

FCC TEST REPORT

REPORT NO.: RF921121H01

MODEL NO.: RT410W-D92(LF)

RECEIVED: Nov. 21, 2003

TESTED: Nov. 21 to Dec. 18, 2003

APPLICANT: ASKEY COMPUTER CORP.

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ISSUED BY: Advance Data Technology Corporation

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1. CERTIFICATION

PRODUCT : 802.11 a/b/g Wireless Module
BRAND NAME : Askey
MODEL NO. : RT410W-D92(LF)
APPLICANT : ASKEY COMPUTER CORP.
STANDARDS : 47 CFR Part 15, Subpart C (Section 15.247),
Subpart E (Section 15.407), ANSI C63.4-1992

We, **Advance Data Technology Corporation**, hereby certify that one sample of the designation has been tested in our facility from Nov. 21 to Dec. 18, 2003. 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.

PREPARED BY: Carol Liao, **DATE:** Dec. 19, 2003
(Carol Liao)

APPROVED BY: Eric Lin, **DATE:** Dec. 19, 2003
(Eric Lin, 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	PASS	Meet the requirement of limit Minimum passing margin is -12.15dBuV at 0.201MHz
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)	Radiated Emissions Limit: Table 15.209	PASS	Meet the requirement of limit Minimum passing margin is -4.7dBuV at 4874 MHz
15.247(d)	Power Spectral Density Limit: max. 8dBm	PASS	Meet the requirement of limit
15.247(c)	Band Edge Measurement Limit: 20dB less than the peak value of fundamental frequency	PASS	Meet the requirement of limit



APPLIED STANDARD: 47 CFR Part 15, Subpart E			
Standard Section	Test Type	Result	REMARK
15.407(b)(5)	AC Power Conducted Emission	PASS	Meet the requirement of limit Minimum passing margin is -12.03dBuV at 0.201MHz
15.407(b/1/2/3)(b)(5)	Electric Field Strength Spurious Emissions, 30 MHz – 40000 MHz	PASS	Meet the requirement of limit Minimum passing margin is -3.3dBuV at 10640MHz
15.407(a/1/2/3)	Peak Transmit Power	PASS	Meet the requirement of limit
15.407(a)(6)	Peak Power Excursion	PASS	Meet the requirement of limit
15.407(a/1/2/3)	Peak Power Spectral Density	PASS	Meet the requirement of limit
15.407(g)	Frequency Stability	PASS	Meet the requirement of limit

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	802.11 a/b/g Wireless Module
MODEL NO.	RT410W-D92(LF)
POWER SUPPLY	12VDC from POE
MODULATION	DSSS, OFDM
TRANSFER RATE	802.11b and draft 802.11g: 1/2/5.5/6/9/11/12/18/24/36/48/54Mbps 802.11a: 6 to 54Mbps (Turbo mode: up to 108Mbps *see note 1)
FREQUENCY RANGE	802.11b and draft 802.11g: 2400MHz ~ 2483.5MHz 802.11a: 5.15~5.35GHz
NUMBER OF CHANNEL	802.11b and draft 802.11g: 11 802.11a: 8 for Normal mode / 3 for Turbo mode
CHANNEL SPACING	802.11b and draft 802.11g: 5MHz 802.11a: 20MHz for Normal mode / 40MHz for Turbo mode
OUTPUT POWER	802.11b: 18.46dBm / draft 802.11g: 18.42dBm 802.11a: 18.02dBm
DATA CABLE	NA
ANTENNA TYPE	shape Antenna
I/O PORTS	NA
ASSOCIATED DEVICES	NA

NOTE:

1. This EUT is capable of providing data rates of up to 108Mbps in Turbo Mode depending upon reception quality.

2. The EUT was powered by following POE (Power Over Ethernet):

Brand:	Sony
Model No.:	PCWA-AC04
Input power :	AC100V-240V, 0.29A-0.16A, 50/60Hz
Output power :	DC 12V, 1A DC Cable:1.8m/unshielded/without core
*The POE supplied power to EUT via POE port, only used on testing.	

3. Dual-band, the EUT communicates with Wireless-A (802.11a), Wireless-B, (802.11b), and Wireless-G (draft 802.11g) wireless networks.
4. For more detailed features description, please refer to the manufacturer's specifications or User's Manual.

3.2 DESCRIPTION OF TEST MODES

For 802.11b: 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 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. Transfer rate, 11Mbps with CCK technique and 6Mbps with OFDM technique, the worst case, were chosen for final test.

For 802.11g: 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		
6 (Turbo)	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. Transfer rate, 11Mbps with CCK technique and 6Mbps with OFDM technique, the worst case, were chosen for final test.
4. "Turbo Mode" allows data rates of up to 108Mbps. At data rates higher than 12Mbps the PA gain is reduced to improve signal fidelity. The device was, therefore, tested in turbo mode at the data rate that produced the highest output power for turbo mode (12Mbps).



For 802.11a: Eight channels are provided to this EUT for Normal mode.

Channel	Frequency	Channel	Frequency
1	5180 MHz	7	5300 MHz
2	5200 MHz	8	5320 MHz
3	5220 MHz		
4	5240 MHz		
5	5260 MHz		
6	5280 MHz		

Three channels are provided to this EUT for Turbo Mode.

Dynamic		Static	
Channel	Frequency	Channel	Frequency
1	5200 MHz	1	5210 MHz
2	5240 MHz	2	5250 MHz
3	5280 MHz	3	5290 MHz

NOTE:

1. The EUT was tested in both normal mode (channel bandwidth of approximately 20MHz) and turbo mode (channel bandwidth of approximately 40MHz).
2. "Normal Mode" allows data rates of up to 54Mbps. The device was, therefore, tested in Normal mode at the data rate that produced the highest output power for normal mode (6Mbps).
3. "Turbo Mode" allows data rates of up to 108Mbps. At data rates higher than 12Mbps the PA gain is reduced to improve signal fidelity. The device was, therefore, tested in turbo mode at the data rate that produced the highest output power for turbo mode (12Mbps).
4. Channel 1, 4, 5 and 8 are the closest frequencies to the band edge, were chosen for final test of Normal Mode.
5. Channel 1 ~ 3 were chosen for final test of turbo mode.
6. There are two test result were presented in the turbo mode, test result A is for **Dynamic** and test result B is for **Static**.



3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is an 802.11 a/b/g Wireless Module According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

**47 CFR Part 15, Subpart C. (15.247),
Subpart E (15.407). 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 47CFR Part 15, Subpart B, Class B (DoC). The test report has been issued separately.

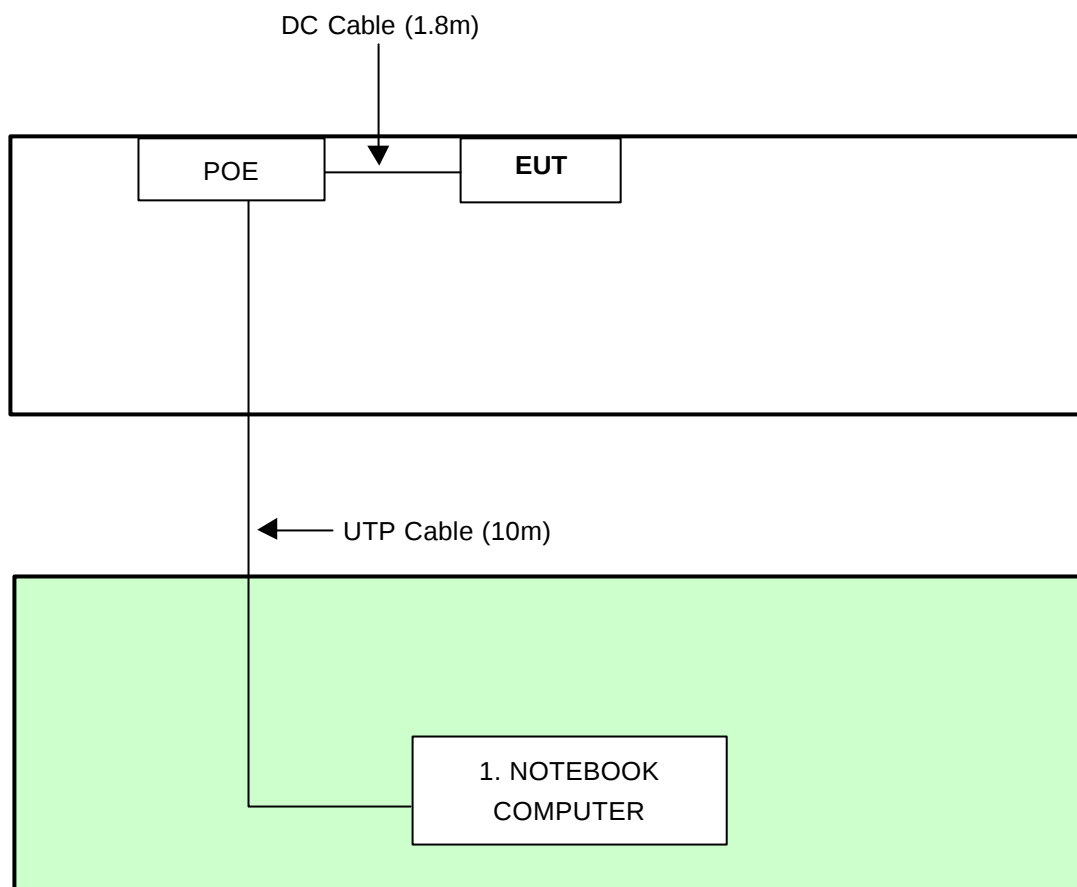
3.4 DESCRIPTION OF SUPPORT UNITS

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	DELL	PP01L	TW-09C748-12800-1A3-1999	FCC DoC

No.	Signal cable description
1	NA

Note: 1. All power cords of the above support units are unshielded (1.8m).



NOTE: 1. Support unit 1 was kept in the control room during the test.
2. Please refer to the photos of test configuration in Item 6 also.

