



1 Cover Page

RF Exposure Evaluation Report

Application No.: SHEM2007005314CR
FCC ID: 2ADTD-K50323XFD
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, Hangzhou Hikvision Digital 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.555 Qianmo Road,Binjiang District Hangzhou 310052,China

Equipment Under Test (EUT):
EUT Name: Visitor Terminal
Model No.: DS-K5032-3XFD
Add Model No.: DS-K5032-3XFDUHK,DS-K5032-3XFDCKV,DS-K5032-3XFDUVS,DS-K5032-3XFDKVO,DS-K5032-3XFDHUN,DS-K5032-D,DS-K5032-DUHK,DS-K5032-DCKV,DS-K5032-DUVS,DS-K5032-DKVO,DS-K5032-DHUN
Standard(s) : FCC Rules 47 CFR §2.1091
 KDB447498 D01 General RF Exposure Guidance v06
Date of Receipt: 2020-07-01
Date of Test: 2020-07-05 to 2020-07-23
Date of Issue: 2020-07-24

Test Result:	Pass*
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* In the configuration tested, the EUT complied with the standards specified above.

Parlan Zhan

Parlan Zhan
E&E Section Manager

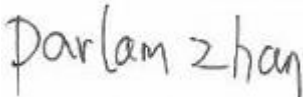
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Revision Record			
Version	Description	Date	Remark
00	Original	2020-07-24	/

Authorized for issue by:			
			
		<hr/>	
		Micheal Niu /Project Engineer	
			
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		Parlam Zhan /Reviewer	



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3 General Information

3.1 General Description of E.U.T.

Power supply:	DC 12V by Adapter
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3.2 Technical Specifications

2.4G WiFi

Antenna Gain:	3.73dBi
Antenna Type:	PIFA 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
Operation Frequency:	802.11b/g/n(HT20): 2412MHz to 2462MHz

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

No tests were sub-contracted.

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 17025:2017 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 (LAB CODE: 201034-0)**

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP).

- **FCC (Designation Number: CN5033)**

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

- **ISED (CAB Identifier: CN0020)**

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

- **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/f ²)	30
30-300	27.5	0.073	0.2	30
300-1500	/	/	f/1500	30
1500-100,000	/	/	1.0	30

Note: Limit for 2.4GHz is 1.0 mW/cm²

Limit for 13.56MHz is 60.77 V/m

5 Measurement and Calculation

5.1 Maximum transmit power

The Power Data is based on the RF Test Report SHEM200700531601, SHEM200700531602,

2.4G WiFi

Test Mode	Test Channel	Ant	Power [dBm]	Power [mW]
11B	2412	Ant1	12.50	17.78
11B	2437	Ant1	12.37	17.26
11B	2462	Ant1	12.06	16.07
11G	2412	Ant1	12.20	16.60
11G	2437	Ant1	12.14	16.37
11G	2462	Ant1	11.78	15.07
11N20SISO	2412	Ant1	11.53	14.22
11N20SISO	2437	Ant1	11.60	14.45
11N20SISO	2462	Ant1	11.29	13.46

13.56MHz: 65.61 dBuV/m@3m, @20cm=@3m+40log(3/0.2)=112.65dBuV/m

5.2 MPE Calculation

For WiFi:

According to the formula $S=P/4\pi R^2$, 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

For WIFI

The max. antenna gain is 3.73 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
17.78	2.360	20	0.00835	1	Pass

For 13.56MHz: $112.65\text{dBuV/m}=0.43\text{V/m}<60.77\text{ V/m}$.

The 2.4G band and 13.56MHz function can simultaneous transmitting. But the maximum rate of MPE is $0.008/1.0+0.43/60.77=0.02\leq 1.0$. according to the KDB447498 section 7.2 determine the device is exclusion from SAR test.

--End of the Report--