FCC TEST REPORT

REPORT NO.: RF960911L05

MODEL NO.: DIR-655

RECEIVED: Sep. 11, 2007

TESTED: Sep. 12 ~ Sep. 13, 2007

ISSUED: Sep. 26, 2007

APPLICANT: D-Link Corporation

ADDRESS: 17595 Mt. Herrmann, Fountain Valley, CA 92708, U.S.A.

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.

Testing Laboratory
0528

No.: 2177-01

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1. CERTIFICATION

PRODUCT :	Xtreme N GIGABIT ROUTER
MODEL NO.:	DIR-655
BRAND:	D-Link
APPLICANT :	D-Link Corporation
TESTED:	Sep. 12 ~ Sep. 13, 2007
TEST SAMPLE:	ENGINEERING SAMPLE
STANDARDS :	**FCC Part 15, Subpart C (Section 15.247)** ANSI C63.4-2003

The above equipment (Model: DIR-655) has been tested by **Advance Data Technology Corporation,** and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

PREPARED BY : Peggy Chen , **DATE:** Sep. 26, 2007
Peggy Chen / Specialist

TECHNICAL ACCEPTANCE : Long Chen , **DATE:** Sep. 26, 2007
Responsible for RF
Long Chen / Senior Engineer

APPROVED BY : Gary Chang , **DATE:** Sep. 26, 2007
Gary Chang / Assistant Manager

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 -6.02dB at 0.200MHz.
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 -1.27dB at 2483.5MHz.
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 16-4-2:

MEASUREMENT	FREQUENCY	UNCERTAINTY
Conducted emissions	9kHz ~ 30MHz	2.44 dB
Radiated emissions	30MHz ~ 200MHz	2.93 dB
	200MHz ~1000MHz	2.95 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	Xtreme N GIGABIT ROUTER
MODEL NO.	DIR-655
FCC ID	KA2DIR655A3
POWER SUPPLY	12Vdc from AC Adapter
MODULATION TYPE	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
MODULATION TECHNOLOGY	DSSS, OFDM
TRANSFER RATE	802.11b: 11.0/ 5.5/ 2.0/ 1.0Mbps 802.11g: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0Mbps Draft 802.11n: up to 300Mbps
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	125.770mW
ANTENNA TYPE	Dipole antenna with 2.0dBi gain
DATA CABLE	NA
I/O PORTS	RJ45, USB
ACCESSORY DEVICES	Adapter

NOTE:

1. The EUT were operated with following power adapter:

ADAPTER	
BRAND:	D-Link
MODEL:	AG2412-B
INPUT:	100-240Vac, 50-60Hz, 0.5A
OUTPUT:	12.0Vdc, 2A
POWER LINE:	1.8m non-shielded cable without core

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

8. 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

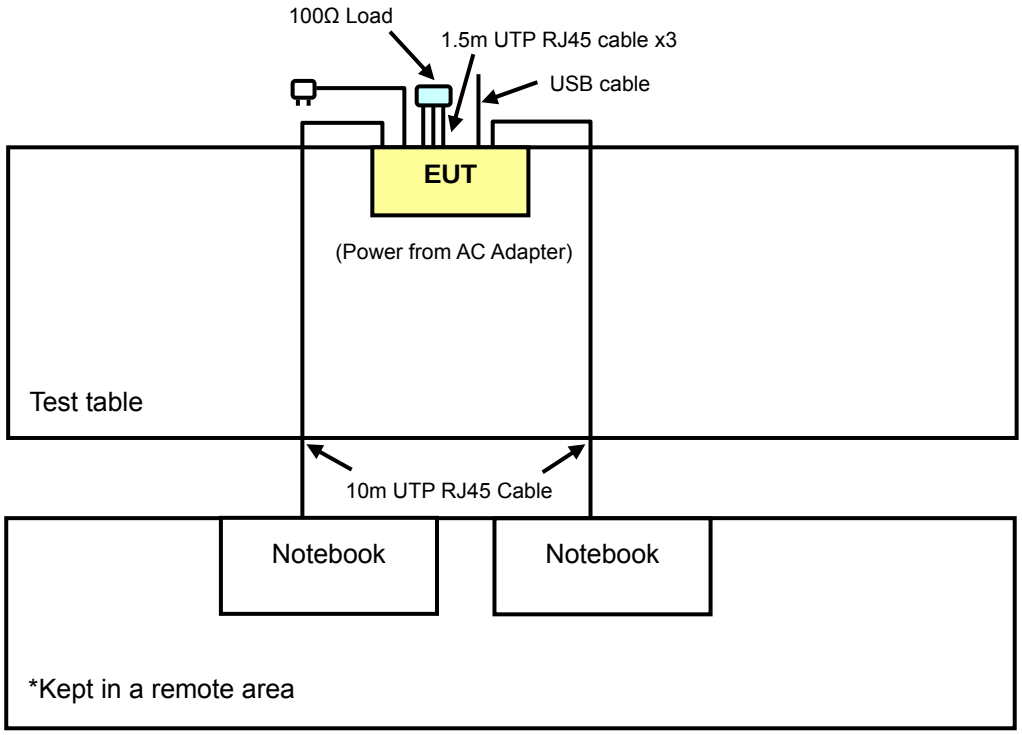
Eleven channels are provided for 802.11b, 802.11g, draft 802.11n (20MHz):

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 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
802.11g	1 to 11	1, 6, 11	OFDM	BPSK
Draft 802.11n (20MHz)	1 to 11	1, 6, 11	OFDM	BPSK
Draft 802.11n (40MHz)	1 to 7	1, 4, 7	OFDM	BPSK

RADIATED EMISSION TEST (BELOW 1 GHz):

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations 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
802.11g	1 to 11	1	OFDM	BPSK
Draft 802.11n (20MHz)	1 to 11	1	OFDM	BPSK
Draft 802.11n (40MHz)	1 to 7	1	OFDM	BPSK

RADIATED EMISSION TEST (ABOVE 1 GHz):

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations 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
802.11b	1 to 11	1, 6, 11	DSSS	DBPSK
802.11g	1 to 11	1, 6, 11	OFDM	BPSK
Draft 802.11n (20MHz)	1 to 11	1, 6, 11	OFDM	BPSK
Draft 802.11n (40MHz)	1 to 7	1, 4, 7	OFDM	BPSK

BANDEDGE MEASUREMENT:

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations 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
802.11b	1 to 11	1, 11	DSSS	DBPSK
802.11g	1 to 11	1, 11	OFDM	BPSK
Draft 802.11n (20MHz)	1 to 11	1, 11	OFDM	BPSK
Draft 802.11n (40MHz)	1 to 7	1, 7	OFDM	BPSK

ANTENNA PORT CONDUCTED MEASUREMENT:

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations 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
802.11b	1 to 11	1, 6, 11	DSSS	DBPSK
802.11g	1 to 11	1, 6, 11	OFDM	BPSK
Draft 802.11n (20MHz)	1 to 11	1, 6, 11	OFDM	BPSK
Draft 802.11n (40MHz)	1 to 7	1, 4, 7	OFDM	BPSK

3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

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

FCC Part 15, Subpart C. (15.247)

ANSI C63.4-2003

All test items have been performed and recorded as per the above standards.

NOTE: The EUT is also considered as a kind of computer peripheral, because the connection to computer is necessary for typical use. It has been verified to comply with the requirements of FCC Part 15, Subpart B, Class B (DoC). The test report has been issued separately.

3.4 DESCRIPTION OF SUPPORT UNITS

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

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	NOTEBOOK COMPUTER	DELL	PP05L	16484462992	E2K24CLNS
2	NOTEBOOK COMPUTER	DELL	PP05L	12130898320	E2K24CLNS

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	10m UTP RJ45 Cable
2	10m UTP RJ45 Cable

NOTE:
1. All power cords of the above support units are non-shielded (1.8m).
2. Item 1-2 acted as communication partners to transfer data.

4. TEST TYPES AND RESULTS

4.1 CONDUCTED EMISSION MEASUREMENT

4.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY OF EMISSION (MHz)	CONDUCTED LIMIT (dBμV)	
	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.

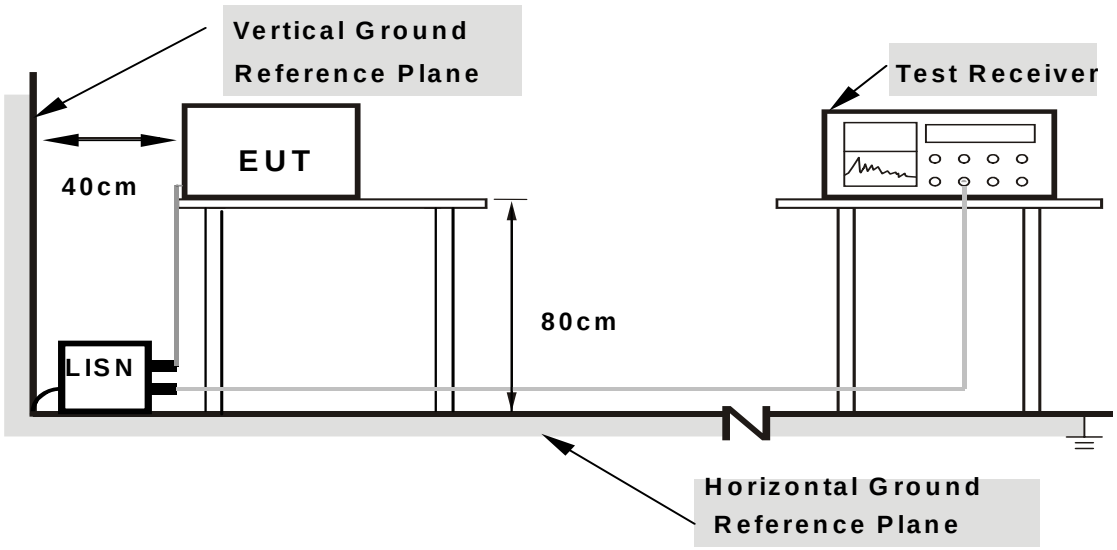
b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

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. Placed the EUT on a testing table.

b. Prepared notebook computers and placed them outside of testing area to act as communication partners for EUT via RJ45 cable.

c. The notebook systems ran a test program (provided by manufacturer) to enable EUT under transmission condition continuously at specific channel frequency.

4.1.7 TEST RESULTS

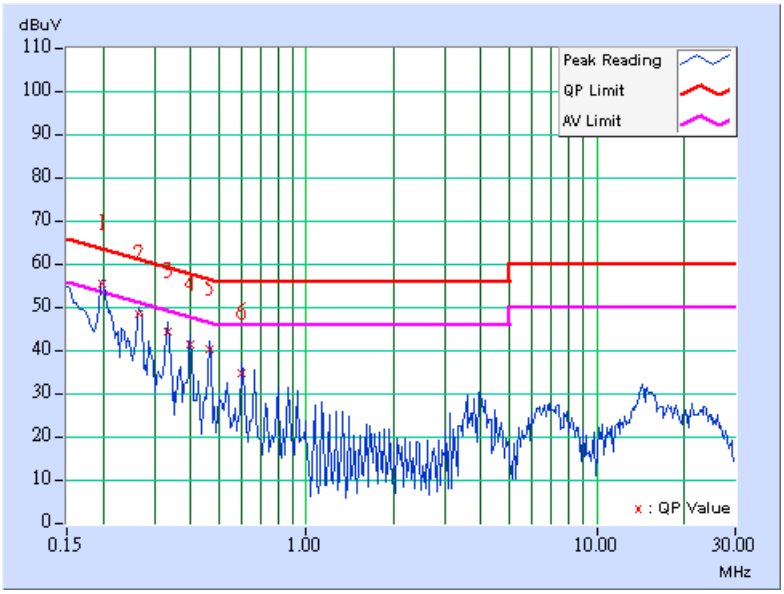
CONDUCTED WORST-CASE DATA

802.11g OFDM MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	PHASE	Line 1
MODULATION TYPE	BPSK	6dB BANDWIDTH	9 kHz
ENVIRONMENTAL CONDITIONS	26deg. C, 68% RH, 983hPa	INPUT POWER	120Vac, 60 Hz
TESTED BY	Dean Wang		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	**0.200**	**0.10**	**55.32**	**47.51**	**55.42**	**47.61**	**63.63**	**53.63**	**-8.21**	**-6.02**
2	0.267	0.10	48.35	-	48.45	-	61.21	51.21	-12.76	-
3	0.334	0.10	44.44	-	44.54	-	59.36	49.36	-14.82	-
4	0.400	0.10	41.29	-	41.39	-	57.85	47.85	-16.46	-
5	0.466	0.10	40.25	-	40.35	-	56.58	46.58	-16.23	-
6	0.599	0.10	34.71	-	34.81	-	56.00	46.00	-21.19	-

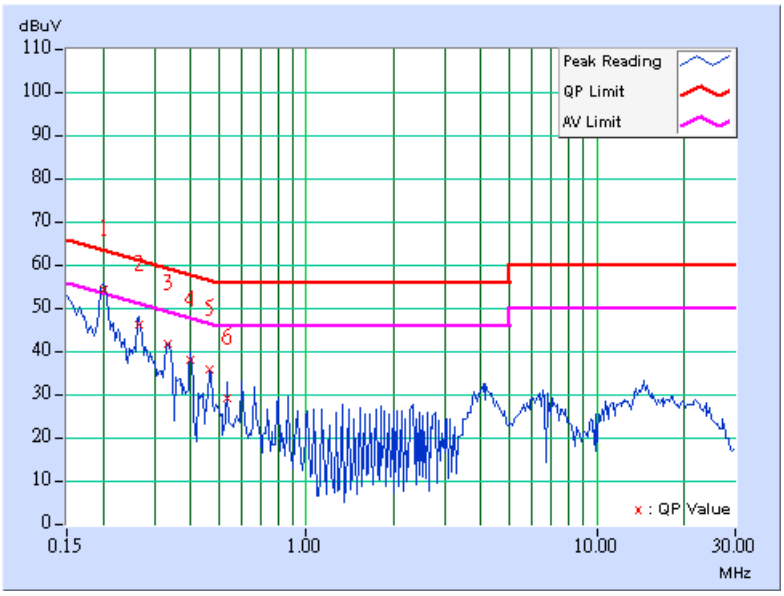
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	PHASE	Line 2
MODULATION TYPE	BPSK	6dB BANDWIDTH	9 kHz
ENVIRONMENTAL CONDITIONS	26deg. C, 68% RH, 983hPa	INPUT POWER	120Vac, 60 Hz
TESTED BY	Dean Wang		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.201	0.10	54.50	45.30	54.60	45.40	63.58	53.58	-8.98	-8.18
2	0.267	0.10	46.30	-	46.40	-	61.20	51.20	-14.80	-
3	0.333	0.10	41.82	-	41.92	-	59.37	49.37	-17.45	-
4	0.400	0.10	38.09	-	38.19	-	57.85	47.85	-19.66	-
5	0.466	0.11	35.69	-	35.80	-	56.58	46.58	-20.78	-
6	0.533	0.12	29.13	-	29.25	-	56.00	46.00	-26.75	-

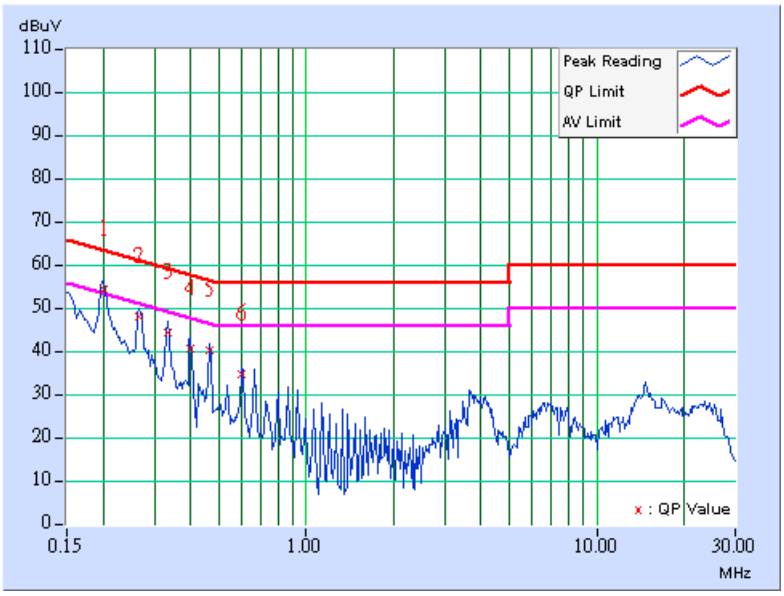
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	PHASE	Line 1
MODULATION TYPE	BPSK	6dB BANDWIDTH	9 kHz
ENVIRONMENTAL CONDITIONS	26deg. C, 68% RH, 983hPa	INPUT POWER	120Vac, 60 Hz
TESTED BY	Dean Wang		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.201	0.10	54.20	46.88	54.30	46.98	63.58	53.58	-9.28	-6.60
2	0.267	0.10	47.89	-	47.99	-	61.20	51.20	-13.21	-
3	0.334	0.10	44.48	-	44.58	-	59.36	49.36	-14.78	-
4	0.400	0.10	40.77	-	40.87	-	57.85	47.85	-16.98	-
5	0.466	0.10	40.21	-	40.31	-	56.58	46.58	-16.27	-
6	0.599	0.10	34.61	-	34.71	-	56.00	46.00	-21.29	-

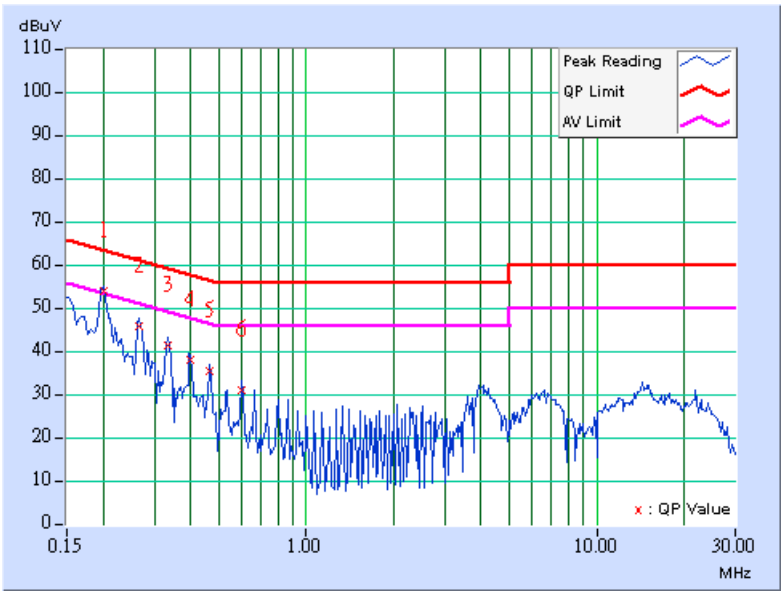
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission 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
ENVIRONMENTAL CONDITIONS	26deg. C, 68% RH, 983hPa	INPUT POWER	120Vac, 60 Hz
TESTED BY	Dean Wang		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.201	0.10	53.83	44.79	53.93	44.89	63.58	53.58	-9.65	-8.69
2	0.267	0.10	45.75	-	45.85	-	61.20	51.20	-15.35	-
3	0.335	0.10	41.18	-	41.28	-	59.33	49.33	-18.05	-
4	0.399	0.10	37.99	-	38.09	-	57.87	47.87	-19.78	-
5	0.466	0.11	35.54	-	35.65	-	56.58	46.58	-20.93	-
6	0.599	0.14	31.15	-	31.29	-	56.00	46.00	-24.71	-

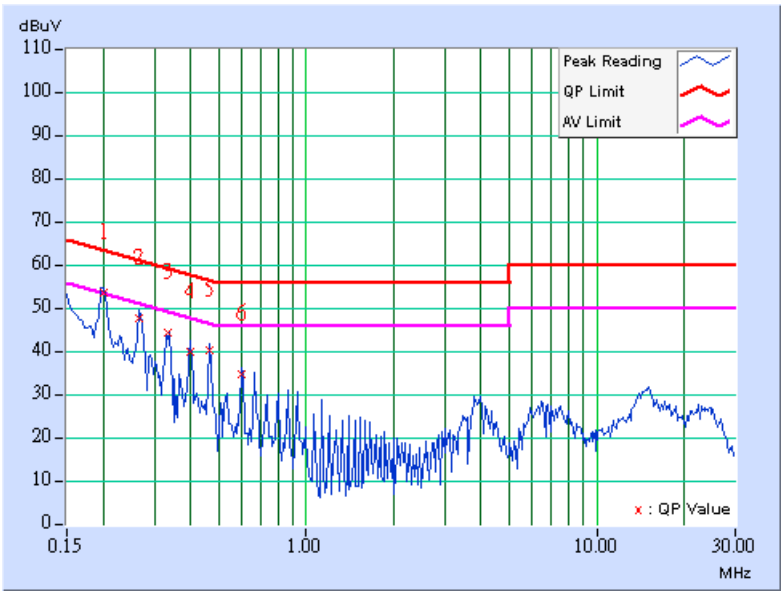
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission 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 1
MODULATION TYPE	BPSK	6dB BANDWIDTH	9 kHz
ENVIRONMENTAL CONDITIONS	26deg. C, 68% RH, 983hPa	INPUT POWER	120Vac, 60 Hz
TESTED BY	Dean Wang		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.201	0.10	53.77	46.54	53.87	46.64	63.58	53.58	-9.71	-6.94
2	0.267	0.10	47.60	-	47.70	-	61.20	51.20	-13.50	-
3	0.333	0.10	44.41	-	44.51	-	59.37	49.37	-14.86	-
4	0.401	0.10	39.83	-	39.93	-	57.83	47.83	-17.90	-
5	0.466	0.10	40.25	-	40.35	-	56.58	46.58	-16.23	-
6	0.599	0.10	34.53	-	34.63	-	56.00	46.00	-21.37	-

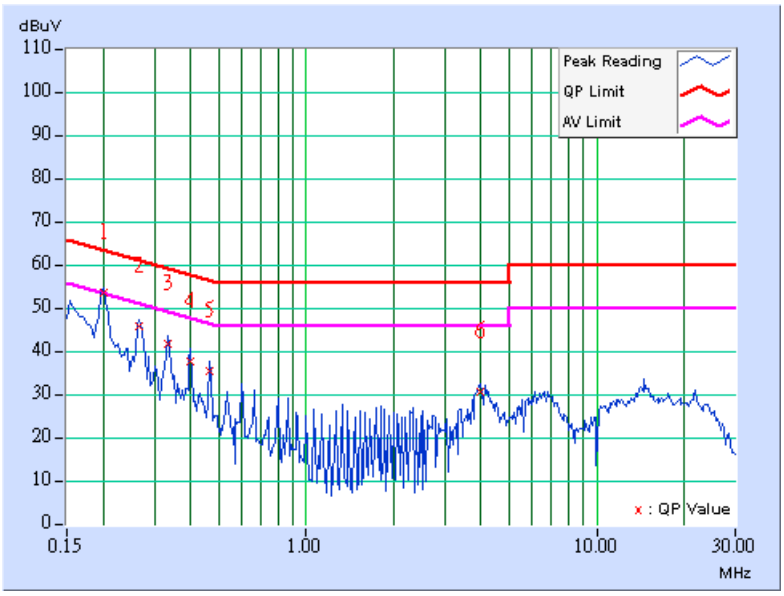
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	PHASE	Line 2
MODULATION TYPE	BPSK	6dB BANDWIDTH	9 kHz
ENVIRONMENTAL CONDITIONS	26deg. C, 68% RH, 983hPa	INPUT POWER	120Vac, 60 Hz
TESTED BY	Dean Wang		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.201	0.10	53.27	-	53.37	-	63.58	53.58	-10.21	-
2	0.267	0.10	45.47	-	45.57	-	61.20	51.20	-15.63	-
3	0.334	0.10	41.48	-	41.58	-	59.36	49.36	-17.78	-
4	0.400	0.10	37.52	-	37.62	-	57.85	47.85	-20.23	-
5	0.466	0.11	35.38	-	35.49	-	56.58	46.58	-21.09	-
6	4.000	0.28	30.40	-	30.68	-	56.00	46.00	-25.32	-

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.

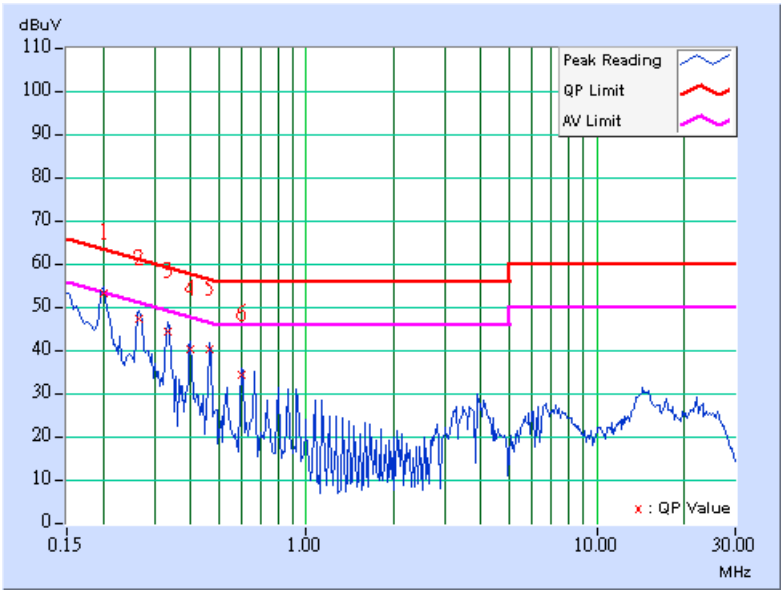


DRAFT 802.11n (20MHz) OFDM MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	PHASE	Line 1
MODULATION TYPE	BPSK	6dB BANDWIDTH	9 kHz
ENVIRONMENTAL CONDITIONS	26deg. C, 68% RH, 983hPa	INPUT POWER	120Vac, 60 Hz
TESTED BY	Dean Wang		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.201	0.10	53.31	-	53.41	-	63.58	53.58	-10.17	-
2	0.267	0.10	47.40	-	47.50	-	61.20	51.20	-13.70	-
3	0.334	0.10	44.44	-	44.54	-	59.36	49.36	-14.82	-
4	0.400	0.10	40.19	-	40.29	-	57.85	47.85	-17.56	-
5	0.466	0.10	40.21	-	40.31	-	56.58	46.58	-16.27	-
6	0.599	0.10	34.49	-	34.59	-	56.00	46.00	-21.41	-

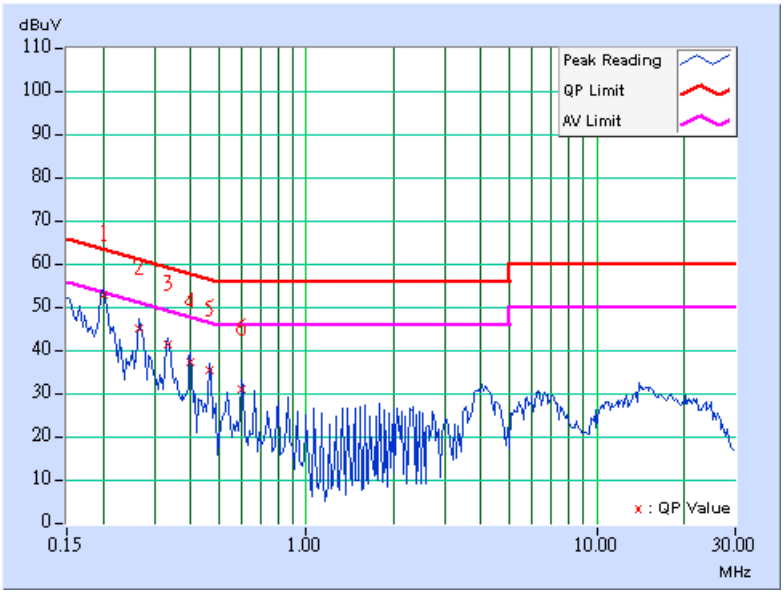
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	PHASE	Line 2
MODULATION TYPE	BPSK	6dB BANDWIDTH	9 kHz
ENVIRONMENTAL CONDITIONS	26deg. C, 68% RH, 983hPa	INPUT POWER	120Vac, 60 Hz
TESTED BY	Dean Wang		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.201	0.10	52.87	-	52.97	-	63.58	53.58	-10.61	-
2	0.267	0.10	45.21	-	45.31	-	61.20	51.20	-15.89	-
3	0.334	0.10	41.28	-	41.38	-	59.36	49.36	-17.98	-
4	0.400	0.10	37.29	-	37.39	-	57.85	47.85	-20.46	-
5	0.466	0.11	35.30	-	35.41	-	56.58	46.58	-21.17	-
6	0.599	0.14	30.93	-	31.07	-	56.00	46.00	-24.93	-

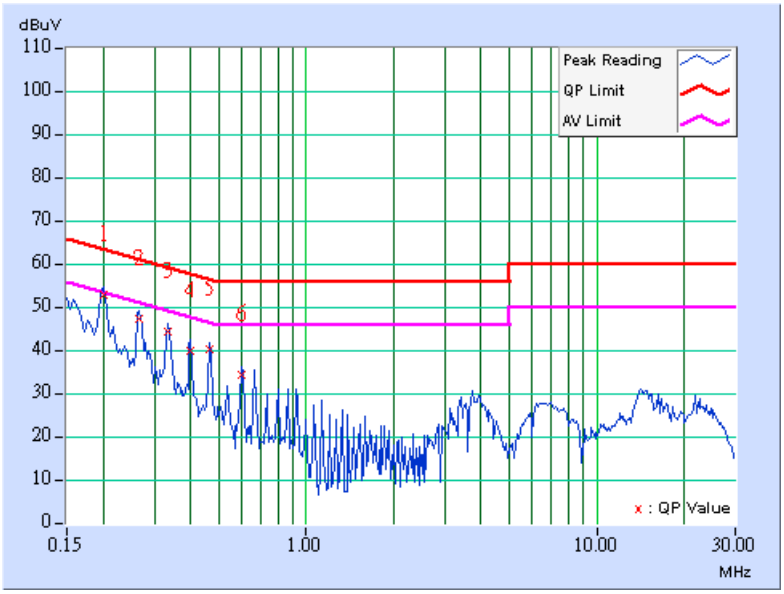
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	PHASE	Line 1
MODULATION TYPE	BPSK	6dB BANDWIDTH	9 kHz
ENVIRONMENTAL CONDITIONS	26deg. C, 68% RH, 983hPa	INPUT POWER	120Vac, 60 Hz
TESTED BY	Dean Wang		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.201	0.10	52.99	-	53.09	-	63.58	53.58	-10.49	-
2	0.267	0.10	47.20	-	47.30	-	61.20	51.20	-13.90	-
3	0.334	0.10	44.40	-	44.50	-	59.36	49.36	-14.86	-
4	0.400	0.10	40.05	-	40.15	-	57.85	47.85	-17.70	-
5	0.466	0.10	40.19	-	40.29	-	56.58	46.58	-16.29	-
6	0.599	0.10	34.47	-	34.57	-	56.00	46.00	-21.43	-