4. TEST TYPES AND RESULTS (FOR PART 802.11b/g)

4.1 CONDUCTED EMISSION MEASUREMENT

4.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY OF EMISSION (MHz)	CONDUCTED LIMIT (dBμV)	
	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
ROHDE & SCHWARZ Test Receiver	ESCS 30	847124/029	Nov. 17, 2004
ROHDE & SCHWARZ LISN (for EUT)	ESHS-Z5	848773/004	Nov. 13, 2004
KYORITSU LISN (for peripheral)	KNW-407	8/1395/12	Jul. 23, 2004
RF Cable (JETBAO)	RG233/U	Cable_CA_01	Jul. 03, 2004
Terminator(for KYORITSU)	50	3	Apr. 11, 2004
Software	Cond-V2e	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 ADT Shielded Room No. A.
 3. The VCCI Con A Registration No. is C-817.



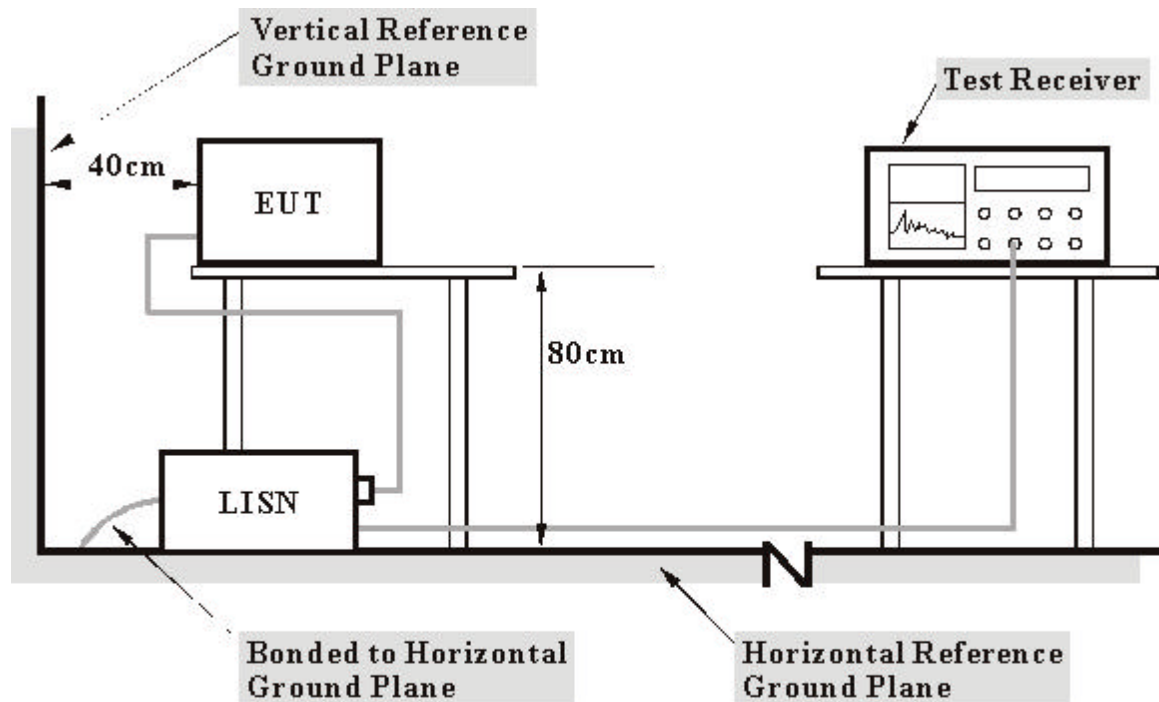
4.1.3 TEST PROCEDURES

- 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 over 10dB under the prescribed limits could not be reported

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

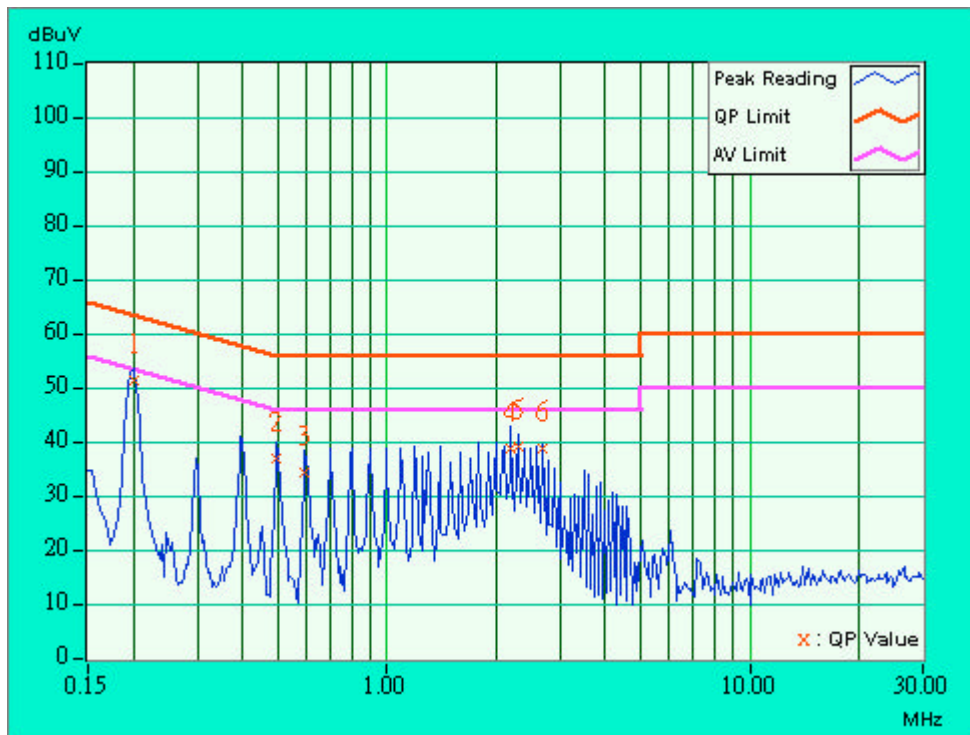
- a. Placed the EUT on the testing table.
- b. Prepared another computer system to act as a communication partner and placed it outside of testing area.
- c. The communication partner run a test program "Atheros 4.6 Build 6" to enable EUT under transmission/receiving condition continuously at specific channel frequency via RJ 45 cable and wireless.

4.1.7 TEST RESULTS

EUT	802.11 a/b/g Wireless Module		
MODEL	RT410W-D92(LF)	6dB BANDWIDTH	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	PHASE	Line (L)
ENVIRONMENTAL CONDITIONS	25deg. C, 50%RH, 976 hPa	TESTED BY	Eric Lee

No	Freq. [MHz]	Corr.	Reading Value		Emission Level		Limit		Margin	
		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.201	0.20	51.23	-	51.43	-	63.58	53.58	-12.15	-
2	0.498	0.22	36.57	-	36.79	-	56.04	46.04	-19.25	-
3	0.595	0.23	34.27	-	34.50	-	56.00	46.00	-21.50	-
4	2.193	0.31	38.72	-	39.03	-	56.00	46.00	-16.97	-
5	2.295	0.31	38.89	-	39.20	-	56.00	46.00	-16.80	-
6	2.693	0.33	38.73	-	39.06	-	56.00	46.00	-16.94	-

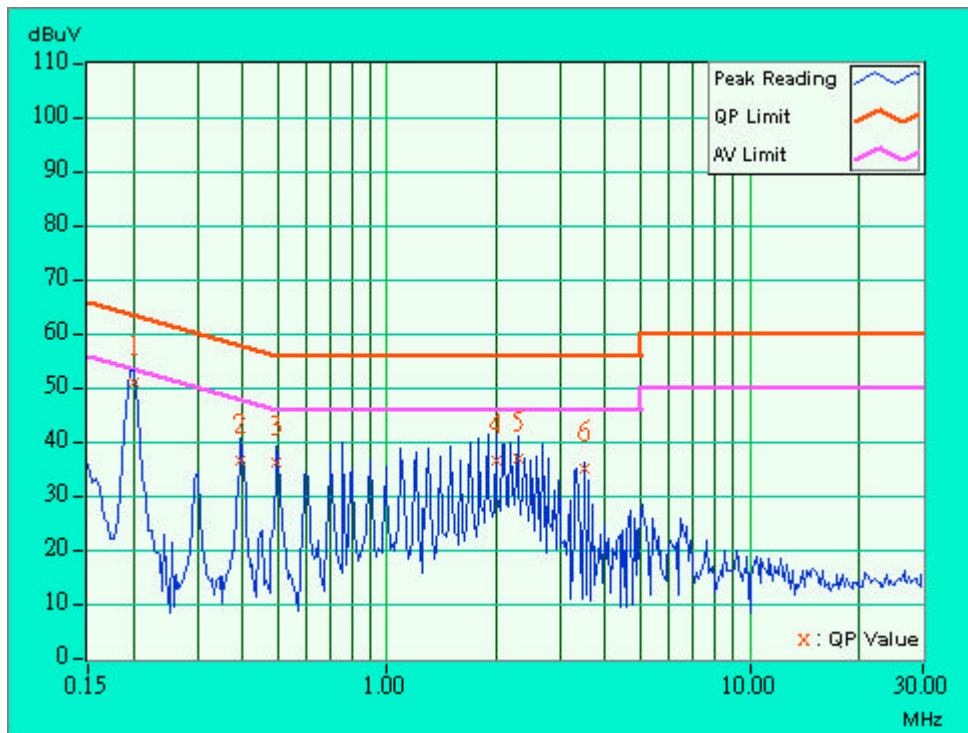
- NOTES:** (1) "-": Undetectable
(2) Q.P. and AV. are abbreviations of quasi-peak and average.
(3) "-": The Quasi-peak reading value also meets an average limit, thus measurement with the average detector is unnecessary.
(4) The emission levels of other frequencies were very low against the limit.
(5)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



EUT	802.11 a/b/g Wireless Module		
MODEL	RT410W-D92(LF)	6dB BANDWIDTH	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	PHASE	Neutral (N)
ENVIRONMENTAL CONDITIONS	25deg. C, 50%RH, 976 hPa	TESTED BY	Eric Lee

