

FCC TEST REPORT

REPORT NO.: RF951204L06A

MODEL NO.: WRT54G V8

RECEIVED: Jan. 13, 2007

TESTED: Jan. 13 ~ Jan. 16, 2007

ISSUED: Jan. 17, 2007

APPLICANT: Cisco-Linksys LLC

ADDRESS: 121 Theory Drive Irvine, CA 92617 (USA)

ISSUED BY: Advance Data Technology Corporation

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R.O.C.

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No. 2177-01



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1 CERTIFICATION

PRODUCT : Wireless-G Broadband Router With 4-Port Switch
MODEL NO.: WRT54G V8
BRAND: Linksys
APPLICANT : Cisco-Linksys LLC
TESTED: Jan. 13 ~ Jan. 16, 2007
TEST SAMPLE: ENGINEERING SAMPLE
STANDARDS : **FCC Part 15, Subpart C (Section 15.247),**
ANSI C63.4-2003

The above equipment have been tested by **Advance Data Technology Corporation**, 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 : Wendy Liao , **DATE:** Jan. 17, 2007
Wendy Liao

TECHNICAL
ACCEPTANCE : Long Chen , **DATE:** Jan. 17, 2007
Responsible for RF Long Chen

APPROVED BY : Gary Chang , **DATE:** Jan. 17, 2007
Gary Chang / Supervisor

2 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 15, Subpart C			
Standard Section	Test Type and Limit	Result	REMARK
15.207	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is -3.59dB at 0.315MHz.
15.247(d)	Transmitter Radiated Emissions Limit: Table 15.209	PASS	Meet the requirement of limit. Minimum passing margin is -1.01dB at 61.10MHz.
15.247(d)	Band Edge Measurement Limit: 20 dB less than the peak value of fundamental frequency	PASS	Meet the requirement of limit

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:

Measurement	Frequency	Uncertainty
Conducted emissions	9kHz~30MHz	2.44 dB
Radiated emissions	30MHz ~ 200MHz	3.71 dB
	200MHz ~1000MHz	3.73 dB
	1GHz ~ 18GHz	2.26 dB
	18GHz ~ 40GHz	1.94 dB

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

3 GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	Wireless-G Broadband Router With 4-Port Switch
MODEL NO.	WRT54G V8
FCC ID	Q87-WRT54GV8
POWER SUPPLY	12Vdc from AC adapter
MODULATION TYPE	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
MODULATION TECHNOLOGY	DSSS, OFDM
TRANSFER RATE	802.11b: 11/5.5/2/1Mbps 802.11g: 54/48/36/24/18/12/9/6Mbps
FREQUENCY RANGE	2400MHz ~ 2483.5MHz
NUMBER OF CHANNEL	11
MAXIMUM OUTPUT POWER	115.080mW
ANTENNA TYPE	Fix Dipole antenna with 2dBi gain
I/O PORTS	RJ 45
DATA CABLE	NA
ASSOCIATED DEVICE	Adapter

NOTE:

1. This report is issued as a supplementary report of RF951204L06. This report shall be combined together with its original report.
2. RF output power is the same as the original test report.
3. This report is prepared for FCC Class II permissive change. Difference compared with original report is listed as below, therefore Conducted and Radiated Emission Measurements had been re-tested.

ITEM	ORIGINAL DESCRIPTION	ITEM	CLASS II CHANE DESCRIPTION
1	Antenna with two cores	1	TX: Antenna without core RX: Antenna without core
		2	TX: Antenna without core RX: Antenna with one core

4. The EUT was powered by the following adapters:

ADAPTER 1	
BRAND:	LINKSYS
MODEL:	D12-50-A
INPUT:	120Vac, 60Hz, 100mA
OUTPUT:	12Vdc, 500mA
POWER CORD:	DC 1.8m non-shielded cable without core

ADAPTER 2	
BRAND:	LINKSYS
MODEL:	AM-12500
INPUT:	120Vac, 60Hz, 12W
OUTPUT:	12Vdc, 500mA
POWER CORD:	DC 1.8m non-shielded cable without core

ADAPTER 3	
BRAND:	LINKSYS
MODEL:	AD12V/0.5A-SW
INPUT:	100~240Vac, 50/60Hz, 0.5A
OUTPUT:	12Vdc, 0.5A
POWER CORD:	DC 1.8m non-shielded cable without core

ADAPTER 4	
BRAND:	LINKSYS
MODEL:	LS120V05AE
INPUT:	100~240Vac, 50/60Hz, 0.5A
OUTPUT:	12Vdc, 500mA
POWER CORD:	DC: 1.8m non-shielded cable without core AC: 0.5m non-shielded cable without core

ADAPTER 5	
BRAND:	LINKSYS
MODEL:	LS120V05A
INPUT:	100~240Vac, 50/60Hz, 0.5A
OUTPUT:	12Vdc, 500mA
POWER CORD:	DC 1.8m non-shielded cable without core AC 0.5m non-shielded cable without core

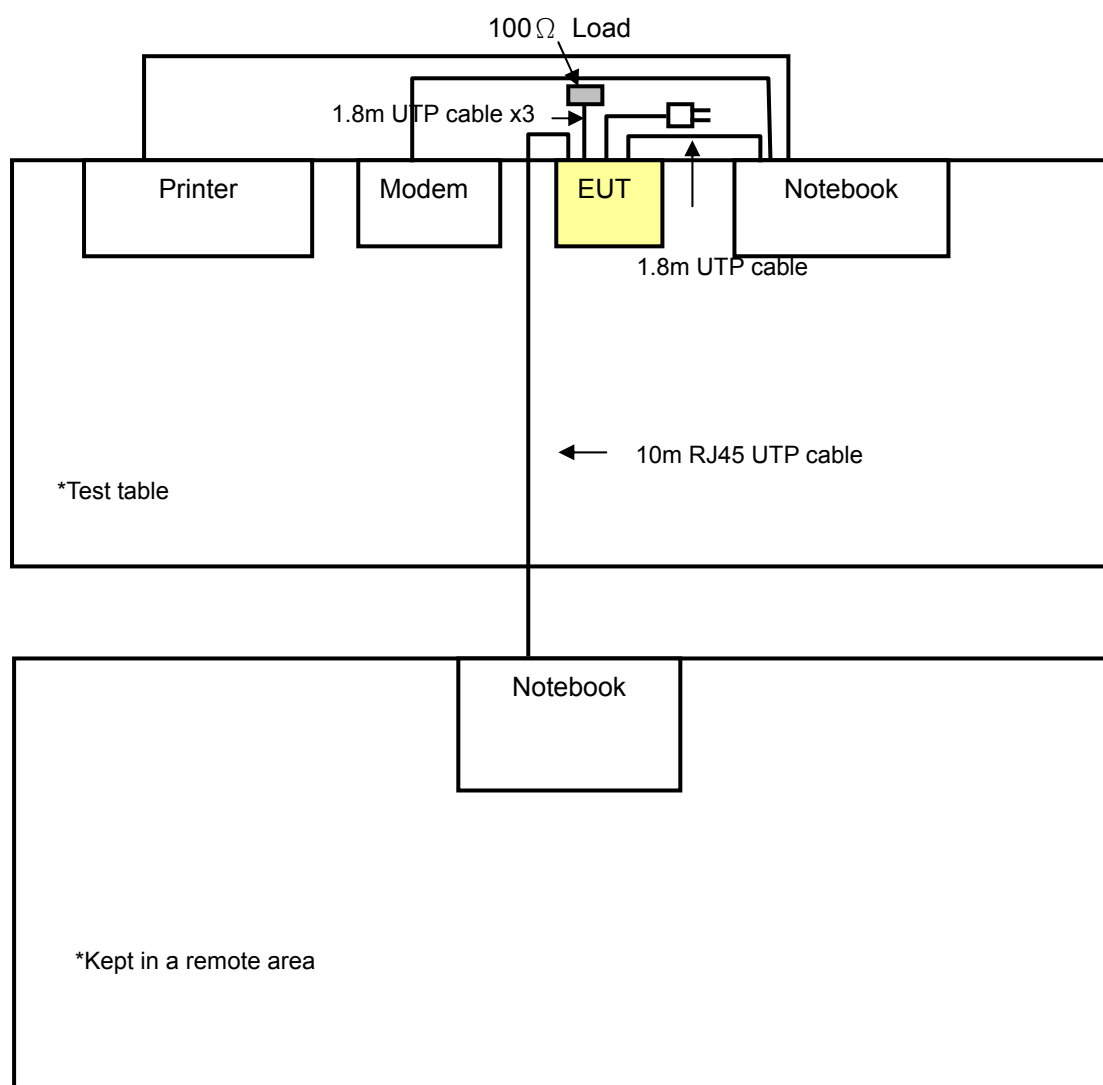
5. The EUT, operates in the 2.4GHz frequency range, lets you connect IEEE 802.11g or IEEE 802.11b devices to the network. With its high-speed data transmissions of up to 54Mbps.
6. The above EUT information was declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or User's Manual.

3.2 DESCRIPTION OF TEST MODES

Eleven channels are provided to this EUT.

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

3.2.1 CONFIGURATION OF SYSTEM UNDER TEST



3.2.2 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	PLC	RE<1G	RE≥1G	APCM	
A1	√	√	-	-	Power from Adapter 1 (TX: Antenna without core; RX: Antenna without core)
A2	-	√	-	-	Power from Adapter 1 (TX: Antenna without core; RX: Antenna with one core)
B1	√	√	√	√	Power from Adapter 2 (TX: Antenna without core; RX: Antenna without core)
B2	-	√	-	-	Power from Adapter 2 (TX: Antenna without core; RX: Antenna with one core)
C1	√	√	-	-	Power from Adapter 3 (TX: Antenna without core; RX: Antenna without core)
C2	-	√	-	-	Power from Adapter 3 (TX: Antenna without core; RX: Antenna with one core)
D1	√	√	-	-	Power from Adapter 4 (TX: Antenna without core; RX: Antenna without core)
D2	-	√	-	-	Power from Adapter 4 (TX: Antenna without core; RX: Antenna with one core)
E1	√	√	-	-	Power from Adapter 5 (TX: Antenna without core; RX: Antenna without core)
E2	-	√	-	-	Power from Adapter 5 (TX: Antenna without core; RX: Antenna with one core)

Where **PLC**: Power Line Conducted Emission

RE<1G: Radiated Emission below 1GHz

RE≥1G: Radiated Emission above 1GHz

APCM: Antenna Port Conducted Measurement

NOTE: “-” means no effect

Power Line Conducted Emission Test:

- ☒ 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.

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A1	802.11g	1 to 11	1	OFDM	BPSK	6
B1	802.11g	1 to 11	1	OFDM	BPSK	6
C1	802.11g	1 to 11	1	OFDM	BPSK	6
D1	802.11g	1 to 11	1	OFDM	BPSK	6
E1	802.11g	1 to 11	1	OFDM	BPSK	6

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.

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A1 ~ A2	802.11g	1 to 11	11	OFDM	BPSK	6
B1 ~ B2	802.11g	1 to 11	11	OFDM	BPSK	6
C1 ~ C2	802.11g	1 to 11	11	OFDM	BPSK	6
D1 ~ D2	802.11g	1 to 11	11	OFDM	BPSK	6
E1 ~ E2	802.11g	1 to 11	11	OFDM	BPSK	6

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.

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
B1	802.11b	1 to 11	1, 11	DSSS	DBPSK	1
B1	802.11g	1 to 11	1, 11	OFDM	BPSK	6

Bandedge 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.

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
B1	802.11b	1 to 11	1, 11	DSSS	DBPSK	1
B1	802.11g	1 to 11	1, 11	OFDM	BPSK	6

3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a RF product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC Part 15, Subpart C. (15.247)
ANSI C63.4-2003

All test items 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 FCC 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 COMPUTER	DELL	PP05L	9954115984	E2K24CLNS
2	PRINTER	EPSON	LQ-300+	DCGY047265	FCC DoC Approved
3	MODEM	ACEEX	1414V/3	0401008260	IFAXDM1414
4	NOTEBOOK COMPUTER	DELL	PP05L	16484462992	E2K24CLNS

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	NA
2	1.8 m shielded cable
3	1.8 m shielded cable
4	NA

NOTE: 1. All power cords of the above support units are non shielded (1.8m).
 2. Item 4 act as a communication partner to transfer data.

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
Test Receiver ROHDE & SCHWARZ	ESCS30	100288	Sep. 25, 2007
RF signal cable Woken	5D-FB	Cable-HYCO3-01	Jan. 06, 2008
LISN ROHDE & SCHWARZ	ESH2-Z5	100100	Jan. 08, 2008
LISN ROHDE & SCHWARZ	ESH3-Z5	100311	Jan. 22, 2007
Software ADT	ADT_Cond_V3	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 HwaYa Shielded Room 2.
 3. The VCCI Site Registration No. is C-2047.

