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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

RF EXPOSURE REPORT

For

WattBox IP Power Strip & Surge Protector Wi-Fi | 2 Individually Controlled Outlets

Model: WB-250-IPW-2

Trade Name: WattBox

Issued to

Wirepath Home Systems, LLC, DBA SnapAV 1800 Continental Blvd Suite 200 Charlotte, North Carolina 28273 USA

Issued by

Compliance Certification Services Inc. No.11, Wugong 6th Rd., Wugu Dist., New Taipei City 24891, Taiwan. (R.O.C.) Issue Date: July 24, 2019

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Revision History

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	July 16, 2019	Initial Issue	ALL	Allison Chen
01	July 24, 2019	See the following Note Rev.(01)	P.7-8	Allison Chen

Rev.(01)

1. Modify product name.

2. Modify calculation formula and test result.



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1. TEST RESULT CERTIFICATION

We hereby certify that:

The above equipment was tested by Compliance Certification Services Inc. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10: 2013 and the energy emitted by the sample EUT tested as described in this report is in compliance with the requirements of FCC Rules Part 15.207, 15.209, 15.247.

The test results of this report relate only to the tested sample EUT identified 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				

Statements of Conformity

Determination of compliance is based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

Approved by:

Komil Tsori

Kevin Tsai Deputy Manager Compliance Certification Services Inc.

Reporter:

Allison Chen

Allison Chen Report coordinator Compliance Certification Services Inc.



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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.



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3. EUT SPECIFICATION

EUT	WattBox IP Power Strip & Surge Protector Wi-Fi 2 Individually Controlled Outlets						
Model	WB-250-IPW-2						
Frequency band (Operating)	 Bluetooth: 2402MHz-2480MHz 802.11b/g/n HT20: 2412MHz ~ 2462 MHz 802.11n HT40: 2422MHz ~ 2452MHz 802.11a/n HT20: 5180MHz ~ 5240MHz / 5260MHz ~ 5320MHz / 5500MHz ~ 5700MHz / 5745MHz ~ 5825MHz 802.11n HT40: 5190MHz ~ 5230MHz / 5270MHz ~ 5310MHz / 5510MHz ~ 5670MHz / 5755MHz ~ 5795MHz 802.11ac VHT80: 5210MHz / 5290MHz / 5530MHz / 5775MHz Others 						
Device category	 Portable (<20cm separation) Mobile (>20cm separation) Others 						
Exposure classification	 Occupational/Controlled exposure (S = 5mW/cm²) General Population/Uncontrolled exposure (S=1mW/cm²) 						
Antenna Specification	2.4GHz: Antenna Gain : 1.46 dBi (Numeric gain 1.40)						
Maximum tune up power	IEEE 802.11b Mode:20.50 dBm(112.202 mW)IEEE 802.11g Mode:18.50 dBm(70.795 mW)IEEE 802.11n HT 20 Mode:18.50 dBm(70.795 mW)IEEE 802.11n HT 40 Mode:17.50 dBm(56.234 mW)						
Evaluation applied	 MPE Evaluation* SAR Evaluation N/A 						



4. TEST RESULTS

No non-compliance noted.

Calculation

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:

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

Changing to units of mW and cm, using:

P(mW) = P(W) / 1000 and d(cm) = d(m) / 100

Yields

$$S = \frac{30 \times (P/1000) \times G}{377 \times (d/100)^2} = 0.796 \times \frac{P \times G}{d^2}$$
 Equation 1

Where d = Distance in cm P = Power in mW G = Numeric antenna gain S = Power density in mW / cm² Page 7/8 Rev.: 01



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5. MAXIMUM PERMISSIBLE EXPOSURE

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

 $S = 0.00199 \times P \times G$

Where P = Power in mW

G = *Numeric* antenna gain

 $S = Power density in mW / cm^2$

IEEE 802.11b mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm ²	Limit (mW/cm2)
11	2462	112.202	1.4	20	0.3126	1

IEEE 802.11g mode:

ſ	Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm ²	Limit (mW/cm2)
ľ	6	2437	70.795	1.4	20	0.1972	1

IEEE 802.11n HT20 mode:

ſ	Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm ²	Limit (mW/cm2)
	6	2437	70.795	1.4	20	0.1972	1

IEEE 802.11n HT40 mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm ²	Limit (mW/cm2)
6	2437	56.234	1.4	20	0.1567	1

--End of Report--