FCC TEST REPORT (15.407)

REPORT NO.: RF970313L06-1

MODEL NO.: WUB-710A (refer to item 3.1 for more details)

RECEIVED: Mar. 13, 2008

TESTED: Mar. 15 ~ Mar. 20, 2008

ISSUED: Mar. 24, 2008

APPLICANT: U-MEDIA Communications, Inc.

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

ISSUED BY: Advance Data Technology Corporation

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

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

TABLE OF CONTENTS

1. CERTIFICATION

PRODUCT: 2.4GHz/5GHz Wireless USB Adapter
(refer to item 3.1 for more details)

MODEL: WUB-710A (refer to item 3.1 for more details)

BRAND: U-MEDIA (refer to item 3.1 for more details)

APPLICANT: U-MEDIA Communications, Inc.

TEST SAMPLE: ENGINEERING SAMPLE

TESTED: Mar. 15 ~ Mar. 20, 2008

STANDARDS: **FCC Part 15, Subpart E (Section 15.407)**
ANSI C63.4-2003

The above equipment (Model: WUB-710A) 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 : _____ , **DATE:** Mar. 24, 2008
Rennie Wang / Senior Specialist

TECHNICAL ACCEPTANCE : _____ , **DATE:** Mar. 24, 2008
Responsible for RF Long Chen / Senior Engineer

APPROVED BY : _____ , **DATE:** Mar. 24, 2008
Gary Chang / Assistant Manager

2. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC PART 15, SUBPART E (SECTION 15.407)			
STANDARD SECTION	**TEST TYPE AND LIMIT**	**RESULT**	**REMARK**
15.407(b)(5)	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is -14.92dB at 0.170MHz
15.407(b/1/2/3) (b)(5)	Electric Field Strength Spurious Emissions, 30MHz ~ 40000MHz	PASS	Meet the requirement of limit. Minimum passing margin is -1.02dB at 11000.00MHz
15.407(a/1/2/3)	Peak Transmit Power	PASS	Meet the requirement of limit.
15.407(a)(6)	Peak Power Excursion	PASS	Meet the requirement of limit.
15.407(a/1/2/3)	Peak Power Spectral Density	PASS	Meet the requirement of limit.
15.407(g)	Frequency Stability	PASS	Meet the requirement of limit.

2.1 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

MEASUREMENT	FREQUENCY	UNCERTAINTY
Conducted emissions	9kHz ~ 30MHz	2.44dB
Radiated emissions	30MHz ~ 200MHz	2.93dB
	200MHz ~1000MHz	2.95dB
	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

EUT	2.4GHz/5GHz Wireless USB Adapter (refer to NOTE for more details)
MODEL NO.	WUB-710A (refer to NOTE for more details)
FCC ID	SI5WUB710A
POWER SUPPLY	5Vdc from host equipment
MODULATION TYPE	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
MODULATION TECHNOLOGY	DSSS, OFDM
TRANSFER RATE	802.11b:11.0/ 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: up to 150.0Mbps (for TX) up to 300.0Mbps (for Rx)
FREQUENCY RANGE	2.4GHz: 2400 ~ 2483.5MHz 5.0GHz: 5150 ~ 5350MHz & 5470 ~ 5725MHz & 5725 ~ 5850MHz
NUMBER OF CHANNEL	2.4GHz: 11 for 802.11b, 802.11g, draft 802.11n (20MHz) 7 for draft 802.11n (40MHz) 5.0GHz: 5150 ~ 5350MHz: 8 for 802.11a, draft 802.11n (20MHz) 4 for draft 802.11n (40MHz) 5470 ~ 5725MHz: 11 for 802.11a, draft 802.11n (20MHz) 5 for draft 802.11n (40MHz) 5725 ~ 5850MHz: 5 for 802.11a, draft 802.11n (20MHz) 2 for draft 802.11n (40MHz)
OUTPUT POWER	16.255mW for 2400.0 ~ 2483.5MHz 20.512mW for 5150.0 ~ 5350.0MHz 20.184mW for 5470.0 ~ 5725.0MHz 20.512mW for 5725.0 ~ 5850.0MHz
ANTENNA TYPE	2.4GHz: Printed antenna with 1.0dBi gain 5.0GHz: Printed antenna with 2.0dBi gain
DATA CABLE	1.5m shielded USB cable with 2 cores
I/O PORTS	USB
ASSOCIATED DEVICES	NA

NOTE:

1. The models as identified below are identical to each other except of the model name, brand name and product name due to marketing requirement.

MODEL NAME	BRAND NAME	PRODUCT NAME	DESCRIPTION
WUB-710A	U-MEDIA	2.4GHz/5GHz Wireless USB Adapter	Main model
W211NU	CradlePoint	CradlePoint Wireless-N USB Adapter	For marketing difference

2. The EUT is a 2.4GHz/5GHz Wireless USB Adapter. The functions of EUT listed as below:

	TEST STANDARD	REFERENCE REPORT
WLAN 802.11b/g, draft 802.11n	FCC Part 15, Subpart C (Section 15.247)	RF970313L06
WLAN 802.11a, draft 802.11n (5725~5850 MHz)		
WLAN 802.11a, draft 802.11n (5150~ 5350MHz, 5470~5725 MHz)	FCC Part 15, Subpart E (Section 15.407)	RF970313L06-1

3. The frequency bands used in this EUT are listed as follows:

Frequency Band (MHz)	2400~2483.5	5150~5350	5470~5725	5725~5850
802.11b	√			
802.11g	√			
802.11a		√	√	√
Draft 802.11n (20MHz)	√	√	√	√
Draft 802.11n (40MHz)	√	√	√	√

4. The EUT incorporates a MIMO function. Physically, the EUT provides one completed transmitters and two receivers.

MODULATION MODE	TX FUNCTION
802.11b	1TX
802.11g	1TX
802.11a	1TX
Draft 802.11n (20MHz)	1TX
Draft 802.11n (40MHz)	1TX

5. 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

Operated in 5150 ~ 5350MHz:

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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
36	5180MHz	52	5260MHz
40	5200MHz	56	5280MHz
44	5220MHz	60	5300MHz
48	5240MHz	64	5320MHz

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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
38	5190MHz	54	5270MHz
46	5230MHz	62	5310MHz

Operated in 5470 ~ 5725MHz:

11 channels are provided to this EUT.

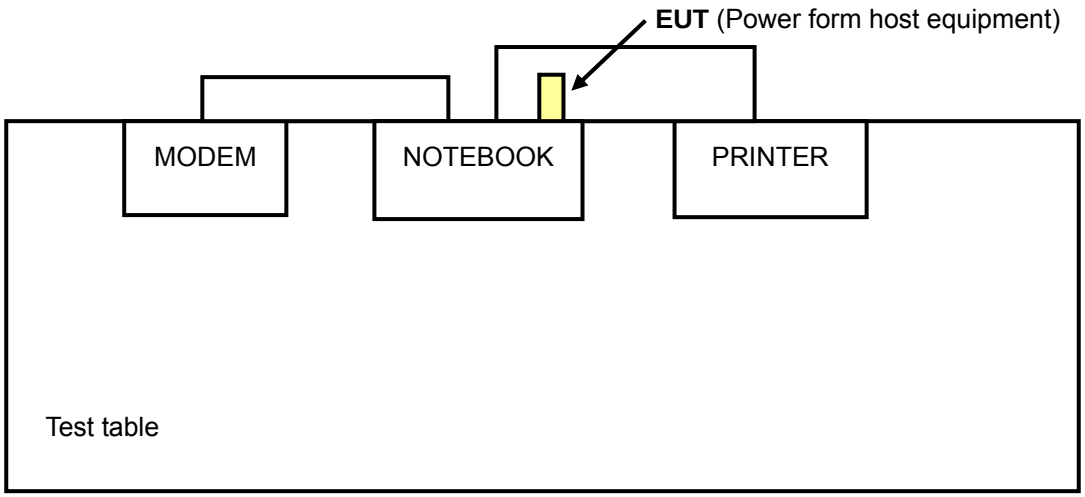
CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
100	5500MHz	124	5620MHz
104	5520MHz	128	5640MHz
108	5540MHz	132	5660MHz
112	5560MHz	136	5680MHz
116	5580MHz	140	5700MHz
120	5600MHz		

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

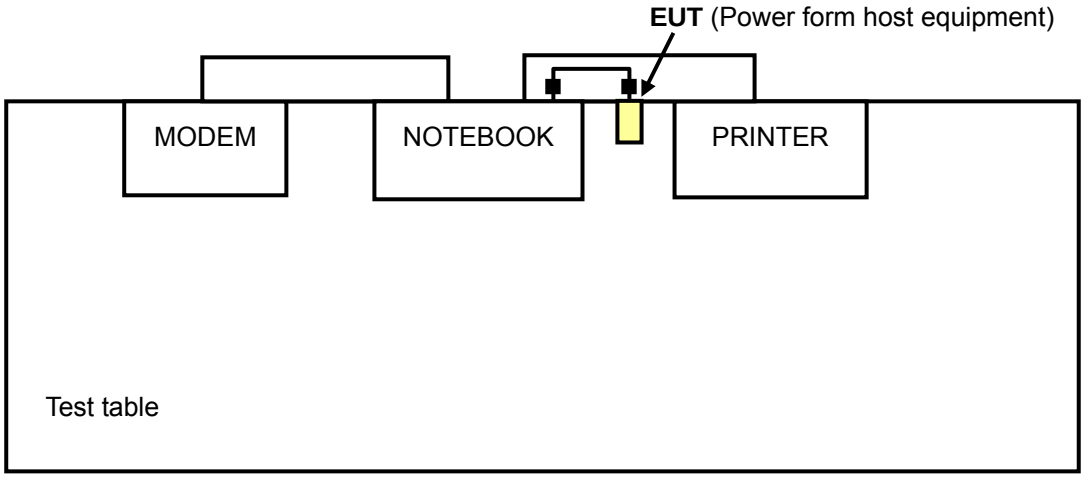
CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
102	5510MHz	126	5630MHz
110	5550MHz	134	5670MHz
118	5590MHz		

3.2.1 CONFIGURATION OF SYSTEM UNDER TEST

Test mode A (without USB cable)



Test mode B (with USB cable)



3.2.2 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	PLC	RE<1G	RE≥1G	APCM	
A	-	√	√	√	Without USB cable
B	√	√	-	-	With USB cable

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

RE≥1G: Radiated Emission above 1GHz **APCM:** Antenna Port Conducted Measurement

NOTE: "-" means no effect.

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, XYZ axis and antenna ports (if EUT with antenna diversity architecture).

☒ Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)	AXIS
A	802.11a	5150-5350	36 to 64	36, 40, 48, 52, 60, 64	OFDM	BPSK	6.0	X
A	Draft 802.11n (20MHz)	5150-5350	36 to 64	36, 40, 48, 52, 60, 64	OFDM	BPSK	7.2	X
A	Draft 802.11n (40MHz)	5150-5350	38 to 62	38, 46, 54, 62	OFDM	BPSK	15.0	X
A	802.11a	5470-5725	100 to 140	100, 120, 140	OFDM	BPSK	6.0	X
A	Draft 802.11n (20MHz)	5470-5725	100 to 140	100, 120, 140	OFDM	BPSK	7.2	X
A	Draft 802.11n (40MHz)	5470-5725	102 to 134	102, 118, 134	OFDM	BPSK	15.0	X

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, XYZ axis and antenna ports (if EUT with antenna diversity architecture).

☒ Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)	AXIS
A	802.11a	5150-5350	36 to 64	36, 40, 48, 52, 60, 64	OFDM	BPSK	6.0	X
B	802.11a	5150-5350	36 to 64	36, 40, 48, 52, 60, 64	OFDM	BPSK	6.0	X

POWER LINE CONDUCTED EMISSION TEST:

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

☒ Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
B	802.11a	5150-5350	36 to 64	40	OFDM	BPSK	6.0

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.

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A	802.11a	5150-5350	36 to 64	36, 48, 52, 64	OFDM	BPSK	6.0
A	Draft 802.11n (20MHz)	5150-5350	36 to 64	36, 48, 52, 64	OFDM	BPSK	7.2
A	Draft 802.11n (40MHz)	5150-5350	38 to 62	38, 46, 54, 62	OFDM	BPSK	15.0
A	802.11a	5470-5725	100 to 140	100, 140	OFDM	BPSK	6.0
A	Draft 802.11n (20MHz)	5470-5725	100 to 140	100, 140	OFDM	BPSK	7.2
A	Draft 802.11n (40MHz)	5470-5725	102 to 134	102, 134	OFDM	BPSK	15.0

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.

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A	802.11a	5150-5350	36 to 64	36, 40, 48, 52, 60, 64	OFDM	BPSK	6.0
A	Draft 802.11n (20MHz)	5150-5350	36 to 64	36, 40, 48, 52, 60, 64	OFDM	BPSK	7.2
A	Draft 802.11n (40MHz)	5150-5350	38 to 62	38, 46, 54, 62	OFDM	BPSK	15.0
A	802.11a	5470-5725	100 to 140	100, 120, 140	OFDM	BPSK	6.0
A	Draft 802.11n (20MHz)	5470-5725	100 to 140	100, 120, 140	OFDM	BPSK	7.2
A	Draft 802.11n (40MHz)	5470-5725	102 to 134	102, 118, 134	OFDM	BPSK	15.0

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 E (15.407)
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	9954115984	E2K24CLNS
2	MODEM	ACEEX	1414V/3	0401008260	IFAXDM1414
3	PRINTER	HP	2225C	2445S60648	BS46XU2225C

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	10m UTP RJ 45 cable
2	1.2m braid shielded wire , DB25 & DB9 connector , w/o core.
3	1.8m braid shielded wire, terminated with DB25 and Centronics connector via metallic frame, w/o core.

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

4. TEST TYPES AND RESULTS

4.1 RADIATED EMISSION MEASUREMENT

4.1.1 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.

4.1.2 LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS

FREQUENCIES (MHz)	EIRP LIMIT (dBm)		EQUIVALENT FIELD STRENGTH AT 3m (dBμV/m) *NOTE 3	
	PK	AV	PK	AV
5150 ~ 5250	-7	-27	88.3	68.3
5250 ~ 5350	-7	-27	88.3	68.3
5470 ~ 5725	-7	-27	88.3	68.3

NOTE:

1. For frequencies 10MHz or greater above or below the band edge.
2. All emissions within the frequency range from the band edge to 10MHz above or below the band edge.
3. The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

$$E = \frac{1000000\sqrt{30P}}{3}$$ μV/m, where P is the eirp (Watts).

4.1.3 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
Test Receiver ROHDE & SCHWARZ	ESCI	100424	Jul. 27, 2008
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100269	Aug. 05, 2008
BILOG Antenna SCHWARZBECK	VULB9168	9168-153	Jan. 03, 2009
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-563	Jul. 30, 2008
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170242	Jan. 06, 2009
Preamplifier Agilent	8449B	3008A01910	Sep. 19, 2008
Preamplifier Agilent	8447D	2944A10638	Dec. 19, 2008
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	274039/223650	Nov. 07, 2008
RF signal cable Worken	8D-FB	Cable-HYCH9-01	Aug. 09, 2008
Software	ADT_Radiated_V7.6	NA	NA
Antenna Tower EMCO	2070/2080	512.835.4684	NA
Turn Table EMCO	2087-2.03	NA	NA
Antenna Tower &Turn Table Controller EMCO	2090	NA	NA
26GHz ~ 40GHz Amplifier	EM26400	07026401	Apr. 23, 2008

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.

4.1.4 TEST PROCEDURES

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic camber. 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 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

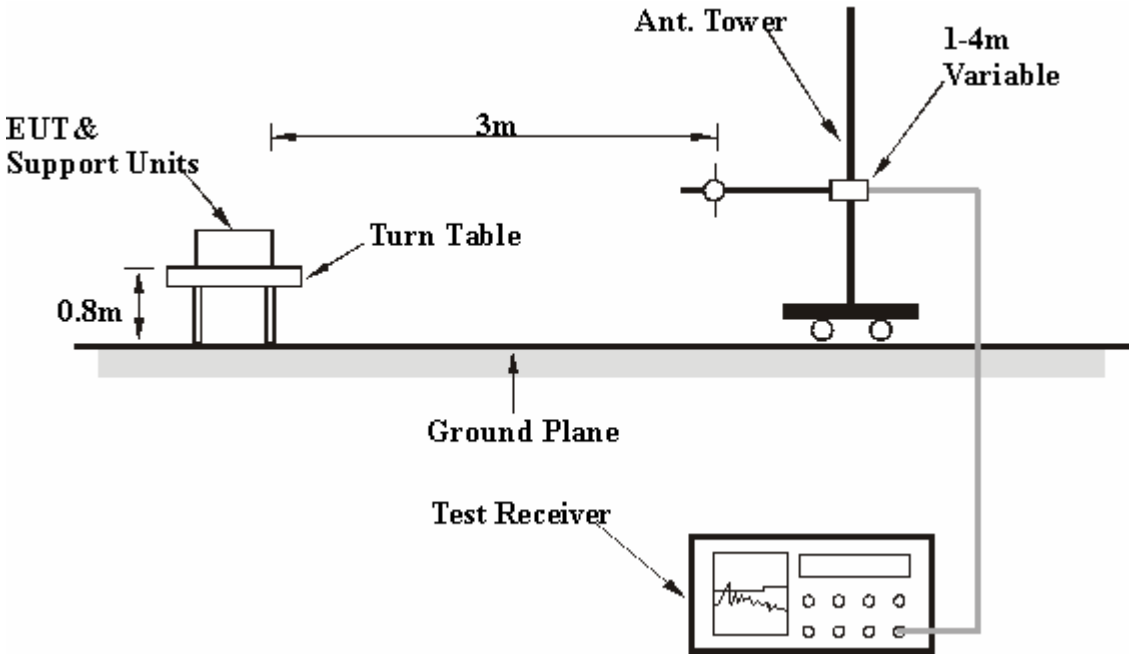
NOTE:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Peak detection (PK) and Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 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. All modes of operation were investigated and the worst-case emissions are reported.

4.1.5 DEVIATION FROM TEST STANDARD

No deviation

4.1.6 TEST SETUP



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

4.1.7 EUT OPERATING CONDITION

a. Connected the EUT to a notebook (via USB cable) and placed on a testing table.
b. The notebook 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.

4.1.8 TEST RESULTS

802.11a OFDM MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 36	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 993hPa	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	#5150.00	54.21 PK	74.00	-19.79	1.04 H	212	15.62	38.59
2	#5150.00	38.41 AV	54.00	-15.59	1.04 H	212	-0.18	38.59
3	*5180.00	107.33 PK			1.04 H	212	68.69	38.64
4	*5180.00	96.88 AV			1.04 H	212	58.25	38.64
5	10360.00	70.61 PK	88.30	-17.69	1.36 H	256	21.91	48.70
6	10360.00	55.32 AV	68.30	-12.98	1.36 H	256	6.62	48.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5150.00	48.33 PK	74.00	-25.67	1.60 V	193	9.74	38.59
2	#5150.00	34.64 AV	54.00	-19.36	1.60 V	193	-3.95	38.59
3	*5180.00	98.69 PK			1.60 V	193	60.05	38.64
4	*5180.00	88.63 AV			1.60 V	193	50.00	38.64
5	10360.00	65.78 PK	88.30	-22.52	1.36 V	257	17.08	48.70
6	10360.00	51.67 AV	68.30	-16.63	1.36 V	257	2.97	48.70

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.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 40	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 993hPa	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	*5200.00	107.00 PK			1.06 H	213	68.33	38.67
2	*5200.00	96.40 AV			1.06 H	213	57.73	38.67
3	10400.00	66.32 PK	88.30	-21.98	1.29 H	227	17.55	48.77
4	10400.00	51.58 AV	68.30	-16.72	1.29 H	227	2.81	48.77
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	*5200.00	98.27 PK			1.52 V	237	59.60	38.67
2	*5200.00	88.49 AV			1.52 V	237	49.82	38.67
3	10400.00	64.57 PK	88.30	-23.73	1.37 V	220	15.80	48.77
4	10400.00	49.93 AV	68.30	-18.37	1.37 V	220	1.16	48.77

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.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 48	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 993hPa	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	*5240.00	107.49 PK			1.40 H	254	68.79	38.71
2	*5240.00	97.19 AV			1.40 H	254	58.49	38.71
3	10480.00	66.78 PK	88.30	-21.52	1.23 H	211	17.77	49.01
4	10480.00	52.63 AV	68.30	-15.67	1.23 H	211	3.62	49.01
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	*5240.00	99.21 PK			1.24 V	20	60.50	38.71
2	*5240.00	89.30 AV			1.24 V	20	50.59	38.71
3	10480.00	66.63 PK	88.30	-21.67	1.50 V	258	17.62	49.01
4	10480.00	51.39 AV	68.30	-16.91	1.50 V	258	2.38	49.01

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.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 52	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 993hPa	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	*5260.00	107.86 PK			1.01 H	227	69.13	38.72
2	*5260.00	97.50 AV			1.01 H	227	58.77	38.72
3	10520.00	67.78 PK	88.30	-20.52	1.37 H	213	18.67	49.12
4	10520.00	53.23 AV	68.30	-15.07	1.37 H	213	4.12	49.12
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5260.00	99.48 PK			1.01 V	330	60.76	38.72
2	*5260.00	89.57 AV			1.01 V	330	50.85	38.72
3	10520.00	66.34 PK	88.30	-21.96	1.04 V	263	17.22	49.12
4	10520.00	52.08 AV	68.30	-16.22	1.04 V	263	2.96	49.12

REMARKS: 1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).

2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency falling in the restricted band.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 60	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 993hPa	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	*5300.00	107.60 PK			1.00 H	225	68.84	38.76
2	*5300.00	97.24 AV			1.00 H	225	58.48	38.76
3	#10600.00	69.14 PK	74.00	-4.86	1.48 H	257	19.84	49.30
4	#10600.00	52.78 AV	54.00	-1.22	1.48 H	257	3.48	49.30
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	*5300.00	99.21 PK			1.00 V	297	60.45	38.76
2	*5300.00	89.30 AV			1.00 V	297	50.54	38.76
3	#10600.00	68.25 PK	74.00	-5.75	1.02 V	36	18.95	49.30
4	#10600.00	51.37 AV	54.00	-2.63	1.02 V	36	2.07	49.30

REMARKS: 1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).

2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).

3. The other emission levels were very low against the limit.

4. Margin value = Emission level – Limit value.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 64	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 993hPa	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	*5320.00	108.08 PK			1.01 H	226	69.30	38.78
2	*5320.00	97.59 AV			1.01 H	226	58.81	38.78
3	#5350.00	61.77 PK	74.00	-12.23	1.01 H	226	22.96	38.81
4	#5350.00	43.69 AV	54.00	-10.31	1.01 H	226	4.88	38.81
5	#10640.00	65.16 PK	74.00	-8.84	1.37 H	215	15.83	49.33
6	#10640.00	51.90 AV	54.00	-2.10	1.37 H	215	2.57	49.33
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	100.11 PK			1.05 V	264	61.33	38.78
2	*5320.00	90.35 AV			1.05 V	264	51.57	38.78
3	#5350.00	52.36 PK	74.00	-21.64	1.05 V	264	13.55	38.81
4	#5350.00	39.15 AV	54.00	-14.85	1.05 V	264	0.34	38.81
5	#10640.00	64.28 PK	74.00	-9.72	1.00 V	61	14.95	49.33
6	#10640.00	50.88 AV	54.00	-3.12	1.00 V	61	1.55	49.33

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.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 100	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 993hPa	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	#5460.00	54.04 PK	74.00	-19.96	1.00 H	229	15.05	38.99
2	#5460.00	41.05 AV	54.00	-12.95	1.00 H	229	2.06	38.99
3	5470.00	60.96 PK	88.30	-27.34	1.00 H	229	21.95	39.01
4	5470.00	42.79 AV	68.30	-25.51	1.00 H	229	3.78	39.01
5	*5500.00	105.38 PK			1.00 H	229	66.31	39.07
6	*5500.00	95.14 AV			1.00 H	229	56.07	39.07
7	#11000.00	67.84 PK	74.00	-6.16	1.51 H	231	17.95	49.89
8	#11000.00	52.87 AV	54.00	-1.13	1.51 H	231	2.98	49.89
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	#5460.00	53.98 PK	74.00	-20.02	1.02 V	194	14.99	38.99
2	#5460.00	40.90 AV	54.00	-13.10	1.02 V	194	1.91	38.99
3	5470.00	60.57 PK	88.30	-27.73	1.00 V	194	21.56	39.01
4	5470.00	42.62 AV	68.30	-25.68	1.00 V	194	3.61	39.01
5	*5500.00	95.58 PK			1.00 V	194	56.51	39.07
6	*5500.00	85.61 AV			1.00 V	194	46.53	39.07
7	#11000.00	66.38 PK	74.00	-7.62	1.02 V	328	16.49	49.89
8	#11000.00	51.29 AV	54.00	-2.71	1.02 V	328	1.40	49.89

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.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 120	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 993hPa	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	*5600.00	103.55 PK			1.03 H	231	64.26	39.29
2	*5600.00	93.05 AV			1.03 H	231	53.76	39.29
3	#11200.00	62.52 PK	74.00	-11.48	1.35 H	195	12.74	49.78
4	#11200.00	49.10 AV	54.00	-4.90	1.35 H	195	-0.68	49.78
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	*5600.00	93.65 PK			1.10 V	168	54.36	39.29
2	*5600.00	83.72 AV			1.10 V	168	44.43	39.29
3	#11200.00	61.38 PK	74.00	-12.62	1.00 V	218	11.60	49.78
4	#11200.00	48.88 AV	54.00	-5.12	1.00 V	218	-0.90	49.78

REMARKS: 1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).

2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency falling in the restricted band.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 140	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 993hPa	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	*5700.00	101.46 PK			1.01 H	235	61.90	39.56
2	*5700.00	91.20 AV			1.01 H	235	51.64	39.56
3	5725.00	48.67 PK	88.30	-39.63	1.01 H	235	9.06	39.61
4	5725.00	36.25 AV	68.30	-32.05	1.01 H	235	-3.36	39.61
5	#11400.00	61.79 PK	74.00	-12.21	1.27 H	205	11.93	49.86
6	#11400.00	48.27 AV	54.00	-5.73	1.27 H	205	-1.59	49.86
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	*5700.00	91.54 PK			1.11 V	108	51.98	39.56
2	*5700.00	81.38 AV			1.11 V	108	41.82	39.56
3	5725.00	48.51 PK	88.30	-39.79	1.11 V	108	8.90	39.61
4	5725.00	36.09 AV	68.30	-32.21	1.11 V	108	-3.52	39.61
5	#11400.00	60.35 PK	74.00	-13.65	1.32 V	287	10.49	49.86
6	#11400.00	47.22 AV	54.00	-6.78	1.32 V	287	-2.64	49.86

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.

DRAFT 802.11n (20MHz) OFDM MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 36	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 993hPa	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	#5150.00	61.48 PK	74.00	-12.52	1.48 H	248	22.89	38.59
2	#5150.00	42.47 AV	54.00	-11.53	1.48 H	248	3.88	38.59
3	*5180.00	108.56 PK			1.47 H	247	69.92	38.64
4	*5180.00	98.32 AV			1.47 H	247	59.68	38.64
5	10360.00	71.65 PK	88.30	-16.65	1.38 H	252	22.95	48.70
6	10360.00	54.75 AV	68.30	-13.55	1.38 H	252	6.05	48.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5150.00	55.01 PK	74.00	-18.99	1.36 V	340	16.42	38.59
2	#5150.00	38.76 AV	54.00	-15.24	1.36 V	340	0.17	38.59
3	*5180.00	100.71 PK			1.36 V	340	62.07	38.64
4	*5180.00	90.53 AV			1.36 V	340	51.89	38.64
5	10360.00	67.70 PK	88.30	-20.60	1.39 V	251	19.00	48.70
6	10360.00	52.92 AV	68.30	-15.38	1.39 V	251	4.22	48.70

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.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 40	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 993hPa	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	*5200.00	109.40 PK			1.02 H	221	70.73	38.67
2	*5200.00	99.05 AV			1.02 H	221	60.38	38.67
3	10400.00	68.18 PK	88.30	-20.12	1.37 H	206	19.41	48.77
4	10400.00	53.07 AV	68.30	-15.23	1.37 H	206	4.30	48.77
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	*5200.00	101.06 PK			1.39 V	340	62.39	38.67
2	*5200.00	90.56 AV			1.39 V	340	51.89	38.67
3	10400.00	67.35 PK	88.30	-20.95	1.32 V	251	18.58	48.77
4	10400.00	52.68 AV	68.30	-15.62	1.32 V	251	3.91	48.77

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.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 48	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 993hPa	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	*5240.00	108.84 PK			1.00 H	221	70.13	38.71
2	*5240.00	98.71 AV			1.00 H	221	60.00	38.71
3	10480.00	68.22 PK	88.30	-20.08	1.41 H	201	19.21	49.01
4	10480.00	52.97 AV	68.30	-15.33	1.41 H	201	3.96	49.01
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	*5240.00	102.05 PK			1.42 V	186	63.34	38.71
2	*5240.00	91.65 AV			1.42 V	186	52.94	38.71
3	10480.00	65.81 PK	88.30	-22.49	1.10 V	217	16.80	49.01
4	10480.00	50.53 AV	68.30	-17.77	1.10 V	217	1.52	49.01

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.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 52	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 993hPa	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	*5260.00	110.02 PK			1.02 H	221	71.30	38.72
2	*5260.00	99.79 AV			1.02 H	221	61.07	38.72
3	10520.00	66.22 PK	88.30	-22.08	1.48 H	122	17.11	49.12
4	10520.00	51.08 AV	68.30	-17.22	1.48 H	122	1.97	49.12
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5260.00	102.47 PK			1.42 V	191	63.75	38.72
2	*5260.00	91.99 AV			1.42 V	191	53.27	38.72
3	10520.00	63.93 PK	88.30	-24.37	1.35 V	94	14.82	49.12
4	10520.00	50.14 AV	68.30	-18.16	1.35 V	94	1.03	49.12

REMARKS: 1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).

2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency falling in the restricted band.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 60	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 993hPa	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	*5300.00	109.84 PK			1.00 H	222	71.08	38.76
2	*5300.00	99.42 AV			1.00 H	222	60.66	38.76
3	#10600.00	66.25 PK	74.00	-7.75	1.47 H	239	16.95	49.30
4	#10600.00	52.10 AV	54.00	-1.90	1.47 H	239	2.80	49.30
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	*5300.00	102.85 PK			1.26 V	214	64.09	38.76
2	*5300.00	92.88 AV			1.26 V	214	54.12	38.76
3	#10600.00	66.74 PK	74.00	-7.26	1.36 V	236	17.44	49.30
4	#10600.00	51.76 AV	54.00	-2.24	1.36 V	236	2.46	49.30

REMARKS: 1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).

2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).

3. The other emission levels were very low against the limit.

4. Margin value = Emission level – Limit value.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 64	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 993hPa	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	*5320.00	109.88 PK			1.00 H	220	71.10	38.78
2	*5320.00	99.18 AV			1.00 H	220	60.40	38.78
3	#5350.00	67.75 PK	74.00	-6.25	1.00 H	220	28.94	38.81
4	#5350.00	44.28 AV	54.00	-9.72	1.00 H	220	5.47	38.81
5	#10640.00	69.07 PK	74.00	-4.93	1.18 H	253	19.74	49.33
6	#10640.00	52.89 AV	54.00	-1.11	1.18 H	253	3.56	49.33
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	103.59 PK			1.27 V	214	64.81	38.78
2	*5320.00	93.17 AV			1.27 V	214	54.39	38.78
3	#5350.00	60.71 PK	74.00	-13.29	1.27 V	214	21.90	38.81
4	#5350.00	40.50 AV	54.00	-13.50	1.27 V	214	1.69	38.81
5	#10640.00	67.69 PK	74.00	-6.31	1.36 V	252	18.36	49.33
6	#10640.00	52.45 AV	54.00	-1.55	1.36 V	252	3.12	49.33

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.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 100	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 993hPa	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	#5460.00	53.29 PK	74.00	-20.71	1.10 H	222	14.30	38.99
2	#5460.00	38.55 AV	54.00	-15.45	1.10 H	222	-0.44	38.99
3	5470.00	62.68 PK	88.30	-25.62	1.09 H	222	23.67	39.01
4	5470.00	43.44 AV	68.30	-24.86	1.09 H	222	4.43	39.01
5	*5500.00	107.75 PK			1.10 H	223	68.67	39.07
6	*5500.00	97.19 AV			1.10 H	223	58.11	39.07
7	#11000.00	68.54 PK	74.00	-5.46	1.30 H	255	18.65	49.89
8	#11000.00	52.61 AV	54.00	-1.39	1.30 H	255	2.72	49.89
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	#5460.00	47.28 PK	74.00	-26.72	1.31 V	217	8.29	38.99
2	#5460.00	34.51 AV	54.00	-19.49	1.31 V	217	-4.48	38.99
3	5470.00	57.08 PK	88.30	-31.22	1.31 V	217	18.07	39.01
4	5470.00	38.08 AV	68.30	-30.22	1.31 V	217	-0.93	39.01
5	*5500.00	100.29 PK			1.31 V	216	61.22	39.07
6	*5500.00	89.89 AV			1.31 V	216	50.82	39.07
7	#11000.00	68.78 PK	74.00	-5.22	1.65 V	239	18.89	49.89
8	**#11000.00**	**52.98 AV**	**54.00**	**-1.02**	**1.65 V**	**239**	**3.09**	**49.89**

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.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 120	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 993hPa	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	*5600.00	106.91 PK			1.08 H	222	67.62	39.29
2	*5600.00	95.54 AV			1.08 H	222	56.25	39.29
3	#11200.00	65.89 PK	74.00	-8.11	1.53 H	240	16.11	49.78
4	#11200.00	50.57 AV	54.00	-3.43	1.53 H	240	0.79	49.78
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	*5600.00	100.32 PK			1.31 V	219	61.03	39.29
2	*5600.00	90.18 AV			1.31 V	219	50.89	39.29
3	#11200.00	67.07 PK	74.00	-6.93	1.00 V	196	17.29	49.78
4	#11200.00	51.89 AV	54.00	-2.11	1.00 V	196	2.11	49.78

REMARKS: 1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).

2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency falling in the restricted band.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 140	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 993hPa	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	*5700.00	104.89 PK			1.20 H	224	65.33	39.56
2	*5700.00	93.21 AV			1.20 H	224	53.65	39.56
3	5725.00	51.71 PK	88.30	-36.59	1.20 H	224	12.10	39.61
4	5725.00	37.12 AV	68.30	-31.18	1.20 H	224	-2.49	39.61
5	#11400.00	66.12 PK	74.00	-7.88	1.36 H	244	16.26	49.86
6	#11400.00	50.62 AV	54.00	-3.38	1.36 H	244	0.76	49.86
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	*5700.00	99.08 PK			1.53 V	247	59.52	39.56
2	*5700.00	88.87 AV			1.53 V	247	49.31	39.56
3	5725.00	51.39 PK	88.30	-36.91	1.53 V	247	11.78	39.61
4	5725.00	35.78 AV	68.30	-32.52	1.53 V	247	-3.83	39.61
5	#11400.00	65.30 PK	74.00	-8.70	1.67 V	241	15.44	49.86
6	#11400.00	50.53 AV	54.00	-3.47	1.67 V	241	0.67	49.86

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.

DRAFT 802.11n (40MHz) OFDM MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 38	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 993hPa	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	#5150.00	67.31 PK	74.00	-6.69	1.07 H	207	28.72	38.59
2	#5150.00	52.70 AV	54.00	-1.30	1.07 H	207	14.11	38.59
3	*5190.00	104.94 PK			1.00 H	223	66.29	38.65
4	*5190.00	93.60 AV			1.00 H	223	54.95	38.65
5	10380.00	63.81 PK	88.30	-24.49	1.02 H	207	15.07	48.74
6	10380.00	50.84 AV	68.30	-17.46	1.02 H	207	2.10	48.74
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	#5150.00	58.07 PK	74.00	-15.93	1.47 V	257	19.48	38.59
2	#5150.00	42.31 AV	54.00	-11.69	1.47 V	257	3.72	38.59
3	*5190.00	96.98 PK			1.47 V	256	58.33	38.65
4	*5190.00	86.55 AV			1.47 V	256	47.90	38.65
5	10380.00	62.38 PK	88.30	-25.92	1.53 V	255	13.64	48.74
6	10380.00	49.49 AV	68.30	-18.81	1.53 V	255	0.75	48.74

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.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 46	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 993hPa	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	*5230.00	105.15 PK			1.39 H	254	66.45	38.70
2	*5230.00	94.86 AV			1.39 H	254	56.16	38.70
3	10460.00	65.95 PK	88.30	-22.35	1.50 H	256	17.00	48.95
4	10460.00	52.80 AV	68.30	-15.50	1.50 H	256	3.85	48.95
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	*5230.00	96.15 PK			1.46 V	257	57.46	38.70
2	*5230.00	85.92 AV			1.46 V	257	47.23	38.70
3	10460.00	62.57 PK	88.30	-25.73	1.39 V	241	13.62	48.95
4	10460.00	49.11 AV	68.30	-19.19	1.39 V	241	0.16	48.95

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.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 54	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 993hPa	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	*5270.00	104.78 PK			1.39 H	254	66.05	38.73
2	*5270.00	94.13 AV			1.39 H	254	55.40	38.73
3	10540.00	64.68 PK	88.30	-23.62	1.51 H	257	15.52	49.16
4	10540.00	51.25 AV	68.30	-17.05	1.51 H	257	2.09	49.16
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	*5270.00	95.38 PK			1.44 V	16	56.65	38.73
2	*5270.00	85.03 AV			1.44 V	16	46.30	38.73
3	10540.00	61.28 PK	88.30	-27.02	1.64 V	257	12.12	49.16
4	10540.00	48.29 AV	68.30	-20.01	1.64 V	257	-0.87	49.16

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.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 62	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 993hPa	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	*5310.00	104.66 PK			1.39 H	248	65.89	38.77
2	*5310.00	94.02 AV			1.39 H	248	55.25	38.77
3	#5350.00	69.83 PK	74.00	-4.17	1.33 H	250	31.02	38.81
4	#5350.00	49.14 AV	54.00	-4.86	1.33 H	250	10.33	38.81
5	#10620.00	65.20 PK	74.00	-8.80	1.34 H	252	15.89	49.32
6	#10620.00	52.14 AV	54.00	-1.86	1.34 H	252	2.83	49.32
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	*5310.00	99.34 PK			1.40 V	244	60.57	38.77
2	*5310.00	89.18 AV			1.40 V	244	50.41	38.77
3	#5350.00	64.44 PK	74.00	-9.56	1.40 V	245	25.63	38.81
4	#5350.00	45.15 AV	54.00	-8.85	1.40 V	245	6.34	38.81
5	#10620.00	63.66 PK	74.00	-10.34	1.51 V	237	14.35	49.32
6	#10620.00	49.80 AV	54.00	-4.20	1.51 V	237	0.49	49.32

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.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 102	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 993hPa	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	#5460.00	64.84 PK	74.00	-9.16	1.23 H	220	25.85	38.99
2	#5460.00	47.61 AV	54.00	-6.39	1.23 H	220	8.62	38.99
3	5470.00	69.60 PK	88.30	-18.70	1.22 H	221	30.59	39.01
4	5470.00	52.11 AV	68.30	-16.19	1.22 H	221	13.10	39.01
5	*5510.00	104.86 PK			1.22 H	221	65.76	39.10
6	*5510.00	94.42 AV			1.22 H	221	55.32	39.10
7	#11020.00	64.57 PK	74.00	-9.43	1.41 H	253	14.72	49.86
8	#11020.00	52.73 AV	54.00	-1.27	1.41 H	253	2.87	49.86
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	#5460.00	59.89 PK	74.00	-14.11	1.46 V	213	20.90	38.99
2	#5460.00	42.48 AV	54.00	-11.52	1.46 V	213	3.49	38.99
3	5470.00	62.41 PK	88.30	-25.89	1.46 V	214	23.40	39.01
4	5470.00	45.62 AV	68.30	-22.68	1.46 V	214	6.61	39.01
5	*5510.00	98.57 PK			1.46 V	214	59.47	39.10
6	*5510.00	88.36 AV			1.46 V	214	49.26	39.10
7	#11020.00	65.59 PK	74.00	-8.41	1.46 V	239	15.74	49.86
8	#11020.00	51.87 AV	54.00	-2.13	1.46 V	239	2.02	49.86

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.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 118	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 993hPa	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	*5590.00	102.54 PK			1.21 H	222	63.27	39.27
2	*5590.00	92.49 AV			1.21 H	222	53.22	39.27
3	#11180.00	64.75 PK	74.00	-9.25	1.43 H	239	14.98	49.77
4	#11180.00	51.22 AV	54.00	-2.78	1.43 H	239	1.45	49.77
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	*5590.00	96.98 PK			1.19 V	222	57.71	39.27
2	*5590.00	86.62 AV			1.19 V	222	47.35	39.27
3	#11180.00	64.47 PK	74.00	-9.53	1.00 V	241	14.70	49.77
4	#11180.00	52.02 AV	54.00	-1.98	1.00 V	241	2.25	49.77

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.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 134	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 993hPa	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	*5670.00	102.01 PK			1.21 H	223	62.53	39.48
2	*5670.00	91.50 AV			1.21 H	223	52.02	39.48
3	5725.00	49.05 PK	88.30	-39.25	1.21 H	224	9.44	39.61
4	5725.00	37.36 AV	68.30	-30.94	1.21 H	224	-2.25	39.61
5	#11340.00	60.86 PK	74.00	-13.14	1.36 H	242	11.05	49.81
6	#11340.00	48.72 AV	54.00	-5.28	1.36 H	242	-1.09	49.81
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	*5670.00	96.39 PK			1.29 V	219	56.91	39.48
2	*5670.00	85.58 AV			1.29 V	219	46.10	39.48
3	5725.00	50.01 PK	88.30	-38.29	1.29 V	219	10.40	39.61
4	5725.00	36.88 AV	68.30	-31.42	1.29 V	219	-2.73	39.61
5	#11340.00	62.21 PK	74.00	-11.79	1.05 V	198	12.40	49.81
6	#11340.00	49.81 AV	54.00	-4.19	1.05 V	198	0.00	49.81

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.

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 40	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 993hPa	TESTED BY	Lori Chiu
TEST MODE	A		

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	167.85	32.26 QP	43.50	-11.24	1.25 H	187	19.15	13.11
2	399.46	32.27 QP	46.00	-13.73	1.50 H	135	16.29	15.98
3	440.25	32.46 QP	46.00	-13.54	1.50 H	155	15.24	17.22
4	605.37	36.78 QP	46.00	-9.22	1.00 H	17	15.22	21.56
5	720.57	36.78 QP	46.00	-9.22	1.00 H	227	13.79	22.99
6	900.88	40.74 QP	46.00	-5.26	1.36 H	67	14.89	25.85
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	166.12	33.82 QP	43.50	-9.68	1.25 V	246	20.59	13.23
2	399.47	34.58 QP	46.00	-11.42	1.00 V	199	18.60	15.98
3	444.25	33.64 QP	46.00	-12.36	1.00 V	167	16.30	17.34
4	607.47	33.64 QP	46.00	-12.36	1.00 V	167	12.06	21.58
5	720.22	34.78 QP	46.00	-11.22	1.00 V	167	11.79	22.99
6	953.51	32.16 QP	46.00	-13.84	1.00 V	20	5.81	26.35

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 40	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	20deg. C, 60%RH 993hPa	TESTED BY	Lori Chiu
TEST MODE	B		

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	150.45	34.36 QP	43.50	-9.14	1.00 H	256	19.50	14.85
2	167.94	34.59 QP	43.50	-8.91	1.50 H	100	20.69	13.90
3	311.82	35.57 QP	46.00	-10.43	1.00 H	13	20.52	15.05
4	399.31	31.19 QP	46.00	-14.81	1.50 H	40	13.88	17.31
5	605.41	31.87 QP	46.00	-14.13	1.50 H	88	8.61	23.26
6	720.00	44.35 QP	46.00	-1.65	1.00 H	162	18.87	25.48
7	902.89	34.64 QP	46.00	-11.36	1.50 H	64	6.66	27.99
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	150.45	36.37 QP	43.50	-7.13	1.50 V	7	21.52	14.85
2	164.06	34.13 QP	43.50	-9.37	1.00 V	58	20.02	14.11
3	399.31	32.02 QP	46.00	-13.98	1.50 V	253	14.71	17.31
4	599.58	34.22 QP	46.00	-11.78	1.50 V	13	11.09	23.13
5	702.62	32.06 QP	46.00	-13.94	1.00 V	220	6.79	25.28
6	720.12	44.31 QP	46.00	-1.69	1.50 V	157	18.83	25.48

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.

4.2 CONDUCTED EMISSION MEASUREMENT

4.2.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY OF EMISSION (MHz)	CONDUCTED LIMIT (dBμV)	
	Quasi-peak	Average
0.15 ~ 0.5	66 to 56	56 to 46
0.5 ~ 5	56	46
5 ~ 30	60	50

NOTE: 1. The lower limit shall apply at the transition frequencies.

2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

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.

4.2.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
Test Receiver ROHDE & SCHWARZ	ESCS30	100288	Sep. 21, 2008
RF signal cable Woken	5D-FB	Cable-HYCO3-01	Jan. 06, 2009
LISN ROHDE & SCHWARZ	ESH2-Z5	100100	Jan. 09, 2009
LISN SCHWARZBECK	NNBL 8226-2	8226-142	May 07, 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.

4.2.3 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.

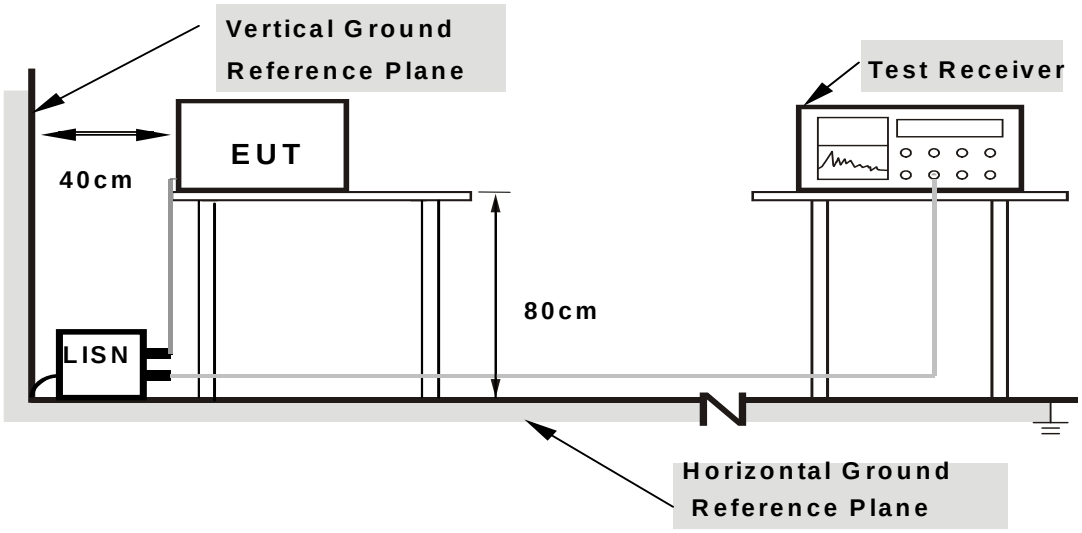
b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

4.2.4 DEVIATION FROM TEST STANDARD

No deviation

4.2.5 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).

