

Host Unit Antenna Information

for

ThinkPad T40 Series

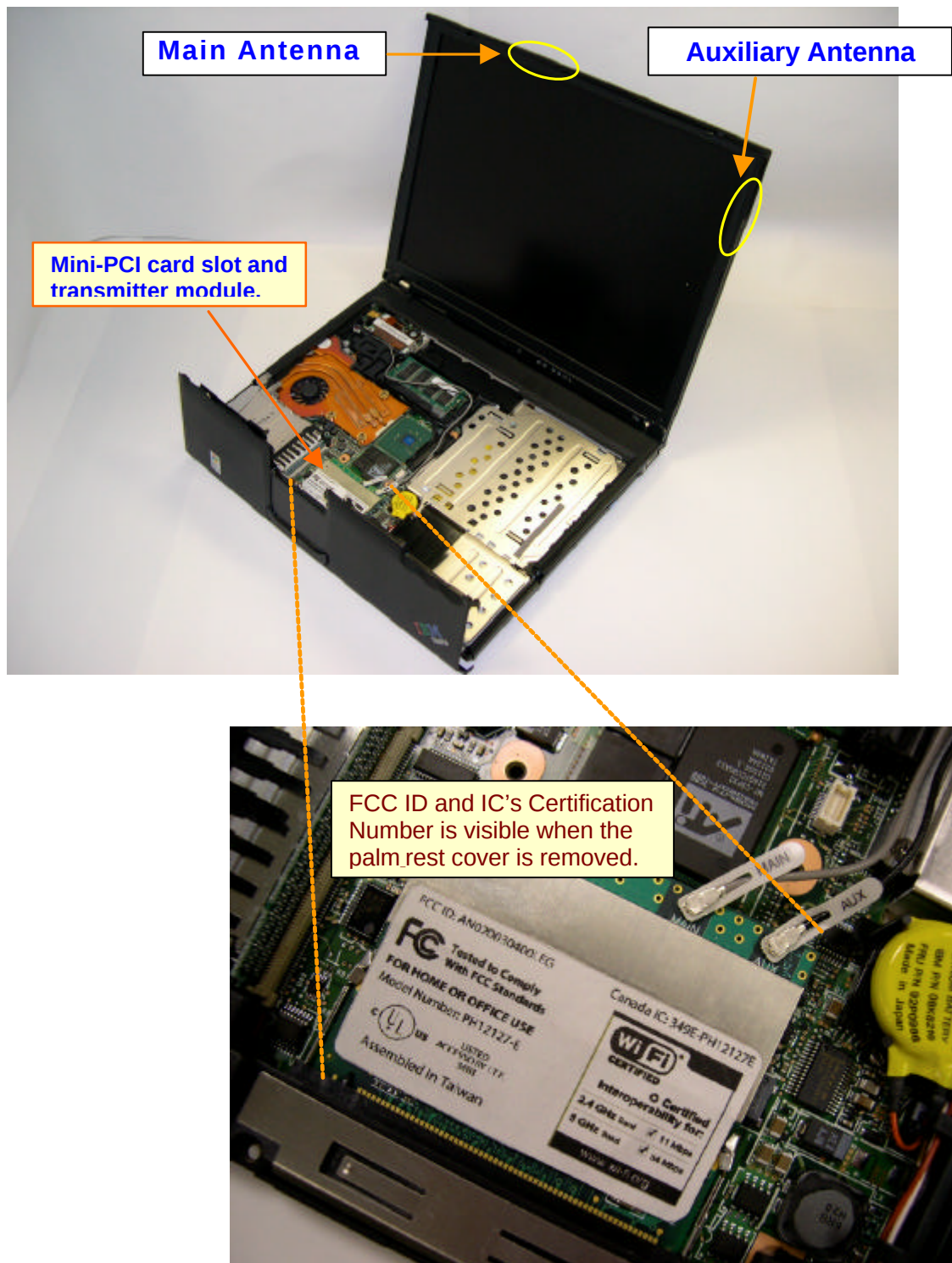
ThinkPad X30 Series

1. HOST PC INFORMATION	2
1.1 IBM THINKPAD T40 SERIES.....	2
1.2 IBM THINKPAD X30 SERIES	3
 2. HOST PC LABELING.....	 4
2.1 LABELING OF T40 SERIES	4
2.2 LABELING OF X30 SERIES	6
 3. ANTENNA SPECIFICATIONS.....	 8
3.1 TRANSMISSION ANTENNA ASSEMBLY OVERVIEW	8
3.2 ANTENNA PHOTOS	9
3.2.1 T40 Series, Antenna Photos	9
3.2.2 X30 Series, Antenna Photos.....	13