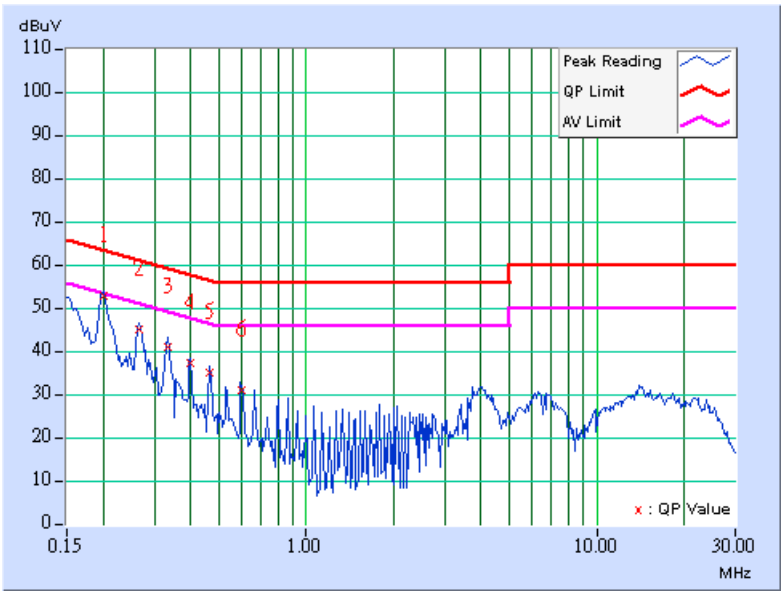
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	PHASE	Line 2
MODULATION TYPE	BPSK	6dB BANDWIDTH	9 kHz
ENVIRONMENTAL CONDITIONS	26deg. C, 68% RH, 983hPa	INPUT POWER	120Vac, 60 Hz
TESTED BY	Dean Wang		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.201	0.10	52.66	-	52.76	-	63.59	53.59	-10.83	-
2	0.267	0.10	45.09	-	45.19	-	61.20	51.20	-16.01	-
3	0.334	0.10	41.14	-	41.24	-	59.36	49.36	-18.12	-
4	0.400	0.10	37.09	-	37.19	-	57.85	47.85	-20.66	-
5	0.467	0.11	35.13	-	35.24	-	56.57	46.57	-21.33	-
6	0.599	0.14	30.83	-	30.97	-	56.00	46.00	-25.03	-

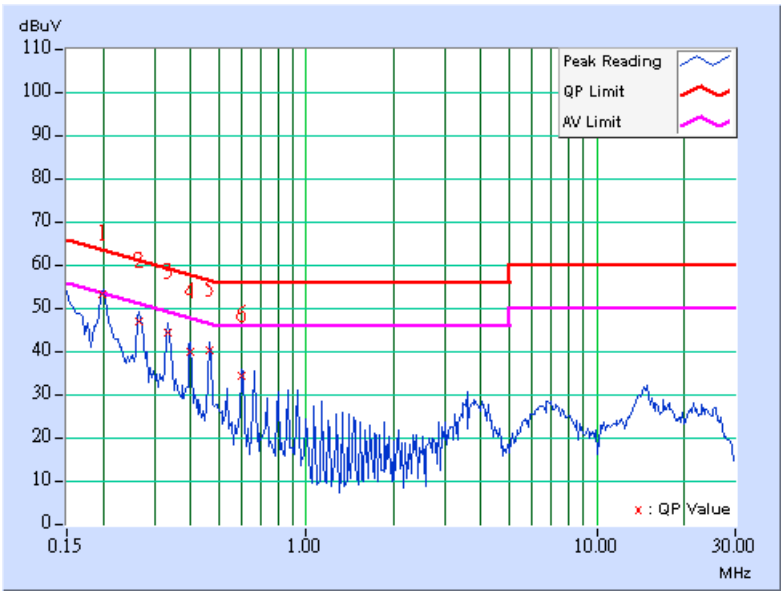
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission 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
ENVIRONMENTAL CONDITIONS	26deg. C, 68% RH, 983hPa	INPUT POWER	120Vac, 60 Hz
TESTED BY	Dean Wang		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.200	0.10	53.09	-	53.19	-	63.63	53.63	-10.44	-
2	0.267	0.10	47.04	-	47.14	-	61.20	51.20	-14.06	-
3	0.334	0.10	44.42	-	44.52	-	59.36	49.36	-14.84	-
4	0.400	0.10	39.87	-	39.97	-	57.85	47.85	-17.88	-
5	0.466	0.10	40.15	-	40.25	-	56.58	46.58	-16.33	-
6	0.599	0.10	34.39	-	34.49	-	56.00	46.00	-21.51	-

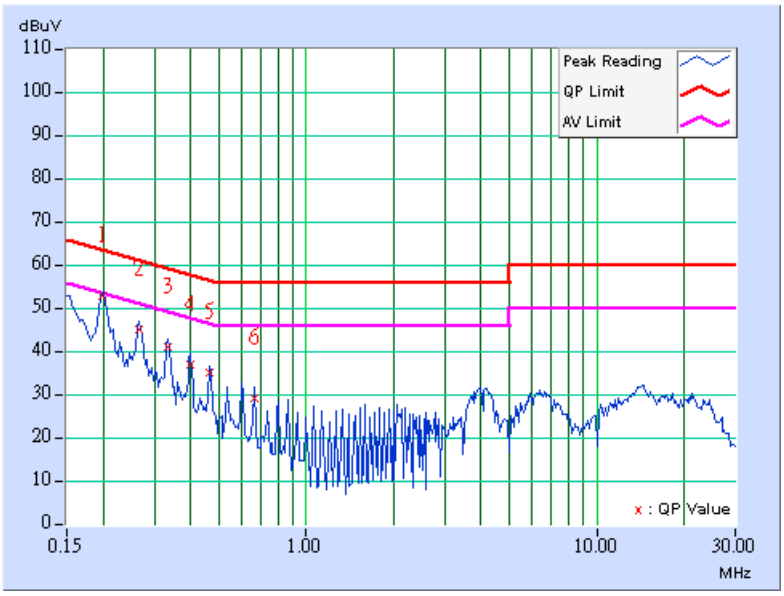
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission 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
ENVIRONMENTAL CONDITIONS	26deg. C, 68% RH, 983hPa	INPUT POWER	120Vac, 60 Hz
TESTED BY	Dean Wang		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.199	0.10	52.64	-	52.74	-	63.63	53.63	-10.89	-
2	0.267	0.10	44.91	-	45.01	-	61.20	51.20	-16.19	-
3	0.334	0.10	41.02	-	41.12	-	59.36	49.36	-18.24	-
4	0.400	0.10	36.93	-	37.03	-	57.85	47.85	-20.82	-
5	0.466	0.11	35.14	-	35.25	-	56.58	46.58	-21.33	-
6	0.666	0.15	29.00	-	29.15	-	56.00	46.00	-26.85	-

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

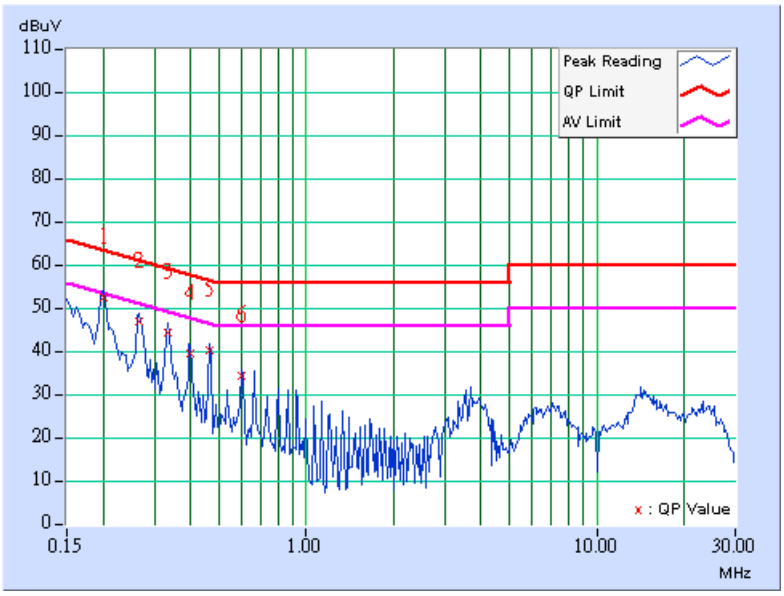


DRAFT 802.11n (40MHz) OFDM MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	PHASE	Line 1
MODULATION TYPE	BPSK	6dB BANDWIDTH	9 kHz
ENVIRONMENTAL CONDITIONS	26deg. C, 68% RH, 983hPa	INPUT POWER	120Vac, 60 Hz
TESTED BY	Dean Wang		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.201	0.10	52.52	-	52.62	-	63.58	53.58	-10.96	-
2	0.267	0.10	46.96	-	47.06	-	61.20	51.20	-14.14	-
3	0.334	0.10	44.38	-	44.48	-	59.36	49.36	-14.88	-
4	0.400	0.10	39.61	-	39.71	-	57.85	47.85	-18.14	-
5	0.466	0.10	40.13	-	40.23	-	56.58	46.58	-16.35	-
6	0.599	0.10	34.41	-	34.51	-	56.00	46.00	-21.49	-

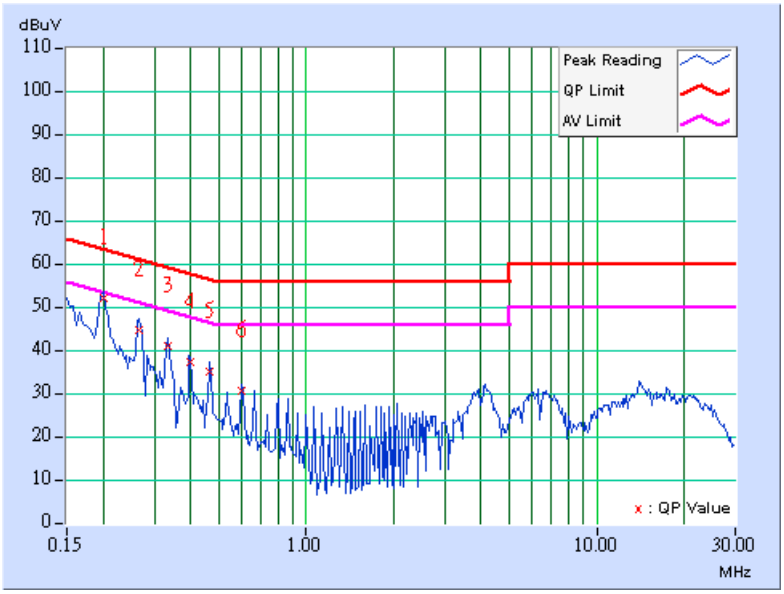
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission 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
ENVIRONMENTAL CONDITIONS	26deg. C, 68% RH, 983hPa	INPUT POWER	120Vac, 60 Hz
TESTED BY	Dean Wang		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.201	0.10	52.02	-	52.12	-	63.58	53.58	-11.46	-
2	0.267	0.10	44.75	-	44.85	-	61.20	51.20	-16.35	-
3	0.334	0.10	40.96	-	41.06	-	59.36	49.36	-18.30	-
4	0.399	0.10	37.14	-	37.24	-	57.88	47.88	-20.64	-
5	0.466	0.11	35.14	-	35.25	-	56.58	46.58	-21.33	-
6	0.599	0.14	30.71	-	30.85	-	56.00	46.00	-25.15	-

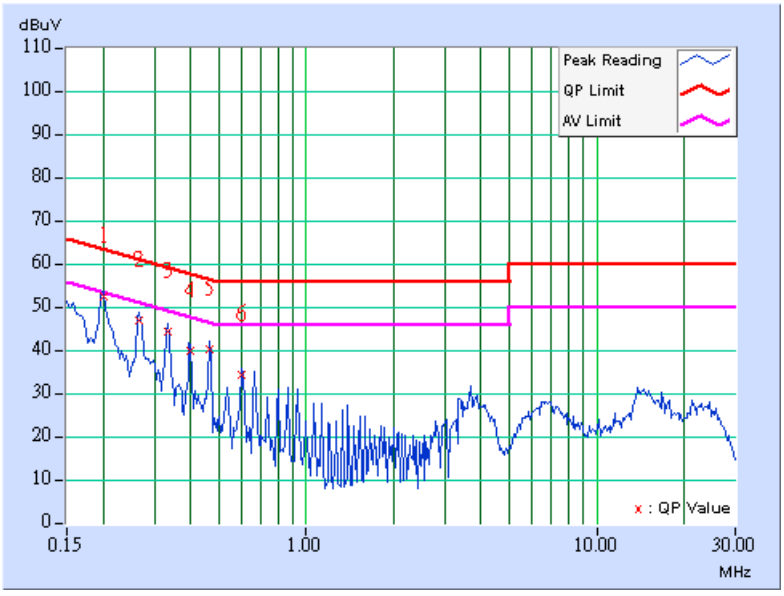
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission 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
ENVIRONMENTAL CONDITIONS	26deg. C, 68% RH, 983hPa	INPUT POWER	120Vac, 60 Hz
TESTED BY	Dean Wang		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.201	0.10	52.34	-	52.44	-	63.58	53.58	-11.14	-
2	0.267	0.10	46.84	-	46.94	-	61.20	51.20	-14.26	-
3	0.334	0.10	44.46	-	44.56	-	59.36	49.36	-14.80	-
4	0.399	0.10	39.92	-	40.02	-	57.87	47.87	-17.85	-
5	0.466	0.10	40.13	-	40.23	-	56.58	46.58	-16.35	-
6	0.599	0.10	34.37	-	34.47	-	56.00	46.00	-21.53	-

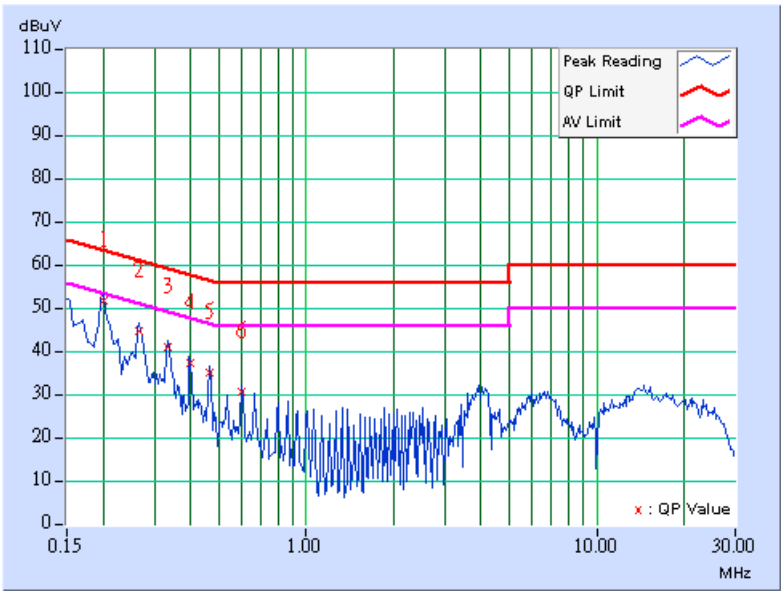
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 4	PHASE	Line 2
MODULATION TYPE	BPSK	6dB BANDWIDTH	9 kHz
ENVIRONMENTAL CONDITIONS	26deg. C, 68% RH, 983hPa	INPUT POWER	120Vac, 60 Hz
TESTED BY	Dean Wang		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.201	0.10	51.88	-	51.98	-	63.58	53.58	-11.60	-
2	0.267	0.10	44.67	-	44.77	-	61.20	51.20	-16.43	-
3	0.334	0.10	40.90	-	41.00	-	59.36	49.36	-18.36	-
4	0.399	0.10	37.12	-	37.22	-	57.87	47.87	-20.65	-
5	0.466	0.11	35.10	-	35.21	-	56.58	46.58	-21.37	-
6	0.599	0.14	30.71	-	30.85	-	56.00	46.00	-25.15	-

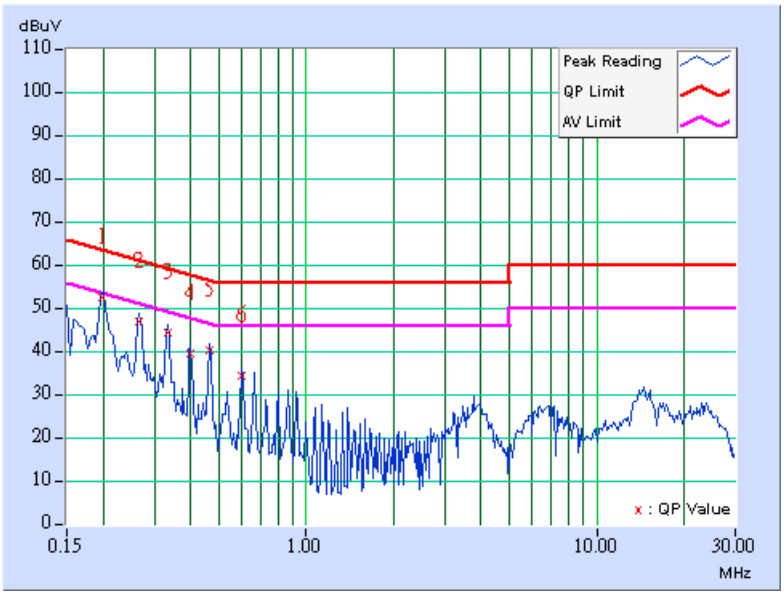
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission 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
ENVIRONMENTAL CONDITIONS	26deg. C, 68% RH, 983hPa	INPUT POWER	120Vac, 60 Hz
TESTED BY	Dean Wang		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.200	0.10	52.54	-	52.64	-	63.63	53.63	-10.99	-
2	0.267	0.10	46.78	-	46.88	-	61.20	51.20	-14.32	-
3	0.334	0.10	44.38	-	44.48	-	59.36	49.36	-14.88	-
4	0.400	0.10	39.53	-	39.63	-	57.85	47.85	-18.22	-
5	0.466	0.10	40.11	-	40.21	-	56.58	46.58	-16.37	-
6	0.599	0.10	34.37	-	34.47	-	56.00	46.00	-21.53	-

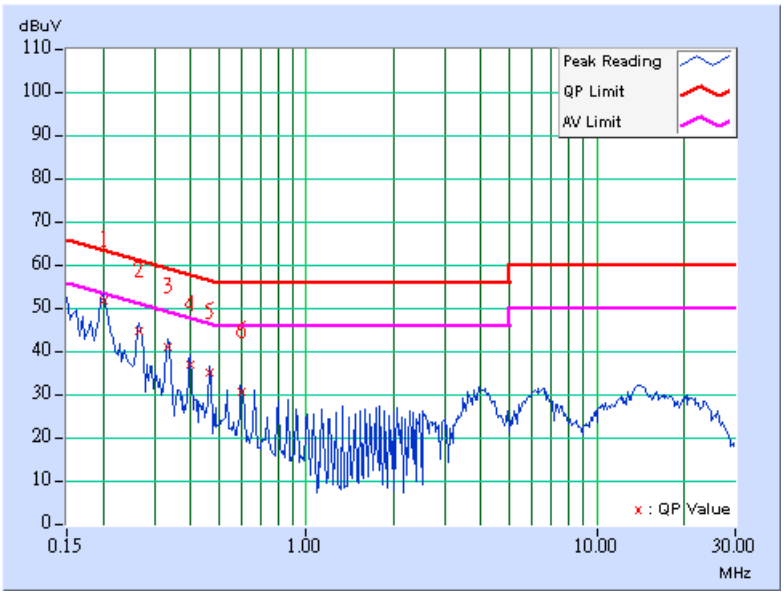
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 7	PHASE	Line 2
MODULATION TYPE	BPSK	6dB BANDWIDTH	9 kHz
ENVIRONMENTAL CONDITIONS	26deg. C, 68% RH, 983hPa	INPUT POWER	120Vac, 60 Hz
TESTED BY	Dean Wang		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.201	0.10	51.76	-	51.86	-	63.58	53.58	-11.72	-
2	0.267	0.10	44.59	-	44.69	-	61.20	51.20	-16.51	-
3	0.334	0.10	40.94	-	41.04	-	59.36	49.36	-18.32	-
4	0.400	0.10	36.72	-	36.82	-	57.85	47.85	-21.03	-
5	0.467	0.11	35.02	-	35.13	-	56.57	46.57	-21.44	-
6	0.599	0.14	30.75	-	30.89	-	56.00	46.00	-25.11	-

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	ESCI	100424	Jul. 27, 2008
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100269	Aug. 05, 2008
BILOG Antenna SCHWARZBECK	VULB9168	9168-153	Jan. 04, 2008
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-563	Jul. 30, 2008
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170242	Jan. 16, 2008
Preamplifier Agilent	8449B	3008A01910	Sep. 21, 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	Aug. 09, 2008
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 IC3789B-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.

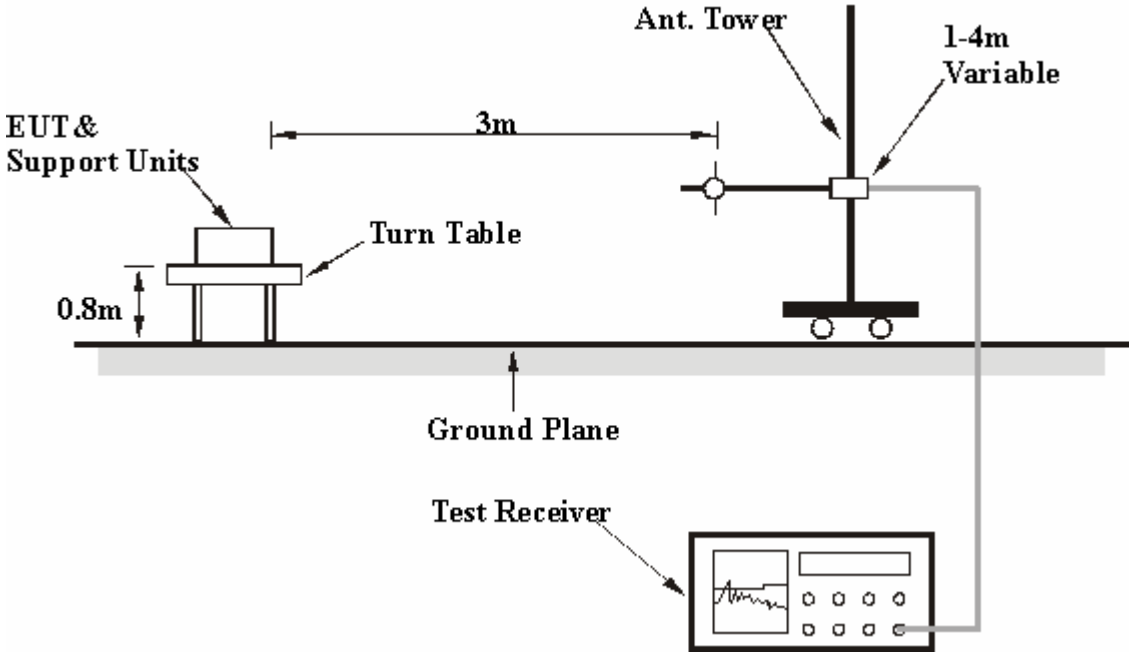
NOTE:

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 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	INPUT POWER	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	24deg. C, 71% RH, 985hPa	DETECTOR FUNCTION	Quasi-Peak
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	179.61	35.20 QP	43.50	-8.30	1.25 H	265	23.14	12.06
2	249.60	41.71 QP	46.00	-4.29	1.00 H	184	29.18	12.54
3	374.04	38.01 QP	46.00	-7.99	1.00 H	10	22.89	15.11
4	500.42	38.53 QP	46.00	-7.47	1.00 H	331	19.77	18.76
5	624.85	40.88 QP	46.00	-5.12	1.25 H	145	19.56	21.32
6	751.23	40.65 QP	46.00	-5.35	1.00 H	250	17.43	23.22
7	875.67	41.40 QP	46.00	-4.60	1.25 H	175	16.31	25.09

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	55.18	34.57 QP	40.00	-5.43	1.00 V	37	21.11	13.47
2	152.39	38.87 QP	43.50	-4.63	1.00 V	58	25.25	13.62
3	181.55	41.85 QP	43.50	-1.65	1.00 V	10	29.95	11.90
4	249.60	41.42 QP	46.00	-4.58	1.25 V	70	28.88	12.54
5	500.42	42.42 QP	46.00	-3.58	1.00 V	190	23.65	18.76
6	624.85	42.58 QP	46.00	-3.42	1.50 V	196	21.26	21.32
7	751.23	41.50 QP	46.00	-4.50	1.25 V	178	18.28	23.22
8	875.67	43.42 QP	46.00	-2.58	1.25 V	283	18.33	25.09

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	Below 1000MHz
MODULATION TYPE	BPSK	INPUT POWER	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	24deg. C, 71% RH, 985hPa	DETECTOR FUNCTION	Quasi-Peak
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	177.67	35.43 QP	43.50	-8.07	1.50 H	94	23.24	12.20
2	249.60	39.94 QP	46.00	-6.06	1.00 H	154	27.40	12.54
3	374.04	37.63 QP	46.00	-8.37	1.25 H	4	22.52	15.11
4	500.42	39.15 QP	46.00	-6.85	1.00 H	319	20.38	18.76
5	624.85	40.89 QP	46.00	-5.11	1.25 H	70	19.57	21.32
6	751.23	40.62 QP	46.00	-5.38	1.00 H	235	17.40	23.22
7	799.84	36.58 QP	46.00	-9.42	1.00 H	253	12.22	24.36
8	875.67	41.24 QP	46.00	-4.76	1.25 H	178	16.15	25.09
9	1000.10	44.77 QP	54.00	-9.23	1.25 H	205	18.85	25.91

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	53.23	34.56 QP	40.00	-5.44	1.50 V	73	21.00	13.55
2	152.39	39.80 QP	43.50	-3.70	1.00 V	64	26.18	13.62
3	181.55	41.60 QP	43.50	-1.90	1.25 V	10	29.70	11.90
4	249.60	41.84 QP	46.00	-4.16	1.00 V	10	29.30	12.54
5	500.42	42.03 QP	46.00	-3.97	1.00 V	193	23.26	18.76
6	624.85	42.73 QP	46.00	-3.27	1.50 V	208	21.41	21.32
7	751.23	41.62 QP	46.00	-4.38	1.25 V	145	18.40	23.22
8	875.67	43.83 QP	46.00	-2.17	1.25 V	274	18.74	25.09

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	Below 1000MHz
MODULATION TYPE	BPSK	INPUT POWER	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	24deg. C, 71% RH, 985hPa	DETECTOR FUNCTION	Quasi-Peak
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	179.61	34.99 QP	43.50	-8.51	1.50 H	280	22.93	12.06
2	249.60	40.59 QP	46.00	-5.41	1.00 H	202	28.06	12.54
3	374.04	38.30 QP	46.00	-7.70	1.00 H	28	23.19	15.11
4	500.42	39.34 QP	46.00	-6.66	1.00 H	343	20.58	18.76
5	599.58	37.31 QP	46.00	-8.69	1.25 H	169	16.22	21.09
6	624.85	40.69 QP	46.00	-5.31	1.25 H	109	19.37	21.32
7	751.23	41.12 QP	46.00	-4.88	1.00 H	247	17.90	23.22
8	875.67	41.40 QP	46.00	-4.60	1.50 H	166	16.31	25.09

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	53.23	34.66 QP	40.00	-5.34	1.75 V	67	21.11	13.55
2	152.39	38.70 QP	43.50	-4.80	1.00 V	61	25.08	13.62
3	181.55	41.78 QP	43.50	-1.72	1.00 V	10	29.88	11.90
4	249.60	41.83 QP	46.00	-4.17	1.00 V	10	29.30	12.54
5	500.42	41.48 QP	46.00	-4.52	1.00 V	196	22.72	18.76
6	624.85	42.32 QP	46.00	-3.68	1.75 V	199	21.00	21.32
7	751.23	41.87 QP	46.00	-4.13	1.25 V	181	18.65	23.22
8	875.67	43.79 QP	46.00	-2.21	1.25 V	286	18.70	25.09

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.

