TEST REPORT

Product Name ：Wireless-B Broadband Router
Model Number：WR214E

Applicant ：CyberTAN Technology, Inc.
Address ：99 Park Avenue III, Hsinchu Science Park, Hsinchu 308, Taiwan, R.O.C.

Received Date：March 29, 2006
Tested Date ：March 30, 2006

Notes：
1. This report will be invalid if duplicated or photocopied in part.
2. This report refers only to the specimen(s) submitted to testing, and be invalid as seperately used.
3. This report is invalid without examination stamp and signature of this institute.
4. The tested specimen(s) will be preserved for thirty days from the data issued.
5. The report must not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government.

NVLAP LAB CODE 200118-0

Testing Laboratory
0240

Test Report Certification

Product Name : Wireless-B Broadband Router
Model Number : WR214E
Applicant : CyberTAN Technology, Inc.

Measurement Standard :

47 CFR Part 15, Subpart B and Subpart C (Section 15.247),
ANSI C63.4-2001

Approved by:

C. F. Wu
Manager of Hsinchu Laboratory
Compliance Certification Services Inc.

Reviewed by:

Alan Fan
Test Engineer of Hsinchu Laboratory
Compliance Certification Services Inc.

WE HEREBY CERTIFY THAT: The measurements shown in the attachment were made in accordance with the procedures indicated, and the energy emitted by the equipment was found to be within the limits applicable. We assume full responsibility for the accuracy and completeness of these measurements and vouch for the qualifications of all persons taking them.

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1. GENERAL INFORMATION

1.1 General Statement

MEASUREMENT DEVIATION：Comply with standard in full

TRACEABILITY ：This test result is traceable to national or international std.

1.2 General Description of EUT & Power

MANUFACTURER	：CyberTAN Technology, Inc.
SAMPLE NAME	：Wireless-B Broadband Router
MODEL NAME	：WR214E
FREQUENCY RANGE	：2412 MHz to 2462MHz
CHANNEL NUMBER	：11
AIR DATA RATE	：11Mbps (802.11b Mode)
TYPE OF MODULATION	：Direct Sequence Spread Spectrum
FEQUENCY SELECTION	：BY SOFTWARE
EUT Description	：2.4GHz Direct sequence spread spectrum Data Transceiver for Wireless-B Broadband Router
ANTENNA TYPE	：Dipole Antenna, Antenna Gain : 1.8dBi.
POWER SOURCE	：3.3VDC(From Notebook PC)

Remark：This report is transferred from ER-03-10-081FRF

Power Adapter (1) :

MANUFACTURER	：HON-KWANG ELECTRIC CO., LTD.
MODEL NUMBER	：D12-1A
INPUT POWER	：120VAC/60Hz, 23W
OUTPUT POWER	：12VDC, 1000mA

Power Adapter (2) :

MANUFACTURER	：Global Yeou Diann Elec. Ind. co., Ltd.
MODEL NUMBER	：AM-1201000D41
INPUT POWER	：120VAC/60Hz, 23W
OUTPUT POWER	：12VDC, 1000mA

Power Adapter (3) :

MANUFACTURER	：LEADER ELECTRONICS INC.
MODEL NUMBER	：411210OO3CT
INPUT POWER	：120VAC/60Hz, 20W
OUTPUT POWER	：12VDC, 1000mA

1.3 Description of Peripherals

（1）PC

MANUFACTURER ：HP CORP.
MODEL NUMBER ：VECTRA VEI8DT
SERIAL NUMBER ：SG1202412
FCC ：DOC

（2）PC

MANUFACTURER ：HP CORP.
MODEL NUMBER ：VECTRA VEI8DT
SERIAL NUMBER ：SG1202415
FCC ：DOC

（3）PC

MANUFACTURER ：HP CORP.
MODEL NUMBER ：VECTRA VEI8DT
SERIAL NUMBER ：SG1202416
FCC ：DOC

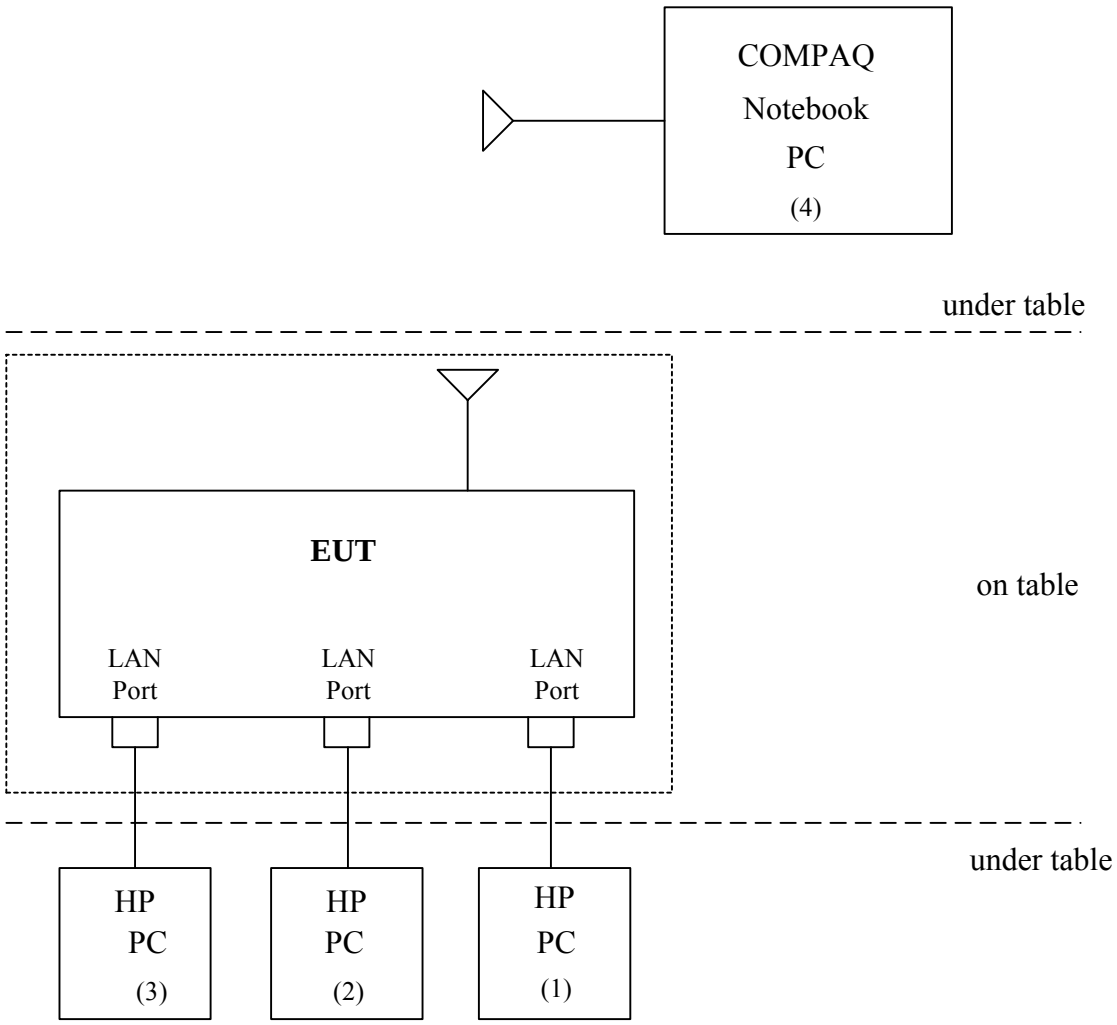
（4）Notebook PC

MANUFACTURER ：COMPAQ CORP.
MODEL NUMBER ：EV0N800
SERIAL NUMBER ：470052-787
INPUT POWER ：18.5VDC, 3.5A
OUTPUT POWER ：----------

(5) CABLE

	Type	Connector	shielded	Length
(A)	Cat5 twisted-pair	RJ-45,Plastic	NO	15m

1.4 EUT & Peripherals Setup Diagram



1.5 EUT Operating Condition

1. Set up all computers like the setup diagram.
2. PC (1) ping 192.168.62.1 –t to EUT.
3. PC (2) ping 192.168.1.80 –t to PC (3).
4. Notebook PC (4) ping 192.168.62.1 –t to EUT.
5. All of the funcation are under run.
6. Start test.

1.6 Description of Test Site

SITE DESCRIPTION ：FCC Certificate NO. : 90585

BSMI Certificate NO. : SL2-IN-E-0002

NVLAP Lab code : 200118-0

TAF Certificate NO. : 0240

VCCI Certificate NO. : R-1229, C-1250

NAME OF SITE ：Compliance Certification Services Inc. (Hsinchu Lab.)

SITE LOCATION ：Rm.258, Bldg.17, NO.195 , Sec. 4, Chung Hsing Rd., Chu-Tung Chen. Hsin-Chu, Taiwan 310 R.O.C.

