



FCC TEST REPORT

REPORT NO.: RF951220L06

MODEL NO.: F5D8001 v3000

RECEIVED: Dec. 20, 2006

TESTED: Jan. 18 ~ Feb. 12, 2007

ISSUED: Feb. 13, 2007

APPLICANT: Belkin International, Inc.

ADDRESS: 501 West Walnut Street, Compton,
CA 90220-5221

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.

This test report consists of 104 pages in total. It may be duplicated completely for legal use with the approval of the applicant. It should not be reproduced except in full, without the written approval of our laboratory. The client should not use it to claim product endorsement by CNLA, A2LA or any government agencies. The test results in the report only apply to the tested sample.





TABLE OF CONTENTS

1.	CERTIFICATION	4
2.	SUMMARY OF TEST RESULTS	5
2.1	MEASUREMENT UNCERTAINTY	5
3.	GENERAL INFORMATION	6
3.1	GENERAL DESCRIPTION OF EUT	6
3.2	DESCRIPTION OF TEST MODES	7
3.2.1	CONFIGURATION OF SYSTEM UNDER TEST	7
3.2.2	TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL	8
3.3	GENERAL DESCRIPTION OF APPLIED STANDARDS	10
3.4	DESCRIPTION OF SUPPORT UNITS	10
4.	TEST TYPES AND RESULTS	11
4.1	CONDUCTED EMISSION MEASUREMENT	11
4.1.1	LIMITS OF CONDUCTED EMISSION MEASUREMENT	11
4.1.2	TEST INSTRUMENTS	11
4.1.3	TEST PROCEDURES	12
4.1.4	DEVIATION FROM TEST STANDARD	12
4.1.5	TEST SETUP	13
4.1.6	EUT OPERATING CONDITIONS	13
4.1.7	TEST RESULTS	14
4.2	RADIATED EMISSION MEASUREMENT	32
4.2.1	LIMITS OF RADIATED EMISSION MEASUREMENT	32
4.2.2	TEST INSTRUMENTS	33
4.2.3	TEST PROCEDURES	34
4.2.4	DEVIATION FROM TEST STANDARD	34
4.2.5	TEST SETUP	35
4.2.6	EUT OPERATING CONDITIONS	35
4.2.7	TEST RESULTS	36
4.3	6dB BANDWIDTH MEASUREMENT	51
4.3.1	LIMITS OF 6dB BANDWIDTH MEASUREMENT	51
4.3.2	TEST INSTRUMENTS	51
4.3.3	TEST PROCEDURE	51
4.3.4	DEVIATION FROM TEST STANDARD	51
4.3.5	TEST SETUP	52
4.3.6	EUT OPERATING CONDITIONS	52
4.3.7	TEST RESULTS	53
4.4	MAXIMUM PEAK OUTPUT POWER	65
4.4.1	LIMITS OF MAXIMUM PEAK OUTPUT POWER MEASUREMENT	65
4.4.2	INSTRUMENTS	65
4.4.3	TEST PROCEDURES	65
4.4.4	DEVIATION FROM TEST STANDARD	65
4.4.5	TEST SETUP	66
4.4.6	EUT OPERATING CONDITIONS	66



4.4.7	TEST RESULTS	67
4.5	POWER SPECTRAL DENSITY MEASUREMENT	69
4.5.1	LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT	69
4.5.2	TEST INSTRUMENTS	69
4.5.3	TEST PROCEDURE	69
4.5.4	DEVIATION FROM TEST STANDARD	69
4.5.5	TEST SETUP	70
4.5.6	EUT OPERATING CONDITION	70
4.5.7	TEST RESULTS	71
4.6	BAND EDGES MEASUREMENT	83
4.6.1	LIMITS OF BAND EDGES MEASUREMENT	83
4.6.2	TEST INSTRUMENTS	83
4.6.3	TEST PROCEDURE	84
4.6.4	DEVIATION FROM TEST STANDARD	84
4.6.5	EUT OPERATING CONDITION	85
4.6.6	TEST RESULTS	85
4.7	ANTENNA REQUIREMENT	101
4.7.1	STANDARD APPLICABLE	101
4.7.2	ANTENNA CONNECTED CONSTRUCTION.....	101
5.	PHOTOGRAPHS OF THE TEST CONFIGURATION	102
6.	INFORMATION ON THE TESTING LABORATORIES	103
APPENDIX-A	A-1



1. CERTIFICATION

PRODUCT: N1 Wireless Desktop Card
MODEL: F5D8001 v3000
BRAND: Belkin
APPLICANT: Belkin International, Inc.
TESTED: Jan. 18 ~ Feb. 12, 2007
TEST SAMPLE: ENGINEERING SAMPLE
STANDARDS: **FCC Part 15, Subpart C (Section 15.247),**
ANSI C63.4-2003

The above equipment (Model No.: F5D8001 v3000) 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 : Wendy Liao , **DATE:** Feb. 13, 2007
(Wendy Liao)

TECHNICAL
ACCEPTANCE : Long Chen , **DATE:** Feb. 13, 2007
Responsible for RF (Long Chen)

APPROVED BY : Gary Chang , **DATE:** Feb. 13, 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 -1.47dB at 0.259MHz.
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 -1.14dB at 2488.00MHz.
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	2.44 dB
Radiated emissions	30MHz ~ 200MHz	3.59 dB
	200MHz ~ 1000MHz	3.61 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	N1 Wireless Desktop Card
MODEL NO.	F5D8001 v3000
FCC ID	K7SF5D8001C
POWER SUPPLY	3.3Vdc from host equipment
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 Draft 802.11n (20MHz): 144.444/ 130.000/ 115.556/ 86.667/ 57.778/ 43.333/ 28.889/ 14.444/ 72.2/ 65.0/ 57.8/ 43.3/ 28.9/ 21.7/ 14.4/ 7.2Mbps Draft 802.11n (40MHz): 300/ 270/ 240/ 180/ 120/ 90/ 60/ 30/ 150/ 135/ 120/ 90/ 60/ 45/ 30/ 15Mbps
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	101.049mW
ANTENNA TYPE	Dipole antenna with 0.3dBi gain
DATA CABLE	NA
I/O PORTS	NA

NOTE:

1. The EUT incorporates a MIMO function with 802.11b, 802.11g, draft 802.11n. Physically, the card provides two completed transmitters and three receivers.
2. The EUT is 2 * 3 spatial MIMO (2Tx & 3Rx) without beam forming function that only operate dual chain configuration (both chain 0 and chain 1 transceivers are operational).
3. When the EUT operating in 802.11b, 802.11g, the software operation, which is defined by manufacturer, only set single Tx.
4. 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.
5. The EUT complies with draft 802.11n standards and backwards compatible with 802.11b, 802.11g products.
6. The EUT operates in the 2.4GHz frequency spectrum with throughput of up to 300Mbps.
7. 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

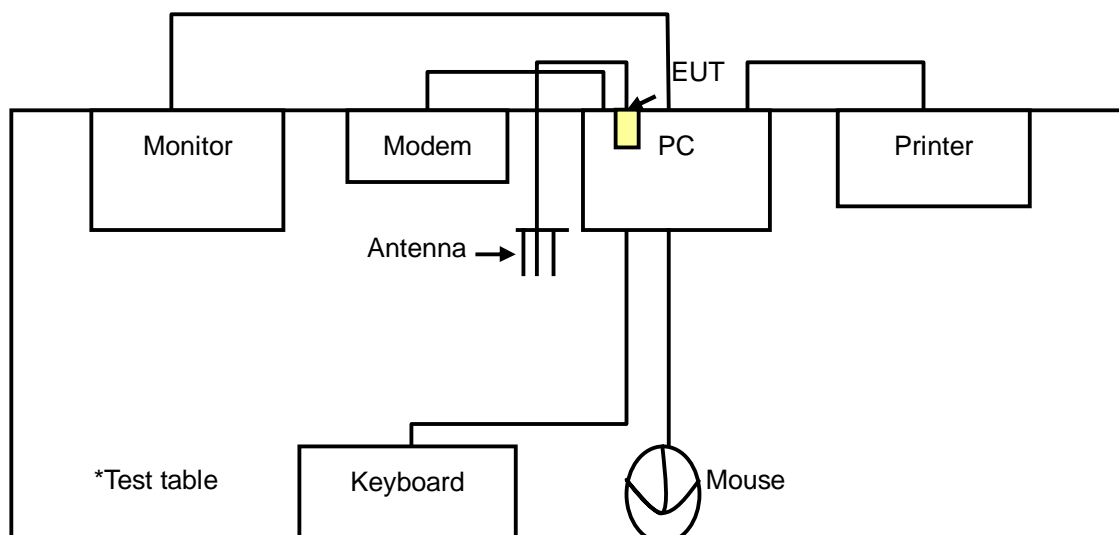
Eleven channels are provided for 802.11b, 802.11g and draft 802.11n (20MHz):

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



3.2.2 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	PLC	RE < 1G	RE ≥ 1G	APCM	
-	√	√	√	√	-

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

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.

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)	TX CONDITION
802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6.0	Single
Draft 802.11n (20MHz)	1 to 11	1, 6, 11	OFDM	BPSK	7.2	Dual
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.

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)	TX CONDITION
802.11g	1 to 11	1	OFDM	BPSK	6.0	Single
Draft 802.11n (20MHz)	1 to 11	1	OFDM	BPSK	7.2	Dual
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.

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)	TX CONDITION
802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1.0	Single
802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6.0	Single
Draft 802.11n (20MHz)	1 to 11	1, 6, 11	OFDM	BPSK	7.2	Dual
Draft 802.11n (40MHz)	1 to 7	1, 4, 7	OFDM	BPSK	15.0	Dual

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.

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)	TX CONDITION
802.11b	1 to 11	1, 11	DSSS	DBPSK	1.0	Single
802.11g	1 to 11	1, 11	OFDM	BPSK	6.0	Single
Draft 802.11n (20MHz)	1 to 11	1, 11	OFDM	BPSK	7.2	Dual
Draft 802.11n (40MHz)	1 to 7	1, 7	OFDM	BPSK	15.0	Dual

ANTENNA PORT CONDUCTED MEASUREMENT:

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

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)	TX CONDITION
802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1.0	Single
802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6.0	Single
Draft 802.11n (20MHz)	1 to 11	1, 6, 11	OFDM	BPSK	7.2	Dual
Draft 802.11n (40MHz)	1 to 7	1, 4, 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	PC	MSI	Hetis 865G	380125734	FCC DoC Approved
2	LCD MONITOR	ACER	AL1721	ET.L0408.0104 04001F9PK00	FCC DoC Approved
3	MODEM	ACEEX	1414V/3	0401008260	IFAXDM1414
4	PRINTER	EPSON	LQ-300+	DCGY054146	FCC DoC Approved
5	KEYBOARD	DELL	SK-8115	MY-OJ4635-71 619-548-0465	FCC DoC Approved
6	MOUSE	DELL	MO56UO	513021799	FCC DoC Approved

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	NA
2	1.8m shielded cable
3	1.2m shielded cable
4	1.2m shielded cable
5	2m shielded cable
6	1.8m USB shielded cable

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



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. 16, 2008
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.

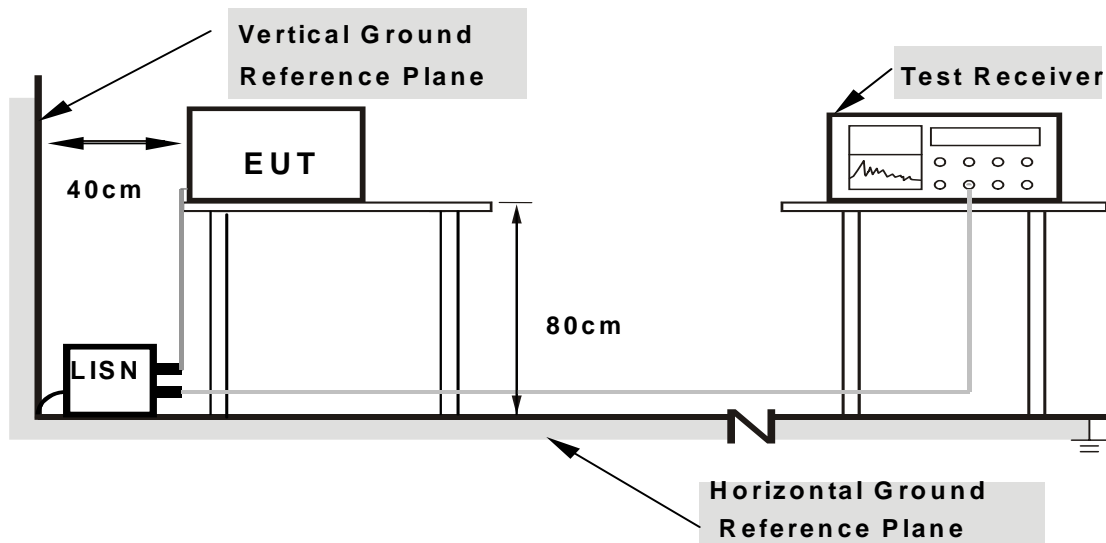
4.1.3 TEST PROCEDURES

- 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. Plugged the EUT to PC system and placed on a testing table.
- b. The PC system ran a test program (provided by manufacturer) to enable EUT under transmission/receiving condition continuously at specific channel frequency.
- c. The necessary accessories enable the system in full functions.

