§1.1307(b)(1) & §2.1091 - RF EXPOSURE

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

Limits for General Population/Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm^2)	Averaging Time (minute)
Limits for General Population/Uncontrolled Exposure				
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

MPE Prediction

Predication of MPE limit at a given distance

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

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

Where: 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

Cellular band

Maximum peak output power at antenna input terminal: 26.94 (dBm)
Maximum peak output power at antenna input terminal: 494 (mW)
Prediction distance: 20 (cm)
Predication frequency: 824.70 (MHz)
Antenna Gain (typical): 1 (dBi)
antenna gain: 1.26 (numeric)
Power density at predication frequency at 20 cm: 0.124 (mW/cm^2)

MPE limit for uncontrolled exposure at prediction frequency: 0.550 (mW/cm^2)

PCS band

Maximum peak output power at antenna input terminal: 27.13 (dBm)
Maximum peak output power at antenna input terminal: 516 (mW)
Prediction distance: 20 (cm)
Predication frequency: 1880 (MHz)
Antenna Gain (typical): 1 (dBi)
antenna gain: 1.26 (numeric)
Power density at predication frequency at 20 cm: 0.129 (mW/cm^2)

MPE limit for uncontrolled exposure at prediction frequency: 1 (mW/cm^2)

Test Result

The EUT is a mobile device. The power density level at 20 cm is 0.124 mW/cm², which is below the uncontrolled exposure limit of 0.550 mW/cm² at 824.70 MHz for Cellular band. The power density level at 20 cm is 0.129 mW/cm², which is below the uncontrolled exposure limit of 1mW/cm² at 1880 MHz for PCS band.