</i>	13
2.3.2 <i>Antenna Locations</i>	14
2.3.3 <i>Exterior Photos of Antennas</i>	15

# 1. Antenna Info of ThinkPad X30 Series

## 1.1 Host PC Information

The two inverted F-figure type antennas are built in the left and right top sides of LCD as shown in the Photo. 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.



**IBM ThinkPad X30 Series**

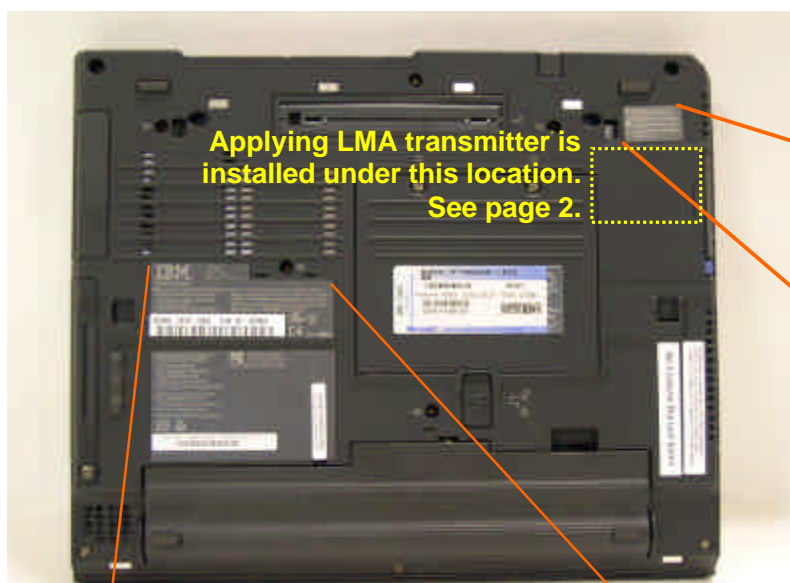


Side View




Rear View

## 1.2 Host PC Labeling

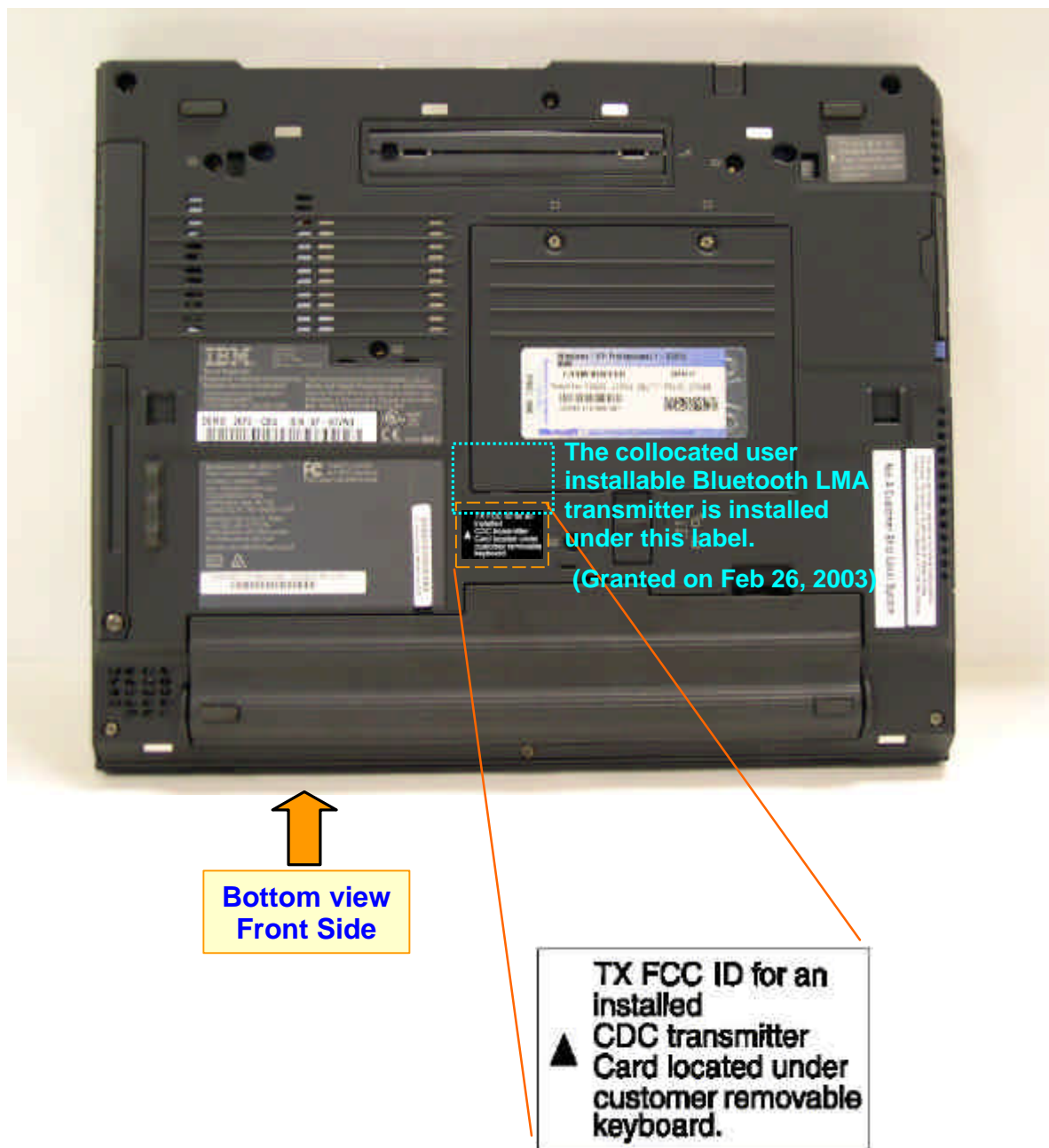


Bottom view  
Front Side

 <p>Type 2672 型号 2672 16V --- 3.5A 电压 16V --- 电流 3.5A</p>		<p>UL LIMITED L.T.E. 167G</p> <p>CE</p>
<p>Marca Registrada</p> <p>®Registered Trademark of International Business Machines Corporation</p> <p>COPYRIGHTED CODE AND PARTS CONTAINED HEREIN.</p> <p>©COPYRIGHT 1981, 2002 IBM CORP.</p> <p>This Product contains a Lithium Ion Battery, Lithium Battery and Cathode Fluorescent Lamp which contains mercury. Please refer to User Manual or follow Local Ordinances or Regulations for Disposal of this machine.</p> <p>警告: 电网电压与电源设置电压必须相符</p>		
