

1 Cover Page

RF Exposure Evaluation Report

Application No.: SHEM2006005271CR
FCC ID: 2AXVM-HM-TR13
IC: 26572-HMTR13
Applicant: Hangzhou Microimage Software Co., Ltd.
Address of Applicant: Room 313, Unit B, Building 2, 399 Danfeng Road, Xixing Subdistrict, Binjiang District, Hangzhou, Zhejiang
Manufacturer: Hangzhou Microimage Software Co., Ltd.
Address of Manufacturer: Room 313, Unit B, Building 2, 399 Danfeng Road, Xixing Subdistrict, Binjiang District, Hangzhou, Zhejiang
Factory: Hangzhou Microimage Intelligent Technology Co., Ltd.
Address of Factory: Floor 2, Building A1, 299 Qiushi Road, Tonglu Economic Development Zone, Tonglu County, Hangzhou City, Zhejiang Province

Equipment Under Test (EUT):
EUT Name: Thermal Image Scope
Model No.: HM-TR13-35XF/W-TH35
 HM-TR13-35XF/CW-TH35C, HM-TR13-25XF/W-TH25, HM-TR13-35XF/W-TH35UHK, HM-TR13-35XF/CW-TH35CUHK, HM-TR13-25XF/W-TH25UHK, HM-TR13-35XF/W-TH35CKV, HM-TR13-35XF/CW-TH35CCKV, HM-TR13-25XF/W-TH25CKV, HM-TR13-35XF/W-TH35UVS, HM-TR13-35XF/CW-TH35CUVS, HM-TR13-25XF/W-TH25UVS, HM-TR13-35XF/W-TH35KVO, HM-TR13-35XF/CW-TH35CKVO, HM-TR13-25XF/W-TH25KVO, HM-TR13-35XF/W-TH35HUN, HM-TR13-35XF/CW-TH35CHUN, HM-TR13-25XF/W-TH25HUN

Add Model No.:

Trade mark: HIKMICRO
 FCC Rules 47 CFR §2.1093

Standard(s): KDB447498 D01 General RF Exposure Guidance v06
 RSS-102 Issue 5 (March 2015)

Date of Receipt: 2020-06-29
Date of Test: 2020-07-10 to 2020-07-20
Date of Issue: 2020-11-23

Test Result:	Pass*
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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

SGS-CSTC Standards Technical Services Co., Ltd.
Testing Center EMC Laboratory

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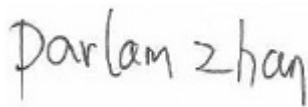
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For IC Model No: HM-TR13-35XF/W-TH35,HM-TR13-35XF/CW-TH35C,HM-TR13-25XF/W-TH25



Revision Record			
Version	Description	Date	Remark
00	Original	2020-11-23	/

Authorized for issue by:				
				
		Micheal Niu / Project Engineer		
				
		Parlam Zhan / Reviewer		



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3 General Information

3.1 General Description of E.U.T.

Power supply:	DC 3.0V by Lithium battery
Serial Number:	C25D03890
Firmware Version:	V1.29
Number of Channels:	802.11b/g/n(HT20):11 802.11n(HT40):7
Antenna Gain:	-1.0dBi
Antenna Type:	FPC Antenna
Channel Spacing:	5MHz
Modulation Type:	802.11b: DSSS (CCK, DQPSK, DBPSK) 802.11g/n: OFDM (64QAM, 16QAM, QPSK, BPSK)
Operation Frequency:	802.11b/g/n(HT20): 2412MHz to 2462MHz 802.11n(HT40): 2422MHz to 2452MHz



3.2 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

3.3 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)**

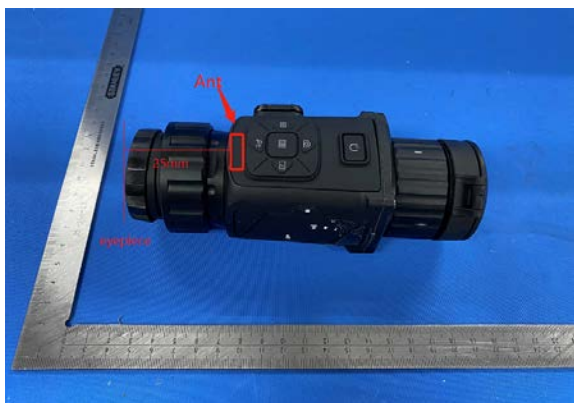
SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. EMC Laboratory has been recognized by Innovation, Science and Economic Development Canada (ISED) as an accredited testing laboratory

- **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 DUT Antenna Locations



Note 1) The distance between WIFI antenna and eyepiece of the EUT is 25mm.

