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TEST REPORT

FCC MPE Test for LGSBWAC22

Certification

APPLICANT
LG Electronics Inc.

REPORT NO.
HCT-RF-2106-FI020

DATE OF ISSUE
June 25, 2021

Tested by
Jin Gwan Lee

Technical Manager
Se Wook Park

Accredited by KOLAS, Republic of KOREA

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Additional Model
-

Applicant	**LG Electronics Inc.** 222, LG-ro, Jinwi-myeon, Pyeongtaek-si, Gyeonggi-do, 451-713, Korea
Eut Type Model Name	RF Module LGSBWAC22
FCC ID	BEJLGSBWAC22
Frequency range	2 402 MHz – 2 480 MHz (Bluetooth) 2 412 MHz ~ 2 472 MHz (WLAN) 5 180 MHz ~ 5 825 MHz (UNII)

The result shown in this test report refer only to the sample(s) tested unless otherwise stated.
This test results were applied only to the test methods required by the standard.

REVISION HISTORY

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

Revision No.	Date of Issue	Description
0	June 25, 2021	Initial Release

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

KOLAS Statement:
The above Test Report is the accredited test result by (KS Q) ISO/IEC 17025 and KOLAS(Korea Laboratory Accreditation Scheme), which signed the ILAC-MRA. (KOLAS Accreditation No. KT197)

If this report is required to confirmation of authenticity, please contact to www.hct.co.kr

RF Exposure Statement

1. Limit

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

(B) Limits for General Population/Uncontrolled Exposures

Frequency range (MHz)	Electric field Strength (V/m)	Magnetic field Strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
0.3 - 1.34	614	1.63	*(100)	30
1.34 - 30	824/f	2.19/f	*(180/ f^2)	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

* = 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	11.00	dBm
Average output Power at antenna input terminal	12.59	mW
Prediction distance	20.00	cm
Prediction frequency	2402 – 2480	MHz
Antenna Gain(typical)	1.19	dBi
Antenna Gain(numeric)	1.315	-
Power density at prediction frequency(S)	0.0033	mW/cm^2
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm^2

2.1091

EIRP	12.19	(dBm)
ERP	10.04	(dBm)
ERP	0.010	(W)
ERP Limit	3.00	(W)
MARGIN	24.73	(dB)

3-1. BT LE

Average output Power at antenna input terminal	11.00	dBm
Average output Power at antenna input terminal	12.59	mW
Prediction distance	20.00	cm
Prediction frequency	2402 – 2480	MHz
Antenna Gain(typical)	1.19	dBi
Antenna Gain(numeric)	1.315	-
Power density at prediction frequency(S)	0.0033	mW/cm^2
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm^2

2.1091

EIRP	12.19	(dBm)
ERP	10.04	(dBm)
ERP	0.010	(W)
ERP Limit	3.00	(W)
MARGIN	24.73	(dB)

3-1. DTS

Average output Power at antenna input terminal	23.00	dBm
Average output Power at antenna input terminal	199.53	mW
Prediction distance	20.00	cm
Prediction frequency	2412 – 2472	MHz
Antenna Gain(typical)	4.51	dBi
Antenna Gain(numeric)	2.825	-
Power density at prediction frequency(S)	0.1121	mW/cm^2
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm^2

2.1091

EIRP	27.51	(dBm)
ERP	25.36	(dBm)
ERP	0.344	(W)
ERP Limit	3.00	(W)
MARGIN	9.41	(dB)

3-1. UNII

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	5180 – 5825	MHz
Antenna Gain(typical)	4.46	dBi
Antenna Gain(numeric)	2.793	-
Power density at prediction frequency(S)	0.0441	mW/cm^2
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm^2

2.1091

EIRP	23.46	(dBm)
ERP	21.31	(dBm)
ERP	0.135	(W)
ERP Limit	3.00	(W)
MARGIN	13.46	(dB)

Worst Case: Simultaneous MPE 20cm is

2.4G WLAN (0.1121) + BT (0.0033) = 0.1154 < 1