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RF Exposure Evaluation Report

Report No.: CQASZ20250601276E-04
Applicant: Ultimea Technology (Shenzhen) Limited
Address of Applicant: 20th Floor, Building 4, Tianan Cloud Park, Bantian St., Longgang District, Shenzhen, China
Equipment Under Test (EUT):
EUT Name: Projector
Model No.: U0840
Test Model No.: U0840
Brand Name: ULTIMEA
FCC ID: 2A900-U0840P
Standards: 47 CFR Part 1.1307
47 CFR Part 1.1310
447498 D04 Interim General RF Exposure Guidance v01
Date of Receipt: 2025-06-06
Date of Test: 2025-06-06 to 2025-08-26
Date of Issue: 2025-09-16
Test Result: **PASS***

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

Tested By:

Lewis Zhou

(Lewis Zhou)

Reviewed By:

Timo Lei

(Timo Lei)

Approved By:

Jack Ai

(Jack Ai)



The test report is effective only with both signature and specialized stamp, The result(s) shown in this report refer only to the sample(s) tested. Without written approval of CQA, this report can't be reproduced except in full.

1 Version

Revision History Of Report

Report No.	Version	Description	Issue Date
CQASZ20250601276E-04	Rev.01	Initial report	2025-09-16

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3 General Information

3.1 Client Information

Applicant:	Ultimea Technology (Shenzhen) Limited
Address of Applicant:	20th Floor, Building 4, Tianan Cloud Park, Bantian St., Longgang District, Shenzhen, China
Manufacturer:	Ultimea Technology (Shenzhen) Limited
Address of Manufacturer:	20th Floor, Building 4, Tianan Cloud Park, Bantian St., Longgang District, Shenzhen, China
Factory:	SHENZHEN TOUMEI TECHNOLOGY CO., LTD
Address of Factory:	Room 502, Building A, Jinke Industrial Park, No.310, Wuhe Avenue, Luhu Community, Guanhu Street, Longhua District, Shenzhen, China

3.2 General Description of EUT

Product Name:	Projector
Model No.:	U0840
Test Model No.:	U0840
Trade Mark:	ULTIMEA
Software Version:	V1.0
Hardware Version:	B(23365)
EUT Power Supply:	Adapter: Model No.:GQ120-1900632-E1 Input:100-240V~50/60Hz 2.0A Max Output:19.0V 6.32A 120.08W
	Adapter: Model No.:MSS-Z6320WR190-120C0-E Input:100-240V~50/60Hz 2.0A Max Output:19.0V 6.32A 120W

3.3 General Description of BT Classic

Operation Frequency:	2402MHz~2480MHz
Bluetooth Version:	Bluetooth Spec 5.4
Modulation Technique:	Frequency Hopping Spread Spectrum(FHSS)
Modulation Type:	GFSK, $\pi/4$ DQPSK, 8DPSK
Number of Channel:	79
Transfer Rate:	1Mbps/2Mbps/3Mbps
Hopping Channel Type:	Adaptive Frequency Hopping systems
Sample Type:	<input checked="" type="checkbox"/> Mobile <input type="checkbox"/> Portable <input type="checkbox"/> Fix Location
Antenna Type:	FPC antenna
Antenna Gain:	5.16dBi

3.4 General Description of 2.4G WIFI Classic

Operation Frequency:	2412MHz~2462MHz
Type of Modulation:	IEEE for 802.11b: DSSS(CCK,DQPSK,DBPSK) IEEE for 802.11g : OFDM(64QAM, 16QAM, QPSK, BPSK) IEEE for 802.11n : OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE for 802.11ax :OFDMA(1024QAM, 256QAM, 64QAM, 16QAM, QPSK, BPSK)
Number of Channel:	IEEE 802.11b/g, IEEE 802.11n HT20/ax HE20: 11 Channels IEEE 802.11n HT40/ax HE40: 7 Channels
Channel Separation:	5MHz
Transfer Rate:	802.11b: 1M/2M/5.5M/11M bps 802.11g: 6M/9M/12M/18M/24M/36M/48M/54M bps 802.11n: 7.2M/14.4M/21.7M/28.9M/43.3M/57.8M/65M/72.2M bps 802.11ax: 8.6M/17.2M/25.8M/34.4M/51.6M/68.8M/77.4M/86M/103.2M/114.7M/129M/ 143.4Mbps
Sample Type:	<input checked="" type="checkbox"/> Mobile <input type="checkbox"/> Portable <input type="checkbox"/> Fix Location
Antenna Type:	FPC antenna
Antenna Gain:	5.16dBi

