

# FCC MPE REPORT

## Certification

**Applicant Name:**  
LG Electronics Inc.

**Date of Issue:**  
July 23, 2018

**Test Site/Location:**  
HCT CO., LTD., 74,Seoicheon-ro 578beon-gil,Majang-myeo,Icheon-si, Gyeonggi-do, 17383, Rep. of KOREA

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

**Report No.:** HCT-RF-1807-FI015

**FCC ID:** BEJLGSBWAC92

**APPLICANT:** LG Electronics Inc.

**Model:** LGSBWAC92

**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-1807-FI015	July 23, 2018	- 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 <sup>2</sup> )	Averaging time (minutes)
0.3 - 1.34.....	614	1.63	*(100)	30
1.34 - 30.....	824/f	2.19/f	*(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

\* = 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. BLUETOOTH MODE

Max Peak output Power at antenna input terminal	8.500	dBm
Max Peak output Power at antenna input terminal	7.079	mW
Prediction distance	20.000	cm
Prediction frequency	2402 ~ 2480	MHz
Antenna Gain(typical)	0.490	dBi
Antenna Gain(numeric)	1.119	-
Power density at prediction frequency( S)	0.001577	mW/cm <sup>2</sup>
MPE limit for uncontrolled exposure at prediction frequency	1.000	mW/cm <sup>2</sup>

#### 3-2. 2.4 GHz Band (DTS)

##### (2412 – 2472)

Max Peak output Power at antenna input terminal	28.500	dBm
Max Peak output Power at antenna input terminal	707.946	mW
Prediction distance	20.000	cm
Prediction frequency	2 412 ~ 2 472	MHz
Antenna Gain(typical)	4.440	dBi
Antenna Gain(numeric)	2.780	-
Power density at prediction frequency( S)	0.391499	mW/cm <sup>2</sup>
MPE limit for uncontrolled exposure at prediction frequency	1.000	mW/cm <sup>2</sup>

### 3-3. 5 GHz Band

#### (UNII 1)

Max Peak output Power at antenna input terminal	19.500	dBm
Max Peak output Power at antenna input terminal	89.125	mW
Prediction distance	20.000	cm
Prediction frequency	5 150 ~ 5 250	MHz
Antenna Gain(typical)	4.500	dBi
Antenna Gain(numeric)	2.818	-
Power density at prediction frequency( S)	0.049972	mW/cm <sup>2</sup>
MPE limit for uncontrolled exposure at prediction frequency	1.000	mW/cm <sup>2</sup>

#### (UNII 2A)

Max Peak output Power at antenna input terminal	19.500	dBm
Max Peak output Power at antenna input terminal	89.125	mW
Prediction distance	20.000	cm
Prediction frequency	5 250 ~ 5 350	MHz
Antenna Gain(typical)	4.510	dBi
Antenna Gain(numeric)	2.825	-
Power density at prediction frequency( S)	0.050088	mW/cm <sup>2</sup>
MPE limit for uncontrolled exposure at prediction frequency	1.000	mW/cm <sup>2</sup>

#### (UNII 2C)

Max Peak output Power at antenna input terminal	19.500	dBm
Max Peak output Power at antenna input terminal	89.125	mW
Prediction distance	20.000	cm
Prediction frequency	5 470 ~ 5 725	MHz
Antenna Gain(typical)	4.510	dBi
Antenna Gain(numeric)	2.825	-
Power density at prediction frequency( S)	0.050088	mW/cm <sup>2</sup>
MPE limit for uncontrolled exposure at prediction frequency	1.000	mW/cm <sup>2</sup>

(UNII 3)

Max Peak output Power at antenna input terminal	19.500	dBm
Max Peak output Power at antenna input terminal	89.125	mW
Prediction distance	20.000	cm
Prediction frequency	5 725 ~ 5 850	MHz
Antenna Gain(typical)	4.480	dBi
Antenna Gain(numeric)	2.805	-
Power density at prediction frequency( S)	0.049743	mW/cm <sup>2</sup>
MPE limit for uncontrolled exposure at prediction frequency	1.000	mW/cm <sup>2</sup>

Simultaneous transmission operations

1. The power density level at 20 cm is **0.001577 mW/cm<sup>2</sup>**, which is below the uncontrolled exposure limit of **1.0 mW/cm<sup>2</sup>** at **Bluetooth**.
2. The power density level at 20 cm is **0.391499 mW/cm<sup>2</sup>**, which is below the uncontrolled exposure limit of **1.0 mW/cm<sup>2</sup>** at **WLAN(2.4 GHz)**.
3. The power density level at 20 cm is **0.050088 mW/cm<sup>2</sup>**, which is below the uncontrolled exposure limit of **1.0 mW/cm<sup>2</sup>** at **WLAN(5 GHz)**.

->Simultaneous MPE 20cm is WLAN(2.4 GHz) (0.391499/1.0) + Bluetooth (0.001577/1.0) = 0.39308 < 1

->Simultaneous MPE 20cm is + WLAN(5 GHz) (0.050088/1.0) + Bluetooth (0.001577/1.0) = 0.05167 < 1