4.2.6 EUT OPERATING CONDITIONS

Same as 4.1.6.

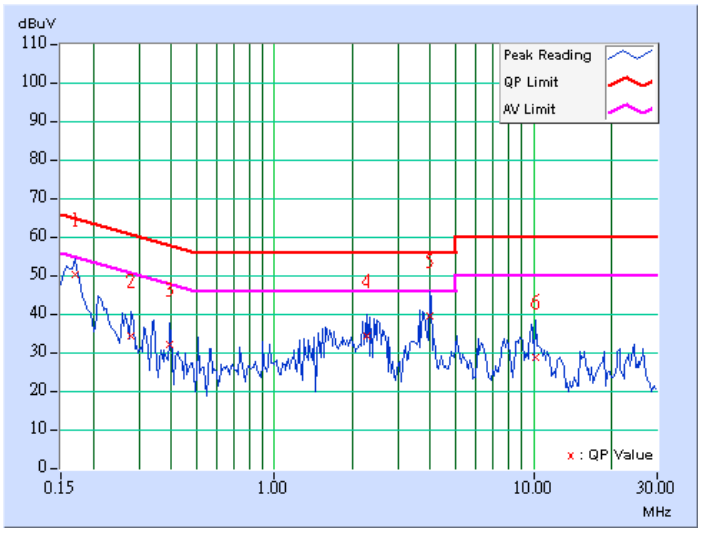
4.2.7 TEST RESULTS

CONDUCTED WORST-CASE DATA：802.11a OFDM MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 40	PHASE	Line 1
MODULATION TYPE	BPSK	INPUT POWER (SYSTEM)	120Vac, 60Hz
TRANSFER RATE	6.0Mbps	6dB BANDWIDTH	9kHz
ENVIRONMENTAL CONDITIONS	20deg. C, 60%RH, 982hPa	TESTED BY	Match Tsui

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.170	0.10	49.94	-	50.04	-	64.98	54.98	-14.94	-
2	0.279	0.10	34.17	-	34.27	-	60.85	50.85	-26.58	-
3	0.396	0.10	31.91	-	32.01	-	57.93	47.93	-25.92	-
4	2.262	0.23	34.26	-	34.49	-	56.00	46.00	-21.51	-
5	3.961	0.28	39.12	-	39.40	-	56.00	46.00	-16.60	-
6	10.164	0.33	28.38	-	28.71	-	60.00	50.00	-31.29	-

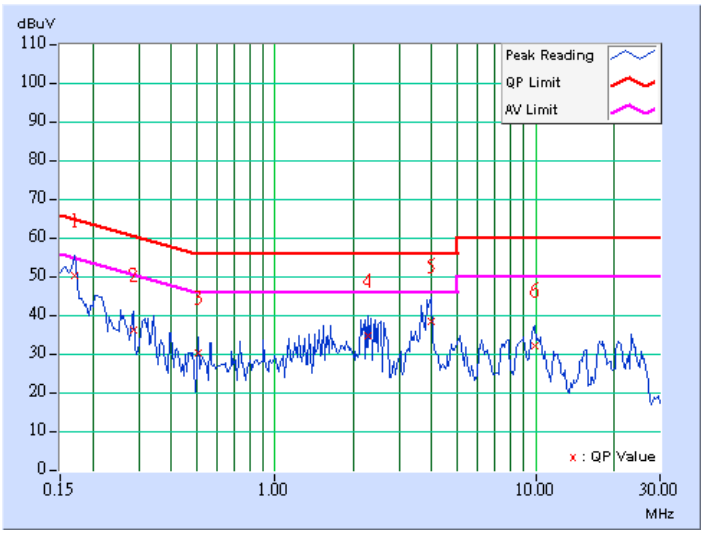
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 40	PHASE	Line 2
MODULATION TYPE	BPSK	INPUT POWER (SYSTEM)	120Vac, 60Hz
TRANSFER RATE	6.0Mbps	6dB BANDWIDTH	9kHz
ENVIRONMENTAL CONDITIONS	20deg. C, 60%RH, 982hPa	TESTED BY	Match Tsui

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	**0.170**	**0.10**	**49.96**	**-**	**50.06**	**-**	**64.98**	**54.98**	**-14.92**	**-**
2	0.287	0.10	35.76	-	35.86	-	60.62	50.62	-24.76	-
3	0.509	0.12	29.81	-	29.93	-	56.00	46.00	-26.07	-
4	2.262	0.23	34.49	-	34.72	-	56.00	46.00	-21.28	-
5	3.957	0.28	38.07	-	38.35	-	56.00	46.00	-17.65	-
6	9.957	0.43	31.72	-	32.15	-	60.00	50.00	-27.85	-

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



4.3 PEAK TRANSMIT POWER MEASUREMENT

4.3.1 LIMITS OF PEAK TRANSMIT POWER MEASUREMENT

FREQUENCY BAND	LIMIT
5.150 ~ 5.250GHz	The lesser of 50mW (17dBm) or 4dBm + 10logB
5.250 ~ 5.350GHz	The lesser of 250mW (24dBm) or 11dBm + 10logB
5.470 ~ 5.725GHz	The lesser of 250mW (24dBm) or 11dBm + 10logB

NOTE: Where B is the 26dB emission bandwidth in MHz.

4.3.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
R&S SPECTRUM ANALYZER	FSP40	100040	Jun. 28, 2008

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

4.3.3 TEST PROCEDURE

a. The transmitter output was connected to the spectrum analyzer.

b. Set span to encompass the entire emission bandwidth of the signal.

c. Set RBW to 1MHz, VBW to 3MHz.

d. Using the spectrum analyzer's channel power measurement function to measure the output power.

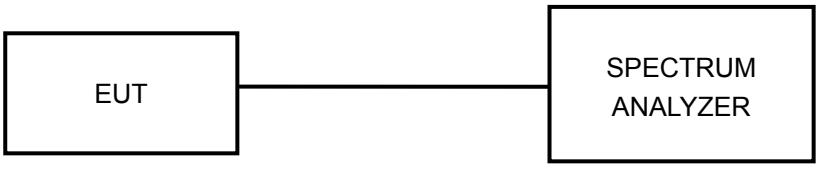
NOTE: The test is performed in accordance with FCC Public Notice: APPENDIX A Guidelines for Assessing Unlicensed National Information Infrastructure (U-NII) Devices – Part 15, Subpart E, August 2002.

The transmitter output operates continuously therefore Method # 1 is used.

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 specific channel frequencies individually.

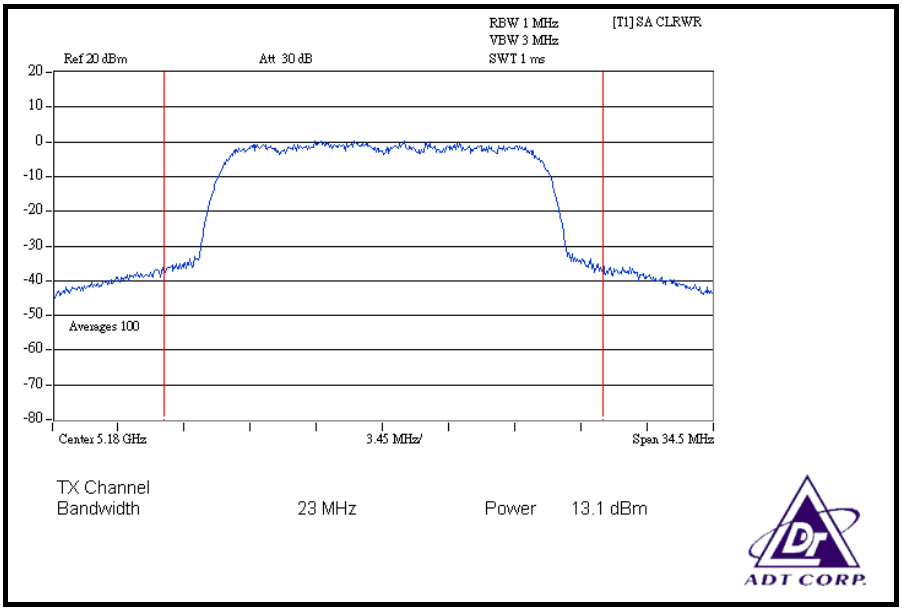
4.3.7 TEST RESULTS

PEAK POWER OUTPUT: 802.11a OFDM MODULATION

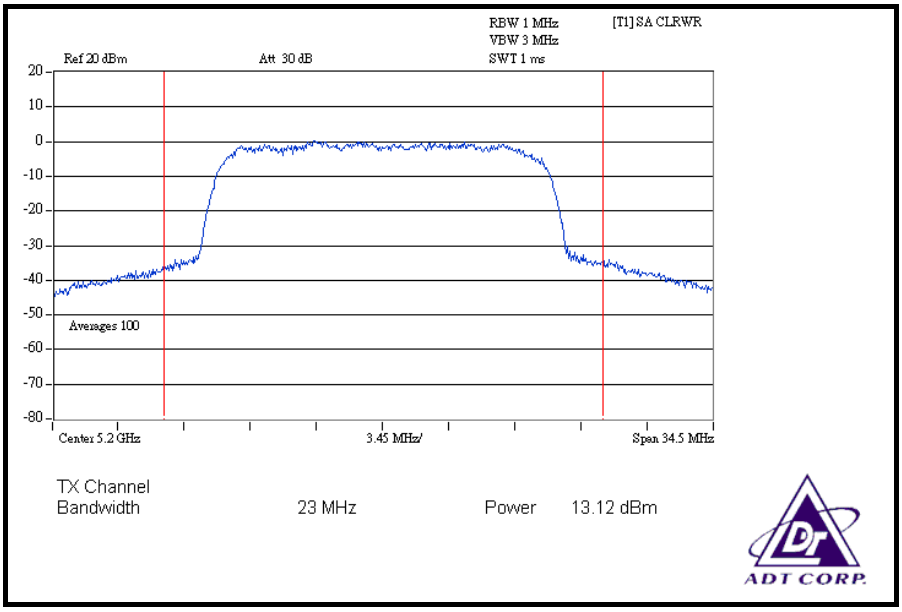
MODULATION TYPE	BPSK	**TRANSFER RATE**	6.0Mbps
INPUT POWER (SYSTEM)	120Vac, 60Hz	**ENVIRONMENTAL CONDITIONS**	25 deg.C, 65 %RH, 991hPa
TESTED BY	Brad Wu		

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS / FAIL
36	5180	20.417	13.10	17.00	PASS
40	5200	20.512	13.12	17.00	PASS
48	5240	20.464	13.11	17.00	PASS
52	5260	20.370	13.09	24.00	PASS
60	5300	20.464	13.11	24.00	PASS
64	5320	20.045	13.02	24.00	PASS
100	5500	20.137	13.04	24.00	PASS
120	5600	20.091	13.03	24.00	PASS
140	5700	19.999	13.01	24.00	PASS

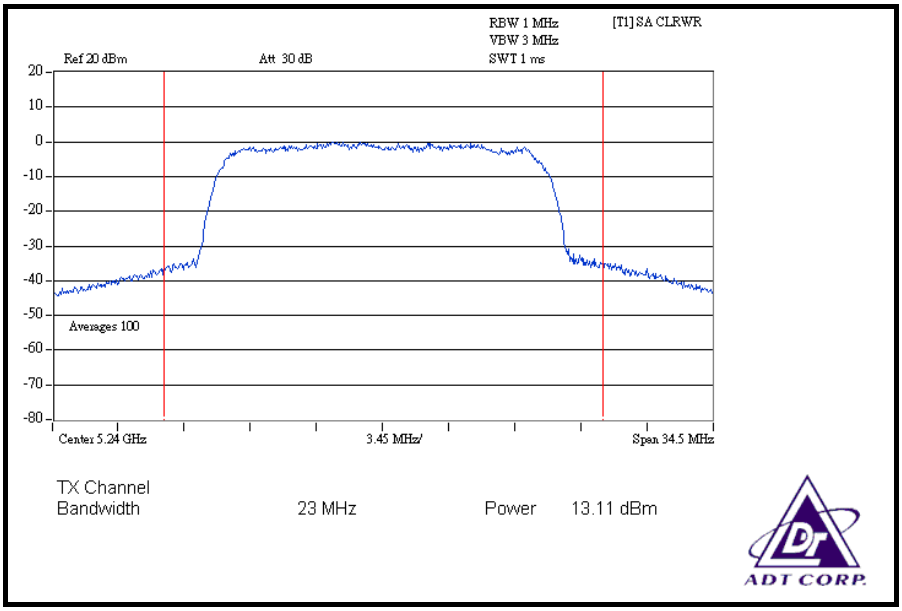
CH 36


RBW 1 MHz
VBW 3 MHz
SWT 1 ms
[T1] SA CLRWR
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Averages 100
Center 5.18 GHz
3.45 MHz/
Span 34.5 MHz
TX Channel Bandwidth
23 MHz
Power
13.1 dBm
ADT CORP.

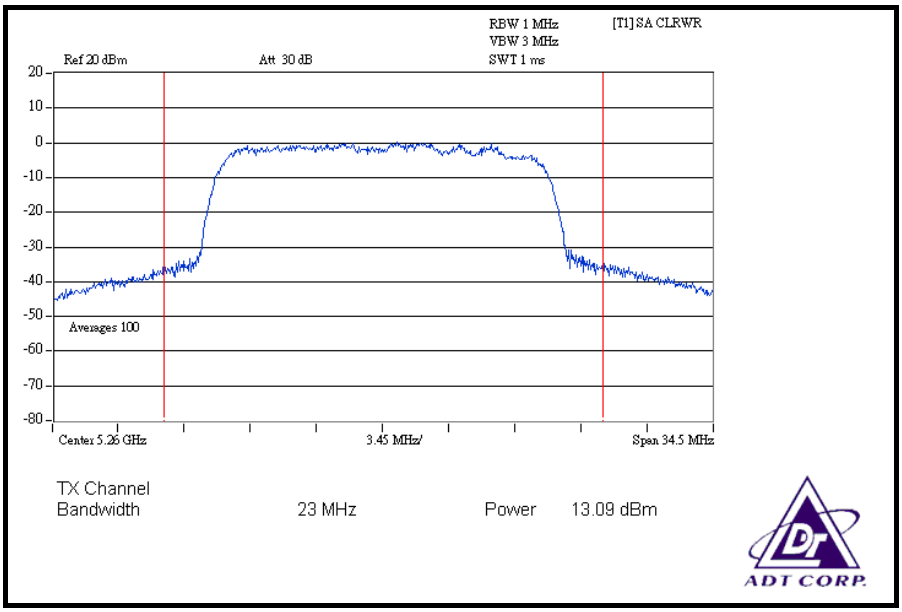
CH 40


RBW 1 MHz
VBW 3 MHz
SWT 1 ms
[T1] SA CLRWR
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Averages 100
Center 5.2 GHz
3.45 MHz/
Span 34.5 MHz
TX Channel Bandwidth
23 MHz
Power
13.12 dBm
ADT CORP.

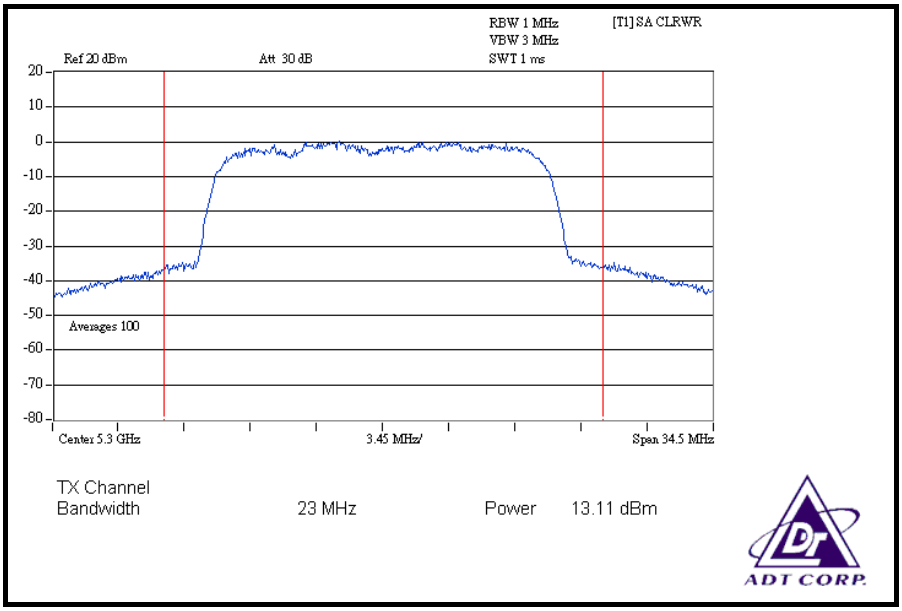
CH 48


RBW 1 MHz
VBW 3 MHz
SWT 1 ms
[T1] SA CLRWR
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Averages 100
Center 5.24 GHz
3.45 MHz/
Span 34.5 MHz
TX Channel Bandwidth
23 MHz
Power
13.11 dBm
ADT CORP.

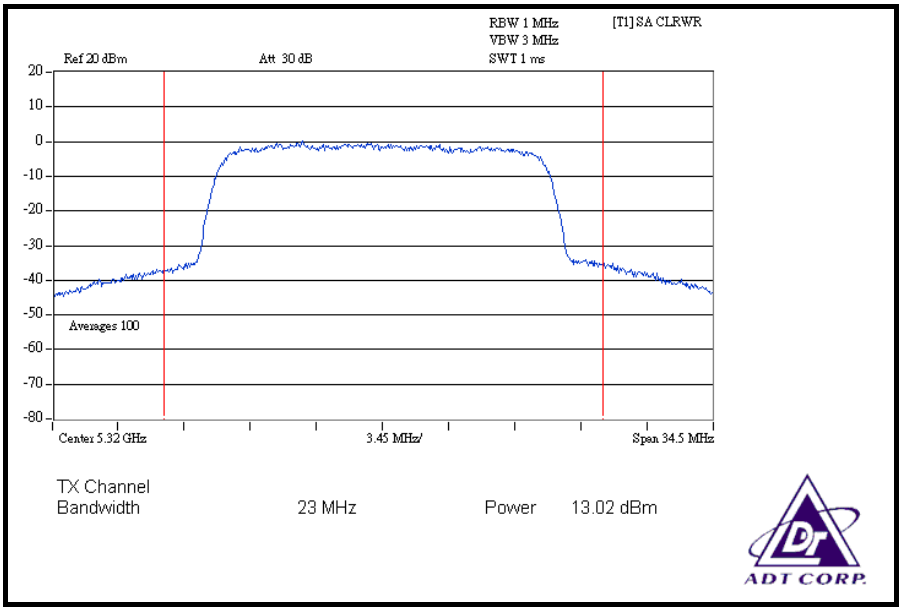
CH 52


RBW 1 MHz
VBW 3 MHz
SWT 1 ms
[T1] SA CLRWR
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Averages 100
Center 5.26 GHz
3.45 MHz/
Span 34.5 MHz
TX Channel Bandwidth
23 MHz
Power
13.09 dBm
ADT CORP.

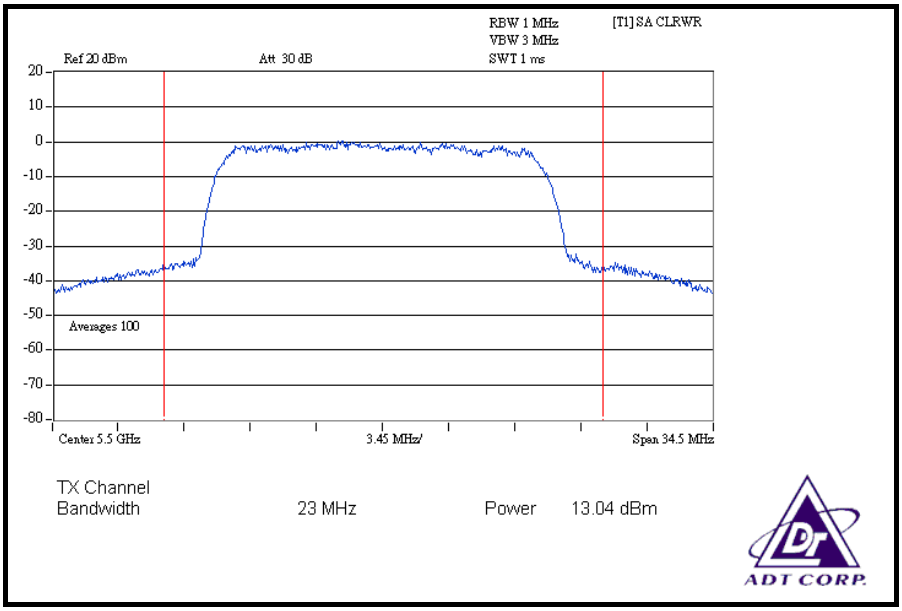
CH 60


RBW 1 MHz
VBW 3 MHz
SWT 1 ms
[T1] SA CLRWR
Ref 20 dBm
Att 30 dB
Averages 100
Center 5.3 GHz
3.45 MHz/
Span 34.5 MHz
TX Channel Bandwidth
23 MHz
Power
13.11 dBm

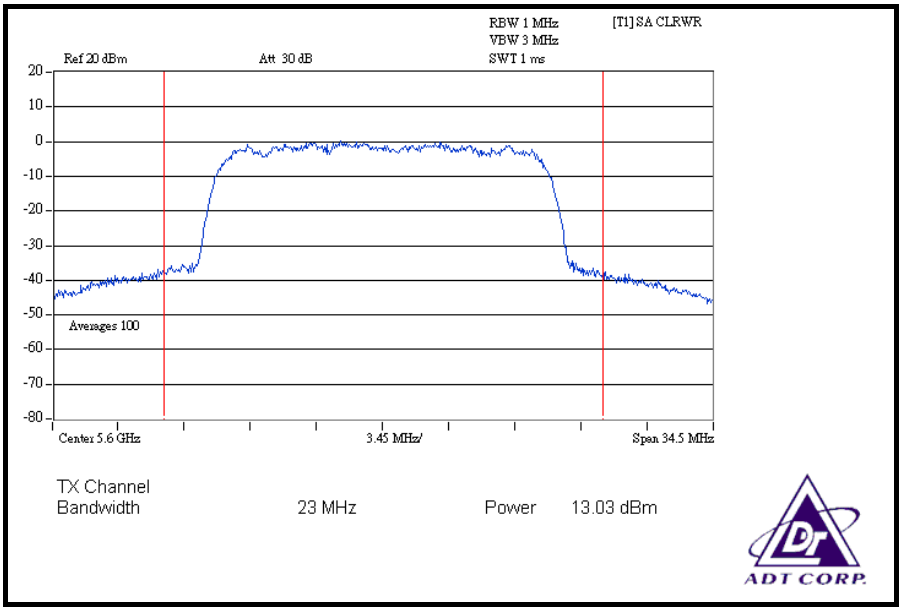
CH 64


RBW 1 MHz
VBW 3 MHz
SWT 1 ms
[T1] SA CLRWR
Ref 20 dBm
Att 30 dB
Averages 100
Center 5.32 GHz
3.45 MHz/
Span 34.5 MHz
TX Channel Bandwidth
23 MHz
Power
13.02 dBm

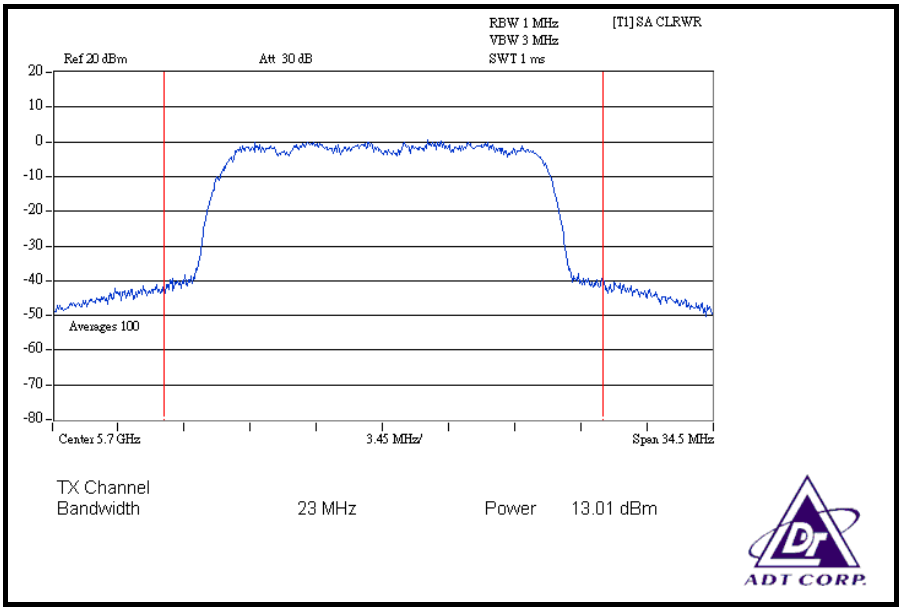
CH 100


RBW 1 MHz
VBW 3 MHz
SWT 1 ms
[T1] SA CLRWR
Ref 20 dBm
Att 30 dB
Averages 100
Center 5.5 GHz
3.45 MHz/
Span 34.5 MHz
TX Channel Bandwidth
23 MHz
Power
13.04 dBm

CH 120


RBW 1 MHz
VBW 3 MHz
SWT 1 ms
[T1] SA CLRWR
Ref 20 dBm
Att 30 dB
Averages 100
Center 5.6 GHz
3.45 MHz/
Span 34.5 MHz
TX Channel Bandwidth
23 MHz
Power
13.03 dBm

CH 140

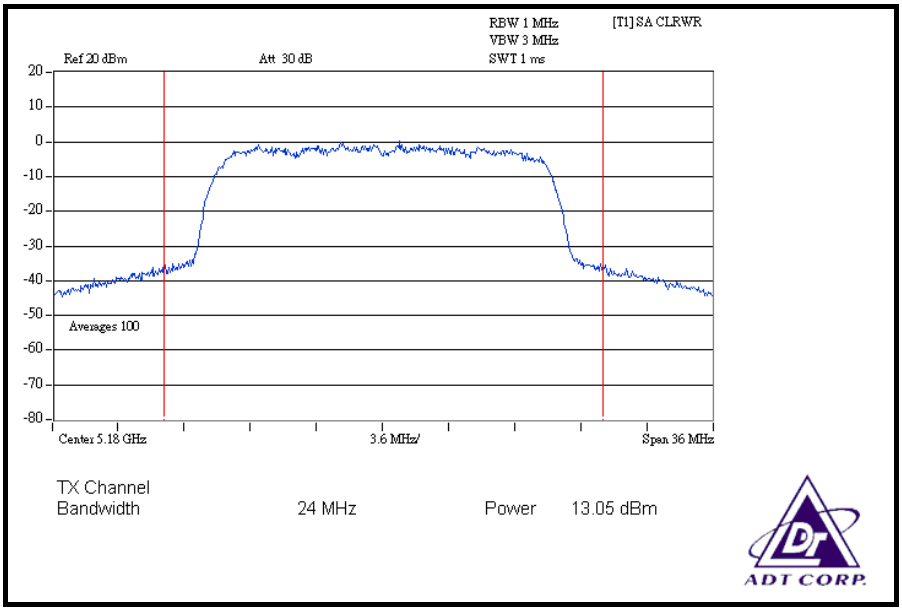

RBW 1 MHz
VBW 3 MHz
SWT 1 ms
[T1] SA CLRWR
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Averages 100
Center 5.7 GHz
3.45 MHz/
Span 34.5 MHz
TX Channel Bandwidth
23 MHz
Power
13.01 dBm
ADT CORP.

DRAFT 802.11n (20MHz) OFDM MODULATION

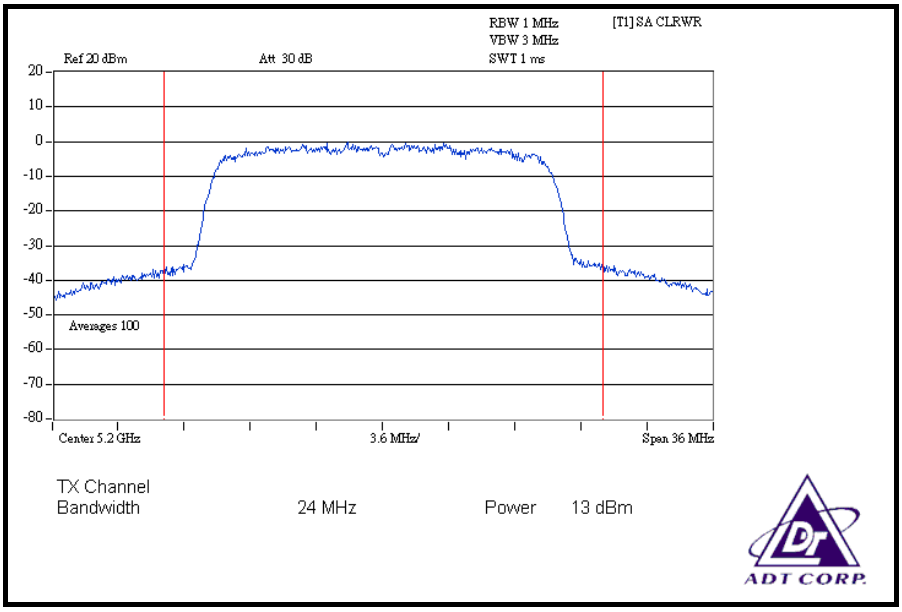
MODULATION TYPE	BPSK	**TRANSFER RATE**	7.2Mbps
INPUT POWER (SYSTEM)	120Vac, 60Hz	**ENVIRONMENTAL CONDITIONS**	25 deg.C, 65 %RH, 991hPa
TESTED BY	Brad Wu		

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS / FAIL
36	5180	20.184	13.05	17.00	PASS
40	5200	19.953	13.00	17.00	PASS
48	5240	20.137	13.04	17.00	PASS
52	5260	20.230	13.06	24.00	PASS
60	5300	20.324	13.08	24.00	PASS
64	5320	20.184	13.05	24.00	PASS
100	5500	16.181	12.09	24.00	PASS
120	5600	20.184	13.05	24.00	PASS
140	5700	20.091	13.03	24.00	PASS

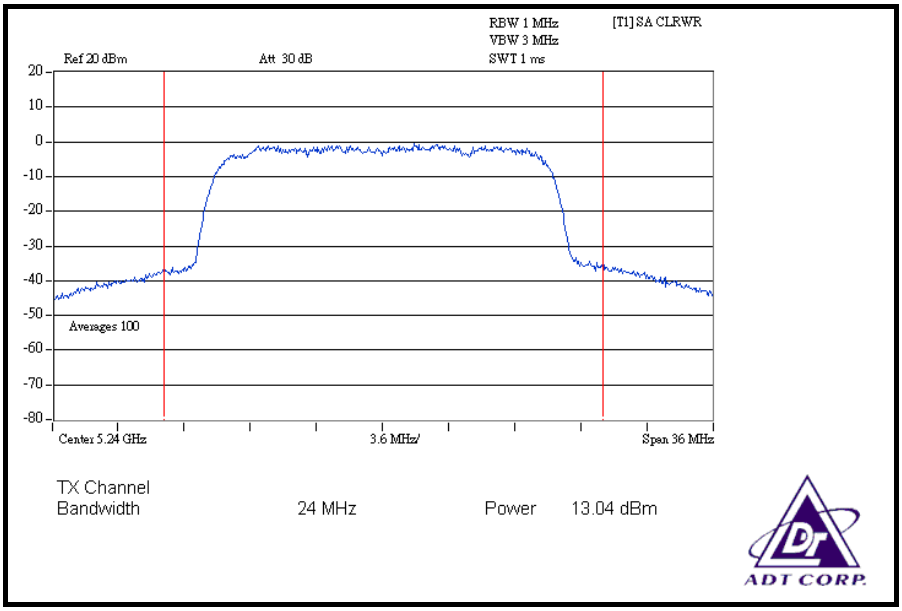
CH 36


RBW 1 MHz
VBW 3 MHz
SWT 1 ms
[T1] SA CLRWR
Ref 20 dBm
Att 30 dB
Averages 100
Center 5.18 GHz
3.6 MHz/
Span 36 MHz
TX Channel Bandwidth
24 MHz
Power
13.05 dBm

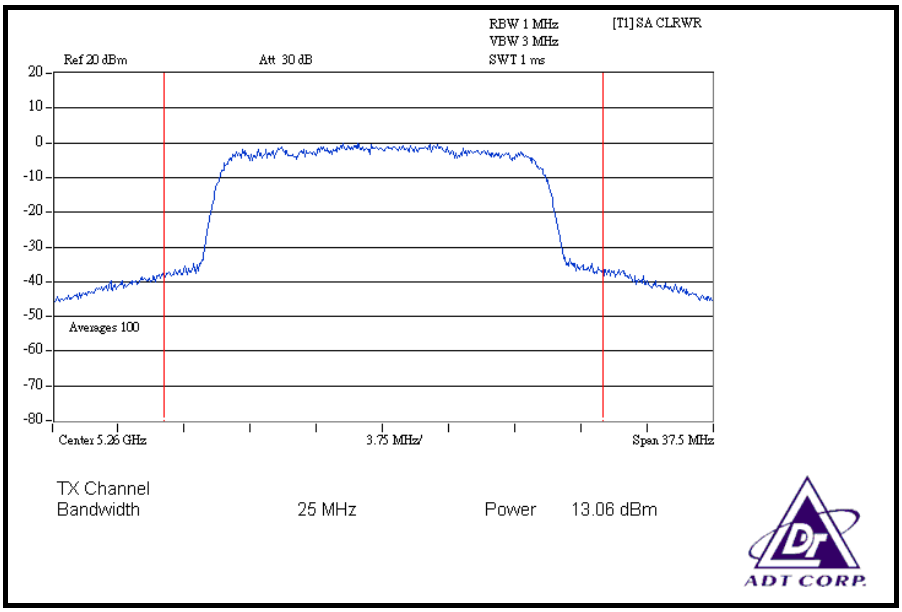
CH 40


RBW 1 MHz
VBW 3 MHz
SWT 1 ms
[T1] SA CLRWR
Ref 20 dBm
Att 30 dB
Averages 100
Center 5.2 GHz
3.6 MHz/
Span 36 MHz
TX Channel Bandwidth
24 MHz
Power
13 dBm

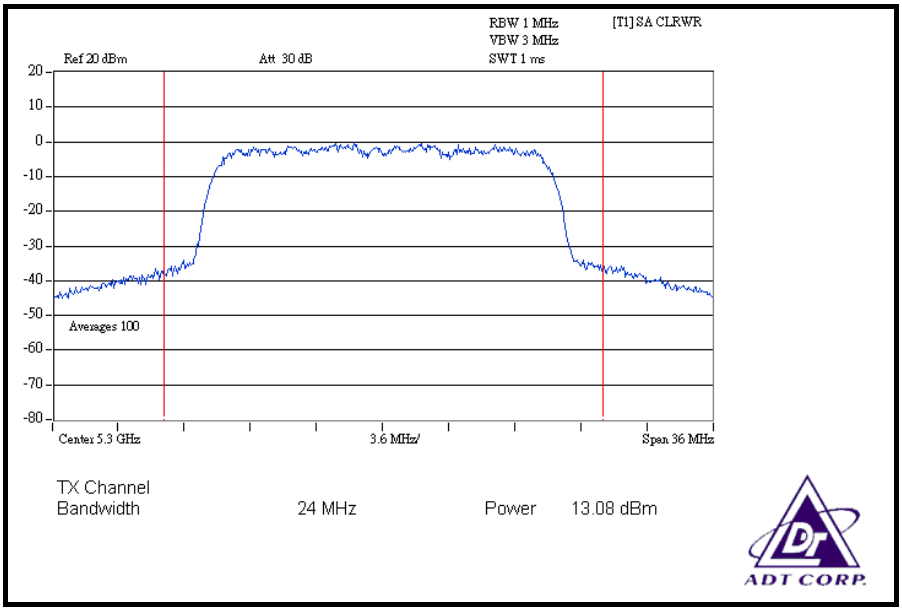
CH 48


RBW 1 MHz
VBW 3 MHz
SWT 1 ms
[T1] SA CLRWR
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Averages 100
Center 5.24 GHz
3.6 MHz/
Span 36 MHz
TX Channel Bandwidth
24 MHz
Power
13.04 dBm
ADT CORP.

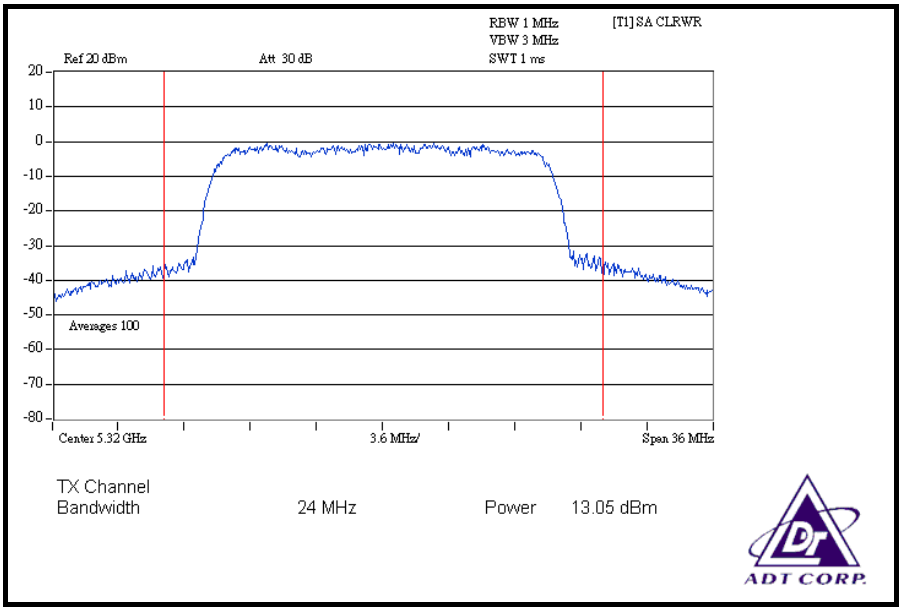
CH 52


RBW 1 MHz
VBW 3 MHz
SWT 1 ms
[T1] SA CLRWR
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Averages 100
Center 5.26 GHz
3.75 MHz/
Span 37.5 MHz
TX Channel Bandwidth
25 MHz
Power
13.06 dBm
ADT CORP.

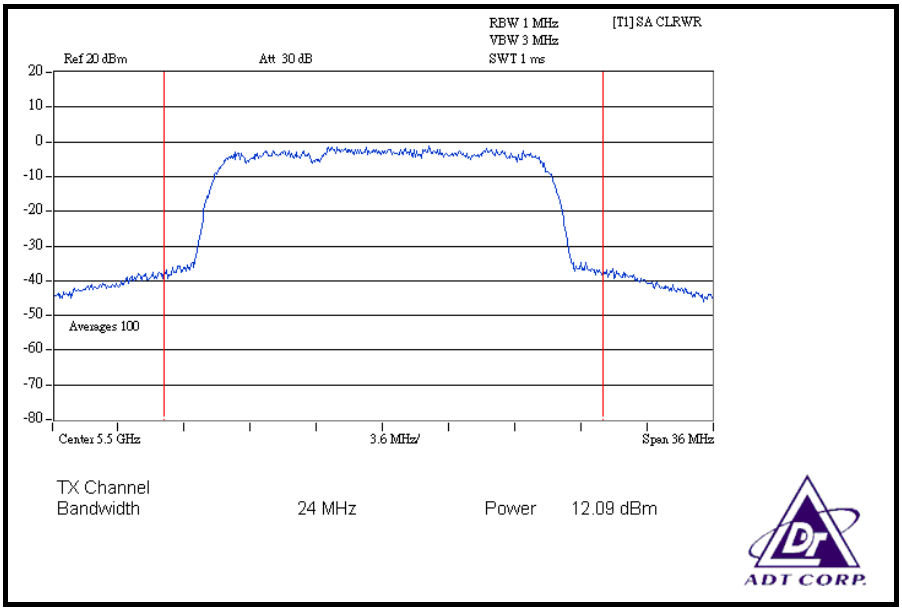
CH 60


RBW 1 MHz
VBW 3 MHz
SWT 1 ms
[T1] SA CLRWR
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Averages 100
Center 5.3 GHz
3.6 MHz/
Span 36 MHz
TX Channel Bandwidth
24 MHz
Power
13.08 dBm
ADT CORP.

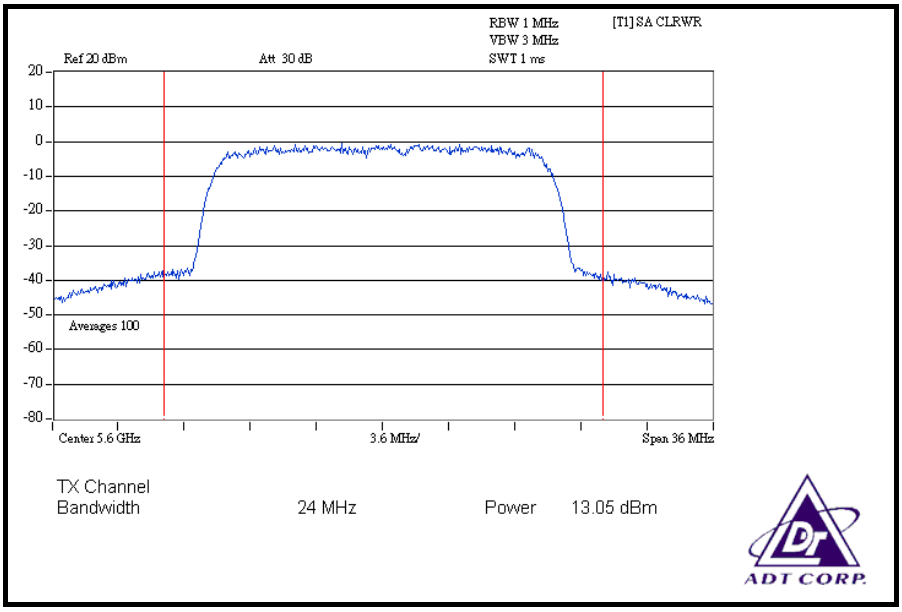
CH 64


RBW 1 MHz
VBW 3 MHz
SWT 1 ms
[T1] SA CLRWR
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Averages 100
Center 5.32 GHz
3.6 MHz/
Span 36 MHz
TX Channel Bandwidth
24 MHz
Power
13.05 dBm
ADT CORP.

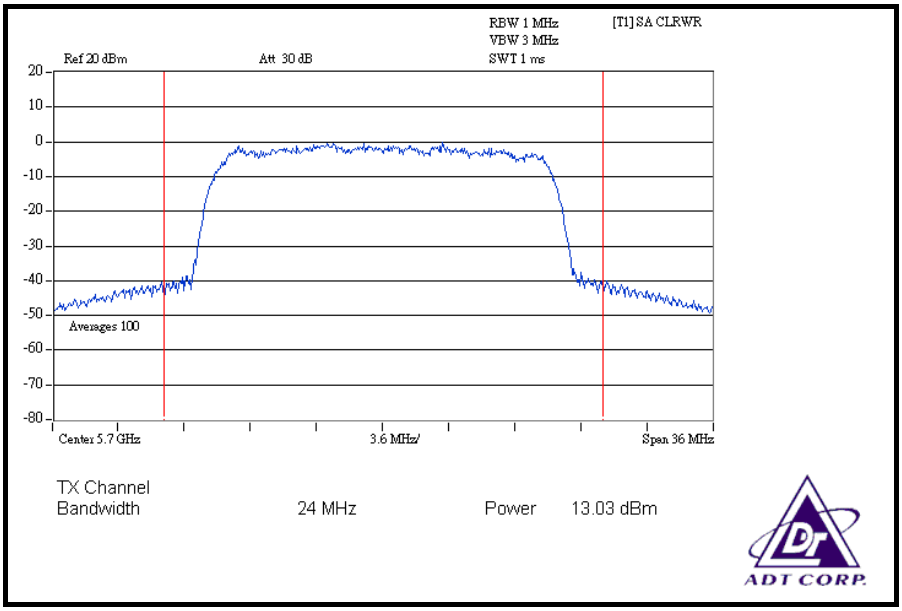
CH 100


RBW 1 MHz
VBW 3 MHz
SWT 1 ms
[T1] SA CLRWR
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Averages 100
Center 5.5 GHz
3.6 MHz/
Span 36 MHz
TX Channel Bandwidth
24 MHz
Power
12.09 dBm
ADT CORP.

CH 120


RBW 1 MHz
VBW 3 MHz
SWT 1 ms
[T1] SA CLRWR
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Averages 100
Center 5.6 GHz
3.6 MHz/
Span 36 MHz
TX Channel Bandwidth
24 MHz
Power
13.05 dBm
ADT CORP.

