FCC TEST REPORT (15.407)

REPORT NO.: RF970312L14A

MODEL NO.: DIR-855

RECEIVED: Apr. 10, 2008

TESTED: Apr. 15 ~ Apr. 22, 2008

ISSUED: Dec. 29, 2008

APPLICANT: D-Link Corporation

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

ISSUED BY: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch

LAB ADDRESS: No. 47, 14th Ling, Chia Pau Tsuen, Lin Kou Hsiang, Taipei Hsien 244, 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: Xtreme N DUO MEDIA ROUTER
MODEL: DIR-855
BRAND: D-Link
APPLICANT: D-Link Corporation
TEST SAMPLE: ENGINEERING SAMPLE
TESTED: Apr. 15 ~ Apr. 22, 2008
STANDARDS: **FCC Part 15, Subpart E (Section 15.407)**
ANSI C63.4-2003

The above equipment (Model: DIR-855) has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch,** and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

PREPARED BY : Rennie Wang , **DATE:** Dec. 29, 2008
Rennie Wang / Senior Specialist

TECHNICAL ACCEPTANCE : Long Chen , **DATE:** Dec. 29, 2008
Responsible for RF
Long Chen / Senior Engineer

APPROVED BY : Gary Chang , **DATE:** Dec. 29, 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 -7.34dB at 0.154MHz
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 7453.00MHz
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	Xtreme N DUO MEDIA ROUTER
MODEL NO.	DIR-855
FCC ID	KA2DIR855A2
POWER SUPPLY	12Vdc from AC adapter
MODULATION TYPE	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
MODULATION TECHNOLOGY	DSSS, OFDM
TRANSFER RATE	802.11a: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0Mbps Draft 802.11n: up to 270.0Mbps
FREQUENCY RANGE	5250 ~ 5350MHz, 5470 ~ 5725MHz
NUMBER OF CHANNEL	5250 ~ 5350MHz: 4 for 802.11a, draft 802.11n (20MHz) 2 for draft 802.11n (40MHz) 5470 ~ 5725MHz: 11 for 802.11a, draft 802.11n (20MHz) 5 for draft 802.11n (40MHz)
OUTPUT POWER	29.353mW for 5250.0 ~ 5350.0MHz 29.458mW for 5470.0 ~ 5725.0MHz
ANTENNA TYPE	Dipole antenna with 2.0dBi gain
DATA CABLE	NA
I/O PORTS	RJ45, USB
ASSOCIATED DEVICES	Adapter

NOTE:

1. This report is based on ADT report with Reference No.: RF970312L14-1. The original report was issued by Advance Data Technology Corp. (ADT Corp.) on May 05, 2008. ADT Corp. is one of Bureau Veritas family and she has fully transferred all its test facilities, staffs & service system to Bureau Veritas Consumer Products Services (Hong Kong) Limited, Taoyuan Branch in 2008.
2. This report is prepared for FCC class II permissive change. The difference compared with the original report is adding frequency band from 5.25 to 5.35GHz and 5.47 to 5.725GHz by software.
3. The EUT is a Xtreme N DUO MEDIA ROUTER. The functions of EUT listed as below:

	TEST STANDARD	REFERENCE REPORT
WLAN 802.11a, draft 802.11n (5250~5350MHz, 5470~5725MHz)	FCC Part 15, Subpart E (Section 15.407)	RF970312L14A
WLAN 802.11a, draft 802.11n (5250~5350MHz, 5470~5725MHz) (For DFS)		RF970312L14A-1
(For Simultaneous transmission data)		RF970312L14A-2

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

Frequency Band (MHz)	5250~5350	5470~5725
802.11a	√	√
Draft 802.11n (20MHz)	√	√
Draft 802.11n (40MHz)	√	√

5. The EUT was powered by the following adapter:

BRAND:	D-Link
MODEL:	AG2412-B
INPUT:	100-240Vac, 50-60Hz, 0.5A
OUTPUT:	12Vdc, 2A
POWER LINE:	1.8m non-shielded cable without core

6. The EUT incorporates a MIMO function. Physically, the EUT provides three completed transmitters and three receivers.

MODULATION MODE	TX FUNCTION
802.11a	1TX
Draft 802.11n (20MHz)	3TX
Draft 802.11n (40MHz)	3TX

7. The EUT with following module cards:

ITEM	MODULE CARDS
A	With 802.11b, 802.11g, and 802.11n function
B	With 802.11a, 802.11b, 802.11g and 802.11n function

**For the module cards B, all the function of 2.4GHz will be closed by software.

8. The above EUT information was declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or user's manual.

3.2 DESCRIPTION OF TEST MODES

Operated in 5250 ~ 5350MHz:

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

CHANNEL	FREQUENCY
52	5260MHz
56	5280MHz
60	5300MHz
64	5320MHz

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

CHANNEL	FREQUENCY
54	5270MHz
62	5310MHz

Operated in 5470 ~ 5725MHz:

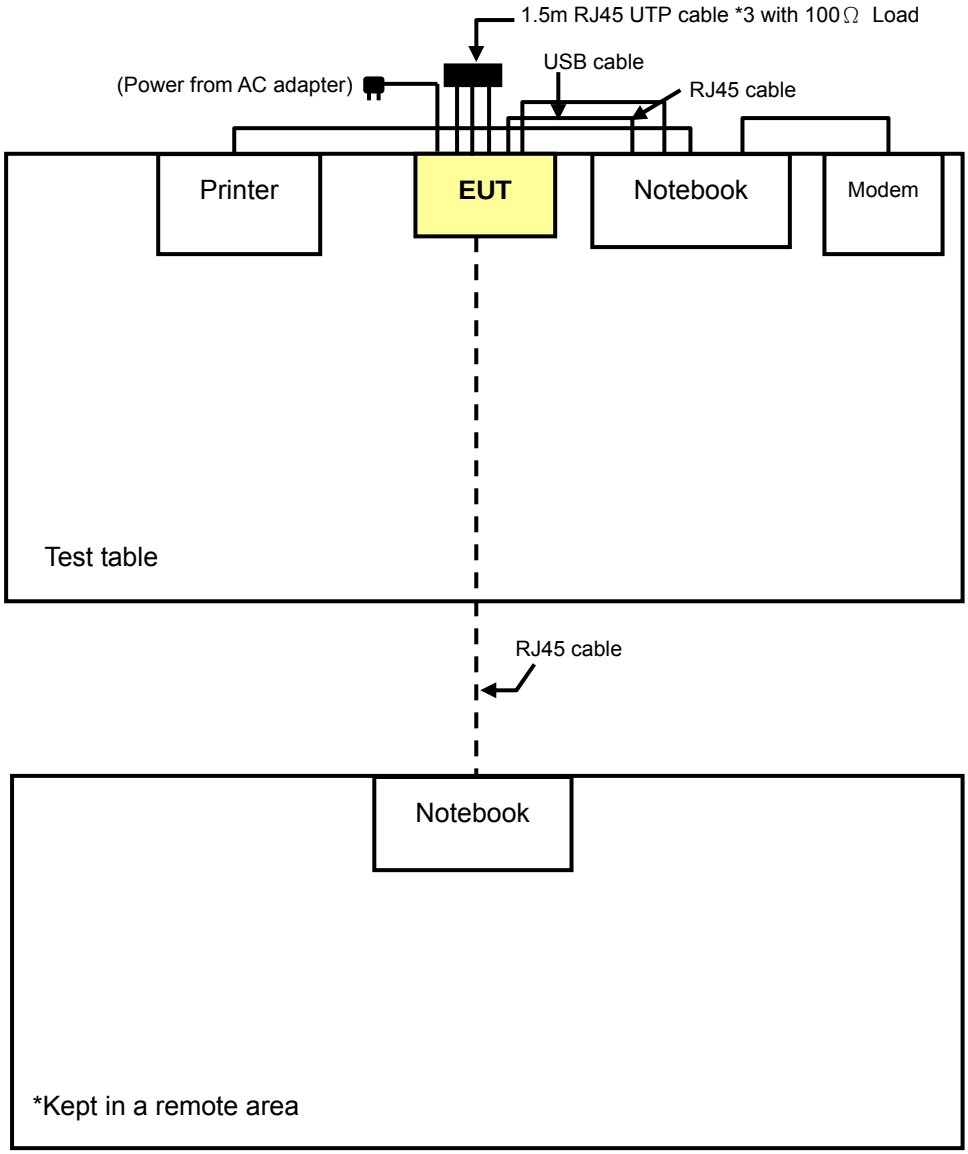
11 channels are provided to this EUT.

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



3.2.2 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

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

Where **RE≥1G:** Radiated Emission above 1GHz **RE<1G:** Radiated Emission below 1GHz

PLC: Power Line Conducted Emission **APCM:** Antenna Port Conducted Measurement

RADIATED EMISSION TEST (ABOVE 1GHz):

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

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

EUT CONFIGUR EMODE	MODE	FREQ.BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
-	802.11a	5250-5350	52 to 64	52, 60, 64	OFDM	BPSK	6.0
-	Draft 802.11n (20MHz)	5250-5350	52 to 64	52, 60, 64	OFDM	BPSK	6.5
-	Draft 802.11n (40MHz)	5250-5350	54 to 62	54, 62	OFDM	BPSK	13.5
-	802.11a	5470-5725	100 to 140	100, 120, 140	OFDM	BPSK	6.0
-	Draft 802.11n (20MHz)	5470-5725	100 to 140	100, 120, 140	OFDM	BPSK	6.5
-	Draft 802.11n (40MHz)	5470-5725	102 to 134	102, 118, 134	OFDM	BPSK	13.5

RADIATED EMISSION TEST (BELOW 1GHz):

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

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

EUT CONFIGURATION MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
-	Draft 802.11n (40MHz)	5250-5350	54 to 62	54	OFDM	BPSK	13.5
-	Draft 802.11n (20MHz)	5470-5725	100 to 140	120	OFDM	BPSK	6.5

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 CONFIGURATION MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
-	Draft 802.11n (40MHz)	5250-5350	54 to 62	54	OFDM	BPSK	13.5
-	Draft 802.11n (20MHz)	5470-5725	100 to 140	120	OFDM	BPSK	6.5

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)
-	802.11a	5250-5350	52 to 64	52, 64	OFDM	BPSK	6.0
-	Draft 802.11n (20MHz)	5250-5350	52 to 64	52, 64	OFDM	BPSK	6.5
-	Draft 802.11n (40MHz)	5250-5350	54 to 62	54, 62	OFDM	BPSK	13.5
-	802.11a	5470-5725	100 to 140	100, 140	OFDM	BPSK	6.0
-	Draft 802.11n (20MHz)	5470-5725	100 to 140	100, 140	OFDM	BPSK	6.5
-	Draft 802.11n (40MHz)	5470-5725	102 to 134	102, 134	OFDM	BPSK	13.5

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)
-	802.11a	5250-5350	52 to 64	52, 60, 64	OFDM	BPSK	6.0
-	Draft 802.11n (20MHz)	5250-5350	52 to 64	52, 60, 64	OFDM	BPSK	6.5
-	Draft 802.11n (40MHz)	5250-5350	54 to 62	54, 62	OFDM	BPSK	13.5
-	802.11a	5470-5725	100 to 140	100, 120, 140	OFDM	BPSK	6.0
-	Draft 802.11n (20MHz)	5470-5725	100 to 140	100, 120, 140	OFDM	BPSK	6.5
-	Draft 802.11n (40MHz)	5470-5725	102 to 134	102, 118, 134	OFDM	BPSK	13.5

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	16484462992	E2K24CLNS
2	NOTEBOOK COMPUTER	DELL	PP05L	12130898320	E2K24CLNS
3	PRINTER	EPSON	LQ-300+	DCGY054147	FCC DoC Approved
4	MODEM	ACEEX	1414V/3	0401008269	IFAXDM1414

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	3m UTP RJ 45 cable
2	10m UTP RJ 45 cable
3	1.8m braid shielded wire , DB25 connector , w/o core.
4	1.2m braid shielded wire , DB25 & DB9 connector , w/o core.

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

4. TEST TYPES AND RESULTS

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	PK
5250 ~ 5350	-27	68.3
5470 ~ 5725	-27	68.3

NOTE:

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 FCC Site Registration No. is 215374.
5. 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.

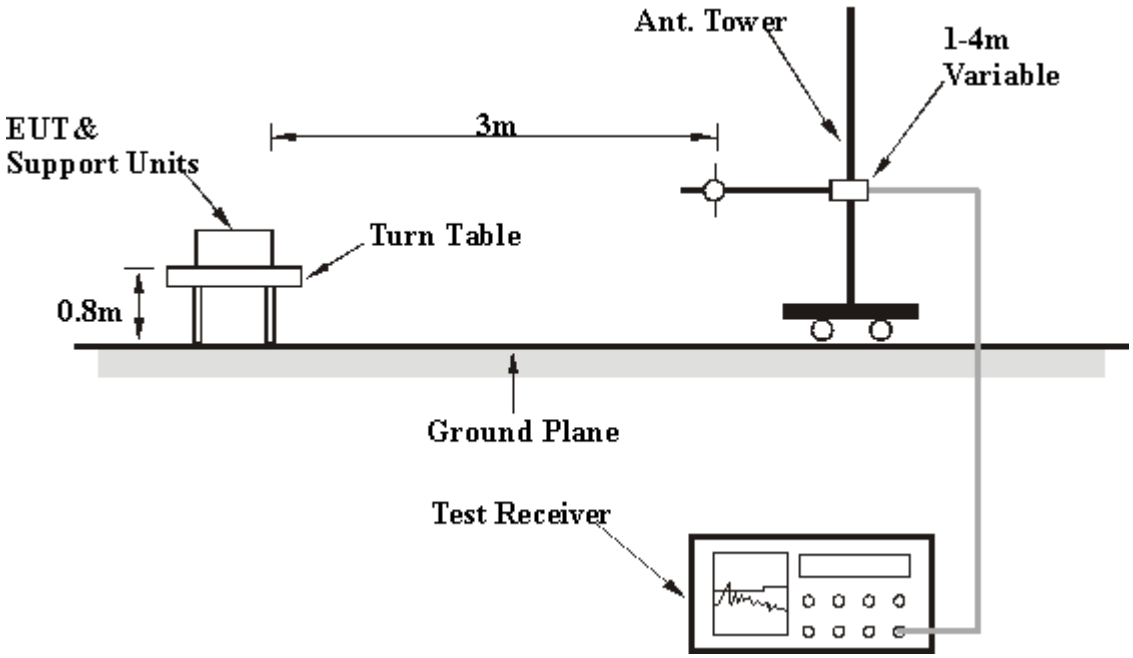
NOTE:

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 802.11a), 1kHz (for draft 802.11n) 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. Placed the EUT on the testing table.
b. The necessary accessories enable the system in full functions.
c. Prepared the other notebook outside of testing area to act as a communication partner.
d. The communication partner connected with EUT via a UTP cable and run a test program (provided by manufacturer) to enable EUT under transmission condition continuously at specific channel frequency.
e. The communication partner sent data to EUT by command "PING".

4.1.8 TEST RESULTS

802.11a OFDM MODULATION

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	25deg. C, 65%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	95.58 PK			1.00 H	136	56.86	38.72
2	*5260.00	85.28 AV			1.00 H	136	46.56	38.72
3	#10520.00	58.08 PK	68.30	-10.22	1.00 H	17	8.96	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	1125.00	60.26 PK	74.00	-13.74	1.00 V	4	32.18	28.08
2	1125.00	52.39 AV	54.00	-1.61	1.00 V	4	24.31	28.08
3	*5260.00	105.70 PK			1.00 V	278	66.98	38.72
4	*5260.00	94.78 AV			1.00 V	278	56.06	38.72
5	#7013.00	56.88 PK	68.30	-11.42	1.55 V	136	13.14	43.74
6	#10520.00	58.11 PK	68.30	-10.19	1.11 V	206	8.99	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 is out 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	25deg. C, 65%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	95.34 PK			1.02 H	152	56.58	38.76
2	*5300.00	85.60 AV			1.02 H	152	46.84	38.76
3	10600.00	57.45 PK	74.00	-16.55	1.24 H	260	8.15	49.30
4	10600.00	44.28 AV	54.00	-9.72	1.24 H	260	-5.02	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	1125.00	59.88 PK	74.00	-14.12	1.00 V	5	31.80	28.08
2	1125.00	52.36 AV	54.00	-1.64	1.00 V	5	24.28	28.08
3	*5300.00	105.58 PK			1.00 V	208	66.82	38.76
4	*5300.00	94.40 AV			1.00 V	208	55.64	38.76
5	#7066.00	54.28 PK	68.30	-14.02	1.45 V	54	10.24	44.04
6	10600.00	57.50 PK	74.00	-16.50	1.01 V	154	8.20	49.30
7	10600.00	44.32 AV	54.00	-9.68	1.01 V	154	-4.98	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.
5. " * ": Fundamental frequency.
6. "#":The radiated frequency is out the restricted band.

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	25deg. C, 65%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	95.62 PK			1.03 H	241	56.84	38.78
2	*5320.00	85.46 AV			1.03 H	241	46.68	38.78
3	5350.00	53.23 PK	74.00	-20.77	1.03 H	241	14.42	38.81
4	5350.00	36.59 AV	54.00	-17.41	1.03 H	241	-2.22	38.81
5	10640.00	57.71 PK	74.00	-16.29	1.15 H	319	8.38	49.33
6	10640.00	44.52 AV	54.00	-9.48	1.15 H	319	-4.81	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	1125.00	60.15 PK	74.00	-13.85	1.02 V	5	32.07	28.08
2	1125.00	52.43 AV	54.00	-1.57	1.02 V	5	24.35	28.08
3	*5320.00	105.93 PK			1.03 V	148	67.15	38.78
4	*5320.00	95.12 AV			1.03 V	148	56.34	38.78
5	5350.00	53.67 PK	74.00	-20.33	1.03 V	148	14.86	38.81
6	5350.00	36.64 AV	54.00	-17.36	1.03 V	148	-2.17	38.81
7	#7092.00	53.36 PK	68.30	-14.94	1.05 V	14	9.17	44.19
8	10640.00	57.79 PK	74.00	-16.21	1.30 V	353	8.46	49.33
9	10640.00	44.59 AV	54.00	-9.41	1.30 V	353	-4.74	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 is out 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	25deg. C, 65%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	48.39 PK	74.00	-25.61	1.00 H	219	9.40	38.99
2	5460.00	35.75 AV	54.00	-18.25	1.00 H	219	-3.24	38.99
3	#5470.00	49.18 PK	68.30	-19.12	1.00 H	219	10.17	39.01
4	*5500.00	96.05 PK			1.00 H	219	56.98	39.07
5	*5500.00	85.66 AV			1.00 H	219	46.58	39.07
6	11000.00	58.68 PK	74.00	-15.32	1.27 H	16	8.79	49.89
7	11000.00	46.24 AV	54.00	-7.76	1.27 H	16	-3.65	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	1125.00	59.67 PK	74.00	-14.33	1.00 V	6	31.59	28.08
2	1125.00	52.25 AV	54.00	-1.75	1.00 V	6	24.17	28.08
3	5460.00	48.44 PK	74.00	-25.56	1.16 V	276	9.45	38.99
4	5460.00	35.80 AV	54.00	-18.20	1.16 V	276	-3.19	38.99
5	#5470.00	49.20 PK	68.30	-19.10	1.16 V	276	10.19	39.01
6	*5500.00	105.14 PK			1.16 V	276	66.07	39.07
7	*5500.00	94.39 AV			1.16 V	276	55.32	39.07
8	7333.00	55.79 PK	74.00	-18.21	1.50 V	53	10.81	44.99
9	7333.00	47.86 AV	54.00	-6.14	1.50 V	53	2.88	44.99
10	11000.00	58.76 PK	74.00	-15.24	1.16 V	204	8.87	49.89
11	11000.00	46.30 AV	54.00	-7.70	1.16 V	204	-3.59	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 is out 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	25deg. C, 65%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	96.11 PK			1.06 H	199	56.82	39.29
2	*5600.00	85.74 AV			1.06 H	199	46.45	39.29
3	11200.00	58.59 PK	74.00	-15.41	1.23 H	287	8.81	49.78
4	11200.00	45.16 AV	54.00	-8.84	1.23 H	287	-4.62	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	1125.00	60.18 PK	74.00	-13.82	1.00 V	6	32.10	28.08
2	1125.00	52.40 AV	54.00	-1.60	1.00 V	6	24.32	28.08
3	*5600.00	105.35 PK			1.00 V	263	66.06	39.29
4	*5600.00	94.91 AV			1.00 V	263	55.62	39.29
5	7466.00	55.66 PK	74.00	-18.34	1.63 V	154	10.66	45.00
6	7466.00	47.75 AV	54.00	-6.25	1.63 V	154	2.75	45.00
7	11200.00	58.65 PK	74.00	-15.35	1.00 V	342	8.87	49.78
8	11200.00	45.27 AV	54.00	-8.73	1.00 V	342	-4.51	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.

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	25deg. C, 65%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	96.10 PK			1.10 H	233	56.54	39.56
2	*5700.00	85.63 AV			1.10 H	233	46.07	39.56
3	#5725.00	61.14 PK	68.30	-7.16	1.10 H	233	21.53	39.61
4	11400.00	58.39 PK	74.00	-15.61	1.22 H	241	8.53	49.86
5	11400.00	45.82 AV	54.00	-8.18	1.22 H	241	-4.04	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	1125.00	60.98 PK	74.00	-13.02	1.02 V	5	32.90	28.08
2	1125.00	52.36 AV	54.00	-1.64	1.02 V	5	24.28	28.08
3	*5700.00	105.18 PK			1.26 V	307	65.62	39.56
4	*5700.00	94.47 AV			1.26 V	307	54.91	39.56
5	#5725.00	62.21 PK	68.30	-6.09	1.26 V	307	22.60	39.61
6	7600.00	55.68 PK	74.00	-18.32	1.72 V	86	10.76	44.92
7	7600.00	47.83 AV	54.00	-6.17	1.72 V	86	2.91	44.92
8	11400.00	58.45 PK	74.00	-15.55	1.08 V	254	8.59	49.86
9	11400.00	45.88 AV	54.00	-8.12	1.08 V	254	-3.98	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 is out the restricted band.

DRAFT 802.11n (20MHz) OFDM MODULATION

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	25deg. C, 65%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	99.62 PK			1.00 H	144	60.90	38.72
2	*5260.00	89.34 AV			1.00 H	144	50.62	38.72
3	#10520.00	57.51 PK	68.30	-10.79	1.00 H	98	8.40	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	1125.00	58.22 PK	74.00	-15.78	1.01 V	5	30.15	28.08
2	1125.00	51.22 AV	54.00	-2.78	1.01 V	5	23.15	28.08
3	*5260.00	109.34 PK			1.02 V	191	70.61	38.72
4	*5260.00	99.11 AV			1.02 V	191	60.38	38.72
5	#7013.00	56.93 PK	68.30	-11.37	1.65 V	45	13.18	43.74
6	#10520.00	58.04 PK	68.30	-10.26	1.08 V	352	8.93	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 is out 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	25deg. C, 65%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	98.85 PK			1.08 H	141	60.09	38.76
2	*5300.00	88.71 AV			1.08 H	141	49.95	38.76
3	10600.00	57.31 PK	74.00	-16.69	1.08 H	196	8.01	49.30
4	10600.00	43.85 AV	54.00	-10.15	1.08 H	196	-5.45	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	1125.00	58.30 PK	74.00	-15.70	1.00 V	3	30.23	28.08
2	1125.00	51.33 AV	54.00	-2.67	1.00 V	3	23.26	28.08
3	*5300.00	109.51 PK			1.16 V	332	70.75	38.76
4	*5300.00	99.10 AV			1.16 V	332	60.34	38.76
5	#7066.00	57.16 PK	68.30	-11.14	1.75 V	47	13.12	44.04
6	10600.00	58.49 PK	74.00	-15.51	1.18 V	176	9.19	49.30
7	10600.00	45.48 AV	54.00	-8.52	1.18 V	176	-3.82	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.
5. " * ": Fundamental frequency.
6. "#":The radiated frequency is out the restricted band.

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	25deg. C, 65%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	99.37 PK			1.00 H	141	60.59	38.78
2	*5320.00	89.47 AV			1.00 H	141	50.69	38.78
3	5350.00	55.78 PK	74.00	-18.22	1.00 H	141	16.97	38.81
4	5350.00	45.00 AV	54.00	-9.00	1.00 H	141	6.19	38.81
5	10640.00	57.75 PK	74.00	-16.25	1.13 H	100	8.42	49.33
6	10640.00	44.58 AV	54.00	-9.42	1.13 H	100	-4.75	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	1125.00	58.44 PK	74.00	-15.56	1.01 V	20	30.37	28.08
2	1125.00	51.38 AV	54.00	-2.62	1.01 V	20	23.30	28.08
3	*5320.00	109.62 PK			1.02 V	181	70.84	38.78
4	*5320.00	99.72 AV			1.02 V	181	60.94	38.78
5	5350.00	55.89 PK	74.00	-18.11	1.02 V	181	17.08	38.81
6	5350.00	45.09 AV	54.00	-8.91	1.02 V	181	6.28	38.81
7	#7092.00	56.97 PK	68.30	-11.33	1.86 V	44	12.78	44.19
8	10640.00	57.84 PK	74.00	-16.16	1.20 V	20	8.51	49.33
9	10640.00	44.61 AV	54.00	-9.39	1.20 V	20	-4.72	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 is out 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	25deg. C, 65%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	55.54 PK	74.00	-18.46	1.34 H	137	16.55	38.99
2	5460.00	43.39 AV	54.00	-10.61	1.34 H	137	4.40	38.99
3	#5470.00	56.13 PK	68.30	-12.17	1.34 H	137	17.12	39.01
4	*5500.00	94.78 PK			1.34 H	137	55.71	39.07
5	*5500.00	84.66 AV			1.34 H	137	45.58	39.07
6	11000.00	59.27 PK	74.00	-14.73	1.11 H	104	9.38	49.89
7	11000.00	46.12 AV	54.00	-7.88	1.11 H	104	-3.77	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	1125.00	57.64 PK	74.00	-16.36	1.00 V	7	29.57	28.08
2	1125.00	50.71 AV	54.00	-3.29	1.00 V	7	22.63	28.08
3	5460.00	55.58 PK	74.00	-18.42	1.00 V	174	16.59	38.99
4	5460.00	43.41 AV	54.00	-10.59	1.00 V	174	4.42	38.99
5	#5470.00	56.15 PK	68.30	-12.15	1.00 V	174	17.14	39.01
6	*5500.00	107.53 PK			1.00 V	174	68.46	39.07
7	*5500.00	97.19 AV			1.00 V	174	58.11	39.07
8	7333.00	55.56 PK	74.00	-18.44	1.57 V	52	10.58	44.99
9	7333.00	47.46 AV	54.00	-6.54	1.57 V	52	2.48	44.99
10	11000.00	59.32 PK	74.00	-14.68	1.03 V	179	9.43	49.89
11	11000.00	46.24 AV	54.00	-7.76	1.03 V	179	-3.65	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 is out 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	25deg. C, 65%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	94.89 PK			1.24 H	200	55.60	39.29
2	*5600.00	84.82 AV			1.24 H	200	45.53	39.29
3	11200.00	58.58 PK	74.00	-15.42	1.30 H	21	8.80	49.78
4	11200.00	46.75 AV	54.00	-7.25	1.30 H	21	-3.03	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	1125.00	61.04 PK	74.00	-12.96	1.00 V	3	32.96	28.08
2	1125.00	52.20 AV	54.00	-1.80	1.00 V	3	24.12	28.08
3	*5600.00	107.77 PK			1.00 V	191	68.48	39.29
4	*5600.00	97.23 AV			1.00 V	191	57.94	39.29
5	7466.00	56.65 PK	74.00	-17.35	1.56 V	100	11.65	45.00
6	7466.00	48.37 AV	54.00	-5.63	1.56 V	100	3.37	45.00
7	11200.00	58.87 PK	74.00	-15.13	1.01 V	218	9.09	49.78
8	11200.00	46.80 AV	54.00	-7.20	1.01 V	218	-2.98	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.

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	25deg. C, 65%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	94.80 PK			1.13 H	324	55.24	39.56
2	*5700.00	84.75 AV			1.13 H	324	45.19	39.56
3	#5725.00	58.38 PK	68.30	-9.92	1.13 H	324	18.77	39.61
4	11400.00	58.19 PK	74.00	-15.81	1.02 H	26	8.33	49.86
5	11400.00	46.75 AV	54.00	-7.25	1.02 H	26	-3.11	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	1125.00	61.05 PK	74.00	-12.95	1.00 V	6	32.97	28.08
2	1125.00	52.23 AV	54.00	-1.77	1.00 V	6	24.15	28.08
3	*5700.00	107.62 PK			1.30 V	13	68.07	39.56
4	*5700.00	97.44 AV			1.30 V	13	57.88	39.56
5	#5725.00	58.44 PK	68.30	-9.86	1.30 V	14	18.83	39.61
6	7600.00	55.89 PK	74.00	-18.11	1.68 V	125	10.97	44.92
7	7600.00	48.20 AV	54.00	-5.80	1.68 V	125	3.28	44.92
8	11400.00	58.27 PK	74.00	-15.73	1.32 V	100	8.41	49.86
9	11400.00	46.80 AV	54.00	-7.20	1.32 V	100	-3.06	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 is out the restricted band.

DRAFT 802.11n (40MHz) OFDM MODULATION

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	25deg. C, 65%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	98.06 PK			1.00 H	145	59.33	38.73
2	*5270.00	87.47 AV			1.00 H	145	48.74	38.73
3	#10540.00	57.49 PK	68.30	-10.81	1.00 H	128	8.33	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	1125.00	58.90 PK	74.00	-15.10	1.01 V	4	30.82	28.08
2	1125.00	51.16 AV	54.00	-2.84	1.01 V	4	23.08	28.08
3	*5270.00	106.67 PK			1.15 V	210	67.94	38.73
4	*5270.00	97.04 AV			1.15 V	210	58.31	38.73
5	#7026.00	56.80 PK	68.30	-11.50	1.02 V	167	12.98	43.82
6	#10540.00	57.58 PK	68.30	-10.72	1.25 V	2	8.42	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 is out 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	25deg. C, 65%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	96.21 PK			1.04 H	141	57.44	38.77
2	*5310.00	86.36 AV			1.04 H	141	47.59	38.77
3	5350.00	56.26 PK	74.00	-17.74	1.04 H	141	17.45	38.81
4	5350.00	44.60 AV	54.00	-9.40	1.04 H	141	5.79	38.81
5	10620.00	57.64 PK	74.00	-16.36	1.01 H	136	8.32	49.32
6	10620.00	44.08 AV	54.00	-9.92	1.01 H	136	-5.24	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	1125.00	58.97 PK	74.00	-15.03	1.01 V	3	30.89	28.08
2	1125.00	52.20 AV	54.00	-1.80	1.01 V	3	24.12	28.08
3	*5310.00	105.77 PK			1.00 V	274	67.00	38.77
4	*5310.00	95.52 AV			1.00 V	274	56.75	38.77
5	5350.00	62.59 PK	74.00	-11.41	1.00 V	272	23.78	38.81
6	5350.00	46.63 AV	54.00	-7.37	1.00 V	272	7.82	38.81
7	#7080.00	56.79 PK	68.30	-11.51	1.57 V	206	12.67	44.12
8	10620.00	57.72 PK	74.00	-16.28	1.12 V	98	8.41	49.32
9	10620.00	44.17 AV	54.00	-9.83	1.12 V	98	-5.14	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 is out 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	25deg. C, 65%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	56.68 PK	74.00	-17.32	1.14 H	234	17.69	38.99
2	5460.00	43.59 AV	54.00	-10.41	1.14 H	234	4.60	38.99
3	#5470.00	63.38 PK	68.30	-4.92	1.14 H	234	24.37	39.01
4	*5510.00	95.78 PK			1.14 H	234	56.68	39.10
5	*5510.00	85.85 AV			1.14 H	234	46.75	39.10
6	11020.00	57.80 PK	74.00	-16.20	1.20 H	57	7.94	49.86
7	11020.00	45.55 AV	54.00	-8.45	1.20 H	57	-4.31	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	1125.00	59.05 PK	74.00	-14.95	1.00 V	5	30.97	28.08
2	1125.00	52.20 AV	54.00	-1.80	1.00 V	5	24.12	28.08
3	5460.00	56.75 PK	74.00	-17.25	1.00 V	185	17.76	38.99
4	5460.00	43.66 AV	54.00	-10.34	1.00 V	185	4.67	38.99
5	#5470.00	63.46 PK	68.30	-4.84	1.00 V	185	24.45	39.01
6	*5510.00	104.81 PK			1.00 V	186	65.72	39.10
7	*5510.00	94.72 AV			1.00 V	186	55.63	39.10
8	7346.00	55.91 PK	74.00	-18.09	1.26 V	225	10.91	45.00
9	7346.00	48.81 AV	54.00	-5.19	1.26 V	225	3.81	45.00
10	11020.00	57.93 PK	74.00	-16.07	1.00 V	302	8.08	49.86
11	11020.00	45.62 AV	54.00	-8.38	1.00 V	302	-4.23	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 is out 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	25deg. C, 65%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	96.54 PK			1.16 H	270	57.27	39.27
2	*5590.00	86.39 AV			1.16 H	270	47.12	39.27
3	7453.00	54.67 PK	74.00	-19.33	1.21 H	138	9.66	45.01
4	7453.00	44.03 AV	54.00	-9.97	1.21 H	138	-0.98	45.01
5	11180.00	57.82 PK	74.00	-16.18	1.46 H	13	8.05	49.77
6	11180.00	45.69 AV	54.00	-8.31	1.46 H	13	-4.08	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	1125.00	58.66 PK	74.00	-15.34	1.01 V	4	30.58	28.08
2	1125.00	52.18 AV	54.00	-1.82	1.01 V	4	24.10	28.08
3	*5590.00	105.04 PK			1.42 V	47	65.77	39.27
4	*5590.00	95.10 AV			1.42 V	47	55.83	39.27
5	7453.00	58.50 PK	74.00	-15.50	1.64 V	51	13.49	45.01
6	**7453.00**	**52.98 AV**	**54.00**	**-1.02**	**1.64 V**	**51**	**7.97**	**45.01**
7	11180.00	57.88 PK	74.00	-16.12	1.10 V	100	8.11	49.77
8	11180.00	45.74 AV	54.00	-8.26	1.10 V	100	-4.03	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.

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	25deg. C, 65%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	95.75 PK			1.13 H	201	56.27	39.48
2	*5670.00	85.79 AV			1.13 H	201	46.31	39.48
3	#5725.00	52.59 PK	68.30	-15.71	1.13 H	201	12.98	39.61
4	7560.00	50.14 PK	74.00	-23.86	1.51 H	312	5.19	44.95
5	7560.00	42.57 AV	54.00	-11.43	1.51 H	312	-2.38	44.95
6	11340.00	57.73 PK	74.00	-16.27	1.32 H	24	7.92	49.81
7	11340.00	45.48 AV	54.00	-8.52	1.32 H	24	-4.33	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	1125.00	58.87 PK	74.00	-15.13	1.00 V	3	30.79	28.08
2	1125.00	52.23 AV	54.00	-1.77	1.00 V	3	24.15	28.08
3	*5670.00	104.89 PK			1.14 V	222	65.41	39.48
4	*5670.00	94.26 AV			1.14 V	222	54.78	39.48
5	#5725.00	52.61 PK	68.30	-15.69	1.14 V	222	13.00	39.61
6	7560.00	57.32 PK	74.00	-16.68	1.47 V	51	12.38	44.95
7	7560.00	52.01 AV	54.00	-1.99	1.47 V	51	7.07	44.95
8	11340.00	57.85 PK	74.00	-16.15	1.24 V	351	8.04	49.81
9	11340.00	45.55 AV	54.00	-8.45	1.24 V	351	-4.26	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 is out the restricted band.

BELOW 1GHz WORST-CASE DATA：

FOR 5250-5350MHz BAND: DRAFT 802.11n (40MHz) OFDM MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 54	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	22deg. C, 70%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	374.04	39.90 QP	46.00	-6.10	1.00 H	61	24.53	15.37
2	500.42	43.82 QP	46.00	-2.18	1.50 H	166	24.70	19.12
3	533.47	36.63 QP	46.00	-9.37	1.50 H	310	16.71	19.92
4	624.85	44.33 QP	46.00	-1.67	1.25 H	256	22.58	21.75
5	751.23	36.11 QP	46.00	-9.89	1.00 H	223	12.36	23.75
6	799.84	37.42 QP	46.00	-8.58	1.00 H	265	12.49	24.92
7	875.67	40.86 QP	46.00	-5.14	1.50 H	214	15.24	25.62
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	185.44	33.75 QP	43.50	-9.75	1.00 V	322	21.96	11.79
2	500.42	41.92 QP	46.00	-4.08	1.00 V	151	22.81	19.12
3	624.85	41.27 QP	46.00	-4.73	1.50 V	208	19.52	21.75
4	834.84	36.32 QP	46.00	-9.68	1.25 V	325	11.06	25.25
5	875.67	41.41 QP	46.00	-4.59	1.00 V	253	15.79	25.62
6	933.99	38.14 QP	46.00	-7.86	1.50 V	331	11.97	26.17

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.

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 120	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	22deg. C, 70%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	186.21	37.78 QP	43.50	-5.72	1.25 H	200	26.05	11.73
2	250.44	39.87 QP	46.00	-6.13	1.00 H	137	27.08	12.79
3	300.54	41.21 QP	46.00	-4.79	1.00 H	235	27.60	13.61
4	500.42	41.84 QP	46.00	-4.16	1.50 H	199	22.73	19.12
5	801.44	40.52 QP	46.00	-5.48	2.50 H	314	15.58	24.94
6	874.48	42.66 QP	46.00	-3.34	1.50 H	230	17.05	25.61
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	375.55	38.63 QP	46.00	-7.37	1.25 V	210	23.22	15.41
2	499.68	43.08 QP	46.00	-2.92	1.00 V	217	23.99	19.09
3	625.09	42.06 QP	46.00	-3.94	1.50 V	327	20.31	21.75
4	835.55	34.50 QP	46.00	-11.50	1.25 V	360	9.24	25.26
5	875.67	42.50 QP	46.00	-3.50	1.00 V	268	16.88	25.62
6	934.07	39.57 QP	46.00	-6.43	1.25 V	217	13.40	26.17

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.

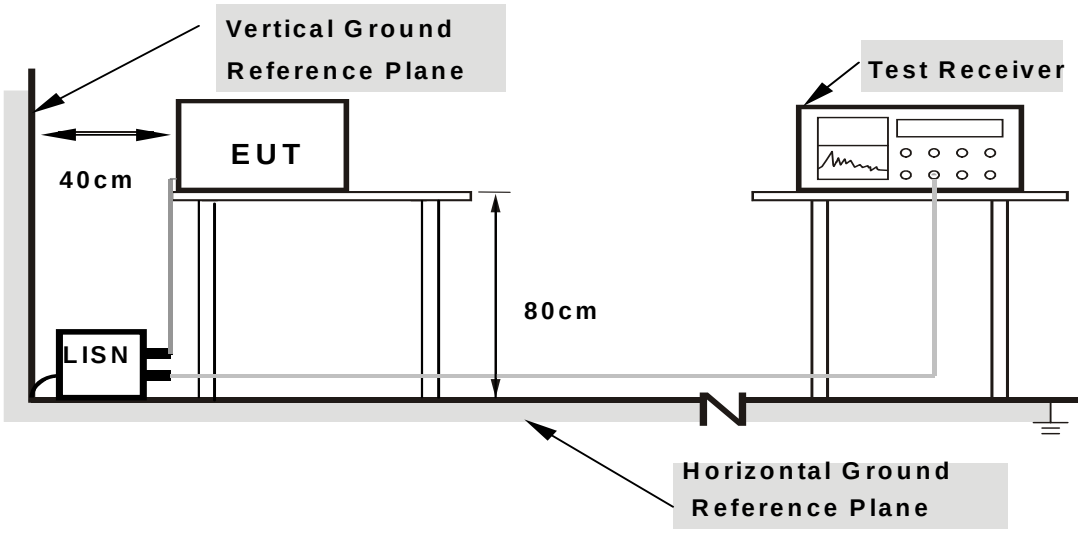
b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

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

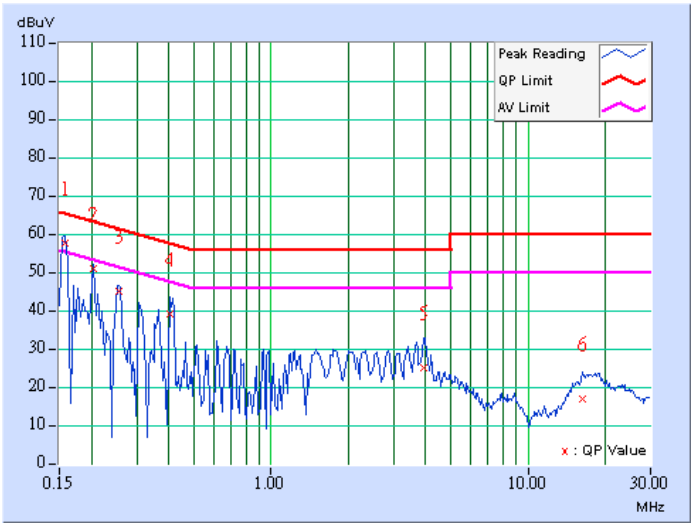
CONDUCTED WORST-CASE DATA：

FOR 5250-5350MHz BAND: DRAFT 802.11n (40MHz) OFDM MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 54	PHASE	Line 1
MODULATION TYPE	BPSK	INPUT POWER (SYSTEM)	120Vac, 60Hz
TRANSFER RATE	13.5Mbps	6dB BANDWIDTH	9kHz
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH, 982hPa	TESTED BY	Lori Chiu

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	0.158	0.10	57.19	46.15	57.29	46.25	65.58	55.58	-8.29	-9.33
2	0.205	0.10	50.64	-	50.74	-	63.42	53.42	-12.68	-
3	0.256	0.10	44.71	-	44.81	-	61.58	51.58	-16.77	-
4	0.404	0.10	38.64	-	38.74	-	57.77	47.77	-19.03	-
5	3.953	0.28	24.84	-	25.12	-	56.00	46.00	-30.88	-
6	16.383	0.50	16.67	-	17.17	-	60.00	50.00	-42.83	-

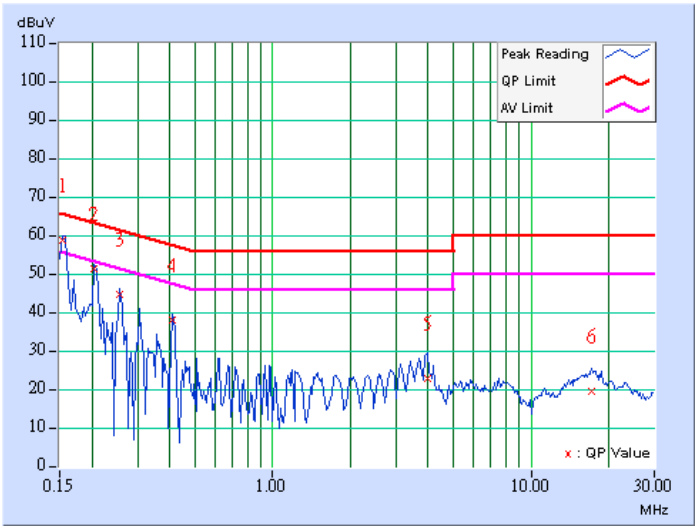
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 54	PHASE	Line 2
MODULATION TYPE	BPSK	INPUT POWER (SYSTEM)	120Vac, 60Hz
TRANSFER RATE	13.5Mbps	6dB BANDWIDTH	9kHz
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH, 982hPa	TESTED BY	Lori Chiu

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	**0.154**	**0.10**	**58.32**	**47.85**	**58.42**	**47.95**	**65.76**	**55.76**	**-7.34**	**-7.81**
2	0.205	0.10	50.84	-	50.94	-	63.42	53.42	-12.48	-
3	0.255	0.10	44.25	-	44.35	-	61.58	51.58	-17.23	-
4	0.408	0.10	37.67	-	37.77	-	57.69	47.69	-19.92	-
5	3.973	0.28	22.37	-	22.65	-	56.00	46.00	-33.35	-
6	17.262	0.52	18.93	-	19.45	-	60.00	50.00	-40.55	-

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.

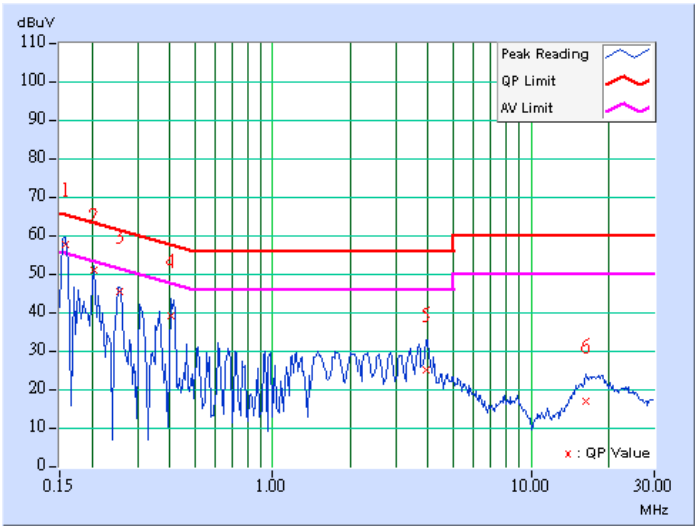


FOR 5470-5725MHz BAND: DRAFT 802.11n (20MHz) OFDM MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 120	PHASE	Line 1
MODULATION TYPE	BPSK	INPUT POWER (SYSTEM)	120Vac, 60Hz
TRANSFER RATE	6.5Mbps	6dB BANDWIDTH	9kHz
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH, 982hPa	TESTED BY	Lori Chiu

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	0.158	0.10	57.24	46.32	57.34	46.42	65.58	55.58	-8.24	-9.16
2	0.205	0.10	50.54	-	50.64	-	63.42	53.42	-12.78	-
3	0.256	0.10	44.90	-	45.00	-	61.57	51.57	-16.57	-
4	0.404	0.10	38.58	-	38.68	-	57.77	47.77	-19.09	-
5	3.953	0.28	24.72	-	25.00	-	56.00	46.00	-31.00	-
6	16.383	0.50	16.58	-	17.08	-	60.00	50.00	-42.92	-

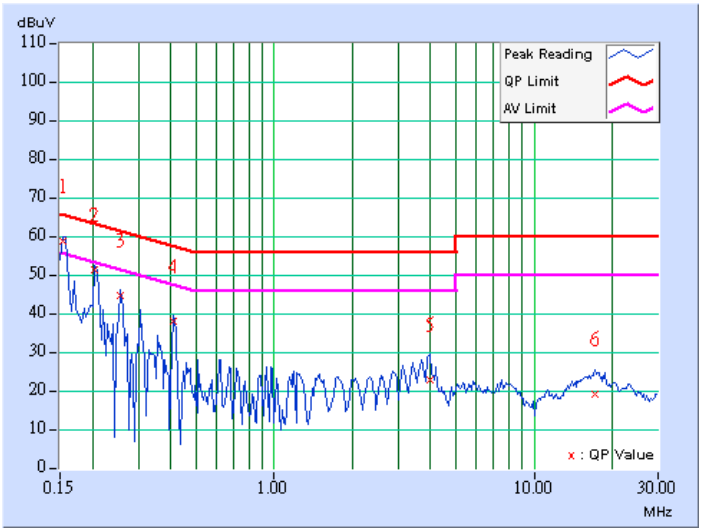
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 120	PHASE	Line 2
MODULATION TYPE	BPSK	INPUT POWER (SYSTEM)	120Vac, 60Hz
TRANSFER RATE	6.5Mbps	6dB BANDWIDTH	9kHz
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH, 982hPa	TESTED BY	Lori Chiu

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	0.154	0.10	58.24	47.58	58.34	47.68	65.76	55.76	-7.42	-8.08
2	0.205	0.10	50.94	-	51.04	-	63.42	53.42	-12.38	-
3	0.256	0.10	44.16	-	44.26	-	61.58	51.58	-17.32	-
4	0.408	0.10	37.57	-	37.67	-	57.69	47.69	-20.02	-
5	3.973	0.28	22.28	-	22.56	-	56.00	46.00	-33.44	-
6	17.262	0.52	18.87	-	19.39	-	60.00	50.00	-40.61	-

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



4.3 PEAK TRANSMIT POWER MEASUREMENT

4.3.1 LIMITS OF PEAK TRANSMIT POWER MEASUREMENT

FREQUENCY BAND	LIMIT
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.

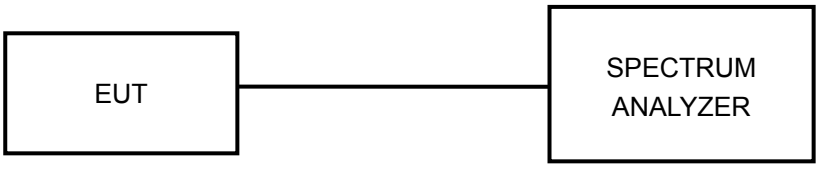
NOTE: The test is performed in accordance with FCC Public Notice: APPENDIX A Guidelines for Assessing Unlicensed National Information Infrastructure (U-NII) Devices – Part 15, Subpart E, August 2002.

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.

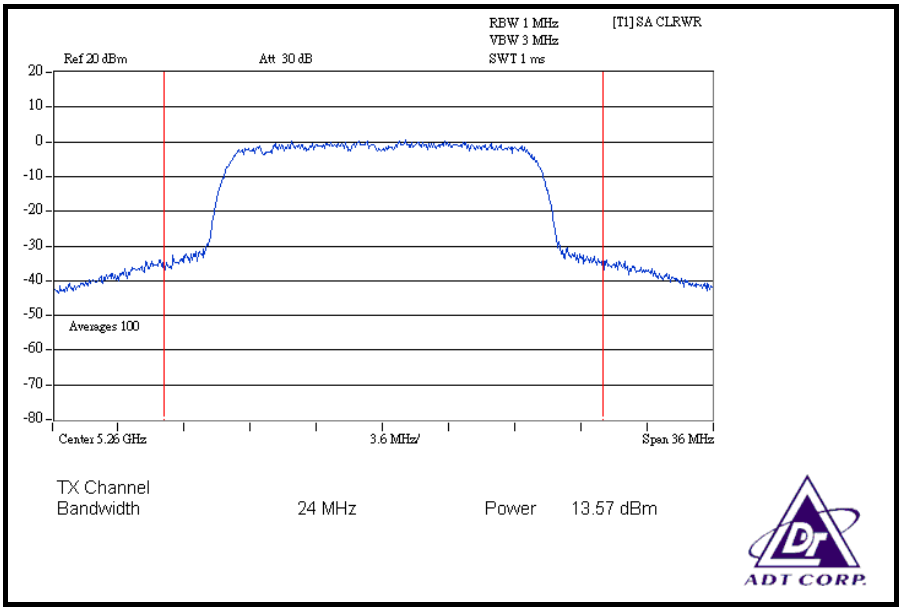
4.3.7 TEST RESULTS

PEAK POWER OUTPUT: 802.11a OFDM MODULATION

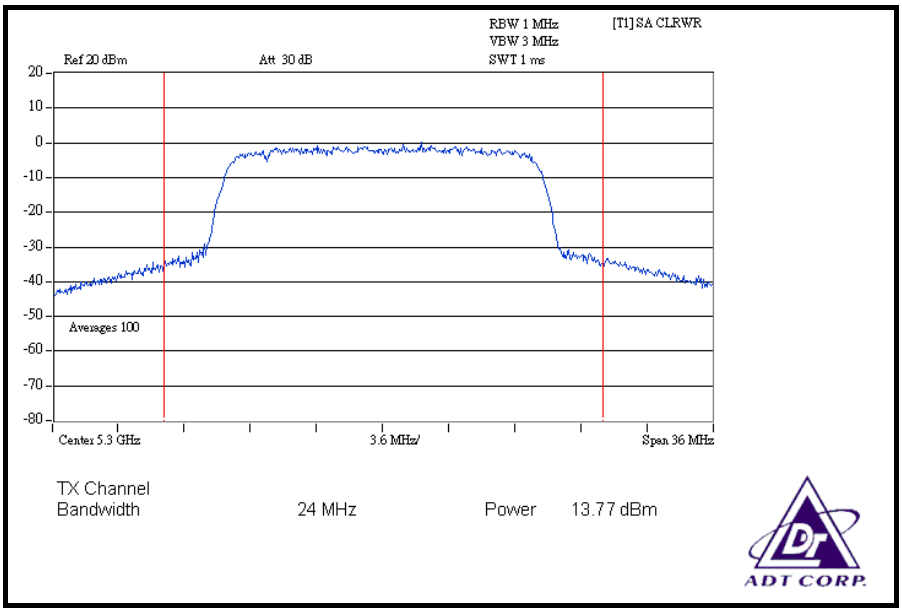
MODULATION TYPE	BPSK	**TRANSFER RATE**	6.0Mbps
INPUT POWER (SYSTEM)	120Vac, 60Hz	**ENVIRONMENTAL CONDITIONS**	25 deg.C, 65 %RH, 991hPa
TESTED BY	Brad Wu		

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS / FAIL
52	5260	22.751	13.57	24.00	PASS
60	5300	23.823	13.77	24.00	PASS
64	5320	23.496	13.71	24.00	PASS
100	5500	22.961	13.61	24.00	PASS
120	5600	23.388	13.69	24.00	PASS
140	5700	22.856	13.59	24.00	PASS

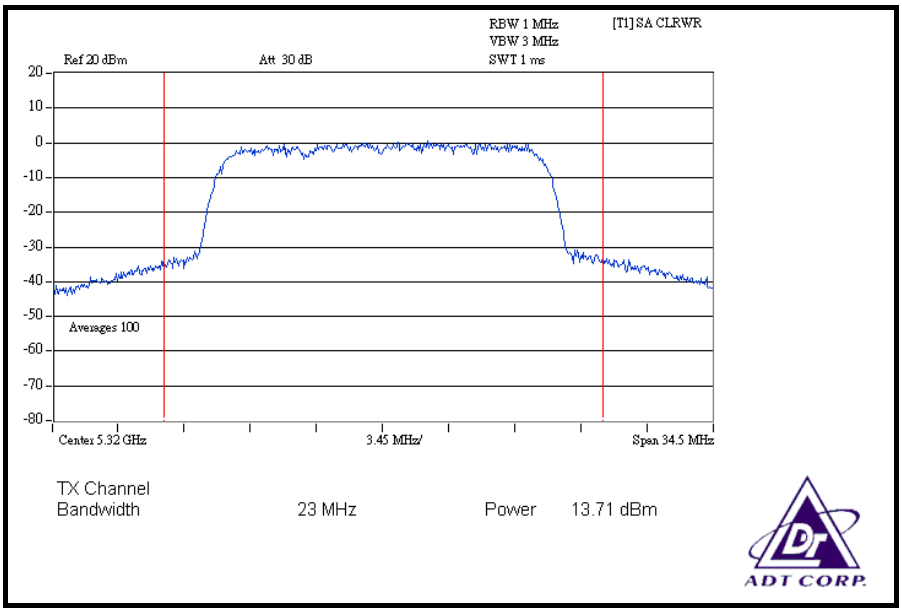
CH 52


RBW 1 MHz
VBW 3 MHz
SWT 1 ms
[T1] SA CLRWR
Ref 20 dBm
Att 30 dB
Averages 100
Center 5.26 GHz
3.6 MHz/
Span 36 MHz
TX Channel Bandwidth
24 MHz
Power
13.57 dBm
ADT CORP.

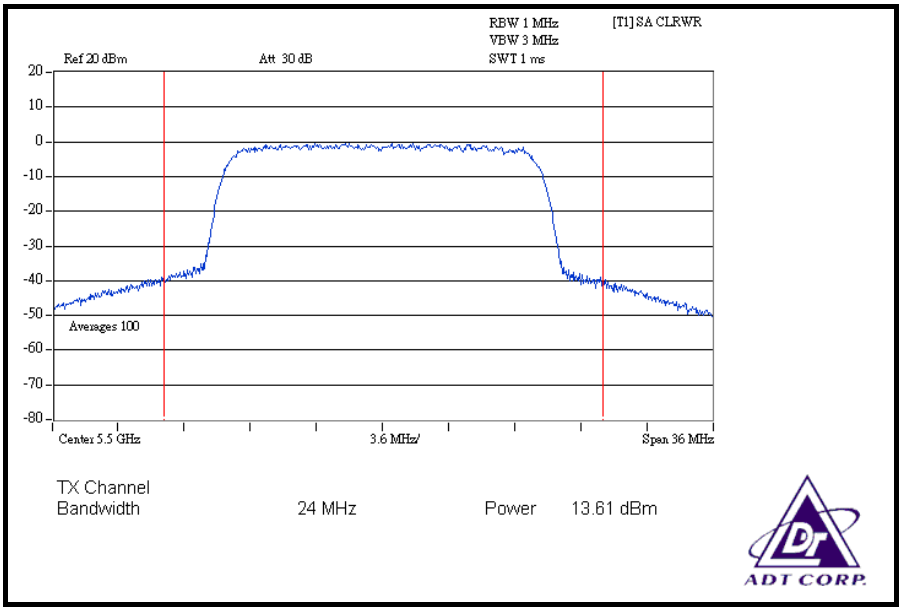
CH 60


RBW 1 MHz
VBW 3 MHz
SWT 1 ms
[T1] SA CLRWR
Ref 20 dBm
Att 30 dB
Averages 100
Center 5.3 GHz
3.6 MHz/
Span 36 MHz
TX Channel Bandwidth
24 MHz
Power
13.77 dBm
ADT CORP.

