

FCC TEST REPORT (15.407)

REPORT NO.: RF970104L02-1

MODEL NO.: WLI-UC-AG300N

RECEIVED: Jan. 04, 2008

TESTED: Jun. 02 ~ Jun. 05, 2008

ISSUED: Jun. 13, 2008

APPLICANT: Buffalo Inc.

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

ISSUED BY: Advance Data Technology Corporation

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

This test report consists of 203 pages in total. It may be duplicated completely for legal use with the approval of the applicant. It should not be reproduced except in full, without the written approval of our laboratory. The client should not use it to claim product endorsement by TAF, A2LA or any government agencies. The test results in the report only apply to the tested sample.



TABLE OF CONTENTS

1.	CERTIFICATION.....	4
2.	SUMMARY OF TEST RESULTS	5
2.1	MEASUREMENT UNCERTAINTY.....	5
3.	GENERAL INFORMATION.....	6
3.1	GENERAL DESCRIPTION OF EUT	6
3.2	DESCRIPTION OF TEST MODES	8
3.2.1	CONFIGURATION OF SYSTEM UNDER TEST	8
3.2.2	TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL	9
3.3	GENERAL DESCRIPTION OF APPLIED STANDARDS	11
3.4	DESCRIPTION OF SUPPORT UNITS	11
4.	TEST TYPES AND RESULTS	12
4.1	RADIATED EMISSION MEASUREMENT	12
4.1.1	LIMITS OF RADIATED EMISSION MEASUREMENT	12
4.1.2	LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS	12
4.1.3	TEST INSTRUMENTS.....	13
4.1.4	TEST PROCEDURES	14
4.1.5	DEVIATION FROM TEST STANDARD.....	14
4.1.6	TEST SETUP.....	15
4.1.7	EUT OPERATING CONDITION.....	15
4.1.8	TEST RESULTS	16
4.2	CONDUCTED EMISSION MEASUREMENT	43
4.2.1	LIMITS OF CONDUCTED EMISSION MEASUREMENT	43
4.2.2	TEST INSTRUMENTS.....	43
4.2.3	TEST PROCEDURES	44
4.2.4	DEVIATION FROM TEST STANDARD.....	44
4.2.5	TEST SETUP.....	45
4.2.6	EUT OPERATING CONDITIONS	45
4.2.7	TEST RESULTS	46
4.3	PEAK TRANSMIT POWER MEASUREMENT	50
4.3.1	LIMITS OF PEAK TRANSMIT POWER MEASUREMENT	50
4.3.2	TEST INSTRUMENTS.....	50
4.3.3	TEST PROCEDURE.....	50
4.3.4	DEVIATION FROM TEST STANDARD.....	51
4.3.5	TEST SETUP.....	51
4.3.6	EUT OPERATING CONDITIONS	51
4.3.7	TEST RESULTS	52
4.4	PEAK POWER EXCURSION MEASUREMENT	98
4.4.1	LIMITS OF PEAK POWER EXCURSION MEASUREMENT	98
4.4.2	TEST INSTRUMENTS.....	98
4.4.3	TEST PROCEDURE.....	98
4.4.4	DEVIATION FROM TEST STANDARD.....	99
4.4.5	TEST SETUP.....	99
4.4.6	EUT OPERATING CONDITIONS	99
4.4.7	TEST RESULTS	100
4.5	PEAK POWER SPECTRAL DENSITY MEASUREMENT	123
4.5.1	LIMITS OF PEAK POWER SPECTRAL DENSITY MEASUREMENT	123
4.5.2	TEST INSTRUMENTS.....	123
4.5.3	TEST PROCEDURES	123

4.5.4	DEVIATION FROM TEST STANDARD.....	124
4.5.5	TEST SETUP.....	124
4.5.6	EUT OPERATING CONDITIONS	124
4.5.7	TEST RESULTS	125
4.6	FREQUENCY STABILITY.....	148
4.6.1	LIMITS OF FREQUENCY STABILITY MEASUREMENT	148
4.6.2	TEST INSTRUMENTS.....	148
4.6.3	TEST PROCEDURE.....	148
4.6.4	DEVIATION FROM TEST STANDARD.....	149
4.6.5	TEST SETUP.....	149
4.6.6	EUT OPERATING CONDITION.....	149
4.6.7	TEST RESULTS	150
4.7	BAND EDGES MEASUREMENT	151
4.7.1	TEST INSTRUMENTS.....	151
4.7.2	TEST PROCEDURE.....	151
4.7.3	EUT OPERATING CONDITION.....	151
4.7.4	TEST RESULTS	152
4.8	DYNAMIC FREQUENCY SELECTION	176
4.8.1	OPERATING FREQUENCY BANDS AND MODE OF EUT.....	176
4.8.2	EUT SOFTWARE AND FIRMWARE VERSION	176
4.8.3	DESCRIPTION OF AVAILABLE ANTENNAS TO THE EUT	176
4.8.4	EUT MAXIMUM AND MINIMUM CONDUCTED POWER	177
4.8.5	EUT MAXIMUM AND MINIMUM E.I.R.P. POWER	178
4.8.6	STATEMENT OF MANUFACTURER.....	178
4.8.7	U-NII DFS RULE REQUIREMENTS.....	179
4.8.8	TEST LIMITS AND RADAR SIGNAL PARAMETERS.....	180
4.8.9	TEST & SUPPORT EQUIPMENT LIST	182
4.8.10	TEST PROCEDURE.....	183
4.8.11	CALIBRATION OF DFS DETECTION THRESHOLD LEVEL:.....	184
4.8.12	DEVIATION FROM TEST STANDARD.....	185
4.8.13	CONDUCTED TEST SETUP CONFIGURATION	185
4.8.14	TEST RESULTS	186
4.8.15	DELETED TEST RESULTS.....	187
4.8.16	CHANNEL CLOSING TRANSMISSION AND CHANNEL MOVE TIME	189
4.9	ANTENNA REQUIREMENT	197
4.9.1	STANDARD APPLICABLE	197
4.9.2	ANTENNA CONNECTED CONSTRUCTION	197
5.	PHOTOGRAPHS OF THE TEST CONFIGURATION.....	198
6.	INFORMATION ON THE TESTING LABORATORIES	199
7.	APPENDIX A -MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB	200
8.	APPENDIX B -MODIFICATIONS OR ADDING COMPONENTS DURING THE TEST.....	201



1. CERTIFICATION

PRODUCT: AirStation Wireless-N Dualband NFINITI Keychain USB2.0 Adapter

MODEL: WLI-UC-AG300N

BRAND: Buffalo

APPLICANT: Buffalo Inc.

TESTED: Jun. 02 ~ Jun. 05, 2008

TEST SAMPLE: ENGINEERING SAMPLE

STANDARDS: FCC Part 15, Subpart E (Section 15.407)

ANSI C63.4-2003

The above equipment (Model: WLI-UC-AG300N) has been tested by **Advance Data Technology Corporation**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

PREPARED BY : Andrea Hsia , **DATE:** Jun. 13, 2008
Andrea Hsia / Specialist

TECHNICAL
ACCEPTANCE : Long Chen , **DATE:** Jun. 13, 2008
Responsible for RF Long Chen / Senior Engineer

APPROVED BY : Gary Chang , **DATE:** Jun. 13, 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 -16.38dB at 2.957MHz
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 -1.00dB at 4400.00MHz
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	2.44 dB
Radiated emissions	30MHz ~ 200MHz	3.19 dB
	200MHz ~1000MHz	3.21 dB
	1GHz ~ 18GHz	2.26 dB
	18GHz ~ 40GHz	1.94 dB

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k = 2$.

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	AirStation Wireless-N Dualband NFINITI Keychain USB2.0 Adapter
MODEL NO.	WLI-UC-AG300N
FCC ID	FDI-09102079-0
POWER SUPPLY	5Vdc from host equipment
MODULATION TYPE	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
MODULATION TECHNOLOGY	DSSS, OFDM
TRANSFER RATE	802.11b: 11.0/ 5.5/ 2.0/ 1.0Mbps 802.11g: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0Mbps 802.11a: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0Mbps Draft 802.11n: up to 300.0Mbps
FREQUENCY RANGE	2.4GHz: 2400 ~ 2483.5MHz 5.0GHz: 5150 ~ 5350MHz, 5470 ~ 5725MHz, 5725 ~ 5850MHz
NUMBER OF CHANNEL	2.4GHz: 11 for 802.11b, 802.11g, draft 802.11n (20MHz) 7 for draft 802.11n (40MHz) 5.0GHz: 5150 ~ 5350MHz: 8 for 802.11a, draft 802.11n (20MHz) 4 for draft 802.11n (40MHz) 5470 ~ 5725MHz: 11 for 802.11a, draft 802.11n (20MHz) 5 for draft 802.11n (40MHz) 5725 ~ 5850MHz: 5 for 802.11a, draft 802.11n (20MHz) 2 for draft 802.11n (40MHz)
OUTPUT POWER	51.527mW for 2400.0 ~ 2483.5MHz 25.855mW for 5150.0 ~ 5350.0MHz 25.944mW for 5470.0 ~ 5725.0MHz 51.764mW for 5725.0 ~ 5850.0MHz
ANTENNA TYPE	2.4GHz: Printed antenna with -0.3dBi gain 5.0GHz: Printed antenna with 4.0dBi gain
DATA CABLE	0.19m shielded USB cable without core
I/O PORTS	USB
ASSOCIATED DEVICES	NA

NOTE:

1. The EUT is an AirStation Wireless-N Dualband NFINITI Keychain USB2.0 Adapter. The functions of EUT listed as below:

	TEST STANDARD	REFERENCE REPORT
WLAN 802.11b/g, draft 802.11n	FCC Part 15, Subpart C (Section 15.247)	RF970104L02
WLAN 802.11a, draft 802.11n (5725~5850 MHz)		
WLAN 802.11a, draft 802.11n (5150~ 5350MHz, 5470 ~ 5725MHz)	FCC Part 15, Subpart E (Section 15.407)	RF970104L02-1

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

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

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

MODULATION MODE	TX FUNCTION
802.11b	1TX
802.11g	1TX
802.11a	1TX
Draft 802.11n (20MHz)	2TX
Draft 802.11n (40MHz)	2TX

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

3.2 DESCRIPTION OF TEST MODES

Operated in 5150 ~ 5350MHz:

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

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

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

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

Operated in 5470 ~ 5725MHz:

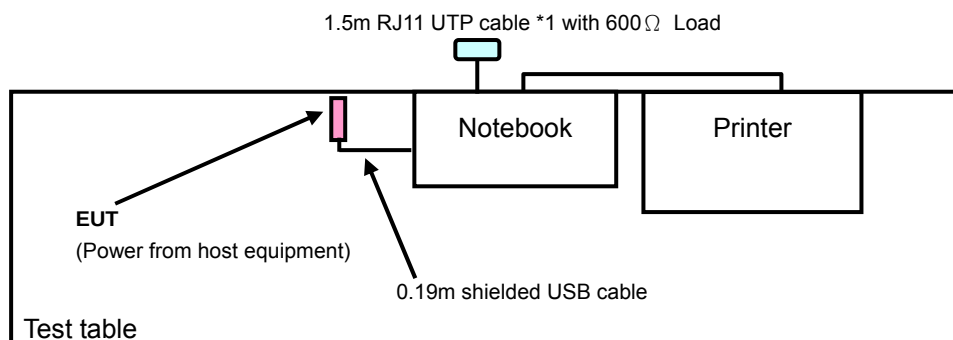
11 channels are provided to this EUT.

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

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

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

3.2.1 CONFIGURATION OF SYSTEM UNDER TEST



3.2.2 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

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

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

RADIATED EMISSION TEST (ABOVE 1GHz):

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

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

RADIATED EMISSION TEST (BELOW 1GHz):

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

MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)	AXIS
Draft 802.11n (20MHz)	5150-5350	36 to 64	40	OFDM	BPSK	7.2	Z
Draft 802.11n (40MHz)	5470-5725	102 to 134	134	OFDM	BPSK	15.0	Z

POWER LINE CONDUCTED EMISSION TEST:

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

MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
Draft 802.11n (20MHz)	5150-5350	36 to 64	40	OFDM	BPSK	7.2
Draft 802.11n (40MHz)	5470-5725	102 to 134	134	OFDM	BPSK	15.0

BANDEDGE MEASUREMENT:

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

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

ANTENNA PORT CONDUCTED MEASUREMENT:

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

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

3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

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

FCC Part 15, Subpart E (15.407)

ANSI C63.4-2003

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

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

3.4 DESCRIPTION OF SUPPORT UNITS

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

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	NOTEBOOK COMPUTER	DELL	PP05L	16484462992	E2K24CLNS
2	PRINTER	EPSON	LQ-300+	DCGY054147	FCC DoC Approved

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	1.5m UTP RJ 11 cable
2	1.2m braid shielded wire, DB25 & DB9 connector, w/o core.

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

4. TEST TYPES AND RESULTS

4.1 RADIATED EMISSION MEASUREMENT

4.1.1 LIMITS OF RADIATED EMISSION MEASUREMENT

Emissions radiated outside of the specified bands, shall be according to the general radiated limits in 15.209 as following:

FREQUENCIES (MHz)	FIELD STRENGTH (microvolts/meter)	MEASUREMENT DISTANCE (meters)
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

NOTE:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. As shown in 15.35(b), for frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.

4.1.2 LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS

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

NOTE:

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

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

4.1.3 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
Test Receiver ROHDE & SCHWARZ	ESI7	838496/016	Dec. 25, 2008
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100039	Dec. 02, 2008
BILOG Antenna SCHWARZBECK	VULB9168	9168-155	Jan. 03, 2009
HORN Antenna SCHWARZBECK	BBHA 9120D	9120D-405	Dec. 17, 2008
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170242	Jan. 06, 2009
Preamplifier Agilent	8449B	3008A01910	Sep. 19, 2008
Preamplifier Agilent	8447D	2944A10634	Dec. 12, 2008
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	274397/4	Nov. 07, 2008
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	283401/4	Nov. 07, 2008
Software ADT.	ADT_Radiated_V7.6	NA	NA
Antenna Tower inn-co GmbH	MA 4000	010303	NA
Antenna Tower Controller inn-co GmbH	CO2000	019303	NA
Turn Table ADT.	TT100.	TT93021704	NA
Turn Table Controller ADT.	SC100.	SC93021704	NA

- NOTE:**
1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
 2. The test was performed in HwaYa Chamber 4.
 3. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
 4. The FC Site Registration No. is 460141.
 5. The IC Site Registration No. is IC3789B-4.

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 chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The antenna is a broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

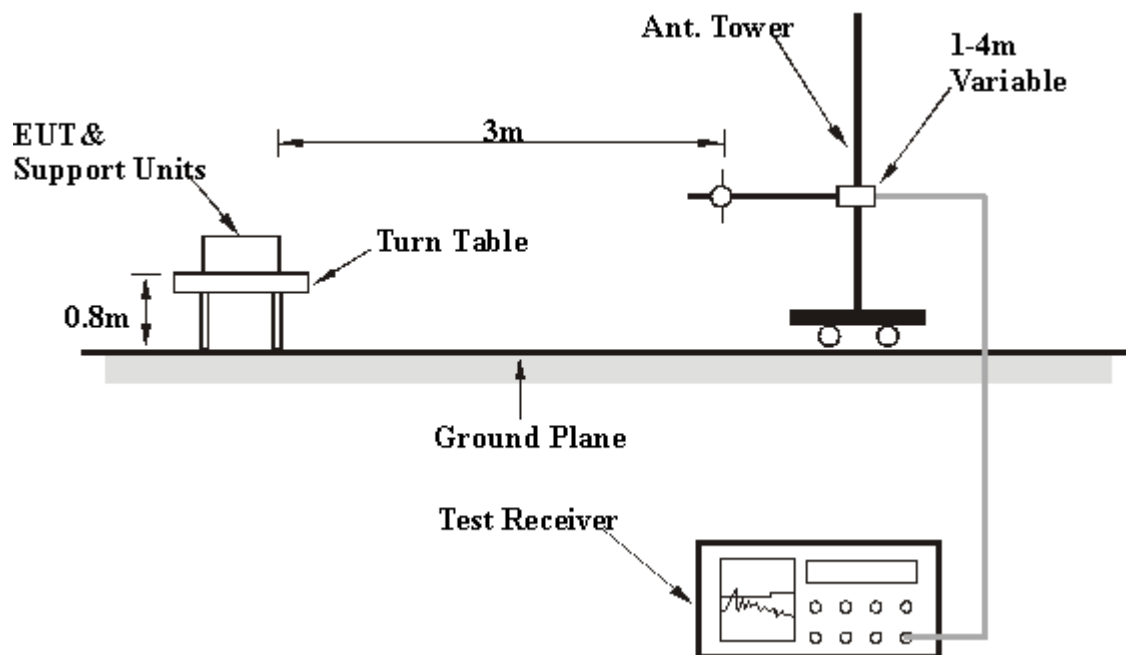
NOTE:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Peak detection (PK) and Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz for Average detection (AV) at frequency above 1GHz.
4. All modes of operation were investigated and the worst-case emissions are reported.

4.1.5 DEVIATION FROM TEST STANDARD

No deviation

4.1.6 TEST SETUP



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

4.1.7 EUT OPERATING CONDITION

- Connected the EUT to the notebook system via USB cable and placed on the testing table.
- The notebook system ran a test program (provided by manufacturer) to enable EUT under transmission condition continuously at specific channel frequency.
- The necessary accessories enable the EUT in full functions.

4.1.8 TEST RESULTS

802.11a OFDM MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 36	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 999hPa	TESTED BY	Match Tsui

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	4144.00	53.27 PK	74.00	-20.73	1.23 H	17	17.15	36.12
2	4144.00	46.96 AV	54.00	-7.04	1.23 H	17	10.84	36.12
3	5150.00	53.21 PK	74.00	-20.79	1.59 H	34	14.53	38.68
4	5150.00	41.36 AV	54.00	-12.64	1.59 H	34	2.68	38.68
5	*5180.00	102.86 PK			1.59 H	34	64.16	38.70
6	*5180.00	92.41 AV			1.59 H	34	53.71	38.70
7	#10360.00	63.87 PK	88.30	-24.43	1.41 H	59	14.52	49.35
8	#10360.00	50.01 AV	68.30	-18.29	1.41 H	59	0.66	49.35
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	4144.00	52.32 PK	74.00	-21.68	1.10 V	36	16.20	36.12
2	4144.00	45.19 AV	54.00	-8.81	1.10 V	36	9.07	36.12
3	5150.00	57.36 PK	74.00	-16.64	1.02 V	2	18.68	38.68
4	5150.00	45.81 AV	54.00	-8.19	1.02 V	2	7.13	38.68
5	*5180.00	108.13 PK			1.02 V	2	69.43	38.70
6	*5180.00	98.42 AV			1.02 V	2	59.72	38.70
7	#10360.00	60.42 PK	88.30	-27.88	1.10 V	37	11.07	49.35
8	#10360.00	47.96 AV	68.30	-20.34	1.10 V	37	-1.39	49.35

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 40	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 999hPa	TESTED BY	Match Tsui

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	4160.00	51.20 PK	74.00	-22.80	1.31 H	360	15.04	36.16
2	4160.00	42.63 AV	54.00	-11.37	1.31 H	360	6.47	36.16
3	*5200.00	102.32 PK			1.49 H	31	63.60	38.72
4	*5200.00	92.06 AV			1.49 H	31	53.34	38.72
5	#10400.00	61.21 PK	88.30	-27.09	1.00 H	36	11.74	49.47
6	#10400.00	48.30 AV	68.30	-20.00	1.00 H	36	-1.17	49.47
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	4160.00	53.21 PK	74.00	-20.79	1.00 V	236	17.05	36.16
2	4160.00	46.08 AV	54.00	-7.92	1.00 V	236	9.92	36.16
3	*5200.00	107.89 PK			1.10 V	39	69.17	38.72
4	*5200.00	97.42 AV			1.10 V	39	58.70	38.72
5	#10400.00	59.56 PK	88.30	-28.74	1.00 V	321	10.09	49.47
6	#10400.00	47.39 AV	68.30	-20.91	1.00 V	321	-2.08	49.47

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 48	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 999hPa	TESTED BY	Match Tsui

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	4190.00	53.21 PK	74.00	-20.79	1.07 H	39	16.96	36.25
2	4190.00	44.05 AV	54.00	-9.95	1.07 H	39	7.80	36.25
3	*5240.00	102.01 PK			1.49 H	36	63.25	38.76
4	*5240.00	91.56 AV			1.49 H	36	52.80	38.76
5	#10480.00	60.63 PK	88.30	-27.67	1.00 H	47	10.91	49.72
6	#10480.00	47.20 AV	68.30	-21.10	1.00 H	47	-2.52	49.72
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	4196.00	53.63 PK	74.00	-20.37	1.20 V	26	17.36	36.27
2	4196.00	46.07 AV	54.00	-7.93	1.20 V	26	9.80	36.27
3	*5240.00	107.31 PK			1.11 V	15	68.55	38.76
4	*5240.00	97.52 AV			1.11 V	15	58.76	38.76
5	#10480.00	60.00 PK	88.30	-28.30	1.04 V	222	10.28	49.72
6	#10480.00	47.39 AV	68.30	-20.91	1.04 V	222	-2.33	49.72

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 52	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 999hPa	TESTED BY	Match Tsui

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	4208.00	53.21 PK	74.00	-20.79	1.10 H	89	16.90	36.31
2	4208.00	45.09 AV	54.00	-8.91	1.10 H	89	8.78	36.31
3	*5260.00	101.97 PK			1.59 H	35	63.20	38.77
4	*5260.00	91.54 AV			1.59 H	35	52.77	38.77
5	#10520.00	62.21 PK	88.30	-26.09	1.07 H	360	12.40	49.81
6	#10520.00	49.00 AV	68.30	-19.30	1.07 H	360	-0.81	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	4208.00	53.29 PK	74.00	-20.71	1.00 V	50	16.98	36.31
2	4208.00	47.69 AV	54.00	-6.31	1.00 V	50	11.38	36.31
3	*5260.00	107.31 PK			1.21 V	1	68.54	38.77
4	*5260.00	97.08 AV			1.21 V	1	58.31	38.77
5	#10520.00	60.70 PK	88.30	-27.60	1.02 V	310	10.89	49.81
6	#10520.00	47.69 AV	68.30	-20.61	1.02 V	310	-2.12	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.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 60	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 999hPa	TESTED BY	Match Tsui

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	4240.00	53.40 PK	74.00	-20.60	1.00 H	26	16.99	36.41
2	4240.00	45.69 AV	54.00	-8.31	1.00 H	26	9.28	36.41
3	*5300.00	101.92 PK			1.51 H	31	63.11	38.81
4	*5300.00	91.84 AV			1.51 H	31	53.03	38.81
5	10600.00	59.30 PK	74.00	-14.70	1.10 H	39	9.35	49.95
6	10600.00	46.20 AV	54.00	-7.80	1.10 H	39	-3.75	49.95
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	4240.00	52.85 PK	74.00	-21.15	1.18 V	96	16.44	36.41
2	4240.00	47.31 AV	54.00	-6.69	1.18 V	96	10.90	36.41
3	*5300.00	107.96 PK			1.04 V	23	69.15	38.81
4	*5300.00	97.42 AV			1.04 V	23	58.61	38.81
5	10600.00	60.66 PK	74.00	-13.34	1.10 V	68	10.71	49.95
6	10600.00	48.52 AV	54.00	-5.48	1.10 V	68	-1.43	49.95

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 64	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 999hPa	TESTED BY	Match Tsui

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	4256.00	52.63 PK	74.00	-21.37	1.07 H	200	16.17	36.46
2	4256.00	47.60 AV	54.00	-6.40	1.07 H	200	11.14	36.46
3	*5320.00	101.69 PK			1.19 H	165	62.86	38.83
4	*5320.00	91.47 AV			1.19 H	165	52.64	38.83
5	5352.00	52.32 PK	74.00	-21.68	1.19 H	165	13.46	38.86
6	5352.00	42.05 AV	54.00	-11.95	1.19 H	165	3.19	38.86
7	10640.00	61.20 PK	74.00	-12.80	1.01 H	126	11.18	50.02
8	10640.00	47.06 AV	54.00	-6.94	1.01 H	126	-2.96	50.02
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	4256.00	55.22 PK	74.00	-18.78	1.00 V	147	18.76	36.46
2	4256.00	48.33 AV	54.00	-5.67	1.00 V	147	11.87	36.46
3	*5320.00	108.87 PK			1.01 V	163	70.04	38.83
4	*5320.00	99.05 AV			1.01 V	163	60.22	38.83
5	5352.00	58.51 PK	74.00	-15.49	1.01 V	163	19.65	38.86
6	5352.00	47.87 AV	54.00	-6.13	1.01 V	163	9.01	38.86
7	10640.00	62.50 PK	74.00	-11.50	1.00 V	360	12.48	50.02
8	10640.00	47.77 AV	54.00	-6.23	1.00 V	360	-2.25	50.02

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 100	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 999hPa	TESTED BY	Match Tsui

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	4400.00	56.32 PK	74.00	-17.68	1.17 H	320	19.43	36.89
2	4400.00	52.47 AV	54.00	-1.53	1.17 H	320	15.58	36.89
3	5460.00	64.17 PK	74.00	-9.83	1.41 H	136	25.22	38.95
4	5460.00	52.78 AV	54.00	-1.22	1.41 H	136	13.83	38.95
5	#5470.00	69.36 PK	88.30	-18.94	1.41 H	136	30.40	38.96
6	#5470.00	58.47 AV	68.30	-9.83	1.41 H	136	19.51	38.96
7	*5500.00	101.36 PK			1.41 H	136	62.38	38.98
8	*5500.00	91.72 AV			1.41 H	136	52.74	38.98
9	11000.00	60.54 PK	74.00	-13.46	1.01 H	14	9.88	50.66
10	11000.00	47.39 AV	54.00	-6.61	1.01 H	14	-3.27	50.66
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	4400.00	55.30 PK	74.00	-18.70	1.10 V	263	18.41	36.89
2	4400.00	52.95 AV	54.00	-1.05	1.10 V	263	16.06	36.89
3	5460.00	62.39 PK	74.00	-11.61	1.19 V	210	23.44	38.95
4	5460.00	52.98 AV	54.00	-1.02	1.19 V	210	14.03	38.95
5	#5470.00	68.35 PK	88.30	-19.95	1.19 V	210	29.39	38.96
6	#5470.00	58.45 AV	68.30	-9.85	1.19 V	210	19.49	38.96
7	*5500.00	107.42 PK			1.19 V	210	68.44	38.98
8	*5500.00	97.37 AV			1.19 V	210	58.39	38.98
9	11000.00	60.69 PK	74.00	-13.31	1.07 V	1	10.03	50.66
10	11000.00	47.59 AV	54.00	-6.41	1.07 V	1	-3.07	50.66

- 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	24deg. C, 64%RH 999hPa	TESTED BY	Match Tsui

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	#4480.00	55.60 PK	88.30	-32.70	1.11 H	311	18.46	37.14
2	#4480.00	53.11 AV	68.30	-15.19	1.11 H	311	15.97	37.14
3	*5600.00	101.44 PK			1.37 H	144	62.22	39.22
4	*5600.00	90.57 AV			1.37 H	144	51.35	39.22
5	11200.00	60.03 PK	74.00	-13.97	1.00 H	34	9.36	50.67
6	11200.00	46.24 AV	54.00	-7.76	1.00 H	34	-4.43	50.67
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	#4480.00	56.50 PK	88.30	-31.80	1.01 V	211	19.36	37.14
2	#4480.00	55.30 AV	68.30	-13.00	1.01 V	211	18.16	37.14
3	*5600.00	108.47 PK			1.12 V	187	69.25	39.22
4	*5600.00	98.04 AV			1.12 V	187	58.82	39.22
5	11200.00	60.04 PK	74.00	-13.96	1.04 V	2	9.37	50.67
6	11200.00	47.36 AV	54.00	-6.64	1.04 V	2	-3.31	50.67

- 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 140	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 999hPa	TESTED BY	Match Tsui

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	4560.00	54.29 PK	74.00	-19.71	1.06 H	190	16.93	37.36
2	4560.00	51.68 AV	54.00	-2.32	1.06 H	190	14.32	37.36
3	*5700.00	101.63 PK			1.17 H	226	62.17	39.46
4	*5700.00	91.40 AV			1.17 H	226	51.94	39.46
5	#5725.00	62.41 PK	88.30	-25.89	1.17 H	226	22.89	39.52
6	#5725.00	52.33 AV	68.30	-15.97	1.17 H	226	12.81	39.52
7	11400.00	60.66 PK	74.00	-13.34	1.00 H	360	9.94	50.72
8	11400.00	47.53 AV	54.00	-6.47	1.00 H	360	-3.19	50.72
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	4560.00	55.73 PK	74.00	-18.27	1.17 V	322	18.37	37.36
2	4560.00	52.99 AV	54.00	-1.01	1.17 V	322	15.63	37.36
3	*5700.00	108.19 PK			1.00 V	183	68.73	39.46
4	*5700.00	98.23 AV			1.00 V	183	58.77	39.46
5	#5725.00	71.21 PK	88.30	-17.09	1.00 V	183	31.69	39.52
6	#5725.00	62.34 AV	68.30	-5.96	1.00 V	183	22.82	39.52
7	11400.00	61.23 PK	74.00	-12.77	1.00 V	320	10.51	50.72
8	11400.00	47.56 AV	54.00	-6.44	1.00 V	320	-3.16	50.72

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 36	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 999hPa	TESTED BY	Match Tsui

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	4144.00	52.39 PK	74.00	-21.61	1.21 H	196	16.27	36.12
2	4144.00	42.06 AV	54.00	-11.94	1.21 H	196	5.94	36.12
3	5150.00	52.07 PK	74.00	-21.93	1.04 H	359	13.39	38.68
4	5150.00	41.29 AV	54.00	-12.71	1.04 H	359	2.61	38.68
5	*5180.00	104.58 PK			1.04 H	359	65.88	38.70
6	*5180.00	94.23 AV			1.04 H	359	55.53	38.70
7	#10360.00	59.69 PK	88.30	-28.61	1.00 H	1	10.34	49.35
8	#10360.00	46.50 AV	68.30	-21.80	1.00 H	1	-2.85	49.35
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	4144.00	51.63 PK	74.00	-22.37	1.01 V	188	15.51	36.12
2	4144.00	46.22 AV	54.00	-7.78	1.01 V	181	10.10	36.12
3	5150.00	56.69 PK	74.00	-17.31	1.00 V	211	18.01	38.68
4	5150.00	46.20 AV	54.00	-7.80	1.00 V	211	7.52	38.68
5	*5180.00	111.61 PK			1.00 V	211	72.91	38.70
6	*5180.00	101.53 AV			1.00 V	211	62.83	38.70
7	#10360.00	60.36 PK	88.30	-27.94	1.10 V	360	11.01	49.35
8	#10360.00	47.18 AV	68.30	-21.12	1.10 V	360	-2.17	49.35

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 40	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 999hPa	TESTED BY	Match Tsui

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	4160.00	49.60 PK	74.00	-24.40	1.01 H	147	13.44	36.16
2	4160.00	40.06 AV	54.00	-13.94	1.01 H	147	3.90	36.16
3	*5200.00	105.21 PK			1.38 H	166	66.49	38.72
4	*5200.00	95.57 AV			1.38 H	166	56.85	38.72
5	#10400.00	59.56 PK	88.30	-28.74	1.10 H	1	10.09	49.47
6	#10400.00	46.74 AV	68.30	-21.56	1.10 H	1	-2.73	49.47
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	4160.00	51.60 PK	74.00	-22.40	1.00 V	175	15.44	36.16
2	4160.00	46.69 AV	54.00	-7.31	1.00 V	175	10.53	36.16
3	*5200.00	111.41 PK			1.00 V	236	72.69	38.72
4	*5200.00	101.17 AV			1.00 V	236	62.45	38.72
5	#10400.00	60.07 PK	88.30	-28.23	1.09 V	360	10.60	49.47
6	#10400.00	47.12 AV	68.30	-21.18	1.09 V	360	-2.35	49.47

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 48	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 999hPa	TESTED BY	Match Tsui

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	4192.00	50.66 PK	74.00	-23.34	1.00 H	196	14.40	36.26
2	4192.00	42.09 AV	54.00	-11.91	1.00 H	196	5.83	36.26
3	*5240.00	105.04 PK			1.32 H	198	66.28	38.76
4	*5240.00	95.11 AV			1.32 H	198	56.35	38.76
5	#10480.00	60.06 PK	88.30	-28.24	1.11 H	10	10.34	49.72
6	#10480.00	47.52 AV	68.30	-20.78	1.11 H	10	-2.20	49.72
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	4192.00	52.36 PK	74.00	-21.64	1.01 V	233	16.10	36.26
2	4192.00	47.96 AV	54.00	-6.04	1.01 V	233	11.70	36.26
3	*5240.00	111.74 PK			1.09 V	211	72.98	38.76
4	*5240.00	101.49 AV			1.09 V	211	62.73	38.76
5	#10480.00	60.05 PK	88.30	-28.25	1.00 V	355	10.33	49.72
6	#10480.00	47.18 AV	68.30	-21.12	1.00 V	355	-2.54	49.72

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 52	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 999hPa	TESTED BY	Match Tsui

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	4208.00	49.36 PK	74.00	-24.64	1.08 H	217	13.05	36.31
2	4208.00	43.09 AV	54.00	-10.91	1.08 H	217	6.78	36.31
3	*5260.00	104.39 PK			1.28 H	217	65.62	38.77
4	*5260.00	94.28 AV			1.28 H	217	55.51	38.77
5	#10520.00	59.28 PK	88.30	-29.02	1.00 H	342	9.47	49.81
6	#10520.00	47.07 AV	68.30	-21.23	1.00 H	342	-2.74	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	4208.00	51.69 PK	74.00	-22.31	1.01 V	196	15.38	36.31
2	4208.00	47.37 AV	54.00	-6.63	1.01 V	196	11.06	36.31
3	*5260.00	110.61 PK			1.00 V	128	71.84	38.77
4	*5260.00	99.43 AV			1.00 V	128	60.66	38.77
5	#10520.00	60.37 PK	88.30	-27.93	1.07 V	14	10.56	49.81
6	#10520.00	47.85 AV	68.30	-20.45	1.07 V	14	-1.96	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.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 60	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 999hPa	TESTED BY	Match Tsui

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	4240.00	49.42 PK	74.00	-24.58	1.11 H	125	13.01	36.41
2	4240.00	43.65 AV	54.00	-10.35	1.11 H	125	7.24	36.41
3	*5300.00	105.07 PK			1.42 H	169	66.26	38.81
4	*5300.00	95.12 AV			1.42 H	169	56.31	38.81
5	10600.00	59.69 PK	74.00	-14.31	1.10 H	10	9.74	49.95
6	10600.00	47.18 AV	54.00	-6.82	1.10 H	10	-2.77	49.95
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	4240.00	52.30 PK	74.00	-21.70	1.19 V	220	15.89	36.41
2	4240.00	47.28 AV	54.00	-6.72	1.19 V	220	10.87	36.41
3	*5300.00	110.21 PK			1.13 V	187	71.40	38.81
4	*5300.00	100.96 AV			1.13 V	187	62.15	38.81
5	10600.00	59.68 PK	74.00	-14.32	1.10 V	348	9.73	49.95
6	10600.00	48.34 AV	54.00	-5.66	1.10 V	348	-1.61	49.95

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 64	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 999hPa	TESTED BY	Match Tsui

