

1 Cover Page

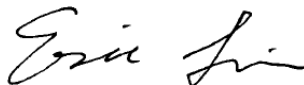
RF Exposure Evaluation Report

Application No.: KSCR2208001541AT
FCC ID: 2AXVM-AD21
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: Acoustic Leak Detector
HM-AP21-W-AD21,
AD11,AD21,AD31,AD41,AD51,AD61,AD12,AD22,AD32,
AD42,AD52,AD62,AD13,AD23,AD33,AD43,AD53,AD63,AD14,AD24,AD34,
Model No.: AD44,AD54,AD64,AD15,AD25,AD35,AD45,AD55,AD65,AD16,AD26,AD36,
AD46,AD56,AD66,AD17,AD27,AD37,AD47,AD57,AD67,AD18,AD28,AD38,
AD48,AD58,AD68,AD19,AD29,AD39,AD49,AD59,AD69,AD1C,AD2C,AD3
C,AD4C,AD5C,AD6C
Trade mark: HIKMICRO
Standard(s) : FCC Rules 47 CFR §2.1093
KDB447498 D01 General RF Exposure Guidance v06
Date of Receipt: 2022-08-29
Date of Test: 2022-09-01 to 2022-09-04
Date of Issue: 2022-09-04

Test Result:	Pass*
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* In the configuration tested, the EUT complied with the standards specified above.



Eric Lin
EMC Laboratory Manager



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Revision Record			
Version	Description	Date	Remark
00	Original	2022-09-04	/

Authorized for issue by:			
		<i>Tommie Tang</i>	
		<hr/>	
		Tommie Tang /Project Engineer	
		<i>Eric Lin</i>	
		<hr/>	
		Eric Lin /Reviewer	



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3 General Information

3.1 General Description of E.U.T.

Power supply:	DC 3.85V by battery
Product Type:	<input checked="" type="checkbox"/> Portable device
	<input type="checkbox"/> Mobile device
	<input type="checkbox"/> Fixed device

3.2 Details of E.U.T.

Operation Frequency:	802.11b/g/n(HT20): 2412MHz to 2462MHz 802.11n(HT40): 2422MHz to 2452MHz
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
Channel Spacing:	5MHz
Antenna Type:	PCB Antenna
Antenna Gain:	2.6dBi (Provided by the manufacturer)



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3.3 Test Location

All tests were performed at:

Compliance Certification Services (Kunshan) Inc.

No.10 Weiye 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.

Note:

- 1.SGS is not responsible for wrong test results due to incorrect information (e.g., max. internal working frequency, antenna gain, cable loss, etc) is provided by the applicant. (If applicable).
- 2.SGS is not responsible for the authenticity, integrity and the validity of the conclusion based on results of the data provided by applicant. (If applicable).

3.4 Test Facility

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

- **CNAS**

Compliance Certification Services (Kunshan) Inc. is accredited by the China National Accreditation Service for Conformity Assessment (CNAS). Registration No. CNAS L4354

- **A2LA**

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

- **FCC**

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

- **ISED**

Compliance Certification Services (Kunshan) Inc. has been recognized by Innovation, Science and Economic Development Canada (ISED) as an accredited testing laboratory. Company Number: 2324E

- **VCCI**

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-20134, R-11600, C-11707, T-11499, G-10216 respectively.



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4 Test Standards and Limits

4.1 FCC Radiofrequency radiation exposure limits:

a) 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:

$[(\text{max power of channel})/(\text{min test separation distance})] \cdot \sqrt{f(\text{GHz})} \leq 3.0$ 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

$$P_{\text{max}} \leq 3 \cdot D_{\text{min}} / \sqrt{f} = 3 \cdot 5 / \sqrt{2.462} = 9.56 \text{ mW}$$



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5 Measurement and Calculation

5.1 Maximum transmit power

The Power Data is based on the RF Test Report KSCR220800154101

Test Mode	Test Channel	Ant	Power [dBm]	Power [mW]
11B	2412	Ant1	4.58	2.87
11B	2437	Ant1	4.94	3.12
11B	2462	Ant1	4.99	3.16
11G	2412	Ant1	6.07	4.05
11G	2437	Ant1	6.37	4.34
11G	2462	Ant1	6.36	4.33
11N20SISO	2412	Ant1	5.93	3.92
11N20SISO	2437	Ant1	6.30	4.27
11N20SISO	2462	Ant1	6.27	4.24
11N40SISO	2422	Ant1	5.77	3.78
11N40SISO	2437	Ant1	5.93	3.92
11N40SISO	2452	Ant1	5.94	3.93

5.2 RF Exposure Calculation

The Max Conducted Peak Output Power is 4.34mW. The best case gain of the antenna is 2.6dBi. 2.6dBi logarithmic terms convert to numeric result is nearly 1.82.

According to the formula. calculate the EIRP test result:

$$EIRP = P \times G = 4.34mW \times 1.82 = 7.9mW < 9.56mW$$

So, the device is to qualify for SAR test exemption, the exemption report is in lieu of the SAR report.

--End of the Report--



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