



FCC TEST REPORT

REPORT NO.: RF930610L04

MODEL NO.: 223II0(with wireless card: Intel
WM3B2200BG)

RECEIVED: June 11, 2004

TESTED: June 11 ~ 16, 2004

APPLICANT: UNIWILL COMPUTER CORP.

ADDRESS: 5F, No. 9, Wu Chiuan Road, Wu Gu Ind.Park,
Taipei Hsien, Taiwan, R. O. C

ISSUED BY: Advance Data Technology Corporation

LAB LOCATION: No. 19, Hwa Ya 2nd Rd., Kueishan, Taoyuan,
Taiwan, R.O.C.

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Table of Contents

1	CERTIFICATION	4
2	SUMMARY OF TEST RESULTS	5
3	GENERAL INFORMATION	6
3.1	GENERAL DESCRIPTION OF EUT	6
3.2	DESCRIPTION OF TEST MODES	7
3.3	GENERAL DESCRIPTION OF APPLIED STANDARDS	7
3.4	DESCRIPTION OF SUPPORT UNITS	8
3.5	CONFIGURATION OF SYSTEM UNDER TEST	8
4	TEST TYPES AND RESULTS	9
4.1	CONDUCTED EMISSION MEASUREMENT	9
4.1.1	LIMITS OF CONDUCTED EMISSION MEASUREMENT	9
4.1.2	TEST INSTRUMENTS	9
4.1.3	TEST PROCEDURES	10
4.1.4	DEVIATION FROM TEST STANDARD	10
4.1.5	TEST SETUP	11
4.1.6	EUT OPERATING CONDITIONS	11
4.1.7	TEST RESULTS	12
4.2	RADIATED EMISSION MEASUREMENT	18
4.2.1	LIMITS OF RADIATED EMISSION MEASUREMENT	18
4.2.2	TEST INSTRUMENTS	19
4.2.3	TEST PROCEDURES	20
4.2.4	DEVIATION FROM TEST STANDARD	20
4.2.5	TEST SETUP	21
4.2.6	EUT OPERATING CONDITIONS	21
4.2.7	TEST RESULTS	22
4.3	6dB BANDWIDTH MEASUREMENT	35
4.3.1	LIMITS OF 6dB BANDWIDTH MEASUREMENT	35
4.3.2	TEST INSTRUMENTS	35
4.3.3	TEST PROCEDURE	36
4.3.4	DEVIATION FROM TEST STANDARD	36
4.3.5	TEST SETUP	36
4.3.6	EUT OPERATING CONDITIONS	36
4.3.7	TEST RESULTS	37
4.4	MAXIMUM PEAK OUTPUT POWER	45
4.4.1	LIMITS OF MAXIMUM PEAK OUTPUT POWER MEASUREMENT	45



4.4.2	TEST INSTRUMENTS	45
4.4.3	TEST PROCEDURES	46
4.4.4	DEVIATION FROM TEST STANDARD	46
4.4.5	TEST SETUP	46
4.4.6	EUT OPERATING CONDITIONS	46
4.4.7	TEST RESULTS	47
4.5	POWER SPECTRAL DENSITY MEASUREMENT	48
4.5.1	LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT	48
4.5.2	TEST INSTRUMENTS	48
4.5.3	TEST PROCEDURE	49
4.5.4	DEVIATION FROM TEST STANDARD	49
4.5.5	TEST SETUP	49
4.5.6	EUT OPERATING CONDITIONS	49
4.5.7	TEST RESULTS	50
4.6	BAND EDGES MEASUREMENT	58
4.6.1	LIMITS OF BAND EDGES MEASUREMENT	58
4.6.2	TEST INSTRUMENTS	58
4.6.3	TEST PROCEDURE	58
4.6.4	DEVIATION FROM TEST STANDARD	58
4.6.5	EUT OPERATING CONDITION	58
4.6.6	TEST RESULTS	59
4.7	ANTENNA REQUIREMENT	68
4.7.1	STANDARD APPLICABLE	68
4.7.2	ANTENNA CONNECTED CONSTRUCTION	68
5	PHOTOGRAPHS OF THE TEST CONFIGURATION	69
6	INFORMATION ON THE TESTING LABORATORIES	71



1 CERTIFICATION

PRODUCT : Notebook PC (with Wireless LAN mini-PCI Card)
BRAND NAME : Uniwill
MODEL NO. : 223II0(with wireless card: Intel WM3B2200BG)
APPLICANT : UNIWILL COMPUTER CORP.
TESTED : Jun 11 ~ 16, 2004
TEST ITEM : ENGINEERING SAMPLE
STANDARDS : FCC Part 15, Subpart C (Section 15.247),
ANSI C63.4-2001

The above equipment has been tested by **Advance Data Technology Corporation**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

PREPARED BY: Stacy Hsueh, **DATE:** June 21, 2004
Stacy Hsueh

APPROVED BY: Cody Chang, **DATE:** June 21, 2004
Cody Chang /
Supervisor

2 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 15, Subpart C			
Standard Section	Test Type and Limit	Result	REMARK
15.207	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is -19.55dB at 0.205MHz
15.247(a)(2)	Spectrum Bandwidth of a Direct Sequence Spread Spectrum System Limit: min. 500kHz	PASS	Meet the requirement of limit.
15.247(b)	Maximum Peak Output Power Limit: max. 30dBm	PASS	Meet the requirement of limit.
15.247(c)	Transmitter Radiated Emissions Limit: Table 15.209	PASS	Meet the requirement of limit. Minimum passing margin is -0.52dB at 2390.00MHz
15.247(d)	Power Spectral Density Limit: max. 8dBm	PASS	Meet the requirement of limit.
15.247(c)	Band Edge Measurement Limit: 20 dB less than the peak value of fundamental frequency	PASS	Meet the requirement of limit.

NOTE: The information of measurement uncertainty is available upon the customer's request.

3 GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	Notebook PC (with Wireless LAN mini-PCI Card)
MODEL NO.	223II0(with wireless card:Intel WM3B2200BG)
POWER SUPPLY	20Vdc from AC Adapter
MODULATION TYPE	BPSK, QPSK, CCK, 16QAM, 64QAM
RADIO TECHNOLOGY	DSSS, OFDM
TRANSFER RATE	802.11b: 11/5.5/2/1Mbps 802.11g: 54/48/36/24/18/12/9/6Mbps
FREQUENCY RANGE	2412MHz ~ 2462MHz
NUMBER OF CHANNEL	11
OUTPUT POWER	18.00dBm
ANTENNA TYPE	PIFA antenna with -0.78dBi gain
DATA CABLE	NA
I/O PORTS	NA
ASSOCIATED DEVICES	NA

NOTE:

1. The EUT operates in the 2.4GHz frequency spectrum with throughput of up to 54Mbps.
2. The EUT complies with IEEE 802.11g draft standards and backwards compatible with IEEE 802.11b products.
3. The EUT was powered by the following adapter:

BRAND :	LI SHIN INTERNATIONAL ENTERPRISE CORP.
MODEL :	0335A2065
INPUT :	100-240Vac, 1.7A, 50-60Hz
OUTPUT :	20Vdc, 3.25A

4. The above EUT information was declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or User's Manual.

3.2 DESCRIPTION OF TEST MODES

Eleven channels are provided to this EUT.

Channel	Frequency	Channel	Frequency
1	2412 MHz	7	2442 MHz
2	2417 MHz	8	2447 MHz
3	2422 MHz	9	2452 MHz
4	2427 MHz	10	2457 MHz
5	2432 MHz	11	2462 MHz
6	2437 MHz		

NOTE:

1. Below 1GHz, the channel 1, 6, and 11 were pre-tested in chamber. The channel 11, the worst case, was chosen for final test.
2. Above 1GHz, the channel 1, 6, and 11 were tested individually.
3. From our experience and technical viewpoint, we have chosen data rates 11Mbps for CCK technique and 6Mbps for OFDM technique, as the worst cases for the test among other data rates.

3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a Notebook PC (with Wireless LAN mini-PCI Card). According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC Part 15, Subpart C. (15.247)

ANSI C63.4:2001

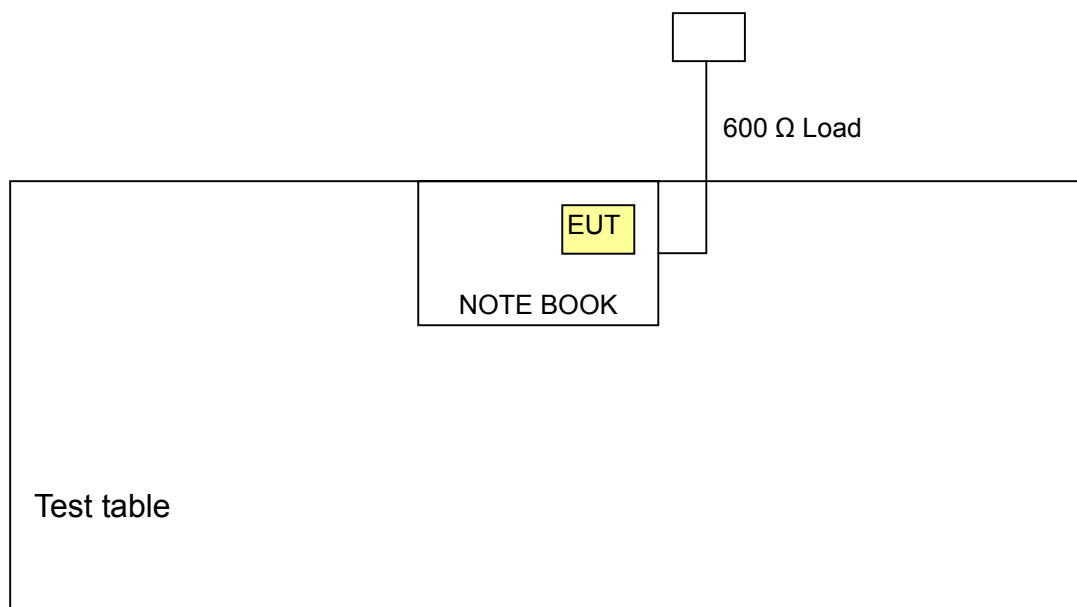
All test items have been performed and recorded as per the above standards.

NOTE: The EUT is also considered as a kind of computer peripheral, because the connection to computer is necessary for typical use. It has been verified to comply with the requirements of FCC Part 15, Subpart B, Class B (DoC). The test report has been issued separately.

