



# FCC TEST REPORT (15.247)

**REPORT NO.:** RF960118L01

**MODEL NO.:** DAP-1555

**RECEIVED:** Jan. 18, 2007

**TESTED:** Feb. 26 ~ May 07, 2007

**ISSUED:** May 15, 2007

**APPLICANT:** D-Link Corporation

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

**ISSUED BY:** Advance Data Technology Corporation

**LAB ADDRESS:** No.47, 14<sup>th</sup> Ling, Chia Pau Tsuen, Linko Hsiang  
244, Taipei Hsien, Taiwan, R.O.C.

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

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## 1. CERTIFICATION

**PRODUCT:** D-Link Xtreme N Duo MediaBridge

**MODEL:** DAP-1555

**BRAND:** D-Link

**APPLICANT:** D-Link Corporation

**TEST SAMPLE:** ENGINEERING SAMPLE

**TESTED:** Feb. 26 ~ May 07, 2007

**STANDARDS: FCC Part 15, Subpart C (Section 15.247)**

ANSI C63.4-2003

The above equipment (Model: DAP-1555) 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** : Rennie Wang , **DATE:** May 15, 2007  
Rennie Wang

**TECHNICAL**  
**ACCEPTANCE** : Long Chen , **DATE:** May 15, 2007  
Responsible for RF Long Chen

**APPROVED BY** : Gary Chang , **DATE:** May 15, 2007  
Gary Chang / Supervisor

## 2. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC PART 15, SUBPART C (SECTION 15.247)			
STANDARD SECTION	TEST TYPE AND LIMIT	RESULT	REMARK
15.207	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is -14.34dB at 0.588MHz
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)	Radiated Emissions Limit: Table 15.209	PASS	Meet the requirement of limit. Minimum passing margin is -1.11dB at 2483.50MHz
15.247(e)	Power Spectral Density Limit: max. 8dBm	PASS	Meet the requirement of limit.
15.247(d)	Band Edge Measurement Limit: 20dB less than the peak value of fundamental frequency	PASS	Meet the requirement of limit.

### 2.1 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4:

MEASUREMENT	FREQUENCY	UNCERTAINTY
Conducted emissions	9kHz ~ 30MHz	2.44dB
Radiated emissions	30MHz ~ 200MHz	3.59dB
	200MHz ~ 1000MHz	3.61dB
	1GHz ~ 18GHz	2.26dB
	18GHz ~ 40GHz	1.94dB

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

<b>EUT</b>	D-Link Xtreme N Duo MediaBridge
<b>MODEL NO.</b>	DAP-1555
<b>FCC ID</b>	KA2AP1555A1
<b>POWER SUPPLY</b>	5Vdc from AC adapter
<b>MODULATION TYPE</b>	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
<b>MODULATION TECHNOLOGY</b>	DSSS, OFDM
<b>TRANSFER RATE</b>	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 802.11a: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0Mbps Draft 802.11n (20MHz): 144.444/ 130.000/ 115.556/ 86.667/ 57.778/ 43.333/ 28.889/ 14.444/ 72.2/ 65.0/ 57.8/ 43.3/ 28.9/ 21.7/ 14.4/ 7.2Mbps Draft 802.11n (40MHz): 300/ 270/ 240/ 180/ 120/ 90/ 60/ 30/ 150/ 135/ 120/ 90/ 60/ 45/ 30/ 15Mbps
<b>FREQUENCY RANGE</b>	2.4GHz: 2400.0 ~ 2483.5MHz 5.0GHz: 5150.0 ~ 5250.0MHz, 5725.0 ~ 5850.0MHz
<b>NUMBER OF CHANNEL</b>	2.4GHz: 11 for 802.11b, 802.11g, draft 802.11n (20MHz) 7 for draft 802.11n (40MHz) 5.0GHz: 9 for 802.11a, draft 802.11n (20MHz) 4 for draft 802.11n (40MHz)
<b>OUTPUT POWER</b>	179.058mW for 2400.0 ~ 2483.5MHz 42.298mW for 5150.0 ~ 5250.0MHz 121.096mW for 5725.0 ~ 5850.0MHz
<b>ANTENNA TYPE</b>	2.4GHz: Dipole antenna with 2.0dBi gain 5.0GHz: Dipole antenna with 2.0dBi gain
<b>DATA CABLE</b>	NA
<b>I/O PORTS</b>	RJ45
<b>ASSOCIATED DEVICES</b>	Adapter

**NOTE:**

1. The EUT was powered by the following adapter:

<b>BRAND:</b>	D-Link
<b>MODEL:</b>	AF-1805-A
<b>INPUT:</b>	100-120Vac, 50/60Hz, 0.4A
<b>OUTPUT:</b>	5Vdc, 3A
<b>POWER LINE:</b>	1.8m non-shielded cable without core

2. This report only covered frequency range: 2400 ~ 2483.5MHz and 5725 ~ 5850MHz. Frequency range: 5150 ~ 5250MHz showed in another report, which report no. is RF960118L01-1.
3. The EUT incorporates a MIMO function. Physically, the card provides three completed transmitters and three receivers.
4. The EUT is 3 \* 3 spatial MIMO (3Tx & 3Rx) without beam forming function.
5. When the EUT operating in 802.11b, 802.11g, 802.11a, the software operation, which is defined by manufacturer, only set single Tx.
6. 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.
7. The EUT complies with draft 802.11n standards and backwards compatible with 802.11b, 802.11g, 802.11a products.
8. The EUT operates in the 2.4GHz frequency spectrum with throughput of up to 300Mbps.
9. 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

#### FOR 2.4GHz:

11 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		

7 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		

#### FOR 5.0GHz (5725 ~ 5850MHz):

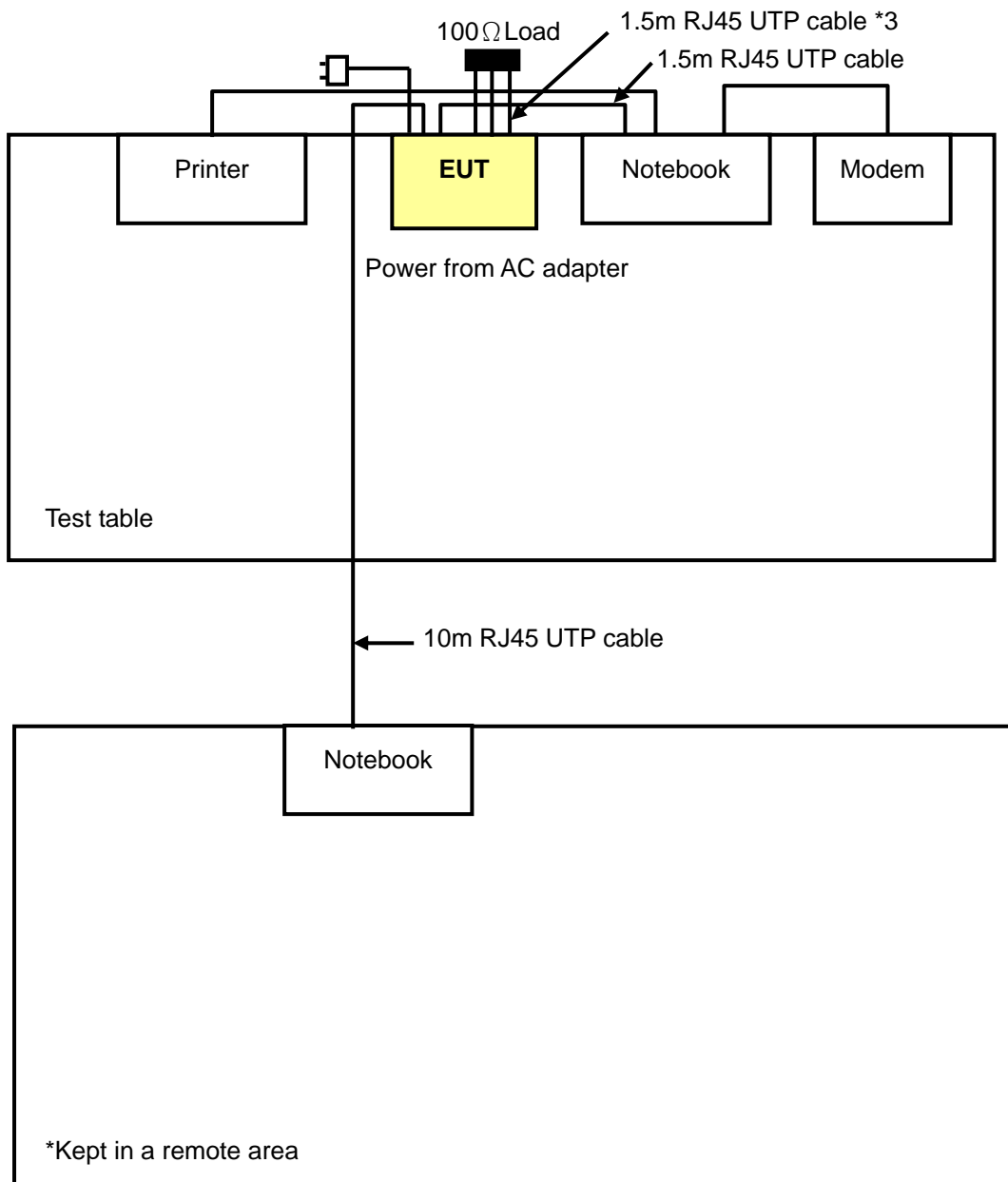
5 channels are provided for 802.11a, draft 802.11n (20MHz):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
1	5745MHz	4	5805MHz
2	5765MHz	5	5825MHz
3	5785MHz		

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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
1	5755MHz	2	5795MHz

### 3.2.1 CONFIGURATION OF SYSTEM UNDER TEST



### 3.2.2 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

#### FOR 2.4GHz:

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

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

#### **POWER LINE CONDUCTED EMISSION TEST:**

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

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

#### **RADIATED EMISSION TEST (BELOW 1GHz):**

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

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

**RADIATED EMISSION TEST (ABOVE 1GHz):**

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

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

**BANDEDGE MEASUREMENT:**

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

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



**ANTENNA PORT CONDUCTED MEASUREMENT:**

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

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

**FOR 5.0GHz:**

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

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

**POWER LINE CONDUCTED EMISSION TEST:**

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

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)	TX CONDITION
802.11a	1 to 5	1	OFDM	BPSK	6.0	Single
Draft 802.11n (20MHz)	1 to 5	1	OFDM	BPSK	7.2	Triple
Draft 802.11n (40MHz)	1 to 2	1	OFDM	BPSK	15.0	Triple

**RADIATED EMISSION TEST (BELOW 1GHz):**

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

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)	TX CONDITION
802.11a	1 to 5	1	OFDM	BPSK	6.0	Single
Draft 802.11n (20MHz)	1 to 5	1	OFDM	BPSK	7.2	Triple
Draft 802.11n (40MHz)	1 to 2	1	OFDM	BPSK	15.0	Triple

**RADIATED EMISSION TEST (ABOVE 1GHz):**

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

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)	TX CONDITION
802.11a	1 to 5	1, 3, 5	OFDM	BPSK	6.0	Single
Draft 802.11n (20MHz)	1 to 5	1, 3, 5	OFDM	BPSK	7.2	Triple
Draft 802.11n (40MHz)	1 to 2	1, 2	OFDM	BPSK	15.0	Triple

**BANDEDGE MEASUREMENT:**

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

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)	TX CONDITION
802.11a	1 to 5	1, 5	OFDM	BPSK	6.0	Single
Draft 802.11n (20MHz)	1 to 5	1, 5	OFDM	BPSK	7.2	Triple
Draft 802.11n (40MHz)	1 to 2	1, 2	OFDM	BPSK	15.0	Triple

**ANTENNA PORT CONDUCTED MEASUREMENT:**

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

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)	TX CONDITION
802.11a	1 to 5	1, 3, 5	OFDM	BPSK	6.0	Single
Draft 802.11n (20MHz)	1 to 5	1, 3, 5	OFDM	BPSK	7.2	Triple
Draft 802.11n (40MHz)	1 to 2	1, 2	OFDM	BPSK	15.0	Triple



### 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
3	PRINTER	EPSON	LQ-300+	DCGY054147	FCC DoC Approved
4	MODEM	ACEEX	1414V/3	0401008269	IFAXDM1414

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	1.5m shielded cable without core
2	10m shielded cable without core
3	1.8m shielded cable without core
4	1.6 m shielded cable without core

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



## 4. TEST TYPES AND RESULTS (FOR 2.4GHZ)

### 4.1 CONDUCTED EMISSION MEASUREMENT

#### 4.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY OF EMISSION (MHz)	CONDUCTED LIMIT (dB $\mu$ V)	
	Quasi-peak	Average
0.15 ~ 0.5	66 to 56	56 to 46
0.5 ~ 5	56	46
5 ~ 30	60	50

- NOTE:**
1. The lower limit shall apply at the transition frequencies.
  2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.
  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.

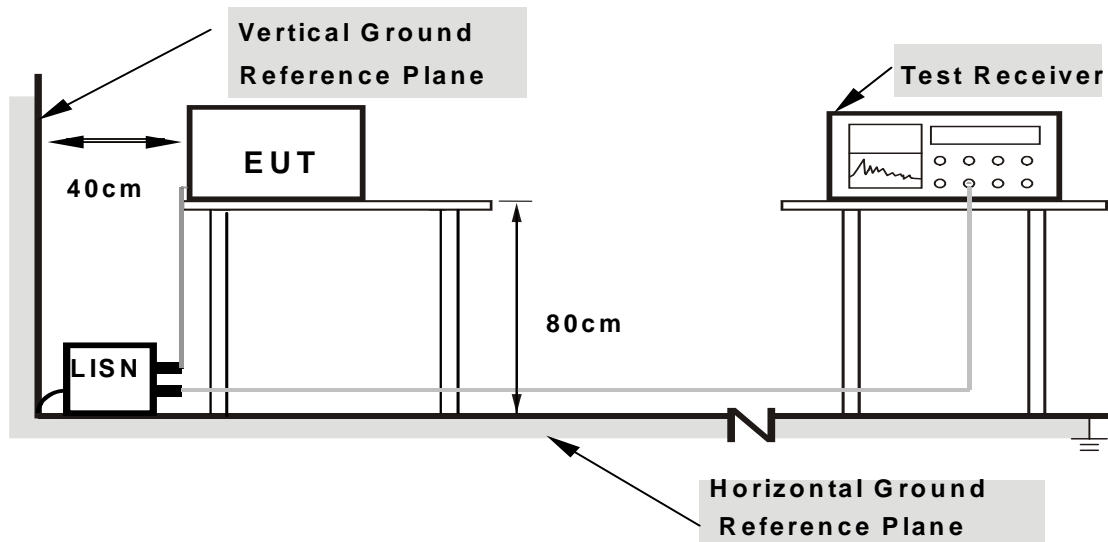
#### 4.1.3 TEST PROCEDURES

- 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. The EUT connected with notebook system via a RJ45 cable.
- b. The notebook system ran a test program (provided by manufacturer) to enable EUT under transmission condition continuously at specific channel frequency.
- c. The necessary accessories enable the system in full functions.

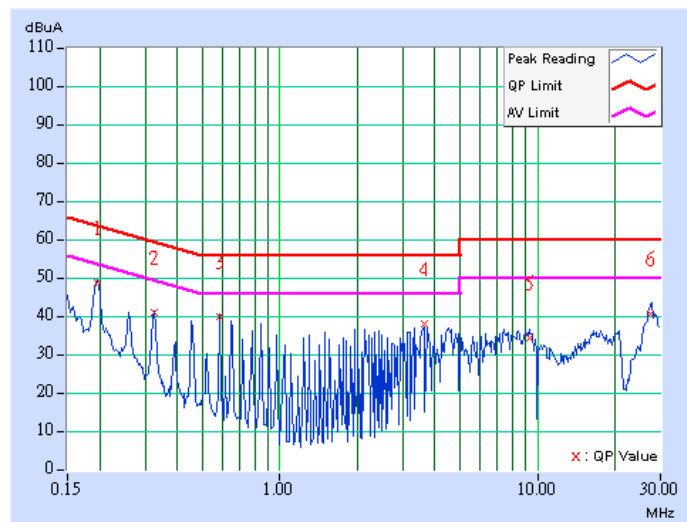
#### 4.1.7 TEST RESULTS

##### CONDUCTED WORST-CASE DATA: 802.11g OFDM MODULATION:

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	PHASE	Line 1
MODULATION TYPE	BPSK	INPUT POWER (SYSTEM)	120Vac, 60Hz
TRANSFER RATE	6.0Mbps	6dB BANDWIDTH	9kHz
ENVIRONMENTAL CONDITIONS	23deg. C, 65%RH, 991hPa	TESTED BY	Lori Chiu

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.197	0.10	47.75	-	47.85	-	63.74	53.74	-15.89	-
2	0.326	0.10	39.95	-	40.05	-	59.56	49.56	-19.51	-
3	0.584	0.10	39.03	-	39.13	-	56.00	46.00	-16.87	-
4	3.645	0.27	37.22	-	37.49	-	56.00	46.00	-18.51	-
5	9.308	0.32	33.46	-	33.78	-	60.00	50.00	-26.22	-
6	27.410	1.02	39.78	-	40.80	-	60.00	50.00	-19.20	-

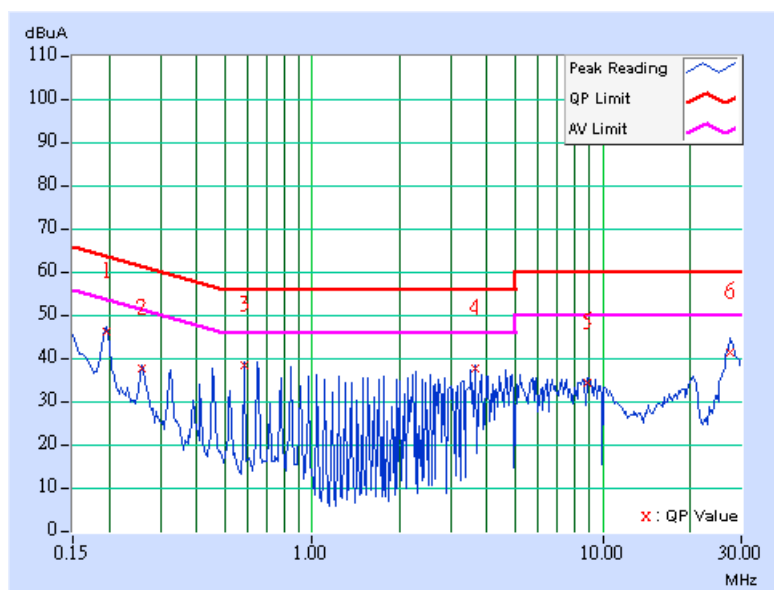
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
  2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
  3. The emission levels of other frequencies were very low against the limit.
  4. Margin value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



EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	PHASE	Line 2
MODULATION TYPE	BPSK	INPUT POWER (SYSTEM)	120Vac, 60Hz
TRANSFER RATE	6.0Mbps	6dB BANDWIDTH	9kHz
ENVIRONMENTAL CONDITIONS	23deg. C, 65%RH, 991hPa	TESTED BY	Lori Chiu

No	Freq. [MHz]	Corr.	Reading Value		Emission Level		Limit		Margin	
		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.197	0.10	45.48	-	45.58	-	63.74	53.74	-18.16	-
2	0.259	0.10	36.77	-	36.87	-	61.45	51.45	-24.58	-
3	0.584	0.13	37.79	-	37.92	-	56.00	46.00	-18.08	-
4	3.643	0.27	36.94	-	37.21	-	56.00	46.00	-18.79	-
5	8.914	0.40	33.63	-	34.03	-	60.00	50.00	-25.97	-
6	27.526	0.83	40.80	-	41.63	-	60.00	50.00	-18.37	-

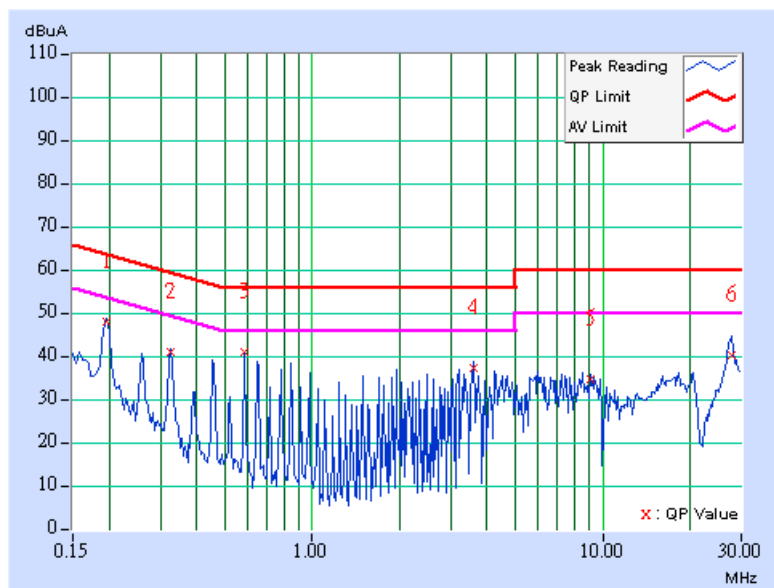
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
  2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
  3. The emission levels of other frequencies were very low against the limit.
  4. Margin value = 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 6	PHASE	Line 1
MODULATION TYPE	BPSK	INPUT POWER (SYSTEM)	120Vac, 60Hz
TRANSFER RATE	6.0Mbps	6dB BANDWIDTH	9kHz
ENVIRONMENTAL CONDITIONS	23deg. C, 65%RH, 991hPa	TESTED BY	Lori Chiu

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
			1	0.197	0.10	47.16	-	47.26	-	63.74
2	0.326	0.10	40.12	-	40.22	-	59.56	49.56	-19.34	-
3	0.588	0.10	39.94	-	40.04	-	56.00	46.00	-15.96	-
4	3.582	0.27	36.45	-	36.72	-	56.00	46.00	-19.28	-
5	9.055	0.32	33.73	-	34.05	-	60.00	50.00	-25.95	-
6	27.752	1.05	39.42	-	40.47	-	60.00	50.00	-19.53	-

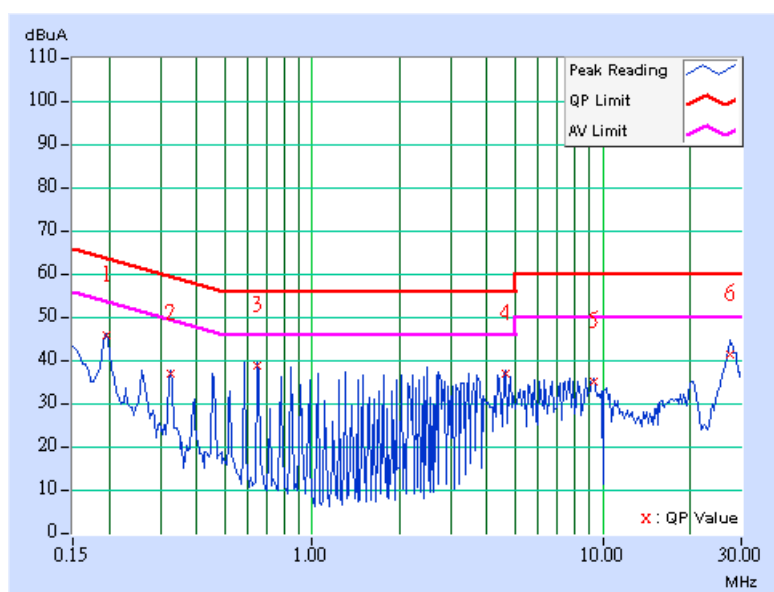
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
  2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
  3. The emission levels of other frequencies were very low against the limit.
  4. Margin value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



EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	PHASE	Line 2
MODULATION TYPE	BPSK	INPUT POWER (SYSTEM)	120Vac, 60Hz
TRANSFER RATE	6.0Mbps	6dB BANDWIDTH	9kHz
ENVIRONMENTAL CONDITIONS	23deg. C, 65%RH, 991hPa	TESTED BY	Lori Chiu

No	Freq. [MHz]	Corr.	Reading Value		Emission Level		Limit		Margin	
		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.196	0.10	45.13	-	45.23	-	63.80	53.80	-18.57	-
2	0.326	0.10	36.19	-	36.29	-	59.56	49.56	-23.27	-
3	0.650	0.15	38.15	-	38.30	-	56.00	46.00	-17.70	-
4	4.621	0.30	36.03	-	36.33	-	56.00	46.00	-19.67	-
5	9.377	0.41	34.42	-	34.83	-	60.00	50.00	-25.17	-
6	27.546	0.83	40.65	-	41.48	-	60.00	50.00	-18.52	-

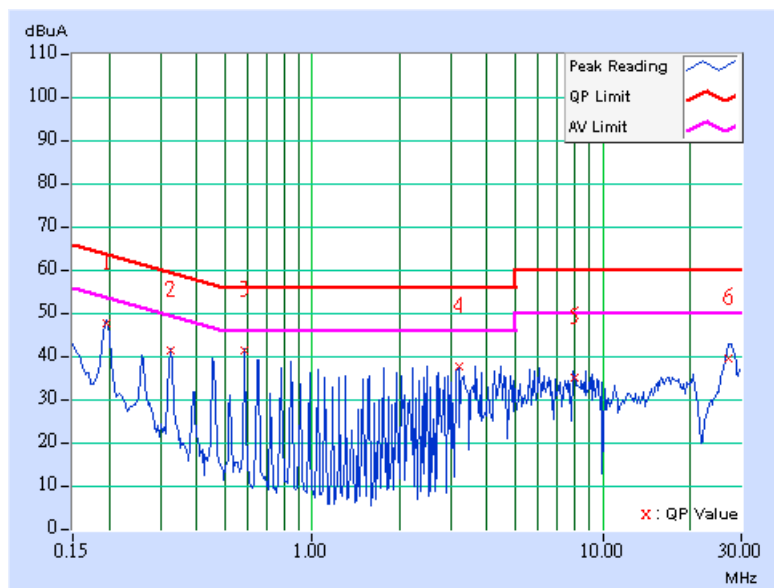
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
  2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
  3. The emission levels of other frequencies were very low against the limit.
  4. Margin value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



EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	PHASE	Line 1
MODULATION TYPE	BPSK	INPUT POWER (SYSTEM)	120Vac, 60Hz
TRANSFER RATE	6.0Mbps	6dB BANDWIDTH	9kHz
ENVIRONMENTAL CONDITIONS	23deg. C, 65%RH, 991hPa	TESTED BY	Lori Chiu

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.197	0.10	46.76	-	46.86	-	63.74	53.74	-16.88	-
2	0.326	0.10	40.40	-	40.50	-	59.56	49.56	-19.06	-
3	0.588	0.10	40.57	-	40.67	-	56.00	46.00	-15.33	-
4	3.195	0.26	36.93	-	37.19	-	56.00	46.00	-18.81	-
5	7.956	0.31	34.28	-	34.59	-	60.00	50.00	-25.41	-
6	27.190	1.00	38.63	-	39.63	-	60.00	50.00	-20.37	-

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

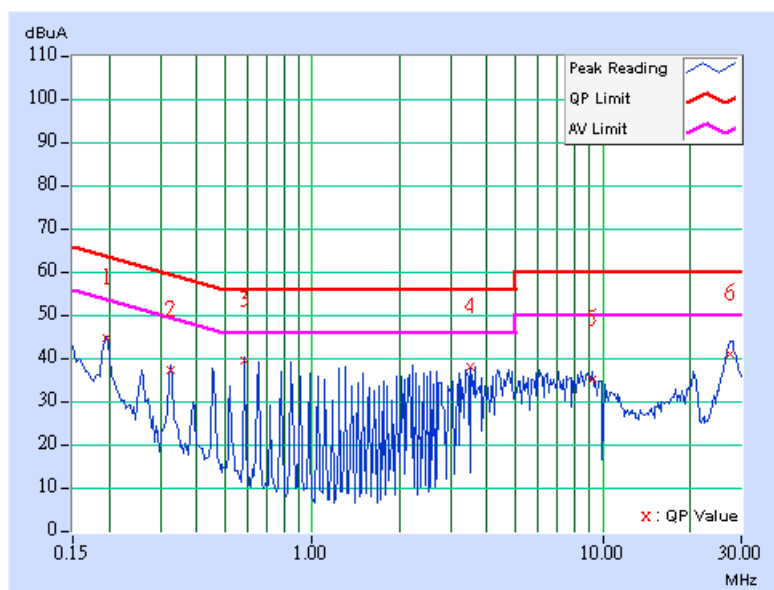




EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	PHASE	Line 2
MODULATION TYPE	BPSK	INPUT POWER (SYSTEM)	120Vac, 60Hz
TRANSFER RATE	6.0Mbps	6dB BANDWIDTH	9kHz
ENVIRONMENTAL CONDITIONS	23deg. C, 65%RH, 991hPa	TESTED BY	Lori Chiu

No	Freq. [MHz]	Corr.	Reading Value		Emission Level		Limit		Margin	
		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.197	0.10	43.88	-	43.98	-	63.74	53.74	-19.76	-
2	0.326	0.10	36.49	-	36.59	-	59.56	49.56	-22.97	-
3	0.588	0.13	38.72	-	38.85	-	56.00	46.00	-17.15	-
4	3.520	0.27	37.22	-	37.49	-	56.00	46.00	-18.51	-
5	9.189	0.41	34.54	-	34.95	-	60.00	50.00	-25.05	-
6	27.303	0.82	40.31	-	41.13	-	60.00	50.00	-18.87	-

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

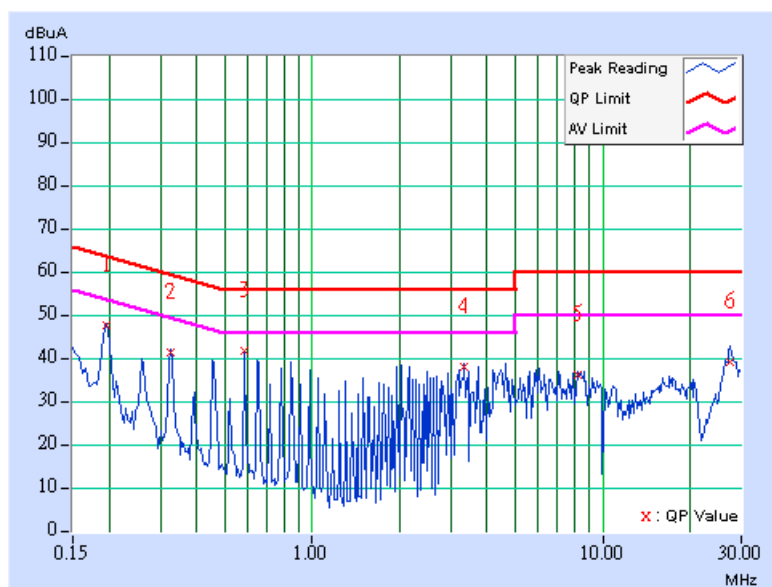


**DRAFT 802.11n (20MHz) OFDM MODULATION:**

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	PHASE	Line 1
MODULATION TYPE	BPSK	INPUT POWER (SYSTEM)	120Vac, 60Hz
TRANSFER RATE	7.2Mbps	6dB BANDWIDTH	9kHz
ENVIRONMENTAL CONDITIONS	23deg. C, 65%RH, 991hPa	TESTED BY	Lori Chiu

No	Freq. [MHz]	Corr.	Reading Value		Emission Level		Limit		Margin	
		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.197	0.10	46.57	-	46.67	-	63.74	53.74	-17.07	-
2	0.326	0.10	40.46	-	40.56	-	59.56	49.56	-19.00	-
3	0.588	0.10	40.71	-	40.81	-	56.00	46.00	-15.19	-
4	3.328	0.26	37.08	-	37.34	-	56.00	46.00	-18.66	-
5	8.217	0.32	35.43	-	35.75	-	60.00	50.00	-24.25	-
6	27.461	1.03	38.09	-	39.12	-	60.00	50.00	-20.88	-

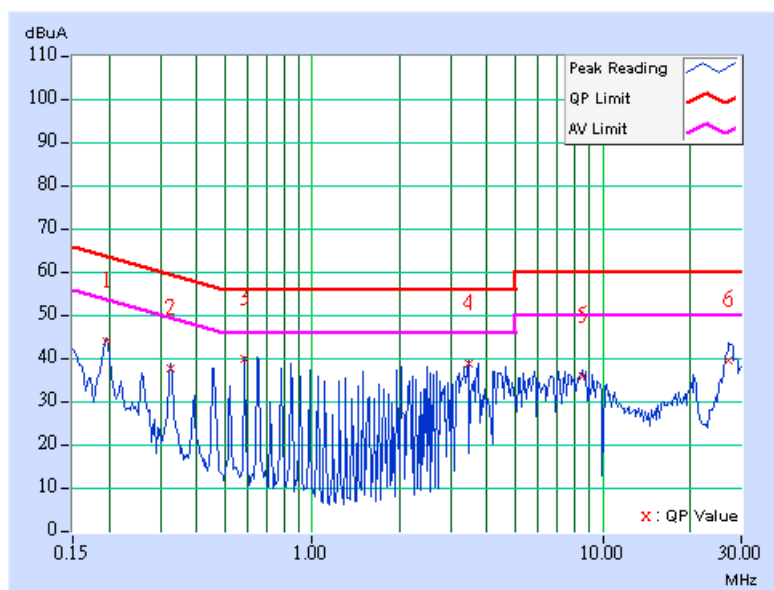
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
  2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
  3. The emission levels of other frequencies were very low against the limit.
  4. Margin value = 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	INPUT POWER (SYSTEM)	120Vac, 60Hz
TRANSFER RATE	7.2Mbps	6dB BANDWIDTH	9kHz
ENVIRONMENTAL CONDITIONS	23deg. C, 65%RH, 991hPa	TESTED BY	Lori Chiu

No	Freq. [MHz]	Corr.	Reading Value		Emission Level		Limit		Margin	
		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.197	0.10	43.27	-	43.37	-	63.74	53.74	-20.37	-
2	0.326	0.10	36.88	-	36.98	-	59.56	49.56	-22.58	-
3	0.588	0.13	39.19	-	39.32	-	56.00	46.00	-16.68	-
4	3.457	0.26	38.02	-	38.28	-	56.00	46.00	-17.72	-
5	8.477	0.39	35.27	-	35.66	-	60.00	50.00	-24.34	-
6	27.065	0.81	38.86	-	39.67	-	60.00	50.00	-20.33	-

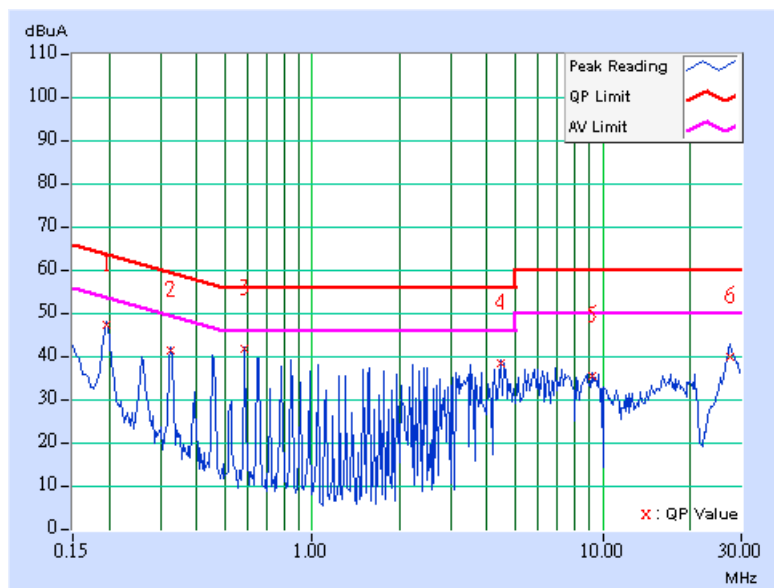
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
  2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
  3. The emission levels of other frequencies were very low against the limit.
  4. Margin value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



EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	PHASE	Line 1
MODULATION TYPE	BPSK	INPUT POWER (SYSTEM)	120Vac, 60Hz
TRANSFER RATE	7.2Mbps	6dB BANDWIDTH	9kHz
ENVIRONMENTAL CONDITIONS	23deg. C, 65%RH, 991hPa	TESTED BY	Lori Chiu

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
			1	0.197	0.10	46.51	-	46.61	-	63.74
2	0.326	0.10	40.52	-	40.62	-	59.56	49.56	-18.94	-
3	0.588	0.10	40.90	-	41.00	-	56.00	46.00	-15.00	-
4	4.434	0.28	37.47	-	37.75	-	56.00	46.00	-18.25	-
5	9.199	0.32	34.50	-	34.82	-	60.00	50.00	-25.18	-
6	27.458	1.03	38.93	-	39.96	-	60.00	50.00	-20.04	-

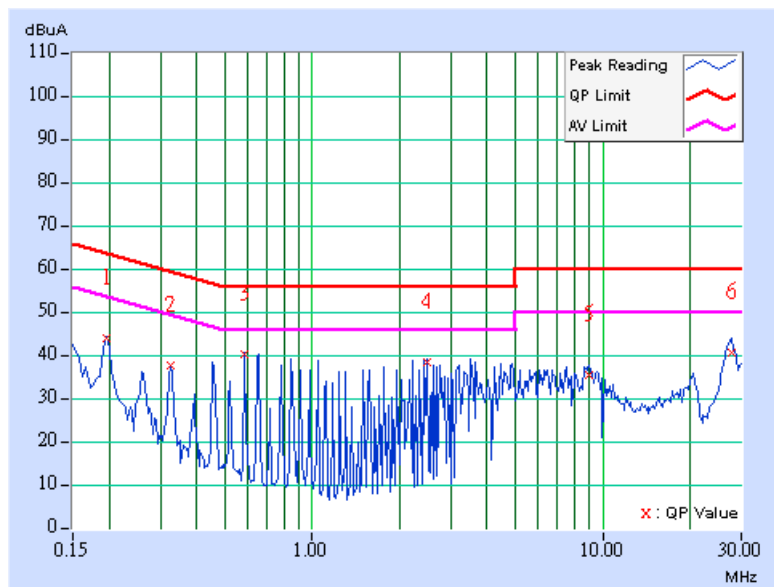
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
  2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
  3. The emission levels of other frequencies were very low against the limit.
  4. Margin value = 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	INPUT POWER (SYSTEM)	120Vac, 60Hz
TRANSFER RATE	7.2Mbps	6dB BANDWIDTH	9kHz
ENVIRONMENTAL CONDITIONS	23deg. C, 65%RH, 991hPa	TESTED BY	Lori Chiu

No	Freq. [MHz]	Corr.	Reading Value		Emission Level		Limit		Margin	
		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.197	0.10	43.15	-	43.25	-	63.74	53.74	-20.49	-
2	0.326	0.10	36.98	-	37.08	-	59.56	49.56	-22.48	-
3	0.588	0.13	39.52	-	39.65	-	56.00	46.00	-16.35	-
4	2.479	0.23	37.60	-	37.83	-	56.00	46.00	-18.17	-
5	9.002	0.41	34.64	-	35.05	-	60.00	50.00	-24.95	-
6	27.655	0.84	39.75	-	40.59	-	60.00	50.00	-19.41	-

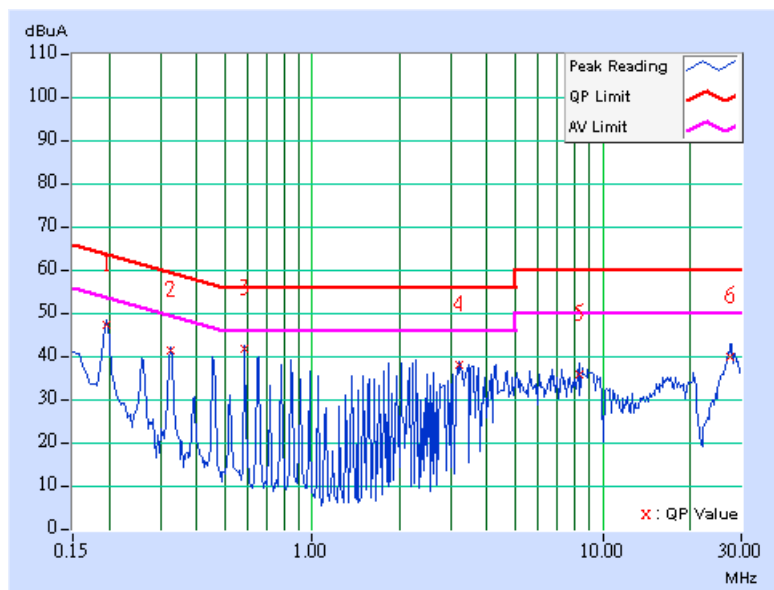
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
  2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
  3. The emission levels of other frequencies were very low against the limit.
  4. Margin value = 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 11	PHASE	Line 1
MODULATION TYPE	BPSK	INPUT POWER (SYSTEM)	120Vac, 60Hz
TRANSFER RATE	7.2Mbps	6dB BANDWIDTH	9kHz
ENVIRONMENTAL CONDITIONS	23deg. C, 65%RH, 991hPa	TESTED BY	Lori Chiu

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
			1	0.197	0.10	46.43	-	46.53	-	63.74
2	0.326	0.10	40.56	-	40.66	-	59.56	49.56	-18.90	-
3	0.588	0.10	40.98	-	41.08	-	56.00	46.00	-14.92	-
4	3.195	0.26	37.15	-	37.41	-	56.00	46.00	-18.59	-
5	8.285	0.32	34.90	-	35.22	-	60.00	50.00	-24.78	-
6	27.527	1.03	38.93	-	39.96	-	60.00	50.00	-20.04	-

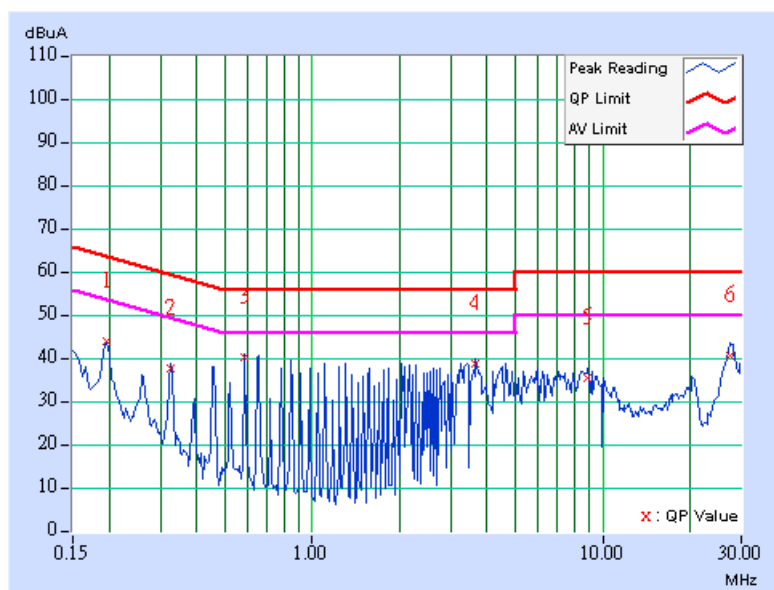
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
  2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
  3. The emission levels of other frequencies were very low against the limit.
  4. Margin value = 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	INPUT POWER (SYSTEM)	120Vac, 60Hz
TRANSFER RATE	7.2Mbps	6dB BANDWIDTH	9kHz
ENVIRONMENTAL CONDITIONS	23deg. C, 65%RH, 991hPa	TESTED BY	Lori Chiu

No	Freq. [MHz]	Corr.	Reading Value		Emission Level		Limit		Margin	
		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.197	0.10	43.07	-	43.17	-	63.74	53.74	-20.57	-
2	0.326	0.10	37.08	-	37.18	-	59.56	49.56	-22.38	-
3	0.588	0.13	39.58	-	39.71	-	56.00	46.00	-16.29	-
4	3.652	0.27	37.90	-	38.17	-	56.00	46.00	-17.83	-
5	8.871	0.40	34.69	-	35.09	-	60.00	50.00	-24.91	-
6	27.333	0.82	39.82	-	40.64	-	60.00	50.00	-19.36	-

- 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.

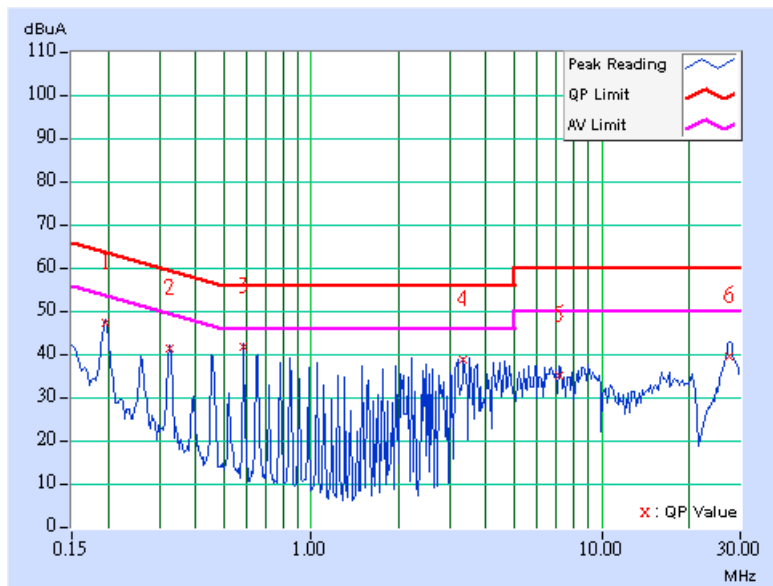


**DRAFT 802.11n (40MHz) OFDM MODULATION:**

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	PHASE	Line 1
MODULATION TYPE	BPSK	INPUT POWER (SYSTEM)	120Vac, 60Hz
TRANSFER RATE	15.0Mbps	6dB BANDWIDTH	9kHz
ENVIRONMENTAL CONDITIONS	23deg. C, 65%RH, 991hPa	TESTED BY	Lori Chiu

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
			1	0.197	0.10	46.35	-	46.45	-	63.74
2	0.326	0.10	40.60	-	40.70	-	59.56	49.56	-18.86	-
3	0.588	0.10	40.98	-	41.08	-	56.00	46.00	-14.92	-
4	3.328	0.26	37.76	-	38.02	-	56.00	46.00	-17.98	-
5	7.113	0.31	34.14	-	34.45	-	60.00	50.00	-25.55	-
6	27.405	1.02	38.44	-	39.46	-	60.00	50.00	-20.54	-

- 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.

