FCC TEST REPORT

REPORT NO.: RF920708H04
MODEL NO.: SMC2804WBR, WG4005A 1-17
RECEIVED: Jul. 08, 2003
TESTED: Jul. 09 to 19, 2003

APPLICANT: Accton Technology Corporation

ADDRESS: No.1, Creation Rd. III, Science-based Industrial Park, Hsinchu, Taiwan, R.O.C.

ISSUED BY: Advance Data Technology Corporation

LAB LOCATION: No. 81-1, Lu Liao Keng, 9 Ling, Wu Lung Tsuen, Chiung Lin Hsiang, Hsin Chu Hsien, Taiwan, R.O.C.

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Lab Code: 200376-0

Table of Contents

1 CERTIFICATION

PRODUCT :	Barricade g 2.4GHz 54Mbps Wireless Cable/DSL Broadband Router
BRAND NAME :	SMC, Accton
MODEL NO. :	SMC2804WBR, WG4005A 1-17
APPLICANT :	Accton Technology Corporation
STANDARDS :	47 CFR Part 15, Subpart C (Section 15.247), ANSI C63.4-1992

We, **Advance Data Technology Corporation**, hereby certify that one sample of the designation has been tested in our facility from Jul. 09 to 19, 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: Amanda Chu , **DATE:** *Jul. 31, 2003*

(Amanda Chu)

APPROVED BY: , **DATE:** *Jul. 31, 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 Limit: 48dBuV	PASS	Meet the requirement of limit Minimum passing margin is –33.26 dBuV at 29.832 MHz
15.247(a)(2)	Spectrum Bandwidth of a Direct Sequence Spread Spectrum System Limit: min. 500kHz	PASS	Meet the requirement of limit
15.247(b)	Maximum Peak Output Power Limit: max. 30dBm	PASS	Meet the requirement of limit
15.247(c)	Transmitter Radiated Emissions Limit: Table 15.209	PASS	Meet the requirement of limit Minimum passing margin is –4.0 dBuV at 2390.00 MHz
15.247(d)	Power Spectral Density Limit: max. 8dBm	PASS	Meet the requirement of limit
15.247(c)	Band Edge Measurement Limit: 20 dB less than the peak value of fundamental frequency	PASS	Meet the requirement of limit

3 GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	Barricade g 2.4GHz 54Mbps Wireless Cable/DSL Broadband Router
MODEL NO.	SMC2804WBR, WG4005A 1-17
POWER SUPPLY	9VDC from AC adapter
MODULATION TYPE	CCK, OFDM, DBPSK, DQPSK
RADIO TECHNOLOGY	DSSS, OFDM
TRANSFER RATE	1/2/5.5/6/9/11/12/18/24/36/48/54Mbps
FREQUENCY RANGE	2412MHz ~ 2462MHz
NUMBER OF CHANNEL	11
OUTPUT POWER	18.30dBm
ANTENNA TYPE	External Dipole Antenna
DATA CABLE	NA
I/O PORTS	RJ 45 Port x 5 (LAN port x 4, WAN port x 1)
ASSOCIATED DEVICES	NA

NOTE:

1. The EUT was powered by the following power adapter:

Brand:	DVE
Model No.:	DV-91A
Input power :	120VAC 60Hz 16W
Output power :	9VDC 1000mA

2. The EUT has two model names which are identical to each other in all aspects except for the followings:

Brand	Model Name	Product Name
SMC	SMC2804WBR	Barricade g 2.4GHz 54Mbps Wireless Cable/DSL Broadband Router
Accton	WG4005A 1-17	11g Wireless Gateway

3. The EUT operates in the 2.4GHz frequency spectrum with throughput of up to 54Mbps.
4. The EUT complies with IEEE 802.11g draft standards, and backwards compatible with IEEE 802.11b products.
5. For a more detailed features description, please refer to the manufacturer's specifications or User's Manual.

3.2 DESCRIPTION OF TEST MODES

Eleven channels are provided in this EUT.

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

NOTE:

1. Below 1 GHz, the channel 1, 6, and 11 were pre-tested in chamber. The channel 11, worst case one, was chosen for final test. Test result, which were mentioned on section 3.1.
2. Above 1 GHz, the channel 1, 6, and 11 were tested individually. Test result, which were mentioned on section 3.1.
3. Transfer rate, 11Mbps with CCK technique and 6Mbps with OFDM technique, the worst case, were chosen for final test.

3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a Barricade g 2.4GHz 54Mbps Wireless Cable/DSL Broadband Router. 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)
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.

