RF Exposure Report

Report No.:	SA191203C34
FCC ID:	KA2AP1755A1
Original FCC ID:	KA2AP1955A1
Test Model:	DAP-1750
Series Model:	DAP-1755
Received Date:	Dec. 04, 2019
Test Date:	Jan. 04 ~ Jan. 20, 2020
Issued Date:	Jan. 21, 2020
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 Lin Kou Laboratories
Lab Address:	No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan
Test Location:	No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, TAIWAN
FCC Registration / Designation Number:	788550 / TW0003

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Release Control Record

Issue No.	Description	Date Issued
SA191203C34	Original release	Jan. 21, 2020

1 Certificate of Conformity

Product:	AC1750 High Performance Mesh Wi-Fi Range Extender, AC1750 Gigabit Dualband 3*3 11AC MU-MIMO Wi-Fi Range Extender
Brand:	D-Link
Test Model:	DAP-1750
Series Model:	DAP-1755
Sample Status:	Engineering sample
Applicant:	D-Link Corporation
Test Date:	Jan. 04 ~ Jan. 20, 2020
Standards:	FCC Part 2 (Section 2.1091)
References Test Guidance:	KDB 447498 D01 General RF Exposure Guidance v06 IEEE C95.3 -2002

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:** Jan. 21, 2020

Pettie Chen / Senior Specialist

Approved by : Bruce Chen , **Date:** Jan. 21, 2020

Bruce Chen / Senior 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 27cm 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)
CDD Mode					
2412-2462	28.50	7.42	27	0.427	1
5180-5240	22.42	9.07	27	0.154	1
5745-5825	27.63	9.07	27	0.511	1
Beamforming Mode					
2412-2462	26.21	7.42	27	0.252	1
5180-5240	22.42	9.07	27	0.154	1
5745-5825	26.63	9.07	27	0.406	1

*Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

Note:
1. Directional gain:
2.4GHz Band: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2/3$] = 7.42dBi
5.0GHz Band: Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2/3$] = 9.07dBi
2. The above Max Power is Tune-up Power which client declaried.

Conclusion:

2.4GHz & 5GHz Band 1 or 2.4GHz & 5GHz Band 4 can transmit at same time.

The formula of calculated the MPE is:

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

CPD = Calculation power density

LPD = Limit of power density

1. WLAN 2.4GHz + WLAN 5GHz Band 1 = 0.427 / 1 + 0.154 / 1 = 0.580
2. WLAN 2.4GHz + WLAN 5GHz Band 4 = 0.427 / 1 + 0.511 / 1 = 0.937

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

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