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FCC SUPPLEMENTARY TEST REPORT

REPORT NO.: RF940706H03B

MODEL NO.: WL54-CF

RECEIVED: Aug. 27, 2005

TESTED: Sep. 04 to 30, 2009

ISSUED: Oct. 06, 2009

APPLICANT: AmbiCom, Inc.

ADDRESS: 405 River Oaks Parkway. San Jose, CA
95134

ISSUED BY: Bureau Veritas Consumer Products Services
(H.K.) Ltd., Taoyuan Branch Hsin Chu
Laboratory

LAB LOCATION: No. 81-1, Lu Liao Keng, 9th Ling, Wu Lung
Tsuen, Chiung Lin Hsiang, Hsin Chu Hsien 307,
Taiwan

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1 CERTIFICATION

PRODUCT : 54Mbps Wireless LAN CompactFlash Card

BRAND NAME : AmbiCom

MODEL NO. : WL54-CF

TESTED: Sep. 04 to 30, 2009

APPLICANT : AmbiCom, Inc.

TEST ITEM: ENGINEERING SAMPLE

STANDARDS : 47 CFR Part 15, Subpart C (Section 15.247),
ANSI C63.4-2003

The above equipment (Model: WL54-CF) has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Hsin Chu Laboratory**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

PREPARED BY : Carol Liao , **DATE:** Oct. 06, 2009
(Carol Liao, Specialist)

**TECHNICAL
ACCEPTANCE** : Hank Chung , **DATE:** Oct. 06, 2009
Responsible for RF (Hank Chung, Deputy Manager)

APPROVED BY : May Chen , **DATE:** Oct. 06, 2009
(May Chen, Deputy 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
15.247(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 -2.05 dB at 2487.74 MHz

NOTE:

1. This report is prepared for FCC class II permissive change. Only radiated emission and maximum peak output power were presented in this test report.



2.1 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Measurement	Value
Radiated emissions (30MHz-1GHz)	3.94 dB
Radiated emissions (1GHz -18GHz)	2.49 dB
Radiated emissions (18GHz -40GHz)	2.70 dB

3 GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	54Mbps Wireless LAN CompactFlash Card
MODEL NO.	WL54-CF
FCC ID	P5T-WL54CF
POWER SUPPLY	DC 3.3V from host equipment
MODULATION TYPE	BPSK, QPSK, CCK, 16QAM, 64QAM
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	17.60 dBm
ANTENNA TYPE	Chip Antenna with 2dBi antenna gain
DATA CABLE	NA
I/O PORTS	NA
ASSOCIATED DEVICES	NA

NOTE:

1. This report is prepared for FCC class II permissive change. The difference compared with the Report No.: RF940706H03 design is as the following:
 - u Modify the digital chip of circuit.
2. The EUT operates in the 2.4GHz frequency spectrum with throughput of up to 54Mbps.
3. This report is for AmbiCom WL54-CF Rev 2.1 .
4. The EUT complies with IEEE 802.11g standards, and backwards compatible with IEEE 802.11b products.

5. The EUT was pre-tested under the following test modes for three different axes placements:

Test Mode	Description
Mode A	Level
Mode B	Upright
Mode C	Flank

From the above modes, the worst emission level was found in **Mode A**. Therefore only the test data of the modes were recorded in this report individually.

6. The above EUT information was declared by the manufacturer and for 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		

3.3 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL:

EUT configure mode	Applicable to				Description
	PLC	RE<1G	RE≥1G	APCM	
-	√	√	√	√	NA

Where PLC: Power Line Conducted Emission
 RE<1G: Radiated Emission below 1GHz
 RE≥1G: Radiated Emission above 1GHz
 APCM: Antenna Port Conducted Measurement

Radiated Emission Test (Below 1 GHz):

- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- Following channel(s) was (were) selected for the final test as listed below.

Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
802.11b	1 to 11	1	DSSS	CCK	1

Radiated Emission Test (Above 1 GHz):

- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- Following channel(s) was (were) selected for the final test as listed below.

Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
802.11b	1 to 11	1, 6, 11	DSSS	CCK	1
802.11g	1 to 11	1	OFDM	BPSK	6

Antenna Port Conducted Measurement:

- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- Following channel(s) was (were) selected for the final test as listed below.

Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
802.11b	1 to 11	1, 6, 11	DSSS	CCK	1
802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6



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3.4 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a 54Mbps Wireless LAN CompactFlash Card. 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 : 2003

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 47 CFR Part 15, Subpart B, Class B (DoC). The test report has been issued separately.



3.5 DESCRIPTION OF SUPPORT UNITS

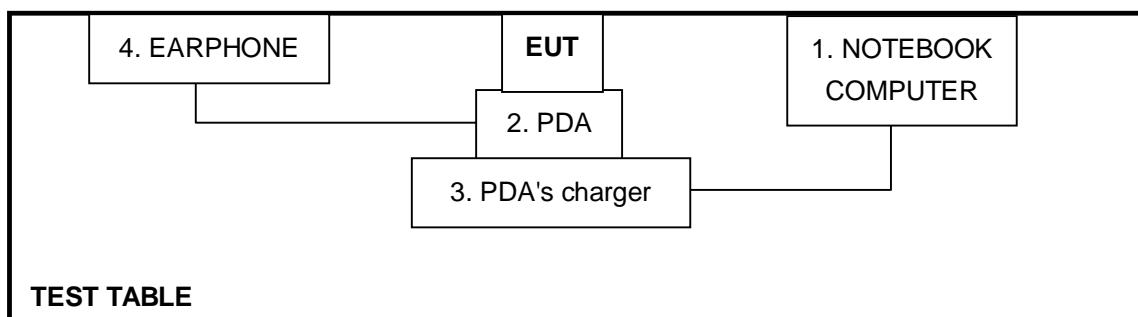
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	NOTEBOOK COMPUTER	DELL	PP18L	6976685584	FCC DoC
2	PDA	DELL	PA-14	NA	NA
3	PDA's charger	DELL	HD02U	NA	NA
4	EARPHONE	KOKA	ST-8	H201026	NA

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	NA
2	NA
3	USB cable (1.8m)
4	1. 8 m wrapped shielded wire, terminal by drain wire, with 3.5 mm phone plug, w/o core.

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

3.6 CONFIGURATION OF SYSTEM UNDER TEST



4 TEST TYPES AND RESULTS

4.1 RADIATED EMISSION MEASUREMENT

4.1.1 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.



