

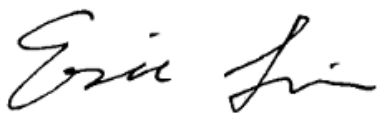
1 Cover Page

RF Exposure Evaluation Report

Application No.: KSEM2107001102CR
FCC ID: 2AL8S-0235C5LD
Applicant: Zhejiang Uniview Technologies Co., Ltd.
Address of Applicant: 88 Jiangling Road, Xixing Town, Binjiang District, Hangzhou City
Manufacturer: Zhejiang Uniview Technologies Co., Ltd.
Address of Manufacturer: 88 Jiangling Road, Xixing Town, Binjiang District, Hangzhou City
Factory: 1.Zhejiang Uniview Systems Technology Co., Ltd.
2.TDG TECHNOLOGY CO LTD
Address of Factory: 1.No.1277 South Qingfeng South Road, Tongxiang City, Jiaxing City, Zhejiang Province, China
2. No. 1 Yatai Road, Nanhu District, Jiaxing, Zhejiang, 314050, China
Equipment Under Test (EUT):
EUT Name: IP Camera
Model No.: IPC6312LR-AX4W-VG
Add Model No.: IPC6312LRa-xxxxWxxxx-yyy-yyyy-zzz,IPC672LRa-xxxxxxxWxx-yyy-yyyy-zzz("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)
Standard(s) : FCC Rules 47 CFR §2.1091
Date of Receipt: 2021-07-13
Date of Test: 2021-07-14 to 2021-08-04
Date of Issue: 2021-08-05

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



Eric Lin
Laboratory 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.

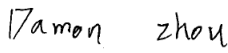
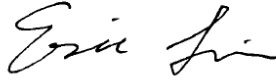


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Revision Record			
Version	Description	Date	Remark
00	Original	2021-08-05	/

Authorized for issue by:			
			
		Damon Zhou / Project Engineer	
			
		Eric Lin / Reviewer	



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Compliance Certification Services (Kunshan) Inc.
EMC Laboratory

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3 General Information

3.1 General Description of E.U.T.

Power supply:	DC 12V, 1.5A by Adapter
---------------	-------------------------

3.2 Technical Specifications

2.4GHz

Antenna Gain:	Max 5.5dBi (Provided by applicant manufacturer)
Antenna Type:	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

Antenna Type	Manufacturer	Model No.	Antenna Gain (dBi)
Dipole Antenna	Gaoke Ant Co., Ltd	GKZS-2.4G-SMAFNZG-195B	4.0±1
Dipole Antenna	Dongguan RF electronic technology Co.,LTD	RF21S00808Z	5±0.5

Note: The EUT can be equipped with the same type of antennas with different gains from different manufacturers, as listed in the table, so we choose the antenna (RF21S00808Z) with large gain for all tests.



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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 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 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

The Power Data is based on the RF Test Report KSEM210700110201

Test Mode	Channel	Antenna 1 Power[dBm]	Antenna 1 Power[mW]
11B SISO	2412	18.33	68.08
11B SISO	2437	19.08	80.91
11B SISO	2462	18.61	72.61
11G SISO	2412	18.52	71.12
11G SISO	2437	19.45	88.10
11G SISO	2462	18.96	78.70
11N20 SISO	2412	17.93	62.09
11N20 SISO	2437	18.96	78.70
11N20 SISO	2462	18.50	70.79
11N40 SISO	2422	18.93	78.16
11N40 SISO	2437	19.33	85.70
11N40 SISO	2452	19.35	86.10



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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 –Antenna:

The max. antenna gain is		5.5	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
88.1	3.548	20	0.06219	1	Pass

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

--End of the Report--



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