

Appendix B. Maximum Permissible Exposure

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1. Maximum Permissible Exposure

1.1. Limit of Maximum Permissible Exposure

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 levels in excess limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 0.2 m normally can be maintained between the user and the device.

Limits for Occupational / Controlled Exposure									
Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm²)	Averaging Time E ², H ² or S (minutes)					
0.3-3.0	614	1.63	(100)*	6					
3.0-30	1842 / f	4.89 / f	(900 / f)*	6					
30-300	61.4	0.163	1.0	6					
300-1500			F/300	6					
1500-100,000			5	6					

Limits for General Population / Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm²)	Averaging Time E ², H ² or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-100,000			1.0	30

Note 1: f = frequency in MHz; *Plane-wave equivalent power density

Note 2: For the applicable limit, see FCC 1.1310

1.2. MPE Calculation Method

$$E (V/m) = \frac{\sqrt{30 \times P \times G}}{d}$$

Power Density: Pd (W/m²) = $\frac{E^2}{377}$

E = Electric field (V/m)

P = RF output power (W)

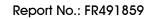
G = EUT Antenna numeric gain (numeric)

d = Separation distance between radiator and human body (m)

The formula can be changed to

$$Pd = \frac{30 \times P \times G}{377 \times d^2}$$

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1.3. Result of Maximum Permissible Exposure

Exposu	Exposure Environment General Population / Uncontrolled Exposure								
Temp		23℃	Hum	Humidity		61%			
Test En	ngineer	Serway Li Te		Date Oct		et. 10, 2014 ~ Oct. 18, 2014			
Test results									
	um EIPR Power of est Frequency (GHz)	Average EIRP Power (dBm)	Average EIRP Power (mW)	Power Density (mW/cm	(S)	Separation Distance (cm)	Limit of Power Density (S) (mW/cm²)		
LRP	60.16 GHz	18.32	67.89	0.014		20	1.00		
MRP	60.48 GHz	24.30	269.41	0.054		20	1.00		
	60.48 GHz	26.94							

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