

Antenna Information

ThinkPad X41 Tablet Series

1. Antenna Specification

Transmission Antenna assembly overview

Antenna Designator	Manufacture	Antenna type	Cable type and length	Peak Gain (dBi) *1		
				Frequency band	Notebook operation mode *2	Tablet operation mode *2
91P6908 Main Antenna	Wistron Neweb Corp. (R.O.C.)	Dual Band Meander (Inverted F) Antenna	Coax 600mm	5150-5350MHz	2.75 dBi	2.11 dBi
91P6909 Auxiliary Antenna			Coax 450mm	5150-5350MHz	1.36 dBi	1.71 dBi

Notes:

*1: Includes all cable losses, and antenna type should be Omni Directional.

*2: Operation modes

“Notebook” operation mode



“Tablet” operation mode



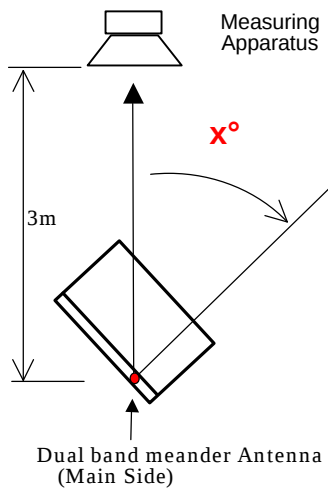
2. Radiation characteristic of antennas

The measurements were performed for both “Notebook” and “Tablet” operation modes.

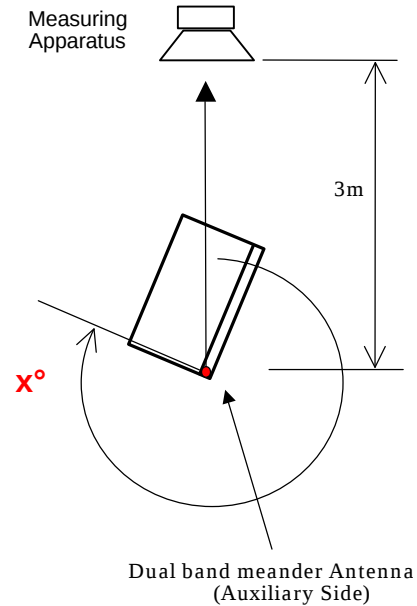
Radiation characteristic of antenna is measured in regard to the rotation angle x° as shown below.