3.4 DESCRIPTION OF SUPPORT UNITS

NA

3.5 CONFIGURATION OF SYSTEM UNDER TEST



4 TEST TYPES AND RESULTS

4.1 CONDUCTED EMISSION MEASUREMENT

4.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY OF EMISSION (MHz)	CONDUCTED LIMIT (dB μ V)	
	Quasi-peak	Average
0.15-0.5	66 to 56	56 to 46
0.5-5	56	46
5-30	60	50

- NOTE:**
1. The lower limit shall apply at the transition frequencies.
 2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50 MHz.
 3. All emanations from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

4.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
Test Receiver ROHDE & SCHWARZ	ESCS30	100288	Dec. 11, 2004
RF signal cable Woken	5D-FB	Cable-HyC02-01	Mar. 07, 2005
LISN ROHDE & SCHWARZ	ESH2-Z5	100100	Mar. 10, 2005
LISN ROHDE & SCHWARZ	ESH3-Z5	100311	Mar. 04, 2005
Software ADT	ADT_Cond_V3	NA	NA

- NOTE:**
1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
 2. The test was performed in HwaYa Shielded Room 2.
 3. The VCCI Site Registration No. is C-2047.



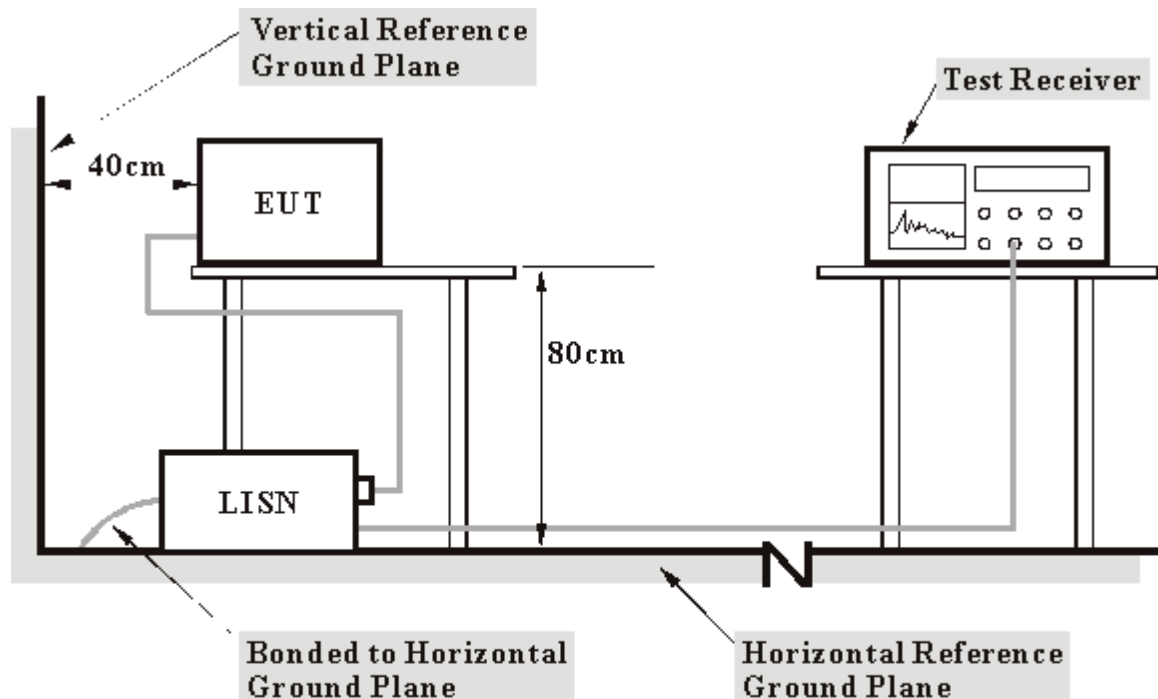
4.1.3 TEST PROCEDURES

- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- c. The frequency range from 150 kHz to 30 MHz was searched. Emission levels (Limit -20dB) was not recorded.

4.1.4 DEVIATION FROM TEST STANDARD

No deviation

4.1.5 TEST SETUP



- Note:**
1. Support units were connected to second LISN.
 2. Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

4.1.6 EUT OPERATING CONDITIONS

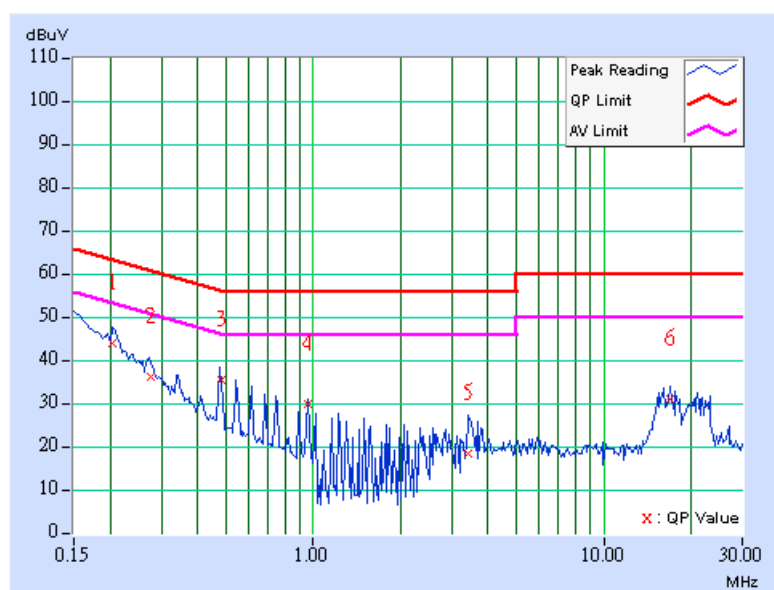
- a. Connected the EUT to a notebook system placed on a testing table.
- b. The notebook system ran a test program (provided by manufacturer) to enable EUT under transmission/receiving condition continuously at specific channel frequency.
- c. The notebook system sent "H" messages to its screen.
- d. Steps c. were repeated.

4.1.7 TEST RESULTS

EUT	Notebook PC (with Wireless LAN mini-PCI Card)	MODEL	223II0(with wireless card: Intel WM3B2200BG)
CHANNEL	1	6dB BANDWIDTH	9 kHz
INPUT POWER (SYSTEM)	120 Vac, 60 Hz	PHASE	Line (L)
ENVIRONMENTAL CONDITIONS	25 deg. C, 65% RH, 991 hPa	TESTED BY: Steven Lu	

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.205	0.10	43.21	-	43.31	-	63.42	53.42	-20.11	-
2	0.275	0.10	35.43	-	35.53	-	60.97	50.97	-25.43	-
3	0.481	0.13	34.72	-	34.85	-	56.33	46.33	-21.48	-
4	0.959	0.24	29.17	-	29.41	-	56.00	46.00	-26.59	-
5	3.418	0.30	17.85	-	18.15	-	56.00	46.00	-37.85	-
6	16.836	0.78	30.24	-	31.02	-	60.00	50.00	-28.98	-

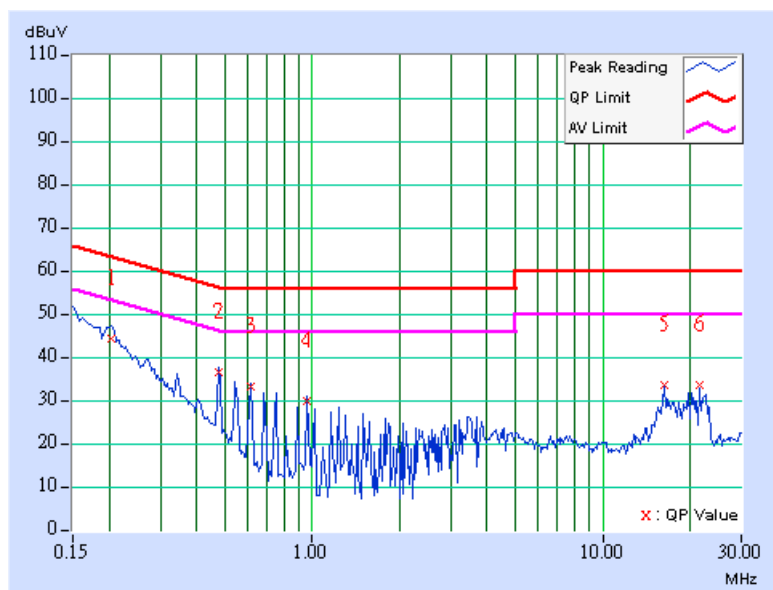
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = Emission level - Limit value
 5. Correction factor = Insertion loss + Cable loss
 6. Emission Level = Correction Factor + Reading Value.



EUT	Notebook PC (with Wireless LAN mini-PCI Card)	MODEL	223II0(with wireless card:Intel WM3B2200BG)
CHANNEL	1	6dB BANDWIDTH	9 kHz
INPUT POWER (SYSTEM)	120 Vac, 60 Hz	PHASE	Neutral (N)
ENVIRONMENTAL CONDITIONS	25 deg. C, 65% RH, 991 hPa	TESTED BY: Steven Lu	

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.205	0.10	43.77	-	43.87	-	63.42	53.42	-19.55	-
2	0.478	0.13	35.87	-	36.00	-	56.37	46.37	-20.37	-
3	0.615	0.16	32.68	-	32.84	-	56.00	46.00	-23.16	-
4	0.959	0.23	29.15	-	29.38	-	56.00	46.00	-26.62	-
5	16.227	0.58	33.08	-	33.66	-	60.00	50.00	-26.34	-
6	21.664	0.67	32.87	-	33.54	-	60.00	50.00	-26.46	-

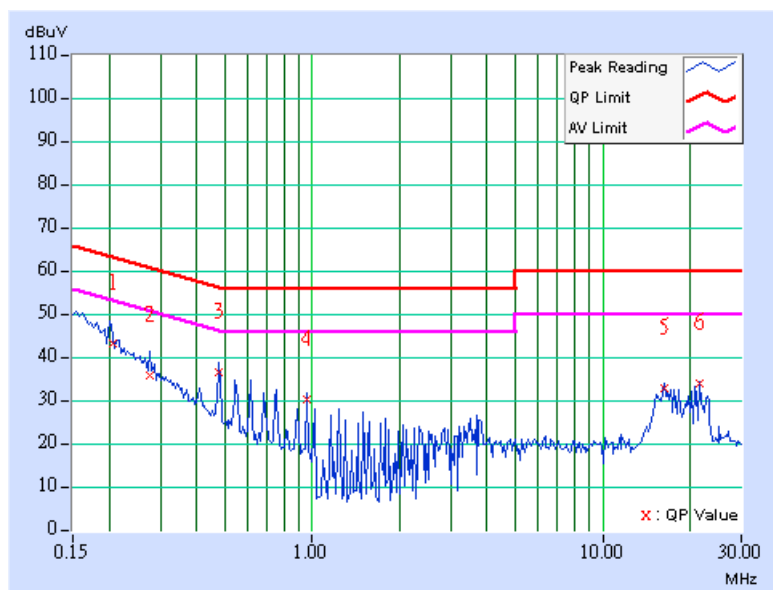
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = Emission level - Limit value
 5. Correction factor = Insertion loss + Cable loss
 6. Emission Level = Correction Factor + Reading Value.