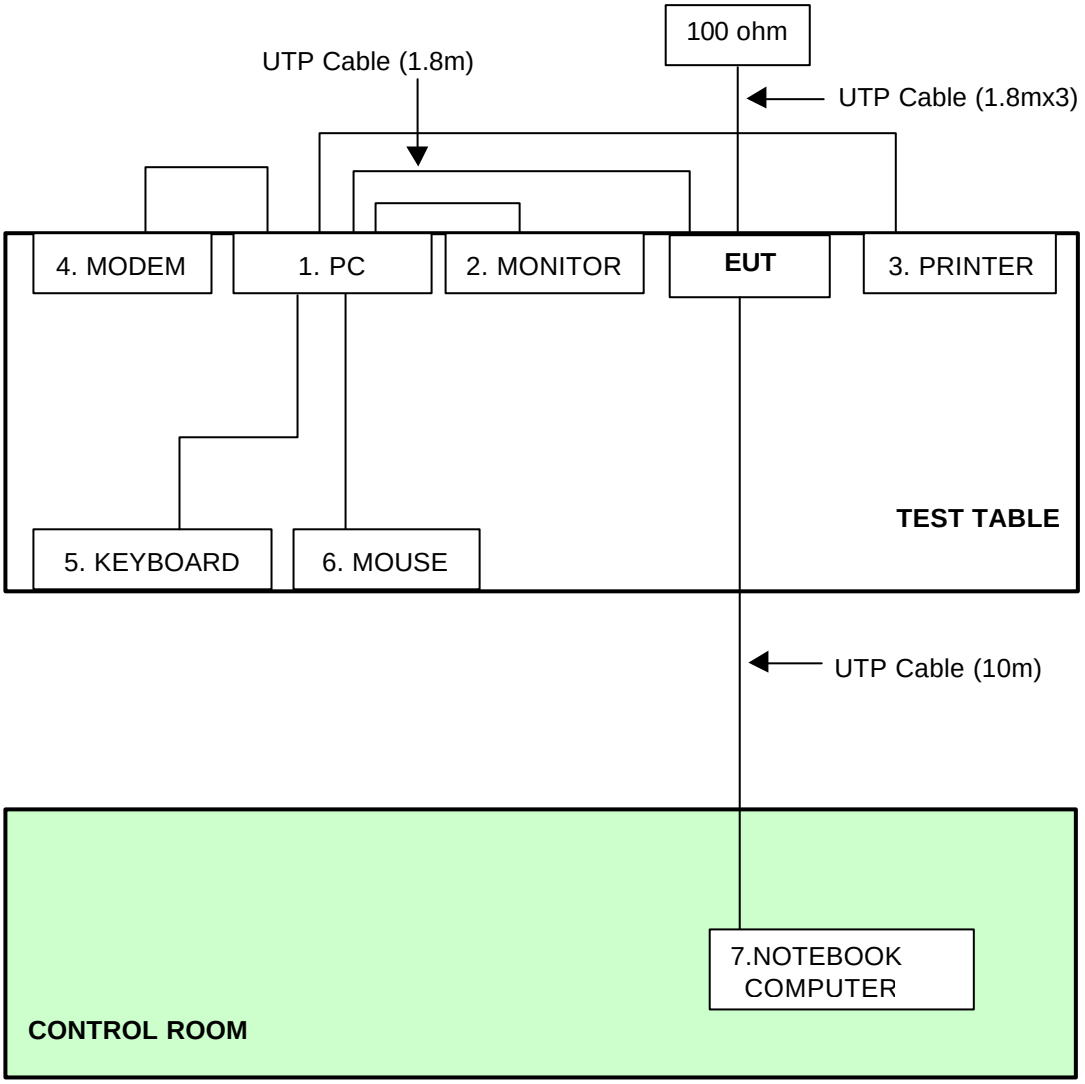
3.4 DESCRIPTION OF SUPPORT UNITS

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	Personal Computer	HP	Brio BA410	SG10602726	FCC DoC
2	MONITOR	ADI	CM100	026058T10200531	FCC DoC
3	Matrix Printer	EPSON	LQ-300+	DCGY017079	FCC DoC
4	MODEM	ACEEX	1414	0206026775	IFAXDM1414
5	PS/2 KEYBOARD	FORWARD	FDA-104GA	FDKB8110060	F4ZDA-104G
6	PS/2 MOUSE	IBM	M-SAU-IBM6	23-225119	JNZ211220
7	NOTEBOOK	DELL	PP01L	TW-09C748-12800-17Q-C504	FCC DoC

No.	Signal cable description
1	NA
2	1.8 m braid shielded wire, terminated with VGA connector via metallic frame, w/o core.
3	1.8m braid shielded wire, terminated with DB25 and Centronics connector via metallic frame, w/o core
4	1.3m braid shielded wire, terminated with DB25 and DB9 connector via metallic frame, w/o core.
5	1.3 m foil shielded wire, terminal by frame, PS2 Connector, w/o Core.
6	1.9 m foil shielded wire, terminal by frame, PS2 Connector, w/o Core.
7	NA

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



NOTE: 1. Support unit 7 was kept in the control room during the test.
2. Please refer to the photos of test configuration in Item 5 also.

4 TEST TYPES AND RESULTS

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 0.5-5 5-30	66 to 56 56 60	56 to 46 46 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, 2003
ROHDE & SCHWARZ LISN (for EUT)	ESHS-Z5	848773/004	Nov. 13, 2003
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.

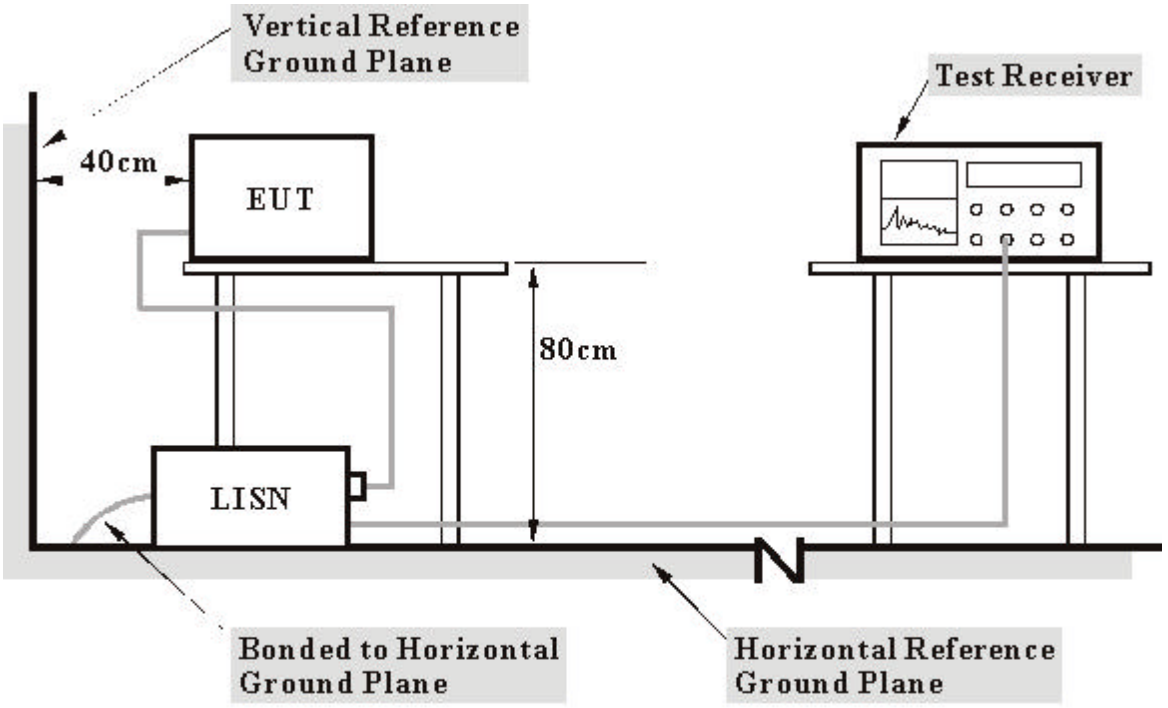
3. TEST PROCEDURES

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

4.1.3 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.

