



FCC ID: NCI-P650IVF02-0  
Report No.: T180801N05-MF

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**IEEE C95.1  
KDB 447498 D03  
47 C.F.R. Part 1, Subpart I, Section 1.1310  
47 C.F.R. Part 2, Subpart J, Section 2.1091**

## **RF EXPOSURE REPORT**

**For**

**60 Inch TFT-LCD Display**

**Model: P650IVF02.0**

**Trade Name: AUO**

*Issued to*

**VIA Technologies, Inc.**  
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**Issued By  
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**Issued Date: September 25, 2018**

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.  
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## Revision History

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	September 25, 2018	Initial Issue	ALL	Daphne Liang

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## 1. TEST RESULT CERTIFICATION

### We hereby certify that:

The equipment has been tested by Compliance Certification Services Inc., and found compliance with the requirement of the applicable standards. The test record, data evaluation and Equipment under Test (EUT) configurations represented herein are true and accurate accounts of the measurement of the sample's RF characteristics under the conditions specified in this report.

APPLICABLE STANDARDS	
STANDARD	TEST RESULT
IEEE C95.1 2005	
KDB 447498 D03	
47 C.F.R. Part 1, Subpart I, Section 1.1310	
47 C.F.R. Part 2, Subpart J, Section 2.1091	No non-compliance noted

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Section Manager

## 2. LIMIT

According to §15.247(i), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess of the Commission's guidelines. See § 1.1307(b)(1) of this chapter.

## 3. EUT SPECIFICATION

<b>EUT</b>	60 Inch TFT-LCD Display
<b>Model</b>	P650IVF02.0
<b>Trade Name</b>	
<b>Model Discrepancy</b>	N/A
<b>Frequency band (Operating)</b>	<input checked="" type="checkbox"/> 802.11b/g/n HT20: 2.412GHz ~ 2.462GHz 802.11n HT40: 2.422GHz ~ 2.452GHz <input checked="" type="checkbox"/> 802.11a, 802.11n HT20 : 5180MHz ~ 5240MHz; 5745 ~ 5825MHz 802.11n HT40 : 5190MHz ~ 5230MHz; 5755 ~ 5795MHz 802.11ac VHT80 : 5210MHz; 5755MHz <input type="checkbox"/> Others
<b>Device category</b>	<input type="checkbox"/> Portable (<20cm separation) <input checked="" type="checkbox"/> Mobile (>20cm separation) <input type="checkbox"/> Others
<b>Exposure classification</b>	<input type="checkbox"/> Occupational/Controlled exposure (S = 5mW/cm <sup>2</sup> ) <input checked="" type="checkbox"/> General Population/Uncontrolled exposure (S=1mW/cm <sup>2</sup> )
<b>Antenna Specification</b>	Antenna (1TX1RX), 2pcs Manufacturer: WIFI-Link Technologies Inc. Type: PCB Mode: WLDF-5024-07-07 Gain : 5dBi (2.4G) / 7dBi (5G) Antenna Gain 2.4GHz 5.00 dBi (Numeric gain: 3.16) worst Antenna Gain 5GHz 7.00 dBi (Numeric gain: 5.01) worst
<b>Maximum Average output power</b>	IEEE 802.11b Mode : 18.03 dBm (63.533 mW) IEEE 802.11g Mode : 13.00 dBm (19.953 mW) IEEE 802.11n HT20 Mode : 12.39 dBm (17.338 mW) IEEE 802.11n HT40 Mode : 12.15 dBm (16.406 mW) IEEE 802.11a Mode : 13.15 dBm (20.654 mW) IEEE 802.11n HT20 Mode: 13.49 dBm (22.336 mW) IEEE 802.11n HT40 Mode: 12.45 dBm (17.579 mW) IEEE 802.11AC HT80 Mode: 12.02 dBm (15.922 mW)