EUT	Notebook PC (with Wireless LAN mini-PCI Card)	MODEL	223II0(with wireless card: Intel WM3B2200BG)
CHANNEL	6	6dB BANDWIDTH	9 kHz
INPUT POWER (SYSTEM)	120 Vac, 60 Hz	PHASE	Line (L)
ENVIRONMENTAL CONDITIONS	25 deg. C, 65% RH, 991 hPa	TESTED BY: Steven Lu	

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.206	0.10	42.51	-	42.61	-	63.35	53.35	-20.74	-
2	0.275	0.11	35.01	-	35.12	-	60.97	50.97	-25.85	-
3	0.478	0.13	35.67	-	35.80	-	56.37	46.37	-20.57	-
4	0.958	0.24	29.48	-	29.72	-	56.00	46.00	-26.28	-
5	16.230	0.75	32.05	-	32.80	-	60.00	50.00	-27.20	-
6	21.664	1.00	33.03	-	34.03	-	60.00	50.00	-25.97	-

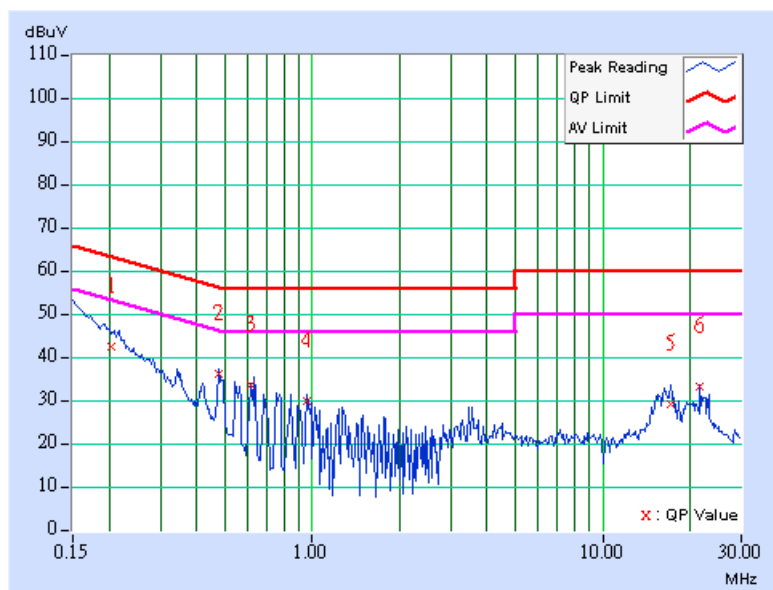
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = Emission level - Limit value
 5. Correction factor = Insertion loss + Cable loss
 6. Emission Level = Correction Factor + Reading Value.



EUT	Notebook PC (with Wireless LAN mini-PCI Card)	MODEL	223II0(with wireless card:Intel WM3B2200BG)
CHANNEL	6	6dB BANDWIDTH	9 kHz
INPUT POWER (SYSTEM)	120 Vac, 60 Hz	PHASE	Neutral (N)
ENVIRONMENTAL CONDITIONS	25 deg. C, 65% RH, 991 hPa	TESTED BY: Steven Lu	

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.203	0.10	41.98	-	42.08	-	63.48	53.48	-21.40	-
2	0.478	0.13	35.71	-	35.84	-	56.37	46.37	-20.53	-
3	0.615	0.16	33.07	-	33.23	-	56.00	46.00	-22.77	-
4	0.955	0.23	29.44	-	29.67	-	56.00	46.00	-26.33	-
5	17.086	0.60	28.44	-	29.04	-	60.00	50.00	-30.96	-
6	21.664	0.67	32.60	-	33.27	-	60.00	50.00	-26.73	-

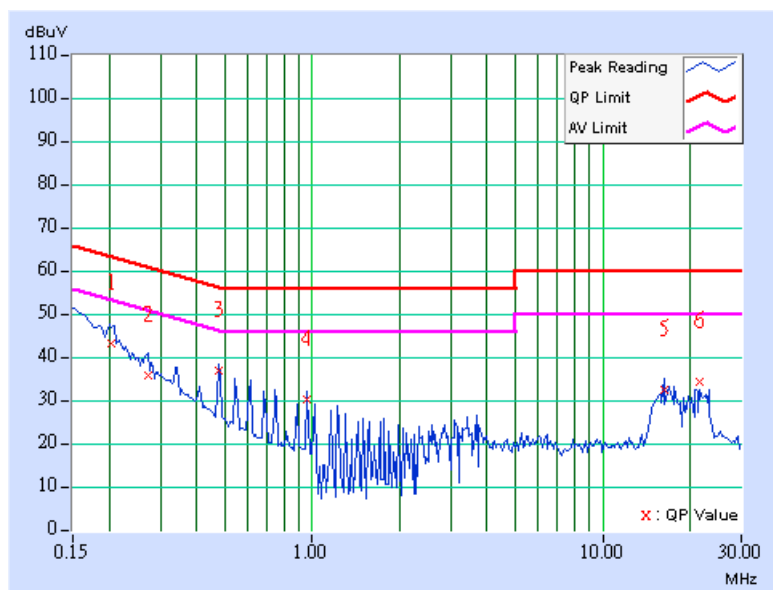
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = Emission level - Limit value
 5. Correction factor = Insertion loss + Cable loss
 6. Emission Level = Correction Factor + Reading Value.



EUT	Notebook PC (with Wireless LAN mini-PCI Card)	MODEL	223II0(with wireless card:Intel WM3B2200BG)
CHANNEL	11	6dB BANDWIDTH	9 kHz
INPUT POWER (SYSTEM)	120 Vac, 60 Hz	PHASE	Line (L)
ENVIRONMENTAL CONDITIONS	25 deg. C, 65% RH, 991 hPa	TESTED BY: Steven Lu	

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.205	0.10	42.31	-	42.41	-	63.43	53.43	-21.02	-
2	0.274	0.10	35.07	-	35.17	-	61.00	51.00	-25.83	-
3	0.478	0.13	35.95	-	36.08	-	56.37	46.37	-20.29	-
4	0.955	0.24	29.38	-	29.62	-	56.00	46.00	-26.38	-
5	16.230	0.75	31.72	-	32.47	-	60.00	50.00	-27.53	-
6	21.663	1.00	33.28	-	34.28	-	60.00	50.00	-25.72	-

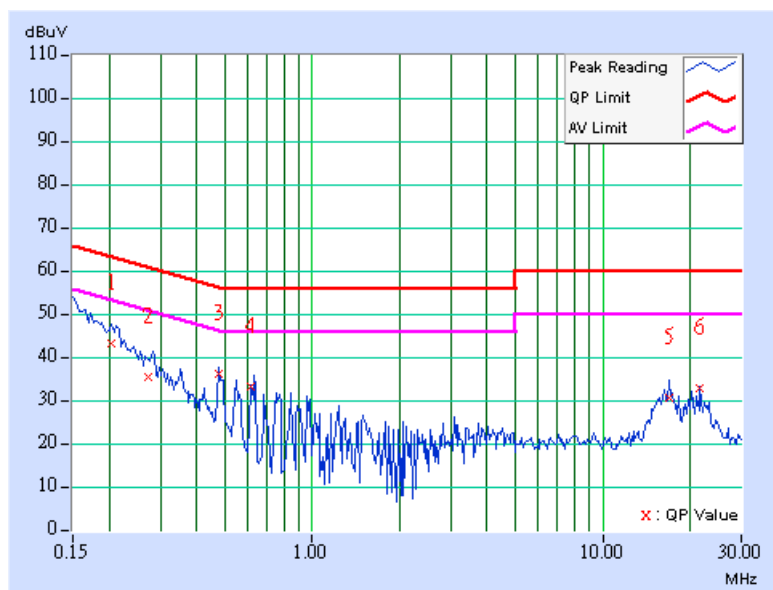
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = Emission level - Limit value
 5. Correction factor = Insertion loss + Cable loss
 6. Emission Level = Correction Factor + Reading Value.



EUT	Notebook PC (with Wireless LAN mini-PCI Card)	MODEL	223II0(with wireless card:Intel WM3B2200BG)
CHANNEL	11	6dB BANDWIDTH	9 kHz
INPUT POWER (SYSTEM)	120 Vac, 60 Hz	PHASE	Netural (N)
ENVIRONMENTAL CONDITIONS	25 deg. C, 65% RH, 991 hPa	TESTED BY: Steven Lu	

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.205	0.10	42.59	-	42.69	-	63.42	53.42	-20.73	-
2	0.274	0.10	34.99	-	35.09	-	61.00	51.00	-25.91	-
3	0.478	0.13	35.77	-	35.90	-	56.37	46.37	-20.47	-
4	0.616	0.16	32.78	-	32.94	-	56.00	46.00	-23.06	-
5	16.901	0.59	30.00	-	30.59	-	60.00	50.00	-29.41	-
6	21.664	0.67	32.33	-	33.00	-	60.00	50.00	-27.00	-

- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = Emission level - Limit value
 5. Correction factor = Insertion loss + Cable loss
 6. Emission Level = Correction Factor + Reading Value.





4.2 RADIATED EMISSION MEASUREMENT

4.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT

Emissions radiated outside of the specified bands, shall be according to the general radiated limits in 15.209 as following:

Frequencies (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

NOTE:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. As shown in 15.35(b), for frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.



4.2.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
Test Receiver ROHDE & SCHWARZ	ESIB7	100188	Jan. 13, 2005
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100039	Dec. 15, 2004
BILOG Antenna SCHWARZBECK	VULB9168	9168-157	Feb. 03, 2005
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-407	Feb. 03, 2005
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA 9170241	Feb. 23, 2005
Preamplifier Agilent	8449B	3008A01961	Jan. 22, 2005
Preamplifier Agilent	8447D	2944A10629	Jan. 14, 2005
RF signal cable HUBER+SUHNER	SUCOFLEX 104	218182/4	Mar. 04, 2005
RF signal cable HUBER+SUHNER	SUCOFLEX 104	218194/4	Mar. 04, 2005
Software ADT.	ADT_Radiated_V5.14	NA	NA
Antenna Tower ADT.	AT100	AT93021702	NA
Turn Table ADT.	TT100.	TT93021702	NA
Controller ADT.	SC100.	SC93021702	NA

- NOTE:**
1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
 2. The test was performed in HwaYa Chamber 1.
 3. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
 4. The IC Site Registration No. is IC4924-2.



