



FCC TEST REPORT

REPORT NO.: RF920606H03

MODEL NO.: WRT54G

RECEIVED: Jun. 26, 2003

TESTED: Jun. 07 to Jul. 09, 2003

APPLICANT: Cisco-Linksys, LLC

ADDRESS: 17401 Armstrong Ave. Irvine, CA 92614

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.....	4
2	SUMMARY OF TEST RESULTS.....	5
3	GENERAL INFORMATION	6
3.1	GENERAL DESCRIPTION OF EUT.....	6
3.2	DESCRIPTION OF TEST MODES.....	8
3.3	GENERAL DESCRIPTION OF APPLIED STANDARDS	8
3.4	DESCRIPTION OF SUPPORT UNITS.....	9
4	TEST TYPES AND RESULTS	10
4.1	CONDUCTED EMISSION MEASUREMENT.....	10
4.1.1	LIMITS OF CONDUCTED EMISSION MEASUREMENT.....	10
4.1.2	TEST INSTRUMENTS	10
4.1.3	TEST SETUP	11
4.1.4	EUT OPERATING CONDITIONS	12
4.1.5	TEST RESULTS - Power adapter A	13
4.1.6	TEST RESULTS - Power adapter B	19
4.2	RADIATED EMISSION MEASUREMENT	25
4.2.1	LIMITS OF RADIATED EMISSION MEASUREMENT.....	25
4.2.2	TEST INSTRUMENTS	26
4.2.3	TEST PROCEDURES	27
4.2.4	TEST SETUP	28
4.2.5	EUT OPERATING CONDITIONS	28
4.2.6	TEST RESULTS (A).....	29
4.2.7	TEST RESULTS (B).....	30
4.2.8	TEST RESULTS (C).....	31
4.2.9	TEST RESULTS (D).....	32
4.2.10	TEST RESULTS – DSSS(A).....	33
4.2.11	TEST RESULTS – DSSS(B).....	36
4.2.12	TEST RESULTS –OFDM (A).....	39
4.2.13	TEST RESULTS –OFDM (B).....	42
4.3	6dB BANDWIDTH MEASUREMENT	45
4.3.1	LIMITS OF 6dB BANDWIDTH MEASUREMENT.....	45
4.3.2	TEST INSTRUMENTS	45
4.3.3	TEST PROCEDURE	46
4.3.4	TEST SETUP	46
4.3.5	EUT OPERATING CONDITIONS	46



4.3.6	TEST RESULTS-DSSS	47
4.3.7	TEST RESULTS-OFDM	51
4.4	MAXIMUM PEAK OUTPUT POWER	55
4.4.1	LIMITS OF MAXIMUM PEAK OUTPUT POWER MEASUREMENT	55
4.4.2	TEST INSTRUMENTS	55
4.4.3	TEST PROCEDURES	56
4.4.4	TEST SETUP	56
4.4.5	EUT OPERATING CONDITIONS	56
4.4.6	TEST RESULTS-DSSS	57
4.4.7	TEST RESULTS-OFDM	57
4.5	POWER SPECTRAL DENSITY MEASUREMENT	58
4.5.1	LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT.....	58
4.5.2	TEST INSTRUMENTS	58
4.5.3	TEST PROCEDURE	59
4.5.4	TEST SETUP	59
4.5.5	EUT OPERATING CONDITIONS	59
4.5.6	TEST RESULTS-DSSS	60
4.5.7	TEST RESULTS-OFDM	64
4.6	BAND EDGES MEASUREMENT.....	68
4.6.1	LIMITS OF BAND EDGES MEASUREMENT.....	68
4.6.2	TEST INSTRUMENTS	68
4.6.3	TEST PROCEDURE	68
4.6.4	EUT OPERATING CONDITION.....	68
4.6.5	TEST RESULTS - DSSS.....	69
4.6.6	TEST RESULTS-OFDM	72
4.7	ANTENNA REQUIREMENT.....	75
4.7.1	STANDARD APPLICABLE.....	75
4.7.2	ANTENNA CONNECTED CONSTRUCTION	75
5	PHOTOGRAPHS OF THE TEST CONFIGURATION.....	76
6	INFORMATION ON THE TESTING LABORATORIES.....	78



1 CERTIFICATION

PRODUCT : Wireless-G Broadband Router
BRAND NAME : Cisco-Linksys, LLC
MODEL NO. : WRT54G
APPLICANT : Cisco-Linksys, LLC
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 Jun. 07 to Jul. 09, 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. 15, 2003
(Amanda Chu)

APPROVED BY: Eric Lin, **DATE:** Jul. 15, 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 -11.09 dBuV at 0.404 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 -2.3 dBuV at 375.02 MHz & 624.01 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	Wireless-G Broadband Router
MODEL NO.	WRT54G
POWER SUPPLY	5VDC 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	16.24dBm
ANTENNA TYPE	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 two power adapters:

Power adapter A:

Brand:	Linksys
Model No.:	AD12-1A
Input power :	AC120, 60Hz, 23W
Output power :	DC 12V, 1A DC cable: 1.8m/nonshielded/without core

Power adapter B:

Brand:	Linksys
Model No.:	AD-121AN
Input power :	AC120, 60Hz, 25W
Output power :	DC 12V, 1A DC cable: 1.8m/nonshielded/without core

2. There are two types of antennas provided to this EUT, please refer to the following table:

No.	Note	Gain (dBi)	Antenna Type / Connector
1	Two antannas	2	dipole antenna / with TNC connector
2	One antanna	3.3	dipole antenna / with Printed connector

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. And test result (A) is for adapter A with antenna 1, test result (B) is for adapter A with antenna 2, test result (C) is for adapter B with antenna 1, test result (D) is for adapter B with antenna 2, test result, which were mentioned on section 3.1.
2. Above 1 GHz, the channel 1, 6, and 11 were tested individually. The adapter A and B were pre-tested in chamber. The adapter A, worst case one, was chosen for final test. Test result (A) is for adapter A with antenna 1, test result (B) is for adapter A with antenna 2, 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 Wireless-G 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.

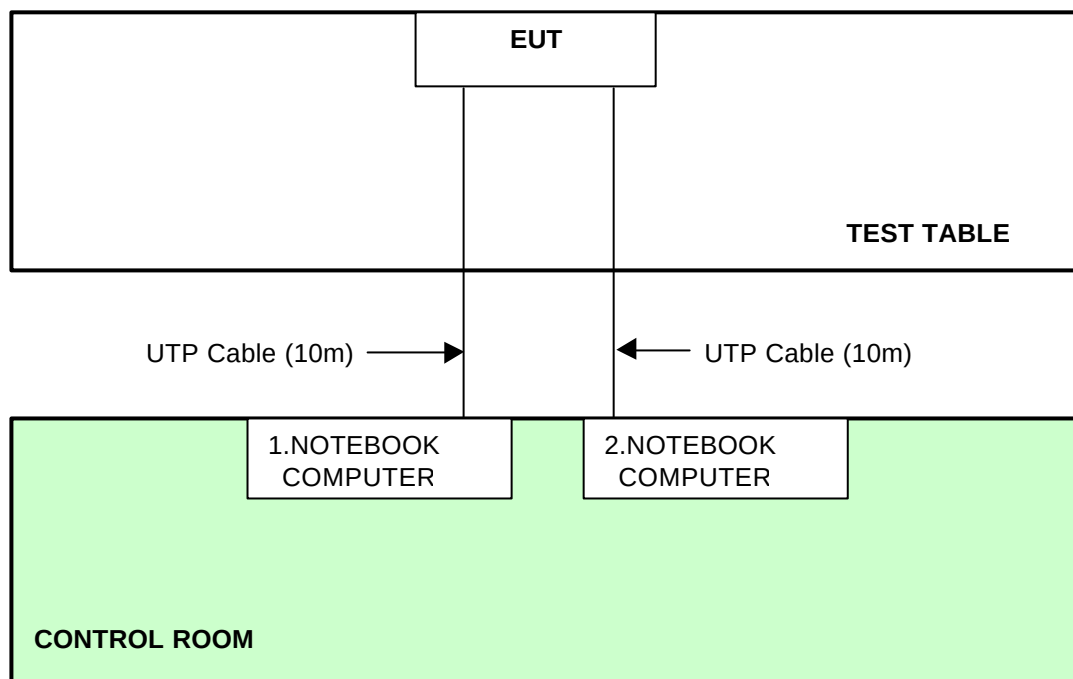
3.4 DESCRIPTION OF SUPPORT UNITS

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	NOTEBOOK	DELL	PP01L	TW-09C748-12800-17Q-C504	DoC
2	NOTEBOOK	DELL	PP01L	TW-09C748-12800-1A3-1999	FCC DoC

No.	Signal cable description
1	NA
2	NA

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



NOTE: 1. Support unit 1 and 2 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 (dB μ V)	
	Quasi-peak	Average
0.15-0.5	66 to 56	56 to 46
0.5-5	56	46
5-30	60	50