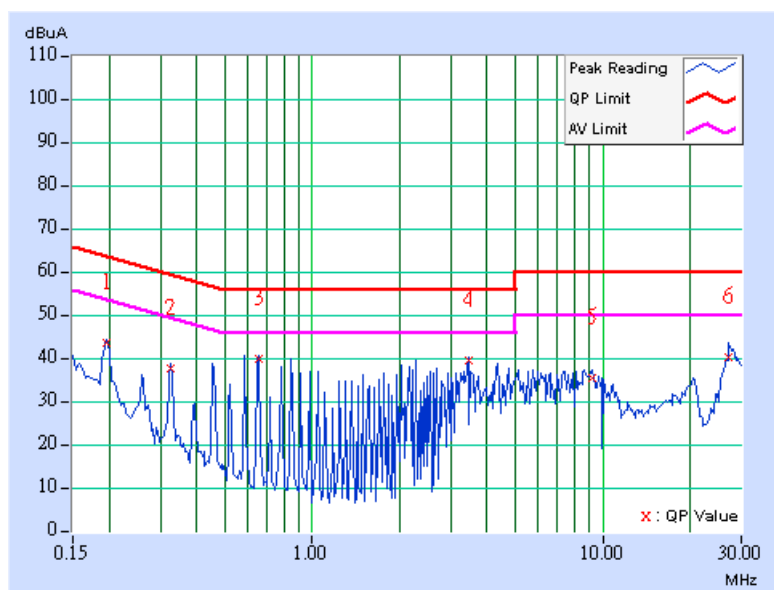




EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	PHASE	Line 2
MODULATION TYPE	BPSK	INPUT POWER (SYSTEM)	120Vac, 60Hz
TRANSFER RATE	15.0Mbps	6dB BANDWIDTH	9kHz
ENVIRONMENTAL CONDITIONS	23deg. C, 65%RH, 991hPa	TESTED BY	Lori Chiu

No	Freq. [MHz]	Corr.	Reading Value		Emission Level		Limit		Margin	
		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.197	0.10	42.91	-	43.01	-	63.74	53.74	-20.73	-
2	0.326	0.10	37.12	-	37.22	-	59.56	49.56	-22.34	-
3	0.654	0.15	39.02	-	39.17	-	56.00	46.00	-16.83	-
4	3.457	0.26	38.94	-	39.20	-	56.00	46.00	-16.80	-
5	9.200	0.41	34.74	-	35.15	-	60.00	50.00	-24.85	-
6	27.267	0.82	39.66	-	40.48	-	60.00	50.00	-19.52	-

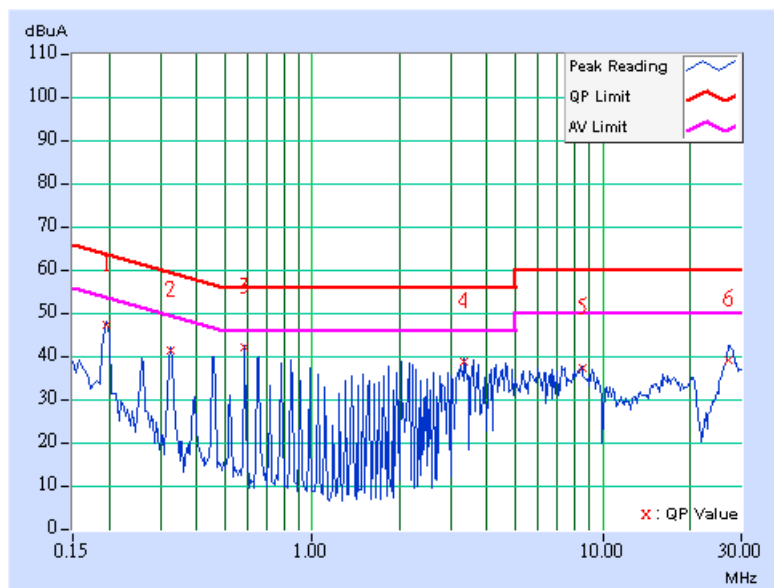
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
  2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
  3. The emission levels of other frequencies were very low against the limit.
  4. Margin value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



EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 4	PHASE	Line 1
MODULATION TYPE	BPSK	INPUT POWER (SYSTEM)	120Vac, 60Hz
TRANSFER RATE	15.0Mbps	6dB BANDWIDTH	9kHz
ENVIRONMENTAL CONDITIONS	23deg. C, 65%RH, 991hPa	TESTED BY	Lori Chiu

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.197	0.10	46.41	-	46.51	-	63.74	53.74	-17.23	-
2	0.326	0.10	40.60	-	40.70	-	59.56	49.56	-18.86	-
3	0.588	0.10	41.08	-	41.18	-	56.00	46.00	-14.82	-
4	3.328	0.26	37.98	-	38.24	-	56.00	46.00	-17.76	-
5	8.480	0.32	36.32	-	36.64	-	60.00	50.00	-23.36	-
6	27.145	1.00	38.21	-	39.21	-	60.00	50.00	-20.79	-

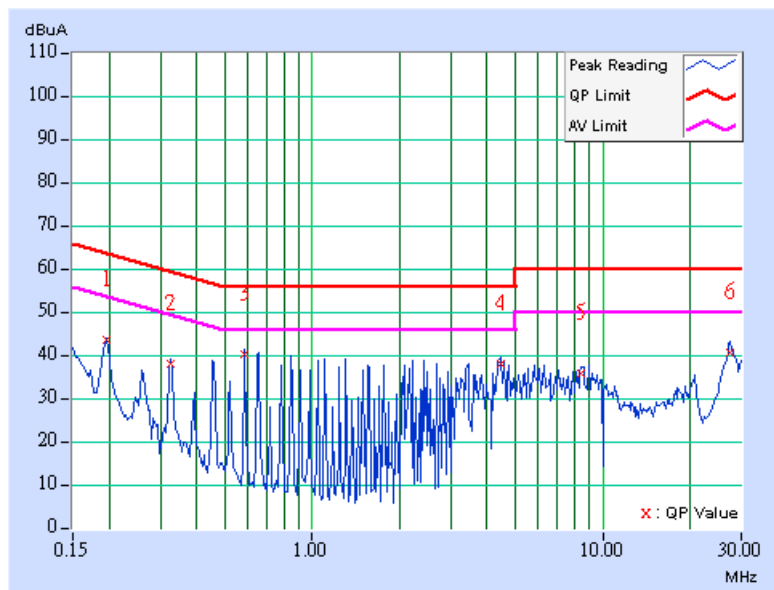
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
  2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
  3. The emission levels of other frequencies were very low against the limit.
  4. Margin value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



EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 4	PHASE	Line 2
MODULATION TYPE	BPSK	INPUT POWER (SYSTEM)	120Vac, 60Hz
TRANSFER RATE	15.0Mbps	6dB BANDWIDTH	9kHz
ENVIRONMENTAL CONDITIONS	23deg. C, 65%RH, 991hPa	TESTED BY	Lori Chiu

No	Freq. [MHz]	Corr.	Reading Value		Emission Level		Limit		Margin	
		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.197	0.10	42.83	-	42.93	-	63.74	53.74	-20.81	-
2	0.326	0.10	37.20	-	37.30	-	59.56	49.56	-22.26	-
3	0.588	0.13	39.68	-	39.81	-	56.00	46.00	-16.19	-
4	4.437	0.29	37.17	-	37.46	-	56.00	46.00	-18.54	-
5	8.417	0.39	35.03	-	35.42	-	60.00	50.00	-24.58	-
6	27.404	0.83	40.00	-	40.83	-	60.00	50.00	-19.17	-

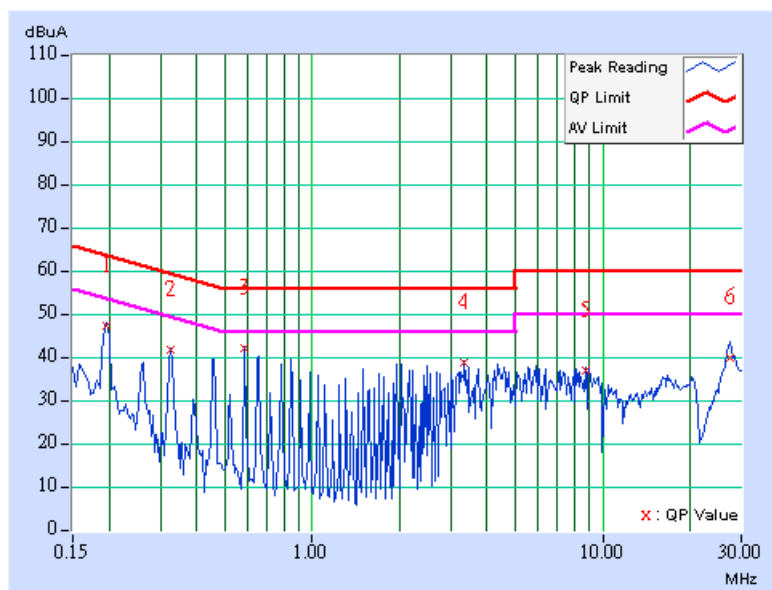
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
  2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
  3. The emission levels of other frequencies were very low against the limit.
  4. Margin value = 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	INPUT POWER (SYSTEM)	120Vac, 60Hz
TRANSFER RATE	15.0Mbps	6dB BANDWIDTH	9kHz
ENVIRONMENTAL CONDITIONS	23deg. C, 65%RH, 991hPa	TESTED BY	Lori Chiu

No	Freq. [MHz]	Corr.	Reading Value		Emission Level		Limit		Margin	
		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.197	0.10	46.43	-	46.53	-	63.74	53.74	-17.21	-
2	0.326	0.10	40.66	-	40.76	-	59.56	49.56	-18.80	-
3	0.588	0.10	41.18	-	41.28	-	56.00	46.00	-14.72	-
4	3.328	0.26	37.94	-	38.20	-	56.00	46.00	-17.80	-
5	8.742	0.32	35.97	-	36.29	-	60.00	50.00	-23.71	-
6	27.404	1.02	39.03	-	40.05	-	60.00	50.00	-19.95	-

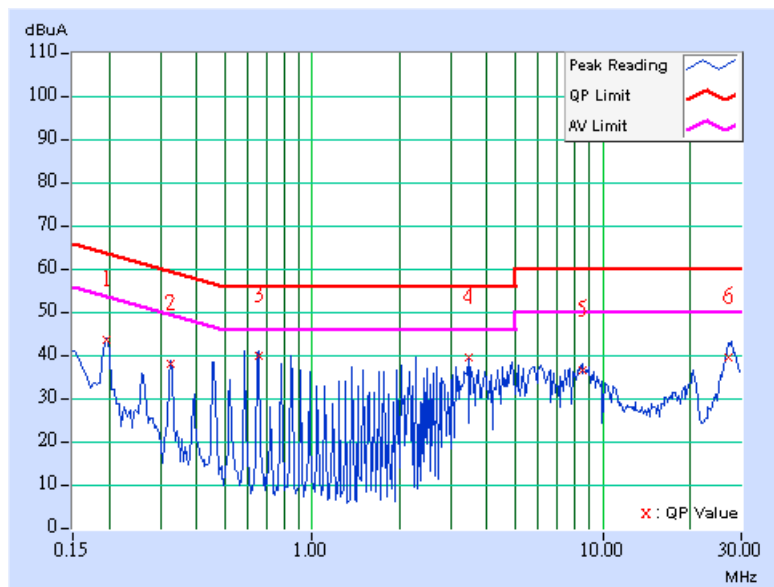
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
  2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
  3. The emission levels of other frequencies were very low against the limit.
  4. Margin value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



EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 7	PHASE	Line 2
MODULATION TYPE	BPSK	INPUT POWER (SYSTEM)	120Vac, 60Hz
TRANSFER RATE	15.0Mbps	6dB BANDWIDTH	9kHz
ENVIRONMENTAL CONDITIONS	23deg. C, 65%RH, 991hPa	TESTED BY	Lori Chiu

No	Freq. [MHz]	Corr.	Reading Value		Emission Level		Limit		Margin	
		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.197	0.10	42.83	-	42.93	-	63.74	53.74	-20.81	-
2	0.326	0.10	37.18	-	37.28	-	59.56	49.56	-22.28	-
3	0.654	0.15	39.24	-	39.39	-	56.00	46.00	-16.61	-
4	3.457	0.26	38.96	-	39.22	-	56.00	46.00	-16.78	-
5	8.480	0.39	36.02	-	36.41	-	60.00	50.00	-23.59	-
6	27.082	0.81	38.75	-	39.56	-	60.00	50.00	-20.44	-

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

- NOTE:**
1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
  2. The test was performed in HwaYa Chamber 9.
  3. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
  4. The IC Site Registration No. is 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:**

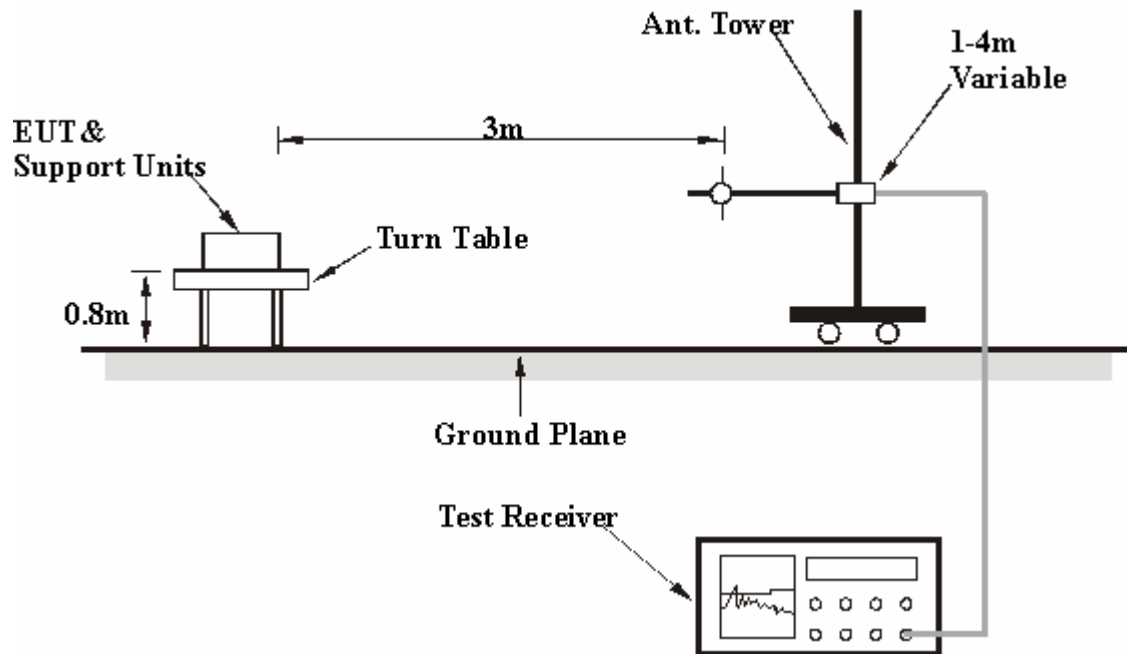
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz for Average detection (AV) at frequency above 1GHz.

### 4.2.4 DEVIATION FROM TEST STANDARD

No deviation



#### 4.2.5 TEST SETUP



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

#### 4.2.6 EUT OPERATING CONDITIONS

Same as 4.1.6

## 4.2.7 TEST RESULTS

### BELOW 1GHz WORST-CASE DATA: 802.11g OFDM MODULATION:

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	Below 1000MHz
MODULATION TYPE	BPSK	TRANSFER RATE	6.0Mbps
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	26deg. C, 70%RH, 991hPa	TESTED BY	Lori Chiu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	55.18	29.71 QP	40.00	-10.29	1.00 H	127	16.24	13.47
2	105.73	30.85 QP	43.50	-12.65	1.50 H	289	21.01	9.84
3	199.05	38.12 QP	43.50	-5.38	2.00 H	73	27.73	10.40
4	249.60	38.67 QP	46.00	-7.33	1.50 H	70	26.14	12.54
5	500.42	35.17 QP	46.00	-10.83	2.00 H	61	16.41	18.76
6	574.30	35.02 QP	46.00	-10.98	1.50 H	226	14.52	20.50
7	700.68	33.14 QP	46.00	-12.86	1.00 H	199	11.13	22.01
8	799.84	36.27 QP	46.00	-9.73	1.00 H	337	11.91	24.36

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	35.80 QP	40.00	-4.20	1.00 V	10	22.33	13.47
2	94.06	36.04 QP	43.50	-7.46	1.00 V	232	26.97	9.07
3	105.73	41.32 QP	43.50	-2.18	1.50 V	295	31.48	9.84
4	166.00	31.14 QP	43.50	-12.36	1.00 V	85	18.11	13.03
5	199.05	35.41 QP	43.50	-8.09	1.00 V	205	25.01	10.40
6	249.60	39.03 QP	46.00	-6.97	1.00 V	154	26.49	12.54
7	500.42	37.06 QP	46.00	-8.94	1.00 V	61	18.30	18.76
8	566.52	33.60 QP	46.00	-12.40	1.00 V	220	13.28	20.31
9	799.84	36.06 QP	46.00	-9.94	2.00 V	220	11.70	24.36
10	933.99	34.03 QP	46.00	-11.97	1.00 V	205	8.43	25.60

- 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	TRANSFER RATE	7.2Mbps
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	26deg. C, 70%RH, 991hPa	TESTED BY	Lori Chiu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	29.90	29.06 QP	40.00	-10.94	2.00 H	10	16.97	12.09
2	199.05	36.65 QP	43.50	-6.85	1.00 H	97	26.26	10.40
3	249.60	36.22 QP	46.00	-9.78	1.00 H	82	23.68	12.54
4	300.16	33.72 QP	46.00	-12.28	1.00 H	286	20.36	13.36
5	500.42	34.59 QP	46.00	-11.41	2.00 H	37	15.83	18.76
6	574.30	34.90 QP	46.00	-11.10	1.50 H	229	14.41	20.50
7	700.68	33.75 QP	46.00	-12.25	1.00 H	205	11.74	22.01
8	799.84	37.20 QP	46.00	-8.80	1.00 H	211	12.84	24.36

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	55.94	35.57 QP	40.00	-4.43	1.00 V	0	22.14	13.43
2	94.06	37.93 QP	43.50	-5.57	1.00 V	277	28.86	9.07
3	105.73	40.70 QP	43.50	-2.80	1.00 V	313	30.86	9.84
4	199.05	38.88 QP	43.50	-4.62	1.00 V	115	28.48	10.40
5	249.60	35.84 QP	46.00	-10.16	1.50 V	313	23.30	12.54
6	500.42	35.92 QP	46.00	-10.08	1.00 V	199	17.16	18.76
7	799.84	37.00 QP	46.00	-9.00	1.50 V	358	12.64	24.36

- 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	TRANSFER RATE	15.0Mbps
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	26deg. C, 70%RH, 991hPa	TESTED BY	Lori Chiu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	29.90	30.80 QP	40.00	-9.20	1.50 H	190	18.72	12.09
2	148.50	30.79 QP	43.50	-12.71	1.50 H	235	17.33	13.46
3	199.05	36.49 QP	43.50	-7.01	1.00 H	127	26.09	10.40
4	500.42	38.27 QP	46.00	-7.73	1.50 H	196	19.51	18.76
5	566.52	34.51 QP	46.00	-11.49	1.50 H	169	14.20	20.31
6	599.58	34.23 QP	46.00	-11.77	1.50 H	112	13.15	21.09
7	700.68	34.55 QP	46.00	-11.45	1.00 H	205	12.55	22.01
8	799.84	38.53 QP	46.00	-7.47	1.00 H	10	14.17	24.36
9	900.94	34.28 QP	46.00	-11.72	1.00 H	22	8.95	25.32

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	49.34	35.34 QP	40.00	-4.66	1.00 V	37	21.82	13.52
2	94.06	34.63 QP	43.50	-8.87	1.50 V	256	25.56	9.07
3	105.73	39.27 QP	43.50	-4.23	1.50 V	313	29.43	9.84
4	142.67	32.59 QP	43.50	-10.91	1.00 V	70	19.92	12.67
5	199.05	35.17 QP	43.50	-8.33	1.50 V	124	24.77	10.40
6	249.60	36.70 QP	46.00	-9.30	1.00 V	79	24.17	12.54
7	500.42	38.69 QP	46.00	-7.31	1.00 V	67	19.93	18.76
8	799.84	35.85 QP	46.00	-10.15	1.00 V	217	11.49	24.36

- 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 DATA: 802.11b DSSS MODULATION:**

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
MODULATION TYPE	DBPSK	TRANSFER RATE	1.0Mbps
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 68%RH, 991hPa	TESTED BY	Lori Chiu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3m								
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	55.41 PK	74.00	-18.59	1.12 H	14	24.19	31.22
2	2390.00	44.69 AV	54.00	-9.31	1.12 H	14	13.47	31.22
3	*2412.00	97.73 PK			1.12 H	13	66.52	31.21
4	*2412.00	93.38 AV			1.12 H	13	62.17	31.21
5	4824.00	45.57 PK	74.00	-28.43	1.12 H	47	9.09	36.48
6	4824.00	35.60 AV	54.00	-18.40	1.12 H	47	-0.88	36.48

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3m								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	57.01 PK	74.00	-16.99	1.15 V	205	25.79	31.22
2	2390.00	45.86 AV	54.00	-8.14	1.15 V	205	14.64	31.22
3	*2412.00	109.71 PK			1.12 V	202	78.50	31.21
4	*2412.00	105.20 AV			1.12 V	202	73.99	31.21
5	3216.00	42.79 PK	74.00	-31.21	1.32 V	247	10.46	32.33
6	3216.00	31.98 AV	54.00	-22.02	1.32 V	247	-0.35	32.33
7	4824.00	46.96 PK	74.00	-27.04	1.09 V	278	10.48	36.48
8	4824.00	36.93 AV	54.00	-17.07	1.09 V	278	0.45	36.48

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
MODULATION TYPE	DBPSK	TRANSFER RATE	1.0Mbps
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 68%RH, 991hPa	TESTED BY	Lori Chiu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3m								
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	98.16 PK			1.06 H	172	66.94	31.22
2	*2437.00	94.78 AV			1.06 H	172	63.56	31.22
3	4874.00	46.74 PK	74.00	-27.26	1.00 H	42	10.16	36.58
4	4874.00	37.81 AV	54.00	-16.19	1.00 H	42	1.23	36.58

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3m								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	109.88 PK			1.10 V	261	78.66	31.22
2	*2437.00	105.46 AV			1.10 V	261	74.24	31.22
3	3249.00	45.32 PK	74.00	-28.68	1.28 V	199	13.11	32.21
4	3249.00	34.50 AV	54.00	-19.50	1.28 V	199	2.29	32.21
5	4874.00	47.24 PK	74.00	-26.76	1.10 V	271	10.66	36.58
6	4874.00	38.67 AV	54.00	-15.33	1.10 V	271	2.09	36.58

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
MODULATION TYPE	DBPSK	TRANSFER RATE	1.0Mbps
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 68%RH, 991hPa	TESTED BY	Lori Chiu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3m								
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	98.46 PK			1.02 H	344	67.23	31.23
2	*2462.00	94.95 AV			1.02 H	344	63.72	31.23
3	2483.50	55.05 PK	74.00	-18.95	1.02 H	345	23.81	31.24
4	2483.50	44.95 AV	54.00	-9.05	1.02 H	345	13.71	31.24
5	4924.00	46.51 PK	74.00	-27.49	1.23 H	287	9.83	36.68
6	4924.00	39.87 AV	54.00	-14.13	1.23 H	287	3.19	36.68

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3m								
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	110.30 PK			1.04 V	257	79.07	31.23
2	*2462.00	105.78 AV			1.04 V	257	74.55	31.23
3	2483.50	56.64 PK	74.00	-17.36	1.04 V	259	25.40	31.24
4	2483.50	46.66 AV	54.00	-7.34	1.04 V	259	15.42	31.24
5	3282.00	45.54 PK	74.00	-28.46	1.30 V	266	13.44	32.10
6	3282.00	34.59 AV	54.00	-19.41	1.30 V	266	2.49	32.10
7	4924.00	47.50 PK	74.00	-26.50	1.07 V	274	10.82	36.68
8	4924.00	40.05 AV	54.00	-13.95	1.07 V	274	3.37	36.68

- 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	TRANSFER RATE	6.0Mbps
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 68%RH, 991hPa	TESTED BY	Lori Chiu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3m								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	56.55 PK	74.00	-17.45	1.09 H	18	25.33	31.22
2	2390.00	45.08 AV	54.00	-8.92	1.09 H	18	13.86	31.22
3	*2412.00	99.41 PK			1.09 H	18	68.20	31.21
4	*2412.00	89.35 AV			1.09 H	18	58.14	31.21
5	4824.00	47.64 PK	74.00	-26.36	1.18 H	205	11.16	36.48
6	4824.00	33.58 AV	54.00	-20.42	1.18 H	205	-2.90	36.48

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3m								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	65.65 PK	74.00	-8.35	1.15 V	162	34.43	31.22
2	2390.00	49.09 AV	54.00	-4.91	1.15 V	162	17.87	31.22
3	*2412.00	111.94 PK			1.14 V	148	80.73	31.21
4	*2412.00	101.38 AV			1.14 V	148	70.17	31.21
5	3216.00	44.21 PK	74.00	-29.79	1.34 V	248	11.88	32.33
6	3216.00	36.12 AV	54.00	-17.88	1.34 V	248	3.79	32.33
7	4824.00	48.05 PK	74.00	-25.95	1.02 V	318	11.57	36.48
8	4824.00	34.32 AV	54.00	-19.68	1.02 V	318	-2.16	36.48

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



EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
MODULATION TYPE	BPSK	TRANSFER RATE	6.0Mbps
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 68%RH, 991hPa	TESTED BY	Lori Chiu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3m								
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	99.37 PK			1.16 H	188	68.15	31.22
2	*2437.00	89.30 AV			1.16 H	188	58.08	31.22
3	4874.00	46.08 PK	74.00	-27.92	1.00 H	357	9.50	36.58
4	4874.00	33.20 AV	54.00	-20.80	1.00 H	357	-3.38	36.58

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3m								
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	111.15 PK			1.07 V	194	79.93	31.22
2	*2437.00	101.09 AV			1.07 V	194	69.87	31.22
3	3249.00	43.64 PK	74.00	-30.36	1.13 V	257	11.43	32.21
4	3249.00	37.99 AV	54.00	-16.01	1.13 V	257	5.78	32.21
5	4874.00	47.25 PK	74.00	-26.75	1.14 V	20	10.67	36.58
6	4874.00	34.80 AV	54.00	-19.20	1.14 V	20	-1.78	36.58

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



EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
MODULATION TYPE	BPSK	TRANSFER RATE	6.0Mbps
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 68%RH, 991hPa	TESTED BY	Lori Chiu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3m								
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	99.26 PK			1.24 H	293	68.03	31.23
2	*2462.00	89.23 AV			1.24 H	293	58.00	31.23
3	2483.50	56.89 PK	74.00	-17.11	1.24 H	293	25.65	31.24
4	2483.50	45.72 AV	54.00	-8.28	1.24 H	293	14.48	31.24
5	4924.00	46.70 PK	74.00	-27.30	1.01 H	268	10.02	36.68
6	4924.00	33.82 AV	54.00	-20.18	1.01 H	268	-2.86	36.68

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3m								
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	110.68 PK			1.37 V	149	79.45	31.23
2	*2462.00	100.90 AV			1.37 V	149	69.67	31.23
3	2483.50	63.44 PK	74.00	-10.56	1.13 V	163	32.20	31.24
4	2483.50	48.45 AV	54.00	-5.55	1.13 V	163	17.21	31.24
5	3282.00	44.86 PK	74.00	-29.14	1.15 V	204	12.76	32.10
6	3282.00	38.91 AV	54.00	-15.09	1.15 V	204	6.81	32.10
7	4924.00	47.31 PK	74.00	-26.69	1.03 V	76	10.63	36.68
8	4924.00	34.95 AV	54.00	-19.05	1.03 V	76	-1.73	36.68

- 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	TRANSFER RATE	7.2Mbps
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 68%RH, 991hPa	TESTED BY	Lori Chiu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3m								
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	64.84 PK	74.00	-9.16	1.00 H	156	33.62	31.22
2	2390.00	46.69 AV	54.00	-7.31	1.00 H	156	15.47	31.22
3	*2412.00	108.66 PK			1.00 H	160	77.45	31.21
4	*2412.00	98.28 AV			1.00 H	160	67.07	31.21
5	4824.00	47.45 PK	74.00	-26.55	1.22 H	260	10.97	36.48
6	4824.00	33.68 AV	54.00	-20.32	1.22 H	260	-2.80	36.48

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3m								
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	70.78 PK	74.00	-3.22	1.16 V	203	39.56	31.22
2	2390.00	52.00 AV	54.00	-2.00	1.16 V	203	20.78	31.22
3	*2412.00	114.16 PK			1.16 V	33	82.95	31.21
4	*2412.00	104.45 AV			1.16 V	33	73.24	31.21
5	3216.00	45.52 PK	74.00	-28.48	1.22 V	214	13.19	32.33
6	3216.00	39.09 AV	54.00	-14.91	1.22 V	214	6.76	32.33
7	4824.00	48.02 PK	74.00	-25.98	1.02 V	147	11.54	36.48
8	4824.00	34.11 AV	54.00	-19.89	1.02 V	147	-2.37	36.48

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
MODULATION TYPE	BPSK	TRANSFER RATE	7.2Mbps
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 68%RH, 991hPa	TESTED BY	Lori Chiu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3m								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	109.29 PK			1.00 H	175	78.07	31.22
2	*2437.00	99.80 AV			1.00 H	175	68.58	31.22
3	4874.00	47.14 PK	74.00	-26.86	1.16 H	132	10.56	36.58
4	4874.00	34.80 AV	54.00	-19.20	1.16 H	132	-1.78	36.58

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3m								
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	60.74 PK	74.00	-13.26	1.15 V	146	29.52	31.22
2	2390.00	50.00 AV	54.00	-4.00	1.15 V	146	18.78	31.22
3	*2437.00	116.91 PK			1.09 V	144	85.69	31.22
4	*2437.00	106.89 AV			1.09 V	144	75.67	31.22
5	3249.00	45.77 PK	74.00	-28.23	1.32 V	268	13.56	32.21
6	3249.00	39.31 AV	54.00	-14.69	1.32 V	268	7.10	32.21
7	4874.00	48.24 PK	74.00	-25.76	1.52 V	246	11.66	36.58
8	4874.00	35.61 AV	54.00	-18.39	1.52 V	246	-0.97	36.58

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
MODULATION TYPE	BPSK	TRANSFER RATE	7.2Mbps
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 68%RH, 991hPa	TESTED BY	Lori Chiu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3m								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	108.79 PK			1.02 H	163	77.56	31.23
2	*2462.00	98.67 AV			1.02 H	163	67.44	31.23
3	2483.50	64.74 PK	74.00	-9.26	1.02 H	166	33.50	31.24
4	2483.50	47.35 AV	54.00	-6.65	1.02 H	166	16.11	31.24
5	4924.00	46.68 PK	74.00	-27.32	1.11 H	257	10.00	36.68
6	4924.00	33.59 AV	54.00	-20.41	1.11 H	257	-3.09	36.68

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3m								
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	115.76 PK			1.08 V	156	84.53	31.23
2	*2462.00	105.94 AV			1.08 V	156	74.71	31.23
3	2483.50	69.34 PK	74.00	-4.66	1.07 V	231	38.10	31.24
4	2483.50	52.73 AV	54.00	-1.27	1.07 V	231	21.49	31.24
5	3282.00	46.54 PK	74.00	-27.46	1.01 V	340	14.44	32.10
6	3282.00	41.36 AV	54.00	-12.64	1.01 V	340	9.26	32.10
7	4924.00	47.89 PK	74.00	-26.11	1.30 V	15	11.21	36.68
8	4924.00	34.08 AV	54.00	-19.92	1.30 V	15	-2.60	36.68

- 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	TRANSFER RATE	15.0Mbps
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 68%RH, 991hPa	TESTED BY	Lori Chiu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3m								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	63.19 PK	74.00	-10.81	1.08 H	33	31.97	31.22
2	2390.00	47.96 AV	54.00	-6.04	1.08 H	33	16.74	31.22
3	*2422.00	102.90 PK			1.04 H	33	71.68	31.22
4	*2422.00	92.37 AV			1.04 H	33	61.15	31.22
5	3229.00	42.99 PK	74.00	-31.01	1.08 H	304	10.71	32.28
6	3229.00	33.72 AV	54.00	-20.28	1.08 H	304	1.44	32.28
7	4844.00	46.35 PK	74.00	-27.65	1.00 H	123	9.83	36.52
8	4844.00	32.24 AV	54.00	-21.76	1.00 H	123	-4.28	36.52

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3m								
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	70.65 PK	74.00	-3.35	1.22 V	358	39.43	31.22
2	2390.00	52.59 AV	54.00	-1.41	1.22 V	358	21.37	31.22
3	*2422.00	109.34 PK			1.17 V	42	78.12	31.22
4	*2422.00	99.64 AV			1.17 V	42	68.42	31.22
5	3229.00	45.88 PK	74.00	-28.12	1.18 V	216	13.60	32.28
6	3229.00	39.71 AV	54.00	-14.29	1.18 V	216	7.43	32.28
7	4844.00	47.11 PK	74.00	-26.89	1.12 V	302	10.59	36.52
8	4844.00	33.51 AV	54.00	-20.49	1.12 V	302	-3.01	36.52

- 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	TRANSFER RATE	15.0Mbps
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 68%RH, 991hPa	TESTED BY	Lori Chiu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3m								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	56.33 PK	74.00	-17.67	1.11 H	210	25.11	31.22
2	2390.00	45.57 AV	54.00	-8.43	1.11 H	210	14.35	31.22
3	*2437.00	104.59 PK			1.10 H	210	73.37	31.22
4	*2437.00	93.76 AV			1.10 H	210	62.54	31.22
5	4874.00	46.65 PK	74.00	-27.35	1.25 H	16	10.08	36.58
6	4874.00	32.90 AV	54.00	-21.10	1.25 H	16	-3.68	36.58

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3m								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	65.37 PK	74.00	-8.63	1.15 V	174	34.15	31.22
2	2390.00	51.07 AV	54.00	-2.93	1.15 V	174	19.85	31.22
3	*2437.00	111.57 PK			1.14 V	160	80.35	31.22
4	*2437.00	101.45 AV			1.14 V	160	70.23	31.22
5	3249.00	46.58 PK	74.00	-27.42	1.00 V	267	14.37	32.21
6	3249.00	41.97 AV	54.00	-12.03	1.00 V	267	9.76	32.21
7	4874.00	47.57 PK	74.00	-26.43	1.03 V	267	10.99	36.58
8	4874.00	33.68 AV	54.00	-20.32	1.03 V	267	-2.90	36.58

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 7	FREQUENCY RANGE	1 ~ 25GHz
MODULATION TYPE	BPSK	TRANSFER RATE	15.0Mbps
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 68%RH, 991hPa	TESTED BY	Lori Chiu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3m								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2452.00	104.17 PK			1.00 H	234	72.94	31.23
2	*2452.00	93.61 AV			1.00 H	234	62.38	31.23
3	2483.50	64.08 PK	74.00	-9.92	1.22 H	233	32.84	31.24
4	2483.50	48.68 AV	54.00	-5.32	1.22 H	233	17.44	31.24
5	3269.00	44.70 PK	74.00	-29.30	1.04 H	138	12.55	32.15
6	3269.00	37.32 AV	54.00	-16.68	1.04 H	138	5.17	32.15
7	4904.00	46.87 PK	74.00	-27.13	1.00 H	258	10.23	36.64
8	4904.00	32.40 AV	54.00	-21.60	1.00 H	258	-4.24	36.64

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3m								
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	111.12 PK			1.10 V	141	79.89	31.23
2	*2452.00	101.41 AV			1.10 V	141	70.18	31.23
3	2483.50	69.27 PK	74.00	-4.73	1.06 V	203	38.03	31.24
4	<b>2483.50</b>	<b>52.89 AV</b>	<b>54.00</b>	<b>-1.11</b>	<b>1.06 V</b>	<b>203</b>	<b>21.65</b>	<b>31.24</b>
5	3269.00	47.67 PK	74.00	-26.33	1.01 V	340	15.52	32.15
6	3269.00	43.40 AV	54.00	-10.60	1.01 V	340	11.25	32.15
7	4904.00	47.45 PK	74.00	-26.55	1.07 V	6	10.81	36.64
8	4904.00	33.63 AV	54.00	-20.37	1.07 V	6	-3.01	36.64

- 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
R&S SPECTRUM ANALYZER	FSP40	100040	Jun. 07, 2007

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

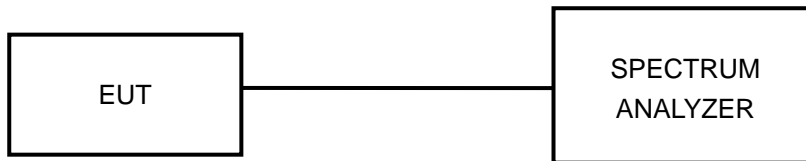
#### 4.3.3 TEST PROCEDURE

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

#### 4.3.4 DEVIATION FROM TEST STANDARD

No deviation

#### 4.3.5 TEST SETUP



#### 4.3.6 EUT OPERATING CONDITIONS

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

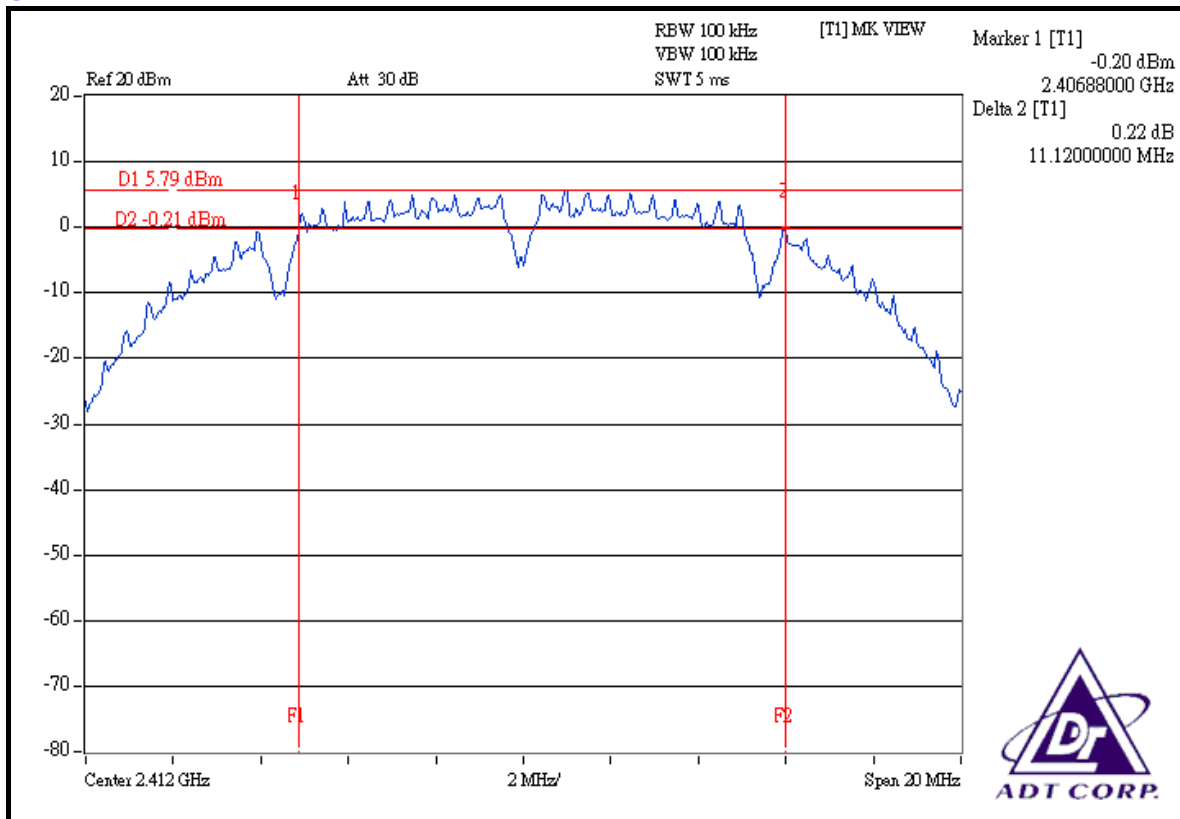
### 4.3.7 TEST RESULTS

#### 802.11b DSSS MODULATION:

<b>MODULATION TYPE</b>	DBPSK	<b>TRANSFER RATE</b>	1.0Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60Hz	<b>ENVIRONMENTAL CONDITIONS</b>	25deg.C, 65%RH, 991hPa
<b>TESTED BY</b>	Long Chen		

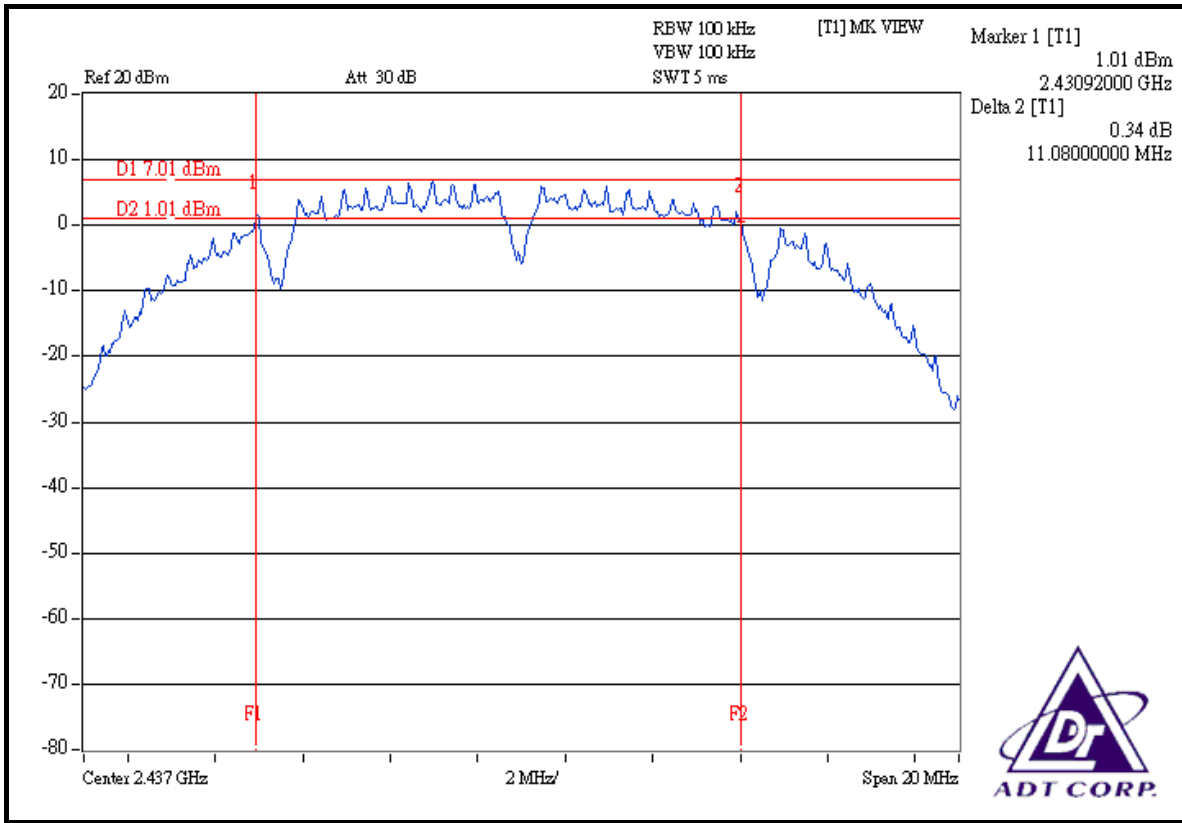
CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	11.12	0.5	PASS
6	2437	11.08	0.5	PASS
11	2462	11.08	0.5	PASS

#### CH 1

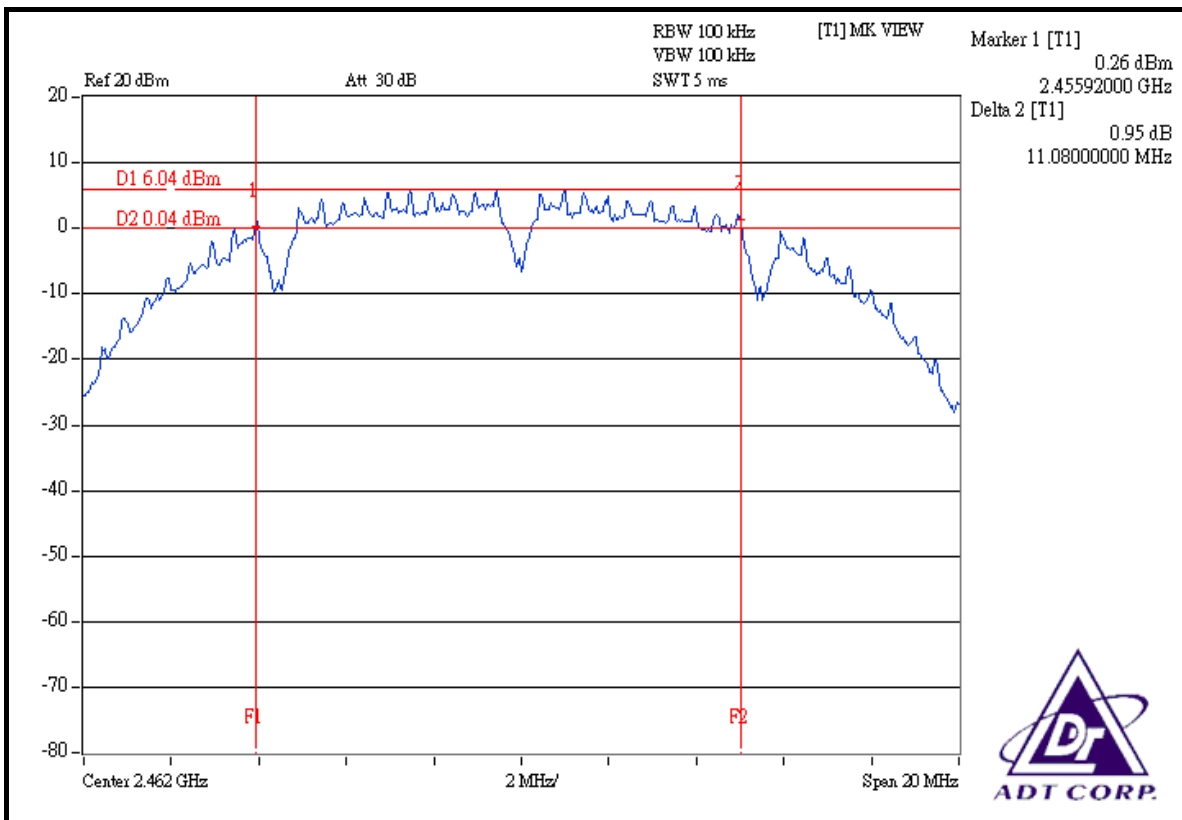




### CH 6



### CH 11



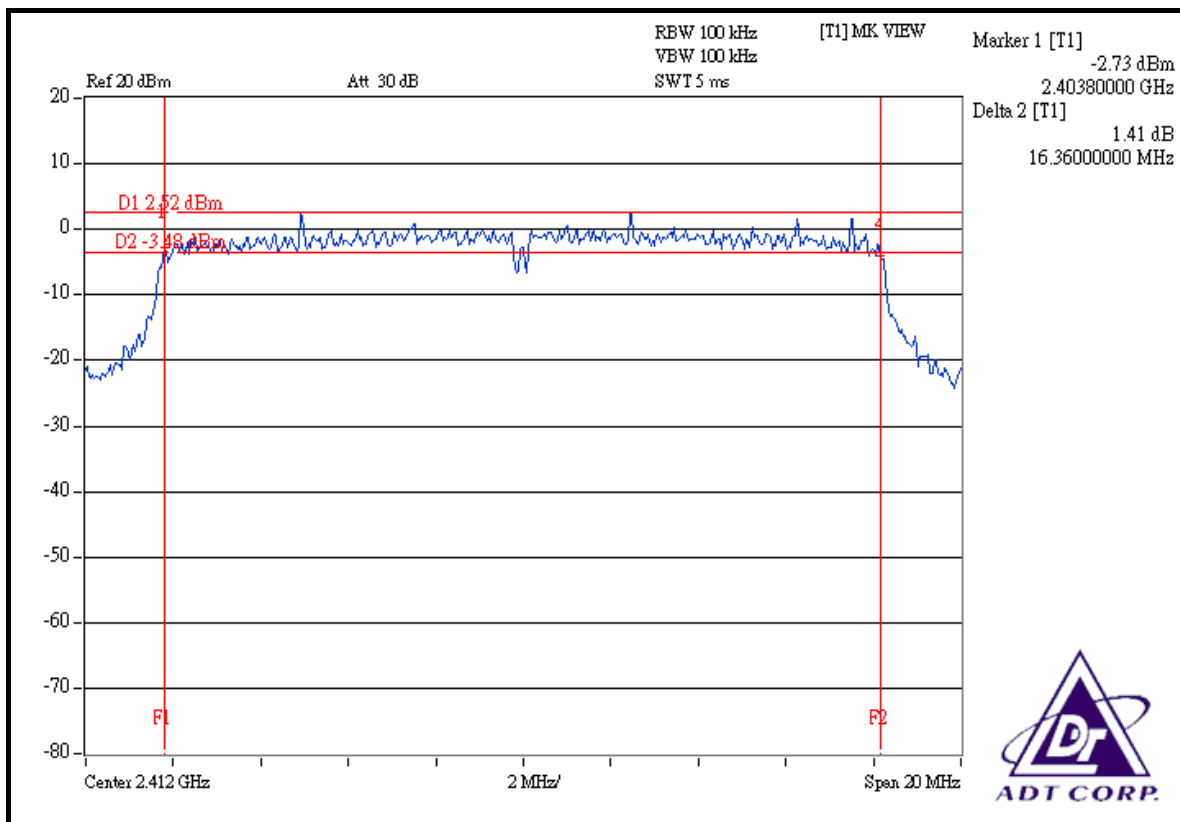


**802.11g OFDM MODULATION:**

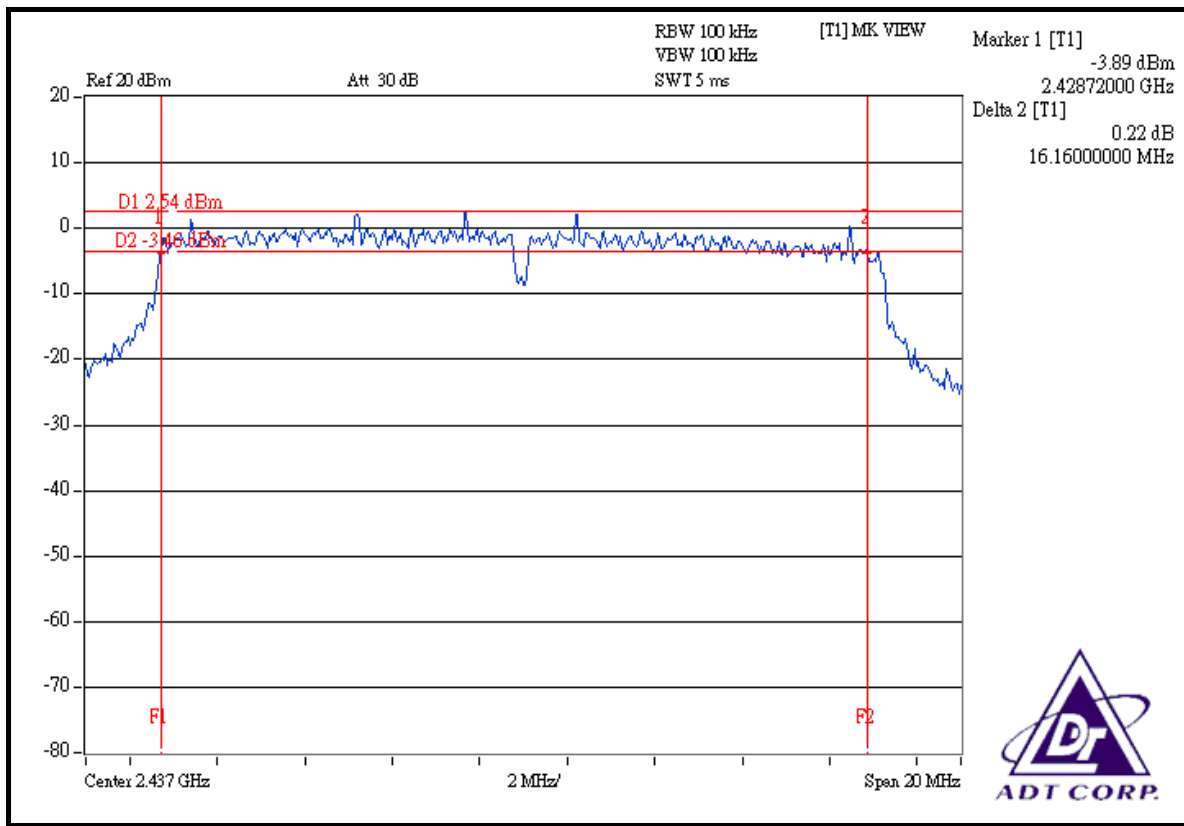
<b>MODULATION TYPE</b>	BPSK	<b>TRANSFER RATE</b>	6.0Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60Hz	<b>ENVIRONMENTAL CONDITIONS</b>	25deg.C, 65%RH, 991hPa
<b>TESTED BY</b>	Long Chen		

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	16.36	0.5	PASS
6	2437	16.16	0.5	PASS
11	2462	16.40	0.5	PASS