<b>Maximum Tune up Power</b>	IEEE 802.11b Mode :	19.03 dBm	(79.983 mW)
	IEEE 802.11g Mode :	14.00 dBm	(25.119 mW)
	IEEE 802.11n HT20 Mode :	13.39 dBm	(21.827 mW)
	IEEE 802.11n HT40 Mode :	13.15 dBm	(20.654 mW)
	IEEE 802.11a Mode :	14.15 dBm	(26.002 mW)
	IEEE 802.11n HT20 Mode:	14.49 dBm	(28.120 mW)
	IEEE 802.11n HT40 Mode:	13.45 dBm	(22.131 mW)
	IEEE 802.11AC HT80 Mode:	13.02 dBm	(20.045 mW)
<b>Evaluation applied</b>	<input checked="" type="checkbox"/> MPE Evaluation* <input type="checkbox"/> SAR Evaluation <input type="checkbox"/> N/A		

**Notes:** For 2.4GHz and 5GHz could not be use as transmit/receive at the same time.

## 4. TEST RESULTS

**No non-compliance noted.**

### Calculation

$$\text{Given } E = \frac{\sqrt{30 \times P \times G}}{d} \quad \& \quad S = \frac{E^2}{377}$$

Where  $E$  = Field strength in Volts / meter

$P$  = Power in Watts

$G$  = Numeric antenna gain

$d$  = Distance in meters

$S$  = Power density in milliwatts / square centimeter

Combining equations and re-arranging the terms to express the distance as a function of the remaining variables yields:

$$S = \frac{30 \times P \times G}{377d^2}$$

Changing to units of mW and cm, using:

$P$  (mW) =  $P$  (W) / 1000 and

$d$  (cm) =  $d$ (m) / 100

Yields

$$S = \frac{30 \times (P/1000) \times G}{377 \times (d/100)^2} = 0.0796 \times \frac{P \times G}{d^2} \quad \text{Equation 1}$$

Where  $d$  = Distance in cm

$P$  = Power in mW

$G$  = Numeric antenna gain

$S$  = Power density in mW / cm<sup>2</sup>

## 5. MAXIMUM PERMISSIBLE EXPOSURE

Substituting the MPE safe distance using  $d = 20$  cm into Equation 1:

$$S = 0.000199 \times P \times G$$

Where  $P = \text{Power in mW}$

$G = \text{Numeric antenna gain}$

$S = \text{Power density in mW / cm}^2$

IEEE 802.11b Mode :

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm <sup>2</sup>	Limit (mW/cm <sup>2</sup> )	Result
Low	2412	79.983	3.16	20	0.0503	1	Pass

IEEE 802.11g Mode :

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm <sup>2</sup>	Limit (mW/cm <sup>2</sup> )	Result
Mid	2437	25.119	3.16	20	0.0158	1	Pass

IEEE 802.11n HT 20 Mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm <sup>2</sup>	Limit (mW/cm <sup>2</sup> )	Result
Mid	2437	21.827	3.16	20	0.0137	1	Pass

IEEE 802.11n HT 40 Mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm <sup>2</sup>	Limit (mW/cm <sup>2</sup> )	Result
Mid	2437	20.654	3.16	20	0.0130	1	Pass

IEEE 802.11a Mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm <sup>2</sup>	Limit (mW/cm <sup>2</sup> )	Result
Mid	5785	26.002	5.01	20	0.0259	1	Pass

IEEE 802.11n HT20 Mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm <sup>2</sup>	Limit (mW/cm <sup>2</sup> )	Result
High	5825	28.120	5.01	20	0.0280	1	Pass

IEEE 802.11n HT40 Mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm <sup>2</sup>	Limit (mW/cm <sup>2</sup> )	Result
High	5795	22.131	5.01	20	0.0221	1	Pass

IEEE 802.11AC HT80 Mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm <sup>2</sup>	Limit (mW/cm <sup>2</sup> )	Result
Mid	5775	20.045	5.01	20	0.0200	1	Pass