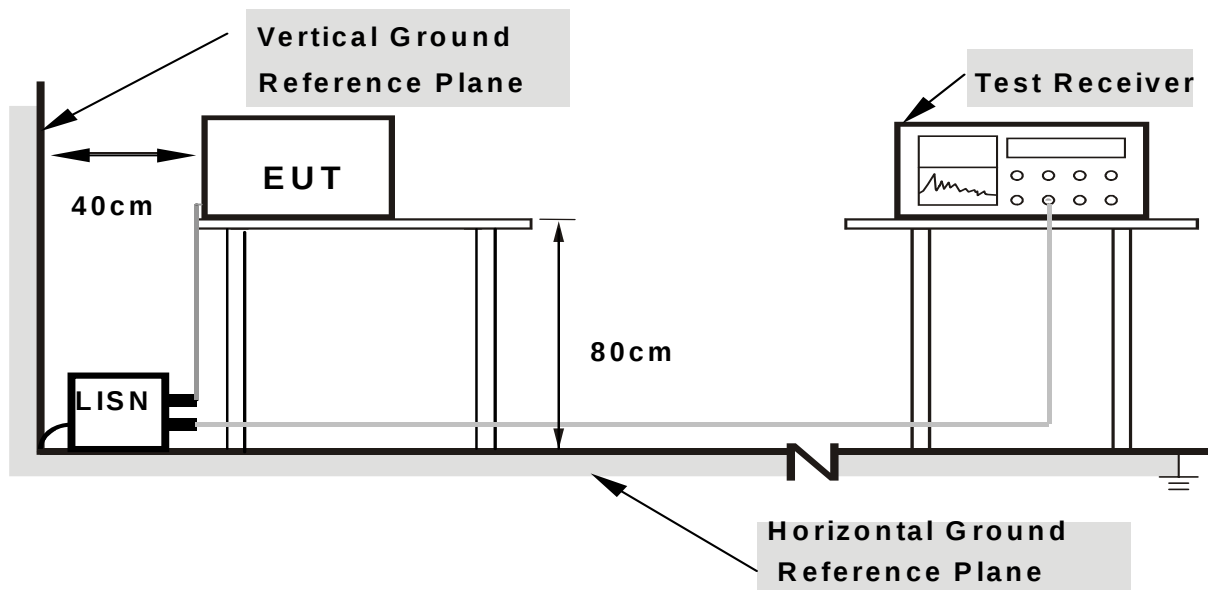
4.1.3 TEST PROCEDURES

- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- c. The frequency range from 150kHz to 30MHz was searched. Emission levels under Limit - 20dB was not recorded.

4.1.4 DEVIATION FROM TEST STANDARD

No deviation

4.1.5 TEST SETUP



- Note:**
1. Support units were connected to second LISN.
 2. Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

For the actual test configuration, please refer to the attached file (Test Setup Photo).

4.1.6 EUT OPERATING CONDITIONS

- a. Connected the EUT to a notebook system and placed on a testing table.
- b. Prepared a notebook computer and placed it outside of testing area to act as communication partner for EUT.
- c. The notebook system ran a test program (provided by manufacturer) to enable EUT under transmission condition continuously at specific channel frequency.
- d. The necessary accessories enable the EUT in full functions.

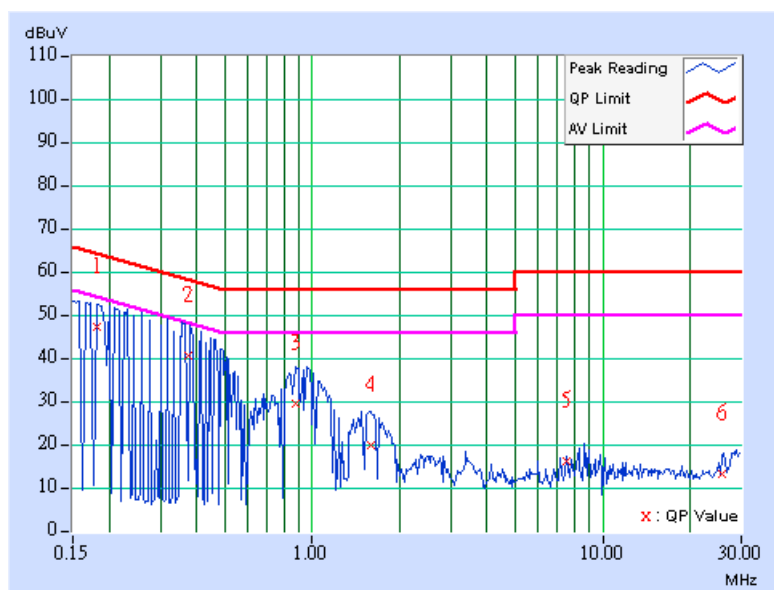
4.1.7 TEST RESULTS

CONDUCTED WORST-CASE DATA

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	PHASE	Line 1
MODULATION TYPE	BPSK	6dB BANDWIDTH	9 kHz
TRANSFER RATE	6Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	21deg. C, 65%RH, 991hPa	TEST MODE	A1
TESTED BY	Dean Wang		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.181	0.10	46.48	-	46.58	-	64.43	54.43	-17.85	-
2	0.376	0.10	39.71	-	39.81	-	58.36	48.36	-18.55	-
3	0.873	0.11	28.75	-	28.86	-	56.00	46.00	-27.14	-
4	1.598	0.18	19.17	-	19.35	-	56.00	46.00	-36.65	-
5	7.505	0.31	15.50	-	15.81	-	60.00	50.00	-44.19	-
6	25.879	0.89	12.51	-	13.40	-	60.00	50.00	-46.60	-

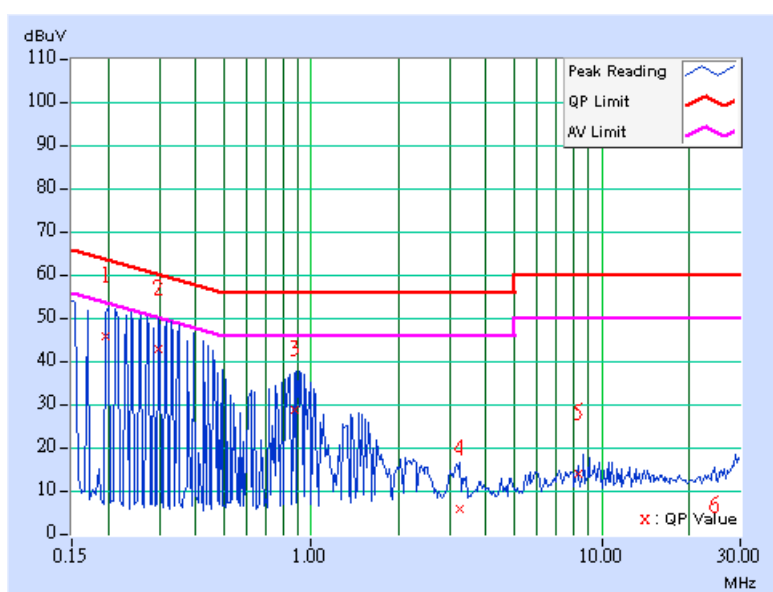
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value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



EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	PHASE	Line 2
MODULATION TYPE	BPSK	6dB BANDWIDTH	9 kHz
TRANSFER RATE	6Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	21deg. C, 65%RH, 991hPa	TEST MODE	A1
TESTED BY	Dean Wang		

No	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
	[MHz]	Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.197	0.10	45.05	-	45.15	-	63.74	53.74	-18.59	-
2	0.298	0.10	42.17	-	42.27	-	60.29	50.29	-18.02	-
3	0.873	0.19	28.12	-	28.31	-	56.00	46.00	-27.69	-
4	3.258	0.26	5.05	-	5.31	-	56.00	46.00	-50.69	-
5	8.269	0.39	13.54	-	13.93	-	60.00	50.00	-46.07	-
6	24.570	0.71	-8.06	-	-7.35	-	60.00	50.00	-67.35	-

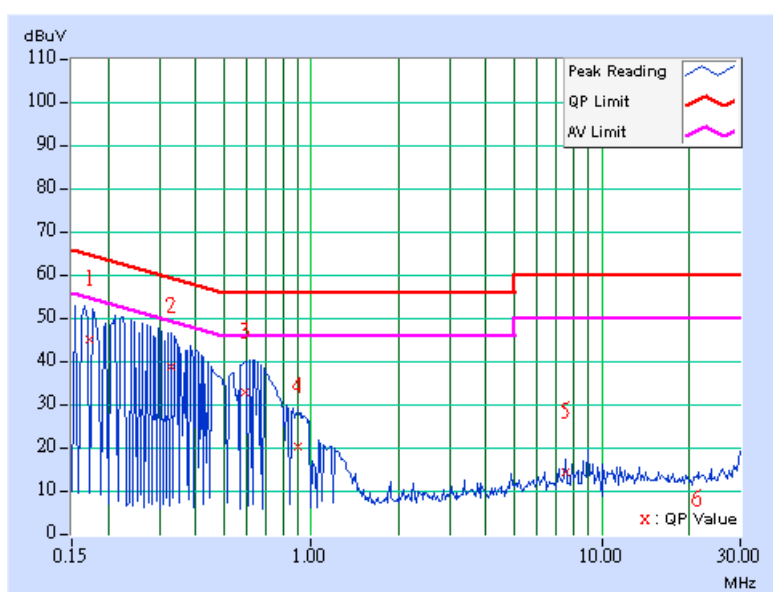
- REMARKS:** 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value =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



EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	PHASE	Line 1
MODULATION TYPE	BPSK	6dB BANDWIDTH	9 kHz
TRANSFER RATE	6Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	21deg. C, 65%RH, 991hPa	TEST MODE	B1
TESTED BY	Dean Wang		

No	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
	[MHz]	Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.172	0.10	44.72	-	44.82	-	64.84	54.84	-20.02	-
2	0.330	0.10	38.24	-	38.34	-	59.46	49.46	-21.12	-
3	0.591	0.10	32.36	-	32.46	-	56.00	46.00	-23.54	-
4	0.904	0.11	19.79	-	19.90	-	56.00	46.00	-36.10	-
5	7.488	0.31	13.97	-	14.28	-	60.00	50.00	-45.72	-
6	21.189	0.63	-6.48	-	-5.85	-	60.00	50.00	-65.85	-

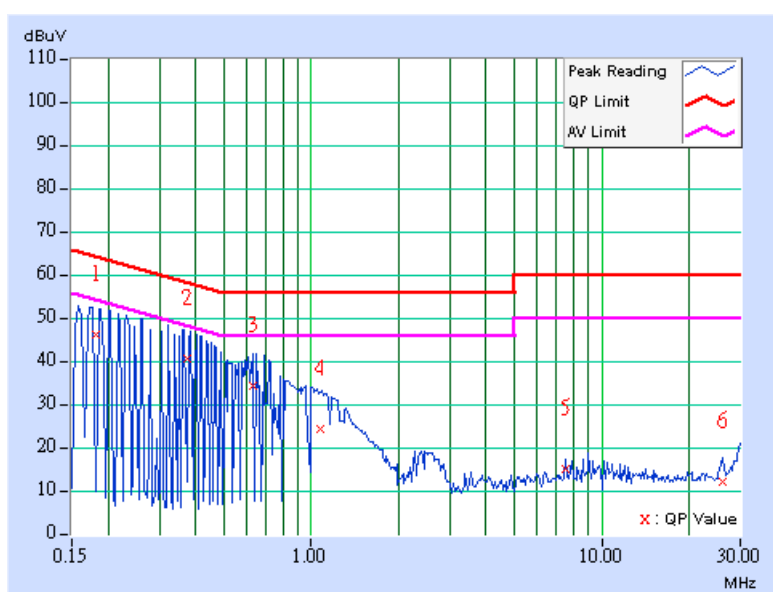
- REMARKS:** 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value =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



EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	PHASE	Line 2
MODULATION TYPE	BPSK	6dB BANDWIDTH	9 kHz
TRANSFER RATE	6Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	21deg. C, 65%RH, 991hPa	TEST MODE	B1
TESTED BY	Dean Wang		

	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
No		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.183	0.10	45.37	-	45.47	-	64.37	54.37	-18.90	-
2	0.374	0.10	39.91	-	40.01	-	58.41	48.41	-18.40	-
3	0.627	0.14	33.75	-	33.89	-	56.00	46.00	-22.11	-
4	1.074	0.21	23.77	-	23.98	-	56.00	46.00	-32.02	-
5	7.492	0.37	14.29	-	14.66	-	60.00	50.00	-45.34	-
6	26.000	0.76	11.37	-	12.13	-	60.00	50.00	-47.87	-

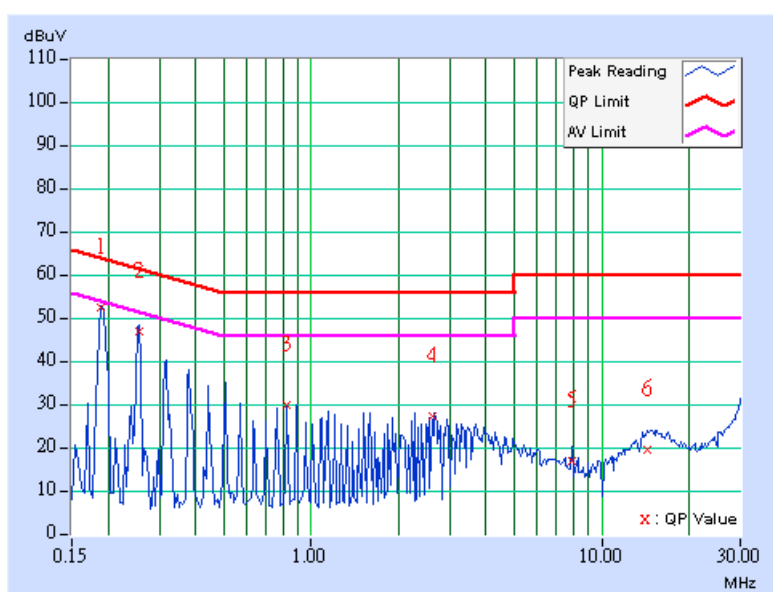
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3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.



EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	PHASE	Line 1
MODULATION TYPE	BPSK	6dB BANDWIDTH	9 kHz
TRANSFER RATE	6Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	21deg. C, 65%RH, 991hPa	TEST MODE	C1
TESTED BY	Dean Wang		

	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
No		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.189	0.10	51.95	-	52.05	-	64.08	54.08	-12.03	-
2	0.255	0.10	46.72	-	46.82	-	61.58	51.58	-14.76	-
3	0.826	0.11	29.58	-	29.69	-	56.00	46.00	-26.31	-
4	2.602	0.24	26.97	-	27.21	-	56.00	46.00	-28.79	-
5	7.898	0.31	16.42	-	16.73	-	60.00	50.00	-43.27	-
6	14.371	0.46	19.11	-	19.57	-	60.00	50.00	-40.43	-

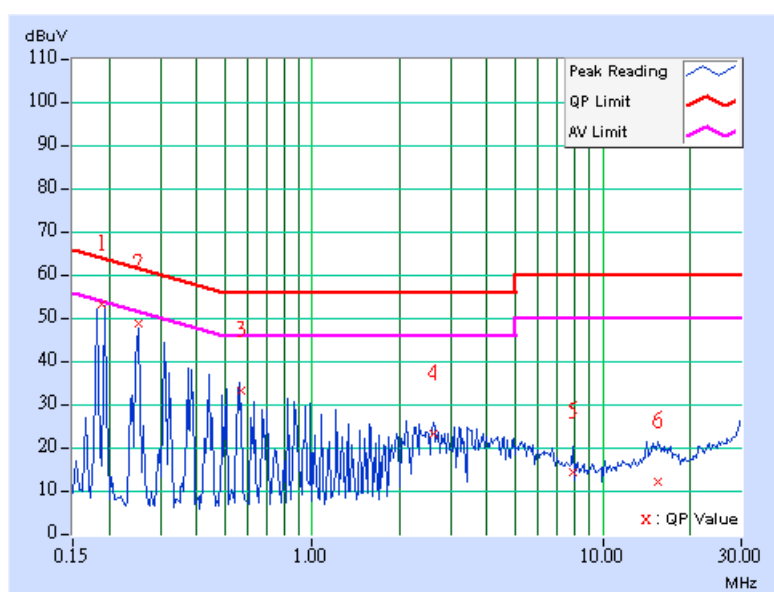
- REMARKS:** 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value =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



EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	PHASE	Line 2
MODULATION TYPE	BPSK	6dB BANDWIDTH	9 kHz
	6Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	21deg. C, 65%RH, 991hPa	TEST MODE	C1
TESTED BY	Dean Wang		

	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
No		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.188	0.10	52.83	-	52.93	-	64.11	54.11	-11.18	-
2	0.252	0.10	48.38	-	48.48	-	61.71	51.71	-13.23	-
3	0.568	0.13	32.97	-	33.10	-	56.00	46.00	-22.90	-
4	2.602	0.24	22.87	-	23.11	-	56.00	46.00	-32.89	-
5	7.897	0.38	13.96	-	14.34	-	60.00	50.00	-45.66	-
6	15.553	0.49	11.58	-	12.07	-	60.00	50.00	-47.93	-

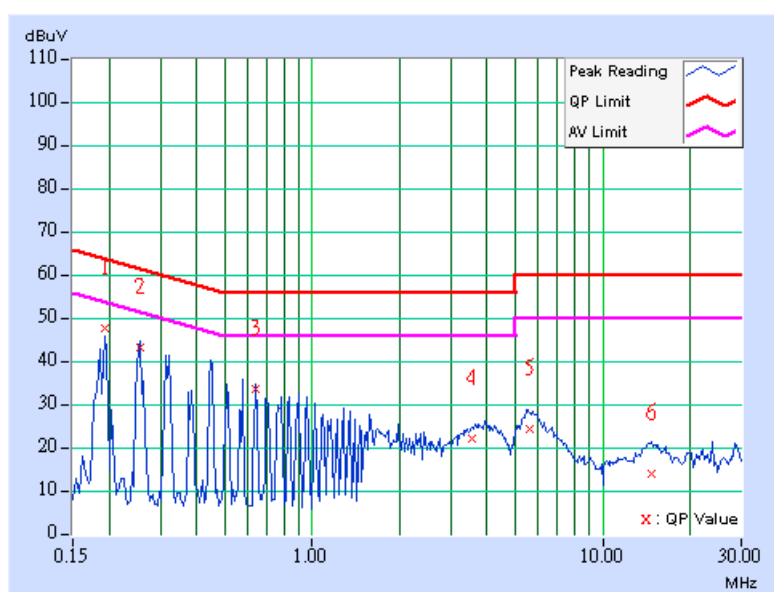
- REMARKS:** 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value =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



EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	PHASE	Line 1
MODULATION TYPE	BPSK	6dB BANDWIDTH	9 kHz
TRANSFER RATE	6Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	21deg. C, 65%RH, 991hPa	TEST MODE	D1
TESTED BY	Dean Wang		

No	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
	[MHz]	Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.193	0.10	47.15	-	47.25	-	63.91	53.91	-16.66	-
2	0.255	0.10	43.02	-	43.12	-	61.58	51.58	-18.46	-
3	0.638	0.10	33.36	-	33.46	-	56.00	46.00	-22.54	-
4	3.531	0.27	21.80	-	22.07	-	56.00	46.00	-33.93	-
5	5.621	0.29	24.03	-	24.32	-	60.00	50.00	-35.68	-
6	14.766	0.47	13.61	-	14.08	-	60.00	50.00	-45.92	-

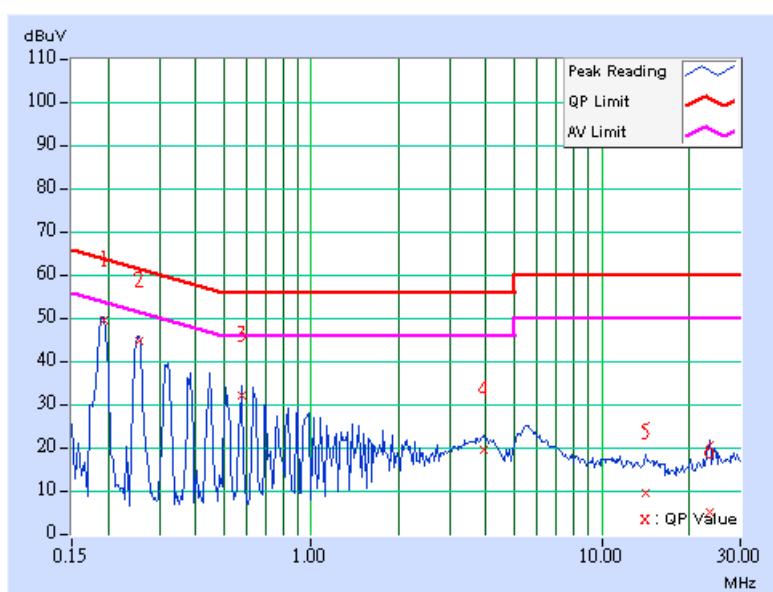
- REMARKS:** 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value =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



EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	PHASE	Line 2
MODULATION TYPE	BPSK	6dB BANDWIDTH	9 kHz
TRANSFER RATE	6Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	21deg. C, 65%RH, 991hPa	TEST MODE	D1
TESTED BY	Dean Wang		

No	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
	[MHz]	Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.193	0.10	48.80	-	48.90	-	63.91	53.91	-15.01	-
2	0.257	0.10	44.15	-	44.25	-	61.54	51.54	-17.29	-
3	0.576	0.13	31.63	-	31.76	-	56.00	46.00	-24.24	-
4	3.914	0.28	18.88	-	19.16	-	56.00	46.00	-36.84	-
5	14.191	0.47	8.91	-	9.38	-	60.00	50.00	-50.62	-
6	23.543	0.68	4.42	-	5.10	-	60.00	50.00	-54.90	-

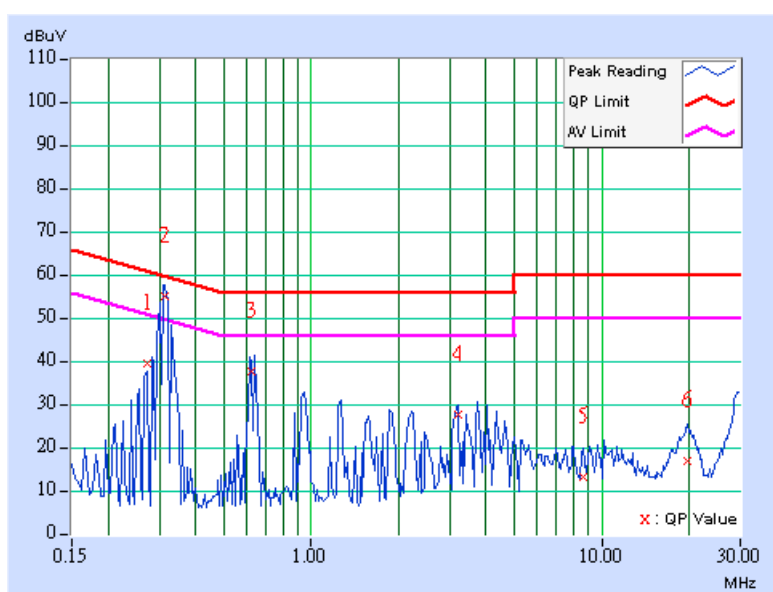
- REMARKS:** 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value =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



EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	PHASE	Line 1
MODULATION TYPE	BPSK	6dB BANDWIDTH	9 kHz
TRANSFER RATE	6Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	21deg. C, 65%RH, 991hPa	TEST MODE	E1
TESTED BY	Dean Wang		

No	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
	[MHz]	Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.271	0.10	39.17	-	39.27	-	61.08	51.08	-21.81	-
2	0.314	0.10	54.63	43.07	54.73	43.17	59.86	49.86	-5.13	-6.69
3	0.624	0.10	37.33	-	37.43	-	56.00	46.00	-18.57	-
4	3.191	0.26	27.17	-	27.43	-	56.00	46.00	-28.57	-
5	8.648	0.32	12.65	-	12.97	-	60.00	50.00	-47.03	-
6	19.621	0.56	16.64	-	17.20	-	60.00	50.00	-42.80	-

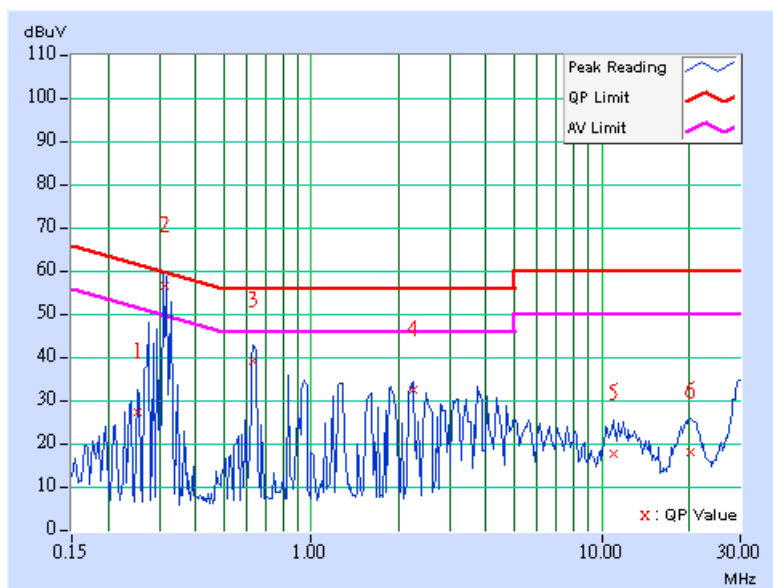
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value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



EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	PHASE	Line 2
MODULATION TYPE	BPSK	6dB BANDWIDTH	9 kHz
TRANSFER RATE	6Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	21deg. C, 65%RH, 991hPa	TEST MODE	E1
TESTED BY	Dean Wang		

	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
No		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.252	0.10	26.88	-	26.98	-	61.71	51.71	-34.73	-
2	0.315	0.10	56.16	43.51	56.26	43.61	59.85	49.85	-3.59	-6.24
3	0.629	0.14	38.71	-	38.85	-	56.00	46.00	-17.15	-
4	2.240	0.23	31.98	-	32.21	-	56.00	46.00	-23.79	-
5	10.953	0.44	17.05	-	17.49	-	60.00	50.00	-42.51	-
6	20.285	0.58	17.58	-	18.16	-	60.00	50.00	-41.84	-

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



4.2 RADIATED EMISSION MEASUREMENT

4.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT

Emissions radiated outside of the specified bands, shall be according to the general radiated limits in 15.209 as following:

Frequencies (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

NOTE:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. As shown in 15.35(b), for frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.

4.2.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
Test Receiver ROHDE & SCHWARZ	ESI7	100033	May 22, 2007
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100025	Oct. 05, 2007
BILOG Antenna SCHWARZBECK	VULB9168	9168-160	May 31, 2007
HORN Antenna SCHWARZBECK	9120D	9120D-209	Jan. 27, 2007
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170243	Dec. 28, 2007
Preamplifier Agilent	8447D	2944A10633	Oct. 26, 2007
Preamplifier Agilent	8449B	3008A01964	Oct. 26, 2007
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	238137/4	Feb. 14, 2007
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	233233/4	Nov. 14, 2007
Software ADT.	ADT_Radiated_V7.6	NA	NA
Antenna Tower inn-co GmbH	MA 4000	013303	NA
Antenna Tower Controller inn-co GmbH	CO2000	017303	NA
Turn Table ADT.	TT100.	TT93021703	NA
Turn Table Controller ADT.	SC100.	SC93021703	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 HwaYa Chamber 3.
3. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
4. The VCCI Site Registration No. is R-237.
5. The IC Site Registration No. is IC4924-3.