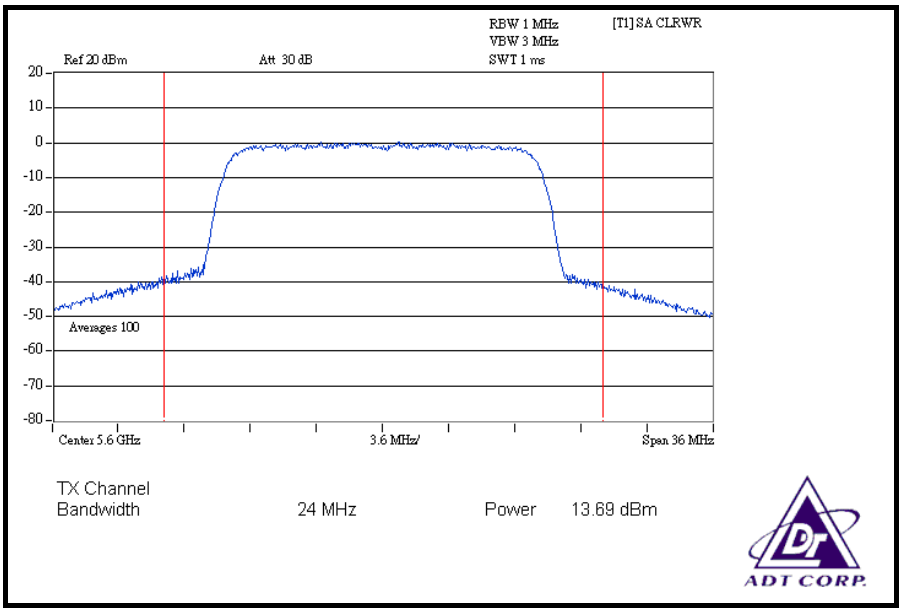
CH 64


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
3.45 MHz/
Span 34.5 MHz
TX Channel Bandwidth
23 MHz
Power
13.71 dBm
ADT CORP.

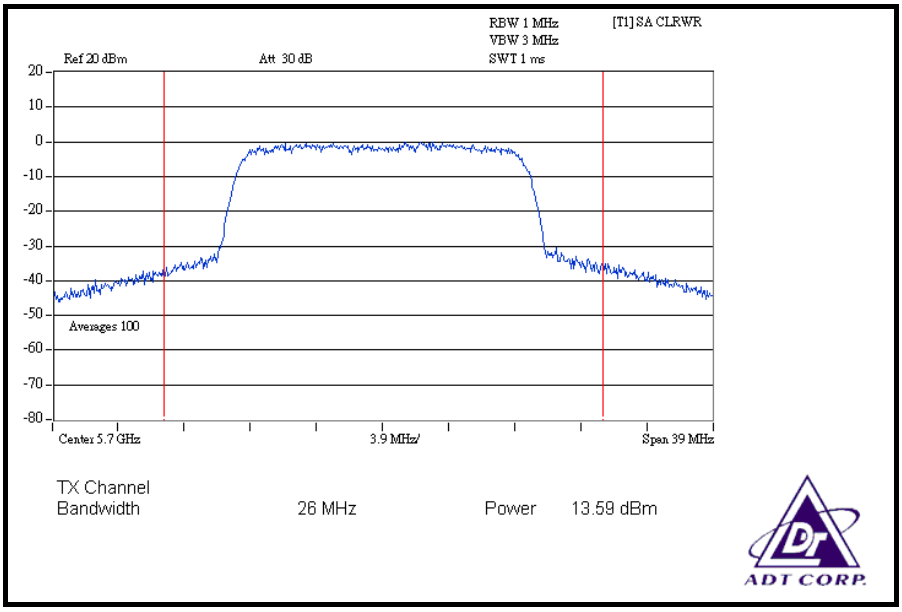
CH 100


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
13.61 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
13.69 dBm
ADT CORP.

CH 140

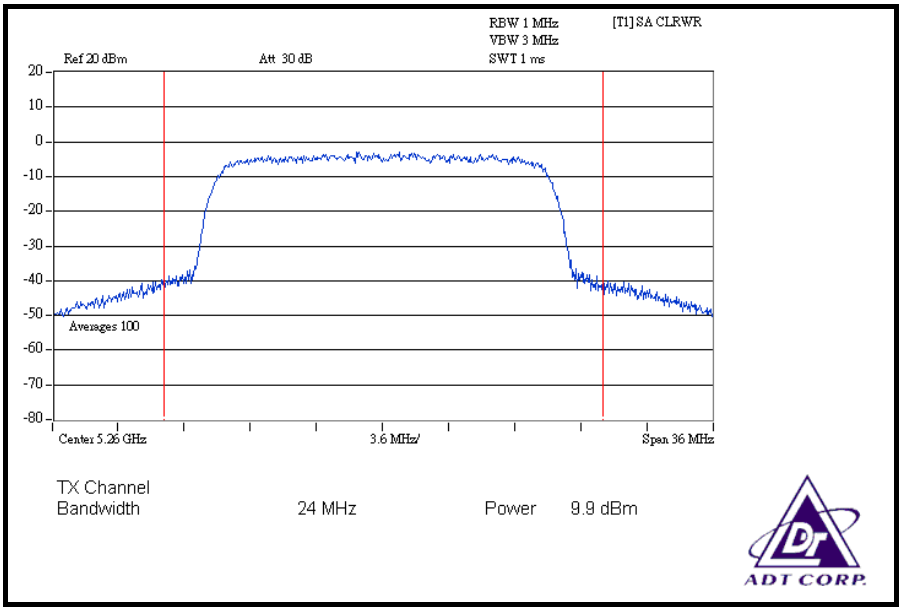

RBW 1 MHz
VBW 3 MHz
SWT 1 ms
[T1] SA CLRWR
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Averages 100
Center 5.7 GHz
3.9 MHz/
Span 39 MHz
TX Channel Bandwidth
26 MHz
Power
13.59 dBm
ADT CORP.

DRAFT 802.11n (20MHz) OFDM MODULATION

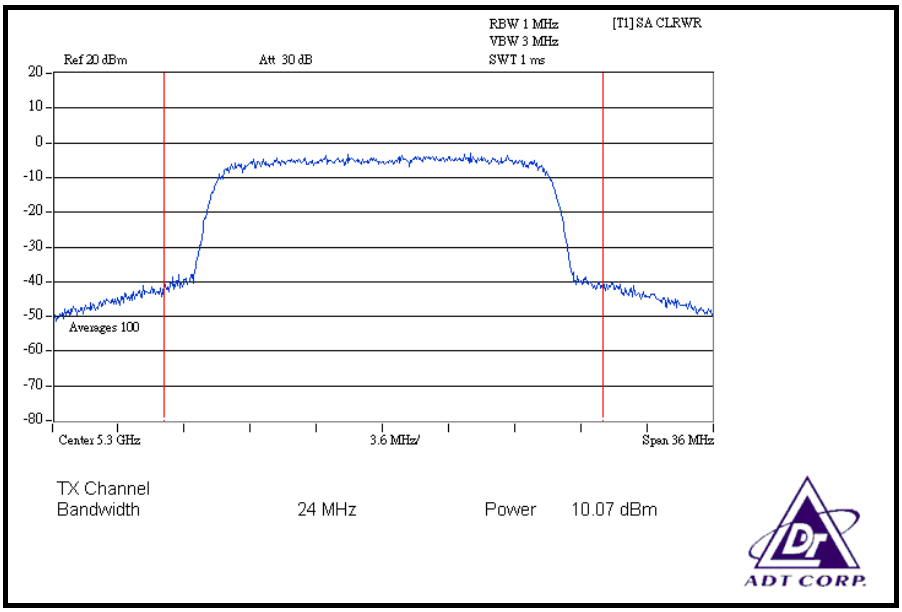
MODULATION TYPE	BPSK	**TRANSFER RATE**	6.5Mbps
INPUT POWER (SYSTEM)	120Vac, 60Hz	**ENVIRONMENTAL CONDITIONS**	25 deg.C, 65 %RH, 991hPa
TESTED BY	Brad Wu		

CHAN.	CHAN. FREQ. (MHz)	PEAK POWER OUTPUT (dBm)			TOTAL PEAK POWER (mW)	TOTAL PEAK POWER (dBm)	PEAK POWER LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2				
52	5260	9.90	9.69	9.55	28.099	14.49	24	PASS
60	5300	10.07	9.78	9.68	28.958	14.62	24	PASS
64	5320	9.85	9.58	9.54	27.734	14.43	24	PASS
100	5500	10.01	9.64	9.51	28.161	14.50	24	PASS
120	5600	10.18	9.82	9.75	29.458	14.69	24	PASS
140	5700	9.88	9.80	9.67	28.546	14.56	24	PASS

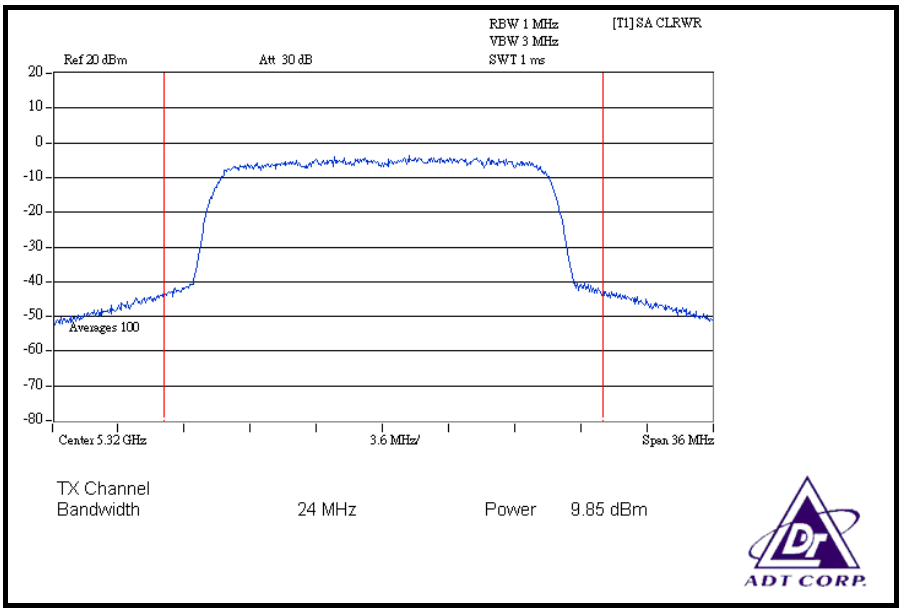
CHAIN 0: CH 52



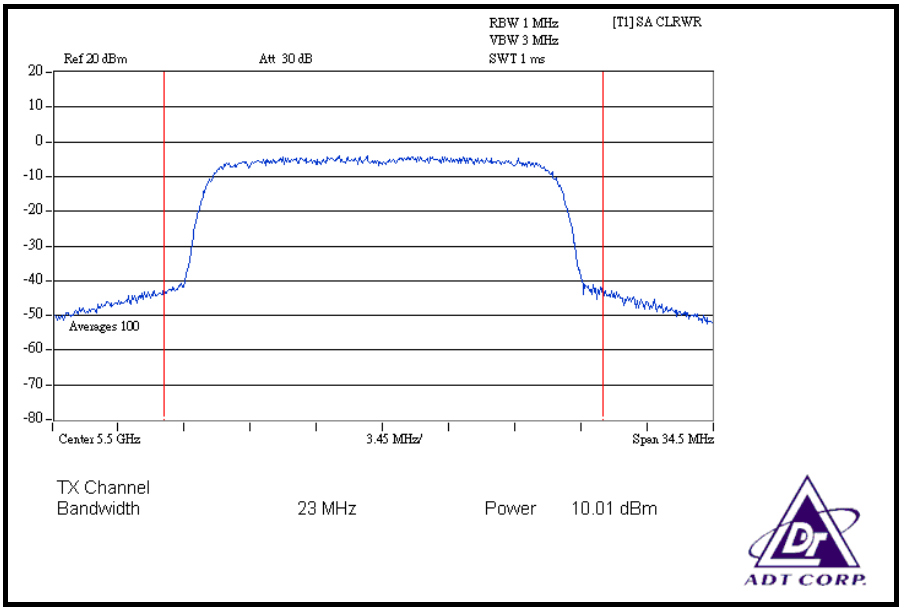
CH 60



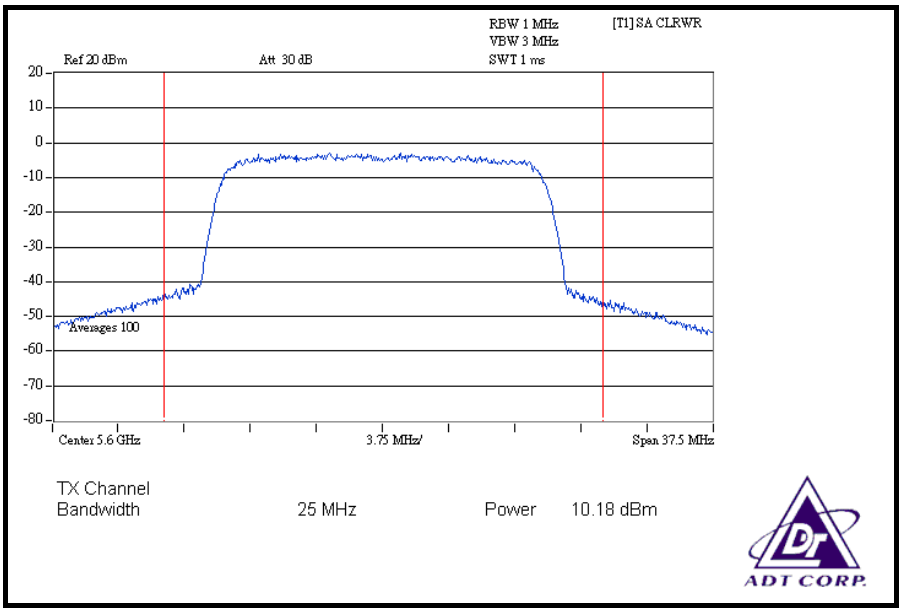
CH 64


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
9.85 dBm
ADT CORP.

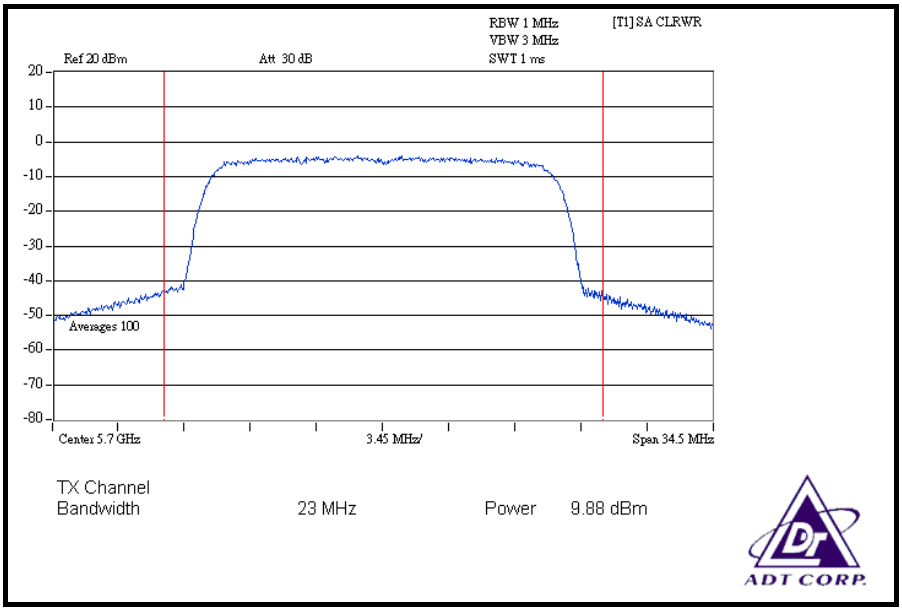
CH 100


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
3.45 MHz/
Span 34.5 MHz
TX Channel Bandwidth
23 MHz
Power
10.01 dBm
ADT CORP.

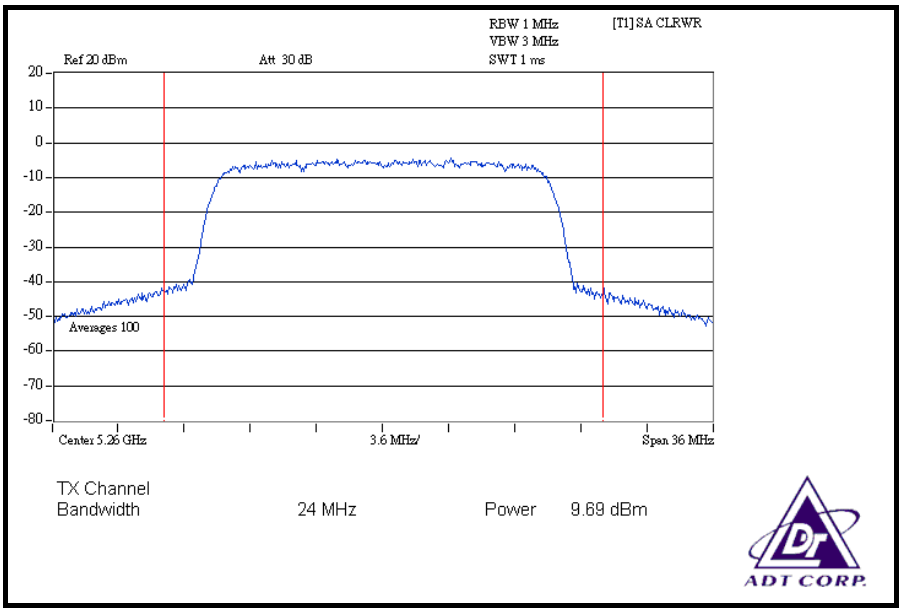
CH 120


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
3.75 MHz/
Span 37.5 MHz
TX Channel Bandwidth
25 MHz
Power
10.18 dBm
ADT CORP.

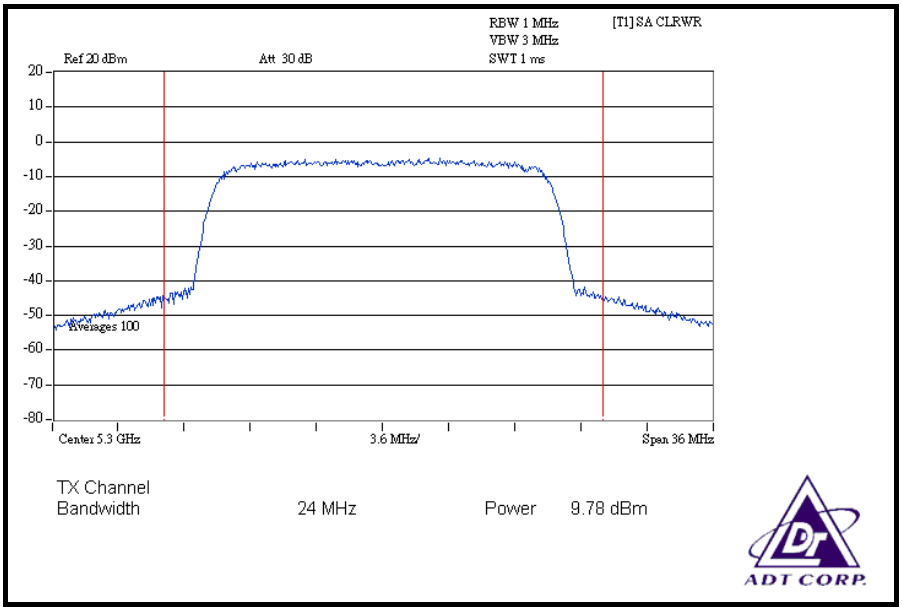
CH 140


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
3.45 MHz/
Span 34.5 MHz
TX Channel Bandwidth
23 MHz
Power
9.88 dBm
ADT CORP.

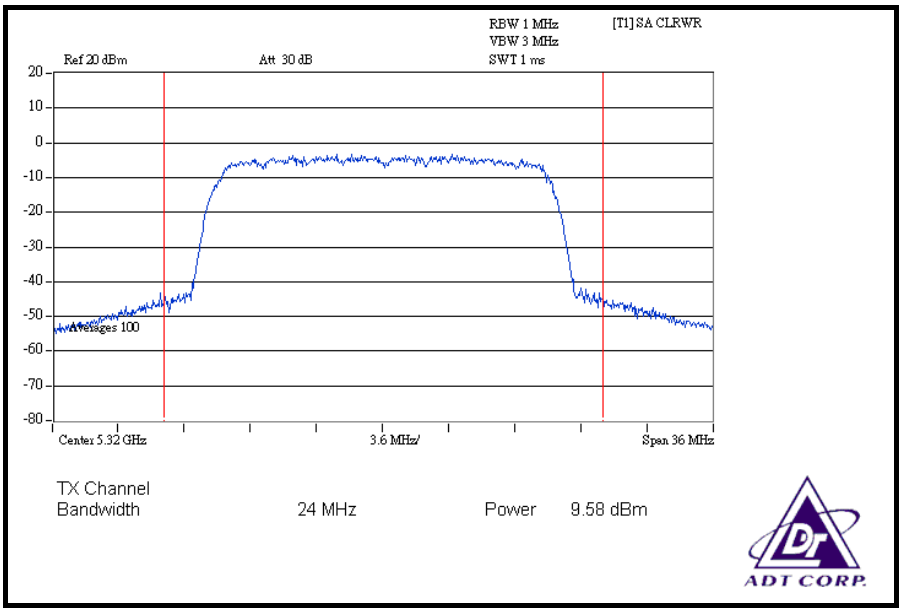
CHAIN 1: CH 52



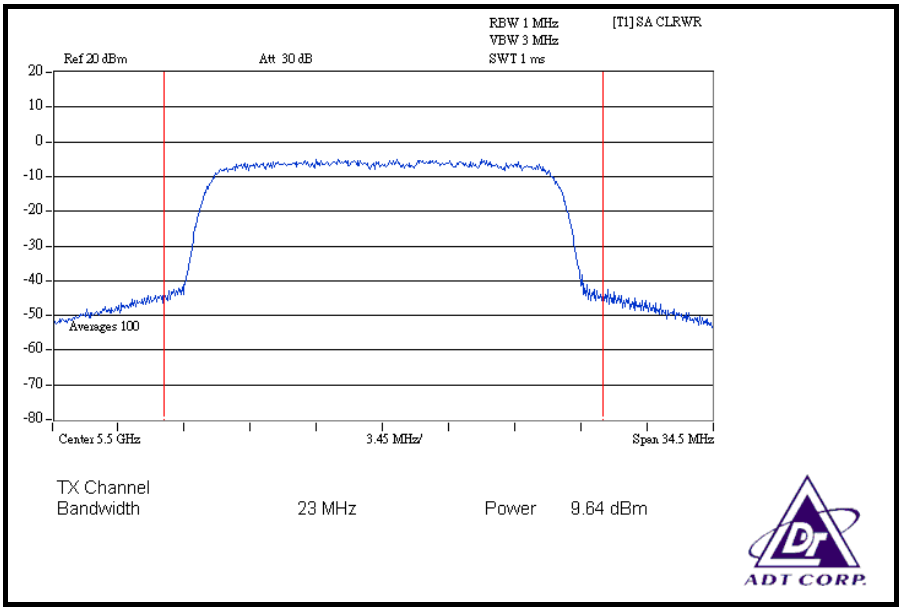
CH 60



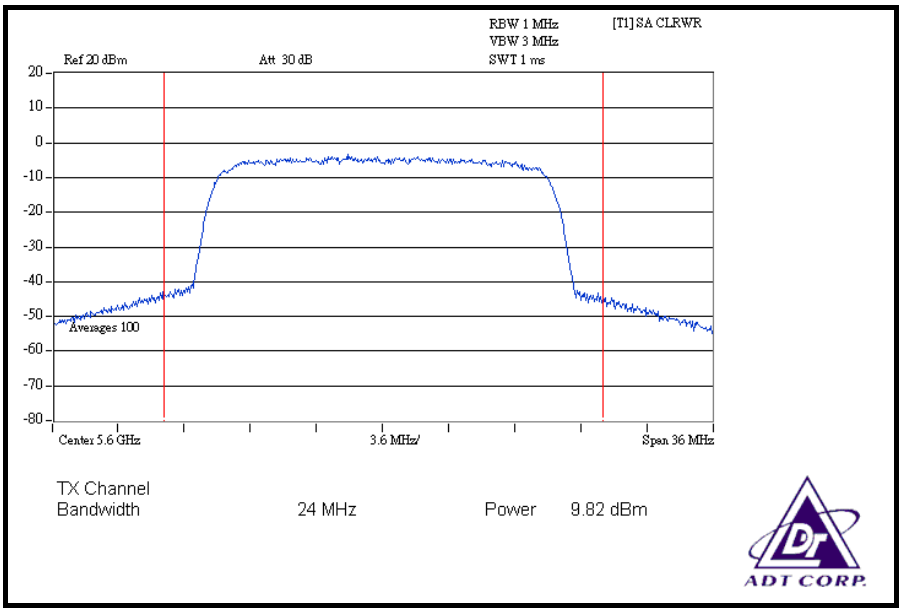
CH 64


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
9.58 dBm
ADT CORP.

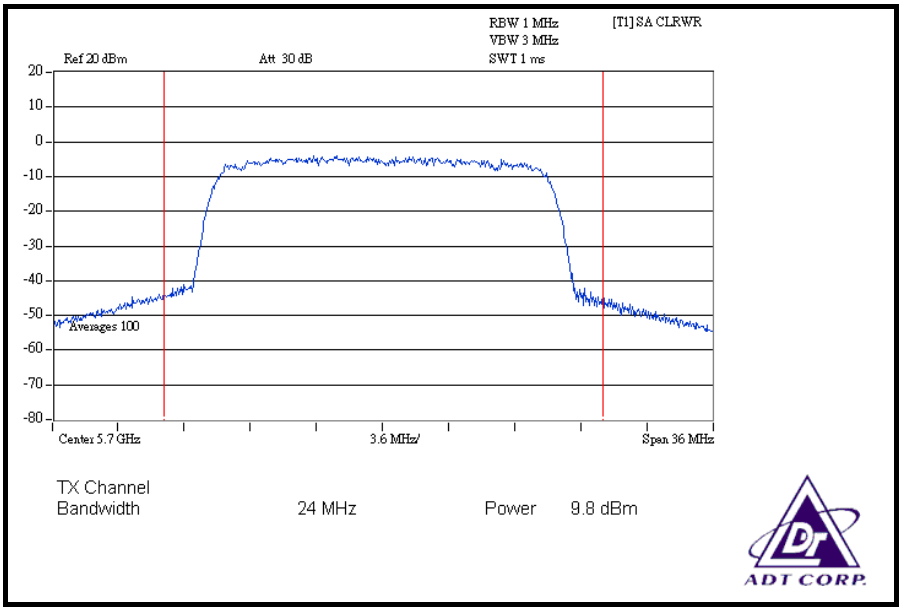
CH 100


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
3.45 MHz/
Span 34.5 MHz
TX Channel Bandwidth
23 MHz
Power
9.64 dBm
ADT CORP.

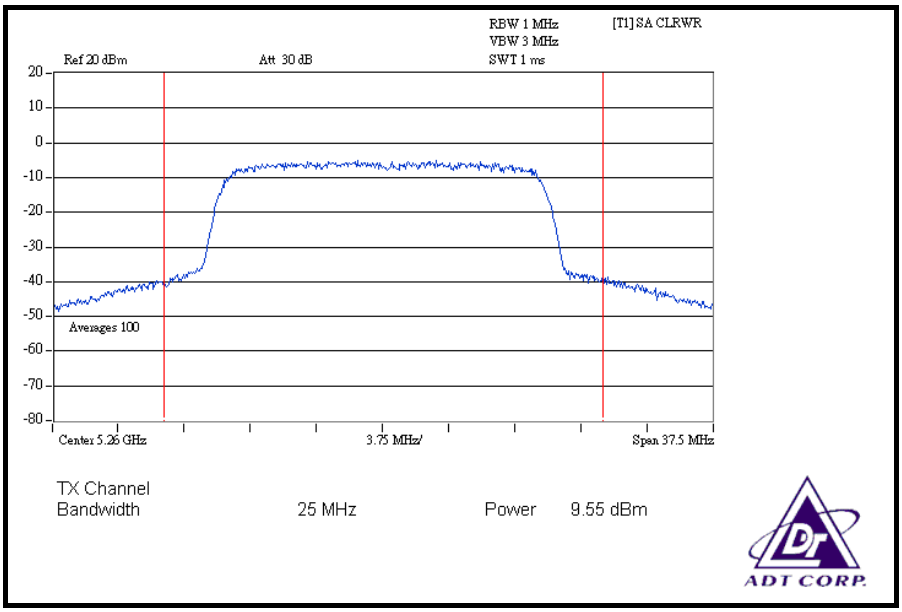
CH 120


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
9.82 dBm
ADT CORP.

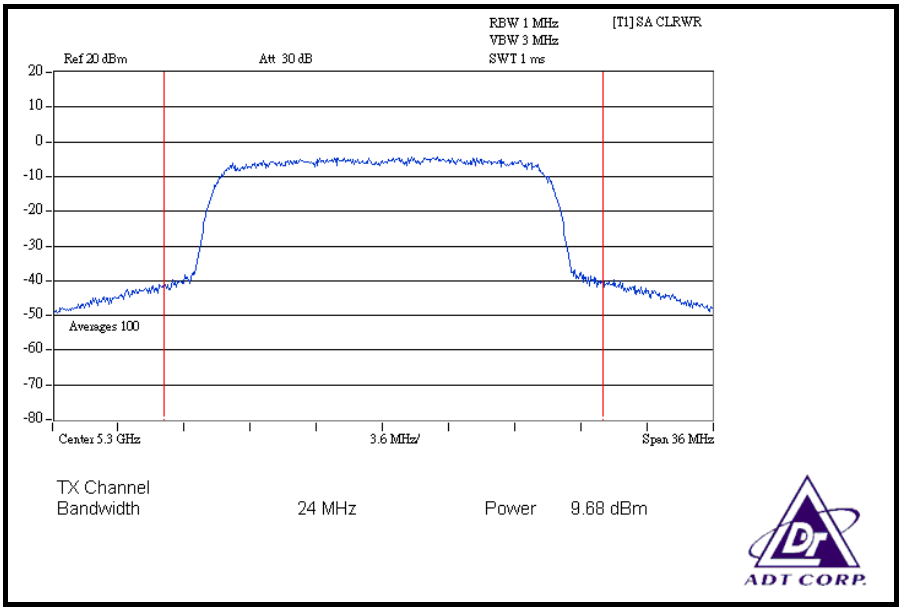
CH 140


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
9.8 dBm
ADT CORP.

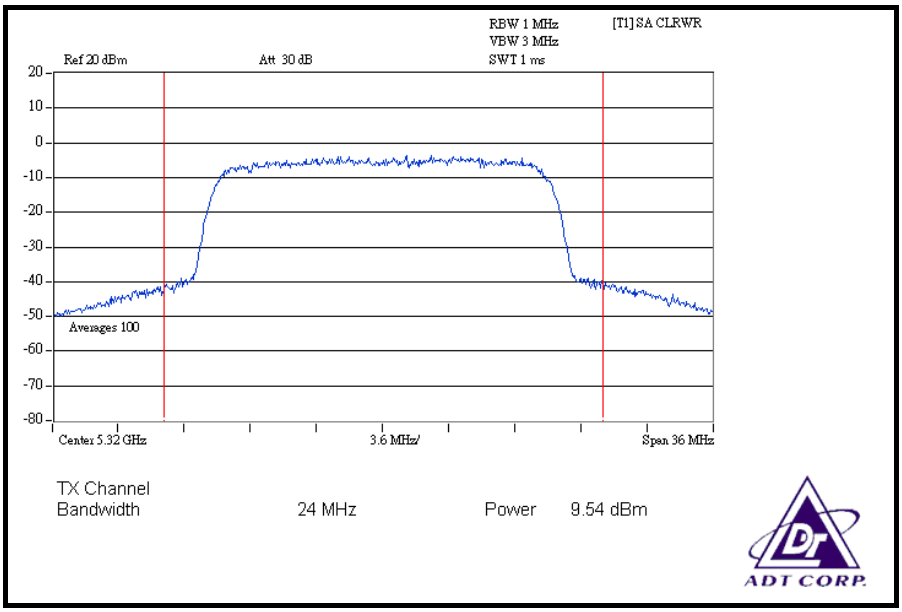
CHAIN 2: CH 52



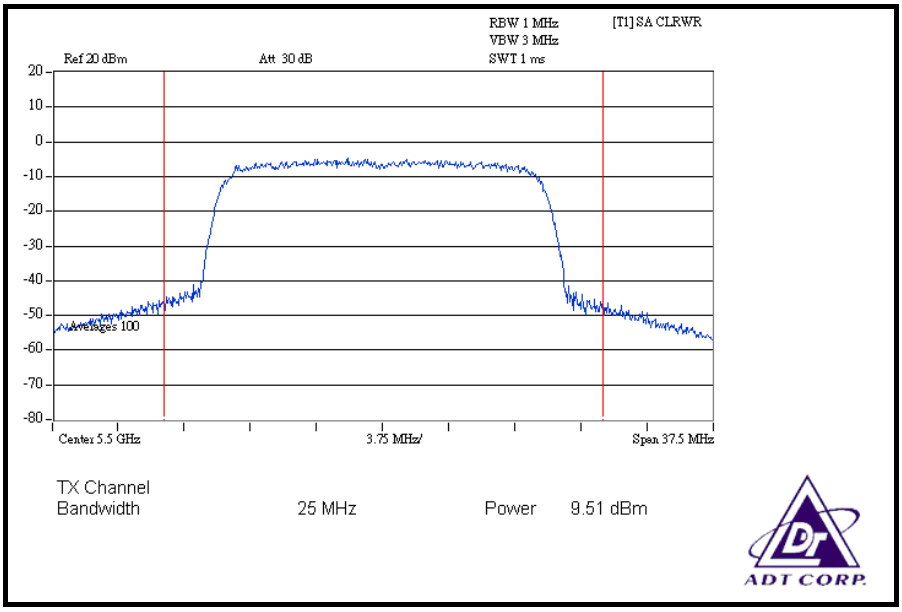
CH 60



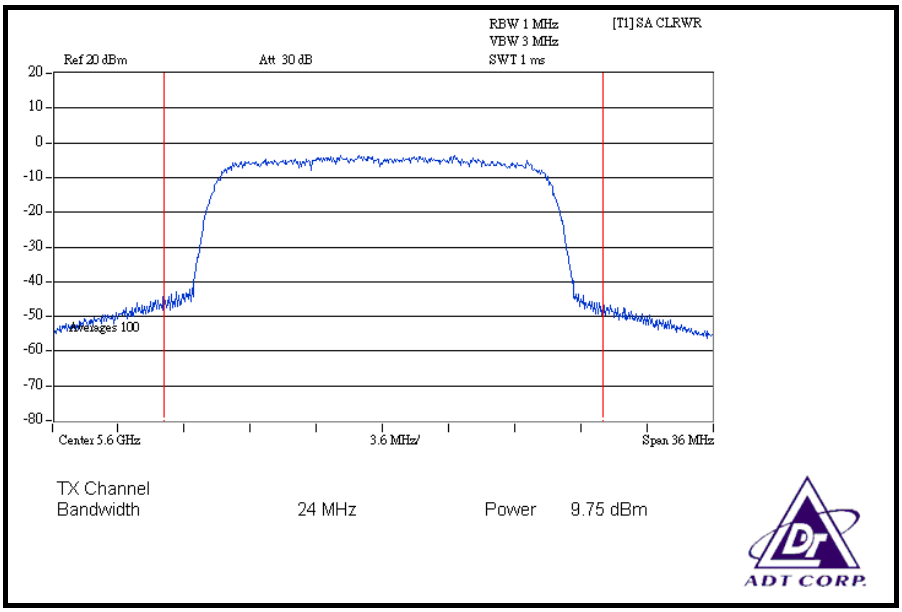
CH 64


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
9.54 dBm
ADT CORP.

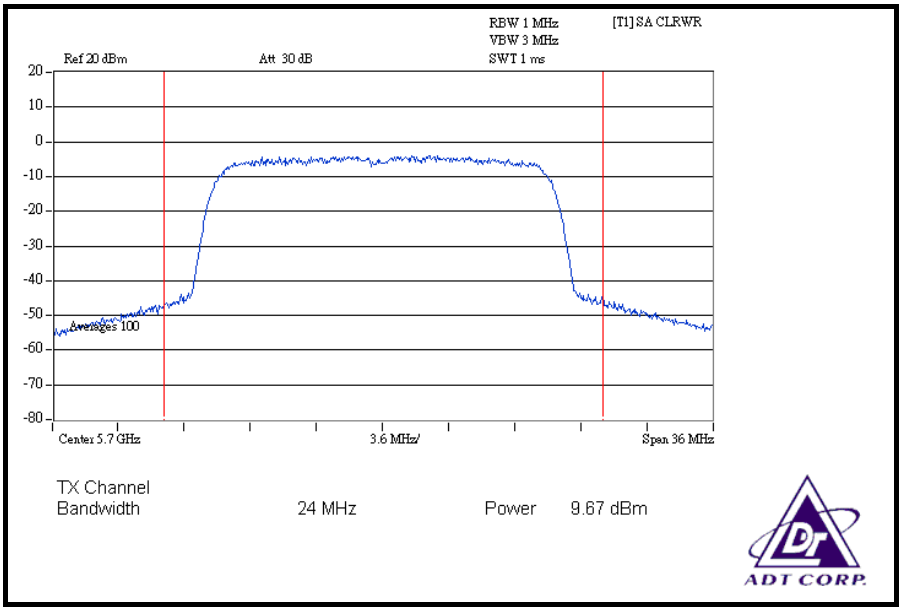
CH 100


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
3.75 MHz/
Span 37.5 MHz
TX Channel Bandwidth
25 MHz
Power
9.51 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
9.75 dBm
ADT CORP.

CH 140

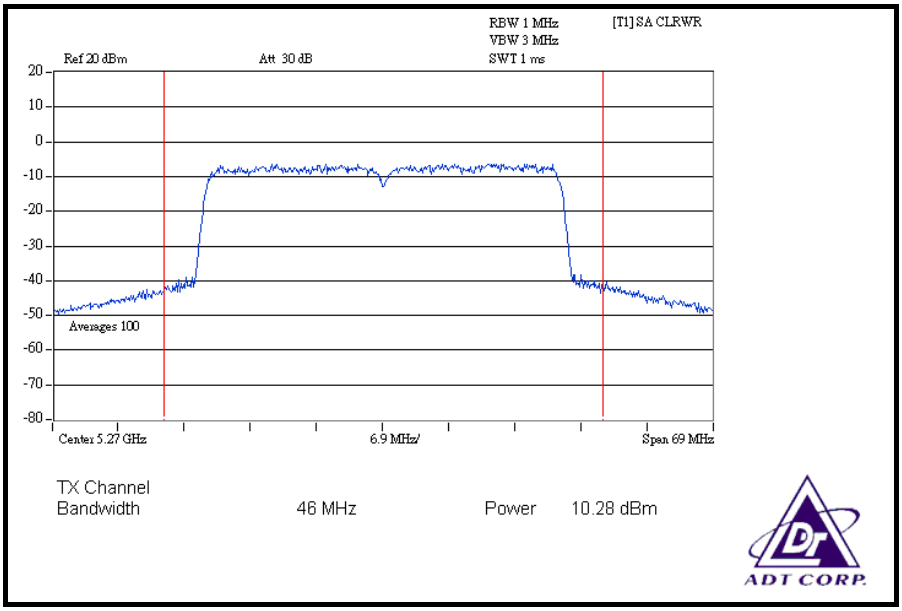

RBW 1 MHz
VBW 3 MHz
SWT 1 ms
[T1] SA CLRWR
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Averages 100
Center 5.7 GHz
3.6 MHz/
Span 36 MHz
TX Channel Bandwidth
24 MHz
Power
9.67 dBm
ADT CORP.

DRAFT 802.11n (40MHz) OFDM MODULATION

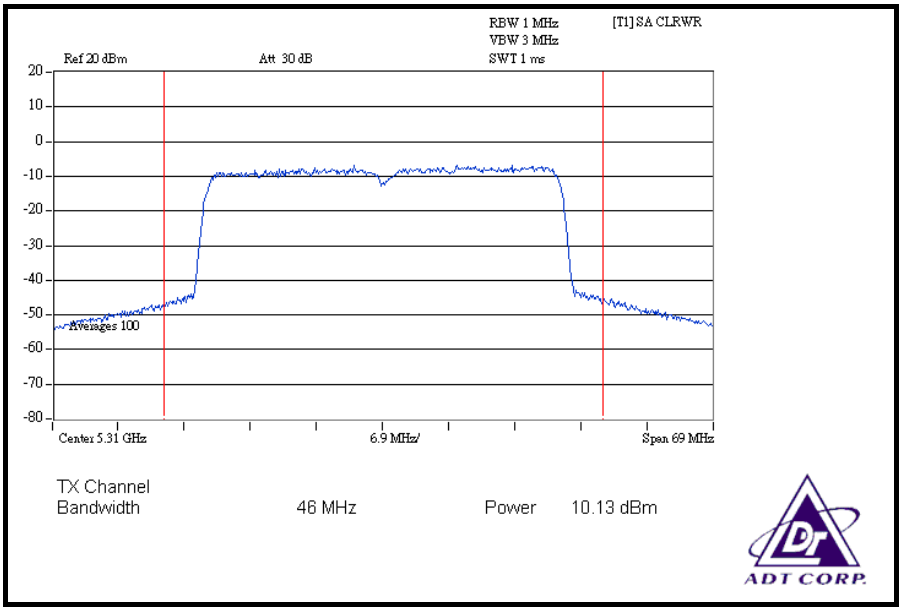
MODULATION TYPE	BPSK	**TRANSFER RATE**	13.5Mbps
INPUT POWER (SYSTEM)	120Vac, 60Hz	**ENVIRONMENTAL CONDITIONS**	25 deg.C, 65 %RH, 991hPa
TESTED BY	Brad Wu		

CHAN.	CHAN. FREQ. (MHz)	PEAK POWER OUTPUT (dBm)			TOTAL PEAK POWER (mW)	TOTAL PEAK POWER (dBm)	PEAK POWER LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2				
54	5270	10.28	9.72	9.69	29.353	14.68	24	PASS
62	5310	10.13	9.62	9.66	28.713	14.58	24	PASS
102	5510	10.20	9.69	9.56	28.819	14.60	24	PASS
118	5590	10.11	9.74	9.66	28.922	14.61	24	PASS
134	5670	9.91	9.78	9.58	28.379	14.53	24	PASS

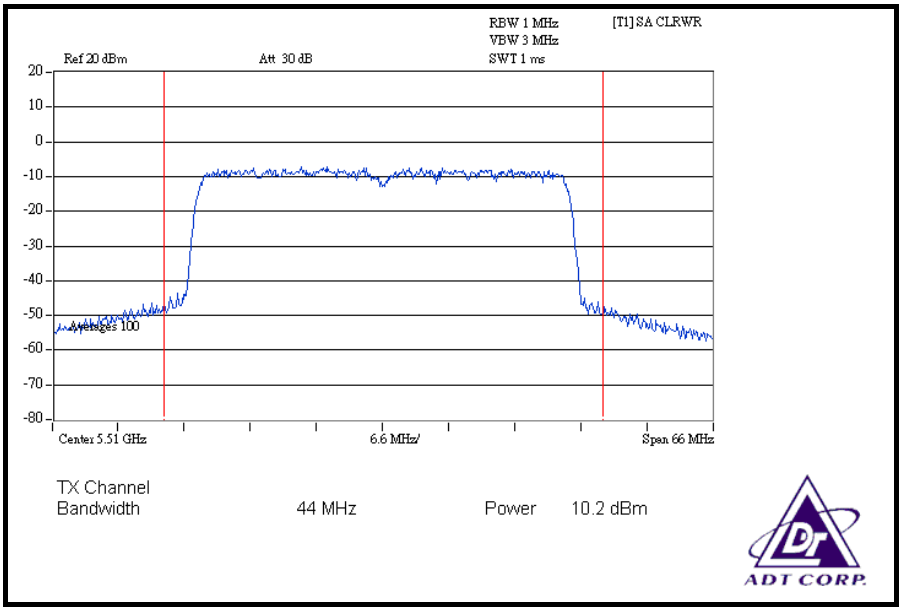
CHAIN 0: CH 54



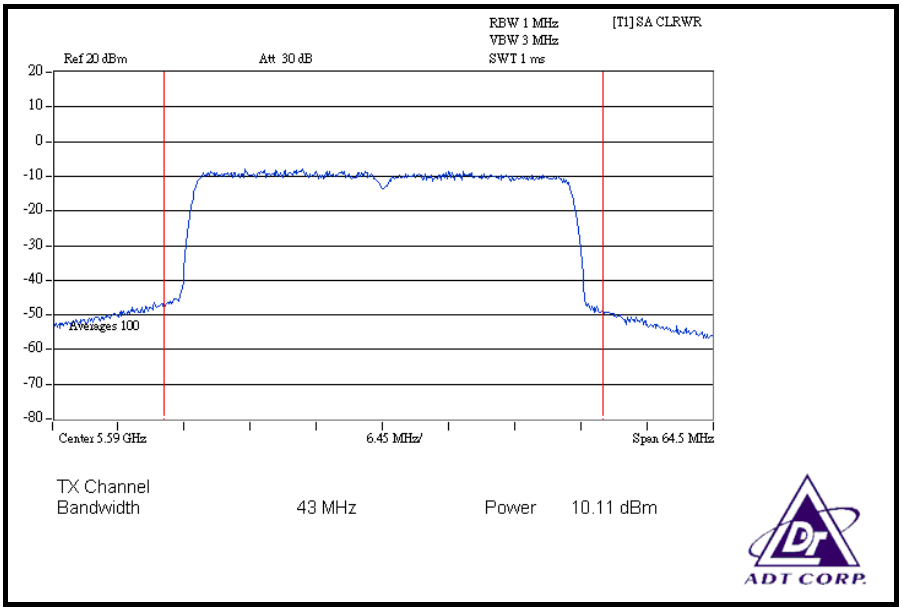
CH 62



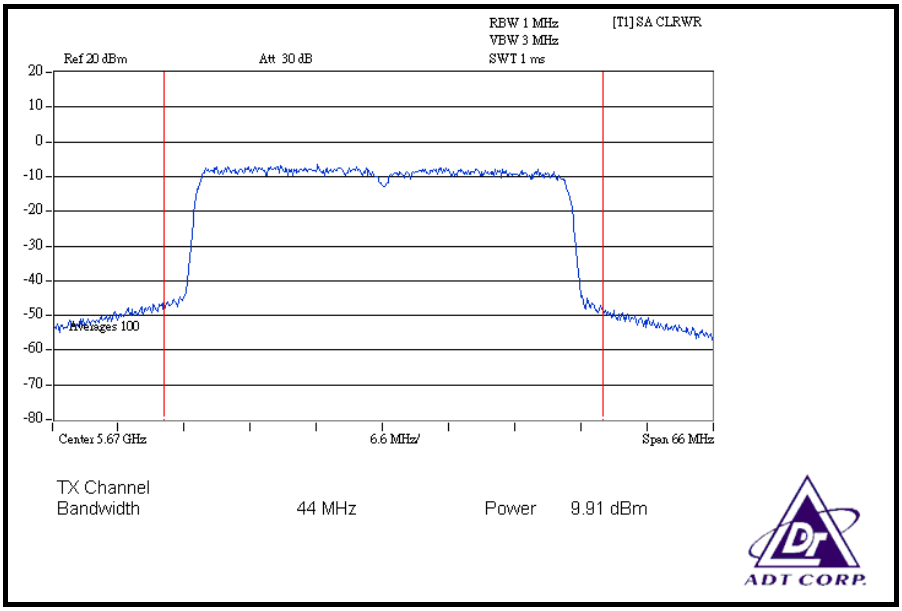
CH 102


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 5.51 GHz
6.6 MHz/
Span 66 MHz
TX Channel Bandwidth
44 MHz
Power
10.2 dBm
ADT CORP.

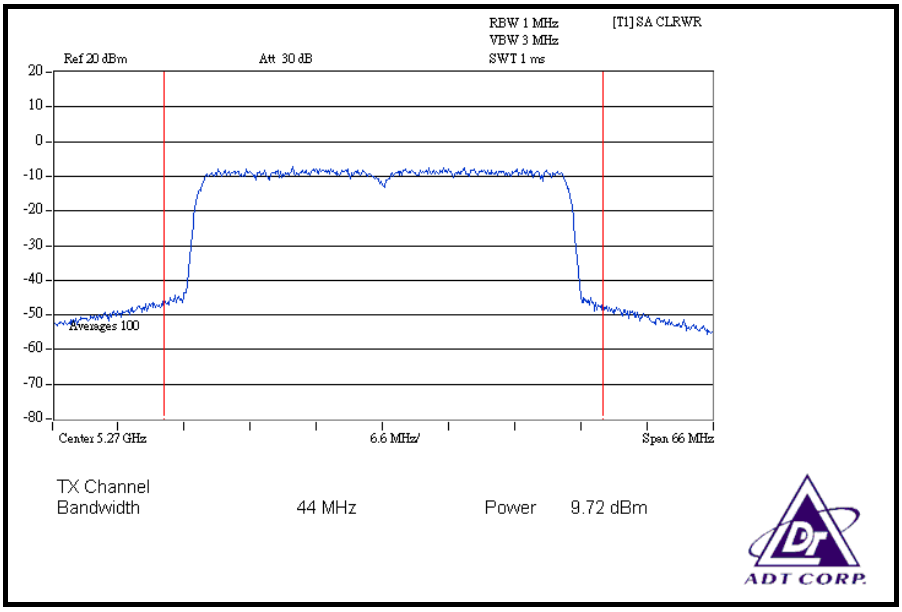
CH 118


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 5.59 GHz
6.45 MHz/
Span 64.5 MHz
TX Channel Bandwidth
43 MHz
Power
10.11 dBm
ADT CORP.

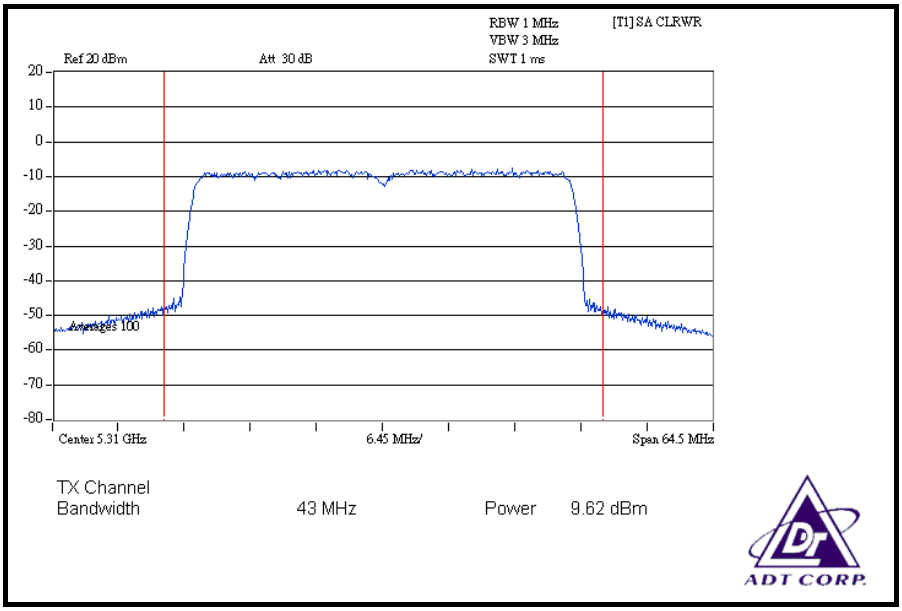
CH 134



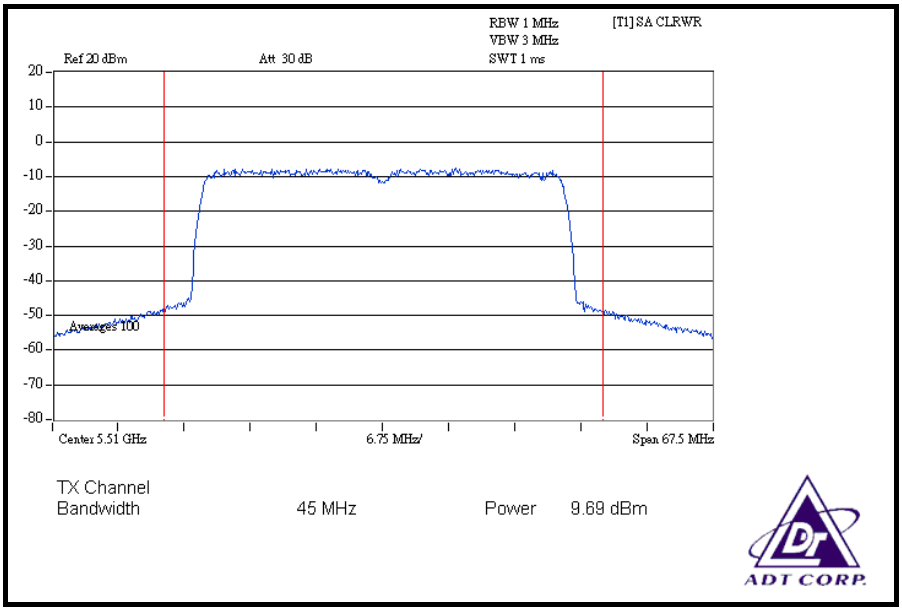
CHAIN 1: CH 54



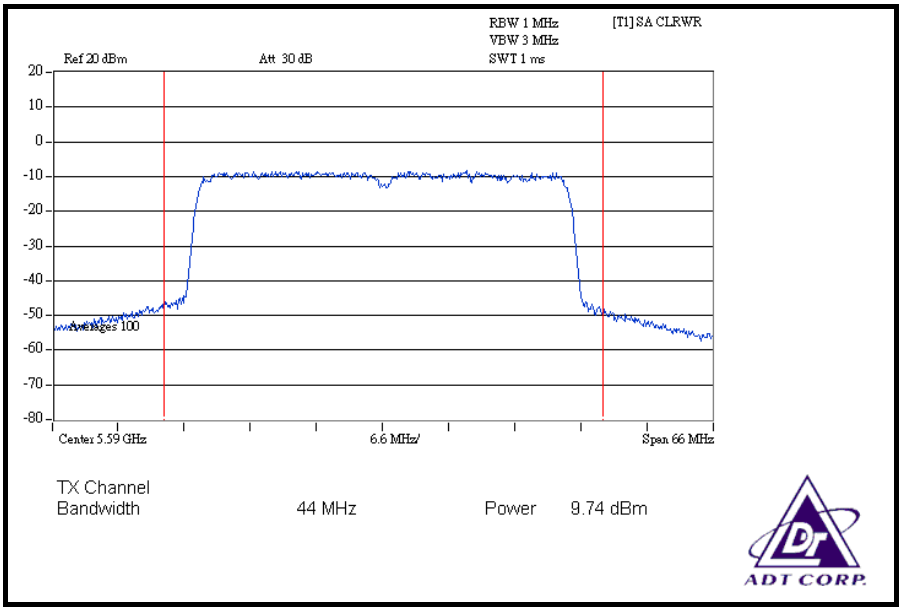
CH 62


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
Center 5.31 GHz
6.45 MHz/
Span 64.5 MHz
TX Channel Bandwidth
43 MHz
Power
9.62 dBm
ADT CORP.