1.7 Summary of Test Results

The EUT has been tested according to the following specifications :

APPLIED STANDARD：47 CFR Part 15, Subpart B and Subpart C			
Standard Section	Test Type and Limit	Result	REMARK
15.107 15.207	AC Power Conducted Emission Limit : 15.107	PASS	Meet the requirement of limit
15.247(a)(2)	Spectrum Bandwidth of a Orthogonal Frequency Division Multiplex System Limit : 6dB bandwidth > 500KHz	PASS	Meet the requirement of limit
15.247(b)	Maximum Peak Output Power Limit : max. 30dBm	PASS	Meet the requirement of limit
15.109 15.205 15.209	Transmitter Radiated Emissions Limit : Table 15.209	PASS	Meet the requirement of limit
15.247(d)	Power Spectral Density Limit : max. 8dBm	PASS	Meet the requirement of limit
15.247(c)	Out of Band Emission and Restricted Band Radiation Limit:20dB less than peak value of fundamental frequency Restricted band Limit:Table 15.209	PASS	Meet the requirement of limit

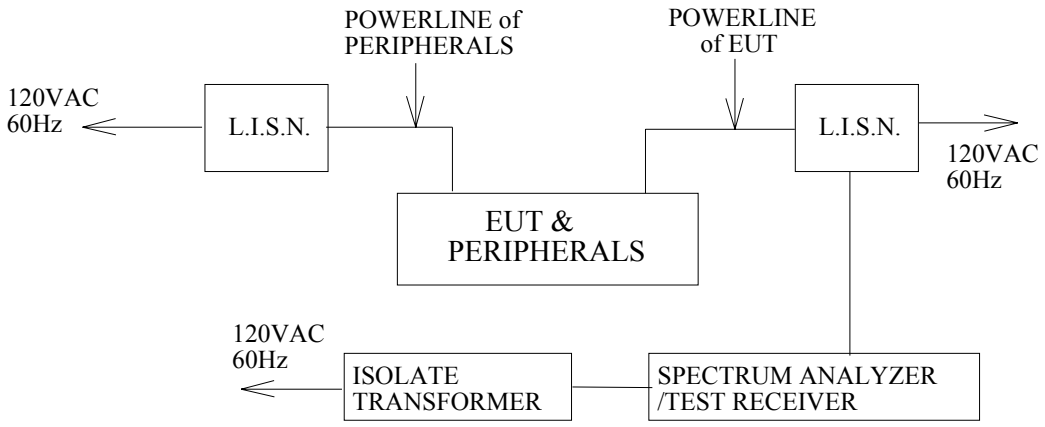
2. CONDUCTED POWERLINE TEST

2.1 Test Equipments

The following test equipments are used during the conducted powerline tests：

Manufacturer or Type	Model No.	Serial No.	Date of Calibration	Calibration Period	Remark
HP SPECTRUM ANALYZER	8594E	3801A05627	April 28, 2005	1 Year	PRETEST
SOLAR ISOLATION TRANSFORMER	7032-1	N/A	N/A	N/A	FINAL
EMCO L.I.S.N.	3850/2	9311-1025	January 16, 2006	1 Year	FINAL
CHASE L.I.S.N	NNLK 8129	8129118	January 16, 2006	1 Year	FINAL
R & S TEST RECEIVER	ESHS30	838550/003	Feb, 27, 2006	1 Year	FINAL
KEENE SHIELDED ROOM	5983	No.1	N/A	N/A	FINAL
R & S PULSE LIMIT	EHS3Z2	357.8810.52	July 10, 2005	1 Year	FINAL
N TYPE COAXIAL CABLE	---------	----------	July 10, 2005	1 Year	FINAL
50Ω TERMINATOR	---------	----------	July 10, 2005	1 Year	FINAL

2.2 Test Setup



2.3 Conducted Power Line Emission Limit

For unintentional device, according to § 15.107(a) Line Conducted Emission Limits is as following：

Frequency	Maximum RF Line Voltage (Dbμv)			
	CLASS A		CLASS B	
(MHz)	Q.P.	Ave.	Q.P.	Ave.
0.15 - 0.50	79	66	66-56	56-46
0.50 - 5.00	73	60	56	46
5.00 - 30.0	73	60	60	50

For intentional device, according to § 15.207(a) Line Conducted Emission Limit is same as above table.

2.4 Test Procedure

The test procedure is performed in a 12ft×12ft×8ft(L×W×H) shielded room.
the EUT along with its peripherals were placed on a 1.0m(W)× 1.5m(L) and 0.8m in height wooden table and the EUT was adjusted to maintain a 0.4 meter space from a vertical reference plane. The EUT was connected to power mains through a line impedance stabilization network (LISN) which provides 50 ohm coupling impedance for measuring instrument and the chasis ground was bounded to the horizontal ground plane of shielded room. All peripherals were connected to the second LISN and the chasis ground also bounded to the horizontal ground plane of shielded room. The excess power cable between the EUT and the LISN was bundled. The power cables of peripherals were unbundled. All connecting cables of EUT and peripherals were moved to find the maximum emission.

2.5 Uncertainty of Conducted Emission

The uncertainty of conducted emission is ±1.36dB.

2.6 Conducted RF Voltage Measurement

The frequency spectrum from 0.15 MHz to 30 MHz was investigated. All emissions not reported below are more than 20 dB below the prescribed limits.

Temperature：26 ℃ Humidity：65 % RH

Frequency (MHz)	Loss(dB)		Measurement				L1 Emission (dBμV)		L2 Emission (dBμV)		Limits (dBμV)	
			L1(dBμV)		L2(dBμV)							
	L1	L2	Q.P.	A.V.	Q.P.	A.V.	Q.P.	A.V.	Q.P.	A.V.	Q.P.	A.V.
0.150	0.1	0.2	*	*	*	*	*	*	*	*	66.00	56.00
0.174	0.1	0.2	38.20	*	*	*	38.30	*	*	*	64.77	54.77
0.186	0.1	0.2	*	*	38.30	*	*	*	38.50	*	64.21	54.21
0.462	0.1	0.2	31.90	*	*	*	32.00	*	*	*	56.66	46.66
0.546	0.1	0.2	*	*	33.40	*	*	*	33.60	*	56.00	46.00
0.660	0.1	0.2	*	*	29.30	*	*	*	29.50	*	56.00	46.00
0.750	0.1	0.2	20.20	*	*	*	20.30	*	*	*	56.00	46.00
1.455	0.1	0.2	23.80	*	*	*	23.90	*	*	*	56.00	46.00
1.467	0.1	0.2	*	*	30.50	*	*	*	30.70	*	56.00	46.00
4.101	0.2	0.2	9.70	*	*	*	9.90	*	*	*	56.00	46.00
4.104	0.2	0.2	*	*	9.80	*	*	*	10.00	*	56.00	46.00
4.404	0.2	0.2	*	*	13.30	*	*	*	13.50	*	56.00	46.00
4.887	0.2	0.2	16.70	*	*	*	16.90	*	*	*	56.00	46.00
14.352	0.5	0.6	16.40	*	*	*	16.90	*	*	*	60.00	50.00
15.258	0.6	0.6	*	*	24.80	*	*	*	25.40	*	60.00	50.00
25.404	1.2	1.2	24.80	*	*	*	26.00	*	*	*	60.00	50.00
25.692	1.2	1.2	*	*	26.20	*	*	*	27.40	*	60.00	50.00
30.000	1.4	1.8	*	*	*	*	*	*	*	*	60.00	50.00

REMARKS：1. * Undetectable or the Q.P. value is lower than the limits of Ave.
2. Mode : 802.11b Transmitting test.
3. Adapter (1).
4. The EUT can be operated in TX, RX and stand-by mode. After a preliminary scan, we found the EUT in TX mode has highest RF emission. The TX mode test results are recorded and listed in finial test report.

The frequency spectrum from 0.15 MHz to 30 MHz was investigated. All emissions not reported below are more than 20 dB below the prescribed limits.

Temperature：26 ℃ Humidity：65 % RH

Frequency (MHz)	Loss(dB)		Measurement L1(dBμV)		Measurement L2(dBμV)		L1 Emission (dBμV)		L2 Emission (dBμV)		Limits (dBμV)	
	L1	L2	Q.P.	A.V.	Q.P.	A.V.	Q.P.	A.V.	Q.P.	A.V.	Q.P.	A.V.
0.150	0.1	0.2	*	*	*	*	*	*	*	*	66.00	56.00
0.267	0.1	0.2	47.60	18.00	48.00	21.80	47.70	18.10	48.20	22.00	61.21	51.21
0.297	0.1	0.2	46.70	23.20	*	*	46.80	23.30	*	*	60.33	50.33
0.309	0.1	0.2	*	*	46.90	18.50	*	*	47.10	18.70	60.00	50.00
0.486	0.1	0.2	43.50	14.20	*	*	43.60	14.30	*	*	56.24	46.24
0.500	0.1	0.2	43.00	13.80	42.30	13.60	43.10	13.90	42.50	13.80	56.00	46.00
0.596	0.1	0.2	38.30	20.60	*	*	38.40	20.70	*	*	56.00	46.00
0.745	0.1	0.2	29.30	21.90	*	*	29.40	22.00	*	*	56.00	46.00
1.140	0.1	0.2	*	*	21.70	5.50	*	*	21.90	5.70	56.00	46.00
1.350	0.1	0.2	23.00	16.50	*	*	23.10	16.60	*	*	56.00	46.00
2.240	0.1	0.2	*	*	23.00	20.80	*	*	23.20	21.00	56.00	46.00
3.580	0.2	0.2	25.50	24.40	*	*	25.70	24.60	*	*	56.00	46.00
4.630	0.2	0.2	27.00	24.50	25.80	21.80	27.20	24.70	26.00	22.00	56.00	46.00
15.250	0.6	0.6	31.70	26.60	28.50	23.80	32.30	27.20	29.10	24.40	60.00	50.00
22.700	0.9	1.0	36.30	30.20	*	*	37.20	31.10	*	*	60.00	50.00
24.350	1.1	1.0	*	*	36.20	32.30	*	*	37.20	33.30	60.00	50.00
30.000	1.4	1.8	*	*	*	*	*	*	*	*	60.00	50.00

REMARKS：1. * Undetectable or the Q.P. value is lower than the limits of Ave.
2. Mode : 802.11b Transmitting test.
3. Adapter (2).
4. The EUT can be operated in TX, RX and stand-by mode. After a preliminary scan, we found the EUT in TX mode has highest RF emission. The TX mode test results are recorded and listed in finial test report.

The frequency spectrum from 0.15 MHz to 30 MHz was investigated. All emissions not reported below are more than 20 dB below the prescribed limits.

