1 Cover Page

RF Exposure Evaluation Report

Application No.:	SHEM2106005918CR
FCC ID:	SVN-ASI22H-DW
Applicant:	ZHEJIANG DAHUA VISION TECHNOLOGY CO.,LTD.
Address of Applicant:	No.1199, Bin'an Road, Binjiang District, Hangzhou, P.R. China
Manufacturer:	ZHEJIANG DAHUA VISION TECHNOLOGY CO.,LTD.
Address of Manufacturer:	No.1199, Bin'an Road, Binjiang District, Hangzhou, P.R. China
Equipment Under Test (EUT):	
EUT Name:	Access Standalone
Model No.:	ASI2201H-DW, ASI2212H-DW
Add Model No:	ASI2212H-W;DH-ASI2212H-W;DHI-ASI2212H-DW; DHI-ASI2212H-W;ASI2201H-W;DH-ASI2201H-W; DHI-ASI2201H-DW;DHI-ASI2201H-W
Standard(s) :	FCC Rules 47 CFR §2.1091 KDB447498 D01 General RF Exposure Guidance v06
Date of Receipt:	2021-06-10
Date of Test:	2021-06-13 to 2021-06-14
Date of Issue:	2021-09-14
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.

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Revision Record			
Version	**Description**	**Date**	**Remark**
00	Original	2021-09-14	/

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

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3 General Information

3.1 General Description of E.U.T.

Power supply:	DC 12V by Adapter

3.2 Technical Specifications

2.4GHz

Antenna Gain:	2.61dBi(Provided by manufacturer)
Antenna Type:	PIFA Antenna
Channel Spacing:	5MHz
Date Rate:	802.11b: 1/2/5.5/11Mbps, 802.11g: 6/9/12/18/24/36/48/54Mbps 802.11n: MCS 0 to 7 for HT20MHz ; MCS 0 to 7 for HT40MHz
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

13.56MHz

Antenna Type	Loop Antenna
Modulation Type	ASK
Number of Channels	1
Operation Frequency	13.56MHz

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Member of the SGS Group (SGS SA)

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.

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-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 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/f2)	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/cm^2
Limit for 13.56MHz is 60.77 V/m

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5 Measurement and Calculation

5.1 Maximum transmit power

The Power Data is based on the RF Test Report SHEM210600591801, SHEM210600591802

2.4G WIFI

Test Mode	Test Channel	Ant	Power [dBm]	Power [mW]
11B	2412	Ant1	17.87	61.24
11B	2437	Ant1	17.17	52.12
11B	2462	Ant1	17.23	52.84
11G	2412	Ant1	20.26	106.17
11G	2437	Ant1	20.24	105.68
11G	2462	Ant1	20.35	**108.39**
11N20SISO	2412	Ant1	19.07	80.72
11N20SISO	2437	Ant1	19.34	85.90
11N20SISO	2462	Ant1	19.38	86.70
11N40SISO	2422	Ant1	19.08	80.91
11N40SISO	2437	Ant1	19.39	86.90
11N40SISO	2452	Ant1	19.36	86.30

13.56MHz: 78.14 dBuV/m@3m, @20cm=@3m+40log(3/0.2)=125.18dBuV/m

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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 2.61 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
108.39	1.824	20	0.03933	1	Pass

For 13.56MHz: 125.18dBuV/m=1.81V/m< 60.77 V/m.

The 2.4G band and 13.56MHz function can simultaneous transmitting.But the maximum rate of MPE is 0.04/1.0+1.81/60.77=0.07<=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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