MPE Test Report

of

WLAN 802.11b+g Mini-PCI Module
(tested with acer Notebook PC Aspire1510, ZP2, ZP2A)

Model

RM8

(Brand: Wistron NeWeb)

Applied by:

Wistron NeWeb Corporation
No. 10-1, Li-hsin Road I,
Science-based Industrial Park , Hsinchu 300,
Taiwan, R. O. C.

Test Performed by:

International Standards Laboratory

No. 120, Lane 180, San Ho Tsuen, Hsin Ho Rd.
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Contents of Report

1. General

1.1 Certification of Accuracy of Test Data

The test results contained in this report accurately represent the measurements of the Electrical Field characteristics and the energy generated by sample equipment under test at the time of the test.

Equipment Tested:	WLAN 802.11b+g Mini-PCI Module Model: RM8 Applied by Wistron NeWeb Corporation
Sample received Date:	2004/02/20
Final test Date :	2004/02/27
Test Site:	Chamber 02, Conduction 02
Test Engineer:	Jerry Chiou

The results show that the sample equipment tested as described in this report is in compliance with the FCC Section 15.247(b)(5) & 1.1307(b)(1) MPE.

Approve & Signature

Eddy Hsiung

Eddy Hsiung/Director

This test data shown below is traceable to NIST or national or international standard.
International Standards Laboratory certifies that no party to this application has been denied the FCC benefits pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C. 853(a).

2. Description of Equipment Under Test

2.1 EUT

Description:	WLAN 802.11g Mini-PCI Module
Model No.:	RM8
FCC ID:	NKRRM8
Brand:	Wistron NeWeb
Frequency Range 802.11b/g:	2400-2483.5 MHz
Support channel:	
802.11b/g	11 Channels
Modulation Skill:	
802.11b	DBPSK(1Mbps), DQPSK(2Mbps), CCK(5.5/11Mbps)
802.11g	OFDM (6M - 54Mbps)
Antennas Type:	PIFA Type in Metal made by HannStar Corp.
P/N	WA00111
Antenna Connected:	Connected to RF connector on the PCB of the 802.11g WLAN Adapter.
Antenna peak Gain:	
Main antenna	-0.25 dBi
Aux antenna	1.53 dBi
Power Type of LAN module:	3.3V DC from Notebook PC

The channel and the operation frequency of 802.11b and 802.11g is listed below:

Channel	Frequency(MHz)	Channel	Frequency(MHz)
01	2412	07	2442
02	2417	08	2447
03	2422	09	2452
04	2427	10	2457
05	2432	11	2462
06	2437		

The EUT had been tested and granted, the FCC ID is NKRRM8, please refer to ISL report 03LR026FC. For a class II change, the EUT is now using a new set of antennas, and tested with a new Notebook PC (brand: acer, model: Aspire1510, ZP2, ZP2A).

During the test, the EUT was tested as a modular device of a notebook PC using a PCMCIA extender board to extend the EUT outside the notebook PC enclosure. The EUT was then connected to a set of antennas via its transmit and receive connectors.

2.2 General Test Conditions

1. During the test, the EUT was set in continuously transmitting mode with a duty cycle of 100%.
2. The channel 1, 7, 11 of of 802.11b/g of EUT were all tested.

3. RF Exposure Measurement [Section 15.247(b)(4) & 1.1307(b)]

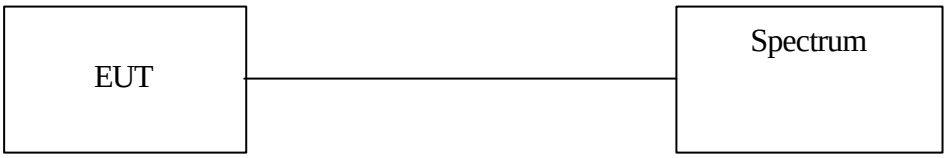
3.1 Applied Standards

FCC PART 1.1307, 1.1310, 2.1091, 2.1093 RF EXPOSURE

3.2 Test Procedure

The Transmitter output of EUT was connected to the peak power analyzer through an attenuator.

3.3 Test Setup



3.4 Calculation for Maximum Permissible Exposure (MPE)

From FCC 1.1310 Table 1B, the maximum permissible RF exposure for an uncontrolled environment is 1 mW/cm2 .The actual power density for the EUT with the antenna is calculated as shown below.

$$S = (P \times G) / (4 \times \pi \times d^2)$$

where:
S = power density
P = transmitter conducted power in (W)
G = antenna numeric gain
d = distance to radiation center (m)

	Antenna Manufacturer	Antenna Type	Gain (dBi)	Numeric Gain	Power (dBm)	Power (mW)	Separation Distance (cm)	Power Density (W/m2)	Power Density (mW/cm2)
11b	HannStar Corp. P/N WA00111	PIFA	1.53	1.42	18	63.1	20	0.178	0.0178
11g					18.406	69.27	20	0.195	0.0195

WARNING:
It is the responsibility of the installer to ensure that the EUT is a notebook PC with a WLAN card and a specified antenna inside. Only the specified antenna listed above may be used. The use of any other antenna is expressly forbidden in accordance with FCC rules CFR 47 part 15.204.

NOTICE:
FCC Radiation Exposure Statement
This equipment complies with FCC radiation exposure limits for an uncontrolled environment when installed as directed. This equipment should be installed and operated with HannStar PIFA antenna P/N WA00111 in a fixed-mount configuration, installed with a maximum of 18.406dBm of radiated output power during normal operation

4. Appendix : Test Equipment

4.1 Test Equipment List

Equipment Name: Spectrum Analyzer 08
Brand: Advantest
Model: R3132
S/N: 111000867
Last Cal. Date: 11/21/2003
Next Cal. Date: 11/21/2004

Note: Calibration traceable to NIST or national or international standards.