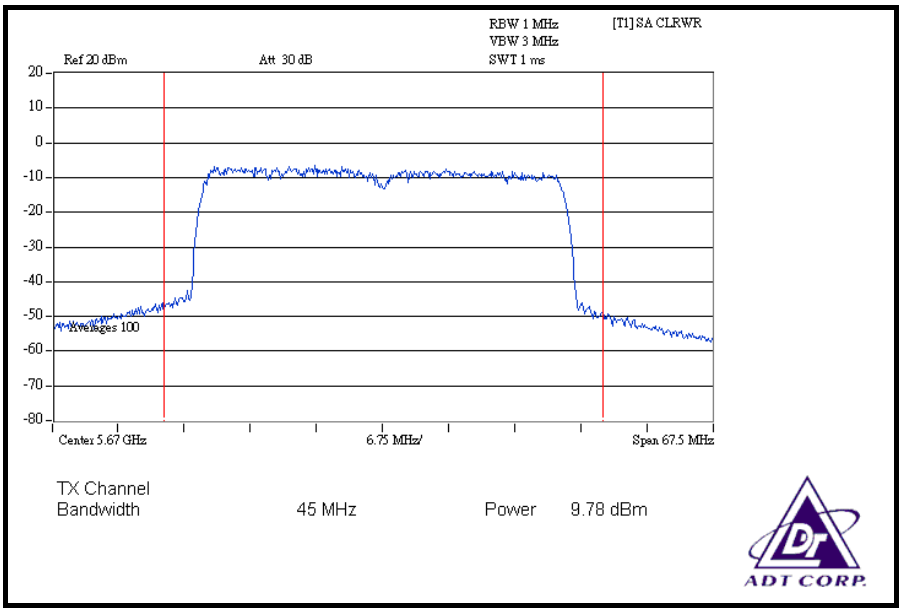
CH 102


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
Center 5.51 GHz
6.75 MHz/
Span 67.5 MHz
TX Channel Bandwidth
45 MHz
Power
9.69 dBm
ADT CORP.

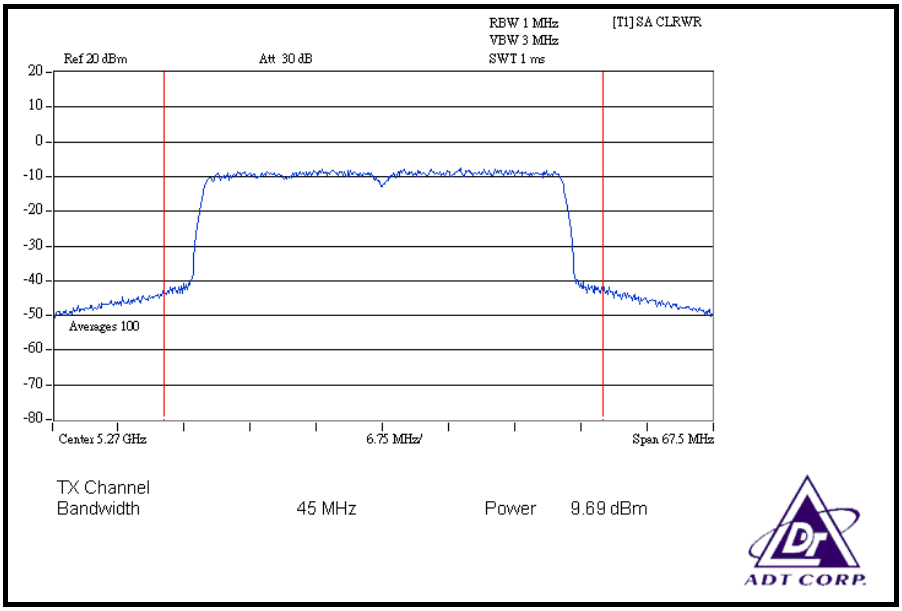
CH 118


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
Center 5.59 GHz
6.6 MHz/
Span 66 MHz
TX Channel Bandwidth
44 MHz
Power
9.74 dBm
ADT CORP.

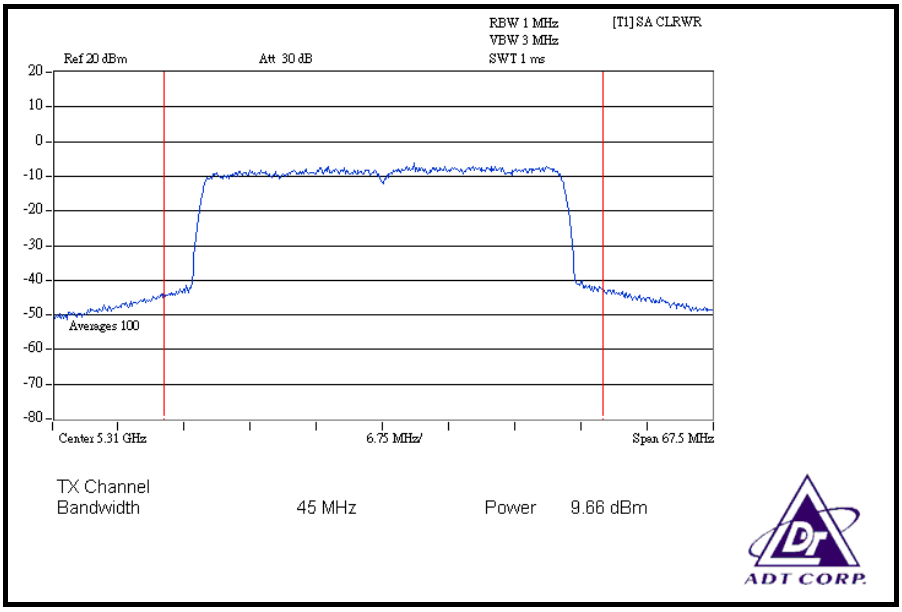
CH 134


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
Center 5.67 GHz
6.75 MHz/
Span 67.5 MHz
TX Channel Bandwidth
45 MHz
Power
9.78 dBm
ADT CORP.

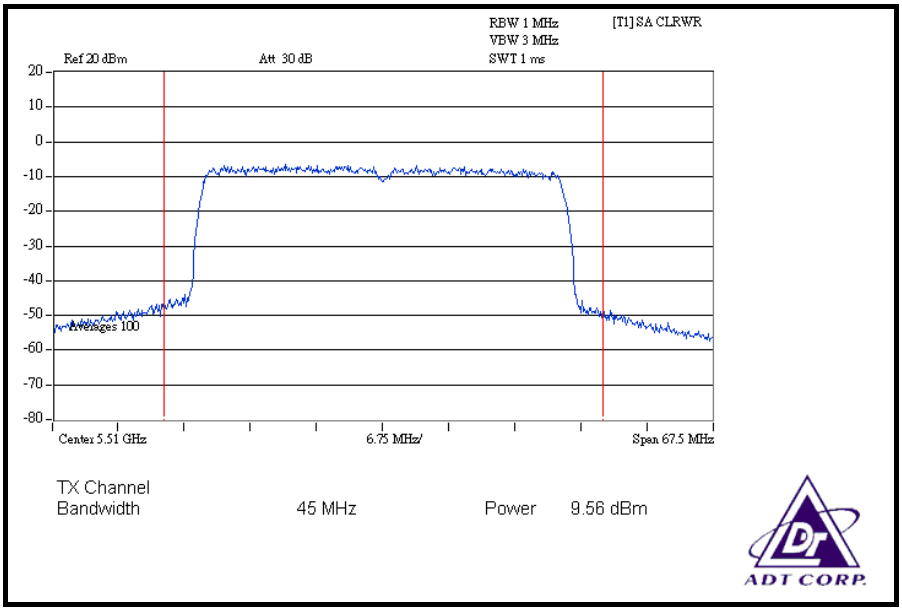
CHAIN 2: CH 54



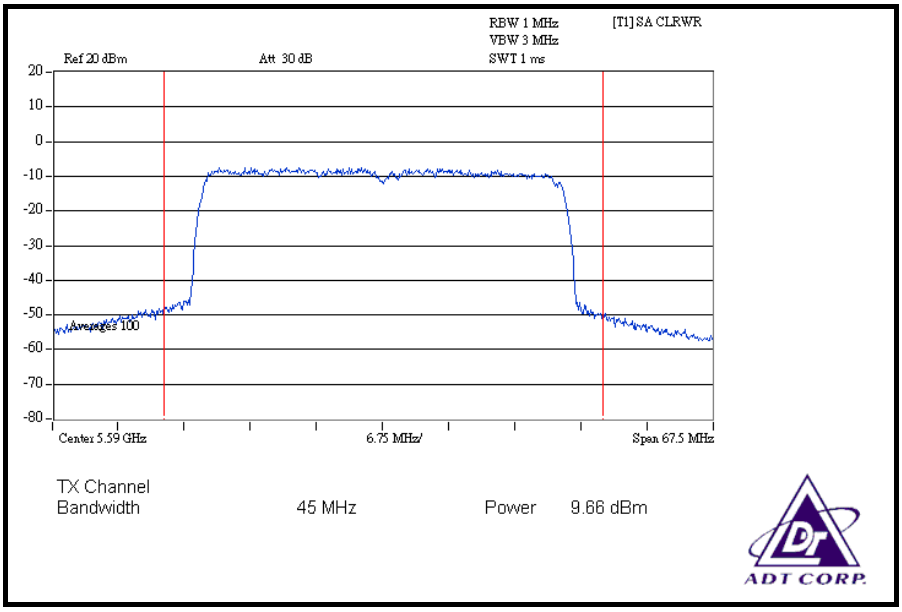
CH 62



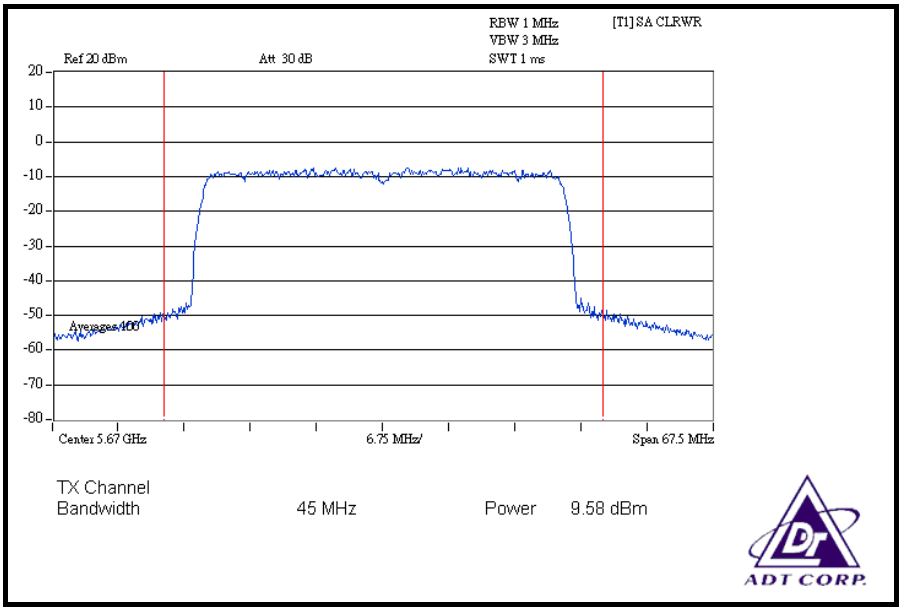
CH 102


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 5.51 GHz
6.75 MHz/
Span 67.5 MHz
TX Channel Bandwidth
45 MHz
Power
9.56 dBm
ADT CORP.

CH 118


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 5.59 GHz
6.75 MHz/
Span 67.5 MHz
TX Channel Bandwidth
45 MHz
Power
9.66 dBm
ADT CORP.

CH 134

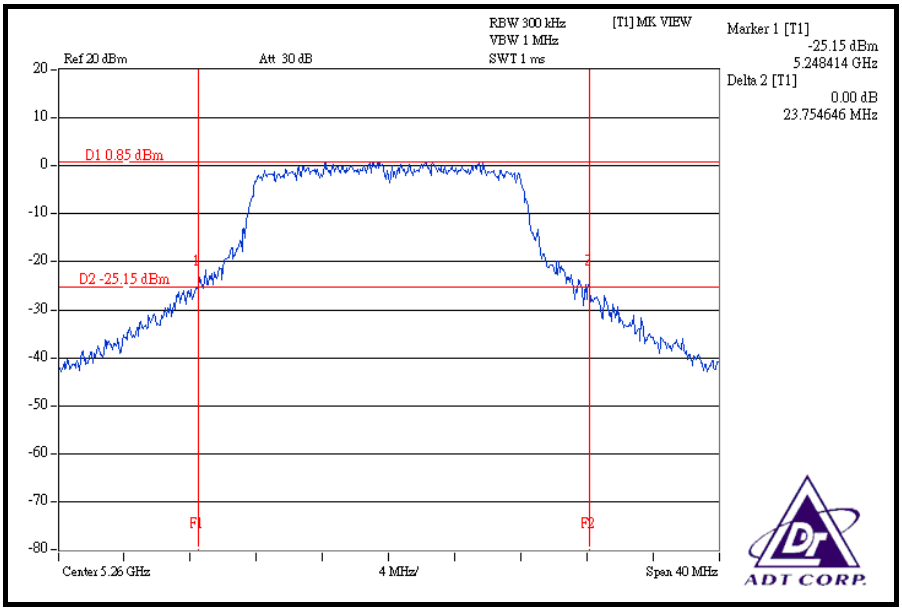

RBW 1 MHz
VBW 3 MHz
SWT 1 ms
[T1] SA CLRWR
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Averages 100
Center 5.67 GHz
6.75 MHz/
Span 67.5 MHz
TX Channel Bandwidth
45 MHz
Power
9.58 dBm
ADT CORP.

26dB OCCUPIED BANDWIDTH: 802.11a OFDM MODULATION

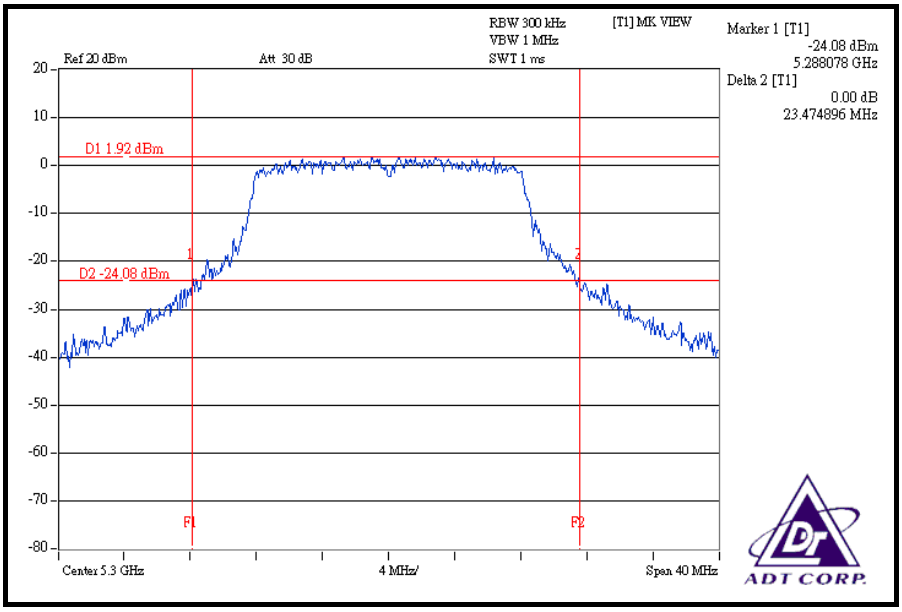
MODULATION TYPE	BPSK	**TRANSFER RATE**	6.0Mbps
INPUT POWER (SYSTEM)	120Vac, 60Hz	**ENVIRONMENTAL CONDITIONS**	25 deg.C, 65 %RH, 991hPa
TESTED BY	Brad Wu		

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc OCCUPIED BANDWIDTH (MHz)	PASS / FAIL
52	5260	23.75	PASS
60	5300	23.47	PASS
64	5320	22.95	PASS
100	5500	23.02	PASS
120	5600	23.13	PASS
140	5700	25.05	PASS

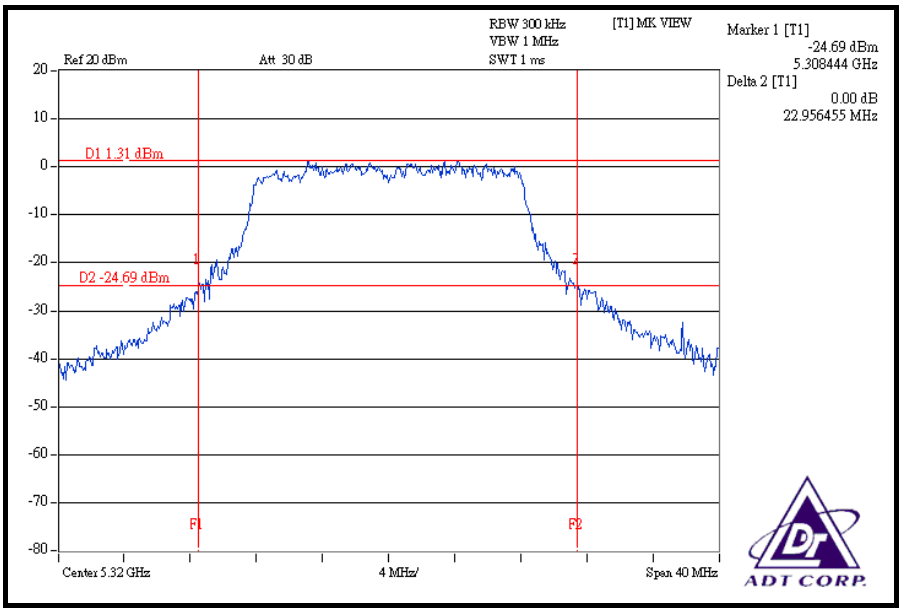
CH 52


RBW 300 kHz
VBW 1 MHz
SWT 1 ms
[T1] MK VIEW
Marker 1 [T1]
-25.15 dBm
5.248414 GHz
Delta 2 [T1]
0.00 dB
23.754646 MHz
Ref 20 dBm
Att 30 dB
D1 0.85 dBm
D2 -25.15 dBm
F1
F2
Center 5.26 GHz
4 MHz/
Span 40 MHz
ADT CORP.

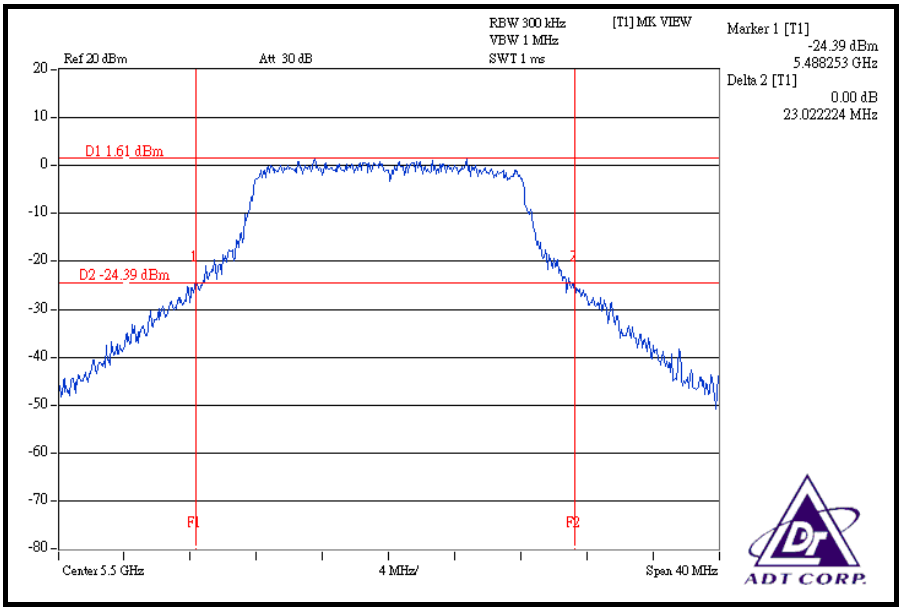
CH 60


RBW 300 kHz
VBW 1 MHz
SWT 1 ms
[T1] MK VIEW
Marker 1 [T1]
-24.08 dBm
5.288078 GHz
Delta 2 [T1]
0.00 dB
23.474896 MHz
Ref 20 dBm
Att 30 dB
D1 1.92 dBm
D2 -24.08 dBm
F1
F2
Center 5.3 GHz
4 MHz/
Span 40 MHz
ADT CORP.

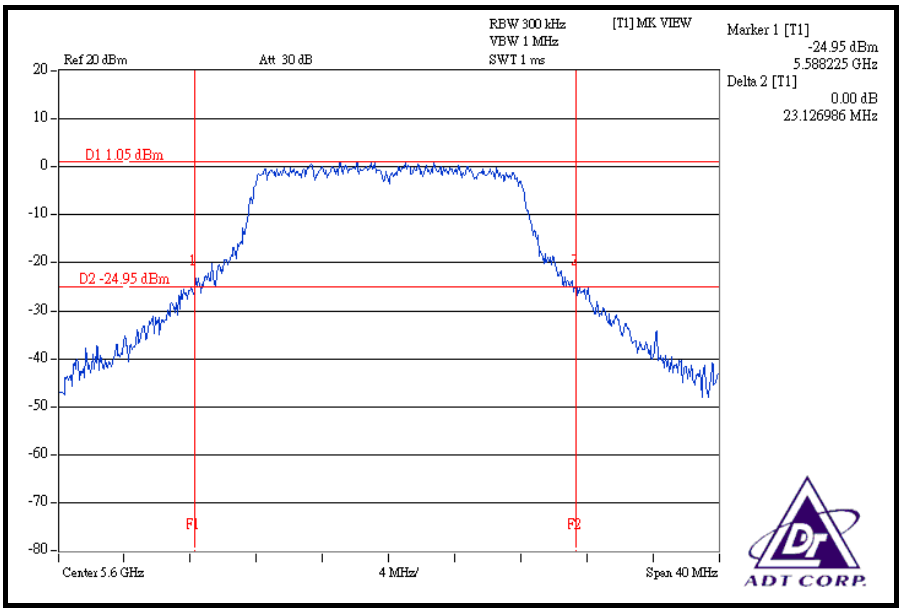
CH 64


RBW 300 kHz
VBW 1 MHz
SWT 1 ms
[T1] MK VIEW
Marker 1 [T1]
-24.69 dBm
5.308444 GHz
Delta 2 [T1]
0.00 dB
22.956455 MHz
Ref 20 dBm
Att 30 dB
D1 1.31 dBm
D2 -24.69 dBm
F1
F2
Center 5.32 GHz
4 MHz/
Span 40 MHz
ADT CORP.

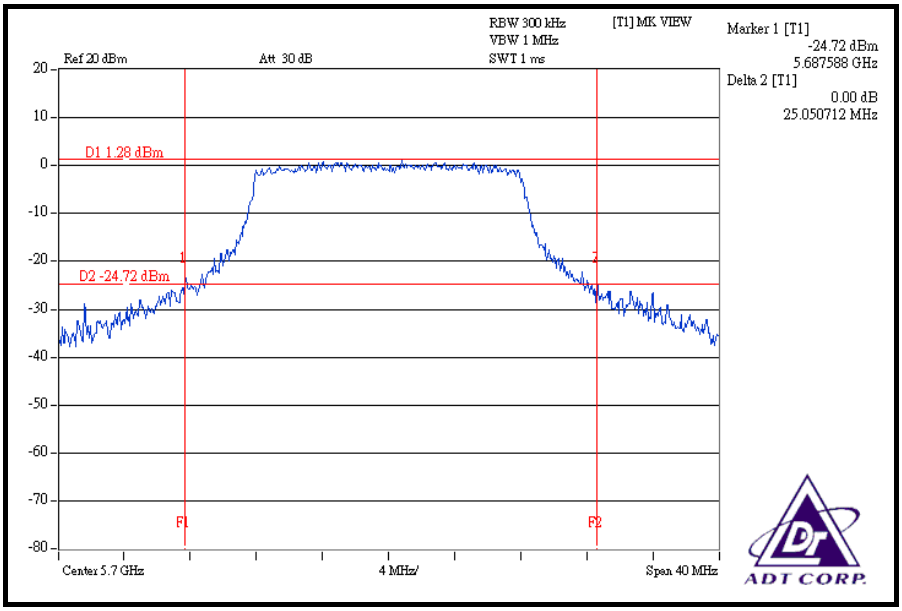
CH 100


RBW 300 kHz
VBW 1 MHz
SWT 1 ms
[T1] MK VIEW
Marker 1 [T1]
-24.39 dBm
5.488253 GHz
Delta 2 [T1]
0.00 dB
23.022224 MHz
Ref 20 dBm
Att 30 dB
D1 1.61 dBm
D2 -24.39 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]
-24.95 dBm
5.588225 GHz
Delta 2 [T1]
0.00 dB
23.126986 MHz
Ref 20 dBm
Att 30 dB
D1 1.05 dBm
D2 -24.95 dBm
F1
F2
Center 5.6 GHz
4 MHz/
Span 40 MHz
ADT CORP.

CH 140

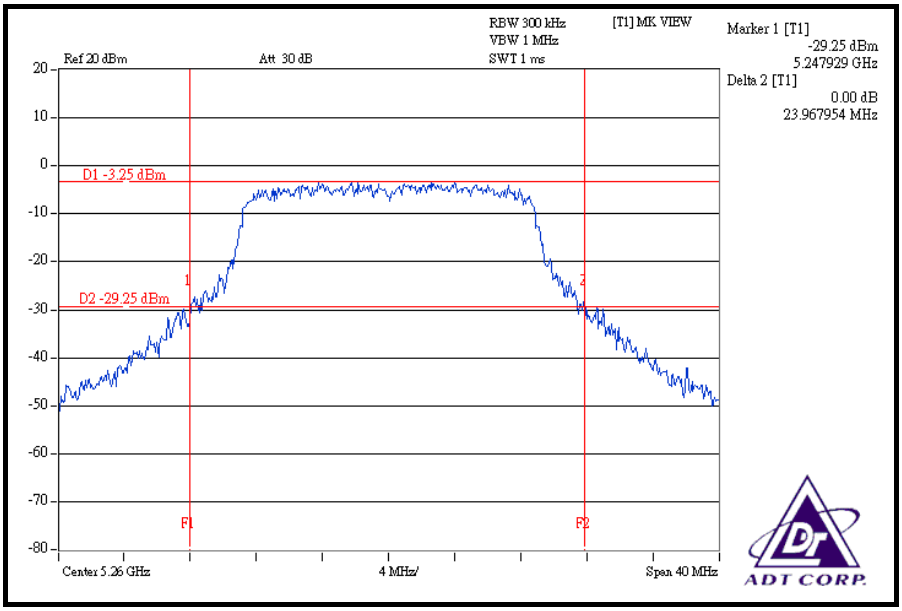

RBW 300 kHz
VBW 1 MHz
SWT 1 ms
[T1] MK VIEW
Marker 1 [T1]
-24.72 dBm
5.687588 GHz
Delta 2 [T1]
0.00 dB
25.050712 MHz
Ref 20 dBm
Att 30 dB
D1 1.28 dBm
D2 -24.72 dBm
F1
F2
Center 5.7 GHz
4 MHz/
Span 40 MHz
ADT CORP.

DRAFT 802.11n (20MHz) OFDM MODULATION

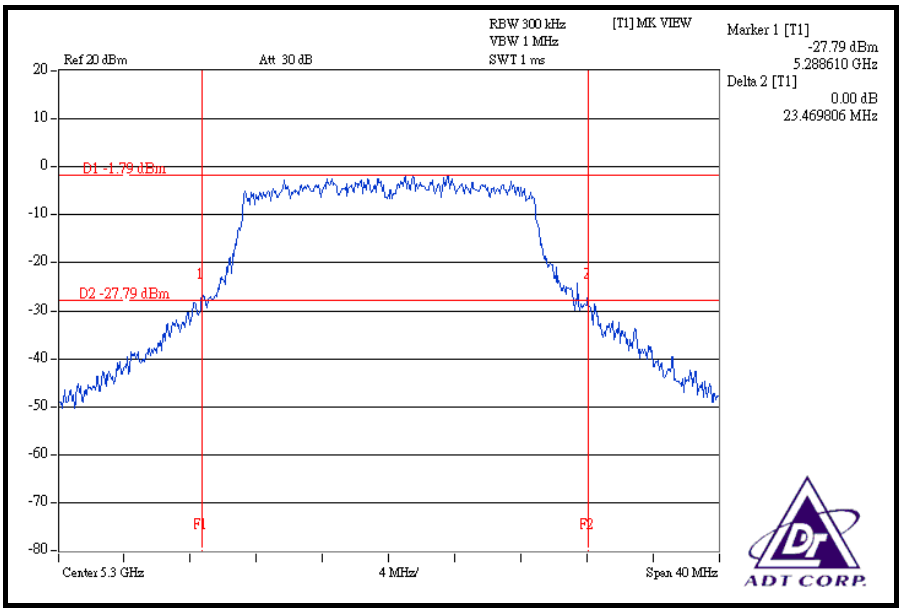
MODULATION TYPE	BPSK	**TRANSFER RATE**	6.5Mbps
INPUT POWER (SYSTEM)	120Vac, 60Hz	**ENVIRONMENTAL CONDITIONS**	25 deg.C, 65 %RH, 991hPa
TESTED BY	Brad Wu		

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc OCCUPIED BANDWIDTH (MHz)			PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2	
52	5260	23.97	23.84	24.49	PASS
60	5300	23.47	23.37	23.23	PASS
64	5320	23.52	23.06	23.71	PASS
100	5500	22.89	22.81	24.45	PASS
120	5600	24.22	23.06	23.36	PASS
140	5700	22.67	23.69	23.19	PASS

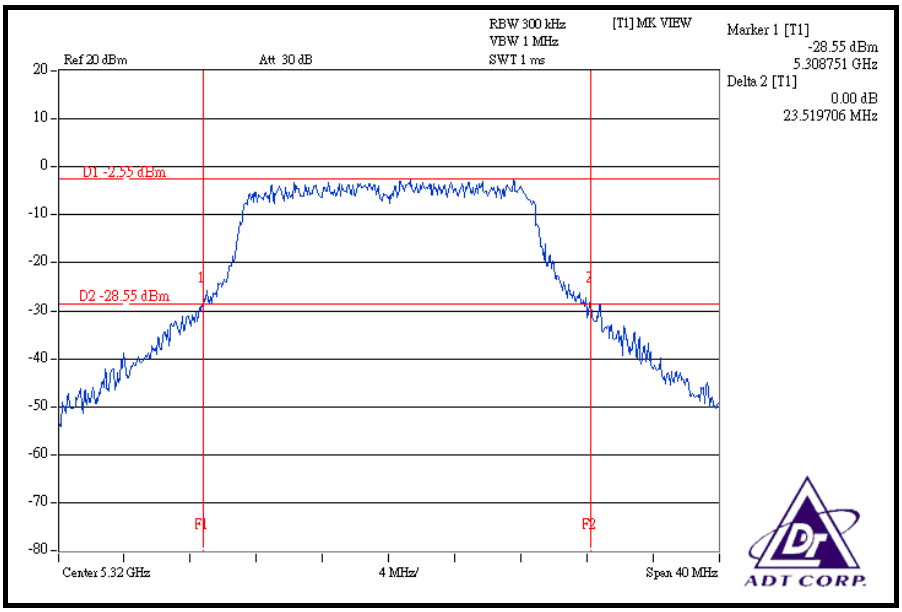
CHAIN 0: CH 52



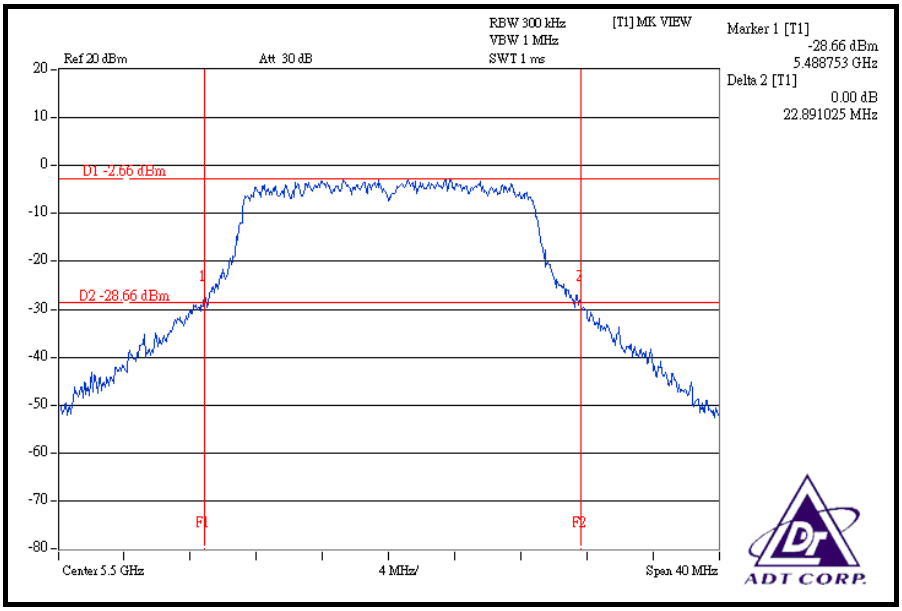
CH 60



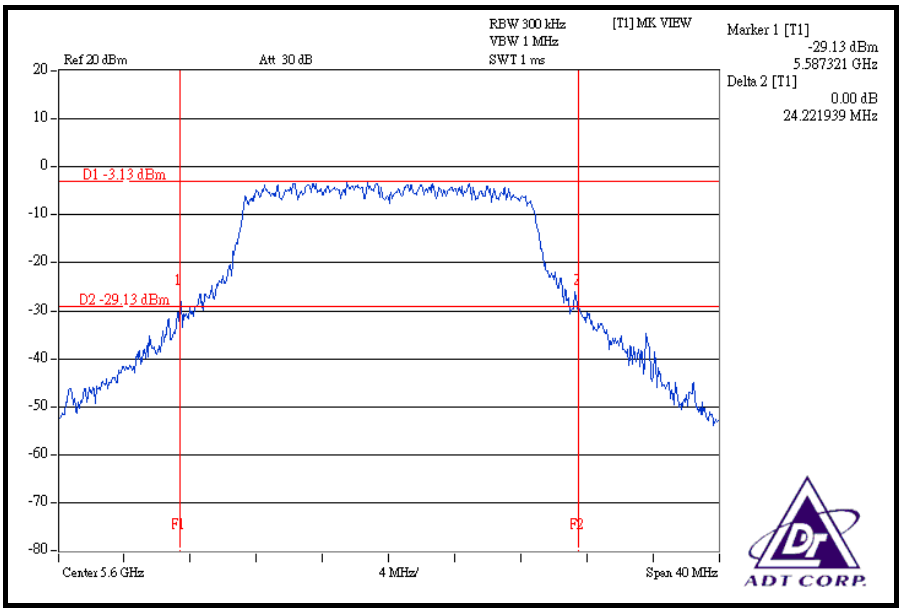
CH 64


RBW 300 kHz
VBW 1 MHz
SWT 1 ms
[T1] MK VIEW
Marker 1 [T1]
-28.55 dBm
5.308751 GHz
Delta 2 [T1]
0.00 dB
23.519706 MHz
Ref 20 dBm
Att 30 dB
D1 -2.55 dBm
D2 -28.55 dBm
Center 5.32 GHz
4 MHz/
Span 40 MHz
ADT CORP.

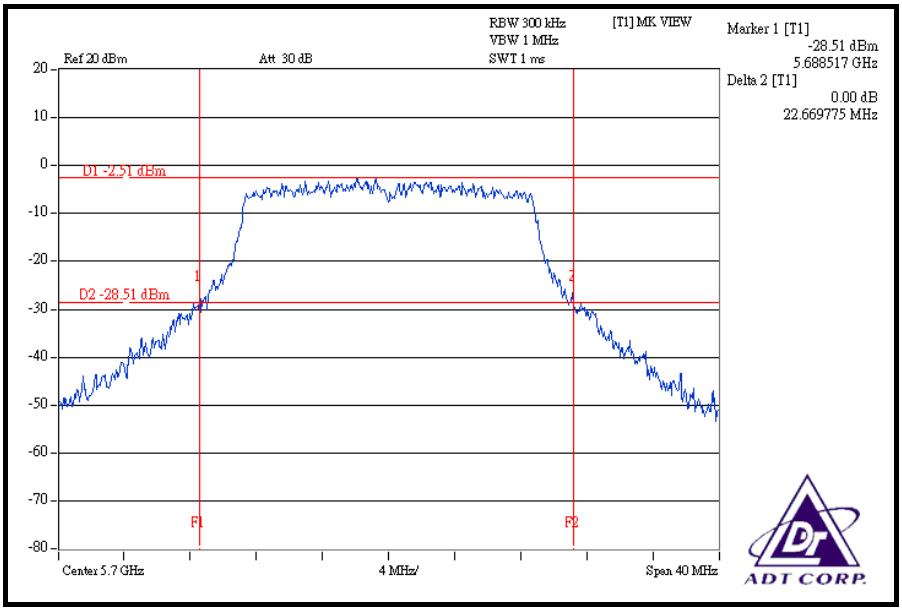
CH 100


RBW 300 kHz
VBW 1 MHz
SWT 1 ms
[T1] MK VIEW
Marker 1 [T1]
-28.66 dBm
5.488753 GHz
Delta 2 [T1]
0.00 dB
22.891025 MHz
Ref 20 dBm
Att 30 dB
D1 -2.66 dBm
D2 -28.66 dBm
Center 5.5 GHz
4 MHz/
Span 40 MHz
ADT CORP.

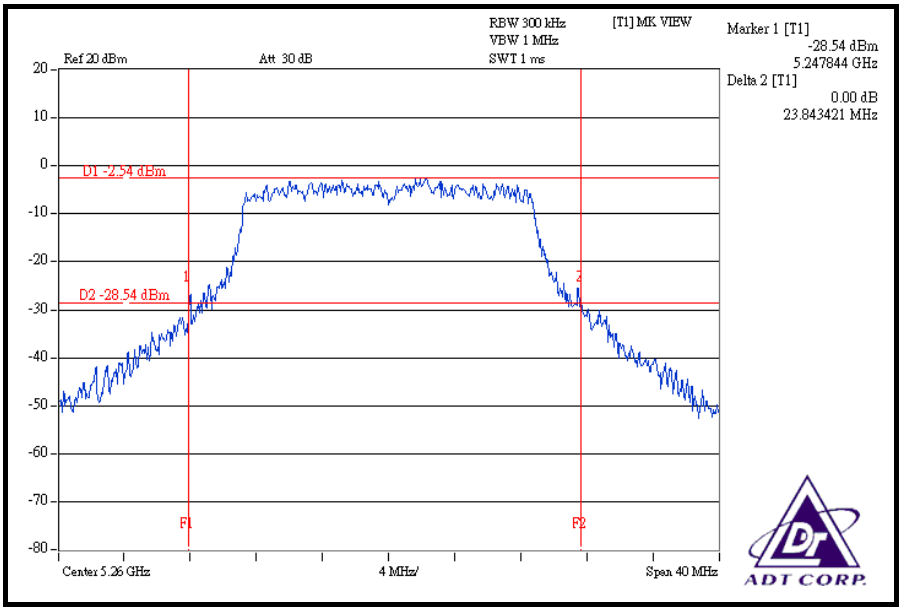
CH 120


RBW 300 kHz
VBW 1 MHz
SWT 1 ms
[T1] MK VIEW
Marker 1 [T1]
-29.13 dBm
5.587321 GHz
Delta 2 [T1]
0.00 dB
24.221939 MHz
Ref 20 dBm
Att 30 dB
D1 -3.13 dBm
D2 -29.13 dBm
F1
F2
Center 5.6 GHz
4 MHz/
Span 40 MHz
ADT CORP.

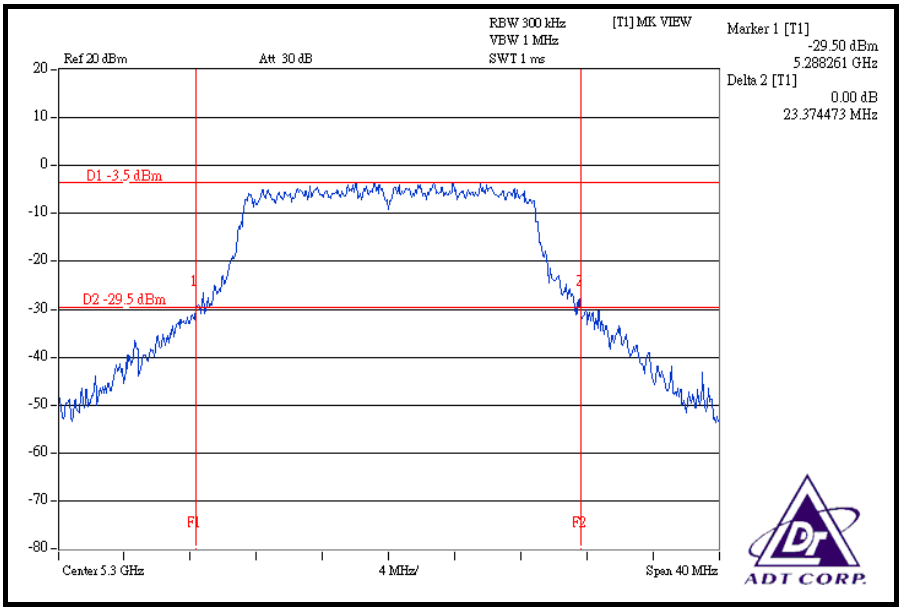
CH 140


RBW 300 kHz
VBW 1 MHz
SWT 1 ms
[T1] MK VIEW
Marker 1 [T1]
-28.51 dBm
5.688517 GHz
Delta 2 [T1]
0.00 dB
22.669775 MHz
Ref 20 dBm
Att 30 dB
D1 -2.51 dBm
D2 -28.51 dBm
F1
F2
Center 5.7 GHz
4 MHz/
Span 40 MHz
ADT CORP.

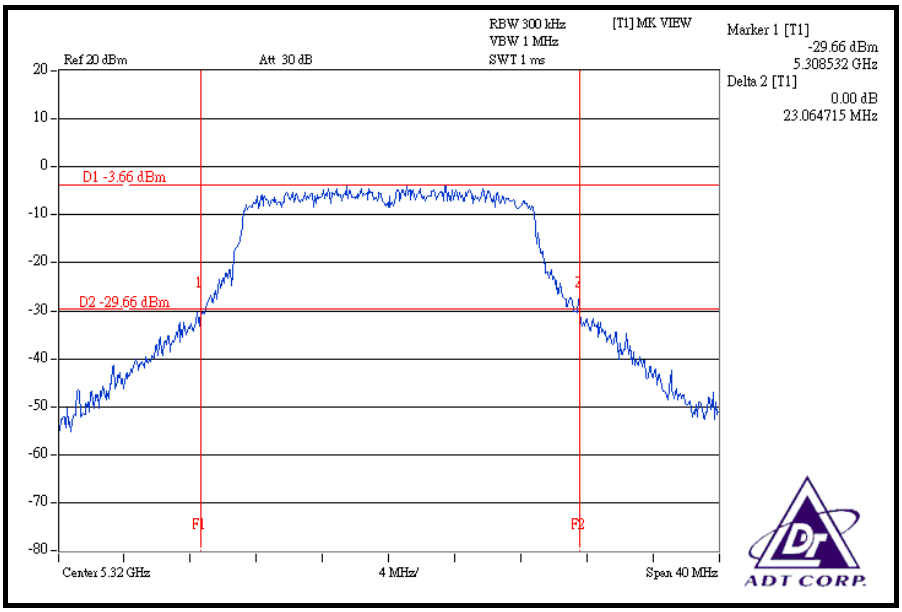
CHAIN 1: CH 52



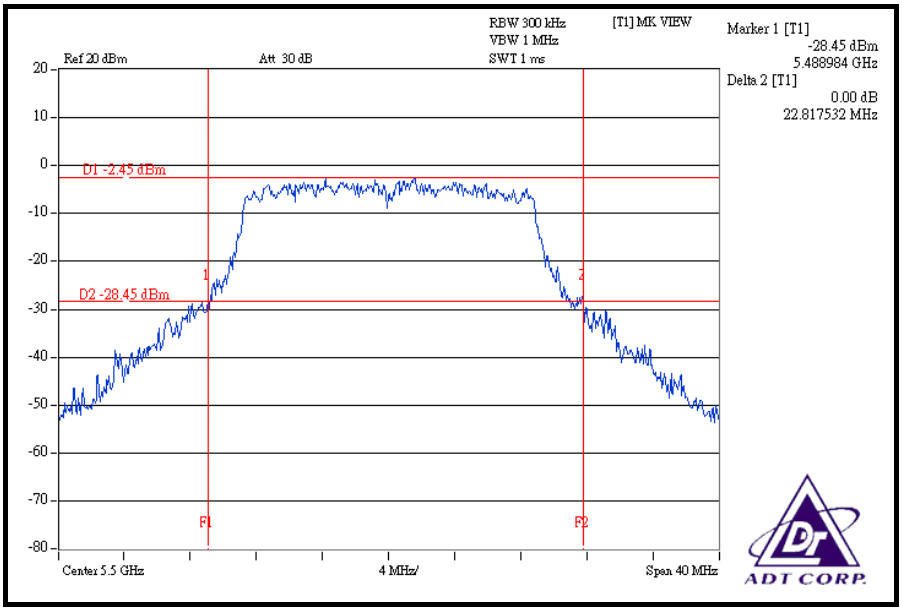
CH 60



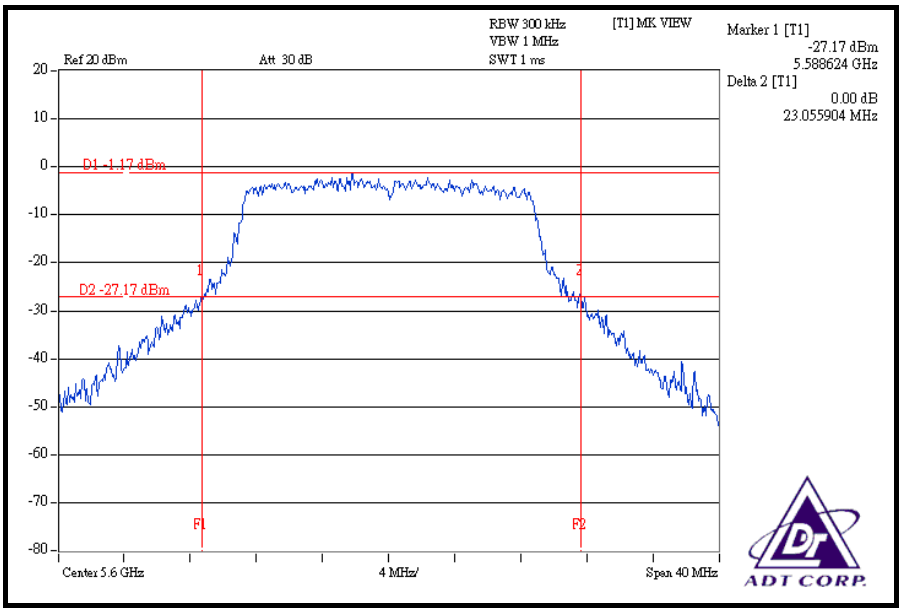
CH 64


RBW 300 kHz
VBW 1 MHz
SWT 1 ms
[T1] MK VIEW
Marker 1 [T1]
-29.66 dBm
5.308532 GHz
Delta 2 [T1]
0.00 dB
23.064715 MHz
Ref 20 dBm
Att 30 dB
D1 -3.66 dBm
D2 -29.66 dBm
F1
F2
Center 5.32 GHz
4 MHz/
Span 40 MHz
ADT CORP.

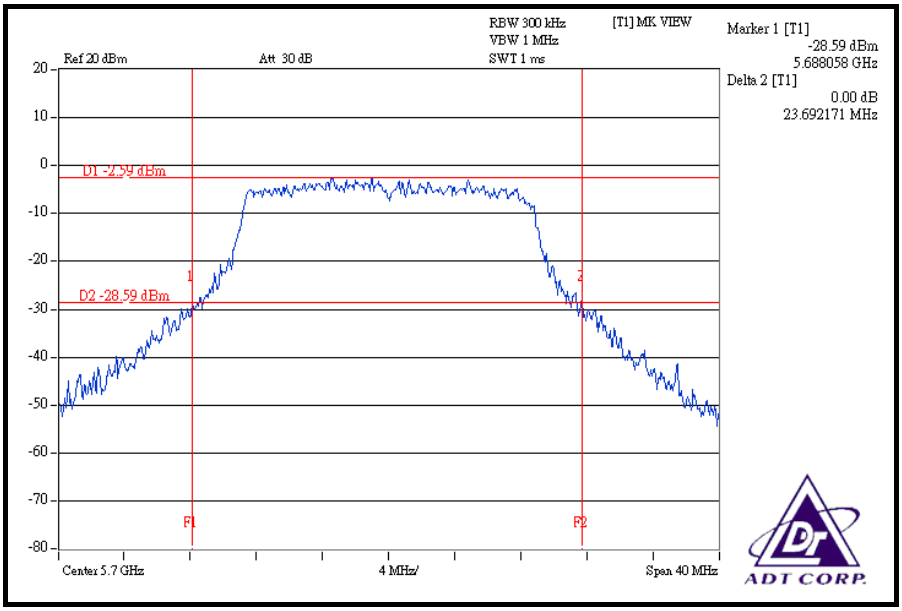
CH 100


RBW 300 kHz
VBW 1 MHz
SWT 1 ms
[T1] MK VIEW
Marker 1 [T1]
-28.45 dBm
5.488984 GHz
Delta 2 [T1]
0.00 dB
22.817532 MHz
Ref 20 dBm
Att 30 dB
D1 -2.45 dBm
D2 -28.45 dBm
F1
F2
Center 5.5 GHz
4 MHz/
Span 40 MHz
ADT CORP.

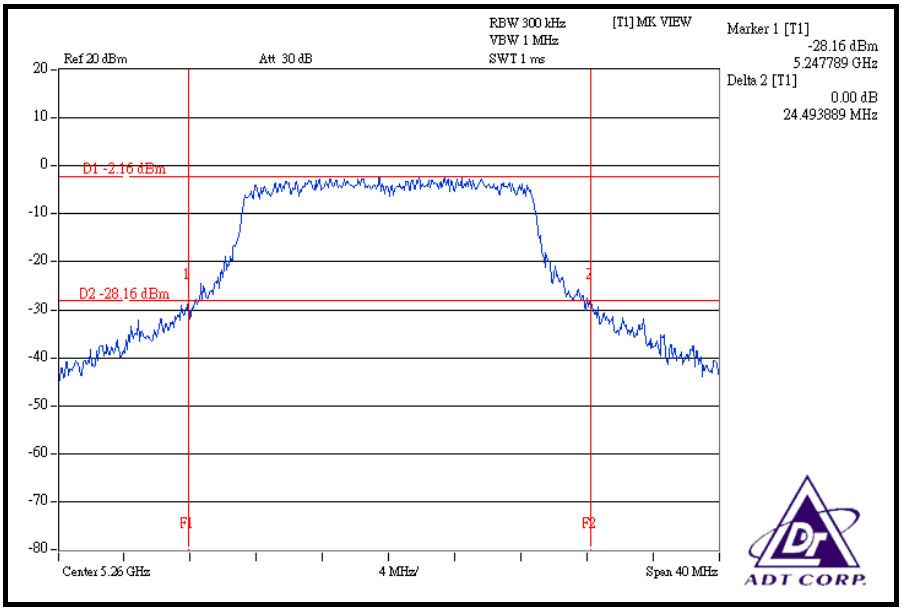
CH 120


RBW 300 kHz
VBW 1 MHz
SWT 1 ms
[T1] MK VIEW
Marker 1 [T1]
-27.17 dBm
5.588624 GHz
Delta 2 [T1]
0.00 dB
23.055904 MHz
Ref 20 dBm
Att 30 dB
D1 -1.17 dBm
D2 -27.17 dBm
Center 5.6 GHz
4 MHz/
Span 40 MHz
ADT CORP.

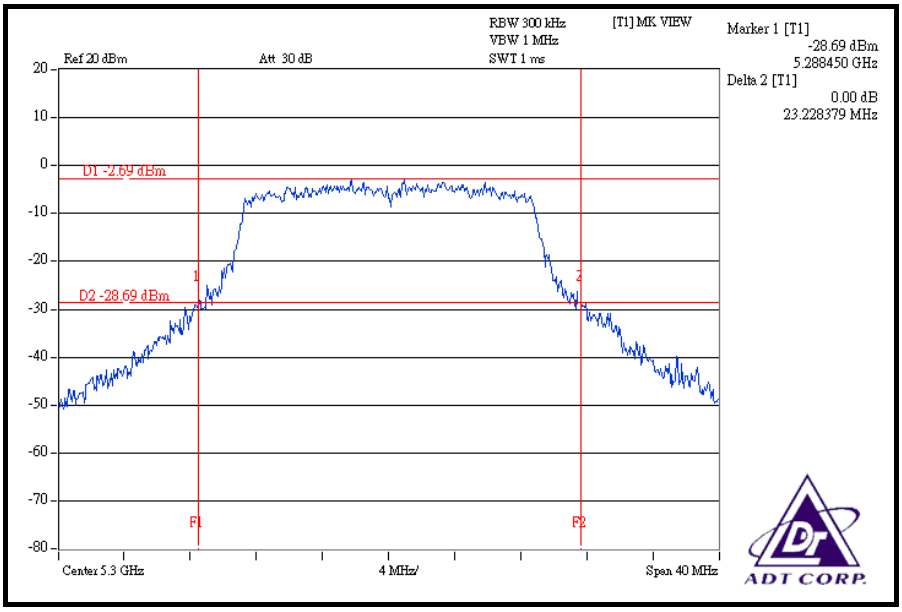
CH 140


RBW 300 kHz
VBW 1 MHz
SWT 1 ms
[T1] MK VIEW
Marker 1 [T1]
-28.59 dBm
5.688058 GHz
Delta 2 [T1]
0.00 dB
23.692171 MHz
Ref 20 dBm
Att 30 dB
D1 -2.59 dBm
D2 -28.59 dBm
Center 5.7 GHz
4 MHz/
Span 40 MHz
ADT CORP.

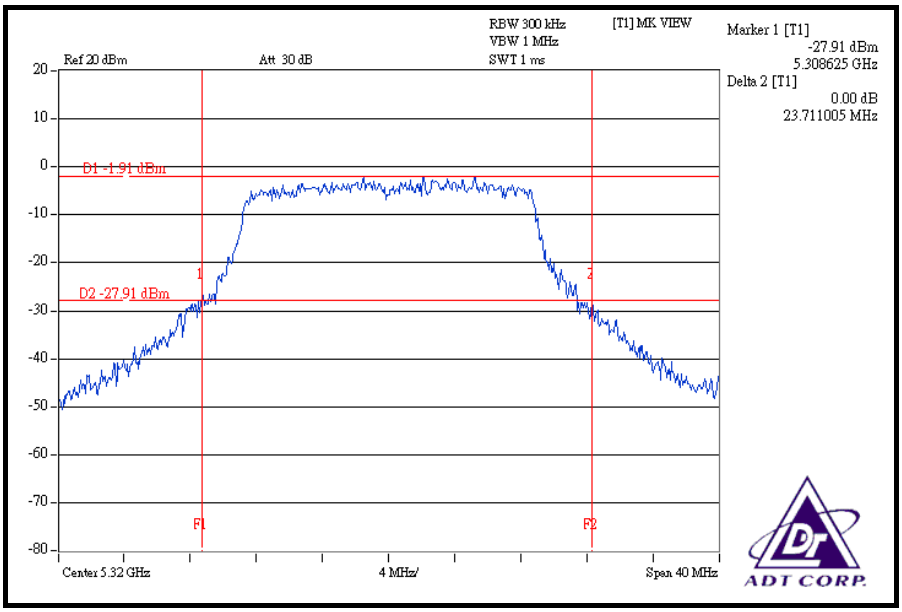
CHAIN 2: CH 52



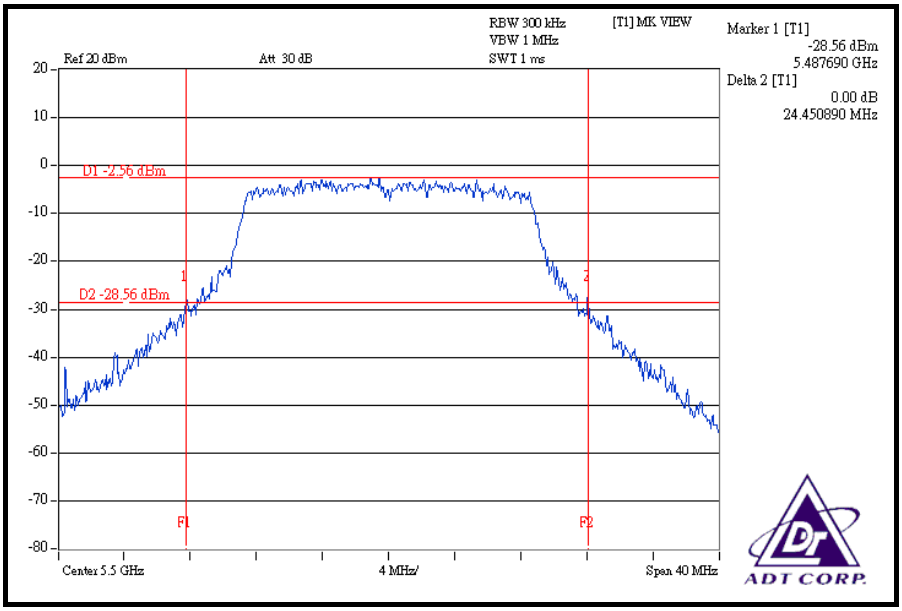
CH 60



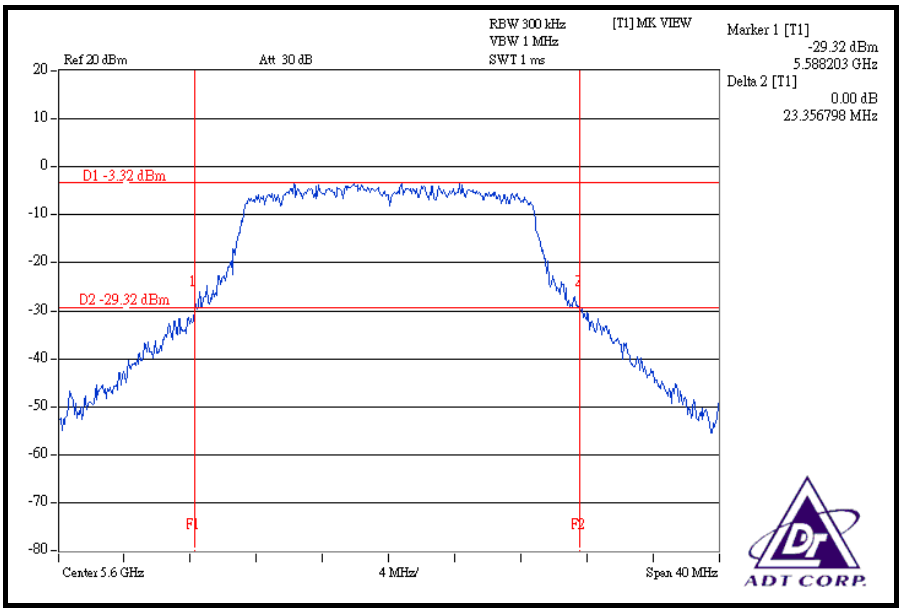
CH 64


RBW 300 kHz
VBW 1 MHz
SWT 1 ms
[T1] MK VIEW
Marker 1 [T1]
-27.91 dBm
5.308625 GHz
Delta 2 [T1]
0.00 dB
23.711005 MHz
Ref 20 dBm
Att 30 dB
D1 -1.91 dBm
D2 -27.91 dBm
Center 5.32 GHz
4 MHz/
Span 40 MHz
ADT CORP.