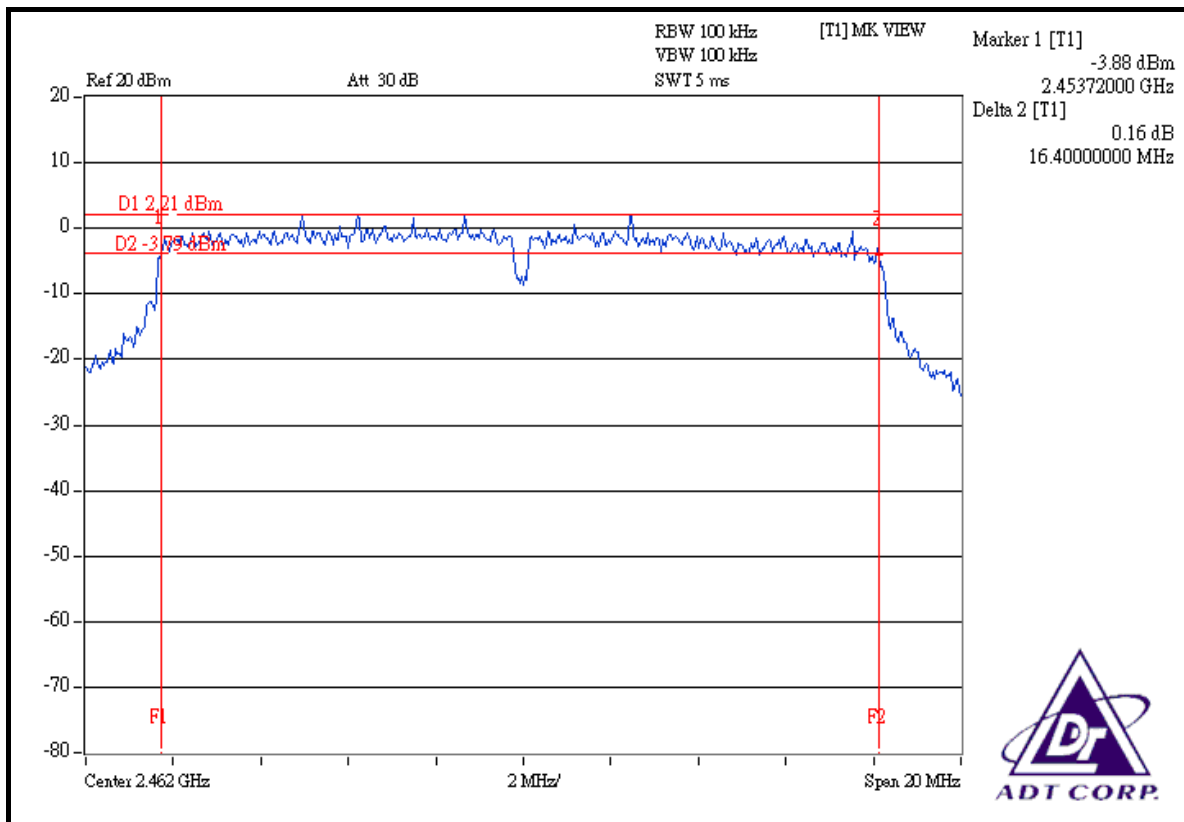
**CH 1**



### CH 6



### CH 11



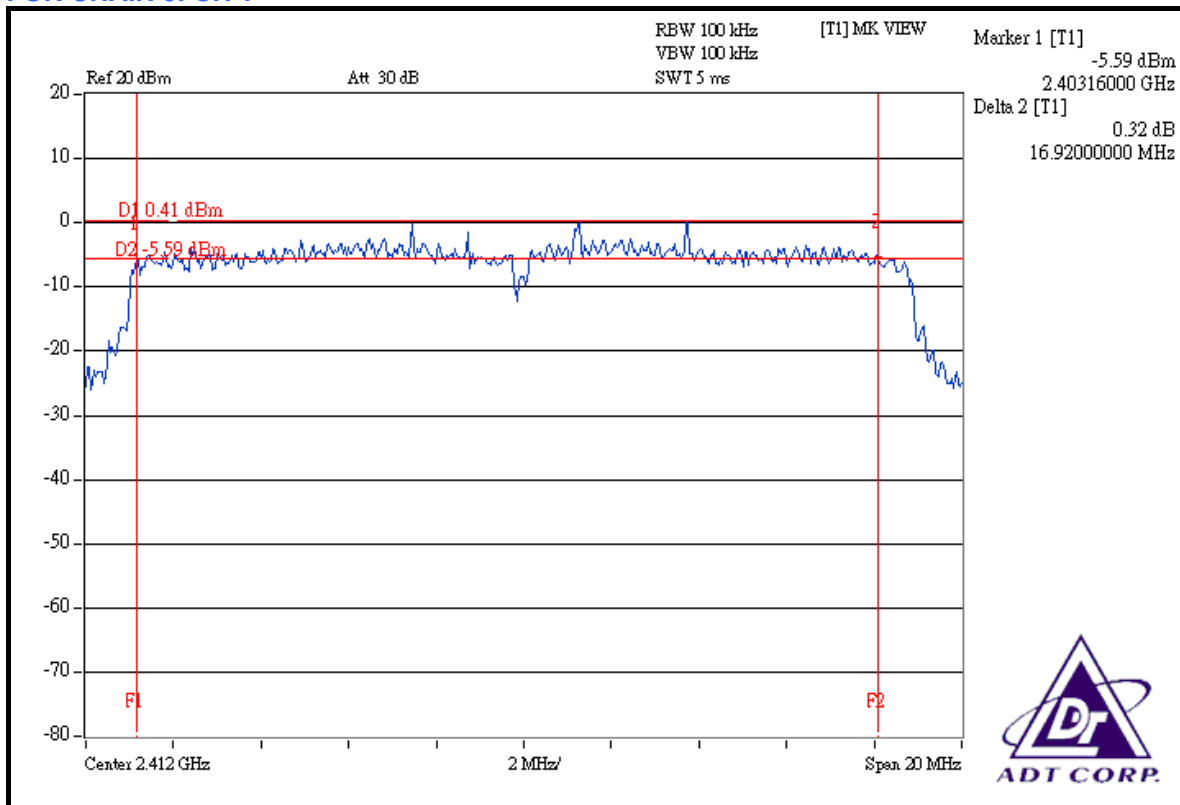


**DRAFT 802.11n (20MHz) OFDM MODULATION:**

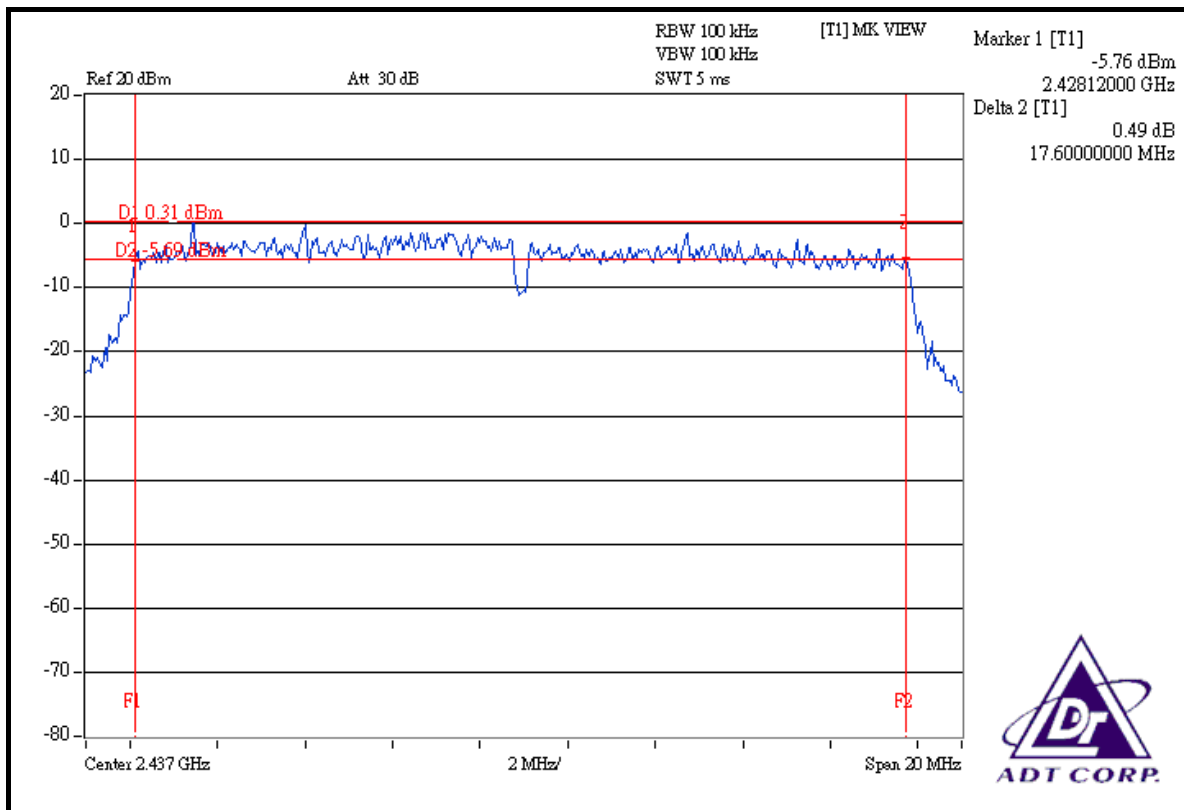
<b>MODULATION TYPE</b>	BPSK	<b>TRANSFER RATE</b>	7.2Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60Hz	<b>ENVIRONMENTAL CONDITIONS</b>	25deg.C, 65%RH, 991hPa
<b>TESTED BY</b>	Long Chen		

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)			MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2		
1	2412	16.92	17.56	17.52	0.5	PASS
6	2437	17.60	17.64	17.32	0.5	PASS
11	2462	17.24	17.72	17.64	0.5	PASS

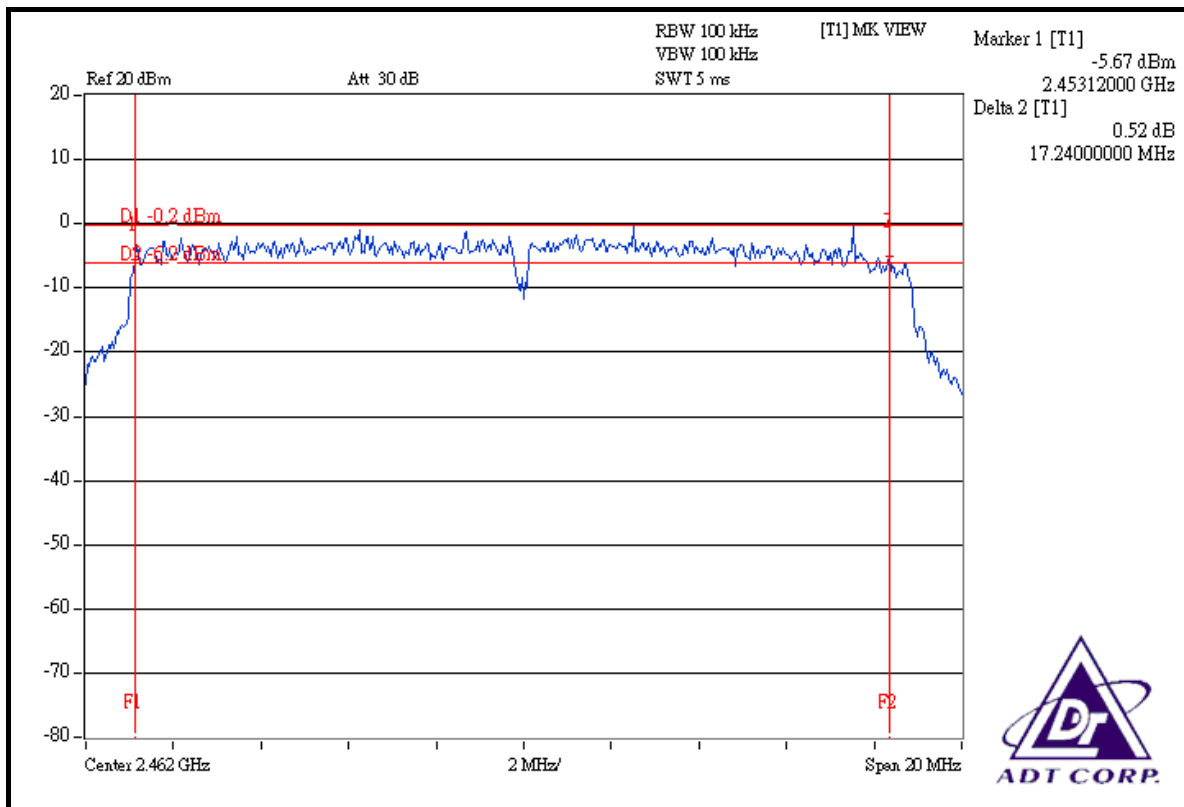
**FOR CHAIN 0: CH 1**



### CH 6



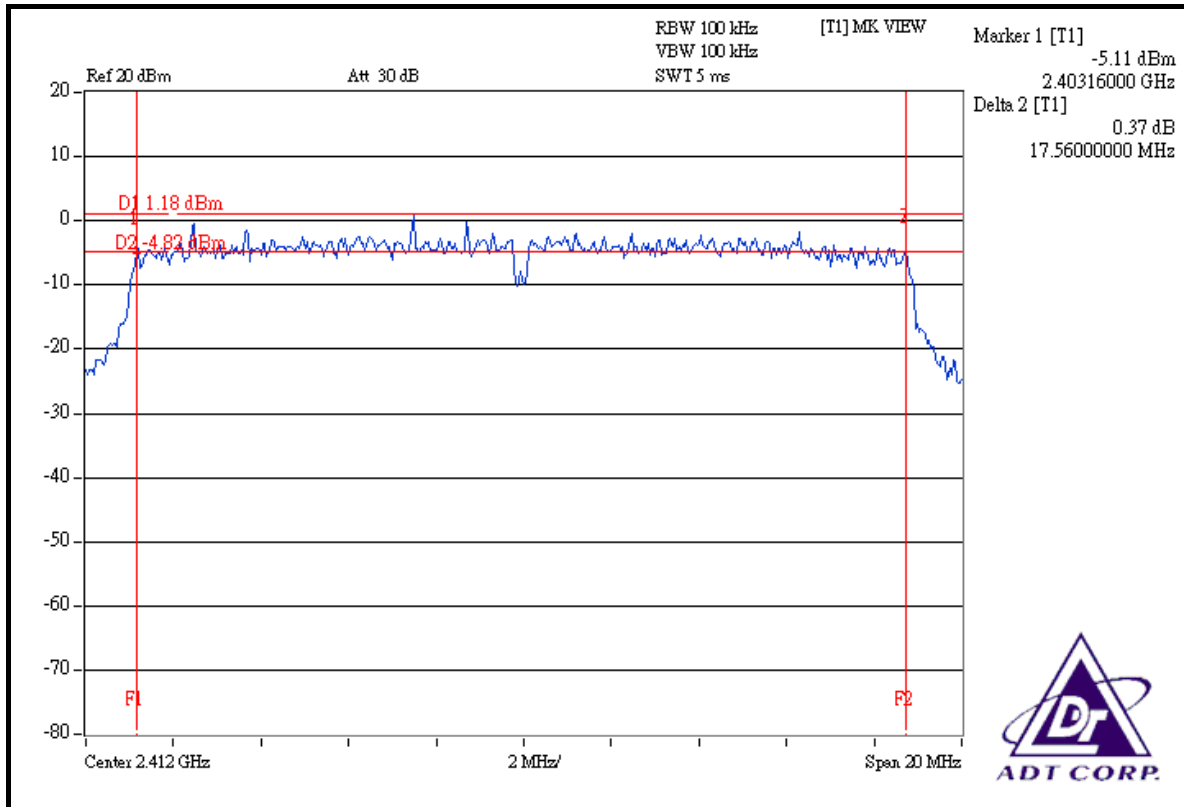
### CH 11



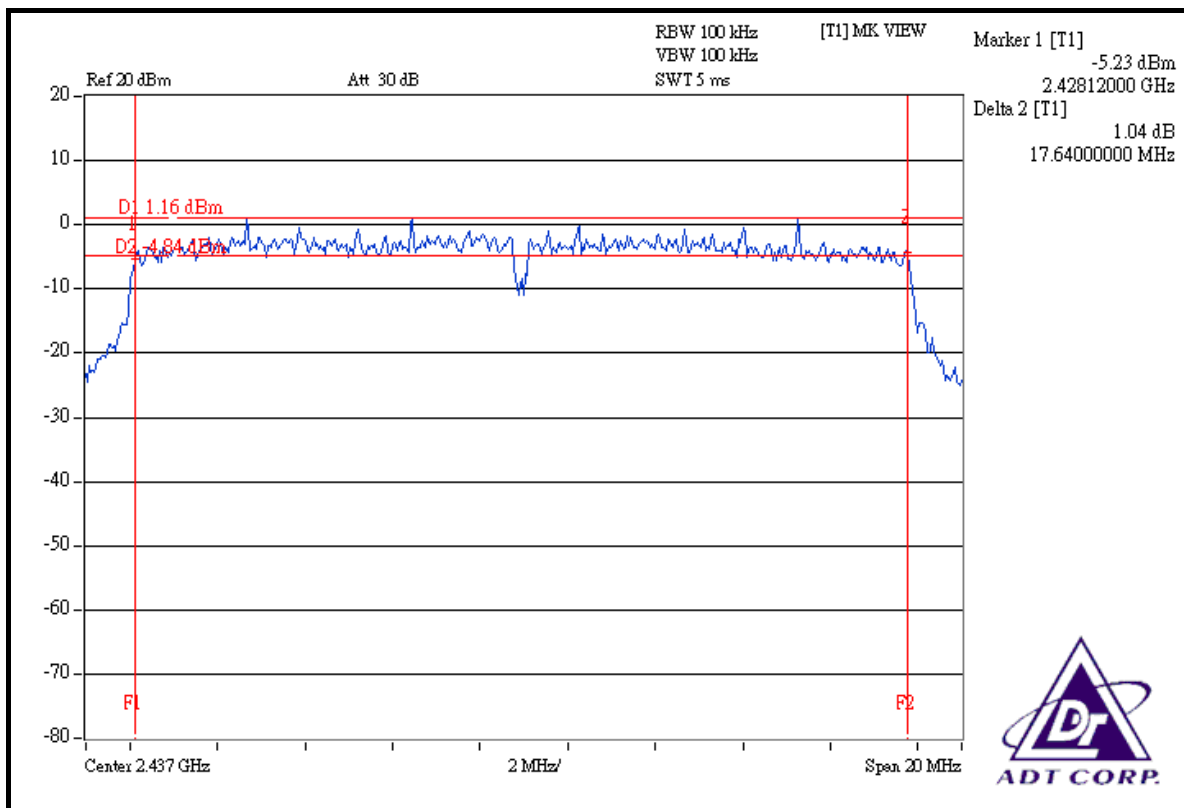




### FOR CHAIN 1: CH 1

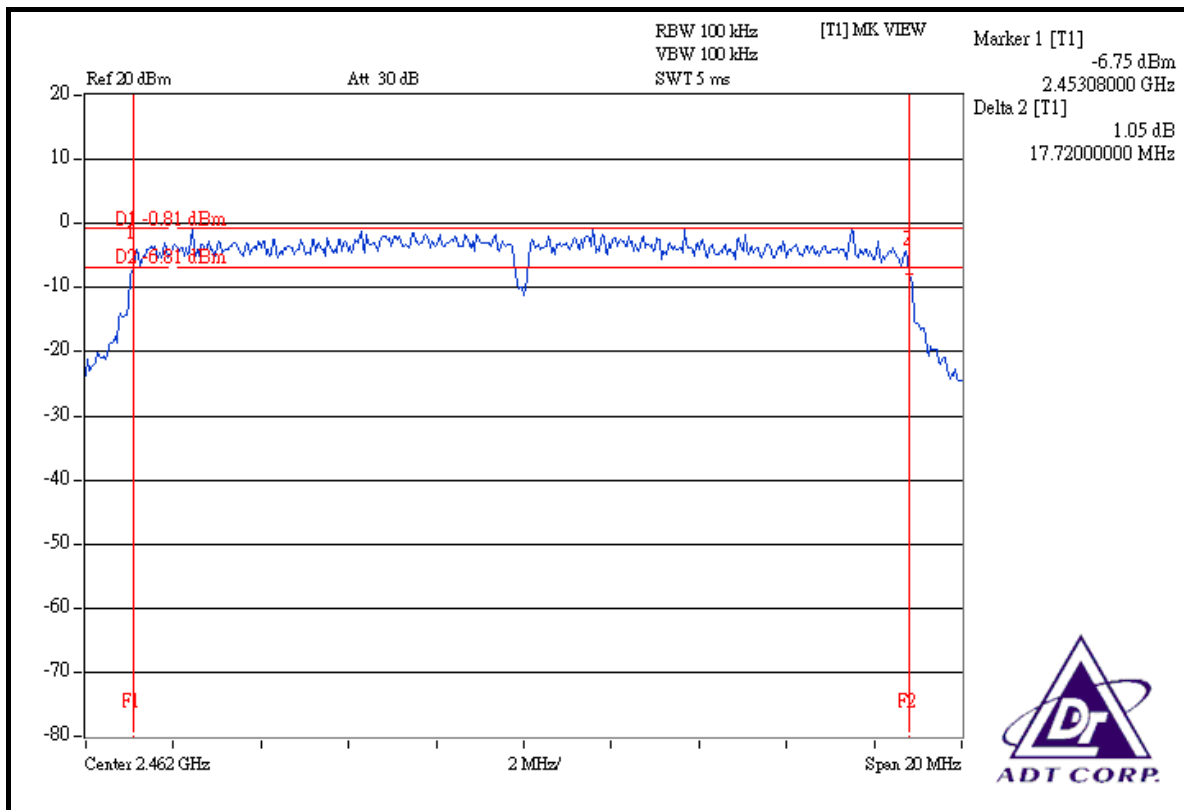


### CH 6

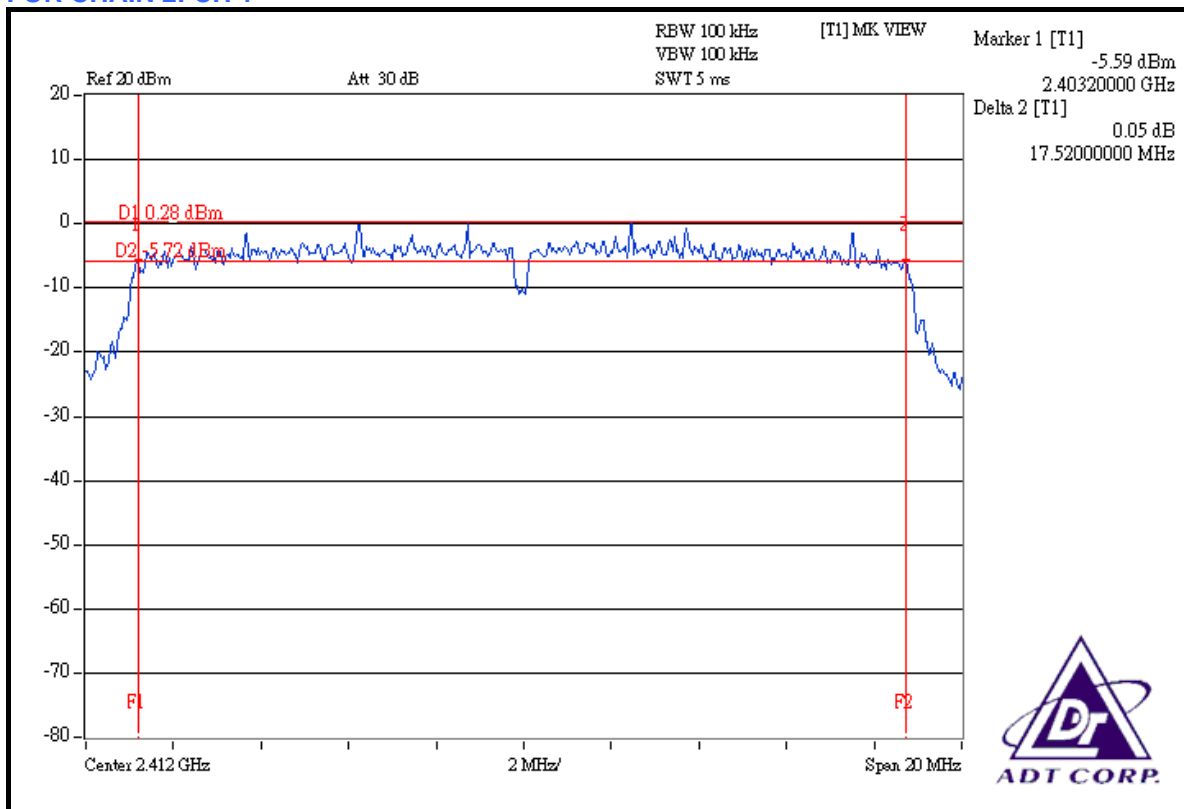




### CH 11

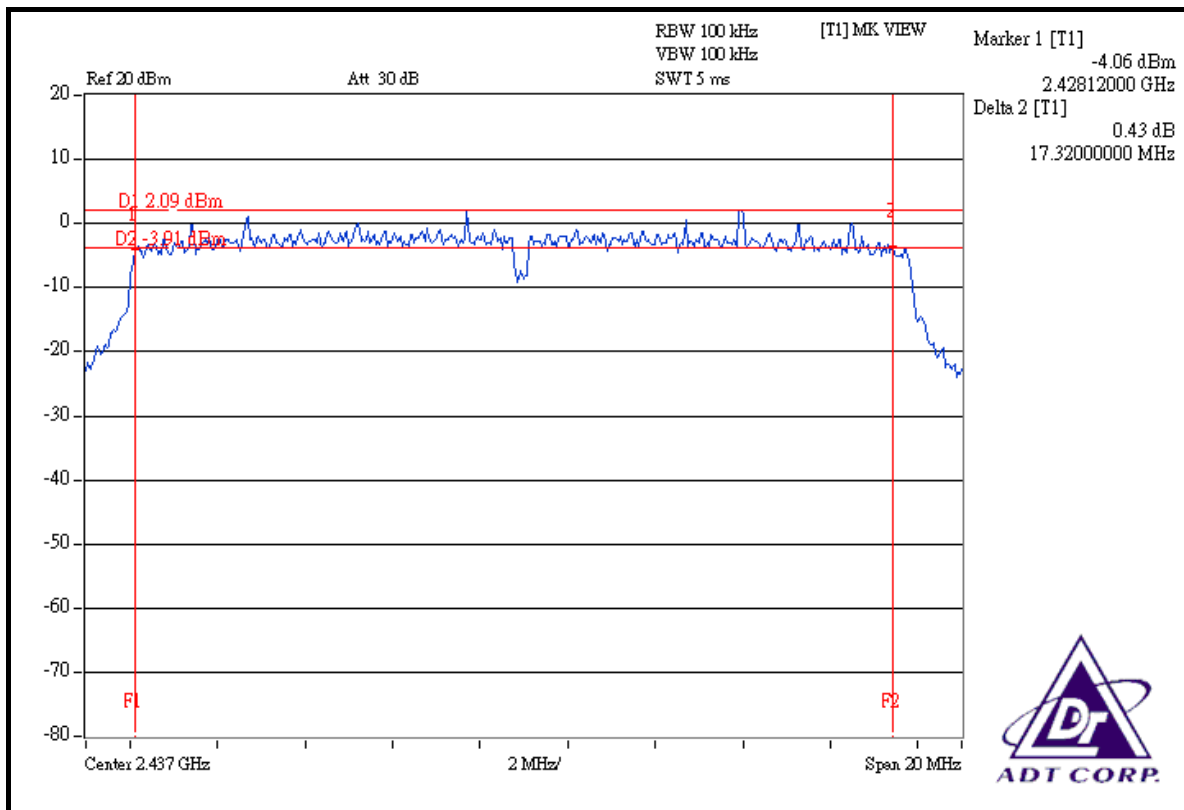


### FOR CHAIN 2: CH 1

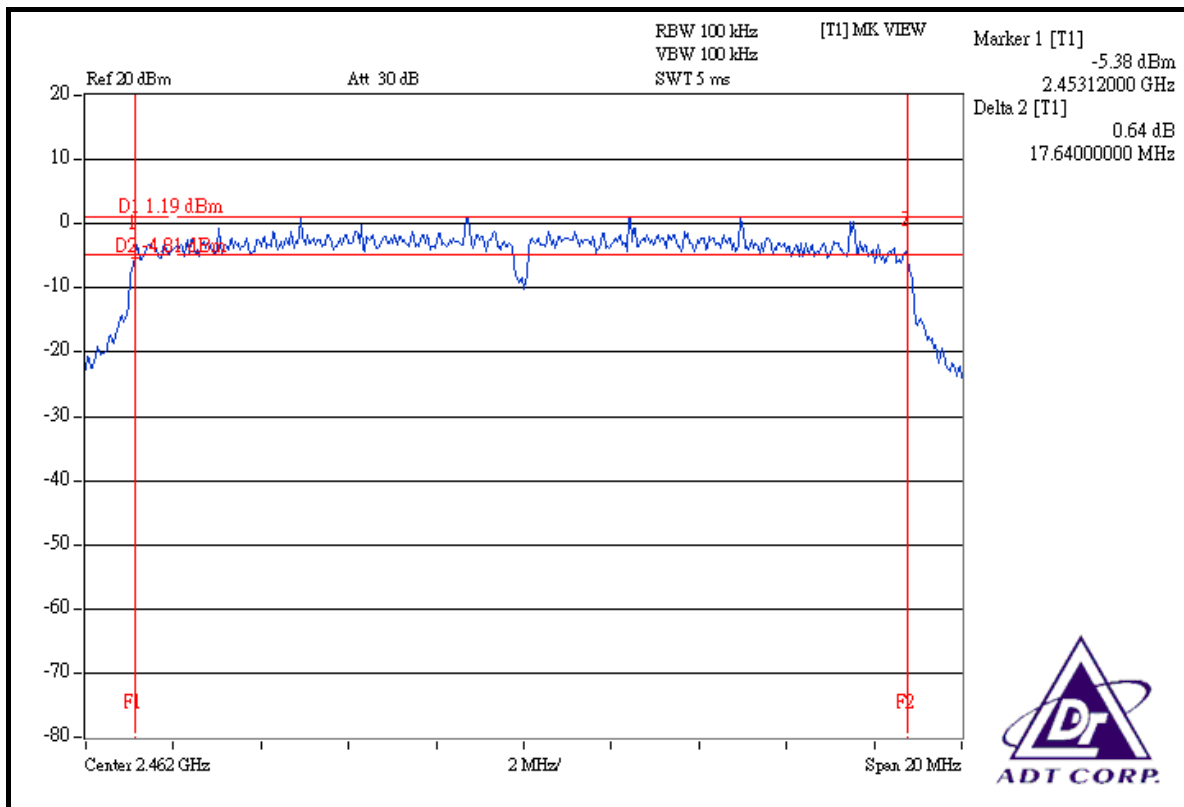




### CH 6



### CH 11



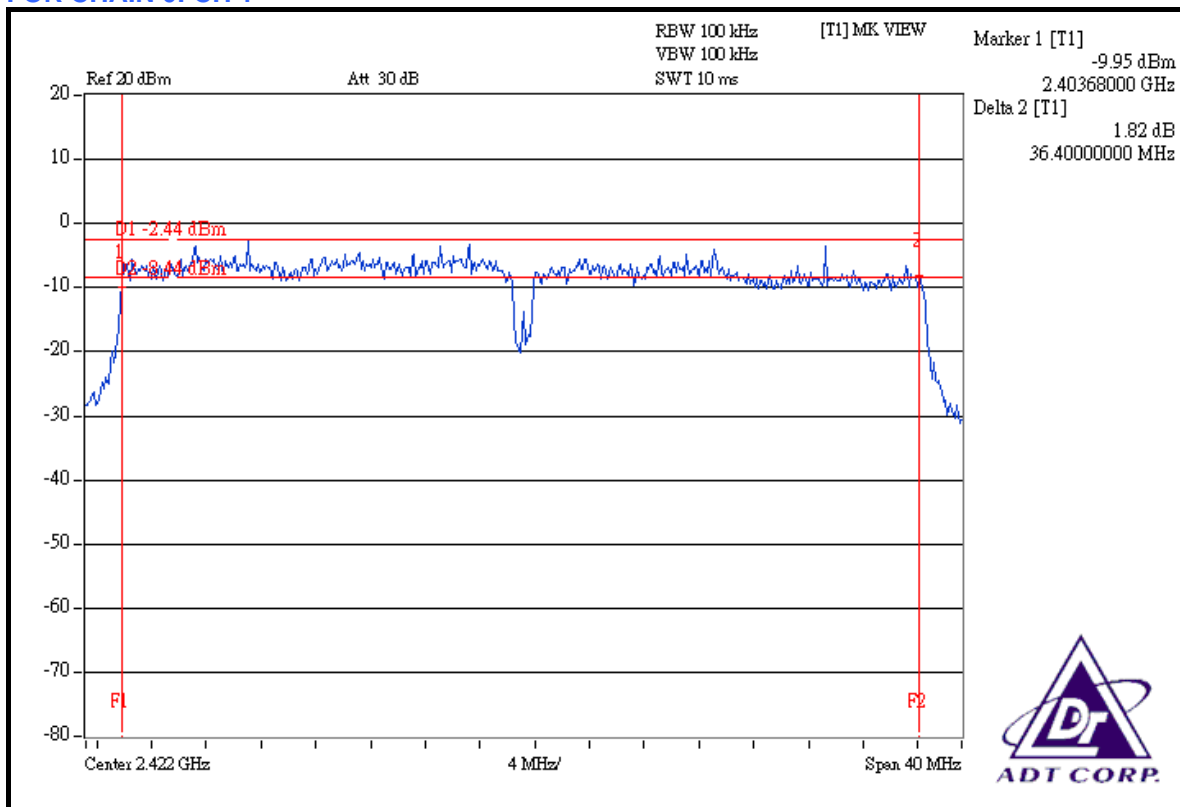


**DRAFT 802.11n (40MHz) OFDM MODULATION:**

<b>MODULATION TYPE</b>	BPSK	<b>TRANSFER RATE</b>	15.0Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60Hz	<b>ENVIRONMENTAL CONDITIONS</b>	25deg.C, 65%RH, 991hPa
<b>TESTED BY</b>	Long Chen		

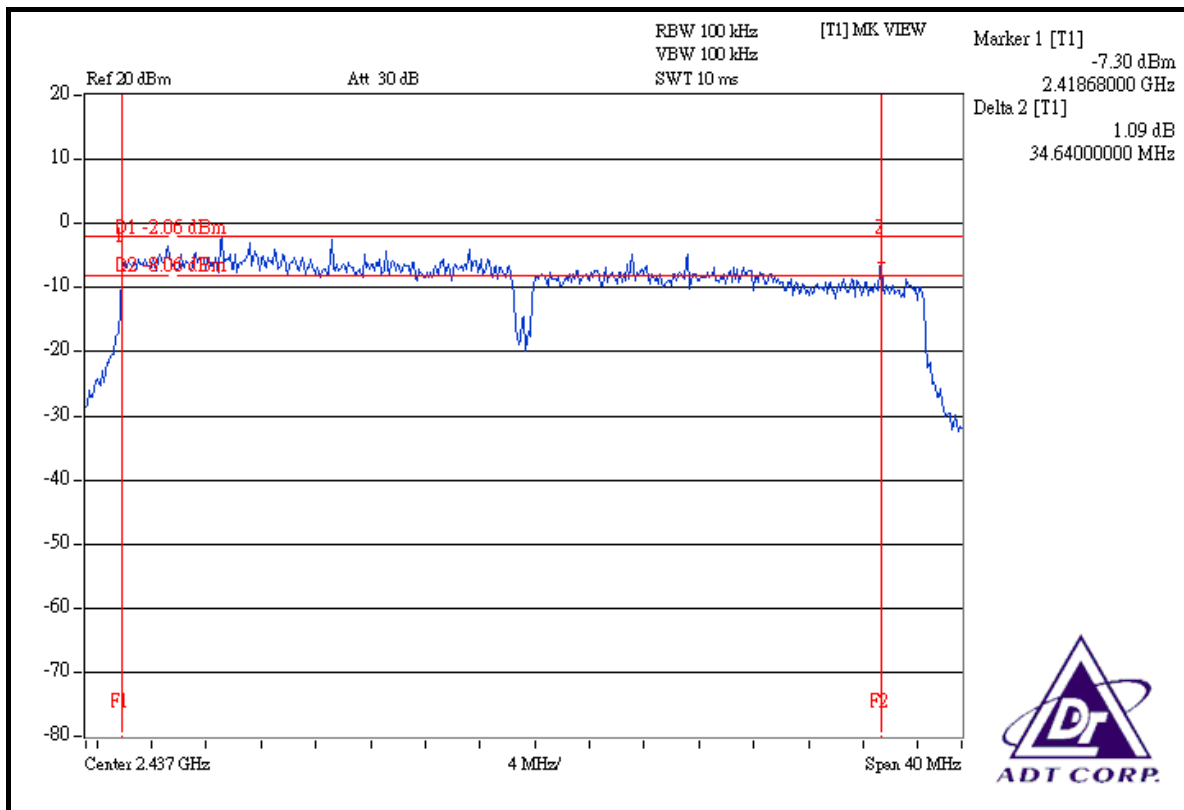
CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)			MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2		
1	2422	36.40	36.40	36.48	0.5	PASS
4	2437	34.64	36.48	36.48	0.5	PASS
7	2452	35.84	36.48	36.48	0.5	PASS

**FOR CHAIN 0: CH 1**

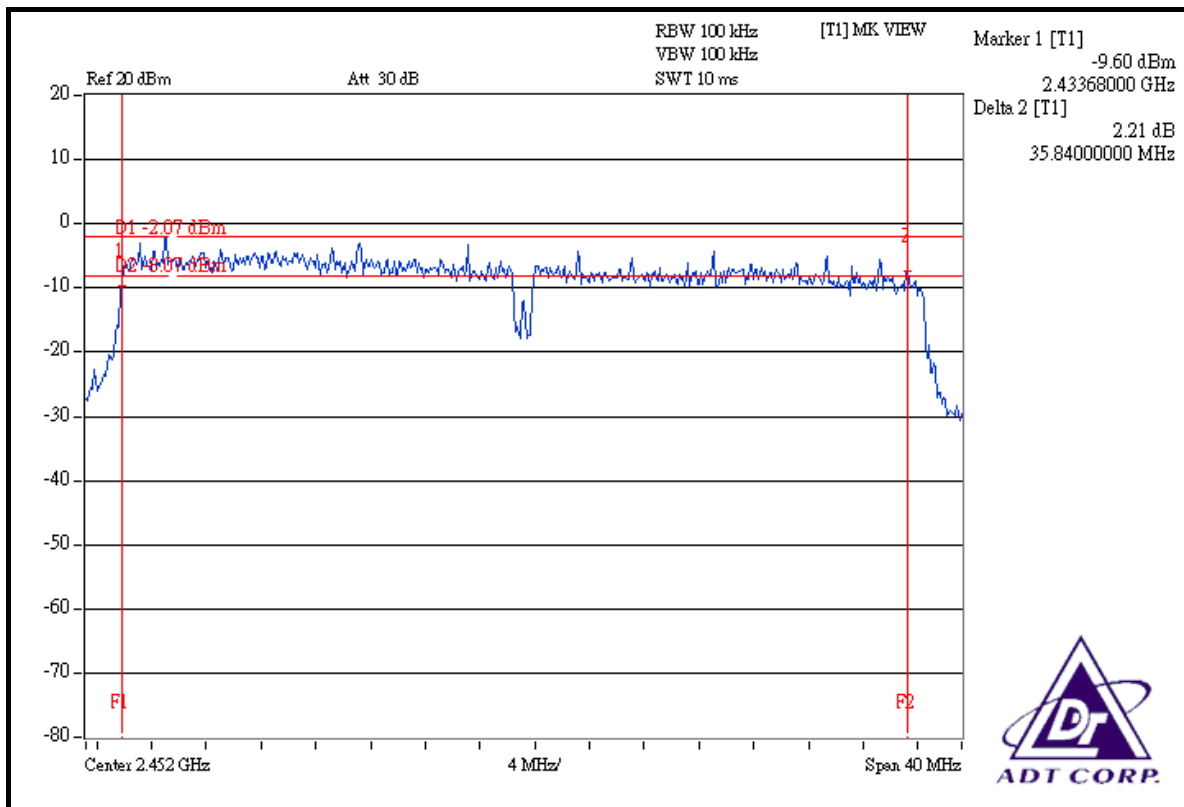




### CH 4

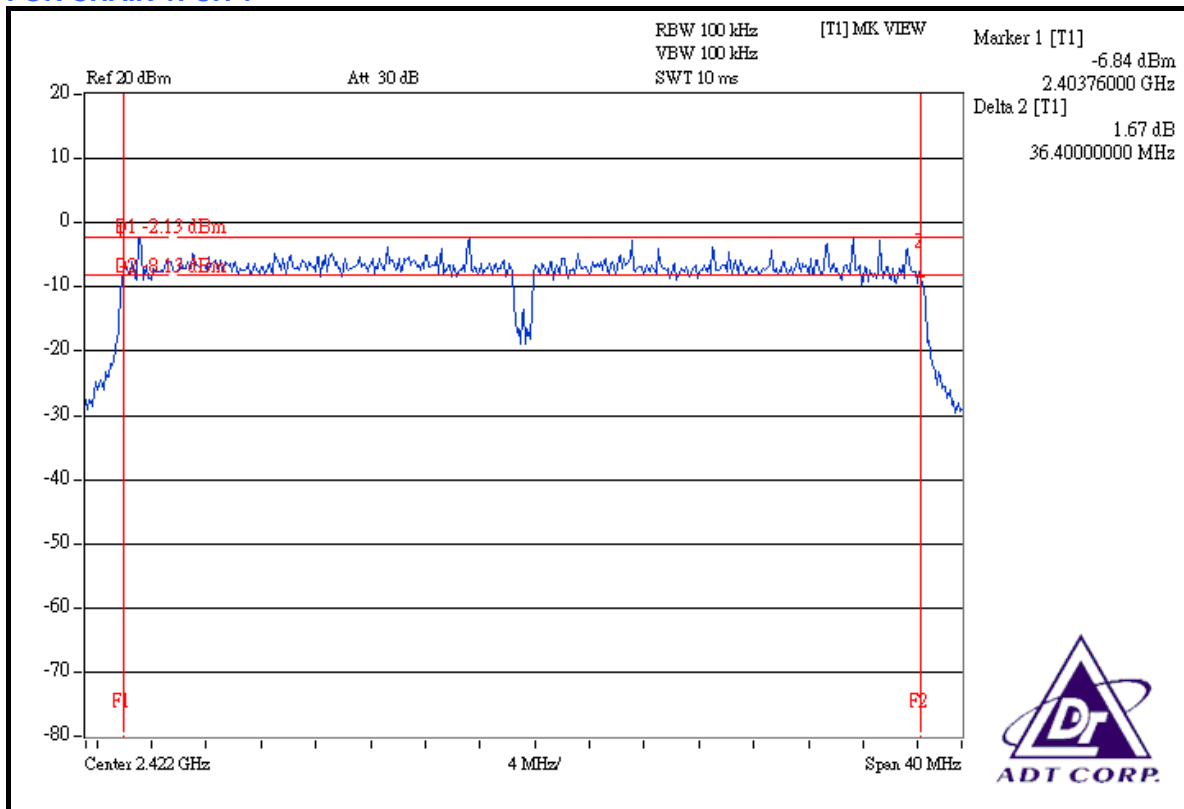


### CH 7

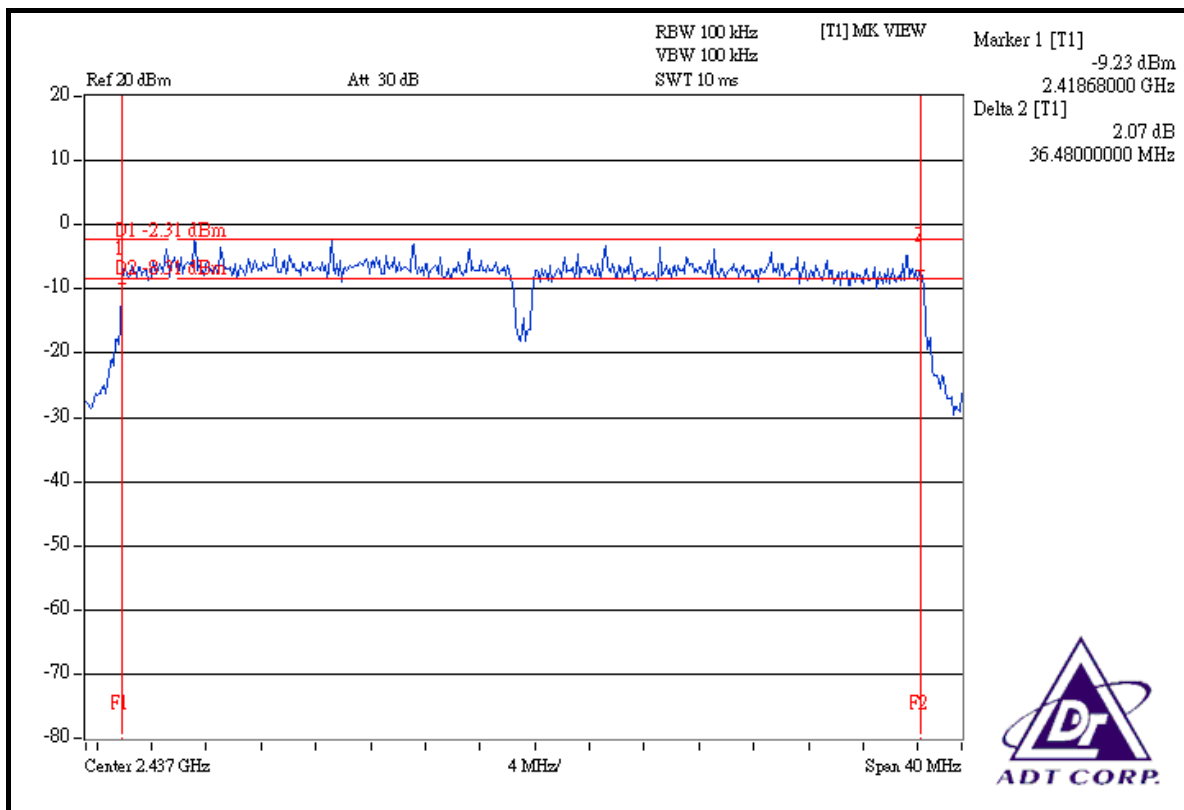




### FOR CHAIN 1: CH 1

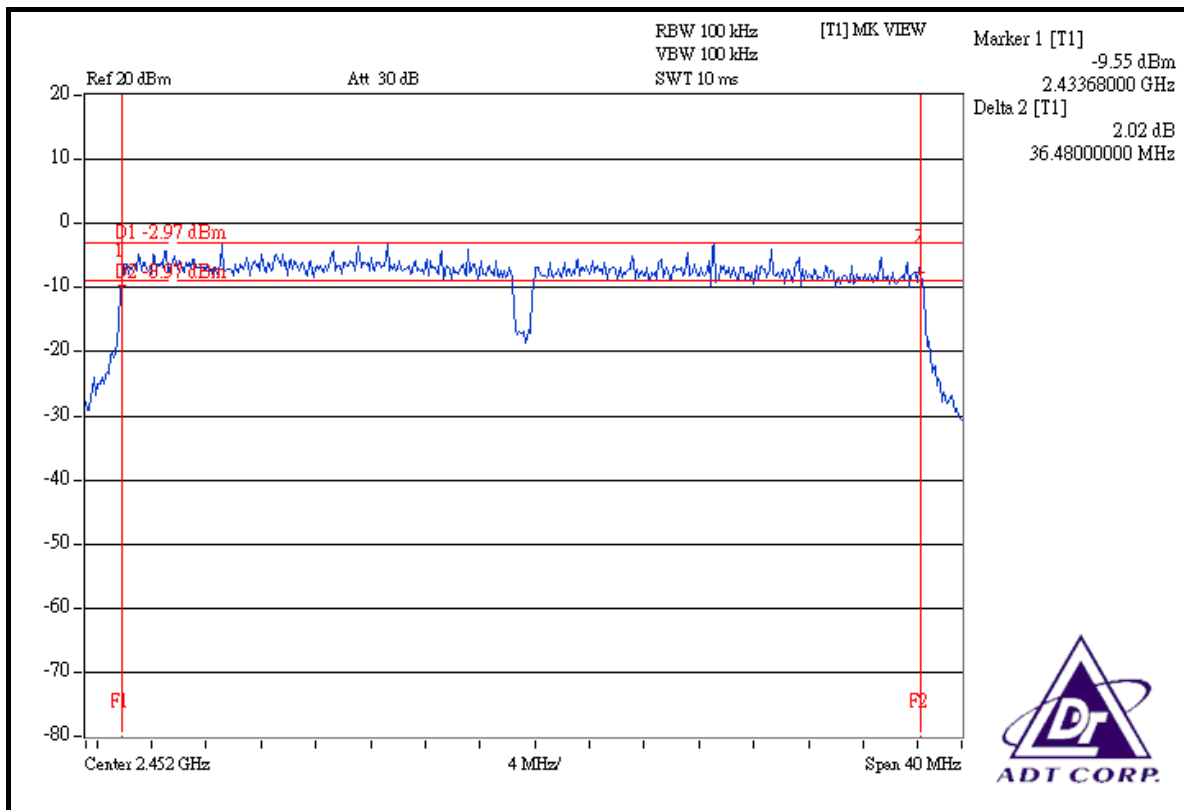


### CH 4

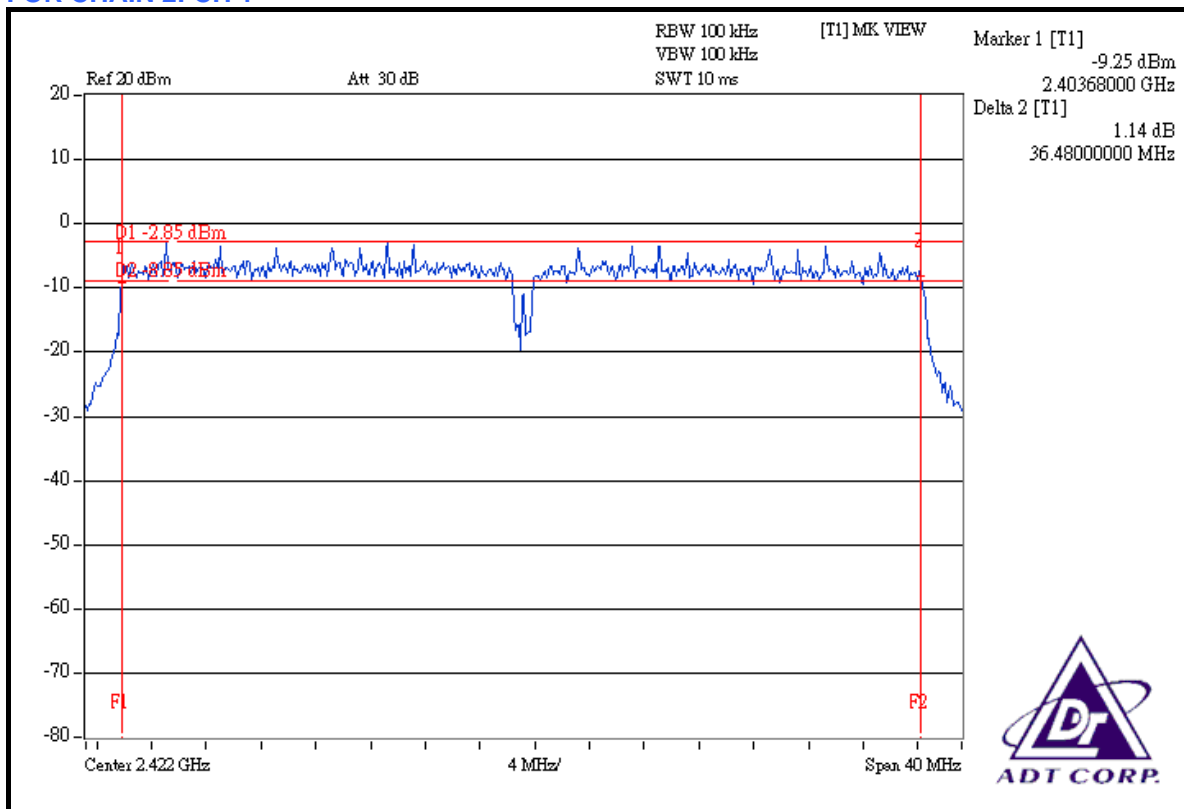




### CH 7

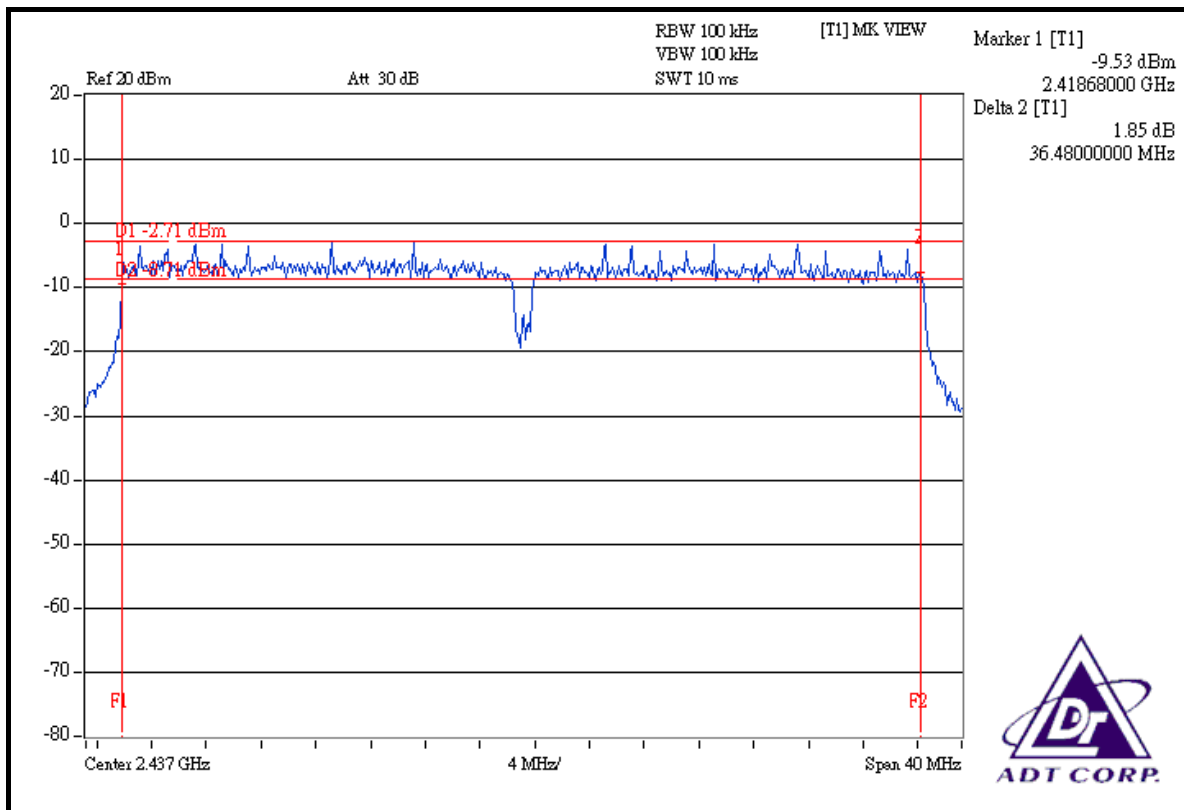


### FOR CHAIN 2: CH 1

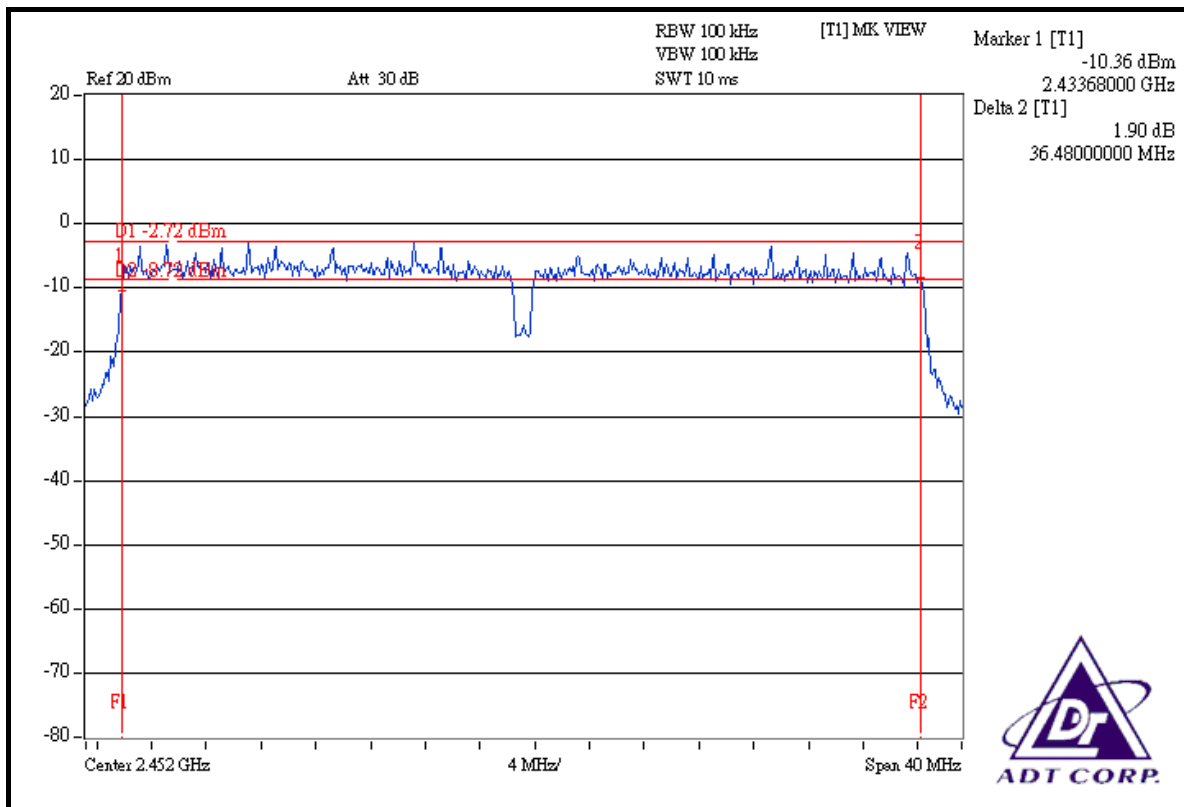




### CH 4



### CH 7







#### 4.4 MAXIMUM PEAK OUTPUT POWER

##### 4.4.1 LIMITS OF MAXIMUM PEAK OUTPUT POWER MEASUREMENT

The Maximum Peak Output Power Measurement is 30dBm.

