

## MPE Evaluation Report

|                   |                         |
|-------------------|-------------------------|
| <b>Applicant</b>  | Amlogic, Co., Ltd.      |
| <b>FCC ID</b>     | 2BW58-W165X1            |
| <b>Product</b>    | W165 Series             |
| <b>Brand</b>      | Amlogic                 |
| <b>Model</b>      | W165S1-M                |
| <b>Report No.</b> | EFTA26050145-IE-03-M1V1 |
| <b>Issue Date</b> | October 10, 2026        |

Eurofins TA Technology (Shanghai) Co., Ltd. tested the above equipment in accordance with the requirements in **FCC 47 CFR Part 1 §1.1310, §2.1091**. The test results show that the equipment tested can demonstrate compliance with the requirements as documented in this report.



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| Version                                                                                                                                                                                                                                         | Revision Description     | Issue Date        |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|-------------------|
| Rev.0                                                                                                                                                                                                                                           | Initial issue of report. | September 3, 2026 |
| Rev.1                                                                                                                                                                                                                                           | Updated information.     | October 10, 2026  |
| Note: This revised report (Report No.: EFTA26050145-IE-03-M1V1) supersedes and replaces the previously issued report (Report No.: EFTA26050145-IE-03-M1). Please discard or destroy the previously issued report and dispose of it accordingly. |                          |                   |

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## 1 Test Laboratory

### 1.1 Notes of the Test Report

This report shall not be reproduced except in full, without the written approval of **Eurofins TA Technology (Shanghai) Co., Ltd.** The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. Measurement Uncertainties were not taken into account and are published for informational purposes only. This report is written to support regulatory compliance of the applicable standards stated above.

### 1.2 Test Facility

#### **FCC (Designation number: CN1179, Test Firm Registration Number: 446626)**

Eurofins TA Technology (Shanghai) Co., Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform measurements.

### 1.3 Testing Location

Company: Eurofins TA Technology (Shanghai) Co., Ltd.  
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## 2 Description of Equipment Under Test

### Client Information

|                             |                                            |
|-----------------------------|--------------------------------------------|
| <b>Applicant</b>            | Amlogic, Co., Ltd.                         |
| <b>Applicant address</b>    | E5, No. 2555, Xiupu Road, Pudong, Shanghai |
| <b>Manufacturer</b>         | Amlogic, Co., Ltd.                         |
| <b>Manufacturer address</b> | E5, No. 2555, Xiupu Road, Pudong, Shanghai |

### General Technologies

| EUT Description                                                                                                                                                                                                                                                                             |                            |             |             |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-------------|-------------|
| Model                                                                                                                                                                                                                                                                                       | W165S1-M                   |             |             |
| Lab Internal SN                                                                                                                                                                                                                                                                             | 260514-26-003              |             |             |
| Hardware Version                                                                                                                                                                                                                                                                            | V3.0.1.1                   |             |             |
| Software Version                                                                                                                                                                                                                                                                            | V3.0.1.1                   |             |             |
| Frequency                                                                                                                                                                                                                                                                                   | Band                       | TX (MHz)    | RX (MHz)    |
|                                                                                                                                                                                                                                                                                             | Wi-Fi 2.4G                 | 2412 ~ 2462 | 2412 ~ 2462 |
|                                                                                                                                                                                                                                                                                             | Wi-Fi 5GHz (U-NII-1)       | 5150 ~ 5250 | 5150 ~ 5250 |
|                                                                                                                                                                                                                                                                                             | Wi-Fi 5GHz (U-NII-2A)      | 5250 ~ 5350 | 5250 ~ 5350 |
|                                                                                                                                                                                                                                                                                             | Wi-Fi 5GHz (U-NII-2C)      | 5470 ~ 5600 | 5470 ~ 5600 |
|                                                                                                                                                                                                                                                                                             |                            | 5650 ~ 5725 | 5650 ~ 5725 |
|                                                                                                                                                                                                                                                                                             | Wi-Fi 5GHz (U-NII-3)       | 5725 ~ 5850 | 5725 ~ 5850 |
|                                                                                                                                                                                                                                                                                             | Bluetooth                  | 2402 ~2480  | 2402~2480   |
|                                                                                                                                                                                                                                                                                             | Zigbee                     | 2405 ~ 2480 | 2405 ~ 2480 |
| Thread                                                                                                                                                                                                                                                                                      | 2405 ~ 2480                | 2405 ~ 2480 |             |
| Date of Testing                                                                                                                                                                                                                                                                             | May 29, 2026~ July 6, 2026 |             |             |
| Date of Sample Received                                                                                                                                                                                                                                                                     | May 14, 2026               |             |             |
| Note:                                                                                                                                                                                                                                                                                       |                            |             |             |
| 1. The EUT is sent from the applicant to Eurofins TA and the information of the EUT is declared by the applicant.                                                                                                                                                                           |                            |             |             |
| 2. All indications of Pass/Fail in this report are opinions expressed by Eurofins TA Technology (Shanghai) Co., Ltd. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. |                            |             |             |

