

LG Electronics USA, Inc.

MPE ASSESSMENT REPORT

Report Type:

FCC Part §2.1091, §2.1093 and §1.1307(b) assessment report

Model:

MZBK1729#, SKSLV3001#

REPORT NUMBER:

231100516SHA-002

ISSUE DATE:

December 13, 2023

DOCUMENT CONTROL NUMBER:

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Report no.: 231100516SHA-002

Applicant: LG Electronics USA, Inc.

111 Sylvan Avenue North Building, Englewood Cliffs, New Jersey, United

States

Manufacturing Site: LG Electronics Tianjin Appliances Co., Ltd.

No.9 Jinwei Road, Bei Chen Dist., Tianjin 300402, People's Republic of

China

Product Name: Microwave oven

Type/Model: MZBK1729#, SKSLV3001#

("#" on model/type reference represents A to Z or blank, according to

exterior design, color, cooking utensil or market)

FCC ID: BEJD1722NAF

SUMMARY:

The equipment complies with the requirements according to the following standard(s) or Specification:

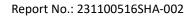
47CFR Part 18 (2018)

FCC/OET MP-5 (1986)

KDB447498 D01 General RF Exposure Guidance v06 FCC Part2.1093 FCC Part1.1307(b), 1.1310, 2.1091

| PREPARED BY: | REVIEWED BY: | |
|------------------|--------------|--|
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| Project Engineer | Reviewer | |
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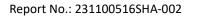
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Revision History

| Report No. | Version | Description | Issued Date | |
|------------------|---------|-------------------------|-------------------|--|
| 231100516SHA-002 | Rev. 01 | Initial issue of report | December 7, 2023 | |
| 231100516SHA-002 | Rev. 02 | Updated model | December 13, 2023 | |
| | | | | |





1 GENERAL INFORMATION

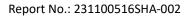
1.1 Description of Equipment Under Test (EUT)

| Product name: | Microwave oven | | | |
|-----------------------|---|--|--|--|
| | MZBK1729#, SKSLV3001# | | | |
| | (#- Represent any alphanumeric code for color of Control panel/door | | | |
| Type/Model: | panel.) | | | |
| Brand Name: | LG | | | |
| | The EUT is a Microwave oven which have series models, and they are | | | |
| Description of EUT: | electric identical. The model SKSLV3001S were chosen to testing. | | | |
| Rating: | AC 120V 60Hz Output: 975W | | | |
| Frequency: | 2450MHz | | | |
| EUT type: | ☐ Table top ☐ Floor standing | | | |
| Software Version: | / | | | |
| Hardware Version: | / | | | |
| Sample received date: | November 15, 2023 | | | |
| Date of test: | November 15, 2023 ~ December 5, 2023 | | | |

1.2 Technical Specification

Contains FCC ID: BEJ-LCW009

| Frequency Band: | 2400MHz ~ 2483.5MHz |
|----------------------|--|
| Support Standards: | IEEE 802.11b, IEEE 802.11g, IEEE 802.11n(HT20), IEEE 802.11n(HT40) |
| | IEEE 802.11b: DSSS (CCK, DQPSK, DBPSK) |
| | IEEE 802.11g: OFDM (64-QAM, 16-QAM, QPSK, BPSK) |
| | IEEE 802.11n(HT20): OFDM (64-QAM, 16-QAM, QPSK, BPSK) |
| Type of Modulation: | IEEE 802.11n(HT40): OFDM (64-QAM, 16-QAM, QPSK, BPSK) |
| | 2412MHz to 2462MHz for IEEE 802.11b/g/n(HT20) |
| Operating Frequency: | 2422MHz to 2452MHz for IEEE 802.11n(HT40) |
| | 11 Channels for 802.11b, 802.11g ,802.11n(HT20) |
| Channel Number: | 7 Channels for 802.11n(HT40) |
| Channel Separation: | 5 MHz |
| Antenna Information: | PCB antenna: 1.58dBi |