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4.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
ROHDE & SCHWARZ Spectrum Analyzer	FSP40	100036	Dec. 9, 2008	Dec. 8, 2009
Agilent PSA Spectrum Analyzer	E4446A	MY46180622	Apr. 24 , 2009	Apr. 23 , 2010
HP Pre_Amplifier	8449B	3008A01923	Nov. 10, 2008	Nov. 9, 2009
ROHDE & SCHWARZ Test Receiver	ESCS30	847124/029	Aug. 28, 2009	Aug. 27, 2010
SCHWARZBECK TRILOG Broadband Antenna	VULB 9168	138	April 29, 2009	April 28, 2010
Schwarzbeck Horn_Antenna	BBHA9120	D124	Dec. 09, 2008	Dec. 08, 2009
Schwarzbeck Horn_Antenna	BBHA 9170	BBHA9170153	Jan. 22, 2009	Jan. 21, 2010
R&S Loop Antenna	HFH2-Z2	100070	Jan. 14, 2008	Jan. 13, 2010
RF Switches	EMH-011	08009	Oct. 07, 2008	Oct. 06, 2009
RF CABLE (Chaintek)	Sucoflex 106	28077	Aug. 14, 2009	Aug. 13, 2010
RF Cable	8DFB	STCCAB-30M-1GHz	Oct. 07, 2008	Oct. 06, 2009
Software	ADT_Radiated_V7.6.15.9.2	NA	NA	NA
CT Antenna Tower & Turn Table	NA	NA	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 horn antenna, HP preamplifier (model: 8449B) and Spectrum Analyzer (model: FSP40) are used only for the measurement of emission frequency above 1GHz if tested.
3. The test was performed in Open Site No. C.
4. The FCC Site Registration No. is 656396.
5. The VCCI Site Registration No. is R-1626.
6. The CANADA Site Registration No. is IC 7450G-3.

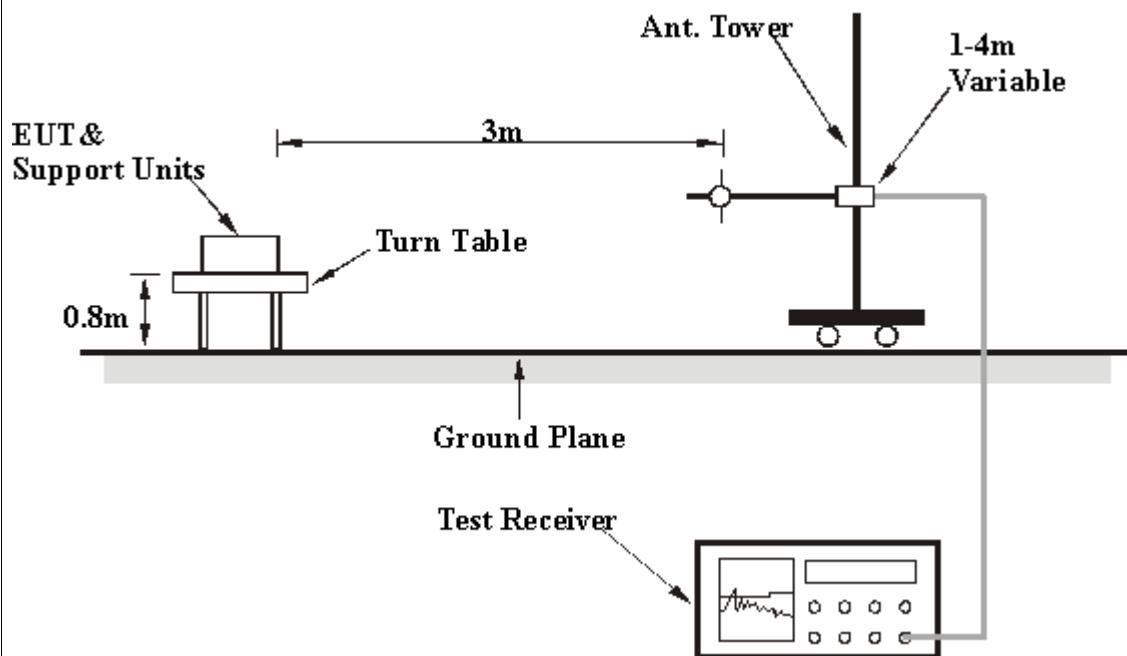
4.1.3 TEST PROCEDURES

- 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.

4.1.4 TEST SETUP



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

4.1.5 EUT OPERATING CONDITIONS

- 1 Plug the EUT into support unit 2 (PDA) which placed on a testing table.
- 2 The support unit 2 (PDA) ran a test program “ArcMfgTool 2.0.0.9” to enable EUT under transmission condition continuously at specific channel frequency.



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2.1.1 TEST RESULTS

MODE	Channel 1	FREQUENCY RANGE	30-1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION & BANDWIDTH	Quasi-Peak, 120kHz
ENVIRONMENTAL CONDITIONS	28 deg. C, 50%RH, 965 hPa	TESTED BY	Rex Huang

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	160.00	26.09 QP	43.50	-17.41	1.54 H	177	10.73	15.36
2	233.00	30.19 QP	46.00	-15.81	1.17 H	62	16.57	13.62
3	302.30	27.79 QP	46.00	-18.21	1.49 H	0	10.95	16.84
4	500.00	32.65 QP	46.00	-13.35	1.56 H	350	10.16	22.49
5	763.19	36.96 QP	46.00	-9.04	1.00 H	348	9.80	27.16
6	851.89	37.69 QP	46.00	-8.31	1.00 H	339	8.86	28.83

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	200.00	24.37 QP	43.50	-19.13	1.00 V	123	11.98	12.39
2	233.00	35.84 QP	46.00	-10.16	2.03 V	298	22.22	13.62
3	316.60	29.92 QP	46.00	-16.08	1.43 V	19	12.69	17.23
4	500.00	35.82 QP	46.00	-10.18	1.00 V	156	13.33	22.49
5	750.00	38.12 QP	46.00	-7.88	1.00 V	273	11.21	26.91
6	851.45	38.31 QP	46.00	-7.69	1.00 V	0	9.49	28.82

REMARKS:

1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
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.