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 3 meters semi-anechoic chamber. 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 lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

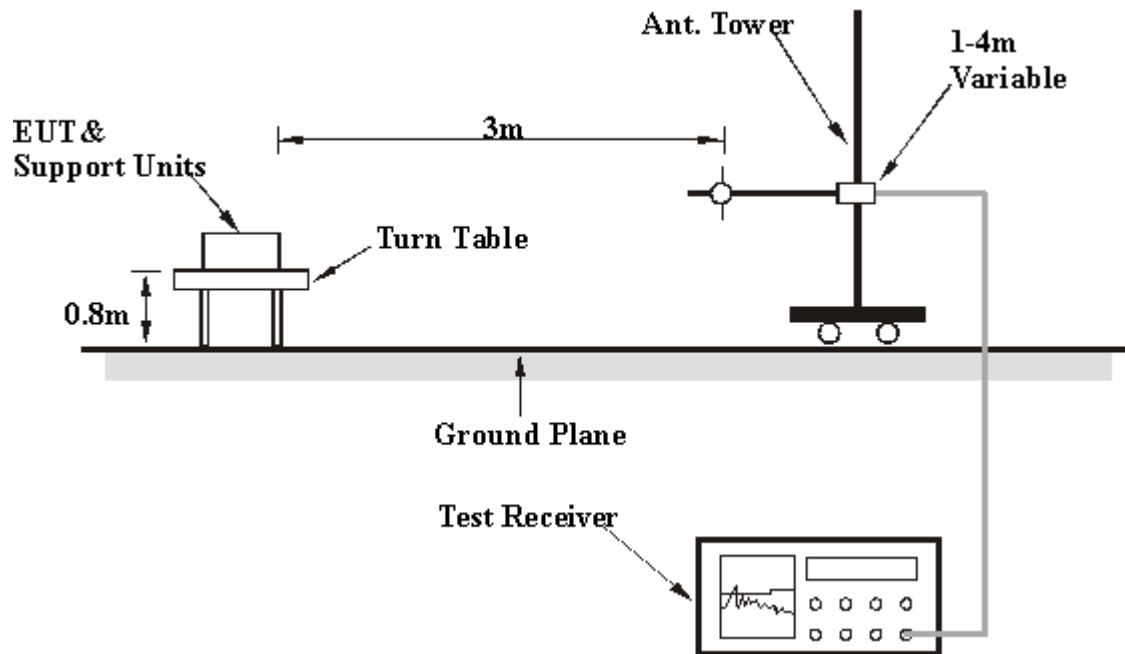
NOTE:

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 of test receiver/spectrum analyzer is 1 MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz for Average detection (AV) at frequency above 1GHz.

4.2.4 DEVIATION FROM TEST STANDARD

No deviation

4.2.5 TEST SETUP



For the actual test configuration, please refer to the attached file (Test Setup Photo).

4.2.6 EUT OPERATING CONDITIONS

Same as 4.1.6

4.2.7 TEST RESULTS

RADIATED WORST-CASE DATA: BELOW 1GHz

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	Below 1000MHz
MODULATION TYPE	BPSK	DETECTOR FUNCTION	Quasi-Peak
TRANSFER RATE	6Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	25deg. C, 68%RH, 991hPa	TEST MODE	A1
TESTED BY	Morgan 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	68.75	31.88 QP	40.00	-8.12	1.25 H	233	19.02	12.86
2	118.98	34.25 QP	43.50	-9.25	1.00 H	329	21.73	12.52
3	360.00	44.23 QP	46.00	-1.77	1.00 H	329	27.53	16.70
4	401.00	36.98 QP	46.00	-9.02	1.25 H	302	19.30	17.68
5	540.18	38.98 QP	46.00	-7.02	1.25 H	319	17.92	21.06
6	609.00	42.88 QP	46.00	-3.12	1.00 H	315	20.22	22.66

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	61.75	38.73 QP	40.00	-1.27	1.01 V	200	24.98	13.75
2	115.00	42.12 QP	43.50	-1.38	1.02 V	208	30.09	12.03
3	182.00	39.21 QP	43.50	-4.29	1.00 V	202	26.38	12.83
4	221.00	38.24 QP	46.00	-7.76	1.05 V	189	26.04	12.20
5	303.00	38.96 QP	46.00	-7.04	1.03 V	213	23.74	15.22
6	603.00	43.55 QP	46.00	-2.45	1.02 V	211	21.02	22.53

- 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.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	Below 1000MHz
MODULATION TYPE	BPSK	DETECTOR FUNCTION	Quasi-Peak
TRANSFER RATE	6Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	24deg. C, 62%RH, 991hPa	TEST MODE	A2
TESTED BY	Match Tsui		

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	68.88	32.42 QP	40.00	-7.58	1.50 H	240	20.83	11.59
2	119.42	33.80 QP	43.50	-9.70	1.50 H	240	22.31	11.50
3	360.46	43.87 QP	46.00	-2.13	1.50 H	240	29.07	14.80
4	401.28	37.56 QP	46.00	-8.44	1.50 H	240	21.81	15.75
5	541.24	37.39 QP	46.00	-8.61	1.50 H	240	17.67	19.72
6	609.28	41.26 QP	46.00	-4.74	1.50 H	240	20.08	21.18
7	722.02	37.29 QP	46.00	-8.71	1.50 H	240	14.77	22.52
8	842.55	37.83 QP	46.00	-8.17	1.50 H	240	13.06	24.77

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	61.10	38.99 QP	40.00	-1.01	1.00 V	202	25.94	13.05
2	69.00	38.15 QP	40.00	-1.85	1.00 V	190	26.58	11.57
3	117.47	41.58 QP	43.50	-1.92	1.00 V	202	30.32	11.26
4	144.69	34.51 QP	43.50	-8.99	1.00 V	202	21.56	12.95
5	185.51	36.94 QP	43.50	-6.56	1.00 V	202	25.38	11.56
6	226.33	36.94 QP	46.00	-9.06	1.00 V	202	25.44	11.49
7	239.94	37.38 QP	46.00	-8.62	1.00 V	202	25.27	12.10
8	300.20	37.45 QP	46.00	-8.55	1.00 V	202	24.09	13.36
9	360.46	36.91 QP	46.00	-9.09	1.00 V	202	22.11	14.80
10	601.50	42.36 QP	46.00	-3.64	1.00 V	202	21.25	21.11

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.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	Below 1000MHz
MODULATION TYPE	BPSK	DETECTOR FUNCTION	Quasi-Peak
TRANSFER RATE	6Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	25deg. C, 68%RH, 991hPa	TEST MODE	B1
TESTED BY	Morgan 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	69.12	34.11 QP	40.00	-5.89	1.51 H	133	21.30	12.81
2	121.11	34.08 QP	43.50	-9.42	1.50 H	124	21.38	12.70
3	240.12	39.88 QP	46.00	-6.12	1.43 H	132	26.83	13.05
4	359.20	44.22 QP	46.00	-1.78	1.48 H	129	27.53	16.69
5	400.96	39.11 QP	46.00	-6.89	1.47 H	132	21.44	17.67
6	601.30	38.77 QP	46.00	-7.23	1.44 H	133	16.28	22.49

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	57.28	38.98 QP	40.00	-1.02	1.00 V	175	24.75	14.23
2	68.98	37.98 QP	40.00	-2.02	1.00 V	153	25.15	12.83
3	119.58	40.88 QP	43.50	-2.62	1.00 V	165	28.29	12.59
4	360.00	44.67 QP	46.00	-1.33	1.00 V	348	27.97	16.70
5	373.55	44.78 QP	46.00	-1.22	1.00 V	345	27.76	17.02
6	601.00	41.58 QP	46.00	-4.42	1.00 V	335	19.10	22.48

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.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	Below 1000MHz
MODULATION TYPE	BPSK	DETECTOR FUNCTION	Quasi-Peak
TRANSFER RATE	6Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	24deg. C, 62%RH, 991hPa	TEST MODE	B2
TESTED BY	Match Tsui		

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	68.88	33.31 QP	40.00	-6.69	1.50 H	135	21.72	11.59
2	119.42	33.73 QP	43.50	-9.77	1.50 H	135	22.23	11.50
3	142.75	36.41 QP	43.50	-7.09	1.50 H	135	23.73	12.68
4	239.94	39.05 QP	46.00	-6.95	1.50 H	135	26.94	12.10
5	300.20	39.49 QP	46.00	-6.51	1.50 H	135	26.14	13.36
6	360.46	43.17 QP	46.00	-2.83	1.50 H	135	28.37	14.80
7	401.28	38.50 QP	46.00	-7.50	1.50 H	135	22.75	15.75
8	601.50	38.01 QP	46.00	-7.99	1.50 H	135	16.91	21.11
9	661.76	36.47 QP	46.00	-9.53	2.50 H	9	14.81	21.65
10	722.02	36.88 QP	46.00	-9.12	1.50 H	135	14.36	22.52

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	57.21	38.56 QP	40.00	-1.44	1.00 V	184	25.18	13.38
2	69.00	37.69 QP	40.00	-2.31	1.00 V	232	26.12	11.57
3	119.42	39.57 QP	43.50	-3.93	1.00 V	184	28.07	11.50
4	144.69	38.26 QP	43.50	-5.24	1.00 V	184	25.31	12.95
5	185.51	37.60 QP	43.50	-5.90	1.00 V	184	26.04	11.56
6	226.33	38.61 QP	46.00	-7.39	1.00 V	184	27.11	11.49
7	300.20	37.14 QP	46.00	-8.86	1.00 V	184	23.79	13.36
8	374.07	38.26 QP	46.00	-7.74	1.00 V	184	23.15	15.11
9	601.50	42.19 QP	46.00	-3.81	1.00 V	184	21.08	21.11

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.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	Below 1000MHz
MODULATION TYPE	BPSK	DETECTOR FUNCTION	Quasi-Peak
TRANSFER RATE	6Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	25deg. C, 68%RH, 991hPa	TEST MODE	C1
TESTED BY	Morgan 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	58.08	32.10 QP	40.00	-7.90	1.99 H	356	17.95	14.15
2	69.12	31.55 QP	40.00	-8.45	2.38 H	303	18.74	12.81
3	116.23	34.29 QP	43.50	-9.21	2.08 H	323	22.11	12.18
4	301.23	41.88 QP	46.00	-4.12	2.06 H	326	26.71	15.17
5	376.23	42.33 QP	46.00	-3.67	2.07 H	326	25.25	17.08
6	603.00	38.22 QP	46.00	-7.78	2.09 H	333	15.69	22.53

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	57.35	38.14 QP	40.00	-1.86	1.27 V	120	23.92	14.22
2	69.17	37.99 QP	40.00	-2.01	1.05 V	118	25.18	12.81
3	118.36	40.26 QP	43.50	-3.24	1.46 V	321	27.82	12.44
4	243.00	43.22 QP	46.00	-2.78	1.46 V	333	30.04	13.18
5	358.23	40.22 QP	46.00	-5.78	1.49 V	349	23.56	16.66
6	601.23	36.88 QP	46.00	-9.12	1.47 V	350	14.39	22.49

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.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	Below 1000MHz
MODULATION TYPE	BPSK	DETECTOR FUNCTION	Quasi-Peak
TRANSFER RATE	6Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	24deg. C, 62%RH, 991hPa	TEST MODE	C2
TESTED BY	Match Tsui		

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	57.21	31.31 QP	40.00	-8.69	2.00 H	351	17.93	13.38
2	68.88	30.84 QP	40.00	-9.16	2.50 H	313	19.25	11.59
3	115.53	33.86 QP	43.50	-9.64	2.00 H	351	22.83	11.03
4	226.33	36.62 QP	46.00	-9.38	2.00 H	351	25.13	11.49
5	239.94	37.19 QP	46.00	-8.81	2.50 H	176	25.09	12.10
6	300.20	40.15 QP	46.00	-5.85	2.50 H	313	26.79	13.36
7	374.07	41.99 QP	46.00	-4.01	2.00 H	351	26.88	15.11
8	401.28	37.36 QP	46.00	-8.64	2.50 H	331	21.62	15.75
9	601.50	37.33 QP	46.00	-8.67	2.00 H	351	16.22	21.11
10	653.99	36.29 QP	46.00	-9.71	2.00 H	351	14.70	21.58
11	722.02	36.60 QP	46.00	-9.40	2.00 H	351	14.08	22.52

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	57.00	37.57 QP	40.00	-2.43	1.31 V	123	24.18	13.39
2	68.99	37.32 QP	40.00	-2.68	1.00 V	123	25.75	11.57
3	117.47	39.58 QP	43.50	-3.92	1.50 V	354	28.32	11.26
4	226.33	41.81 QP	46.00	-4.19	1.50 V	354	30.32	11.49
5	360.46	39.42 QP	46.00	-6.58	1.50 V	354	24.62	14.80
6	603.45	36.16 QP	46.00	-9.84	1.50 V	354	15.03	21.13
7	963.07	37.96 QP	54.00	-16.04	1.50 V	354	12.18	25.78

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.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	Below 1000MHz
MODULATION TYPE	BPSK	DETECTOR FUNCTION	Quasi-Peak
TRANSFER RATE	6Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	25deg. C, 68%RH, 991hPa	TEST MODE	D1
TESTED BY	Morgan 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	63.88	34.23 QP	40.00	-5.77	1.42 H	177	20.75	13.48
2	120.12	37.22 QP	43.50	-6.28	1.95 H	63	24.57	12.65
3	150.12	38.45 QP	43.50	-5.05	1.95 H	55	24.32	14.13
4	243.00	41.99 QP	46.00	-4.01	1.47 H	164	28.81	13.18
5	375.12	42.05 QP	46.00	-3.95	1.52 H	166	24.99	17.06
6	403.25	38.99 QP	46.00	-7.01	1.56 H	175	21.24	17.75

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	51.66	38.97 QP	40.00	-1.03	1.47 V	20	24.22	14.75
2	69.34	38.94 QP	40.00	-1.06	1.08 V	109	26.16	12.78
3	117.96	38.96 QP	43.50	-4.54	1.47 V	21	26.57	12.39
4	149.08	36.92 QP	43.50	-6.58	1.05 V	106	22.82	14.10
5	402.10	36.08 QP	46.00	-9.92	1.05 V	106	18.37	17.71
6	604.03	36.59 QP	46.00	-9.41	1.46 V	321	14.04	22.55

