

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

Attention: Reviewing Engineer

The **WLAN card used in the HP print servers, notebooks etc** is a regular 802.11b Wireless LAN Card using spread spectrum technique for wireless access of a PC, printer or similar equipment to a LAN.

Due to the construction and the intended use of this card in HP equipment, the radio installation is done in the factory and not user installed. Due to the construction of the devices and the location of the antennas (TX and RX) a minimum distance under normal operating conditions of more than **3.5 cm** to the antenna has to be guaranteed. The manual contains a relevant statement. The calculation was made for this worst case.

The maximum peak output power for this device is 149 mW (21.75 dBm).

Calculation of EIRP of the equipment for 20.17 dBm (0.0149 W); equivalent to 60.53 V/m in 3.5 cm distance

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

The power density is:

at 3.5 centimeters from an antenna	$S = E^2/3770 = 13 H^2 = \mathbf{0.972 \text{ mW/cm}^2} < 1 \text{ mW/cm}^2$
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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 radio, with has an external antenna with a unique **connector**. The radio however has also a built in antenna but in this case the EIRP is lower than 20 dBm due to the lower antenna gain. The minimum distance of 3.5 cm for the external antenna (gain 2.5 dBi) is also guaranteed by the fact that for normal operation the distance should be at least 20 cm, which is also stated in the manual. For the internal antenna a **3cm** distance is guaranteed do to the construction of the devices, which is equivalent to **0.885 mW/cm²**.

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

Yours truly,



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CETECOM Inc.