## 1 Cover Page

# *RF Exposure Evaluation Report*

| | |
|---|---|
| **Application No.**: | SHEM1908016013CR |
| **FCC ID:** | 2ADTD-K1T671TMFW |
| **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.<br>2.Hangzhou Hikvision Electronics Co., Ltd.<br>3.Hangzhou Hikvision Digital Technology Co., Ltd |
| **Address of Factory:** | 1. No.700, Dongliu Road, Binjiang District, Hangzhou City, Zhejiang, 310052, China<br>2. No.299, Qiushi Road, Tonglu Economic Development Zone, Tonglu County, Hangzhou, Zhejiang, 310052, China<br>3. No. 555, Qianmo Road, Binjiang District, Hangzhou City, Zhejiang Province,China |
| **Equipment Under Test (EUT):** | |
| **EUT Name:** | Face Recognition Terminal |
| **Model No.:** | DS-K1T671TMFW |
| **Add Model No.:** | DS-K1T671TM, DS-K1T671TMF, DS-K1T671TMW, DS-K1T671MF, DS-K1T671M, DS-K1T671MFW, DS-K1T671MW, DS-K1T671MUHK, DS-K1T671MCKV, DS-K1T671MUVS, DS-K1T671MKVO, DS-K1T671MHUN, DS-K1T671MFUHK, DS-K1T671MFCKV, DS-K1T671MFUVS, DS-K1T671MFKVO, DS-K1T671MFHUN, DS-K1T671TMUHK, DS-K1T671TMCKV, DS-K1T671TMUVS, DS-K1T671TMKVO, DS-K1T671TMHUN, DS-K1T671TMFUHK, DS-K1T671TMFCKV, DS-K1T671TMFUVS, DS-K1T671TMFKVO, DS-K1T671TMFHUN, DS-K1T671XXXXXX(X=0~9,A~Z or Blank) |
| **Standard(s) :** | FCC Rules 47 CFR §2.1091<br>KDB447498 D01 General RF Exposure Guidance v06 |
| **Date of Receipt:** | 2019-08-07 |
| **Date of Test:** | 2019-08-13 to 2019-08-21 |
| **Date of Issue:** | 2019-08-28 |
| **Test Result:** | **Pass*** |

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

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.

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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

| Revision Record | | | |
|---|---|---|---|
| **Version** | **Description** | **Date** | **Remark** |
| 00 | Original | 2019-08-28 | / |
| | | | |
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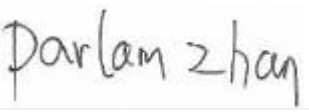
|---|---|---|---|---|
| **Authorized for issue by:** | | | | |
| | |  | | |
| | | **Vincent Zhu /Project Engineer** | | |
| | |  | | |
| | | **Parlam Zhan /Reviewer** | | |

# 2 Contents

# 3 General Information

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

| | |
|---|---|
| Power supply: | DC 12V by adapter |
| Test voltage: | AC 120V 60Hz |

## 3.2 Technical Specifications

2.4GHz

| | |
|---|---|
| Antenna Gain | 1.47dBi |
| Antenna Type | FPC antenna |
| Channel Spacing | 5MHz |
| Modulation Type | 802.11b: DSSS (CCK, DQPSK, DBPSK)<br>802.11g/n: OFDM (64QAM, 16QAM, QPSK, BPSK) |
| Number of Channels | 802.11b/g/n(HT20):11<br>802.11n(HT40):7 |
| Operation Frequency | 802.11b/g/n(HT20): 2412MHz to 2462MHz<br>802.11n(HT40): 2422MHz to 2452MHz |

13.56MHz

| | |
|---|---|
| Antenna Type | Loop antenna |
| Modulation Type | ASK |
| Number of Channels | 1 |
| Operation Frequency | 13.56MHz |

## 3.3 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

## 3.4 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.

**• Innovation, Science and Economic Development Canada**

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. EMC Laboratory has been recognized by ISED as an accredited testing laboratory.

IC Registration No.: 8617A-1. CAB Identifier: CN0020.

**• 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 range (MHz) | Electric field strength (V/m) | Magnetic field strength (A/m) | Power density ($mW/cm^2$) | Averaging time (minutes) |
|---|---|---|---|---|
| Limits for General Population/Uncontrolled Exposure | | | | |
| 0.3-1.34 | 614 | 1.63 | *(100) | 30 |
| 1.34-30 | 824/f | 2.19/f | *(180/f2) | 30 |
| 30-300 | 27.5 | 0.073 | 0.2 | 30 |
| 300-1500 | / | / | f/1500 | 30 |
| 1500-100,000 | / | / | 1.0 | 30 |

Note:Limit for 13.56MHz is 60.77 V/m
Limit for 2.4GHz is 1.0 $mW/cm^2$

# 5 Measurement and Calculation

## 5.1 Maximum transmit power

The Power Data is based on the RF Test Report SHEM190801601301 & SHEM190801601302

| Test Mode | Test Channel | Ant | Power [dBm] | Power [mW] |
|---|---|---|---|---|
| 11B | 2412 | Ant1 | 14.87 | 30.69 |
| 11B | 2437 | Ant1 | 15.73 | 37.41 |
| 11B | 2462 | Ant1 | **15.92** | **39.08** |
| 11G | 2412 | Ant1 | 13.09 | 20.37 |
| 11G | 2437 | Ant1 | 14.02 | 25.23 |
| 11G | 2462 | Ant1 | 14.26 | 26.67 |
| 11N20SISO | 2412 | Ant1 | 13.08 | 20.32 |
| 11N20SISO | 2437 | Ant1 | 13.96 | 24.89 |
| 11N20SISO | 2462 | Ant1 | 14.18 | 26.18 |
| 11N40SISO | 2422 | Ant1 | 12.90 | 19.50 |
| 11N40SISO | 2437 | Ant1 | 13.35 | 21.63 |
| 11N40SISO | 2452 | Ant1 | 13.58 | 22.80 |

13.56MHz: 57.65dBuV/m

## 5.2 MPE Calculation

*For FCC:*

According to the formula S=P/4πR², we can calculate S which is MPE.

Note:

1) P (mW)

2) R = distance to the center of radiation of antenna (in meter) = 20cm

3) MPE limit = 1mW/cm²

The max. antenna gain is 1.47 dBi

| Max. Conducted Power P(mW) | Gain in Linear Scale G | Operation Distance R(cm) | Power Density ($mW/cm^2$) | Limit ($mW/cm^2$) | Result |
|---|---|---|---|---|---|
| 39.08 | 1.403 | 20 | 0.01091 | 1 | Pass |

For 13.56MHz: 57.65dBuV/m=0.0008 V/m< 60.77 V/m.

13.56MHz and WiFi modules can simultaneous transmitting, so the maximum rate of MPE is 0.0008/60.77+0.01091/1.0 =0.011<=1.0. according to the KDB447498 section 7.2 determine the device is exclusion from SAR test.

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