

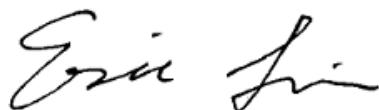
## 1 Cover Page

# RF Exposure REPORT

**Application No.:** KSCR2109000091AT  
**FCC ID:** 2AXVM-HM-TP5XXXX  
**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 Qushi Road, Tonglu Economic Development Zone, Tonglu County, Hangzhou City, Zhejiang Province  
**Equipment Under Test (EUT):**  
**EUT Name:** Handheld Thermography Camera  
**Model No.:** HM-TP52-3AQF/W-B20  
**Add Model No.:** Refer to page 2  
**Trade mark:** HIKMICRO  
**Standard(s) :** FCC Rules 47 CFR §2.1093  
**KDB447498 D01 General RF Exposure Guidance v06**  
**Date of Receipt:** 2021-09-24  
**Date of Test:** 2021-10-16 to 2021-10-17  
**Date of Issue:** 2021-10-27

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



Eric Lin

Laboratory 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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Add Model No:

HM-TP51-3AQF/W-B10, HM-TP50-3AQF/W-B00, HM-TP53-3AQF/W-B30, HM-TP50-3AS2F/W-B01, HM-TP51-3AS2F/W-B11, HM-TP52-3AS2F/W-B21, HM-TP53-3AS2F/W-B31, HM-TP50-3AS2F/W-B00, HM-TP51-3AS2F/W-B10, HM-TP52-3AS2F/W-B20, HM-TP53-3AS2F/W-B30, HM-TP50-5AQF/W-B00, HM-TP51-5AQF/W-B10, HM-TP52-5AQF/W-B20, HM-TP53-5AQF/W-B30, HM-TP50-5AS2F/W-B01, HM-TP51-5AS2F/W-B11, HM-TP52-5AS2F/W-B21, HM-TP53-5AS2F/W-B31, HM-TP50-5AS2F/W-B00, HM-TP51-5AS2F/W-B10, HM-TP52-5AS2F/W-B20, HM-TP53-5AS2F/W-B30, HM-TP50-2AQF/W-B00, HM-TP51-2AQF/W-B10, HM-TP52-2AQF/W-B20, HM-TP53-2AQF/W-B30, HM-TP50-2AS2F/W-B01, HM-TP51-2AS2F/W-B11, HM-TP52-2AS2F/W-B21, HM-TP53-2AS2F/W-B31, HM-TP50-2AS2F/W-B00, HM-TP51-2AS2F/W-B10, HM-TP52-2AS2F/W-B20, HM-TP53-2AS2F/W-B30



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Revision Record			
Version	Description	Date	Remark
00	Original	2021-10-27	/

Authorized for issue by:			
		Damon Zhou	
		Damon Zhou / Project Engineer	
		Eric Lin	
		Eric Lin / Reviewer	

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### 3 General Information

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

Power supply:	DC 5V,1.7A 1.8W CONTINUOUS/10W MAX Battery model:E097-27-1P1S18650 Rated Voltage:3.6V Charging Voltage:4.2V Capacity:3.35Ah Energy:12.06Wh
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#### 3.2 Details of E.U.T.

Antenna Gain:	2.84dBi (Provided by the manufacturer)
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

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### 3.3 Test Location

All tests were performed at:

Compliance Certification Services (Kunshan) Inc.

No.10 Weiyi Rd, Innovation park, Eco&Tec, Development Zone, Kunshan City, Jiangsu, China.

Tel: +86 512 5735 5888 Fax: +86 512 5737 0818

No tests were sub-contracted

### 3.4 Test Facility

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

- **CNAS (No. CNAS L4354)**

CNAS has accredited Compliance Certification Services (Kunshan) Inc. 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.

- **A2LA (Certificate No. 2541.01)**

Compliance Certification Services (Kunshan) Inc. is accredited by the American Association for Laboratory Accreditation (A2LA). Certificate No. 2541.01.

- **FCC (Designation Number: CN1172)**

Compliance Certification Services Inc. has been recognized as an accredited testing laboratory. Designation Number: CN1172.

- **ISED (CAB identifier: CN0072)**

Compliance Certification Services (Kunshan) Inc. has been recognized by Innovation, Science and Economic Development Canada (ISED) as an accredited testing laboratory.

CAB Identifier: CN0072.

- **VCCI (Member No.: 1938)**

The 3m and 10m Semi-anechoic chamber and Shielded Room of Compliance Certification Services (Kunshan) Inc. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-1600, C-1707, T-1499, G-10216 respectively.



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## 4 Test Standards and Limits

### 4.1 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  $\leq$  50 mm are determined by:

$[(\text{max power of channel})/(\text{min test separation distance})] * [\sqrt{f(\text{GHz})}] \leq 3.0$  for 1-g SAR and  $\leq 7.5$  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  $\leq$  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.

For 2.4G band device, the limit of worse case is

$$P_{\text{max}} \leq 7.5 * D_{\text{min}} / \sqrt{f} = 7.5 * 5 / \sqrt{2.480} = 23.81 \text{ mW}$$



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## 5 Measurement and Calculation

### 5.1 Maximum transmit power

The Power Data is based on the RF Test Report KSCR210900009101.

#### Test Data:

Test Mode	Channel	Antenna 1 Power[dBm]	Antenna 1 Power[mW]
11B SISO	2412	9.02	7.98
11B SISO	2437	9.51	8.93
11B SISO	2462	9.76	9.46
11G SISO	2412	9.49	8.89
11G SISO	2437	9.94	<b>9.86</b>
11G SISO	2462	9.64	9.20
11N20 SISO	2412	9.03	8.00
11N20 SISO	2437	9.50	8.91
11N20 SISO	2462	9.73	9.40
11N40 SISO	2422	9.44	8.79
11N40 SISO	2437	9.65	9.23
11N40 SISO	2452	9.81	9.57

### 5.2 RF Exposure Calculation

The Max Conducted Peak Output Power is 9.86mW. The best case gain of the antenna is 2.84dBi.

2.84dBi logarithmic terms convert to numeric result is nearly 1.92

According to the formula. calculate the EIRP test result:

$$\text{EIRP} = P \times G = 9.86\text{mW} \times 1.92 = 18.93\text{mW} < 23.81\text{mW}$$

So the SAR report is not required.

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



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