RF Exposure Report

Report No.:	SA170623E04A
FCC ID:	KA2IR815D1
Test Model:	DIR-815
Received Date:	June 23, 2017
Test Date:	Aug. 04 to 05, 2017
Issued Date:	Sep. 14, 2017
Applicant:	D-Link Corporation
Address:	17595 Mt. Herrmann, Fountain Valley,California, United States
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Hsin Chu Laboratory
Lab Address:	E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan R.O.C.

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Release Control Record

Issue No.	Description	Date Issued
SA170623E04A	Original release.	Sep. 14, 2017

1 Certificate of Conformity

Product:	Wireless AC1200 Dual Band Router
Brand:	D-Link
Test Model:	DIR-815
Sample Status:	ENGINEERING SAMPLE
Applicant:	D-Link Corporation
Test Date:	Aug. 04 to 05, 2017
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 EMC characteristics under the conditions specified in this report.

Prepared by : _____ , **Date:** Sep. 14, 2017

Wendy Wu / Specialist

Approved by : _____ , **Date:** Sep. 14, 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				
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	($180/f^2$)*	30
30-300	27.5	0.073	0.2	30
300-1500	…	…	f/1500	30
1500-100,000	…	…	1.0	30

f = Frequency in MHz ; *Plane-wave equivalent power density

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

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

Antenna No.	Chain No.	Antenna Net Gain (dBi)	Frequency range (GHz)	Antenna Type	Connecter Type
2.4GHz_0	Chain 0	5	2.4~2.4835GHz	Dipole	i-pex(MHF)
2.4GHz_1	Chain 1	5	2.4~2.4835GHz	Dipole	i-pex(MHF)
5GHz_0	Chain 0	5	5.15~5.85GHz	Dipole	i-pex(MHF)
5GHz_1	Chain 1	5	5.15~5.85GHz	Dipole	i-pex(MHF)

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	300.163	8.01	20	0.37765	1
5180-5240	346.853	8.01	20	0.43639	1
5745-5825	182.643	8.01	20	0.22979	1

NOTE:
2.4GHz: Directional gain = 5dBi + 10log(2) = 8.01dBi
5GHz: Directional gain = 5dBi + 10log(2) = 8.01dBi

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 = 0.37765 / 1+ 0.43639 / 1 = 0.81404

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

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