4.1.4 EUT OPERATING CONDITIONS

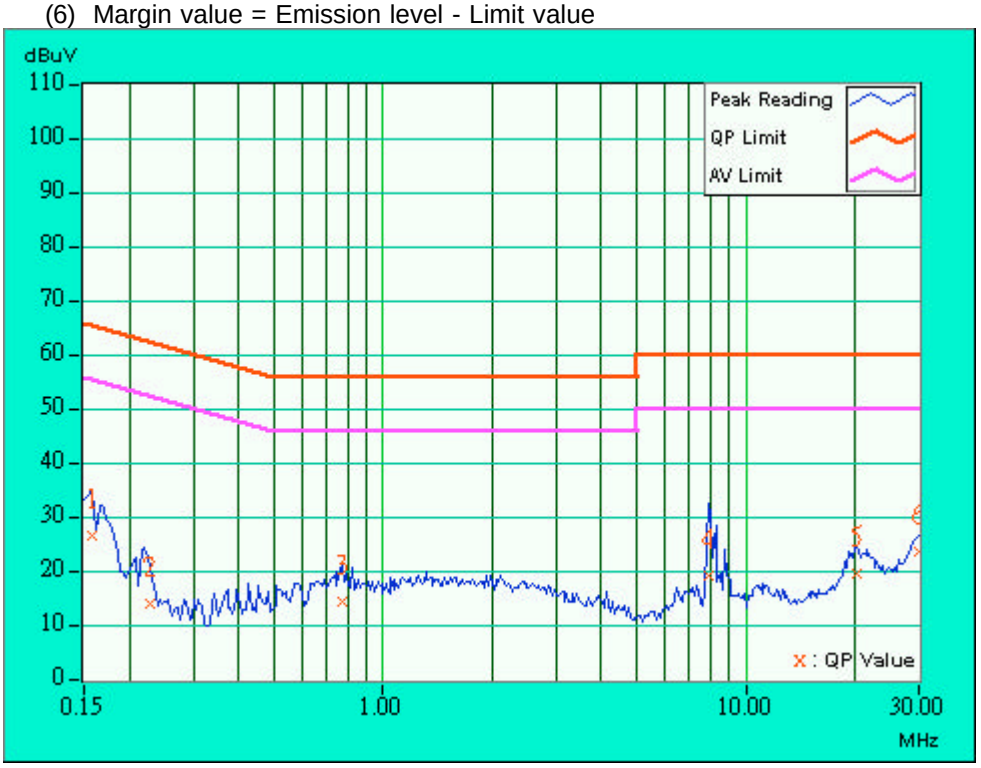
a. Placed the EUT on the testing table.
b. The support units (1-6) act as a Server PC system to communicate with EUT via RJ 45 cables..
c. Prepared another computer system (support unit 7) to act as a communication partner and placed it outside of testing area.
d. The communication partner run the test program to enable EUT under transmission/receiving condition continuously via RJ 45 cable.
e. Both Server PC system and communication partner sent data to EUT by command "PING".

4.1.5 TEST RESULTS

EUT	Barricade g 2.4GHz 54Mbps Wireless Cable/DSL Broadband Router		
MODEL	SMC2804WBR	**MODE**	Channel 11
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**6dB BANDWIDTH**	9 kHz
ENVIRONMENTAL CONDITIONS	30 deg. C, 54%RH, 965 hPa	**PHASE**	Line (L)
TESTED BY	Tony Chen		

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.158	0.20	25.43	-	25.63	-	65.58	55.58	-39.95	-
2	0.228	0.20	12.80	-	13.00	-	62.52	52.52	-49.52	-
3	0.771	0.26	13.29	-	13.55	-	56.00	46.00	-42.45	-
4	7.945	0.66	17.86	-	18.52	-	60.00	50.00	-41.48	-
5	20.219	1.20	18.43	-	19.63	-	60.00	50.00	-40.37	-
6	29.895	1.30	22.25	-	23.55	-	60.00	50.00	-36.45	-