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.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	Below 1000MHz
MODULATION TYPE	BPSK	DETECTOR FUNCTION	Quasi-Peak
TRANSFER RATE	6Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	24deg. C, 62%RH, 991hPa	TEST MODE	D2
TESTED BY	Match Tsui		

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	63.05	33.11 QP	40.00	-6.89	1.50 H	185	20.42	12.68
2	119.42	36.56 QP	43.50	-6.94	2.00 H	73	25.07	11.50
3	148.58	37.33 QP	43.50	-6.17	2.00 H	86	23.85	13.48
4	239.94	40.53 QP	46.00	-5.47	1.50 H	185	28.43	12.10
5	374.07	40.95 QP	46.00	-5.05	1.50 H	185	25.84	15.11
6	401.28	37.07 QP	46.00	-8.93	1.50 H	185	21.32	15.75
7	611.22	38.56 QP	46.00	-7.44	2.00 H	86	17.36	21.20

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	51.38	38.86 QP	40.00	-1.14	1.50 V	17	25.23	13.63
2	68.88	38.67 QP	40.00	-1.33	1.00 V	110	27.08	11.59
3	117.47	38.71 QP	43.50	-4.79	1.50 V	17	27.45	11.26
4	148.58	36.30 QP	43.50	-7.20	1.00 V	110	22.82	13.48
5	360.46	40.11 QP	46.00	-5.89	1.00 V	110	25.31	14.80
6	401.28	35.61 QP	46.00	-10.39	1.00 V	110	19.87	15.75
7	603.45	36.19 QP	46.00	-9.81	1.50 V	326	15.06	21.13

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.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	Below 1000MHz
MODULATION TYPE	BPSK	DETECTOR FUNCTION	Quasi-Peak
TRANSFER RATE	6Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	25deg. C, 68%RH, 991hPa	TEST MODE	E1
TESTED BY	Morgan 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	114.23	40.23 QP	43.50	-3.27	1.47 H	333	28.30	11.93
2	167.23	35.23 QP	43.50	-8.27	1.23 H	321	21.27	13.96
3	297.12	35.99 QP	46.00	-10.01	1.23 H	321	20.92	15.07
4	403.12	40.56 QP	46.00	-5.44	1.24 H	326	22.81	17.75
5	540.11	36.22 QP	46.00	-9.78	1.20 H	333	15.16	21.06
6	608.23	43.96 QP	46.00	-2.04	1.18 H	306	21.32	22.64

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	52.33	38.69 QP	40.00	-1.31	1.33 V	29	24.00	14.69
2	69.33	38.23 QP	40.00	-1.77	1.08 V	116	25.44	12.79
3	119.23	39.89 QP	43.50	-3.61	1.46 V	34	27.34	12.55
4	362.12	41.23 QP	46.00	-4.77	1.05 V	109	24.48	16.75
5	405.12	37.56 QP	46.00	-8.44	1.06 V	95	19.74	17.82
6	601.23	37.22 QP	46.00	-8.78	1.45 V	323	14.73	22.49

- 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.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	Below 1000MHz
MODULATION TYPE	BPSK	DETECTOR FUNCTION	Quasi-Peak
TRANSFER RATE	6Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	24deg. C, 62%RH, 991hPa	TEST MODE	E2
TESTED BY	Match Tsui		

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	113.59	39.12 QP	43.50	-4.38	1.50 H	340	28.33	10.79
2	166.07	34.23 QP	43.50	-9.27	1.50 H	340	21.21	13.02
3	239.94	38.20 QP	46.00	-7.80	1.50 H	340	26.10	12.10
4	294.37	35.27 QP	46.00	-10.73	1.50 H	340	22.00	13.26
5	374.07	42.61 QP	46.00	-3.39	1.50 H	340	27.50	15.11
6	401.28	39.36 QP	46.00	-6.64	1.50 H	340	23.61	15.75
7	469.32	35.60 QP	46.00	-10.40	1.50 H	340	17.80	17.81
8	541.24	35.90 QP	46.00	-10.10	1.50 H	340	16.18	19.72
9	607.33	42.78 QP	46.00	-3.22	1.50 H	340	21.61	21.16
10	661.76	35.09 QP	46.00	-10.91	1.50 H	340	13.43	21.65
11	723.97	36.00 QP	46.00	-10.00	1.50 H	340	13.43	22.57
12	776.45	36.41 QP	46.00	-9.59	1.50 H	340	12.59	23.81
13	842.55	36.08 QP	46.00	-9.92	1.50 H	340	11.30	24.77

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	51.38	37.56 QP	40.00	-2.44	1.50 V	17	23.93	13.63
2	68.88	37.92 QP	40.00	-2.08	1.00 V	110	26.33	11.59
3	117.47	38.71 QP	43.50	-4.79	1.50 V	17	27.45	11.26
4	148.58	36.30 QP	43.50	-7.20	1.00 V	110	22.82	13.48
5	360.46	40.11 QP	46.00	-5.89	1.00 V	110	25.31	14.80
6	401.28	35.61 QP	46.00	-10.39	1.00 V	110	19.87	15.75
7	603.45	36.19 QP	46.00	-9.81	1.50 V	326	15.06	21.13

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.

802.11b DSSS MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
MODULATION TYPE	DBPSK	DETECTOR FUNCTION	Peak(PK) Average (AV)
TRANSFER RATE	1Mbps	ENVIRONMENTAL CONDITIONS	24deg. C, 62%RH, 991hPa
INPUT POWER (SYSTEM)	120Vac, 60 Hz	TESTED BY	Match Tsui

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	1608.00	46.47 PK	74.00	-27.53	1.30 H	323	18.46	28.02
1	1608.00	43.66 AV	54.00	-10.34	1.30 H	323	15.65	28.02
2	2390.00	53.21 PK	74.00	-20.79	1.38 H	295	22.00	31.21
2	2390.00	44.33 AV	54.00	-9.67	1.38 H	295	13.12	31.21
3	*2412.00	96.33 PK			1.38 H	295	65.13	31.20
3	*2412.00	92.56 AV			1.38 H	295	61.36	31.20
4	3216.00	49.83 PK	74.00	-24.17	1.02 H	72	17.48	32.35
4	3216.00	46.27 AV	54.00	-7.73	1.02 H	72	13.92	32.35
5	4824.00	46.53 PK	74.00	-27.47	1.13 H	225	10.10	36.42
5	4824.00	38.97 AV	54.00	-15.03	1.13 H	225	2.54	36.42
6	9648.00	56.08 PK	76.33	-20.25	1.02 H	278	10.66	45.42
6	9648.00	46.07 AV	72.56	-26.49	1.02 H	278	0.65	45.42
7	14472.00	61.22 PK	74.00	-12.78	1.11 H	139	10.04	51.18
7	14472.00	50.93 AV	54.00	-3.07	1.11 H	139	-0.25	51.18

- 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. “ * ” : Fundamental frequency.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
MODULATION TYPE	DBPSK	DETECTOR FUNCTION	Peak(PK) Average (AV)
TRANSFER RATE	1Mbps	ENVIRONMENTAL CONDITIONS	24deg. C, 62%RH, 991hPa
INPUT POWER (SYSTEM)	120Vac, 60 Hz	TESTED BY	Match Tsui

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	1608.00	49.32 PK	74.00	-24.68	1.09 V	90	21.31	28.02
1	1608.00	47.73 AV	54.00	-6.27	1.09 V	90	19.72	28.02
2	2390.00	58.23 PK	74.00	-15.77	1.03 V	200	27.02	31.21
2	2390.00	48.82 AV	54.00	-5.18	1.03 V	200	17.61	31.21
3	*2412.00	111.16 PK			1.05 V	203	79.96	31.20
3	*2412.00	107.14 AV			1.05 V	203	75.94	31.20
4	3216.00	51.84 PK	74.00	-22.16	1.00 V	147	19.49	32.35
4	3216.00	50.28 AV	54.00	-3.72	1.00 V	147	17.93	32.35
5	4824.00	50.53 PK	74.00	-23.47	1.24 V	135	14.10	36.42
5	4824.00	46.03 AV	54.00	-7.97	1.24 V	135	9.60	36.42
6	9648.00	59.17 PK	91.16	-31.99	1.38 V	284	13.75	45.42
6	9648.00	53.62 AV	87.14	-33.52	1.38 V	284	8.20	45.42
7	12060.00	58.05 PK	74.00	-15.95	1.05 V	250	11.06	46.99
7	12060.00	48.03 AV	54.00	-5.97	1.05 V	250	1.04	46.99
8	14472.00	62.48 PK	74.00	-11.52	1.32 V	200	11.30	51.18
8	14472.00	52.58 AV	54.00	-1.42	1.32 V	200	1.40	51.18

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. “ * “ : Fundamental frequency.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
MODULATION TYPE	DBPSK	DETECTOR FUNCTION	Peak(PK) Average (AV)
TRANSFER RATE	1Mbps	ENVIRONMENTAL CONDITIONS	24deg. C, 62%RH, 991hPa
INPUT POWER (SYSTEM)	120Vac, 60 Hz	TESTED BY	Match Tsui

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	1641.00	44.08 PK	74.00	-29.92	1.14 H	209	16.12	27.96
1	1641.00	40.90 AV	54.00	-13.10	1.14 H	209	12.94	27.96
2	*2462.00	95.05 PK			1.59 H	155	63.83	31.22
2	*2462.00	91.27 AV			1.59 H	155	60.05	31.22
3	2483.50	53.27 PK	74.00	-20.73	1.59 H	155	22.04	31.23
3	2483.50	44.38 AV	54.00	-9.62	1.59 H	155	13.15	31.23
4	3282.00	47.25 PK	74.00	-26.75	1.09 H	224	15.10	32.15
4	3282.00	44.01 AV	54.00	-9.99	1.09 H	224	11.86	32.15
5	4924.00	45.45 PK	74.00	-28.55	1.03 H	159	8.81	36.63
5	4924.00	37.33 AV	54.00	-16.67	1.03 H	159	0.69	36.63
6	9848.00	56.26 PK	75.05	-18.79	1.00 H	156	10.56	45.70
6	9848.00	48.36 AV	71.27	-22.91	1.00 H	156	2.66	45.70

- 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. “ * ” : Fundamental frequency.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
MODULATION TYPE	DBPSK	DETECTOR FUNCTION	Peak(PK) Average (AV)
TRANSFER RATE	1Mbps	ENVIRONMENTAL CONDITIONS	24deg. C, 62%RH, 991hPa
INPUT POWER (SYSTEM)	120Vac, 60 Hz	TESTED BY	Match Tsui

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	1641.00	46.41 PK	74.00	-27.59	1.09 V	59	18.45	27.96
1	1641.00	44.31 AV	54.00	-9.69	1.09 V	59	16.35	27.96
2	*2462.00	111.54 PK			1.00 V	202	80.32	31.22
2	*2462.00	107.70 AV			1.00 V	202	76.48	31.22
3	2483.50	59.11 PK	74.00	-14.89	1.00 V	202	27.88	31.23
3	2483.50	51.01 AV	54.00	-2.99	1.00 V	202	19.78	31.23
4	3282.00	50.74 PK	74.00	-23.26	1.09 V	157	18.59	32.15
4	3282.00	47.86 AV	54.00	-6.14	1.09 V	157	15.71	32.15
5	4924.00	47.71 PK	74.00	-26.29	1.12 V	26	11.07	36.63
5	4924.00	42.29 AV	54.00	-11.71	1.12 V	26	5.65	36.63
6	9848.00	57.09 PK	91.54	-34.45	1.15 V	163	11.39	45.70
6	9848.00	50.62 AV	87.70	-37.08	1.15 V	163	4.92	45.70
7	12310.00	57.29 PK	74.00	-16.71	1.26 V	249	10.39	46.90
7	12310.00	46.12 AV	54.00	-7.88	1.26 V	249	-0.78	46.90
8	14772.00	63.17 PK	91.54	-28.37	1.13 V	248	12.80	50.37
8	14772.00	53.34 AV	87.7	-34.36	1.13 V	248	2.97	50.37

- 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. “ * ” : Fundamental frequency.

