



FCC TEST REPORT

REPORT NO.: RF900810R01A

MODEL NO.: NWH1010

RECEIVED: August 10, 2001

TESTED: August 23~ August 27, 2001

APPLICANT: NATIONAL DATACOMM CORPORATION

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ISSUED BY: Advance Data Technology Corporation

LAB LOCATION: 47 14th Lin, Chiapau Tsun, Linko, Taipei,
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0528
ILAC MRA



Lab Code: 200102-0



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1 CERTIFICATION

PRODUCT : 11Mbps Wireless PC Card
BRAND NAME : InstantWave
MODEL NO. : NWH1010
APPLICANT : NATIONAL DATACOMM CORPORATION
STANDARDS : 47 CFR Part 15, Subpart C (Section 15.247),
ANSI C63.4-1992, Canada RSS 210,
New Zealand RFS 29

We, **Advance Data Technology Corporation**, hereby certify that one sample of the designation has been tested in our facility from August 23, 2001 to August 27, 2001, The test record, data evaluation and Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions herein specified.

TESTED BY : Gary Chang , DATE: Mar. 11, 2002
Gary Chang

CHECKED BY : Demi Chen , DATE: Mar. 11, 2002
Demi Chen

APPROVED BY : Alan Lane , DATE: Mar. 11, 2002
Dr. Alan Lane, Manager

2 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: 47 CFR Part 15, Subpart C			
Standard Section	Test Type and Limit	Result	REMARK
15.207	AC Power Conducted Emission Limit: 48dBuV	PASS	Meet the requirement of limit Minimum passing margin is -7.62dBuV at 2.699MHz
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 -7.90dBuV at 8251.00 MHz
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

3 GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	11Mbps Wireless PC Card
MODEL NO.	NWH1010
POWER SUPPLY	3.3VDC from notebook
MODULATION TYPE	CCK, BPSK, QPSK
RADIO TECHNOLOGY	DSSS
TRANSFER RATE	1/2/5.5/11Mbps
FREQUENCY RANGE	2412MHz ~ 2462MHz
NUMBER OF CHANNEL	11
OUTPUT POWER	14.15dBm
ANTENNA TYPE	Inverted F
DATA CABLE	NA
I/O PORTS	NA
ASSOCIATED DEVICES	NA

NOTE:

1. The EUT can offer you great flexibility and freedom to build your own ideal wireless LAN. You can connect your PC/notebook to an access point wirelessly to share a "connected" environment, such as your local area network.
2. For a 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 in 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 1 GHz, the channel 1, 6, and 11 were pre-tested in chamber. The channel 11, worst case one, was chosen for final test.
2. Above 1 GHz, the channel 1, 6, and 11 were tested individually.

3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is an 11Mbps Wireless PC Card. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC CFR 47 Part 15, Subpart C. (15.247)

ANSI C63.4 : 1992

All tests 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

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	NOTEBOOK	IBM	ThinkPad 380XD	97-84L54	FCC DoC Approved
2	PRINTER	HP	2225C+	3123S97230	DSI6XU2225
3	MODEM	ACEEX	1414	980020510	IFAXDM1414

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	NA
2	1.2m braid shielded wire, terminated with DB25 and Centronics connector via metallic frame, w/o core.
3	1.2 m braid shielded wire, terminated with DB25 and DB9 connector via metallic frame, w/o core.

NOTE: All power cords of the above support units are non shielded (1.8m).

4 TEST TYPES AND RESULTS

4.1 CONDUCTED EMISSION MEASUREMENT

4.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY (MHz)	Class B (dBuV)	
	Quasi-peak	Average
0.45 – 30	48	-

NOTE:

1. The lower limit shall apply at the transition frequencies.
2. All emanations from a class 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
ROHDE & SCHWARZ Test Receiver	ESCS30	834115/016	Mar. 3, 2003
ROHDE & SCHWARZ Artificial Mains Network (For EUT)	ESH3-Z5	847265/023	Jan. 10, 2003
* ROHDE & SCHWARZ 4-wire ISN	ENY41	838119/028	Dec. 10, 2002
* ROHDE & SCHWARZ 2-wire ISN	ENY22	837497/018	Dec. 10, 2002
EMCO L.I.S.N. (For peripherals)	3825/2	9504-2359	July 10, 2002
Software	Cond-V2L	NA	NA
RF cable (JYEBAO)	5D-FB	Cable-C03.01	July 11, 2002
Terminator (For EMCO LISN)	NA	E1-01-300	Feb. 20, 2003
Terminator (For EMCO LISN)	NA	E1-01-301	Feb. 20, 2003
Shielded Room	Site 3	ADT-C03	NA
VCCI Site Registration No.	Site 3	C-274	NA

