

**1 Cover Page**

# ***RF Exposure Evaluation Report***

**Application No.:** SHEM2003001394CR  
**FCC ID:** 2AVYF-NVR1104HS-W  
**Applicant:** Hangzhou Huacheng Network Technology Co., Ltd.  
**Address of Applicant:** No.2930, Nanhuan Road, Binjiang District, Hangzhou, China  
**Manufacturer:** Hangzhou Huacheng Network Technology Co.,Ltd.  
**Address of Manufacturer:** No.2930, Nanhuan Road, Binjiang District, Hangzhou, China  
**Equipment Under Test (EUT):**  
**EUT Name:** NETWORK VIDEO RECORDER  
**Model No.:** NVR1104HS-W-S2  
 NVR1108HS-W-S2,DHI-NVR1104HS-W-S2, DHI-NVR1108HS-W-S2,NVR11xxHS-W-Sy,DHI-NVR11xxHS-W-Sy (The "xx" can be 04, 08, 16,32 and 64 denote different software configuration or accessing IP channels ;"y" can be 2,3, 4 and 5 denote different software version)  
**Add Model No.:** N14W,N18W,N116W,N1xW (x=4,8,16).  
 (The "x" can be 4, 8, and 16 denote different software configuration or accessing IP channels)  
**Standard(s) :** FCC Rules 47 CFR §2.1091  
 KDB447498 D01 General RF Exposure Guidance v06  
**Date of Receipt:** 2020-03-04  
**Date of Test:** 2020-03-14 to 2020-03-19  
**Date of Issue:** 2020-06-15

<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**



Revision Record			
Version	Description	Date	Remark
00	Original	2020-06-15	/

Authorized for issue by:			
		<i>Michael Nil</i>	
		_____ Vincent Zhu /Project Engineer	
		<i>Parlam zhan</i>	
		_____ Parlam Zhan /Reviewer	



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### 3 General Information

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

Power supply:	DC 12V 1.5A by adapter Adapter: Model: NVR1104HS-W-S2 Input:100-240V~,50/60Hz, 0.6A Output:12V 1.5A
Test voltage:	AC120V 60Hz
Cable:	DC Cable 1.5m for adapter

#### 3.2 Technical Specifications

Antenna Gain:	Antenna 1: 5.5dBi Antenna 2: 5.5dBi
Antenna Type:	Antenna 1: Dipole Antenna Antenna 2: Dipole 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

### 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 17025:2017 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.

- **NVLAP (LAB CODE: 201034-0)**

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP).

- **FCC (Designation Number: CN5033)**

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

- **ISED (CAB Identifier: CN0020)**

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

- **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 SHEM200300139401

Test Mode	Channel	Antenna 1 Power[dBm]	Antenna 2 Power[dBm]	MIMO Power[dBm]	Antenna 1 Power[mW]	Antenna 2 Power[mW]	MIMO Power[mW]
11B	2412	12.45	12.47	NA	17.58	<b>17.66</b>	N/A
11B	2437	12.11	12.11	NA	16.26	16.26	N/A
11B	2462	11.94	11.44	NA	15.63	13.93	N/A
11G	2412	10.26	9.75	NA	10.62	9.44	N/A
11G	2437	9.9	8.94	NA	9.77	7.83	N/A
11G	2462	9.23	8.19	NA	8.38	6.59	N/A
11N20SISO	2412	8.66	8.01	11.36	7.35	6.32	<b>13.68</b>
11N20SISO	2437	8.13	7.26	10.73	6.50	5.32	11.83
11N20SISO	2462	7.54	6.37	10.00	5.68	4.34	10.00
11N40SISO	2422	7.67	7.53	10.61	5.85	5.66	11.51
11N40SISO	2437	7.47	7.19	10.34	5.58	5.24	10.81
11N40SISO	2452	7.16	6.83	10.01	5.20	4.82	10.02

## 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 = 1mW/cm<sup>2</sup>

SISO mode

The max. antenna gain is 5.5 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
17.66	3.548	20	0.01247	1	Pass

MIMO mode:

The max. antenna gain is 8.51 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
13.68	7.096	20	0.01931	1	Pass

So the device is exclusion from SAR test.

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