4.2.3 TEST PROCEDURES

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The antenna is a broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. If the emission level of the EUT in peak mode was 10 dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10 dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

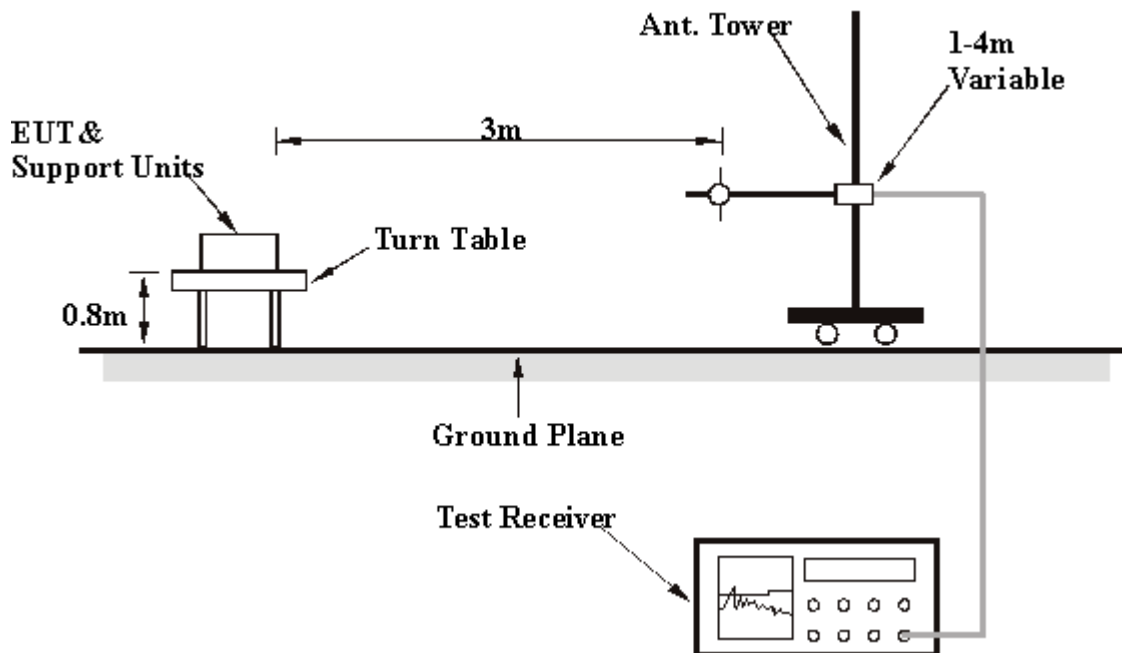
NOTE:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Peak detection (PK) and Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1 MHz for Peak detection at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 10 Hz for Average detection (AV) at frequency above 1GHz.

4.2.4 DEVIATION FROM TEST STANDARD

No deviation

4.2.5 TEST SETUP



For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

4.2.6 EUT OPERATING CONDITIONS

Same as 4.1.6

4.2.7 TEST RESULTS

EUT	Notebook PC (with Wireless LAN mini-PCI Card)	MODEL	223II0(with wireless card:Intel WM3B2200BG)
CHANNEL	11	FREQUENCY RANGE	Below 1000 MHz
INPUT POWER (SYSTEM)	120 Vac, 60Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	25 deg. C, 60% RH, 991 hPa	TESTED BY: Steven Lu	

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	166.07	28.51 QP	43.50	-14.99	2.50 H	76	14.20	14.30
2	239.94	37.88 QP	46.00	-8.12	1.50 H	274	24.81	13.07
3	286.59	37.80 QP	46.00	-8.20	1.00 H	94	23.51	14.29
4	313.81	43.57 QP	46.00	-2.43	1.00 H	280	28.75	14.82
5	333.25	41.73 QP	46.00	-4.27	1.00 H	280	26.47	15.26
6	401.28	34.26 QP	46.00	-11.74	1.75 H	64	17.48	16.78
7	465.43	37.51 QP	46.00	-8.49	2.00 H	133	19.24	18.27
8	502.36	38.96 QP	46.00	-7.04	1.50 H	280	20.19	18.78
9	550.96	40.39 QP	46.00	-5.61	1.25 H	61	20.67	19.72
10	574.29	38.98 QP	46.00	-7.02	1.25 H	106	18.65	20.33

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	66.93	33.55 QP	40.00	-6.45	1.00 V	100	20.62	12.93
2	239.94	33.47 QP	46.00	-12.53	1.75 V	340	20.40	13.07
3	286.59	36.15 QP	46.00	-9.85	1.75 V	334	21.85	14.29
4	313.81	33.12 QP	46.00	-12.88	1.25 V	178	18.30	14.82
5	333.25	37.39 QP	46.00	-8.61	1.25 V	193	22.13	15.26
6	432.38	33.80 QP	46.00	-12.20	1.25 V	331	16.19	17.60
7	465.43	38.09 QP	46.00	-7.91	1.25 V	247	19.82	18.27
8	498.48	41.53 QP	46.00	-4.47	1.00 V	187	22.82	18.71
9	558.74	36.60 QP	46.00	-9.40	2.00 V	355	16.68	19.92
10	574.29	40.51 QP	46.00	-5.49	1.00 V	169	20.18	20.33
11	642.32	31.30 QP	46.00	-14.70	1.50 V	4	9.72	21.58

- REMARKS:**
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
 2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
 3. The other emission levels were very low against the limit.
 4. Margin value = Emission level – Limit value.

EUT	Notebook PC (with Wireless LAN mini-PCI Card)	MODEL	223II0(with wireless card: Intel WM3B2200BG)
CHANNEL	1	MODE	CCK
INPUT POWER (SYSTEM)	120 Vac, 60 Hz	FREQUENCY RANGE	1~25 GHz
ENVIRONMENTAL CONDITIONS	25 deg. C, 60% RH, 991 hPa	DETECTOR FUNCTION	Peak (PK) Average (AV)
TESTED BY	Steven Lu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2210.00	43.80 PK	74.00	-30.20	1.18 H	312	13.92	29.88
1	2210.00	36.60 AV	54.00	-17.40	1.18 H	312	3.28	29.88
2	2312.00	49.52 PK	74.00	-24.48	1.40 H	305	19.12	30.40
2	2312.00	43.97 AV	54.00	-10.03	1.40 H	305	13.57	30.40
3	2383.60	47.54 PK	74.00	-26.46	2.04 H	151	16.85	30.69
3	2383.60	40.08 AV	54.00	-13.92	2.04 H	151	9.39	30.69
4	*2412.00	104.46 PK			2.04 H	151	73.66	30.80
4	*2412.00	97.00 AV			2.04 H	151	66.20	30.80
5	3216.00	46.89 PK	74.00	-27.11	1.00 H	311	14.25	32.64
5	3216.00	36.53 AV	54.00	-17.47	1.00 H	311	3.89	32.64
6	4824.00	48.42 PK	74.00	-25.58	1.47 H	38	11.84	36.58
6	4824.00	37.84 AV	54.00	-16.16	1.47 H	38	1.26	36.58
7	9648.00	54.34 PK	74.00	-19.66	1.47 H	70	12.22	42.12
7	9648.00	47.14 AV	54.00	-6.86	1.47 H	70	5.02	42.12

REMARKS:

1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. “ * ” : Fundamental frequency

EUT	Notebook PC (with Wireless LAN mini-PCI Card)	MODEL	223II0(with wireless card: Intel WM3B2200BG)
CHANNEL	1	MODE	CCK
INPUT POWER (SYSTEM)	120 Vac, 60 Hz	FREQUENCY RANGE	1~25 GHz
ENVIRONMENTAL CONDITIONS	25 deg. C, 60% RH, 991 hPa	DETECTOR FUNCTION	Peak (PK) Average (AV)
TESTED BY	Steven Lu		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2210.80	45.36 PK	74.00	-28.64	1.24 V	212	15.47	29.89
1	2210.80	39.38 AV	54.00	-14.62	1.24 V	212	9.49	29.89
2	2312.00	51.04 PK	74.00	-22.96	1.41 V	246	20.64	30.40
2	2312.00	45.73 AV	54.00	-8.27	1.41 V	246	15.33	30.40
3	2383.60	51.05 PK	74.00	-22.95	1.36 V	32	20.36	30.69
3	2383.60	43.78 AV	54.00	-10.22	1.36 V	32	13.09	30.69
4	*2412.00	107.97 PK			1.36 V	32	77.17	30.80
4	*2412.00	100.70 AV			1.36 V	32	69.90	30.80
5	3216.00	49.66 PK	74.00	-24.34	1.14 V	123	17.02	32.64
5	3216.00	44.82 AV	54.00	-9.18	1.14 V	123	12.18	32.64
6	4824.00	49.73 PK	74.00	-24.27	1.10 V	359	13.15	36.58
6	4824.00	41.23 AV	54.00	-12.77	1.10 V	359	4.65	36.58
7	9648.00	58.54 PK	74.00	-15.46	1.04 V	348	16.42	42.12

REMARKS:

1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. “ * ” : Fundamental frequency

EUT	Notebook PC (with Wireless LAN mini-PCI Card)	MODEL	223II0(with wireless card: Intel WM3B2200BG)
CHANNEL	6	MODE	CCK
INPUT POWER (SYSTEM)	120 Vac, 60 Hz	FREQUENCY RANGE	1~25 GHz
ENVIRONMENTAL CONDITIONS	25 deg. C, 60% RH, 991 hPa	DETECTOR FUNCTION	Peak(PK) Average (AV)
TESTED BY	Steven Lu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2233.32	47.28 PK	74.00	-26.72	1.12 H	314	17.28	30.00
1	2233.32	40.95 AV	54.00	-13.05	1.12 H	314	10.95	30.00
2	2336.02	50.56 PK	74.00	-23.44	1.40 H	310	20.06	30.50
2	2336.02	44.52 AV	54.00	-9.48	1.40 H	310	14.02	30.50
3	*2437.00	106.74 PK			1.99 H	52	75.84	30.90
3	*2437.00	98.46 AV			1.99 H	52	67.56	30.90
4	3249.34	47.78 PK	74.00	-26.22	1.38 H	316	15.18	32.60
4	3249.34	38.43 AV	54.00	-15.57	1.38 H	316	5.83	32.60
5	4874.00	47.27 PK	74.00	-26.73	1.58 H	40	10.51	36.76
5	4874.00	37.37 AV	54.00	-16.63	1.58 H	40	0.61	36.76
6	9748.00	51.07 PK	74.00	-22.93	1.57 H	52	12.73	38.34
6	9748.00	43.56 AV	54.00	-10.44	1.57 H	52	5.22	38.34

