Host Unit Antenna Information
for
ThinkPad T40 Series, 15 inch model
ThinkPad R50 Series, 14/15 inch models

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1. Host PC Information

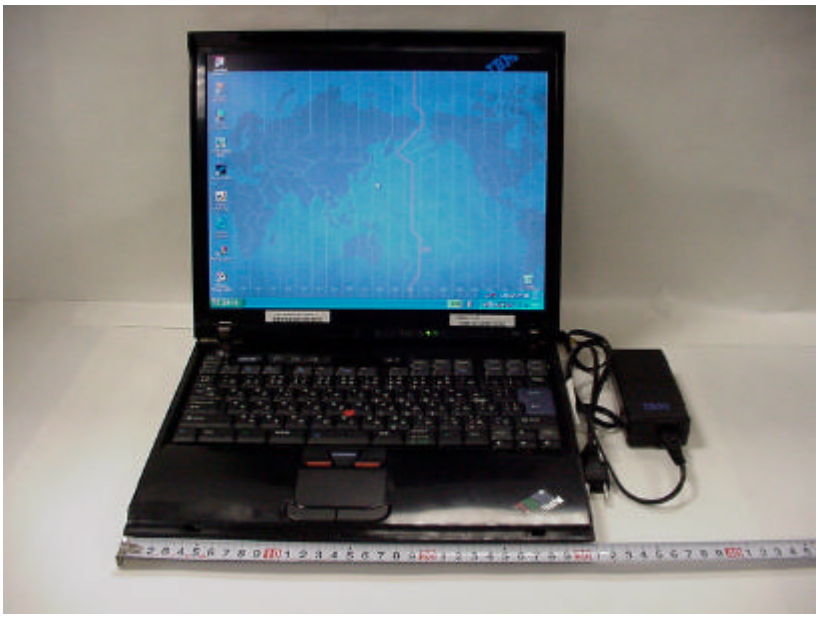
The host PCs (IBM ThinkPad **T40** Series and **R50** Series) are designed with the same conceptual hardware configuration of full size laptop PC.

The main antenna is built in the top portion of the LCD, and the auxiliary antenna is built in the upper right side of the LCD. 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.

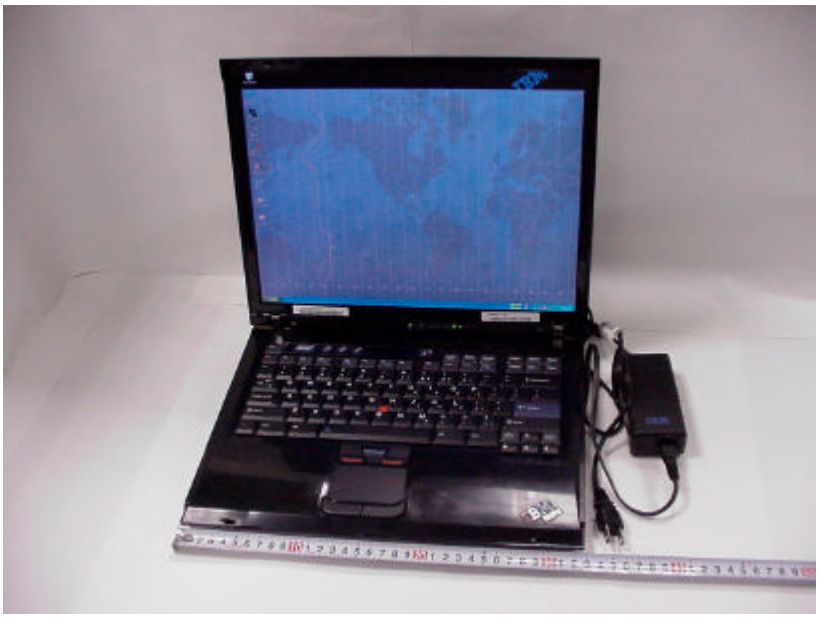
IBM ThinkPad **T40** Series, LCD 15 inch model, and ThinkPad **R50** Series

