

FCC ID: OJFGXP19L70A17-40**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 radio 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

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S)(mW/cm ²)	Averaging Times 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
1500-100000			5	6

(b) 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/cm ²)	Averaging Times 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/500	30
1500-100000			1.0	30

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

2. MPE Calculation Method

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

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);

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

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: 728MHz to 757MHz

LTE:

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	125.9	46.2	41686.94	5.0	289.09
Middle	21	125.9	46.4	43651.58	5.0	295.82
Highest	21	125.9	46.3	42657.95	5.0	292.44

For downlink: 1930MHz to 1995MHz:

GSM:

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	125.9	46.4	43651.58	5.0	295.82
Middle	21	125.9	46.2	41686.94	5.0	289.09
Highest	21	125.9	46.3	42657.95	5.0	292.44

CDMA:

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	125.9	46.5	44668.36	5.0	299.25
Middle	21	125.9	46.4	43651.58	5.0	295.82
Highest	21	125.9	46.2	41686.94	5.0	289.09

WCDMA:

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	125.9	46.3	42657.95	5.0	292.44
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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	125.9	46.2	41686.94	5.0	289.09
Middle	21	125.9	46.1	40738.03	5.0	285.78
Highest	21	125.9	46.2	41686.94	5.0	289.09

For downlink: 2110 MHz to 2155MHz

CDMA:

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	125.9	46.2	41686.94	5.0	289.09
Middle	21	125.9	46.3	42657.95	5.0	292.44
Highest	21	125.9	46.1	40738.03	5.0	285.78

WCDMA:

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)
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Lowest	21	125.9	46.1	40738.03	5.0	285.78
Middle	21	125.9	46.3	42657.95	5.0	292.44
Highest	21	125.9	46.4	43651.58	5.0	295.82

Conclusion:

So the recommend use distance away from EUT external antenna is larger than 2.9925 meter.