No	Freq. [MHz]	Corr.	Reading Value		Emission Level		Limit		Margin	
		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.201	0.20	50.77	-	50.97	-	63.58	53.58	-12.61	-
2	0.396	0.20	36.26	-	36.46	-	57.93	47.93	-21.47	-
3	0.498	0.22	36.05	-	36.27	-	56.04	46.04	-19.77	-
4	1.994	0.30	36.15	-	36.45	-	56.00	46.00	-19.55	-
5	2.295	0.31	36.77	-	37.08	-	56.00	46.00	-18.92	-
6	3.484	0.37	34.82	-	35.19	-	56.00	46.00	-20.81	-

- NOTES:** (1) "*": Undetectable
(2) Q.P. and AV. are abbreviations of quasi-peak and average.
(3) "-": The Quasi-peak reading value also meets an average limit, thus measurement with the average detector is unnecessary.
(4) The emission levels of other frequencies were very low against the limit.
(5) Correction Factor = Insertion loss + Cable loss
(6) Margin value = Emission level - Limit 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
HP Spectrum Analyzer	8590L	3829A02338	Sep. 10, 2004
*ADVANTEST Spectrum Analyzer	R3271A	85060311	May 21, 2004
CHASE RF Pre_Amplifier	CPA9232	1001	Mar. 02, 2004
*HP Pre_Amplifier	8449B	3008A01281	Nov. 27, 2004
*ROHDE & SCHWARZ Test Receiver	ESCS 30	100027	May 23, 2004
*CHASE Broadband Antenna	CBL6112B	2502	Jul. 31, 2004
*Schwarzbeck Horn_Antenna	BBHA9120-D1	D123	Jul. 31, 2004
SCHWARZBECK Tunable Dipole Antenna	UHAP	897	Mar. 07, 2005
SCHWARZBECK Tunable Dipole Antenna	VHAP	880	Mar. 07, 2005
*RF Switches	MP59B	M50867	Jul. 31, 2004
*RF Cable(JETBAO)	BELDN RG-214	Cable_OA_01	Jul. 31, 2004
*Software	AS60P8	NA	NA
*EMCO Antenna Tower	2075-2	9712-2124	NA
*EMCO Turn Table	2081-1.53	9712-2030	NA
*CORCOM AC Filter	MRI2030	107/108	NA

Note: 1. The calibration interval of the above test instruments is 12 months (36 months for Tunable Dipole Antenna) and the calibrations are traceable to NML/ROC and NIST/USA.

2. * = These equipment are used for the final measurement.
3. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
4. The test was performed in ADT Open Site No. A.
5. The VCCI Site Registration No. is R-782.
6. The FCC Site Registration No. is 91097.
7. The CANADA Site Registration No. is IC 3789-C.

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 the quasi-peak method or average method as specified and then reported in Data sheet peak mode and QP mode.

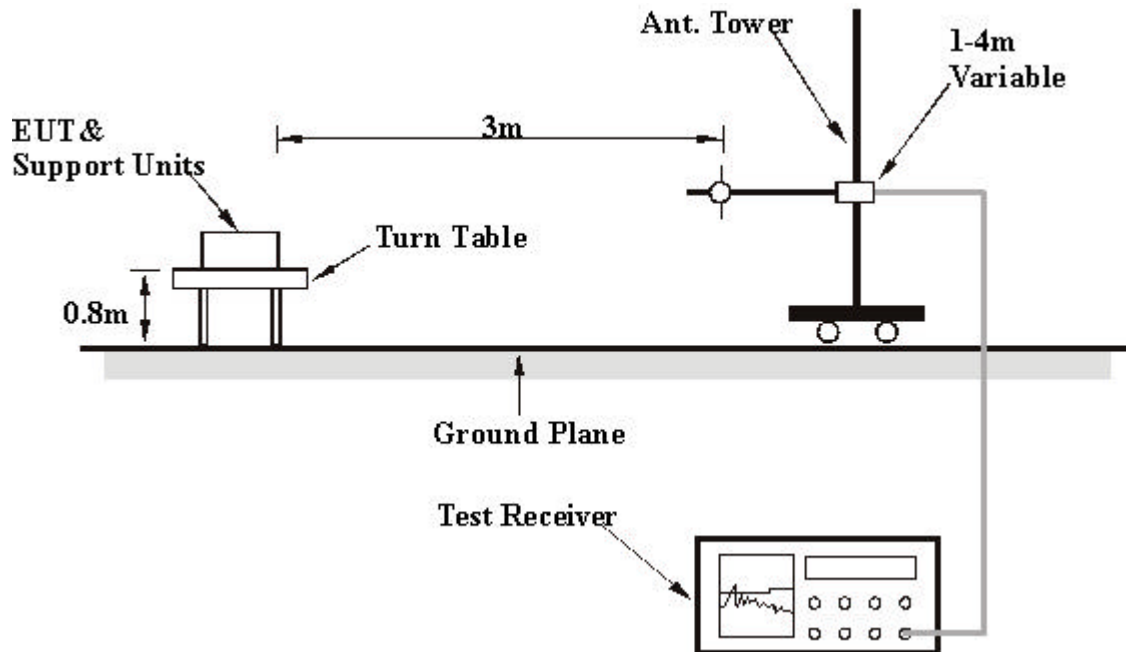
NOTE:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection at frequency below 1GHz.
2. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1 MHz for Peak detection (PK) 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 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	802.11 a/b/g Wireless Module		
MODEL	RT410W-D92(LF)	FREQUENCY RANGE	30-1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	26deg. C, 71%RH, 976 hPa	TESTED BY	Eric Lee

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	119.88	26.10 QP	43.50	-17.40	1.80 H	67	12.10	14.10
2	125.33	28.30 QP	43.50	-15.20	1.02 H	223	13.60	14.70
3	250.04	35.00 QP	46.00	-11.00	1.00 H	210	20.70	14.30
4	360.01	33.50 QP	46.00	-12.50	1.09 H	183	16.20	17.30
5	375.05	31.70 QP	46.00	-14.30	1.00 H	263	13.80	17.90
6	450.02	34.80 QP	46.00	-11.20	1.00 H	45	15.50	19.30
7	540.01	38.10 QP	46.00	-7.90	1.81 H	11	16.10	22.00
8	630.00	38.30 QP	46.00	-7.70	1.33 H	45	15.90	22.40
9	720.01	33.00 QP	46.00	-13.00	1.58 H	237	10.00	23.00
10	810.01	37.00 QP	46.00	-9.00	1.00 H	155	12.80	24.10

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	200.27	25.60 QP	43.50	-17.90	1.64 V	156	14.50	11.10
2	249.99	28.20 QP	46.00	-17.80	1.74 V	317	13.90	14.30
3	300.01	28.70 QP	46.00	-17.30	1.92 V	9	13.20	15.60
4	450.00	32.20 QP	46.00	-13.80	1.85 V	174	12.90	19.30
5	539.99	33.80 QP	46.00	-12.20	1.84 V	301	11.80	22.00
6	563.77	35.90 QP	46.00	-10.10	1.03 V	60	13.70	22.20
7	600.02	30.70 QP	46.00	-15.30	1.44 V	105	8.80	22.00
8	630.01	35.70 QP	46.00	-10.30	1.05 V	294	13.30	22.40
9	719.93	33.10 QP	46.00	-12.90	1.14 V	163	10.00	23.00
10	810.01	35.70 QP	46.00	-10.30	1.13 V	259	11.60	24.10

- 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.

TEST RESULTS - DSSS

EUT	802.11 a/b/g Wireless Module	MODEL	RT410W-D92(LF)
MODE	Channel 1	FREQUENCY RANGE	1000 ~ 25000 MHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	27deg. C, 76%RH, 976 hPa	TESTED BY	Eric Lee

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	2386.00	52.70 PK	74.00	-21.30	1.11 H	8	22.90	29.80
1	2386.00	43.00 AV	54.00	-11.00	1.11 H	8	13.20	29.80
2	2390.00	53.90 PK	74.00	-20.10	1.02 H	14	24.10	29.80
2	2390.00	42.90 AV	54.00	-11.10	1.02 H	14	13.10	29.80
3	*2412.00	101.00 PK			1.21 H	148	71.10	29.90
3	*2412.00	95.00 AV			1.21 H	148	65.10	29.90
4	4824.00	58.80 PK	74.00	-15.20	1.04 H	180	22.60	36.20
4	4824.00	48.60 AV	54.00	-5.40	1.04 H	180	12.40	36.20
5	7236.00	53.50 PK	74.00	-20.50	1.25 H	85	11.90	41.70
5	7236.00	41.00 AV	54.00	-13.00	1.25 H	85	-0.70	41.70
6	9648.00	56.20 PK	74.00	-17.80	1.58 H	350	11.30	44.90
6	9648.00	43.90 AV	54.00	-10.10	1.58 H	350	-1.00	44.90

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	2386.00	59.00 PK	74.00	-15.00	1.42 V	52	29.20	29.80
1	2386.00	47.60 AV	54.00	-6.40	1.42 V	52	17.80	29.80
2	2390.00	56.40 PK	74.00	-17.60	1.54 V	74	26.60	29.80
2	2390.00	47.90 AV	54.00	-6.10	1.54 V	74	18.00	29.80
3	*2412.00	104.00 PK			1.23 V	223	74.10	29.90
3	*2412.00	98.90 AV			1.23 V	223	69.00	29.90
4	4824.00	56.80 PK	74.00	-17.20	1.11 V	179	20.50	36.20
4	4824.00	46.50 AV	54.00	-7.50	1.11 V	179	10.30	36.20
5	7236.00	51.60 PK	74.00	-22.40	1.02 V	57	10.00	41.70
5	7236.00	38.60 AV	54.00	-15.40	1.02 V	57	-3.10	41.70
6	9648.00	55.00 PK	74.00	-19.00	1.09 V	78	10.10	44.90
6	9648.00	42.40 AV	54.00	-11.60	1.09 V	78	-2.50	44.90

NOTE:

1. Emission level = Raw value + Correction Factor
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. The limit value is defined as per 15.247
6. " * " : Fundamental frequency