ThinkPad T40 Series
LCD 15 inch

ThinkPad R50 Series
LCD 14 inch



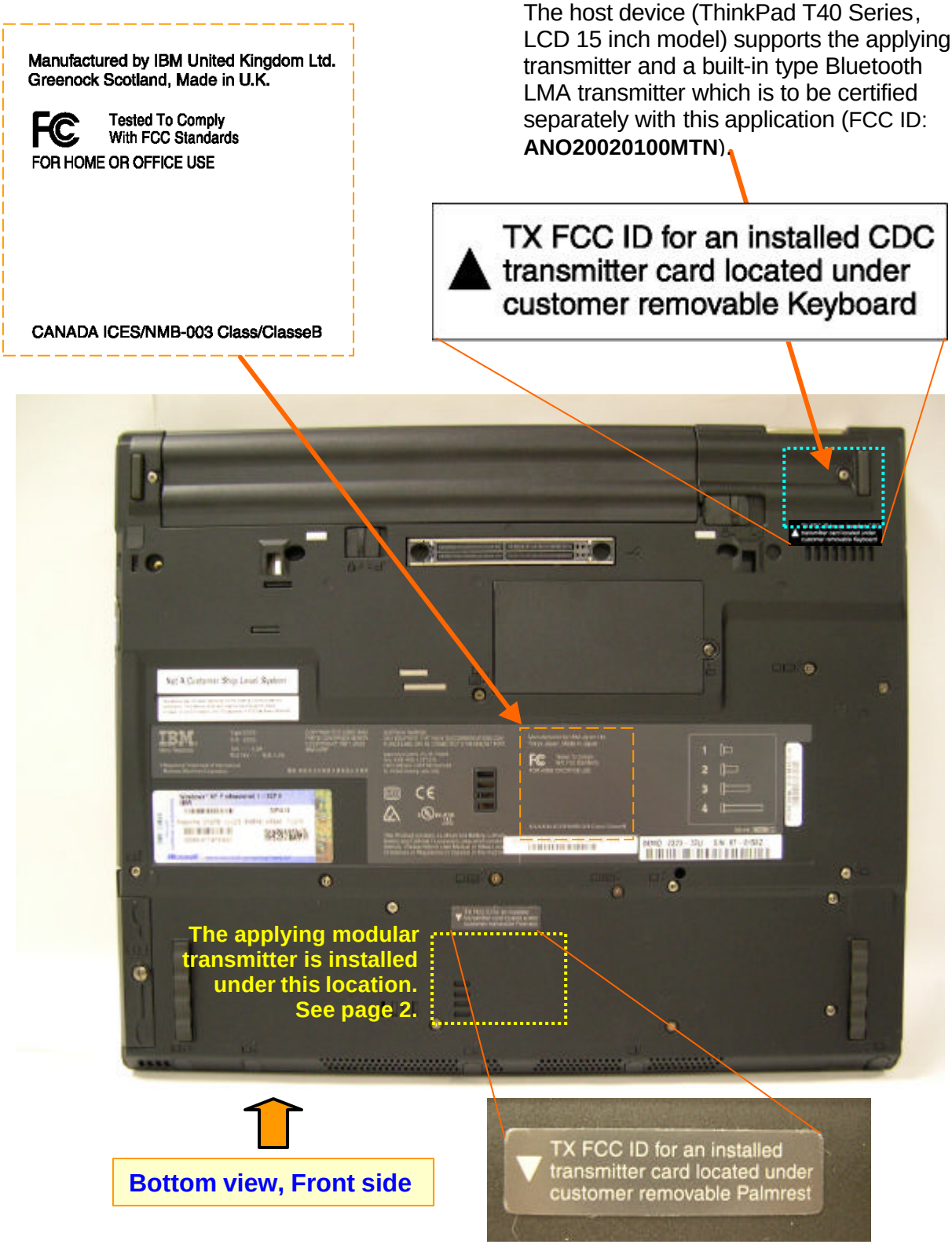
ThinkPad R50 Series
LCD 15 inch



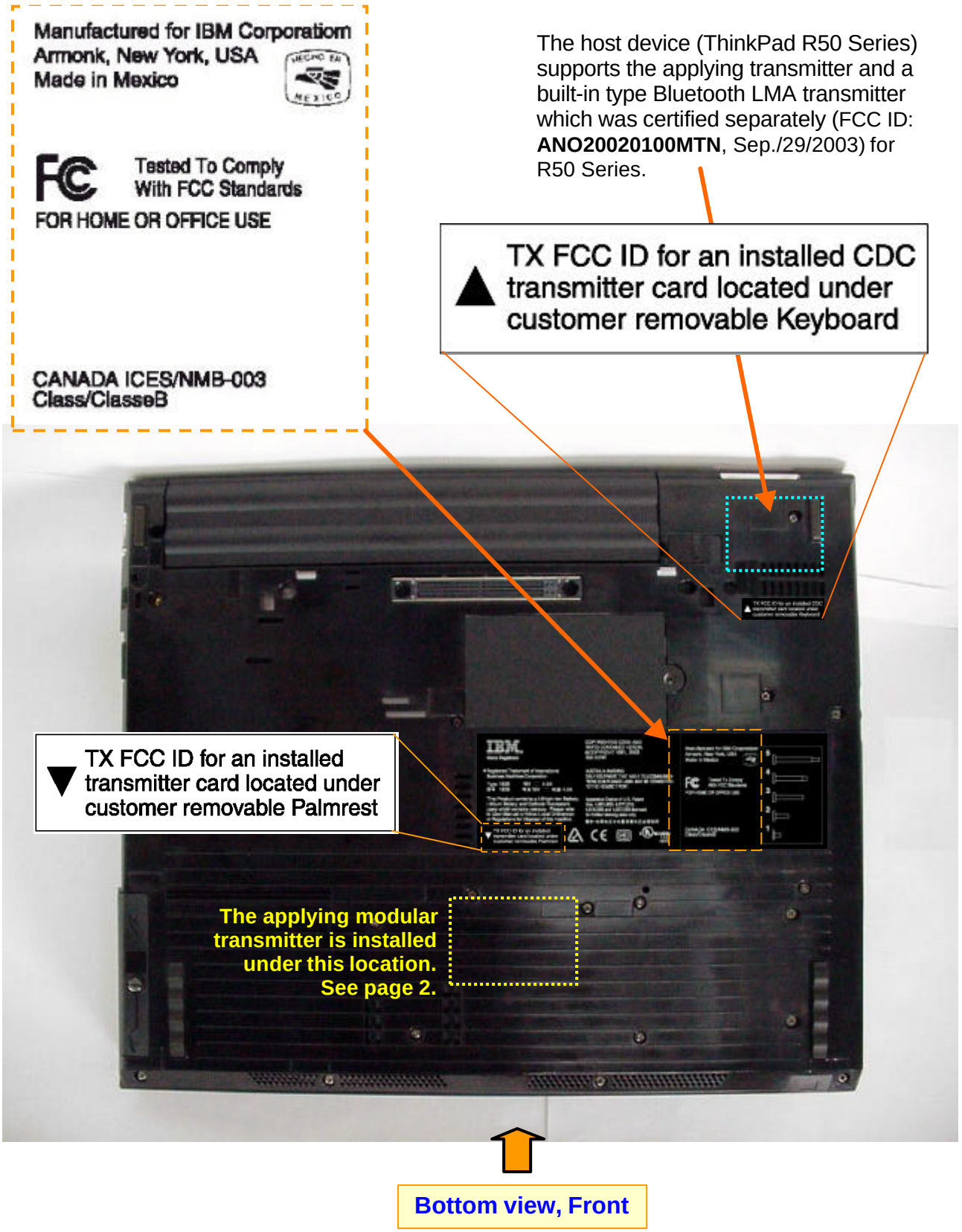
2. Host PC Labeling

2.1 Labeling of T40 Series

The host device (ThinkPad T40 Series, LCD 15 inch model) supports the applying transmitter and a built-in type Bluetooth LMA transmitter which is to be certified separately with this application (FCC ID: **ANO20020100MTN**).



2.2 Labeling of R50 Series



Bottom view, Front

3. Antenna Specifications

3.1 Transmission Antenna assembly overview

*Note 1): The previous naming of **"Inverted F"** is updated to the recent one "**Meander**".*
Note 2): 2a. Includes all cable losses.
2b. Antenna type should be Omni Directional and have gain of 2.0 dBi or less for IEEE802.11b (2.4GHz band), regarding the IBM internal specification.

