

RF Exposure Report

Report No.: SA181121C07

FCC ID: KA2IR3060A1

Test Model: DIR-3060

Series Model: DIR-3040

Received Date: Feb. 14, 2019

Test Date: Mar. 04 ~ Mar. 20, 2019

Issued Date: Apr. 02, 2019

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
SA181121C07	Original release.	Apr. 02, 2019

1 Certificate of Conformity

Product: AC3000 Smart Mesh Wi-Fi Router

Brand: D-Link Corporation

Test Model: DIR-3060

Series Model: DIR-3040

Sample Status: Engineering sample

Applicant: D-Link Corporation

Test Date: Mar. 04 ~ Mar. 20, 2019

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.

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Pettie Chen / Senior Specialist

Approved by : Bruce Chen , **Date:** Apr. 02, 2019
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

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

where

Pd = power density in mW/cm²

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 36cm 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	23.70	7.86	36	0.088	1
5180-5240	28.20	7.85	36	0.247	1
5745-5825	29.98	11.71	36	0.906	1
Beamforming Mode					
5180-5240	27.92	7.85	36	0.232	1
5745-5825	23.96	11.71	36	0.227	1

Note:

1. Directional gain:

For 2.4GHz Band: Directional gain = 4.85dBi + 10log(2) = 7.86dBi

For 5180~5240MHz: Directional gain= 4.84dBi +10log (2) = 7.85dBi

For 5745~5825MHz: Directional gain= 5.69dBi +10log (4) = 11.71dBi

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

Conclusion:

2.4GHz & 5GHz Band can transmit at same time.

The formula of calculated the MPE is:

$CPD1 / LPD1 + CPD2 / LPD2 + \dots \text{etc.} < 1$

CPD = Calculation power density

LPD = Limit of power density

1. WLAN 2.4GHz + WLAN 5GHz = 0.088 + 0.906 = 0.994

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

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