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Report Template Version: V04
Report Template Revision Date: 2018-07-06

# RF Exposure Evaluation Report

| | |
|---|---|
| **Report No.:** | CQASZ20200901137E-02 |
| **Applicant:** | HONGKONG VIMAI TECHNOLOGY CO., LIMITED |
| **Address of Applicant:** | FLAT/RM H29, 1/F PHASE 2 KWAI SHING IND BLDG NO.42-46, TAI LIN PAI ROAD KWAI CHUNG, HONG KONG |
| **Equipment Under Test (EUT):** | |
| **Product:** | True wireless Earbuds |
| **Model No.:** | EP029, PRO-ANC, JR-TA2 |
| **Test Model No.:** | EP029 |
| **Brand Name:** | N/A |
| **FCC ID:** | 2AVLI-EP029 |
| **Standards:** | 47 CFR Part 1.1307 |
| | 47 CFR Part 1.1310 |
| | KDB 680106 D01 RF Exposure Wireless Charging Base App v03 |
| **Date of Receipt**: | 2020-09-30 |
| **Date of Test:** | 2020-09-30 to 2020-10-20 |
| **Date of Issue:** | 2020-10-22 |
| **Test Result :** | **PASS*** |

***In the configuration tested, the EUT complied with the standards specified above**

***Tested By:*** Tiny You

***( Tiny You )***

***Reviewed By:*** Sheek Luo

***( Sheek Luo )***

***Approved By:***

***( Jack Ai )***

# 1 Version

**Revision History Of Report**

| Report No. | Version | Description | Issue Date |
|---|---|---|---|
| 2CQASZ20200901137E-02 | Rev.01 | Initial report | 2020-10-22 |

# 2 Contents

# 3 General Information

## 3.1 Client Information

| | |
|---|---|
| Applicant: | HONGKONG VIMAI TECHNOLOGY CO., LIMITED |
| Address of Applicant: | FLAT/RM H29, 1/F PHASE 2 KWAI SHING IND BLDG NO.42-46, TAI LIN PAI ROAD KWAI CHUNG, HONG KONG |
| Manufacturer: | SHEN ZHEN VIMAI TECHNOLOGY CO.,LTD |
| Address of Manufacturer: | Floor 3, building B, no. 5 huating road, tongsheng community, dalang street, longhua district, shenzhen |
| Factory: | SHEN ZHEN VIMAI TECHNOLOGY CO.,LTD |
| Address of Factory: | Floor 3, building B, no. 5 huating road, tongsheng community, dalang street, longhua district, shenzhen |

## 3.2 General Description of EUT

| | |
|---|---|
| Product Name: | True wireless Earbuds |
| Model No.: | EP029, PRO-ANC, JR-TA2 |
| Test Model No.: | EP029 |
| Brand Name: | N/A |
| Hardware Version: | EP029-62F-ANC-2020-09-16-V1.1 |
| Software Version: | Weimai-EP029-Ven1.2-AB1662F-dem01.0-too1.1.1.1-V0.3-0819-Ledoff |
| EUT Power Supply: | lithium battery: DC 3.7V Charging by DC 5V |

## 3.3 Product Specification subjective to this standard

| | |
|---|---|
| Equipment Category: | Non-ISM frequency |
| Operation Frequency range: | 110kHz~205kHz |
| Modulation Type: | Induction |
| Antenna Type: | Induction coil |
| Antenna Gain: | 0dBi |
| Power: | 5W(Max) |

Note:

1. In section 15.31(m), regards to the operating frequency range less 1 MHz.

2. Model No.:EP029, PRO-ANC, JR-TA2

Only the model EP029 was tested, since the electrical circuit design, layout, components used and internal wiring were identical for the above models, Only the Model named is different.

## 3.4 Test Environment

| | |
|---|---|
| **Operating Environment:** | |
| Temperature: | 25.2 °C |
| Humidity: | 54 % RH |
| Atmospheric Pressure: | 1009mbar |
| **Test Mode:** | |
| Mode a: Wireless charging 5W | Wireless charging Mode at Output 5W |

## 3.5 Description of Support Units

The EUT has been tested with associated equipment below.