<p>Manufactured by IBM Made in Mexico</p> <p>AUSTRALIA WARNING: ONLY EQUIPMENT THAT HAS A TELECOMMUNICATIONS COMPLIANCE LABEL MAY BE CONNECTED TO THE HEADSET PORT.</p> <p>Apparatus Claims of U.S. Patent Nos. 4,631,603; 4,577,216; 4,819,098 and 4,907,093 licenced for limited viewing uses only.</p> <p>CANADA ICES/NMB-003 Class/Classe B</p> <p>VEI A PC</p>		<p>FC Tested To Comply With FCC Standards FOR HOME OR OFFICE USE</p>
<p>802.11 MAC Address</p>		<p>802.3 MAC Address</p>

**Label for a different model of the host PC (ThinkPad X30 Series)**

The model (X30) supports the applying transmitter and a built-in type Bluetooth LMA module which was granted separately as the FCC ID: ANO20020100MTN on Feb/26/2003 (Class II).



## 1.3 Antenna Specifications

### 1.3.1 Transmission Antenna assembly overview

#### IBM ThinkPad X30 Series

Designator	Manufacture	Antenna type	Cable type and length	Gain (dBi) Note 1)
08K4083 Main antenna	Nissei Electric Ltd. (Japan)	Dual Band Inverted F type Antenna	coax 394mm	2.4GHz band <b>0.62 dBi (peak)</b>
08K4084 Auxiliary antenna	Nissei Electric Ltd. (Japan)	Dual Band Inverted F type Antenna	coax 534mm	2.4GHz band <b>1.28 dBi (peak)</b>

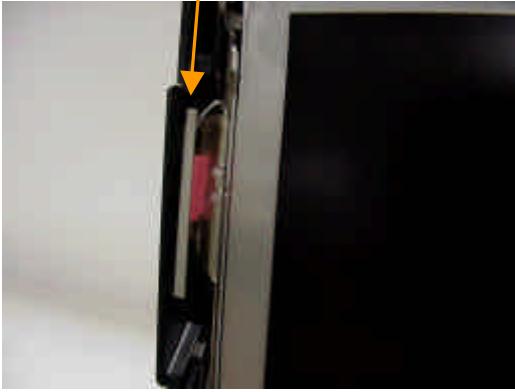
Note 1):

1a. Includes all cable losses.