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2.1.2 TEST RESULTS – DSSS

MODE	Channel 1	FREQUENCY RANGE	1000~25000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION & BANDWIDTH	Peak (PK) Average (AV) 1 MHz
ENVIRONMENTAL CONDITIONS	29 deg. C, 50%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	2386.27	59.46 PK	74.00	-14.54	1.41 H	286	29.19	30.27
2	2386.27	50.21 AV	54.00	-3.79	1.41 H	286	19.94	30.27
3	*2412.00	107.00 PK			1.41 H	286	76.64	30.36
4	*2412.00	104.82 AV			1.41 H	286	74.46	30.36
5	4824.00	50.54 PK	74.00	-23.46	1.75 H	21	13.75	36.79
6	4824.00	46.50 AV	54.00	-7.50	1.75 H	21	9.71	36.79

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2386.27	58.90 PK	74.00	-15.10	1.45 V	11	28.63	30.27
2	2386.27	48.65 AV	54.00	-5.35	1.45 V	11	18.38	30.27
3	*2412.00	104.24 PK			1.46 V	9	73.88	30.36
4	*2412.00	102.41 AV			1.46 V	9	72.05	30.36
5	4824.00	52.88 PK	74.00	-21.12	1.52 V	16	16.09	36.79
6	4824.00	50.75 AV	54.00	-3.25	1.52 V	16	13.96	36.79

REMARKS:

1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
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



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MODE		Channel 6		FREQUENCY RANGE		1000~25000MHz	
INPUT POWER (SYSTEM)		120Vac, 60 Hz		DETECTOR FUNCTION & BANDWIDTH		Peak (PK) Average (AV) 1 MHz	
ENVIRONMENTAL CONDITIONS		29 deg. C, 50%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	*2437.00	107.54 PK			1.50 H	284	77.08	30.46
2	*2437.00	105.21 AV			1.50 H	284	74.75	30.46
3	4874.00	51.24 PK	74.00	-22.76	1.80 H	32	14.32	36.92
4	4874.00	46.61 AV	54.00	-7.39	1.80 H	32	9.69	36.92
5	7311.00	51.01 PK	74.00	-22.99	1.02 H	24	7.87	43.14
6	7311.00	37.99 AV	54.00	-16.01	1.02 H	24	-5.15	43.14

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2437.00	105.01 PK			1.50 V	3	74.55	30.46
2	*2437.00	102.80 AV			1.50 V	3	72.34	30.46
3	4874.00	53.24 PK	74.00	-20.76	1.53 V	22	16.32	36.92
4	4874.00	51.50 AV	54.00	-2.50	1.53 V	22	14.58	36.92
5	7311.00	50.20 PK	74.00	-23.80	1.20 V	166	7.06	43.14
6	7311.00	38.24 AV	54.00	-15.76	1.20 V	166	-4.90	43.14

REMARKS:

1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
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



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MODE		Channel 11		FREQUENCY RANGE		1000~25000MHz	
INPUT POWER (SYSTEM)		120Vac, 60 Hz		DETECTOR FUNCTION & BANDWIDTH		Peak (PK) Average (AV) 1 MHz	
ENVIRONMENTAL CONDITIONS		29 deg. C, 50%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	*2462.00	107.54 PK			1.39 H	288	76.99	30.55
2	*2462.00	103.88 AV			1.39 H	288	73.33	30.55
3	2487.74	59.39 PK	74.00	-14.61	1.41 H	299	28.75	30.64
4	2487.74	51.95 AV	54.00	-2.05	1.41 H	299	21.31	30.64
5	4924.00	50.68 PK	74.00	-23.32	1.57 H	74	13.62	37.06
6	4924.00	46.80 AV	54.00	-7.20	1.57 H	74	9.74	37.06
7	7386.00	51.24 PK	74.00	-22.76	1.32 H	62	8.11	43.13
8	7386.00	38.47 AV	54.00	-15.53	1.32 H	62	-4.66	43.13

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	104.75 PK			1.16 V	349	74.20	30.55
2	*2462.00	102.68 AV			1.16 V	349	72.13	30.55
3	2487.76	59.12 PK	74.00	-14.88	1.20 V	350	28.48	30.64
4	2487.76	50.18 AV	54.00	-3.82	1.20 V	350	19.54	30.64
5	4924.00	52.90 PK	74.00	-21.10	1.50 V	40	15.84	37.06
6	4924.00	50.18 AV	54.00	-3.82	1.50 V	40	13.12	37.06
7	7386.00	50.24 PK	74.00	-23.76	1.33 V	11	7.11	43.13
8	7386.00	38.65 AV	54.00	-15.35	1.33 V	11	-4.48	43.13

