RF EXPOSURE REPORT

REPORT NO.:	SA120417E04
MODEL NO.:	DAP-1525
FCC ID:	KA2AP1525B1
RECEIVED:	Apr. 17, 2012
TESTED:	May 08, 2012
ISSUED:	May 30, 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
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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
SA120417E04	Original release	May 30, 2012

1. CERTIFICATION

PRODUCT:	Wi-Fi Booster Access Point /MediaBridge
BRAND NAME:	D-Link
MODEL NO.:	DAP-1525
TEST SAMPLE:	MASS-PRODUCTION
APPLICANT:	D-Link Corporation
TESTED:	May 08, 2012
STANDARDS:	FCC Part 2 (Section 2.1091)
	FCC OET Bulletin 65, Supplement C (01-01)
	IEEE C95.1

The above equipment (Model: DAP-1525) 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:** *May 30, 2012*
(Lori Chung, Specialist)

APPROVED BY : _____ , **DATE:** *May 30, 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/cm2

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

The antennas provided to the EUT, please refer to the following table:

Antenna 1						
Layout	Manufacture	Model name	Antenna Gain		Antenna Type	Connector
			For 2.4GHz Gain (dBi)	For 5GHz Gain (dBi)		
Vertical	Alpha	WAP-N10S	2.95	5G Band1: 4.00 5G Band2: 3.80 5G Band3: 3.82 5G Band4: 3.89	Dipole	UFL
Antenna 2						
Layout	Manufacture	Model name	Antenna Gain		Antenna Type	Connector
			For 2.4GHz Gain (dBi)	For 5GHz Gain (dBi)		
Vertical	Alpha	WAP-N10S	3.98	5G Band1: 4.01 5G Band2: 3.55 5G Band3: 3.96 5G Band4: 3.00	Dipole	UFL
Antenna 3						
Layout	Manufacture	Model name	Antenna Gain		Antenna Type	Connector
			For 2.4GHz Gain (dBi)	For 5GHz Gain (dBi)		
Horizontal	Alpha	WAP-N10S	3.23	5G Band1: 2.91 5G Band2: 3.11 5G Band3: 3.50 5G Band4: 3.10	Dipole	UFL
Antenna 4						
Layout	Manufacture	Model name	Antenna Gain		Antenna Type	Connector
			For 2.4GHz Gain (dBi)	For 5GHz Gain (dBi)		
Horizontal	Alpha	WAP-N10S	4.20	5G Band1: 4.10 5G Band2: 3.87 5G Band3: 4.24 5G Band4: 3.63	Dipole	UFL
Antenna 5						
Layout	Manufacture	Model name	Antenna Gain		Antenna Type	Connector
			For 2.4GHz Gain (dBi)	For 5GHz Gain (dBi)		
Horizontal	Alpha	WAP-N10S	2.65	5G Band1: 3.30 5G Band2: 3.13 5G Band3: 3.96 5G Band4: 4.19	Dipole	UFL
Antenna 6						
Layout	Manufacture	Model name	Antenna Gain		Antenna Type	Connector
			For 2.4GHz Gain (dBi)	For 5GHz Gain (dBi)		
Vertical	Alpha	WAP-N10S	3.45	5G Band1: 3.94 5G Band2: 3.99 5G Band3: 4.05 5G Band4: 3.32	Dipole	UFL

For 802.11b: From the above antennas, **antenna 4** was selected as representative antenna for the test and its data was recorded in this report.

According to the above antennas for 802.11a/g/n, there are two antennas will transmit simultaneously (one is Horizontal and the other one is Vertical). As the antenna combination must be supplied with one Horizontal and one Vertical antennas, therefore the following antenna combination modes could be chosen as below table:

COMBINATION MODE	Antenna Configuration	
	CHAIN(1)	CHAIN(0)
1	Antenna 3 - H	Antenna 1 - V
2	Antenna 3 - H	Antenna 2 - V
3	Antenna 3 - H	Antenna 6 - V
4	Antenna 4 - H	Antenna 1 - V
5	Antenna 4 - H	Antenna 2 - V
6	Antenna 4 - H	Antenna 6 - V
7	Antenna 5 - H	Antenna 1 - V
8	Antenna 5 - H	Antenna 2 - V
9	Antenna 5 - H	Antenna 6 - V

Note: 1. This report Chose the max. Antenna gain to do final test.
2. For 2.4GHz & 5GHz Band1: Mode 5 was selected as representative antennas for the test.
3. For 5GHz Band2~3: Mode 6 was selected as representative antennas for the test.
4. For 5GHz Band4: Mode 7 was selected as representative antennas for the test.