IBM ThinkPad T40 Series, LCD 15 inch model

		Designator	Manufacture	Antenna type Note 1)	Cable type and length	Gain (dBi) Note 2)
LCD **15** inch Model	Main	91P6841	Hitachi Cable Ltd. (Japan)	Dual Band Meander Antenna	Coax 755 mm	1.24 dBi (peak)
	Auxiliary	91P6840			Coax 580 mm	0.38 dBi (peak)

IBM ThinkPad R50 Series

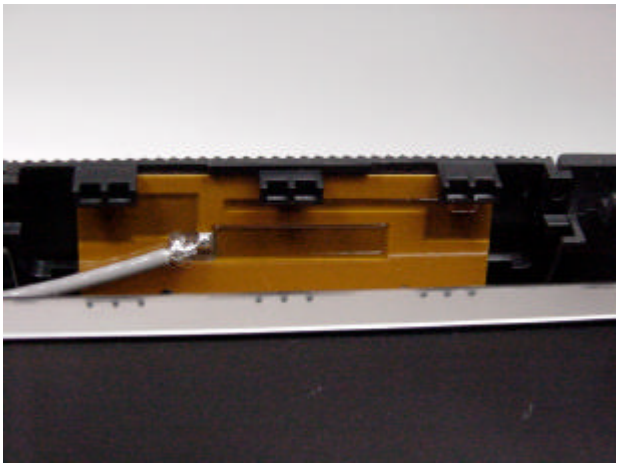
		Designator	Manufacture	Antenna type Note 1)	Cable type and length	Gain (dBi) Note 2)
LCD **14** inch Model	Main	91P6810	Hitachi Cable Ltd. (Japan)	Dual Band Meander Antenna	Coax 750 mm	1.52 dBi (peak)
	Auxiliary	91P6811			Coax 635 mm	1.84 dBi (peak)
LCD **15** inch Model	Main	91P6812	Hitachi Cable Ltd. (Japan)	Dual Band Meander Antenna	coax 775mm	1.18 dBi (peak)
	Auxiliary	91P6813			coax 670mm	1.71 dBi (peak)