“Notebook” operation mode

Main Antenna

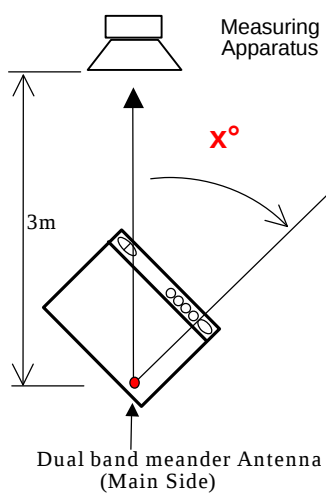


Auxiliary Antenna

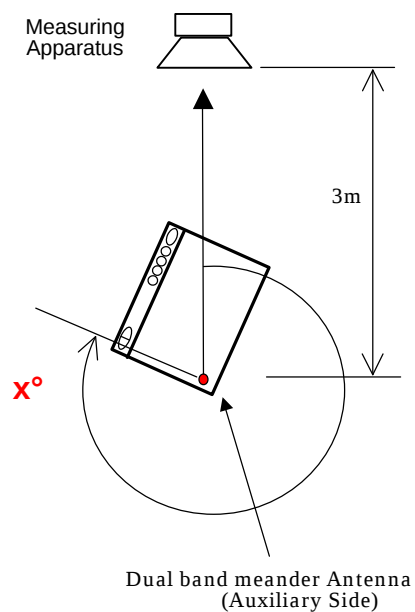


“Tablet” operation mode

Main Antenna



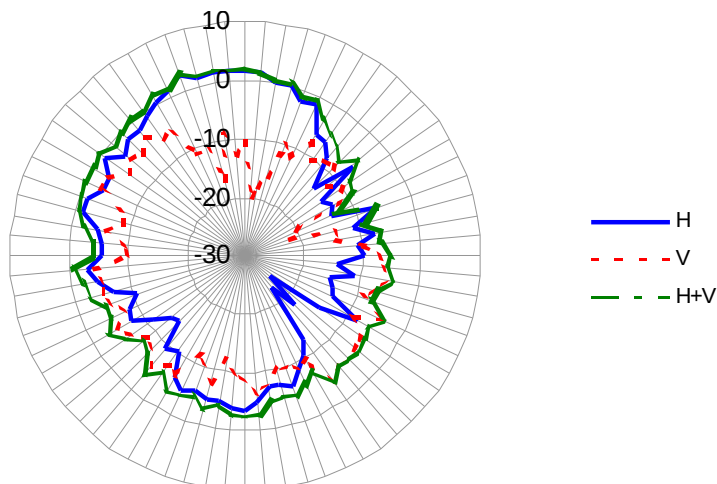
Auxiliary Antenna



Radiation characteristic in 5150-5350MHz band

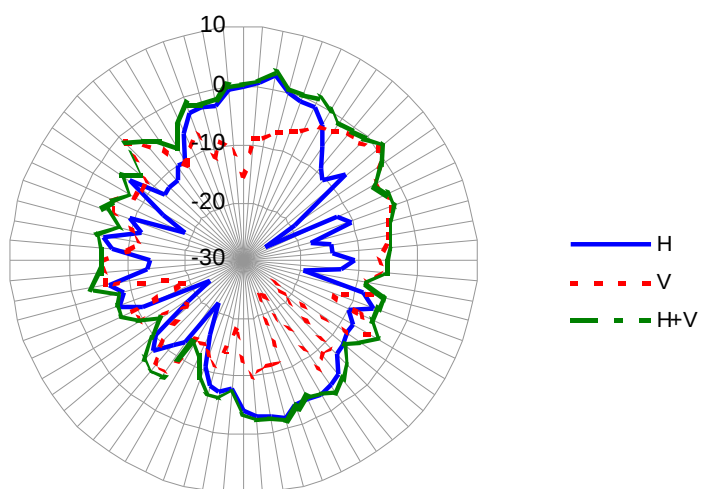
Main antenna

- Notebook operation mode



Hori (dBi) ave.	-4.03
Vert (dBi) ave.	-7.51
H+V (dBi) ave.	-2.42
Peak(dBi) (H)	2.75
Peak Angle (X°=)	340°
Center Frequency	5150MHz

- Tablet operation mode



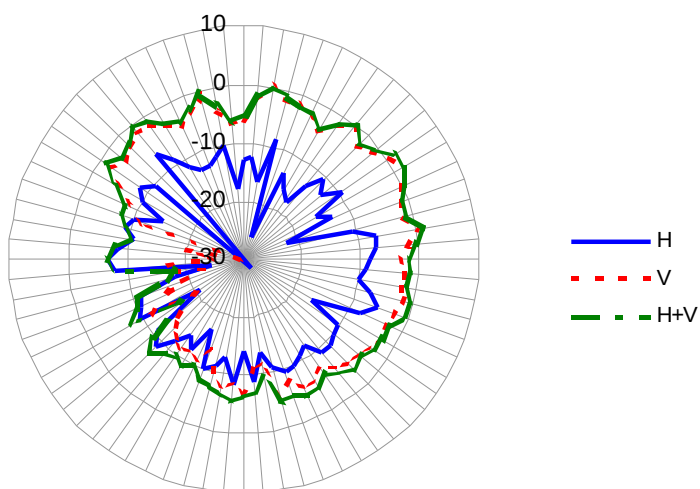
Hori (dBi) ave.	-5.92
Vert (dBi) ave.	-6.87
H+V (dBi) ave.	-3.36
Peak(dBi) (H)	2.11
Peak Angle (X°=)	10°
Center Frequency	5350MHz

Note1) The measurement was performed at 4 frequencies (5150, 5200, 5250, 5350MHz).