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

4.1.2 TEST INSTRUMENTS

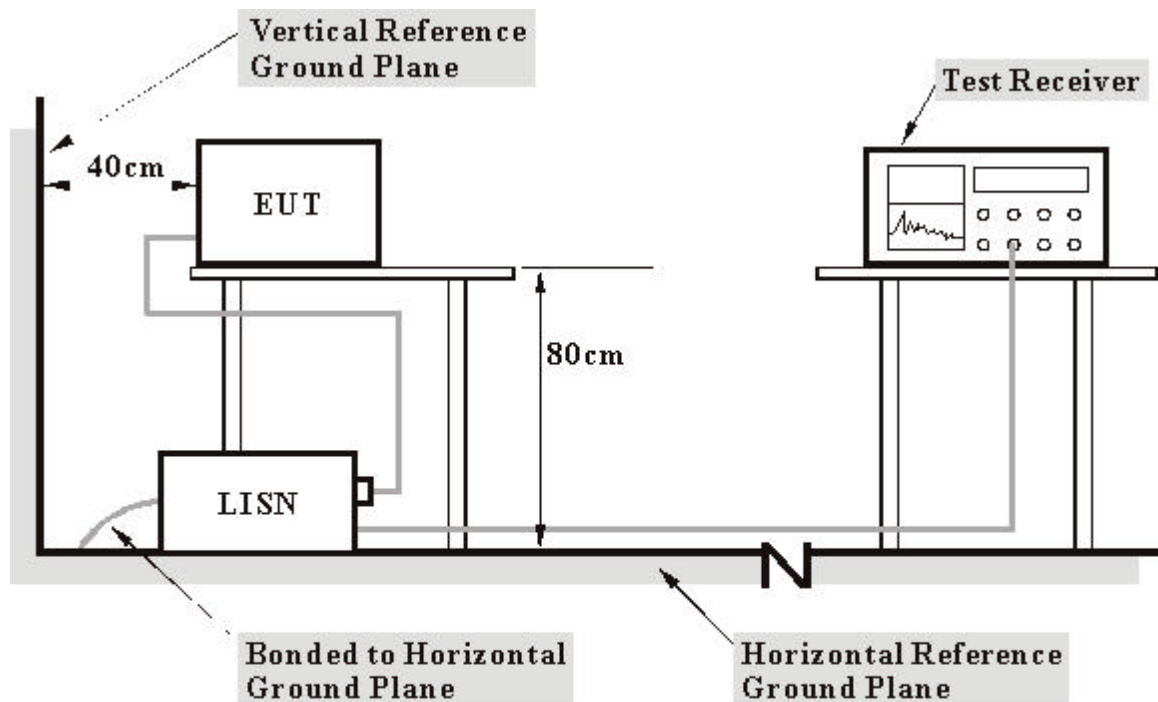
DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
ROHDE & SCHWARZ Test Receiver	ESCS 30	847124/029	Nov. 17, 2003
ROHDE & SCHWARZ LISN (for EUT)	ESHS-Z5	848773/004	Nov. 13, 2003
KYORITSU LISN (for peripheral)	KNW-407	8/1395/12	Jul. 23, 2003
RF Cable (JETBAO)	RG233/U	Cable_CA_01	Jul. 03, 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

- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.
- Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- The frequency range from 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:**
- Support units were connected to second LISN.
 - Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

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



4.1.4 EUT OPERATING CONDITIONS

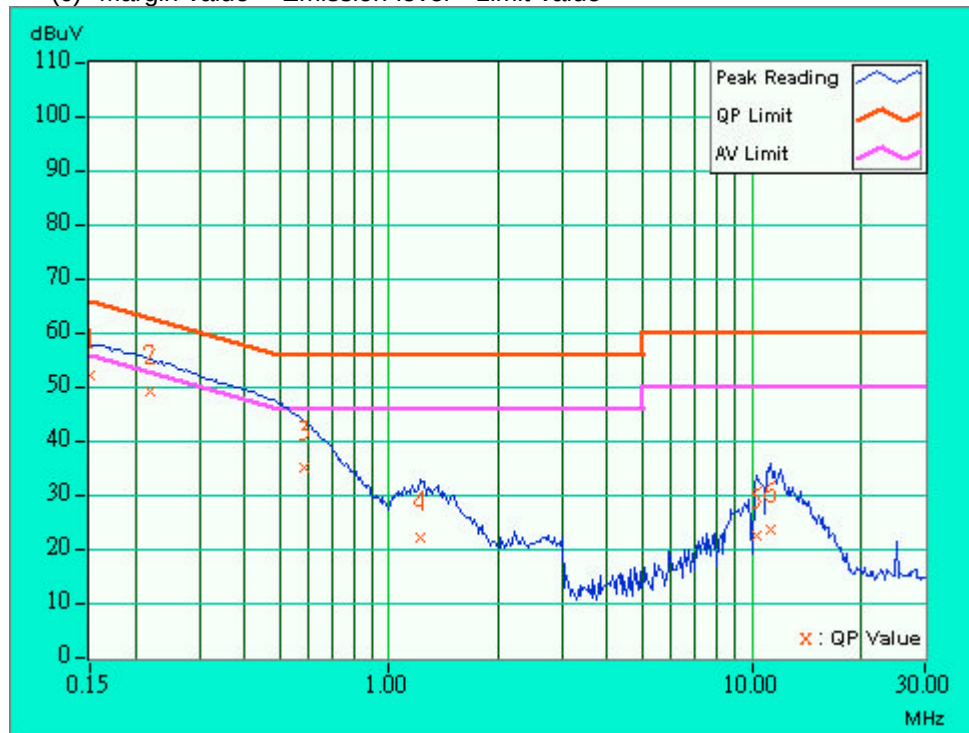
- a. Placed the EUT on the testing table.
- b. Prepared two computer systems (notebook) to simulate as LAN and WAN communication partners and placed them outside of testing area.
- c. The both of LAN & WAN communication partner run a test program "PING" to communicate with EUT via RJ 45 cables.
- d. The LAN communication partner also runs a test program to enable EUT wireless function under specific channel frequency.

4.1.5 TEST RESULTS - Power adapter A

EUT	Wireless-G Broadband Router	MODEL	WRT54G
MODE	Channel 1	6dB BANDWIDTH	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Line (L)
ENVIRONMENTAL CONDITIONS	27 deg. C, 50%RH, 965 hPa	TESTED BY	Tony Chen

No	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.150	0.10	51.63	-	51.73	-	66.00	56.00	-14.27	-
2	0.220	0.10	48.46	-	48.56	-	62.81	52.81	-14.25	-
3	0.584	0.10	34.50	-	34.60	-	56.00	46.00	-21.40	-
4	1.228	0.10	21.75	-	21.85	-	56.00	46.00	-34.15	-
5	10.344	0.61	21.76	-	22.37	-	60.00	50.00	-37.63	-
6	11.293	0.65	22.99	-	23.64	-	60.00	50.00	-36.36	-

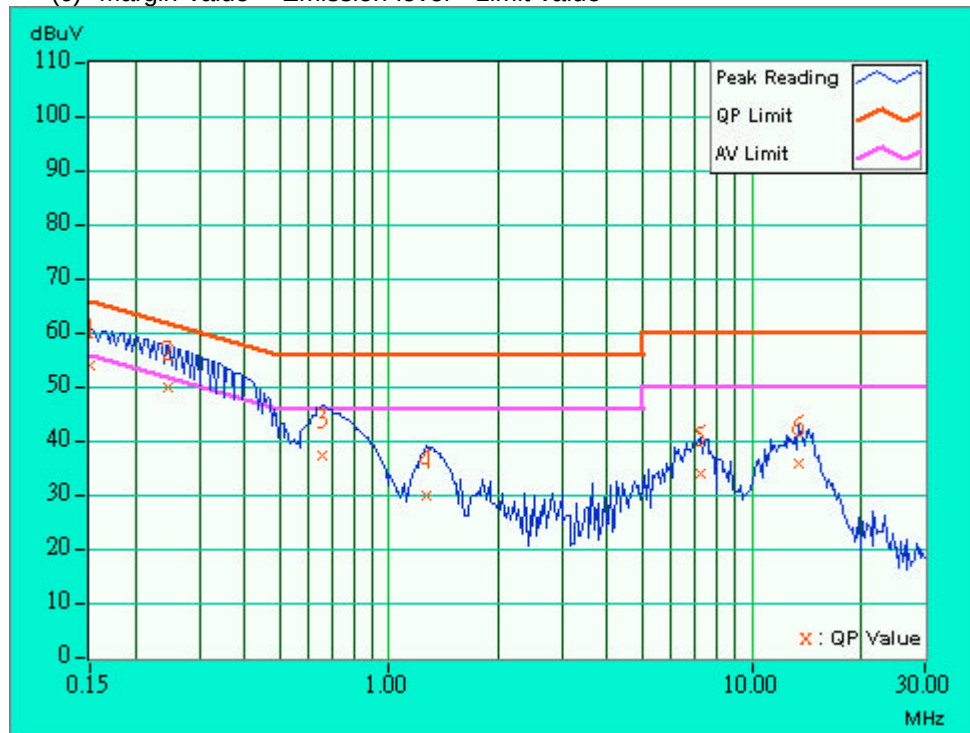
- NOTES:** (1) "*": Undetectable
(2) Q.P. and AV. are abbreviations of quasi-peak and average.
(3) "-": The Quasi-peak reading value also meets an average limit, thus measurement with the average detector is unnecessary.
(4) The emission levels of other frequencies were very low against the limit.
(5)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



EUT	Wireless-G Broadband Router	MODEL	WRT54G
MODE	Channel 1	6dB BANDWIDTH	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Neutral (N)
ENVIRONMENTAL CONDITIONS	27 deg. C, 50%RH, 965 hPa	TESTED BY	Tony Chen

No	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.150	0.10	53.34	-	53.44	-	66.00	56.00	-12.56	-
2	0.248	0.10	49.34	-	49.44	-	61.84	51.84	-12.40	-
3	0.654	0.10	36.77	-	36.87	-	56.00	46.00	-19.13	-
4	1.267	0.10	29.36	-	29.46	-	56.00	46.00	-26.54	-
5	7.274	0.42	33.49	-	33.91	-	60.00	50.00	-26.09	-
6	13.457	0.57	35.32	-	35.89	-	60.00	50.00	-24.11	-