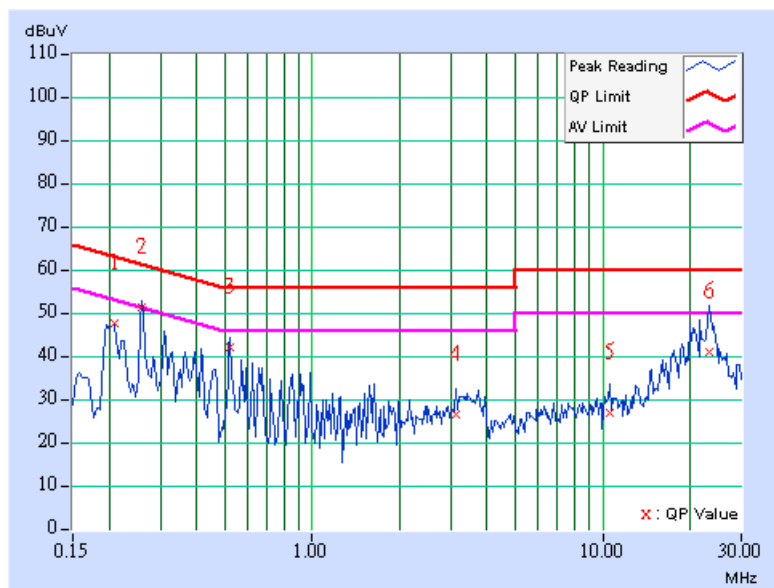
4.1.7 TEST RESULTS

CONDUCTED WORST-CASE DATA: 802.11g OFDM MODULATION: SINGLE 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	22deg. C, 60%RH, 991hPa	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	0.209	0.10	47.11	-	47.21	-	63.26
2	0.259	0.10	50.79	-	50.89	-	61.45	51.45	-10.56	-
3	0.521	0.10	41.49	-	41.59	-	56.00	46.00	-14.41	-
4	3.145	0.25	25.79	-	26.04	-	56.00	46.00	-29.96	-
5	10.560	0.35	26.32	-	26.67	-	60.00	50.00	-33.33	-
6	23.227	0.73	40.46	-	41.19	-	60.00	50.00	-18.81	-

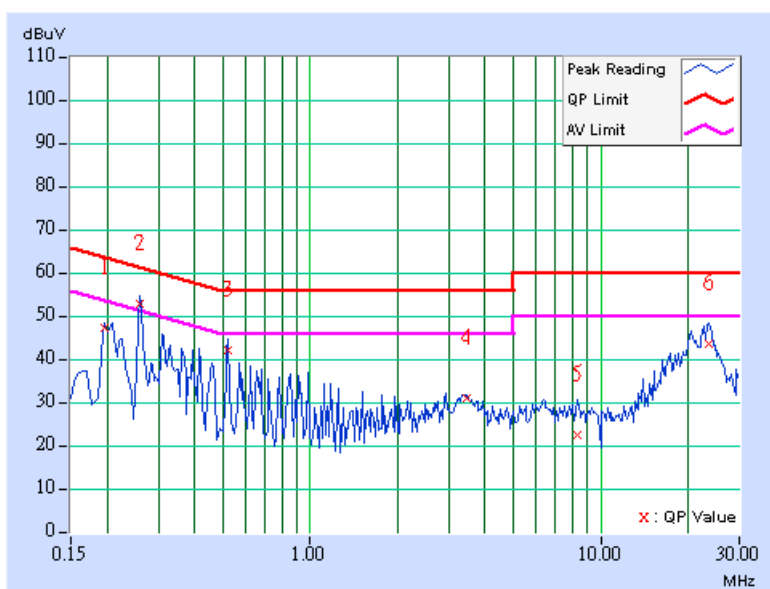
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = 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	22deg. C, 60%RH, 991hPa	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	0.197	0.10	46.59	-	46.69	-	63.74	53.74	-17.05	-
2	0.259	0.10	52.41	49.72	52.51	49.82	61.45	51.45	-8.94	-1.63
3	0.521	0.12	41.57	-	41.69	-	56.00	46.00	-14.31	-
4	3.477	0.26	30.47	-	30.73	-	56.00	46.00	-25.27	-
5	8.316	0.39	21.94	-	22.33	-	60.00	50.00	-37.67	-
6	23.660	0.68	43.00	-	43.68	-	60.00	50.00	-16.32	-

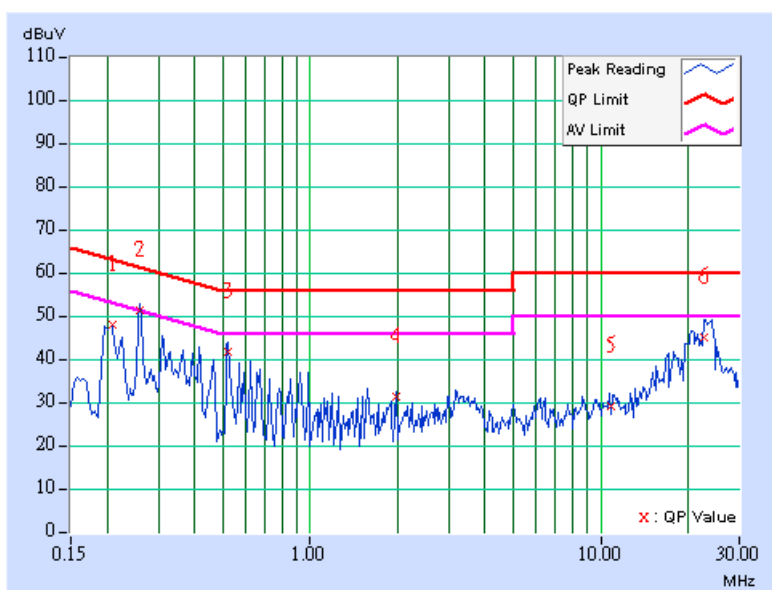
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = 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	6.0Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	22deg. C, 60%RH, 991hPa	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	0.209	0.10	47.35	-	47.45	-	63.26	53.26	-15.81	-
2	0.259	0.10	50.95	-	51.05	-	61.45	51.45	-10.40	-
3	0.521	0.10	41.14	-	41.24	-	56.00	46.00	-14.76	-
4	1.973	0.22	30.83	-	31.05	-	56.00	46.00	-24.95	-
5	10.790	0.35	28.39	-	28.74	-	60.00	50.00	-31.26	-
6	22.570	0.70	44.61	-	45.31	-	60.00	50.00	-14.69	-

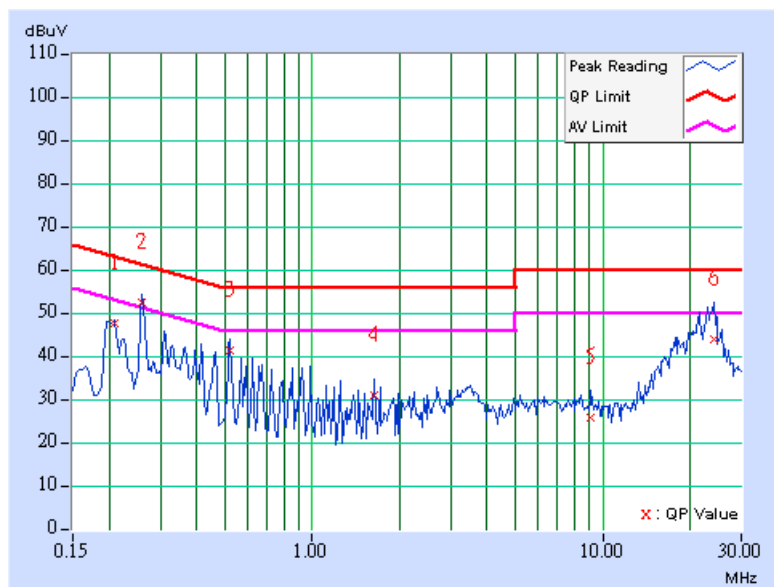
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = 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	6.0Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	22deg. C, 60%RH, 991hPa	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	0.209	0.10	47.19	-	47.29	-	63.26	53.26	-15.97	-
2	0.259	0.10	51.75	48.43	51.85	48.53	61.45	51.45	-9.60	-2.92
3	0.521	0.12	40.96	-	41.08	-	56.00	46.00	-14.92	-
4	1.645	0.22	30.31	-	30.53	-	56.00	46.00	-25.47	-
5	9.141	0.41	25.12	-	25.53	-	60.00	50.00	-34.47	-
6	24.074	0.69	43.54	-	44.23	-	60.00	50.00	-15.77	-

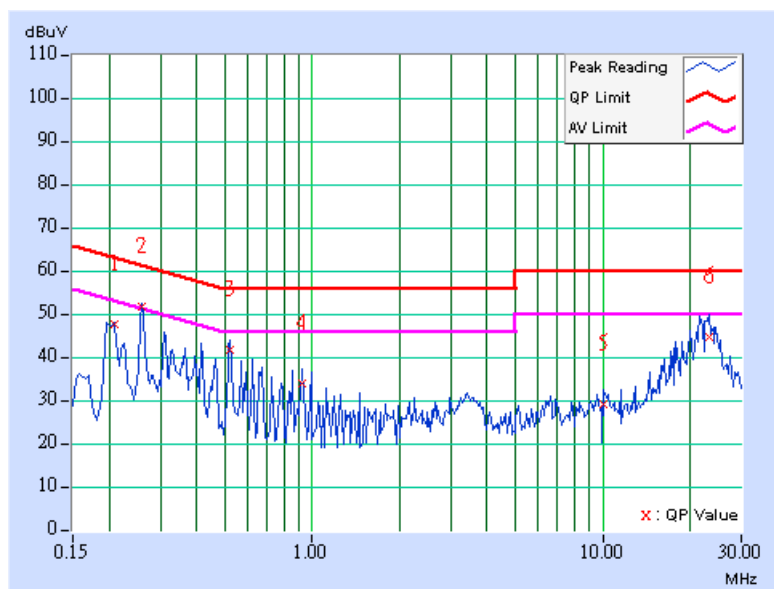
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = 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	6.0Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	22deg. C, 60%RH, 991hPa	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	0.209	0.10	47.23	-	47.33	-	63.26	53.26	-15.93	-
2	0.259	0.10	51.01	-	51.11	-	61.45	51.45	-10.34	-
3	0.521	0.10	41.22	-	41.32	-	56.00	46.00	-14.68	-
4	0.923	0.11	33.43	-	33.54	-	56.00	46.00	-22.46	-
5	10.070	0.33	28.47	-	28.80	-	60.00	50.00	-31.20	-
6	23.242	0.73	44.00	-	44.73	-	60.00	50.00	-15.27	-

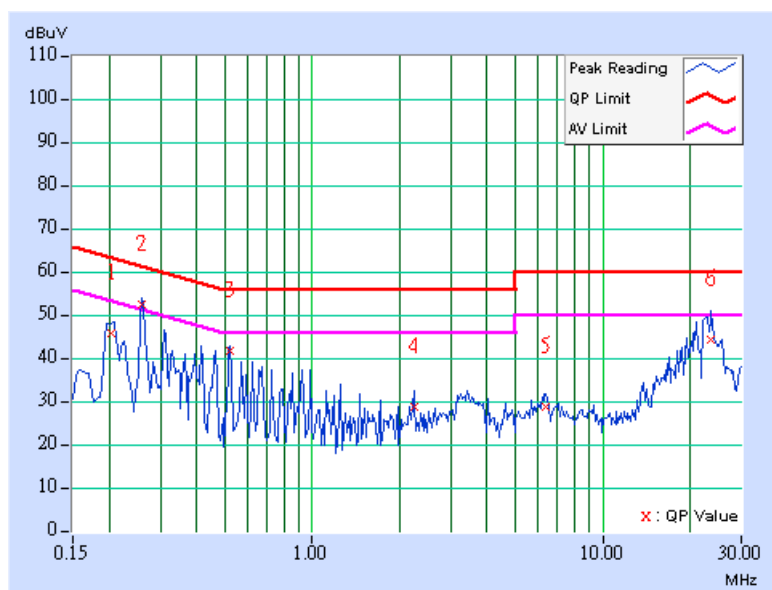
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = 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	22deg. C, 60%RH, 991hPa	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	0.205	0.10	45.36	-	45.46	-	63.42	53.42	-17.96	-
2	0.259	0.10	51.77	49.56	51.87	49.66	61.45	51.45	-9.58	-1.79
3	0.521	0.12	41.02	-	41.14	-	56.00	46.00	-14.86	-
4	2.234	0.23	28.17	-	28.40	-	56.00	46.00	-27.60	-
5	6.383	0.34	28.24	-	28.58	-	60.00	50.00	-31.42	-
6	23.695	0.68	43.91	-	44.59	-	60.00	50.00	-15.41	-

- 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.

