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 : _____ , **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 = $10 \log[(10^{Chain0/20} + 10^{Chain1/20} + 10^{Chain2/20})^2 / 3] = 8.38$dBi
3. 5GHz: For U-NII-1: The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20} + 10^{G2/20})^2 / 3] = 9.24$dBi
   For U-NII-3: The directional gain = $10 \log[(10^{G0/20} + 10^{G1/20} + 10^{G2/20})^2 / 3] = 9.61$dBi

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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