

FCC TEST REPORT

REPORT NO.: RF950427L10

MODEL NO.: WLI-PCI-G300N

RECEIVED: Apr. 21, 2006

TESTED: Apr. 21 ~ May 06, 2006

ISSUED: May 09, 2006

APPLICANT: Buffalo Inc.

ADDRESS: 4-15, Shibata Hondori, Minami-ku, Nagoya 457-8520, Japan

ISSUED BY: Advance Data Technology Corporation

LAB ADDRESS: No. 47, 14th Ling, Chia Pau Tsuen, Lin Kou Hsiang, Taipei Hsien, Taiwan, R.O.C.

TEST LOCATION: No. 19, Hwa Ya 2nd Rd., Wen Hwa Tsuen, Kwei Shan Hsiang, Taoyuan Hsien 333, Taiwan, R.O.C.

This test report consists of 105 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.....	84
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	104
	APPENDIX-A	A-1

1. CERTIFICATION

PRODUCT: 802.11n Wireless PCI Adapter
MODEL NO.: WLI-PCI-G300N
BRAND: Buffalo
APPLICANT: Buffalo Inc.
TESTED: Apr. 21 ~ May 06, 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 : Jessie Wang , **DATE:** May 09, 2006
Jessie Wang

TECHNICAL
ACCEPTANCE : Long Chen , **DATE:** May 09, 2006
Responsible for RF Long Chen

APPROVED BY : Gary Chang , **DATE:** May 09, 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 -14.40dB at 0.642MHz.
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 -1.34dB at 2483.50MHz.
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	3.73 dB
	200MHz ~1000MHz	3.74 dB
	1GHz ~ 18GHz	2.20 dB
	18GHz ~ 40GHz	1.88 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	802.11n Wireless PCI Adapter
MODEL NO.	WLI-PCI-G300N
FCC ID	FDI-09102044-0
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): 130/ 117/ 104/ 78/ 52/ 39/ 26/ 13Mbps Draft 802.11n (40MHz): 270/ 243/ 216/ 162/ 108/ 81/ 54/ 27Mbps
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	319.177mW
ANTENNA TYPE	Dipole antenna with 1.79dBi 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 two receivers.
2. The EUT is 2 * 2 spatial MIMO (2Tx & 2Rx) 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 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.
4. When the EUT operating in 802.11b and 802.11g for single 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 270Mbps.
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

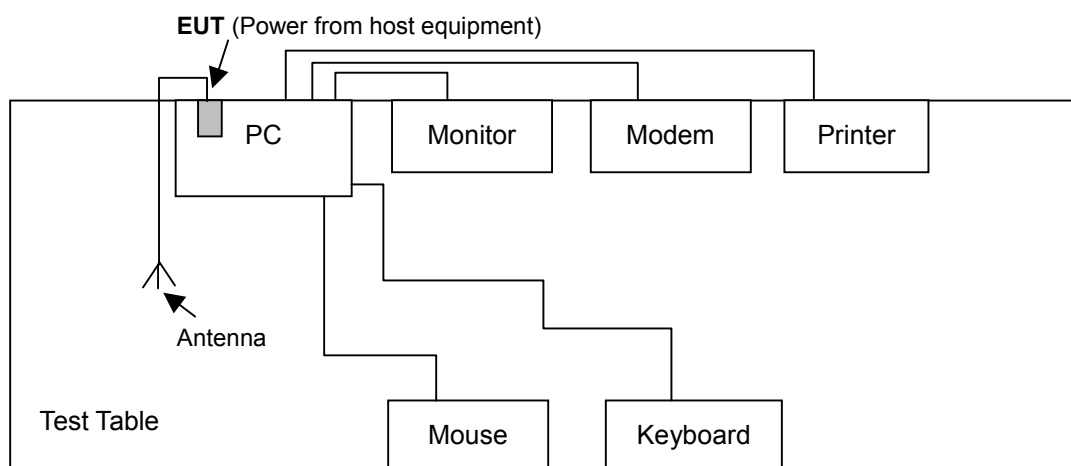
Eleven channels are provided for 802.11b, 802.11g, draft 802.11n (20MHz):

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	Single
Draft 802.11n (20MHz)	1 to 11	1, 6, 11	OFDM	BPSK	13	Dual
Draft 802.11n (40MHz)	1 to 7	1, 4, 7	OFDM	BPSK	27	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	Single
Draft 802.11n (20MHz)	1 to 11	1	OFDM	BPSK	13	Dual
Draft 802.11n (40MHz)	1 to 7	1	OFDM	BPSK	27	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	Single
802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6	Single
Draft 802.11n (20MHz)	1 to 11	1, 6, 11	OFDM	BPSK	13	Dual
Draft 802.11n (40MHz)	1 to 7	1, 4, 7	OFDM	BPSK	27	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	Single
802.11g	1 to 11	1, 11	OFDM	BPSK	6	Single
Draft 802.11n (20MHz)	1 to 11	1, 11	OFDM	BPSK	13	Dual
Draft 802.11n (40MHz)	1 to 7	1, 7	OFDM	BPSK	27	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	Single
802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6	Single
Draft 802.11n (20MHz)	1 to 11	1, 6, 11	OFDM	BPSK	13	Dual
Draft 802.11n (40MHz)	1 to 7	1, 4, 7	OFDM	BPSK	27	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 Giga	3AS0119572	NA
2	LCD MONITOR	COMPAQ	FP 5315	CNN3480KJR	FCC DoC Approved
3	MODEM	ACEEX	1414V/3	0401008248	IFAXDM1414
4	PRINTER	EPSON	LQ-300+	DCGY047265	FCC DoC Approved
5	USB KEYBOARD	BTC	5200U	G09302046726	E5XKB5122U
6	MOUSE	HP	M-S69	M4-010569	INZ211443

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	NA
2	1.8 m shielded without core
3	1.2 m shielded without core
4	1.2 m shielded without core
5	1.5 m shielded without core
6	1.8 m shielded without core

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	100291	Nov. 11, 2006
RF signal cable Woken	5D-FB	Cable-HYC01-01	Jan. 06, 2007
LISN ROHDE & SCHWARZ	ESH3-Z5	100312	Feb. 15, 2007
LISN ROHDE & SCHWARZ	ESH2-Z5	100104	Feb. 07, 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 1.
 3. The VCCI Site Registration No. is C-2040.

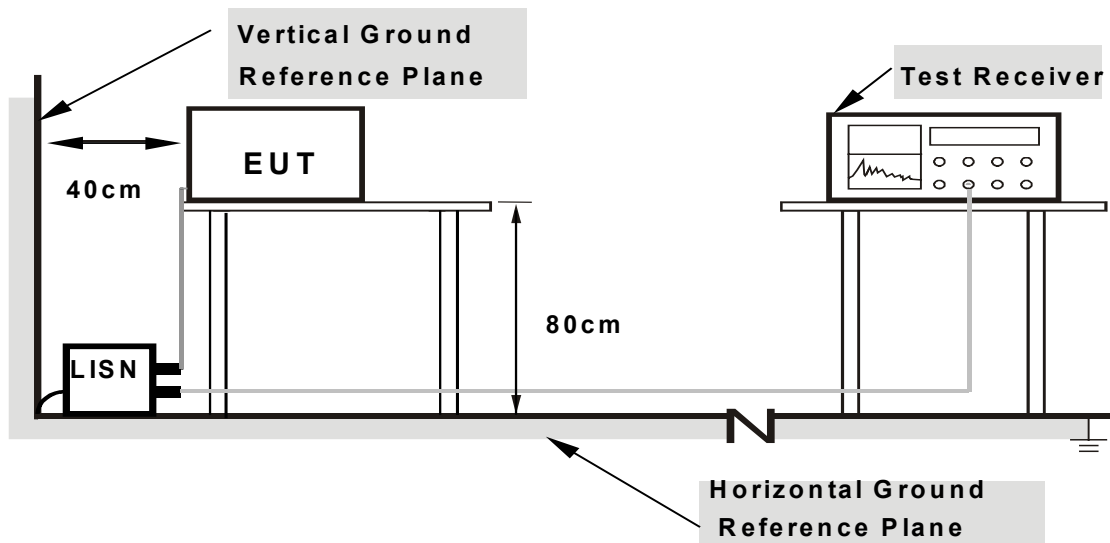
4.1.3 TEST PROCEDURES

- 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 cm 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

- Plugged the EUT to the computer system and placed on a test table.
- The computer system ran a test program (provided by manufacturer) to enable EUT under transmission condition continuously at specific channel frequency.
- The computer system sent "H" messages to monitor and displayed on the screen.
- The computer system sent "H" messages to its modem.
- The computer system sent "H" messages to printer and the printer printed them on paper.
- Steps c ~ e were repeated.

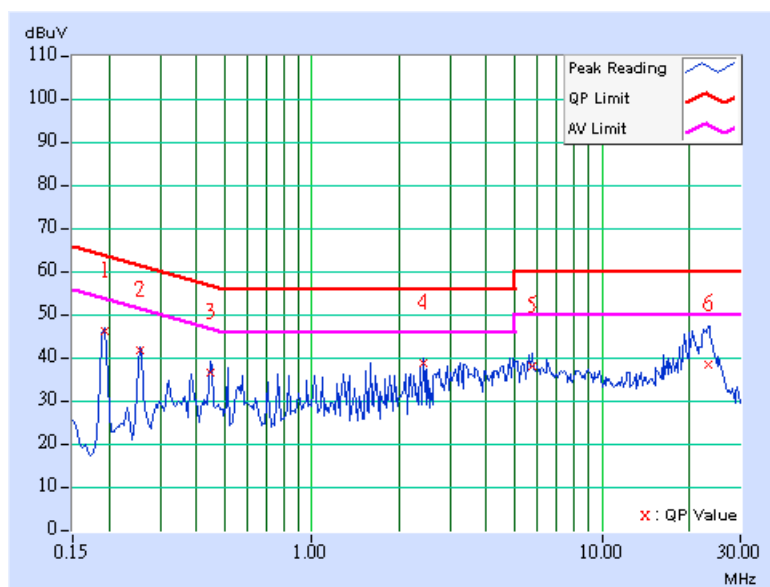
4.1.7 TEST RESULTS

CONDUCTED WORST-CASE DATA: 802.11g OFDM MODULATION:

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	PHASE	Line 1
MODULATION TYPE	BPSK	6dB BANDWIDTH	9 kHz
TRANSFER RATE	6Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH, 991hPa	TESTED BY	Brad Wu

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	0.193	0.10	45.33	-	45.43	-	63.91	53.91	-18.48	-
2	0.256	0.10	40.81	-	40.91	-	61.57	51.57	-20.66	-
3	0.447	0.11	35.83	-	35.94	-	56.93	46.93	-21.00	-
4	2.435	0.26	37.97	-	38.23	-	56.00	46.00	-17.77	-
5	5.770	0.47	37.20	-	37.67	-	60.00	50.00	-22.33	-
6	23.188	0.96	37.74	-	38.70	-	60.00	50.00	-21.30	-

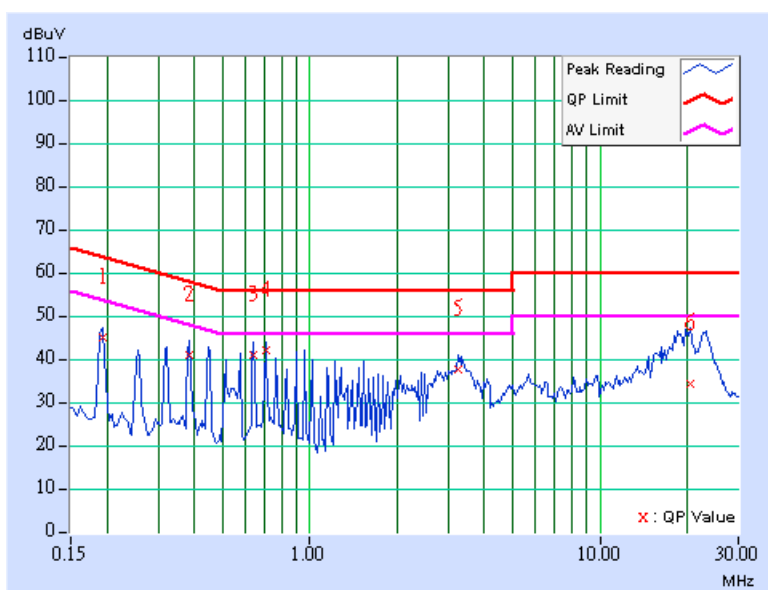
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = 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 1	PHASE	Line 2
MODULATION TYPE	BPSK	6dB BANDWIDTH	9 kHz
TRANSFER RATE	6Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH, 991hPa	TESTED BY	Brad Wu

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	0.193	0.10	44.49	-	44.59	-	63.92	53.92	-19.33	-
2	0.384	0.10	40.51	-	40.61	-	58.18	48.18	-17.57	-
3	0.642	0.10	40.48	-	40.58	-	56.00	46.00	-15.42	-
4	0.704	0.10	41.49	-	41.59	-	56.00	46.00	-14.41	-
5	3.265	0.31	37.31	-	37.62	-	56.00	46.00	-18.38	-
6	20.406	0.63	33.84	-	34.47	-	60.00	50.00	-25.53	-

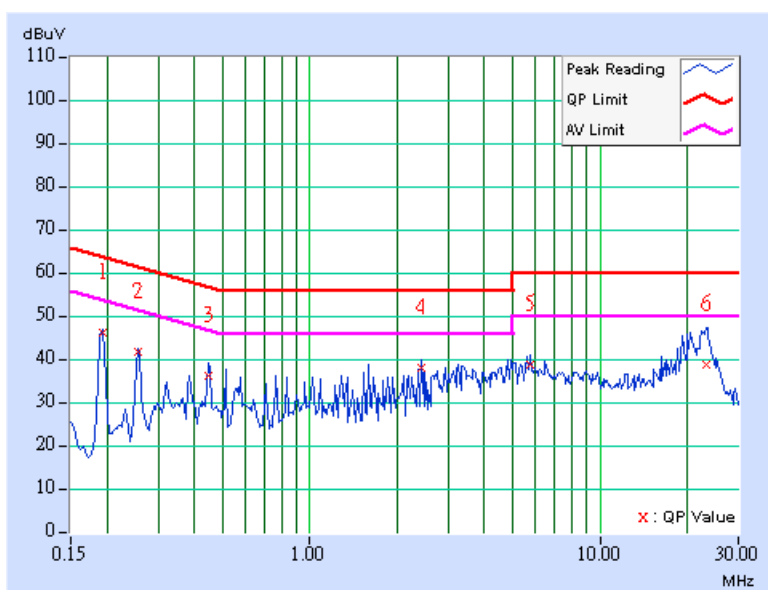
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = 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	6Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH, 991hPa	TESTED BY	Brad Wu

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	0.193	0.10	45.49	-	45.59	-	63.91	53.91	-18.32	-
2	0.255	0.10	40.85	-	40.95	-	61.58	51.58	-20.63	-
3	0.447	0.11	35.45	-	35.56	-	56.93	46.93	-21.37	-
4	2.438	0.26	37.25	-	37.51	-	56.00	46.00	-18.49	-
5	5.769	0.47	37.77	-	38.24	-	60.00	50.00	-21.76	-
6	23.187	0.96	37.99	-	38.95	-	60.00	50.00	-21.05	-

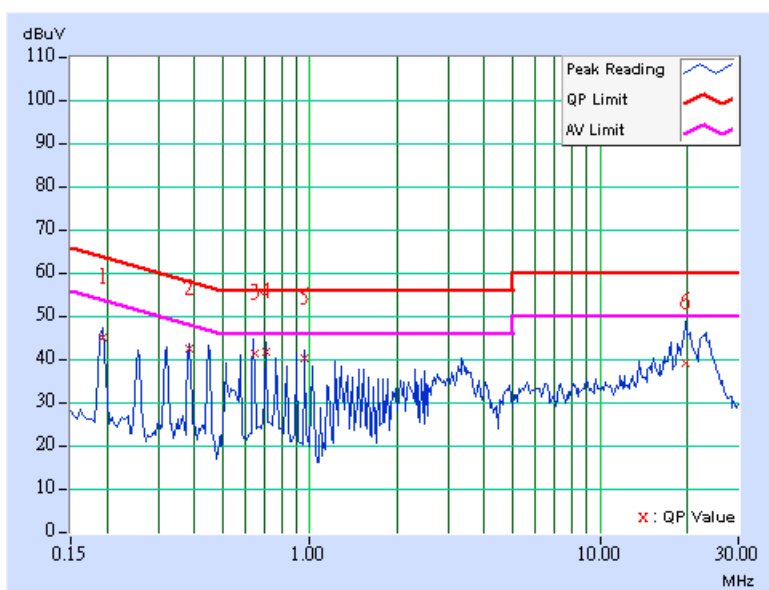
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = 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	6Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH, 991hPa	TESTED BY	Brad Wu

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	0.192	0.10	44.55	-	44.65	-	63.93	53.93	-19.28	-
2	0.385	0.10	41.99	-	42.09	-	58.17	48.17	-16.08	-
3	0.643	0.10	40.96	-	41.06	-	56.00	46.00	-14.94	-
4	0.705	0.10	41.09	-	41.19	-	56.00	46.00	-14.81	-
5	0.963	0.10	39.70	-	39.80	-	56.00	46.00	-16.20	-
6	19.793	0.63	38.68	-	39.31	-	60.00	50.00	-20.69	-

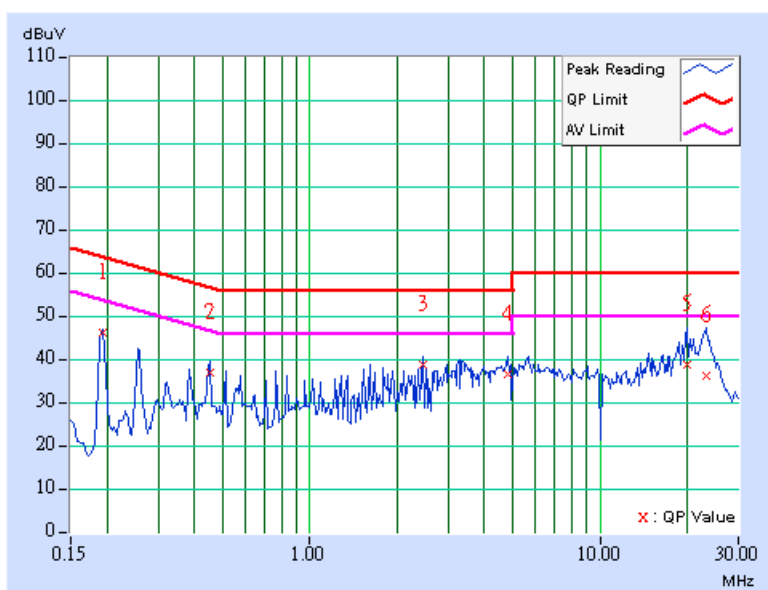
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = 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 11	PHASE	Line 1
MODULATION TYPE	BPSK	6dB BANDWIDTH	9 kHz
TRANSFER RATE	6Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH, 991hPa	TESTED BY	Brad Wu

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	0.193	0.10	45.43	-	45.53	-	63.91	53.91	-18.38	-
2	0.451	0.11	36.23	-	36.34	-	56.86	46.86	-20.52	-
3	2.441	0.26	38.03	-	38.29	-	56.00	46.00	-17.71	-
4	4.813	0.47	35.86	-	36.33	-	56.00	46.00	-19.67	-
5	19.965	0.83	37.76	-	38.59	-	60.00	50.00	-21.41	-
6	23.168	0.96	35.33	-	36.29	-	60.00	50.00	-23.71	-

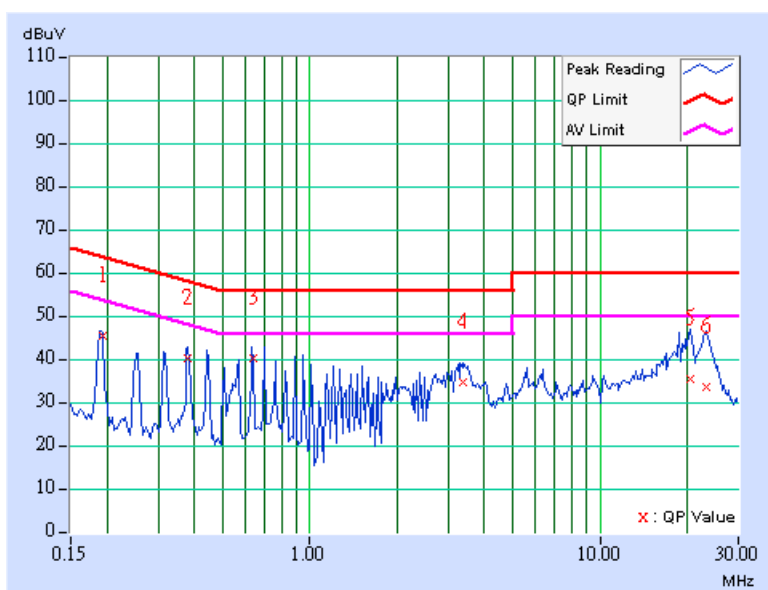
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = 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	6Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH, 991hPa	TESTED BY	Brad Wu

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	0.193	0.10	44.91	-	45.01	-	63.92	53.92	-18.91	-
2	0.381	0.10	39.84	-	39.94	-	58.27	48.27	-18.33	-
3	0.635	0.10	39.69	-	39.79	-	56.00	46.00	-16.21	-
4	3.375	0.32	34.33	-	34.65	-	56.00	46.00	-21.35	-
5	20.434	0.63	34.94	-	35.57	-	60.00	50.00	-24.43	-
6	23.207	0.63	32.90	-	33.53	-	60.00	50.00	-26.47	-

- 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.

