

# TEST REPORT

of

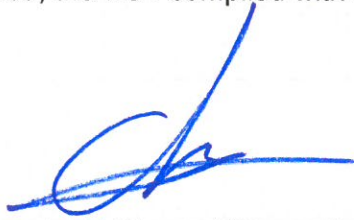
FCC CFR 47 part 1, 1.1307(b), 1.1310

FCC ID: BEJ-LCW007

Equipment Under Test : WLAN Module  
Model Name : LCW-007  
Applicant : LG Electronics USA  
Manufacturer : LG Electronics Inc.  
Date of Receipt : 2019.06.19  
Date of Test(s) : 2019.07.02 ~ 2019.07.10  
Date of Issue : 2019.08.02

In the configuration tested, the EUT complied with the standards specified above.

Tested By:



Jinhyoung Cho

Date:

2017.08.02

Technical  
Manager:



Hyunchae You

Date:

2017.08.02

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SGS Korea Co., Ltd. (Gunpo Laboratory) 4, LS-ro 182beon-gil, Gunpo-si, Gyeonggi-do, Korea, 15807 <http://www.sgsgroup.kr>

RTT5041-19(2017.07.10)(0)

Tel. +82 31 428 5700 / Fax. +82 31 427 2370

A4(210 mm x 297 mm)

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## 1. General Information

### 1.1. Testing Laboratory

SGS Korea Co., Ltd. (Gunpo Laboratory)

- Wireless Div. 2FL, 10-2, LS-ro 182beon-gil, Gunpo-si, Gyeonggi-do, Korea, 15807
- Designation number: KR0150

All SGS services are rendered in accordance with the applicable SGS conditions of service available on request and accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx>.

Phone No. : +82 31 688 0901

Fax No. : +82 31 688 0921

### 1.2. Details of Applicant

Applicant : LG Electronics USA

Address : 1000 Sylvan Avenue, Englewood Cliffs, New Jersey, United States, 07632

Contact Person : Han, Kyung-su

Phone No. : +1 201 472 2623

### 1.3. Details of Manufacturer

Company : LG Electronics Inc.

Address : 170, Seongsanpaechong-ro, Seongsan-gu, Changwon-si, Gyeongsangnam-do 51533, Korea

Factory Location : Korea, Indonesia

### 1.4. Description of EUT

Kind of Product	WLAN Module
Model Name	LCW-007
Power Supply	DC 5 V, DC 12 V (Dual Voltage)
Frequency Range	2 412 MHz ~ 2 462 MHz (11b/g/n_HT20) 2 422 MHz ~ 2 452 MHz (11n_HT40)
Modulation Technique	DSSS, OFDM
Number of Channels	11 channels (11b/g/n_HT20) 7 channels (11n_HT40)
Antenna Type	PCB pattern antenna
Antenna Gain	1.50 dBi

### 1.5. Test Report Revision

Revision	Report Number	Date of Issue	Description
0	F690501/RF-RTL014065	2019.07.18	Initial
1	F690501/RF-RTL014065-1	2019.08.02	Revised inappropriate standard

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## 2. RF Exposure Evaluation

### 2.1. Environmental evaluation and exposure limit according to FCC CFR 47 part 1, 1.1307(b), 1.1310

#### LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm <sup>2</sup> )	Average Time
(A) Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*100	6
3.0-30	1842/f	4.89/f	*900/f <sup>2</sup>	6
30-300	61.4	0.163	1.0	6
300-1 500	-	-	f/300	6
1 500-100 000	-	-	5	6
(B) Limits for General Population/Uncontrolled Exposure				
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
300-1 500	-	-	f/1500	30
<b>1 500-100 000</b>	-	-	<b>1.0</b>	<b>30</b>

#### 2.1.1. Friis transmission formula: $P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot R^2)$

Where  $P_d$  = power density in mW/cm<sup>2</sup>

$P_{out}$  = output power to antenna in mW

$G$  = gain of antenna in linear scale

$\pi$  = 3.1416

$R$  = distance between observation point and center of the radiator in cm

$P_d$  the limit of MPE, 1 mW/cm<sup>2</sup>. If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance where the MPE limit is reached.

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## 2.1.2. Test Result of RF Exposure Evaluation

Test Item : RF Exposure Evaluation Data  
Test Mode : Normal Operation

## 2.1.3. Output Power into Antenna & RF Exposure Evaluation Distance

### WLAN (2.4G)

#### - Maximum tune up tolerance

Frequency Range (MHz)	Output Average Power to Antenna (dB m)	Antenna Gain (dB i)	Power Density at 20 cm (mW/cm <sup>2</sup> )	Limits (mW/cm <sup>2</sup> )
2 412 ~ 2 462	17	1.50	0.014 084	1

#### Remark;

- The power density Pd (5th column) at a distance of 20 cm calculated from the friis transmission formula is far below the limit of 1 mW/cm<sup>2</sup>.
- This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.
- This equipment should be installed and operated with minimum 20 cm between the radiator and your body.
- The antenna gain of this transmitter is less than 6 dB i and must not be collocated or operating in conjunction with any other antenna or transmitter unless authorized to do so by the FCC.

## - End of the Test Report -

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