CH 140

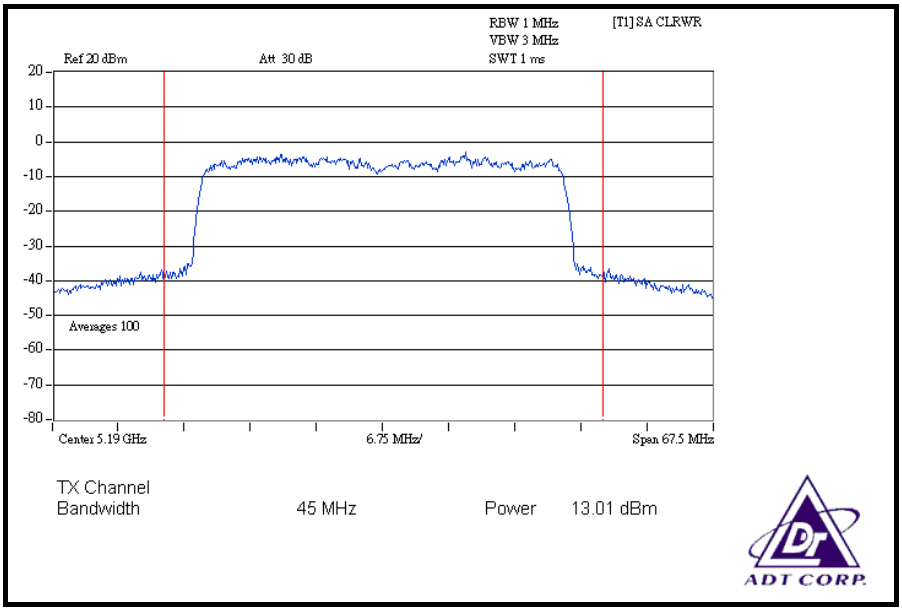

RBW 1 MHz
VBW 3 MHz
SWT 1 ms
[T1] SA CLRWR
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Averages 100
Center 5.7 GHz
3.6 MHz/
Span 36 MHz
TX Channel Bandwidth
24 MHz
Power
13.03 dBm
ADT CORP.

DRAFT 802.11n (40MHz) OFDM MODULATION

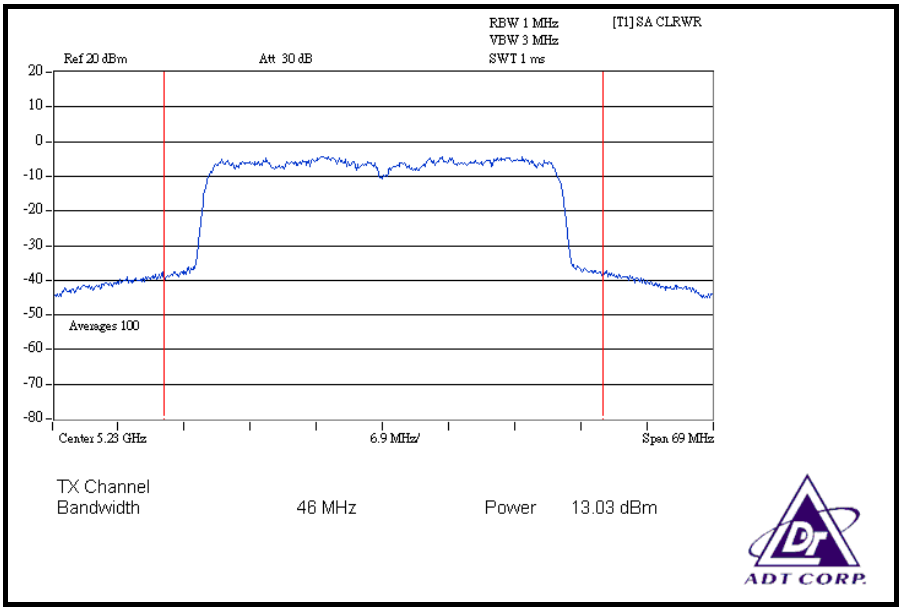
MODULATION TYPE	BPSK	**TRANSFER RATE**	15.0Mbps
INPUT POWER (SYSTEM)	120Vac, 60Hz	**ENVIRONMENTAL CONDITIONS**	25 deg.C, 65 %RH, 991hPa
TESTED BY	Brad Wu		

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS / FAIL
38	5190	19.999	13.01	17.00	PASS
46	5230	20.091	13.03	17.00	PASS
54	5270	20.370	13.09	24.00	PASS
62	5310	20.324	13.08	24.00	PASS
102	5510	20.091	13.03	24.00	PASS
118	5590	19.999	13.01	24.00	PASS
134	5670	20.091	13.03	24.00	PASS

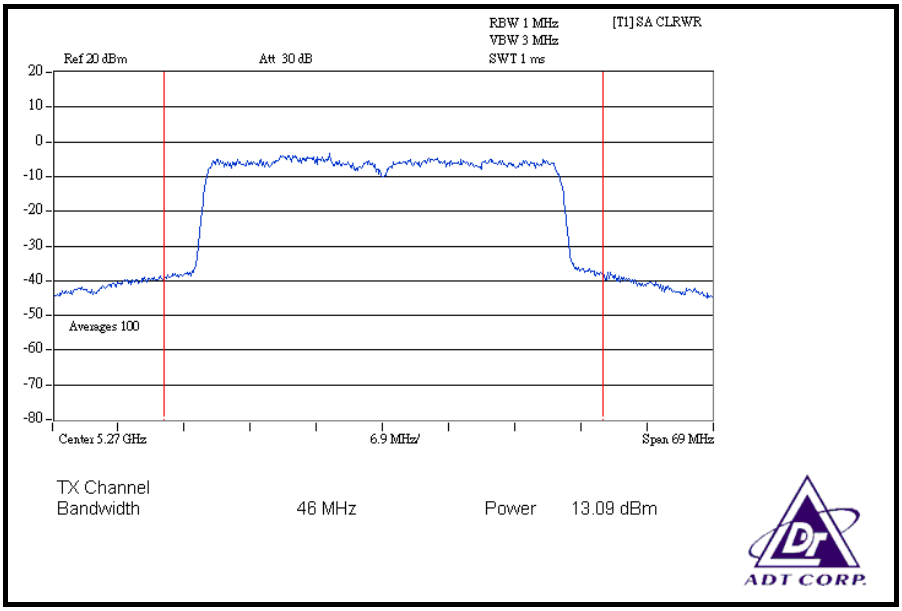
CH 38


RBW 1 MHz
VBW 3 MHz
SWT 1 ms
[T1] SA CLRWR
Ref 20 dBm
Att 30 dB
Averages 100
Center 5.19 GHz
6.75 MHz/
Span 67.5 MHz
TX Channel Bandwidth
45 MHz
Power
13.01 dBm

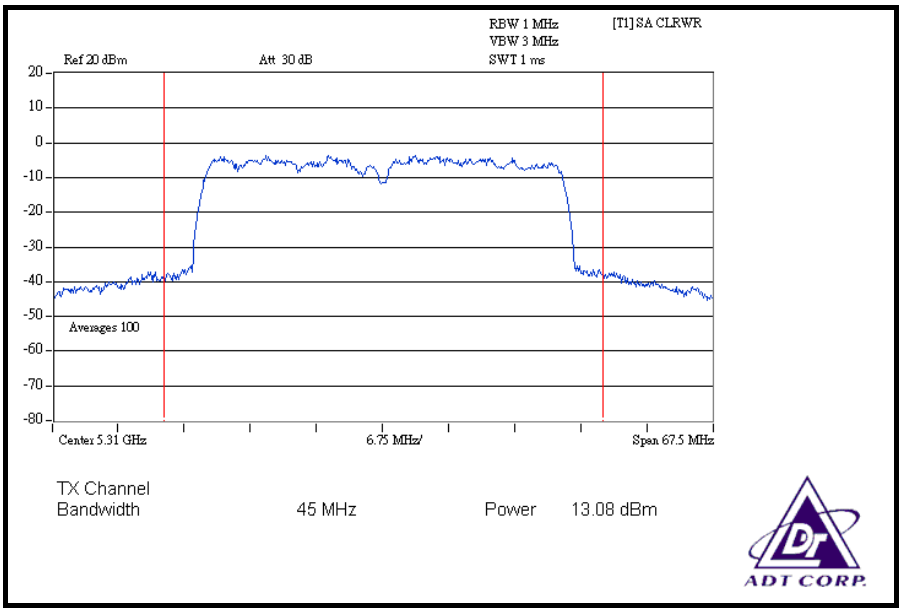
CH 46


RBW 1 MHz
VBW 3 MHz
SWT 1 ms
[T1] SA CLRWR
Ref 20 dBm
Att 30 dB
Averages 100
Center 5.23 GHz
6.9 MHz/
Span 69 MHz
TX Channel Bandwidth
46 MHz
Power
13.03 dBm

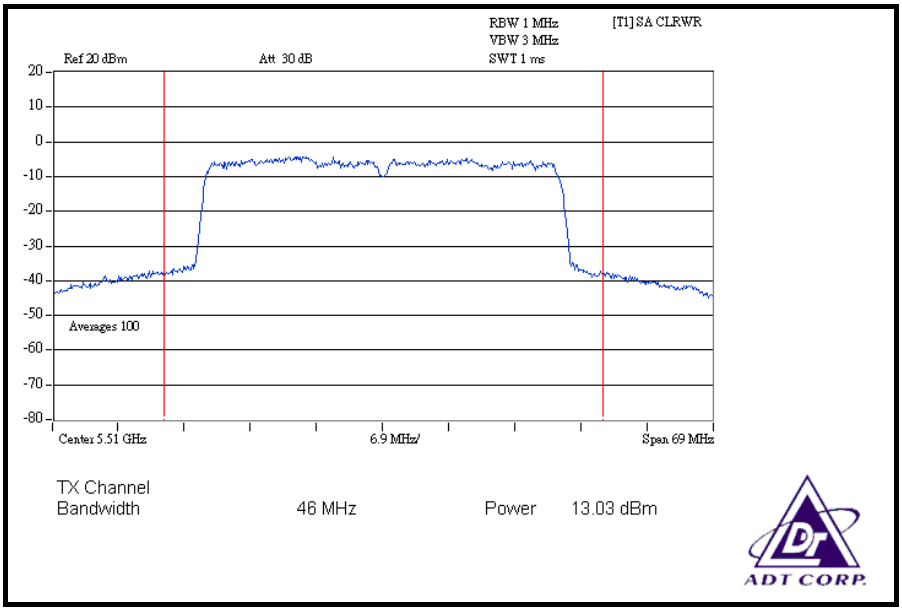
CH 54


RBW 1 MHz
VBW 3 MHz
SWT 1 ms
[T1] SA CLRWR
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Averages 100
Center 5.27 GHz
6.9 MHz/
Span 69 MHz
TX Channel Bandwidth
46 MHz
Power
13.09 dBm
ADT CORP.

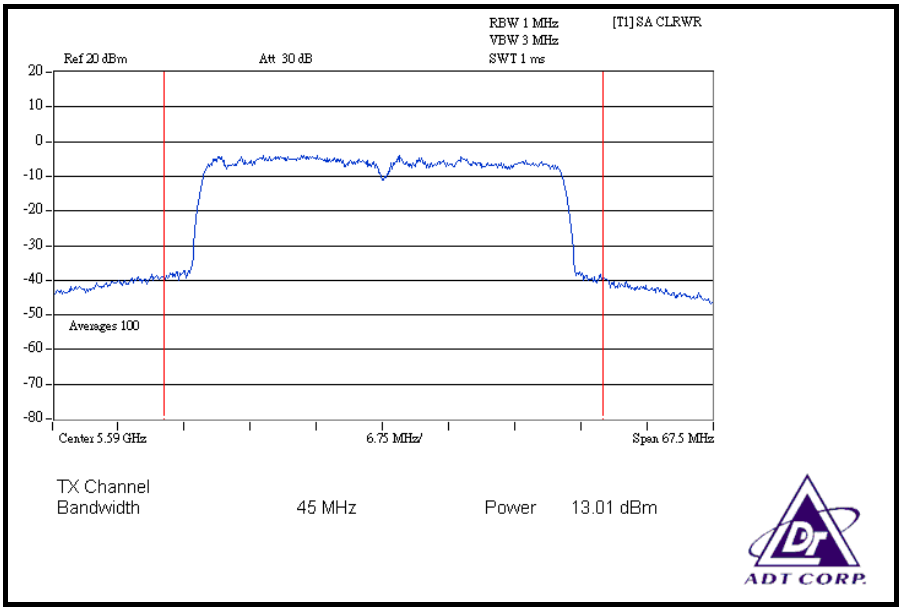
CH 62


RBW 1 MHz
VBW 3 MHz
SWT 1 ms
[T1] SA CLRWR
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Averages 100
Center 5.31 GHz
6.75 MHz/
Span 67.5 MHz
TX Channel Bandwidth
45 MHz
Power
13.08 dBm
ADT CORP.

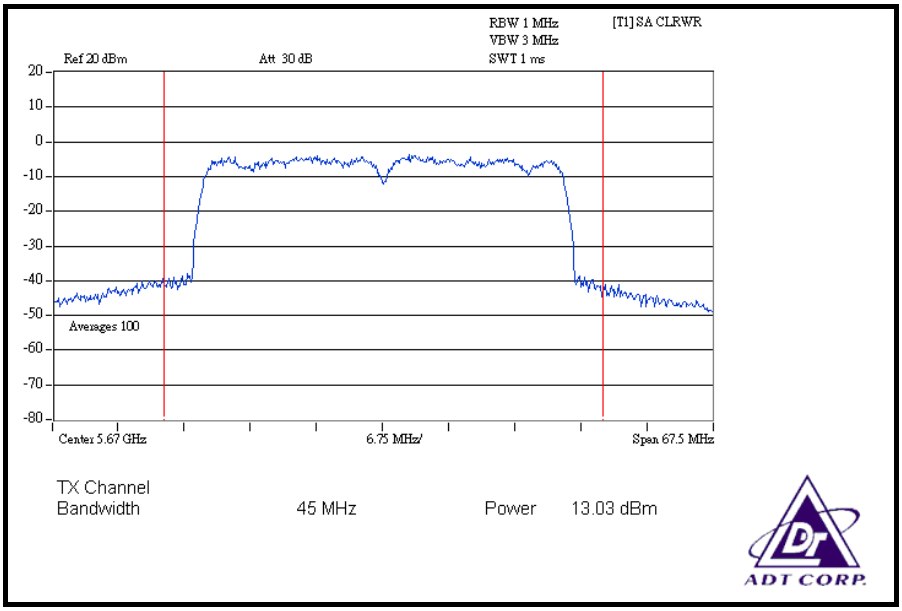
CH 102


RBW 1 MHz
VBW 3 MHz
SWT 1 ms
[T1] SA CLRWR
Ref 20 dBm
Att 30 dB
Averages 100
Center 5.51 GHz
6.9 MHz/
Span 69 MHz
TX Channel Bandwidth
46 MHz
Power
13.03 dBm

CH 118


RBW 1 MHz
VBW 3 MHz
SWT 1 ms
[T1] SA CLRWR
Ref 20 dBm
Att 30 dB
Averages 100
Center 5.59 GHz
6.75 MHz/
Span 67.5 MHz
TX Channel Bandwidth
45 MHz
Power
13.01 dBm

CH 134

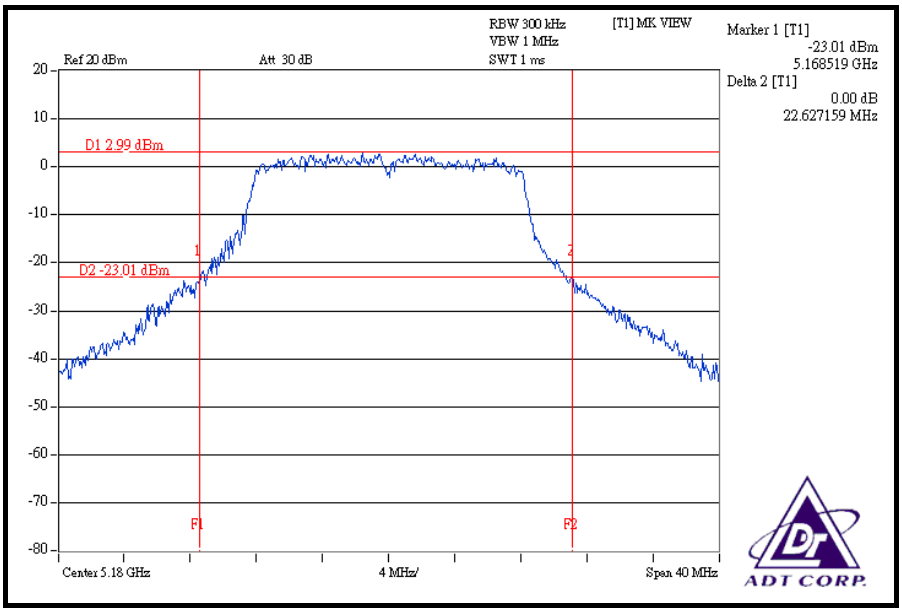

RBW 1 MHz
VBW 3 MHz
SWT 1 ms
[T1] SA CLRWR
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Averages 100
Center 5.67 GHz
6.75 MHz/
Span 67.5 MHz
TX Channel Bandwidth
45 MHz
Power
13.03 dBm
ADT CORP.

26dB OCCUPIED BANDWIDTH: 802.11a OFDM MODULATION

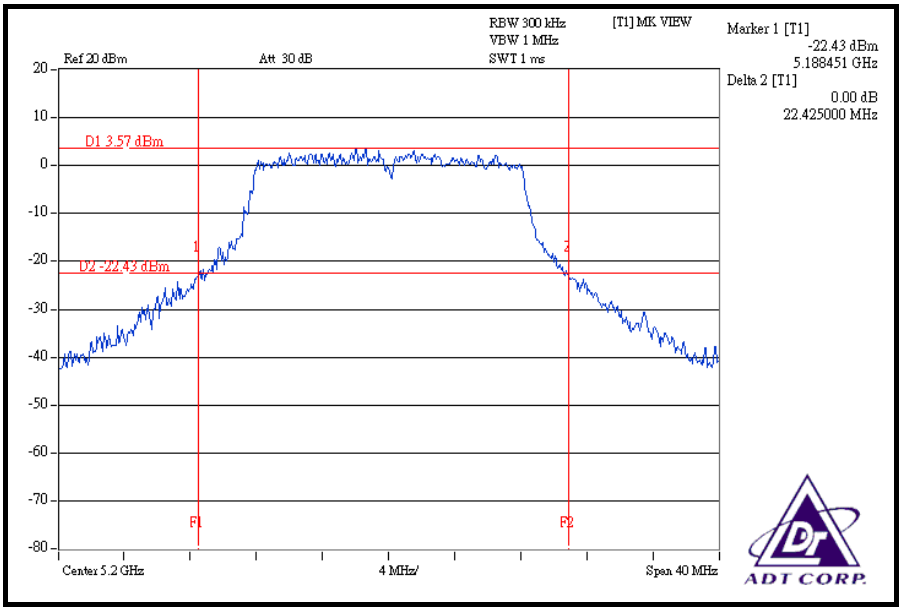
MODULATION TYPE	BPSK	**TRANSFER RATE**	6.0Mbps
INPUT POWER (SYSTEM)	120Vac, 60Hz	**ENVIRONMENTAL CONDITIONS**	25 deg.C, 65 %RH, 991hPa
TESTED BY	Brad Wu		

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc OCCUPIED BANDWIDTH (MHz)	PASS / FAIL
36	5180	22.63	PASS
40	5200	22.43	PASS
48	5240	22.58	PASS
52	5260	22.97	PASS
60	5300	22.33	PASS
64	5320	22.52	PASS
100	5500	22.19	PASS
120	5600	22.94	PASS
140	5700	22.05	PASS

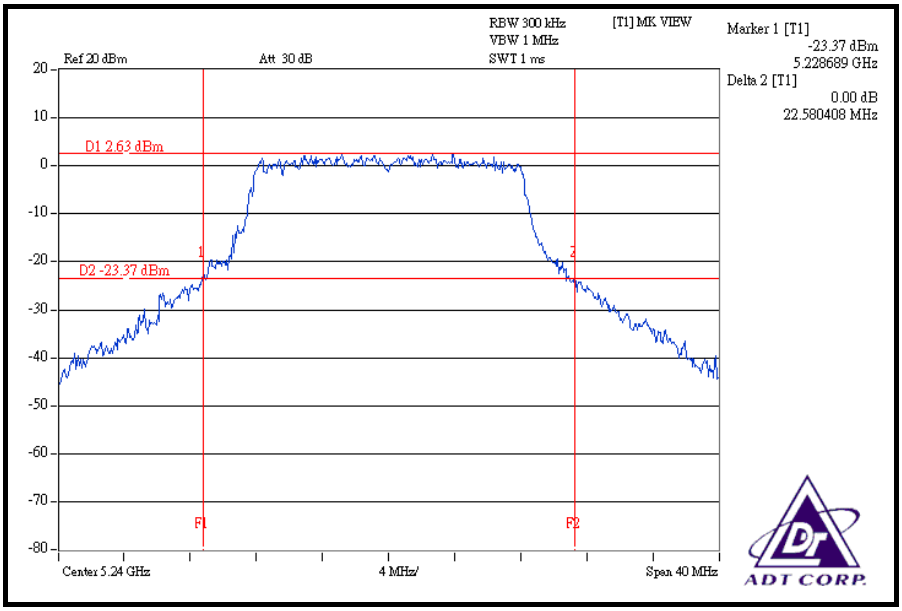
CH 36


RBW 300 kHz
VBW 1 MHz
SWT 1 ms
[T1] MK VIEW
Marker 1 [T1]
-23.01 dBm
5.168519 GHz
Delta 2 [T1]
0.00 dB
22.627159 MHz
Ref 20 dBm
Att 30 dB
D1 2.99 dBm
D2 -23.01 dBm
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
F1
F2
Center 5.18 GHz
4 MHz/
Span 40 MHz
ADT CORP.

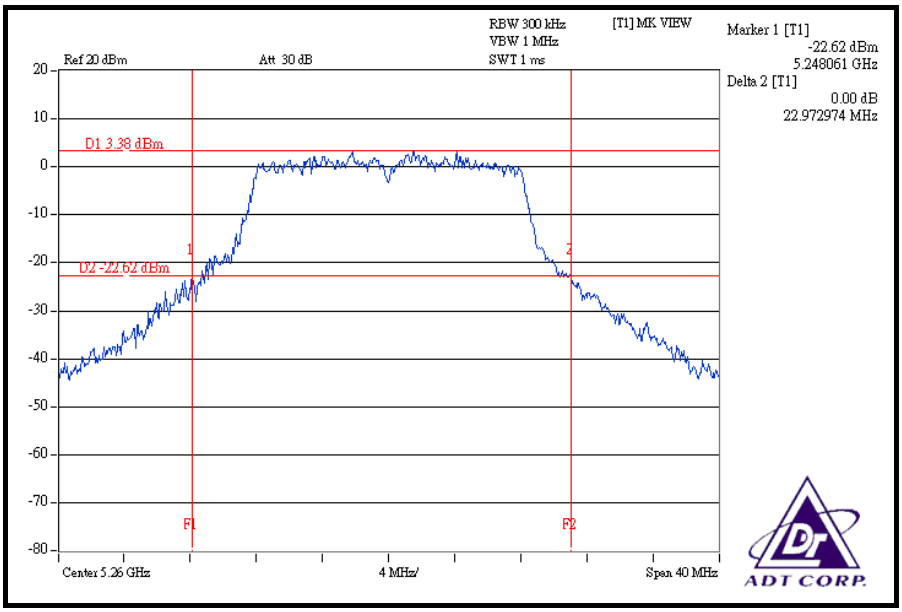
CH 40


RBW 300 kHz
VBW 1 MHz
SWT 1 ms
[T1] MK VIEW
Marker 1 [T1]
-22.43 dBm
5.188451 GHz
Delta 2 [T1]
0.00 dB
22.425000 MHz
Ref 20 dBm
Att 30 dB
D1 3.57 dBm
D2 -22.43 dBm
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
F1
F2
Center 5.2 GHz
4 MHz/
Span 40 MHz
ADT CORP.

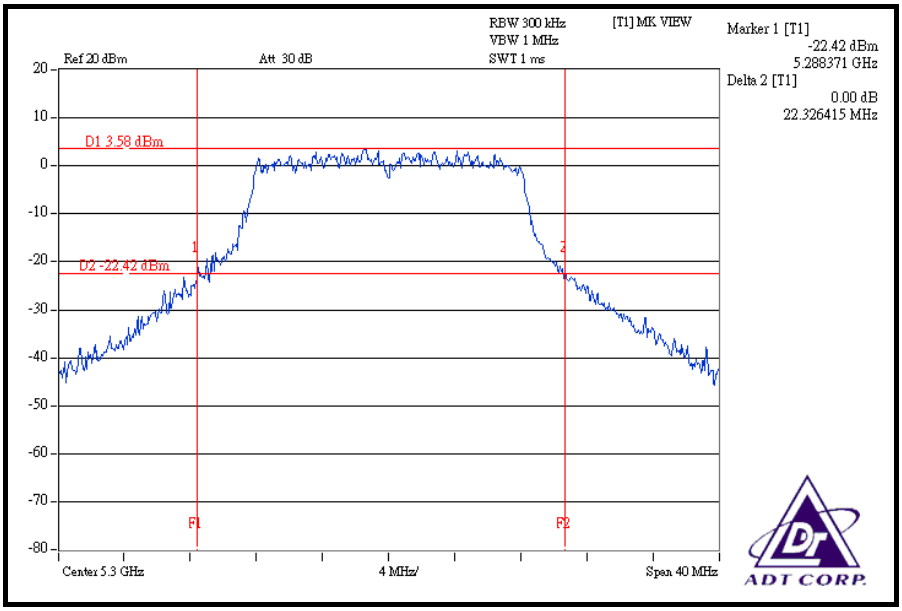
CH 48


RBW 300 kHz
VBW 1 MHz
SWT 1 ms
[T1] MK VIEW
Marker 1 [T1]
-23.37 dBm
5.228689 GHz
Delta 2 [T1]
0.00 dB
22.580408 MHz
Ref 20 dBm
Att 30 dB
D1 2.63 dBm
D2 -23.37 dBm
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
F1
F2
Center 5.24 GHz
4 MHz/
Span 40 MHz
ADT CORP.

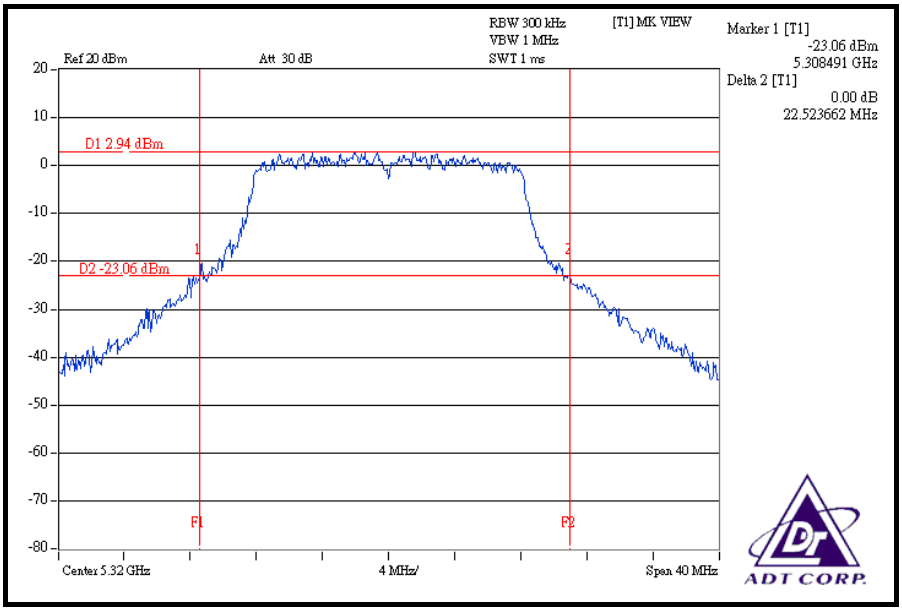
CH 52


RBW 300 kHz
VBW 1 MHz
SWT 1 ms
[T1] MK VIEW
Marker 1 [T1]
-22.62 dBm
5.248061 GHz
Delta 2 [T1]
0.00 dB
22.972974 MHz
Ref 20 dBm
Att 30 dB
D1 3.38 dBm
D2 -22.62 dBm
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
F1
F2
Center 5.26 GHz
4 MHz/
Span 40 MHz
ADT CORP.

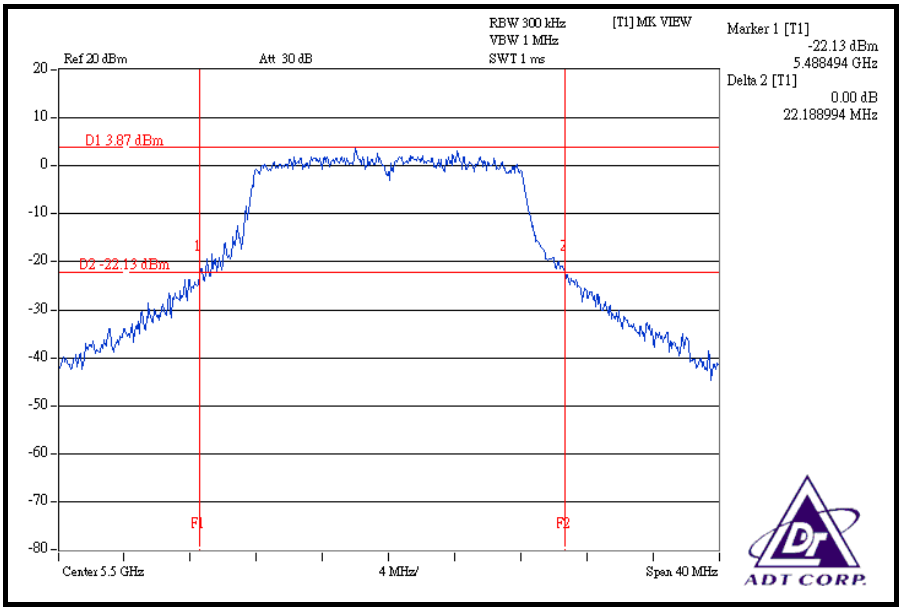
CH 60


RBW 300 kHz
VBW 1 MHz
SWT 1 ms
[T1] MK VIEW
Marker 1 [T1]
-22.42 dBm
5.288371 GHz
Delta 2 [T1]
0.00 dB
22.326415 MHz
Ref 20 dBm
Att 30 dB
D1 3.58 dBm
D2 -22.42 dBm
F1
F2
Center 5.3 GHz
4 MHz/
Span 40 MHz
ADT CORP.

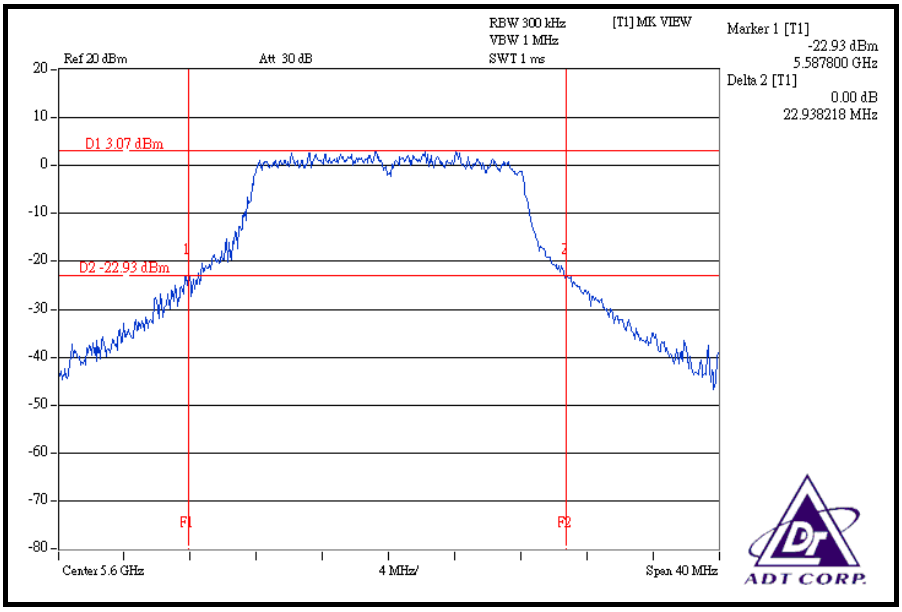
CH 64


RBW 300 kHz
VBW 1 MHz
SWT 1 ms
[T1] MK VIEW
Marker 1 [T1]
-23.06 dBm
5.308491 GHz
Delta 2 [T1]
0.00 dB
22.523662 MHz
Ref 20 dBm
Att 30 dB
D1 2.94 dBm
D2 -23.06 dBm
F1
F2
Center 5.32 GHz
4 MHz/
Span 40 MHz
ADT CORP.

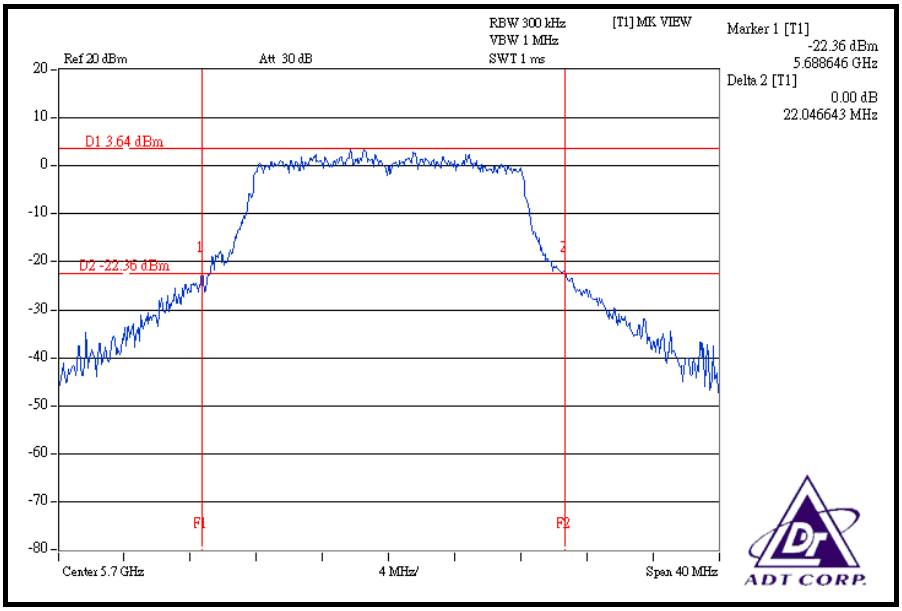
CH 100


RBW 300 kHz
VBW 1 MHz
SWT 1 ms
[T1] MK VIEW
Marker 1 [T1]
-22.13 dBm
5.488494 GHz
Delta 2 [T1]
0.00 dB
22.188994 MHz
Ref 20 dBm
Att 30 dB
D1 3.87 dBm
D2 -22.13 dBm
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
F1
F2
Center 5.5 GHz
4 MHz/
Span 40 MHz
ADT CORP.

CH 120


RBW 300 kHz
VBW 1 MHz
SWT 1 ms
[T1] MK VIEW
Marker 1 [T1]
-22.93 dBm
5.587800 GHz
Delta 2 [T1]
0.00 dB
22.938218 MHz
Ref 20 dBm
Att 30 dB
D1 3.07 dBm
D2 -22.93 dBm
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
F1
F2
Center 5.6 GHz
4 MHz/
Span 40 MHz
ADT CORP.

CH 140

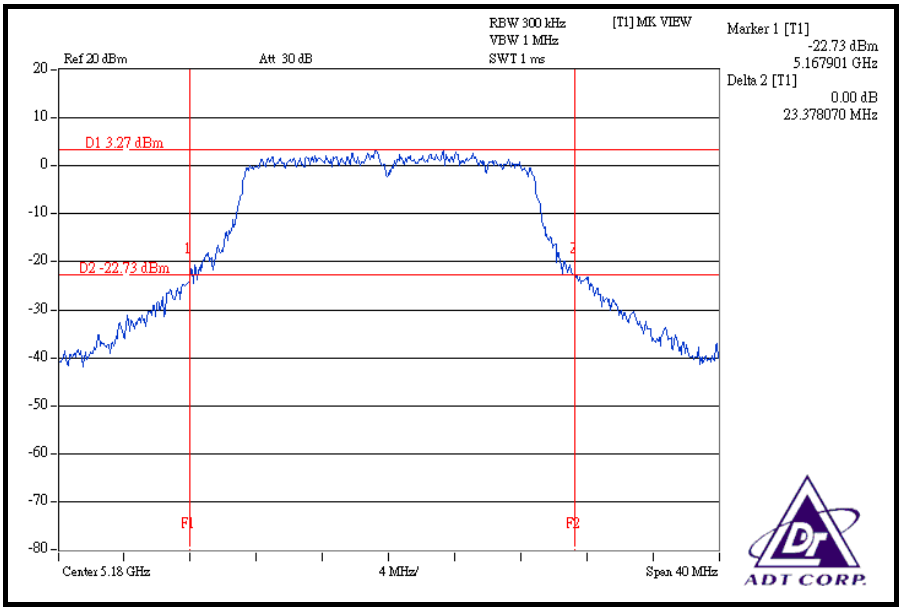

RBW 300 kHz
VBW 1 MHz
SWT 1 ms
[T1] MK VIEW
Marker 1 [T1]
-22.36 dBm
5.688646 GHz
Delta 2 [T1]
0.00 dB
22.046643 MHz
Ref 20 dBm
Att 30 dB
D1 3.64 dBm
D2 -22.36 dBm
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
F1
F2
Center 5.7 GHz
4 MHz/
Span 40 MHz
ADT CORP.

DRAFT 802.11n (20MHz) OFDM MODULATION

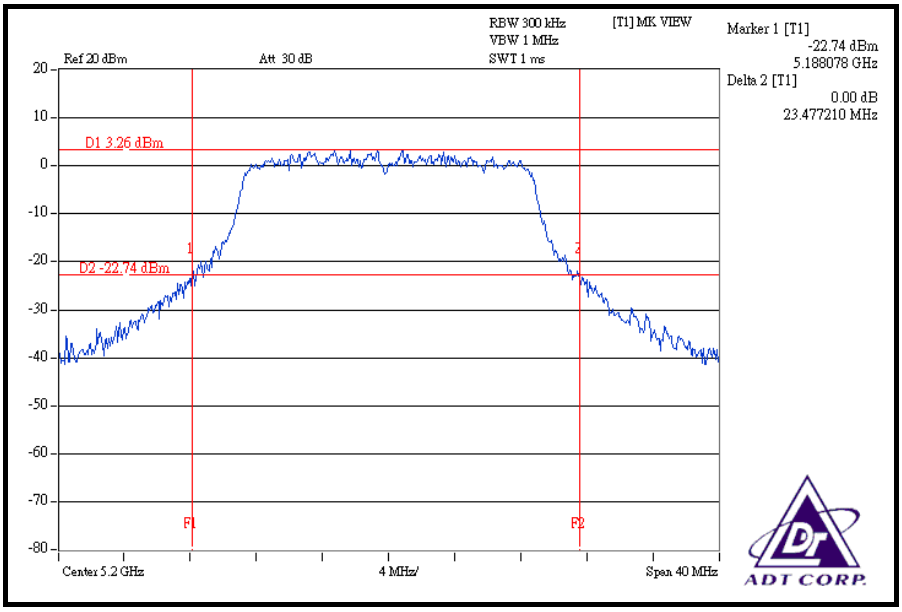
MODULATION TYPE	BPSK	**TRANSFER RATE**	7.2Mbps
INPUT POWER (SYSTEM)	120Vac, 60Hz	**ENVIRONMENTAL CONDITIONS**	25 deg.C, 65 %RH, 991hPa
TESTED BY	Brad Wu		

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc OCCUPIED BANDWIDTH (MHz)	PASS / FAIL
36	5180	23.38	PASS
40	5200	23.48	PASS
48	5240	23.79	PASS
52	5260	24.19	PASS
60	5300	23.82	PASS
64	5320	23.31	PASS
100	5500	23.48	PASS
120	5600	23.39	PASS
140	5700	23.74	PASS

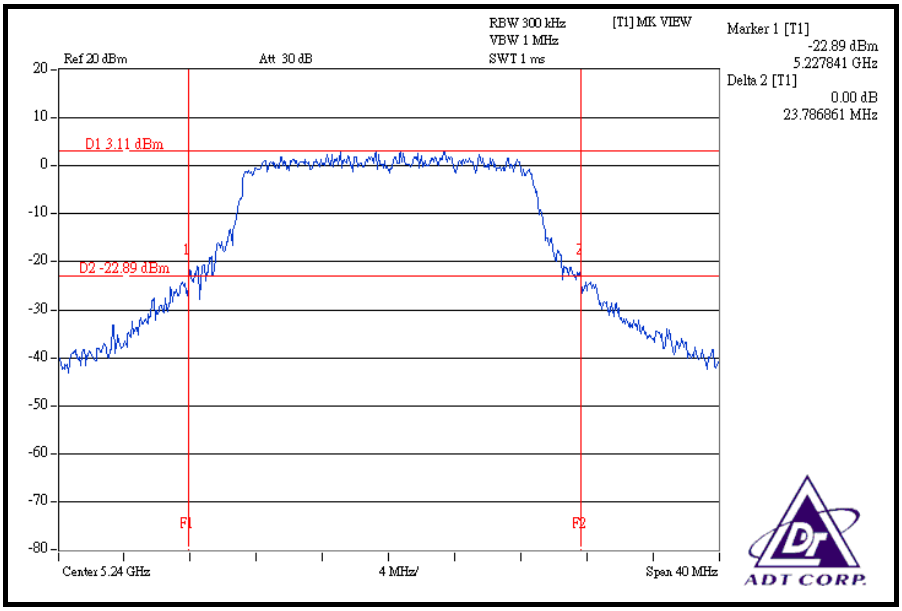
CH 36


RBW 300 kHz
VBW 1 MHz
SWT 1 ms
[T1] MK VIEW
Marker 1 [T1]
-22.73 dBm
5.167901 GHz
Delta 2 [T1]
0.00 dB
23.378070 MHz
Ref 20 dBm
Att 30 dB
D1 3.27 dBm
D2 -22.73 dBm
F1
F2
Center 5.18 GHz
4 MHz/
Span 40 MHz
ADT CORP.

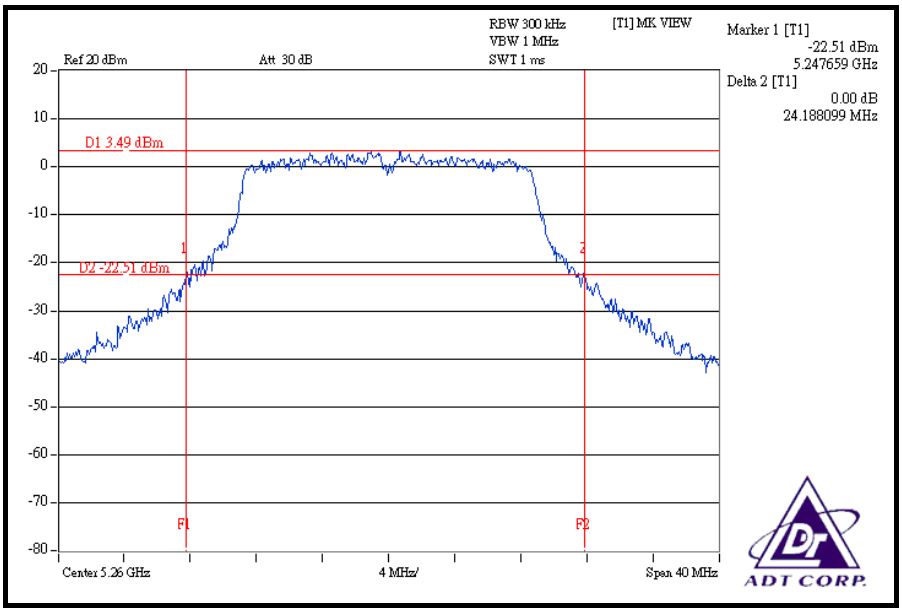
CH 40


RBW 300 kHz
VBW 1 MHz
SWT 1 ms
[T1] MK VIEW
Marker 1 [T1]
-22.74 dBm
5.188078 GHz
Delta 2 [T1]
0.00 dB
23.477210 MHz
Ref 20 dBm
Att 30 dB
D1 3.26 dBm
D2 -22.74 dBm
F1
F2
Center 5.2 GHz
4 MHz/
Span 40 MHz
ADT CORP.

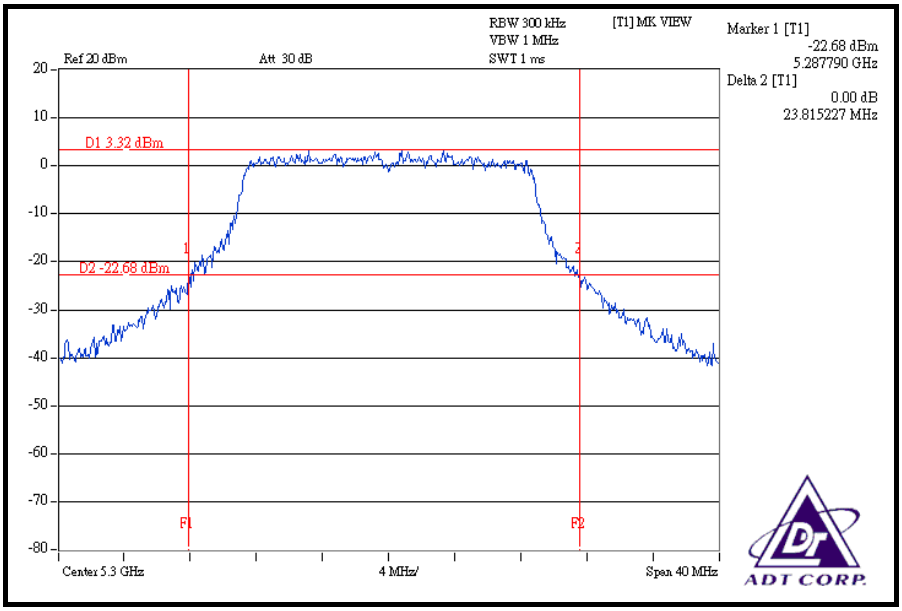
CH 48


RBW 300 kHz
VBW 1 MHz
SWT 1 ms
[T1] MK VIEW
Marker 1 [T1]
-22.89 dBm
5.227841 GHz
Delta 2 [T1]
0.00 dB
23.786861 MHz
Ref 20 dBm
Att 30 dB
D1 3.11 dBm
D2 -22.89 dBm
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
F1
F2
Center 5.24 GHz
4 MHz/
Span 40 MHz
ADT CORP.

