

1 Cover Page

RF Exposure REPORT

Application No.: SHEM2003001714CR
FCC ID: 2AFF6-2G44IUAMD
Applicant: Adam Hall GmbH
Address of Applicant: Adam-Hall-Str. 1, 61267 Neu-Anspach, Germany
Manufacturer: Adam Hall GmbH
Address of Manufacturer: Adam-Hall-Str. 1, 61267 Neu-Anspach, Germany
Factory: Speaker Electronic (Jiashan) Co., Ltd.
Address of Factory: No. 8 Development Zone Road, Huimin Sub-district, JiaShan County, Zhejiang, 314112, P.R. China

Equipment Under Test (EUT):
EUT Name: Active PA Box
Model No.: LDMAUI44G2
Trade mark: LD
Standard(s) : FCC Rules 47 CFR §2.1091
 KDB447498 D01 General RF Exposure Guidance v06

Date of Receipt: 2020-03-17
Date of Test: 2020-03-23 to 2020-05-18
Date of Issue: 2020-05-19

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

Parlan Zhan

Parlan 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 (Shanghai) Co., Ltd.
Testing Center EMC Laboratory

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Revision Record			
Version	Description	Date	Remark
00	Original	2020-05-19	/

Authorized for issue by:			
		Bill Wu	
		Bill Wu / Project Engineer	
		Parlam Zhan	
		Parlam Zhan / Reviewer	



2 Contents

	Page
1 COVER PAGE	1
2 CONTENTS	3
3 GENERAL INFORMATION	4
3.1 GENERAL DESCRIPTION OF E.U.T.	4
3.2 DETAILS OF E.U.T.	4
3.3 TEST LOCATION	5
3.4 TEST FACILITY	5
4 TEST STANDARDS AND LIMITS	6
4.1 FCC RADIOFREQUENCY RADIATION EXPOSURE LIMITS:	6
5 MEASUREMENT AND CALCULATION	7
5.1 MAXIMUM TRANSMIT POWER	7
5.2 MPE CALCULATION	8



3 General Information

3.1 General Description of E.U.T.

Power supply:	AC100-120V/200-240V 50-60Hz
Serial Number:	AH0090015046
Firmware Version:	MAUI44G2
Test voltage:	AC 120V/60Hz
Cable:	AC Cable 1.7m

3.2 Details of E.U.T.

Operation Frequency:	2402MHz to 2480MHz
Spectrum Spread Technology:	Frequency Hopping Spread Spectrum(FHSS)
Antenna Gain:	2dBi
Antenna Type:	Dipole Antenna
Bluetooth Version:	V4.2 Classic
Channel Spacing:	1MHz
Modulation Type:	GFSK, π /4DQPSK, 8DPSK
Number of Channels:	79



3.3 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

No tests were sub-contracted.

3.4 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 FCC Radiofrequency radiation exposure limits:

According to §1.1310, the limit for general population/uncontrolled exposures

Frequency	Power density(mW/cm ²)	Averaging time(minutes)
300MHz~1.5GHz	f/1500	30
1.5GHz~100GHz	1.0	30



5 Measurement and Calculation

5.1 Maximum transmit power

The BT Power Data is based on the RF Test Report SHEM200300171401.

Test Data:

For BT Classic mode

Test mode	Channel	Peak Power (dBm)	Peak Power (mW)
GFSK	2402	6.99	5.00
	2441	8.23	6.65
	2480	7.9	6.17
$\pi/4$ DQPSK	2402	6.09	4.06
	2441	7.45	5.56
	2480	7.16	5.20
8DPSK	2402	6.32	4.29
	2441	7.69	5.87
	2480	7.32	5.40

5.2 MPE Calculation

For FCC:

According to the formula $S=P/4\pi R^2$, we can calculate S which is MPE.

Note:

- 1) P (mW)
- 2) R = distance to the center of radiation of antenna (in meter) = 20cm
- 3) MPE limit = 1mW/cm²

The max. antenna gain is		2	dBi		
Max. Conducted Power P(mW)	Gain in Linear Scale G	Operation Distance R(cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)	Result
6.65	1.585	20	0.00210	1	Pass

So the device is exclusion from SAR test.

--End of the Report--