

## 5 §1.1307(b) (1) & §2.1091 - RF EXPOSURE

### 5.1 Applicable Standard

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 <sup>2</sup> )	Averaging Time (minute)
<b>Limits for General Population/Uncontrolled Exposure</b>				
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f <sup>2</sup> )	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

### 5.2 MPE Prediction

Prediction of MPE limit at a given distance

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

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

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 (dBm):	32.77
Maximum peak output power at antenna input terminal (mW):	1892.34
Prediction distance (cm):	25
Prediction frequency (MHz):	836.6
Antenna Gain, typical (dBi):	2.0
Maximum Antenna Gain (numeric):	1.585
Power density at predication frequency and distance (mW/cm <sup>2</sup> ):	0.382
MPE limit for uncontrolled exposure at predication frequency (mW/cm <sup>2</sup> ):	0.5577

**PCS Band**

Maximum peak output power at antenna input terminal (dBm):	29.37
Maximum peak output power at antenna input terminal (mW):	865
Prediction distance (cm):	25
Prediction frequency (MHz):	1880.0
Antenna Gain, typical (dBi):	2.0
Maximum Antenna Gain (numeric):	1.585
Power density at predication frequency and distance (mW/cm <sup>2</sup> ):	0.175
MPE limit for uncontrolled exposure at predication frequency (mW/cm <sup>2</sup> ):	1.0

**5.3 Test Result**

The device is compliant with the requirement MPE limit for uncontrolled. The maximum power density at the distance of 25 cm was 0.5577 mW/cm<sup>2</sup>. Thus, the requirement of at least 25 cm required by the manufacturer is in compliance with the MPE requirement. The distance has been addressed on the user manual.