MPE Calculations

FCC part 1.1310, Table 1 limits the power density for uncontrolled exposure to 1mW/ cm^2 for systems operating in the UNII bands. The distance, d(cm) from the antenna at which the power density, P_d (mW/cm^2) is below this limit is calculated from the maximum EIRP, P_t (mW) using the equation:

$$P_d = P_t/(4 \pi d^2)$$

Re-arranging for the distance at which the power density is 1mW/cm2 gives:

$$d = \sqrt{(P_t/(4 \pi))}$$

The device under test is designed to use an integral antenna with a gain of 1.2dBi. The maximum output power measured was 15.6 dBm, giving an EIRP of 16.8 dBm (48 mW):

$$d = \sqrt{(48/(4 \pi))} = \mathbf{\underline{2.0\ cm}}$$

The distance from the antenna that the power density is 1mW/ cm^2 is, therefore, 2.0 cm.

Page 4 of the users guide instructs the user to install the device such that it has a separation of at least 20cm from persons (see text below) to comply with the FCC's requirements. This separation of 20cm more than meets the FCC's and Industry Canada rf exposure requirements.

WARNING!!

While this device is in operation, a separation distance of at least 20 centimeters must be maintained between the radiating antenna and the body of all persons exposed to the transmitter in order to meet the FCC RF exposure guidelines.