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	4256.00	50.39 PK	74.00	-23.61	1.17 H	147	13.93	36.46
2	4256.00	45.62 AV	54.00	-8.38	1.17 H	147	9.16	36.46
3	*5320.00	105.06 PK			1.19 H	147	66.23	38.83
4	*5320.00	95.21 AV			1.19 H	147	56.38	38.83
5	5353.00	48.23 PK	74.00	-25.77	1.19 H	147	9.37	38.86
6	5353.00	38.69 AV	54.00	-15.31	1.19 H	147	-0.17	38.86
7	10640.00	59.63 PK	74.00	-14.37	1.10 H	356	9.61	50.02
8	10640.00	48.42 AV	54.00	-5.58	1.10 H	356	-1.60	50.02
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	4256.00	52.38 PK	74.00	-21.62	1.20 V	147	15.92	36.46
2	4256.00	47.49 AV	54.00	-6.51	1.20 V	147	11.03	36.46
3	*5320.00	110.83 PK			1.09 V	263	72.00	38.83
4	*5320.00	100.41 AV			1.09 V	263	61.58	38.83
5	5350.00	55.41 PK	74.00	-18.59	1.09 V	263	16.55	38.85
6	5350.00	45.96 AV	54.00	-8.04	1.09 V	263	7.11	38.85
7	10640.00	61.27 PK	74.00	-12.73	1.10 V	351	11.25	50.02
8	10640.00	48.01 AV	54.00	-5.99	1.10 V	351	-2.01	50.02

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 100	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 999hPa	TESTED BY	Match Tsui

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	4400.00	54.08 PK	74.00	-19.92	1.01 H	146	17.19	36.89
2	4400.00	52.31 AV	54.00	-1.69	1.01 H	146	15.42	36.89
3	5460.00	63.20 PK	74.00	-10.80	1.31 H	144	24.25	38.95
4	5460.00	51.26 AV	54.00	-2.74	1.31 H	144	12.31	38.95
5	#5470.00	67.25 PK	88.30	-21.05	1.31 H	144	28.29	38.96
6	#5470.00	57.63 AV	68.30	-10.67	1.31 H	144	18.67	38.96
7	*5500.00	105.23 PK			1.31 H	144	66.25	38.98
8	*5500.00	95.53 AV			1.31 H	144	56.55	38.98
9	11000.00	60.47 PK	74.00	-13.53	1.05 H	360	9.81	50.66
10	11000.00	49.92 AV	54.00	-4.08	1.05 H	360	-0.74	50.66
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	4400.00	55.96 PK	74.00	-18.04	1.03 V	22	19.07	36.89
2	4400.00	53.00 AV	54.00	-1.00	1.03 V	22	16.11	36.89
3	5460.00	63.57 PK	74.00	-10.43	1.08 V	310	24.62	38.95
4	5460.00	51.26 AV	54.00	-2.74	1.08 V	310	12.31	38.95
5	#5470.00	67.50 PK	88.30	-20.80	1.08 V	310	28.54	38.96
6	#5470.00	57.23 AV	68.30	-11.07	1.08 V	310	18.27	38.96
7	*5500.00	111.78 PK			1.08 V	310	72.80	38.98
8	*5500.00	101.59 AV			1.08 V	310	62.61	38.98
9	11000.00	60.32 PK	74.00	-13.68	1.07 V	1	9.66	50.66
10	11000.00	48.63 AV	54.00	-5.37	1.07 V	1	-2.03	50.66

- 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	24deg. C, 64%RH 999hPa	TESTED BY	Match Tsui

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	#4480.00	54.56 PK	88.30	-33.74	1.10 H	189	17.42	37.14
2	#4480.00	54.37 AV	68.30	-13.93	1.10 H	189	17.23	37.14
3	*5600.00	104.26 PK			1.23 H	163	65.04	39.22
4	*5600.00	94.47 AV			1.23 H	163	55.25	39.22
5	11200.00	60.60 PK	74.00	-13.40	1.13 H	350	9.93	50.67
6	11200.00	48.05 AV	54.00	-5.95	1.13 H	350	-2.62	50.67
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	#4480.00	56.20 PK	88.30	-32.10	1.00 V	233	19.06	37.14
2	#4480.00	54.08 AV	68.30	-14.22	1.00 V	233	16.94	37.14
3	*5600.00	110.81 PK			1.00 V	199	71.59	39.22
4	*5600.00	100.76 AV			1.00 V	199	61.54	39.22
5	11200.00	61.56 PK	74.00	-12.44	1.07 V	10	10.89	50.67
6	11200.00	49.95 AV	54.00	-4.05	1.07 V	10	-0.72	50.67

- 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 140	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 999hPa	TESTED BY	Match Tsui

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	4560.00	55.63 PK	74.00	-18.37	1.52 H	33	18.27	37.36
2	4560.00	52.01 AV	54.00	-1.99	1.52 H	33	14.65	37.36
3	*5700.00	105.32 PK			1.53 H	233	65.86	39.46
4	*5700.00	94.65 AV			1.53 H	233	55.19	39.46
5	#5725.00	57.66 PK	88.30	-30.64	1.53 H	233	18.14	39.52
6	#5725.00	45.72 AV	68.30	-22.58	1.53 H	233	6.20	39.52
7	11400.00	63.57 PK	74.00	-10.43	1.10 H	36	12.85	50.72
8	11400.00	48.63 AV	54.00	-5.37	1.10 H	36	-2.09	50.72
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	4560.00	56.84 PK	74.00	-17.16	1.23 V	300	19.48	37.36
2	4560.00	52.98 AV	54.00	-1.02	1.23 V	300	15.62	37.36
3	*5700.00	111.07 PK			1.09 V	24	71.61	39.46
4	*5700.00	101.42 AV			1.09 V	24	61.96	39.46
5	#5725.00	65.32 PK	88.30	-22.98	1.09 V	24	25.80	39.52
6	#5725.00	50.17 AV	68.30	-18.13	1.09 V	24	10.65	39.52
7	11400.00	60.36 PK	74.00	-13.64	1.12 V	36	9.64	50.72
8	11400.00	47.52 AV	54.00	-6.48	1.12 V	36	-3.20	50.72

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 38	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 999hPa	TESTED BY	Match Tsui

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	4152.00	48.31 PK	74.00	-25.69	1.07 H	122	12.17	36.14
2	4152.00	37.45 AV	54.00	-16.55	1.07 H	122	1.31	36.14
3	5150.00	56.39 PK	74.00	-17.61	1.65 H	355	17.71	38.68
4	5150.00	40.27 AV	54.00	-13.73	1.65 H	355	1.59	38.68
5	*5190.00	100.07 PK			1.65 H	355	61.36	38.71
6	*5190.00	90.23 AV			1.65 H	355	51.52	38.71
7	#10380.00	61.08 PK	88.30	-27.22	1.20 H	221	11.67	49.41
8	#10380.00	47.63 AV	68.30	-20.67	1.20 H	221	-1.78	49.41
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	4152.00	50.61 PK	74.00	-23.39	1.07 V	14	14.47	36.14
2	4152.00	44.23 AV	54.00	-9.77	1.07 V	14	8.09	36.14
3	5150.00	61.09 PK	74.00	-12.91	1.14 V	10	22.41	38.68
4	5150.00	46.07 AV	54.00	-7.93	1.14 V	10	7.39	38.68
5	*5190.00	104.45 PK			1.14 V	10	65.74	38.71
6	*5190.00	94.26 AV			1.14 V	10	55.55	38.71
7	#10380.00	60.64 PK	88.30	-27.66	1.00 V	144	11.23	49.41
8	#10380.00	46.25 AV	68.30	-22.05	1.00 V	144	-3.16	49.41

- 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 46	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 999hPa	TESTED BY	Match Tsui

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	4184.00	47.67 PK	74.00	-26.33	1.00 H	11	11.44	36.23
2	4184.00	41.30 AV	54.00	-12.70	1.00 H	11	5.07	36.23
3	*5230.00	99.75 PK			1.63 H	12	61.00	38.75
4	*5230.00	90.41 AV			1.63 H	12	51.66	38.75
5	#10460.00	60.10 PK	88.30	-28.20	1.41 H	124	10.44	49.66
6	#10460.00	48.37 AV	68.30	-19.93	1.41 H	124	-1.29	49.66
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	4184.00	51.22 PK	74.00	-22.78	1.18 V	45	14.99	36.23
2	4184.00	45.63 AV	54.00	-8.37	1.18 V	45	9.40	36.23
3	*5230.00	104.39 PK			1.01 V	355	65.64	38.75
4	*5230.00	94.28 AV			1.01 V	355	55.53	38.75
5	#10460.00	60.30 PK	88.30	-28.00	1.07 V	322	10.64	49.66
6	#10460.00	46.85 AV	68.30	-21.45	1.07 V	322	-2.81	49.66

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 54	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 999hPa	TESTED BY	Match Tsui

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	4216.00	49.06 PK	74.00	-24.94	1.20 H	189	12.73	36.33
2	4216.00	40.24 AV	54.00	-13.76	1.20 H	189	3.91	36.33
3	*5270.00	99.27 PK			1.53 H	97	60.49	38.78
4	*5270.00	89.36 AV			1.53 H	97	50.58	38.78
5	#10540.00	59.88 PK	88.30	-28.42	1.17 H	336	10.03	49.85
6	#10540.00	46.25 AV	68.30	-22.05	1.17 H	336	-3.60	49.85
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	4216.00	50.17 PK	74.00	-23.83	1.07 V	36	13.84	36.33
2	4216.00	45.01 AV	54.00	-8.99	1.07 V	36	8.68	36.33
3	*5270.00	104.41 PK			1.09 V	17	65.63	38.78
4	*5270.00	93.87 AV			1.09 V	17	55.09	38.78
5	#10540.00	62.05 PK	88.30	-26.25	1.07 V	336	12.20	49.85
6	#10540.00	47.06 AV	68.30	-21.24	1.07 V	336	-2.79	49.85

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	24deg. C, 64%RH 999hPa	TESTED BY	Match Tsui

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	4248.00	51.62 PK	74.00	-22.38	1.20 H	17	15.19	36.43
2	4248.00	44.20 AV	54.00	-9.80	1.20 H	17	7.77	36.43
3	*5310.00	100.17 PK			1.54 H	144	61.35	38.82
4	*5310.00	90.36 AV			1.54 H	144	51.54	38.82
5	5350.00	51.31 PK	74.00	-22.69	1.54 H	144	12.46	38.85
6	5350.00	39.26 AV	54.00	-14.74	1.54 H	144	0.41	38.85
7	10620.00	59.69 PK	74.00	-14.31	1.21 H	12	9.71	49.98
8	10620.00	47.20 AV	54.00	-6.80	1.21 H	12	-2.78	49.98
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	4248.00	52.36 PK	74.00	-21.64	1.23 V	36	15.93	36.43
2	4248.00	45.91 AV	54.00	-8.09	1.23 V	36	9.48	36.43
3	*5310.00	103.74 PK			1.03 V	35	64.92	38.82
4	*5310.00	93.36 AV			1.03 V	35	54.54	38.82
5	5350.00	55.36 PK	74.00	-18.64	1.03 V	35	16.51	38.85
6	5350.00	42.07 AV	54.00	-11.93	1.03 V	35	3.22	38.85
7	10620.00	60.36 PK	74.00	-13.64	1.20 V	310	10.38	49.98
8	10620.00	47.11 AV	54.00	-6.89	1.20 V	310	-2.87	49.98

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 102	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 999hPa	TESTED BY	Match Tsui

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	#4408.00	49.69 PK	88.30	-38.61	1.26 H	17	12.78	36.91
2	#4408.00	38.41 AV	68.30	-29.89	1.26 H	17	1.50	36.91
3	5460.00	50.39 PK	74.00	-23.61	1.52 H	19	11.44	38.95
4	5460.00	38.64 AV	54.00	-15.36	1.52 H	19	-0.31	38.95
5	#5470.00	57.33 PK	88.30	-30.97	1.52 H	19	18.37	38.96
6	#5470.00	41.42 AV	68.30	-26.88	1.52 H	19	2.46	38.96
7	*5510.00	99.57 PK			1.52 H	19	60.57	39.00
8	*5510.00	89.69 AV			1.52 H	19	50.69	39.00
9	11020.00	61.29 PK	74.00	-12.71	1.00 H	352	10.63	50.66
10	11020.00	47.68 AV	54.00	-6.32	1.00 H	352	-2.98	50.66
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	#4408.00	52.31 PK	88.30	-35.99	1.07 V	322	15.40	36.91
2	#4408.00	46.29 AV	68.30	-22.01	1.07 V	322	9.38	36.91
3	5460.00	57.34 PK	74.00	-16.66	1.01 V	36	18.39	38.95
4	5460.00	44.61 AV	54.00	-9.39	1.01 V	36	5.66	38.95
5	#5470.00	60.36 PK	88.30	-27.94	1.01 V	36	21.40	38.96
6	#5470.00	44.15 AV	68.30	-24.15	1.01 V	36	5.19	38.96
7	*5510.00	105.11 PK			1.01 V	36	66.11	39.00
8	*5510.00	95.01 AV			1.01 V	36	56.01	39.00
9	11020.00	59.27 PK	74.00	-14.73	1.36 V	355	8.61	50.66
10	11020.00	46.05 AV	54.00	-7.95	1.36 V	355	-4.61	50.66

- 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	24deg. C, 64%RH 999hPa	TESTED BY	Match Tsui

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	#4472.00	50.36 PK	88.30	-37.94	1.11 H	214	13.25	37.11
2	#4472.00	47.50 AV	68.30	-20.80	1.11 H	214	10.39	37.11
3	*5590.00	99.98 PK			1.51 H	36	60.78	39.20
4	*5590.00	89.42 AV			1.51 H	36	50.22	39.20
5	11180.00	60.86 PK	74.00	-13.14	1.25 H	300	10.19	50.67
6	11180.00	47.62 AV	54.00	-6.38	1.25 H	300	-3.05	50.67
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	#4472.00	53.17 PK	88.30	-35.13	1.09 V	360	16.06	37.11
2	#4472.00	50.35 AV	68.30	-17.95	1.09 V	360	13.24	37.11
3	*5590.00	104.37 PK			1.07 V	18	65.17	39.20
4	*5590.00	94.28 AV			1.07 V	18	55.08	39.20
5	11180.00	59.87 PK	74.00	-14.13	1.31 V	36	9.20	50.67
6	11180.00	47.25 AV	54.00	-6.75	1.31 V	36	-3.42	50.67

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 134	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 999hPa	TESTED BY	Match Tsui

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	4536.00	49.94 PK	74.00	-24.06	1.22 H	360	12.65	37.29
2	4536.00	42.63 AV	54.00	-11.37	1.22 H	360	5.34	37.29
3	*5670.00	99.47 PK			1.49 H	166	60.08	39.39
4	*5670.00	89.11 AV			1.49 H	166	49.72	39.39
5	#5725.00	52.36 PK	88.30	-35.94	1.49 H	166	12.84	39.52
6	#5725.00	39.41 AV	68.30	-28.89	1.49 H	166	-0.11	39.52
7	11340.00	59.61 PK	74.00	-14.39	1.20 H	355	8.91	50.70
8	11340.00	47.53 AV	54.00	-6.47	1.20 H	355	-3.17	50.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	4536.00	52.07 PK	74.00	-21.93	1.17 V	225	14.78	37.29
2	4536.00	49.69 AV	54.00	-4.31	1.17 V	225	12.40	37.29
3	*5670.00	104.04 PK			1.29 V	48	64.65	39.39
4	*5670.00	94.23 AV			1.29 V	48	54.84	39.39
5	#5725.00	58.31 PK	88.30	-29.99	1.29 V	48	18.79	39.52
6	#5725.00	45.39 AV	68.30	-22.91	1.29 V	48	5.87	39.52
7	11340.00	60.01 PK	74.00	-13.99	1.21 V	336	9.31	50.70
8	11340.00	47.32 AV	54.00	-6.68	1.21 V	336	-3.38	50.70

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

BELOW 1GHz WORST-CASE DATA :

DRAFT 802.11n (20MHz) OFDM MODULATION (5.15~5.35GHz BAND)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 40	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 999hPa	TESTED BY	Match Tsui

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	191.28	38.91 QP	43.50	-4.59	2.00 H	184	26.97	11.94
2	226.27	38.09 QP	46.00	-7.91	1.50 H	343	25.51	12.58
3	239.88	44.99 QP	46.00	-1.01	1.00 H	10	31.76	13.23
4	432.37	40.06 QP	46.00	-5.94	2.00 H	163	21.71	18.35
5	488.75	44.34 QP	46.00	-1.66	2.00 H	346	24.17	20.16
6	720.12	41.50 QP	46.00	-4.50	1.50 H	172	16.02	25.48
7	797.89	39.47 QP	46.00	-6.53	2.00 H	160	13.06	26.40
8	817.34	36.71 QP	46.00	-9.29	1.00 H	259	10.03	26.68
9	961.21	44.51 QP	54.00	-9.49	1.50 H	127	15.84	28.67
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	239.88	39.98 QP	46.00	-6.02	1.50 V	295	26.75	13.23
2	432.37	39.01 QP	46.00	-6.99	1.50 V	103	20.66	18.35
3	490.70	42.26 QP	46.00	-3.74	1.00 V	304	22.03	20.23
4	599.58	36.09 QP	46.00	-9.91	1.00 V	217	12.96	23.13
5	720.12	39.19 QP	46.00	-6.81	1.00 V	133	13.71	25.48
6	803.73	42.69 QP	46.00	-3.31	1.50 V	109	16.20	26.48
7	840.67	36.38 QP	46.00	-9.62	1.50 V	178	9.36	27.02
8	961.21	47.59 QP	54.00	-6.41	1.00 V	10	18.92	28.67

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

DRAFT 802.11n (40MHz) OFDM MODULATION (5.47~5.725GHz BAND)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 134	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 999hPa	TESTED BY	Match Tsui

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	191.28	38.94 QP	43.50	-4.56	2.00 H	184	27.01	11.94
2	224.33	37.96 QP	46.00	-8.04	1.50 H	10	25.47	12.49
3	239.88	44.99 QP	46.00	-1.01	1.00 H	220	31.76	13.23
4	432.37	40.24 QP	46.00	-5.76	2.00 H	166	21.90	18.35
5	488.75	44.55 QP	46.00	-1.45	2.00 H	355	24.38	20.16
6	720.12	42.89 QP	46.00	-3.11	1.50 H	34	17.40	25.48
7	803.73	38.97 QP	46.00	-7.03	1.00 H	160	12.49	26.48
8	817.34	36.25 QP	46.00	-9.75	1.50 H	19	9.57	26.68
9	961.21	44.74 QP	54.00	-9.26	1.50 H	166	16.07	28.67
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	164.06	34.49 QP	43.50	-9.01	1.00 V	64	20.38	14.11
2	239.88	39.96 QP	46.00	-6.04	2.00 V	304	26.74	13.23
3	432.37	38.58 QP	46.00	-7.42	1.50 V	106	20.23	18.35
4	488.75	43.12 QP	46.00	-2.88	1.00 V	289	22.96	20.16
5	720.12	40.26 QP	46.00	-5.74	1.00 V	262	14.77	25.48
6	803.73	41.94 QP	46.00	-4.06	1.50 V	340	15.45	26.48
7	821.23	37.34 QP	46.00	-8.66	1.50 V	124	10.61	26.74
8	961.21	47.03 QP	54.00	-6.97	1.00 V	13	18.37	28.67

- 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 (dB μ V)	
	Quasi-peak	Average
0.15 ~ 0.5	66 to 56	56 to 46
0.5 ~ 5	56	46
5 ~ 30	60	50

- NOTE:** 1. The lower limit shall apply at the transition frequencies.
2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.
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	100289	Dec. 06, 2008
RF signal cable Woken	5D-FB	Cable-HYC01-01	Jan. 06, 2009
LISN ROHDE & SCHWARZ	ESH3-Z5	100312	Jan. 30, 2009
LISN ROHDE & SCHWARZ	ESH2-Z5	100104	Sep. 11, 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 1.
3. The VCCI Site Registration No. is C-2040.

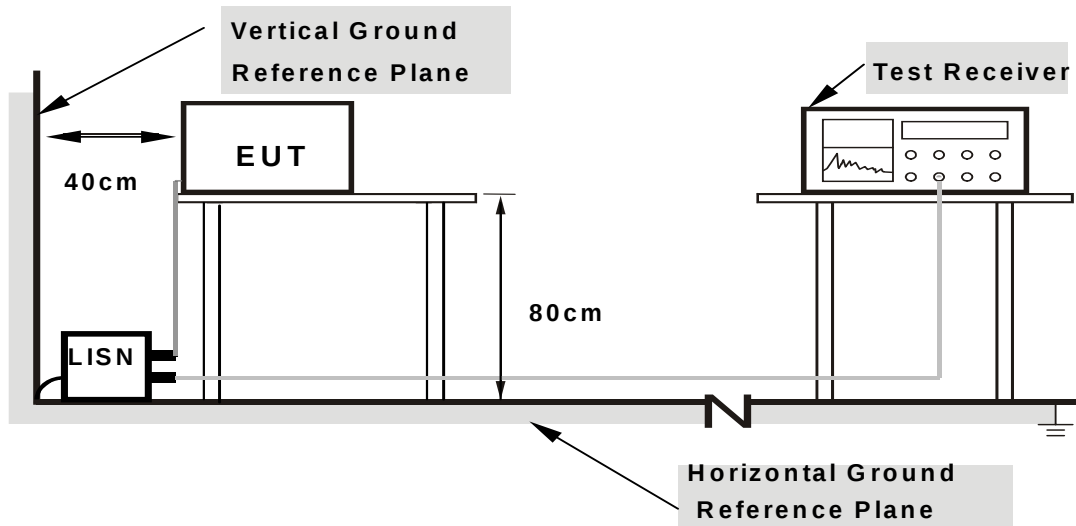
4.2.3 TEST PROCEDURES

- 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

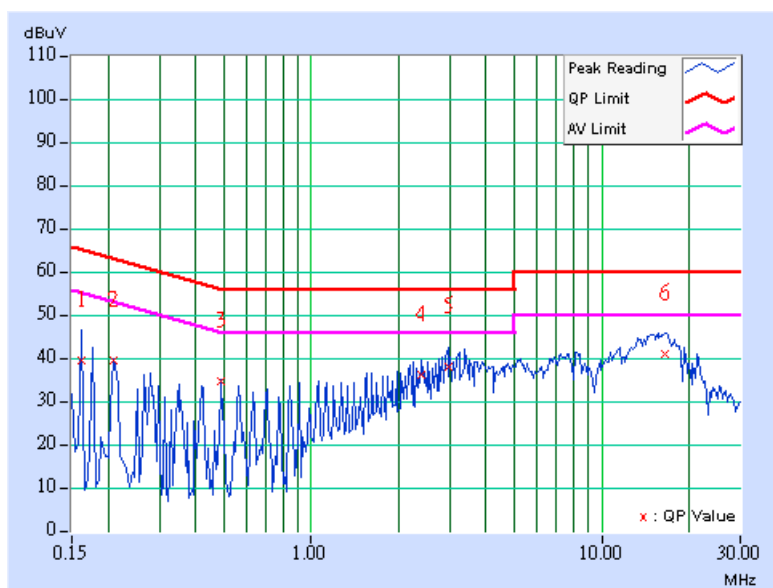
CONDUCTED WORST-CASE DATA :

DRAFT 802.11n (20MHz) OFDM MODULATION (5.15~5.35GHz BAND)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 40	PHASE	Line 1
MODULATION TYPE	BPSK	INPUT POWER (SYSTEM)	120Vac, 60Hz
TRANSFER RATE	7.2Mbps	6dB BANDWIDTH	9kHz
ENVIRONMENTAL CONDITIONS	25deg. C, 70%RH, 982hPa	TESTED BY	Kevin Liang

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.162	0.21	38.80	-	39.01	-	65.38	55.38	-26.37	-
2	0.210	0.21	38.64	-	38.85	-	63.21	53.21	-24.36	-
3	0.490	0.21	34.16	-	34.37	-	56.17	46.17	-21.80	-
4	2.391	0.29	35.62	-	35.91	-	56.00	46.00	-20.09	-
5	2.953	0.32	37.35	-	37.67	-	56.00	46.00	-18.33	-
6	16.527	0.84	40.44	-	41.28	-	60.00	50.00	-18.72	-

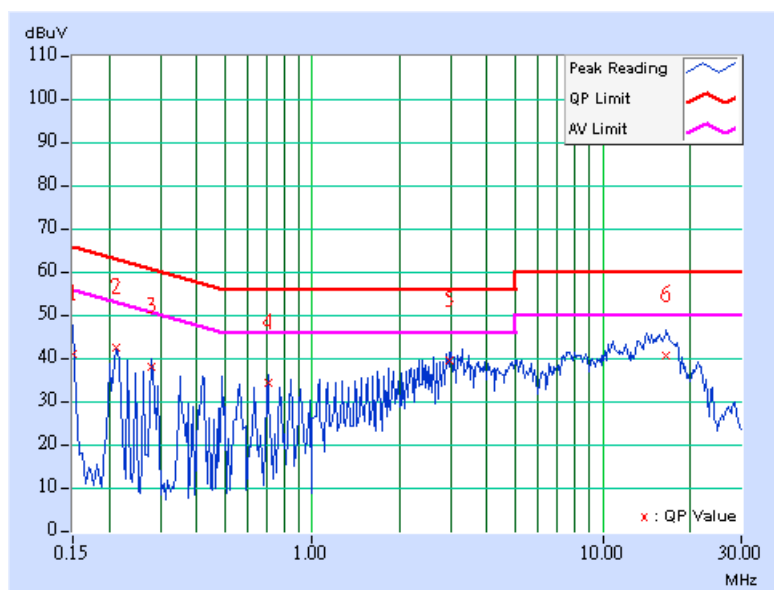
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value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



EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 40	PHASE	Line 2
MODULATION TYPE	BPSK	INPUT POWER (SYSTEM)	120Vac, 60Hz
TRANSFER RATE	7.2Mbps	6dB BANDWIDTH	9kHz
ENVIRONMENTAL CONDITIONS	25deg. C, 70%RH, 982hPa	TESTED BY	Kevin Liang

No	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.150	0.21	40.46	-	40.67	-	66.00	56.00	-25.33	-
2	0.213	0.21	42.06	-	42.27	-	63.11	53.11	-20.84	-
3	0.279	0.21	37.51	-	37.72	-	60.85	50.85	-23.13	-
4	0.705	0.23	34.12	-	34.35	-	56.00	46.00	-21.65	-
5	2.957	0.32	39.30	-	39.62	-	56.00	46.00	-16.38	-
6	16.603	0.48	40.16	-	40.64	-	60.00	50.00	-19.36	-

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

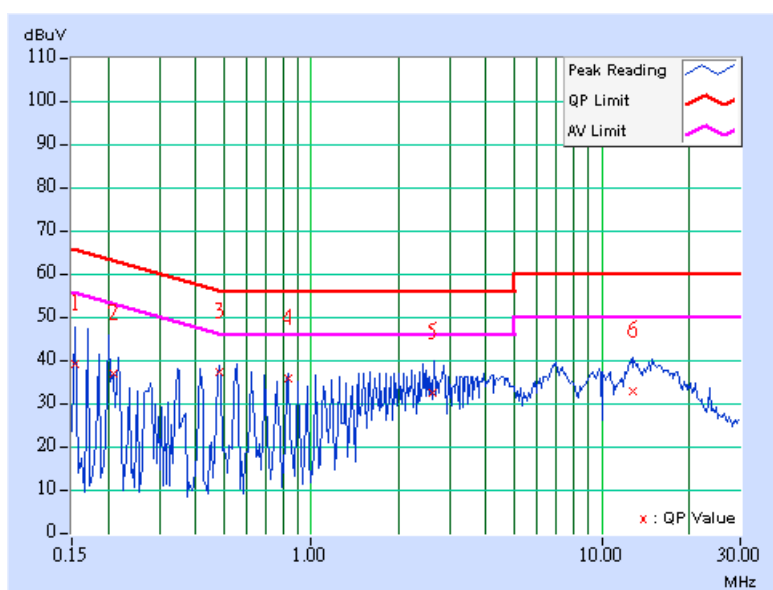


DRAFT 802.11n (40MHz) OFDM MODULATION (5.47~5.725GHz BAND)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 134	PHASE	Line 1
MODULATION TYPE	BPSK	INPUT POWER (SYSTEM)	120Vac, 60Hz
TRANSFER RATE	15.0Mbps	6dB BANDWIDTH	9kHz
ENVIRONMENTAL CONDITIONS	25deg. C, 70%RH, 982hPa	TESTED BY	Kevin Liang

No	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.154	0.21	38.76	-	38.97	-	65.79	55.79	-26.82	-
2	0.208	0.21	36.45	-	36.66	-	63.30	53.30	-26.64	-
3	0.482	0.21	36.83	-	37.04	-	56.30	46.30	-19.26	-
4	0.830	0.23	35.18	-	35.41	-	56.00	46.00	-20.59	-
5	2.629	0.30	31.77	-	32.07	-	56.00	46.00	-23.93	-
6	12.867	0.66	32.44	-	33.10	-	60.00	50.00	-26.90	-

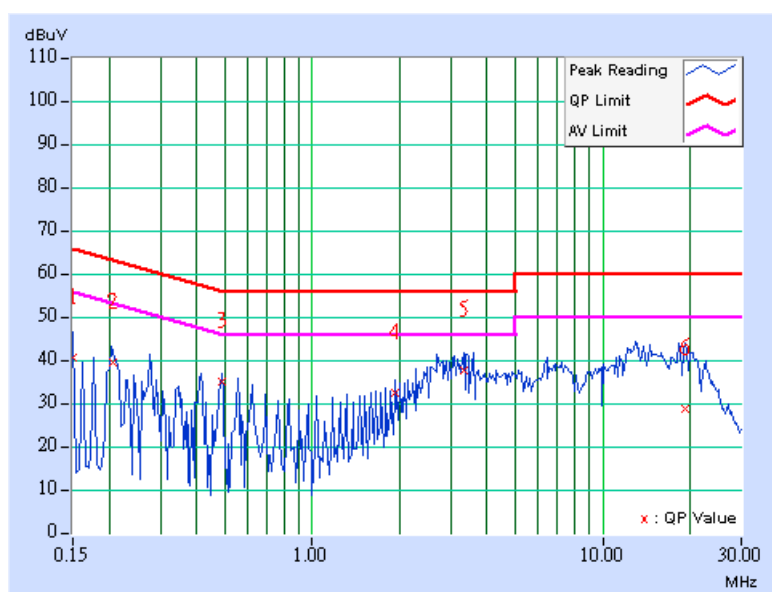
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = 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 134	PHASE	Line 2
MODULATION TYPE	BPSK	INPUT POWER (SYSTEM)	120Vac, 60Hz
TRANSFER RATE	7.2Mbps	6dB BANDWIDTH	9kHz
ENVIRONMENTAL CONDITIONS	25deg. C, 70%RH, 982hPa	TESTED BY	Kevin Liang

	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
No		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.150	0.21	40.10	-	40.31	-	66.00	56.00	-25.69	-
2	0.207	0.21	39.09	-	39.30	-	63.34	53.34	-24.04	-
3	0.486	0.21	34.79	-	35.00	-	56.24	46.24	-21.23	-
4	1.938	0.26	31.95	-	32.21	-	56.00	46.00	-23.79	-
5	3.320	0.35	37.33	-	37.68	-	56.00	46.00	-18.32	-
6	19.294	0.52	28.51	-	29.03	-	60.00	50.00	-30.97	-

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



4.3 PEAK TRANSMIT POWER MEASUREMENT

4.3.1 LIMITS OF PEAK TRANSMIT POWER MEASUREMENT

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

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

4.3.2 TEST INSTRUMENTS

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

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

4.3.3 TEST PROCEDURE

- The transmitter output was connected to the spectrum analyzer.
- Set span to encompass the entire emission bandwidth of the signal.
- Set RBW to 1MHz, VBW to 3MHz.
- Using the spectrum analyzer's channel power measurement function to measure the output power.

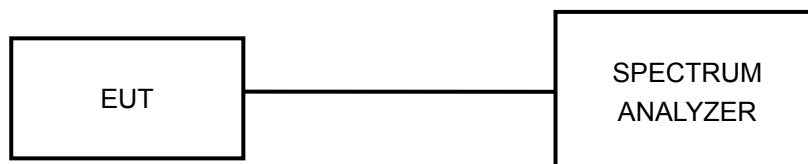
NOTE: The test is performed in accordance with FCC Public Notice: APPENDIX A Guidelines for Assessing Unlicensed National Information Infrastructure (U-NII) Devices – Part 15, Subpart E, August 2002.

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.

