RF Exposure Evaluation declaration

PRIME ELECTRONICS & SATELLITICS INC.

EUT:
Wireless LAN PCI adapter

Model Number:
WI233g

FCC ID:
PQP- WI233G

Prepared for:

PRIME ELECTRONICS & SATELLITICS INC.
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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.

1.3. Test Result of RF Exposure Evaluation

Date of Test	November 29, 2004	**Temperature**	23.9 deg/C
EUT	Wireless LAN PCI adapter	**Humidity**	55 %RH
Working Cond.	802.11b		

Antenna Gain

Antenna Gain: The maximum Gain measured in fully anechoic chamber is 5dBi or 3.16 in linear scale.

Output Power Into Antenna & RF Exposure Evaluation Distance:

Channel No.	Frequency (MHz)	Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm^2)
1	2412.00	64.5654	0.0406
6	2437.00	76.3836	0.0481
11	2462.00	77.9830	0.0491

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.

Date of Test	November 29, 2004	**Temperature**	23.9 deg/C
EUT	Wireless LAN PCI adapter	**Humidity**	55 %RH
Working Cond.	802.11g		

Antenna Gain

Antenna Gain: The maximum Gain measured in fully anechoic chamber is 5dBi or 3.16 in linear scale.

Output Power Into Antenna & RF Exposure Evaluation Distance:

Channel No.	Frequency (MHz)	Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm^2)
1	2412.00	69.8232	0.0439
6	2437.00	74.6449	0.0470
11	2462.00	77.0903	0.0485

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.

Date of Test	November 29, 2004	**Temperature**	23.9 deg/C
EUT	Wireless LAN PCI adapter	**Humidity**	55 %RH
Working Cond.	802.11b		

Antenna Gain

Antenna Gain: The maximum Gain measured in fully anechoic chamber is 2.5dBi or 1.78 in linear scale.

Output Power Into Antenna & RF Exposure Evaluation Distance:

Channel No.	Frequency (MHz)	Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm^2)
1	2412.00	64.5654	0.0228
6	2437.00	76.3836	0.0270
11	2462.00	77.9830	0.0276

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.

Date of Test	November 29, 2004	**Temperature**	23.9 deg/C
EUT	Wireless LAN PCI adapter	**Humidity**	55 %RH
Working Cond.	802.11g		

Antenna Gain

Antenna Gain: The maximum Gain measured in fully anechoic chamber is 2.5dBi or 1.78 in linear scale.

Output Power Into Antenna & RF Exposure Evaluation Distance:

Channel No.	Frequency (MHz)	Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm^2)
1	2412.00	69.8232	0.0247
6	2437.00	74.6449	0.0264
11	2462.00	77.0903	0.0273

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.