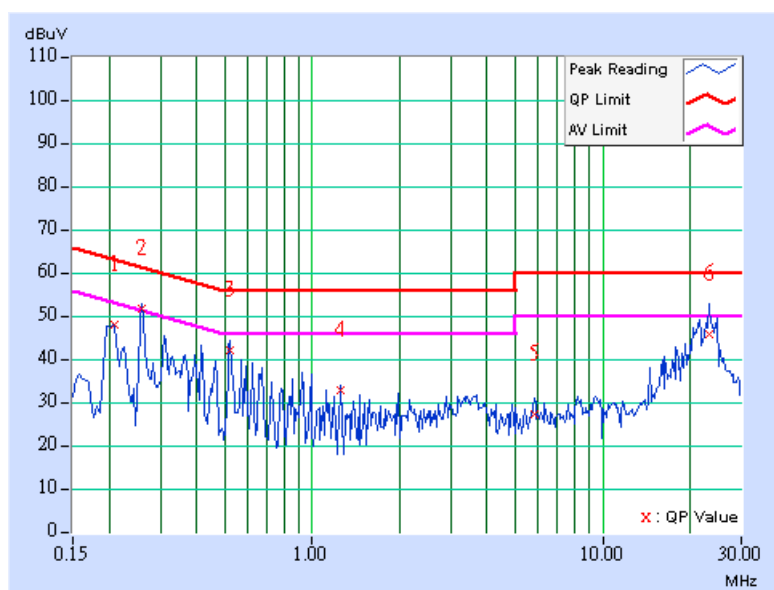


DRAFT 802.11n (20MHz) OFDM MODULATION: DUAL TX

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	22deg. C, 60%RH, 991hPa	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	0.209	0.10	47.35	-	47.45	-	63.26	53.26	-15.81	-
2	0.259	0.10	51.01	-	51.11	-	61.45	51.45	-10.34	-
3	0.521	0.10	41.41	-	41.51	-	56.00	46.00	-14.49	-
4	1.250	0.14	32.15	-	32.29	-	56.00	46.00	-23.71	-
5	5.797	0.29	26.64	-	26.93	-	60.00	50.00	-33.07	-
6	23.315	0.74	45.01	-	45.75	-	60.00	50.00	-14.25	-

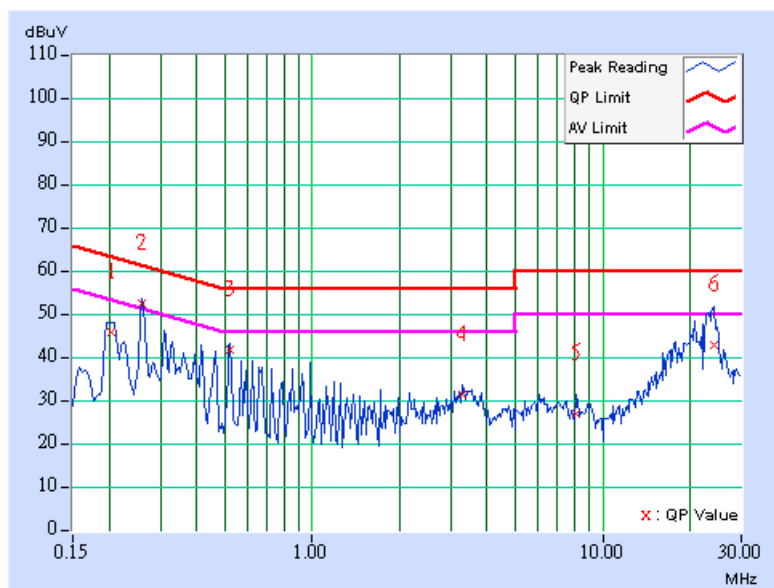
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = 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	22deg. C, 60%RH, 991hPa	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	0.205	0.10	45.34	-	45.44	-	63.42
2	0.259	0.10	51.85	49.67	51.95	49.77	61.45	51.45	-9.50	-1.68
3	0.521	0.12	41.16	-	41.28	-	56.00	46.00	-14.72	-
4	3.293	0.26	30.72	-	30.98	-	56.00	46.00	-25.02	-
5	8.098	0.38	26.44	-	26.82	-	60.00	50.00	-33.18	-
6	24.035	0.69	42.44	-	43.13	-	60.00	50.00	-16.87	-

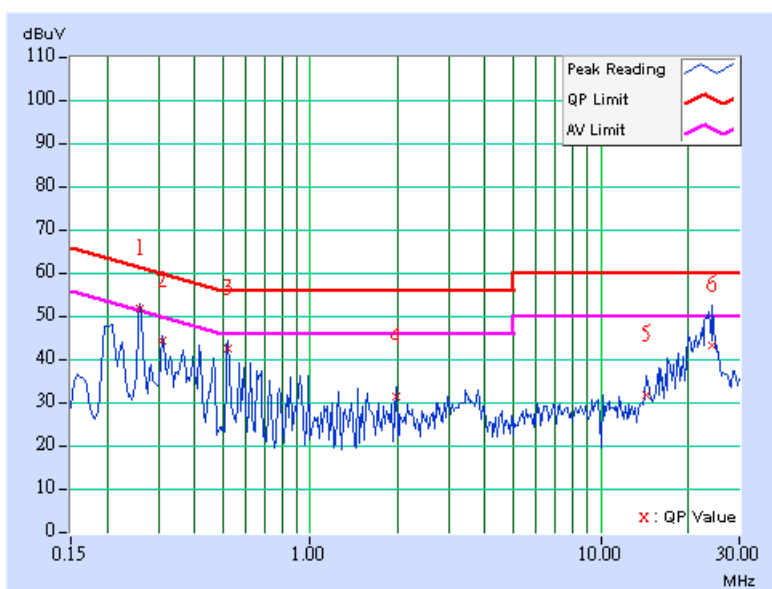
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = 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	22deg. C, 60%RH, 991hPa	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	0.259	0.10	51.21	-	51.31	-	61.45	51.45	-10.14	-
2	0.310	0.10	43.48	-	43.58	-	59.97	49.97	-16.39	-
3	0.521	0.10	41.66	-	41.76	-	56.00	46.00	-14.24	-
4	1.977	0.22	30.60	-	30.82	-	56.00	46.00	-25.18	-
5	14.367	0.46	31.10	-	31.56	-	60.00	50.00	-28.44	-
6	24.311	0.79	42.41	-	43.20	-	60.00	50.00	-16.80	-

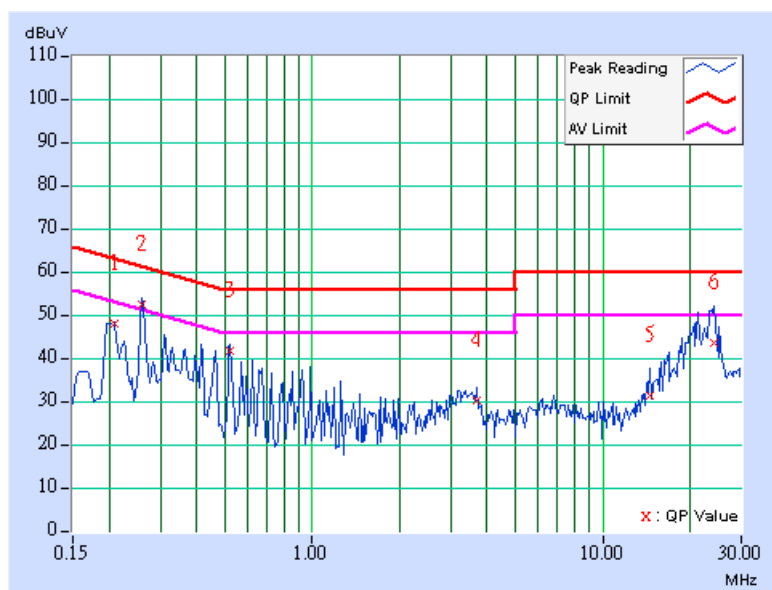
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = 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 6	PHASE	Line 2
MODULATION TYPE	BPSK	6dB BANDWIDTH	9 kHz
TRANSFER RATE	7.2Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	22deg. C, 60%RH, 991hPa	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	0.209	0.10	47.41	-	47.51	-	63.26	53.26	-15.75	-
2	0.259	0.10	51.81	49.78	51.91	49.88	61.45	51.45	-9.54	-1.57
3	0.521	0.12	41.29	-	41.41	-	56.00	46.00	-14.59	-
4	3.688	0.27	29.85	-	30.12	-	56.00	46.00	-25.88	-
5	14.629	0.48	30.92	-	31.40	-	60.00	50.00	-28.60	-
6	24.184	0.70	43.00	-	43.70	-	60.00	50.00	-16.30	-

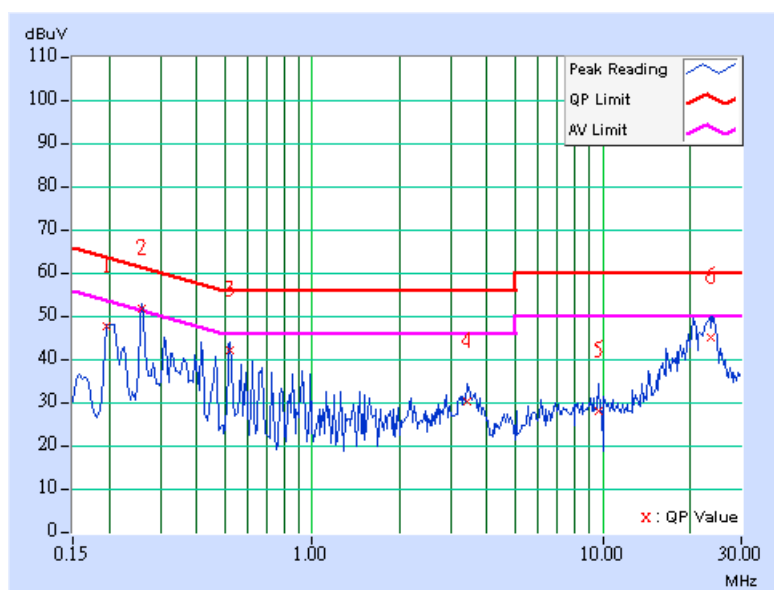
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = 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	22deg. C, 60%RH, 991hPa	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	0.197	0.10	47.09	-	47.19	-	63.74	53.74	-16.55	-
2	0.259	0.10	51.05	-	51.15	-	61.45	51.45	-10.30	-
3	0.521	0.10	41.37	-	41.47	-	56.00	46.00	-14.53	-
4	3.430	0.26	29.61	-	29.87	-	56.00	46.00	-26.13	-
5	9.690	0.33	27.31	-	27.64	-	60.00	50.00	-32.36	-
6	23.602	0.75	44.30	-	45.05	-	60.00	50.00	-14.95	-

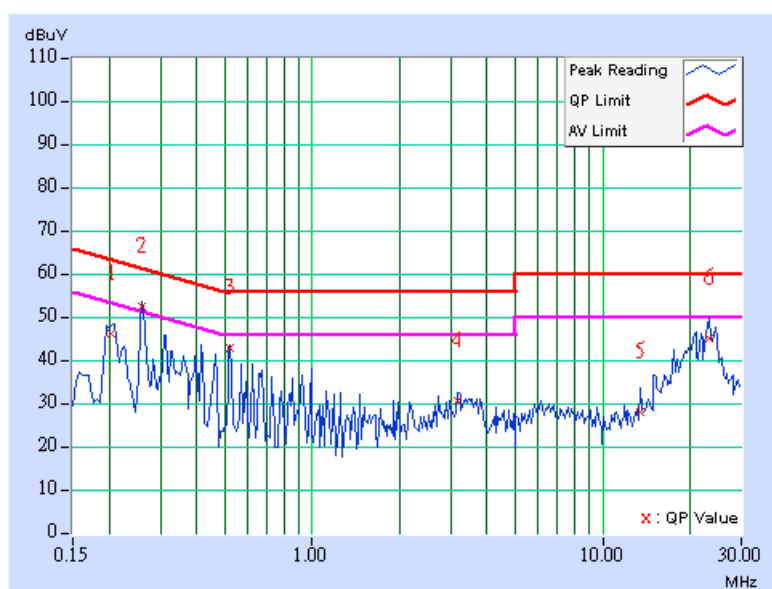
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = 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	22deg. C, 60%RH, 991hPa	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	0.205	0.10	45.52	-	45.62	-	63.42	53.42	-17.80	-
2	0.259	0.10	51.85	49.83	51.95	49.93	61.45	51.45	-9.50	-1.52
3	0.521	0.12	42.16	-	42.28	-	56.00	46.00	-13.72	-
4	3.164	0.25	29.93	-	30.18	-	56.00	46.00	-25.82	-
5	13.508	0.47	27.49	-	27.96	-	60.00	50.00	-32.04	-
6	23.133	0.66	44.62	-	45.28	-	60.00	50.00	-14.72	-

- 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.

