**PCTEST ENGINEERING LABORATORY, INC.**

6660 - B Dobbin Road · Columbia, MD 21045 · USA

Telephone 410.290.6652 / Fax 410.290.6654

<http://www.pctestlab.com> (email: [randy@pctestlab.com](mailto:randy@pctestlab.com))**CERTIFICATE OF COMPLIANCE****FCC 15.407****MANUFACTURER NAME & ADDRESS:**

Panasonic Corporation of North America

One Panasonic Way, 4B-8

Secaucus, NJ 07094

**DATE & LOCATION OF TESTING:**

Date(s) of Tests: December 14-16, 2005

Test Report S/N: 0512120842

Test Site: PCTEST Lab, Columbia, MD

Project Number: ITPD-05-F037A

**FCC ID: ACJ9TGCF-741****APPLICANT: Panasonic Corporation of North America****SUMMARY:****Model No.:**

CF-74mk1

**Equipment EUT Type:**

Notebook PC w/ WLAN, UNII and Bluetooth

**Max. Output Power:**

16.08 dBm (Peak) Conducted (Low Band)

19.58 dBm (Peak) Conducted (High Band)

**Frequency Range:**

5180 – 5240 MHz (Low Band)

5260 – 5320 MHz (High Band)

**FCC Classification:**

Unlicensed National Information Infrastructure (NII)

**FCC Rule Part(s):**

Parts 15.407; ANSI C-63.4-2001

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in ANSI C-63.4-2001. If the EUT contains any additional embedded transmitters, then those transmitters were active during all tests. The JBC portion of this EUT is covered in the DOC report. Radiated data was taken with the highest gain antenna.

I authorize and attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.



*PCTEST 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. 862.*

  
Alfred Cirwithian  
Vice President Engineering

## TABLE OF CONTENTS

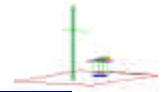
ATTESTATION STATEMENTS.....	1
MEASUREMENT REPORT COVER PAGE.....	2
1.0 INTRODUCTION.....	3
1.1 EVALUATION PROCEDURE .....	3
1.2 SCOPE.....	3
1.3 PCTEST TEST LOCATION.....	3
2.0 PRODUCT INFORMATION.....	4
2.1 EQUIPMENT DESCRIPTION.....	4
2.2 ENCLOSURE .....	4
2.3 EMI SUPPRESSION DEVICE(S)/MODIFICATIONS .....	4
3.0 DESCRIPTION OF TEST.....	5
3.1 CONDUCTED EMISSIONS.....	5
3.2 RADIATED EMISSIONS .....	6
4.0 ANTENNA REQUIREMENTS.....	7
5.0 TEST EQUIPMENT CALIBRATION DATA.....	8
6.1 CONCLUSION.....	9
EXHIBIT A. SUMMARY OF TEST RESULTS.....	10
EXHIBIT A. 26dB BANDWIDTH MEASUREMNT.....	11-13
EXHIBIT A. OUTPUT POWER MEASUREMENT .....	14-15
EXHIBIT A. PEAK POWER SPECTRAL DENSITY.....	16-17
EXHIBIT A. PEAK EXCURSION RATIO DENSITY .....	18-20
EXHIBIT A. BAND EDGE COMPLIANCE .....	21
EXHIBIT A. UNDESIREABLE EMISSIONS .....	22-24
EXHIBIT A. BAND EDGE/ RESTRICTED BAND MEASUREMENTS .....	25
EXHIBIT A. LINE CONDUCTED.. .....	26-29
EXHIBIT B. LABELING REQUIREMENTS.....	30-31
EXHIBIT C. BLOCK DIAGRAMS/ SCHEMATICS.....	32
EXHIBIT D. OPERATIONAL DESCRIPTION .....	33
EXHIBIT E. TEST SETUP PHOTOGRAPHS .....	34
EXHIBIT F. EUT EXTERNAL/INTERNAL PHOTOGRAPHS .....	35
EXHIBIT G. USER'S MANUAL .....	36

## Attestation Statements

<b>PCTEST</b> LAB TEST REPORT <b>15.407</b>		<b>FCC CERTIFICATION REPORT</b>		Reviewed by: Quality Manager
<b>Filename:</b> 0512120842	<b>Test Dates:</b> Dec. 14-16, 2005	<b>EUT Type:</b> Notebook PC w/ WLAN, UNII, Bluetooth	<b>FCC ID:</b> ACJ9TGCF-741	Page 1 of 36



## MEASUREMENT REPORT



### FCC Part 15.407 Measurement Report Cover Page



#### A. General Information

**APPLICANT** Panasonic Corporation of North America  
**APPLICANT ADDRESS** One Panasonic Way, 4B-8  
 Secaucus, NJ 07094  
**TEST SITE** PCTEST ENGINEERING LABORATORY, INC.  
**TEST SITE ADDRESS** 6660-B Dobbin Road, Columbia, MD 21045 USA  
**FCC RULE PART(S)** Parts 15.407; ANSI C-63.4-2001  
**MODEL NAME** CF-74mk1  
**FCC ID** ACJ9TGCF-741  
**Test Device Serial No.:** S/N: T1074Z ☐ Production ☒ Pre-Production ☐ Engineering  
**FCC CLASSIFICATION** Unlicensed National Information Infrastructure (NII)  
**DATE(S) OF TEST** December 14-16, 2005  
**TESTS REPORT S/N:** 0512120842

#### A.1 Test Facility / NVLAP Accreditation

Measurements were performed at PCTEST Engineering Lab in Columbia, MD 21045, U.S.A.

- PCTEST facility is an FCC registered (PCTEST Reg. No. 90864) test facility with the site description report on file and has met all the requirements specified in Section 2.948 of the FCC Rules and Industry Canada (IC 2451).
- PCTEST Lab is accredited by U.S. National Institute of Standards and Technology (NIST) under the National Voluntary Laboratory Accreditation Program (NVLAP) in EMC, Telecommunication, and FCC for satisfactory compliance with criteria established in Title 15, Part 285 Code of Federal Regulations. (NVLAP Lab code: 100431-0).
- PCTEST Lab is a recognized U.S. Conformity Assessment Body (CAB) in EMC and R&TTE (n.b. 0982) under the U.S.-EU Mutual Recognition Agreement (MRA).
- PCTEST TCB is a Telecommunication Certification Body (TCB) accredited to ISO/IEC Guide 65 by the American National Standards Institute (ANSI) in all scopes of FCC Rules.
- PCTEST facility is an IC registered (IC-2451) test laboratory with the site description on file at Industry Canada.

<b>PCTEST</b> LAB TEST REPORT 15.407		<b>FCC CERTIFICATION REPORT</b>		Reviewed by: Quality Manager
<b>Filename:</b> 0512120842	<b>Test Dates:</b> Dec. 14-16, 2005	<b>EUT Type:</b> Notebook PC w/ WLAN, UNII, Bluetooth	<b>FCC ID:</b> ACJ9TGCF-741	Page 2 of 36

## 1.0 INTRODUCTION

### 1.1 Evaluation Procedure

The measurement procedure described in the American National Standard for Methods of Measurement of Radio-Noise Emission from Low-Voltage Electrical and Electronic Equipment in the Range of 9kHz to 40GHz (ANSI C63.4-2001) and FCC Public Notice dated July 12, 1995 entitled "Guidance on Measurement for Direct Sequence Spread Spectrum System" were used in the measurement of **Notebook PC w/ WLAN (Intel Centrino Model: WM3945ABG).**

### 1.2 Scope

Measurement & determination of electromagnetic emissions (EMC) of radio frequency devices including intentional and/or unintentional radiators for compliance with the technical rules and regulations of the Federal Communications Commission.

### 1.3 PCTEST Test Location

The map at the right shows the location of the PCTEST LABORATORY, its proximity to the FCC Laboratory, the Columbia vicinity are, the Baltimore-Washington Intern't'l (BWI) airport, the city of Baltimore and the Washington, DC area. (see Figure 1.2-1).

These measurement tests were conducted at the PCTEST Engineering Laboratory, Inc. facility in New Concept Business Park, Guilford Industrial Park, Columbia, Maryland. The site address is 6660-B Dobbin Road, Columbia, MD 21045. The test site is one of the highest points in the Columbia area with an elevation of 390 feet above mean sea level. The site coordinates are 39° 11'15" N latitude and 76° 49'38" W longitude. The facility is 1.5 miles North of the FCC laboratory, and the ambient signal and ambient signal strength are approximately equal to those of the FCC laboratory. There are no FM or TV transmitters within 15 miles of the site. The detailed description of the measurement facility was found to be in compliance with the requirements of § 2.948 according to ANSI C63.4 on October 19, 2002.

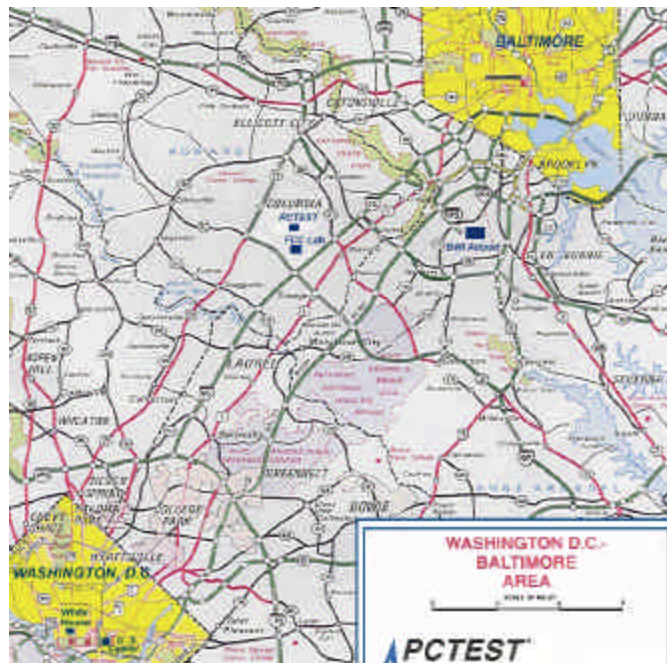




Figure 1.3-1. Map of the Greater Baltimore and Metropolitan Washington, D.C. area

<b>PCTEST</b> LAB TEST REPORT 15.407		<b>FCC CERTIFICATION REPORT</b>		Reviewed by: Quality Manager
<b>Filename:</b> 0512120842	<b>Test Dates:</b> Dec. 14-16, 2005	<b>EUT Type:</b> Notebook PC w/ WLAN, UNII, Bluetooth	<b>FCC ID:</b> ACJ9TGCF-741	Page 3 of 36

## 2.0 PRODUCT INFORMATION

### 2.1 Equipment Description

The Equipment Under Test (EUT) is the **Notebook PC w/ WLAN (Intel Centrino Model: WM3945ABG)**. The EUT consisted of the following components(s):

Table 2-1. EUT Equipment Description

Manufacturer / Model / Description	Serial Number
Panasonic CF-74mk1 / Notebook PC w/ WLAN (Intel Centrino Model: WM3945ABG)	T1074Z

### 2.2 Enclosure



The EUT incorporates the following enclosure:

- NONE

### 2.3 EMI Suppression Device(s)/Modifications

EMI suppression device(s) added and/or modifications made during testing.