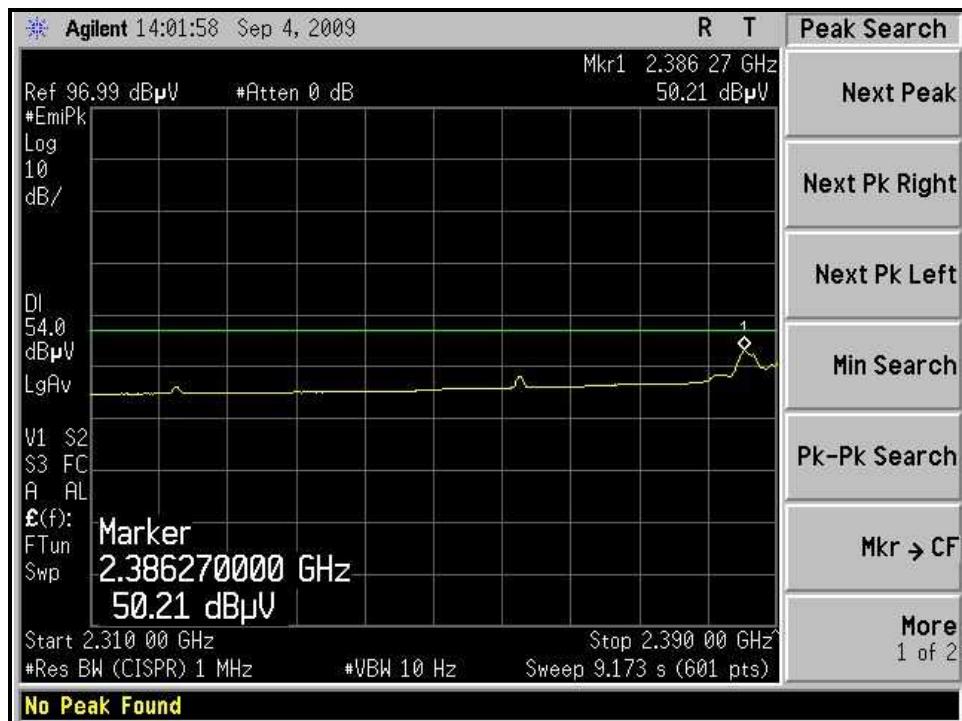
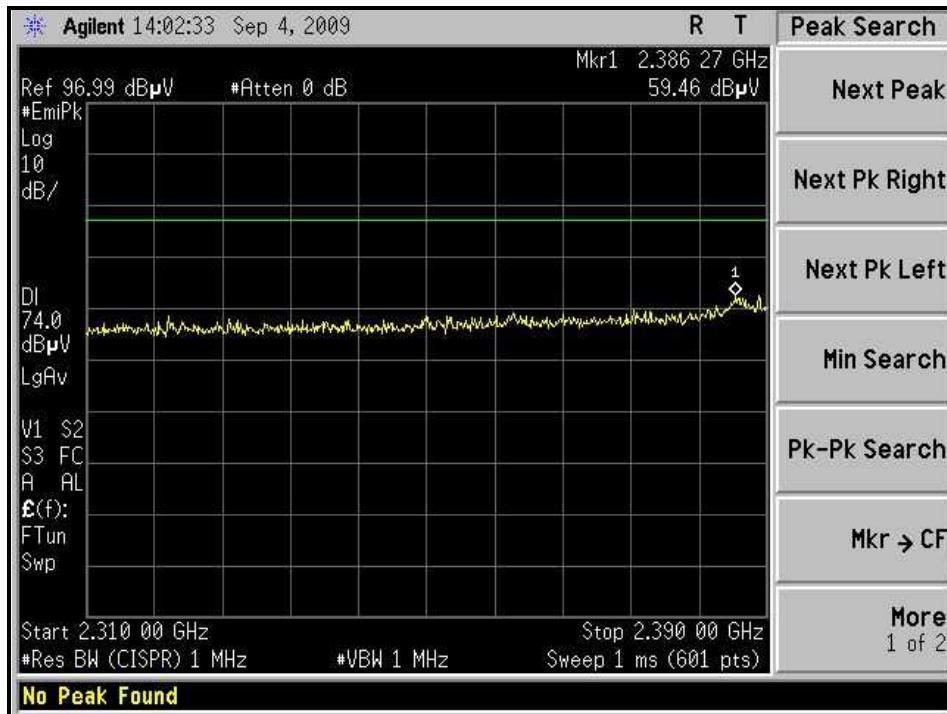
REMARKS:

1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
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



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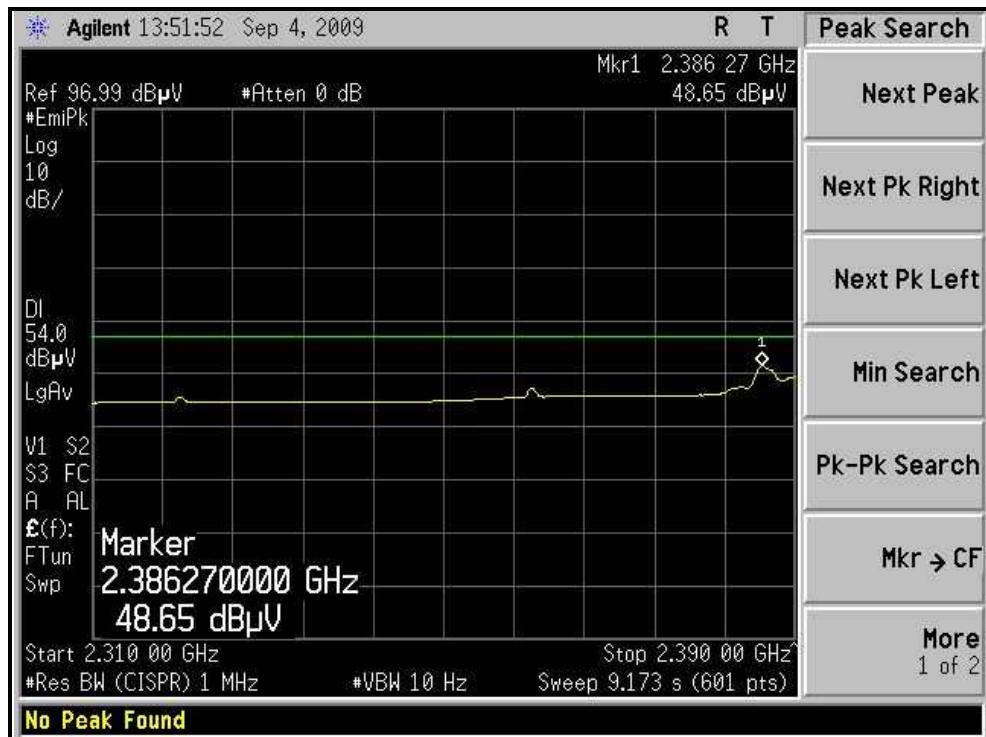
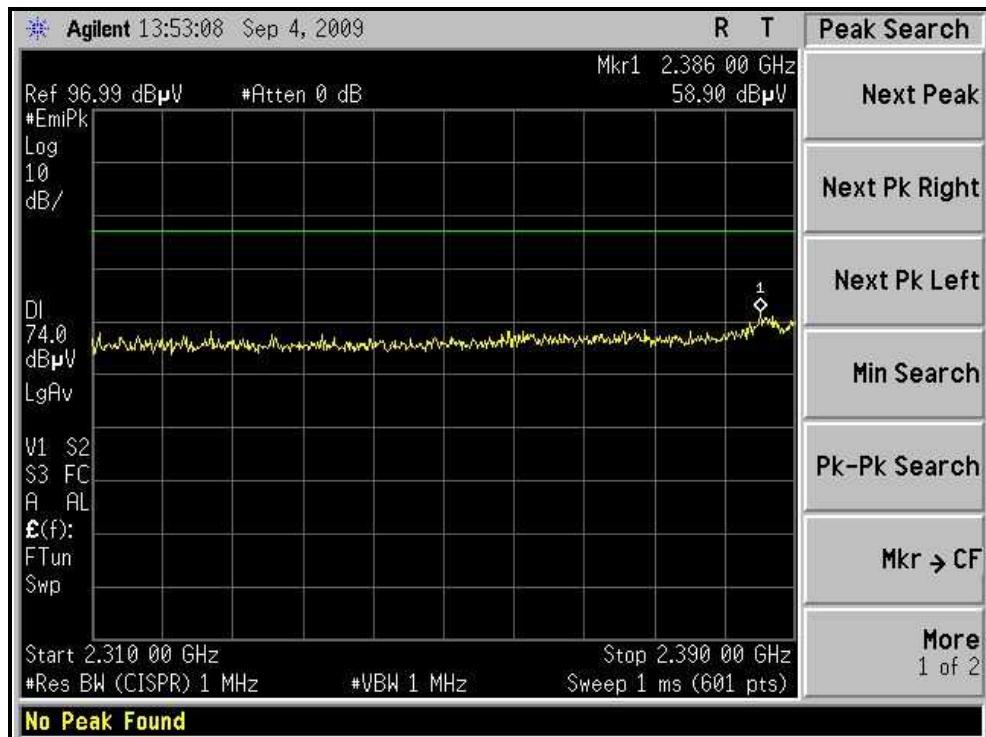
RESTRICTED BANDEDGE (802.11b MODE,CH1, HORIZONTAL)