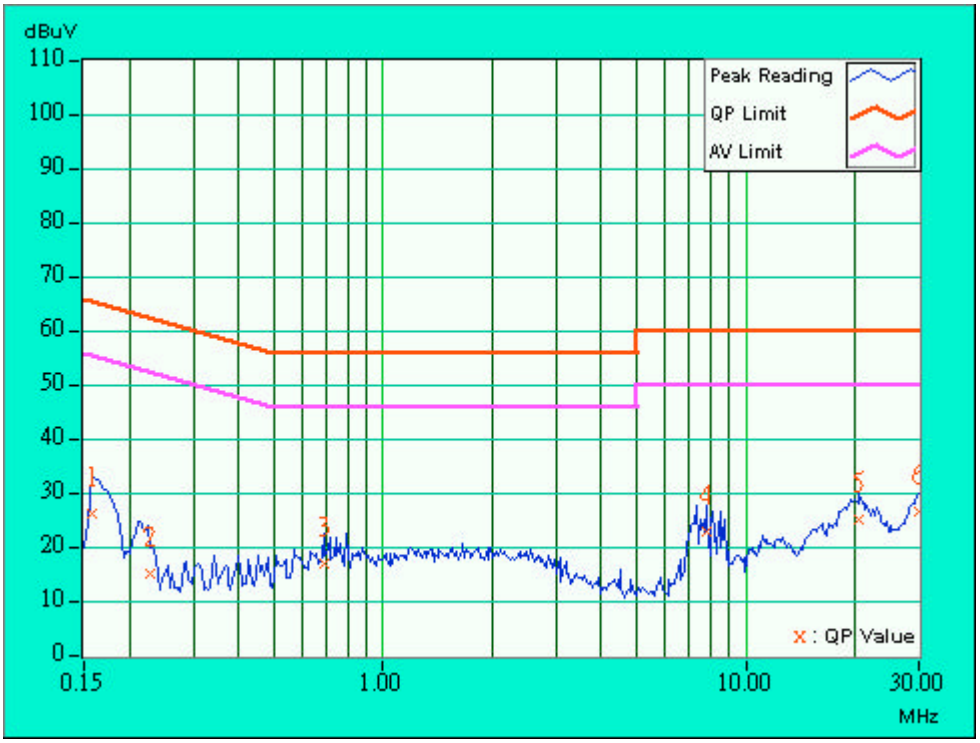
NOTES: (1) "*": Undetectable
(2) Q.P. and AV. are abbreviations of quasi-peak and average.
(3) "-": The Quasi-peak reading value also meets an average limit, thus measurement with the average detector is unnecessary.
(4) The emission levels of other frequencies were very low against the limit.
(5) Correction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



EUT	Barricade g 2.4GHz 54Mbps Wireless Cable/DSL Broadband Router		
MODEL	SMC2804WBR	**MODE**	Channel 11
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**6dB BANDWIDTH**	9 kHz
ENVIRONMENTAL CONDITIONS	30 deg. C, 54%RH, 965 hPa	**PHASE**	Line (N)
TESTED BY	Tony Chen		

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.158	0.20	25.29	-	25.49	-	65.58	55.58	-40.09	-
2	0.229	0.20	14.12	-	14.32	-	62.47	52.47	-48.15	-
3	0.685	0.25	15.90	-	16.15	-	56.00	46.00	-39.85	-
4	7.766	0.59	21.87	-	22.46	-	60.00	50.00	-37.54	-
5	20.477	0.91	24.28	-	25.19	-	60.00	50.00	-34.81	-
6	**29.832**	**1.00**	**25.74**	**-**	**26.74**	**-**	**60.00**	**50.00**	**-33.26**	**-**

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

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

Frequencies (MHz)	Field strength (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	8594ER	3829U04676	Jul. 14, 2004
ADVANTEST Spectrum Analyzer	R3271A	85060311	May 21, 2004
CHASE RF Pre_Amplifier	CPA9232	1057	Apr. 24, 2004
HP Pre_Amplifier	8449B	3008A01281	June 27, 2004
ROHDE & SCHWARZ Test Receiver	ESVS 10	849231 /019	Nov. 03, 2003
CHASE Broadband Antenna	CBL6111c	2730	Jul 17, 2004
Schwarzbeck Horn_Antenna	BBHA9120-D1	D123	Aug. 26, 2003
SCHWARZBECK Tunable Dipole Antenna	UHAP	897	Mar. 07, 2005
SCHWARZBECK Tunable Dipole Antenna	VHAP	880	Mar. 07, 2005
RF Switches (ARNITSU)	CS-201	1565157	Dec. 01, 2003
RF CABLE (Chaintek) 1GHz-20GHz	Ak 9515-D	001	Aug, 20.2003
RF Cable(RICHTEC)	9913-30M	STCCAB-30M-1GHz-021	Nov. 5, 2003
Software	AS60P8	NA	NA
CHANCE MOST Antenna Tower	AT-100	0203	NA
CHANCE MOST Turn Table	TT-100	0203	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. C.
5. The FCC Site Registration No. is 656396.
6. The VCCI Site Registration No. is R-1626.
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.

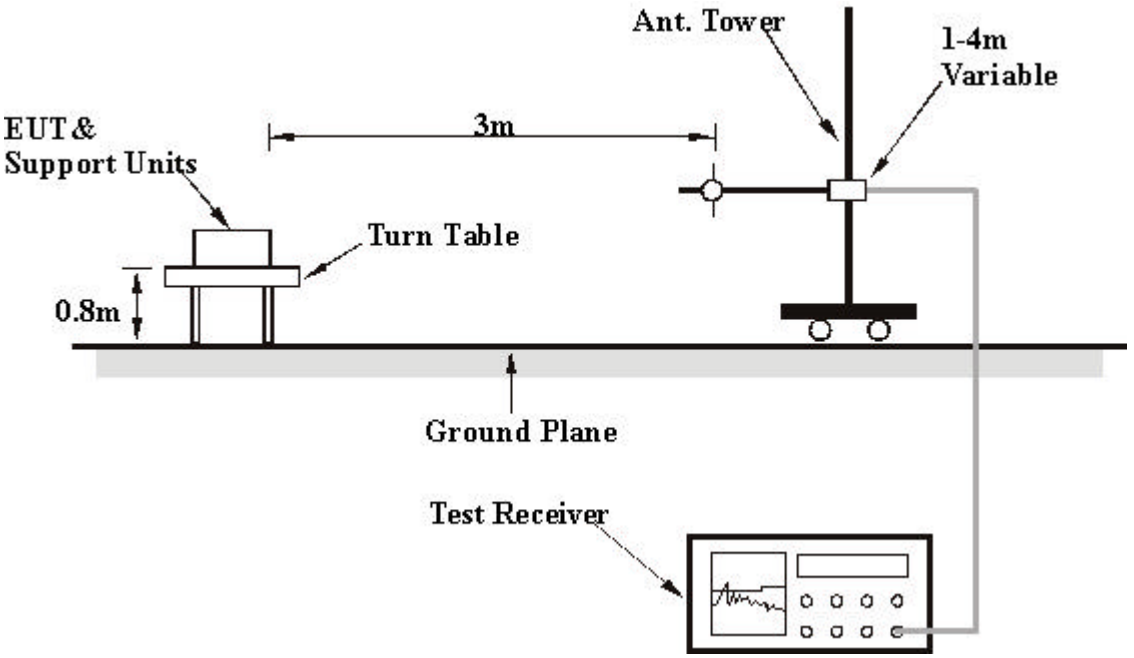
e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

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 peak, quasi-peak or average method as specified and then reported in a data sheet.

