

MPE Test Report
FOR
FCC Part 15 Subpart C

of

Notebook Personal Computer
(with WLAN 802.11g Mini-PCI Module RM8 inside)

Model

DT3

(Brand: acer)

Applied by:

Acer Inc.
8F, 88, Sec.1, Hsin Tai Wu Rd. ,
Hsichih, Taipei Hsien 221,
Taiwan, R. O. C.



Test Performed by:

International Standards Laboratory

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1. . General

1.1 Certification of Accuracy of Test Data

The electromagnetic interference tests which this report describes were conducted by an independent electromagnetic compatibility consultant, International Standards Laboratory in accordance with the test procedure specified in CFR 47 Part 15 Subpart C (Section 15.247) , and ANSI C63.4 Rules.

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

Equipment Tested: Notebook Personal Computer
(with WLAN 802.11g Mini-PCI Module RM8 inside)
Model: DT3
Applied by Acer Inc.

Sample received Date: 2003/11/22

Final test Date : 200312/09

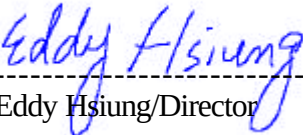
Test Site: Chamber 02, Conduction 02

Temperature 23°C(Conduction Test); 23°C (Radiation Test)
Humidity: 52% (Conduction Test); 51% (Radiation Test)

Test Engineer: Jerry Chiou

The results show that the sample equipment tested as described in this report is in compliance with the Class B conducted and radiated emission limits of FCC Rules Part 15 Subpart B, and the limit of Part Subpart C Sec. 15.247.

Approve & Signature



Eddy Hsiung/Director

Test results given in this report apply only to the specific sample(s) tested under stated test conditions. This report shall not be reproduced other than in full without the explicit written consent of ISL. This report totally contains 8 pages, including 1 cover page , 1 contents page, and 6 pages for the test description. This report must not be use to claim product endorsement by NVLAP or any agency of the U.S. Government.

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. Test Results Summary

2.1 Description of Equipment Under Test

EUT

Description:	Notebook Personal Computer (with WLAN 802.11g Mini-PCI Module RM8 inside)
Model No.:	DT3
FCC ID:	HLZAS1710
Brand:	acer
Wireless LAN Module:	Wistron NeWeb, Model: RM8
Frequency Range 802.11b/g:	2412 - 2462 MHz
Support channel:	11 Channels
802.11b/g	
Modulation Skill:	DBPSK(1Mbps), DQPSK(2Mbps), CCK(5.5/11Mbps)
802.11b	OFDM (6M - 54Mbps)
802.11g	
Antennas Type:	PIFA Type in Meta made by FOXCONN NWInG
Antenna Connected:	Connected to RF connector on the PCB of the 802.11b/g WLAN Adapter. The user is not possible to change the antenna without disassembling the notebook computer.
Antenna peak Gain:	
Main antenna	1.40 dBi
Aux antenna	1.36 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		

Adapter Type:	Auto Switch/ Lite-On (Model: PA-1181-08QA) 3 Pins
Hard Disk Driver:	Seagate HDD(ALPINE 120G)ST3120022A Seagate HDD(U9 80GB) ST380012A F/W:4.04 WD HDD (80GB) WD800EB-00DJF0 WD HDD (120GB) WD1200BB-00DWA0
LCD:	QDI 17" SXGA (QDI/ QD17EL07)
DVD ROM Driver:	QSI 8X DVD-ROM, Slim, SDR-083
CD-RW/DVD Driver:	QSI 8X DVD- Combo, Slim, SBW-242
DVD Dual Driver:	Pioneer DVD Dual DVR-K12D
DDR SDRAM:	Infineon 512MB/ HYS64D64320GU-5-B Infineon 256MB/ HYS64D32300GU-5-B Nanya 512MB/ NT512D64S8HB1G-5T Nanya 256MB/ NT256D64S88B1G-5T
Parallel Connector:	one 25-pins
VGA Connector:	one 15-pins
TV Out:	one 4-pins
USB Connector:	Four 4-pins
1394 Connector:	Two 4-pins
RJ11 Connector:	one 2-pins
RJ45 Connector:	one 8-pins
Mic-in Port:	one
Headphone-out Port:	one
PCMCIA Slot:	one
MS/SD/MMC Slot:	one
DC IN Port:	one
Battery:	Simplo/ BATT PACK LI 916-2600(DT1,4S3P,6.6A)
Power Cord:	Nonshielded, Detachable
Speed & CPU:	
Speed	CPU
133MHz	Pentium IV 2.66GHz
200MHz	Pentium IV / Prescott 2.6, 2.8, 3.0, 3.2, 3.4, 3.6, 3.8, 4.0 GHz

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 802.11b/g of EUT were all tested.

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

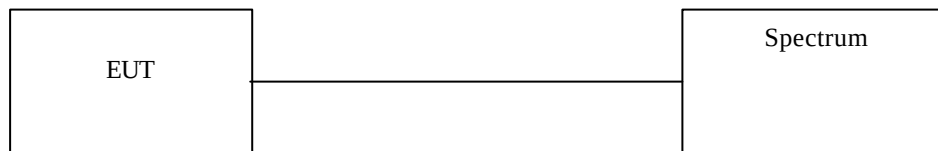
3.1 Applied Standards

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/m ²)	Power Density (mW/cm ²)
11b	FOXCONN NWInG	PIFA	1.4	1.38	18	63.1	20	0.173	0.0173
11g					18.406	69.27	20	0.190	0.019

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 FOXCONN NWInG PIFA antenna 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.