A Test Lab Techno Corp.

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MPE Report

Test Report No.	：	1207FS23
Applicant	：	Lite-On Technology Corp.
Manufacturer	：	DONG GUAN G-COM COMPUTER CO., LTD
Product Type	：	802.11 b/g/n 1x1 USB module
Trade Name	：	Lite-On
Model Number	：	WN4607R
FCC ID	：	PPQ-WN4607R
Date of Received	：	Jul. 17, 2012
Date of Test	：	Jul. 27, 2012
Date of Issued	：	Jul. 27, 2012
Test Specification	：	47 CFR § 2.1091
		47 CFR §1.1310
		ANSI / IEEE Std.C95.1-1992
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.
3. The measurement report has to be written approval of A Test Lab Techno Corp. It may only be reproduced or published in full. This report shall not be reproduced except in full, without the written approval of A Test Lab Techno Corp.
4. This document may be altered or revised by A Test Lab Techno. Corp. personnel only, and shall be noted in the revision section of the document.

Approved By ： Yung-Tan Tsai (Yung Tan Tsai)　　Tested By ： Bill Hu (Bill Hu)

Contents

1. Description of Equipment under Test (EUT)

Applicant	Lite-On Technology Corp.
Applicant Address	4F, 90, Chien 1 Road, Chung Ho, Taipei Hsien 235, Taiwan, R.O.C.
Manufacturer	DONG GUAN G-COM COMPUTER CO., LTD
Manufacturer Address	1st Row, Yin Shan Road, Yin Hwu Industrial Area, Qingxi Town, DongGuan City, GuangDong, China
Product Type	802.11 b/g/n 1x1 USB module
Trade Name	Lite-On
Model Number	WN4607R
FCC ID	PPQ-WN4607R
Frequency Range	2412 - 2462 MHz (IEEE 802.11b / IEEE 802.11g) 2412 - 2462 MHz (draft 802.11n Standard-20MHz) 2422 - 2452 MHz (draft 802.11n Wide-40MHz)
Transmit Power (mean conducted power)	IEEE 802.11b: 0.100 W / 20.00 dBm IEEE 802.11g: 0.195 W / 22.91 dBm draft 802.11n Standard-20MHz: 0.206 W / 23.14 dBm draft 802.11n Wide-40MHz: 0.209 W / 23.21 dBm
Antenna Specification	2.88 dBi
Antenna Designation	Metal Stamping Antenna
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)	Time-Average Power (dBm)	Peak Power (dBm)	Worst Case
IEEE 802.11b	1M	2412	16.91	19.99	☐
		2437	16.99	**20.00**	■
		2462	16.51	19.51	☐
	2M	2412	16.78	19.88	☐
		2437	16.78	19.90	☐
		2462	16.31	19.44	☐
	5.5M	2412	16.89	19.55	☐
		2437	16.94	19.55	☐
		2462	16.44	19.06	☐
	11M	2412	16.87	19.91	☐
		2437	16.91	19.98	☐
		2462	16.45	19.46	☐
IEEE 802.11g	6M	2412	14.51	22.52	☐
		2437	14.62	**22.91**	■
		2462	13.30	21.90	☐
	9M	2412	14.41	22.42	☐
		2437	14.56	22.84	☐
		2462	13.20	22.02	☐
	12M	2412	14.34	22.57	☐
		2437	14.52	22.82	☐
		2462	13.18	22.03	☐
	18M	2412	14.46	22.19	☐
		2437	14.54	22.47	☐
		2462	13.25	21.56	☐
	24M	2412	12.84	21.82	☐
		2437	12.86	21.90	☐
		2462	11.51	21.10	☐
	36M	2412	12.57	21.54	☐
		2437	12.68	21.73	☐
		2462	11.36	20.73	☐
	48M	2412	10.78	21.01	☐
		2437	10.84	20.28	☐
		2462	9.47	19.44	☐
	54M	2412	10.97	21.23	☐
		2437	11.13	21.58	☐
		2462	9.79	20.65	☐

Band	Data Rate	Frequency (MHz)	Time-Average Power (dBm)	Peak Power (dBm)	Worst Case
draft 802.11n Standard-20MHz	6.5M	2412	14.55	22.70	☐
		2437	14.71	**23.14**	■
		2462	12.49	21.41	☐
	13M	2412	14.59	22.54	☐
		2437	14.63	22.78	☐
		2462	12.42	21.15	☐
	19.5M	2412	14.51	22.70	☐
		2437	14.56	22.91	☐
		2462	12.44	21.20	☐
	26M	2412	14.43	22.32	☐
		2437	14.61	22.51	☐
		2462	12.49	21.24	☐
	39M	2412	12.91	21.85	☐
		2437	12.91	21.92	☐
		2462	10.66	20.11	☐
	52M	2412	12.71	21.32	☐
		2437	12.87	21.50	☐
		2462	10.68	19.97	☐
	58.5M	2412	10.82	21.13	☐
		2437	10.80	21.04	☐
		2462	8.69	19.68	☐
	65M	2412	10.78	20.72	☐
		2437	10.91	20.94	☐
		2462	8.66	19.34	☐

Band	Data Rate	Frequency (MHz)	Time-Average Power (dBm)	Peak Power (dBm)	Worst Case
draft 802.11n Wide-40MHz	13.5M	2422	11.78	21.45	☐
		2437	14.72	**23.21**	■
		2452	10.07	20.44	☐
	27M	2422	11.75	20.97	☐
		2437	14.54	22.60	☐
		2452	10.08	20.02	☐
	40.5M	2422	11.62	20.48	☐
		2437	14.52	22.12	☐
		2452	10.13	19.66	☐
	54M	2422	11.62	20.68	☐
		2437	14.41	22.22	☐
		2452	10.12	19.92	☐
	81M	2422	10.21	20.02	☐
		2437	12.78	21.64	☐
		2452	8.45	19.05	☐
	108M	2422	9.88	20.28	☐
		2437	12.56	21.85	☐
		2452	8.43	19.53	☐
	121.5M	2422	8.05	19.21	☐
		2437	10.72	20.62	☐
		2452	6.58	18.69	☐
	135M	2422	7.95	19.10	☐
		2437	10.69	20.69	☐
		2452	6.57	18.23	☐

4. Test Result

Band	Data Rate	Frequency (MHz)	Limit (mw)	Distance (cm) [R]	Power (dBm) [P]	ANT Gain (dBi) [G]	[P]+ [G] (W) [TP]	Power Density (mw) [S]	Min. distance (cm)
IEEE 802.11b	1M	2412.0	1.000	20	19.99	2.88	0.194	0.023	20cm
		2437.0	1.000	20	20.00	2.88	0.194	0.024	20cm
		2462.0	1.000	20	19.51	2.88	0.173	0.021	20cm
IEEE 802.11g	6M	2412.0	1.000	20	22.52	2.88	0.347	0.042	20cm
		2437.0	1.000	20	22.91	2.88	0.379	0.046	20cm
		2462.0	1.000	20	21.90	2.88	0.301	0.036	20cm
draft 802.11n Standard-20MHz	MCS0	2412.0	1.000	20	22.70	2.88	0.361	0.044	20cm
		2437.0	1.000	20	23.14	2.88	0.400	0.049	20cm
		2462.0	1.000	20	21.41	2.88	0.269	0.033	20cm
draft 802.11n Wide-40MHz	MCS0	2422.0	1.000	20	21.45	2.88	0.271	0.033	20cm
		2437.0	1.000	20	23.21	2.88	0.406	0.049	20cm
		2452.0	1.000	20	20.44	2.88	0.215	0.026	20cm