

## 1 Cover Page

### ***RF Exposure Evaluation Report***

**Application No.:** SHCR2111000759CR  
**FCC ID:** 2APV2-CSH31J5  
**Applicant:** Hangzhou Ezviz Software Co., Ltd.  
**Address of Applicant:** Room 302, Unit B, Building 2, 399 Danfeng Road, Binjiang District, Hangzhou, Zhejiang  
**Manufacturer:** Hangzhou Ezviz Software Co., Ltd.  
**Address of Manufacturer:** Room 302, Unit B, Building 2, 399 Danfeng Road, Binjiang District, Hangzhou, Zhejiang  
**Equipment Under Test (EUT):**  
**EUT Name:** Smart Home Camera  
**Model No.:** CS-H3 (5MP);  
**Add Model No:** CS-H3  
**Trade mark:** EZVIZ  
**Standard(s) :** FCC Rules 47 CFR §2.1091  
 KDB447498 D01 General RF Exposure Guidance v06  
**Date of Receipt:** 2022-02-25  
**Date of Test:** 2022-03-10 to 2022-03-18  
**Date of Issue:** 2022-03-19

|                     |              |
|---------------------|--------------|
| <b>Test Result:</b> | <b>Pass*</b> |
|---------------------|--------------|

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

*Parlam Zhan*

Parlam Zhan  
Laboratory Manager



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| Revision Record |         |            |          |          |
|-----------------|---------|------------|----------|----------|
| Version         | Chapter | Date       | Modifier | Remark   |
| 01              |         | 2022-03-19 |          | Original |
|                 |         |            |          |          |
|                 |         |            |          |          |

|                          |  |                                |  |  |
|--------------------------|--|--------------------------------|--|--|
| Authorized for issue by: |  |                                |  |  |
|                          |  | Michael Niu                    |  |  |
|                          |  | Micheal Niu / Project Engineer |  |  |
|                          |  | Parlam Zhan                    |  |  |
|                          |  | Parlam Zhan / Reviewer         |  |  |



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### 3 General Information

#### 3.1 General Description of E.U.T.

|               |        |
|---------------|--------|
| Power supply: | DC 12V |
|---------------|--------|

#### 3.2 Technical Specifications

##### 2.4G WiFi

|                      |                                                                                                                   |
|----------------------|-------------------------------------------------------------------------------------------------------------------|
| Antenna Gain:        | Ant 1:2.24dBi; (Provided by manufacturer)<br>Ant 2:2.3dBi; (Provided by manufacturer)<br>Directional gain:5.28dBi |
| Antenna Type:        | Antenna 1: Dipole Antenna<br>Antenna 2: Dipole Antenna                                                            |
| Channel Spacing:     | 5MHz                                                                                                              |
| Modulation Type:     | 802.11b: DSSS (CCK, DQPSK, DBPSK)<br>802.11g/n: OFDM (64QAM, 16QAM, QPSK, BPSK)                                   |
| Number of Channels:  | 802.11b/g/n(HT20):11                                                                                              |
| Operation Frequency: | 802.11b/g/n(HT20): 2412MHz to 2462MHz                                                                             |



### 3.3 Test Location

All tests were performed at:

Compliance Certification Services (Kunshan) Inc.

No.10 Weiye Rd, Innovation park, Eco&Tec, Development Zone, Kunshan City, Jiangsu, China.

Tel: +86 512 5735 5888 Fax: +86 512 5737 0818

No tests were sub-contracted.

### 3.4 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

• **CNAS (No. CNAS L4354)**

CNAS has accredited Compliance Certification Services (Kunshan) Inc. to ISO/IEC 17025:2017 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

• **A2LA (Certificate No. 2541.01)**

Compliance Certification Services (Kunshan) Inc. is accredited by the American Association for Laboratory Accreditation (A2LA). Certificate No. 2541.01.

• **FCC (Designation Number: CN1172)**

Compliance Certification Services (Kunshan) Inc. has been recognized as an accredited testing laboratory.

Designation Number: CN1172.

• **ISED (CAB identifier: CN0072)**

Compliance Certification Services (Kunshan) Inc. has been recognized by Innovation, Science and Economic Development Canada (ISED) as an accredited testing laboratory.