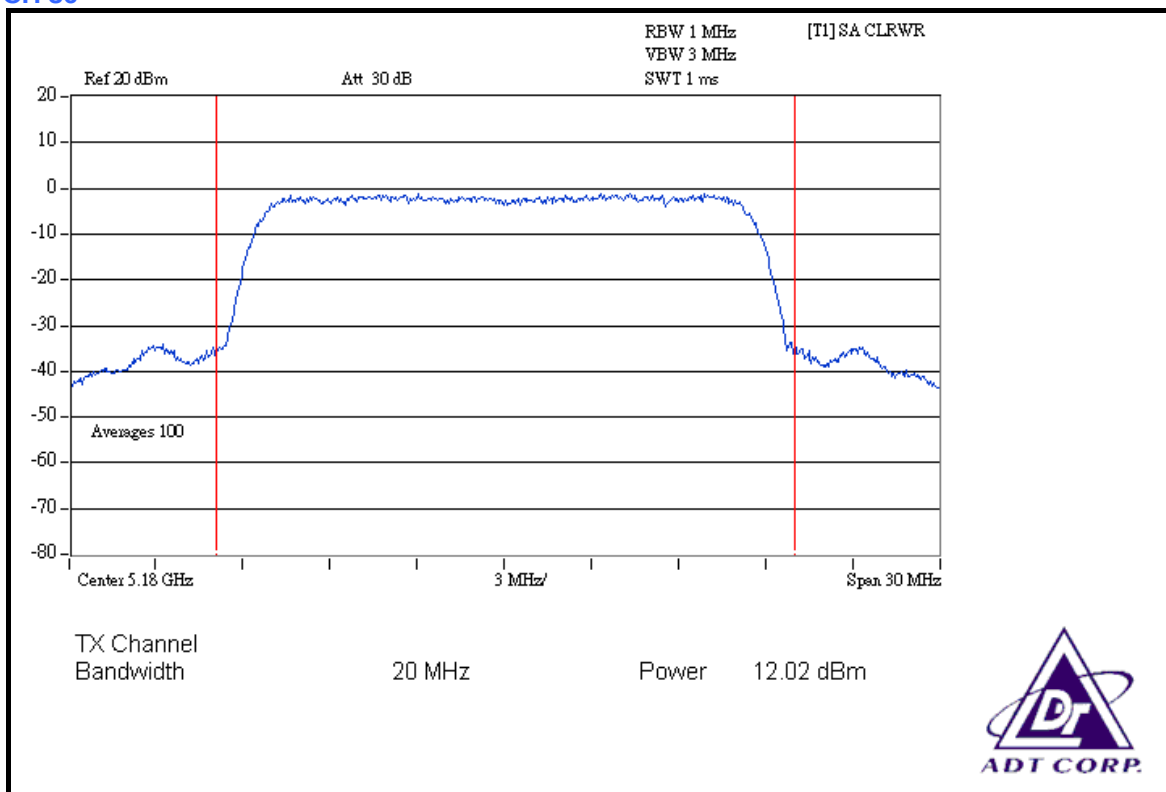
4.3.7 TEST RESULTS

PEAK POWER OUTPUT: 802.11a OFDM MODULATION

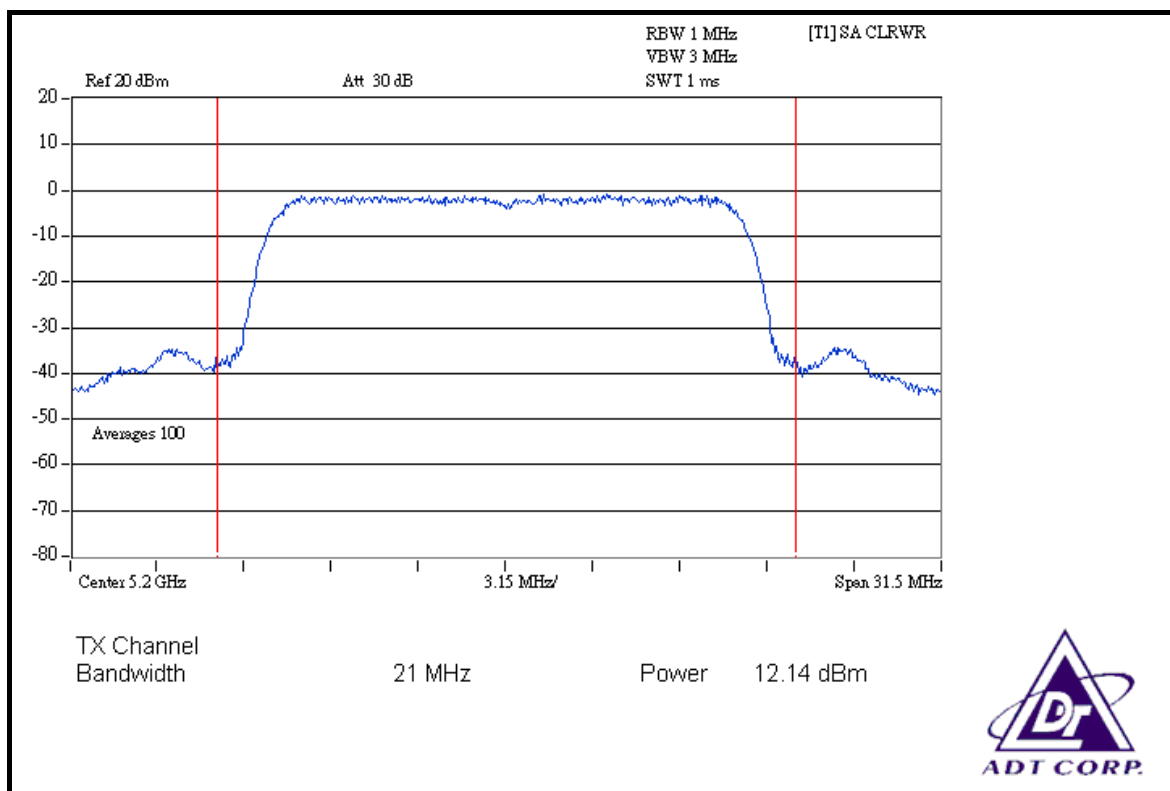
MODULATION TYPE	BPSK	TRANSFER RATE	6.0Mbps
INPUT POWER (SYSTEM)	120Vac, 60Hz	ENVIRONMENTAL CONDITIONS	27deg.C, 65%RH, 991hPa
TESTED BY	Dean Wang		

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS / FAIL
36	5180	15.922	12.02	17.00	PASS
40	5200	16.368	12.14	17.00	PASS
48	5240	15.996	12.04	17.00	PASS
52	5260	16.293	12.12	24.00	PASS
60	5300	16.144	12.08	24.00	PASS
64	5320	16.218	12.10	24.00	PASS
100	5500	15.996	12.04	24.00	PASS
120	5600	16.218	12.10	24.00	PASS
140	5700	16.293	12.12	24.00	PASS

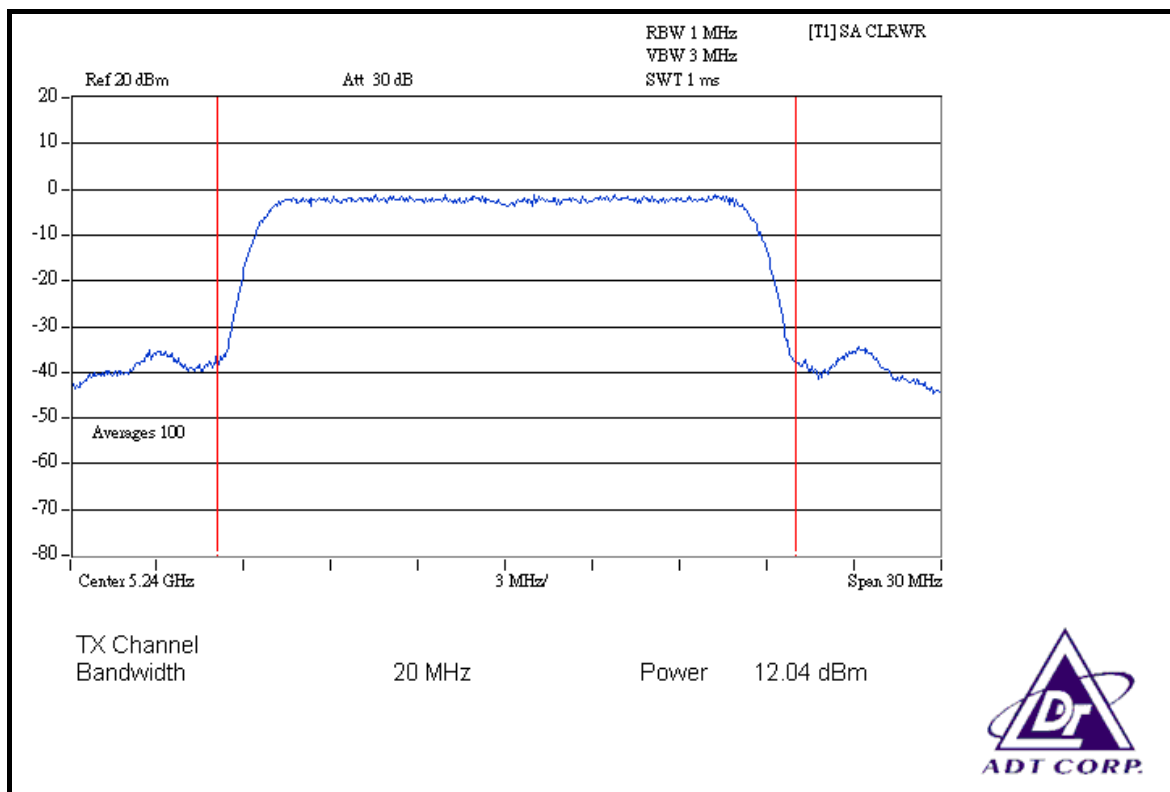
CH 36



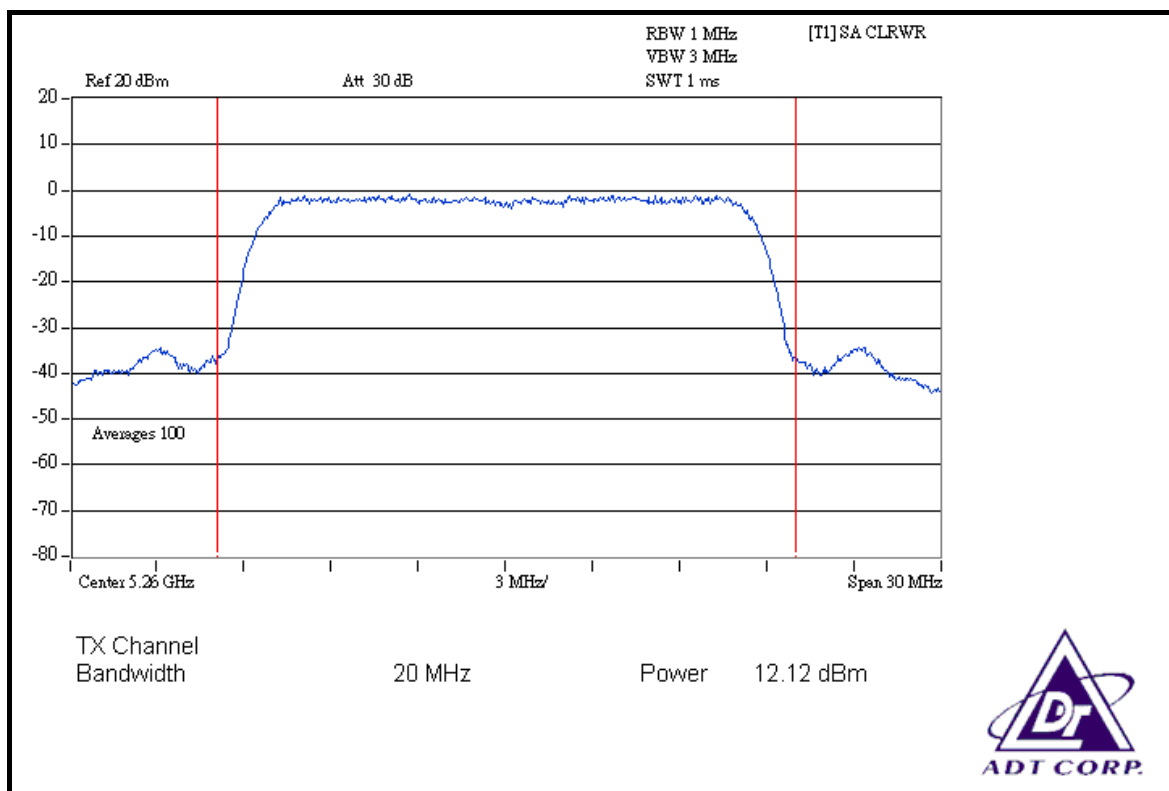
CH 40



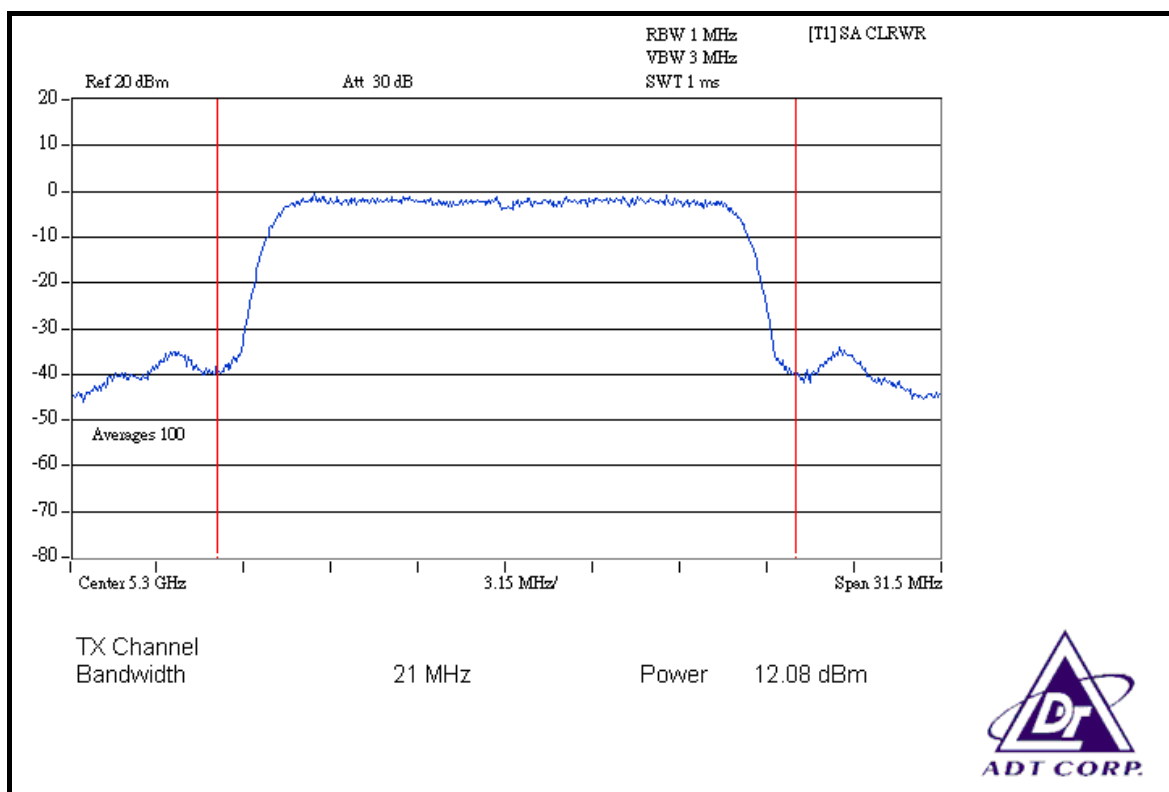
CH 48



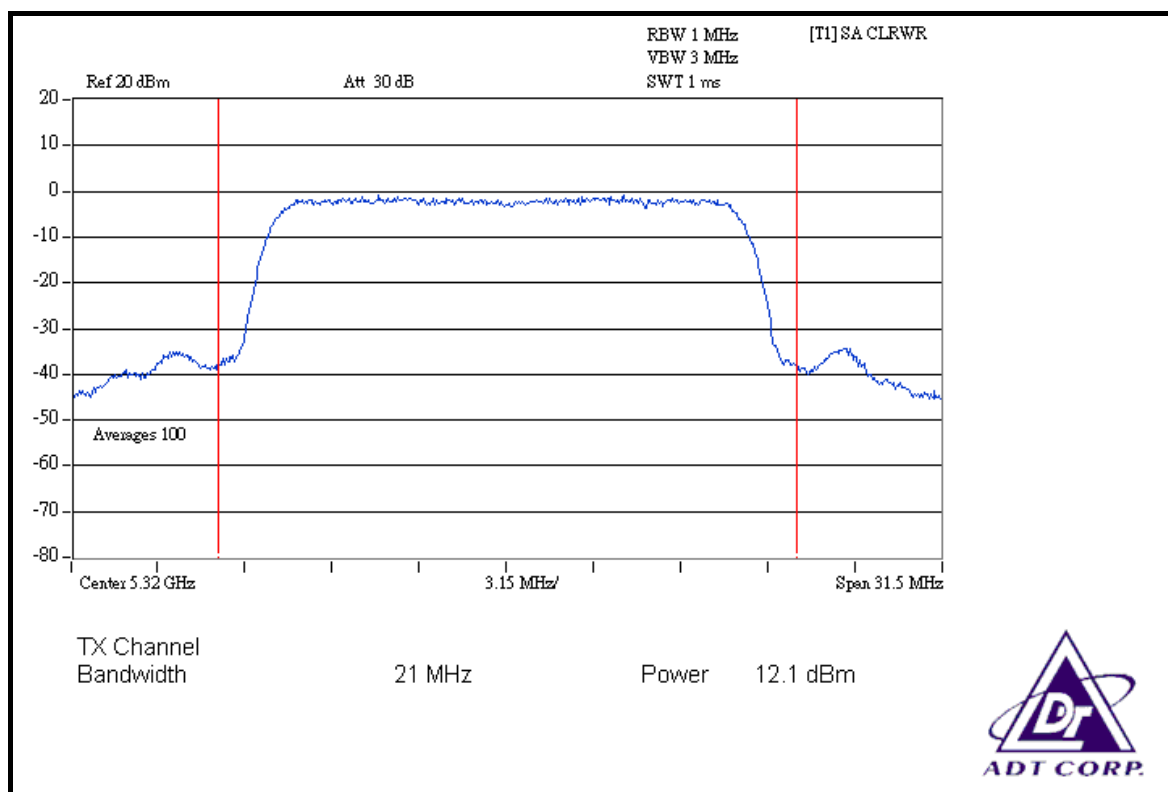
CH 52



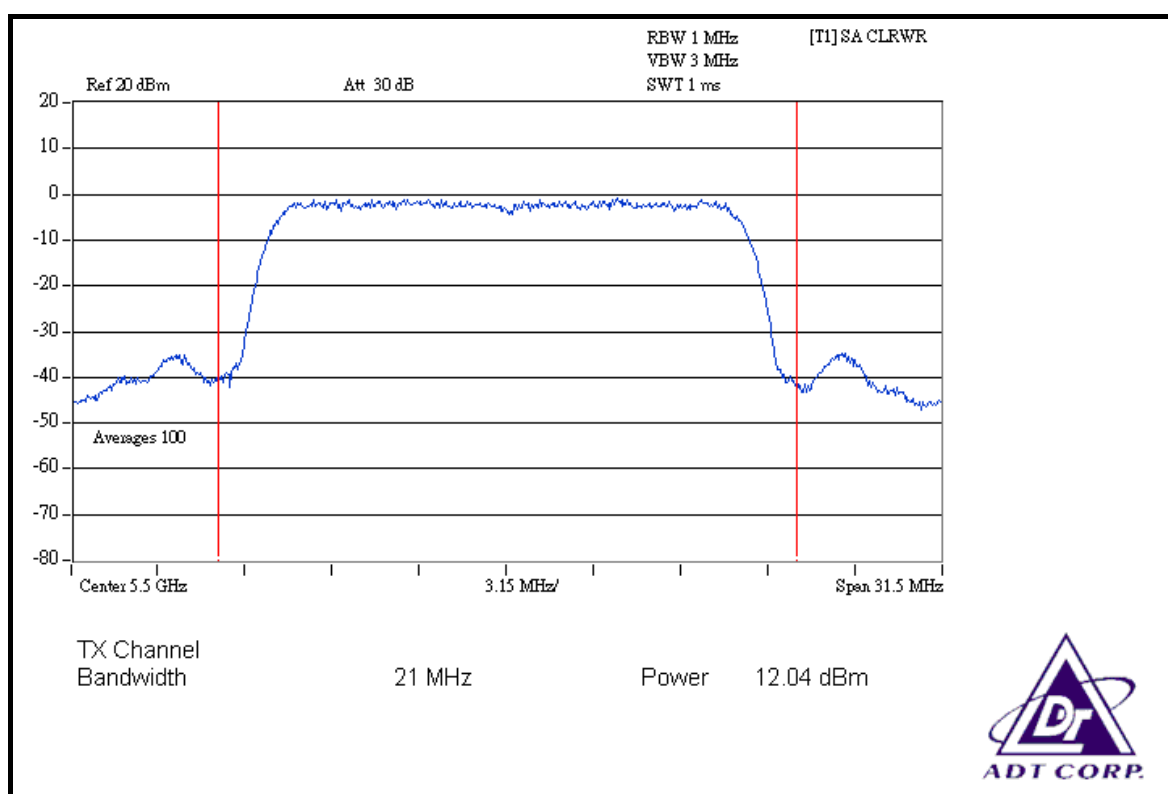
CH 60



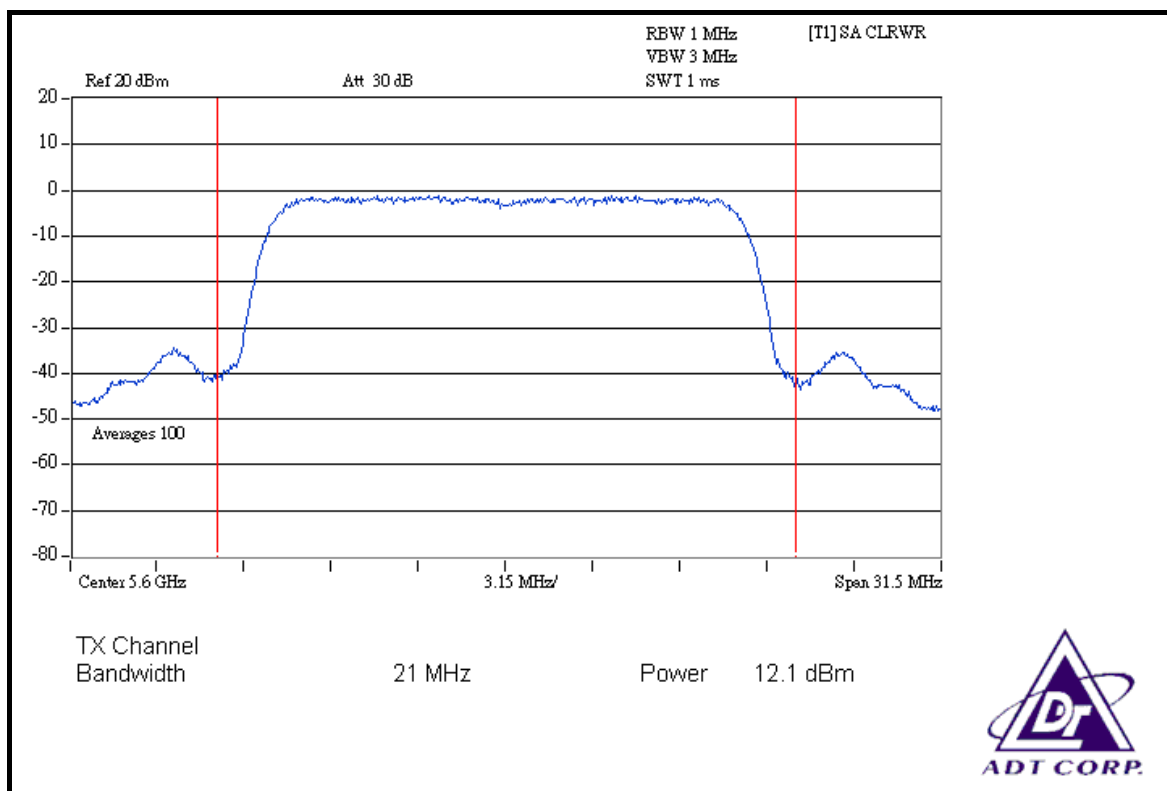
CH 64



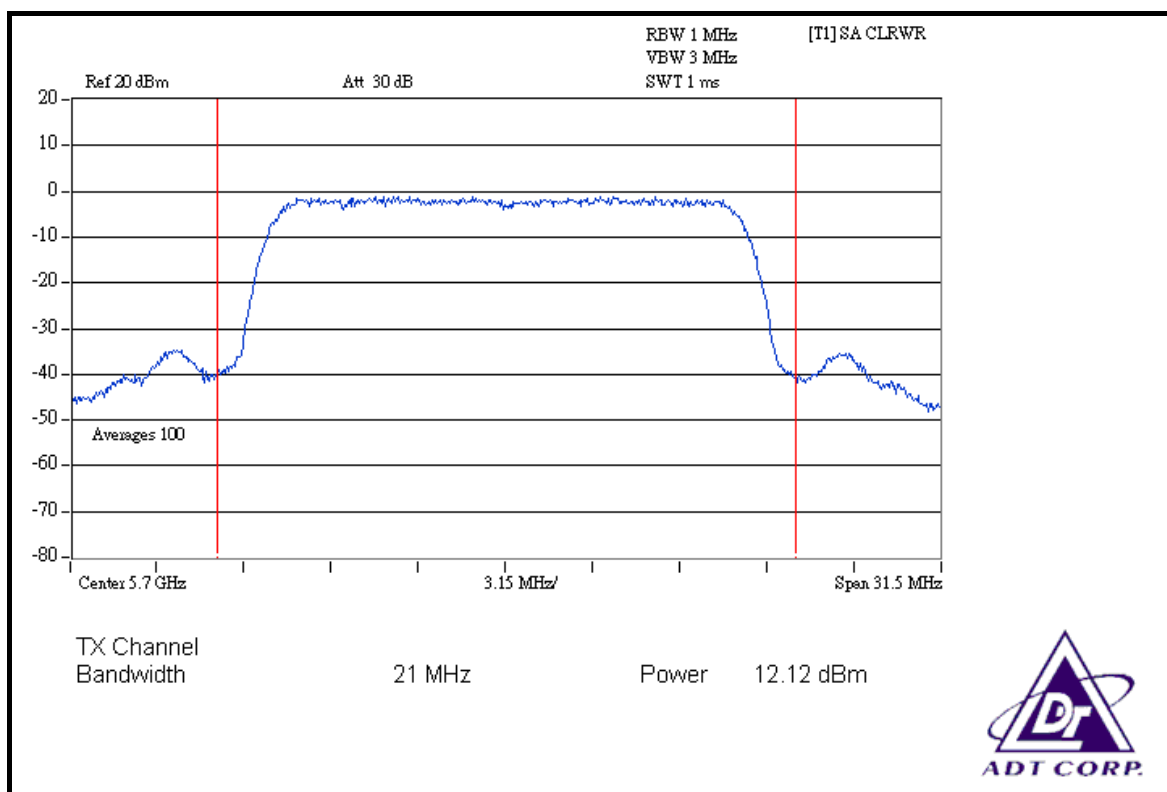
CH 100



CH 120



CH 140

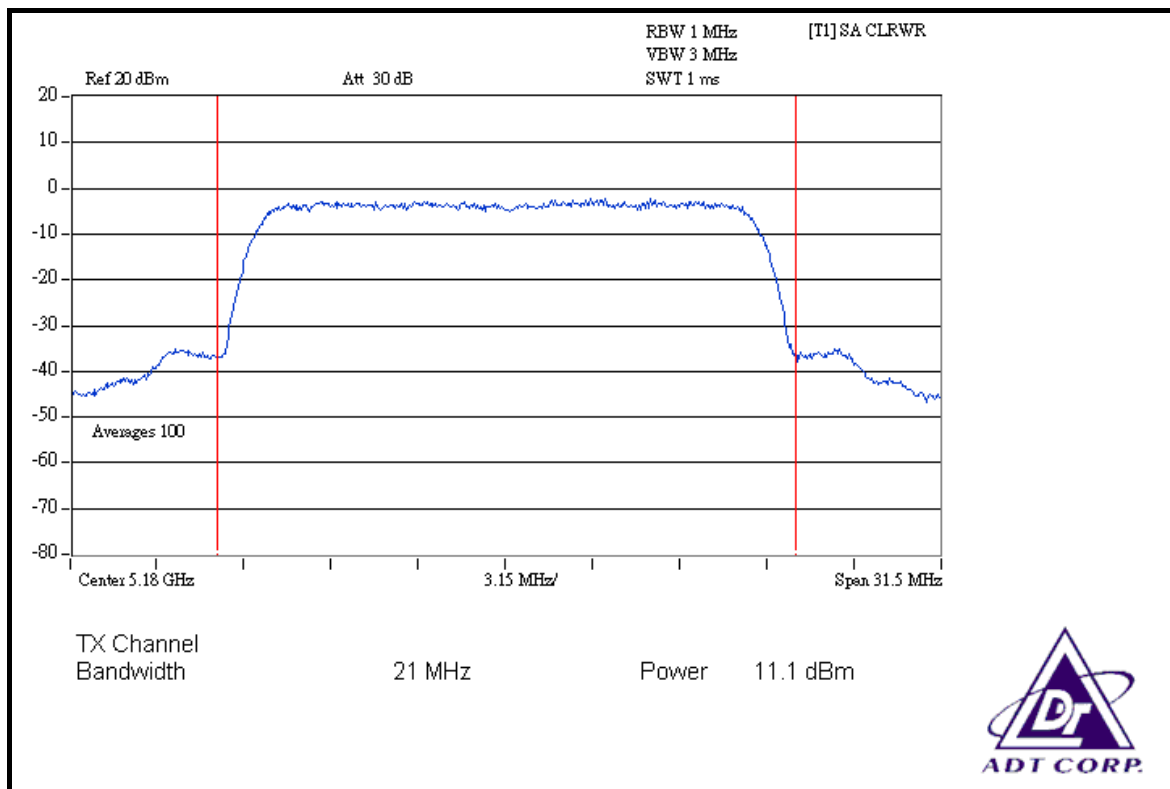


DRAFT 802.11n (20MHz) OFDM MODULATION

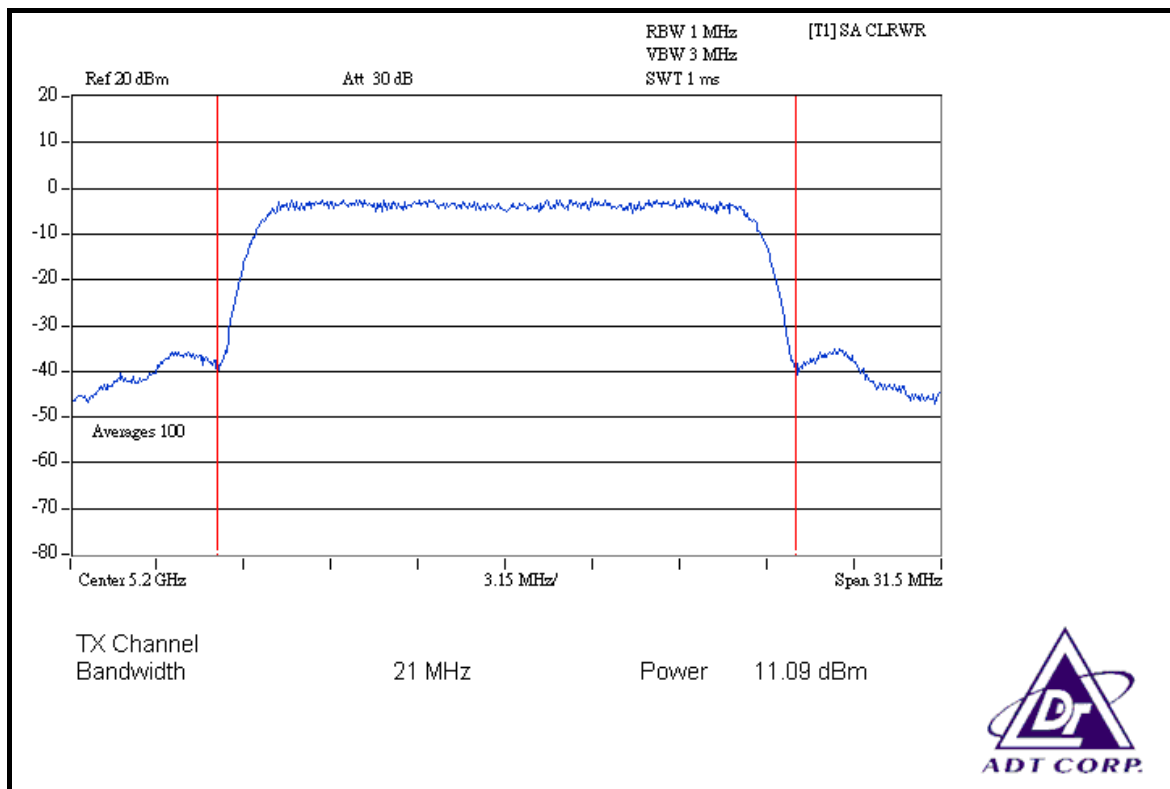
MODULATION TYPE	BPSK	TRANSFER RATE	7.2Mbps
INPUT POWER (SYSTEM)	120Vac, 60Hz	ENVIRONMENTAL CONDITIONS	27deg.C, 65%RH, 991hPa
TESTED BY	Dean Wang		

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				
36	5180	11.10	11.13	25.854	14.13	17	PASS
40	5200	11.09	11.14	25.855	14.13	17	PASS
48	5240	11.03	11.06	25.441	14.06	17	PASS
52	5260	11.04	11.13	25.678	14.10	24	PASS
60	5300	11.06	11.05	25.499	14.07	24	PASS
64	5320	11.12	11.06	25.706	14.10	24	PASS
100	5500	11.04	11.08	25.529	14.07	24	PASS
120	5600	11.12	11.07	25.736	14.11	24	PASS
140	5700	11.02	11.04	25.353	14.04	24	PASS

