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TEST REPORT

FCC MPE Test for LGSBWAC02

Certification

APPLICANT
LG Electronics Inc.

REPORT NO.
HCT-RF-1908-FI013-R1

DATE OF ISSUE
August 08, 2019

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FCC ID
BEJLGSBWAC02

Applicant	**LG Electronics Inc.** 222, LG-ro, Jinwi-myeon, Pyeongtaek-si, Gyeonggi-do, 451-713, Korea
Eut Type Model Name	RF Module LGSBWAC02
Date of Receipt	July 12, 2019
Frequency range	2402 MHz - 2480 MHz (Bluetooth, BT LE) 2 412 MHz ~ 2 462 MHz (WLAN) 5180 MHz - 5825 MHz (UNII)

This test results were applied only to the test methods required by the standard.

Tested by
Se Wook Park (signature)

Technical Manager
Jong Seok Lee (signature)

HCT CO., LTD.
SooChan Lee / CEO
Accredited by KOLAS, Republic of KOREA

REVISION HISTORY

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

Revision No.	Date of Issue	Description
0	August 02, 2019	Initial Release
1	August 08, 2019	Changed the FCC ID on Page 2

The measurements shown in this report were made in accordance with the procedures specified in § 2.947. I assume full responsibility for the accuracy and completeness of these measurements, and for the qualifications of all persons taking them.

HCT CO., LTD. Certifies that no party to this application has subject to a denial of Federal benefits that includes FCC benefits pursuant to section 5301 of the Anti-Drug Abuse Act of 1998,21 U.S. C.853(a)

This laboratory is not accredited for the test results marked *.

The above testing certificate is the accredited test result by KOLAS(Korea Laboratory Accreditation Scheme) / A2LA(American Association for Laboratory Accreditation)

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	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)	0.49	dBi
Antenna Gain(numeric)	1.119	-
Power density at prediction frequency(S)	0.0022	mW/cm^2
MPE limit for uncontrolled exposure at prediction frequency	1.000	mW/cm^2

2.1091

EIRP	10.49	(dBm)
ERP	8.34	(dBm)
ERP	0.007	(W)
ERP Limit	3.00	(W)
MARGIN	26.43	(dB)

3-1. BT LE

Average output Power at antenna input terminal	8.50	dBm
Average output Power at antenna input terminal	7.08	mW
Prediction distance	20.00	cm
Prediction frequency	2402 – 2480	MHz
Antenna Gain(typical)	0.49	dBi
Antenna Gain(numeric)	1.119	-
Power density at prediction frequency(S)	0.0016	mW/cm^2
MPE limit for uncontrolled exposure at prediction frequency	1.000	mW/cm^2

2.1091

EIRP	8.99	(dBm)
ERP	6.84	(dBm)
ERP	0.005	(W)
ERP Limit	3.00	(W)
MARGIN	27.93	(dB)

3-1. DTS

Average output Power at antenna input terminal	20.00	dBm
Average output Power at antenna input terminal	100.00	mW
Prediction distance	20.00	cm
Prediction frequency	2412 – 2462	MHz
Antenna Gain(typical)	4.26	dBi
Antenna Gain(numeric)	2.667	-
Power density at prediction frequency(S)	0.0531	mW/cm^2
MPE limit for uncontrolled exposure at prediction frequency	1.000	mW/cm^2

2.1091

EIRP	24.26	(dBm)
ERP	22.11	(dBm)
ERP	0.163	(W)
ERP Limit	3.00	(W)
MARGIN	12.66	(dB)

3-1. UNII

Average output Power at antenna input terminal	20.00	dBm
Average output Power at antenna input terminal	100.00	mW
Prediction distance	20.00	cm
Prediction frequency	5180 - 5825	MHz
Antenna Gain(typical)	4.48	dBi
Antenna Gain(numeric)	2.805	-
Power density at prediction frequency(S)	0.0558	mW/cm^2
MPE limit for uncontrolled exposure at prediction frequency	1.000	mW/cm^2

2.1091

EIRP	24.48	(dBm)
ERP	22.33	(dBm)
ERP	0.171	(W)
ERP Limit	3.00	(W)
MARGIN	12.44	(dB)

Worst Case: Simultaneous MPE 20cm is

5G WLAN (0.0558) + BT (0.0022) = 0.058 < 1