

# RF Exposure Evaluation declaration

Product Name : Mozart II

Model No. : AWOXMII0A32, AWOXMII0D32

FCC ID : PPQ-AWOXMII0

Applicant : Lite-On Technology Corp.

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Date of Receipt : Dec. 09, 2011

Date of Declaration : Dec. 28, 2011

Report No. : 11C203R-RFUSP29V01

The declaration results relate only to the samples calculated.

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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 <sup>2</sup> )	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:  $P_d = (P_{out} * G) / (4 * \pi * r^2)$

Where

$P_d$  = power density in mW/cm<sup>2</sup>

$P_{out}$  = 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

$P_d$  is the limit of MPE, 1 mW/cm<sup>2</sup>. 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°C and 78% RH.

### 1.3. Test Result of RF Exposure Evaluation

Product : Mozart II  
 Test Item : RF Exposure Evaluation  
 Test Site : No.3 OATS

#### Antenna Gain

Antenna Gain: The maximum Gain measured in fully anechoic chamber is 3.79dBi in logarithm scale.

#### 802.11b

##### Output Power Into Antenna & RF Exposure Evaluation Distance (3.79 dBi):

Channel	Frequency (MHz)	Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm <sup>2</sup> )
1	2412.00	90.7821	0.043225
6	2437.00	90.1571	0.042927
11	2462.00	91.2011	0.043424

#### 802.11g

##### Output Power Into Antenna & RF Exposure Evaluation Distance (3.79 dBi):

Channel	Frequency (MHz)	Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm <sup>2</sup> )
1	2412.00	225.4239	0.107332
6	2437.00	216.7704	0.103212
11	2462.00	237.6840	0.113170

#### 802.11n-20BW\_14.4Mbps(2.4G Band)

##### Output Power Into Antenna & RF Exposure Evaluation Distance (3.79 dBi):

Channel	Frequency (MHz)	Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm <sup>2</sup> )
1	2412.00	172.5838	0.082173
6	2437.00	189.6706	0.090309
11	2462.00	153.8155	0.073237

**802.11n-40BW\_30Mbps(2.4G Band)****Output Power Into Antenna & RF Exposure Evaluation Distance (3.79 dBi):**

Channel	Frequency (MHz)	Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm <sup>2</sup> )
1	2422.00	169.8244	0.080859
4	2437.00	190.1078	0.090517
7	2452.00	153.8155	0.073237

The distance r (4<sup>th</sup> column) calculated from the Friis transmission formula is far shorter than 20 cm separation requirement.