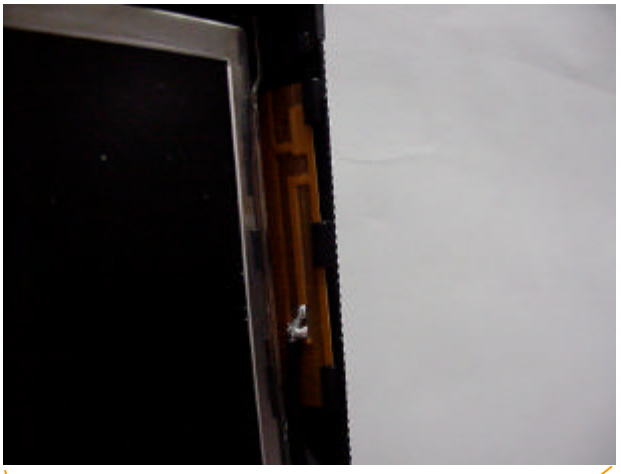
3.2 Antenna Locations

3.2.1 IBM ThinkPad T40 Series, LCD 15 inch model

Main antenna
Dual Band Meander
P/N: 91P6841

Auxiliary antenna
Dual Band Meander
P/N: 91P6840

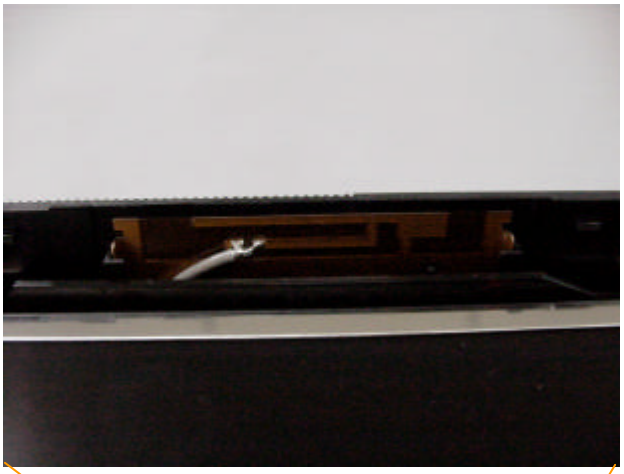


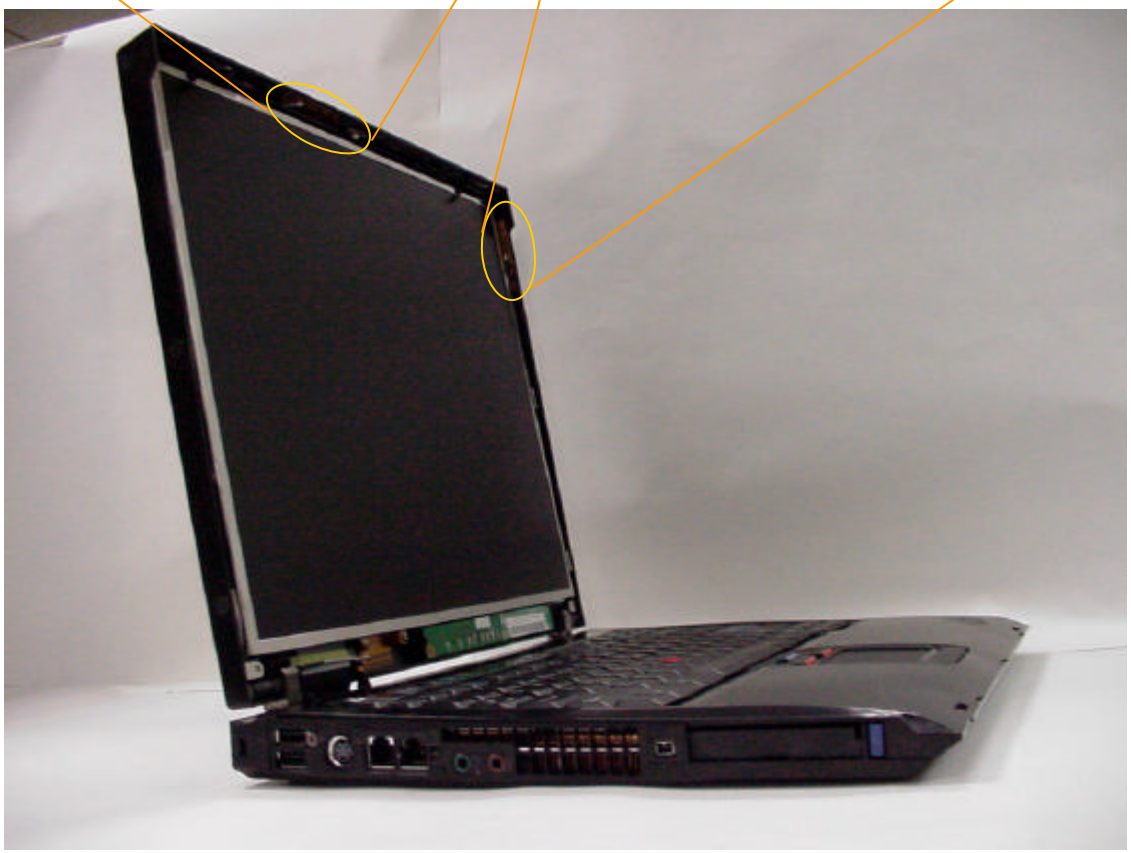


3.2.2 IBM ThinkPad R50 Series

Main antenna
Dual Band Meander Antenna
P/N: 91P6810 (14 inch)
P/N: 91P6812 (15 inch)