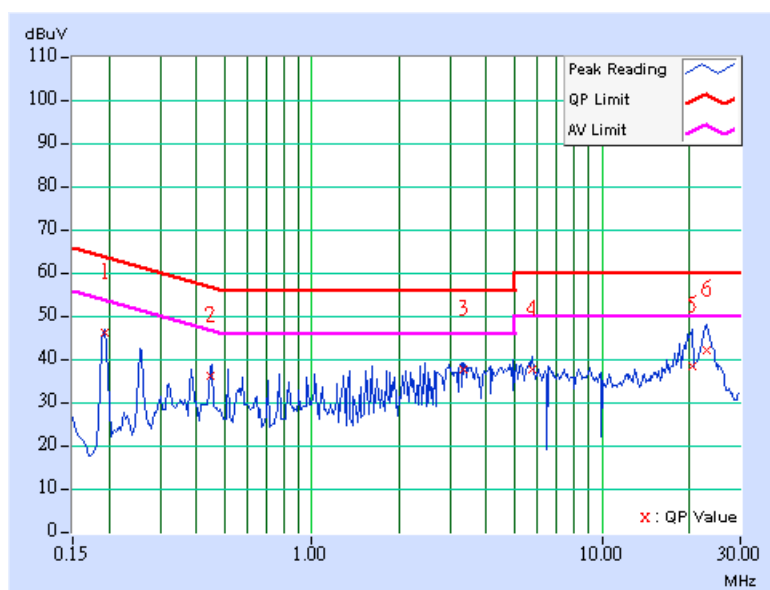


DRAFT 802.11n (20MHz) OFDM MODULATION - DUAL TX:

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	PHASE	Line 1
MODULATION TYPE	BPSK	6dB BANDWIDTH	9 kHz
TRANSFER RATE	13Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH, 991hPa	TESTED BY	Brad Wu

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	0.193	0.10	45.35	-	45.45	-	63.91	53.91	-18.46	-
2	0.447	0.11	35.40	-	35.51	-	56.93	46.93	-21.43	-
3	3.340	0.38	36.83	-	37.21	-	56.00	46.00	-18.79	-
4	5.785	0.47	36.78	-	37.25	-	60.00	50.00	-22.75	-
5	20.621	0.85	37.40	-	38.25	-	60.00	50.00	-21.75	-
6	23.063	0.95	41.27	-	42.22	-	60.00	50.00	-17.78	-

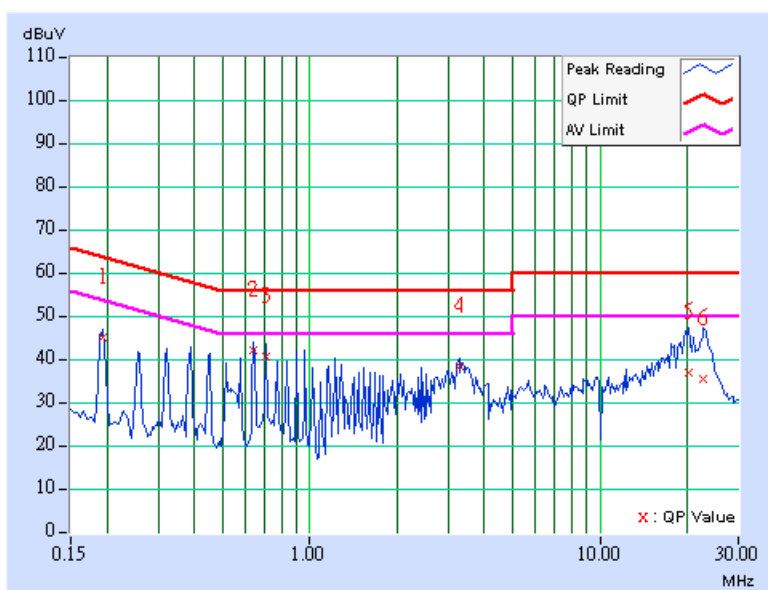
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = 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 1	PHASE	Line 2
MODULATION TYPE	BPSK	6dB BANDWIDTH	9 kHz
TRANSFER RATE	13Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH, 991hPa	TESTED BY	Brad Wu

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	0.193	0.10	44.56	-	44.66	-	63.91	53.91	-19.25	-
2	0.642	0.10	41.44	-	41.54	-	56.00	46.00	-14.46	-
3	0.709	0.10	40.09	-	40.19	-	56.00	46.00	-15.81	-
4	3.277	0.31	37.78	-	38.09	-	56.00	46.00	-17.91	-
5	20.355	0.63	36.25	-	36.88	-	60.00	50.00	-23.12	-
6	22.793	0.63	34.76	-	35.39	-	60.00	50.00	-24.61	-

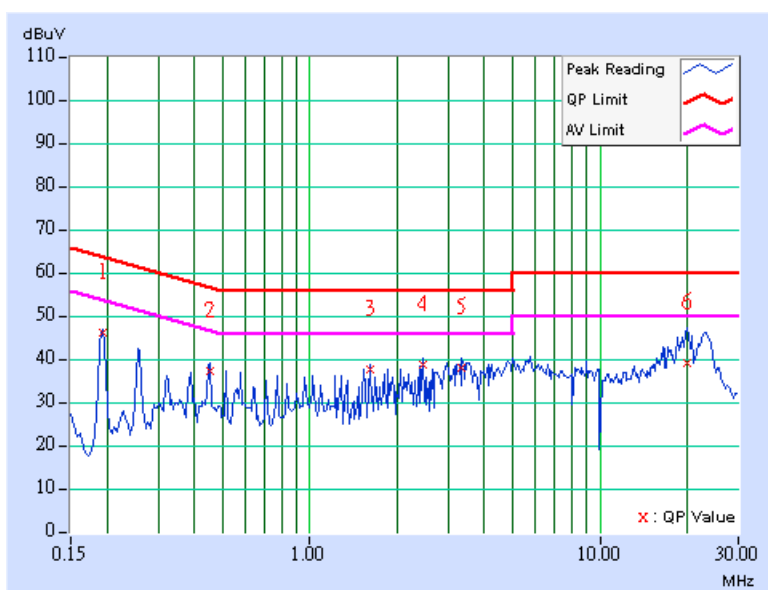
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = 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	13Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH, 991hPa	TESTED BY	Brad Wu

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	0.193	0.10	45.37	-	45.47	-	63.91	53.91	-18.44	-
2	0.451	0.11	36.43	-	36.54	-	56.86	46.86	-20.32	-
3	1.605	0.20	37.03	-	37.23	-	56.00	46.00	-18.77	-
4	2.441	0.26	38.05	-	38.31	-	56.00	46.00	-17.69	-
5	3.344	0.38	37.37	-	37.75	-	56.00	46.00	-18.25	-
6	19.980	0.83	38.40	-	39.23	-	60.00	50.00	-20.77	-

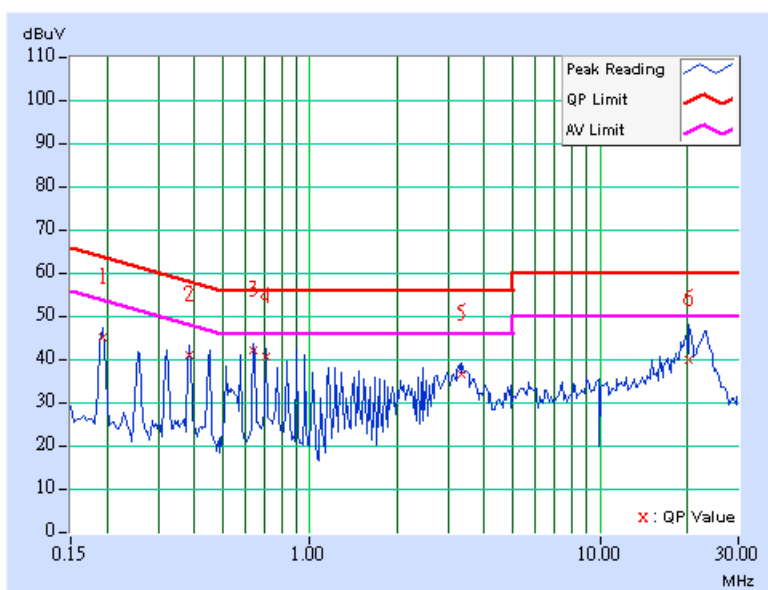
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = 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 6	PHASE	Line 2
MODULATION TYPE	BPSK	6dB BANDWIDTH	9 kHz
TRANSFER RATE	13Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH, 991hPa	TESTED BY	Brad Wu

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	0.193	0.10	44.45	-	44.55	-	63.91	53.91	-19.36	-
2	0.384	0.10	40.48	-	40.58	-	58.18	48.18	-17.60	-
3	0.642	0.10	41.50	-	41.60	-	56.00	46.00	-14.40	-
4	0.709	0.10	40.15	-	40.25	-	56.00	46.00	-15.75	-
5	3.344	0.31	36.05	-	36.36	-	56.00	46.00	-19.64	-
6	20.238	0.63	39.28	-	39.91	-	60.00	50.00	-20.09	-

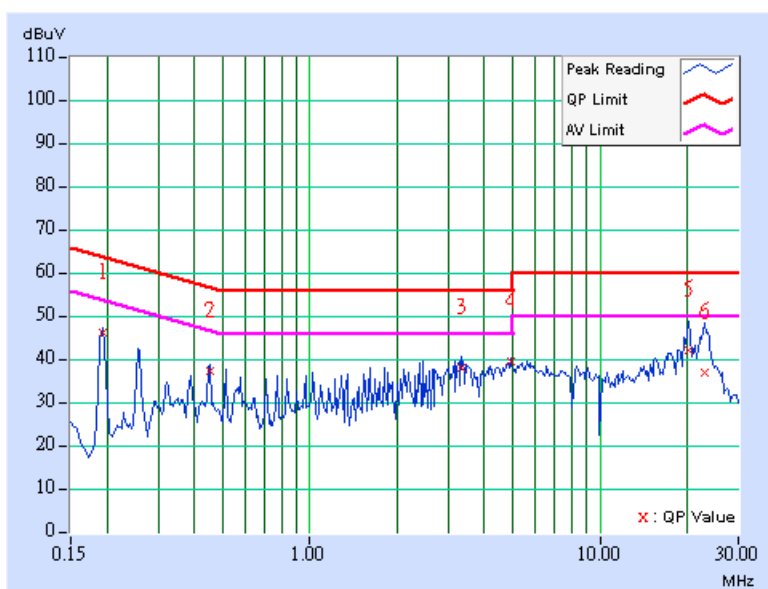
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = 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	13Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH, 991hPa	TESTED BY	Brad Wu

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	0.193	0.10	45.37	-	45.47	-	63.91	53.91	-18.44	-
2	0.451	0.11	36.33	-	36.44	-	56.86	46.86	-20.42	-
3	3.344	0.38	37.17	-	37.55	-	56.00	46.00	-18.45	-
4	4.949	0.47	38.58	-	39.05	-	56.00	46.00	-16.95	-
5	20.117	0.83	41.19	-	42.02	-	60.00	50.00	-17.98	-
6	22.938	0.95	36.26	-	37.21	-	60.00	50.00	-22.79	-

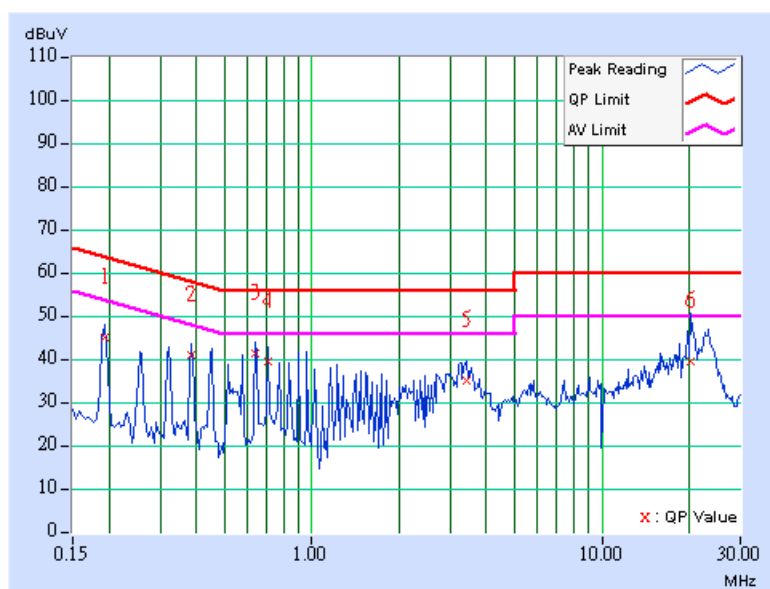
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = 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	13Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH, 991hPa	TESTED BY	Brad Wu

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	0.193	0.10	44.70	-	44.80	-	63.91	53.91	-19.11	-
2	0.384	0.10	40.38	-	40.48	-	58.18	48.18	-17.70	-
3	0.642	0.10	40.92	-	41.02	-	56.00	46.00	-14.98	-
4	0.705	0.10	39.16	-	39.26	-	56.00	46.00	-16.74	-
5	3.406	0.32	34.41	-	34.73	-	56.00	46.00	-21.27	-
6	20.250	0.63	39.00	-	39.63	-	60.00	50.00	-20.37	-

- 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.

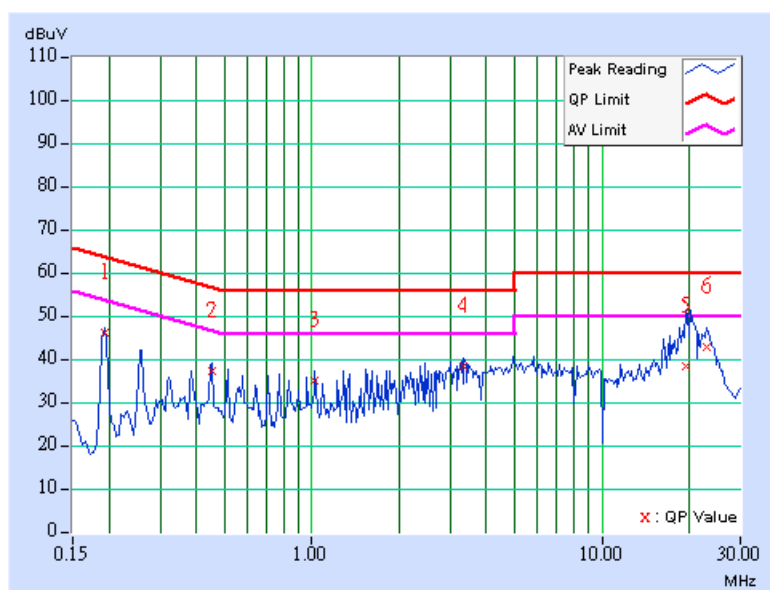


DRAFT 802.11n (40MHz) OFDM MODULATION - DUAL TX:

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	PHASE	Line 1
MODULATION TYPE	BPSK	6dB BANDWIDTH	9 kHz
TRANSFER RATE	27Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH, 991hPa	TESTED BY	Brad Wu

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	0.193	0.10	45.41	-	45.51	-	63.91	53.91	-18.40	-
2	0.451	0.11	36.47	-	36.58	-	56.86	46.86	-20.28	-
3	1.027	0.20	34.28	-	34.48	-	56.00	46.00	-21.52	-
4	3.344	0.38	37.65	-	38.03	-	56.00	46.00	-17.97	-
5	19.551	0.81	37.48	-	38.29	-	60.00	50.00	-21.71	-
6	23.020	0.95	42.06	-	43.01	-	60.00	50.00	-16.99	-

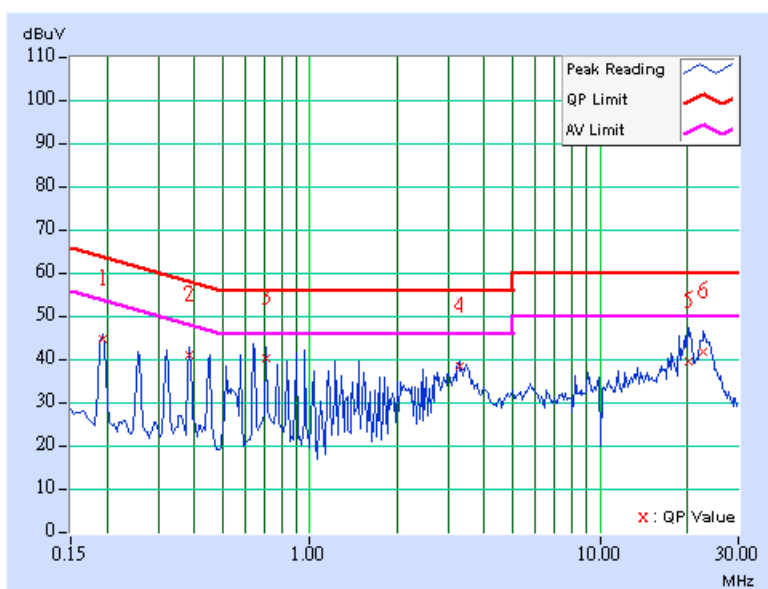
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = 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	27Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH, 991hPa	TESTED BY	Brad Wu

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	0.193	0.10	44.31	-	44.41	-	63.91	53.91	-19.50	-
2	0.384	0.10	40.32	-	40.42	-	58.18	48.18	-17.76	-
3	0.709	0.10	39.79	-	39.89	-	56.00	46.00	-16.11	-
4	3.277	0.31	37.80	-	38.11	-	56.00	46.00	-17.89	-
5	20.191	0.63	39.04	-	39.67	-	60.00	50.00	-20.33	-
6	22.762	0.63	41.15	-	41.78	-	60.00	50.00	-18.22	-

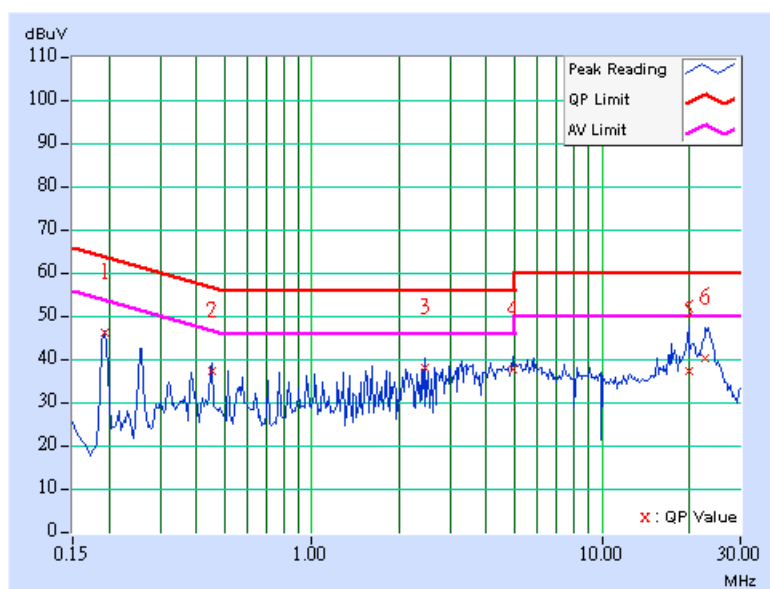
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = 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	27Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH, 991hPa	TESTED BY	Brad Wu

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	0.193	0.10	45.33	-	45.43	-	63.91	53.91	-18.48	-
2	0.451	0.11	36.35	-	36.46	-	56.86	46.86	-20.40	-
3	2.441	0.26	37.19	-	37.45	-	56.00	46.00	-18.55	-
4	4.949	0.47	36.86	-	37.33	-	56.00	46.00	-18.67	-
5	19.867	0.82	36.57	-	37.39	-	60.00	50.00	-22.61	-
6	22.828	0.94	39.33	-	40.27	-	60.00	50.00	-19.73	-