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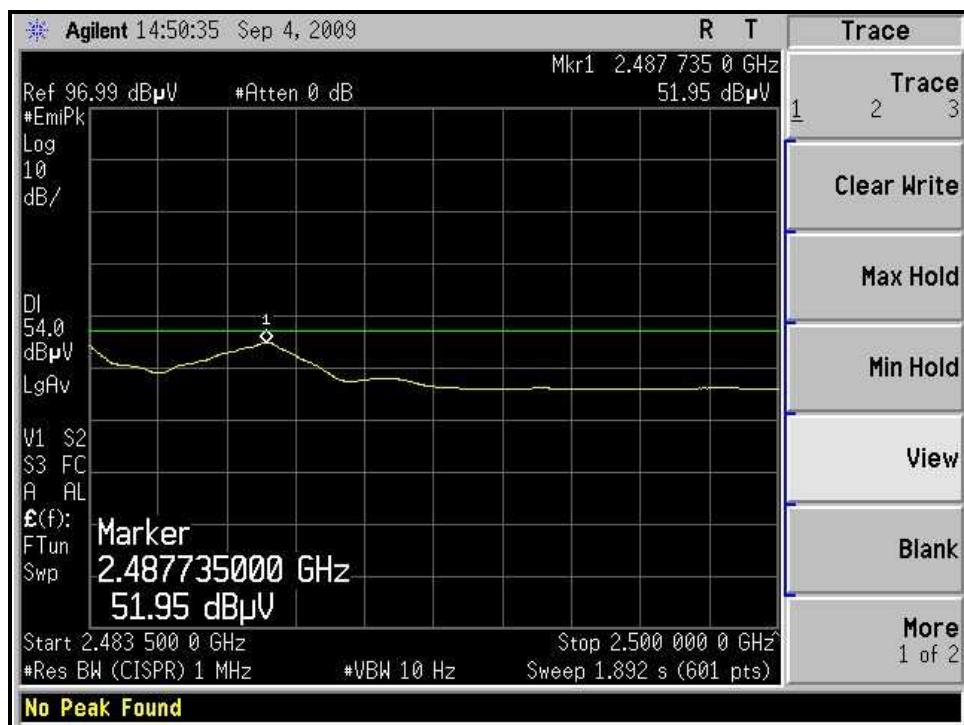
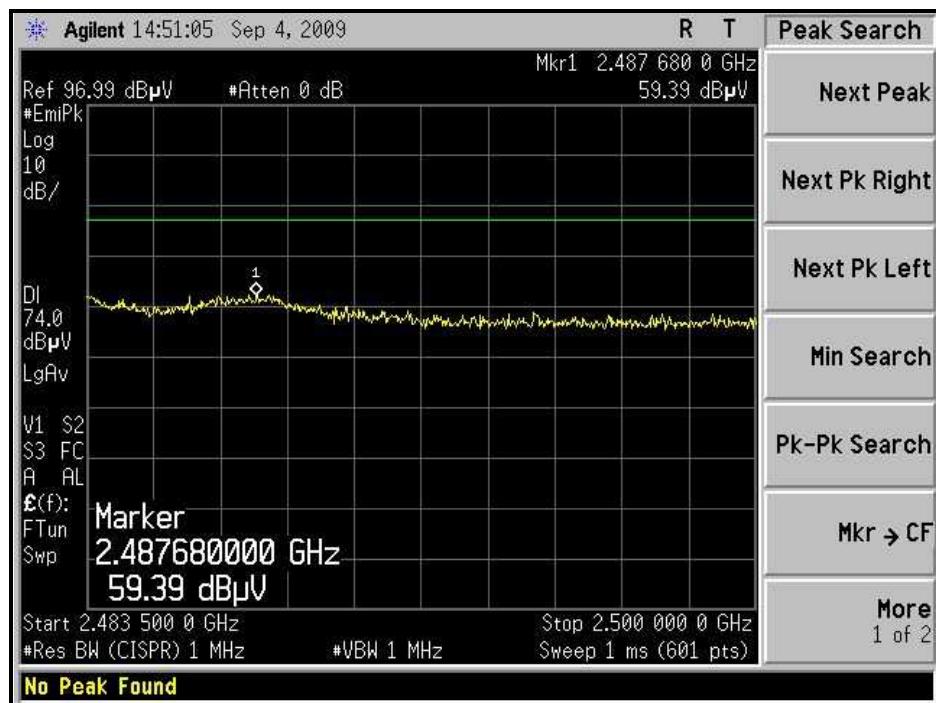
RESTRICTED BANDEDGE (802.11b MODE,CH1, VERTICAL)