Auxiliary antenna
Dual Band Meander Antenna
P/N: 91P6811 (14 inch)
P/N: 91P6813 (15 inch)





3.3 Exterior Photos of Antennas

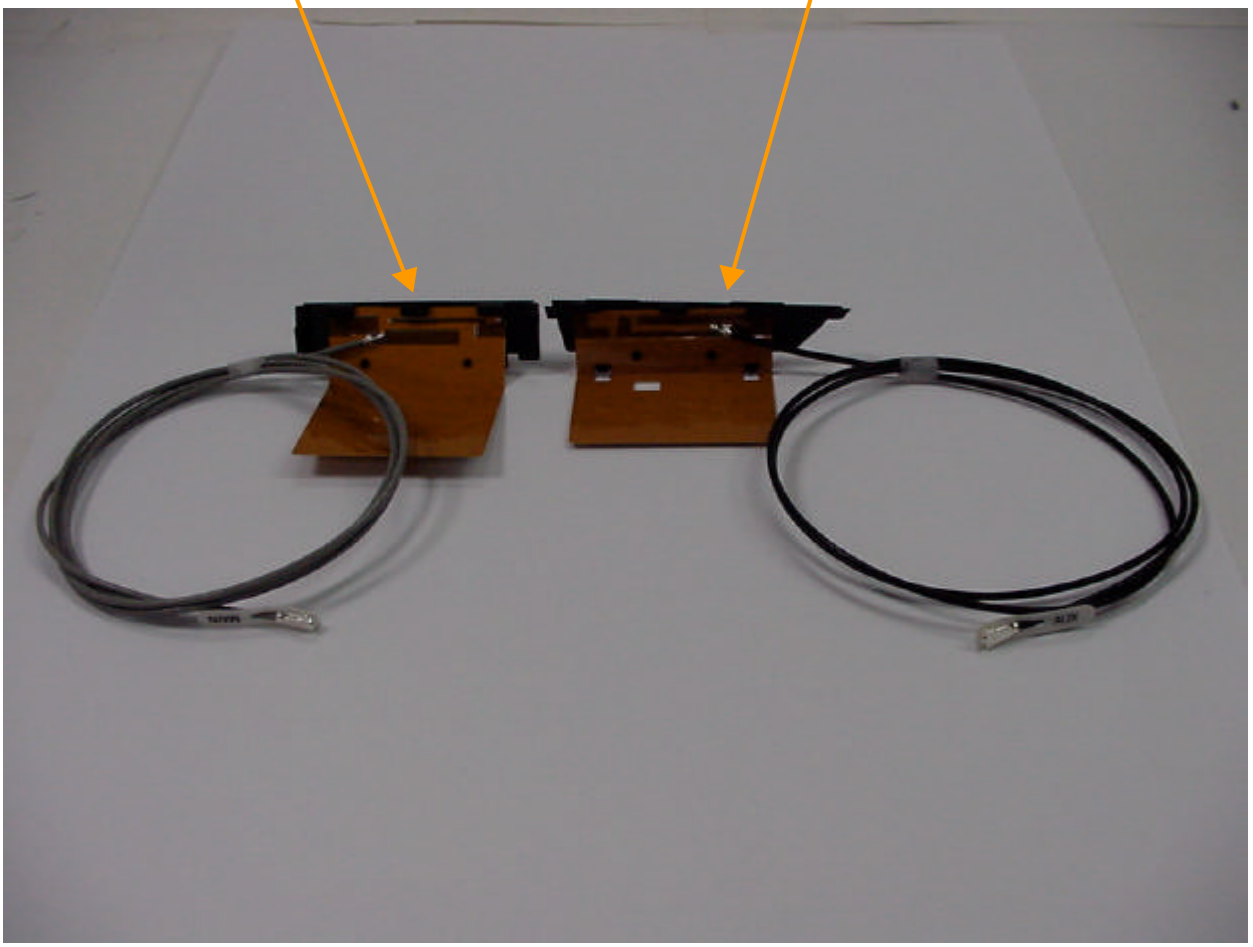
3.3.1 IBM ThinkPad T40 Series, LCD 15 inch model

