1 Cover Page

RF Exposure Evaluation Report

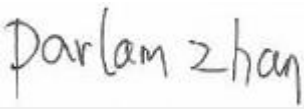
Application No.:	SHEM1911018696CR
FCC ID:	2APV2-C3XYZ
Applicant:	Hangzhou Ezviz Software Co., Ltd.
Address of Applicant:	Room 302,Unit B,Building 2,399 Danfeng Road,Binjiang District,Hangzhou, Zhejiang
Manufacturer:	Hangzhou Ezviz Software Co., Ltd.
Address of Manufacturer:	Room 302,Unit B,Building 2,399 Danfeng Road,Binjiang District,Hangzhou, Zhejiang
Equipment Under Test (EUT):	
EUT Name:	Internet Bullet Camera
Model No.:	CS-C3N
Add Model No.:	CS-C3W, CS-C3Wi, CS-C3WN, CS-C3C, CS-C3HC, CS-C3HN, CS-C3HW, CS-C3HWi
Trade mark:	EZVIZ
Standard(s) :	FCC Rules 47 CFR §2.1091 KDB447498 D01 General RF Exposure Guidance v06
Date of Receipt:	2019-11-07
Date of Test:	2019-11-13 to 2019-11-21
Date of Issue:	2019-12-09
Test Result:	**Pass***

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

Parlam Zhan
E&E Section Manager

The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS International Electrical Approvals or testing done by SGS International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by SGS International Electrical Approvals in writing.

Revision Record			
Version	**Description**	**Date**	**Remark**
00	Original	2019-12-09	/

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

2 Contents

3 General Information

3.1 General Description of E.U.T.

Power supply:	DC 12V 0.5A by adapter Adapter: Model:DSA-12PFG-12 FUS INPUT: 100~240V~50/60Hz OUTPUT:DC12V/1A
Test voltage:	AC 120V/60Hz
Cable:	DC Cable 1.3m
Antenna Gain	Antenna 1: 2.31dBi Antenna 2: 2.31dBi MIMO: 5.32dBi
Antenna Type	Antenna 1: Dipole Antenna Antenna 2: Dipole Antenna
Channel Spacing	5MHz
Modulation Type	802.11b: DSSS (CCK, DQPSK, DBPSK) 802.11g/n: OFDM (64QAM, 16QAM, QPSK, BPSK)
Number of Channels	802.11b/g/n(HT20):11 802.11n(HT40):7
Operation Frequency	802.11b/g/n(HT20): 2412MHz to 2462MHz 802.11n(HT40): 2422MHz to 2452MHz

3.2 Test Location

All tests were performed at:

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

588 West Jindu Road, Xinqiao, Songjiang, 201612 Shanghai, China.

Tel: +86 21 6191 5666

Fax: +86 21 6191 5678

3.3 Test Facility

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

- **CNAS (No. CNAS L0599)**

CNAS has accredited SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. to ISO/IEC 17025:2005 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.

- **NVLAP (Certificate No. 201034-0)**

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. is accredited by the National Voluntary Laboratory Accreditation Program(NVLAP). Certificate No. 201034-0.

- **FCC –Designation Number: CN5033**

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been recognized as an accredited testing laboratory.

Designation Number: CN5033. Test Firm Registration Number: 479755.

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

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

IC Registration No.: 8617A-1. CAB Identifier: CN0020.

- **VCCI (Member No.: 3061)**

The 3m Semi-anechoic chamber and Shielded Room of SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-13868, C-14336, T-12221, G-10830 respectively.

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^2)	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 SHEM191101869601

Test Mode	Channel	Antenna 1 Power[dBm]	Antenna 2 Power[dBm]	MIMO Power[dBm]	Antenna 1 Power[mW]	Antenna 2 Power[mW]	MIMO Power[mW]
11B	2412	17.60	15.83	NA	57.54	38.28	NA
11B	2437	17.64	15.96	NA	58.08	39.45	NA
11B	2462	17.74	16.89	NA	59.43	48.87	NA
11G	2412	17.23	15.79	NA	52.84	37.93	NA
11G	2437	17.29	16.00	NA	53.58	39.81	NA
11G	2462	17.36	16.87	NA	54.45	48.64	NA
11N20SISO	2412	17.03	15.65	NA	50.47	36.73	NA
11N20SISO	2437	17.00	15.83	NA	50.12	38.28	NA
11N20SISO	2462	17.09	16.71	NA	51.17	46.88	NA
11N40SISO	2422	16.18	14.77	NA	41.50	29.99	NA
11N40SISO	2437	16.13	14.95	NA	41.02	31.26	NA
11N40SISO	2452	16.16	15.40	NA	41.30	34.67	NA
11N20MIMO	2412	16.16	14.30	18.34	41.30	26.92	68.22
11N20MIMO	2437	16.08	14.34	18.31	40.55	27.16	67.72
11N20MIMO	2462	16.19	15.26	18.76	41.59	33.57	**75.16**
11N40MIMO	2422	15.52	14.28	17.95	35.65	26.79	62.44
11N40MIMO	2437	15.26	13.49	17.47	33.57	22.34	55.91
11N40MIMO	2452	15.33	13.97	17.71	34.12	24.95	59.07

5.2 MPE Calculation

For FCC:

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/cm²

For 2.4GHz WiFi SISO mode:

Antenna 1

The max. antenna gain is 2.31 dBi

Max. Conducted Power P(mW)	Gain in Linear Scale G	Operation Distance R(cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)	Result
59.43	1.702	20	0.02012	1	Pass

Antenna 2

The max. antenna gain is 2.31 dBi

Max. Conducted Power P(mW)	Gain in Linear Scale G	Operation Distance R(cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)	Result
48.87	1.702	20	0.01655	1	Pass

For 2.4GHz WiFi MIMO mode:

The max. antenna gain is 5.32 dBi

Max. Conducted Power P(mW)	Gain in Linear Scale G	Operation Distance R(cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)	Result
75.16	3.404	20	0.05090	1	Pass

So the device is exclusion from SAR test.

--End of the Report--