Testing
NVLAP LAB CODE 600222-0

# RF Exposure Evaluation Declaration

Report No.: S20250626670303
Issue Date: 07-01-2025

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|---|---|
| **Applicant:** | Huizhou Foryou General Electronics Co., Ltd. |
| **Address:** | No.2 District A, Foryou Industry Park, No. 1 North Shangxia Road, Dongjiang Hi tech Industry Park, Huizhou city, Guangdong Province, China 516005 |
| **FCC ID:** | 2AEIN-YJ5320K00 |
| **Product:** | MONITOR WITH RECEIVER |
| **Model No.:** | KW-Z900W |
| **FCC Rule Part(s):** | CFR 47, FCC Part 2.1091 Radio frequency radiation exposure evaluation: mobile devices. |
| **Item Receipt date:** | Feb. 12, 2025 |
| **Test Date:** | Feb. 24, 2025~ May.10, 2025 |

Compiled By: Stone Zhang. (Stone Zhang) Senior Test Engineer

Approved By: Line Chen (Line Chen) Engineer Manager

FANGGUANG INSPECTION & TESTING CO.,LTD. APPROVED(02)

The test results relate only to the samples tested.
This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in KDB 558074 D01. Test results reported herein relate only to the item(s) tested.
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# Revision History

| Report No. | Version | Description | Issue Date |
|---|---|---|---|
| S20250626670303 | Rev. 01 | / | 07-01-2025 |
| | | | |

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## §2.1033 General Information

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| **Applicant:** | Huizhou Foryou General Electronics Co., Ltd. |
| **Applicant Address:** | No.2 District A, Foryou Industry Park, No. 1 North Shangxia Road, Dongjiang Hi tech Industry Park, Huizhou city, Guangdong Province, China 516005 |
| **Manufacturer:** | Huizhou Foryou General Electronics Co., Ltd. |
| **Manufacturer Address:** | No.2 District A, Foryou Industry Park, No. 1 North Shangxia Road, Dongjiang Hi tech Industry Park, Huizhou city, Guangdong Province, China 516005 |
| **Factory:** | Huizhou Foryou General Electronics Co., Ltd. |
| **Factory Address:** | No.2 District A, Foryou Industry Park, No. 1 North Shangxia Road, Dongjiang Hi tech Industry Park, Huizhou city, Guangdong Province, China 516005 |
| **Test Site:** | Fangguang Inspection & Testing Co. Ltd |
| **LAB ID:** | CN5037 |
| **Test Site Address:** | No.8 Ningyun Rd., Xinwu District Wuxi, Jiangsu 214000 China |
| **FCC Rule Part(s):** | Part 15 Subpart E (15.407) |
| **FCC ID:** | 2AEIN-YJ5320K00 |
| **Test Device Serial No.:** | S/N.: /<br>☐ Production ☒ Pre-Production ☐ Engineering |

# 1. Product Information

## 1.1. Equipment Description

| | |
|---|---|
| Product Name: | MONITOR WITH RECEIVER |
| Model Name: | KW-Z900W |
| Trade Mark: | JVC |
| Input Voltage Range: | DC 12V |
| Bluetooth Version: | 5.3 |
| Wi-Fi Specification: | 802.11a/n-HT20/n-HT40/ac-VHT20/ac-VHT40/ac-VHT80 |
| Temperature Range: | -20℃~+80℃ |
| Hardware Version: | V03 |
| Software Version: | MCU: 00.20<br>MPU: 00.32 |
| Note: | 1. This information is provided by the Customer and its authenticity is the responsibility of the customer. This report is made solely on the basis of such data and/or information. We accept no responsibility for the authenticity and completeness of the above data and information and the validity of the results and/or conclusions. |

## 1.2. Product Specification Subjective to this Report

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|---|---|
| Frequency Range: | 531kHz – 1606.5kHz for AM (only for receive);<br>87.5MHz - 108MHz for FM (only for receive);<br>174MHz - 240MHz for DAB (only for receive);<br>1559MHz - 1610MHz for GNSS (only for receive);<br>2402MHz - 2480MHz for Bluetooth GFSK, Pi/4DQPSK, 8DPSK;<br>5745MHz~5825MHz for IEEE 802.11a/n HT20/ac VHT20 mode;<br>5755MHz~5795MHz for IEEE 802.11n HT40/ac VHT40 mode;<br>5775MHz for IEEE 802.11ac VHT80 mode. |
| Type of Modulation: | GFSK&Pi/4DQPSK&8DPSK for Bluetooth,<br>OFDM for IEEE 802.11a/n/ac mode. |
| Antenna Type: | Chip Antenna |
| Antenna Gain: | BT: 3.2 dBi gain (Max)<br>5G WIFI: 3.5 dBi gain (Max) |

Note: The maximum Antenna Gain was declared by the manufacturer.

# 2. RF Exposure Evaluation

## 2.1. Limits

### General

According to the KDB 447498 D04 Interim General RF Exposure Guidance v01,General frequency and separation-distance dependent MPE-based effective radiated power (ERP) thresholds are in Table 4.1 to support an exemption from further evaluation from 300 kHz through 100 GHz.