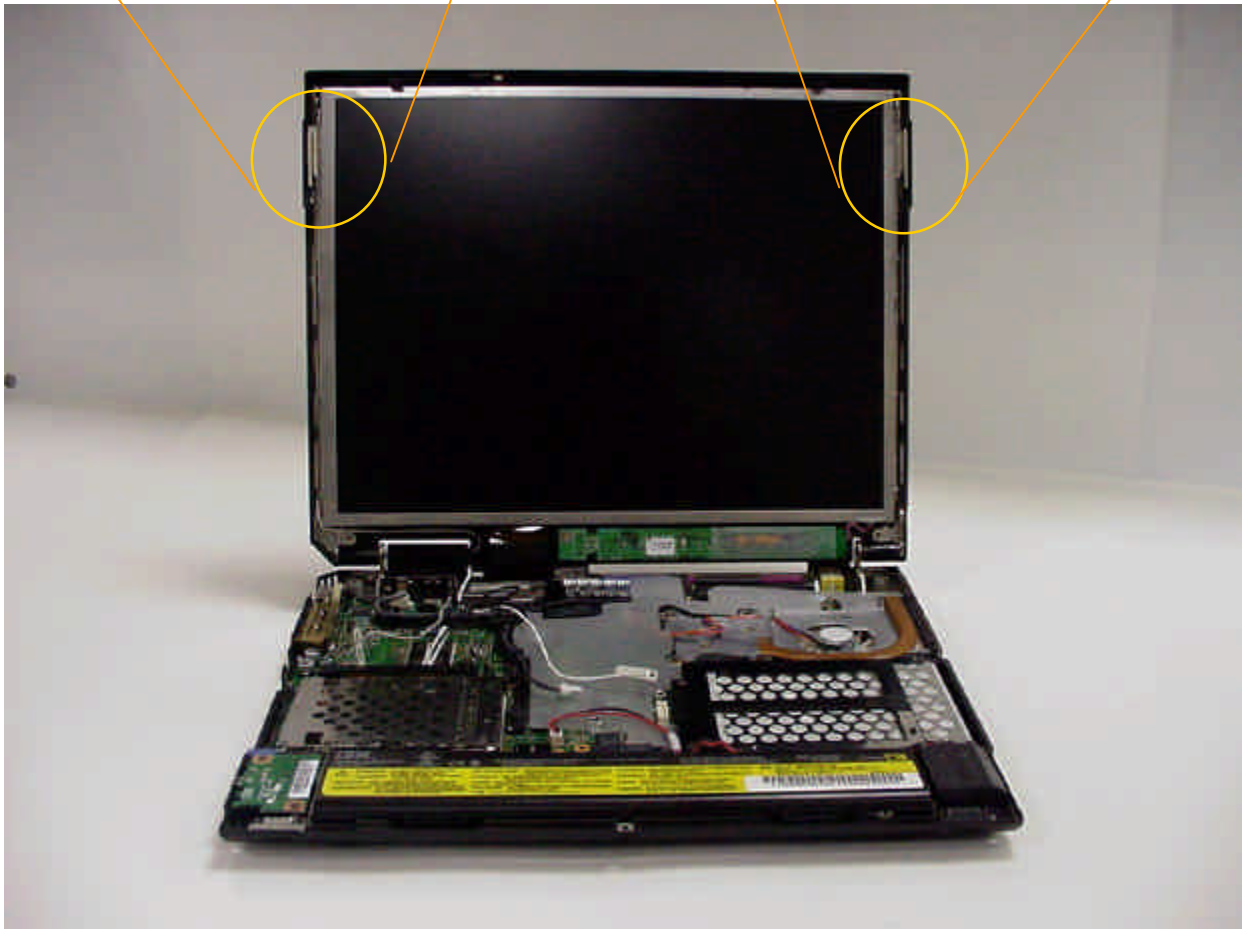
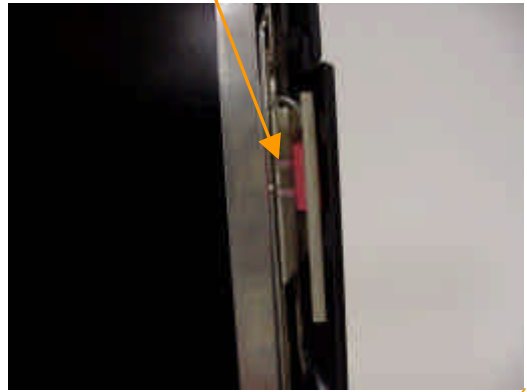
1b. Antenna type should be Omni Directional and have gain of 2.0 dBi or less for IEEE802.11b & g (2.4GHz band) regarding the IBM internal specification.