- none

<b>PCTEST</b> LAB TEST REPORT 15.407		<b>FCC CERTIFICATION REPORT</b>		Reviewed by: Quality Manager
<b>Filename:</b> 0512120842	<b>Test Dates:</b> Dec. 14-16, 2005	<b>EUT Type:</b> Notebook PC w/ WLAN, UNII, Bluetooth	<b>FCC ID:</b> ACJ9TGC7-741	Page 4 of 36

## 3.0 DESCRIPTION OF TEST

### 3.1 Conducted Emissions

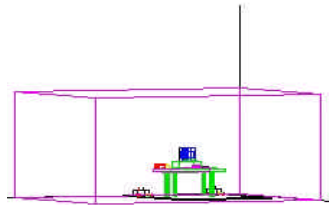


Figure 3.1-1. Shielded Enclosure Line-Conducted Test Facility

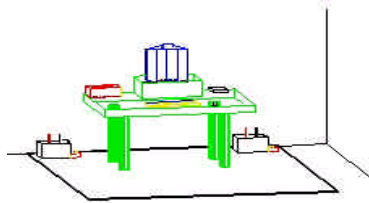


Figure 3.1-2. Line Conducted Emission Test Set-Up

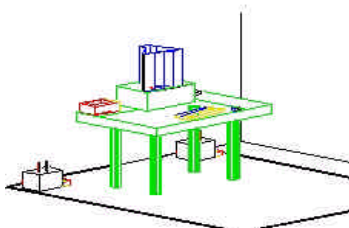


Figure 3.1-3. Wooden Table & Bonded LISNs

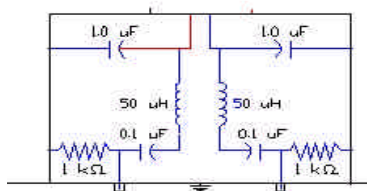




Figure 3.1-4. LISN Schematic Diagram

The line-conducted facility is located inside a 16'x20'x10' shielded enclosure, manufactured by Ray Proof Series 81 (see Figure 3.1-1). The shielding effectiveness of the shielded room is in accordance with MIL-Std-285 or NSA 65-5. A 1m x 1.5m wooden table 80cm high is placed 40cm away from the vertical wall and 1.5m away from the sidewall of the shielded room (see Figure 3.1-2). Solar Electronics and EMCO Model 3725/2 (10kHz-30MHz) 50Ω/50μH Line-Impedance Stabilization Networks (LISNs) are bonded to the shielded room (See Figure 3.1-3). The EUT is powered from the Solar LISN and the support equipment is powered from the EMCO LISN. Power to the LISNs are filtered by a high-current high-insertion loss Ray Proof power line filter (100dB 14Hz-10GHz). The purpose of the filter is to attenuate ambient signal interference and this filter is also bonded to the shielded enclosure. All electrical cables are shielded by braided tinned copper zipper tubing with an inner diameter of ½". If the EUT is a DC-powered device, power will be derived from the source power supply it normally will be powered from and this supply line(s) will be connected to the Solar LISN. The LISN schematic diagram is shown (See Figure 3.1-4). All interconnecting cables more than 1 meter were shortened to a 1-meter length by non-inductive bundling (serpentine fashion). Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition. The RF output of the LISN was connected to the spectrum analyzer to determine the frequency producing the maximum EME from the EUT. The spectrum was scanned from 150kHz to 30Mhz with a 20msec. sweep time. The frequencies producing the maximum level were re-examined using an EMI/Field Intensity Meter and Quasi-Peak adapter. The detector function was set to CISPR quasi-peak and average mode. The bandwidth of the receiver was set to 10kHz. The EUT, support equipment, and interconnecting cables were arranged and manipulated to maximize each EME emission. Each emission was maximized by: switching power lines; varying the mode of operation or resolution; clock or data exchange speed; scrolling H patter to the EUT and/or support equipment, and powering the monitor from the floor mounted outlet box and the computer aux AC outlet, if applicable; whichever determined the worst-case emission. Photographs of the worst-case emission can be seen in Exhibit M. Each EME reported was calibrated using the HP8640B signal generator.

<b>PCTEST</b> LAB TEST REPORT 15.407		<b>FCC CERTIFICATION REPORT</b>		Reviewed by: Quality Manager
<b>Filename:</b> 0512120842	<b>Test Dates:</b> Dec. 14-16, 2005	<b>EUT Type:</b> Notebook PC w/ WLAN, UNIL, Bluetooth	<b>FCC ID:</b> ACJ9TGC7-741	Page 5 of 36



### 3.2 Radiated Emissions

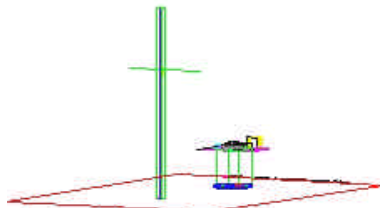


Figure 3.2-1. Meter Test Site

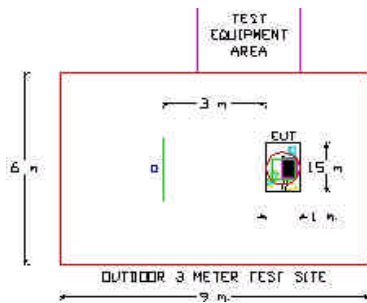


Figure 3.2-2. Dimensions of Outdoor Test Site

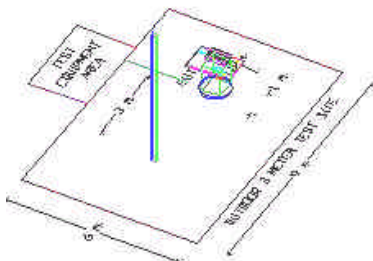


Figure 3.2-3. Turntable and System Setup

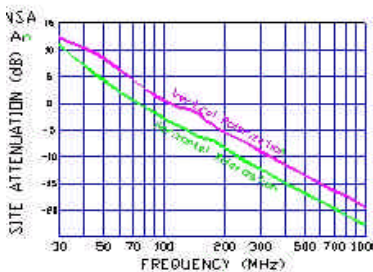


Figure 3.2-4. Normalized Site Attenuation Curves (H&V)

Preliminary measurements were made indoors at 1 meter using broadband antennas, broadband amplifier, and spectrum analyzer to determine the frequency producing the maximum EME. Appropriate precaution was taken to ensure that all EME from the EUT were maximized and investigated. The system configuration, clock speed, mode of operation or video resolution, turntable azimuth with respect to the antenna was noted for each frequency found. The spectrum was scanned from 30 to 200 MHz using bi-conical antenna and from 200 to 1000 MHz using log-spiral antenna. Above 1 GHz, linearly polarized double ridge horn antennas were used.

Final measurements were made outdoors at 3-meter test range using Roberts™ Dipole antennas or horn antenna (see Figure 3.2-1). The test equipment was placed on a wooden and plastic bench situated on a 1.5 x 2 meter area adjacent to the measurement area (see Figure 3.2-2). Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition. Each frequency found during pre-scan measurements was re-examined and investigated using EMI/Field Intensity Meter and Quasi-Peak Adapter. The detector function was set to CISPR quasi-peak mode and the bandwidth of the receiver was set to 100kHz or 1 MHz depending on the frequency or type of signal. Above 1GHz the detector function was set to CISPR average mode (RBW = 1MHz, VBW = 10Hz).

The half-wave dipole antenna was tuned to the frequency found during preliminary radiated measurements. The EUT, support equipment and interconnecting cables were re-configured to the set-up producing the maximum emission for the frequency and were placed on top of a 0.8-meter high non-metallic 1 x 1.5 meter table (see Figure 3.2-3). The EUT, support equipment, and interconnecting cables were re-arranged and manipulated to maximize each EME emission. The turntable containing the system was rotated; the antenna height was varied 1 to 4 meters and stopped at the azimuth or height producing the maximum emission. Each emission was maximized by: varying the mode of operation or resolution; clock or data exchange speed; scrolling H pattern to the EUT and/or support equipment, and powering the monitor from the floor mounted outlet box and the computer aux AC outlet, if applicable; and changing the polarity of the antenna, whichever determined the worst-case emission. Photographs of the worst-case emission can be seen in Exhibit E.G. Each EME reported was calibrated using the HP8640B signal generator. The Theoretical Normalized Site Attenuation Curves for both horizontal and vertical polarization are shown in Figure 3.2-4.

<b>PCTEST</b> LAB TEST REPORT 15.407	<b>PCTEST</b>	<b>FCC CERTIFICATION REPORT</b>	<b>Panasonic</b>	Reviewed by: Quality Manager
<b>Filename:</b> 0512120842	<b>Test Dates:</b> Dec. 14-16, 2005	<b>EUT Type:</b> Notebook PC w/ WLAN, UNII, Bluetooth	<b>FCC ID:</b> ACJ9TGCF-741	Page 6 of 36



## 40 ANTENNA REQUIREMENTS

An intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the applicant can be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with this requirement.

The antennas are **permanently attached antenna**.

There are provisions for connection to an external antenna. Please refer to Panasonic's application cover letter for details.



### Conclusion:

The **Panasonic CF-74mk1** unit complies with the requirement of §15.203.

### Low Band:

Ch.	Frequency (MHz)	Ch.	Frequency (MHz)
36	5180	52	5260
-	:	-	:
42	5210	56	5280
-	:	-	:
48	5240	64	5320

**Table 4.1 Frequency/ Channel Operations**



<b>PCTEST</b> 15.407 LAB TEST REPORT		<b>FCC CERTIFICATION REPORT</b>		Reviewed by: Quality Manager
<b>Filename:</b> 0512120842	<b>Test Dates:</b> Dec. 14-16, 2005	<b>EUT Type:</b> Notebook PC w/ WLAN, UNII, Bluetooth	<b>FCC ID:</b> ACJ9TGCF-741	Page 7 of 36

## 5.0 TEST EQUIPMENT CALIBRATION DATA

Test Equipment Calibration is traceable to the National Institute of Standards and Technology (NIST).



TYPE	MODEL	CAL. DUE DATE	CAL. INTERVAL	SERIAL No.
Microwave Spectrum Analyzer	HP E4448A (100Hz-50GHz)	12/05/06	Annual	3638A08713
Microwave Spectrum Analyzer	HP 8566 (100Hz-22GHz)	04/17/06	Annual	2542A11898
Spectrum Analyzer/Tracking Generator	HP 8591A (9kHz-1.8GHz)	06/02/06	Annual	3144A02458
Spectrum Analyzer	HP 8591A (9kHz-1.8GHz)	10/15/06	Annual	3108A02053
Spectrum Analyzer	HP 8594A (9kHz-2.9GHz)	11/02/06	Annual	3051A00187
Signal Generator	HP 8650B (500Hz-1GHz)	06/02/06	Annual	2232A19558
Signal Generator	HP 8640B (500Hz-1GHz)	06/02/06	Annual	1851A09816
Signal Generator	Rohde & Schwarz (0.1-1GHz)	09/22/06	Annual	894215/012
Ailtech/Eaton Receiver	NM 37/57A-SL (30MHz-1GHz)	04/12/06	Annual	0792-03271
Ailtech/Eaton Receiver	NM 37/57A (30MHz-1GHz)	03/11/06	Annual	0805-03334
Ailtech/Eaton Receiver	NM 17/27A (0.1-32MHz)	09/17/06	Annual	0608-03241
Quasi-Peak Adapter	HP 85650A	08/09/06	Annual	2043A00301
Ailtech/Eaton Adapter	CCA-7 CISPR/ANSI QP Adapter	03/11/06	Annual	0194-04082
RG58 Coax Test Cable	No.167			n/a
Harmonic/Flicker Test System	HP 6841A (IEC 555-2/3)			3531A00115
Broadband Amplifier (2)	HP 8447D			1145A00470, 1937A03348
Broadband Amplifier	HP 8447F			2443A03784
Transient Limiter	HP 11947A (9kHz-200MHz)			2820A00300
Horn Antenna (2)	EMCO Model 3115 (1-18GHz)			9704-5182, 9205-3874
Horn Antenna	EMCO Model 3116 (18-40GHz)			9203-2178
Biconical Antenna (3)	Eaton 94455-1			1295, 1332, 1277
Log-Spiral Antenna (2)	Ailtech/Eaton 93490-1			0227, 1104
Log-Spiral Antenna	Singer 93490-1			147
Roberts Dipoles	Compliance Design (1 set) A100			5118
Ailtech Dipoles	DM-105A (1set)			33448-111
EMCO LISN (3)	3816/2, 3816/2, 3725/2			1077, 1079, 2099
50-ohm Terminator	n/a			n/a
Microwave Preamp 40dB Gain	HP 83017A (0.5-26.5GHz)			3123A00181
Microwave Cables	MicroCoax (1.0-26.5GHz)			n/a
Ailtech/Eaton Receiver	NM37/57A-SL			0792-03271
Anritsu Power Meter	ML2487A	04/05/06	2 Years	6K00001785
Anritsu Wide Band Sensor	MA2491A	04/05/06	2 Years	31193
Spectrum Analyzer	HP 8591A			3034A01395
Modulation Analyzer	HP 8901A			2432A03467
NTSC Pattern Generator	Leader 408			0377433
Noise Figure Meter	HP 8970B, Ailtech 7510			3106A02189, TE31700
Noise Generator	Ailtech 7010			1473
Microwave Survey Meter	Holaday Model 1501 (2.45GHz)			80931
Digital Thermometer	Extech Instruments 421305			426966
Attenuator	HP 8495A (0-70dB) DC-4GHz			
Bi-Directional Coax Coupler	Narda 3020A (50-1000MHz)			
Shielded Screen Room	RF Lindgren Model 26-2/2-0			6710 (PCT270)
Shielded Semi-Anechoic Chamber	Ray Proof Model S81			R2437 (PCT278)
Environmental Chamber	Associated Systems 1025			PCT285
OATS	n/a	12/31/2006	Tri-annual	

**Table 5-1. Annual Test Equipment Calibration Schedule**

<b>PCTEST</b> LAB TEST REPORT <b>15.407</b>		<b>FCC CERTIFICATION REPORT</b>		Reviewed by: Quality Manager
<b>Filename:</b> 0512120842	<b>Test Dates:</b> Dec. 14-16, 2005	<b>EUT Type:</b> Notebook PC w/ WLAN, UNII, Bluetooth	<b>FCC ID:</b> ACJ9TGCF-741	Page 8 of 36

## 6.0 CONCLUSION

The data collected relate only the item(s) tested and show that the **Notebook PC w/ WLAN (Intel Centrino Model: WM3945ABG)** is in compliance with Part 15E of the FCC Rules.

