

# Maximum Permissible Exposure Evaluation

**FCC ID: VAC-PDWX08**

## 1. Client Information

<b>Applicant</b>	:	SUN HEI ( WORLDWIDE) ELECTRONIC CO., LTD
<b>Address</b>	:	UNIT B, 15/F, WING CHEUNG IND.BLDG 58-70, KWAI CHEONG RD., KWAI CHUNG, N.T. HONGKONG
<b>Manufacturer</b>	:	Xiang Shun Electronic Products Co., Ltd
<b>Address</b>	:	No.5, Xixing Street, Changan Town, Dongguan City, Guangdong Province, China

## 2. General Description of EUT

<b>EUT Name</b>	:	8 Inch Wi-Fi Digital Picture Frame	
<b>Models No.</b>	:	PDWX-800BB, PDWX-800BG, PDWX-800CD, PDWX-800NT, PDWX-800WO	
<b>Model Different</b>	:	All these models are the same in the same PCB, layout and circuit, the only difference is the model name and appearance.	
<b>Product Description</b>	:	Operation Frequency:	802.11b/g/n(HT20): 2412MHz~2462MHz 802.11n(HT40): 2422MHz~2452MHz
		Number of Channel:	802.11b/g/n(HT20):11 channels 802.11n(HT40): 7 channels
		RF Output Power:	802.11b: 16.507dBm(MAX)
		Antenna Gain:	1.55dBi PIFA Antenna
<b>Power Rating</b>	:	Adapter(THX-050200KV) Input: 100-240V~, 50/60Hz, 0.65A MAX Output: DC 5V2.0A Adapter(SR-C6050200U2) Input: 100-240V~, 50/60Hz, 0.35A MAX Output: DC 5V2.0A	
<b>Software Version</b>	:	N/A	
<b>Hardware Version</b>	:	BND-RK3126-D916 A1.0	
<b>Connecting I/O Port(S)</b>	:	Please refer to the User's Manual	
<b>Remark</b>	:	the evaluation report used the EUT(20210608-07-02#).	

### MPE Calculations for WIFI

**1. Antenna Gain:**

PIFA Antenna:1.55dBi.

**2. EUT Operation Condition:**

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

**3. Exposure Evaluation:**

Equation from page 18 of OET Bulletin 65, Edition 97-01

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

Where

**S:** power density

**P:** power input to the antenna

**G:** power gain of the antenna in the direction of interest relative to an isotropic radiator.

**R:** distance to the center of radiation of the antenna

**4. Test Result:**

**2.4G WiFi**

Mode	Conducted Power(max) (dBm)	Turn-up Power (dB)	Max tune up power (dBm) [P]	ANT Gain (dBi) [G]	Distance (cm) [R]	Power Density (mW/ cm <sup>2</sup> ) [S]	Limit of Power Density (mW/ cm <sup>2</sup> ) (S)
802.11B	16.507	16±1	17	1.55	20	0.01425	1
802.11G	16.197	16±1	17	1.55	20	0.01425	1
802.11N(HT20)	15.059	15±1	16	1.55	20	0.01132	1
802.11N(HT40)	14.062	14±1	15	1.55	20	0.00899	1

**5. Conclusion:**

As specified in Table 1B of 47 CFR 1.1310- Limits for Maximum Permissible Exposure (MPE),

**Limits for General Population/ Uncontrolled Exposure**

Frequency Range (MHz)	Power density (mW/ cm <sup>2</sup> )
300-1,500	F/1500
1,500-100,000	1.0

For 2.4WIFI:2412~2462 MHz  
MPE limit S: 1mW/ cm<sup>2</sup>

The MPE is calculated as  $0.01425mW/cm^2 < limit 1mW/cm^2$ . So, RF exposure limit warning or SAR test are not required.

The EUT will only be used with a separation of 20cm or greater between the antenna and nearby persons and can therefore be considered a mobile transmitter per 47 CFR2.1091 (b).

The RF Exposure Information page from the manual is included here for reference.

**Note**

For a more detailed features description, please refer to the RF Test Report.

**6. Conclusion:**

The measurement results comply with the FCC Limit per 47 CFR 2.1091 for the uncontrolled RF Exposure of mobile device.

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