802.11g OFDM MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
MODULATION TYPE	BPSK	DETECTOR FUNCTION	Peak(PK) Average (AV)
TRANSFER RATE	6Mbps	ENVIRONMENTAL CONDITIONS	24deg. C, 62%RH, 991hPa
INPUT POWER (SYSTEM)	120Vac, 60 Hz	TESTED BY	Match Tsui

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	1608.00	39.24 PK	74.00	-34.76	1.07 H	360	11.22	28.02
1	1608.00	27.63 AV	54.00	-26.37	1.07 H	360	-0.39	28.02
2	2390.00	51.14 PK	74.00	-22.86	1.21 H	351	19.93	31.21
2	2390.00	44.28 AV	54.00	-9.72	1.21 H	351	13.07	31.21
3	*2412.00	100.07 PK			1.21 H	351	68.87	31.20
3	*2412.00	87.57 AV			1.21 H	351	56.37	31.20
4	3216.00	48.57 PK	74.00	-25.43	1.10 H	247	16.22	32.35
4	3216.00	44.26 AV	54.00	-9.74	1.10 H	247	11.91	32.35
5	4824.00	44.36 PK	74.00	-29.64	1.00 H	0	7.94	36.42
5	4824.00	32.09 AV	54.00	-21.91	1.00 H	0	-4.33	36.42

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	1608.00	44.57 PK	74.00	-29.43	1.17 V	230	16.55	28.02
1	1608.00	33.57 AV	54.00	-20.43	1.17 V	230	5.55	28.02
2	2390.00	69.87 PK	74.00	-4.13	1.01 V	311	38.66	31.21
2	2390.00	51.59 AV	54.00	-2.41	1.01 V	311	20.38	31.21
3	*2412.00	112.31 PK			1.01 V	311	81.11	31.20
3	*2412.00	102.17 AV			1.01 V	311	70.97	31.20
4	3216.00	51.40 PK	74.00	-22.60	1.11 V	247	19.05	32.35
4	3216.00	48.17 AV	54.00	-5.83	1.11 V	247	15.82	32.35
5	4824.00	43.87 PK	74.00	-30.13	1.31 V	360	7.45	36.42
5	4824.00	37.57 AV	54.00	-16.43	1.31 V	360	1.15	36.42

- 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. “ * ” : Fundamental frequency.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
MODULATION TYPE	BPSK	DETECTOR FUNCTION	Peak(PK) Average (AV)
TRANSFER RATE	6Mbps	ENVIRONMENTAL CONDITIONS	24deg. C, 62%RH, 991hPa
INPUT POWER (SYSTEM)	120Vac, 60 Hz	TESTED BY	Match Tsui

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	1641.00	38.74 PK	74.00	-35.26	1.02 H	312	10.78	27.96
1	1641.00	27.51 AV	54.00	-26.49	1.02 H	312	-0.45	27.96
2	*2462.00	99.67 PK			1.18 H	360	68.45	31.22
2	*2462.00	87.63 AV			1.18 H	360	56.41	31.22
3	2483.50	51.89 PK	74.00	-22.11	1.18 H	360	20.66	31.23
3	2483.50	44.62 AV	54.00	-9.38	1.18 H	360	13.39	31.23
4	3282.00	47.35 PK	74.00	-26.65	1.07 H	219	15.20	32.15
4	3282.00	43.91 AV	54.00	-10.09	1.07 H	219	11.76	32.15
5	4924.00	43.49 PK	74.00	-30.51	1.02 H	0	6.85	36.63
5	4924.00	31.13 AV	54.00	-22.87	1.02 H	0	-5.51	36.63

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	1641.00	43.45 PK	74.00	-30.55	1.25 V	193	15.49	27.96
1	1641.00	32.23 AV	54.00	-21.77	1.25 V	193	4.27	27.96
2	*2462.00	111.01 PK			1.00 V	203	79.79	31.22
2	*2462.00	100.74 AV			1.00 V	203	69.52	31.22
3	2483.50	69.90 PK	74.00	-4.10	1.00 V	212	38.67	31.23
3	2483.50	51.11 AV	54.00	-2.89	1.00 V	212	19.88	31.23
4	3282.00	50.42 PK	74.00	-23.58	1.09 V	233	18.27	32.15
4	3282.00	48.27 AV	54.00	-5.73	1.09 V	233	16.12	32.15
5	4924.00	43.42 PK	74.00	-30.58	1.29 V	0	6.78	36.63
5	4924.00	36.89 AV	54.00	-17.11	1.29 V	0	0.25	36.63

- 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. “ * ” : Fundamental frequency.

4.3 BAND EDGES MEASUREMENT

4.3.1 LIMITS OF BAND EDGES MEASUREMENT

Below -20dB of the highest emission level of operating band (in 100kHz Resolution Bandwidth).

4.3.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
SPECTRUM ANALYZER	FSP40	100040	Jun. 07, 2007

NOTE: 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 via a low loss cable. Set both RBW and VBW of spectrum analyzer to 100kHz with suitable frequency span including 100MHz bandwidth from band edge. The band edges was measured and recorded. The spectrum plots (Peak RBW=VBW=100kHz; Average RBW=1MHz, VBW=10Hz) are attached on the following pages.

4.3.4 DEVIATION FROM TEST STANDARD

No deviation

4.3.5 EUT OPERATING CONDITION

Same as Item 4.3.6

4.3.6 TEST RESULTS

The spectrum plots are attached on the following 12 images. D1 line indicates the highest level, and D2 line indicates the 20dB offset below D1. It shows compliance with the requirement in part 15.247(d).

802.11b DSSS MODULATION

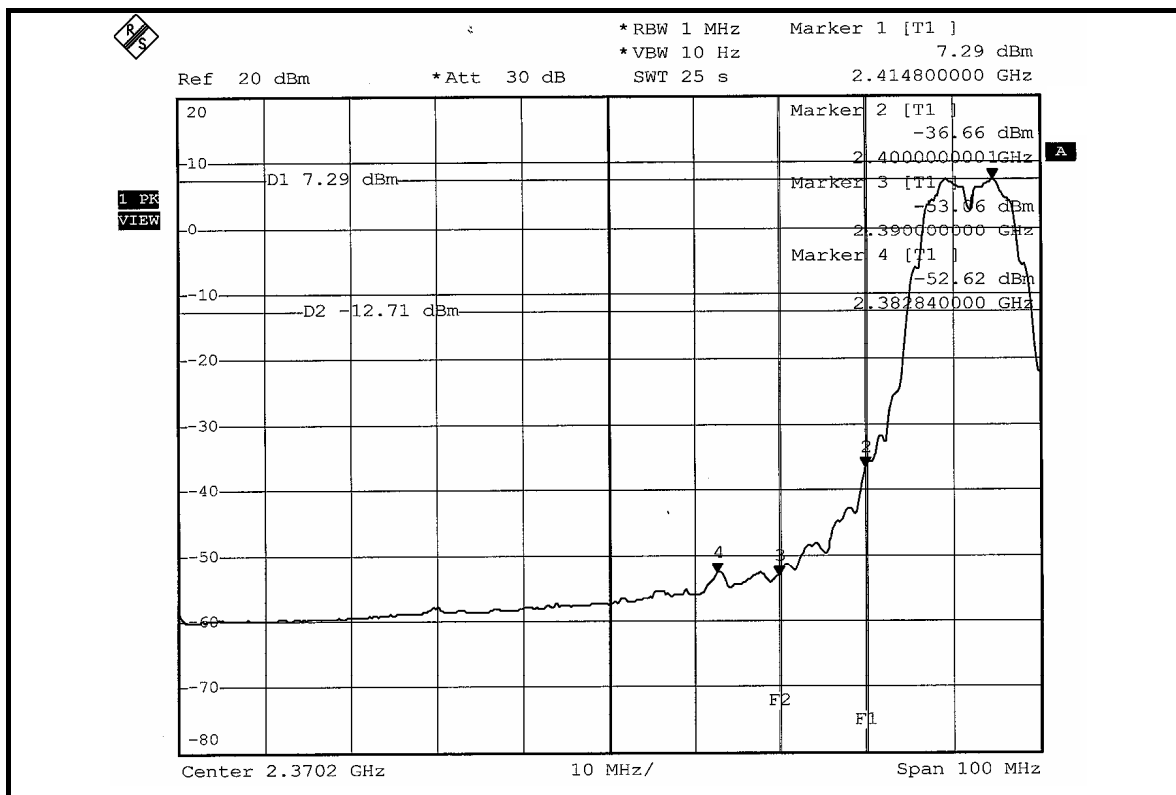
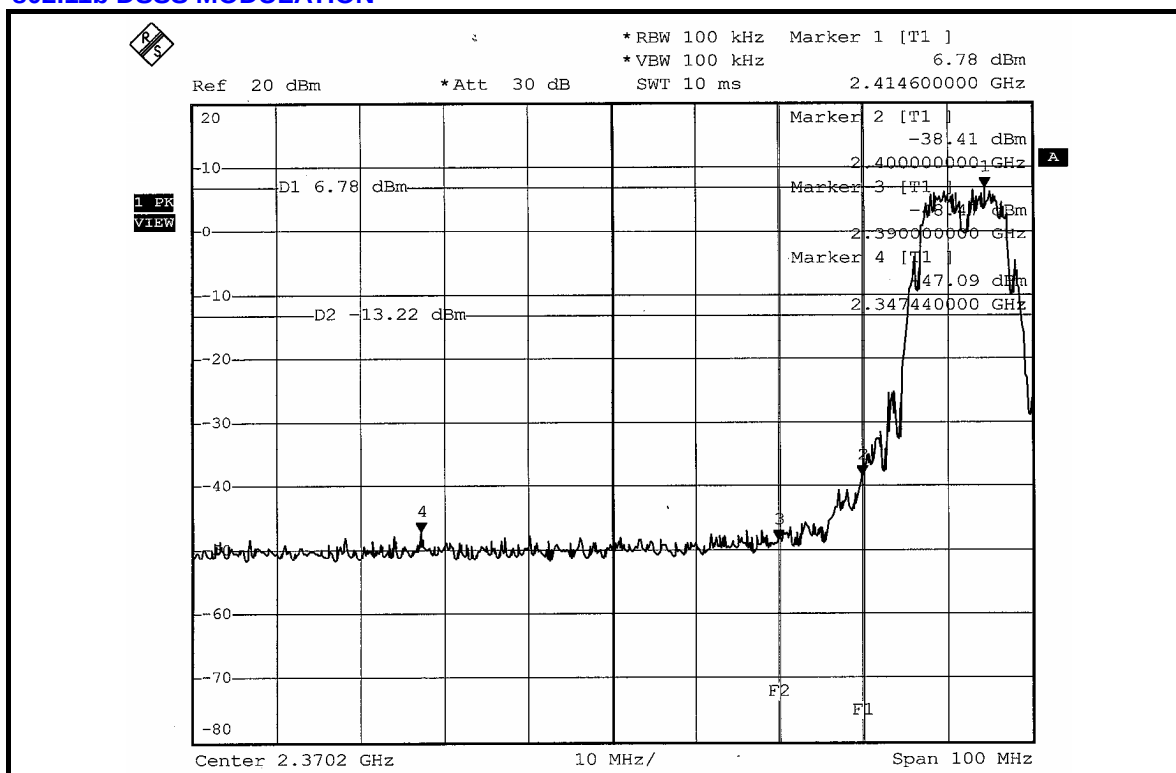
NOTE 1: The band edge emission plot of DSSS technique on the next page shows 53.87dBc between carrier maximum power and local maximum emission in restrict band (2.34744GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2.7 is 111.16dBuV/m (Peak), so the maximum field strength in restrict band is $111.16 - 53.87 = 57.29\text{dBuV/m}$ which is under 74dBuV/m limit.

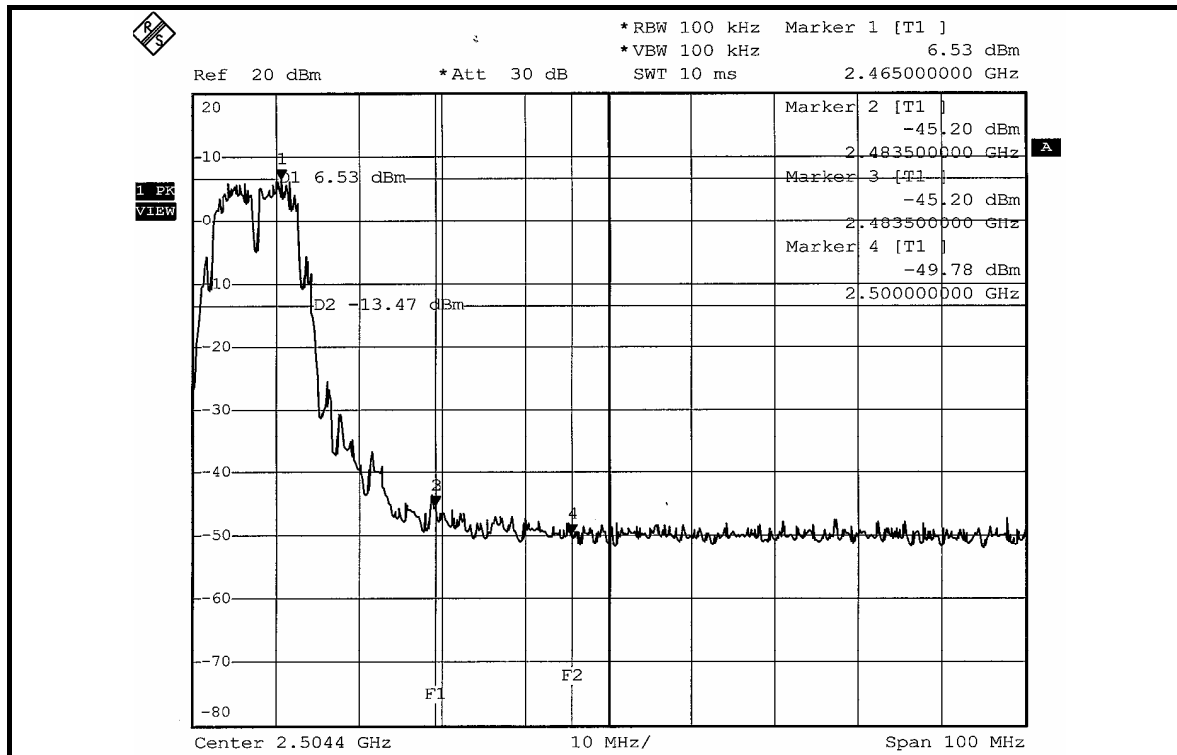
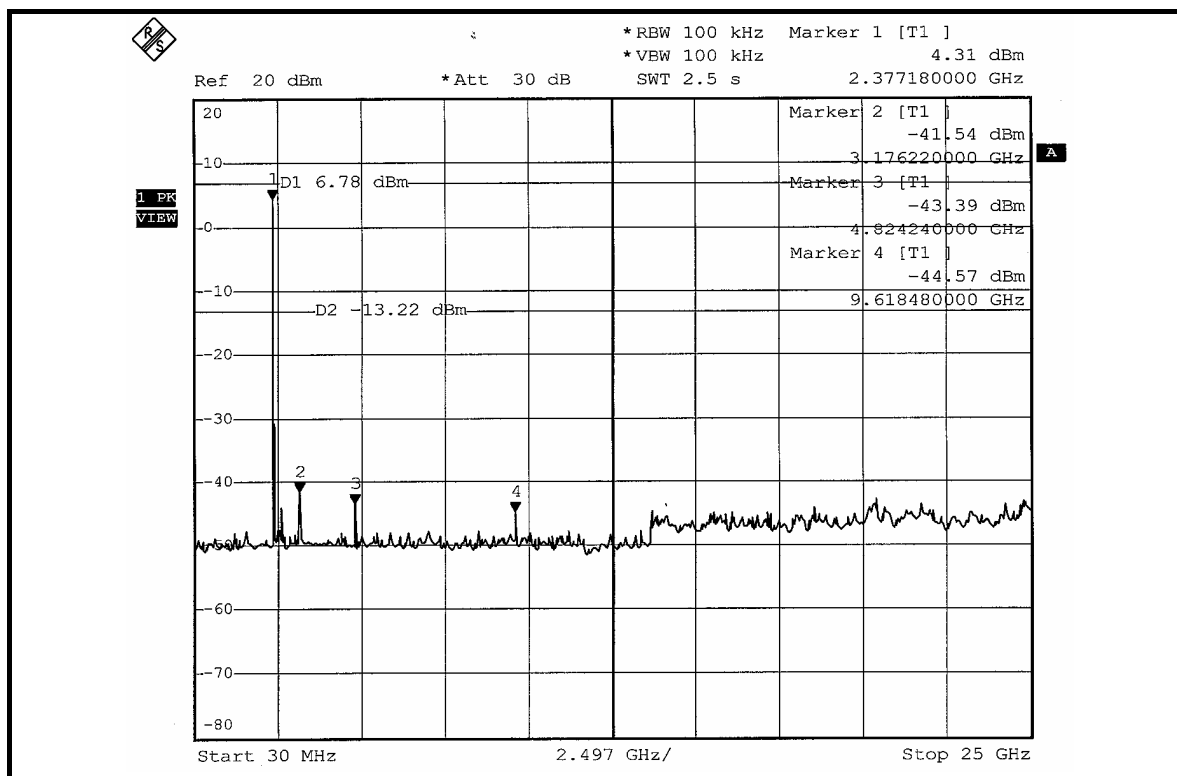
The band edge emission plot of DSSS technique on the next page shows 59.91dBc between carrier maximum power and local maximum emission in restrict band (2.38284GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2.7 is 107.14dBuV/m (Average), so the maximum field strength in restrict band is $107.14 - 59.91 = 47.23\text{dBuV/m}$ which is under 54dBuV/m limit.

