RF EXPOSURE REPORT

REPORT NO.: SA111013E05

MODEL NO.: DIR-412

FCC ID: KA2IR412B1

RECEIVED: Oct. 13, 2011

TESTED: Oct. 28, 2011

ISSUED: Nov. 28, 2011

APPLICANT: D-Link Corporation

ADDRESS: No.289, Sinhu 3rd Rd., Neihu District, Taipei City 114, Taiwan, R.O.C.

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

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
SA111013E05	Original release	Nov. 28, 2011

1.CERTIFICATION

PRODUCT:	Mobile Wireless Router
BRAND NAME:	D-Link
MODEL NO.:	DIR-412
TEST SAMPLE:	MASS-PRODUCTION
TESTED:	Oct. 28, 2011
APPLICANT:	D-Link Corporation
STANDARDS:	FCC Part 2 (Section 2.1091)
	FCC OET Bulletin 65, Supplement C (01-01)
	IEEE C95.1

The above equipment (Model: DIR-412) 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:** *Nov. 28, 2011*
(Claire Kaun, Specialist)

APPROVED BY : _____, **DATE:** *Nov. 28, 2011*
(May Chen, Deputy Manager)

2. RF EXPOSURE LIMIT

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

3. 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

4. CLASSIFICATION

The antenna of this product, under normal use condition, is at least 20cm away from the body of the user. So, this device is classified as **Mobile Device**.

1. 20cm minimum when this product is operated alone without co-transmitting with a plug-in 3G USB dongle device.
2. 33cm minimum when this product is operated with a plug-in 3G USB dongle device.

5. CALCULATION RESULT OF MAXIMUM CONDUCTED POWER

For WLAN:

FREQUENCY BAND (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm^2)	LIMIT (mW/cm^2)
2412-2462	302.0	0.93	20	0.074	1.00

FREQUENCY BAND (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm^2)	LIMIT (mW/cm^2)
2412-2462	302.0	0.93	33	0.027	1.00

For 3G USB device:

The calculation power is based on max. allowed power for 3G dongle (7W≒38.45dBm).

Channel Frequency (MHz)	ERP Power (dBm)	ERP Power (mW)	DISTANCE (cm)	POWER DENSITY (mW/ cm^2)	LIMIT (mW/cm^2)
850	38.45	7000	33	0.512	0.566

NOTE: Limit of power density =850 (MHz) / 1500 = 0.566

CONCLUSION:

Both of the WLAN and 3G device can transmit simultaneously, the formula of calculated the exposure is:

$CPD_1 / LPD_1 + CPD_2 / LPD_2$ + ……etc. < 1

CPD = Calculation power density

LPD = Limit of power density

Therefore, the worst-case situation is 0.027 / 1 + 0.512 / 0.566 = 0.932, which is less than “1”. This confirmed that the device comply with FCC 1.1310 MPE limit.

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