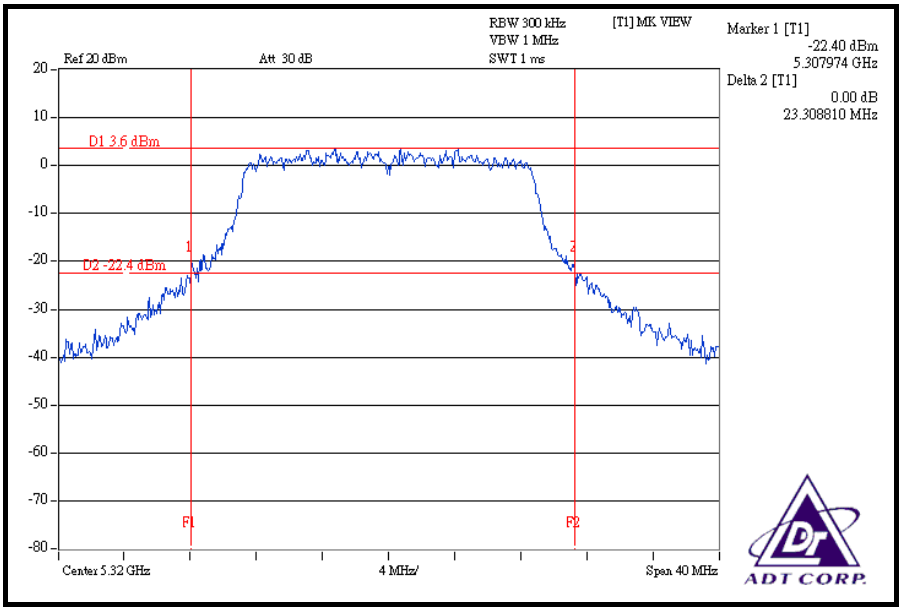
CH 52


RBW 300 kHz
VBW 1 MHz
SWT 1 ms
[T1] MK VIEW
Marker 1 [T1]
-22.51 dBm
5.247659 GHz
Delta 2 [T1]
0.00 dB
24.188099 MHz
Ref 20 dBm
Att 30 dB
D1 3.49 dBm
D2 -22.51 dBm
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
F1
F2
Center 5.26 GHz
4 MHz/
Span 40 MHz
ADT CORP.

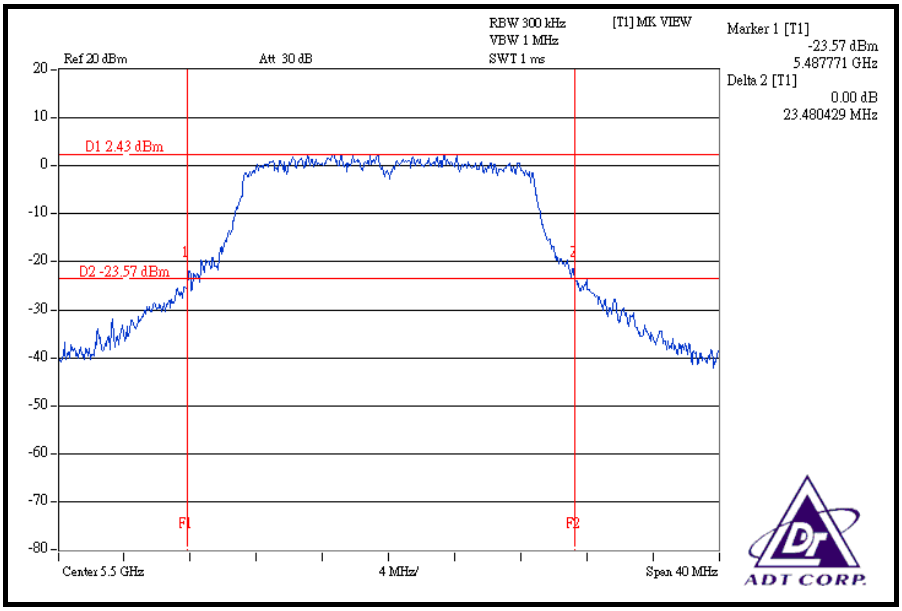
CH 60


RBW 300 kHz
VBW 1 MHz
SWT 1 ms
[T1] MK VIEW
Marker 1 [T1]
-22.68 dBm
5.287790 GHz
Delta 2 [T1]
0.00 dB
23.815227 MHz
Ref 20 dBm
Att 30 dB
D1 3.32 dBm
D2 -22.68 dBm
F1
F2
Center 5.3 GHz
4 MHz/
Span 40 MHz
ADT CORP.

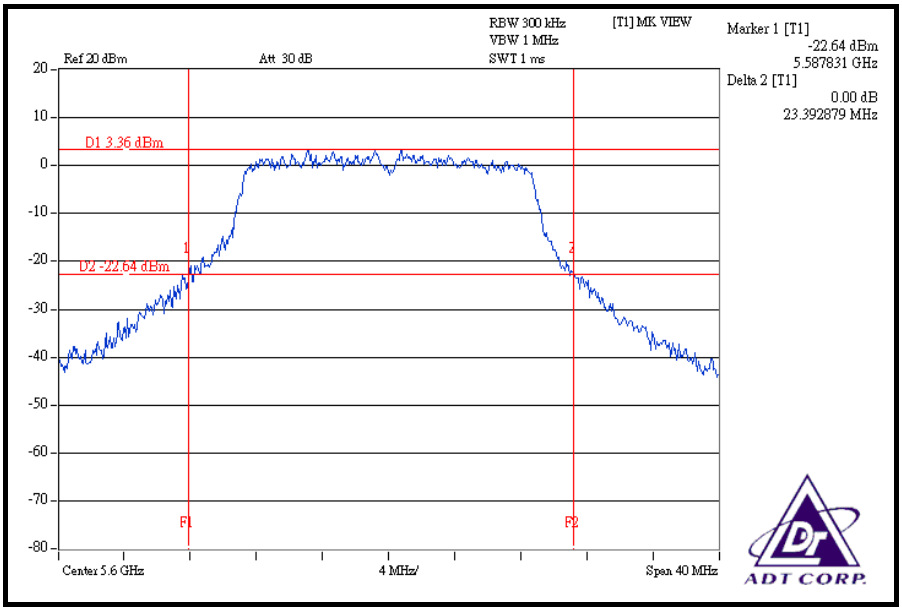
CH 64


RBW 300 kHz
VBW 1 MHz
SWT 1 ms
[T1] MK VIEW
Marker 1 [T1]
-22.40 dBm
5.307974 GHz
Delta 2 [T1]
0.00 dB
23.308810 MHz
Ref 20 dBm
Att 30 dB
D1 3.6 dBm
D2 -22.4 dBm
F1
F2
Center 5.32 GHz
4 MHz/
Span 40 MHz
ADT CORP.

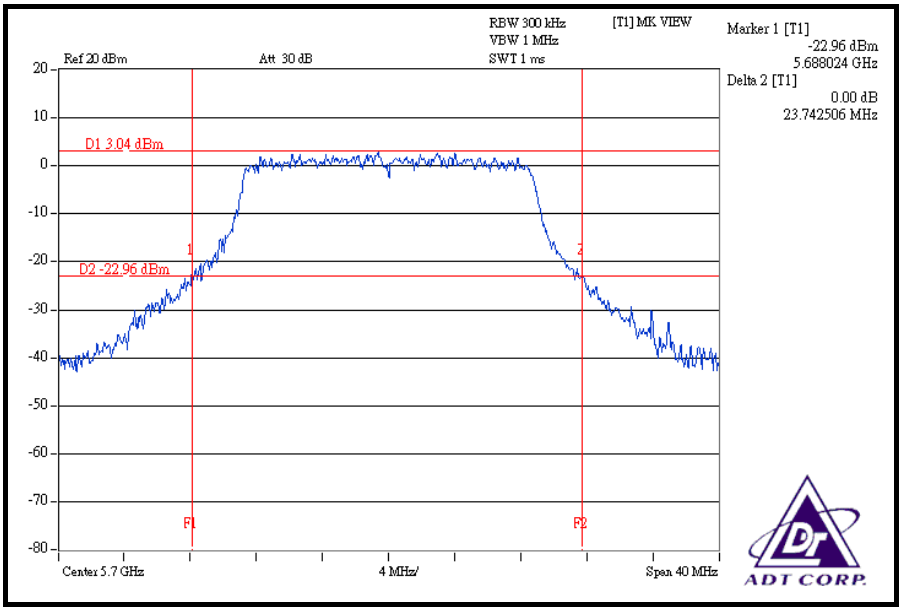
CH 100


RBW 300 kHz
VBW 1 MHz
SWT 1 ms
[T1] MK VIEW
Marker 1 [T1]
-23.57 dBm
5.487771 GHz
Delta 2 [T1]
0.00 dB
23.480429 MHz
Ref 20 dBm
Att 30 dB
D1 2.43 dBm
D2 -23.57 dBm
F1
F2
Center 5.5 GHz
4 MHz/
Span 40 MHz
ADT CORP.

CH 120


RBW 300 kHz
VBW 1 MHz
SWT 1 ms
[T1] MK VIEW
Marker 1 [T1]
-22.64 dBm
5.587831 GHz
Delta 2 [T1]
0.00 dB
23.392879 MHz
Ref 20 dBm
Att 30 dB
D1 3.36 dBm
D2 -22.64 dBm
F1
F2
Center 5.6 GHz
4 MHz/
Span 40 MHz
ADT CORP.

CH 140

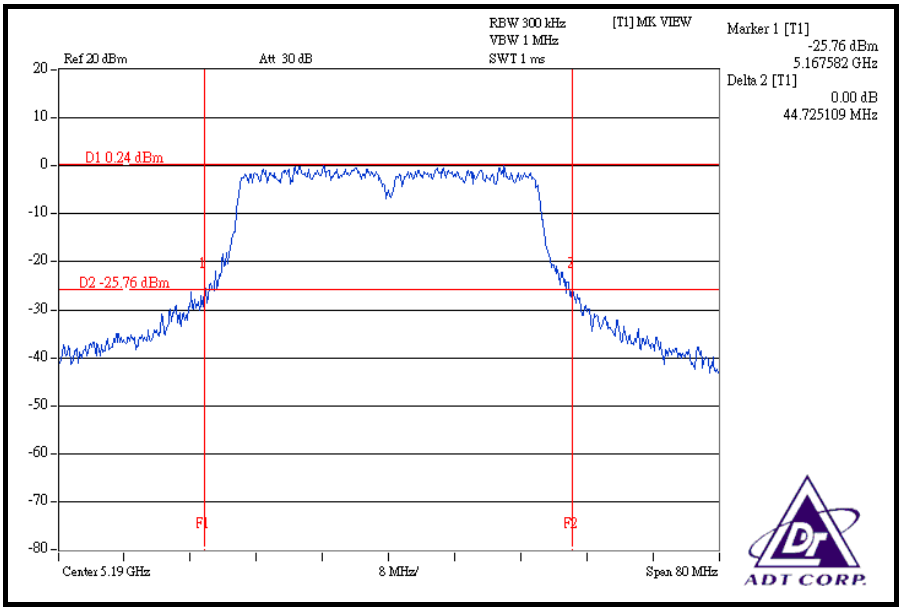

RBW 300 kHz
VBW 1 MHz
SWT 1 ms
[T1] MK VIEW
Marker 1 [T1]
-22.96 dBm
5.688024 GHz
Delta 2 [T1]
0.00 dB
23.742506 MHz
Ref 20 dBm
Att 30 dB
D1 3.04 dBm
D2 -22.96 dBm
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
F1
F2
Center 5.7 GHz
4 MHz/
Span 40 MHz
ADT CORP.

DRAFT 802.11n (40MHz) OFDM MODULATION

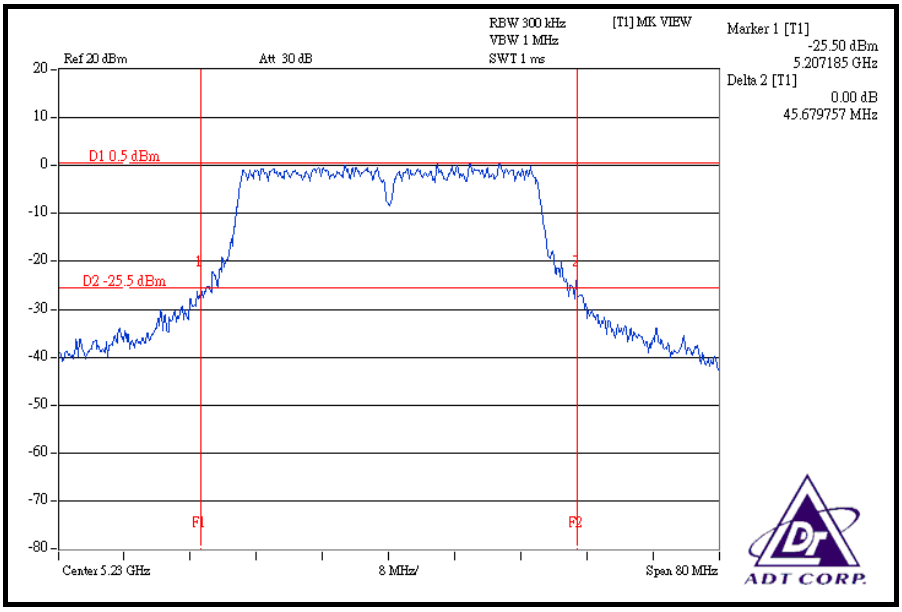
MODULATION TYPE	BPSK	**TRANSFER RATE**	15.0Mbps
INPUT POWER (SYSTEM)	120Vac, 60Hz	**ENVIRONMENTAL CONDITIONS**	25 deg.C, 65 %RH, 991hPa
TESTED BY	Brad Wu		

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc OCCUPIED BANDWIDTH (MHz)	PASS / FAIL
38	5190	44.73	PASS
46	5230	45.68	PASS
54	5270	45.89	PASS
62	5310	44.48	PASS
102	5510	45.77	PASS
118	5590	44.72	PASS
134	5670	44.87	PASS

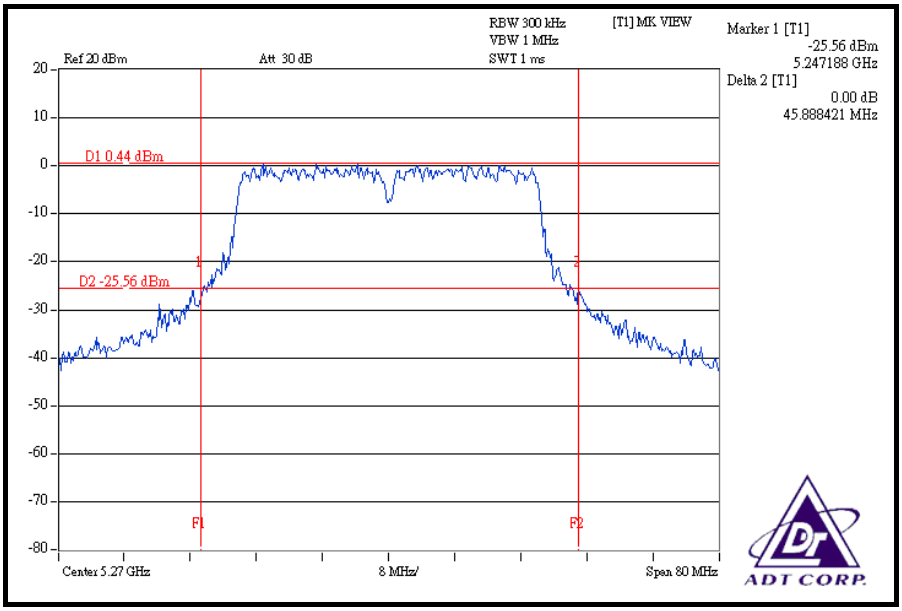
CH 38


RBW 300 kHz
VBW 1 MHz
SWT 1 ms
[T1] MK VIEW
Marker 1 [T1]
-25.76 dBm
5.167582 GHz
Delta 2 [T1]
0.00 dB
44.725109 MHz
Ref 20 dBm
Att 30 dB
D1 0.24 dBm
D2 -25.76 dBm
F1
F2
Center 5.19 GHz
8 MHz/
Span 80 MHz
ADT CORP.

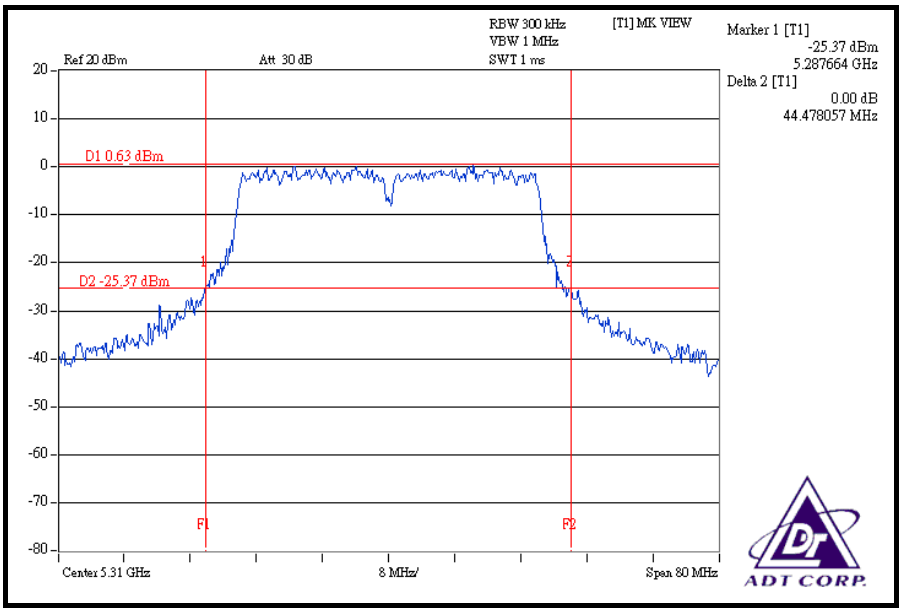
CH 46


RBW 300 kHz
VBW 1 MHz
SWT 1 ms
[T1] MK VIEW
Marker 1 [T1]
-25.50 dBm
5.207185 GHz
Delta 2 [T1]
0.00 dB
45.679757 MHz
Ref 20 dBm
Att 30 dB
D1 0.5 dBm
D2 -25.5 dBm
F1
F2
Center 5.23 GHz
8 MHz/
Span 80 MHz
ADT CORP.

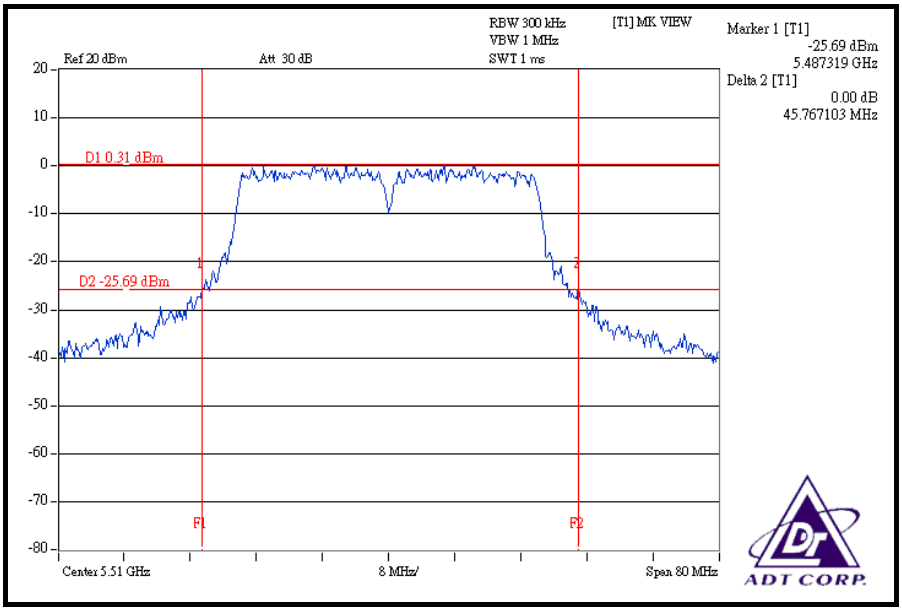
CH 54


RBW 300 kHz
VBW 1 MHz
SWT 1 ms
[T1] MK VIEW
Marker 1 [T1]
-25.56 dBm
5.247188 GHz
Delta 2 [T1]
0.00 dB
45.888421 MHz
Ref 20 dBm
Att 30 dB
D1 0.44 dBm
D2 -25.56 dBm
F1
F2
Center 5.27 GHz
8 MHz/
Span 80 MHz
ADT CORP.

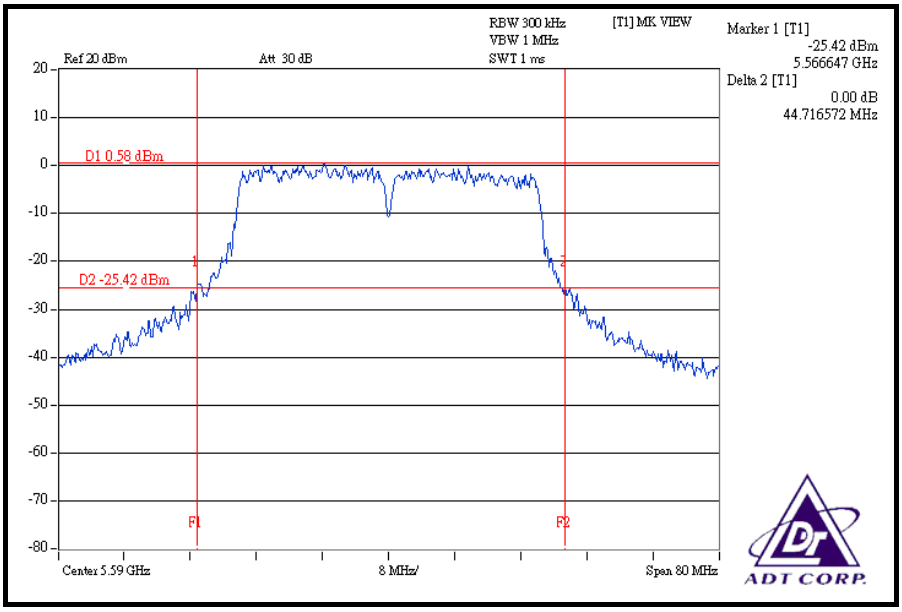
CH 62


RBW 300 kHz
VBW 1 MHz
SWT 1 ms
[T1] MK VIEW
Marker 1 [T1]
-25.37 dBm
5.287664 GHz
Delta 2 [T1]
0.00 dB
44.478057 MHz
Ref 20 dBm
Att 30 dB
D1 0.63 dBm
D2 -25.37 dBm
F1
F2
Center 5.31 GHz
8 MHz/
Span 80 MHz
ADT CORP.

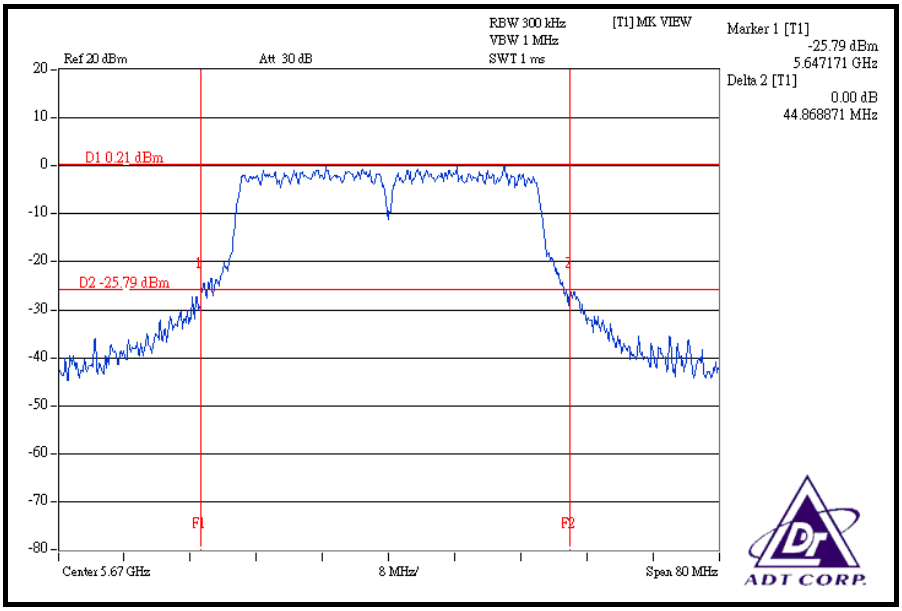
CH 102


RBW 300 kHz
VBW 1 MHz
SWT 1 ms
[T1] MK VIEW
Marker 1 [T1]
-25.69 dBm
5.487319 GHz
Delta 2 [T1]
0.00 dB
45.767103 MHz
Ref 20 dBm
Att 30 dB
D1 0.31 dBm
D2 -25.69 dBm
F1
F2
Center 5.51 GHz
8 MHz/
Span 80 MHz
ADT CORP.

CH 118


RBW 300 kHz
VBW 1 MHz
SWT 1 ms
[T1] MK VIEW
Marker 1 [T1]
-25.42 dBm
5.566647 GHz
Delta 2 [T1]
0.00 dB
44.716572 MHz
Ref 20 dBm
Att 30 dB
D1 0.58 dBm
D2 -25.42 dBm
F1
F2
Center 5.59 GHz
8 MHz/
Span 80 MHz
ADT CORP.

CH 134


RBW 300 kHz
VBW 1 MHz
SWT 1 ms
[T1] MK VIEW
Marker 1 [T1]
-25.79 dBm
5.647171 GHz
Delta 2 [T1]
0.00 dB
44.868871 MHz
Ref 20 dBm
Att 30 dB
D1 0.21 dBm
D2 -25.79 dBm
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
F1
F2
Center 5.67 GHz
8 MHz/
Span 80 MHz
ADT CORP.

4.4 PEAK POWER EXCURSION MEASUREMENT

4.4.1 LIMITS OF PEAK POWER EXCURSION MEASUREMENT

FREQUENCY BAND	LIMIT
5.150 ~ 5.250GHz	13dB
5.250 ~ 5.350GHz	13dB
5.470 ~ 5.725GHz	13dB

4.4.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
R&S SPECTRUM ANALYZER	FSP40	100040	Jun. 28, 2008

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

4.4.3 TEST PROCEDURE

a. The transmitter output was connected to the spectrum analyzer.

b. Set the spectrum bandwidth span to view the entire spectrum.

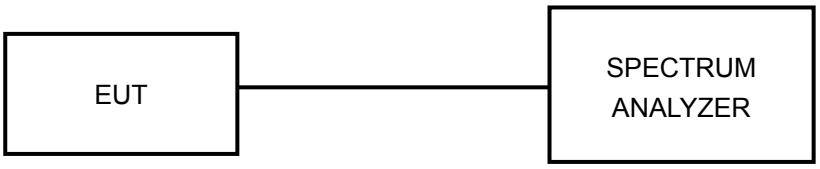
c. Using peak detector and Max-hold function for Trace 1 (RB = 1MHz, VB = 3MHz) and 2 (RB = 1MHz, VB = 300kHz).

d. The largest difference between Trace 1 and Trace 2 in any 1MHz band on any frequency was recorded.

4.4.4 DEVIATION FROM TEST STANDARD

No deviation

4.4.5 TEST SETUP



4.4.6 EUT OPERATING CONDITIONS

The software provided by client to enable the EUT under transmission condition continuously at specific channel frequencies individually.

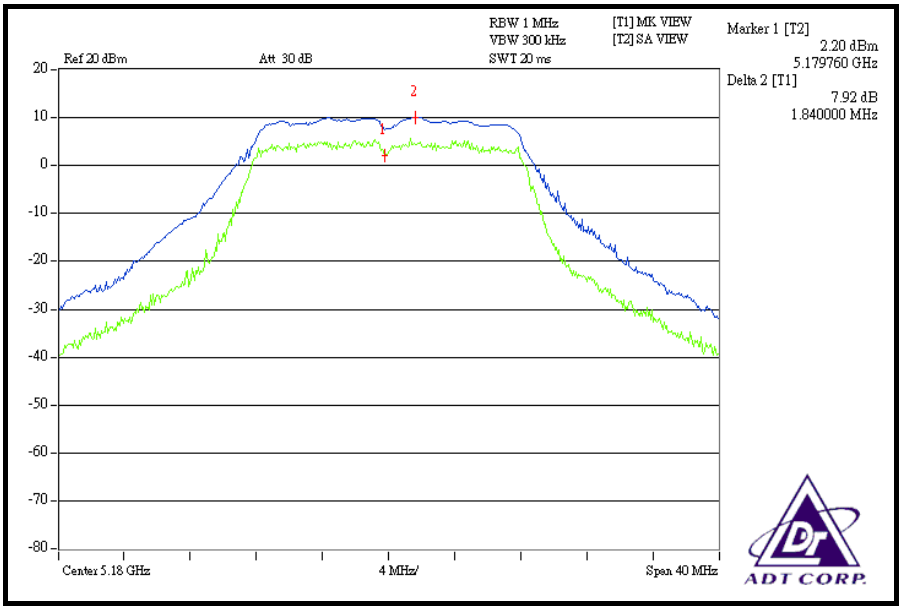
4.4.7 TEST RESULTS

802.11a OFDM MODULATION

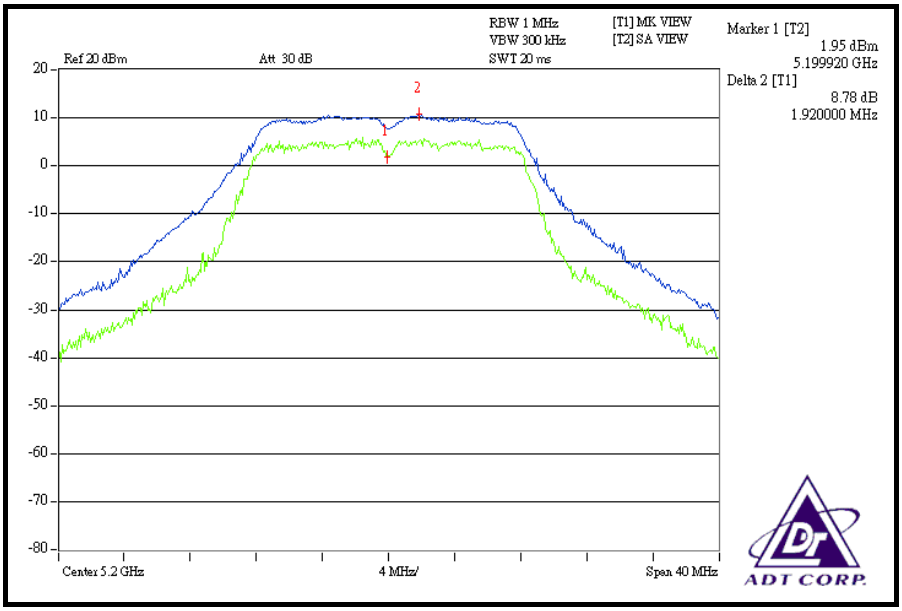
MODULATION TYPE	BPSK	**TRANSFER RATE**	6.0Mbps
INPUT POWER (SYSTEM)	120Vac, 60Hz	**ENVIRONMENTAL CONDITIONS**	25 deg.C, 65 %RH, 991hPa
TESTED BY	Brad Wu		

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER EXCURSION (dB)	PEAK TO AVERAGE EXCURSION LIMIT (dB)	PASS / FAIL
36	5180	7.92	13	PASS
40	5200	8.78	13	PASS
48	5240	7.62	13	PASS
52	5260	7.92	13	PASS
60	5300	7.72	13	PASS
64	5320	8.20	13	PASS
100	5500	8.00	13	PASS
120	5600	7.69	13	PASS
140	5700	7.45	13	PASS

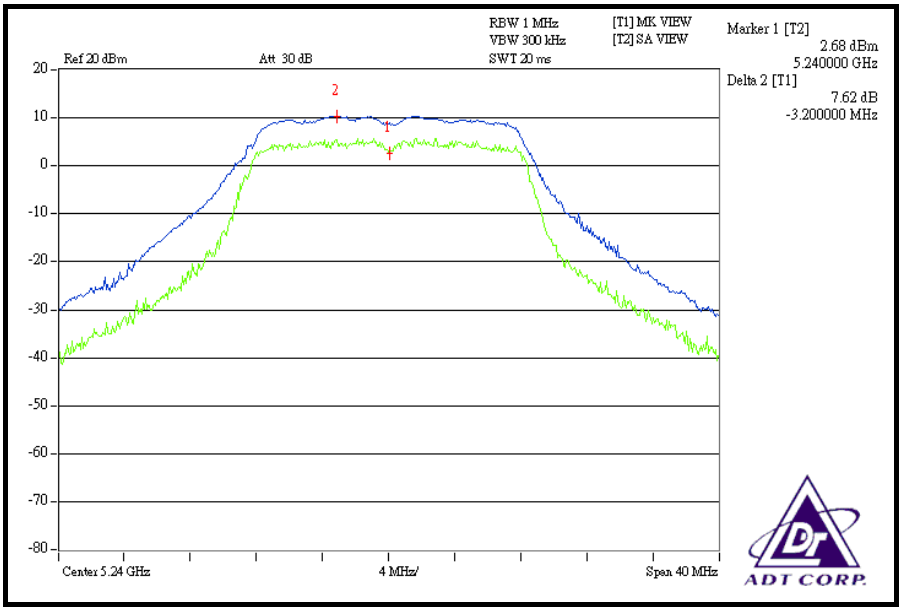
CH 36


RBW 1 MHz
VBW 300 kHz
SWT 20 ms
[T1] MK VIEW
[T2] SA VIEW
Marker 1 [T2]
2.20 dBm
5.179760 GHz
Delta 2 [T1]
7.92 dB
1.840000 MHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Center 5.18 GHz
4 MHz/
Span 40 MHz
ADT CORP.

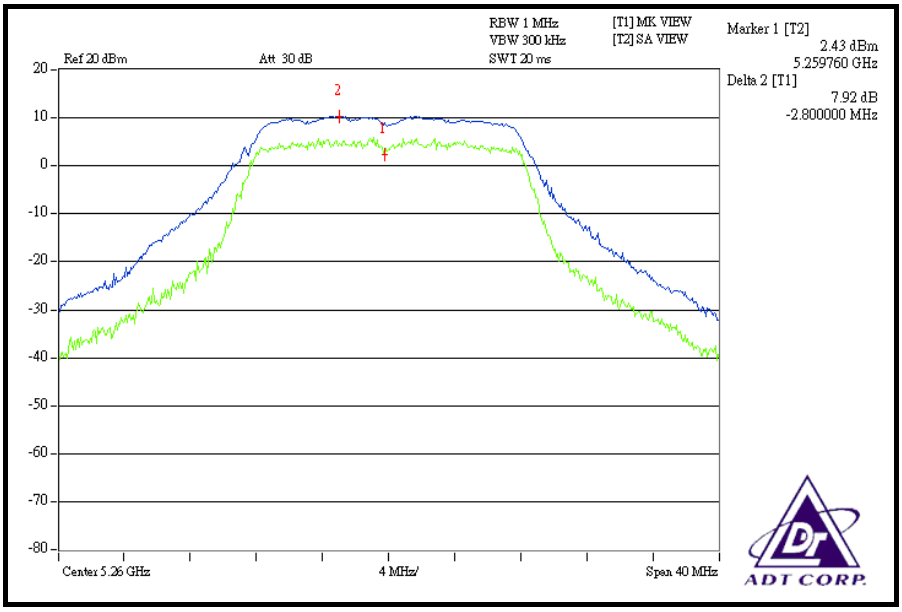
CH 40


RBW 1 MHz
VBW 300 kHz
SWT 20 ms
[T1] MK VIEW
[T2] SA VIEW
Marker 1 [T2]
1.95 dBm
5.199920 GHz
Delta 2 [T1]
8.78 dB
1.920000 MHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Center 5.2 GHz
4 MHz/
Span 40 MHz
ADT CORP.

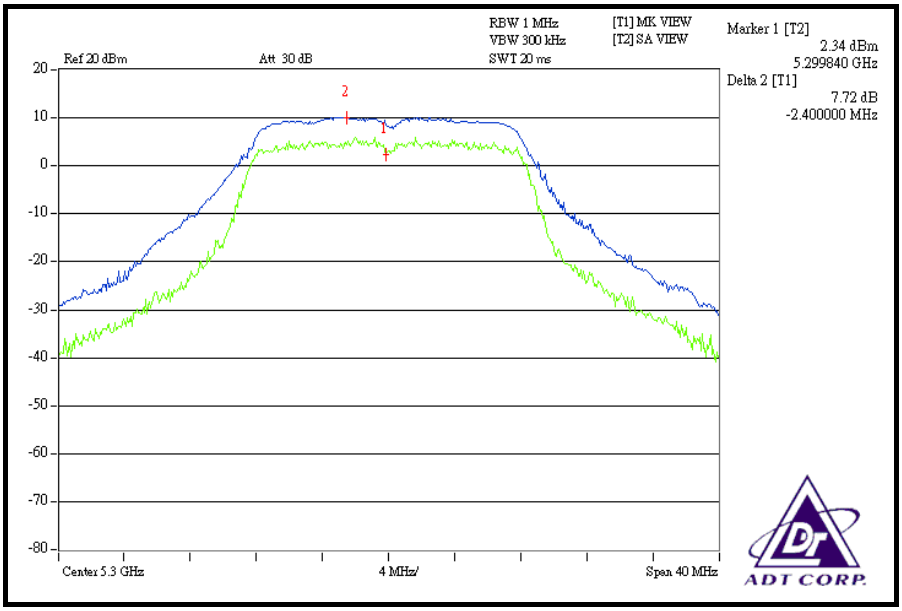
CH 48


RBW 1 MHz
VBW 300 kHz
SWT 20 ms
[T1] MK VIEW
[T2] SA VIEW
Marker 1 [T2]
2.68 dBm
5.240000 GHz
Delta 2 [T1]
7.62 dB
-3.200000 MHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Center 5.24 GHz
4 MHz/
Span 40 MHz
ADT CORP.

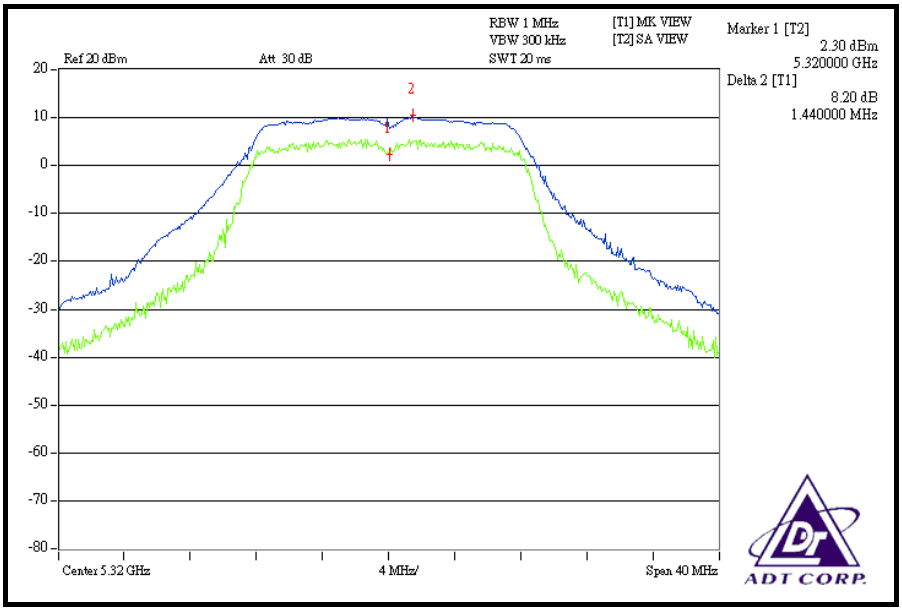
CH 52


RBW 1 MHz
VBW 300 kHz
SWT 20 ms
[T1] MK VIEW
[T2] SA VIEW
Marker 1 [T2]
2.43 dBm
5.259760 GHz
Delta 2 [T1]
7.92 dB
-2.800000 MHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Center 5.26 GHz
4 MHz/
Span 40 MHz
ADT CORP.

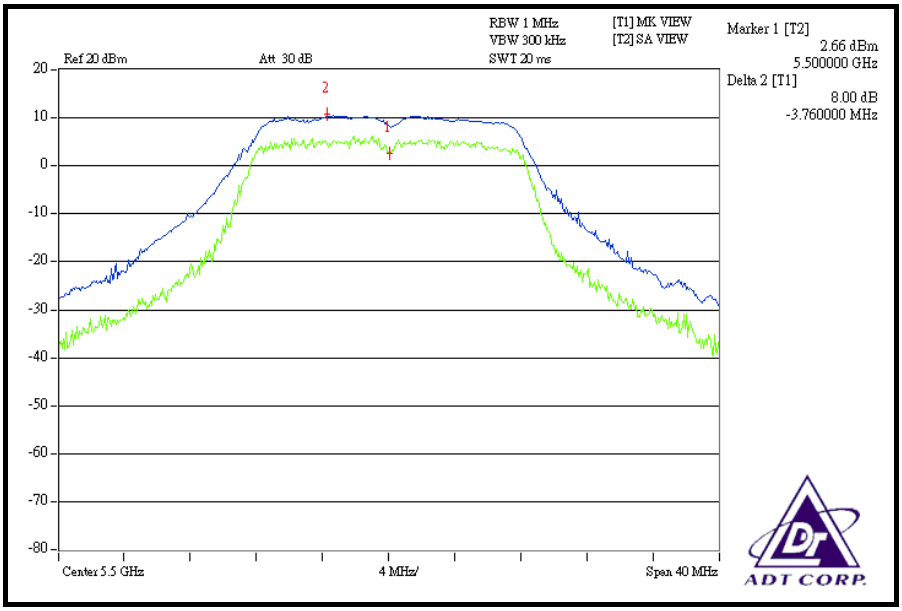
CH 60


RBW 1 MHz
VBW 300 kHz
SWT 20 ms
[T1] MK VIEW
[T2] SA VIEW
Marker 1 [T2]
2.34 dBm
5.299840 GHz
Delta 2 [T1]
7.72 dB
-2.400000 MHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Center 5.3 GHz
4 MHz/
Span 40 MHz
ADT CORP.

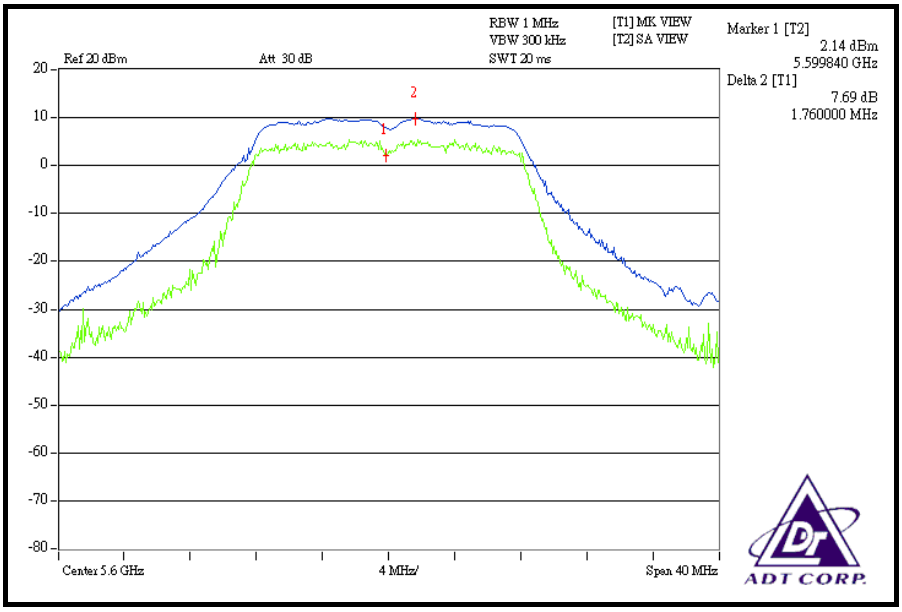
CH 64


RBW 1 MHz
VBW 300 kHz
SWT 20 ms
[T1] MK VIEW
[T2] SA VIEW
Marker 1 [T2]
2.30 dBm
5.320000 GHz
Delta 2 [T1]
8.20 dB
1.440000 MHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Center 5.32 GHz
4 MHz/
Span 40 MHz
ADT CORP.

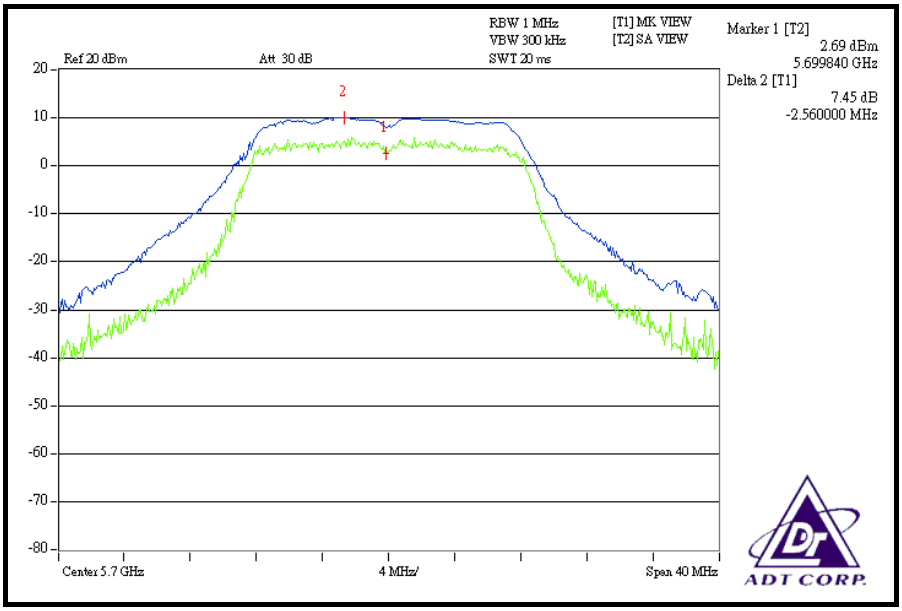
CH 100


RBW 1 MHz
VBW 300 kHz
SWT 20 ms
[T1] MK VIEW
[T2] SA VIEW
Marker 1 [T2]
2.66 dBm
5.500000 GHz
Delta 2 [T1]
8.00 dB
-3.760000 MHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Center 5.5 GHz
4 MHz/
Span 40 MHz
ADT CORP.

CH 120


RBW 1 MHz
VBW 300 kHz
SWT 20 ms
[T1] MK VIEW
[T2] SA VIEW
Marker 1 [T2]
2.14 dBm
5.599840 GHz
Delta 2 [T1]
7.69 dB
1.760000 MHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Center 5.6 GHz
4 MHz/
Span 40 MHz
ADT CORP.

