

FCC TEST REPORT

REPORT NO.: RF950616L04B

MODEL NO.: WRT-372U

RECEIVED: Aug. 22, 2006

TESTED: Aug. 24 ~ Sep. 08, 2006

ISSUED: Sep. 14, 2006

APPLICANT: U-MEDIA Communications, Inc.

ADDRESS: 9F, No. 1, Jin-shan 7th St., Hsinchu 300, Taiwan,
R.O.C.

ISSUED BY: Advance Data Technology Corporation

LAB ADDRESS: 47 14th Lin, Chiapau Tsun, Linko, Taipei, Taiwan,
R.O.C.

TEST LOCATION: No. 19, Hwa Ya 2nd Rd., Kueishan, Taoyuan,
Taiwan, R.O.C.

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1. CERTIFICATION

PRODUCT : 2.4GHz Wireless 802.11n(DRAFT) Router

MODEL NO.: WRT-372U

BRAND: U-MEDIA

APPLICANT : U-MEDIA Communications, Inc.

TESTED: Aug. 24 ~ Sep. 08, 2006

TEST SAMPLE: ENGINEERING SAMPLE

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

The above equipment has 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 : Peggy Chen, **DATE:** Sep. 14, 2006
Peggy Chen

**TECHNICAL
ACCEPTANCE :** Long Chen, **DATE:** Sep. 14, 2006
Responsible for RF Long Chen

APPROVED BY : Gary Chang, **DATE:** Sep. 14, 2006
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 -15.72dB at 0.158MHz.
15.247(a)(2)	Spectrum Bandwidth of a Direct Sequence Spread Spectrum System Limit : min. 500kHz	PASS	Meet the requirement of limit.
15.247(b)	Maximum Peak Output Power Limit: max. 30dBm	PASS	Meet the requirement of limit.
15.247(d)	Transmitter Radiated Emissions Limit: Table 15.209	PASS	Meet the requirement of limit. Minimum passing margin is -1.02dB at 2386.00MHz.
15.247(e)	Power Spectral Density Limit: max. 8dBm	PASS	Meet the requirement of limit.
15.247(d)	Band Edge Measurement Limit: 20dB 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	2.44dB
Radiated emissions	30MHz ~ 200MHz (Horizontal)	3.56 dB
	30MHz ~ 200MHz (Vertical)	3.71 dB
	200MHz ~1000MHz (Horizontal)	3.73 dB
	200MHz ~1000MHz (Vertical)	3.71 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	2.4GHz Wireless 802.11n(DRAFT) Router
MODEL NO.	WRT-372U
FCC ID	SI5WRT372U
POWER SUPPLY	5.0Vdc from AC adapter or host equipment
MODULATION TYPE	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
MODULATION TECHNOLOGY	DSSS, OFDM
TRANSFER RATE	802.11b: 11.0/ 5.5/ 2.0/ 1.0Mbps 802.11g: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0Mbps Draft 802.11n (20MHz): 144.44/ 130.00/ 115.56/ 86.67/ 57.78/ 43.33/ 28.89/ 14.44/ 72.2/ 65.0/ 57.8/ 43.3/ 28.9/ 21.7/ 14.4/ 7.2Mbps Draft 802.11n (40MHz): 300.0/ 270.0/ 240.0/ 180.0/ 120.0/ 90.0/ 60.0/ 30.0/ 150.0/ 135.0/ 120.0/ 90.0/ 60.0/ 45.0/ 30.0/ 15.0Mbps
FREQUENCY RANGE	2412MHz ~ 2462MHz
NUMBER OF CHANNEL	11 for 802.11b, 802.11g, Draft 802.11n (20MHz) 7 for Draft 802.11n (40MHz)
MAXIMUM OUTPUT POWER	80.823mW
ANTENNA TYPE	Dipole antenna with 4dBi gain
DATA CABLE	NA
I/O PORTS	RJ45

NOTE:

1. This report is prepared for FCC class II permissive change. It is issued as a supplementary report to the original report no. RF950616L04. The difference compared with the original design are changing outward appearance, modifying layout of motherboard and changing one antenna cable to PCB trace type. Conducted emission and radiated emission data had been re-tested.
2. The EUT was powered by the following adapter:

Brand	DVE
Model	DSA-15P-05 US 050125
Input Power	100-240Vac, 50/60Hz, 0.5A
Output Power	5Vdc, 2.5A
Power Cord	DC 1.8m shielded cable without core

3. The EUT incorporates a MIMO function with 802.11b, 802.11g, draft 802.11n. Physically, the card provides two completed transmitters and three receivers.
4. The EUT is 2 * 3 spatial MIMO (2Tx & 3Rx) without beam forming function that only operate dual chain configuration (chain 0 and chain 1 transceivers are operational).
5. When the EUT operating in 802.11b is for single Tx.
6. When the EUT operating in 802.11g, the software operation, which is defined by manufacturer, only set dual Tx.
7. When the EUT operating in draft 802.11n, the software operation, which is defined by manufacturer, only set 0 ~ 15 of "MCS" (MCS: Modulation and Coding Schemes) for dual Tx.



8. The EUT complies with draft 802.11n standards and backwards compatible with 802.11b, 802.11g products.
9. The EUT operates in the 2.4GHz frequency spectrum with throughput of up to 300Mbps.
10. 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.
11. Notebook sends commands via extend card to control EUT transmit continuously.

3.2 DESCRIPTION OF TEST MODES

Eleven channels are provided for 802.11b, 802.11g, draft 802.11n (20MHz):

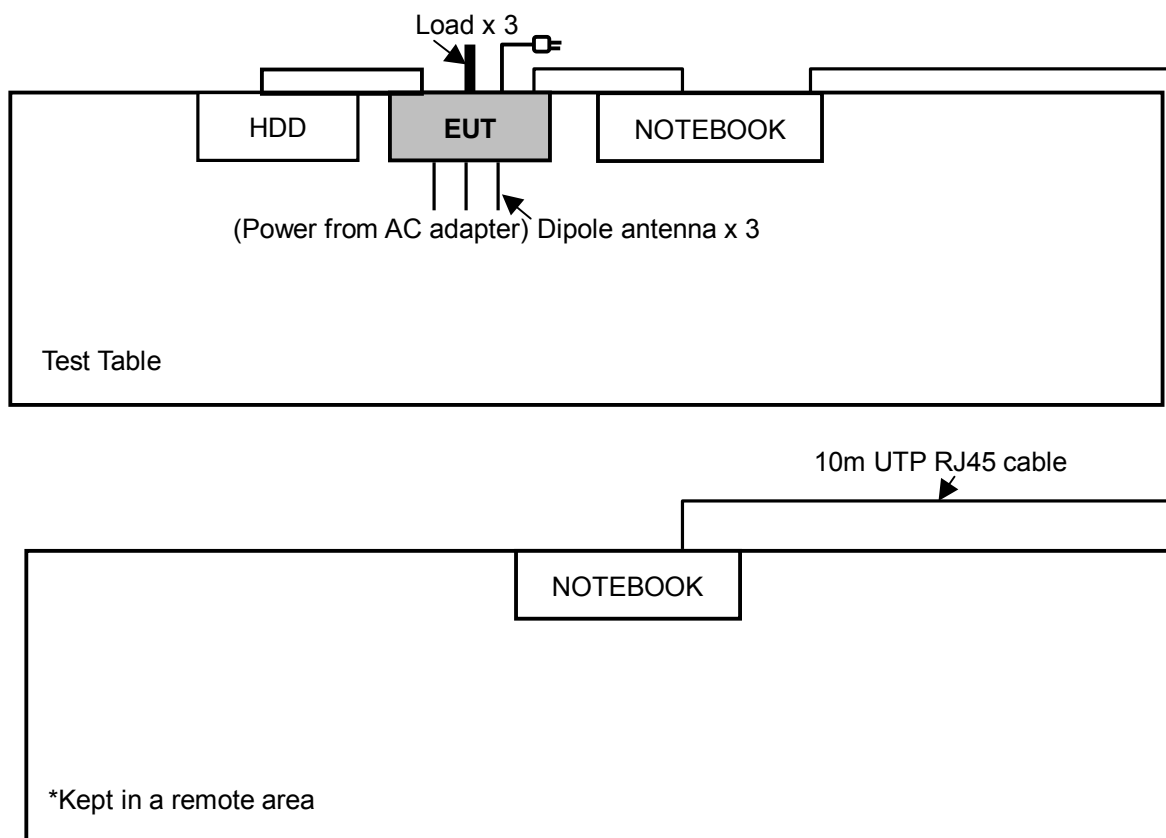
CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
1	2412MHz	7	2442MHz
2	2417MHz	8	2447MHz
3	2422MHz	9	2452MHz
4	2427MHz	10	2457MHz
5	2432MHz	11	2462MHz
6	2437MHz		

Seven channels are provided for draft 802.11n (40MHz):

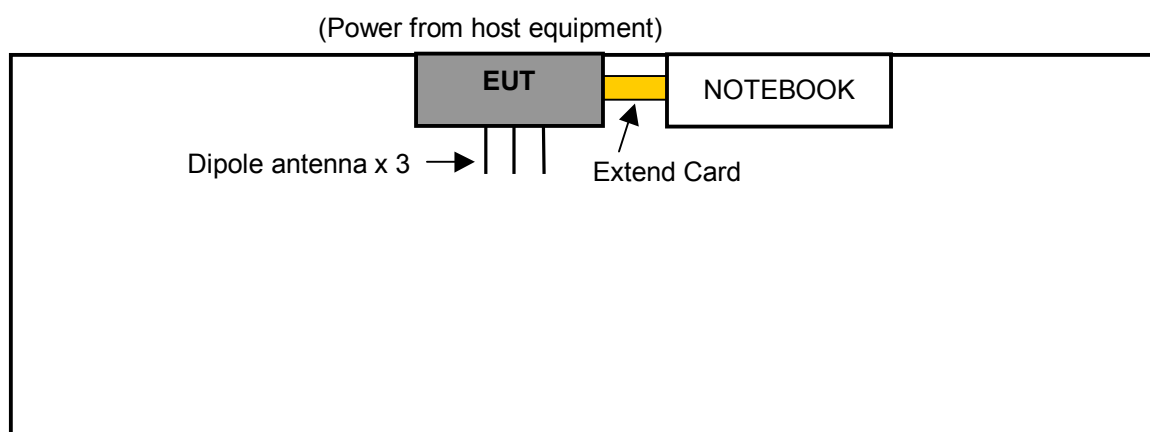
CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
1	2422MHz	5	2442MHz
2	2427MHz	6	2447MHz
3	2432MHz	7	2452MHz
4	2437MHz		