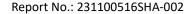




1.3 Description of Test Facility

| Name: | Intertek Testing Services Shanghai | | | | | |
|------------|--|--|--|--|--|--|
| Address: | Building 86, No. 1198 Qinzhou Road(North), Shanghai 200233, P.R. China | | | | | |
| Telephone: | 86 21 61278200 | | | | | |
| Telefax: | 86 21 54262353 | | | | | |

| The test facility is recognized, | CNAS Accreditation Lab Registration No. CNAS L0139 |
|--|---|
| certified, or accredited by these organizations: | FCC Accredited Lab Designation Number: CN0175 |
| Organizations. | IC Registration Lab CAB identifier.: CN0014 |
| | VCCI Registration Lab Registration No.: R-14243, G-10845, C-14723, T-12252 |
| | A2LA Accreditation Lab Certificate Number: 3309.02 |





2 Radiation Hazard Measurement

Test result: Pass

2.1 Limit

A maximum of 1.0mW/cm² is allowed in accordance with the applicable FCC standards. Hence, microwave leakage in the as-received condition with the oven door closed was below the maximum allowed.

2.2 Radiation Hazard (Health) Requirement

For ISM equipment operating on higher frequencies (above 900 MHz), in particulars microwave ovens and medical diathermy equipment, radiation leakage should be measured in accordance with the current Bureau of Radiological Health standard, employing an electromagnetic radiation monitor. This test is made primarily to assure that personnel will not be exposed to radiation hazard in testing the equipment. Equipment submitted to the FCC which have radiation leakage apparently in excess of BRH limit will be reported to BRH for their evaluation. See FCC Bulletin OST 56, "Questions and Answers about Biological Effects and Potential Hazards of Radiofrequency Radiation".

2.3 Measurement Procedure

The EUT was set-up according to the FCC MP-5 and FCC Part 18 for Radiation Hazard Measurement. The measurement was using a microwave leakage meter to measure the Radiation leakage in the as-received condition with the oven door closed. A 1000ml water load in a beaker was located in the center of the oven and the Microwave Oven was set to maximum power. While the oven operating, the microwave meter will check the leakage and then record the maximum leakage.

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2.4 MPE Assessment Limit

Mobile device exposure for standalone operations:

According to §1.1310, the limit for general population/uncontrolled exposures

| Frequency range (MHz) | Electric field strength (V/m) | Magnetic field strength (A/m) | Power density (mW/cm²) | Averaging time (minutes) | | | | |
|---|-------------------------------|-------------------------------|------------------------|--------------------------|--|--|--|--|
| Limits For General Population/Uncontrolled Exposure | | | | | | | | |
| 0.3-1.34 | 614 | 1.63 | *(100) | 30 | | | | |
| 1.34-30 | 824/f | 2.19/f | *(180/f2) | 30 | | | | |
| 30-300 | 27.5 | 0.073 | 0.2 | 30 | | | | |
| 300-1500 | / | 1 | f/1500 | 30 | | | | |
| 1500-100,000 | 1 | 1 | 1.0 | 30 | | | | |

F=Frequency in MHz; *Plane-wave equivalent power density

A maximum of 1.0mW/cm² is allowed in accordance with the applicable FCC standards. Hence, microwave leakage in the as-received condition with the oven door closed was below the maximum allowed.

2.3 Test Results

For WIFI module:

Power density (S) is calculated according to the formula:

 $S = PG / (4\pi R^2)$

Where $S = power density in mW/cm^2$

P = Radiated transmit power in mW

G = numeric gain of transmit antenna

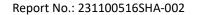
R = distance (cm)

The calculations in the table below use the highest gain of antenna for client EUT. These calculations represent worst case in terms of the exposure levels.

The calculations in the table below use the highest gain of antenna for client EUT. These calculations represent worst case in terms of the exposure levels.

| Working | Frequency band | Power | | Antenna Gain | | R | S | Limits |
|-----------|----------------|-------|-----|--------------|-----------|------|----------|----------|
| Mode | (MHz) | dBm | mW | dBi | (Numeric) | (cm) | (mW/cm2) | (mW/cm2) |
| 2.4G WIFI | 2412-2462 | 20 | 100 | 1.58 | 1.44 | 20 | 0.028624 | 1 |

Note: 1 mW/cm2 from 1.310 Table 1.





TEST REPORT

For microwave oven

There was no microwave leakage exceeding a power level of 0.15mW/cm² observed at any point 5cm or more from the external surface of the oven.

WIF module and microwave oven can simultaneous transmitting, so the maximum rate of MPE is, 0.15/1+0.028624/1=0.178624<1.0.