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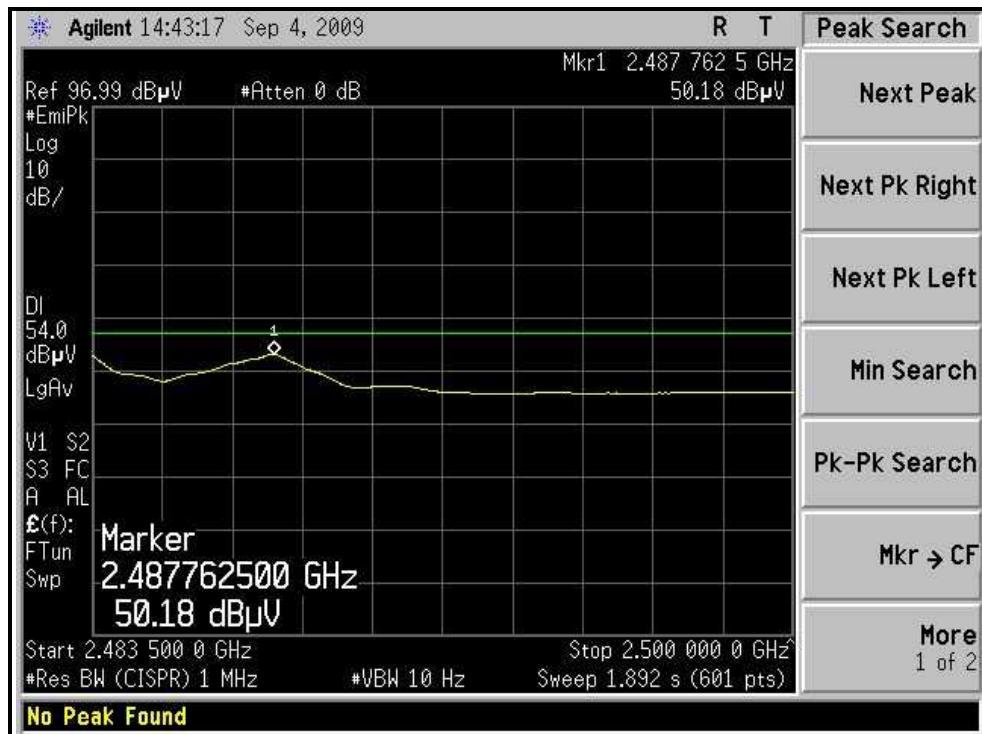
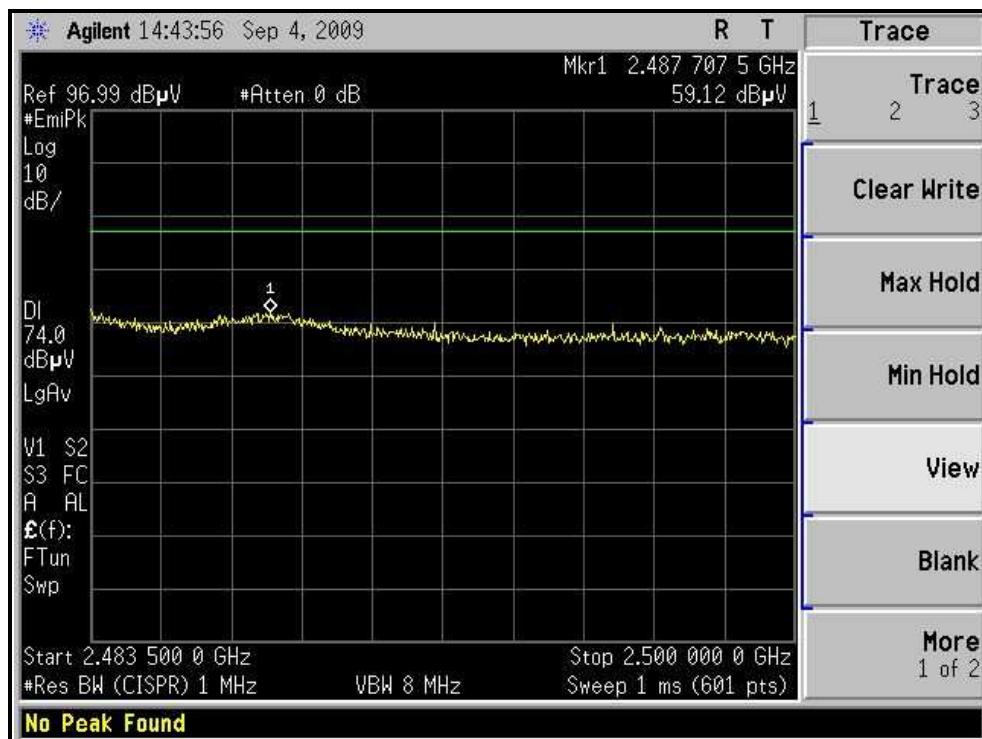
RESTRICTED BANDEDGE (802.11b MODE,CH11, HORIZONTAL)





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RESTRICTED BANDEDGE (802.11b MODE,CH11, VERTICAL)





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2.1.3 TEST RESULTS – OFDM

MODE	Channel 1	FREQUENCY RANGE	1000~25000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION & BANDWIDTH	Peak (PK) Average (AV) 1 MHz
ENVIRONMENTAL CONDITIONS	29 deg. C, 50%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	2390.00	65.46 PK	74.00	-8.54	1.39 H	283	35.18	30.28
2	2390.00	45.82 AV	54.00	-8.18	1.39 H	283	15.54	30.28
3	*2412.00	102.73 PK			1.41 H	283	72.37	30.36
4	*2412.00	93.24 AV			1.41 H	283	62.88	30.36
5	4824.00	43.32 PK	74.00	-30.68	1.52 H	224	6.53	36.79
6	4824.00	32.53 AV	54.00	-21.47	1.52 H	224	-4.26	36.79

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	63.17 PK	74.00	-10.83	1.31 V	270	32.89	30.28
2	2390.00	44.43 AV	54.00	-9.57	1.31 V	270	14.15	30.28
3	*2412.00	100.70 PK			1.34 V	271	70.34	30.36
4	*2412.00	90.18 AV			1.34 V	271	59.82	30.36
5	4824.00	46.80 PK	74.00	-27.20	1.38 V	77	10.01	36.79
6	4824.00	35.72 AV	54.00	-18.28	1.38 V	77	-1.07	36.79