<b>PCTEST</b> LAB TEST REPORT <b>15.407</b>		<b>FCC CERTIFICATION REPORT</b>		Reviewed by: Quality Manager
<b>Filename:</b> 0512120842	<b>Test Dates:</b> Dec. 14-16, 2005	<b>EUT Type:</b> Notebook PC w/ WLAN, UNII, Bluetooth	<b>FCC ID:</b> ACJ9TGCF-741	Page 9 of 36

## EXHIBIT A – Test Results

### Summary

The intentional radiator has been tested in a simulated typical installation to demonstrate compliance with the relevant FCC performance and procedural standards.

Tests were performed with the radio transmitting at full power on the specified channels and at the data rates specified below. **Final data was taken at a data rate of 9 Mbps**, because at the higher available data rates the output power is automatically reduced by several dB. The channels tested are low, middle and high of the allocated bands.



Final system data was gathered in a mode that tended to maximize emissions by varying the orientation of the EUT, orientation of power and I/O cabling, antenna search height, and antenna polarization.

Method/System: U-NII

Data Rate(s) Tested: 9, 12, 18, 24, 36, 48, 54 Mbps

FCC Part Section(s)	RSS 210 Section	Test Description	Test Limit	Test Condition
<u>TRANSMITTER MODE (TX)</u>				
15.403 (c)	6.2.2(q)(iv)(b)	26 dB Bandwidth	> 500kHz	CONDUCTED
15.407 (a)(1), (2), (3)	6.2.2(q1)(i)(ii)	Transmitter Output Power Conducted	<50 mW 5150-5250 MHz, <250 mW 5250-5350 MHz <1 W 5725-5825 MHz	
15.407 (a)(1), (2), (3), (5)	6.2.2(q1)(i)(ii)	Transmitter Power Spectral Density	<4 dBm 5150-5250 MHz IC: <10 dBm <11dBm 5250-5350 MHz	
15.407(a)(6)	N/A	Peak Excursion	<13 dB across 1 MHz	
15.407(b)(1), (2)(5)(6)		Undesirable Emissions	-27 dBm/MHz EIRP	Radiated
15.205 15.209	6.2.1 6.3	General Field Strength Limits (Restricted Bands and Radiated Emission Limits)	< FCC 15.209 limits or < RSS-210 table 3 limits Emissions in restricted bands must meet the radiated limits detailed in 15.209	Radiated (30MHz-1GHz) (1-25 GHz)
15.207	6.6	AC Conducted Emissions 150kHz – 30MHz	EN55022	Line Conducted
<u>RECEIVER MODE (RX)</u>				
15.107	7.4	AC Conducted Emissions 150kHz – 30MHz	EN55022	Line Conducted
15.109	7.3	General Field Strength Limits (Restricted Bands and Radiated Emissions Limits)	< FCC 15.209 limits or < RSS-210 table 3 limits	Radiated (30MHz-1GHz) (1-25 GHz)
<u>RF EXPOSURE (SAR or MPE)</u>				
2.1093/2.1091	RSS-102	SAR Test or MPE	1.6 W/kg or mw/cm <sup>2</sup>	3 Channels

**Table A-1. Summary of Test Results**

<b>PCTEST</b> LAB TEST REPORT <b>15.407</b>		<b>FCC CERTIFICATION REPORT</b>		Reviewed by: Quality Manager
<b>Filename:</b> 0512120842	<b>Test Dates:</b> Dec. 14-16, 2005	<b>EUT Type:</b> Notebook PC w/ WLAN, UNII, Bluetooth	<b>FCC ID:</b> ACJ9TGC7-741	Page 10 of 36

## **EXHIBIT A – Test Results (Cont.)**

### **26dB Bandwidth Measurement**

The bandwidth at 26dB down from the highest in-band spectral density is measured with a spectrum analyzer connected to the antenna terminal while the EUT is operating in transmission mode at the appropriate frequencies.

The spectrum analyzer is set to:

RBW = 30 kHz (10dB/div)  
VBW = 300 kHz  
Span = 30 MHz  
Sweep = 97.32 ms

Frequency (MHz)	Channel No.	Test Results	
		26dB Bandwidth (MHz)	Pass/Fail
5180	36	16.54	Pass
5260	52	16.45	Pass
5320	64	16.56	Pass

– See next pages for actual measured spectrum plots

Table A-2. Conducted Bandwidth Measurements

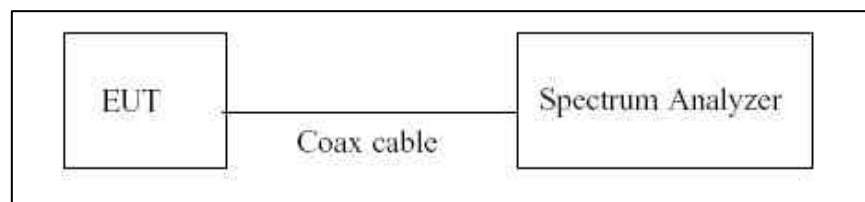


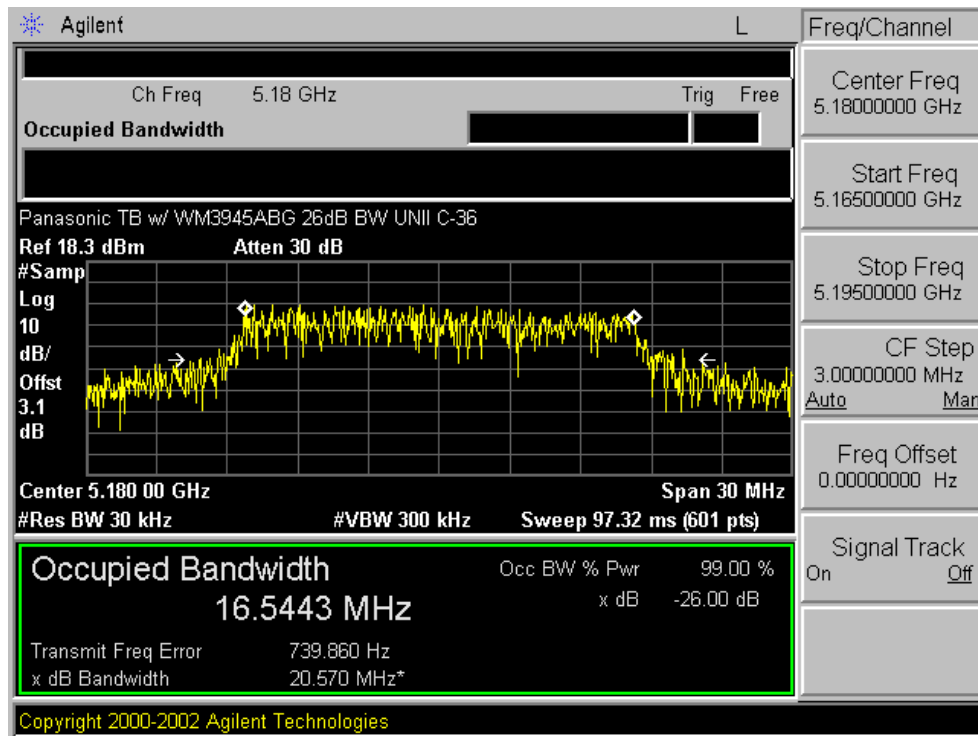
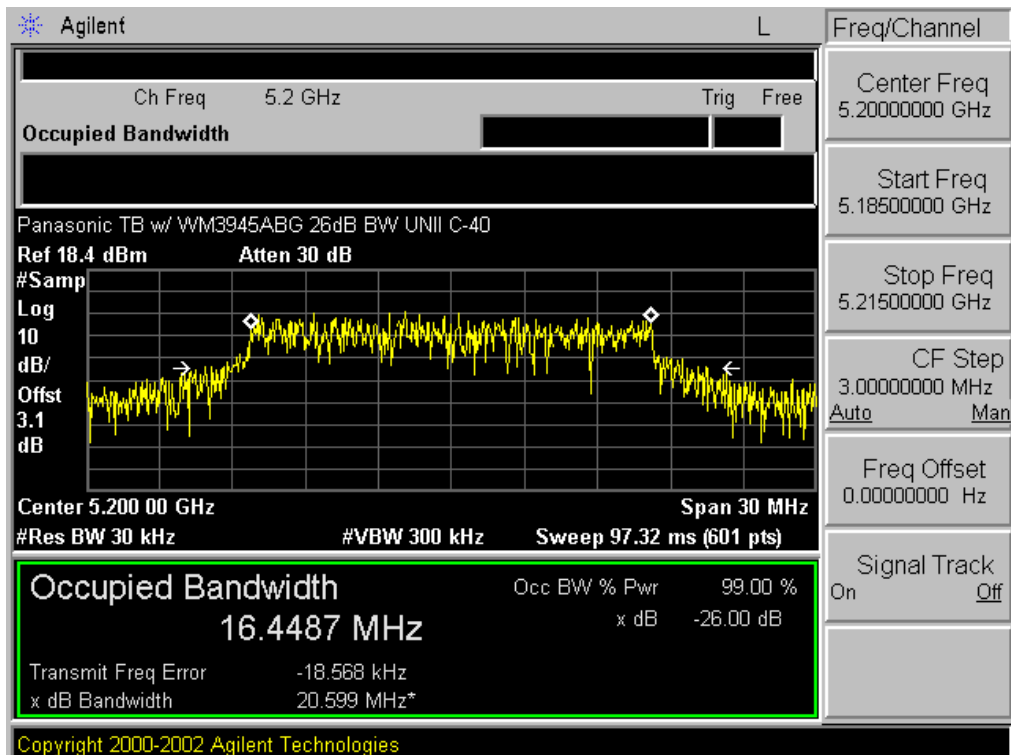


Figure A-1. Test Instrument & Measurement Setup

<b>PCTEST</b> LAB TEST REPORT <b>15.407</b>		<b>FCC CERTIFICATION REPORT</b>		Reviewed by: Quality Manager
<b>Filename:</b> 0512120842	<b>Test Dates:</b> Dec. 14-16, 2005	<b>EUT Type:</b> Notebook PC w/ WLAN, UNII, Bluetooth	<b>FCC ID:</b> ACJ9TGCF-741	Page 11 of 36

