

FCC§1.1310 & §2.1091- MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Applicable Standard

According to subpart §1.1310, 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 Maximum Permissible Exposure (MPE) (§1.1310, §2.1091)

(B) Limits for General Population/Uncontrolled Exposure				
Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm²)	Averaging Time (minutes)
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;

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

Calculation Formula:

Prediction of Power Density at the distance of the applicable MPE Limit

$S = PG/4\pi R^2$ = power density (in appropriate units, e.g. mW/cm²);

P = power input to the antenna (in appropriate units, e.g., mW);

G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally numeric gain;

R = distance to the center of radiation of the antenna (appropriate units, e.g., cm);

Calculated Data:

Test Modes	Frequency (GHz)	E.I.R.P		Evaluation Distance (cm)	Power Density (mW/cm²)	MPE Limit (mW/cm²)
		(dBm)	(mW)			
LRP	60.163-62.957	32	1585	20.00	0.32	1.0
MRP	60.48-62.64	26	398	20.00	0.079	1.0

Note: The EIRP is the sum (in dB) of the power supplied to the antenna and the Gain of the antenna. The Gain of the antenna is 6 dBi in LRP Mode and 18 dBi in MRP Mode. The power supplied to the antenna is 26 dBm in LRP Mode and 8 dBm in MRP Mode.

Result: The device complied with the applicable MPE Limit at the 20 cm distance.