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**Test Model:** DAP-2720

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**Applicant:** D-Link Corporation

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**Test Location:** E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300,  
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### Release Control Record

Issue No.	Description	Date Issued
SA190514E01	Original release.	Dec. 25, 2019

## 1 Certificate of Conformity

**Product:** Nuclias Connect AC2200 Wave2 Tri Band Access Point

**Brand:** D-Link

**Test Model:** DAP-2720

**Sample Status:** ENGINEERING SAMPLE

**Applicant:** D-Link Corporation

**Test Date:** July 08, 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:**                     Dec. 25, 2019                      
Joyce Kuo / Specialist

**Approved by** :                     Clark Lin                     , **Date:**                     Dec. 25, 2019                      
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 <sup>2</sup> )	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 <sup>2</sup> )*	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<sup>2</sup>

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 28cm away from the body of the user.

So, this device is classified as **Mobile Device**.

## 2.4 Antenna Gain

Ant. No.	Chain No.	Brand	Model	Antenna Net Gain (dBi)	Frequency range (GHz)	Antenna Type	Connector Type
2.4G-1	Chain 1	Donggun RF Electronic Technology Co.,Ltd	RF11C02064S	2.91	2.4~2.4835	PIFA	i-pex(MHF)
2.4G-2	Chain 0	Donggun RF Electronic Technology Co.,Ltd	RF11C02064S	2.75	2.4~2.4835	PIFA	i-pex(MHF)
5G-1	Chain 1	Donggun RF Electronic Technology Co.,Ltd	RF11C02064S	2.96	5.15~5.35	PIFA	i-pex(MHF)
5G-2	Chain 0	Donggun RF Electronic Technology Co.,Ltd	RF11C02064S	2.96	5.15~5.35	PIFA	i-pex(MHF)
5G-3	Chain 1	Donggun RF Electronic Technology Co.,Ltd	RF11C02064S	2.78	5.47~5.85	PIFA	i-pex(MHF)
5G-4	Chain 0	Donggun RF Electronic Technology Co.,Ltd	RF11C02064S	2.85	5.47~5.85	PIFA	i-pex(MHF)

## 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 <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
WLAN 2.4GHz	2462	552.262	5.84	28	0.21509	1
WLAN 5GHz (U-NII-1)	5200	861.054	5.97	28	0.34554	1
WLAN 5GHz (U-NII-3)	5795	791.834	5.83	28	0.30769	1

### NOTE:

- Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.
- 2.4GHz: Directional gain =  $10 \log[(10^{G0/20} + 10^{G1/20})^2 / 2] = 5.84\text{dBi}$   
 5GHz:  
 U-NII-1: Directional gain =  $10 \log[(10^{G0/20} + 10^{G1/20})^2 / 2] = 5.97\text{dBi}$   
 U-NII-3: Directional gain =  $10 \log[(10^{G0/20} + 10^{G1/20})^2 / 2] = 5.83\text{dBi}$

### Conclusion:

The formula of calculated the MPE is:

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

CPD = Calculation power density

LPD = Limit of power density

$$\text{WLAN 2.4GHz} + \text{WLAN 5GHz (low band)} + \text{WLAN 5GHz (high band)} = 0.21509 / 1 + 0.34554 / 1 + 0.30769 / 1 = 0.86832$$

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

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