IEEE C95.1 2005
KDB 447498 D03
47 C.F.R. Part 1, Subpart I, Sec tion 1.1310
47 C.F.R. Part 2, Subpart J, Section 2.1091

RF EXPOSURE REPORT

For

AVer Dual Band Wirelss Dongle

Model: PW00U

Trade Name: AVer

Issued to

AVer Information Inc.
8F., No.157, Da-An Rd., Tucheng Dist, New Taipei City, Taiwan

Issued by

Compliance Certification Services Inc.
No.11, Wugong 6th Rd., Wugu Dist.,
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Issue Date: June 17, 2019

Note: *This document may be altered or revised by Compliance Certification Services Inc. personnel only, and shall be noted in the revision section of the document. The client should not use it to claim product endorsement by TAF, A2LA, NIST or any government agencies. The test results in the report only apply to the tested sample.*

Revision History

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	June 17, 2019	Initial Issue	ALL	May Lin

TABLE OF CONTENTS

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:

Kevin Tsai
Deputy Manager
Compliance Certification Services Inc.

Reporter:

May Lin
Report coordinator
Compliance Certification Services Inc.

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

EUT	AVer Dual Band Wirelss Dongle
Model	PW00U
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/cm^2) ☒ General Population/Uncontrolled exposure (S=1mW/cm^2)
Antenna Specification	Bluetooth : Antenna Gain : 4.15 dBi (Numeric gain 2.60) 2.4GHz: Antenna Gain : 4.15 dBi (Numeric gain 2.60) 5GHz: Antenna Gain : 1.78 dBi (Numeric gain 1.51)
Maximum tune up power	Bluetooth: 8.50 dBm (7.079 mW) 2.4GHz: IEEE 802.11b Mode: 24.00 dBm (251.189 mW) IEEE 802.11g Mode: 20.50 dBm (112.202 mW) IEEE 802.11n HT 20 Mode: 21.00 dBm (125.893 mW) IEEE 802.11n HT 40 Mode: 21.00 dBm (125.893 mW) 5GHz: IEEE 802.11a Mode: 18.50 dBm (70.795 mW) IEEE 802.11n HT 20 Mode: 20.00 dBm (100.000 mW) IEEE 802.11n HT 40 Mode: 19.50 dBm (89.125 mW) IEEE 802.11ac VHT 80 Mode: 18.00 dBm (63.096 mW)
Evaluation applied	☒ MPE Evaluation* ☐ SAR Evaluation ☐ N/A

4. TEST RESULTS

No non-compliance noted.

Calculation

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

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

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

Where d = Distance in cm
P = Power in mW
G = Numeric antenna gain
S = Power density in mW / cm²

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 / cm²

Bluetooth:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm^2	Limit (mW/cm2)
0	2402	7.079	2.6	20	0.0037	1

IEEE 802.11b mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm^2	Limit (mW/cm2)
11	2462	251.189	2.6	20	0.1300	1

IEEE 802.11g mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm^2	Limit (mW/cm2)
11	2462	112.202	2.6	20	0.0581	1

IEEE 802.11n HT20 mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm^2	Limit (mW/cm2)
6	2437	125.893	2.6	20	0.0651	1

IEEE 802.11n HT40 mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm^2	Limit (mW/cm2)
9	2452	125.893	2.6	20	0.0651	1

IEEE 802.11a mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm^2	Limit (mW/cm2)
165	5825	70.795	1.51	20	0.0213	1

IEEE 802.11n HT20 mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm^2	Limit (mW/cm2)
56	5820	100	1.51	20	0.0300	1

IEEE 802.11n HT40 mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm^2	Limit (mW/cm2)
159	5795	89.125	1.51	20	0.0268	1

IEEE 802.11ac VHT80 mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm^2	Limit (mW/cm2)
155	5775	63.096	1.51	20	0.0190	1

6. SIMULTANEOUS TRANSMISSION SAR ANALYSIS

Both of the Bluetooth、WIFI 2.4GHz and WIFI 5GHz can transmit simultaneously, the formula of calculated the MPE is:

CPD1 / LPD1 + CPD2 / LPD2 + ……etc. < 1

CPD = Calculation power density

LPD = Limit of power density

Bluetooth、WIFI 2.4GHz and WIFI 5GHz

Therefore, the worst-case situation is 0.0037 / 1 + 0.0651 / 1 + 0.0268 / 1 = 0.0956, which is less than “1”.

--End of Report--