REMARKS:

1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. “ * ” : Fundamental frequency

EUT	Notebook PC (with Wireless LAN mini-PCI Card)	MODEL	223II0(with wireless card: Intel WM3B2200BG)
CHANNEL	6	MODE	CCK
INPUT POWER (SYSTEM)	120 Vac, 60 Hz	FREQUENCY RANGE	1~25 GHz
ENVIRONMENTAL CONDITIONS	25 deg. C, 60% RH, 991 hPa	DETECTOR FUNCTION	Peak(PK) Average (AV)
TESTED BY	Steven Lu		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2233.99	48.23 PK	74.00	-25.77	1.24 V	267	18.22	30.01
1	2233.99	42.57 AV	54.00	-11.43	1.24 V	267	12.56	30.01
2	2336.02	50.56 PK	74.00	-23.44	1.43 V	268	20.06	30.50
2	2336.02	44.53 AV	54.00	-9.47	1.43 V	268	14.03	30.50
3	*2437.00	107.24 PK			1.38 V	325	76.34	30.90
3	*2437.00	100.09 AV			1.38 V	325	69.19	30.90
4	3249.20	47.51 PK	74.00	-26.49	1.35 V	323	14.91	32.60
4	3249.20	40.67 AV	54.00	-13.33	1.35 V	323	8.07	32.60
5	4874.00	48.20 PK	74.00	-25.80	1.00 V	21	11.44	36.76
5	4874.00	40.16 AV	54.00	-13.84	1.00 V	21	3.40	36.76
6	9748.00	53.94 PK	74.00	-20.06	1.10 V	352	15.60	38.34
6	9748.00	49.49 AV	54.00	-4.51	1.10 V	352	11.15	38.34

REMARKS:

1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. “ * ” : Fundamental frequency

EUT	Notebook PC (with Wireless LAN mini-PCI Card)	MODEL	223II0(with wireless card: Intel WM3B2200BG)
CHANNEL	11	MODE	CCK
INPUT POWER (SYSTEM)	120 Vac, 60 Hz	FREQUENCY RANGE	1~25 GHz
ENVIRONMENTAL CONDITIONS	25 deg. C, 60% RH, 991 hPa	DETECTOR FUNCTION	Peak (PK) Average (AV)
TESTED BY	Steven Lu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2257.32	49.91 PK	74.00	-24.09	1.11 H	312	19.78	30.13
1	2257.32	44.26 AV	54.00	-9.74	1.11 H	312	14.13	30.13
2	2287.92	51.45 PK	74.00	-22.55	1.10 H	308	21.16	30.29
2	2287.92	45.01 AV	54.00	-8.99	1.10 H	308	14.72	30.29
3	2360.00	48.04 PK	74.00	-25.96	1.37 H	310	17.45	30.59
3	2360.00	41.11 AV	54.00	-12.89	1.37 H	310	10.52	30.59
4	*2462.00	105.74 PK			1.98 H	49	74.75	30.99
4	*2462.00	98.62 AV			1.98 H	49	67.63	30.99
5	2483.50	49.93 PK	74.00	-24.07	1.98 H	49	18.86	31.07
6	2499.92	48.24 PK	74.00	-25.76	1.28 H	315	17.10	31.14
6	2499.92	39.30 AV	54.00	-14.70	1.28 H	315	8.16	31.14
7	3282.69	45.15 PK	74.00	-28.85	1.34 H	136	12.58	32.57
7	3282.69	36.21 AV	54.00	-17.79	1.34 H	136	3.64	32.57
8	4924.00	48.16 PK	74.00	-25.84	1.31 H	20	11.19	36.97
8	4924.00	36.96 AV	54.00	-17.04	1.31 H	20	-0.01	36.97
9	9848.00	48.36 PK	74.00	-25.64	1.25 H	75	13.22	35.14
9	9848.00	41.11 AV	54.00	-12.89	1.25 H	75	5.97	35.14

REMARKS:

1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. “ * ” : Fundamental frequency

EUT	Notebook PC (with Wireless LAN mini-PCI Card)	MODEL	223II0(with wireless card: Intel WM3B2200BG)
CHANNEL	11	MODE	CCK
INPUT POWER (SYSTEM)	120 Vac, 60 Hz	FREQUENCY RANGE	1~25 GHz
ENVIRONMENTAL CONDITIONS	25 deg. C, 60% RH, 991 hPa	DETECTOR FUNCTION	Peak(PK) Average (AV)
TESTED BY	Steven Lu		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2257.34	50.79 PK	74.00	-23.21	1.21 V	212	20.66	30.13
1	2257.34	44.82 AV	54.00	-9.81	1.21 V	212	14.69	30.13
2	2288.20	52.54 PK	74.00	-21.46	1.20 V	265	22.25	30.29
2	2288.20	45.97 AV	54.00	-8.03	1.20 V	265	15.68	30.29
3	2360.00	48.88 PK	74.00	-25.12	1.12 V	36	18.29	30.59
3	2360.00	41.91 AV	54.00	-12.09	1.12 V	36	11.32	30.59
4	*2462.00	108.62 PK			1.40 V	5	77.63	30.99
4	*2462.00	101.31 AV			1.40 V	5	70.32	30.99
5	2483.50	52.81 PK	74.00	-21.19	1.40 V	5	21.74	31.07
5	2483.50	45.50 AV	54.00	-8.50	1.40 V	5	14.43	31.07
6	2499.92	50.17 PK	74.00	-23.83	1.04 V	32	19.03	31.14
6	2499.92	41.62 AV	54.00	-12.38	1.04 V	32	10.48	31.14
7	3282.64	46.80 PK	74.00	-27.20	1.18 V	359	14.23	32.57
7	3282.64	40.15 AV	54.00	-13.85	1.18 V	359	7.58	32.57
8	4924.00	48.60 PK	74.00	-25.40	1.24 V	26	11.63	36.97
8	4924.00	38.21 AV	54.00	-15.79	1.24 V	26	1.24	36.97
9	9848.00	51.93 PK	74.00	-22.07	1.03 V	344	16.79	35.14
9	9848.00	48.48 AV	54.00	-5.52	1.03 V	344	13.34	35.14

REMARKS:

1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. “ * ” : Fundamental frequency

EUT	Notebook PC (with Wireless LAN mini-PCI Card)	MODEL	223II0(with wireless card: Intel WM3B2200BG)
CHANNEL	1	MODE	OFDM
INPUT POWER (SYSTEM)	120 Vac, 60 Hz	FREQUENCY RANGE	1~25 GHz
ENVIRONMENTAL CONDITIONS	25 deg. C, 60% RH, 991 hPa	DETECTOR FUNCTION	Peak (PK) Average (AV)
TESTED BY	Steven Lu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2210.64	54.80 PK	74.00	-19.20	1.48 H	303	24.91	29.89
1	2210.64	45.06 AV	54.00	-8.94	1.48 H	303	15.17	29.89
2	2240.00	50.12 PK	74.00	-23.88	1.17 H	312	20.08	30.04
2	2240.00	42.11 AV	54.00	-11.89	1.17 H	312	12.07	30.04
3	2312.00	53.05 PK	74.00	-20.95	1.13 H	310	22.65	30.40
3	2312.00	48.35 AV	54.00	-5.65	1.13 H	310	17.95	30.40
4	2390.00	60.46 PK	74.00	-13.54	2.05 H	48	29.75	30.71
4	2390.00	50.72 AV	54.00	-3.28	2.05 H	48	20.01	30.71
5	*2412.00	103.50 PK			2.05 H	48	72.70	30.80
5	*2412.00	93.76 AV			2.05 H	48	62.96	30.80
6	3216.00	46.74 PK	74.00	-27.26	1.36 H	136	14.10	32.64
6	3216.00	38.84 AV	54.00	-15.16	1.36 H	136	6.2	32.64
7	9648.00	53.34 PK	74.00	-20.66	1.35 H	169	11.22	42.12
7	9648.00	41.34 AV	54.00	-12.66	1.35 H	169	-0.78	42.12

REMARKS:

1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. “ * ” : Fundamental frequency

EUT	Notebook PC (with Wireless LAN mini-PCI Card)	MODEL	223II0(with wireless card: Intel WM3B2200BG)
CHANNEL	1	MODE	OFDM
INPUT POWER (SYSTEM)	120 Vac, 60 Hz	FREQUENCY RANGE	1~25 GHz
ENVIRONMENTAL CONDITIONS	25 deg. C, 60% RH, 991 hPa	DETECTOR FUNCTION	Peak (PK) Average (AV)
TESTED BY	Steven Lu		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2210.66	50.02 PK	74.00	-23.98	1.27 V	216	20.13	29.89
1	2210.66	44.93 AV	54.00	-9.07	1.27 V	216	15.04	29.89
2	2240.06	48.98 PK	74.00	-25.02	1.00 V	265	18.94	30.04
2	2240.06	41.33 AV	54.00	-12.67	1.00 V	265	11.29	30.04
3	2311.96	54.48 PK	74.00	-19.52	1.44 V	317	24.08	30.40
3	2311.96	50.08 AV	54.00	-3.92	1.44 V	317	19.68	30.40
4	2390.00	63.80 PK	74.00	-10.20	1.16 V	12	33.09	30.71
4	2390.00	53.48 AV	54.00	-0.52	1.16 V	12	22.77	30.71
5	*2412.00	106.84 PK			1.16 V	12	76.04	30.80
5	*2412.00	96.52 AV			1.16 V	12	65.72	30.80
6	3216.00	47.87 PK	74.00	-26.13	1.04 V	212	15.23	32.64
6	3216.00	40.51 AV	54.00	-13.49	1.04 V	212	7.87	32.64
7	9648.00	55.65 PK	74.00	-18.35	1.66 V	352	13.53	42.12
7	9648.00	41.54 AV	54.00	-12.46	1.66 V	352	-0.58	42.12

REMARKS:

1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. “ * “ : Fundamental frequency

EUT	Notebook PC (with Wireless LAN mini-PCI Card)	MODEL	223II0(with wireless card: Intel WM3B2200BG)
CHANNEL	6	MODE	OFDM
INPUT POWER (SYSTEM)	120 Vac, 60 Hz	FREQUENCY RANGE	1~25 GHz
ENVIRONMENTAL CONDITIONS	25 deg. C, 60% RH, 991 hPa	DETECTOR FUNCTION	Peak (PK) Average (AV)
TESTED BY	Steven Lu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2233.00	50.55 PK	74.00	-23.45	1.36 H	287	20.55	30.00
1	2233.00	45.64 AV	54.00	-8.36	1.36 H	287	15.64	30.00
2	2336.00	52.48 PK	74.00	-21.52	1.36 H	228	21.98	30.50
2	2336.00	48.13 AV	54.00	-5.87	1.36 H	228	17.63	30.50
3	*2437.00	105.24 PK			1.30 H	224	74.34	30.90
3	*2437.00	95.08 AV			1.30 H	224	64.18	30.90
4	2538.00	46.04 PK	74.00	-27.96	1.30 H	57	14.83	31.21
4	2538.00	37.55 AV	54.00	-16.45	1.30 H	57	6.34	31.21
5	2640.00	45.82 PK	74.00	-28.18	1.46 H	190	14.41	31.41
5	2640.00	36.08 AV	54.00	-17.92	1.46 H	190	4.67	31.41
6	9648.00	52.98 PK	74.00	-21.02	1.40 H	31	10.86	42.12
6	9648.00	40.22 AV	54.00	-13.78	1.40 H	31	-1.90	42.12

REMARKS:

1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. “ * ” : Fundamental frequency.