ABOVE 1GHz WORST-CASE DATA

802.11b DSSS MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
MODULATION TYPE	DBPSK	INPUT POWER	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	24deg. C, 71% RH, 985hPa	DETECTOR FUNCTION	Peak(PK) Average (AV)
TESTED BY	Dean Wang		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2386.00	59.30 PK	74.00	-14.70	1.05 H	146	26.98	32.32
2	2386.00	48.00 AV	54.00	-6.00	1.05 H	146	15.68	32.32
3	*2412.00	102.49 PK			1.05 H	148	70.17	32.32
4	*2412.00	97.82 AV			1.05 H	148	65.50	32.32
5	3216.00	46.23 PK	74.00	-27.77	1.00 H	169	12.66	33.57
6	3216.00	36.08 AV	54.00	-17.92	1.00 H	169	2.51	33.57
7	4824.00	51.48 PK	74.00	-22.52	1.00 H	32	13.48	38.00
8	4824.00	44.42 AV	54.00	-9.58	1.00 H	32	6.42	38.00

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	61.97 PK	74.00	-12.03	1.19 V	357	29.65	32.32
2	2386.00	51.14 AV	54.00	-2.86	1.19 V	357	18.82	32.32
3	*2412.00	110.98 PK			1.19 V	357	78.66	32.32
4	*2412.00	106.34 AV			1.19 V	357	74.02	32.32
5	3216.00	47.96 PK	74.00	-26.04	1.00 V	225	14.39	33.57
6	3216.00	38.95 AV	54.00	-15.05	1.00 V	225	5.38	33.57
7	4824.00	53.72 PK	74.00	-20.28	1.08 V	350	15.72	38.00
8	4824.00	48.48 AV	54.00	-5.52	1.08 V	350	10.48	38.00

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
MODULATION TYPE	DBPSK	INPUT POWER	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	24deg. C, 71% RH, 985hPa	DETECTOR FUNCTION	Peak(PK) Average (AV)
TESTED BY	Dean Wang		

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	103.92 PK			1.05 H	213	71.58	32.34
2	*2437.00	99.68 AV			1.05 H	213	67.34	32.34
3	3250.00	47.13 PK	74.00	-26.87	1.00 H	265	13.68	33.45
4	3250.00	35.79 AV	54.00	-18.21	1.00 H	265	2.34	33.45
5	4874.00	51.69 PK	74.00	-22.31	1.00 H	156	13.57	38.12
6	4874.00	44.63 AV	54.00	-9.37	1.00 H	156	6.51	38.12

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	111.76 PK			1.09 V	208	79.42	32.34
2	*2437.00	107.15 AV			1.09 V	208	74.81	32.34
3	3250.00	48.28 PK	74.00	-25.72	1.02 V	27	14.83	33.45
4	3250.00	38.86 AV	54.00	-15.14	1.02 V	27	5.41	33.45
5	4874.00	52.70 PK	74.00	-21.30	1.07 V	341	14.58	38.12
6	4874.00	48.72 AV	54.00	-5.28	1.07 V	341	10.60	38.12

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
MODULATION TYPE	DBPSK	INPUT POWER	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	24deg. C, 71% RH, 985hPa	DETECTOR FUNCTION	Peak(PK) Average (AV)
TESTED BY	Dean Wang		

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	103.67 PK			1.06 H	236	71.30	32.37
2	*2462.00	99.23 AV			1.06 H	236	66.86	32.37
3	2487.00	59.31 PK	74.00	-14.69	1.05 H	16	26.92	32.39
4	2487.00	48.25 AV	54.00	-5.75	1.05 H	16	15.86	32.39
5	3282.00	46.31 PK	74.00	-27.69	1.00 H	29	12.97	33.34
6	3282.00	33.87 AV	54.00	-20.13	1.00 H	29	0.53	33.34
7	4924.00	51.46 PK	74.00	-22.54	1.07 H	213	13.23	38.23
8	4924.00	44.68 AV	54.00	-9.32	1.07 H	213	6.45	38.23

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	111.34 PK			1.13 V	354	78.97	32.37
2	*2462.00	106.74 AV			1.13 V	354	74.37	32.37
3	2487.00	62.06 PK	74.00	-11.94	1.13 V	354	29.67	32.39
4	2487.00	51.35 AV	54.00	-2.65	1.13 V	354	18.96	32.39
5	3282.00	47.87 PK	74.00	-26.13	1.00 V	122	14.53	33.34
6	3282.00	35.88 AV	54.00	-18.12	1.00 V	122	2.54	33.34
7	4924.00	53.66 PK	74.00	-20.34	1.04 V	336	15.43	38.23
8	4924.00	47.98 AV	54.00	-6.02	1.04 V	336	9.75	38.23

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

802.11g OFDM MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
MODULATION TYPE	BPSK	INPUT POWER	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	24deg. C, 71% RH, 985hPa	DETECTOR FUNCTION	Peak(PK) Average (AV)
TESTED BY	Dean Wang		

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	62.25 PK	74.00	-11.75	1.04 H	148	29.93	32.32
2	2390.00	48.12 AV	54.00	-5.88	1.04 H	148	15.80	32.32
3	*2412.00	102.59 PK			1.03 H	148	70.27	32.32
4	*2412.00	92.43 AV			1.03 H	148	60.11	32.32
5	3216.00	46.54 PK	74.00	-27.46	1.00 H	333	12.97	33.57
6	3216.00	36.32 AV	54.00	-17.68	1.00 H	333	2.75	33.57
7	4824.00	49.23 PK	74.00	-24.77	1.00 H	113	11.23	38.00
8	4824.00	37.09 AV	54.00	-16.91	1.00 H	113	-0.91	38.00

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	71.69 PK	74.00	-2.31	1.14 V	295	39.37	32.32
2	2390.00	52.53 AV	54.00	-1.47	1.14 V	295	20.21	32.32
3	*2412.00	110.26 PK			1.12 V	209	77.94	32.32
4	*2412.00	100.07 AV			1.12 V	209	67.75	32.32
5	3216.00	48.07 PK	74.00	-25.93	1.03 V	326	14.50	33.57
6	3216.00	39.33 AV	54.00	-14.67	1.03 V	326	5.76	33.57
7	4824.00	52.49 PK	74.00	-21.51	1.00 V	115	14.49	38.00
8	4824.00	39.67 AV	54.00	-14.33	1.00 V	115	1.67	38.00

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
MODULATION TYPE	BPSK	INPUT POWER	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	24deg. C, 71% RH, 985hPa	DETECTOR FUNCTION	Peak(PK) Average (AV)
TESTED BY	Dean Wang		

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	105.26 PK			1.00 H	115	72.92	32.34
2	*2437.00	95.13 AV			1.00 H	115	62.79	32.34
3	3250.00	46.97 PK	74.00	-27.03	1.00 H	165	13.52	33.45
4	3250.00	35.98 AV	54.00	-18.02	1.00 H	165	2.53	33.45
5	4874.00	50.25 PK	74.00	-23.75	1.00 H	125	12.13	38.12
6	4874.00	37.57 AV	54.00	-16.43	1.00 H	125	-0.55	38.12

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	113.00 PK			1.10 V	208	80.66	32.34
2	*2437.00	102.69 AV			1.10 V	208	70.35	32.34
3	3250.00	48.50 PK	74.00	-25.50	1.05 V	35	15.05	33.45
4	3250.00	39.93 AV	54.00	-14.07	1.05 V	35	6.48	33.45
5	4874.00	51.28 PK	74.00	-22.72	1.00 V	116	13.16	38.12
6	4874.00	38.54 AV	54.00	-15.46	1.00 V	116	0.42	38.12

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
MODULATION TYPE	BPSK	INPUT POWER	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	24deg. C, 71% RH, 985hPa	DETECTOR FUNCTION	Peak(PK) Average (AV)
TESTED BY	Dean Wang		

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	102.33 PK			1.04 H	217	69.96	32.37
2	*2462.00	92.45 AV			1.04 H	217	60.08	32.37
3	2483.50	62.67 PK	74.00	-11.33	1.04 H	217	30.28	32.39
4	2483.50	48.32 AV	54.00	-5.68	1.04 H	217	15.93	32.39
5	3282.00	47.17 PK	74.00	-26.83	1.08 H	113	13.83	33.34
6	3282.00	34.98 AV	54.00	-19.02	1.08 H	113	1.64	33.34
7	4924.00	48.61 PK	74.00	-25.39	1.00 H	11	10.38	38.23
8	4924.00	36.14 AV	54.00	-17.86	1.00 H	11	-2.09	38.23

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	110.73 PK			1.14 V	356	78.36	32.37
2	*2462.00	100.50 AV			1.14 V	356	68.13	32.37
3	2483.50	69.11 PK	74.00	-4.89	1.13 V	356	36.72	32.39
4	2483.50	52.68 AV	54.00	-1.32	1.13 V	356	20.29	32.39
5	3282.00	48.68 PK	74.00	-25.32	1.02 V	31	15.34	33.34
6	3282.00	38.86 AV	54.00	-15.14	1.02 V	31	5.52	33.34
7	4924.00	50.27 PK	74.00	-23.73	1.00 V	16	12.04	38.23
8	4924.00	37.65 AV	54.00	-16.35	1.00 V	16	-0.58	38.23

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

DRAFT 802.11n (20MHz) OFDM MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
MODULATION TYPE	BPSK	INPUT POWER	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	24deg. C, 71% RH, 985hPa	DETECTOR FUNCTION	Peak(PK) Average (AV)
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	60.08 PK	74.00	-13.92	1.04 H	167	27.76	32.32
2	2390.00	48.66 AV	54.00	-5.34	1.04 H	167	16.34	32.32
3	*2412.00	104.35 PK			1.01 H	172	72.03	32.32
4	*2412.00	94.37 AV			1.01 H	172	62.05	32.32
5	4824.00	48.04 PK	74.00	-25.96	1.04 H	235	10.04	38.00
6	4824.00	35.05 AV	54.00	-18.95	1.04 H	235	-2.95	38.00

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	70.37 PK	74.00	-3.63	1.00 V	18	38.05	32.32
2	2390.00	52.25 AV	54.00	-1.75	1.00 V	18	19.93	32.32
3	*2412.00	116.23 PK			1.12 V	207	83.91	32.32
4	*2412.00	106.18 AV			1.12 V	207	73.86	32.32
5	3216.00	49.00 PK	74.00	-25.00	1.00 V	150	15.43	33.57
6	3216.00	42.47 AV	54.00	-11.53	1.00 V	150	8.90	33.57
7	4824.00	50.36 PK	74.00	-23.64	1.00 V	88	12.36	38.00
8	4824.00	36.69 AV	54.00	-17.31	1.00 V	88	-1.31	38.00

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
MODULATION TYPE	BPSK	INPUT POWER	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	24deg. C, 71% RH, 985hPa	DETECTOR FUNCTION	Peak(PK) Average (AV)
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	104.67 PK			1.23 H	69	72.33	32.34
2	*2437.00	94.86 AV			1.23 H	69	62.52	32.34
3	4874.00	48.38 PK	74.00	-25.62	1.00 H	297	10.26	38.12
4	4874.00	35.26 AV	54.00	-18.74	1.00 H	297	-2.86	38.12

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	116.82 PK			1.11 V	184	84.48	32.34
2	*2437.00	106.49 AV			1.11 V	184	74.15	32.34
3	3249.00	48.52 PK	74.00	-25.48	1.26 V	316	15.07	33.45
4	3249.00	41.60 AV	54.00	-12.40	1.26 V	316	8.15	33.45
5	4874.00	49.97 PK	74.00	-24.03	1.24 V	147	11.85	38.12
6	4874.00	36.15 AV	54.00	-17.85	1.24 V	147	-1.97	38.12

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	**FREQUENCY RANGE**	1 ~ 25GHz
MODULATION TYPE	BPSK	**INPUT POWER**	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	24deg. C, 71% RH, 985hPa	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
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	105.24 PK			1.06 H	218	72.87	32.37
2	*2462.00	95.82 AV			1.06 H	218	63.45	32.37
3	2483.50	63.41 PK	74.00	-10.59	1.00 H	214	31.02	32.39
4	2483.50	47.95 AV	54.00	-6.05	1.00 H	214	15.56	32.39
5	4924.00	48.70 PK	74.00	-25.30	1.02 H	203	10.47	38.23
6	4924.00	34.56 AV	54.00	-19.44	1.02 H	203	-3.67	38.23

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	116.41 PK			1.11 V	179	84.04	32.37
2	*2462.00	106.69 AV			1.11 V	179	74.32	32.37
3	2483.50	69.08 PK	74.00	-4.92	1.10 V	195	36.69	32.39
4	**2483.50**	**52.73 AV**	**54.00**	**-1.27**	**1.10 V**	**195**	**20.34**	**32.39**
5	3282.00	47.16 PK	74.00	-26.84	1.02 V	28	13.82	33.34
6	3282.00	40.49 AV	54.00	-13.51	1.02 V	28	7.15	33.34
7	4924.00	47.90 PK	74.00	-26.10	1.12 V	208	9.67	38.23
8	4924.00	35.61 AV	54.00	-18.39	1.12 V	208	-2.62	38.23

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

DRAFT 802.11n (40MHz) OFDM MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
MODULATION TYPE	BPSK	INPUT POWER	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	24deg. C, 71% RH, 985hPa	DETECTOR FUNCTION	Peak(PK) Average (AV)
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	62.17 PK	74.00	-11.83	1.00 H	164	29.85	32.32
2	2390.00	47.64 AV	54.00	-6.36	1.00 H	164	15.32	32.32
3	*2422.00	101.03 PK			1.00 H	167	68.70	32.33
4	*2422.00	89.87 AV			1.00 H	167	57.54	32.33
5	4844.00	47.61 PK	74.00	-26.39	1.18 H	12	9.56	38.05
6	4844.00	34.59 AV	54.00	-19.41	1.18 H	12	-3.46	38.05

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	70.95 PK	74.00	-3.05	1.00 V	19	38.63	32.32
2	2390.00	52.71 AV	54.00	-1.29	1.00 V	19	20.39	32.32
3	*2422.00	110.70 PK			1.15 V	196	78.37	32.33
4	*2422.00	100.74 AV			1.15 V	196	68.41	32.33
5	3229.00	47.67 PK	74.00	-26.33	1.18 V	151	14.15	33.52
6	3229.00	40.71 AV	54.00	-13.29	1.18 V	151	7.19	33.52
7	4844.00	47.79 PK	74.00	-26.21	1.12 V	12	9.74	38.05
8	4844.00	35.06 AV	54.00	-18.94	1.12 V	12	-2.99	38.05

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 4	FREQUENCY RANGE	1 ~ 25GHz
MODULATION TYPE	BPSK	INPUT POWER	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	24deg. C, 71% RH, 985hPa	DETECTOR FUNCTION	Peak(PK) Average (AV)
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	101.59 PK			1.26 H	164	69.25	32.34
2	*2437.00	90.64 AV			1.26 H	164	58.30	32.34
3	4874.00	47.97 PK	74.00	-26.03	1.10 H	175	9.85	38.12
4	4874.00	34.84 AV	54.00	-19.16	1.10 H	175	-3.28	38.12

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	112.20 PK			1.21 V	31	79.86	32.34
2	*2437.00	101.22 AV			1.21 V	31	68.88	32.34
3	3248.00	45.52 PK	74.00	-28.48	1.25 V	167	12.06	33.46
4	3248.00	37.68 AV	54.00	-16.32	1.25 V	167	4.22	33.46
5	4874.00	47.84 PK	74.00	-26.16	1.02 V	159	9.72	38.12
6	4874.00	34.65 AV	54.00	-19.35	1.02 V	159	-3.47	38.12

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 7	FREQUENCY RANGE	1 ~ 25GHz
MODULATION TYPE	BPSK	INPUT POWER	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	24deg. C, 71% RH, 985hPa	DETECTOR FUNCTION	Peak(PK) Average (AV)
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	101.78 PK			1.00 H	156	69.42	32.36
2	*2452.00	90.80 AV			1.00 H	156	58.44	32.36
3	2483.50	60.83 PK	74.00	-13.17	1.26 H	171	28.44	32.39
4	2483.50	47.55 AV	54.00	-6.45	1.26 H	171	15.16	32.39
5	4904.00	47.17 PK	74.00	-26.83	1.00 H	20	8.98	38.19
6	4904.00	33.74 AV	54.00	-20.26	1.00 H	20	-4.45	38.19

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	*2452.00	111.83 PK			1.12 V	182	79.47	32.36
2	*2452.00	101.29 AV			1.12 V	182	68.93	32.36
3	2483.50	70.55 PK	74.00	-3.45	1.09 V	171	38.16	32.39
4	2483.50	52.52 AV	54.00	-1.48	1.09 V	171	20.13	32.39
5	3269.00	44.69 PK	74.00	-29.31	1.00 V	81	11.30	33.39
6	3269.00	35.66 AV	54.00	-18.34	1.00 V	81	2.27	33.39
7	4904.00	47.82 PK	74.00	-26.18	1.12 V	19	9.63	38.19
8	4904.00	34.27 AV	54.00	-19.73	1.12 V	19	-3.92	38.19

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. " * ": 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	FSP40	100040	Jun. 28, 2008

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

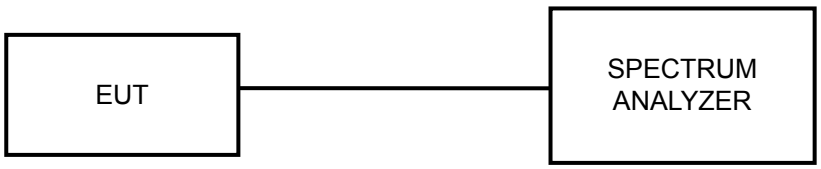
4.3.3 TEST PROCEDURE

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 300kHz 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.

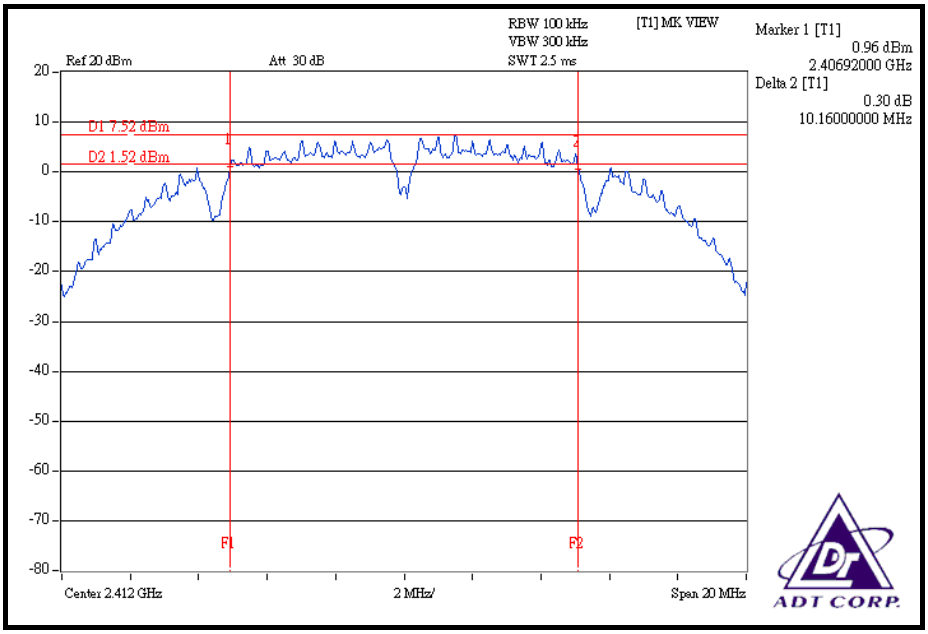
4.3.7 TEST RESULTS

802.11b DSSS MODULATION

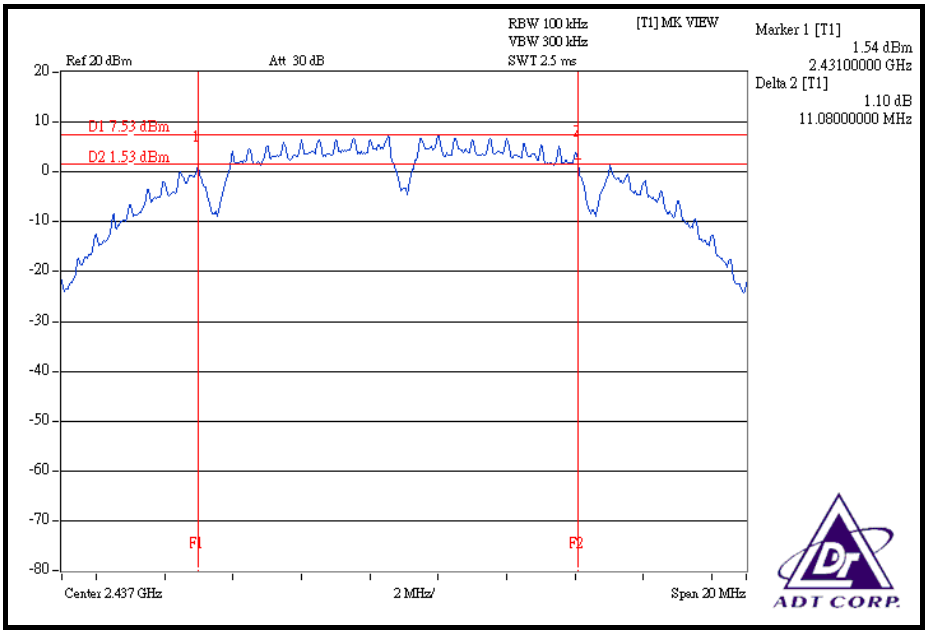
MODULATION TYPE	DBPSK	ENVIRONMENTAL CONDITIONS	26deg.C, 67% RH, 987hPa
INPUT POWER (SYSTEM)	120Vac, 60 Hz	TESTED BY	Brad Wu

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	10.16	0.5	PASS
6	2437	11.08	0.5	PASS
11	2462	11.12	0.5	PASS

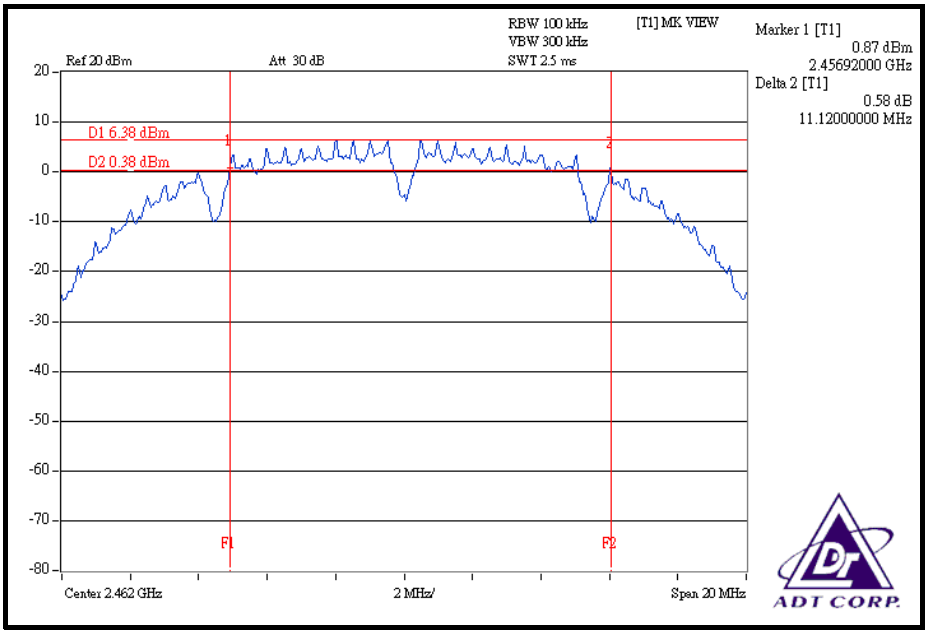
CH 1



CH 6


RBW 100 kHz
VBW 300 kHz
SWT 2.5 ms
[T1] MK VIEW
Marker 1 [T1]
1.54 dBm
2.43100000 GHz
Delta 2 [T1]
1.10 dB
11.08000000 MHz
Ref 20 dBm
Att 30 dB
D1 7.53 dBm
D2 1.53 dBm
F1
F2
Center 2.437 GHz
2 MHz/
Span 20 MHz
ADT CORP.

CH 11

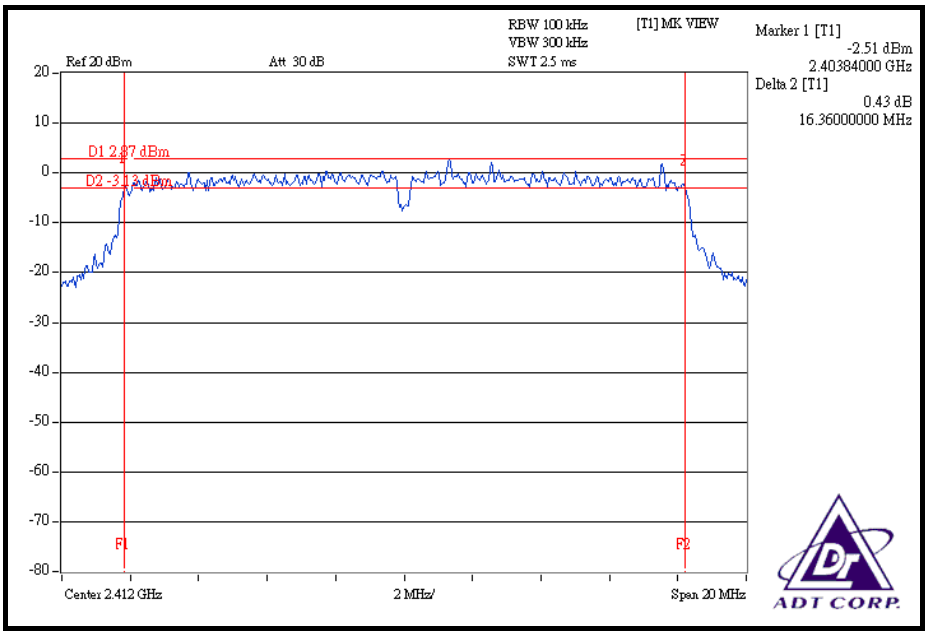

RBW 100 kHz
VBW 300 kHz
SWT 2.5 ms
[T1] MK VIEW
Marker 1 [T1]
0.87 dBm
2.45692000 GHz
Delta 2 [T1]
0.58 dB
11.12000000 MHz
Ref 20 dBm
Att 30 dB
D1 6.38 dBm
D2 0.38 dBm
F1
F2
Center 2.462 GHz
2 MHz/
Span 20 MHz
ADT CORP.

802.11g OFDM MODULATION

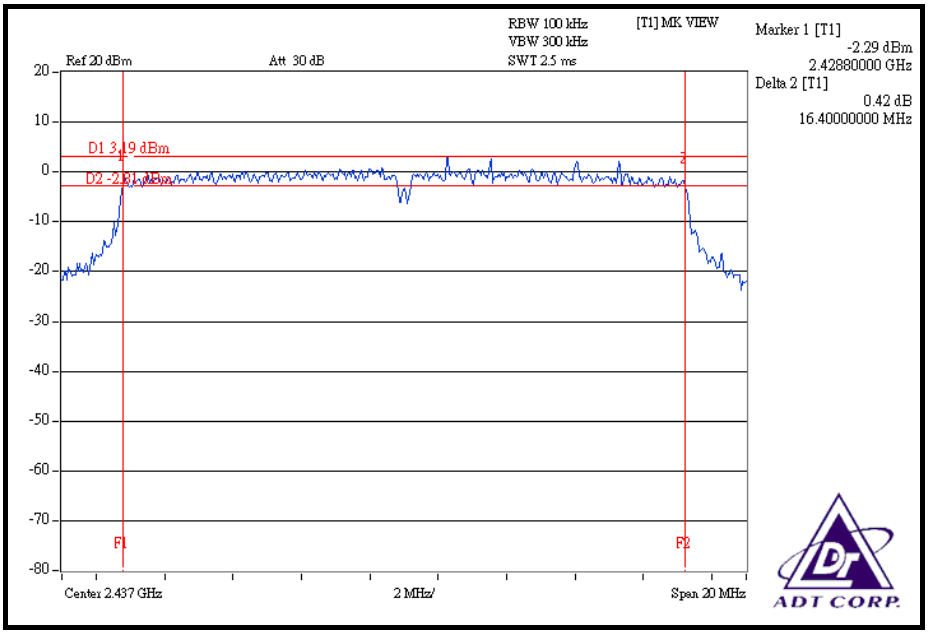
MODULATION TYPE	BPSK	ENVIRONMENTAL CONDITIONS	26deg.C, 67% RH, 987hPa
INPUT POWER (SYSTEM)	120Vac, 60 Hz	TESTED BY	Brad Wu

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

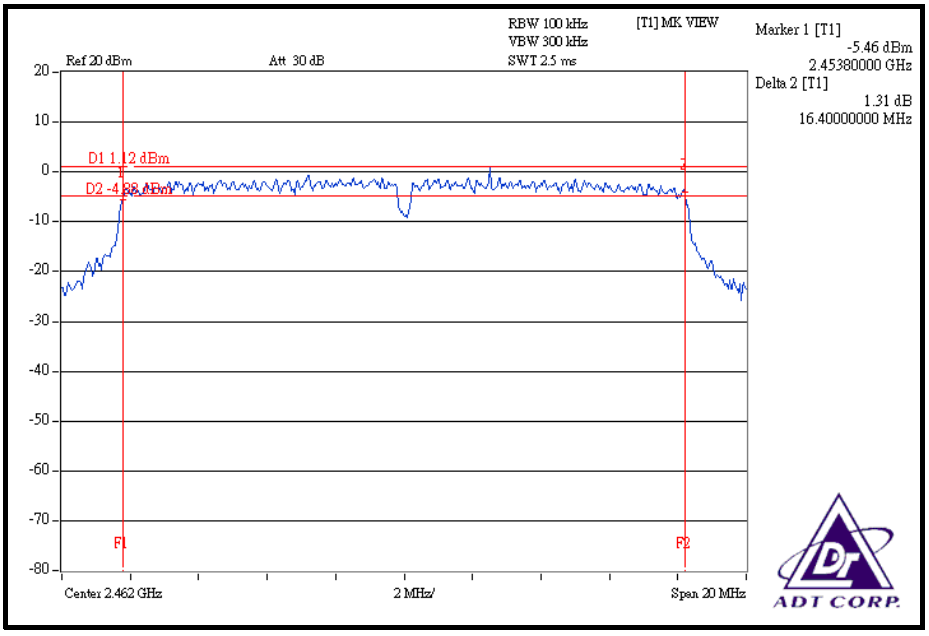
CH 1



CH 6


RBW 100 kHz
VBW 300 kHz
SWT 2.5 ms
[T1] MK VIEW
Marker 1 [T1]
-2.29 dBm
2.42880000 GHz
Delta 2 [T1]
0.42 dB
16.40000000 MHz
Ref 20 dBm
Att 30 dB
D1 3.19 dBm
D2 -2.81 dBm
F1
F2
Center 2.437 GHz
2 MHz/
Span 20 MHz
ADT CORP.

CH 11

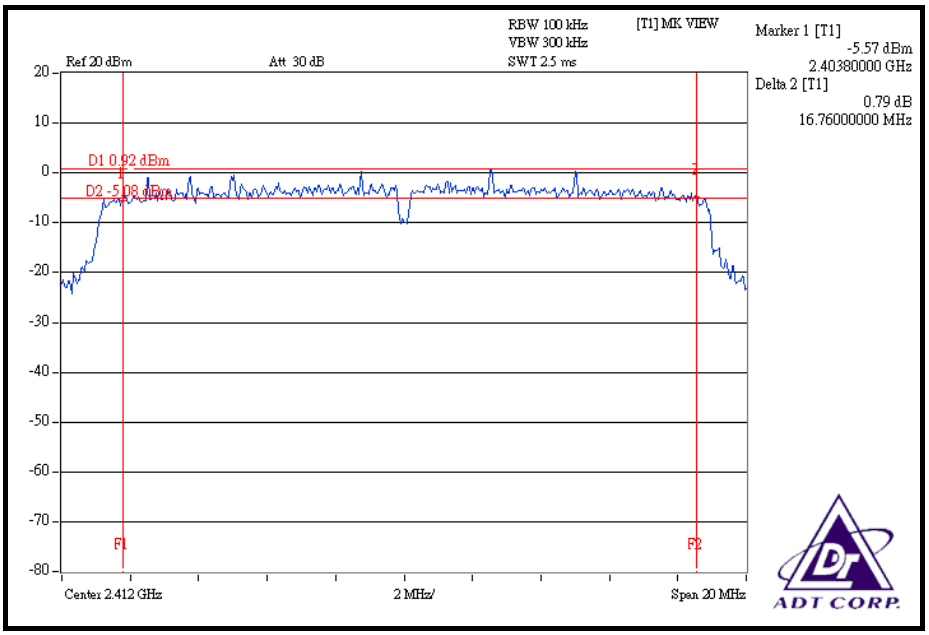

RBW 100 kHz
VBW 300 kHz
SWT 2.5 ms
[T1] MK VIEW
Marker 1 [T1]
-5.46 dBm
2.45380000 GHz
Delta 2 [T1]
1.31 dB
16.40000000 MHz
Ref 20 dBm
Att 30 dB
D1 1.12 dBm
D2 -4.88 dBm
F1
F2
Center 2.462 GHz
2 MHz/
Span 20 MHz
ADT CORP.