Temperature：26 ℃ Humidity：65 % RH

Frequency (MHz)	Loss(dB)		Measurement L1(dBμV)		Measurement L2(dBμV)		L1 Emission (dBμV)		L2 Emission (dBμV)		Limits (dBμV)	
	L1	L2	Q.P.	A.V.	Q.P.	A.V.	Q.P.	A.V.	Q.P.	A.V.	Q.P.	A.V.
0.150	0.1	0.2	*	*	*	*	*	*	*	*	66.00	56.00
0.186	0.1	0.2	*	*	52.70	21.80	*	*	52.90	22.00	64.21	54.21
0.227	0.1	0.2	52.00	32.50	*	*	52.10	32.60	*	*	62.56	52.56
0.267	0.1	0.2	51.30	30.40	*	*	51.40	30.50	*	*	61.21	51.21
0.298	0.1	0.2	*	*	48.80	24.10	*	*	49.00	24.30	60.30	50.30
0.333	0.1	0.2	50.20	19.90	*	*	50.30	20.00	*	*	59.38	49.38
0.510	0.1	0.2	*	*	37.80	22.20	*	*	38.00	22.40	56.00	46.00
0.530	0.1	0.2	42.30	12.40	*	*	42.40	12.50	*	*	56.00	46.00
1.043	0.1	0.2	*	*	25.00	20.80	*	*	25.20	21.00	56.00	46.00
1.120	0.1	0.2	*	*	21.90	9.00	*	*	22.10	9.20	56.00	46.00
1.195	0.1	0.2	*	*	26.30	24.30	*	*	26.50	24.50	56.00	46.00
1.530	0.1	0.2	30.50	29.80	*	*	30.60	29.90	*	*	56.00	46.00
2.250	0.1	0.2	25.00	5.90	*	*	25.10	6.00	*	*	56.00	46.00
3.285	0.2	0.2	*	*	24.30	17.50	*	*	24.50	17.70	56.00	46.00
3.310	0.2	0.2	*	*	14.90	10.20	*	*	15.10	10.40	56.00	46.00
4.840	0.2	0.2	23.10	7.70	*	*	23.30	7.90	*	*	56.00	46.00
4.960	0.2	0.2	*	*	18.10	9.70	*	*	18.30	9.90	56.00	46.00
4.989	0.2	0.2	*	*	29.10	23.80	*	*	29.30	24.00	56.00	46.00
5.400	0.2	0.2	*	*	18.60	31.70	*	*	18.80	31.90	60.00	50.00
5.532	0.3	0.3	*	*	31.90	20.90	*	*	32.20	21.20	60.00	50.00
15.250	0.6	0.6	31.10	23.60	*	*	31.70	24.20	*	*	60.00	50.00
22.950	0.9	1.0	37.50	32.40	*	*	38.40	33.40	*	*	60.00	50.00
23.750	1.0	1.0	*	*	39.20	31.70	*	*	40.20	32.70	60.00	50.00
30.000	1.4	1.8	*	*	*	*	*	*	*	*	60.00	50.00

REMARKS：1. * Undetectable or the Q.P. value is lower than the limits of Ave.
2. Mode : 802.11b Transmitting test.
3. Adapter (3).
4. The EUT can be operated in TX, RX and stand-by mode. After a preliminary scan, we found the EUT in TX mode has highest RF emission. The TX mode test results are recorded and listed in finial test report.

2.7 Photos of Conduction Test

3. RADIATED EMISSION TEST

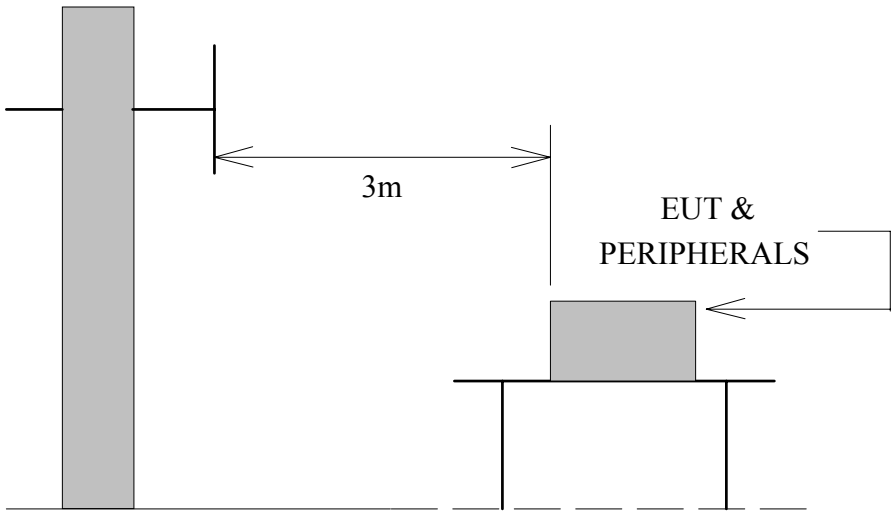
3.1 Test Equipments

The following test equipments are utilized in making the measurements contained in this report.

Manufacturer or Type	Model No	Serial No	Date of Calibration	Calibration Period	Remark
CHASE BI-LOG ANTENNA	CBL6112B	2817	March 22, 2006	1 Year	FINAL
OPEN SITE	----------	No.2	May 07, 2005	1 Year	FINAL
N TYPE COAXIAL CABLE	9913-30M	----------	July 28, 2005	1 Year	FINAL
Horn Antenna	AH-118	10089	August 10, 2005	1 Year	FINAL
HP Pre-amplifier	8449B	3008A01471	NOV. 07, 2002	1 Year	FINAL
HP High pass filter	84300/80038	011	cal. on use	1 Year	FINAL
Horn Antenna	AH-118	10089	August 10, 2005	1 Year	FINAL

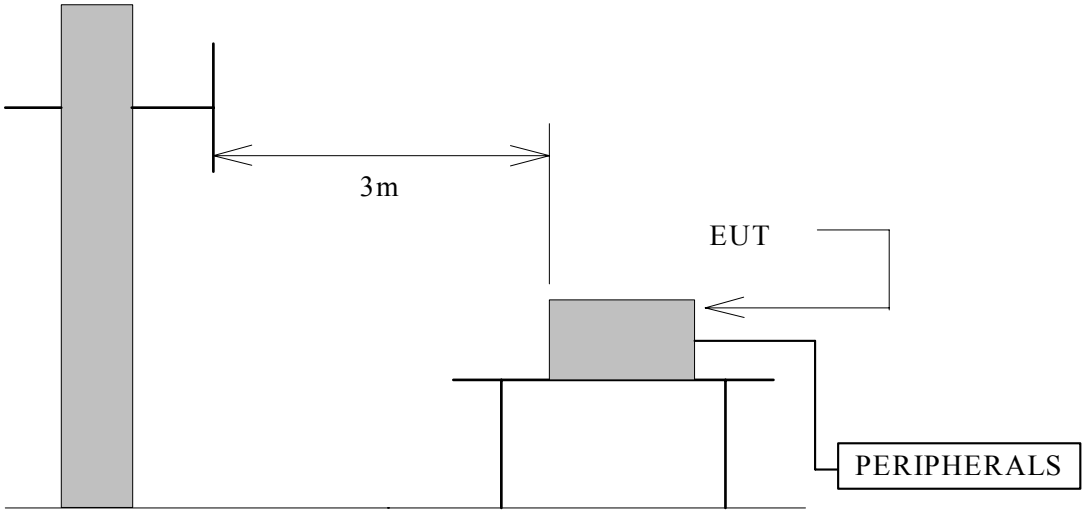
3.2 Test Setup

The diagram below shows the test setup that is utilized to make the measurements for emission from 30 to 1GHz.



Antenna Elevation Variable

The diagram below shows the test setup that is utilized to make the measurements for emission above 1GHz.



Antenna Elevation Variable

3.3 Radiation Limit

For unintentional device, according to § 15.109(a), except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values：

Frequency (MHz)	Distance (Meters)	Radiated (dBμV/M)	Radiated (μV/M)
30-88	3	40.0	100
88-216	3	43.5	150
216-960	3	46.0	200
Above 960	3	54.0	500

For intentional device, according to § 15.209(a), the general requirement of field strength of radiated emissions from intentional radiators at a distance of 3 meters shall not exceed the above table.

3.4 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 polarization 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 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 120 KHz 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 and 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.

3.5 Uncertainty of Radiated Emission

The uncertainty of radiated emission is ±2.72dB.

3.6 Radiated RF Noise Measurement

Test Requirement: 15.109, 15.209
The frequency spectrum from 30 MHz to 1000 MHz was investigated. All emissions not reported below are more than 20 dB below the prescribed limits.
All readings are quasi-peak values.

Temperature：30.9℃ Humidity：48 % RH

Frequency (MHz)	Antenna Factor (dB)	Cable Loss (dB)	Meter Reading at 3m(dB μ V/M)		Limits at 3m (dB μ V/M)	Emission Level at 3m(dB μ V/M)	
			Horizontal	Vertical		Horizontal	Vertical
30.00	21.39	0.90	*	*	40.00	*	*
43.99	13.42	1.18	12.50	20.10	40.00	27.10	34.70
50.00	9.41	1.20	8.70	20.50	40.00	19.31	31.11
125.01	13.33	2.10	16.90	15.10	43.50	32.33	30.53
148.59	12.24	2.29	16.20	10.90	43.50	30.72	25.42
177.43	10.36	2.60	12.90	11.00	43.50	25.86	23.96
205.02	10.66	2.84	18.40	11.60	43.50	31.90	25.10
250.03	13.09	3.20	24.80	20.90	46.00	41.09	37.19
336.07	14.85	3.82	8.70	7.90	46.00	27.37	26.57
410.00	17.35	4.27	11.30	6.30	46.00	32.92	27.92
1000.00	21.58	7.00	*	*	54.00	*	*

REMARKS：1. *Undetectable
2. Emission level (dBμV/M) =Antenna Factor (dB/m) + Cable loss (dB) + Meter Reading (dBμV).
3. According to technical experiences, all spurious emission at channel 1,6,11 are almost the same below 1GHz,so that the channel 1 was chosen as representative for the test.
4. Mode : Wireless 802.11b Transmitting test.

Test Requirement: 15.109 ,15.209
The frequency spectrum above 1 GHz was investigated. All emissions not reported below are more than 40 dB below the prescribed limits. Readings are both peak and average values.