NOTE:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Peak detection (PK) and Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1 MHz for Peak detection at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 300 Hz for Average detection (AV) at frequency above 1GHz.

4.2.4 TEST SETUP



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

4.2.5 EUT OPERATING CONDITIONS

Same as 4.1.5.

4.2.6 TEST RESULTS

EUT	Barricade g 2.4GHz 54Mbps Wireless Cable/DSL Broadband Router		
MODE	Channel 11	**MODEL**	SMC2804WBR
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**FREQUENCY RANGE**	30-1000 MHz
ENVIRONMENTAL CONDITIONS	23 deg. C, 59 % RH, 965 hPa	**DETECTOR FUNCTION**	Quasi-Peak
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	55.00	16.7 QP	40.00	-23.30	1.24 H	232	10.00	6.70
2	125.02	29.7 QP	43.50	-13.80	1.77 H	147	17.60	12.00
3	132.00	24.4 QP	43.50	-19.10	1.77 H	29	12.60	11.80
4	250.03	28.4 QP	46.00	-17.60	1.01 H	241	15.40	13.00
5	375.03	39.1 QP	46.00	-6.90	1.14 H	355	22.90	16.20
6	396.00	31.1 QP	46.00	-14.90	2.16 H	16	14.20	17.00
7	440.02	30.8 QP	46.00	-15.20	1.48 H	199	12.80	18.00
8	500.05	30.1 QP	46.00	-15.90	1.52 H	195	10.80	19.30
9	528.00	39.8 QP	46.00	-6.20	1.40 H	107	20.10	19.60
10	624.46	33.4 QP	46.00	-12.60	1.32 H	58	11.60	21.70
11	660.03	38.3 QP	46.00	-7.70	1.36 H	52	16.30	22.00

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	57.50	30.3 QP	40.00	-9.70	1.86 V	186	24.30	6.00
2	66.50	28.6 QP	40.00	-11.40	1.10 V	77	23.10	5.50
3	125.03	36.4 QP	43.50	-7.10	1.00 V	358	24.40	12.00
4	132.00	29.5 QP	43.50	-14.00	1.30 V	0	17.70	11.80
5	250.03	29.8 QP	46.00	-16.20	1.22 V	55	16.80	13.00
6	375.05	33.1 QP	46.00	-12.90	1.69 V	218	16.90	16.20
7	396.01	30.5 QP	46.00	-15.50	1.19 V	29	13.60	17.00
8	500.04	31.2 QP	46.00	-14.80	1.59 V	64	11.90	19.30
9	528.00	38.6 QP	46.00	-7.40	1.29 V	97	19.00	19.60
10	625.08	30.6 QP	46.00	-15.40	1.18 V	96	8.90	21.70
11	750.23	34.5 QP	46.00	-11.50	1.48 V	242	10.80	23.80
12	875.23	34.5 QP	46.00	-11.50	1.86 V	249	9.60	25.00

REMARKS:
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. The limit value is defined as per 15.247

4.2.7 TEST RESULTS – DSSS

EUT	Barricade g 2.4GHz 54Mbps Wireless Cable/DSL Broadband Router		
MODE	Channel 1	**MODEL**	SMC2804WBR
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**FREQUENCY RANGE**	Above 1000 MHz
ENVIRONMENTAL CONDITIONS	28 deg. C, 58%RH, 965 hPa	**DETECTOR FUNCTION**	Peak (PK) Average(AV)
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	56.4 PK	74.00	-17.60	1.63 H	329	26.60	29.80
1	2390.00	44.1 AV	54.00	-9.90	1.63 H	329	14.30	29.80
2	*2412.00	101.1 PK			1.54 H	254	71.20	29.90
2	*2412.00	93.1 AV			1.54 H	254	63.20	29.90
3	4824.00	44.3 PK	74.00	-29.70	1.36 H	162	8.10	36.20
3	4824.00	36.6 AV	54.00	-17.40	1.36 H	162	8.10	36.20
4	7236.00	42.8 PK	74.00	-31.20	1.45 H	249	1.20	41.70
4	7236.00	36.0 AV	54.00	-18.00	1.45 H	249	1.20	41.70
5	9648.00	47.2 PK	74.00	-26.80	1.01 H	4	2.30	44.90
5	9648.00	38.5 AV	54.00	-15.50	1.01 H	4	2.30	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	61.4 PK	74.00	-12.60	1.04 V	248	31.60	29.80
1	**2390.00**	**50.0 AV**	**54.00**	**-4.00**	**1.04 V**	**248**	**20.20**	**29.80**
2	*2412.00	110.9 PK			1.05 V	31	81.00	29.90
2	*2412.00	103.7 AV			1.05 V	31	73.80	29.90
3	4824.00	45.3 PK	74.00	-28.70	1.08 V	32	9.00	36.20
3	4824.00	38.3 AV	54.00	-15.70	1.08 V	32	9.00	36.20
4	7236.00	50.9 PK	74.00	-23.10	1.08 V	154	9.20	41.70
4	7236.00	41.2 AV	54.00	-12.80	1.08 V	154	9.20	41.70
5	7236.00	48.8 PK	74.00	-25.20	1.38 V	156	7.20	41.70
5	7236.00	39.7 AV	54.00	-14.30	1.38 V	156	7.20	41.70

REMARKS:
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. The limit value is defined as per 15.247
6. " * " : Fundamental frequency