##### 4.4.2 INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
R&S SPECTRUM ANALYZER	FSP40	100040	Jun. 07, 2007
R&S SIGNAL GENERATOR	SML03	102843	Aug. 31, 2007
DIGITAL RT 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:

<b>MODULATION TYPE</b>	DBPSK	<b>TRANSFER RATE</b>	1.0Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60Hz	<b>ENVIRONMENTAL CONDITIONS</b>	25deg.C, 65%RH, 991hPa
<b>TESTED BY</b>	Long Chen		

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS / FAIL
1	2412	50.816	17.06	30	PASS
6	2437	56.754	17.54	30	PASS
11	2462	58.210	17.65	30	PASS

##### 802.11g OFDM MODULATION:

<b>MODULATION TYPE</b>	BPSK	<b>TRANSFER RATE</b>	6.0Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60Hz	<b>ENVIRONMENTAL CONDITIONS</b>	25deg.C, 65%RH, 991hPa
<b>TESTED BY</b>	Long Chen		

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS / FAIL
1	2412	71.285	18.53	30	PASS
6	2437	71.945	18.57	30	PASS
11	2462	63.387	18.02	30	PASS



**DRAFT 802.11n (20MHz) OFDM MODULATION:**

<b>MODULATION TYPE</b>	BPSK	<b>TRANSFER RATE</b>	7.2Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60Hz	<b>ENVIRONMENTAL CONDITIONS</b>	25deg.C, 65%RH, 991hPa
<b>TESTED BY</b>	Long Chen		

CHAN.	CHAN. FREQ. (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	40.087	50.582	40.272	16.03	17.04	16.05	130.941	21.17	30	PASS
6	2437	50.816	64.269	63.973	17.06	18.08	18.06	179.058	22.53	30	PASS
11	2462	40.458	50.234	51.050	16.07	17.01	17.08	141.742	21.51	30	PASS

**DRAFT 802.11n (40MHz) OFDM MODULATION:**

<b>MODULATION TYPE</b>	BPSK	<b>TRANSFER RATE</b>	15.0Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60Hz	<b>ENVIRONMENTAL CONDITIONS</b>	25deg.C, 65%RH, 991hPa
<b>TESTED BY</b>	Long Chen		

CHAN.	CHAN. FREQ. (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	28.510	28.445	28.379	14.55	14.54	14.53	85.334	19.31	30	PASS
4	2437	28.184	28.510	28.774	14.50	14.55	14.59	85.468	19.32	30	PASS
7	2452	28.840	28.774	28.184	14.60	14.59	14.50	85.798	19.33	30	PASS



## 4.5 POWER SPECTRAL DENSITY MEASUREMENT

### 4.5.1 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT

The Maximum of Power Spectral Density Measurement is 8dBm.

### 4.5.2 TEST INSTRUMENTS

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

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

### 4.5.3 TEST PROCEDURE

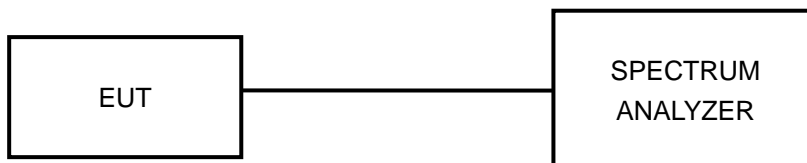
The transmitter output was connected to the spectrum analyzer through an attenuator, the bandwidth of the fundamental frequency was measured with the spectrum analyzer using 3kHz RBW and 30kHz VBW, set sweep time = span/3kHz. The power spectral density was measured and recorded.

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

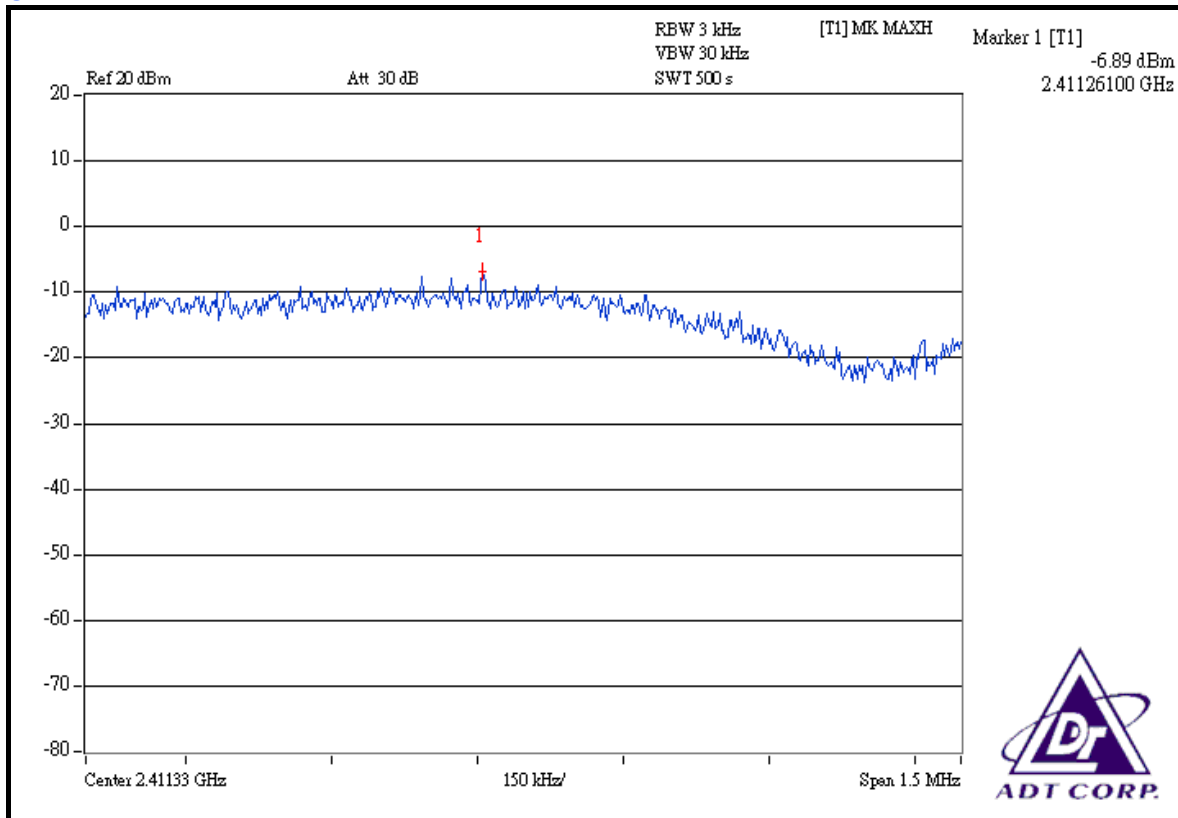
#### 4.5.7 TEST RESULTS

##### 802.11b DSSS MODULATION:

<b>MODULATION TYPE</b>	DBPSK	<b>TRANSFER RATE</b>	1.0Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60Hz	<b>ENVIRONMENTAL CONDITIONS</b>	25deg.C, 65%RH, 991hPa
<b>TESTED BY</b>	Long Chen		

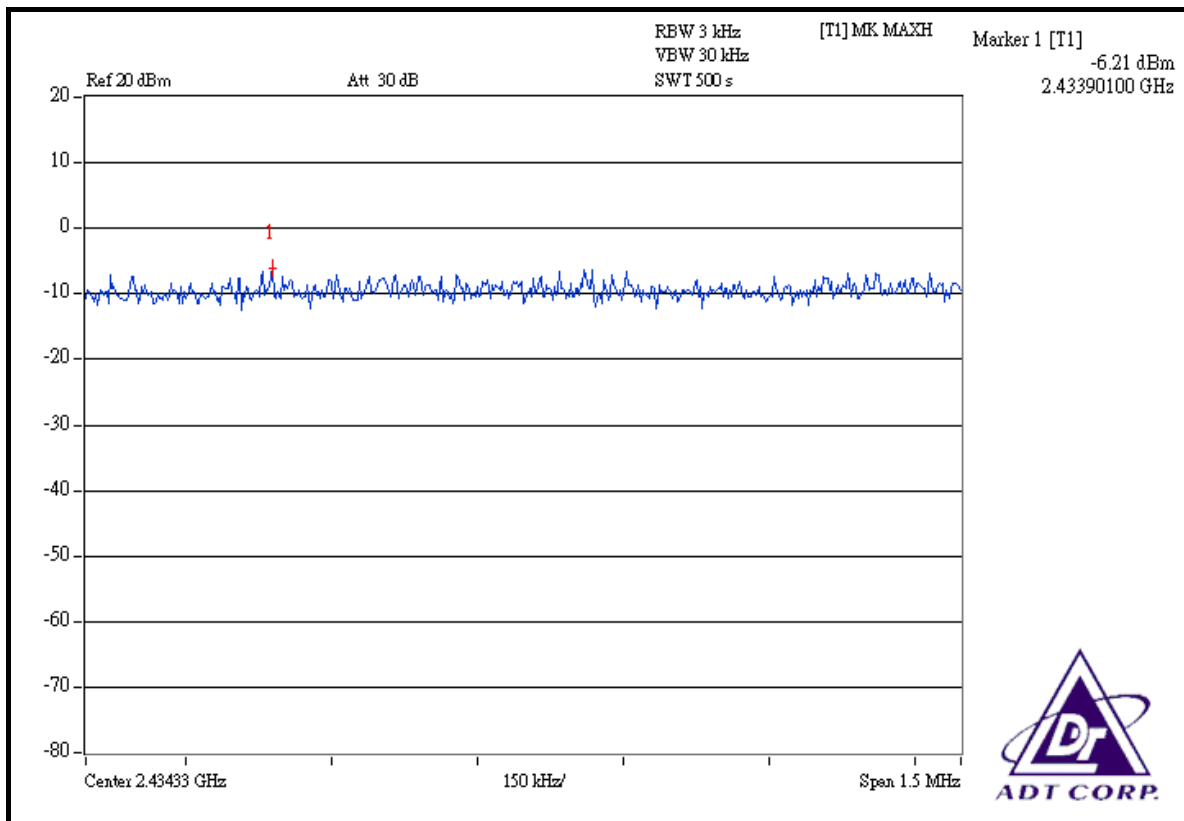
CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
1	2412	-6.89	8	PASS
6	2437	-6.21	8	PASS
11	2462	-6.27	8	PASS

##### CH 1

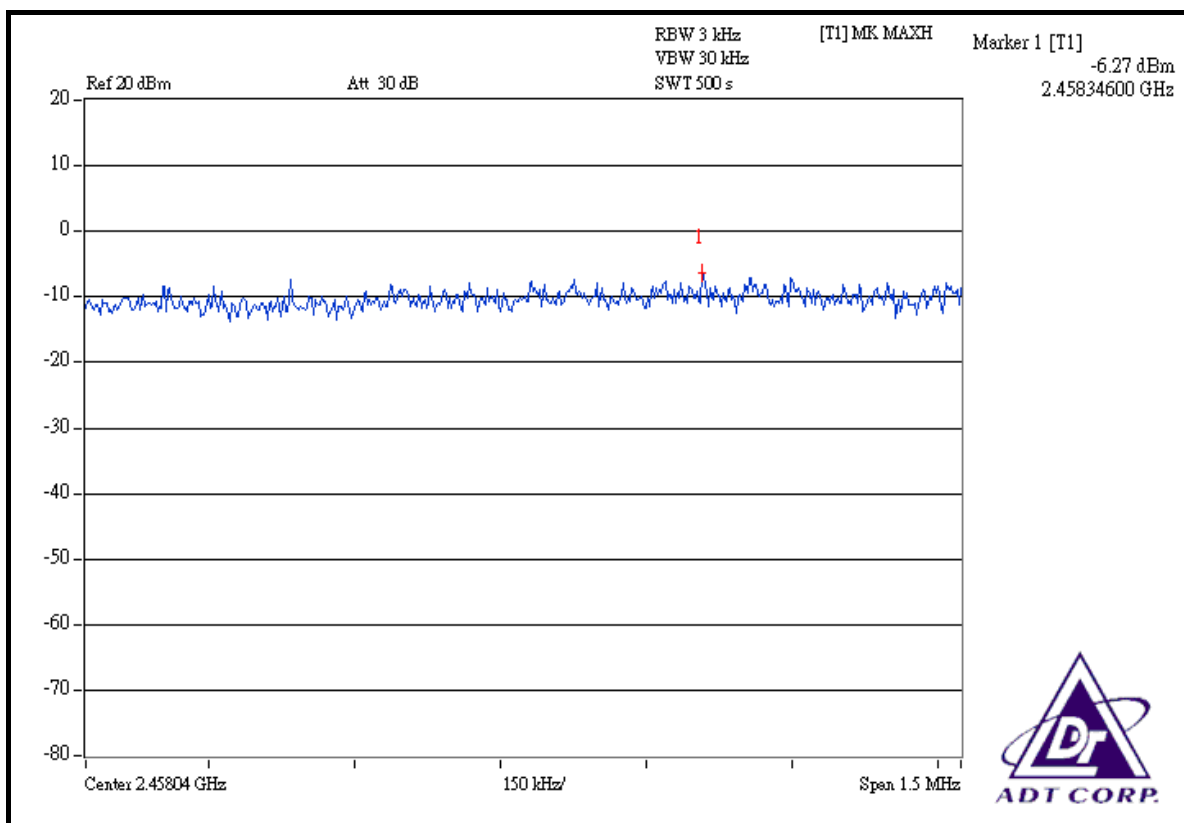




### CH 6



### CH 11





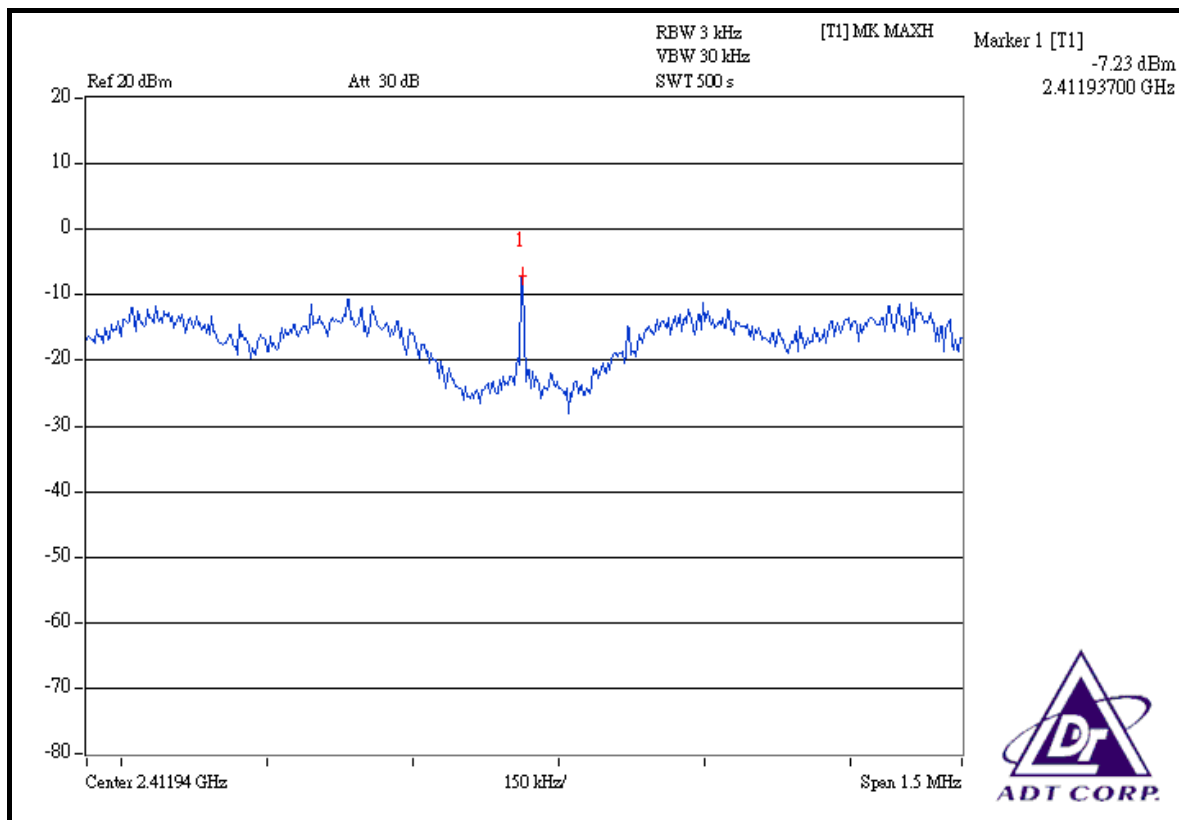


**802.11g OFDM MODULATION:**

<b>MODULATION TYPE</b>	BPSK	<b>TRANSFER RATE</b>	6.0Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60Hz	<b>ENVIRONMENTAL CONDITIONS</b>	25deg.C, 65%RH, 991hPa
<b>TESTED BY</b>	Long Chen		

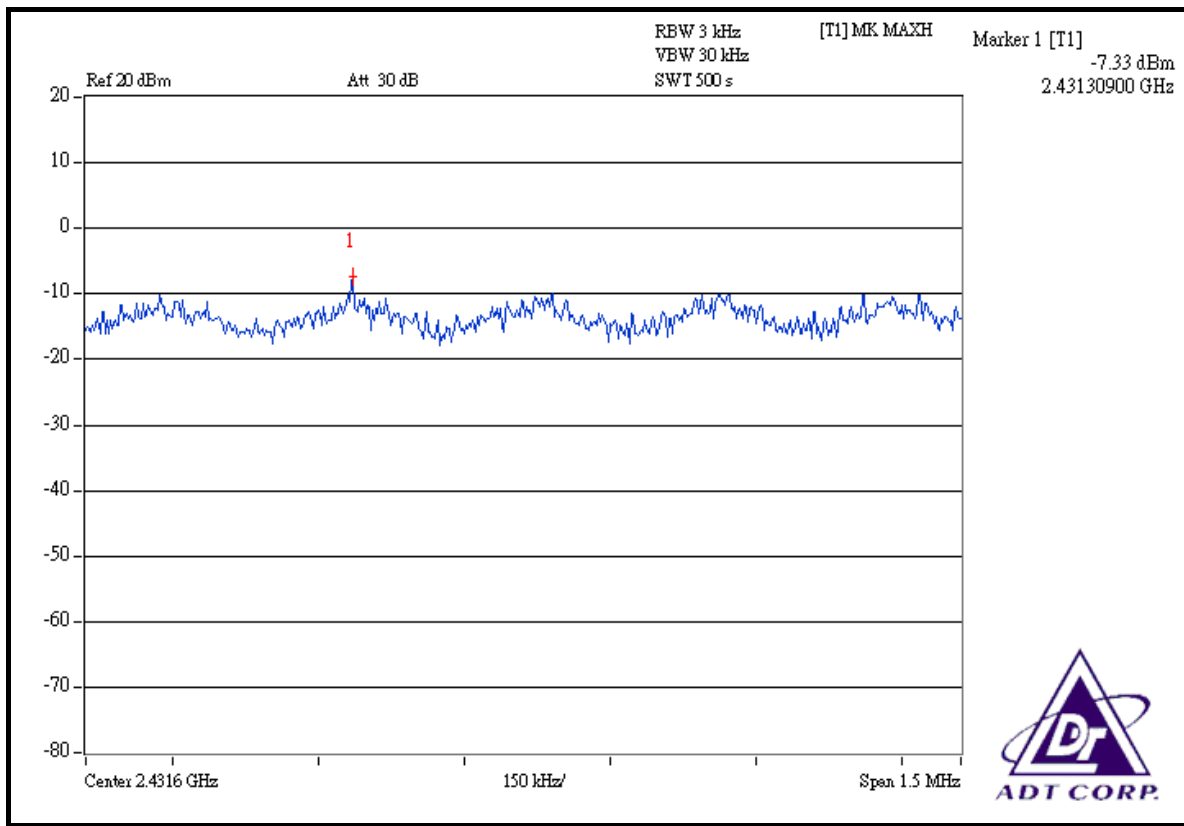
CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
1	2412	-7.23	8	PASS
6	2437	-7.33	8	PASS
11	2462	-7.62	8	PASS

**CH 1**

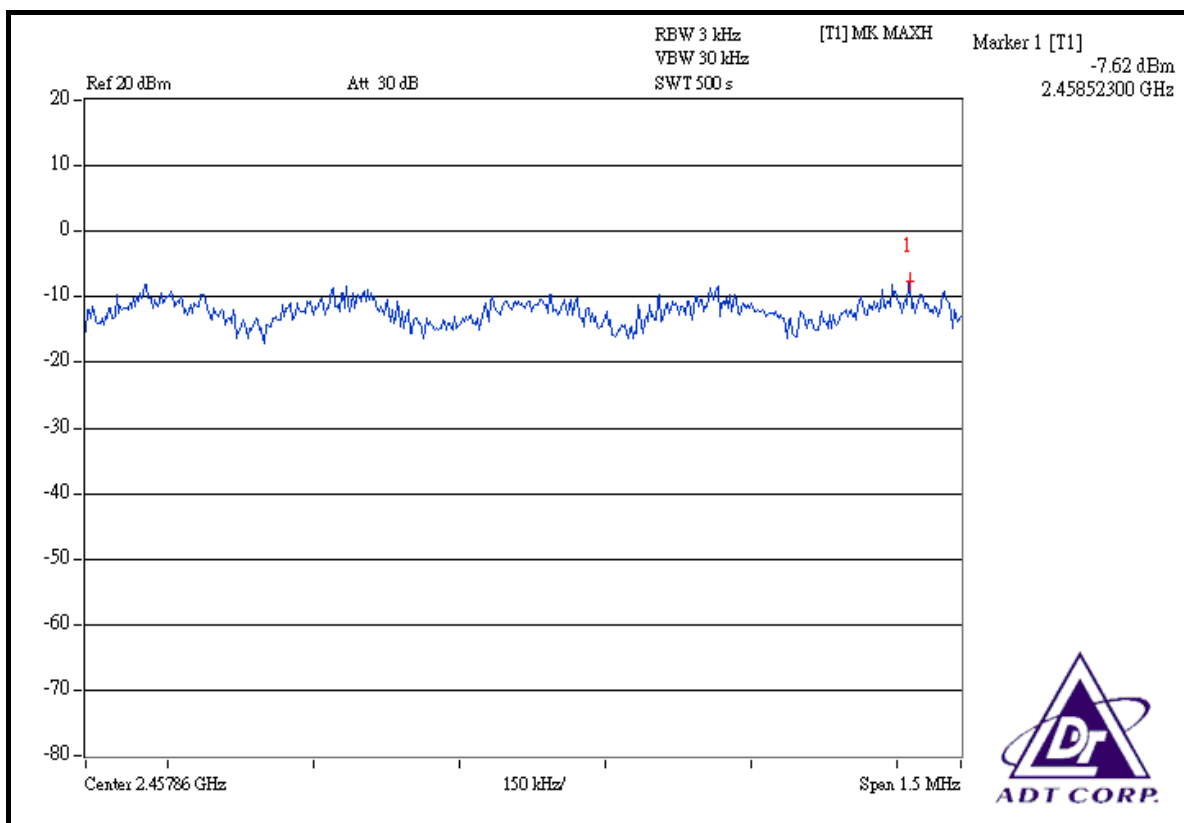




### CH 6



### CH 11



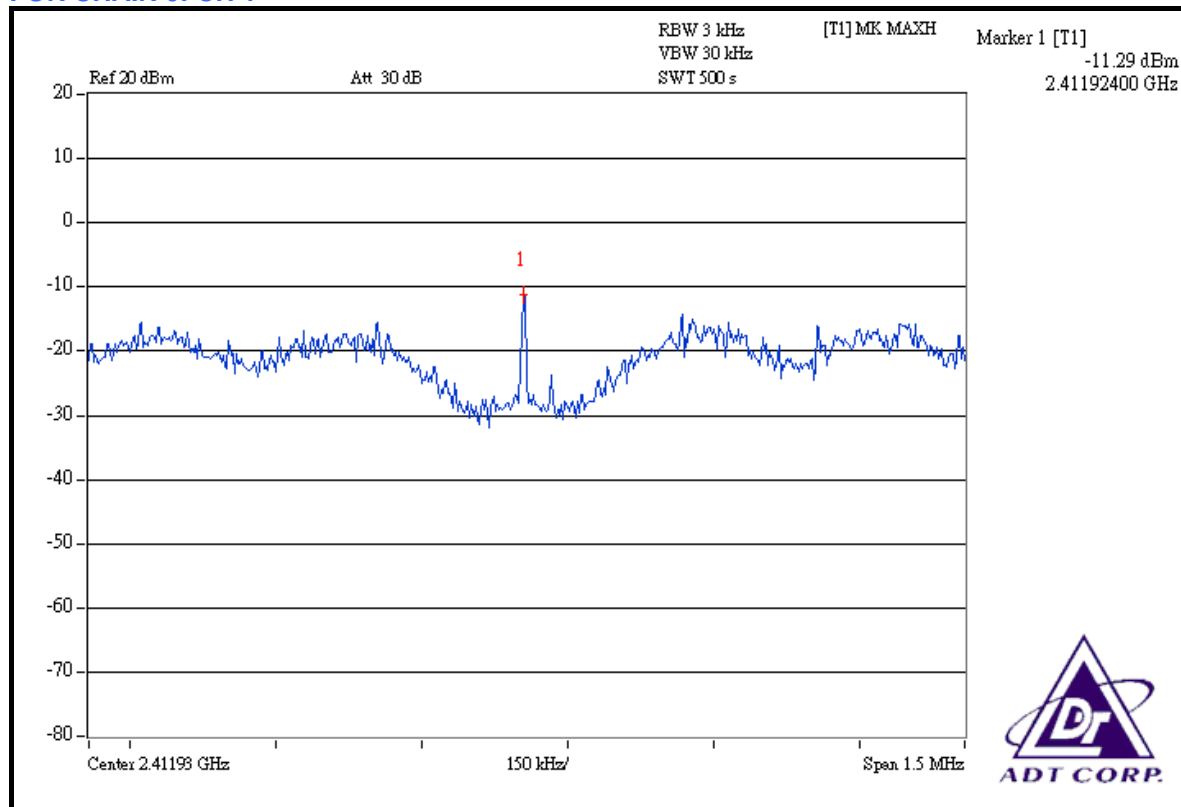


**DRAFT 802.11n (20MHz) OFDM MODULATION:**

<b>MODULATION TYPE</b>	BPSK	<b>TRANSFER RATE</b>	7.2Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60Hz	<b>ENVIRONMENTAL CONDITIONS</b>	25deg.C, 65%RH, 991hPa
<b>TESTED BY</b>	Long Chen		

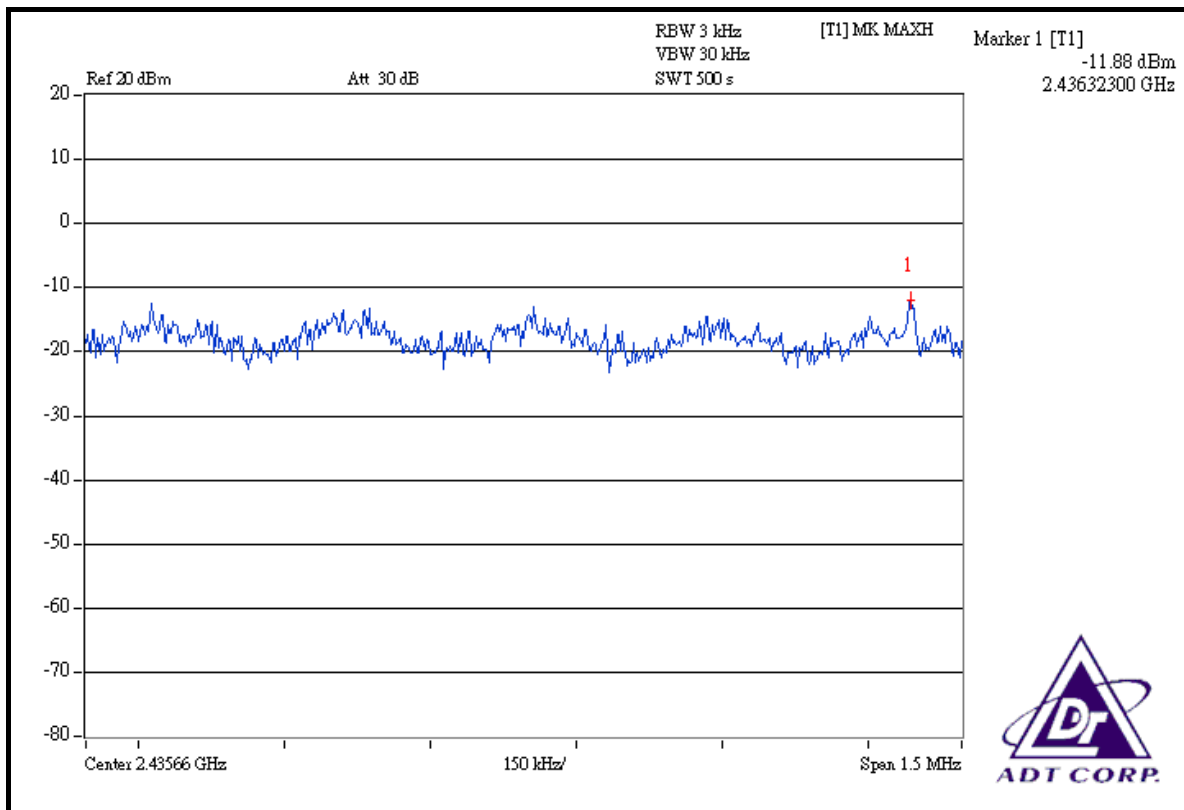
CHAN.	CHAN. FREQ. (MHz)	RF POWER LEVEL IN 3kHz BW (mW)			RF POWER LEVEL IN 3kHz BW (dBm)			TOTAL POWER DENSITY (mW)	TOTAL POWER DENSITY (dBm)	MAX. LIMIT (dBm)	PASS / FAIL
		CHAIN0	CHAIN1	CHAIN2	CHAIN0	CHAIN1	CHAIN2				
1	2412	0.074	0.043	0.050	-11.29	-13.68	-13.05	0.167	-7.78	8	PASS
6	2437	0.065	0.068	0.074	-11.88	-11.69	-11.28	0.207	-6.84	8	PASS
11	2462	0.072	0.044	0.062	-11.41	-13.56	-12.09	0.178	-7.49	8	PASS