Company	CyberTAN Technology, Inc.	Test Date :	2006/03/30
Product Name	Wireless-B Broadband Router	Test By:	Alan Fan
Model Name	WR214E	TEMP&Humidity :	34.9℃ , 40%

CH1 RX				Measurement Distance at 1m Horizontal polarity							
Freq.	Reading	AF	Cable	Pre-amp	Dist	Filter	Level	Limit	Margin	Mark	Height
(MHz)	(dBuV)	(dBuV)	(dB)	(dB)	dB	dB	(dBuV/m)	(dBuV/m)	(dB)	(P/Q/A)	(Meter)
4823.61	40.42	34.44	2.82	35.16	9.50	0.00	33.01	74	-40.99	P	1.0
4823.61	28.46	34.44	2.82	35.16	9.50	0.00	21.05	54	-32.95	A	1.0
7236.05	40.14	39.81	4.79	35.65	9.50	0.00	39.59	74	-34.41	P	1.0
7236.05	28.61	39.81	4.79	35.65	9.50	0.00	28.06	54	-25.94	A	1.0
9647.88	41.57	38.54	5.90	36.44	9.50	0.00	40.07	74	-33.93	P	1.0
9647.88	28.92	38.54	5.90	36.44	9.50	0.00	27.42	54	-26.58	A	1.0

1. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain, Filter: High Pass Filter Insertion Loss (3.5GHz)
2. Analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz,VBW=10Hz
3. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB
4. The result basic equation calculation as follow :
Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit
5. The test limit is 3M limit.
6. The other emission levels were very low against the limit.
7. For 802.11b mode at 11Mbps.

Test Requirement: 15.109 ,15.209
The frequency spectrum above 1 GHz was investigated. All emissions not reported below are more than 40 dB below the prescribed limits. Readings are both peak and average values.

Company	CyberTAN Technology, Inc.	Test Date :	2006/03/30
Product Name	Wireless-B Broadband Router	Test By:	Alan Fan
Model Name	WR214E	TEMP&Humidity :	34.9℃ , 40%

CH1 RX				Measurement Distance at 1m Vertical polarity							
Freq. (MHz)	Reading (dBuV)	AF (dBuV)	Cable (dB)	Pre-amp (dB)	Dist dB	Filter dB	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Mark (P/Q/A)	Height (Meter)
4824.16	40.81	34.44	2.82	35.16	9.50	0.00	33.41	74	-40.59	P	1.0
4824.16	28.61	34.44	2.82	35.16	9.50	0.00	21.21	54	-32.79	A	1.0
7237.55	40.32	39.80	4.80	35.65	9.50	0.00	39.77	74	-34.23	P	1.0
7237.55	28.46	39.80	4.80	35.65	9.50	0.00	27.91	54	-26.09	A	1.0
9648.83	42.34	38.54	5.90	36.44	9.50	0.00	40.84	74	-33.16	P	1.0
9648.83	28.89	38.54	5.90	36.44	9.50	0.00	27.39	54	-26.61	A	1.0

1. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain, Filter: High Pass Filter Insertion Loss (3.5GHz)
2. Analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz,VBW=10Hz
3. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB
4. The result basic equation calculation as follow :
Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit
5. The test limit is 3M limit.
6. The other emission levels were very low against the limit.
7. For 802.11b mode at 11Mbps.

Test Requirement: 15.109 ,15.209
The frequency spectrum above 1 GHz was investigated. All emissions not reported below are more than 40 dB below the prescribed limits. Readings are both peak and average values.

Company	CyberTAN Technology, Inc.	Test Date :	2006/03/30
Product Name	Wireless-B Broadband Router	Test By:	Alan Fan
Model Name	WR214E	TEMP&Humidity :	34.9℃ , 40%

CH6 RX				Measurement Distance at 1m Horizontal polarity							
Freq. (MHz)	Reading (dBuV)	AF (dBuV)	Cable (dB)	Pre-amp (dB)	Dist dB	Filter dB	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Mark (P/Q/A)	Height (Meter)
4873.83	41.54	34.77	2.73	35.20	9.50	0.00	34.34	74	-39.66	P	1.0
4873.83	29.68	34.77	2.73	35.20	9.50	0.00	22.48	54	-31.52	A	1.0
7312.22	41.44	39.78	4.82	35.64	9.50	0.00	40.90	74	-33.10	P	1.0
7312.22	29.22	39.78	4.82	35.64	9.50	0.00	28.68	54	-25.32	A	1.0
9747.94	41.57	38.53	5.90	36.60	9.50	0.00	39.90	74	-34.10	P	1.0
9747.94	29.12	38.53	5.90	36.60	9.50	0.00	27.45	54	-26.55	A	1.0

1. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain, Filter: High Pass Filter Insertion Loss (3.5GHz)
2. Analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz,VBW=10Hz
3. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB
4. The result basic equation calculation as follow :
Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit
5. The test limit is 3M limit.
6. The other emission levels were very low against the limit.
7. For 802.11b mode at 11Mbps.

Test Requirement: 15.109 ,15.209
The frequency spectrum above 1 GHz was investigated. All emissions not reported below are more than 40 dB below the prescribed limits. Readings are both peak and average values.

Company	CyberTAN Technology, Inc.	Test Date :	2006/03/30
Product Name	Wireless-B Broadband Router	Test By:	Alan Fan
Model Name	WR214E	TEMP&Humidity :	34.9℃ , 40%

CH6 RX				Measurement Distance at 1m Vertical polarity							
Freq. (MHz)	Reading (dBuV)	AF (dBuV)	Cable (dB)	Pre-amp (dB)	Dist dB	Filter dB	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Mark (P/Q/A)	Height (Meter)
4873.16	41.73	34.76	2.73	35.20	9.50	0.00	34.52	74	-39.48	P	1.0
4873.16	29.75	34.76	2.73	35.20	9.50	0.00	22.54	54	-31.46	A	1.0
7311.55	40.83	39.78	4.82	35.64	9.50	0.00	40.29	74	-33.71	P	1.0
7311.55	28.46	39.78	4.82	35.64	9.50	0.00	27.92	54	-26.08	A	1.0
9747.61	40.47	38.53	5.90	36.60	9.50	0.00	38.80	74	-35.20	P	1.0
9747.61	29.14	38.53	5.90	36.60	9.50	0.00	27.47	54	-26.53	A	1.0

1. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain, Filter: High Pass Filter Insertion Loss (3.5GHz)
2. Analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz,VBW=10Hz
3. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB
4. The result basic equation calculation as follow :
Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit
5. The test limit is 3M limit.
6. The other emission levels were very low against the limit.
7. For 802.11b mode at 11Mbps.

Test Requirement: 15.109 ,15.209
The frequency spectrum above 1 GHz was investigated. All emissions not reported below are more than 40 dB below the prescribed limits. Readings are both peak and average values.

Company	CyberTAN Technology, Inc.	Test Date :	2006/03/30
Product Name	Wireless-B Broadband Router	Test By:	Alan Fan
Model Name	WR214E	TEMP&Humidity :	34.9℃ , 40%

CH11 RX				Measurement Distance at 1m Horizontal polarity							
Freq. (MHz)	Reading (dBuV)	AF (dBuV)	Cable (dB)	Pre-amp (dB)	Dist dB	Filter dB	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Mark (P/Q/A)	Height (Meter)
4923.27	42.54	35.09	2.64	35.24	9.50	0.00	35.53	74	-38.47	P	1.0
4923.27	29.88	35.09	2.64	35.24	9.50	0.00	22.87	54	-31.13	A	1.0
7387.99	41.75	39.74	4.86	35.62	9.50	0.00	41.23	74	-32.77	P	1.0
7387.99	29.09	39.74	4.86	35.62	9.50	0.00	28.57	54	-25.43	A	1.0
9848.16	41.74	38.52	5.90	36.76	9.50	0.00	39.90	74	-34.10	P	1.0
9848.16	29.47	38.52	5.90	36.76	9.50	0.00	27.63	54	-26.37	A	1.0

1. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain, Filter: High Pass Filter Insertion Loss (3.5GHz)
2. Analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz,VBW=10Hz
3. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB
4. The result basic equation calculation as follow :
Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit
5. The test limit is 3M limit.
6. The other emission levels were very low against the limit.
7. For 802.11b mode at 11Mbps.

Test Requirement: 15.109 ,15.209
The frequency spectrum above 1 GHz was investigated. All emissions not reported below are more than 40 dB below the prescribed limits. Readings are both peak and average values.

Company	CyberTAN Technology, Inc.	Test Date :	2006/03/30
Product Name	Wireless-B Broadband Router	Test By:	Alan Fan
Model Name	WR214E	TEMP&Humidity :	34.9℃ , 40%

CH11 RX				Measurement Distance at 1m Vertical polarity							
Freq. (MHz)	Reading (dBuV)	AF (dBuV)	Cable (dB)	Pre-amp (dB)	Dist dB	Filter dB	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Mark (P/Q/A)	Height (Meter)
4923.11	41.56	35.09	2.64	35.24	9.50	0.00	34.55	74	-39.45	P	1.0
4923.11	29.86	35.09	2.64	35.24	9.50	0.00	22.85	54	-31.15	A	1.0
7387.05	40.06	39.75	4.85	35.62	9.50	0.00	39.54	74	-34.46	P	1.0
7387.05	28.15	39.75	4.85	35.62	9.50	0.00	27.63	54	-26.37	A	1.0
9847.83	41.23	38.52	5.90	36.76	9.50	0.00	39.39	74	-34.61	P	1.0
9847.83	29.47	38.52	5.90	36.76	9.50	0.00	27.63	54	-26.37	A	1.0

1. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain, Filter: High Pass Filter Insertion Loss (3.5GHz)
2. Analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz,VBW=10Hz
3. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB
4. The result basic equation calculation as follow :
Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit
5. The test limit is 3M limit.
6. The other emission levels were very low against the limit.
7. For 802.11b mode at 11Mbps.