DRAFT 802.11n (20MHz) OFDM MODULATION

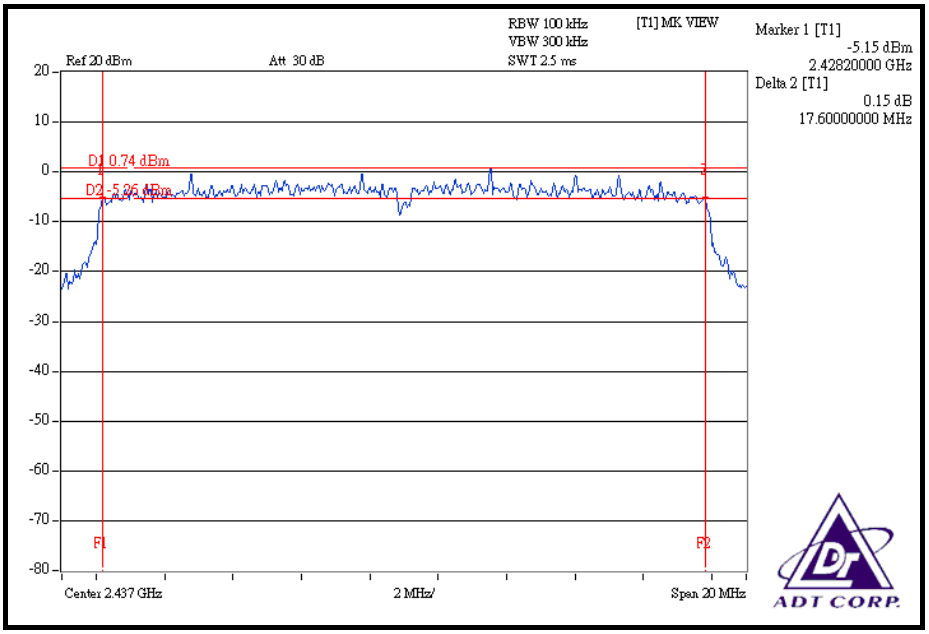
MODULATION TYPE	BPSK	**ENVIRONMENTAL CONDITIONS**	26deg.C, 67% RH, 987hPa
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**TESTED BY**	Brad Wu

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)			MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2		
1	2412	16.76	17.64	17.64	0.5	PASS
6	2437	17.60	17.60	17.60	0.5	PASS
11	2462	17.68	17.64	17.68	0.5	PASS

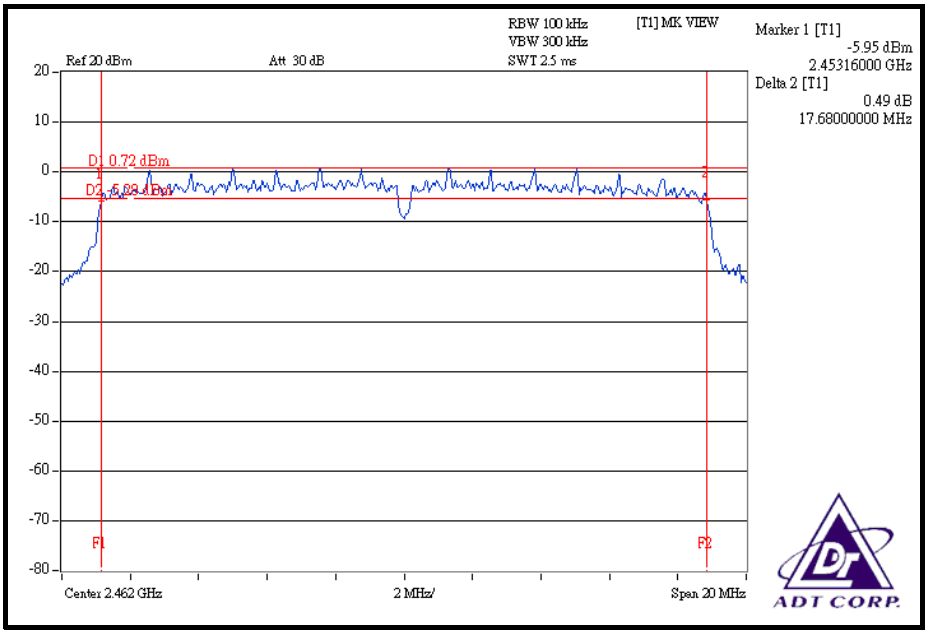
FOR CHAIN 0: CH 1



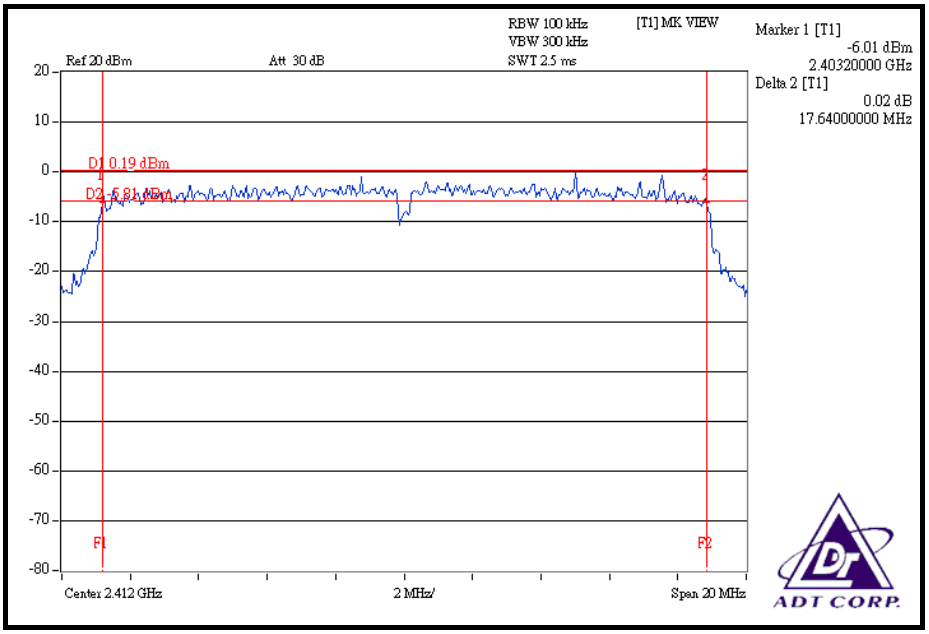
CH 6


RBW 100 kHz
VBW 300 kHz
SWT 2.5 ms
[T1] MK VIEW
Marker 1 [T1]
-5.15 dBm
2.42820000 GHz
Delta 2 [T1]
0.15 dB
17.60000000 MHz
Ref 20 dBm
Att 30 dB
D1 0.74 dBm
D2 -5.26 dBm
F1
F2
Center 2.437 GHz
2 MHz/
Span 20 MHz
ADT CORP.

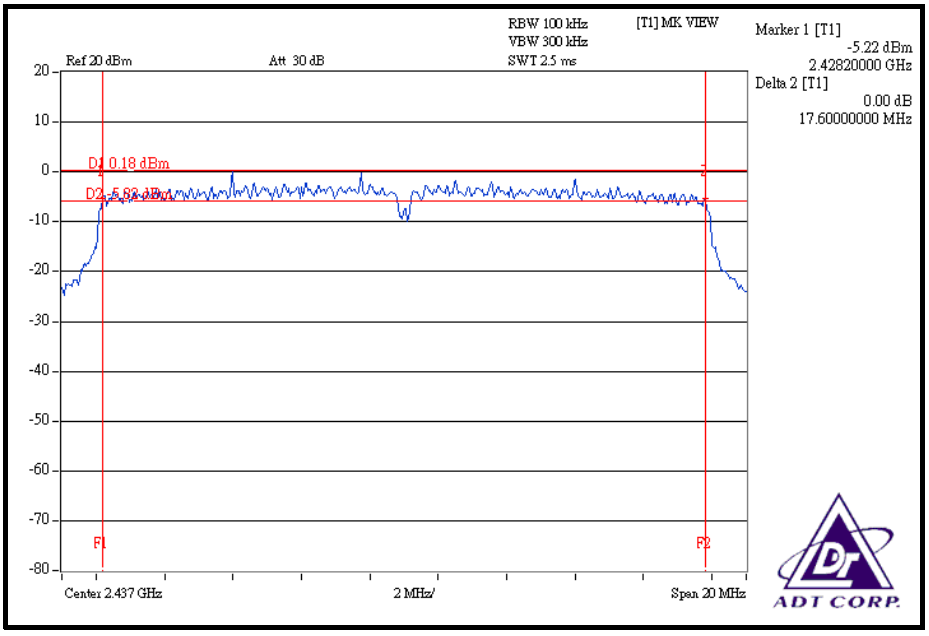
CH 11


RBW 100 kHz
VBW 300 kHz
SWT 2.5 ms
[T1] MK VIEW
Marker 1 [T1]
-5.95 dBm
2.45316000 GHz
Delta 2 [T1]
0.49 dB
17.68000000 MHz
Ref 20 dBm
Att 30 dB
D1 0.72 dBm
D2 -5.09 dBm
F1
F2
Center 2.462 GHz
2 MHz/
Span 20 MHz
ADT CORP.

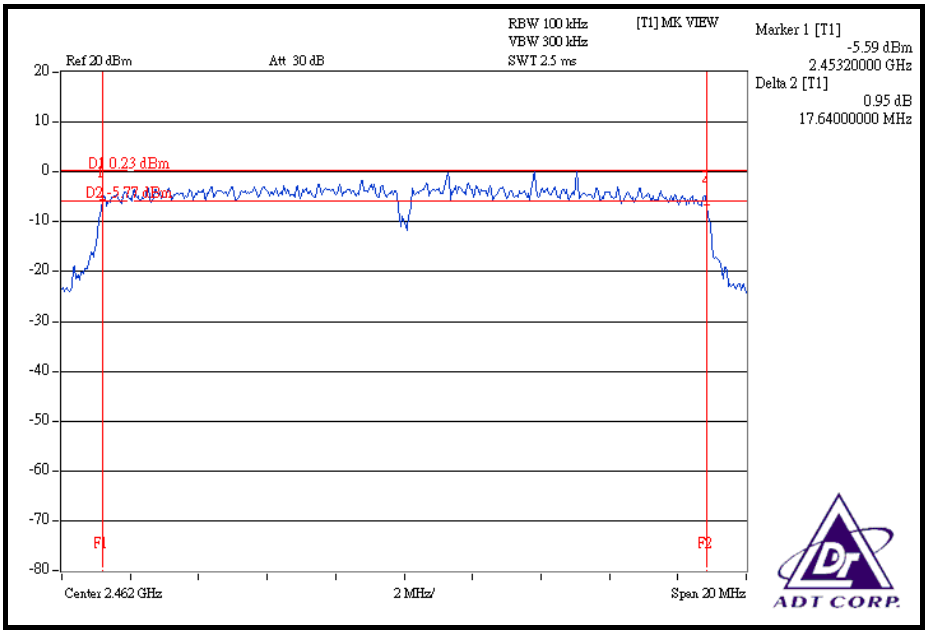
FOR CHAIN 1: CH 1



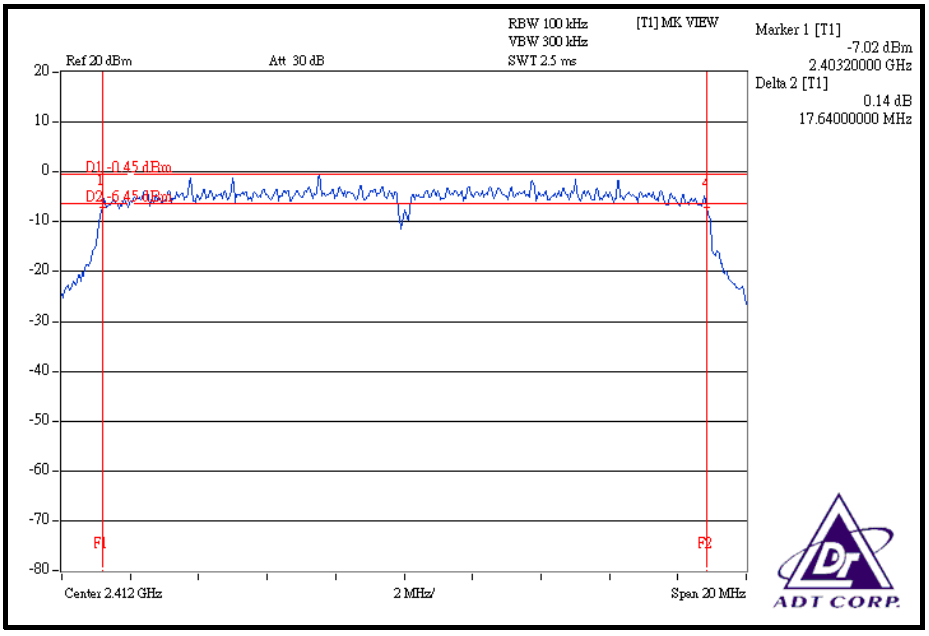
CH 6



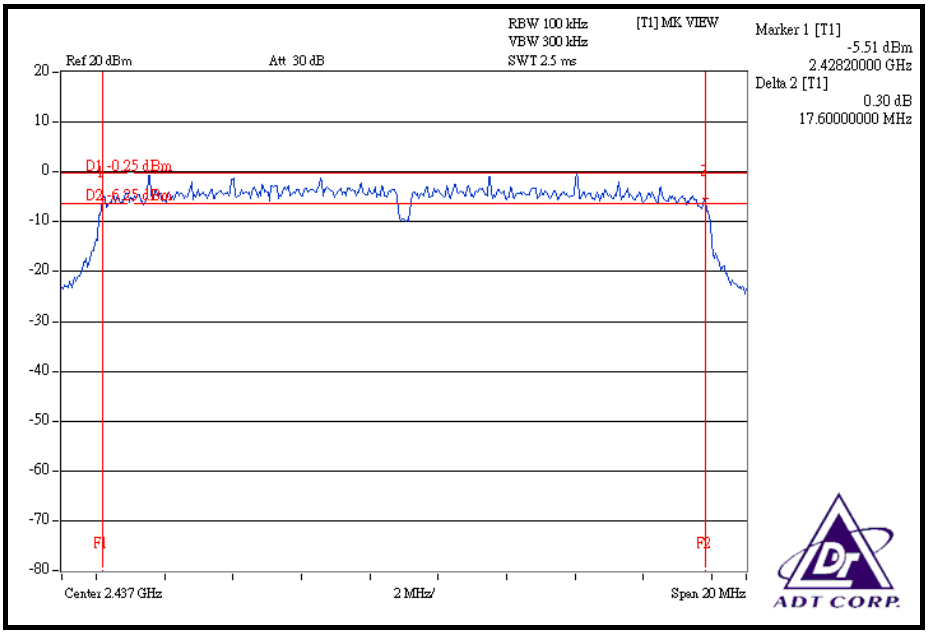
CH 11



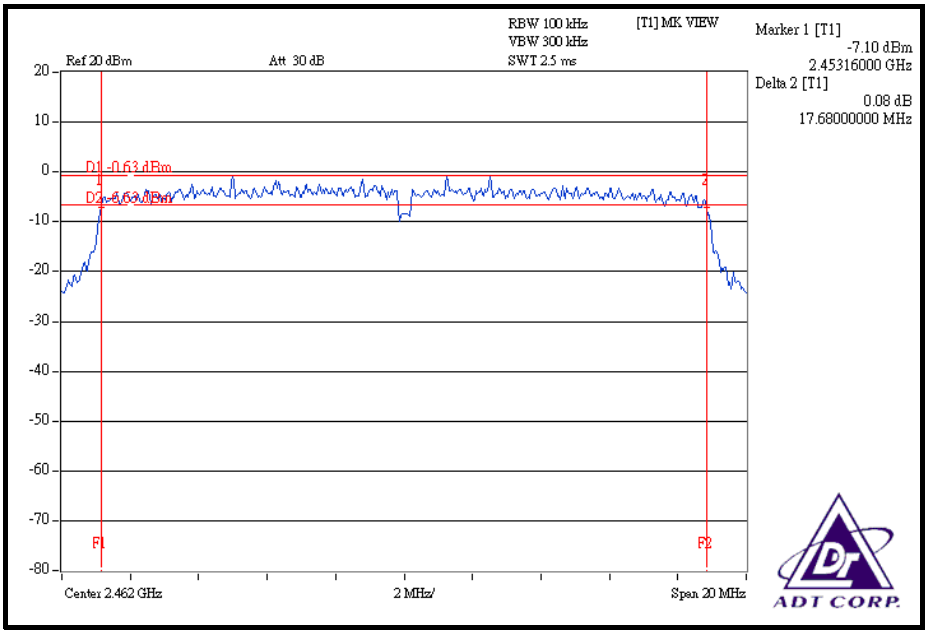
FOR CHAIN 2: CH 1



CH 6


RBW 100 kHz
VBW 300 kHz
SWT 2.5 ms
[T1] MK VIEW
Marker 1 [T1]
-5.51 dBm
2.42820000 GHz
Delta 2 [T1]
0.30 dB
17.60000000 MHz
Ref 20 dBm
Att 30 dB
D1 -0.25 dBm
F1
F2
Center 2.437 GHz
2 MHz/
Span 20 MHz
ADT CORP.

CH 11

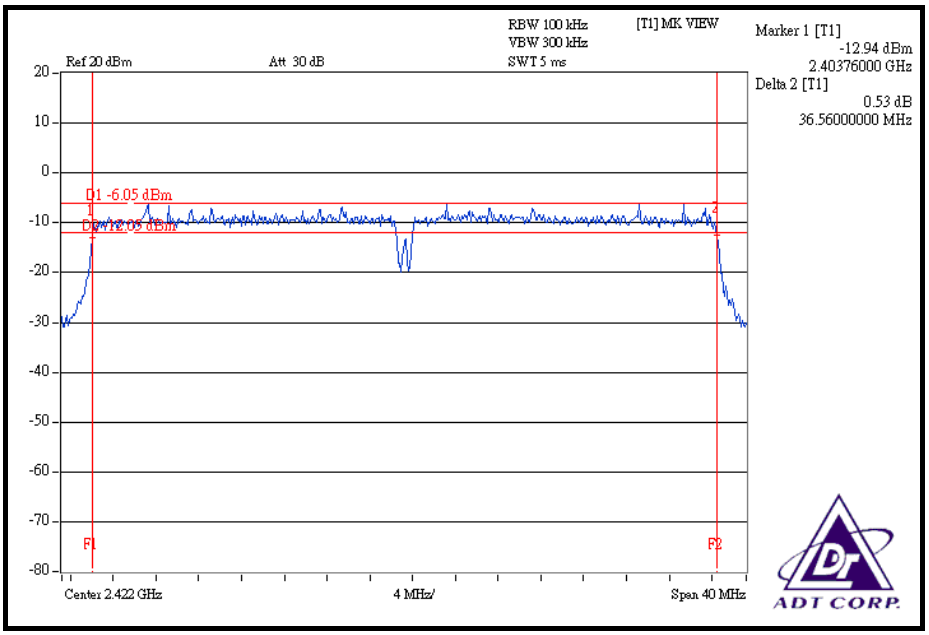

RBW 100 kHz
VBW 300 kHz
SWT 2.5 ms
[T1] MK VIEW
Marker 1 [T1]
-7.10 dBm
2.45316000 GHz
Delta 2 [T1]
0.08 dB
17.68000000 MHz
Ref 20 dBm
Att 30 dB
D1 -0.63 dBm
F1
F2
Center 2.462 GHz
2 MHz/
Span 20 MHz
ADT CORP.

DRAFT 802.11n (40MHz) OFDM MODULATION

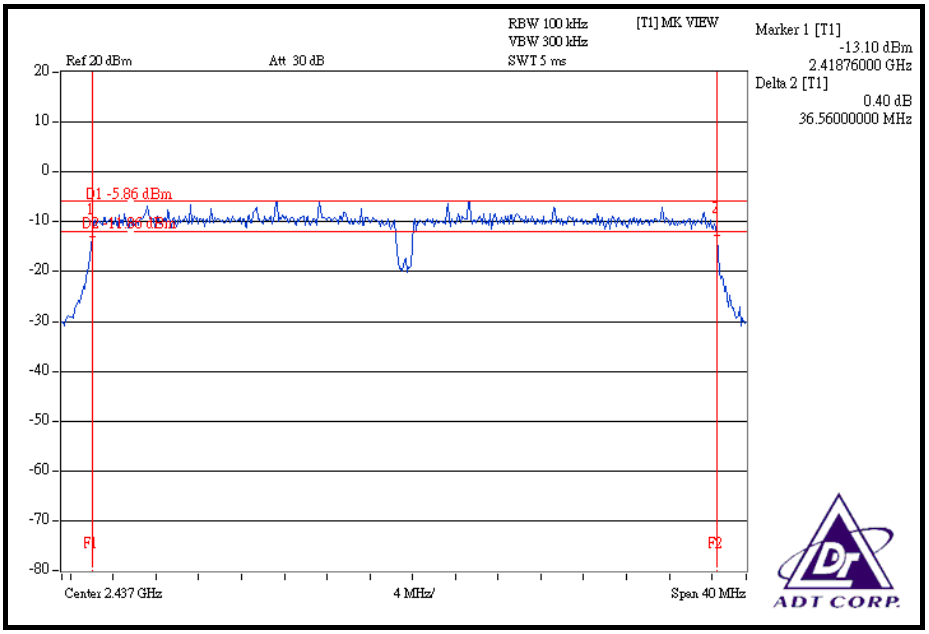
MODULATION TYPE	BPSK	**ENVIRONMENTAL CONDITIONS**	26deg.C, 67% RH, 987hPa
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**TESTED BY**	Brad Wu

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)			MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2		
1	2422	36.56	36.48	36.48	0.5	PASS
4	2437	36.56	36.56	36.48	0.5	PASS
7	2452	36.48	36.48	36.48	0.5	PASS

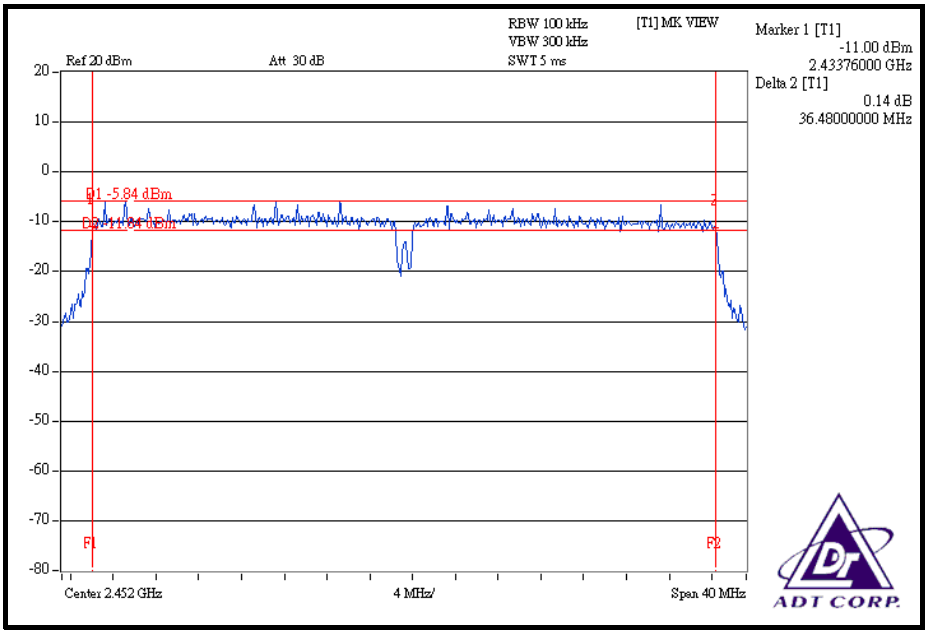
FOR CHAIN 0: CH 1



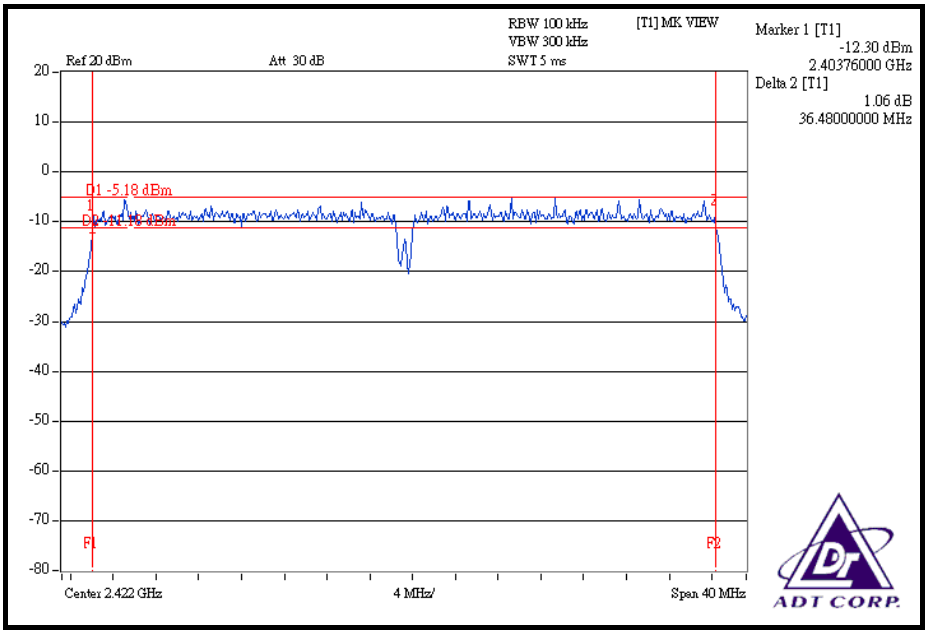
CH 4


RBW 100 kHz
VBW 300 kHz
SWT 5 ms
[T1] MK VIEW
Marker 1 [T1]
-13.10 dBm
2.41876000 GHz
Delta 2 [T1]
0.40 dB
36.56000000 MHz
Ref 20 dBm
Att 30 dB
D1 -5.86 dBm
F1
F2
Center 2.437 GHz
4 MHz/
Span 40 MHz
ADT CORP.

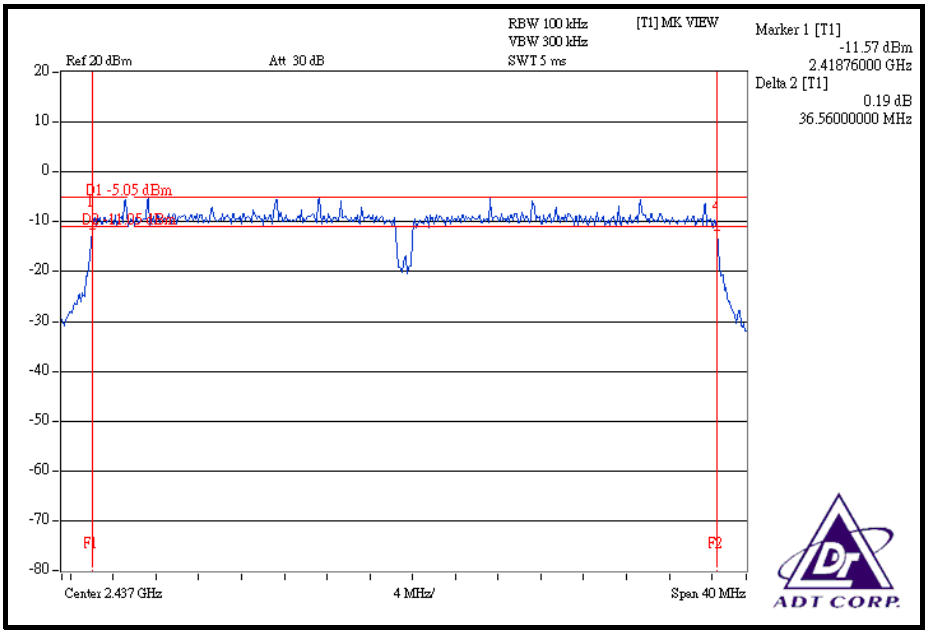
CH 7


RBW 100 kHz
VBW 300 kHz
SWT 5 ms
[T1] MK VIEW
Marker 1 [T1]
-11.00 dBm
2.43376000 GHz
Delta 2 [T1]
0.14 dB
36.48000000 MHz
Ref 20 dBm
Att 30 dB
D1 -5.84 dBm
F1
F2
Center 2.452 GHz
4 MHz/
Span 40 MHz
ADT CORP.

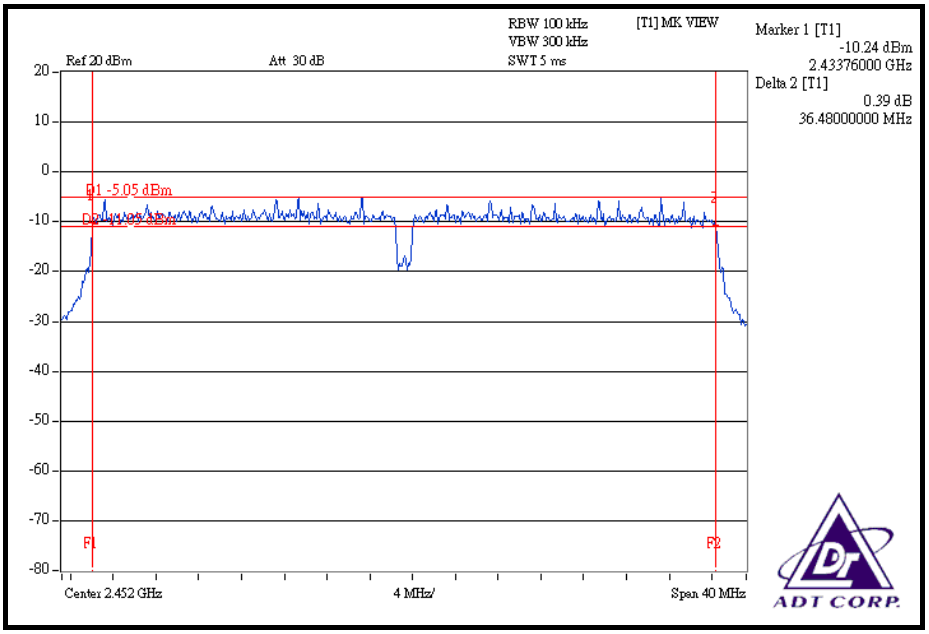
FOR CHAIN 1: CH 1



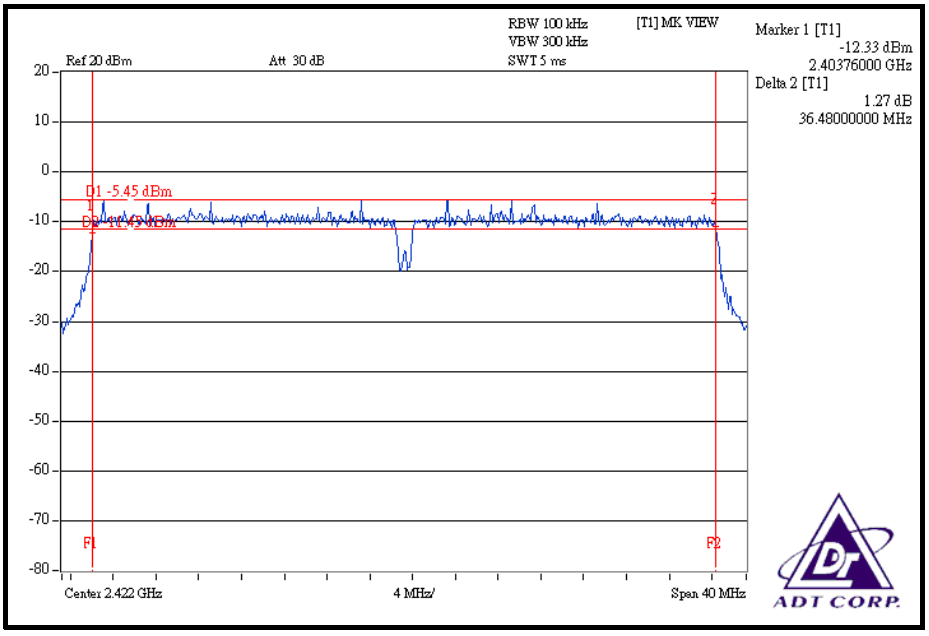
CH 4



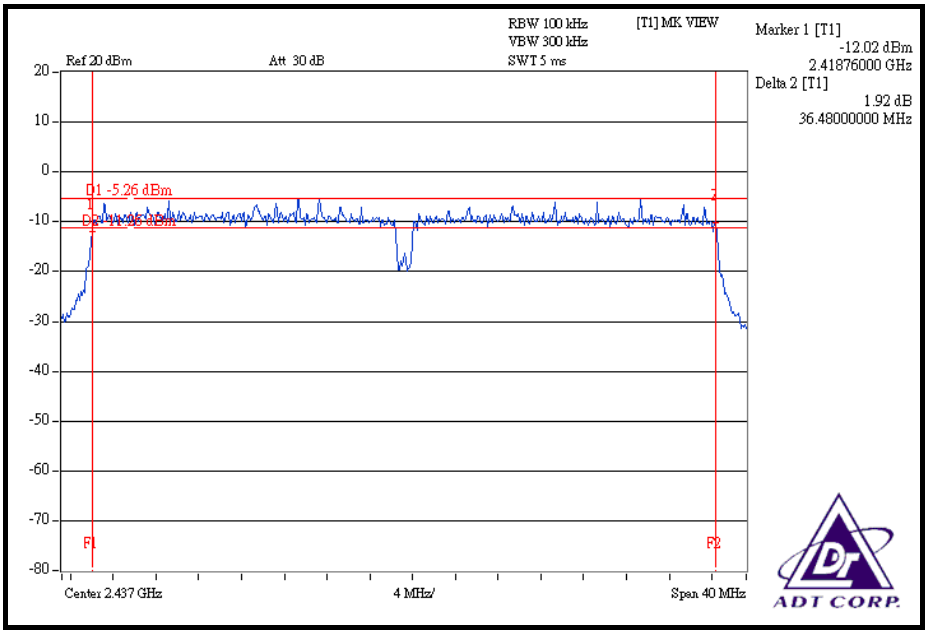
CH 7



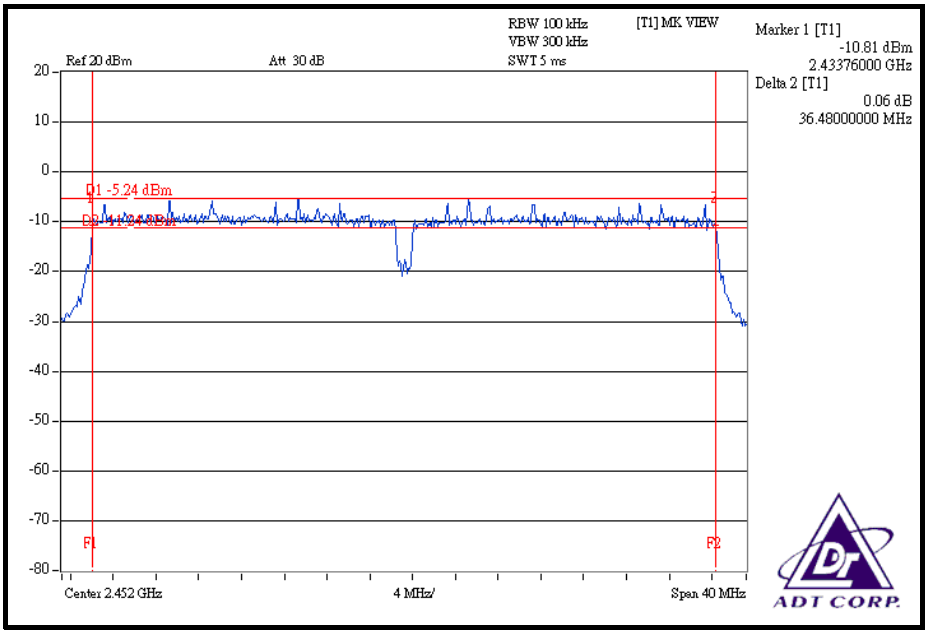
FOR CHAIN 2: CH 1



CH 4


RBW 100 kHz
VBW 300 kHz
SWT 5 ms
[T1] MK VIEW
Marker 1 [T1]
-12.02 dBm
2.41876000 GHz
Delta 2 [T1]
1.92 dB
36.48000000 MHz
Ref 20 dBm
Att 30 dB
D1 -5.26 dBm
F1
F2
Center 2.437 GHz
4 MHz/
Span 40 MHz
ADT CORP.

