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Report No.: SZEM170100059802
Page: 1 of 6

SAR Evaluation Report

Application No.:	SZEM1701000598CR
Applicant:	iLuun Inc
Manufacturer:	Shenzhen Damai Technology Co., Ltd.
Factory:	Global Brands Manufacture Ltd
Product Name:	iLuun Air
Model No.:	IA1209
Trade Mark:	iLuun
FCC ID:	2AK46-A4
Standards:	47 CFR Part 1.1307 (2016) 47 CFR Part 2.1093 (2016) KDB447498D01 General RF Exposure Guidance v06
Date of Receipt:	2017-01-22(for original report SZEM SZEM170100059702)
Date of Test:	2017-02-16 to 2017-03-06(for original report SZEM SZEM170100059702)
Date of Issue:	2017-03-14(for original report SZEM SZEM170100059702) 2017-03-24(for new report SZEM SZEM170100059802)

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

Authorized Signature:



Jack Zhang
EMC 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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2 Version

Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2017-03-24		Original

Authorized for issue by:			
Tested By	 Bill Chen /Project Engineer	2017-03-06	
Checked By	 Eric Fu /Reviewer	2017-03-24	



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4 General Information

4.1 Client Information

Applicant:	iLuun Inc
Address of Applicant:	5005 Hillen Road, Baltimore, MD 21239 USA
Manufacturer:	Shenzhen Damai Technology Co., Ltd.
Address of Manufacturer:	5/F. 1 Building, Financial Base, No.8 kefa Road, High-Tech Park, Shenzhen, China
Factory:	Global Brands Manufacture Ltd
Address of Factory:	Hunagjiang town, Dongguan City, Guangdong province

4.2 General Description of EUT

Product Name:	Wireless Flash Drive - A4
Model No.:	A4
Trade Mark:	AirDisk
Operation Frequency:	IEEE 802.11b/g/n(HT20): 2412MHz to 2462MHz
Channel Numbers:	IEEE 802.11b/g, IEEE 802.11n HT20: 11 Channels
Channel Separation:	5MHz
Type of Modulation:	IEEE for 802.11b: DSSS(CCK,DQPSK,DBPSK) IEEE for 802.11g : OFDM(64QAM, 16QAM, QPSK, BPSK) IEEE for 802.11n(HT20) : OFDM (64QAM, 16QAM,QPSK,BPSK)
Sample Type:	Portable production
Antenna Type:	Chip
Antenna Gain:	1dBi
Power Supply	Test voltage:120V 60Hz DC input:DC 5V Rechargeable battery: 3.7V 400mAh 1.48Wh(Charge by USB)

Remark:

Original model No. in report SZEM170100059702: A4

Only the model A4 was tested in report SZEM170100059702.

New model No. in report SZEM170100059802: IA1209

This report was an additional report copied from the report SZEM170100059702, just changed the information of applicant, product name, model No. and trade mark, added the new pictures. Since the electrical circuit design, layout, components used and internal wiring for the model in the report SZEM170100059702 was exactly the same as the model in this report, only the different on model name.

Therefore original data were kept in this report SZEM170100059802.



4.3 Test Location

All tests were performed at:

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

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.

4.4 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 10m Semi-anechoic chamber and Shielded Room of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-823, R-4188, T-1153 and C-2383 respectively.

- FCC – Registration No.: 556682**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration No.: 556682.

- Industry Canada (IC)**

Two 3m Semi-anechoic chambers and the 10m Semi-anechoic chamber of SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab have been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 4620C-1, 4620C-2, 4620C-3.

4.5 Deviation from Standards

None.

4.6 Abnormalities from Standard Conditions

None.

4.7 Other Information Requested by the Customer

None.

5 SAR Evaluation

5.1 RF Exposure Compliance Requirement

5.1.1 Standard Requirement

According to KDB447498D01 General RF Exposure Guidance v06

4.3.1. Standalone SAR test exclusion considerations

Unless specifically required by the published RF exposure KDB procedures, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding SAR Exclusion Threshold condition, listed below, is satisfied.

5.1.2 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:

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

$f(\text{GHz})$ is the RF channel transmit frequency in GHz

Power and distance are rounded to the nearest mW and mm before calculation¹⁷

The result is rounded to one decimal place for comparison

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 is applied to determine SAR test exclusion

5.1.3 EUT RF Exposure

The Max Conducted Peak Output Power is 9.78dBm in lowest channel(2.412GHz);

9.78dBm logarithmic terms convert to numeric result is nearly 9.51mW.

According to the formula. calculate the test exclusion thresholds:

$$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}]$$

$$\text{General RF Exposure} = (9.51\text{mW} / 5 \text{ mm}) \times \sqrt{2.412\text{GHz}} = 2.95 \text{ ①}$$

SAR requirement:

$$S = 3.0 \text{ ② ;}$$

$$\text{①} < \text{②}.$$

So the SAR report is not required.