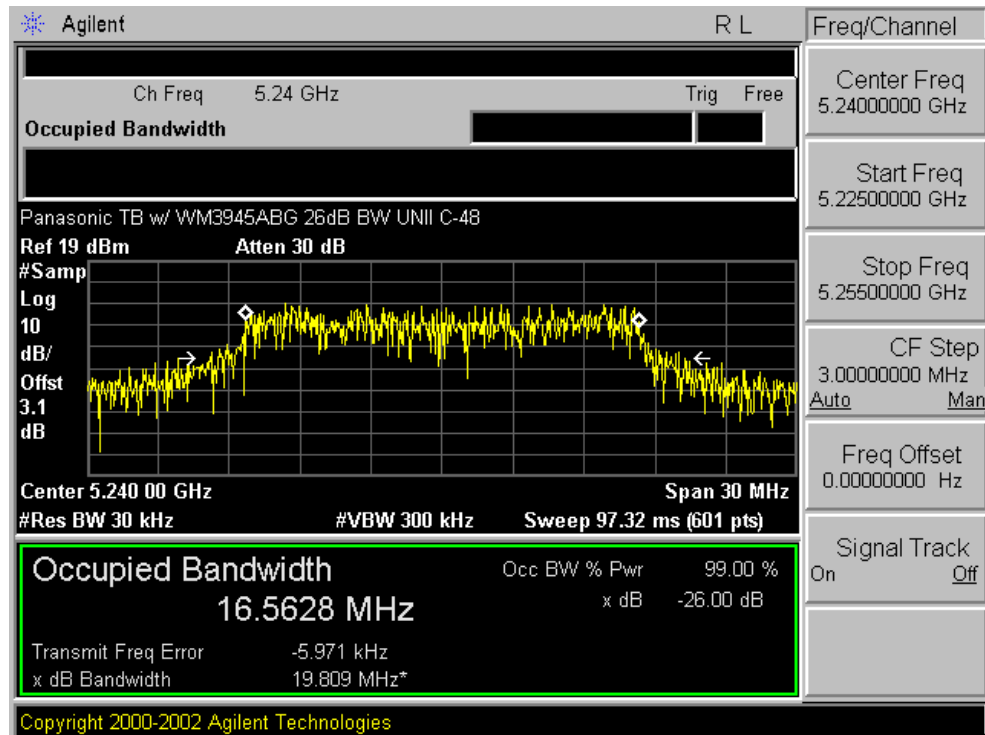


Plot A-1. 26dB Bandwidth Plot – Ch. 36





Plot A-2. 26dB Bandwidth Plot – Ch. 52

PCTEST LAB TEST REPORT 15.407		FCC CERTIFICATION REPORT		Reviewed by: Quality Manager
Filename: 0512120842	Test Dates: Dec. 14-16, 2005	EUT Type: Notebook PC w/ WLAN, UNII, Bluetooth	FCC ID: ACJ9TGCF-741	Page 12 of 36



Plot A-3. 26dB Bandwidth Plot – Ch. 64

<b>PCTEST</b> LAB TEST REPORT 15.407		<b>FCC CERTIFICATION REPORT</b>		Reviewed by: Quality Manager
<b>Filename:</b> 0512120842	<b>Test Dates:</b> Dec. 14-16, 2005	<b>EUT Type:</b> Notebook PC w/ WLAN, UNII, Bluetooth	<b>FCC ID:</b> ACJ9TGCF-741	Page 13 of 36



## **EXHIBIT A – Test Results (Cont.)**

### **Output Power Measurement**

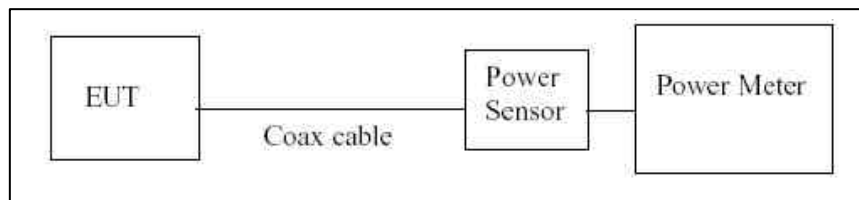
A transmitter antenna terminal of EUT is connected to the input of a RF power sensor. Measurement is made while the EUT is operating in transmission mode at the appropriate frequencies.



Minimum Standard – The transmitter peak output power shall not exceed 1 watt.

Freq (MHz)	Channel	Rate (Mbps)	Measured Avg. Power (dBm)		Cable Loss (dB)		Conducted Power (dBm)	
			Main	Aux	Main	Aux	Main	Aux
5180	36	6	13.00	13.90	1.50	1.50	14.50	15.40
		9	13.65	13.74	1.50	1.50	15.15	15.24
		12	13.44	13.76	1.50	1.50	14.94	15.26
		18	12.86	13.74	1.50	1.50	14.36	15.24
		24	13.82	14.30	1.50	1.50	15.32	15.80
		36	13.65	13.38	1.50	1.50	15.15	14.88
		48	13.66	13.34	1.50	1.50	15.16	14.84
		54	13.59	14.17	1.50	1.50	15.09	15.67
5210	42	6	13.27	13.77	1.50	1.50	14.77	15.27
		9	13.94	13.80	1.50	1.50	15.44	15.30
		12	13.92	13.72	1.50	1.50	15.42	15.22
		18	13.90	13.76	1.50	1.50	15.40	15.26
		24	13.60	14.42	1.50	1.50	15.10	15.92
		36	13.51	14.24	1.50	1.50	15.01	15.74
		48	13.52	14.22	1.50	1.50	15.02	15.72
		54	13.43	13.36	1.50	1.50	14.93	14.86
5240	48	6	14.16	14.20	1.50	1.50	15.66	15.70
		9	13.98	14.13	1.50	1.50	15.48	15.63
		12	13.99	14.05	1.50	1.50	15.49	15.55
		18	13.98	14.12	1.50	1.50	15.48	15.62
		24	14.46	14.50	1.50	1.50	15.96	16.00
		36	14.42	14.68	1.50	1.50	<b>15.92</b>	<b>16.08</b>
		48	14.20	14.20	1.50	1.50	15.70	15.70
		54	13.71	14.43	1.50	1.50	15.21	15.93
5260	52	6	17.38	18.08	1.50	1.50	<b>18.88</b>	<b>19.58</b>
		9	17.25	17.55	1.50	1.50	18.75	19.05

PCTEST LAB TEST REPORT 15.407		FCC CERTIFICATION REPORT		Reviewed by: Quality Manager	
Filename: 0512120842		Test Dates: Dec. 14-16, 2005		FCC ID: ACJ9TGCF-741	
		EUT Type: Notebook PC w/ WLAN, UNII, Bluetooth		Page 14 of 36	

		12	17.20	17.58	1.50	1.50	18.70	19.08
		18	17.15	17.00	1.50	1.50	18.65	18.50
		24	17.78	17.42	1.50	1.50	19.28	18.92
		36	16.94	17.06	1.50	1.50	18.44	18.56
		48	16.96	17.01	1.50	1.50	18.46	18.51
		54	16.83	17.03	1.50	1.50	18.33	18.53
5280	56	6	17.78	17.16	1.50	1.50	19.28	18.66
		9	17.66	17.85	1.50	1.50	19.16	19.35
		12	17.75	17.70	1.50	1.50	19.25	19.20
		18	17.90	17.75	1.50	1.50	19.40	19.25
		24	17.53	17.56	1.50	1.50	19.03	19.06
		36	17.42	17.56	1.50	1.50	18.92	19.06
		48	17.45	17.47	1.50	1.50	18.95	18.97
		54	17.33	17.41	1.50	1.50	18.83	18.91
5320	64	6	18.18	17.35	1.50	1.50	19.68	18.85
		9	18.06	17.17	1.50	1.50	19.56	18.67
		12	18.18	17.86	1.50	1.50	19.68	19.36
		18	18.06	17.20	1.50	1.50	19.56	18.70
		24	17.78	17.67	1.50	1.50	19.28	19.17
		36	17.76	17.71	1.50	1.50	19.26	19.21
		48	17.90	17.55	1.50	1.50	19.40	19.05
		54	17.82	17.47	1.50	1.50	19.32	18.97

**Table A-5. Conducted Output Power Measurements**

**Figure A-4. Test Instrument & Measurement Setup**

<b>PCTEST</b> LAB TEST REPORT <b>15.407</b>		<b>FCC CERTIFICATION REPORT</b>		Reviewed by: Quality Manager
<b>Filename:</b> 0512120842	<b>Test Dates:</b> Dec. 14-16, 2005	<b>EUT Type:</b> Notebook PC w/ WLAN, UNII, Bluetooth	<b>FCC ID:</b> ACJ9TGCF-741	Page 15 of 36

## **EXHIBIT A – Test Results (Cont.)**

### **PEAK Power Spectral Density**

The spectrum analyzer was connected to the antenna terminal while the EUT was operating in a continuous transmission mode at the appropriate center frequencies.

The spectrum analyzer was set to : RBW=1 MHz, VBW=8MHz, mode=Sample “on” for FCC (Measurement Method 2 from FCC Public Notice DA 02-2138) and “off” for Industry Canada.



The spectrum analyzer is set to:

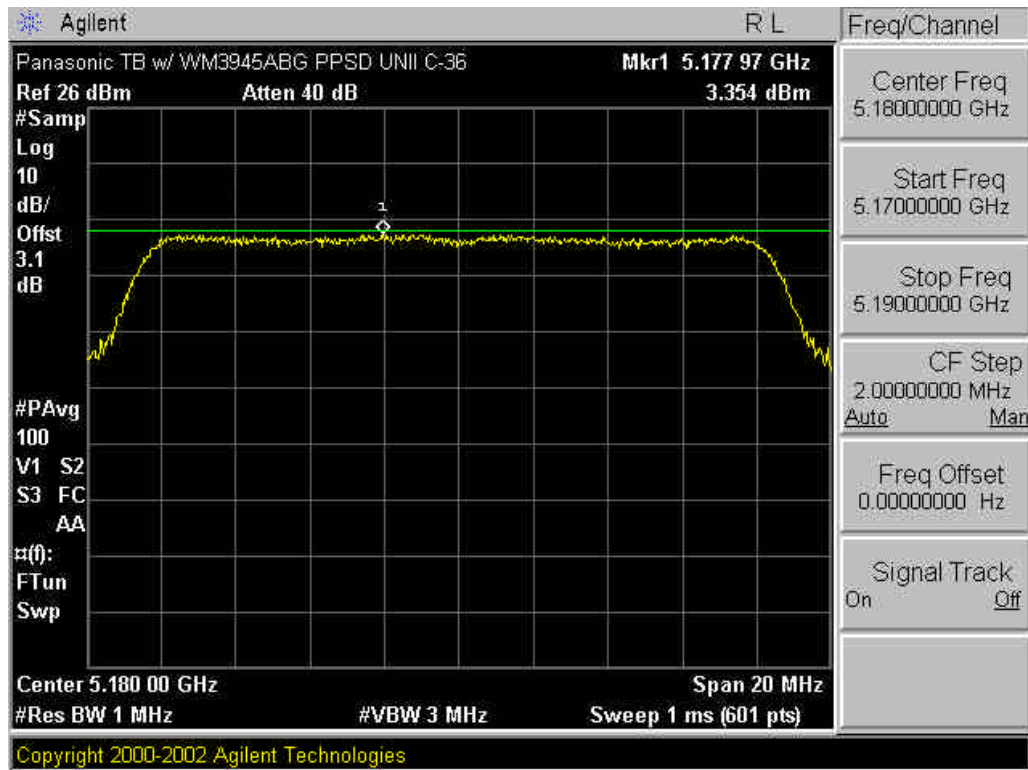
RBW	1 MHz (10dB/div)
VBW	3 MHz
Span	20 MHz
Ref. Level	19.83 dBm
Sweep	1 ms
Detector	Sampling with power averaging (100 sweeps)

Frequency (MHz)	Channel No.	Test Results		
		Power Density (dBm)	Limit	Margin (dB)
5180	36	3.354	4 dBm	- 0.646
5260	52	7.540	11 dBm	- 3.460
5320	64	7.576	11 dBm	- 3.424

