



RF EXPOSURE REPORT

Applicant	:	JL Audio, Inc.
Address of Applicant	:	10369 North Commerce Parkway, Miramar, FL 33025-3962
Manufacturer	:	JL Audio, Inc.
Address of Manufacturer	:	10369 North Commerce Parkway, Miramar, FL 33025-3962
Equipment under Test	:	MediaMaster Source Unit Hidden Receiver
Model No.	:	MM55-HR, O-MM55-HR
FCC ID	:	2AD9E-MM55HR
Test Standard(s)	:	KDB447498 D01 General RF Exposure Guidance v06
Report No.	:	DDT-RE24022128-1E03
Issue Date	:	2024/04/15
Issue By	:	Guangdong Dongdian Testing Service Co., Ltd. Unit 2, Building 1, No. 17, Zongbu 2nd Road, Songshan Lake Park, Dongguan, Guangdong, China, 523808

REPORT

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Test Report Declare

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Model No.	:	MM55-HR, O-MM55-HR
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Test Standard Used:

KDB447498 D01 General RF Exposure Guidance v06

We Declare:

The equipment described above is tested by Guangdong Dongdian Testing Service Co., Ltd. and in the configuration tested the equipment complied with the standards specified above. The test results are contained in this test report and Guangdong Dongdian Testing Service Co., Ltd. is assumed of full responsibility for the accuracy and completeness of these tests.

After evaluation, our opinion is that the equipment In Accordance with above standard.

Report No.:	DDT-RE24022128-1E03		
Date of Receipt:	2024/03/12	Date of Test:	2024/03/12~2024/04/11

Prepared By:

Approved By:

Jacky Huang

Jacky Huang/Engineer

Damon Hu

Damon Hu/EMC Manager

Note: This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Guangdong Dongdian Testing Service Co., Ltd.

Revision History

Rev.	Revisions	Issue Date	Revised By
---	Initial issue	2024/04/15	

1. General Test Information

1.1. Description of EUT

EUT Name	: MediaMaster Source Unit Hidden Receiver
Model Number	: MM55-HR, O-MM55-HR
Difference of model number	: The product circuit design, layout, components used and internal wiring are the same, only the model name, packing box and accessories are different. We chose the model " MM55-HR " as a representative model for compliance testing.
EUT Function Description	: Please reference user manual of this device
Power Supply	: DC 14.4V
Radio Specification	: Bluetooth BR/EDR/LE
Operation Frequency	: 2402 MHz-2480 MHz
Modulation	: GFSK, $\pi/4$ -DQPSK, 8DPSK
Antenna	: FPC antenna, max peak gain: 4.69 dBi

Note: The above EUT information is declared by manufacturer and for more detailed features description please refer to the manufacturer's specifications or User's Manual. The above Antenna information is declared by manufacturer and for more detailed features description please refer to the manufacturer's specifications, the laboratory shall not be held responsible.

1.2. Accessories of EUT

Accessories	Manufacturer	Model number	Description
DC Cable	N/A	N/A	Length: 18cm
Load line	N/A	N/A	Length: 60cm

1.3. Test laboratory

Guangdong Dongdian Testing Service Co., Ltd.

Add.: Unit 2, Building 1, No. 17, Zongbu 2nd Road, Songshan Lake Park, Dongguan, Guangdong, China, 523808.

Tel.: +86-0769-38826678, <http://www.dgddt.com>, Email: ddt@dgddt.com.

CNAS Accreditation No. L6451; A2LA Accreditation Number: 3870.01

FCC Designation Number: CN1182, Test Firm Registration Number: 540522

Innovation, Science and Economic Development Canada Site Registration Number: 10288A

Conformity Assessment Body identifier: CN0048

VCCI facility registration number: C-20087, T-20088, R-20123, R-20155, G-20118

2. RF EXPOSURE EVALUATION

2.1. Requirement

Systems operating under the provisions of FCC 47 CFR section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as mobile device whereby a distance of 0.2 m normally can be maintained between the user and the device, and below RF Permissible Exposure limit shall comply with.

Limits for General Population/Uncontrolled Exposure

(B) Limits for General Population / Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-100,000			1.0	30

Note: f = frequency in MHz ; *Plane-wave equivalent power density

2.2. Calculation method

$$E(\text{V/m}) = \frac{\sqrt{30 \times P \times G}}{d} \quad \text{Power Density: } S(\text{mW/cm}^2) = \frac{E^2}{377}$$

E = Electric field (V/m)

P = Peak RF output power (mW)

G = EUT Antenna numeric gain (numeric)=

d = Separation distance between radiator and human body (m)

The formula can be changed to

We can change the formula to:

$$S = \frac{30 \times P \times G}{377 \times d^2} \quad \text{or, } d = \sqrt{\frac{30 \times P \times G}{377 \times S}}$$

From the peak EUT RF output power, the minimum mobile separation distance, d=0.2 m, as well as the gain of the used antenna, the RF power density can be obtained.

2.3. Estimation result

Mode	Output power (dBm)	tune up power (dBm)	tune up power (mW)	Antenna Gain (dBi)	Antenna Gain (linear)	MPE Values (mW/cm ²)	MPE Limit (mW/cm ²)
BR/EDR	5.27	6.5	4.5	4.69	2.94	0.003	1
BLE	4.79	6.0	4.0	4.69	2.94	0.002	1

Note: The estimation distance is 20 cm

Conclusion: MPE evaluation required since transmitter power is below FCC threshold

3. Photos of the EUT

Please refer to DDT-Q24022128-2E appendix I

-----End Report-----