## 1.3.2 Antenna Locations

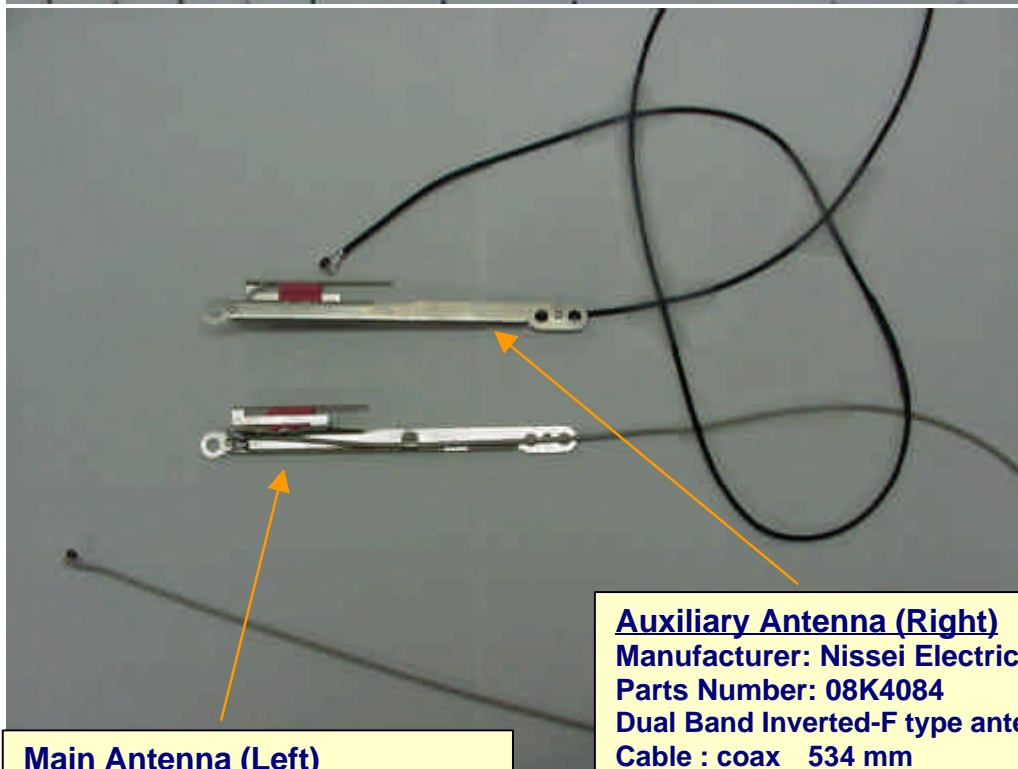
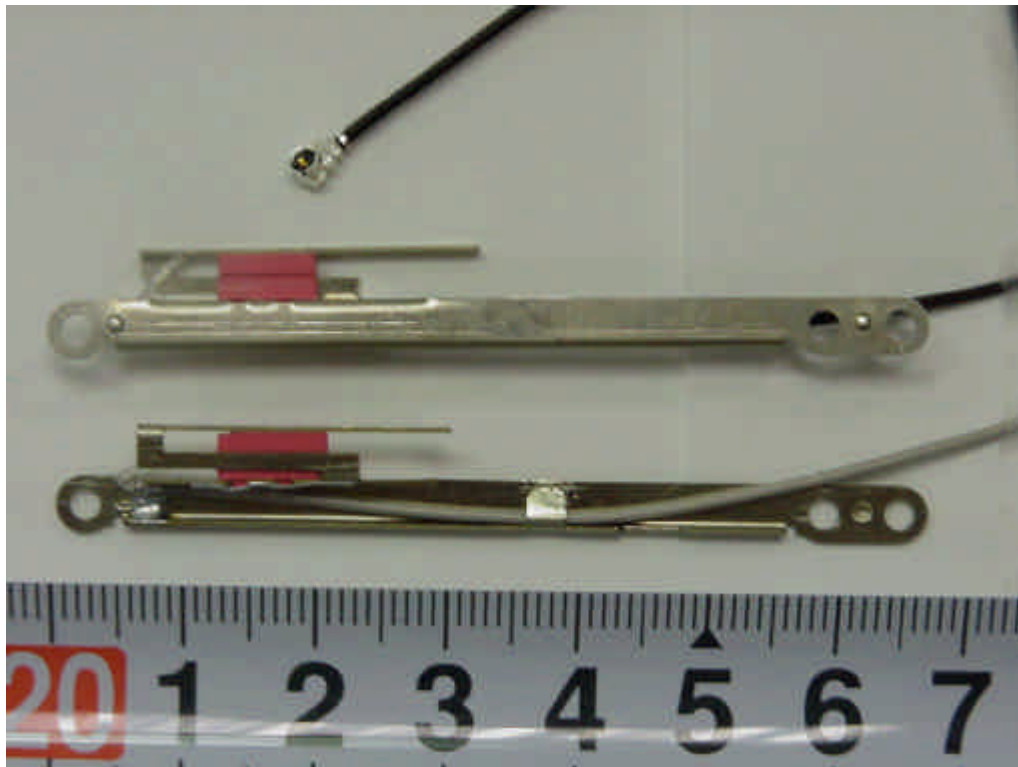
**Main antenna**  
Dual Band Inverted-F type  
P/N: **08K4083**