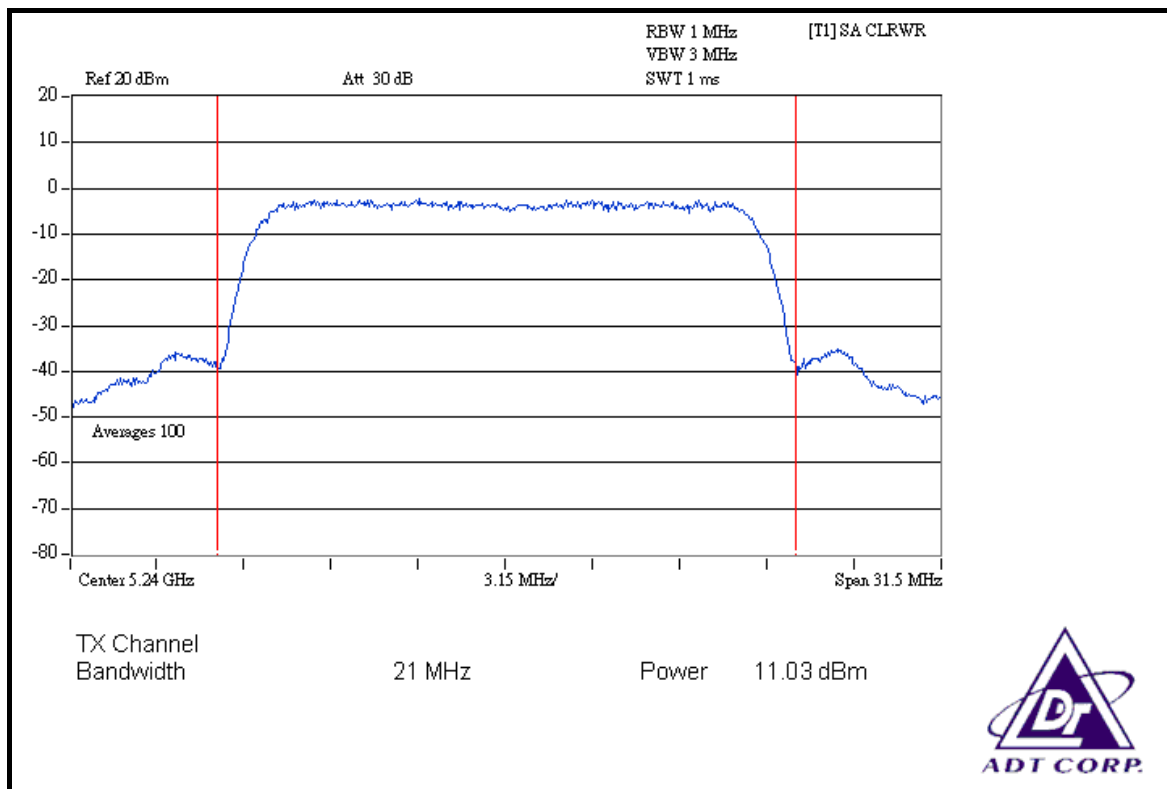
CHAIN 0: CH 36



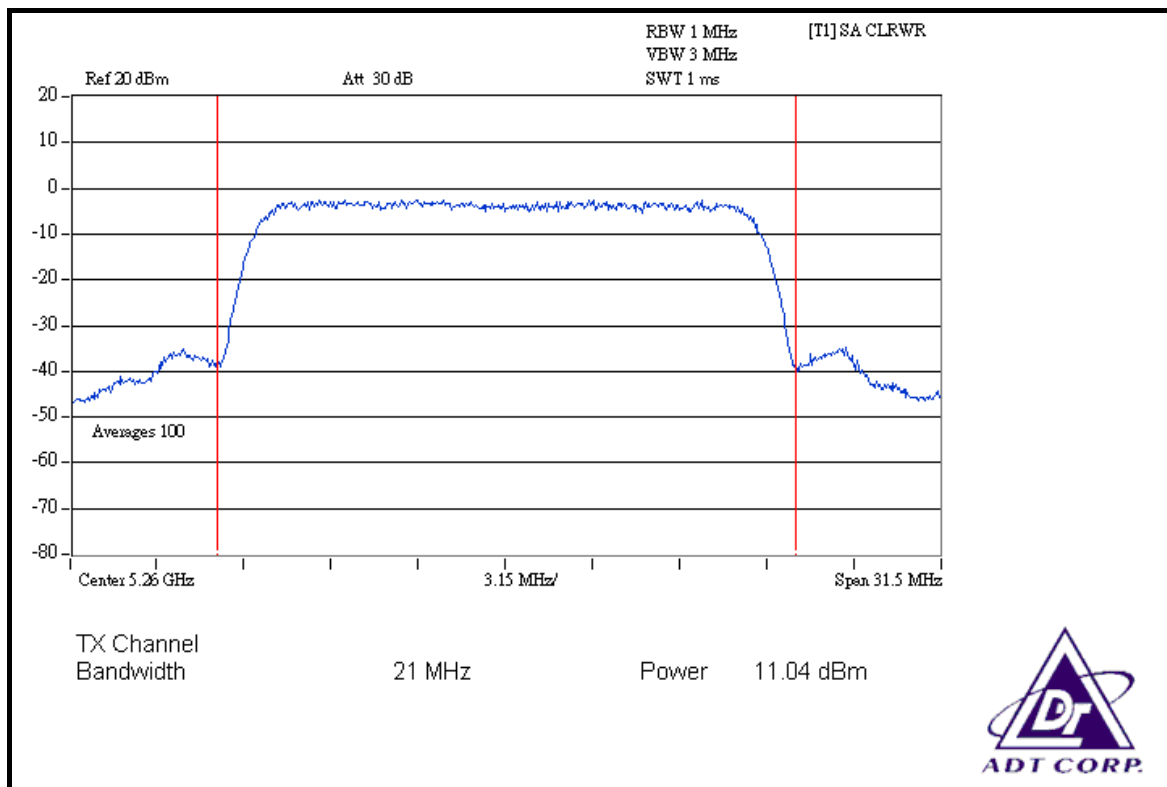
CH 40



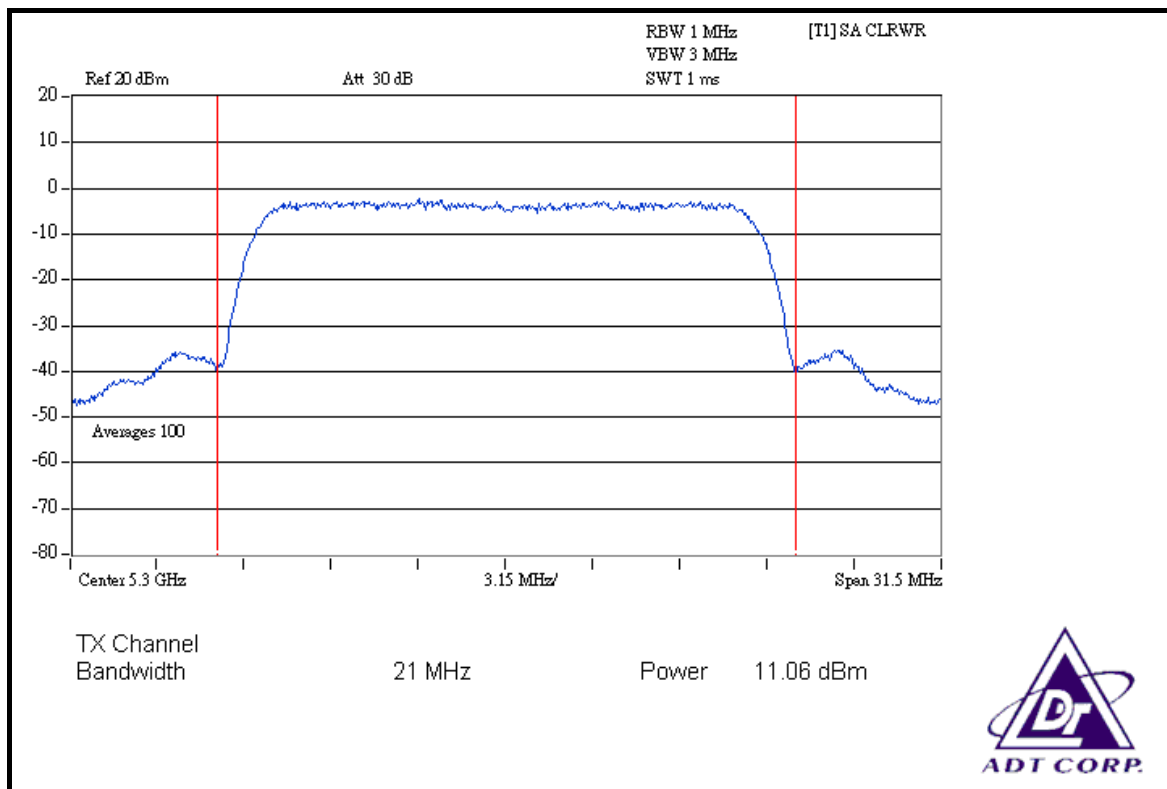
CH 48



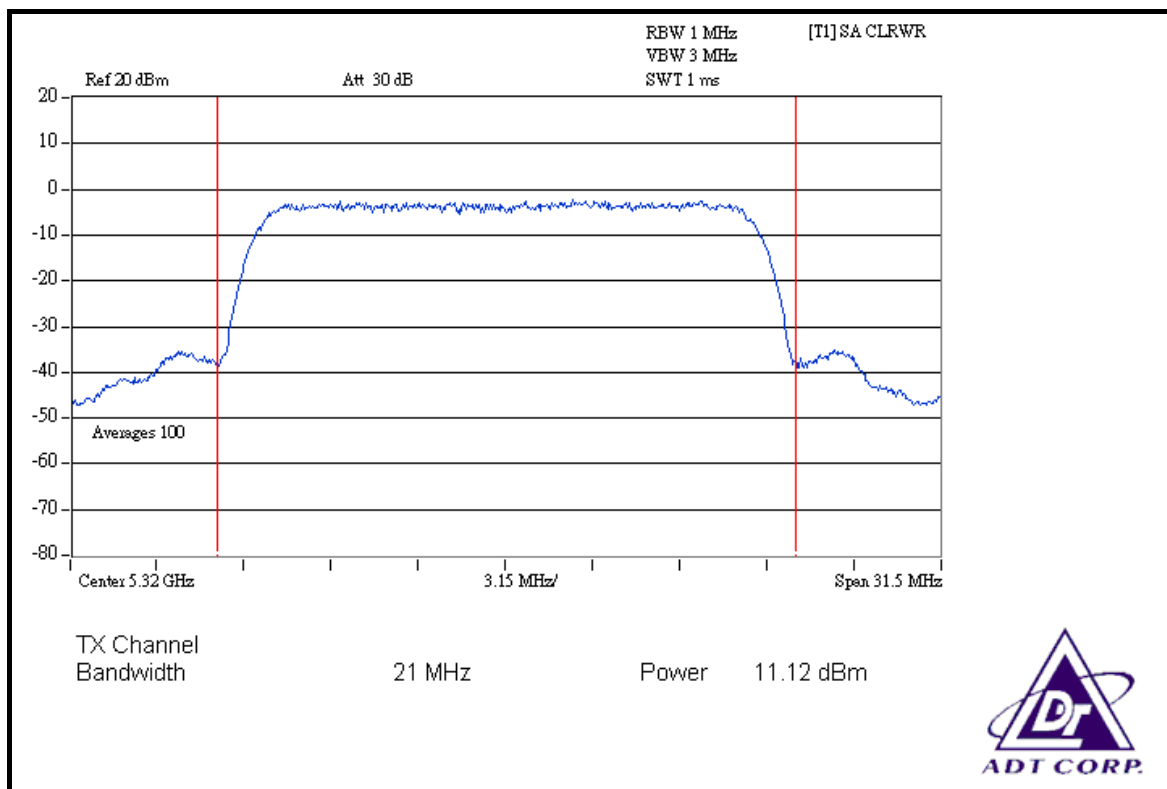
CH 52



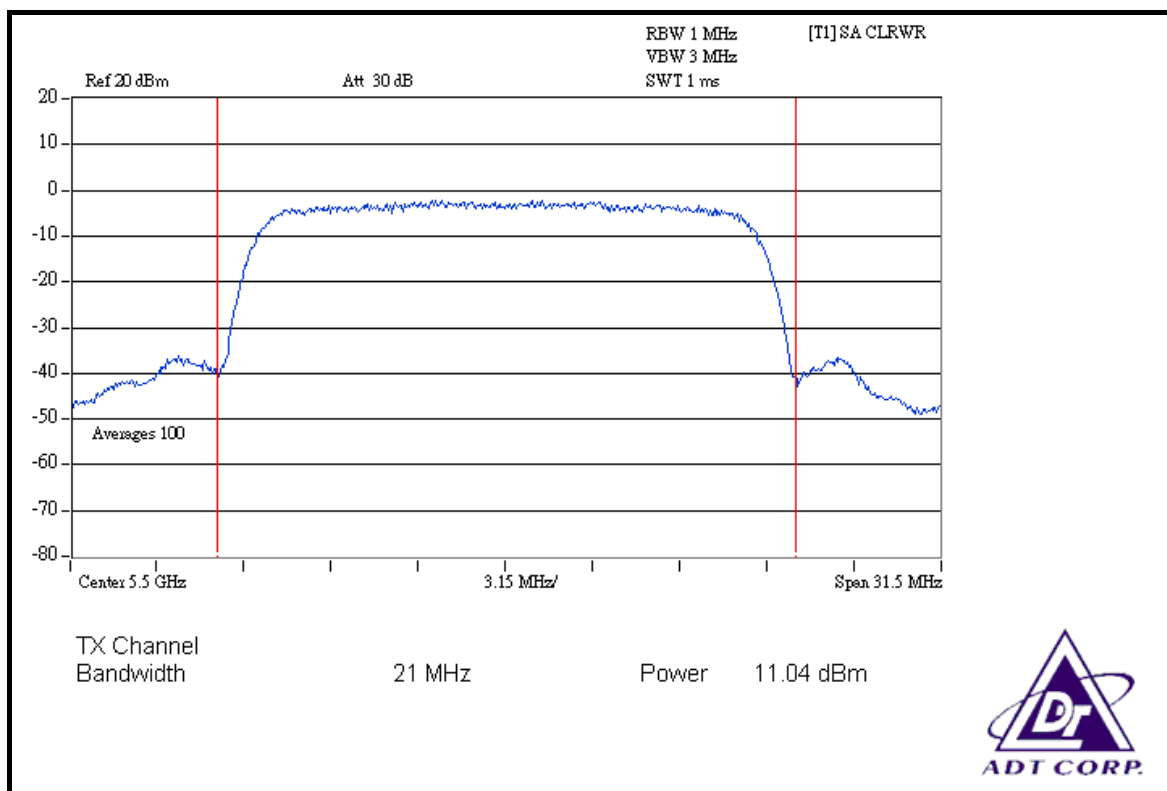
CH 60



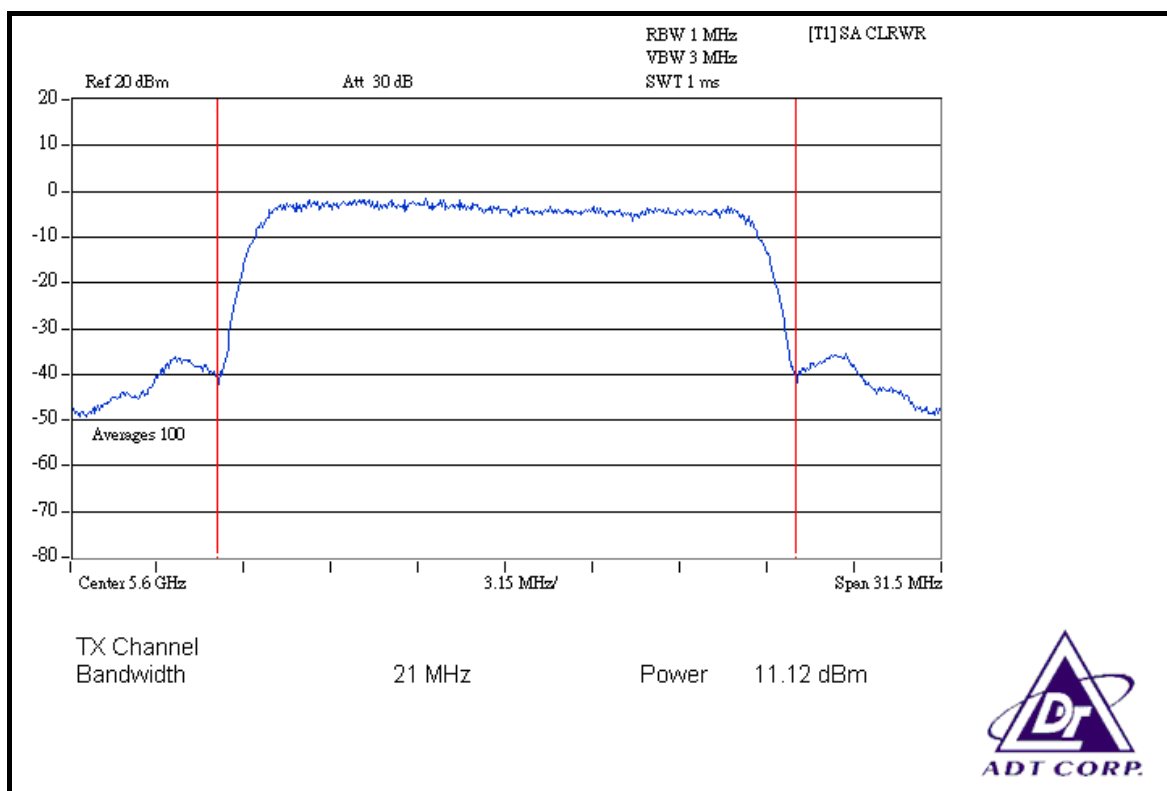
CH 64



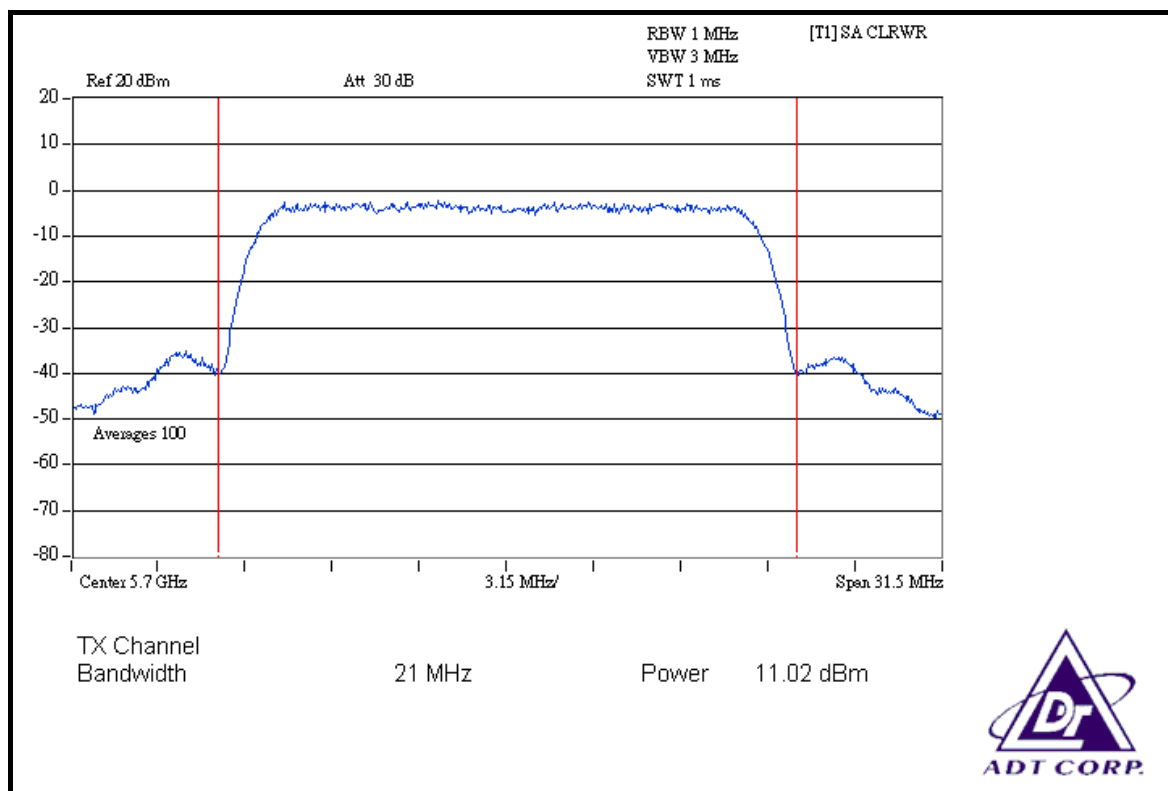
CH 100



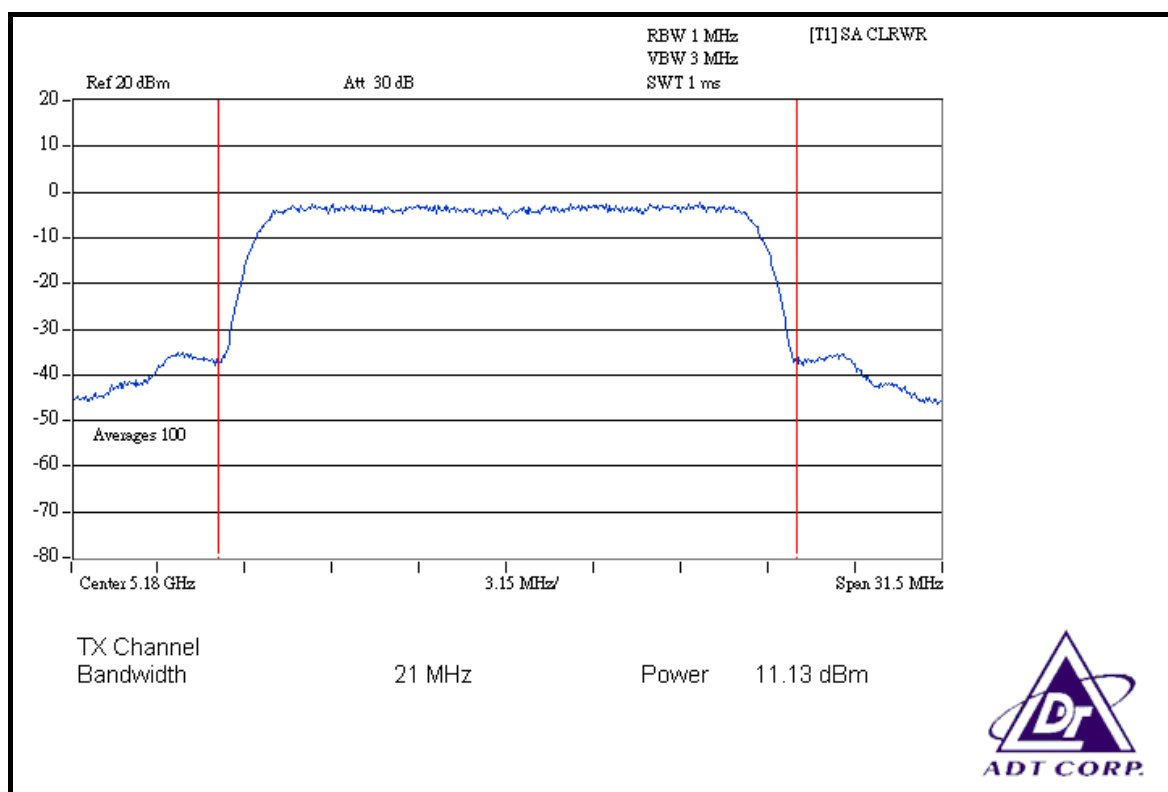
CH 120



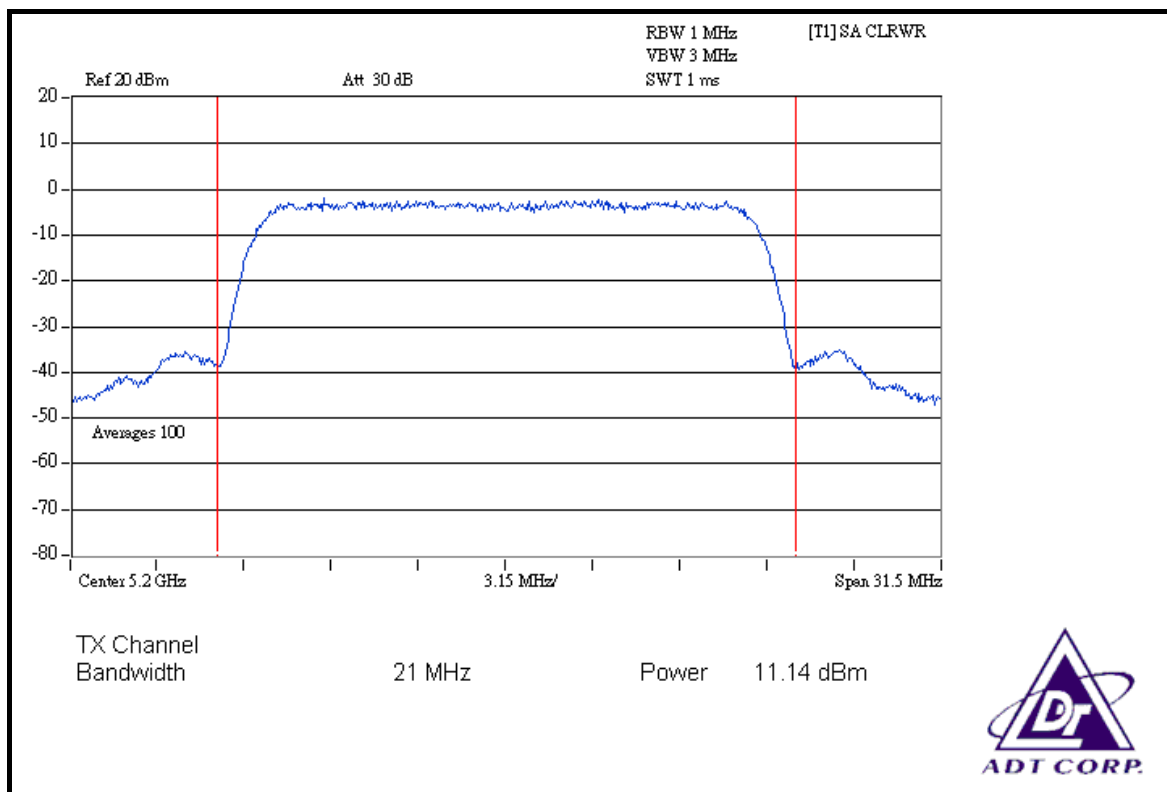
CH 140



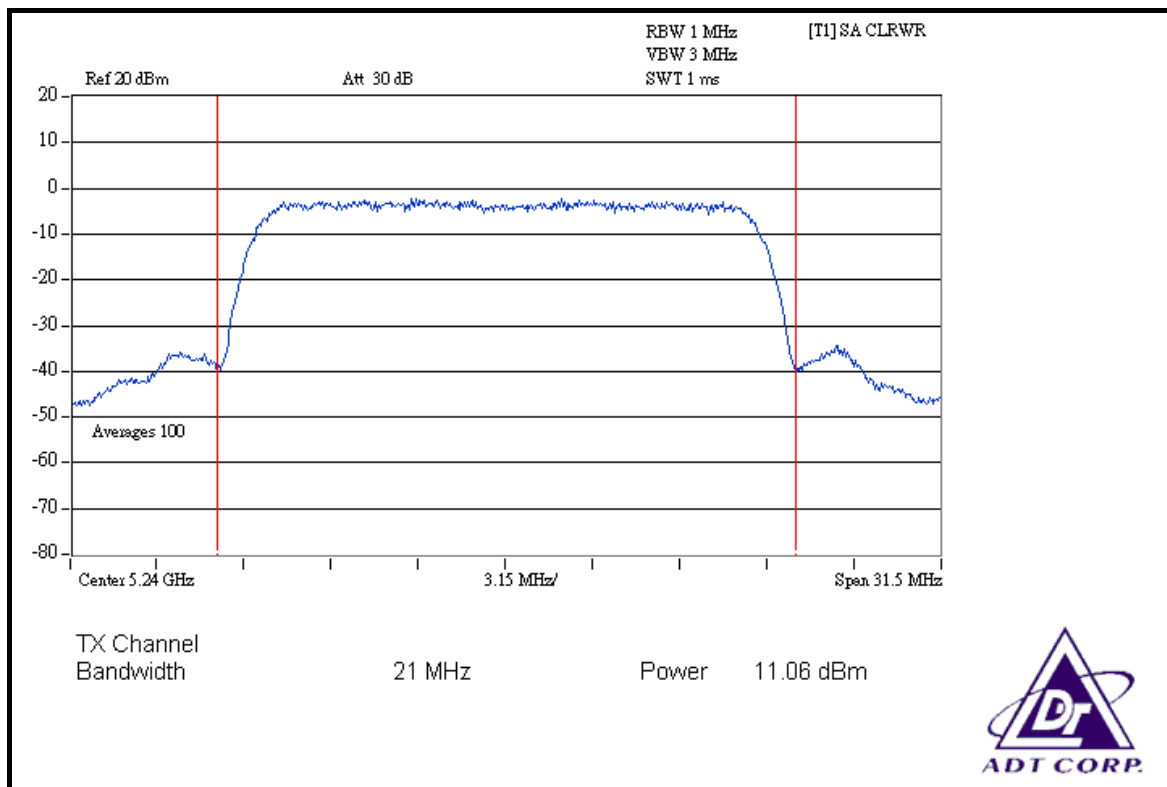
CHAIN 1: CH 36



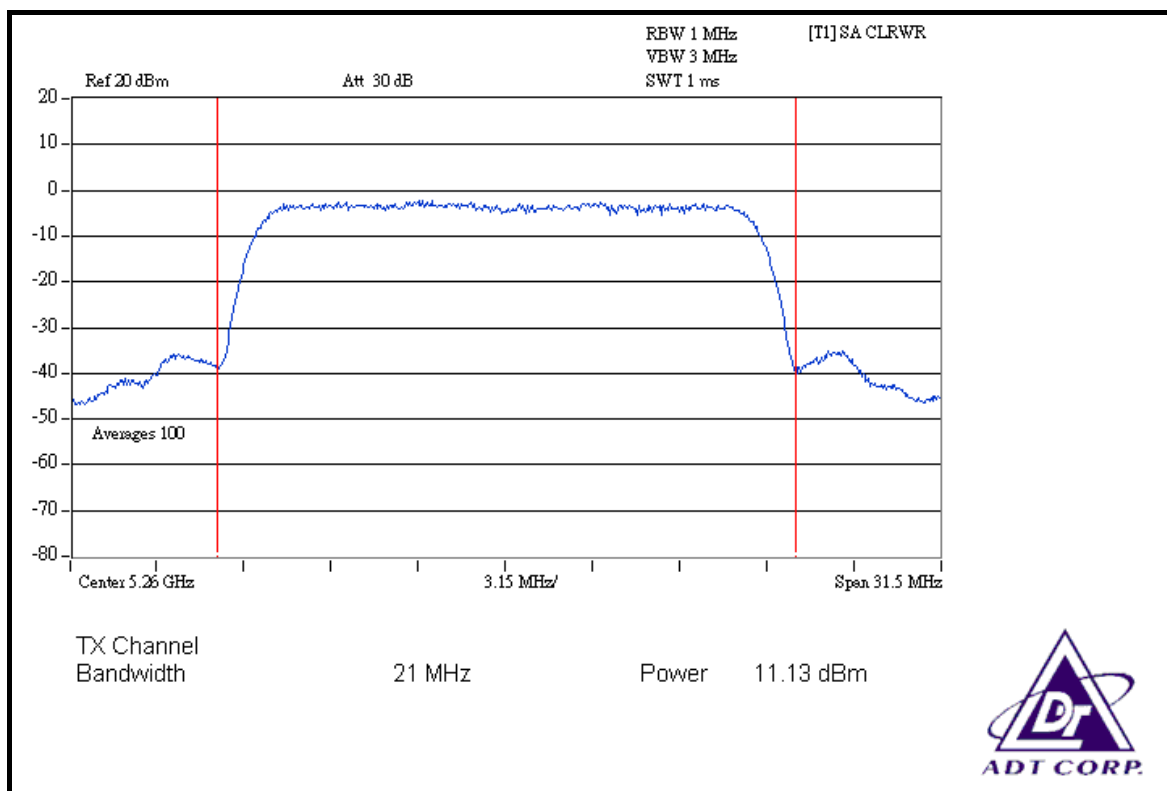
CH 40



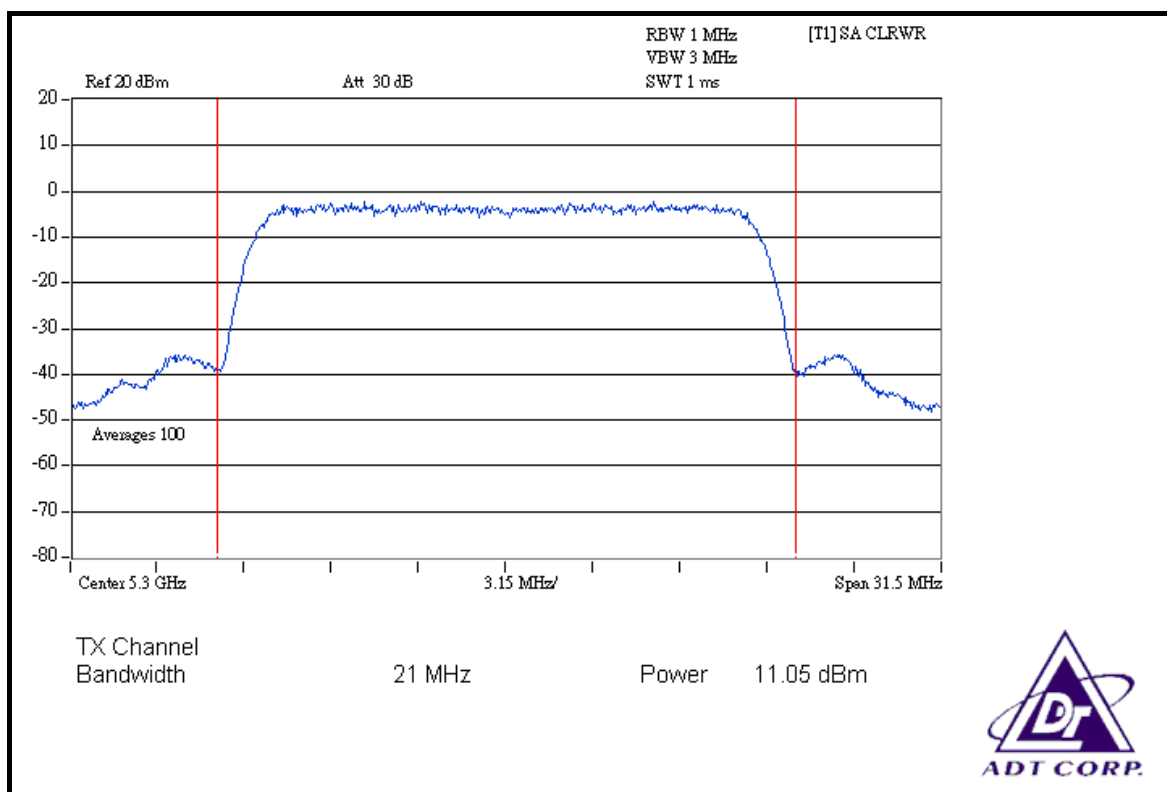
CH 48



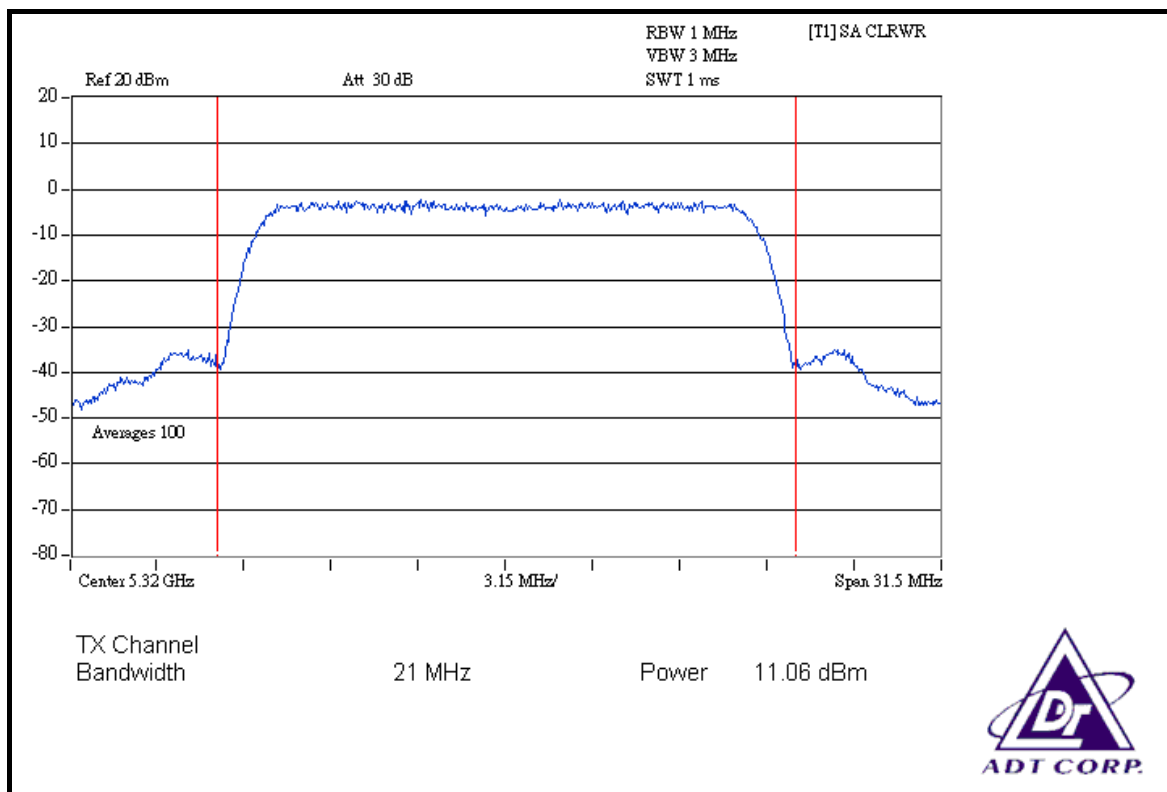
CH 52



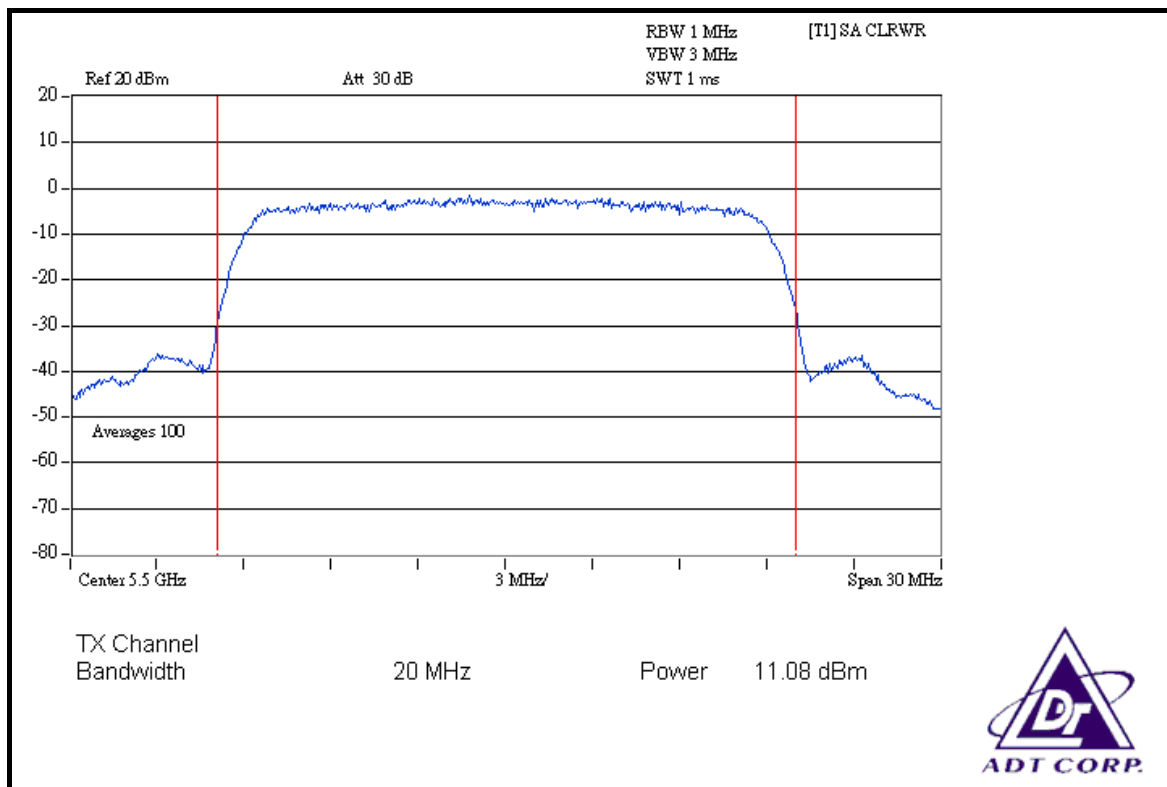
CH 60



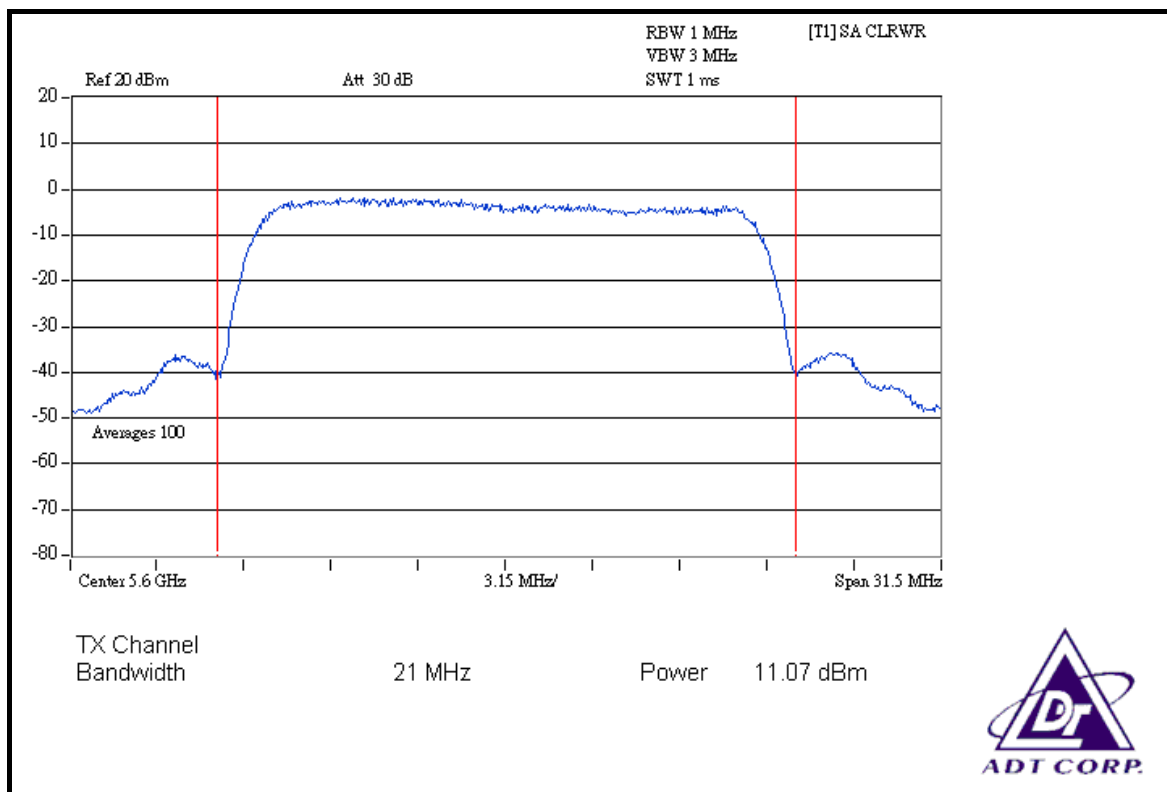
CH 64



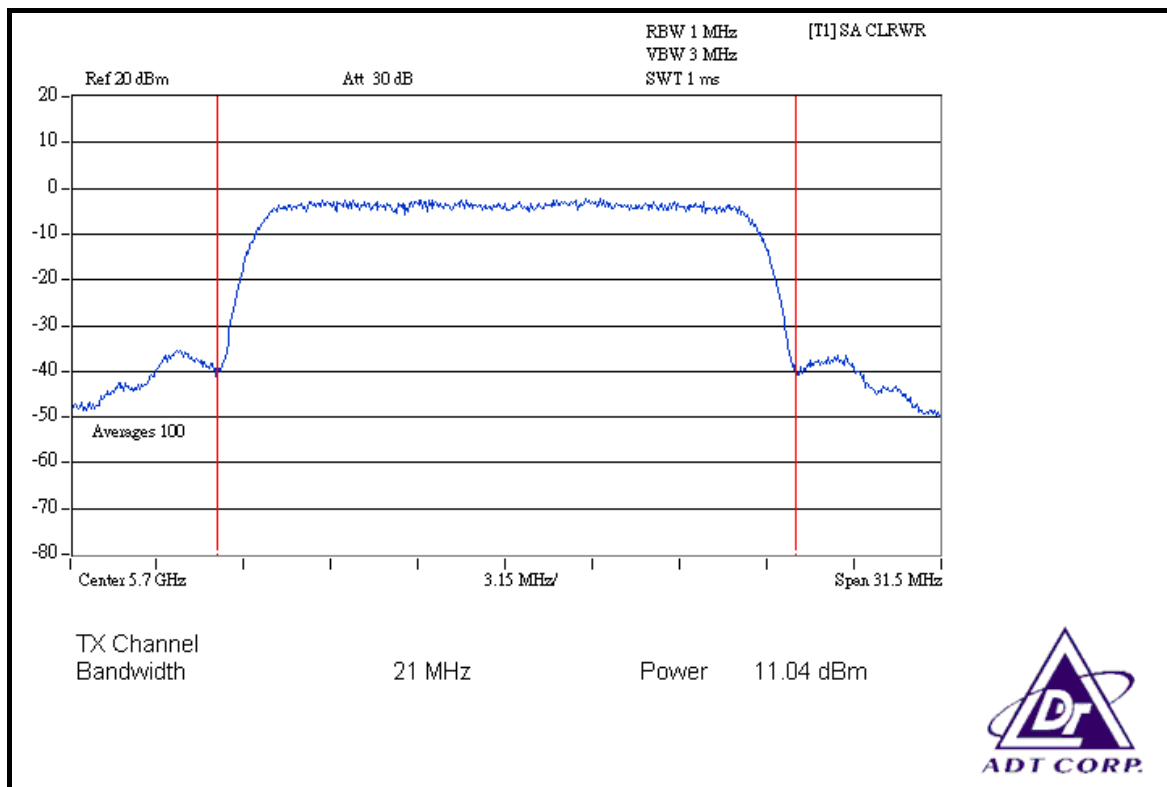
CH 100



CH 120



CH 140

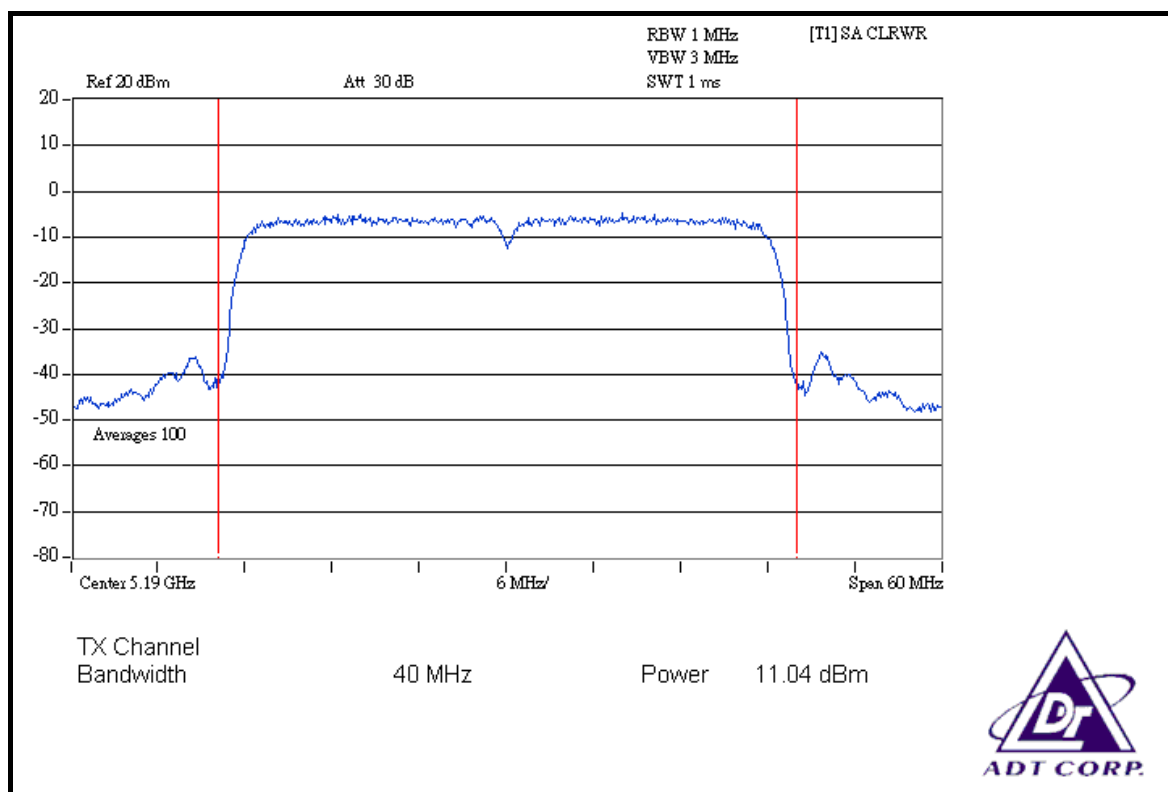


DRAFT 802.11n (40MHz) OFDM MODULATION

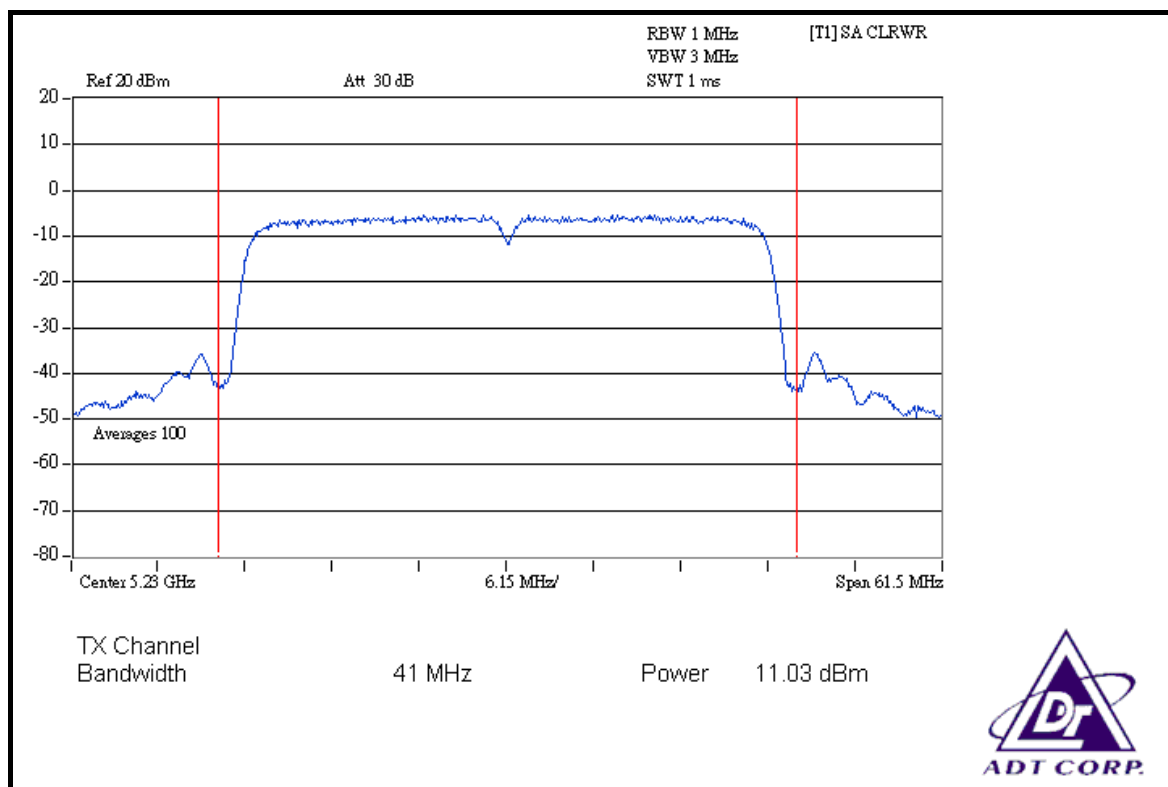
MODULATION TYPE	BPSK	TRANSFER RATE	15.0Mbps
INPUT POWER (SYSTEM)	120Vac, 60Hz	ENVIRONMENTAL CONDITIONS	27deg.C, 65%RH, 991hPa
TESTED BY	Dean Wang		

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				
38	5190	11.04	11.01	25.324	14.04	17	PASS
46	5230	11.03	11.08	25.500	14.07	17	PASS
54	5270	11.11	11.04	25.618	14.09	24	PASS
62	5310	11.08	11.07	25.617	14.09	24	PASS
102	5510	11.11	11.01	25.530	14.07	24	PASS
118	5590	11.12	11.07	25.736	14.11	24	PASS
134	5670	11.14	11.12	25.944	14.14	24	PASS