Note2) The maximum antenna gain was found around **340 degree** angle from measuring apparatus in **Horizontal** polarization at the low frequency (5150MHz) of **Notebook operation mode**.

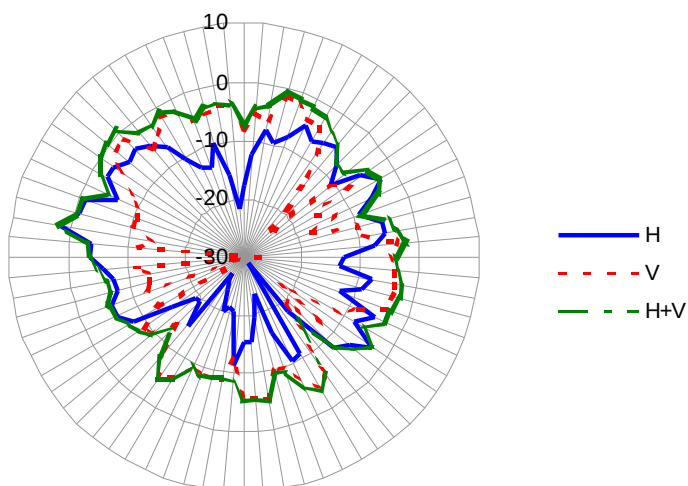
Auxiliary antenna

- Notebook operation mode



Hori (dBi) ave.	-10.69
Vert (dBi) ave.	-4.27
H+V (dBi) ave.	-3.37
Peak(dBi) (V)	1.36
Peak Angle (X°=)	60°
Center Frequency	5250MHz

- Tablet operation mode



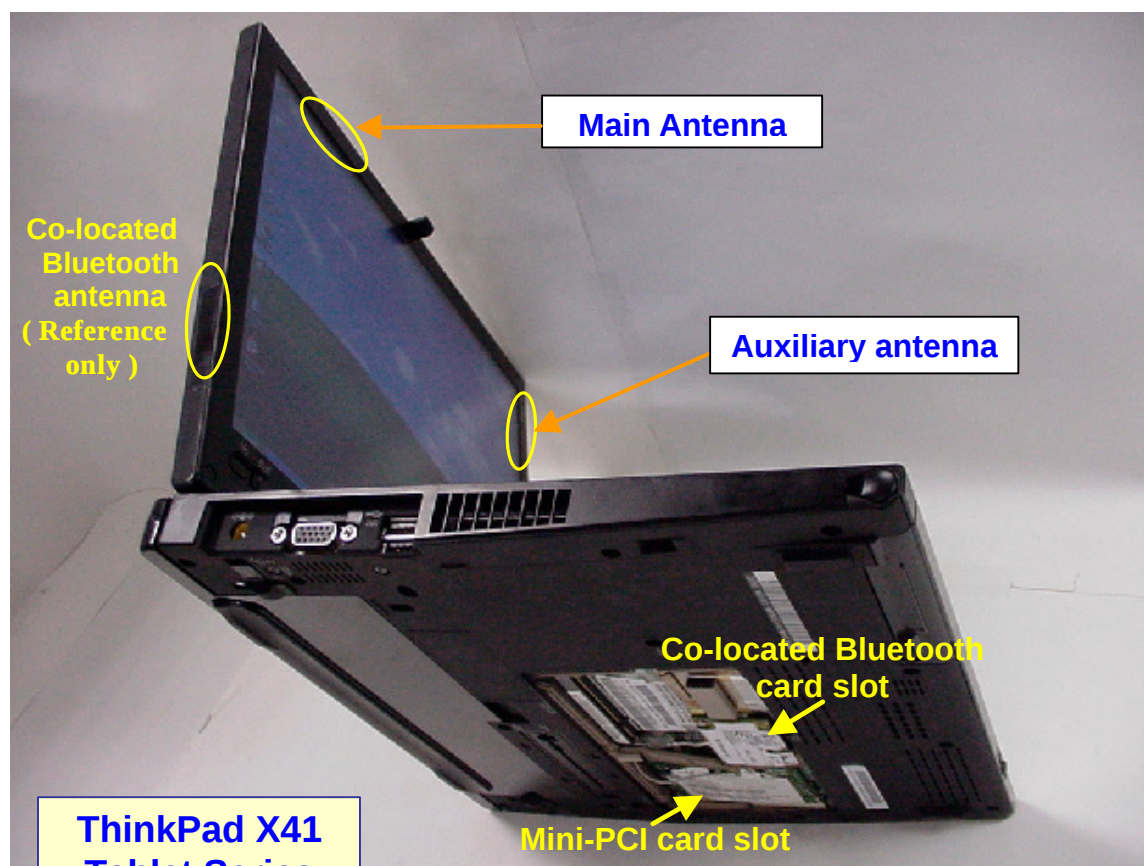
Hori (dBi) ave.	-7.23
Vert (dBi) ave.	-6.71
H+V (dBi) ave.	-3.95
Peak(dBi) (H)	1.71
Peak Angle (X°=)	280°
Center Frequency	5350MHz