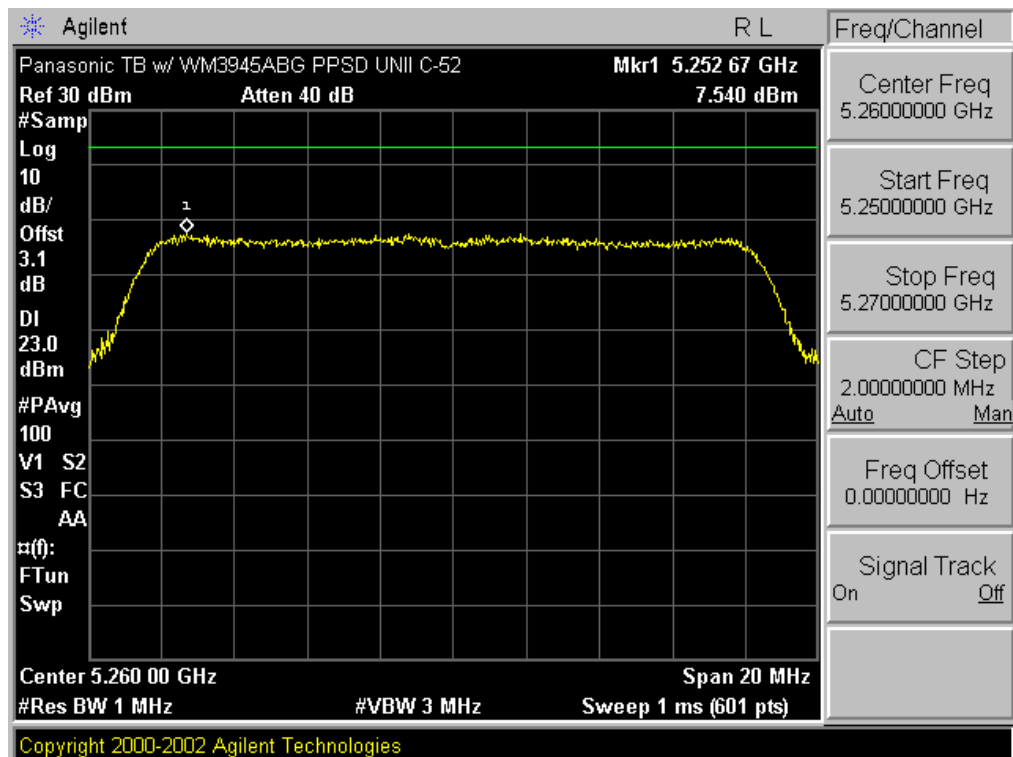
1See next pages for actual measured spectrum plots

**Table A-4. Conducted Power Density Measurements (9 Mbps)**

<b>PCTEST</b> LAB TEST REPORT <b>15.407</b>		<b>FCC CERTIFICATION REPORT</b>		Reviewed by: Quality Manager
<b>Filename:</b> 0512120842	<b>Test Dates:</b> Dec. 14-16, 2005	<b>EUT Type:</b> Notebook PC w/ WLAN, UNII, Bluetooth	<b>FCC ID:</b> ACJ9TGCF-741	Page 16 of 36

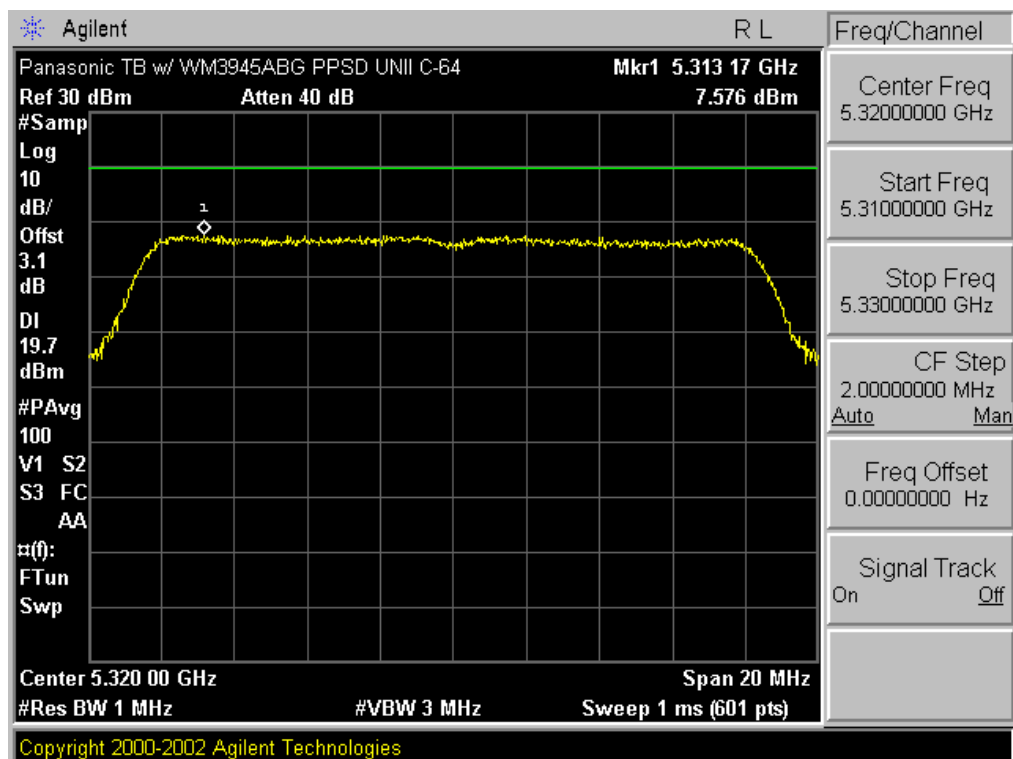


Plot A-7. Peak Power Spectral Density Plot – Low channel / Low Band



Plot A-8 Peak Power Spectral Density Plot – Low Channel / Low Band (IC)

PCTEST LAB TEST REPORT 15.407		FCC CERTIFICATION REPORT		Reviewed by: Quality Manager
Filename: 0512120842	Test Dates: Dec. 14-16, 2005	EUT Type: Notebook PC w/ WLAN, UNII, Bluetooth	FCC ID: ACJ9TGCF-741	Page 17 of 36



**Plot A-8. Peak Power Spectral Density Plot – Mid Channel / Low Band**

<b>PCTEST</b> LAB TEST REPORT 15.407		<b>FCC CERTIFICATION REPORT</b>		Reviewed by: Quality Manager
<b>Filename:</b> 0512120842	<b>Test Dates:</b> Dec. 14-16, 2005	<b>EUT Type:</b> Notebook PC w/ WLAN, UNII, Bluetooth	<b>FCC ID:</b> ACJ9TGCF-741	Page 18 of 36

## **EXHIBIT A – Test Results (Cont.)**

### **PEAK Excursion Ratio**

The spectrum analyzer was connected to the antenna terminal while the EUT was operating in the continuous transmission mode at the appropriate center frequencies.

#### 1<sup>st</sup> Trace:

The spectrum analyzer was set to : RBW=1 MHz, VBW=3MHz, mode=Peak detector and max hold.

#### 2<sup>nd</sup> Trace:



The spectrum analyzer was set to : RBW=1 MHz, VBW=30kHz, trigger=free run, mode=sample detector “on” (settings tend to present similar results compared to the power meter)

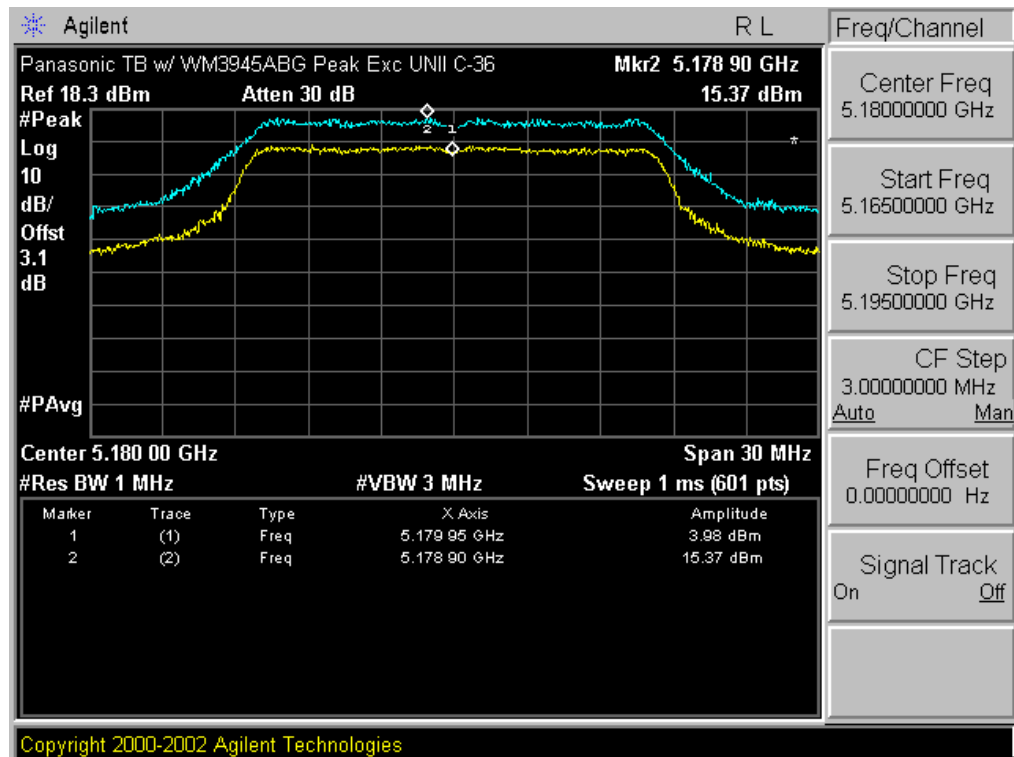
Largest difference between the traces is the peak excursion.

The spectrum analyzer is set to:

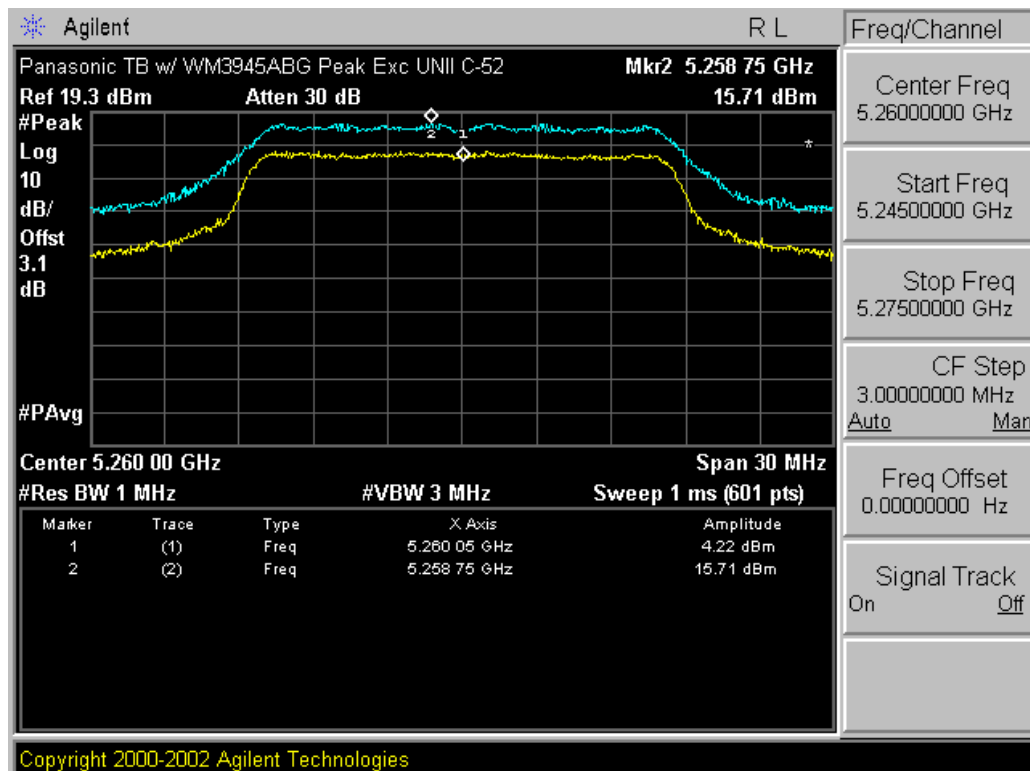
Frequency (MHz)	Channel No.	Test Results		
		Excursion Ratio (dB)	Limit	Margin (dB)
5180	36	15.37	13 dBm	-2.37
5260	52	15.71	13 dBm	-2.71
5320	64	16.35	13 dBm	-3.35