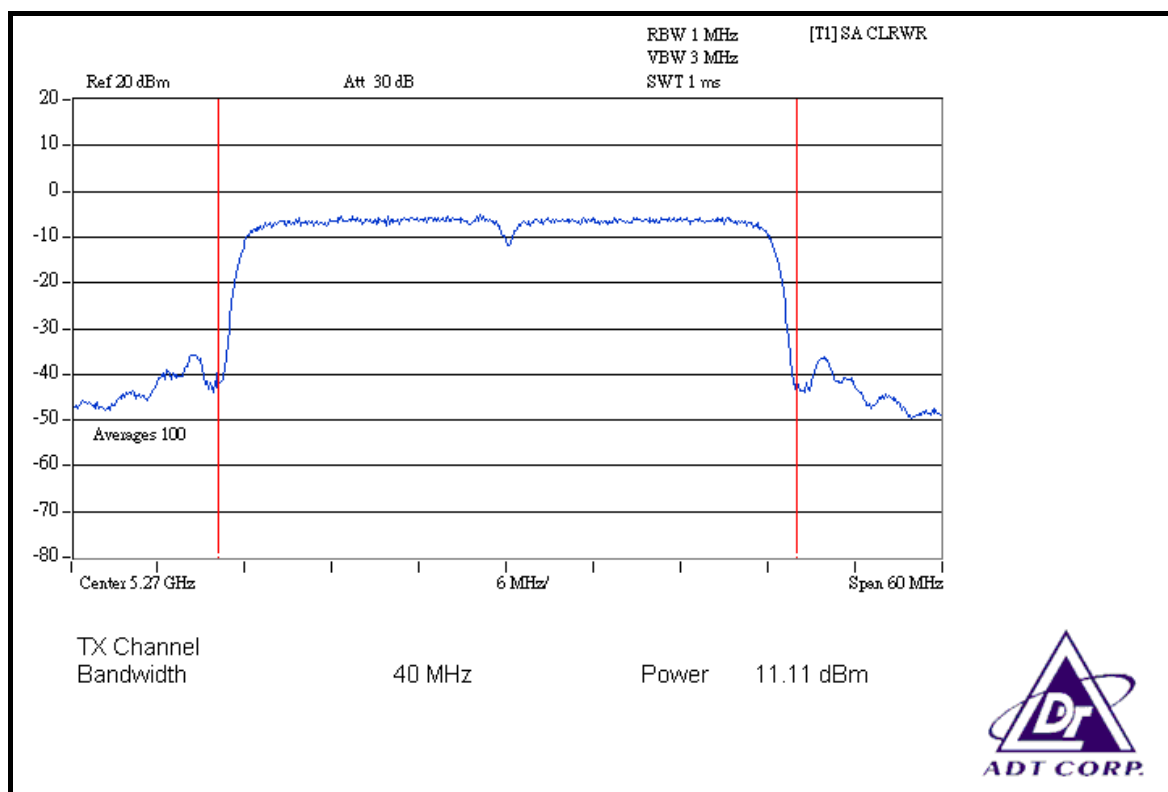
CHAIN 0: CH 38



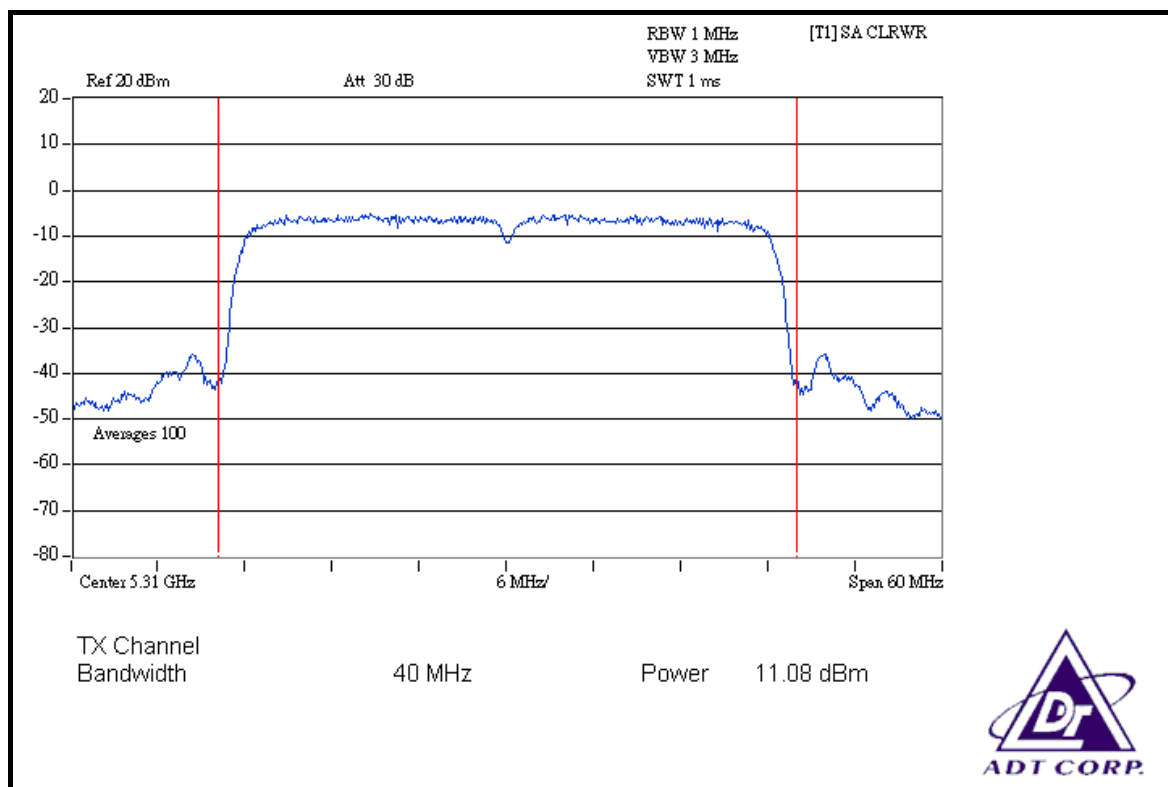
CH 46



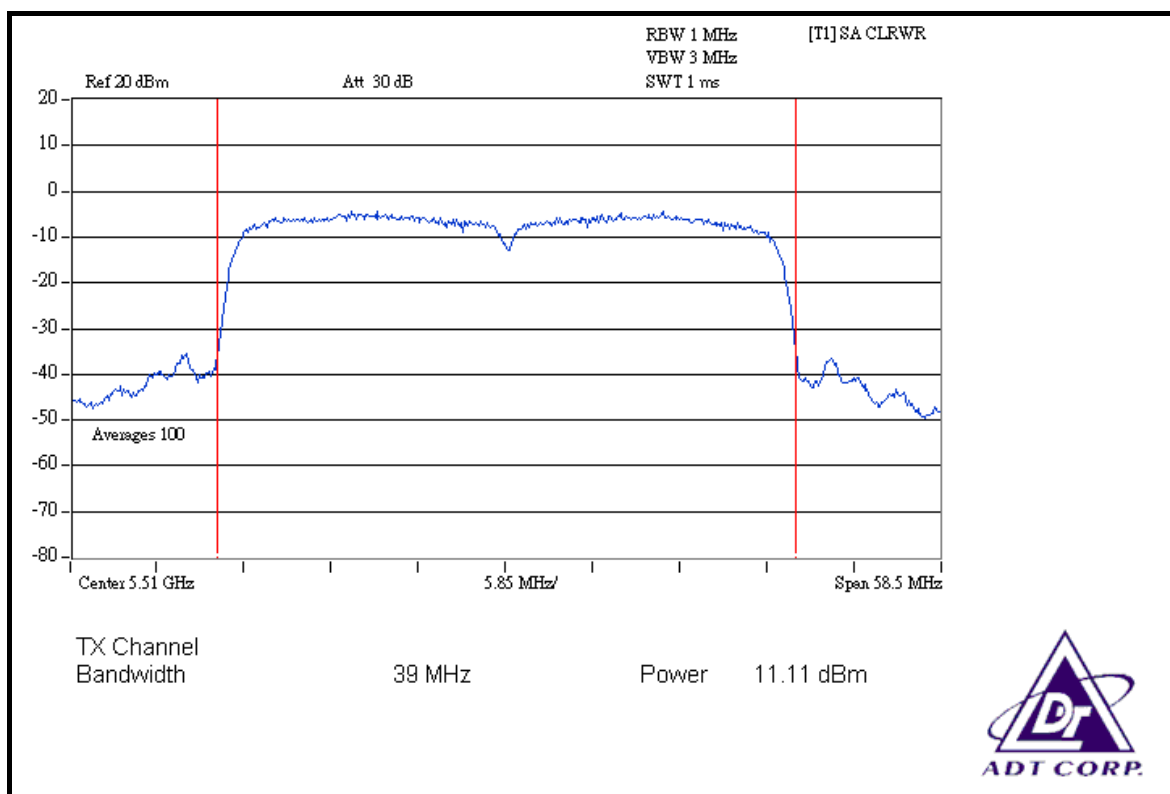
CH 54



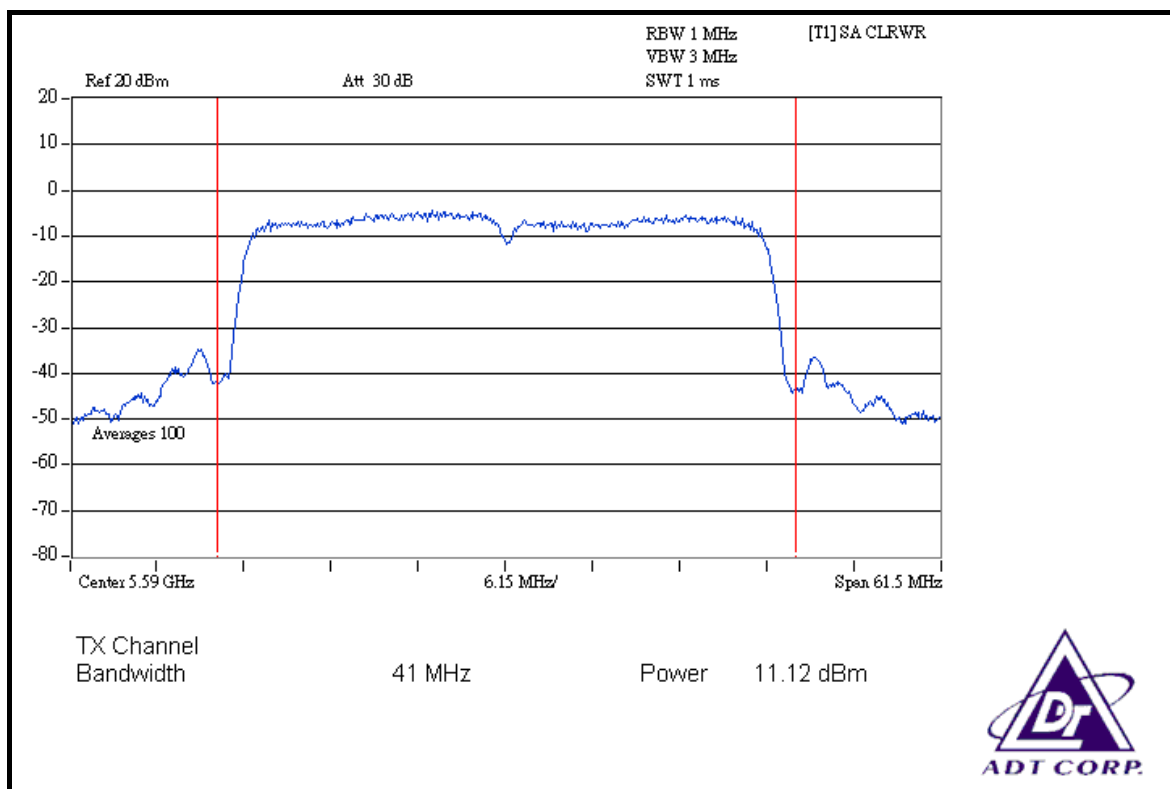
CH 62



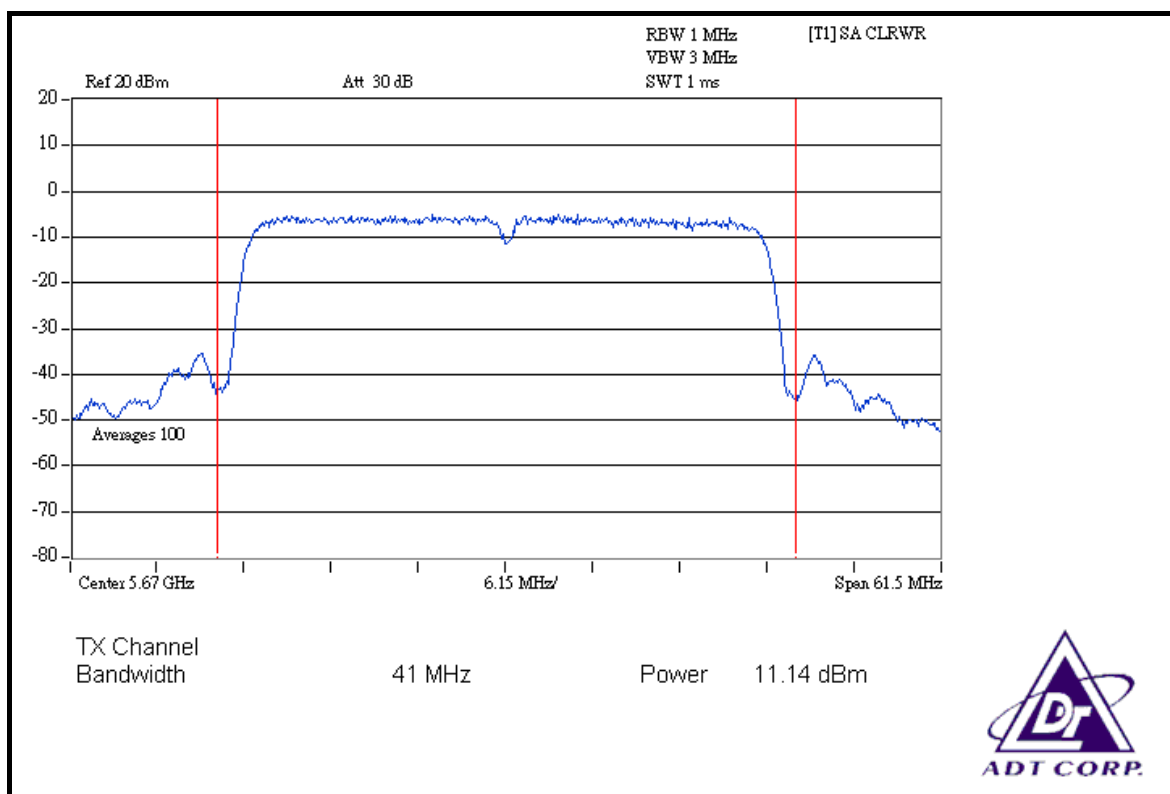
CH 102



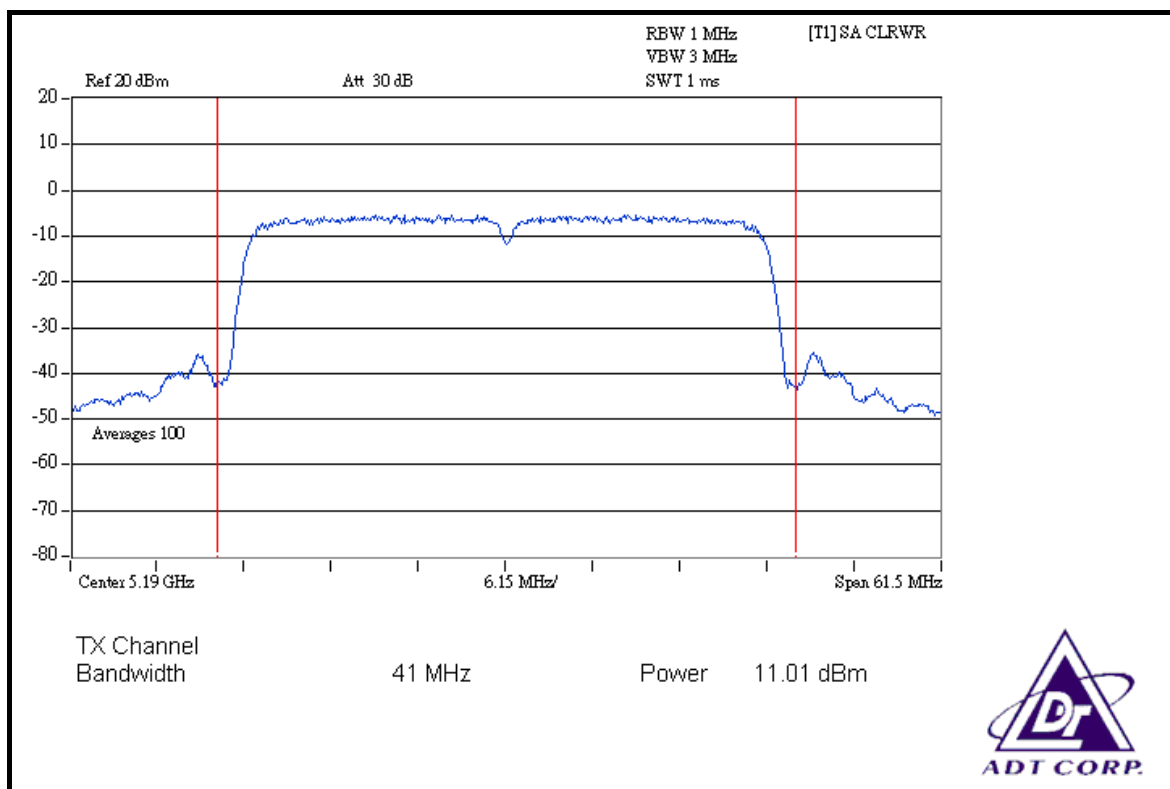
CH 118



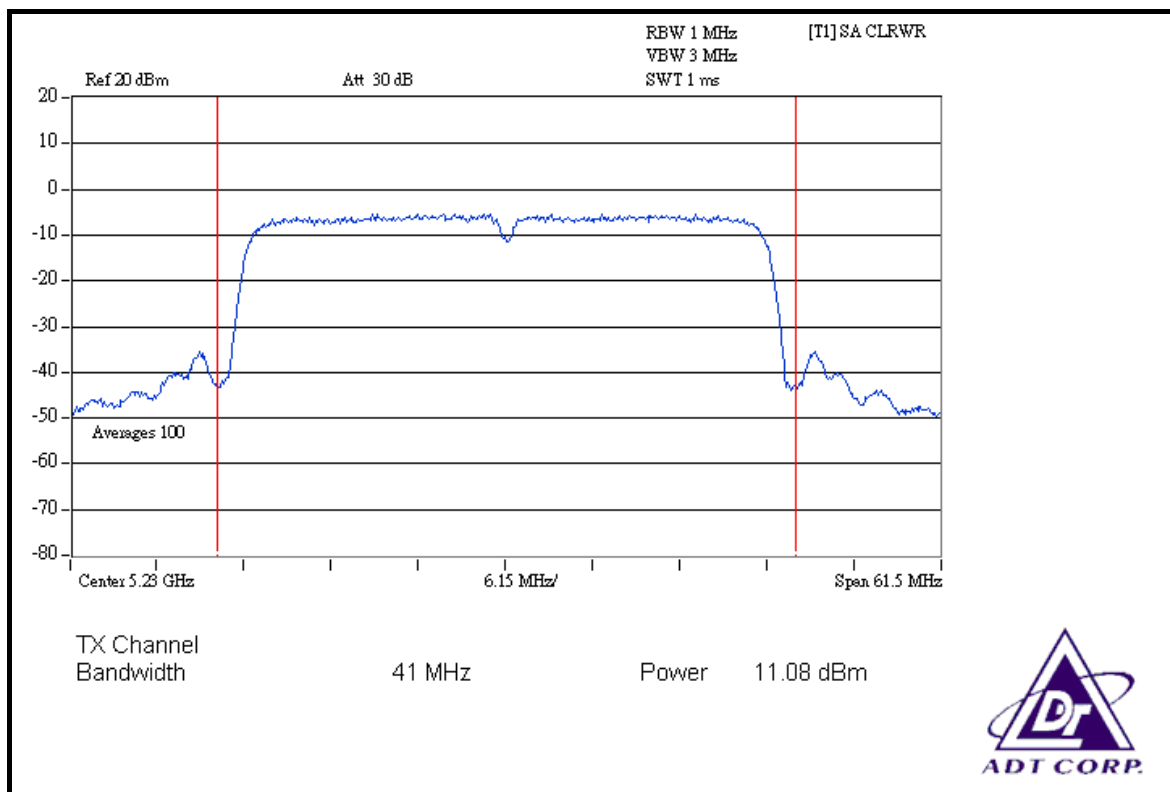
CH 134



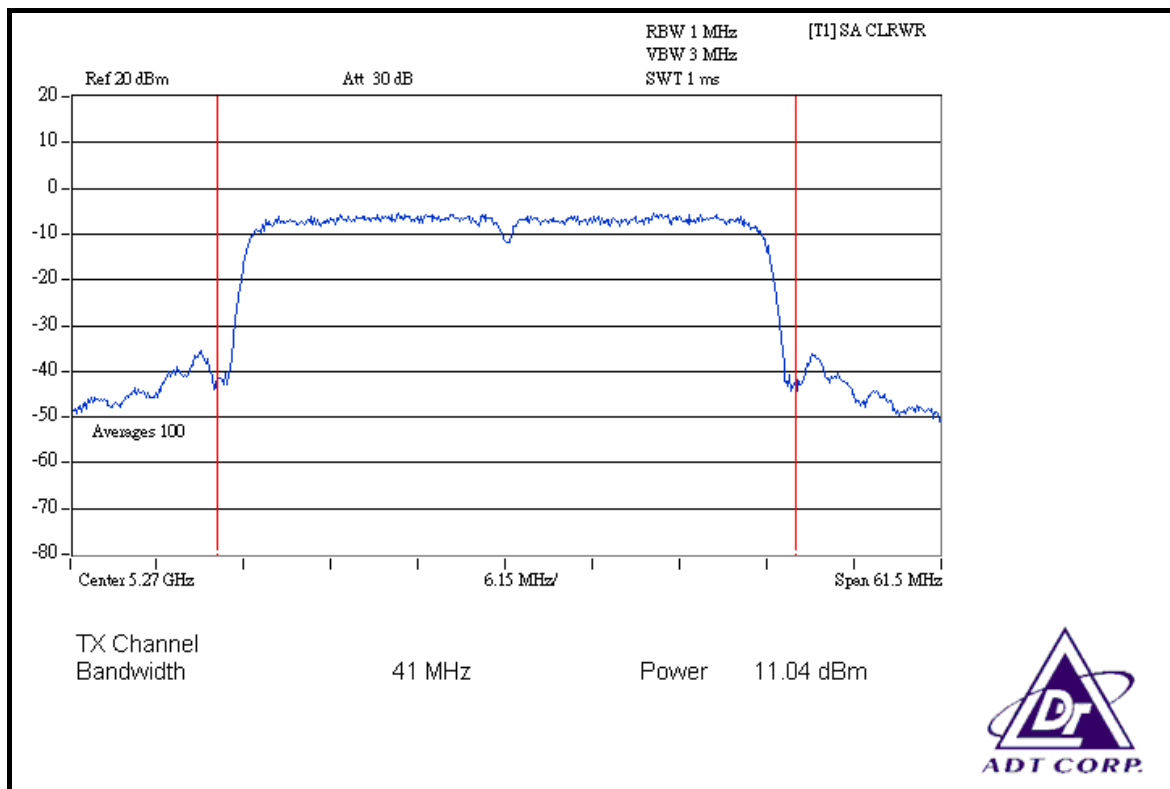
CHAIN 1: CH 38



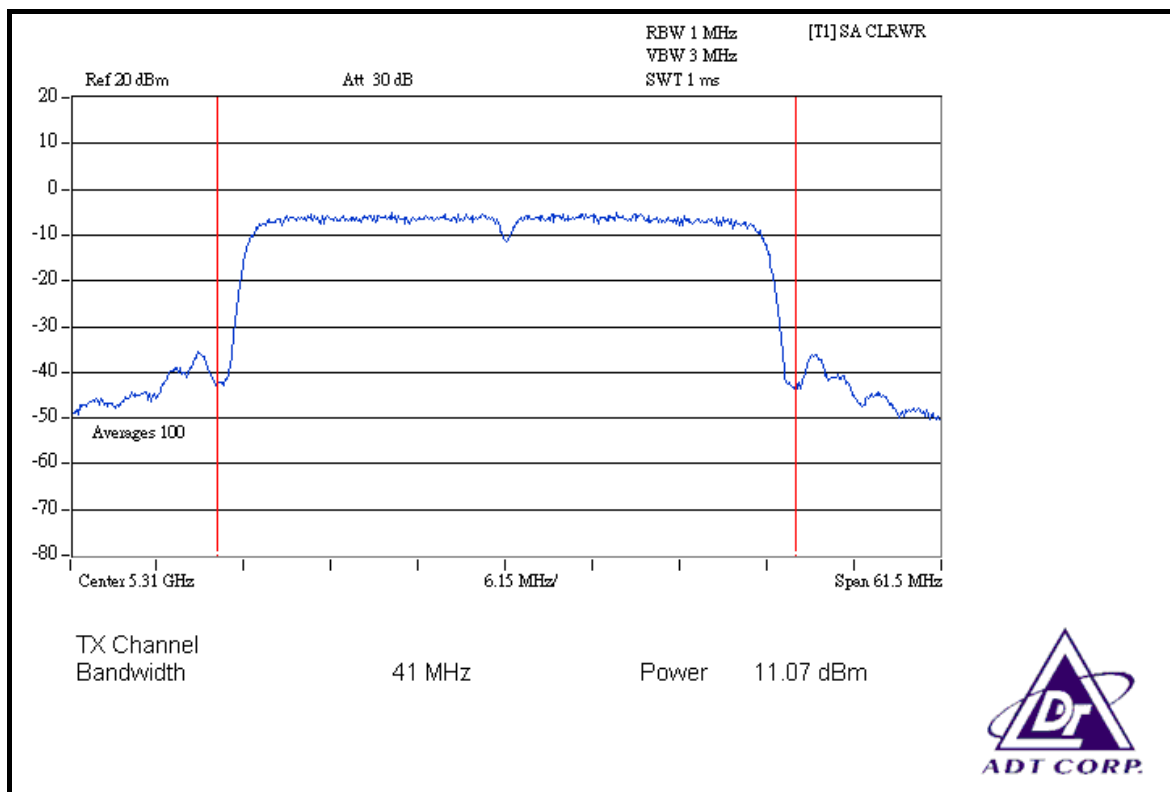
CH 46



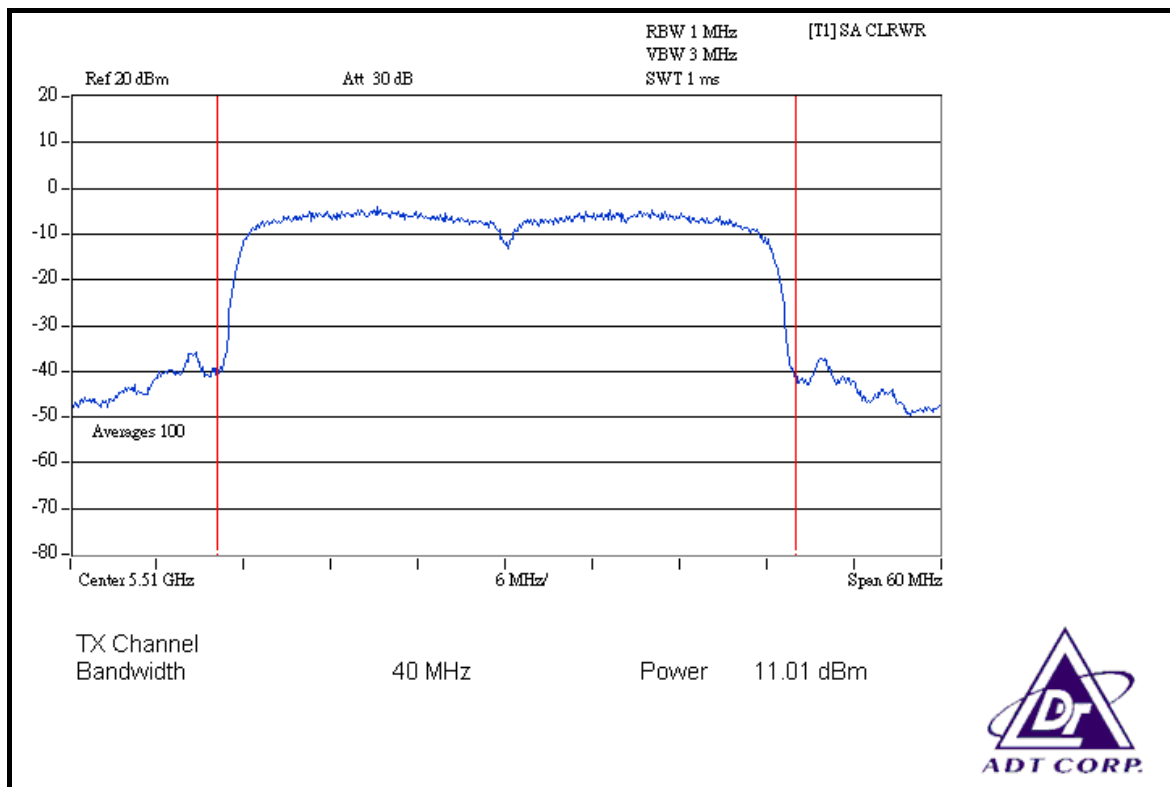
CH 54



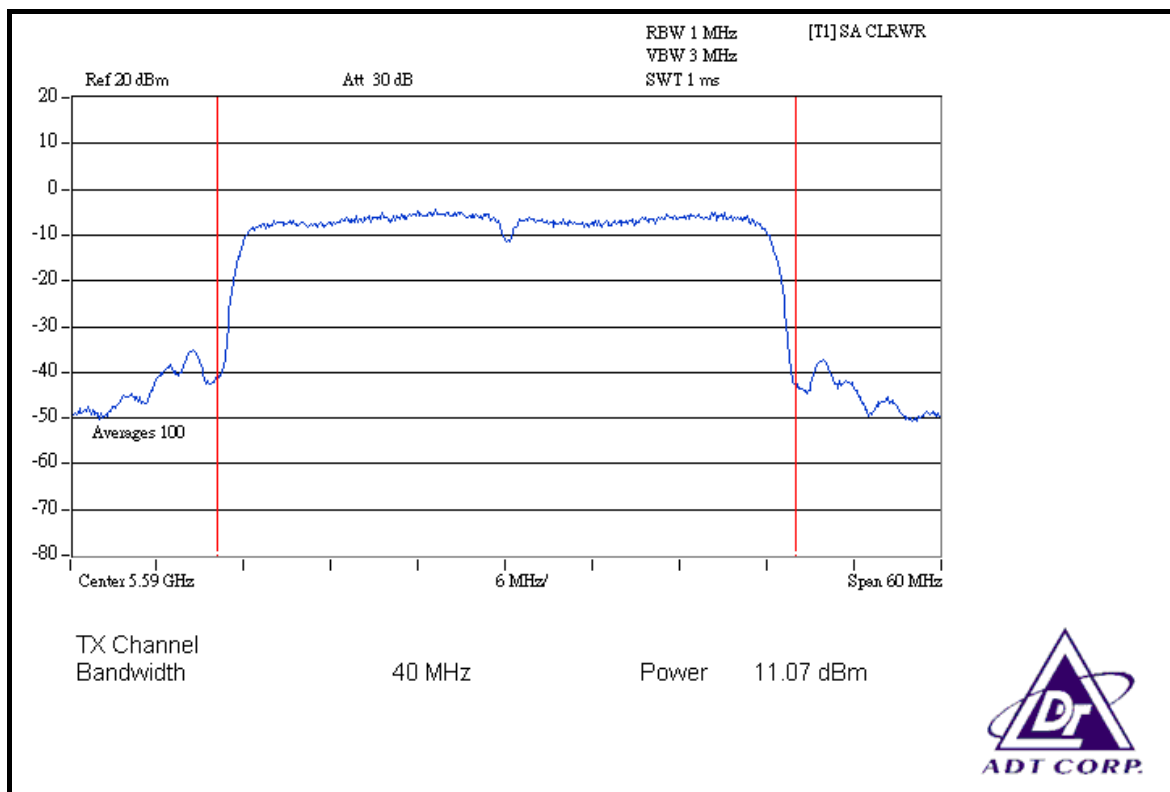
CH 62



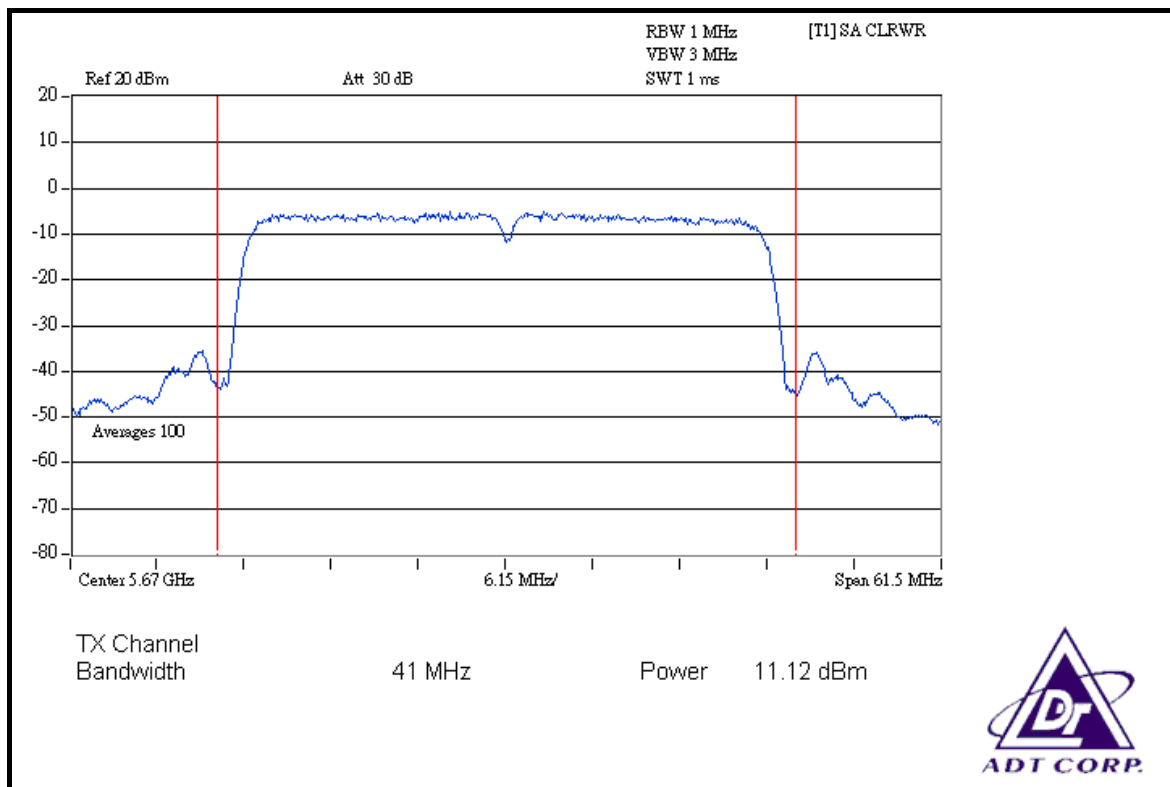
CH 102



CH 118



CH 134

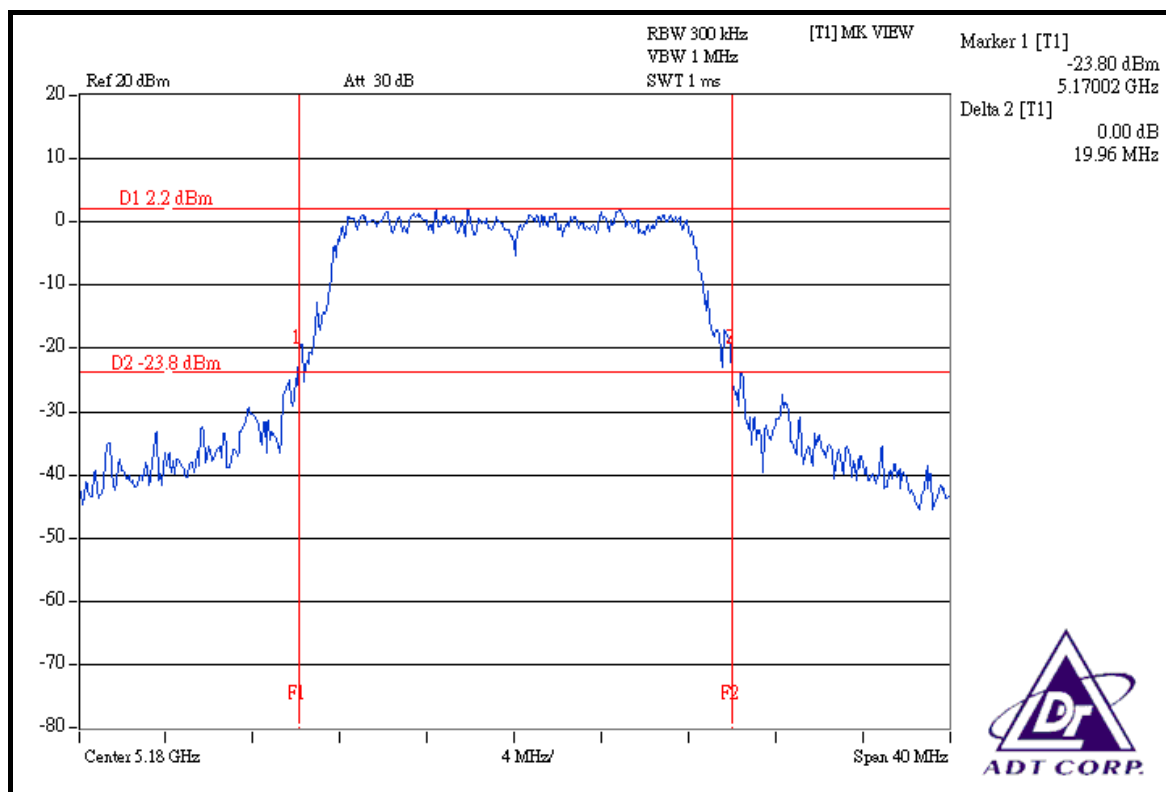


26dB OCCUPIED BANDWIDTH: 802.11a OFDM MODULATION

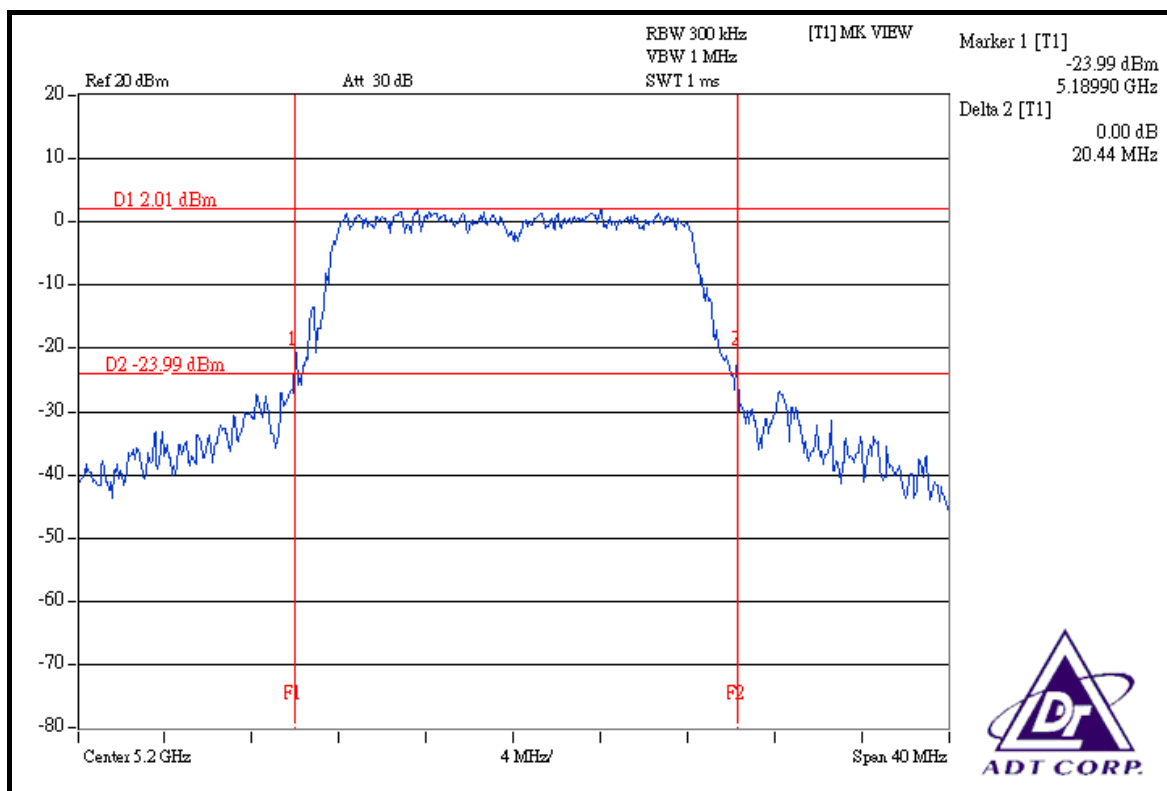
MODULATION TYPE	BPSK	TRANSFER RATE	6.0Mbps
INPUT POWER (SYSTEM)	120Vac, 60Hz	ENVIRONMENTAL CONDITIONS	27deg.C, 65%RH, 991hPa
TESTED BY	Dean Wang		

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc OCCUPIED BANDWIDTH (MHz)	PASS / FAIL
36	5180	19.96	PASS
40	5200	20.44	PASS
48	5240	19.80	PASS
52	5260	19.82	PASS
60	5300	20.43	PASS
64	5320	20.02	PASS
100	5500	20.43	PASS
120	5600	20.58	PASS
140	5700	20.43	PASS