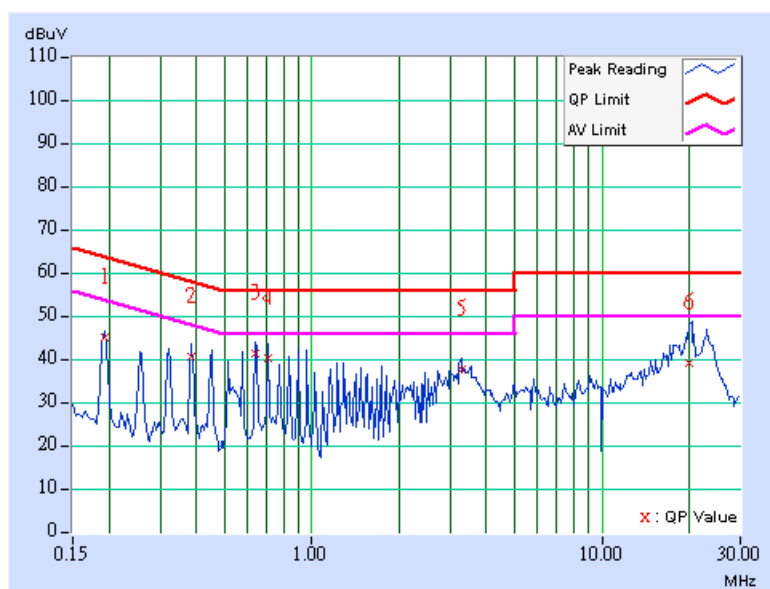
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = 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 2
MODULATION TYPE	BPSK	6dB BANDWIDTH	9 kHz
TRANSFER RATE	27Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH, 991hPa	TESTED BY	Brad Wu

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	0.193	0.10	44.39	-	44.49	-	63.91	53.91	-19.42	-
2	0.384	0.10	40.24	-	40.34	-	58.18	48.18	-17.84	-
3	0.642	0.10	40.92	-	41.02	-	56.00	46.00	-14.98	-
4	0.709	0.10	39.85	-	39.95	-	56.00	46.00	-16.05	-
5	3.281	0.31	37.08	-	37.39	-	56.00	46.00	-18.61	-
6	20.004	0.63	38.74	-	39.37	-	60.00	50.00	-20.63	-

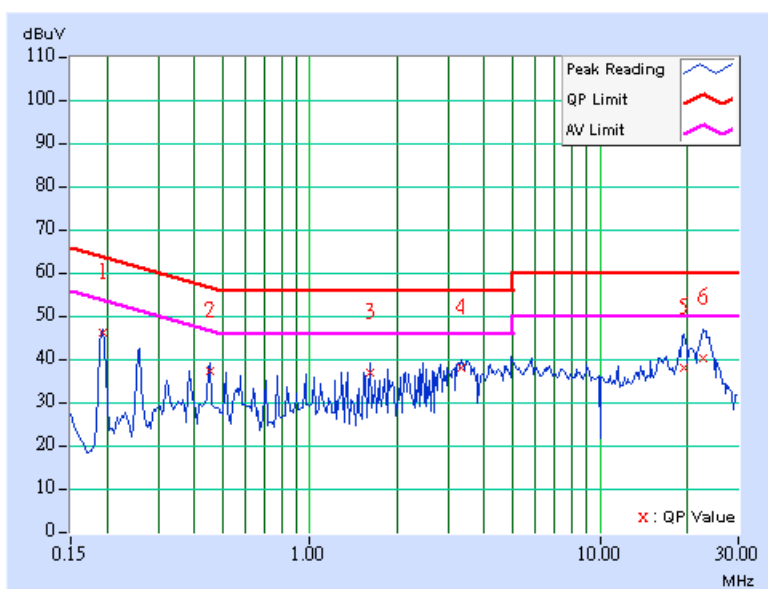
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = 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	27Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH, 991hPa	TESTED BY	Brad Wu

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	0.193	0.10	45.37	-	45.47	-	63.91	53.91	-18.44	-
2	0.451	0.11	36.43	-	36.54	-	56.86	46.86	-20.32	-
3	1.609	0.20	36.13	-	36.33	-	56.00	46.00	-19.67	-
4	3.348	0.38	37.39	-	37.77	-	56.00	46.00	-18.23	-
5	19.426	0.81	37.19	-	38.00	-	60.00	50.00	-22.00	-
6	22.582	0.93	39.40	-	40.33	-	60.00	50.00	-19.67	-

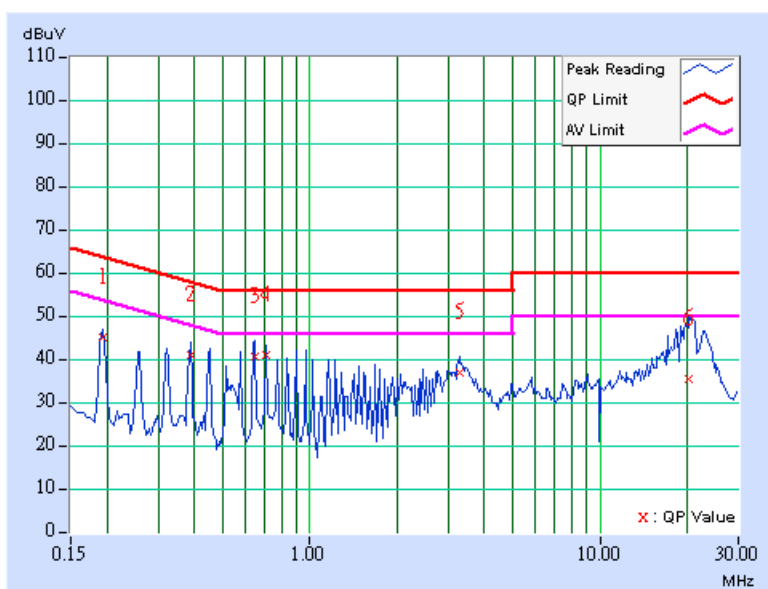
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = 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	27Mbps	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH, 991hPa	TESTED BY	Brad Wu

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	0.193	0.10	44.72	-	44.82	-	63.91	53.91	-19.09	-
2	0.388	0.10	40.50	-	40.60	-	58.10	48.10	-17.50	-
3	0.646	0.10	40.25	-	40.35	-	56.00	46.00	-15.65	-
4	0.709	0.10	40.47	-	40.57	-	56.00	46.00	-15.43	-
5	3.277	0.31	36.40	-	36.71	-	56.00	46.00	-19.29	-
6	20.191	0.63	34.94	-	35.57	-	60.00	50.00	-24.43	-

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



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 1.
 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.

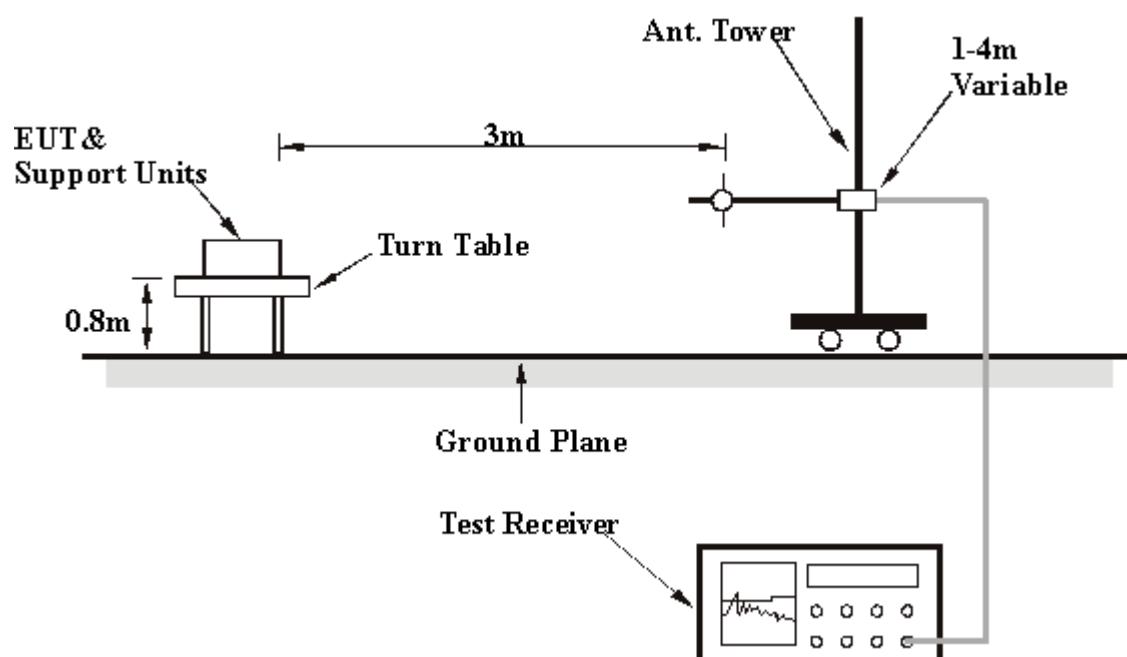
NOTE:

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 and video bandwidth of test receiver/spectrum analyzer is 1 MHz for Peak detection at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth are 10Hz (for 802.11b, 802.11g) and 100Hz (for 802.11n) 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:

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	6Mbps	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH, 991hPa	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	236.05	30.37 QP	46.00	-15.63	1.00 H	205	18.36	12.01
2	570.40	30.07 QP	46.00	-15.93	1.50 H	292	8.36	21.70
3	595.67	32.95 QP	46.00	-13.05	1.50 H	130	10.58	22.37
4	636.49	30.40 QP	46.00	-15.60	1.50 H	292	7.52	22.88
5	675.37	30.96 QP	46.00	-15.04	1.50 H	256	7.37	23.59
6	708.42	30.75 QP	46.00	-15.25	1.50 H	256	6.34	24.41
7	743.41	30.87 QP	46.00	-15.13	1.00 H	199	5.31	25.56
8	908.64	31.29 QP	46.00	-14.71	1.00 H	127	3.80	27.48

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	203.01	31.93 QP	43.50	-11.57	1.00 V	85	21.00	10.93
2	539.30	37.91 QP	46.00	-8.09	1.00 V	28	16.98	20.93
3	574.29	34.85 QP	46.00	-11.15	2.00 V	319	13.04	21.81
4	737.58	34.64 QP	46.00	-11.36	2.00 V	319	9.27	25.37
5	879.48	34.91 QP	46.00	-11.09	1.00 V	172	8.00	26.91
6	912.53	37.33 QP	46.00	-8.67	1.00 V	16	9.66	27.67
7	947.52	36.00 QP	46.00	-10.00	1.00 V	85	6.70	29.30

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	13Mbps	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH, 991hPa	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	203.01	29.32 QP	43.50	-14.18	2.00 H	130	18.39	10.93
2	370.18	30.72 QP	46.00	-15.28	2.00 H	4	13.77	16.95
3	473.21	30.18 QP	46.00	-15.82	2.00 H	1	10.71	19.47
4	537.35	30.73 QP	46.00	-15.27	1.00 H	91	9.84	20.88
5	580.12	31.16 QP	46.00	-14.84	1.50 H	178	9.19	21.96
6	638.44	30.72 QP	46.00	-15.28	2.00 H	1	7.82	22.90
7	675.37	31.10 QP	46.00	-14.90	1.00 H	190	7.51	23.59
8	708.42	30.30 QP	46.00	-15.70	1.00 H	190	5.89	24.41
9	743.41	30.21 QP	46.00	-15.79	1.50 H	178	4.65	25.56

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	601.50	30.05 QP	46.00	-15.95	3.00 V	1	7.55	22.50
2	636.49	30.48 QP	46.00	-15.52	2.50 V	322	7.60	22.88
3	675.37	32.58 QP	46.00	-13.42	3.00 V	166	8.99	23.59
4	737.58	32.04 QP	46.00	-13.96	2.50 V	34	6.67	25.37
5	914.47	33.36 QP	46.00	-12.64	2.00 V	142	5.60	27.76
6	947.52	32.43 QP	46.00	-13.57	2.00 V	199	3.13	29.30

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	27Mbps	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH, 991hPa	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	201.06	26.62 QP	43.50	-16.88	1.50 H	139	15.75	10.87
2	234.11	29.71 QP	46.00	-16.29	1.50 H	139	17.76	11.95
3	304.09	29.93 QP	46.00	-16.07	2.00 H	130	14.26	15.67
4	473.21	29.20 QP	46.00	-16.80	1.50 H	280	9.73	19.47
5	539.30	29.49 QP	46.00	-16.51	1.50 H	280	8.56	20.93
6	595.67	32.73 QP	46.00	-13.27	1.00 H	130	10.36	22.37
7	642.32	31.14 QP	46.00	-14.86	1.50 H	358	8.19	22.94
8	675.37	32.45 QP	46.00	-13.55	1.50 H	358	8.86	23.59
9	710.36	29.28 QP	46.00	-16.72	1.00 H	337	4.81	24.48
10	743.41	31.63 QP	46.00	-14.37	1.50 H	106	6.07	25.56
11	879.48	30.94 QP	46.00	-15.06	1.50 H	166	4.03	26.91

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	473.21	31.37 QP	46.00	-14.63	1.00 V	55	11.90	19.47
2	502.36	31.61 QP	46.00	-14.39	2.00 V	196	11.49	20.12
3	537.35	32.13 QP	46.00	-13.87	2.00 V	118	11.25	20.88
4	574.29	34.21 QP	46.00	-11.79	1.00 V	250	12.40	21.81
5	595.67	31.63 QP	46.00	-14.37	1.50 V	145	9.26	22.37
6	642.32	31.92 QP	46.00	-14.08	1.00 V	31	8.97	22.94
7	675.37	33.71 QP	46.00	-12.29	1.00 V	31	10.12	23.59
8	743.41	33.55 QP	46.00	-12.45	1.50 V	295	7.99	25.56
9	914.47	34.47 QP	46.00	-11.53	1.00 V	226	6.71	27.76
10	947.52	34.74 QP	46.00	-11.26	1.00 V	88	5.44	29.30

REMARKS:

1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.

802.11b DSSS MODULATION:

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
MODULATION TYPE	DBPSK	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TRANSFER RATE	1Mbps	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH, 991hPa	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	2387.00	57.51 PK	74.00	-16.49	1.06 H	133	26.13	31.38
1	2387.00	49.22 AV	54.00	-4.78	1.06 H	133	17.84	31.38
2	*2412.00	103.89 PK			1.03 H	135	72.43	31.46
2	*2412.00	100.24 AV			1.03 H	135	68.78	31.46
3	3216.00	48.37 PK	83.89	-35.52	1.31 H	235	15.26	33.11
3	3216.00	43.26 AV	80.24	-36.98	1.31 H	235	10.15	33.11
4	4824.00	51.38 PK	74.00	-22.62	1.05 H	190	14.25	37.13
4	4824.00	47.56 AV	54.00	-6.44	1.05 H	190	10.43	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	2387.00	61.57 PK	74.00	-12.43	1.48 V	184	30.19	31.38
1	2387.00	52.57 AV	54.00	-1.43	1.48 V	184	21.19	31.38
2	*2412.00	110.20 PK			1.23 V	5	78.74	31.46
2	*2412.00	106.84 AV			1.23 V	5	75.38	31.46
3	3216.00	51.52 PK	90.20	-38.68	1.06 V	296	18.41	33.11
3	3216.00	48.25 AV	86.84	-38.59	1.06 V	296	15.14	33.11
4	4824.00	53.08 PK	74.00	-20.92	1.28 V	151	15.95	37.13
4	4824.00	49.81 AV	54.00	-4.19	1.28 V	151	12.68	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 6	FREQUENCY RANGE	1 ~ 25GHz
MODULATION TYPE	DBPSK	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TRANSFER RATE	1Mbps	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH, 991hPa	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	*2437.00	107.62 PK			1.44 H	255	76.08	31.54
1	*2437.00	103.14 AV			1.44 H	255	71.60	31.54
2	4874.00	52.35 PK	74.00	-21.65	1.21 H	227	15.06	37.29
2	4874.00	49.69 AV	54.00	-4.31	1.21 H	227	12.40	37.29

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	113.46 PK			1.01 V	191	81.92	31.54
1	*2437.00	110.24 AV			1.01 V	191	78.70	31.54
2	3248.00	52.68 PK	93.46	-40.78	1.59 V	134	19.49	33.19
2	3248.00	50.27 AV	90.24	-39.97	1.59 V	134	17.08	33.19
3	4874.00	53.40 PK	74.00	-20.60	1.05 V	166	16.11	37.29
3	4874.00	51.60 AV	54.00	-2.40	1.05 V	166	14.31	37.29

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	1Mbps	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH, 991hPa	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	102.54 PK			1.56 H	345	70.92	31.62
1	*2462.00	98.57 AV			1.56 H	345	66.95	31.62
2	2483.50	53.82 PK	74.00	-20.18	1.52 H	216	22.12	31.70
2	2483.50	46.48 AV	54.00	-7.52	1.52 H	216	14.78	31.70
3	4924.00	53.23 PK	74.00	-20.77	1.37 H	34	15.79	37.44
3	4924.00	47.50 AV	54.00	-6.50	1.37 H	34	10.06	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	*2462.00	108.58 PK			1.25 V	50	76.96	31.62
1	*2462.00	104.82 AV			1.25 V	50	73.20	31.62
2	2483.50	58.49 PK	74.00	-15.51	1.23 V	52	26.79	31.70
2	2483.50	51.39 AV	54.00	-2.61	1.23 V	52	19.69	31.70
3	3282.00	51.68 PK	74.00	-22.32	1.37 V	55	18.41	33.27
3	3282.00	48.65 AV	54.00	-5.35	1.37 V	55	15.38	33.27
4	4924.00	54.01 PK	74.00	-19.99	1.37 V	342	16.57	37.44
4	4924.00	49.76 AV	54.00	-4.24	1.37 V	342	12.32	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.

802.11g OFDM MODULATION:

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
MODULATION TYPE	BPSK	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TRANSFER RATE	6Mbps	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH, 991hPa	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	63.83 PK	74.00	-10.17	1.60 H	138	32.44	31.39
1	2390.00	48.01 AV	54.00	-5.99	1.60 H	138	16.62	31.39
2	*2412.00	105.36 PK			1.62 H	137	73.90	31.46
2	*2412.00	94.68 AV			1.62 H	137	63.22	31.46
3	3216.00	47.73 PK	85.36	-37.63	1.34 H	209	14.62	33.11
3	3216.00	42.71 AV	74.68	-35.97	1.34 H	209	9.60	33.11
4	4824.00	46.52 PK	74.00	-27.48	1.31 H	187	9.39	37.13
4	4824.00	36.30 AV	54.00	-17.70	1.31 H	187	-0.83	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	2390.00	72.37 PK	74.00	-1.63	1.22 V	192	40.98	31.39
1	2390.00	52.24 AV	54.00	-1.76	1.22 V	192	20.85	31.39
2	*2412.00	111.73 PK			1.02 V	193	80.27	31.46
2	*2412.00	101.62 AV			1.02 V	193	70.16	31.46
3	3216.00	52.16 PK	91.73	-39.57	1.24 V	160	19.05	33.11
3	3216.00	49.56 AV	81.62	-32.06	1.24 V	160	16.45	33.11
4	4824.00	50.10 PK	74.00	-23.90	1.19 V	171	12.97	37.13
4	4824.00	44.18 AV	54.00	-9.82	1.19 V	171	7.05	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 6	FREQUENCY RANGE	1 ~ 25GHz
MODULATION TYPE	BPSK	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TRANSFER RATE	6Mbps	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH, 991hPa	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	*2437.00	107.28 PK			1.25 H	328	75.74	31.54
1	*2437.00	96.54 AV			1.25 H	328	65.00	31.54
2	3248.00	49.72 PK	87.28	-37.56	1.52 H	220	16.53	33.19
2	3248.00	42.68 AV	76.54	-33.86	1.52 H	220	9.49	33.19

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	2390.00	60.67 PK	74.00	-13.33	1.27 V	127	29.28	31.39
1	2390.00	51.03 AV	54.00	-2.97	1.27 V	127	19.64	31.39
2	*2437.00	114.05 PK			1.27 V	141	82.51	31.54
2	*2437.00	103.22 AV			1.27 V	141	71.68	31.54
3	2483.50	58.49 PK	74.00	-15.51	1.27 V	131	26.79	31.70
3	2483.50	48.60 AV	54.00	-5.40	1.27 V	131	16.90	31.70
4	3248.00	53.71 PK	94.05	-40.34	1.06 V	146	20.53	33.19
4	3248.00	51.89 AV	83.22	-31.33	1.06 V	146	18.71	33.19
5	4874.00	50.26 PK	74.00	-23.74	1.03 V	168	12.97	37.29
5	4874.00	44.75 AV	54.00	-9.25	1.03 V	168	7.46	37.29

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	6Mbps	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH, 991hPa	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	103.45 PK			1.62 H	254	71.83	31.62
1	*2462.00	92.72 AV			1.62 H	254	61.10	31.62
2	2483.50	63.55 PK	74.00	-10.45	1.60 H	255	31.85	31.70
2	2483.50	48.12 AV	54.00	-5.88	1.60 H	255	16.42	31.70
3	3282.00	47.28 PK	74.00	-26.72	1.38 H	321	14.01	33.27
3	3282.00	42.65 AV	54.00	-11.35	1.38 H	321	9.38	33.27

