

13 FCC §1.1307(b)(1), §2.1091 & IC RSS-102 §4 – RF Exposure Information

13.1 Applicable Standard

According to FCC §15.247(i), §1.1307(b)(1) and IC RSS-102, systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

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 (minutes)
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

13.2 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

13.3 MPE Results

Cellular Band

<u>Maximum peak output power at antenna input terminal (dBm):</u>	<u>24.14</u>
<u>Maximum peak output power at antenna input terminal (mW):</u>	<u>259.42</u>
<u>Prediction distance (cm):</u>	<u>20</u>
<u>Prediction frequency (MHz):</u>	<u>848.31</u>
<u>Maximum Antenna Gain, typical (dBi):</u>	<u>-3.0</u>
<u>Maximum Antenna Gain (numeric):</u>	<u>0.5</u>
<u>Power density of prediction frequency at 20 cm (mW/cm²):</u>	<u>0.0258</u>
<u>MPE limit for uncontrolled exposure at prediction frequency (mW/cm²):</u>	<u>0.5655</u>
<u>Power density of prediction frequency at 20 cm (W/m²):</u>	<u>0.258</u>
<u>MPE limit for uncontrolled exposure at prediction frequency (W/m²):</u>	<u>5.655</u>

PCS Band

<u>Maximum peak output power at antenna input terminal (dBm):</u>	<u>24.97</u>
<u>Maximum peak output power at antenna input terminal (mW):</u>	<u>314.05</u>
<u>Prediction distance (cm):</u>	<u>20</u>
<u>Prediction frequency (MHz):</u>	<u>1880</u>
<u>Maximum Antenna Gain, typical (dBi):</u>	<u>-3.0</u>
<u>Maximum Antenna Gain (numeric):</u>	<u>0.5</u>
<u>Power density of prediction frequency at 20 cm (mW/cm²):</u>	<u>0.0312</u>
<u>MPE limit for uncontrolled exposure at prediction frequency (mW/cm²):</u>	<u>1.0</u>
<u>Power density of prediction frequency at 20 cm (W/m²):</u>	<u>0.312</u>
<u>MPE limit for uncontrolled exposure at prediction frequency (W/m²):</u>	<u>10.0</u>

The device is compliant with the requirement MPE limit for uncontrolled exposure.