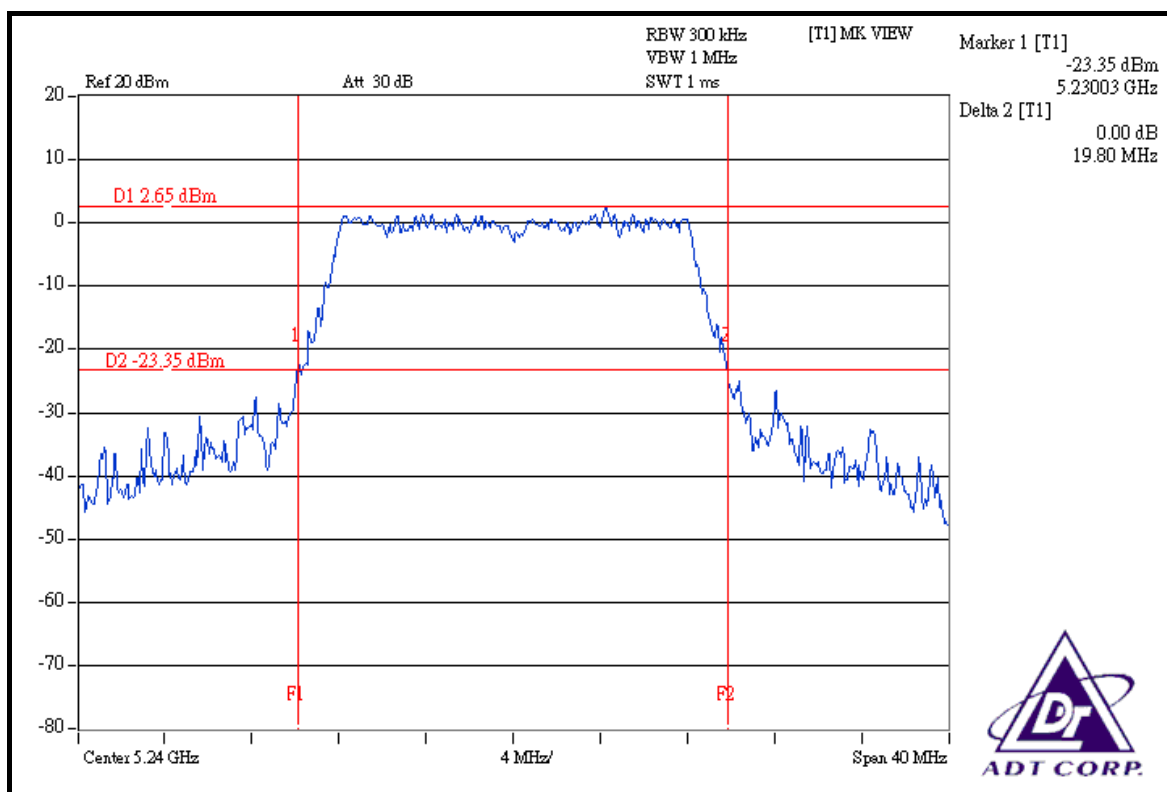
CH 36



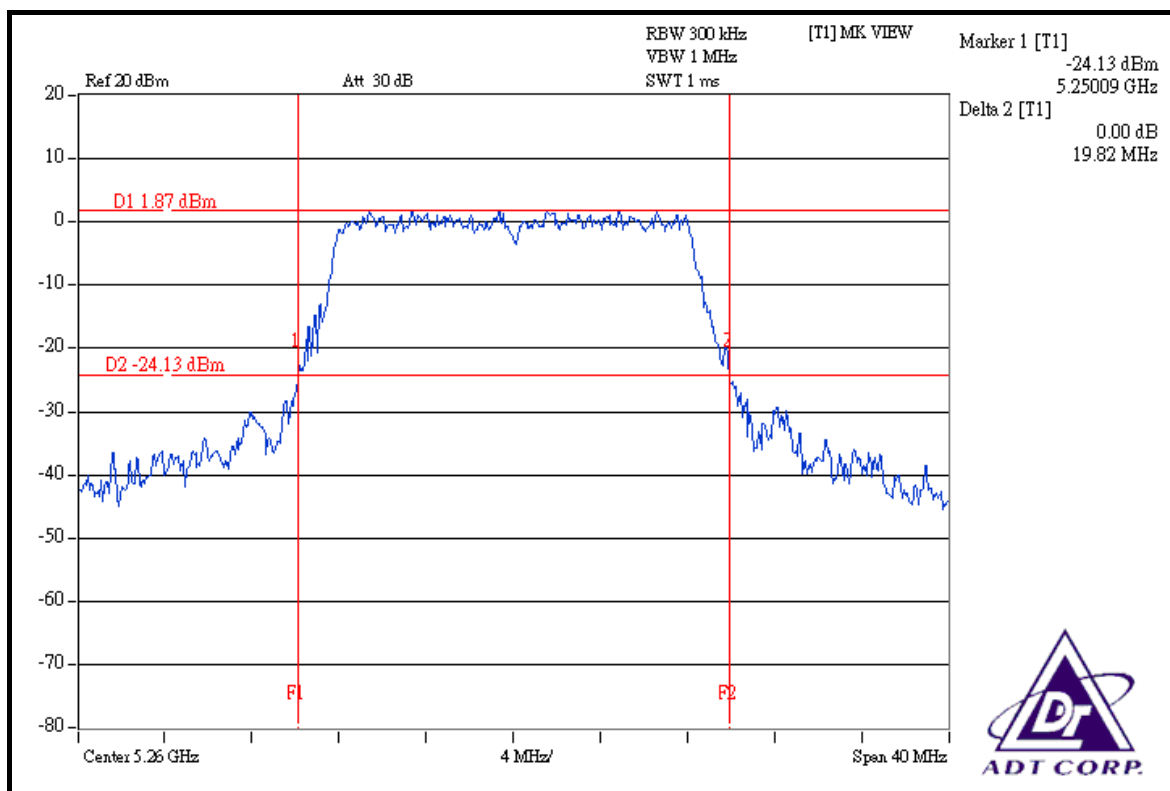
CH 40



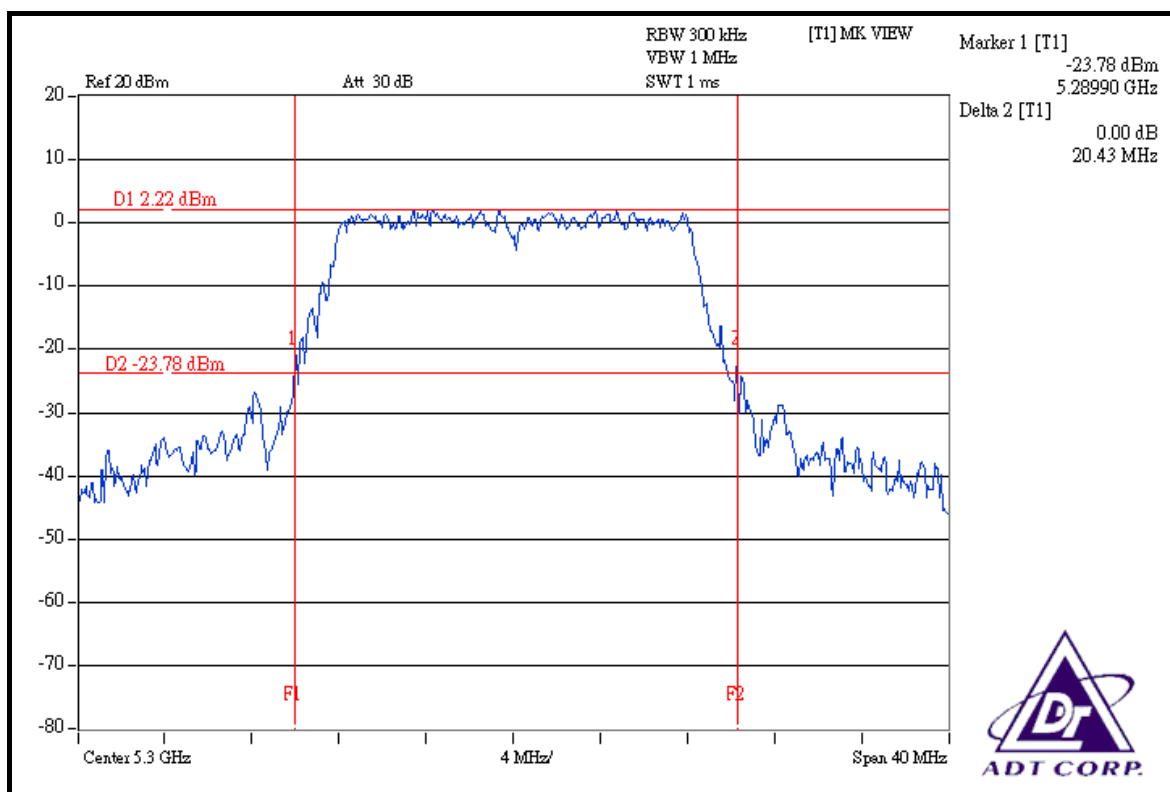
CH 48



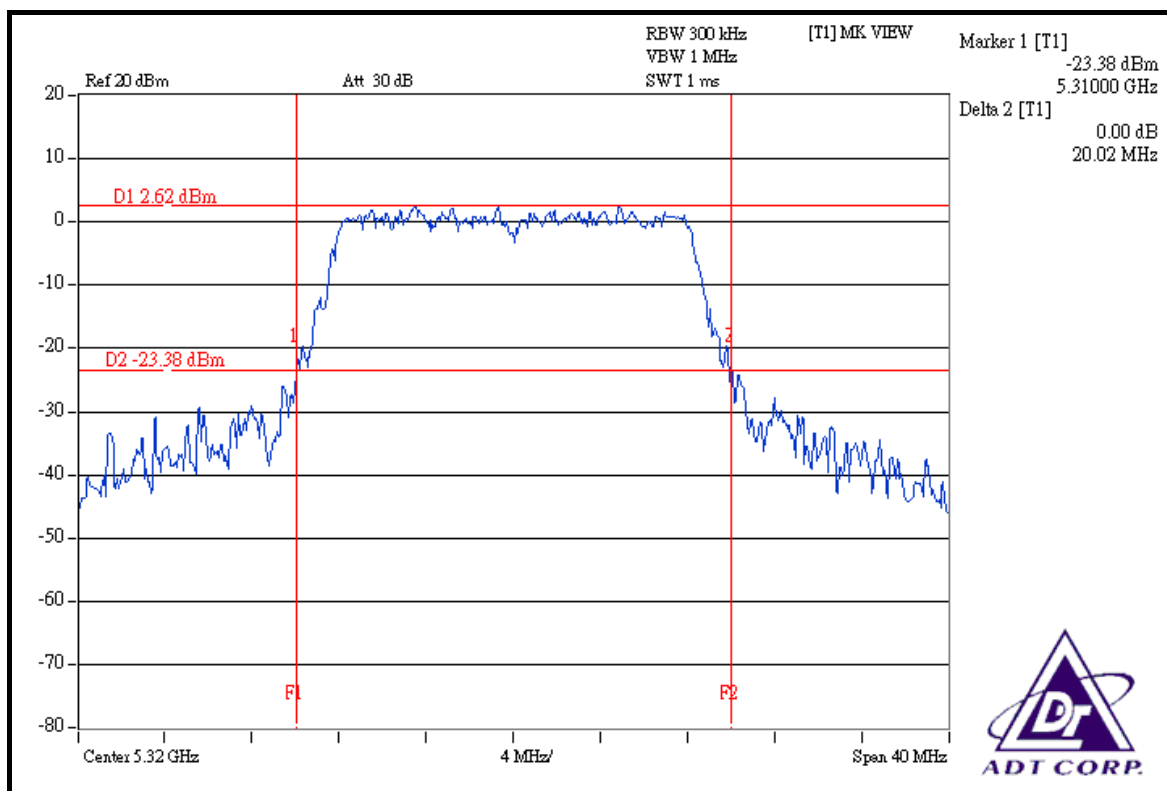
CH 52



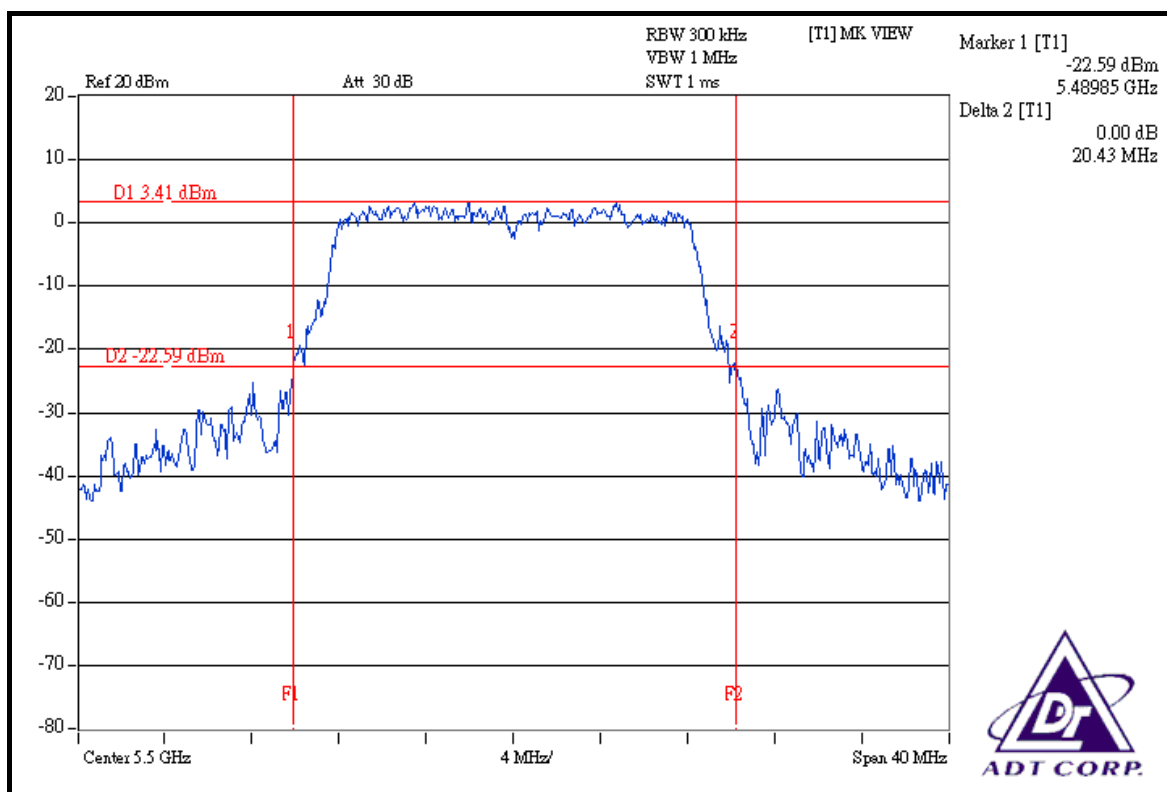
CH 60



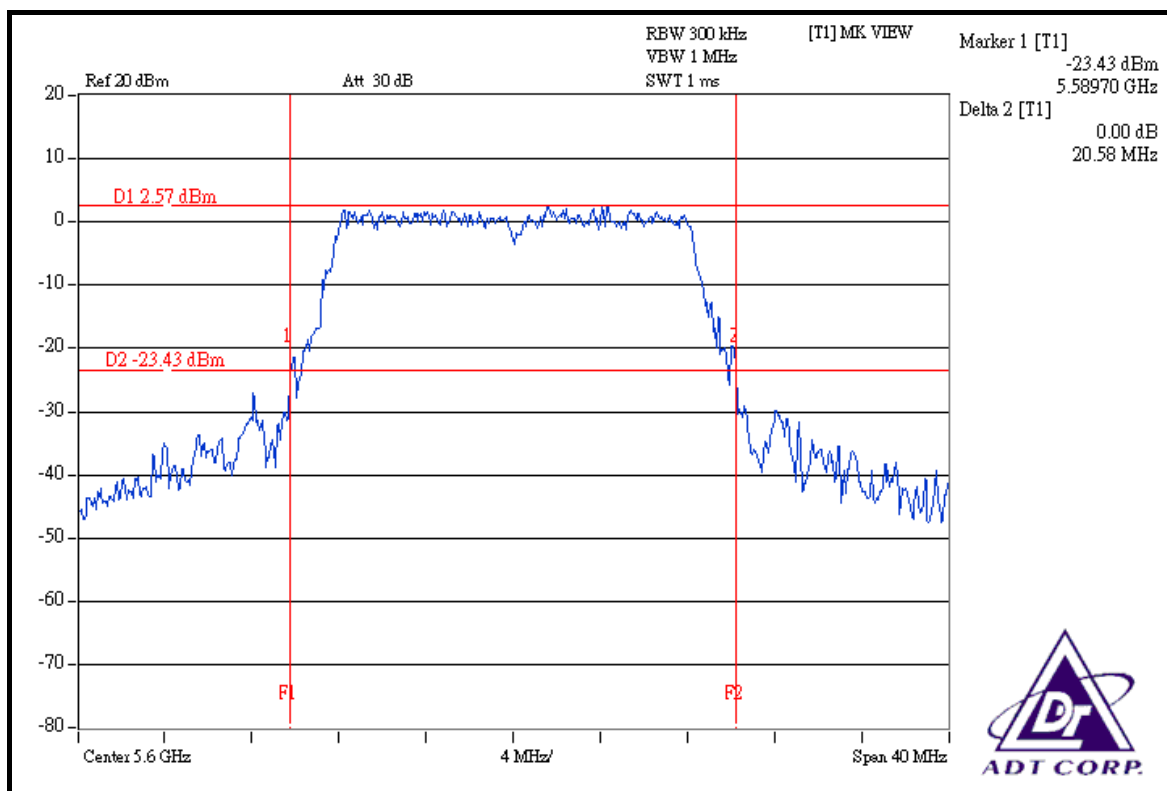
CH 64



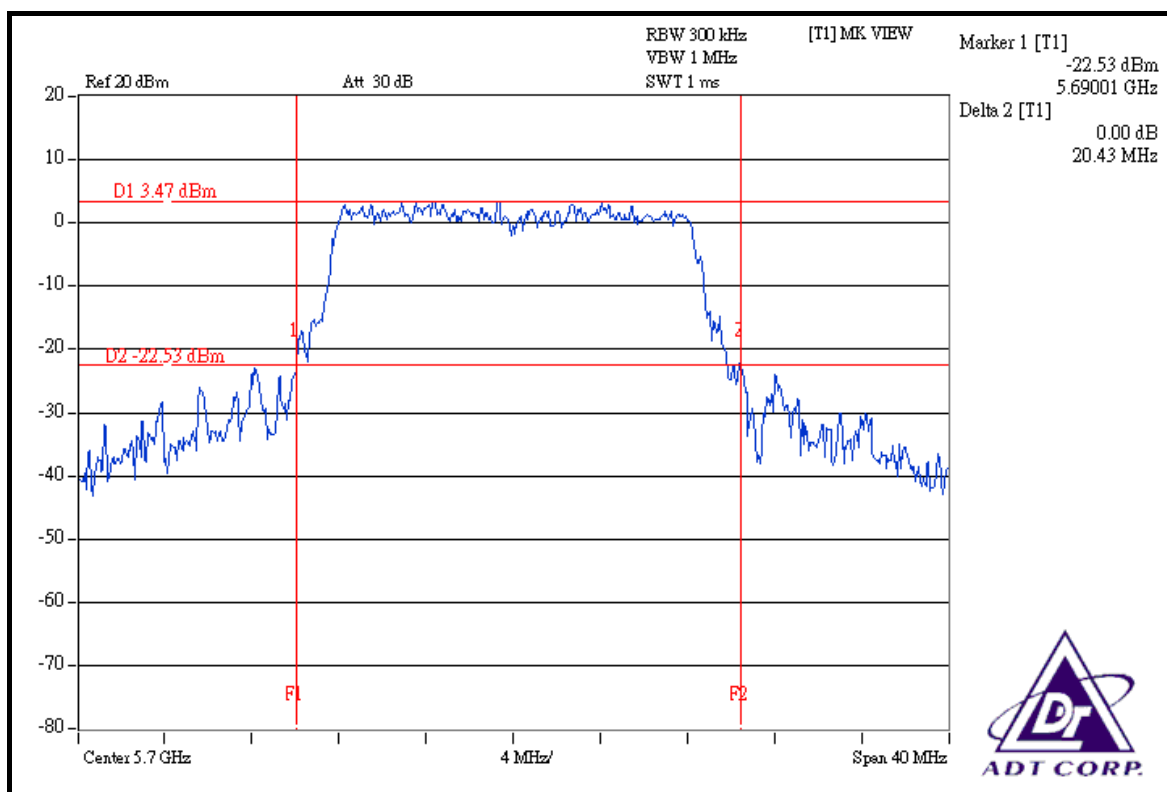
CH 100



CH 120



CH 140

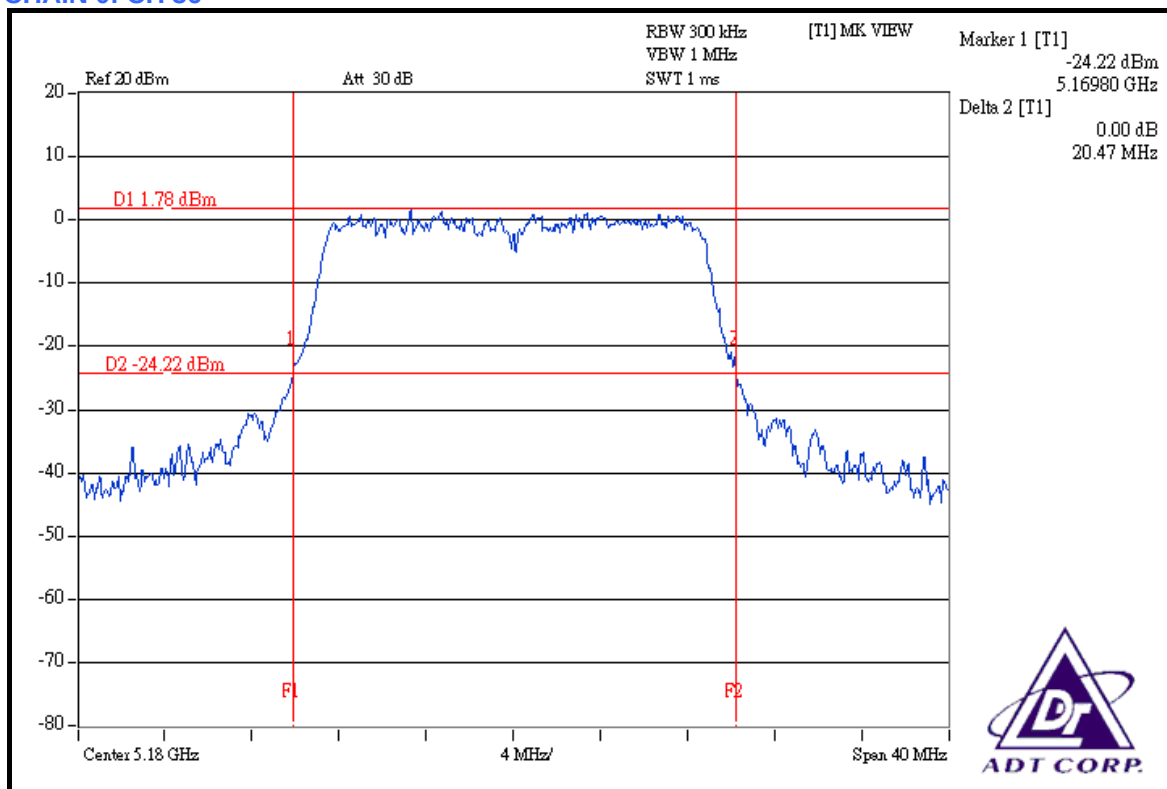


DRAFT 802.11n (20MHz) OFDM MODULATION

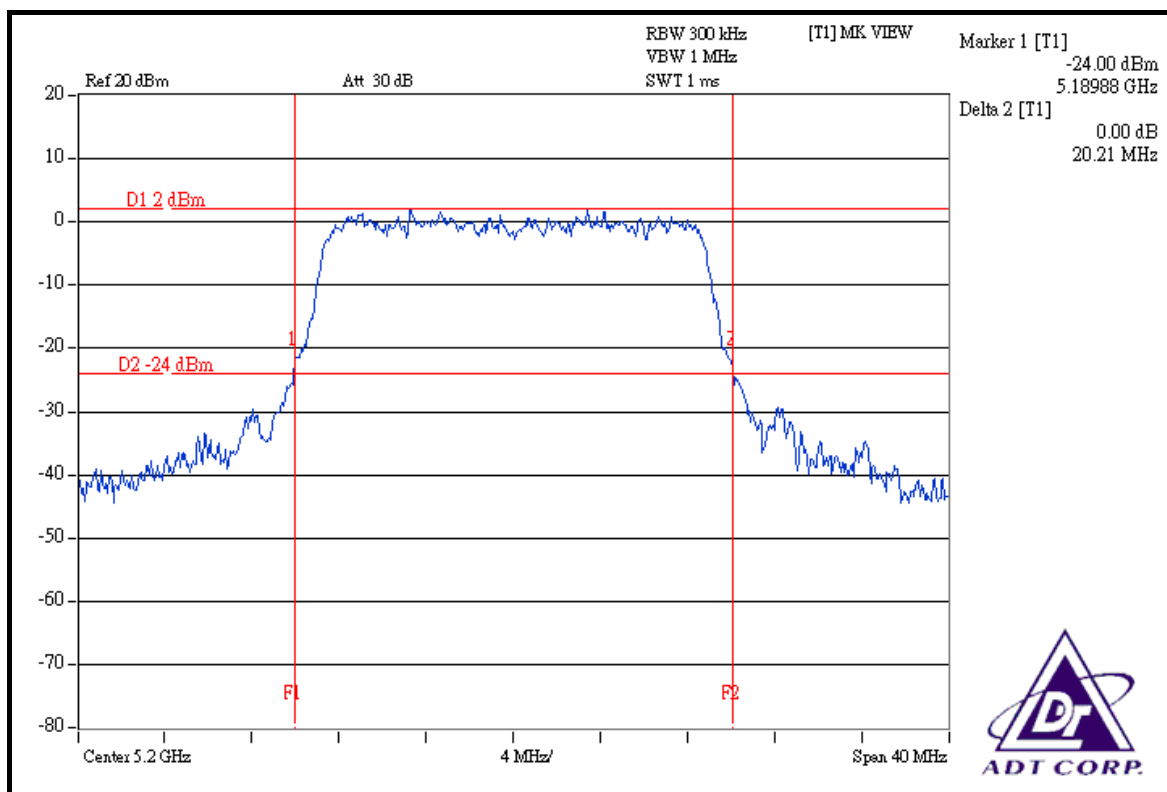
MODULATION TYPE	BPSK	TRANSFER RATE	7.2Mbps
INPUT POWER (SYSTEM)	120Vac, 60Hz	ENVIRONMENTAL CONDITIONS	27deg.C, 65%RH, 991hPa
TESTED BY	Dean Wang		

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc OCCUPIED BANDWIDTH (MHz)		PASS / FAIL
		CHAIN 0	CHAIN 1	
36	5180	20.47	20.66	PASS
40	5200	20.21	20.53	PASS
48	5240	20.47	20.47	PASS
52	5260	20.26	20.49	PASS
60	5300	20.45	20.16	PASS
64	5320	20.49	20.42	PASS
100	5500	20.23	20.00	PASS
120	5600	20.13	20.39	PASS
140	5700	20.38	20.44	PASS

