

RF Exposure Evaluation declaration

Product Name	WHDI Rx board
Model No.	WV301A
FCC ID	PPQ-WV301A

Applicant	LITE-ON TECHNOLOGY CORP.
Address	4F, 90, Chien 1 Road, Chung Ho, Taipei Hsien 235, Taiwan, R.O.C.

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Report No.	119322R

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/cm^2

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/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°C and 78% RH.

1.3. Test Result of RF Exposure Evaluation

Product : WHDI Rx board
 Test Item : RF Exposure Evaluation
 Test Site : No.3 OATS

802.11n-20MHz_14.4Mbps - 5G Band

Output Power Into Antenna & RF Exposure Evaluation Distance (2dBi):

Channel	Frequency (MHz)	Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm ²)
149	5745.00	236.0478	0.074427
157	5785.00	260.6154	0.082173
165	5825.00	247.1724	0.077935

The RF exposure at 20 cm is below limit.

802.11n-40MHz_30Mbps - 5G Band

Output Power Into Antenna & RF Exposure Evaluation Distance (2dBi):

Channel	Frequency (MHz)	Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm ²)
151	5755.00	272.8978	0.086046
159	5795.00	268.5344	0.084670

The RF exposure at 20 cm is below limit.

802.11n-20MHz_14.4Mbps

Output Power Into Antenna & RF Exposure Evaluation Distance (2dBi):

Channel	Frequency (MHz)	Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm ²)
36	5180.00	23.7137	0.007477
44	5220.00	25.1768	0.007938
48	5240.00	27.7332	0.008744

The RF exposure at 20 cm is below limit.

802.11n-40MHz_30Mbps**Output Power Into Antenna & RF Exposure Evaluation Distance (2dBi):**

Channel	Frequency (MHz)	Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm ²)
38	5190.00	25.4683	0.008030
46	5230.00	28.1838	0.008886

The RF exposure at 20 cm is below limit.