RF Exposure Report

Report No.:	SA180424C18 R2
FCC ID:	KA2AP1620B1
Model:	DAP-1620
Series Model:	DRA-1360
Received Date:	Sep. 11, 2017
Test Date:	Sep. 15, 2017 ~ May 18, 2018
Issued Date:	Oct. 12, 2018
Applicant:	D-Link Corporation
Address:	17595 Mt. Herrmann, Fountain Valley, California, United States, 92708
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Lab Address:	No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan, R.O.C.
Test Location:	No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, TAIWAN (R.O.C.)

Testing Laboratory
2021

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Release Control Record

Issue No.	Description	Date Issued
SA180424C18	Original release	May 24, 2018
SA180424C18 R1	Added one model and revised product name	Sep. 25, 2018
SA180424C18 R2	Added remark on page 6	Oct. 12, 2018

1 Certificate of Conformity

Product: AC1300 Wi-Fi Range Extender

Brand: D-Link Corporation

Model: DAP-1620

Series Model: DRA-1360

Sample Status: Engineering sample

Applicant: D-Link Corporation

Test Date: Sep. 15, 2017 ~ May 18, 2018

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 RF characteristics under the conditions specified in this report.

Prepared by : Pettie Chen , **Date:** Oct. 12, 2018

Pettie Chen / Senior Specialist

Approved by : Bruce Chen , **Date:** Oct. 12, 2018

Bruce Chen / Project Engineer

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**.

3 Calculation Result of Maximum Conducted Power

Frequency Band (MHz)	Max Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)
2412-2462	24.48	4.01	20	0.141	1
CDD Mode					
5180-5240	24.93	5.01	20	0.196	1
5745-5825	25.38	5.01	20	0.218	1
Beamforming Mode					
5180-5240	21.92	5.01	20	0.098	1
5745-5825	22.37	5.01	20	0.109	1

Remark: The above Max power is tune-up power.

Note:
2.4GHz Band: Directional gain = 1dBi +10log(2) = 4.01dBi
5GHz Band: Directional gain = 2dBi +10log(2) = 5.01dBi

Conclusion:

The WLAN 2.4G & WLAN 5G can transmit simultaneously, the formula of calculated the MPE is:

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

CPD = Calculation power density

LPD = Limit of power density

WALN 2.4GHz + WALN 5GHz = 0.141 + 0.218 = 0.359

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

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