Main antenna

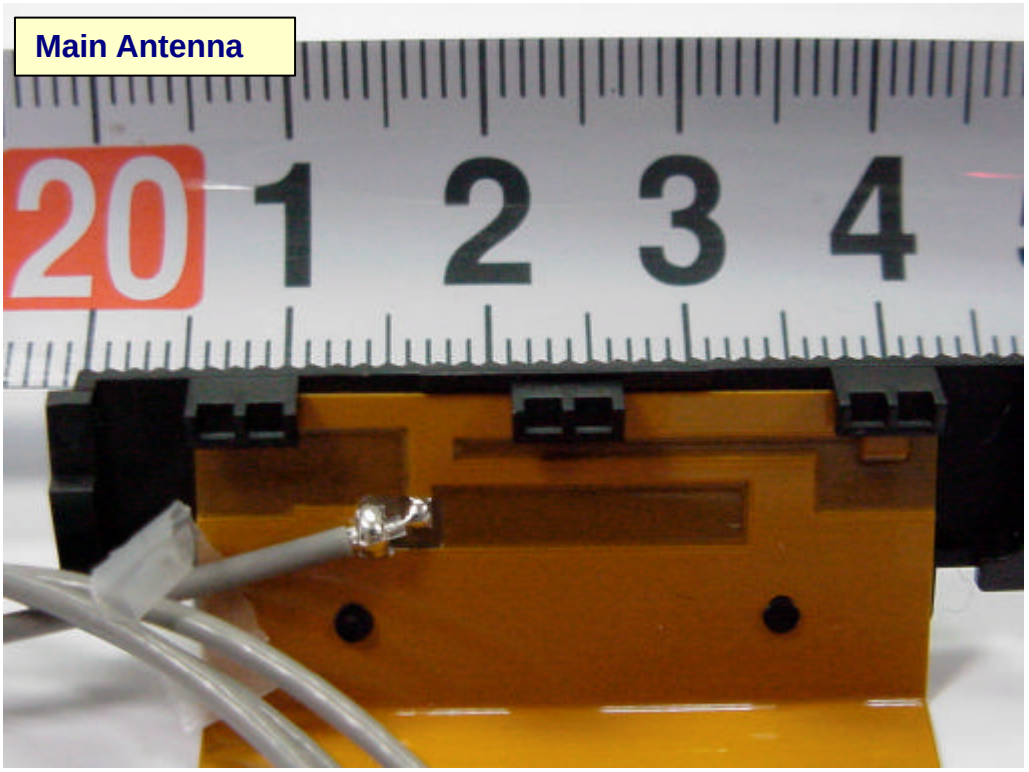
Manufacturer: Hitachi Cable Ltd.
Parts Number: 91P6841
Dual Band Meander antenna
Cable : coax 755 mm

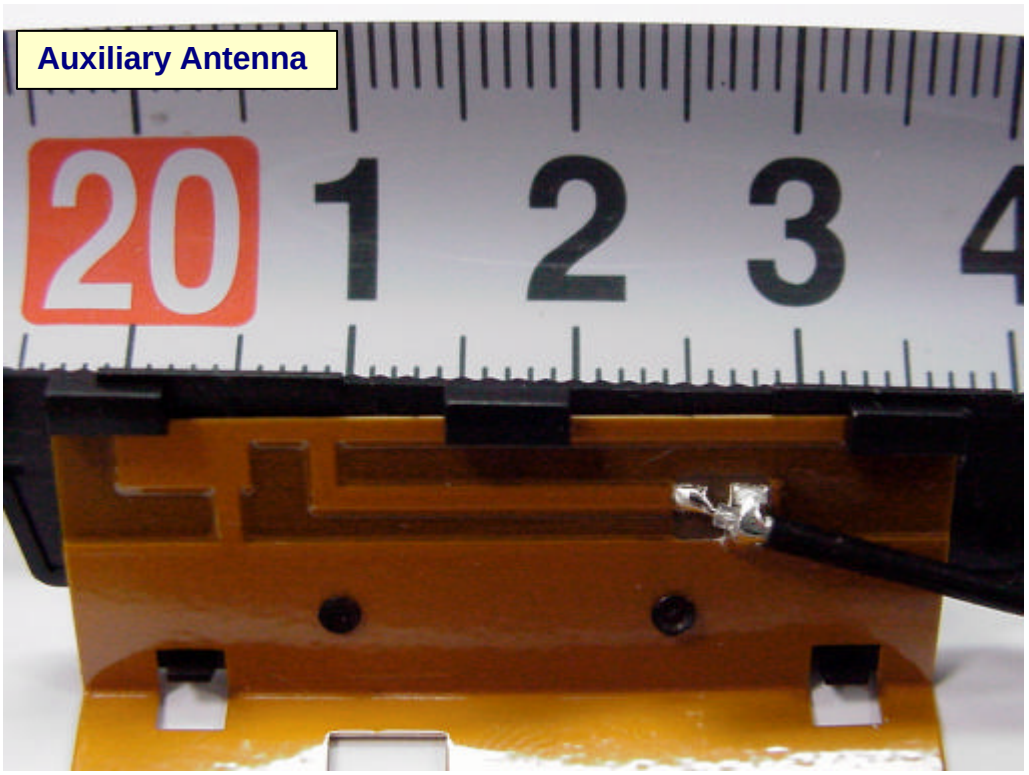
Auxiliary antenna

Manufacturer: Hitachi Cable Ltd.
Parts Number: 91P6840
Dual Band Meander antenna
Cable : coax 580 mm