Test Requirement: 15.205
The frequency spectrum above 1 GHz was investigated. All emissions not reported below are more than 40 dB below the prescribed limits. Readings are both peak and average values.

Company	CyberTAN Technology, Inc.	Test Date :	2006/03/30
Product Name	Wireless-B Broadband Router	Test By:	Alan Fan
Model Name	WR214E	TEMP&Humidity :	34.9℃ , 40%

CH1 TX				Measurement Distance at 1m Horizontal polarity							
Freq.	Reading	AF	Cable	Pre-amp	Dist	Filter	Level	Limit	Margin	Mark	Height
(MHz)	(dBμV)	(dBμV)	(dB)	(dB)	dB	dB	(dBμV/m)	(dBμV/m)	(dB)	(P/Q/A)	(Meter)
* 2386.54	27.55	31.81	3.86	0.00	9.50	0.00	53.73	74	-20.27	P	1.00
* 2386.54	17.01	31.81	3.86	0.00	9.50	0.00	43.19	54	-10.81	A	1.00
2412.44	111.21	31.79	3.67	35.30	9.50	0.00	101.86	Fundamental Frequency		P	1.00
2412.44	109.38	31.79	3.67	35.30	9.50	0.00	100.03			A	1.00
* 4823.61	53.12	34.44	2.82	35.16	9.50	2.01	47.72	74	-26.28	P	1.00
* 4823.61	41.13	34.44	2.82	35.16	9.50	2.01	35.73	54	-18.27	A	1.00
7235.44	39.66	39.81	4.79	35.65	9.50	2.00	41.11	74	-32.89	P	1.00
7235.44	27.93	39.81	4.79	35.65	9.50	2.00	29.38	54	-24.62	A	1.00
9647.67	44.02	38.54	5.90	36.44	9.50	0.61	43.13	74	-30.87	P	1.00
9647.67	32.47	38.54	5.90	36.44	9.50	0.61	31.58	54	-22.42	A	1.00
* 12062.20	------	------	------	------	9.50	0.80	------	------	------	------	1.00
* 14474.64	------	------	------	------	9.50	0.67	------	------	------	------	1.00
16887.08	------	------	------	------	9.50	0.65	------	------	------	------	1.00
* 19299.52	------	------	------	------	9.50	2.50	------	------	------	------	1.00
21711.96	------	------	------	------	9.50	0.70	------	------	------	------	1.00
24124.40	------	------	------	------	9.50	2.13	------	------	------	------	1.00

Note :
1. The measurement was searched to 10th harmonic, Remark "---" means that the emissions level is too low to be measured.
2. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain, Filter: High Pass Filter Insertion Loss (3.5GHz)
3. Analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz, VBW=10Hz
4. Remark "*" means that Restricted band.
5. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB
6. The result basic equation calculation is as follow:
   Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit
7. The other emission levels were very low against the limit
8. The test limit distance is 3M limit.
9. For 802.11b mode at 11Mbps.

Test Requirement: 15.205
The frequency spectrum above 1 GHz was investigated. All emissions not reported below are more than 40 dB below the prescribed limits. Readings are both peak and average values.

Company	CyberTAN Technology, Inc.	Test Date :	2006/03/30
Product Name	Wireless-B Broadband Router	Test By:	Alan Fan
Model Name	WR214E	TEMP&Humidity :	34.9℃ , 40%

CH1 TX				Measurement Distance at 1m Vertical polarity							
Freq.	Reading	AF	Cable	Pre-amp	Dist	Filter	Level	Limit	Margin	Mark	Height
(MHz)	(dBμV)	(dBμV)	(dB)	(dB)	dB	dB	(dBμV/m)	(dBμV/m)	(dB)	(P/Q/A)	(Meter)
* 2386.54	27.55	31.81	3.86	0.00	9.50	0.00	53.73	74	-20.27	P	1.00
* 2386.54	17.01	31.81	3.86	0.00	9.50	0.00	43.19	54	-10.81	A	1.00
2412.77	116.18	31.79	3.66	35.30	9.50	0.00	106.83	Fundamental Frequency		P	1.00
2412.77	114.73	31.79	3.66	35.30	9.50	0.00	105.38			A	1.00
* 4823.77	49.01	34.44	2.82	35.16	9.50	2.00	43.61	74	-30.39	P	1.00
* 4823.77	36.03	34.44	2.82	35.16	9.50	2.00	30.63	54	-23.37	A	1.00
7235.38	41.03	39.81	4.79	35.65	9.50	2.00	42.48	74	-31.52	P	1.00
7235.38	28.92	39.81	4.79	35.65	9.50	2.00	30.37	54	-23.63	A	1.00
9647.73	44.06	38.54	5.90	36.44	9.50	0.61	43.17	74	-30.83	P	1.00
9647.73	34.99	38.54	5.90	36.44	9.50	0.61	34.10	54	-19.90	A	1.00
* 12063.85	------	------	------	------	9.50	0.80	------	------	------	------	1.00
* 14476.62	------	------	------	------	9.50	0.67	------	------	------	------	1.00
16889.39	------	------	------	------	9.50	0.66	------	------	------	------	1.00
* 19302.16	------	------	------	------	9.50	2.50	------	------	------	------	1.00
21714.93	------	------	------	------	9.50	0.70	------	------	------	------	1.00
24127.70	------	------	------	------	9.50	2.12	------	------	------	------	1.00

Note :
1. The measurement was searched to 10th harmonic, Remark "---" means that the emissions level is too low to be measured.
2. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain, Filter: High Pass Filter Insertion Loss (3.5GHz)
3. Analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz, VBW=10Hz
4. Remark "*" means that Restricted band.
5. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB
6. The result basic equation calculation is as follow:
   Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit
7. The other emission levels were very low against the limit
8. The test limit distance is 3M limit.
9. For 802.11b mode at 11Mbps.

Test Requirement: 15.205
The frequency spectrum above 1 GHz was investigated. All emissions not reported below are more than 40 dB below the prescribed limits. Readings are both peak and average values.

Company	CyberTAN Technology, Inc.	Test Date :	2006/03/30
Product Name	Wireless-B Broadband Router	Test By:	Alan Fan
Model Name	WR214E	TEMP&Humidity :	34.9℃ , 40%

CH6 TX				Measurement Distance at 1m			Horizontal polarity				
Freq.	Reading	AF	Cable	Pre-amp	Dist	Filter	Level	Limit	Margin	Mark	Height
(MHz)	(dBμV)	(dBμV)	(dB)	(dB)	dB	dB	(dBμV/m)	(dBμV/m)	(dB)	(P/Q/A)	(Meter)
2436.88	116.37	31.76	3.48	35.30	9.50	0.00	106.81	Fundamental Frequency		P	1.00
2436.88	114.63	31.76	3.48	35.30	9.50	0.00	105.07			A	1.00
* 4873.65	45.22	34.77	2.73	35.20	9.50	1.81	39.82	74	-34.18	P	1.00
* 4873.65	33.11	34.77	2.73	35.20	9.50	1.81	27.71	54	-26.29	A	1.00
* 7311.62	40.01	39.78	4.82	35.64	9.50	2.00	41.47	74	-32.53	P	1.00
* 7311.62	29.18	39.78	4.82	35.64	9.50	2.00	30.64	54	-23.36	A	1.00
9747.68	41.62	38.53	5.90	36.60	9.50	0.55	40.50	74	-33.50	P	1.00
9747.68	30.67	38.53	5.90	36.60	9.50	0.55	29.55	54	-24.45	A	1.00
* 12184.40	------	------	------	------	9.50	0.80	------	------	------	------	1.00
14621.28	------	------	------	------	9.50	0.60	------	------	------	------	1.00
17058.16	------	------	------	------	9.50	0.75	------	------	------	------	1.00
* 19495.04	------	------	------	------	9.50	2.70	------	------	------	------	1.00
21931.92	------	------	------	------	9.50	0.70	------	------	------	------	1.00
24368.80	------	------	------	------	9.50	1.78	------	------	------	------	1.00

Note :
1. The measurement was searched to 10th harmonic, Remark "---" means that the emissions level is too low to be measured.
2. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain, Filter: High Pass Filter Insertion Loss (3.5GHz)
3. Analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz, VBW=10Hz
4. Remark "*" means that Restricted band.
5. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB
6. The result basic equation calculation is as follow:
   Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit
7. The other emission levels were very low against the limit
8. The test limit distance is 3M limit.
9. For 802.11b mode at 11Mbps.

Test Requirement: 15.205
The frequency spectrum above 1 GHz was investigated. All emissions not reported below are more than 40 dB below the prescribed limits. Readings are both peak and average values.

Company	CyberTAN Technology, Inc.	Test Date :	2006/03/30
Product Name	Wireless-B Broadband Router	Test By:	Alan Fan
Model Name	WR214E	TEMP&Humidity :	34.9℃ , 40%

CH6 TX				Measurement Distance at 1m			Vertical polarity				
Freq.	Reading	AF	Cable	Pre-amp	Dist	Filter	Level	Limit	Margin	Mark	Height
(MHz)	(dBμV)	(dBμV)	(dB)	(dB)	dB	dB	(dBμV/m)	(dBμV/m)	(dB)	(P/Q/A)	(Meter)
2436.84	115.98	31.76	3.48	35.30	9.50	0.00	106.42	Fundamental Frequency		P	1.00
2436.84	114.03	31.76	3.48	35.30	9.50	0.00	104.47			A	1.00
* 4873.72	52.71	34.77	2.73	35.20	9.50	1.81	47.31	74	-26.69	P	1.00
* 4873.72	41.44	34.77	2.73	35.20	9.50	1.81	36.04	54	-17.96	A	1.00
* 7311.24	40.73	39.78	4.82	35.64	9.50	2.00	42.19	74	-31.81	P	1.00
* 7311.24	29.07	39.78	4.82	35.64	9.50	2.00	30.53	54	-23.47	A	1.00
9747.72	44.69	38.53	5.90	36.60	9.50	0.55	43.57	74	-30.43	P	1.00
9747.72	34.28	38.53	5.90	36.60	9.50	0.55	33.16	54	-20.84	A	1.00
* 12184.20	------	------	------	------	9.50	0.80	------	------	------	------	1.00
14621.04	------	------	------	------	9.50	0.60	------	------	------	------	1.00
17057.88	------	------	------	------	9.50	0.75	------	------	------	------	1.00
* 19494.72	------	------	------	------	9.50	2.69	------	------	------	------	1.00
21931.56	------	------	------	------	9.50	0.70	------	------	------	------	1.00
24368.40	------	------	------	------	9.50	1.78	------	------	------	------	1.00

Note :
1. The measurement was searched to 10th harmonic, Remark "---" means that the emissions level is too low to be measured.
2. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain, Filter: High Pass Filter Insertion Loss (3.5GHz)
3. Analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz, VBW=10Hz
4. Remark "*" means that Restricted band.
5. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB
6. The result basic equation calculation is as follow:
   Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit
7. The other emission levels were very low against the limit
8. The test limit distance is 3M limit.
9. For 802.11b mode at 11Mbps.