**FOR CHAIN 0: CH 1**

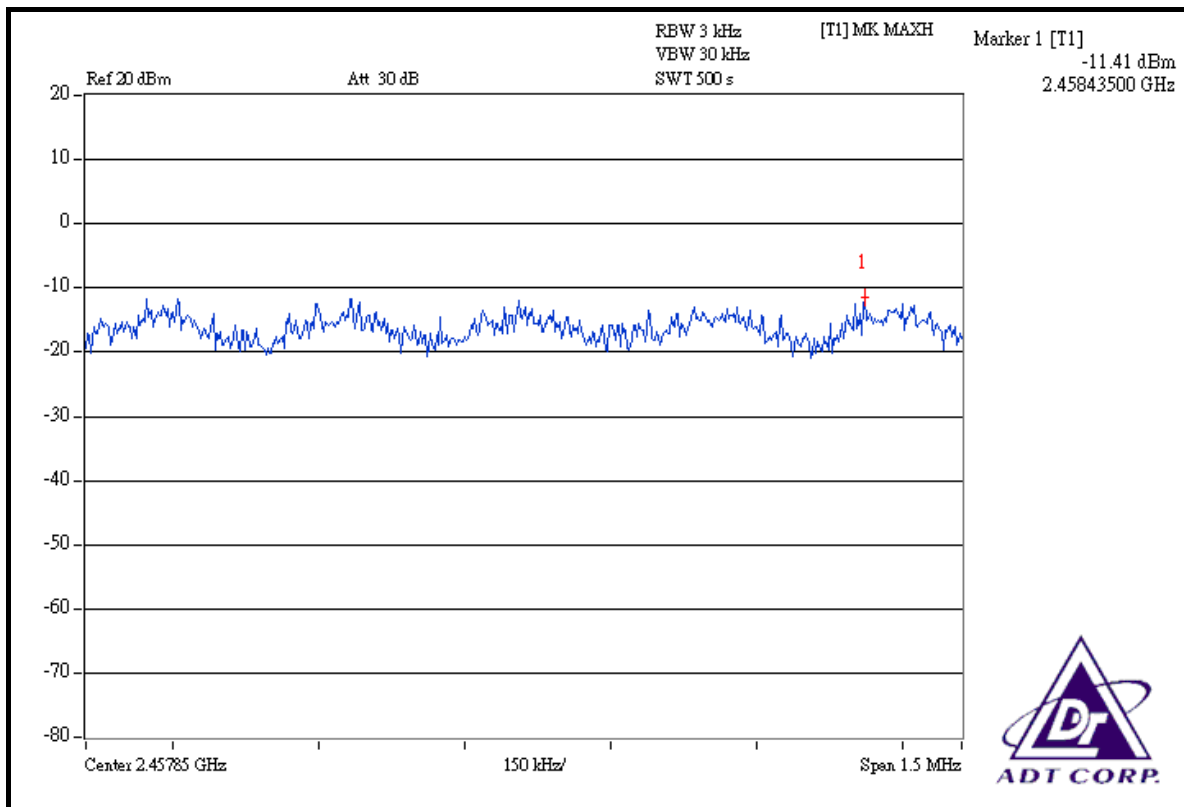




### CH 6

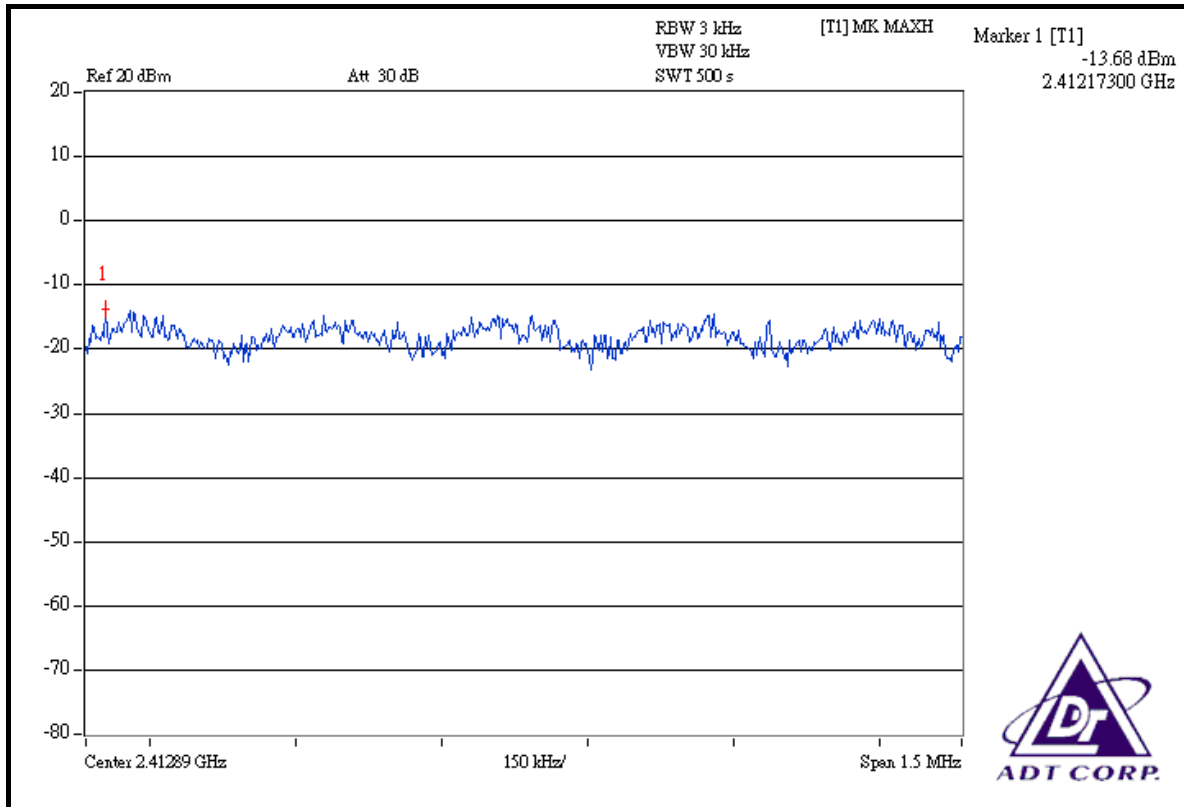


### CH 11

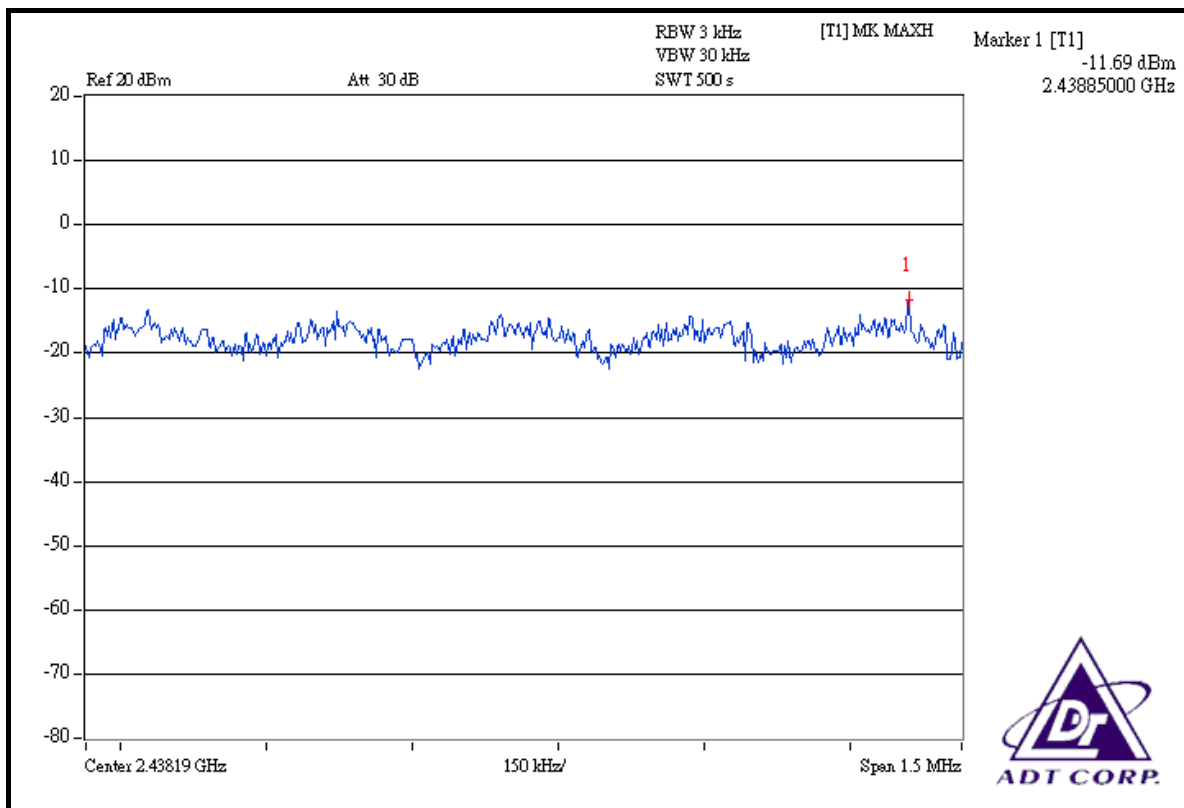




### FOR CHAIN 1: CH 1

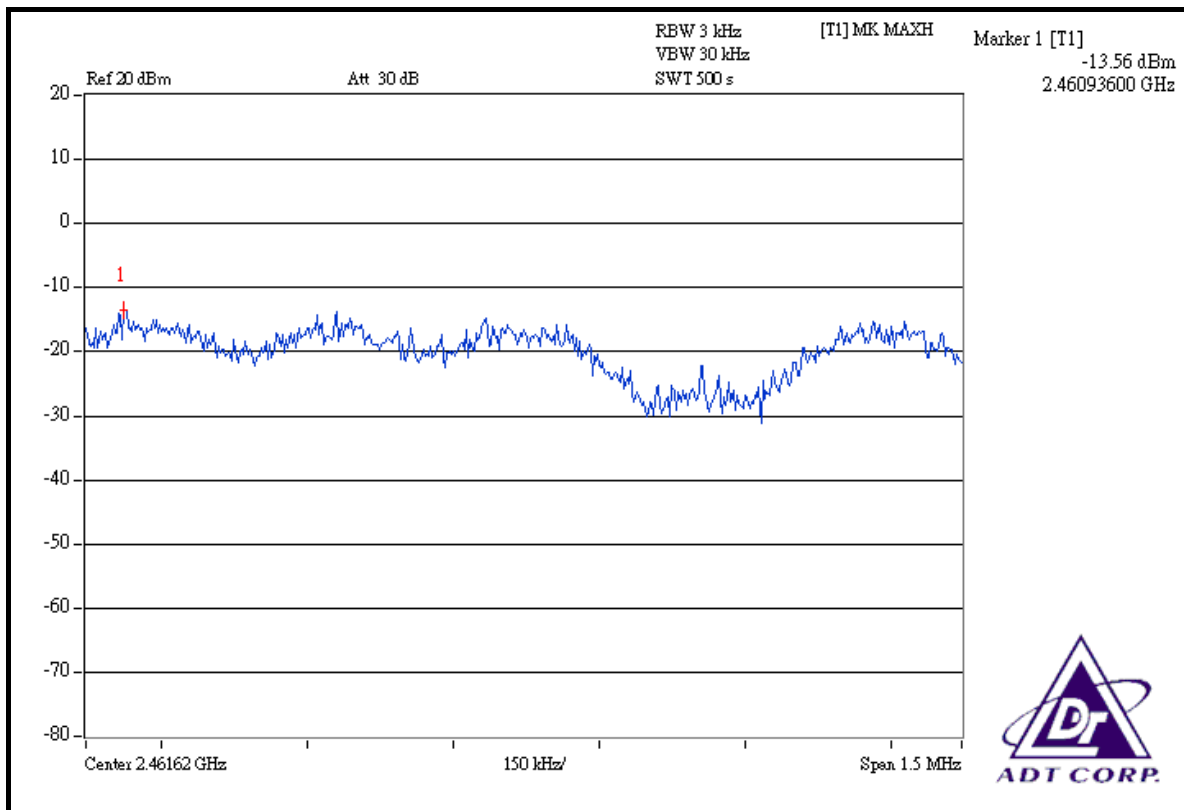


### CH 6

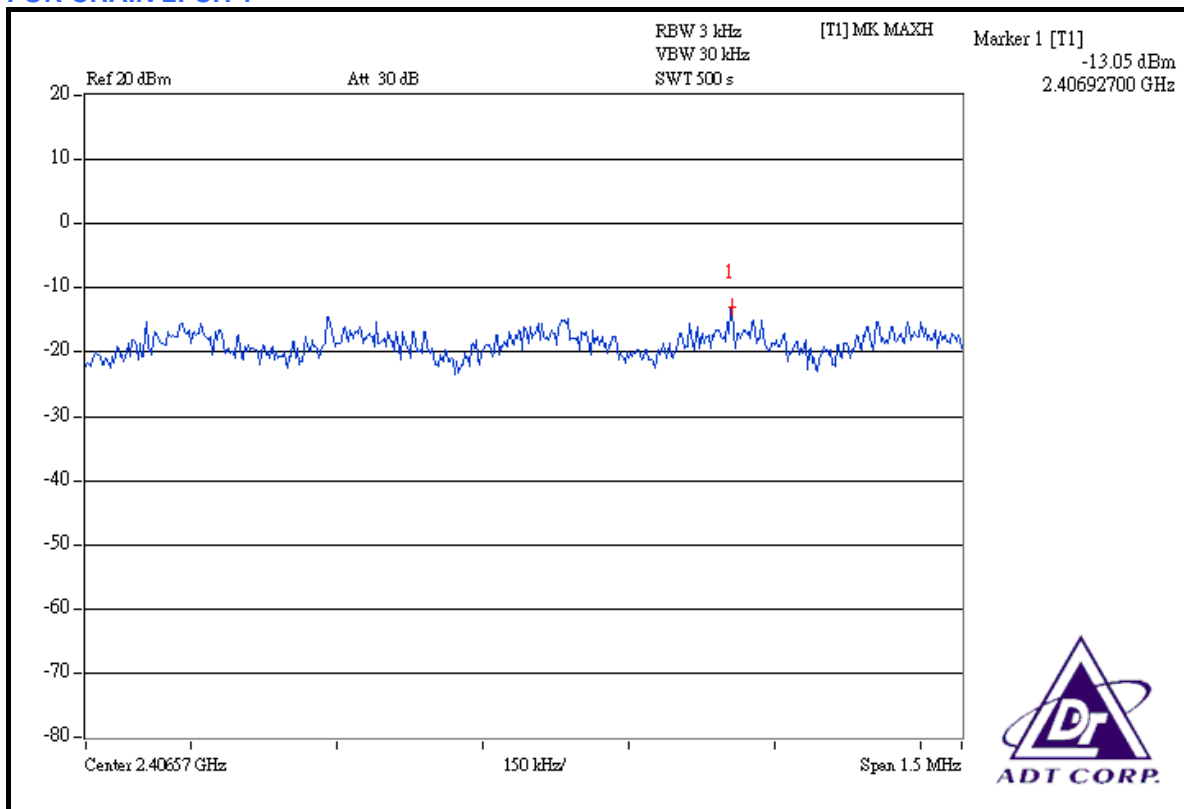




### CH 11

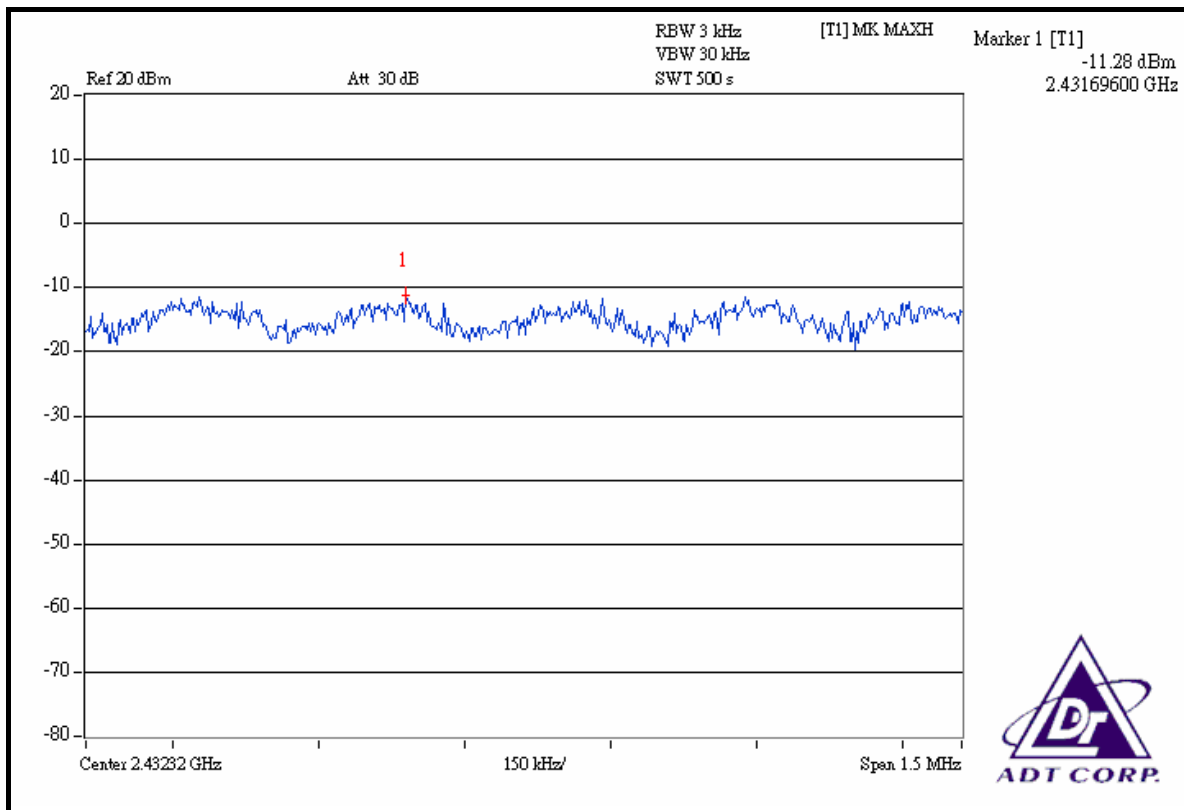


### FOR CHAIN 2: CH 1

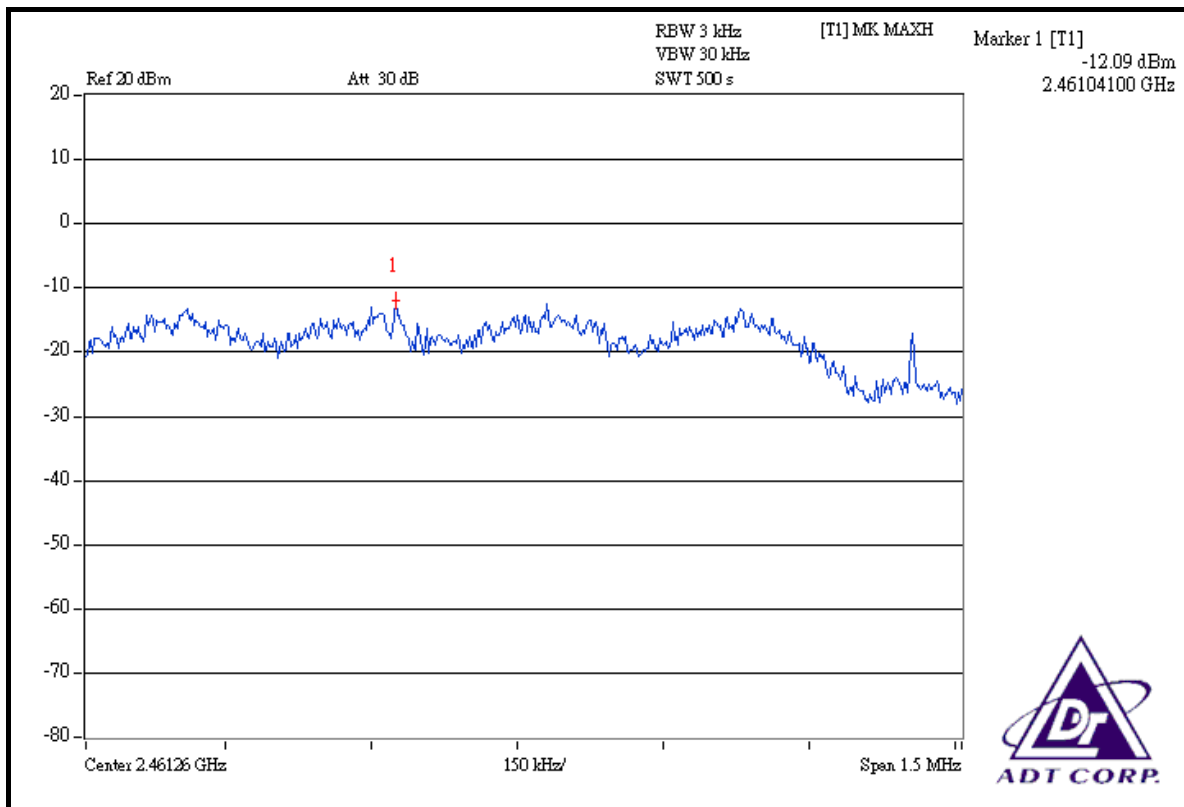




### CH 6



### CH 11



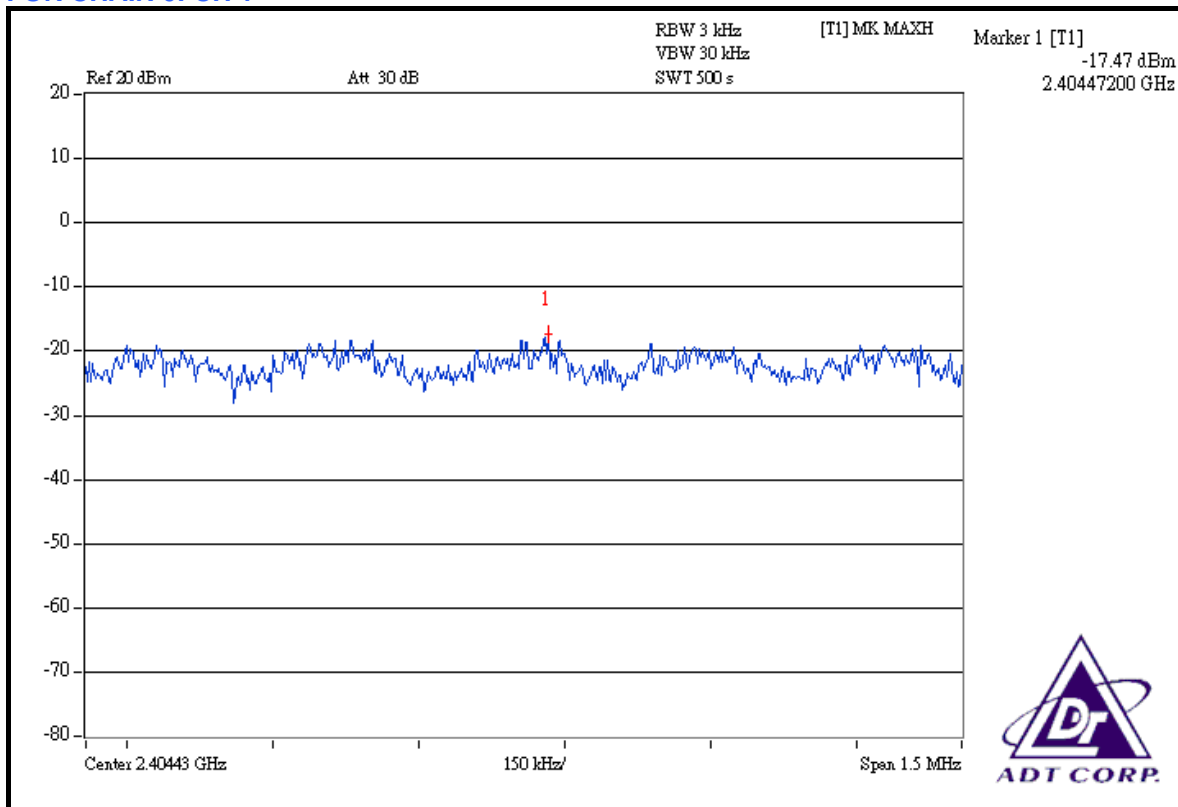


**DRAFT 802.11n (40MHz) OFDM MODULATION:**

<b>MODULATION TYPE</b>	BPSK	<b>TRANSFER RATE</b>	15.0Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60Hz	<b>ENVIRONMENTAL CONDITIONS</b>	25deg.C, 65%RH, 991hPa
<b>TESTED BY</b>	Long Chen		

CHAN.	CHAN. FREQ. (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	0.018	0.023	0.024	-17.47	-16.39	-16.25	0.065	-11.90	8	PASS
4	2437	0.019	0.024	0.023	-17.29	-16.23	-16.44	0.066	-11.86	8	PASS
7	2452	0.019	0.023	0.024	-17.30	-16.39	-16.20	0.066	-11.83	8	PASS

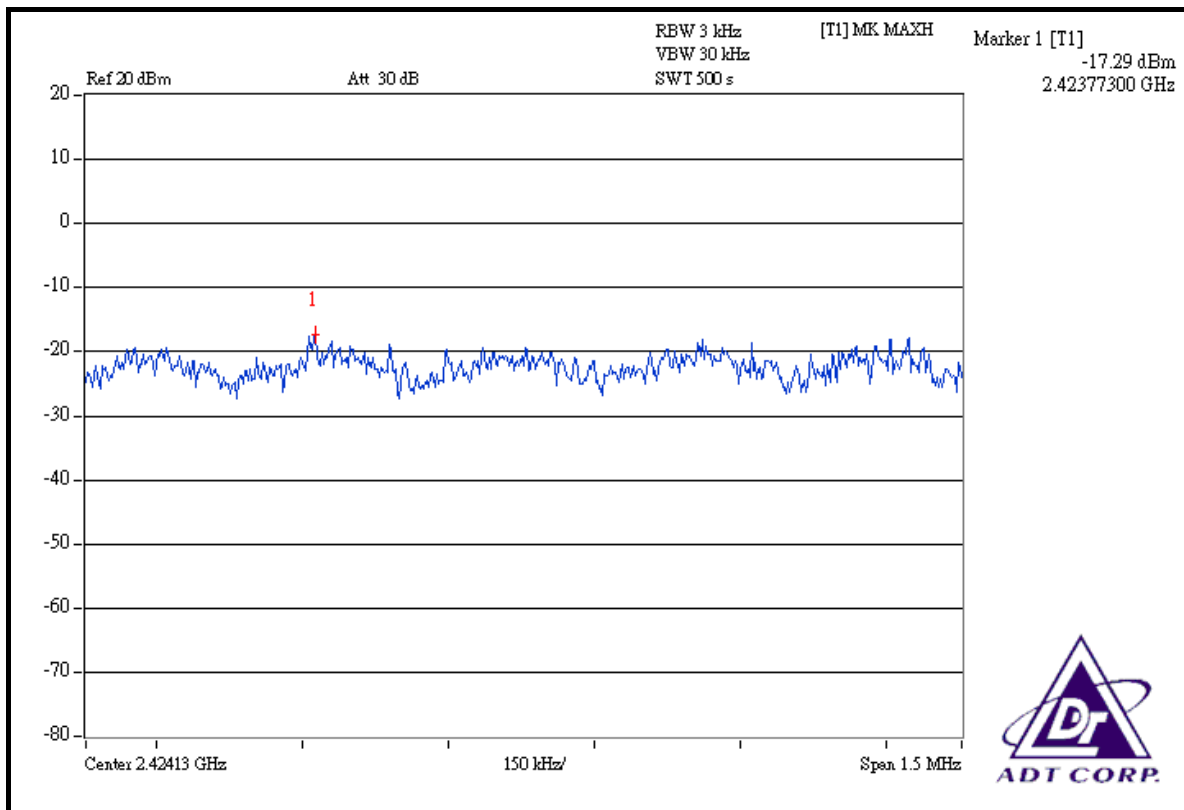
**FOR CHAIN 0: CH 1**



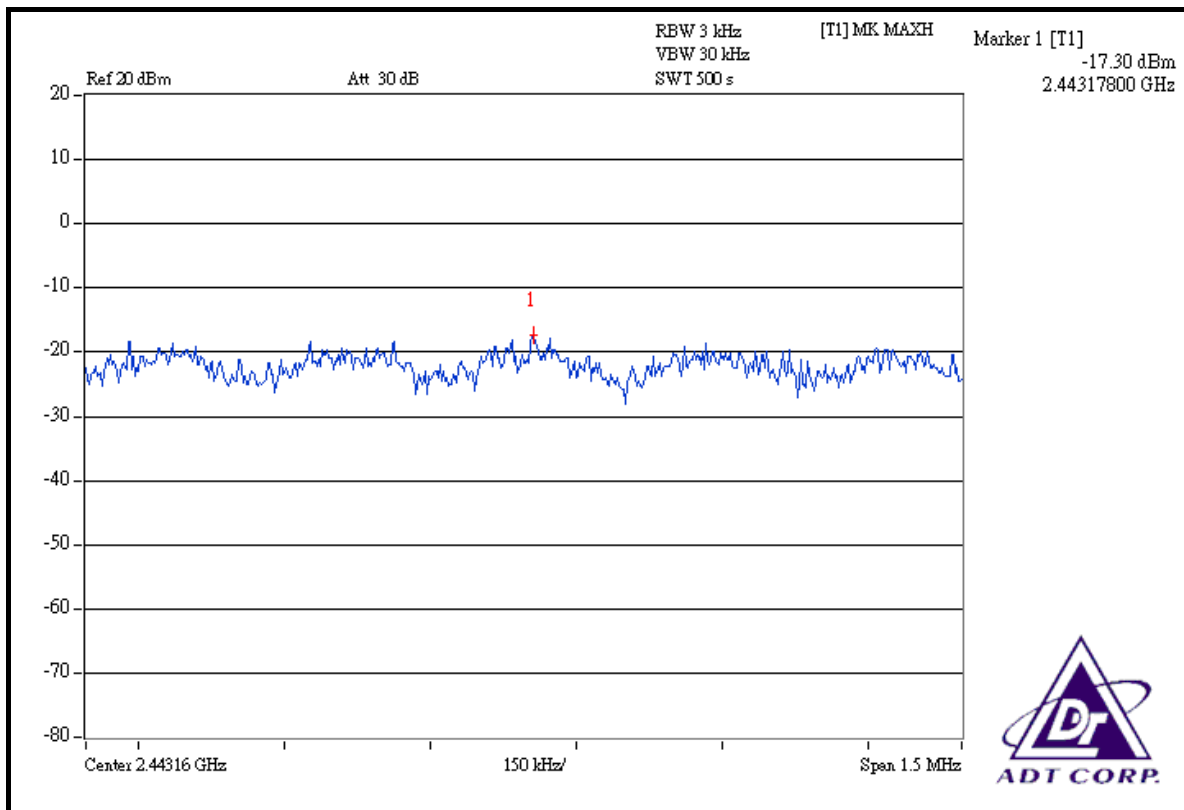




### CH 4

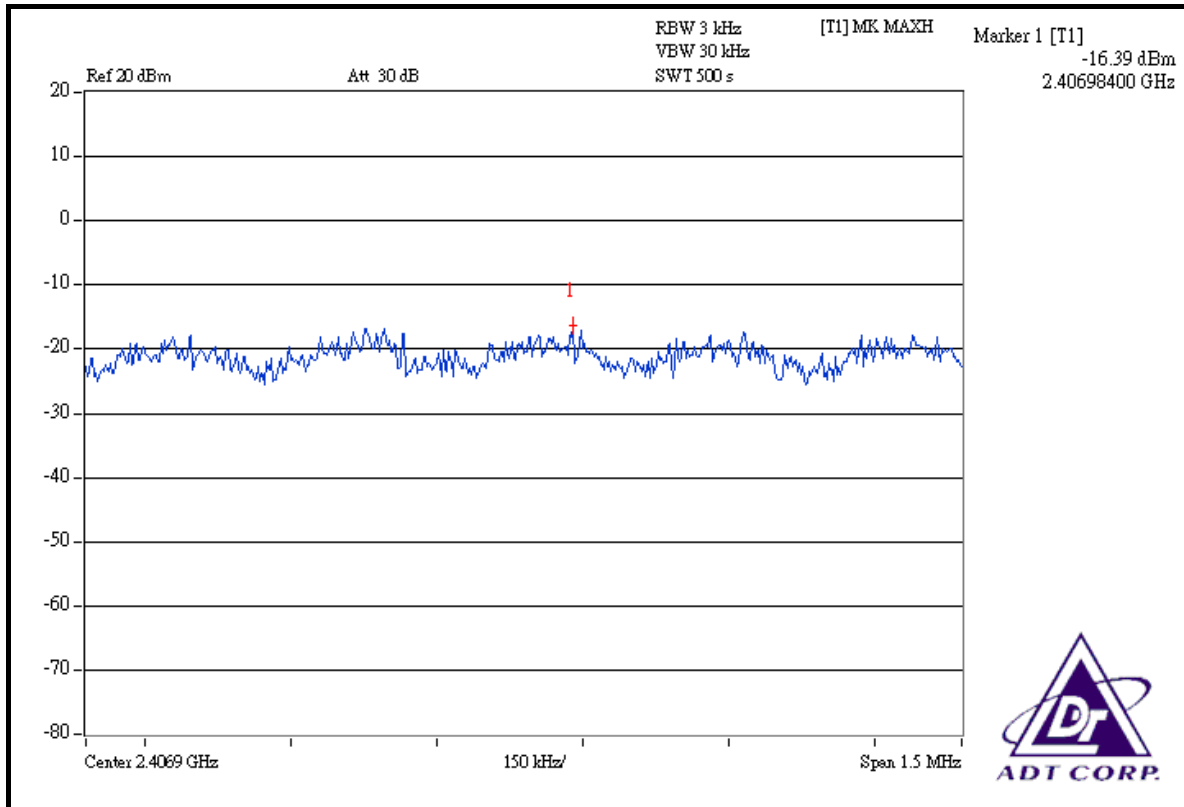


### CH 7

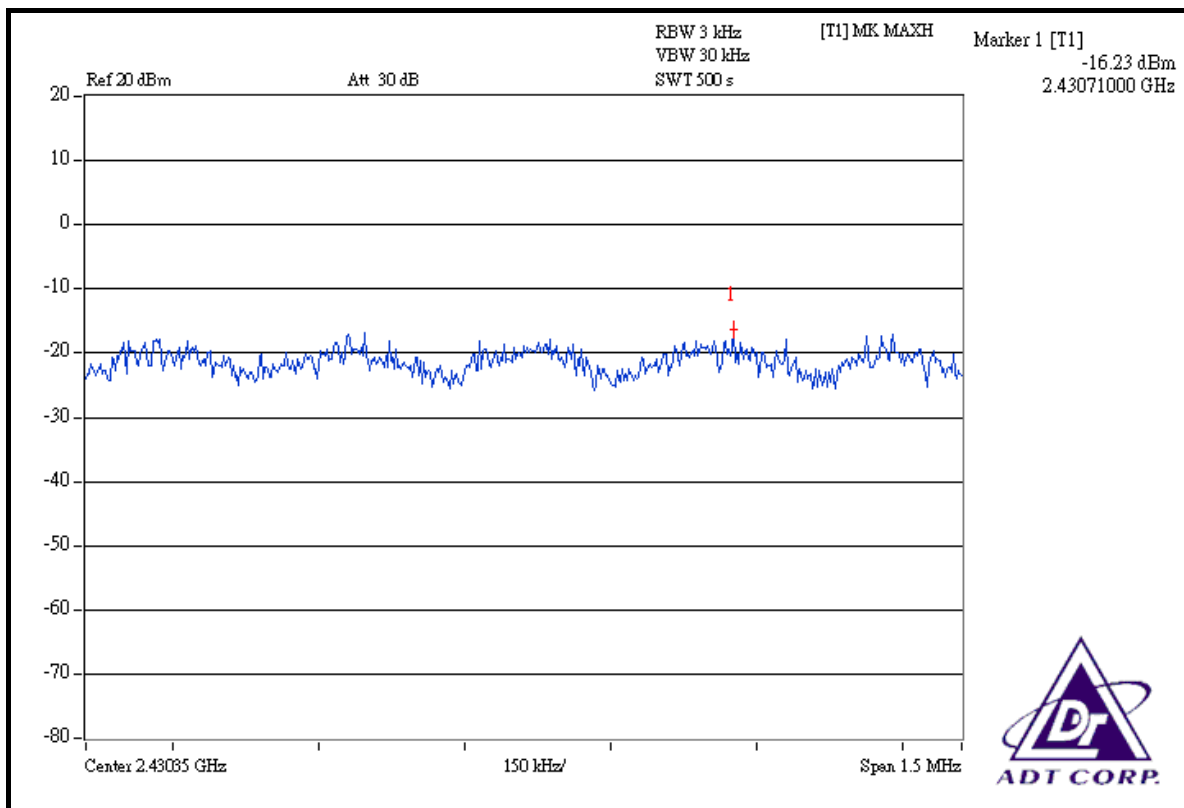




### FOR CHAIN 1: CH 1

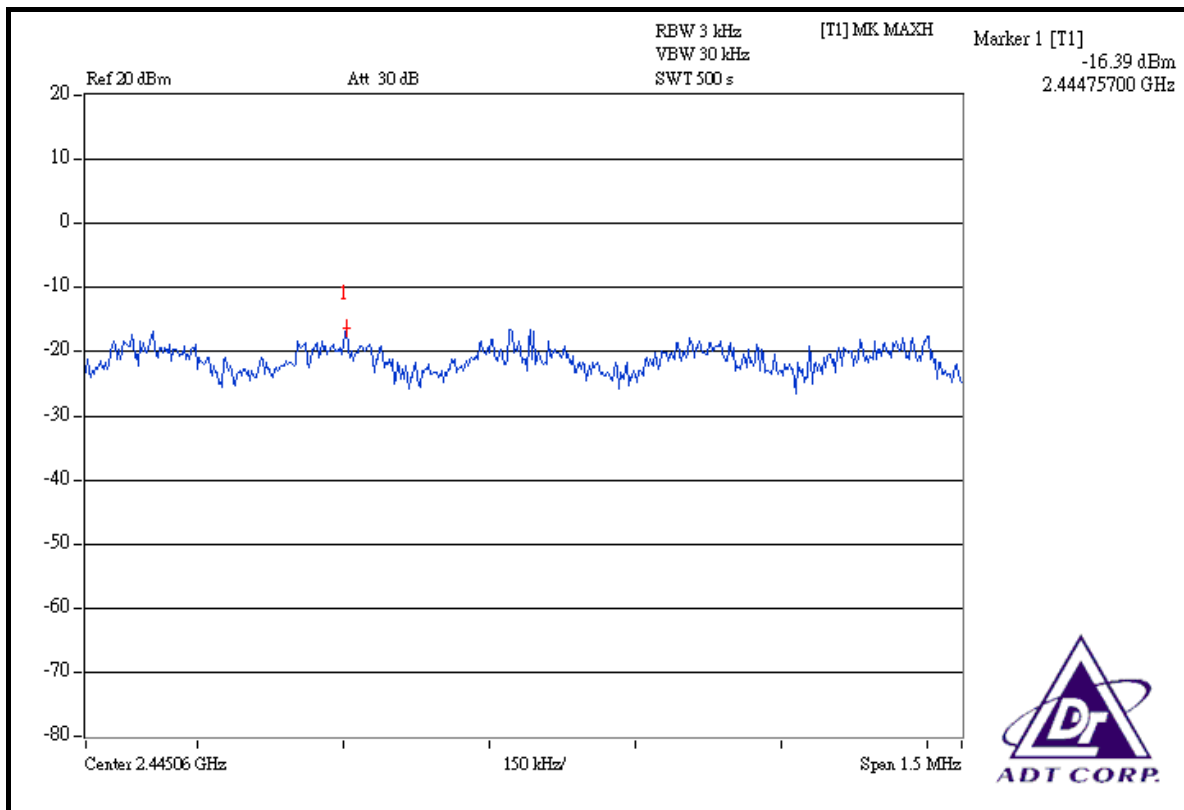


### CH 4

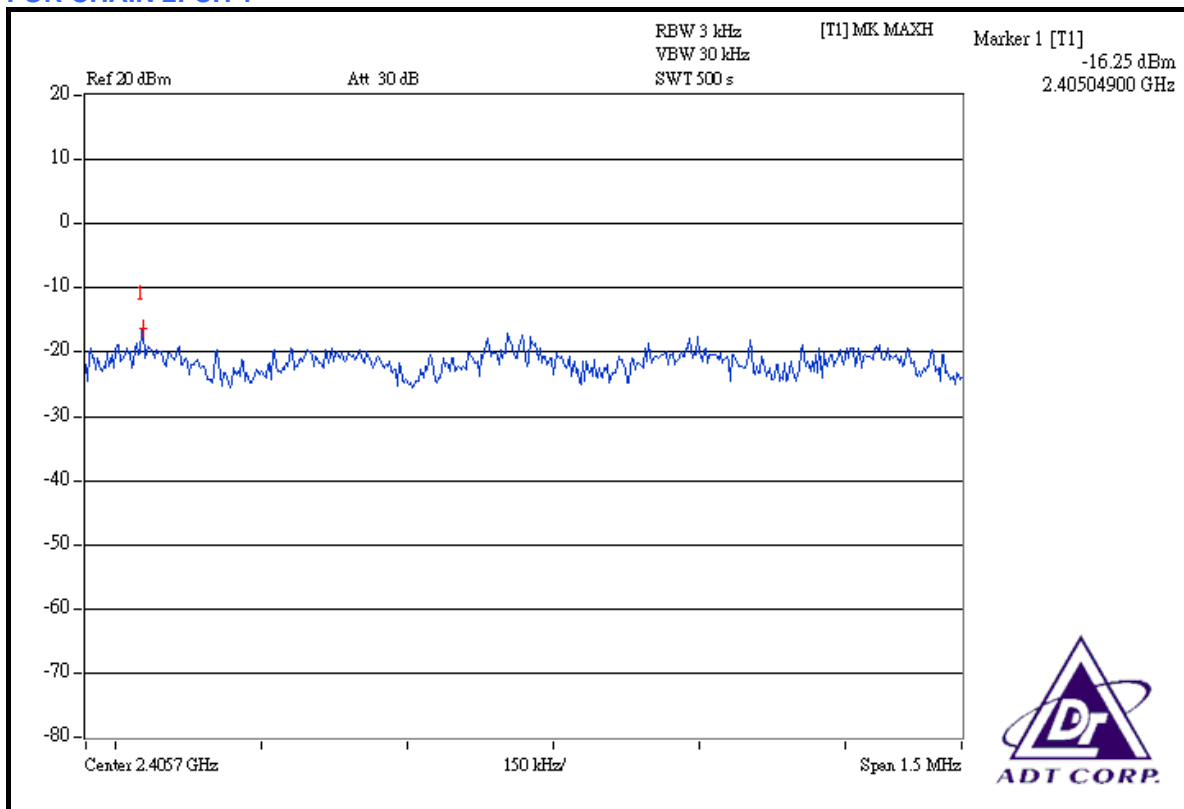




### CH 7

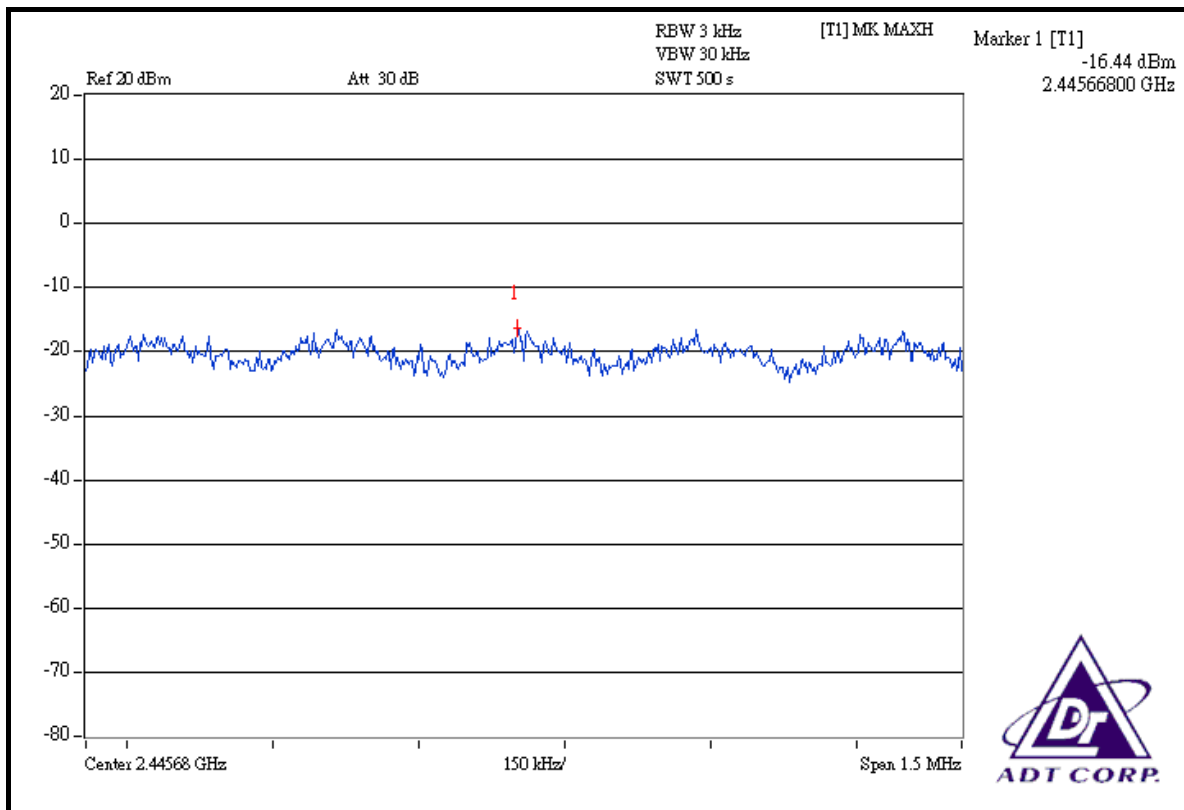


### FOR CHAIN 2: CH 1

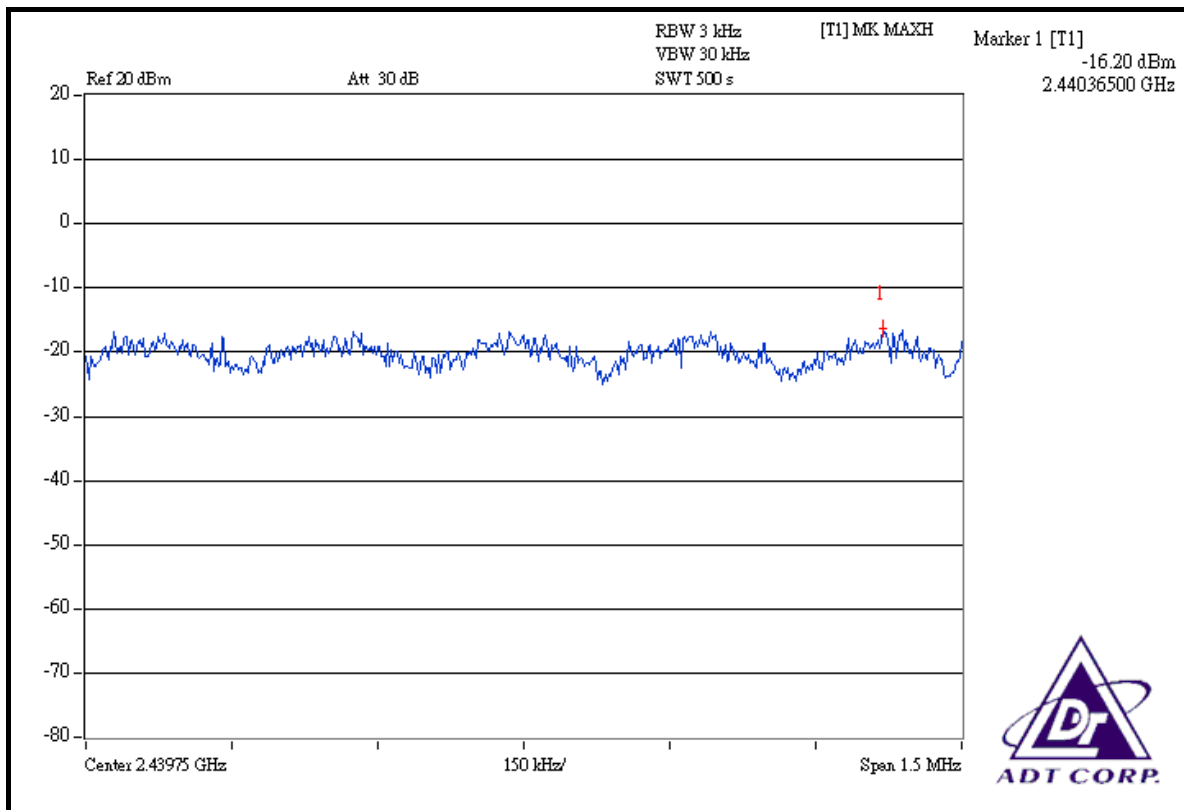




### CH 4



### CH 7





## 4.6 BAND EDGES MEASUREMENT

### 4.6.1 LIMITS OF BAND EDGES MEASUREMENT

Below  $-20\text{dB}$  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
<b>802.11b, 802.11g:</b>			
R&S SPECTRUM ANALYZER	FSP40	100040	Jun. 07, 2007
<b>DRAFT 802.11n (20MHz), DRAFT 802.11n (40MHz):</b>			
Test Receiver ROHDE & SCHWARZ	ESCI	100424	Aug. 04, 2007
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100269	Aug. 07, 2007
BILOG Antenna SCHWARZBECK	VULB9168	9168-153	Jan. 04, 2008
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-563	Jul. 26, 2007
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170242	Jan. 16, 2008
Preamplifier Agilent	8449B	3008A01911	Sep. 13, 2007
Preamplifier Agilent	8447D	2944A10638	Dec. 20, 2007
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	218188/218189	Nov. 14, 2007
RF signal cable Worken	8D-FB	Cable-HYCH9-01	Aug. 16, 2007
Software	ADT_Radiated_V7.6	NA	NA
Antenna Tower EMCO	2070/2080	512.835.4684	NA
Turn Table EMCO	2087-2.03	NA	NA
Antenna Tower & Turn Table Controller EMCO	2090	NA	NA

**NOTE:** 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

#### 802.11b, 802.11g:

The transmitter output was connected to the spectrum analyzer via a low loss cable. Set both RBW and VBW of spectrum analyzer to 100kHz with suitable frequency span including 100MHz bandwidth from band edge. The band edges was measured and recorded.

The spectrum plots (Peak RBW = VBW = 100kHz) are attached on the following pages.

#### 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 = VBW = 100kHz) are attached on the following pages.

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



#### 4.6.4 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 pages. 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:

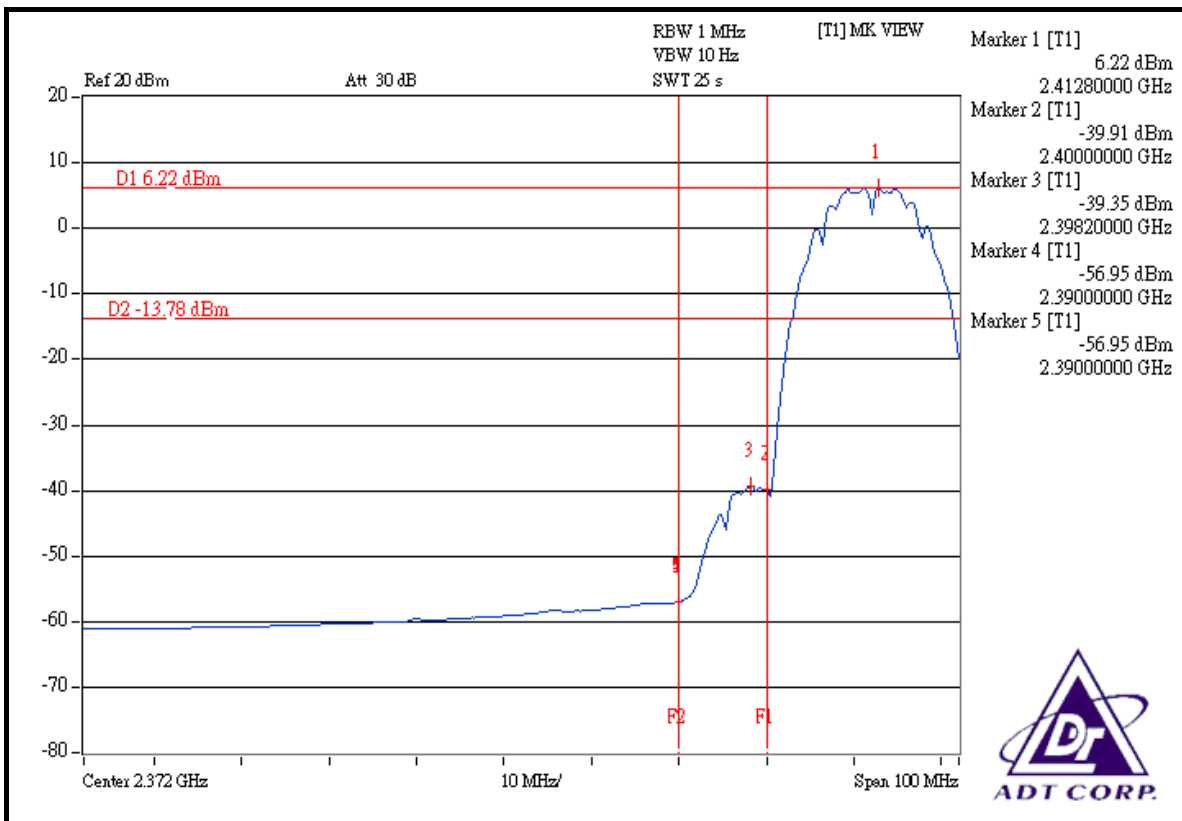
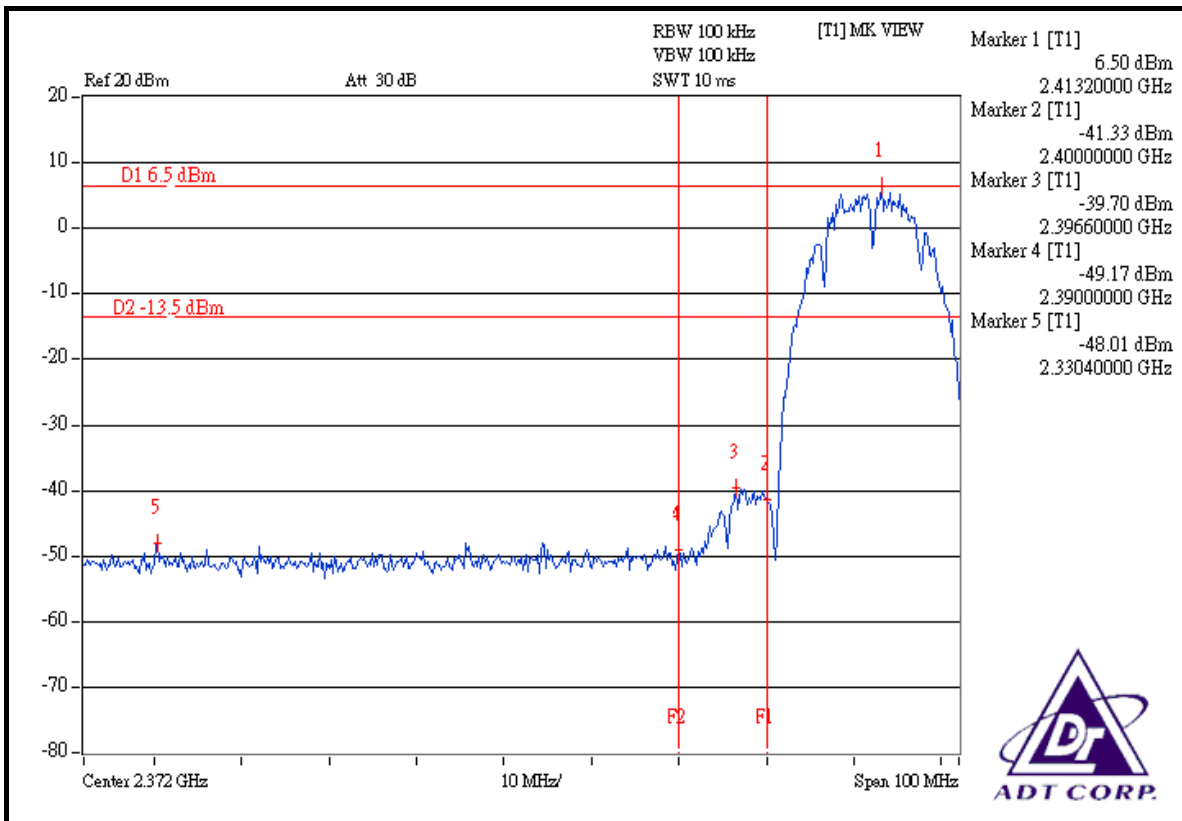
**NOTE 1:** The band edge emission plot on the next page shows 54.51dBc between carrier maximum power and local maximum emission in restrict band (2.33040GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2.7 is 109.71dBuV/m (Peak), so the maximum field strength in restrict band is  $109.71 - 54.51 = 55.20$ dBuV/m which is under 74dBuV/m limit.

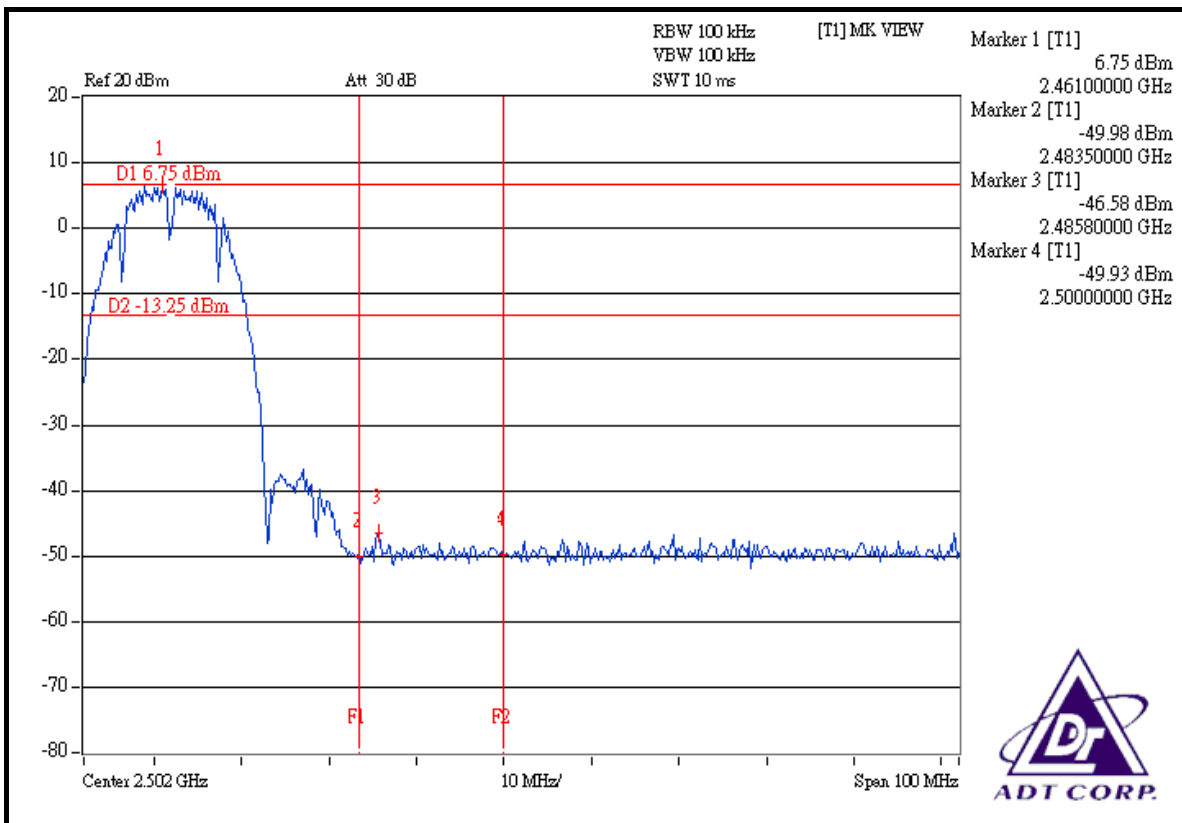
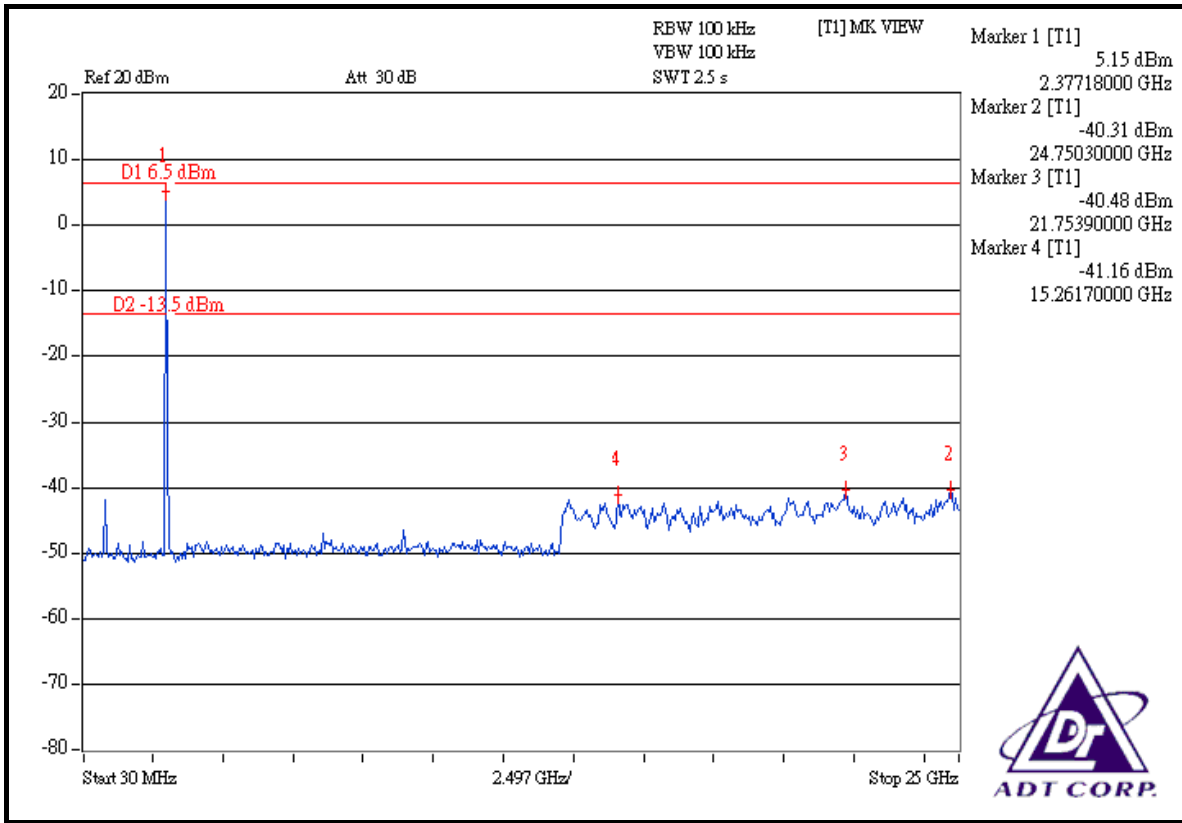
The band edge emission plot of on the next page shows 63.17dBc between carrier maximum power and local maximum emission in restrict band (2.39000GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2.7 is 105.20dBuV/m (Average), so the maximum field strength in restrict band is  $105.20 - 63.17 = 42.03$ dBuV/m which is under 54dBuV/m limit.

