

RF Exposure Report

Report No.: SA180730C06D

FCC ID: XU8TEW840APBO

Test Model: TEW-840APBO, TEW-842APBO, TEW-844APBO

Series Model: TEW-840APBO2K, TEW-844APBO2K

Received Date: Mar. 21, 2019

Test Date: Apr. 11 ~ Apr. 13, 2019

Issued Date: Apr. 19, 2019

Applicant: TRENDnet, Inc.

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Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch

Lab Address: No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan (R.O.C.)

Test Location: No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, TAIWAN (R.O.C.)

**FCC Registration /
Designation Number:** 788550 / TW0003



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Release Control Record

Issue No.	Description	Date Issued
SA180730C06D	Original release	Apr. 19, 2019

1 Certificate of Conformity

Product: 14 dBi WiFi AC867 Outdoor Directional PoE Access Point (Refer to note for more details)

Brand: TRENDnet

Test Model: TEW-840APBO, TEW-842APBO, TEW-844APBO

Series Model: TEW-840APBO2K, TEW-844APBO2K (Refer to note for more details)

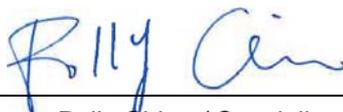
Sample Status: Engineering sample

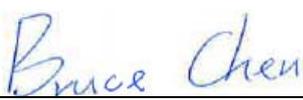
Applicant: TRENDnet, Inc.

Test Date: Apr. 11 ~ Apr. 13, 2019

Standards: FCC Part 2 (Section 2.1091)
KDB 447498 D01 General RF Exposure Guidance v06
IEEE C95.1-1992

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's RF characteristics under the conditions specified in this report.

Prepared by : , **Date:** Apr. 19, 2019
Polly Chien / Specialist

Approved by : , **Date:** Apr. 19, 2019
Bruce Chen / Project Engineer

Note:

All models are listed as below. Model TEW-840APBO, TEW-842APBO and TEW-844APBO are the representative for final test.

Brand	Model	Product	Difference
TRENDnet	TEW-840APBO	14 dBi WiFi AC867 Outdoor Directional PoE Access Point	Internal direct 14dBi antenna
	TEW-840APBO2K	14 dBi WiFi AC867 Outdoor PoE Preconfigured Point-to-Point Bridge Kit	
	TEW-842APBO	5 dBi Wireless AC867 Outdoor PoE Omni-Directional Access Point	Accessory with external dipole 5dBi*2 antenna
	TEW-844APBO	19 dBi WiFi AC867 Outdoor Directional PoE Access Point	Internal direct 19dBi antenna
	TEW-844APBO2K	19 dBi WiFi AC867 Outdoor PoE Preconfigured Point-to-Point Bridge Kit	

2 RF Exposure

2.1 Limits for Maximum Permissible Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Average Time (minutes)
Limits For General Population / Uncontrolled Exposure				
300-1500	F/1500	30
1500-100,000	1.0	30

F = Frequency in MHz

2.2 MPE Calculation Formula

$$P_d = (P_{out} * G) / (4 * \pi * r^2)$$

where

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 3.1416

R = distance between observation point and center of the radiator in cm

2.3 Classification

The antenna of this product, under normal use condition, is at least 25cm away from the body of the user. So, this device is classified as Mobile Device.

3 Calculation Result of Maximum Conducted Power

Frequency Band (MHz)	Max Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
Patch Ant. for model: TEW-840APBO and TEW-840APBO2K use only (CDD Mode)					
5180-5240	15.01	16.43	25	0.177	1
5745-5825	22.29	16.43	25	0.948	1
Patch Ant. for model: TEW-840APBO and TEW-840APBO2K use only (Beamforming Mode)					
5180-5240	11.99	16.43	25	0.088	1
5745-5825	19.21	16.43	25	0.467	1
Dipole Ant. for model: TEW-842APBO (CDD Mode)					
5180-5240	16.33	8.18	25	0.036	1
5745-5825	26.71	8.18	25	0.393	1
Dipole Ant. for model: TEW-842APBO (Beamforming Mode)					
5180-5240	13.32	8.18	25	0.018	1
5745-5825	23.70	8.18	25	0.196	1
Patch Ant. for model: TEW-844APBO and TEW-844APBO2K (CDD Mode)					
5180-5240	5.22	18.51	25	0.030	1
5745-5825	20.30	18.51	25	0.968	1
Patch Ant. for model: TEW-844APBO and TEW-844APBO2K (Beamforming Mode)					
5180-5240	2.21	18.51	25	0.015	1
5745-5825	17.23	18.51	25	0.477	1

Note:

1. Patch Ant. for model: ENS500-ACv2 and EAS100-14 Directional gain = $13.42\text{dBi} + 10\log(2) = 16.43\text{dBi}$
2. Dipole Ant. for model: ENS500EXT-ACv2 and EAS100EXT Directional gain = $5.17\text{dBi} + 10\log(2) = 8.18\text{dBi}$
3. Patch Ant. for model: EnStation5-ACv2 and EAS100-19 Directional gain = $15.50\text{dBi} + 10\log(2) = 18.51\text{dBi}$

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