TABLE 4.1—THRESHOLDS FOR SINGLE RF SOURCES SUBJECT TO ROUTINE ENVIRONMENTAL EVALUATION

| RF Source Frequency | | | Minimum Distance | | | Threshold ERP |
|---|---|---|---|---|---|---|
| $f_L$ MHz | | $f_H$ MHz | $\lambda_L / 2\pi$ | | $\lambda_H / 2\pi$ | W |
| 0.3 | – | 1.34 | 159 m | – | 35.6 m | 1,920 $R^2$ |
| 1.34 | – | 30 | 35.6 m | – | 1.6 m | 3,450 $R^2/f^2$ |
| 30 | – | 300 | 1.6 m | – | 159 mm | 3.83 $R^2$ |
| 300 | – | 1,500 | 159 mm | – | 31.8 mm | 0.0128 $R^2f$ |
| 1,500 | – | 100,000 | 31.8 mm | – | 0.5 mm | 19.2$R^2$ |
| Subscripts L and H are low and high; λ is wavelength. From § 1.1307(b)(3)(i)(C), modified by adding Minimum Distance columns. | | | | | | |

For mobile devices that are not exempt per Table 4.1 at distances from 20 cm to 40 cm and in 0.3 GHz to 6 GHz, evaluation of compliance with the exposure limits in§1.1310 is necessary if the ERP of the device is greater than $ERP_{20cm}$ in Formula (4.1).

Formula (4.1):

$$P_{\text{th}}\ (\text{mW}) = ERP_{20\ \text{cm}}\ (\text{mW}) = \begin{cases} 2040f & 0.3\ \text{GHz} \le f < 1.5\ \text{GHz} \\ 3060 & 1.5\ \text{GHz} \le f \le 6\ \text{GHz} \end{cases}$$

## 2.2. Calculation Method

Predication of MPE limit at a given distance

EIRP(dBm)=Maximum Tune-up Output power (dBm)+Maximum antenna gain(dBi)

ERP(dBm)=EIRP(dBm)-2.15

R=minimum distance to the center of radiation of the antenna

From the EUT RF output power, the minimum mobile separation distance, d=20cm, as well as the maximum gain of the used as following information, the RF power ERP can be obtained.

**Table 1 Antenna Specification**

| Mode | Antenna type | Internal Identification | Maximum antenna gain |
|---|---|---|---|
| Bluetooth | Chip antenna | Antenna 1 | 3.2dBi |
| 5GHz WiFi U-NII-3 | Chip antenna | Antenna 2 | 3.5dBi |

**Table 2 Transmit Power**

| Mode | | Maximum Output Power (dBm) | Maximum Tune-up Output power (dBm) |
|---|---|---|---|
| Bluetooth DH5 | | -2.08 | -2.00±1.00 |
| Bluetooth 2DH5 | | -0.83 | -0.50±1.00 |
| Bluetooth 3DH5 | | -0.62 | -0.50±1.00 |
| 5GHz WiFi U-NII-3 | 802.11a | 7.06 | 7.50±1.00 |
| | 802.11n HT20 | 7.15 | 7.50±1.00 |
| | 802.11n HT40 | 7.41 | 7.50±1.00 |
| | 802.11ac VHT20 | 7.11 | 7.50±1.00 |
| | 802.11ac VHT40 | 6.84 | 7.00±1.00 |
| | 802.11ac VHT80 | 6.86 | 7.00±1.00 |

## 2.3. Test Result of RF Exposure Evaluation

| Mode | Frequency (MHz) | Maximum Tune-up Output power (dBm) | Antenna Gain (dBi) | Maximum Tune-up EIRP (dBm) | ERP (dBm) | Maximum Tune-up ERP (W) | Threshold ERP(W) |
|---|---|---|---|---|---|---|---|
| BT | 2402- 2480 | 0.50 | 3.2 | 3.70 | 1.55 | 0.0014 | 0.768 |
| 5GHz WiFi U-NII-3 | 5725-5850 | 8.50 | 3.5 | 12.0 | 9.85 | 0.0097 | 0.768 |

Remark:

1). RF Exposure use distance is 20cm from manufacturer declaration of user manual.

2). Threshold ERP(W)= 19.2$R^2$ (W)=19.2*0.2*0.2(W)=0.768(W).

3). ERP(dBm)=EIRP(dBm)-2.15.

**For Simultaneous transmission:**

∑ MPE ratios= MPE ratio(BT)+ MPE ratio(5G wifi-U-NII-3).

**Maximum Simultaneous transmission MPE Ratio for BT and RLAN(5G wifi)**

| Maximum MPE ratio (BT) | Maximum MPE ratio (5G wifi-U-NII-3) | ∑ MPE ratios | Limit | Results |
|---|---|---|---|---|
| 0.0018 | 0.0126 | 0.0144 | 1.000 | Pass |

Note:

(1) The bluetooth and wifi support simultaneous.

(2) $ERP_j$: the available maximum time-averaged power or the ERP, whichever is greater, of fixed, mobile, or portable RF source j.

(3) $ERP_{th,j}$: exemption threshold ERP for fixed, mobile, or portable RF source j, at a distance of at least λ/2π, according to the applicable § 1.1307(b)(3)(i)(C) Table 1 formula at the location in question.

(4) Maximum MPE Ratio (BT) = Maximum Tune-up ERP(BT) / Threshold ERP =0.0014W/0.768W= 0.0018;

(5) Maximum MPE Ratio (5G wifi-U-NII-3) =Maximum Tune-up ERP (5G wifi-U-NII-3) / Threshold ERP =0.0097W/0.768W=0.0126 ;

(6) ∑ MPE ratios= Maximum MPE Ratio (BT)+ Maximum MPE Ratio (5G wifi-U-NII-3) =0.0018+0.0126=0.0144<1.

The result is pass.

**CONCULISON:**

The measurement results comply with the FCC Limit per 47 CFR 2.1091 for the uncontrolled RF Exposure of mobile device.

# Statement

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