RF Exposure Report

Report No.: SA160914E11

FCC ID: KA2IR883A1

Test Model: DIR-883

Received Date: Sep. 14, 2016

Test Date: Oct. 18, 2016 to Jan. 13, 2017

Issued Date: Mar. 17, 2017

Applicant: D-Link Corporation

Address: No 289, Xinhu 3rd Rd, Neihu District, Taipei City 11494, Taiwan, R.O.C.

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 R.O.C.

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Release Control Record

Issue No.	Description	Date Issued
SA160914E11	Original release.	Mar. 17, 2017

1 Certificate of Conformity

Product:	Covr AC2600 Wi-Fi Router
Brand:	D-Link
Test Model:	DIR-883
Sample Status:	MASS-PRODUCTION
Applicant:	D-Link Corporation
Test Date:	Oct. 18, 2016 to Jan. 13, 2017
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:** Mar. 17, 2017

Wendy Wu / Specialist

Approved by : _____ , **Date:** Mar. 17, 2017

May Chen / 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				
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 29cm away from the body of the user. So, this device is classified as **Mobile Device**.

2.4 Antenna Gain

Antenna No	Chain No.	Chain No.	Chain No.	Antenna Gain (dBi)	Frequency range (GHz)	Antenna Type	Connecter Type
1	Dongguan RF electronic technology Co., LTD	RF21S00506A	Chain 0	2	2.4~2.4835	Dipole	R-SMA
				3	5.15~5.85		
2	Dongguan RF electronic technology Co., LTD	RF21S00506A	Chain 1	2	2.4~2.4835	Dipole	R-SMA
				3	5.15~5.85		
3	Dongguan RF electronic technology Co., LTD	RF21S00506A	Chain 2	2	2.4~2.4835	Dipole	R-SMA
				3	5.15~5.85		
4	Dongguan RF electronic technology Co., LTD	RF21S00506A	Chain 3	2	2.4~2.4835	Dipole	R-SMA
				3	5.15~5.85		

The Directional gain table:

Frequency (MHz)	Max Gain (dBi)
2412-2462	6.49
5180-5825	7.13

Note:

1. Non-TxBF mode & TxBF mode antenna gain refer to KDB 662911 F 2) f) (ii)

$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$$

where

Each antenna is driven by no more than one spatial stream;

N_{SS} = the number of independent spatial streams of data;

N_{ANT} = the total number of antennas

$g_{j,k} = 10^{G_k / 20}$ if the kth antenna is being fed by spatial stream j, or zero if it is not;

G_k is the gain in dBi of the kth antenna.

2. Above directional gain were calculated from actual measurement data.

2.5 Calculation Result of Maximum Conducted Power

Frequency Band (MHz)	Max Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)
2412-2462	942.26	6.49	29	0.39734	1
5180-5240	710.326	7.13	29	0.34710	1
5745-5825	931.576	7.13	29	0.45521	1

NOTE:
2.4GHz: Directional gain = 6.49dBi
5GHz: Directional gain = 7.13dBi

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 = 0.39734 / 1 + 0.45521 / 1 = 0.85255

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

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