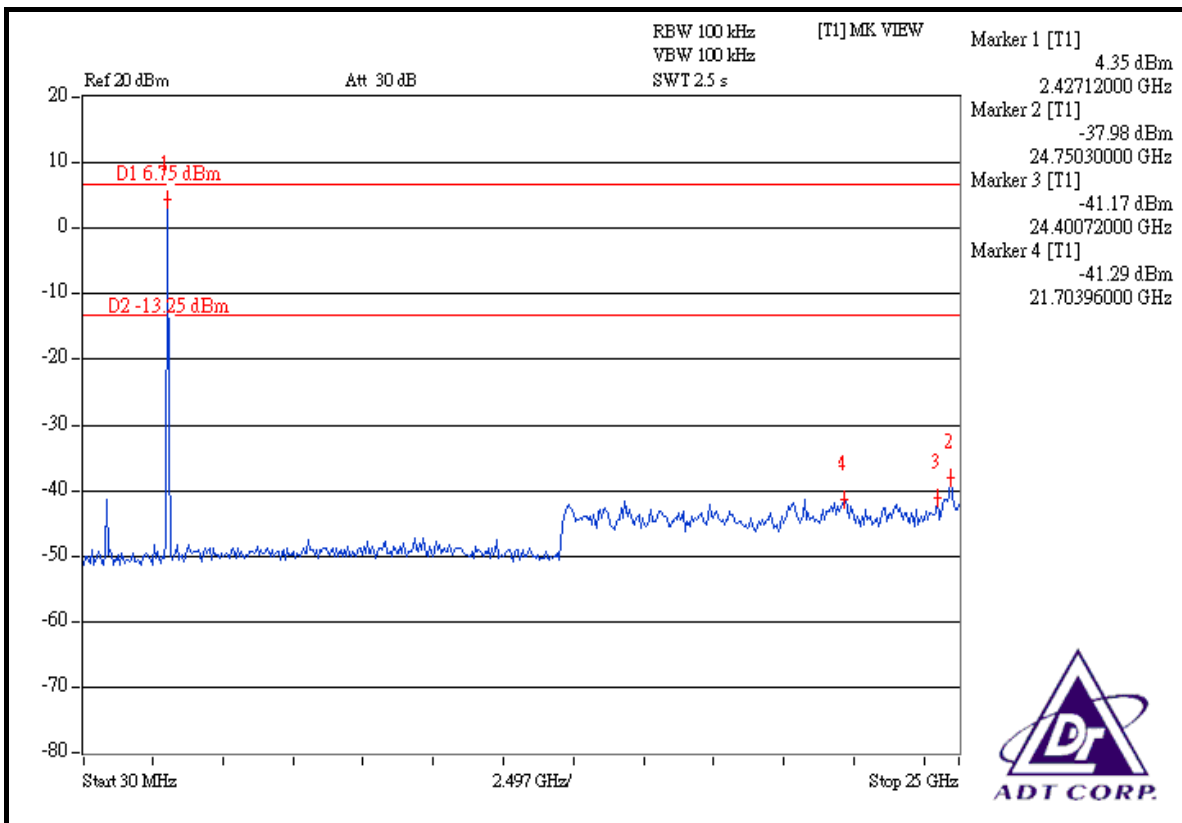
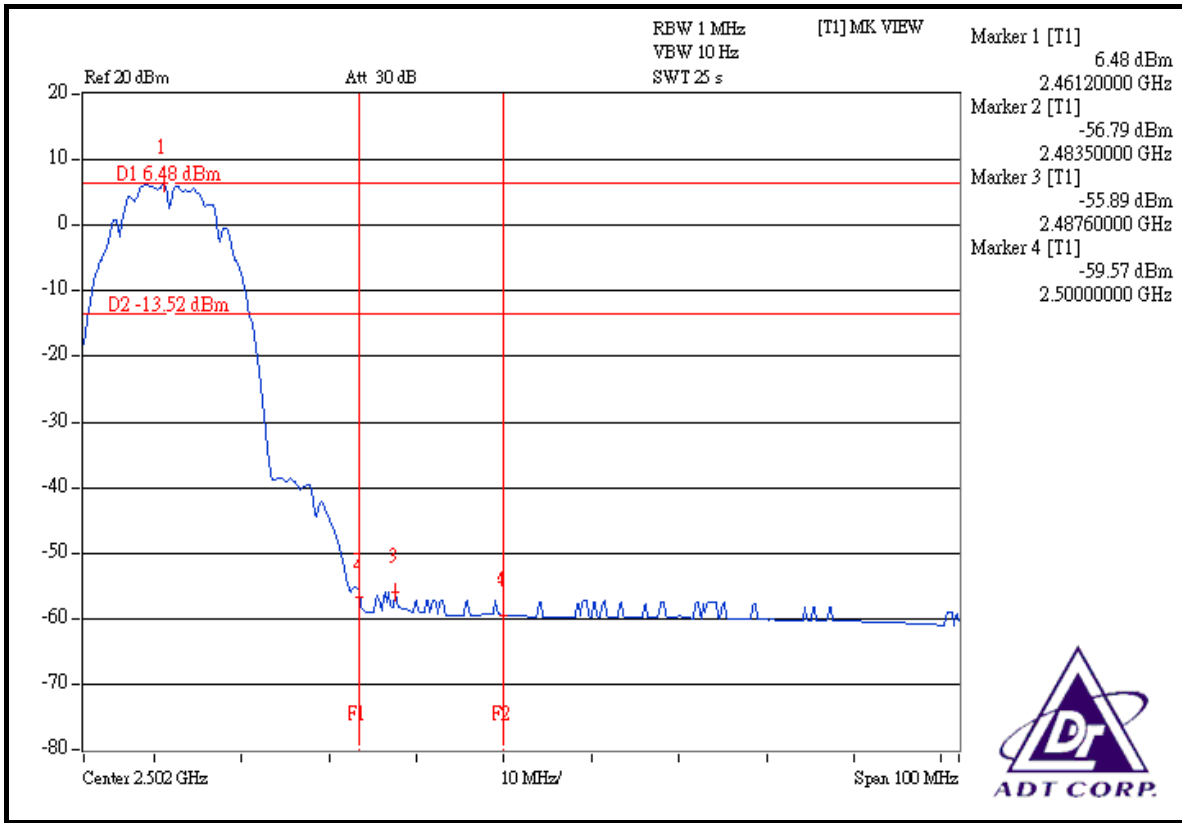
**NOTE 2:** The band edge emission plot on the next second page shows 53.33dBc between carrier maximum power and local maximum emission in restrict band (2.48580GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2.7 is 110.30dBuV/m (Peak), so the maximum field strength in restrict band is  $110.30 - 53.33 = 56.97$ dBuV/m which is under 74dBuV/m limit.

The band edge emission plot on the next third page shows 62.37dBc between carrier maximum power and local maximum emission in restrict band (2.48760GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2.7 is 105.78dBuV/m (Average), so the maximum field strength in restrict band is  $105.78 - 62.37 = 43.41$ dBuV/m which is under 54dBuV/m limit.









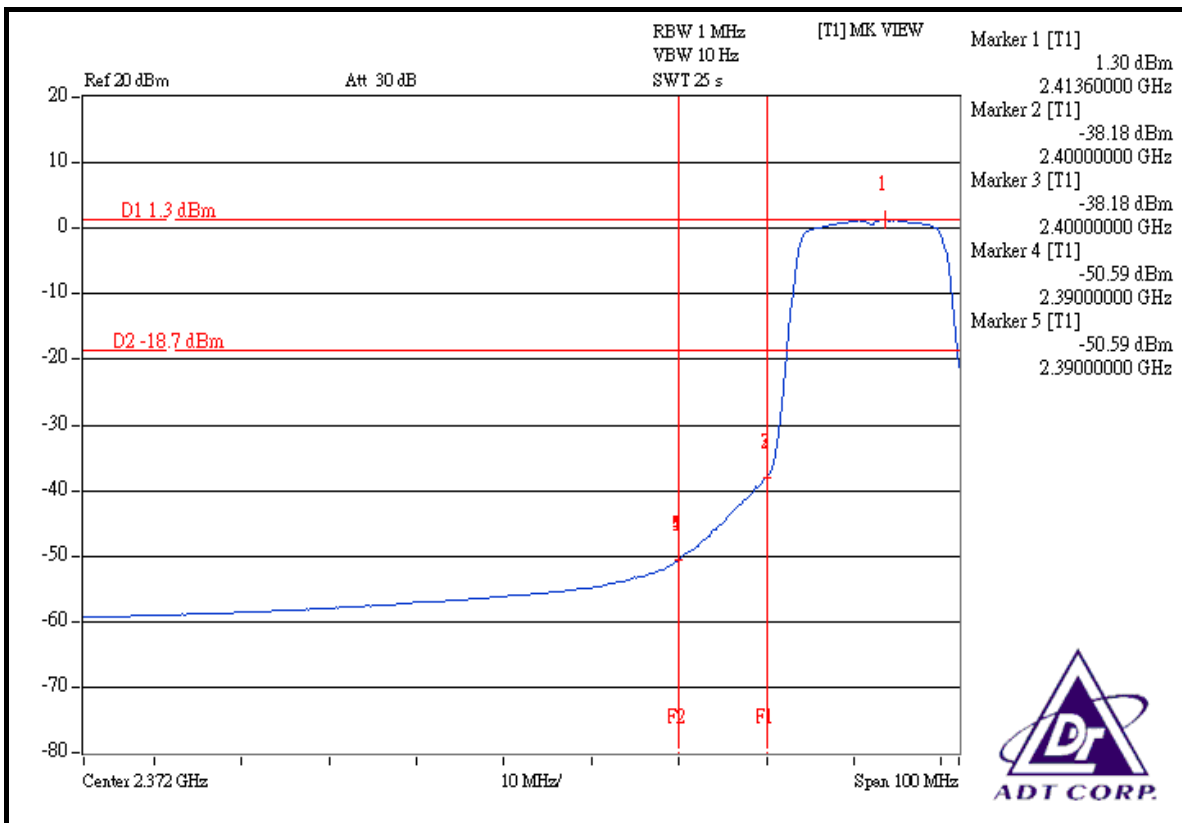
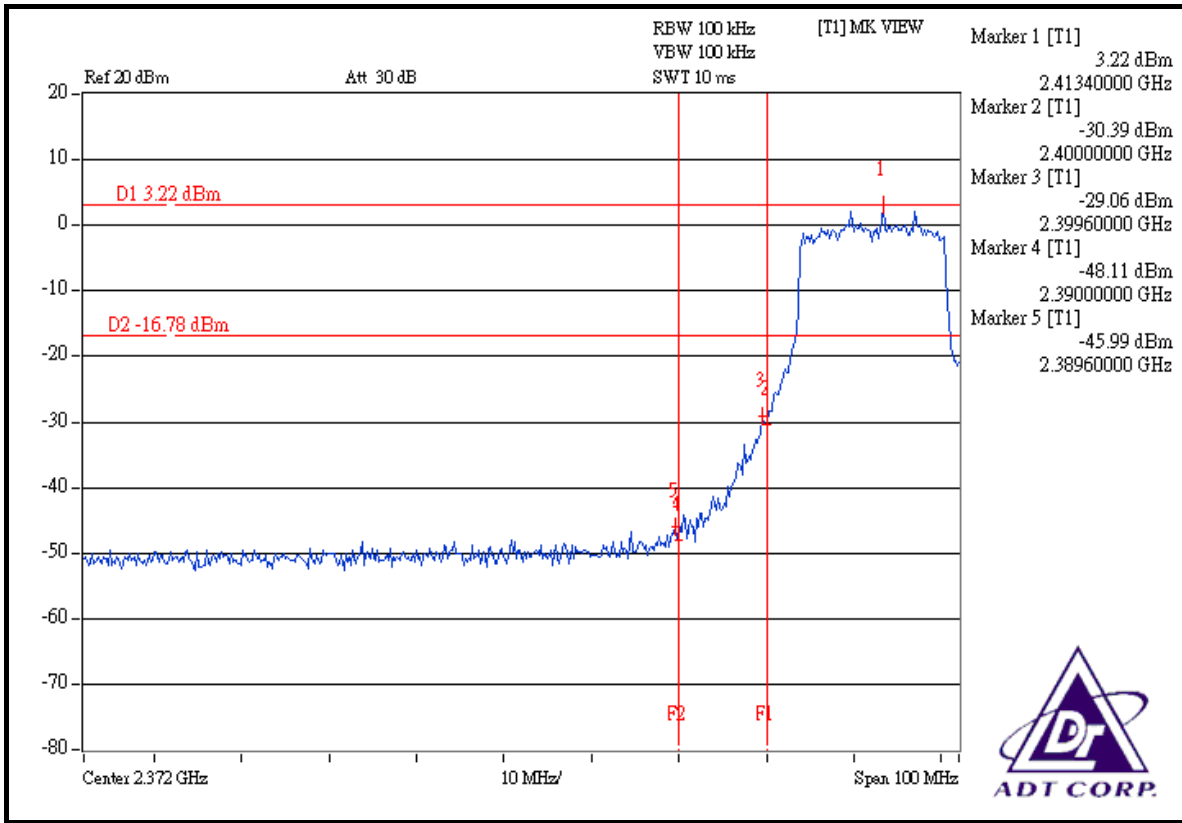
### 802.11g OFDM MODULATION:

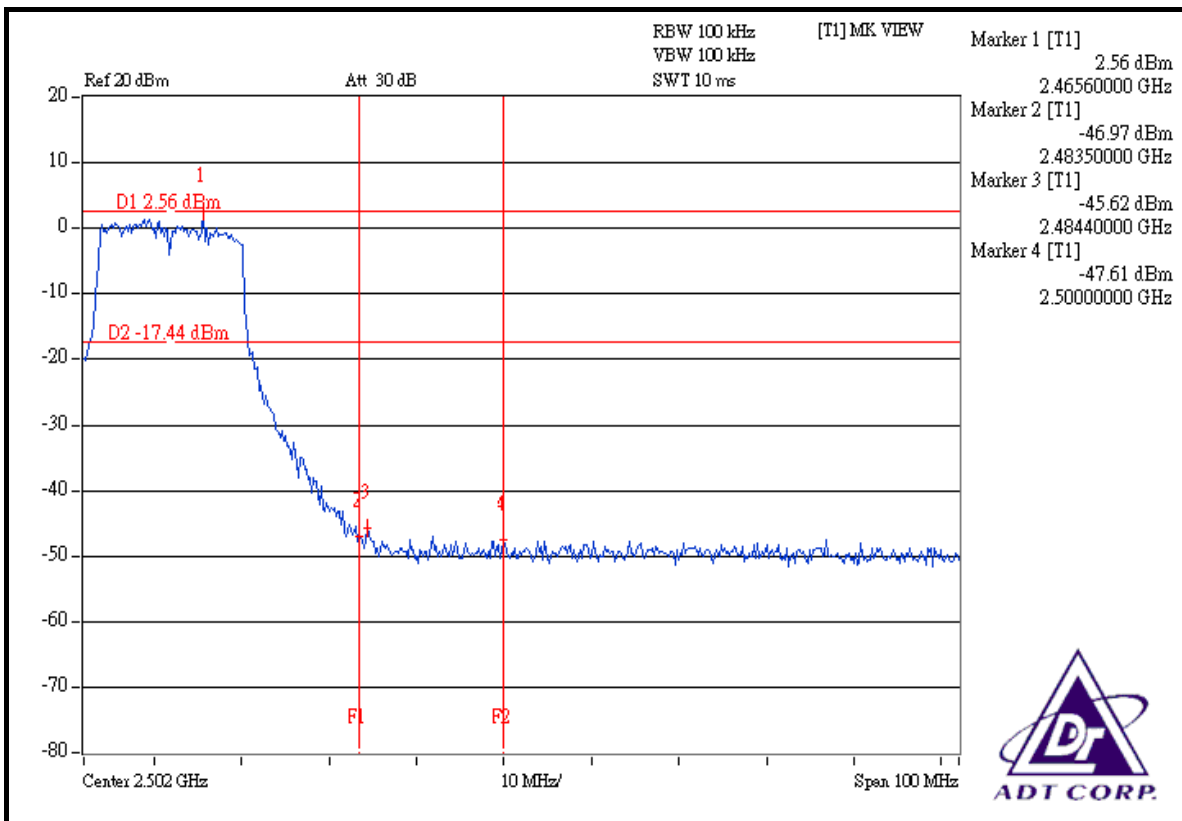
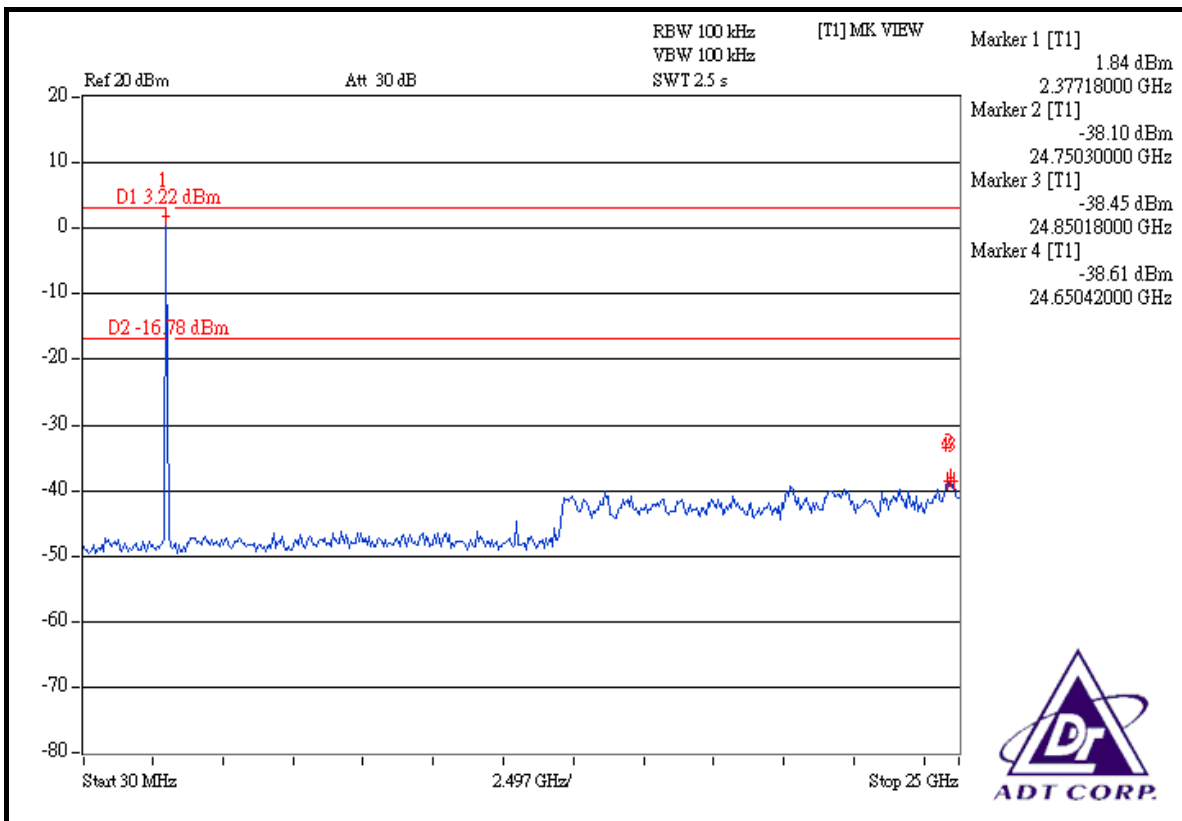
**NOTE 1:** The band edge emission plot on the next page shows 49.21dBc between carrier maximum power and local maximum emission in restrict band (2.38960GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2.7 is 111.94dBuV/m (Peak), so the maximum field strength in restrict band is  $111.94 - 49.21 = 62.73$ dBuV/m which is under 74dBuV/m limit.

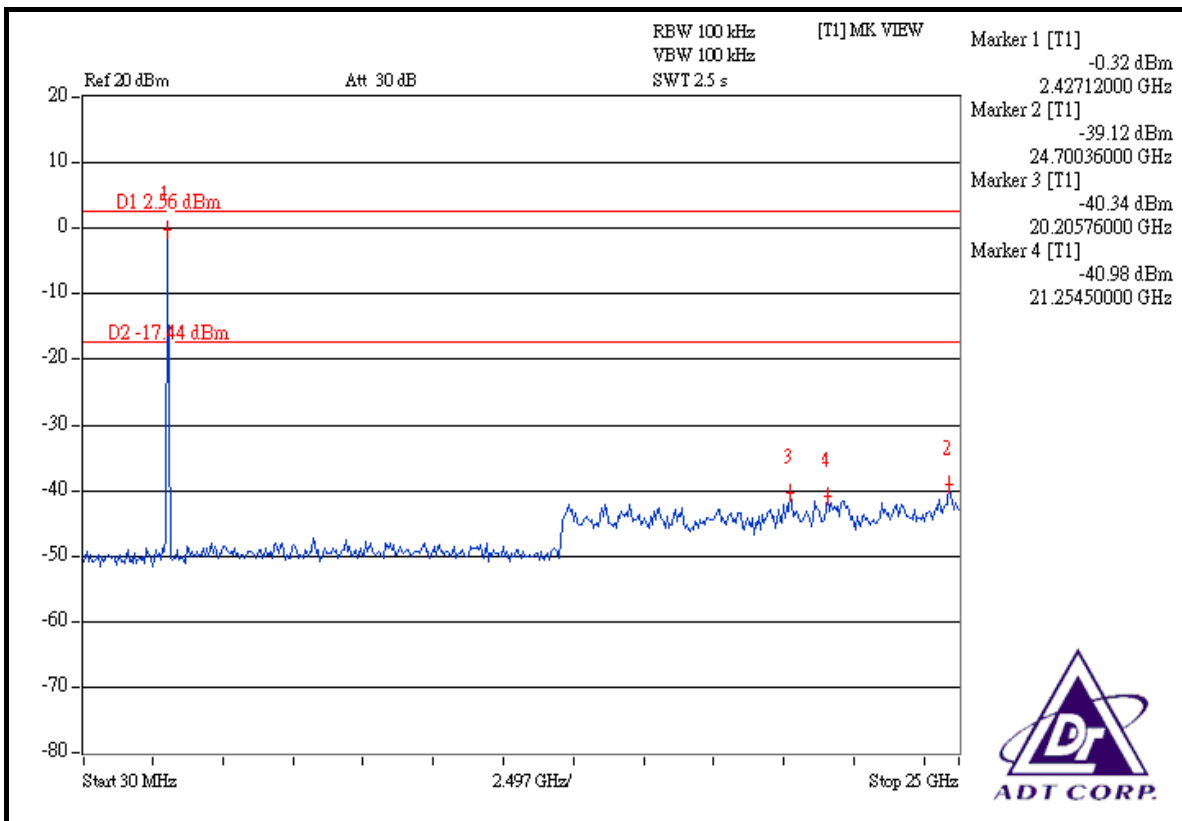
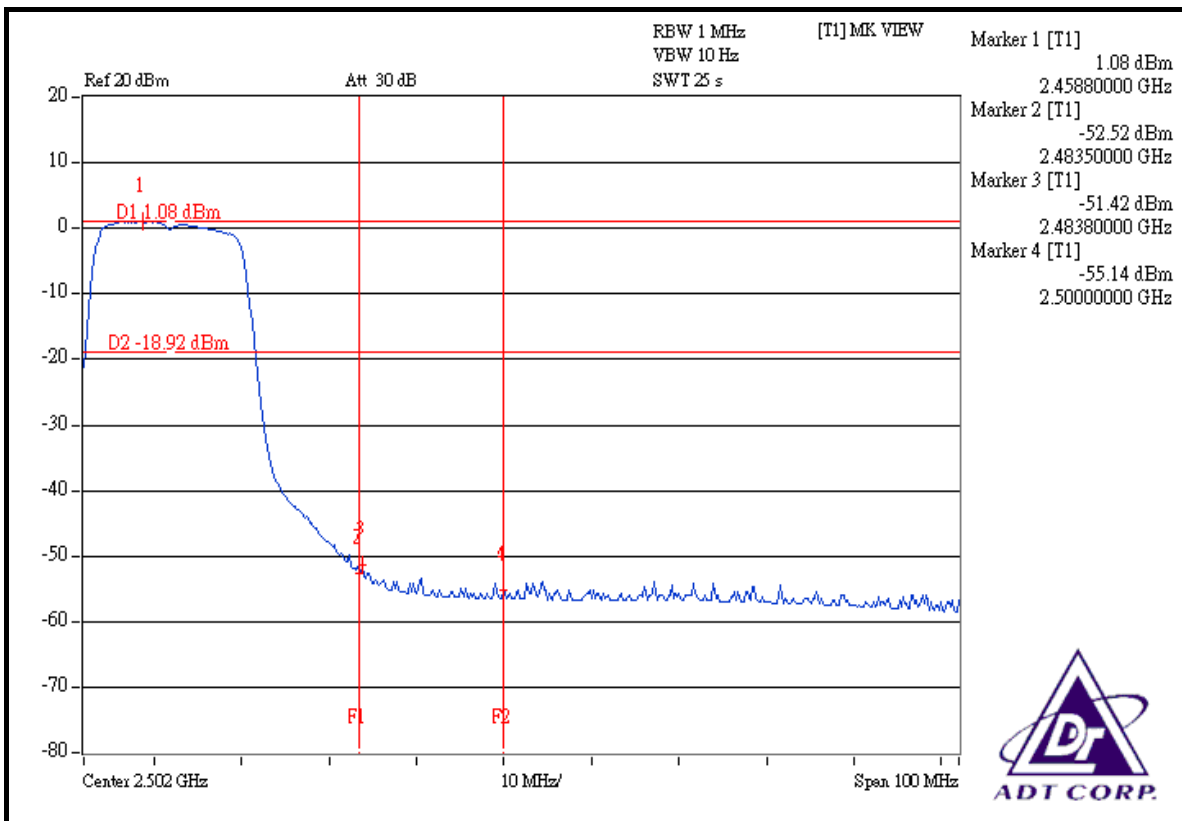
The band edge emission plot of on the next page shows 51.89dBc between carrier maximum power and local maximum emission in restrict band (2.39000GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2.7 is 101.38dBuV/m (Average), so the maximum field strength in restrict band is  $101.38 - 51.89 = 49.49$ dBuV/m which is under 54dBuV/m limit.

**NOTE 2:** The band edge emission plot on the next second page shows 48.18dBc between carrier maximum power and local maximum emission in restrict band (2.48440GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2.7 is 110.68dBuV/m (Peak), so the maximum field strength in restrict band is  $110.68 - 48.18 = 62.50$ dBuV/m which is under 74dBuV/m limit.

The band edge emission plot on the next third page shows 52.50dBc between carrier maximum power and local maximum emission in restrict band (2.48380GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2.7 is 100.90dBuV/m (Average), so the maximum field strength in restrict band is  $100.90 - 52.50 = 48.40$ dBuV/m which is under 54dBuV/m limit.









### DRAFT 802.11n (20MHz) OFDM MODULATION:

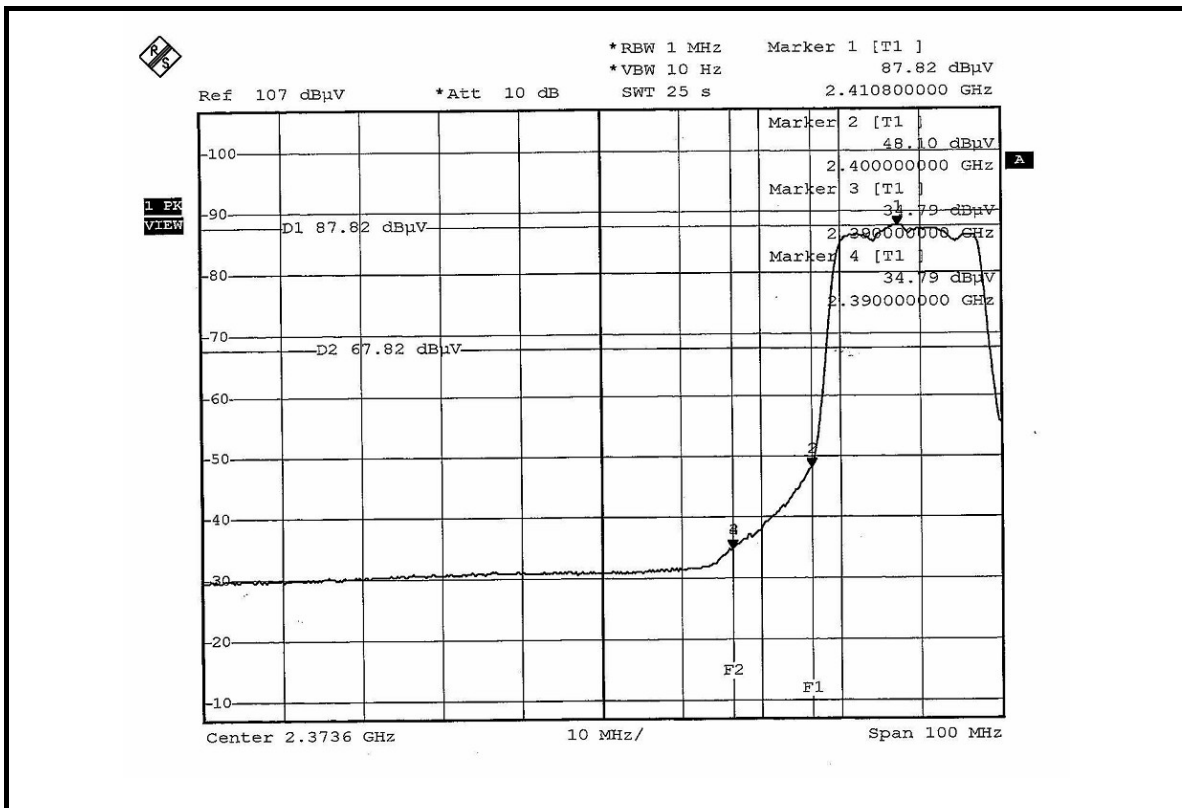
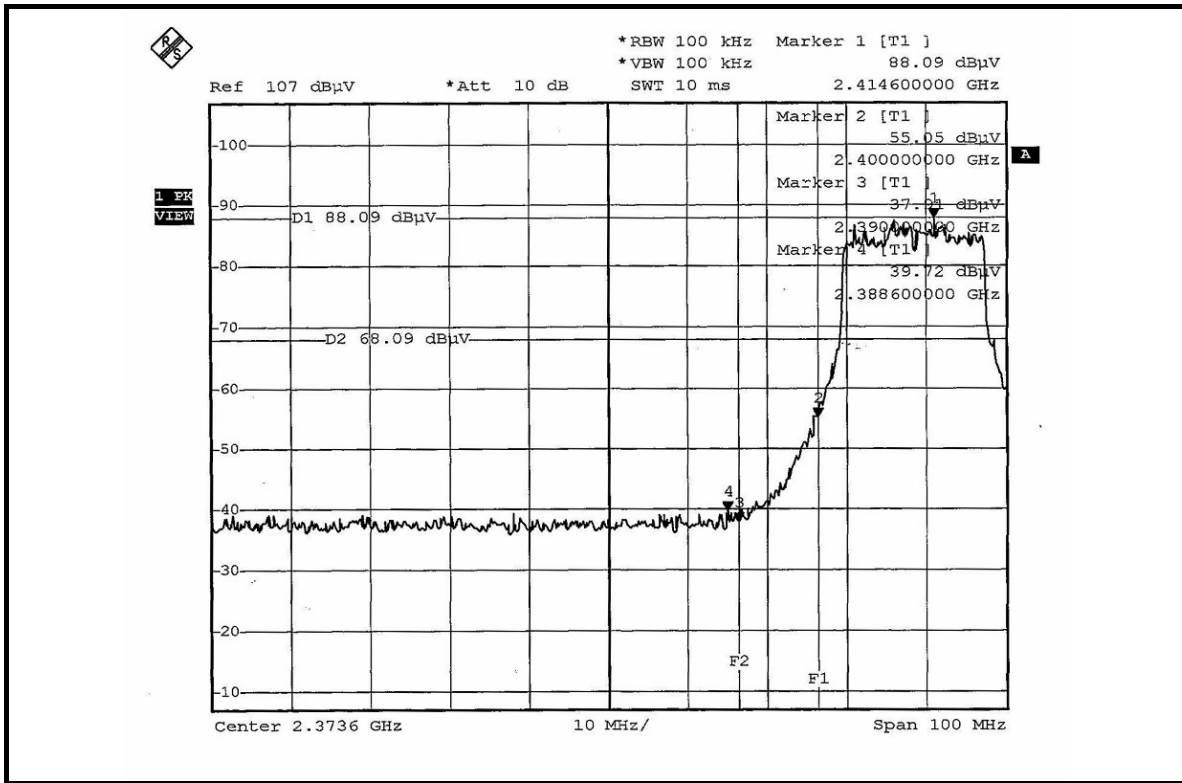
**NOTE 1:** The band edge emission plot on the next page shows 48.37dBc between carrier maximum power and local maximum emission in restrict band (2.38860GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2.7 is 114.16dBuV/m (Peak), so the maximum field strength in restrict band is  $114.16 - 48.37 = 65.79$ dBuV/m which is under 74dBuV/m limit.

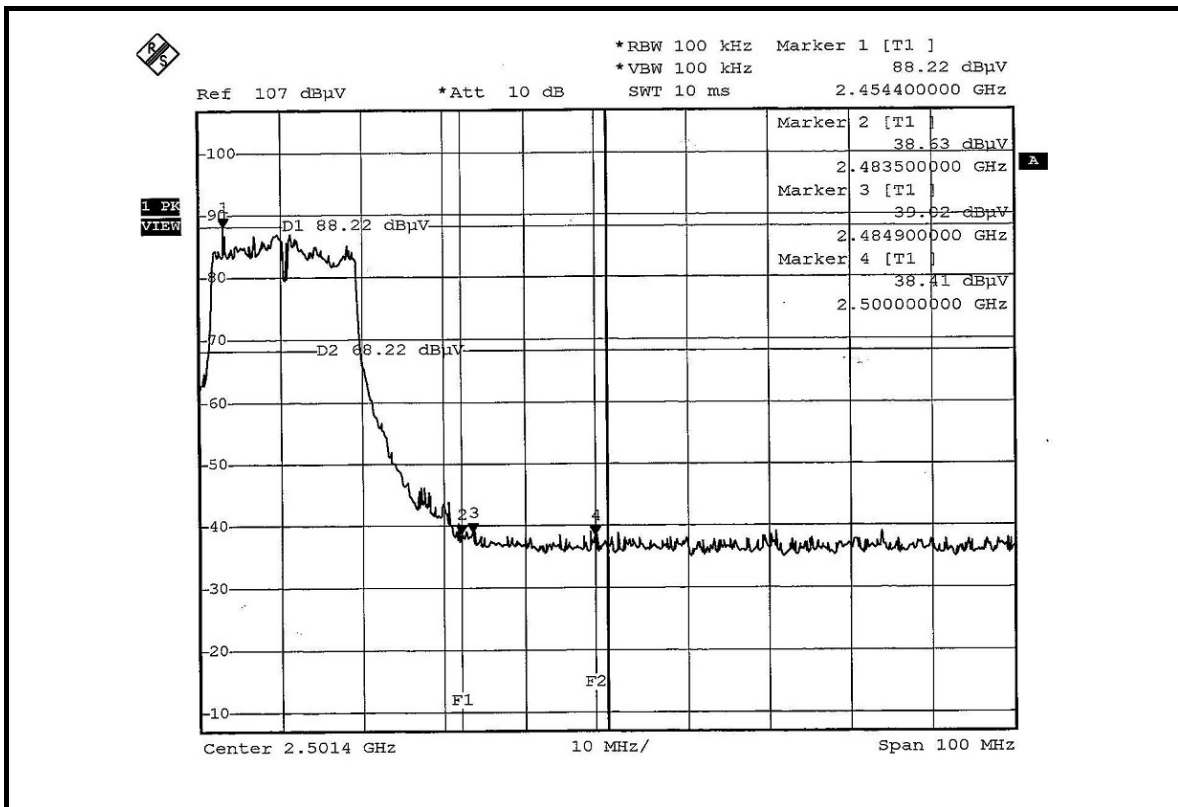
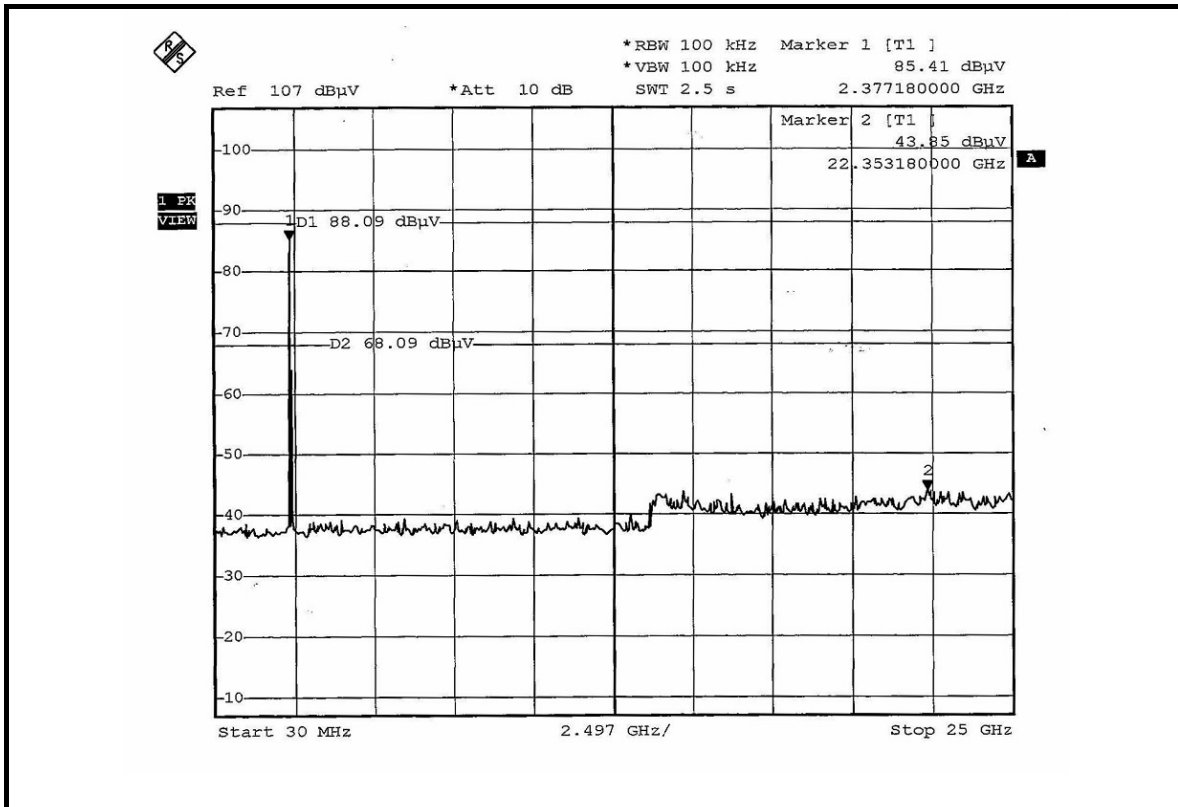
The band edge emission plot of on the next page shows 53.03dBc between carrier maximum power and local maximum emission in restrict band (2.39000GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2.7 is 104.45dBuV/m (Average), so the maximum field strength in restrict band is  $104.45 - 53.03 = 51.42$ dBuV/m which is under 54dBuV/m limit.

**NOTE 2:** The band edge emission plot on the next second page shows 49.20dBc between carrier maximum power and local maximum emission in restrict band (2.48490GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2.7 is 115.76dBuV/m (Peak), so the maximum field strength in restrict band is  $115.76 - 49.20 = 66.56$ dBuV/m which is under 74dBuV/m limit.

The band edge emission plot on the next third page shows 53.14dBc 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 105.94dBuV/m (Average), so the maximum field strength in restrict band is  $105.94 - 53.14 = 52.80$ dBuV/m which is under 54dBuV/m limit.









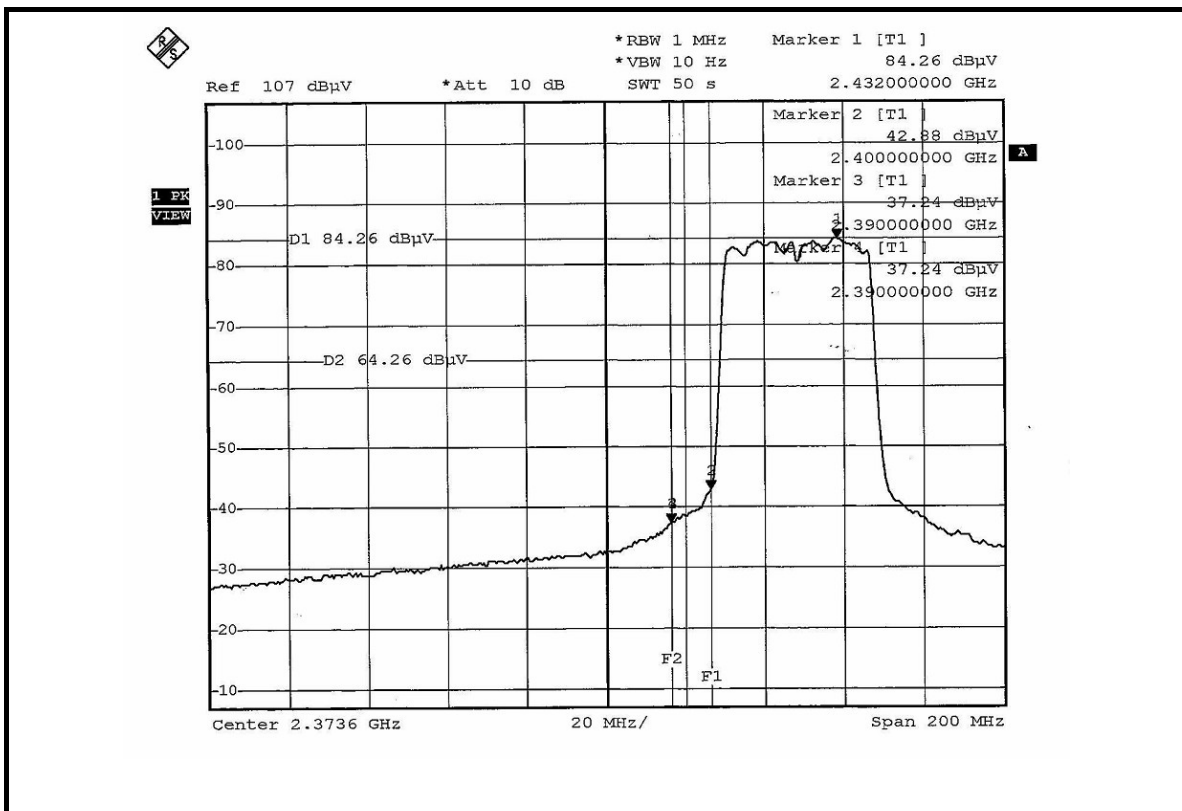
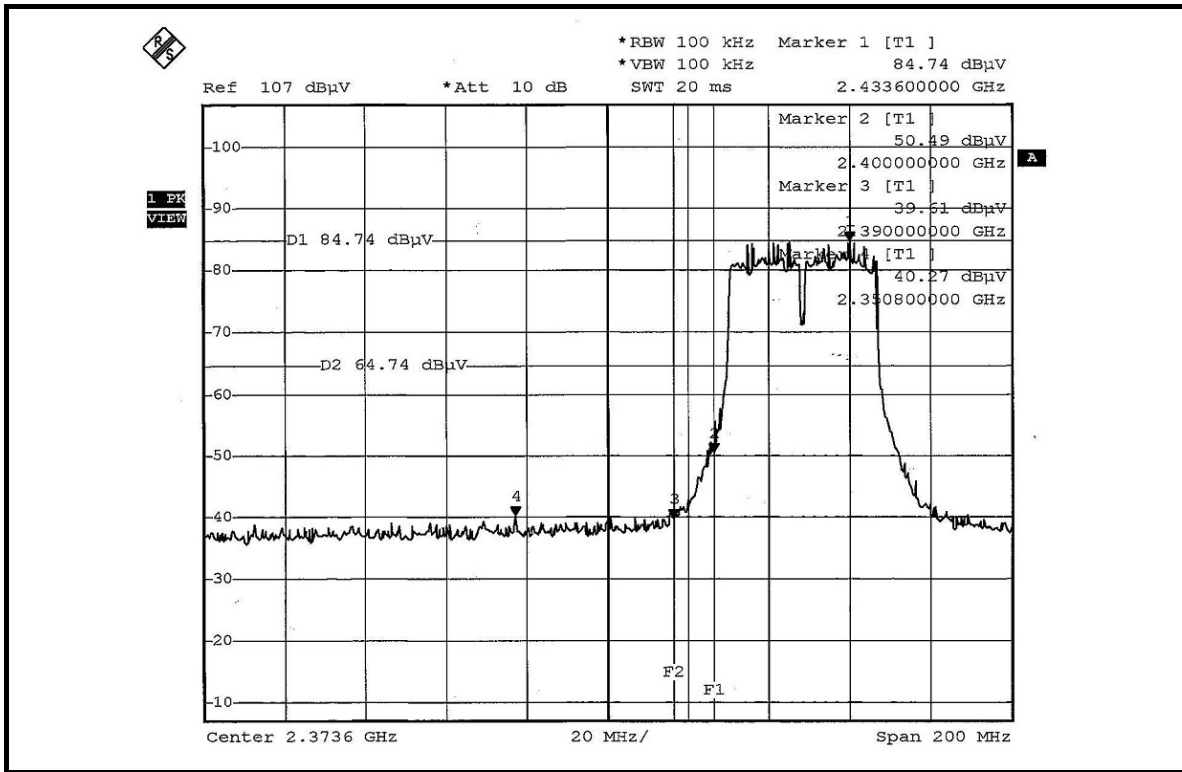
### DRAFT 802.11n (40MHz) OFDM MODULATION:

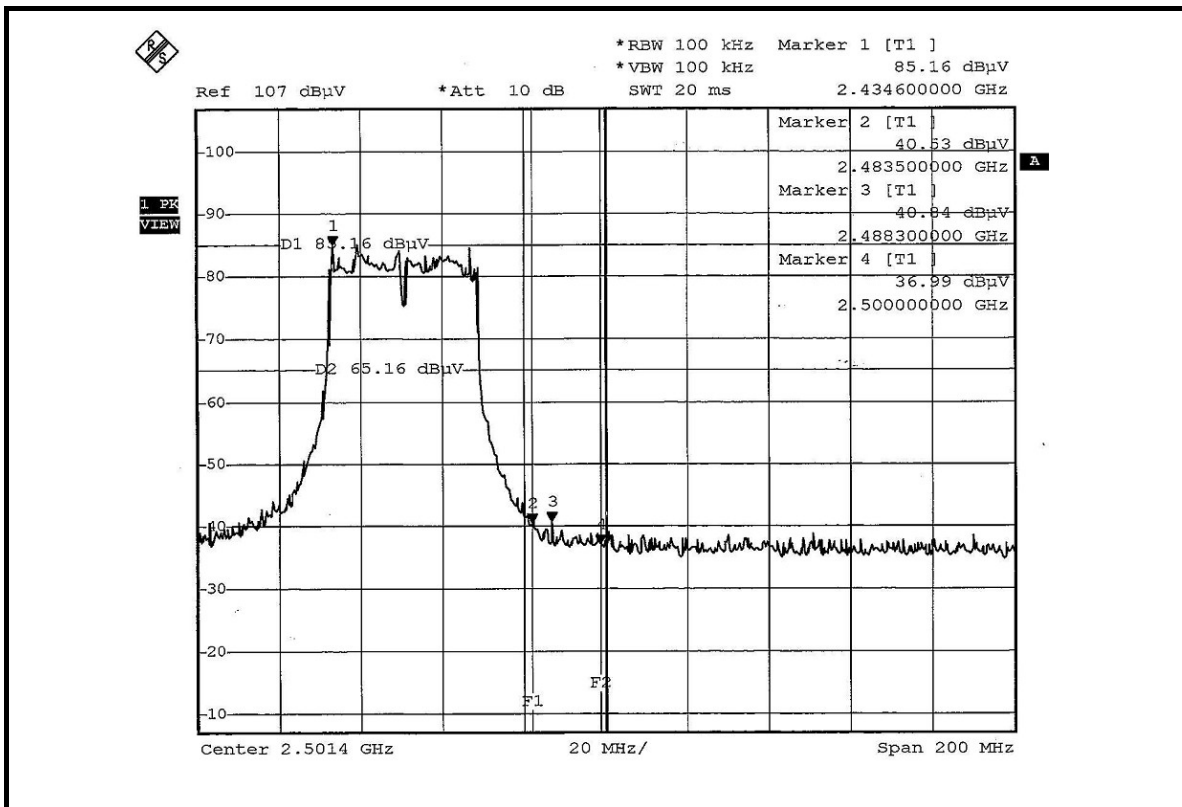
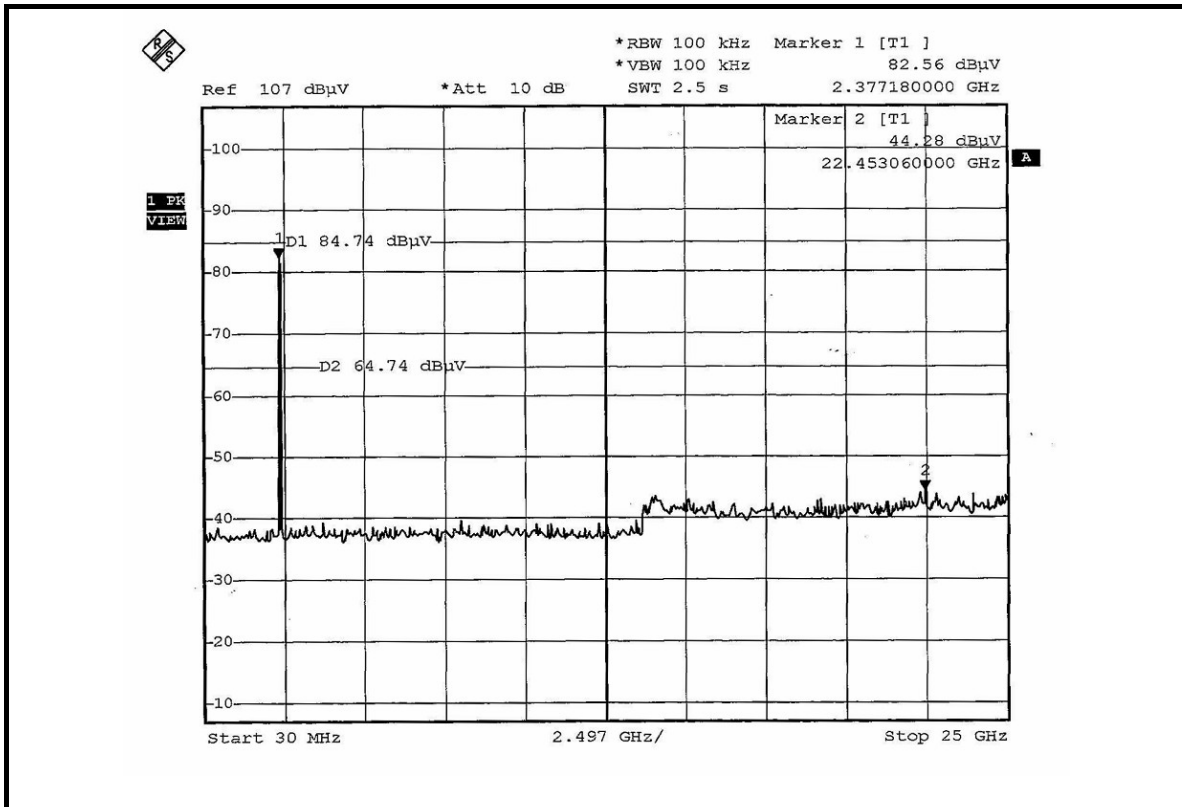
**NOTE 1:** The band edge emission plot on the next page shows 44.47dBc between carrier maximum power and local maximum emission in restrict band (2.35080GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2.7 is 109.34dBuV/m (Peak), so the maximum field strength in restrict band is  $109.34 - 44.47 = 64.87$ dBuV/m which is under 74dBuV/m limit.

