

## RF Exposure Report

**Report No.:** SA180424C02

**FCC ID:** KA2WL8620APEA1

**Model:** DWL-8620APE

**Received Date:** Apr. 24, 2018

**Test Date:** May 16 ~ Jun. 25, 2018

**Issued Date:** Jun. 29, 2018

**Applicant:** D-Link Corporation

**Address:** 17595 Mt. Herrmann, Fountain Valley, California, United States, 92708

**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 /** 788550 / TW0003

**Designation Number:**



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### Release Control Record

| Issue No.   | Description       | Date Issued   |
|-------------|-------------------|---------------|
| SA180424C02 | Original release. | Jun. 29, 2018 |

## 1 Certificate of Conformity

**Product:** Unified AC Concurrent Dual-Band PoE Access Point

**Brand:** D-Link Corporation

**Model:** DWL-8620APE

**Sample Status:** Engineering sample

**Applicant:** D-Link Corporation

**Test Date:** May 16 ~ Jun. 25, 2018

**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:** Jun. 29, 2018

Suntee Liu / Specialist

**Approved by :**



**Date:** Jun. 29, 2018

Bruce Chen / Project Engineer

## 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 <sup>2</sup> ) | 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

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

where

$P_d$  = power density in mW/cm<sup>2</sup>

$P_{out}$  = output power to antenna in mW

G = gain of antenna in linear scale

$\pi$  = 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 37cm 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 <sup>2</sup> ) | Limit (mW/cm <sup>2</sup> ) |
|----------------------|-----------------|--------------------|---------------|-------------------------------------|-----------------------------|
| CDD Mode             |                 |                    |               |                                     |                             |
| 2412-2462            | 29.54           | 9.02               | 37            | 0.417                               | 1                           |
| 5180-5240            | 28.15           | 10.02              | 37            | 0.381                               | 1                           |
| 5745-5825            | 29.65           | 10.02              | 37            | 0.539                               | 1                           |
| Beamforming Mode     |                 |                    |               |                                     |                             |
| 2412-2462            | 28.00           | 3.78               | 37            | 0.088                               | 1                           |
| 5180-5240            | 26.38           | 5.77               | 37            | 0.095                               | 1                           |
| 5745-5825            | 27.88           | 5.77               | 37            | 0.135                               | 1                           |

Note:

1. The above Max Power is tune-up power which client declared.

2. Antenna gain:

CDD Mode:

2.4GHz Band: Directional gain = 3dBi + 10log(4) = 9.02dBi

5GHz Band: Directional gain = 4dBi + 10log (4) = 10.02dBi

Beamforming Mode:

2.4GHz Band: Beamforming gain = 3.78dBi

5GHz Band: Beamforming gain = 5.77dBi

#### Conclusion:

2.4GHz & 5GHz Band 1 or 2.4GHz & 5GHz Band 4 can transmit at same time.

The formula of calculated the MPE is:

$CPD1 / LPD1 + CPD2 / LPD2 + \dots \text{etc.} < 1$

CPD = Calculation power density

LPD = Limit of power density

1. WLAN 2.4GHz + WLAN 5GHz Band 1 = 0.417 + 0.381 = 0.798

2. WLAN 2.4GHz + WLAN 5GHz Band 4 = 0.417 + 0.539 = 0.956

Therefore the maximum calculations of above situations are less than the "1" limit.

---END---