

## 1 Cover Page

# **FCC MPE REPORT**

<b>Application No.:</b>	SHEM1507002104CR
<b>Applicant:</b>	Hangzhou Hikvision Digital Technology Co., Ltd.
<b>FCC ID:</b>	2ADTD-IPC2Q
<b>Equipment Under Test (EUT):</b>	
<b>NOTE:</b> The following sample(s) submitted was/were identified on behalf of the client as	
<b>Product Name:</b>	IP Camera
<b>Model No.(EUT):</b>	DS-2CD2Q10FD-IW
<b>Add Model No.:</b>	DS-2CD2Q10FD-IGLT/GLF, DS-2CD2Q10FD-IGW/GE, DS-2CD2Q10FD-IWS, DS-2CD2Q10FD-IWZ, DS-2CD3Q10FD-IW, DS-2CD3Q10FD-IWZ
<b>Standards:</b>	FCC Rules 47 CFR §2.1091 KDB447498 D01 General RF Exposure Guidance v05r02
<b>Date of Receipt:</b>	July 01, 2015
<b>Date of Test:</b>	August 19, 2015 to August 24, 2015
<b>Date of Issue:</b>	September 18, 2015
<b>Test Result:</b>	<b>Pass*</b>

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



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

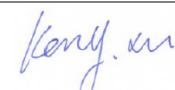
The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant 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	/	September 18, 2015	/	Original

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

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

Brand Name:	HIKVISION		
Product Description:	Fixed product with Ethernet port and WiFi monitor function		
Rated Input:	DC 5V, 1.4A max via adapter		
Adapter:	Rated Input:	AC 100V-240V 50/60Hz 0.3A	
	Rated Output:	DC 5V 1.5A	
	Cable length:	AC port:	2 wires
		DC port:	290 cm

### 4.3 Details of E.U.T.

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:	802.11 b: 1/2/5.5/11Mbps 802.11 g: 6/9/12/18/24/36/48/54Mbps 802.11 n(HT20): 13/26/39/52/78/104/117/135Mbps 802.11 n(HT40): 27/54/81/108/162/216/243/270Mbps
Antenna Type:	Integral
Antenna Gain:	2.4 dBi

#### **4.4 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

#### **4.5 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 SHEM150700210402.

Test mode	Test Frequency (MHz)	Output Power (dBm)	Output Power (mW)
802.11b	2412	17.82	60.53
	2437	18.23	66.53
	<b>2462</b>	<b>18.72</b>	<b>74.47</b>
802.11g	2412	14.8	30.20
	2437	15.34	34.20
	2462	15.80	38.02
802.11 n(HT20)	2412	14.85	30.55
	2437	15.37	34.43
	2462	15.82	38.19
802.11 n(HT40)	2422	13.75	23.71
	2437	14.02	25.23
	2452	14.97	31.41

### 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 =  $10^{\frac{10}{10}} / 1000$
- 2) G (Antenna gain in numeric) =  $10^{\frac{1}{10}}$  (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 74.47mW in highest channel;

The best case gain of the antenna is 2.4dBi. 2.4dB logarithmic terms convert to numeric result is nearly 1.738

$$S = \frac{PG}{4R^2\pi} = \frac{74.47 \times 1.738}{4 \times 400 \times 3.14} = 0.02576 \text{ mW/cm}^2$$

So the device is exclusion from SAR test.

## 7 EUT Constructional Details

Refer to the < DS-2CD2Q10FD-IW\_External Photos > & < DS-2CD2Q10FD-IW\_Internal Photos >.

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