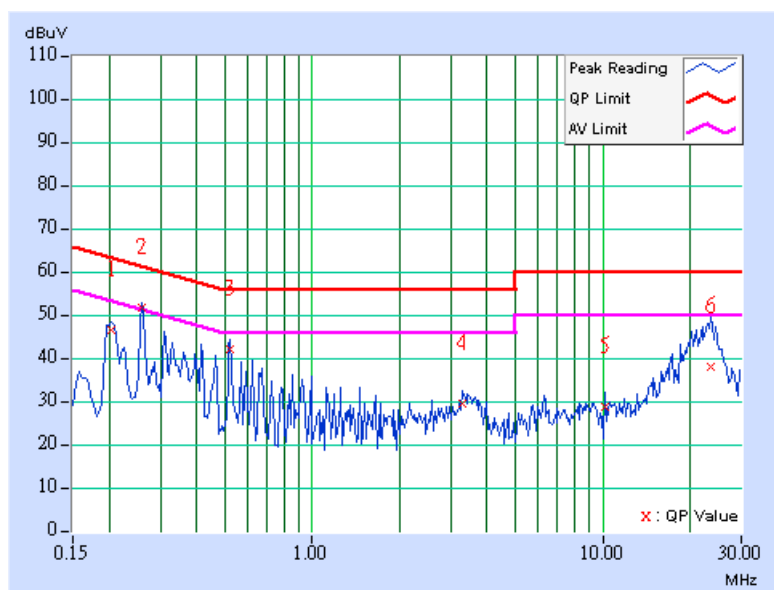


DRAFT 802.11n (40MHz) OFDM MODULATION: DUAL TX

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	22deg. C, 60%RH, 991hPa	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	0.205	0.10	45.80	-	45.90	-	63.42	53.42	-17.52	-
2	0.259	0.10	50.99	-	51.09	-	61.45	51.45	-10.36	-
3	0.521	0.10	41.45	-	41.55	-	56.00	46.00	-14.45	-
	3.301	0.26	28.73	-	28.99	-	56.00	46.00	-27.01	-
5	10.223	0.34	28.27	-	28.61	-	60.00	50.00	-31.39	-
6	23.523	0.75	37.36	-	38.11	-	60.00	50.00	-21.89	-

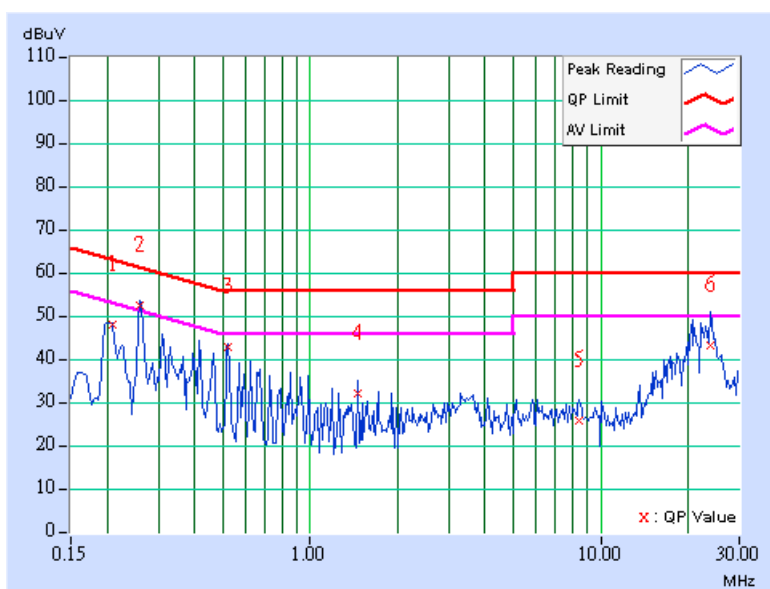
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = 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	22deg. C, 60%RH, 991hPa	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	0.209	0.10	47.54	-	47.64	-	63.26	53.26	-15.62	-
2	0.259	0.10	51.81	49.88	51.91	49.98	61.45	51.45	-9.54	-1.47
3	0.521	0.12	42.24	-	42.36	-	56.00	46.00	-13.64	-
4	1.449	0.21	31.59	-	31.80	-	56.00	46.00	-24.20	-
5	8.438	0.39	25.10	-	25.49	-	60.00	50.00	-34.51	-
6	23.730	0.68	42.73	-	43.41	-	60.00	50.00	-16.59	-

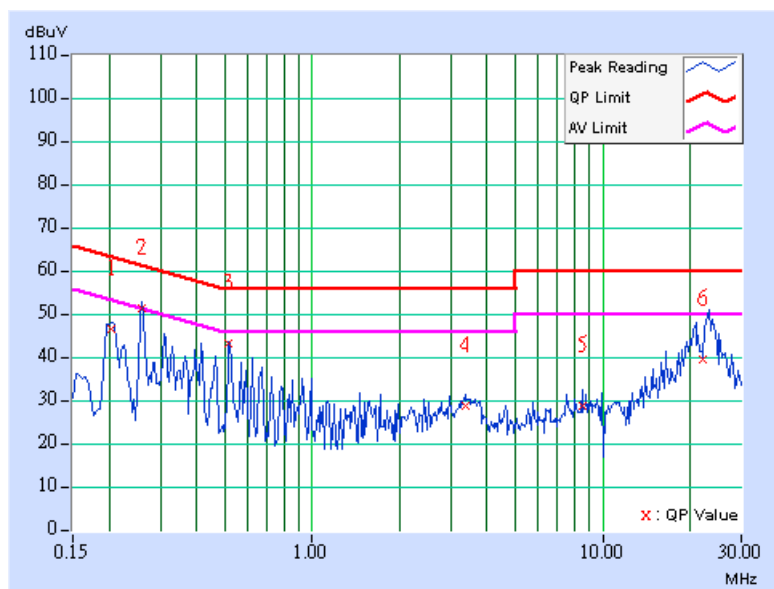
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = 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	22deg. C, 60%RH, 991hPa	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	0.205	0.10	46.03	-	46.13	-	63.42	53.42	-17.29	-
2	0.259	0.10	50.95	-	51.05	-	61.45	51.45	-10.40	-
3	0.517	0.10	42.63	-	42.73	-	56.00	46.00	-13.27	-
4	3.359	0.26	28.33	-	28.59	-	56.00	46.00	-27.41	-
5	8.508	0.32	28.29	-	28.61	-	60.00	50.00	-31.39	-
6	22.158	0.68	39.12	-	39.80	-	60.00	50.00	-20.20	-

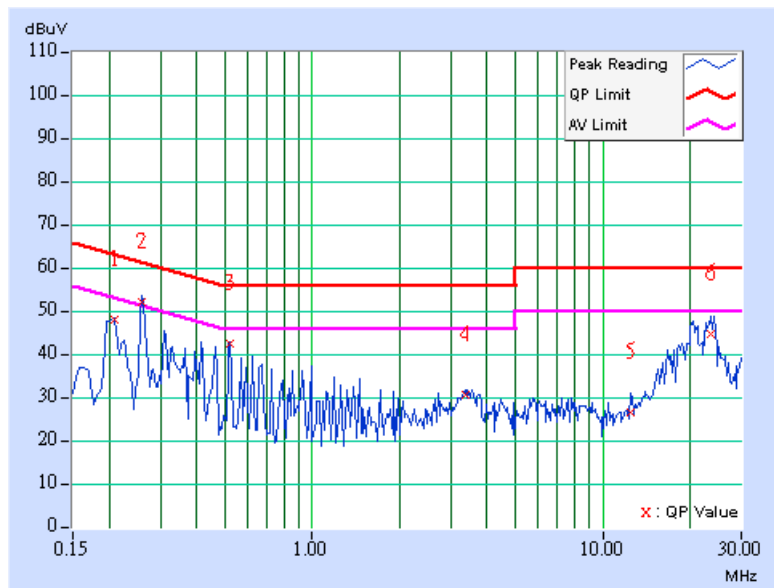
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = 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	22deg. C, 60%RH, 991hPa	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	0.209	0.10	47.54	-	47.64	-	63.26	53.26	-15.62	-
2	0.259	0.10	51.63	49.67	51.73	49.77	61.45	51.45	-9.72	-1.68
3	0.521	0.12	41.98	-	42.10	-	56.00	46.00	-13.90	-
4	3.363	0.26	29.99	-	30.25	-	56.00	46.00	-25.75	-
5	12.465	0.45	25.97	-	26.42	-	60.00	50.00	-33.58	-
6	23.480	0.67	44.14	-	44.81	-	60.00	50.00	-15.19	-

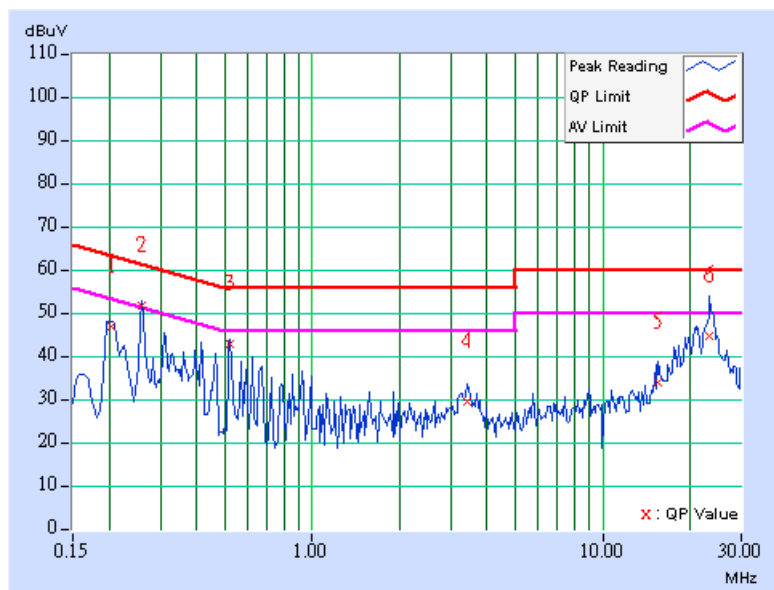
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = 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	22deg. C, 60%RH, 991hPa	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	0.205	0.10	46.21	-	46.31	-	63.42	53.42	-17.11	-
2	0.259	0.10	51.25	-	51.35	-	61.45	51.45	-10.10	-
3	0.521	0.10	42.33	-	42.43	-	56.00	46.00	-13.57	-
4	3.434	0.26	28.89	-	29.15	-	56.00	46.00	-26.85	-
5	15.570	0.49	33.20	-	33.69	-	60.00	50.00	-26.31	-
6	23.352	0.74	43.93	-	44.67	-	60.00	50.00	-15.33	-

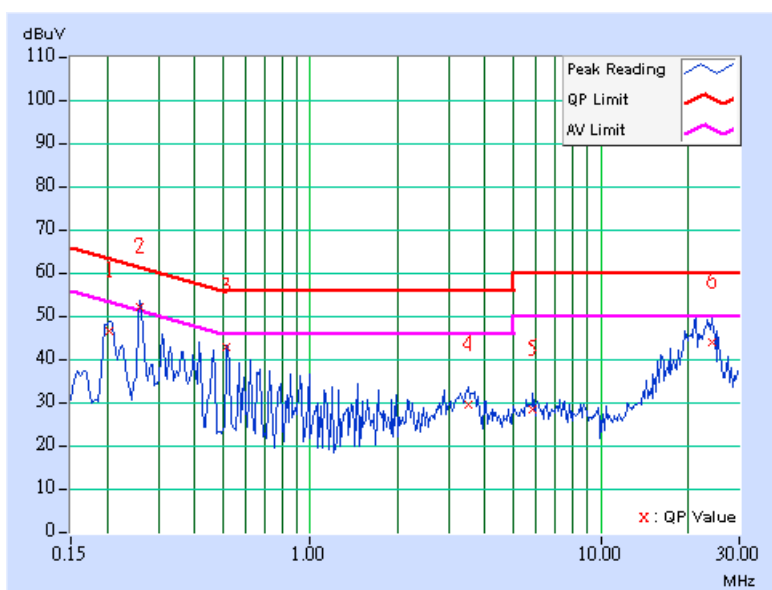
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = 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 7	PHASE	Line 2
MODULATION TYPE	BPSK	6dB BANDWIDTH	9 kHz
TRANSFER RATE	15.0Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	22deg. C, 60%RH, 991hPa	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	0.205	0.10	45.93	-	46.03	-	63.42	53.42	-17.39	-
2	0.259	0.10	51.61	49.67	51.71	49.77	61.45	51.45	-9.74	-1.68
3	0.517	0.12	42.45	-	42.57	-	56.00	46.00	-13.43	-
4	3.492	0.26	28.91	-	29.17	-	56.00	46.00	-26.83	-
5	5.809	0.33	27.94	-	28.27	-	60.00	50.00	-31.73	-
6	24.078	0.69	43.54	-	44.23	-	60.00	50.00	-15.77	-

- 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	100212	May. 08, 2007
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100269	Aug. 07, 2007
BILOG Antenna SCHWARZBECK	VULB9168	9168-153	Jan. 04, 2008
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-563	Jul. 26, 2007
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170242	Jan. 16, 2008
Preamplifier Agilent	8449B	3008A01911	Sep. 13, 2007
Preamplifier Agilent	8447D	2944A10638	Dec. 20, 2007
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	218188/218189	Nov. 14, 2007
RF signal cable Worken	8D-FB	Cable-HYCH9-01	Mar. 08, 2007
Software	ADT_Radiated_V7.6	NA	NA
Antenna Tower EMCO	2070/2080	512.835.4684	NA
Turn Table EMCO	2087-2.03	NA	NA
Antenna Tower & Turn Table Controller EMCO	2090	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 Chamber 9.
 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 IC4924A-9.

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.

