

# TEST REPORT

FCC MPE Test for LGSBWAC95  
Certification

**APPLICANT**  
LG Electronics Inc.

**REPORT NO.**  
HCT-RF-2407-FC004

**DATE OF ISSUE**  
July 5, 2024

**Tested by**  
Kyung Jun Woo



**Technical Manager**  
Jong Seok Lee



Accredited by KOLAS, Republic of KOREA

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## TEST REPORT

**REPORT NO.**  
HCT-RF-2407-FC004

**DATE OF ISSUE**  
July 05, 2024

**Applicant**      **LG Electronics Inc.**  
222, LG-ro, Jinwi-myeon, Pyeongtaek-si, Gyeonggi-do 17709, Republic of Korea

**Product Name**      RF Module  
**Model Name**      LGSBWAC95

**FCC ID**      BEJLGSBWAC95

**Date of Test**      April 25, 2024 ~ July 05, 2024

**Frequency range**      2 402 MHz ~ 2 480 MHz (Bluetooth)  
2 412 MHz ~ 2 462 MHz (WLAN)  
5 180 MHz ~ 5 825 MHz (UNII)

**Test Results**      PASS

**Location of Test**       Permanent Testing Lab     On Site Testing  
(Address: 74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, Republic of Korea)

**Test Standard Used**      § 1.1310, § 2.1091

## REVISION HISTORY

The revision history for this test report is shown in table.

Revision No.	Date of Issue	Description
0	July 05, 2024	Initial Release

## Notice

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### Content

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Engineering Statement:

The measurements shown in this report were made in accordance with the procedures indicated, and the emissions from this equipment were found to be within the limits applicable. I assume full responsibility for the accuracy and completeness of these measurements, and for the qualifications of all persons taking them. It is further stated that upon the basis of the measurements made, the equipment tested is capable of operation in accordance with the requirements of the FCC Rules under normal use and maintenance.

The laboratory is not accredited for the test results marked \*.

Information provided by the applicant is marked \*\*.

Test results provided by external providers are marked \*\*\*.

The results shown in this test report only apply to the sample(s), as received, provided by the applicant, unless otherwise stated.

The test results have only been applied with the test methods required by the standard(s).

When confirmation of authenticity of this test report is required, please contact [www.hct.co.kr](http://www.hct.co.kr)

This test report provides test result(s) under the scope accredited by the Korea Laboratory Accreditation Scheme (KOLAS), which signed the ILAC-MRA.

(KOLAS (KS Q ISO/IEC 17025) Accreditation No. KT197)

This test report provides test result(s) under the lab's valid Scope of Accreditation by A2LA (American Association for Laboratory Accreditation), signatory of the ILAC-MRA.

(A2LA (ISO/IEC 17025) Certificate No. 4114.01)

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## RF Exposure Statement

### 1. Limit

According to § 1.1310, § 2.1091 RF exposure is calculated.

#### (i) Limits for Occupational/Controlled Exposure

Frequency range (MHz)	Electric field Strength (V/m)	Magnetic field Strength (A/m)	Power density (mW/cm <sup>2</sup> )	Averaging time (minutes)
0.3 - 3.00	614	1.63	<sup>(a)</sup> (100)	6
3.00 - 30	8242/f	4.89/f	<sup>(a)</sup> (900/ f <sup>2</sup> )	6
30 - 300	61.4	0.163	1.0	6
300 - 1500	.....	.....	f/300	6
1500 - 100.000	.....	.....	5	6

#### (ii) Limits for General Population/Uncontrolled Exposure

Frequency range (MHz)	Electric field Strength (V/m)	Magnetic field Strength (A/m)	Power density (mW/cm <sup>2</sup> )	Averaging time (minutes)
0.3 - 1.34	614	1.63	<sup>(a)</sup> (100)	30
1.34 - 30	824/f	2.19/f	<sup>(a)</sup> (180/ f <sup>2</sup> )	30
30 - 300	27.5	0.073	0.2	30
300 - 1500	.....	.....	f/1500	30
1500 - 100.000	.....	.....	1.0	30

F = frequency in MHz

<sup>(a)</sup> = Plane-wave equivalent power density

## 2. Maximum Permissible Exposure Prediction

Prediction of MPE limit at a given distance

$$S = PG/4\pi R^2$$

S = Power density

P = Power input to antenna

G = Power gain to the antenna in the direction of interest relative to an isotropic radiator

R = Distance to the center of radiation of the antenna

### 3. RESULTS

#### 3-1. Bluetooth

Average output Power at antenna input terminal	10.00	dBm
Average output Power at antenna input terminal	10.00	mW
Prediction distance	20.00	cm
Prediction frequency	2402 – 2480	MHz
Antenna Gain(typical)	1.190	dBi
Antenna Gain(numeric)	1.315	-
Power density at prediction frequency( S)	0.0026	mW/cm <sup>2</sup>
MPE limit for uncontrolled exposure at prediction frequency	1.000	mW/cm <sup>2</sup>

#### 3-2. BT LE

Average output Power at antenna input terminal	9.00	dBm
Average output Power at antenna input terminal	7.94	mW
Prediction distance	20.00	cm
Prediction frequency	2402 – 2480	MHz
Antenna Gain(typical)	1.190	dBi
Antenna Gain(numeric)	1.315	-
Power density at prediction frequency( S)	0.0021	mW/cm <sup>2</sup>
MPE limit for uncontrolled exposure at prediction frequency	1.000	mW/cm <sup>2</sup>

#### 3-3. DTS

Average output Power at antenna input terminal	19.00	dBm
Average output Power at antenna input terminal	79.43	mW
Prediction distance	20.00	cm
Prediction frequency	2412 – 2472	MHz
Antenna Gain(typical)	3.380	dBi
Antenna Gain(numeric)	2.178	-
Power density at prediction frequency( S)	0.0344	mW/cm <sup>2</sup>
MPE limit for uncontrolled exposure at prediction frequency	1.000	mW/cm <sup>2</sup>

**3-4. UNII**

Average output Power at antenna input terminal	17.00	dBm
Average output Power at antenna input terminal	50.12	mW
Prediction distance	20.00	cm
Prediction frequency	5180 – 5825	MHz
Antenna Gain(typical)	4.440	dBi
Antenna Gain(numeric)	2.780	-
Power density at prediction frequency( S)	0.0277	mW/cm <sup>2</sup>
MPE limit for uncontrolled exposure at prediction frequency	1.000	mW/cm <sup>2</sup>

**Simultaneous transmission operations**

Worst Case: Simultaneous MPE 20cm is

$$\sum_{i=1}^n \frac{\text{Power density } i}{\text{Limit } i} < 1$$

->Simultaneous MPE is

$$5G \text{ WLAN } (0.0277) + \text{BT } (0.0026) = 0.0303 < 1$$

$$2.4G \text{ WLAN } (0.0344) + \text{BT } (0.0026) = 0.0370 < 1$$