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	109.96 PK			1.04 V	213	78.34	31.62
1	*2462.00	100.33 AV			1.04 V	213	68.71	31.62
2	2483.50	69.66 PK	74.00	-4.34	1.28 V	210	37.96	31.70
2	2483.50	52.41 AV	54.00	-1.59	1.28 V	210	20.71	31.70
3	3282.00	50.62 PK	74.00	-23.38	1.25 V	348	17.35	33.27
3	3282.00	47.45 AV	54.00	-6.55	1.25 V	348	14.18	33.27
4	4924.00	50.58 PK	74.00	-23.42	1.21 V	35	13.14	37.44
4	4924.00	44.37 AV	54.00	-9.63	1.21 V	35	6.93	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 (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	13Mbps	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH, 991hPa	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	62.09 PK	74.00	-11.91	1.59 H	173	30.70	31.39
1	2390.00	46.75 AV	54.00	-7.25	1.59 H	173	15.36	31.39
2	*2412.00	103.95 PK			1.58 H	171	72.49	31.46
2	*2412.00	93.21 AV			1.58 H	171	61.75	31.46
3	3216.00	47.82 PK	83.95	-36.13	1.15 H	322	14.71	33.11
3	3216.00	42.65 AV	73.21	-30.56	1.15 H	322	9.54	33.11
4	4824.00	47.28 PK	74.00	-26.72	1.58 H	215	10.15	37.13
4	4824.00	37.19 AV	54.00	-16.81	1.58 H	215	0.06	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	2390.00	67.78 PK	74.00	-6.22	1.28 V	150	36.39	31.39
1	2390.00	52.14 AV	54.00	-1.86	1.28 V	150	20.75	31.39
2	*2412.00	111.98 PK			1.03 V	206	80.52	31.46
2	*2412.00	102.03 AV			1.03 V	206	70.57	31.46
3	3216.00	52.11 PK	91.98	-39.87	1.30 V	152	19.00	33.11
3	3216.00	49.52 AV	82.03	-32.51	1.30 V	152	16.41	33.11
4	4824.00	50.48 PK	74.00	-23.52	1.17 V	172	13.35	37.13
4	4824.00	45.79 AV	54.00	-8.21	1.17 V	172	8.66	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 6	FREQUENCY RANGE	1 ~ 25GHz
MODULATION TYPE	BPSK	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TRANSFER RATE	13Mbps	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH, 991hPa	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	59.74 PK	74.00	-14.26	1.33 H	218	28.35	31.39
1	2390.00	50.38 AV	54.00	-3.62	1.33 H	218	18.99	31.39
2	*2437.00	108.25 PK			1.58 H	175	76.71	31.54
2	*2437.00	98.46 AV			1.58 H	175	66.92	31.54
3	2483.50	60.75 PK	74.00	-13.25	1.64 H	311	29.05	31.70
3	2483.50	49.34 AV	54.00	-4.66	1.64 H	311	17.64	31.70

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	60.81 PK	74.00	-13.19	1.25 V	151	29.42	31.39
1	2390.00	51.45 AV	54.00	-2.55	1.25 V	151	20.06	31.39
2	*2437.00	116.03 PK			1.24 V	149	84.49	31.54
2	*2437.00	106.40 AV			1.24 V	149	74.86	31.54
3	2483.50	61.89 PK	74.00	-12.11	1.25 V	152	30.19	31.70
3	2483.50	50.24 AV	54.00	-3.76	1.25 V	152	18.54	31.70
4	3248.00	53.62 PK	96.03	-42.41	1.08 V	153	20.43	33.19
4	3248.00	51.92 AV	86.40	-34.48	1.08 V	153	18.73	33.19
5	4874.00	50.49 PK	74.00	-23.51	1.28 V	204	13.20	37.29
5	4874.00	46.13 AV	54.00	-7.87	1.28 V	204	8.84	37.29

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	13Mbps	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH, 991hPa	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	103.15 PK			1.60 H	181	71.53	31.62
1	*2462.00	93.26 AV			1.60 H	181	61.64	31.62
2	2483.50	63.27 PK	74.00	-10.73	1.42 H	155	31.57	31.70
2	2483.50	47.10 AV	54.00	-6.90	1.42 H	155	15.40	31.70
3	4924.00	47.68 PK	74.00	-26.32	1.17 H	214	10.24	37.44
3	4924.00	37.45 AV	54.00	-16.55	1.17 H	214	0.01	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	*2462.00	111.07 PK			1.00 V	158	79.45	31.62
1	*2462.00	101.66 AV			1.00 V	158	70.04	31.62
2	2484.00	68.62 PK	74.00	-5.38	1.47 V	166	36.92	31.70
2	2484.00	52.57 AV	54.00	-1.43	1.47 V	166	20.87	31.70
3	3282.00	51.82 PK	74.00	-22.18	1.30 V	31	18.55	33.27
3	3282.00	48.66 AV	54.00	-5.34	1.30 V	31	15.39	33.27
4	4924.00	50.72 PK	74.00	-23.28	1.26 V	166	13.28	37.44
4	4924.00	46.03 AV	54.00	-7.97	1.26 V	166	8.59	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	27Mbps	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH, 991hPa	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	63.31 PK	74.00	-10.69	1.59 H	173	31.92	31.39
1	2390.00	49.84 AV	54.00	-4.16	1.59 H	173	18.45	31.39
2	*2422.00	100.36 PK			1.55 H	173	68.87	31.49
2	*2422.00	91.63 AV			1.55 H	173	60.14	31.49
3	4844.00	47.32 PK	74.00	-26.68	1.57 H	224	10.13	37.19
3	4844.00	37.09 AV	54.00	-16.91	1.57 H	224	-0.10	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	2390.00	68.07 PK	74.00	-5.93	1.24 V	168	36.68	31.39
1	2390.00	52.50 AV	54.00	-1.50	1.24 V	168	21.11	31.39
2	*2422.00	107.56 PK			1.25 V	177	76.07	31.49
2	*2422.00	98.44 AV			1.25 V	177	66.95	31.49
3	3216.00	52.29 PK	87.56	-35.27	1.47 V	65	19.18	33.11
3	3216.00	49.41 AV	78.44	-29.03	1.47 V	65	16.30	33.11
4	4844.00	50.86 PK	74.00	-23.14	1.06 V	172	13.67	37.19
4	4844.00	45.11 AV	54.00	-8.89	1.06 V	172	7.92	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 4	FREQUENCY RANGE	1 ~ 25GHz
MODULATION TYPE	BPSK	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TRANSFER RATE	27Mbps	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH, 991hPa	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	*2437.00	102.42 PK			1.25 H	158	70.88	31.54
1	*2437.00	93.14 AV			1.25 H	158	61.60	31.54
2	4874.00	48.55 PK	74.00	-25.45	1.57 H	308	11.26	37.29
2	4874.00	38.62 AV	54.00	-15.38	1.57 H	308	1.33	37.29

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	65.42 PK	74.00	-8.58	1.55 V	105	34.03	31.39
1	2390.00	51.17 AV	54.00	-2.83	1.55 V	105	19.78	31.39
2	*2437.00	109.19 PK			1.72 V	105	77.65	31.54
2	*2437.00	99.56 AV			1.72 V	105	68.02	31.54
3	2483.50	65.17 PK	74.00	-8.83	1.72 V	108	33.47	31.70
3	2483.50	52.25 AV	54.00	-1.75	1.72 V	108	20.55	31.70
4	3248.00	52.61 PK	89.19	-36.58	1.19 V	154	19.42	33.19
4	3248.00	49.37 AV	79.56	-30.19	1.19 V	154	16.18	33.19
5	4874.00	50.31 PK	74.00	-23.69	1.32 V	250	13.02	37.29
5	4874.00	46.08 AV	54.00	-7.92	1.32 V	250	8.79	37.29

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	27Mbps	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH, 991hPa	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	100.52 PK			1.62 H	351	68.93	31.59
1	*2452.00	91.73 AV			1.62 H	351	60.14	31.59
2	2483.50	63.42 PK	74.00	-10.58	1.66 H	357	31.72	31.70
2	2483.50	49.90 AV	54.00	-4.10	1.66 H	357	18.20	31.70
3	4904.00	48.07 PK	74.00	-25.93	1.00 H	314	10.69	37.38
3	4904.00	37.63 AV	54.00	-16.37	1.00 H	314	0.25	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	*2452.00	107.74 PK			1.50 V	352	76.15	31.59
1	*2452.00	98.50 AV			1.50 V	352	66.91	31.59
2	2483.50	67.03 PK	74.00	-6.97	1.20 V	355	35.33	31.70
2	2483.50	52.66 AV	54.00	-1.34	1.20 V	355	20.96	31.70
3	3282.00	51.79 PK	74.00	-22.21	1.37 V	64	18.52	33.27
3	3282.00	48.65 AV	54.00	-5.35	1.37 V	64	15.38	33.27
4	4904.00	50.74 PK	74.00	-23.26	1.25 V	184	13.36	37.38
4	4904.00	45.21 AV	54.00	-8.79	1.25 V	184	7.83	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.

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	FSEK 30	100049	Aug. 14, 2006

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

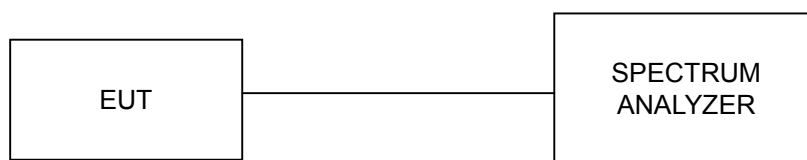
4.3.3 TEST PROCEDURE

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.

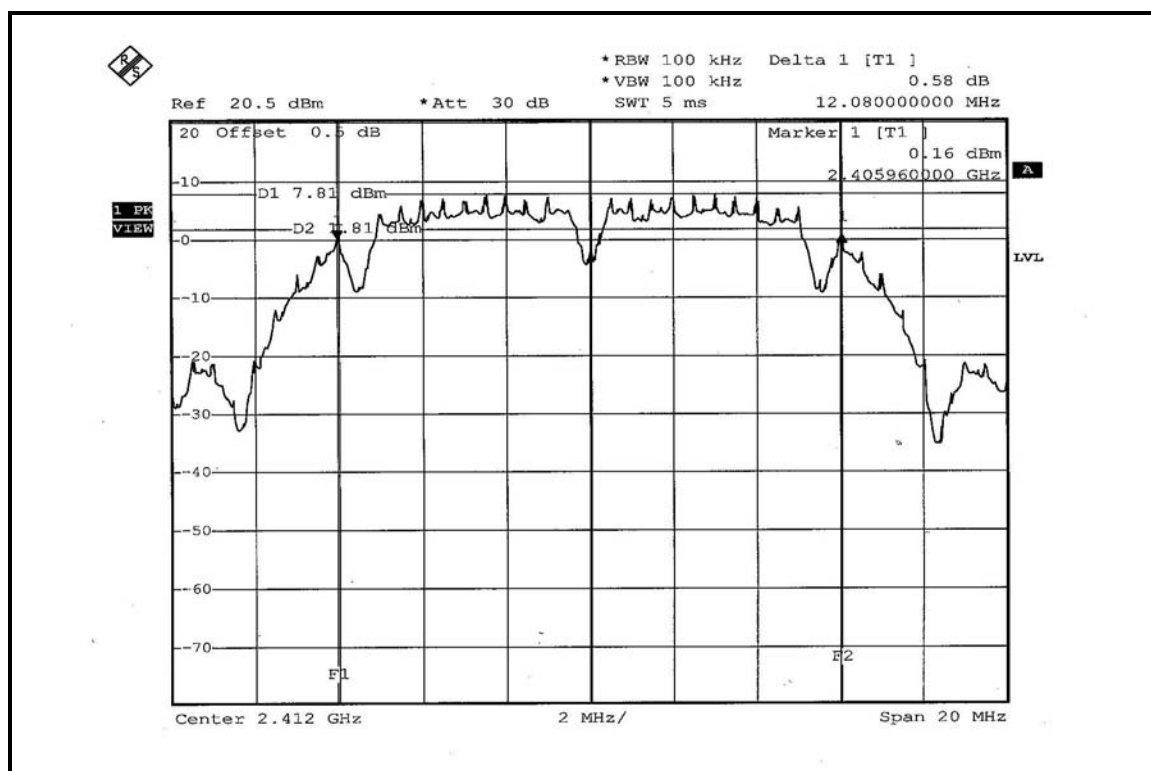
4.3.7 TEST RESULTS

802.11b DSSS MODULATION:

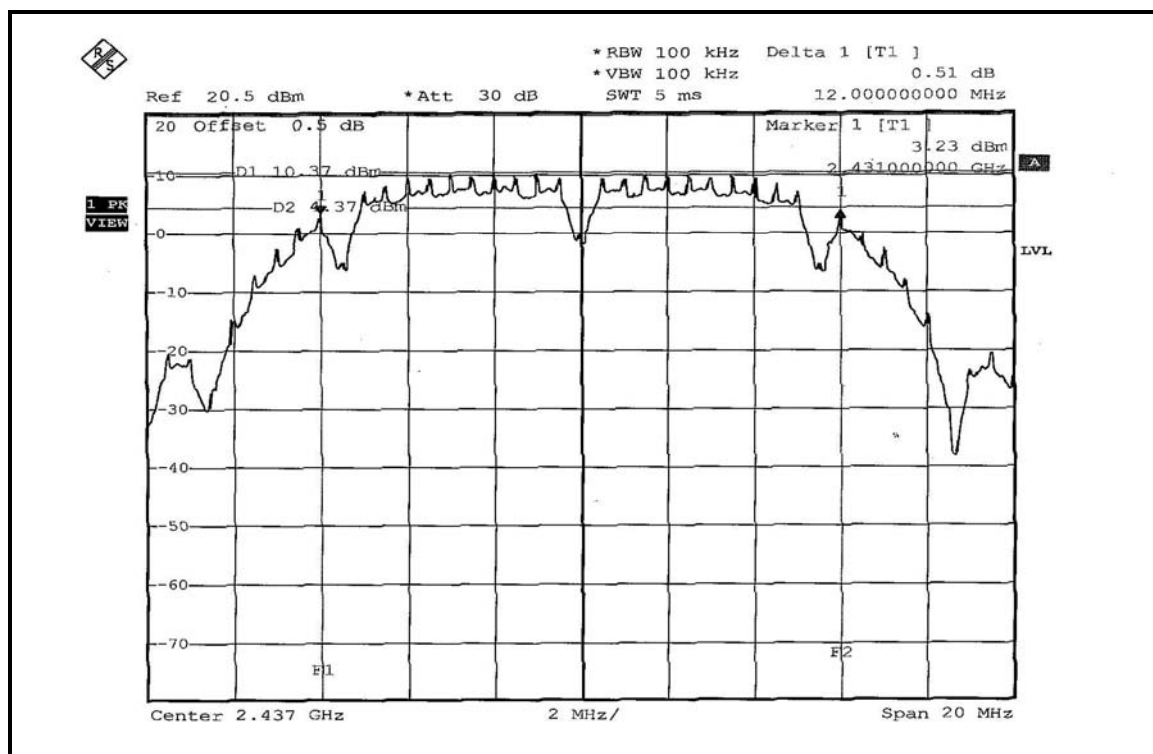
MODULATION TYPE	DBPSK	TRANSFER RATE	1Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	25deg.C, 65%RH, 991hPa
TESTED BY	Match Tsui		

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	12.08	0.5	PASS
6	2437	12.00	0.5	PASS
11	2462	12.00	0.5	PASS

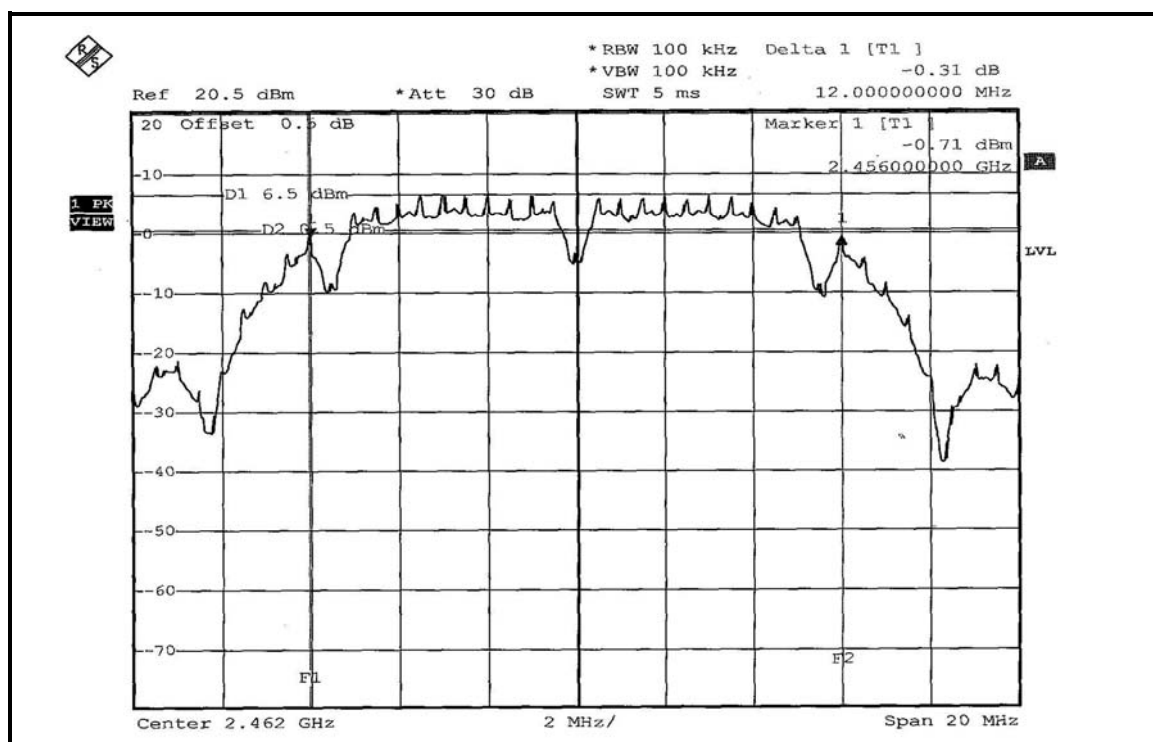
CH 1



CH 6



CH 11

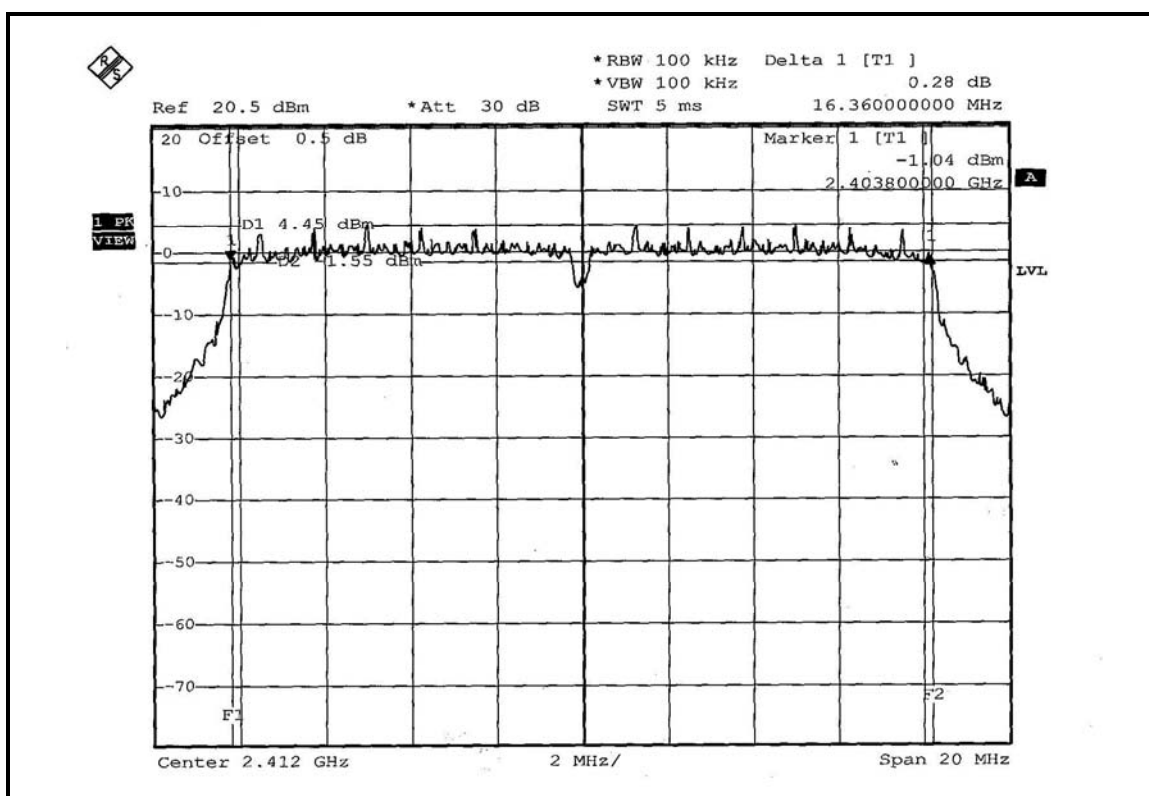


802.11g OFDM MODULATION:

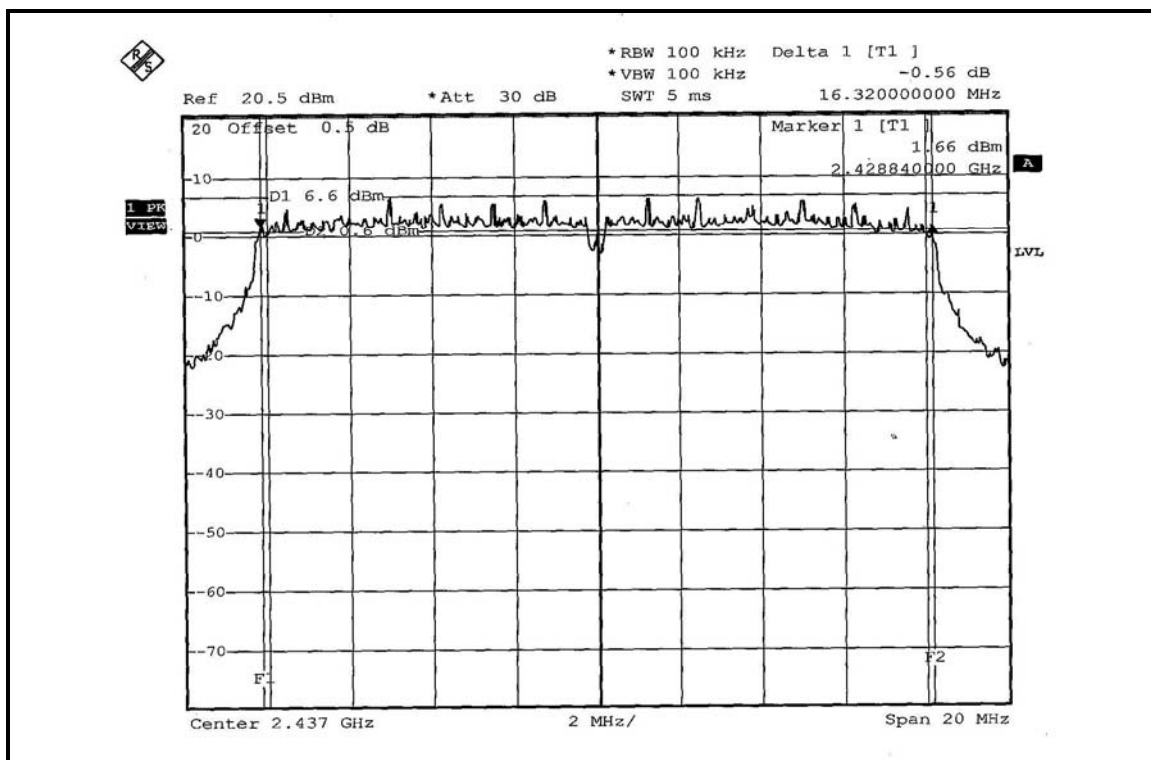
MODULATION TYPE	BPSK	TRANSFER RATE	6Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	25deg.C, 65%RH, 991hPa
TESTED BY	Match Tsui		

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	16.36	0.5	PASS
6	2437	16.32	0.5	PASS
11	2462	16.40	0.5	PASS

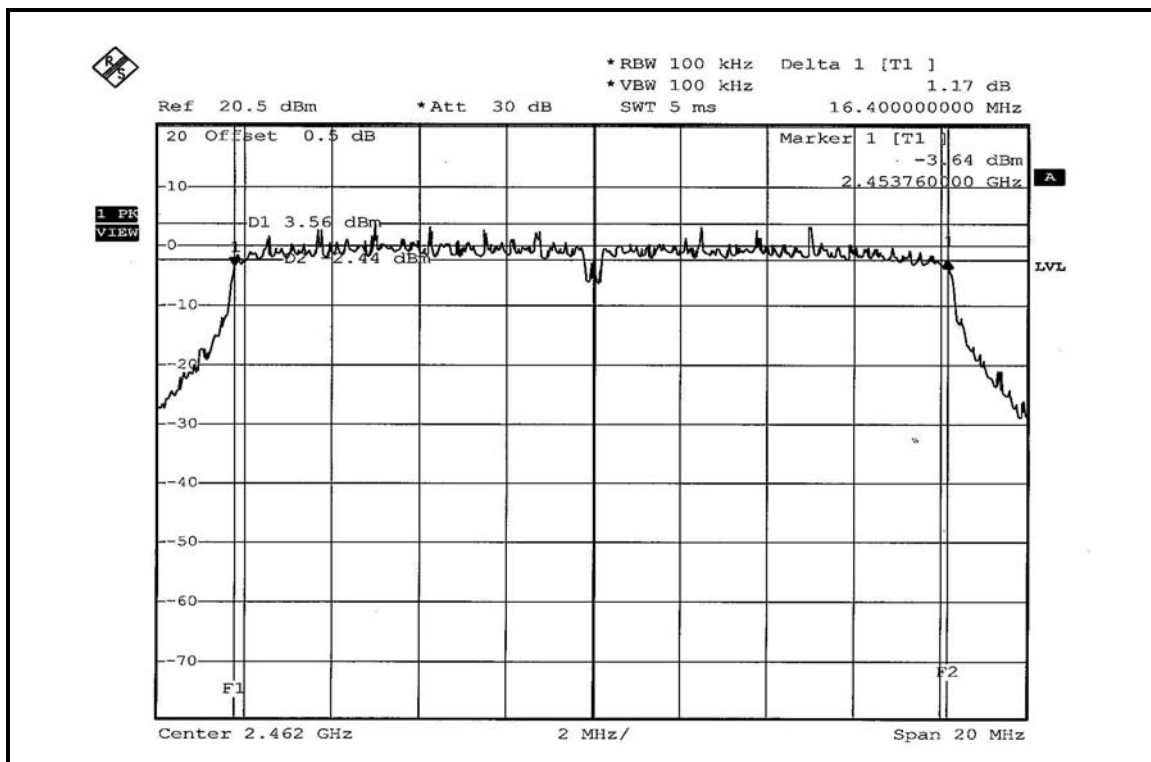
CH 1



CH 6



CH 11

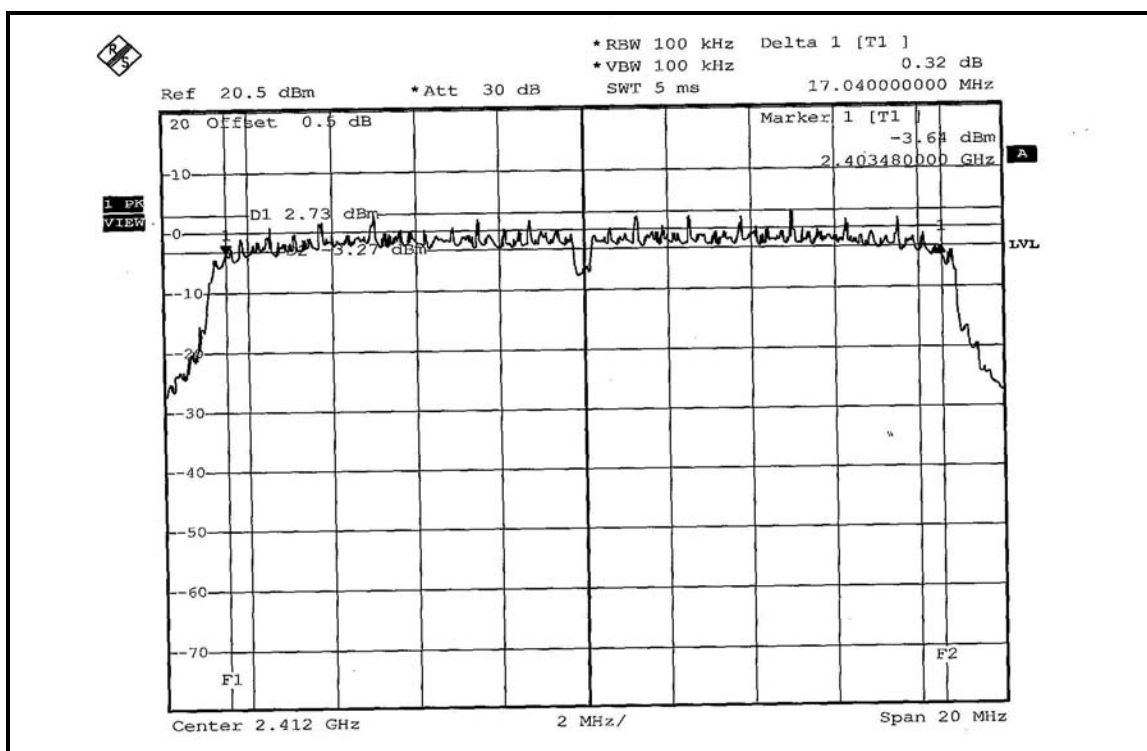


DRAFT 802.11n (20MHz) OFDM MODULATION - DUAL TX:

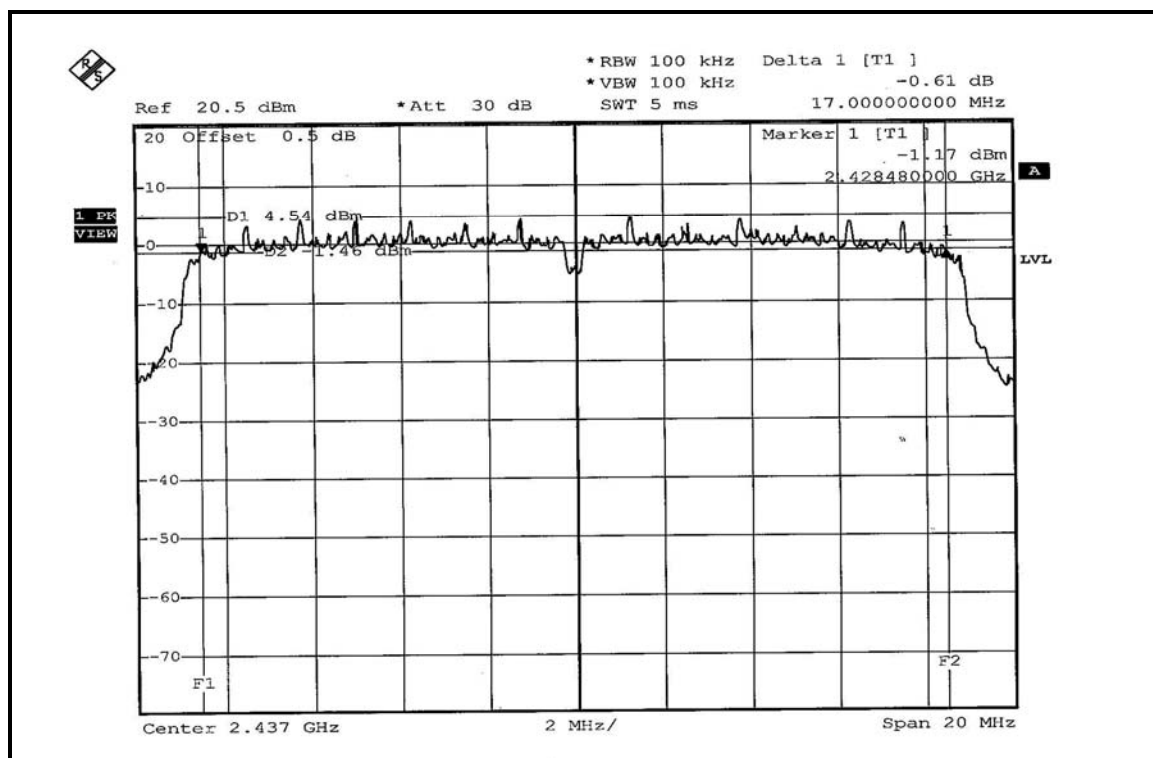
MODULATION TYPE	BPSK	TRANSFER RATE	13Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	25deg.C, 65%RH, 991hPa
TESTED BY	Match Tsui		

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
1	2412	17.04	17.00	0.5	PASS
6	2437	17.00	17.28	0.5	PASS
11	2462	17.00	16.92	0.5	PASS

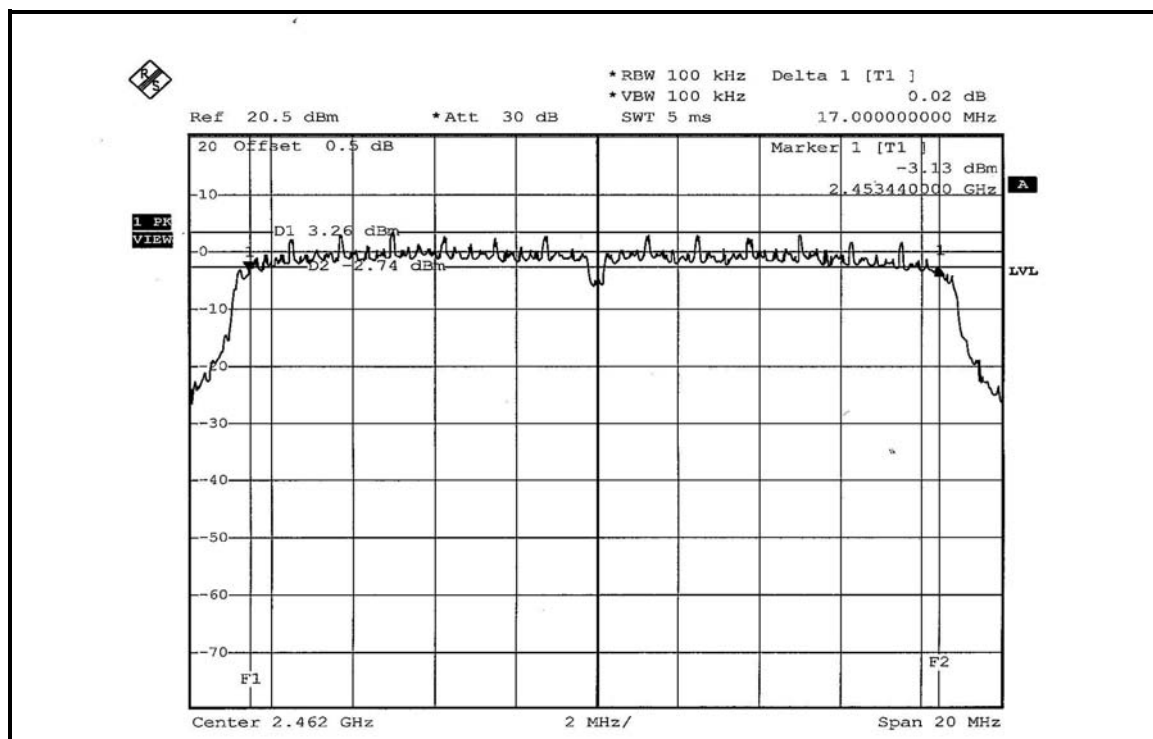
FOR CHAIN 0: CH 1



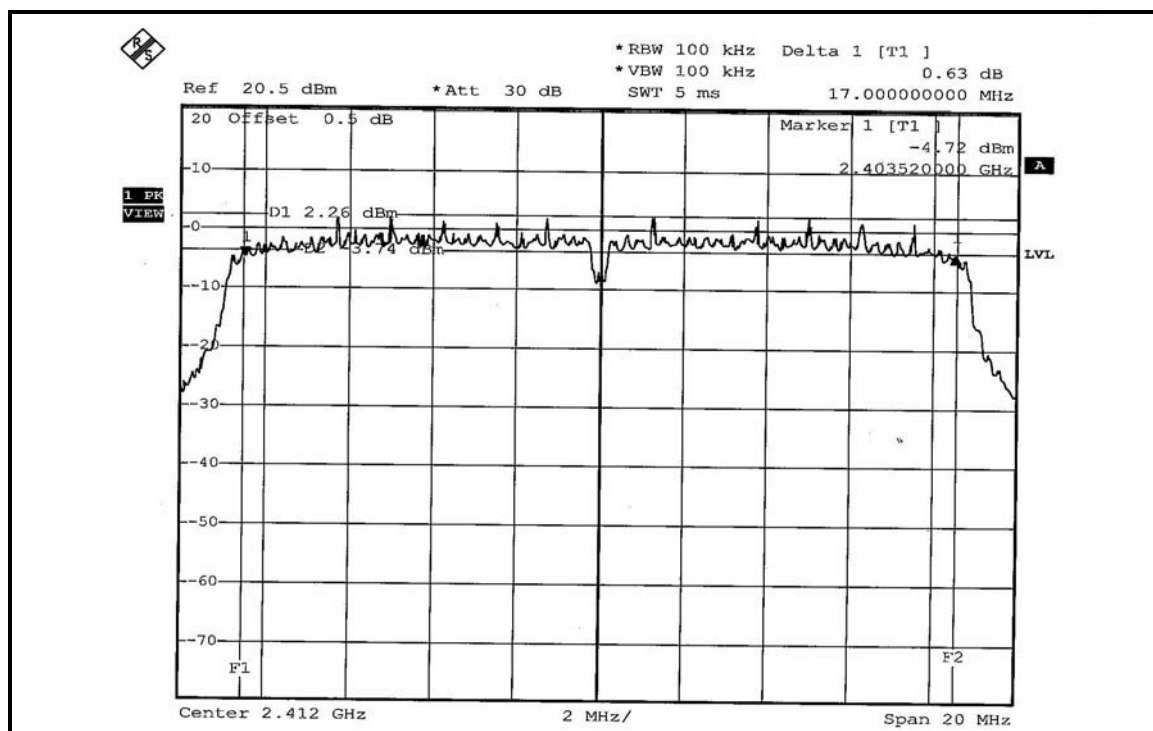
CH 6



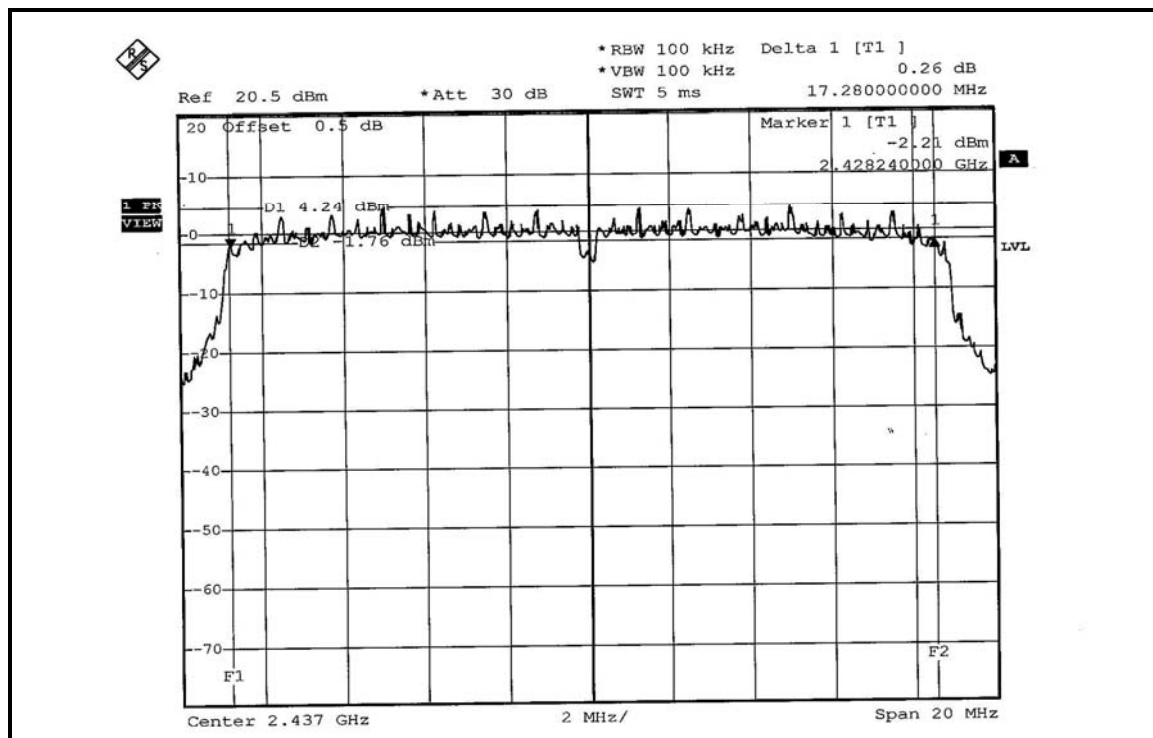
CH 11



FOR CHAIN 1: CH 1



CH 6

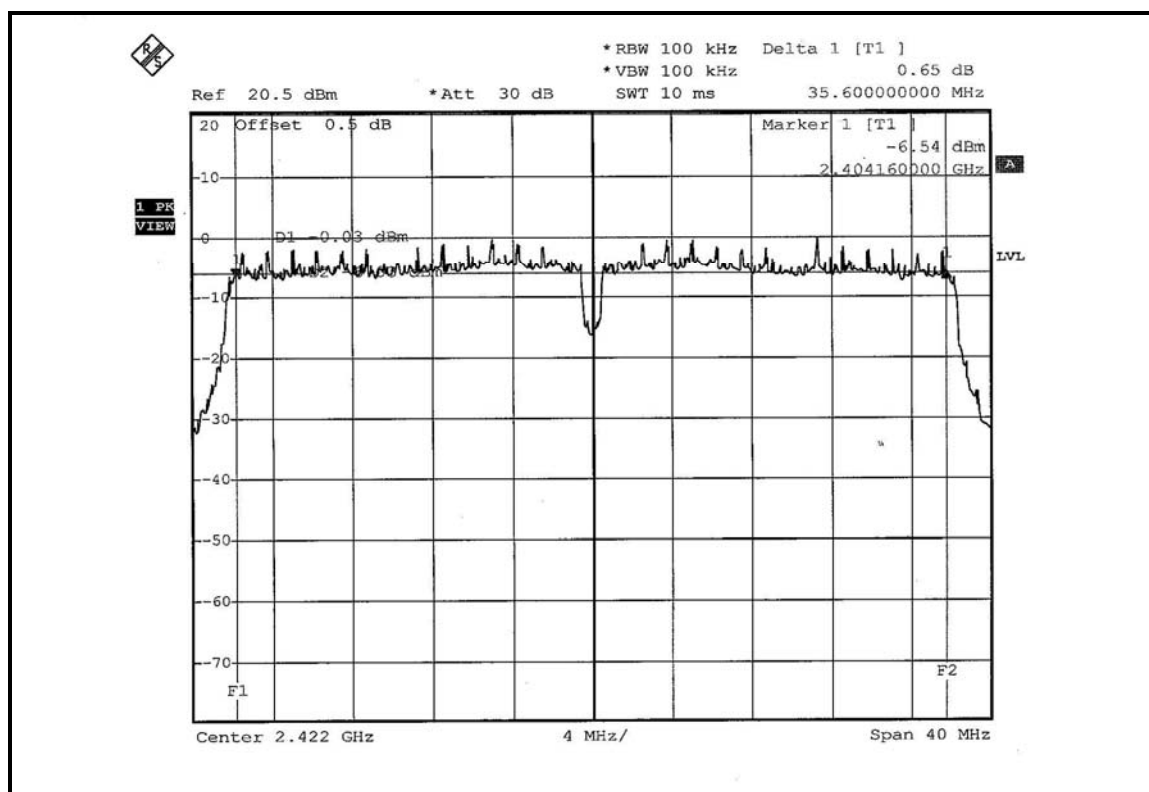


DRAFT 802.11n (40MHz) OFDM MODULATION - DUAL TX:

