3.10 Maximum Permissible Exposure

3.10.1 Limit of Maximum Permissible Exposure

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				

3.10.2 MPE Calculation Method

$$E\ (V/m)\ =\frac{\sqrt{30\times P\times G}}{d} \qquad\qquad \text{Power Density:}\quad Pd\ (W/m^2)\ =\frac{E^2}{377}$$

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

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

3.10.3 Result of Maximum Permissible Exposure

Exposure Environment:	General Population / Uncontrolled Exposure				
Test results					
Maximum EIPR Power of Test Frequency:	**Average EIRP Power (dBm)**	**Average EIRP Power (mW)**	**Power Density (S) (mW/cm²)**	**Separation Distance (cm)**	**Limit of Power Density (S) (mW/cm²)**
LRP 60.64 GHz	15.90	38.8718	0.007737	20	1.00
HRP 60.48 GHz	30.71	1178.5284	0.234580	20	1.00
Measurement uncertainty: ±2.7 dB					
NOTE: For the applicable limit, see FCC 1.1310					

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