**Auxiliary antenna**  
Dual Band Inverted-F type  
P/N: **08K4084**



### 1.3.3 Exterior Photos of Antennas



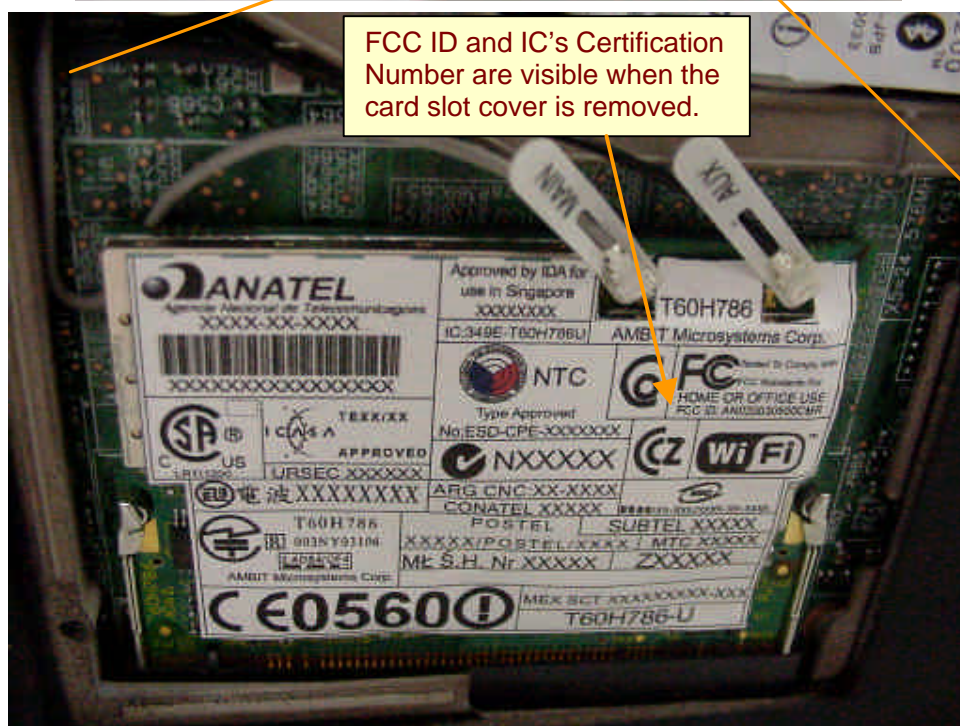
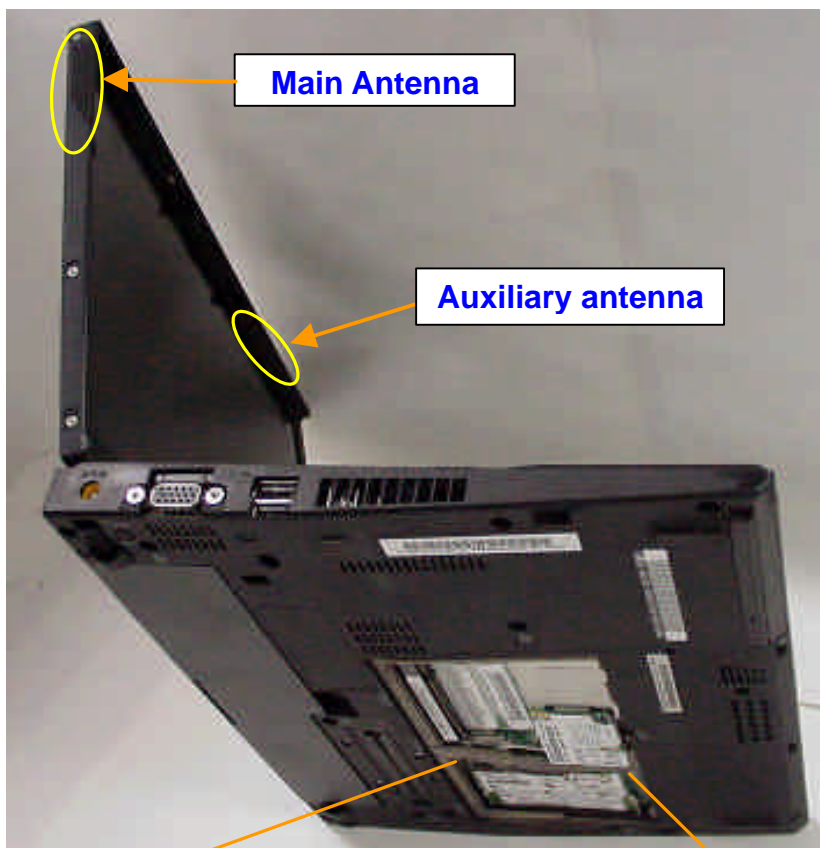
**Main Antenna (Left)**  
Manufacturer: Nissei Electric Ltd.  
Parts Number: 08K4083  
Dual Band Inverted-F type antenna  
Cable : coax 394 mm

**Auxiliary Antenna (Right)**  
Manufacturer: Nissei Electric Ltd.  
Parts Number: 08K4084  
Dual Band Inverted-F type antenna  
Cable : coax 534 mm

## 2. Antenna Info of ThinkPad X40 Series

### 2.1 Host PC Information

The main and auxiliary meander antennas are built in the left and right top sides of LCD as shown in the Photo. Those diversity antennas are not used for transmission 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.