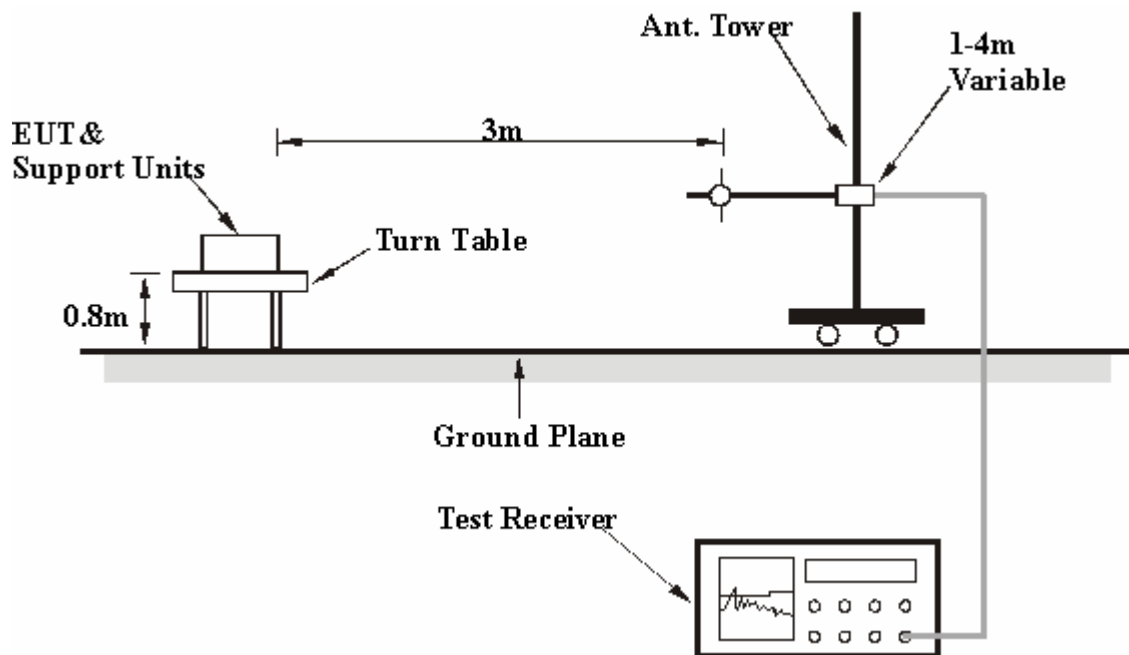
NOTE:

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

BELOW 1GHz WORST-CASE DATA 802.11g OFDM MODULATION: SINGLE 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	25deg. C, 65%RH, 991hPa	TESTED BY	Brad Wu

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	168.02	36.73 QP	43.50	-6.77	2.00 H	79	22.83	13.90
2	236.05	34.00 QP	46.00	-12.00	1.00 H	40	20.96	13.04
3	304.09	34.71 QP	46.00	-11.29	1.00 H	61	19.87	14.85
4	438.22	34.24 QP	46.00	-11.76	2.00 H	112	15.71	18.53
5	599.56	33.82 QP	46.00	-12.18	1.50 H	289	10.69	23.13
6	933.91	34.23 QP	46.00	-11.77	1.50 H	40	5.89	28.34

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	31.94	38.80 QP	40.00	-1.20	1.00 V	256	26.27	12.53
2	99.98	38.89 QP	43.50	-4.61	1.00 V	295	28.80	10.09
3	168.02	40.18 QP	43.50	-3.32	1.50 V	124	26.29	13.90
4	236.05	41.20 QP	46.00	-4.80	1.00 V	274	28.15	13.04
5	304.09	34.15 QP	46.00	-11.85	1.00 V	10	19.30	14.85
6	673.43	34.09 QP	46.00	-11.91	1.00 V	217	9.37	24.73

- 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	23deg. C, 63%RH, 991hPa	TESTED BY	Brad Wu

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	168.24	36.89 QP	43.50	-6.61	1.50 H	84	23.00	13.89
2	236.29	34.51 QP	46.00	-11.49	1.00 H	87	21.45	13.06
3	304.29	34.96 QP	46.00	-11.04	1.50 H	211	20.11	14.85
4	438.56	34.81 QP	46.00	-11.19	1.50 H	222	16.27	18.54
5	600.05	34.25 QP	46.00	-11.75	1.00 H	309	11.11	23.14
6	933.64	34.62 QP	46.00	-11.38	1.50 H	229	6.29	28.33

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	31.67	38.49 QP	40.00	-1.51	1.50 V	231	25.96	12.53
2	100.13	38.56 QP	43.50	-4.94	1.00 V	304	28.46	10.10
3	168.25	40.39 QP	43.50	-3.11	1.50 V	27	26.50	13.89
4	236.48	41.69 QP	46.00	-4.31	1.50 V	219	28.63	13.06
5	304.25	35.20 QP	46.00	-10.80	1.00 V	218	20.35	14.85
6	673.69	34.51 QP	46.00	-11.49	1.50 V	222	9.78	24.73

- 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	25deg. C, 65%RH, 991hPa	TESTED BY	Brad Wu

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	168.25	36.88 QP	43.50	-6.62	1.50 H	62	22.99	13.89
2	236.46	34.55 QP	46.00	-11.45	1.25 H	88	21.49	13.06
3	304.26	34.84 QP	46.00	-11.16	1.00 H	123	19.99	14.85
4	438.54	34.65 QP	46.00	-11.35	1.50 H	254	16.11	18.54
5	599.68	33.95 QP	46.00	-12.05	1.50 H	304	10.82	23.13
6	933.80	34.54 QP	46.00	-11.46	1.50 H	96	6.21	28.33

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	31.94	37.80 QP	40.00	-2.20	1.50 V	304	25.27	12.53
2	99.91	38.69 QP	43.50	-4.81	1.25 V	295	28.61	10.08
3	168.35	40.42 QP	43.50	-3.08	1.50 V	203	26.54	13.88
4	236.25	41.56 QP	46.00	-4.44	1.00 V	304	28.51	13.05
5	304.20	34.46 QP	46.00	-11.54	1.50 V	35	19.61	14.85
6	673.59	34.26 QP	46.00	-11.74	1.25 V	203	9.53	24.73

- 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	25deg. C, 65%RH, 991hPa	TESTED BY	Brad Wu

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	54.61 PK	74.00	-19.39	1.13 H	358	22.38	32.23
2	2390.00	44.95 AV	54.00	-9.05	1.13 H	358	12.72	32.23
3	*2412.00	100.51 PK			1.13 H	358	68.20	32.31
4	*2412.00	96.62 AV			1.13 H	358	64.31	32.31
5	4824.00	49.33 PK	74.00	-24.67	1.29 H	241	10.98	38.35
6	4824.00	37.74 AV	54.00	-16.26	1.29 H	241	-0.61	38.35

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2386.00	62.48 PK	74.00	-11.52	1.21 V	172	30.26	32.22
2	2386.00	52.84 AV	54.00	-1.16	1.21 V	172	20.62	32.22
3	*2412.00	108.55 PK			1.20 V	188	76.24	32.31
4	*2412.00	104.90 AV			1.20 V	188	72.59	32.31
5	4824.00	52.68 PK	74.00	-21.32	1.11 V	207	14.33	38.35
6	4824.00	47.14 AV	54.00	-6.86	1.11 V	207	8.79	38.35

- 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 6	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	25deg. C, 65%RH, 991hPa	TESTED BY	Brad Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2437.00	101.82 PK			1.15 H	354	69.41	32.41
2	*2437.00	97.95 AV			1.15 H	354	65.54	32.41
3	4874.00	50.68 PK	74.00	-23.32	1.30 H	253	12.22	38.46
4	4874.00	38.96 AV	54.00	-15.04	1.30 H	253	0.50	38.46

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2437.00	109.45 PK			1.46 V	2	77.04	32.41
2	*2437.00	105.81 AV			1.46 V	2	73.40	32.41
3	2483.50	56.90 PK	74.00	-17.10	1.46 V	2	24.32	32.58
4	2483.50	47.10 AV	54.00	-6.90	1.46 V	2	14.52	32.58
5	4874.00	52.58 PK	74.00	-21.42	1.50 V	354	13.87	38.71
6	4874.00	46.36 AV	54.00	-7.64	1.50 V	354	7.65	38.71
7	7311.00	60.62 PK	74.00	-13.38	1.06 V	32	15.42	45.20
8	7311.00	52.34 AV	54.00	-1.66	1.06 V	32	7.14	45.20

- 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	25deg. C, 65%RH, 991hPa	TESTED BY	Brad Wu

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	100.21 PK			1.15 H	349	67.71	32.50
2	*2462.00	96.35 AV			1.15 H	349	63.85	32.50
3	2483.50	54.82 PK	74.00	-19.18	1.15 H	349	22.24	32.58
4	2483.50	45.13 AV	54.00	-8.87	1.15 H	349	12.55	32.58
5	4924.00	50.86 PK	74.00	-23.14	1.12 H	38	12.28	38.58
6	4924.00	38.96 AV	54.00	-15.04	1.12 H	38	0.38	38.58

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	108.69 PK			1.19 V	156	76.19	32.50
2	*2462.00	105.05 AV			1.19 V	156	72.55	32.50
3	2488.00	62.69 PK	74.00	-11.31	1.16 V	189	30.09	32.60
4	2488.00	52.86 AV	54.00	-1.14	1.16 V	189	20.26	32.60
5	4924.00	53.96 PK	74.00	-20.04	1.13 V	24	15.38	38.58
6	4924.00	48.52 AV	54.00	-5.48	1.13 V	24	9.94	38.58
7	7386.00	60.57 PK	74.00	-13.43	1.05 V	228	15.54	45.03
8	7386.00	52.75 AV	54.00	-1.25	1.05 V	228	7.72	45.03

- 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: SINGLE 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	25deg. C, 65%RH, 991hPa	TESTED BY	Brad Wu

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	59.35 PK	74.00	-14.65	1.24 H	39	27.12	32.23
2	2390.00	43.92 AV	54.00	-10.08	1.24 H	39	11.69	32.23
3	*2412.00	99.45 PK			1.24 H	39	67.14	32.31
4	*2412.00	90.10 AV			1.24 H	39	57.79	32.31
5	4824.00	49.16 PK	74.00	-24.84	1.08 H	54	10.81	38.35
6	4824.00	35.30 AV	54.00	-18.70	1.08 H	54	-3.05	38.35

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	68.10 PK	74.00	-5.90	1.15 V	339	35.87	32.23
2	2390.00	52.79 AV	54.00	-1.21	1.15 V	339	20.56	32.23
3	*2412.00	108.64 PK			1.13 V	342	76.33	32.31
4	*2412.00	99.20 AV			1.13 V	342	66.89	32.31
5	4824.00	50.24 PK	74.00	-23.76	1.13 V	24	11.89	38.35
6	4824.00	36.45 AV	54.00	-17.55	1.13 V	24	-1.90	38.35

- 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 6	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	25deg. C, 65%RH, 991hPa	TESTED BY	Brad Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2437.00	100.86 PK			1.25 H	40	68.45	32.41
2	*2437.00	91.52 AV			1.25 H	40	59.11	32.41
3	4874.00	49.36 PK	74.00	-24.64	1.01 H	233	10.90	38.46
4	4874.00	35.61 AV	54.00	-18.39	1.01 H	233	-2.85	38.46

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	2385.00	57.81 PK	74.00	-16.19	1.18 V	353	25.60	32.21
2	2385.00	46.89 AV	54.00	-7.11	1.18 V	353	14.68	32.21
3	*2437.00	109.00 PK			1.18 V	353	76.59	32.41
4	*2437.00	99.52 AV			1.18 V	353	67.11	32.41
5	4874.00	50.38 PK	74.00	-23.62	1.10 V	59	11.67	38.71
6	4874.00	36.58 AV	54.00	-17.42	1.10 V	59	-2.13	38.71

- 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	25deg. C, 65%RH, 991hPa	TESTED BY	Brad Wu

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	100.95 PK			1.21 H	38	68.45	32.50
2	*2462.00	91.63 AV			1.21 H	38	59.13	32.50
3	2483.50	62.13 PK	74.00	-11.87	1.21 H	38	29.55	32.58
4	2483.50	44.62 AV	54.00	-9.38	1.21 H	38	12.04	32.58
5	4924.00	49.65 PK	74.00	-24.35	1.10 H	52	11.07	38.58
6	4924.00	35.94 AV	54.00	-18.06	1.10 H	52	-2.64	38.58

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	110.26 PK			1.10 V	344	77.76	32.50
2	*2462.00	100.50 AV			1.10 V	344	68.00	32.50
3	2483.50	70.24 PK	74.00	-3.76	1.09 V	346	37.66	32.58
4	2483.50	52.71 AV	54.00	-1.29	1.09 V	346	20.13	32.58
5	4924.00	50.68 PK	74.00	-23.32	1.15 V	31	12.10	38.58
6	4924.00	36.87 AV	54.00	-17.13	1.15 V	31	-1.71	38.58

- 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	25deg. C, 65%RH, 991hPa	TESTED BY	Brad Wu

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	60.95 PK	74.00	-13.05	1.09 H	236	28.72	32.23
2	2390.00	43.18 AV	54.00	-10.82	1.09 H	236	10.95	32.23
3	*2412.00	101.28 PK			1.09 H	236	68.97	32.31
4	*2412.00	90.82 AV			1.09 H	236	58.51	32.31
5	4824.00	49.72 PK	74.00	-24.28	1.03 H	62	11.15	38.57
6	4824.00	35.82 AV	54.00	-18.18	1.03 H	62	-2.75	38.57

