

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)

FCC ID: 2ATIZALLOW

EUT Specification

EUT	Air Purifier
Frequency band (Operating)	☒ WLAN: 2.412GHz ~ 2.462GHz ☐ WLAN: 5.18GHz ~ 5.32GHz / 5.50GHz ~ 5.70GHz ☐ WLAN: 5.745GHz ~ 5825GHz ☐ Others
Device category	☐ Portable (<20cm separation) ☒ Mobile (>20cm separation) ☐ Others ____
Exposure classification	☐ Occupational/Controlled exposure (S = 5mW/cm ²) ☒ General Population/Uncontrolled exposure (S=1mW/cm ²)
Antenna diversity	☒ Single antenna ☐ Multiple antennas ☐ Tx diversity ☐ Rx diversity ☐ Tx/Rx diversity
Max. output power	18.46dBm for 802.11b; 16.08dBm for 802.11g; 15.33dBm for 802.11n(HT20); 14.04dBm for 802.11n(HT40)
Antenna gain (Max)	3.0dBi
Evaluation applied	☒ MPE Evaluation ☐ SAR Evaluation

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

Friis transmission formula: $P_d = (P_{out} * G) / (4 * \pi * R^2)$

Where

P_d = Power density in mW/cm², P_{out} =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

P_d the limit of MPE, 1mW/cm². 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.

Measurement Result

Transmit Frequency(MHz)	Mode	Measured Power (dBm)	Tune up Power (dBm)	Max tune up power(dBm)	Output Peak power (mW)	Ant. Gain (dBi)	Ant. Gain (numeric)	Power density at 20cm (mW/cm ²)	Power density Limits (mW/cm ²)
2412	802.11b	18.46	18±1	19	79.433	3	1.995	0.031530	1
2437	802.11b	17.35	17±1	18	63.096	3	1.995	0.025045	1
2462	802.11b	16.08	16±1	17	50.119	3	1.995	0.019894	1
2412	802.11g	16.08	16±1	17	50.119	3	1.995	0.019894	1
2437	802.11g	14.72	15±1	16	39.811	3	1.995	0.015803	1
2462	802.11g	12.56	13±1	14	25.119	3	1.995	0.009971	1
2412	802.11n (HT20)	15.33	15±1	16	39.811	3	1.995	0.015803	1
2437	802.11n (HT20)	14.03	14±1	15	31.623	3	1.995	0.012552	1
2462	802.11n (HT20)	12.29	12±1	13	19.953	3	1.995	0.007920	1
2422	802.11n (HT40)	14.04	14±1	15	31.623	3	1.995	0.012552	1
2437	802.11n (HT40)	12.72	13±1	14	25.119	3	1.995	0.009971	1
2452	802.11n (HT40)	10.59	11±1	12	15.849	3	1.995	0.006291	1

Signature:



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Title: Manager

Date: 2019-06-18