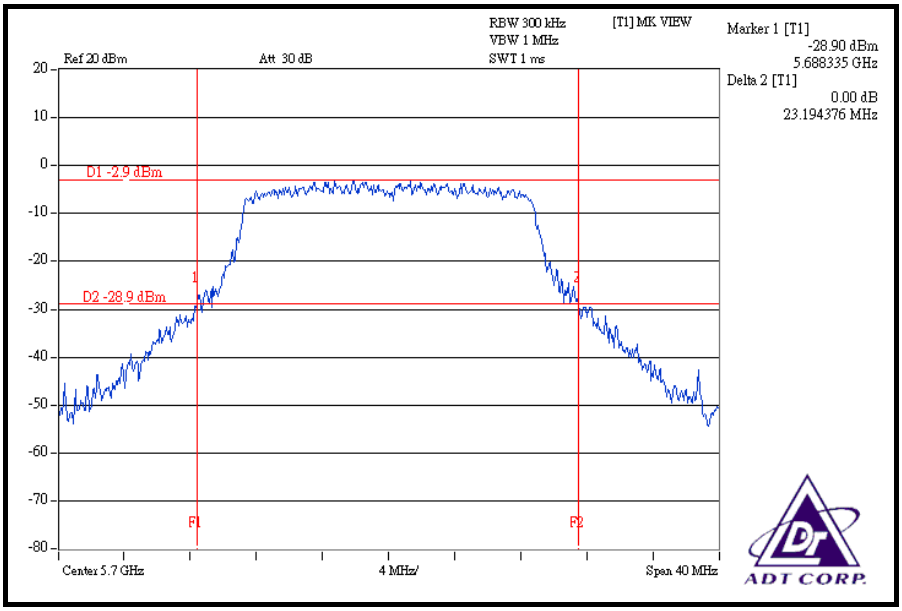
CH 100


RBW 300 kHz
VBW 1 MHz
SWT 1 ms
[T1] MK VIEW
Marker 1 [T1]
-28.56 dBm
5.487690 GHz
Delta 2 [T1]
0.00 dB
24.450890 MHz
Ref 20 dBm
Att 30 dB
D1 -2.56 dBm
D2 -28.56 dBm
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]
-29.32 dBm
5.588203 GHz
Delta 2 [T1]
0.00 dB
23.356798 MHz
Ref 20 dBm
Att 30 dB
D1 -3.32 dBm
D2 -29.32 dBm
F1
F2
Center 5.6 GHz
4 MHz/
Span 40 MHz
ADT CORP.

CH 140

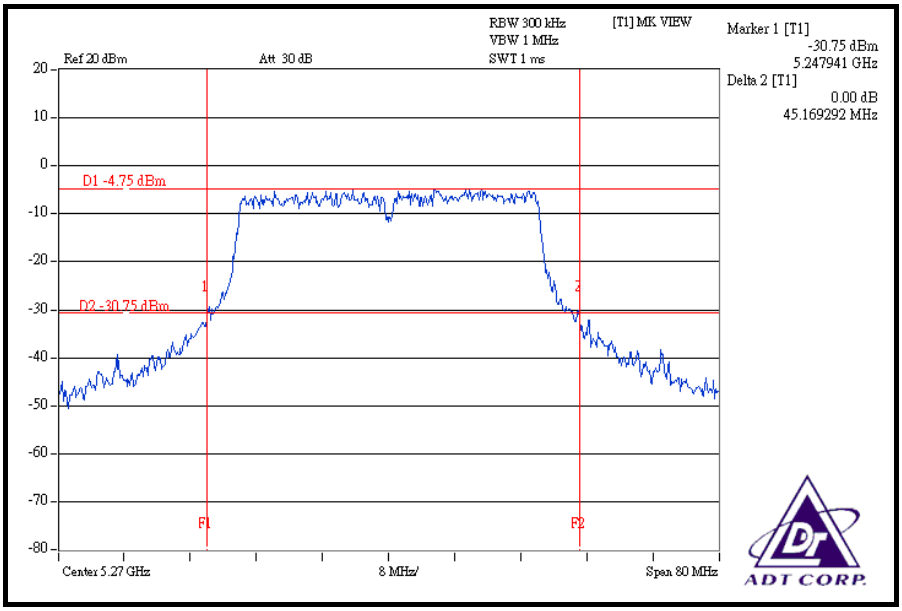

RBW 300 kHz
VBW 1 MHz
SWT 1 ms
[T1] MK VIEW
Marker 1 [T1]
-28.90 dBm
5.688335 GHz
Delta 2 [T1]
0.00 dB
23.194376 MHz
Ref 20 dBm
Att 30 dB
D1 -2.9 dBm
D2 -28.9 dBm
F1
F2
Center 5.7 GHz
4 MHz/
Span 40 MHz
ADT CORP.

DRAFT 802.11n (40MHz) OFDM MODULATION

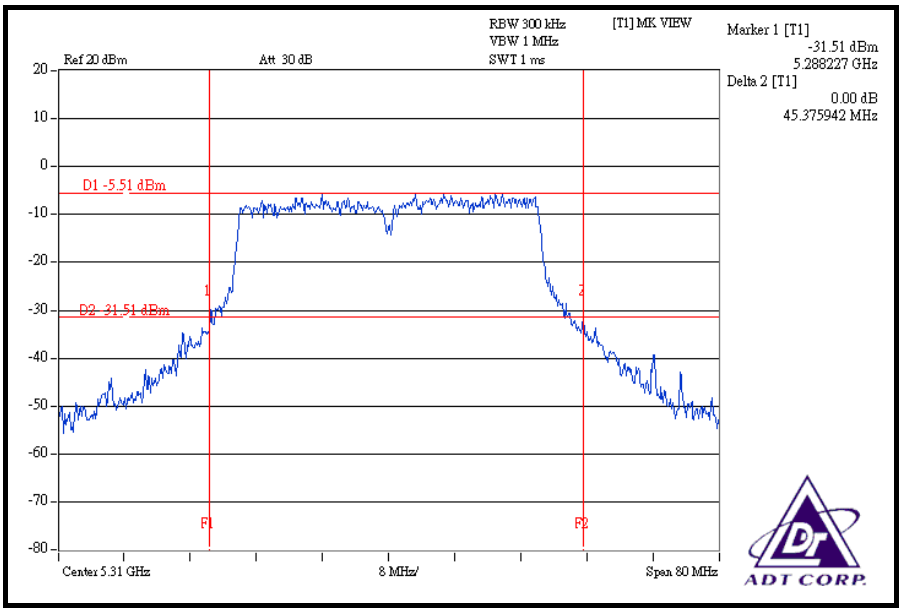
MODULATION TYPE	BPSK	**TRANSFER RATE**	13.5Mbps
INPUT POWER (SYSTEM)	120Vac, 60Hz	**ENVIRONMENTAL CONDITIONS**	25 deg.C, 65 %RH, 991hPa
TESTED BY	Brad Wu		

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc OCCUPIED BANDWIDTH (MHz)			PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2	
54	5270	45.17	43.45	44.35	PASS
62	5310	45.38	42.01	44.20	PASS
102	5510	43.60	44.23	44.06	PASS
118	5590	42.28	43.51	44.97	PASS
134	5670	43.18	44.07	44.22	PASS

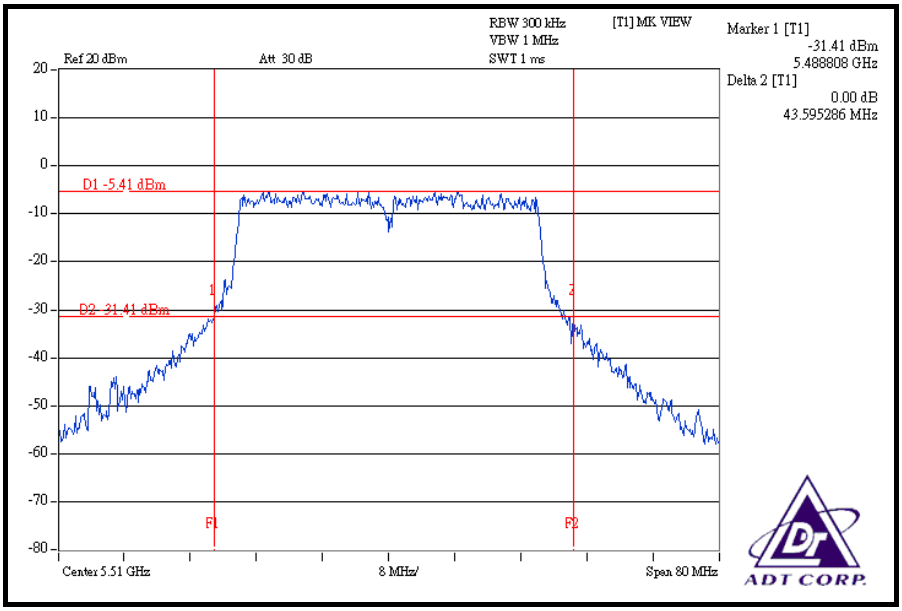
CHAIN 0: CH 54



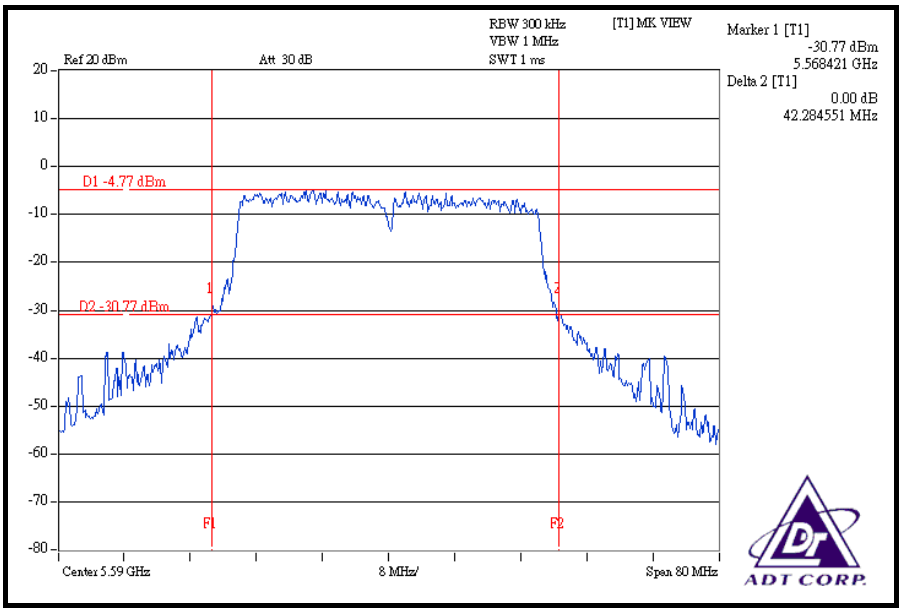
CH 62



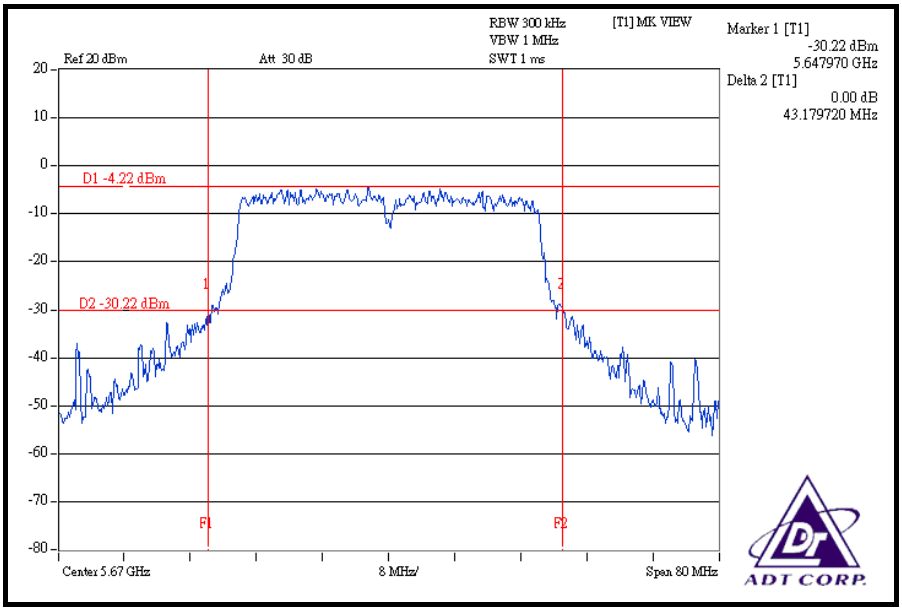
CH 102


RBW 300 kHz
VBW 1 MHz
SWT 1 ms
[T1] MK VIEW
Marker 1 [T1]
-31.41 dBm
5.488808 GHz
Delta 2 [T1]
0.00 dB
43.595286 MHz
Ref 20 dBm
Att 30 dB
D1 -5.41 dBm
D2 -31.41 dBm
F1
F2
Center 5.51 GHz
8 MHz/
Span 80 MHz
ADT CORP.

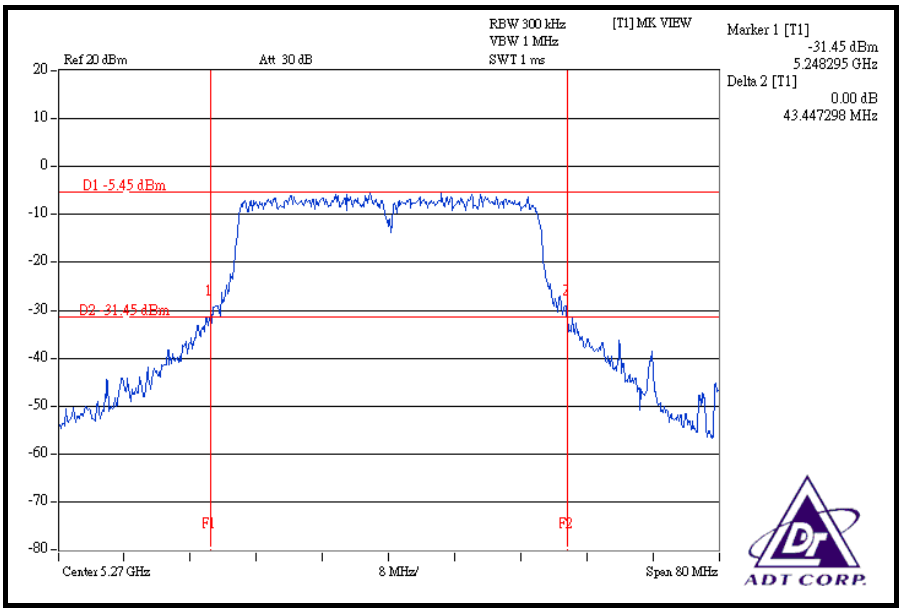
CH 118


RBW 300 kHz
VBW 1 MHz
SWT 1 ms
[T1] MK VIEW
Marker 1 [T1]
-30.77 dBm
5.568421 GHz
Delta 2 [T1]
0.00 dB
42.284551 MHz
Ref 20 dBm
Att 30 dB
D1 -4.77 dBm
D2 -30.77 dBm
F1
F2
Center 5.59 GHz
8 MHz/
Span 80 MHz
ADT CORP.

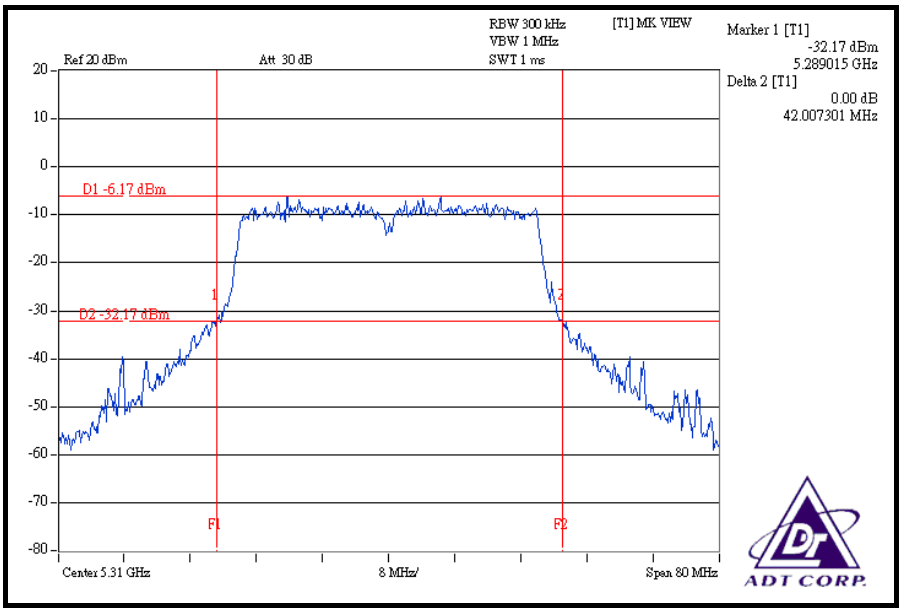
CH 134



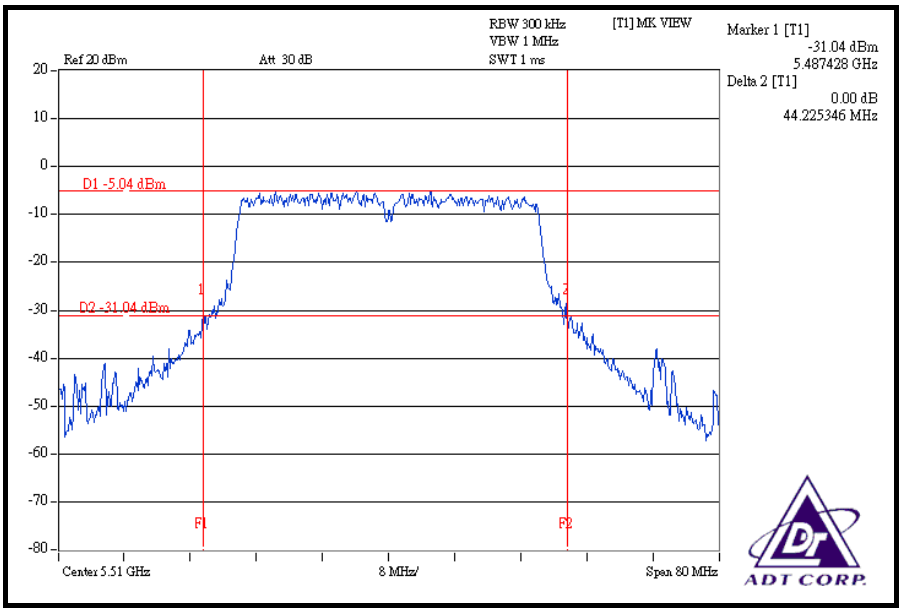
CHAIN 1: CH 54



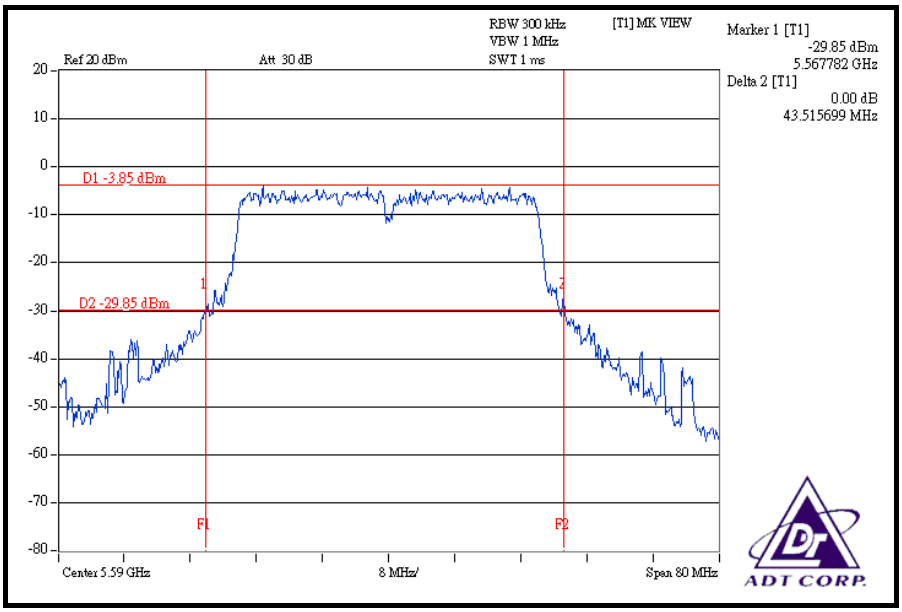
CH 62


RBW 300 kHz
VBW 1 MHz
SWT 1 ms
[T1] MK VIEW
Marker 1 [T1]
-32.17 dBm
5.289015 GHz
Delta 2 [T1]
0.00 dB
42.007301 MHz
Ref 20 dBm
Att 30 dB
D1 -6.17 dBm
D2 -32.17 dBm
F1
F2
Center 5.31 GHz
8 MHz/
Span 80 MHz
ADT CORP.

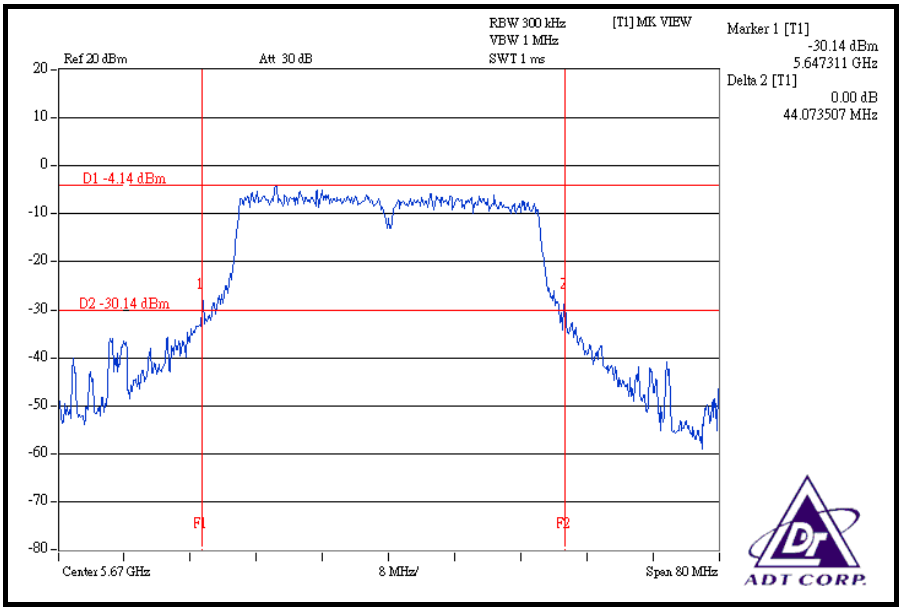
CH 102


RBW 300 kHz
VBW 1 MHz
SWT 1 ms
[T1] MK VIEW
Marker 1 [T1]
-31.04 dBm
5.487428 GHz
Delta 2 [T1]
0.00 dB
44.225346 MHz
Ref 20 dBm
Att 30 dB
D1 -5.04 dBm
D2 -31.04 dBm
F1
F2
Center 5.51 GHz
8 MHz/
Span 80 MHz
ADT CORP.

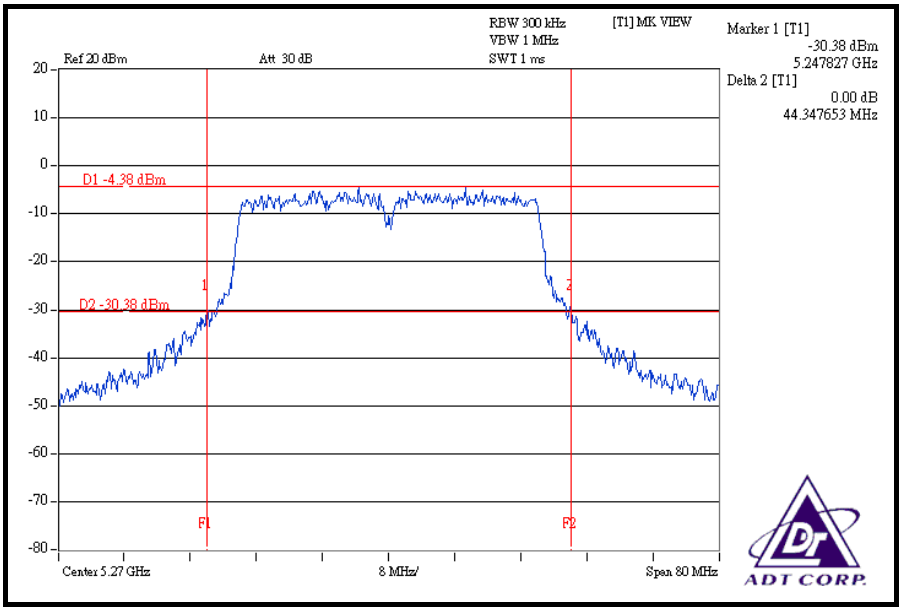
CH 118


RBW 300 kHz
VBW 1 MHz
SWT 1 ms
[T1] MK VIEW
Marker 1 [T1]
-29.85 dBm
5.567782 GHz
Delta 2 [T1]
0.00 dB
43.515699 MHz
Ref 20 dBm
Att 30 dB
D1 -3.85 dBm
D2 -29.85 dBm
F1
F2
Center 5.59 GHz
8 MHz/
Span 80 MHz
ADT CORP.

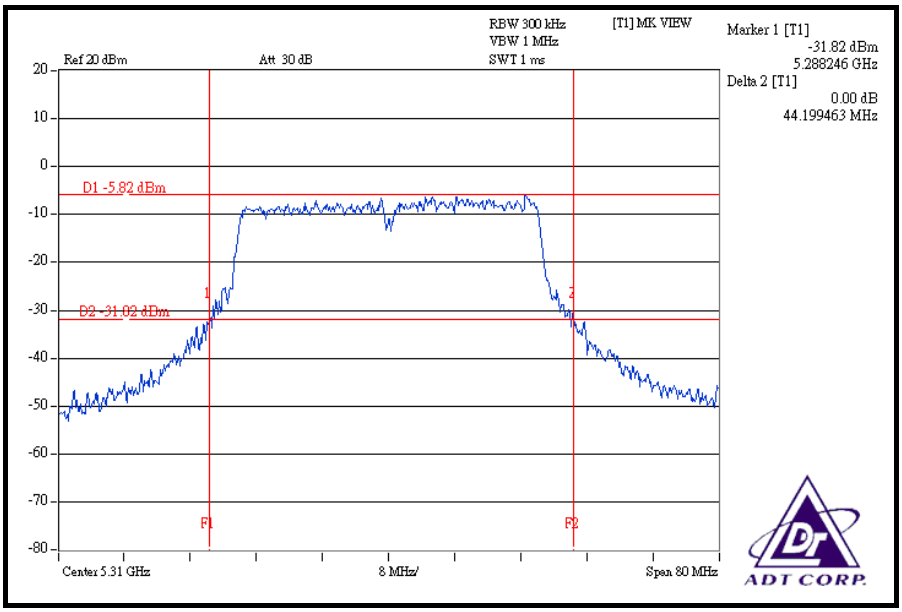
CH 134


RBW 300 kHz
VBW 1 MHz
SWT 1 ms
[T1] MK VIEW
Marker 1 [T1]
-30.14 dBm
5.647311 GHz
Delta 2 [T1]
0.00 dB
44.073507 MHz
Ref 20 dBm
Att 30 dB
D1 -4.14 dBm
D2 -30.14 dBm
F1
F2
Center 5.67 GHz
8 MHz/
Span 80 MHz
ADT CORP.

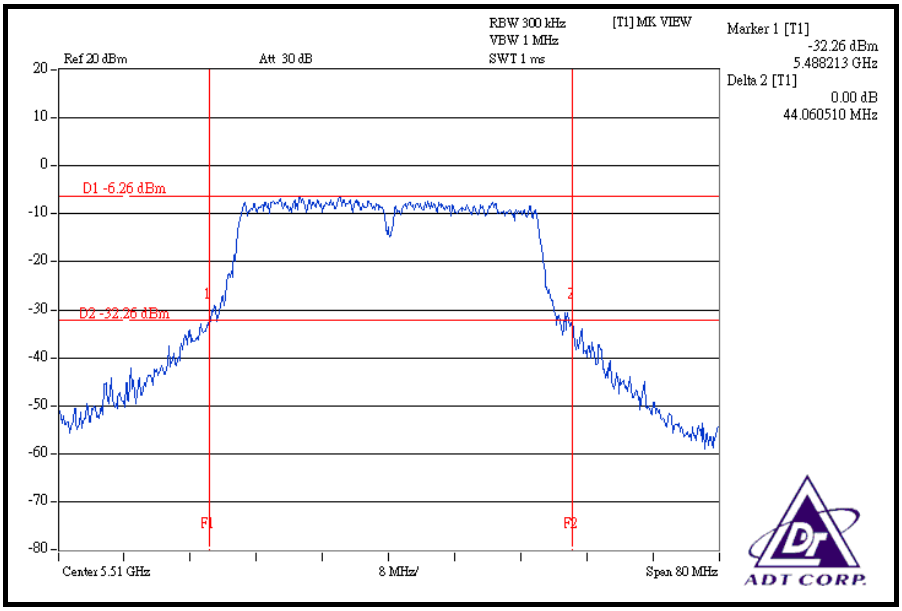
CHAIN 2: CH 54



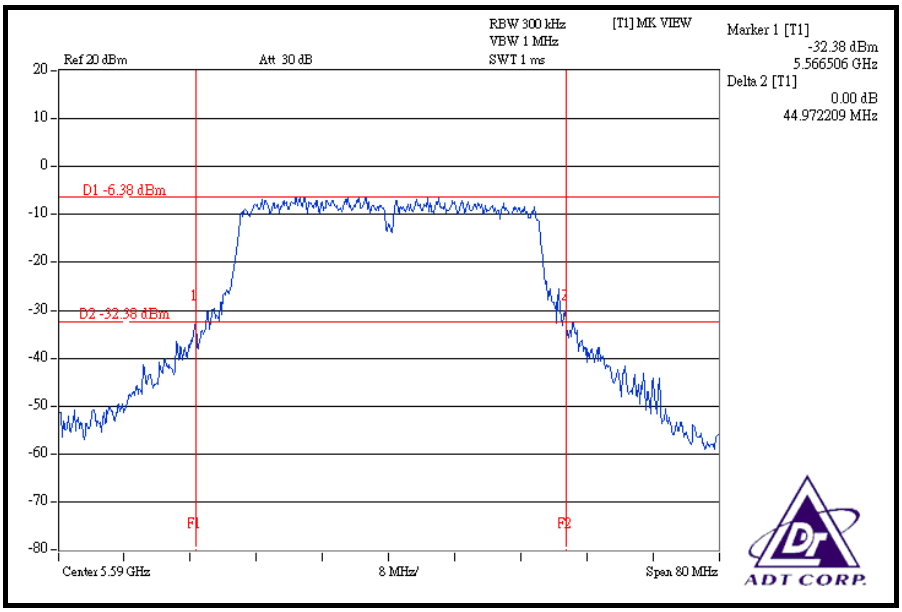
CH 62



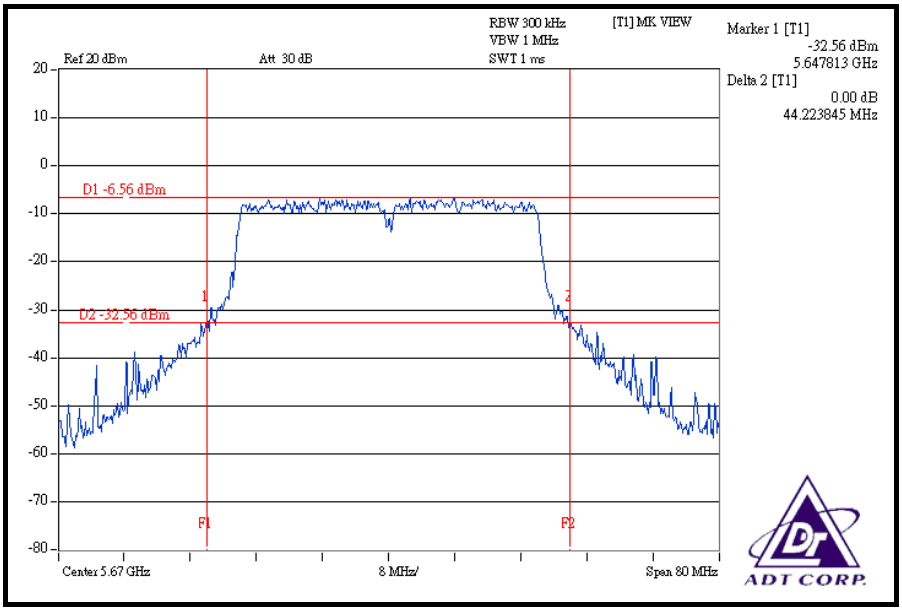
CH 102


RBW 300 kHz
VBW 1 MHz
SWT 1 ms
[T1] MK VIEW
Marker 1 [T1]
-32.26 dBm
5.488213 GHz
Delta 2 [T1]
0.00 dB
44.060510 MHz
Ref 20 dBm
Att 30 dB
D1 -6.26 dBm
D2 -32.26 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]
-32.38 dBm
5.566506 GHz
Delta 2 [T1]
0.00 dB
44.972209 MHz
Ref 20 dBm
Att 30 dB
D1 -6.38 dBm
D2 -32.38 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]
-32.56 dBm
5.647813 GHz
Delta 2 [T1]
0.00 dB
44.223845 MHz
Ref 20 dBm
Att 30 dB
D1 -6.56 dBm
D2 -32.56 dBm
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
5.250 ~ 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.

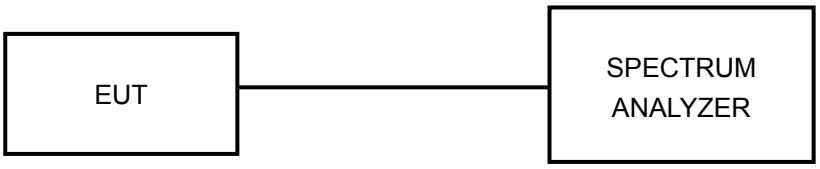
c. Using peak detector and Max-hold function for Trace 1 (RB = 1MHz, VB = 3MHz) and 2 (RB = 1MHz, VB = 300kHz).

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.

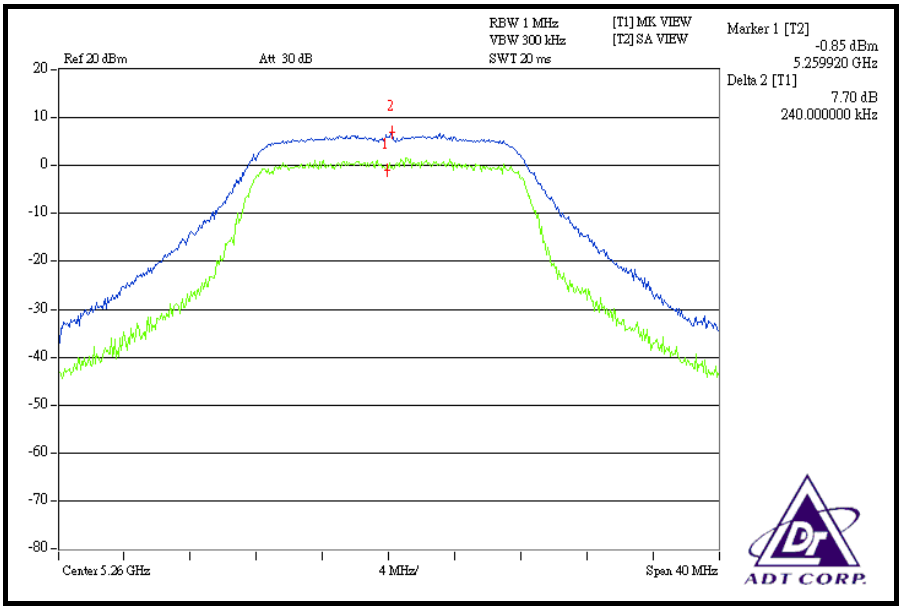
4.4.7 TEST RESULTS

802.11a OFDM MODULATION

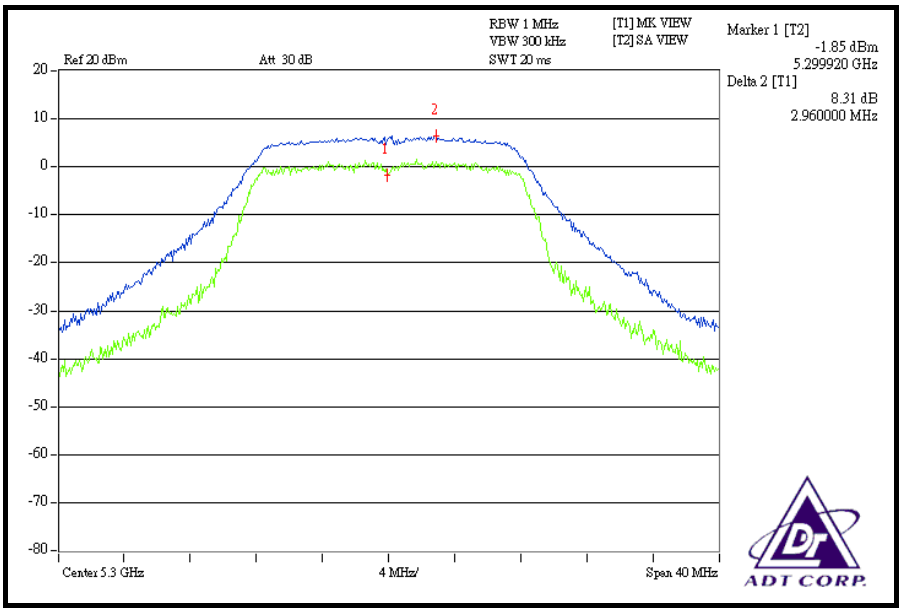
MODULATION TYPE	BPSK	**TRANSFER RATE**	6.0Mbps
INPUT POWER (SYSTEM)	120Vac, 60Hz	**ENVIRONMENTAL CONDITIONS**	25 deg.C, 65 %RH, 991hPa
TESTED BY	Brad Wu		

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER EXCURSION (dB)	PEAK TO AVERAGE EXCURSION LIMIT (dB)	PASS / FAIL
52	5260	7.70	13	PASS
60	5300	8.31	13	PASS
64	5320	7.55	13	PASS
100	5500	7.89	13	PASS
120	5600	7.33	13	PASS
140	5700	8.03	13	PASS

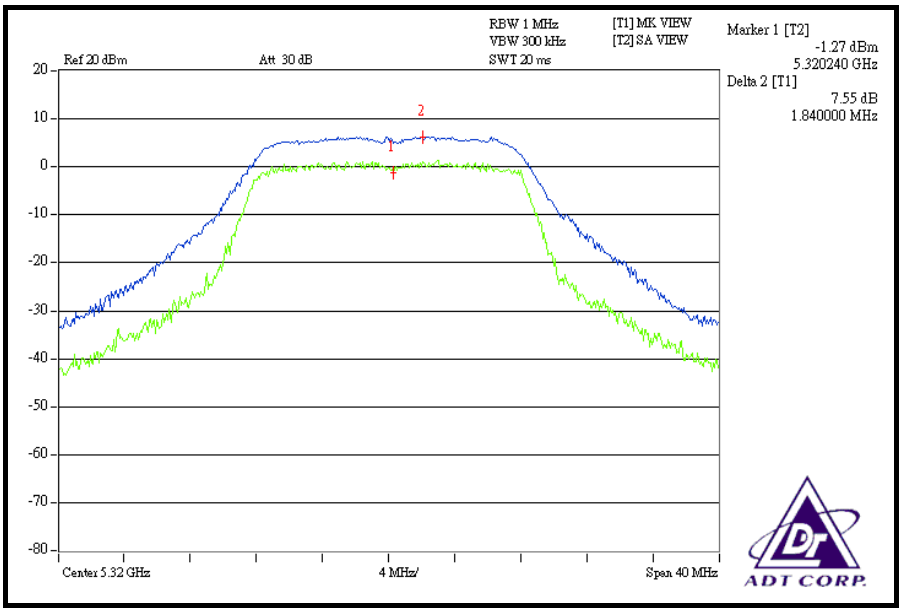
CH 52


RBW 1 MHz
VBW 300 kHz
SWT 20 ms
[T1] MK VIEW
[T2] SA VIEW
Marker 1 [T2]
-0.85 dBm
5.259920 GHz
Delta 2 [T1]
7.70 dB
240.000000 kHz
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.

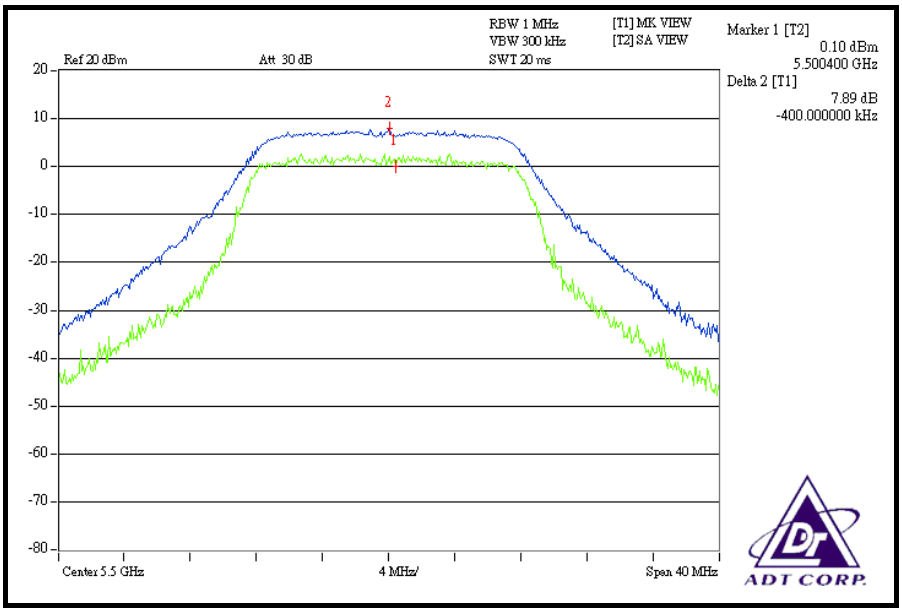
CH 60


RBW 1 MHz
VBW 300 kHz
SWT 20 ms
[T1] MK VIEW
[T2] SA VIEW
Marker 1 [T2]
-1.85 dBm
5.299920 GHz
Delta 2 [T1]
8.31 dB
2.960000 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.

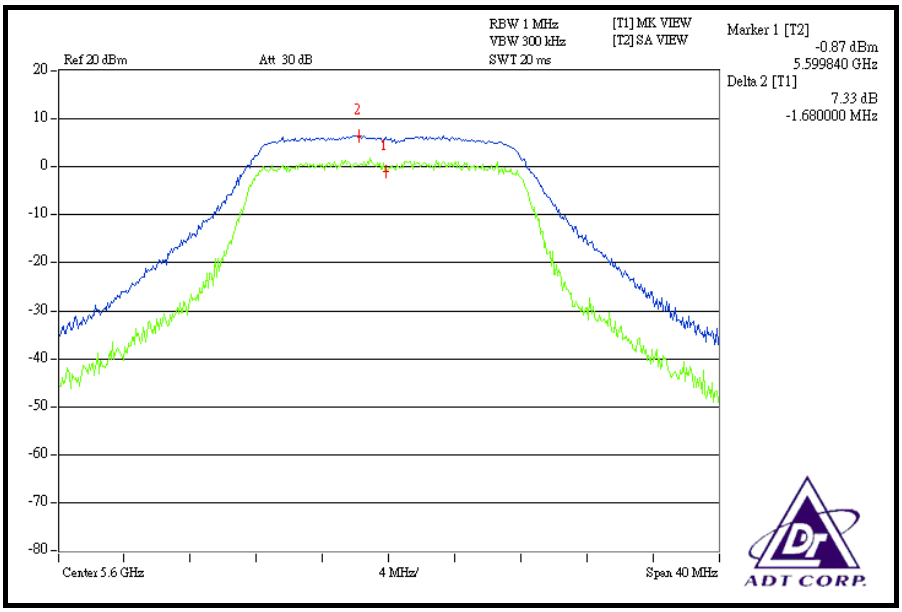
CH 64


RBW 1 MHz
VBW 300 kHz
SWT 20 ms
[T1] MK VIEW
[T2] SA VIEW
Marker 1 [T2]
-1.27 dBm
5.320240 GHz
Delta 2 [T1]
7.55 dB
1.840000 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.

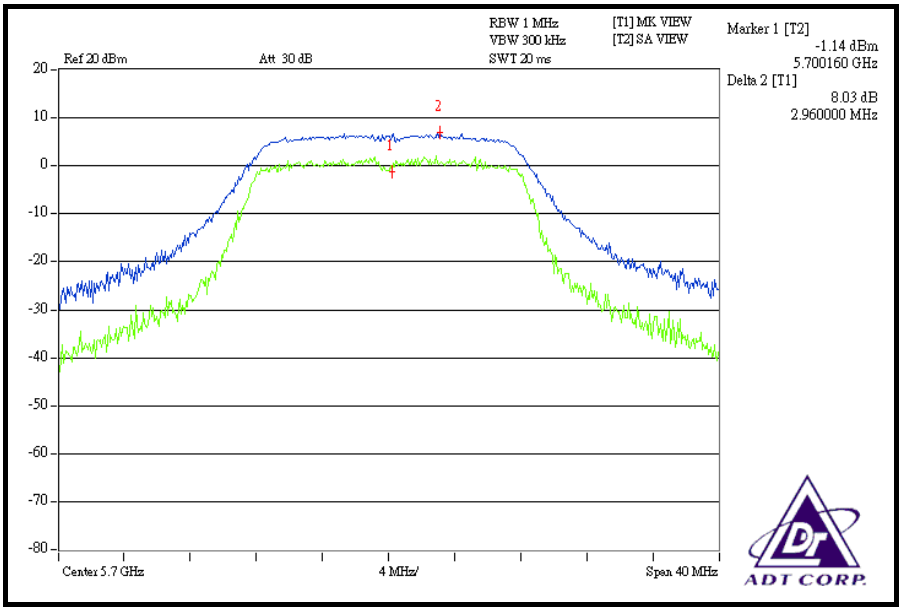
CH 100


RBW 1 MHz
VBW 300 kHz
SWT 20 ms
[T1] MK VIEW
[T2] SA VIEW
Marker 1 [T2]
0.10 dBm
5.500400 GHz
Delta 2 [T1]
7.89 dB
-400.000000 kHz
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]
-0.87 dBm
5.599840 GHz
Delta 2 [T1]
7.33 dB
-1.680000 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

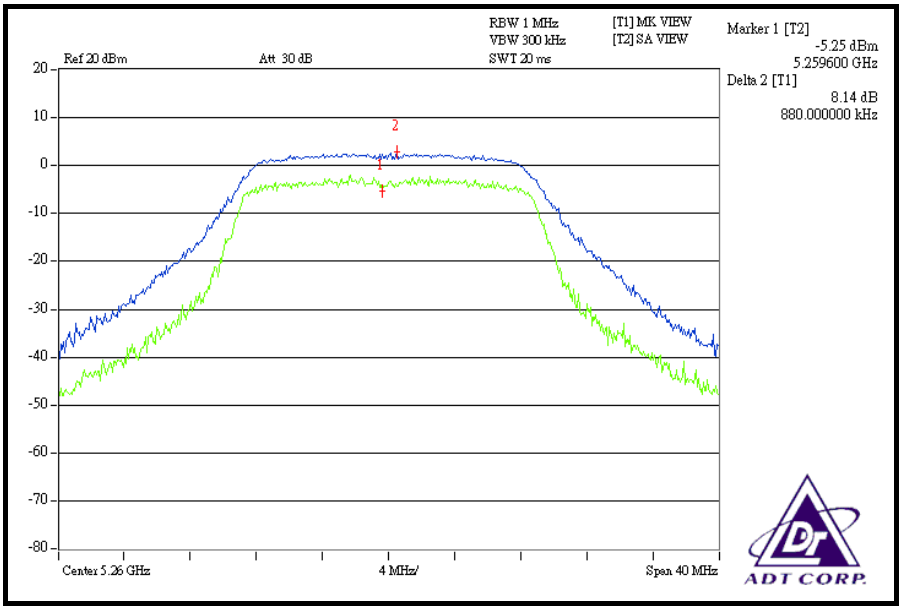

RBW 1 MHz
VBW 300 kHz
SWT 20 ms
[T1] MK VIEW
[T2] SA VIEW
Marker 1 [T2]
-1.14 dBm
5.700160 GHz
Delta 2 [T1]
8.03 dB
2.960000 MHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Center 5.7 GHz
4 MHz/
Span 40 MHz
ADT CORP.

DRAFT 802.11n (20MHz) OFDM MODULATION

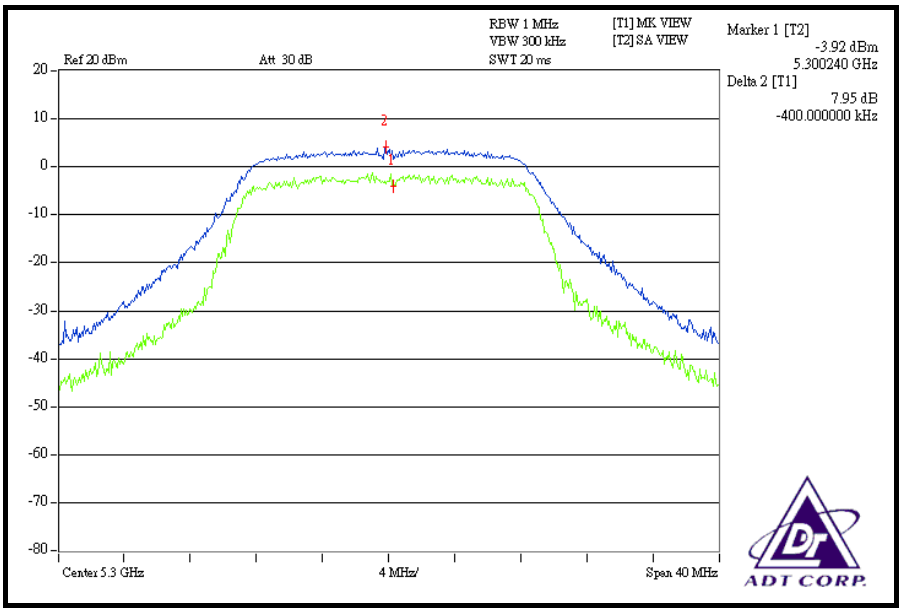
MODULATION TYPE	BPSK	**TRANSFER RATE**	6.5Mbps
INPUT POWER (SYSTEM)	120Vac, 60Hz	**ENVIRONMENTAL CONDITIONS**	25 deg.C, 65 %RH, 991hPa
TESTED BY	Brad Wu		

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER EXCURSION (dB)			PEAK to AVERAGE EXCURSION LIMIT (dB)	PASS/FAIL
		CHAIN 0	CHAIN 1	CHAIN 2		
52	5260	8.14	7.99	8.09	13	PASS
60	5300	7.95	7.85	8.10	13	PASS
64	5320	8.32	8.44	8.40	13	PASS
100	5500	7.66	8.43	8.13	13	PASS
120	5600	8.65	8.58	8.87	13	PASS
140	5700	8.97	8.97	7.68	13	PASS

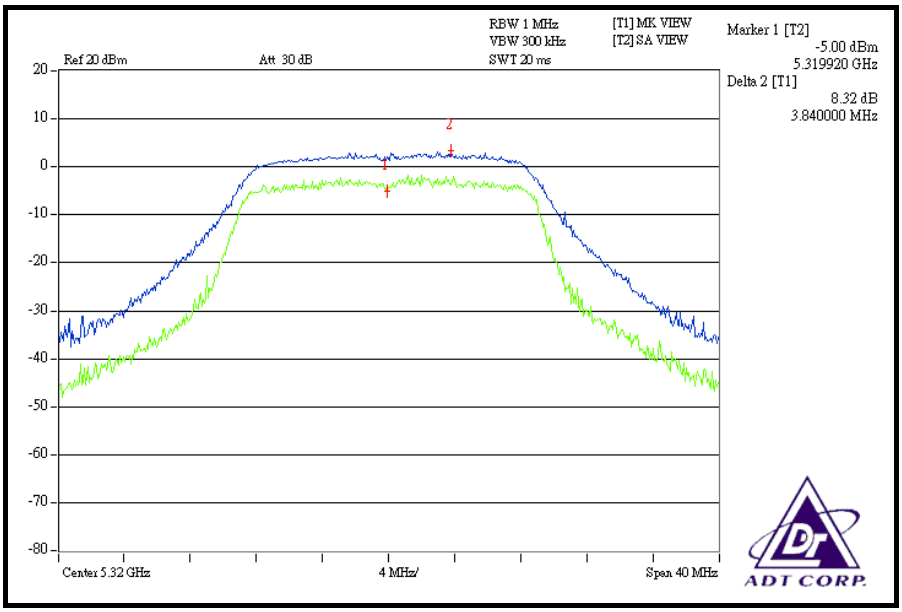
CHAIN 0: CH 52



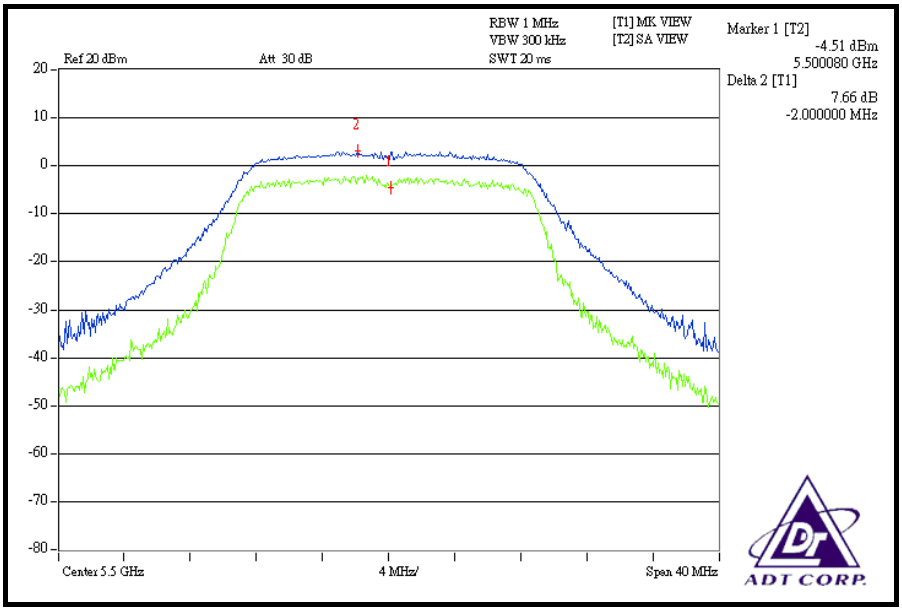
CH 60



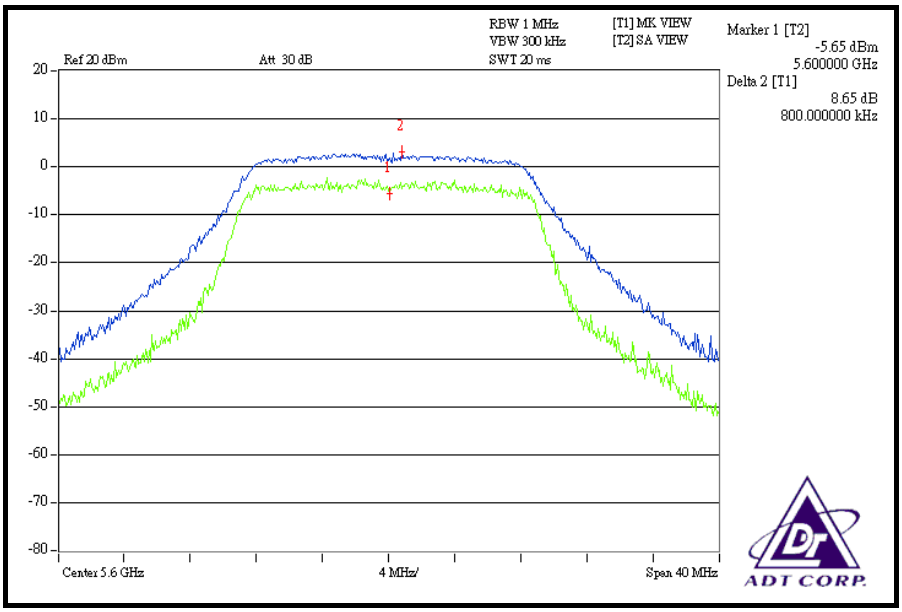
CH 64


RBW 1 MHz
VBW 300 kHz
SWT 20 ms
[T1] MK VIEW
[T2] SA VIEW
Marker 1 [T2]
-5.00 dBm
5.319920 GHz
Delta 2 [T1]
8.32 dB
3.840000 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.