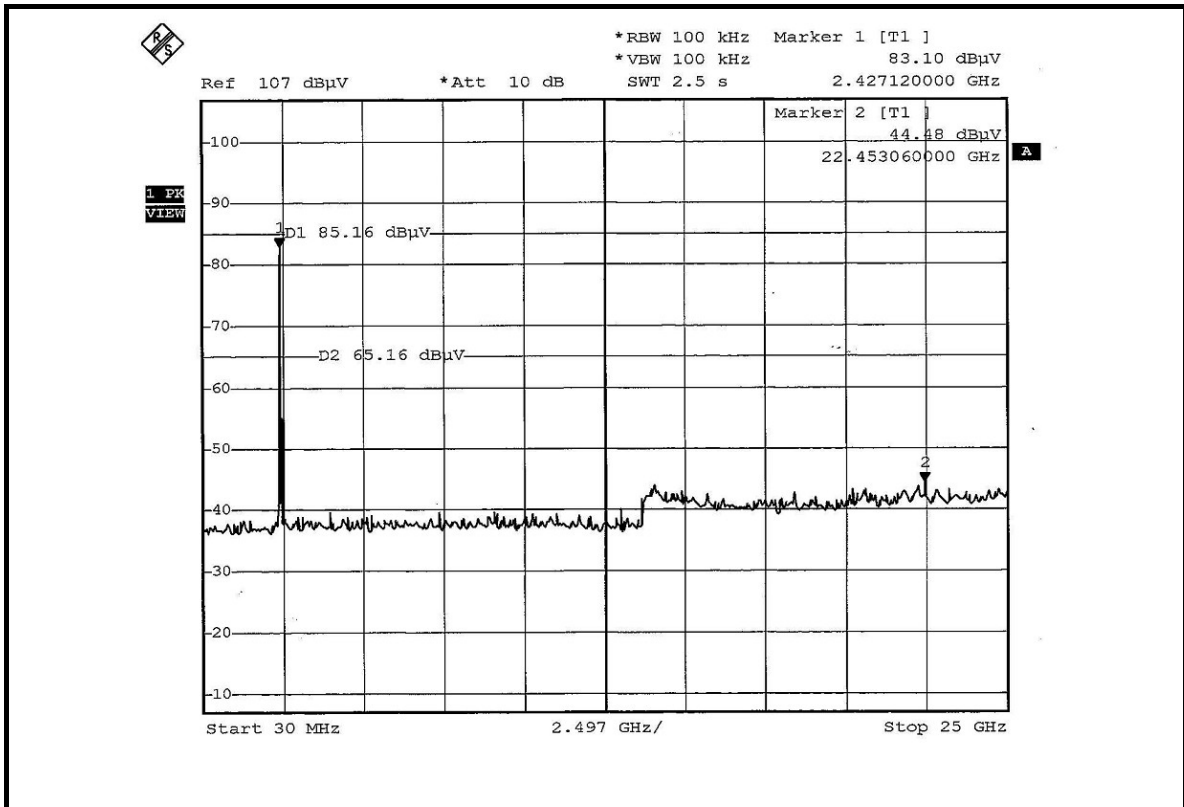
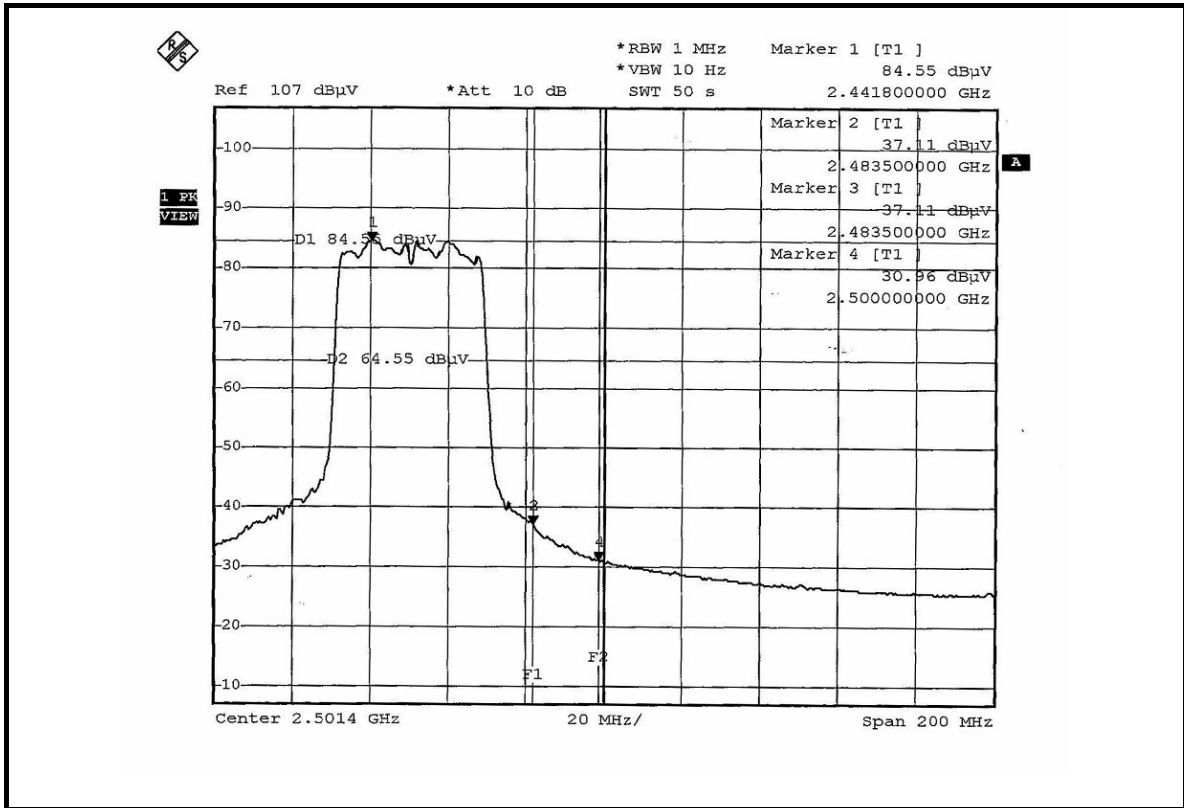
The band edge emission plot of on the next page shows 47.02dBc between carrier maximum power and local maximum emission in restrict band (2.39000GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2.7 is 99.64dBuV/m (Average), so the maximum field strength in restrict band is  $99.64 - 47.02 = 52.62$ dBuV/m which is under 54dBuV/m limit.

**NOTE 2:** The band edge emission plot on the next second page shows 44.32dBc between carrier maximum power and local maximum emission in restrict band (2.48830GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2.7 is 111.12dBuV/m (Peak), so the maximum field strength in restrict band is  $111.12 - 44.32 = 66.80$ dBuV/m which is under 74dBuV/m limit.

The band edge emission plot on the next third page shows 47.44dBc 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 101.41dBuV/m (Average), so the maximum field strength in restrict band is  $101.41 - 47.44 = 53.97$ dBuV/m which is under 54dBuV/m limit.









## **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. TEST TYPES AND RESULTS (FOR 5.0GHz)

### 5.1 CONDUCTED EMISSION MEASUREMENT

#### 5.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY OF EMISSION (MHz)	CONDUCTED LIMIT (dB $\mu$ V)	
	Quasi-peak	Average
0.15 ~ 0.5	66 to 56	56 to 46
0.5 ~ 5	56	46
5 ~ 30	60	50

- NOTE:**
1. The lower limit shall apply at the transition frequencies.
  2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.
  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.

#### 5.1.2 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.

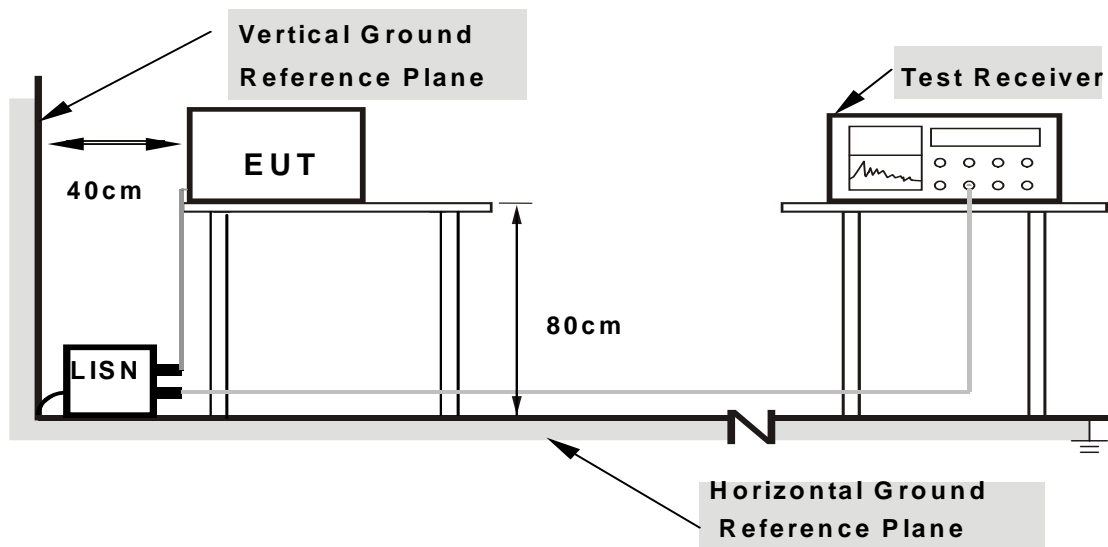
### 5.1.3 TEST PROCEDURES

- 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.

### 5.1.4 DEVIATION FROM TEST STANDARD

No deviation

### 5.1.5 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).

### 5.1.6 EUT OPERATING CONDITIONS

Same as 4.1.6

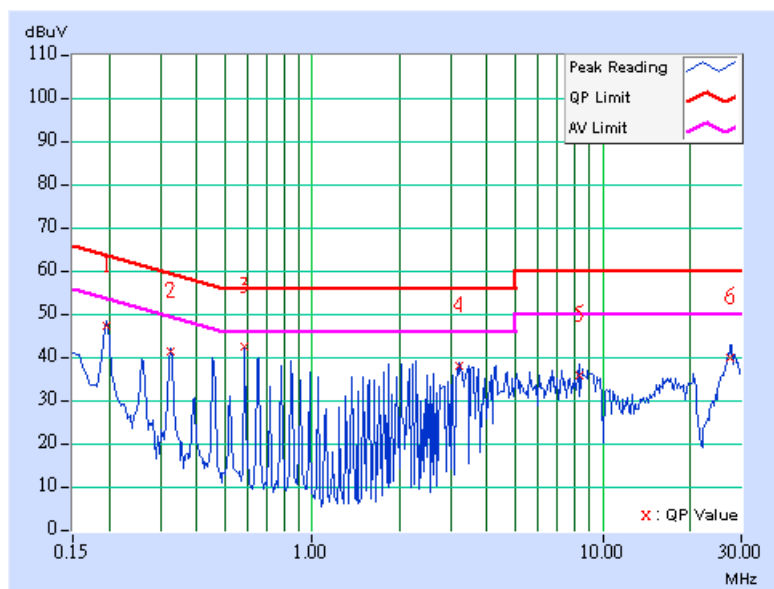
### 5.1.7 TEST RESULTS

#### CONDUCTED WORST-CASE DATA: 802.11a OFDM MODULATION:

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

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.197	0.10	46.43	-	46.53	-	63.74	53.74	-17.21	-
2	0.326	0.10	40.56	-	40.66	-	59.56	49.56	-18.90	-
<b>3</b>	<b>0.588</b>	<b>0.10</b>	<b>41.56</b>	-	<b>41.66</b>	-	<b>56.00</b>	<b>46.00</b>	<b>-14.34</b>	-
4	3.195	0.26	37.15	-	37.41	-	56.00	46.00	-18.59	-
5	8.285	0.32	34.90	-	35.22	-	60.00	50.00	-24.78	-
6	27.527	1.03	38.93	-	39.96	-	60.00	50.00	-20.04	-

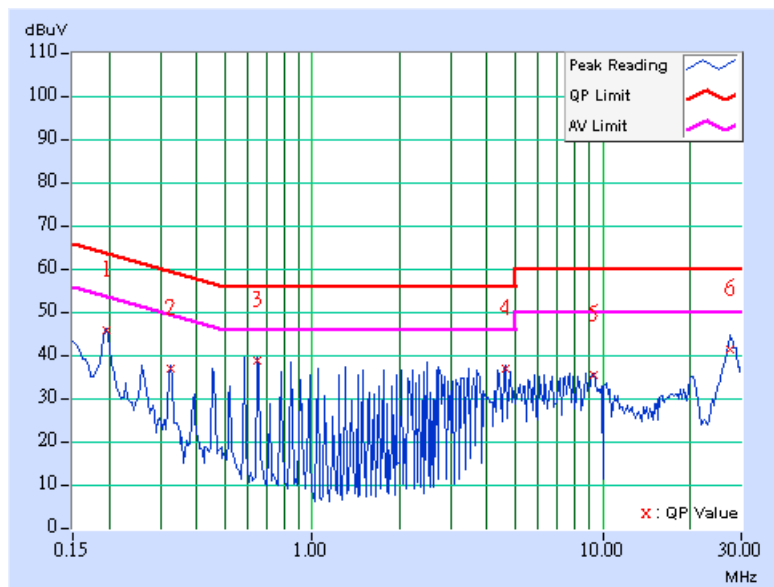
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
  2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
  3. The emission levels of other frequencies were very low against the limit.
  4. Margin value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

No	Freq. [MHz]	Corr.	Reading Value		Emission Level		Limit		Margin	
		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.196	0.10	45.27	-	45.37	-	63.80	53.80	-18.43	-
2	0.326	0.10	36.19	-	36.29	-	59.56	49.56	-23.27	-
3	0.650	0.15	38.15	-	38.30	-	56.00	46.00	-17.70	-
4	4.621	0.30	36.03	-	36.33	-	56.00	46.00	-19.67	-
5	9.377	0.41	34.86	-	35.27	-	60.00	50.00	-24.73	-
6	27.546	0.83	40.65	-	41.48	-	60.00	50.00	-18.52	-

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

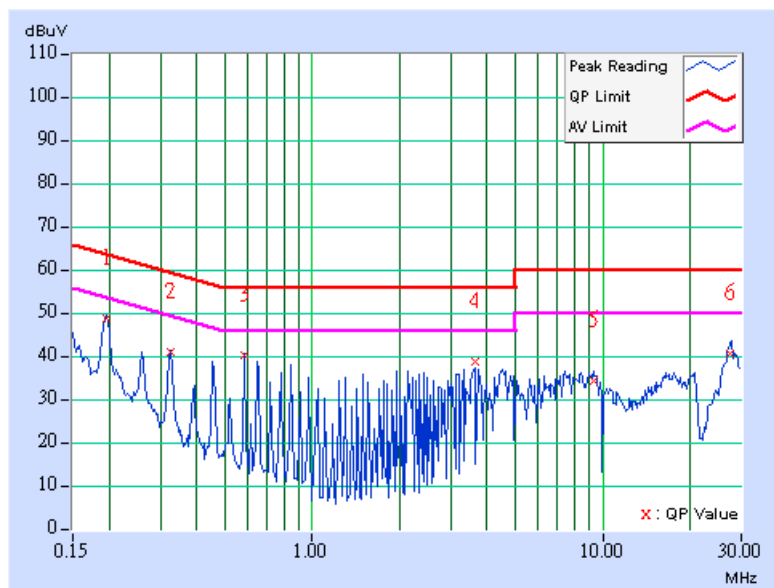


**DRAFT 802.11n (20MHz) OFDM MODULATION:**

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

No	Freq. [MHz]	Corr.	Reading Value		Emission Level		Limit		Margin	
		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.197	0.10	47.75	-	47.85	-	63.74	53.74	-15.89	-
2	0.326	0.10	39.95	-	40.05	-	59.56	49.56	-19.51	-
3	0.584	0.10	39.36	-	39.46	-	56.00	46.00	-16.54	-
4	3.645	0.27	37.74	-	38.01	-	56.00	46.00	-17.99	-
5	9.308	0.32	33.46	-	33.78	-	60.00	50.00	-26.22	-
6	27.410	1.02	39.78	-	40.80	-	60.00	50.00	-19.20	-

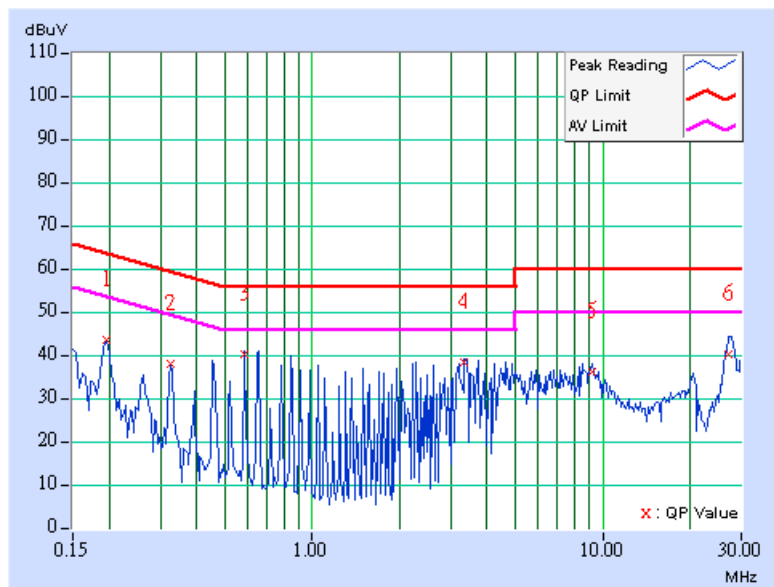
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
  2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
  3. The emission levels of other frequencies were very low against the limit.
  4. Margin value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



EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	PHASE	Line 2
MODULATION TYPE	BPSK	INPUT POWER (SYSTEM)	120Vac, 60Hz
TRANSFER RATE	7.2Mbps	6dB BANDWIDTH	9kHz
ENVIRONMENTAL CONDITIONS	20deg. C, 60%RH, 991hPa	TESTED BY	Match Tsui

No	Freq. [MHz]	Corr.	Reading Value		Emission Level		Limit		Margin	
		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.197	0.10	42.96	-	43.06	-	63.74	53.74	-20.68	-
2	0.326	0.10	37.26	-	37.36	-	59.56	49.56	-22.20	-
3	0.588	0.13	39.58	-	39.71	-	56.00	46.00	-16.29	-
4	3.329	0.26	37.74	-	38.00	-	56.00	46.00	-18.00	-
5	9.199	0.41	35.65	-	36.06	-	60.00	50.00	-23.94	-
6	27.210	0.82	39.51	-	40.33	-	60.00	50.00	-19.67	-

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

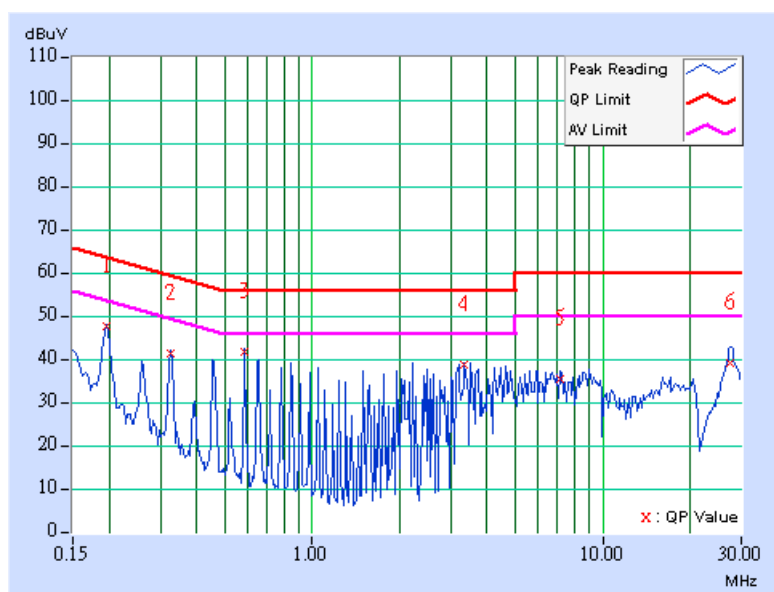


**DRAFT 802.11n (40MHz) OFDM MODULATION:**

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

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	0.197	0.10	46.85	-	46.95	-	63.75	53.75	-16.80	-
2	0.326	0.10	40.60	-	40.70	-	59.55	49.55	-18.85	-
3	0.588	0.10	40.98	-	41.08	-	56.00	46.00	-14.92	-
4	3.328	0.26	37.86	-	38.12	-	56.00	46.00	-17.88	-
5	7.114	0.31	34.63	-	34.94	-	60.00	50.00	-25.06	-
6	27.405	1.02	38.35	-	39.37	-	60.00	50.00	-20.63	-

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

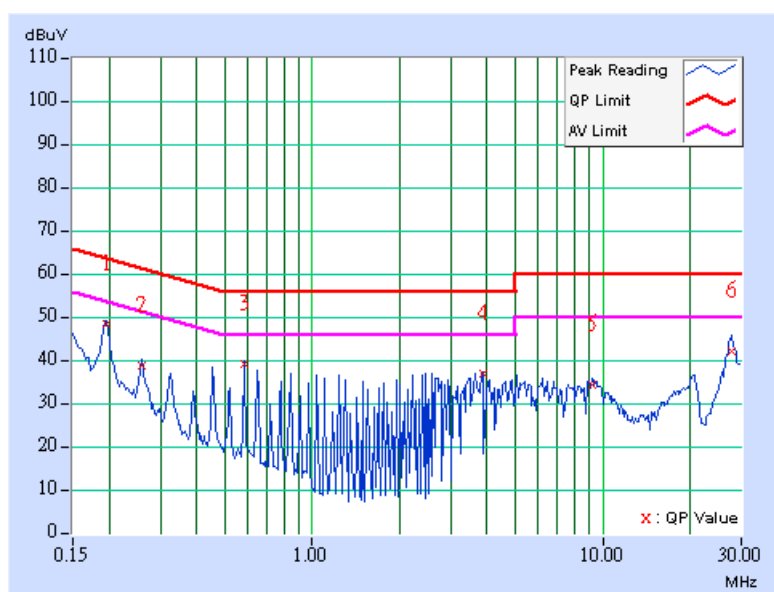




EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	PHASE	Line 2
MODULATION TYPE	BPSK	INPUT POWER (SYSTEM)	120Vac, 60Hz
TRANSFER RATE	15.0Mbps	6dB BANDWIDTH	9kHz
ENVIRONMENTAL CONDITIONS	20deg. C, 60%RH, 991hPa	TESTED BY	Match Tsui

No	Freq. [MHz]	Corr.	Reading Value		Emission Level		Limit		Margin	
		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.196	0.10	47.59	-	47.69	-	63.80	53.80	-16.11	-
2	0.259	0.10	38.08	-	38.18	-	61.45	51.45	-23.27	-
3	0.584	0.13	38.36	-	38.49	-	56.00	46.00	-17.51	-
4	3.897	0.28	36.21	-	36.49	-	56.00	46.00	-19.51	-
5	9.162	0.41	33.43	-	33.84	-	60.00	50.00	-26.16	-
6	27.812	0.84	41.47	-	42.31	-	60.00	50.00	-17.69	-

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



## 5.2 RADIATED EMISSION MEASUREMENT

### 5.2.1 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.



## 5.2.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
Test Receiver ROHDE & SCHWARZ	ESCI	100424	Aug. 04, 2007
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100269	Aug. 07, 2007
BILOG Antenna SCHWARZBECK	VULB9168	9168-153	Jan. 04, 2008
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-563	Jul. 26, 2007
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170242	Jan. 16, 2008
Preamplifier Agilent	8449B	3008A01911	Sep. 13, 2007
Preamplifier Agilent	8447D	2944A10638	Dec. 20, 2007
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	218188/218189	Nov. 14, 2007
RF signal cable Worken	8D-FB	Cable-HYCH9-01	Aug. 16, 2007
Software	ADT_Radiated_V7.6	NA	NA
Antenna Tower EMCO	2070/2080	512.835.4684	NA
Turn Table EMCO	2087-2.03	NA	NA
Antenna Tower & Turn Table Controller EMCO	2090	NA	NA

- NOTE:**
1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
  2. The test was performed in HwaYa Chamber 9.
  3. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
  4. The IC Site Registration No. is IC3789B-9.

### 5.2.3 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.

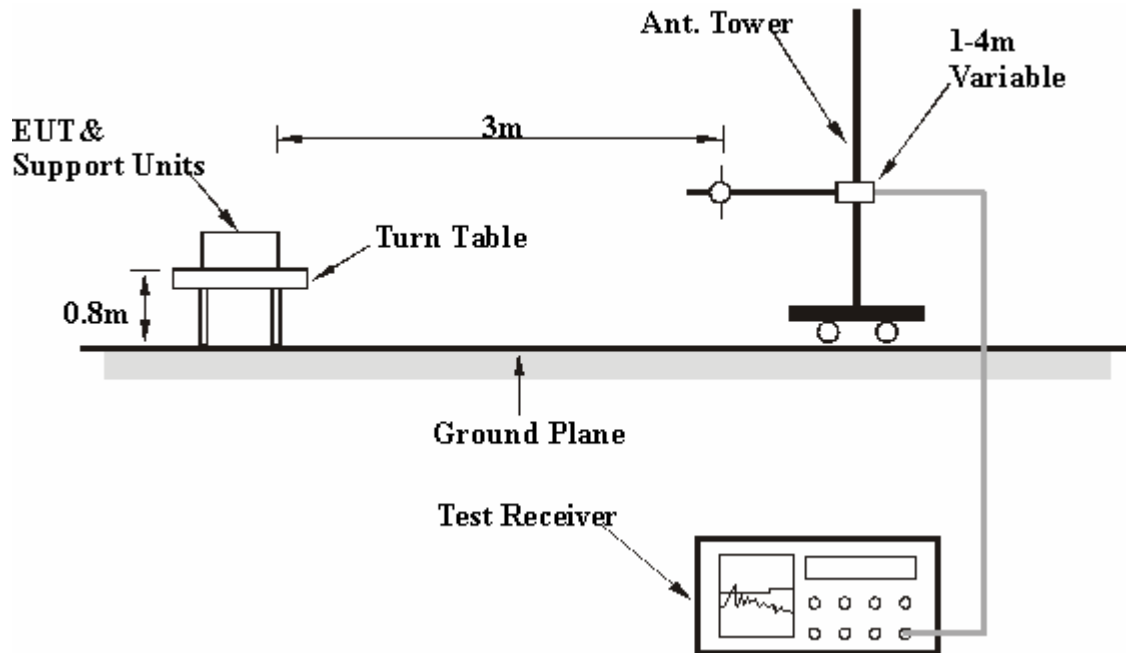
**NOTE:**

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz 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.

### 5.2.4 DEVIATION FROM TEST STANDARD

No deviation

### 5.2.5 TEST SETUP



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

### 5.2.6 EUT OPERATING CONDITIONS

Same as 4.1.6



## 5.2.7 TEST RESULTS

### BELOW 1GHz WORST-CASE DATA: 802.11a OFDM MODULATION:

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	Below 1000MHz
MODULATION TYPE	BPSK	TRANSFER RATE	6.0Mbps
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	23deg. C, 65%RH, 991hPa	TESTED BY	Lori Chiu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3m								
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	28.36 QP	40.00	-11.64	1.00 H	175	14.89	13.47
2	105.73	31.19 QP	43.50	-12.31	1.50 H	286	21.35	9.84
3	199.05	33.88 QP	43.50	-9.62	1.50 H	109	23.49	10.40
4	249.60	34.04 QP	46.00	-11.96	1.00 H	91	21.51	12.54
5	500.42	33.22 QP	46.00	-12.78	2.00 H	10	14.45	18.76
6	574.30	35.32 QP	46.00	-10.68	1.50 H	223	14.82	20.50
7	700.68	33.70 QP	46.00	-12.30	1.00 H	202	11.69	22.01
8	799.84	36.54 QP	46.00	-9.46	1.00 H	334	12.18	24.36

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3m								
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	35.35 QP	40.00	-4.65	1.00 V	337	21.88	13.47
2	94.06	37.39 QP	43.50	-6.11	1.00 V	223	28.32	9.07
3	105.73	40.99 QP	43.50	-2.51	1.50 V	304	31.15	9.84
4	166.00	31.34 QP	43.50	-12.16	1.00 V	103	18.31	13.03
5	199.05	36.67 QP	43.50	-6.83	1.00 V	127	26.27	10.40
6	249.60	36.68 QP	46.00	-9.32	1.00 V	157	24.15	12.54
7	500.42	36.46 QP	46.00	-9.54	1.00 V	70	17.69	18.76
8	566.52	33.65 QP	46.00	-12.35	1.00 V	226	13.33	20.31
9	799.84	35.42 QP	46.00	-10.58	1.00 V	238	11.06	24.36

- 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	TRANSFER RATE	7.2Mbps
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	23deg. C, 65%RH, 991hPa	TESTED BY	Lori Chiu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3m								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	199.05	34.31 QP	43.50	-9.19	1.50 H	121	23.91	10.40
2	249.60	36.36 QP	46.00	-9.64	1.00 H	67	23.83	12.54
3	500.42	36.98 QP	46.00	-9.02	1.50 H	193	18.22	18.76
4	566.52	35.43 QP	46.00	-10.57	1.50 H	61	15.12	20.31
5	700.68	33.88 QP	46.00	-12.12	1.00 H	202	11.87	22.01
6	799.84	36.51 QP	46.00	-9.49	1.50 H	10	12.14	24.36

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3m								
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	37.52 QP	40.00	-2.48	1.00 V	28	24.06	13.47
2	94.06	32.50 QP	43.50	-11.00	1.00 V	283	23.43	9.07
3	105.73	34.98 QP	43.50	-8.52	1.00 V	220	25.14	9.84
4	199.05	35.24 QP	43.50	-8.26	1.00 V	220	24.84	10.40
5	249.60	34.92 QP	46.00	-11.08	1.00 V	304	22.39	12.54
6	500.42	35.74 QP	46.00	-10.26	1.00 V	10	16.97	18.76

- 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	TRANSFER RATE	15.0Mbps
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	23deg. C, 65%RH, 991hPa	TESTED BY	Lori Chiu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3m								
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	28.44 QP	40.00	-11.56	1.00 H	115	14.98	13.47
2	105.73	30.22 QP	43.50	-13.28	1.50 H	274	20.38	9.84
3	199.05	33.40 QP	43.50	-10.10	1.00 H	109	23.00	10.40
4	500.42	32.70 QP	46.00	-13.30	1.00 H	208	13.94	18.76
5	634.57	32.61 QP	46.00	-13.39	1.00 H	85	11.20	21.41
6	700.68	33.34 QP	46.00	-12.66	1.00 H	202	11.34	22.01
7	766.79	32.04 QP	46.00	-13.96	1.00 H	205	8.46	23.59
8	799.84	36.51 QP	46.00	-9.49	1.00 H	334	12.14	24.36

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3m								
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	35.07 QP	40.00	-4.93	1.50 V	10	21.60	13.47
2	94.06	37.29 QP	43.50	-6.21	1.00 V	295	28.22	9.07
3	105.73	40.97 QP	43.50	-2.53	1.50 V	295	31.13	9.84
4	166.00	31.13 QP	43.50	-12.37	1.00 V	25	18.10	13.03
5	199.05	33.90 QP	43.50	-9.60	1.50 V	10	23.50	10.40
6	249.60	36.26 QP	46.00	-9.74	1.00 V	316	23.72	12.54
7	500.42	35.17 QP	46.00	-10.83	1.00 V	70	16.41	18.76
8	566.52	33.55 QP	46.00	-12.45	1.00 V	268	13.23	20.31
9	799.84	34.51 QP	46.00	-11.49	1.00 V	226	10.15	24.36
10	926.22	33.17 QP	46.00	-12.83	1.00 V	187	7.63	25.53

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





**ABOVE 1GHz DATA: 802.11a OFDM MODULATION:**

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 40GHz
MODULATION TYPE	BPSK	TRANSFER RATE	6.0Mbps
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 65%RH, 991hPa	TESTED BY	Lori Chiu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3m								
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	5725.00	69.73 PK	78.94	-9.21	1.32 H	270	31.80	37.93
2	5725.00	56.30 AV	68.13	-11.83	1.32 H	270	18.37	37.93
3	*5745.00	98.94 PK			1.32 H	271	60.96	37.98
4	*5745.00	88.13 AV			1.32 H	271	50.15	37.98
5	#11490.00	61.54 PK	74.00	-12.46	1.00 H	225	14.07	47.47
6	#11490.00	46.85 AV	54.00	-7.15	1.00 H	225	-0.62	47.47

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3m								
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	5725.00	78.93 PK	90.97	-12.04	1.00 V	250	41.00	37.93
2	5725.00	62.22 AV	79.75	-17.53	1.00 V	250	24.29	37.93
3	*5745.00	110.97 PK			1.00 V	250	72.99	37.98
4	*5745.00	99.75 AV			1.00 V	250	61.77	37.98
5	#7660.00	56.03 PK	74.00	-17.97	1.71 V	281	12.97	43.06
6	#7660.00	50.48 AV	54.00	-3.52	1.71 V	281	7.42	43.06
7	#11490.00	62.02 PK	74.00	-11.98	1.29 V	57	14.55	47.47
8	#11490.00	47.18 AV	54.00	-6.82	1.29 V	57	-0.29	47.47

- 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.
  6. “ # ”: The radiated frequency falling in the restricted band.
  7. The limit value is defined as per 15.247.



EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 3	FREQUENCY RANGE	1 ~ 40GHz
MODULATION TYPE	BPSK	TRANSFER RATE	6.0Mbps
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 65%RH, 991hPa	TESTED BY	Lori Chiu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3m								
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	*5785.00	98.66 PK			1.21 H	310	60.59	38.07
2	*5785.00	88.02 AV			1.21 H	310	49.95	38.07
3	#11490.00	60.36 PK	74.00	-13.64	1.10 H	260	12.89	47.47
4	#11490.00	46.91 AV	54.00	-7.09	1.10 H	260	-0.56	47.47

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3m								
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	*5785.00	110.57 PK			1.00 V	233	72.50	38.07
2	*5785.00	99.31 AV			1.00 V	233	61.24	38.07
3	#7713.00	55.67 PK	74.00	-18.33	1.63 V	210	12.52	43.15
4	#7713.00	50.13 AV	54.00	-3.87	1.63 V	210	6.98	43.15
5	#11570.00	61.82 PK	74.00	-12.18	1.15 V	264	14.43	47.39
6	#11570.00	47.10 AV	54.00	-6.90	1.15 V	264	-0.29	47.39

- REMARKS:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
  2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
  3. The other emission levels were very low against the limit.
  4. Margin value = Emission level – Limit value.
  5. “ \* “: Fundamental frequency.
  6. “ # “: The radiated frequency falling in the restricted band.
  7. The limit value is defined as per 15.247.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 5	FREQUENCY RANGE	1 ~ 40GHz
MODULATION TYPE	BPSK	TRANSFER RATE	6.0Mbps
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 65%RH, 991hPa	TESTED BY	Lori Chiu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3m								
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	*5825.00	98.52 PK			1.06 H	227	60.35	38.17
2	*5825.00	87.87 AV			1.06 H	227	49.70	38.17
3	5850.00	67.22 PK	78.52	-11.30	1.05 H	227	28.99	38.23
4	5850.00	55.98 AV	67.87	-11.89	1.05 H	227	17.75	38.23
5	#11650.00	59.51 PK	74.00	-14.49	1.00 H	12	12.20	47.31
6	#11650.00	45.62 AV	54.00	-8.38	1.00 H	12	-1.69	47.31

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3m								
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	*5825.00	110.04 PK			1.05 V	38	71.87	38.17
2	*5825.00	99.16 AV			1.05 V	38	60.99	38.17
3	5850.00	70.56 PK	90.04	-19.48	1.05 V	38	32.33	38.23
4	5850.00	57.67 AV	79.16	-21.49	1.05 V	38	19.44	38.23
5	7766.00	55.32 PK	90.04	-34.72	1.55 V	189	12.08	43.24
6	7766.00	50.09 AV	79.16	-29.07	1.55 V	189	6.85	43.24
7	#11650.00	60.64 PK	74.00	-13.36	1.15 V	244	13.33	47.31
8	#11650.00	46.35 AV	54.00	-7.65	1.15 V	244	-0.96	47.31

- 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.
  6. “ # ”: The radiated frequency falling in the restricted band.
  7. The limit value is defined as per 15.247.



**DRAFT 802.11n (20MHz) OFDM MODULATION:**

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 40GHz
MODULATION TYPE	BPSK	TRANSFER RATE	7.2Mbps
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 65%RH, 991hPa	TESTED BY	Lori Chiu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3m								
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	5725.00	67.59 PK	77.08	-9.49	1.05 H	26	29.66	37.93
2	5725.00	55.43 AV	67.05	-11.62	1.05 H	26	17.50	37.93
3	*5745.00	97.08 PK			1.03 H	32	59.10	37.98
4	*5745.00	87.05 AV			1.03 H	32	49.07	37.98
5	#7660.00	55.25 PK	74.00	-18.75	1.43 H	22	12.19	43.06
6	#7660.00	50.71 AV	54.00	-3.29	1.43 H	22	7.65	43.06
7	#11490.00	54.25 PK	74.00	-19.75	1.23 H	325	6.78	47.47
8	#11490.00	41.89 AV	54.00	-12.11	1.23 H	325	-5.58	47.47

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3m								
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	5725.00	73.89 PK	89.28	-15.39	1.25 V	315	35.96	37.93
2	5725.00	57.76 AV	78.76	-21.00	1.25 V	315	19.83	37.93
3	*5745.00	109.28 PK			1.08 V	15	71.30	37.98
4	*5745.00	98.76 AV			1.08 V	15	60.78	37.98
5	#7660.00	56.95 PK	74.00	-17.05	1.35 V	26	13.89	43.06
6	#7660.00	52.67 AV	54.00	-1.33	1.35 V	26	9.61	43.06
7	#11490.00	56.98 PK	74.00	-17.02	1.62 V	25	9.51	47.47
8	#11490.00	43.75 AV	54.00	-10.25	1.62 V	25	-3.72	47.47

- 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.
  6. “ # ”: The radiated frequency falling in the restricted band.
  7. The limit value is defined as per 15.247.



EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 3	FREQUENCY RANGE	1 ~ 40GHz
MODULATION TYPE	BPSK	TRANSFER RATE	7.2Mbps
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 65%RH, 991hPa	TESTED BY	Lori Chiu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3m								
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	*5785.00	98.15 PK			1.19 H	243	60.08	38.07
2	*5785.00	88.83 AV			1.19 H	243	50.76	38.07
3	#7713.00	54.89 PK	74.00	-19.11	1.39 H	55	11.74	43.15
4	#7713.00	49.73 AV	54.00	-4.27	1.39 H	55	6.58	43.15
5	#11570.00	54.56 PK	74.00	-19.44	1.18 H	310	7.17	47.39
6	#11570.00	41.63 AV	54.00	-12.37	1.18 H	310	-5.76	47.39

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3m								
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	*5785.00	109.25 PK			1.10 V	325	71.18	38.07
2	*5785.00	99.13 AV			1.10 V	325	61.06	38.07
3	#7713.00	56.26 PK	74.00	-17.74	1.36 V	63	13.11	43.15
4	#7713.00	52.15 AV	54.00	-1.85	1.36 V	63	9.00	43.15
5	#11570.00	56.81 PK	74.00	-17.19	1.53 V	39	9.42	47.39
6	#11570.00	43.75 AV	54.00	-10.25	1.53 V	39	-3.64	47.39

- REMARKS:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
  2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
  3. The other emission levels were very low against the limit.
  4. Margin value = Emission level – Limit value.
  5. “ \* “: Fundamental frequency.
  6. “ # “: The radiated frequency falling in the restricted band.
  7. The limit value is defined as per 15.247.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 5	FREQUENCY RANGE	1 ~ 40GHz
MODULATION TYPE	BPSK	TRANSFER RATE	7.2Mbps
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 65%RH, 991hPa	TESTED BY	Lori Chiu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3m								
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	*5825.00	98.35 PK			1.18 H	265	60.18	38.17
2	*5825.00	88.81 AV			1.18 H	265	50.64	38.17
3	5850.00	67.43 PK	78.35	-10.92	1.16 H	321	29.20	38.23
4	5850.00	55.73 AV	68.81	-13.08	1.16 H	321	17.50	38.23
5	7766.00	56.15 PK	78.35	-22.20	1.35 H	15	12.91	43.24
6	7766.00	51.02 AV	68.81	-17.79	1.35 H	15	7.78	43.24
7	#11650.00	54.65 PK	74.00	-19.35	1.35 H	315	7.34	47.31
8	#11650.00	41.83 AV	54.00	-12.17	1.35 H	315	-5.48	47.31

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3m								
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	*5825.00	109.56 PK			1.33 V	52	71.39	38.17
2	*5825.00	99.01 AV			1.33 V	52	60.84	38.17
3	5850.00	68.71 PK	89.56	-20.85	1.13 V	35	30.48	38.23
4	5850.00	57.36 AV	79.01	-21.65	1.13 V	35	19.13	38.23
5	7766.00	57.43 PK	89.56	-32.13	1.50 V	56	14.19	43.24
6	7766.00	52.76 AV	79.01	-26.25	1.50 V	56	9.52	43.24
7	#11650.00	57.25 PK	74.00	-16.75	1.58 V	16	9.94	47.31
8	#11650.00	43.98 AV	54.00	-10.02	1.58 V	16	-3.33	47.31

- 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.
  6. “ # “: The radiated frequency falling in the restricted band.
  7. The limit value is defined as per 15.247.



**DRAFT 802.11n (40MHz) OFDM MODULATION:**

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 40GHz
MODULATION TYPE	BPSK	TRANSFER RATE	15.0Mbps
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 65%RH, 991hPa	TESTED BY	Lori Chiu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3m								
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	5725.00	68.38 PK	76.57	-8.19	1.01 H	210	30.45	37.93
2	5725.00	55.28 AV	65.73	-10.45	1.01 H	210	17.35	37.93
3	*5755.00	96.57 PK			1.01 H	211	58.57	38.00
4	*5755.00	85.73 AV			1.01 H	211	47.73	38.00
5	#11510.00	55.36 PK	74.00	-18.64	1.08 H	325	7.90	47.46
6	#11510.00	42.60 AV	54.00	-11.40	1.08 H	325	-4.86	47.46

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3m								
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	5725.00	74.37 PK	87.97	-13.60	1.33 V	94	36.44	37.93
2	5725.00	58.69 AV	77.55	-18.86	1.33 V	94	20.76	37.93
3	*5755.00	107.97 PK			1.06 V	184	69.97	38.00
4	*5755.00	97.55 AV			1.06 V	184	59.55	38.00
5	#7673.00	56.66 PK	74.00	-17.34	1.31 V	132	13.58	43.08
6	#7673.00	51.18 AV	54.00	-2.82	1.31 V	132	8.10	43.08
7	#11510.00	56.72 PK	74.00	-17.28	1.24 V	189	9.26	47.46
8	#11510.00	43.19 AV	54.00	-10.81	1.24 V	189	-4.27	47.46

- 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.
  6. “ # ”: The radiated frequency falling in the restricted band.
  7. The limit value is defined as per 15.247.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 2	FREQUENCY RANGE	1 ~ 40GHz
MODULATION TYPE	BPSK	TRANSFER RATE	15.0Mbps
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 65%RH, 991hPa	TESTED BY	Lori Chiu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3m								
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	*5795.00	96.42 PK			1.00 H	270	58.32	38.10
2	*5795.00	85.60 AV			1.00 H	270	47.50	38.10
3	5850.00	68.90 PK	76.42	-7.52	1.01 H	270	30.67	38.23
4	5850.00	55.47 AV	65.60	-10.13	1.01 H	270	17.24	38.23
5	#11590.00	55.58 PK	74.00	-18.42	1.22 H	174	8.21	47.37
6	#11590.00	42.69 AV	54.00	-11.31	1.22 H	174	-4.68	47.37

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3m								
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	*5795.00	107.90 PK			1.31 V	77	69.80	38.10
2	*5795.00	97.30 AV			1.31 V	77	59.20	38.10
3	5850.00	69.04 PK	87.90	-18.86	1.31 V	77	30.81	38.23
4	5850.00	55.89 AV	77.30	-21.41	1.31 V	77	17.66	38.23
5	#7726.00	56.70 PK	74.00	-17.30	1.26 V	243	13.53	43.17
6	#7726.00	51.35 AV	54.00	-2.65	1.26 V	243	8.18	43.17
7	#11590.00	56.84 PK	74.00	-17.16	1.01 V	211	9.47	47.37
8	#11590.00	43.50 AV	54.00	-10.50	1.01 V	211	-3.87	47.37

- REMARKS:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
  2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
  3. The other emission levels were very low against the limit.
  4. Margin value = Emission level – Limit value.
  5. “ \* “: Fundamental frequency.
  6. “ # “: The radiated frequency falling in the restricted band.
  7. The limit value is defined as per 15.247.





### 5.3 6dB BANDWIDTH MEASUREMENT

#### 5.3.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT

The minimum of 6dB Bandwidth Measurement is 0.5MHz.

