RF Exposure Evaluation declaration

Product Name : Wireless Broadband Router
Model No. : DI-524
FCC ID. : KA2DI524G

Applicant : D-Link Corporation
Address : No. 289, Sinhu 3rd Rd., Neihu District,
Taipei City 114, Taiwan, R.O.C.

Date of Receipt : 2006/02/21
Date of Declaration : 2006/03/08
Report No. : 062H034-RF-US-Exp

1. RF Exposure Evaluation

1.1. Limits

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)

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)
(A) Limits for Occupational/ Control Exposures				
300-1500	--	--	F/300	6
1500-100,000	--	--	5	6
(B) Limits for General Population/ Uncontrolled Exposures				
300-1500	--	--	F/1500	6
1500-100,000	--	--	1	30

F= Frequency in MHz

Friis Formula

Friis transmission 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

Pd id the limit of MPE, 1 mW/cm^2. If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.

1.2. Test Procedure

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

The temperature and related humidity: 18℃ and 78% RH.

1.3. Test Result of RF Exposure Evaluation

Product	Wireless Broadband Router
Test Mode	Mode 1: Transmit
Test Condition	RF Exposure Evaluation

Antenna Gain

Antenna Gain: The maximum Gain measured in fully anechoic chamber is 1.8dBi in linear scale.

Output Power Into Antenna & RF Exposure Evaluation Distance:

IEEE 802.11b			
Channel	Channel Frequency (MHz)	Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm^2)
1	2412.00	224.3882	0.0676
6	2437.00	178.2379	0.0537
11	2462.00	183.2314	0.0552

The power density Pd (4th column) at a distance of 20 cm calculated from the Friis transmission formula is far below the limit of 1 mW/cm^2.

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Antenna Gain

Antenna Gain: The maximum Gain measured in fully anechoic chamber is 1.8dBi in linear scale.

Output Power Into Antenna & RF Exposure Evaluation Distance:

IEEE 802.11g			
Channel	Channel Frequency (MHz)	Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm^2)
1	2412.00	149.2794	0.0450
6	2437.00	122.4616	0.0369
11	2462.00	127.6439	0.0384

The power density Pd (4th column) at a distance of 20 cm calculated from the Friis transmission formula is far below the limit of 1 mW/cm^2.