

## 10 FCC §2.1091 - RF Exposure Information

### 10.1 Applicable Standards

According to FCC §1.1310 and §2.1091 (Mobile Devices) 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

Note: f = frequency in MHz

\* = Plane-wave equivalent power density

### 10.2 MPE Prediction

Predication of MPE limit at a given distance, Equation from 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

### 10.3 Results

#### Cellular 850 Band Downlink:

Maximum peak output power at antenna input terminal (dBm): 25.81

Maximum peak output power at antenna input terminal (mW): 381.07

Prediction distance (cm): 20

Prediction frequency (MHz): 893.6

Antenna Gain, typical (dBi): 0

Cable Loss (dB): 0.5

FCC Power density at predication frequency and distance (mW/cm<sup>2</sup>): 0.0851

FCC MPE limit for uncontrolled exposure at predication frequency (mW/cm<sup>2</sup>): 0.5667

**PCS 1900 Band Downlink:**

Maximum peak output power at antenna input terminal (dBm): 25.88  
Maximum peak output power at antenna input terminal (mW): 387.28  
Prediction distance (cm): 20  
Prediction frequency (MHz): 1930.2  
Antenna Gain, typical (dBi): 0  
Cable Loss (dB): 0.5  
FCC Power density at predication frequency and distance (mW/cm<sup>2</sup>): 0.0864  
FCC MPE limit for uncontrolled exposure at predication frequency (mW/cm<sup>2</sup>): 1.0

**AWS 2100 Band Downlink:**

Maximum peak output power at antenna input terminal (dBm): 23  
Maximum peak output power at antenna input terminal (mW): 199.53  
Prediction distance (cm): 20  
Prediction frequency (MHz): 1960  
Antenna Gain, typical (dBi): 0  
Cable Loss (dB): 1.0  
FCC Power density at predication frequency and distance (mW/cm<sup>2</sup>): 0.0499  
FCC MPE limit for uncontrolled exposure at predication frequency (mW/cm<sup>2</sup>): 1.0

The highest power density level at 20 cm is below the MPE uncontrolled exposure limit.