

FCC MPE REPORT

Certification

Applicant Name:
LG Electronics Inc.

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

Date of Issue:
September 28, 2017

Test Site/Location:
HCT CO., LTD., 74, Seoicheon-ro 578beon-gil, Majang-
myeo, Icheon-si, Gyeonggi-do, 17383, Rep. of KOREA
Report No.: HCT-R-1709-E009-2

FCC ID: BEJLGSWFAC81

APPLICANT: LG Electronics Inc.

Model(s): LGSWFAC81

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-R-1709-E009	September 26, 2017	- First Approval Report
HCT-R-1709-E009-1	September 27, 2017	- Revised result of DTS Power
HCT-R-1709-E009-2	September 28, 2017	- Revised Applicant informaiton

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

2.4 GHz Band (DTS)

(2412 – 2472)

Max Peak output Power at antenna input terminal	25.530	dBm
Max Peak output Power at antenna input terminal	357.273	mW
Prediction distance	20.000	cm
Prediction frequency	2412.000	MHz
Antenna Gain(typical)	6.800	dBi
Antenna Gain(numeric)	4.786	-
Power density at prediction frequency(S)	0.340197	mW/cm ²
MPE limit for uncontrolled exposure at prediction frequency	1.000	mW/cm ²

5 GHz Band**(UNII 1) (5180 -5240)**

Max Peak output Power at antenna input terminal	13.640	dBm
Max Peak output Power at antenna input terminal	23.121	mW
Prediction distance	20.000	cm
Prediction frequency	5230.000	MHz
Antenna Gain(typical)	7.010	dBi
Antenna Gain(numeric)	5.023	-
Power density at prediction frequency(S)	0.023106	mW/cm ²
MPE limit for uncontrolled exposure at prediction frequency	1.000	mW/cm ²

(UNII 2A) (5260 -5320)

Max Peak output Power at antenna input terminal	14.750	dBm
Max Peak output Power at antenna input terminal	29.854	mW
Prediction distance	20.000	cm
Prediction frequency	5320.000	MHz
Antenna Gain(typical)	7.110	dBi
Antenna Gain(numeric)	5.140	-
Power density at prediction frequency(S)	0.030530	mW/cm ²
MPE limit for uncontrolled exposure at prediction frequency	1.000	mW/cm ²

(UNII 2C) (5500-5720)

Max Peak output Power at antenna input terminal	17.800	dBm
Max Peak output Power at antenna input terminal	60.256	mW
Prediction distance	20.000	cm
Prediction frequency	5590.000	MHz
Antenna Gain(typical)	7.270	dBi
Antenna Gain(numeric)	5.333	-
Power density at prediction frequency(S)	0.063934	mW/cm ²
MPE limit for uncontrolled exposure at prediction frequency	1.000	mW/cm ²

(UNII 3) (5745-5825)

Max Peak output Power at antenna input terminal	16.360	dBm
Max Peak output Power at antenna input terminal	43.251	mW
Prediction distance	20.000	cm
Prediction frequency	5795.000	MHz
Antenna Gain(typical)	6.910	dBi
Antenna Gain(numeric)	4.909	-
Power density at prediction frequency(S)	0.042241	mW/cm ²
MPE limit for uncontrolled exposure at prediction frequency	1.000	mW/cm ²

Simultaneous transmission operations

1. The power density level at 20 cm is **0.340197 mW/cm²**, which is below the uncontrolled exposure limit of **1.0 mW/cm²** at **WLAN(2.4 GHz)**.
2. The power density level at 20 cm is **0.063934 mW/cm²**, which is below the uncontrolled exposure limit of **1.0 mW/cm²** at **WLAN(5 GHz)**.