FCC ID: 2AVJP-A19TYWFBK9W

RF EXPOSURE EVALUATION

According to FCC 1.1310: 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^2)	Average Time
(A) Limits for Occupational/Control Exposures				
300-1500	--	--	F/300	6
1500-100000	--	--	5	6
(B) Limits for General Population/Uncontrol Exposures				
300-1500	--	--	F/1500	6
1500-100000	--	--	1	30

11.1 Friis transmission formula: Pd= (Pout*G)\ (4*pi*R^2)

Where
Pd= Power density in mW/cm^2
Pout=output power to antenna in mW
G= Numeric gain of the antenna relative to isotropic antenna
Pi=3.1416
R= distance between observation point and center of the radiator in cm
Pd the limit of MPE,$1mW/cm^2$. If we know the maximum gain of the antenna and total power input to the antenna, through the calculation, we will know the distance where the MPE limit is reached.
mW = 10^(dBm/10)

11.2 Measurement Result

Operation Frequency: 2412 MHz-2462 MHz;
Antenna gain: -9.86 dBi;
R=20cm

WIFI 2.4G

Channel Freq. (MHz)	modulation	Measured power (dBm)	Tune-up power (dBm)	Max tune-up power (dBm)	Antenna Gain Numeric	Evaluation result (mW/cm2)	Power density Limits (mW/cm2)
2412	802.11b	15.12	15±1	16	0.10	0.000817954	1
2437		15.26	15±1	16	0.10	0.000817954	1
2462		14.30	14±1	15	0.10	0.000649724	1
2412	802.11g	12.84	12±1	13	0.10	0.000409948	1
2437		12.69	12±1	13	0.10	0.000409948	1
2462		11.87	11±1	12	0.10	0.000325634	1
2412	802.11n20	12.45	12±1	13	0.10	0.000409948	1
2437		13.31	13±1	14	0.10	0.000516094	1
2462		11.67	11±1	12	0.10	0.000325634	1

Operation Frequency: 2402MHz-2480MHz;
Antenna gain: -9.86 dBi;
R=20cm

BLE

Channel Freq. (MHz)	modulation	Measured power (dBm)	Tune-up power (dBm)	Max tune-up power (dBm)	Antenna Gain Numeric	Evaluation result (mW/cm2)	Power density Limits (mW/cm2)
2402	BLE 1M	3.45	3±1	4	0.10	0.000051609	1
2440		4.03	4±1	5	0.10	0.000064972	1
2480		1.77	1±1	2	0.10	0.000032563	1

*** End of Report ***