Test Requirement: 15.205
The frequency spectrum above 1 GHz was investigated. All emissions not reported below are more than 40 dB below the prescribed limits. Readings are both peak and average values.

Company	CyberTAN Technology, Inc.	Test Date :	2006/03/30
Product Name	Wireless-B Broadband Router	Test By:	Alan Fan
Model Name	WR214E	TEMP&Humidity :	34.9℃ , 40%

CH11 TX				Measurement Distance at 1m Horizontal polarity							
Freq.	Reading	AF	Cable	Pre-amp	Dist	Filter	Level	Limit	Margin	Mark	Height
(MHz)	(dBμV)	(dBμV)	(dB)	(dB)	dB	dB	(dBμV/m)	(dBμV/m)	(dB)	(P/Q/A)	(Meter)
2461.94	113.78	31.74	3.29	35.30	9.50	0.00	104.01	Fundamental Frequency		P	1.00
2461.94	110.50	31.74	3.29	35.30	9.50	0.00	100.73			A	1.00
* 2486.65	29.44	31.71	3.10	0.00	9.50	0.00	54.75	74	-19.25	P	1.00
* 2486.65	17.01	31.71	3.10	0.00	9.50	0.00	42.32	54	-11.68	A	1.00
* 4923.51	45.63	35.10	2.64	35.24	9.50	1.61	40.23	74	-33.77	P	1.00
* 4923.51	33.52	35.10	2.64	35.24	9.50	1.61	28.12	54	-25.88	A	1.00
* 7386.33	40.13	39.75	4.85	35.62	9.50	2.00	41.61	74	-32.39	P	1.00
* 7386.33	28.13	39.75	4.85	35.62	9.50	2.00	29.61	54	-24.39	A	1.00
9847.81	42.34	38.52	5.90	36.76	9.50	0.49	40.99	74	-33.01	P	1.00
9847.81	30.58	38.52	5.90	36.76	9.50	0.49	29.23	54	-24.77	A	1.00
* 12309.70	------	------	------	------	9.50	0.80	------	------	------	------	1.00
14771.64	------	------	------	------	9.50	0.48	------	------	------	------	1.00
17233.58	------	------	------	------	9.50	0.89	------	------	------	------	1.00
* 19695.52	------	------	------	------	9.50	3.97	------	------	------	------	1.00
* 22157.46	------	------	------	------	9.50	0.70	------	------	------	------	1.00
24619.40	------	------	------	------	9.50	1.58	------	------	------	------	1.00

Note :
1. The measurement was searched to 10th harmonic, Remark "---" means that the emissions level is too low to be measured.
2. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain, Filter: High Pass Filter Insertion Loss (3.5GHz)
3. Analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz, VBW=10Hz
4. Remark "*" means that Restricted band.
5. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB
6. The result basic equation calculation is as follow:
   Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit
7. The other emission levels were very low against the limit
8. The test limit distance is 3M limit.
9. For 802.11b mode at 11Mbps.

Test Requirement: 15.205
The frequency spectrum above 1 GHz was investigated. All emissions not reported below are more than 40 dB below the prescribed limits. Readings are both peak and average values.

Company	CyberTAN Technology, Inc.	Test Date :	2006/03/30
Product Name	Wireless-B Broadband Router	Test By:	Alan Fan
Model Name	WR214E	TEMP&Humidity :	34.9℃ , 40%

CH11 TX				Measurement Distance at 1m Vertical polarity							
Freq.	Reading	AF	Cable	Pre-amp	Dist	Filter	Level	Limit	Margin	Mark	Height
(MHz)	(dBμV)	(dBμV)	(dB)	(dB)	dB	dB	(dBμV/m)	(dBμV/m)	(dB)	(P/Q/A)	(Meter)
2461.61	112.10	31.74	3.29	35.30	9.50	0.00	102.33	Fundamental Frequency		P	1.00
2461.61	108.27	31.74	3.29	35.30	9.50	0.00	98.50			A	1.00
* 2486.65	30.46	31.71	3.10	0.00	9.50	0.00	55.77	74	-18.23	P	1.00
* 2486.65	18.34	31.71	3.10	0.00	9.50	0.00	43.65	54	-10.35	A	1.00
* 4923.61	52.01	35.10	2.64	35.24	9.50	1.61	46.61	74	-27.39	P	1.00
* 4923.61	40.12	35.10	2.64	35.24	9.50	1.61	34.72	54	-19.28	A	1.00
* 7386.12	41.63	39.75	4.85	35.62	9.50	2.00	43.11	74	-30.89	P	1.00
* 7386.12	29.25	39.75	4.85	35.62	9.50	2.00	30.73	54	-23.27	A	1.00
9847.68	45.02	38.52	5.90	36.76	9.50	0.49	43.67	74	-30.33	P	1.00
9847.68	34.81	38.52	5.90	36.76	9.50	0.49	33.46	54	-20.54	A	1.00
* 12308.05	------	------	------	------	9.50	0.80	------	------	------	------	1.00
14769.66	------	------	------	------	9.50	0.48	------	------	------	------	1.00
17231.27	------	------	------	------	9.50	0.89	------	------	------	------	1.00
* 19692.88	------	------	------	------	9.50	3.95	------	------	------	------	1.00
* 22154.49	------	------	------	------	9.50	0.70	------	------	------	------	1.00
24616.10	------	------	------	------	9.50	1.58	------	------	------	------	1.00

Note :
1. The measurement was searched to 10th harmonic, Remark "---" means that the emissions level is too low to be measured.
2. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain, Filter: High Pass Filter Insertion Loss (3.5GHz)
3. Analyzer setting P(Peak): RBW=1MHz, VBW=1MHz, A(Average): RBW=1MHz, VBW=10Hz
4. Remark "*" means that Restricted band.
5. Dist : correction to extra plate reading to 3m specification distance 1m measurement distance = -9.5dB
6. The result basic equation calculation is as follow:
   Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit
7. The other emission levels were very low against the limit
8. The test limit distance is 3M limit.
9. For 802.11b mode at 11Mbps.

3.7 Photos of Open Site

4. 6dB BANDWIDTH MEASUREMENT

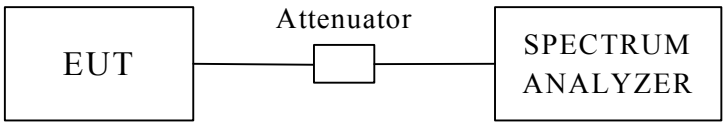
4.1 Test Equipments

Description & Manufacturer	Model No.	Serial No.	Date Of Calibration
ROHDE & SCHWARZ SPECTRUM ANALYZER	FSEK30	835253/002	September 24, 2005
HP ATTENUATOR	8496B	3247A18505	Cal. on use
HP PLOTTER	7750A	725A 852141	N/A

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.

4.2 Test Setup



4.3 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is >500KHz

4.4 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 100 KHz RBW and 100 KHz VBW. The 6dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6dB.

4.5 Uncertainty of Conducted Emission

The uncertainty of conducted emission is ± 200KHz.

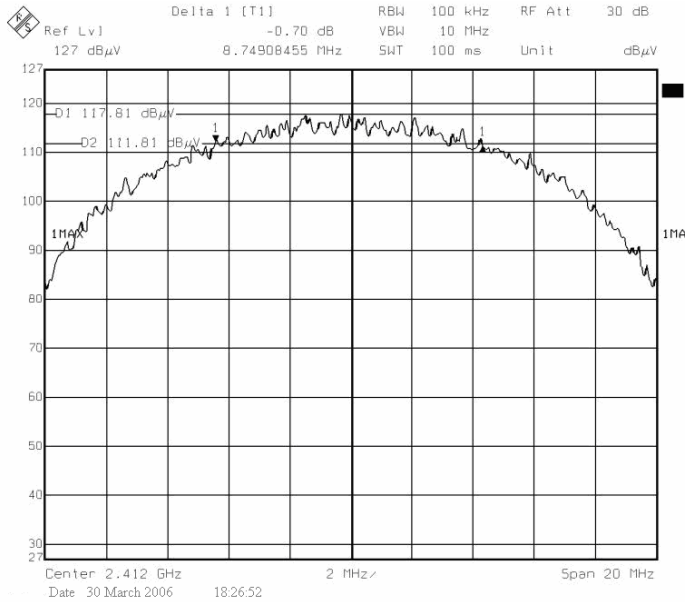
4.6 Test Results

Input Power (System)	12VDC(Form Adapter)	**Environmental Conditions**	33.4℃, 43%RH,
Tested By	Alan Fan		

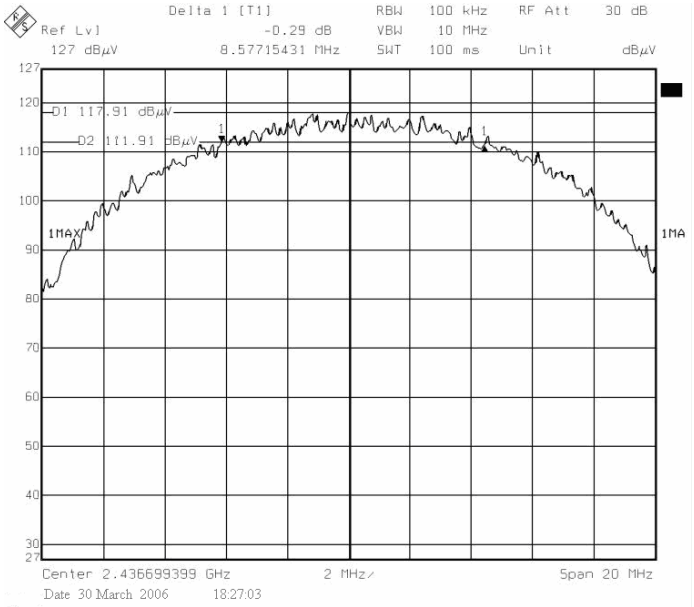
Channel	**Channel Frequency (MHz)**	**6dB Bandwidth (MHz)**	**Minimum Limit (MHz)**	**Pass / Fail**
1	2412	8.74	0.5	PASS
6	2437	8.57	0.5	PASS
11	2462	8.19	0.5	PASS

Note: 1. For 802.11b Mode
2. At finial test to get the worst-case emission at 11Mpbs.

