

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

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

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

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 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			120
				2.5	5.15~5.85			
3	Chain (2)		WRGAC35-ANT 3	2.5	2.4~2.4835			110
				2.5	5.15~5.85			

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 ²)	Limit (mW/cm ²)
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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