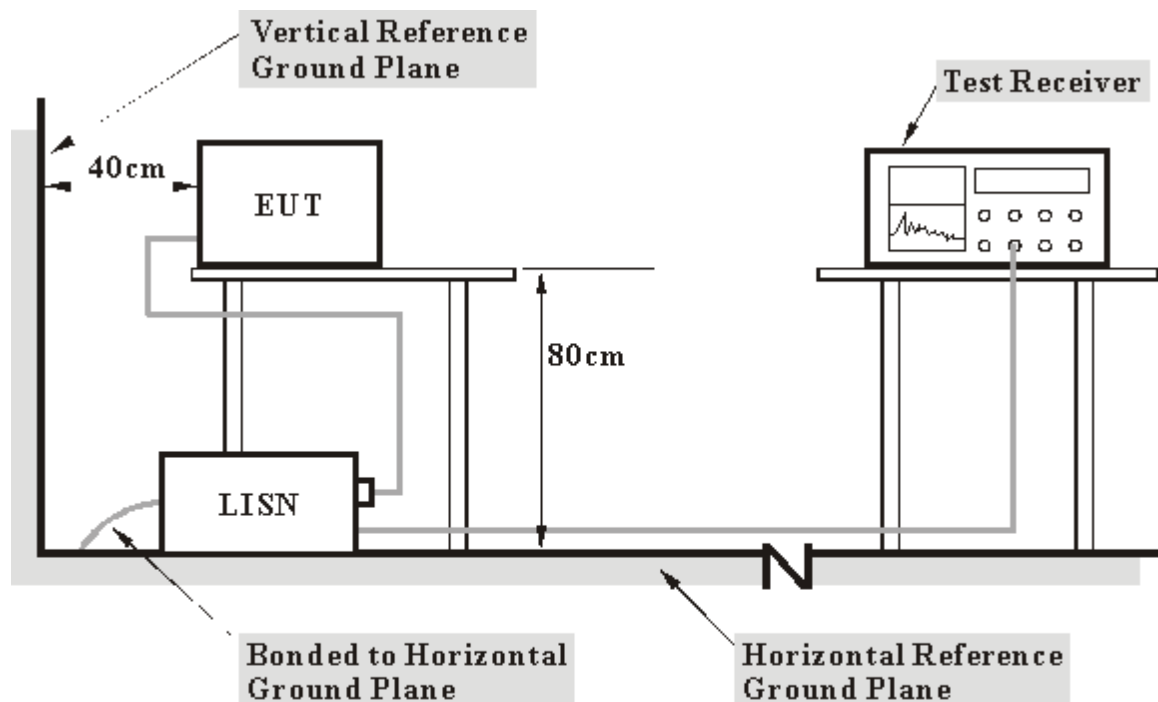
NOTE:

1. The measurement uncertainty is less than +/- 2.6dB, which is calculated as per the NAMAS document NIS81.
2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
3. “*” = These equipments are used for the final measurement.

4.1.3 TEST PROCEDURES

- 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.
- Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- The frequency range from 450 kHz to 30 MHz was searched. Emission levels over 10dB under the prescribed limits could not be reported

4.1.4 TEST SETUP



- Note:**
- Support units were connected to second LISN.
 - 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.



4.1.5 EUT OPERATING CONDITIONS

- a. Connected the EUT to a computer system placed on a testing table.
- b. The computer system ran a test program to enable EUT under transmission/receiving condition continuously at specific channel frequency.
- c. The computer system sent "H" messages to its screen.
- d. The computer system sent "H" messages to modem.
- e. The computer system sent "H" messages to printer, and the printer prints them on paper.

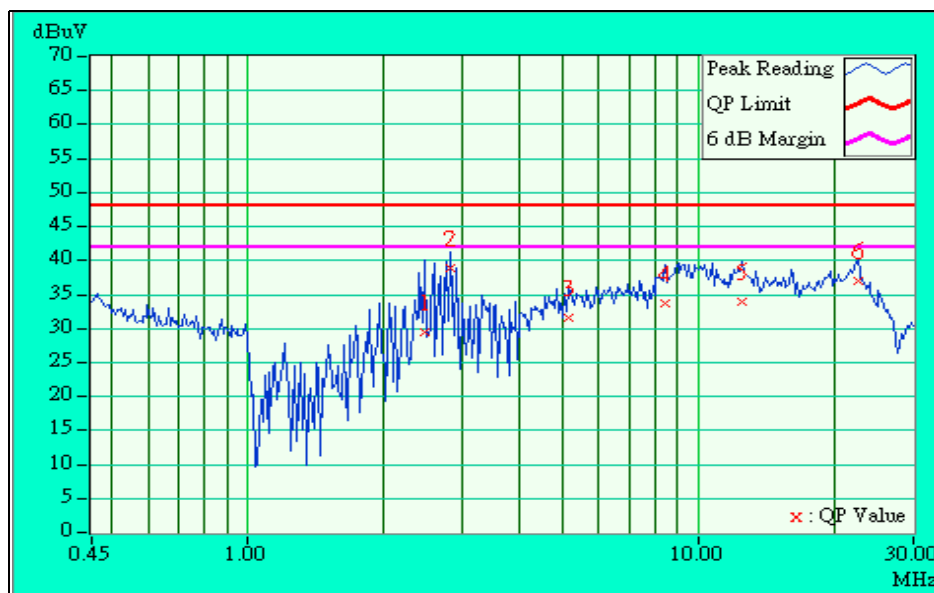
4.1.6 TEST RESULTS

EUT	11Mbps Wireless PC Card	MODEL	NWH1010
MODE	Channel 1	6dB BANDWIDTH	10 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Line (L)
ENVIRONMENTAL CONDITIONS	30 deg. C, 70%RH, 1005 hPa	TESTED BY: Gary Chang	