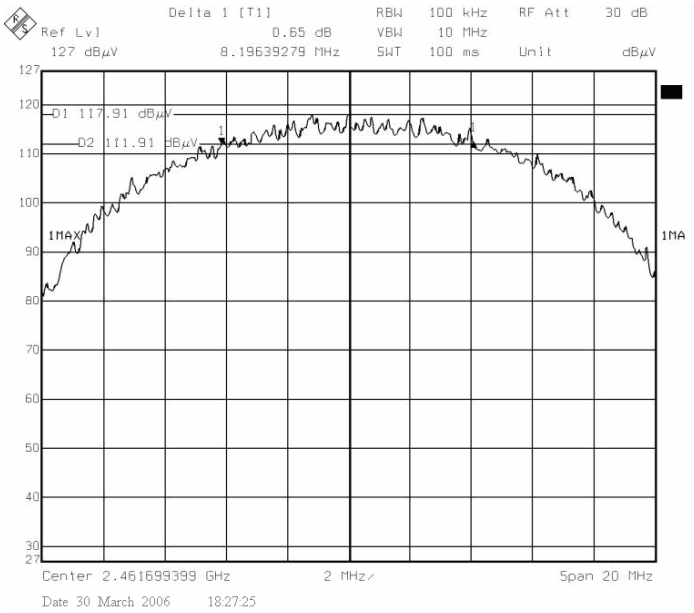
4.7 Photo of 6db Bandwidth Measurement



Channel 1



Channel 6



Channel 11
Note: For 802.11b Mode

5. MAXIMUM PEAK OUTPUT POWER

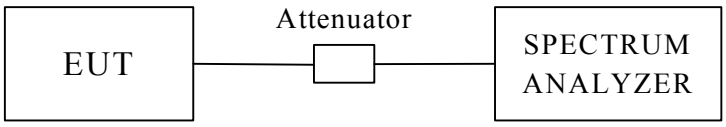
5.1 Test Equipments

Description & Manufacturer	Model No.	Serial No.	Date Of Calibration
ROHDE & SCHWARZ SPECTRUM ANALYZER	FSEK30	835253/002	September 24, 2005
HP ATTENUATOR	8496B	3247A18505	Cal. on use
HP PLOTTER	7750A	725A 852141	N/A

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.

5.2 Test Setup



5.3 Limits of Maximum Peak Output Power

The Maximum Peak Output Power Measurement is 30dBm.

5.4 Test Procedure

The RF power output was measured with a Power meter connected to the RF Antenna connector (conducted measurement) while EUT was operating in transmit mode at the appropriate center frequency.

5.5 Uncertainty of Conducted Emission

The uncertainty of conducted emission is ± 1.82dB.

5.6 Test Results

Input Power (System)	12VDC(Form Adapter)	**Environmental Conditions**	33.4℃, 43%RH,
Tested By	Alan Fan		

Channel	**Channel Frequency (MHz)**	**Peak Power Output (dBm)**	**Peak Power Limit (dBm)**	**Pass / Fail**
1	2412	19.30	30	PASS
6	2437	19.09	30	PASS
11	2462	18.96	30	PASS

Note : 1. For 802.11b Mode
2. At finial test to get the worst-case emission at 11Mbps.
3. The result basic equation calculation as follow :
Peak Power Output = Peak Power Reading + Cable loss + Attenuator

6. POWER SPECTRAL DENSITY MEASUREMENT

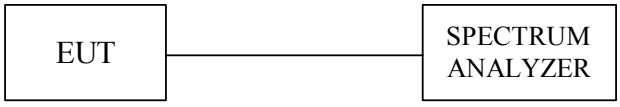
6.1 Test Equipments

Description & Manufacturer	Model No.	Serial No.	Date Of Calibration
ROHDE & SCHWARZ SPECTRUM ANALYZER	FSEK30	835253/002	September 24, 2005
HP ATTENUATOR	8496B	3247A18505	Cal. on use
HP PLOTTER	7750A	725A 852141	N/A

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.

6.2 Test Setup



6.3 Limits of Power Spectral Density Measurement

The Maximum Power Spectral Density Measurement is 8dBm.

6.4 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 3KHz RBW and 30KHz 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.

6.5 Uncertainty of Conducted Emission

The uncertainty of conducted emission is ± 1.82dB.

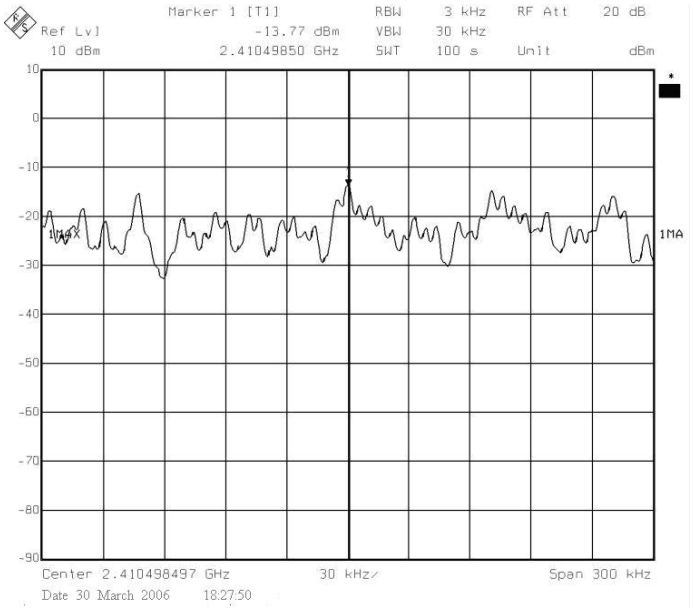
6.6 Test Results

Input Power (System)	12VDC(Form Adapter)	**Environmental Conditions**	33.4℃, 43%RH,
Tested By	Alan Fan		

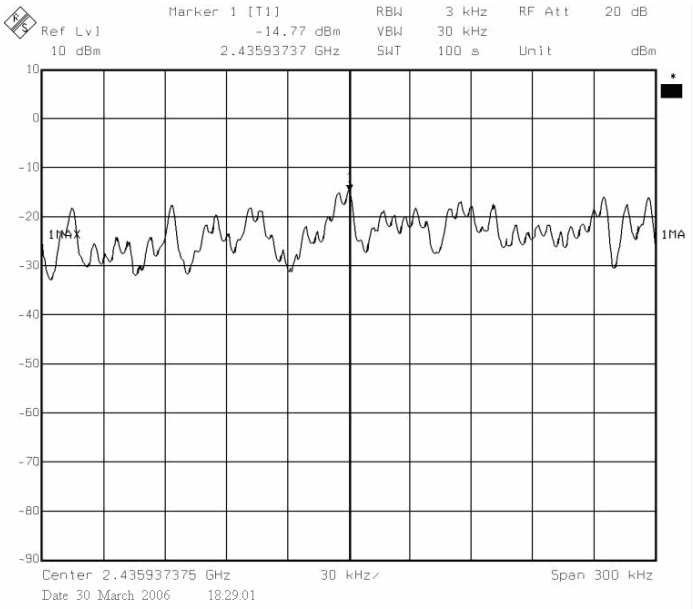
Channel	**Channel Frequency (MHz)**	**Final RF Power Level in 3KHz BW (dBm)**	**Maxmum Limit (dBm)**	**Pass / Fail**
1	2412	-3.77	8	PASS
6	2437	-4.77	8	PASS
11	2462	-3.78	8	PASS

Note: 1. For 11Mbps (802.11b mode) at finial test to get the worst-case emission at 11Mbps.
2. The measurement value of RF power Level + 10dB attenuator = Final RF Power Level.