3.2.1 CONFIGURATION OF SYSTEM UNDER TEST

TEST MODE A (For Conduction Emission and Radiated Emission Test (Below 1 GHz))



TEST MODE B (For Radiated Emission Test (Above 1 GHz))



3.2.2 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

EUT CONFIGURE MODE	APPLICABLE TO			DESCRIPTION
	PLC	RE < 1G	RE ≥ 1G	
A	√	√	-	Power from AC adapter
B	-	-	√	Power from host equipment

Where **PLC**: Power Line Conducted Emission **RE < 1G**: Radiated Emission below 1GHz

RE ≥ 1G: Radiated Emission above 1GHz

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)	TX CONDITION
A	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6.0	Dual
A	Draft 802.11n (20MHz)	1 to 11	1, 6, 11	OFDM	BPSK	7.2	Dual
A	Draft 802.11n (40MHz)	1 to 7	1, 4, 7	OFDM	BPSK	15.0	Dual

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)	TX CONDITION
A	802.11g	1 to 11	1	OFDM	BPSK	6.0	Dual
A	Draft 802.11n (20MHz)	1 to 11	1	OFDM	BPSK	7.2	Dual
A	Draft 802.11n (40MHz)	1 to 7	1	OFDM	BPSK	15.0	Dual

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)	TX CONDITION
B	802.11b	1 to 11	1, 11	DSSS	DBPSK	1.0	Single
B	802.11g	1 to 11	1, 11	OFDM	BPSK	6.0	Dual
B	Draft 802.11n (20MHz)	1 to 11	1, 11	OFDM	BPSK	7.2	Dual
B	Draft 802.11n (40MHz)	1 to 7	1, 7	OFDM	BPSK	15.0	Dual

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	HP	nx6215	CND5390CMP	FCC DoC Approved
2	HDD	Terasys	F12-UF	A0100222-4A60013	FCC DoC Approved
3	NOTEBOOK COMPUTER	DELL	PP05L	16484462992	E2K24CLNS

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	NA
2	NA
3	NA

NOTE:

1. All power cords of the above support units are non-shielded (1.8m).
2. Item 3 acted as communication partners 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	Nov. 02, 2006
RF signal cable Woken	5D-FB	Cable-HYCO3-01	Jan. 06, 2007
LISN ROHDE & SCHWARZ	ESH2-Z5	100100	Jan. 09, 2007
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.

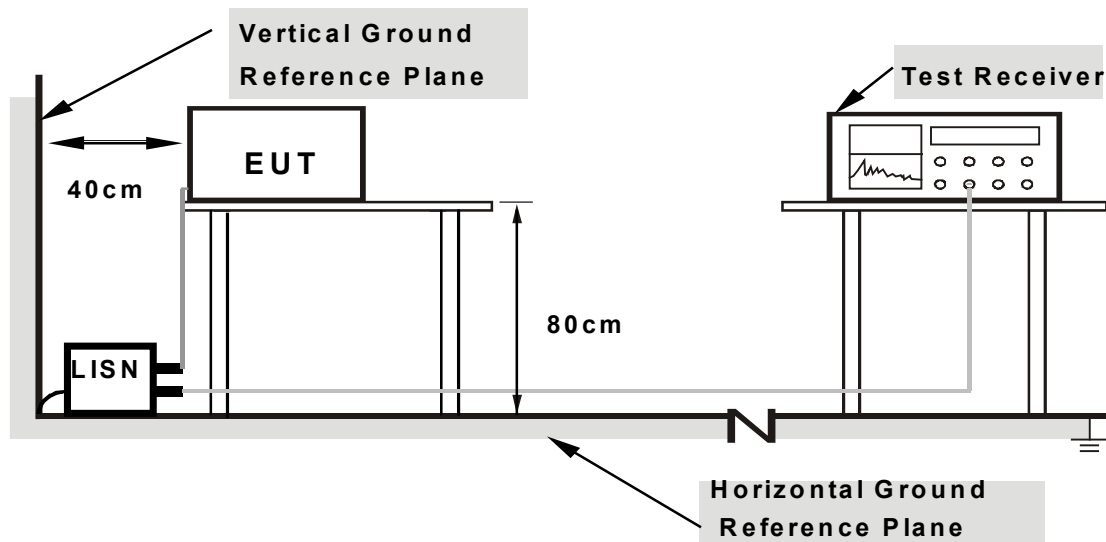
4.1.3 TEST PROCEDURES

- 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 related item – Photographs of the Test Configuration.

4.1.6 EUT OPERATING CONDITIONS

- a. Connected EUT with notebook system and placed on a testing table.
- b. Prepared other notebooks to act as communication partners and placed it outside of testing area.
- c. The notebook system ran a test program (provided by manufacturer) to enable EUT under transmission condition continuously at specific channel frequency.
- d. The notebook system sent “H” messages to its screen.
- e. Repeated item d.

4.1.7 TEST RESULTS

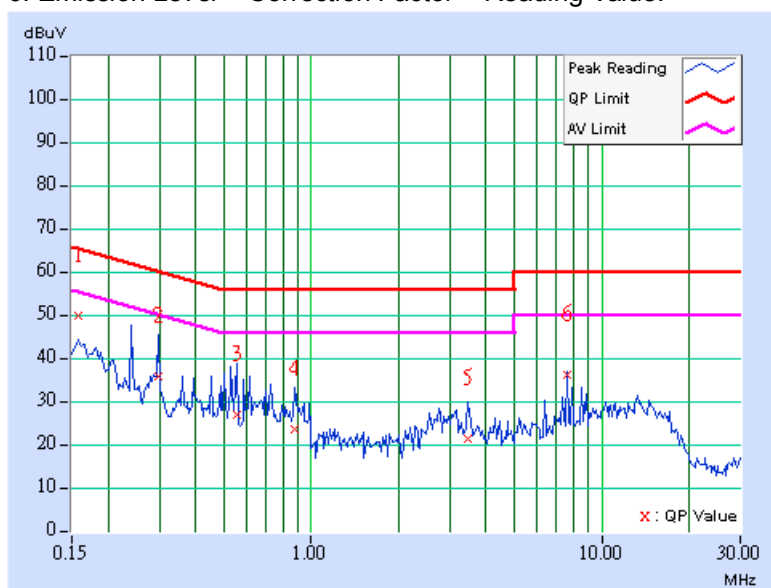
CONDUCTED WORST-CASE DATA:

802.11g OFDM MODULATION – DUAL TX:

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	PHASE	Line 1
MODULATION TYPE	BPSK	6dB BANDWIDTH	9 kHz
TRANSFER RATE	6.0Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	20deg. C, 60% RH, 991hPa	TEST MODE	A
TESTED BY	Match Tsui		

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	0.158	0.10	49.76	-	49.86	-	65.58	55.58	-15.72	-
2	0.298	0.10	35.38	-	35.48	-	60.29	50.29	-24.81	-
3	0.552	0.10	26.73	-	26.83	-	56.00	46.00	-29.17	-
4	0.880	0.10	23.25	-	23.35	-	56.00	46.00	-32.65	-
5	3.473	0.33	21.17	-	21.50	-	56.00	46.00	-34.50	-
6	7.598	0.36	36.08	-	36.44	-	60.00	50.00	-23.56	-

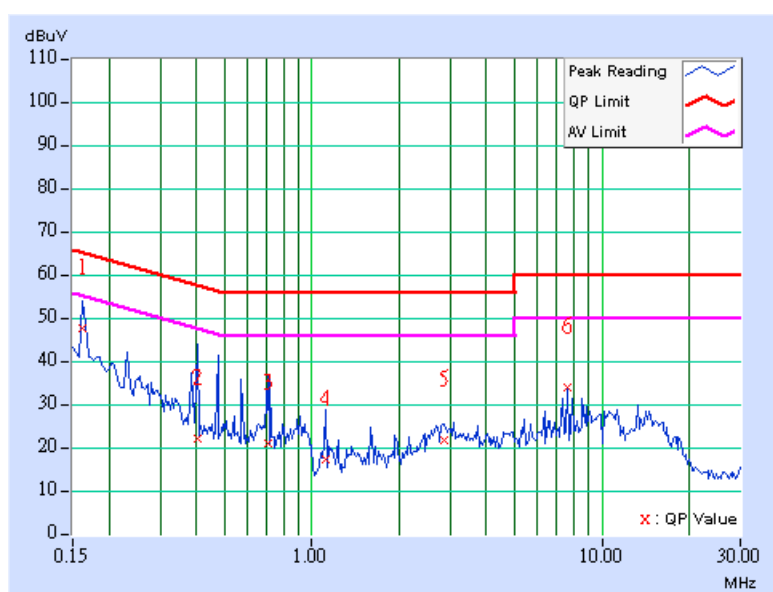
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = 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	6.0Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	20deg. C, 60% RH, 991hPa	TEST MODE	A
TESTED BY	Match Tsui		

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	0.162	0.10	47.20	-	47.30	-	65.38	55.38	-18.08	-
2	0.404	0.10	21.75	-	21.85	-	57.77	47.77	-35.92	-
3	0.705	0.15	20.82	-	20.97	-	56.00	46.00	-35.03	-
4	1.113	0.20	16.95	-	17.15	-	56.00	46.00	-38.85	-
5	2.855	0.27	21.36	-	21.63	-	56.00	46.00	-34.37	-
6	7.598	0.42	33.48	-	33.90	-	60.00	50.00	-26.10	-

