

1. Maximum Permissible Exposure (MPE)

Standard Applicable

According to \$1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensure that the public is not exposed to radio frequency energy level in excess of the Commission's guideline.

This is a Mobile device, the MPE is required.

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

Limits for Maximum Permissive Exposure (MPE)

Frequency Range	Electric Field	Magnetic Field	Power Density	Averaging Time				
(MHz)	Strength (V/m)	Strength (A/m)	(mW/cm^2)	(minute)				
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				
1500-15000	/	/	1.0	30				

F =frequency in MHz

* = Plane-wave equipment power density

The MPE was calculated at 20 cm to show compliance with the power density limit The following formula was used to calculate the Power Density.

S=PG/4 π R²

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



Maximum Permissible Exposure (MPE) Evaluation

Frequency Band (MHz)	Conducted power (dBm)	Antenna gain (dBi)	Tune-Up Tolerance (dB)	EIRP (dBm)	MPE (mW/cm²)	LIMIT (mW/cm²)
902 - 928	20.13	4.50	1	25.630	0.07274	1
902 - 928	20.13	1.32	1	22.450	0.03498	1
902 - 928	20.13	0.58	1	21.710	0.02950	1

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