RF EXPOSURE REPORT

REPORT NO.:	SA120724E01
MODEL NO.:	DIR-845L
FCC ID:	KA2IR845LA1
RECEIVED:	July 24, 2012
TESTED:	July 26 to 30, 2012
ISSUED:	Oct. 12, 2012
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
LAB ADDRESS:	No. 81-1, Lu Liao Keng, 9th Ling,Wu Lung Tsuen, Chiung Lin Hsiang, Hsin Chu Hsien 307, Taiwan, R.O.C.

This report should not be used by the client to claim product certification, approval, or endorsement by any government agencies.

TABLE OF CONTENTS

RELEASE CONTROL RECORD 3
1. CERTIFICATION 4
2. RF EXPOSURE LIMIT 5
3. MPE CALCULATION FORMULA 5
4. CLASSIFICATION 5
5. ANTENNA GAIN 6
6. CALCULATION RESULT OF MAXIMUM CONDUCTED POWER 8

RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
SA120724E01	Original release	Oct. 12, 2012

1. CERTIFICATION

PRODUCT:	WHOLE HOME CLOUD ROUTER 2000
BRAND NAME:	D-Link
MODEL NO.:	DIR-845L
TEST SAMPLE:	ENGINEERING SAMPLE
APPLICANT:	D-Link Corporation
TESTED DATE:	July 26 to 30, 2012
STANDARDS:	FCC Part 2 (Section 2.1091)
	FCC OET Bulletin 65, Supplement C (01-01)
	IEEE C95.1

The above equipment (Model: DIR-845L) 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. 12, 2012*
(Claire Kuan, Specialist)

APPROVED BY : _____ , **DATE:** *Oct. 12, 2012*
(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**.

5. ANTENNA GAIN

Antenna 1					
Manufacture	Model name	Antenna Gain (dBi)	Frequency range (MHz to MHz)	Antenna Type	Connector
MEDIATEK	NA	3.33	2400~2483.5	PIFA	NA
		4.8	5150~5350		
		4.44	5470~5725		
		4.4	5725~5850		
Antenna 2					
Manufacture	Model name	Antenna Gain (dBi)	Frequency range (MHz to MHz)	Antenna Type	Connector
MEDIATEK	NA	5.30	2400~2483.5	PIFA	NA
		3.33	5150~5350		
		4.13	5470~5725		
		3.75	5725~5850		
Antenna 3					
Manufacture	Model name	Antenna Gain (dBi)	Frequency range (MHz to MHz)	Antenna Type	Connector
MEDIATEK	NA	3.76	2400~2483.5	PIFA	NA
		2.81	5150~5350		
		3.08	5470~5725		
		2.26	5725~5850		
Antenna 4					
Manufacture	Model name	Antenna Gain (dBi)	Frequency range (MHz to MHz)	Antenna Type	Connector
MEDIATEK	NA	5.23	2400~2483.5	PIFA	NA
		2.42	5150~5350		
		2.35	5470~5725		
		3.21	5725~5850		
Antenna 5					
Manufacture	Model name	Antenna Gain (dBi)	Frequency range (MHz to MHz)	Antenna Type	Connector
MEDIATEK	NA	4.87	2400~2483.5	PIFA	NA
		3.49	5150~5350		
		2.41	5470~5725		
		2.56	5725~5850		

Antenna 6					
Manufacture	Model name	Antenna Gain (dBi)	Frequency range (MHz to MHz)	Antenna Type	Connector
MEDIATEK	NA	4.92	2400~2483.5	PIFA	NA
		2.5	5150~5350		
		1.71	5470~5725		
		1.49	5725~5850		

6. CALCULATION RESULT OF MAXIMUM CONDUCTED POWER

For 15.247(2.4GHz):

FREQUENCY BAND (MHz)	MAX POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm^2)	LIMIT (mW/cm^2)
2412-2462	307.869	5.30	20	0.20754	1

For 15.247(5GHz):

FREQUENCY BAND (MHz)	MAX POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm^2)	LIMIT (mW/cm^2)
5745 ~ 5825	881.259	4.40	20	0.48287	1

For 15.407(5GHz):

FREQUENCY BAND (MHz)	MAX POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm^2)	LIMIT (mW/cm^2)
5180 ~ 5240	44.113	4.80	20	0.02650	1

CONCLUSION:

Both of the 2.4GHz and 5GHz WLAN can transmit simultaneously, the formula of calculated the MPE 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 0.20754 / 1 + 0.48287 / 1 = 0.69041, which is less than “1”. This confirmed that the device comply with FCC 1.1310 MPE limit.

--- END ---