RF Exposure Report

Report No.:	SA191028E02
FCC ID:	KA2IRX1860A1
Test Model:	DIR-X1860
Received Date:	Oct. 28, 2019
Test Date:	Oct. 31 ~ Nov. 19, 2019
Issued Date:	Nov. 19, 2019
Applicant:	D-Link Corporation
Address:	No. 289, Xinhu 3rd Rd., Neihu District, Taipei City 11494, Taiwan
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

Testing Laboratory
2021

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Release Control Record

Issue No.	Description	Date Issued
SA191028E02	Original release	Nov. 19, 2019

1 Certificate of Conformity

Product:	Smart AX1800 Wi-Fi 6 Router
Brand:	D-Link
Test Model:	DIR-X1860
Sample Status:	Engineering sample
Applicant:	D-Link Corporation
Test Date:	Oct. 31 ~ Nov. 19, 2019
Standards:	FCC Part 2 (Section 2.1091) 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 : Celine Chou , **Date:** Nov. 19, 2019

Celine Chou / Senior Specialist

Approved by : Bruce Chen , **Date:** Nov. 19, 2019

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				
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^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)
CDD Mode					
2412-2462	26.50	8.70	20	0.659	1
5180-5240	26.37	8.54	20	0.616	1
5745-5825	26.53	8.78	20	0.676	1
Beamforming Mode					
2412-2462	21.47	8.70	20	0.207	1
5180-5240	23.36	8.54	20	0.308	1
5745-5825	23.29	8.78	20	0.320	1

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

2412-2462MHz: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/2] = 8.70$dBi.
5180-5240MHz: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/2] = 8.54$dBi.
5745-5825MHz: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \cdots + 10^{GN/20})^2/2] = 8.78$dBi.

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