#### 5.3.2 TEST INSTRUMENTS

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

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

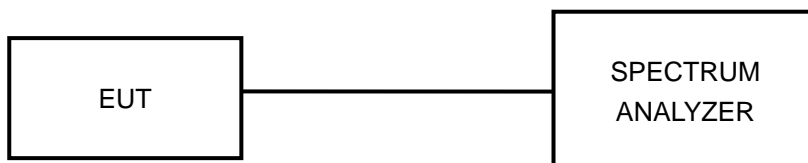
#### 5.3.3 TEST PROCEDURE

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

#### 5.3.4 DEVIATION FROM TEST STANDARD

No deviation

#### 5.3.5 TEST SETUP



#### 5.3.6 EUT OPERATING CONDITIONS

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

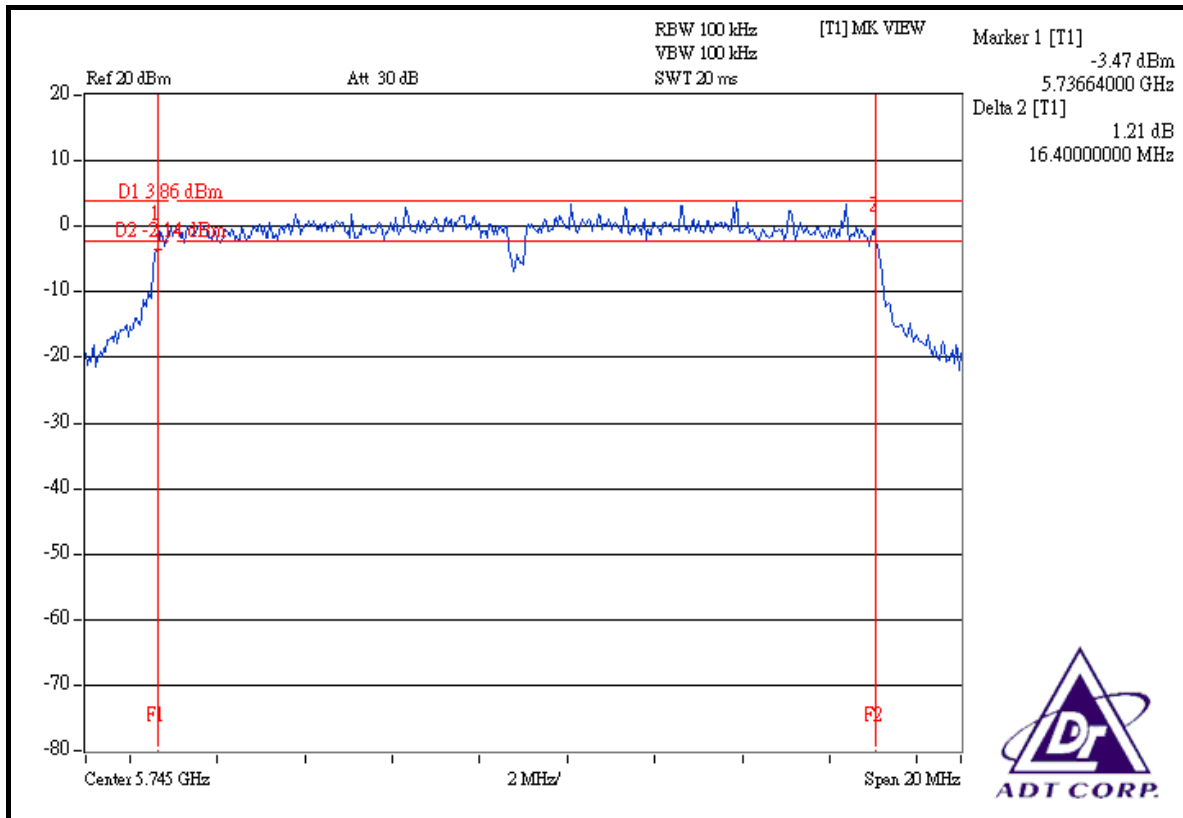
### 5.3.7 TEST RESULTS

#### 802.11a OFDM MODULATION:

<b>MODULATION TYPE</b>	BPSK	<b>TRANSFER RATE</b>	6.0Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60Hz	<b>ENVIRONMENTAL CONDITIONS</b>	25deg.C, 65%RH, 991hPa
<b>TESTED BY</b>	Long Chen		

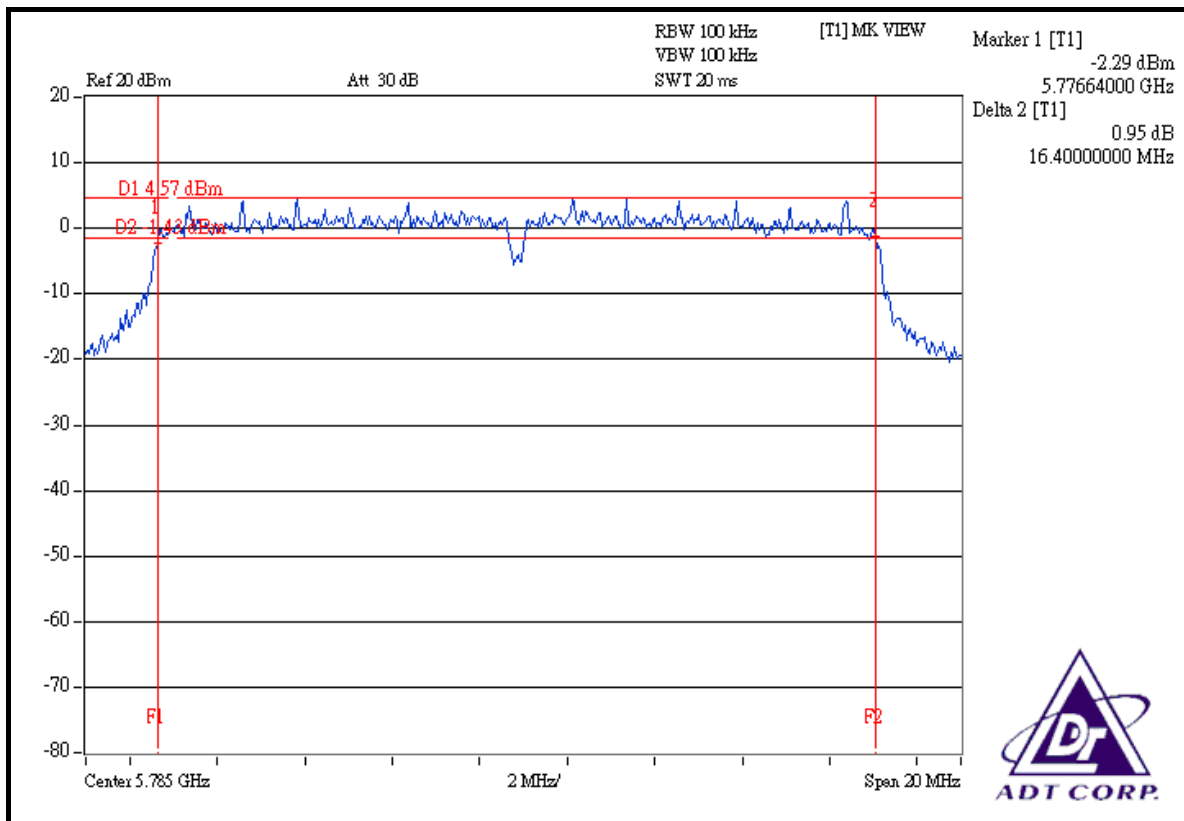
CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	5745	16.40	0.5	PASS
3	5785	16.40	0.5	PASS
5	5825	16.36	0.5	PASS

#### CH 1

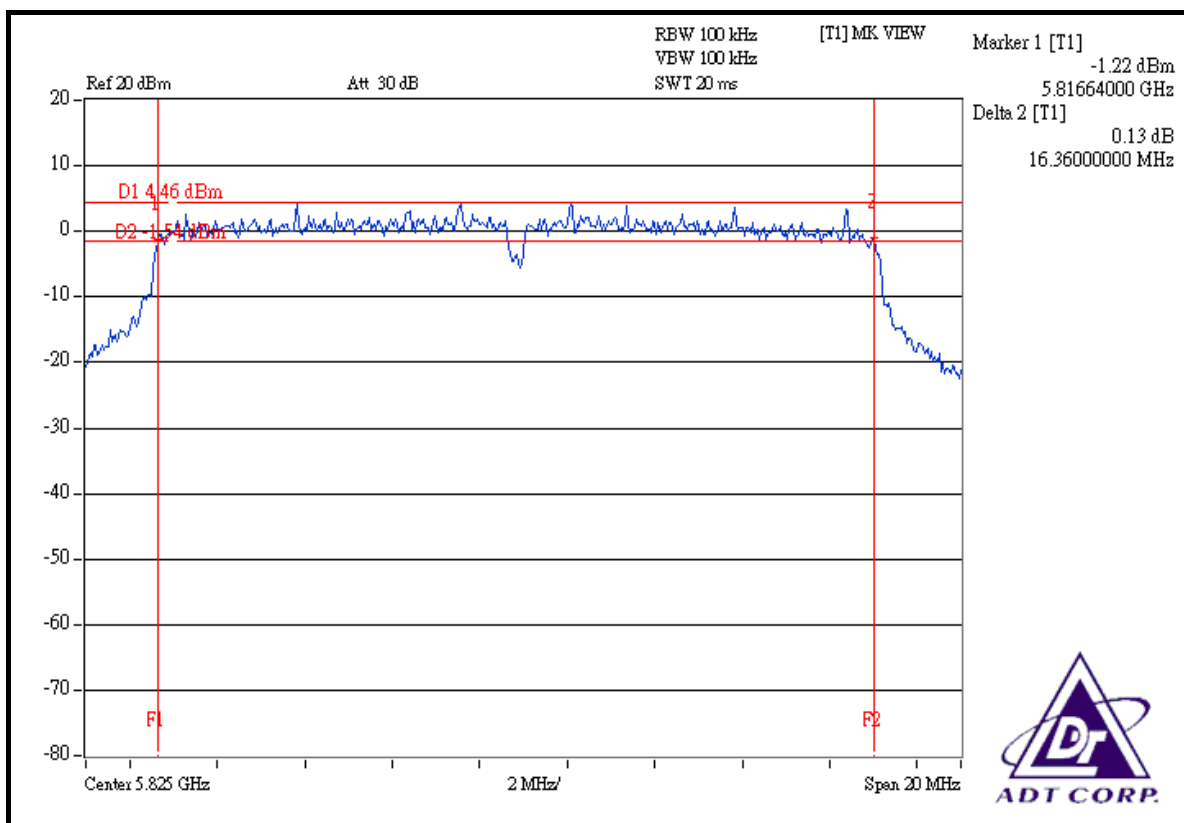




### CH 3



### CH 5



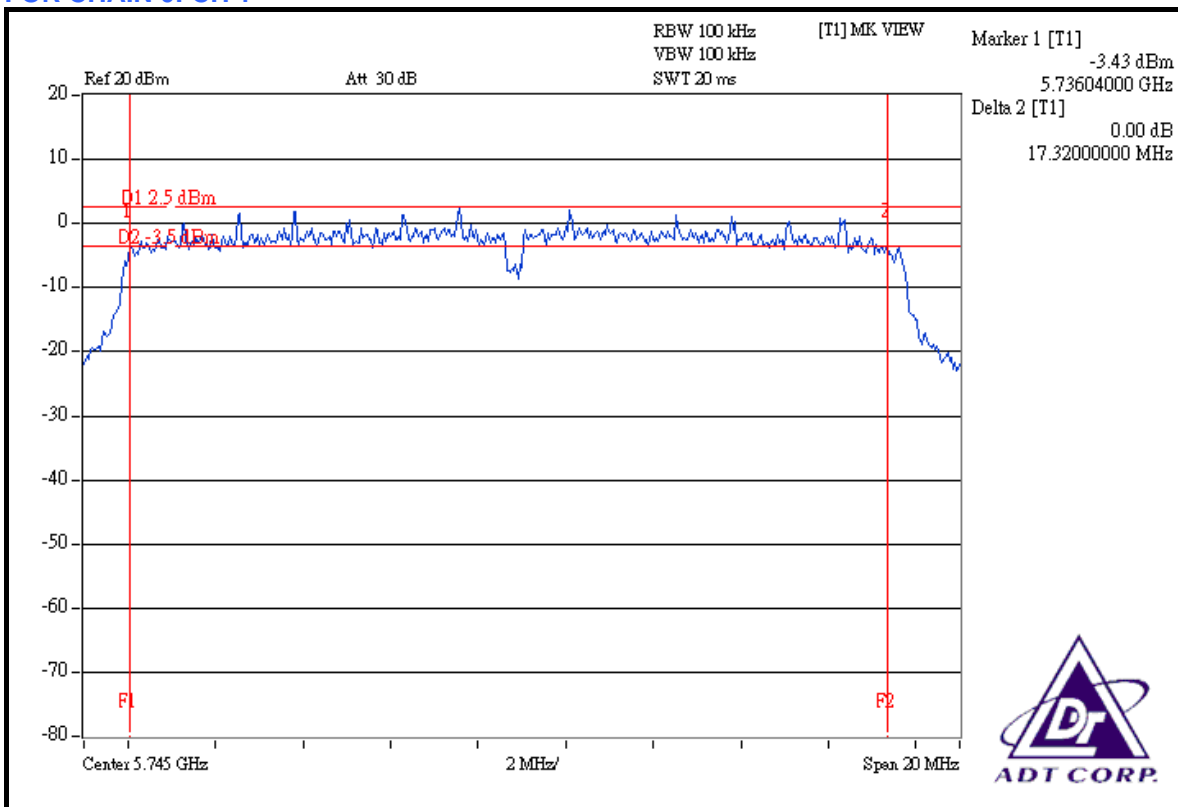


**DRAFT 802.11n (20MHz) OFDM MODULATION:**

<b>MODULATION TYPE</b>	BPSK	<b>TRANSFER RATE</b>	7.2Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60Hz	<b>ENVIRONMENTAL CONDITIONS</b>	25deg.C, 65%RH, 991hPa
<b>TESTED BY</b>	Long Chen		

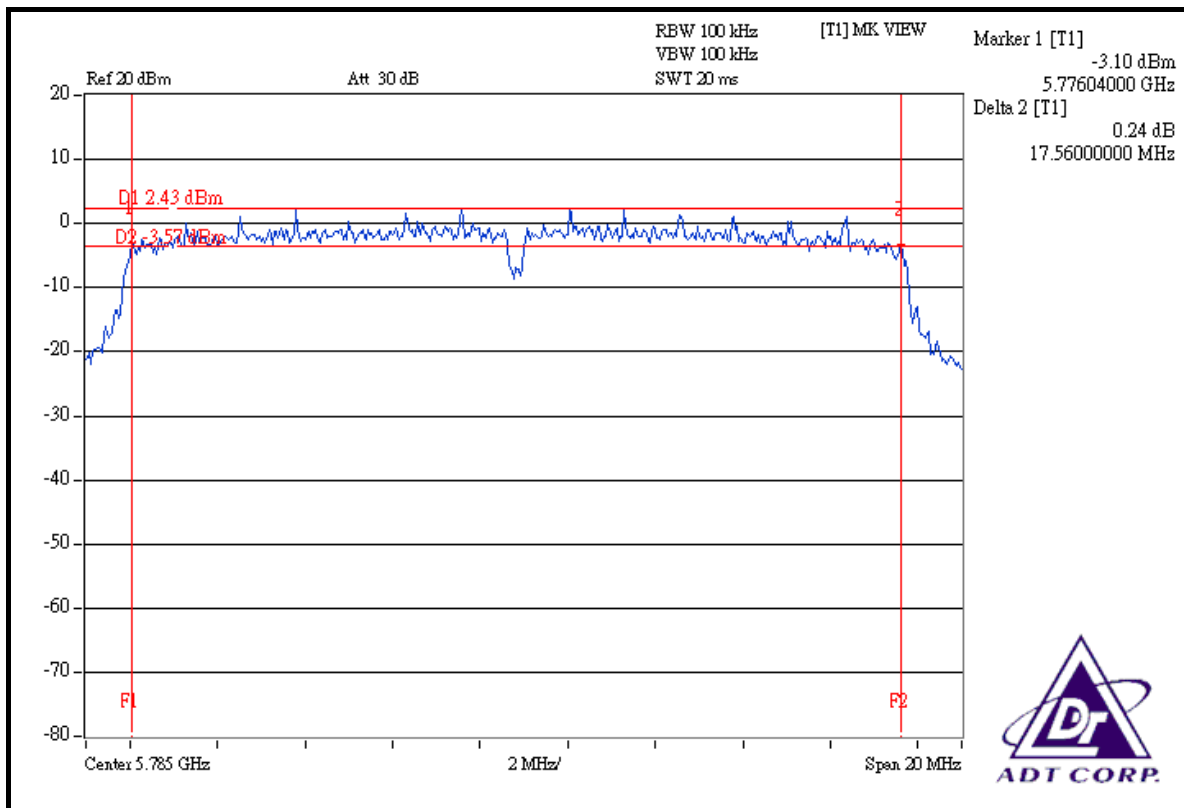
CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)			MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 1		
1	5745	17.32	17.20	17.56	0.5	PASS
3	5785	17.56	17.60	17.60	0.5	PASS
5	5825	17.60	17.64	17.60	0.5	PASS

**FOR CHAIN 0: CH 1**

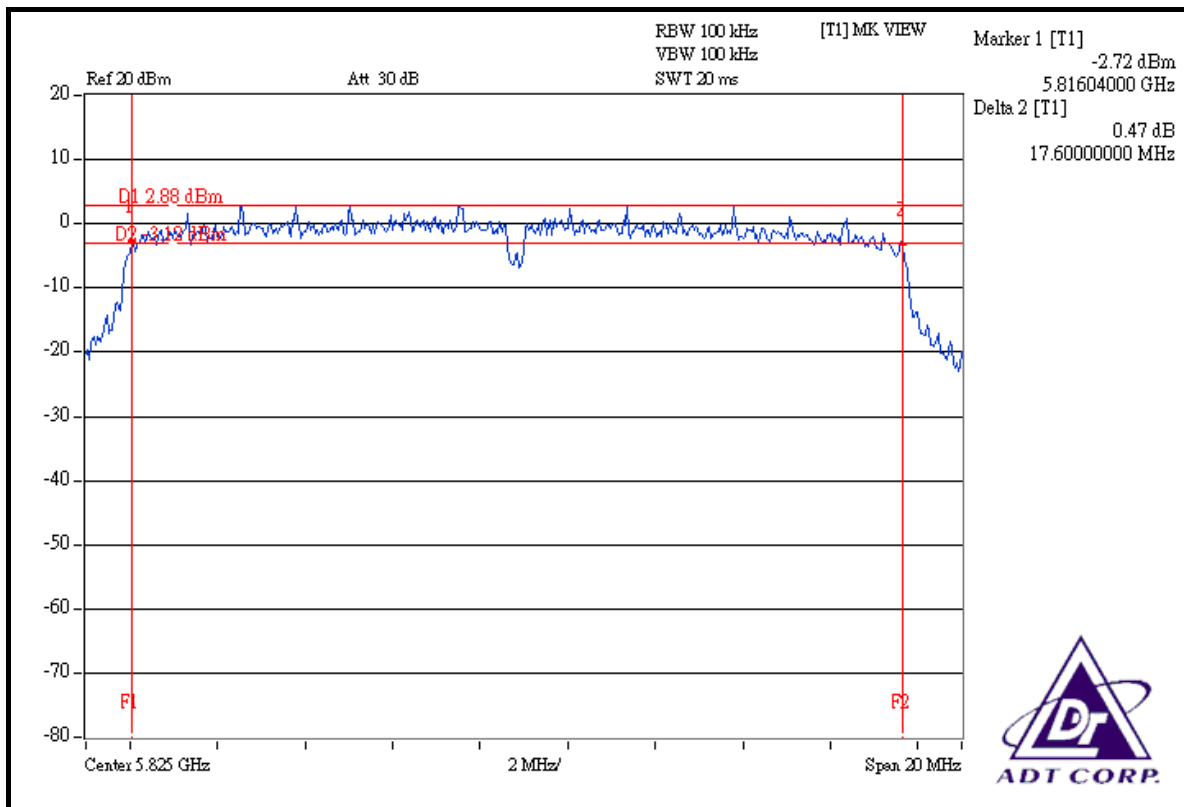




### CH 3

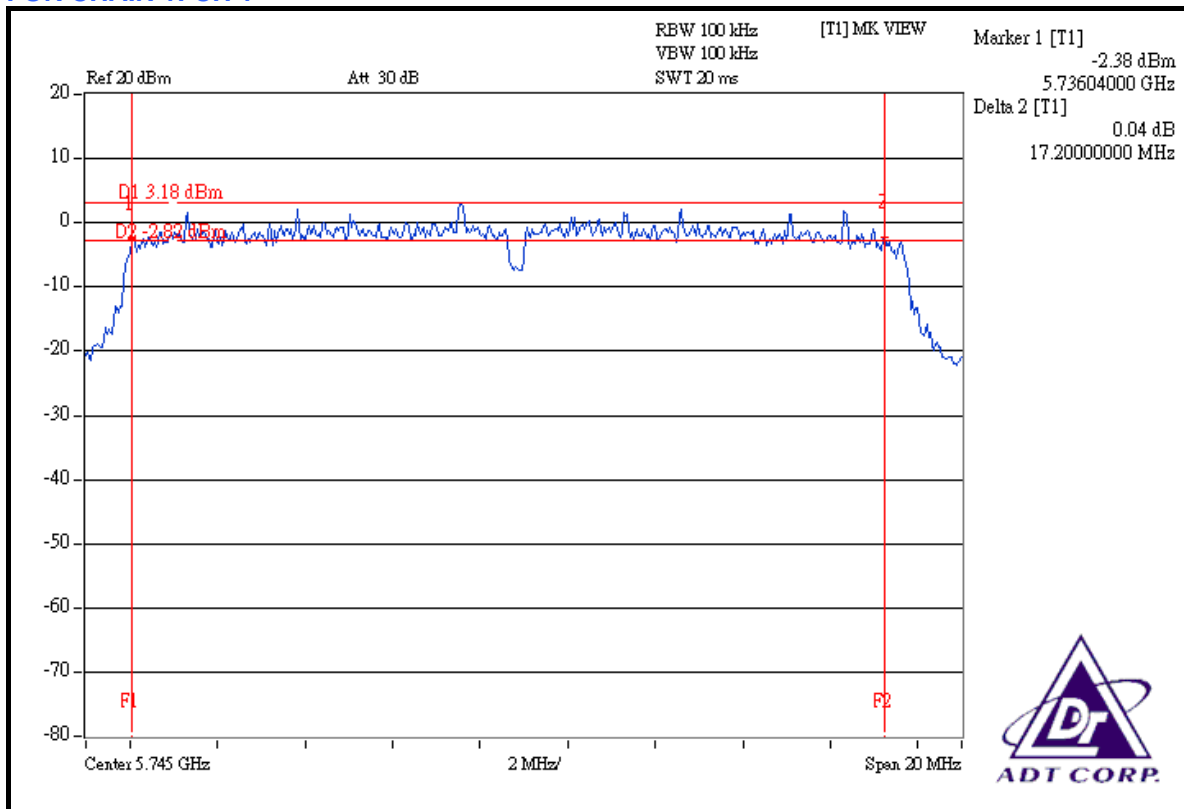


### CH 5

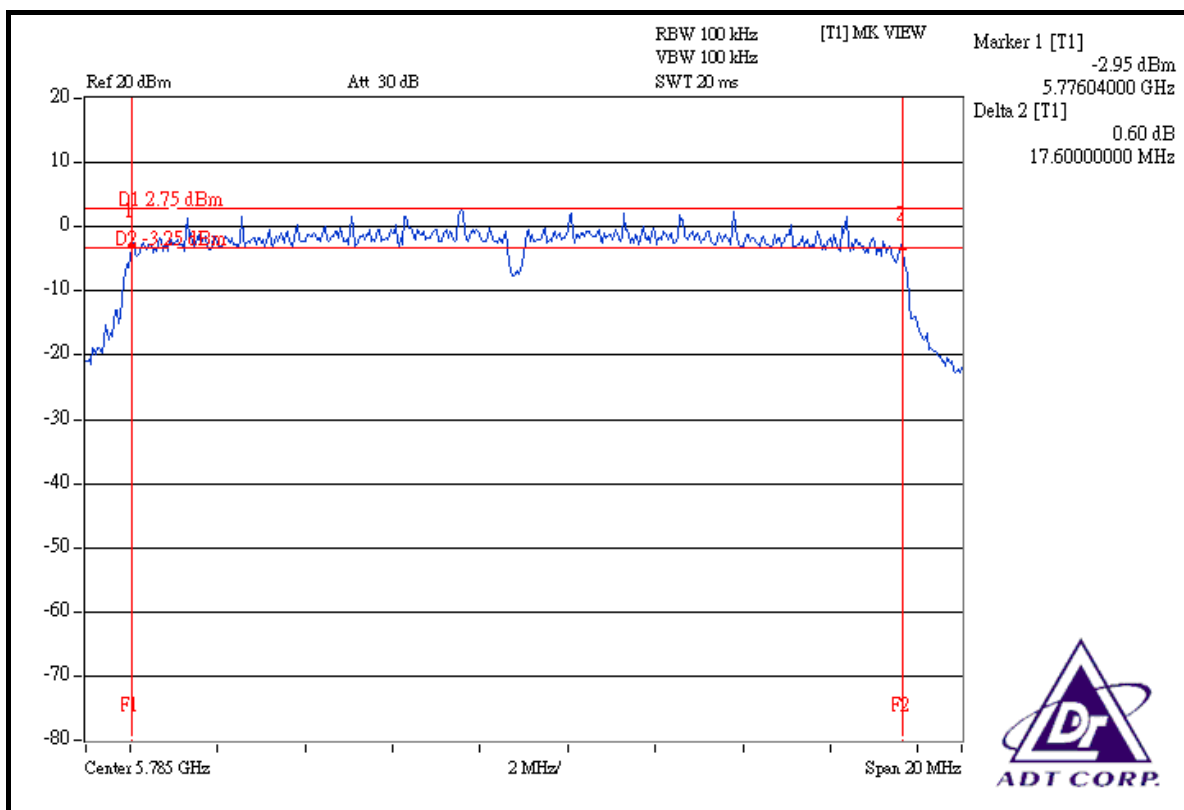




### FOR CHAIN 1: CH 1

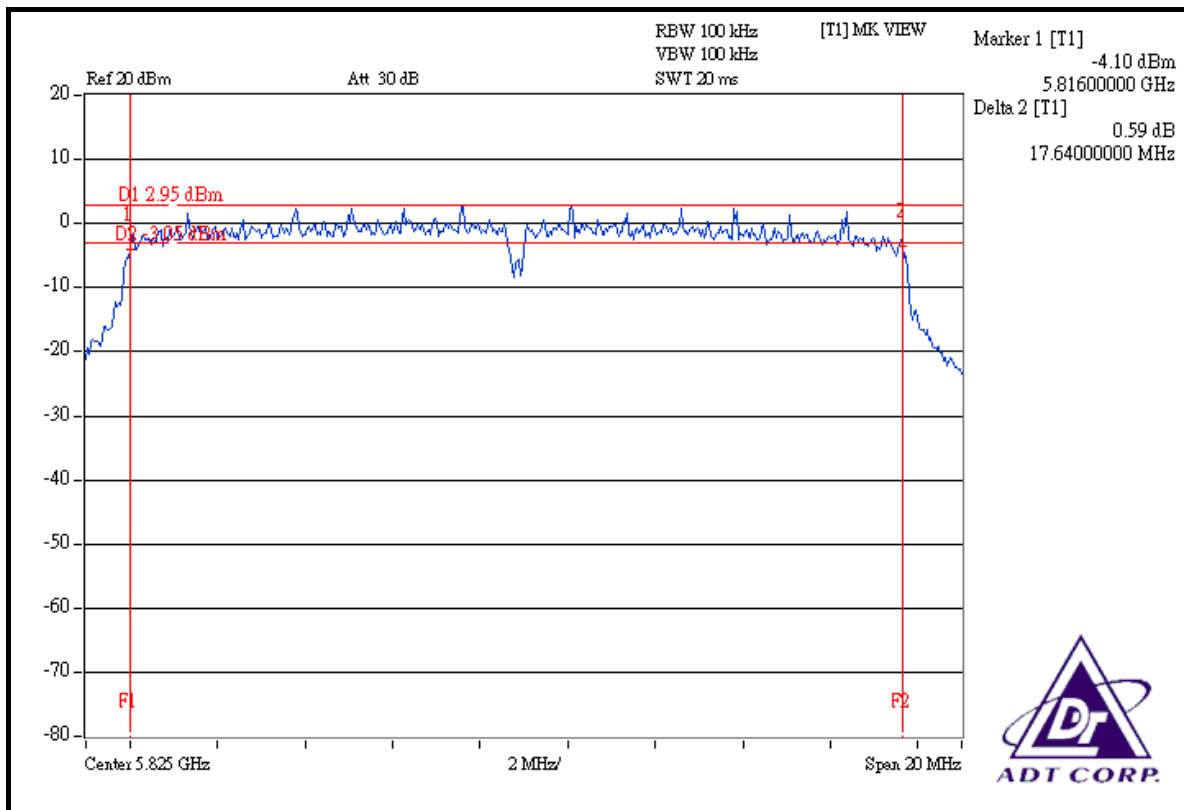


### CH 3

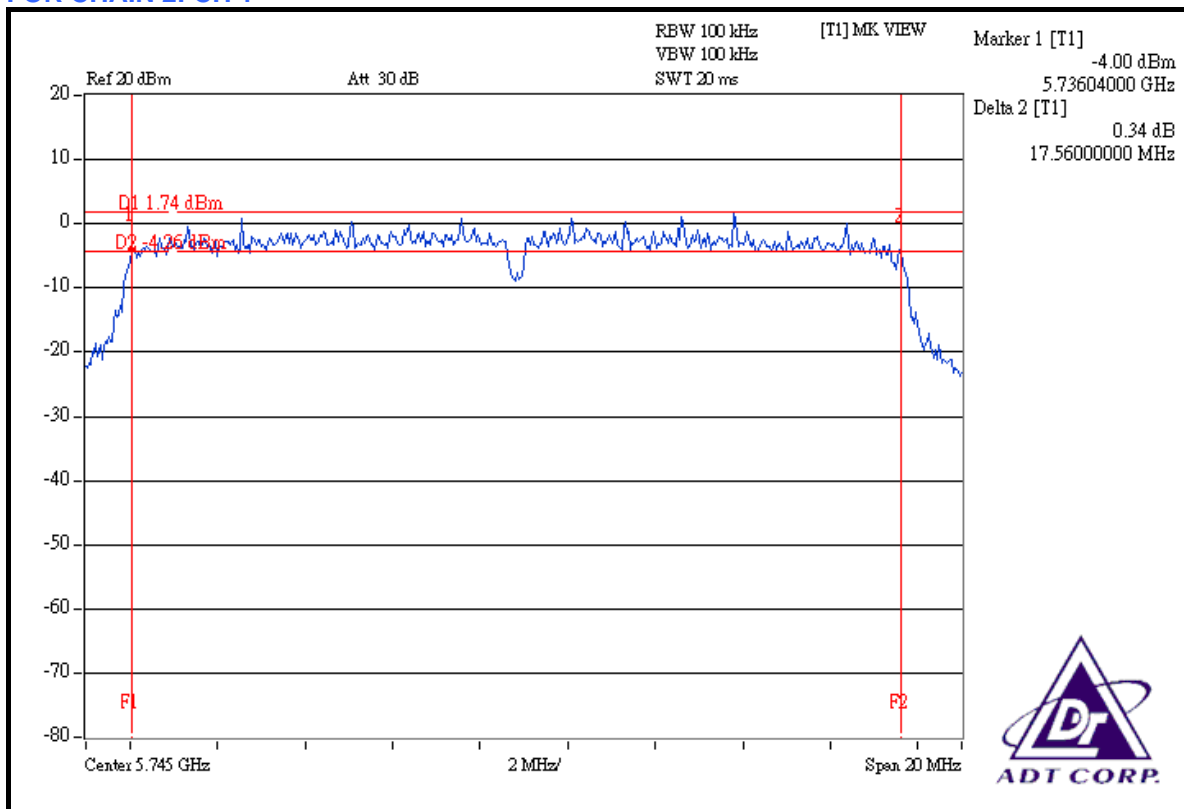




### CH 5



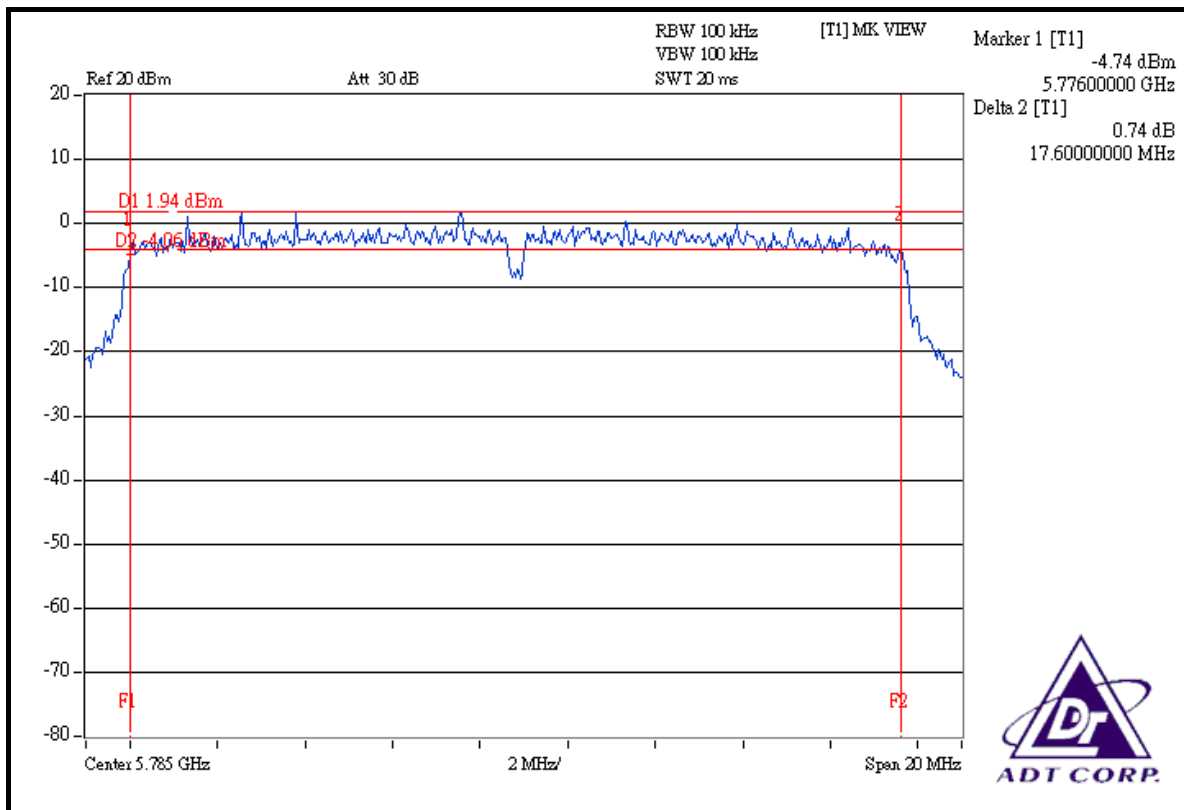
### FOR CHAIN 2: CH 1



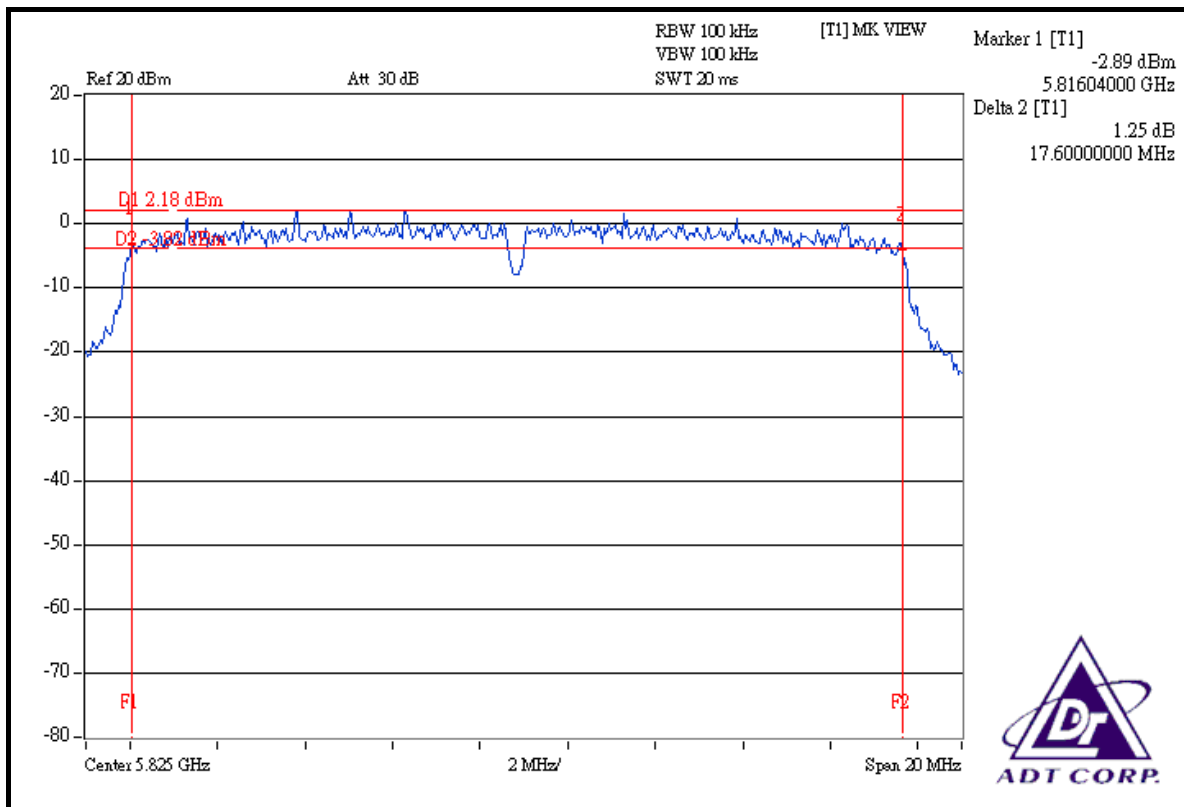




### CH 3



### CH 5



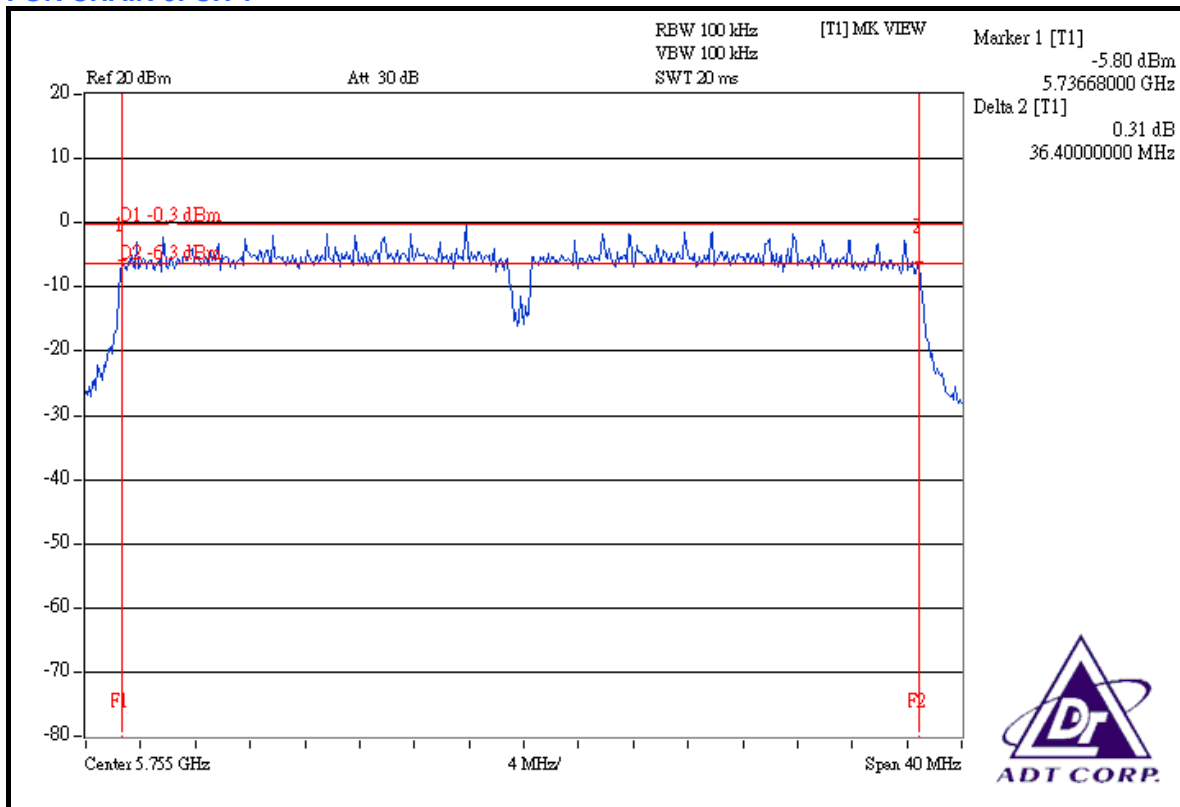


**DRAFT 802.11n (40MHz) OFDM MODULATION:**

<b>MODULATION TYPE</b>	BPSK	<b>TRANSFER RATE</b>	15.0Mbps
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60Hz	<b>ENVIRONMENTAL CONDITIONS</b>	25deg.C, 65%RH, 991hPa
<b>TESTED BY</b>	Long Chen		

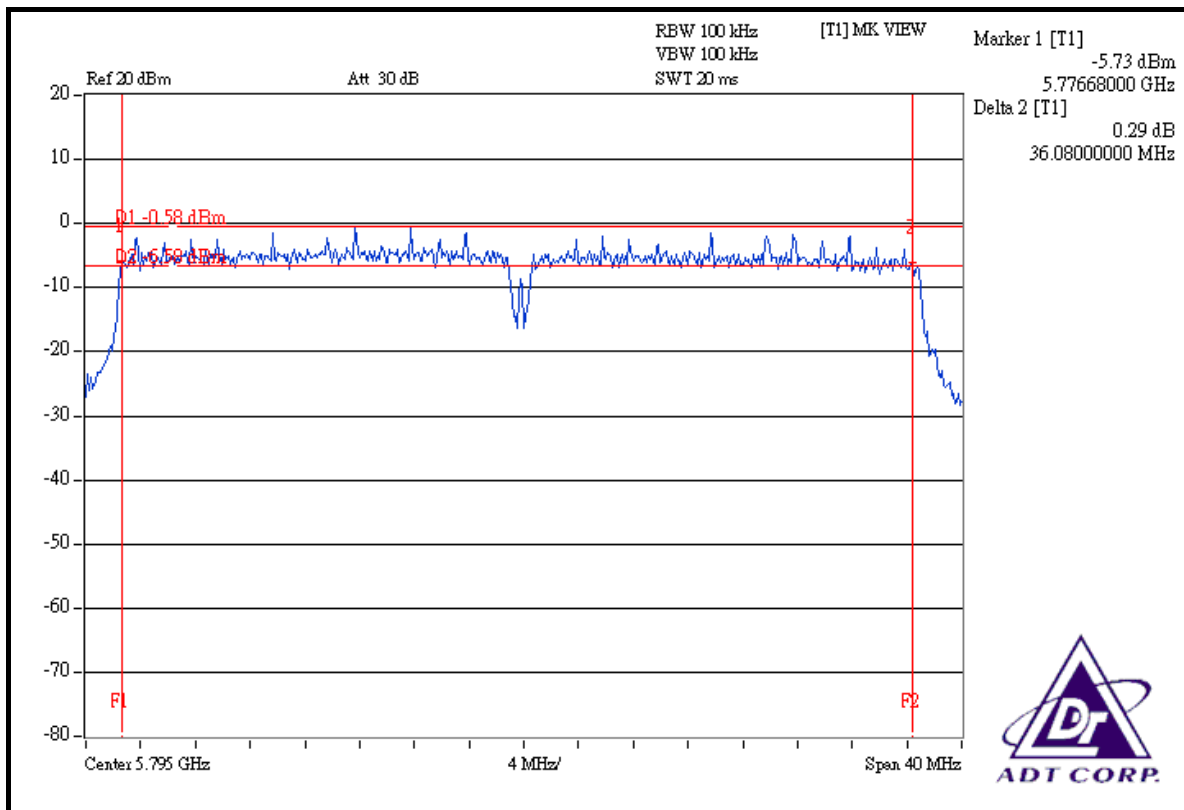
CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)			MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2		
1	5755	36.40	36.40	36.48	0.5	PASS
2	5795	36.08	36.40	36.48	0.5	PASS

**FOR CHAIN 0: CH 1**

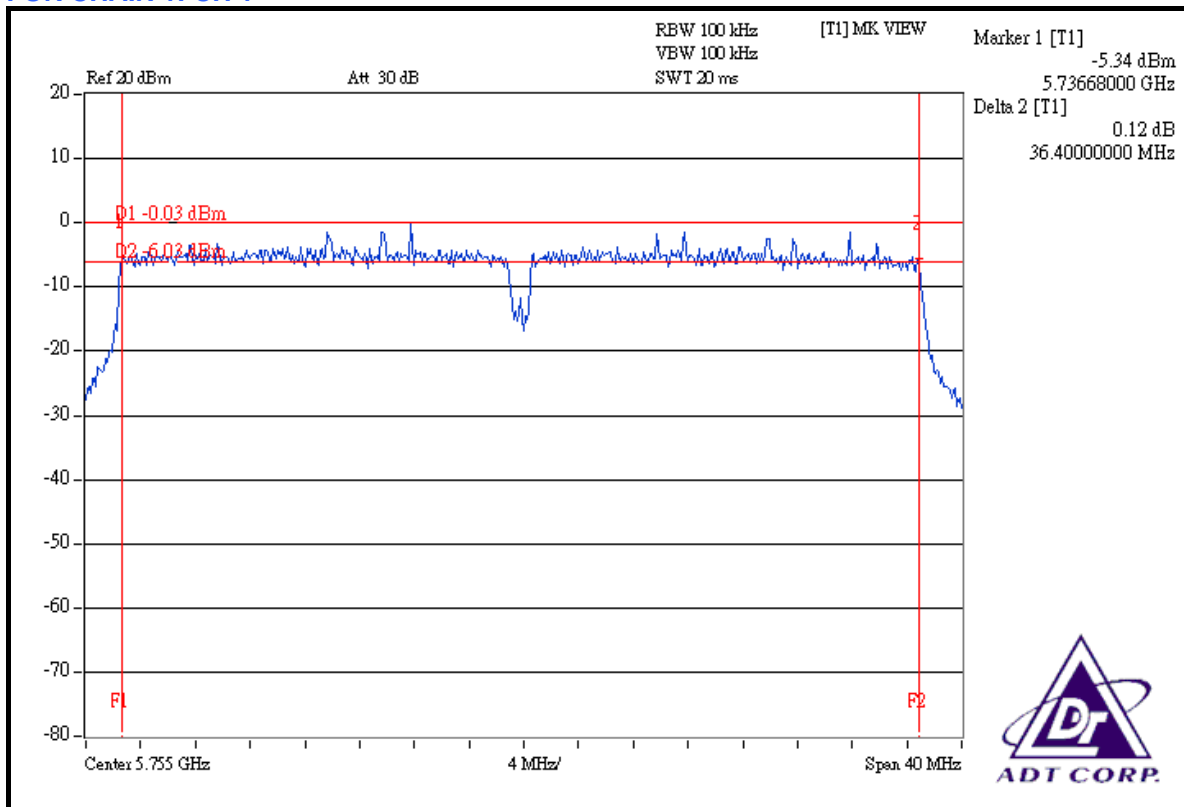




## CH 2

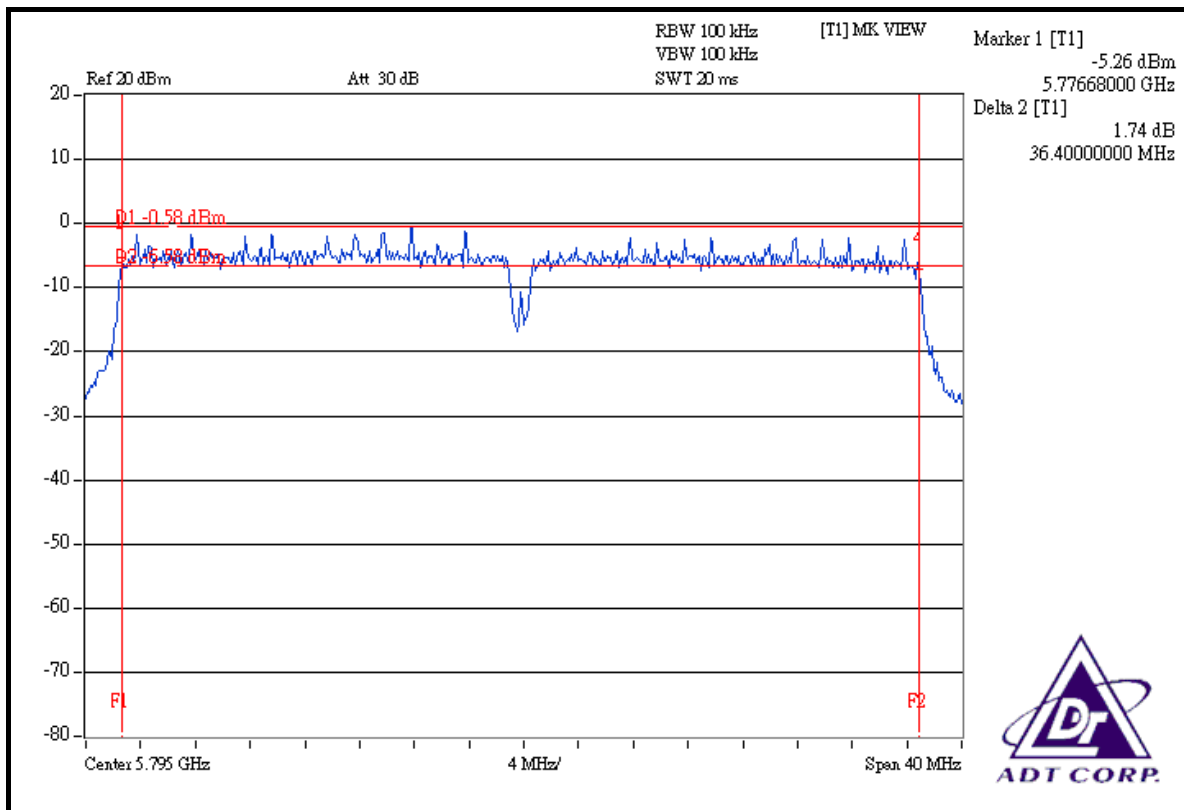


## FOR CHAIN 1: CH 1

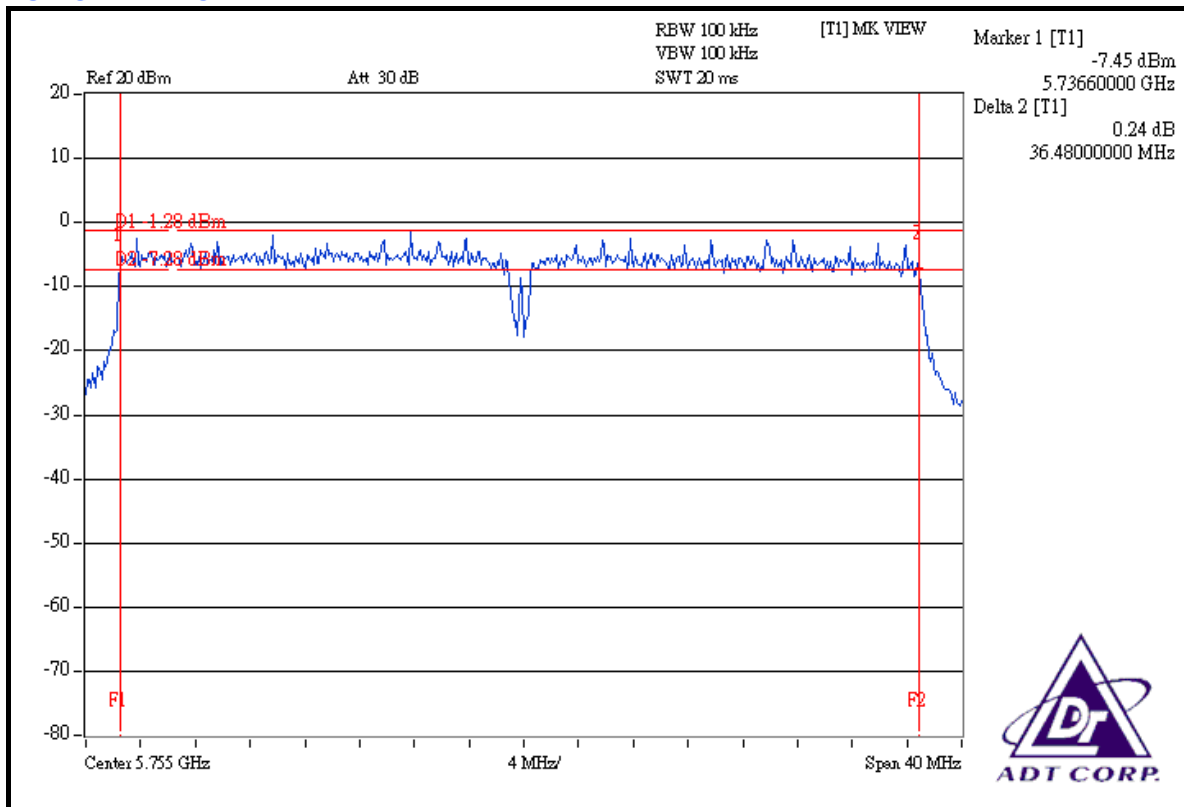




## CH 2

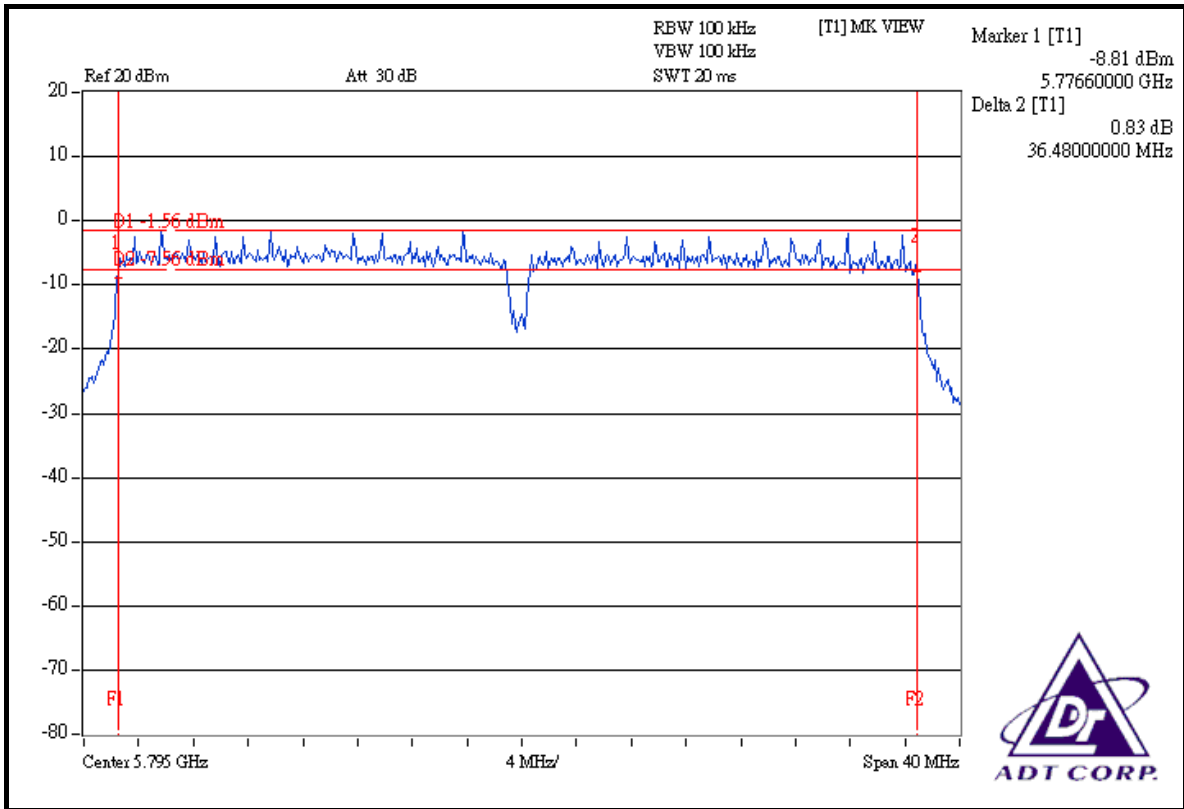


## FOR CHAIN 2: CH 1





CH 2





## 5.4 MAXIMUM PEAK OUTPUT POWER

### 5.4.1 LIMITS OF MAXIMUM PEAK OUTPUT POWER MEASUREMENT

The Maximum Peak Output Power Measurement is 30dBm.

### 5.4.2 INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
R&S SPECTRUM ANALYZER	FSP40	100040	Jun. 07, 2007
ANRITSU SYNTHESIZED SIGNAL GENERATOR	68247B	984703	May 08, 2007
DIGITAL RT 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.

### 5.4.3 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.