CH 140

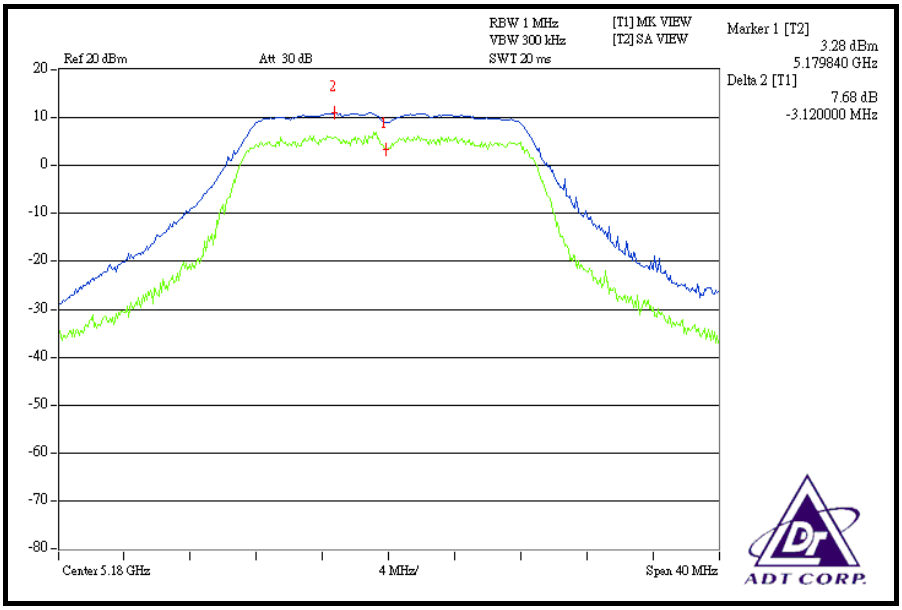

RBW 1 MHz
VBW 300 kHz
SWT 20 ms
[T1] MK VIEW
[T2] SA VIEW
Marker 1 [T2]
2.69 dBm
5.699840 GHz
Delta 2 [T1]
7.45 dB
-2.560000 MHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Center 5.7 GHz
4 MHz/
Span 40 MHz
ADT CORP.

DRAFT 802.11n (20MHz) OFDM MODULATION

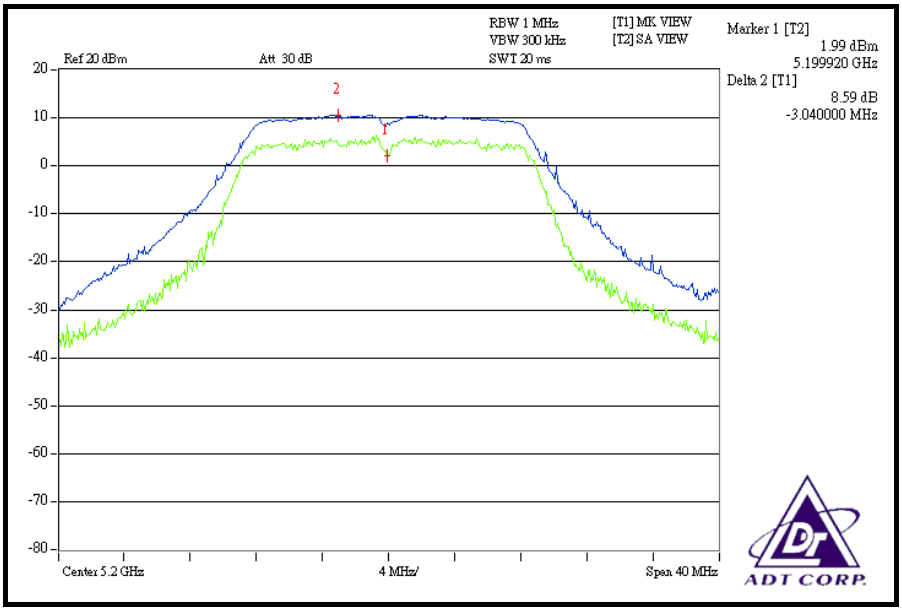
MODULATION TYPE	BPSK	**TRANSFER RATE**	7.2Mbps
INPUT POWER (SYSTEM)	120Vac, 60Hz	**ENVIRONMENTAL CONDITIONS**	25 deg.C, 65 %RH, 991hPa
TESTED BY	Brad Wu		

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER EXCURSION (dB)	PEAK TO AVERAGE EXCURSION LIMIT (dB)	PASS / FAIL
36	5180	7.68	13	PASS
40	5200	8.59	13	PASS
48	5240	8.25	13	PASS
52	5260	7.79	13	PASS
60	5300	7.95	13	PASS
64	5320	8.74	13	PASS
100	5500	8.65	13	PASS
120	5600	7.58	13	PASS
140	5700	7.92	13	PASS

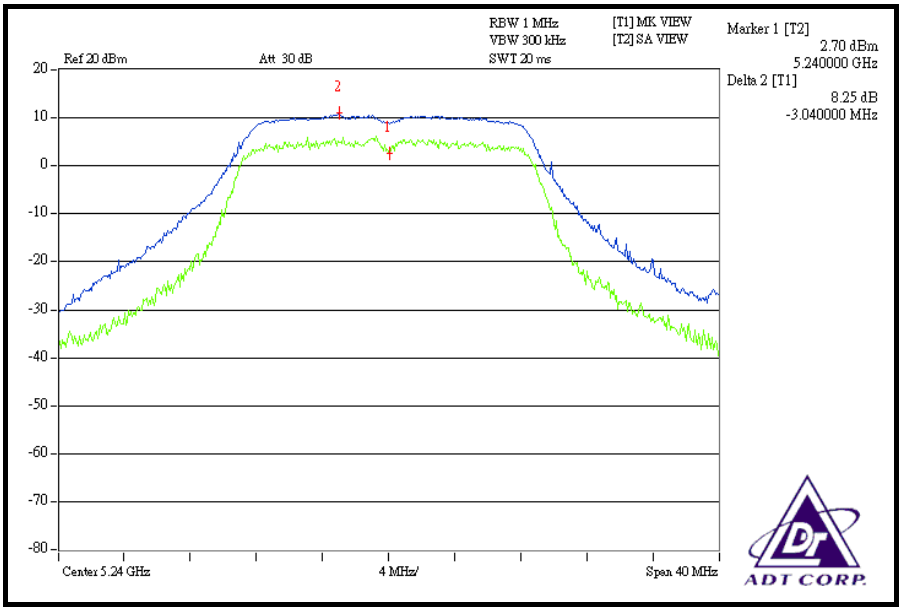
CH 36


RBW 1 MHz
VBW 300 kHz
SWT 20 ms
[T1] MK VIEW
[T2] SA VIEW
Marker 1 [T2]
3.28 dBm
5.179840 GHz
Delta 2 [T1]
7.68 dB
-3.120000 MHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Center 5.18 GHz
4 MHz/
Span 40 MHz
ADT CORP.

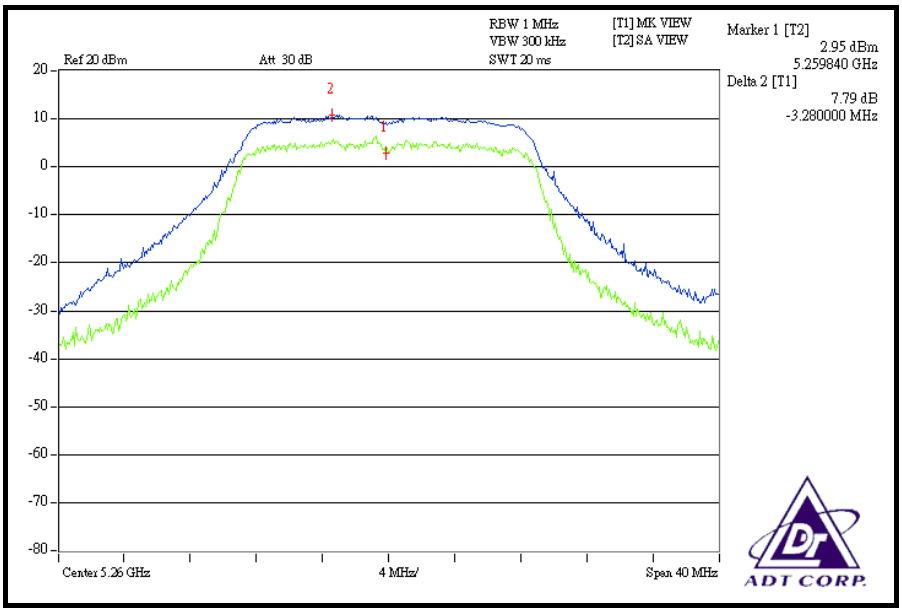
CH 40


RBW 1 MHz
VBW 300 kHz
SWT 20 ms
[T1] MK VIEW
[T2] SA VIEW
Marker 1 [T2]
1.99 dBm
5.199920 GHz
Delta 2 [T1]
8.59 dB
-3.040000 MHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Center 5.2 GHz
4 MHz/
Span 40 MHz
ADT CORP.

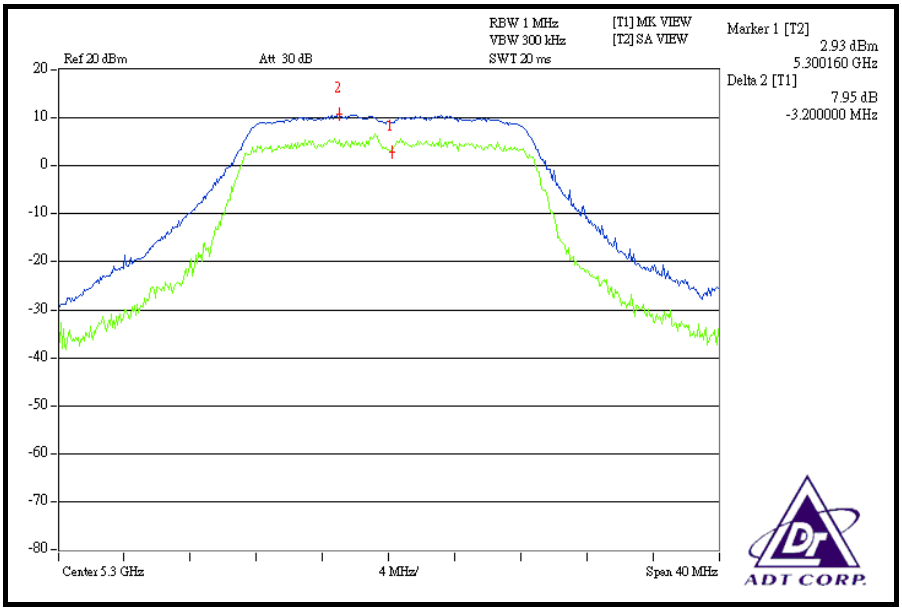
CH 48


RBW 1 MHz
VBW 300 kHz
SWT 20 ms
[T1] MK VIEW
[T2] SA VIEW
Marker 1 [T2]
2.70 dBm
5.240000 GHz
Delta 2 [T1]
8.25 dB
-3.040000 MHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Center 5.24 GHz
4 MHz/
Span 40 MHz
ADT CORP.

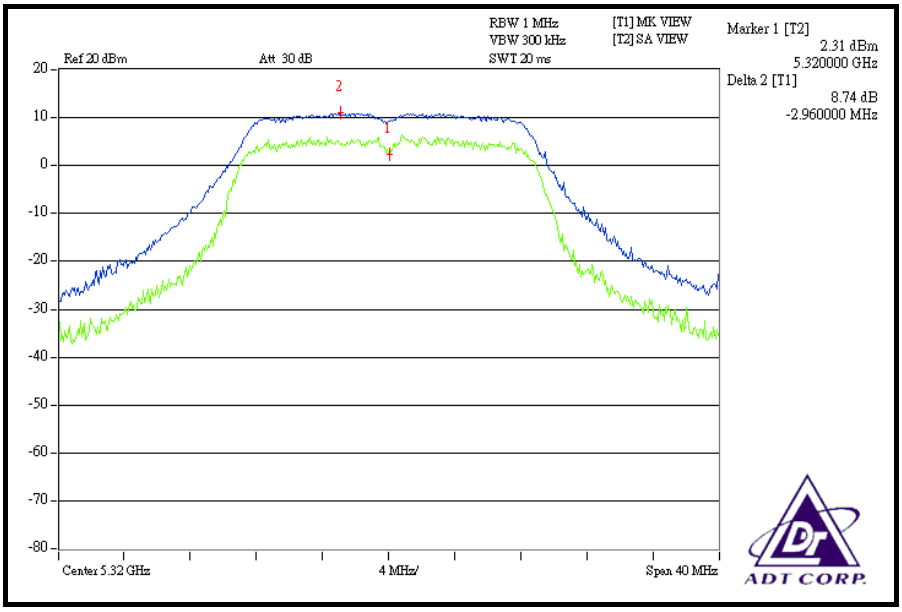
CH 52


RBW 1 MHz
VBW 300 kHz
SWT 20 ms
[T1] MK VIEW
[T2] SA VIEW
Marker 1 [T2]
2.95 dBm
5.259840 GHz
Delta 2 [T1]
7.79 dB
-3.280000 MHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Center 5.26 GHz
4 MHz/
Span 40 MHz
ADT CORP.

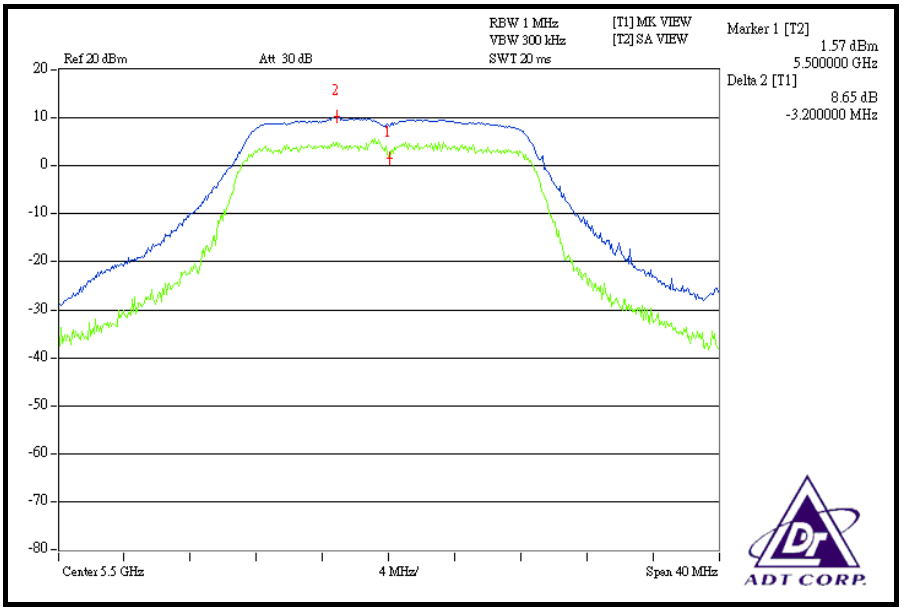
CH 60


RBW 1 MHz
VBW 300 kHz
SWT 20 ms
[T1] MK VIEW
[T2] SA VIEW
Marker 1 [T2]
2.93 dBm
5.300160 GHz
Delta 2 [T1]
7.95 dB
-3.200000 MHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Center 5.3 GHz
4 MHz/
Span 40 MHz
ADT CORP.

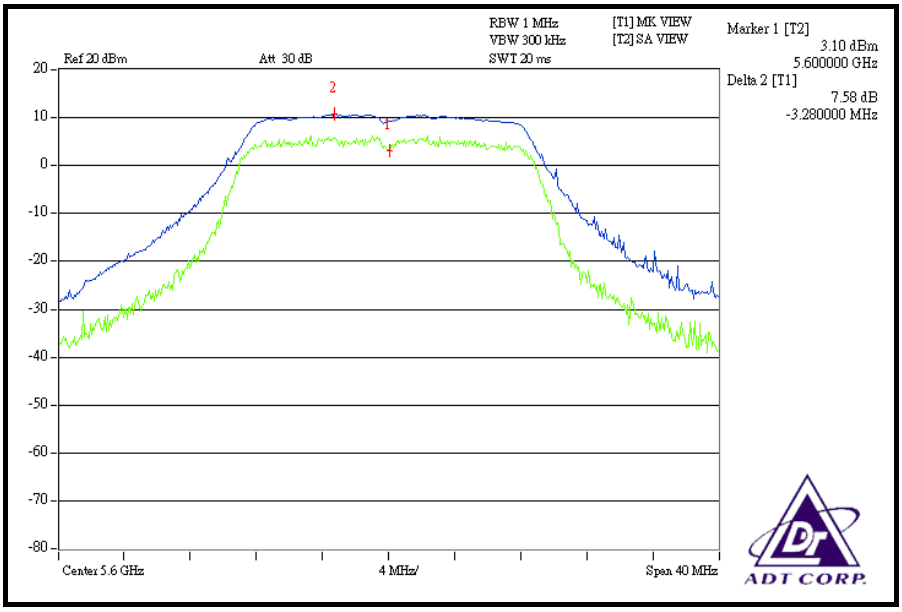
CH 64


RBW 1 MHz
VBW 300 kHz
SWT 20 ms
[T1] MK VIEW
[T2] SA VIEW
Marker 1 [T2]
2.31 dBm
5.320000 GHz
Delta 2 [T1]
8.74 dB
-2.960000 MHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Center 5.32 GHz
4 MHz/
Span 40 MHz
ADT CORP.

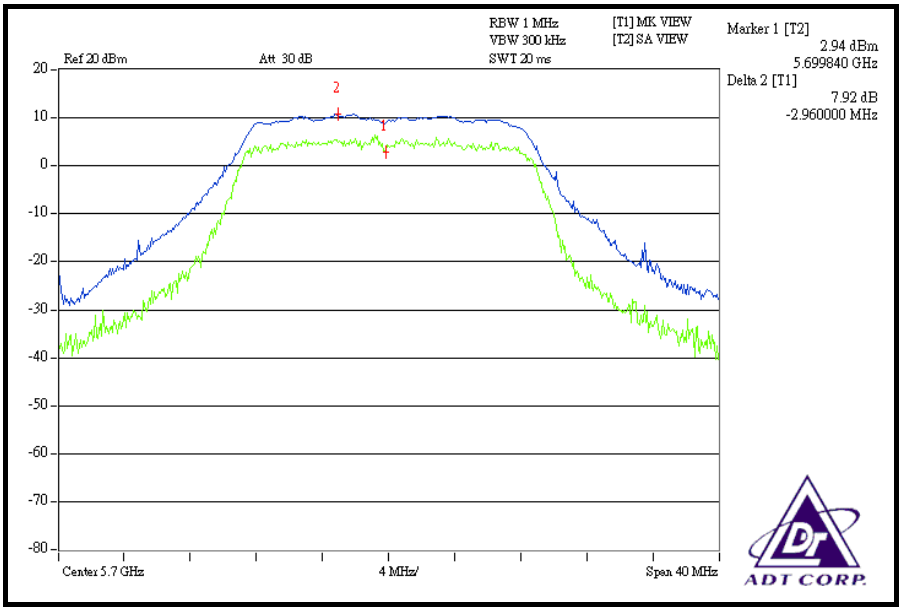
CH 100


RBW 1 MHz
VBW 300 kHz
SWT 20 ms
[T1] MK VIEW
[T2] SA VIEW
Marker 1 [T2]
1.57 dBm
5.500000 GHz
Delta 2 [T1]
8.65 dB
-3.200000 MHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Center 5.5 GHz
4 MHz/
Span 40 MHz
ADT CORP.

CH 120


RBW 1 MHz
VBW 300 kHz
SWT 20 ms
[T1] MK VIEW
[T2] SA VIEW
Marker 1 [T2]
3.10 dBm
5.600000 GHz
Delta 2 [T1]
7.58 dB
-3.280000 MHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Center 5.6 GHz
4 MHz/
Span 40 MHz
ADT CORP.

CH 140

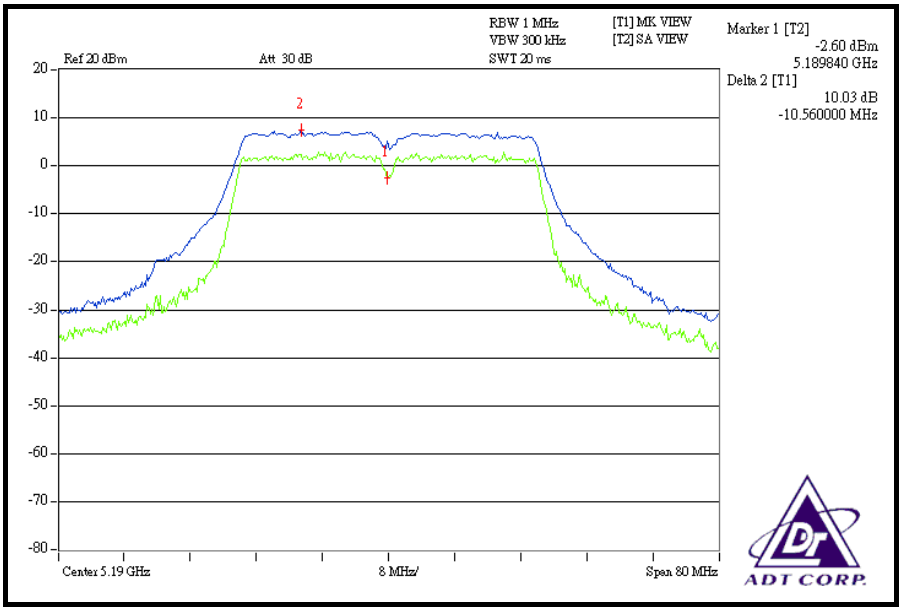

RBW 1 MHz
VBW 300 kHz
SWT 20 ms
[T1] MK VIEW
[T2] SA VIEW
Marker 1 [T2]
2.94 dBm
5.699840 GHz
Delta 2 [T1]
7.92 dB
-2.960000 MHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Center 5.7 GHz
4 MHz/
Span 40 MHz
ADT CORP.

DRAFT 802.11n (40MHz) OFDM MODULATION

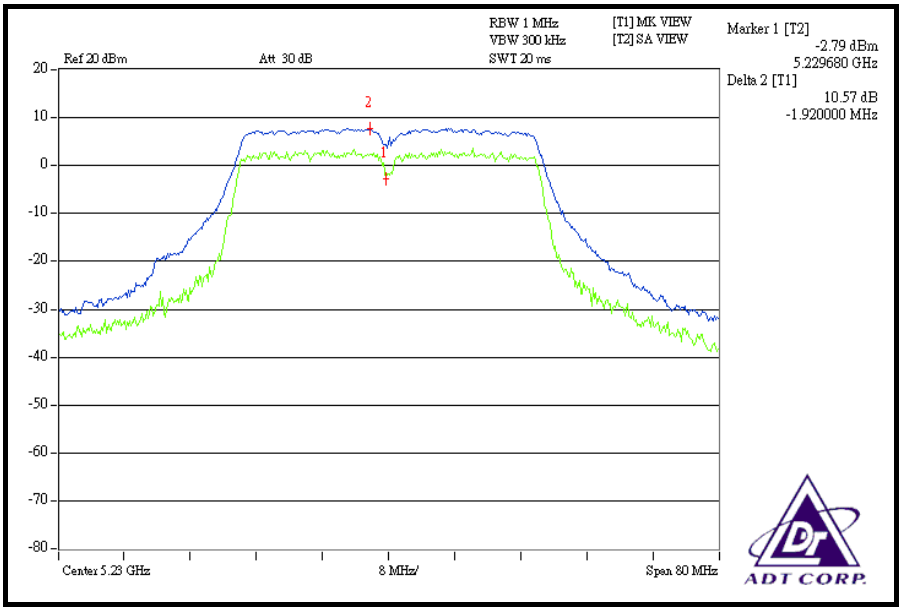
MODULATION TYPE	BPSK	**TRANSFER RATE**	15.0Mbps
INPUT POWER (SYSTEM)	120Vac, 60Hz	**ENVIRONMENTAL CONDITIONS**	25 deg.C, 65 %RH, 991hPa
TESTED BY	Brad Wu		

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER EXCURSION (dB)	PEAK TO AVERAGE EXCURSION LIMIT (dB)	PASS / FAIL
38	5190	10.03	13	PASS
46	5230	10.57	13	PASS
54	5270	10.61	13	PASS
62	5310	11.03	13	PASS
102	5510	11.19	13	PASS
118	5590	10.88	13	PASS
134	5670	10.95	13	PASS

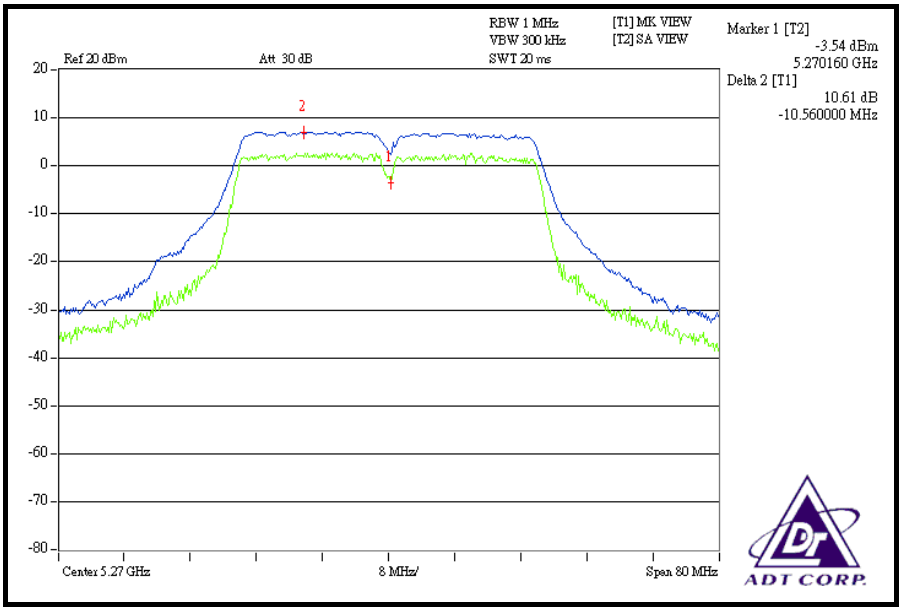
CH 38


RBW 1 MHz
VBW 300 kHz
SWT 20 ms
[T1] MK VIEW
[T2] SA VIEW
Marker 1 [T2]
-2.60 dBm
5.189840 GHz
Delta 2 [T1]
10.03 dB
-10.560000 MHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Center 5.19 GHz
8 MHz/
Span 80 MHz
ADT CORP.

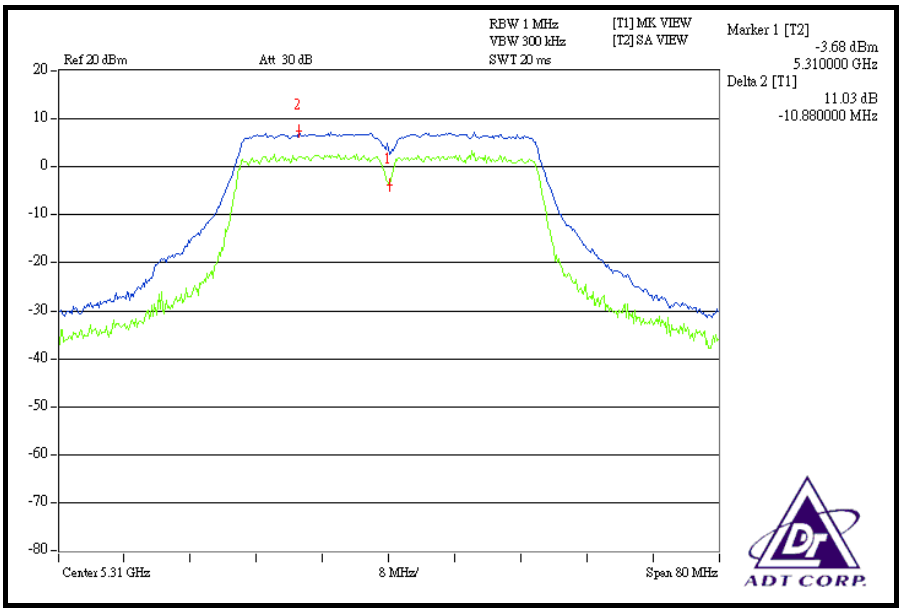
CH 46


RBW 1 MHz
VBW 300 kHz
SWT 20 ms
[T1] MK VIEW
[T2] SA VIEW
Marker 1 [T2]
-2.79 dBm
5.229680 GHz
Delta 2 [T1]
10.57 dB
-1.920000 MHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Center 5.23 GHz
8 MHz/
Span 80 MHz
ADT CORP.

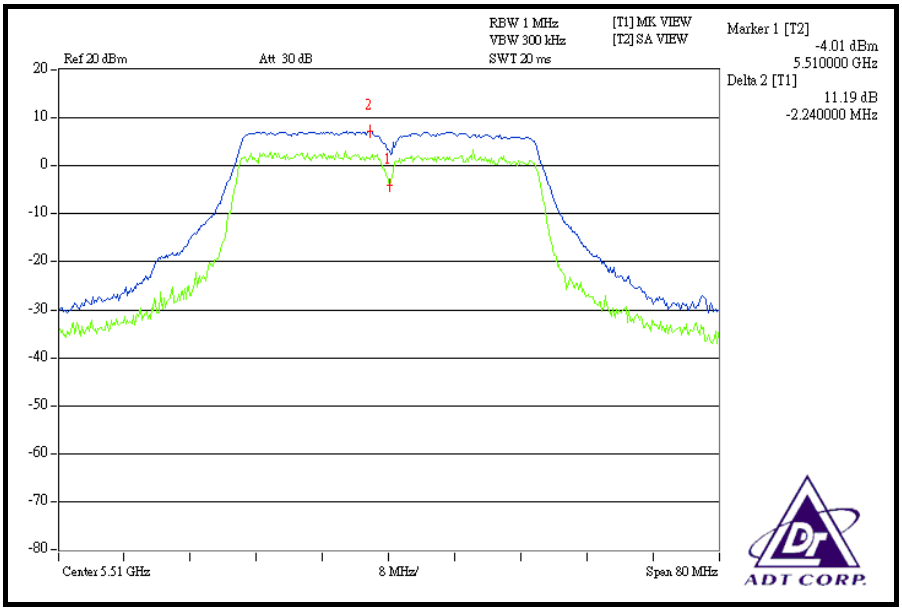
CH 54


RBW 1 MHz
VBW 300 kHz
SWT 20 ms
[T1] MK VIEW
[T2] SA VIEW
Marker 1 [T2]
-3.54 dBm
5.270160 GHz
Delta 2 [T1]
10.61 dB
-10.560000 MHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Center 5.27 GHz
8 MHz/
Span 80 MHz
ADT CORP.

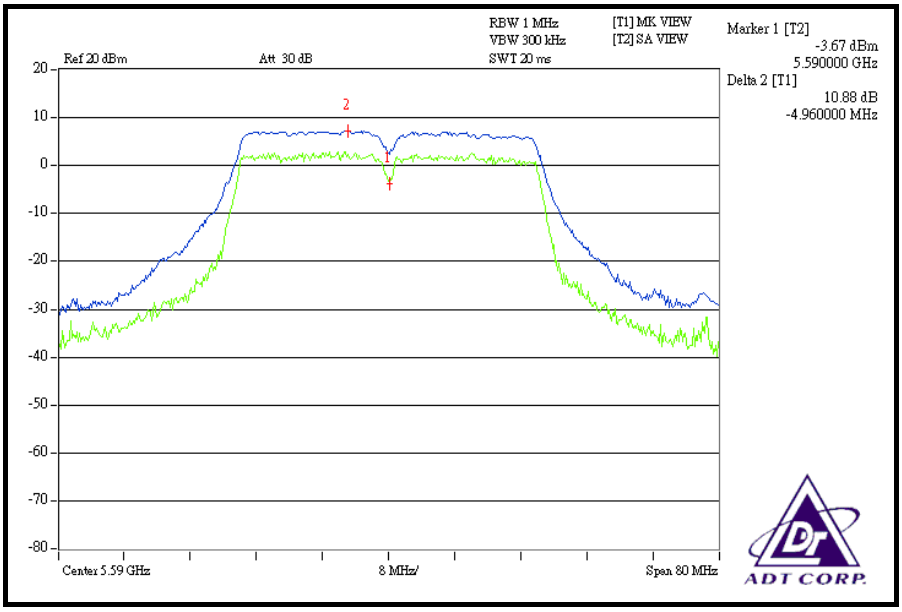
CH 62


RBW 1 MHz
VBW 300 kHz
SWT 20 ms
[T1] MK VIEW
[T2] SA VIEW
Marker 1 [T2]
-3.68 dBm
5.310000 GHz
Delta 2 [T1]
11.03 dB
-10.880000 MHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Center 5.31 GHz
8 MHz/
Span 80 MHz
ADT CORP.

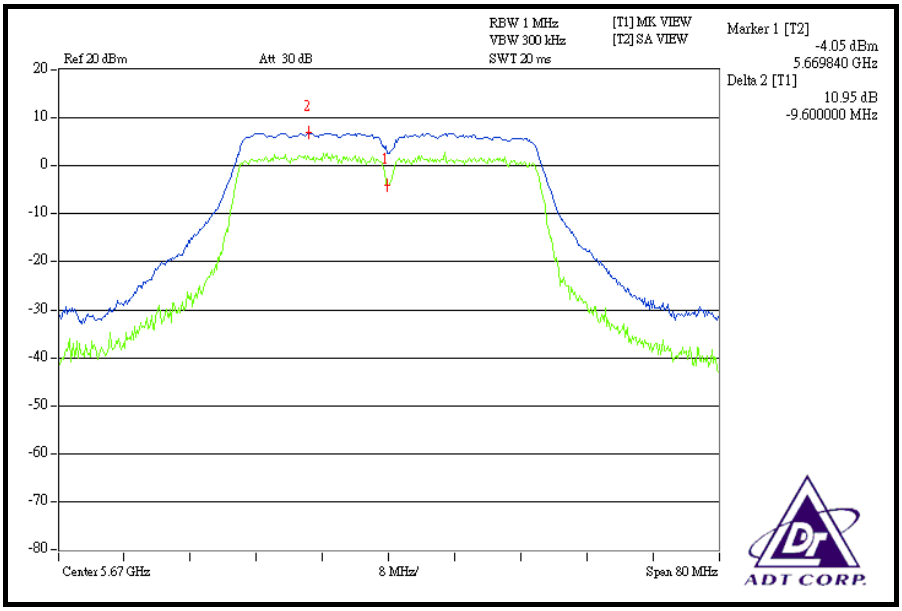
CH 102


RBW 1 MHz
VBW 300 kHz
SWT 20 ms
[T1] MK VIEW
[T2] SA VIEW
Marker 1 [T2]
-4.01 dBm
5.510000 GHz
Delta 2 [T1]
11.19 dB
-2.240000 MHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Center 5.51 GHz
8 MHz/
Span 80 MHz
ADT CORP.

CH 118


RBW 1 MHz
VBW 300 kHz
SWT 20 ms
[T1] MK VIEW
[T2] SA VIEW
Marker 1 [T2]
-3.67 dBm
5.590000 GHz
Delta 2 [T1]
10.88 dB
-4.960000 MHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Center 5.59 GHz
8 MHz/
Span 80 MHz
ADT CORP.

CH 134


RBW 1 MHz
VBW 300 kHz
SWT 20 ms
[T1] MK VIEW
[T2] SA VIEW
Marker 1 [T2]
-4.05 dBm
5.669840 GHz
Delta 2 [T1]
10.95 dB
-9.600000 MHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Center 5.67 GHz
8 MHz/
Span 80 MHz
ADT CORP.

4.5 PEAK POWER SPECTRAL DENSITY MEASUREMENT

4.5.1 LIMITS OF PEAK POWER SPECTRAL DENSITY MEASUREMENT

FREQUENCY BAND	LIMIT
5.150 ~ 5.250GHz	4dBm
5.250 ~ 5.350GHz	11dBm
5.470 ~ 5.725GHz	11dBm

4.5.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
R&S SPECTRUM ANALYZER	FSP40	100040	Jun. 28, 2008

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

4.5.3 TEST PROCEDURES

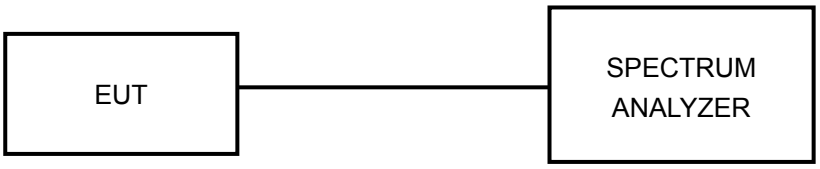
a. The transmitter output was connected to the spectrum analyzer.

b. Set RBW = 1MHz, VBW = 3MHz. The PPSD is the highest level found across the emission in any 1MHz band.

4.5.4 DEVIATION FROM TEST STANDARD

No deviation

4.5.5 TEST SETUP



4.5.6 EUT OPERATING CONDITIONS

Same as 5.3.6

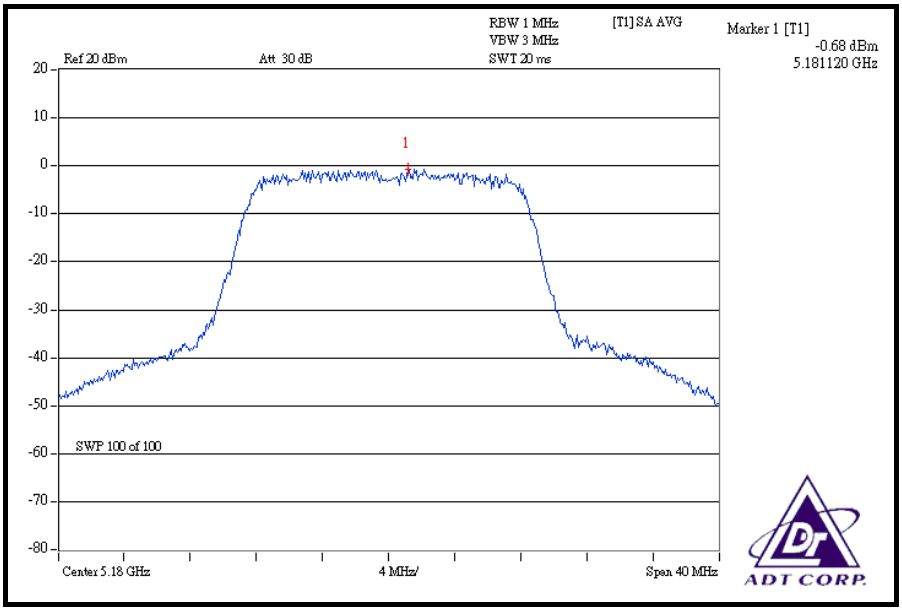
4.5.7 TEST RESULTS

802.11a OFDM MODULATION

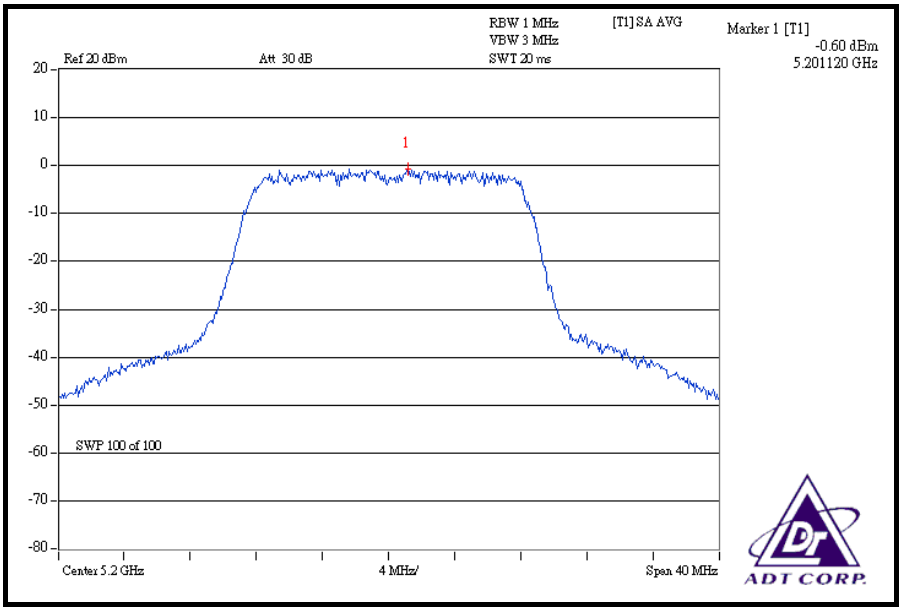
MODULATION TYPE	BPSK	**TRANSFER RATE**	6.0Mbps
INPUT POWER (SYSTEM)	120Vac, 60Hz	**ENVIRONMENTAL CONDITIONS**	25 deg.C, 65 %RH, 991hPa
TESTED BY	Brad Wu		

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 1MHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
36	5180	-0.68	4	PASS
40	5200	-0.60	4	PASS
48	5240	-0.59	4	PASS
52	5260	-0.51	11	PASS
60	5300	-0.49	11	PASS
64	5320	-0.73	11	PASS
100	5500	-0.65	11	PASS
120	5600	-0.61	11	PASS
140	5700	-0.47	11	PASS

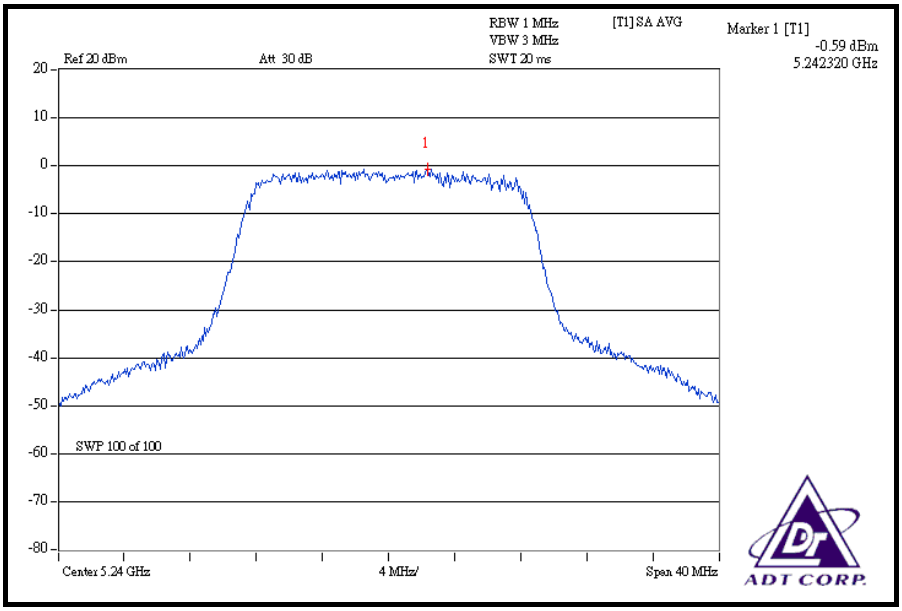
CH 36


RBW 1 MHz
VBW 3 MHz
SWT 20 ms
[T1] SA AVG
Marker 1 [T1]
-0.68 dBm
5.181120 GHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
1
SWP 100 of 100
Center 5.18 GHz
4 MHz/
Span 40 MHz
ADT CORP.

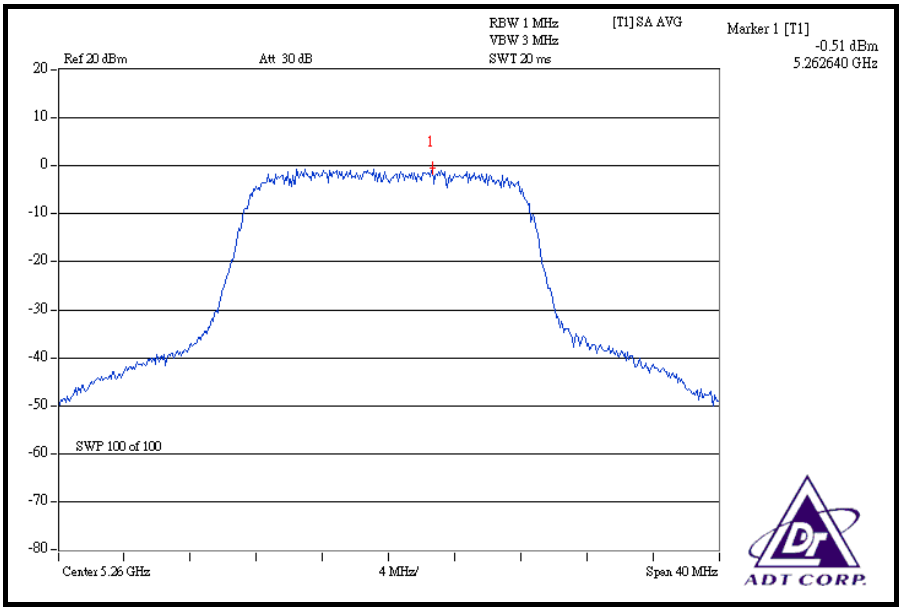
CH 40


RBW 1 MHz
VBW 3 MHz
SWT 20 ms
[T1] SA AVG
Marker 1 [T1]
-0.60 dBm
5.201120 GHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
1
SWP 100 of 100
Center 5.2 GHz
4 MHz/
Span 40 MHz
ADT CORP.

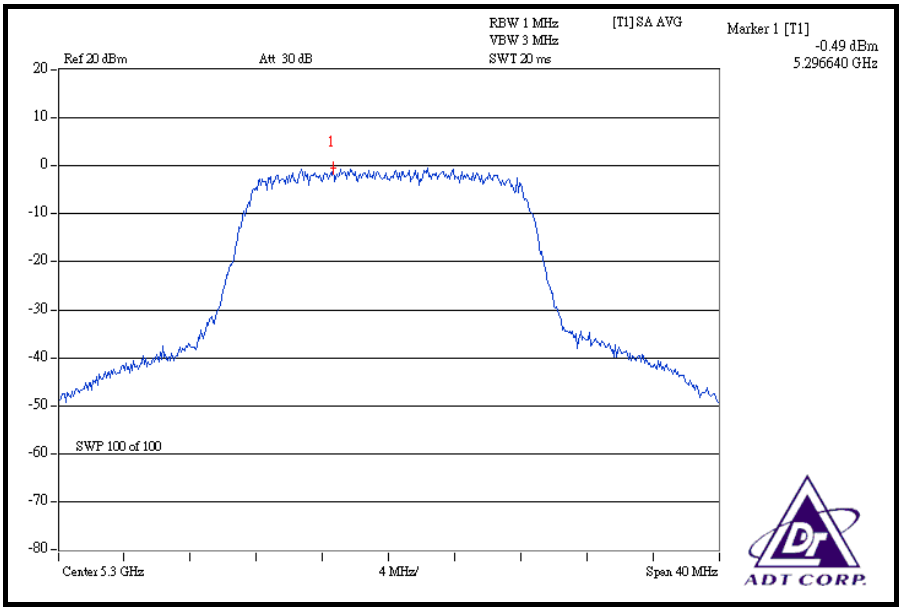
CH 48


RBW 1 MHz
VBW 3 MHz
SWT 20 ms
[T1] SA AVG
Marker 1 [T1]
-0.59 dBm
5.242320 GHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
SWP 100 of 100
Center 5.24 GHz
4 MHz/
Span 40 MHz
ADT CORP.

