

## RF Exposure Evaluation

### LIMIT

The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)

Limits for Maximum Permissible Exposure (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm <sup>2</sup> )	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3–3.0	614	1.63	*(100)	6
3.0–30	1842/f	4.89/f	*(900/f <sup>2</sup> )	6
30–300	61.4	0.163	1.0	6
300–1500	-	-	f/300	6
1500–100,000	-	-	5	6
(B) 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 <sup>2</sup> )	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

### EVALUATION METHOD

Transmission formula:  $Pd = (Pout * G) / (4 * pi * r^2)$

Where

**Pd** = power density in mW/cm<sup>2</sup>, **Pout** = output power to antenna in mW, **G** = gain of antenna in linear scale;

**Pi** = 3.1416, **R** = distance between observation point and center of the radiator in cm

### TEST RESULT

**Passed**

**Not Applicable**

Type	Tune up power(dBm)
802.11b	12.00 ~ 15.00
802.11g	12.50 ~ 15.50
802.11n(HT20)	14.00 ~ 17.00
802.11a	10.00 ~ 15.00
802.11n(HT20)	9.00 ~ 14.00
802.11n(HT40)	9.00 ~ 14.00
802.11ac(HT80)	7.00 ~ 11.00
BT-BLE	-4.00 ~ -2.00

Type	Maximum tune up power (dBm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )	Result
802.11b	18.00	0.0250	1.0000	Pass
802.11g	18.50	0.0281	1.0000	Pass
802.11n(HT20)	20.00	0.0397	1.0000	Pass
802.11a	17.00	0.0199	1.0000	Pass
802.11n(HT20)	16.00	0.0158	1.0000	Pass
802.11n(HT40)	16.00	0.0158	1.0000	Pass
802.11ac(HT80)	13.00	0.0079	1.0000	Pass
BT-BLE	0.00	0.0004	1.0000	Pass

Note:

*the below information is declared by the applicant,*

1) 2.4G WIFI Antenna Gain= 3.0dBi, 5G WIFI Antenna Gain= 2.0dBi, Bluetooth Antenna Gain= 2.0dBi

2) The exposure safety distance is 20cm.