1）Support equipment

| Description | Manufacturer | Model No. | Certification | Supplied by |
|---|---|---|---|---|
| Adapter | PANFORE | P240W2500UG | DOC | CQA |
| | | | | |

2) Cable

| Cable No. | Description | Manufacturer | Cable Type/Length | Supplied by |
|---|---|---|---|---|
| / | / | / | / | / |

## 3.6 Test Location

**Shenzhen Huaxia Testing Technology Co., Ltd,**

1F., Block A of Tongsheng Technology Building, Huahui Road, Dalang Street, Longhua District, Shenzhen, China

## 3.7 Test Facility

**• A2LA (Certificate No. 4742.01)**
Shenzhen Huaxia Testing Technology Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 4742.01.

**• FCC Registration No.: 522263**
Shenzhen Huaxia Testing Technology Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration No.:522263

## 3.8 Equipment List

| Test Equipment | Manufacturer | Model No. | Instrument No. | Calibration Date | Calibration Due Date |
|---|---|---|---|---|---|
| Broadband Field Meter | Narda Safety Test Solutions GmbH | NBM-520 | SB9873 | 2019/10/18 | 2020/10/17 |
| Magnetic field probe | HIOKI | 3470 | SB9058/04 | 2019/12/14 | 2020/12/13 |

# 4 RF Exposure Evaluation

## 4.1 RF Exposure Compliance Requirement

### 4.1.1 Limits

According to FCC Part1.1310: 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 part1.1307(b)

TABLE 1—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 Exposures** | | | | |
| 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 |
| 300–1500 | ..... | ..... | 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 | *($180/f^2$) | 30 |
| 30–300 | 27.5 | 0.073 | 0.2 | 30 |
| 300–1500 | ..... | ..... | f/1500 | 30 |
| 1500–100,000 | ..... | ..... | 1.0 | 30 |

Note 1: f = frequency in MHz ; *Plane-wave equivalent power density

Note 2: For the applicable limit, see FCC 1.1310, 680106 D01 RF Exposure Wireless Charging Apps v03

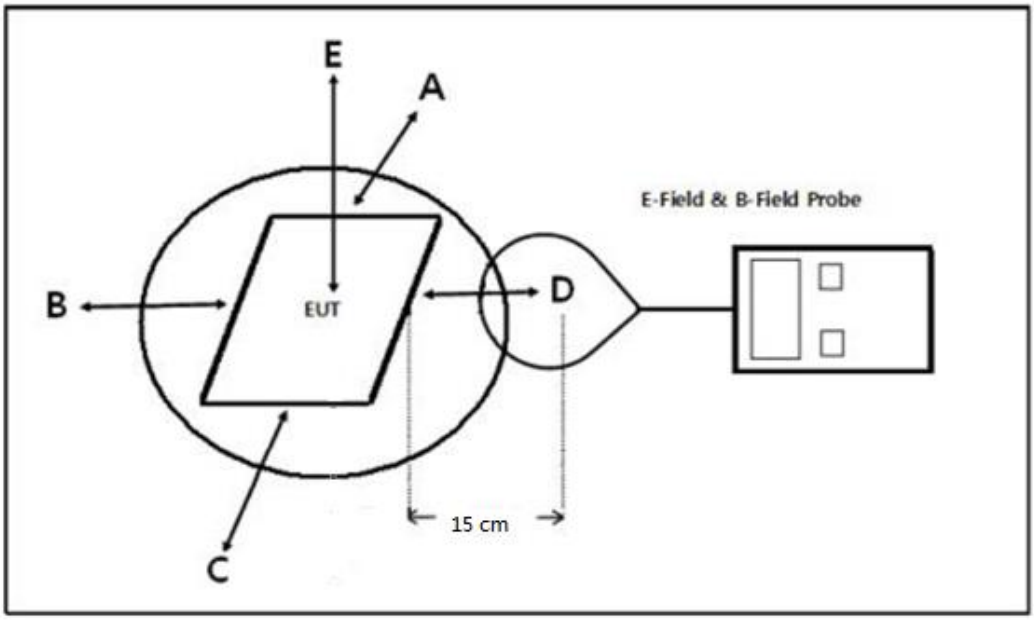
Note 3: Emissions between 100 kHz to 300 kHz should be assessed versus the limits at 300 kHz in Table 1 of Section 1.1310: 614 V/m and 1.63 A/m. A KDB inquiry is required to determine the applicable exposure limits below 100 kHz.

Note 4: The aggregate H-field strengths at 15 cm surrounding the device and 20 cm above the top surface from all simultaneous transmitting coils are demonstrated to be less than 50% of the MPE limit .

