

FCC §2.1091, §1.1310(d) (3) - RF Exposure

1.1 Applicable Standards

As per FCC §1.1310(d) (3), At operating frequencies above 6 GHz, the MPE limits listed in Table 1 in paragraph (e)(1) of this section shall be used in all cases to evaluate the environmental impact of human exposure to RF radiation as specified in §1.1307(b) of this part.

TABLE 1 TO §1.1310(E)(1)—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(i) Limits for Occupational/Controlled Exposure				
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
(ii) 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.

1.2 MPE Prediction

Predication of MPE limit at a given distance, Equation from OET Bulletin 65, Edition 97-01

$$S = \text{EIRP}/4\pi R^2$$

Where: S = power density

EIRP = Effective Isotropic Radiated Power

R = distance to the center of radiation of the antenna

1.3 MPE Results for the FCC

Band	EIRP (mW)	Test Result (mW/cm ²)	Limit Value (mW/cm ²)	Conclusion
LTE Band 4	1000.000	0.199	1.000	Pass
LTE Band 13	2638.761	0.525	0.525	Pass
NB-IOT Band 4	1000.000	0.199	1.000	Pass
NB-IOT Band 13	2638.761	0.525	0.525	Pass

Note: Above data is referenced from previous RF Exposure report "R2006A0413-M1" issued by TA Technology (Shanghai) Co., Ltd. on 8/17/2020

Note: Minimum separation distance is 20cm

Note: Per client, only bands 4 and 13 are supported

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