1 Cover Page

RF MPE REPORT

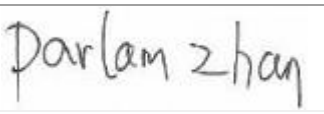
Application No.:	SHEM1907015199CR
FCC ID:	SVNDH-SD1AX
Applicant:	ZHEJIANG DAHUA VISION TECHNOLOGY CO., LTD.
Address of Applicant:	No.1199, Bin'an Road, Binjiang District, Hangzhou, P.R. China
Manufacturer:	ZHEJIANG DAHUA VISION TECHNOLOGY CO., LTD.
Address of Manufacturer:	No.1199, Bin'an Road, Binjiang District, Hangzhou, P.R. China
Factory:	1, ZHEJIANG DAHUA VISION TECHNOLOGY CO., LTD. 2, ZHEJIANG DAHUA ZHILIAN CO.,LTD.
Address of Factory:	1, No.1199, Bin'an Road, Binjiang District, Hangzhou, P.R. China 2, No.28, Dongqiao Road, Dongzhou Street, Fuyang District, Hangzhou, P.R.China.
Equipment Under Test (EUT):	
EUT Name:	NETWORK PTZ CAMERA
Model No.:	DH-SD1A404XB-GNR-W
Add Model No.:	DH-SD1A404XBN-GNR-W,SD1A404XB-GNR-W,SD1A404XBN-GNR-W,SD1Axyzutm-Gab-W,DH-SD1Axyzutm-Gab-W (x= 0-9 or blank; y= 0-9;z= 0-9; u= A-Z ;t= A-Z or blank m= N;P or blank; a= C;N or blank; b= I;R;F;P or blank)
Standard(s) :	FCC Rules 47 CFR §2.1091 KDB447498 D01 General RF Exposure Guidance v06
Date of Receipt:	2019-07-17
Date of Test:	2019-07-18 to 2019-07-27
Date of Issue:	2019-09-06
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 writing.

Revision Record			
Version	**Description**	**Date**	**Remark**
00	Original	2019-09-06	/

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

2 Contents

3 General Information

3.1 General Description of E.U.T.

Power supply:	DC 12V by adapter
Test voltage:	AC 120V 60Hz

3.2 Technical Specifications

2.4GHz:

Antenna Gain	2.3 dBi
Antenna Type	RP-SMA 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

5.1GHz:

Antenna Gain	1.5 dBi
Antenna Type	RP-SMA antenna

Operation Frequency:	Band	Mode	Frequency Range(MHz)	Number of channels
	UNII Band I	802.11a/n(HT20)/ac(HT20)	5180-5240	4
		802.11n(HT40)/ac(HT40)	5190-5230	2
		802.11ac(HT80)	5210	1
Modulation Type:	802.11a: OFDM (64QAM, 16QAM, QPSK, BPSK) 802.11n: OFDM (BPSK, QPSK, 16QAM, 64QAM) 802.11ac: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM)			
Channel Spacing:	802.11a/n(HT20)/ac(HT20): 20MHz 802.11n(HT40)/ac(HT40): 40MHz 802.11ac(HT80): 80MHz			

Selected Test Channel for 802.11a/n(HT20)/ac(HT20)		
Band	Channel	Frequency
U-NII Band I	The lowest channel (CH36)	5180MHz
	The middle channel (CH44)	5220MHz
	The highest channel (CH48)	5240MHz

Selected Test Channel for 802.11n(HT40)/ac(HT40)		
Band	Channel	Frequency
U-NII Band I	The lowest channel (CH38)	5190MHz
	The highest channel (CH46)	5230MHz

Selected Test Channel for 802.11ac(HT80)		
Band	Channel	Frequency
U-NII Band I	One channel (CH42)	5210MHz

3.3 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

No tests were sub-contracted.

3.4 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^2)	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 SHEM190701519901-2.4GHz.

Test Mode	Test Channel	Ant	Power [dBm]	Power [mW]
11B	2412	Ant1	14.54	28.44
11B	2437	Ant1	15.09	**32.28**
11B	2462	Ant1	14.96	31.33
11G	2412	Ant1	12.64	18.37
11G	2437	Ant1	13.22	20.99
11G	2462	Ant1	13.11	20.46
11N20SISO	2412	Ant1	12.52	17.86
11N20SISO	2437	Ant1	13.09	20.37
11N20SISO	2462	Ant1	12.99	19.91
11N40SISO	2422	Ant1	11.19	13.15
11N40SISO	2437	Ant1	11.38	13.74
11N40SISO	2452	Ant1	11.37	13.71

The Power Data is based on the RF Test Report SHEM190701519902-5GHz.

Test Mode	Test Channel	Ant	Power [dBm]	Power [mW]
11A	5180	Ant1	12.38	**17.30**
11A	5220	Ant1	11.69	14.76
11A	5240	Ant1	11.61	14.49
11N20	5180	Ant1	11.4	13.80
11N20	5220	Ant1	10.35	10.84
11N20	5240	Ant1	10.04	10.09
11N40	5190	Ant1	10.11	10.26
11N40	5230	Ant1	10.47	11.14
11AC20	5180	Ant1	11.14	13.00
11AC20	5220	Ant1	9.81	9.57
11AC20	5240	Ant1	10.15	10.35
11AC40	5190	Ant1	9.56	9.04
11AC40	5230	Ant1	9.47	8.85
11AC80	5210	Ant1	9.09	8.11

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/cm²

For 2.4G WiFi:

The max. antenna gain is 2.3 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
32.28	1.698	20	0.01091	1	Pass

For 5G WiFi:

The max. antenna gain is 1.5 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
17.3	1.413	20	0.00486	1	Pass

2.4G WiFi and 5G WiFi modules can simultaneous transmitting, so the maximum rate of MPE is 0.01091/1.0 + 0.00486/1.0 =0.02<=1.0. according to the KDB447498 section 7.2 determine the device is exclusion from SAR test

--End of the Report--