**IBM ThinkPad X40 Series**

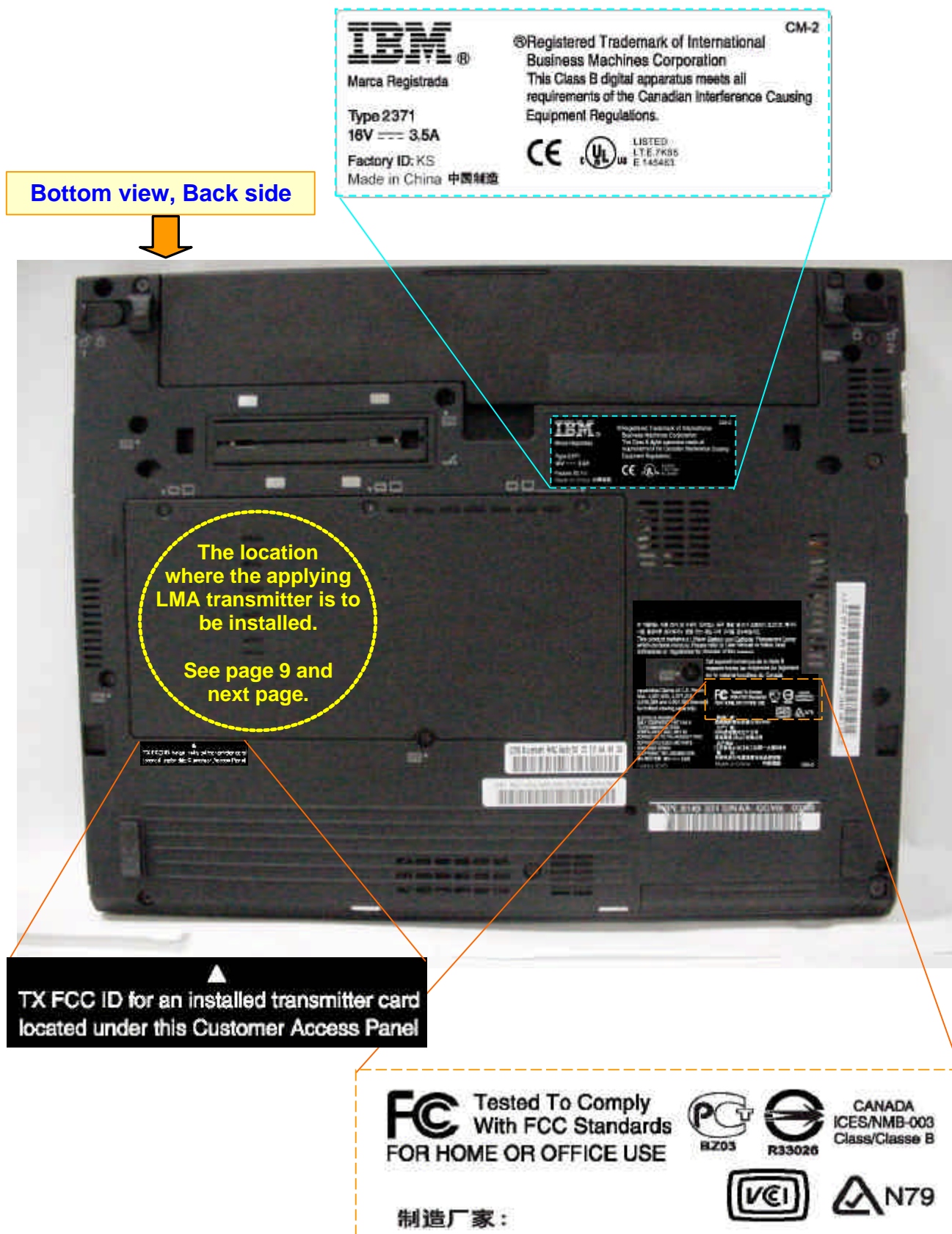


Side View



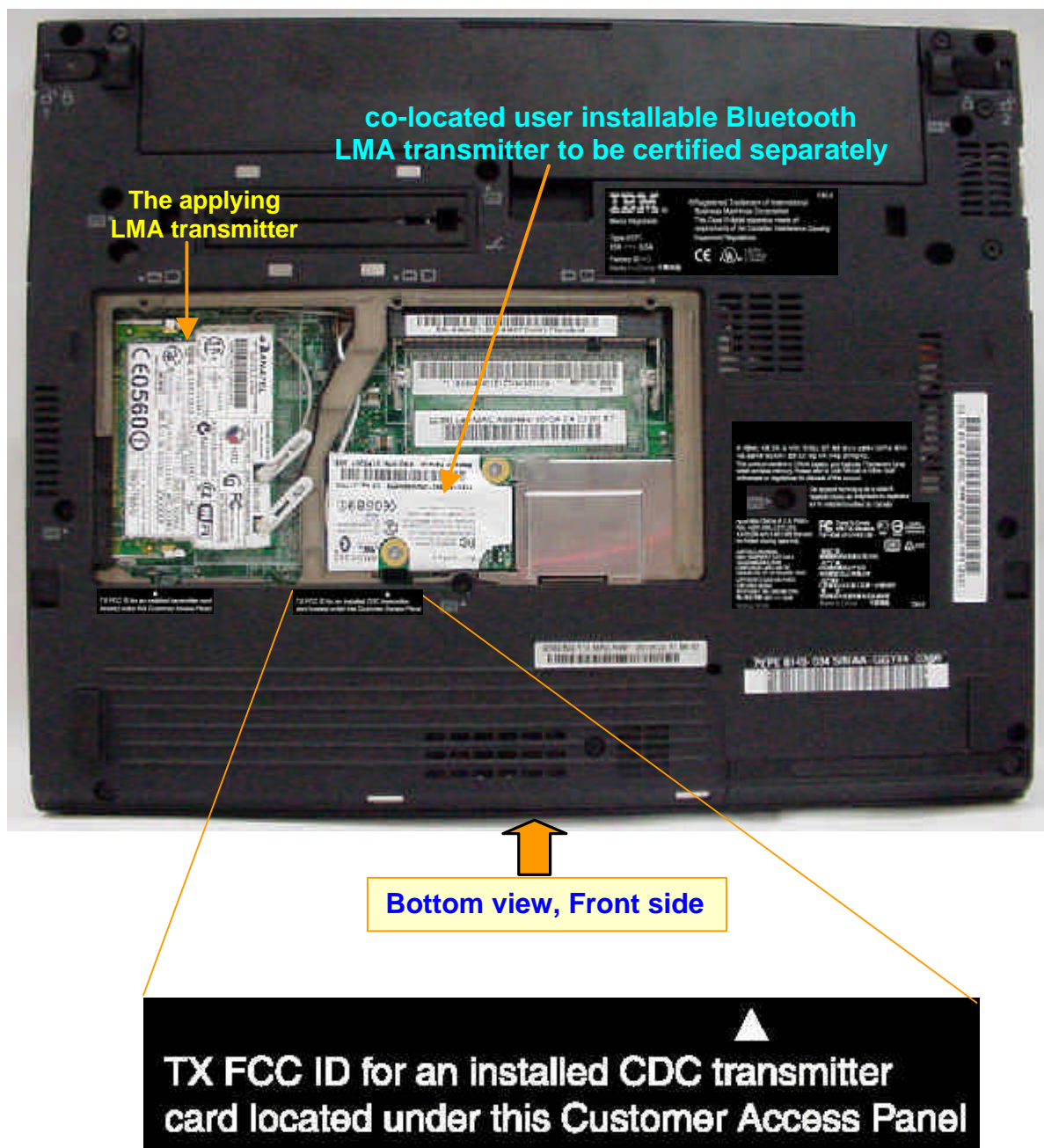
Rear View

## 2.2 Host PC Labeling



**Label for a different model of the host PC (ThinkPad X40 Series)**

The model (X40) supports the applying transmitter and a built-in type Bluetooth LMA transmitter (FCC ID: ANO20020100MTN ), which is also under certification process for the host (X40) with separate application.



## 2.3 Antenna Specifications

### 2.3.1 Transmission Antenna assembly overview

Transmission Antenna assembly overview

Designator	Manufacture	Antenna type	Cable type and length	Gain (dBi) Note 1)
13N5743 Main Antenna	Nissei Electric Co., Ltd. (Japan)	Dual Band Meander Antenna	Coax 488mm	2.4GHz band <b>0.39 dBi (peak)</b>
13N5742 Auxiliary Antenna	Nissei Electric Co., Ltd. (Japan)	Dual Band Meander Antenna	Coax 449mm	2.4GHz band <b>1.67 dBi (peak)</b>

Notes:

- 1a. *Includes all cable losses.*
- 1b. *Antenna type should be Omni Directional and have gain of 2.0 dBi or less for IEEE802.11b or 11g (2.4GHz band), regarding the IBM internal specification.*

## 2.3.2 Antenna Locations



## 2.3.3 Exterior Photos of Antennas

### Main Antenna

**Manufacturer: Nissei Electric Co., Ltd.**  
**Parts Number: 13N5743**  
**Type: Dual Band Meander**  
**Cable: Coax, 488 mm**



**Auxiliary Antenna**

**Manufacturer: Nissei Electric Co., Ltd.**  
**Parts Number: 13N5742**  
**Type: Dual Band Meander**  
**Cable: Coax, 449 mm**