1. Host PC Information

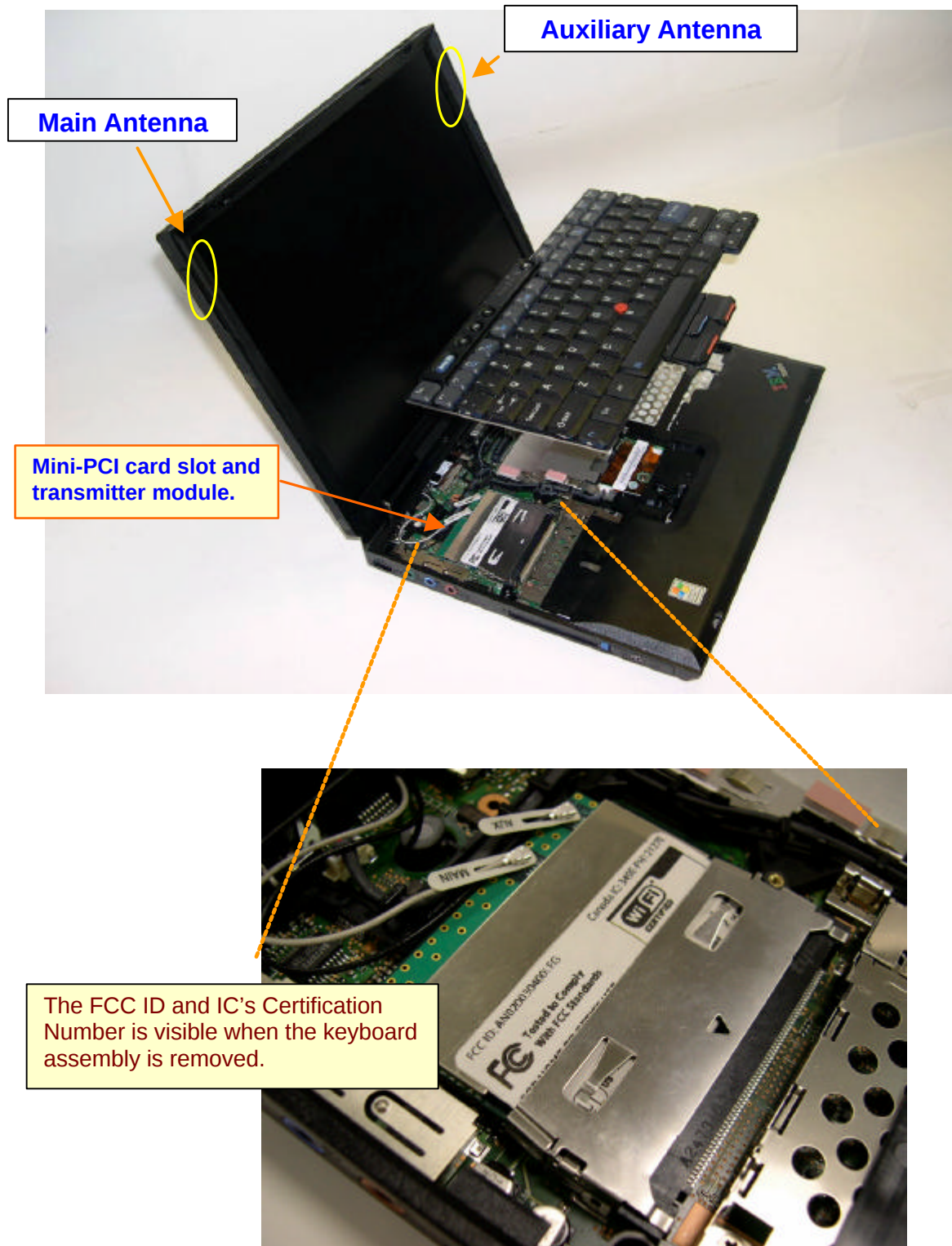
1.1 IBM ThinkPad T40 Series

The inverted F-figure type antenna is built in the top of the LCD, and the coupled floating element antenna is built in the right side of the 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.



1.2 IBM ThinkPad X30 Series

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.



2. Host PC Labeling

2.1 Labeling of T40 Series

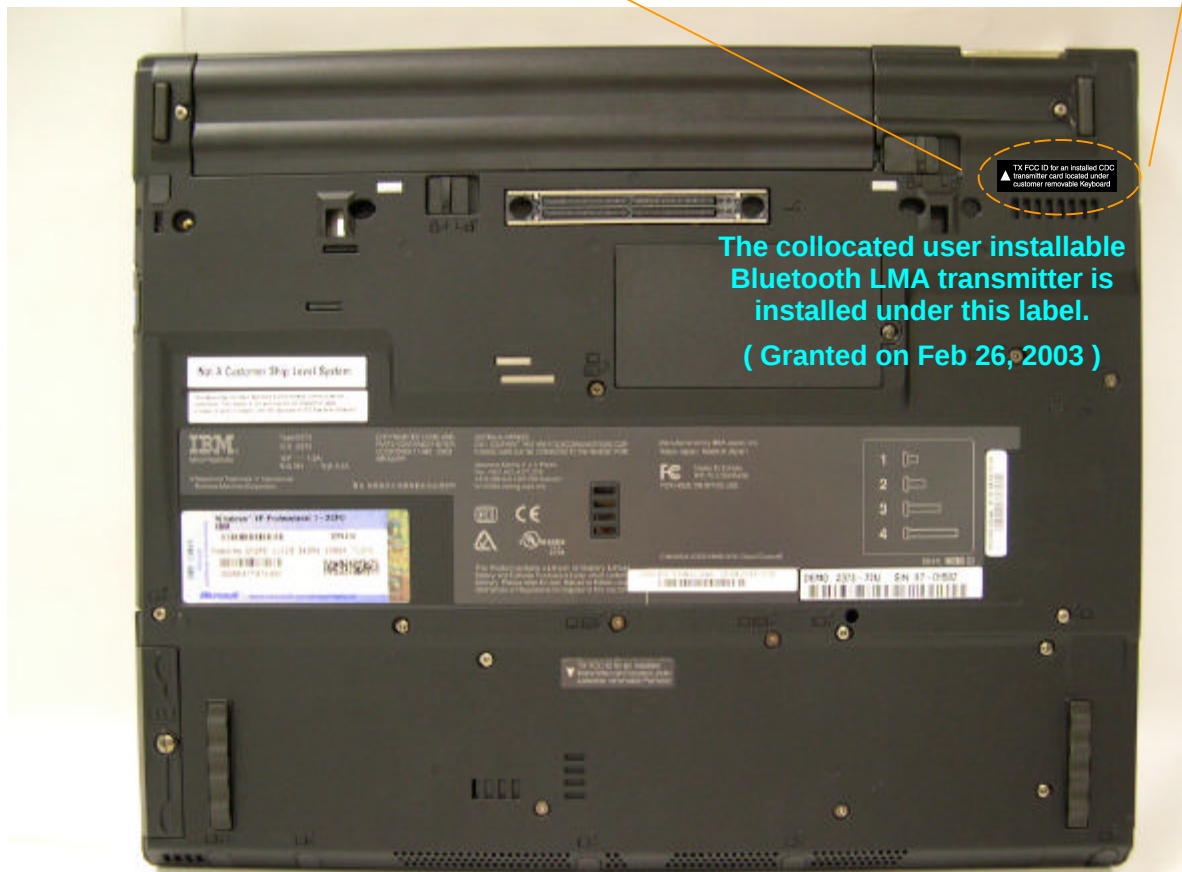


Label for a different model of the host PC (ThinkPad T40 Series)

The model (T40) supports the applying transmitter and a built-in type Bluetooth LMA which is to be certified separately as the FCC ID: ANO20020100MTN.