Note1) The measurement was performed at 4 frequencies (5150, 5200, 5250, 5350MHz).

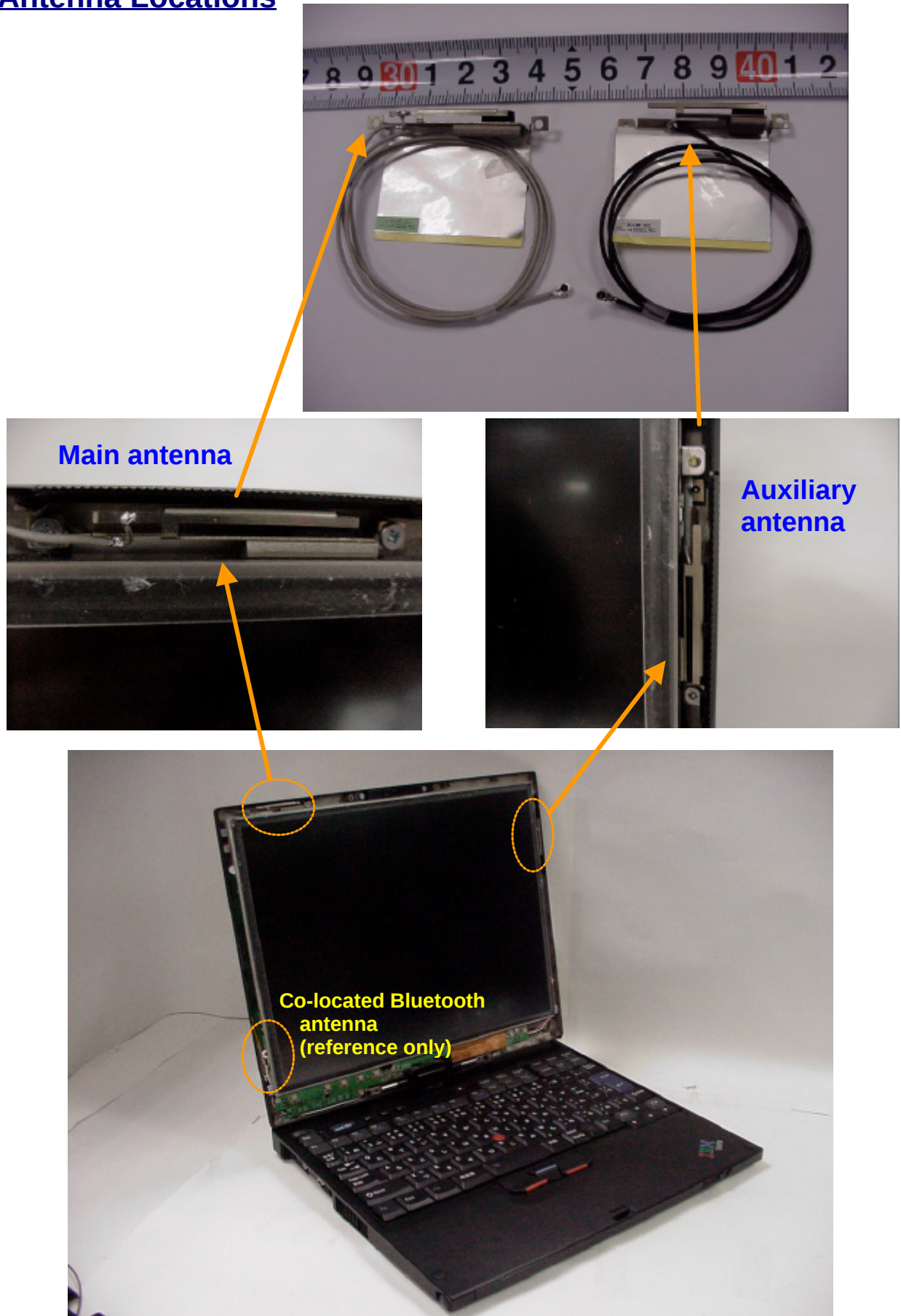
Note2) The maximum antenna gain was found around **280 degree** angle from measuring apparatus in **Horizontal** polarization at the high frequency (5350MHz) of **Tablet operation mode**.

