

1 Cover Page

RF Exposure Evaluation Report

Application No.: KSEM2108001382CR
FCC ID: 2ADTD-K1T690MT
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.
 4.Chongqing Hikvision technology 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.No.555 Qianmo Road,Binjiang District Hangzhou 310052,China
 4. NO.118.Haikang Road,Area C,Jianqiao Industrial Park,Dadukou District,Chongqing,401325,China

Equipment Under Test (EUT):
EUT Name: Face Recognition Terminal
Model No.: DS-K1T690MF-X,DS-K1T690MF-XUHK,DS-K1T690MF-XCKV,DS-K1T690MF-XUVS,DS-K1T690MF-XKVO,DS-K1T690MF-XHUN,DS-K1T690M-T,DS-K1T690M-TUHK,DS-K1T690M-TCKV,DS-K1T690M-TUVS,DS-K1T690M-TKVO,DS-K1T690M-THUN,DS-K1T690M-E1,DS-K1T690M-EUHK,DS-K1T690M-ECKV,DS-K1T690M-EUVS,DS-K1T690M-EKVO,DS-K1T690M-EHUN

Trade mark: HIKVISION
Standard(s) : FCC Rules 47 CFR §2.1091
 KDB447498 D01 General RF Exposure Guidance v06
Date of Receipt: 2021-08-12
Date of Test: 2021-12-24 to 2022-01-11
Date of Issue: 2022-01-11

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

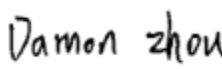
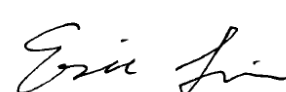
Eric Lin
Laboratory Manager



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Revision Record			
Version	Description	Date	Remark
00	Original	2022-01-11	/

Authorized for issue by:			
		 <hr/> Damon Zhou / Project Engineer	
		 <hr/> Eric Lin / Reviewer	



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3 General Information

3.1 General Description of E.U.T.

Power supply:	DC 12-24V, 4A
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3.2 Technical Specifications

BLE

Antenna Gain:	-5dBi (Provided by manufacturer)
Antenna Type:	FPC Antenna
Bluetooth Version:	V5.0 LE
Data Rate:	1Mbps
Channel Spacing:	2MHz
Modulation Type:	GFSK
Number of Channels:	40
Operation Frequency:	2402MHz to 2480MHz

13.56MHz

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



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3.3 Test Location

All tests were performed at:

Compliance Certification Services (Kunshan) Inc.

No.10 Weiye Rd, Innovation park, Eco&Tec, Development Zone, Kunshan City, Jiangsu, China.

Tel: +86 512 5735 5888 Fax: +86 512 5737 0818

No tests were sub-contracted.

3.4 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **CNAS (No. CNAS L4354)**

CNAS has accredited Compliance Certification Services (Kunshan) Inc. 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.

- **A2LA (Certificate No. 2541.01)**

Compliance Certification Services (Kunshan) Inc. is accredited by the American Association for Laboratory Accreditation (A2LA). Certificate No. 2541.01.

- **FCC (Designation Number: CN1172)**

Compliance Certification Services Inc. has been recognized as an accredited testing laboratory. Designation Number: CN1172.

- **ISED (CAB Identifier: CN0072)**

Compliance Certification Services (Kunshan) Inc. has been recognized by Innovation, Science and Economic Development (ISED) Canada as an accredited testing laboratory.

CAB Identifier: CN0072.

- **VCCI (Member No.: 1938)**

The 3m and 10m Semi-anechoic chamber and Shielded Room of Compliance Certification Services (Kunshan) Inc. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-20134, R-11600,C-11707, T-11499, G-10216 respectively.



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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



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5 Measurement and Calculation

5.1 Maximum transmit power

The Power Data is based on the RF Test Report KSEM210800138201, KSEM210800138202

BLE

Test Mode	Test Frequency (MHz)	Output Power (dBm)	Reading Power (mW)
1M	2402	-2.39	0.58
	2440	-2.01	0.63
	2480	-1.82	0.66

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 -5 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
0.66	0.316	20	0.00004	1	Pass

For 13.56MHz: $85.40 \text{ dBuV/m} @ 3\text{m} = 85.40 + 40 * \log(3/0.2) = 132.44 \text{ dBuV/m} @ 20\text{cm} = 4.19 \text{ V/m} < 60.77 \text{ V/m}$.

The BLE and 13.56MHz function can simultaneous transmitting. But the maximum rate of MPE is $0.00004 / 1.0 + 4.19 / 60.77 = 0.0690 < 1.0$. according to the KDB447498 section 7.2 determine the device is exclusion from SAR test.

--End of the Report--



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