15 MAXIMUM PERMISSIBLE EXPOSURE (MPE)

15.1 Standard Applicable

According to §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensure that the public is not exposed to radio frequency energy level in excess of the Commission's guideline.

This is a Mobile device, the MPE is required.

According to §1.1310 and §2.1091 RF exposure is calculated.

Limits for Maximum Permissive Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm^2)	Averaging Time (minute)
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
300-1500	/	/	f/1500	30
1500-15000	/	/	1.0	30

f = frequency in MHz

* = Plane-wave equipment power density

15.2 Maximum Permissible Exposure (MPE) Evaluation (Worst case)

Prediction of MPE limit at a given distance

$S=PG/4\pi R^2$

Where: S = Power density

P = Power input to antenna

G = Power gain of the antenna in the direction of interest relative to an isotropic radiator

R = Distance to the center of radiation of the antenna

peration Mode	Evaluation Frequency (MHz)	Operation Distance (cm)	Max. output Power (dBm)	Antenna Gain (dBi)	Max. out-put Power EIRP (mW)	Power Density (mW/cm^2)	Limit (mW/cm^2)	Pass / Fail
BR	2402.00	20	6.79	2.4	8.30	0.002	1.000	Pass
EDR(2M)	2402.00	20	6.76	2.4	8.24	0.002	1.000	Pass
EDR(3M)	2402.00	20	6.62	2.4	7.98	0.002	1.000	Pass
BLE	2402.00	20	6.76	2.4	8.24	0.002	1.000	Pass
802.11b	2462.00	20	20.96	6.08	505.82	0.101	1.000	Pass
802.11g	2437.00	20	23.66	6.08	941.89	0.187	1.000	Pass
802.11n_HT20	2457.00	20	24.03	6.08	1025.65	0.204	1.000	Pass
802.11n_HT40	2437.00	20	24.02	6.08	1023.29	0.204	1.000	Pass
802.11a	5825.00	20	23.41	11.02	2773.32	0.552	1.000	Pass
802.11n_HT20	5825.00	20	24.41	11.02	3491.40	0.695	1.000	Pass
802.11n_HT40	5755.00	20	24.53	11.02	3589.22	0.714	1.000	Pass
802.11n_ac80	5775.00	20	19.86	11.02	1224.62	0.244	1.000	Pass

Note: 5G can't be simultaneous transmitting with 2.4G and BT/BLE.