### 3 Maximum Tune up and Antenna Gain

The numeric gain (G) of the antenna with a gain specified in dB is determined by  

$$\text{Numeric gain (G)} = 10^{(\text{antenna gain}/10)}$$

| Band                  | Maximum Tune up Tolerance |        | Antenna Gain (dBi) | Numeric Gain |
|-----------------------|---------------------------|--------|--------------------|--------------|
|                       | (dBm)                     | (mW)   |                    |              |
| Wi-Fi 2.4G            | 21.00                     | 125.89 | 3.56               | 2.27         |
| Wi-Fi 5GHz (U-NII-1)  | 19.00                     | 79.43  | 2.77               | 1.89         |
| Wi-Fi 5GHz (U-NII-2A) | 19.00                     | 79.43  | 3.19               | 2.08         |
| Wi-Fi 5GHz (U-NII-2C) | 19.00                     | 79.43  | 4.32               | 2.70         |
| Wi-Fi 5GHz (U-NII-3)  | 19.00                     | 79.43  | 4.05               | 2.54         |
| Bluetooth             | 16.00                     | 39.81  | 3.56               | 2.27         |
| Zigbee                | 13.50                     | 22.39  | 3.56               | 2.27         |
| Thread                | 13.50                     | 22.39  | 3.56               | 2.27         |

## 4 MPE Limit

According to section 1.1310 of FCC 47 CFR Part 1, limits for maximum permissible exposure (MPE) are as following.

| Frequency range (MHz)                                    | Electric field strength (V/m) | Magnetic field strength (A/m) | Power density (mW/cm <sup>2</sup> ) | Averaging time (minutes) |
|----------------------------------------------------------|-------------------------------|-------------------------------|-------------------------------------|--------------------------|
| (i) 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                       |
| (ii) 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                      |
| 1,500-100,000                                            |                               |                               | 1.0                                 | <30                      |

*f = frequency in MHz. \* = Plane-wave equivalent power density.*

Note1. Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational / controlled limits apply provided he or she is made aware of the potential for exposure.

Note2: General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or can not exercise control over their exposure.

The maximum permissible exposure for 1500~100,000MHz is 1.0. So

| Band         | The Maximum Permissible Exposure (mW/cm <sup>2</sup> ) |
|--------------|--------------------------------------------------------|
| Wi-Fi 2.4GHz | 1.000                                                  |
| Wi-Fi 5GHz   | 1.000                                                  |
| Bluetooth    | 1.000                                                  |
| Zigbee       | 1.000                                                  |
| Thread       | 1.000                                                  |

## 5 RF Exposure Evaluation Result

RF exposure evaluation method is based on KDB 447498 D01, this calculation is based on the conducted power, maximum power and antenna gain with provides the minimum separation distance. The formula shown below is from OET Bulletin 65 Edition 97-01 Per KDB 447498 D01:

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

Where: S = power density (in appropriate units, e.g. mW/cm<sup>2</sup>)

P = Time-average maximum tune up procedure (in appropriate units, e.g., mW)

G = the numeric gain of the antenna

R = distance to the center of radiation of the antenna (20 cm = limit for MPE)

| Band                                                                       | Maximum Tune up (dBm) | Antenna Gain (dBi) | Maximum EIRP (dBm) | PG (mW) | Result (mW/cm <sup>2</sup> ) | Limit Value (mW/cm <sup>2</sup> ) | The MPE Ratio |
|----------------------------------------------------------------------------|-----------------------|--------------------|--------------------|---------|------------------------------|-----------------------------------|---------------|
| Wi-Fi 2.4G                                                                 | 21.00                 | 3.56               | 24.560             | 285.759 | 0.057                        | 1.000                             | 0.057         |
| Wi-Fi 5GHz (U-NII-1)                                                       | 19.00                 | 2.77               | 21.770             | 150.314 | 0.030                        | 1.000                             | 0.030         |
| Wi-Fi 5GHz (U-NII-2A)                                                      | 19.00                 | 3.19               | 22.190             | 165.577 | 0.033                        | 1.000                             | 0.033         |
| Wi-Fi 5GHz (U-NII-2C)                                                      | 19.00                 | 4.32               | 23.320             | 214.783 | 0.043                        | 1.000                             | 0.043         |
| Wi-Fi 5GHz (U-NII-3)                                                       | 19.00                 | 4.05               | 23.050             | 201.837 | 0.040                        | 1.000                             | 0.040         |
| Bluetooth                                                                  | 16.00                 | 3.56               | 19.560             | 90.365  | 0.018                        | 1.000                             | 0.018         |
| Zigbee                                                                     | 13.50                 | 3.56               | 17.060             | 50.816  | 0.010                        | 1.000                             | 0.010         |
| Thread                                                                     | 13.50                 | 3.56               | 17.060             | 50.816  | 0.010                        | 1.000                             | 0.010         |
| Note: R = 20cm<br>$\pi = 3.1416$<br>The MPE Ratio = Mac Result÷Limit Value |                       |                    |                    |         |                              |                                   |               |

This device only supports simultaneous transmission via Wi-Fi 5G and Bluetooth.

So, the simultaneous transmitting antenna max pairs as below:

TER = Bluetooth Antenna MPE Ratio + Wi-Fi 5GHz Antenna MPE Ratio = 0.043 + 0.018 = 0.061<1

So, the limit is kept.

Note: For this device, minimum separation distance is 20cm, even if calculations indicate MPE distance is less.

## ANNEX A: The EUT Appearance

The EUT Appearance are submitted separately.

\*\*\*\*\*END OF REPORT \*\*\*\*\*