EUT	802.11 a/b/g Wireless Module	MODEL	RT410W-D92(LF)
MODE	Channel 6	FREQUENCY RANGE	1000 ~ 25000 MHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	27deg. C, 76%RH, 976 hPa	TESTED BY	Eric Lee

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	*2437.00	100.90 PK			1.29 H	156	70.90	30.00
1	*2437.00	94.50 AV			1.29 H	156	64.50	30.00
2	4874.00	59.70 PK	74.00	-14.30	1.11 H	52	23.20	36.50
2	4874.00	49.30 AV	54.00	-4.70	1.11 H	52	12.80	36.50
3	7311.00	54.10 PK	74.00	-19.90	1.11 H	36	12.30	41.80
3	7311.00	41.10 AV	54.00	-12.90	1.11 H	36	-0.60	41.80
4	9748.00	56.50 PK	74.00	-17.50	1.30 H	258	11.90	44.60
4	9748.00	44.20 AV	54.00	-9.80	1.30 H	258	-0.40	44.60

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	*2437.00	106.70 PK			1.21 V	273	76.70	30.00
1	*2437.00	99.00 AV			1.21 V	273	69.00	30.00
2	4874.00	56.00 PK	74.00	-18.00	1.58 V	52	19.50	36.50
2	4874.00	46.30 AV	54.00	-7.70	1.58 V	52	9.80	36.50
3	7311.00	51.60 PK	74.00	-22.40	1.02 V	47	9.90	41.80
3	7311.00	38.10 AV	54.00	-15.90	1.02 V	47	-3.70	41.80
4	9748.00	53.90 PK	74.00	-20.10	1.00 V	222	9.30	44.60
4	9748.00	40.60 AV	54.00	-13.40	1.00 V	222	-4.10	44.60

NOTE:

1. Emission level = Raw value + Correction Factor
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. The limit value is defined as per 15.247
6. " * " : Fundamental frequency



EUT	802.11 a/b/g Wireless Module	MODEL	RT410W-D92(LF)
MODE	Channel 11	FREQUENCY RANGE	1000 ~ 25000 MHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	27deg. C, 76%RH, 976 hPa	TESTED BY	Eric Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3M

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	*2462.00	102.00 PK			1.31 H	187	71.90	30.10
1	*2462.00	95.70 AV			1.31 H	187	65.60	30.10
2	2483.50	52.00 PK	74.00	-22.00	1.47 H	6	21.90	30.10
2	2483.50	42.10 AV	54.00	-11.90	1.47 H	6	12.00	30.10
3	2488.00	49.70 PK	74.00	-24.30	1.82 H	20	19.60	30.10
4	4924.00	59.40 PK	74.00	-14.60	1.52 H	202	22.70	36.70
4	4924.00	49.10 AV	54.00	-4.90	1.52 H	202	12.50	36.70
5	7386.00	54.90 PK	74.00	-19.10	1.09 H	67	13.10	41.80
5	7386.00	40.70 AV	54.00	-13.30	1.09 H	67	-1.20	41.80
6	9848.00	56.00 PK	74.00	-18.00	1.11 H	47	11.70	44.40
6	9848.00	43.20 AV	54.00	-10.80	1.11 H	47	-1.10	44.40

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3M

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	*2462.00	106.00 PK			1.18 V	274	75.90	30.10
1	*2462.00	99.10 AV			1.18 V	274	69.00	30.10
2	2483.50	57.00 PK	74.00	-17.00	1.37 V	85	26.90	30.10
2	2483.50	48.00 AV	54.00	-6.00	1.37 V	85	17.90	30.10
3	2488.00	55.00 PK	74.00	-19.00	1.38 V	86	24.90	30.10
3	2488.00	45.90 AV	54.00	-8.10	1.38 V	86	15.80	30.10
4	4924.00	57.90 PK	74.00	-16.10	1.47 V	45	21.20	36.70
4	4924.00	46.20 AV	54.00	-7.80	1.47 V	45	9.60	36.70
5	7386.00	51.50 PK	74.00	-22.50	1.08 V	98	9.60	41.80
5	7386.00	38.30 AV	54.00	-15.70	1.08 V	98	-3.50	41.80
6	9848.00	53.10 PK	74.00	-20.90	1.02 V	47	8.80	44.40
6	9848.00	40.70 AV	54.00	-13.30	1.02 V	47	-3.70	44.40

NOTE:

1. Emission level = Raw value + Correction Factor
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. The limit value is defined as per 15.247
6. " * " : Fundamental frequency

TEST RESULTS - OFDM

EUT	802.11 a/b/g Wireless Module	MODEL	RT410W-D92(LF)
MODE	Channel 1	FREQUENCY RANGE	1000 ~ 25000 MHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	27deg. C, 76%RH, 976 hPa	TESTED BY	Eric Lee

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	2390.00	49.00 PK	74.00	-25.00	1.58 H	326	19.20	29.80
2	*2412.00	98.70 PK			1.34 H	240	68.80	29.90
2	*2412.00	90.00 AV			1.34 H	240	60.20	29.90
3	4824.00	46.50 PK	74.00	-27.50	1.54 H	360	10.30	36.20
4	7236.00	51.50 PK	74.00	-22.50	1.12 H	128	9.90	41.70
4	7236.00	38.90 AV	54.00	-15.10	1.12 H	128	-2.80	41.70
5	9648.00	57.20 PK	74.00	-16.80	1.54 H	23	12.30	44.90
5	9648.00	44.10 AV	54.00	-9.90	1.54 H	23	-0.80	44.90

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	2390.00	51.00 PK	74.00	-23.00	1.32 V	111	21.20	29.80
1	2390.00	42.70 AV	54.00	-11.30	1.32 V	111	12.90	29.80
2	*2412.00	105.00 PK			1.36 V	90	75.10	29.90
2	*2412.00	93.70 AV			1.36 V	90	63.80	29.90
3	4824.00	44.80 PK	74.00	-29.20	1.47 V	45	8.50	36.20
4	7236.00	50.60 PK	74.00	-23.40	1.02 V	36	8.90	41.70
5	9648.00	54.80 PK	74.00	-19.20	1.02 V	3	9.90	44.90
5	9648.00	42.50 AV	54.00	-11.50	1.02 V	3	-2.40	44.90

NOTE:

1. Emission level = Raw value + Correction Factor
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. The limit value is defined as per 15.247
6. " * " : Fundamental frequency



EUT	802.11 a/b/g Wireless Module	MODEL	RT410W-D92(LF)
MODE	Channel 6	FREQUENCY RANGE	1000 ~ 25000 MHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	27deg. C, 76%RH, 976 hPa	TESTED BY	Eric Lee

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	*2437.00	97.60 PK			1.42 H	241	67.70	30.00
1	*2437.00	88.70 AV			1.42 H	241	58.70	30.00
2	4874.00	46.30 PK	74.00	-27.70	1.32 H	52	9.90	36.50
3	7311.00	52.00 PK	74.00	-22.00	1.02 H	35	10.20	41.80
3	7311.00	39.40 AV	54.00	-14.60	1.02 H	35	-2.40	41.80
4	9748.00	56.60 PK	74.00	-17.40	1.00 H	299	11.90	44.60
4	9748.00	42.70 AV	54.00	-11.30	1.00 H	299	-2.00	44.60

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	*2437.00	102.90 PK			1.12 V	269	72.90	30.00
1	*2437.00	93.00 AV			1.12 V	269	63.00	30.00
2	4874.00	45.70 PK	74.00	-28.30	1.18 V	96	9.20	36.50
3	7311.00	50.10 PK	74.00	-23.90	1.53 V	62	8.40	41.80
4	9748.00	54.30 PK	74.00	-19.70	1.76 V	326	9.60	44.60
4	9748.00	41.50 AV	54.00	-12.50	1.76 V	326	-3.10	44.60

NOTE:

1. Emission level = Raw value + Correction Factor
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. The limit value is defined as per 15.247
6. " * " : Fundamental frequency

EUT	802.11 a/b/g Wireless Module	MODEL	RT410W-D92(LF)
MODE	Channel 11	FREQUENCY RANGE	1000 ~ 25000 MHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	27deg. C, 76%RH, 976 hPa	TESTED BY	Eric Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3M

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	*2462.00	99.00 PK			1.34 H	215	68.90	30.10
1	*2462.00	88.90 AV			1.34 H	215	58.80	30.10
2	2483.50	52.00 PK	74.00	-22.00	1.11 H	85	21.90	30.10
2	2483.50	42.00 AV	54.00	-12.00	1.11 H	85	11.90	30.10
3	4924.00	47.10 PK	74.00	-26.90	1.52 H	41	10.50	36.70
4	7386.00	52.50 PK	74.00	-21.50	1.02 H	7	10.60	41.80
4	7386.00	40.20 AV	54.00	-13.80	1.02 H	7	-1.70	41.80
5	9848.00	57.00 PK	74.00	-17.00	1.56 H	6	12.70	44.40
5	9848.00	43.00 AV	54.00	-11.00	1.56 H	6	-1.30	44.40

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3M

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	*2462.00	103.00 PK			1.12 V	269	72.90	30.10
1	*2462.00	93.70 AV			1.12 V	269	63.60	30.10
2	2483.50	55.00 PK	74.00	-19.00	1.66 V	326	24.90	30.10
2	2483.50	46.60 AV	54.00	-7.40	1.66 V	326	16.40	30.10
3	4924.00	44.90 PK	74.00	-29.10	1.53 V	62	8.20	36.70
4	7386.00	50.70 PK	74.00	-23.30	1.02 V	3	8.80	41.80
5	9848.00	53.70 PK	74.00	-20.30	1.02 V	78	9.40	44.40
5	9848.00	40.70 AV	54.00	-13.30	1.02 V	78	-3.70	44.40

NOTE:

1. Emission level = Raw value + Correction Factor
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. The limit value is defined as per 15.247
6. " * " : Fundamental frequency

EUT	802.11 a/b/g Wireless Module	MODEL	RT410W-D92(LF)
MODE	Turbo Channel 6	FREQUENCY RANGE	1000 ~ 25000 MHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 57%RH, 976 hPa	TESTED BY	Tony Chen

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3M

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	*2437.00	91.90 PK			1.16 H	330	61.20	30.70
1	*2437.00	84.10 AV			1.16 H	330	53.40	30.70
2	4874.00	58.90 PK	74.00	-15.10	1.17 H	56	22.40	36.50
2	4874.00	31.60 AV	54.00	-22.40	1.17 H	56	-4.90	36.50
3	7311.00	47.90 PK	74.00	-26.10	1.44 H	120	6.20	41.80
4	9748.00	45.90 PK	74.00	-28.10	1.28 H	43	1.20	44.60

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3M

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	2372.00	45.10 PK	74.00	-28.90	1.38 V	176	14.70	30.40
2	*2437.00	93.90 PK			1.21 V	299	63.20	30.70
2	*2437.00	86.50 AV			1.21 V	299	55.80	30.70
3	4874.00	40.30 PK	74.00	-33.70	1.58 V	86	3.80	36.50
4	7311.00	45.60 PK	74.00	-28.40	1.37 V	86	3.90	41.80
5	9748.00	44.80 PK	74.00	-29.20	1.11 V	54	0.10	44.60

NOTE:

1. Emission level = Raw value + Correction Factor
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. The limit value is defined as per 15.247
6. " * " : Fundamental frequency

4.3 6dB BANDWIDTH MEASUREMENT

4.3.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

4.3.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSP	1093.4495.30	Dec. 19, 2003

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.

