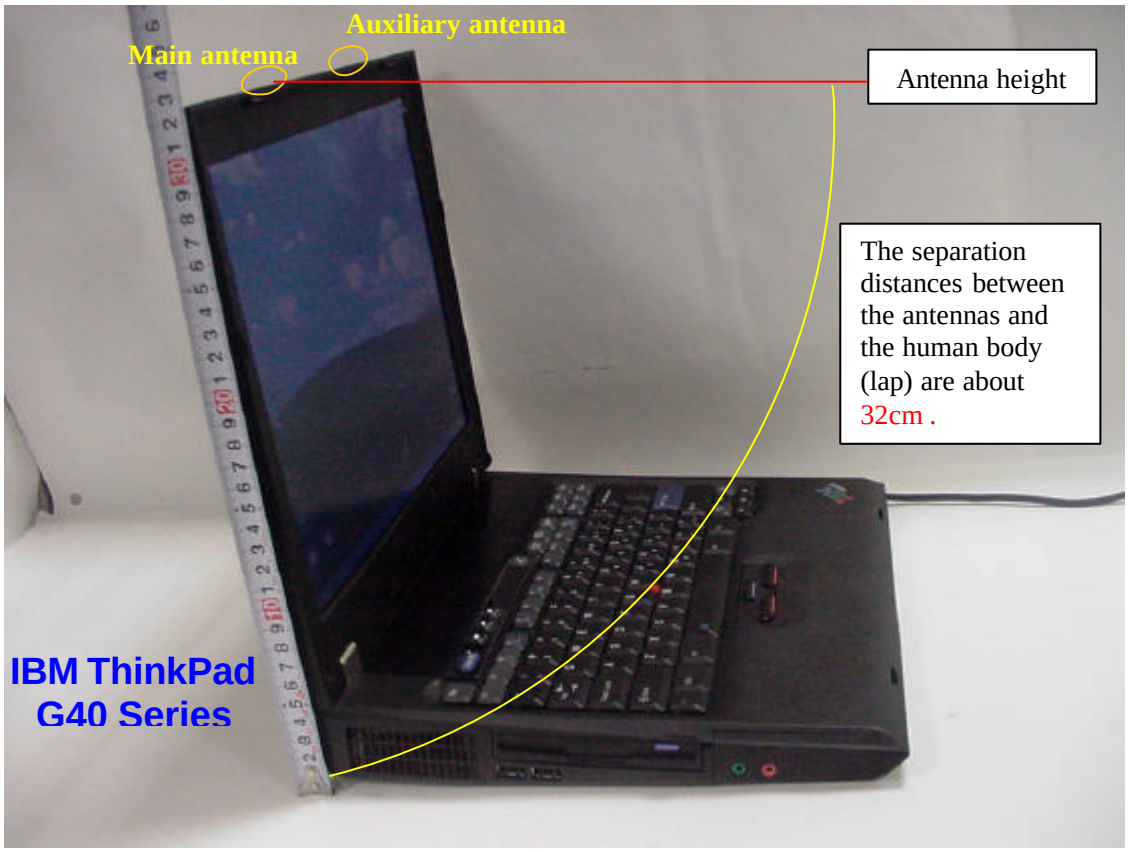
RF Exposure evaluation

1. RF Exposure evaluation for the applying LMA transmitter

As shown below, the transmission antennas of applying host PC devices (IBM ThinkPad G40 Series) are located at the upper portions of display (LCD) section, and the separation distance between each antenna and the human body is 20cm or more. Therefore the applying LMA transmitter and the antenna system is categorized as a mobile device according FCC CFR 47 Section 2.1091.



[MPE evaluation]

The conducted peak output power of the applying modular device has not been changed since the original grant (i.e. 17.21dBm = 52.6mW), and the maximum peak antenna gain of the host device is 0.87 dBi.

Therefore the equivalent isotropic radiated power (EIRP) is :

EIRP = P + G = 17.21 dBm + 0.87 dBi = 18.1 dBm (64.6 mW)

Then, the maximum power density at 20cm distance is calculated as :

$$S = EIRP/(4 \times R^2 \times \pi) = 0.0129 \text{ mW/cm}^2$$

Since the applying modular transmitter device does not function to emit the radio frequency from both diversity antennas simultaneously, the above results are the maximum values of RF exposure to the persons, and are far below the MPE limit (1.0 mW/cm^2). Therefore the LMA transmitter meets the MPE requirements for general Population/Uncontrolled exposure.