Airplove (Xiamen) Electronic Co., Ltd.

MPE ASSESSMENT REPORT

Report Type:
FCC Part §2.1091, §2.1093 and §1.1307(b) assessment report

Model:
AP-H2016

REPORT NUMBER:
210800996SHA-003

ISSUE DATE:
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TEST REPORT

Report no.: 210800996SHA-003

Applicant:	Airplove (Xiamen) Electronic Co., Ltd. 3F, No.823-1, Fangshan Dong Er Road, Xiang'an District, Xiamen
Manufacturer:	Airplove (Xiamen) Electronic Co., Ltd. 3F, No.823-1, Fangshan Dong Er Road, Xiang'an District, Xiamen
Factory	Airplove (Xiamen) Electronic Co., Ltd. 3F, No.823-1, Fangshan Dong Er Road, Xiang'an District, Xiamen
FCC ID:	2AWVWAPH2016

SUMMARY:

The equipment complies with the requirements according to the following standard(s) or Specification:
KDB447498 D01 General RF Exposure Guidance v06 FCC Part2.1091, FCC Part2.1093 FCC Part1.1307(b)

PREPARED BY:	**REVIEWED BY:**
	
Project Engineer Eric Li	Reviewer Daniel Zhao

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Revision History

Report No.	Version	Description	Issued Date
210800996SHA-003	Rev. 01	Initial issue of report	September 18, 2021

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1 GENERAL INFORMATION

1.1 Description of Equipment Under Test (EUT)

Product name:	Smart Air Purifier
Type/Model:	AP-H2016
Description of EUT:	The EUT is air purifier, it supports bluetooth and wifi functions, there is only one model, we test it and list the worst results in this report.
Rating:	DC24V 1.5A
EUT type:	☒ Table top ☐ Floor standing
Software Version:	/
Hardware Version:	/
Sample Identification No.:	0210817-92-001
Sample received date:	2021.8.17
Date of test:	2021.8.24-2021.8.30

1.2 Technical Specification

Wifi	
Frequency Band:	2412MHz ~ 2462MHz
Support Standards:	IEEE 802.11b, IEEE 802.11g, IEEE 802.11n(HT20)
Operating Frequency:	2412MHz to 2462MHz for IEEE 802.11b/g/n(HT20)
Type of Modulation:	IEEE 802.11b: DSSS (CCK, DQPSK, DBPSK) IEEE 802.11g: OFDM (64-QAM, 16-QAM, QPSK, BPSK) IEEE 802.11n(HT20): OFDM (64-QAM, 16-QAM, QPSK, BPSK)
Channel Number:	11 Channels for 802.11b, 802.11g and 802.11n(HT20)
Channel Separation:	5 MHz
Antenna Information:	PCB Antenna, 3dBi

Bluetooth	
Frequency Band:	2402MHz to 2480MHz
Support Standards:	Bluetooth Low Energy
Type of Modulation:	GFSK
Channel Number:	40
Channel Separation:	2MHz
Antenna Information:	PCB Antenna, 3dBi

1.3 Description of Test Facility

Name:	Intertek Testing Services Shanghai
Address:	Building 86, No. 1198 Qinzhou Road(North), Shanghai 200233, P.R. China
Telephone:	86 21 61278200
Telefax:	86 21 54262353

The test facility is recognized, certified, or accredited by these organizations:	CNAS Accreditation Lab Registration No. CNAS L0139
	FCC Accredited Lab Designation Number: CN1175
	IC Registration Lab CAB identifier.: CN0051
	VCCI Registration Lab Registration No.: R-14243, G-10845, C-14723, T-12252
	A2LA Accreditation Lab Certificate Number: 3309.02

2 MPE Assessment

Test result: Pass

2.1 MPE Assessment Limit

Mobile device exposure for standalone operations:

Frequency range	E-field strength (V/m)	H-field strength (A/m)	B-field (uT)	Equivalent plane wave power density S_{eq} (W/m^2)
0-1 Hz	-	$3,2 \times 10^4$	4×10^4	-
1-8 Hz	10 000	$3,2 \times 10^4/f^2$	$4 \times 10^4/f^2$	-
8-25 Hz	10 000	4 000/f	5 000/f	-
0,025-0,8 kHz	250/f	4/f	5/f	-
0,8-3 kHz	250/f	5	6,25	-
3-150 kHz	87	5	6,25	-
0,15-1 MHz	87	0,73/f	0,92/f	-
1-10 MHz	$87/f^{1/2}$	0,73/f	0,92/f	-
10-400 MHz	28	0,073	0,092	2
400-2 000 MHz	$1,375\ f^{1/2}$	$0,0037\ f^{1/2}$	$0,0046\ f^{1/2}$	f/200
2-300 GHz	61	0,16	0,20	10

Mobile device exposure for simultaneous transmission operations: **the sum of the MPE ratios for all simultaneously transmitting antennas incorporated in a host device is ≤ 1.0**

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2.2 Assessment Results

Power density (S) is calculated according to the formula:

$S = PG / (4\pi R^2)$

Where S = power density in mW/cm^2

P = Radiated transmit power in mW

G = numeric gain of transmit antenna

R = distance (cm)

As we can see from the test report 210800996SHA-001&210800996SHA-002:

The calculations in the table below use the highest gain of antenna for client EUT. These calculations represent worst case in terms of the exposure levels.

Mode	Frequency band	Max Power	Antenna Gain	R	S	Limits
	(MHz)	dBm	dBi	(cm)	(mW/cm2)	(mW/cm2)
Bluetooth	2402 -2480	-3.55	3.0	20	0.0002	1
WIFI	2412-2462	17.77	3.0	20	0.0238	1

Note: 1 mW/cm2 from 1.310 Table 1

The sum of the MPE ratios for all simultaneously transmitting is 0.0002/1+0.0238/1=0.024＜ 1.0

For the device can support simultaneous transmission, according to 447498 D01 General RF Exposure Guidance v06,

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Appendix I

Definition below must be outlined in the User Manual:

To satisfy FCC RF exposure requirements, a separation distance of 20 cm or more should be maintained between the antenna of this device and persons during device operation.
To ensure compliance, operations at closer than this distance is not recommended.

********** END **********