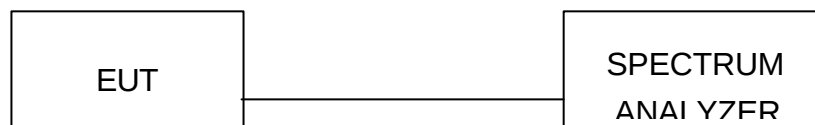
4.3.3 TEST PROCEDURE

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 6 dB.

4.3.4 DEVIATION FROM TEST STANDARD

No deviation

4.3.5 TEST SETUP



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.

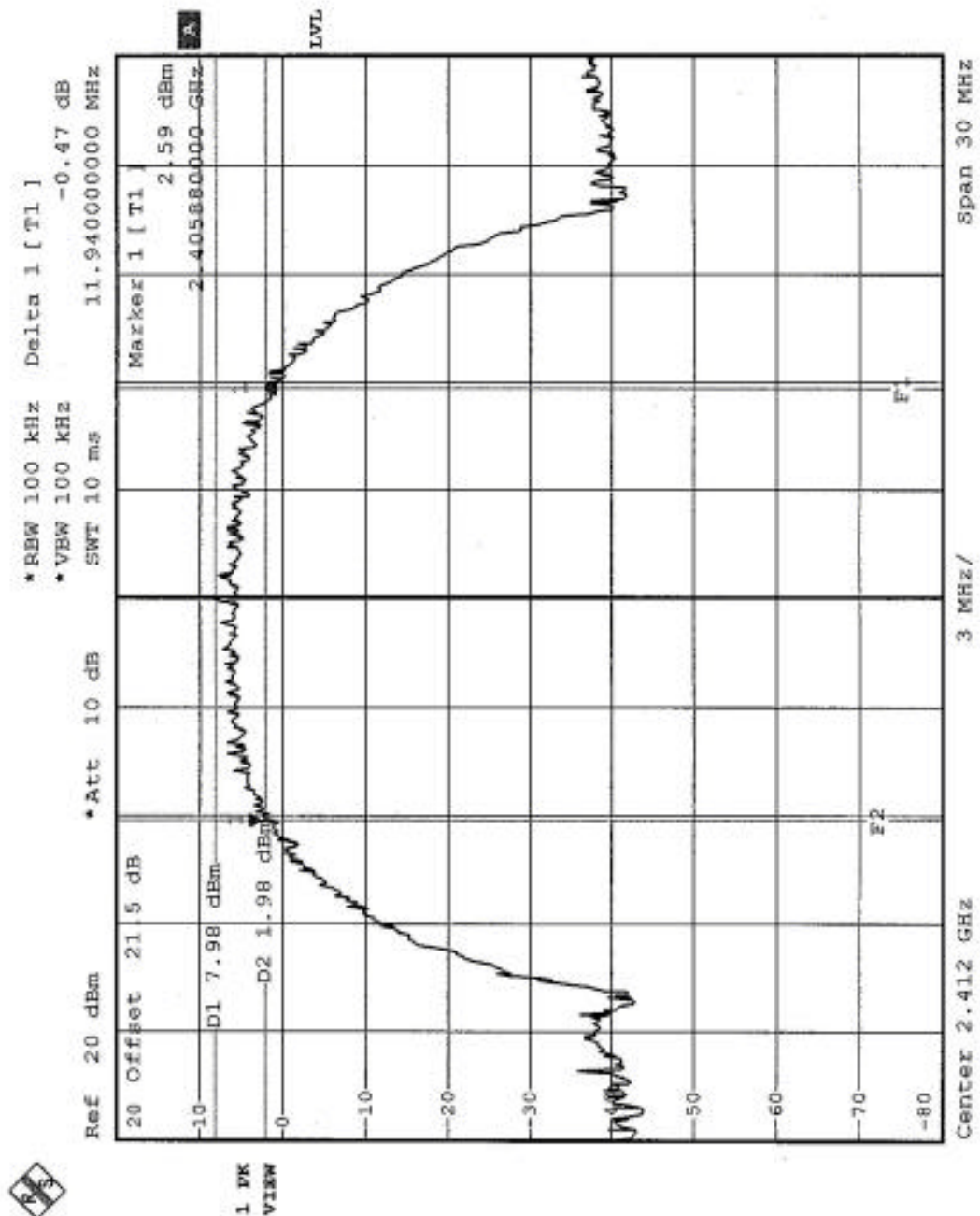


4.3.7 TEST RESULTS - DSSS

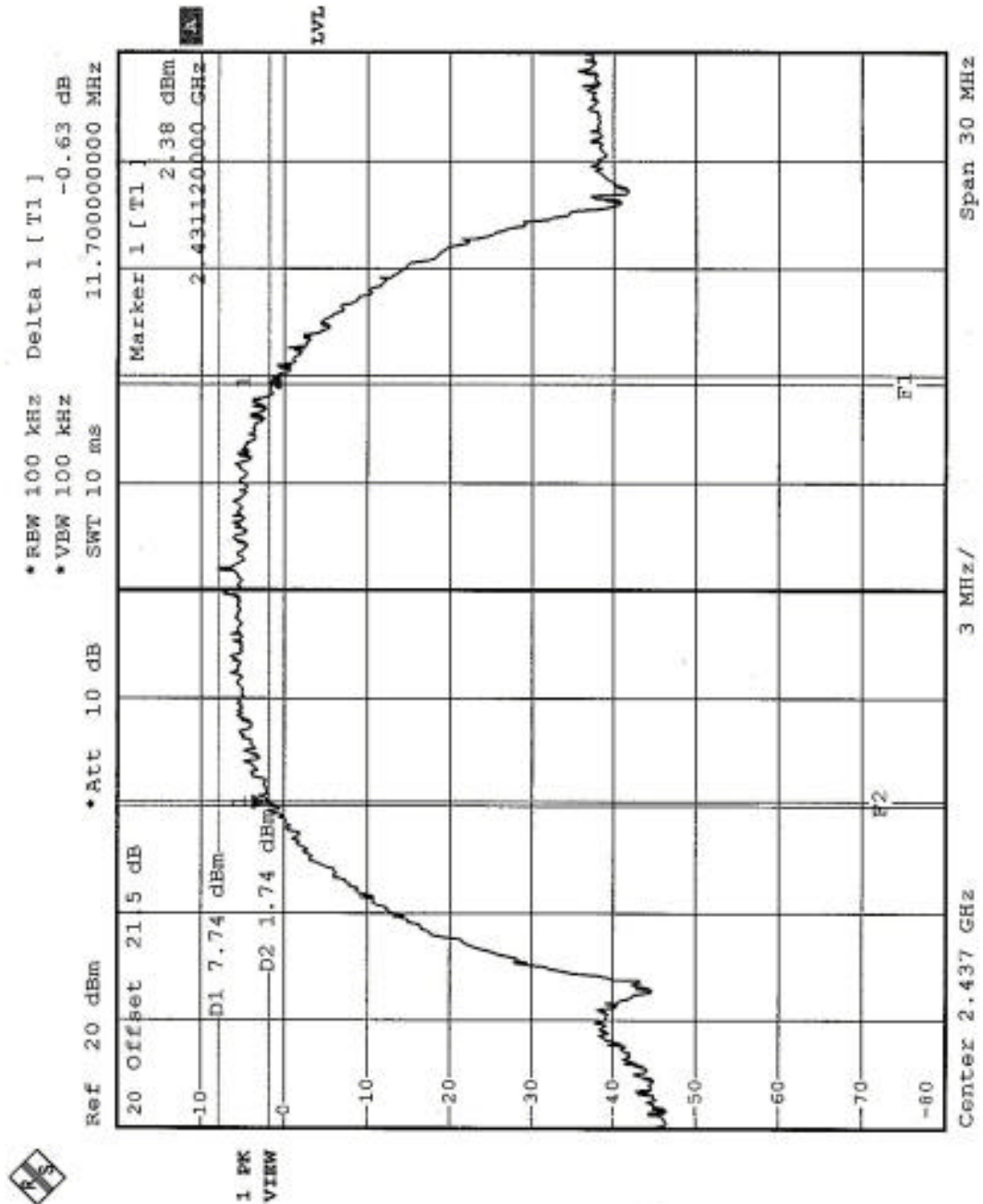
EUT	802.11 a/b/g Wireless Module	MODEL	RT410W-D92(LF)
INPUT POWER (SYSTEM)	120Vac, 60Hz	ENVIRONMENTAL CONDITIONS	21deg. C, 58%RH, 976 hPa
TESTED BY	Eric Lee		

