

RF Exposure Evaluation declaration

Product Name : SPEAKER DOCK

Model No. : DSD-500

FCC ID : PPQ-DSD500

Applicant : Lite-On Technology Corp.

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Report No. : 125285R-RFUSP42V01

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

Where

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 3.1416

R = distance between observation point and center of the radiator in cm

P_d is the limit of MPE, 1 mW/cm². 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.

R = distance between observation point and center of the radiator is 20 cm.

1.3. Test Result of RF Exposure Evaluation

Product : SPEAKER DOCK
 Test Item : RF Exposure Evaluation
 Test Site : No.3 OATS

(802.11b 1Mbps)

Output Power Into Antenna & RF Exposure Evaluation Distance (4.63 dBi):

Channel	Frequency (MHz)	Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm ²)
01	2412.00	124.1652	0.071735
06	2437.00	128.2331	0.074085
11	2462.00	131.5225	0.075985

Power density in column 4 is much lower than the limit (1 mW/cm²).

(802.11g 6Mbps)

Output Power Into Antenna & RF Exposure Evaluation Distance (4.63 dBi):

Channel	Frequency (MHz)	Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm ²)
01	2412.00	207.4914	0.119876
06	2437.00	203.2357	0.117417
11	2462.00	206.0630	0.119050

Power density in column 4 is much lower than the limit (1 mW/cm²).