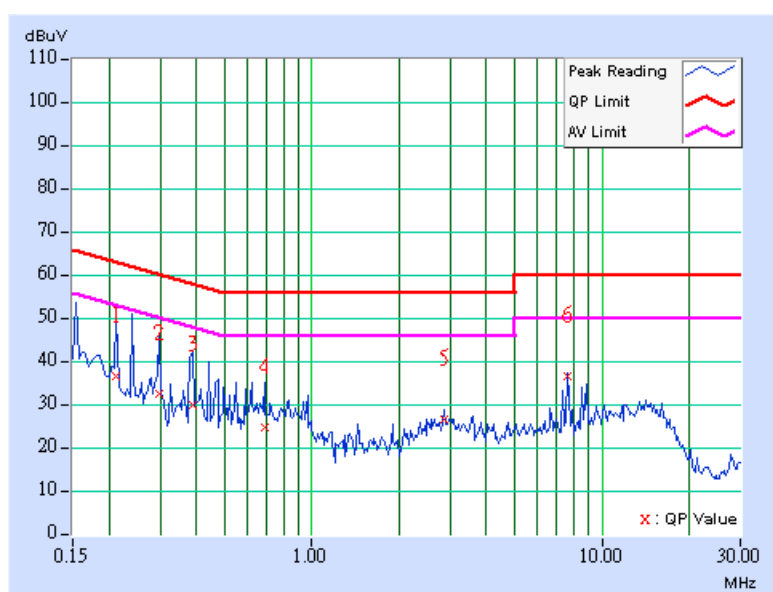
- REMARKS:**
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 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = Emission level -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



EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	PHASE	Line 1
MODULATION TYPE	BPSK	6dB BANDWIDTH	9 kHz
TRANSFER RATE	6.0Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	20deg. C, 60% RH, 991hPa	TEST MODE	A
TESTED BY	Match Tsui		

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	0.213	0.10	36.22	-	36.32	-	63.11	53.11	-26.79	-
2	0.298	0.10	32.35	-	32.45	-	60.29	50.29	-27.84	-
3	0.388	0.10	29.57	-	29.67	-	58.10	48.10	-28.43	-
4	0.685	0.10	24.30	-	24.40	-	56.00	46.00	-31.60	-
5	2.852	0.27	26.44	-	26.71	-	56.00	46.00	-29.29	-
6	7.598	0.36	36.18	-	36.54	-	60.00	50.00	-23.46	-

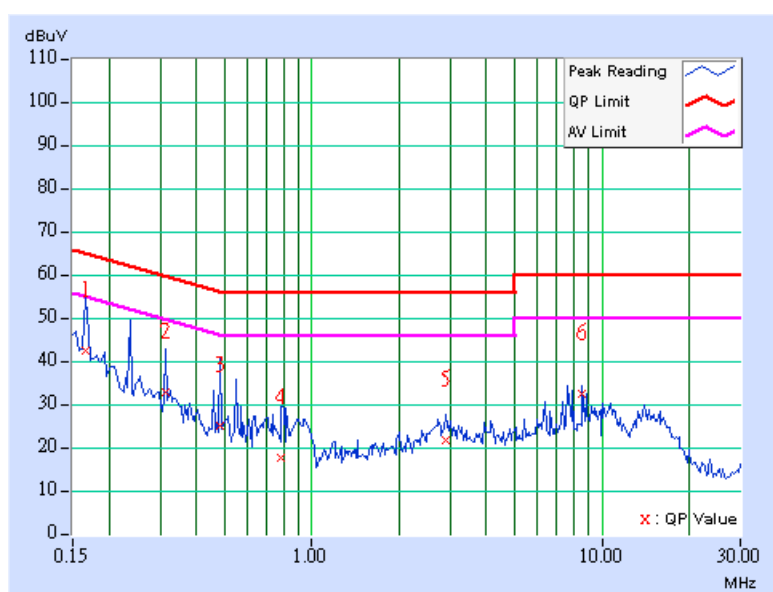
- REMARKS:**
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 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = Emission level -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



EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	PHASE	Line 2
MODULATION TYPE	BPSK	6dB BANDWIDTH	9 kHz
TRANSFER RATE	6.0Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	20deg. C, 60% RH, 991hPa	TEST MODE	A
TESTED BY	Match Tsui		

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	0.166	0.10	42.12	-	42.22	-	65.18	55.18	-22.96	-
2	0.314	0.10	32.47	-	32.57	-	59.86	49.86	-27.29	-
3	0.482	0.11	24.74	-	24.85	-	56.30	46.30	-31.45	-
4	0.787	0.16	17.42	-	17.58	-	56.00	46.00	-38.42	-
5	2.895	0.28	21.56	-	21.84	-	56.00	46.00	-34.16	-
6	8.547	0.44	32.10	-	32.54	-	60.00	50.00	-27.46	-

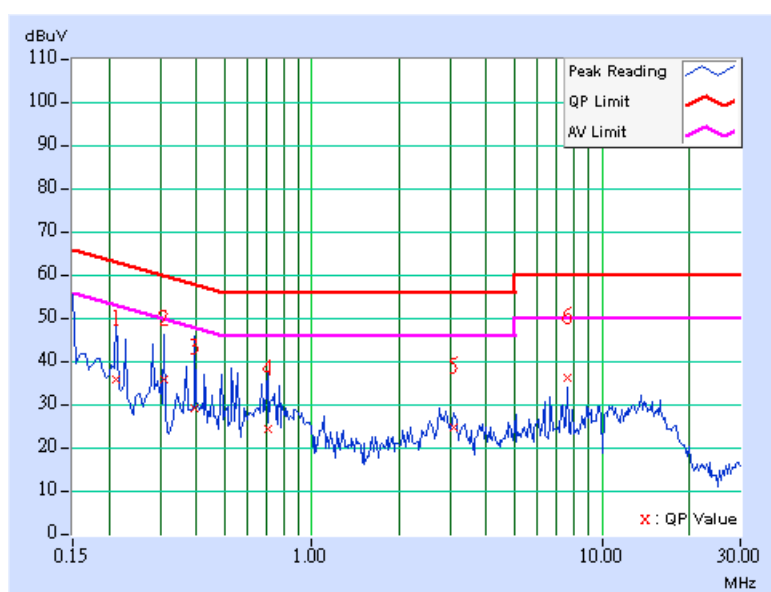
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 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = Emission level - Limit value
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



EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	PHASE	Line 1
MODULATION TYPE	BPSK	6dB BANDWIDTH	9 kHz
TRANSFER RATE	6.0Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	20deg. C, 60% RH, 991hPa	TEST MODE	A
TESTED BY	Match Tsui		

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	0.213	0.10	35.65	-	35.75	-	63.11	53.11	-27.36	-
2	0.310	0.10	35.51	-	35.61	-	59.97	49.97	-24.36	-
3	0.396	0.10	28.84	-	28.94	-	57.93	47.93	-28.99	-
4	0.705	0.10	24.24	-	24.34	-	56.00	46.00	-31.66	-
5	3.090	0.29	24.28	-	24.57	-	56.00	46.00	-31.43	-
6	7.598	0.36	36.04	-	36.40	-	60.00	50.00	-23.60	-

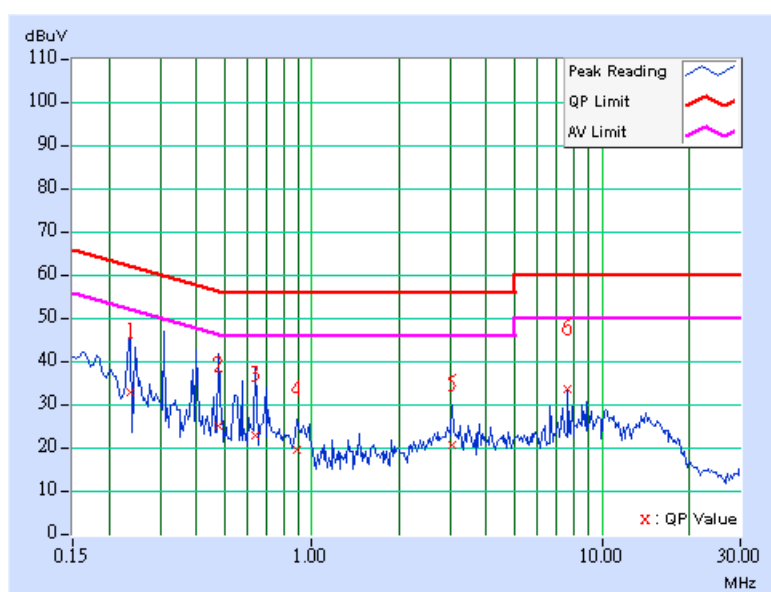
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = 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 11	PHASE	Line 2
MODULATION TYPE	BPSK	6dB BANDWIDTH	9 kHz
TRANSFER RATE	6.0Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	20deg. C, 60% RH, 991hPa	TEST MODE	A
TESTED BY	Match Tsui		

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	0.236	0.10	32.70	-	32.80	-	62.24	52.24	-29.44	-
2	0.478	0.11	24.62	-	24.73	-	56.37	46.37	-31.64	-
3	0.638	0.14	22.48	-	22.62	-	56.00	46.00	-33.38	-
4	0.884	0.18	19.25	-	19.43	-	56.00	46.00	-36.57	-
5	3.051	0.29	20.49	-	20.78	-	56.00	46.00	-35.22	-
6	7.598	0.42	33.46	-	33.88	-	60.00	50.00	-26.12	-

- 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.

