SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch

No. 1 Workshop, M-10, Middle section, Science & Technology Park,
Shenzhen, Guangdong, China 518057

Telephone: +86 (0) 755 2601 2053
Fax: +86 (0) 755 2671 0594
Email: ee.shenzhen@sgs.com

1 Cover Page

RF MPE REPORT

Application No.:	SZEM1801000620CR (SHEM1801000356CR)
Applicant:	Hangzhou Hikvision Digital Technology Co., Ltd.
FCC ID:	2ADTD-CV250
Equipment Under Test (EUT): **NOTE:** The following sample(s) was/were submitted and identified by the client as	
Product Name:	LED Floodlight with Wi-Fi Camera, LED Security Light
Model No.(EUT):	CS-CV250
Add Model No.:	MO-SE-01, HSFLC1WH
Standards:	FCC Rules 47 CFR §2.1091 KDB447498 D01 General RF Exposure Guidance v06
Date of Receipt:	2018-01-15
Date of Test:	2018-01-16 to 2018-01-20
Date of Issue:	2018-01-26
Test Result:	**Pass***

* In the configuration tested, the EUT complied with the standards specified above.

Kehy Xu
EMC Laboratory Manager

Revision Record				
Version	**Chapter**	**Date**	**Modifier**	**Remark**
00	/	2018-01-26	/	Original

Authorized for issue by:				
		Foray Chen **Foray Chen /Project Engineer**		
		Eric Fu **Eric Fu /Reviewer**		

2 Contents

Page

1 COVER PAGE 1
2 CONTENTS 3
3 GENERAL INFORMATION 4
3.1 CLIENT INFORMATION 4
3.1 GENERAL DESCRIPTION OF E.U.T. 4
3.2 TECHNICAL SPECIFICATIONS 4
3.3 TEST LOCATION 5
3.4 TEST FACILITY 5
4 TEST STANDARDS AND LIMITS 6
4.1 FCC RADIOFREQUENCY RADIATION EXPOSURE LIMITS: 6
5 MEASUREMENT AND CALCULATION 6
5.1 MAXIMUM TRANSMIT POWER 6
5.2 MPE CALCULATION 6

3 General Information

3.1 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

3.1 General Description of E.U.T.

Product Description:	Fixed product with WiFi function
Rated Input:	AC 110-240V
Test Voltage:	AC 120V 60Hz

3.2 Technical Specifications

Operation Frequency:	802.11 b/g/n(HT20): 2412MHz-2462MHz 802.11 (HT40): 2422MHz-2452MHz
Modulation Type:	802.11 b DSSS(CCK, DQPSK, DBPSK) 802.11 g/n(OFDM(64QAM, 16QAM, QPSK, BPSK)
Number of Channel:	802.11 b/g/n(HT20): 11, 802.11 (HT40):7
Data Rate:	802.11b: 1/2/5.5/11Mbps, 802.11g: 6/9/12/18/24/36/48/54Mbps 802.11n: MCS0~MCS7(2T×2R MIMO)
Antenna Type	Integral Antenna
Antenna Gain	Antenna 0:1 dBi Antenna 1:1 dBi

3.3 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen Branch
No. 1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, Guangdong, China. 518057.
Tel: +86 755 2601 2053 Fax: +86 755 2671 0594

No tests were sub-contracted.

3.4 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

• CNAS (No. CNAS L2929)

CNAS has accredited SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab 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.

• A2LA (Certificate No. 3816.01)

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 3816.01.

• VCCI

The 10m Semi-anechoic chamber and Shielded Room of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-823, R-4188, T-1153 and C-2383 respectively.

• FCC –Designation Number: CN1178

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized as an accredited testing laboratory.

Designation Number: CN1178. Test Firm Registration Number: 406779.

• Industry Canada (IC)

Two 3m Semi-anechoic chambers and the 10m Semi-anechoic chamber of SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab have been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 4620C-1, 4620C-2, 4620C-3.

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 SZEM180100062002.

Test mode	Test Frequency (MHz)	Output Power (dBm) Ant 0	Output Power (dBm) Ant 1	Output Power (dBm) MIMO	Output Power (mW) Ant 0	Output Power (mW) Ant 1	Output Power (mW) MIMO
802.11b	2412	15.41	14.26	N/A	**34.75**	26.67	N/A
	2437	15.14	14.42	N/A	32.66	27.67	N/A
	2462	14.97	14.53	N/A	31.41	28.38	N/A
802.11g	2412	10.88	10.27	N/A	12.25	10.64	N/A
	2437	11.00	10.54	N/A	12.59	11.32	N/A
	2462	10.97	10.76	N/A	12.50	11.91	N/A
802.11 n(HT20)	2412	10.89	10.77	13.84	12.27	11.94	24.21
	2437	11.06	11.00	14.04	12.76	12.59	25.35
	2462	11.18	11.21	14.21	13.12	13.21	26.36
802.11 n(HT40)	2422	11.95	11.94	14.96	15.67	15.63	31.33
	2437	11.96	11.96	14.97	15.70	15.70	31.41
	2452	12.00	12.01	15.02	15.85	15.89	**31.77**

5.2 MPE Calculation

MIMO Mode:

The Max Conducted Average Output Power in n(HT40) MIMO mode is 31.77mW;

The best case gain of the antenna 0 & antenna 1 are 1dBi. 1dB logarithmic terms convert to numeric result is nearly 1.26. The two antennas completely correlated with each other, so the best case gain of the two antenna in MIMO mode is 4.01dBi, 4.01dB logarithmic terms convert to numeric result is nearly 2.52.

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^ (Antenna gain in dBi /10)
3) R = distance to the center of radiation of antenna (in meter) = 20cm
4) MPE limit = 1mW/cm²

S= $\frac{PG}{4R^2\pi}$ = $\frac{31.77\times 2.52}{4\times 400\times 3.14}$ =0.0159 mW/cm²

SISO Mode

The Max Conducted Average Output Power in b mode is 34.75mW;

The best case gain is 1dBi. 1dB logarithmic terms convert to numeric result is nearly 1.26.

For FCC:

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

Note:

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

S= $\frac{PG}{4R^2\pi}$ = $\frac{34.75\times 1.26}{4\times 400\times 3.14}$ =0.0087 mW/cm²

So the device is exclusion from SAR test.

--End of the Report--