CH 7


RBW 100 kHz
VBW 300 kHz
SWT 5 ms
[T1] MK VIEW
Marker 1 [T1]
-10.81 dBm
2.43376000 GHz
Delta 2 [T1]
0.06 dB
36.48000000 MHz
Ref 20 dBm
Att 30 dB
D1 -5.24 dBm
F1
F2
Center 2.452 GHz
4 MHz/
Span 40 MHz
ADT CORP.

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	FSP40	100040	Jun. 28, 2008
AGILENT SIGNAL GENERATOR	E8257C	MY43320668	Dec. 28, 2007
TEKTRONIX OSCILLOSCOPE	TDS1012	C037299	Nov. 27, 2007
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

a. A detector was used on the output port of the EUT. An oscilloscope was used to read the response of the detector.

b. Replaced the EUT by the signal generator. The center frequency of the S.G was adjusted to the center frequency of the measured channel.

c. 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	ENVIRONMENTAL CONDITIONS	26deg.C, 67% RH, 987hPa
INPUT POWER (SYSTEM)	120Vac, 60 Hz	TESTED BY	Brad Wu

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
1	2412	72.277	18.59	30	PASS
6	2437	70.958	18.51	30	PASS
11	2462	56.885	17.55	30	PASS

802.11g OFDM MODULATION

MODULATION TYPE	BPSK	ENVIRONMENTAL CONDITIONS	26deg.C, 67% RH, 987hPa
INPUT POWER (SYSTEM)	120Vac, 60 Hz	TESTED BY	Brad Wu

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
1	2412	72.277	18.59	30	PASS
6	2437	80.724	19.07	30	PASS
11	2462	50.119	17.00	30	PASS

DRAFT 802.11n (20MHz) OFDM MODULATION

MODULATION TYPE	BPSK	ENVIRONMENTAL CONDITIONS	26deg.C, 67% RH, 987hPa
INPUT POWER (SYSTEM)	120Vac, 60 Hz	TESTED BY	Brad Wu

CHAN.	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
		CHAIN0	CHAIN1	CHAIN2	CHAIN0	CHAIN1	CHAIN2				
1	2412	44.668	40.644	40.458	16.50	16.09	16.07	125.770	21.00	30	PASS
6	2437	41.020	40.272	40.272	16.13	16.05	16.05	121.564	20.85	30	PASS
11	2462	40.926	40.832	39.994	16.12	16.11	16.02	121.752	20.85	30	PASS

DRAFT 802.11n (40MHz) OFDM MODULATION

MODULATION TYPE	BPSK	ENVIRONMENTAL CONDITIONS	26deg.C, 67% RH, 987hPa
INPUT POWER (SYSTEM)	120Vac, 60 Hz	TESTED BY	Brad Wu

CHAN.	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
		CHAIN0	CHAIN1	CHAIN2	CHAIN0	CHAIN1	CHAIN2				
1	2422	25.527	25.586	25.882	14.07	14.08	14.13	76.995	18.86	30	PASS
4	2437	25.882	25.704	25.823	14.13	14.10	14.12	77.409	18.89	30	PASS
7	2452	25.119	25.823	25.586	14.00	14.12	14.08	76.528	18.84	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
SPECTRUM ANALYZER	FSP40	100040	Jun. 28, 2008

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

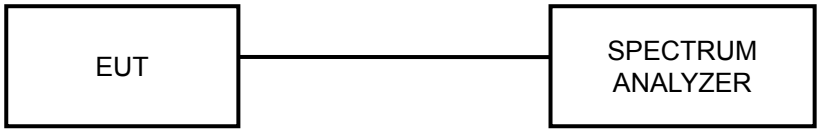
The transmitter output was connected to the spectrum analyzer through an attenuator, the bandwidth of the fundamental frequency was measured with the spectrum analyzer using 3kHz RBW and 30kHz VBW, set sweep time = span/3kHz. The power spectral density was measured and recorded.

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

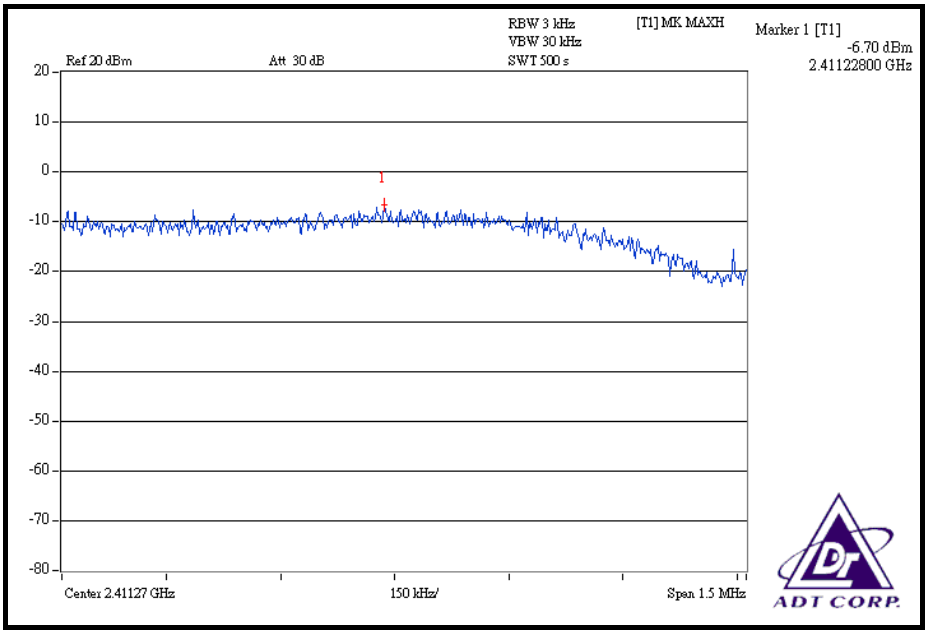
4.5.7 TEST RESULTS

802.11b DSSS MODULATION

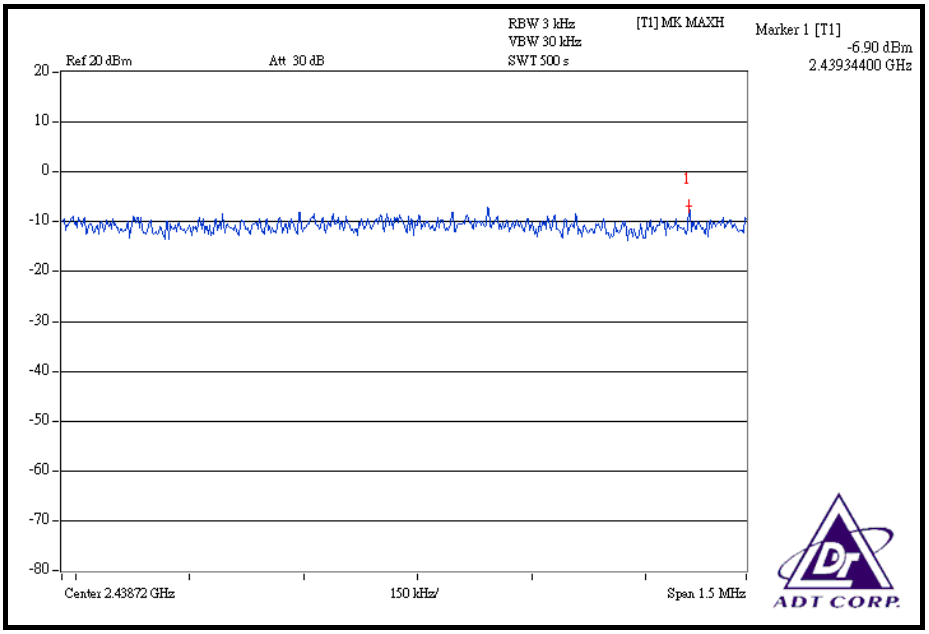
MODULATION TYPE	DBPSK	ENVIRONMENTAL CONDITIONS	26deg.C, 67% RH, 987hPa
INPUT POWER (SYSTEM)	120Vac, 60 Hz	TESTED BY	Brad Wu

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	2412	-6.70	8	PASS
6	2437	-6.90	8	PASS
11	2462	-7.80	8	PASS

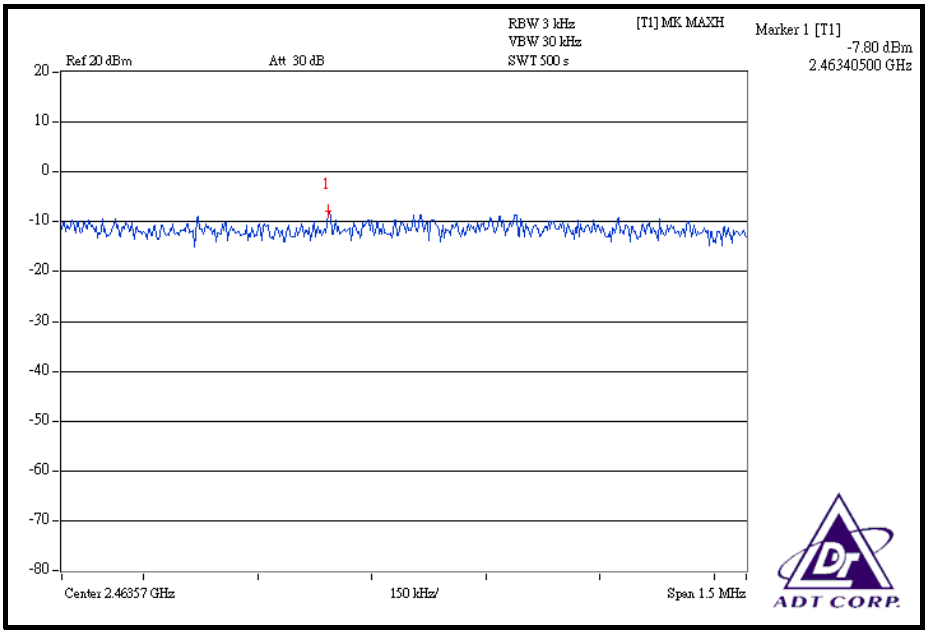
CH 1



CH 6


RBW 3 kHz
VBW 30 kHz
SWT 500 s
[T1] MK MAXH
Marker 1 [T1]
-6.90 dBm
2.43934400 GHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Center 2.43872 GHz
150 kHz/
Span 1.5 MHz
ADT CORP.

CH 11

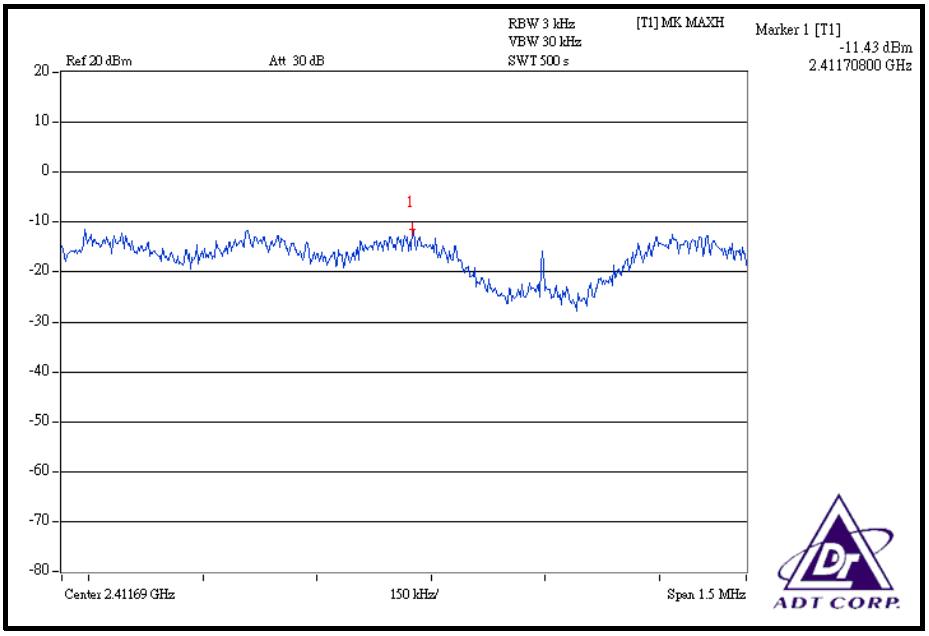

RBW 3 kHz
VBW 30 kHz
SWT 500 s
[T1] MK MAXH
Marker 1 [T1]
-7.80 dBm
2.46340500 GHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Center 2.46357 GHz
150 kHz/
Span 1.5 MHz
ADT CORP.

802.11g OFDM MODULATION

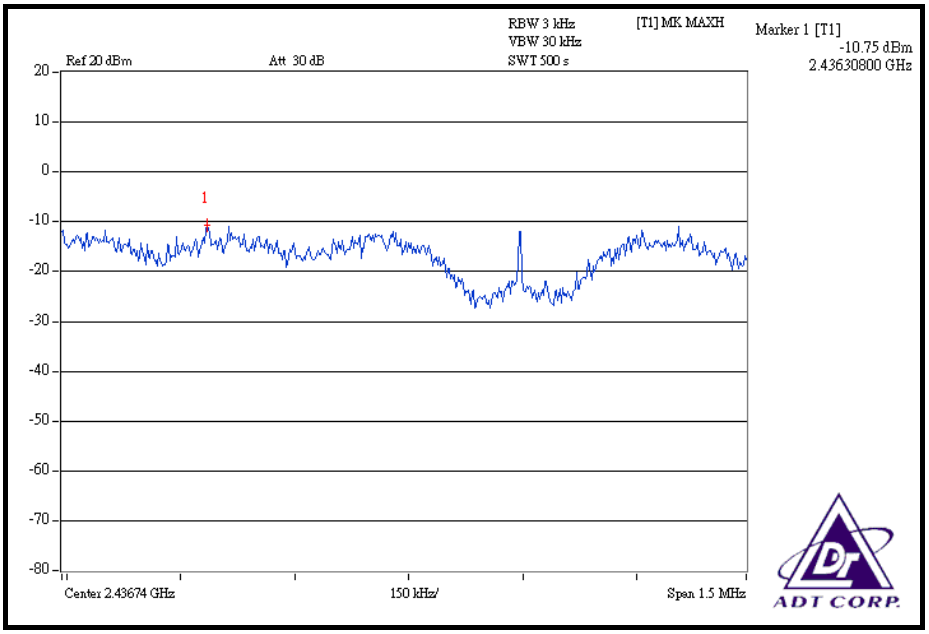
MODULATION TYPE	BPSK	ENVIRONMENTAL CONDITIONS	26deg.C, 67% RH, 987hPa
INPUT POWER (SYSTEM)	120Vac, 60 Hz	TESTED BY	Brad Wu

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	2412	-11.43	8	PASS
6	2437	-10.75	8	PASS
11	2462	-13.10	8	PASS

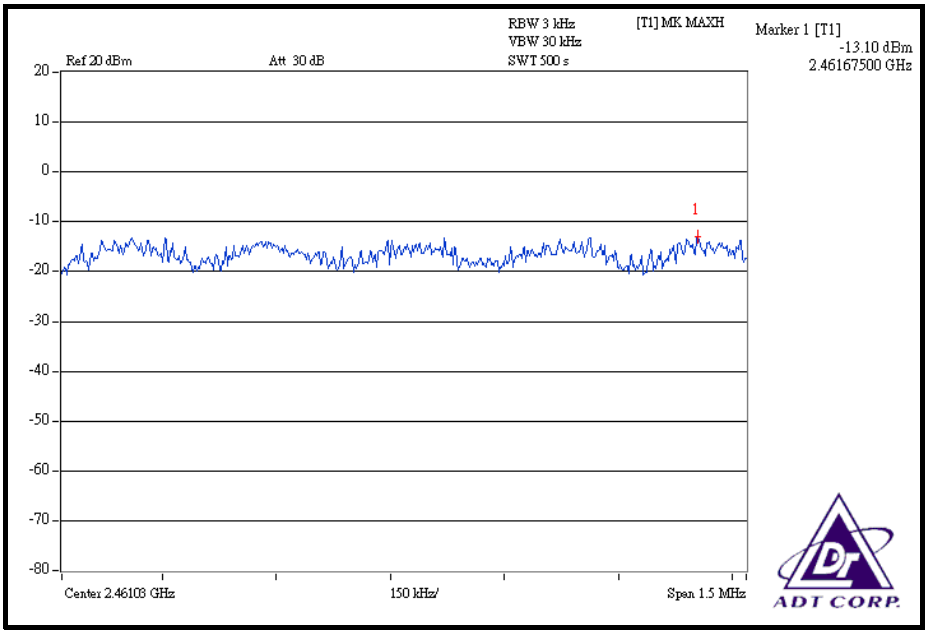
CH 1



CH 6


RBW 3 kHz
VBW 30 kHz
SWT 500 s
[T1] MK MAXH
Marker 1 [T1]
-10.75 dBm
2.43630800 GHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
1
Center 2.43674 GHz
150 kHz/
Span 1.5 MHz
ADT CORP.

CH 11

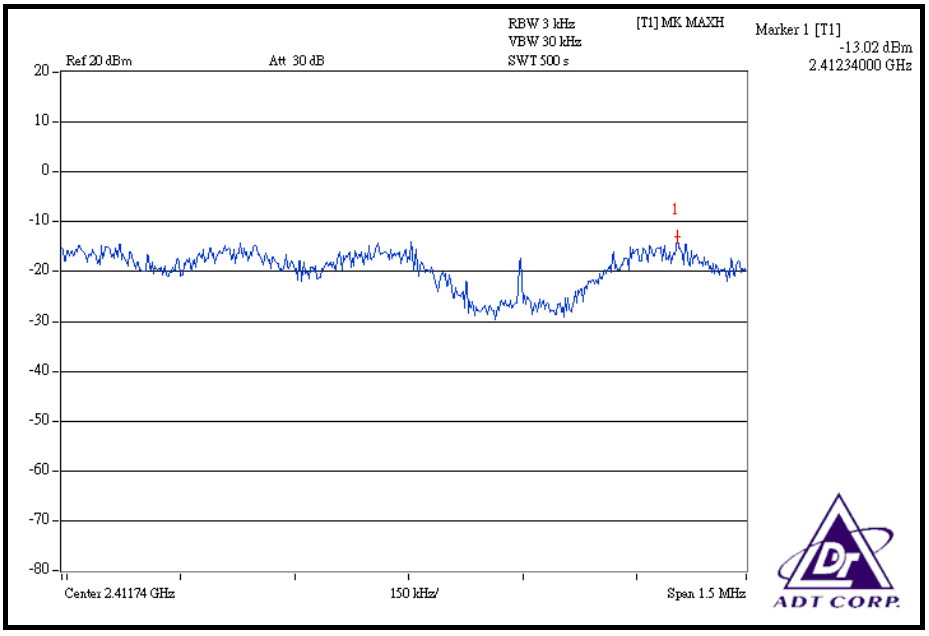

RBW 3 kHz
VBW 30 kHz
SWT 500 s
[T1] MK MAXH
Marker 1 [T1]
-13.10 dBm
2.46167500 GHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
1
Center 2.46108 GHz
150 kHz/
Span 1.5 MHz
ADT CORP.

DRAFT 802.11n (20MHz) OFDM MODULATION

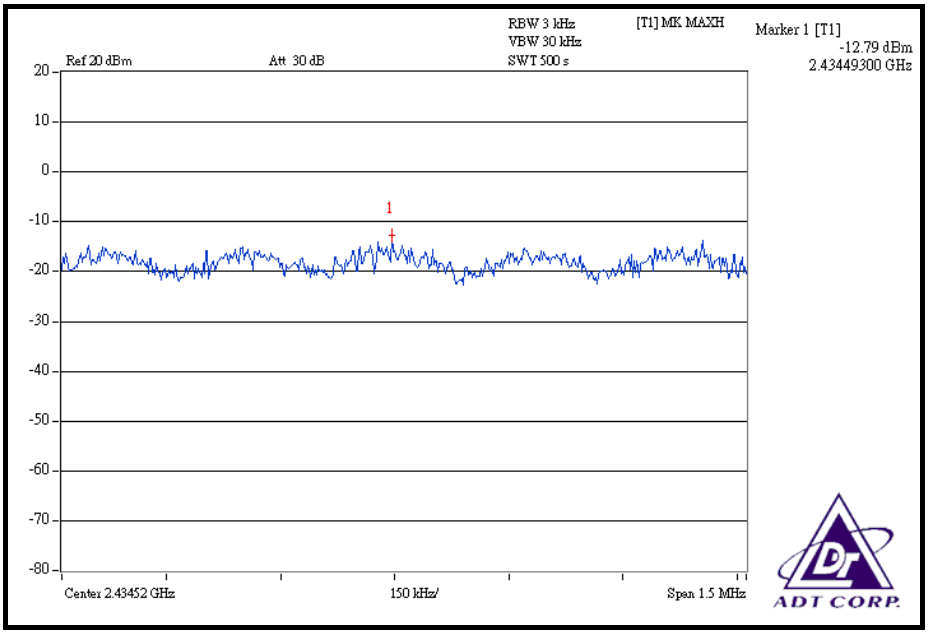
MODULATION TYPE	BPSK	**ENVIRONMENTAL CONDITIONS**	26deg.C, 67% RH, 987hPa
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**TESTED BY**	Brad Wu

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
		CHAIN0	CHAIN1	CHAIN2	CHAIN0	CHAIN1	CHAIN2				
1	2412	0.050	0.049	0.036	-13.02	-13.06	-14.48	0.135	-8.70	8	PASS
6	2437	0.053	0.051	0.036	-12.79	-12.96	-14.39	0.140	-8.55	8	PASS
11	2462	0.053	0.052	0.037	-12.79	-12.87	-14.33	0.142	-8.48	8	PASS

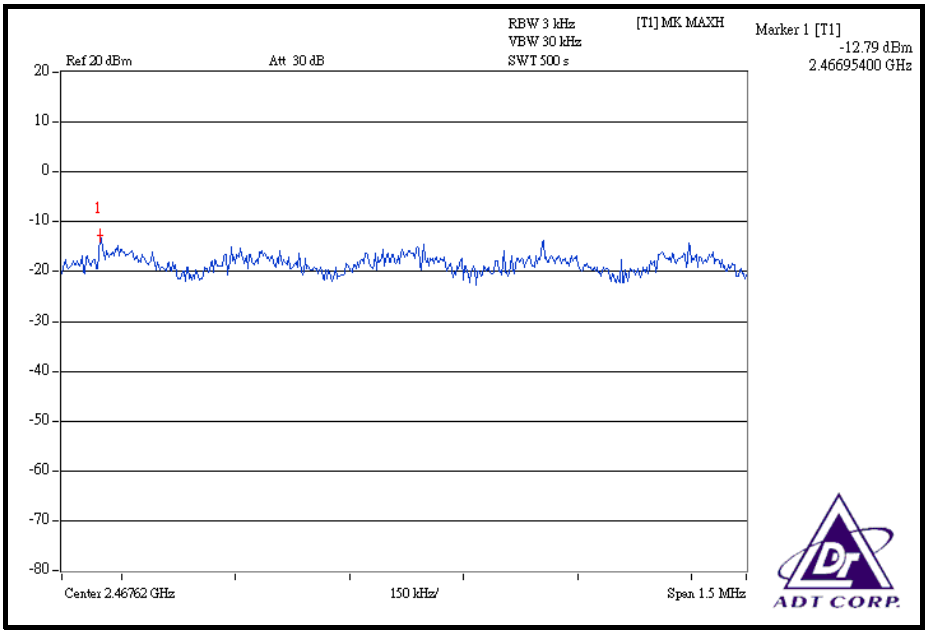
FOR CHAIN 0: CH 1



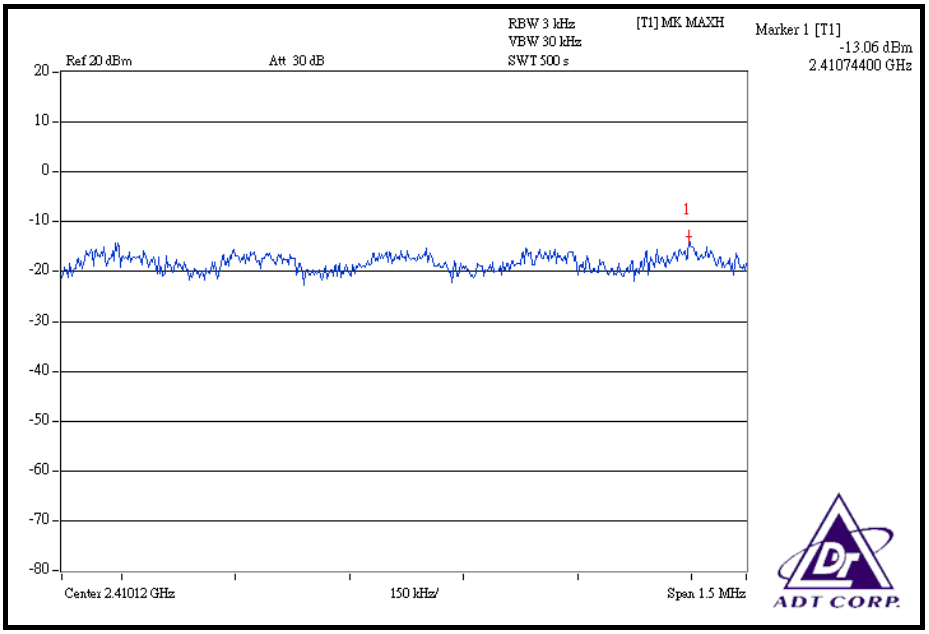
CH 6


RBW 3 kHz
VBW 30 kHz
SWT 500 s
[T1] MK MAXH
Marker 1 [T1]
-12.79 dBm
2.43449300 GHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
1
Center 2.43452 GHz
150 kHz/
Span 1.5 MHz
ADT CORP.

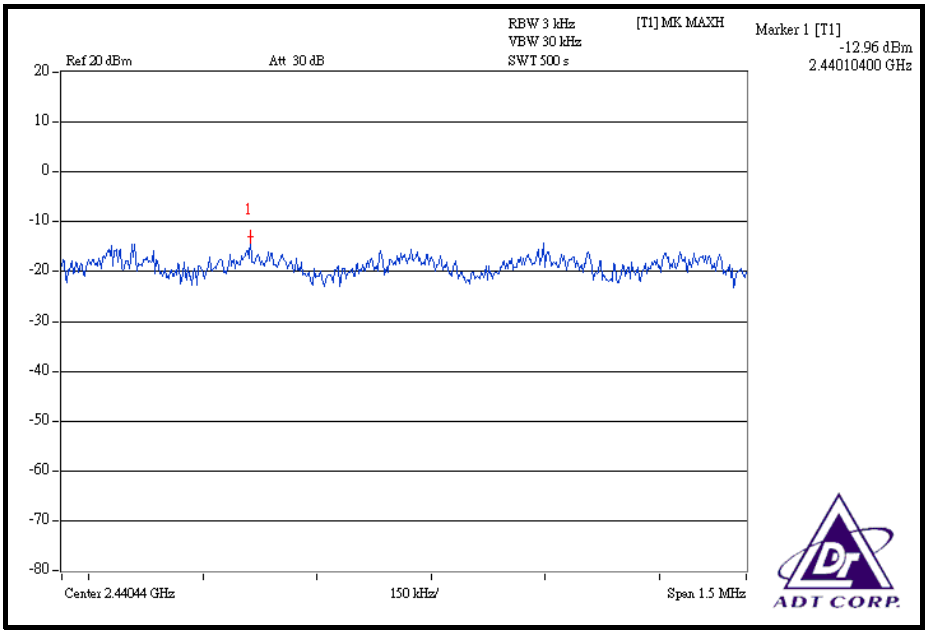
CH 11


RBW 3 kHz
VBW 30 kHz
SWT 500 s
[T1] MK MAXH
Marker 1 [T1]
-12.79 dBm
2.46695400 GHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
1
Center 2.46762 GHz
150 kHz/
Span 1.5 MHz
ADT CORP.