Antennas for ThinkPad T40 Series, LCD 15 inch model





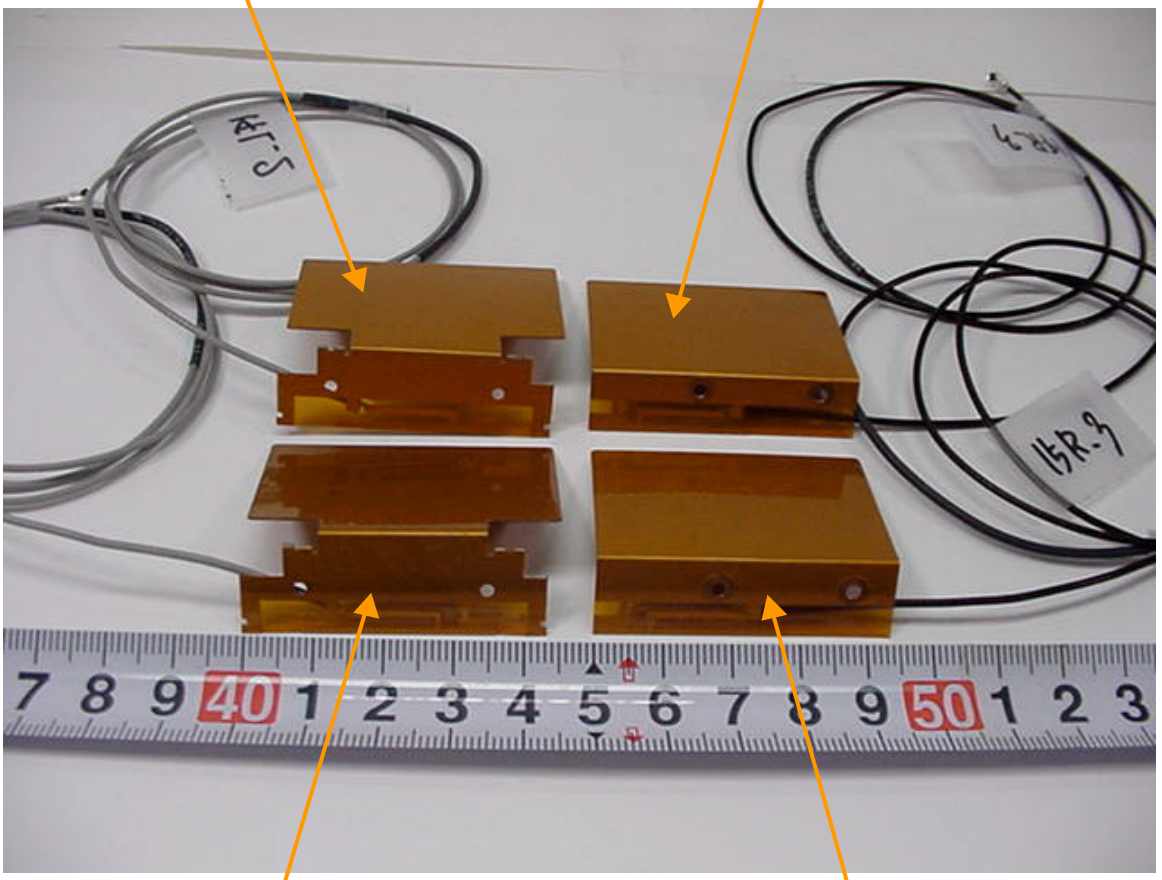
3.3.2 IBM ThinkPad R50 Series

Main antenna for 14 inch model

Manufacturer: Hitachi Cable Ltd.
Parts Number: 91P6810
Dual Band Meander antenna
Cable : coax 750 mm

Auxiliary antenna for LCD 14 inch model

Manufacturer: Hitachi Cable Ltd.
Parts Number: 91P6811
Dual Band Meander antenna
Cable : coax 635 mm