See next pages for actual measured spectrum plots

<b>PCTEST</b> LAB TEST REPORT <b>15.407</b>		<b>FCC CERTIFICATION REPORT</b>		Reviewed by: Quality Manager
<b>Filename:</b> 0512120842	<b>Test Dates:</b> Dec. 14-16, 2005	<b>EUT Type:</b> Notebook PC w/ WLAN, UNII, Bluetooth	<b>FCC ID:</b> ACJ9TGCF-741	Page 19 of 36



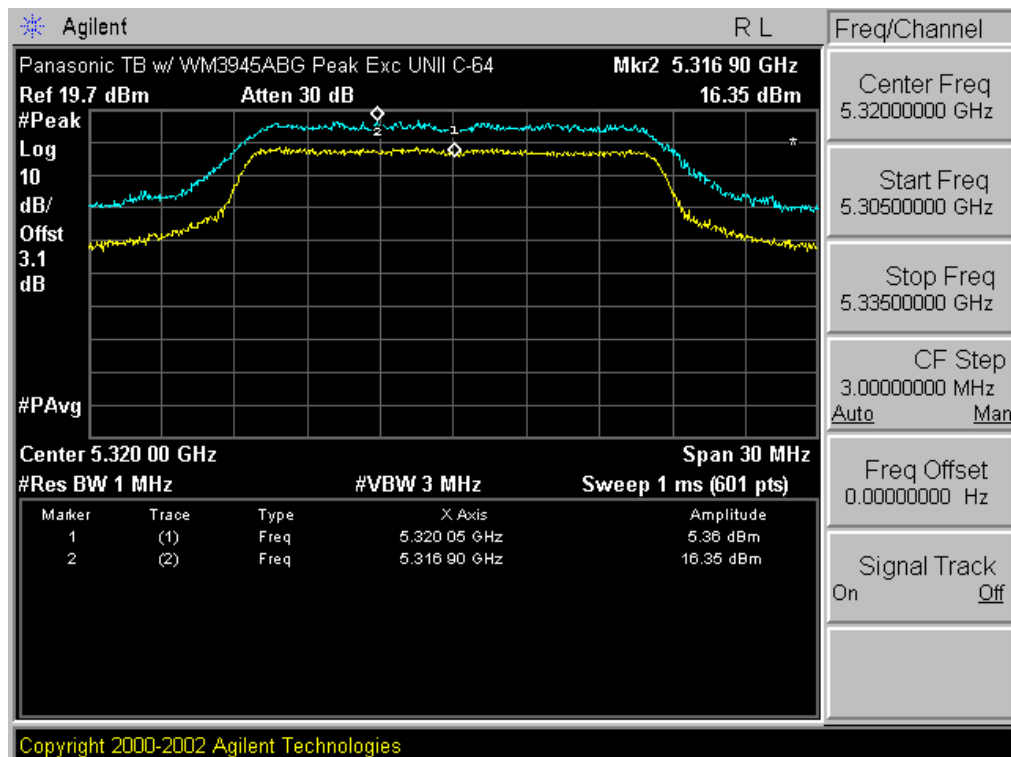
Plot A-15. Peak Excursion Ratio Plot – Ch. 36





Plot A-16. Peak Excursion Ratio Plot – Ch. 52

PCTEST LAB TEST REPORT 15.407		FCC CERTIFICATION REPORT		Reviewed by: Quality Manager
Filename: 0512120842	Test Dates: Dec. 14-16, 2005	EUT Type: Notebook PC w/ WLAN, UNII, Bluetooth	FCC ID: ACJ9TGC7-741	Page 20 of 36





Plot A-17. Peak Excursion Ratio Plot – Ch. 64

PCTEST LAB TEST REPORT 15.407		FCC CERTIFICATION REPORT		Reviewed by: Quality Manager
Filename: 0512120842	Test Dates: Dec. 14-16, 2005	EUT Type: Notebook PC w/ WLAN, UNII, Bluetooth	FCC ID: ACJ9TGCF-741	Page 21 of 36

## **EXHIBIT A – Test Results (Cont.)**

### **Undesirable Emissions: Radiated Measurements and Restricted Band Measurements**



The EUT was tested from 9kHz to the tenth harmonic of the fundamental frequency of the transmitter. Below 1GHz a CISPR quasi peak detector was used. Above 1 GHz average measurements were taken, using RBW= 1MHz, VBW= 10Hz, and linearly polarized horn antennas. In addition, peak measurements (RBW= 1MHz, VBW= 1MHz) were taken to ensure that the peak levels are not more than 20dB above the average limit. No harmonics/spurs peak emissions are more than 20dB above the average limit. Special attention is taken for the EUT's harmonic and spurious radiated emissions in the restricted bands of operations, as defined in Section 15.205 and RSS-210.

Frequency	F/S (mV/m)	Measured Distance (Meters)
0.009 – 0.490 MHz	2400/F (kHz)	300
0.490 – 1.705 MHz	24000/F (kHz)	30
1.705 – 30.00 MHz	30	30
30.00 – 88.00 MHz	100	3
88.00 – 216.0 MHz	150	3
216.0 – 960.0 MHz	200	3
Above 960.0 MHz	500	3

**Table A-6. Restricted Band Limits**

### **TEST MEASUREMENT EQUIPMENT**

Agilent E4448A	PSA Spectrum Analyzer 3 Hz - 50GHz
HP 4448A	Spectrum Analyzer 100Hz – 50GHz
HP 83017A	Microwave Analyzer 40dB Gain (0.5 – 26.5GHz)
HP 3784A	Digital Transmission Analyzer
EMCO 3115	Horn Antenna (1 – 18GHz)
EMCO 3116	Horn Antenna (18 – 40GHz)
HP 8495A	20dB Attenuator (DC-40GHz) 0 –70dB
HP 8493B	10dB Attenuator
MicroCoax Cables	Low Loss Microwave Cables (1 – 50GHz)
CDI Dipoles	Dipole Antennas (30 – 1000MHz)
EMCO 3116	Horn Antenna (18 – 40GHz)

<b>PCTEST</b> LAB TEST REPORT 15.407		<b>FCC CERTIFICATION REPORT</b>		Reviewed by: Quality Manager
<b>Filename:</b> 0512120842	<b>Test Dates:</b> Dec. 14-16, 2005	<b>EUT Type:</b> Notebook PC w/ WLAN, UNII, Bluetooth	<b>FCC ID:</b> ACJ9TGC7-741	Page 22 of 36

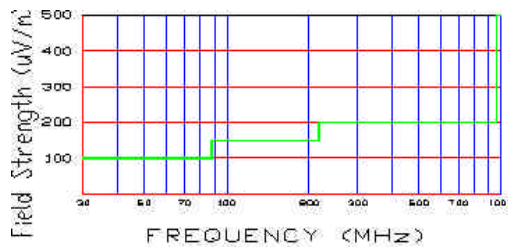
## **EXHIBIT A – Test Results (Cont.)**

### **Undesirable Emissions: Radiated Measurements and Restricted Band Measurements**

Transfer Rate:	36 Mbps
Distance of Measurements:	3 Meters
Channel:	36

Frequency (MHz)	Level (dBm)	AFCL (dB)	POL (H/V)	F/S (dBuV/m)	F/S (uV/m)	Margin (dB)
10360	-107.1	40.6	V	40.50	105.93	-13.5
15540	-115.0	45.8	V	37.80	77.62	-16.2
20720	-135.0	49.6	V	21.60	12.02	-32.4
25900	-135.0	52.1	V	24.10	16.03	-29.9



**Table A-7. Radiated Measurements @ 3 meters**



**Figure A-5. Radiated limits at 3 meters.**

#### NOTES:

1. The limit listed in Section 15.407(b) is -27 dBm/MHz EIRP. This is equivalent to a field strength of 68.24 dBuV/m @ 3m.
2. The Restricted Band limit (Section 15.205) for frequencies above 960 MHz is 54 dBuV/m @ 3m.
3. Average Measurements > 1GHz using RBW = 1 MHz,  
VBW = 10 Hz
4. The peak emissions above 1 GHz are not more than 20 dB above the average limit.
5. The antenna is manipulated through typical positions, polarity and length during the tests.
6. The EUT is supplied with nominal AC voltage or/and a new/fully-recharged battery.
7. The spectrum is measured from 9kHz to the 10<sup>th</sup> harmonic and the worst-case emissions are reported.
8. Levels < -140 dBm are at the analyzer noise floor.

<b>PCTEST</b> LAB TEST REPORT <b>15.407</b>		<b>FCC CERTIFICATION REPORT</b>		Reviewed by: Quality Manager
Filename: 0512120842	Test Dates: Dec. 14-16, 2005	EUT Type: Notebook PC w/ WLAN, UNII, Bluetooth	FCC ID: ACJ9TGCF-741	Page 23 of 36

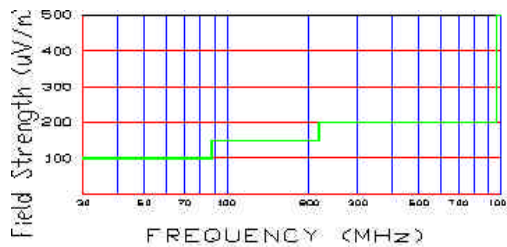
## **EXHIBIT A – Test Results (Cont.)**

### **Undesirable Emissions: Radiated Measurements and Restricted Band Measurements**

Transfer Rate:	36 Mbps
Distance of Measurements:	3 Meters
Channel:	52

Frequency (MHz)	Level (dBm)	AFCL (dB)	POL (H/V)	F/S (dBuV/m)	F/S (uV/m)	Margin (dB)
10520	-106.0	40.5	V	41.5	118.85	-12.5
15780	-115.3	47.3	V	39	89.13	-15
21040	-135.0	50.05	V	22.05	12.66	-31.95
26300	-135.0	52.5	V	24.5	16.79	-29.5



**Table A-8 Radiated Measurements @ 3 meters**



**Figure A-6 Radiated limits at 3 meters.**

#### NOTES:

1. The limit listed in Section 15.407(b) is -27 dBm/MHz EIRP. This is equivalent to a field strength of 68.24 dBuV/m @ 3m.
2. The Restricted Band limit (Section 15.205) for frequencies above 960 MHz is 54 dBuV/m @ 3m.
3. Average Measurements > 1GHz using RBW = 1 MHz, VBW = 10 Hz
4. The peak emissions above 1 GHz are not more than 20 dB above the average limit.
5. The antenna is manipulated through typical positions, polarity and length during the tests.
6. The EUT is supplied with nominal AC voltage or/and a new/fully-recharged battery.
7. The spectrum is measured from 9kHz to the 10<sup>th</sup> harmonic and the worst-case emissions are reported.
8. Levels < -140 dBm are at the analyzer noise floor.