EUT	Barricade g 2.4GHz 54Mbps Wireless Cable/DSL Broadband Router		
MODE	Channel 6	**MODEL**	SMC2804WBR
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**FREQUENCY RANGE**	Above 1000 MHz
ENVIRONMENTAL CONDITIONS	28 deg. C, 58%RH, 965 hPa	**DETECTOR FUNCTION**	Peak (PK) Average(AV)
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	53.3 PK	74.00	-20.70	1.06 H	135	23.50	29.80
1	2390.00	41.0 AV	54.00	-13.00	1.06 H	135	11.20	29.80
2	*2437.00	101.5 PK			1.06 H	191	71.50	30.00
2	*2437.00	94.5 AV			1.06 H	191	64.50	30.00
3	2483.50	51.7 PK	74.00	-22.30	1.08 H	356	21.60	30.10
3	2483.50	40.3 AV	54.00	-13.70	1.08 H	356	10.20	30.10
4	4874.00	46.1 PK	74.00	-27.90	1.02 H	325	9.70	36.50
4	4874.00	35.9 AV	54.00	-18.10	1.02 H	325	9.70	36.50
5	7311.00	45.1 PK	74.00	-28.90	1.35 H	85	3.30	41.80
5	7311.00	35.9 AV	54.00	-18.10	1.35 H	85	3.30	41.80
6	9748.00	47.8 PK	74.00	-26.20	1.44 H	352	3.20	44.60
6	9748.00	37.8 AV	54.00	-16.20	1.44 H	352	3.20	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	2390.00	55.0 PK	74.00	-19.00	1.41 V	21	25.20	29.80
1	2390.00	45.0 AV	54.00	-9.00	1.41 V	21	15.20	29.80
2	*2437.00	111.2 PK			1.69 V	65	81.30	30.00
2	*2437.00	104.2 AV			1.69 V	65	74.20	30.00
3	2483.50	53.3 PK	74.00	-20.70	1.42 V	358	23.20	30.10
3	2483.50	44.3 AV	54.00	-9.70	1.42 V	358	14.20	30.10
4	4874.00	48.6 PK	74.00	-25.40	1.35 V	26	12.10	36.50
4	4874.00	42.7 AV	54.00	-11.30	1.35 V	26	12.10	36.50
5	7311.00	49.1 PK	74.00	-24.90	1.52 V	201	7.30	41.80
5	7311.00	41.2 AV	54.00	-12.80	1.52 V	201	7.30	41.80
6	9748.00	51.3 PK	74.00	-22.70	1.11 V	52	6.70	44.60
6	9748.00	42.7 AV	54.00	-11.30	1.11 V	52	-1.90	36.50

REMARKS:
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. The limit value is defined as per 15.247
6. " * " : Fundamental frequency

EUT	Barricade g 2.4GHz 54Mbps Wireless Cable/DSL Broadband Router		
MODE	Channel 11	MODEL	SMC2804WBR
INPUT POWER (SYSTEM)	120Vac, 60 Hz	FREQUENCY RANGE	Above 1000 MHz
ENVIRONMENTAL CONDITIONS	28 deg. C, 58%RH, 965 hPa	DETECTOR FUNCTION	Peak (PK) Average(AV)
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	*2462.00	102.5 PK			1.05 H	24	72.40	30.10
1	*2462.00	95.0 AV			1.05 H	24	64.90	30.10
2	2483.50	51.5 PK	74.00	-22.50	1.63 H	321	21.40	30.10
2	2483.50	40.3 AV	54.00	-13.70	1.63 H	321	10.20	30.10
3	4924.00	44.8 PK	74.00	-29.20	1.08 H	333	8.10	36.70
3	4924.00	36.9 AV	54.00	-17.10	1.08 H	333	8.10	36.70
4	7386.00	45.7 PK	74.00	-28.30	1.37 H	6	3.90	41.80
4	7386.00	36.3 AV	54.00	-17.70	1.37 H	6	3.90	41.80
5	9848.00	46.6 PK	74.00	-27.40	1.70 H	255	2.20	44.40
5	9848.00	38.7 AV	54.00	-15.30	1.70 H	255	2.20	44.40

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	*2462.00	112.2 PK			1.08 V	65	82.10	30.10
1	*2462.00	105.4 AV			1.08 V	65	75.30	30.10
2	2483.50	57.0 PK	74.00	-17.00	1.72 V	356	26.90	30.10
2	2483.50	46.0 AV	54.00	-8.00	1.72 V	356	15.90	30.10
3	4924.00	48.7 PK	74.00	-25.30	1.07 V	47	12.00	36.70
3	4924.00	43.0 AV	54.00	-11.00	1.07 V	47	12.00	36.70
4	7386.00	51.7 PK	74.00	-22.30	1.63 V	68	9.90	41.80
4	7386.00	41.3 AV	54.00	-12.70	1.63 V	68	-0.50	36.70
5	9848.00	50.7 PK	74.00	-23.30	1.68 V	263	6.30	44.40
5	9848.00	42.0 AV	54.00	-12.00	1.68 V	263	6.30	44.40

REMARKS:
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. The limit value is defined as per 15.247
6. " * " : Fundamental frequency

