

1 Cover Page

RF MPE REPORT

Application No.:	SHEM1706003479CR
Applicant:	Hangzhou Hikvision Digital Technology Co., Ltd.
FCC ID:	2ADTD-T03C0D00
Equipment Under Test (EUT):	
NOTE: The following sample(s) was/were submitted and identified by the client as	
Product Name:	Dual Band Wifi Video Camera
Model No.(EUT):	DS-3WF03C-D
Standards:	FCC Rules 47 CFR §2.1091 KDB447498 D01 General RF Exposure Guidance v06
Date of Receipt:	2017-06-07
Date of Test:	2016-06-07 to 2017-06-23
Date of Issue:	2017-07-11
Test Result:	Pass*

* In the configuration tested, the EUT detailed in this report complied with the standards specified above.



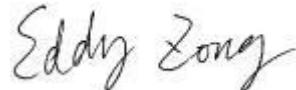
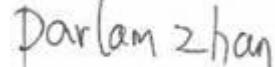
Parlam Zhan
E&E Section Manager
SGS-CSTC (Shanghai) Co., Ltd.

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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2 Version

Revision Record				
Version	Chapter	Date	Modifier	Remark
00	/	2017-07-11	/	Original

Authorized for issue by:			
Engineer		Eddy Zong	
Clerk		Susie Liu	
Reviewer		Parlam Zhan	

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4 General Information

4.1 Client Information

Applicant:	Hangzhou Hikvision Digital Technology Co., Ltd.
Address of Applicant:	No. 555 Qianmo Road, Binjiang District, Hangzhou 310052, China
Manufacturer:	Hangzhou Hikvision Digital Technology Co., Ltd.
Address of Manufacturer:	No. 555 Qianmo Road, Binjiang District, Hangzhou 310052, China
Factory:	1. Hangzhou Hikvision Technology Co., Ltd. 2. Hangzhou Hikvision Electronics Co., Ltd.
Address of Factory:	1. No.700, Dongliu Road, Binjiang District, Hangzhou Ctiy,Zhejiang, 310052, China 2. No.299, Qiushi Road,Tonglu Economic Development Zone,Tonglu County, Hangzhou,Zhejiang,310052,China.

4.1 General Description of E.U.T.

Product Description:	Fixed product with 5.1GHz WiFi function
Brand Name:	HIKVISION
Test Voltage:	AC 120V 60Hz for POE

Parameter of POE:

POE:	Model No.:	G0549A-240-050	
	Rated Input:	AC 100~240V 50~60Hz 0.5A MAX	
	Rated Output:	DC 24V 0.5A	
	Cable length:	AC port:	2 Wires (100 cm)
		DC port:	LAN Port

4.2 Technical Specifications

Operation Frequency:	802.11a/n(HT20): 5180-5240MHz 802.11n(HT40): 5190-5230MHz
Modulation Technique:	OFDM(256QAM, 64QAM, 16QAM, QPSK, BPSK)
Data Rate:	802.11a: 6/9/12/18/24/36/48/54Mbps 802.11n: MCS0-7 2Tx2R MIMO
Number of Channel:	802.11 a/n(HT20): 4 Channel 36, 40, 44, 48 802.11 n(HT40): 2 Channel 38, 46
Antenna Type	Integral Antenna
Antenna Gain	15 dBi

4.3 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.

588 West Jindu Road, Xinqiao, Songjiang, 201612 Shanghai, China

Tel: +86 21 6191 5666

Fax: +86 21 6191 5678

4.4 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.

- FCC – Registration No.: 402683**

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been registered and fully described in a report filed with the Federal Communications Commission (FCC). The acceptance letter from the FCC is maintained in our files. Registration No.: 402683.

- Industry Canada (IC) – IC Assigned Code: 8617A**

The 3m Semi-anechoic chamber of SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 8617A-1.

- 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-3868, C-4336, T-2221, G-830 respectively.

5 Test Standards and Limits

5.1 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

6 Measurement and Calculation

6.1 Maximum transmit power

The Power Data is based on the RF Test Report SHEM170600347902

Test Mode	Channel	Antenna 1 Power[dBm]	Antenna 2 Power[dBm]	MIMO Power[dBm]	Antenna 1 Power[mW]	Antenna 2 Power[mW]	MIMO Power[mW]
11A	5180	4.26	2.14	N/A	2.67	1.64	N/A
11A	5220	5.16	3.29	N/A	3.28	2.13	N/A
11A	5240	5.02	4.17	N/A	3.18	2.61	N/A
11N20	5180	2.64	1.12	N/A	1.84	1.29	N/A
11N20	5220	4.06	2.04	N/A	2.55	1.60	N/A
11N20	5240	4.78	2.83	N/A	3.01	1.92	N/A
11N40	5190	4.00	1.99	N/A	2.51	1.58	N/A
11N40	5230	4.59	3.21	N/A	2.88	2.09	N/A
11N20MIMO	5180	3.02	2.04	5.57	2.00	1.60	3.60
11N20MIMO	5220	3.21	2.63	5.94	2.09	1.83	3.93
11N20MIMO	5240	1.92	3.49	5.79	1.56	2.23	3.79
11N40MIMO	5190	2.90	2.79	5.86	1.95	1.90	3.85
11N40MIMO	5230	2.92	3.03	5.99	1.96	2.01	3.97

6.2 MPE Calculation

The Max Conducted Peak Output Power is 5.94dBm (3.97mW);

The best case gain of the two antennas is 15dBi. 15dB logarithmic terms convert to numeric result is nearly 31.62, the two antennas completely correlated with each other, so in MIMO mode is nearly 63.24.

For FCC:

According to the formula $S = \frac{PG}{4R^2\pi}$, we can calculate S which is MPE.

Note:

- 1) P (Watts) = Power Input to antenna = $10^{\frac{dBm}{10}} / 1000$
- 2) G (Antenna gain in numeric) = $10^{\frac{dBi}{10}}$ (Antenna gain in dBi /10)
- 3) R = distance to the center of radiation of antenna (in meter) = 20cm
- 4) MPE limit = 1mW/cm²

$$S = \frac{PG}{4R^2\pi} = \frac{3.97 \times 63.24}{4 \times 400 \times 3.14} = 0.04997 \text{ mW/cm}^2 < 1 \text{ mW/cm}^2$$

So the device is exclusion from SAR test.

7 EUT Constructional Details

Refer to the < External Photos > & < Internal Photos >.

--End of the Report--