

FCC MPE REPORT

Certification

Applicant Name:
LG Electronics Inc.

Address:
222, LG-ro, Jinwi-myeon, Pyeongtaek-si, Gyeonggi-do, 451-713, Korea

Date of Issue:

April 15, 2019

Location:

HCT CO., LTD.,

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Report No.: HCT-RF-1904-FI006

FCC ID: BEJLGSBWAC93

APPLICANT: LG Electronics Inc.

Model: LGSBWAC93

EUT Type: RF Module

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)



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Version

TEST REPORT NO.	DATE	DESCRIPTION
HCT-RF-1904-FI006	April 15, 2019	- First Approval Report

RF Exposure Statement

1. LIMITS

According to §1.1310 and §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 of 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. DTS

Average output Power at antenna input terminal	23.00	dBm
Average output Power at antenna input terminal	199.526	mW
Prediction distance	20.000	cm
Prediction frequency	2412 ~ 2472	MHz
Antenna Gain(typical)	5.900	dBi
Antenna Gain(numeric)	3.890	-
Power density at prediction frequency(S)	0.1544	mW/cm ²
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm ²

2.1091

EIRP	28.90 (dBm)
ERP	26.75 (dBm)
ERP	0.473 (W)
ERP Limit	3.00 (W)
MARGIN	8.02 (dB)

3-2. 5 GHz Band(UNII 1)

Average output Power at antenna input terminal	17.00	dBm
Average output Power at antenna input terminal	50.119	mW
Prediction distance	20.000	cm
Prediction frequency	5 150 ~ 5 250	MHz
Antenna Gain(typical)	5.460	dBi
Antenna Gain(numeric)	3.516	-
Power density at prediction frequency(S)	0.0351	mW/cm ²
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm ²

2.1091

EIRP	22.46 (dBm)
ERP	20.31 (dBm)
ERP	0.107 (W)
ERP Limit	3.00 (W)
MARGIN	14.46 (dB)

3-3. 5 GHz Band(UNII 2A)

Average output Power at antenna input terminal	21.00	dBm
Average output Power at antenna input terminal	125.893	mW
Prediction distance	20.000	cm
Prediction frequency	5 250 ~ 5 350	MHz
Antenna Gain(typical)	4.780	dBi
Antenna Gain(numeric)	3.006	-
Power density at prediction frequency(S)	0.0753	mW/cm ²
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm ²

2.1091

EIRP	25.78 (dBm)
ERP	23.63 (dBm)
ERP	0.231 (W)
ERP Limit	3.00 (W)
MARGIN	11.14 (dB)

3-4. 5 GHz Band(UNII 2C)

Average output Power at antenna input terminal	19.00	dBm
Average output Power at antenna input terminal	79.433	mW
Prediction distance	20.000	cm
Prediction frequency	5 470 ~ 5 725	MHz
Antenna Gain(typical)	6.460	dBi
Antenna Gain(numeric)	4.426	-
Power density at prediction frequency(S)	0.0699	mW/cm ²
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm ²

2.1091

EIRP	25.46 (dBm)
ERP	23.31 (dBm)
ERP	0.214 (W)
ERP Limit	3.00 (W)
MARGIN	11.46 (dB)

3-5. 5 GHz Band(UNII 3)

Average output Power at antenna input terminal	19.00	dBm
Average output Power at antenna input terminal	79.433	mW
Prediction distance	20.000	cm
Prediction frequency	5 725 ~ 5 850	MHz
Antenna Gain(typical)	6.320	dBi
Antenna Gain(numeric)	4.285	-
Power density at prediction frequency(S)	0.0677	mW/cm ²
MPE limit for uncontrolled exposure at prediction frequency	1.0000	mW/cm ²

2.1091

EIRP	25.32 (dBm)
ERP	23.17 (dBm)
ERP	0.207 (W)
ERP Limit	3.00 (W)
MARGIN	11.60 (dB)