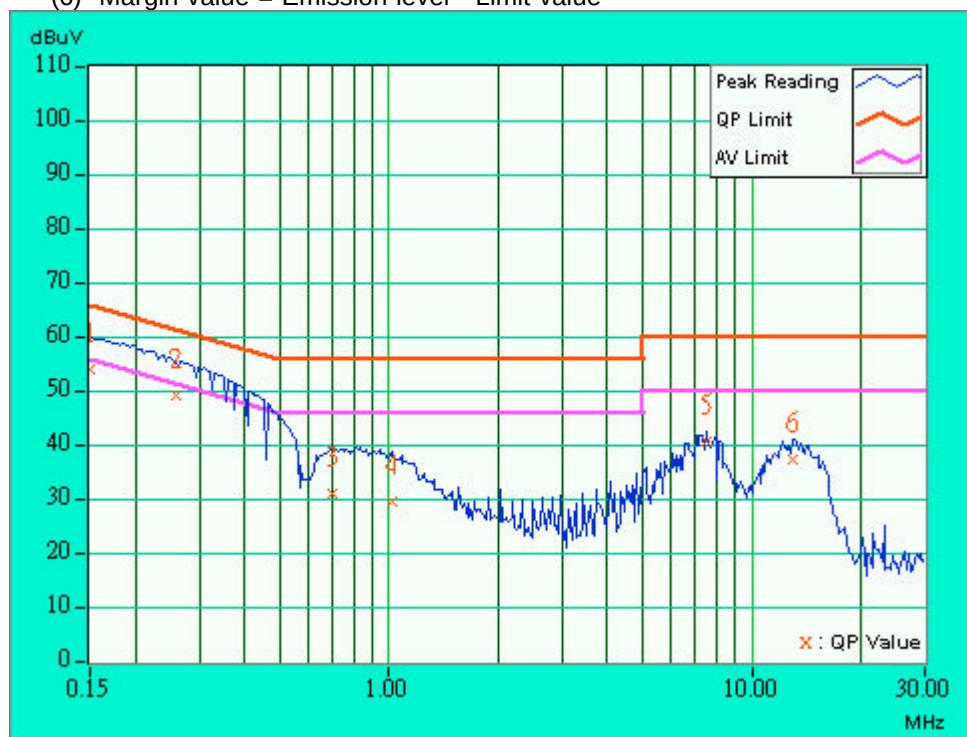
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(2) Q.P. and AV. are abbreviations of quasi-peak and average.
(3) "-": The Quasi-peak reading value also meets an average limit, thus measurement with the average detector is unnecessary.
(4) The emission levels of other frequencies were very low against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



EUT	Wireless-G Broadband Router	MODEL	WRT54G
MODE	Channel 6	6dB BANDWIDTH	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Line (L)
ENVIRONMENTAL CONDITIONS	27 deg. C, 50%RH, 965 hPa	TESTED BY	Tony Chen

No	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.150	0.10	53.20	-	53.30	-	66.00	56.00	-12.70	-
2	0.259	0.10	48.46	-	48.56	-	61.45	51.45	-12.89	-
3	0.701	0.10	30.35	-	30.45	-	56.00	46.00	-25.55	-
4	1.019	0.10	28.91	-	29.01	-	56.00	46.00	-26.99	-
5	7.478	0.49	40.16	-	40.65	-	60.00	50.00	-19.35	-
6	13.008	0.72	36.53	-	37.25	-	60.00	50.00	-22.75	-

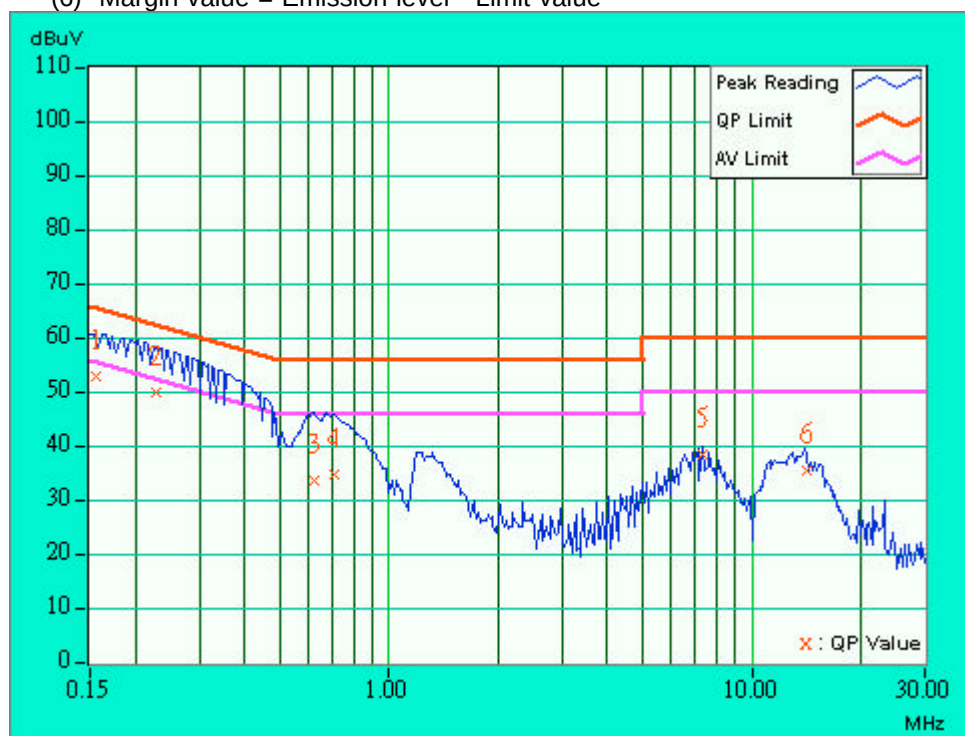
- NOTES:** (1) "*": Undetectable
(2) Q.P. and AV. are abbreviations of quasi-peak and average.
(3) "-": The Quasi-peak reading value also meets an average limit, thus measurement with the average detector is unnecessary.
(4) The emission levels of other frequencies were very low against the limit.
(5)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



EUT	Wireless-G Broadband Router	MODEL	WRT54G
MODE	Channel 6	6dB BANDWIDTH	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Neutral (N)
ENVIRONMENTAL CONDITIONS	27 deg. C, 50%RH, 965 hPa	TESTED BY	Tony Chen

No	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.155	0.10	52.54	-	52.64	-	65.71	55.71	-13.07	-
2	0.228	0.10	49.44	-	49.54	-	62.52	52.52	-12.98	-
3	0.623	0.10	32.99	-	33.09	-	56.00	46.00	-22.91	-
4	0.705	0.10	34.39	-	34.49	-	56.00	46.00	-21.51	-
5	7.322	0.42	37.81	-	38.23	-	60.00	50.00	-21.77	-
6	14.090	0.58	34.88	-	35.46	-	60.00	50.00	-24.54	-

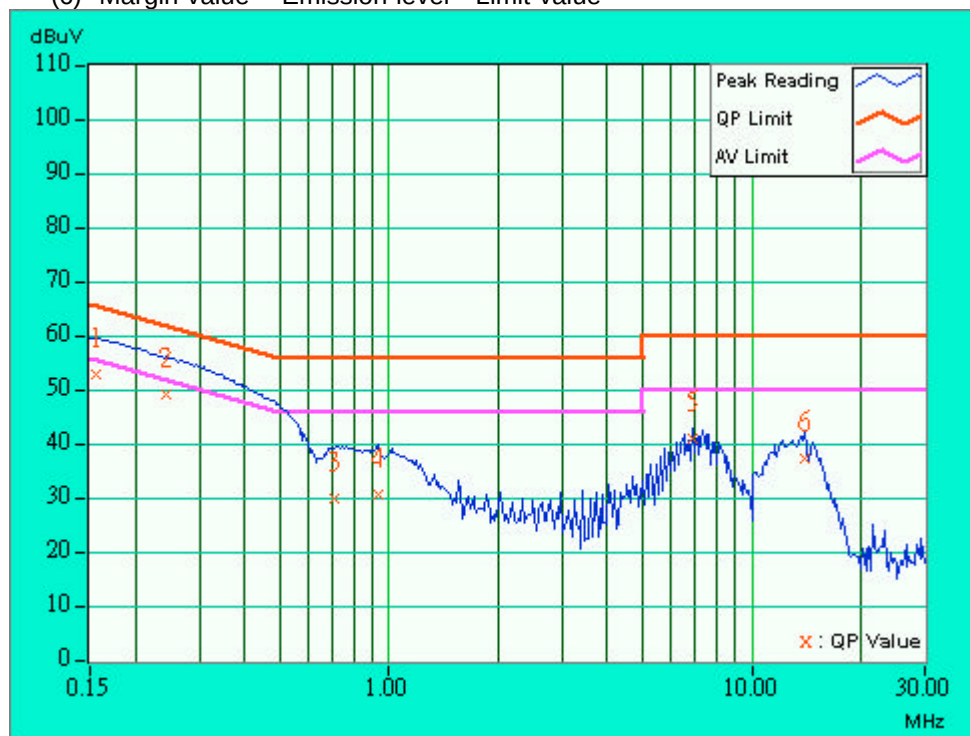
- NOTES:** (1) "x": Undetectable
(2) Q.P. and AV. are abbreviations of quasi-peak and average.
(3) "-": The Quasi-peak reading value also meets an average limit, thus measurement with the average detector is unnecessary.
(4) The emission levels of other frequencies were very low against the limit.
(5)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



EUT	Wireless-G Broadband Router	MODEL	WRT54G
MODE	Channel 11	6dB BANDWIDTH	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Line (L)
ENVIRONMENTAL CONDITIONS	27 deg. C, 50%RH, 965 hPa	TESTED BY	Tony Chen

No	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.155	0.10	52.38	-	52.48	-	65.72	55.72	-13.24	-
2	0.244	0.10	48.50	-	48.60	-	61.97	51.97	-13.37	-
3	0.706	0.10	29.36	-	29.46	-	56.00	46.00	-26.54	-
4	0.933	0.10	30.00	-	30.10	-	56.00	46.00	-25.90	-
5	6.850	0.44	40.47	-	40.91	-	60.00	50.00	-19.09	-
6	14.086	0.76	36.58	-	37.34	-	60.00	50.00	-22.66	-