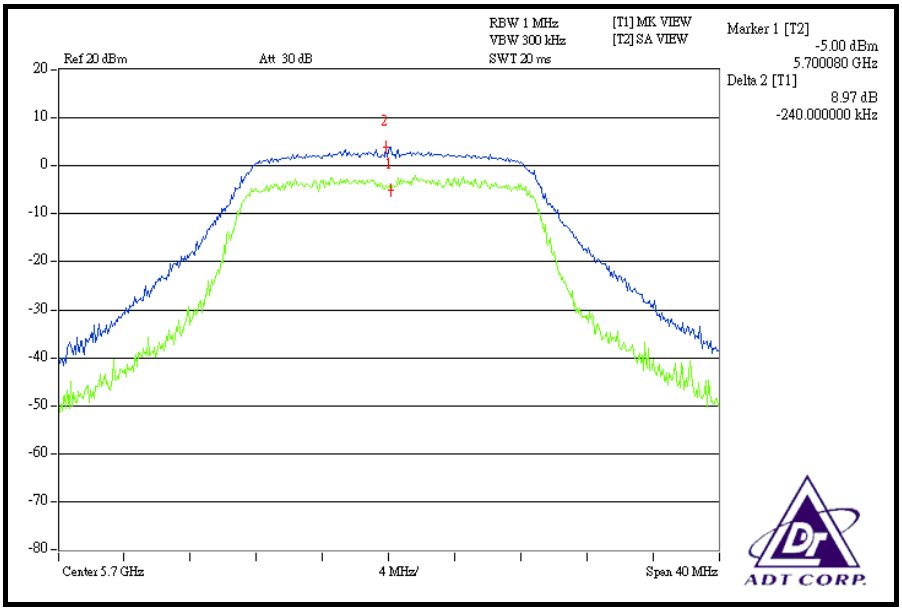
CH 100


RBW 1 MHz
VBW 300 kHz
SWT 20 ms
[T1] MK VIEW
[T2] SA VIEW
Marker 1 [T2]
-4.51 dBm
5.500080 GHz
Delta 2 [T1]
7.66 dB
-2.000000 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.

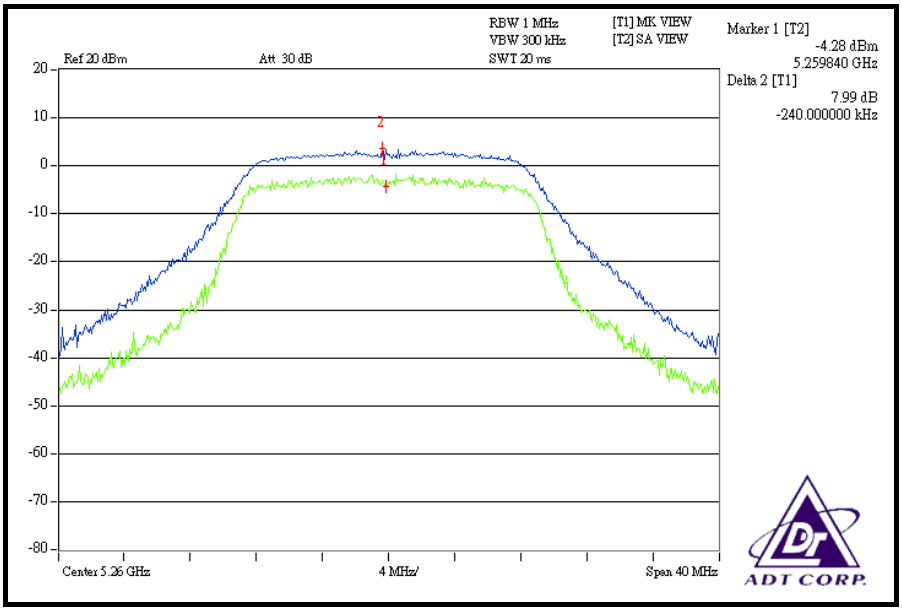
CH 120


RBW 1 MHz
VBW 300 kHz
SWT 20 ms
[T1] MK VIEW
[T2] SA VIEW
Marker 1 [T2]
-5.65 dBm
5.600000 GHz
Delta 2 [T1]
8.65 dB
800.000000 kHz
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.

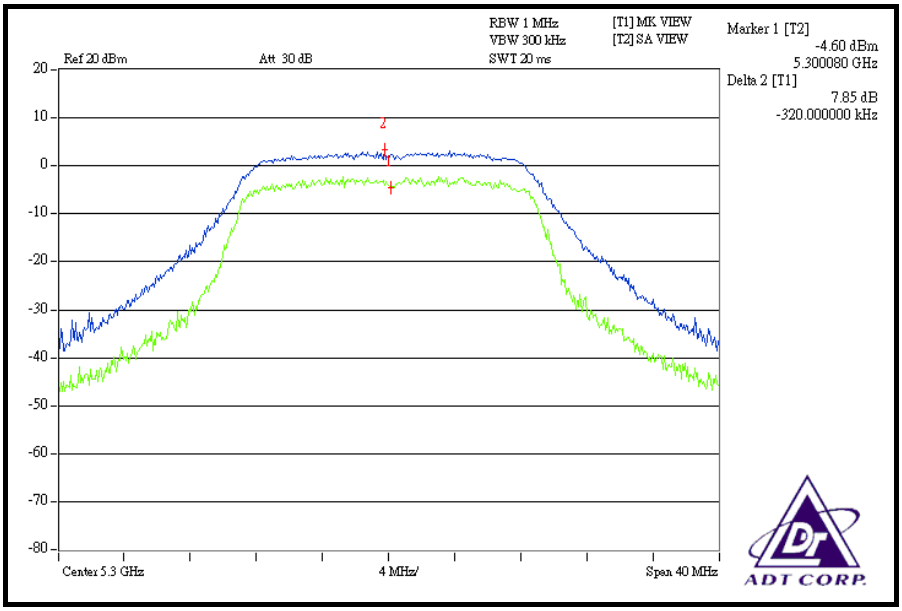
CH 140


RBW 1 MHz
VBW 300 kHz
SWT 20 ms
[T1] MK VIEW
[T2] SA VIEW
Marker 1 [T2]
-5.00 dBm
5.700080 GHz
Delta 2 [T1]
8.97 dB
-240.000000 kHz
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.

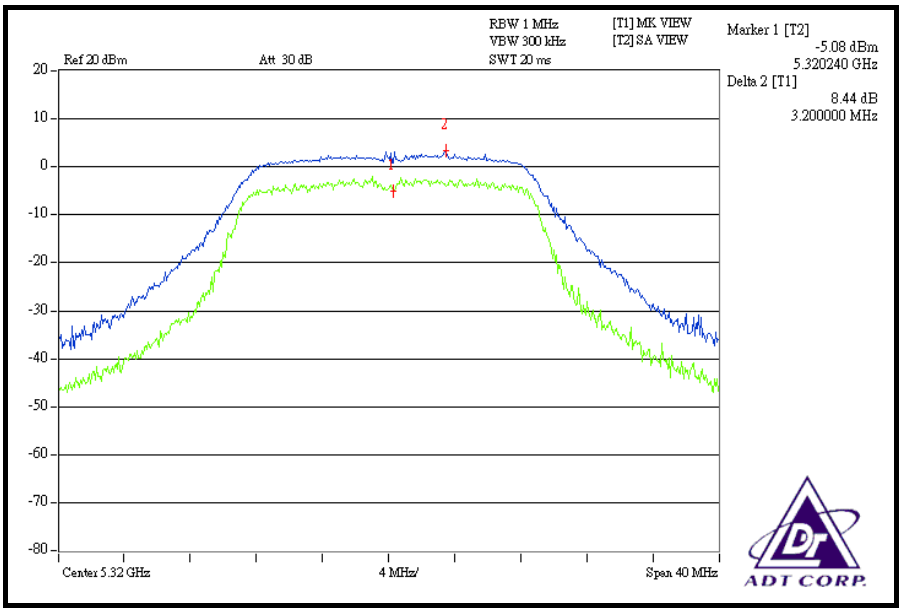
CHAIN 1: CH 52



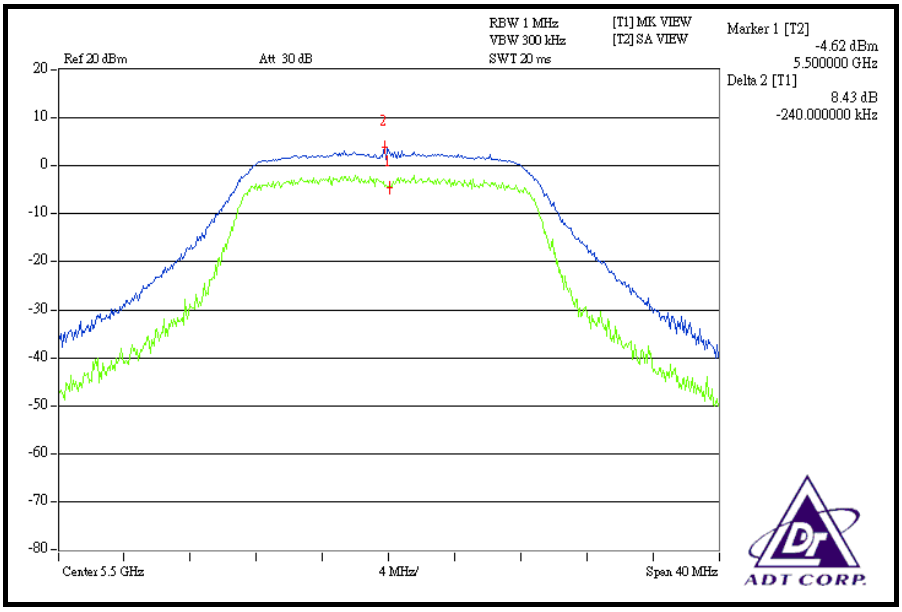
CH 60



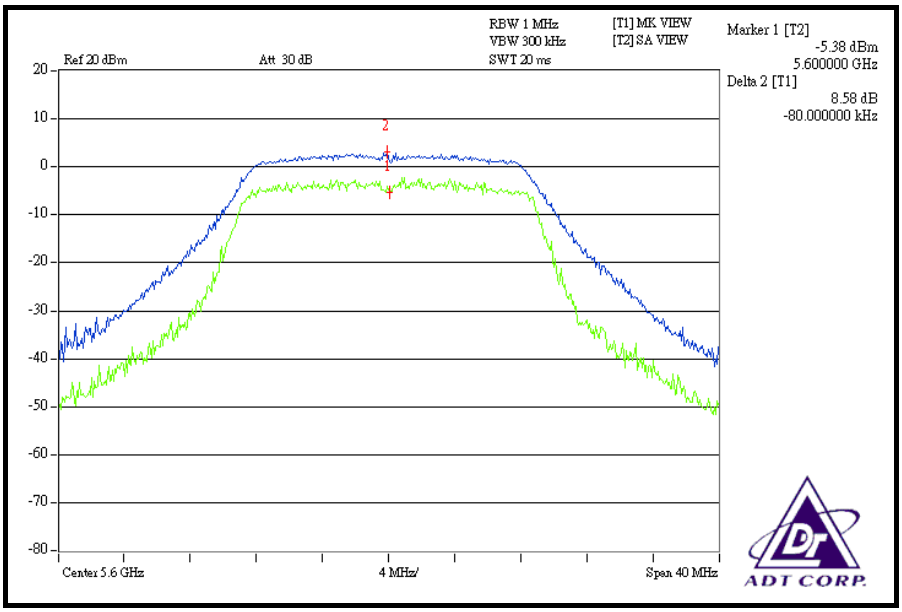
CH 64


RBW 1 MHz
VBW 300 kHz
SWT 20 ms
[T1] MK VIEW
[T2] SA VIEW
Marker 1 [T2]
-5.08 dBm
5.320240 GHz
Delta 2 [T1]
8.44 dB
3.200000 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.

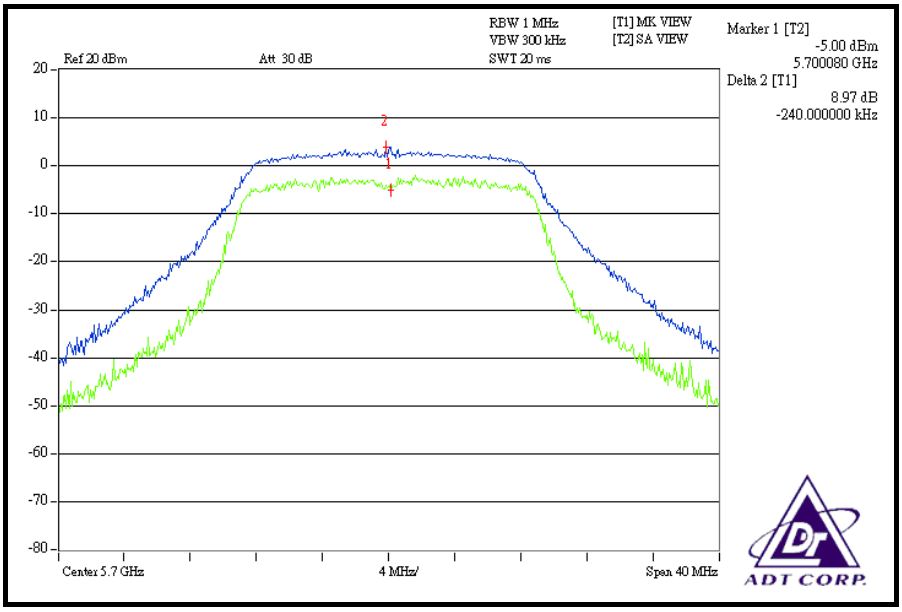
CH 100


RBW 1 MHz
VBW 300 kHz
SWT 20 ms
[T1] MK VIEW
[T2] SA VIEW
Marker 1 [T2]
-4.62 dBm
5.500000 GHz
Delta 2 [T1]
8.43 dB
-240.000000 kHz
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.

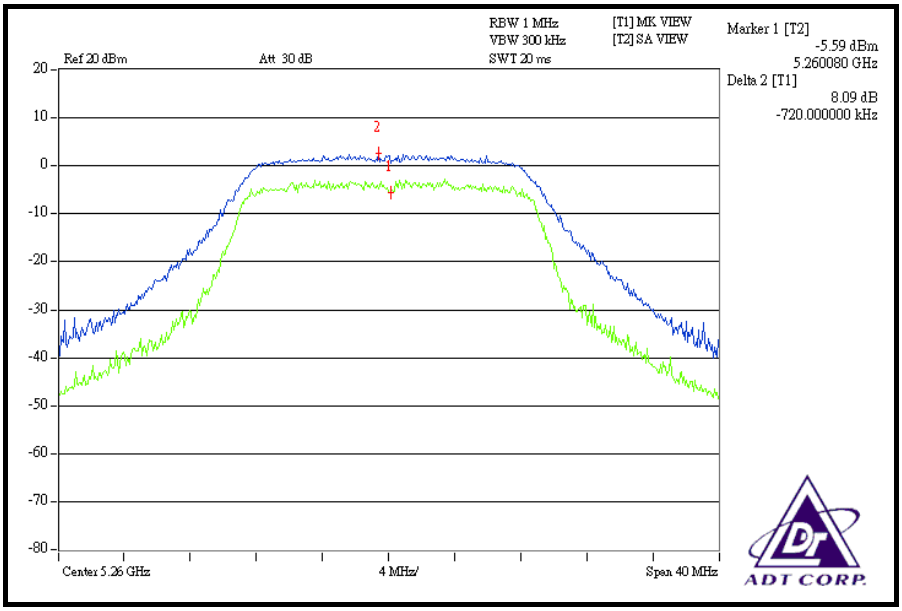
CH 120


RBW 1 MHz
VBW 300 kHz
SWT 20 ms
[T1] MK VIEW
[T2] SA VIEW
Marker 1 [T2]
-5.38 dBm
5.600000 GHz
Delta 2 [T1]
8.58 dB
-80.000000 kHz
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.

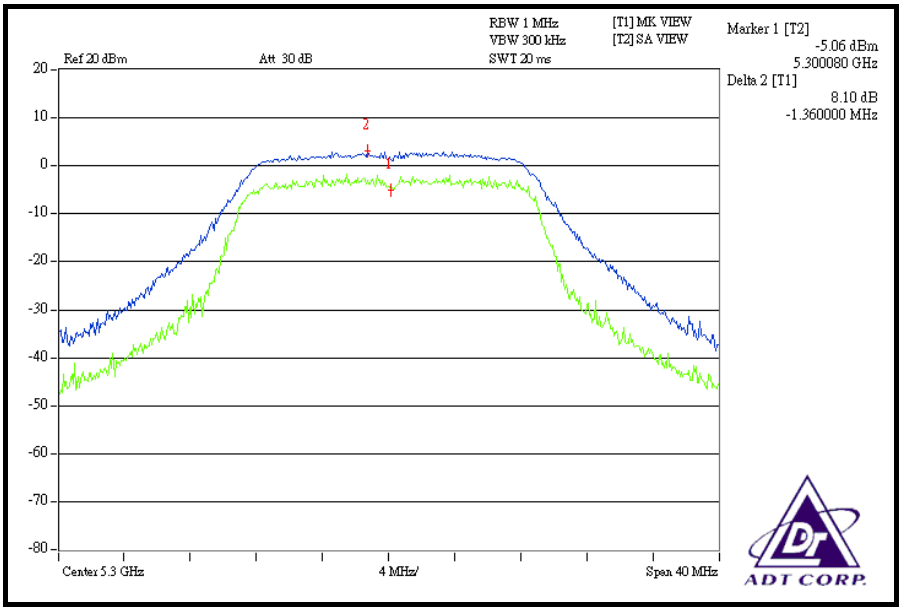
CH 140


RBW 1 MHz
VBW 300 kHz
SWT 20 ms
[T1] MK VIEW
[T2] SA VIEW
Marker 1 [T2]
-5.00 dBm
5.700080 GHz
Delta 2 [T1]
8.97 dB
-240.000000 kHz
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.

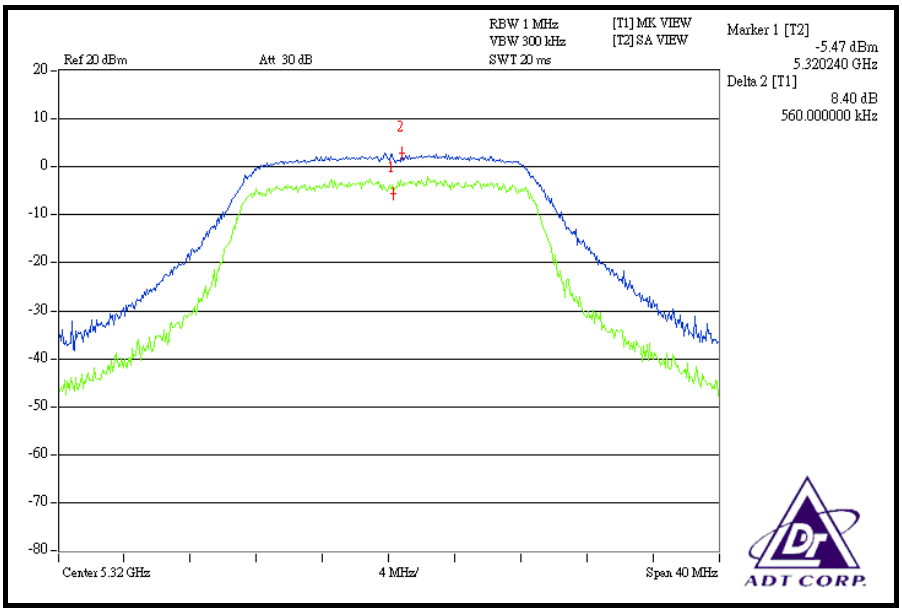
CHAIN 2: CH 52



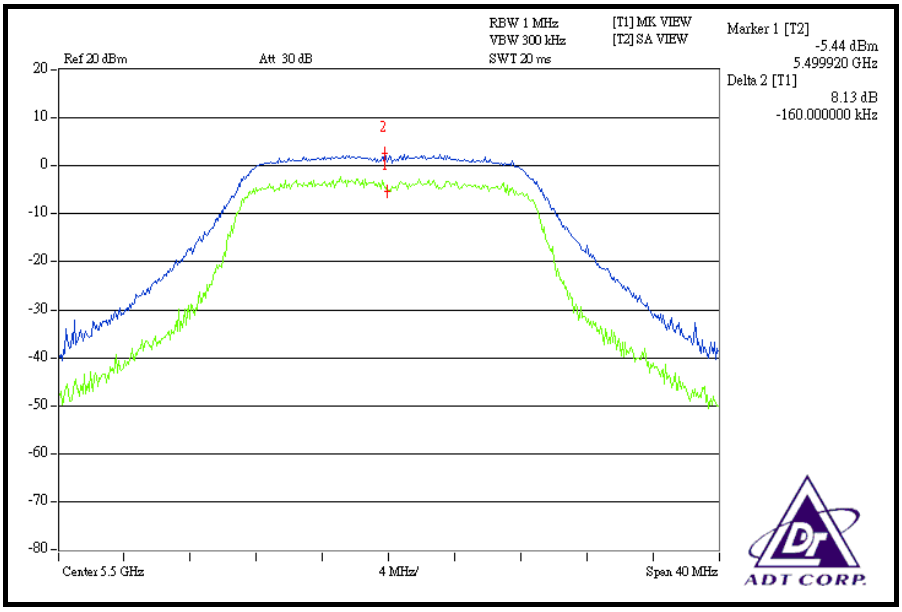
CH 60



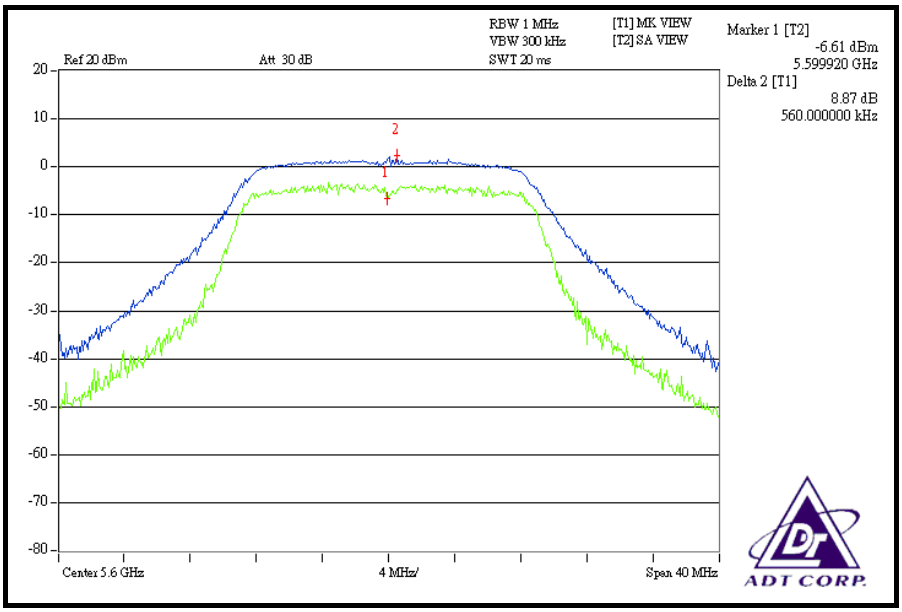
CH 64


RBW 1 MHz
VBW 300 kHz
SWT 20 ms
[T1] MK VIEW
[T2] SA VIEW
Marker 1 [T2]
-5.47 dBm
5.320240 GHz
Delta 2 [T1]
8.40 dB
560.000000 kHz
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.

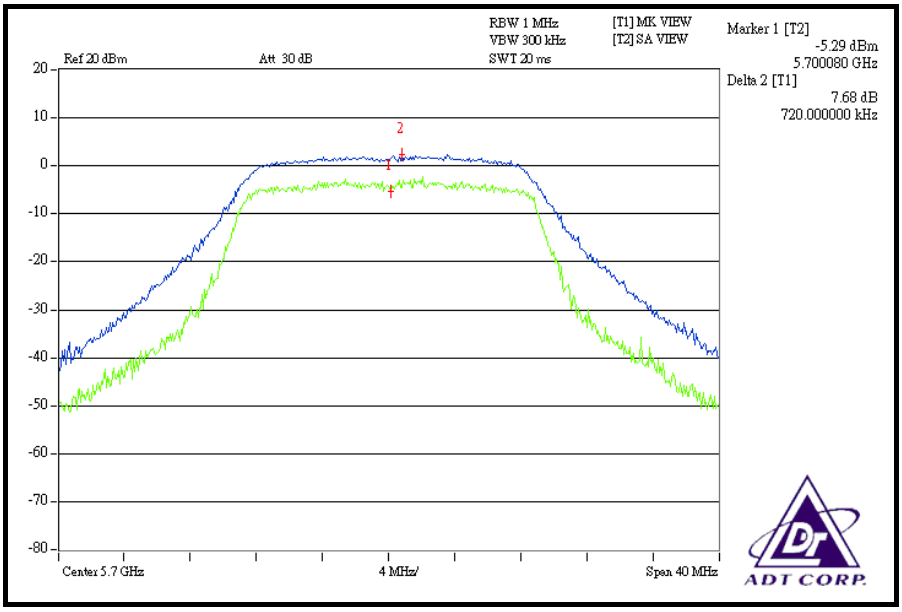
CH 100


RBW 1 MHz
VBW 300 kHz
SWT 20 ms
[T1] MK VIEW
[T2] SA VIEW
Marker 1 [T2]
-5.44 dBm
5.499920 GHz
Delta 2 [T1]
8.13 dB
-160.000000 kHz
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]
-6.61 dBm
5.599920 GHz
Delta 2 [T1]
8.87 dB
560.000000 kHz
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

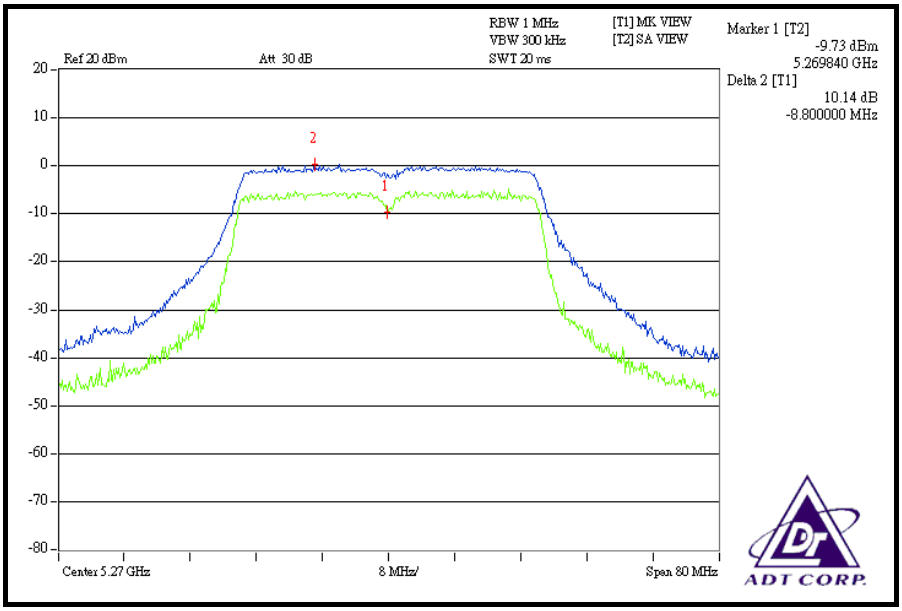

RBW 1 MHz
VBW 300 kHz
SWT 20 ms
[T1] MK VIEW
[T2] SA VIEW
Marker 1 [T2]
-5.29 dBm
5.700080 GHz
Delta 2 [T1]
7.68 dB
720.000000 kHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
Center 5.7 GHz
4 MHz/
Span 40 MHz
ADT CORP.

DRAFT 802.11n (40MHz) OFDM MODULATION

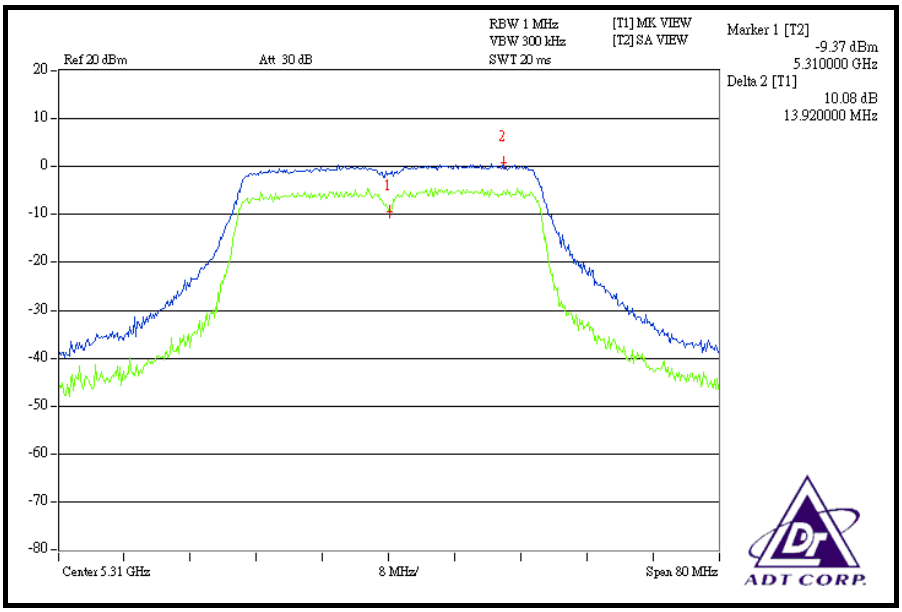
MODULATION TYPE	BPSK	**TRANSFER RATE**	13.5Mbps
INPUT POWER (SYSTEM)	120Vac, 60Hz	**ENVIRONMENTAL CONDITIONS**	25 deg.C, 65 %RH, 991hPa
TESTED BY	Brad Wu		

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER EXCURSION (dB)			PEAK to AVERAGE EXCURSION LIMIT (dB)	PASS/FAIL
		CHAIN 0	CHAIN 1	CHAIN 2		
54	5270	10.14	10.63	9.77	13	PASS
62	5310	10.08	10.24	10.04	13	PASS
102	5510	9.83	12.88	10.62	13	PASS
118	5590	10.43	11.10	10.94	13	PASS
134	5670	10.41	9.66	11.19	13	PASS

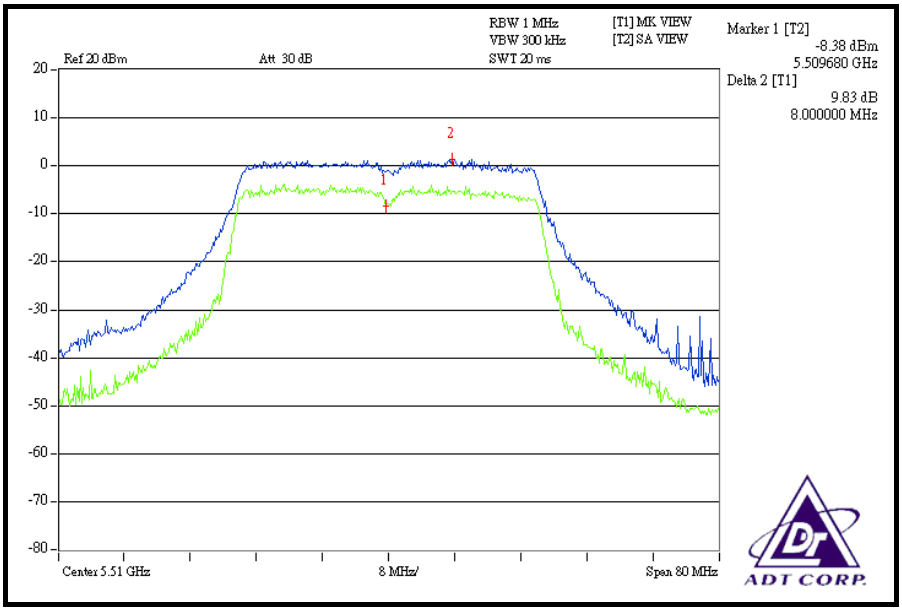
CHAIN 0: CH 54



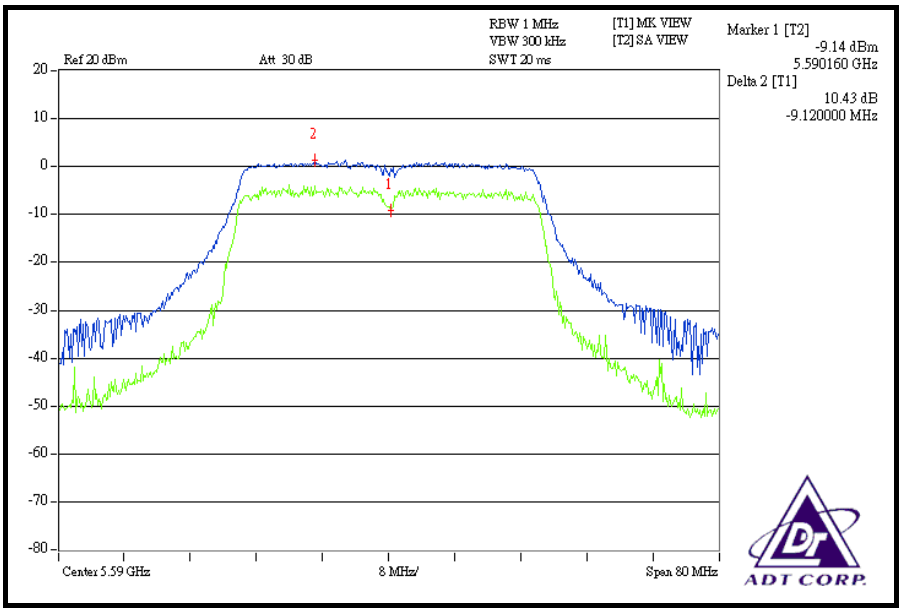
CH 62



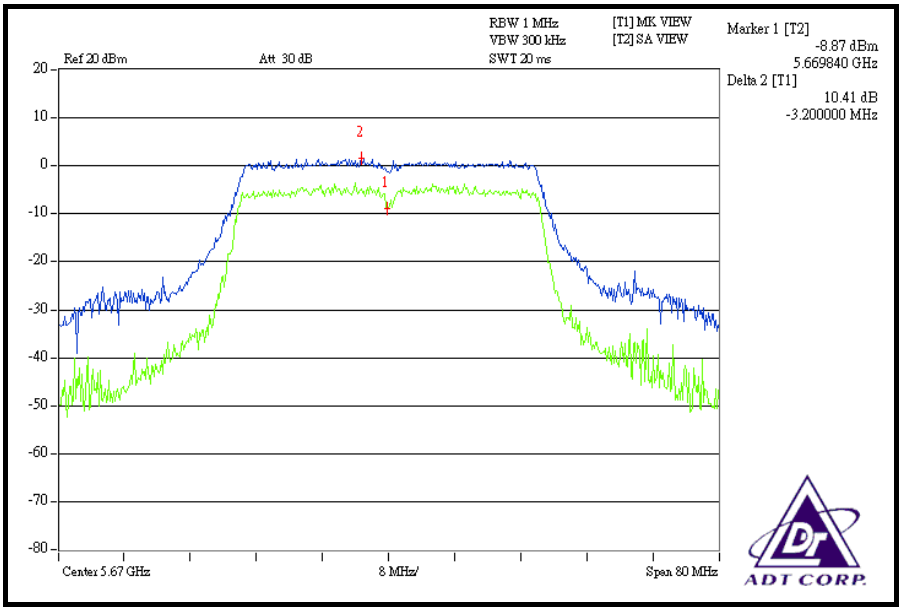
CH 102


RBW 1 MHz
VBW 300 kHz
SWT 20 ms
[T1] MK VIEW
[T2] SA VIEW
Marker 1 [T2]
-8.38 dBm
5.509680 GHz
Delta 2 [T1]
9.83 dB
8.000000 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.

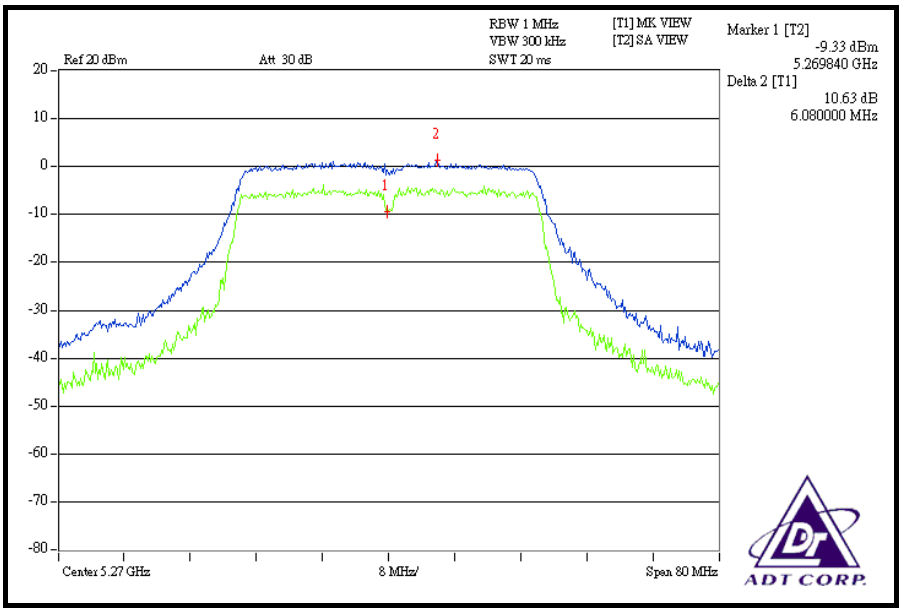
CH 118


RBW 1 MHz
VBW 300 kHz
SWT 20 ms
[T1] MK VIEW
[T2] SA VIEW
Marker 1 [T2]
-9.14 dBm
5.590160 GHz
Delta 2 [T1]
10.43 dB
-9.120000 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.

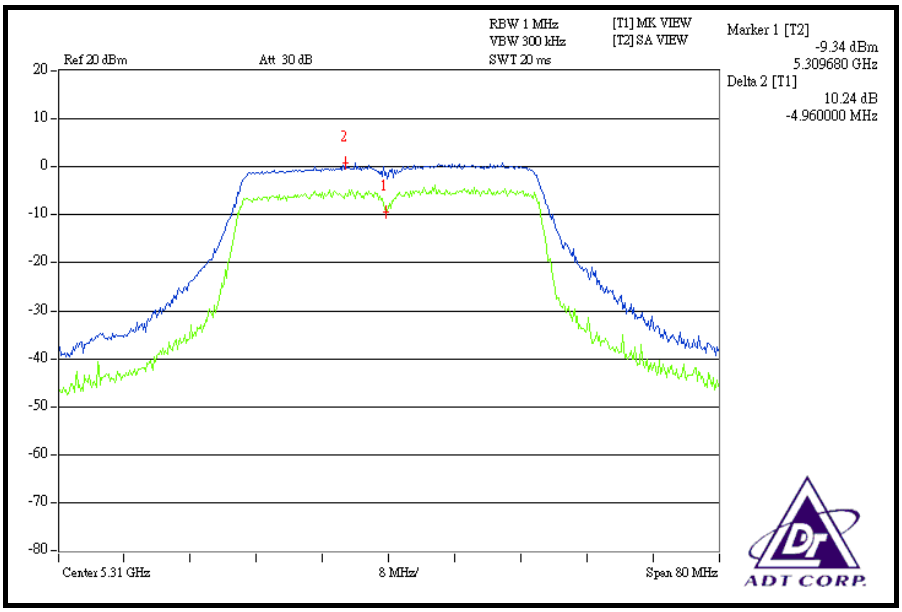
CH 134



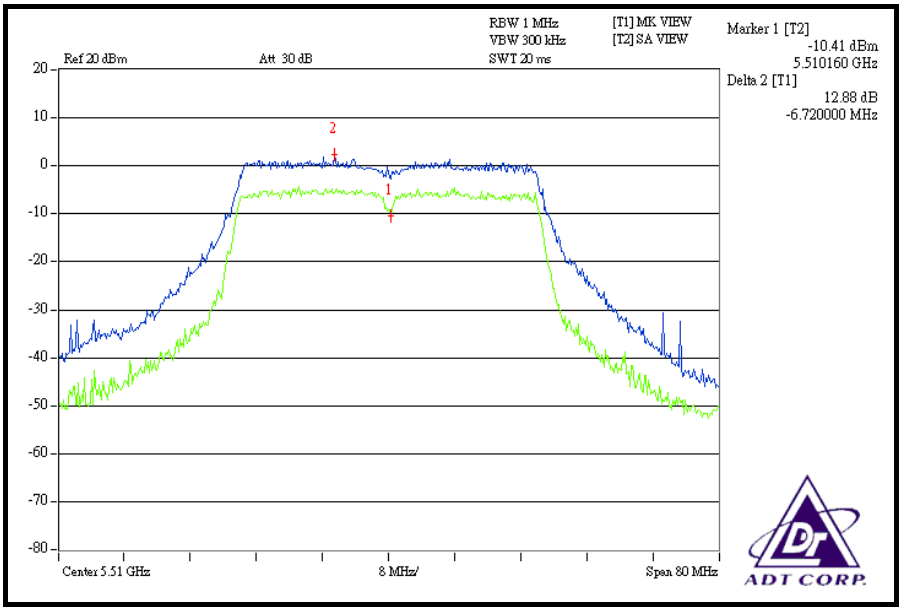
CHAIN 1: CH 54



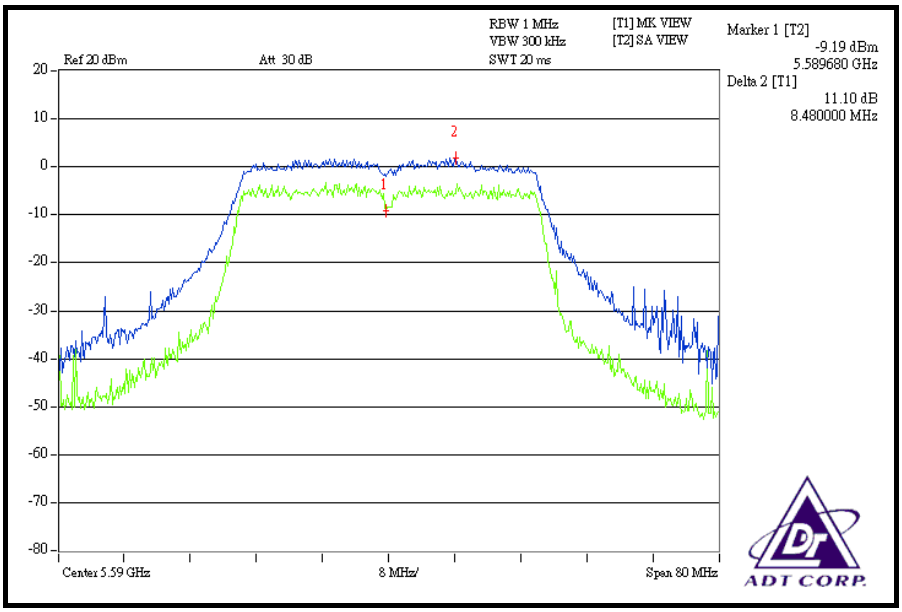
CH 62


RBW 1 MHz
VBW 300 kHz
SWT 20 ms
[T1] MK VIEW
[T2] SA VIEW
Marker 1 [T2]
-9.34 dBm
5.309680 GHz
Delta 2 [T1]
10.24 dB
-4.960000 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.

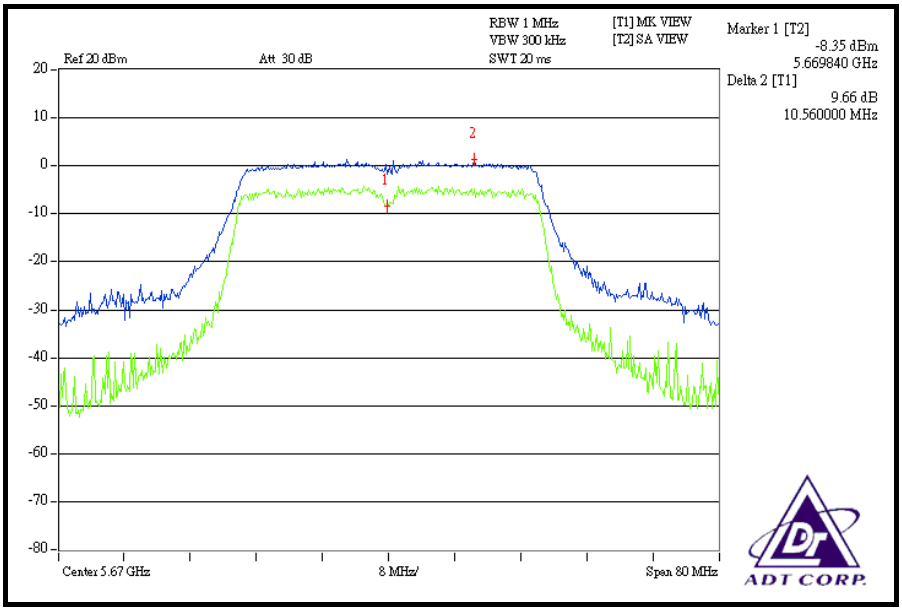
CH 102


RBW 1 MHz
VBW 300 kHz
SWT 20 ms
[T1] MK VIEW
[T2] SA VIEW
Marker 1 [T2]
-10.41 dBm
5.510160 GHz
Delta 2 [T1]
12.88 dB
-6.720000 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.

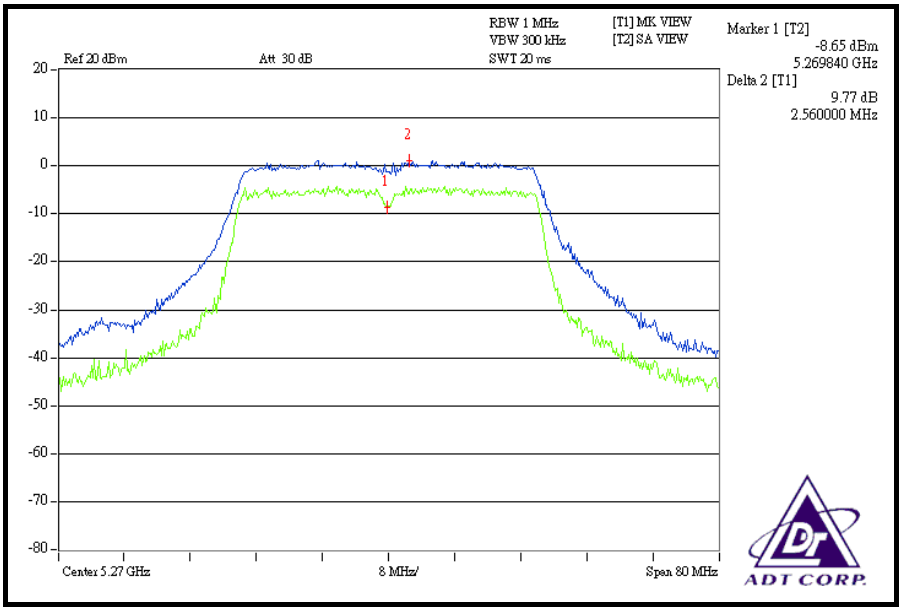
CH 118


RBW 1 MHz
VBW 300 kHz
SWT 20 ms
[T1] MK VIEW
[T2] SA VIEW
Marker 1 [T2]
-9.19 dBm
5.589680 GHz
Delta 2 [T1]
11.10 dB
8.480000 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.

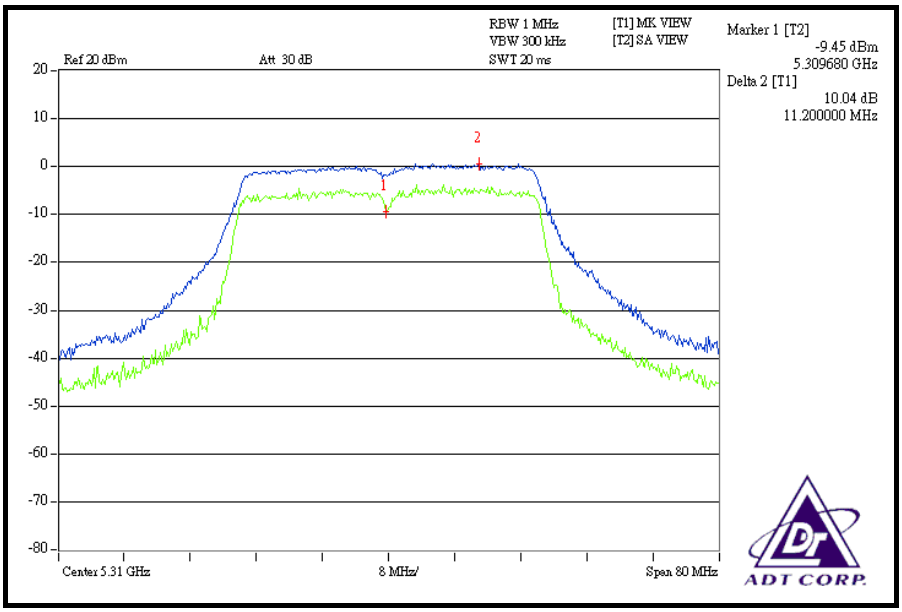
CH 134


RBW 1 MHz
VBW 300 kHz
SWT 20 ms
[T1] MK VIEW
[T2] SA VIEW
Marker 1 [T2]
-8.35 dBm
5.669840 GHz
Delta 2 [T1]
9.66 dB
10.560000 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.

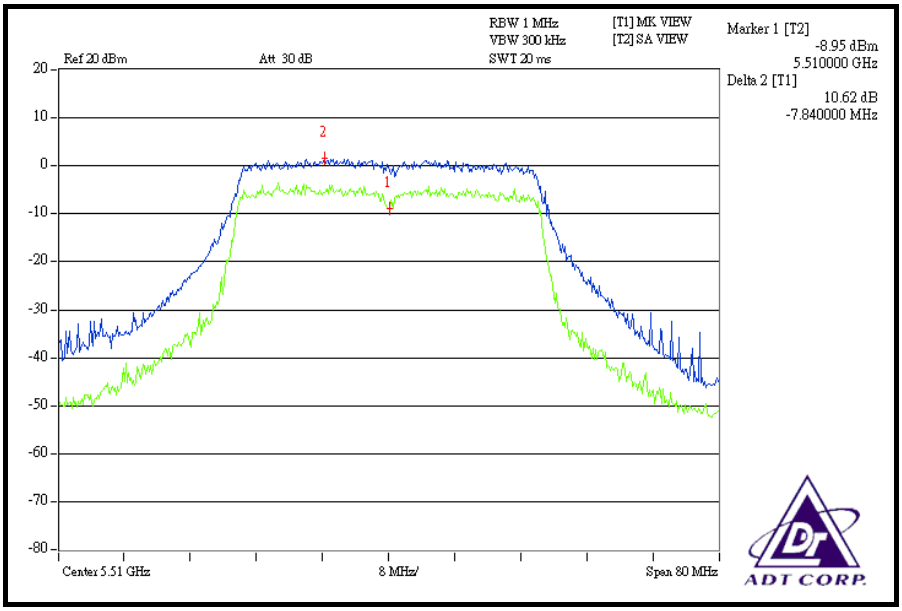
CHAIN 2: CH 54



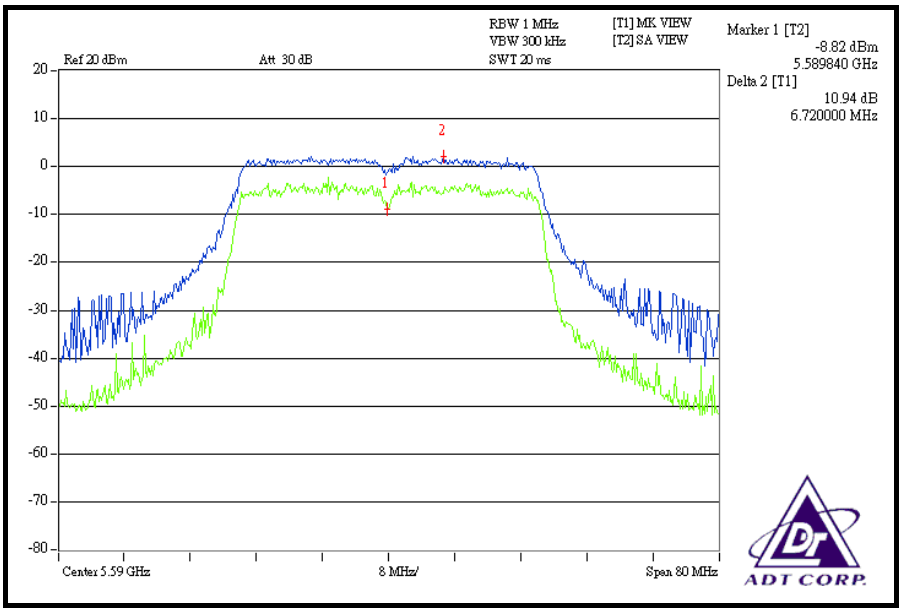
CH 62



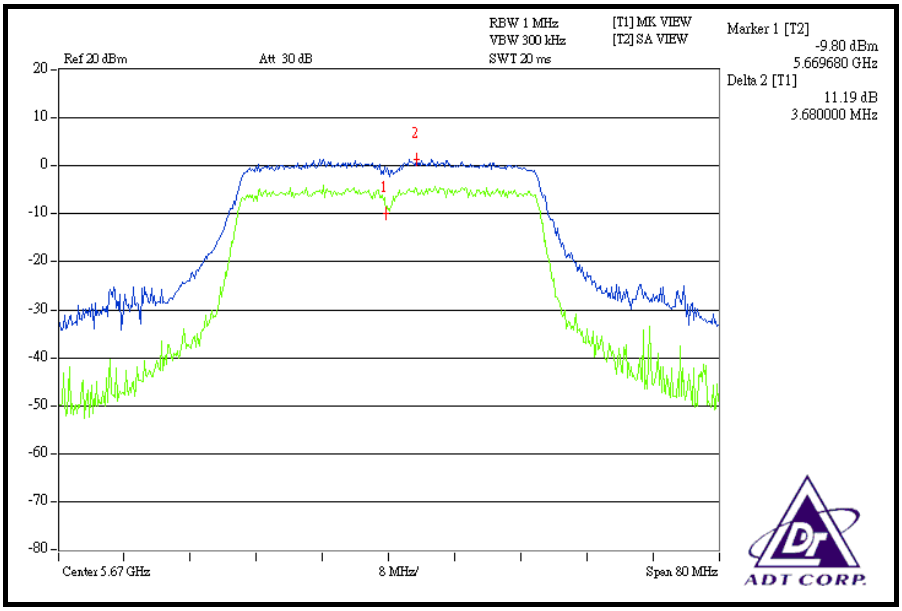
CH 102


RBW 1 MHz
VBW 300 kHz
SWT 20 ms
[T1] MK VIEW
[T2] SA VIEW
Marker 1 [T2]
-8.95 dBm
5.510000 GHz
Delta 2 [T1]
10.62 dB
-7.840000 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]
-8.82 dBm
5.589840 GHz
Delta 2 [T1]
10.94 dB
6.720000 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]
-9.80 dBm
5.669680 GHz
Delta 2 [T1]
11.19 dB
3.680000 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
5.250 ~ 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

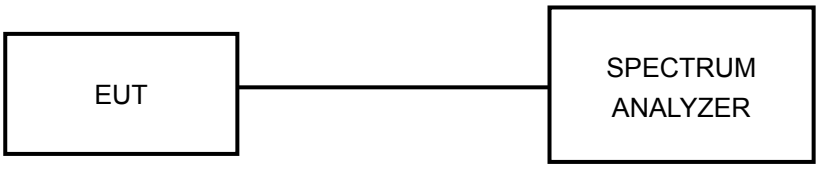
a. The transmitter output was connected to the spectrum analyzer.

