

1 Cover Page

RF MPE REPORT

Application No.: SHEM2107007932CR
FCC ID: 2APV2-CSC68C4
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-C6
Add Model No.: CS-C6 (4MP,W2),CS-C6 (3MP,W2)
Standard(s) : FCC Rules 47 CFR §2.1091
 KDB447498 D01 General RF Exposure Guidance v06
Date of Receipt: 2021-07-21
Date of Test: 2021-07-21 to 2021-08-13
Date of Issue: 2021-08-14

Test Result:	Pass*
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* In the configuration tested, the EUT complied with the standards specified above.

Parlam Zhan

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.



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Revision Record			
Version	Description	Date	Remark
00	Original	201-08-14	/

Authorized for issue by:			
		<i>Michael Niu</i>	

		Micheal Niu / Project Engineer	
		<i>Parlam Zhan</i>	

		Parlam Zhan / Reviewer	



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3 General Information

3.1 General Description of E.U.T.

Power supply:	DC 5V by Adapter
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3.2 Technical Specifications

2.4GHz

Antenna Gain:	3.83dBi(Provided by the manufacturer)
Antenna Type:	PCB 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

5GHz

Operation Frequency:	Band	Mode	Frequency Range(MHz)	Number of channels
	UNII Band I	802.11a/n(HT20)	5180-5240	4
		802.11n(HT40)	5190-5230	2
	UNII Band III	802.11a/n(HT20)	5745-5825	5
		802.11n(HT40)	5755-5795	2
Modulation Type:	802.11a: OFDM (64QAM, 16QAM, QPSK, BPSK) 802.11n: OFDM (BPSK, QPSK, 16QAM, 64QAM)			
Date Rate:	802.11a:6/9/12/18/24/36/48/54Mbps 802.11n: MCS0-MCS7			
Channel Spacing:	802.11a/n(HT20): 20MHz 802.11n(HT40): 40MHz			
Antenna Gain:	3.39dBi (Provided by manufacturer)			
Antenna Type:	PCB Antenna			



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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 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 (ISED) Canada as an accredited testing laboratory. CAB Identifier: CN0072.

• **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-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 ²)	Averaging time(minutes)
300MHz~1.5GHz	f/1500	30
1.5GHz~100GHz	1.0	30



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5 Measurement and Calculation

5.1 Maximum transmit power

2.4GHz for FCC

The Power Data is based on the RF Test Report SHEM210700793201

Test Mode	Test Frequency (MHz)	Output Power (dBm)	Reading Power (mW)
11B	2412	17.21	52.60
11B	2437	17.07	50.93
11B	2462	17.81	60.39
11G	2412	18.27	67.14
11G	2437	18.80	75.86
11G	2462	18.75	74.99
11N20SISO	2412	17.32	53.95
11N20SISO	2437	17.65	58.21
11N20SISO	2462	19.17	82.60
11N40SISO	2422	18.16	65.46
11N40SISO	2437	17.80	60.26
11N40SISO	2452	18.54	71.45



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5GHz for FCC

The Power Data is based on the RF Test Report SHEM210700793202

Test Mode	Test Frequency (MHz)	Output Power (dBm)	Reading Power (mW)
11A	5180	15.13	32.58
11A	5200	15.07	32.14
11A	5240	14.98	31.48
11A	5745	14.02	25.23
11A	5785	13.58	22.80
11A	5825	13.90	24.55
11N20	5180	14.94	31.19
11N20	5200	14.43	27.73
11N20	5240	14.31	26.98
11N20	5745	14.19	26.24
11N20	5785	13.97	24.95
11N20	5825	13.24	21.09
11N40	5190	14.36	32.58
11N40	5230	14.05	32.14
11N40	5755	12.81	31.48
11N40	5795	12.40	25.23



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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/cm²

For 2.4G WiFi :

The max. antenna gain is 3.83 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
82.6	2.415	20	0.03969	1	Pass

For 5G WiFi:

The max. antenna gain is 3.39 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
32.58	2.183	20	0.01415	1	Pass

2.4G WiFi and 5G WiFi modules can simultaneous transmitting, so the maximum rate of MPE is $0.03969/1.0+0.01415/1.0=0.053\leq 1.0$. according to the KDB447498 section 7.2 determine the device is exclusion from SAR test

--End of the Report--



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