1 Cover Page

RF Exposure Evaluation Report

Application No.:	KSCR211000240AT
FCC ID:	2ADTD-D2412043
Applicant:	Hangzhou Hikvision Digital Technology Co.,Ltd.
Address of Applicant:	No. 555, Qianmo Road, Binjiang District, Hangzhou
Manufacturer:	Hangzhou Hikvision Digital Technology Co.,Ltd.
Address of Manufacturer:	No. 555, Qianmo Road, Binjiang District, Hangzhou
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 Ctiy, 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:	Wireless Tri-Tech AM Detector
Model No.:	DS-PDTT15AM-LM-WA
Add Model No.:	DS-PDTT15AM-LM-WAUHK, DS-PDTT15AM-LM-WACKV, DS-PDTT15AM-LM-WAUVS, DS-PDTT15AM-LM-WAKVO, DS-PDTT15AM-LM-WAHUN
Standard(s) :	FCC Rules 47 CFR §2.1091 KDB447498 D01 General RF Exposure Guidance v06
Date of Receipt:	2021-11-12
Date of Test:	2021-11-13 to 2021-12-02
Date of Issue:	2021-12-03
Test Result:	**Pass***

* 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	2021-12-03	/

Authorized for issue by:				
		Damon zhou **Damon Zhou / Project Engineer**		
		Eric Lin **Eric Lin / Reviewer**		

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3 General Information

3.1 General Description of E.U.T.

Power supply:	DC 3V 1.25A by LITHIUM Battery

3.2 Technical Specifications

912.5MHz ~ 917.4MHz

Operation Frequency:	912.5MHz ~ 917.4MHz
Spectrum Spread:	Frequency Hopping Spread Spectrum (FHSS)
Number of Channels:	50
Channel Spacing:	100kHz
Modulation Type:	FSK
Antenna Gain:	0.14dBi (Provided by manufacturer)
Antenna Type:	Helical Antenna

920MHz

Antenna Gain:	0.14dBi (Provided by manufacturer)
Antenna Type:	Helical Antenna
Modulation Type:	FSK
Operation Frequency:	920MHz
Channel Number:	1

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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	Power density(mW/cm^2)	Averaging time(minutes)
300MHz~1.5GHz	f/1500	30
1.5GHz~100GHz	1.0	30

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5 Measurement and Calculation

5.1 Maximum transmit power

The Power Data is based on the RF Test Report KSCR211100024001(912.5MHz ~ 917.4MHz), KSCR211100024002(920MHz)

912.5MHz ~ 917.4MHz

Test Mode	Channel	Antenna Power[dBm]	Antenna Power[mW]
FSK	912.5MHz	14.05	25.41
	917.4 MHz	13.97	24.95

920MHz

Test Mode	Channel	Level (dBuV/m)	Power [dBm]	Power [mW]
FSK	920 MHz	82.06	-13.14	0.0485

EIRP[dBm] = E[dBμV/m] + 20 log(d[meters]) - 104.77

EIRP[dBm] = E[dBμV/m] - 95.2

= 82.06 dBμV/m - 95.2

= -13.14 dBm = 0.0485 mW

Test Mode	Power [dBm]	Power [mW]
24GHz	13.9	24.5471

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5.2 MPE Calculation

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) For 912.5MHz ~ 917.4MHz, MPE limit = 912.5MHz / 1500 = 0.608mW/cm².
   For 920MHz, MPE limit = 920/1500 = 0.613mW/cm²
   For 24Ghz, MPE limit = 1mW/cm²

For 912.5MHz ~ 917.4MHz

The max. antenna gain is 0.14 dBi

Max. Conducted Power P(mW)	Gain in Linear Scale G	Operation Distance R(cm)	Power Density (mW/cm²)	Limit (mW/cm²)	Result
25.41	1.033	20	0.00522	0.608	Pass

For 920MHz

S= $\frac{PG}{4R^2\pi}$ = 0.0485/(4*400*3.14) = 0.00000965 mW/cm² < 0.613mW/cm²

For 24GHz

S= $\frac{PG}{4R^2\pi}$ =24.5471/(4*400*3.14) = 0.00489 mW/cm² ≤ 1 mW/cm²

The 912.5 ~ 917.4MHz and 920MHz and24GHz can simultaneous transmit, the Max. sum of the MPE ratios for 912.5 ~ 917.4MHz and 920MHz and 24GHz is 0.00522/0.608 + 0.00000965/0.613 + 0.00489/1 = 0.01349 < 1

according to the KDB447498 section 7.2 determine the device is exclusion from SAR test

--End of the Report--