RF EXPOSURE
Test Report

Report No.: MTi240303001-01E2

Date of issue: 2024-03-20

Applicant: Anhui Leking Environment Technology Co., Ltd.

Product: SMART AIR PURIFIER

Model(s): P1800, GN-WA017-199

FCC ID: 2A57R-P1800

Shenzhen Microtest Co., Ltd.

http://www.mtitest.com

Address: 101, No. 7, Zone 2, Xinxing Industrial Park, Fuhai Avenue, Xinhe Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China.
Tel: (86-755)88850135 Fax: (86-755) 88850136 Web: www.mtitest.com E-mail: mti@51mti.com

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Test Result Certification	
Applicant:	Anhui Leking Environment Technology Co., Ltd.
Address:	No.58 Fuqiang Road, Jiujiang District, Wuhu City, Anhui Province, China
Manufacturer:	Anhui Leking Environment Technology Co., Ltd.
Address:	No.58 Fuqiang Road, Jiujiang District, Wuhu City, Anhui Province, China
Product description	
Product name:	SMART AIR PURIFIER
Trademark:	N/A
Model name:	P1800
Serial Model:	GN-WA017-199
Standards:	N/A
Test procedure:	KDB 447498 D01 v06
Date of Test	
Date of test:	2024-03-14 to 2024-03-20
Test result:	Pass

Test Engineer : Letter. Lan.

(Letter Lan)

Reviewed By: : Leon chen

(Leon Chen)

Approved By: : Tom Xue

(Tom Xue)

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)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*100	6
3.0-30	1842/f	4.89/f	$*900/f^2$	6
30-300	61.4	0.163	1.0	6
300-1,500			f/300	6
1,500-100,000			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	$*180/f^2$	30
30-300	27.5	0.073	0.2	30
300-1,500			f/1500	30
1,500-100,000			1.0	30

f = frequency in MHz * = Plane-wave equivalent power density

MPE Calculation Method

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=3.1415926

R= distance between observation point and center of the radiator in cm(20cm)

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.

Measurement Result

2.4GWiFi:

Operation Frequency: WIFI 802.11b/g/n HT20: 2412-2462MHz,

802.11n HT40: 2422-2452MHz,

Power density limited: 1mW/ cm^2

R=20cm

mW=10^(dBm/10)

antenna gain Numeric=10^(dBi/10)= 10^(1.37/10)=1.37

2.4GWiFi:

Channel Freq. (MHz)	modulation	conducted power	Tune-up power	Max		Antenna	Evaluation result at 20cm	Power density Limits
		(dBm)	(dBm)	tune-up power		Gain	Power density(mW/cm^2)	(mW/cm^2)
				(dBm)	(mW)	Numeric		
2412	802.11b	8.11	8±1	9	7.943	1.37	0.00217	1
2437		7.62	7±1	8	6.310	1.37	0.00172	1
2462		10.49	10±1	11	12.589	1.37	0.00343	1
2412	802.11g	15.38	15±1	16	39.811	1.37	0.01086	1
2437		13.20	13±1	14	25.119	1.37	0.00685	1
2462		15.92	15±1	16	39.811	1.37	0.01086	1
2412	802.11n H20	14.94	14±1	15	31.623	1.37	0.00862	1
2437		14.82	14±1	15	31.623	1.37	0.00862	1
2462		13.92	13±1	14	25.119	1.37	0.00685	1
2422	802.11n H40	13.46	13±1	14	25.119	1.37	0.00685	1
2437		13.50	13±1	14	25.119	1.37	0.00685	1
2452		13.07	13±1	14	25.119	1.37	0.00685	1

Conclusion:

For the max result: 0.01086≤ 1.0, No SAR is required.

----END OF REPORT----