RF Exposure Report

Report No.:	SA190220C23
FCC ID:	KA2BA2820PA1
Model:	DBA-2820P
Received Date:	Apr. 24, 2018
Test Date:	May 04 ~ Jul. 08, 2018
Issued Date:	Mar. 20, 2019
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.)

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Release Control Record

Issue No.	Description	Date Issued
SA190220C23	Original release	Mar. 20, 2019

1 Certificate of Conformity

Product:	Nuclias Cloud-Managed AC2600 Wave 2 Access Point
Brand:	D-Link Corporation
Model:	DBA-2820P
Sample Status:	Engineering sample
Applicant:	D-Link Corporation
Test Date:	May 04 ~ Jul. 08, 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 : Polly Chien , **Date:** Mar. 20, 2019

Polly Chien / Specialist

Approved by : Bruce Chen , **Date:** Mar. 20, 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				
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 37cm 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	29.53	9.02	37	0.416	1
5180-5240	28.41	10.02	37	0.405	1
5745-5825	29.66	10.02	37	0.540	1
Beamforming Mode					
2412-2462	27.93	9.02	37	0.288	1
5180-5240	27.03	10.02	37	0.295	1
5745-5825	28.17	10.02	37	0.383	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 = 3dBi + 10log(4) = 9.02dBi
5GHz Band: Directional gain = 4dBi +10log (4) = 10.02dBi
2. The above Max Power is Turn-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 = 0.416 + 0.405 = 0.821
2. WLAN 2.4GHz + WLAN 5GHz Band 4 = 0.416 + 0.540 = 0.956

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

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