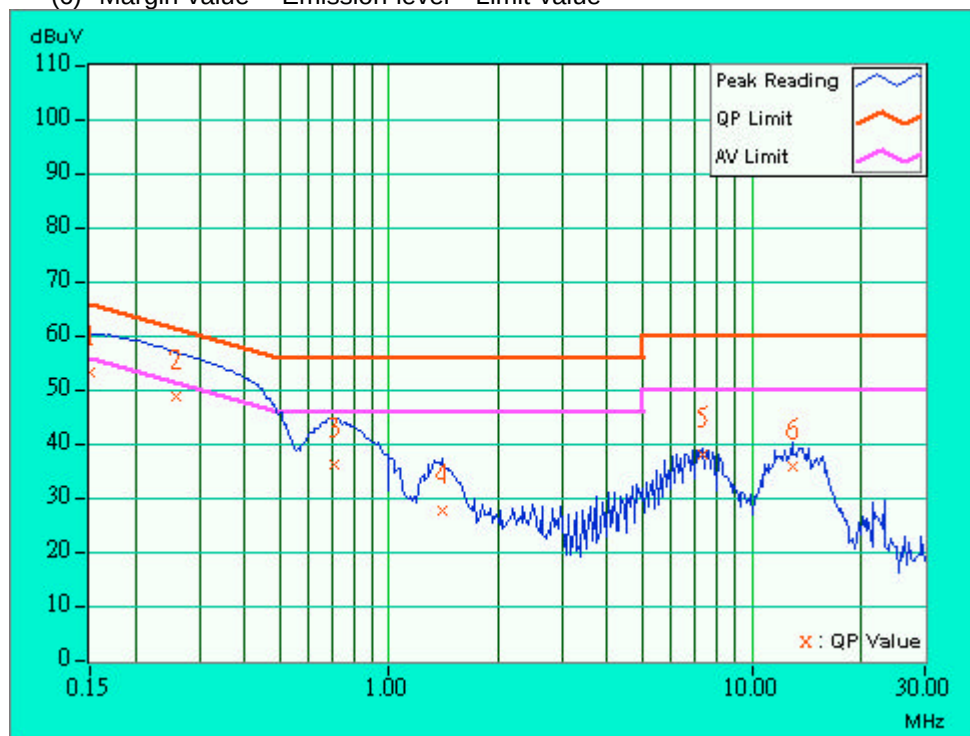
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(2) Q.P. and AV. are abbreviations of quasi-peak and average.
(3) "-": The Quasi-peak reading value also meets an average limit, thus measurement with the average detector is unnecessary.
(4) The emission levels of other frequencies were very low against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



EUT	Wireless-G Broadband Router	MODEL	WRT54G
MODE	Channel 11	6dB BANDWIDTH	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Neutral (N)
ENVIRONMENTAL CONDITIONS	27 deg. C, 50%RH, 965 hPa	TESTED BY	Tony Chen

No	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.150	0.10	52.88	-	52.98	-	66.00	56.00	-13.02	-
2	0.259	0.10	48.49	-	48.59	-	61.45	51.45	-12.86	-
3	0.705	0.10	35.65	-	35.75	-	56.00	46.00	-20.25	-
4	1.404	0.10	27.04	-	27.14	-	56.00	46.00	-28.86	-
5	7.319	0.42	37.76	-	38.18	-	60.00	50.00	-21.82	-
6	13.008	0.56	35.44	-	36.00	-	60.00	50.00	-24.00	-

- 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

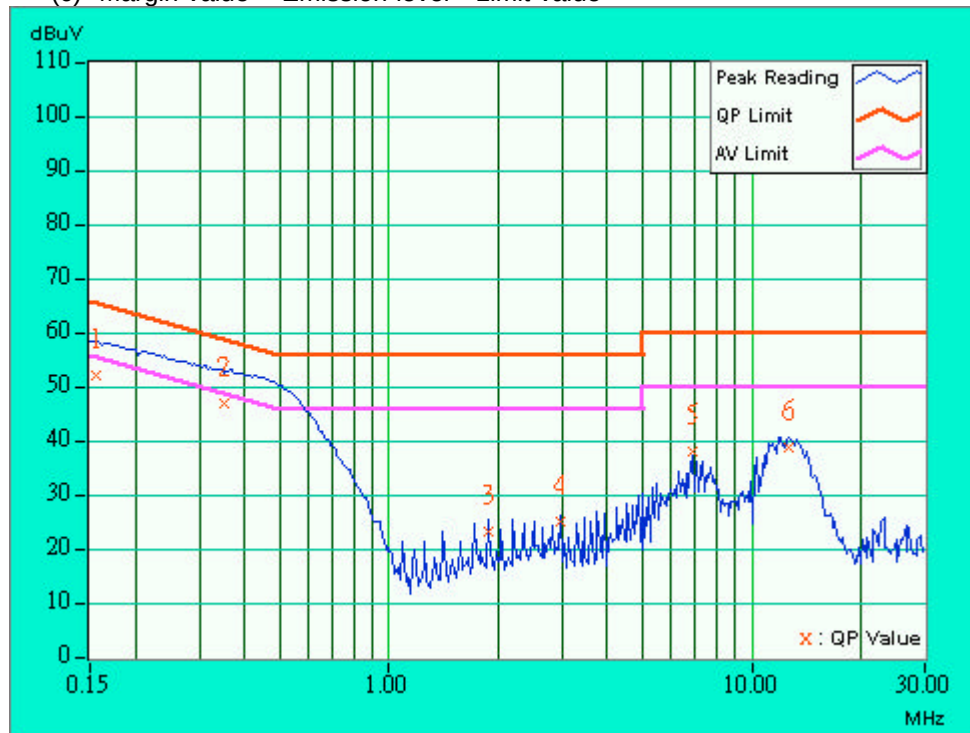


4.1.6 TEST RESULTS - Power adapter B

EUT	Wireless-G Broadband Router	MODEL	WRT54G
MODE	Channel 1	6dB BANDWIDTH	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Line (L)
ENVIRONMENTAL CONDITIONS	27 deg. C, 50%RH, 965 hPa	TESTED BY	Tony Chen

No	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.156	0.10	51.33	-	51.43	-	65.66	55.66	-14.23	-
2	0.353	0.10	46.28	-	46.38	-	58.89	48.89	-12.51	-
3	1.880	0.10	22.68	-	22.78	-	56.00	46.00	-33.22	-
4	2.974	0.15	24.34	-	24.49	-	56.00	46.00	-31.51	-
5	6.891	0.44	37.50	-	37.94	-	60.00	50.00	-22.06	-
6	12.694	0.71	38.15	-	38.86	-	60.00	50.00	-21.14	-

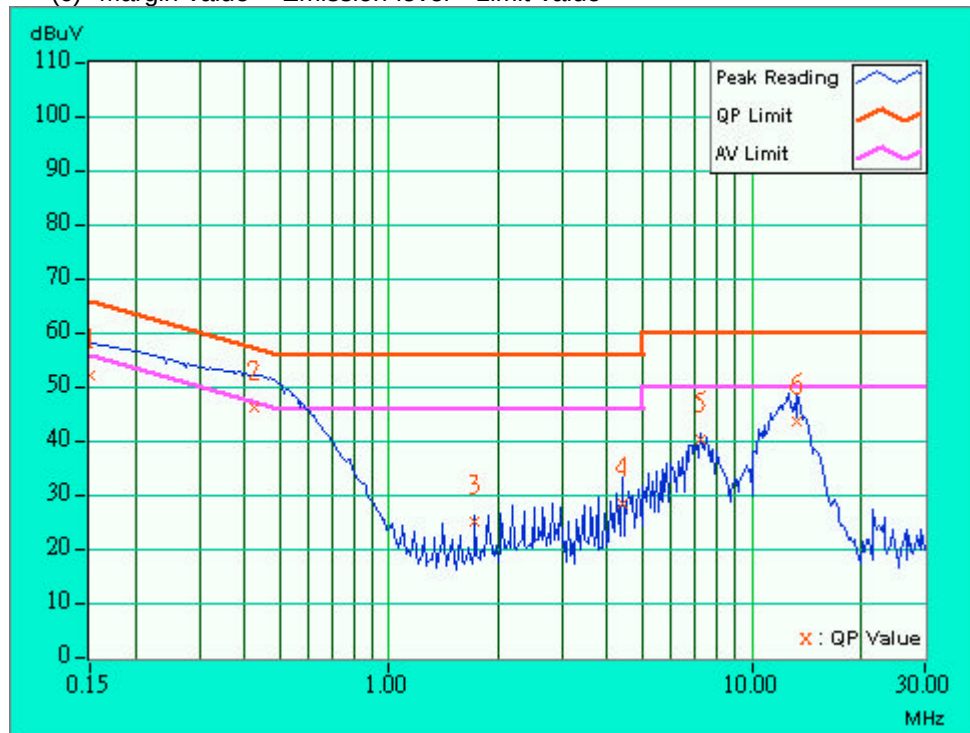
- NOTES:** (1) "*": Undetectable
(2) Q.P. and AV. are abbreviations of quasi-peak and average.
(3) "-": The Quasi-peak reading value also meets an average limit, thus measurement with the average detector is unnecessary.
(4) The emission levels of other frequencies were very low against the limit.
(5)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



EUT	Wireless-G Broadband Router	MODEL	WRT54G
MODE	Channel 1	6dB BANDWIDTH	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Neutral (N)
ENVIRONMENTAL CONDITIONS	27 deg. C, 50%RH, 965 hPa	TESTED BY	Tony Chen