<b>PCTEST</b> LAB TEST REPORT 15.407		<b>FCC CERTIFICATION REPORT</b>		Reviewed by: Quality Manager
Filename: 0512120842	Test Dates: Dec. 14-16, 2005	EUT Type: Notebook PC w/ WLAN, UNII, Bluetooth	FCC ID: ACJ9TGC7-741	Page 24 of 36

## **EXHIBIT A – Test Results (Cont.)**

### **Undesirable Emissions: Radiated Measurements and Restricted Band Measurements**

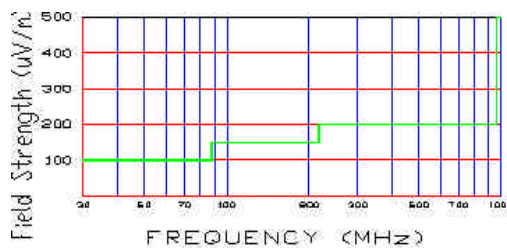
Transfer Rate: 36 Mbps

Distance of Measurements: 3 Meters

Channel: 64

Frequency (MHz)	Level (dBm)	AFCL (dB)	POL (H/V)	F/S (dBuV/m)	F/S (uV/m)	Margin (dB)
10640	-105.0	40.6	H	42.6	134.90	-11.4
15960	-115.0	45.9	V	37.9	78.52	-16.1
21280	-135.0	49.4	V	21.4	11.74	-32.6
26600	-135.0	53.4	V	25.4	18.51	-28.7



**Table A-9. Radiated Measurements @ 3 meters**



**Figure A-7. Radiated limits at 3 meters.**

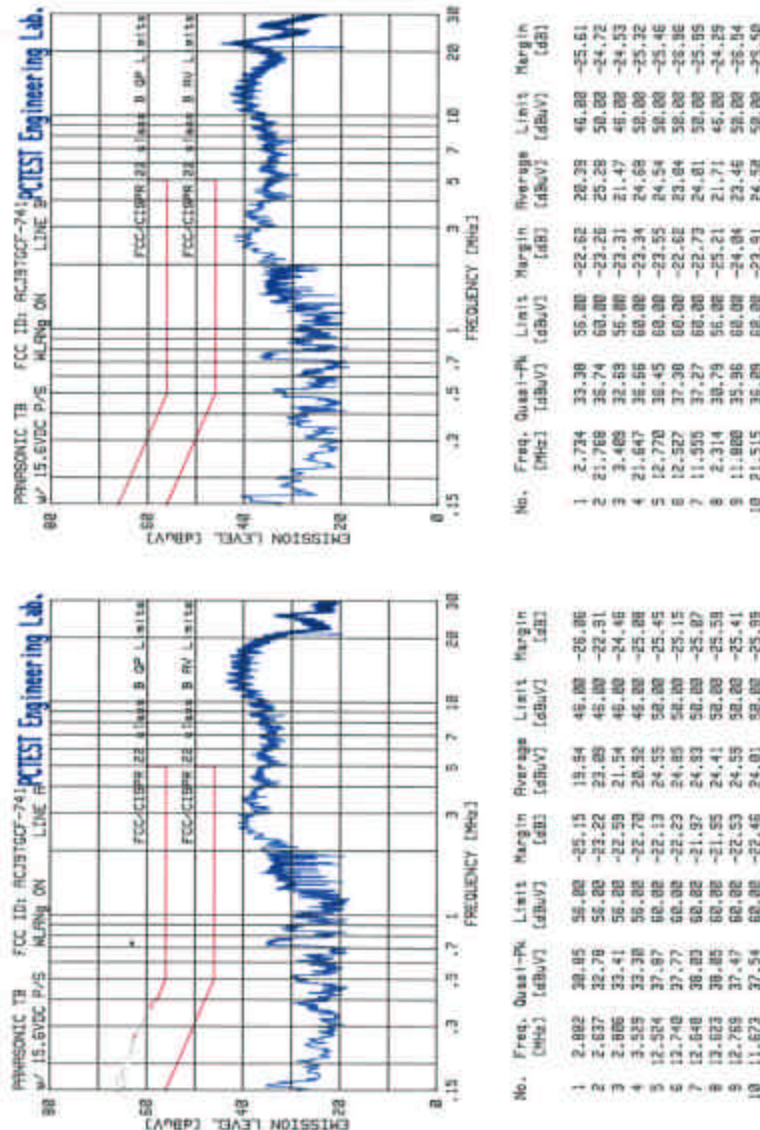
#### NOTES:

1. The limit listed in Section 15.407(b) is -27 dBm/MHz EIRP. This is equivalent to a field strength of 68.24 dBuV/m @ 3m.
2. The Restricted Band limit (Section 15.205) for frequencies above 960 MHz is 54 dBuV/m @ 3m.
3. Average Measurements > 1GHz using RBW = 1 MHz, VBW = 10 Hz
4. The peak emissions above 1 GHz are not more than 20 dB above the average limit.
5. The antenna is manipulated through typical positions, polarity and length during the tests.
6. The EUT is supplied with nominal AC voltage or/and a new/fully-recharged battery.
7. The spectrum is measured from 9kHz to the 10<sup>th</sup> harmonic and the worst-case emissions are reported.
8. Levels < -140 dBm are at the analyzer noise floor.



<b>PCTEST</b> LAB TEST REPORT <b>15.407</b>		<b>FCC CERTIFICATION REPORT</b>		Reviewed by: Quality Manager
<b>Filename:</b> 0512120842	<b>Test Dates:</b> Dec. 14-16, 2005	<b>EUT Type:</b> Notebook PC w/ WLAN, UNII, Bluetooth	<b>FCC ID:</b> ACJ9TGCF-741	Page 25 of 36

## EXHIBIT A – Test Results (Cont.)

### Line-Conducted Test Data



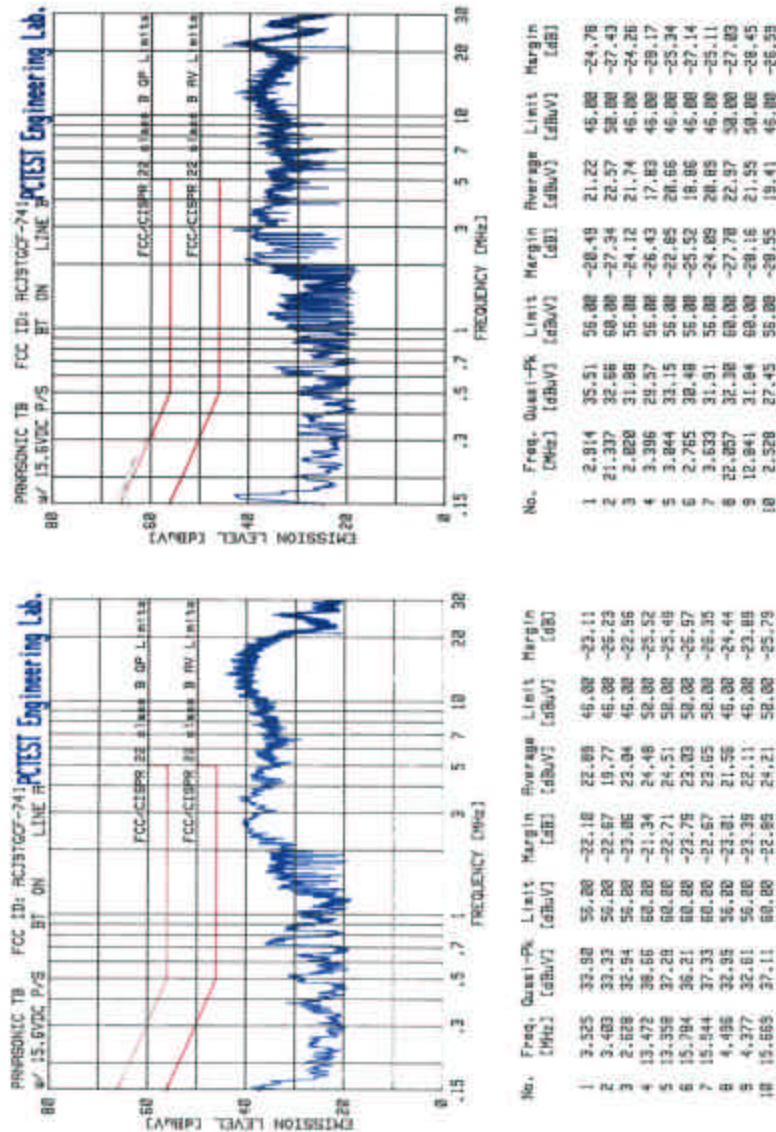
1. All modes of operation were investigated and the worst-case emissions are reported.
2. The limit for Class B device(s) from 150kHz to 30MHz are Specified in EN55022.
3. Line A = Phase; Line B = Neutral
4. Deviations to the Specifications: *None*.

<b>PCTEST</b> LAB TEST REPORT 15.407		<b>FCC CERTIFICATION REPORT</b>		Reviewed by: Quality Manager
Filename: 0512120842	Test Dates: Dec. 14-16, 2005	EUT Type: Notebook PC w/ WLAN, UNII, Bluetooth	FCC ID: ACJ9TGC7-741	Page 26 of 36



## EXHIBIT A – Test Results (Cont.)

### Line-Conducted Test Data



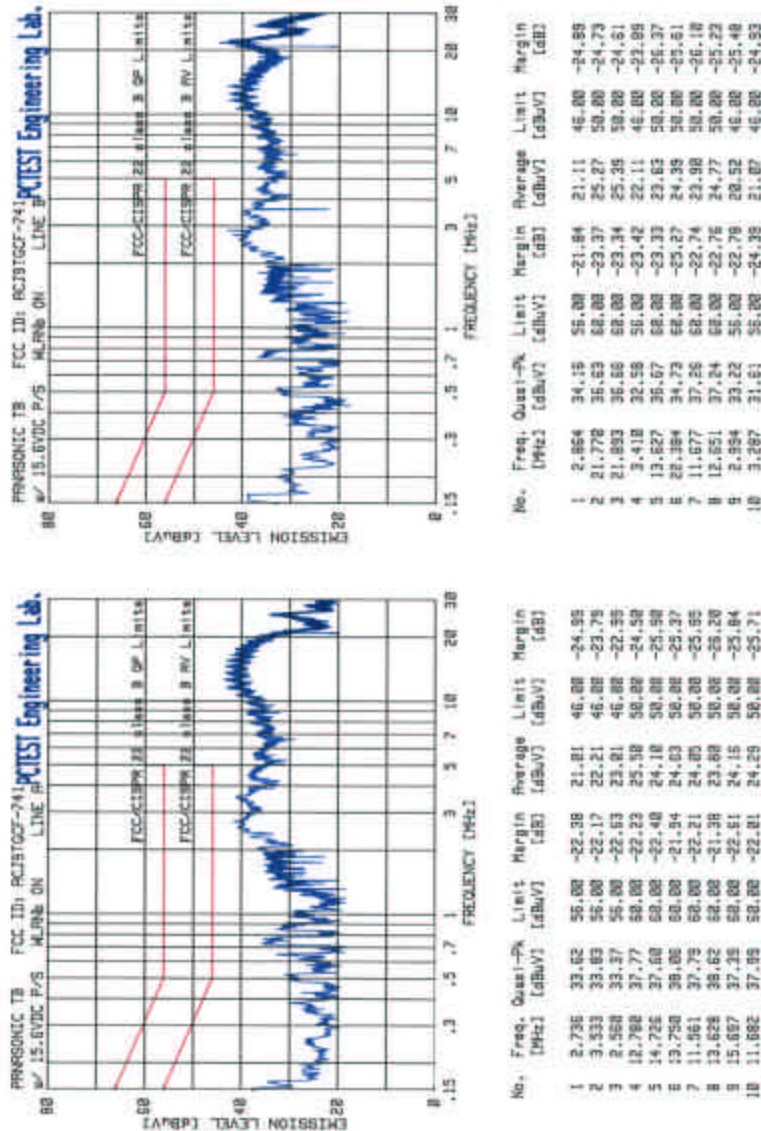
5. All modes of operation were investigated and the worst-case emissions are reported.
6. The limit for Class B device(s) from 150kHz to 30MHz are Specified in EN55022.
7. Line A = Phase; Line B = Neutral
8. Deviations to the Specifications: *None*.

