

RF Exposure Evaluation Report

Report No.: JYTSZ-R12-2401366

Applicant: LG Electronics USA, Inc.

Address of Applicant: 111 Sylvan Avenue North Building, Englewood Cliffs, New Jersey, United States 07632

Equipment Under Test (EUT)

Product Name: PORTABLE BLUETOOTH SPEAKER

Model No.: GRAB, Grab, grab, GRABC

Trade mark: 

FCC ID: BEJ-GRAB

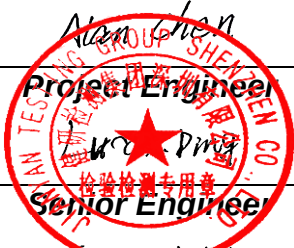
Applicable standards: FCC CFR Title 47 Part 2 (§2.1093)

Date of sample receipt: 14 Nov., 2024

Date of Test: 15 Nov., to 27 Nov., 2024

Date of report issue: 24 Feb., 2025

Test Result: PASS

Project by:		Date:	24 Feb., 2025
Reviewed by:		Date:	24 Feb., 2025
Approved by:	James Wei Manager	Date:	24 Feb., 2025

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in above the application standard version. Test results reported herein relate only to the item(s) tested.

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1 Version

Version No.	Date	Description
00	24 Feb., 2025	Original

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3 General Information

3.1 Client Information

Applicant:	LG?Electronics?USA,?Inc.
Address:	111 Sylvan Avenue North Building, Englewood Cliffs, New Jersey, United States 07632
Manufacturer:	LG Electronics Inc.
Address:	222, LG-ro, Jinwi-myeon, Pyeongtaek-si, Gyeonggi-do 17709 Republic OF KOREA
Factory 1:	Shenzhen 3nod Digital Technology Co., Ltd
Address 1:	401, ZONE 101A, WORKSHOP 15, ZHONGFU ROAD, TANGXIAYONG COMMUNITY, YANLUO STREET, BAOAN DISTRICT, SHENZHEN CITY, GUANGDONG PROVINCE, P.R.C.
Factory 2:	Jiangxi Cosonic Electroacoustic Technologies Co., Ltd
Address 2:	Shangli Industrial Park, Jinshan Town, Shangli County, Pingxiang, 337000, Jiangxi, P.R.China
Factory 3:	THREE LINK TECHNOLOGY CO., LTD
Address 3:	Lot CN09-1, Yen Phong Industrial Zone (Expand zone), Yen Trung commune, Yen Phong District, Bac Ninh province, Viet Nam.
Factory 4:	Cosonic Intelligent Technologies Co., Ltd.
Address 4:	NO.3 Keyuan Road, Songshan Lake District, Dongguan City.523808, Guangdong, P.R.China
Factory 5:	Cosonic Electroacoustic Technology Co., Ltd
Address 5:	No.151, Shipai Section, Dongguan avenue, Shipai Town, Dongguan, 523343, Guangdong P.R.China
Factory 6:	COSONIC VIETNAM COMPANY LIMITED
Address 6:	Lot C5-1, Ba Thien II industrial Park, Thien Ke Ward, Binh Xuyen District. Vinh Phuc Province, 03714, Vietnam

3.2 General Description of E.U.T.

Product Name:	PORTABLE BLUETOOTH SPEAKER
Model No.:	GRAB, Grab, grab, GRABC
Operation Frequency:	Bluetooth/ BLE: 2402MHz~2480MHz
Modulation technology:	Bluetooth BDR /BLE: GFSK, Bluetooth EDR: π /4-DQPSK, 8DPSK
Antenna Type:	PCB Antenna
Antenna gain:	BT/ BLE: 1.73 dBi (declare by Applicant)
Remark:	Model No.: GRAB, Grab, grab, GRABC were electrical circuit design, PCB layout, components, internal wiring, the shapes all are same, and the writing of models is different.
Test Sample Condition:	The test samples were provided in good working order with no visible defects.

3.3 Operating Modes

Operating mode	Detail description
BLE mode	Keep the EUT in continuously transmitting in BLE mode
BT mode	Keep the EUT in continuously transmitting in BT mode

3.4 Additions to, deviations, or exclusions from the method

No

3.5 Laboratory Facility

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

● **FCC - Designation No.: CN1211**

JianYan Testing Group Shenzhen Co., Ltd. has been accredited as a testing laboratory by FCC(Federal Communications Commission). The test firm Registration No. is 727551.

● **ISED – CAB identifier.: CN0021**

The 3m Semi-anechoic chamber and 10m Semi-anechoic chamber of JianYan Testing Group Shenzhen Co., Ltd. has been Registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 10106A-1.

● **CNAS - Registration No.: CNAS L15527**

JianYan Testing Group Shenzhen Co., Ltd. is accredited to ISO/IEC 17025:2017 General Requirements for the Competence of Testing and Calibration laboratories for the competence of testing. The Registration No. is CNAS L15527.

● **A2LA - Registration No.: 4346.01**

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories. The test scope can be found as below link: <https://portal.a2la.org/scopepdf/4346-01.pdf>

3.6 Laboratory Location

JianYan Testing Group Shenzhen Co., Ltd.

Address: No.101, Building 8, Innovation Wisdom Port, No.155 Hongtian Road, Huangpu Community, Xinqiao Street, Bao'an District, Shenzhen, Guangdong, People's Republic of China.

Tel: +86-755-23118282, Fax: +86-755-23116366

Email: info-JYTee@lets.com, Website: <http://jyt.lets.com>

4 Technical Requirements Specification

4.1 Limits

For single RF sources (i.e., any single fixed RF source, mobile device, or portable device, as defined in paragraph (b)(2) of this section): A single RF source is exempt if:

(B) Or the available maximum time-averaged power or effective radiated power (ERP), whichever is greater, is less than or equal to the threshold P_{th} (mW) described in the following formula. This method shall only be used at separation distances (cm) from 0.5 centimeters to 40 centimeters and at frequencies from 0.3 GHz to 6 GHz (inclusive). P_{th} is given by:

$$P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}} (d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases}$$

Where

$$x = -\log_{10} \left(\frac{60}{ERP_{20 \text{ cm}} \sqrt{f}} \right) \text{ and } f \text{ is in GHz;}$$

and

$$ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases}$$

d = the separation distance (cm);

For limb-worn devices where the 10 gram value applies, the exemption limits for routine evaluation are multiplied by a factor of 2.5.

4.2 Result

Mode	Max. tune-up power (dBm)	Gain (dBi)	E.I.R.P (dBm)	Distance (cm)	Max. Power (mW)	Limits of Body SAR test exemption (mW)	Ratio
BT							
BT	3.0	1.73	4.73	1.00	2.97	10.39	0.29
BLE							
BLE	6.0	1.73	7.73	1.00	5.93	10.39	0.57

Mode	Max. tune-up power (dBm)	Gain (dBi)	E.I.R.P (dBm)	Distance (cm)	Max. Power (mW)	Limits of Limb SAR test exemption (mW)	Ratio
BT							
BT	3.0	1.73	4.73	0.5	2.97	6.97	0.43
BLE							
BLE	6.0	1.73	7.73	0.5	5.93	6.97	0.85

Note: Just the worst case mode was shown in report.

4.3 Conclusion

The device is exempt from the SAR test and satisfies RF exposure evaluation.

-----End of report-----