

1 Cover Page

RF Exposure Evaluation Report

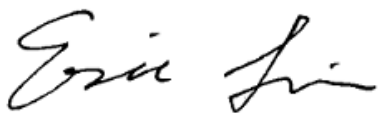
Application No.: KSCR2111000222AT
FCC ID: 2ADTD-T020301113
Applicant: Hangzhou Hikvision Digital Technology Co.,Ltd.
Address of Applicant: No. 555, Qianmo Road, Binjiang District, Hangzhou
Manufacturer: Hangzhou Hikvision Digital Technology Co.,Ltd.
Address of Manufacturer: No. 555, Qianmo Road, Binjiang District, Hangzhou
Factory: 1.Hangzhou Hikvision Electronics Co., Ltd.
2.Hangzhou Hikvision Technology Co., Ltd.
3.CHONGQING HIKVISION TECHNOLOGY CO.,LTD
1.No.299,Qiushi Road,Tonglu Economic Development Zone,Tonglu County, Hangzhou,Zhejiang.
Address of Factory: 2.No.700 Dongliu Road, Binjiang District, Hangzhou 310052, China
3.No. 118, Haikang Road, Area C, Jianqiao Industrial Park, Dadukou District, Chongqing, 401325,China

Equipment Under Test (EUT):

EUT Name: Wireless Tag Reader
Model No.: DS-PT1-WA
Add Model No.: DS-PT1-WAUHK,DS-PT1-WACKV,DS-PT1-WAUVS,DS-PT1-WAKVO,DS-PT1-WAHUN
Standard(s) : FCC Rules 47 CFR §2.1091
Date of Receipt: 2021-11-08
Date of Test: 2021-11-26 to 2021-12-24
Date of Issue: 2021-12-27

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	2021-12-27	/

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:	1.5V=500mA by 3AA batteries
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3.2 Technical Specifications

915MHz:

Operation Frequency:	912.5MHz ~ 917.4MHz
Number of Channels:	50
Channel Spacing:	100kHz
Spectrum Spread:	Frequency Hopping Spread Spectrum (FHSS)
Modulation Type:	FSK
Antenna Gain:	-2.94 dBi (Provided by manufacturer)
Antenna Type:	Spring Antenna

13.56MHz

Operation Frequency	13.56MHz
Modulation Technique:	ASK
Antenna Type:	Loop antenna
Number of Channel:	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 Canada (ISED) as an accredited testing laboratory.

Company Number: 2324E

• **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 915MHz is 0.608 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 KSCR211100022201, KSCR211100022202.

915MHz

Test Mode	Channel	Antenna Power[dBm]	Antenna Power[mW]
FSK	912.5	11.87	15.38
	917.4	11.70	14.79

13.56MHz: 84.15dBuV/m@3m, @20cm=@3m+40log(3/0.2)= 131.19dBuV/m

5.2 MPE Calculation

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 = 0.608mW/cm²

The max. antenna gain is		-2.94	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
15.38	0.508	20	0.00155	0.608	Pass

For 912.5MHz ~ 917.4MHz, the limit: 912.5MHz / 1500 = 0.608mW/cm².

For 13.56MHz:131.19dBuV/m=3.63V/m< 60.77 V/m.

The 915MHz band and 13.56MHz function can simultaneous transmitting. But the maximum rate of MPE is 0.00155/0.608+3.63/60.77=0.062<=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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