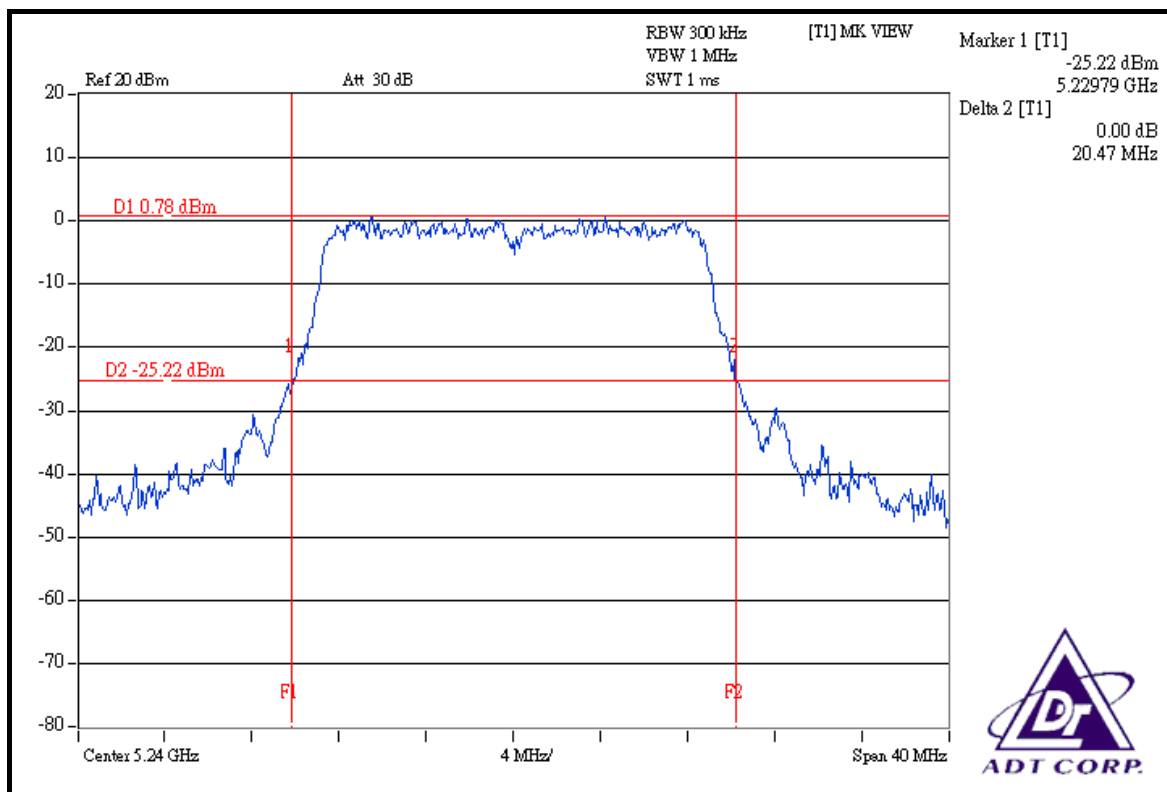
CHAIN 0: CH 36



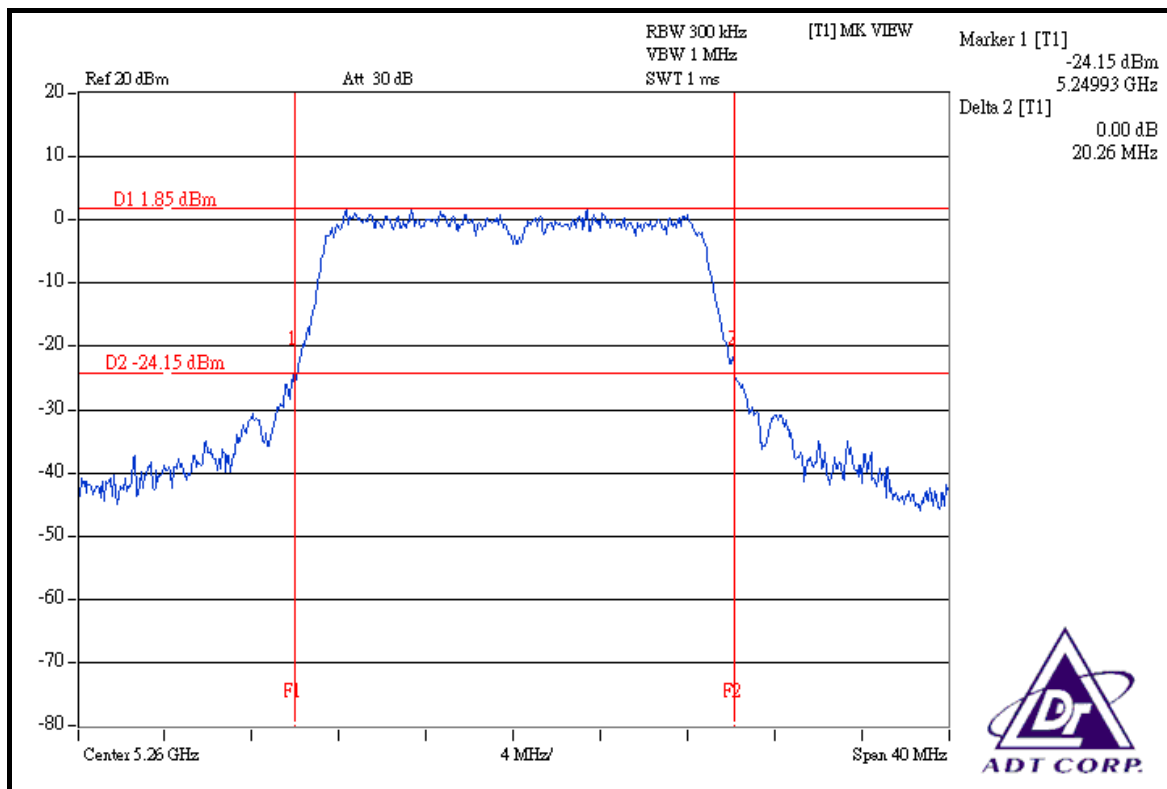
CH 40



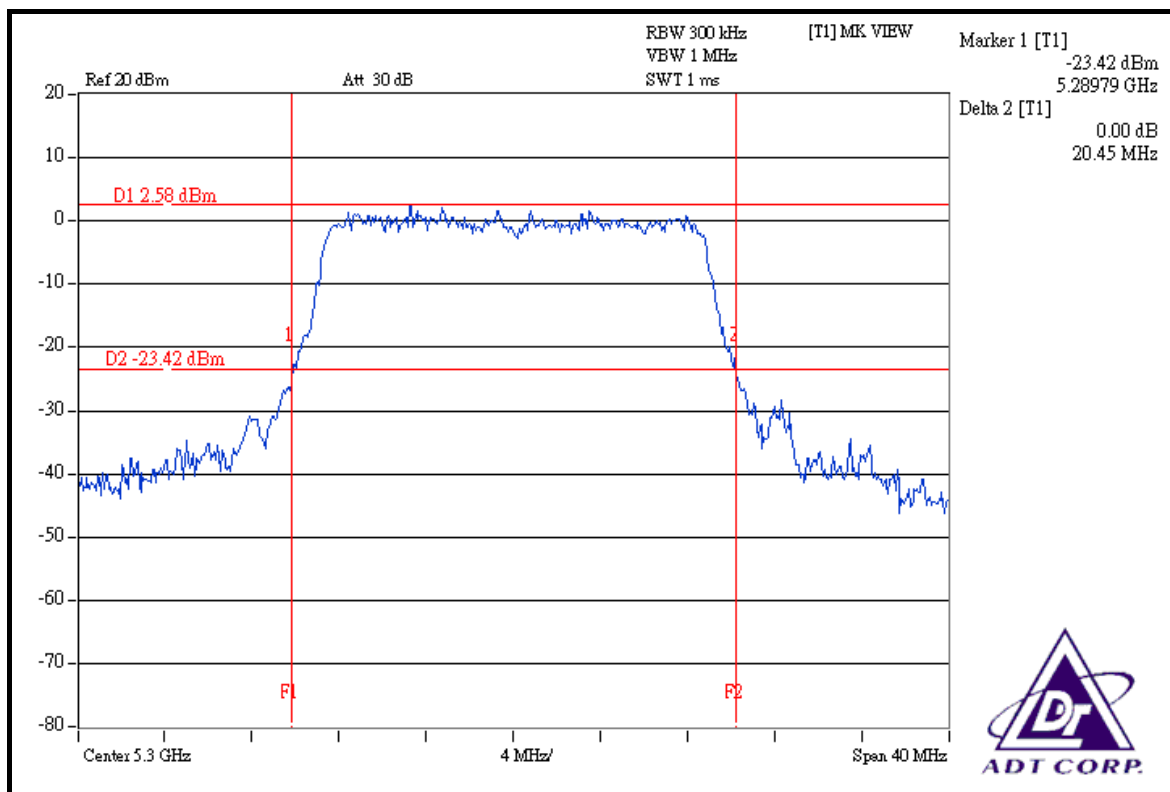
CH 48



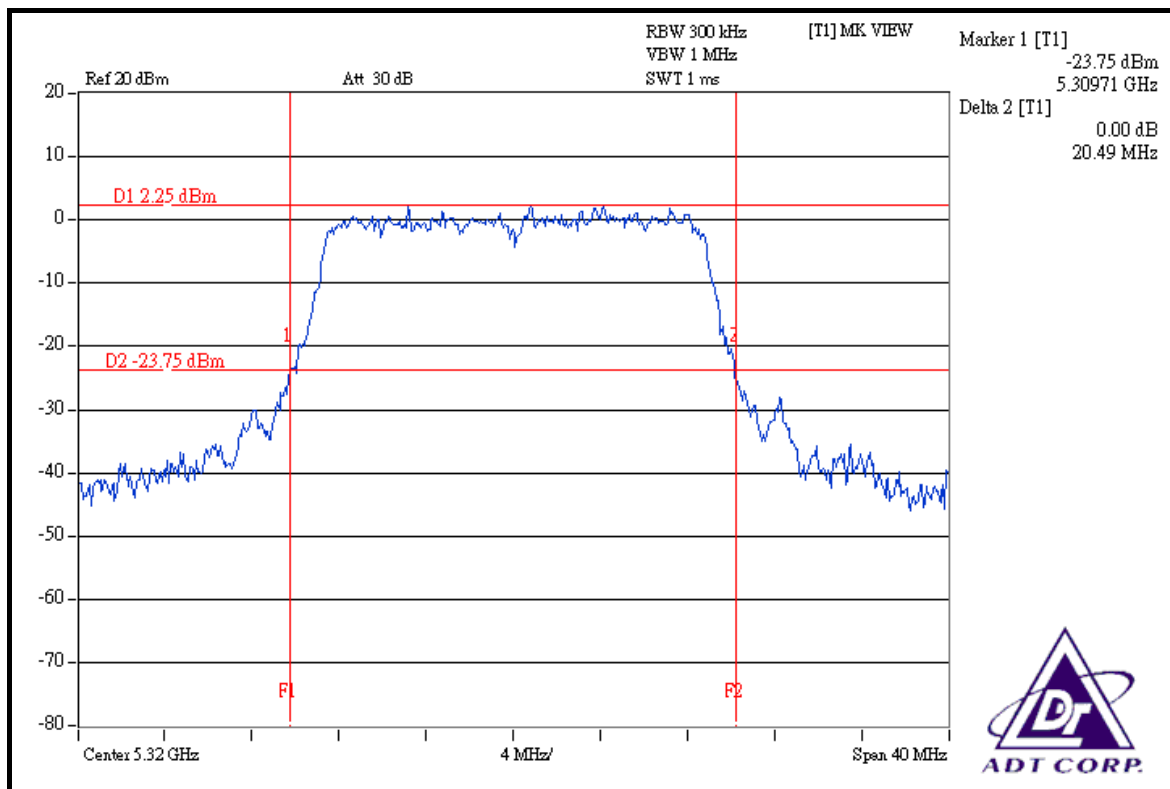
CH 52



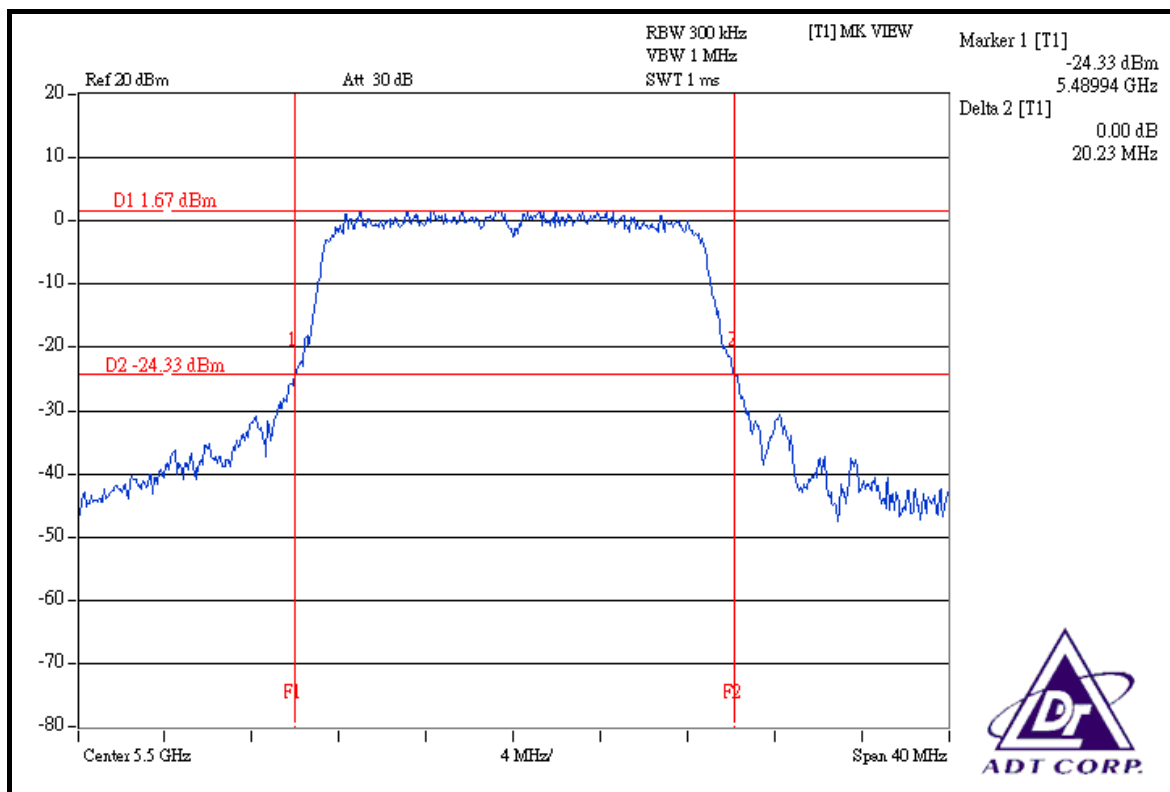
CH 60



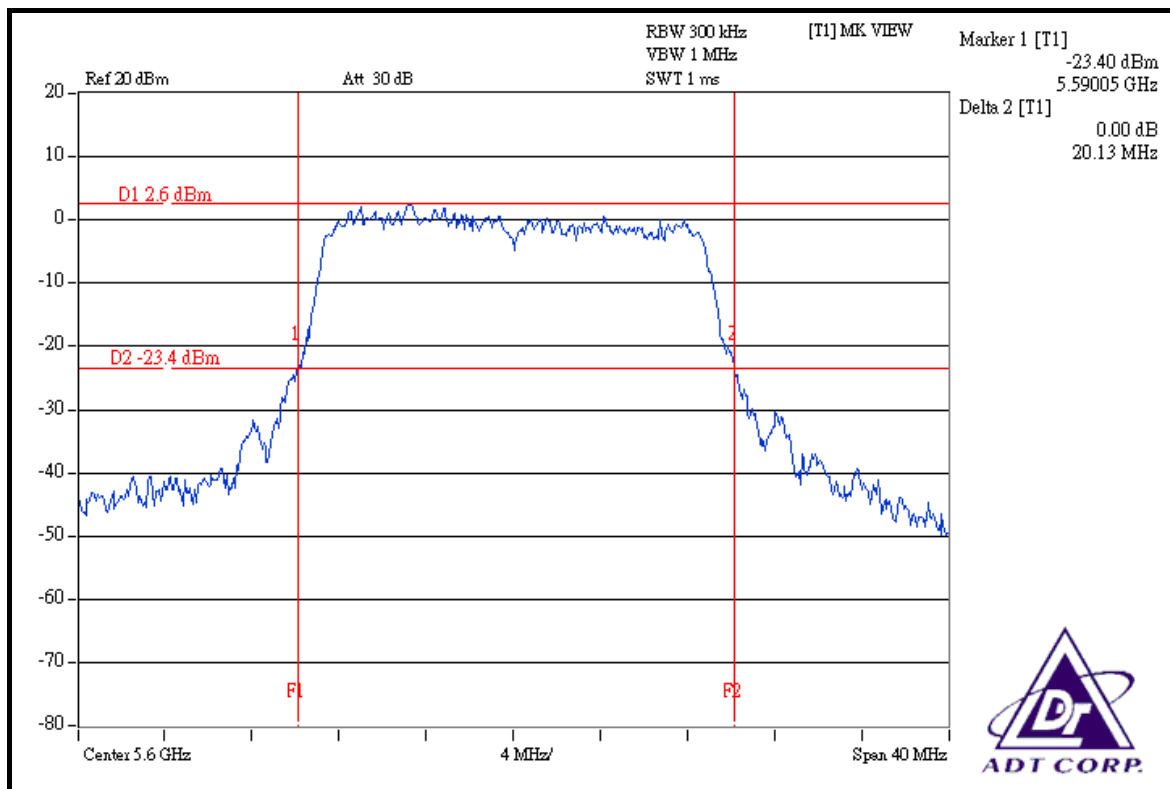
CH 64



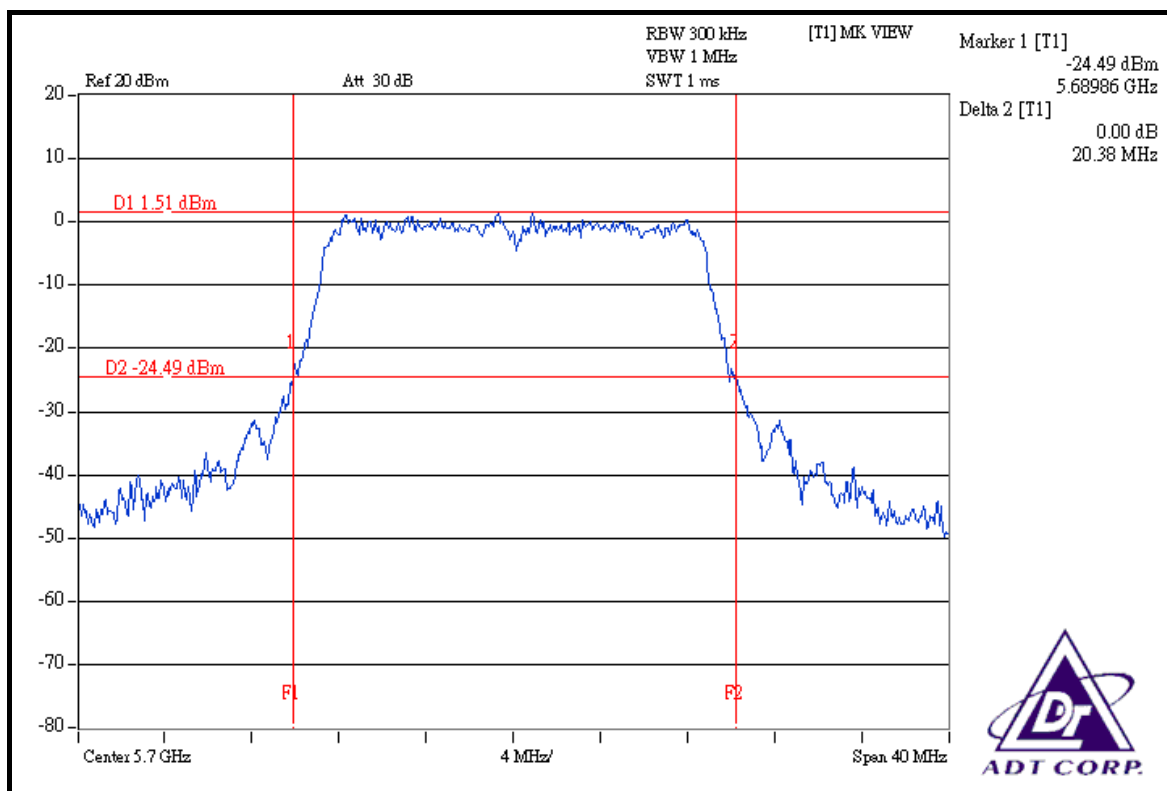
CH 100



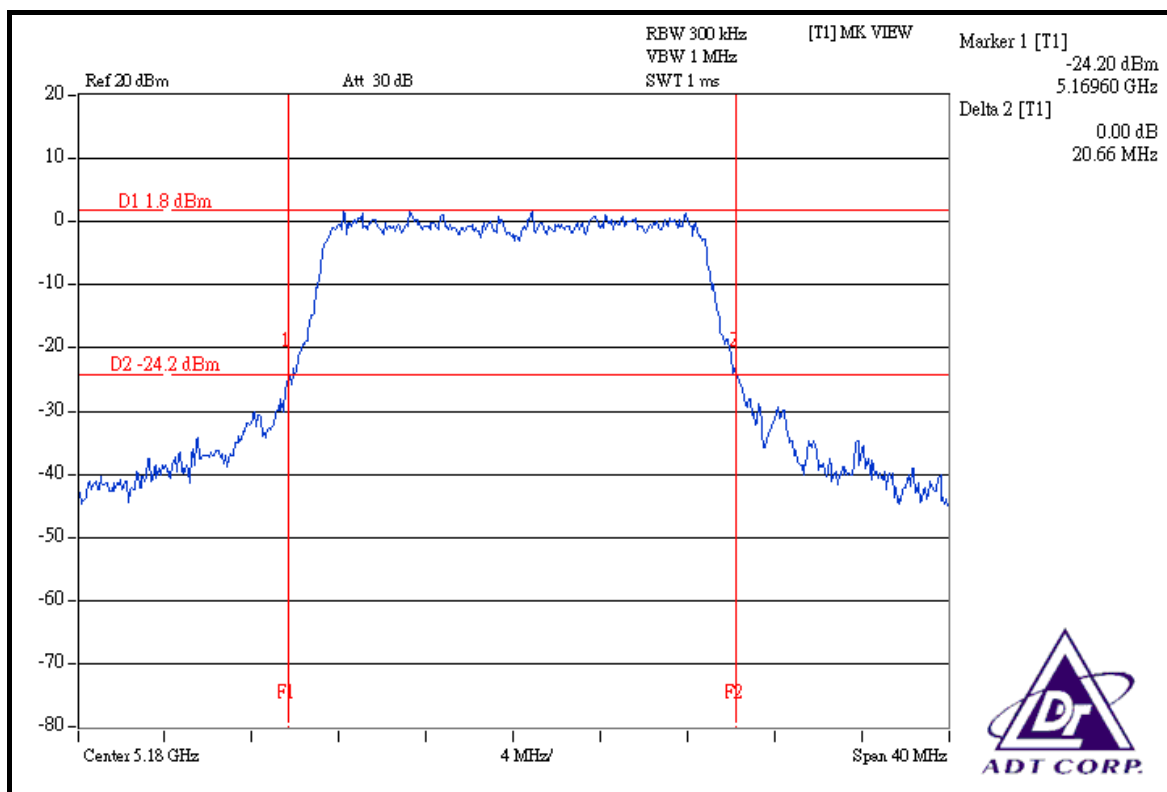
CH 120



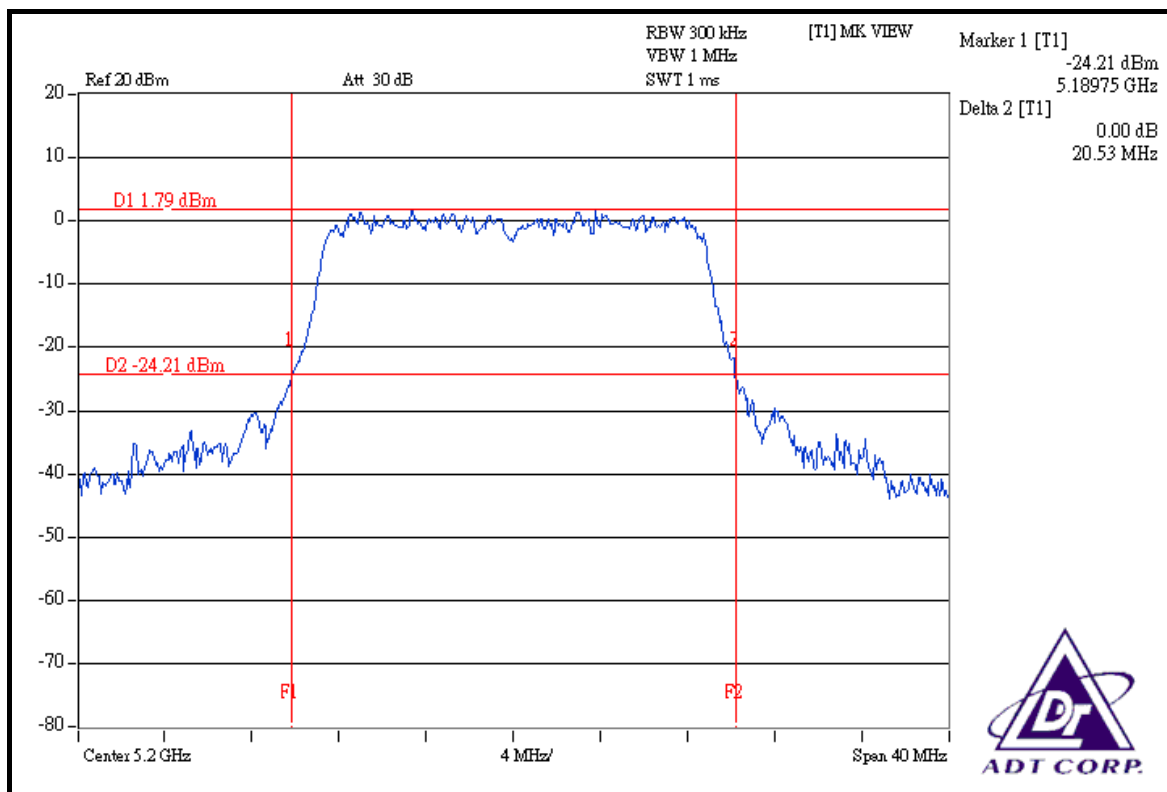
CH 140



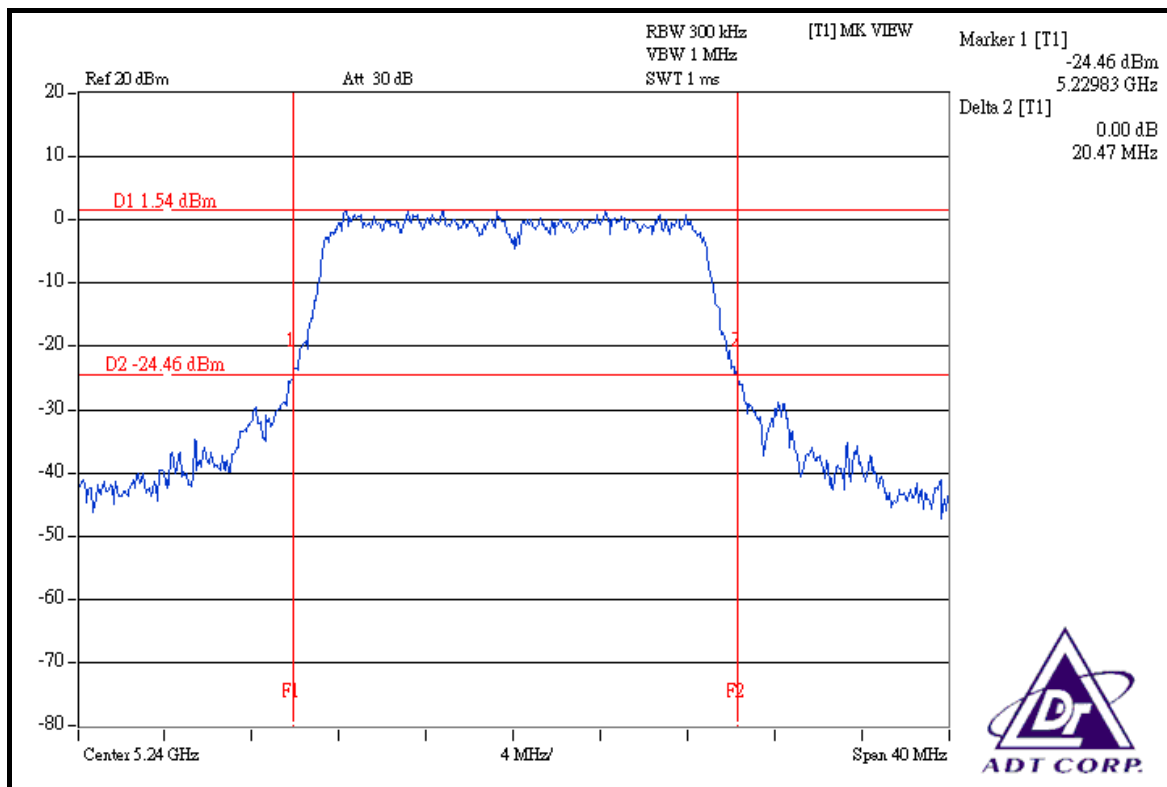
CHAIN 1: CH 36



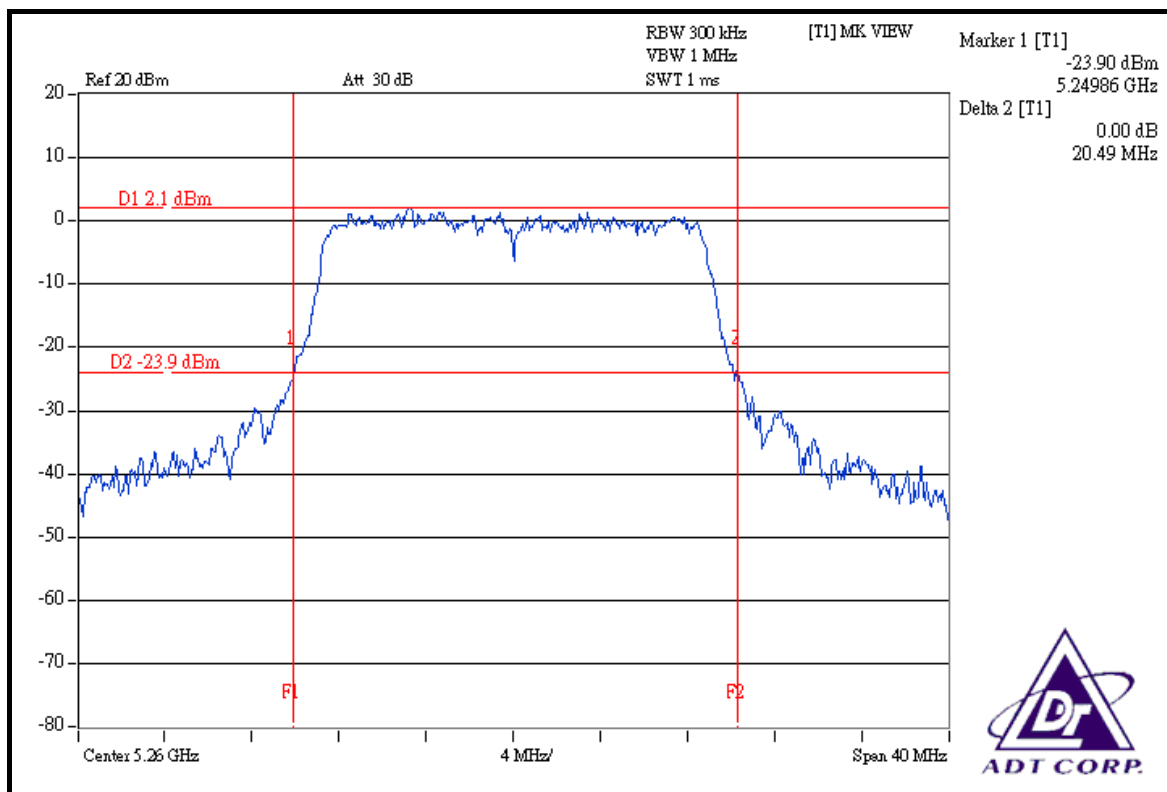
CH 40



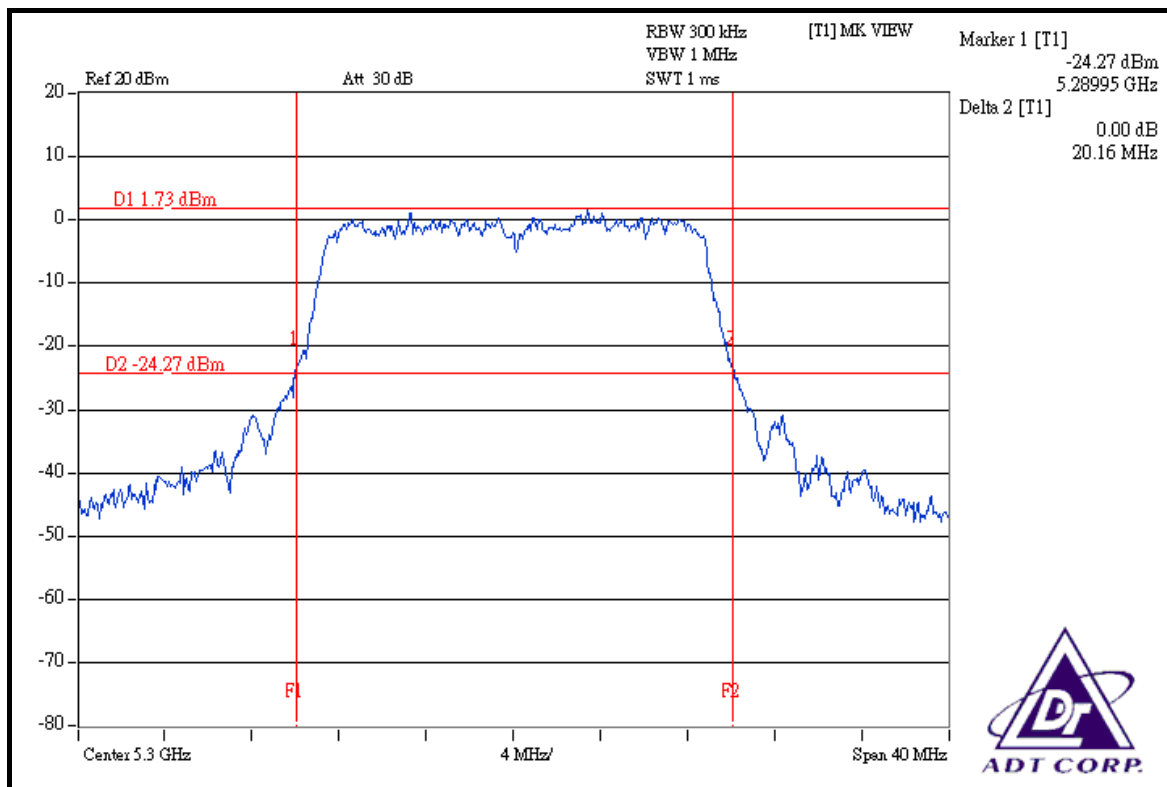
CH 48



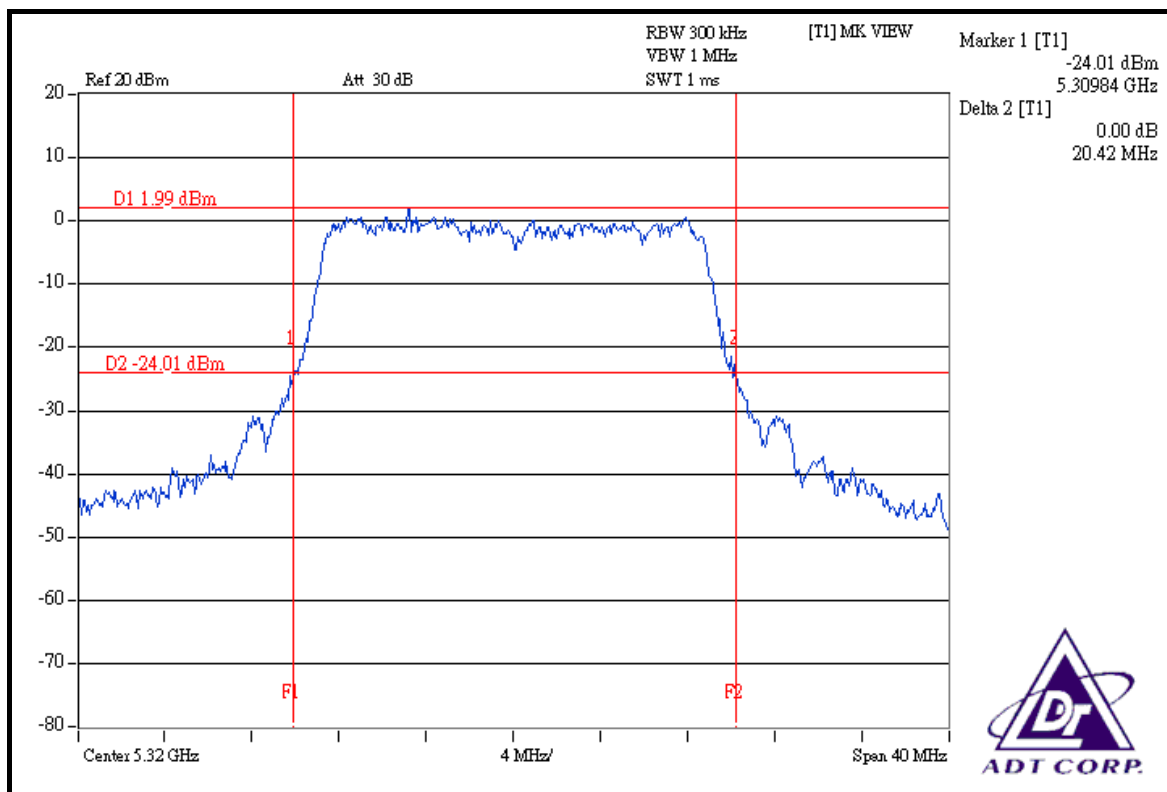
CH 52



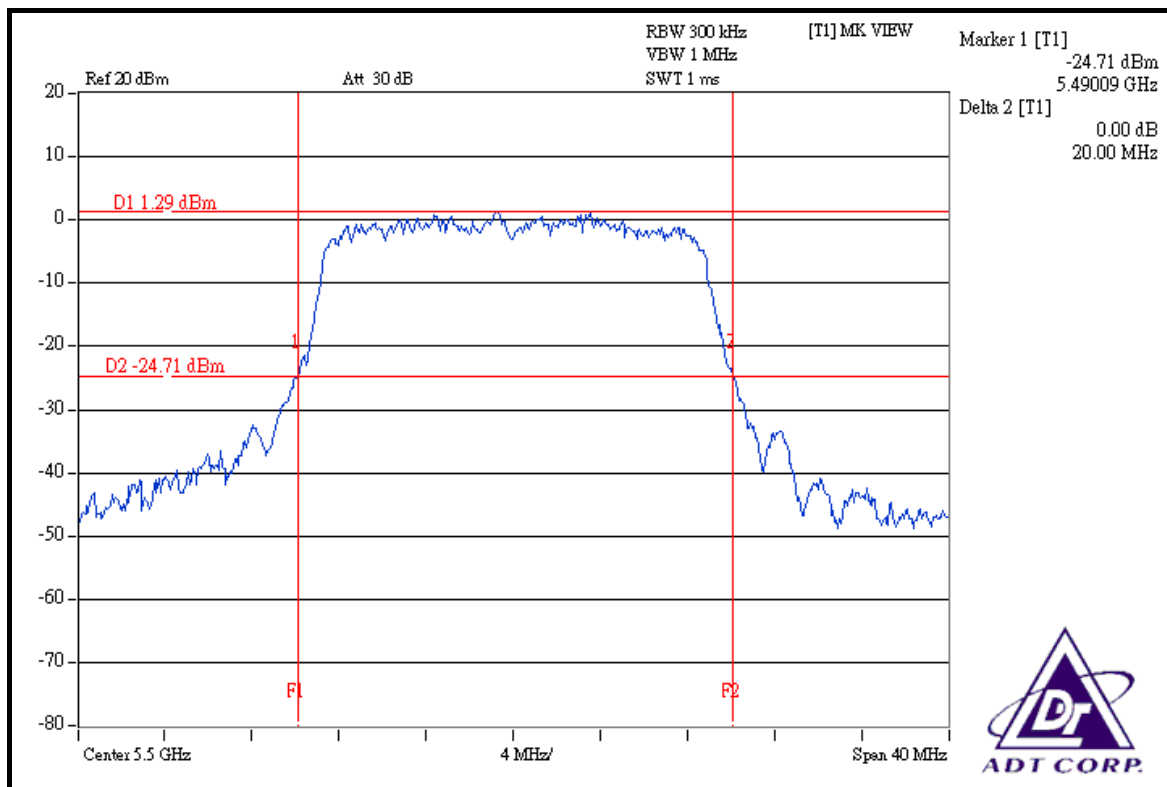
CH 60



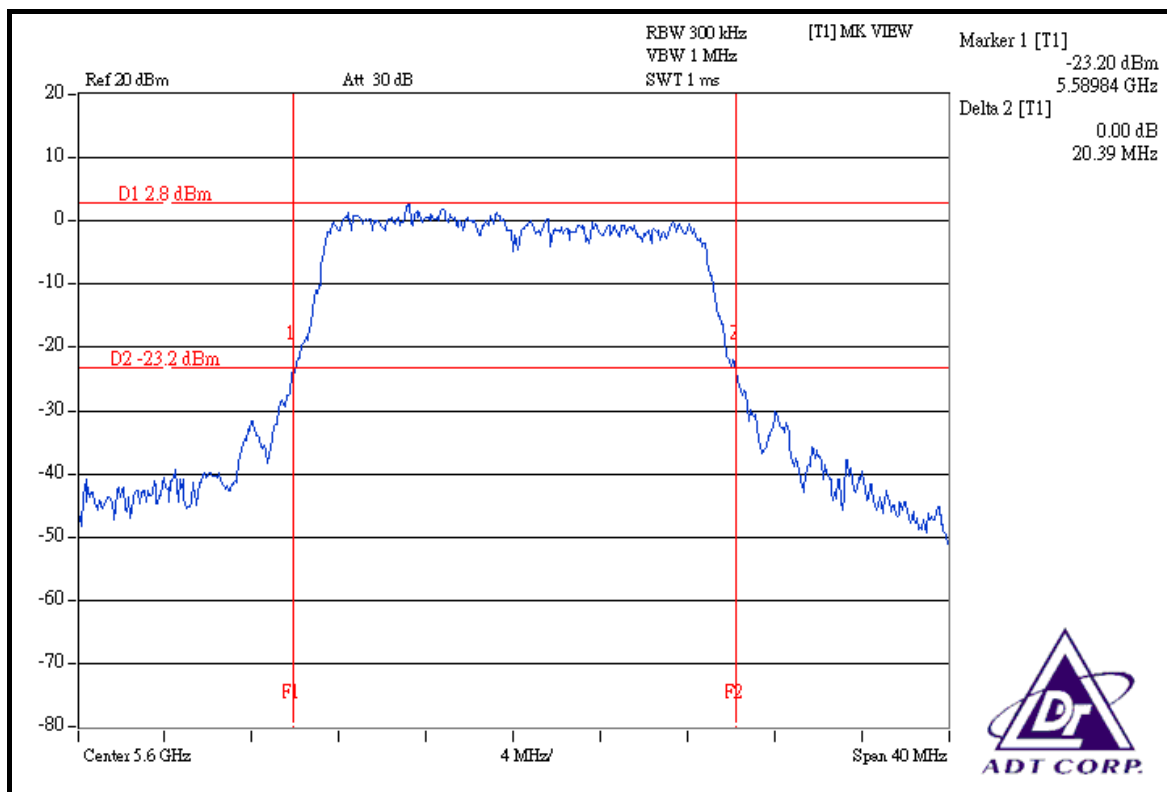