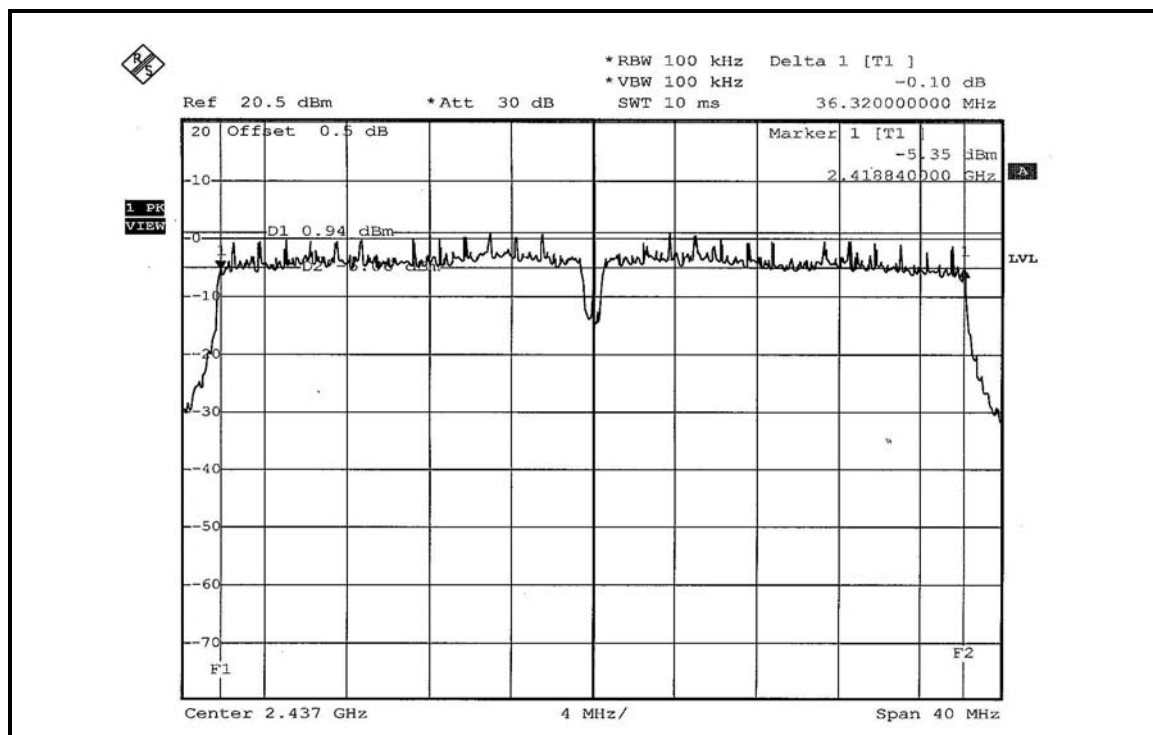
MODULATION TYPE	BPSK	TRANSFER RATE	27Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	25deg.C, 65%RH, 991hPa
TESTED BY	Match Tsui		

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
1	2422	35.60	35.68	0.5	PASS
4	2437	36.32	36.16	0.5	PASS
7	2452	35.84	36.24	0.5	PASS

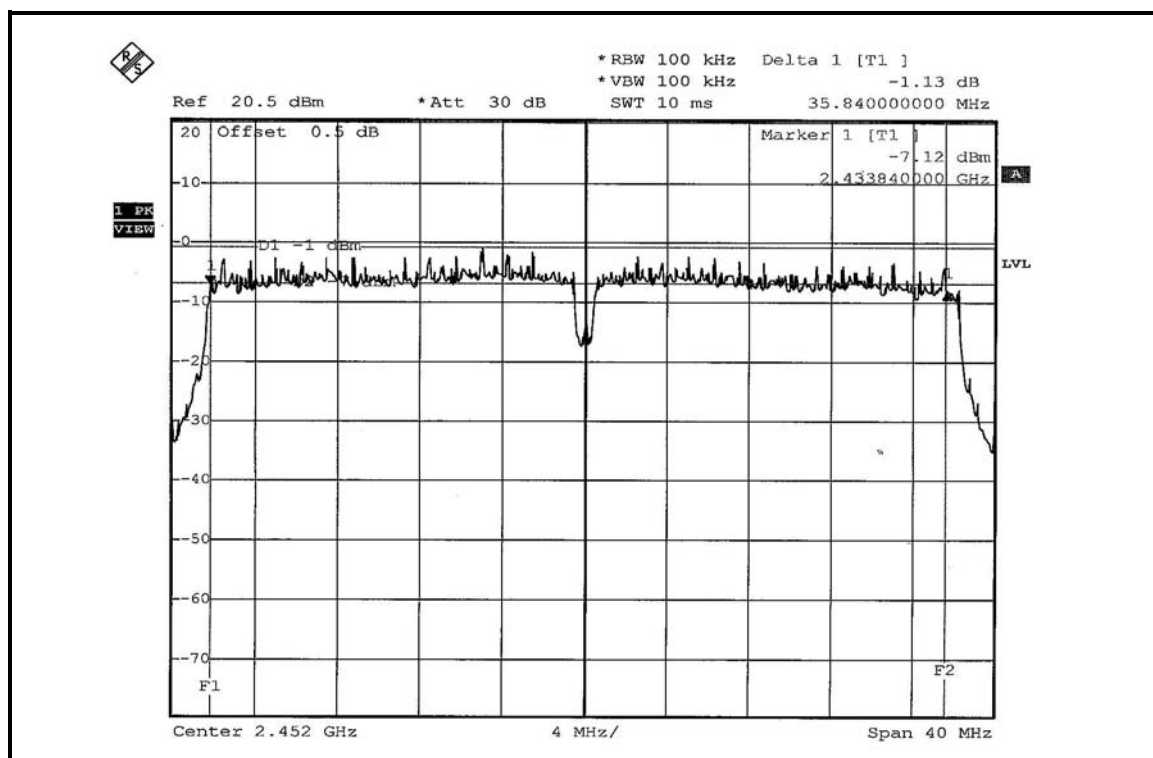
FOR CHAIN 0: CH 1



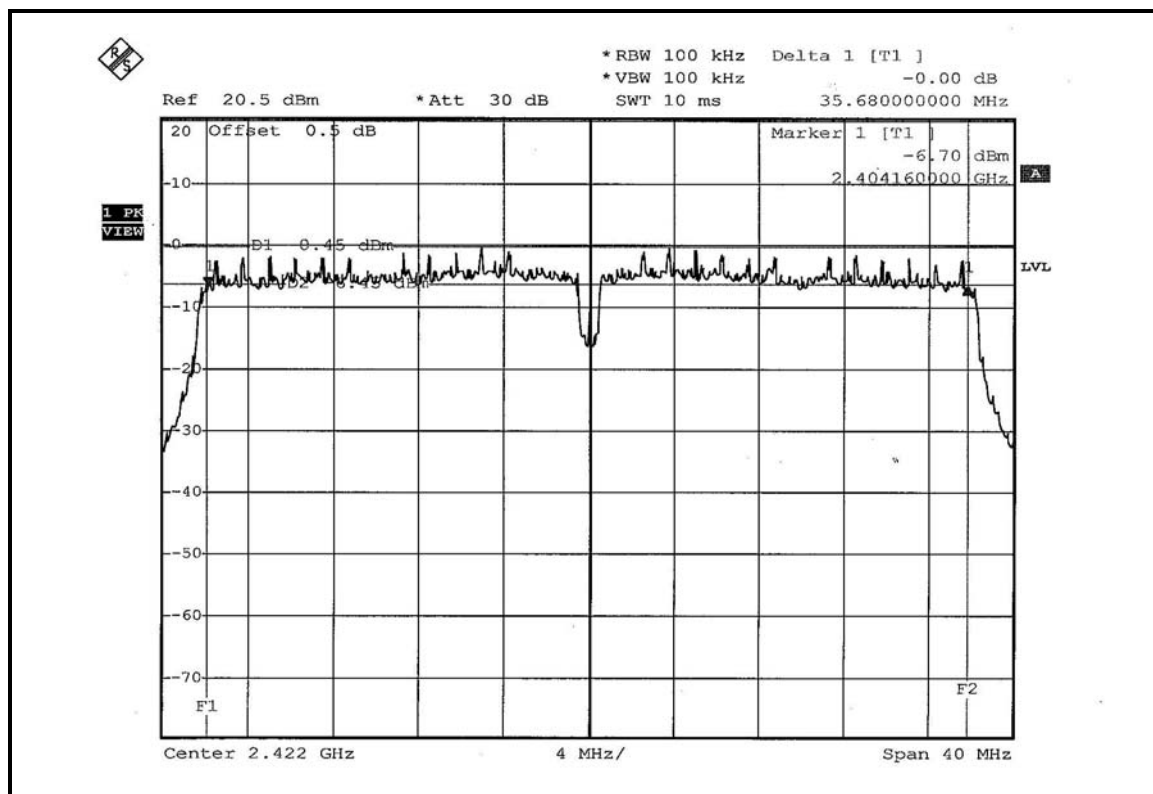
CH 4



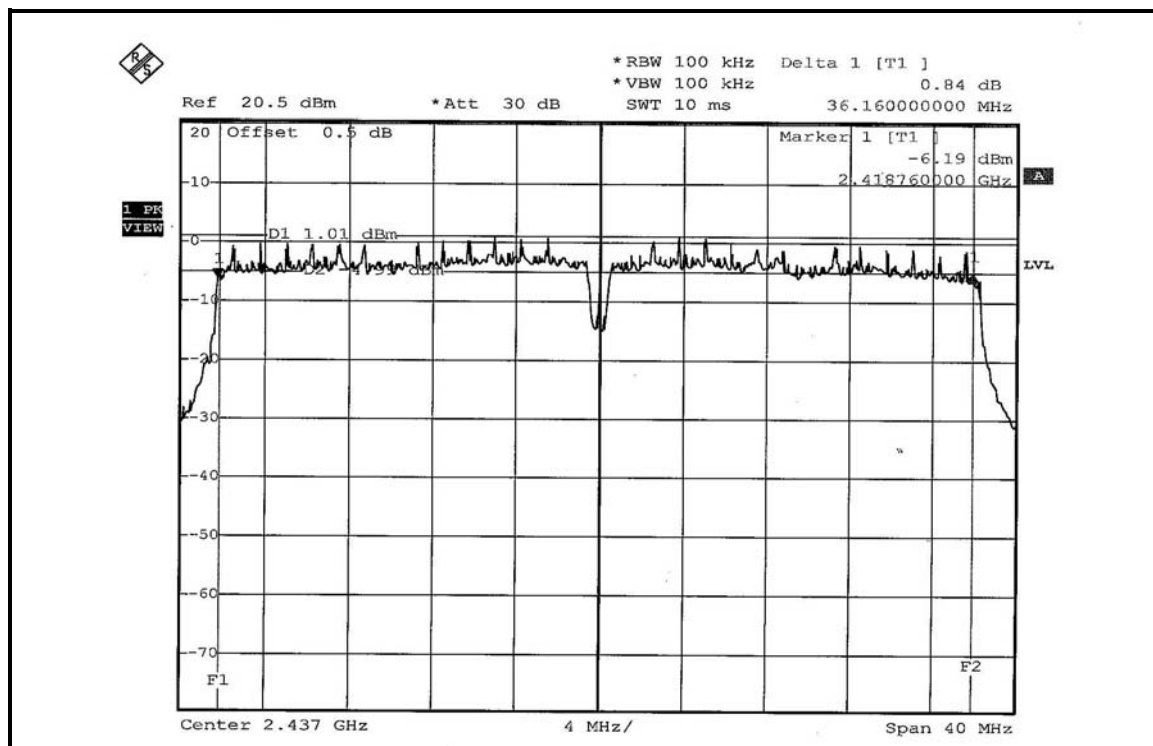
CH 7



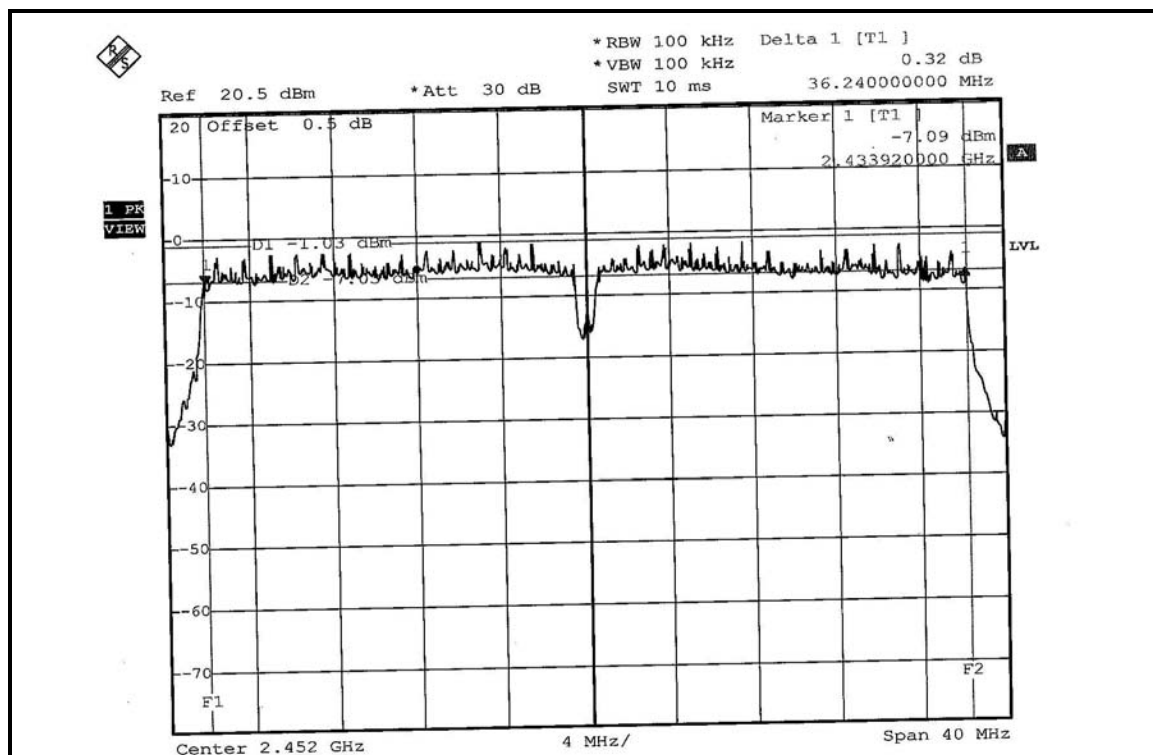
FOR CHAIN 1: CH 1



CH 4



CH 7



4.4 MAXIMUM PEAK OUTPUT POWER

4.4.1 LIMITS OF MAXIMUM PEAK OUTPUT POWER MEASUREMENT

The Maximum Peak Output Power Measurement is 30dBm.

4.4.2 INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
R&S SPECTRUM ANALYZER	FSEK30	100049	Aug. 14, 2006
AGILENT SIGNAL GENERATOR	E8257C	MY43320668	Dec. 07, 2006
DIGITAL RT OSCILLOSCOPE	TDS1012	C037299	Nov. 28, 2006
NARDA DETECTOR	4503A	FSCM99899	NA

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

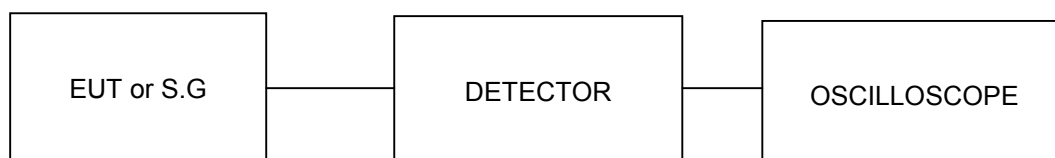
4.4.3 TEST PROCEDURES

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

4.4.4 DEVIATION FROM TEST STANDARD

No deviation

4.4.5 TEST SETUP



4.4.6 EUT OPERATING CONDITIONS

Same as Item 4.3.6

4.4.7 TEST RESULTS

802.11b DSSS MODULATION:

MODULATION TYPE	DBPSK	TRANSFER RATE	1Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	25deg.C, 65%RH, 991hPa
TESTED BY	Match Tsui		

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS / FAIL
1	2412	101.158	20.05	30	PASS
6	2437	178.238	22.51	30	PASS
11	2462	68.707	18.37	30	PASS

802.11g OFDM MODULATION:

MODULATION TYPE	BPSK	TRANSFER RATE	6Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	25deg.C, 65%RH, 991hPa
TESTED BY	Match Tsui		

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS / FAIL
1	2412	130.918	21.17	30	PASS
6	2437	181.970	22.60	30	PASS
11	2462	102.329	20.10	30	PASS

DRAFT 802.11n (20MHz) OFDM modulation - DUAL TX:

MODULATION TYPE	BPSK	TRANSFER RATE	13Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	25deg.C, 65%RH, 991hPa
TESTED BY	Match Tsui		

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)		PEAK POWER OUTPUT (dBm)		TOTAL PEAK POWER (mW)	TOTAL PEAK POWER (dBm)	PEAK POWER LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 0	CHAIN 1				
1	2412	80.724	79.799	19.07	19.02	160.523	22.06	30	PASS
6	2437	159.956	159.221	22.04	22.02	319.177	25.04	30	PASS
11	2462	80.353	79.616	19.05	19.01	159.969	22.04	30	PASS

DRAFT 802.11n (40MHz) OFDM modulation - DUAL TX:

MODULATION TYPE	BPSK	TRANSFER RATE	27Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	25deg.C, 65%RH, 991hPa
TESTED BY	Match Tsui		

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)		PEAK POWER OUTPUT (dBm)		TOTAL PEAK POWER (mW)	TOTAL PEAK POWER (dBm)	PEAK POWER LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 0	CHAIN 1				
1	2422	71.450	71.450	18.54	18.54	142.899	21.55	30	PASS
4	2437	89.950	89.743	19.54	19.53	179.693	22.55	30	PASS
7	2452	61.376	60.954	17.88	17.85	122.330	20.88	30	PASS

4.5 POWER SPECTRAL DENSITY MEASUREMENT

4.5.1 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT

The Maximum of Power Spectral Density Measurement is 8dBm.

4.5.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
R&S SPECTRUM ANALYZER	FSEK30	100049	Aug. 14, 2006

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

4.5.3 TEST PROCEDURE

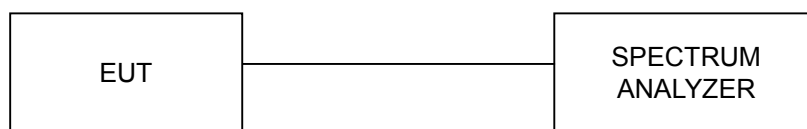
The transmitter output was connected to the spectrum analyzer through an attenuator, the bandwidth of the fundamental frequency was measured with the spectrum analyzer using 3kHz RBW and 30kHz VBW, set sweep time = span/3kHz. The power spectral density was measured and recorded.

The sweep time is allowed to be longer than span/3kHz for a full response of the mixer in the spectrum analyzer.