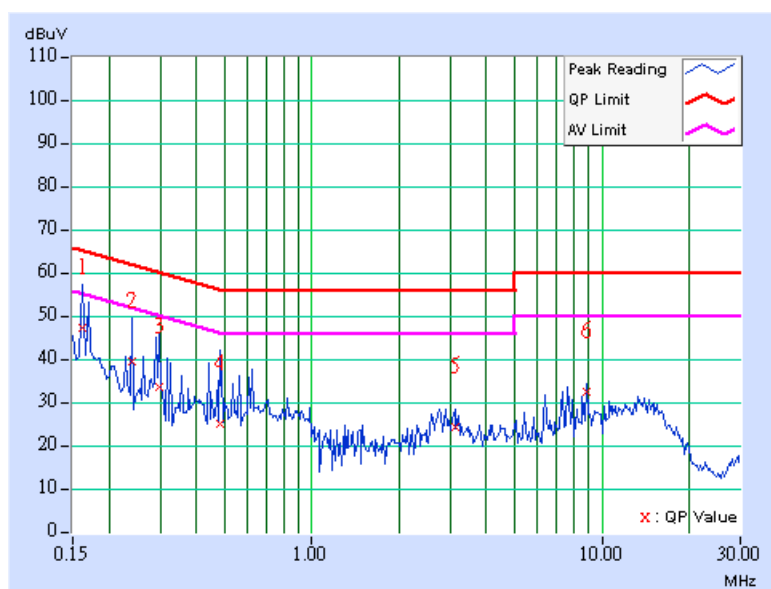


DRAFT 802.11n (20MHz) OFDM MODULATION – DUAL TX:

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	PHASE	Line 1
MODULATION TYPE	BPSK	6dB BANDWIDTH	9 kHz
TRANSFER RATE	7.2Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	20deg. C, 60% RH, 991hPa	TEST MODE	A
TESTED BY	Match Tsui		

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	0.162	0.10	46.94	-	47.04	-	65.38	55.38	-18.34	-
2	0.240	0.10	39.27	-	39.37	-	62.10	52.10	-22.73	-
3	0.298	0.10	33.41	-	33.51	-	60.29	50.29	-26.78	-
4	0.482	0.10	24.81	-	24.91	-	56.30	46.30	-31.39	-
5	3.109	0.29	24.24	-	24.53	-	56.00	46.00	-31.47	-
6	8.863	0.36	32.31	-	32.67	-	60.00	50.00	-27.33	-

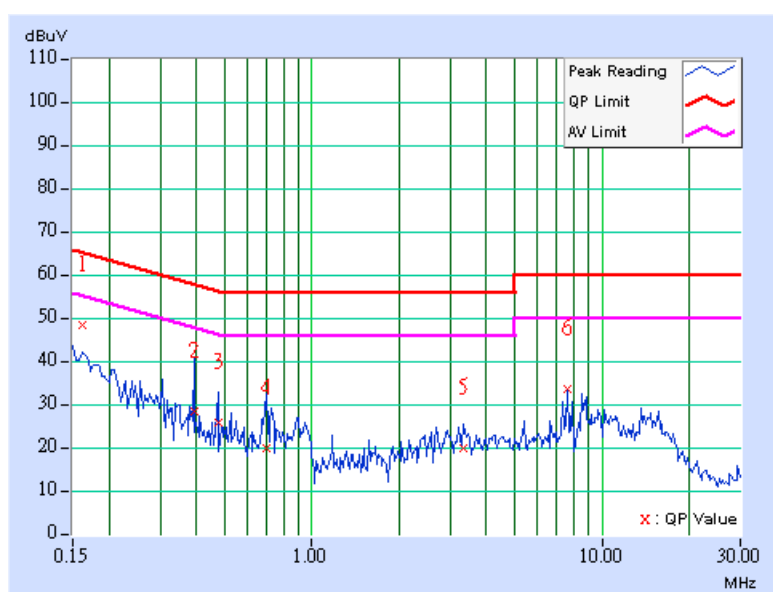
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = 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	7.2Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	20deg. C, 60% RH, 991hPa	TEST MODE	A
TESTED BY	Match Tsui		

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	0.162	0.10	48.19	-	48.29	-	65.38	55.38	-17.09	-
2	0.392	0.10	27.95	-	28.05	-	58.02	48.02	-29.97	-
3	0.474	0.11	25.39	-	25.50	-	56.44	46.44	-30.94	-
4	0.697	0.15	19.64	-	19.79	-	56.00	46.00	-36.21	-
5	3.352	0.31	19.50	-	19.81	-	56.00	46.00	-36.19	-
6	7.598	0.42	33.44	-	33.86	-	60.00	50.00	-26.14	-

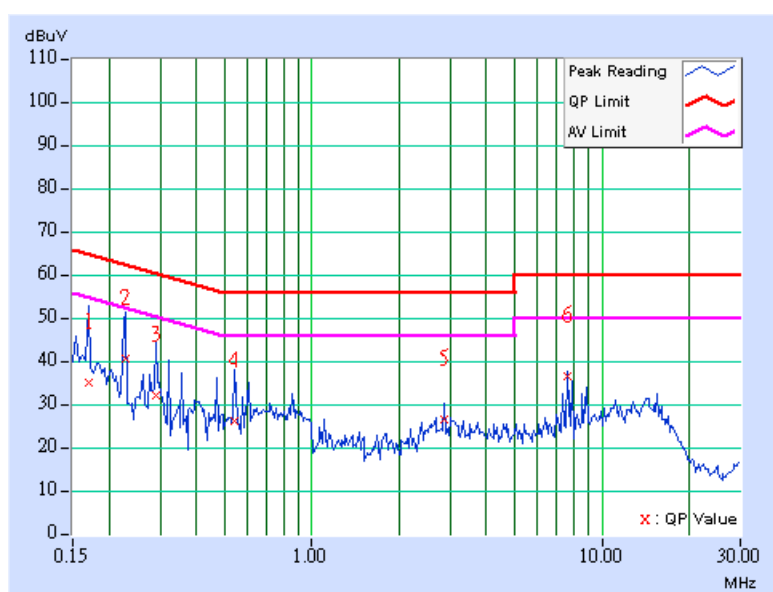
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = 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 6	PHASE	Line 1
MODULATION TYPE	BPSK	6dB BANDWIDTH	9 kHz
TRANSFER RATE	7.2Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	20deg. C, 60% RH, 991hPa	TEST MODE	A
TESTED BY	Match Tsui		

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	0.170	0.10	34.77	-	34.87	-	64.98	54.98	-30.11	-
2	0.228	0.10	40.43	-	40.53	-	62.52	52.52	-21.99	-
3	0.291	0.10	31.78	-	31.88	-	60.51	50.51	-28.63	-
4	0.545	0.10	25.96	-	26.06	-	56.00	46.00	-29.94	-
5	2.852	0.27	26.36	-	26.63	-	56.00	46.00	-29.37	-
6	7.598	0.36	36.12	-	36.48	-	60.00	50.00	-23.52	-

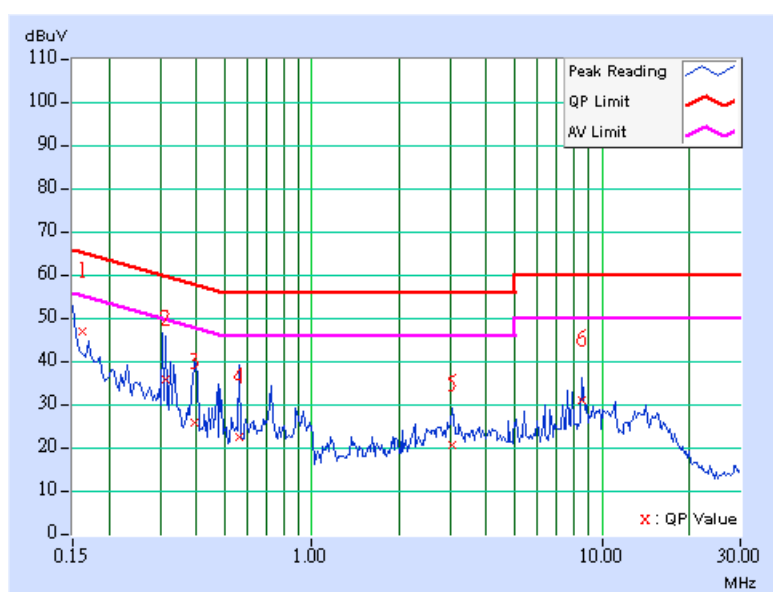
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = 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 6	PHASE	Line 2
MODULATION TYPE	BPSK	6dB BANDWIDTH	9 kHz
TRANSFER RATE	7.2Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	20deg. C, 60% RH, 991hPa	TEST MODE	A
TESTED BY	Match Tsui		

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	0.161	0.10	46.50	-	46.60	-	65.39	55.39	-18.79	-
2	0.314	0.10	35.58	-	35.68	-	59.86	49.86	-24.18	-
3	0.396	0.10	25.66	-	25.76	-	57.93	47.93	-32.17	-
4	0.560	0.13	22.24	-	22.37	-	56.00	46.00	-33.63	-
5	3.063	0.29	20.34	-	20.63	-	56.00	46.00	-35.37	-
6	8.547	0.44	30.81	-	31.25	-	60.00	50.00	-28.75	-

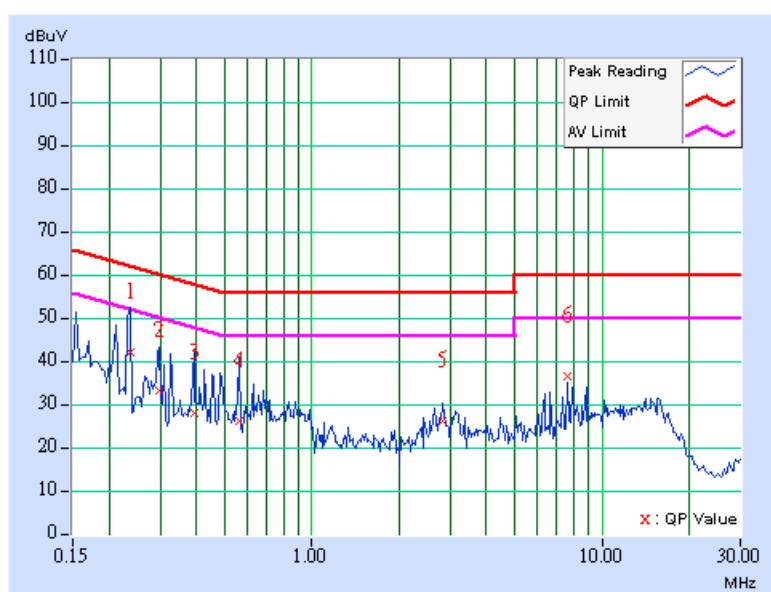
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = 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 11	PHASE	Line 1
MODULATION TYPE	BPSK	6dB BANDWIDTH	9 kHz
TRANSFER RATE	7.2Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	20deg. C, 60% RH, 991hPa	TEST MODE	A
TESTED BY	Match Tsui		

