



FCC §15.247 (i), §2.1091 – RF Exposure

# FCC ID: 2A74J-PF02-3

**Applied procedures / limit**

According to FCC §15.247(i) and §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 <sup>2</sup> )	Averaging Time  E  <sup>2</sup> , H  <sup>2</sup> 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 <sup>2</sup> )	Averaging Time  E  <sup>2</sup> , H  <sup>2</sup> 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=0.2m

**TEST RESULTS**

	Tune up Produce power	Maximu m peak output power (dBm)	Output power to antenn a (mW)	Antenna Gain (numeric)	Power Density (S) (mW/ cm2)	Limit (mW / cm2 )	Result
WIFI	12±1	13	19.95	2.12 (3.26dBi)	0.00841	1	Pass
BLE	2±1	3	2	2.12 (3.26dBi)	0.00084	1	Pass

Simultaneous transmitting evaluation:

Bluetooth and 2.4G WIFI

Mode	Power Density (S) (mW/ cm2)	Total (mW/ cm2)	Limit (mW/ cm2)
WIFI 2.4G	0.00841	0.00841/1+0.00084/1=0.00925	1
BLE	0.00084		

Conclusion:

For the max result: 0.00925 ≤ 1.0, compliance with FCC's RF Exposure