4.2.8 TEST RESULTS –OFDM

EUT	Barricade g 2.4GHz 54Mbps Wireless Cable/DSL Broadband Router		
MODE	Channel 1	**MODEL**	SMC2804WBR
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**FREQUENCY RANGE**	Above 1000 MHz
ENVIRONMENTAL CONDITIONS	28 deg. C, 58%RH, 965 hPa	**DETECTOR FUNCTION**	Peak (PK) Average(AV)
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	2376.00	48.1 PK	74.00	-25.90	1.46 H	323	18.40	29.70
1	2376.00	38.9 AV	54.00	-15.10	1.46 H	323	18.40	29.70
2	2390.00	52.9 PK	74.00	-21.10	1.02 H	352	23.10	29.80
2	2390.00	40.1 AV	54.00	-13.90	1.02 H	352	10.30	29.70
3	*2412.00	94.1 PK			1.42 H	25	64.20	29.90
3	*2412.00	85.0 AV			1.42 H	25	55.10	29.80
4	4824.00	38.6 PK	74.00	-35.40	1.35 H	217	2.40	36.20
4	4824.00	34.3 AV	54.00	-19.70	1.35 H	217	2.40	36.20
5	7236.00	42.0 PK	74.00	-32.00	1.05 H	310	0.30	41.70
5	7236.00	35.8 AV	54.00	-18.20	1.05 H	310	0.30	41.70
6	9648.00	44.4 PK	74.00	-29.60	1.39 H	182	-0.50	44.90
6	9648.00	36.9 AV	54.00	-17.10	1.39 H	182	-0.50	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	2376.00	55.9 PK	74.00	-18.10	1.30 V	21	26.20	29.70
1	2376.00	44.0 AV	54.00	-10.00	1.30 V	21	14.20	29.70
2	2390.00	59.3 PK	74.00	-14.70	2.47 V	154	29.50	29.80
2	2390.00	48.1 AV	54.00	-5.90	2.47 V	154	18.30	29.80
3	*2412.00	101.3 PK			1.01 V	60	71.40	29.90
3	*2412.00	93.1 AV			1.01 V	60	63.20	29.90
4	4824.00	47.9 PK	74.00	-26.10	1.25 V	336	11.70	36.20
4	4824.00	39.7 AV	54.00	-14.30	1.25 V	336	11.70	36.20
5	7236.00	49.0 PK	74.00	-25.00	1.11 V	289	7.30	41.70
5	7236.00	39.2 AV	54.00	-14.80	1.11 V	289	7.30	41.70
6	9648.00	55.6 PK	74.00	-18.40	1.40 V	28	10.70	44.90
6	9648.00	39.1 AV	54.00	-14.90	1.40 V	28	-5.80	36.20

REMARKS: 1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. The limit value is defined as per 15.247
6. " * " : Fundamental frequency

EUT	Barricade g 2.4GHz 54Mbps Wireless Cable/DSL Broadband Router		
MODE	Channel 6	**MODEL**	SMC2804WBR
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**FREQUENCY RANGE**	Above 1000 MHz
ENVIRONMENTAL CONDITIONS	28 deg. C, 58%RH, 965 hPa	**DETECTOR FUNCTION**	Peak (PK) Average(AV)
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	48.0 PK	74.00	-26.00	1.52 H	20	18.20	29.80
1	2390.00	39.4 AV	54.00	-14.60	1.52 H	20	18.20	29.80
2	*2437.00	94.2 PK			1.53 H	85	64.20	30.00
2	*2437.00	85.7 AV			1.53 H	85	55.70	29.80
3	2483.50	46.5 PK	74.00	-27.50	1.30 H	265	16.40	30.10
3	2483.50	38.7 AV	54.00	-15.30	1.30 H	265	16.40	30.10
4	4874.00	42.5 PK	74.00	-31.50	1.47 H	245	6.00	36.50
4	4874.00	35.5 AV	54.00	-18.50	1.47 H	245	6.00	36.50
5	7311.00	45.6 PK	74.00	-28.40	1.63 H	269	3.80	41.80
5	7311.00	36.2 AV	54.00	-17.80	1.63 H	269	3.80	41.80
6	9748.00	47.7 PK	74.00	-26.30	1.46 H	35	3.10	44.60
6	9748.00	37.6 AV	54.00	-16.40	1.46 H	35	3.10	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	2390.00	53.1 PK	74.00	-20.90	1.42 V	5	23.30	29.80
1	2390.00	43.0 AV	54.00	-11.00	1.42 V	5	13.20	29.80
2	*2437.00	102.2 PK			1.45 V	241	72.20	30.00
2	*2437.00	93.8 AV			1.45 V	241	63.90	30.00
3	2483.50	53.3 PK	74.00	-20.70	1.40 V	236	23.20	30.10
3	2483.50	41.1 AV	54.00	-12.90	1.40 V	236	11.00	30.10
4	4874.00	48.6 PK	74.00	-25.40	1.24 V	215	12.10	36.50
4	4874.00	40.0 AV	54.00	-14.00	1.24 V	215	12.10	36.50
5	7311.00	48.9 PK	74.00	-25.10	1.07 V	57	7.10	41.80
5	7311.00	41.2 AV	54.00	-12.80	1.07 V	57	7.10	41.80
6	9748.00	50.7 PK	74.00	-23.30	1.36 V	352	6.10	44.60
6	9748.00	41.8 AV	54.00	-12.20	1.36 V	352	6.10	44.60

REMARKS:
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. The limit value is defined as per 15.247
6. " * " : Fundamental frequency

EUT	Barricade g 2.4GHz 54Mbps Wireless Cable/DSL Broadband Router		
MODE	Channel 11	**MODEL**	SMC2804WBR
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**FREQUENCY RANGE**	Above 1000 MHz
ENVIRONMENTAL CONDITIONS	28 deg. C, 58%RH, 965 hPa	**DETECTOR FUNCTION**	Peak (PK) Average(AV)
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	*2462.00	94.9 PK			1.07 H	57	64.80	30.10
1	*2462.00	87.9 AV			1.07 H	57	57.80	30.10
2	2483.50	51.5 PK	74.00	-22.50	1.65 H	327	21.40	30.10
2	2483.50	40.4 AV	54.00	-13.60	1.65 H	327	10.20	30.10
3	4924.00	50.2 PK	74.00	-23.80	1.02 H	24	13.50	36.70
3	4924.00	40.9 AV	54.00	-13.10	1.02 H	24	13.50	36.70
4	7386.00	45.3 PK	74.00	-28.70	1.46 H	32	3.40	41.80
4	7386.00	36.3 AV	54.00	-17.70	1.46 H	32	3.40	41.80
5	9848.00	47.1 PK	74.00	-26.90	1.68 H	39	2.70	44.40
5	9848.00	38.8 AV	54.00	-15.20	1.68 H	39	2.70	44.40