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	2.480	0.22	29.45	-	29.67	-	48.00	-	-18.33	-
2	2.800	0.24	38.97	-	39.21	-	48.00	-	-8.79	-
3	5.156	0.32	31.61	-	31.93	-	48.00	-	-16.07	-
4	8.461	0.37	33.71	-	34.08	-	48.00	-	-13.92	-
5	12.480	0.45	33.83	-	34.28	-	48.00	-	-13.72	-
6	22.570	0.55	37.05	-	37.60	-	48.00	-	-10.40	-

NOTE:

1. QP. and AV. are abbreviations of quasi-peak and average individually.
2. "-": NA
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Emission Level = Reading Value + Correction Factor.

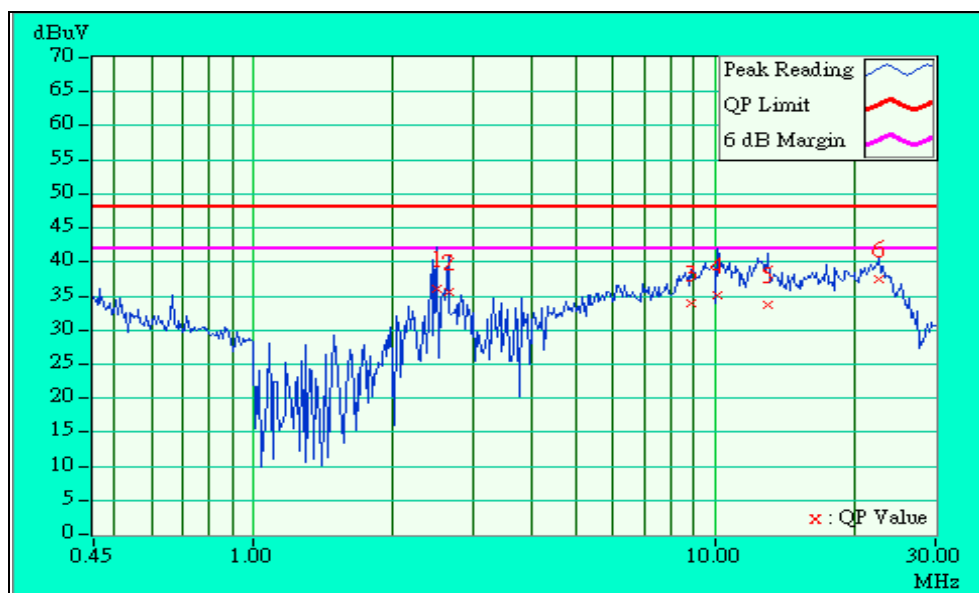


EUT	11Mbps Wireless PC Card	MODEL	NWH1010
MODE	Channel 1	6dB BANDWIDTH	10 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Neutral (N)
ENVIRONMENTAL CONDITIONS	30 deg. C, 70%RH, 1005 hPa	TESTED BY: Gary Chang	

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	2.485	0.22	35.95	-	36.17	-	48.00	-	-11.83	-
2	2.645	0.23	35.49	-	35.72	-	48.00	-	-12.28	-
3	8.879	0.38	33.94	-	34.32	-	48.00	-	-13.68	-
4	10.082	0.40	35.08	-	35.48	-	48.00	-	-12.52	-
5	12.965	0.52	33.70	-	34.22	-	48.00	-	-13.78	-
6	22.570	0.95	37.54	-	38.49	-	48.00	-	-9.51	-

NOTE:

1. QP. and AV. are abbreviations of quasi-peak and average individually.
2. "-": NA
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Emission Level = Reading Value + Correction Factor.

