Report No.:	SA191115E06
FCC ID:	KA2BA1520PA1
Test Model:	DBA-1520P
Received Date:	Nov. 15, 2019
Test Date:	Dec. 20, 2019
Issued Date:	Feb. 24, 2020
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 Hsin Chu Laboratory
Lab Address:	E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan
Test Location:	E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan
FCC Registration / Designation Number:	723255 / TW2022

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Release Control Record

Issue No.	Description	Date Issued
SA191115E06	Original release.	Feb. 24, 2020

1 Certificate of Conformity

Product:	Business Cloud Wave 2 Access Point, Nuclias Cloud-Managed AC1750 Wave 2 Access Point
Brand:	D-Link
Test Model:	DBA-1520P
Sample Status:	ENGINEERING SAMPLE
Applicant:	D-Link Corporation
Test Date:	Dec. 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 EMC characteristics under the conditions specified in this report.

Prepared by : Joyce Kuo , **Date:** Feb. 24, 2020

Joyce Kuo / Specialist

Approved by : , **Date:** Feb. 24, 2020

Clark Lin / Technical Manager

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 32 cm away from the body of the user. So, this device is classified as **Mobile Device**.

2.4 Antenna Gain

Antenna NO.	Brand	Model	Antenna Net Gain(dBi)	Frequency range	Antenna Type	Connector Type	Cable Length (mm)
ANT_1	Hongbo	290-20404	4.58	2.4~2.4835GHz	PIFA	i-pex(MHF)	80
			3.86	5.15~5.25GHz			
			4.69	5.25~5.35GHz			
			4.95	5.47~5.725GHz			
			4.95	5.725~5.85GHz			
ANT_2	Hongbo	290-20405	3.33	2.4~2.4835GHz	PIFA	i-pex(MHF)	90
			4.81	5.15~5.25GHz			
			4.55	5.25~5.35GHz			
			4.54	5.47~5.725GHz			
			4.82	5.725~5.85GHz			
ANT_3	Hongbo	290-20406	2.81	2.4~2.4835GHz	PIFA	i-pex(MHF)	120
			4.71	5.15~5.25GHz			
			4.75	5.25~5.35GHz			
			4.68	5.47~5.725GHz			
			4.73	5.725~5.85GHz			

2.5 Calculation Result of Maximum Conducted Power

Operation Mode	Evaluation Frequency (MHz)	Max Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)
WLAN (2.4GHz)	2437	801.158	8.38	32	0.42875	1
WLAN (U-NII-1)	5230	555.87	9.24	32	0.36263	1
WLAN (U-NII-3)	5745	687.313	9.61	32	0.48825	1

Note:

1. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.
2. 2.4GHz: The directional gain = 10 log[$(10^{Chain0/20} + 10^{Chain1/20} + 10^{Chain2/20})^2$ / 3] = 8.38dBi
3. 5GHz: For U-NII-1: The directional gain = 10 log[$(10^{G0/20} + 10^{G1/20} + 10^{G2/20})^2$ / 3] = 9.24dBi
   For U-NII-3: The directional gain = 10 log[$(10^{G0/20} + 10^{G1/20} + 10^{G2/20})^2$ / 3] = 9.61dBi

Conclusion:

The formula of calculated the MPE is:

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

CPD = Calculation power density

LPD = Limit of power density

WLAN 2.4GHz + WLAN 5GHz = 0.42875 / 1 + 0.48825 / 1 = 0.91700

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

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