



## 1 Cover Page

# RF Exposure Evaluation Report

**Application No.:** SHEM1910018336CR  
**FCC ID:** 2AL8S-0235C3MR  
**Applicant:** ZHEJIANG UNIVIEW TECHNOLOGIES CO., LTD.  
**Address of Applicant:** 8 JIANGLING RD BINJIANG DISTRICT HANGZHOU, ZHEJIANG 310051, P.R. China  
**Manufacturer:** ZHEJIANG UNIVIEW TECHNOLOGIES CO., LTD.  
**Address of Manufacturer:** 8 JIANGLING RD BINJIANG DISTRICT HANGZHOU, ZHEJIANG 310051, P.R. China  
**Factory:** Zhejiang Uniview Systems Technology Co., Ltd.  
**Address of Factory:** No. 1277 South Qingfeng South Road, Tongxiang City, Jiaxing City 3110420, P.R. China  
**Equipment Under Test (EUT):**  
**EUT Name:** IP Camera  
**Model No.:** URDB1  
**Standard(s) :** FCC Rules 47 CFR §2.1091  
KDB447498 D01 General RF Exposure Guidance v06  
**Date of Receipt:** 2019-10-29  
**Date of Test:** 2019-11-04 to 2019-11-06  
**Date of Issue:** 2019-11-15

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

Parlan Zhan

Parlan 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.



SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.  
Testing Center E&E Department

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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**

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Revision Record			
Version	Description	Date	Remark
00	Original	2019-11-15	/

Authorized for issue by:				
		Vincent Zhu		
		Vincent Zhu /Project Engineer		
		Parlam Zhan		
		Parlam Zhan /Reviewer		



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### 3 General Information

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

Power supply:	AC 16~24V,50/60Hz 1A or DC 12V 1A by adapter
Test voltage:	AC 120V 60Hz
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

**The EUT contains two type antenna:**

#### **Antenna list**

	Model No:	Antenna Type	Antenna Gain
Type 1(Antenna 1)	UB01C100F3D903AR	PCB Antenna	3dBi
Type 2(Antenna 2)	RF11C02678S	FPC Antenna	2dBi



### 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 <sup>2</sup> )	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 SHEM191001833601

Test Mode	Test Channel	Ant	Power [dBm]	Power [mW]
11B	2412	Ant1	8.43	6.97
11B	2442	Ant1	8.38	6.89
11B	2472	Ant1	7.90	6.17
11G	2412	Ant1	9.38	<b>8.67</b>
11G	2442	Ant1	9.35	8.61
11G	2472	Ant1	8.92	7.80
11N20SISO	2412	Ant1	8.81	7.60
11N20SISO	2442	Ant1	8.46	7.01
11N20SISO	2472	Ant1	8.03	6.35
11N40SISO	2422	Ant1	8.02	6.34
11N40SISO	2437	Ant1	7.73	5.93
11N40SISO	2452	Ant1	8.19	6.59

## 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/cm<sup>2</sup>

The max antenna gain is type 1:

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 <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )	Result
8.67	1.995	20	0.00344	1	Pass

So the device is exclusion from SAR test.

**--End of the Report--**