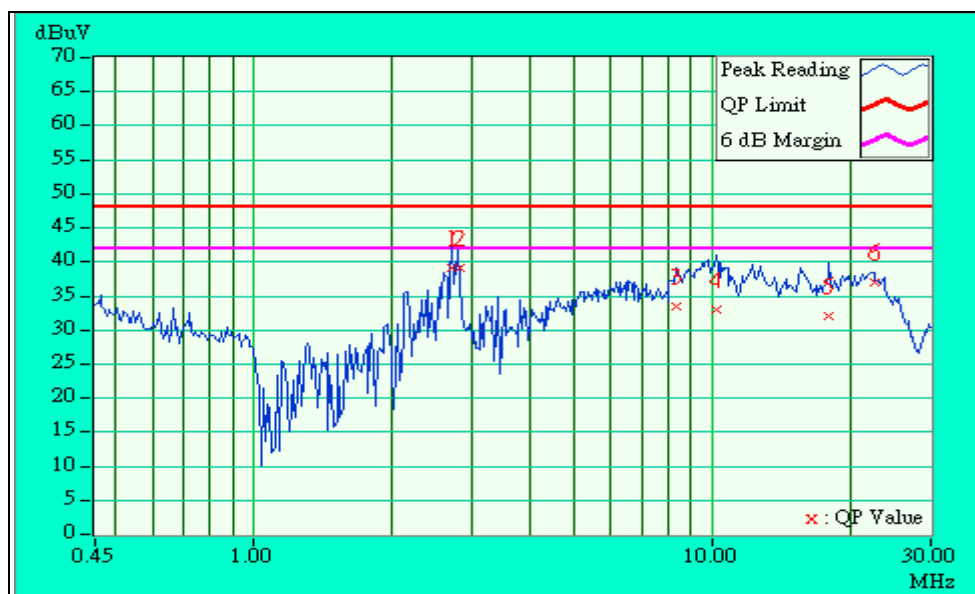


EUT	11Mbps Wireless PC Card	MODEL	NWH1010
MODE	Channel 6	6dB BANDWIDTH	10 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Line (L)
ENVIRONMENTAL CONDITIONS	30 deg. C, 70%RH, 1005 hPa	TESTED BY: Gary Chang	

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	2.697	0.23	39.11	-	39.34	-	48.00	-	-8.66	-
2	2.806	0.24	39.11	-	39.35	-	48.00	-	-8.65	-
3	8.379	0.37	33.38	-	33.75	-	48.00	-	-14.25	-
4	10.242	0.40	33.08	-	33.48	-	48.00	-	-14.52	-
5	17.969	0.56	32.02	-	32.58	-	48.00	-	-15.42	-
6	22.570	0.55	37.05	-	37.60	-	48.00	-	-10.40	-

NOTE:

1. QP. and AV. are abbreviations of quasi-peak and average individually.
2. "-": NA
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Emission Level = Reading Value + Correction Factor.

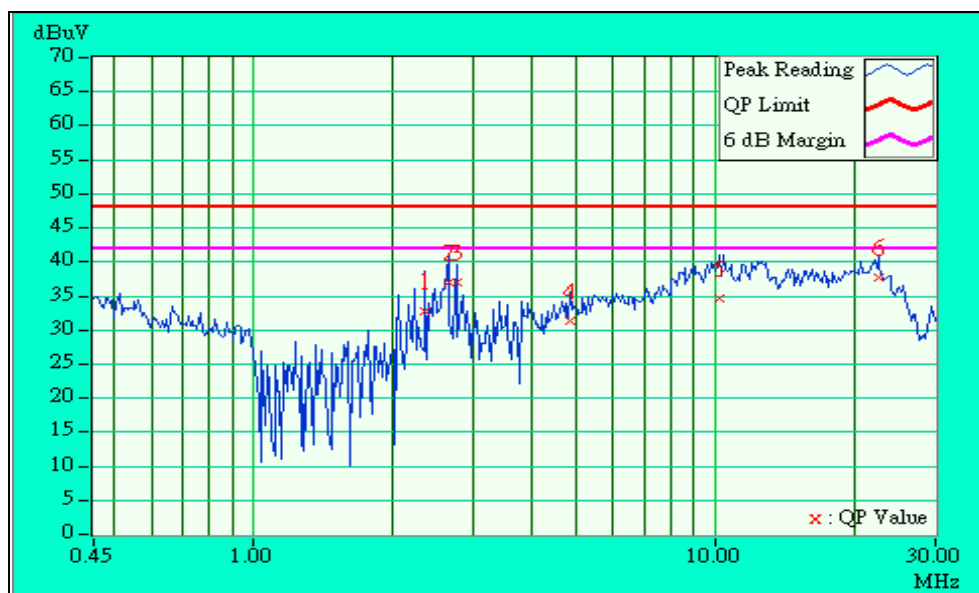


EUT	11Mbps Wireless PC Card	MODEL	NWH1010
MODE	Channel 6	6dB BANDWIDTH	10 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Neutral (N)
ENVIRONMENTAL CONDITIONS	30 deg. C, 70%RH, 1005 hPa	TESTED BY: Gary Chang	

No	Freq.	Corr. Factor	Reading Value [dB (Uv)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	2.340	0.22	32.76	-	32.98	-	48.00	-	-15.02	-
2	2.648	0.23	36.89	-	37.12	-	48.00	-	-10.88	-
3	2.754	0.24	37.05	-	37.29	-	48.00	-	-10.71	-
4	4.852	0.31	31.30	-	31.61	-	48.00	-	-16.39	-
5	10.188	0.41	34.53	-	34.94	-	48.00	-	-13.06	-
6	22.570	0.95	37.60	-	38.55	-	48.00	-	-9.45	-

NOTE:

1. QP. and AV. are abbreviations of quasi-peak and average individually.
2. "-": NA
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Emission Level = Reading Value + Correction Factor.