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS/FAIL
1	2412	11.94	0.5	PASS
6	2437	11.70	0.5	PASS
11	2462	11.88	0.5	PASS

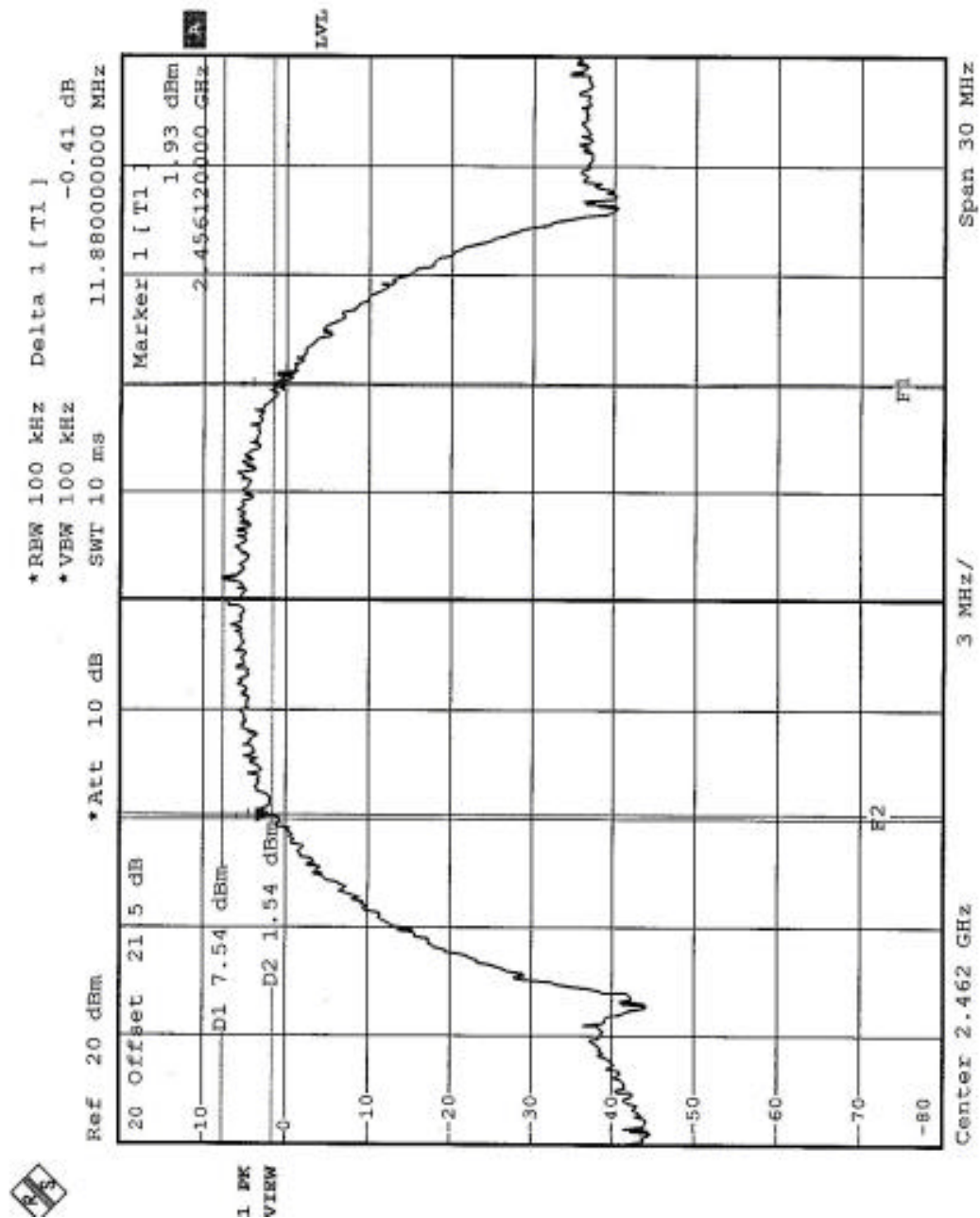
CH1



CH6



CH11

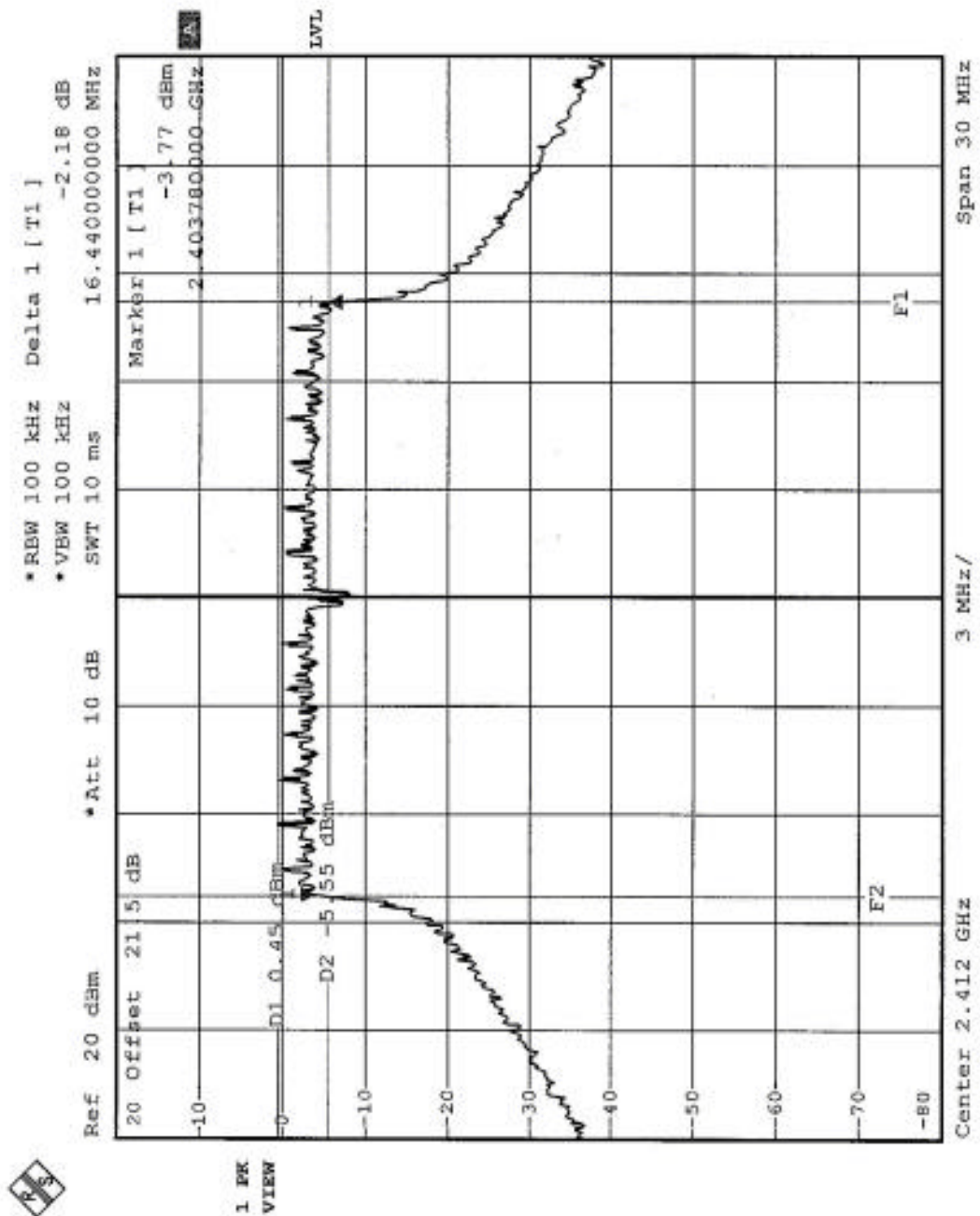


4.3.8 TEST RESULTS - OFDM

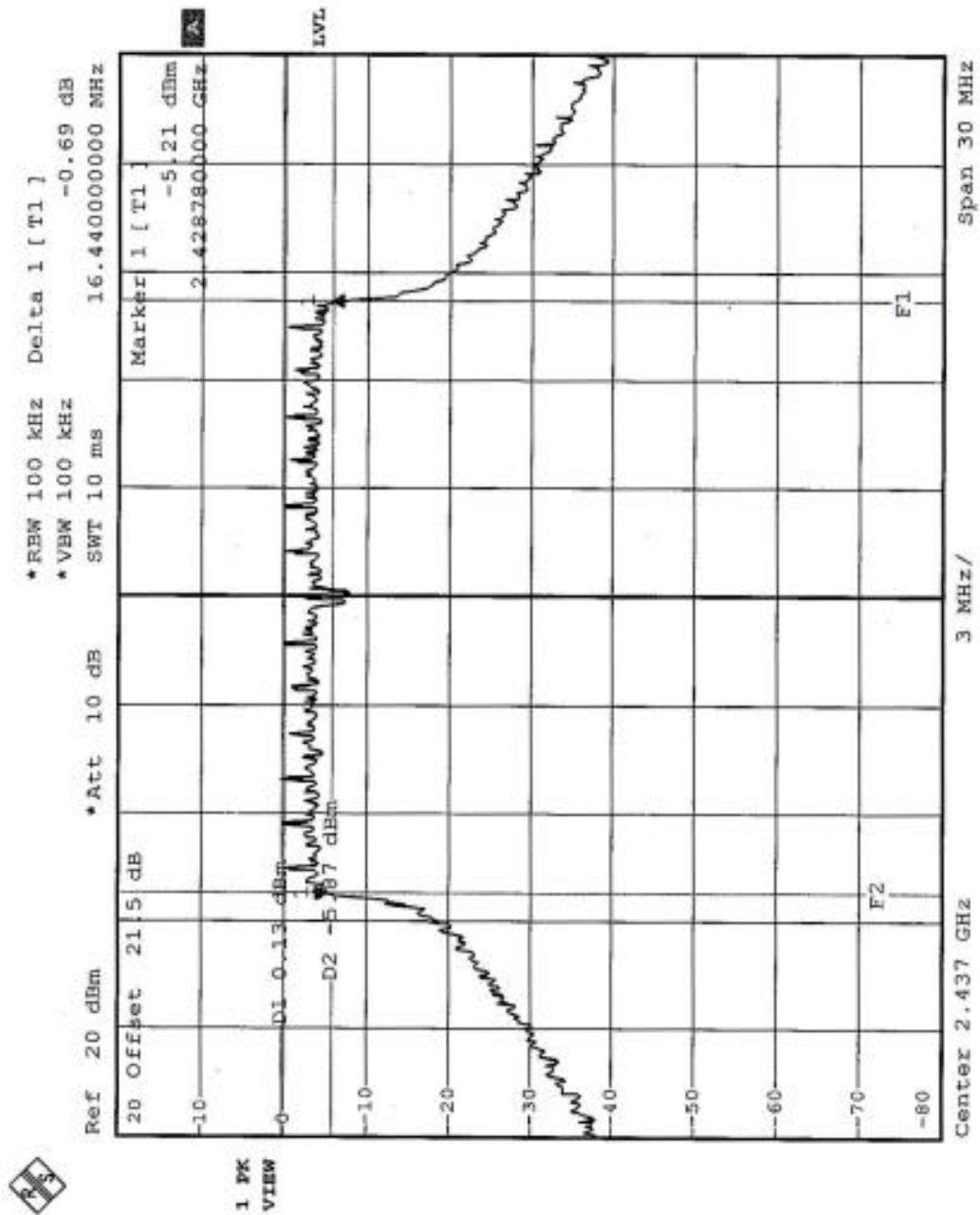
EUT	802.11 a/b/g Wireless Module	MODEL	RT410W-D92(LF)
INPUT POWER (SYSTEM)	120Vac, 60Hz	ENVIRONMENTAL CONDITIONS	21deg. C, 58%RH, 976 hPa
TESTED BY	Eric Lee		