### 4.1.2 Test Procedure

For devices designed for typical desktop applications, such a wireless charging pads, RF exposure evaluation should be conducted assuming a user separation distance of 20 cm(Top) and 15cm(Edge). E and H field strength measurements or numerical modeling may be used to demonstrate compliance. Measurements should be made from all sides and the top of the primary/client pair, with the 20 cm(Top) and 15cm(Edge) measured from the center of the probe(s) to the edge of the device.

### 4.1.3 Test Setup




Note: Position A: Front of EUT; Position B: Left of EUT; Position C: back of EUT; Position D: Right of EUT; Position E: Top of EUT(20 cm measure distance);

### 4.1.4 Test Results

The EUT does comply with item 5 KDB680106 D01 v03.

(1) Power transfer frequency is less than 1 MHz.
(Conform)

(2) Output power from each primary coil is less than or equal to 15 watts.
(Conform)

(3) The transfer system includes only single primary and secondary coils. This includes charging systems that may have multiple primary coils and clients that are able to detect and allow coupling only between individual pairs of coils.
(Conform)

(4) Client device is placed directly in contact with the transmitter.
(Conform)

(5) Mobile exposure conditions only (portable exposure conditions are not covered by this exclusion).
(Conform)

(6) The aggregate H-field strengths at 15 cm surrounding the device and 20 cm above the top surface from all simultaneous transmitting coils are demonstrated to be less than 50% of the MPE limit.
(Conform)

Test condition: Mode a

E-field strength test result:

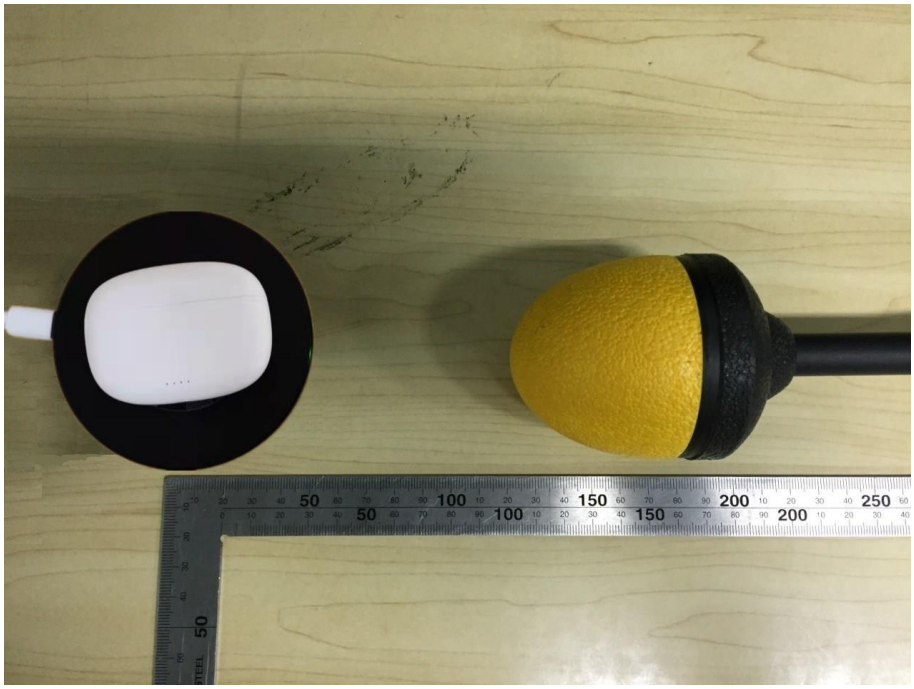
| Frequency Range | Probe Position A (V/m) | Probe Position B (V/m) | Probe Position C (V/m) | Probe Position D (V/m) | Probe Position E (V/m) | Limit (V/m) |
|---|---|---|---|---|---|---|
| 141.7kHz | 1.12 | 0.89 | 0.91 | 0.86 | 1.06 | 614 |

H-field strength test result:

| Frequency Range | Probe Position A (A/m) | Probe Position B (A/m) | Probe Position C (A/m) | Probe Position D (A/m) | Probe Position E (A/m) | Limit (A/m) |
|---|---|---|---|---|---|---|
| 141.7kHz | 0.34 | 0.67 | 0.37 | 0.41 | 0.45 | 1.63 |

# APPENDIX A: PHOTOGRAPHS OF TEST SETUP

Test Model No.: EP029



**----END OF REPORT----**