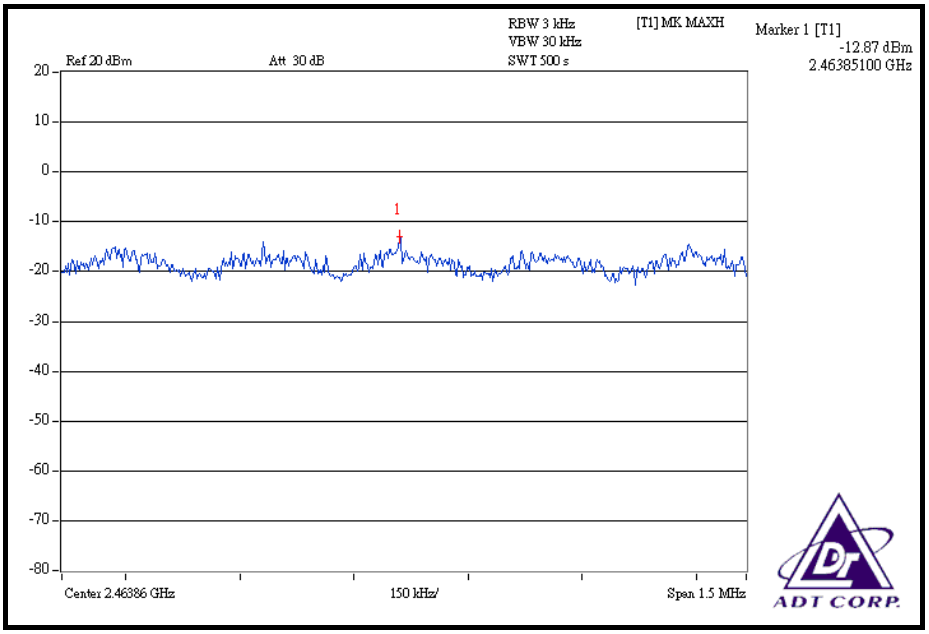
FOR CHAIN 1: CH 1



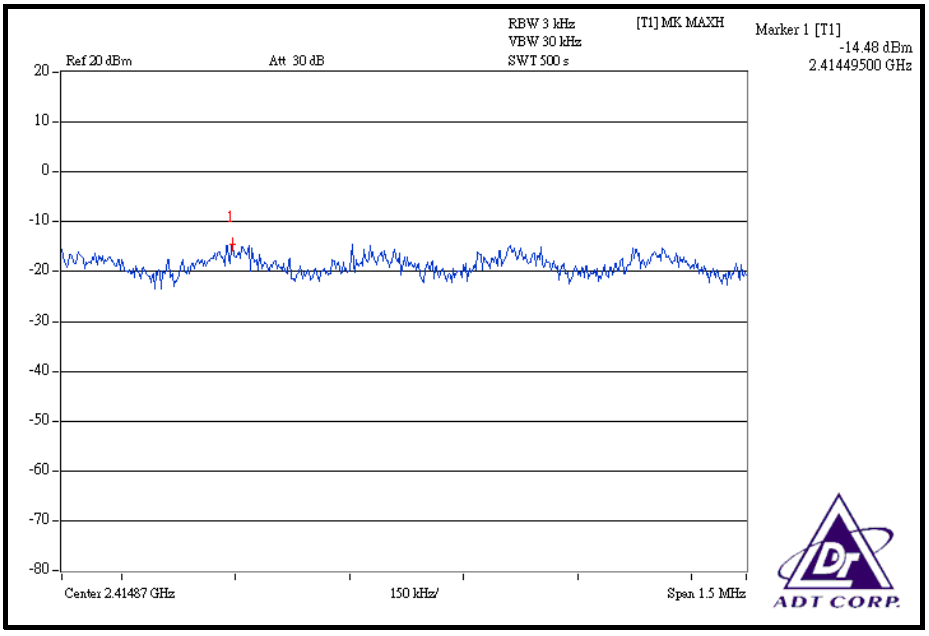
CH 6



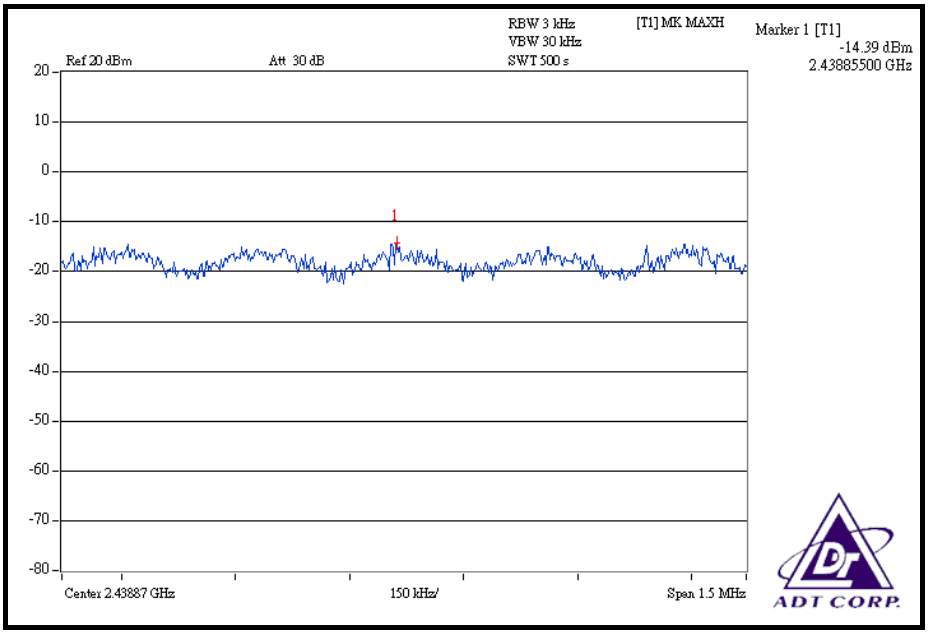
CH 11



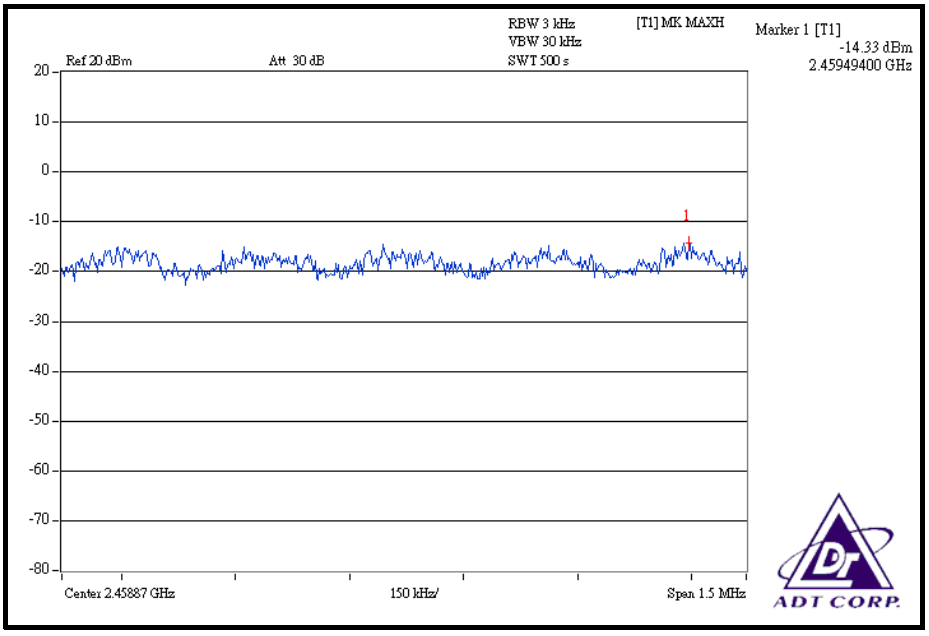
FOR CHAIN 2: CH 1



CH 6


RBW 3 kHz
VBW 30 kHz
SWT 500 s
[T1] MK MAXH
Marker 1 [T1]
-14.39 dBm
2.43885500 GHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Center 2.43887 GHz
150 kHz/
Span 1.5 MHz
ADT CORP.

CH 11

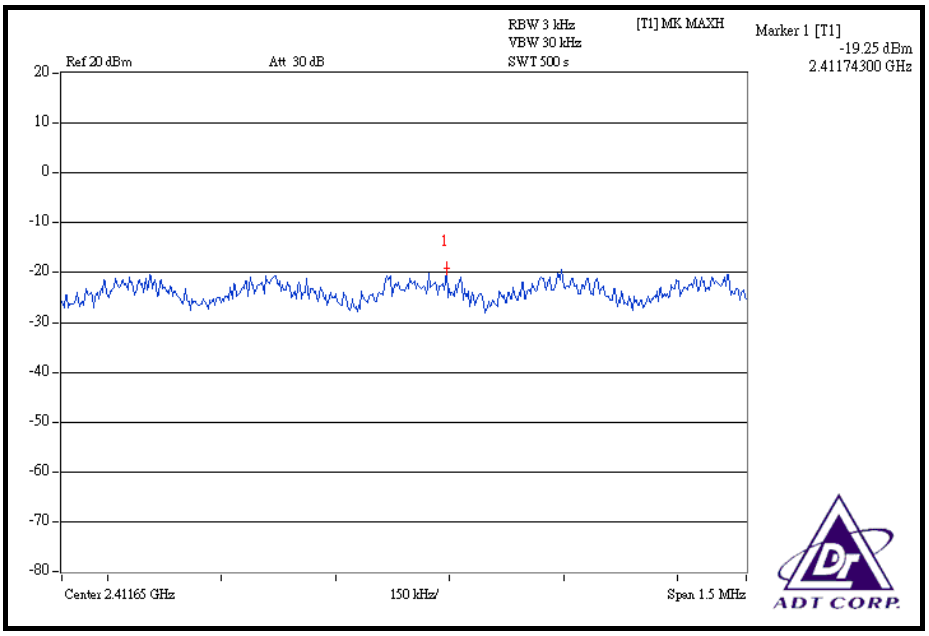

RBW 3 kHz
VBW 30 kHz
SWT 500 s
[T1] MK MAXH
Marker 1 [T1]
-14.33 dBm
2.45949400 GHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Center 2.45887 GHz
150 kHz/
Span 1.5 MHz
ADT CORP.

DRAFT 802.11n (40MHz) OFDM MODULATION

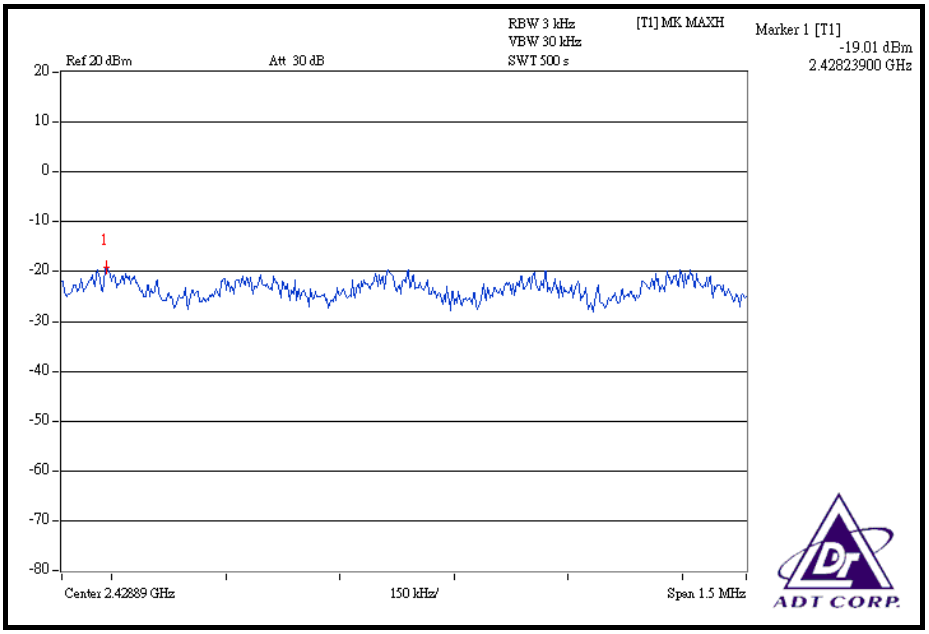
MODULATION TYPE	BPSK	**ENVIRONMENTAL CONDITIONS**	26deg.C, 67% RH, 987hPa
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**TESTED BY**	Brad Wu

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
		CHAIN0	CHAIN1	CHAIN2	CHAIN0	CHAIN1	CHAIN2				
1	2422	0.012	0.013	0.015	-19.25	-18.91	-18.11	0.040	-13.96	8	PASS
4	2437	0.013	0.013	0.016	-19.01	-18.70	-17.94	0.042	-13.76	8	PASS
7	2452	0.012	0.014	0.016	-19.06	-18.69	-18.03	0.042	-13.80	8	PASS

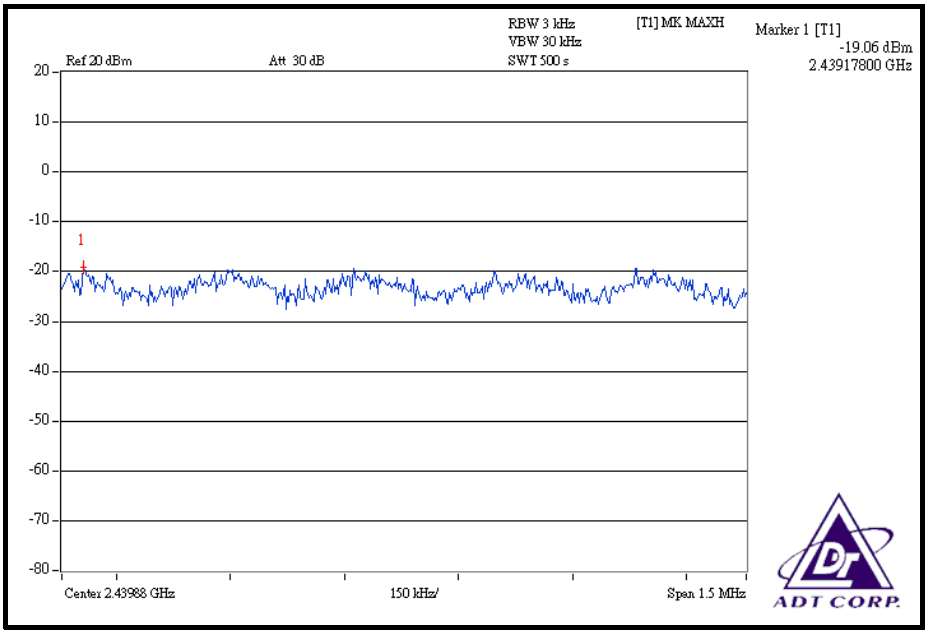
FOR CHAIN 0: CH 1



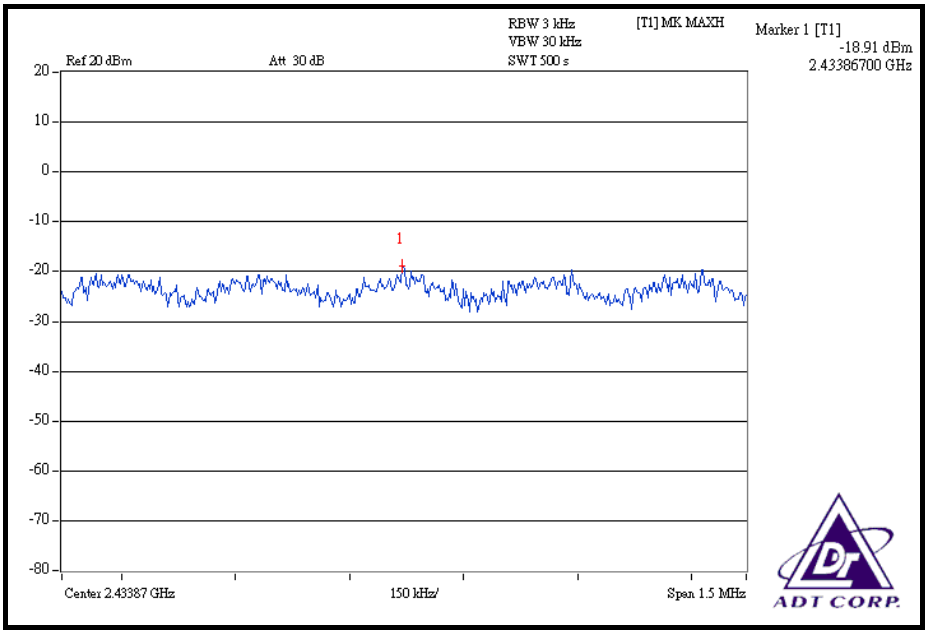
CH 4


RBW 3 kHz
VBW 30 kHz
SWT 500 s
[T1] MK MAXH
Marker 1 [T1]
-19.01 dBm
2.42823900 GHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
1
Center 2.42889 GHz
150 kHz/
Span 1.5 MHz
ADT CORP.

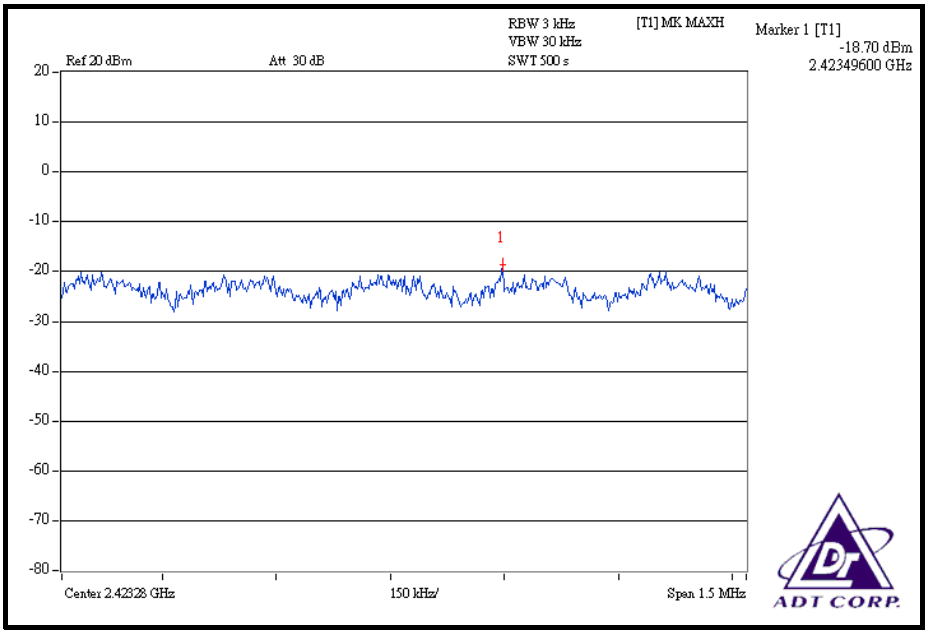
CH 7


RBW 3 kHz
VBW 30 kHz
SWT 500 s
[T1] MK MAXH
Marker 1 [T1]
-19.06 dBm
2.43917800 GHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
1
Center 2.43988 GHz
150 kHz/
Span 1.5 MHz
ADT CORP.

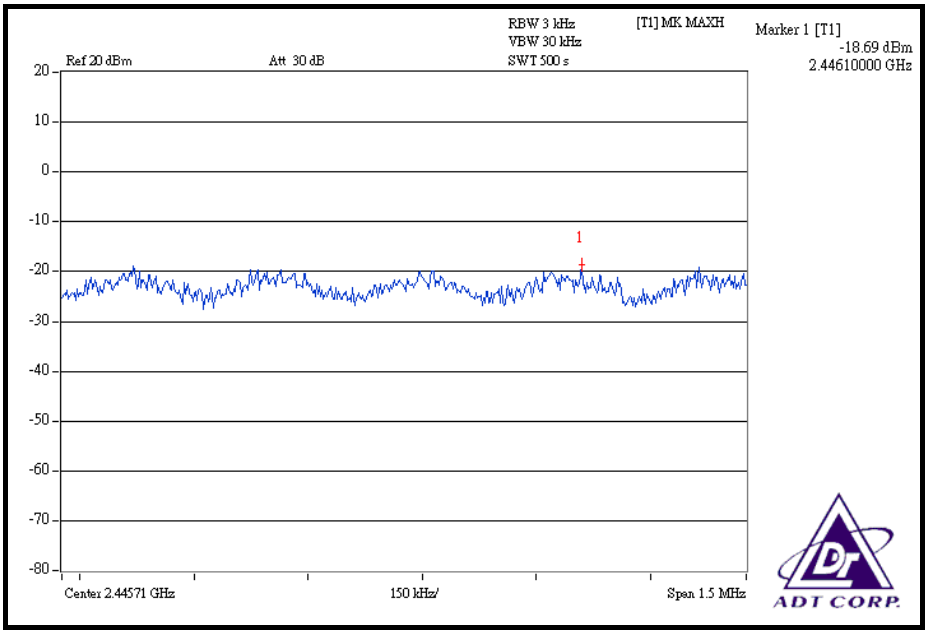
FOR CHAIN 1: CH 1



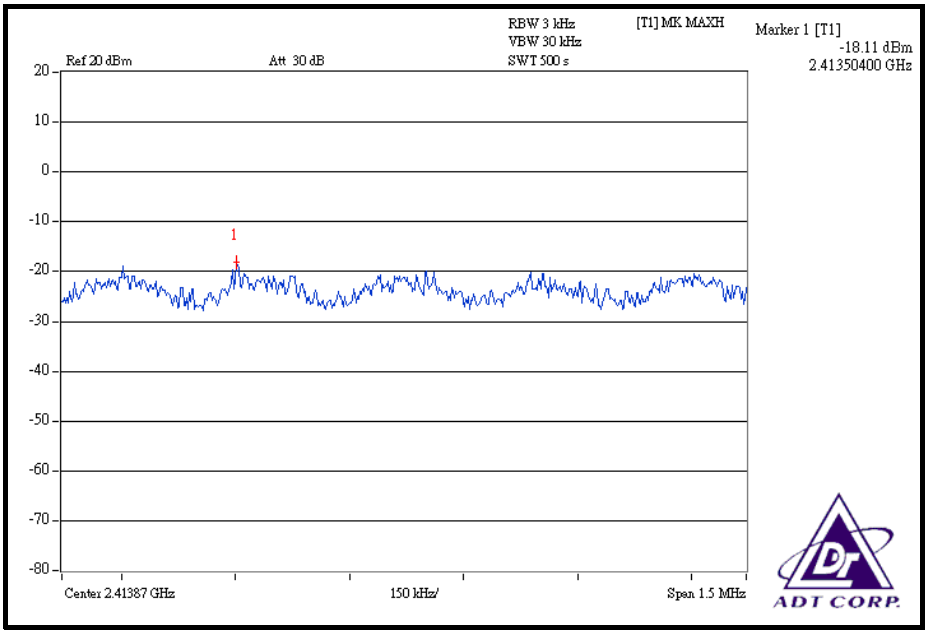
CH 4



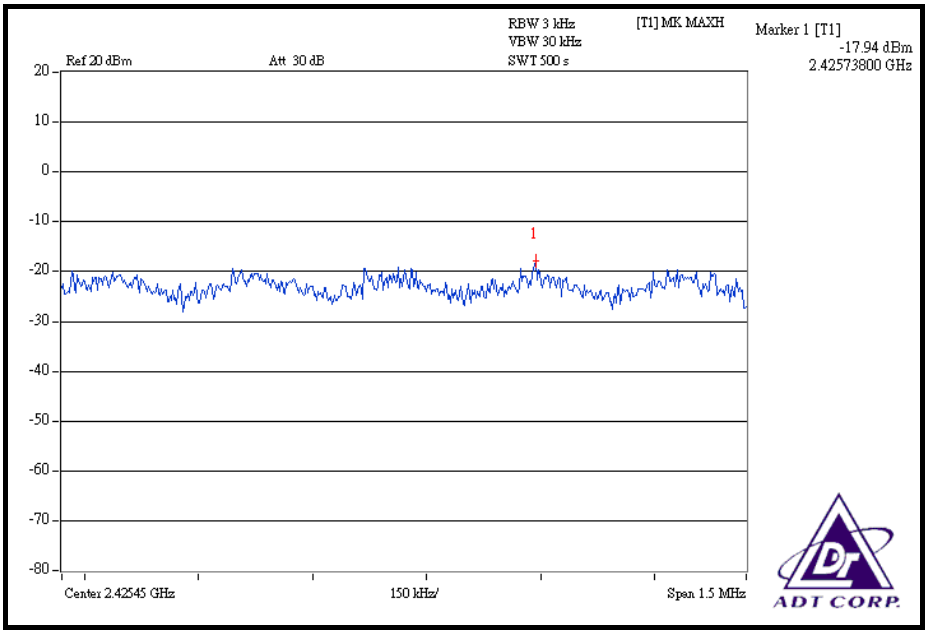
CH 7



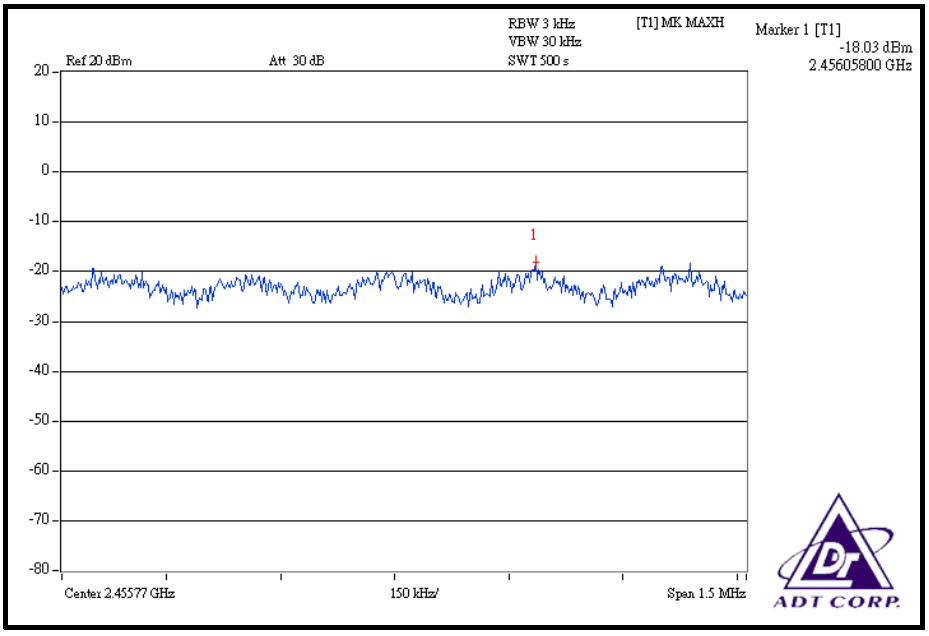
FOR CHAIN 2: CH 1



CH 4


RBW 3 kHz
VBW 30 kHz
SWT 500 s
[T1] MK MAXH
Marker 1 [T1]
-17.94 dBm
2.42573800 GHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
1
Center 2.42545 GHz
150 kHz/
Span 1.5 MHz
ADT CORP.

CH 7


RBW 3 kHz
VBW 30 kHz
SWT 500 s
[T1] MK MAXH
Marker 1 [T1]
-18.03 dBm
2.45605800 GHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
1
Center 2.45577 GHz
150 kHz/
Span 1.5 MHz
ADT CORP.

4.6 BAND EDGES MEASUREMENT

4.6.1 LIMITS OF BAND EDGES MEASUREMENT

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

4.6.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
802.11b:			
R&S SPECTRUM ANALYZER	FSP40	100040	Jun. 28, 2008
802.11g, DRAFT 802.11n (20MHz), DRAFT 802.11n (40MHz):			
Test Receiver ROHDE & SCHWARZ	ESCI	100424	Jul. 27, 2008
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100269	Aug. 05, 2008
BILOG Antenna SCHWARZBECK	VULB9168	9168-153	Jan. 04, 2008
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-563	Jul. 30, 2008
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170242	Jan. 16, 2008
Preamplifier Agilent	8449B	3008A01910	Sep. 21, 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	Aug. 09, 2008
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: The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

4.6.3 TEST PROCEDURE

For 802.11b

The transmitter output was connected to the spectrum analyzer via a low lose cable. Set both RBW and VBW of spectrum analyzer to 100kHz with suitable frequency span including 10Hz bandwidth from band edge. The band edges was measured and recorded.
The spectrum plots (Peak RBW = 100kHz, VBW = 300kHz; Average RBW = 1MHz, VBW = 10Hz) are attached on the following pages.

For 802.11g, DRAFT 802.11n (20MHz), DRAFT 802.11n (40MHz):

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter 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. Set both RBW and VBW of spectrum analyzer to 100kHz with suitable frequency span including 100MHz bandwidth from band edge. The band edges was measured and recorded.

The spectrum plots (Peak RBW = 100kHz, VBW = 300kHz; Average RBW = 1MHz, VBW = 10Hz)

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

4.6.4 DEVIATION FROM TEST STANDARD

No deviation

4.6.5 EUT OPERATING CONDITION

Same as Item 4.3.6

4.6.6 TEST RESULTS

The spectrum plots are attached on the following 24 images. D1 line indicates the highest level, and D2 line indicates the 20dB offset below D1. It shows compliance with the requirement in part 15.247(d).

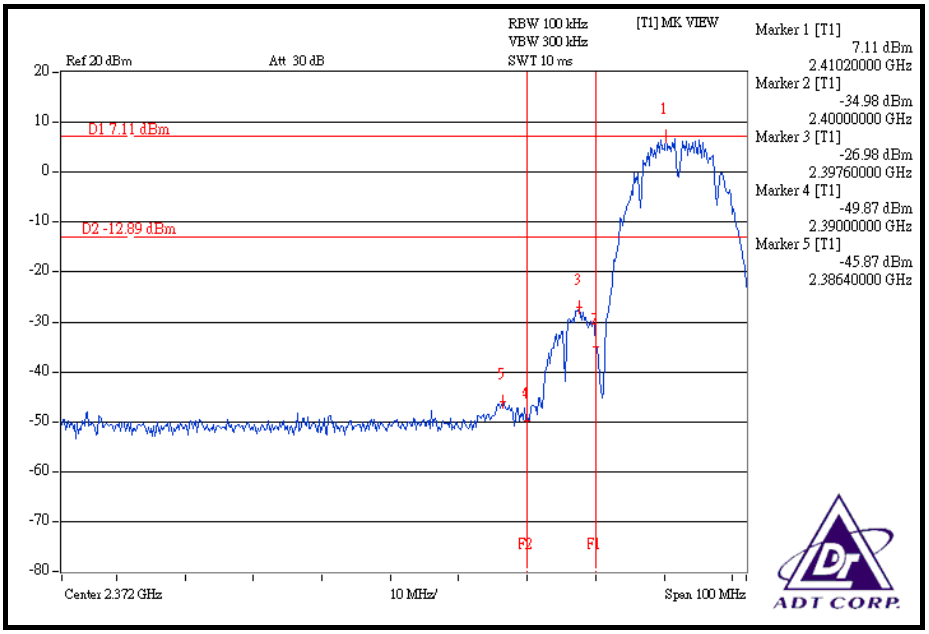
802.11b DSSS MODULATION

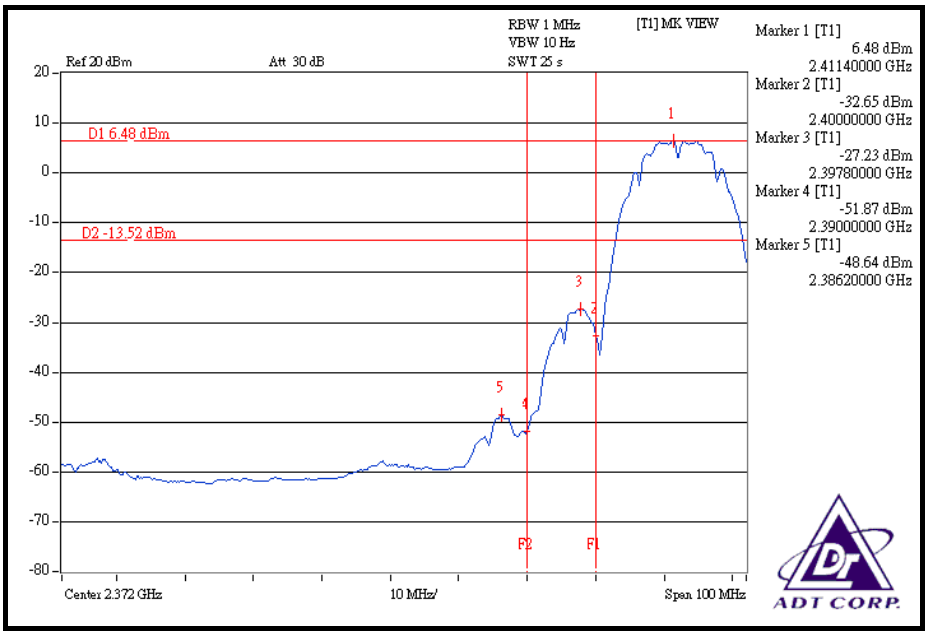
NOTE 1:
The band edge emission plot on the next page shows 52.98dBc between carrier maximum power and local maximum emission in restrict band (2.38640GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2.7 is 110.98dBuV/m (Peak), so the maximum field strength in restrict band is 110.98 – 52.98 = 58.00dBuV/m which is under 74dBuV/m limit.