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS/FAIL
1	2412	16.44	0.5	PASS
6	2437	16.44	0.5	PASS
11	2462	16.38	0.5	PASS
Turbo 6	2437	32.70	0.5	PASS

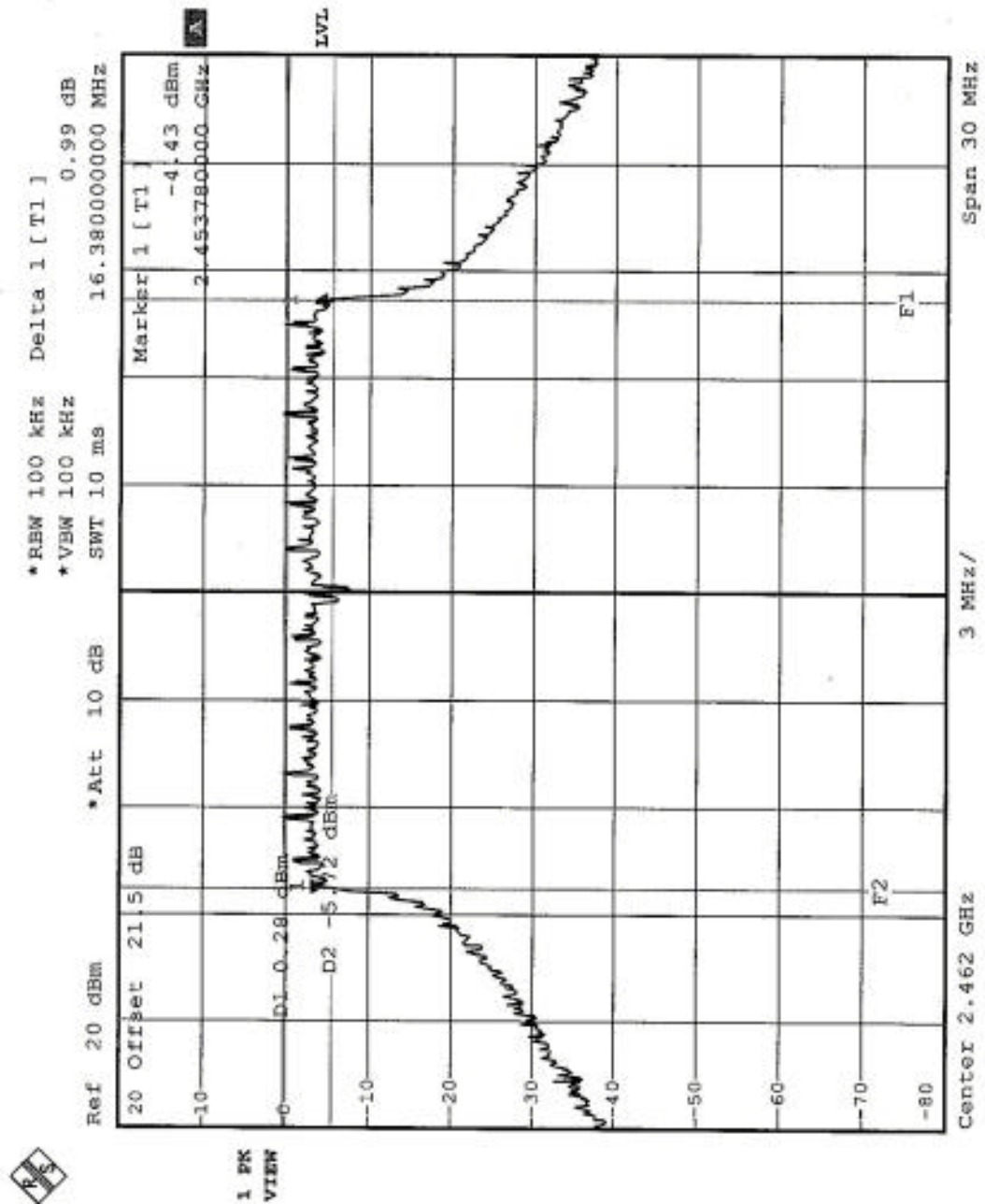
CH1



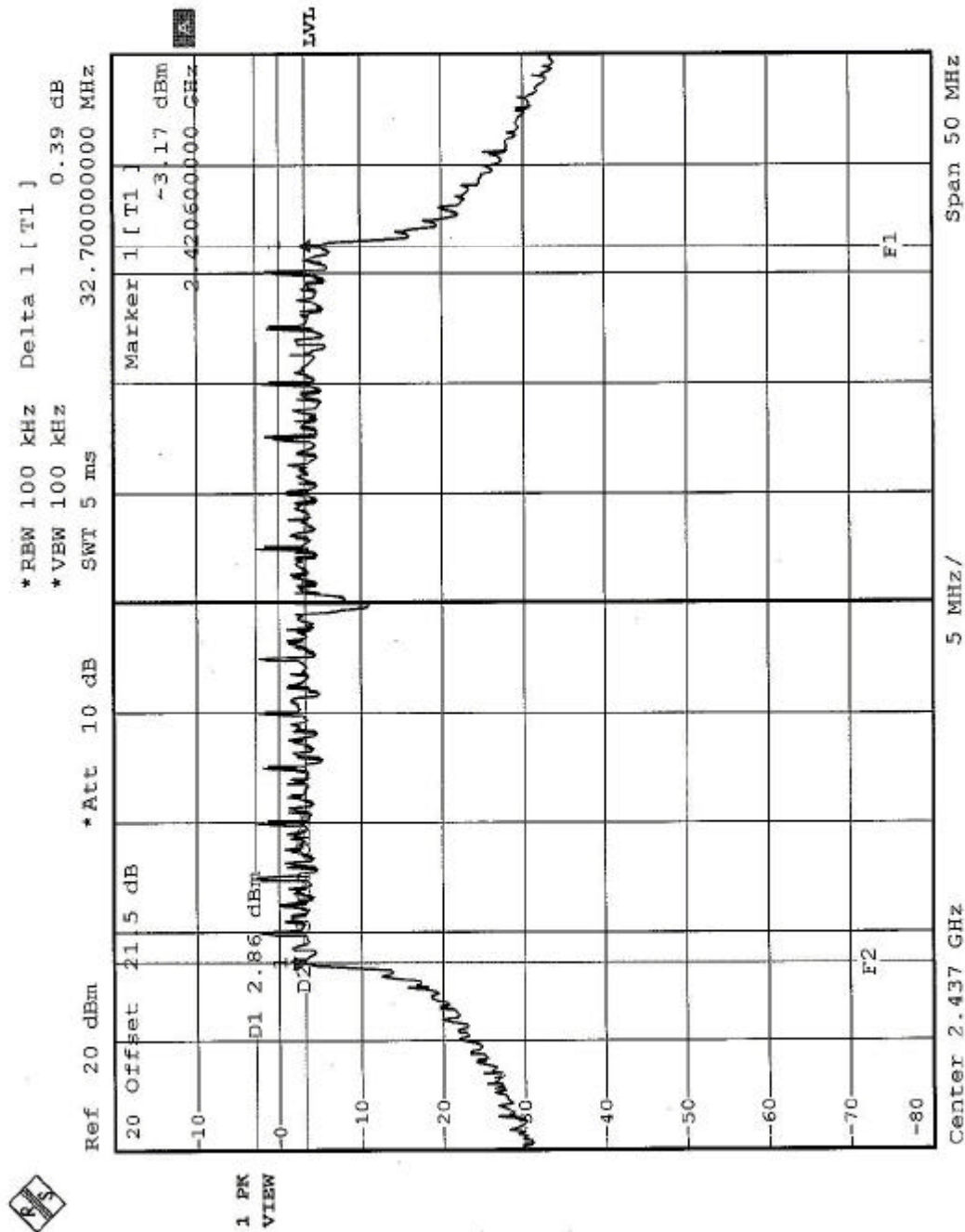
CH6



CH11



Turbo CH6



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 INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSP30	100019	Dec. 19, 2003
R&S SIGNAL GENERATOR	SMP04	100011	May 28, 2004
TEKTRONIX OSCILLOSCOPE	TDS 220	B048470	Mar. 05, 2004
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 peak 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 peak reading on oscilloscope. Record the power level.

