

1 Version

Revision History Of Report

Report No.	Version	Description	Issue Date
CQASZ20220801474E-02	Rev.01	Initial report	2022-10-20

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3 General Information

3.1 Client Information

Applicant:	Shenzhen Unplug Optoelectronic Technology Co.,LTD
Address of Applicant:	1321, No.5 Golf Avenue, Guanlan street, Longhua District, Shenzhen
Manufacturer:	Shenzhen Unplug Optoelectronic Technology Co.,LTD
Address of Manufacturer:	1321, No.5 Golf Avenue, Guanlan street, Longhua District, Shenzhen
Factory:	Shenzhen Unplug Optoelectronic Technology Co.,LTD
Address of Factory:	1321, No.5 Golf Avenue, Guanlan street, Longhua District, Shenzhen

3.2 General Description of EUT

Product Name:	LED TV backlight
Model No.:	PJX-55, PJX-60, PJX-65
Test Model No.:	PJX-65
Trade Mark:	Urquhart Studios
Software Version:	T866_20220622.img
Hardware Version:	ZH902_T866_DDR3*4_V1.1
EUT Power Supply:	MODEL:KA2401A-1202000US INPUT:100-240V~ 50/60Hz 0.65A Max OUTPUT:12V= 2000mA

3.3 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(HT20 and HT40) : OFDM (64QAM, 16QAM, QPSK, BPSK)
Number of Channel:	IEEE 802.11b/g, IEEE 802.11n HT20: 11 Channels IEEE 802.11n HT40: 7 Channels
Channel Separation:	5MHz
Transfer Rate:	IEEE for 802.11b: 1Mbps/2Mbps/5.5Mbps/11Mbps IEEE for 802.11g : 6Mbps/9Mbps/12Mbps/18Mbps/24Mbps/36Mbps/48Mbps/54Mbps IEEE for 802.11n(HT20) : 6.5Mbps/13Mbps/19.5Mbps/26Mbps/39Mbps/52Mbps/58.5Mbps/65Mbps IEEE for 802.11n(HT40) : 13.5Mbps/27Mbps/40.5Mbps/54Mbps/81Mbps/108Mbps/121.5Mbps/135Mbps
Sample Type:	<input checked="" type="checkbox"/> Mobile <input type="checkbox"/> Portable <input type="checkbox"/> Fix Location
Antenna Type:	metal antenna
Antenna Gain:	2.55dBi

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

2) For 2.4G WIFI Classic

Measurement Data

11B mode				
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2412MHz)	7.25	7.5±1	8.5	7.08
Middle(2437MHz)	8.04	8±1	9	7.94
Highest(2462MHz)	9.26	9.5±1	10.5	11.22
11G mode				
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2412MHz)	7.15	7±1	8	6.31
Middle(2437MHz)	7.87	8±1	9	7.94
Highest(2462MHz)	8.06	8±1	9	7.94
11N20 mode				
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2412MHz)	6.96	7±1	8	6.31
Middle(2437MHz)	7.74	8±1	9	7.94
Highest(2462MHz)	8.89	9±1	10	10.00
11N40 mode				
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2422MHz)	7.41	7.5±1	8.5	7.08
Middle(2437MHz)	8.79	9±1	10	10.00
Highest(2452MHz)	7.76	8±1	9	7.94

Note: 1) Refer to report No. CQASZ20220801474E-01 for EUT test Max Conducted Peak Output Power value.

Result:

The maximum output power of this product is less than 3060mW

*** END OF REPORT ***