

TEST REPORT

of

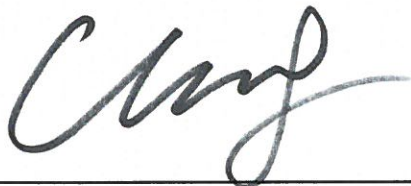
FCC CFR 47 part 1, 1.1307(b), 1.1310

FCC ID: BEJ-LCW006

Equipment Under Test : WLAN Module
Model Name : LCW-006
Applicant : LG Electronics USA
Manufacturer : LG Electronics Inc.
Date of Receipt : 2017.06.13
Date of Test(s) : 2017.06.20 ~ 2017.07.20
Date of Issue : 2017.08.01

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

Tested By:



Jaeha Chung

Date:

2017.08.01

Technical
Manager:

Hyunchae You

Date:

2017.08.01

The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company. This test report does not assure KOLAS accreditation.

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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(210mm x 297mm)

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

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>.

Telephone : +82 31 688 0901

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1.2. Details of applicant

Applicant : LG Electronics USA

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

Contact Person : Jung, Hyeon-Soo

Phone No. : +82 55 260 3966

1.3. Description of EUT

Kind of Product	WLAN Module
Model Name	LCW-006
Power Supply	DC 5.0 V
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	1.15 dBi
H/W Version	V1.0
S/W Version	V1.0

1.4. Test report revision

Revision	Report number	Date of Issue	Description
0	F690501/RF-RTL011579	2017.07.24	Initial
1	F690501/RF-RTL011579-1	2017.08.01	Added a remark regarding the output average power

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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 ²)	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 ²	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 ²	30
30 – 300	27.5	0.073	0.2	30
300 – 1 500	-	-	f/1500	30
1 500 – 100 000	-	-	1.0	30

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

Where P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 3.1416

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

P_d the limit of MPE, 1 mW/cm². 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

Operating Frequency (MHz)	Output Average Power to Antenna (dB m)	Antenna Gain (dB i)	Power Density at 20 cm (mW/cm ²)	Limits (mW/cm ²)
2 412 ~ 2 462	20	1.15	0.025 926	1

Remark;

- The output average power is set as max. power from tune-up procedure.

TX Characteristics	Min.	Typ.	Max.	Unit
Power Level	12	16	20	dBm

Note :

- 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/cm².
- 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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