EUT	Notebook PC (with Wireless LAN mini-PCI Card)	MODEL	223II0(with wireless card: Intel WM3B2200BG)
CHANNEL	6	MODE	OFDM
INPUT POWER (SYSTEM)	120 Vac, 60 Hz	FREQUENCY RANGE	1~25 GHz
ENVIRONMENTAL CONDITIONS	25 deg. C, 60% RH, 991 hPa	DETECTOR FUNCTION	Peak (PK) Average (AV)
TESTED BY	Steven Lu		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2233.00	53.72 PK	74.00	-20.28	1.38 V	352	23.72	30.00
1	2233.00	48.85 AV	54.00	-5.15	1.38 V	352	18.85	30.00
2	2336.00	53.30 PK	74.00	-20.70	1.46 V	30	22.80	30.50
2	2336.00	48.00 AV	54.00	-6.00	1.46 V	30	17.50	30.50
3	*2437.00	106.68 PK			1.00 V	358	75.78	30.90
3	*2437.00	97.06 AV			1.00 V	358	66.16	30.90
4	2538.00	50.10 PK	74.00	-23.90	1.46 V	5	18.89	31.21
4	2538.00	43.10 AV	54.00	-10.90	1.46 V	5	11.89	31.21
5	2640.00	50.98 PK	74.00	-23.02	1.43 V	332	19.57	31.41
5	2640.00	42.79 AV	54.00	-11.21	1.43 V	332	11.38	31.41
6	9748.00	51.16 PK	74.00	-22.84	1.18 V	32	12.82	38.34
6	9748.00	37.94 AV	54.00	-16.06	1.18 V	32	-0.40	38.34

REMARKS:

1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. “ * ” : Fundamental frequency.

EUT	Notebook PC (with Wireless LAN mini-PCI Card)	MODEL	223II0(with wireless card: Intel WM3B2200BG)
CHANNEL	11	MODE	OFDM
INPUT POWER (SYSTEM)	120 Vac, 60 Hz	FREQUENCY RANGE	1~25 GHz
ENVIRONMENTAL CONDITIONS	25 deg. C, 60% RH, 991 hPa	DETECTOR FUNCTION	Peak (PK) Average (AV)
TESTED BY	Steven Lu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2257.00	50.71 PK	74.00	-23.29	1.00 H	98	20.58	30.13
1	2257.00	45.46 AV	54.00	-8.54	1.00 H	98	15.33	30.13
2	2288.00	48.56 PK	74.00	-25.44	1.00 H	90	18.27	30.29
2	2288.00	42.44 AV	54.00	-11.56	1.00 H	90	12.15	30.29
3	2360.00	51.44 PK	74.00	-22.56	1.07 H	312	20.85	30.59
3	2360.00	45.94 AV	54.00	-8.06	1.07 H	312	15.35	30.59
4	*2462.00	100.93 PK			1.31 H	313	69.94	30.99
4	*2462.00	91.57 AV			1.31 H	313	60.58	30.99
5	2483.50	57.65 PK	74.00	-16.35	1.31 H	313	26.58	31.07
5	2483.50	48.29 AV	54.00	-5.71	1.31 H	313	17.22	31.07
6	3282.00	46.46 PK	74.00	-27.54	1.12 H	154	13.89	32.57
6	3282.00	36.86 AV	54.00	-17.14	1.12 H	154	4.29	32.57
7	9848.00	45.32 PK	74.00	-28.68	1.34 H	319	10.18	35.14
7	9848.00	32.70 AV	54.00	-21.68	1.34 H	319	-2.44	35.14

REMARKS:

1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. “ * ” : Fundamental frequency

EUT	Notebook PC (with Wireless LAN mini-PCI Card)	MODEL	223II0(with wireless card: Intel WM3B2200BG)
CHANNEL	11	MODE	OFDM
INPUT POWER (SYSTEM)	120 Vac, 60 Hz	FREQUENCY RANGE	1~25 GHz
ENVIRONMENTAL CONDITIONS	25 deg. C, 60% RH, 991 hPa	DETECTOR FUNCTION	Peak (PK) Average (AV)
TESTED BY	Steven Lu		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2257.00	53.65 PK	74.00	-20.35	1.00 V	261	23.52	30.13
1	2257.00	49.68 AV	54.00	-4.32	1.00 V	261	19.55	30.13
2	2288.00	52.34 PK	74.00	-21.66	1.00 V	11	22.05	30.29
2	2288.00	47.39 AV	54.00	-6.61	1.00 V	11	17.10	30.29
3	2360.00	51.01 PK	74.00	-22.99	1.00 V	347	20.42	30.59
3	2360.00	45.17 AV	54.00	-8.83	1.00 V	347	14.58	30.59
4	*2462.00	104.83 PK			1.58 V	39	73.84	30.99
4	*2462.00	95.47 AV			1.58 V	39	64.48	30.99
5	2483.50	61.55 PK	74.00	-12.45	1.58 V	39	30.48	31.07
5	2483.50	52.19 AV	54.00	-1.81	1.58 V	39	21.12	31.07
6	3282.00	49.01 PK	74.00	-24.99	1.00 V	282	16.44	32.57
6	3282.00	36.86 AV	54.00	-17.14	1.00 V	282	4.29	32.57
7	9848.00	46.25 PK	74.00	-27.75	1.54 V	41	11.11	35.14
7	9848.00	33.85 AV	54.00	-20.15	1.54 V	41	-1.29	35.14

REMARKS:

1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. “ * ” : Fundamental frequency

4.3 6dB BANDWIDTH MEASUREMENT

4.3.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT

The minimum of 6dB Bandwidth Measurement is 0.5MHz.

4.3.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
SPECTRUM ANALYZER	FSEK30	100049	Aug. 12, 2004

NOTE:

The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

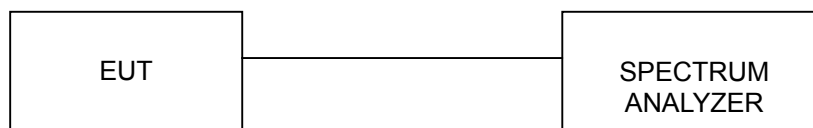
4.3.3 TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with 100kHz RBW and 100kHz VBW. The 6dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6dB.

4.3.4 DEVIATION FROM TEST STANDARD

No deviation

4.3.5 TEST SETUP



For the actual test configuration, please refer to the related Item – Photographs of the Test Configuration.

4.3.6 EUT OPERATING CONDITIONS

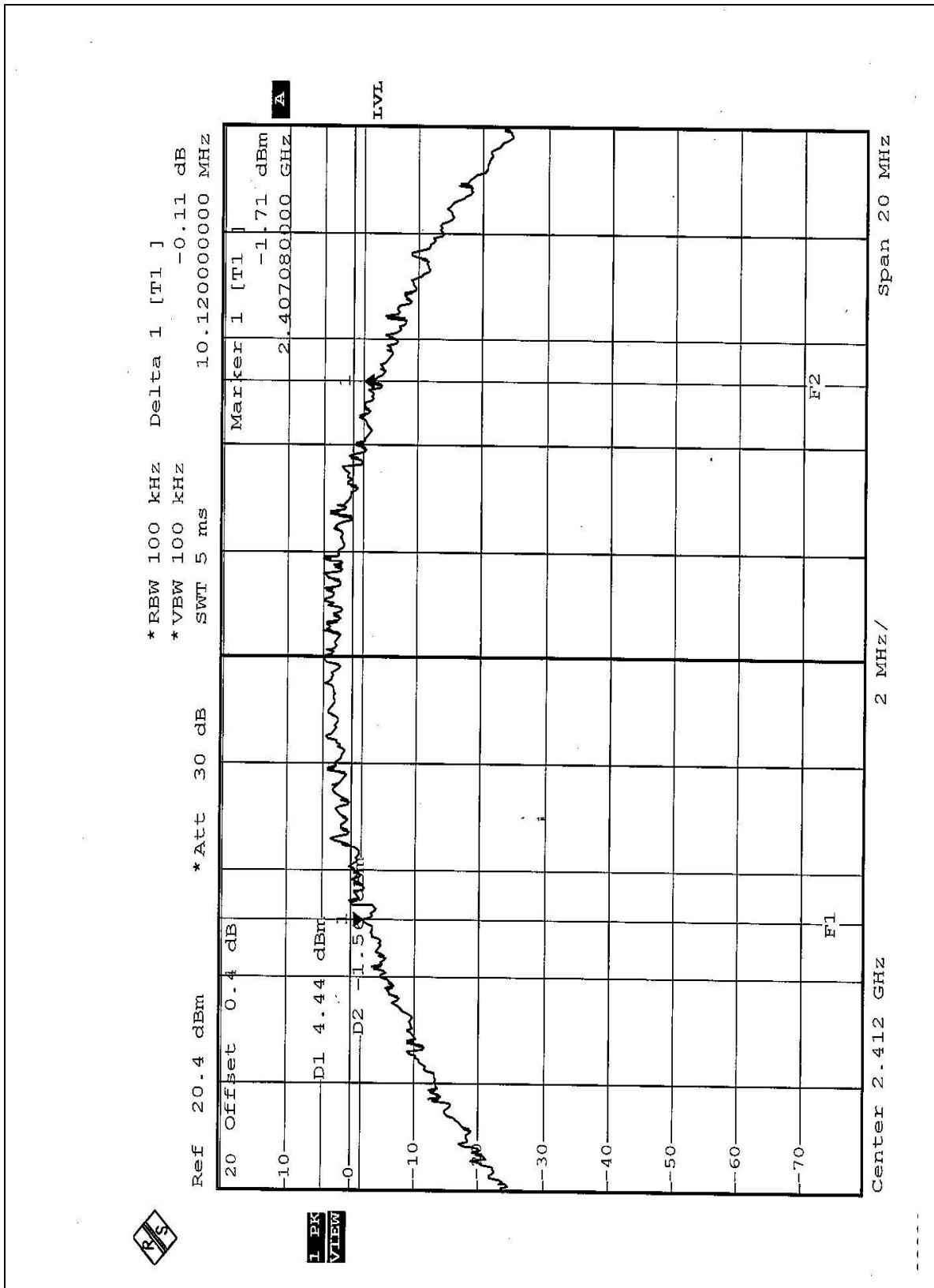
The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.3.7 TEST RESULTS

