



Report No.: SZEM190901834702

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## SAR Evaluation Report

**Application No.:** SZEM1909018347CR  
**Applicant:** Shenzhen Videotimes Technology Co., Ltd  
**Address of Applicant:** Room 601, Building B, Union Financial Building Fubao Street, Futian Free Trade Zone, Shenzhen, 518000 China  
**Manufacturer:** Shenzhen Videotimes Technology Co., Ltd  
**Address of Manufacturer:** Room 601, Building B, Union Financial Building Fubao Street, Futian Free Trade Zone, Shenzhen, 518000 China  
**Factory:** Shenzhen Videotimes Technology Co., Ltd  
**Address of Factory:** Room 601, Building B, Union Financial Building Fubao Street, Futian Free Trade Zone, Shenzhen, 518000 China  
**Equipment Under Test (EUT):**  
**EUT Name:** 2.4GHz Digital Wireless Video Baby Monitor  
**Model No.:** HB50, HB43 ♣  
♣ Please refer to section 4.1 of this report which indicates which item/model was actually tested and which were electrically identical.  
**FCC ID:** 2AF2R-HB50TX  
**Trade Mark:** HelloBaby  
**Standards:** 47 CFR Part 1.1307  
47 CFR Part 1.1310  
**Date of Receipt:** 2019-09-09  
**Date of Test:** 2019-09-12 to 2019-09-26  
**Date of Issue:** 2019-09-27

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

Keny Xu

Keny Xu  
EMC Laboratory Manager



SGS-CSTC Standards Technical Services Co., Ltd.  
Shenzhen Branch, EMC Laboratory

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## 2 Version

Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2019-09-27		Original

Authorized for issue by:				
		Bill chen		
		Bill Chen /Project Engineer		
		Eric Fu		
		Eric Fu /Reviewer		



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## 4 General Information

### 4.1 General Description of EUT

Power Supply:	Camera: Adapter 1: Model:K05S050100U Input:AC 100-240V 50/60Hz 0.2A Output:DC 5.0V 1.0A Adapter 2: Model:CS6E050100FU Input:AC 100-240V 50/60Hz 200mA Output:DC 5.0V 1.0A
Cable:	Adapter 1: DC cable:200cm unshielded Adapter 2: DC cable:200cm unshielded
Operation Frequency:	2412MHz-2469MHz
Spectrum Spread Technology:	Frequency Hopping Spread Spectrum(FHSS)
Modulation Type:	GFSK
Sample Type:	Fixed production
Number of Channels:	20
Channel Spacing:	3MHz
Antenna Type:	Monopole
Antenna Gain:	2dBi

#### Declaration of EUT Family Grouping:

Model No.: HB50, HB43

Only the model HB50 was tested, since the electrical circuit design, layout, components used, internal wiring and functions were identical for all the above models, with only difference on LCD Panel size, product colour, model name and brand.



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## 4.2 Test Location

All tests were performed at:

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No. 1 Workshop, M-10, Middle section, Science & Technology Park, Shenzhen, Guangdong, China  
518057

Telephone: +86 (0) 755 2601 2053 Fax: +86 (0) 755 2671 0594

No tests were sub-contracted.

## 4.3 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **CNAS (No. CNAS L2929)**

CNAS has accredited SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab 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.

- **A2LA (Certificate No. 3816.01)**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation (A2LA). Certificate No. 3816.01.

- **VCCI**

The 3m Fully-anechoic chamber for above 1GHz, 10m Semi-anechoic chamber for below 1GHz, Shielded Room for Mains Port Conducted Interference Measurement and Telecommunication Port Conducted Interference Measurement of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-20026, R-14188, C-12383 and T-11153 respectively.

- **FCC –Designation Number: CN1178**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized as an accredited testing laboratory.

Designation Number: CN1178. Test Firm Registration Number: 406779.

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

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

CAB identifier: CN0006.

IC#: 4620C.

## 4.4 Deviation from Standards

None.

## 4.5 Abnormalities from Standard Conditions

None.

## 4.6 Other Information Requested by the Customer

None.



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## 5 RF Exposure Evaluation

### 5.1 RF Exposure Compliance Requirement

#### 5.1.1 Limits

According to FCC Part1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in part1.1307(b)

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm <sup>2</sup> )	Averaging time (minutes)
<b>(A) Limits for Occupational/Controlled Exposures</b>				
0.3–3.0 .....	614	1.63	*(100)	6
3.0–30 .....	1842/f	4.89/f	*(900/f <sup>2</sup> )	6
30–300 .....	61.4	0.163	1.0	6
300–1500 .....	.....	.....	f/300	6
1500–100,000 .....	.....	.....	5	6
<b>(B) Limits for General Population/Uncontrolled Exposure</b>				
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

F= Frequency in MHz

Friis Formula

Friis transmission formula:  $P_d = (P_{out} * G) / (4 * \pi * R^2)$

Where

$P_d$  = power density in mW/cm<sup>2</sup>

$P_{out}$  = output power to antenna in mW

G = gain of antenna in linear scale

$\pi$  = 3.1416

R = distance between observation point and center of the radiator in cm

$P_d$  is the limit of MPE, 1 mW/cm<sup>2</sup>. If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.

#### 5.1.2 Test Procedure

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.



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## 5.1.3 EUT RF Exposure Evaluation

### For 2412MHz-2469MHz

Antenna: 2dBi

Antenna Gain: The maximum Gain measured in fully anechoic chamber is 1.58 in linear scale.

Output Power Into Antenna & RF Exposure Evaluation Distance:

Channel	Antenna	Frequency (MHz)	Max Conducted Peak Output Power (dBm)	Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm <sup>2</sup> )	Limit	Result
Low	1	2412MHz	19	79.43	0.025	1.0	Pass

Note: Refer to report No. SZEM190901834701 for EUT test Max Conducted Peak Output Power value.

The distancer (4th column) calculated from the Fries transmission formula is far greater than 20 cm separation requirement.

-End of Report-



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