

FCC ID:2BOQG-C702

RF EXPOSURE EVALUATION

Limits

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/cm²)	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/f²)	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/f²)	30							
30–300	27.5	0.073	0.2	30							
300–1500			f/1500	30							
1500–100,000			1.0	30							

f = frequency in MHz

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

Where

Pd = power density in mW/cm², 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

Pd id the limit of MPE, 1 mW/cm². If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.

Test Procedure

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.



Test Result of RF Exposure Evaluation

2.4G WIFI										
Mode	Frequency	Output power	Tune-up power	Max tune-up power	Max tune-up power	Power Density at R=20cm	Limit	Result		
	(MHz)	(dBm)	(dBm)	(dBm)	(mW)	(mW/cm ²)	(mW/cm ²)			
802.11b	2412	13.119	13±1	14	25.12	0.007443	1.0	PASS		
802.11g	2437	12.428	12±1	13	19.95	0.005912	1.0	PASS		
802.11n20	2437	11.788	11±1	12	15.85	0.004696	1.0	PASS		
802.11n40	2452	11.766	11±1	12	15.85	0.004696	1.0	PASS		
Note: Antenna Gain = 1.73dBi										