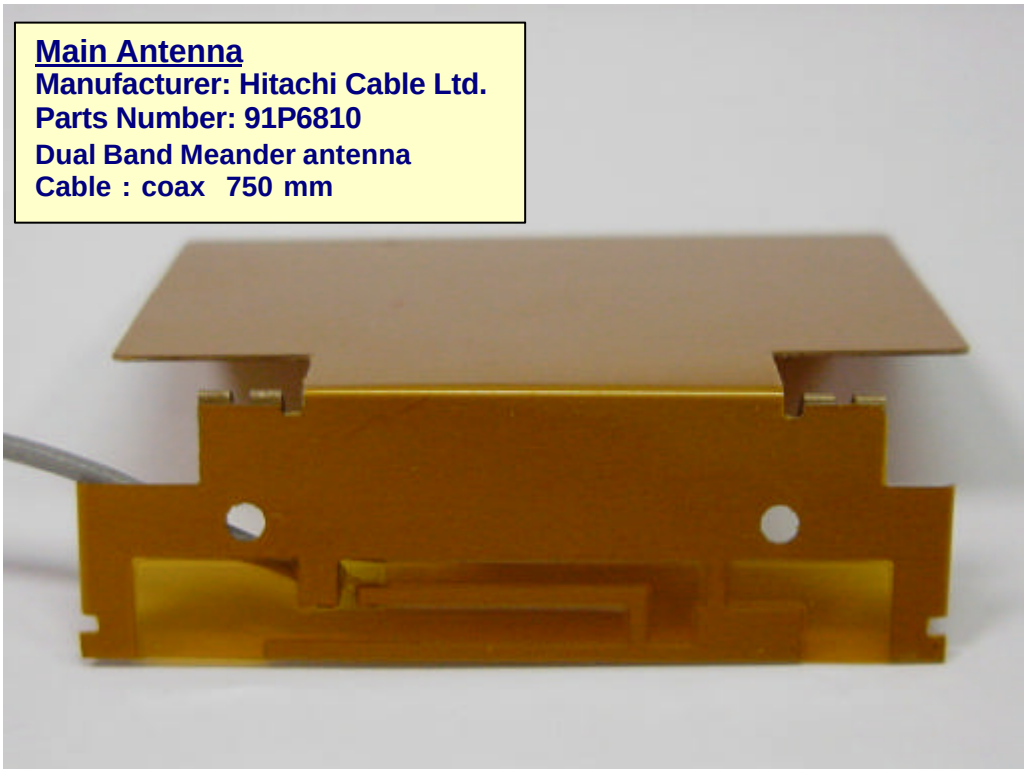
Main antenna for LCD 15 inch model

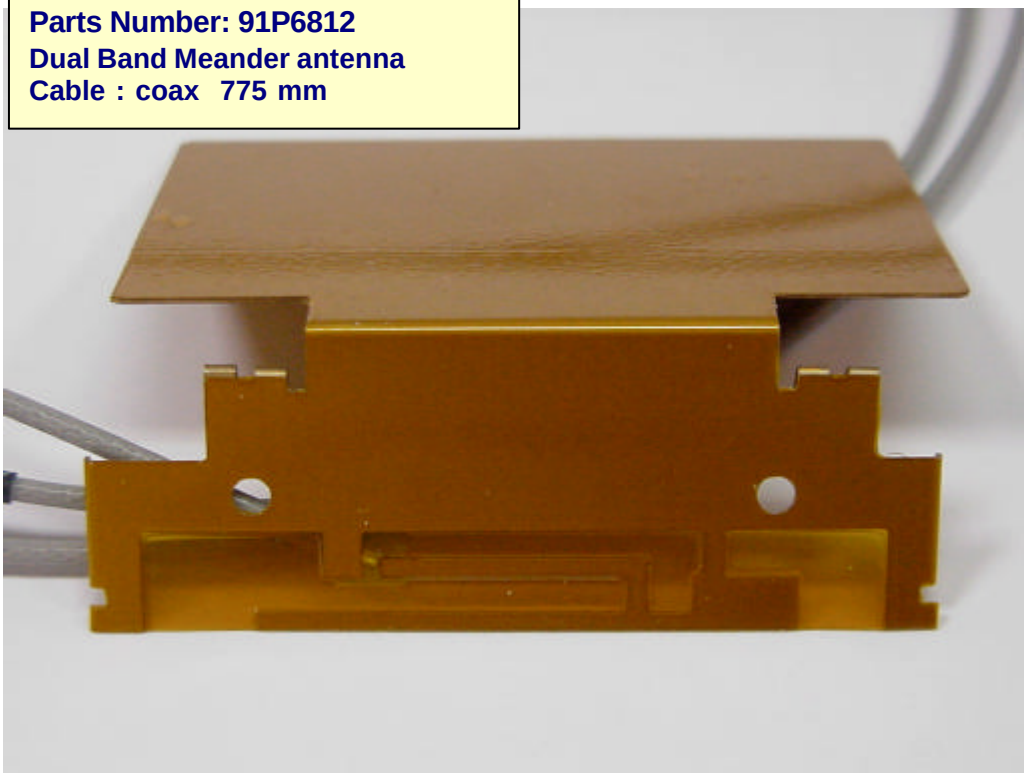
Manufacturer: Hitachi Cable Ltd.
Parts Number: 91P6812
Dual Band Meander antenna
Cable : coax 775 mm

Auxiliary antenna for LCD 15 inch model

Manufacturer: Hitachi Cable Ltd.
Parts Number: 91P6813
Dual Band Meander antenna
Cable : coax 670 mm

Antennas for ThinkPad R50 Series, LCD 14 inch model



Antennas for ThinkPad R50 Series, LCD 15 inch model

Main Antenna
Manufacturer: Hitachi Cable Ltd.
Parts Number: 91P6812
Dual Band Meander antenna
Cable : coax 775 mm