

RF Exposure Report

Report No.: SA170417E09

FCC ID: KA2SHG200A1

Test Model: DSH-G200

Received Date: Apr. 17, 2017

Test Date: May 02, 2017

Issued Date: May 22, 2017

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: 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
SA170417E09	Original release.	May 22, 2017

1 Certificate of Conformity

Product: Omna Bridge

Brand: D-Link

Test Model: DSH-G200

Sample Status: ENGINEERING SAMPLE

Applicant: D-Link Corporation

Test Date: May 02, 2017

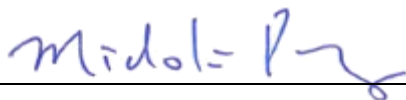
Standards: FCC Part 2 (Section 2.1091)

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:

May 22, 2017

Midoli Peng / Specialist

Approved by :



Date:

May 22, 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

$$Pd = (Pout \cdot G) / (4 \cdot \pi \cdot r^2)$$

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

2.3 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**.

2.4 Antenna Gain

WLAN Antenna						
No.	Brand	Model	Gain (dBi)	Antenna Type	Connector Type	Frequency range (GHz to GHz)
1	PSA	RFFPA291003IMAB301	4.56	FPC	IPEX	2.4~2.4835
2	PSA	RFFPA291007IMAB301	4.44	FPC	IPEX	2.4~2.4835
Z-Wave Antenna						
No.	Brand	Model	Gain (dBi)	Antenna Type	Connector Type	Frequency range (MHz to MHz)
1	PSA	RFMTA010504NNRB001	1.64	Metal	NA	863~872
			2.05			902~928

2.5 Calculation Result

WLAN

Frequency (MHz)	Avg. Max Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
2412-2462	193.342	7.51	20	0.21680	1

NOTE: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 7.51$

Z-Wave

Frequency (MHz)	Field Strength of Fundamental (dBuV/m) @3m	Pout EIRP (dBm)	Pout EIRP (mW)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
908.4-916	93.8	-1.43	0.7194	20	0.00014	0.6107

Note: 1. Pout EIRP (dBm) = Field Strength of Fundamental (dBuV/m) - 95.23 (dB)

2. Power Density Limit = F/1500

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

$WLAN + Z\text{-Wave} = 0.21680/1 + 0.00014/0.6107 = 0.21703$

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

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