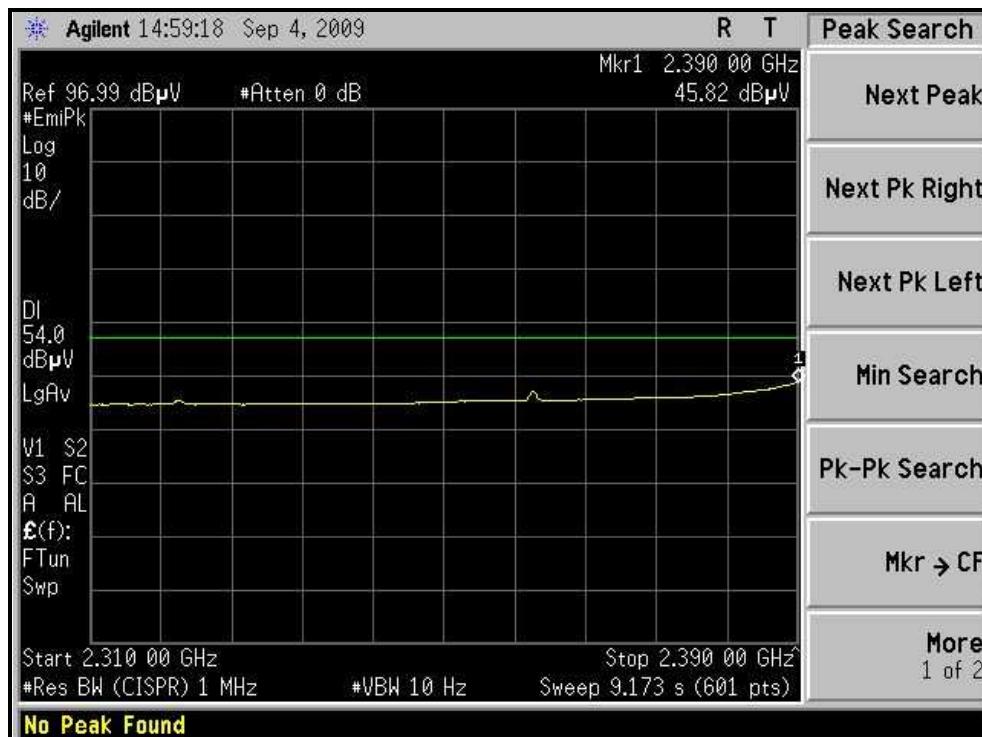
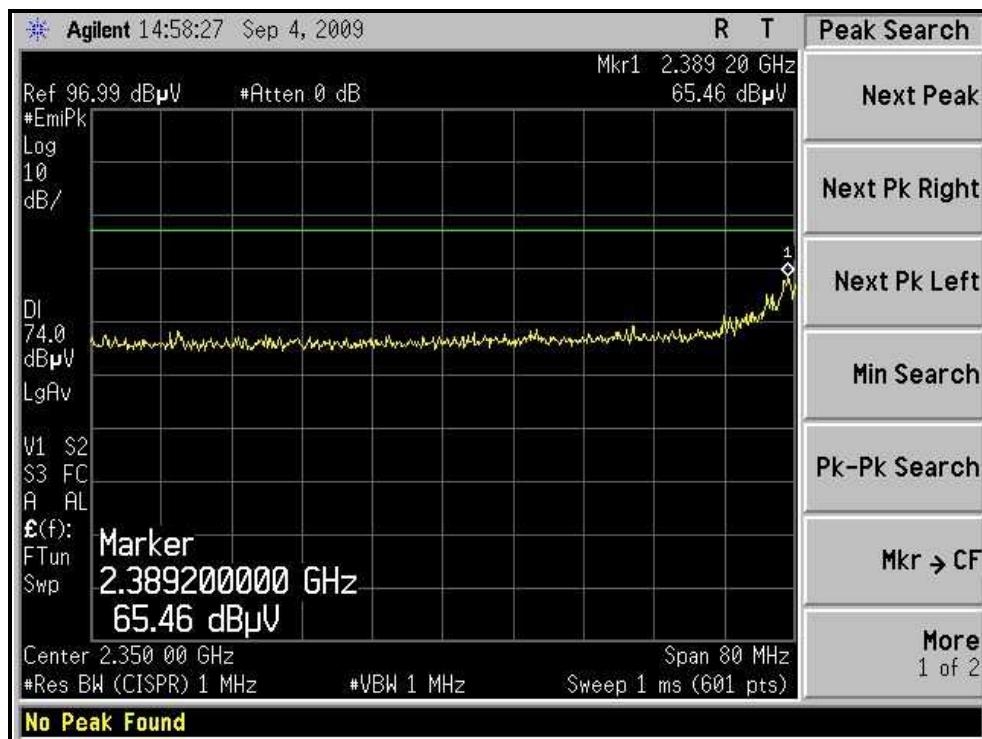
REMARKS:

1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
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