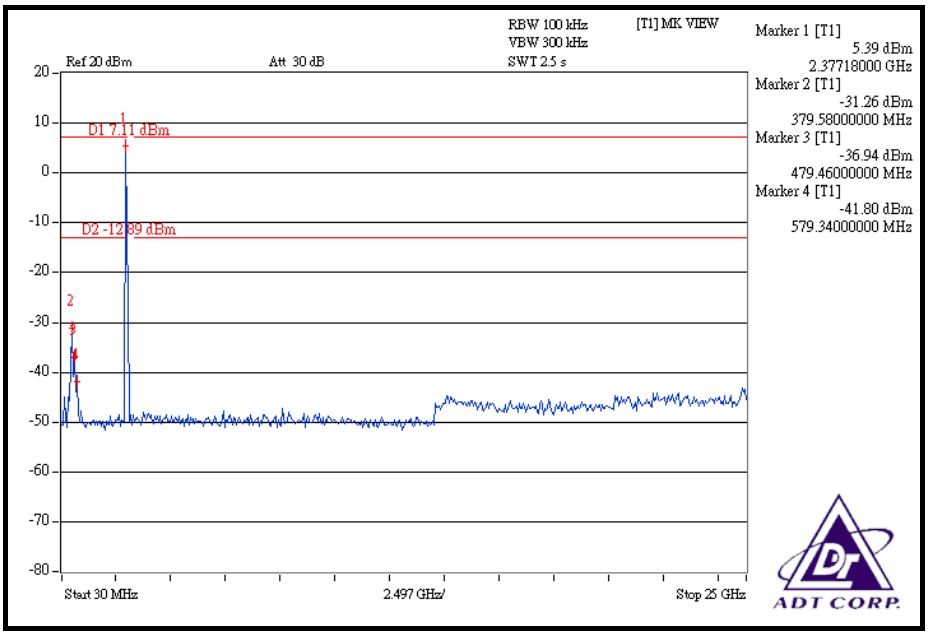
The band edge emission plot of on the next page shows 55.12dBc between carrier maximum power and local maximum emission in restrict band (2.38620GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2.7 is 106.34dBuV/m (Average), so the maximum field strength in restrict band is 106.34 – 55.12 = 51.22dBuV/m which is under 54dBuV/m limit.

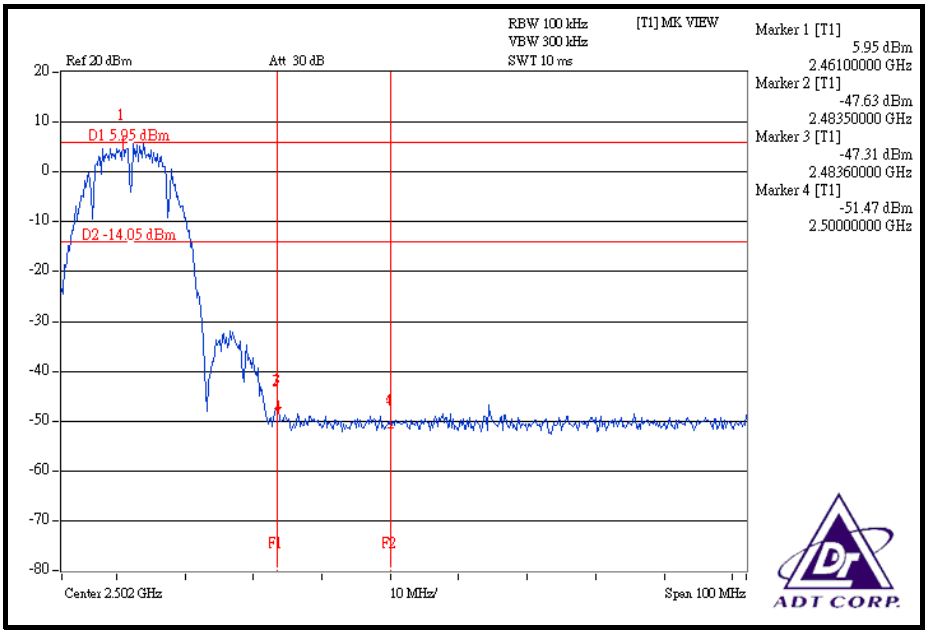
NOTE 2:
The band edge emission plot on the next second page shows 53.26dBc between carrier maximum power and local maximum emission in restrict band (2.48360GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2.7 is 111.34dBuV/m (Peak), so the maximum field strength in restrict band is 111.34 – 53.26 = 58.08dBuV/m which is under 74dBuV/m limit.

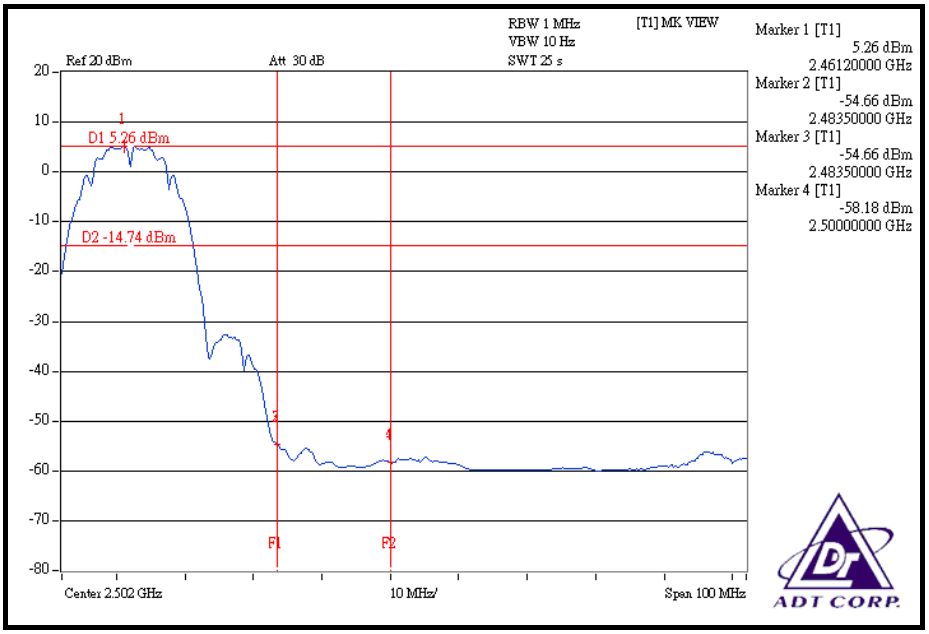
The band edge emission plot on the next third page shows 59.92dBc between carrier maximum power and local maximum emission in restrict band (2.48350GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2.7 is 106.74dBuV/m (Average), so the maximum field strength in restrict band is 106.74 – 59.92 = 46.82dBuV/m which is under 54dBuV/m limit.

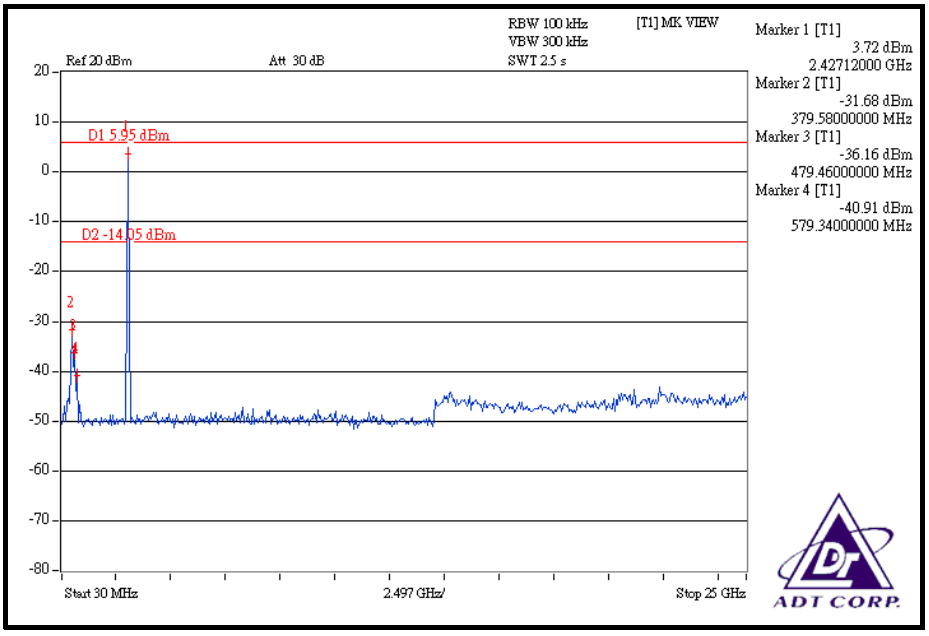

RBW 100 kHz
VBW 300 kHz
SWT 10 ms
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
D1 7.11 dBm
D2 -12.89 dBm
Marker 1 [T1]
7.11 dBm
2.41020000 GHz
Marker 2 [T1]
-34.98 dBm
2.40000000 GHz
Marker 3 [T1]
-26.98 dBm
2.39760000 GHz
Marker 4 [T1]
-49.87 dBm
2.39000000 GHz
Marker 5 [T1]
-45.87 dBm
2.38640000 GHz
Center 2.372 GHz
10 MHz/
Span 100 MHz
F2
F1
ADT CORP.


RBW 1 MHz
VBW 10 Hz
SWT 25 s
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
D1 6.48 dBm
D2 -13.52 dBm
Marker 1 [T1]
6.48 dBm
2.41140000 GHz
Marker 2 [T1]
-32.65 dBm
2.40000000 GHz
Marker 3 [T1]
-27.23 dBm
2.39780000 GHz
Marker 4 [T1]
-51.87 dBm
2.39000000 GHz
Marker 5 [T1]
-48.64 dBm
2.38620000 GHz
Center 2.372 GHz
10 MHz/
Span 100 MHz
F2
F1
ADT CORP.


RBW 100 kHz
VBW 300 kHz
SWT 2.5 s
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
D1 7.11 dBm
D2 -12.89 dBm
Marker 1 [T1]
5.39 dBm
2.37718000 GHz
Marker 2 [T1]
-31.26 dBm
379.58000000 MHz
Marker 3 [T1]
-36.94 dBm
479.46000000 MHz
Marker 4 [T1]
-41.80 dBm
579.34000000 MHz
Start 30 MHz
2.497 GHz/
Stop 25 GHz
ADT CORP.


RBW 100 kHz
VBW 300 kHz
SWT 10 ms
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
D1 5.95 dBm
D2 -14.05 dBm
Marker 1 [T1]
5.95 dBm
2.46100000 GHz
Marker 2 [T1]
-47.63 dBm
2.48350000 GHz
Marker 3 [T1]
-47.31 dBm
2.48360000 GHz
Marker 4 [T1]
-51.47 dBm
2.50000000 GHz
F1
F2
Center 2.502 GHz
10 MHz/
Span 100 MHz
ADT CORP.


RBW 1 MHz
VBW 10 Hz
SWT 25 s
[T1] MK VIEW
Marker 1 [T1]
5.26 dBm
2.46120000 GHz
Marker 2 [T1]
-54.66 dBm
2.48350000 GHz
Marker 3 [T1]
-54.66 dBm
2.48350000 GHz
Marker 4 [T1]
-58.18 dBm
2.50000000 GHz
Ref 20 dBm
Att 30 dB
D1 5.26 dBm
D2 -14.74 dBm
F1
F2
Center 2.502 GHz
10 MHz/
Span 100 MHz
ADT CORP.


RBW 100 kHz
VBW 300 kHz
SWT 2.5 s
[T1] MK VIEW
Marker 1 [T1]
3.72 dBm
2.42712000 GHz
Marker 2 [T1]
-31.68 dBm
379.58000000 MHz
Marker 3 [T1]
-36.16 dBm
479.46000000 MHz
Marker 4 [T1]
-40.91 dBm
579.34000000 MHz
Ref 20 dBm
Att 30 dB
D1 5.95 dBm
D2 -14.05 dBm
Start 30 MHz
2.497 GHz/
Stop 25 GHz
ADT CORP.

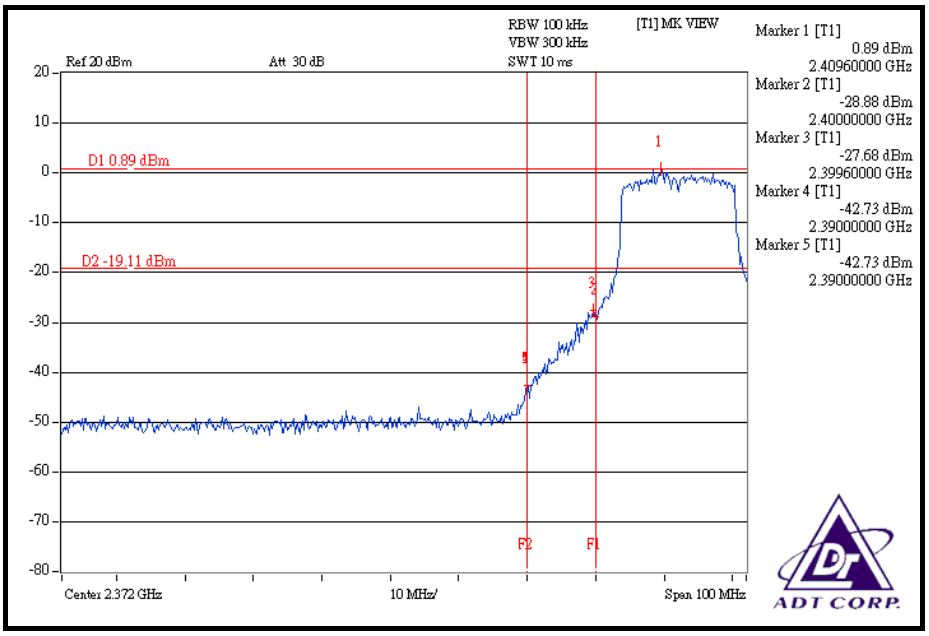
802.11g OFDM MODULATION

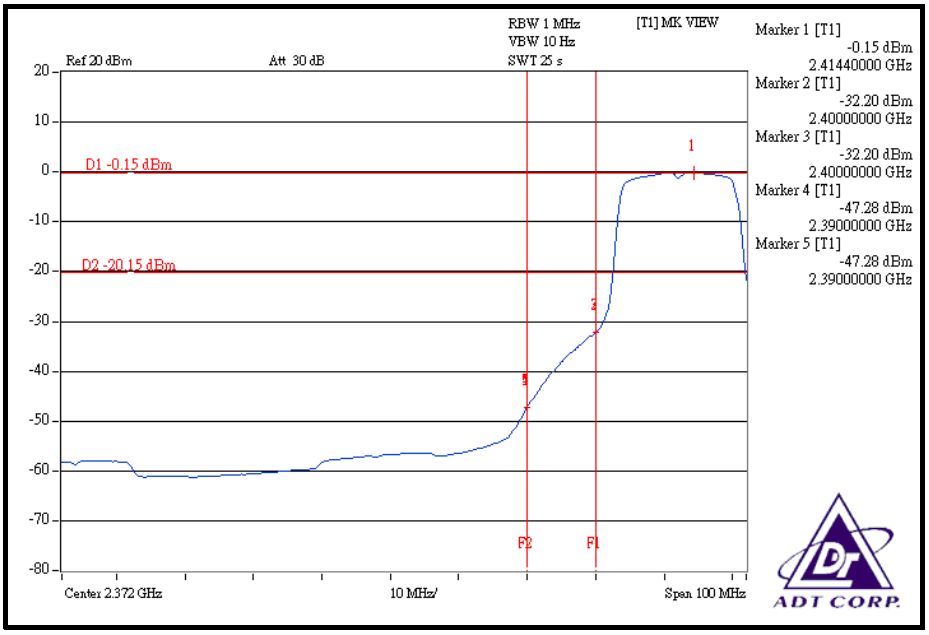
NOTE 1:
The band edge emission plot on the next page shows 43.62dBc between carrier maximum power and local maximum emission in restrict band (2.39000GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2.7 is 110.26dBuV/m (Peak), so the maximum field strength in restrict band is 110.26 – 43.62 = 66.64dBuV/m which is under 74dBuV/m limit.

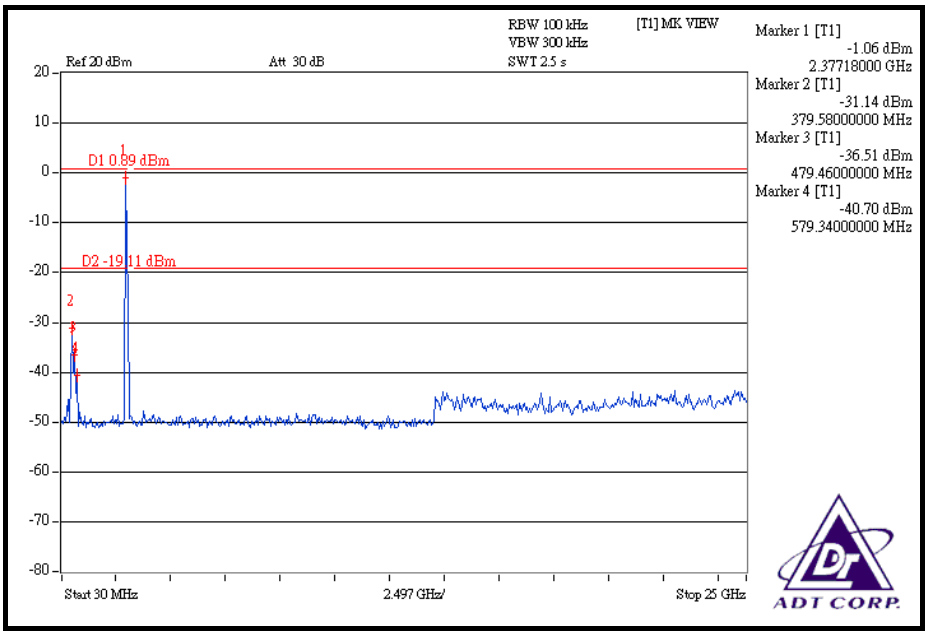
The band edge emission plot of on the next page shows 47.13dBc between carrier maximum power and local maximum emission in restrict band (2.39000GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2.7 is 100.07dBuV/m (Average), so the maximum field strength in restrict band is 100.07 – 47.13 = 52.94dBuV/m which is under 54dBuV/m limit.

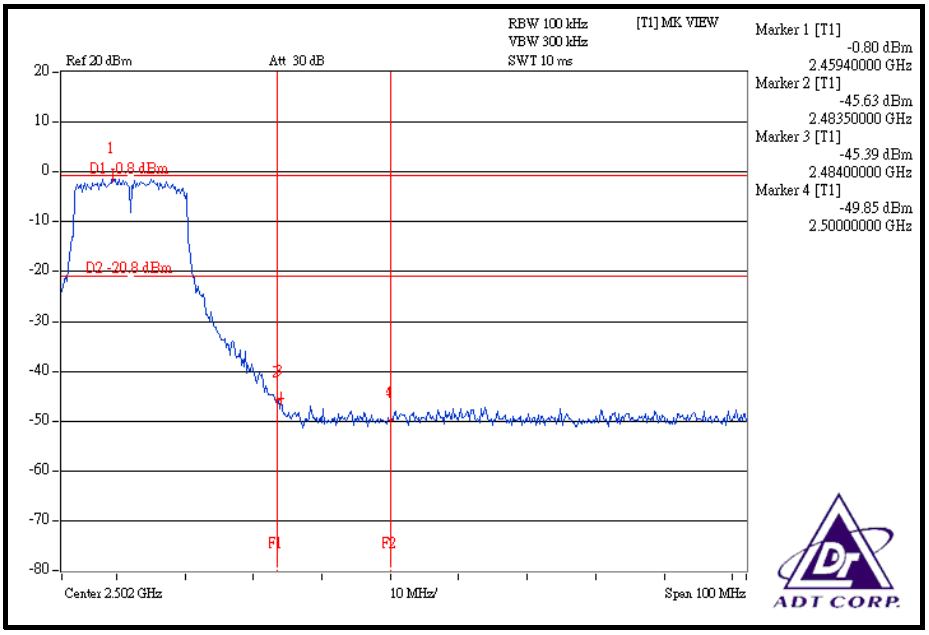
NOTE 2:
The band edge emission plot on the next second page shows 44.59dBc between carrier maximum power and local maximum emission in restrict band (2.48400GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2.7 is 110.73dBuV/m (Peak), so the maximum field strength in restrict band is 110.73 – 44.59 = 66.14dBuV/m which is under 74dBuV/m limit.

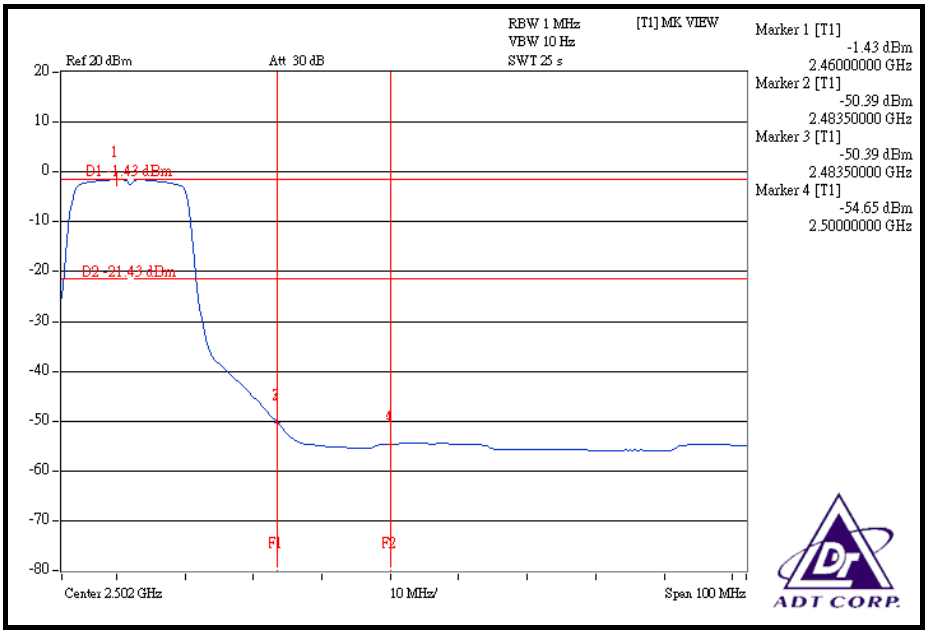
The band edge emission plot on the next third page shows 48.96dBc between carrier maximum power and local maximum emission in restrict band (2.48350GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2.7 is 100.50dBuV/m (Average), so the maximum field strength in restrict band is 100.50 – 48.96 = 51.54dBuV/m which is under 54dBuV/m limit.

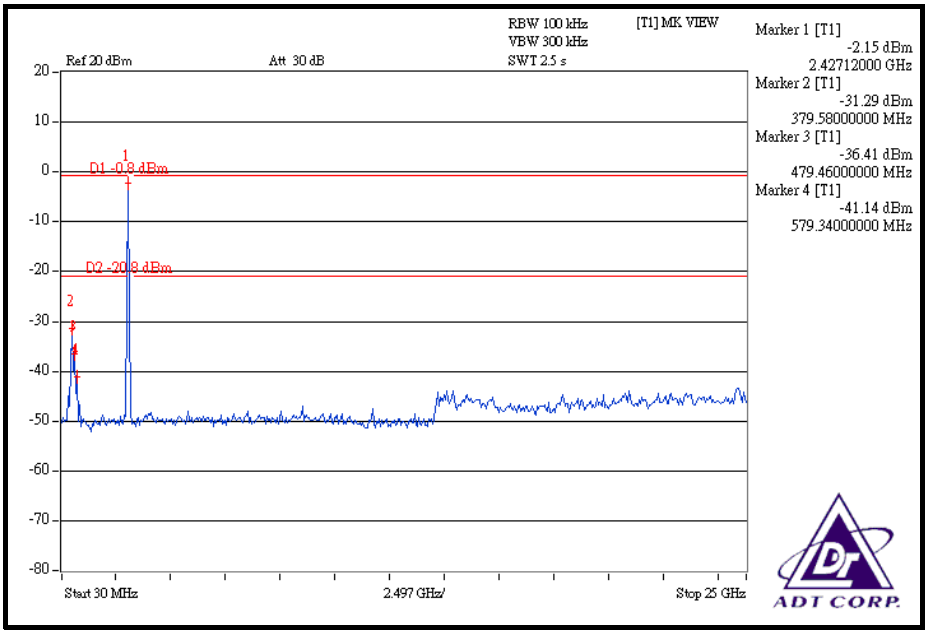

RBW 100 kHz
VBW 300 kHz
SWT 10 ms
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
D1 0.89 dBm
D2 -19.11 dBm
Marker 1 [T1]
0.89 dBm
2.40960000 GHz
Marker 2 [T1]
-28.88 dBm
2.40000000 GHz
Marker 3 [T1]
-27.68 dBm
2.39960000 GHz
Marker 4 [T1]
-42.73 dBm
2.39000000 GHz
Marker 5 [T1]
-42.73 dBm
2.39000000 GHz
Center 2.372 GHz
10 MHz/
Span 100 MHz
ADT CORP.


RBW 1 MHz
VBW 10 Hz
SWT 25 s
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
D1 -0.15 dBm
D2 -20.15 dBm
Marker 1 [T1]
-0.15 dBm
2.41440000 GHz
Marker 2 [T1]
-32.20 dBm
2.40000000 GHz
Marker 3 [T1]
-32.20 dBm
2.40000000 GHz
Marker 4 [T1]
-47.28 dBm
2.39000000 GHz
Marker 5 [T1]
-47.28 dBm
2.39000000 GHz
Center 2.372 GHz
10 MHz/
Span 100 MHz
ADT CORP.


RBW 100 kHz
VBW 300 kHz
SWT 2.5 s
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
D1 0.99 dBm
D2 -19.11 dBm
Marker 1 [T1]
-1.06 dBm
2.37718000 GHz
Marker 2 [T1]
-31.14 dBm
379.58000000 MHz
Marker 3 [T1]
-36.51 dBm
479.46000000 MHz
Marker 4 [T1]
-40.70 dBm
579.34000000 MHz
Start 30 MHz
2.497 GHz/
Stop 25 GHz
ADT CORP.


RBW 100 kHz
VBW 300 kHz
SWT 10 ms
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
D1 -0.8 dBm
D2 -20.8 dBm
Marker 1 [T1]
-0.80 dBm
2.45940000 GHz
Marker 2 [T1]
-45.63 dBm
2.48350000 GHz
Marker 3 [T1]
-45.39 dBm
2.48400000 GHz
Marker 4 [T1]
-49.85 dBm
2.50000000 GHz
F1
F2
Center 2.502 GHz
10 MHz/
Span 100 MHz
ADT CORP.


RBW 1 MHz
VBW 10 Hz
SWT 25 s
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
D1 -1.43 dBm
D2 -21.43 dBm
F1
F2
Center 2.502 GHz
10 MHz/
Span 100 MHz
Marker 1 [T1]
-1.43 dBm
2.46000000 GHz
Marker 2 [T1]
-50.39 dBm
2.48350000 GHz
Marker 3 [T1]
-50.39 dBm
2.48350000 GHz
Marker 4 [T1]
-54.65 dBm
2.50000000 GHz
ADT CORP.


RBW 100 kHz
VBW 300 kHz
SWT 2.5 s
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
D1 -0.8 dBm
D2 -20.8 dBm
Start 30 MHz
2.497 GHz/
Stop 25 GHz
Marker 1 [T1]
-2.15 dBm
2.42712000 GHz
Marker 2 [T1]
-31.29 dBm
379.58000000 MHz
Marker 3 [T1]
-36.41 dBm
479.46000000 MHz
Marker 4 [T1]
-41.14 dBm
579.34000000 MHz
ADT CORP.

DRAFT 802.11n (20MHz) OFDM MODULATION:

NOTE 1:

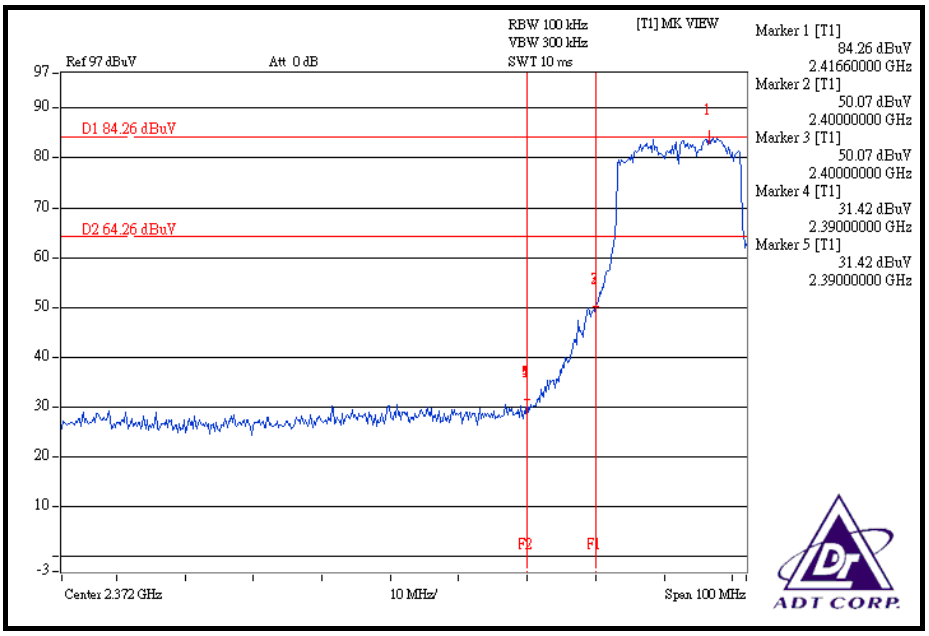
The band edge emission plot of OFDM technique on the next page shows 52.84dBc between carrier maximum power and local maximum emission in restrict band (2.39000GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2.7 is 116.23dBuV/m (Peak), so the maximum field strength in restrict band is 116.23 – 52.84 = 63.39dBuV/m which is under 74dBuV/m limit.

