



## 1 Cover Page

# RF MPE REPORT

**Application No.:** SHEM1910017776CR  
**FCC ID:** 2ADTD-D6022TL-B  
**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.  
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. No. 555, Qianmo Road, Binjiang District, Hangzhou City, Zhejiang Province, China  
**Address of Factory:**  
**Equipment Under Test (EUT):**  
**EUT Name:** Digital Signage  
**Model No.:** DS-D6022TL-B  
**Add Model No.:** DS-D6022FL-B, DS-D6022FN-B  
**Trade mark:** HIKVISION  
**Standard(s) :** FCC Rules 47 CFR §2.1091  
KDB447498 D01 General RF Exposure Guidance v06  
**Date of Receipt:** 2019-10-10  
**Date of Test:** 2019-10-11 to 2019-10-18  
**Date of Issue:** 2019-10-22

<b>Test Result:</b>	<b>Pass*</b>
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\* In the configuration tested, the EUT complied with the standards specified above.

Parlam Zhan

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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**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](mailto:CN.Doccheck@sgs.com)**

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.  
Testing Center E&E (Shanghai)

NO.588 West Jindu Road, Songjiang District, Shanghai, China 201612  
中国·上海·松江区金都西路588号 邮编: 201612

t(86-21)61915666 f(86-21)61915678 www.sgsgroup.com.cn  
t(86-21)61915666 f(86-21)61915678 e sgs.china@sgs.com



Revision Record			
Version	Description	Date	Remark
00	Original	2019-10-23	/

Authorized for issue by:				
		Vincent Zhu		
		Vincent Zhu / Project Engineer		
		Parlam Zhan		
		Parlam Zhan / Reviewer		



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### 3 General Information

#### 3.1 General Description of E.U.T.

Power supply:	AC 100-240V~50/60Hz
Test voltage:	AC 120V 60Hz
Cable:	AC Cable 1.5m

#### 3.2 Technical Specifications

##### BT

Antenna Gain	2.2 dBi
Antenna Type	PCB Antenna
Channel Spacing	1MHz
Modulation Type	GFSK, $\pi/4$ DQPSK, 8DPSK
Number of Channels	79
Operation Frequency	2402MHz to 2480MHz
Spectrum Spread Technology	Frequency Hopping Spread Spectrum(FHSS)

##### BLE

Antenna Gain	2.2 dBi
Antenna Type	PCB Antenna
Channel Spacing	2MHz
Modulation Type	GFSK
Number of Channels	40
Operation Frequency	2402MHz to 2480MHz

##### 2.4G WiFi

Antenna Gain	2.2 dBi
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 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 <sup>2</sup> )	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 SHEM191001777601 & SHEM191001777602 & SHEM191001777603.

BT

Test Mode	Test Frequency (MHz)	Output Power (dBm)	Reading Power (mW)
GFSK	2402	1.89	1.55
	2441	2.18	1.65
	2480	1.93	1.56
π/4DQPSK	2402	3.15	2.07
	2441	3.31	2.14
	2480	3.26	2.12
8DPSK	2402	3.38	2.18
	2441	3.61	<b>2.30</b>
	2480	3.56	2.27

BLE

Test Mode	Test Frequency (MHz)	Output Power (dBm)	Reading Power (mW)
BLE	2402	1.95	1.57
	2442	2.18	<b>1.65</b>
	2480	2.02	1.59



## 2.4G WiFi

Test Mode	Test Channel	Power [dBm]	Power [mW]
11B	2412	14.54	28.44
11B	2437	15.12	32.51
11B	2462	15.29	<b>33.81</b>
11G	2412	13.89	24.49
11G	2437	14.37	27.35
11G	2462	14.59	28.77
11N20SISO	2412	13.80	23.99
11N20SISO	2437	14.18	26.18
11N20SISO	2462	14.74	29.79
11N40SISO	2422	12.67	18.49
11N40SISO	2437	13.15	20.65
11N40SISO	2452	13.31	21.43

## 5.2 MPE Calculation

For FCC:

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/cm<sup>2</sup>

For BT

The max. antenna gain is 2.2 dBi

Max. Conducted Power P(mW)	Gain in Linear Scale G	Operation Distance R(cm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )	Result
2.3	1.660	20	0.00076	1	Pass

For 2.4G WiFi

The max. antenna gain is 2.2 dBi

Max. Conducted Power P(mW)	Gain in Linear Scale G	Operation Distance R(cm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )	Result
33.81	1.660	20	0.01116	1	Pass

The BT and the DTS modules can simultaneous transmitting at frequency 2.4GHz band. But the maximum rate of MPE is  $0.00076/1.0+0.01116/1.0=0.012\leq 1.0$ . according to the KDB447498 section 7.2 determine the device is exclusion from SAR test.

**--End of the Report--**