

Specification(FCC): Table 1 to §1.1310(e)(1)—Limits for Maximum Permissible Exposure (MPE)

(A) Limits for Occupational/Controlled Exposure				
Frequency range (MHz)	Electric Field strength (V/m)	Magnetic field strength (A/m)	Power Density (mW/cm ²)	Averaging time (minutes)
0.3 ~ 3.0	614	1.63	*(100)	≤ 6
3.0 ~ 30	1842/f	4.89/ f	*(900/f ²)	< 6
30 ~ 300	61.4	0.163	1.0	< 6
300 ~ 1,500	-	-	f/300	< 6
1,500 ~ 100,000	-	-	5	< 6
(B) 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 ~ 1,500	-	-	f/1500	< 30
1,500 ~ 100,000	-	-	1.0	< 30

f = frequency in MHz * = Plane-wave equivalent power density

- MPE Calculations (FCC)

Band(mode)	Frequency range (MHz)	Tune-up Max power (dBm)	Antenna Gain including cable(dBi)	Adjusted EIRP to tune-up max(dBm)	Max power density at 20cm (mW/cm ²)	Requirement (mW/cm ²)
WCDMA 1700	1712.4 ~ 1752.6	23.70	-0.04	23.66	0.046	1.000
WCDMA 1900	1852.4 ~ 1907.6	23.70	-0.76	22.94	0.039	1.000
LTE Band 2	1850.7 ~ 1909.3	23.70	-0.76	22.94	0.039	1.000
LTE Band 4	1710.7 ~ 1754.3	23.70	-0.04	23.66	0.046	1.000
LTE Band 12	699.7 ~ 715.3	23.70	0.91	24.61	0.058	0.466

The MPE calculation for this exposure is shown below.

▪ EIRP(Adjusted EIRP to Tune- up Max) = Tune-up power + Antenna gain

▪ $S = \text{EIRP} / (4\pi R^2)$

Where, S= Maximum power density(mW/cm²)

EIRP= Equivalent Isotropic Radiated Power(mW)

R= Distance to the center of the radiation of the antenna