

# Airplove (Xiamen) Electronic Co., Ltd.

# **MPE ASSESSMENT REPORT**

### **Report Type:**

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

#### Model:

AP-M1010L

#### **REPORT NUMBER:**

210701060SHA-003

#### **ISSUE DATE:**

August 12, 2020

#### **DOCUMENT CONTROL NUMBER:**

TTRFFCCMPE-01\_V1 © 2018 Intertek





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Report no.: 210701060SHA-003

**Applicant:** Airplove (Xiamen) Electronic Co., Ltd.

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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: 2AWVWAPM1010L

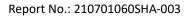
#### **SUMMARY:**

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: |  |
|------------------|--------------|--|
| Zrie. li         | Doinvil      |  |
| Project Engineer | Reviewer     |  |
| Eric Li          | Daniel Zhao  |  |

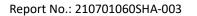
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# **Revision History**

| Report No.       | Version | Description             | Issued Date     |
|------------------|---------|-------------------------|-----------------|
| 210701060SHA-003 | Rev. 01 | Initial issue of report | August 12, 2021 |





## **1 GENERAL INFORMATION**

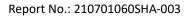
## 1.1 Description of Equipment Under Test (EUT)

| Product name:              | Smart Air Purifier  |
|----------------------------|---|
| Type/Model:                | AP-M1010L   |
| 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:                    | 120V~,60Hz,36W  |
| EUT type:                  | ☐ Table top ☐ Floor standing  |
| Software Version:          | /   |
| Hardware Version:          | /   |
| Sample Identification No.: | 0210806-15-001  |
| Sample received date:      | 2021.8.3  |
| Date of test:              | 2021.8.4-2021.8.10  |

# 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)         |
|                      | IEEE 802.11b: DSSS (CCK, DQPSK, DBPSK)                |
|                      | IEEE 802.11g: OFDM (64-QAM, 16-QAM, QPSK, BPSK)       |
| Type of Modulation:  | 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    |

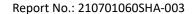




# 1.3 Description of Test Facility

| Name:      | Intertek Testing Services Shanghai                                     |
|------------|--|
|            | •  |
| Address:   | Building 86, No. 1198 Qinzhou Road(North), Shanghai 200233, P.R. China |
|            | 05.04.54070000   |
| Telephone: | 86 21 61278200   |
| Talafa     | 06.24.54262252   |
| Telefax:   | 86 21 54262353   |

| The test facility is | CNAS Accreditation Lab  |
|----------------------|---|
| recognized,          | Registration No. CNAS L0139   |
| certified, or        | FCC Accredited Lab  |
| accredited by these  |   |
| organizations:       | Designation Number: CN1175  |
|                      | IC Registration Lab   |
|                      | CAB identifier.: CN0051   |
|                      | VCCI Registration Lab<br>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       | H-field strength        | B-field                 | Equivalent plane wave  |  |
|-----------------|------------------------|-------------------------|-------------------------|------------------------|--|
|                 | (V/m)                  | (A/m)                   | (uT)                    | power density          |  |
|                 |                        |                         |                         | S <sub>eq</sub> (W/m²) |  |
| 0-1 Hz          | -                      | $3,2 \times 10^4$       | $4 \times 10^{4}$       | -                      |  |
| 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 <sup>1/2</sup>    | 0,73/f                  | 0,92/f                  | -                      |  |
| 10-400 MHz      | 28                     | 0,073                   | 0,092                   | 2                      |  |
| 400-2 000 MHz   | 1,375 f <sup>1/2</sup> | 0,0037 f <sup>1/2</sup> | 0,0046 f <sup>1/2</sup> | 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  $\leq$  1.0



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## 2.2 Assessment Results

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

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

**TEST REPORT** 

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 210701060SHA-001&210701060SHA-002:

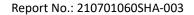
The calculations in the table below use the highest gain of antenna for client EUT. These calculations represent worst case in terms of the exposure levels.

| Mode      | Frequency<br>band | Max<br>Power | Antenna<br>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,





# **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.         |
|   |
| **************************************  |