



# A Test Lab Techno Corp.

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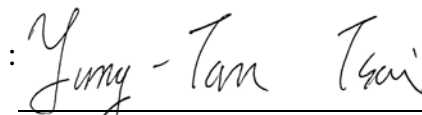


## MPE Report

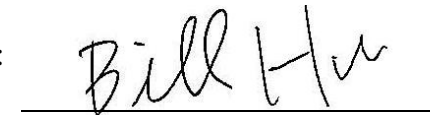
Test Report No.	:	1212FS11
Applicant	:	LITE-ON TECHNOLOGY CORP.
Manufacturer	:	LITE-ON TECHNOLOGY (Changzhou) CO., LTD
Product Type	:	802.11b/g/n 1T1R Wireless Lan USB Module
Trade Name	:	LITE-ON
Model Number	:	WN4622R
Date of Received	:	Dec. 04, 2012
Test Period	:	Dec. 04 ~ Dec. 12, 2012
Date of Issued	:	Dec. 12, 2012
Test Specification	:	47 CFR § 2.1091 47 CFR §1.1310 ANSI / IEEE Std.C95.1-1992 H46-2/99-237E
Location of Test Lab.	:	Chang-an Lab.

1. The test operations have to be performed with cautious behavior, the test results are as attached.
2. The test results are under chamber environment of A Test Lab Techno Corp. A Test Lab Techno Corp. does not assume responsibility for any conclusions and generalizations drawn from the test results with regard to other specimens or samples.
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Approved By

  
(Yung Tan Tsai)

Tested By

  
(Bill Hu)



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## 1. Description of Equipment under Test (EUT)

Applicant	LITE-ON TECHNOLOGY CORP.
Applicant Address	4F, 90, Chien 1 Road, Chung Ho, New Taipei City 23585, Taiwan, R.O.C.
Manufacturer	LITE-ON TECHNOLOGY (Changzhou) CO., LTD
Manufacturer Address	A9 Building, No. 88 Yanghu Road, Wujin Hi-Tech Industrial Development Zone, Changzhou City, Jiangsu Province 213100 China
Product Type	802.11b/g/n 1T1R Wireless Lan USB Module
Trade Name	LITE-ON
Model Number	WN4622R
FCC ID	PPQ-WN4622R
IC	4491A-WN4622R
Frequency Range	IEEE 802.11b / 802.11g / 802.11n 2.4GHz 20MHz: 2412 – 2462 MHz IEEE 802.11n 2.4GHz 40MHz: 2422 – 2452 MHz
Transmit Power (Conducted Power)	IEEE 802.11b: 0.087 W / 19.41 dBm IEEE 802.11g: 0.275 W / 24.40 dBm IEEE 802.11n 2.4GHz 20MHz: 0.243 W / 23.86 dBm IEEE 802.11n 2.4GHz 40MHz: 0.166 W / 22.21 dBm
Antenna Designation	METAL STAMPING ANTENNA
Antenna Specification	3.51 dBi
Temperature Range	-30 ~ +70°C

The above equipment was tested by A Test Lab Techno Corp. For compliance with the requirements set forth in 47 CFR § 2.1091 & 47 CFR § 1.1310. The results of testing in this report apply only to the product/system, which was tested. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties



## 2. Human Exposure Assessment

Due to the design and installation of this product, it is not possible to conduct SAR evaluation. This is because client either manufactures or supplies the antenna(s) that will be used in the installation of this product. Therefore, this product will be evaluated as a mobile device per 47 CFR §1.1310 titled "Radiofrequency radiation exposure limits", generally referred to as MPE limits.

In 47 CFR § 2.1091, paragraph (b) defines a mobile device as "a transmitting device designed to be used in other than fixed locations and to generally be used in such a way that a separation distance of at least 20 cm is normally maintained between the transmitter's radiating structure(s) and the body of the user or nearby persons." This product is intended to be installed into a vehicle such that the unit is physically secured at one location. In the installation guide supplied with the product,

Client has made the following statement: "IMPORTANT: To meet the FCC's RF Exposure Guidelines, the antenna should be installed so there is at least 20 cm of separation between the body of the user and nearby persons and the antenna". Based on the installation of the transceiver and the antenna, the transmitters radiating structure is more than 20 cm from the user. Thus, this product is a "mobile device" as defined in section § 2.1091 paragraph (b).

### Exposure evaluation

Equation from page 18 of OET Bulletin 65, Edition 97-01

$$S = \frac{PG}{4\pi R^2}$$

Where

S: power density

P: power input to the antenna

G: power gain of the antenna in the direction of interest relative to an isotropic radiator.

R: distance to the center of radiation of the antenna.



### 3. RF Output Power

Band	Data Rate	Frequency (MHz)	Conducted power (dBm)		Worst Case
			Average	Peak	
IEEE 802.11b	1 M	2412	16.52	19.23	<input type="checkbox"/>
		2437	16.50	19.10	<input type="checkbox"/>
		2462	16.83	<b>19.41</b>	<input checked="" type="checkbox"/>
IEEE 802.11g	6 M	2412	14.60	24.36	<input type="checkbox"/>
		2437	14.08	23.62	<input type="checkbox"/>
		2462	14.49	<b>24.40</b>	<input checked="" type="checkbox"/>
IEEE 802.11n 2.4GHz_20MHz	6.5 M	2412	14.32	<b>23.86</b>	<input checked="" type="checkbox"/>
		2437	14.47	23.55	<input type="checkbox"/>
		2462	14.21	23.84	<input type="checkbox"/>
IEEE 802.11n 2.4GHz_40MHz	13.5 M	2422	12.53	<b>22.21</b>	<input checked="" type="checkbox"/>
		2437	12.37	22.20	<input type="checkbox"/>
		2452	12.16	22.01	<input type="checkbox"/>



#### 4. Test Result

Band	Data Rate	Frequency (MHz)	Limit (mw/cm <sup>2</sup> )	Distance (cm) [R]	Power (dBm) [P]	ANT Gain (dBi) [G]	[P]+ [G] (W) [TP]	Power Density [S] (mw/cm <sup>2</sup> )	Min. distance (cm)
IEEE 802.11b	1 M	2412	1.000	20	19.23	3.51	0.188	0.023	20cm
		2437	1.000	20	19.10	3.51	0.182	0.022	20cm
		2462	1.000	20	19.41	3.51	0.196	0.024	20cm
IEEE 802.11g	6 M	2412	1.000	20	24.36	3.51	0.612	0.074	20cm
		2437	1.000	20	23.62	3.51	0.516	0.063	20cm
		2462	1.000	20	24.40	3.51	0.618	0.075	20cm
IEEE 802.11n 2.4GHz_20MHz	6.5 M	2412	1.000	20	23.86	3.51	0.546	0.066	20cm
		2437	1.000	20	23.55	3.51	0.508	0.062	20cm
		2462	1.000	20	23.84	3.51	0.543	0.066	20cm
IEEE 802.11n 2.4GHz_40MHz	13.5 M	2422	1.000	20	22.21	3.51	0.373	0.045	20cm
		2437	1.000	20	22.20	3.51	0.372	0.045	20cm
		2452	1.000	20	22.01	3.51	0.356	0.043	20cm