No	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.150	0.10	51.51	-	51.61	-	66.00	56.00	-14.39	-
2	0.423	0.10	45.61	-	45.71	-	57.38	47.38	-11.67	-
3	1.724	0.10	24.45	-	24.55	-	56.00	46.00	-31.45	-
4	4.387	0.25	27.96	-	28.21	-	56.00	46.00	-27.79	-
5	7.207	0.41	39.81	-	40.22	-	60.00	50.00	-19.78	-
6	13.383	0.57	43.08	-	43.65	-	60.00	50.00	-16.35	-

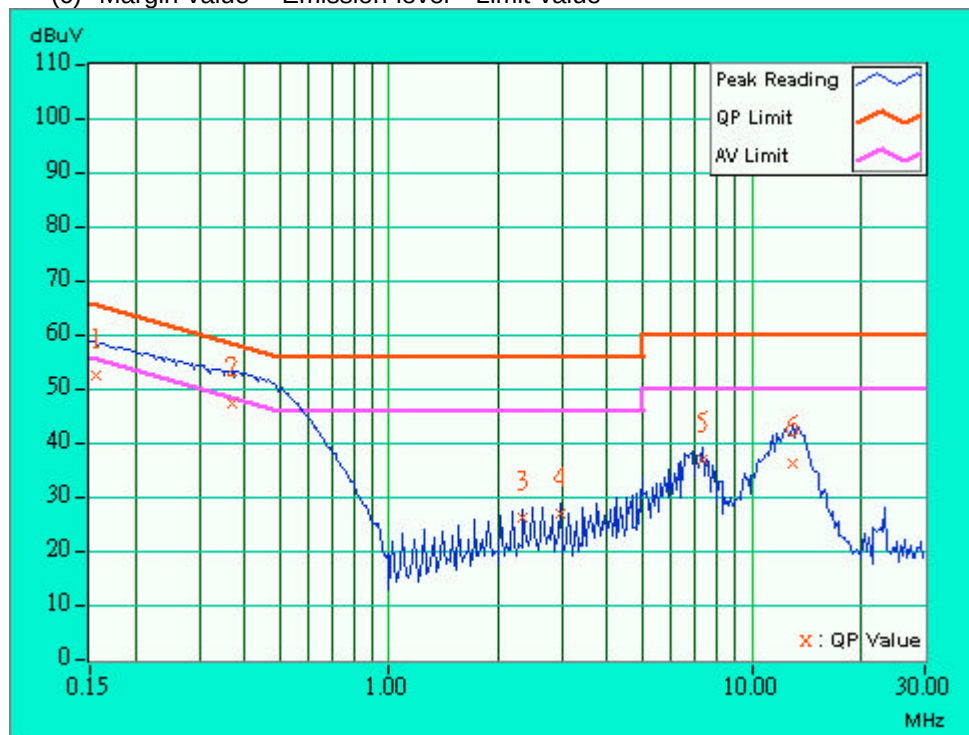
- NOTES:** (1) "*": Undetectable
(2) Q.P. and AV. are abbreviations of quasi-peak and average.
(3) "-": The Quasi-peak reading value also meets an average limit, thus measurement with the average detector is unnecessary.
(4) The emission levels of other frequencies were very low against the limit.
(5)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



EUT	Wireless-G Broadband Router	MODEL	WRT54G
MODE	Channel 6	6dB BANDWIDTH	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Line (L)
ENVIRONMENTAL CONDITIONS	27 deg. C, 50%RH, 965 hPa	TESTED BY	Tony Chen

No	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.156	0.10	51.73	-	51.83	-	65.66	55.66	-13.83	-
2	0.369	0.10	46.54	-	46.64	-	58.53	48.53	-11.89	-
3	2.341	0.12	25.51	-	25.63	-	56.00	46.00	-30.37	-
4	2.966	0.15	26.50	-	26.65	-	56.00	46.00	-29.35	-
5	7.340	0.48	36.36	-	36.84	-	60.00	50.00	-23.16	-
6	12.910	0.72	35.60	-	36.32	-	60.00	50.00	-23.68	-

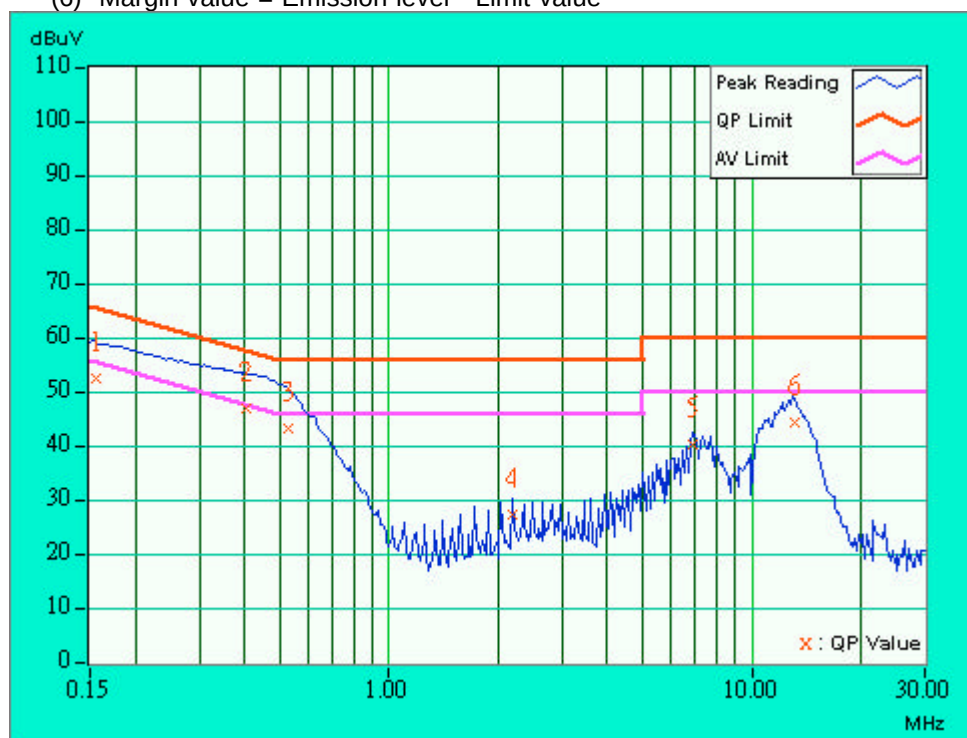
- NOTES:** (1) "*": Undetectable
(2) Q.P. and AV. are abbreviations of quasi-peak and average.
(3) "-": The Quasi-peak reading value also meets an average limit, thus measurement with the average detector is unnecessary.
(4) The emission levels of other frequencies were very low against the limit.
(5)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



EUT	Wireless-G Broadband Router	MODEL	WRT54G
MODE	Channel 6	6dB BANDWIDTH	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Neutral (N)
ENVIRONMENTAL CONDITIONS	27 deg. C, 50%RH, 965 hPa	TESTED BY	Tony Chen

No	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.156	0.10	52.00	-	52.10	-	65.66	55.66	-13.56	-
2	0.404	0.10	46.58	-	46.68	-	57.77	47.77	-11.09	-
3	0.525	0.10	42.70	-	42.80	-	56.00	46.00	-13.20	-
4	2.188	0.11	26.90	-	27.01	-	56.00	46.00	-28.99	-
5	6.875	0.39	39.87	-	40.26	-	60.00	50.00	-19.74	-
6	13.059	0.56	43.93	-	44.49	-	60.00	50.00	-15.51	-

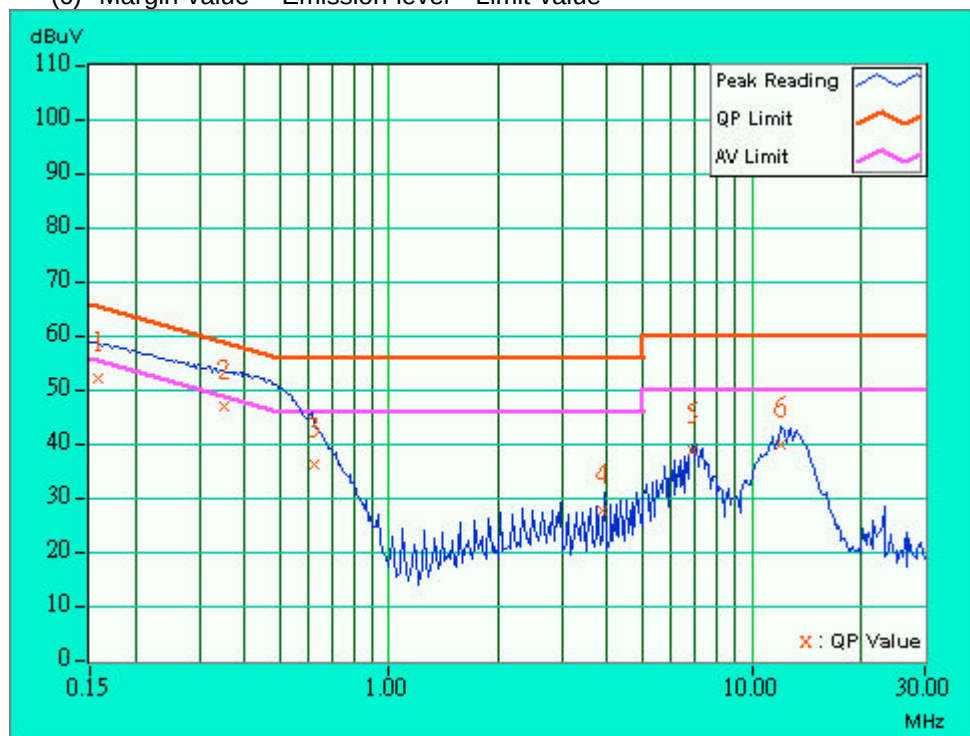
- NOTES:** (1) "*": Undetectable
(2) Q.P. and AV. are abbreviations of quasi-peak and average.
(3) "-": The Quasi-peak reading value also meets an average limit, thus measurement with the average detector is unnecessary.
(4) The emission levels of other frequencies were very low against the limit.
(5)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