<b>PCTEST</b> LAB TEST REPORT 15.407		<b>FCC CERTIFICATION REPORT</b>		Reviewed by: Quality Manager
Filename: 0512120842	Test Dates: Dec. 14-16, 2005	EUT Type: Notebook PC w/ WLAN, UNII, Bluetooth	FCC ID: ACJ9TGCF-741	Page 27 of 36





## EXHIBIT A – Test Results (Cont.)

### Line-Conducted Test Data

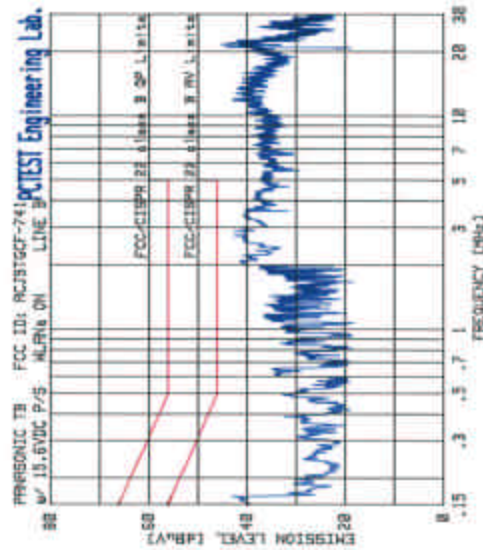


9. All modes of operation were investigated and the worst case emissions are reported.
10. The limit for Class B device(s) from 150kHz to 30MHz are Specified in EN55022.
11. Line A = Phase; Line B = Neutral
12. Deviations to the Specifications: *None*.

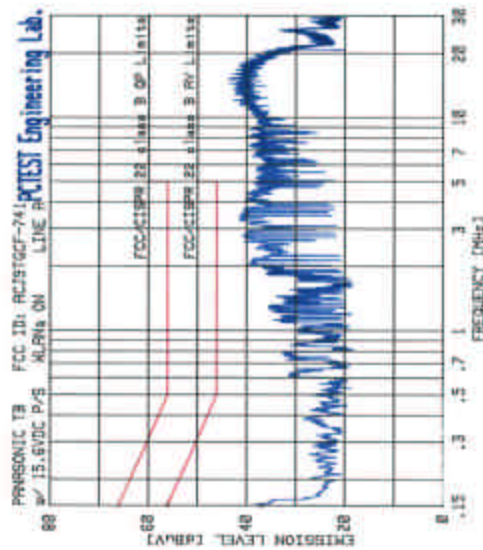
<b>PCTEST</b> LAB TEST REPORT 15.407		<b>FCC CERTIFICATION REPORT</b>		Reviewed by: Quality Manager
Filename: 0512120842	Test Dates: Dec. 14-16, 2005	EUT Type: Notebook PC w/ WLAN, UNII, Bluetooth	FCC ID: ACJ9TGC7-741	Page 28 of 36

## EXHIBIT A – Test Results (Cont.)

### Line-Conducted Test Data





No.	Freq. [MHz]	Quasi-Pk [dBuV]	Limit [dBuV]	Margin [dB]	Average [dBuV]	Limit [dBuV]	Margin [dB]
1	2.766	37.28	56.00	-18.80	21.79	46.00	-24.21
2	2.964	32.70	56.00	-23.30	18.41	46.00	-27.59
3	2.956	34.28	56.00	-21.72	23.86	50.00	-26.14
4	2.930	32.23	56.00	-23.77	20.88	46.00	-25.12
5	3.423	32.96	56.00	-23.04	21.18	46.00	-24.82
6	3.304	31.84	56.00	-24.16	18.82	46.00	-27.18
7	3.644	33.26	56.00	-22.74	22.15	46.00	-23.85
8	21.870	33.66	56.00	-22.34	23.98	50.00	-26.02
9	21.256	33.83	56.00	-22.17	23.30	50.00	-26.70
10	21.288	33.53	56.00	-22.47	23.00	50.00	-26.97



No.	Freq. [MHz]	Quasi-Pk [dBuV]	Limit [dBuV]	Margin [dB]	Average [dBuV]	Limit [dBuV]	Margin [dB]
1	3.437	34.11	56.00	-21.89	24.16	46.00	-21.84
2	3.734	34.21	56.00	-21.79	21.52	46.00	-24.48
3	3.784	34.18	56.00	-21.82	19.48	46.00	-26.52
4	2.780	33.42	56.00	-22.58	22.61	46.00	-23.39
5	3.833	33.15	56.00	-22.85	21.25	46.00	-24.75
6	4.068	33.97	56.00	-22.03	22.46	46.00	-23.54
7	2.599	33.58	56.00	-22.41	23.52	46.00	-22.48
8	4.250	33.88	56.00	-22.12	21.16	46.00	-24.84
9	2.986	34.67	56.00	-21.33	20.42	46.00	-25.58
10	1.955	31.72	56.00	-24.28	22.43	46.00	-23.57

13. All modes of operation were investigated and the worst-case emissions are reported.
14. The limit for Class B device(s) from 150kHz to 30MHz are Specified in EN55022.
15. Line A = Phase; Line B = Neutral
16. Deviations to the Specifications: *None*.

<b>PCTEST</b> LAB TEST REPORT 15.407		<b>FCC CERTIFICATION REPORT</b>		Reviewed by: Quality Manager
Filename: 0512120842	Test Date: Dec. 14-16, 2005	EUT Type: Notebook PC w/ WLAN, UNIL, Bluetooth	FCC ID: ACJ9TGC7-741	Page 29 of 36

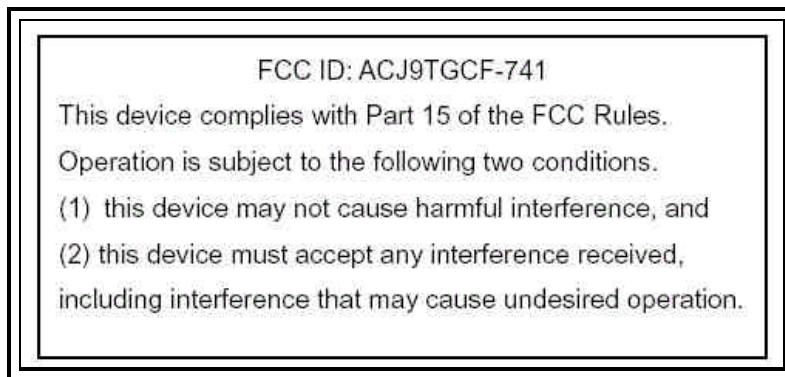
## **EXHIBIT B – Labeling Requirements**



### **Sample Label & Location**

New Labeling Requirements

Per 2.1074 & 15.19; Docket 95-19

The sample label shown below shall be permanently affixed at a conspicuous location on the device; instruction manual or pamphlet supplied to the user and be readily visible to the purchaser at the time of purchase. However, when the device is so small wherein placement of the label with specified statement is not practical, only the trade name, FCC ID, and the FCC logo must be displayed on the device per Section 15.19 (b)(2).

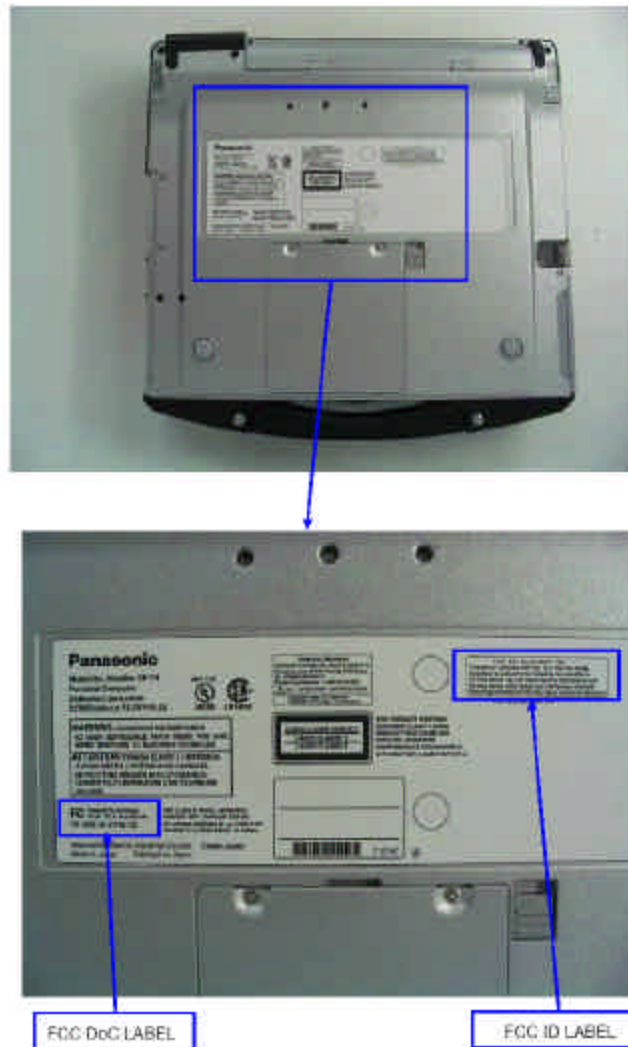




<b>PCTEST</b> LAB TEST REPORT 15.407		<b>FCC CERTIFICATION REPORT</b>		Reviewed by: Quality Manager
<b>Filename:</b> 0512120842	<b>Test Dates:</b> Dec. 14-16, 2005	<b>EUT Type:</b> Notebook PC w/ WLAN, UNII, Bluetooth	<b>FCC ID:</b> ACJ9TGCF-741	Page 30 of 36

## EXHIBIT B – Labeling Requirements (Cont.)



### Sample Label & Location

**FCC ID LABEL**





<b>PCTEST</b> LAB TEST REPORT <b>15.407</b>		<b>FCC CERTIFICATION REPORT</b>		Reviewed by: Quality Manager
<b>Filename:</b> 0512120842	<b>Test Dates:</b> Dec. 14-16, 2005	<b>EUT Type:</b> Notebook PC w/ WLAN, UNII, Bluetooth	<b>FCC ID:</b> ACJ9TGC7-741	Page 31 of 36



## **EXHIBIT C – Block Diagram/Schematics**

<b>PCTEST</b> LAB TEST REPORT <b>15.407</b>		<b>FCC CERTIFICATION REPORT</b>		Reviewed by: Quality Manager
<b>Filename:</b> 0512120842	<b>Test Dates:</b> Dec. 14-16, 2005	<b>EUT Type:</b> Notebook PC w/ WLAN, UNII, Bluetooth	<b>FCC ID:</b> ACJ9TGCF-741	Page 32 of 36

## **EXHIBIT D – Operational Description**



<b>PCTEST</b> LAB TEST REPORT <b>15.407</b>		<b>FCC CERTIFICATION REPORT</b>		Reviewed by: Quality Manager
<b>Filename:</b> 0512120842	<b>Test Dates:</b> Dec. 14-16, 2005	<b>EUT Type:</b> Notebook PC w/ WLAN, UNII, Bluetooth	<b>FCC ID:</b> ACJ9TGCF-741	Page 33 of 36

## **EXHIBIT E – Test Setup Photographs**



<b>PCTEST</b> LAB TEST REPORT <b>15.407</b>		<b>FCC CERTIFICATION REPORT</b>		Reviewed by: Quality Manager
<b>Filename:</b> 0512120842	<b>Test Dates:</b> Dec. 14-16, 2005	<b>EUT Type:</b> Notebook PC w/ WLAN, UNII, Bluetooth	<b>FCC ID:</b> ACJ9TGCF-741	Page 34 of 36



**EXHIBIT F – EUT External/ Internal Photographs**

<b>PCTEST</b> LAB TEST REPORT <b>15.407</b>		<b>FCC CERTIFICATION REPORT</b>		Reviewed by: Quality Manager
<b>Filename:</b> 0512120842	<b>Test Dates:</b> Dec. 14-16, 2005	<b>EUT Type:</b> Notebook PC w/ WLAN, UNII, Bluetooth	<b>FCC ID:</b> ACJ9TGCF-741	Page 35 of 36

## **EXHIBIT G – User’s Manual**

<b>PCTEST</b> LAB TEST REPORT <b>15.407</b>		<b>FCC CERTIFICATION REPORT</b>		Reviewed by: Quality Manager
<b>Filename:</b> 0512120842	<b>Test Dates:</b> Dec. 14-16, 2005	<b>EUT Type:</b> Notebook PC w/ WLAN, UNII, Bluetooth	<b>FCC ID:</b> ACJ9TGCF-741	Page 36 of 36