

RF Exposure Statement

1. LIMITS

According to §1.1310 and §2.1091 RF exposure is calculated.

(B) Limits for General Population/Uncontrolled Exposures

Frequency range (MHz)	Electric field Strength (V/m)	Magnetic field Strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
0.3 - 1.34.....	614	1.63	*(100)	30
1.34 - 30.....	824/f	2.19/f	*(180/ f ²)	30
30 - 300.....	27.5	0.073	0.2	30
300 - 1500.....			f/1500	30
1500 - 100.000.....			1.0	30

F = frequency in MHz

* = Plane-wave equivalent power density

2. MAXIMUM PERMISSIBLE EXPOSURE Prediction

Prediction of MPE limit at a given distance

Equation from page 18 of OET Bulletin 65, Edition 97-01

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

S = Power density

P = power input to antenna

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

2-1. CDMA

Max Peak output Power at antenna input terminal (dBm)	24.930
Max Peak output Power at antenna input terminal (mW)	311.172
Prediction distance (cm)	20.000
Prediction frequency (MHz)	824.700
Antenna Gain(typical) (dBi)	2.450
Antenna Gain(numeric)	1.758
Power density at prediction frequency (mW/cm ²)	0.10883
MPE limit for uncontrolled exposure at prediction frequency (mW/cm ²)	0.550

2-2. PCS

Max Peak output Power at antenna input terminal (dBm)	24.88000
Max Peak output Power at antenna input terminal (mW)	307.60968
Prediction distance (cm)	20.00000
Prediction frequency (MHz)	1851.25000
Antenna Gain(typical) (dBi)	3.97000
Antenna Gain(numeric)	2.49459
Power density at prediction frequency (mW/cm ²)	0.152662
MPE limit for uncontrolled exposure at prediction frequency (mW/cm ²)	1.00000

2-3. Bluetooth

Max Peak output Power at antenna input terminal (dBm)	3.38000
Max Peak output Power at antenna input terminal (mW)	2.17771
Prediction distance (cm)	20.00000
Prediction frequency (MHz)	2402.00000
Antenna Gain(typical) (dBi)	3.50000
Antenna Gain(numeric)	2.23872
Power density at prediction frequency (mW/cm ²)	0.000970
MPE limit for uncontrolled exposure at prediction frequency (mW/cm ²)	1.00000

2-4. The combined MPE ratio.

CDMA measured 0.10883 mW/cm², Limit (example) is 0.550 mW/cm², therefore the % of the limit is $0.10883/0.550 = 19.8\%$ or ratio of 0.198

BT measured 0.00097 mW/cm², Limit (example) is 1.0mW/cm², therefore the % of the limit is $0.00097/1.0 = 0.1\%$ or ratio of 0.001

The combined MPE ratios is $19.8\% + 0.1\% = 19.9\% < 100\%$ (or $0.198 + 0.001 = 0.199$ which is < 1.0)

3. RESULTS

The power density level at 20 cm is 0.10883mW/cm², which is below the controlled exposure limit of 0.550 mW/cm² at 824.700 MHz for CDMA band. The power density level at 20 cm is 0.152662 mW/cm², which is below the uncontrolled exposure limit of 1.0 mW/cm² at 1850.25 MHz for PCS band.

The power density level at 20 cm is 0.000970 mW/cm², which is below the uncontrolled exposure limit of 1.0 mW/cm² at 2402 MHz for BT

The combined MPE ratios is 19.8% + 0.1% = 19.9% <100% (or 0.198 + 0.001 = 0.199 which is < 1.0)

Note : Worst case in combined MPE ratios is CDMA band and BT.