EUT	Wireless-G Broadband Router	MODEL	WRT54G
MODE	Channel 11	6dB BANDWIDTH	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Line (L)
ENVIRONMENTAL CONDITIONS	27 deg. C, 50%RH, 965 hPa	TESTED BY	Tony Chen

No	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.158	0.10	51.41	-	51.51	-	65.59	55.59	-14.08	-
2	0.349	0.10	46.25	-	46.35	-	58.98	48.98	-12.63	-
3	0.626	0.10	35.61	-	35.71	-	56.00	46.00	-20.29	-
4	3.901	0.20	27.28	-	27.48	-	56.00	46.00	-28.52	-
5	6.864	0.44	38.25	-	38.69	-	60.00	50.00	-21.31	-
6	12.020	0.68	39.17	-	39.85	-	60.00	50.00	-20.15	-

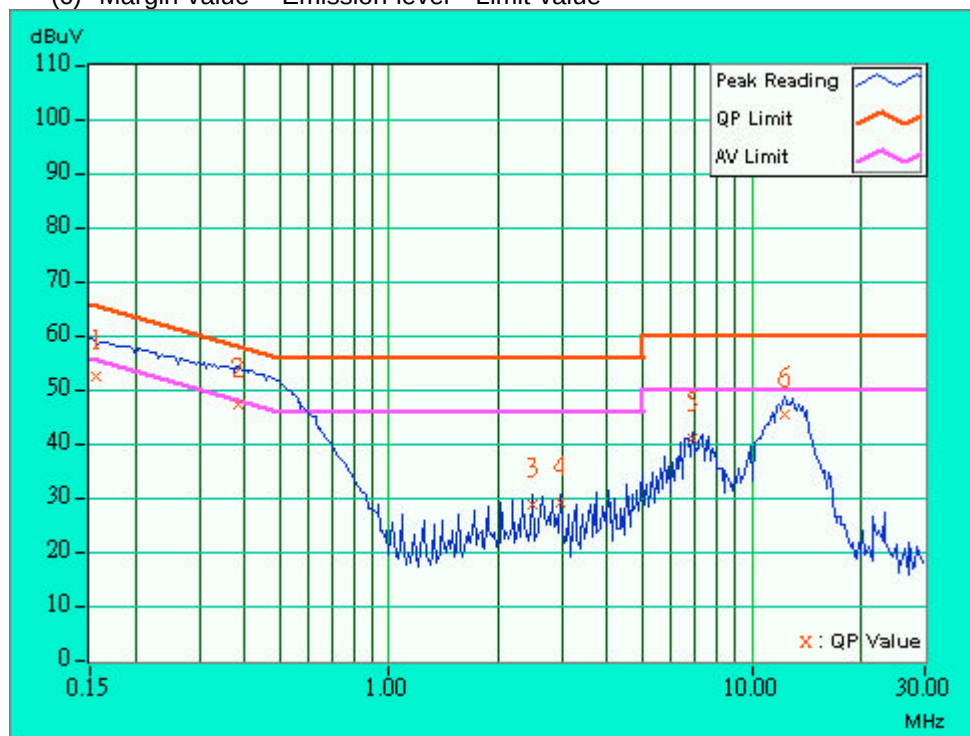
- NOTES:** (1) "*": Undetectable
(2) Q.P. and AV. are abbreviations of quasi-peak and average.
(3) "-": The Quasi-peak reading value also meets an average limit, thus measurement with the average detector is unnecessary.
(4) The emission levels of other frequencies were very low against the limit.
(5)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



EUT	Wireless-G Broadband Router	MODEL	WRT54G
MODE	Channel 11	6dB BANDWIDTH	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Neutral (N)
ENVIRONMENTAL CONDITIONS	27 deg. C, 50%RH, 965 hPa	TESTED BY	Tony Chen

No	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.156	0.10	52.02	-	52.12	-	65.66	55.66	-13.54	-
2	0.384	0.10	46.88	-	46.98	-	58.19	48.19	-11.21	-
3	2.494	0.12	28.38	-	28.50	-	56.00	46.00	-27.50	-
4	2.963	0.15	28.57	-	28.72	-	56.00	46.00	-27.28	-
5	6.863	0.39	40.50	-	40.89	-	60.00	50.00	-19.11	-
6	12.250	0.55	45.17	-	45.72	-	60.00	50.00	-14.28	-

- 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	$2400/F(\text{kHz})$	300
0.490-1.705	$24000/F(\text{kHz})$	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	Jul. 31, 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	Jul. 29, 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.



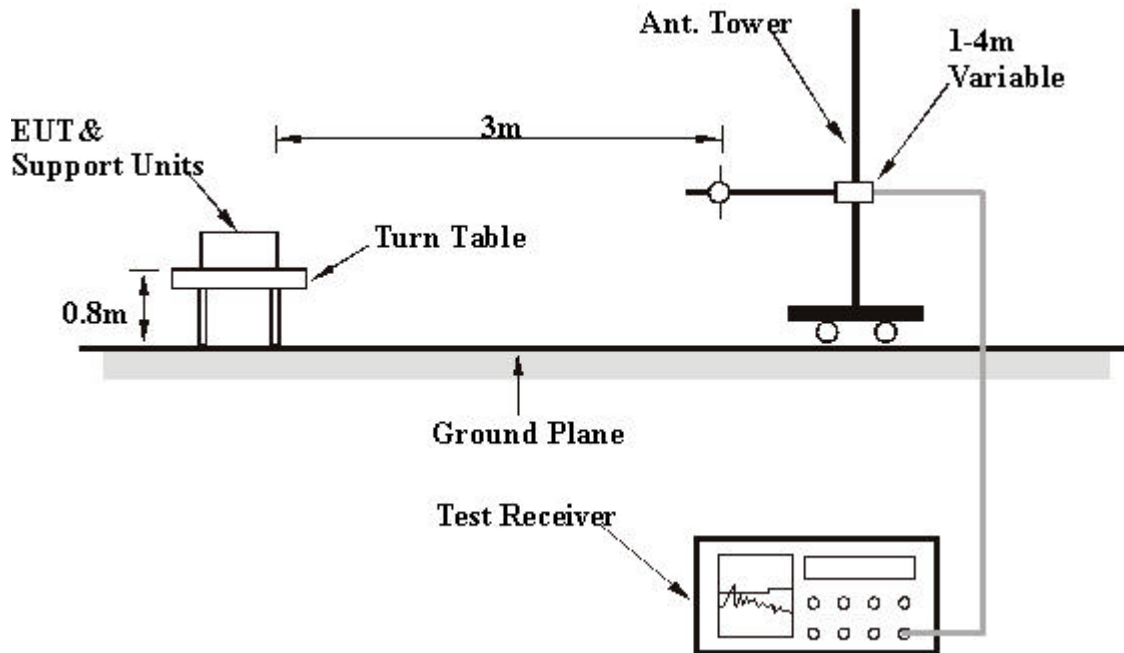
4.2.3 TEST PROCEDURES

- 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 (A)

EUT	Wireless-G Broadband Router	MODEL	WRT54G
MODE	Channel 11	FREQUENCY RANGE	30-1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	23 deg. C, 58 % RH, 965 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	48.00	19.7 QP	40.00	-20.30	1.47 H	2	10.20	9.50
2	54.60	20.0 QP	40.00	-20.00	2.87 H	154	13.20	6.80
3	125.03	30.3 QP	43.50	-13.20	1.25 H	24	18.30	12.00
4	250.01	37.2 QP	46.00	-8.80	1.20 H	325	24.20	13.00
5	375.02	43.7 QP	46.00	-2.30	1.03 H	254	27.50	16.20
6	500.00	37.5 QP	46.00	-8.50	1.98 H	239	18.20	19.30
7	530.39	37.0 QP	46.00	-9.00	1.54 H	269	17.30	19.70
8	624.01	43.7 QP	46.00	-2.30	1.52 H	87	22.00	21.70
9	748.86	37.7 QP	46.00	-8.30	2.00 H	239	13.90	23.80
10	874.01	39.2 QP	46.00	-6.80	1.45 H	254	14.20	25.00
11	998.00	34.6 QP	54.00	-19.40	1.35 H	247	8.00	26.60

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	48.00	33.4 QP	40.00	-6.60	1.00 V	352	23.90	9.50
2	54.84	29.3 QP	40.00	-10.70	1.02 V	3	22.60	6.70
3	125.04	37.3 QP	43.50	-6.20	1.00 V	214	25.30	12.00
4	250.03	29.9 QP	46.00	-16.10	1.02 V	354	16.90	13.00
5	374.90	32.5 QP	46.00	-13.50	1.14 V	106	16.30	16.20
6	500.00	35.6 QP	46.00	-10.40	1.03 V	110	16.30	19.30
7	530.00	33.7 QP	46.00	-12.30	1.01 V	112	14.00	19.70
8	624.02	42.0 QP	46.00	-4.00	1.36 V	278	20.30	21.70
9	748.04	36.8 QP	46.00	-9.20	1.12 V	105	13.00	23.80
10	874.02	33.3 QP	46.00	-12.70	1.14 V	247	8.30	25.00
11	998.40	32.6 QP	54.00	-21.40	1.25 V	47	6.00	26.60

- 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

4.2.7 TEST RESULTS (B)

EUT	Wireless-G Broadband Router	MODEL	WRT54G
MODE	Channel 11	FREQUENCY RANGE	30-1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	24 deg. C, 57 % RH, 965 hPa	TESTED BY	Tony Chen