6. CALCULATION RESULT OF MAXIMUM CONDUCTED POWER

For 15.247(2.4GHz):

802.11b:

FREQUENCY BAND (MHz)	MAX POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm^2)	LIMIT (mW/cm^2)
2412-2462	194.984	4.2	20	0.102	1.00

802.11g:

FREQUENCY BAND (MHz)	MAX POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm^2)	LIMIT (mW/cm^2)
2412-2462	720.176	7.1	20	0.735	1.00

Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20})^2$ / 2]
Effective Legacy Gain (dBi) = 7.1
The effective legacy gain is 7.1 dBi.

802.11n(20MHz):

FREQUENCY BAND (MHz)	MAX POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm^2)	LIMIT (mW/cm^2)
2412-2462	727.889	7.1	20	0.743	1.00

Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20})^2$ / 2]
Effective Legacy Gain (dBi) = 7.1
The effective legacy gain is 7.1 dBi.

802.11n(40MHz):

FREQUENCY BAND (MHz)	MAX POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm^2)	LIMIT (mW/cm^2)
2422-2452	677.688	7.1	20	0.691	1.00

Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20})^2$ / 2]
Effective Legacy Gain (dBi) = 7.1
The effective legacy gain is 7.1 dBi.

For 15.247(5GHz):

802.11a:

FREQUENCY BAND (MHz)	MAX POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm^2)	LIMIT (mW/cm^2)
5745 ~ 5825	694.209	7.05	20	0.700	1.00

Directional gain = 10 log[($10^{G1/20}$ + $10^{G2/20}$)^2 / 2]
Effective Legacy Gain (dBi) = 7.05
The effective legacy gain is 7.05 dBi.

802.11n(20MHz):

FREQUENCY BAND (MHz)	MAX POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm^2)	LIMIT (mW/cm^2)
5745 ~ 5825	578.183	7.05	20	0.583	1.00

Directional gain = 10 log[($10^{G1/20}$ + $10^{G2/20}$)^2 / 2]
Effective Legacy Gain (dBi) = 7.05
The effective legacy gain is 7.05 dBi.

802.11n(40MHz):

FREQUENCY BAND (MHz)	MAX POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm^2)	LIMIT (mW/cm^2)
5755 ~ 5795	663.843	7.05	20	0.670	1.00

Directional gain = 10 log[($10^{G1/20}$ + $10^{G2/20}$)^2 / 2]
Effective Legacy Gain (dBi) = 7.05
The effective legacy gain is 7.05 dBi.

For 15.407(5GHz):

802.11a:

FREQUENCY BAND (MHz)	MAX POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm^2)	LIMIT (mW/cm^2)
5180 ~ 5240	26.366	7.07	20	0.027	1.00

Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20})^2$ / 2]
Effective Legacy Gain (dBi) = 7.07
The effective legacy gain is 7.07 dBi.

802.11n(20MHz):

FREQUENCY BAND (MHz)	MAX POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm^2)	LIMIT (mW/cm^2)
5180 ~ 5240	32.067	7.07	20	0.032	1.00

Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20})^2$ / 2]
Effective Legacy Gain (dBi) = 7.07
The effective legacy gain is 7.07 dBi.

802.11n(40MHz):

FREQUENCY BAND (MHz)	MAX POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm^2)	LIMIT (mW/cm^2)
5190 ~ 5230	38.553	7.07	20	0.039	1.00

Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20})^2$ / 2]
Effective Legacy Gain (dBi) = 7.07
The effective legacy gain is 7.07 dBi,

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