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

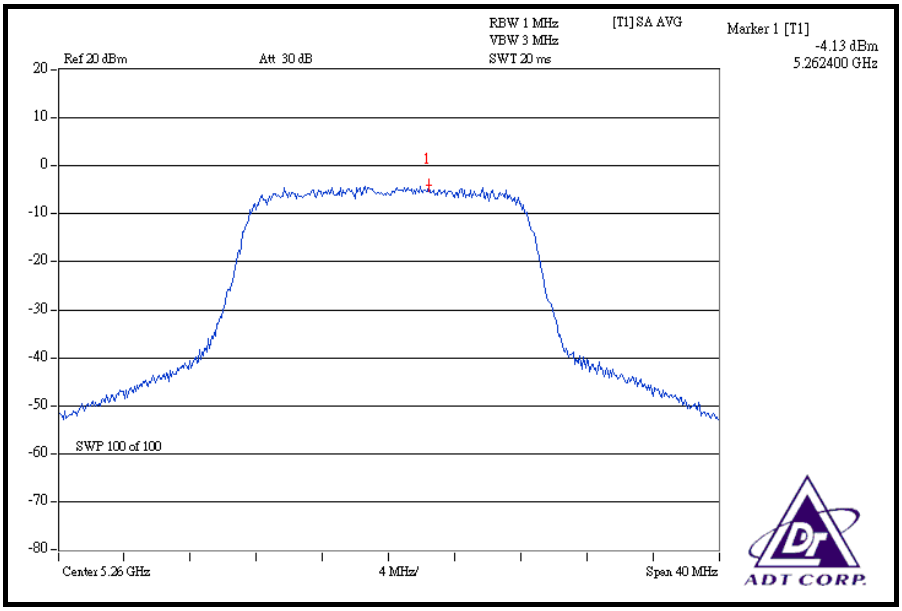
4.5.7 TEST RESULTS

802.11a OFDM MODULATION

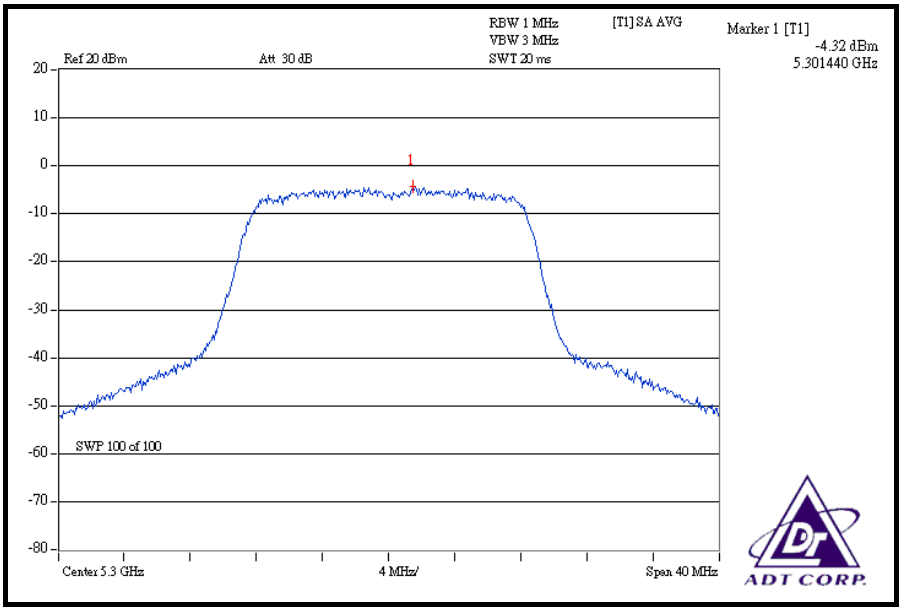
MODULATION TYPE	BPSK	**TRANSFER RATE**	6.0Mbps
INPUT POWER (SYSTEM)	120Vac, 60Hz	**ENVIRONMENTAL CONDITIONS**	25 deg.C, 65 %RH, 991hPa
TESTED BY	Brad Wu		

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 1MHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
52	5260	-4.13	11	PASS
60	5300	-4.32	11	PASS
64	5320	-4.29	11	PASS
100	5500	-4.00	11	PASS
120	5600	-4.12	11	PASS
140	5700	-4.18	11	PASS

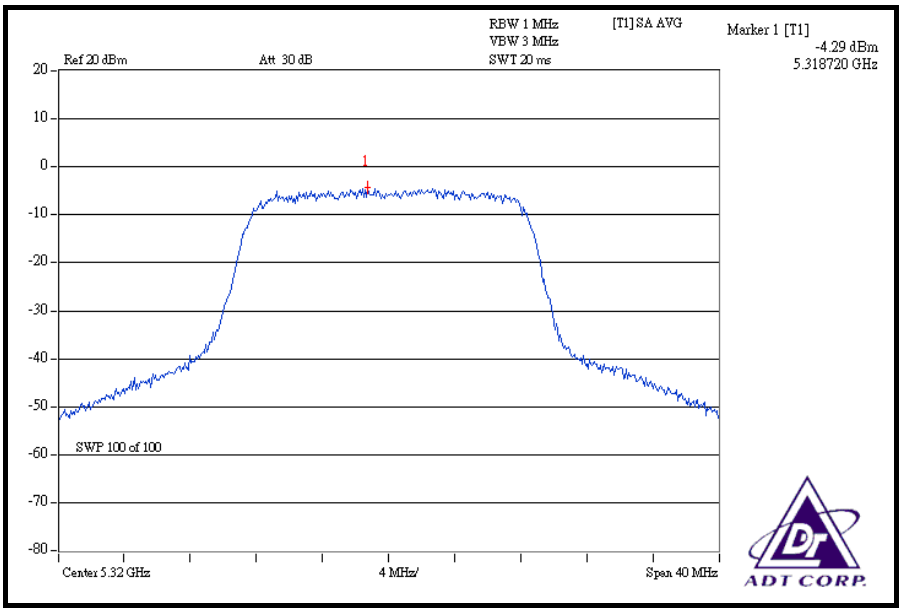
CH 52


RBW 1 MHz
VBW 3 MHz
SWT 20 ms
[T1] SA AVG
Marker 1 [T1]
-4.13 dBm
5.262400 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.

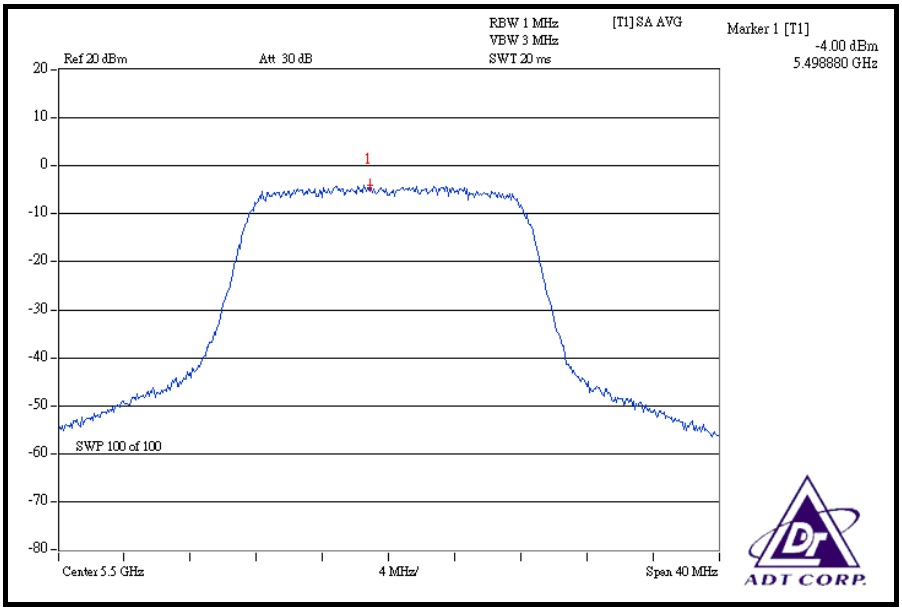
CH 60


RBW 1 MHz
VBW 3 MHz
SWT 20 ms
[T1] SA AVG
Marker 1 [T1]
-4.32 dBm
5.301440 GHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
SWP 100 of 100
Center 5.3 GHz
4 MHz/
Span 40 MHz
ADT CORP.

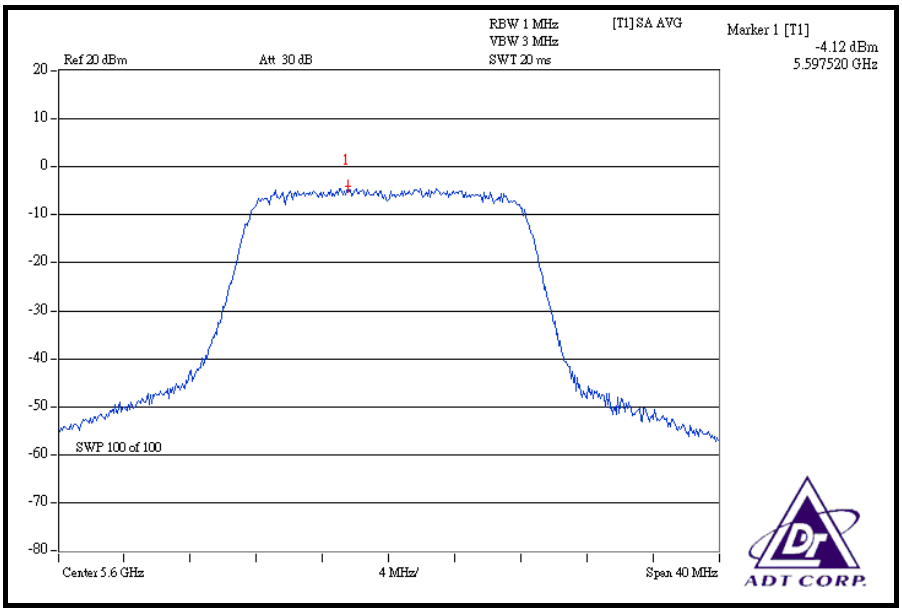
CH 64


RBW 1 MHz
VBW 3 MHz
SWT 20 ms
[T1] SA AVG
Marker 1 [T1]
-4.29 dBm
5.318720 GHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
SWP 100 of 100
Center 5.32 GHz
4 MHz/
Span 40 MHz
ADT CORP.

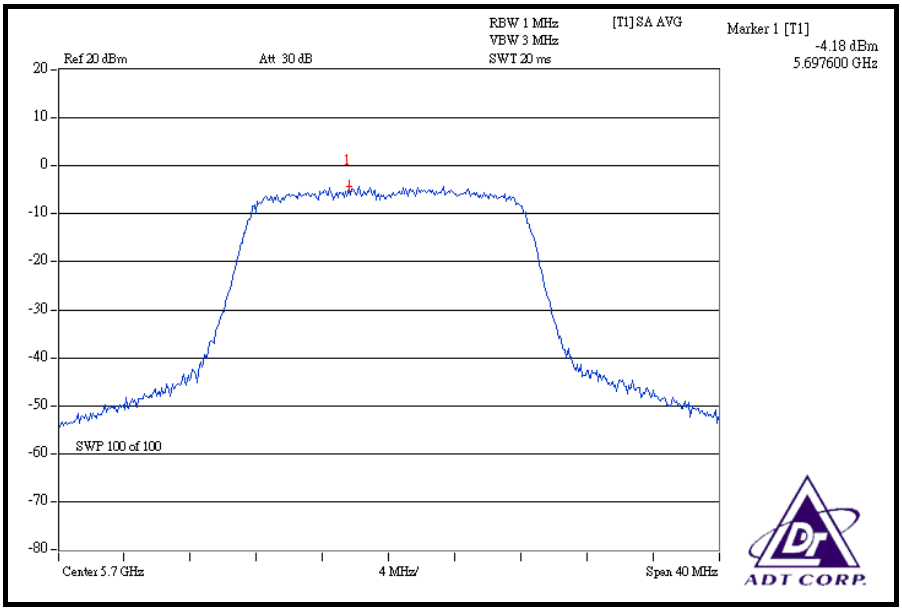
CH 100


RBW 1 MHz
VBW 3 MHz
SWT 20 ms
[T1] SA AVG
Marker 1 [T1]
-4.00 dBm
5.498880 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]
-4.12 dBm
5.597520 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

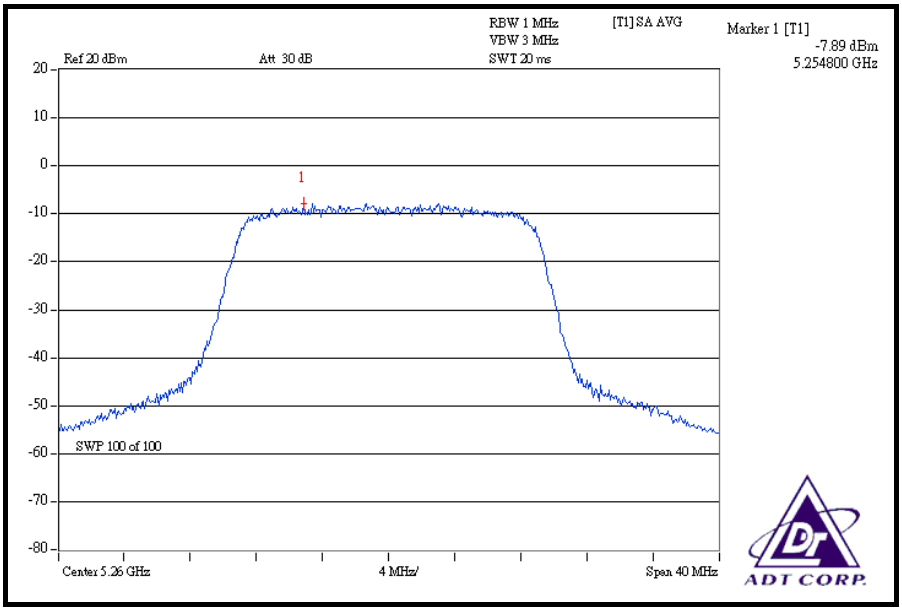

RBW 1 MHz
VBW 3 MHz
SWT 20 ms
[T1] SA AVG
Marker 1 [T1]
-4.18 dBm
5.697600 GHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
SWP 100 of 100
Center 5.7 GHz
4 MHz/
Span 40 MHz
ADT CORP.

DRAFT 802.11n (20MHz) OFDM MODULATION

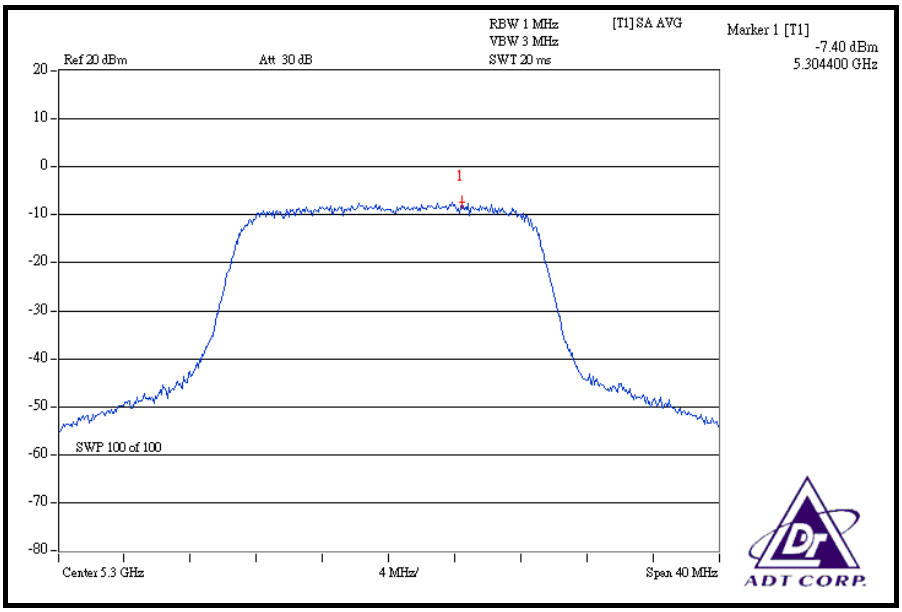
MODULATION TYPE	BPSK	**TRANSFER RATE**	6.5Mbps
INPUT POWER (SYSTEM)	120Vac, 60Hz	**ENVIRONMENTAL CONDITIONS**	25 deg.C, 65 %RH, 991hPa
TESTED BY	Brad Wu		

CHAN.	CHAN. FREQ. (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)			TOTAL POWER DENSITY (mW)	TOTAL POWER DENSITY (dBm)	MAX. LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2				
52	5260	-7.89	-7.89	-8.87	0.455	-3.42	11	PASS
60	5300	-7.40	-7.90	-8.78	0.477	-3.22	11	PASS
64	5320	-7.76	-7.98	-8.76	0.460	-3.37	11	PASS
100	5500	-7.58	-7.76	-8.86	0.472	-3.26	11	PASS
120	5600	-7.93	-8.04	-9.22	0.438	-3.59	11	PASS
140	5700	-7.74	-7.89	-8.81	0.462	-3.35	11	PASS

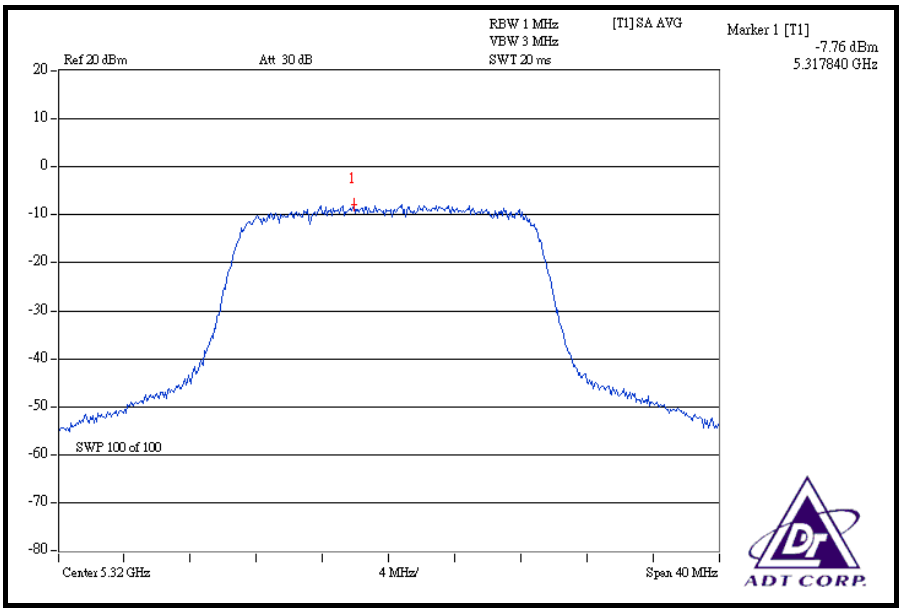
CHAIN 0: CH 52



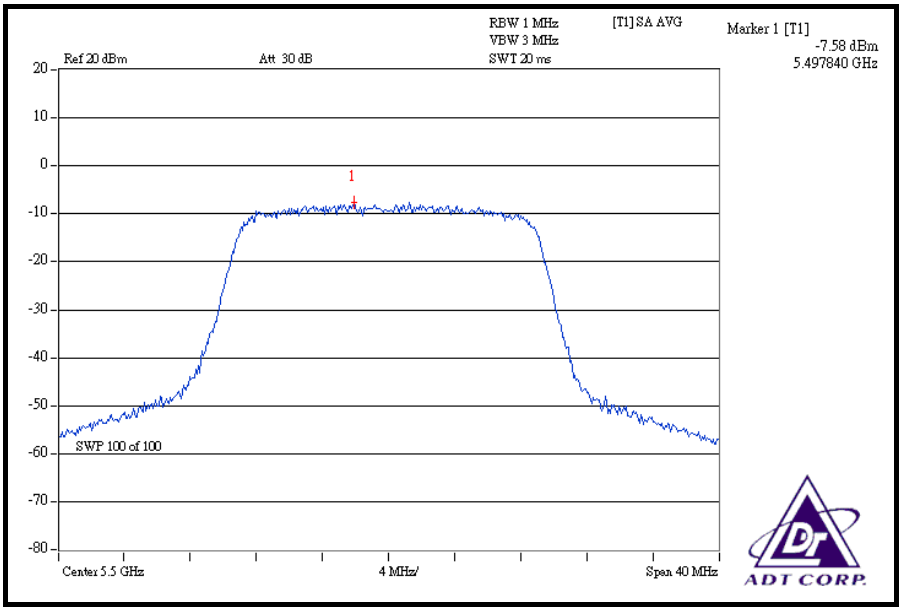
CH 60



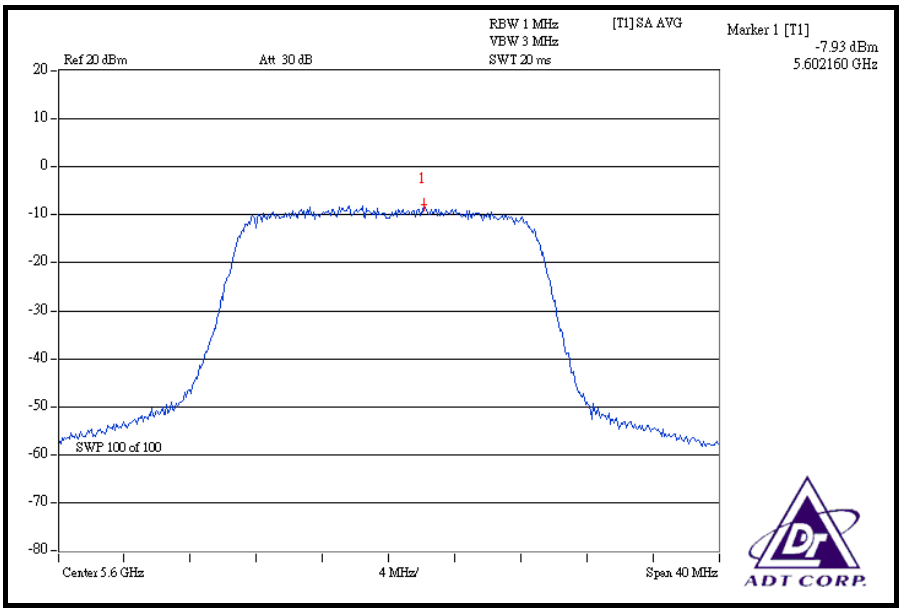
CH 64


RBW 1 MHz
VBW 3 MHz
SWT 20 ms
[T1] SA AVG
Marker 1 [T1]
-7.76 dBm
5.317840 GHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
SWP 100 of 100
Center 5.32 GHz
4 MHz/
Span 40 MHz
ADT CORP.

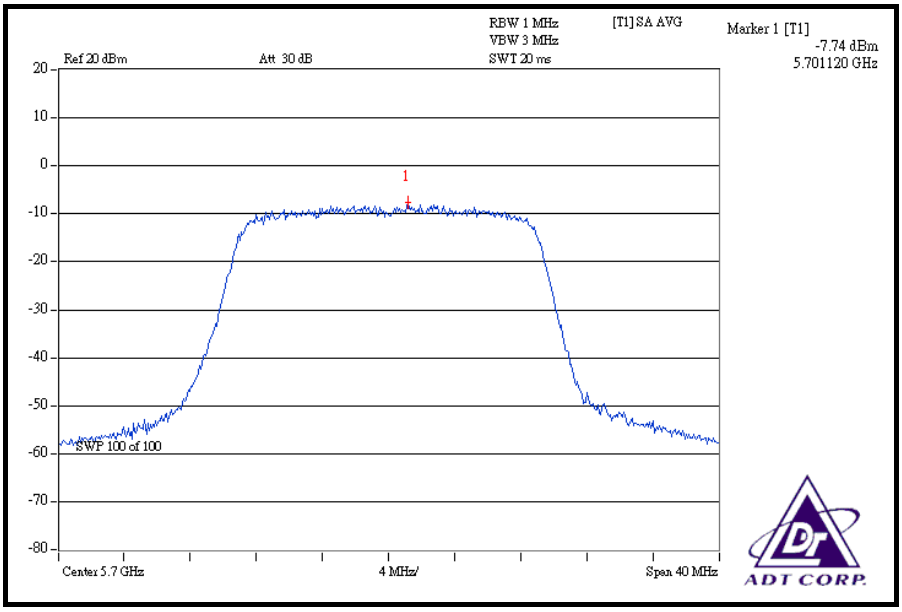
CH 100


RBW 1 MHz
VBW 3 MHz
SWT 20 ms
[T1] SA AVG
Marker 1 [T1]
-7.58 dBm
5.497840 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.

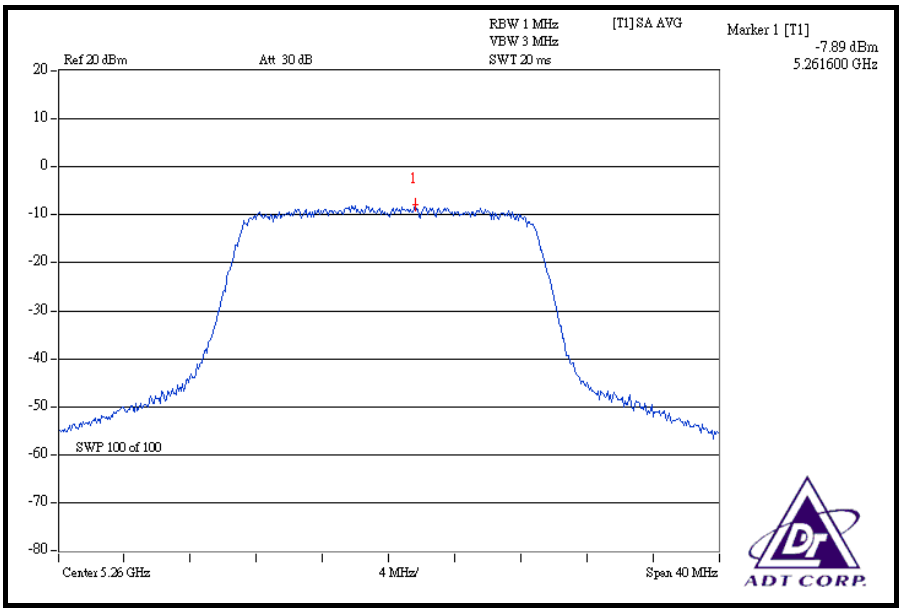
CH 120


RBW 1 MHz
VBW 3 MHz
SWT 20 ms
[T1] SA AVG
Marker 1 [T1]
-7.93 dBm
5.602160 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.

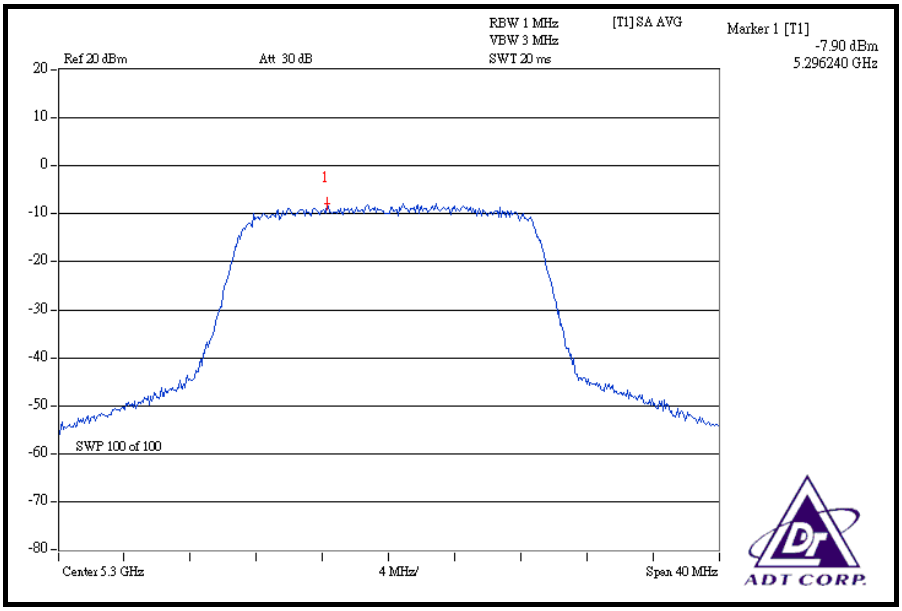
CH 140


RBW 1 MHz
VBW 3 MHz
SWT 20 ms
[T1] SA AVG
Marker 1 [T1]
-7.74 dBm
5.701120 GHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
SWP 100 of 100
Center 5.7 GHz
4 MHz/
Span 40 MHz
ADT CORP.

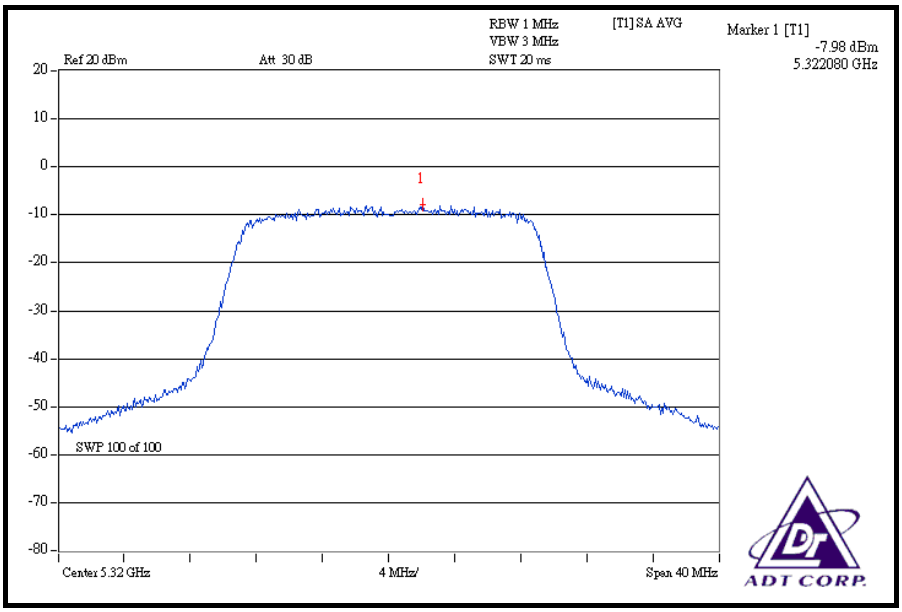
CHAIN 1: CH 52



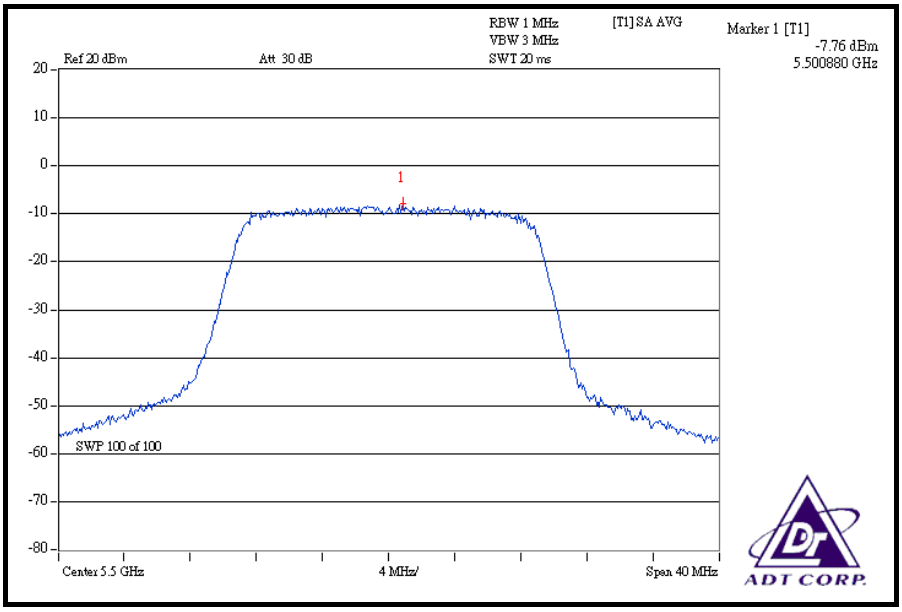
CH 60



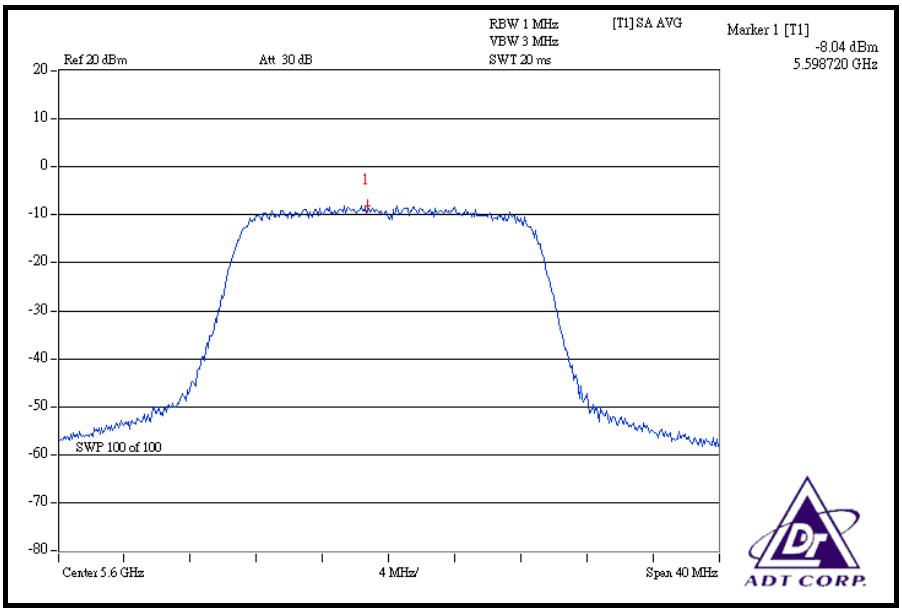
CH 64


RBW 1 MHz
VBW 3 MHz
SWT 20 ms
[T1] SA AVG
Marker 1 [T1]
-7.98 dBm
5.322080 GHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
SWP 100 of 100
Center 5.32 GHz
4 MHz/
Span 40 MHz
ADT CORP.

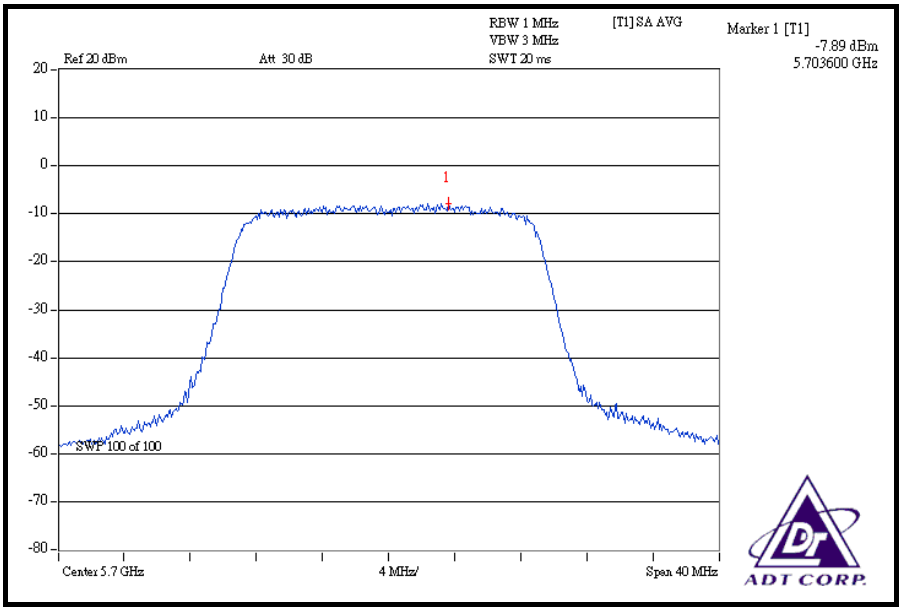
CH 100


RBW 1 MHz
VBW 3 MHz
SWT 20 ms
[T1] SA AVG
Marker 1 [T1]
-7.76 dBm
5.500880 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.

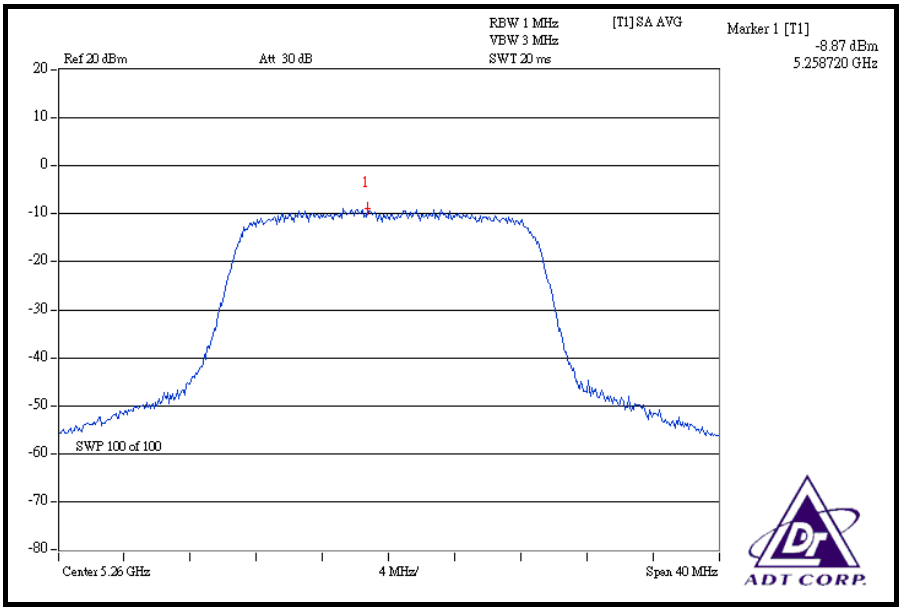
CH 120


RBW 1 MHz
VBW 3 MHz
SWT 20 ms
[T1] SA AVG
Marker 1 [T1]
-8.04 dBm
5.598720 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.

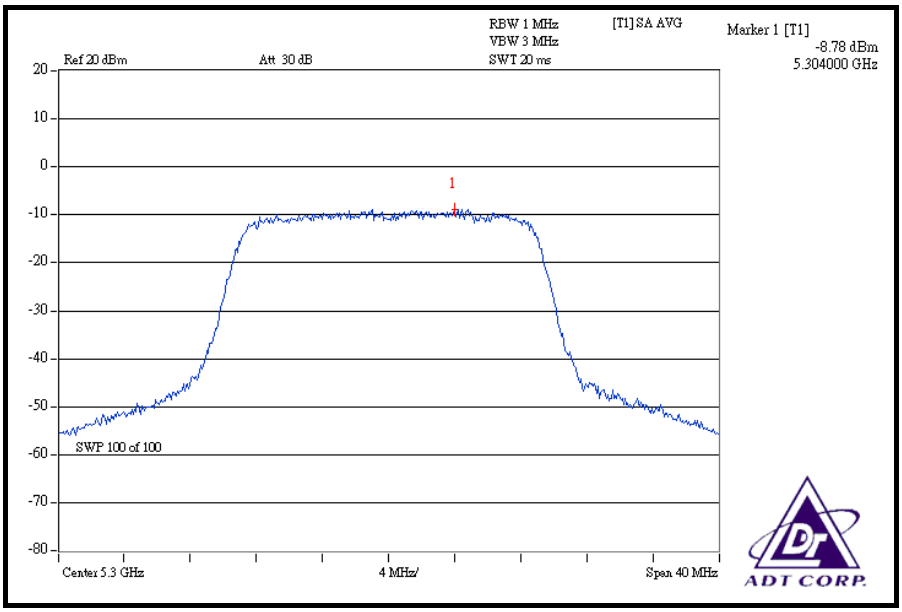
CH 140


RBW 1 MHz
VBW 3 MHz
SWT 20 ms
[T1] SA AVG
Marker 1 [T1]
-7.89 dBm
5.703600 GHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
SWP 100 of 100
Center 5.7 GHz
4 MHz/
Span 40 MHz
ADT CORP.

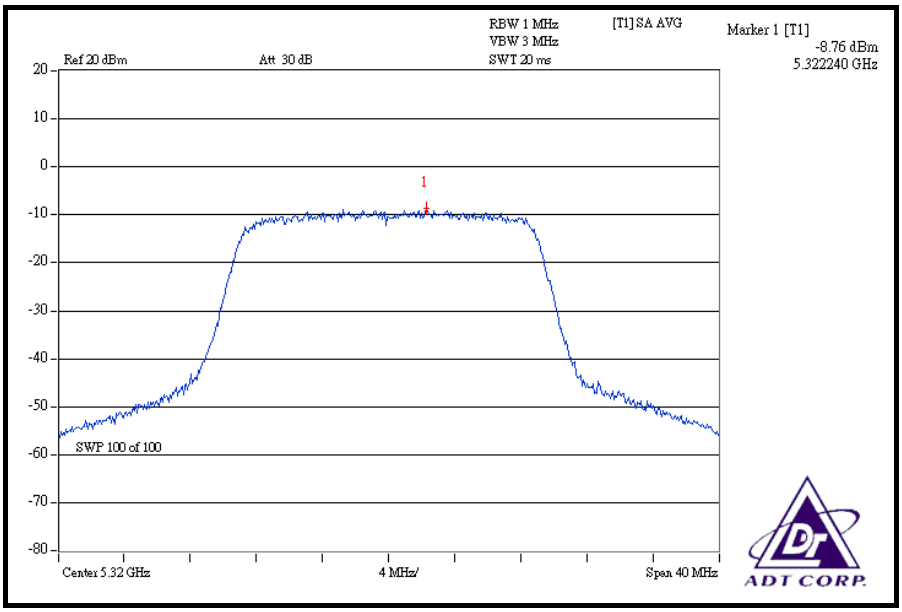
CHAIN 2: CH 52



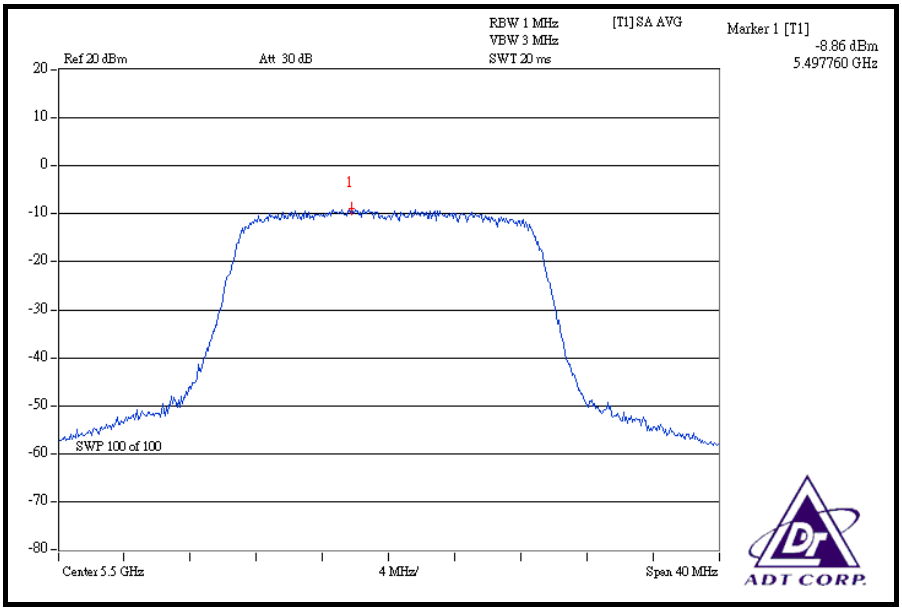
CH 60



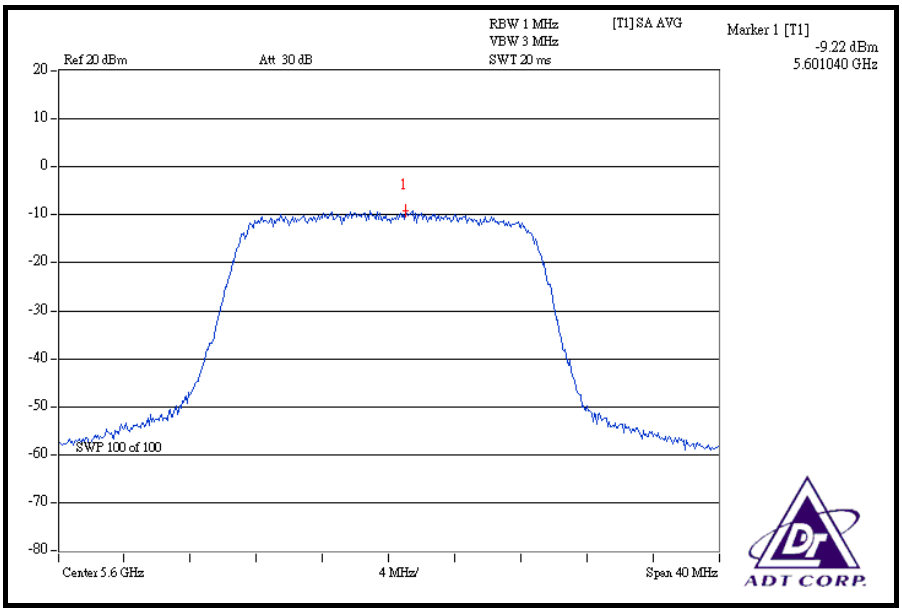
CH 64


RBW 1 MHz
VBW 3 MHz
SWT 20 ms
[T1] SA AVG
Marker 1 [T1]
-8.76 dBm
5.322240 GHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
SWP 100 of 100
Center 5.32 GHz
4 MHz/
Span 40 MHz
ADT CORP.

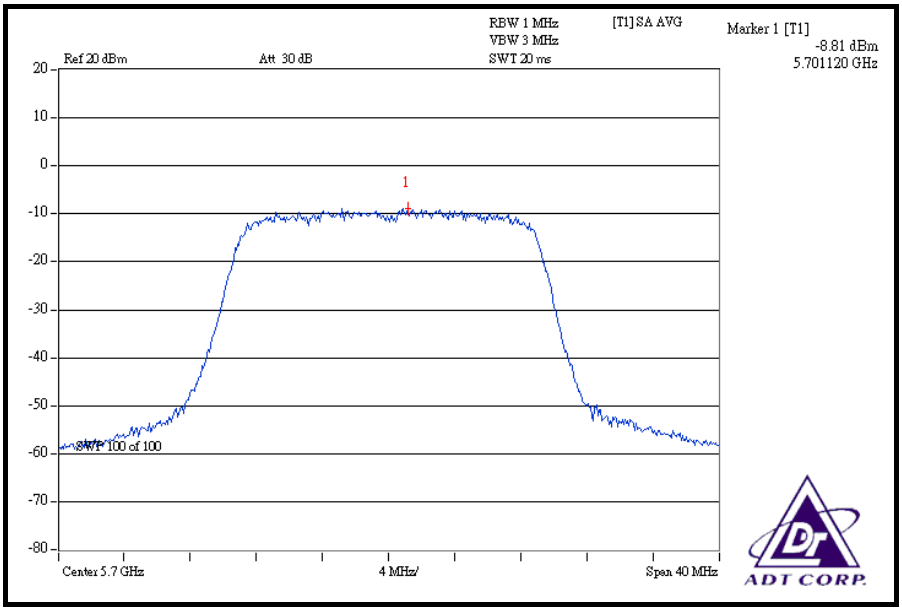
CH 100


RBW 1 MHz
VBW 3 MHz
SWT 20 ms
[T1] SA AVG
Marker 1 [T1]
-8.86 dBm
5.497760 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]
-9.22 dBm
5.601040 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

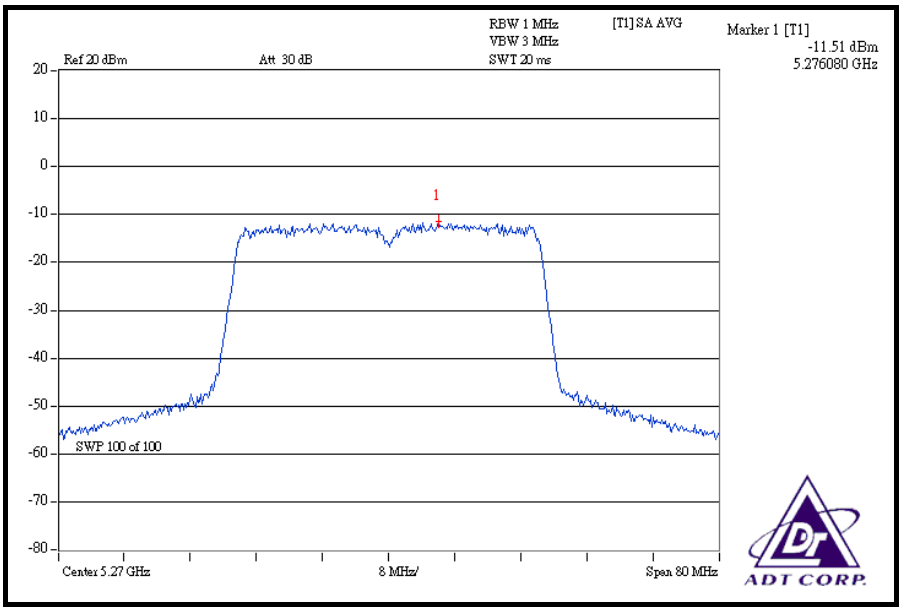

RBW 1 MHz
VBW 3 MHz
SWT 20 ms
[T1] SA AVG
Marker 1 [T1]
-8.81 dBm
5.701120 GHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
1
SWP 100 of 100
Center 5.7 GHz
4 MHz/
Span 40 MHz
ADT CORP.

DRAFT 802.11n (40MHz) OFDM MODULATION

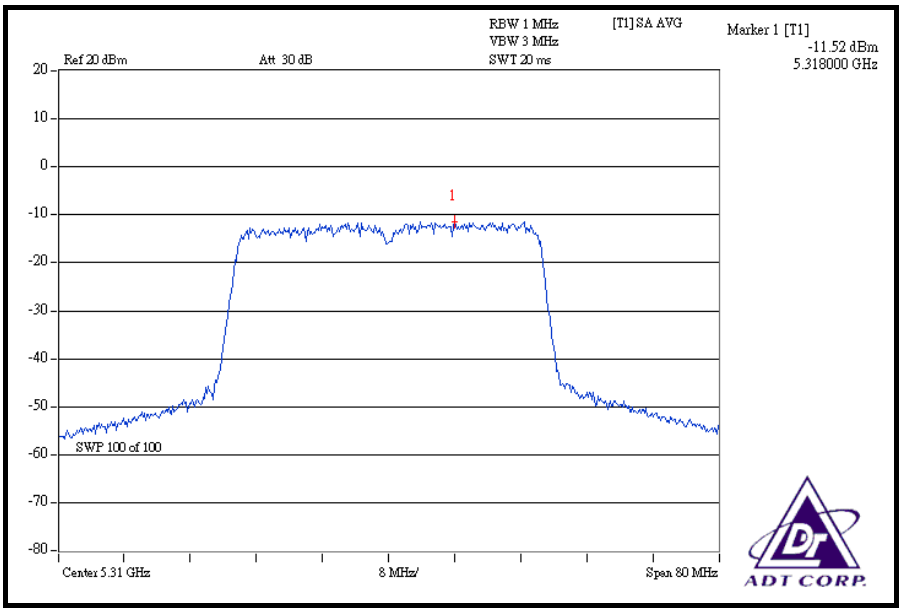
MODULATION TYPE	BPSK	**TRANSFER RATE**	13.5Mbps
INPUT POWER (SYSTEM)	120Vac, 60Hz	**ENVIRONMENTAL CONDITIONS**	25 deg.C, 65 %RH, 991hPa
TESTED BY	Brad Wu		

CHAN.	CHAN. FREQ. (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)			TOTAL POWER DENSITY (mW)	TOTAL POWER DENSITY (dBm)	MAX. LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2				
54	5270	-11.51	-10.11	-10.21	0.263	-5.79	11	PASS
62	5310	-11.52	-10.29	-10.24	0.259	-5.87	11	PASS
102	5510	-10.50	-10.48	-10.94	0.259	-5.86	11	PASS
118	5590	-10.53	-10.57	-10.77	0.260	-5.85	11	PASS
134	5670	-10.38	-10.35	-10.86	0.266	-5.75	11	PASS

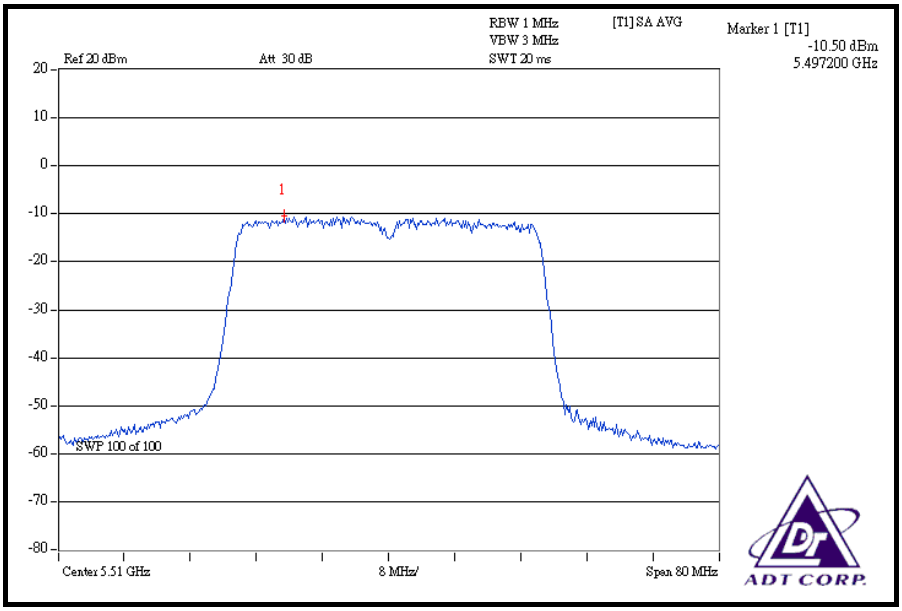
CHAIN 0: CH 54



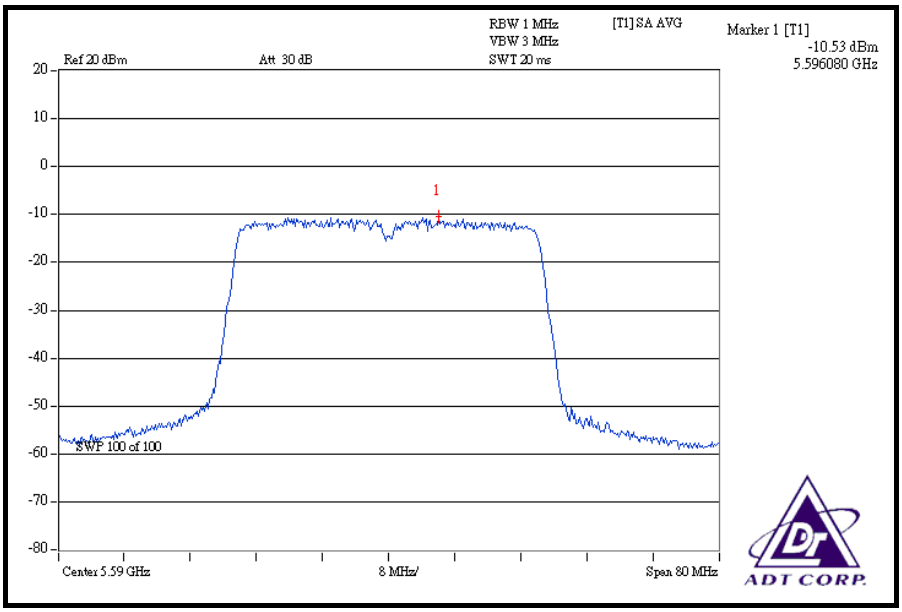
CH 62



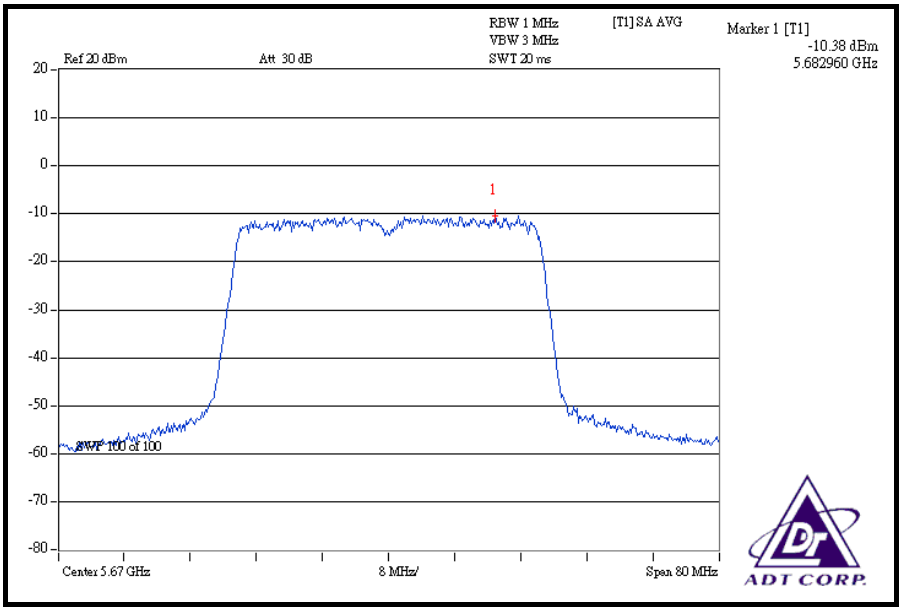
CH 102


RBW 1 MHz
VBW 3 MHz
SWT 20 ms
[T1] SA AVG
Marker 1 [T1]
-10.50 dBm
5.497200 GHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
1
SWP 100 of 100
Center 5.51 GHz
8 MHz/
Span 80 MHz
ADT CORP.

