



1 Cover Page

RF MPE REPORT

Application No.: SHEM1901010667CR
FCC ID: 2ADTD-AEG2
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: Hangzhou Hikvision Technology Co., Ltd.
Address of Factory: No.700,Dongliu Road, Binjiang District, Hangzhou City, Zhejiang, 310052, China

Equipment Under Test (EUT):
EUT Name: Dashcam
Model No.: AE-DC5322-G2
Add Model No.: AE-DC5322-G2 Plus, AE-DC5322-G2 Pro, AE-DC5322-G2S, AE-DC5322-G2A, AE-DC5322-G2B, AE-DC5322-G2C, AE-DC5322-G2+
Trade mark: HIKVISION
Standard(s) : FCC Rules 47 CFR §2.1091
KDB447498 D01 General RF Exposure Guidance v06
Date of Receipt: 2019-01-24
Date of Test: 2019-01-28 to 2019-03-13
Date of Issue: 2019-03-19

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

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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Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.
Testing Center Elm Road, Songjiang District, Shanghai, China

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Revision Record			
Version	Description	Date	Remark
00	Original	2019-03-19	/

Authorized for issue by:				
		Vincent Zhu		
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		Parlam Zhan		
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3 General Information

3.1 General Description of E.U.T.

Power supply:	DC 12V by battery
Test voltage:	DC 12V
Cable:	DC Cable 3m for front camera DC Cable 4m for behind camera

3.2 Technical Specifications

BLE

Antenna Gain	-1 dBi
Antenna Type	PIFA Antenna
Channel Spacing	2MHz
Modulation Type	GFSK
Number of Channels	40
Operation Frequency	2402MHz to 2480MHz

2.4G WiFi

Antenna Gain	-1 dBi
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



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 17025:2005 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.

- **Innovation, Science and Economic Development Canada**

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

IC Registration No.: 8617A-1. CAB identifier: CN0020.

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

5 Measurement and Calculation

5.1 Maximum transmit power

The Power Data is based on the RF Test Report SHEM190101066701 & SHEM190101066702.

Test Mode	Test Frequency (MHz)	Output Power (dBm)	Reading Power (mW)
BLE	2402	7.6	5.75
	2440	8.18	6.58
	2480	7.58	5.73

2.4G WiFi

Test Mode	Test Channel	Power [dBm]	Power [mW]
11B	2412	13.53	22.54
11B	2437	13.92	24.66
11B	2462	14.06	25.47
11G	2412	12.96	19.77
11G	2437	13.31	21.43
11G	2462	13.50	22.39
11N20SISO	2412	11.67	14.69
11N20SISO	2437	12.06	16.07
11N20SISO	2462	12.20	16.60



5.2 MPE Calculation

For FCC:

According to the formula $S = \frac{PG}{4R^2\pi}$, we can calculate S which is MPE.

Note:

- 1) P (Watts) = Power Input to antenna = $10^{\frac{dBm}{10}} / 1000$
- 2) G (Antenna gain in numeric) = $10^{\text{(Antenna gain in dBi / 10)}}$
- 3) R = distance to the center of radiation of antenna (in meter) = 20cm
- 4) MPE limit = 1mW/cm²

For BLE

The max conducted output power is 6.6 mW .

$$\text{So, } S = \frac{PG}{4R^2\pi} = 0.001 \text{ mW/cm}^2 < 1\text{mW/cm}^2$$

For 2.4G WiFi

The max conducted output power is 25.47 mW .

$$\text{So, } S = \frac{PG}{4R^2\pi} = 0.005 \text{ mW/cm}^2 < 1\text{mW/cm}^2$$

The BT and the DTS modules can simultaneous transmitting at frequency 2.4GHz band. But the maximum rate of MPE is $\frac{0.005}{1.0} + \frac{0.001}{1.0} = 0.006 \leq 1.0$. according to the KDB447498 section 7.2 determine the device is exclusion from SAR test.

--End of the Report--