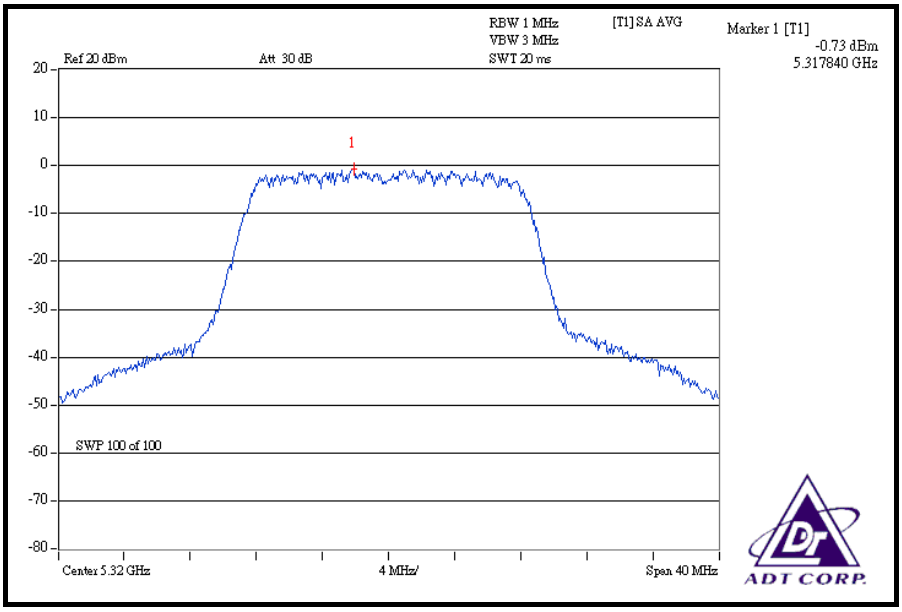
CH 52


RBW 1 MHz
VBW 3 MHz
SWT 20 ms
[T1] SA AVG
Marker 1 [T1]
-0.51 dBm
5.262640 GHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
SWP 100 of 100
Center 5.26 GHz
4 MHz/
Span 40 MHz
ADT CORP.

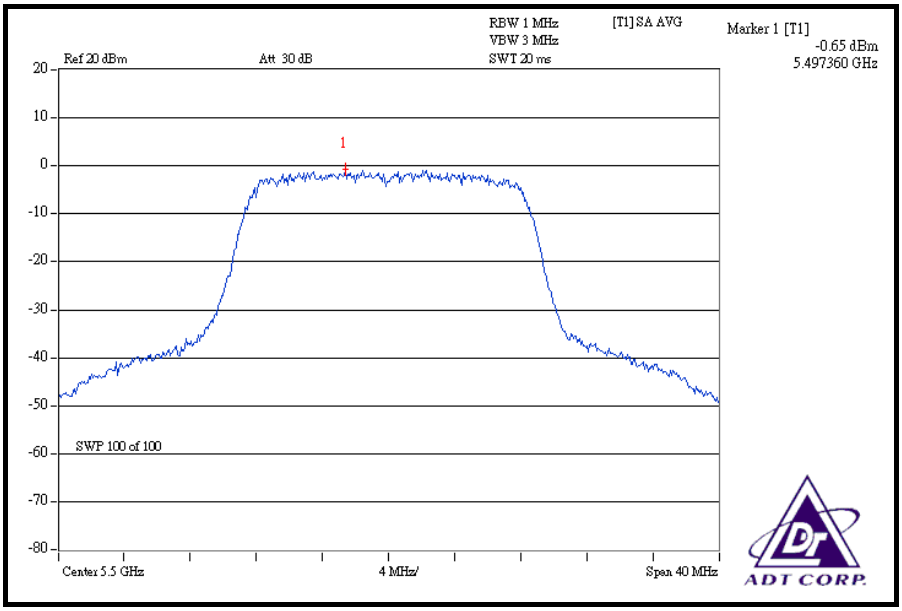
CH 60


RBW 1 MHz
VBW 3 MHz
SWT 20 ms
[T1] SA AVG
Marker 1 [T1]
-0.49 dBm
5.296640 GHz
Ref 20 dBm
Att 30 dB
SWP 100 of 100
Center 5.3 GHz
4 MHz/
Span 40 MHz

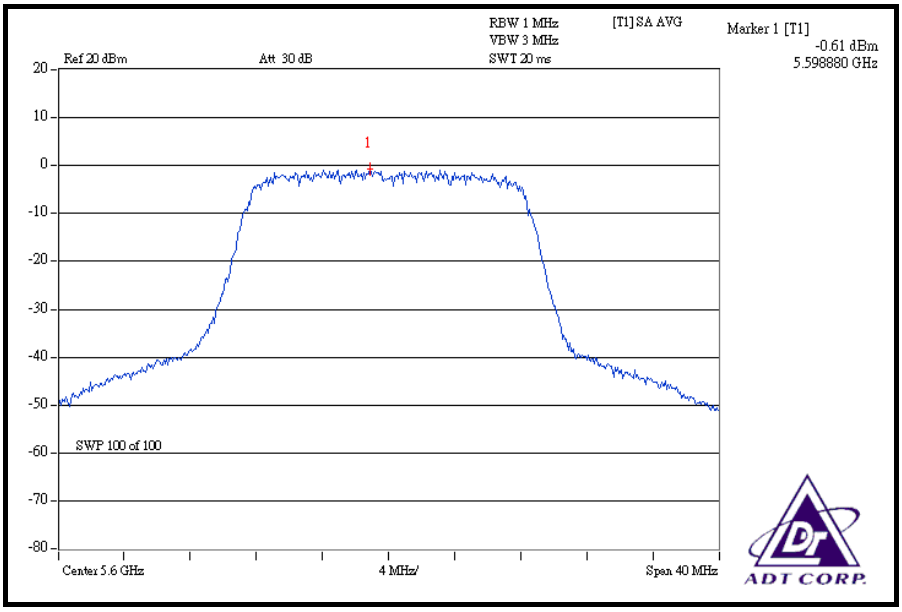
CH 64


RBW 1 MHz
VBW 3 MHz
SWT 20 ms
[T1] SA AVG
Marker 1 [T1]
-0.73 dBm
5.317840 GHz
Ref 20 dBm
Att 30 dB
SWP 100 of 100
Center 5.32 GHz
4 MHz/
Span 40 MHz

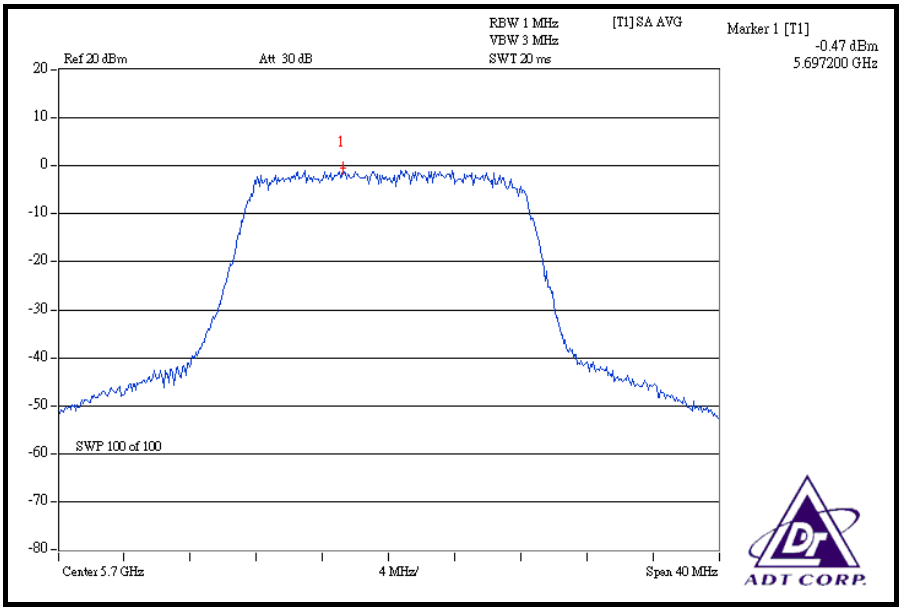
CH 100


RBW 1 MHz
VBW 3 MHz
SWT 20 ms
[T1] SA AVG
Marker 1 [T1]
-0.65 dBm
5.497360 GHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
SWP 100 of 100
Center 5.5 GHz
4 MHz/
Span 40 MHz
ADT CORP.

CH 120


RBW 1 MHz
VBW 3 MHz
SWT 20 ms
[T1] SA AVG
Marker 1 [T1]
-0.61 dBm
5.598880 GHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
SWP 100 of 100
Center 5.6 GHz
4 MHz/
Span 40 MHz
ADT CORP.

CH 140

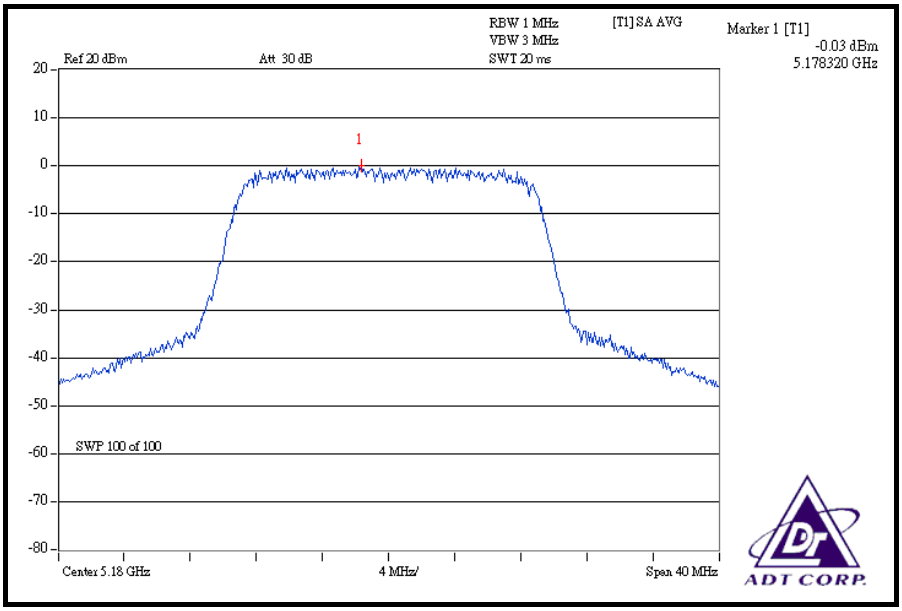

RBW 1 MHz
VBW 3 MHz
SWT 20 ms
[T1] SA AVG
Marker 1 [T1]
-0.47 dBm
5.697200 GHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
1
SWP 100 of 100
Center 5.7 GHz
4 MHz/
Span 40 MHz
ADT CORP.

DRAFT 802.11n (20MHz) OFDM MODULATION

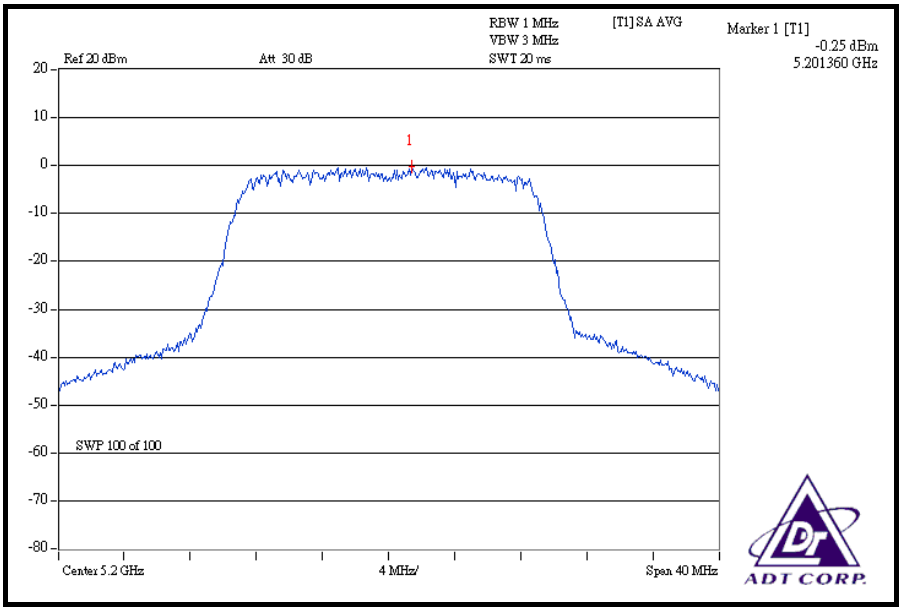
MODULATION TYPE	BPSK	**TRANSFER RATE**	7.2Mbps
INPUT POWER (SYSTEM)	120Vac, 60Hz	**ENVIRONMENTAL CONDITIONS**	25 deg.C, 65 %RH, 991hPa
TESTED BY	Brad Wu		

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 1MHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
36	5180	-0.03	4	PASS
40	5200	-0.25	4	PASS
48	5240	-0.18	4	PASS
52	5260	-0.20	11	PASS
60	5300	-0.15	11	PASS
64	5320	-0.19	11	PASS
100	5500	-0.94	11	PASS
120	5600	-0.05	11	PASS
140	5700	-0.11	11	PASS

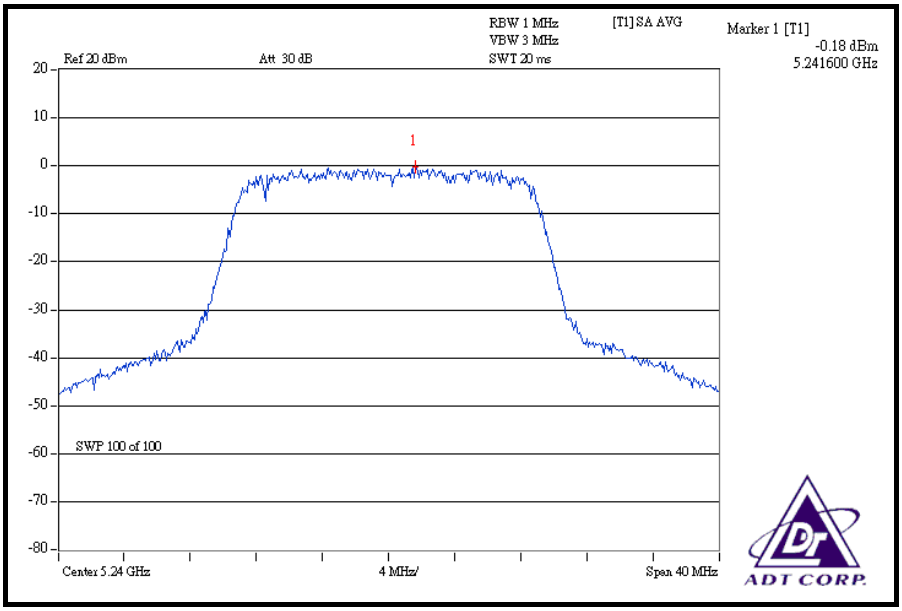
CH 36


RBW 1 MHz
VBW 3 MHz
SWT 20 ms
[T1] SA AVG
Marker 1 [T1]
-0.03 dBm
5.178320 GHz
Ref 20 dBm
Att 30 dB
SWP 100 of 100
Center 5.18 GHz
4 MHz/
Span 40 MHz
ADT CORP.

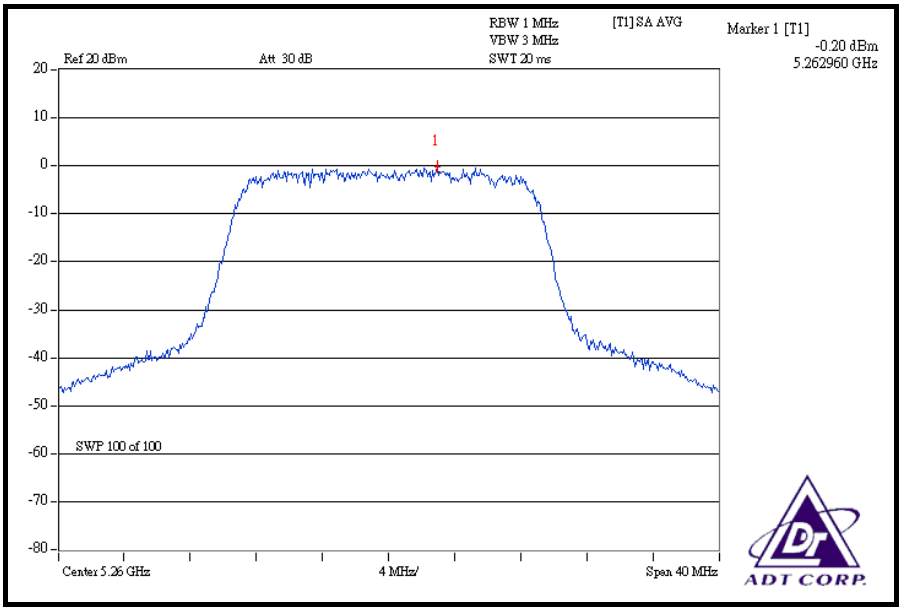
CH 40


RBW 1 MHz
VBW 3 MHz
SWT 20 ms
[T1] SA AVG
Marker 1 [T1]
-0.25 dBm
5.201360 GHz
Ref 20 dBm
Att 30 dB
SWP 100 of 100
Center 5.2 GHz
4 MHz/
Span 40 MHz
ADT CORP.

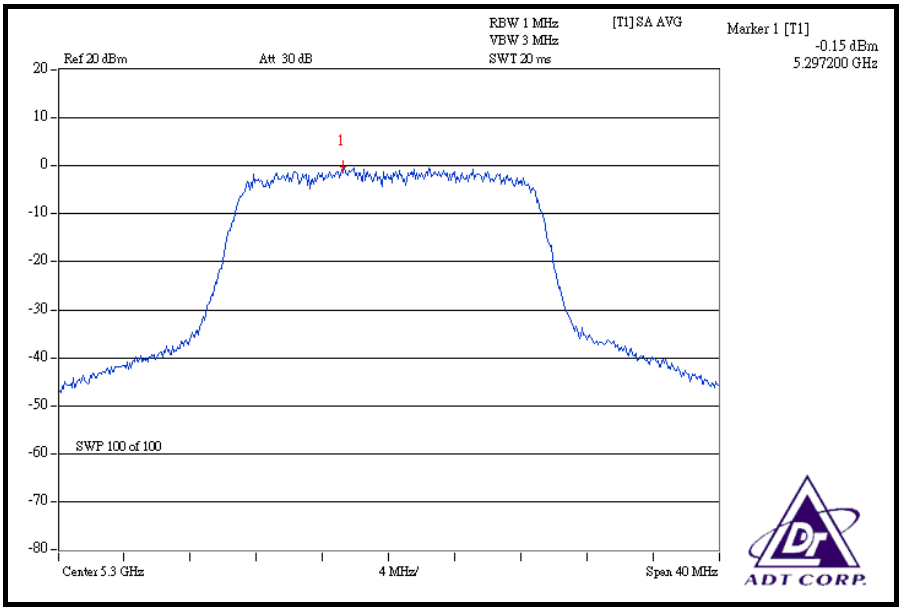
CH 48


RBW 1 MHz
VBW 3 MHz
SWT 20 ms
[T1] SA AVG
Marker 1 [T1]
-0.18 dBm
5.241600 GHz
Ref 20 dBm
Att 30 dB
SWP 100 of 100
Center 5.24 GHz
4 MHz/
Span 40 MHz
ADT CORP.

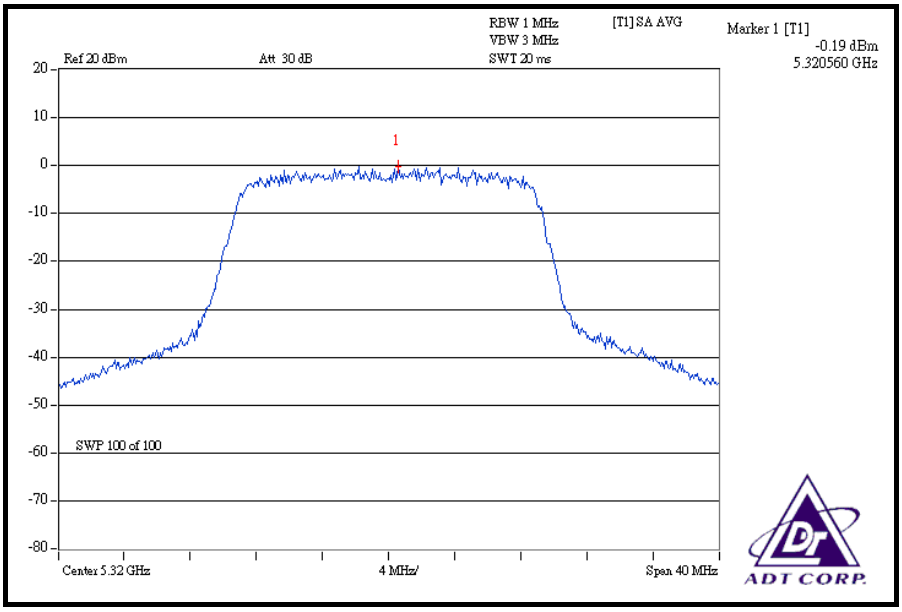
CH 52


RBW 1 MHz
VBW 3 MHz
SWT 20 ms
[T1] SA AVG
Marker 1 [T1]
-0.20 dBm
5.262960 GHz
Ref 20 dBm
Att 30 dB
SWP 100 of 100
Center 5.26 GHz
4 MHz/
Span 40 MHz
ADT CORP.

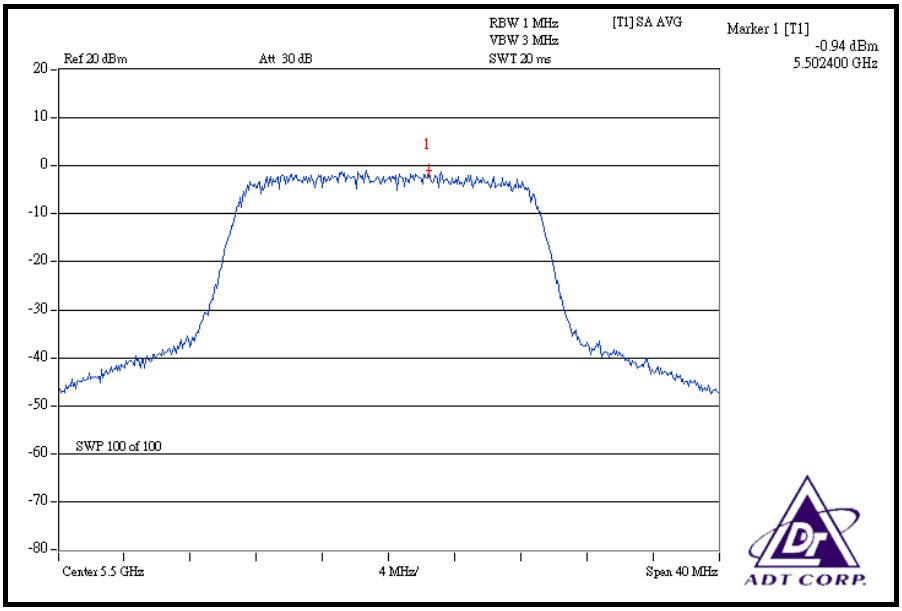
CH 60


RBW 1 MHz
VBW 3 MHz
SWT 20 ms
[T1] SA AVG
Marker 1 [T1]
-0.15 dBm
5.297200 GHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
1
SWP 100 of 100
Center 5.3 GHz
4 MHz/
Span 40 MHz
ADT CORP.

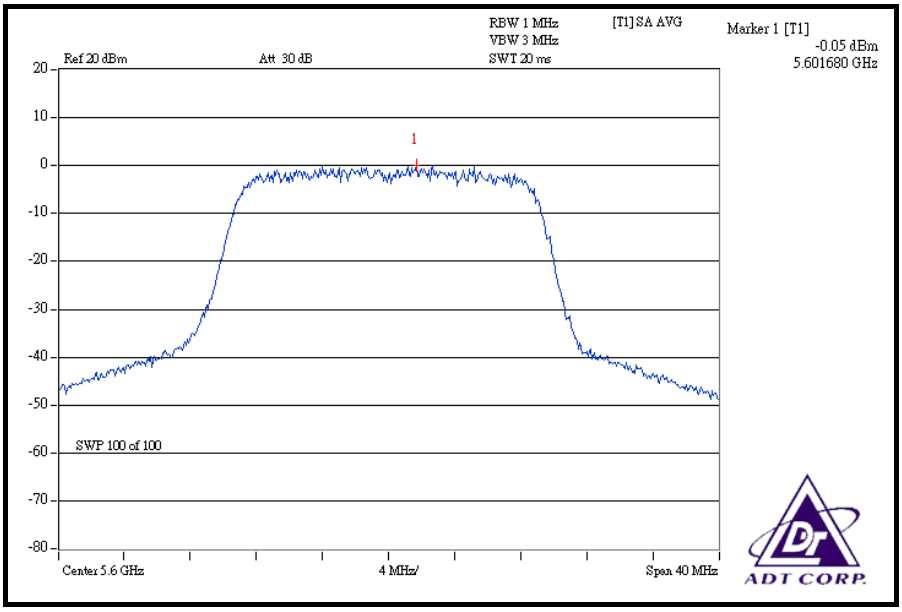
CH 64


RBW 1 MHz
VBW 3 MHz
SWT 20 ms
[T1] SA AVG
Marker 1 [T1]
-0.19 dBm
5.320560 GHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
1
SWP 100 of 100
Center 5.32 GHz
4 MHz/
Span 40 MHz
ADT CORP.

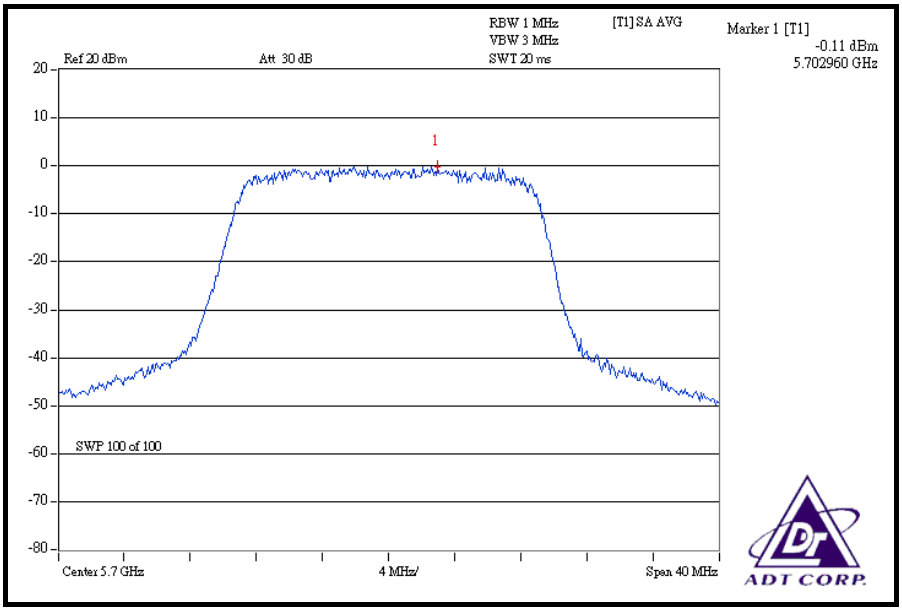
CH 100


RBW 1 MHz
VBW 3 MHz
SWT 20 ms
[T1] SA AVG
Marker 1 [T1]
-0.94 dBm
5.502400 GHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
1
SWP 100 of 100
Center 5.5 GHz
4 MHz/
Span 40 MHz
ADT CORP.

CH 120


RBW 1 MHz
VBW 3 MHz
SWT 20 ms
[T1] SA AVG
Marker 1 [T1]
-0.05 dBm
5.601680 GHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
1
SWP 100 of 100
Center 5.6 GHz
4 MHz/
Span 40 MHz
ADT CORP.

CH 140

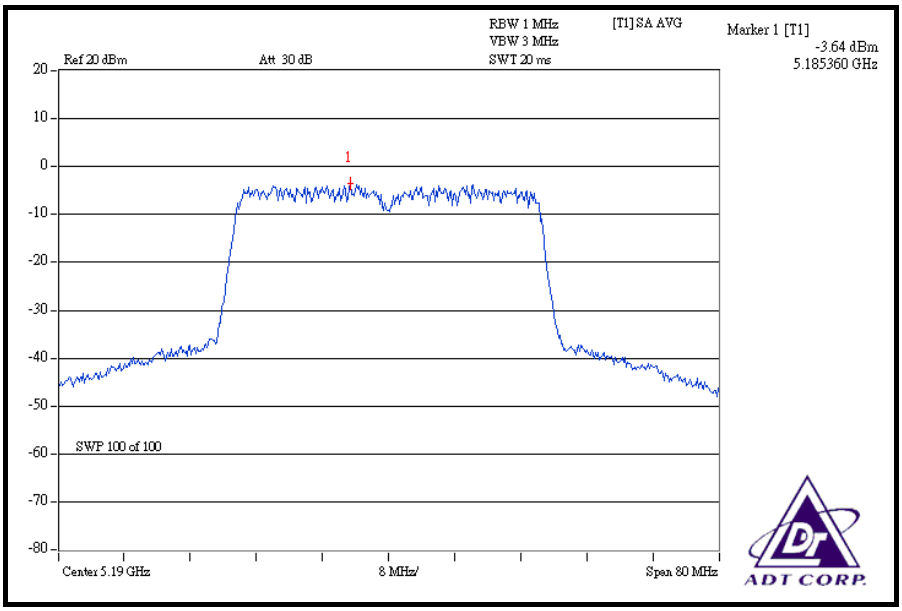

RBW 1 MHz
VBW 3 MHz
SWT 20 ms
[T1] SA AVG
Marker 1 [T1]
-0.11 dBm
5.702960 GHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
1
SWP 100 of 100
Center 5.7 GHz
4 MHz/
Span 40 MHz
ADT CORP.

DRAFT 802.11n (40MHz) OFDM MODULATION

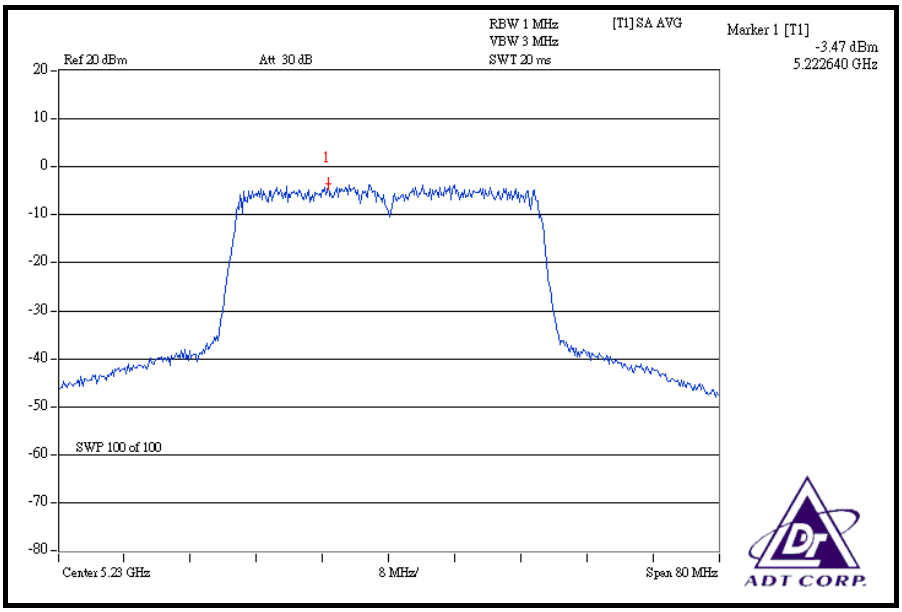
MODULATION TYPE	BPSK	TRANSFER RATE	15.0Mbps
INPUT POWER (SYSTEM)	120Vac, 60Hz	ENVIRONMENTAL CONDITIONS	25 deg.C, 65 %RH, 991hPa
TESTED BY	Brad Wu		

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 1MHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
38	5190	-3.64	4	PASS
46	5230	-3.47	4	PASS
54	5270	-3.47	11	PASS
62	5310	-3.45	11	PASS
102	5510	-3.62	11	PASS
118	5590	-3.58	11	PASS
134	5670	-3.86	11	PASS

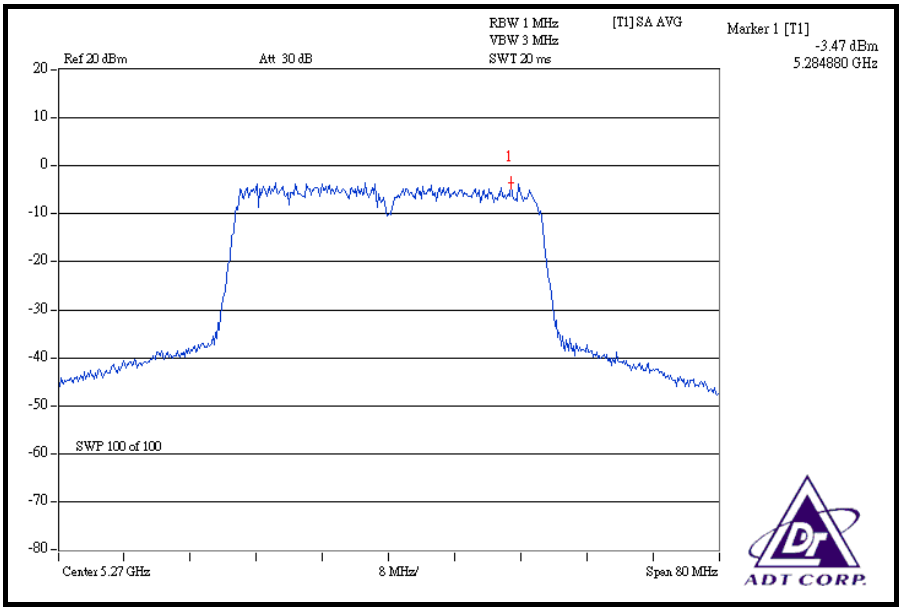
CH 38


RBW 1 MHz
VBW 3 MHz
SWT 20 ms
[T1] SA AVG
Marker 1 [T1]
-3.64 dBm
5.185360 GHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
1
SWP 100 of 100
Center 5.19 GHz
8 MHz/
Span 80 MHz
ADT CORP.

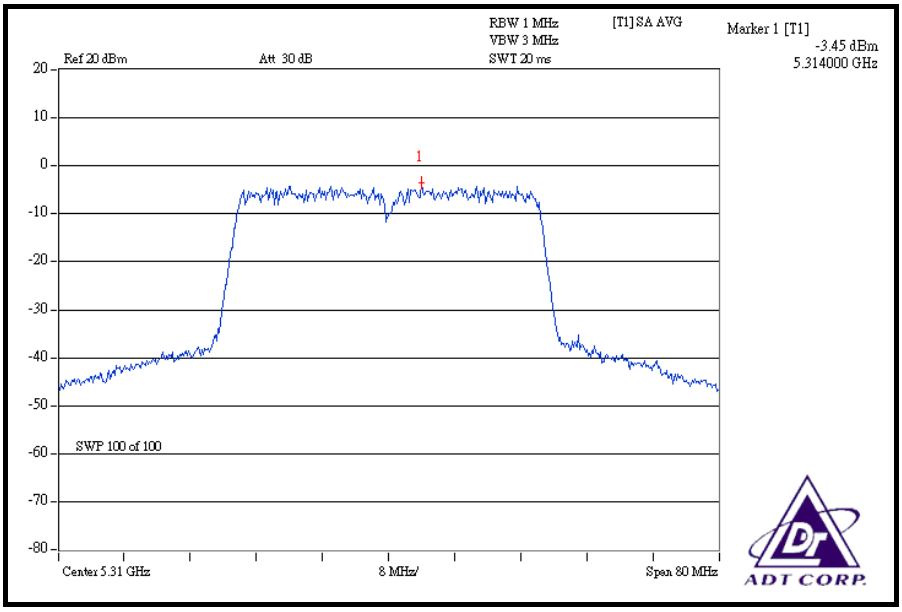
CH 46


RBW 1 MHz
VBW 3 MHz
SWT 20 ms
[T1] SA AVG
Marker 1 [T1]
-3.47 dBm
5.222640 GHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
1
SWP 100 of 100
Center 5.23 GHz
8 MHz/
Span 80 MHz
ADT CORP.

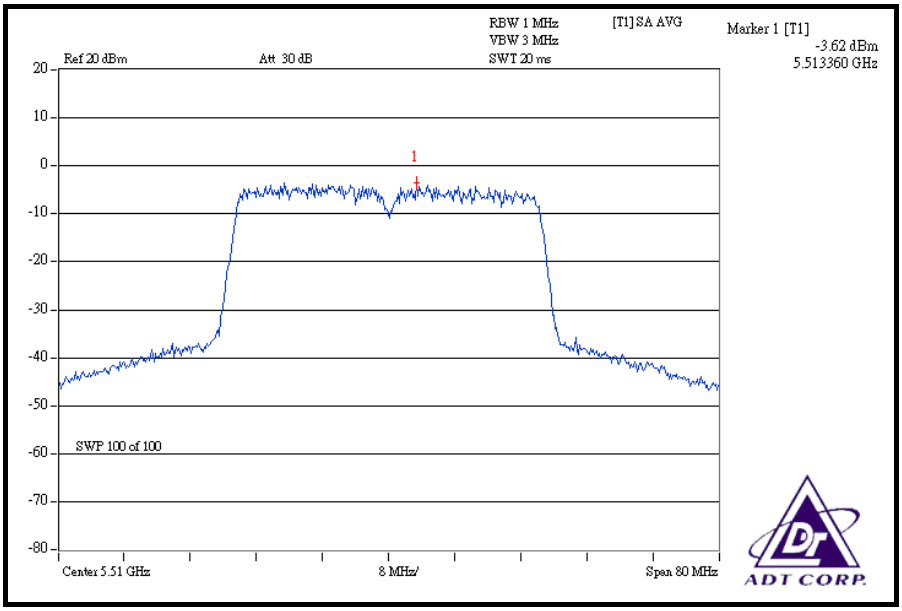
CH 54


RBW 1 MHz
VBW 3 MHz
SWT 20 ms
[T1] SA AVG
Marker 1 [T1]
-3.47 dBm
5.284880 GHz
Ref 20 dBm
Att 30 dB
SWP 100 of 100
Center 5.27 GHz
8 MHz/
Span 80 MHz
ADT CORP.

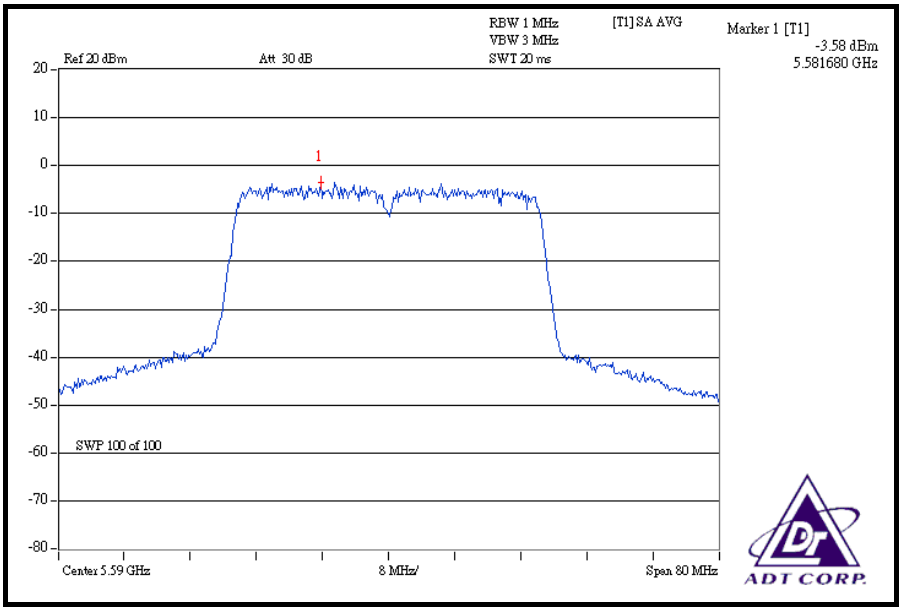
CH 62


RBW 1 MHz
VBW 3 MHz
SWT 20 ms
[T1] SA AVG
Marker 1 [T1]
-3.45 dBm
5.314000 GHz
Ref 20 dBm
Att 30 dB
SWP 100 of 100
Center 5.31 GHz
8 MHz/
Span 80 MHz
ADT CORP.

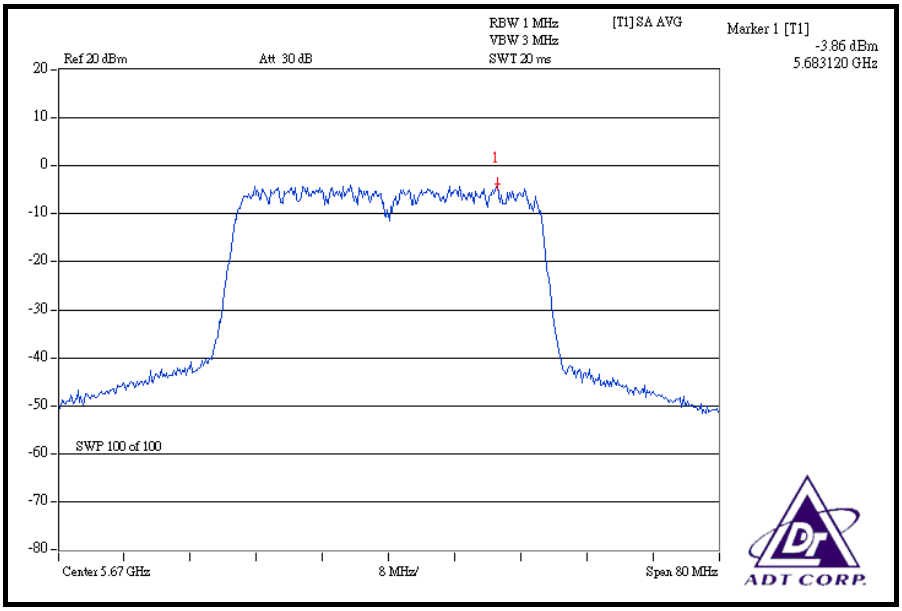
CH 102


RBW 1 MHz
VBW 3 MHz
SWT 20 ms
[T1]SA AVG
Marker 1 [T1]
-3.62 dBm
5.513360 GHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
SWP 100 of 100
Center 5.51 GHz
8 MHz/
Span 80 MHz
ADT CORP.

CH 118


RBW 1 MHz
VBW 3 MHz
SWT 20 ms
[T1]SA AVG
Marker 1 [T1]
-3.58 dBm
5.581680 GHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
SWP 100 of 100
Center 5.59 GHz
8 MHz/
Span 80 MHz
ADT CORP.

CH 134


RBW 1 MHz
VBW 3 MHz
SWT 20 ms
[T1] SA AVG
Marker 1 [T1]
-3.86 dBm
5.683120 GHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
1
SWP 100 of 100
Center 5.67 GHz
8 MHz/
Span 80 MHz
ADT CORP.

4.6 FREQUENCY STABILITY

4.6.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

The frequency tolerance of the carrier signal shall be maintained within +/- 0.02% of the operating frequency over a temperature variation of –30 degrees to 50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C.

4.6.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
ANRITSU SPECTRUM ANALYZER	MS2667C	M10281	Nov. 21, 2008
WIT STANDARD TEMPERATURE AND HUMIDITY CHAMBER	TH-4S-C	W981030	Jun. 28, 2008

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

4.6.3 TEST PROCEDURE

a. The EUT was placed inside the environmental test chamber and powered by nominal DC voltage.

b. Turn the EUT on and couple its output to a spectrum analyzer.

c. Turn the EUT off and set the chamber to the highest temperature specified.

d. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT on and measure the operating frequency after 2, 5, and 10 minutes.

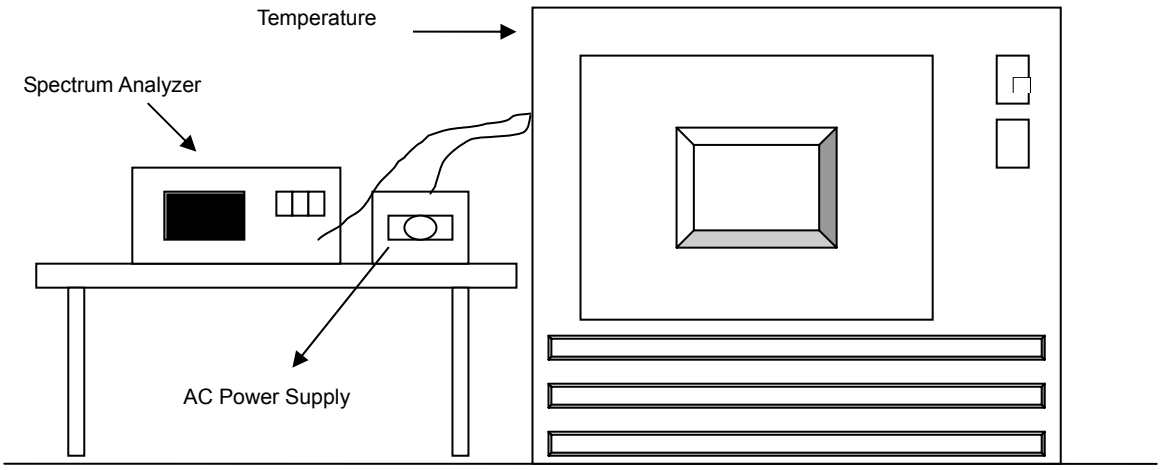
e. Repeat step 2 and 3 with the temperature chamber set to the lowest temperature.

f. The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.

