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Report No.: SHEM180800740502

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1 Cover Page

RF Exposure Evaluation Report

Application No.:	SHEM1808007405CR
Applicant:	Hangzhou Hikvision Digital Technology Co., Ltd.
FCC ID:	2ADTD-H2TR03
Equipment Under Test (EUT): NOTE: The following sample(s) submitted was/were identified on behalf of the client as	
Product Name:	Thermal Telescope
Model No.:	DS-2TR03-35UM/W
Add Model No.:	DS-2TR03-50UM/W, DS-2TR03-35UF/W, DS-2TR03-50UF/W
Trade mark:	HIKVISION
Standards:	FCC Rules 47 CFR §2.1093 KDB447498 D01 General RF Exposure Guidance v06
Date of Receipt:	2018-08-30
Date of Test:	2018-09-07 to 2018-11-03
Date of Issue:	2018-11-07
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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Revision Record			
Version	Description	Date	Remark
00	Original	2018-11-08	/

Authorized for issue by:			
			
		Bill Wu / Project Engineer	
			
		Eddy Zong / Reviewer	



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3 General Information

3.1 Client Information

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.
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

3.2 General Description of E.U.T.

Power supply:	DC 3.6V by batteries Battery:DC 3.6V 3.3Ah 11.88Wh Rechargeable battery
Test voltage:	DC 3.6V
Internal source:	540MHz
Antenna Gain	3.37dBi
Antenna Type	PCB 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):11 802.11n(HT40):7
Operation Frequency	802.11b/g/n(HT20): 2412MHz to 2462MHz 802.11n(HT40): 2422MHz to 2452MHz



3.3 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.

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.

- **Industry Canada (IC) – IC Assigned Code: 8617A**

The 3m Semi-anechoic chamber of SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 8617A-1.

- **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:

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

$[(\text{max power of channel})/(\text{min test separation distance})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0$ for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where

- $f(\text{GHz})$ is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm
- The result is rounded to one decimal place for comparison
- 3.0 and 7.5 are referred to as the numeric thresholds

The test exclusions are applicable only when the minimum test separation distance is ≤ 50 mm, and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is < 5 mm, a distance of 5 mm according to 4.1 f) is applied to determine SAR test exclusion.

The practical use condition for this device is as a limb-worn accessories. So the applicable limit is 10-g extremity SAR

For 2.4G band device, the limit of worse case is $P_{\text{max}} \leq 3.0 \cdot D_{\text{min}} / \sqrt{f} = 3.0 \cdot 5 / \sqrt{2.462} = 9.56 \text{ mW}$



5 Measurement and Calculation

5.1 Maximum transmit power

The Power Data is based on the RF Test Report SHEM180800740501

Test Mode	Test Channel	Ant	Power [dBm]	Power [mW]
11B	2412	Ant1	9.12	8.17
11B	2437	Ant1	8.80	7.59
11B	2462	Ant1	8.70	7.41
11G	2412	Ant1	7.42	5.52
11G	2437	Ant1	8.50	7.08
11G	2462	Ant1	9.26	8.43
11N20SISO	2412	Ant1	7.32	5.40
11N20SISO	2437	Ant1	8.42	6.95
11N20SISO	2462	Ant1	9.19	8.30
11N40SISO	2422	Ant1	6.22	4.19
11N40SISO	2437	Ant1	6.77	4.75
11N40SISO	2452	Ant1	7.27	5.33

5.2 MPE Calculation

The Max Conducted average Output Power is 8.43mW, So the device is exclusion from SAR test.;

--End of the Report--