

## 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

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**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)  
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 :** May Chen , **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 <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

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

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 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	Connector 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 <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
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 =  $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 4.72\text{dBi}$

5GHz: Directional gain =  $2.99\text{dBi} + 10\log(2) = 6\text{dBi}$

### Conclusion:

The formula of calculated the MPE is:

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

CPD = Calculation power density

LPD = Limit of power density

$\text{WLAN } 2.4\text{GHz} + \text{WLAN } 5\text{GHz} = 0.19147 / 1 + 0.22134 / 1 = 0.41281$

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

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