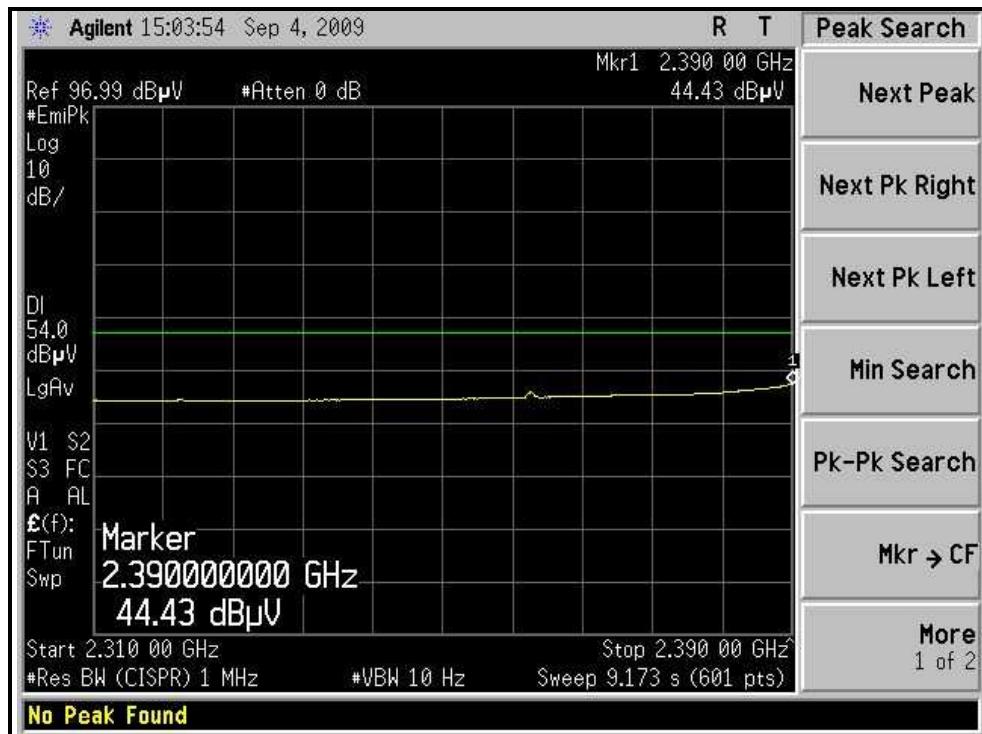
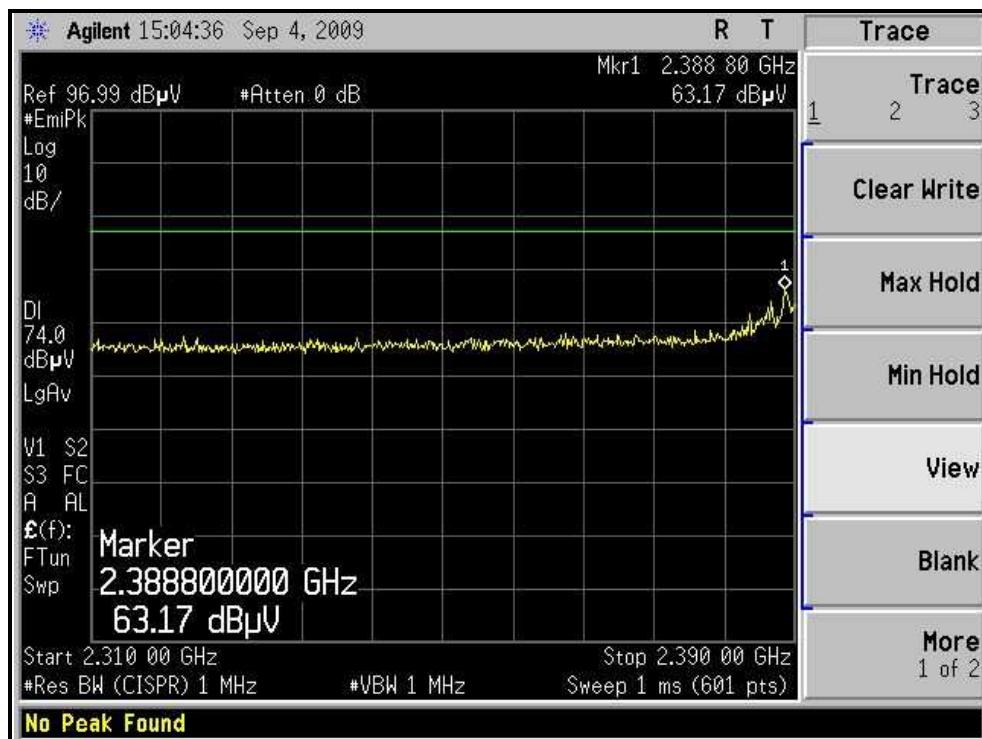


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RESTRICTED BANDEDGE (802.11g MODE,CH1, HORIZONTAL)



RESTRICTED BANDEDGE (802.11g MODE,CH1, VERTICAL)





2.2 MAXIMUM PEAK OUTPUT POWER

2.2.1 LIMITS OF MAXIMUM PEAK OUTPUT POWER MEASUREMENT

The Maximum Peak Output Power Measurement is 30dBm.

2.2.2 TEST INSTRUMENTS

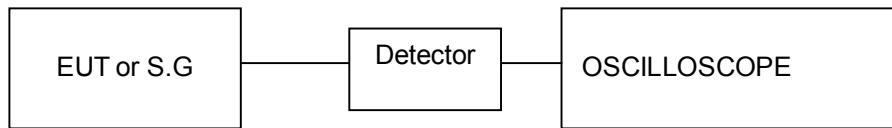
DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
R&S SPECTRUM ANALYZER	FSP40	100036	Dec. 09, 2008	Dec. 08, 2009
Agilent SIGNAL GENERATOR	E8257C	MY43320668	July 14, 2009	July 13, 2010
TEKTRONIX OSCILLOSCOPE	TDS380	B016335	July 13, 2009	July 14, 2010
NARDA DETECTOR	4503A	FSCM99899	NA	NA

NOTE: The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

2.2.3 TEST PROCEDURES

1. A detector was used on the output port of the EUT. An oscilloscope was used to read the peak response of the detector.
2. Replaced the EUT by the signal generator. The center frequency of the S.G was adjusted to the center frequency of the measured channel.
3. Adjusted the power to have the same peak reading on oscilloscope. Record the power level.

2.2.4 TEST SETUP



2.2.5 EUT OPERATING CONDITIONS

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



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2.2.6 TEST RESULTS

802.11b DSSS MODULATION:

MODULATION TYPE	DBPSK	TRANSFER RATE	1Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	25deg.C, 60%RH, 965hPa
TESTED BY	Eric Lee		

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS / FAIL
1	2412	48.753	16.88	30	PASS
6	2437	49.204	16.92	30	PASS
11	2462	49.431	16.94	30	PASS

802.11g OFDM MODULATION:

MODULATION TYPE	BPSK	TRANSFER RATE	6Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	25deg.C, 60%RH, 965hPa
TESTED BY	Eric Lee		

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS / FAIL
1	2412	47.643	16.78	30	PASS
6	2437	57.544	17.60	30	PASS
11	2462	54.450	17.36	30	PASS

3 INFORMATION ON THE TESTING LABORATORIES

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved by the following approval agencies according to ISO/IEC 17025:

USA	FCC, NVLAP
Germany	TUV Rheinland
Japan	VCCI
Norway	NEMKO
Canada	INDUSTRY CANADA , CSA
R.O.C.	TAF, BSMI, NCC
Netherlands	Telefication
Singapore	GOST-ASIA(MOU)
Russia	CERTIS(MOU)

Copies of accreditation certificates of our laboratories obtained from approval agencies can be downloaded from our web site: www.adt.com.tw/index.5/phtml. If you have any comments, please feel free to contact us at the following:

Linko EMC/RF Lab:

Tel: 886-2-26052180
Fax: 886-2-26052943

Hsin Chu EMC/RF Lab:

Tel: 886-3-5935343
Fax: 886-3-5935342

Hwa Ya EMC/RF/Safety/Telecom Lab:

Tel: 886-3-3183232
Fax: 886-3-3185050

Email: service@adt.com.tw

Web Site: www.adt.com.tw

The address and road map of all our labs can be found in our web site also.



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4 APPENDIX A - MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No any modifications are made to the EUT by the lab during the test.

--- END ---