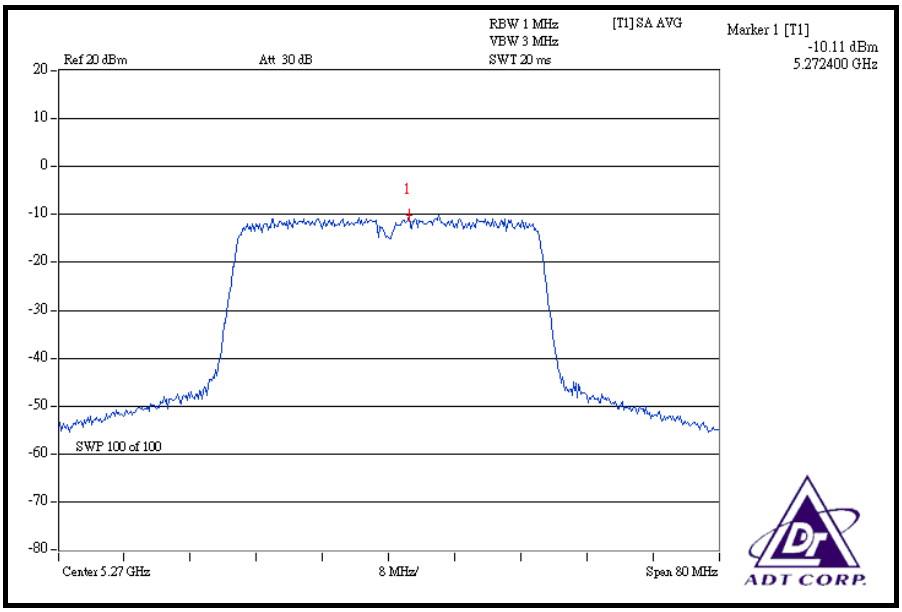
CH 118


RBW 1 MHz
VBW 3 MHz
SWT 20 ms
[T1] SA AVG
Marker 1 [T1]
-10.53 dBm
5.596080 GHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
1
SWP 100 of 100
Center 5.59 GHz
8 MHz/
Span 80 MHz
ADT CORP.

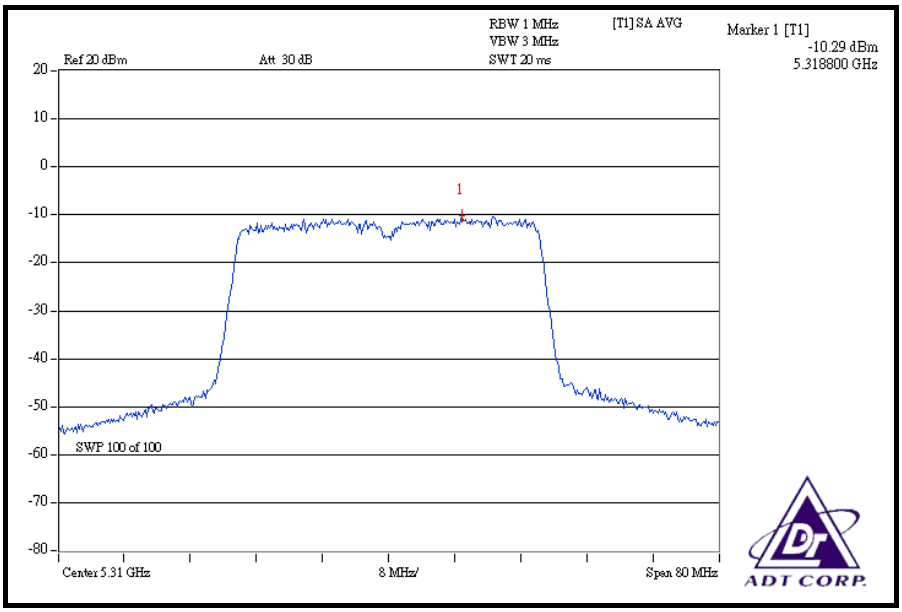
CH 134



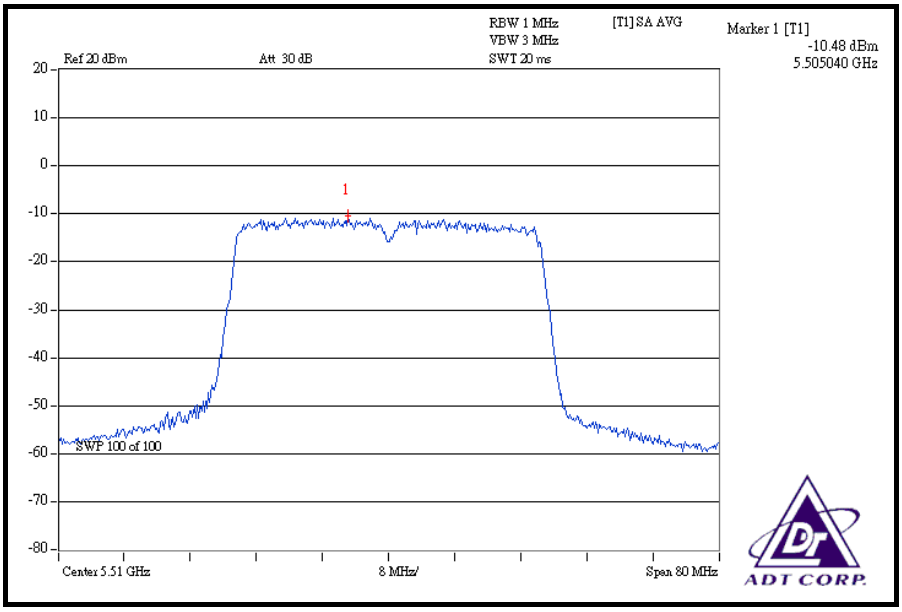
CHAIN 1: CH 54



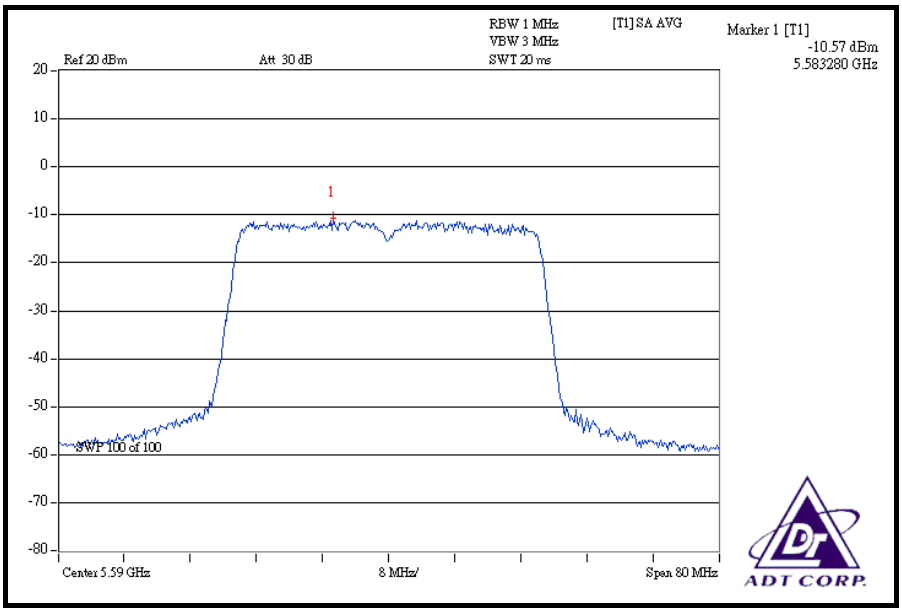
CH 62


RBW 1 MHz
VBW 3 MHz
SWT 20 ms
[T1] SA AVG
Marker 1 [T1]
-10.29 dBm
5.318800 GHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
SWP 100 of 100
Center 5.31 GHz
8 MHz/
Span 80 MHz
ADT CORP.

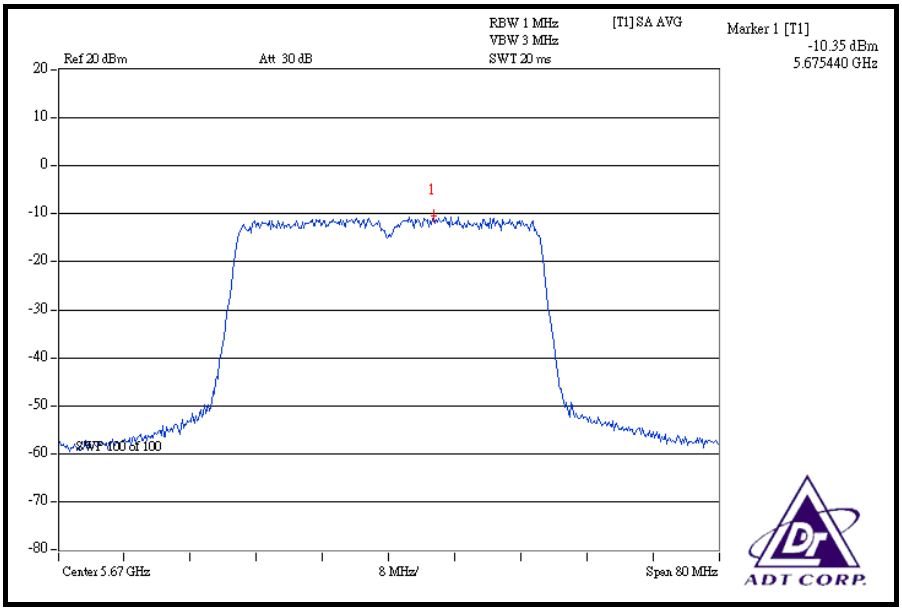
CH 102


RBW 1 MHz
VBW 3 MHz
SWT 20 ms
[T1] SA AVG
Marker 1 [T1]
-10.48 dBm
5.505040 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.

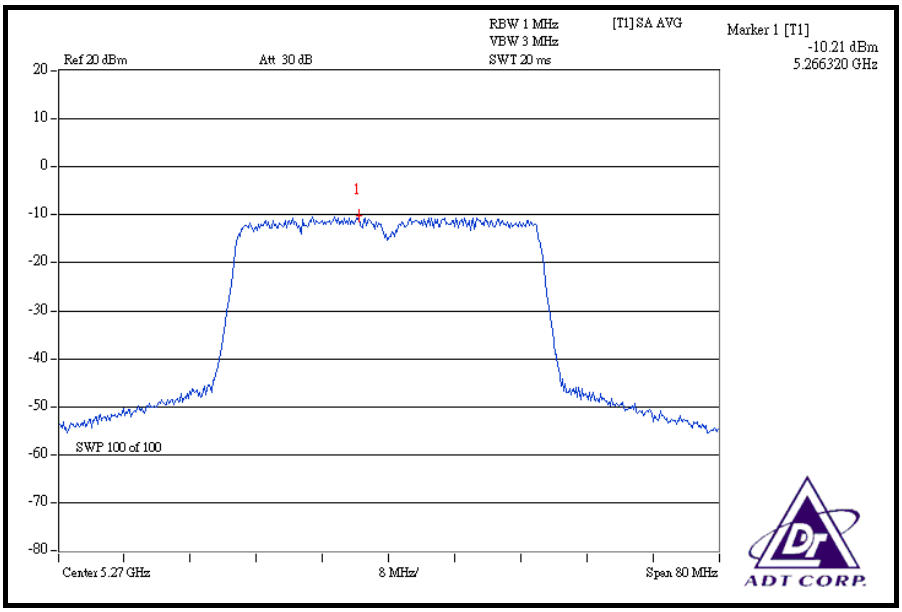
CH 118


RBW 1 MHz
VBW 3 MHz
SWT 20 ms
[T1] SA AVG
Marker 1 [T1]
-10.57 dBm
5.583280 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.

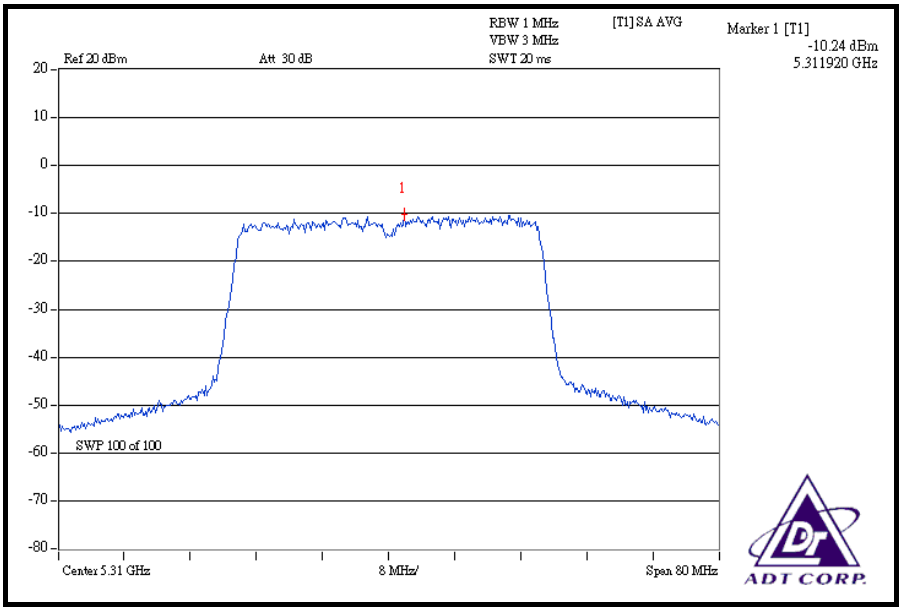
CH 134


RBW 1 MHz
VBW 3 MHz
SWT 20 ms
[T1] SA AVG
Marker 1 [T1]
-10.35 dBm
5.675440 GHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
SWP 100 of 100
Center 5.67 GHz
8 MHz/
Span 80 MHz
ADT CORP.

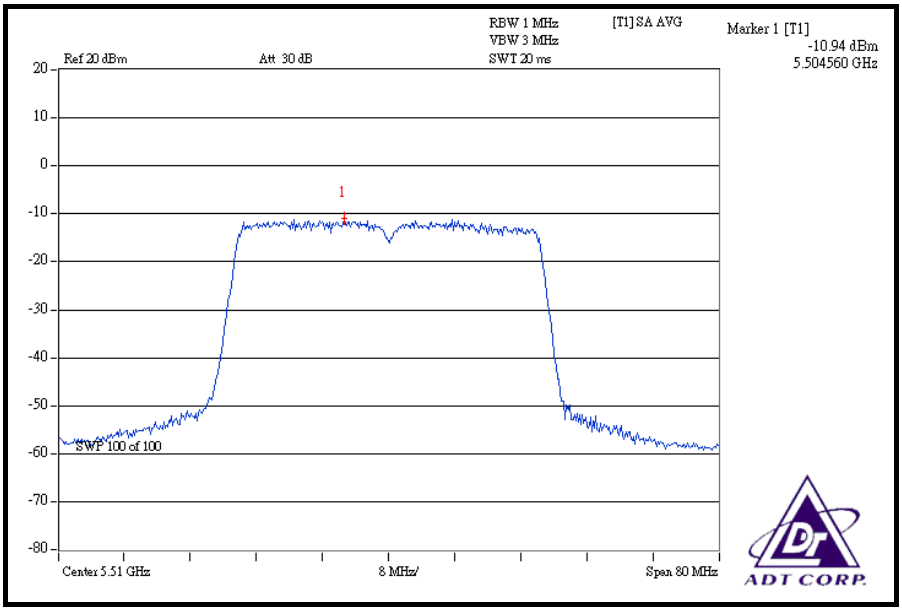
CHAIN 2: CH 54



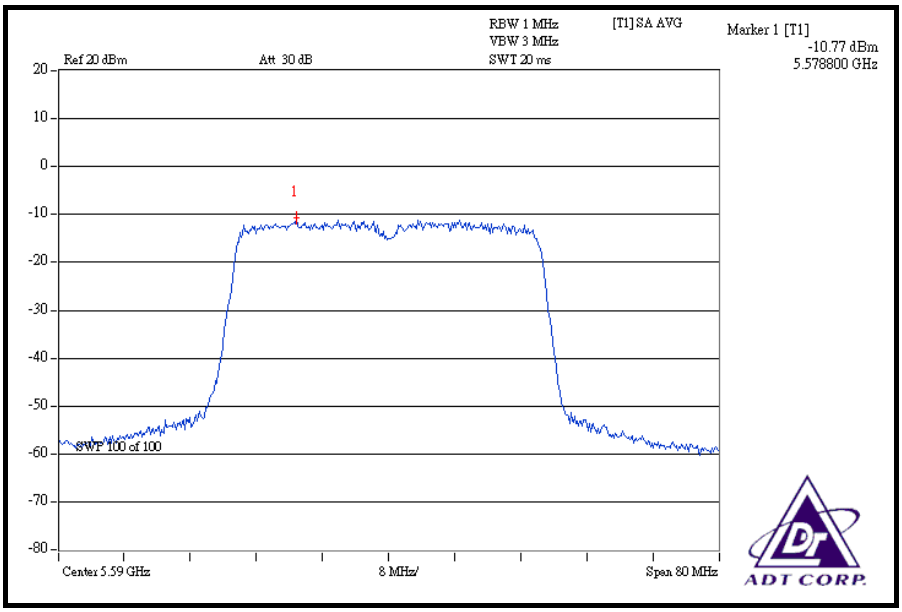
CH 62



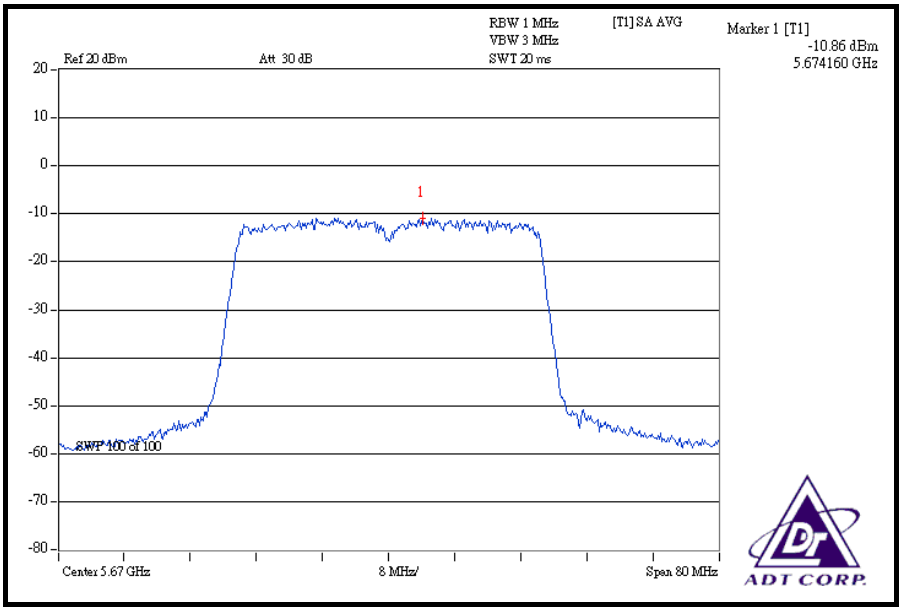
CH 102


RBW 1 MHz
VBW 3 MHz
SWT 20 ms
[T1] SA AVG
Marker 1 [T1]
-10.94 dBm
5.504560 GHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
1
SWP 100 of 100
Center 5.51 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]
-10.77 dBm
5.578800 GHz
Ref 20 dBm
Att 30 dB
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
1
SWP 100 of 100
Center 5.59 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]
-10.86 dBm
5.674160 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.

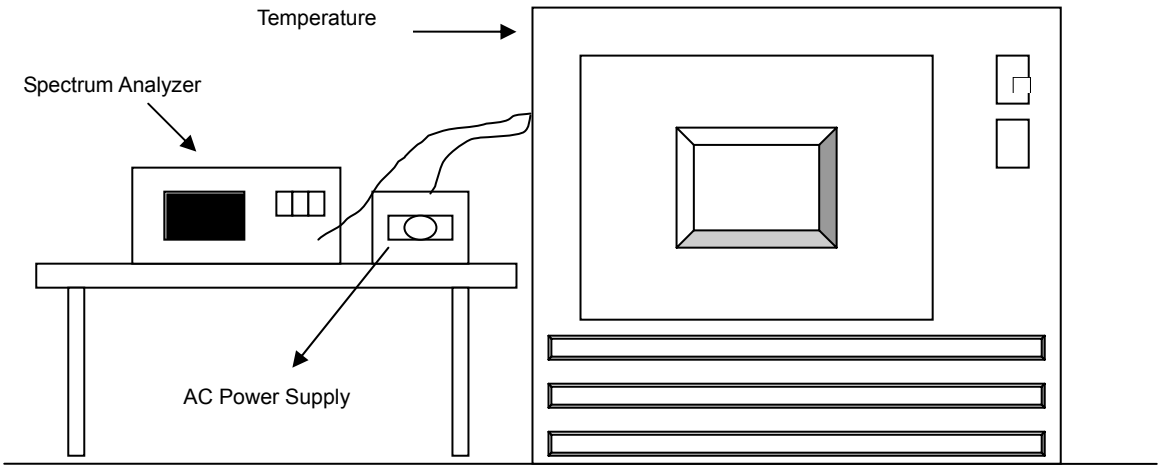
e. Repeat step 2 and 3 with the temperature chamber set to the lowest temperature.

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	5319.907487	-0.0017390	5319.918163	-0.0015383	5319.940781	-0.0011131	5319.939332	-0.0011404
	110.0	5319.923712	-0.0014340	5319.923535	-0.0014373	5319.923842	-0.0014315	5319.923300	-0.0014417
	93.5	5319.926782	-0.0013763	5319.926348	-0.0013844	5319.926640	-0.0013789	5319.926490	-0.0013818
40	126.5	5319.918850	-0.0015254	5319.918672	-0.0015287	5319.919083	-0.0015210	5319.919144	-0.0015198
	110.0	5319.924997	-0.0014098	5319.925226	-0.0014055	5319.925192	-0.0014062	5319.924864	-0.0014123
	93.5	5319.936660	-0.0011906	5319.936403	-0.0011954	5319.936865	-0.0011867	5319.936771	-0.0011885
30	126.5	5319.920089	-0.0015021	5319.920134	-0.0015012	5319.920143	-0.0015011	5319.920142	-0.0015011
	110.0	5319.925734	-0.0013960	5319.926298	-0.0013854	5319.925984	-0.0013913	5319.926335	-0.0013847
	93.5	5319.944165	-0.0010495	5319.944311	-0.0010468	5319.943742	-0.0010575	5319.944159	-0.0010496
20	126.5	5319.927176	-0.0013689	5319.926692	-0.0013780	5319.926990	-0.0013724	5319.927073	-0.0013708
	110.0	5319.927529	-0.0013622	5319.927644	-0.0013601	5319.927834	-0.0013565	5319.927644	-0.0013601
	93.5	5319.951624	-0.0009093	5319.951728	-0.0009074	5319.951429	-0.0009130	5319.951380	-0.0009139
10	126.5	5319.934049	-0.0012397	5319.934196	-0.0012369	5319.934100	-0.0012387	5319.934350	-0.0012340
	110.0	5319.942664	-0.0010777	5319.942469	-0.0010814	5319.942736	-0.0010764	5319.942651	-0.0010780
	93.5	5319.957918	-0.0007910	5319.958321	-0.0007834	5319.957817	-0.0007929	5319.957527	-0.0007984
0	126.5	5319.938173	-0.0011622	5319.938056	-0.0011644	5319.937587	-0.0011732	5319.937928	-0.0011668
	110.0	5319.949826	-0.0009431	5319.949540	-0.0009485	5319.950067	-0.0009386	5319.949817	-0.0009433
	93.5	5319.963925	-0.0006781	5319.964108	-0.0006747	5319.963792	-0.0006806	5319.964344	-0.0006702
-10	126.5	5319.949709	-0.0009453	5319.949896	-0.0009418	5319.950266	-0.0009348	5319.949921	-0.0009413
	110.0	5319.956627	-0.0008153	5319.956774	-0.0008125	5319.956902	-0.0008101	5319.956631	-0.0008152
	93.5	5319.971199	-0.0005414	5319.971274	-0.0005400	5319.971075	-0.0005437	5319.971192	-0.0005415
-20	126.5	5319.955177	-0.0008425	5319.955322	-0.0008398	5319.954848	-0.0008487	5319.955320	-0.0008398
	110.0	5319.960294	-0.0007464	5319.960400	-0.0007444	5319.960317	-0.0007459	5319.960799	-0.0007369
	93.5	5319.975289	-0.0004645	5319.975049	-0.0004690	5319.975123	-0.0004676	5319.975180	-0.0004665
-30	126.5	5319.960318	-0.0007459	5319.960426	-0.0007439	5319.960131	-0.0007494	5319.960671	-0.0007393
	110.0	5319.974433	-0.0004806	5319.974521	-0.0004789	5319.974610	-0.0004773	5319.974383	-0.0004815
	93.5	5319.977466	-0.0004236	5319.977841	-0.0004165	5319.977834	-0.0004167	5319.977608	-0.0004209

4.7 BAND EDGES MEASUREMENT

4.7.1 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
FOR CONDUCTED MEASUREMENT:			
R&S SPECTRUM ANALYZER	FSP40	100040	Jun. 28, 2008
FOR RADIATED MEASUREMENT:			
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: 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

FOR CONDUCTED MEASUREMENT:

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.

FOR RADIATED MEASUREMENT:

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The antenna is a broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. Set both RBW and VBW of spectrum analyzer to 1MHz and 3MHz with suitable frequency span including 100MHz bandwidth from band edge. The band edges was measured and recorded.

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

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 5.25 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 5250-5350MHz BAND: 802.11a OFDM MODULATION

Channel 52 (5260MHz)

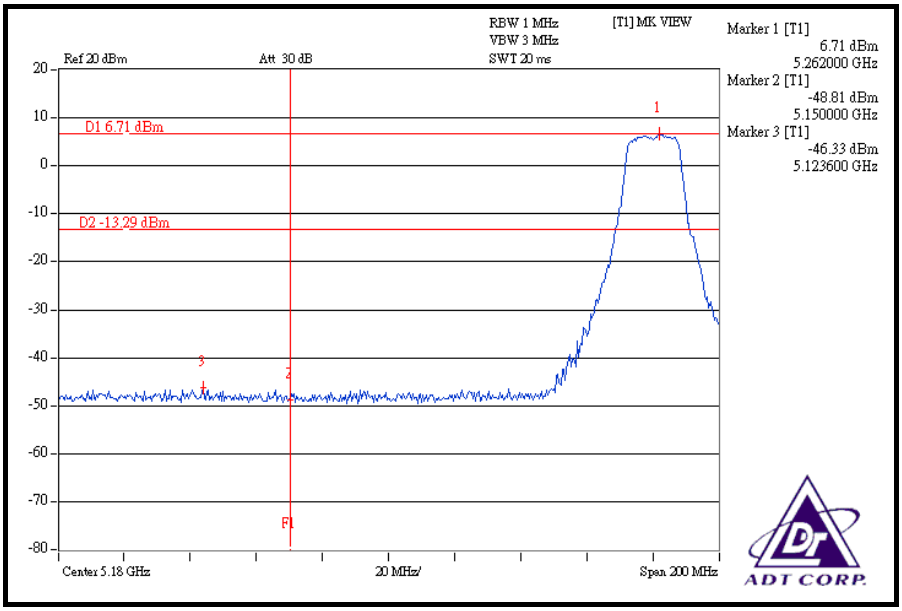
The band edge emission plot on the next page shows 53.04dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 52 is 105.70dBuV/m (Peak), so the maximum field strength in restrict band is 105.70 – 53.04 = 52.66dBuV/m which is under 74dBuV/m limit.

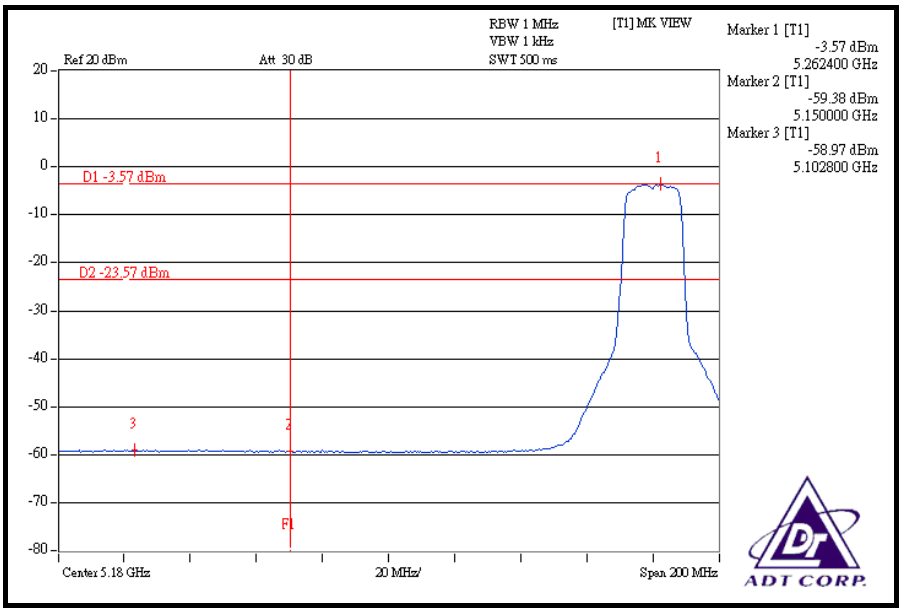
The band edge emission plot on the next page shows 55.40dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 52 is 94.78dBuV/m (Average), so the maximum field strength in restrict band is 94.78 – 55.40 = 39.38dBuV/m which is under 54dBuV/m limit.

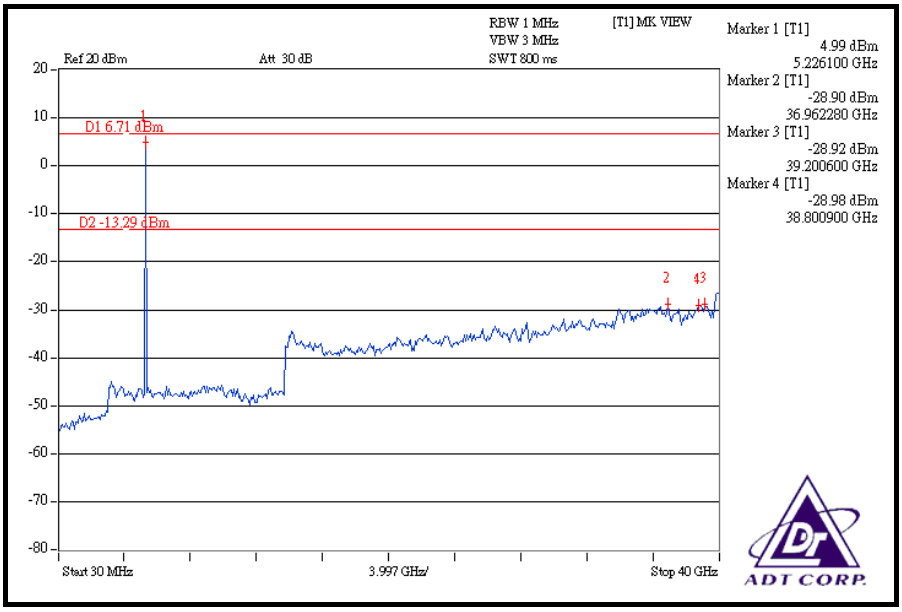
Channel 64 (5320MHz)

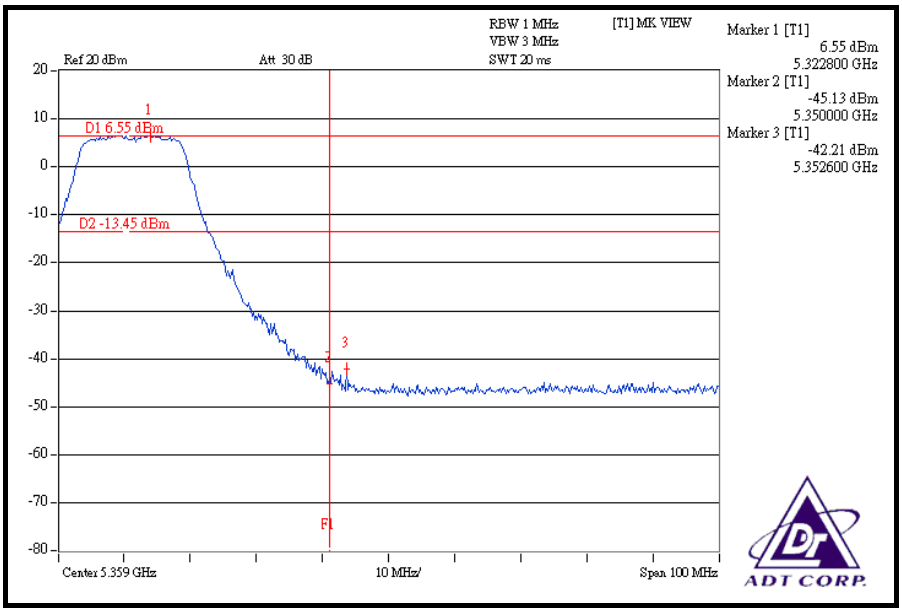
The band edge emission plot on the next second page shows 48.76dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 64 is 105.93dBuV/m (Peak), so the maximum field strength in restrict band is 105.93 – 48.76 = 57.17dBuV/m which is under 74dBuV/m limit.

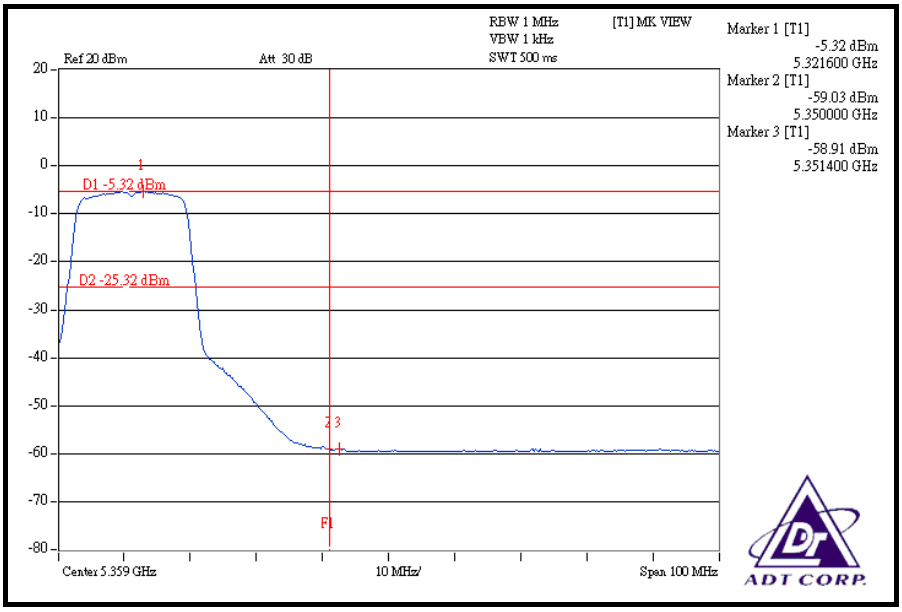
The band edge emission plot on the next third page shows 53.59dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 64 is 95.12dBuV/m (Average), so the maximum field strength in restrict band is 95.12 – 53.59 = 41.53dBuV/m which is under 54dBuV/m limit.

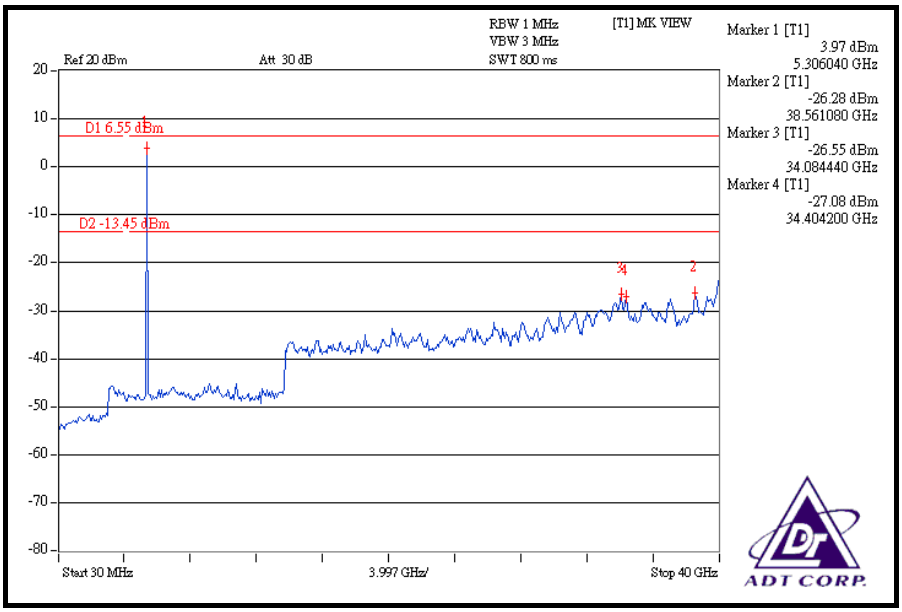

RBW 1 MHz
VBW 3 MHz
SWT 20 ms
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
Marker 1 [T1]
6.71 dBm
5.262000 GHz
Marker 2 [T1]
-48.81 dBm
5.150000 GHz
Marker 3 [T1]
-46.33 dBm
5.123600 GHz
D1 6.71 dBm
D2 -13.29 dBm
Center 5.18 GHz
20 MHz/
Span 200 MHz
ADT CORP.


RBW 1 MHz
VBW 1 kHz
SWT 500 ms
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
Marker 1 [T1]
-3.57 dBm
5.262400 GHz
Marker 2 [T1]
-59.38 dBm
5.150000 GHz
Marker 3 [T1]
-58.97 dBm
5.102800 GHz
D1 -3.57 dBm
D2 -23.57 dBm
Center 5.18 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 6.71 dBm
D2 -13.29 dBm
Marker 1 [T1]
4.99 dBm
5.226100 GHz
Marker 2 [T1]
-28.90 dBm
36.962280 GHz
Marker 3 [T1]
-28.92 dBm
39.200600 GHz
Marker 4 [T1]
-28.98 dBm
38.800900 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 6.55 dBm
D2 -13.45 dBm
Marker 1 [T1]
6.55 dBm
5.322800 GHz
Marker 2 [T1]
-45.13 dBm
5.350000 GHz
Marker 3 [T1]
-42.21 dBm
5.352600 GHz
Center 5.359 GHz
10 MHz/
Span 100 MHz
ADT CORP.


RBW 1 MHz
VBW 1 kHz
SWT 500 ms
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
Marker 1 [T1]
-5.32 dBm
5.321600 GHz
Marker 2 [T1]
-59.03 dBm
5.350000 GHz
Marker 3 [T1]
-58.91 dBm
5.351400 GHz
D1 -5.32 dBm
D2 -25.32 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]
3.97 dBm
5.306040 GHz
Marker 2 [T1]
-26.28 dBm
38.561080 GHz
Marker 3 [T1]
-26.55 dBm
34.084440 GHz
Marker 4 [T1]
-27.08 dBm
34.404200 GHz
D1 6.55 dBm
D2 -13.45 dBm
Start 30 MHz
3.997 GHz/
Stop 40 GHz
ADT CORP.

FOR 5470-5725MHz BAND: 802.11a OFDM MODULATION

Channel 100 (5500MHz)

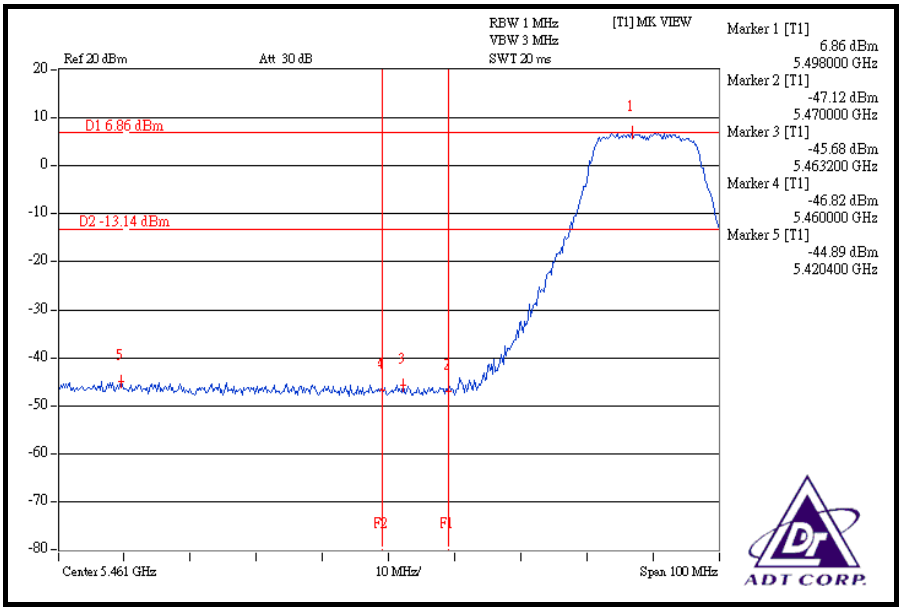
The band edge emission plot (5.470GHz) on the next page shows 52.54dBc between carrier maximum power and local maximum emission out of band emission. The emission of carrier strength list in the test result of channel 100 is 105.14dBuV/m (Peak), so the maximum field strength out of band emission is 105.14 – 52.54 = 52.60dBuV/m which is under 68.3dBuV/m limit.

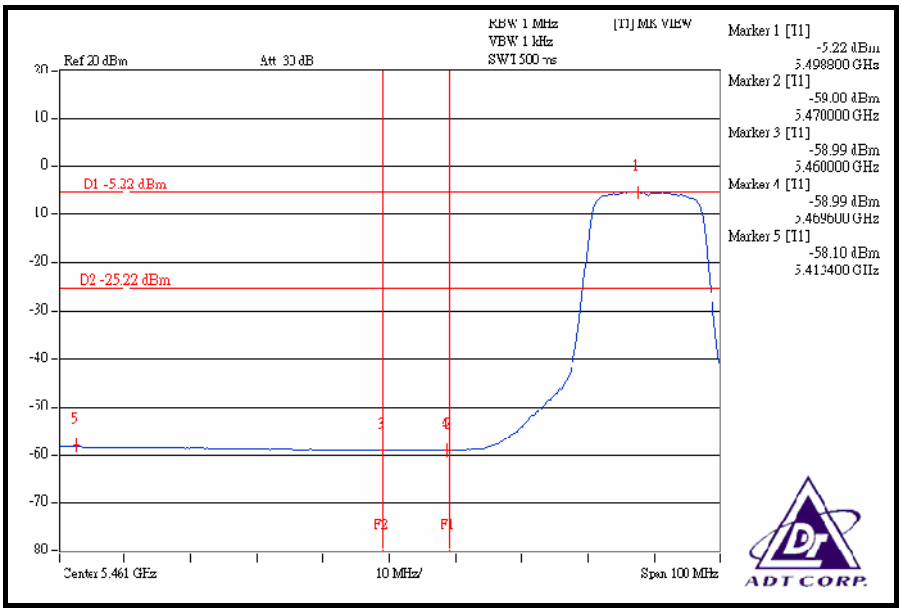
The band edge emission plot (5.460GHz) on the next page shows 51.75dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 100 is 105.14dBuV/m (Peak), so the maximum field strength in restrict band is 105.14 – 51.75 = 53.39dBuV/m which is under 74dBuV/m limit.

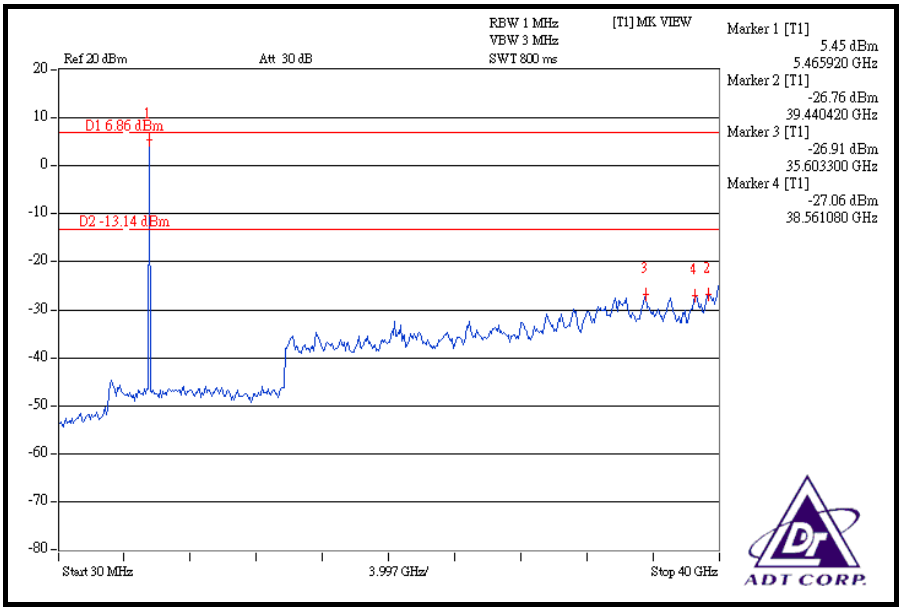
The band edge emission plot (5.460GHz) on the next page shows 52.88dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 100 is 94.39dBuV/m (Average), so the maximum field strength in restrict band is 94.39 – 52.88 = 41.51dBuV/m which is under 54dBuV/m limit.

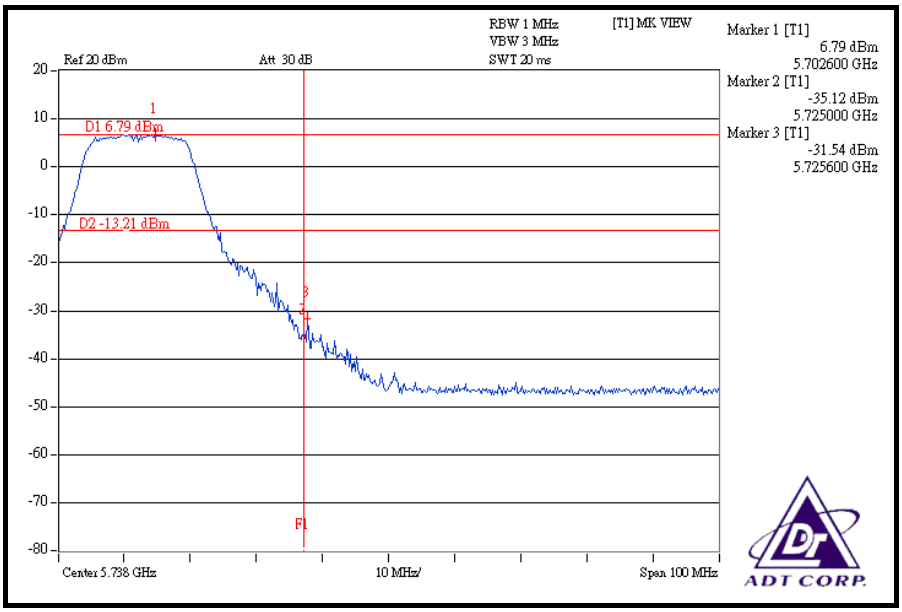
Channel 140 (5700MHz)

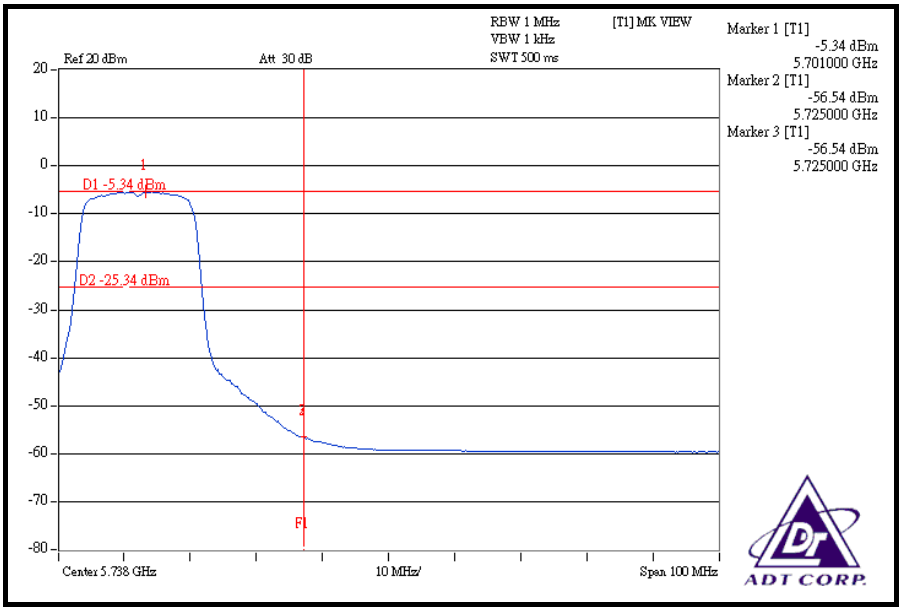
The band edge emission plot on the next second page shows 38.33dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 140 is 105.18dBuV/m (Peak), so the maximum field strength in restrict band is 105.18 – 38.33 = 66.85dBuV/m which is under 68.3dBuV/m limit.

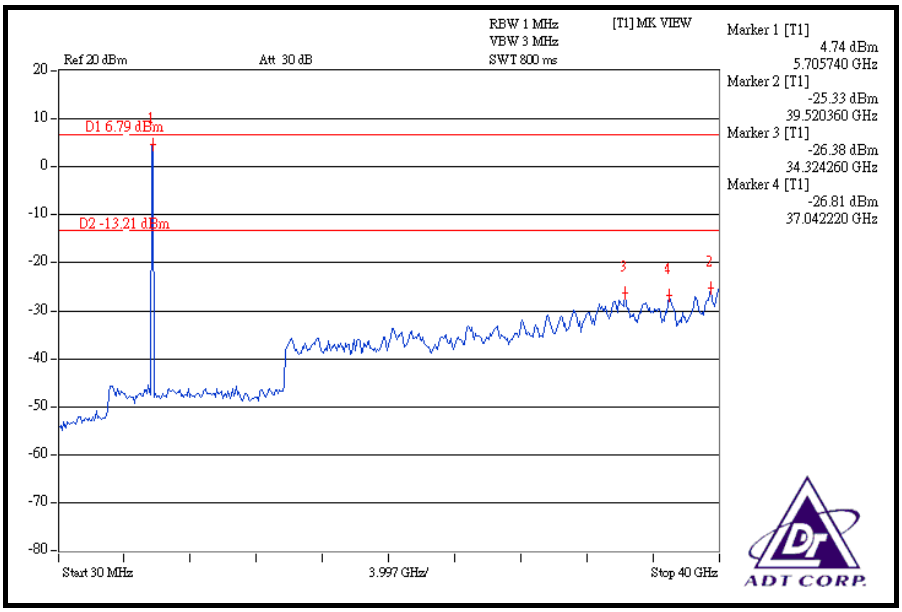

RBW 1 MHz
VBW 3 MHz
SWT 20 ms
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
D1 6.86 dBm
D2 -13.14 dBm
Marker 1 [T1]
6.86 dBm
5.498000 GHz
Marker 2 [T1]
-47.12 dBm
5.470000 GHz
Marker 3 [T1]
-45.68 dBm
5.463200 GHz
Marker 4 [T1]
-46.82 dBm
5.460000 GHz
Marker 5 [T1]
-44.89 dBm
5.420400 GHz
Center 5.461 GHz
10 MHz/
Span 100 MHz
ADT CORP.


RBW 1 MHz
VBW 1 kHz
SWT 500 ms
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
D1 -5.22 dBm
D2 -25.22 dBm
Marker 1 [T1]
-5.22 dBm
5.498800 GHz
Marker 2 [T1]
-59.00 dBm
5.470000 GHz
Marker 3 [T1]
-58.99 dBm
5.460000 GHz
Marker 4 [T1]
-58.99 dBm
5.469600 GHz
Marker 5 [T1]
-58.10 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 6.86 dBm
D2 -13.14 dBm
Marker 1 [T1]
5.45 dBm
5.465920 GHz
Marker 2 [T1]
-26.76 dBm
39.440420 GHz
Marker 3 [T1]
-26.91 dBm
35.603300 GHz
Marker 4 [T1]
-27.06 dBm
38.561080 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 6.79 dBm
D2 -13.21 dBm
Marker 1 [T1]
6.79 dBm
5.702600 GHz
Marker 2 [T1]
-35.12 dBm
5.725000 GHz
Marker 3 [T1]
-31.54 dBm
5.725600 GHz
Center 5.738 GHz
10 MHz/
Span 100 MHz
ADT CORP.


RBW 1 MHz
VBW 1 kHz
SWT 500 ms
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
D1 -5.34 dBm
D2 -25.34 dBm
Center 5.738 GHz
10 MHz/
Span 100 MHz
Marker 1 [T1]
-5.34 dBm
5.701000 GHz
Marker 2 [T1]
-56.54 dBm
5.725000 GHz
Marker 3 [T1]
-56.54 dBm
5.725000 GHz
ADT CORP.


RBW 1 MHz
VBW 3 MHz
SWT 800 ms
[T1] MK VIEW
Ref 20 dBm
Att 30 dB
D1 6.79 dBm
D2 -13.21 dBm
Start 30 MHz
3.997 GHz/
Stop 40 GHz
Marker 1 [T1]
4.74 dBm
5.705740 GHz
Marker 2 [T1]
-25.33 dBm
39.520360 GHz
Marker 3 [T1]
-26.38 dBm
34.324260 GHz
Marker 4 [T1]
-26.81 dBm
37.042220 GHz
ADT CORP.

FOR 5250-5350MHz BAND: DRAFT 802.11n (20MHz) OFDM MODULATION

Channel 52 (5260MHz)

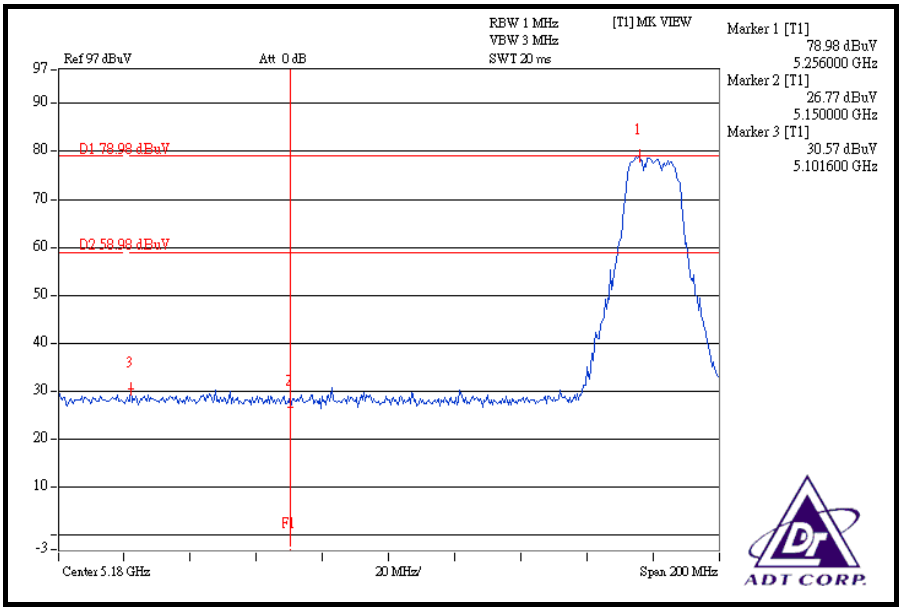
The band edge emission plot on the next page shows 48.41dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 52 is 109.34dBuV/m (Peak), so the maximum field strength in restrict band is 109.34 – 48.41 = 60.93dBuV/m which is under 74dBuV/m limit.