4.5.4 DEVIATION FROM TEST STANDARD

No deviation

4.5.5 TEST SETUP



4.5.6 EUT OPERATING CONDITION

Same as Item 4.3.6

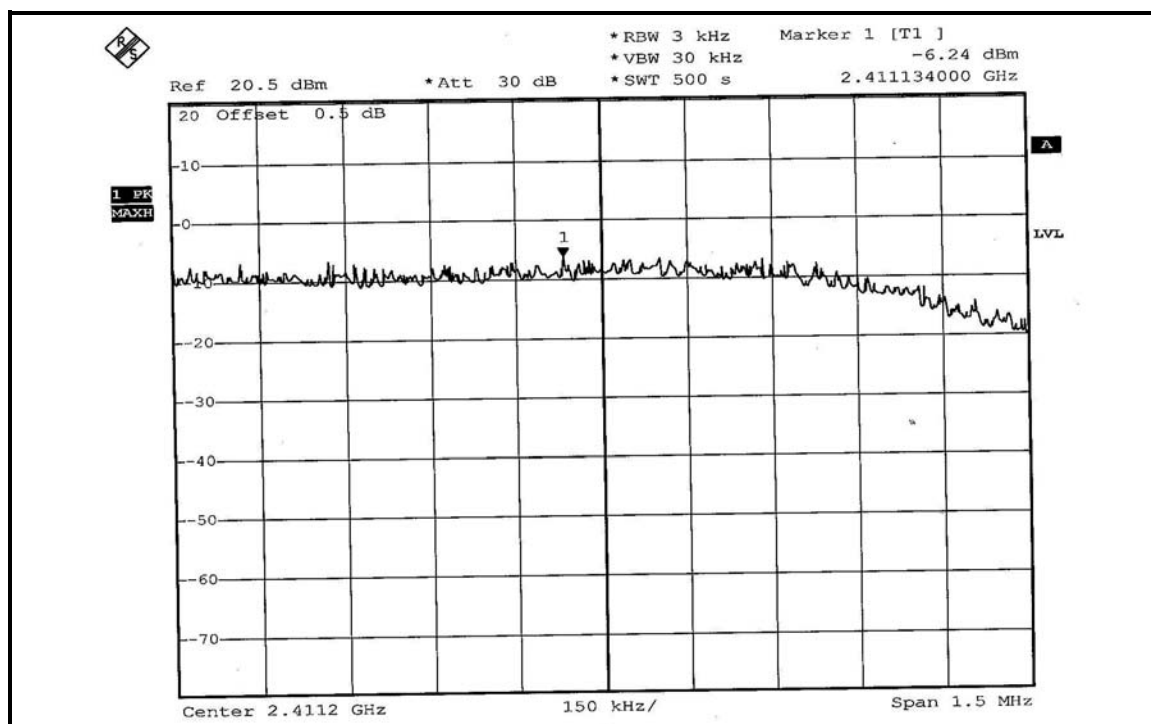
4.5.7 TEST RESULTS

802.11b DSSS MODULATION:

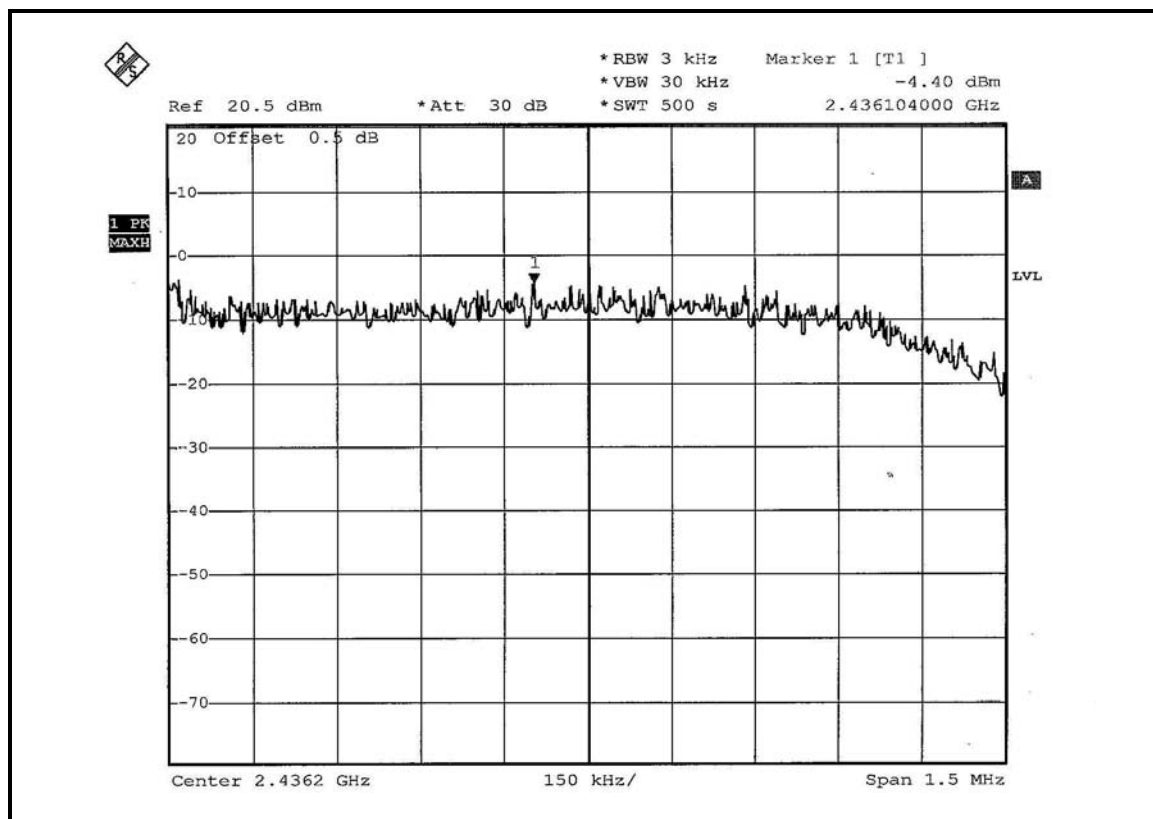
MODULATION TYPE	DBPSK	TRANSFER RATE	1Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	25deg.C, 65%RH, 991hPa
TESTED BY	Match Tsui		

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
1	2412	-6.24	8	PASS
6	2437	-4.40	8	PASS
11	2462	-7.99	8	PASS

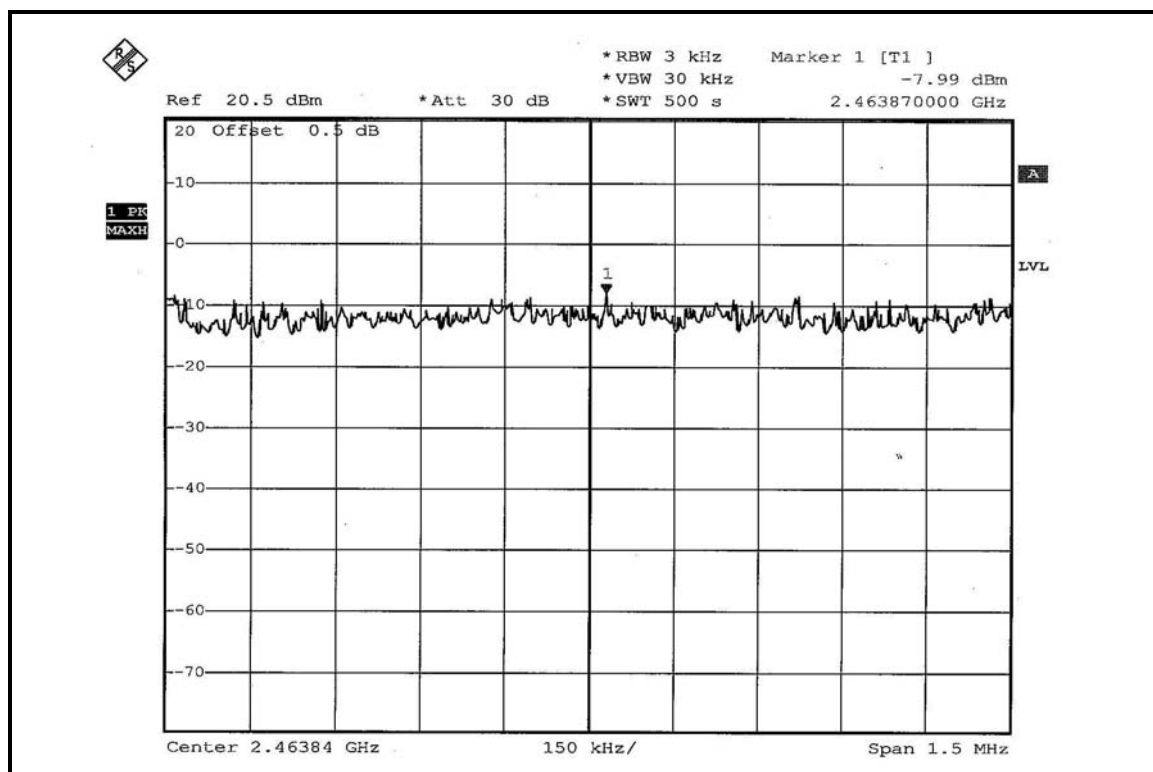
CH 1



CH 6



CH 11

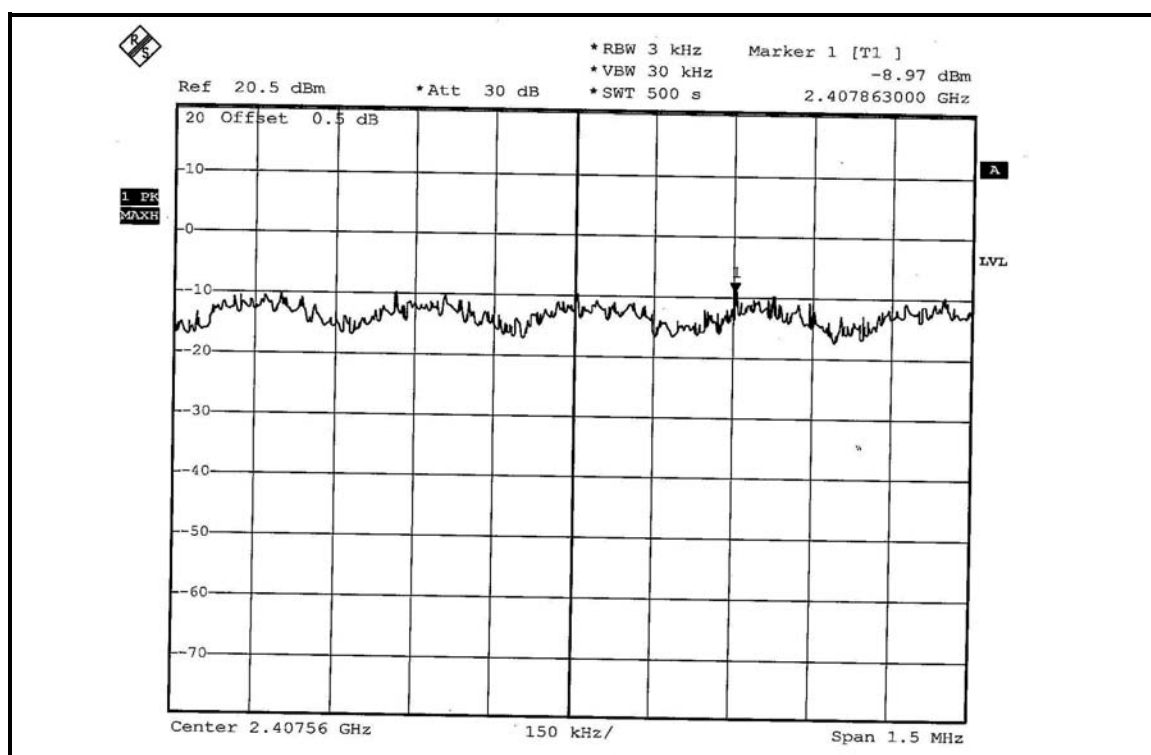


802.11g OFDM MODULATION:

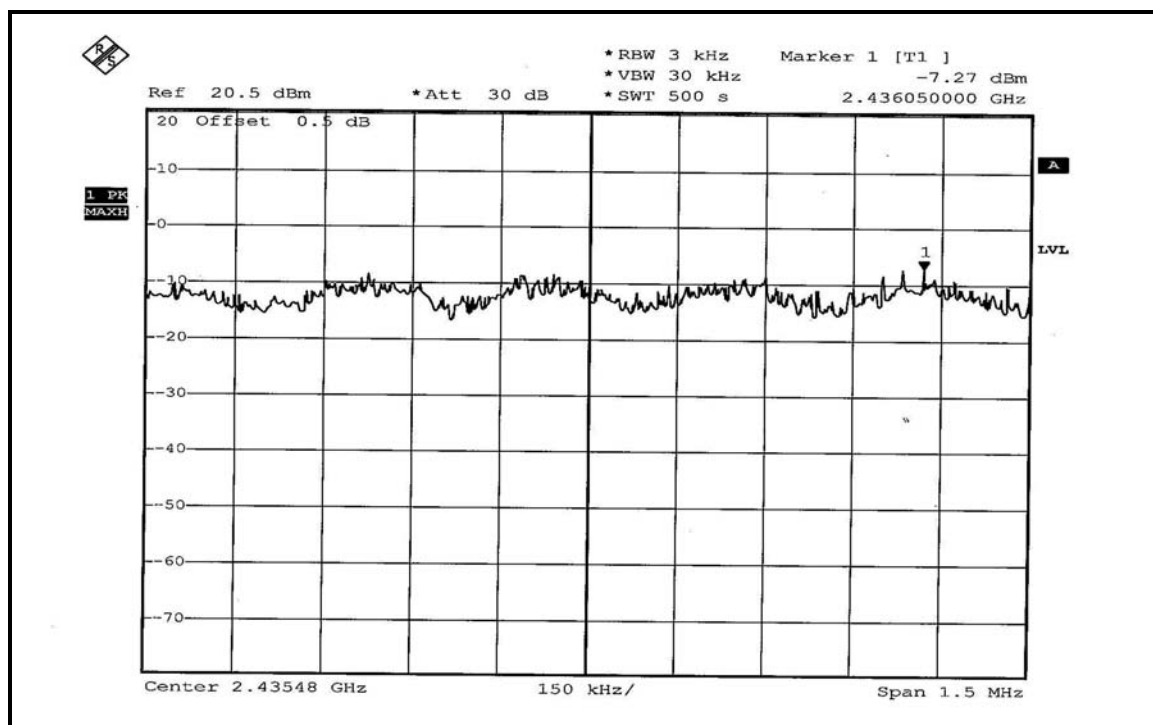
MODULATION TYPE	BPSK	TRANSFER RATE	6Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	25deg.C, 65%RH, 991hPa
TESTED BY	Match Tsui		

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
1	2412	-8.97	8	PASS
6	2437	-7.27	8	PASS
11	2462	-9.86	8	PASS

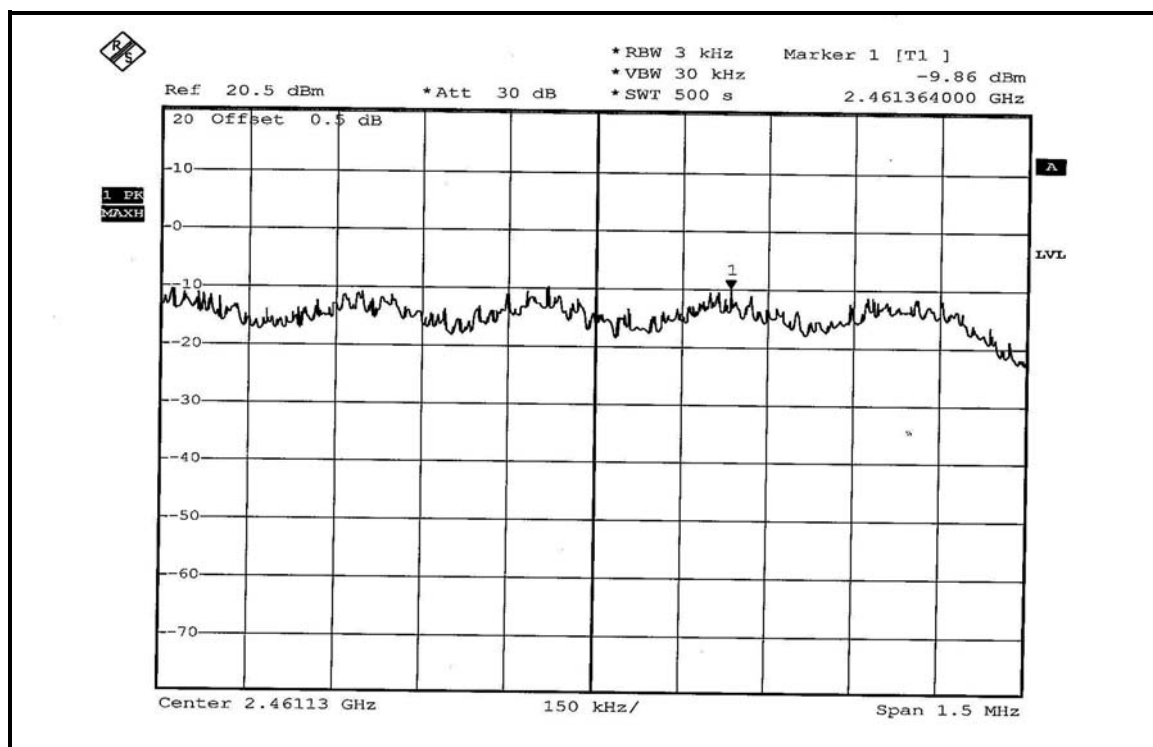
CH 1



CH 6



CH 11

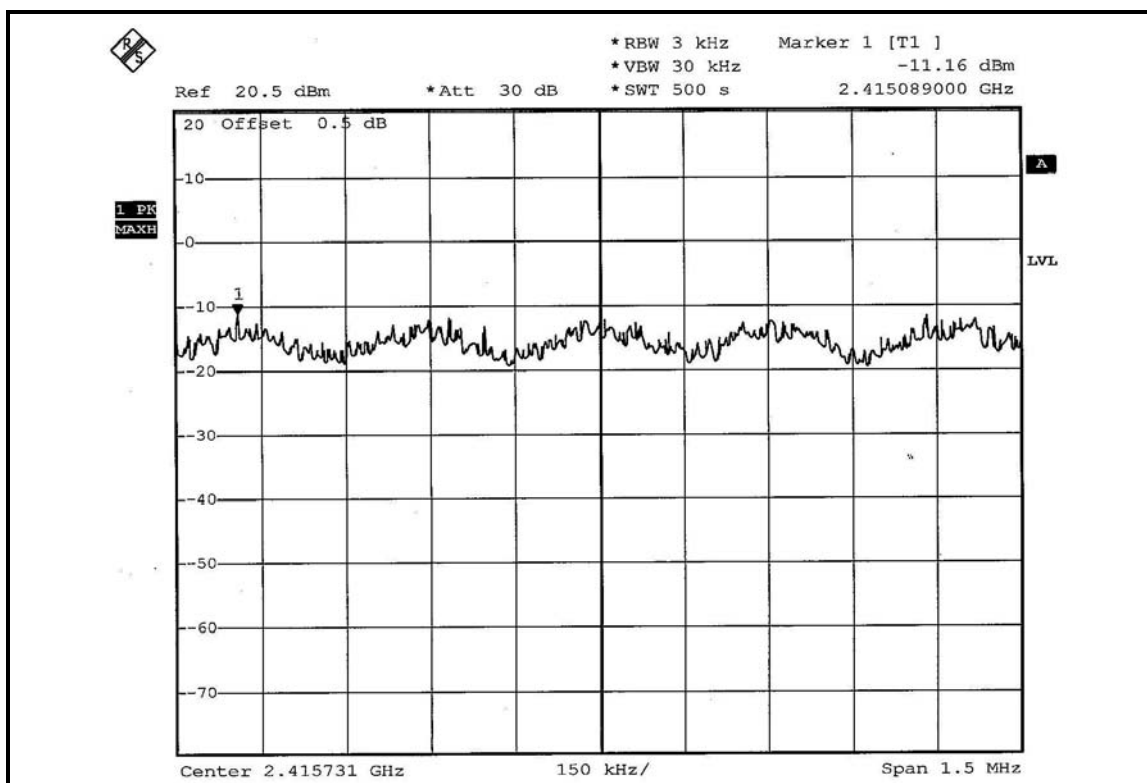


DRAFT 802.11n (20MHz) OFDM MODULATION - DUAL TX:

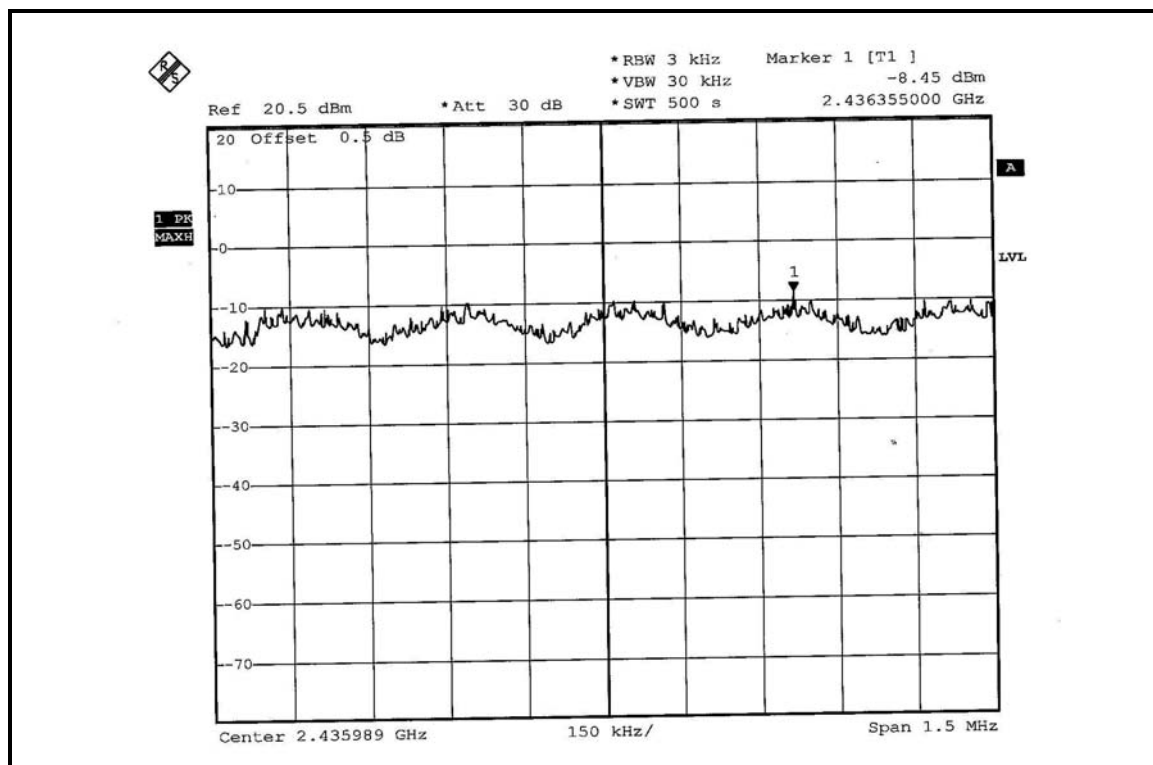
MODULATION TYPE	BPSK	TRANSFER RATE	13Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	25deg.C, 65%RH, 991hPa
TESTED BY	Match Tsui		

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (mW)		RF POWER LEVEL IN 3kHz BW (dBm)		TOTAL POWER DENSITY (mW)	TOTAL POWER DENSITY (dBm)	MAX. LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 0	CHAIN 1				
1	2412	0.077	0.070	-11.16	-11.53	0.147	-8.33	8	PASS
6	2437	0.143	0.142	-8.45	-8.49	0.285	-5.45	8	PASS
11	2462	0.074	0.074	-11.28	-11.31	0.148	-8.30	8	PASS

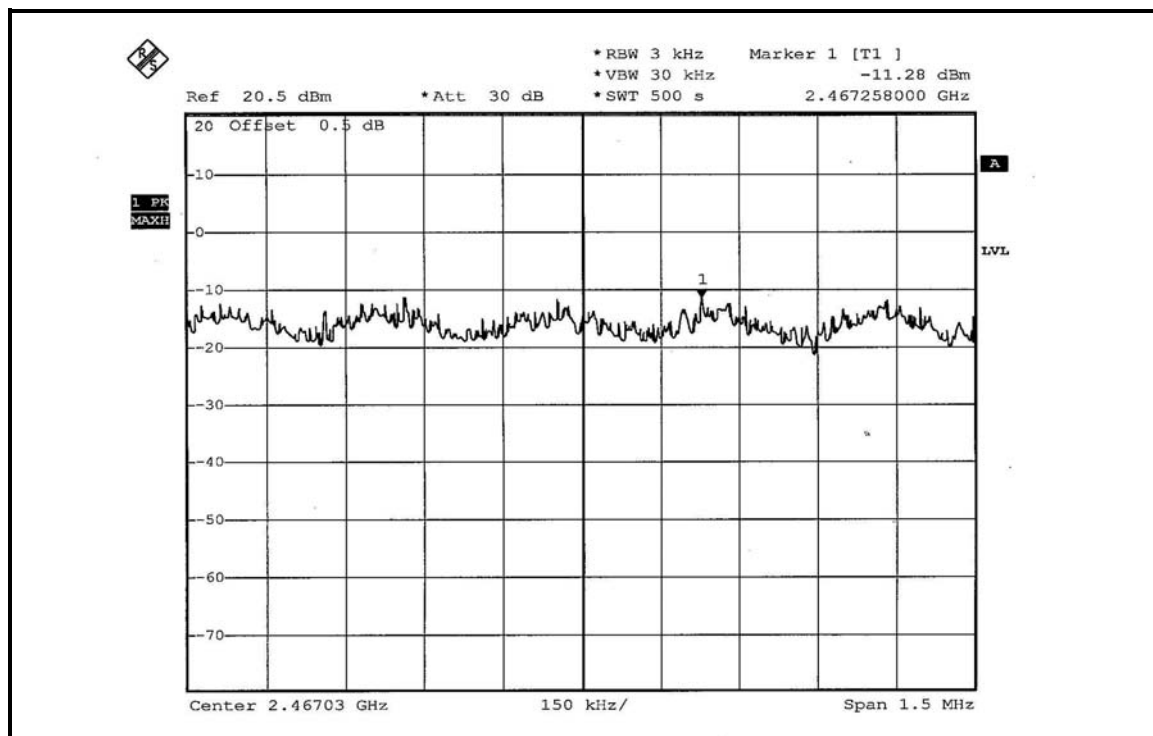
FOR CHAIN 0: CH 1



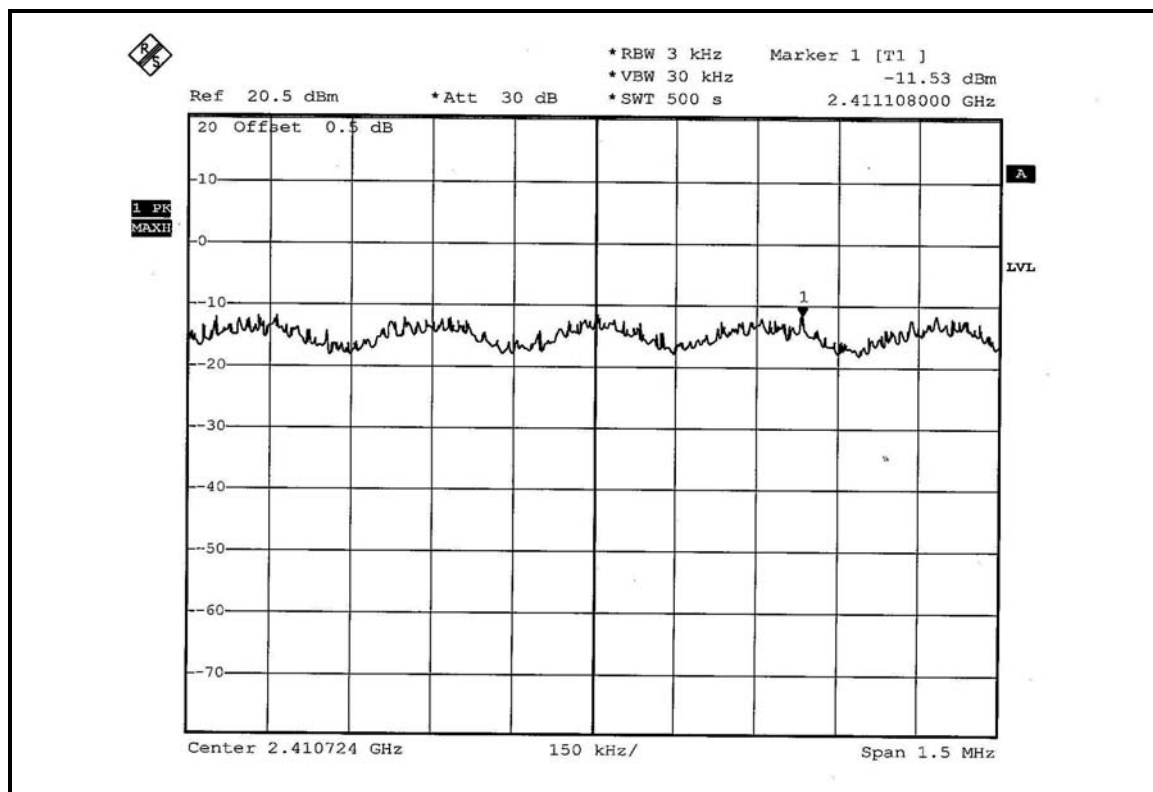
CH 6



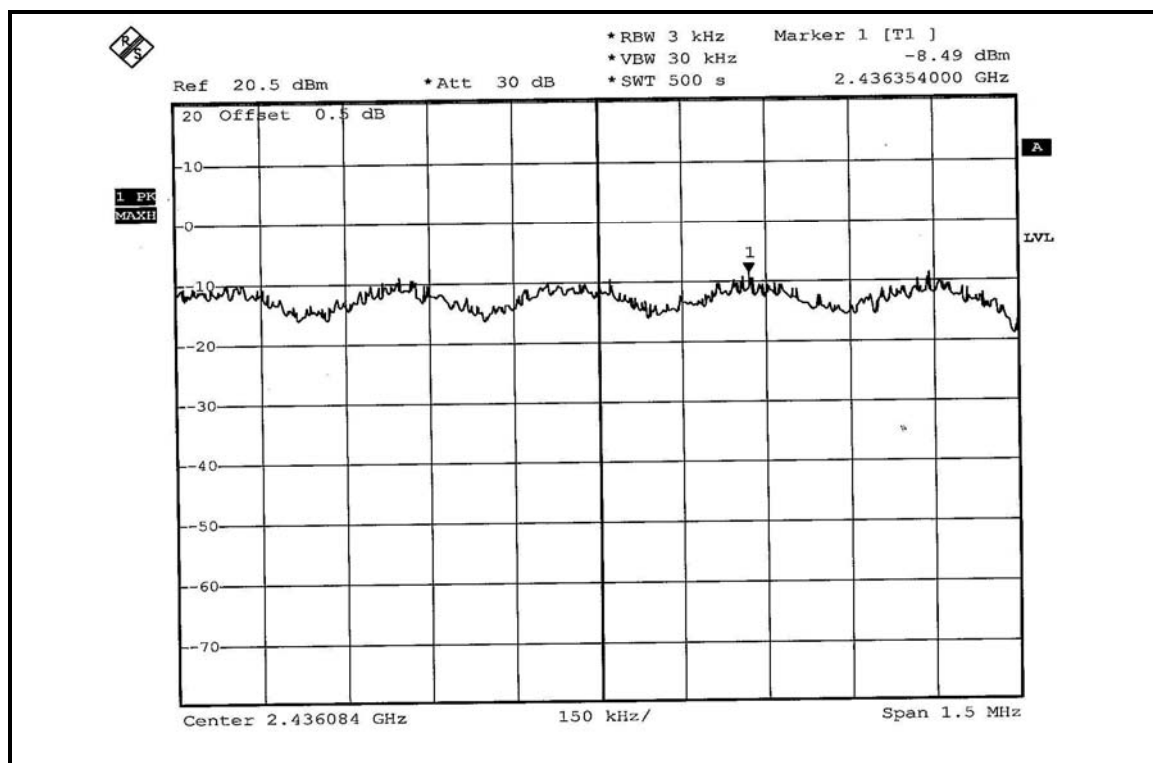
CH 11



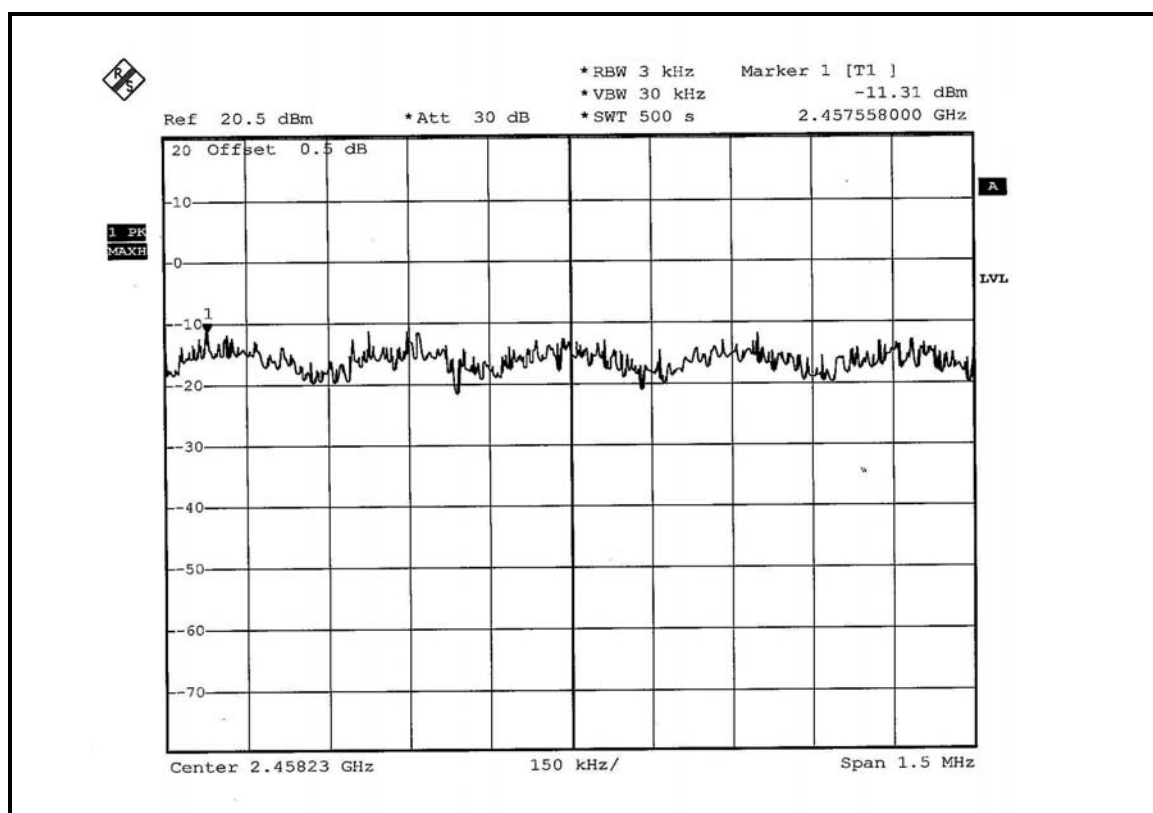
FOR CHAIN 1: CH 1



CH 6



CH 11

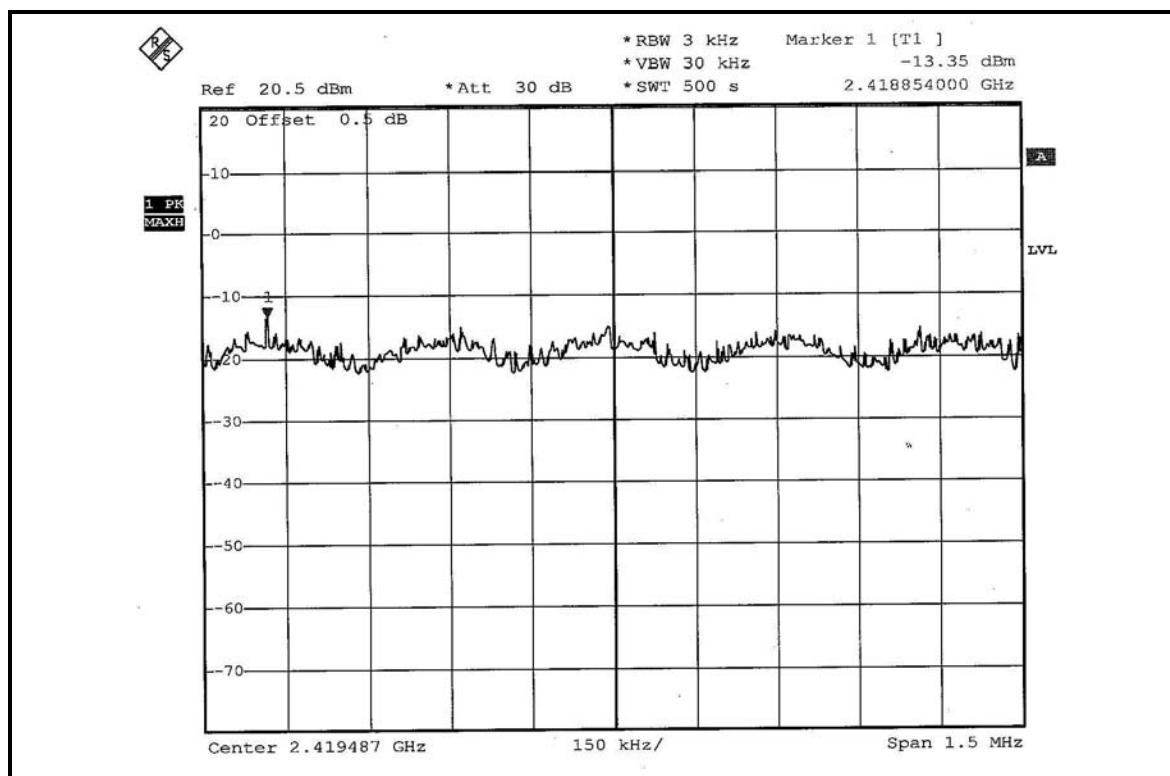


DRAFT 802.11n (40MHz) OFDM MODULATION - DUAL TX:

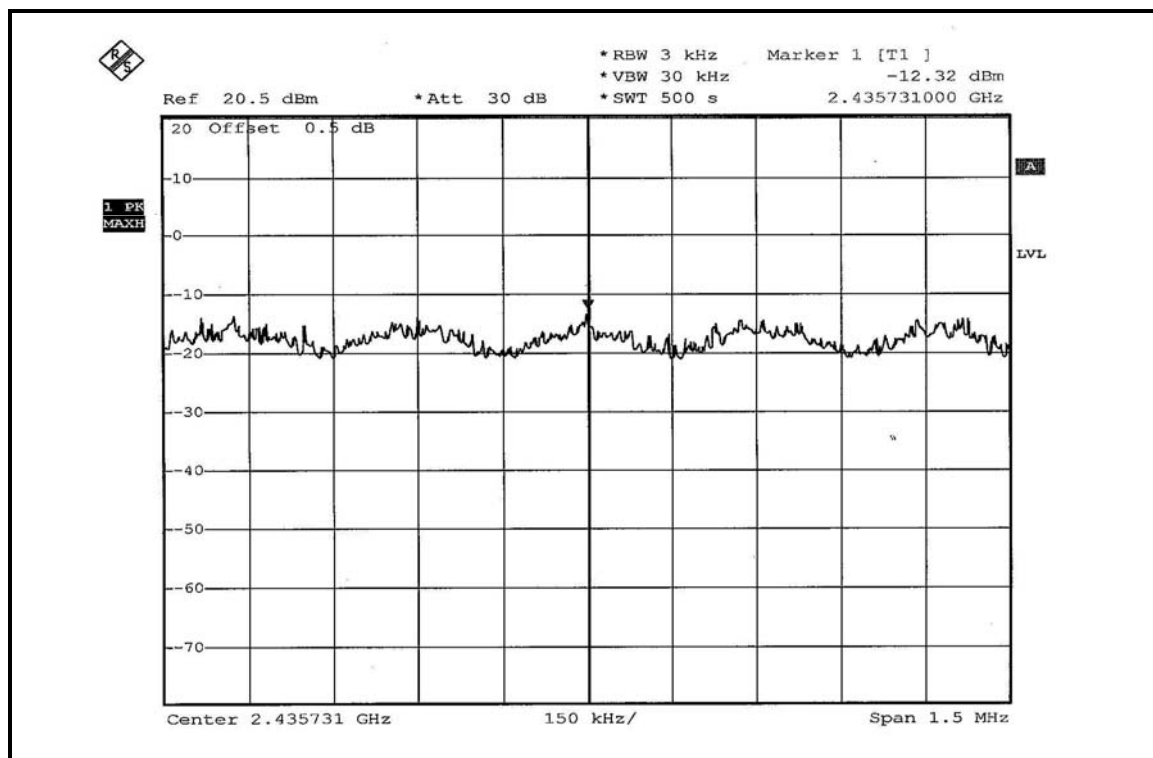
MODULATION TYPE	BPSK	TRANSFER RATE	27Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	25deg.C, 65%RH, 991hPa
TESTED BY	Match Tsui		

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (mW)		RF POWER LEVEL IN 3kHz BW (dBm)		TOTAL POWER DENSITY (mW)	TOTAL POWER DENSITY (dBm)	MAX. LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 0	CHAIN 1				
1	2422	0.046	0.046	-13.35	-13.38	0.092	-10.36	8	PASS
4	2437	0.059	0.058	-12.32	-12.33	0.117	-9.32	8	PASS
7	2452	0.034	0.034	-14.69	-14.73	0.068	-11.67	8	PASS

FOR CHAIN 0: CH 1



CH 4



CH 7

