



FCC 15C 22H 24H 27, §2.1091 – RF Exposure

FCC ID: 2AVII-TFMS

Applied procedures / limit

According to FCC §1.1307(b)(1), 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 of the Commission's guidelines.

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 Time 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
1500-100,000			5	6

Note: f is frequency in MHz

* = Power density limit is applicable at frequencies greater than 100 MHz

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 Time 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/1500	30
1500-100,000			1.0	30

Note: f = frequency in MHz

* = Plane-wave equivalent power density



MPE PREDICTION

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

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

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, R=20cm

$\pi = 3.142$

Test Result of RF Exposure Evaluation

	Target power W/ tolerance (dBm)	Max tune up power toleranc e (dBm)	Total Output power to antenna (mW)	Antenna Gain(dBi)	Total Power Density at R=20cm (mW/cm ²)	Limit (mW/cm ²)	Result
BT-EDR	0±1.0	1	1.26	1.17	0.00033	1.000	Pass
BT-BLE	0±1.0	1	1.26	1.17	0.00033	1.000	Pass
WIFI 2.4GHz	9±1.0	10	10.00	1.17	0.00261	1.000	Pass
WIFI 5GHz	9±1.0	10	10.00	2.74	0.00374	1.000	Pass
GSM 850	30±1.0	31	1258.93	0.03	0.2523	0.551	Pass
GSM 1900	30±1.0	31	1258.93	1.27	0.3357	1.000	Pass
WCDMA Band 2	21±1.0	22	158.49	1.27	0.04226	1.000	Pass
WCDMA Band 5	21±1.0	22	158.49	0.03	0.03177	0.551	Pass
LTE Band 2	23±1.0	24	251.19	1.27	0.06698	1.000	Pass
LTE Band 4	23±1.0	24	251.19	1.28	0.06709	1.000	Pass
LTE Band 5	23±1.0	24	251.19	0.03	0.05035	0.549	Pass
LTE Band 12	23±1.0	24	251.19	-0.87	0.04090	0.466	Pass
LTE Band 13	23±1.0	24	251.19	-0.67	0.04282	0.518	Pass
LTE Band 17	23±1.0	24	251.19	-0.83	0.04127	0.489	Pass
LTE Band 25	23±1.0	24	251.19	1.27	0.066981	1.000	Pass



倍测检测
BCTC TEST

The 2G 3G LTE model the worse band is LTE BAND 5

Power density result 1= Total Power Density at R=20cm (mW/cm²)/ Limit (mW/cm²)
=0.05035/0.549
=0.09171 mW/cm²

The BT WIFI model the worse band is 5G WIFI

Power density result 2= Total Power Density at R=20cm (mW/cm²)/ Limit (mW/cm²)
=0.00374/1.000
=0.00374 mW/cm²

calculate the simultaneously evaluation result=0.09171+0.00374=0.09545≤1.0000