



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

588 West Jindu Road, Xinqiao, Songjiang, 201612 Shanghai, China  
Telephone: +86 (0) 21 6191 5666  
Fax: +86 (0) 21 6191 5678  
ee.shanghai@sgs.com

Report No.: SHEM161200786604  
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### 1 Cover Page

# FCC MPE REPORT

Application No.:	SHEM1612007866CR
Applicant:	Hangzhou Hikvision Digital Technology Co., Ltd
FCC ID:	2ADTD-K1T500S
Equipment Under Test (EUT):	
NOTE:	The following sample(s) was/were submitted and identified by the client as
Product Name:	Video Access Control Terminal
Model No.(EUT):	DS-K1T500SF
Add Model No.:	DS-K1T500S, DS-K1T501SF, DS-K1T501S, DS-K1T500XYZ-UVW, DS-K1T500XYZF-UVW, DS-K1T501XYZ-UVW, DS-K1T501XYZF-UVW
Standards:	FCC Rules 47 CFR §2.1091 KDB447498 D01 General RF Exposure Guidance v06
Date of Receipt:	2016-12-08
Date of Test:	2017-06-26
Date of Issue:	2017-07-07
Test Result:	Pass*

\* In the configuration tested, the EUT detailed in this report complied with the standards specified above.


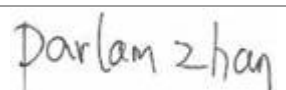


**Parlam Zhan**  
**E&E Section Manager**  
**SGS-CSTC (Shanghai) Co., Ltd.**

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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<b>Revision Record</b>				
<b>Version</b>	<b>Chapter</b>	<b>Date</b>	<b>Modifier</b>	<b>Remark</b>
00	/	2017-07-07	/	Original

<b>Authorized for issue by:</b>			
<b>Tested By</b>	 Vincent Zhu /Project Engineer	2017-06-26 Date	
<b>Checked By</b>	 Parlam Zhan /Reviewer	2017-06-26 Date	

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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.

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

Product Description:	Fixed product with WiFi function		
Test Voltage:	AC 120V 60Hz		
Rated Input:	DC 12V		
Adapter:	Model No.:	DSA-12PFG-12 120100	
	Rated Input:	AC 100V-240V 50/60Hz 0.5A	
	Rated Output:	DC 12V 1A	
	Cable length:	AC port:	2 wires
		DC port:	140 cm

#### 3.2 Technical Specifications

Operation Frequency:	802.11 b/g/n(HT20): 2412MHz~2462MHz 802.11 n(HT40): 2422MHz~2452MHz
Modulation Technique:	802.11 b: DSSS(CCK, DQPSK, DBPSK) 802.11 g/n(HT20/n(HT40): OFDM(64QAM, 16QAM, QPSK, BPSK)
Data Rate:	802.11b: 1/2/5.5/11Mbps, 802.11g: 6/9/12/18/24/36/48/54Mbps 802.11n: MCS0-7
Number of Channel:	802.11 b/g/n(HT20): 11 802.11 n(HT40): 7
Antenna Type:	Integral
Antenna Gain:	2.4 dBi

### 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.

- **FCC – Registration No.: 402683**

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been registered and fully described in a report filed with the Federal Communications Commission (FCC). The acceptance letter from the FCC is maintained in our files. Registration No.: 402683.

- **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-3868, C-4336, T-2221, G-830 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 range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm <sup>2</sup> )	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 <sup>2</sup> )	30
30-300	27.5	0.073	0.2	30
300-1500	/	/	f/1500	30
1500-100,000	/	/	1.0	30

Note: Limit for 13.56MHz is 60.77 V/m

## 5 Measurement and Calculation

### 5.1 Maximum transmit power

The Power Data is based on the RF Test Report SHEM161200786602 & SHEM161200786603

Test Mode	Test Channel	Power[dBm]	Limit[dBm]	Verdict
11B	2412	16.8	30	PASS
11B	2437	17.46	30	PASS
11B	2462	17.84	30	PASS
11G	2412	20.4	30	PASS
11G	2437	21.01	30	PASS
11G	2462	<b>21.46</b>	30	PASS
11N20SISO	2412	20.26	30	PASS
11N20SISO	2437	20.74	30	PASS
11N20SISO	2462	21.1	30	PASS
11N40SISO	2422	20.05	30	PASS
11N40SISO	2437	20.21	30	PASS
11N40SISO	2452	20.44	30	PASS

13.56MHz: 53.61dBuV/m

## 5.2 MPE Calculation

The Max Conducted Peak Output Power is 21.46dBm (139.96mW) in lowest channel;

The best case gain of the antenna is 2.4dBi. 2.4dB logarithmic terms convert to numeric result is nearly 1.738

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) =  $10^{(Antenna\ gain\ in\ dBi / 10)}$

3) R = distance to the center of radiation of antenna (in meter) = 20cm

4) MPE limit = 1mW/cm<sup>2</sup>

For WiFi:  $S = \frac{PG}{4R^2\pi} = \frac{0.13996 \times 1.738}{4 \times 400 \times 3.14} = 0.048\ mW/cm^2$

For 13.56MHz: 53.61dBuV/m = 0.00048 V/m < 60.77 V/m.

13.56MHz and WiFi modules can simultaneous transmitting, so the maximum rate of MPE is  $\frac{0.00048}{60.77} + \frac{0.048}{1} = 0.048 < 1.0$ . according to the KDB447498 section 7.2 determine the device is exclusion from SAR test.

## 6 EUT Constructional Details

Refer to the < External Photos > & < Internal Photos >.

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