RF Exposure Analysis

Maximum Permissive Exposure

Performance Criterion (Limits): 180/f^2 mW/cm^2 (1.34-30 MHz); 1 mW/cm^2 (1,500-100,000 MHz)

Evaluation Results: Complies

Details: The maximum permissible exposure (MPE) is predicted by using the following equation:

$$S = PG/4\pi R^2$$

where: S = power density (in appropriate units, e.g. mW/cm^2)
P = power input to the antenna (in appropriate units, e.g., mW)
G = power gain of the antenna in the direction of interest relative to an isotropic radiator
R = distance to the center of radiation of the antenna (appropriate units, e.g., cm)

Maximum RF average output power, dBm (Provided by Respironics)			
WLAN 2.4 GHz Bands			
802.11b	802.11g	802.11n HT20	802.11n HT40
16.5	13.0	12.5	11.5
Bluetooth			
1Mbps	2Mbps	3Mbps	1Mbps LE
12.5	7.0	7.0	7.0

Field Strength of Fundamental for the 13.56 MHz transmitter, dBuV/m @ 3m
64.8

Frequency MHz	Power (dBm)	Antenna gain (dBi)	EIRP (mW)	Distance from antenna (m)	PD (W/m^2)	PD (mW/cm^2)	PD Limit (mW/cm^2)
13.56	-	-	0.0009	0.2	0.0000018	0.00000018	0.9789
2412	16.5	2.2	74.13	0.2	0.15	0.015	1.0
2402	12.5	2.2	29.51	0.2	0.06	0.006	1.0

Summation ∑ (S) = 0.00000018 + 0.015 + 0.006 = 0.021 (mW/cm^2)