**TX FCC ID for an installed CDC
transmitter card located under
customer removable Keyboard**

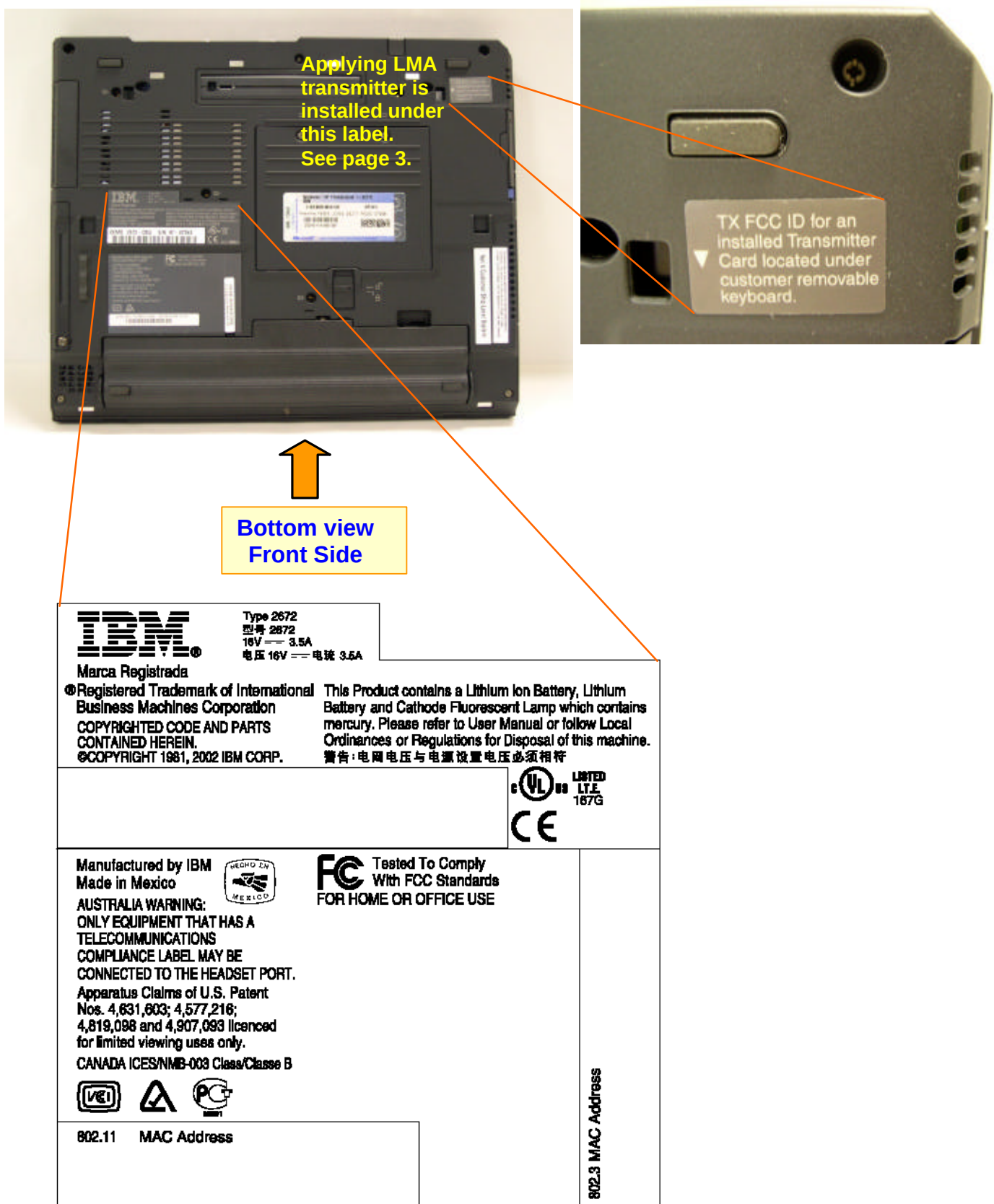


**The collocated user installable
Bluetooth LMA transmitter is
installed under this label.
(Granted on Feb 26, 2003)**



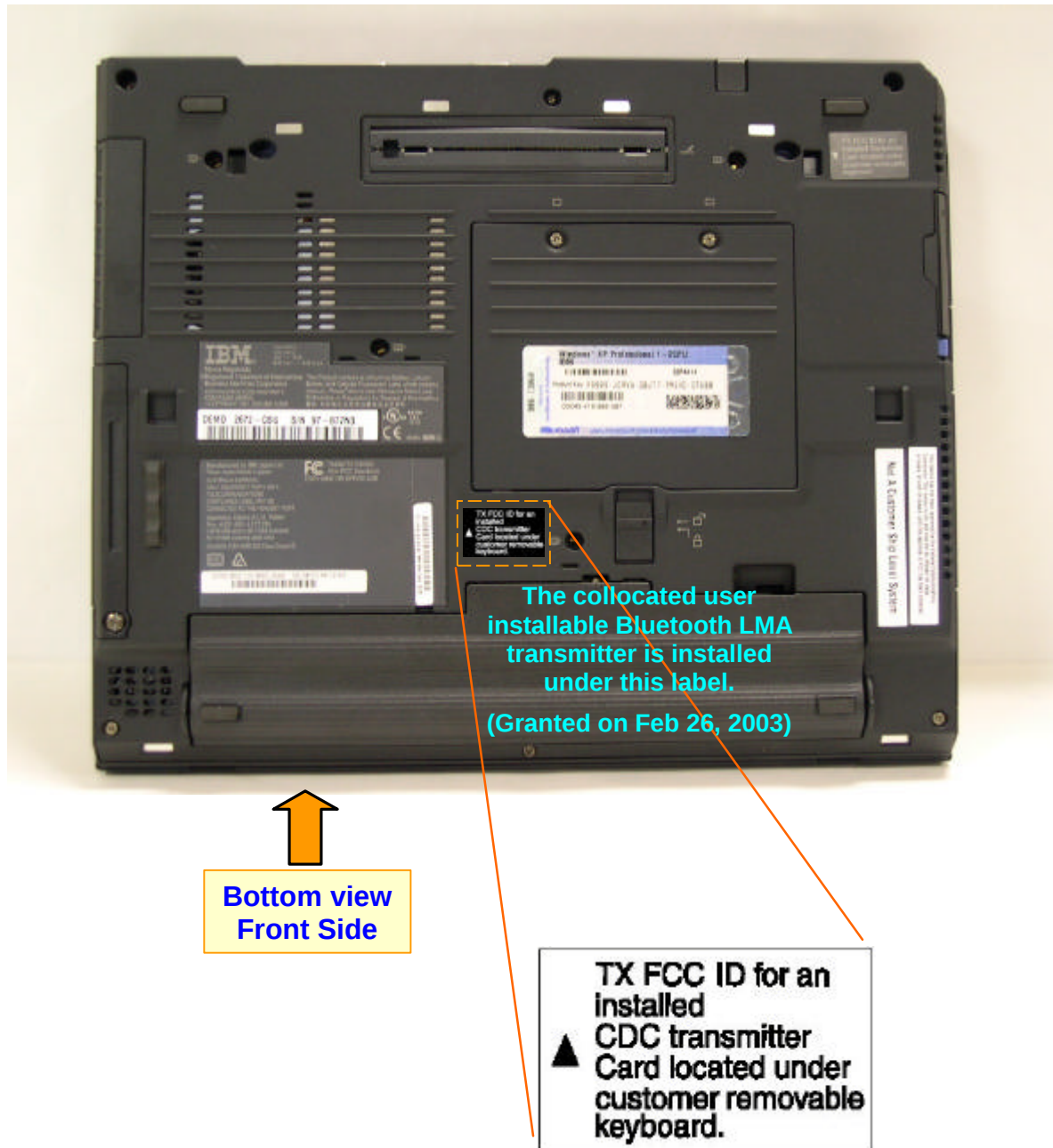
Bottom view, Front side

2.2 Labeling of X30 Series



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 is to be certified separately as the FCC ID: ANO20020100MTN.