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	2390.00	69.61 PK	74.00	-4.39	1.17 V	203	37.38	32.23
2	2390.00	52.85 AV	54.00	-1.15	1.17 V	203	20.62	32.23
3	*2412.00	111.14 PK			1.13 V	29	78.83	32.31
4	*2412.00	100.35 AV			1.13 V	29	68.04	32.31
5	4824.00	50.36 PK	74.00	-23.64	1.10 V	18	11.79	38.57
6	4824.00	36.58 AV	54.00	-17.42	1.10 V	18	-1.99	38.57

- 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 6	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	25deg. C, 65%RH, 991hPa	TESTED BY	Brad Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2437.00	101.36 PK			1.10 H	232	68.95	32.41
2	*2437.00	90.95 AV			1.10 H	232	58.54	32.41
3	4874.00	49.85 PK	74.00	-24.15	1.12 H	321	11.14	38.71
4	4874.00	35.96 AV	54.00	-18.04	1.12 H	321	-2.75	38.71

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2437.00	111.24 PK			1.12 V	31	78.83	32.41
2	*2437.00	100.76 AV			1.12 V	31	68.35	32.41
3	4874.00	50.68 PK	74.00	-23.32	1.19 V	46	11.97	38.71
4	4874.00	36.87 AV	54.00	-17.13	1.19 V	46	-1.84	38.71

- 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	25deg. C, 65%RH, 991hPa	TESTED BY	Brad Wu

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	101.30 PK			1.11 H	230	68.80	32.50
2	*2462.00	90.86 AV			1.11 H	230	58.36	32.50
3	2483.50	58.81 PK	74.00	-15.19	1.11 H	230	26.23	32.58
4	2483.50	43.86 AV	54.00	-10.14	1.11 H	230	11.28	32.58
5	4924.00	49.51 PK	74.00	-24.49	1.15 H	29	10.67	38.84
6	4924.00	35.48 AV	54.00	-18.52	1.15 H	29	-3.36	38.84

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	111.18 PK			1.12 V	28	78.68	32.50
2	*2462.00	100.66 AV			1.12 V	28	68.16	32.50
3	2483.50	67.70 PK	74.00	-6.30	1.13 V	29	35.12	32.58
4	2483.50	52.73 AV	54.00	-1.27	1.13 V	29	20.15	32.58
5	4924.00	50.48 PK	74.00	-23.52	1.06 V	24	11.64	38.84
6	4924.00	36.72 AV	54.00	-17.28	1.06 V	24	-2.12	38.84

- 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	25deg. C, 65%RH, 991hPa	TESTED BY	Brad Wu

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	57.34 PK	74.00	-16.66	1.16 H	276	25.11	32.23
2	2390.00	43.28 AV	54.00	-10.72	1.16 H	276	11.05	32.23
3	*2422.00	93.75 PK			1.12 H	271	61.40	32.35
4	*2422.00	83.02 AV			1.12 H	271	50.67	32.35
5	4844.00	49.02 PK	74.00	-24.98	1.24 H	89	10.63	38.39
6	4844.00	35.26 AV	54.00	-18.74	1.24 H	89	-3.13	38.39

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2386.00	68.39 PK	74.00	-5.61	1.09 V	100	36.17	32.22
2	2386.00	52.62 AV	54.00	-1.38	1.09 V	100	20.40	32.22
3	*2422.00	103.38 PK			1.09 V	100	71.03	32.35
4	*2422.00	93.63 AV			1.09 V	100	61.28	32.35
5	4844.00	49.35 PK	74.00	-24.65	1.09 V	121	10.96	38.39
6	4844.00	35.82 AV	54.00	-18.18	1.09 V	121	-2.57	38.39

- 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 4	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	25deg. C, 65%RH, 991hPa	TESTED BY	Brad Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2437.00	95.02 PK			1.18 H	162	62.61	32.41
2	*2437.00	84.32 AV			1.18 H	162	51.91	32.41
3	4874.00	48.93 PK	74.00	-25.07	1.20 H	63	10.47	38.46
4	4874.00	35.04 AV	54.00	-18.96	1.20 H	63	-3.42	38.46

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	61.84 PK	74.00	-12.16	1.44 V	15	29.61	32.23
2	2390.00	47.89 AV	54.00	-6.11	1.44 V	15	15.66	32.23
3	*2437.00	104.29 PK			1.41 V	286	71.88	32.41
4	*2437.00	95.11 AV			1.41 V	286	62.70	32.41
5	4874.00	49.68 PK	74.00	-24.32	1.10 V	39	10.97	38.71
6	4874.00	36.13 AV	54.00	-17.87	1.10 V	39	-2.58	38.71

- 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	25deg. C, 65%RH, 991hPa	TESTED BY	Brad Wu

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	94.88 PK			1.20 H	142	62.42	32.46
2	*2452.00	84.21 AV			1.20 H	142	51.75	32.46
3	2483.50	54.21 PK	74.00	-19.79	1.24 H	220	21.63	32.58
4	2483.50	43.62 AV	54.00	-10.38	1.24 H	220	11.04	32.58
5	4904.00	48.86 PK	74.00	-25.14	1.13 H	214	10.33	38.53
6	4904.00	35.17 AV	54.00	-18.83	1.13 H	214	-3.36	38.53

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	*2452.00	104.38 PK			1.32 V	275	71.92	32.46
2	*2452.00	95.22 AV			1.32 V	275	62.76	32.46
3	2484.00	65.15 PK	74.00	-8.85	1.05 V	275	32.57	32.58
4	2484.00	52.20 AV	54.00	-1.80	1.05 V	275	19.62	32.58
5	4904.00	49.62 PK	74.00	-24.38	1.10 V	98	11.09	38.53
6	4904.00	36.12 AV	54.00	-17.88	1.10 V	98	-2.41	38.53

- 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.
 5. The limit value is defined as per 15.247.
 6. “ * “: Fundamental frequency.



4.3 6dB BANDWIDTH MEASUREMENT

4.3.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

4.3.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
SPECTRUM ANALYZER	FSP 40	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.

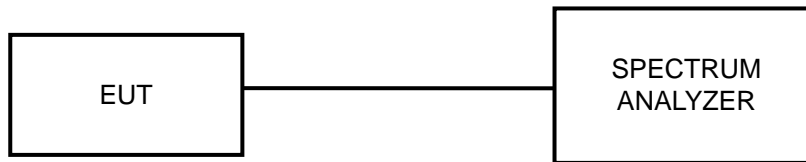
4.3.3 TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with 100kHz RBW and 100kHz VBW. The 6dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6dB.

4.3.4 DEVIATION FROM TEST STANDARD

No deviation

4.3.5 TEST SETUP



4.3.6 EUT OPERATING CONDITIONS

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



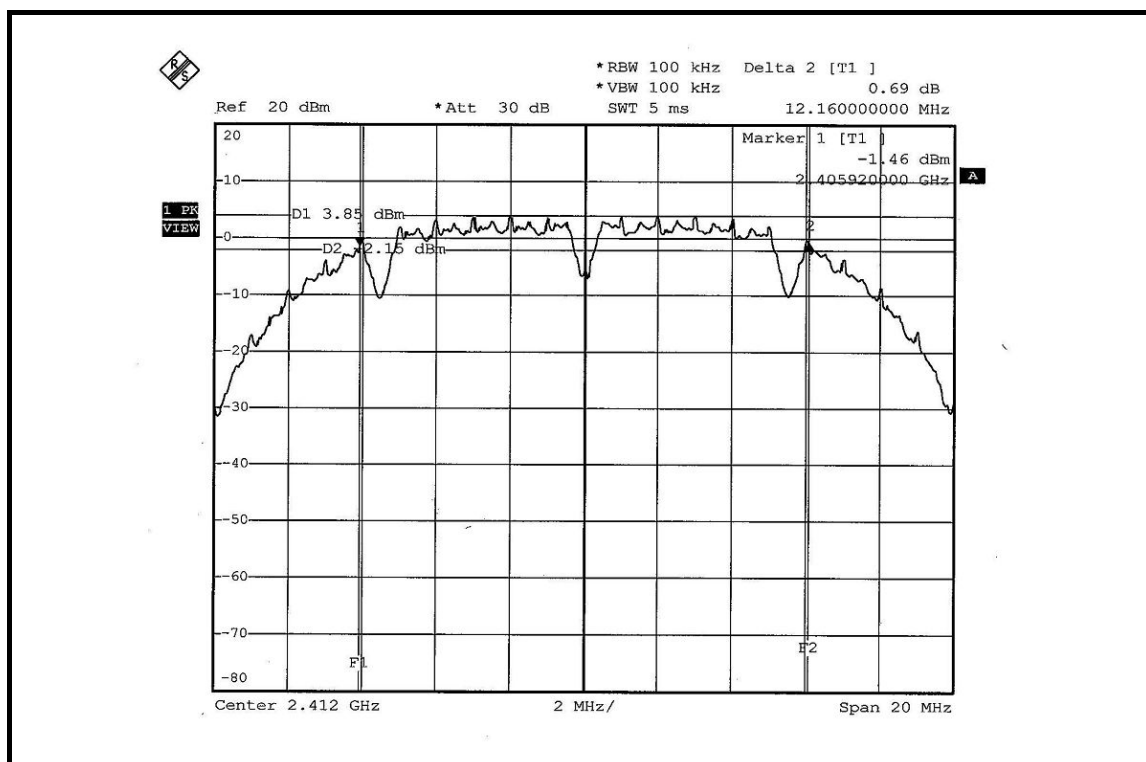
4.3.7 TEST RESULTS

802.11b DSSS MODULATION: SINGLE TX

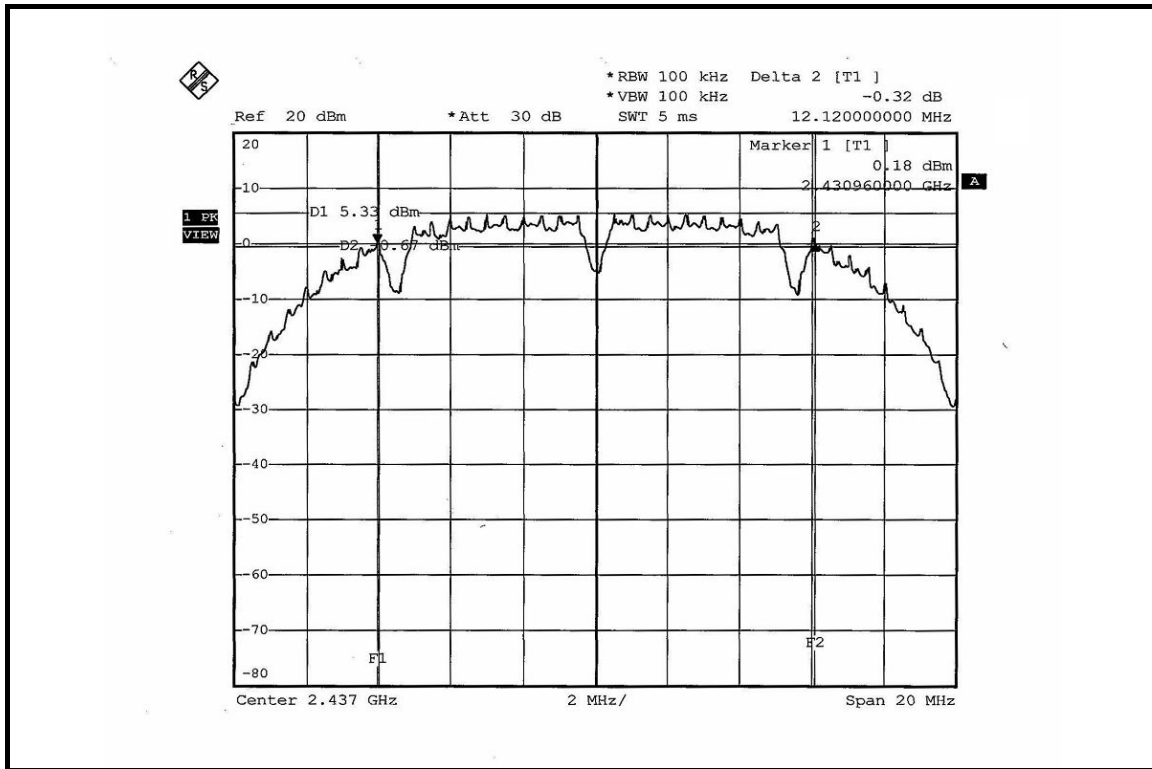
MODULATION TYPE	DBPSK	TRANSFER RATE	1.0Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	25deg.C, 63%RH, 991hPa
TESTED BY	Long Chen		

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	12.16	0.5	PASS
6	2437	12.12	0.5	PASS
11	2462	12.36	0.5	PASS