Company Number: 2324E

• **VCCI (Member No.: 1938)**

The 3m and 10m Semi-anechoic chamber and Shielded Room of Compliance Certification Services (Kunshan) Inc. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-20134, R-11600, C-11707, T-11499, G-10216 respectively.



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## 4 Test Standards and Limits

### 4.1 FCC Radiofrequency radiation exposure limits:

According to §1.1310, the limit for general population/uncontrolled exposures

| Frequency     | Power density(mW/cm <sup>2</sup> ) | Averaging time(minutes) |
|---------------|------------------------------------|-------------------------|
| 300MHz~1.5GHz | f/1500                             | 30                      |
| 1.5GHz~100GHz | 1.0                                | 30                      |



## 5 Measurement and Calculation

### 5.1 Maximum transmit power

The Power Data is based on the RF Test Report SHCR220200044201

| Test Mode | Channel | Antenna 1<br>Power[dBm] | Antenna 2<br>Power[dBm] | MIMO<br>Power[dBm] | Antenna 1<br>Power[mW] | Antenna 2<br>Power[mW] | MIMO<br>Power[mW] |
|-----------|---------|-------------------------|-------------------------|--------------------|------------------------|------------------------|-------------------|
| 11B       | 2412    | 14.32                   | 13.27                   | NA                 | <b>27.04</b>           | 21.23                  | N/A               |
| 11B       | 2437    | 13.86                   | 12.81                   | NA                 | 24.32                  | 19.10                  | N/A               |
| 11B       | 2462    | 13.39                   | 12.32                   | NA                 | 21.83                  | 17.06                  | N/A               |
| 11G       | 2412    | 13.70                   | 13.29                   | NA                 | 23.44                  | <b>21.33</b>           | N/A               |
| 11G       | 2437    | 13.02                   | 12.67                   | NA                 | 20.04                  | 18.49                  | N/A               |
| 11G       | 2462    | 12.52                   | 12.19                   | NA                 | 17.86                  | 16.56                  | N/A               |
| 11N20MIMO | 2412    | 10.93                   | 11.27                   | 14.11              | 12.39                  | 13.40                  | <b>25.76</b>      |
| 11N20MIMO | 2437    | 10.52                   | 10.76                   | 13.65              | 11.27                  | 11.91                  | 23.17             |
| 11N20MIMO | 2462    | 10.04                   | 10.47                   | 13.27              | 10.09                  | 11.14                  | 21.23             |



## 5.2 MPE Calculation

According to the formula  $S=P/4\pi R^2$ , we can calculate S which is MPE.

Note:

- 1) P (mW)
- 2) R = distance to the center of radiation of antenna (in meter) = 20cm
- 3) MPE limit = 1mW/cm<sup>2</sup>

For 2.4G WiFi –Antenna1:

The max. antenna gain is 2.24 dBi

| Max. Conducted Power P(mW) | Gain in Linear Scale G | Operation Distance R(cm) | Power Density (mW/cm <sup>2</sup> ) | Limit (mW/cm <sup>2</sup> ) | Result |
|----------------------------|------------------------|--------------------------|-------------------------------------|-----------------------------|--------|
| 27.04                      | 1.675                  | 20                       | 0.00901                             | 1                           | Pass   |

For 2.4G WiFi –Antenna2:

The max. antenna gain is 2.3 dBi

| Max. Conducted Power P(mW) | Gain in Linear Scale G | Operation Distance R(cm) | Power Density (mW/cm <sup>2</sup> ) | Limit (mW/cm <sup>2</sup> ) | Result |
|----------------------------|------------------------|--------------------------|-------------------------------------|-----------------------------|--------|
| 21.33                      | 1.698                  | 20                       | 0.00721                             | 1                           | Pass   |

In MIMO mode:

The max. antenna gain is 5.28 dBi

| Max. Conducted Power P(mW) | Gain in Linear Scale G | Operation Distance R(cm) | Power Density (mW/cm <sup>2</sup> ) | Limit (mW/cm <sup>2</sup> ) | Result |
|----------------------------|------------------------|--------------------------|-------------------------------------|-----------------------------|--------|
| 25.76                      | 3.373                  | 20                       | 0.01729                             | 1                           | Pass   |

According to the KDB447498 section 7.2 determine the device is exclusion from SAR test

**--End of the Report--**