3. Antenna Specifications

3.1 Transmission Antenna assembly overview

IBM ThinkPad T40 Series

Designator	Manufacture	Antenna type	Cable type and length	Gain (dBi) Note 1)
62P4204 Main antenna	Foconn Electronics Inc. (R.O.C.)	Dual Band Inverted F type Antenna	Coax 745 mm	2.4GHz band 0.99 dBi (peak)
				5.8GHz band -0.23 dBi (peak)
62P4203 Auxiliary antenna	Foxconn Electronics Inc. (R.O.C.)	Dual-Band Coupled Floating Element Antenna	Coax 860 mm	2.4GHz band -0.48 dBi (peak)
				5.8GHz band -0.37 dBi (peak)

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 0.62 dBi (peak)
				5.8GHz band 0.32 dBi (peak)
08K4084 Auxiliary antenna	Nissei Electric Ltd. (Japan)	Dual Band Inverted F type Antenna	coax 534mm	2.4GHz band 1.28 dBi (peak)
				5.8GHz band -0.87 dBi (peak)

Note 1):

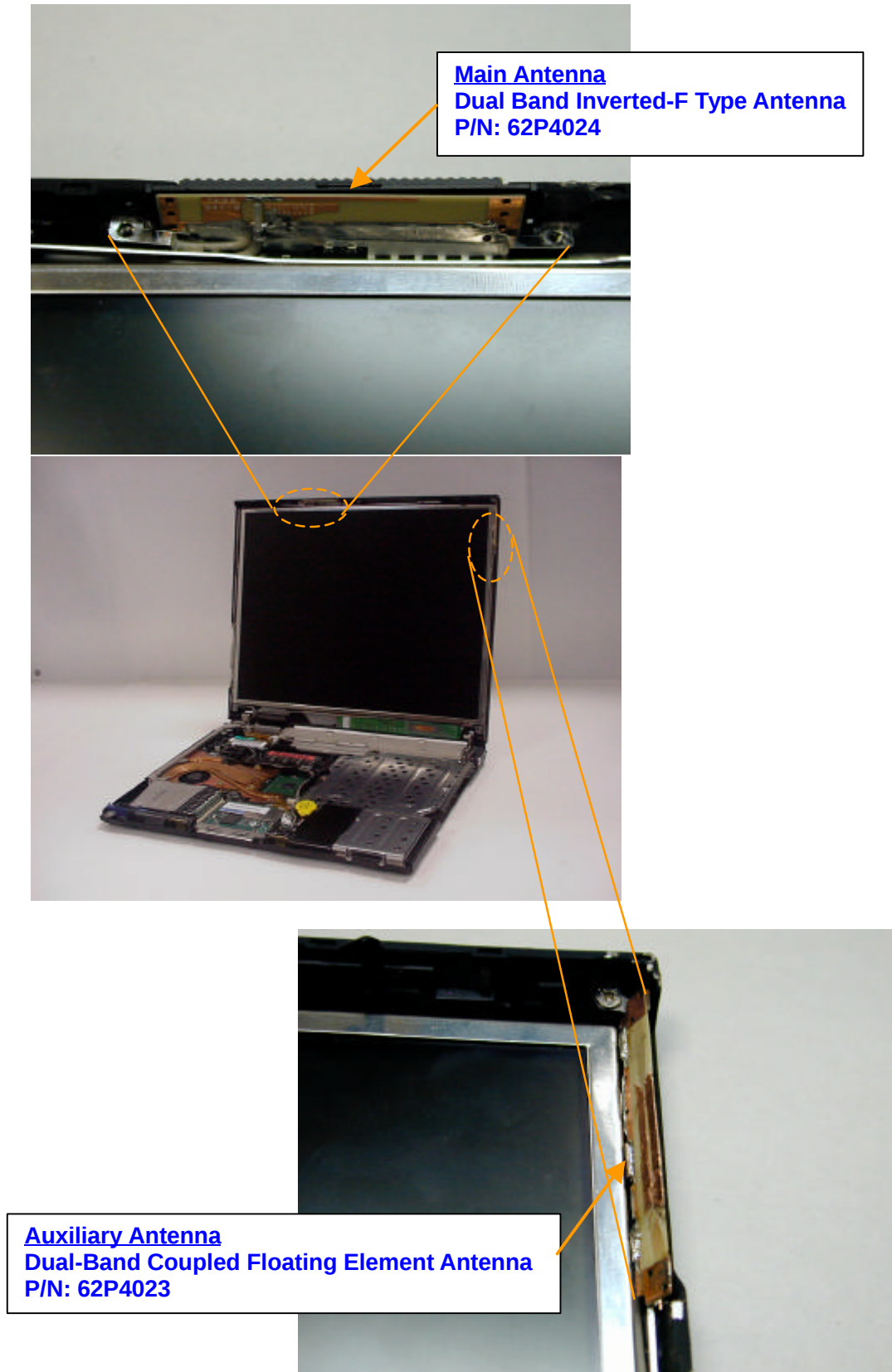
1a. Includes all cable losses.

1b. Antenna type should be Omni Directional and have gain of 3.0 dBi or less for IEEE802.11a(5GHz band) and have gain of 2.0 dBi or less for IEEE802.11b & g(2.4GHz band), regarding the IBM internal specification.