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	0.236	0.10	41.99	-	42.09	-	62.24	52.24	-20.15	-
2	0.298	0.10	32.81	-	32.91	-	60.29	50.29	-27.38	-
3	0.392	0.10	27.89	-	27.99	-	58.02	48.02	-30.03	-
4	0.560	0.10	25.98	-	26.08	-	56.00	46.00	-29.92	-
5	2.840	0.27	25.81	-	26.08	-	56.00	46.00	-29.92	-
6	7.598	0.36	36.24	-	36.60	-	60.00	50.00	-23.40	-

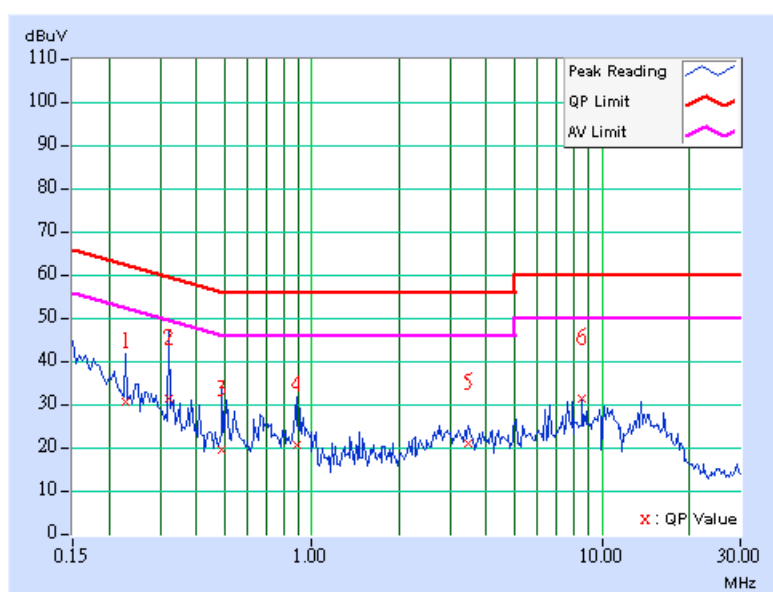
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = 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 11	PHASE	Line 2
MODULATION TYPE	BPSK	6dB BANDWIDTH	9 kHz
TRANSFER RATE	7.2Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	20deg. C, 60% RH, 991hPa	TEST MODE	A
TESTED BY	Match Tsui		

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	0.228	0.10	30.23	-	30.33	-	62.52	52.52	-32.19	-
2	0.322	0.10	31.01	-	31.11	-	59.66	49.66	-28.55	-
3	0.490	0.11	19.25	-	19.36	-	56.17	46.17	-36.81	-
4	0.884	0.18	20.34	-	20.52	-	56.00	46.00	-35.48	-
5	3.473	0.33	20.50	-	20.83	-	56.00	46.00	-35.17	-
6	8.547	0.44	30.99	-	31.43	-	60.00	50.00	-28.57	-

- 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.

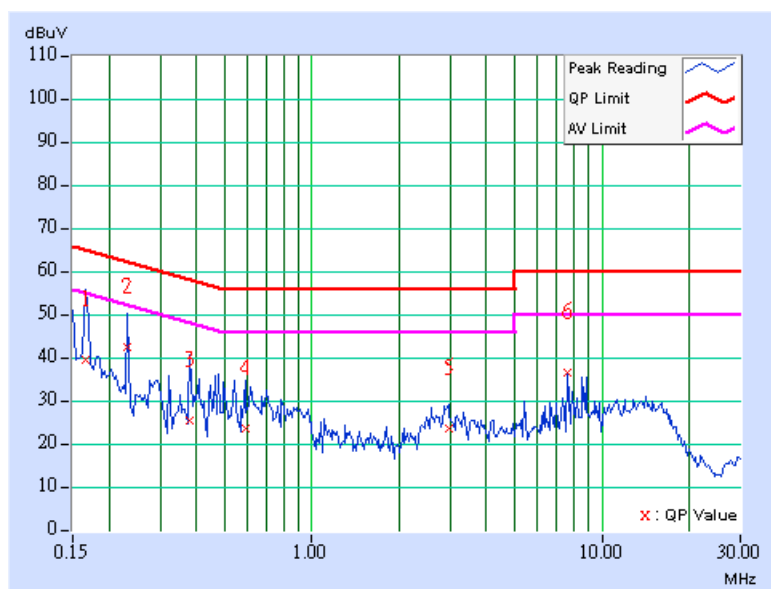


DRAFT 802.11n (40MHz) OFDM MODULATION – DUAL TX:

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	PHASE	Line 1
MODULATION TYPE	BPSK	6dB BANDWIDTH	9 kHz
TRANSFER RATE	15.0Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	20deg. C, 60% RH, 991hPa	TEST MODE	A
TESTED BY	Match Tsui		

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	0.166	0.10	39.10	-	39.20	-	65.18	55.18	-25.98	-
2	0.232	0.10	42.28	-	42.38	-	62.38	52.38	-20.00	-
3	0.380	0.10	25.22	-	25.32	-	58.27	48.27	-32.95	-
4	0.591	0.10	23.35	-	23.45	-	56.00	46.00	-32.55	-
5	2.953	0.28	23.41	-	23.69	-	56.00	46.00	-32.31	-
6	7.598	0.36	36.18	-	36.54	-	60.00	50.00	-23.46	-

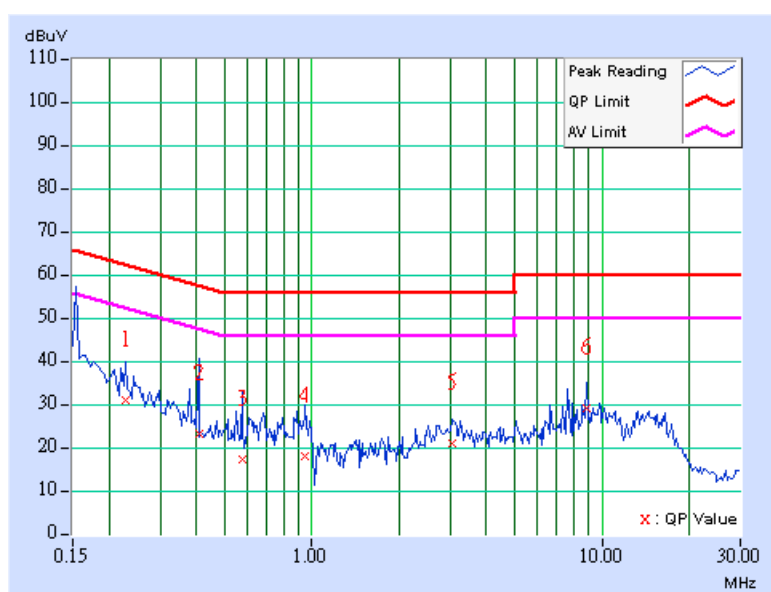
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = 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	15.0Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	20deg. C, 60% RH, 991hPa	TEST MODE	A
TESTED BY	Match Tsui		

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	0.228	0.10	30.78	-	30.88	-	62.52	52.52	-31.64	-
2	0.408	0.10	22.76	-	22.86	-	57.69	47.69	-34.83	-
3	0.576	0.13	17.04	-	17.17	-	56.00	46.00	-38.83	-
4	0.947	0.19	17.72	-	17.91	-	56.00	46.00	-38.09	-
5	3.055	0.29	20.85	-	21.14	-	56.00	46.00	-34.86	-
6	8.867	0.44	28.83	-	29.27	-	60.00	50.00	-30.73	-

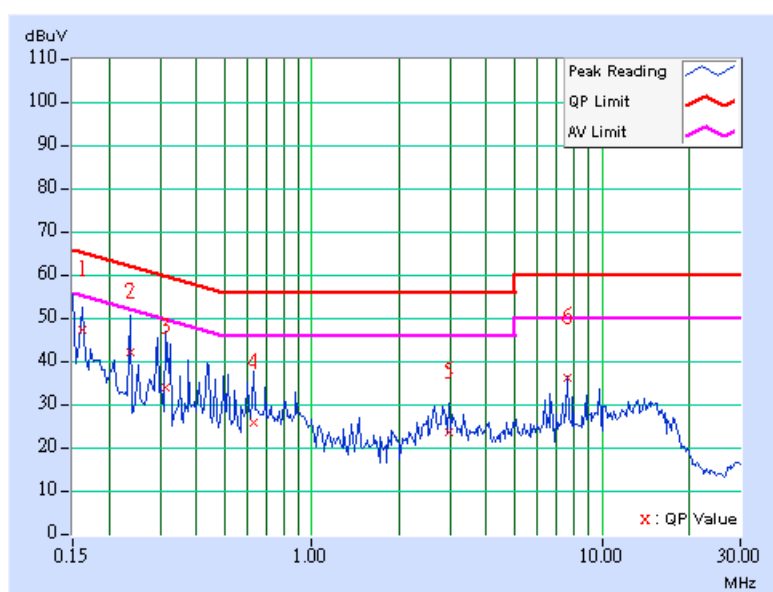
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = 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 4	PHASE	Line 1
MODULATION TYPE	BPSK	6dB BANDWIDTH	9 kHz
TRANSFER RATE	15.0Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	20deg. C, 60% RH, 991hPa	TEST MODE	A
TESTED BY	Match Tsui		