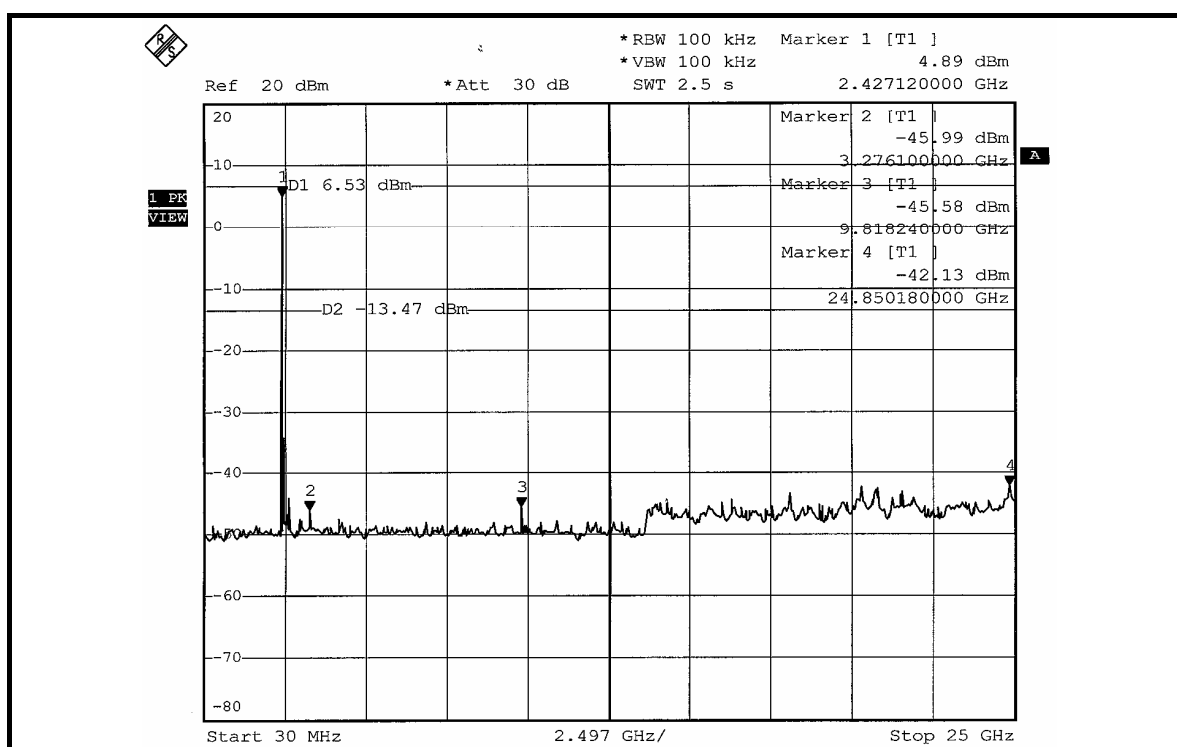
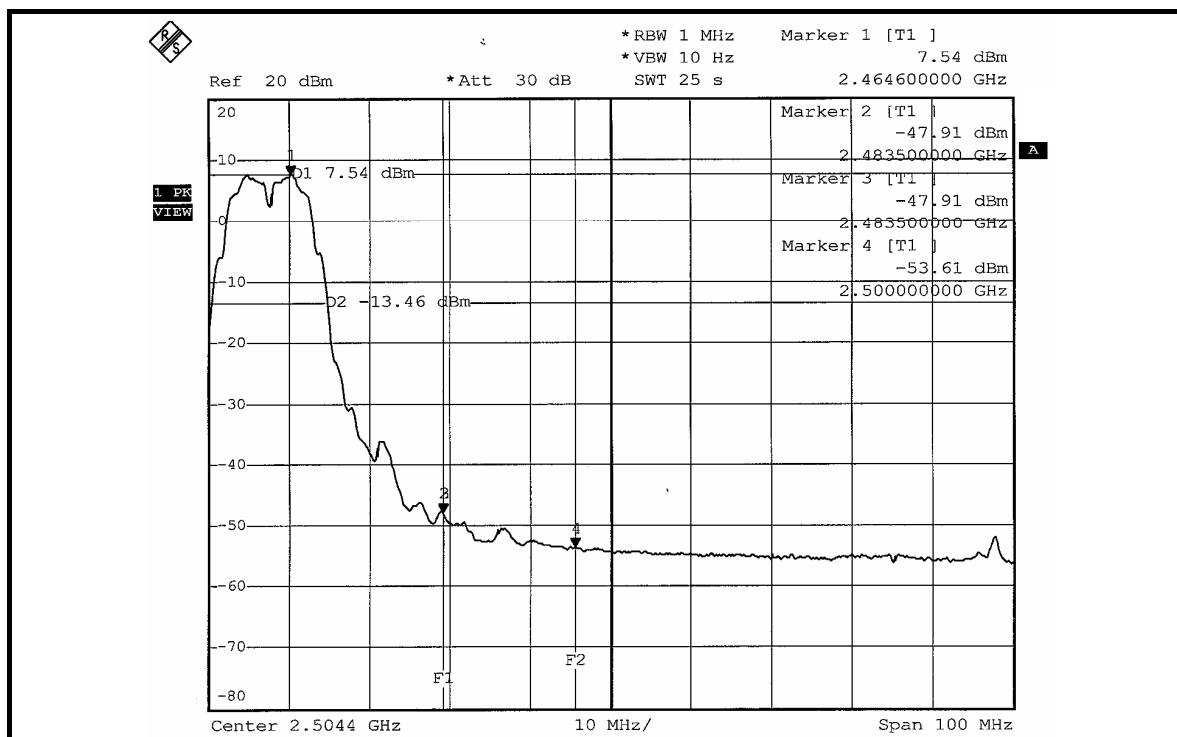
NOTE 2: The band edge emission plot of DSSS technique on the next second page shows 51.73dBc between carrier maximum power and local maximum emission in restrict band (2.48350GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2.7 is 111.54dBuV/m (Peak), so the maximum field strength in restrict band is $111.54 - 51.73 = 59.81\text{dBuV/m}$ which is under 74dBuV/m limit.

The band edge emission plot of DSSS technique on the next third page shows 55.45dBc between carrier maximum power and local maximum emission in restrict band (2.48350GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2.7 is 107.70dBuV/m (Average), so the maximum field strength in restrict band is $107.70 - 55.45 = 52.25\text{dBuV/m}$ which is under 54dBuV/m limit.

802.11b DSSS MODULATION







802.11g OFDM MODULATION

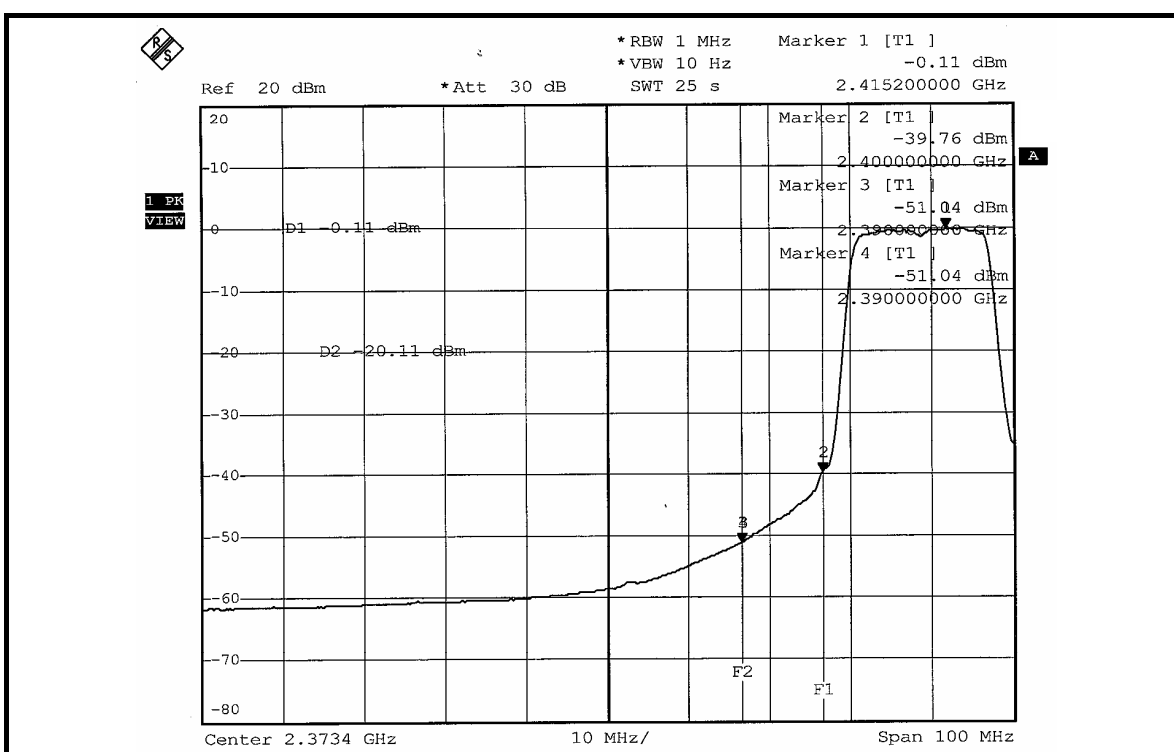
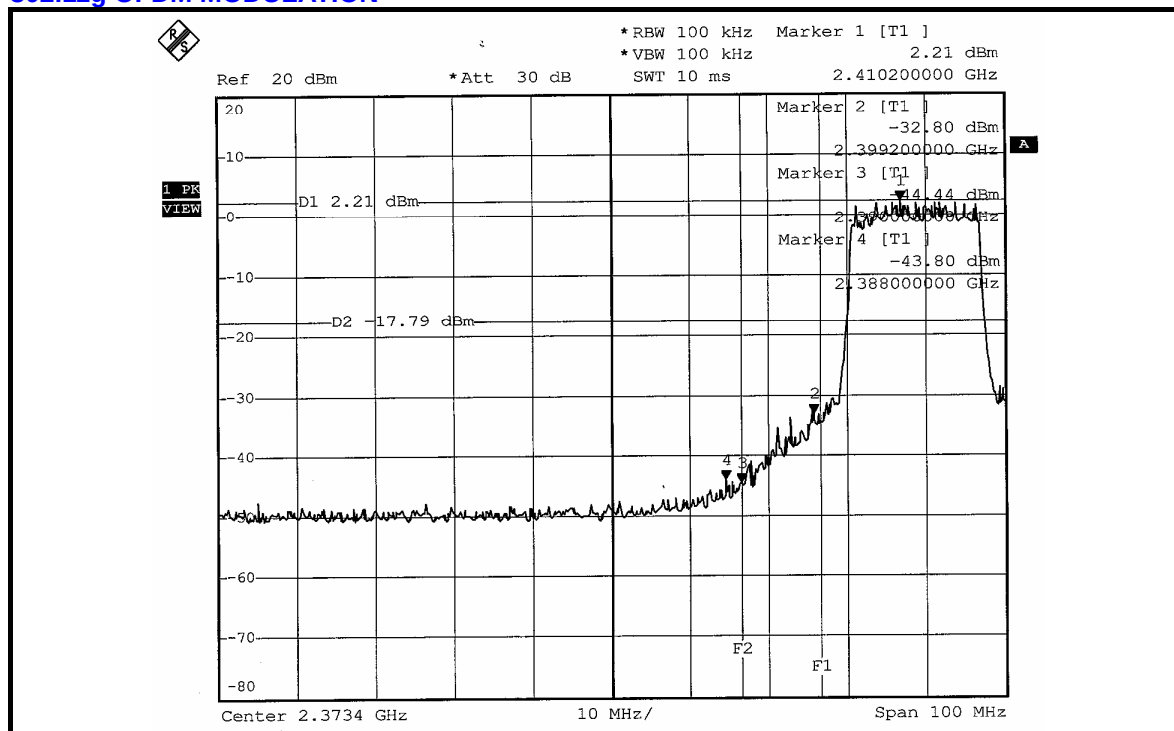
NOTE 1: The band edge emission plot of OFDM technique on the next page shows 46.01dBc between carrier maximum power and local maximum emission in restrict band (2.38800GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2.7 is 112.31dBuV/m (Peak), so the maximum field strength in restrict band is $112.31 - 46.01 = 66.30$ dBuV/m which is under 74dBuV/m limit.