3.2 Antenna Photos

3.2.1 T40 Series, Antenna Photos

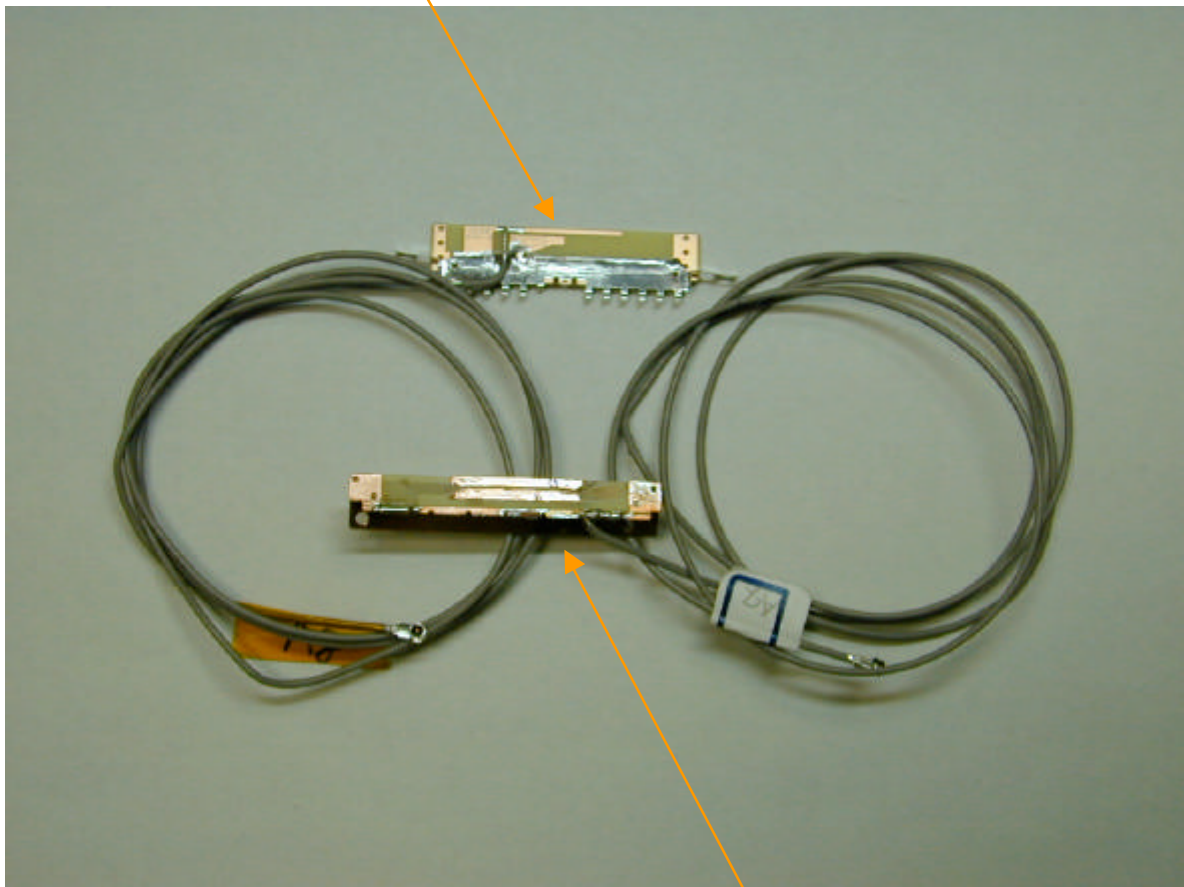
T40: Antenna locations



T40: Antenna Exterior Photos

Main Antenna

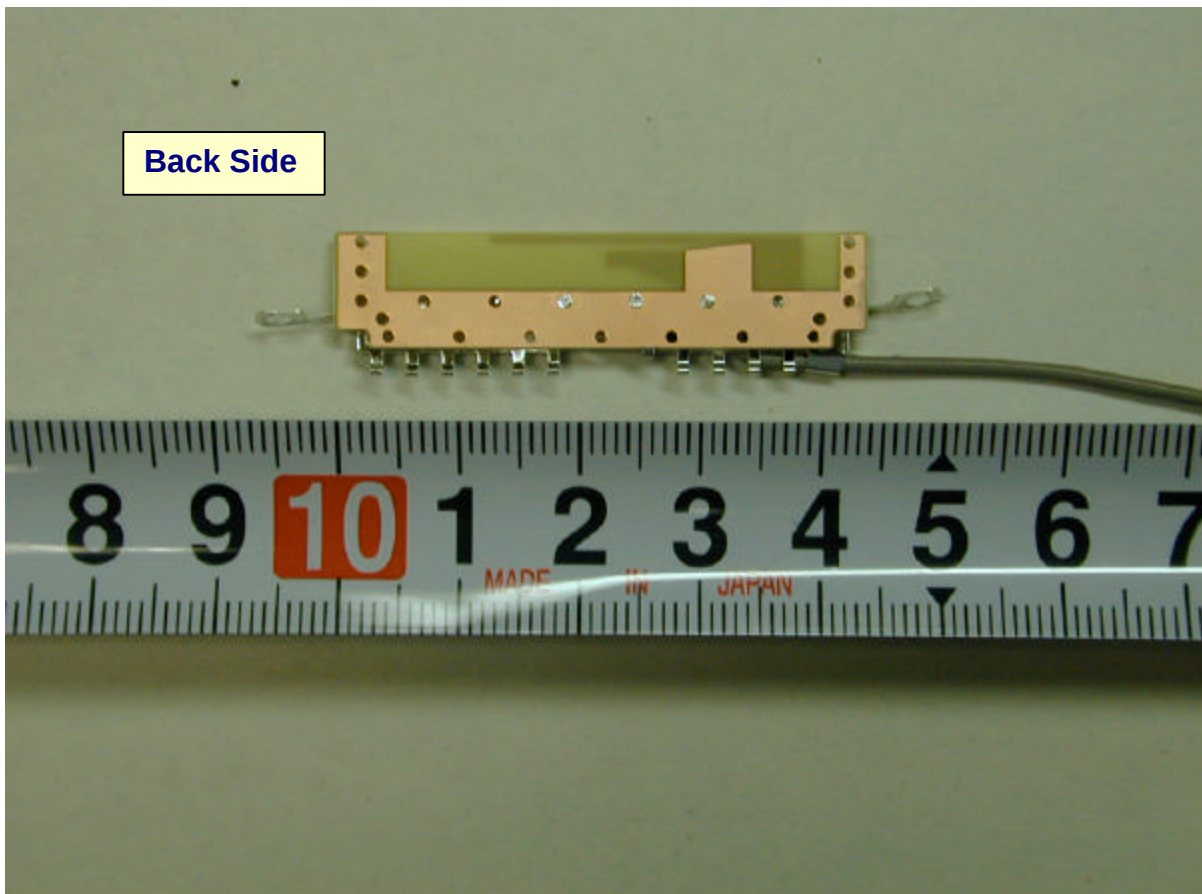
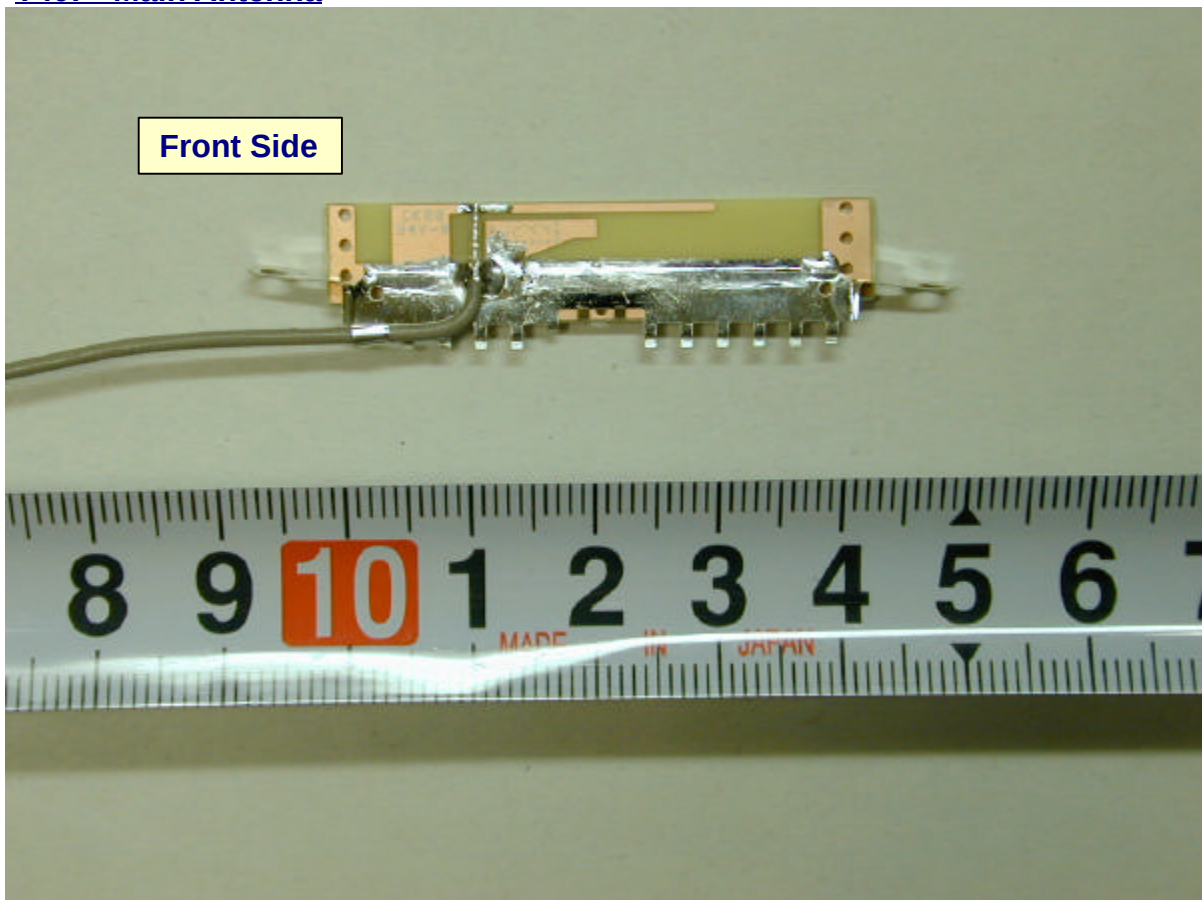
**Manufacturer: Foxconn Electronics Inc.
Parts Number: 62P4204
Dual Band Inverted-F type antenna
Cable: coax 740mm**