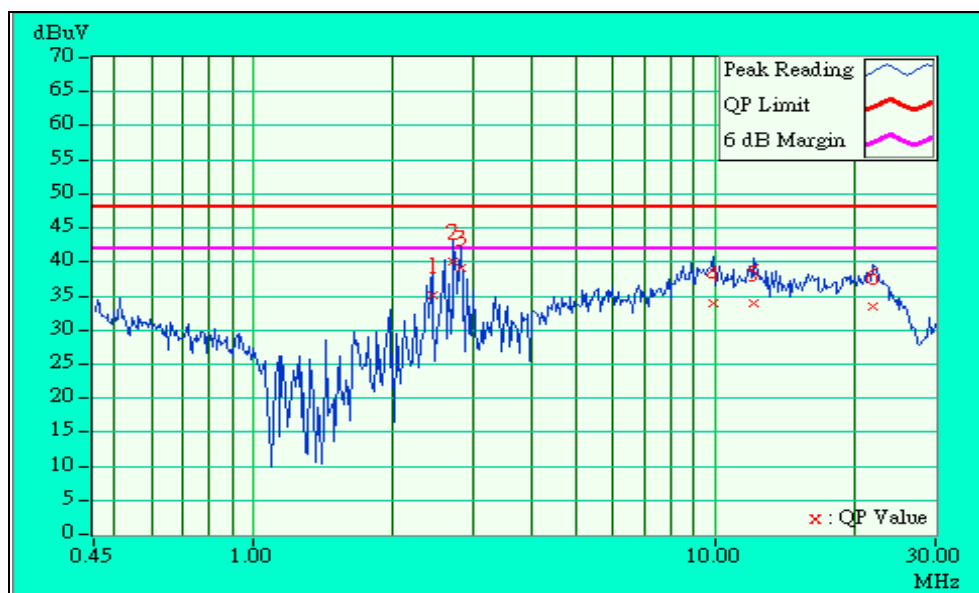


EUT	11Mbps Wireless PC Card	MODEL	NWH1010
MODE	Channel 11	6dB BANDWIDTH	10 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Line (L)
ENVIRONMENTAL CONDITIONS	30 deg. C, 70%RH, 1005 hPa	TESTED BY: Gary Chang	

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	2.438	0.22	35.06	-	35.28	-	48.00	-	-12.72	-
2	2.699	0.23	40.15	-	40.38	-	48.00	-	-7.62	-
3	2.802	0.24	39.05	-	39.29	-	48.00	-	-8.71	-
4	9.875	0.40	33.91	-	34.31	-	48.00	-	-13.69	-
5	12.180	0.44	34.01	-	34.45	-	48.00	-	-13.55	-
6	21.949	0.56	33.39	-	33.95	-	48.00	-	-14.05	-

NOTE:

1. QP. and AV. are abbreviations of quasi-peak and average individually.
2. "-": NA
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Emission Level = Reading Value + Correction Factor.

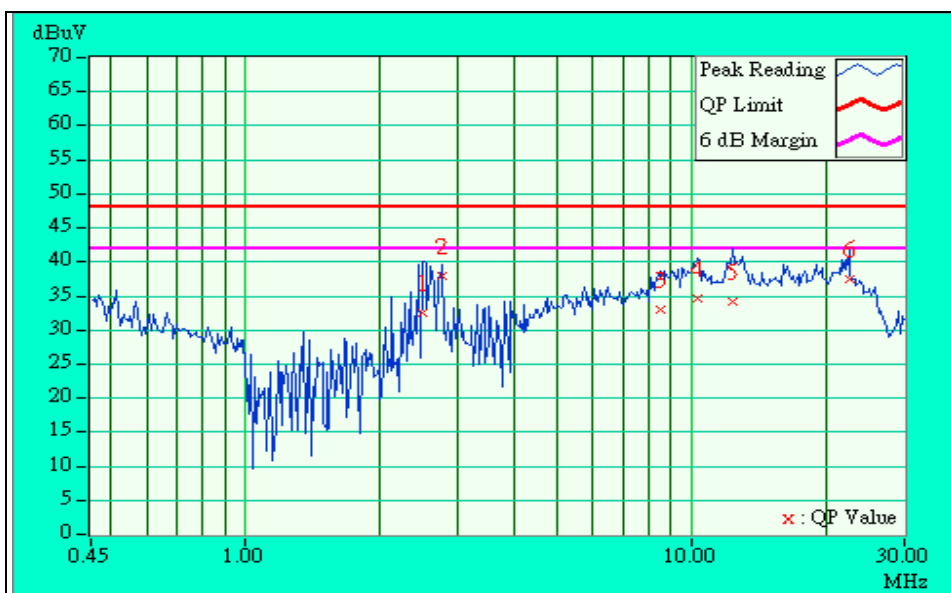


EUT	11Mbps Wireless PC Card	MODEL	NWH1010
MODE	Channel 11	6dB BANDWIDTH	10 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Netural (N)
ENVIRONMENTAL CONDITIONS	30 deg. C, 70%RH, 1005 hPa	TESTED BY: Gary Chang	

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	2.496	0.22	32.51	-	32.73	-	48.00	-	-15.27	-
2	2.750	0.24	38.03	-	38.27	-	48.00	-	-9.73	-
3	8.492	0.37	33.10	-	33.47	-	48.00	-	-14.53	-
4	10.297	0.41	34.54	-	34.95	-	48.00	-	-13.05	-
5	12.320	0.49	34.15	-	34.64	-	48.00	-	-13.36	-
6	22.570	0.95	37.50	-	38.45	-	48.00	-	-9.55	-

NOTE:

1. QP. and AV. are abbreviations of quasi-peak and average individually.
2. "-": NA
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Emission Level = Reading Value + Correction Factor.



