

# SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

SZEMC-TRF-01 Rev. A/1

Report No.: SZCR231100384503

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## TEST REPORT

**Application No.:** SZCR2311003832AT(KSCR2311001934AT)  
**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:** Wire-Free Video Doorbell  
**Model No.:** CS-EP3x, CS-EP3x (3MP+2MP) ♣  
 ♣ Please refer to section 3 of this report which indicates which model was actually tested and which were electrically identical.  
**Trade Mark:** EZVIZ  
**Standard(s) :** EN IEC 62311:2020  
**Date of Receipt:** 2023-11-01  
**Date of Test:** 2023-11-09 to 2023-11-14  
**Date of Issue:** 2023-11-25

<b>Test Result:</b>	<b>Pass*</b>
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\* In the configuration tested, the EUT complied with the standards specified above.

Keny Xu  
EMC Laboratory Manager



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### Revision Record

Version	Chapter	Date	Modifier	Remark
01		2023-11-25		Original

Authorized for issue by:

Bill Chen

Bill Chen /Project Engineer

Eric Fu

Eric Fu /Reviewer



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Shenzhen Branch Testing Laboratory

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### 3 General Information

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

Power supply:	DC 5V,9W Max
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Remark: The information in this section is provided by the applicant or manufacturer, SGS is not liable to the accuracy, suitability, reliability or/and integrity of the information.

Only the model CS-EP3x (3MP+2MP) was tested.

Note: There are series models mentioned in this report, and they are identical in electrical and electronic characters. Only the model CS-EP3x (3MP+2MP) was tested since their differences were the model number and appearance.

#### 3.2 Technical Specifications

##### 2.4G

Operation Frequency:	802.11b/g/n(HT20): 2412MHz to 2472MHz
Modulation Type:	802.11b: DSSS (CCK, DQPSK, DBPSK), 802.11g/n: OFDM (64QAM, 16QAM, QPSK, BPSK)
Channel Spacing:	5MHz
Number of Channels:	802.11b/g/n(HT20): 13
Antenna Type:	PCB Antenna
Adaptive Type:	LBE under LBT based DAA
Antenna Gain:	0.66dBi (Provided by the manufacturer)
Power Class:	>=10mW
Receiver Category:	1



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Shenzhen Branch (Testing) / EMC Laboratory

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### 3.3 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen Branch

No. 1 Workshop, M-10, Middle Section, Science & Technology Park, Nanshan District, Shenzhen, Guangdong, China. 518057.

Tel: +86 755 2601 2053 Fax: +86 755 2671 0594

No tests were sub-contracted.

Note:

1. SGS is not responsible for wrong test results due to incorrect information (e.g. max. clock frequency, highest internal frequency, antenna gain, cable loss, etc ) is provided by the applicant. (if applicable).

2. SGS is not responsible for the authenticity, integrity and the validity of the conclusion based on results of the data provided by applicant. (if applicable).

3. Sample source: sent by customer.

### 3.4 Test Facility

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

- **A2LA (Certificate No. 3816.01)**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 3816.01.

- **VCCI (Member No. 1937)**

The 3m Fully-anechoic chamber for above 1GHz, 10m Semi-anechoic chamber for below 1GHz, Shielded Room for Mains Port Conducted Interference Measurement and Telecommunication Port Conducted Interference Measurement of SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen EMC laboratory have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-20026, R-14188, C-12383 and T-11153 respectively.

- **FCC –Designation Number: CN1336**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized as an accredited testing laboratory.

Designation Number: CN1336. Test Firm Registration Number: 787754.

- **Innovation, Science and Economic Development Canada**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized by ISED as an accredited testing laboratory.

CAB identifier: CN0006.

IC#: 4620C.



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## 4 Test Standards and Limits

The evaluation has been performed on the EUT, pursuant to the relevant requirements of the following document(s) and the harmonized EN standard(s) covering essential requirements under article 3.1a of the RED Directive (2014/53/EU).

Identity	Document Title	Version
Council Recommendation of 12 July 1999(1999/519/EC)	On the limitation of exposure of the general public to electromagnetic fields (0Hz to 300GHz)	1999
EN IEC 62311	Assessment of electronic and electrical equipment related to human exposure restrictions for electromagnetic fields (0 Hz – 300 GHz)	2020

**Limit:** According to EN IEC 62311, the criteria listed in the below table shall be used to evaluate the environmental impact of human exposure to radio-frequency (RF) radiation as specified table 2 of Council Recommendation 1999/519/EC.



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Table 2

Reference levels for electric, magnetic and electromagnetic fields  
(0 Hz to 300 GHz, unperturbed rms values)

Frequency range	E-field strength (V/m)	H-field strength (A/m)	B-field (μT)	Equivalent plane wave power density $S_{eq}$ (W/m <sup>2</sup> )
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	$87/f^{1/2}$	$0,73/f$	$0,92/f$	—
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

### Notes

1.  $f$  as indicated in the frequency range column.
2. For frequencies between 100 kHz and 10 GHz,  $S_{eq}$ ,  $E^2$ ,  $H^2$ , and  $B^2$  are to be averaged over any six-minute period.
3. For frequencies exceeding 10 GHz,  $S_{eq}$ ,  $E^2$ ,  $H^2$ , and  $B^2$  are to be averaged over any  $68/f^{1.05}$  -minute period ( $f$  in GHz).
4. No E-field value is provided for frequencies < 1 Hz, which are effectively static electric fields. For most people the annoying perception of surface electric charges will not occur at field strengths less than 25 kV/m. Spark discharges causing stress or annoyance should be avoided.

Note1: The limit of power density is 10W/m<sup>2</sup>.





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## 5 Calculation Formula and Test Result

### 5.1 Calculation Formula

$$Pd = (Pout * G) / 4\pi R^2$$

Where:

Pd = Power density in W/m<sup>2</sup>

Pout = Output power to antenna in W

G = Antenna Gain in linear scale

$\pi = 3.14$

R = distance to the center of radiation of antenna (in meter) = 0.2m

**NOTE:** Pd limit = 10W/m<sup>2</sup>.

### 5.2 Test Results

The EIRP Data is based on the RF Test Report SZCR231100384502;

The max EIRP is PG = 17.49 dBm = 0.0561 W;

$$\text{So, } S = \frac{PG}{4R^2\pi} = 0.11 \text{ W/m}^2$$

according to the EN IEC 62311 section 8.3 determine the device is exclusion from SAR test

**--The End of Report--**



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