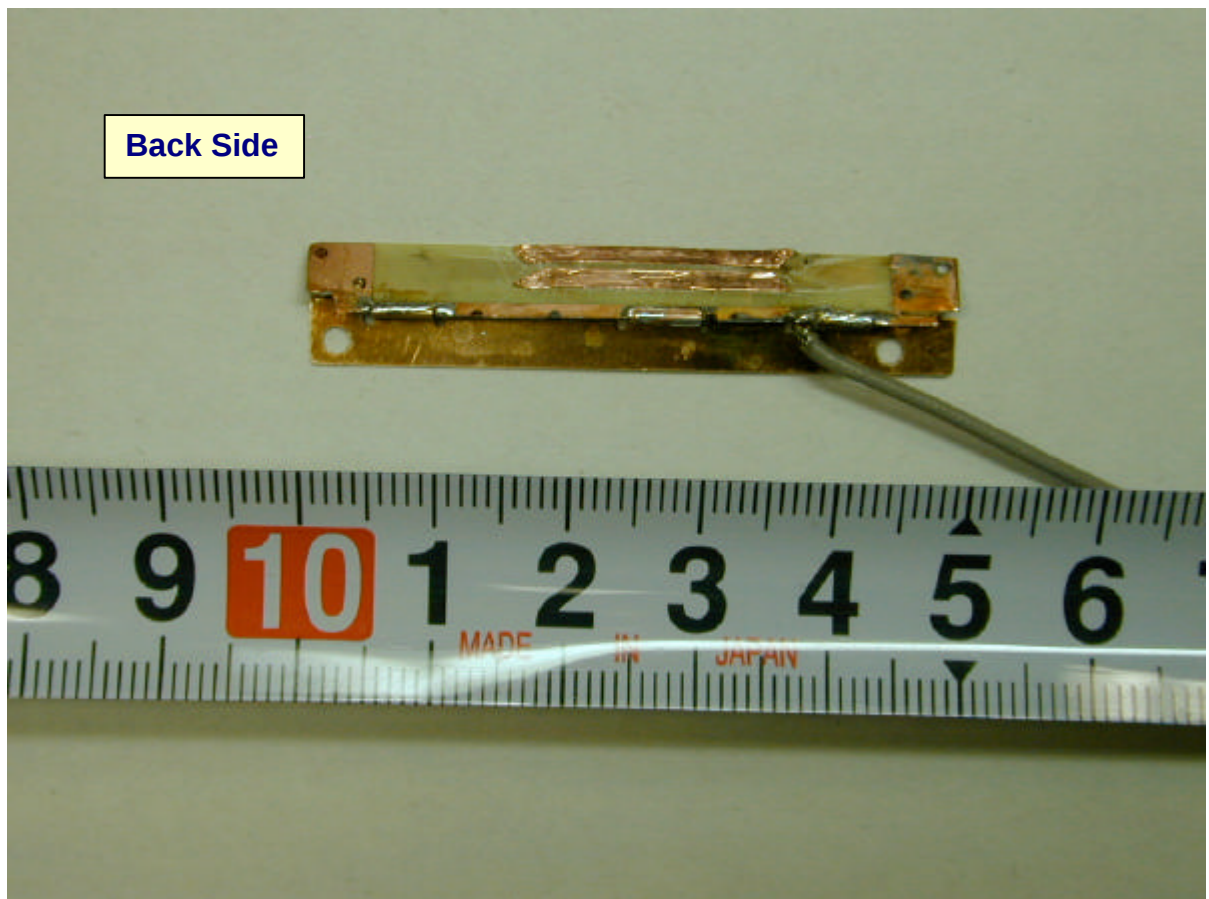
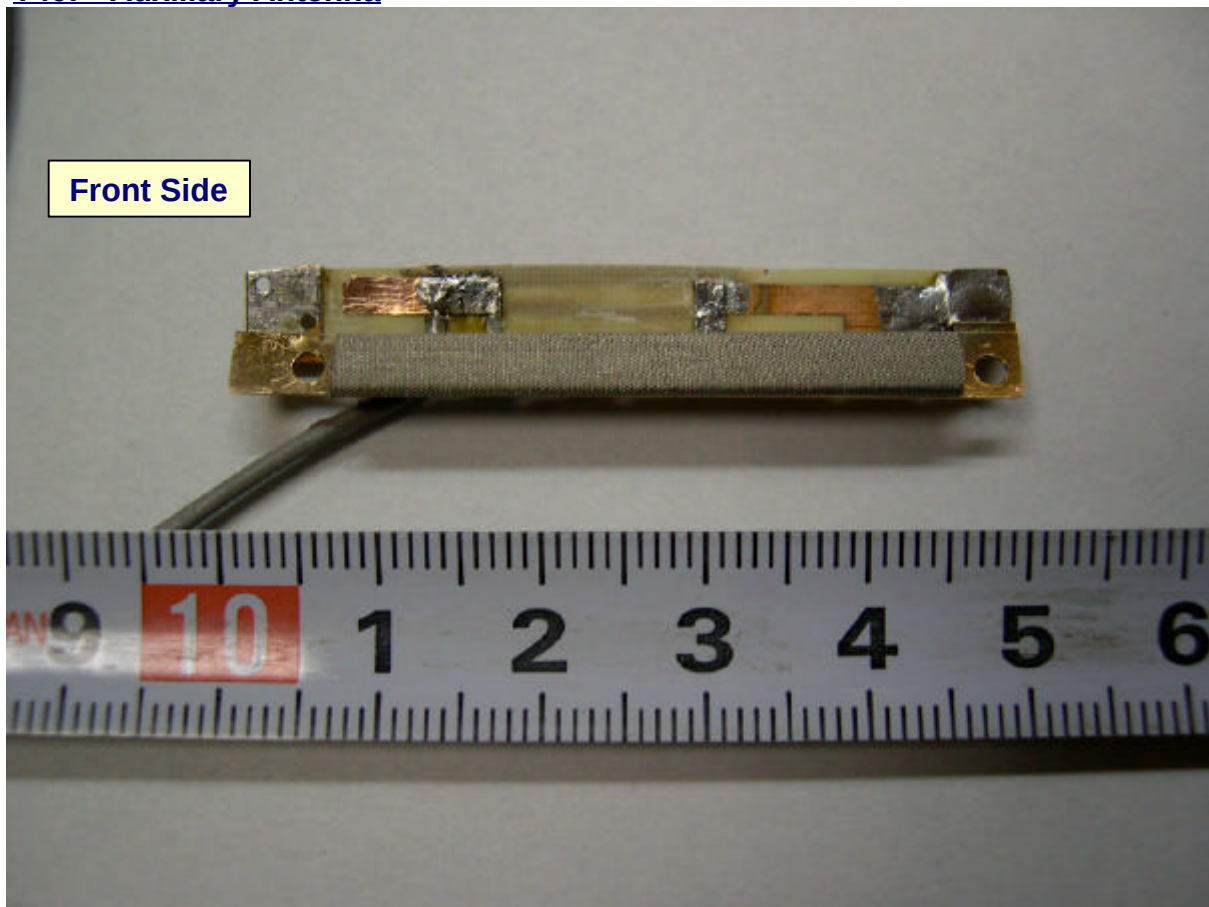
Auxiliary Antenna