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	48.00	19.3 QP	40.00	-20.70	2.40 H	351	9.80	9.50
2	125.04	28.4 QP	43.50	-15.10	2.60 H	81	16.40	12.00
3	250.07	24.6 QP	46.00	-21.40	1.89 H	132	11.60	13.00
4	374.41	29.7 QP	46.00	-16.30	2.00 H	351	13.50	16.20
5	499.21	34.9 QP	46.00	-11.10	1.68 H	36	15.60	19.30
6	530.40	33.1 QP	46.00	-12.90	1.75 H	98	13.50	19.70
7	624.01	37.2 QP	46.00	-8.80	1.47 H	288	15.50	21.70
8	748.81	35.7 QP	46.00	-10.30	1.23 H	294	11.90	23.80
9	873.61	37.3 QP	46.00	-8.70	1.17 H	270	12.30	25.00
10	998.39	32.3 QP	54.00	-21.70	1.38 H	61	5.70	26.60

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	48.00	33.3 QP	40.00	-6.70	1.00 V	54	23.80	9.50
2	64.80	30.3 QP	40.00	-9.70	1.37 V	106	25.10	5.20
3	125.03	35.2 QP	43.50	-8.30	1.00 V	146	23.10	12.00
4	250.03	28.8 QP	46.00	-17.20	1.10 V	237	15.80	13.00
5	374.40	29.8 QP	46.00	-16.20	1.44 V	106	13.60	16.20
6	499.20	34.7 QP	46.00	-11.30	1.01 V	137	15.40	19.30
7	530.40	33.3 QP	46.00	-12.70	1.37 V	177	13.60	19.70
8	624.00	41.1 QP	46.00	-4.90	1.03 V	278	19.40	21.70
9	748.80	35.1 QP	46.00	-10.90	1.00 V	169	11.30	23.80
10	873.60	32.3 QP	46.00	-13.70	1.12 V	116	7.30	25.00
11	998.39	32.4 QP	54.00	-21.60	1.00 V	220	5.70	26.60

- 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

4.2.8 TEST RESULTS (C)

EUT	Wireless-G Broadband Router	MODEL	WRT54G
MODE	Channel 11	FREQUENCY RANGE	30-1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	23 deg. C, 58 % RH, 965 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	48.00	20.7 QP	40.00	-19.30	1.99 H	352	11.20	9.50
2	54.60	17.0 QP	40.00	-23.00	1.78 H	37	10.20	6.80
3	125.00	34.4 QP	43.50	-9.10	1.25 H	247	22.30	12.10
4	250.01	36.9 QP	46.00	-9.10	1.00 H	16	23.90	13.00
5	375.02	43.6 QP	46.00	-2.40	1.05 H	210	27.40	16.20
6	500.00	36.6 QP	46.00	-9.40	1.21 H	57	17.30	19.30
7	530.20	36.5 QP	46.00	-9.50	1.47 H	247	16.80	19.70
8	624.01	43.2 QP	46.00	-2.80	1.56 H	219	21.50	21.70
9	748.81	36.8 QP	46.00	-9.20	1.25 H	87	13.00	23.80
10	874.62	36.9 QP	46.00	-9.10	1.02 H	300	11.90	25.00
11	998.00	34.6 QP	54.00	-19.40	1.35 H	247	8.00	26.60

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	48.00	31.6 QP	40.00	-8.40	1.01 V	360	22.10	9.50
2	54.06	29.3 QP	40.00	-10.70	1.02 V	298	22.30	7.00
3	125.03	35.8 QP	43.50	-7.70	1.26 V	247	23.80	12.00
4	250.04	30.9 QP	46.00	-15.10	1.25 V	357	17.90	13.00
5	375.02	38.4 QP	46.00	-7.60	1.23 V	0	22.20	16.20
6	500.01	36.7 QP	46.00	-9.30	1.33 V	354	17.40	19.30
7	530.04	34.9 QP	46.00	-11.10	1.05 V	320	15.20	19.70
8	624.03	38.5 QP	46.00	-7.50	1.15 V	3	16.80	21.70
9	748.06	38.5 QP	46.00	-7.50	1.15 V	108	14.70	23.80
10	874.02	33.9 QP	46.00	-12.10	1.15 V	208	8.90	25.00
11	998.40	34.4 QP	54.00	-19.60	1.02 V	47	7.80	26.60

- 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

4.2.9 TEST RESULTS (D)

EUT	Wireless-G Broadband Router	MODEL	WRT54G
MODE	Channel 11	FREQUENCY RANGE	30-1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	24 deg. C, 57 % RH, 965 hPa	TESTED BY	Tony Chen

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	48.00	20.5 QP	40.00	-19.50	2.36 H	16	11.00	9.50
2	125.03	27.3 QP	43.50	-16.20	2.23 H	90	15.20	12.00
3	250.07	26.7 QP	46.00	-19.30	1.64 H	118	13.70	13.00
4	374.40	32.7 QP	46.00	-13.30	1.74 H	18	16.50	16.20
5	499.21	33.8 QP	46.00	-12.20	2.35 H	82	14.50	19.30
6	530.40	34.2 QP	46.00	-11.80	1.91 H	266	14.50	19.70
7	624.01	38.7 QP	46.00	-7.30	1.11 H	143	17.00	21.70
8	748.81	34.9 QP	46.00	-11.10	1.21 H	311	11.10	23.80
9	873.61	36.6 QP	46.00	-9.40	1.02 H	291	11.60	25.00
10	998.41	34.6 QP	54.00	-19.40	1.10 H	242	7.90	26.60

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	48.00	33.8 QP	40.00	-6.20	1.08 V	240	24.20	9.50
2	66.23	32.7 QP	40.00	-7.30	1.21 V	316	27.20	5.40
3	125.03	36.4 QP	43.50	-7.10	1.00 V	201	24.30	12.00
4	250.03	28.4 QP	46.00	-17.60	1.00 V	166	15.40	13.00
5	375.02	32.4 QP	46.00	-13.60	1.01 V	116	16.20	16.20
6	499.20	34.2 QP	46.00	-11.80	1.00 V	138	14.90	19.30
7	530.40	33.6 QP	46.00	-12.40	1.02 V	65	13.90	19.70
8	624.00	40.5 QP	46.00	-5.50	1.00 V	285	18.80	21.70
9	748.80	36.4 QP	46.00	-9.60	1.02 V	161	12.60	23.80
10	873.60	30.9 QP	46.00	-15.10	1.01 V	316	5.80	25.00
11	998.40	30.8 QP	54.00	-23.20	1.37 V	142	4.20	26.60

- 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

4.2.10 TEST RESULTS – DSSS(A)

EUT	Wireless-G Broadband Router	MODEL	WRT54G
MODE	Channel 1	FREQUENCY RANGE	Above 1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average(AV)
ENVIRONMENTAL CONDITIONS	23 deg. C, 57%RH, 965 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	2240.00	40.0 PK	74.00	-34.00	1.09 H	78	10.60	29.40
2	2320.00	42.5 PK	74.00	-31.50	1.13 H	252	12.90	29.60
3	2390.00	53.0 PK	74.00	-21.00	1.02 H	28	23.20	29.80
3	2390.00	42.4 AV	54.00	-11.60	1.02 H	28	12.60	29.40
4	*2412.00	101.5 PK			1.69 H	54	71.60	29.90
4	*2412.00	94.0 AV			1.69 H	54	64.10	29.60
5	4824.00	41.3 PK	74.00	-32.70	1.02 H	25	5.00	36.20

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	2240.00	42.8 PK	74.00	-31.20	1.41 V	209	13.50	29.40
2	2320.00	50.3 PK	74.00	-23.70	1.22 V	30	20.80	29.60
3	2390.00	57.5 PK	74.00	-16.50	1.04 V	33	27.70	29.80
3	2390.00	46.4 AV	54.00	-7.60	1.04 V	33	16.60	29.40
4	*2412.00	109.9 PK			1.01 V	8	80.00	29.90
4	*2412.00	104.1 AV			1.01 V	8	74.20	29.60
5	4824.00	42.3 PK	74.00	-31.70	1.25 V	24	6.10	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	Wireless-G Broadband Router	MODEL	WRT54G
MODE	Channel 6	FREQUENCY RANGE	Above 1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23 deg. C, 57%RH, 965 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	2240.00	43.2 PK	74.00	-30.80	1.32 H	254	13.90	29.40
2	2320.00	43.3 PK	74.00	-30.70	1.54 H	214	13.70	29.60
3	2390.00	49.4 PK	74.00	-24.60	1.00 H	208	19.60	29.80
4	*2437.00	101.9 PK			1.50 H	306	71.90	30.00
4	*2437.00	95.0 AV			1.50 H	306	65.00	29.40
5	2483.50	50.4 PK	74.00	-23.60	1.35 H	269	20.30	30.10
6	4874.00	41.8 PK	74.00	-32.20	1.82 H	25	5.40	36.50

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	2240.00	43.8 PK	74.00	-30.20	1.41 V	350	14.40	29.40
2	2320.00	51.2 PK	74.00	-22.80	1.22 V	32	21.60	29.60
2	2320.00	46.2 AV	54.00	-7.80	1.22 V	32	16.70	29.40
3	2390.00	52.2 PK	74.00	-21.80	1.35 V	268	22.40	29.80
3	2390.00	42.0 AV	54.00	-12.00	1.35 V	268	12.20	29.60
4	*2437.00	110.1 PK			1.01 V	86	80.10	30.00
4	*2437.00	103.9 AV			1.01 V	86	73.90	29.80
5	2483.50	52.5 PK	74.00	-21.50	1.40 V	309	22.40	30.10
5	2483.50	42.3 AV	54.00	-11.70	1.40 V	309	12.20	30.00
6	4874.00	42.9 PK	74.00	-31.10	1.36 V	35	6.50	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	Wireless-G Broadband Router	MODEL	WRT54G
MODE	Channel 11	FREQUENCY RANGE	Above 1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23 deg. C, 57%RH, 965 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	2240.00	11.0 PK	74.00	-63.00	1.32 H	58	-18.40	29.40
2	2320.00	43.2 PK	74.00	-30.80	1.15 H	260	13.60	29.60
3	*2462.00	101.0 PK			1.62 H	59	70.90	30.10
3	*2462.00	94.1 AV			1.62 H	59	64.00	29.40
4	2483.50	55.1 PK	74.00	-18.90	1.25 H	258	25.00	30.10
4	2483.50	45.4 AV	54.00	-8.60	1.25 H	258	15.20	29.60
5	4924.00	41.8 PK	74.00	-32.20	1.54 H	213	5.10	36.70

