



1 Cover Page

RF Exposure Evaluation Report

Application No.: SHEM1902010904CR
FCC ID: 2ADTD-I022Q00
IC: 20199-I022Q00
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.
3, Chongqing Hikvision technology Co., Ltd.
Address of Factory: 1, No.700, Dongliu Road, Binjiang District, Hangzhou City, Zhejiang, 310052, China
2, No.299, Qiushi Road, Tonglu Economic Development Zone, Tonglu County, Hangzhou, Zhejiang, 310052, China
3, No. 118, Haikang Road, Area C, Jianqiao Industrial Park, Dadukou District, Chongqing, 401325, China

Equipment Under Test (EUT):

EUT Name: Network PT Camera
Model No.: DS-2CV2Q01EFD-IW, DS-2CV2Q01EFD-IW/16G-T
Please refer to section 2 of this report which indicates which model was actually tested and which were electrically identical.

Standard(s) : FCC Rules 47 CFR §2.1091
KDB447498 D01 General RF Exposure Guidance v06

RSS-102 Issue 5 (March 2015)

Date of Receipt: 2019-02-15

Date of Test: 2019-02-18 to 2019-02-19

Date of Issue: 2019-03-11

| | |
|---------------------|--------------|
| Test Result: | Pass* |
|---------------------|--------------|

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

Parlam Zhan

Parlam Zhan
E&E Section Manager

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.

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing /Inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN_Doccheck@sgs.com



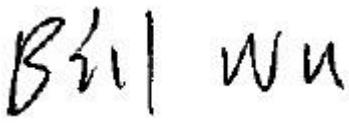
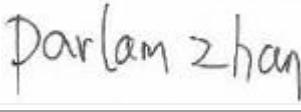
SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.
Testing Center E&I Laboratory
NO.588 West Jindu Road, Songjiang District, Shanghai, China 201612

中国·上海·松江区金都西路588号

邮编: 201612

t(86-21)61915666 f(86-21)61915678 www.sgsgroup.com.cn
t(86-21)61915666 f(86-21)61915678 sgs.china@sgs.com

| Revision Record | | | |
|-----------------|-------------|------------|--------|
| Version | Description | Date | Remark |
| 00 | Original | 2019-03-11 | / |
| | | | |
| | | | |

| | | | |
|--------------------------|--|----------------------------|--|
| Authorized for issue by: | | | |
| |  | Bill Wu | |
| | | Bill Wu / Project Engineer | |
| |  | Parlam Zhan | |
| | | Parlam Zhan /Reviewer | |

2 Contents

| | Page |
|---|----------|
| 1 COVER PAGE..... | 1 |
| 2 CONTENTS | 3 |
| 3 GENERAL INFORMATION..... | 4 |
| 3.1 GENERAL DESCRIPTION OF E.U.T..... | 4 |
| 3.2 TEST LOCATION..... | 5 |
| 3.3 TEST FACILITY..... | 5 |
| 4 TEST STANDARDS AND LIMITS | 6 |
| 4.1 FCC RADIOFREQUENCY RADIATION EXPOSURE LIMITS: | 6 |
| 4.2 IC RADIOFREQUENCY RADIATION EXPOSURE LIMITS: | 6 |
| 5 MEASUREMENT AND CALCULATION..... | 7 |
| 5.1 MAXIMUM TRANSMIT POWER | 7 |
| 5.2 MPE CALCULATION | 8 |

3 General Information

3.1 General Description of E.U.T.

| | |
|---------------------|---|
| Power supply: | DC 5V 2A By adapter Adapter: Model: HKC0115020-2B Input:100-240V~50/60Hz Output:5V 2A |
| Test voltage: | AC 120V/60Hz |
| Cable: | DC Cable 1.5m |
| Antenna Gain | 2.4dBi |
| Antenna Type | Integral Antenna |
| Channel Spacing | 5MHz |
| Modulation Type | 802.11b: DSSS (CCK, DQPSK, DBPSK) 802.11g/n: OFDM (64QAM, 16QAM, QPSK, BPSK) |
| Number of Channels | 802.11b/g/n(HT20):11 802.11n(HT40):7 |
| Operation Frequency | 802.11b/g/n(HT20): 2412MHz to 2462MHz 802.11n(HT40): 2422MHz to 2452MHz |

3.2 Test Location

All tests were performed at:

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

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

Tel: +86 21 6191 5666

Fax: +86 21 6191 5678

3.3 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-13868, C-14336, 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 ²) | Averaging time(minutes) |
|---------------|------------------------------------|-------------------------|
| 300MHz~1.5GHz | f/1500 | 30 |
| 1.5GHz~100GHz | 1.0 | 30 |

4.2 IC Radiofrequency radiation exposure limits:

According to RSS-102 section 2.5.2, RF exposure evaluation is required if the separation distance between the user and/or bystander and the device's radiating element is greater than 20 cm, except when the device operates as follows:

below 20 MHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than 1 W (adjusted for tune-up tolerance);

- at or above 20 MHz and below 48 MHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than $4.49/f^{0.5}$ W (adjusted for tune-up tolerance), where f is in MHz;
- at or above 48 MHz and below 300 MHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than 0.6 W (adjusted for tune-up tolerance);
- at or above 300 MHz and below 6 GHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than $1.31 \times 10^{-2} f^{0.6834}$ W (adjusted for tune-up tolerance), where f is in MHz;
- at or above 6 GHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than 5 W (adjusted for tune-up tolerance).

For 2.4G device, the limit of worse case is 2.68 W

5 Measurement and Calculation

5.1 Maximum transmit power

The Power Data is based on the RF Test Report SHEM190201090401

| Test Mode | Test Channel | Ant | Power [dBm] | Power [mW] |
|-----------|--------------|------|-------------|--------------|
| 11B | 2412 | Ant1 | 13.25 | 21.13 |
| 11B | 2437 | Ant1 | 14.08 | 25.59 |
| 11B | 2462 | Ant1 | 14.46 | 27.93 |
| 11G | 2412 | Ant1 | 12.58 | 18.11 |
| 11G | 2437 | Ant1 | 13.36 | 21.68 |
| 11G | 2462 | Ant1 | 13.75 | 23.71 |
| 11N20SISO | 2412 | Ant1 | 11.54 | 14.26 |
| 11N20SISO | 2437 | Ant1 | 12.44 | 17.54 |
| 11N20SISO | 2462 | Ant1 | 12.76 | 18.88 |
| 11N40SISO | 2422 | Ant1 | 10.66 | 11.64 |
| 11N40SISO | 2437 | Ant1 | 11.06 | 12.76 |
| 11N40SISO | 2452 | Ant1 | 11.33 | 13.58 |

5.2 MPE Calculation

For FCC:

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

Note:

- 1) P (Watts)
- 2) G (Antenna gain in numeric)
- 3) R = distance to the center of radiation of antenna (in meter) = 20cm
- 4) MPE limit = 1mW/cm²

The max conducted output power is 27.93 mW.

The best case gain of the antenna is 2.4 dBi. 2.4dB logarithmic terms convert to numeric result is nearly 1.74.

$$\text{So, } S = \frac{PG}{4R^2\pi} = 0.01 \text{ mW/cm}^2 < 1\text{mW/cm}^2$$

For IC:

$$\text{E.I.R.P.} = P \cdot G = 0.02793 \times 1.74 = 0.49 \text{W} < 2.68 \text{W}$$

So the device is exclusion from SAR test.

--End of the Report--