**Manufacturer: Foxconn Electronics Inc.
Parts Number: 62P4203
Dual-Band Coupled Floating Element Antenna
Cable : coax 845mm**

T40: Main Antenna



T40: Auxiliary Antenna



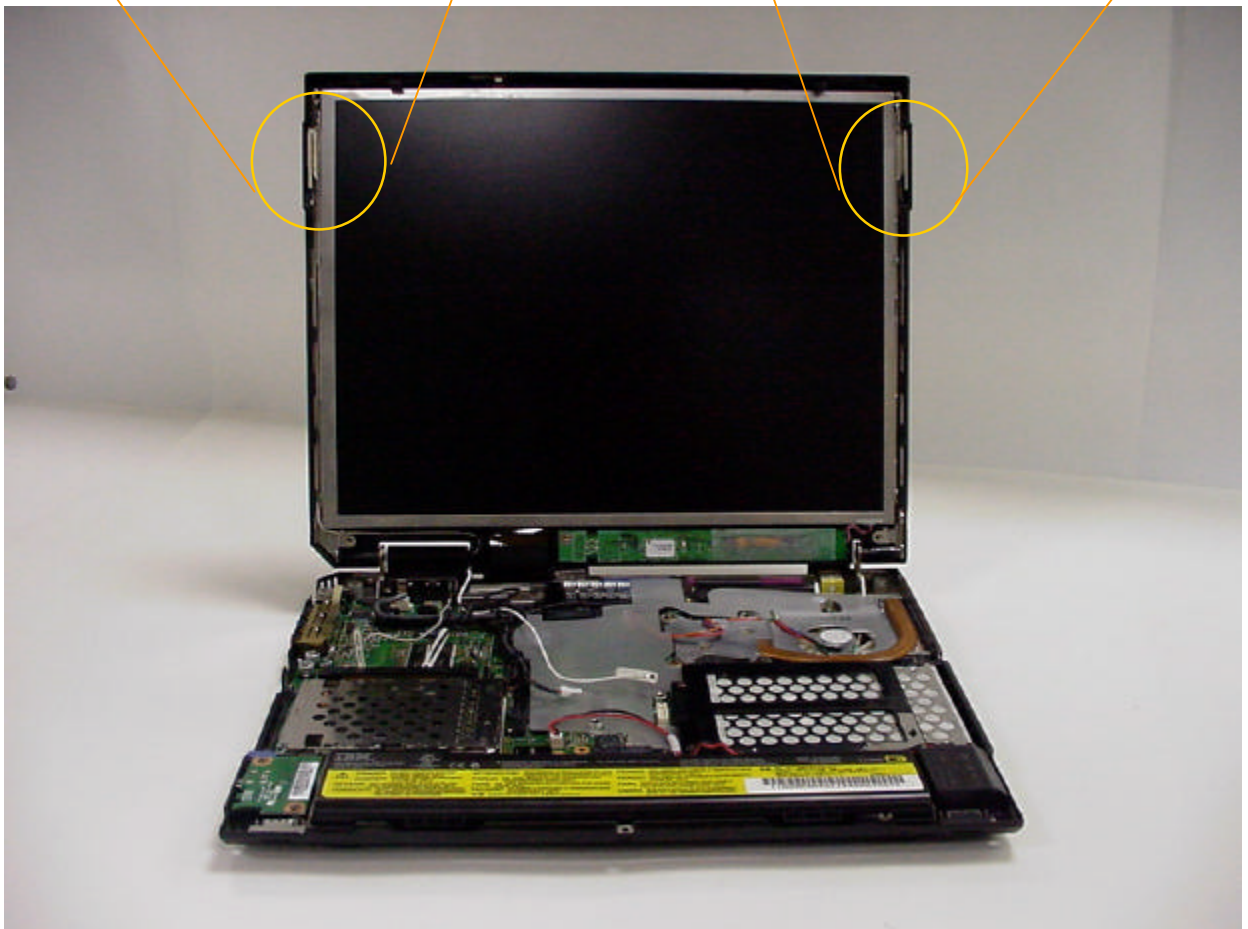
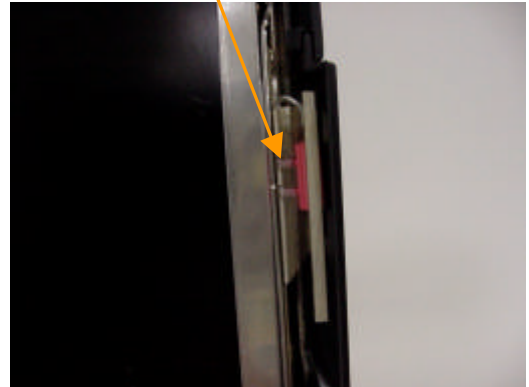
3.2.2 X30 Series, Antenna Photos

