

**IEEE C95.1 2005
KDB 447498 D01 V06
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

**10 dBi Wireless N300 Outdoor PoE Access Point,
10 dBi Wireless N300 Outdoor PoE Preconfigured Point-to-Point Bridge
Kit**

Model: TEW-740APBO V2.0, TEW-740APBO2K

Trade Name: TRENDnet

Issued to
**TRENDnet, Inc.
20675 Manhattan Place, Torrance, CA 90501 USA**

Issued by
**Compliance Certification Services Inc.
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Revision History

Rev.		Issue Date		Revisions	Effect Page	Revised By
00		August 14, 2017		Initial Issue	ALL	Vicki Huang
01		August 25, 2017		1. Modify Directional Gain 2. Modify Average out power	P.6, P.8	Vicki Huang
02		August 29, 2017		Modify Maximum Tune up Power	P.6, P.8	Vicki Huang
03		September 11, 2017		1. Modify Directional Gain 2. Modify Average out power	P.6, P.8	Vicki Huang

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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.

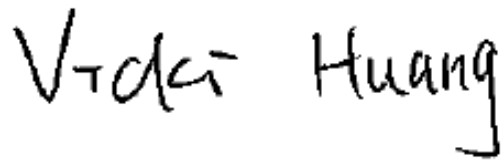
APPLICABLE STANDARDS	
STANDARD	TEST RESULT
IEEE C95.1 2005 KDB 447498 D03 47 C.F.R. Part 1, Subpart I, Section 1.1310 47 C.F.R. Part 2, Subpart J, Section 2.1091	No non-compliance noted

Approved by:



Sam Chuang
Manager
Compliance Certification Services Inc.

Tested by:



Vicki Huang
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

Product	10 dBi Wireless N300 Outdoor PoE Access Point 10 dBi Wireless N300 Outdoor PoE Preconfigured Point-to-Point Bridge Kit		
Model	TEW-740APBO V2.0, TEW-740APBO2K		
Brand name	TRENDnet		
Model Discrepancy	Product	Model Number	Difference
	10 dBi Wireless N300 Outdoor PoE Access Point	TEW-740APBO V2.0	(1) Default IP change (2) Default SSID/encryption change (3) UI model name change
	10 dBi Wireless N300 Outdoor PoE Preconfigured Point-to-Point Bridge Kit	TEW-740APBO2K	
Frequency band (Operating)	☒ 802.11b/g/n HT20: 2412MHz ~ 2462MHz 802.11n HT40: 2422MHz ~ 2452MHz ☐ 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	2.4G Dipole Antenna / Gain: 9.12dBi 2.4GHz: Antenna Gain : 9.12 dBi (Numeric gain: 8.18) Worst 2.4GHz: Directional gain = 9.12 dBi +10log (2) = 12.13 dBi (Numeric gain: 16.33)
Maximum Average output power	IEEE 802.11b Mode: 13.55 dBm (22.646 mW) IEEE 802.11g Mode: 17.15 dBm (51.880 mW) IEEE 802.11n HT 20 Mode: 17.70 dBm (58.884 mW) IEEE 802.11n HT 40 Mode: 18.28 dBm (67.298 mW)
Maximum Tune up Power	IEEE 802.11b Mode: 15.50 dBm (35.481 mW) IEEE 802.11g Mode: 19.00 dBm (79.433 mW) IEEE 802.11n HT 20 Mode: 19.50 dBm (89.125 mW) IEEE 802.11n HT 40 Mode: 20.00 dBm (100.000 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:

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

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

Yields

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

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

IEEE 802.11b mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm ²	Limit (mW/cm2)
6	2437	35.481	8.18	20	0.0578	1

IEEE 802.11g mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm ²	Limit (mW/cm2)
6	2437	79.433	8.18	20	0.1293	1

IEEE 802.11n HT 20 mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm ²	Limit (mW/cm2)
6	2437	89.125	16.33	20	0.2896	1

IEEE 802.11n HT 40 mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm ²	Limit (mW/cm2)
6	2437	100	16.33	20	0.3250	1