4.2 RADIATED EMISSION MEASUREMENT

4.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT

Field strength limits are at the distance of 3 meters, emissions radiated outside of the specified bands, shall be according to the general radiated limits in 15.209 as following:

Frequencies (MHz)	Field Strength of Fundamental	
	uV/m	dBuV/m
30-88	100	40.0
88-216	150	43.5
216-960	200	46.0
Above 960	500	54.0

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
* HP Spectrum Analyzer	8590L	3544A01176	May 7, 2002
* HP Preamplifier	8447D	2944A08485	May 7, 2002
* HP Preamplifier	8449B	3008A01201	Dec. 06, 2002
* HP Preamplifier	8449B	3008A01292	Aug. 21, 2002
* ROHDE & SCHWARZ TEST RECEIVER	ESMI	839013/007 839379/002	Jan. 27, 2003
SCHWARZBECK Tunable Dipole Antenna	VHA 9103 UHA 9105	E101051 E101055	Nov. 23, 2002
* CHASE BILOG Antenna	CBL6112A	2221	Aug. 2, 2002
* SCHWARZBECK Horn Antenna	BBHA9120-D1	D130	July 6, 2002
* EMCO Horn Antenna	3115	9312-4192	April 15, 2002
* EMCO Turn Table	1060	1115	NA
* SHOSHIN Tower	AP-4701	A6Y005	NA
* Software	AS61D4	NA	NA
* ANRITSU RF Switches	MP59B	M35046	Aug. 2, 2002
* TIMES RF cable	LMR-600	CABLE-ST5-01	Aug. 2, 2002
Antenna (Horn)	BBHA9120-D	D130	July 10, 2002
Open Field Test Site	Site 5	ADT-R05	July 28, 2002
VCCI Site Registration No.	Site 5	R-1039	NA
Site Registration No.	FCC: 90422 Canada IC: IC 3789 VCCI : R-1039		

NOTE:

1. The measurement uncertainty is less than +/- 3.0dB, which is calculated as per the NAMAS document NIS81.
2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
3. "*" = These equipments are used for the final measurement.



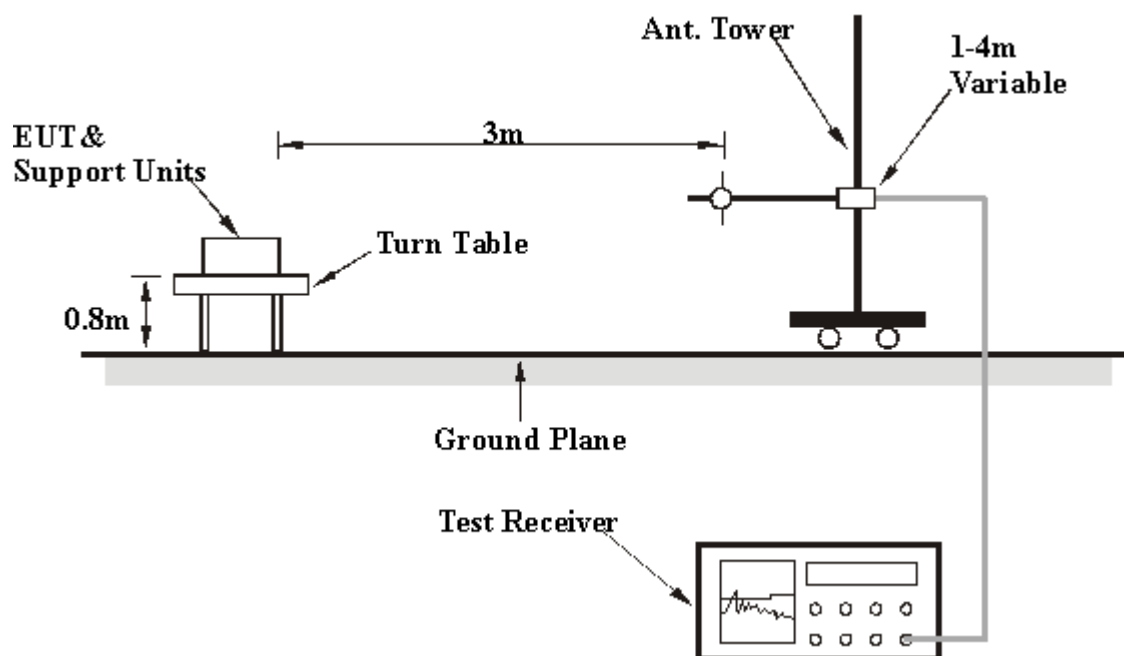
4.2.3 TEST PROCEDURES

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 10 meter open area test site. 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 300 Hz for Average detection (AV) at frequency above 1GHz.

4.2.4 TEST SETUP



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

4.2.5 EUT OPERATING CONDITIONS

Same as 4.1.5.