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	0.162	0.10	47.18	-	47.28	-	65.38	55.38	-18.10	-
2	0.236	0.10	41.70	-	41.80	-	62.24	52.24	-20.44	-
3	0.314	0.10	33.56	-	33.66	-	59.86	49.86	-26.20	-
4	0.634	0.10	25.55	-	25.65	-	56.00	46.00	-30.35	-
5	2.961	0.28	23.45	-	23.73	-	56.00	46.00	-32.27	-
6	7.598	0.36	36.06	-	36.42	-	60.00	50.00	-23.58	-

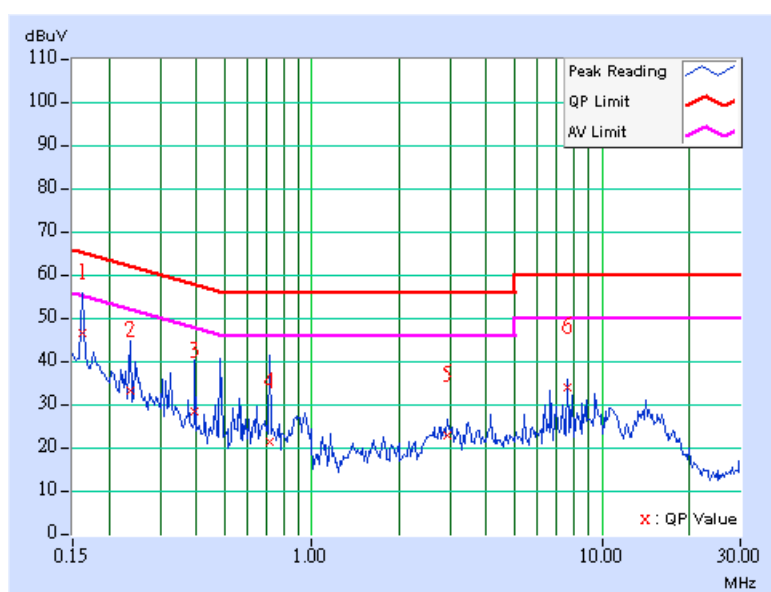
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = 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 4	PHASE	Line 2
MODULATION TYPE	BPSK	6dB BANDWIDTH	9 kHz
TRANSFER RATE	15.0Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	20deg. C, 60% RH, 991hPa	TEST MODE	A
TESTED BY	Match Tsui		

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	0.162	0.10	46.22	-	46.32	-	65.38	55.38	-19.06	-
2	0.236	0.10	32.88	-	32.98	-	62.24	52.24	-29.26	-
3	0.396	0.10	28.08	-	28.18	-	57.93	47.93	-29.75	-
4	0.713	0.15	20.88	-	21.03	-	56.00	46.00	-34.97	-
5	2.922	0.28	22.41	-	22.69	-	56.00	46.00	-33.31	-
6	7.598	0.42	33.50	-	33.92	-	60.00	50.00	-26.08	-

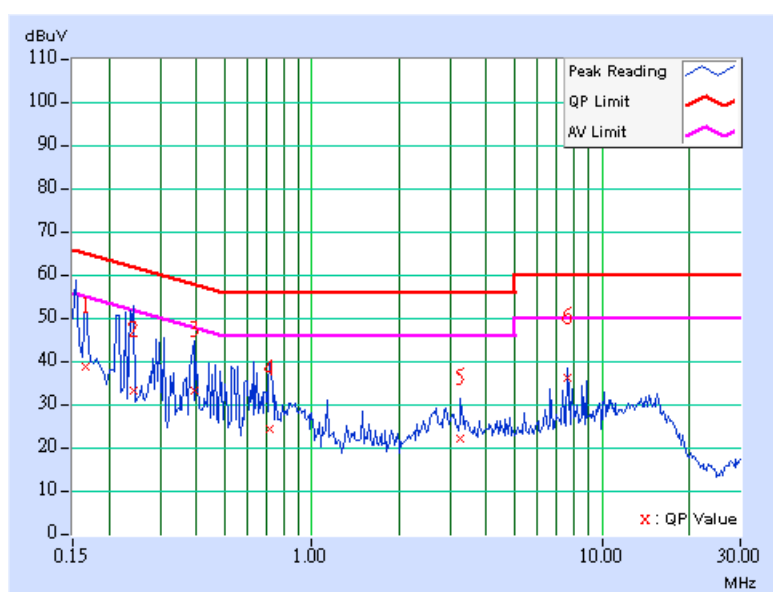
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = 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 7	PHASE	Line 1
MODULATION TYPE	BPSK	6dB BANDWIDTH	9 kHz
TRANSFER RATE	15.0Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	20deg. C, 60% RH, 991hPa	TEST MODE	A
TESTED BY	Match Tsui		

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	0.166	0.10	38.70	-	38.80	-	65.18	55.18	-26.38	-
2	0.244	0.10	32.80	-	32.90	-	61.97	51.97	-29.07	-
3	0.392	0.10	32.90	-	33.00	-	58.02	48.02	-25.02	-
4	0.720	0.10	23.99	-	24.09	-	56.00	46.00	-31.91	-
5	3.254	0.31	21.88	-	22.19	-	56.00	46.00	-33.81	-
6	7.598	0.36	35.86	-	36.22	-	60.00	50.00	-23.78	-

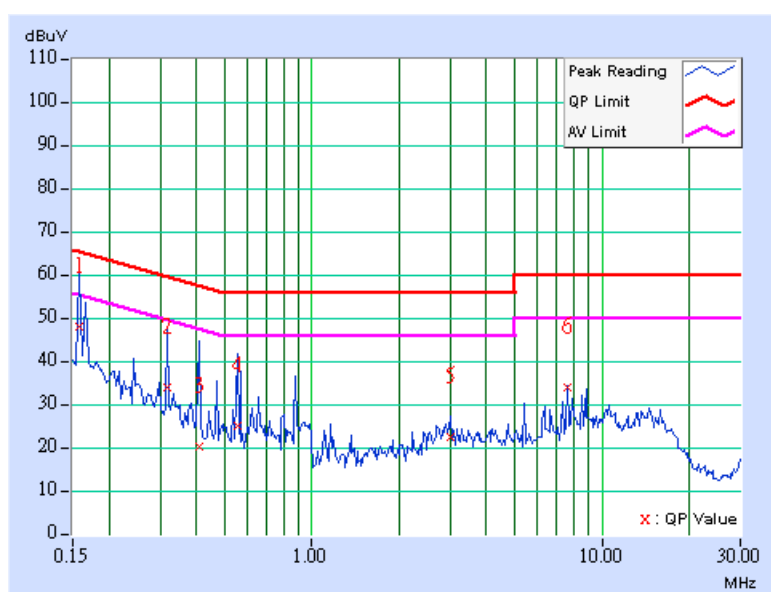
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = 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 7	PHASE	Line 2
MODULATION TYPE	BPSK	6dB BANDWIDTH	9 kHz
TRANSFER RATE	15.0Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	20deg. C, 60% RH, 991hPa	TEST MODE	A
TESTED BY	Match Tsui		

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	0.158	0.10	47.69	-	47.79	-	65.58	55.58	-17.79	-
2	0.318	0.10	33.50	-	33.60	-	59.76	49.76	-26.16	-
3	0.408	0.10	19.94	-	20.04	-	57.69	47.69	-37.65	-
4	0.552	0.13	24.64	-	24.77	-	56.00	46.00	-31.23	-
5	3.016	0.29	22.06	-	22.35	-	56.00	46.00	-33.65	-
6	7.598	0.42	33.62	-	34.04	-	60.00	50.00	-25.96	-

- 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	ESIB7	100188	Dec. 20, 2006
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100039	Nov. 27, 2006
BILOG Antenna SCHWARZBECK	VULB9168	9168-157	Jan. 15, 2007
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-407	Jan. 22, 2007
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170147	Jan. 26, 2007
Preamplifier Agilent	8449B	3008A01961	Oct. 23, 2006
Preamplifier Agilent	8447D	2944A10629	Oct. 27, 2006
RF signal cable HUBER+SUHNER	SUCOFLEX 104	214380/4	Jan. 16, 2007
RF signal cable HUBER+SUHNER	SUCOFLEX 104	219266/4	Jan. 16, 2007
Software ADT.	ADT_Radiated_V5.14	NA	NA
Antenna Tower ADT.	AT100	AT93021702	NA
Turn Table ADT.	TT100.	TT93021702	NA
Controller ADT.	SC100.	SC93021702	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 2.
 3. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
 4. The IC Site Registration No. is IC4924-2.

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.

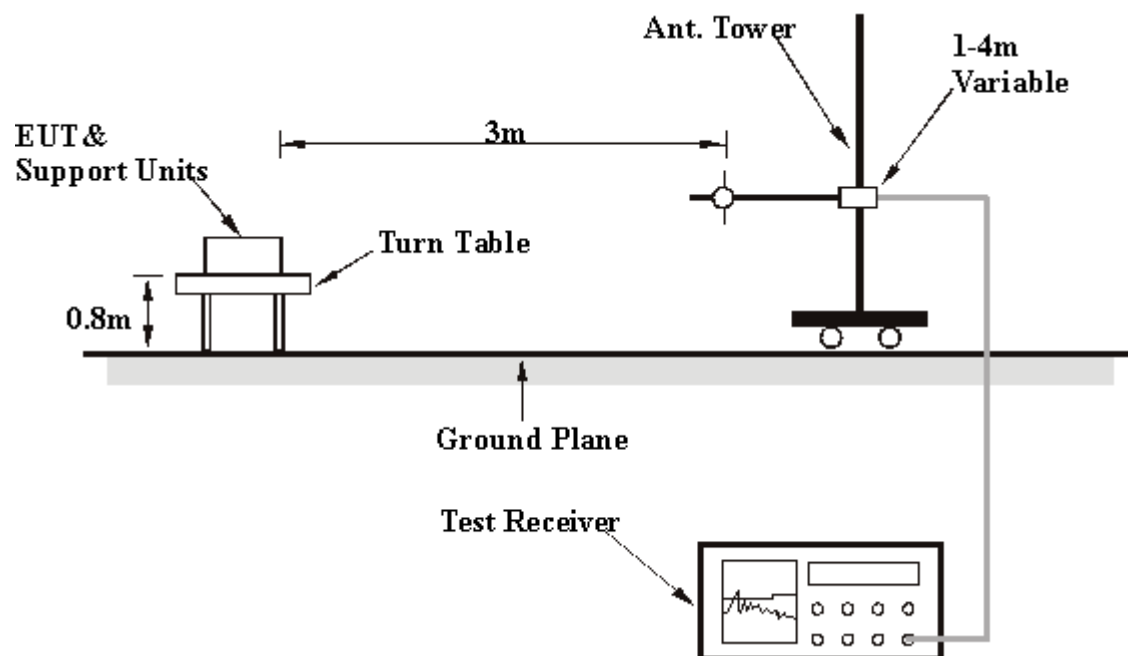
NOTE:

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 related item – Photographs of the Test Configuration.