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	*2462.00	102.2 PK			1.69 V	360	72.10	30.10
1	*2462.00	95.1 AV			1.69 V	360	65.00	30.10
2	2483.50	59.8 PK	74.00	-14.20	1.30 V	21	29.70	30.10
2	2483.50	48.5 AV	54.00	-5.50	1.30 V	21	18.40	30.10
3	4924.00	45.8 PK	74.00	-28.20	1.53 V	2	9.10	36.70
3	4924.00	40.9 AV	54.00	-13.10	1.53 V	2	9.10	36.70
4	7386.00	50.0 PK	74.00	-24.00	1.02 V	32	8.20	41.80
4	7386.00	41.3 AV	54.00	-12.70	1.02 V	32	8.20	41.80
5	9848.00	52.1 PK	74.00	-21.90	1.68 V	35	7.80	44.40
5	9848.00	41.8 AV	54.00	-12.20	1.68 V	35	-2.60	36.70

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

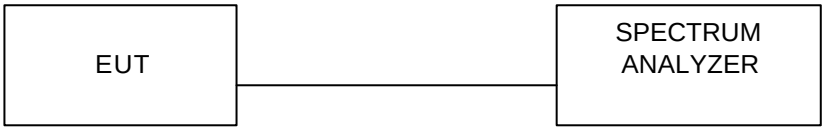
NOTE:

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

4.3.4 TEST SETUP



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

4.3.5 EUT OPERATING CONDITIONS

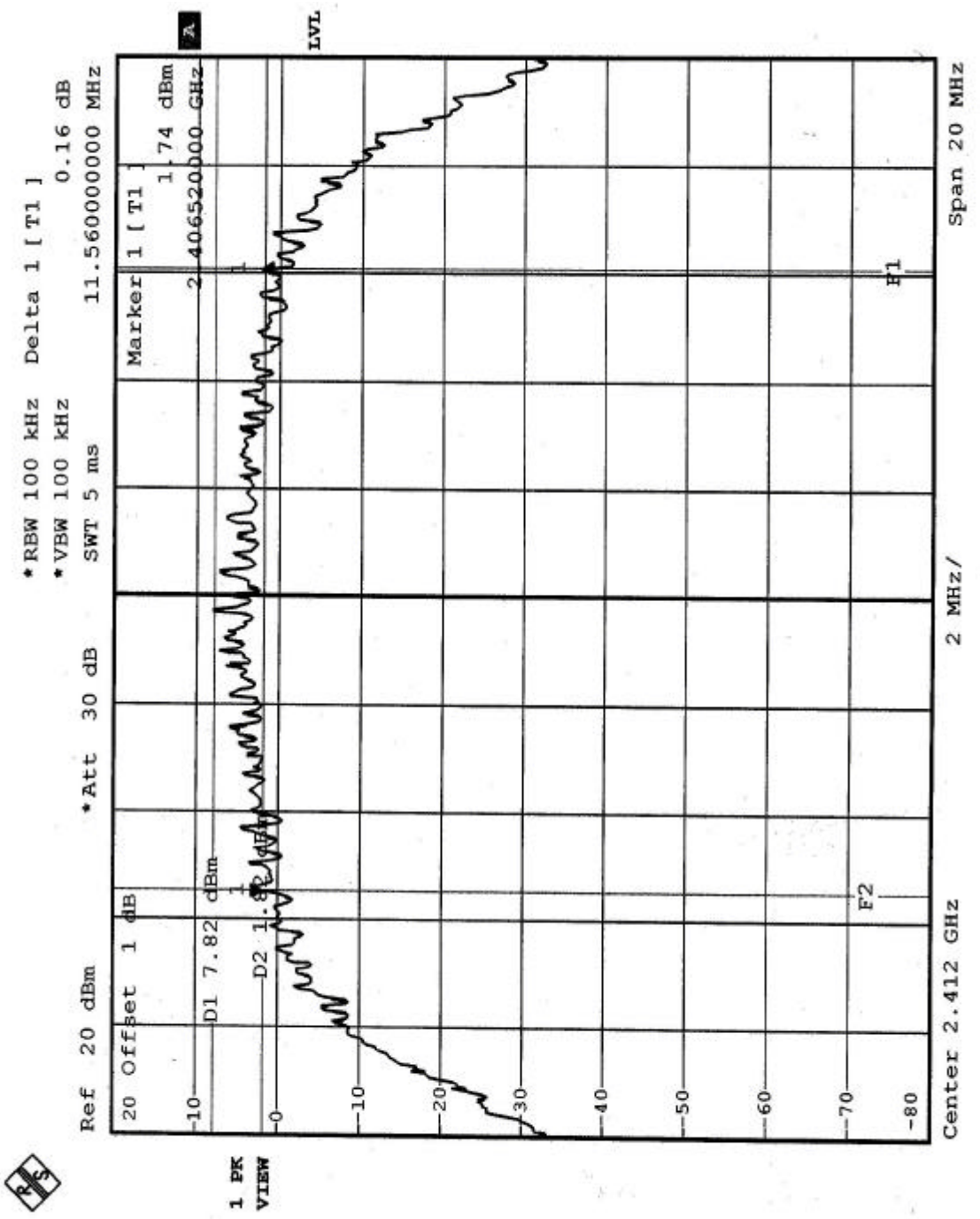
The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.3.6 TEST RESULTS-DSSS

EUT	Barricade g 2.4GHz 54Mbps Wireless Cable/DSL Broadband Router		
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**ENVIRONMENTAL CONDITIONS**	26 deg. C, 58 %RH, 965 hPa
MODEL	SMC2804WBR	**TESTED BY**	Eric Lee

CHANNEL	CHANNEL FREQUENCY (MHz)	6 dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS/FAIL
1	2412	11.56	0.5	PASS
6	2437	11.08	0.5	PASS
11	2462	11.12	0.5	PASS

CH1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*VBW 100 kHz
SWT 5 ms
Delta 1 [T1]
0.16 dB
11.560000000 MHz
Marker 1 [T1]
1.74 dBm
2.40652000 GHz
*Att 30 dB
Ref 20 dBm
20 Offset 1 dB
D1 7.82 dBm
D2 1.82 dBm
F1
F2
1 PK
VIEW
Center 2.412 GHz
2 MHz/
Span 20 MHz