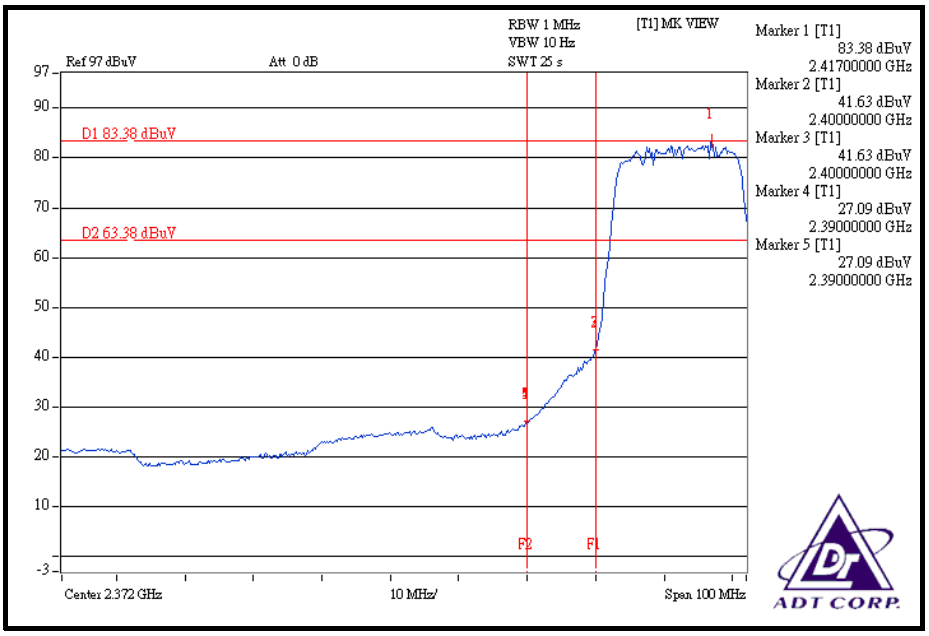
The band edge emission plot of OFDM technique on the next page shows 56.29dBc between carrier maximum power and local maximum emission in restrict band (2.39000GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2.7 is 106.18dBuV/m (Average), so the maximum field strength in restrict band is 106.18 – 56.29 = 49.89dBuV/m which is under 54dBuV/m limit.

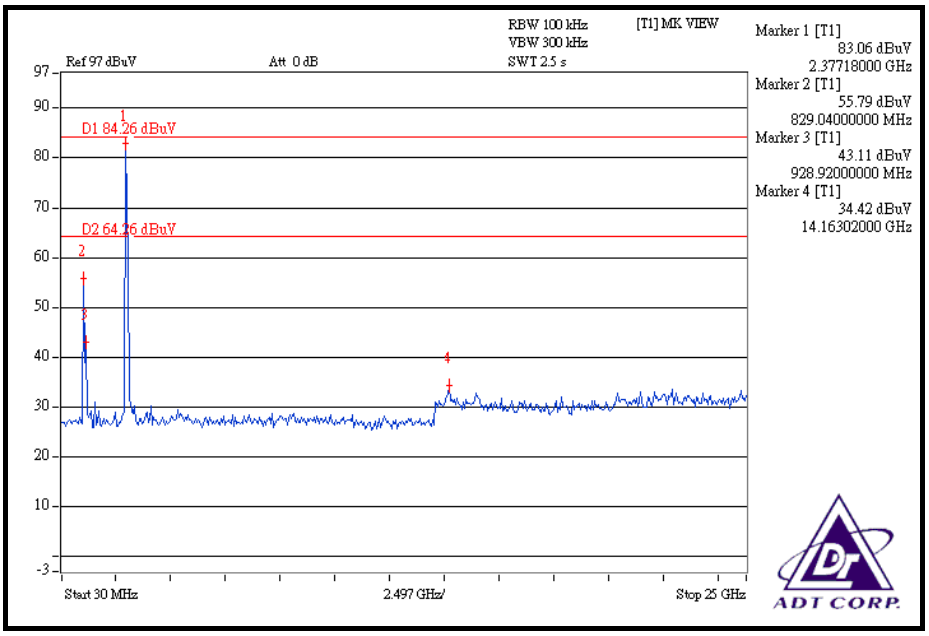
NOTE 2:

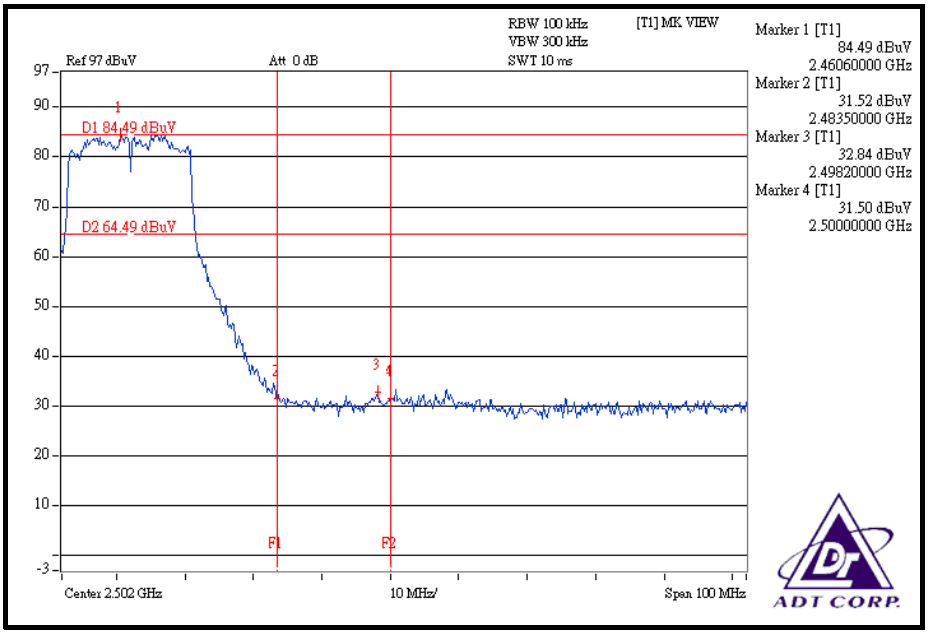
The band edge emission plot of OFDM technique on the next second page shows 51.65dBc between carrier maximum power and local maximum emission in restrict band (2.49820GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2.7 is 116.41dBuV/m (Peak), so the maximum field strength in restrict band is 116.41 – 51.65 = 64.76dBuV/m which is under 74dBuV/m limit.

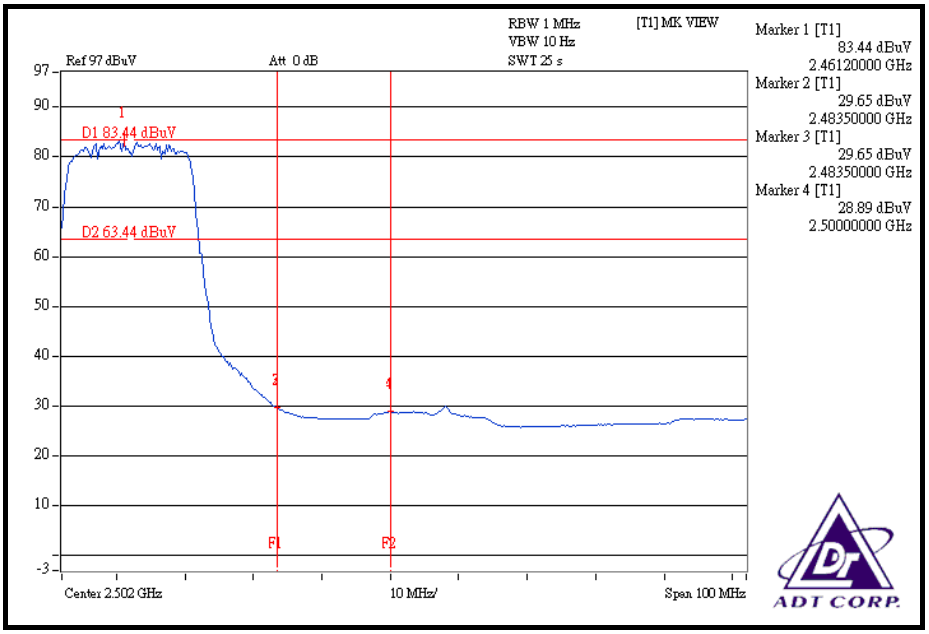
The band edge emission plot of OFDM technique on the next third page shows 53.79dBc between carrier maximum power and local maximum emission in restrict band (2.48350GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2.7 is 106.69dBuV/m (Average), so the maximum field strength in restrict band is 106.69 – 53.79 = 52.90dBuV/m which is under 54dBuV/m limit.

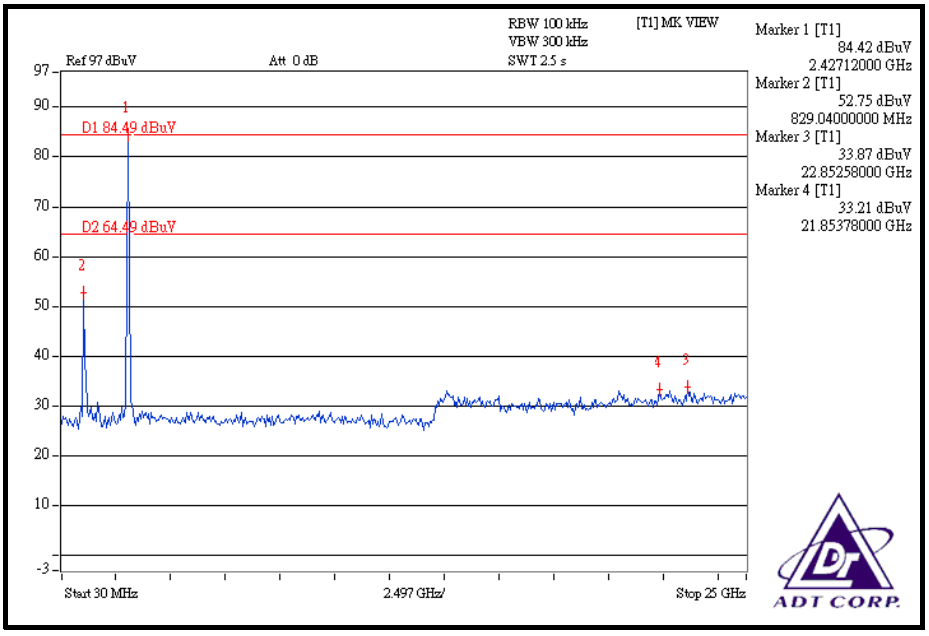

RBW 100 kHz
VBW 300 kHz
SWT 10 ms
[T1] MK VIEW
Ref 97 dBuV
Att 0 dB
D1 84.26 dBuV
D2 64.26 dBuV
Marker 1 [T1]
84.26 dBuV
2.41660000 GHz
Marker 2 [T1]
50.07 dBuV
2.40000000 GHz
Marker 3 [T1]
50.07 dBuV
2.40000000 GHz
Marker 4 [T1]
31.42 dBuV
2.39000000 GHz
Marker 5 [T1]
31.42 dBuV
2.39000000 GHz
Center 2.372 GHz
10 MHz/
Span 100 MHz
F2
F1
ADT CORP.


RBW 1 MHz
VBW 10 Hz
SWT 25 s
[T1] MK VIEW
Ref 97 dBuV
Att 0 dB
D1 83.38 dBuV
D2 63.38 dBuV
Marker 1 [T1]
83.38 dBuV
2.41700000 GHz
Marker 2 [T1]
41.63 dBuV
2.40000000 GHz
Marker 3 [T1]
41.63 dBuV
2.40000000 GHz
Marker 4 [T1]
27.09 dBuV
2.39000000 GHz
Marker 5 [T1]
27.09 dBuV
2.39000000 GHz
Center 2.372 GHz
10 MHz/
Span 100 MHz
F2
F1
ADT CORP.


RBW 100 kHz
VBW 300 kHz
SWT 2.5 s
[T1] MK VIEW
Ref 97 dBuV
Att 0 dB
D1 84.26 dBuV
D2 64.26 dBuV
Marker 1 [T1]
83.06 dBuV
2.37718000 GHz
Marker 2 [T1]
55.79 dBuV
829.04000000 MHz
Marker 3 [T1]
43.11 dBuV
928.92000000 MHz
Marker 4 [T1]
34.42 dBuV
14.16302000 GHz
Start 30 MHz
2.497 GHz/
Stop 25 GHz
ADT CORP.


RBW 100 kHz
VBW 300 kHz
SWT 10 ms
[T1] MK VIEW
Ref 97 dBuV
Att 0 dB
D1 84.49 dBuV
D2 64.49 dBuV
Marker 1 [T1]
84.49 dBuV
2.46060000 GHz
Marker 2 [T1]
31.52 dBuV
2.48350000 GHz
Marker 3 [T1]
32.84 dBuV
2.49820000 GHz
Marker 4 [T1]
31.50 dBuV
2.50000000 GHz
F1
F2
Center 2.502 GHz
10 MHz/
Span 100 MHz
ADT CORP.


RBW 1 MHz
VBW 10 Hz
SWT 25 s
[T1] MK VIEW
Marker 1 [T1]
83.44 dBuV
2.46120000 GHz
Marker 2 [T1]
29.65 dBuV
2.48350000 GHz
Marker 3 [T1]
29.65 dBuV
2.48350000 GHz
Marker 4 [T1]
28.89 dBuV
2.50000000 GHz
Ref 97 dBuV
Att 0 dB
D1 83.44 dBuV
D2 63.44 dBuV
Center 2.502 GHz
10 MHz/
Span 100 MHz
ADT CORP.


RBW 100 kHz
VBW 300 kHz
SWT 2.5 s
[T1] MK VIEW
Marker 1 [T1]
84.42 dBuV
2.42712000 GHz
Marker 2 [T1]
52.75 dBuV
829.04000000 MHz
Marker 3 [T1]
33.87 dBuV
22.85258000 GHz
Marker 4 [T1]
33.21 dBuV
21.85378000 GHz
Ref 97 dBuV
Att 0 dB
D1 84.49 dBuV
D2 64.49 dBuV
Start 30 MHz
2.497 GHz/
Stop 25 GHz
ADT CORP.

DRAFT 802.11n (40MHz) OFDM MODULATION:

NOTE 1:

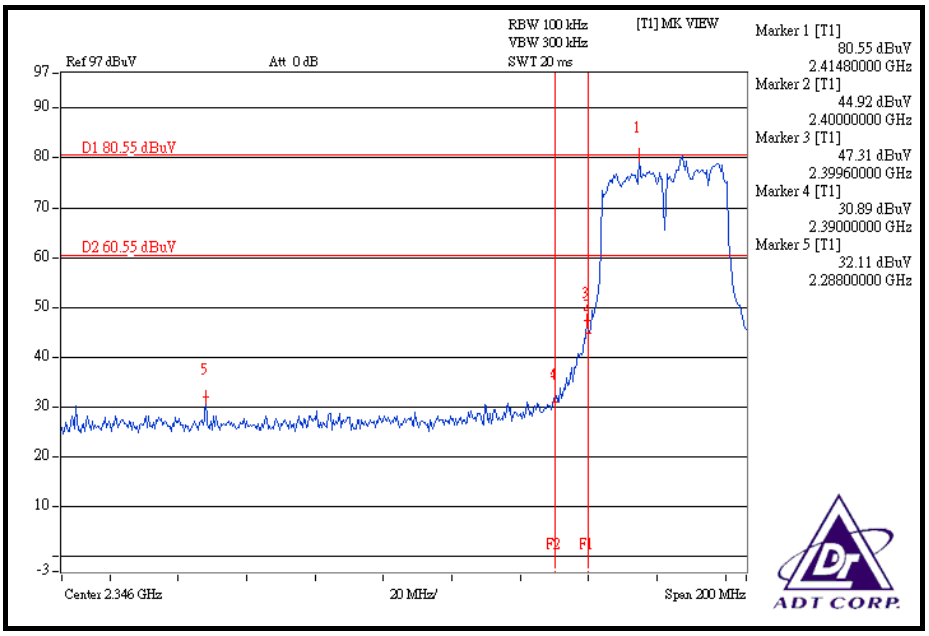
The band edge emission plot of OFDM technique on the next page shows 49.66dBc between carrier maximum power and local maximum emission in restrict band (2.39000GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2.7 is 110.70dBuV/m (Peak), so the maximum field strength in restrict band is 110.70 – 49.66 = 61.04dBuV/m which is under 74dBuV/m limit.

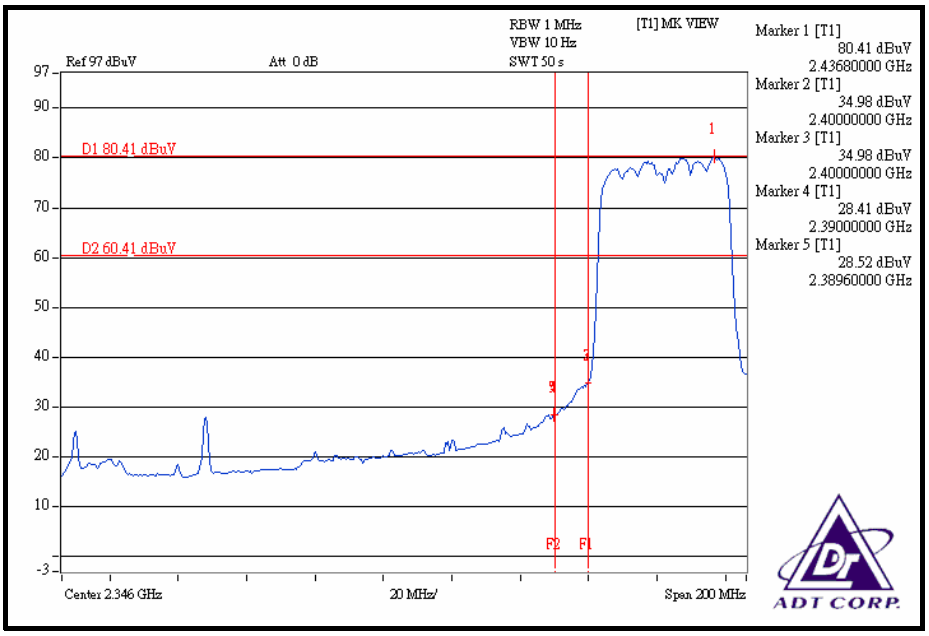
The band edge emission plot of OFDM technique on the next page shows 51.89dBc between carrier maximum power and local maximum emission in restrict band (2.38960GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2.7 is 100.74dBuV/m (Average), so the maximum field strength in restrict band is 100.74 – 51.89 = 48.85dBuV/m which is under 54dBuV/m limit.

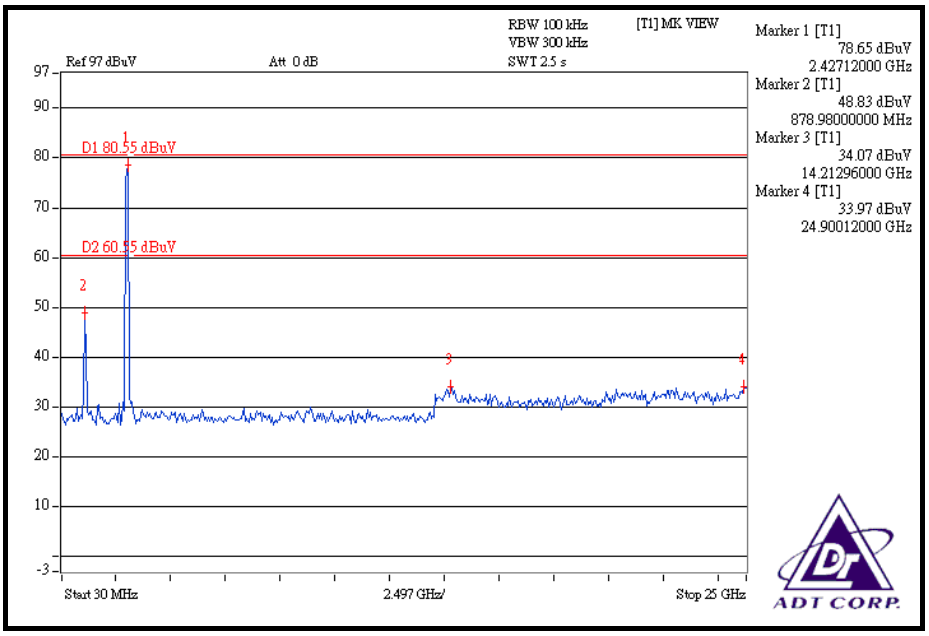
NOTE 2:

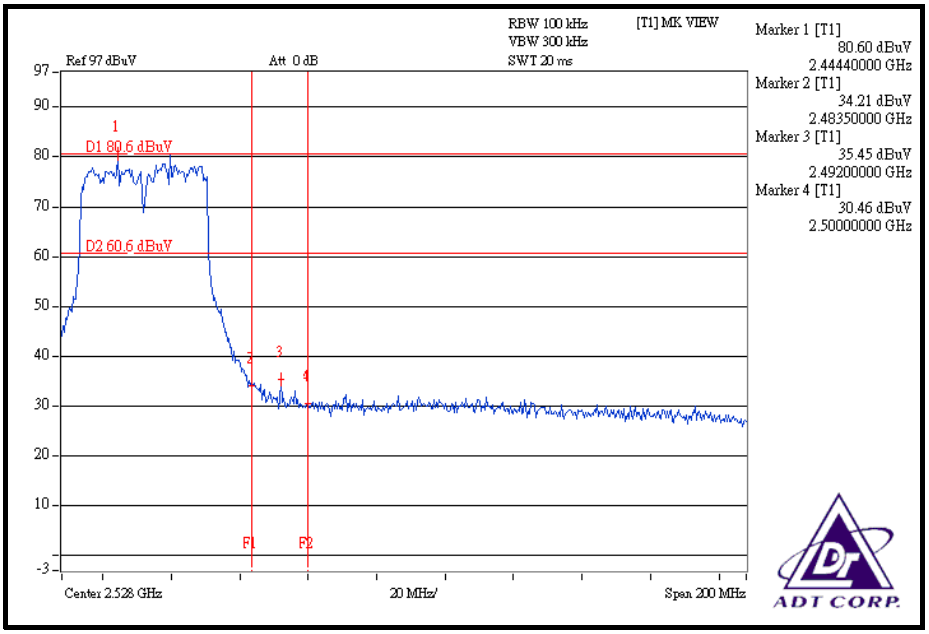
The band edge emission plot of OFDM technique on the next second page shows 45.15dBc between carrier maximum power and local maximum emission in restrict band (2.49200GHz). The emission of carrier strength list in the test result of channel 7 at the item 4.2.7 is 111.83dBuV/m (Peak), so the maximum field strength in restrict band is 111.83 – 45.15= 66.68dBuV/m which is under 74dBuV/m limit.

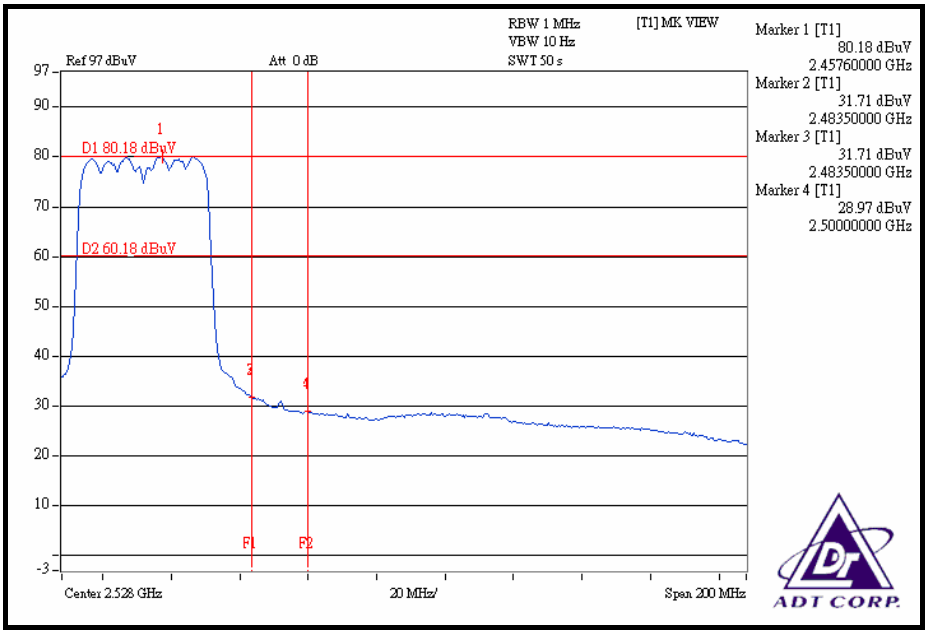
The band edge emission plot of OFDM technique on the next third page shows 48.47dBc between carrier maximum power and local maximum emission in restrict band (2.48350GHz). The emission of carrier strength list in the test result of channel 7 at the item 4.2.7 is 101.29dBuV/m (Average), so the maximum field strength in restrict band is 101.29 – 48.47 = 52.82dBuV/m which is under 54dBuV/m limit.

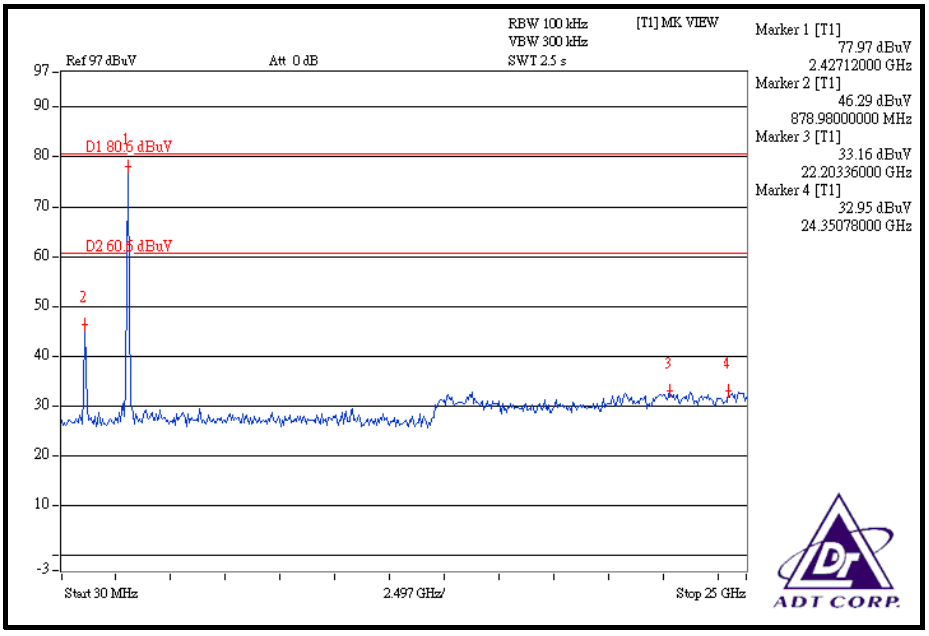

RBW 100 kHz
VBW 300 kHz
SWT 20 ms
[T1] MK VIEW
Ref 97 dBuV
Att 0 dB
D1 80.55 dBuV
D2 60.55 dBuV
Marker 1 [T1]
80.55 dBuV
2.41480000 GHz
Marker 2 [T1]
44.92 dBuV
2.40000000 GHz
Marker 3 [T1]
47.31 dBuV
2.39960000 GHz
Marker 4 [T1]
30.89 dBuV
2.39000000 GHz
Marker 5 [T1]
32.11 dBuV
2.28800000 GHz
Center 2.346 GHz
20 MHz/
Span 200 MHz
ADT CORP.


RBW 1 MHz
VBW 10 Hz
SWT 50 s
[T1] MK VIEW
Ref 97 dBuV
Att 0 dB
D1 80.41 dBuV
D2 60.41 dBuV
Marker 1 [T1]
80.41 dBuV
2.43680000 GHz
Marker 2 [T1]
34.98 dBuV
2.40000000 GHz
Marker 3 [T1]
34.98 dBuV
2.40000000 GHz
Marker 4 [T1]
28.41 dBuV
2.39000000 GHz
Marker 5 [T1]
28.52 dBuV
2.38960000 GHz
Center 2.346 GHz
20 MHz/
Span 200 MHz
ADT CORP.


RBW 100 kHz
VBW 300 kHz
SWT 2.5 s
[T1] MK VIEW
Ref 97 dBuV
Att 0 dB
D1 80.55 dBuV
D2 60.55 dBuV
Marker 1 [T1]
78.65 dBuV
2.42712000 GHz
Marker 2 [T1]
48.83 dBuV
878.98000000 MHz
Marker 3 [T1]
34.07 dBuV
14.21296000 GHz
Marker 4 [T1]
33.97 dBuV
24.90012000 GHz
Start 30 MHz
2.497 GHz/
Stop 25 GHz
ADT CORP.


RBW 100 kHz
VBW 300 kHz
SWT 20 ms
[T1] MK VIEW
Ref 97 dBuV
Att 0 dB
D1 80.6 dBuV
D2 60.6 dBuV
Marker 1 [T1]
80.60 dBuV
2.44440000 GHz
Marker 2 [T1]
34.21 dBuV
2.48350000 GHz
Marker 3 [T1]
35.45 dBuV
2.49200000 GHz
Marker 4 [T1]
30.46 dBuV
2.50000000 GHz
F1
F2
Center 2.528 GHz
20 MHz/
Span 200 MHz
ADT CORP.


RBW 1 MHz
VBW 10 Hz
SWT 50 s
[T1] MK VIEW
Marker 1 [T1]
80.18 dBuV
2.45760000 GHz
Marker 2 [T1]
31.71 dBuV
2.48350000 GHz
Marker 3 [T1]
31.71 dBuV
2.48350000 GHz
Marker 4 [T1]
28.97 dBuV
2.50000000 GHz
Ref 97 dBuV
Att 0 dB
D1 80.18 dBuV
D2 60.18 dBuV
F1
F2
Center 2.528 GHz
20 MHz/
Span 200 MHz
ADT CORP.


RBW 100 kHz
VBW 300 kHz
SWT 2.5 s
[T1] MK VIEW
Marker 1 [T1]
77.97 dBuV
2.42712000 GHz
Marker 2 [T1]
46.29 dBuV
878.98000000 MHz
Marker 3 [T1]
33.16 dBuV
22.20336000 GHz
Marker 4 [T1]
32.95 dBuV
24.35078000 GHz
Ref 97 dBuV
Att 0 dB
D1 80.5 dBuV
D2 60.5 dBuV
Start 30 MHz
2.497 GHz/
Stop 25 GHz
ADT CORP.

4.7 ANTENNA REQUIREMENT

4.7.1 STANDARD APPLICABLE

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

4.7.2 ANTENNA CONNECTED CONSTRUCTION

The antenna used in this product is Dipole antenna with R-SMA connector. The maximum Gain of the antenna is 2dBi.

5. PHOTOGRAPHS OF THE TEST CONFIGURATION

Please refer to the attached file (Test Setup Photo).

6. INFORMATION ON THE TESTING LABORATORIES

We, ADT Corp., were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved by the following approval agencies according to ISO/IEC 17025.

USA	FCC, UL, A2LA
Germany	TUV Rheinland
Japan	VCCI
Norway	NEMKO
Canada	INDUSTRY CANADA, CSA
R.O.C.	TAF, BSMI, NCC
Netherlands	Telefication
Singapore	GOST-ASIA(MOU)
Russia	CERTIS(MOU)

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

Linko EMC/RF Lab:
Tel: 886-2-26052180
Fax: 886-2-26051924

Hsin Chu EMC/RF Lab:
Tel: 886-3-5935343
Fax: 886-3-5935342

Hwa Ya EMC/RF/Safety Telecom Lab:
Tel: 886-3-3183232
Fax: 886-3-3185050

Web Site: www.adt.com.tw

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

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

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