

RF Exposure Report

Report No.: SA170815E02

FCC ID: KA2IR867A1

Test Model: DIR-867

Received Date: Jan. 16, 2017

Test Date: Aug. 24, 2017

Issued Date: Oct. 30, 2017

Applicant: D-Link Corporation

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Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Hsin Chu Laboratory

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Table of Contents

Release Control Record	3
1 Certificate of Conformity.....	4
2 RF Exposure.....	5
2.1 Limits For Maximum Permissible Exposure (MPE).....	5
2.2 MPE Calculation Formula	5
2.3 Classification	5
2.4 Antenna Gain	5
2.5 Calculation Result of Maximum Conducted Power	6

Release Control Record

Issue No.	Description	Date Issued
SA170815E02	Original release.	Oct. 30, 2017

1 Certificate of Conformity

Product: AC1750 MU-MIMO Wi-Fi Gigabit Router

Brand: D-Link

Test Model: DIR-867

Sample Status: ENGINEERING SAMPLE

Applicant: D-Link Corporation

Test Date: Aug. 24, 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 :



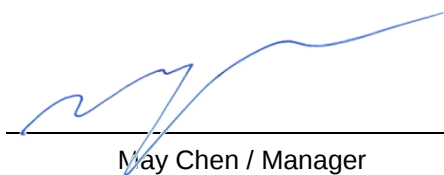
Date:

Oct. 30, 2017

Wendy Wu / Specialist

:

Approved by



Date:

Oct. 30, 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				
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

$$P_d = (P_{out} * G) / (4 * \pi * r^2)$$

where

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 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 38cm away from the body of the user.
So, this device is classified as **Mobile Device**.

2.4 Antenna Gain

Antenna No.	Brand	Model	Ant. Gain(dBi) Including cable loss	Frequency range (MHz)	Antenna Type	Connector Type	Cable Length (mm)
1	RF link	RF21C02116A	4.75	2400~2483.5	Dipole	i-pex	130
			4.96	5150~5850			
2		RF21C02116A	4.75	2400~2483.5	Dipole	i-pex	130
			4.96	5150~5850			
3		RF21C02546A	5	2400~2483.5	Dipole	i-pex	160
4		RF21C02547A	5	5150~5850	Dipole	i-pex	160

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	600.792	9.61	38	0.30265	1
5180-5240	235.054	9.74	38	0.12201	1
5745-5825	549.499	9.74	38	0.28523	1

NOTE:

2.4GHz: Directional gain = $10 \log[(10^{G0/20} + 10^{G1/20} + 10^{G2/20})^2 / 3] = 9.61\text{dBi}$

5GHz: Directional gain = $10 \log[(10^{G0/20} + 10^{G1/20} + 10^{G2/20})^2 / 3] = 9.74\text{dBi}$

Conclusion:

The formula of calculated the MPE is:

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

CPD = Calculation power density

LPD = Limit of power density

WLAN 2.4GHz + WLAN 5GHz = $0.30265 / 1 + 0.28523 / 1 = 0.58788$

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

--- END ---