3.5 General Description of 5G WIFI Classic

Operation Frequency:	IEEE 802.11a/n/ac/ax(20M): 5150MHz ~5250 MHz IEEE802.11n/ac/ax(40M): 5150MHz ~5250 MHz IEEE802.11ac/ax(80M): 5150MHz ~5250 MHz IEEE 802.11a/n/ac/ax(20M): 5725MHz ~5850 MHz IEEE802.11n/ac/ax(40M): 5725MHz ~5850 MHz IEEE802.11ac/ax(80M): 5725MHz ~5850 MHz
Type of Modulation:	IEEE for 802.11ax: OFDMA(1024QAM, 256QAM, 64QAM, 16QAM, QPSK, BPSK) IEEE for 802.11a/n/ac: OFDM(256QAM, 64QAM, 16QAM, QPSK, BPSK)
Number of Channel:	IEEE 802.11a/n/ac/ax(20M): 5150MHz ~5250MHz/ 4 channel IEEE 802.11n/ac/ax(40M): 5150MHz ~5250MHz/ 2 channel IEEE 802.11ac/ax(80M): 5150MHz ~5250MHz/ 1 channel IEEE 802.11a/n/ac/ax(20M): 5725MHz ~5850MHz/ 5 channel IEEE 802.11n/ac/ax(40M): 5725MHz ~5850MHz/ 2 channel IEEE 802.11ac/ax(80M): 5725MHz ~5850MHz/ 1 channel
Channel Separation:	5MHz
Sample Type:	<input checked="" type="checkbox"/> Mobile <input type="checkbox"/> Portable <input type="checkbox"/> Fix Location
Antenna Type:	FPC antenna
Antenna Gain:	4.91dBi

Note:

The above parameters will directly affect the test results. The information is provided by the applicant.

4 MPE Evaluation

4.1 RF Exposure Compliance Requirement

4.1.1 Limits

The table applies to any RF source (i.e., single fixed, mobile, and portable transmitters) and specifies power and distance criteria for each of the five frequency ranges used for the MPE limits. These criteria apply at separation distances from any part of the radiating structure of at least $\lambda/2\pi$. The thresholds are based on the general population MPE limits with a single perfect reflection, outside of the reactive near-field, and in the main beam of the radiator. For mobile devices that are not exempt per Table B.1 [Table 1 of § 1.1307(b)(1)(i)(C)] at distances from 20 cm to 40 cm and in 0.3 GHz to 6 GHz, evaluation of compliance with the exposure limits in § 1.1310 is necessary if the ERP of the device is greater than ERP_{20cm} in Formula (B.1) [repeated from § 2.1091(c)(1) and § 1.1307(b)(1)(i)(B)].

$$P_{th} \text{ (mW)} = ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases}$$

If the ERP is not easily obtained, then the available maximum time-averaged power may be used (i.e., without consideration of ERP only if the physical dimensions of the radiating structure(s) do not exceed the electrical length of $\lambda/4$ or if the antenna gain is less than that of a half-wave Dipole.

SAR-based exemptions are constant at separation distances between 20 cm and 40 cm to avoid discontinuities in the threshold when transitioning between SAR-based and MPE-based exemption criteria at 40 cm, considering the importance of reflections.

4.1.2 Test Procedure

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

4.1.3 EUT RF Exposure

1) For BT Classic

Measurement Data

GFSK mode				
Test channel	Max.Peak Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	ERP (dBm)
2480MHz	7.95	5.16	13.11	10.96
Tune-up				
Tune up tolerance (dBm)		Maximum tune-up Power		
		(dBm)	(mW)	
11.0±1		12	15.85	

The ERP of this product is less than 3060mW

Note: 1) Refer to report No. CQASZ20250601276E-01 for EUT test Max Conducted Peak Output Power value.
2) EUT's module is more than 20cm away from the human body.

2) For 2.4G WIFI Classic

Measurement Data

11N20 mode				
Test channel	Max.Peak Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	ERP (dBm)
2437MHz	14.46	5.16	19.62	17.47
Tune-up				
Tune up tolerance (dBm)		Maximum tune-up Power		
		(dBm)	(mW)	
17.5±1		18.5	70.79	

The ERP of this product is less than 3060mW

Note: 1) Refer to report No. CQASZ20250601276E-02 for EUT test Max Conducted AV Output Power value.

2) EUT's module is more than 20cm away from the human body.

3) For 5G WIFI Classic

Measurement Data

11AC20 mode				
Test channel	Max.Peak Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	ERP (dBm)
5745MHz	6.89	4.91	11.80	9.65
Tune-up				
Tune up tolerance (dBm)		Maximum tune-up Power		
		(dBm)		(mW)
10.0±1		11		12.59

The ERP of this product is less than 3060mW

Note: 1) Refer to report No. CQASZ20250601276E-03 for EUT test Max Conducted AV Output Power value.
 2) EUT's module is more than 20cm away from the human body.

*** END OF REPORT ***