4.6.4 DEVIATION FROM TEST STANDARD

No deviation

4.6.5 TEST SETUP



4.6.6 EUT OPERATING CONDITION

Same as Item 4.1.6

4.6.7 TEST RESULTS

OPERATING FREQUENCY: 5320MHz						LIMIT: ± 0.01%			
TEMP. (℃)	POWER SUPPLY (Vac)	0 MINUTE		2 MINUTE		5 MINUTE		10 MINUTE	
		(MHz)	(%)	(MHz)	(%)	(MHz)	(%)	(MHz)	(%)
50	126.5	5319.902561	-0.0018316	5319.917862	-0.0015439	5319.941225	-0.0011048	5319.938878	-0.0011489
	110.0	5319.924521	-0.0014188	5319.929225	-0.0013304	5319.943369	-0.0010645	5319.942886	-0.0010736
	93.5	5319.923171	-0.0014442	5319.930387	-0.0013085	5319.944854	-0.0010366	5319.949867	-0.0009424
40	126.5	5319.916641	-0.0015669	5319.926966	-0.0013728	5319.972174	-0.0005230	5319.943773	-0.0010569
	110.0	5319.911338	-0.0016666	5319.935725	-0.0012082	5319.953658	-0.0008711	5319.947542	-0.0009860
	93.5	5319.922135	-0.0014636	5319.943625	-0.0010597	5319.952756	-0.0008880	5319.956854	-0.0008110
30	126.5	5319.935631	-0.0012099	5319.933045	-0.0012586	5319.953577	-0.0008726	5319.949235	-0.0009542
	110.0	5319.944231	-0.0010483	5319.948637	-0.0009655	5319.956956	-0.0008091	5319.932454	-0.0012697
	93.5	5319.936534	-0.0011930	5319.957043	-0.0008075	5319.959956	-0.0007527	5319.960214	-0.0007479
20	126.5	5319.924231	-0.0014242	5319.936854	-0.0011870	5319.954671	-0.0008520	5319.922453	-0.0014576
	110.0	5319.951739	-0.0009072	5319.957231	-0.0008039	5319.962465	-0.0007056	5319.922331	-0.0014599
	93.5	5319.962631	-0.0007024	5319.968443	-0.0005932	5319.963834	-0.0006798	5319.962845	-0.0006984
10	126.5	5319.915436	-0.0015895	5319.942343	-0.0010838	5319.961953	-0.0007152	5319.961223	-0.0007289
	110.0	5319.932631	-0.0012663	5319.958345	-0.0007830	5319.964258	-0.0006718	5319.962833	-0.0006986
	93.5	5319.954821	-0.0008492	5319.970246	-0.0005593	5319.971922	-0.0005278	5319.972845	-0.0005104
0	126.5	5319.937435	-0.0011760	5319.955367	-0.0008390	5319.965666	-0.0006454	5319.966445	-0.0006307
	110.0	5319.92431	-0.0014227	5319.962245	-0.0007097	5319.972642	-0.0005142	5319.969954	-0.0005648
	93.5	5319.955425	-0.0008379	5319.973864	-0.0004913	5319.974486	-0.0004796	5319.975582	-0.0004590
-10	126.5	5319.950227	-0.0009356	5319.960476	-0.0007429	5319.972349	-0.0005198	5319.971541	-0.0005349
	110.0	5319.956644	-0.0008150	5319.972961	-0.0005083	5319.975562	-0.0004594	5319.976162	-0.0004481
	93.5	5319.971254	-0.0005403	5319.972668	-0.0005138	5319.979297	-0.0003892	5319.979933	-0.0003772
-20	126.5	5319.955027	-0.0008454	5319.966747	-0.0006251	5319.975867	-0.0004536	5319.974855	-0.0004726
	110.0	5319.960457	-0.0007433	5319.972956	-0.0005083	5319.982227	-0.0003341	5319.975633	-0.0004580
	93.5	5319.975224	-0.0004657	5319.984226	-0.0002965	5319.983626	-0.0003078	5319.982413	-0.0003306
-30	126.5	5319.960964	-0.0007338	5319.973386	-0.0005003	5319.982443	-0.0003300	5319.979576	-0.0003839
	110.0	5319.974227	-0.0004845	5319.988541	-0.0002154	5319.984554	-0.0002903	5319.983833	-0.0003039
	93.5	5319.977444	-0.0004240	5319.977261	-0.0004274	5319.986563	-0.0002526	5319.925481	-0.0014007

4.7 BAND EDGES MEASUREMENT

4.7.1 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
R&S SPECTRUM ANALYZER	FSP40	100040	Jun. 28, 2008

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

4.7.2 TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer via a low lose cable. Set both RBW and VBW of spectrum analyzer to 1MHz and 3MHz with suitable frequency span including 100MHz bandwidth from band edge. The band edges was measured and recorded.

4.7.3 EUT OPERATING CONDITION

The software provided by client to enable the EUT under transmission condition continuously at specific channel frequencies individually.

4.7.4 TEST RESULTS

For signals in the restricted bands above and below the 5.15 to 5.35GHz and 5.47 to 5.725GHz allocated band a measurement was made of the amplitude of the spurious emissions with respect to the intentional signals. The relative amplitude, in dBc, was applied to the average and peak filed strength of the intentional signal made on the OATS to calculate the field strength of the unintentional signals.

The spectrum plots (Peak RBW = 1MHz, VBW = 3MHz) are attached on the following pages.

FOR 5150-5350MHz BAND: 802.11a OFDM MODULATION

Channel 36 (5180MHz)

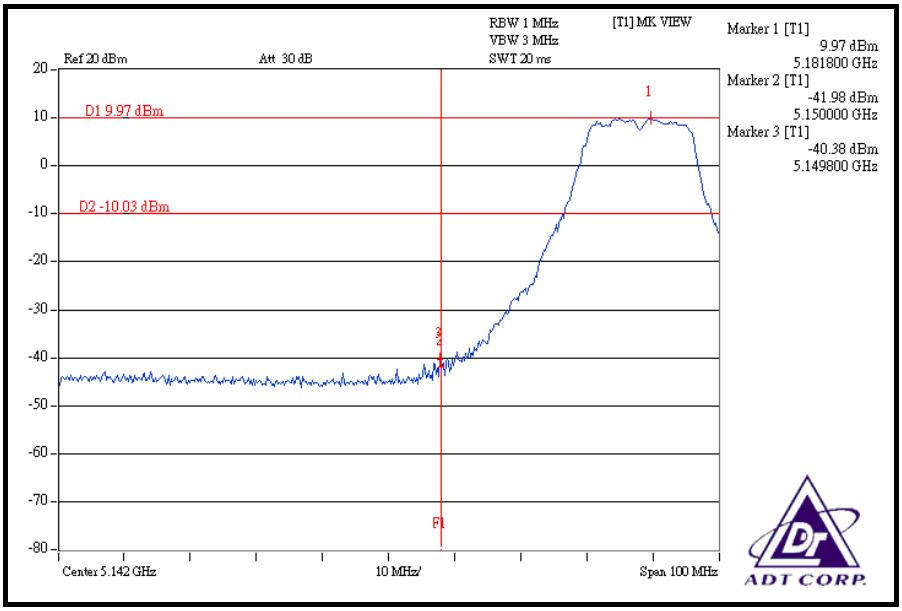
The band edge emission plot on the next page shows 50.35dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 36 is 107.33dBuV/m (Peak), so the maximum field strength in restrict band is 107.33 – 50.35 = 56.98dBuV/m which is under 74dBuV/m limit.

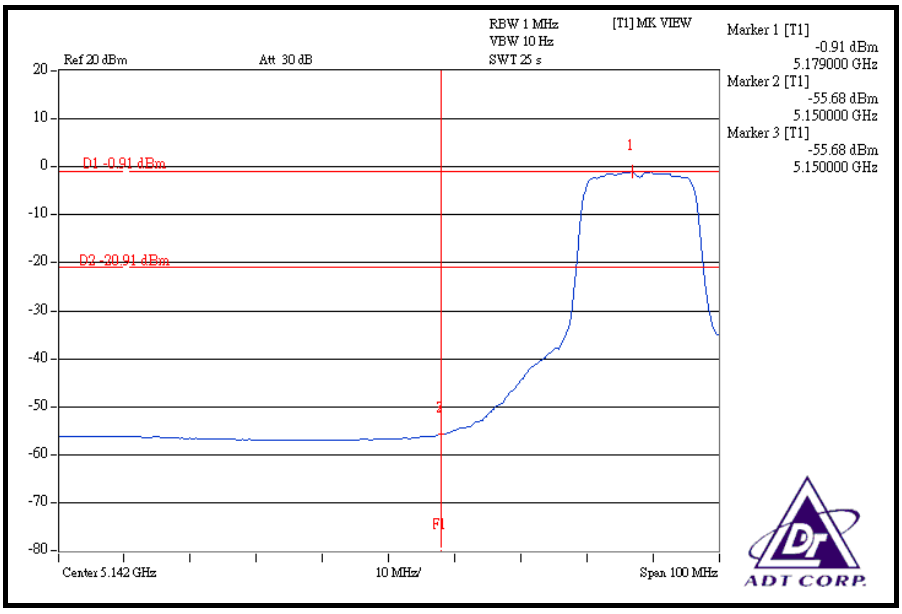
The band edge emission plot on the next page shows 54.77dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 36 is 96.88dBuV/m (Average), so the maximum field strength in restrict band is 96.88 – 54.77 = 42.11dBuV/m which is under 54dBuV/m limit.

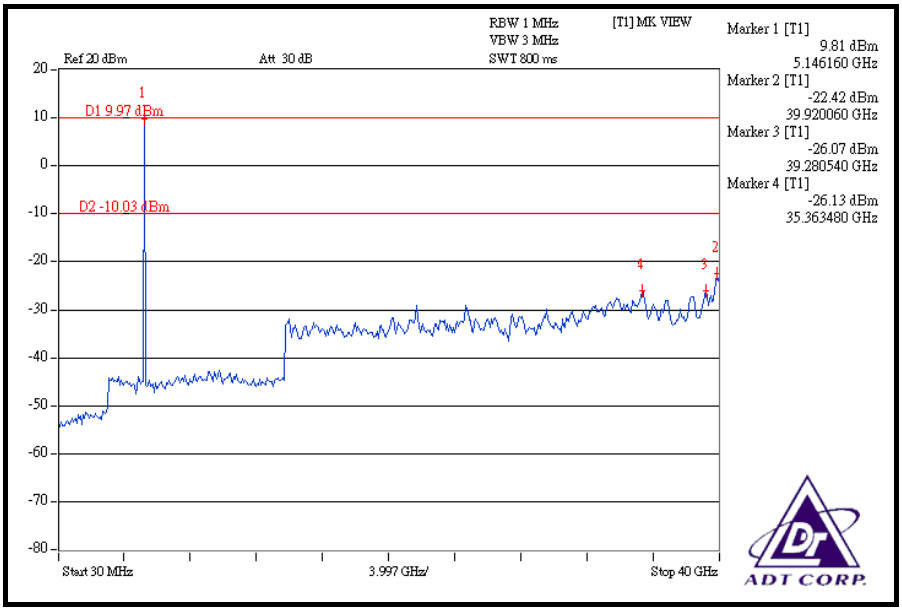
Channel 64 (5320MHz)

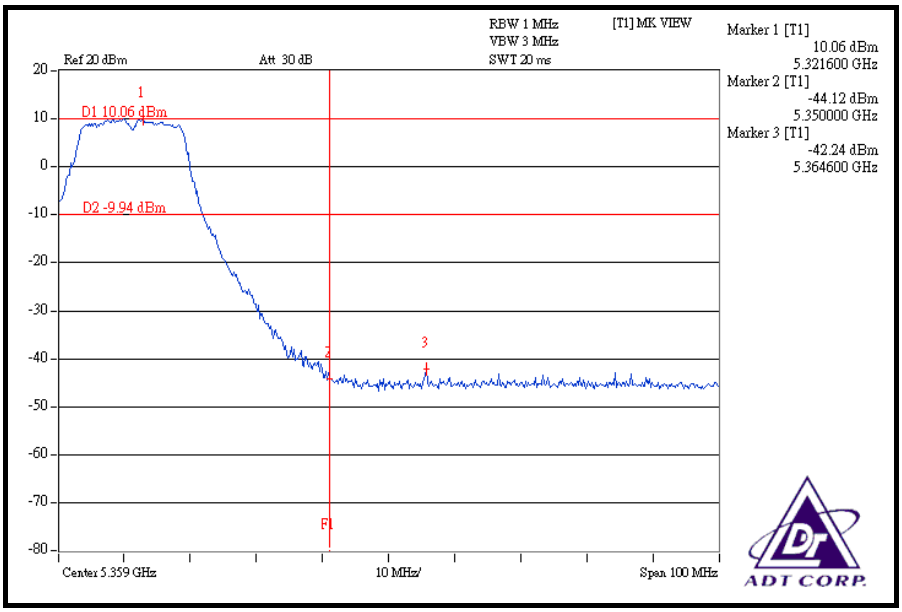
The band edge emission plot on the next second page shows 52.30dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 64 is 108.08dBuV/m (Peak), so the maximum field strength in restrict band is 108.08 – 52.30 = 55.78dBuV/m which is under 74dBuV/m limit.

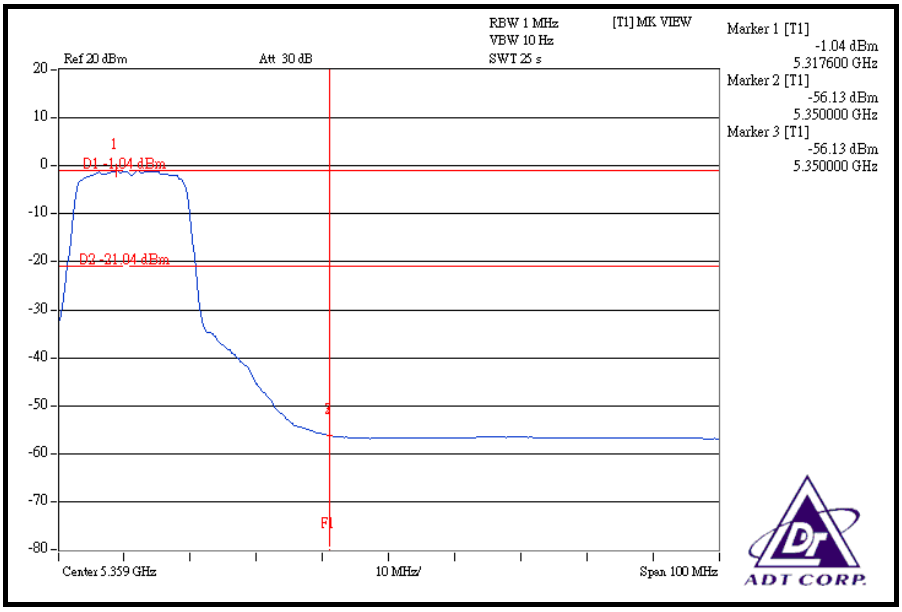
The band edge emission plot on the next third page shows 55.09dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 64 is 97.59dBuV/m (Average), so the maximum field strength in restrict band is 97.59 – 55.09 = 42.50dBuV/m which is under 54dBuV/m limit.

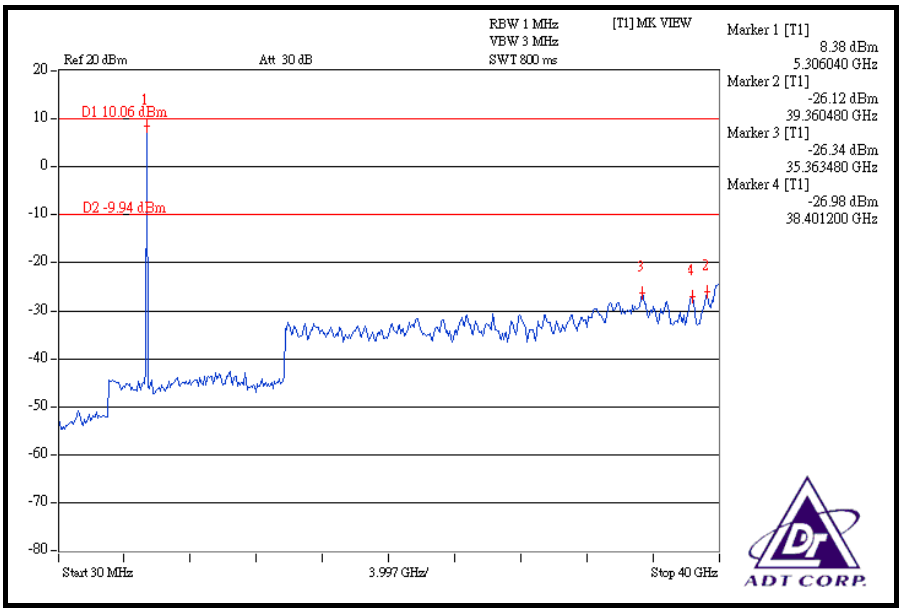

RBW 1 MHz
VBW 3 MHz
SWT 20 ms
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
D1 9.97 dBm
D2 -10.03 dBm
Marker 1 [T1]
9.97 dBm
5.181800 GHz
Marker 2 [T1]
-41.98 dBm
5.150000 GHz
Marker 3 [T1]
-40.38 dBm
5.149800 GHz
Center 5.142 GHz
10 MHz/
Span 100 MHz
ADT CORP.


RBW 1 MHz
VBW 10 Hz
SWT 25 s
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
D1 -0.91 dBm
D2 -20.91 dBm
Marker 1 [T1]
-0.91 dBm
5.179000 GHz
Marker 2 [T1]
-55.68 dBm
5.150000 GHz
Marker 3 [T1]
-55.68 dBm
5.150000 GHz
Center 5.142 GHz
10 MHz/
Span 100 MHz
ADT CORP.


RBW 1 MHz
VBW 3 MHz
SWT 800 ms
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
D1 9.97 dBm
D2 -10.03 dBm
Marker 1 [T1]
9.81 dBm
5.146160 GHz
Marker 2 [T1]
-22.42 dBm
39.920060 GHz
Marker 3 [T1]
-26.07 dBm
39.280540 GHz
Marker 4 [T1]
-26.13 dBm
35.363480 GHz
Start 30 MHz
3.997 GHz/
Stop 40 GHz
ADT CORP.


RBW 1 MHz
VBW 3 MHz
SWT 20 ms
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
D1 10.06 dBm
D2 -9.94 dBm
Marker 1 [T1]
10.06 dBm
5.321600 GHz
Marker 2 [T1]
-44.12 dBm
5.350000 GHz
Marker 3 [T1]
-42.24 dBm
5.364600 GHz
Center 5.359 GHz
10 MHz/
Span 100 MHz
ADT CORP.


RBW 1 MHz
VBW 10 Hz
SWT 25 s
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
Marker 1 [T1]
-1.04 dBm
5.317600 GHz
Marker 2 [T1]
-56.13 dBm
5.350000 GHz
Marker 3 [T1]
-56.13 dBm
5.350000 GHz
D1 -1.04 dBm
D2 -21.04 dBm
Center 5.359 GHz
10 MHz/
Span 100 MHz
ADT CORP.


RBW 1 MHz
VBW 3 MHz
SWT 800 ms
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
Marker 1 [T1]
8.38 dBm
5.306040 GHz
Marker 2 [T1]
-26.12 dBm
39.360480 GHz
Marker 3 [T1]
-26.34 dBm
35.363480 GHz
Marker 4 [T1]
-26.98 dBm
38.401200 GHz
D1 10.06 dBm
D2 -9.94 dBm
Start 30 MHz
3.997 GHz/
Stop 40 GHz
ADT CORP.

FOR 5470-5725MHz BAND: 802.11a OFDM MODULATION

Channel 100 (5500MHz)

The band edge emission plot (5.470GHz) on the next page shows 51.81dBc between carrier maximum power and local maximum emission out of band emission. The emission of carrier strength list in the test result of channel 100 is 105.38dBuV/m (Peak), so the maximum field strength out of band emission is 105.38 – 51.81 = 53.57dBuV/m which is under 88.3dBuV/m limit.

The band edge emission plot (5.470GHz) on the next page shows 55.31dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 100 is 95.14dBuV/m (Average), so the maximum field strength in restrict band is 95.14 – 55.31 = 39.83dBuV/m which is under 68.3dBuV/m limit.

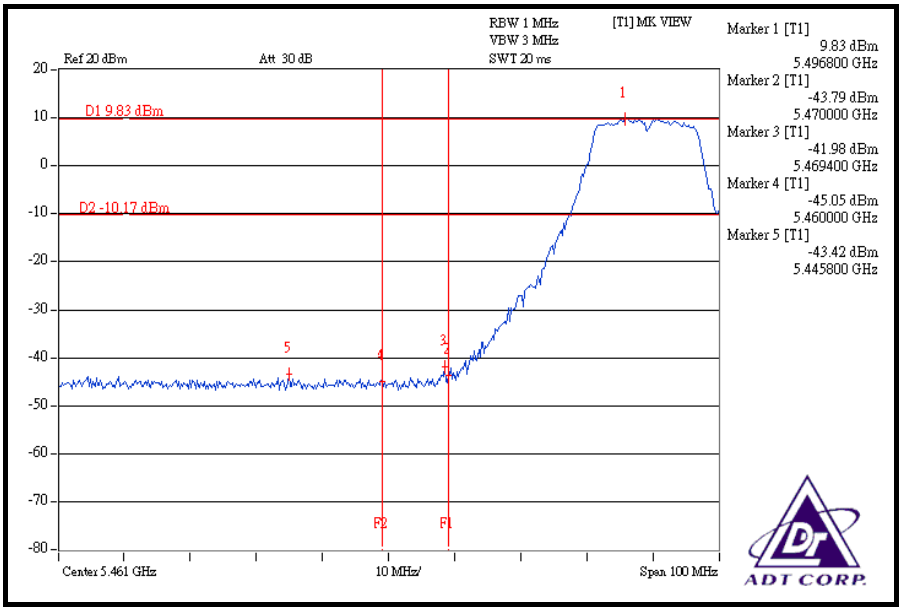
The band edge emission plot (5.460GHz) on the next page shows 53.25dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 100 is 105.38dBuV/m (Peak), so the maximum field strength in restrict band is 105.38 – 53.25 = 52.13dBuV/m which is under 74dBuV/m limit.

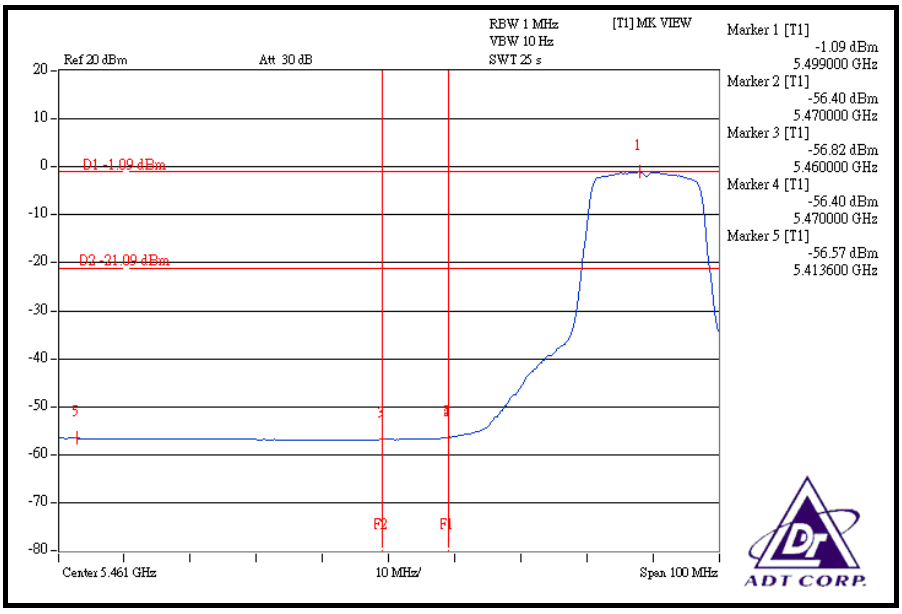
The band edge emission plot (5.460GHz) on the next page shows 55.73dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 100 is 95.14dBuV/m (Average), so the maximum field strength in restrict band is 95.14 – 55.73 = 39.41dBuV/m which is under 54dBuV/m limit.

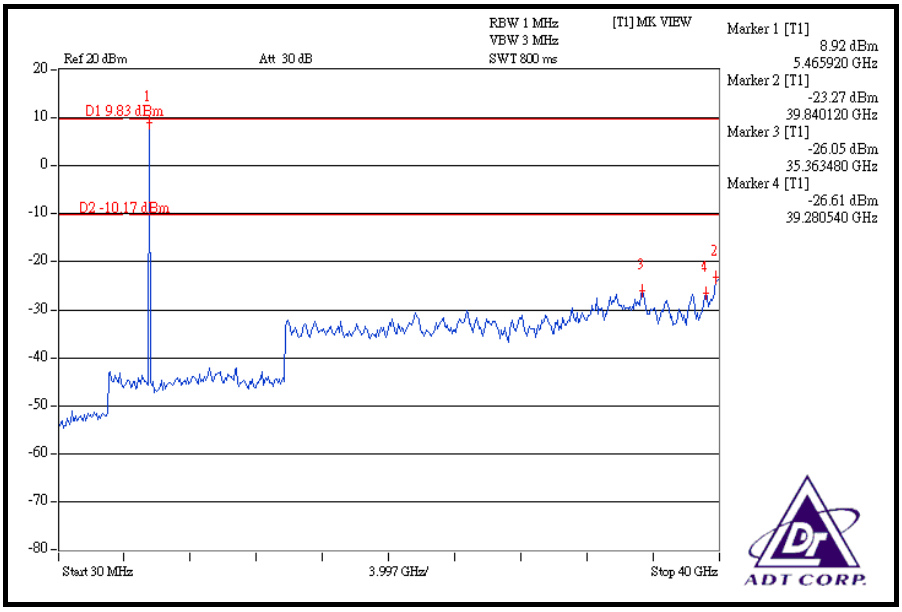
Channel 140 (5700MHz)

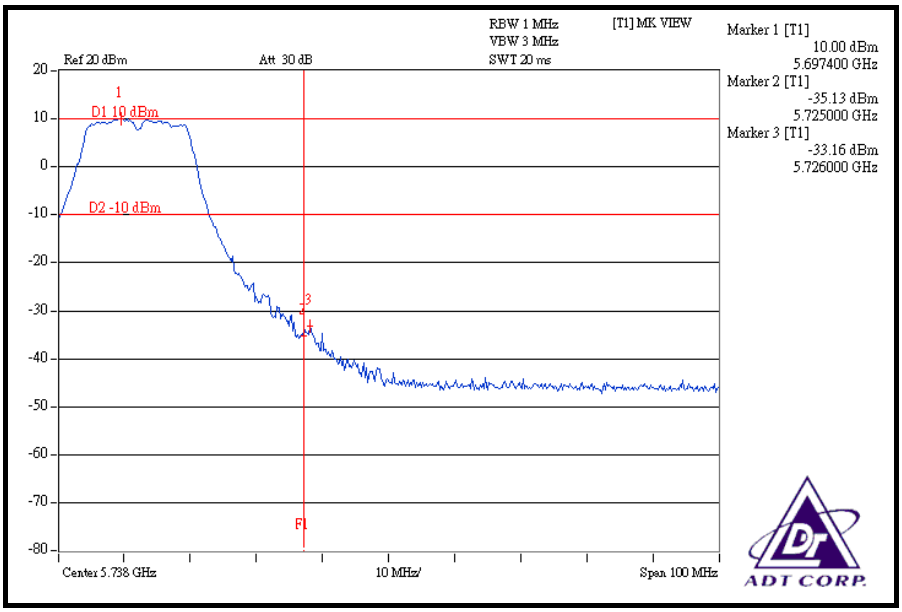
The band edge emission plot on the next second page shows 43.16dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 140 is 101.46dBuV/m (Peak), so the maximum field strength in restrict band is 101.46 – 43.16 = 58.30dBuV/m which is under 88.3dBuV/m limit.

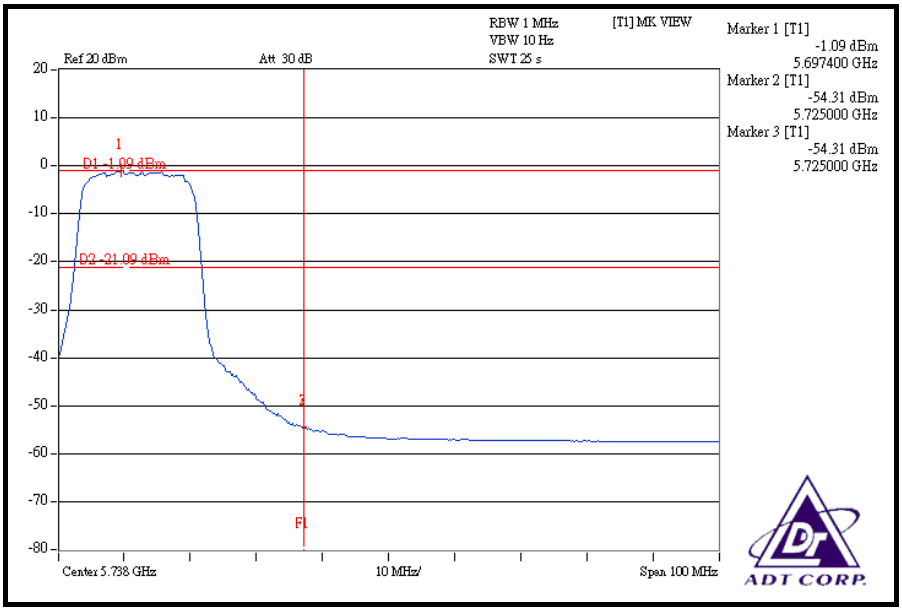
The band edge emission plot on the next third page shows 53.22dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 140 is 91.20dBuV/m (Average), so the maximum field strength in restrict band is 91.20 – 53.22 = 37.98dBuV/m which is under 68.3dBuV/m limit.

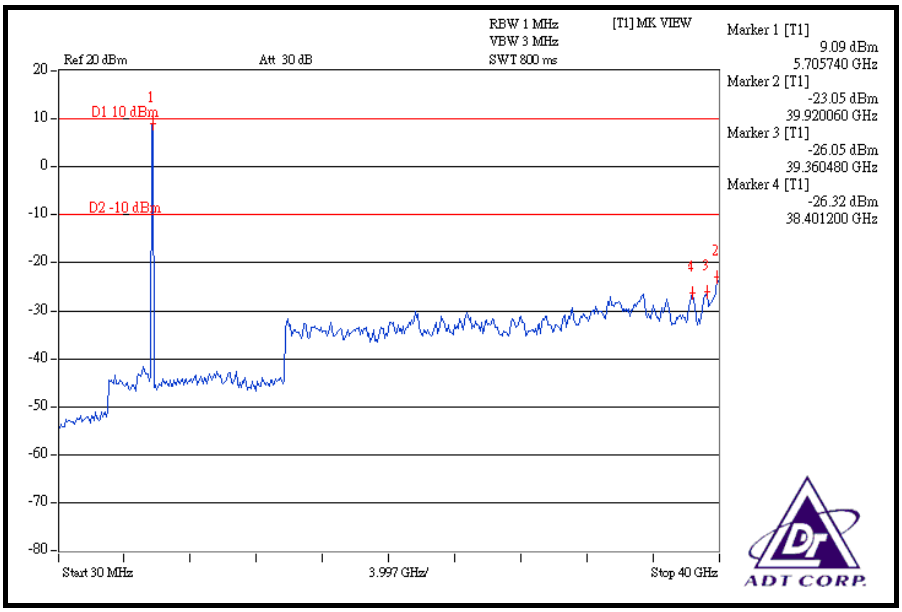

RBW 1 MHz
VBW 3 MHz
SWT 20 ms
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
D1 9.83 dBm
D2 -10.17 dBm
Marker 1 [T1]
9.83 dBm
5.496800 GHz
Marker 2 [T1]
-43.79 dBm
5.470000 GHz
Marker 3 [T1]
-41.98 dBm
5.469400 GHz
Marker 4 [T1]
-45.05 dBm
5.460000 GHz
Marker 5 [T1]
-43.42 dBm
5.445800 GHz
Center 5.461 GHz
10 MHz/
Span 100 MHz
ADT CORP.


RBW 1 MHz
VBW 10 Hz
SWT 25 s
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
D1 -1.09 dBm
D2 -21.09 dBm
Marker 1 [T1]
-1.09 dBm
5.499000 GHz
Marker 2 [T1]
-56.40 dBm
5.470000 GHz
Marker 3 [T1]
-56.82 dBm
5.460000 GHz
Marker 4 [T1]
-56.40 dBm
5.470000 GHz
Marker 5 [T1]
-56.57 dBm
5.413600 GHz
Center 5.461 GHz
10 MHz/
Span 100 MHz
ADT CORP.


RBW 1 MHz
VBW 3 MHz
SWT 800 ms
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
D1 9.83 dBm
D2 -10.17 dBm
Marker 1 [T1]
8.92 dBm
5.465920 GHz
Marker 2 [T1]
-23.27 dBm
39.840120 GHz
Marker 3 [T1]
-26.05 dBm
35.363480 GHz
Marker 4 [T1]
-26.61 dBm
39.280540 GHz
Start 30 MHz
3.997 GHz/
Stop 40 GHz
ADT CORP.


RBW 1 MHz
VBW 3 MHz
SWT 20 ms
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
D1 10 dBm
D2 -10 dBm
Marker 1 [T1]
10.00 dBm
5.697400 GHz
Marker 2 [T1]
-35.13 dBm
5.725000 GHz
Marker 3 [T1]
-33.16 dBm
5.726000 GHz
Center 5.738 GHz
10 MHz/
Span 100 MHz
ADT CORP.


RBW 1 MHz
VBW 10 Hz
SWT 25 s
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
D1 -1.09 dBm
D2 -21.09 dBm
Center 5.738 GHz
10 MHz/
Span 100 MHz
Marker 1 [T1]
-1.09 dBm
5.697400 GHz
Marker 2 [T1]
-54.31 dBm
5.725000 GHz
Marker 3 [T1]
-54.31 dBm
5.725000 GHz


RBW 1 MHz
VBW 3 MHz
SWT 800 ms
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
D1 10 dBm
D2 -10 dBm
Start 30 MHz
3.997 GHz/
Stop 40 GHz
Marker 1 [T1]
9.09 dBm
5.705740 GHz
Marker 2 [T1]
-23.05 dBm
39.920060 GHz
Marker 3 [T1]
-26.05 dBm
39.360480 GHz
Marker 4 [T1]
-26.32 dBm
38.401200 GHz

FOR 5150-5350MHz BAND: DRAFT 802.11n (20MHz) OFDM MODULATION

Channel 36 (5180MHz)

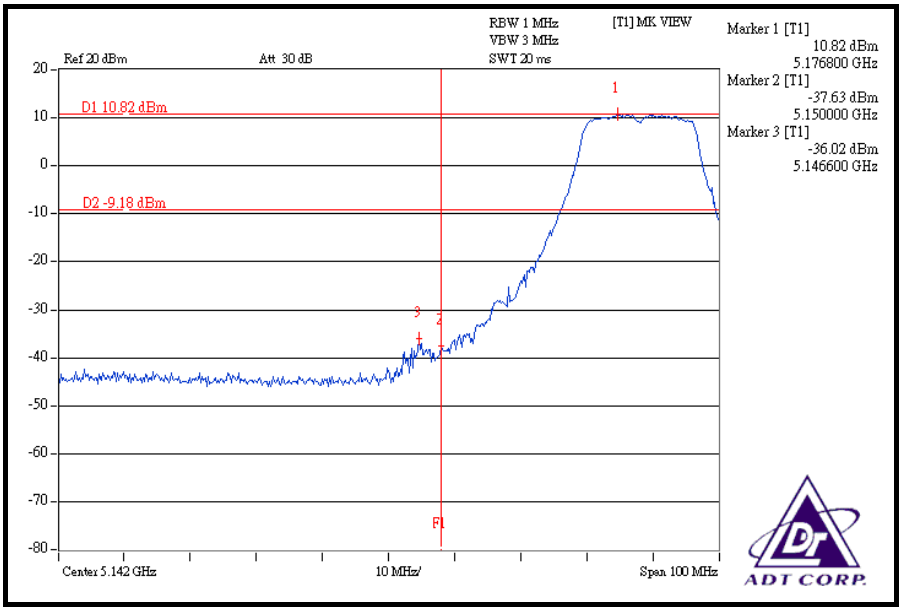
The band edge emission plot on the next page shows 46.84dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 36 is 108.56dBuV/m (Peak), so the maximum field strength in restrict band is 108.56 – 46.84 = 61.72dBuV/m which is under 74dBuV/m limit.

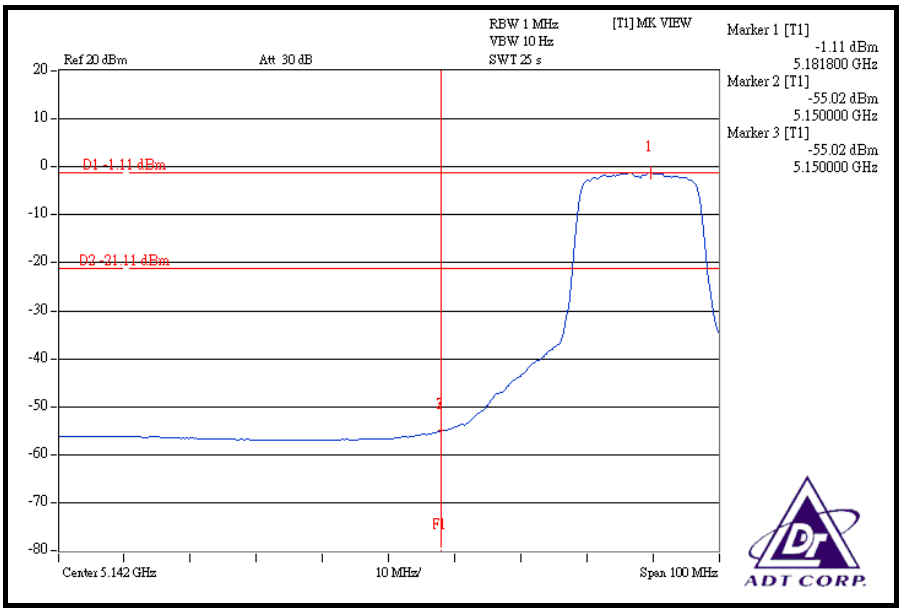
The band edge emission plot on the next page shows 53.91dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 36 is 98.32dBuV/m (Average), so the maximum field strength in restrict band is 98.32 – 53.91 = 44.41dBuV/m which is under 54dBuV/m limit.

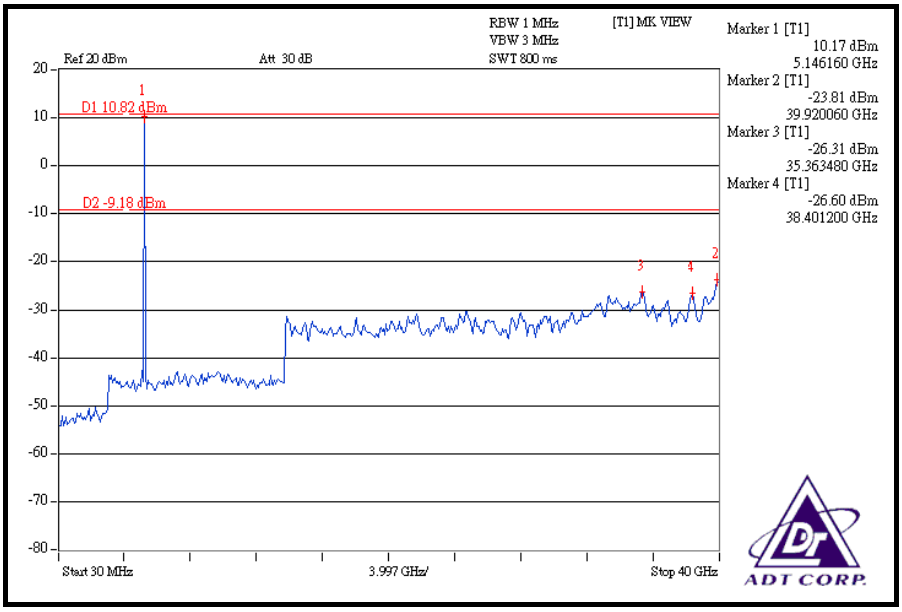
Channel 64 (5320MHz)

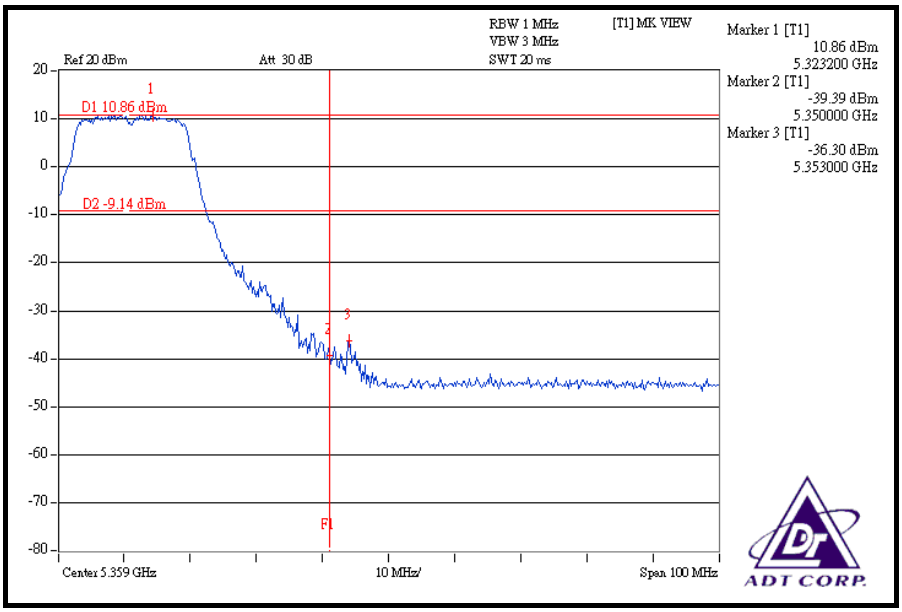
The band edge emission plot on the next second page shows 47.16dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 64 is 109.88dBuV/m (Peak), so the maximum field strength in restrict band is 109.88 – 47.16 = 62.72dBuV/m which is under 74dBuV/m limit.

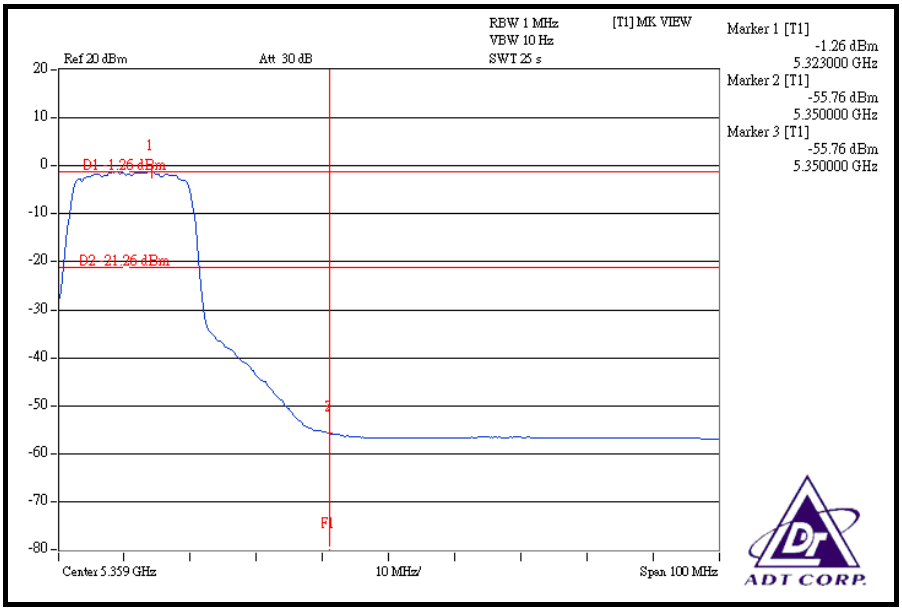
The band edge emission plot on the next third page shows 54.50dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 64 is 99.18dBuV/m (Average), so the maximum field strength in restrict band is 99.18 – 54.50 = 44.68dBuV/m which is under 54dBuV/m limit.

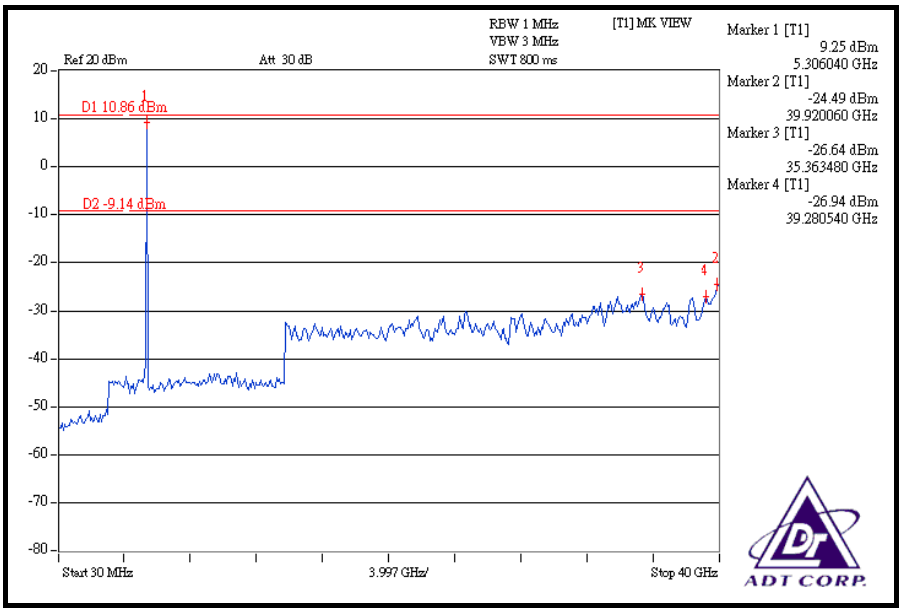

RBW 1 MHz
VBW 3 MHz
SWT 20 ms
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
D1 10.82 dBm
D2 -9.18 dBm
Marker 1 [T1]
10.82 dBm
5.176800 GHz
Marker 2 [T1]
-37.63 dBm
5.150000 GHz
Marker 3 [T1]
-36.02 dBm
5.146600 GHz
Center 5.142 GHz
10 MHz/
Span 100 MHz
ADT CORP.


RBW 1 MHz
VBW 10 Hz
SWT 25 s
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
D1 -1.11 dBm
D2 -21.11 dBm
Marker 1 [T1]
-1.11 dBm
5.181800 GHz
Marker 2 [T1]
-55.02 dBm
5.150000 GHz
Marker 3 [T1]
-55.02 dBm
5.150000 GHz
Center 5.142 GHz
10 MHz/
Span 100 MHz
ADT CORP.


RBW 1 MHz
VBW 3 MHz
SWT 800 ms
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
D1 10.82 dBm
D2 -9.18 dBm
Marker 1 [T1]
10.17 dBm
5.146160 GHz
Marker 2 [T1]
-23.81 dBm
39.920060 GHz
Marker 3 [T1]
-26.31 dBm
35.363480 GHz
Marker 4 [T1]
-26.60 dBm
38.401200 GHz
Start 30 MHz
3.997 GHz/
Stop 40 GHz
ADT CORP.


