# RF Exposure Report

**Report No.:** SA160914E10

**FCC ID:** KA2AP1655A1

**Test Model:** DAP-1655, COVR-1300E

**Received Date:** Sep. 14, 2016

**Test Date:** Oct. 20, 2016

**Issued Date:** Apr. 13, 2017

**Applicant:** D-Link Corporation

**Address:** No 289, Xinhu 3rd Rd, Neihu District, Taipei City 11494, Taiwan, R.O.C.

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

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## Release Control Record

| Issue No. | Description | Date Issued |
|---|---|---|
| SA160914E10 | Original release. | Apr. 13, 2017 |

## 1 Certificate of Conformity

| | |
|---|---|
| **Product:** | Covr AC1300 Wi-Fi Range Extender |
| **Brand:** | D-Link |
| **Test Model:** | DAP-1655, COVR-1300E |
| **Sample Status:** | MASS-PRODUCTION |
| **Applicant:** | D-Link Corporation |
| **Test Date:** | Oct. 20, 2016 |
| **Standards:** | FCC Part 2 (Section 2.1091)<br>KDB 447498 D01 General RF Exposure Guidance v06 |

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 EMC characteristics under the conditions specified in this report.

**Prepared by :** Cindy Hsin , **Date:** Apr. 13, 2017

Cindy Hsin / Specialist

**Approved by :** , **Date:** Apr. 13, 2017

May Chen / Manager

## 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

$Pd = (Pout*G) / (4*pi*r^2)$

where

Pd = power density in $mW/cm^2$

Pout = 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 20cm away from the body of the user. So, this device is classified as **Mobile Device**.

### 2.4 Antenna Gain

| Antenna No. | Chain No. | Model | Antenna Gain(dBi) | Frequency range (GHz) | Antenna Type | Connecter Type |
|---|---|---|---|---|---|---|
| 1 | Chain 0 | NA | 1.43 | 2.4~2.4835 | PIFA | I-pex (MHF) |
| | | | 2.99 | 5.15~5.85 | | |
| 2 | Chain 1 | NA | 1.99 | 2.4~2.4835 | PIFA | I-pex (MHF) |
| | | | 2.99 | 5.15~5.85 | | |

2.5 Calculation Result of Maximum Conducted Power

| Frequency Band (MHz) | Max Power (mW) | Antenna Gain (dBi) | Distance (cm) | Power Density ($mW/cm^2$) | Limit ($mW/cm^2$) |
|---|---|---|---|---|---|
| 2412-2462 | 324.61 | 4.72 | 20 | 0.19147 | 1 |
| 5180-5240 | 250.367 | 6.00 | 20 | 0.19829 | 1 |
| 5745-5825 | 279.463 | 6.00 | 20 | 0.22134 | 1 |

NOTE:

2.4GHz: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20})^2$ / 2] = 4.72dBi
5GHz: Directional gain = 2.99dBi + 10log(2) = 6dBi

**Conclusion:**

The formula of calculated the MPE is:

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

CPD = Calculation power density

LPD = Limit of power density

WLAN 2.4GHz + WLAN 5GHz = 0.19147 / 1 + 0.22134 / 1 = 0.41281

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

**--- END ---**