

Federal Communications Commission
Authorization and Evaluation Division
7435 Oakland Mills Road
Columbia, MD 21046

Attention: Reviewing Engineer

The **HP OminBook 500** is a regular Laptop with a built in **802.11b** radio card using spread spectrum technique for portable applications for wireless LAN access.

Due to the construction of the Laptop and the position of the antenna inside (it's placed on the top of the screen) which give a distance to the legs, if operated there, of in minimum 22 cm even with a flat angle of the screen.

This information includes the following: *A minimum separation distance of 20 cm must be maintained between the antenna and the person for this device to satisfy the RF exposure requirements of the FCC.*

The maximum output power allowed for the GSM 1900 radio is 1W, and the maximum gain of the antennas to be used is 7dBi (for fixed installation). The worst-case EIRP is when the highest gain antenna is used:

Maximum EIRP = 13 dBm (0.1 W); equivalent to 3.87 V/m in 20 cm distance

Regarding MPE limits, GPUC environment limits maximum exposure to 1 mW/cm².

The power density at 0.2 meters from an antenna is:

$$S = E^2/3770 = 13^2 H^2 = 0.004 \text{ mW/cm}^2 < 1 \text{ mW/cm}^2$$

Where: S = Power density (mW/cm²)
E = electrical field strength (V/m)

Calculations are based on standard formula for calculating field strength at a distance and converting power density using free space impedance.

Compliance is shown for the built in antenna and the power density is lower by almost a factor of 1000 than the limit of 1 mW/cm².

If you should have any questions regarding this submission, please feel free to contact the undersigned.

Yours truly,

Lothar Schmidt
Technical Manager EMC/Radio
CETECOM Inc.