4.2.6 TEST RESULTS

EUT	11Mbps Wireless PC Card	MODEL	NWH1010
MODE	Channel 11	FREQUENCY RANGE	30-1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	30 deg. C, 70% RH, 1050 hPa	TESTED BY: Gary Chang	

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)	Antenna Factor (dB)	Cable Factor (dB)	Pre-Amp. Factor (dB)	Correction Factor (dB)
1	220.47	30.0 QP	46.00	-16.00	1.23H	101	18.20	10.26	1.52	0.00	-11.79
2	308.40	31.0 QP	46.00	-15.00	1.12H	296	15.70	13.38	1.91	0.00	-15.29
3	440.14	35.1 QP	46.00	-10.90	1.00H	316	16.40	16.32	2.38	0.00	-18.69
4	528.03	35.0 QP	46.00	-11.00	2.29H	305	14.80	17.62	2.60	0.00	-20.22
5	616.20	34.5 QP	46.00	-11.50	1.94H	32	12.80	18.82	2.89	0.00	-21.71
6	748.20	34.8 QP	46.00	-11.20	1.71H	84	11.40	20.14	3.26	0.00	-23.40

NOTE:

1. Emission level = Raw value - Correction Factor
2. Correction Factor = Pre-Amp. Factor - Ant. Factor - Cable loss
(Pre-Amp. Factor = 0, when a Pre-Amplifier is not used for the test.)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.

EUT	11Mbps Wireless PC Card	MODEL	NWH1010
MODE	Channel 11	FREQUENCY RANGE	30-1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	30 deg. C, 70% RH, 1050 hPa	TESTED BY: Gary Chang	

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)	Antenna Factor (dB)	Cable Factor (dB)	Pre-Amp. Factor (dB)	Correction Factor (dB)
1	264.08	32.9 QP	46.00	-13.10	2.35V	74	18.50	12.75	1.70	0.00	-14.45
2	527.07	34.4 QP	46.00	-11.60	2.21V	103	14.20	17.62	2.60	0.00	-20.22
3	660.03	35.1 QP	46.00	-10.90	1.68V	71	12.80	19.25	3.05	0.00	-22.29
4	748.50	33.9 QP	46.00	-12.10	2.27V	171	10.50	20.14	3.26	0.00	-23.40
5	792.02	35.4 QP	46.00	-10.60	1.17V	330	11.50	20.60	3.31	0.00	-23.91
6	880.17	32.6 QP	46.00	-13.40	1.24V	68	8.40	20.68	3.55	0.00	-24.24

NOTE:

1. Emission level = Raw value - Correction Factor
2. Correction Factor = Pre-Amp. Factor - Ant. Factor - Cable loss
(Pre-Amp. Factor = 0, when a Pre-Amplifier is not used for the test.)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.

EUT	11Mbps Wireless PC Card	MODEL	NWH1010
MODE	Channel 1	FREQUENCY RANGE	Above 1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	30 deg. C, 70% RH, 1050 hPa	TESTED BY: Gary Chang	

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)	Antenna Factor (dB)	Cable Factor (dB)	Pre-Amp. Factor (dB)	Correction Factor (dB)
1	2037.80	47.7 PK	74.00	-26.30	1.22H	191	19.12	25.27	3.29	0.00	-28.57
2	*2413.50	101.7 PK	-	-	1.45H	310	70.85	27.19	3.62	0.00	-30.82
3	*2413.50	91.0 AV	-	-	1.45H	310	60.20	27.19	3.62	0.00	-30.82
4	4075.80	50.7 PK	74.00	-23.30	1.84H	96	15.80	30.18	4.77	0.00	-34.96
5	4824.40	50.9 PK	74.00	-23.10	1.26H	293	14.30	31.43	5.21	0.00	-36.64
6	6113.20	48.3 PK	74.00	-25.70	1.25H	301	9.50	32.83	5.98	0.00	-38.81

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)	Antenna Factor (dB)	Cable Factor (dB)	Pre-Amp. Factor (dB)	Correction Factor (dB)
1	2037.70	47.2 PK	74.00	-26.80	1.00V	139	18.60	25.27	3.29	0.00	-28.57
2	*2413.60	103.9 PK	-	-	1.05V	57	73.06	27.19	3.62	0.00	-30.81.
3	*2413.60	92.3 AV	-	-	1.05V	57	61.50	27.19	3.62	0.00	-30.81.
4	4075.50	50.0 PK	74.00	-24.00	1.85V	48	15.10	30.18	4.77	0.00	-34.96
5	4824.50	49.8 PK	74.00	-24.20	1.05V	13	13.20	31.43	5.21	0.00	-36.65
6	6113.20	48.2 PK	74.00	-25.80	1.85V	124	9.40	32.83	5.98	0.00	-38.82

NOTE:

1. Emission level = Raw value - Correction Factor
2. Correction Factor = Pre-Amp. Factor - Ant. Factor - Cable loss
(Pre-Amp. Factor = 0, when a Pre-Amplifier is not used for the test.)
3. Margin value = Emission level - Limit value
4. " * " : Fundamental frequency
5. The other emission levels were very low against the limit.

