



FCC ID: OJF-GX-CLA40

RF Exposure Compliance Requirement

1. Standard requirement

Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radia frequency energy level 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 0.2m normally can be maintained between the user and the device.

(a) Limits for Occupational / Controlled Exposure

Table with 5 columns: Frequency Range (MHz), Electric Field Strength (E) (V/m), Magnetic Field Strength (H) (A/m), Power Density (S)(mW/cm²), Averaging Times |E|², |H|² or S (minutes). Rows include ranges like 0.3-3.0, 3.0-30, 30-300, 300-1500, and 1500-100000.

(b) Limits for General Population / Uncontrolled Exposure

Table with 5 columns: Frequency Range (MHz), Electric Field Strength (E) (V/m), Magnetic Field Strength (H) (A/m), Power Density (S)(mW/cm²), Averaging Times |E|², |H|² or S (minutes). Rows include ranges like 0.3-1.34, 1.34-30, 30-300, 300-1500, and 1500-100000.

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

2. MPE Calculation Method

$$S \text{ (mW/cm}^2\text{)} = P * G / 4\pi * R^2$$

S= Power Density (mW/cm²)

P=Peak RF conducted output Power (mW)

G=EUT Antenna numeric gain (numeric)

R= Separation distance between radiator and human body (cm);

$$R = \sqrt{(P * G) / 4\pi * S}$$

From the maximum EUT RF output power, as well as the gain of the used antenna, according to the RF power density limit above, the minimum distance between the antenna and human body will be calculated.

3. Calculated Result

For downlink:

CDMA Band(869MHz ~ 894MHz):

Frequency (MHz) F	Maximum Antenna Gain (dBi)	Maximum Antenna Gain (Numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Limit of Power Density (S) (mW/cm ²)	Minimum Distance to human body (cm)
Lowest	21	125	45.88	38725	2.9033	364.3426
Middle	21	125	45.98	39627	2.9383	366.3597
Highest	21	125	45.68	36983	2.9733	351.8373

WCDMA Band(869MHz ~ 894MHz):

Frequency (MHz) F	Maximum Antenna Gain (dBi)	Maximum Antenna Gain (Numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Limit of Power Density (S) (mW/cm ²)	Minimum Distance to human body (cm)
Lowest	21	125	46.07	40457	2.9067	372.1833
Middle	21	125	46.05	40271	2.9383	369.3247
Highest	21	125	45.82	38194	2.9700	357.7499

WCDMA Band(2110MHz ~ 2155MHz):

Frequency (MHz) F	Maximum Antenna Gain (dBi)	Maximum Antenna Gain (Numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Limit of Power Density (S) (mW/cm ²)	Minimum Distance to human body (cm)
Lowest	21	125	45.81	38107	5.0	275.409
Middle	21	125	45.86	38548	5.0	276.998
Highest	21	125	45.81	38107	5.0	275.409

GSM Band(869MHz ~ 894MHz):

Frequency (MHz) F	Maximum Antenna Gain (dBi)	Maximum Antenna Gain (Numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Limit of Power Density (S) (mW/cm ²)	Minimum Distance to human body (cm)
Lowest	21	125	45.72	37325	2.8987	357.9797
Middle	21	125	45.82	38194	2.9383	359.6745
Highest	21	125	45.51	35563	2.9780	344.7443

LTE Band(728MHz ~7 57MHz):

Frequency (MHz) F	Maximum Antenna Gain (dBi)	Maximum Antenna Gain (Numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Limit of Power Density (S) (mW/cm ²)	Minimum Distance to human body (cm)
Lowest	21	125	45.61	36392	2.4433	385.0124
Middle	21	125	45.51	35563	2.4750	378.1567
Highest	21	125	45.92	39084	2.5067	393.9204

LTE Band(869MHz ~ 894MHz):

Frequency (MHz) F	Maximum Antenna Gain (dBi)	Maximum Antenna Gain (Numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Limit of Power Density (S) (mW/cm ²)	Minimum Distance to human body (cm)
Lowest	21	125	46.18	41495	2.9133	287.391
Middle	21	125	45.72	37325	2.9383	272.568
Highest	21	125	45.52	35645	2.9633	266.363

LTE Band(2110MHz ~ 2155MHz):

Frequency (MHz) F	Maximum Antenna Gain (dBi)	Maximum Antenna Gain (Numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Limit of Power Density (S) (mW/cm ²)	Minimum Distance to human body (cm)
Lowest	21	125	45.67	36898	5.0	271.005
Middle	21	125	45.78	37844	5.0	274.457
Highest	21	125	45.60	36308	5.0	268.829

Conclusion:

So the recommend use distance away from EUT external antenna is larger than 3.94meter.