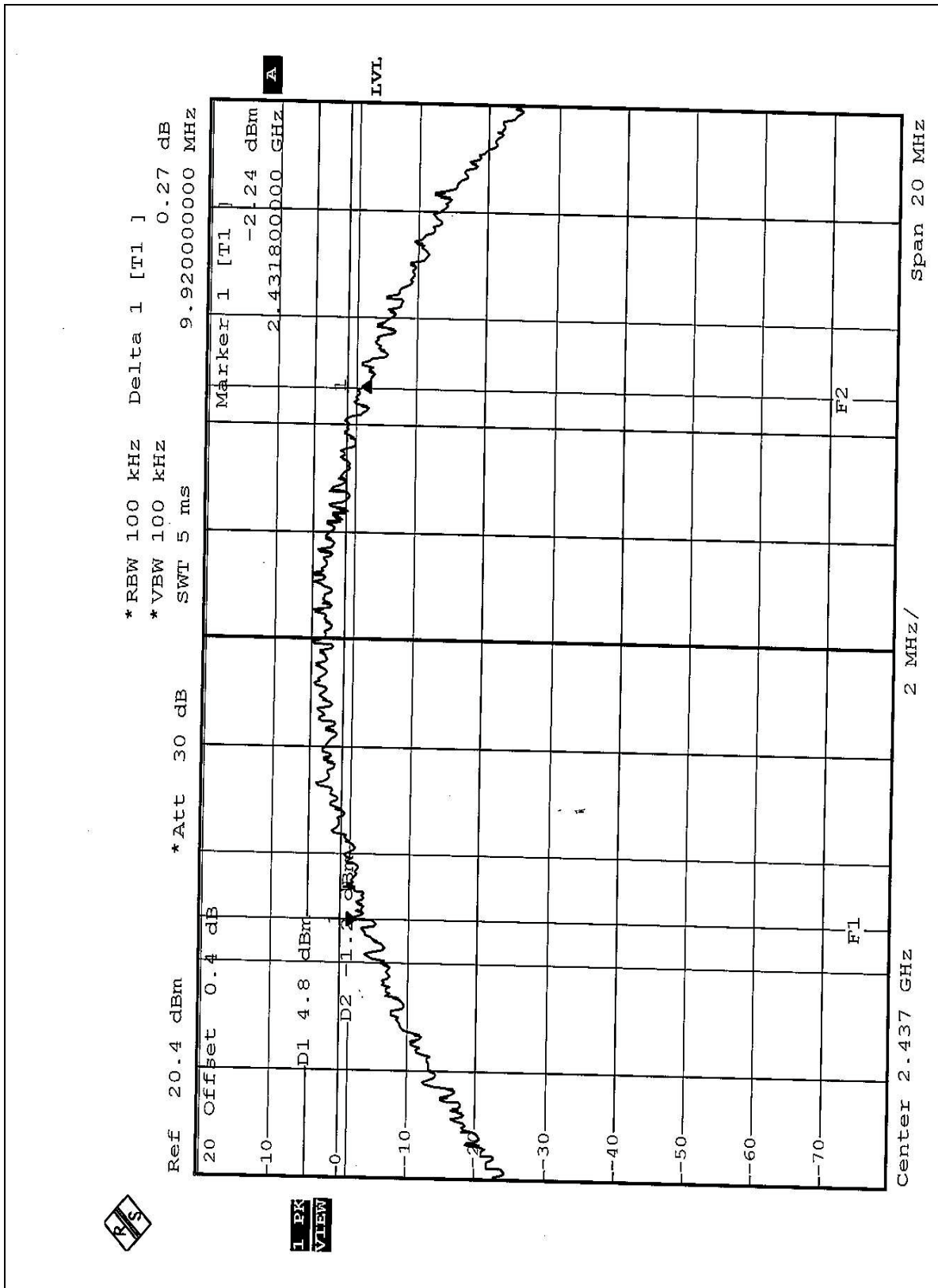
EUT	Notebook PC (with Wireless LAN mini-PCI Card)	MODEL	223II0(with wireless card:Intel WM3B2200BG)
INPUT POWER (SYSTEM)	120 Vac, 60 Hz	MODE	CCK
ENVIRONMENTAL CONDITIONS	25 deg. C, 65% RH, 991 hPa	TESTED BY	Steven Lu

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS/FAIL
1	2412	10.12	0.5	PASS
6	2437	9.92	0.5	PASS
11	2462	9.96	0.5	PASS

