A L C A T E L
Alcatel Internetworking, Inc.
26801 West Agoura Road
Calabasas, CA 91301 USA

Mobile Power Density Calculation
for
FCC ID: RUT1200BG

The Alcatel access point, Model 1200B and 1200B INT are IEE802.11 B /G radios. The access points operate on the 2.4 GHz ISM band.

Operating Environment:
The operating environment for the for the radio in all cases is a fixed, uncontrolled environment, however, the devices are classified as being "Mobile", Therefore the exposure at 20 cm is calculated.

Fixed, Uncontrolled Environment:
The FCC limit for the power density for uncontrolled exposure to RF devices operation at 2.4GHz at a distance of 20 cm is:

1 mW/cm^2

Power density is calculated from the following equation

$$\text{Exposure (mW/cm}^2) = \frac{\text{EIRP(mW) * Duty Cycle}}{4*PI* \text{ Radius}^2(cm)}$$

Where:
Radius = 20 cm
Duty Cycle = assumed to be 100% to yield a worst case result.
NOTE: Maximum allowable certified external antenna gain: 6.8 dBi

2.4GHz ISM Band MPE distance Calculation
Using the highest power measured on the 2.4 GHz ISM band.
      MAX Pout: 20.4 dBm (109.65 mW)   MAX Ant Gain 6.8 dBi (4.78x)
      EIRP: 27.2 dBm (524.80 mW EIRP)

Calculating power density at a distance of 20 cm yields:

Power = $\dfrac{524.127 * 1}{4 * Pi * 20^2}$ ⟹ $\dfrac{524.127}{5026.54}$ ⟹ .1043 mw/cm^2
Density

  Delta =   specification - result
             1 mW/cm^2 - .1043 mw/cm^2 = .8956 mw/cm^2
                                           = -9.817 dB below limit