4.2.6 EUT OPERATING CONDITIONS

Same as 4.1.6

4.2.7 TEST RESULTS

BELOW 1GHz WORST-CASE DATA 802.11g OFDM MODULATION – DUAL TX:

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	Below 1000MHz
MODULATION TYPE	BPSK for 802.11g	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TRANSFER RATE	6.0Mbps	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	26deg. C, 64% RH, 991hPa	TEST MODE	A
TESTED BY	Lori Chiu		

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	249.66	33.92 QP	46.00	-12.08	2.00 H	73	21.46	12.45
2	500.42	34.90 QP	46.00	-11.10	1.50 H	178	14.83	20.07
3	648.16	40.71 QP	46.00	-5.29	1.50 H	103	17.70	23.01
4	776.45	31.03 QP	46.00	-14.97	1.50 H	103	5.13	25.89
5	842.55	34.06 QP	46.00	-11.94	2.00 H	106	7.49	26.57
6	875.59	31.94 QP	46.00	-14.06	1.00 H	79	5.06	26.88

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	34.58 QP	40.00	-5.42	1.00 V	331	20.81	13.77
2	63.05	37.69 QP	40.00	-2.31	1.00 V	214	24.67	13.01
3	144.69	34.55 QP	43.50	-8.95	1.00 V	259	21.11	13.44
4	249.66	38.22 QP	46.00	-7.78	1.00 V	310	25.77	12.45
5	648.16	38.61 QP	46.00	-7.39	1.00 V	283	15.60	23.01
6	875.59	35.16 QP	46.00	-10.84	1.00 V	289	8.27	26.88

- 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.

DRAFT 802.11n (20MHz) OFDM MODULATION – DUAL TX:

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	Below 1000MHz
MODULATION TYPE	BPSK for draft 802.11n (20MHz)	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TRANSFER RATE	7.2Mbps	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	27deg. C, 66% RH, 991hPa	TEST MODE	A
TESTED BY	Lori Chiu		

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	199.18	33.02 QP	43.50	-10.48	1.00 H	242	22.13	10.89
2	249.57	39.79 QP	46.00	-6.21	1.00 H	187	27.34	12.45
3	648.10	42.27 QP	46.00	-3.73	1.00 H	201	19.26	23.01
4	720.16	32.58 QP	46.00	-13.42	1.00 H	345	7.78	24.80
5	751.07	34.64 QP	46.00	-11.36	1.50 H	288	8.86	25.78
6	875.62	34.80 QP	46.00	-11.20	1.00 H	183	7.92	26.88

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	33.91	32.34 QP	40.00	-7.66	1.50 V	225	19.50	12.84
2	117.40	33.47 QP	43.50	-10.03	1.00 V	134	22.90	10.57
3	154.39	37.01 QP	43.50	-6.49	1.00 V	328	23.59	13.42
4	249.59	43.10 QP	46.00	-2.90	1.00 V	22	30.65	12.45
5	648.24	40.78 QP	46.00	-5.22	1.50 V	281	17.77	23.01
6	751.22	36.83 QP	46.00	-9.17	1.00 V	24	11.05	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.

DRAFT 802.11n (40MHz) OFDM MODULATION – DUAL TX:

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	Below 1000MHz
MODULATION TYPE	BPSK for draft 802.11n (40MHz)	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TRANSFER RATE	15.0Mbps	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	27deg. C, 66% RH, 991hPa	TEST MODE	A
TESTED BY	Lori Chiu		

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	152.46	29.94 QP	43.50	-13.56	1.00 H	100	16.51	13.42
2	199.12	33.19 QP	43.50	-10.31	1.50 H	10	22.29	10.89
3	249.66	40.47 QP	46.00	-5.53	2.00 H	355	28.02	12.45
4	302.14	32.99 QP	46.00	-13.01	1.50 H	34	17.35	15.64
5	500.42	32.57 QP	46.00	-13.43	1.50 H	34	12.49	20.07
6	648.16	42.09 QP	46.00	-3.91	1.00 H	100	19.08	23.01
7	720.08	32.33 QP	46.00	-13.67	1.50 H	166	7.54	24.80
8	751.18	34.79 QP	46.00	-11.21	1.50 H	166	9.00	25.78
9	875.59	34.36 QP	46.00	-11.64	1.50 H	166	7.48	26.88

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	33.89	32.49 QP	40.00	-7.51	1.00 V	208	19.65	12.83
2	63.05	30.86 QP	40.00	-9.14	1.00 V	166	17.85	13.01
3	117.47	33.52 QP	43.50	-9.98	1.00 V	328	22.94	10.58
4	154.41	36.99 QP	43.50	-6.51	1.00 V	295	23.58	13.42
5	249.66	44.06 QP	46.00	-1.94	1.00 V	328	31.60	12.45
6	648.16	40.53 QP	46.00	-5.47	1.00 V	115	17.52	23.01
7	751.18	36.79 QP	46.00	-9.21	1.00 V	286	11.00	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.

802.11b DSSS MODULATION – SINGLE TX:

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
MODULATION TYPE	DBPSK	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TRANSFER RATE	1.0Mbps	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	27deg. C, 66% RH, 991hPa	TEST MODE	B
TESTED BY	Lori Chiu		

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	2386.00	57.18 PK	74.00	-16.82	1.38 H	142	25.81	31.37
1	2386.00	46.66 AV	54.00	-7.34	1.38 H	142	15.29	31.37
2	*2412.00	101.55 PK			1.34 H	152	70.09	31.46
2	*2412.00	97.81 AV			1.34 H	152	66.35	31.46
3	4824.00	50.16 PK	74.00	-23.84	1.10 H	57	13.03	37.13
3	4824.00	45.58 AV	54.00	-8.42	1.10 H	57	8.45	37.13
4	9648.00	56.56 PK	81.55	-24.99	1.06 H	137	8.99	47.57
4	9648.00	48.37 AV	77.81	-29.44	1.06 H	137	0.80	47.57

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	1090.00	41.23 PK	74.00	-32.77	1.21 V	264	14.06	27.17
1	1090.00	37.10 AV	54.00	-16.90	1.21 V	264	9.93	27.17
2	2386.00	61.63 PK	74.00	-12.37	1.08 V	52	30.26	31.37
2	2386.00	52.98 AV	54.00	-1.02	1.08 V	52	21.61	31.37
3	*2412.00	110.79 PK			1.32 V	109	79.33	31.46
3	*2412.00	107.28 AV			1.32 V	109	75.82	31.46
4	4824.00	54.23 PK	74.00	-19.77	1.08 V	111	17.10	37.13
4	4824.00	49.87 AV	54.00	-4.13	1.08 V	111	12.74	37.13
5	7236.00	54.29 PK	90.79	-36.50	1.06 V	143	9.75	44.54
5	7236.00	43.12 AV	87.28	-44.16	1.06 V	143	-1.42	44.54
6	9648.00	60.36 PK	90.79	-30.43	1.55 V	227	12.79	47.57
6	9648.00	55.75 AV	87.28	-31.53	1.55 V	227	8.18	47.57

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.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
MODULATION TYPE	DBPSK	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TRANSFER RATE	1.0Mbps	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	28deg. C, 72% RH, 991hPa	TEST MODE	B
TESTED BY	Lori Chiu		

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	101.92 PK			1.35 H	147	70.30	31.62
1	*2462.00	98.27 AV			1.35 H	147	66.65	31.62
2	2487.00	56.99 PK	74.00	-17.01	1.36 H	145	25.28	31.71
2	2487.00	46.36 AV	54.00	-7.64	1.36 H	145	14.65	31.71
3	4924.00	47.59 PK	74.00	-26.41	1.24 H	222	10.15	37.44
3	4924.00	38.24 AV	54.00	-15.76	1.24 H	222	0.80	37.44
4	9848.00	57.69 PK	81.92	-24.23	1.11 H	261	9.63	48.06
4	9848.00	49.31 AV	78.27	-28.96	1.11 H	261	1.25	48.06

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	1090.00	41.48 PK	74.00	-32.52	1.30 V	295	14.31	27.17
1	1090.00	37.09 AV	54.00	-16.91	1.30 V	295	9.92	27.17
2	*2462.00	111.69 PK			1.30 V	59	80.07	31.62
2	*2462.00	107.96 AV			1.30 V	59	76.34	31.62
3	2483.50	61.98 PK	74.00	-12.02	1.02 V	78	30.28	31.70
3	2483.50	52.72 AV	54.00	-1.28	1.02 V	78	21.02	31.70
4	4924.00	50.09 PK	74.00	-23.91	1.00 V	274	12.65	37.44
4	4924.00	42.72 AV	54.00	-11.28	1.00 V	274	5.28	37.44
5	7386.00	54.62 PK	74.00	-19.38	1.00 V	105	9.72	44.90
5	7386.00	44.04 AV	54.00	-9.96	1.00 V	105	-0.86	44.90
6	9848.00	61.70 PK	91.69	-29.99	1.43 V	122	13.64	48.06
6	9848.00	56.21 AV	87.96	-31.75	1.43 V	122	8.15	48.06

- 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.

