

### 1 Cover Page

## RF MPE REPORT

<b>Application No.:</b>	SHEM1803001616CR
<b>Applicant:</b>	Hangzhou Hikvision Digital Technology Co., Ltd.
<b>FCC ID:</b>	2ADTD-KB6003
<b>Equipment Under Test (EUT):</b>	
<b>NOTE:</b> The following sample(s) was/were submitted and identified by the client as	
<b>Product Name:</b>	Wi-Fi Video Doorbell
<b>Model No.(EUT):</b>	DS-KB6003-WIP, DS-KB6403-WIP
<b>Add Model No.:</b>	CVP-B2DB50-ODIW, DS-KB6003-WIP/OEM2, DS-KB6003-WIP/OEM3, NA-KB6013-WIP
<b>Standards:</b>	FCC Rules 47 CFR §2.1091 KDB447498 D01 General RF Exposure Guidance v06
<b>Date of Receipt:</b>	2017-03-16
<b>Date of Test:</b>	2017-03-27 to 2017-03-28 & 2018-03-05
<b>Date of Issue:</b>	2018-03-14
<b>Test Result:</b>	<b>Pass*</b>

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

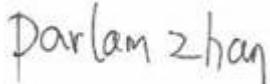


Parlam Zhan  
E&E Section Manager  
SGS-CSTC (Shanghai) Co., Ltd.

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. 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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<b>Revision Record</b>			
<b>Version</b>	<b>Chapter</b>	<b>Date</b>	<b>Remark</b>
00	Updated Product	2018-03-14	Base on SHEM170300132704

<b>Authorized for issue by:</b>				
		 <b>Vincent Zhu</b> _____ <b>Vincent Zhu /Project Engineer</b>		_____
		 <b>Parlam Zhan</b> _____ <b>Parlam Zhan /Reviewer</b>		_____

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### 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 2.4G WiFi function
Brand Name:	HIKVISION
EUT Power Supply:	AC 16V~24V, 0.37A or DC 12V 0.5A
Test Voltage:	AC 24V and DC 12V from Support Units

#### 3.2 Technical Specifications

Operation Frequency:	802.11 b/g/n(HT20): 2412MHz~2462MHz 802.11 n(HT40): 2422MHz~2452MHz
Modulation Technique:	802.11 b: DSSS(CCK, DQPSK, DBPSK) 802.11 g/n(HT20/n(HT40): OFDM(64QAM, 16QAM, QPSK, BPSK)
Data Rate:	802.11 b: 1/2/5.5/11Mbps 802.11 g: 6/9/12/18/24/36/48/54Mbps 802.11n(HT20)/n(HT40): MCS0-MCS7
Number of Channel:	802.11 b/g/n(HT20): 11 802.11 n(HT40): 7
Antenna Type:	Integral
Antenna Gain:	3.5 dBi

### **3.3 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

### **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.

- 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-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 <sup>2</sup> )	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 SHEM180300161601.

Power: AC 24V

Test mode	Test Frequency (MHz)	Output Power (dBm)	Output Power (mW)
802.11b	2412	12.32	17.06
	2437	12.96	19.77
	2462	12.27	16.87
802.11g	2412	12.61	18.24
	2437	13.35	21.63
	2462	12.78	18.97
802.11 n(HT20)	2412	12.88	19.41
	2437	13.02	20.04
	2462	12.79	19.01
802.11 n(HT40)	2422	14.18	26.18
	2437	12.95	19.72
	2452	14.91	30.97

Power:DC 12V

Test mode	Test Frequency (MHz)	Output Power (dBm)	Output Power (mW)
802.11b	2412	12.40	17.38
	2437	13.73	23.60
	2462	13.00	19.95
802.11g	2412	11.79	15.10
	2437	13.19	20.84
	2462	12.62	18.28
802.11 n(HT20)	2412	13.13	20.56
	2437	12.39	17.34
	2462	13.14	20.61
802.11 n(HT40)	2422	13.66	23.23
	2437	12.32	17.06
	2452	13.67	23.28

## 5.2 MPE Calculation

The Max Conducted Peak Output Power is 30.97mW;

The best case gain of the antenna is 3.5dBi. 3.5dB logarithmic terms convert to numeric result is nearly 2.24.

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) =  $10^{\frac{dBi}{10}} / 10$
- 3) R = distance to the center of radiation of antenna (in meter) = 20cm
- 4) MPE limit = 1mW/cm<sup>2</sup>

$$S = \frac{PG}{4R^2\pi} = \frac{30.97 \times 2.24}{4 \times 400 \times 3.14} = 0.014 \text{ mW/cm}^2$$

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