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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**

**30W Wall Plate Audio Amplifier with CSR Bluetooth v4.2**

**Model: A-1430WP**

**Trade Name: N/A**

*Issued to*

**Ten Tronics Co., Ltd.**

**No.33, Lane 347, Chung-San S.Road Young-Kang District, Tainan,  
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*Issued By*

**Compliance Certification Services Inc.**

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**Issued Date: November 13, 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.  
除非另有說明，此報告結果僅對測試之樣品負責，同時此樣品僅保留90天。本報告未經本公司書面許可，不可部分複製。

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### Revision History

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	November 13, 2018	Initial Issue	ALL	Gina Lin



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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

*Approved by:*

**Jeter Wu**  
Assistant Manager

*Reviewed by:*

**Eric Huang**  
Section Manager

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## 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>	30W Wall Plate Audio Amplifier with CSR Bluetooth v4.2		
<b>Model</b>	A-1430WP		
<b>Trade Name</b>	N/A		
<b>Model Discrepancy</b>	N/A		
<b>Frequency band (Operating)</b>	<input type="checkbox"/> 802.11b/g/n HT20: 2412MHz ~ 2462MHz <input type="checkbox"/> 802.11n HT40: 2422MHz ~ 2452MHz <input checked="" type="checkbox"/> Others 2402MHz ~ 2480MHz (BT3.0 BT4.0)		
<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>	PCB Antenna / Gain: -2.00 dBi (Numeric gain: 0.63) worst		
<b>Maximum Average output power</b>	GFSK:	-0.15 dBm	(0.966 mW)
	8-DPSK	-2.05 dBm	(0.624 mW)
	DSSS	1.49 dBm	(1.409 mW)
<b>Maximum Tune up Power</b>	GFSK:	0.50 dBm	(1.122 mW)
	8-DPSK:	-1.50 dBm	(0.708 mW)
	DSSS	1.50 dBm	(1.413 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:

$$P \text{ (mW)} = P \text{ (W)} / 1000 \text{ and}$$

$$d \text{ (cm)} = d \text{ (m)} / 100$$

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  $P =$  Power in mW

$G =$  Numeric antenna gain

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

### GFSK:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm <sup>2</sup>	Limit (mW/cm2)	Result
High	2480	1.122	0.63	20	0.0001	1	Pass

### 8-DPSK:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm <sup>2</sup>	Limit (mW/cm2)	Result
High	2480	0.708	0.63	20	0.0001	1	Pass

### DSSS:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm <sup>2</sup>	Limit (mW/cm2)	Result
High	2480	1.413	0.63	20	0.0002	1	Pass