X30: Antenna location

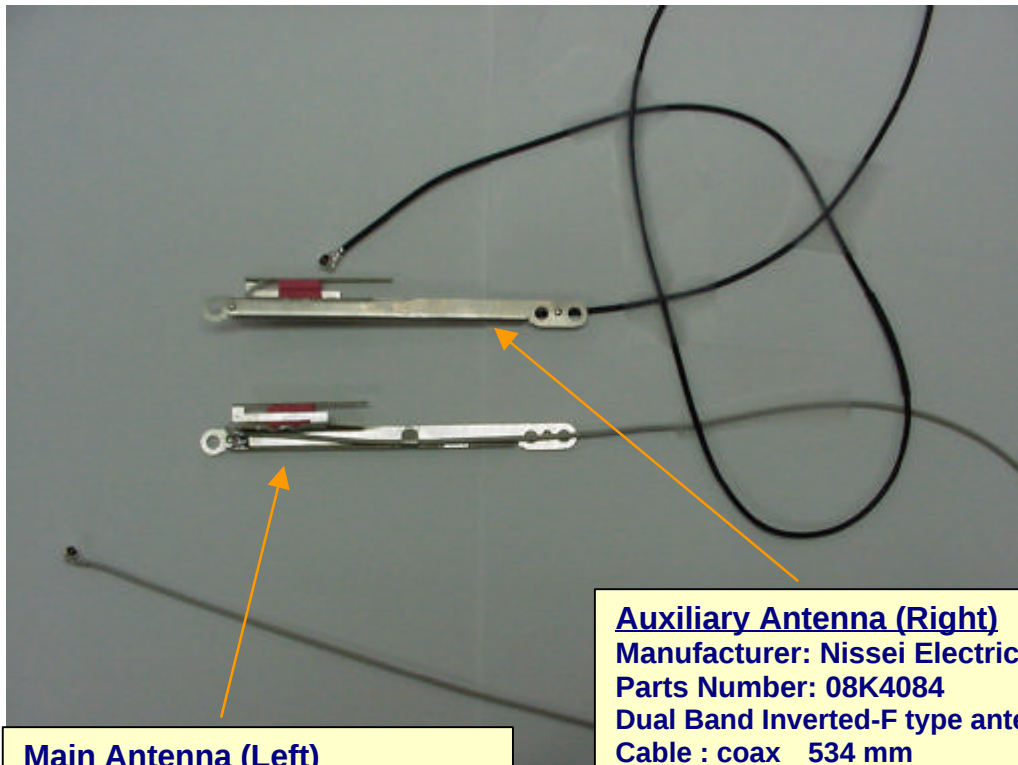
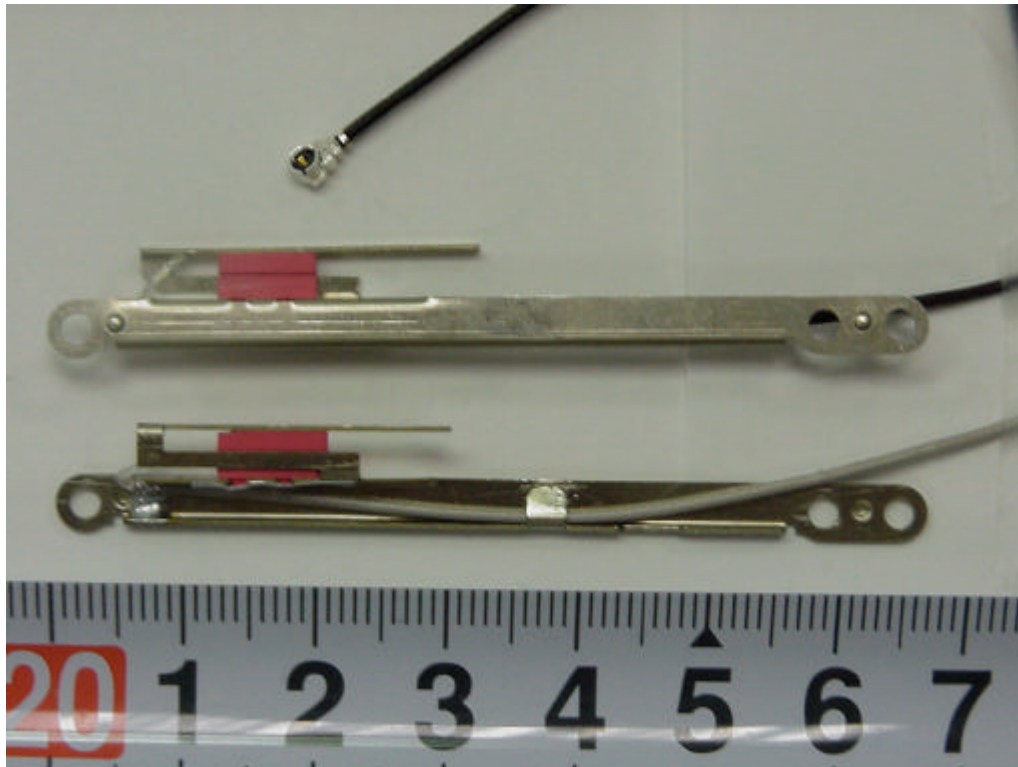
Main antenna
Dual Band Inverted-F type
P/N: 08K4083



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



X30: Antenna Exterior Photos



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