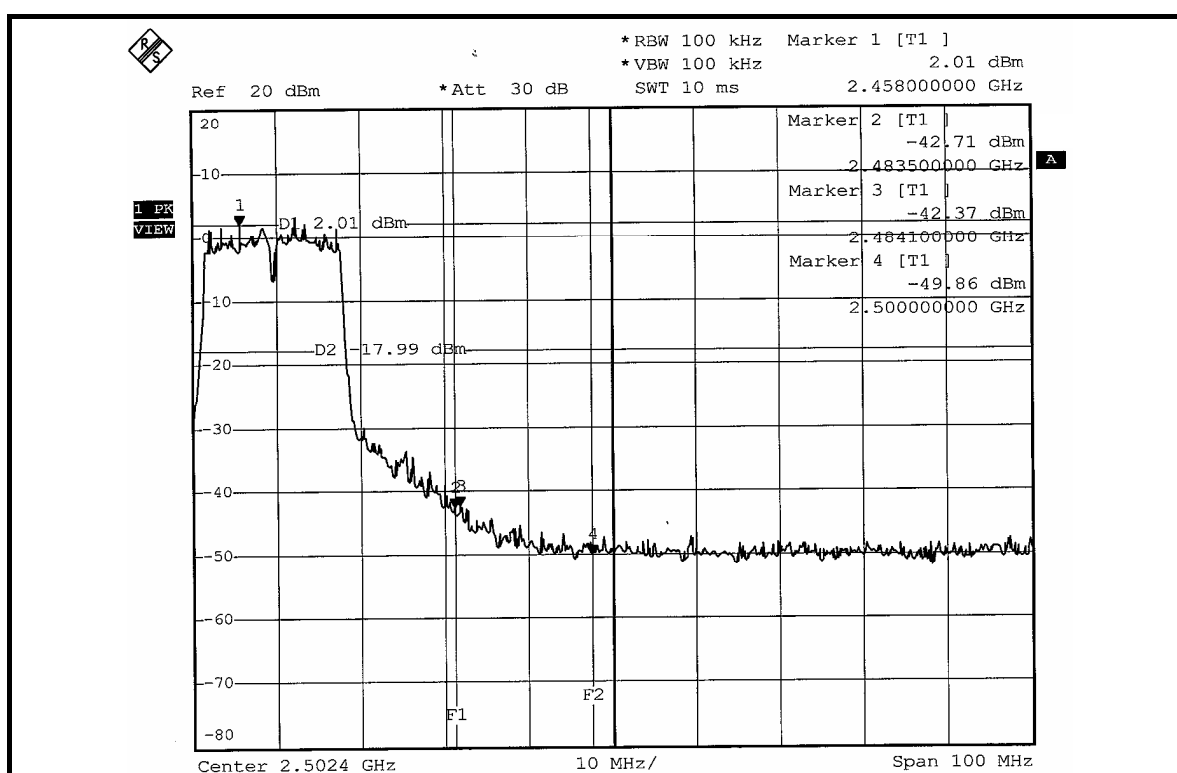
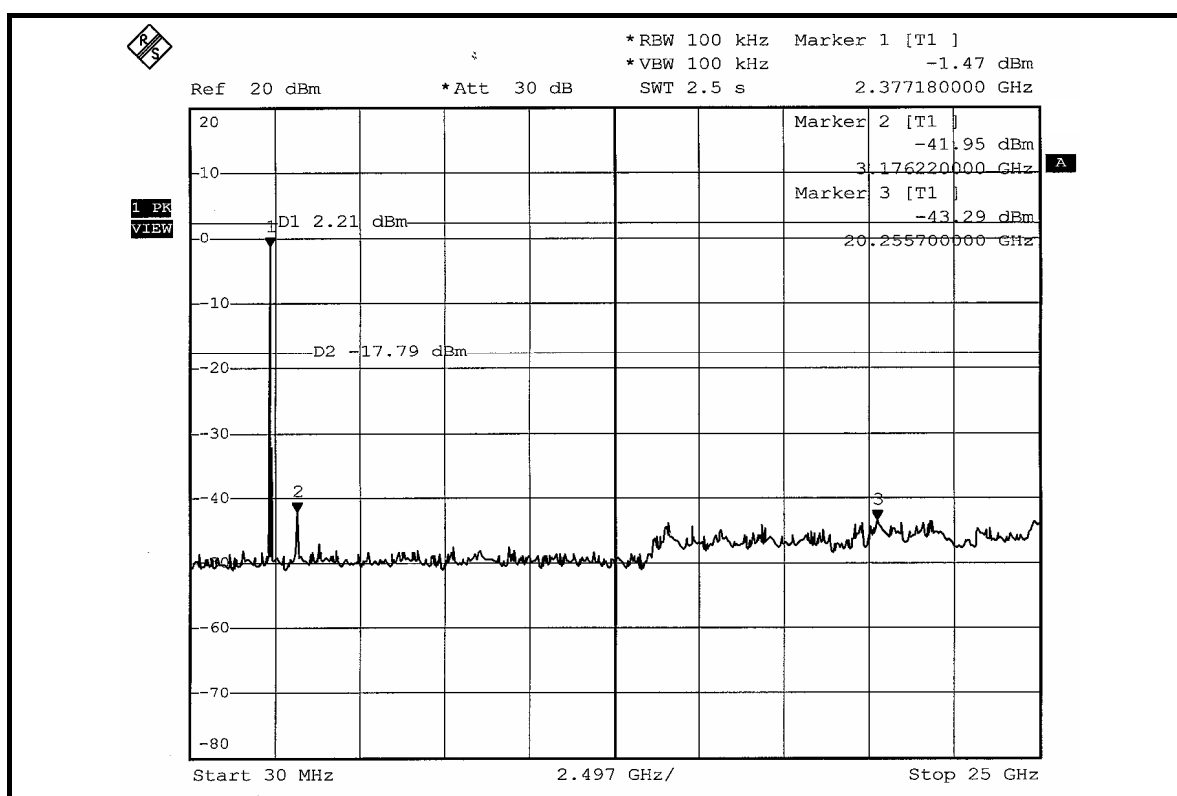
The band edge emission plot of OFDM technique on the next page shows 50.93dBc between carrier maximum power and local maximum emission in restrict band (2.39000GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2.7 is 102.17dBuV/m (Average), so the maximum field strength in restrict band is $102.17 - 50.93 = 51.24$ dBuV/m which is under 54dBuV/m limit.

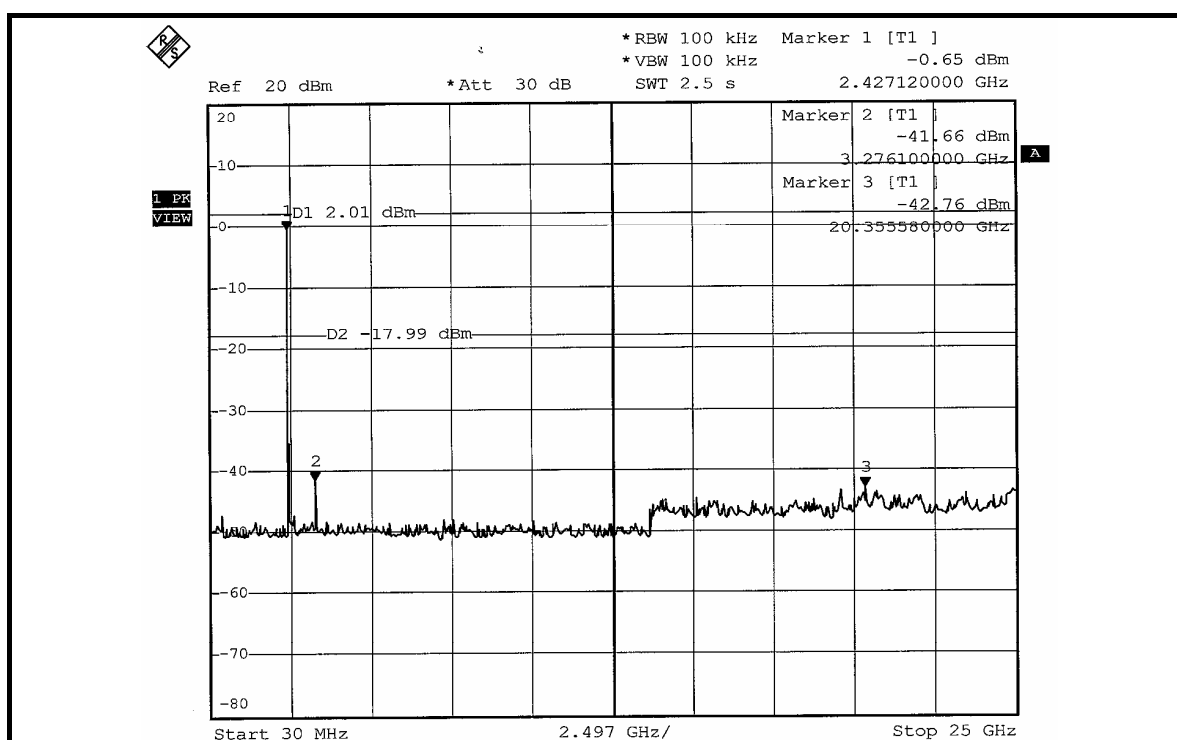
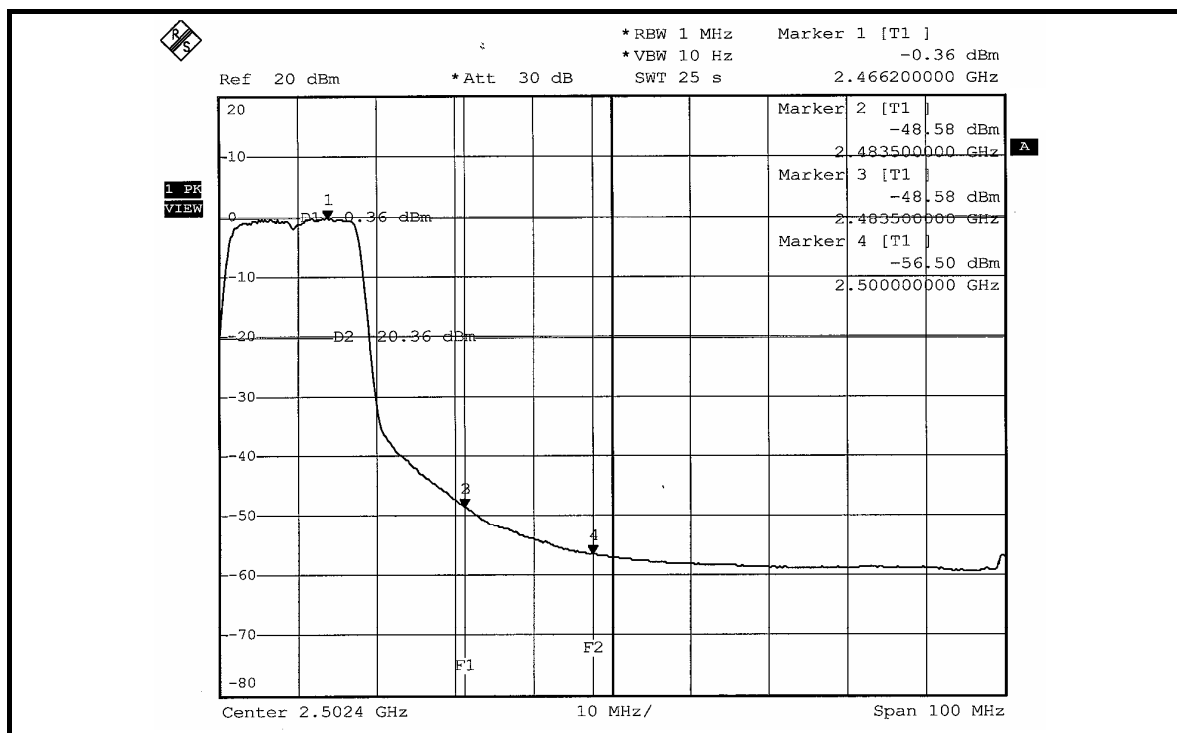
NOTE 2: The band edge emission plot of OFDM technique on the next second page shows 44.38dBc between carrier maximum power and local maximum emission in restrict band (2.48410GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2.7 is 111.01dBuV/m (Peak), so the maximum field strength in restrict band is $111.01 - 44.38 = 66.63$ dBuV/m which is under 74dBuV/m limit.

The band edge emission plot of OFDM technique on the next third page shows 48.22dBc between carrier maximum power and local maximum emission in restrict band (2.48350GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2.7 is 100.74dBuV/m (Average), so the maximum field strength in restrict band is $100.74 - 48.22 = 52.52$ dBuV/m which is under 54dBuV/m limit.

802.11g OFDM MODULATION







5 INFORMATION ON THE TESTING LABORATORIES

We, ADT Corp., 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, UL, A2LA
Germany	TUV Rheinland
Japan	VCCI
Norway	NEMKO
Canada	INDUSTRY CANADA , CSA
R.O.C.	CNLA, BSMI, NCC
Netherlands	Telefication
Singapore	PSB , 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: 886-2-26051924

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

Web Site: www.adt.com.tw

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

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.