

TEST REPORT

of

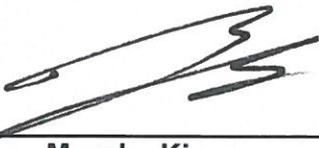
FCC CFR 47 part 1, 1.1307(b), 1.1310

FCC ID: BEJ-LK72B

Equipment Under Test : Multimedia Speaker System
Model Name : LK72B
Variant Model Names : LK72BE, LK72B-F, LK72B-N, LK72BE-F, LK72BE-N
Applicant : LG Electronics USA
Manufacturer : LG INNOTEK CO., LTD. AUTOMOTIVE COMPONENT & ELECTRONICS BUSINESS UNIT GWANG-JU PLANT
Date of Receipt : 2019.04.10
Date of Test(s) : 2019.04.15 ~ 2019.05.02
Date of Issue : 2019.05.03

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

Tested By:



Murphy Kim

Date:

2019.05.03

Technical
Manager:



Jungmin Yang

Date:

2019.05.03

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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(2019.04.24)(1)

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A4(210 mm x 297 mm)

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1. General Information

1.1. Testing Laboratory

SGS Korea Co., Ltd. (Gunpo Laboratory)

- 4, LS-ro 182beon-gil, Gunpo-si, Gyeonggi-do, Korea, 15807
- 10-2, LS-ro 182beon-gil, Gunpo-si, Gyeonggi-do, Korea, 15807
- Designation number: KR0150

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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 : Han, Kyung-Su

Phone No. : +1 201 472 2623

1.3. Details of Manufacturer

Company : LG INNOTEK CO., LTD. AUTOMOTIVE COMPONENT & ELECTRONICS BUSINESS
UNIT GWANG-JU PLANT

Address : (Jangduk-dong) 26, Hanamsandan 5beon-ro, Gwangsan-gu, Gwangju, 62229, Korea

1.4. Description of EUT

Kind of Product	Multimedia Speaker System
Model Name	LK72B
Variant Model Names	LK72BE, LK72B-F, LK72B-N, LK72BE-F, LK72BE-N
Power Supply	AC 220 V
Frequency Range	2 402 MHz ~ 2 480 MHz (Bluetooth)
Modulation Technique	GFSK, $\pi/4$ DQPSK
Number of Channels	79 channel (Bluetooth)
Antenna Type	Inverted F antenna
Antenna Gain	-0.68 dB i

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1.5. Test Report Revision

Revision	Report number	Date of Issue	Description
0	F690501/RF-RTL013832	2019.05.03	Initial

1.6 Information of Variant Models

Model Name		Edge Colour	FM Function
Basic model	LK72B	Red	O
Variant model	LK72BE	Orange	O
	LK72B-F	Red	O
	LK72B-N	Red	X
	LK72BE-F	Orange	O
	LK72BE-N	Orange	X

Remark;

O: Installed, X: Not installed

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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

Bluetooth

- 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 ²)	Limits (mW/cm ²)
2 402 ~ 2 480	2.0	-0.68	0.000 270	1

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 dBi 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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