

1 Cover Page

RF Exposure Evaluation Report

Application No.: KSEM2005000477CR
FCC ID: 2AL8S-0235C4KX
Applicant: Zhejiang Uniview Technologies Co., Ltd.
Address of Applicant: 88 Jiangling Rd, Binjiang District, Hangzhou, Zhejiang 310051, China
Manufacturer: Zhejiang Uniview Technologies Co., Ltd.
Address of Manufacturer: 88 Jiangling Rd, Binjiang District, Hangzhou, Zhejiang 310051, China
Equipment Under Test (EUT):
EUT Name: IP Camera
Model No.: C1L-2WN
Add Model No.: C1L-xxxxxxx-yyyzzz("x" can be 0-9, A-Z, a-z or blank, denoting difference in interface; "y" can be 0-9, A-Z, a-z or blank, denoting performance difference; "z" can be 0-9, A-Z, a-z or blank, denoting target regional; "-" may be blank.)
Standard(s) : FCC Rules 47 CFR §2.1091
 KDB447498 D01 General RF Exposure Guidance v06
Date of Receipt: 2020-05-11
Date of Test: 2020-06-02 to 2020-06-10
Date of Issue: 2020-06-12

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

Eric Lin
EMC Lab 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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Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com
 No.10, Weiye Road, Innovation Park, Kunshan, Jiangsu, China 215300 t(86-512)57355888 f(86-512)57370818 www.sgs.com
 中国·江苏·昆山市留学生创业园伟业路10号 邮编 215300 t(86-512)57355888 f(86-512)57370818 sgs.china@sgs.com

Revision Record			
Version	Description	Date	Remark
00	Original	2020-06-12	/

Authorized for issue by:			
		<i>Damon zhou</i>	
		<hr/>	
		Damon zhou / Project Engineer	
		<i>Eric Lin</i>	
		<hr/>	
		Eric Lin / Reviewer	

2 Contents

	Page
1 COVER PAGE	1
2 CONTENTS	3
3 GENERAL INFORMATION	4
3.1 GENERAL DESCRIPTION OF E.U.T.	4
3.2 TECHNICAL SPECIFICATIONS	4
3.3 TEST LOCATION	5
3.4 TEST FACILITY	5
4 TEST STANDARDS AND LIMITS	6
4.1 FCC RADIOFREQUENCY RADIATION EXPOSURE LIMITS:	6
5 MEASUREMENT AND CALCULATION	7
5.1 MAXIMUM TRANSMIT POWER	7
5.2 MPE CALCULATION	8

3 General Information

3.1 General Description of E.U.T.

Power supply:	DC 5V by adapter
Serial Number:	210235C4KX3204000001
Firmware Version:	IPC_D1211-B0001P82D1907LJ02

3.2 Technical Specifications

2.4G WiFi

Antenna Gain:	3 dBi
Antenna Type:	Ceramic 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
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 Inc. has been recognized as an accredited testing laboratory. Designation Number: CN1172. Test Firm Registration Number: 995260.

- **Industry Canada (IC) – IC Assigned Code: 2324E**

The 10m and 3m Semi-anechoic chamber of Compliance Certification Services (Kunshan) Inc. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 2324E-1 for 10m chamber, 2324E-2 for 3m chamber.

- **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-1600, C-1707, T-1499, G-10216 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 range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f ²)	30
30-300	27.5	0.073	0.2	30
300-1500	/	/	f/1500	30
1500-100,000	/	/	1.0	30

Note: Limit for 2.4GHz is 1.0 mW/cm²

5 Measurement and Calculation

5.1 Maximum transmit power

The Power Data is based on the RF Test Report KSEM200500047701.

Test Mode	Test Channel	Ant	Power [dBm]	Power [mW]
11B	2412	Ant1	16.75	47.32
11B	2437	Ant1	16.72	46.99
11B	2462	Ant1	16.94	49.43
11G	2412	Ant1	17.84	60.81
11G	2437	Ant1	18.03	63.53
11G	2462	Ant1	18.34	68.23
11N20SISO	2412	Ant1	16.59	45.60
11N20SISO	2437	Ant1	16.86	48.53
11N20SISO	2462	Ant1	17.08	51.05

5.2 MPE Calculation

For WiFi:

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

The max. antenna gain is 3 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
68.23	1.995	20	0.02708	1	Pass

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

--End of the Report--