



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

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.

$$S=PG/4 \pi R^2$$

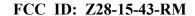
Where: S = Power density

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

^{* =} Plane-wave equipment power density





Maximum Permissible Exposure (MPE) Evaluation

20	cm
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Frequency band	Conducted power (dBm)	Antenna gain (dBi)	Tune-Up Tolerance (dB)	EIRP (dBm)	MPE (W/m²)	LIMIT (W/m²)
2402-2480	5.68	1.5	1	8.180	0.001	1
2402-2480	5.70	1.5	1	8.200	0.001	1
2412-2462	22.90	1.5	1	25.400	0.069	1
5180-5240	10.30	3.5	1	14.800	0.006	1
5260-5320	10.44	3.5	1	14.960	0.006	1
5500-5700	10.17	3.5	1	14.670	0.006	1
5745-5825	9.61	3.5	1	10.610	0.005	1

Note:

- 1. For conservativeness, the lowest uplink frequency of each band is used to determine the MPE limit of that band.
- 2. In the table above, which considers maximum directional Gain is 1.5dBi for 2.4GHz band and 3.5 dBi for 5GHz band

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