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	2240.00	42.0 PK	74.00	-32.00	1.39 V	350	12.70	29.40
2	2320.00	51.2 PK	74.00	-22.80	1.12 V	47	21.60	29.60
2	2320.00	48.3 AV	54.00	-5.70	1.12 V	47	18.70	29.40
3	*2462.00	110.1 PK			1.00 V	316	80.00	30.10
3	*2462.00	103.8 AV			1.00 V	316	73.80	29.60
4	2483.50	55.5 PK	74.00	-18.50	1.25 V	247	25.40	30.10
4	2483.50	46.4 AV	54.00	-7.60	1.25 V	247	16.20	30.10
5	4924.00	42.9 PK	74.00	-31.10	1.47 V	200	6.20	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



4.2.11 TEST RESULTS – DSSS(B)

EUT	Wireless-G Broadband Router	MODEL	WRT54G
MODE	Channel 1	FREQUENCY RANGE	Above 1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average(AV)
ENVIRONMENTAL CONDITIONS	24 deg. C, 57%RH, 965 hPa	TESTED BY	Tony Chen

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	2387.00	52.3 PK	74.00	-21.70	1.53 H	60	22.50	29.80
1	2387.00	43.6 AV	54.00	-10.40	1.53 H	60	13.90	29.80
2	*2412.00	97.7 PK			1.22 H	324	67.80	29.90
2	*2412.00	91.8 AV			1.22 H	324	61.90	29.90
3	2493.00	54.0 PK	74.00	-20.00	1.30 H	77	23.80	30.20
3	2493.00	44.1 AV	54.00	-9.90	1.30 H	77	13.90	30.20
4	4824.00	37.0 PK	74.00	-37.00	1.82 H	49	0.80	36.20

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	2379.00	52.9 PK	74.00	-21.10	1.87 V	246	23.20	29.70
1	2379.00	43.1 AV	54.00	-10.90	1.87 V	246	13.30	29.70
2	*2412.00	108.1 PK			1.02 V	326	78.20	29.90
2	*2412.00	101.4 AV			1.02 V	326	71.50	29.90
3	2497.00	53.9 PK	74.00	-20.10	1.54 V	135	23.70	30.20
3	2497.00	44.1 AV	54.00	-9.90	1.54 V	135	13.90	30.20
4	4824.00	37.9 PK	74.00	-36.10	1.71 V	61	1.70	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	Wireless-G Broadband Router	MODEL	WRT54G
MODE	Channel 6	FREQUENCY RANGE	Above 1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24 deg. C, 57%RH, 965 hPa	TESTED BY	Tony Chen

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	2384.00	53.3 PK	74.00	-20.70	1.13 H	278	23.60	29.80
1	2384.00	43.6 AV	54.00	-10.40	1.13 H	278	13.80	29.80
2	*2437.00	96.6 PK			1.27 H	310	66.60	30.00
2	*2437.00	90.5 AV			1.27 H	310	60.50	30.00
3	2497.00	53.5 PK	74.00	-20.50	1.46 H	266	23.40	30.20
3	2497.00	44.0 AV	54.00	-10.00	1.46 H	266	13.90	30.20
4	4874.00	39.0 PK	74.00	-35.00	1.63 H	329	2.60	36.50

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	2320.00	54.6 PK	74.00	-19.40	1.52 V	320	25.00	29.60
1	2320.00	44.8 AV	54.00	-9.20	1.52 V	320	15.20	29.60
2	*2437.00	108.1 PK			1.07 V	329	78.10	30.00
2	*2437.00	100.2 AV			1.07 V	329	70.20	30.00
3	2496.00	54.2 PK	74.00	-19.80	1.54 V	266	24.00	30.20
3	2496.00	44.1 AV	54.00	-9.90	1.54 V	266	13.90	30.20
4	4874.00	37.5 PK	74.00	-36.50	1.23 V	304	1.00	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	Wireless-G Broadband Router	MODEL	WRT54G
MODE	Channel 11	FREQUENCY RANGE	Above 1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24 deg. C, 57%RH, 965 hPa	TESTED BY	Tony Chen

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	2363.00	53.1 PK	74.00	-20.90	1.29 H	35	23.40	29.70
1	2363.00	43.4 AV	54.00	-10.60	1.29 H	35	13.80	29.70
2	*2462.00	96.3 PK			1.05 H	49	66.30	30.10
2	*2462.00	93.4 AV			1.05 H	49	63.30	30.10
3	2484.00	51.9 PK	74.00	-22.10	1.27 H	36	21.80	30.10
3	2484.00	44.0 AV	54.00	-10.00	1.27 H	36	13.80	30.10
4	4924.00	39.4 PK	74.00	-34.60	1.24 H	32	2.70	36.70

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	2320.00	53.9 PK	74.00	-20.10	1.25 V	17	24.30	29.60
1	2320.00	45.2 AV	54.00	-8.80	1.25 V	17	15.60	29.60
2	*2462.00	102.4 PK			1.13 V	45	72.40	30.10
2	*2462.00	99.7 AV			1.13 V	45	69.60	30.10
3	2487.00	53.2 PK	74.00	-20.80	1.52 V	73	23.10	30.10
3	2487.00	44.4 AV	54.00	-9.60	1.52 V	73	14.30	30.10
4	4924.00	40.0 PK	74.00	-34.00	1.94 V	43	3.30	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

4.2.12 TEST RESULTS –OFDM (A)

EUT	Wireless-G Broadband Router	MODEL	WRT54G
MODE	Channel 1	FREQUENCY RANGE	Above 1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average(AV)
ENVIRONMENTAL CONDITIONS	27 deg. C, 68%RH, 965 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	2320.00	41.5 PK	74.00	-32.50	1.15 H	182	11.90	29.60
2	2371.00	37.7 PK	74.00	-36.30	1.09 H	76	8.00	29.70
3	2390.00	58.5 PK	74.00	-15.50	1.53 H	84	28.70	29.80
3	2390.00	47.5 AV	54.00	-6.50	1.53 H	84	17.70	29.60
4	*2412.00	98.1 PK			1.64 H	39	68.20	29.90
4	*2412.00	90.7 AV			1.64 H	39	60.80	29.70
5	2712.00	37.8 PK	74.00	-36.20	1.48 H	118	7.10	30.80
6	4824.00	42.6 PK	74.00	-31.40	1.03 H	24	6.40	36.20

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	2320.00	48.5 PK	74.00	-25.50	4.00 V	108	18.90	29.60
2	2371.00	40.2 PK	74.00	-33.80	1.48 V	67	10.50	29.70
3	2390.00	60.6 PK	74.00	-13.40	1.11 V	69	30.80	29.80
3	2390.00	51.4 AV	54.00	-2.60	1.11 V	69	21.60	29.60
4	*2412.00	107.6 PK			1.01 V	25	77.70	29.90
4	*2412.00	97.7 AV			1.01 V	25	67.80	29.70
5	2712.00	40.7 PK	74.00	-33.30	1.43 V	67	9.90	30.80
6	4824.00	45.3 PK	74.00	-28.70	1.24 V	24	9.10	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	Wireless-G Broadband Router	MODEL	WRT54G
MODE	Channel 6	FREQUENCY RANGE	Above 1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	27 deg. C, 68%RH, 965 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	1500.00	38.9 PK	74.00	-35.10	1.08 H	333	11.50	27.40
2	1747.00	33.4 PK	74.00	-40.60	1.59 H	30	5.40	28.10
3	2320.00	42.2 PK	74.00	-31.80	1.16 H	200	12.60	29.60
4	2390.00	55.5 PK	74.00	-18.50	1.00 H	8	25.70	29.80
4	2390.00	43.0 AV	54.00	-11.00	1.00 H	8	13.20	27.40
5	*2437.00	98.2 PK			1.51 H	48	68.20	30.00
5	*2437.00	91.0 AV			1.51 H	48	61.00	28.10
6	2483.50	53.7 PK	74.00	-20.30	1.47 H	24	23.60	30.10
6	2483.50	42.3 AV	54.00	-11.70	1.47 H	24	12.20	29.60
7	2758.00	38.2 PK	74.00	-35.80	1.63 H	258	7.30	30.90
8	4874.00	42.3 PK	74.00	-31.70	1.59 H	24	5.90	36.50

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	1500.00	42.6 PK	74.00	-31.40	1.59 V	277	15.10	27.40
2	1747.00	39.9 PK	74.00	-34.10	1.79 V	333	11.80	28.10
3	2320.00	46.7 PK	74.00	-27.30	1.33 V	20	17.10	29.60
4	2390.00	56.4 PK	74.00	-17.60	1.66 V	309	26.60	29.80
4	2390.00	46.1 AV	54.00	-7.90	1.66 V	309	16.30	27.40
5	*2437.00	108.4 PK			1.48 V	69	78.40	30.00
5	*2437.00	98.8 AV			1.48 V	69	68.80	28.10
6	2483.50	55.5 PK	74.00	-18.50	1.25 V	320	25.40	30.10
6	2483.50	46.4 AV	54.00	-7.60	1.25 V	320	16.20	29.60
7	2758.00	41.9 PK	74.00	-32.10	1.08 V	5	11.00	30.90
8	4874.00	45.6 PK	74.00	-28.40	1.25 V	24	9.10	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