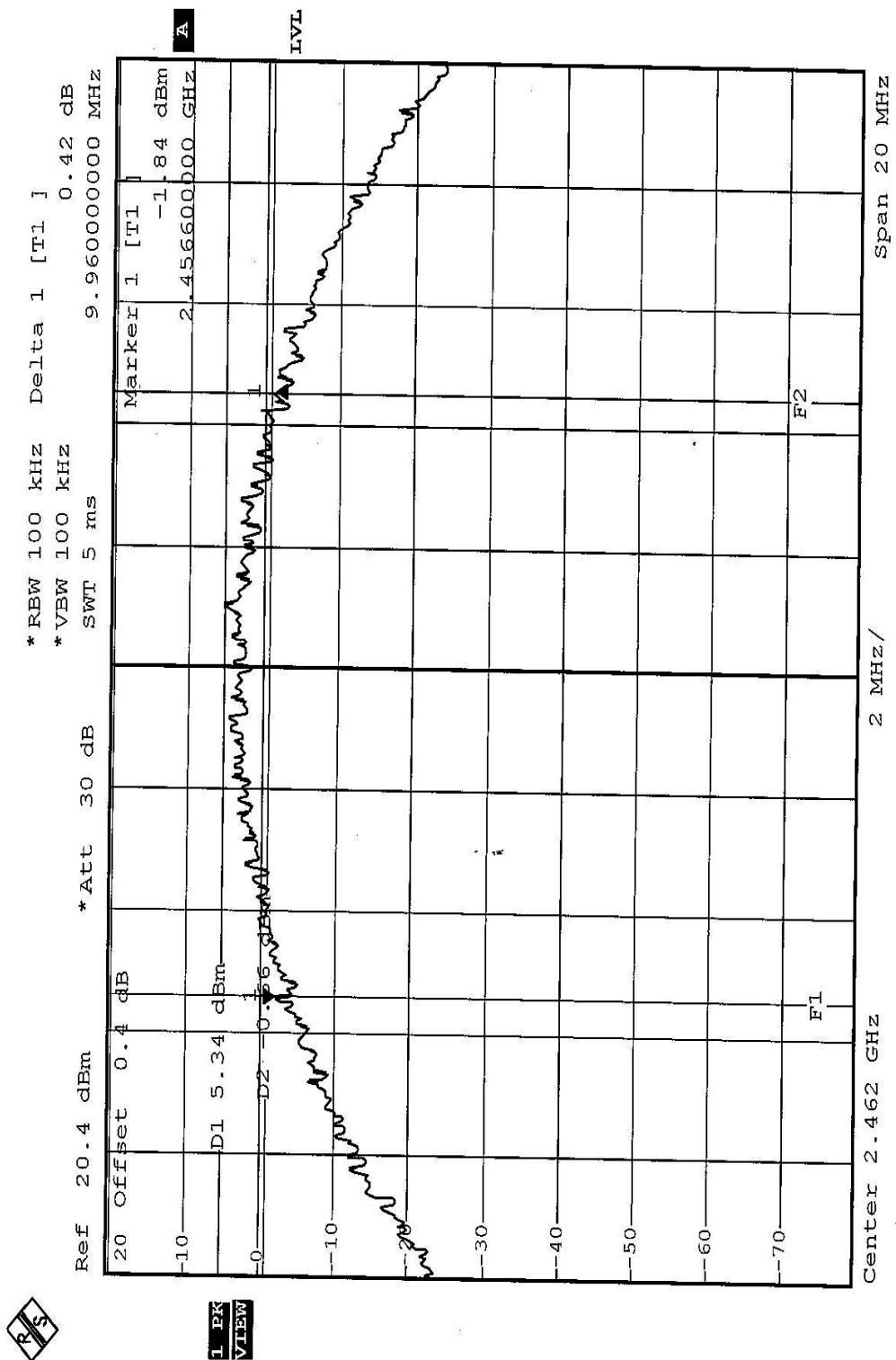
CH1



CH6



CH11

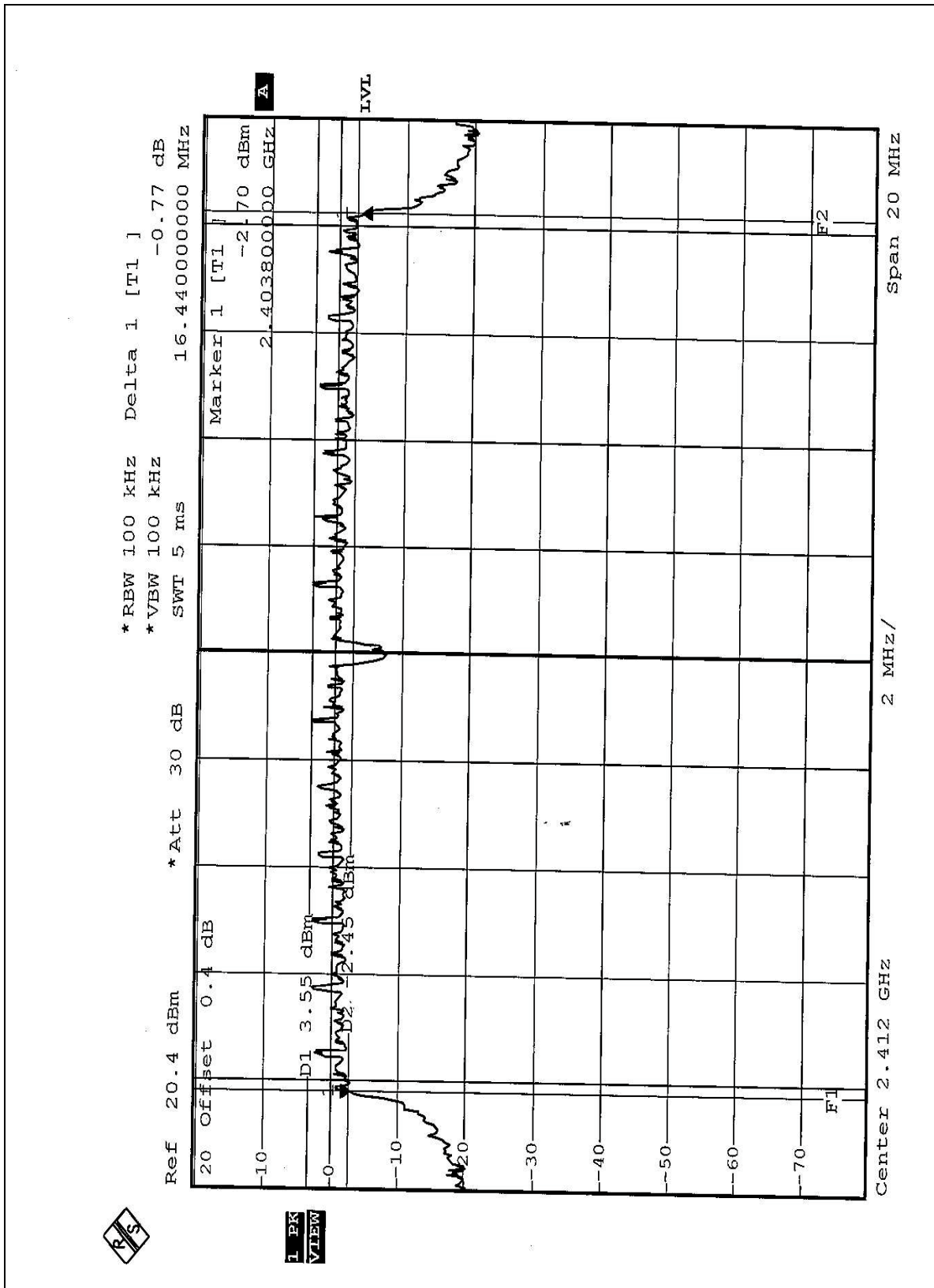




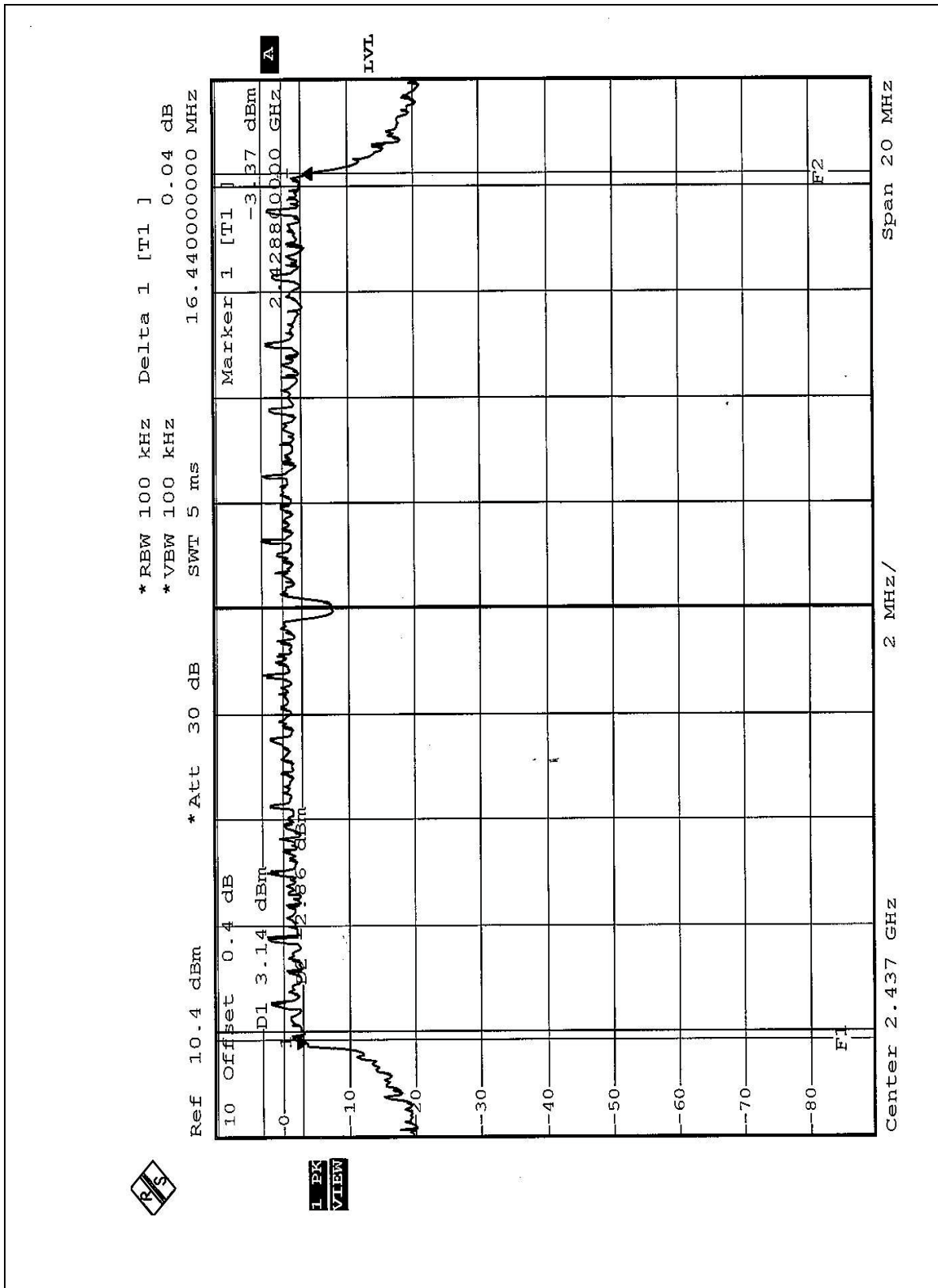
EUT	Notebook PC (with Wireless LAN mini-PCI Card)	MODEL	223II0(with wireless card: Intel WM3B2200BG)
INPUT POWER (SYSTEM)	120 Vac, 60 Hz	MODE	OFDM
ENVIRONMENTAL CONDITIONS	25 deg. C, 65% RH, 991 hPa	TESTED BY	Steven Lu

CHANNEL	CHANNEL FREQUENCY (MHz)	6 dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS/FAIL
1	2412	16.44	0.5	PASS
6	2437	16.44	0.5	PASS
11	2462	16.44	0.5	PASS

CH1



CH6



1 PK
MAXH

Ref 10.4 dBm Att 20 dB RBW 100 kHz VBW 100 kHz SWT 5 ms Delta 1 [T1] -0.96 dB

10 Offset 0.4 dB

D1 0 dBm
D2 -6 dBm

Marker 1 [T1] -5.61 dBm 2.453800000 GHz

Center 2.462 GHz Span 20 MHz

4.4 MAXIMUM PEAK OUTPUT POWER

4.4.1 LIMITS OF MAXIMUM PEAK OUTPUT POWER MEASUREMENT

The Maximum Peak Output Power Measurement is 30dBm.

4.4.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSEK30	100049	Aug. 12, 2004
AGILENT SIGNAL GENERATOR	E8257C	MY43320668	Dec. 31, 2004
TEKTRONIX OSCILLOSCOPE	TDS 220	C019167	Feb. 1, 2005
NARDA DETECTOR	4503A	FSCM99899	NA

NOTE:

The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

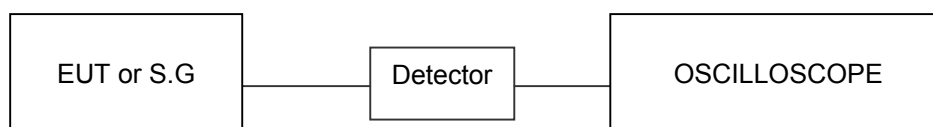
4.4.3 TEST PROCEDURES

1. A detector was used on the output port of the EUT. An oscilloscope was used to read the response of the detector.
2. Replaced the EUT by the signal generator. The center frequency of the S.G. was adjusted to the center frequency of the measured channel.
3. Adjusted the power to have the same reading on oscilloscope. Record the power level.

4.4.4 DEVIATION FROM TEST STANDARD

No deviation

4.4.5 TEST SETUP



4.4.6 EUT OPERATING CONDITIONS

Same as Item 4.3.6

4.4.7 TEST RESULTS

EUT	Notebook PC (with Wireless LAN mini-PCI Card)	MODEL	223II0(with wireless card:Intel WM3B2200BG)
INPUT POWER (SYSTEM)	120 Vac, 60 Hz	MODE	CCK
ENVIRONMENTAL CONDITIONS	25 deg. C, 65% RH, 991 hPa	TESTED BY	Steven Lu

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
1	2412	16.00	30	PASS
6	2437	16.00	30	PASS
11	2462	16.00	30	PASS

EUT	Notebook PC (with Wireless LAN mini-PCI Card)	MODEL	223II0(with wireless card : Intel WM3B2200BG)
INPUT POWER (SYSTEM)	120 Vac, 60 Hz	MODE	OFDM
ENVIRONMENTAL CONDITIONS	25 deg. C, 65% RH, 991 hPa	TESTED BY	Steven Lu

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
1	2412	18.00	30	PASS
6	2437	18.00	30	PASS
11	2462	16.00	30	PASS



4.5 POWER SPECTRAL DENSITY MEASUREMENT

4.5.1 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT

The Maximum of Power Spectral Density Measurement is 8dBm.

4.5.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
SPECTRUM ANALYZER	FSEK30	100049	Aug. 12, 2004

NOTE:

The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

4.5.3 TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer through an attenuator, the bandwidth of the fundamental frequency was measured with the spectrum analyzer using 3 kHz RBW and 30 kHz VBW, set sweep time=span/3kHz. The power spectral density was measured and recorded. The sweep time is allowed to be longer than span/3kHz for a full response of the mixer in the spectrum analyzer.

4.5.4 DEVIATION FROM TEST STANDARD

No deviation

4.5.5 TEST SETUP



4.5.6 EUT OPERATING CONDITIONS

Same as 4.3.6

4.5.7 TEST RESULTS

EUT	Notebook PC (with Wireless LAN mini-PCI Card)	MODEL	223II0(with wireless card:Intel WM3B2200BG)
INPUT POWER (SYSTEM)	120 Vac, 60 Hz	MODE	CCK
ENVIRONMENTAL CONDITIONS	25 deg. C, 65% RH, 991 hPa	TESTED BY	Steven Lu

CHANNEL NUMBER	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3KHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	2412	-8.84	8	PASS
6	2437	-10.19	8	PASS
11	2462	-8.03	8	PASS