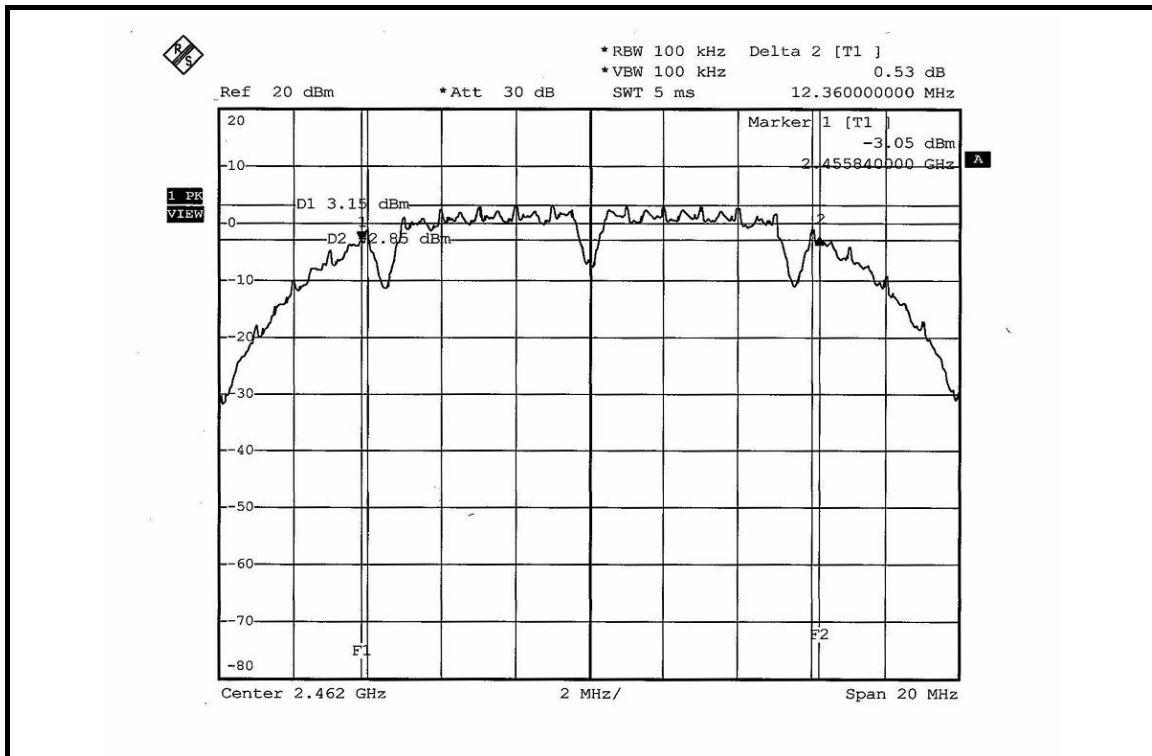
CH 1



CH 6



CH 11

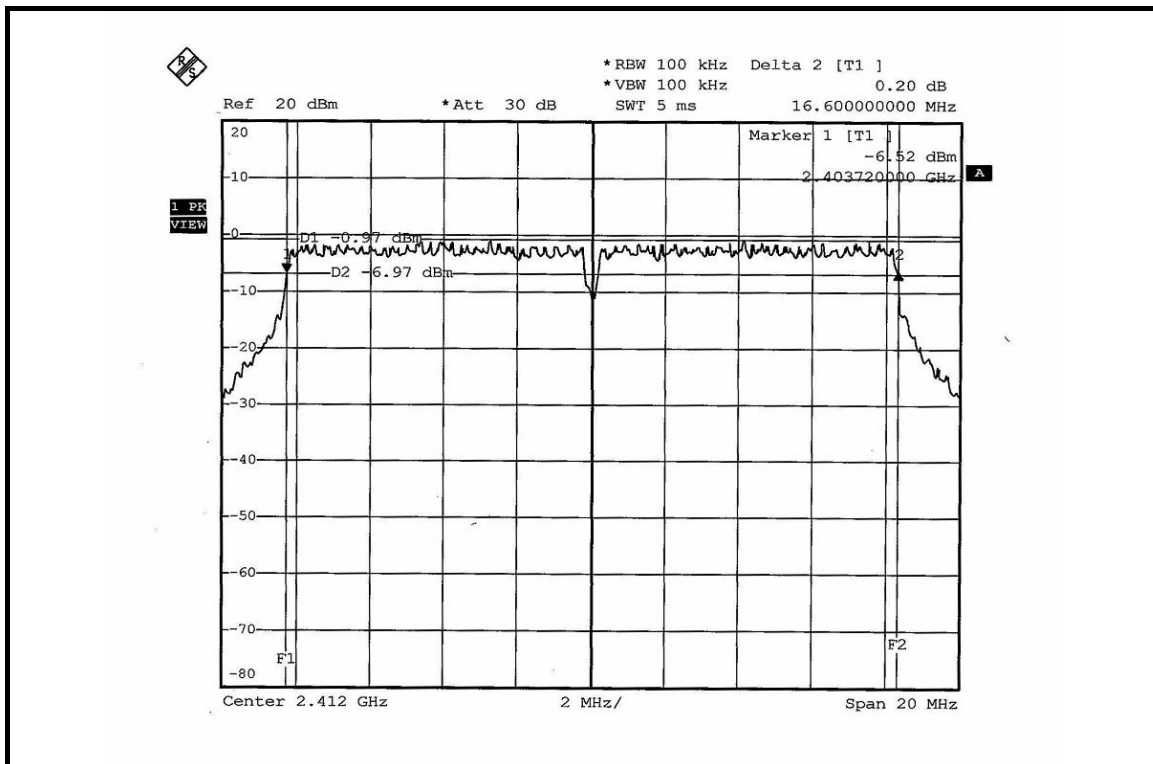


802.11g OFDM MODULATION: SINGLE TX

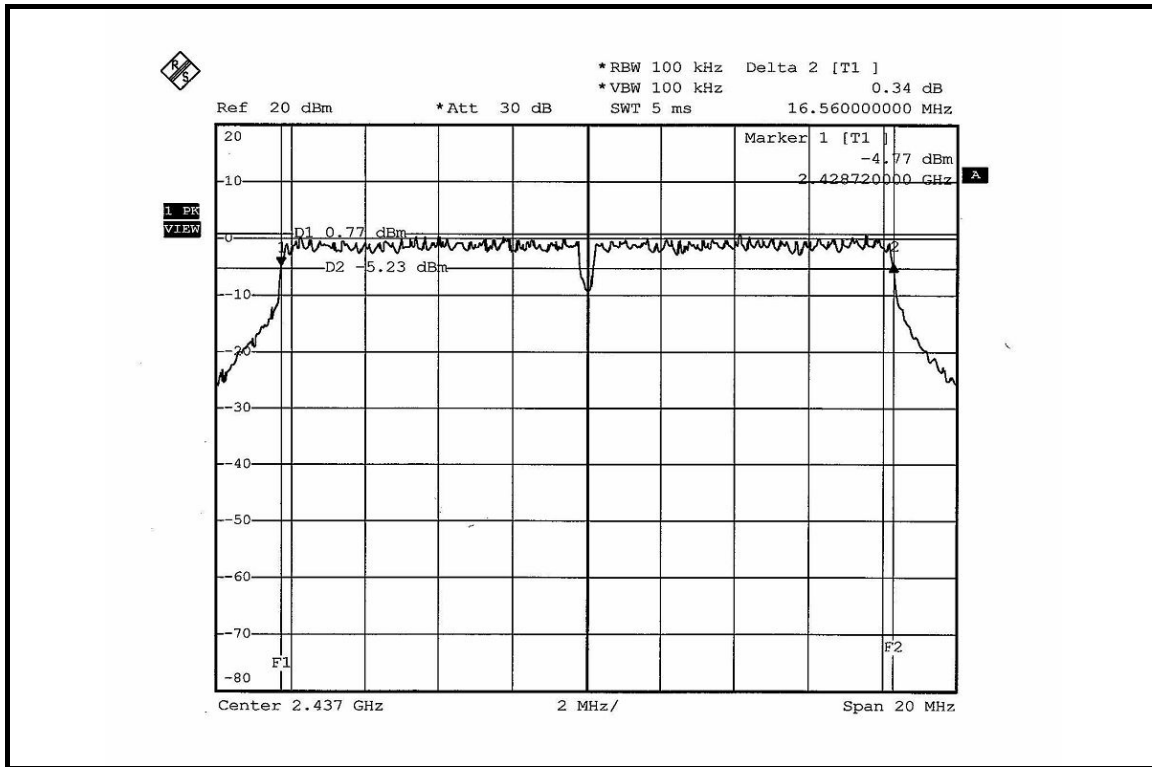
MODULATION TYPE	BPSK	TRANSFER RATE	6.0Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	25deg.C, 63%RH, 991hPa
TESTED BY	Long Chen		

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	16.60	0.5	PASS
6	2437	16.56	0.5	PASS
11	2462	16.56	0.5	PASS

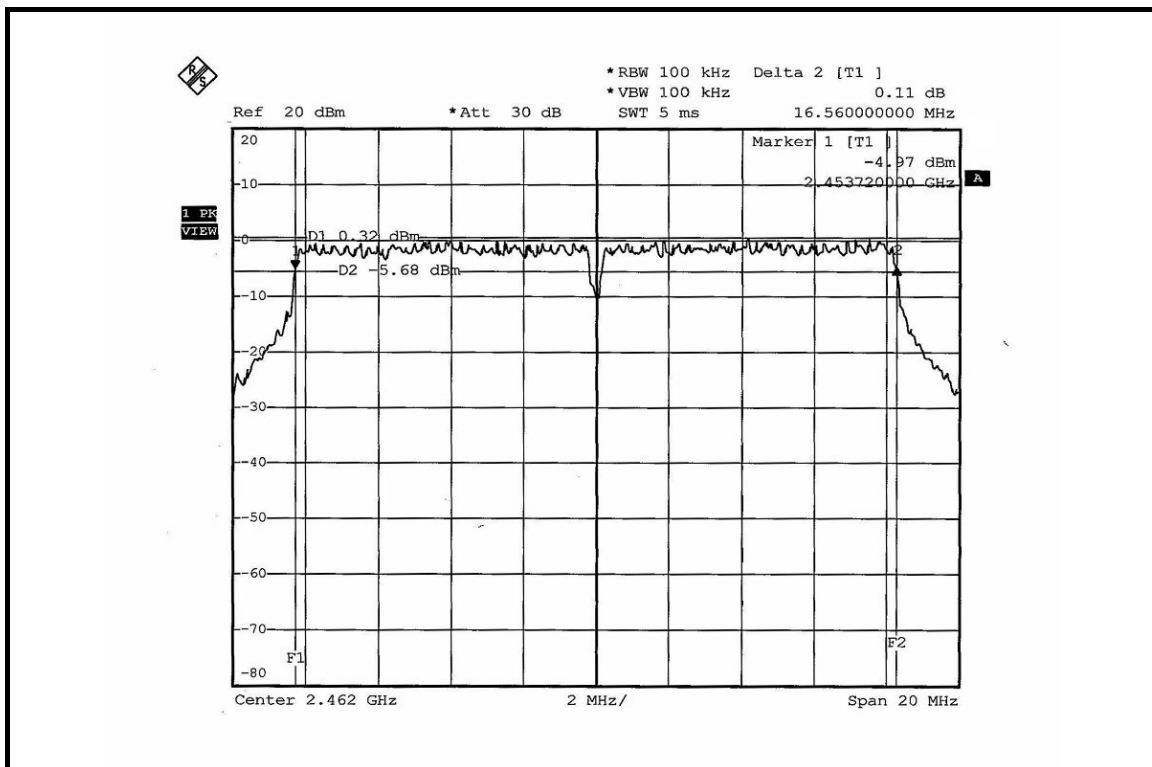
CH 1



CH 6



CH 11

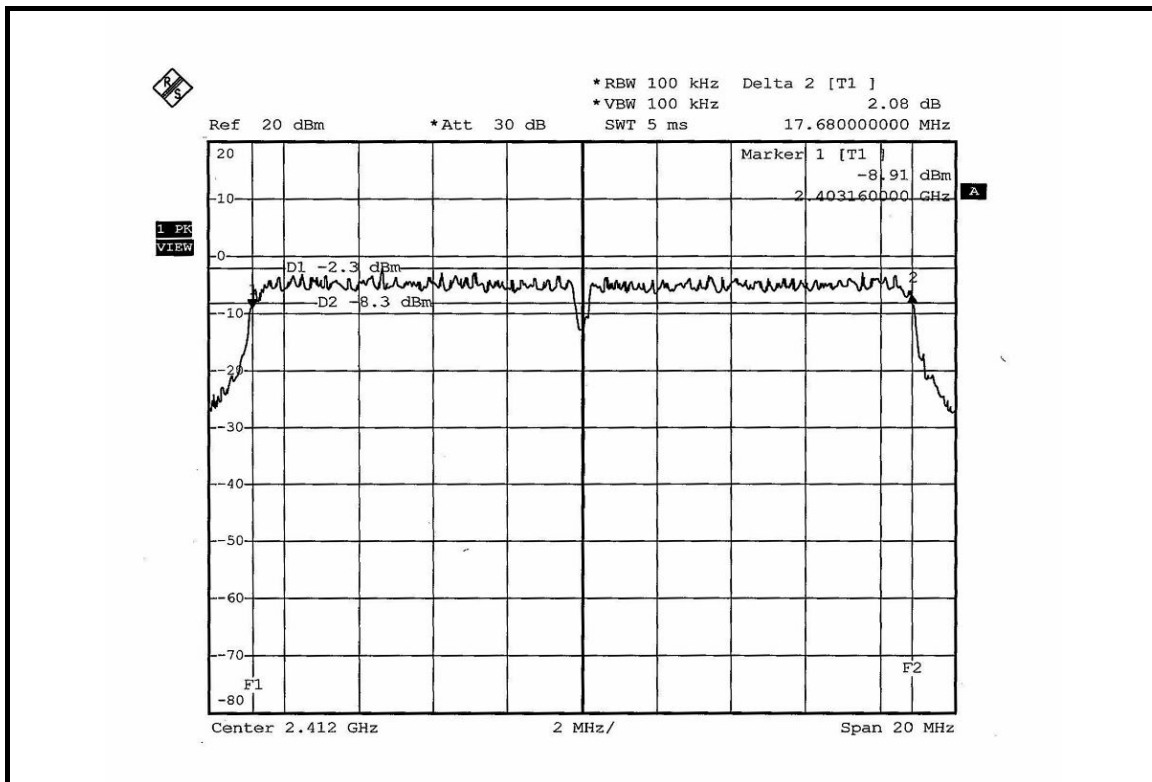


DRAFT 802.11n (20MHz) OFDM MODULATION: DUAL TX:

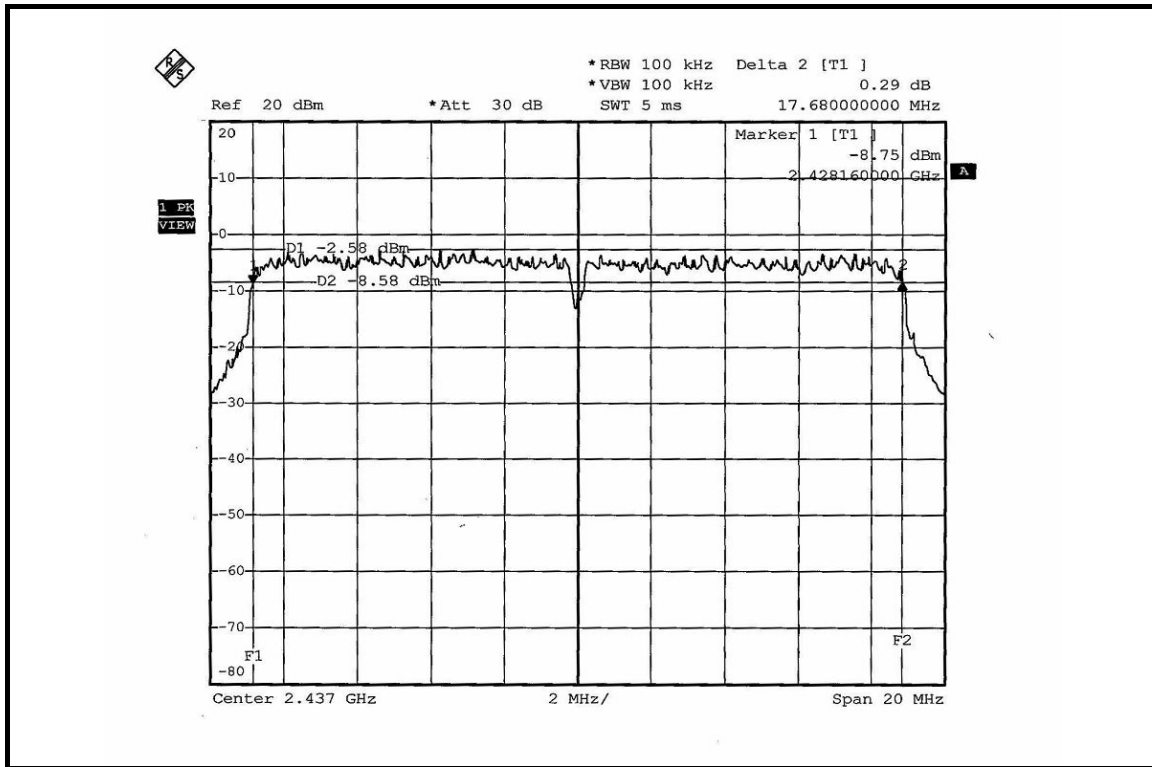
MODULATION TYPE	BPSK	TRANSFER RATE	7.2Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	25deg.C, 63%RH, 991hPa
TESTED BY	Long Chen		

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
1	2412	17.68	17.68	0.5	PASS
6	2437	17.68	17.72	0.5	PASS
11	2462	17.72	17.68	0.5	PASS

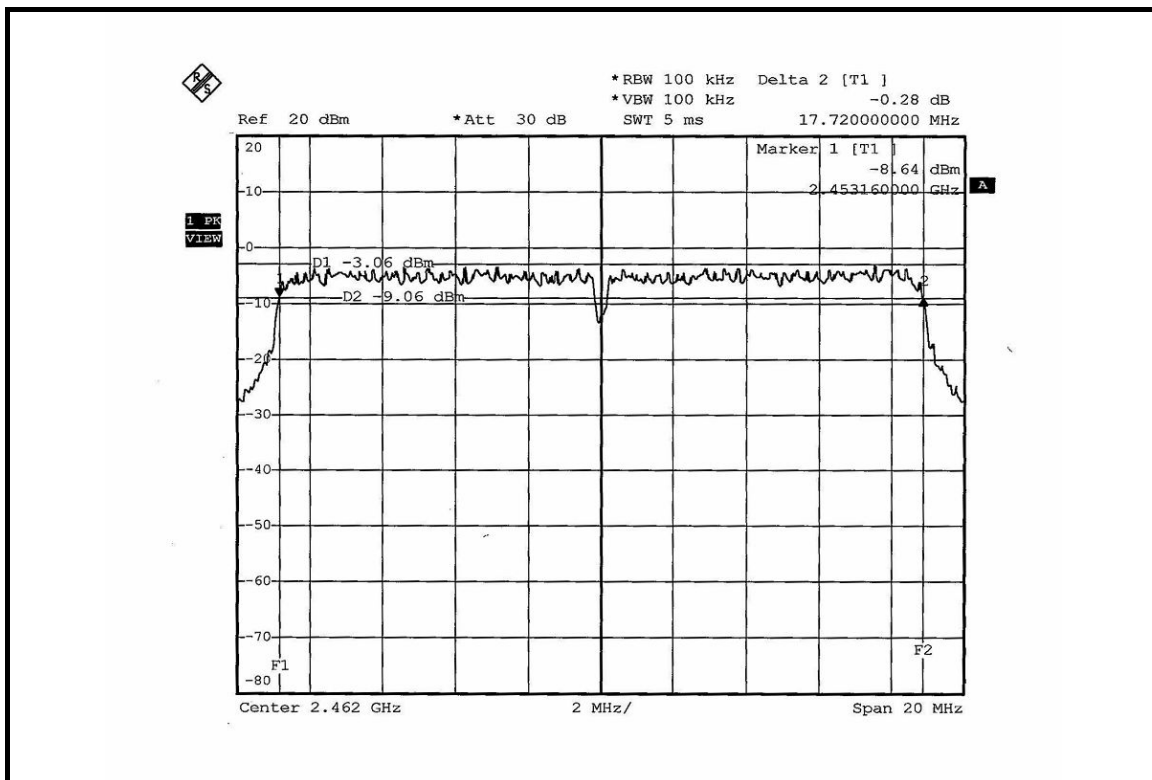
FOR CHAIN 0: CH 1



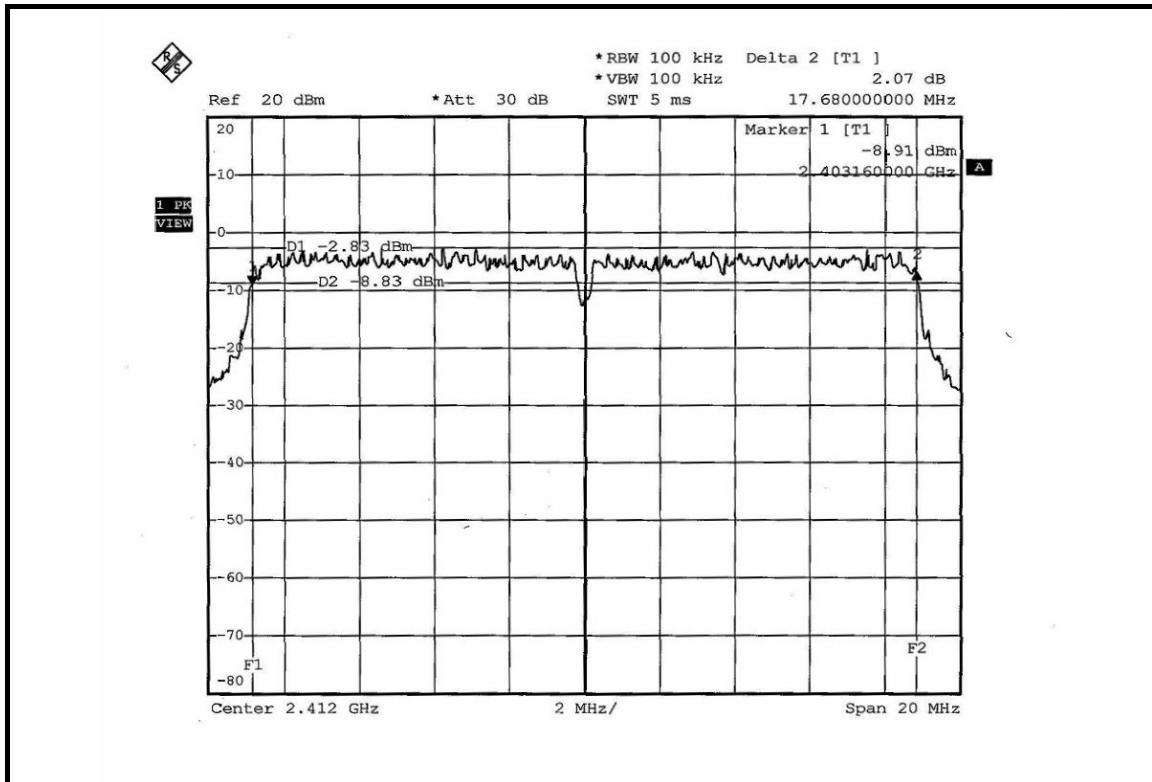
CH 6



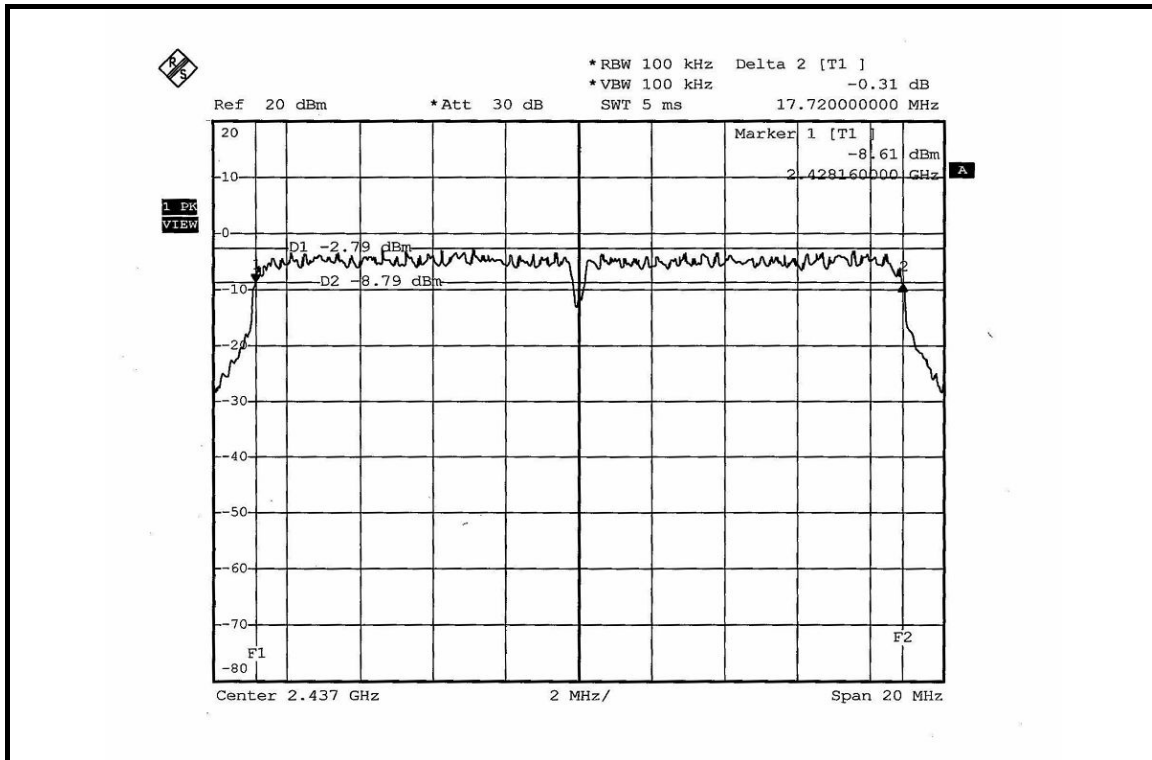
CH 11



FOR CHAIN 1: CH 1



CH 6



CH 11

