

# LG Electronics USA, Inc.

## MPE ASSESSMENT REPORT

**Report Type:**

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

**Model:**

MVEL2033#,MVEL2137#,MVEL2125#

**REPORT NUMBER:**

2506B2511SHA-002

**ISSUE DATE:**

September 12, 2025

**DOCUMENT CONTROL NUMBER:**

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## TEST REPORT

**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:** MVEL2033#,MVEL2137#,MVEL2125#  
(#- Represent any alphanumeric code for color of Control panel/door panel.)

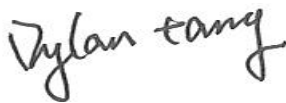
**FCC ID:** BEJV2192TAD

## 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 Part1.1307(b), 2.1091

## PREPARED BY:



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## REVIEWED BY:



Reviewer  
Wakeyou Wang

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## Revision History

| Report No.       | Version | Description             | Issued Date        |
|------------------|---------|-------------------------|--------------------|
| 2506B2511SHA-002 | Rev. 01 | Initial issue of report | September 12, 2025 |
|                  |         |                         |                    |

## 1 GENERAL INFORMATION

### 1.1 Description of Equipment Under Test (EUT)

|                       |                                                                                                                                                                                                                                                                                                                 |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product name:         | Microwave oven                                                                                                                                                                                                                                                                                                  |
| Type/Model:           | MVEL2033#,MVEL2137#,MVEL2125#<br>(#- Represent any alphanumeric code for color of Control panel/door panel.)                                                                                                                                                                                                    |
| Brand Name:           | LG                                                                                                                                                                                                                                                                                                              |
| Description of EUT:   | The EUT is Microwave oven incorporated certified wireless module (FCC ID: BEJ-LCWB008), that has series models, and all the electrical and mechanical characteristics are the same as basic models except color of Control panel and door panel. The MVEL2137D, MVEL2125F and MVEL2033F were chosen to testing. |
| Rating:               | AC 120V 60Hz Output: 1050W                                                                                                                                                                                                                                                                                      |
| Frequency:            | 2450MHz                                                                                                                                                                                                                                                                                                         |
| EUT type:             | <input checked="" type="checkbox"/> Table top <input type="checkbox"/> Floor standing                                                                                                                                                                                                                           |
| Software Version:     | /                                                                                                                                                                                                                                                                                                               |
| Hardware Version:     | /                                                                                                                                                                                                                                                                                                               |
| Sample received date: | June 30, 2025                                                                                                                                                                                                                                                                                                   |
| Date of test:         | June 30, 2025 ~ August 20, 2025                                                                                                                                                                                                                                                                                 |

### 1.2 Technical Specification

Contains FCC ID: BEJ-LCWB008

|                      |                                                                                                                                                    |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| Frequency Band:      | 2400MHz ~ 2483.5MHz                                                                                                                                |
| Support Standards:   | IEEE 802.11b, IEEE 802.11g, IEEE 802.11n(HT20)                                                                                                     |
| Type of Modulation:  | IEEE 802.11b: DSSS (CCK, DQPSK, DBPSK)<br>IEEE 802.11g: OFDM (64-QAM, 16-QAM, QPSK, BPSK)<br>IEEE 802.11n(HT20): OFDM (64-QAM, 16-QAM, QPSK, BPSK) |
| Operating Frequency: | 2412MHz to 2462MHz for IEEE 802.11b/g/n(HT20)                                                                                                      |
| Channel Number:      | 11 Channels for 802.11b, 802.11g ,802.11n(HT20)                                                                                                    |
| Channel Separation:  | 5 MHz                                                                                                                                              |
| Antenna Information: | 1.7dBi, PCB Pattern antenna                                                                                                                        |

|                      |                             |
|----------------------|-----------------------------|
| Frequency Range:     | 2402-2480MHz                |
| Type of Modulation:  | GFSK                        |
| Channel Number:      | 40                          |
| Data Rate:           | 1Mbps                       |
| Antenna Information: | 1.7dBi, PCB Pattern antenna |

### 1.3 Description of Test Facility

|            |                                                                        |
|------------|------------------------------------------------------------------------|
| Name:      | Intertek Testing Services (Shanghai FTZ) Co., Ltd.                     |
| 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, certified, or accredited by these organizations: | CNAS Accreditation Lab<br>Registration No. CNAS L21189                        |
|                                                                                   | FCC Accredited Lab<br>Designation Number: CN0175                              |
|                                                                                   | IC Registration Lab<br>CAB identifier.: CN0014                                |
|                                                                                   | VCCI Registration Lab<br>Registration No.: R-14243, G-10845, C-14723, T-12252 |
|                                                                                   | A2LA Accreditation Lab<br>Certificate Number: 3309.02                         |

## 2 Radiation Hazard Measurement

**Test result: Pass**

### 2.1 Limit

A maximum of 1.0mW/cm<sup>2</sup> 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 particular 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.

## 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/cm <sup>2</sup> ) | 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/f <sup>2</sup> )              | 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

A maximum of 1.0mW/cm<sup>2</sup> 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.

## TEST REPORT

### 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<sup>2</sup>

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 module report. These calculations represent worst case in terms of the exposure levels.

| Working Mode | Frequency | Power |       | Antenna Gain |           | R    | S                     | Limits                |
|--------------|-----------|-------|-------|--------------|-----------|------|-----------------------|-----------------------|
|              | (MHz)     | dBm   | mW    | dBi          | (Numeric) | (cm) | (mW/cm <sup>2</sup> ) | (mW/cm <sup>2</sup> ) |
| 2.4G WIFI    | 2412-2462 | 18.5  | 70.79 | 1.7          | 1.48      | 20   | 0.021                 | 1                     |
| BLE          | 2480      | 4.47  | 2.80  | 1.7          | 1.48      | 20   | 0.0009                | 1                     |

For microwave oven

There was no microwave leakage exceeding a power level of 0.28mW/cm<sup>2</sup> 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,

$$0.28/1+0.021/1=0.301<1.0.$$

\*\*\*\*\*END\*\*\*\*\*