EUT	11Mbps Wireless PC Card	MODEL	NWH1010
MODE	Channel 6	FREQUENCY RANGE	Above 1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	30 deg. C, 70% RH, 1050 hPa	TESTED BY: Gary Chang	

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)	Antenna Factor (dB)	Cable Factor (dB)	Pre-Amp. Factor (dB)	Correction Factor (dB)
1	2062.90	47.1 PK	74.00	-26.90	1.00H	268	18.40	25.39	3.31	0.00	-28.70
2	*2438.50	103.5 PK	-	-	1.48H	60	72.53	27.30	3.64	0.00	-30.94.
3	*2438.50	92.4 AV	-	-	1.48H	60	61.50	27.30	3.64	0.00	-30.94.
4	4125.50	49.3 PK	74.00	-24.70	1.25H	203	14.20	30.28	4.79	0.00	-35.07
5	4874.50	51.4 PK	74.00	-22.60	1.18H	122	14.70	31.47	5.25	0.00	-36.72
6	6188.30	48.3 PK	74.00	-25.70	1.37H	171	9.10	33.19	6.01	0.00	-39.20
7	8251.00	56.1 PK	74.00	-17.90	1.25H	230	12.40	36.70	7.01	0.00	-43.71
8	8251.00	46.1 AV	54.00	-7.90	1.25H	230	2.40	36.70	7.01	0.00	-43.71

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)	Antenna Factor (dB)	Cable Factor (dB)	Pre-Amp. Factor (dB)	Correction Factor (dB)
1	2063.50	47.1 PK	74.00	-26.90	1.02V	230	18.40	25.39	3.31	0.00	-28.70
2	*2438.50	105.0 PK	-	-	1.02V	36	74.07	27.30	3.64	0.00	-30.94.
3	*2438.50	95.1 AV	-	-	1.02V	36	64.20	27.30	3.64	0.00	-30.94.
4	4125.90	50.9 PK	74.00	-23.10	1.11V	113	15.80	30.28	4.79	0.00	-35.07
5	4874.30	50.3 PK	74.00	-23.70	1.39V	187	13.60	31.47	5.25	0.00	-36.72
6	6188.20	49.4 PK	74.00	-24.60	1.50V	205	10.20	33.19	6.01	0.00	-39.20

NOTE:

1. Emission level = Raw value - Correction Factor
2. Correction Factor = Pre-Amp. Factor - Ant. Factor - Cable loss
(Pre-Amp. Factor = 0, when a Pre-Amplifier is not used for the test.)
3. Margin value = Emission level - Limit value
4. " * " : Fundamental frequency
5. The other emission levels were very low against the limit.

EUT	11Mbps Wireless PC Card	MODEL	NWH1010
MODE	Channel 11	FREQUENCY RANGE	Above 1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	30 deg. C, 70% RH, 1050 hPa	TESTED BY: Gary Chang	

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)	Antenna Factor (dB)	Cable Factor (dB)	Pre-Amp. Factor (dB)	Correction Factor (dB)
1	2087.70	47.8 PK	74.00	-26.20	1.20H	281	19.00	25.50	3.33	0.00	-28.83
2	*2463.50	104.6 PK	-	-	1.10H	5	73.50	27.41	3.66	0.00	-31.08
3	*2463.50	97.2 AV	-	-	1.10H	5	66.10	27.41	3.66	0.00	-31.08
4	2483.50	54.4 PK	74.00	-19.60	1.23H	223	23.20	27.52	3.68	0.00	-31.20.
5	2483.50	41.6 AV	54.00	-12.40	1.23H	223	10.40	27.52	3.68	0.00	-31.20
6	4175.10	51.4 PK	74.00	-22.60	2.02H	306	16.20	30.38	4.81	0.00	-35.19
7	4924.40	51.0 PK	74.00	-23.00	1.31H	204	14.20	31.51	5.28	0.00	-36.80
8	6263.20	50.4 PK	74.00	-23.60	1.89H	304	10.87	33.46	6.03	0.00	-39.49

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)	Antenna Factor (dB)	Cable Factor (dB)	Pre-Amp. Factor (dB)	Correction Factor (dB)
1	2087.90	46.9 PK	74.00	-27.10	1.21V	179	18.12	25.50	3.33	0.00	-28.83
2	*2463.70	104.1 PK	-	-	1.03V	347	73.06	27.41	3.66	0.00	-31.08
3	*2463.70	96.2 AV	-	-	1.03V	347	65.10	27.41	3.66	0.00	-31.08
4	2483.50	49.1 PK	74.00	-24.90	1.51V	6	17.90	27.52	3.68	0.00	-31.21
5	4175.40	50.9 PK	74.00	-23.10	1.68V	351	15.70	30.38	4.81	0.00	-35.19
6	4924.60	51.0 PK	74.00	-23.00	1.36V	93	14.20	31.51	5.28	0.00	-36.81
7	6263.20	47.9 PK	74.00	-26.10	1.25V	124	8.40	33.46	6.03	0.00	-39.50

NOTE:

1. Emission level = Raw value - Correction Factor
2. Correction Factor = Pre-Amp. Factor - Ant. Factor - Cable loss
(Pre-Amp. Factor = 0, when a Pre-Amplifier is not used for the test.)
3. Margin value = Emission level - Limit value
4. " * " : Fundamental frequency
5. The other emission levels were very low against the limit.