
RF exposure

According to FCC part 1.1310 : The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in § 1.1307(b)

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
(A) Limits for Occupational / Control Exposures				
300 – 1 500	--	--	f/300	6
1 500 - 100000	--	--	5	6
(B) Limits for General Population / Uncontrol Exposures				
300 – 1 500	--	--	f/1500	30
1 500 – 100 000	--	--	1	30

f= frequency in MHz

$$Pd = EIRP/4 \times \pi \times R^2$$

$$EIRP = \text{Field strength} + 20 \log(D) - 104.8$$

Where,

Pd = power density in mW/cm²

EIRP = Equivalent Isotropic Radiated Power

Pi = 3.1416

R = distance between observation point and center of the radiator in cm

D = Measured distance in m

Results

Frequency (MHz)	Field strength (dBuV/m)	EIRP (dBm)	Pd cm (mW/cm ²)	Limit (mW/cm ²)
917.1	92.81	-2.45	0.000113	0.6
920.3	92.68	-2.58	0.000109	0.6
923.3	92.35	-2.91	0.000101	0.6

Result: The power density does NOT exceed the limit