



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

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Report No.: SHEM150900311602  
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## 1 Cover Page

# FCC MPE REPORT

Application No.:	SHEM1509003116CR
Applicant:	Hangzhou Hikvision Digital Technology Co., Ltd.
FCC ID:	2ADTD-IPCR029
Equipment Under Test (EUT):	
NOTE: The following sample(s) submitted was/were identified on behalf of the client as	
Product Name:	Camera
Model No.(EUT):	DS-2CD2942F-IWS
Add Mode No.:	DS-2CD2942F-IW
Standards:	FCC Rules 47 CFR §2.1091 KDB447498 D01 General RF Exposure Guidance v05r02
Date of Receipt:	September 06, 2015
Date of Test:	October 16, 2015 to October 19, 2015
Date of Issue:	November 18, 2015
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.


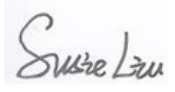
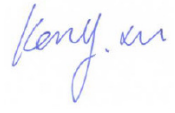
The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. All test results in this report can be traceable to National or International Standards.

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## 2 Version

Revision Record				
Version	Chapter	Date	Modifier	Remark
00	/	November 18, 2015	/	Original

Authorized for issue by:			
Engineer		Eddy Zong _____ <b>Print Name</b>	 _____
Clerk		Susie Liu _____ <b>Print Name</b>	 _____
Reviewer		Keny Xu _____ <b>Print Name</b>	 _____

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## 4 General Information

### 4.1 Client Information

Applicant:	Hangzhou Hikvision Digital Technology Co., Ltd.
Address of Applicant:	700 Dongliu Road, Binjiang, Hangzhou, 310052 Zhejiang, China
Manufacturer:	Hangzhou Hikvision Digital Technology Co., Ltd.
Address of Manufacturer:	700 Dongliu Road, Binjiang, Hangzhou, 310052 Zhejiang, China
Factory:	Hangzhou Hikvision Digital Technology Co., Ltd.
Address of Factory:	700 Dongliu Road, Binjiang, Hangzhou, 310052 Zhejiang, China

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

Brand Name:	HIKVISION		
Product Description:	Fixed product with 2.4 WiFi function		
Rated Input:	DC 12V via adpater		
Test Voltage:	AC 230V 50Hz for adapter		
Adapter:	Rated Input:	AC 100V-240V 50/60Hz 500mA	
	Rated Output:	DC 12V 1A	
	Cable length:	AC port:	2 wires
		DC port:	150 cm

### 4.2 Technical Specifications

Operation Frequency:	802.11 b/g/n(HT20): 2412MHz-2462MHz 802.11 n(HT40): 2422MHz-2452MHz
Modulation Type:	802.11 b: DSSS(CCK, DQPSK, DBPSK) 802.11 g/n(HT20/HT40): OFDM(64QAM, 16QAM, QPSK, BPSK)
Number of Channel:	802.11 b/g/n(HT20): 11 Channels 802.11 n(HT40): 7 Channels
Data Rate:	802.11b: 1/2/5.5/11Mbps, 802.11g: 6/9/12/18/24/36/48/54Mbps 802.11n(HT20): 13/26/39/52/78/104/117/135Mbps 802.11n(HT40): 27/54/81/108/162/216/243/270Mbps
Antenna Gain:	3.3 dBi

### 4.3 Test Location

All tests were performed at:

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

No.588 West Jindu Road, Songjiang District, Shanghai, China.201612.

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. Date of expiry: 2017-07-14.

- **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, Expiry Date: 2017-09-16.

- **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. Expiry Date: 2017-06-18.

- **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. Date of Expiry: 2017-11-16.

## 5 Test Standards and Limits

According to §1.1310 Radiofrequency radiation exposure limits:

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

## 6 Measurement and Calculation

### 6.1 Maximum transmit power

The Power Data is based on the RF Test Report SHEM150900311601.

Test mode	Test Frequency (MHz)	Output Power (dBm)	Output Power (mW)
802.11b	2412	18.53	71.29
	2437	18.96	78.70
	2462	18.91	77.80
802.11g	2412	20.10	102.33
	2437	20.54	113.24
	<b>2462</b>	<b>20.95</b>	<b>124.45</b>
802.11 n(HT20)	2412	19.63	91.83
	2437	20.43	110.41
	2462	20.43	110.41
802.11 n(HT40)	2422	15.04	31.92
	2437	15.33	34.12
	2452	15.48	35.32

## 6.2 MPE Calculation

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/cm<sup>2</sup>

The Max Conducted Peak Output Power is 124.45mW in highest channel;

The best case gain of the antenna is 2.4dBi. 2.4dB logarithmic terms convert to numeric result is nearly 1.73.

$$S = \frac{PG}{4R^2\pi} = \frac{124.45 \times 1.73}{4 \times 400 \times 3.14} = 0.043\text{ mW/cm}^2$$

So the device is exclusion from SAR test.

## 7 EUT Constructional Details

Refer to the < DS-2CD2942F-IWS\_External Photos > & < DS-2CD2942F-IWS\_Internal Photos >.

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