RBW 1 MHz
VBW 3 MHz
SWT 20 ms
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
D1 10.86 dBm
D2 -9.14 dBm
Marker 1 [T1]
10.86 dBm
5.323200 GHz
Marker 2 [T1]
-39.39 dBm
5.350000 GHz
Marker 3 [T1]
-36.30 dBm
5.353000 GHz
Center 5.359 GHz
10 MHz/
Span 100 MHz
ADT CORP.


RBW 1 MHz
VBW 10 Hz
SWT 25 s
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
Marker 1 [T1]
-1.26 dBm
5.323000 GHz
Marker 2 [T1]
-55.76 dBm
5.350000 GHz
Marker 3 [T1]
-55.76 dBm
5.350000 GHz
D1 -1.26 dBm
D2 -21.26 dBm
Center 5.359 GHz
10 MHz/
Span 100 MHz
ADT CORP.


RBW 1 MHz
VBW 3 MHz
SWT 800 ms
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
Marker 1 [T1]
9.25 dBm
5.306040 GHz
Marker 2 [T1]
-24.49 dBm
39.920060 GHz
Marker 3 [T1]
-26.64 dBm
35.363480 GHz
Marker 4 [T1]
-26.94 dBm
39.280540 GHz
D1 10.86 dBm
D2 -9.14 dBm
Start 30 MHz
3.997 GHz/
Stop 40 GHz
ADT CORP.

FOR 5470-5725MHz BAND: DRAFT 802.11n (20MHz) OFDM MODULATION

Channel 100 (5500MHz)

The band edge emission plot (5.470GHz) on the next page shows 51.82dBc between carrier maximum power and local maximum emission out of band emission. The emission of carrier strength list in the test result of channel 100 is 107.75dBuV/m (Peak), so the maximum field strength out of band emission is 107.75 – 51.82 = 55.93dBuV/m which is under 88.3dBuV/m limit.

The band edge emission plot (5.470GHz) on the next page shows 54.61dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 100 is 97.19dBuV/m (Average), so the maximum field strength in restrict band is 97.19 – 54.61 = 42.58dBuV/m which is under 68.3dBuV/m limit.

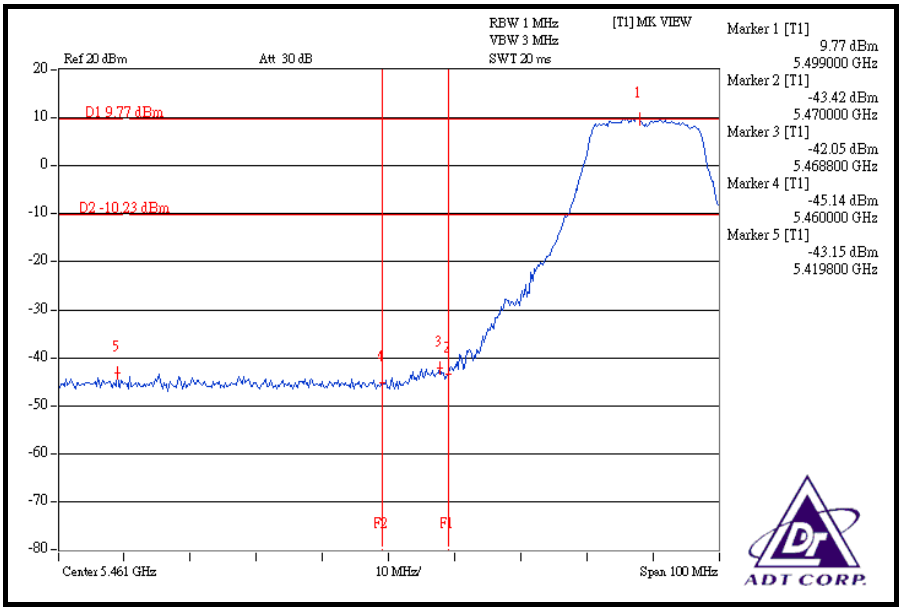
The band edge emission plot (5.460GHz) on the next page shows 52.92dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 100 is 107.75dBuV/m (Peak), so the maximum field strength in restrict band is 107.75 – 52.92 = 54.83dBuV/m which is under 74dBuV/m limit.

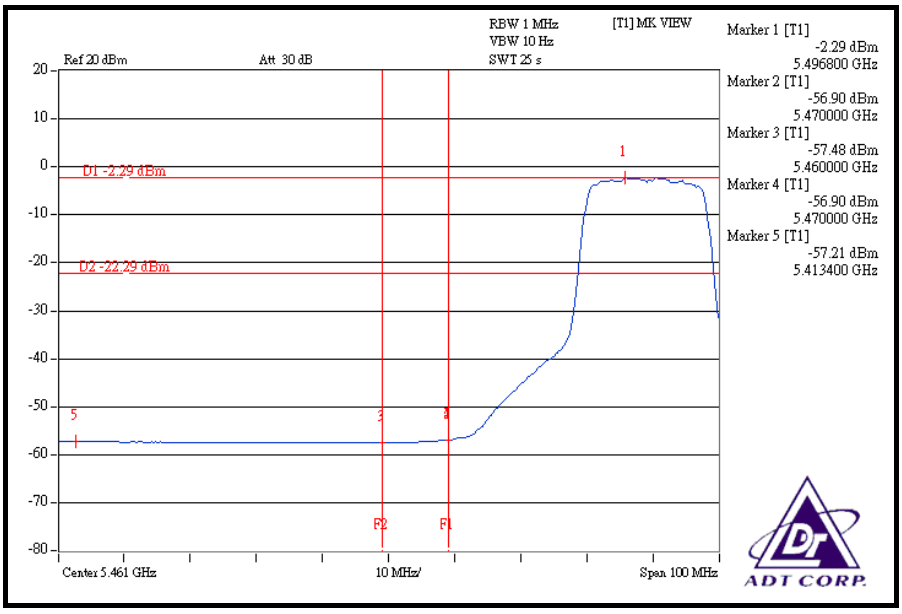
The band edge emission plot (5.460GHz) on the next page shows 55.19dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 100 is 97.19dBuV/m (Average), so the maximum field strength in restrict band is 97.19 – 55.19 = 42.00dBuV/m which is under 54dBuV/m limit.

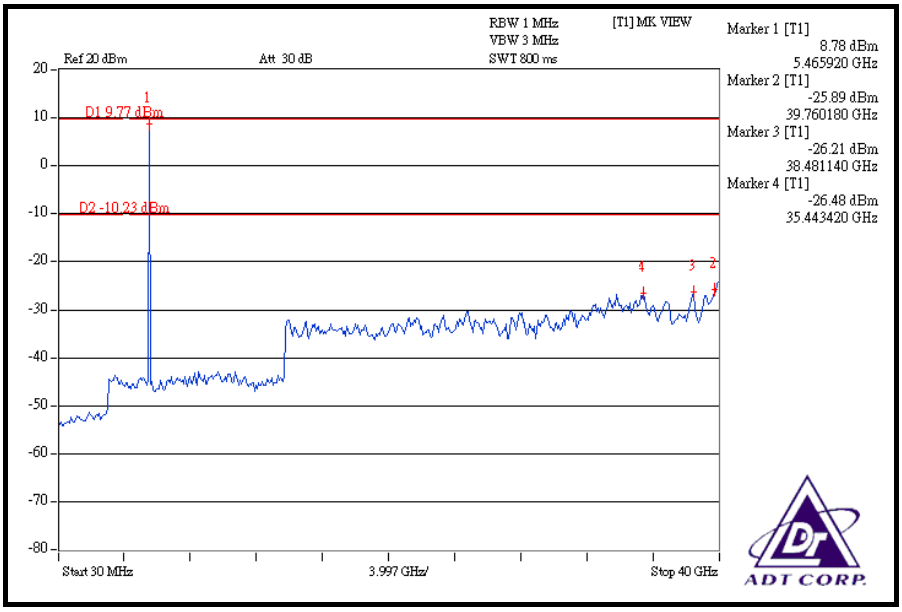
Channel 140 (5700MHz)

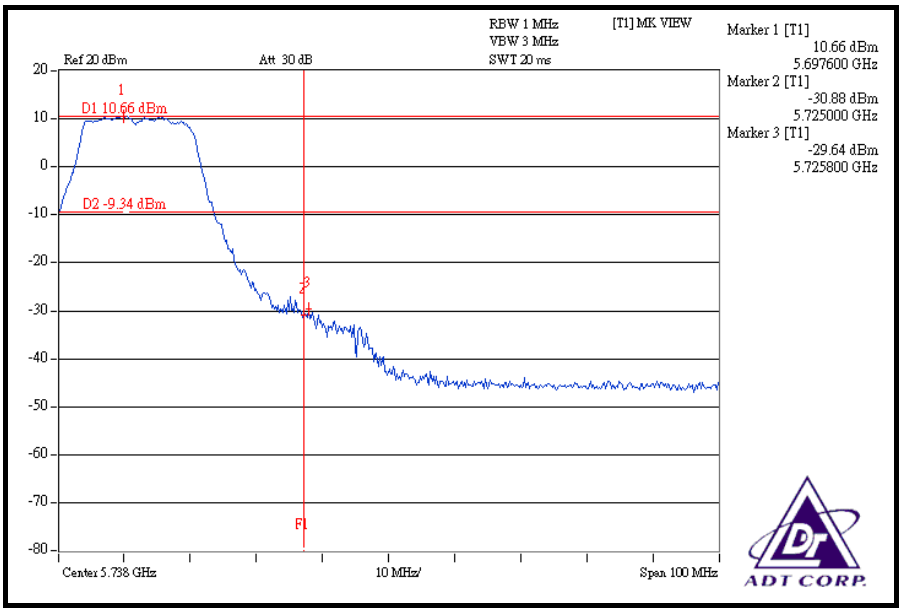
The band edge emission plot on the next second page shows 40.30dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 140 is 104.89dBuV/m (Peak), so the maximum field strength in restrict band is 104.89 – 40.30 = 64.59dBuV/m which is under 88.3dBuV/m limit.

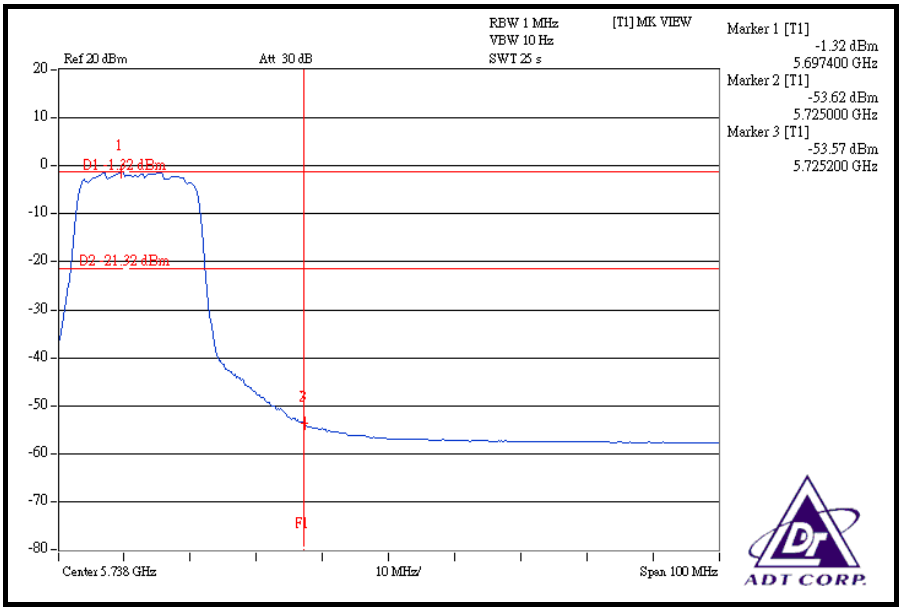
The band edge emission plot on the next third page shows 52.25dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 140 is 93.21dBuV/m (Average), so the maximum field strength in restrict band is 93.21 – 52.25 = 40.96dBuV/m which is under 68.3dBuV/m limit.

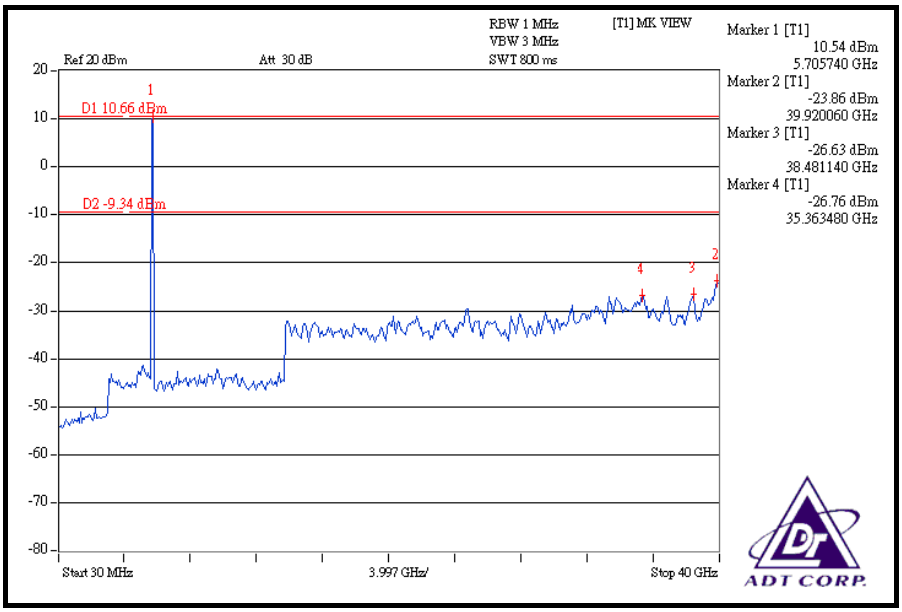

RBW 1 MHz
VBW 3 MHz
SWT 20 ms
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
D1 9.77 dBm
D2 -10.23 dBm
Marker 1 [T1]
9.77 dBm
5.499000 GHz
Marker 2 [T1]
-43.42 dBm
5.470000 GHz
Marker 3 [T1]
-42.05 dBm
5.468800 GHz
Marker 4 [T1]
-45.14 dBm
5.460000 GHz
Marker 5 [T1]
-43.15 dBm
5.419800 GHz
Center 5.461 GHz
10 MHz/
Span 100 MHz
ADT CORP.


RBW 1 MHz
VBW 10 Hz
SWT 25 s
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
D1 -2.29 dBm
D2 -22.29 dBm
Marker 1 [T1]
-2.29 dBm
5.496800 GHz
Marker 2 [T1]
-56.90 dBm
5.470000 GHz
Marker 3 [T1]
-57.48 dBm
5.460000 GHz
Marker 4 [T1]
-56.90 dBm
5.470000 GHz
Marker 5 [T1]
-57.21 dBm
5.413400 GHz
Center 5.461 GHz
10 MHz/
Span 100 MHz
ADT CORP.


RBW 1 MHz
VBW 3 MHz
SWT 800 ms
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
D1 9.77 dBm
D2 -10.23 dBm
Marker 1 [T1]
8.78 dBm
5.465920 GHz
Marker 2 [T1]
-25.89 dBm
39.760180 GHz
Marker 3 [T1]
-26.21 dBm
38.481140 GHz
Marker 4 [T1]
-26.48 dBm
35.443420 GHz
Start 30 MHz
3.997 GHz/
Stop 40 GHz
ADT CORP.


RBW 1 MHz
VBW 3 MHz
SWT 20 ms
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
D1 10.66 dBm
D2 -9.34 dBm
Marker 1 [T1]
10.66 dBm
5.697600 GHz
Marker 2 [T1]
-30.88 dBm
5.725000 GHz
Marker 3 [T1]
-29.64 dBm
5.725800 GHz
Center 5.738 GHz
10 MHz/
Span 100 MHz
ADT CORP.


RBW 1 MHz
VBW 10 Hz
SWT 25 s
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
D1 -1.32 dBm
D2 -21.32 dBm
Marker 1 [T1]
-1.32 dBm
5.697400 GHz
Marker 2 [T1]
-53.62 dBm
5.725000 GHz
Marker 3 [T1]
-53.57 dBm
5.725200 GHz
Center 5.738 GHz
10 MHz/
Span 100 MHz
ADT CORP.


RBW 1 MHz
VBW 3 MHz
SWT 800 ms
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
D1 10.66 dBm
D2 -9.34 dBm
Marker 1 [T1]
10.54 dBm
5.705740 GHz
Marker 2 [T1]
-23.86 dBm
39.920060 GHz
Marker 3 [T1]
-26.63 dBm
38.481140 GHz
Marker 4 [T1]
-26.76 dBm
35.363480 GHz
Start 30 MHz
3.997 GHz/
Stop 40 GHz
ADT CORP.

FOR 5150-5350MHz BAND: DRAFT 802.11n (40MHz) OFDM MODULATION

Channel 38 (5190MHz)

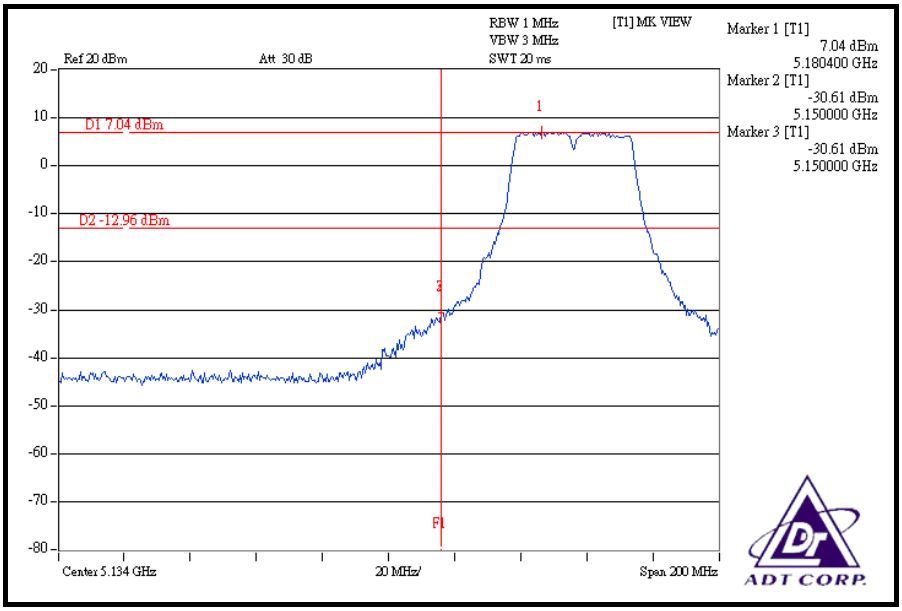
The band edge emission plot on the next page shows 37.65dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 38 is 104.94dBuV/m (Peak), so the maximum field strength in restrict band is 104.94 – 37.65 = 67.29dBuV/m which is under 74dBuV/m limit.

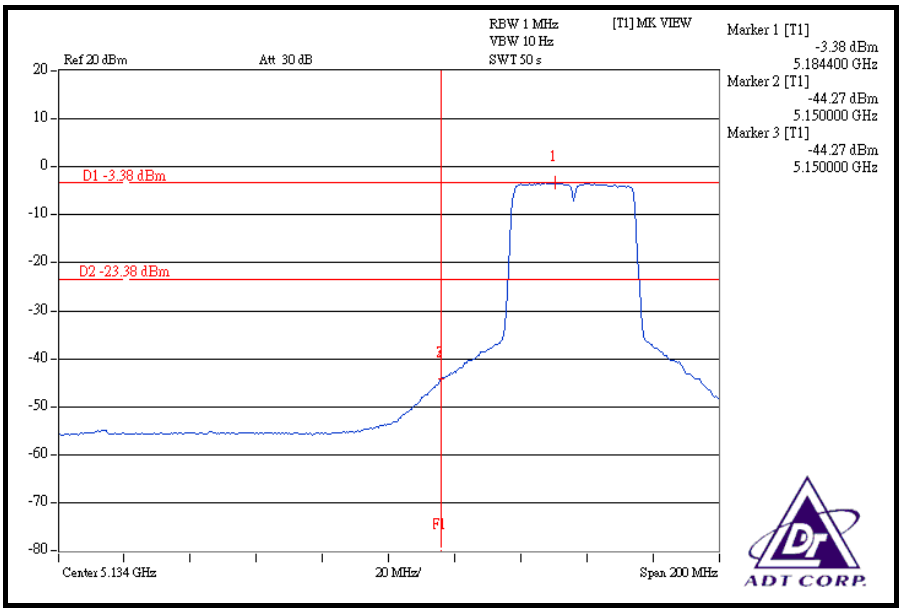
The band edge emission plot on the next page shows 40.89dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 38 is 93.60dBuV/m (Average), so the maximum field strength in restrict band is 93.60 – 40.89 = 52.71dBuV/m which is under 54dBuV/m limit.

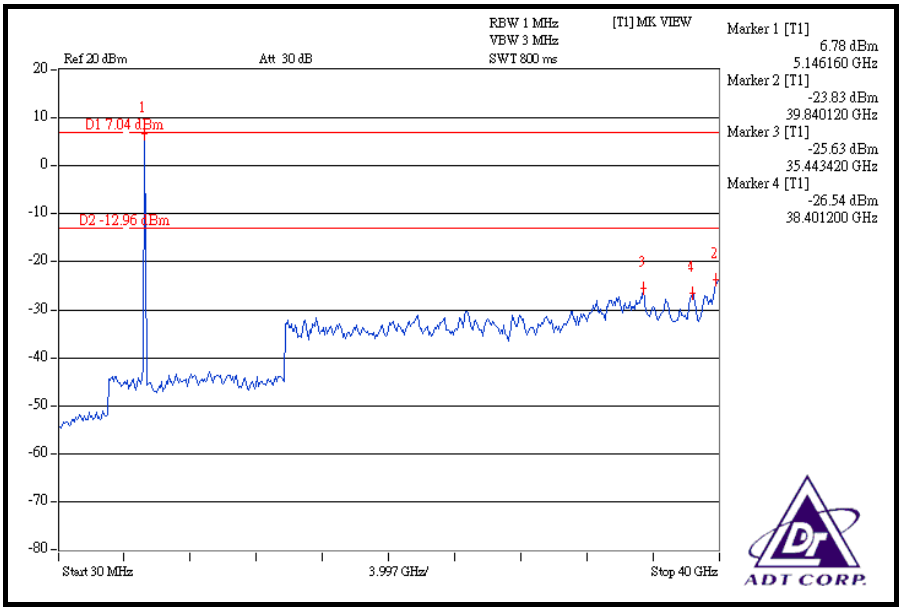
Channel 62 (5310MHz)

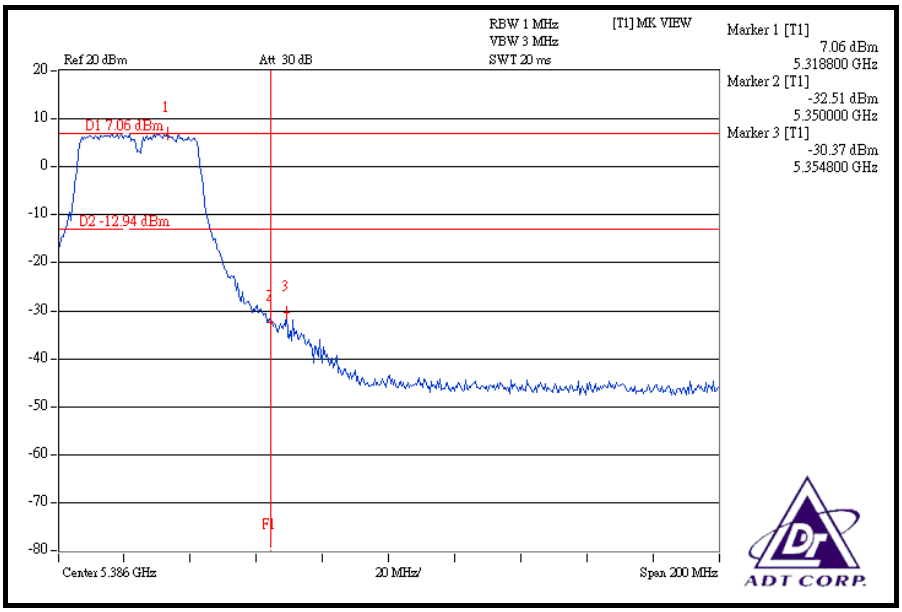
The band edge emission plot on the next second page shows 37.43dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 62 is 104.66dBuV/m (Peak), so the maximum field strength in restrict band is 104.66 – 37.43 = 67.23dBuV/m which is under 74dBuV/m limit.

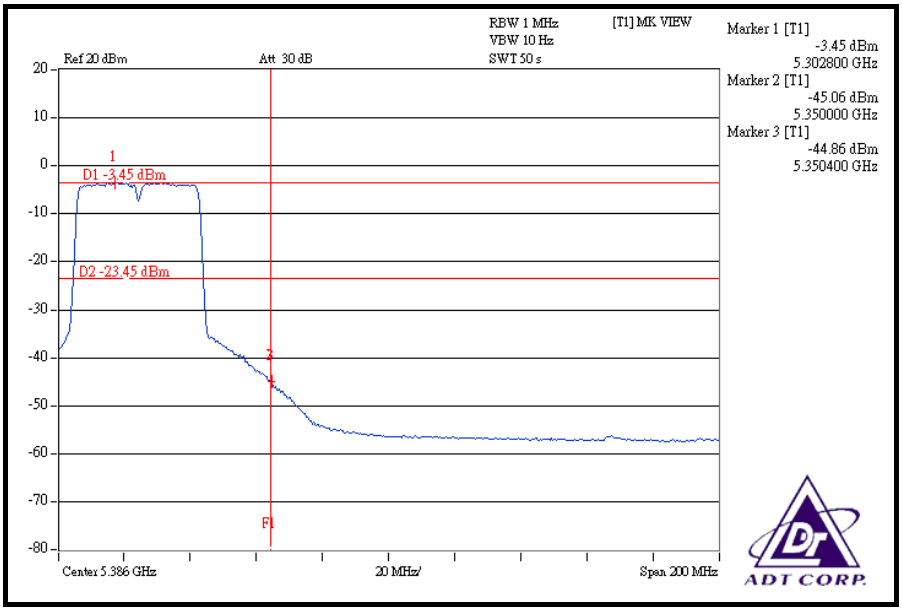
The band edge emission plot on the next third page shows 41.41dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 62 is 94.02dBuV/m (Average), so the maximum field strength in restrict band is 94.02 – 41.41 = 52.61dBuV/m which is under 54dBuV/m limit.

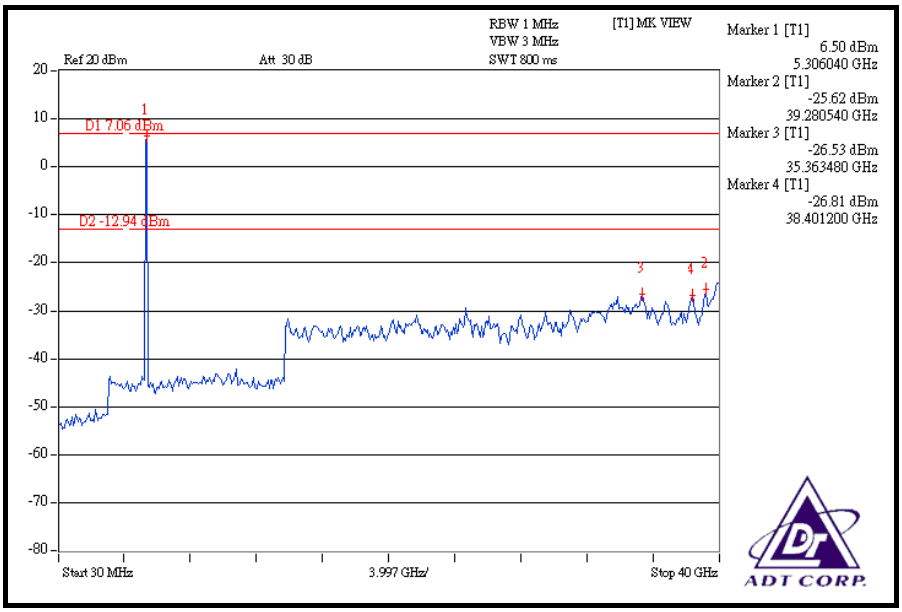

RBW 1 MHz
VBW 3 MHz
SWT 20 ms
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
D1 7.04 dBm
D2 -12.96 dBm
Marker 1 [T1]
7.04 dBm
5.180400 GHz
Marker 2 [T1]
-30.61 dBm
5.150000 GHz
Marker 3 [T1]
-30.61 dBm
5.150000 GHz
Center 5.134 GHz
20 MHz/
Span 200 MHz
ADT CORP.


RBW 1 MHz
VBW 10 Hz
SWT 50 s
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
D1 -3.38 dBm
D2 -23.38 dBm
Marker 1 [T1]
-3.38 dBm
5.184400 GHz
Marker 2 [T1]
-44.27 dBm
5.150000 GHz
Marker 3 [T1]
-44.27 dBm
5.150000 GHz
Center 5.134 GHz
20 MHz/
Span 200 MHz
ADT CORP.


RBW 1 MHz
VBW 3 MHz
SWT 800 ms
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
D1 7.04 dBm
D2 -12.96 dBm
Marker 1 [T1]
6.78 dBm
5.146160 GHz
Marker 2 [T1]
-23.83 dBm
39.840120 GHz
Marker 3 [T1]
-25.63 dBm
35.443420 GHz
Marker 4 [T1]
-26.54 dBm
38.401200 GHz
Start 30 MHz
3.997 GHz/
Stop 40 GHz
ADT CORP.


RBW 1 MHz
VBW 3 MHz
SWT 20 ms
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
D1 7.06 dBm
D2 -12.94 dBm
Marker 1 [T1]
7.06 dBm
5.318800 GHz
Marker 2 [T1]
-32.51 dBm
5.350000 GHz
Marker 3 [T1]
-30.37 dBm
5.354800 GHz
Center 5.386 GHz
20 MHz/
Span 200 MHz
ADT CORP.


RBW 1 MHz
VBW 10 Hz
SWT 50 s
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
D1 -3.45 dBm
D2 -23.45 dBm
Marker 1 [T1]
-3.45 dBm
5.302800 GHz
Marker 2 [T1]
-45.06 dBm
5.350000 GHz
Marker 3 [T1]
-44.86 dBm
5.350400 GHz
Center 5.386 GHz
20 MHz/
Span 200 MHz
ADT CORP.


RBW 1 MHz
VBW 3 MHz
SWT 800 ms
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
D1 7.06 dBm
D2 -12.94 dBm
Marker 1 [T1]
6.50 dBm
5.306040 GHz
Marker 2 [T1]
-25.62 dBm
39.280540 GHz
Marker 3 [T1]
-26.53 dBm
35.363480 GHz
Marker 4 [T1]
-26.81 dBm
38.401200 GHz
Start 30 MHz
3.997 GHz/
Stop 40 GHz
ADT CORP.

FOR 5470-5725MHz BAND: DRAFT 802.11n (40MHz) OFDM MODULATION

Channel 102 (5510MHz)

The band edge emission plot (5.470GHz) on the next page shows 38.15dBc between carrier maximum power and local maximum emission out of band emission. The emission of carrier strength list in the test result of channel 102 is 104.86dBuV/m (Peak), so the maximum field strength out of band emission is 104.86 – 38.15 = 66.71dBuV/m which is under 88.3dBuV/m limit.

The band edge emission plot (5.470GHz) on the next page shows 41.01dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 102 is 94.42dBuV/m (Average), so the maximum field strength in restrict band is 94.42 – 41.01 = 53.41dBuV/m which is under 68.3dBuV/m limit.

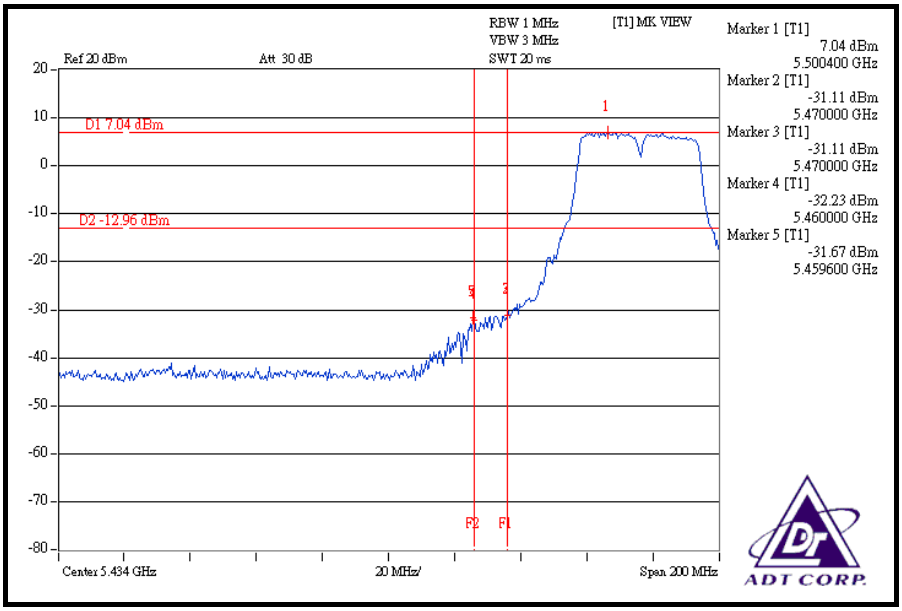
The band edge emission plot (5.460GHz) on the next page shows 38.71dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 102 is 104.86dBuV/m (Peak), so the maximum field strength in restrict band is 104.86 – 38.71 = 66.15dBuV/m which is under 74dBuV/m limit.

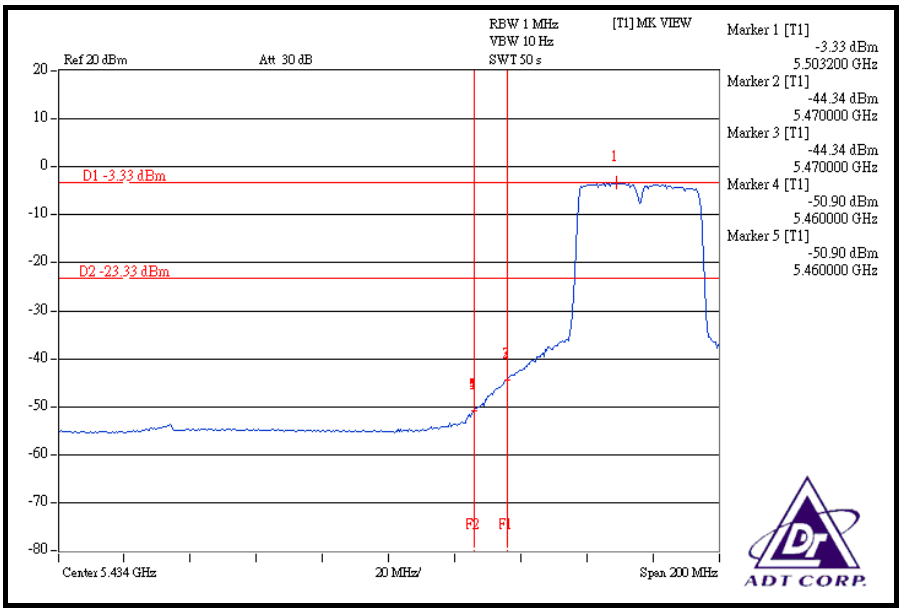
The band edge emission plot (5.460GHz) on the next page shows 47.57dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 102 is 94.42dBuV/m (Average), so the maximum field strength in restrict band is 94.42 – 47.57 = 46.85dBuV/m which is under 54dBuV/m limit.

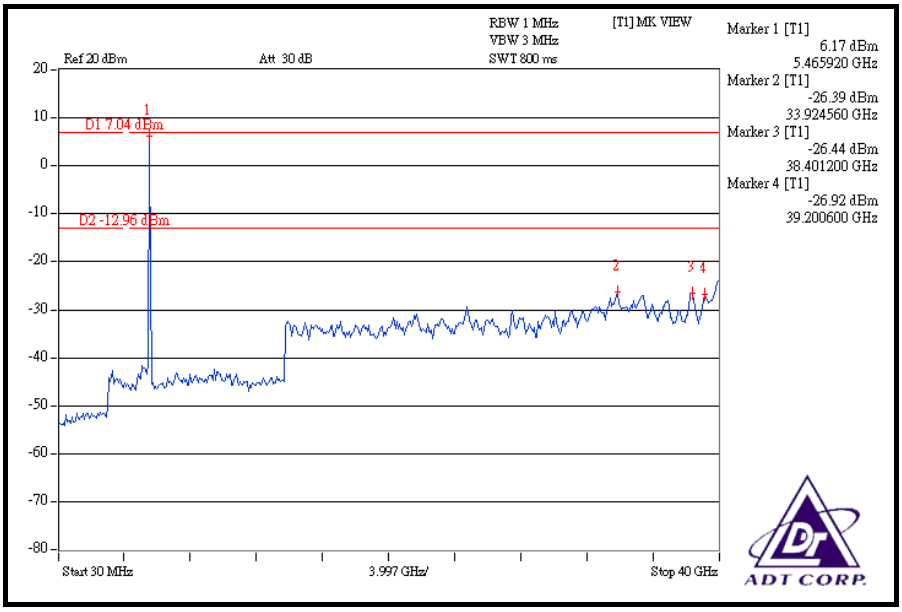
Channel 134 (5670MHz)

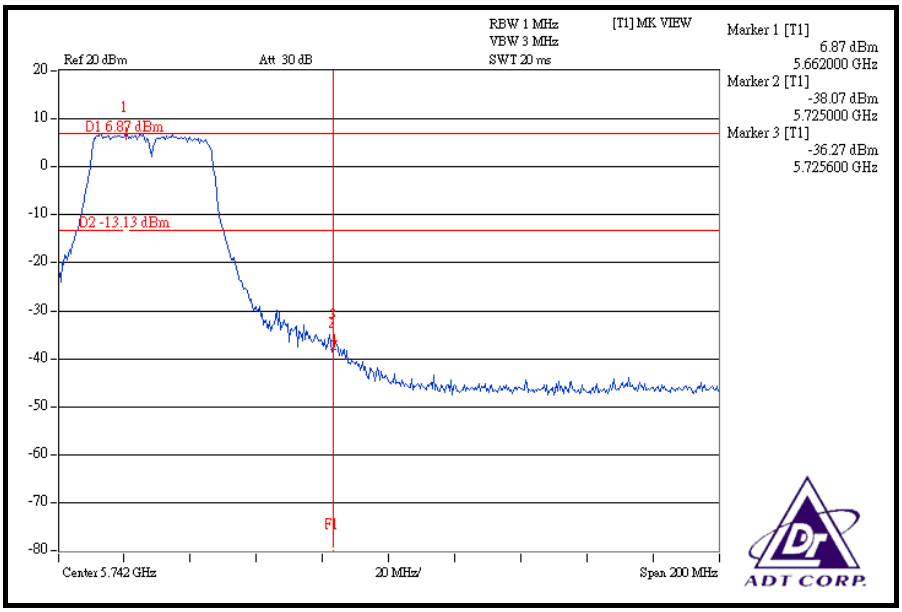
The band edge emission plot on the next second page shows 43.14dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 134 is 102.01dBuV/m (Peak), so the maximum field strength in restrict band is 102.01 – 43.14 = 58.87dBuV/m which is under 88.3dBuV/m limit.

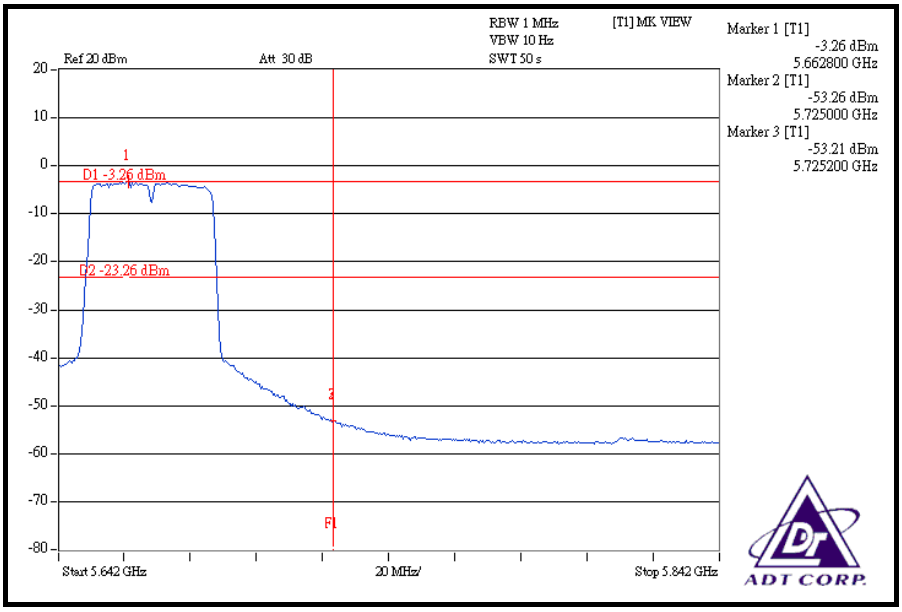
The band edge emission plot on the next third page shows 49.95dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 134 is 91.50dBuV/m (Average), so the maximum field strength in restrict band is 91.50 – 49.95 = 41.55dBuV/m which is under 68.3dBuV/m limit.

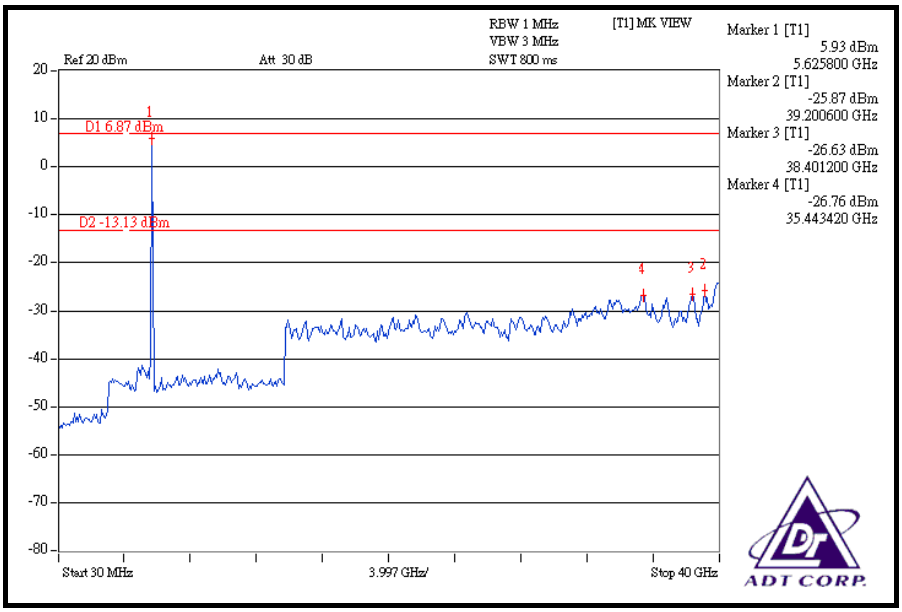

RBW 1 MHz
VBW 3 MHz
SWT 20 ms
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
D1 7.04 dBm
D2 -12.96 dBm
Marker 1 [T1]
7.04 dBm
5.500400 GHz
Marker 2 [T1]
-31.11 dBm
5.470000 GHz
Marker 3 [T1]
-31.11 dBm
5.470000 GHz
Marker 4 [T1]
-32.23 dBm
5.460000 GHz
Marker 5 [T1]
-31.67 dBm
5.459600 GHz
Center 5.434 GHz
20 MHz/
Span 200 MHz
ADT CORP.


RBW 1 MHz
VBW 10 Hz
SWT 50 s
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
D1 -3.33 dBm
D2 -23.33 dBm
Marker 1 [T1]
-3.33 dBm
5.503200 GHz
Marker 2 [T1]
-44.34 dBm
5.470000 GHz
Marker 3 [T1]
-44.34 dBm
5.470000 GHz
Marker 4 [T1]
-50.90 dBm
5.460000 GHz
Marker 5 [T1]
-50.90 dBm
5.460000 GHz
Center 5.434 GHz
20 MHz/
Span 200 MHz
ADT CORP.


RBW 1 MHz
VBW 3 MHz
SWT 800 ms
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
D1 7.04 dBm
D2 -12.96 dBm
Marker 1 [T1]
6.17 dBm
5.465920 GHz
Marker 2 [T1]
-26.39 dBm
33.924560 GHz
Marker 3 [T1]
-26.44 dBm
38.401200 GHz
Marker 4 [T1]
-26.92 dBm
39.200600 GHz
Start 30 MHz
3.997 GHz/
Stop 40 GHz
ADT CORP.


RBW 1 MHz
VBW 3 MHz
SWT 20 ms
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
D1 6.87 dBm
D2 -13.13 dBm
Marker 1 [T1]
6.87 dBm
5.662000 GHz
Marker 2 [T1]
-38.07 dBm
5.725000 GHz
Marker 3 [T1]
-36.27 dBm
5.725600 GHz
Center 5.742 GHz
20 MHz/
Span 200 MHz
ADT CORP.


RBW 1 MHz
VBW 10 Hz
SWT 50 s
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
Marker 1 [T1]
-3.26 dBm
5.662800 GHz
Marker 2 [T1]
-53.26 dBm
5.725000 GHz
Marker 3 [T1]
-53.21 dBm
5.725200 GHz
D1 -3.26 dBm
D2 -23.26 dBm
Start 5.642 GHz
20 MHz/
Stop 5.842 GHz
ADT CORP.


RBW 1 MHz
VBW 3 MHz
SWT 800 ms
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
Marker 1 [T1]
5.93 dBm
5.625800 GHz
Marker 2 [T1]
-25.87 dBm
39.200600 GHz
Marker 3 [T1]
-26.63 dBm
38.401200 GHz
Marker 4 [T1]
-26.76 dBm
35.443420 GHz
D1 6.87 dBm
D2 -13.13 dBm
Start 30 MHz
3.997 GHz/
Stop 40 GHz
ADT CORP.

4.8 ANTENNA REQUIREMENT

4.8.1 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 15.407(a), 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.

4.8.2 ANTENNA CONNECTED CONSTRUCTION

The antenna used in this product is Printed antenna without connector. The maximum Gain of the antenna is 2dBi.

5. PHOTOGRAPHS OF THE TEST CONFIGURATION

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

6. INFORMATION ON THE TESTING LABORATORIES

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

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

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

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

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

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

Web Site: www.adt.com.tw

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

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

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