



RF Exposure Report

Report No.: SA120530E05E

FCC ID: KA2AP2690B1

Test Model: DAP-2690

Received Date: Oct. 26, 2015

Test Date: Nov. 09, 2015

Issued Date: Nov. 17, 2015

Applicant: D-Link Corporation

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Release Control Record

Issue No.	Description	Date Issued
SA120530E05E	Original release.	Nov. 17, 2015

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				
300-1500	F/1500	30
1500-100,000	1.0	30

F = Frequency in MHz

2.2 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

2.3 Classification

The antenna of this product, under normal use condition, is at least 23cm away from the body of the user.

So, this device is classified as **Mobile Device**.

3 Antenna Gain

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

For 2.4GHz					
Transmitter Circuit	Manufacture	Model name	Antenna Gain	Antenna Type	Connector
			Gain (dBi)		
Chain (0)	WHA YU GROUP	NP-9022	4.29	Dipole	SMA Plug Reverse
Chain (1)	WHA YU GROUP	NP-9022	4.29	Dipole	SMA Plug Reverse
For 5GHz					
Transmitter Circuit	Manufacture	Model name	Antenna Gain	Antenna Type	Connector
			Gain (dBi)		
Chain (0)	WHA YU GROUP	SSR-12968	5G Band1: 5.646 5G Band2: 6.270 5G Band3: 5.428 5G Band4: 5.264	Dipole	SMA Plug Reverse
Chain (1)	WHA YU GROUP	SSR-12968	5G Band1: 5.646 5G Band2: 6.270 5G Band3: 5.428 5G Band4: 5.264	Dipole	SMA Plug Reverse

4 Calculation Result Of Maximum Conducted Power

For 2.4GHz Maximum Conducted Power data was copied from the original test report (Report No.: SA120530E05)

Frequency Band (MHz)	Max Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
2412-2462	424.097	7.3	23	0.34261	1
5180-5240	523.384	8.66	23	0.57830	1
5745-5825	477.909	8.27	23	0.48270	1

NOTE:

2.4GHz: Directional gain = 4.29dBi + 10log(2) = 7.3dBi

5GHz (5180-5240MHz): Directional gain = 5.646dBi + 10log(2) = 8.66dBi

5GHz (5745-5825MHz): Directional gain = 5.264dBi + 10log(2) = 8.27dBi

Conclusion:

The formula of calculated the MPE is:

CPD1 / LPD1 + CPD2 / LPD2 +etc. < 1

CPD = Calculation power density

LPD = Limit of power density

WLAN 2.4GHz + WLAN 5GHz = 0.34261 + 0.57830 = 0.921

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

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