

§ 2.1091-RF EXPOSURE

Limit

According to §1.1307(b)(1), 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.

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

Limits for maximum permissible exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (Mw/cm ²)	Average Time (Minutes)
(A) Limits For Occupational/Control Exposures				
300-1500			F/300	6
1500-100,000			5	6
0.3-1.34	614	1.63	*(100)	6
1.34-30	1824/f	4.89/f	*(980/f ²)	6
30-300	61.4	0.163	1.0	6

F=Frequency in MHz

Test Data

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

Base, Cellular band: For Model: ZXC BTS M192T

Maximum peak output power at antenna input terminal: 43.22 dBm.

Maximum peak output power at antenna input terminal: 20.99W

Prediction distance: 150 (cm)

Predication frequency: 1980 (MHz)

Antenna Gain (typical): 17(dBi)

Power density at Predication frequency at 150cm: 1.262 (nW/cm²)

MPE limit for controlled exposure at Prediction frequency: 5 (nW/cm²)

Test Result: Pass