



## RF Exposure Report

**Report No.:** SA150422E07B

**FCC ID:** KA2IR868LC1

**Test Model:** DIR-868L

**Series Model:** DAP-1750

**Received Date:** Jan. 11, 2016

**Test Date:** Jan. 19, 2016

**Issued Date:** Feb. 15, 2016

**Applicant:** D-Link Corporation

**Address:** No.289, Sinhu 3rd Rd., Neihu District, Taipei City 114, Taiwan, R.O.C.

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

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Taiwan R.O.C.

**Test Location (2):** No. 49, Ln. 206, Wende Rd., Shangshan Tsuen, Chiung Lin Hsiang, Hsin  
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### Release Control Record

Issue No.	Description	Date Issued
SA150422E07B	Original release.	Feb. 15, 2016



1 **Certificate of Conformity**

**Product:** Wireless AC1750 Dual Band Gigabit Cloud Router USB 3.0

**Brand:** D-Link

**Test Model:** DIR-868L

**Series Model:** DAP-1750

**Sample Status:** ENGINEERING SAMPLE

**Applicant:** D-Link Corporation

**Test Date:** Jan. 19, 2016

**Standards:** FCC Part 2 (Section 2.1091)

KDB 447498 D01 General RF Exposure Guidance v06

IEEE C95.1-2005

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 :** Midoli Peng , **Date:** Feb. 15, 2016  
Midoli Peng / Specialist

**Approved by :** May Chen , **Date:** Feb. 15, 2016  
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

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

where

Pd = power density in mW/cm<sup>2</sup>

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**.

## 3 Antenna Gain

The antennas provided to the EUT, please refer to the following table:

Antenna No.	Transmitter Circuit	Brand	Model	Ant. Gain(dBi) <Including cable loss>	Frequency range (GHz to GHz)	Antenna Type	Connector Type	Cable Length (mm)
1	Chain (0)	Alpha	WRGAC35-ANT 1	2.5	2.4~2.4835	PCB	IpeX(MHF)	60
				2.5	5.15~5.85			
2	Chain (1)		WRGAC35-ANT 2	2.5	2.4~2.4835			
				2.5	5.15~5.85			
3	Chain (2)		WRGAC35-ANT 3	2.5	2.4~2.4835			
				2.5	5.15~5.85			110

**4 Calculation Result Of Maximum Conducted Power**

For WLAN (2.4GHz) & WLAN (5GHz - U-NII-1) data was copied from the original test report (Report No.: SA150422E07).

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	260.338	7.27	20	0.27623	1
5180-5240	414.695	7.27	20	0.44001	1
5745-5825	509.95	7.27	20	0.54107	1

Note:

2.4GHz: Directional gain = 2.5dBi + 10log(3) = 7.27dBi

5GHz: Directional gain = 2.5dBi + 10log(3) = 7.27dBi

**Conclusion:**

Both of the 2.4GHz and 5GHz can transmit simultaneously, the formula of calculated the MPE is:

**$CPD_1 / LPD_1 + CPD_2 / LPD_2 + \dots \text{etc.} < 1$**

**CPD = Calculation power density**

**LPD = Limit of power density**

Therefore, the worst-case situation is  $0.27623 / 1 + 0.54107 / 1 = 0.8173$ , which is less than "1".

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