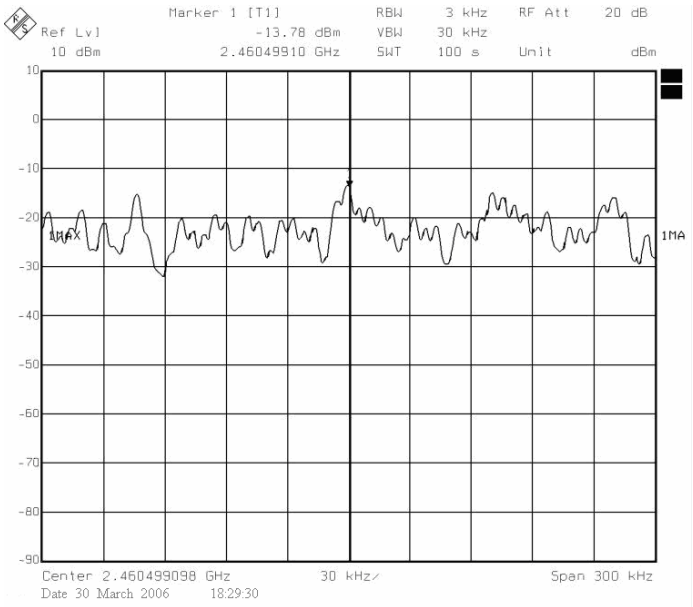
6.7 Photo of Power Spectral Density Measurement



Channel 1



Channel 6



Channel 11
Note: For 802.11b Mode

7. OUT OF BAND MEASUREMENT

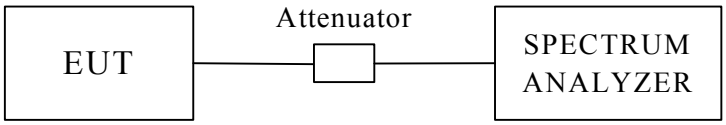
7.1 Test Equipments

Description & Manufacturer	Model No.	Serial No.	Date Of Calibration
ROHDE & SCHWARZ SPECTRUM ANALYZER	FSEK30	835253/002	September 24, 2005
HP ATTENUATOR	8496B	3247A18505	Cal. on use
HP PLOTTER	7750A	725A 852141	N/A

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.

7.2 Test Setup



7.3 Limits of Out of Band Emissions Measurement

1. Below –20dB of the highest emission level of operating band (in 100KHz Resolution Bandwidth).
2. Fall in the restricted bands listed in section 15.205. The maximum permitted average field strength is listed in section 15.209.

7.4 Test Procedure

The transmitter output was connected to the spectrum analyzer via a low lose cable. Set both RBW and VBW of spectrum analyzer to 100KHz with suitable frequency span including 100KHz bandwidth from band edge. The band edges was measured and recorded.

7.5 Uncertainty of Conducted Emission

The uncertainty of conducted emission is ± 1.82dB.

7.6 Test Results

A. Conducted
Refer to 7.7 photo of out band Emission measurement
B. Radiated

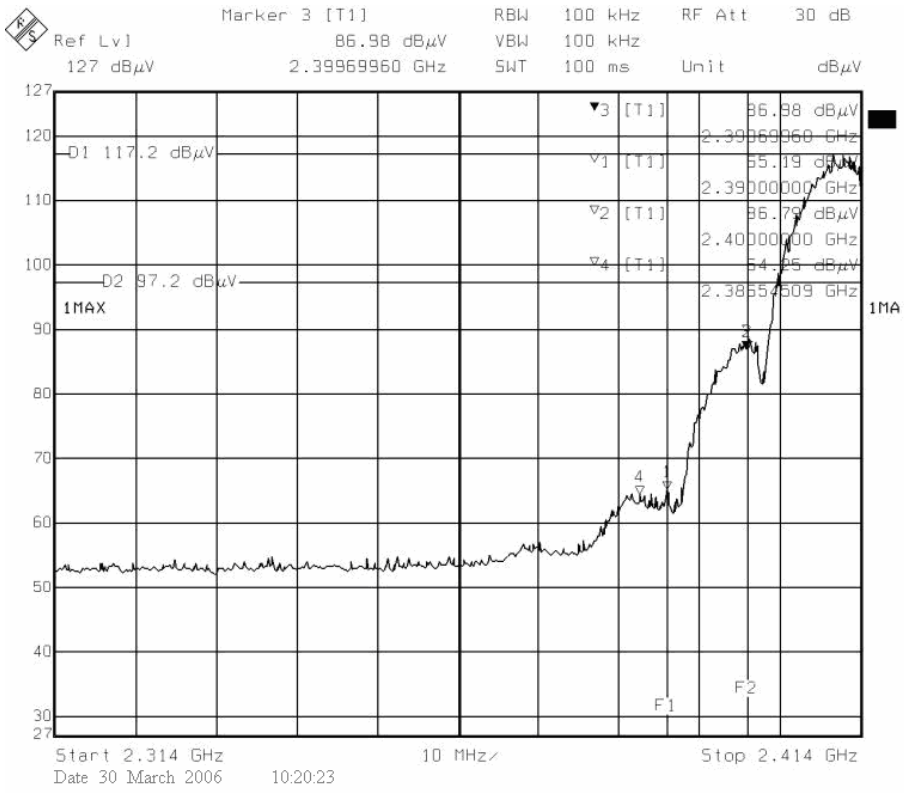
For 802.11b mode
Refer to the section 3.6, the measured radiated band edge emissions are listed below :

Input Power (System)	12VDC(Form Adapter)	**Environmental Conditions**	33.4℃, 43%RH
Tested By	Alan Fan		

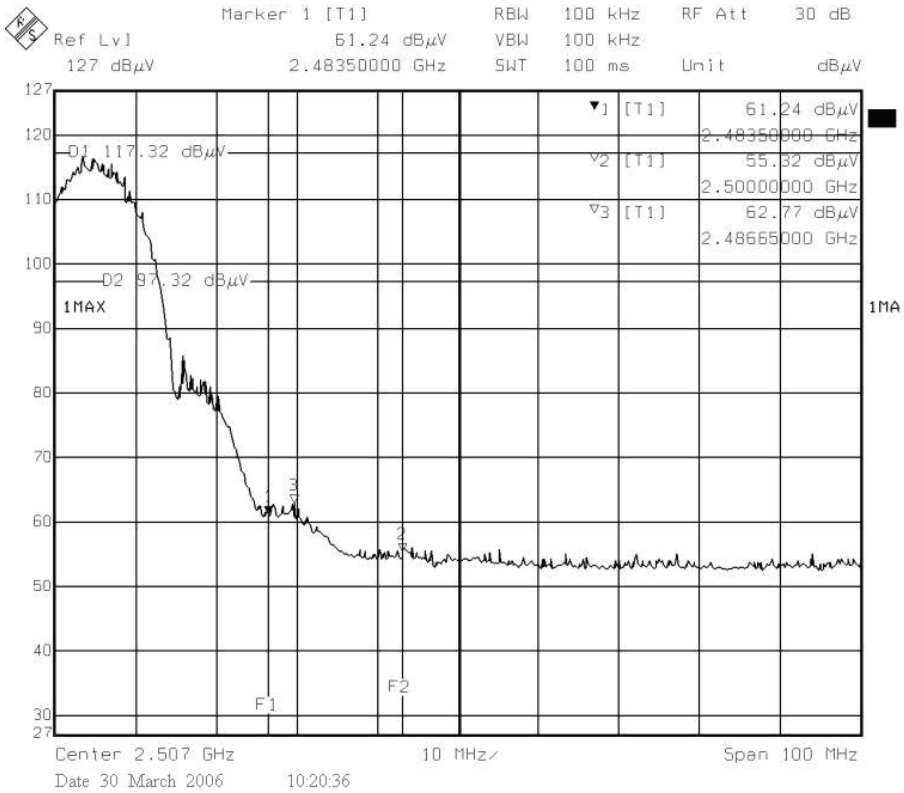
Band edge Frequency (MHz)	**Measured radiated band edge field strength (dBuV/m)**		**Horizontal radiated band edge field strength limit (dBuV/m)**		**Test result**
	Horizontal	**Vertical**	**Horizontal**	**Vertical**	
2399.9	71.64 (PK) 69.81 (AV)	76.61 (PK) 75.16 (AV)	81.86 (PK) 80.03 (AV)	86.83 (PK) 85.38 (AV)	PASS
2483.5	47.93 (PK) 44.65 (AV)	46.25 (PK) 42.42 (AV)	74 (PK) 54 (AV)	74 (PK) 54 (AV)	PASS

NOTE : 1. Radiated band edge field strength is measured with FCC recommended mark-delta method.
2. Measured radiated band edge field strength Test Results ＝ Radiated fundemental emission field strength － DELTA.
3. DELTA ＝ Relative measurement between conducted measured peak level of fundemental emission and relevant bandedge emission. Please refer to 7.7 photo of out of Band Measurement.

7.7 Photo of Out of Band Measurement



FRONT



BACK

Note: For 802.11b Mode

8. ANTENNA REQUIREMENT

8.1 Standard Applicable

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

8.2 Antenna Connected Construction

The antenna used in this product is Dipole antenna. The maximum Gain of the antenna is only 1.8dBi.

9. RF EXPOSURE EVALUATION

According to FCC 1.1310 : The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b) LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm^2)	Average Time
(A) Limits for Occupational / Control Exposures				
300-1,500	--	--	F/300	6
1,500-100,000	--	--	5	6
(B) Limits for General Population / Uncontrol Exposures				
300-1,500	--	--	F/1500	6
1,500-100,000	--	--	1	30

9.1 Friis Formula

Friis transmission formula : $Pd = (Pout*G)/(4*pi*r^2)$

Where
Pd = power density in mW/cm^2
Pout = output power to antenna in mW
G = gain of antenna in linear scale
Pi = 3.1416
R = distance between observation point and center of the radiator in cm

Pd id the limit of MPE, 1 mW/cm2. If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.

9.2 EUT Operating Condition

A software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

9.3 Test Result of RF Exposure Evaluation

Test Item ： RF Exposure Evaluation Data
Test Mode ： Normal Operation

9.3.1 Antenna Gain

Antenna Gain：The maximum Gain measured in fully anechoic chamber is 1.8dBi linear scale.

9.3.2 Output Power into Antenna & RF Exposure Evaluation Distance

Channel	Channel Frequency (MHz)	Output Power to Antenna (dBm)	Power Density at 20cm (mW/cm^2)	LIMITS (mW/cm^2)
CH1	2412.00	19.30	0.025629	1
CH6	2437.00	19.09	0.024419	1
CH11	2462.00	18.96	0.023699	1

Note : 1. For 802.11b Mode.

2. The power density Pd (4^{th} column) at a distance of 20cm calculated from the Friis transmission formula is far below the limit of 1 mW/cm^2 . The EUT is classified as mobile product. So, RF exposure limit warning or SAR test are not required.