3. Host PC Information

The main antenna, meander (Inverted F) type, is built in the left top edge of LCD and the auxiliary antenna, meander (Inverted F) type, is built in the right upper side 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.

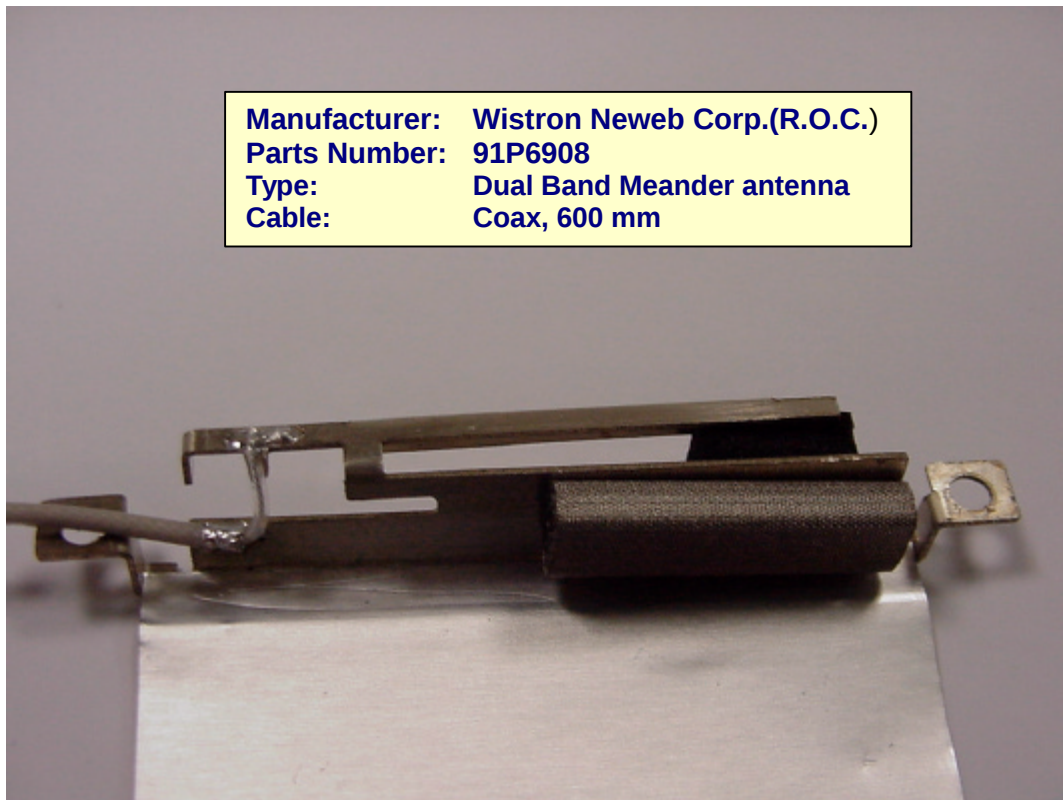


4. Antenna Locations



5. Exterior Photos of Antennas

Main Antenna



Auxiliary Antenna

