MPE Evaluation Report

Applicant	Amlogic (Shanghai) Co.,Ltd.
FCC ID	2BW58-W165X1
Product	W165 Series
Brand	Amlogic
Model	W165S1-M
Report No.	EFTA26050145-IE-03-M1
Issue Date	September 3, 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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1 Test Laboratory

1.1 Notes of the Test Report

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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

Applicant	Amlogic (Shanghai) Co.,Ltd.
Applicant address	E5, No. 2555, Xiupu Road, Pudong, Shanghai
Manufacturer	Amlogic (Shanghai) Co.,Ltd.
Manufacturer address	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 5650 ~ 5725	5470 ~ 5600 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.			

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3 Maximum Tune up and Antenna Gain

The numeric gain (G) of the antenna with a gain specified in dB is determined by
Numeric gain (G)=10^(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

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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^2)	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^2)	<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^2)	<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.

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

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

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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^2)
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^2)	Limit Value (mW/cm^2)	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 **π**= 3.1416 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.

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ANNEX A: The EUT Appearance

The EUT Appearance are submitted separately.

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

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