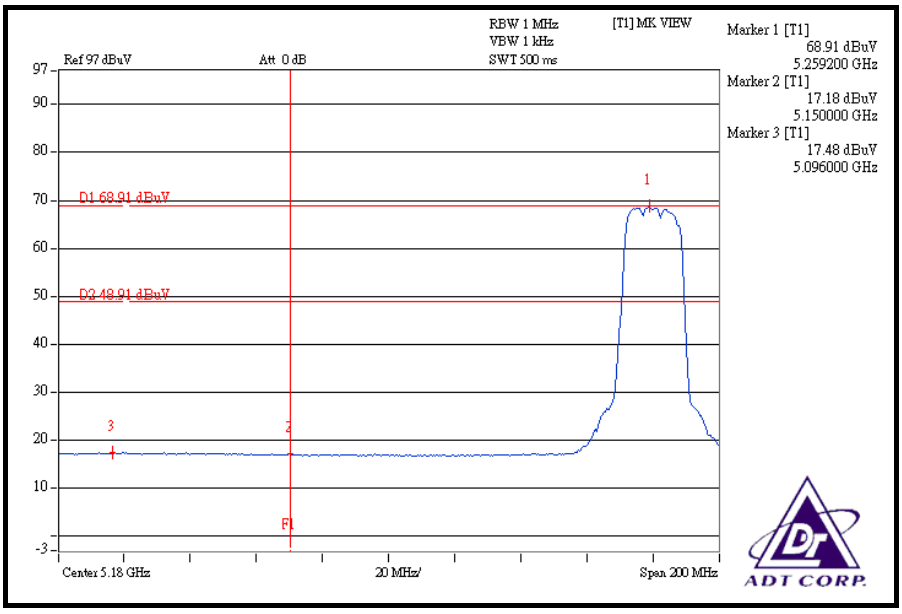
The band edge emission plot on the next page shows 51.43dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 52 is 99.11dBuV/m (Average), so the maximum field strength in restrict band is 99.11 – 51.43 = 47.68dBuV/m which is under 54dBuV/m limit.

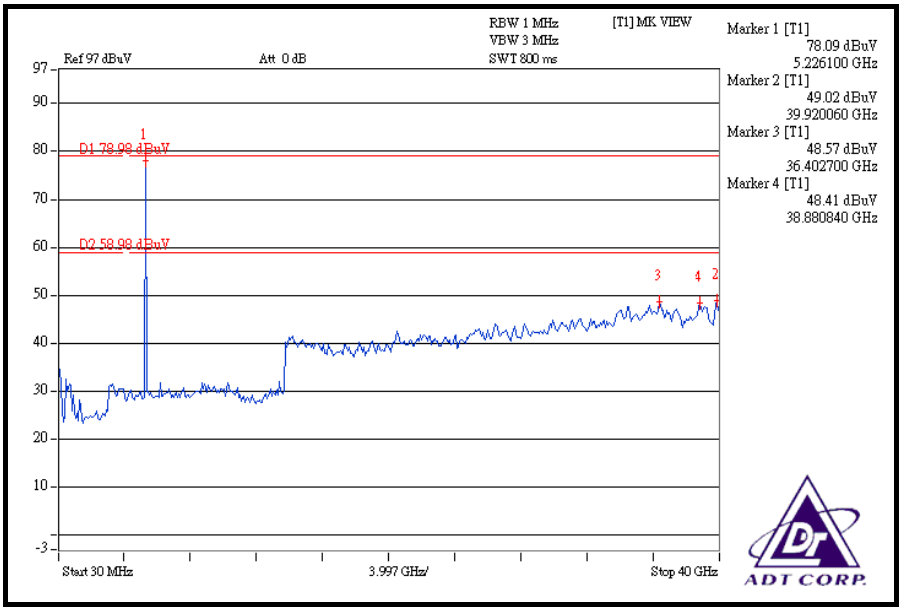
Channel 64 (5320MHz)

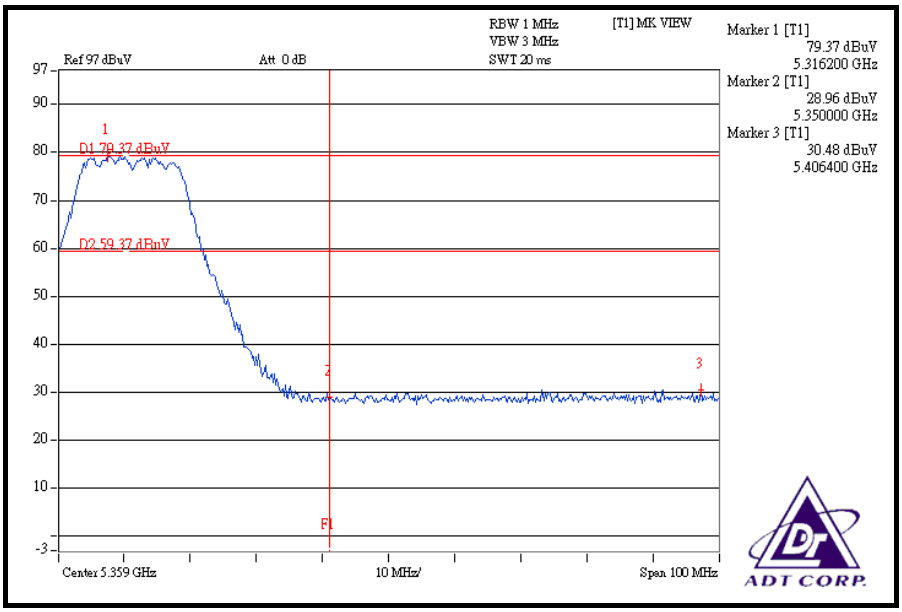
The band edge emission plot on the next second page shows 48.89dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 64 is 109.62dBuV/m (Peak), so the maximum field strength in restrict band is 109.62 – 48.89 = 60.73dBuV/m which is under 74dBuV/m limit.

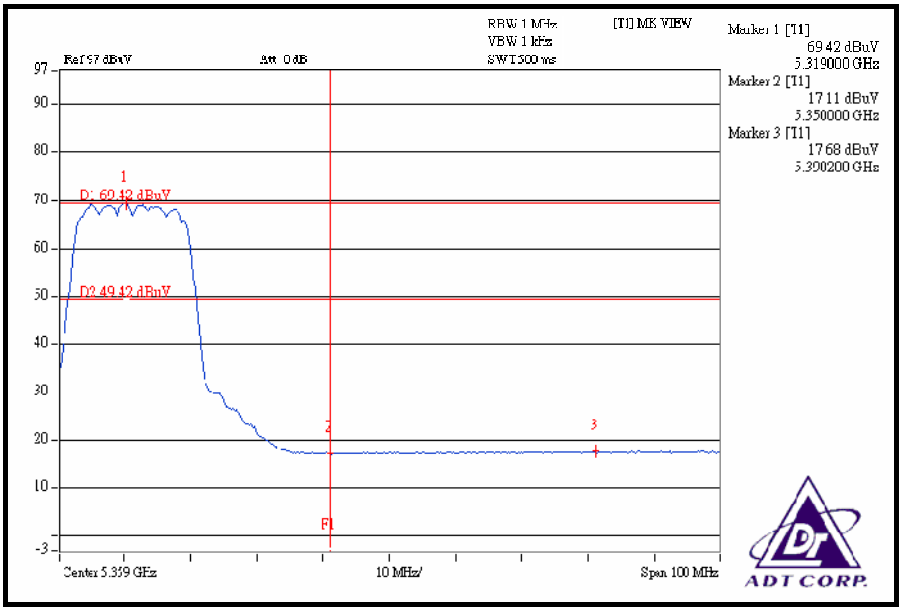
The band edge emission plot on the next third page shows 51.74dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 64 is 99.72dBuV/m (Average), so the maximum field strength in restrict band is 99.72 – 51.74 = 47.98dBuV/m which is under 54dBuV/m limit.

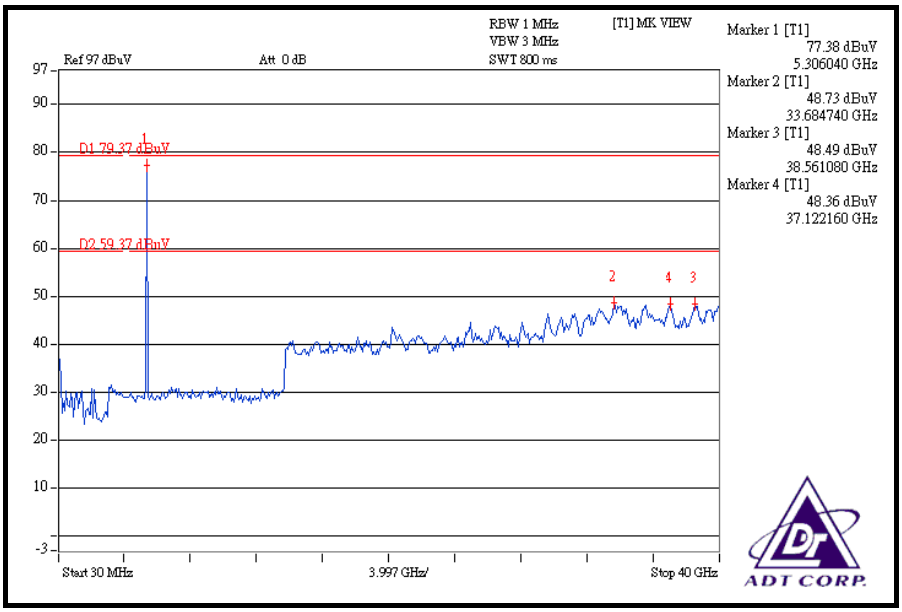

RBW 1 MHz
VBW 3 MHz
SWT 20 ms
[T1] MK VIEW
Marker 1 [T1]
78.98 dBuV
5.256000 GHz
Marker 2 [T1]
26.77 dBuV
5.150000 GHz
Marker 3 [T1]
30.57 dBuV
5.101600 GHz
Ref 97 dBuV
Att 0 dB
D1 78.98 dBuV
D2 58.98 dBuV
Center 5.18 GHz
20 MHz/
Span 200 MHz
ADT CORP.


RBW 1 MHz
VBW 1 kHz
SWT 500 ms
[T1] MK VIEW
Marker 1 [T1]
68.91 dBuV
5.259200 GHz
Marker 2 [T1]
17.18 dBuV
5.150000 GHz
Marker 3 [T1]
17.48 dBuV
5.096000 GHz
Ref 97 dBuV
Att 0 dB
D1 68.91 dBuV
D2 48.91 dBuV
Center 5.18 GHz
20 MHz/
Span 200 MHz
ADT CORP.


RBW 1 MHz
VBW 3 MHz
SWT 800 ms
[T1] MK VIEW
Ref 97 dBuV
Att 0 dB
D1 78.98 dBuV
D2 58.98 dBuV
Marker 1 [T1]
78.09 dBuV
5.226100 GHz
Marker 2 [T1]
49.02 dBuV
39.920060 GHz
Marker 3 [T1]
48.57 dBuV
36.402700 GHz
Marker 4 [T1]
48.41 dBuV
38.880840 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 97 dBuV
Att 0 dB
D1 79.37 dBuV
D2 59.37 dBuV
Marker 1 [T1]
79.37 dBuV
5.316200 GHz
Marker 2 [T1]
28.96 dBuV
5.350000 GHz
Marker 3 [T1]
30.48 dBuV
5.406400 GHz
Center 5.359 GHz
10 MHz/
Span 100 MHz
ADT CORP.


RBW 1 MHz
VBW 1 kHz
SWT 500 ms
[T1] MK VIEW
Ref 97 dBuV
Att 0 dB
Marker 1 [T1]
69.42 dBuV
5.319000 GHz
Marker 2 [T1]
17.11 dBuV
5.350000 GHz
Marker 3 [T1]
17.68 dBuV
5.390200 GHz
D1 69.42 dBuV
D2 49.42 dBuV
Center 5.359 GHz
10 MHz/
Span 100 MHz
ADT CORP.


RBW 1 MHz
VBW 3 MHz
SWT 800 ms
[T1] MK VIEW
Ref 97 dBuV
Att 0 dB
Marker 1 [T1]
77.38 dBuV
5.306040 GHz
Marker 2 [T1]
48.73 dBuV
33.684740 GHz
Marker 3 [T1]
48.49 dBuV
38.561080 GHz
Marker 4 [T1]
48.36 dBuV
37.122160 GHz
D1 79.37 dBuV
D2 59.37 dBuV
Start 30 MHz
3.997 GHz/
Stop 40 GHz
ADT CORP.

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

Channel 100 (5500MHz)

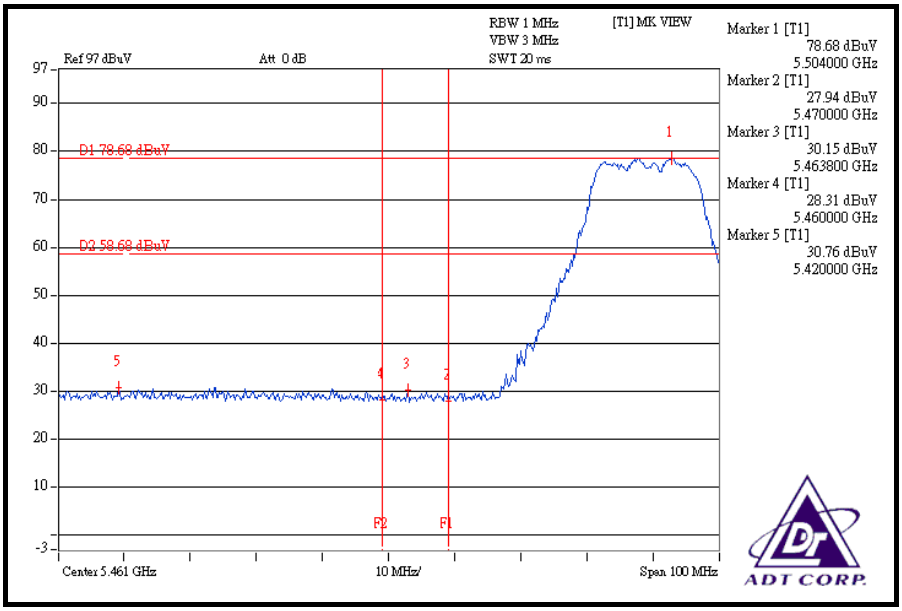
The band edge emission plot (5.470GHz) on the next page shows 48.53dBc between carrier maximum power and local maximum emission out of band emission. The emission of carrier strength list in the test result of channel 100 is 107.53dBuV/m (Peak), so the maximum field strength out of band emission is 107.53 – 48.53 = 59.00dBuV/m which is under 68.3dBuV/m limit.

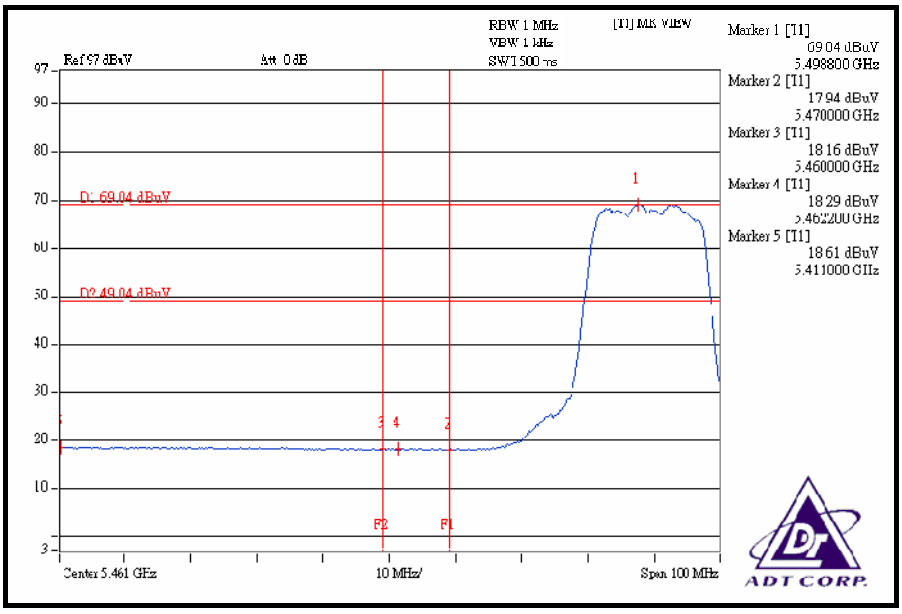
The band edge emission plot (5.460GHz) on the next page shows 47.92dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 100 is 107.53dBuV/m (Peak), so the maximum field strength in restrict band is 107.53 – 47.92 = 59.61dBuV/m which is under 74dBuV/m limit.

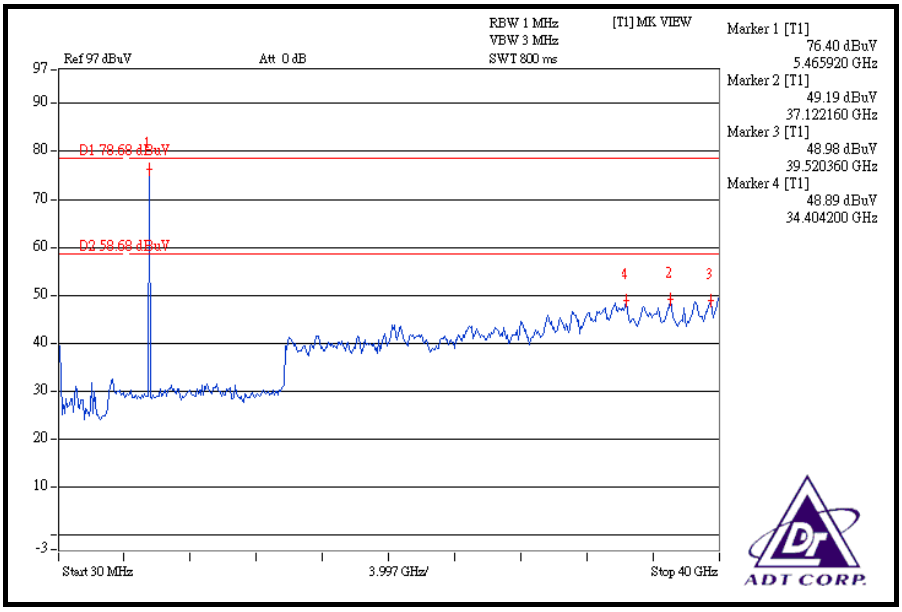
The band edge emission plot (5.460GHz) on the next page shows 50.43dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 100 is 97.19dBuV/m (Average), so the maximum field strength in restrict band is 97.19 – 50.43 = 46.76dBuV/m which is under 54dBuV/m limit.

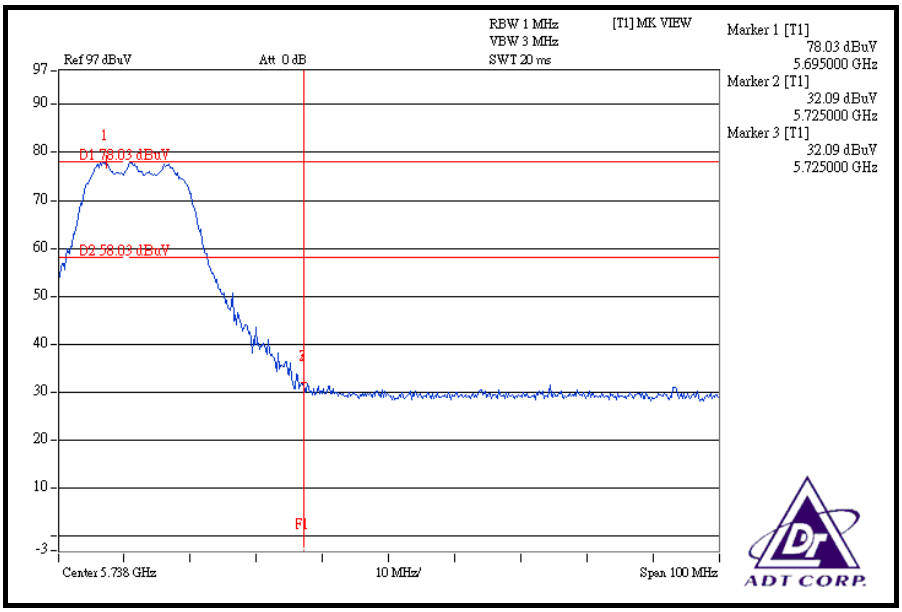
Channel 140 (5700MHz)

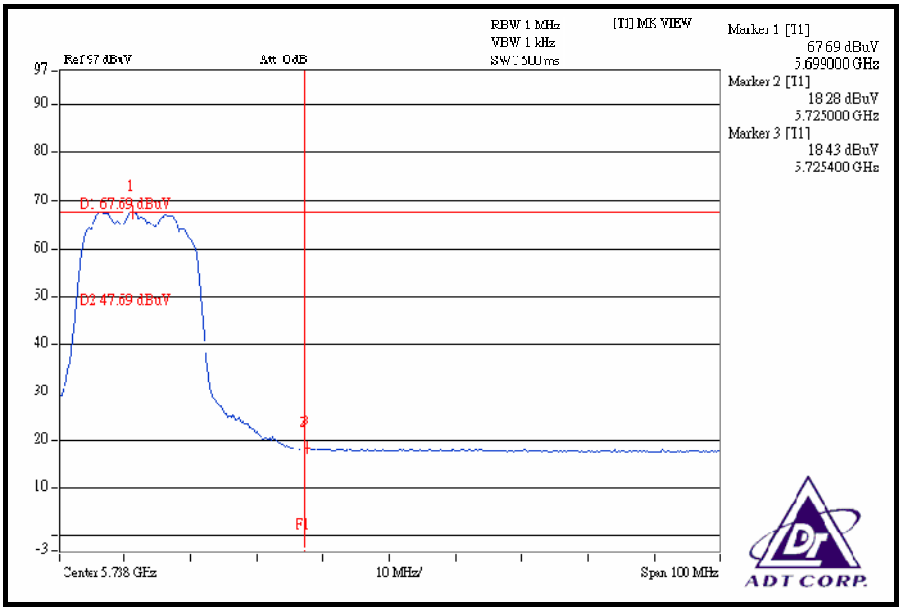
The band edge emission plot on the next second page shows 45.94dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 140 is 107.62dBuV/m (Peak), so the maximum field strength in restrict band is 107.62 – 45.94 = 61.68dBuV/m which is under 68.3dBuV/m limit.

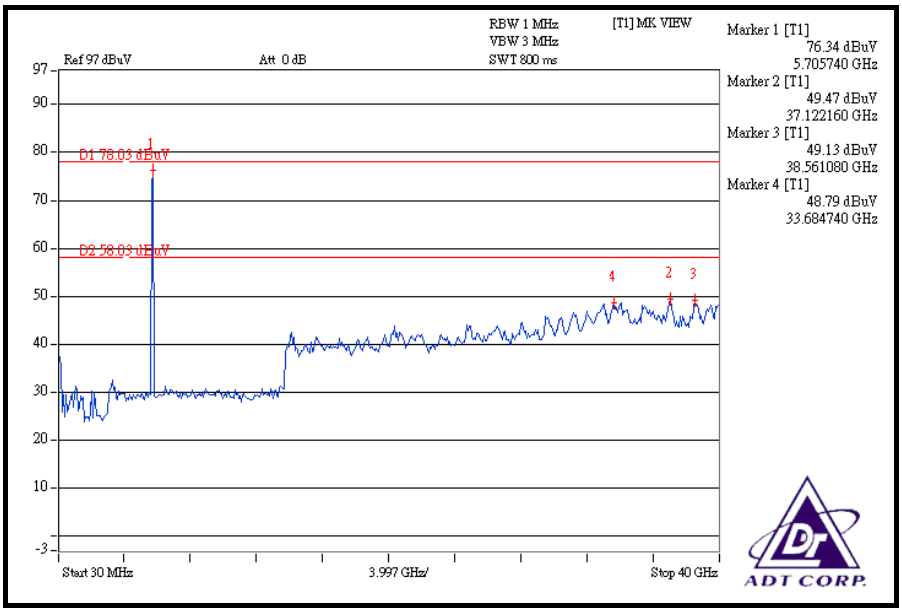

RBW 1 MHz
VBW 3 MHz
SWT 20 ms
[T1] MK VIEW
Ref 97 dBuV
Att 0 dB
D1 78.68 dBuV
D2 58.68 dBuV
Marker 1 [T1]
78.68 dBuV
5.504000 GHz
Marker 2 [T1]
27.94 dBuV
5.470000 GHz
Marker 3 [T1]
30.15 dBuV
5.463800 GHz
Marker 4 [T1]
28.31 dBuV
5.460000 GHz
Marker 5 [T1]
30.76 dBuV
5.420000 GHz
Center 5.461 GHz
10 MHz/
Span 100 MHz
ADT CORP.


RBW 1 MHz
VBW 1 kHz
SWT 500 ms
[T1] MK VIEW
Ref 97 dBuV
Att 0 dB
D1 69.04 dBuV
D2 49.04 dBuV
Marker 1 [T1]
69.04 dBuV
5.498800 GHz
Marker 2 [T1]
17.94 dBuV
5.470000 GHz
Marker 3 [T1]
18.16 dBuV
5.460000 GHz
Marker 4 [T1]
18.29 dBuV
Marker 5 [T1]
18.61 dBuV
Center 5.461 GHz
10 MHz/
Span 100 MHz
ADT CORP.


RBW 1 MHz
VBW 3 MHz
SWT 800 ms
[T1] MK VIEW
Ref 97 dBuV
Att 0 dB
D1 78.68 dBuV
D2 58.68 dBuV
Marker 1 [T1]
76.40 dBuV
5.465920 GHz
Marker 2 [T1]
49.19 dBuV
37.122160 GHz
Marker 3 [T1]
48.98 dBuV
39.520360 GHz
Marker 4 [T1]
48.89 dBuV
34.404200 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 97 dBuV
Att 0 dB
D1 78.03 dBuV
D2 58.03 dBuV
Marker 1 [T1]
78.03 dBuV
5.695000 GHz
Marker 2 [T1]
32.09 dBuV
5.725000 GHz
Marker 3 [T1]
32.09 dBuV
5.725000 GHz
Center 5.738 GHz
10 MHz/
Span 100 MHz
ADT CORP.


RBW 1 MHz
VBW 1 kHz
SWT 500 ms
[T1] MK VIEW
Ref 97 dBuV
Att 0 dB
Marker 1 [T1]
67.69 dBuV
5.699000 GHz
Marker 2 [T1]
18.28 dBuV
5.725000 GHz
Marker 3 [T1]
18.43 dBuV
5.725400 GHz
D1 67.69 dBuV
D2 47.69 dBuV
Center 5.738 GHz
10 MHz/
Span 100 MHz
ADT CORP.


RBW 1 MHz
VBW 3 MHz
SWT 800 ms
[T1] MK VIEW
Ref 97 dBuV
Att 0 dB
Marker 1 [T1]
76.34 dBuV
5.705740 GHz
Marker 2 [T1]
49.47 dBuV
37.122160 GHz
Marker 3 [T1]
49.13 dBuV
38.561080 GHz
Marker 4 [T1]
48.79 dBuV
33.684740 GHz
D1 78.03 dBuV
D2 58.03 dBuV
Start 30 MHz
3.997 GHz/
Stop 40 GHz
ADT CORP.

FOR 5250-5350MHz BAND: DRAFT 802.11n (40MHz) OFDM MODULATION

Channel 52 (5260MHz)

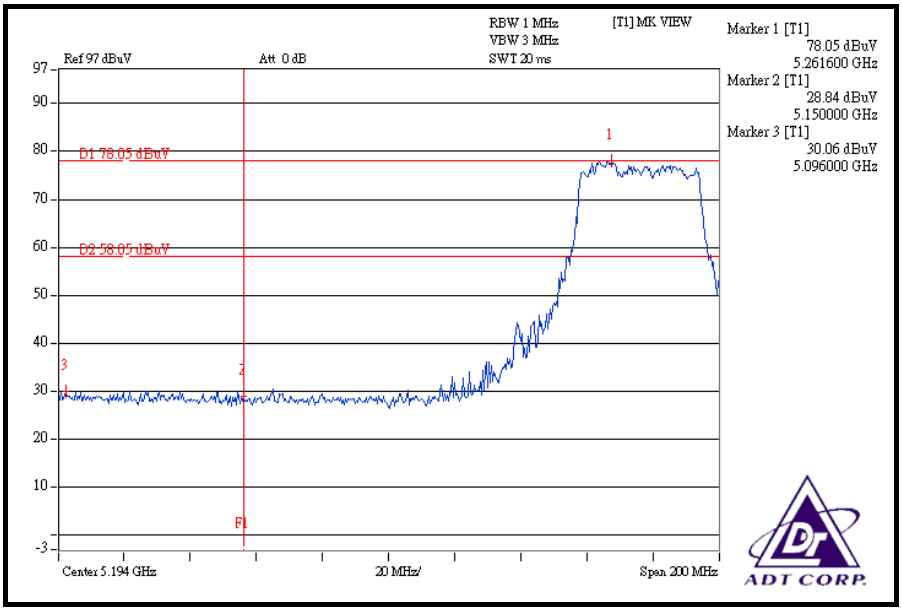
The band edge emission plot on the next page shows 47.99dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 52 is 106.67dBuV/m (Peak), so the maximum field strength in restrict band is 106.67 – 47.99 = 58.68dBuV/m which is under 74dBuV/m limit.

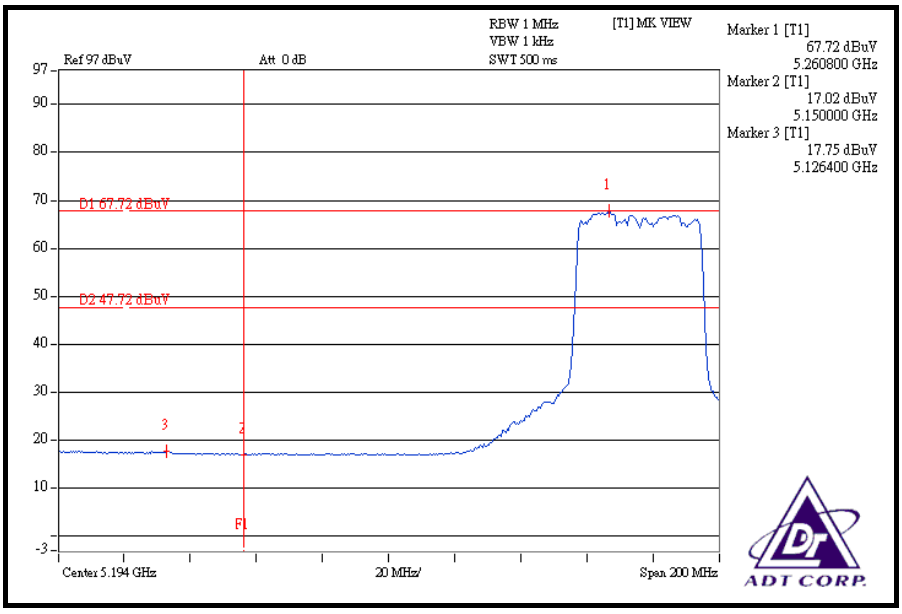
The band edge emission plot on the next page shows 49.97dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 52 is 97.04dBuV/m (Average), so the maximum field strength in restrict band is 97.04 – 49.97 = 47.07dBuV/m which is under 54dBuV/m limit.

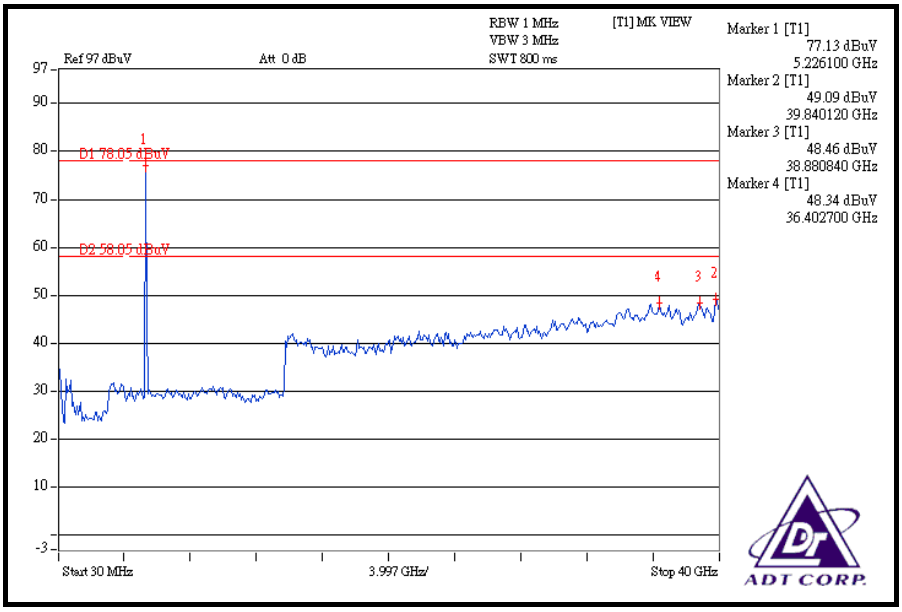
Channel 62 (5310MHz)

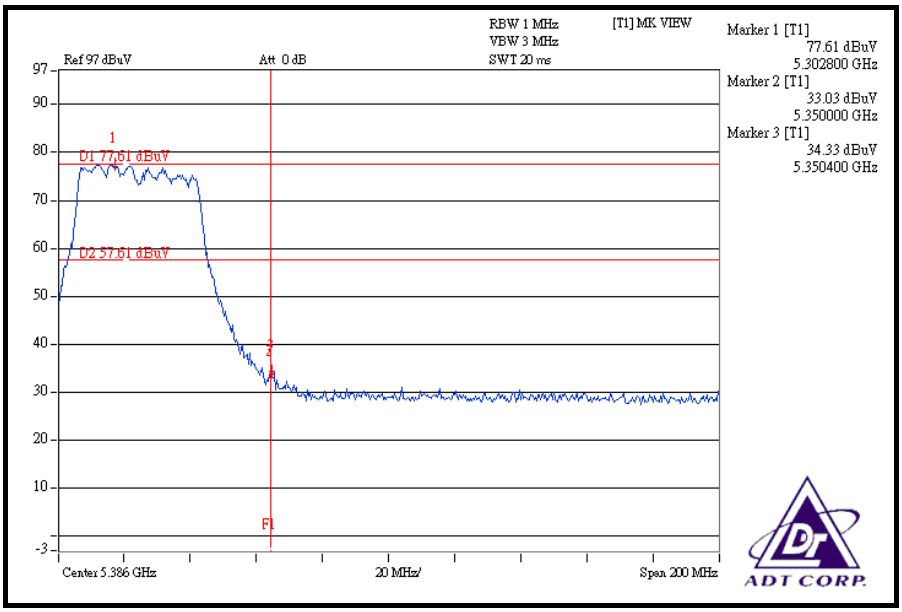
The band edge emission plot on the next second page shows 43.28dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 62 is 105.77dBuV/m (Peak), so the maximum field strength in restrict band is 105.77 – 43.28 = 62.49dBuV/m which is under 74dBuV/m limit.

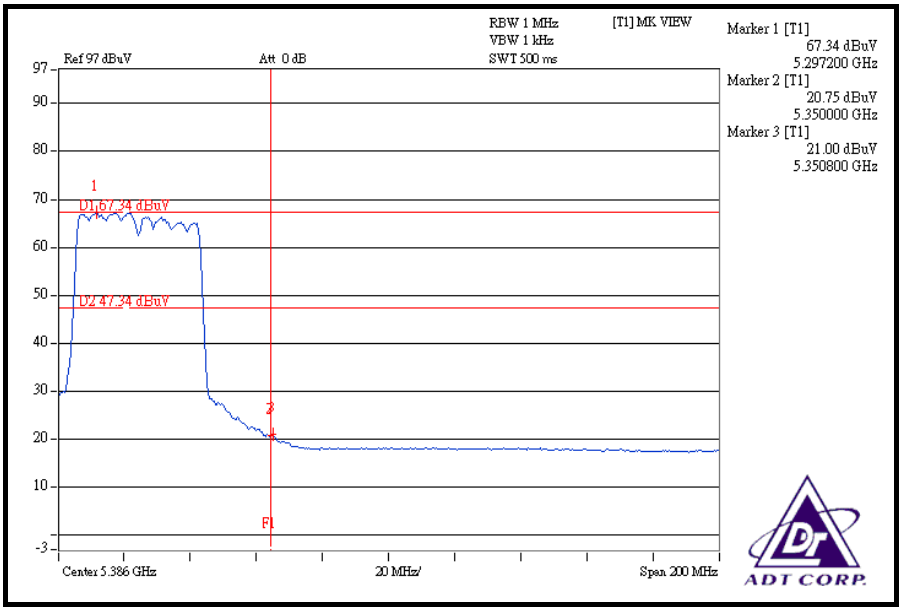
The band edge emission plot on the next third page shows 46.34dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 62 is 95.52dBuV/m (Average), so the maximum field strength in restrict band is 95.52 – 46.34 = 49.18dBuV/m which is under 54dBuV/m limit.

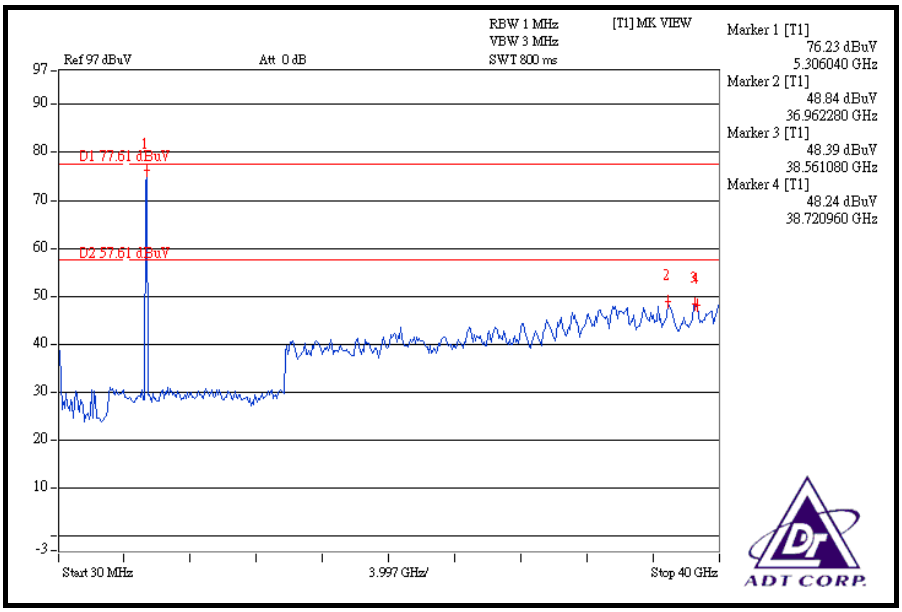

RBW 1 MHz
VBW 3 MHz
SWT 20 ms
[T1] MK VIEW
Ref 97 dBuV
Att 0 dB
Marker 1 [T1]
78.05 dBuV
5.261600 GHz
Marker 2 [T1]
28.84 dBuV
5.150000 GHz
Marker 3 [T1]
30.06 dBuV
5.096000 GHz
D1 78.05 dBuV
D2 58.05 dBuV
Center 5.194 GHz
20 MHz/
Span 200 MHz
ADT CORP.


RBW 1 MHz
VBW 1 kHz
SWT 500 ms
[T1] MK VIEW
Ref 97 dBuV
Att 0 dB
Marker 1 [T1]
67.72 dBuV
5.260800 GHz
Marker 2 [T1]
17.02 dBuV
5.150000 GHz
Marker 3 [T1]
17.75 dBuV
5.126400 GHz
D1 67.72 dBuV
D2 47.72 dBuV
Center 5.194 GHz
20 MHz/
Span 200 MHz
ADT CORP.


RBW 1 MHz
VBW 3 MHz
SWT 800 ms
[T1] MK VIEW
Ref 97 dBuV
Att 0 dB
D1 78.05 dBuV
D2 58.05 dBuV
Marker 1 [T1]
77.13 dBuV
5.226100 GHz
Marker 2 [T1]
49.09 dBuV
39.840120 GHz
Marker 3 [T1]
48.46 dBuV
38.880840 GHz
Marker 4 [T1]
48.34 dBuV
36.402700 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 97 dBuV
Att 0 dB
D1 77.61 dBuV
D2 57.61 dBuV
Marker 1 [T1]
77.61 dBuV
5.302800 GHz
Marker 2 [T1]
33.03 dBuV
5.350000 GHz
Marker 3 [T1]
34.33 dBuV
5.350400 GHz
Center 5.386 GHz
20 MHz/
Span 200 MHz
ADT CORP.


RBW 1 MHz
VBW 1 kHz
SWT 500 ms
[T1] MK VIEW
Ref 97 dBuV
Att 0 dB
Marker 1 [T1]
67.34 dBuV
5.297200 GHz
Marker 2 [T1]
20.75 dBuV
5.350000 GHz
Marker 3 [T1]
21.00 dBuV
5.350800 GHz
D1 67.34 dBuV
D2 47.34 dBuV
Center 5.386 GHz
20 MHz/
Span 200 MHz
ADT CORP.


RBW 1 MHz
VBW 3 MHz
SWT 800 ms
[T1] MK VIEW
Ref 97 dBuV
Att 0 dB
Marker 1 [T1]
76.23 dBuV
5.306040 GHz
Marker 2 [T1]
48.84 dBuV
36.962280 GHz
Marker 3 [T1]
48.39 dBuV
38.561080 GHz
Marker 4 [T1]
48.24 dBuV
38.720960 GHz
D1 77.61 dBuV
D2 57.61 dBuV
Start 30 MHz
3.997 GHz/
Stop 40 GHz
ADT CORP.

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

Channel 102 (5510MHz)

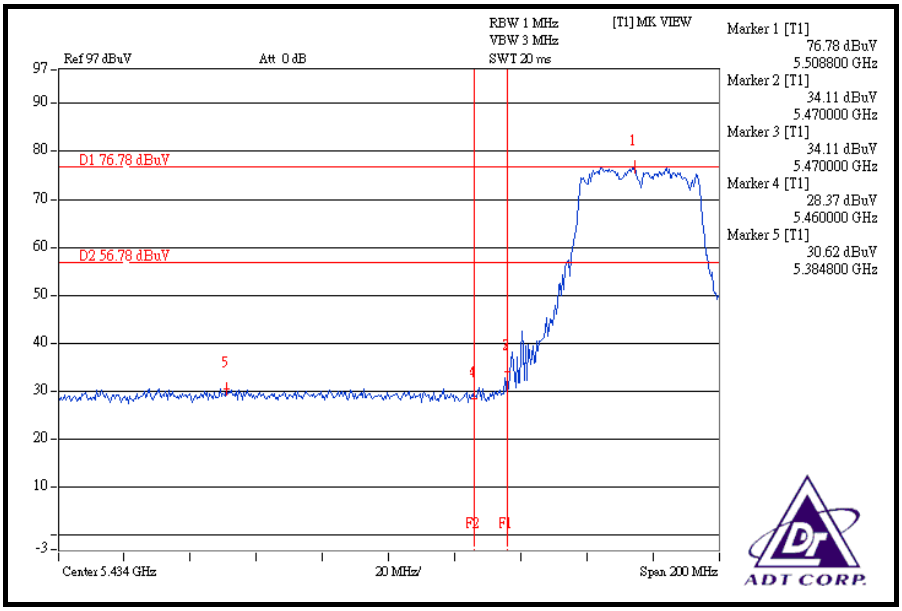
The band edge emission plot (5.470GHz) on the next page shows 42.67dBc between carrier maximum power and local maximum emission out of band emission. The emission of carrier strength list in the test result of channel 102 is 104.81dBuV/m (Peak), so the maximum field strength out of band emission is 104.81 – 42.67 = 62.14dBuV/m which is under 68.3dBuV/m limit.

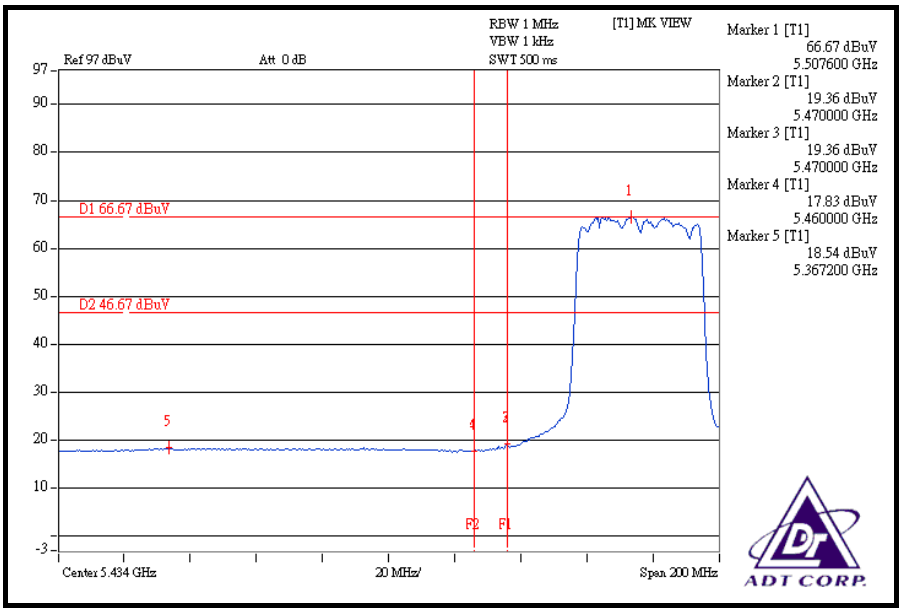
The band edge emission plot (5.460GHz) on the next page shows 46.16dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 102 is 104.81dBuV/m (Peak), so the maximum field strength in restrict band is 104.81 – 46.16 = 58.65dBuV/m which is under 74dBuV/m limit.

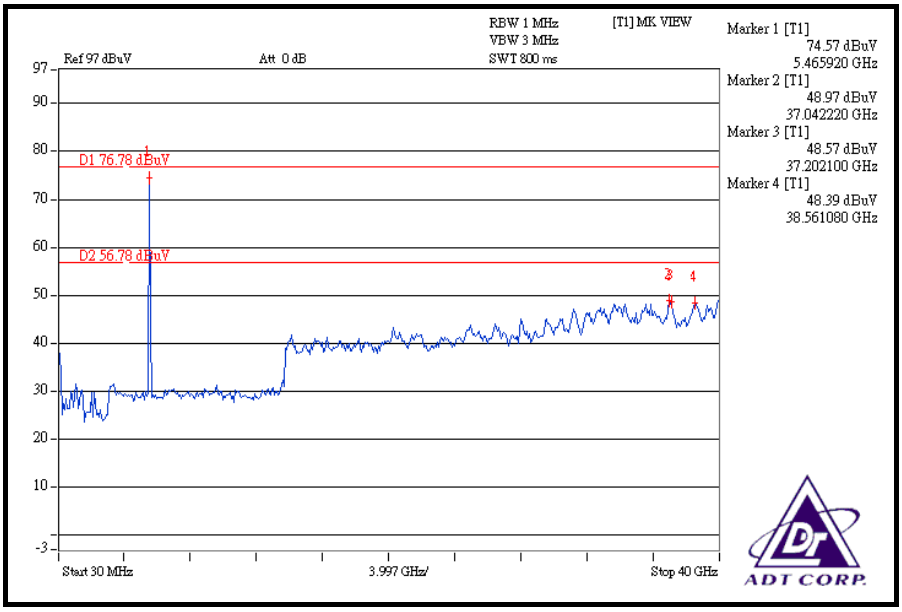
The band edge emission plot (5.460GHz) on the next page shows 48.13dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 102 is 94.72dBuV/m (Average), so the maximum field strength in restrict band is 94.72 – 48.13 = 46.59dBuV/m which is under 54dBuV/m limit.

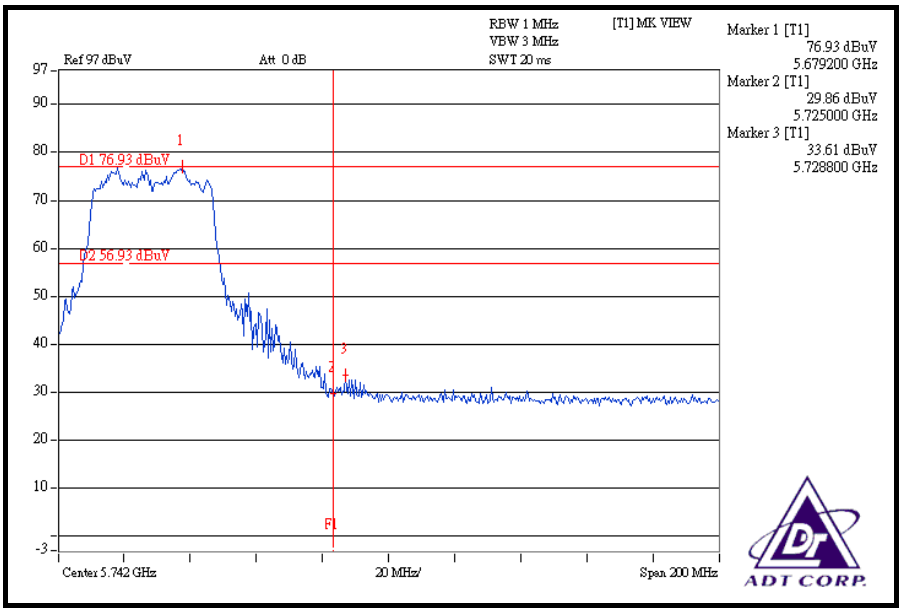
Channel 134 (5670MHz)

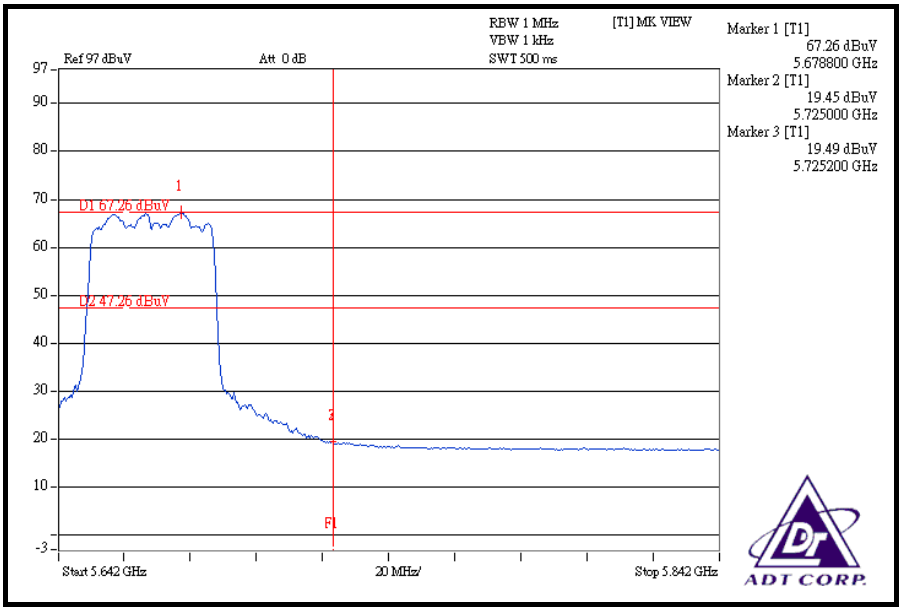
The band edge emission plot on the next second page shows 43.32dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 134 is 104.89dBuV/m (Peak), so the maximum field strength in restrict band is 104.89 – 43.32 = 61.57dBuV/m which is under 68.3dBuV/m limit.

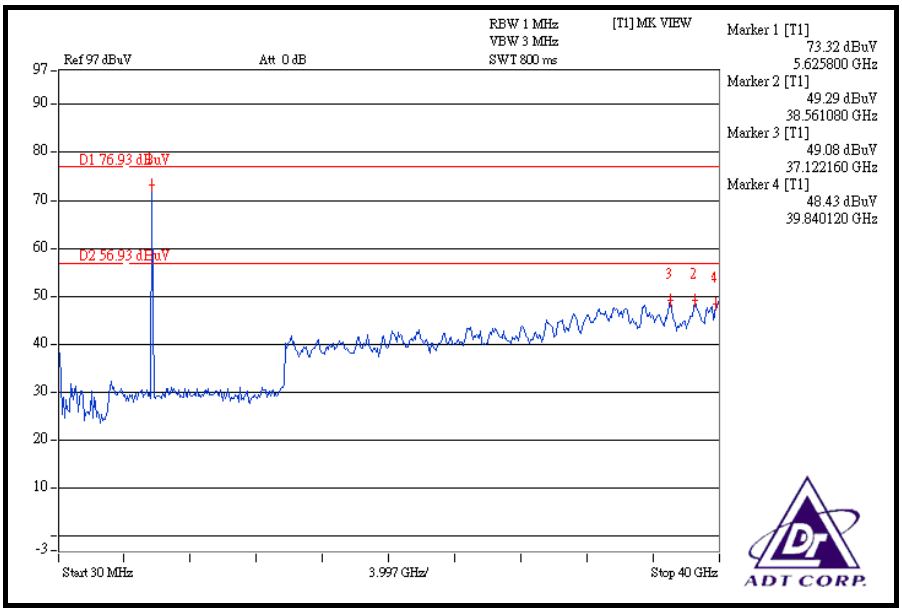

RBW 1 MHz
VBW 3 MHz
SWT 20 ms
[T1] MK VIEW
Ref 97 dBuV
Att 0 dB
D1 76.78 dBuV
D2 56.78 dBuV
Marker 1 [T1]
76.78 dBuV
5.508800 GHz
Marker 2 [T1]
34.11 dBuV
5.470000 GHz
Marker 3 [T1]
34.11 dBuV
5.470000 GHz
Marker 4 [T1]
28.37 dBuV
5.460000 GHz
Marker 5 [T1]
30.62 dBuV
5.384800 GHz
Center 5.434 GHz
20 MHz/
Span 200 MHz
ADT CORP.


RBW 1 MHz
VBW 1 kHz
SWT 500 ms
[T1] MK VIEW
Ref 97 dBuV
Att 0 dB
D1 66.67 dBuV
D2 46.67 dBuV
Marker 1 [T1]
66.67 dBuV
5.507600 GHz
Marker 2 [T1]
19.36 dBuV
5.470000 GHz
Marker 3 [T1]
19.36 dBuV
5.470000 GHz
Marker 4 [T1]
17.83 dBuV
5.460000 GHz
Marker 5 [T1]
18.54 dBuV
5.367200 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 97 dBuV
Att 0 dB
D1 76.78 dBuV
D2 56.78 dBuV
Marker 1 [T1]
74.57 dBuV
5.465920 GHz
Marker 2 [T1]
48.97 dBuV
37.042220 GHz
Marker 3 [T1]
48.57 dBuV
37.202100 GHz
Marker 4 [T1]
48.39 dBuV
38.561080 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 97 dBuV
Att 0 dB
D1 76.93 dBuV
D2 56.93 dBuV
Marker 1 [T1]
76.93 dBuV
5.679200 GHz
Marker 2 [T1]
29.86 dBuV
5.725000 GHz
Marker 3 [T1]
33.61 dBuV
5.728800 GHz
Center 5.742 GHz
20 MHz/
Span 200 MHz
ADT CORP.


RBW 1 MHz
VBW 1 kHz
SWT 500 ms
[T1] MK VIEW
Ref 97 dBuV
Att 0 dB
Marker 1 [T1]
67.26 dBuV
5.678800 GHz
Marker 2 [T1]
19.45 dBuV
5.725000 GHz
Marker 3 [T1]
19.49 dBuV
5.725200 GHz
D1 67.26 dBuV
D2 47.26 dBuV
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 97 dBuV
Att 0 dB
Marker 1 [T1]
73.32 dBuV
5.625800 GHz
Marker 2 [T1]
49.29 dBuV
38.561080 GHz
Marker 3 [T1]
49.08 dBuV
37.122160 GHz
Marker 4 [T1]
48.43 dBuV
39.840120 GHz
D1 76.93 dBuV
D2 56.93 dBuV
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 Dipole antenna with R-SMA connector. The maximum Gain of the antenna is 2dBi.

5. PHOTOGRAPHS OF THE TEST CONFIGURATION

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

6. INFORMATION ON THE TESTING LABORATORIES

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, 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, NVLAP
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.

---END---