4.4.4 TEST SETUP



4.4.5 EUT OPERATING CONDITIONS

Same as Item 4.3.6



4.4.6 TEST RESULTS - DSSS

EUT	802.11 a/b/g Wireless Module	MODEL	RT410W-D92(LF)
INPUT POWER (SYSTEM)	120Vac, 60Hz	ENVIRONMENTAL CONDITIONS	21deg. C, 58%RH, 976 hPa
TESTED BY	Eric Lee		

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
1	2412	18.46	30	PASS
6	2437	18.34	30	PASS
11	2462	18.28	30	PASS

4.4.7 TEST RESULTS - OFDM

EUT	802.11 a/b/g Wireless Module	MODEL	RT410W-D92(LF)
INPUT POWER (SYSTEM)	120Vac, 60Hz	ENVIRONMENTAL CONDITIONS	21deg. C, 58%RH, 976 hPa
TESTED BY	Eric Lee		

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
1	2412	18.42	30	PASS
6	2437	18.30	30	PASS
11	2462	18.12	30	PASS
Turbo 6	2437	18.10	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
R&S SPECTRUM ANALYZER	FSP	1093.4495.30	Dec. 19, 2003

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.

4.5.3 TEST PROCEDURE

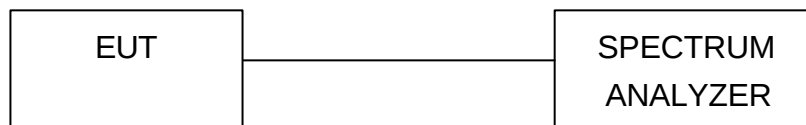
The transmitter output was connected to the spectrum analyzer through an attenuator, the bandwidth of the fundamental frequency was measured with the spectrum analyzer using 3 kHz RBW and 30 kHz VBW, set sweep time = span/3 kHz. The power spectral density was measured and recorded.

The sweep time is allowed to be longer than span/3 kHz 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 CONDITION

Same as Item 4.3.6

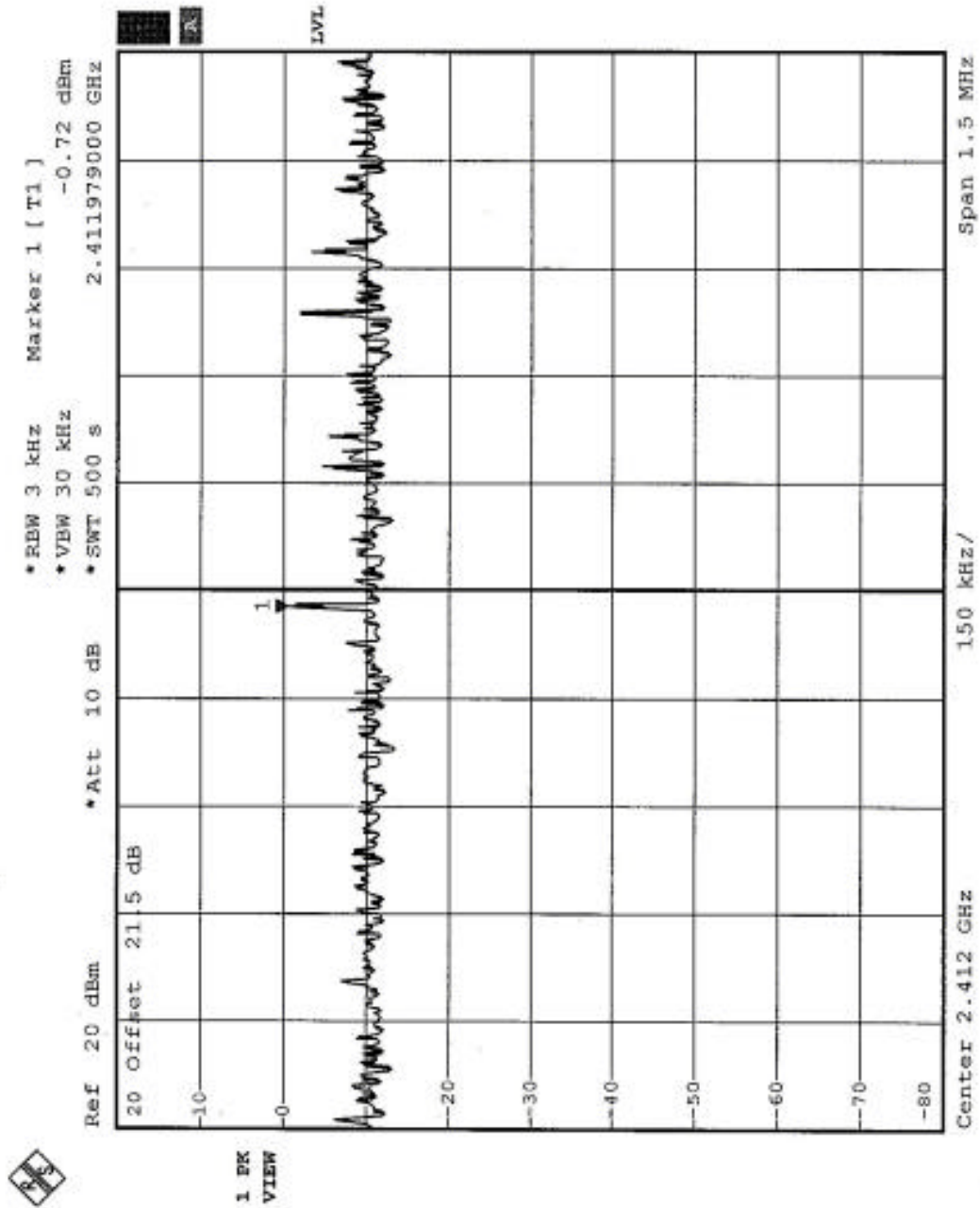


4.5.7 TEST RESULTS - DSSS

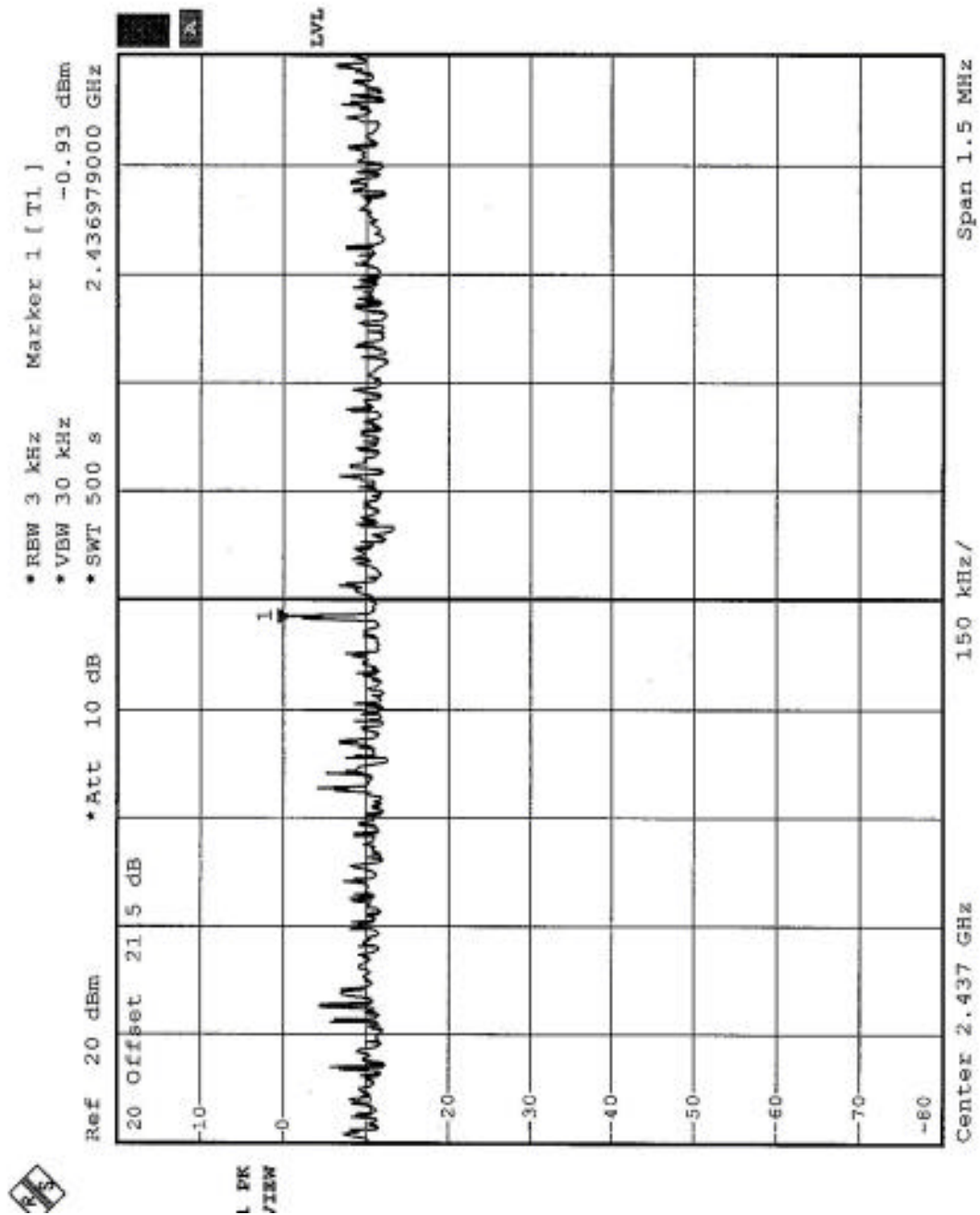
EUT	802.11 a/b/g Wireless Module	MODEL	RT410W-D92(LF)
INPUT POWER (SYSTEM)	120Vac, 60Hz	ENVIRONMENTAL CONDITIONS	21deg. C, 58RH, 976 hPa
TESTED BY	Eric Lee		

CHANNEL NUMBER	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3 kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	2412	-0.72	8	PASS
6	2437	-0.93	8	PASS
11	2462	-0.19	8	PASS

CH1



CH6



CH11