802.11g OFDM MODULATION – DUAL TX:

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
MODULATION TYPE	BPSK	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TRANSFER RATE	6.0Mbps	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	27deg. C, 66% RH, 991hPa	TEST MODE	B
TESTED BY	Lori Chiu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	56.11 PK	74.00	-17.89	1.10 H	150	24.72	31.39
1	2390.00	46.97 AV	54.00	-7.03	1.10 H	150	15.58	31.39
2	*2412.00	100.42 PK			1.11 H	152	68.96	31.46
2	*2412.00	92.00 AV			1.11 H	152	60.54	31.46
3	4824.00	48.58 PK	74.00	-25.42	1.08 H	225	11.45	37.13
3	4824.00	34.64 AV	54.00	-19.36	1.08 H	225	-2.49	37.13

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	1090.00	41.86 PK	74.00	-32.14	1.40 V	199	14.69	27.17
1	1090.00	37.70 AV	54.00	-16.30	1.40 V	199	10.53	27.17
2	2390.00	69.45 PK	74.00	-4.55	1.04 V	95	38.06	31.39
2	2390.00	52.57 AV	54.00	-1.43	1.04 V	95	21.18	31.39
3	*2412.00	111.64 PK			1.04 V	77	80.18	31.46
3	*2412.00	102.36 AV			1.04 V	77	70.90	31.46
4	4824.00	52.65 PK	74.00	-21.35	1.22 V	243	15.52	37.13
4	4824.00	38.08 AV	54.00	-15.92	1.22 V	243	0.95	37.13

- 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.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
MODULATION TYPE	BPSK	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TRANSFER RATE	6.0Mbps	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	27deg. C, 66% RH, 991hPa	TEST MODE	B
TESTED BY	Lori Chiu		

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	100.96 PK			1.02 H	146	69.34	31.62
1	*2462.00	92.05 AV			1.02 H	146	60.43	31.62
2	2483.50	56.31 PK	74.00	-17.69	1.02 H	171	24.61	31.70
2	2483.50	46.03 AV	54.00	-7.97	1.02 H	171	14.33	31.70
3	4924.00	48.13 PK	74.00	-25.87	1.00 H	66	10.69	37.44
3	4924.00	34.08 AV	54.00	-19.92	1.00 H	66	-3.36	37.44

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	1090.00	42.05 PK	74.00	-31.95	1.28 V	206	14.88	27.17
1	1090.00	38.11 AV	54.00	-15.89	1.28 V	206	10.94	27.17
2	*2462.00	111.77 PK			1.15 V	266	80.15	31.62
2	*2462.00	102.69 AV			1.15 V	266	71.07	31.62
3	2483.50	69.35 PK	74.00	-4.65	1.41 V	254	37.65	31.70
3	2483.50	52.04 AV	54.00	-1.96	1.41 V	254	20.34	31.70
4	4924.00	52.44 PK	74.00	-21.56	1.16 V	157	15.00	37.44
4	4924.00	38.86 AV	54.00	-15.14	1.16 V	157	1.42	37.44
5	7386.00	60.06 PK	74.00	-13.94	1.38 V	225	15.16	44.90
5	7386.00	45.88 AV	54.00	-8.12	1.38 V	225	0.98	44.90

- 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.

DRAFT 802.11n (20MHz) OFDM MODULATION – DUAL TX:

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
MODULATION TYPE	BPSK	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TRANSFER RATE	7.2Mbps	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	27deg. C, 66% RH, 991hPa	TEST MODE	B
TESTED BY	Lori Chiu		

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	57.36 PK	74.00	-16.64	1.31 H	136	25.97	31.39
1	2390.00	45.61 AV	54.00	-8.39	1.31 H	136	14.22	31.39
2	*2412.00	102.63 PK			1.30 H	129	71.17	31.46
2	*2412.00	93.01 AV			1.30 H	129	61.55	31.46
3	4824.00	47.16 PK	74.00	-26.84	1.45 H	221	10.03	37.13
3	4824.00	34.52 AV	54.00	-19.48	1.45 H	221	-2.61	37.13

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	1090.00	42.70 PK	74.00	-31.30	1.16 V	265	15.53	27.17
1	1090.00	38.52 AV	54.00	-15.48	1.16 V	265	11.35	27.17
2	2288.00	58.20 PK	74.00	-15.80	1.11 V	95	27.16	31.04
2	2288.00	48.69 AV	54.00	-5.31	1.11 V	95	17.65	31.04
3	2390.00	70.22 PK	74.00	-3.78	1.06 V	101	38.83	31.39
3	2390.00	52.35 AV	54.00	-1.65	1.06 V	101	20.96	31.39
4	*2412.00	113.36 PK			1.04 V	93	81.90	31.46
4	*2412.00	103.21 AV			1.04 V	93	71.75	31.46
5	4824.00	51.75 PK	74.00	-22.25	1.35 V	170	14.62	37.13
5	4824.00	38.11 AV	54.00	-15.89	1.35 V	170	0.98	37.13

- 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.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
MODULATION TYPE	BPSK	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TRANSFER RATE	7.2Mbps	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	27deg. C, 66% RH, 991hPa	TEST MODE	B
TESTED BY	Lori Chiu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	102.87 PK			1.28 H	155	71.25	31.62
1	*2462.00	93.24 AV			1.28 H	155	61.62	31.62
2	2483.50	57.60 PK	74.00	-16.40	1.29 H	155	25.90	31.70
2	2483.50	46.35 AV	54.00	-7.65	1.29 H	155	14.65	31.70
3	4924.00	47.80 PK	74.00	-26.20	1.39 H	34	10.36	37.44
3	4924.00	34.44 AV	54.00	-19.56	1.39 H	34	-3.00	37.44

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	1090.00	41.85 PK	74.00	-32.15	1.25 V	245	14.68	27.17
1	1090.00	38.63 AV	54.00	-15.37	1.25 V	245	11.46	27.17
2	2288.00	60.02 PK	74.00	-13.98	1.12 V	100	28.98	31.04
2	2288.00	48.54 AV	54.00	-5.46	1.12 V	100	17.50	31.04
3	*2462.00	113.66 PK			1.00 V	69	82.04	31.62
3	*2462.00	103.35 AV			1.00 V	69	71.73	31.62
4	2483.50	71.85 PK	74.00	-2.15	1.02 V	75	40.15	31.70
4	2483.50	52.27 AV	54.00	-1.73	1.02 V	75	20.57	31.70
5	4924.00	51.82 PK	74.00	-22.18	1.54 V	215	14.38	37.44
5	4924.00	38.25 AV	54.00	-15.75	1.54 V	215	0.81	37.44

- 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.

DRAFT 802.11n (40MHz) OFDM MODULATION – DUAL TX:

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
MODULATION TYPE	BPSK	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TRANSFER RATE	15.0Mbps	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	27deg. C, 66% RH, 991hPa	TEST MODE	B
TESTED BY	Lori Chiu		

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	59.42 PK	74.00	-14.58	1.29 H	256	28.03	31.39
1	2390.00	46.50 AV	54.00	-7.50	1.29 H	256	15.11	31.39
2	*2422.00	94.86 PK			1.28 H	255	63.37	31.49
2	*2422.00	86.79 AV			1.28 H	255	55.30	31.49
3	4844.00	47.58 PK	74.00	-26.42	1.00 H	68	10.39	37.19
3	4844.00	33.60 AV	54.00	-20.40	1.00 H	68	-3.59	37.19

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	1090.00	40.01 PK	74.00	-33.99	1.56 V	327	12.84	27.17
1	1090.00	36.27 AV	54.00	-17.73	1.56 V	327	9.10	27.17
2	2390.00	70.09 PK	74.00	-3.91	1.30 V	231	38.70	31.39
2	2390.00	52.03 AV	54.00	-1.97	1.30 V	231	20.64	31.39
3	*2422.00	107.24 PK			1.30 V	234	75.75	31.49
3	*2422.00	97.98 AV			1.30 V	234	66.49	31.49
4	4844.00	48.12 PK	74.00	-25.88	1.32 V	160	10.93	37.19
4	4844.00	34.87 AV	54.00	-19.13	1.32 V	160	-2.32	37.19

- 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.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 7	FREQUENCY RANGE	1 ~ 25GHz
MODULATION TYPE	BPSK	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TRANSFER RATE	15.0Mbps	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	27deg. C, 66% RH, 991hPa	TEST MODE	B
TESTED BY	Lori Chiu		

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	*2452.00	95.46 PK			1.30 H	285	63.87	31.59
1	*2452.00	87.28 AV			1.30 H	285	55.69	31.59
2	2483.50	59.94 PK	74.00	-14.06	1.30 H	288	28.24	31.70
2	2483.50	46.78 AV	54.00	-7.22	1.30 H	288	15.08	31.70
3	4904.00	47.21 PK	74.00	-26.79	1.33 H	20	9.83	37.38
3	4904.00	33.13 AV	54.00	-20.87	1.33 H	20	-4.25	37.38

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	1090.00	40.24 PK	74.00	-33.76	1.41 V	230	13.07	27.17
1	1090.00	36.58 AV	54.00	-17.42	1.41 V	230	9.41	27.17
2	*2452.00	108.08 PK			1.29 V	255	76.49	31.59
2	*2452.00	98.96 AV			1.29 V	255	67.37	31.59
3	2483.50	72.24 PK	74.00	-1.76	1.30 V	259	40.54	31.70
3	2483.50	52.68 AV	54.00	-1.32	1.30 V	259	20.98	31.70
4	4904.00	48.02 PK	74.00	-25.98	1.28 V	257	10.64	37.38
4	4904.00	34.91 AV	54.00	-19.09	1.28 V	257	-2.47	37.38

- 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.

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, DGT
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

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Hwa Ya EMC/RF/Safety Telecom Lab:

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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.