FCC ID: OSZ36356A1,OSZ36356A2
Maximum Permissible Exposure Calculations

The effective radiated power for this worst case emission is based on the worst case conducted power and the specified directive and power gains of the dipole antennas contained within the equipment under test. The worst case conducted power from the conducted emissions measurements is 16.3 dBm and the specified antenna gain is 2.1 dBi. The effective radiated power at the antenna aperture is:

$$P_t = 16.3\ \ dBm + 2.1\,dBi = 18.4\,dBm\ \ EIRP$$

The expected power density at a 20 centimeter distance is:

$$W(r) = \frac{W_t}{4\pi r^2} = \frac{10^{\left(\frac{18.4\,dBm}{10}\right)} \cdot \frac{10^{-3}\,mW}{W}}{4\pi\left(20\times10^{-2}\,m\right)^2} = 137.6\ \frac{mW}{m^2}$$

Re-normalizing this power density on a per square centimeter basis:

$$W(r) = 137.6\ \frac{mW}{m^2} \cdot \frac{10^{-4}\,m^2}{cm^2} = 13.76\frac{mW}{cm^2}$$

The limit for Maximum Permissible Exposure (MPE) given in Table 1 of §1.1310 is given as

$$W_{\max}(r) = \frac{f(MHz)}{1500\frac{MHz-cm^2}{mW}} = \frac{2483.5\,MHz}{1500\frac{MHz-cm^2}{mW}} = 1657.6\frac{mW}{cm^2}$$

The base-station uses a Time-Division-Duplex Protocol where the transmitter has a constant duty factor of 50%. Section 2.1091 allows for time averaging of the transmit power for the purposes of the MPE calculations. This fact would reduce the average power to one-half the constantly transmitting value:

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$$W(r)=6.88\frac{mW}{cm^2}$$

Since:

$$W(r)=6.88\ \frac{mW}{cm^2} < W_{\max}(r)=1657.6\frac{mW}{cm^2}$$

Therefore, the device in question meets the MPE requirmement.

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