2) Only eyepiece side contact with human head.

4.2 FCC Radiofrequency radiation exposure limits:

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

$[(\text{max power of channel})/(\text{min test separation distance})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0$ for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where

- $f(\text{GHz})$ is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm
- The result is rounded to one decimal place for comparison
- 3.0 and 7.5 are referred to as the numeric thresholds

The test exclusions are applicable only when the minimum test separation distance is ≤ 50 mm, and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is < 5 mm, a distance of 5 mm according to 4.1 f) is applied to determine SAR test exclusion.

The practical use condition for this device is as a limb-worn and head accessories. So the applicable limit are both 10-g and 1-g SAR.

For 2.4G band limb-worn device, the limit of worse case is $P_{\text{max}} \leq (7.5 \cdot D_{\text{min}}) / \sqrt{f} = 7.5 \cdot 5 / \sqrt{2.462} = 23.9 \text{ mW}$

For 2.4G band head device, the limit of worse case is $P_{\text{max}} \leq (3 \cdot D_{\text{min}}) / \sqrt{f} = 3 \cdot 25 / \sqrt{2.462} = 47.8 \text{ mW}$

4.3 IC Radiofrequency radiation exposure limits

According to RSS-102 section 2.5.1, SAR evaluation is required if the separation distance between the user and/or bystander and the antenna and/or radiating element of the device is less than or equal to 20 cm, except when the device operates at or below the applicable output power level (adjusted for tune-up tolerance) for the specified separation distance

MHz	5	10	15	20	25	30	35	40	45	50	mm
≤300	71	101	132	162	193	223	254	284	315	345	mW
450	52	70	88	106	123	141	159	177	195	213	
835	17	30	42	55	67	80	92	105	117	130	
1900	7	10	18	34	60	99	153	225	316	431	
2450	4	7	15	30	52	83	123	173	235	309	
3500	2	6	16	32	55	86	124	170	225	290	
5800	1	6	15	27	41	56	71	85	97	106	

Output power level shall be the higher of the maximum conducted or equivalent isotropically radiated power (e.i.r.p.) source-based, time-averaged output power. For controlled use devices where the 8 W/kg for 1 gram of tissue applies, the exemption limits for routine evaluation are multiplied by a factor of 5. For limb-worn devices where the 10 gram value applies, the exemption limits for routine evaluation in Table 1 are multiplied by a factor of 2.5. If the operating frequency of the device is between two frequencies located in Table 1, linear interpolation shall be applied for the applicable separation distance. For test separation distance less than 5 mm, the exemption limits for a separation distance of 5 mm can be applied to determine if a routine evaluation is required.

The practical use condition for this device is as a limb-worn and head accessories. So the applicable limit are both 10-g and 1-g SAR.

For 2.4G band limb-worn device, the limit is $P_{\max} \leq 2.5 \times 4 = 10\text{mW}$

For 2.4G band head device when distance is 25mm, the limit is $P_{\max} \leq 52\text{mW}$

5 Measurement and Calculation

5.1 Maximum transmit power

The Power Data is based on the RF Test Report SHEM200600527101

Test Mode	Test Channel	Ant	Power [dBm]	Power [mW]
11B	2412	Ant1	7.16	5.20
11B	2437	Ant1	8.32	6.79
11B	2462	Ant1	8.61	7.26
11G	2412	Ant1	6.62	4.59
11G	2437	Ant1	7.80	6.03
11G	2462	Ant1	8.01	6.32
11N20SISO	2412	Ant1	6.54	4.51
11N20SISO	2437	Ant1	7.68	5.86
11N20SISO	2462	Ant1	7.95	6.24
11N40SISO	2422	Ant1	6.79	4.78
11N40SISO	2437	Ant1	7.33	5.41
11N40SISO	2452	Ant1	7.59	5.74

5.2 MPE Calculation

The Max Conducted Peak Output Power is 7.26mW

For limb-worn

Max Output Power = 7.26mW < 10mW < 23.9mW

For head

Max Output Power = 7.26mW < 47.8mW < 52mW

So the SAR report is not required.

--End of the Report--