CH 64



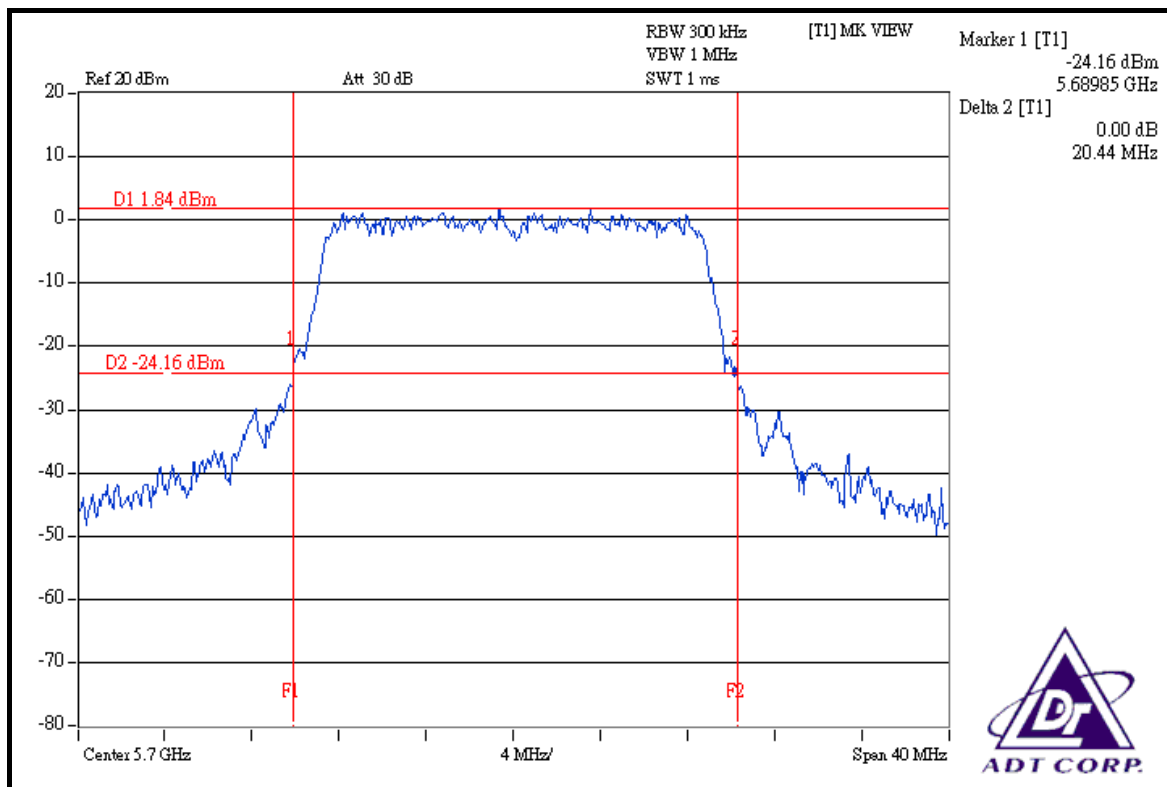
CH 100



CH 120



CH 140

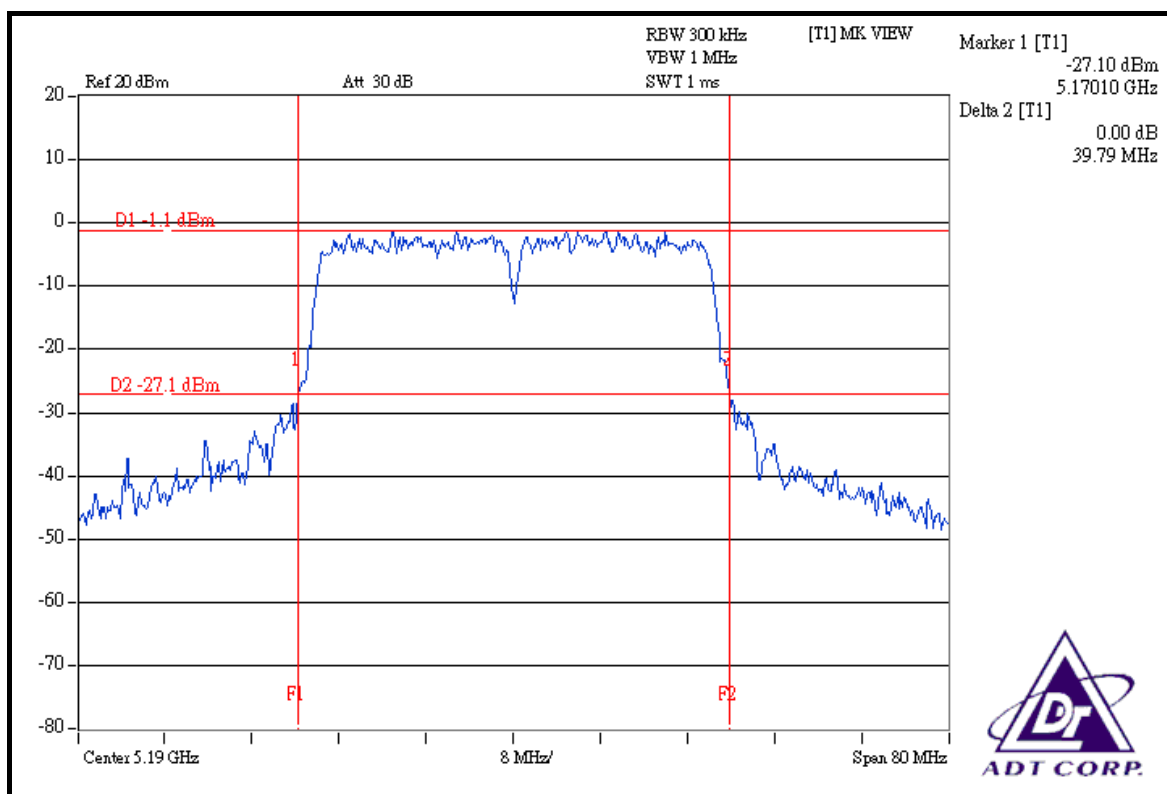


DRAFT 802.11n (40MHz) OFDM MODULATION

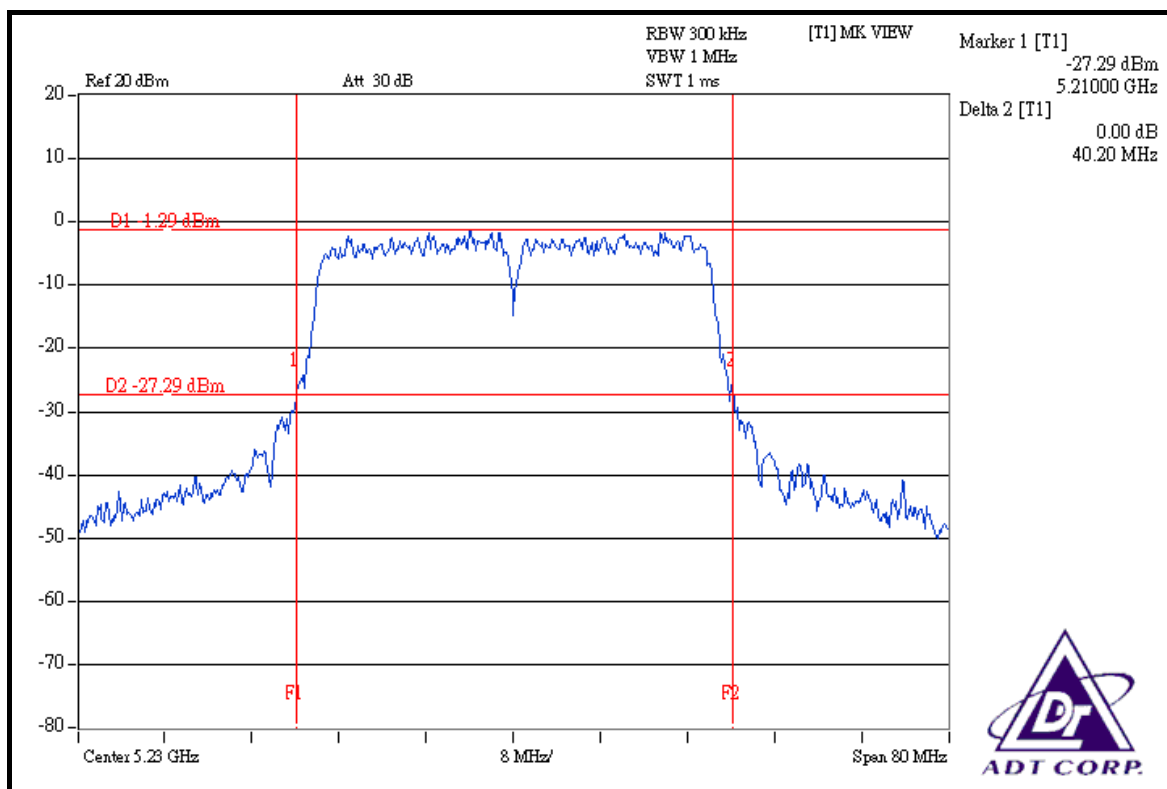
MODULATION TYPE	BPSK	TRANSFER RATE	15.0Mbps
INPUT POWER (SYSTEM)	120Vac, 60Hz	ENVIRONMENTAL CONDITIONS	27deg.C, 65%RH, 991hPa
TESTED BY	Dean Wang		

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc OCCUPIED BANDWIDTH (MHz)		PASS / FAIL
		CHAIN 0	CHAIN 1	
38	5190	39.79	40.05	PASS
46	5230	40.20	40.76	PASS
54	5270	39.66	40.46	PASS
62	5310	40.00	40.19	PASS
102	5510	38.84	39.61	PASS
118	5590	40.37	39.83	PASS
134	5670	40.73	40.55	PASS

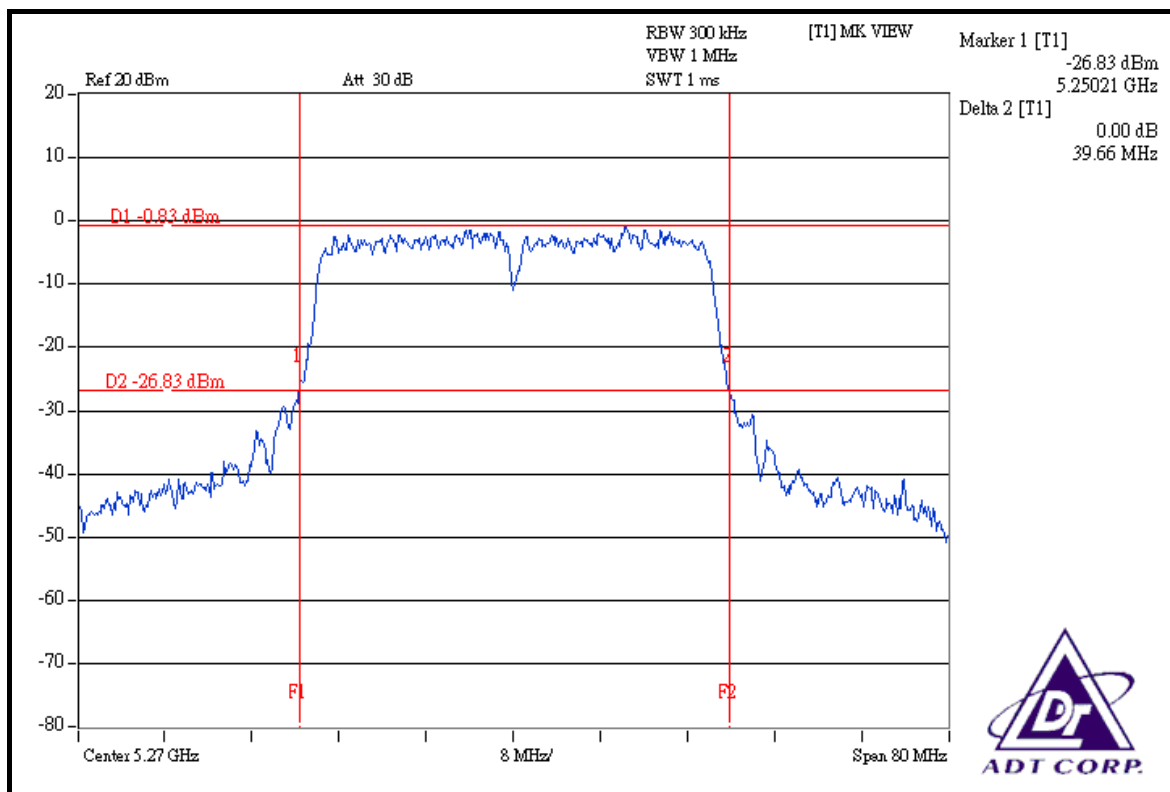
CHAIN 0: CH 38



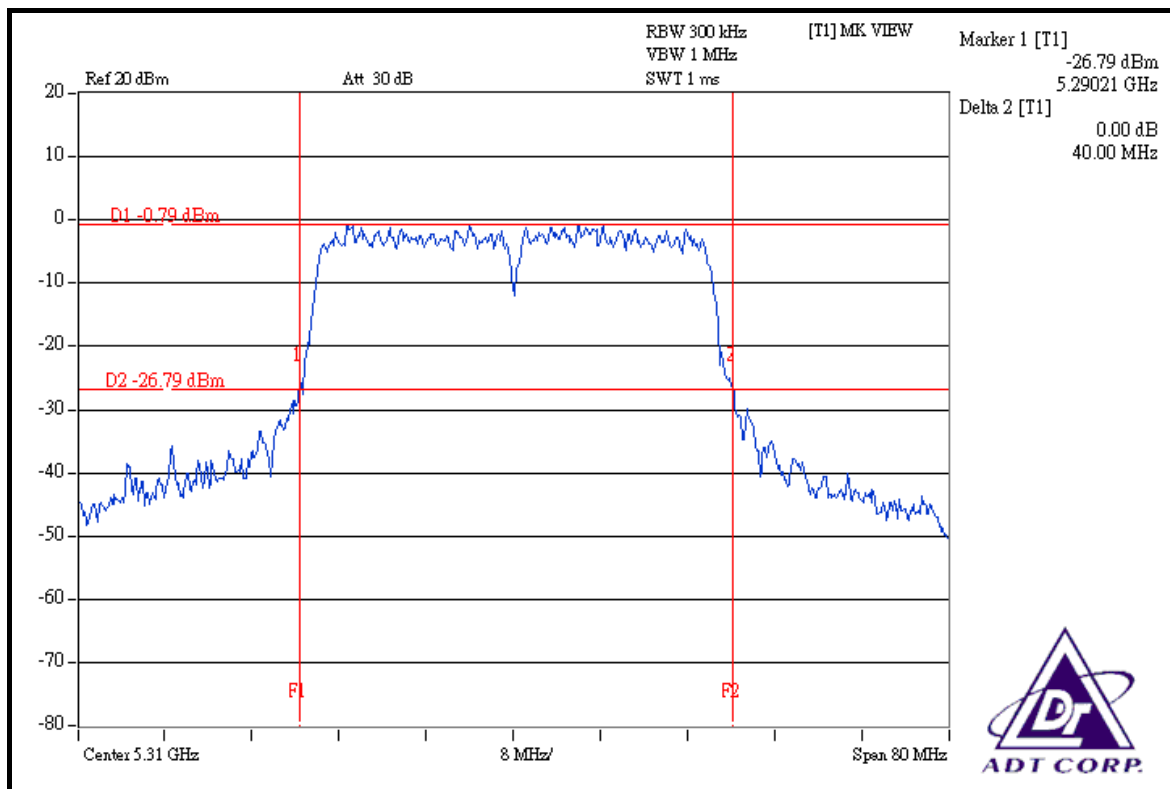
CH 46



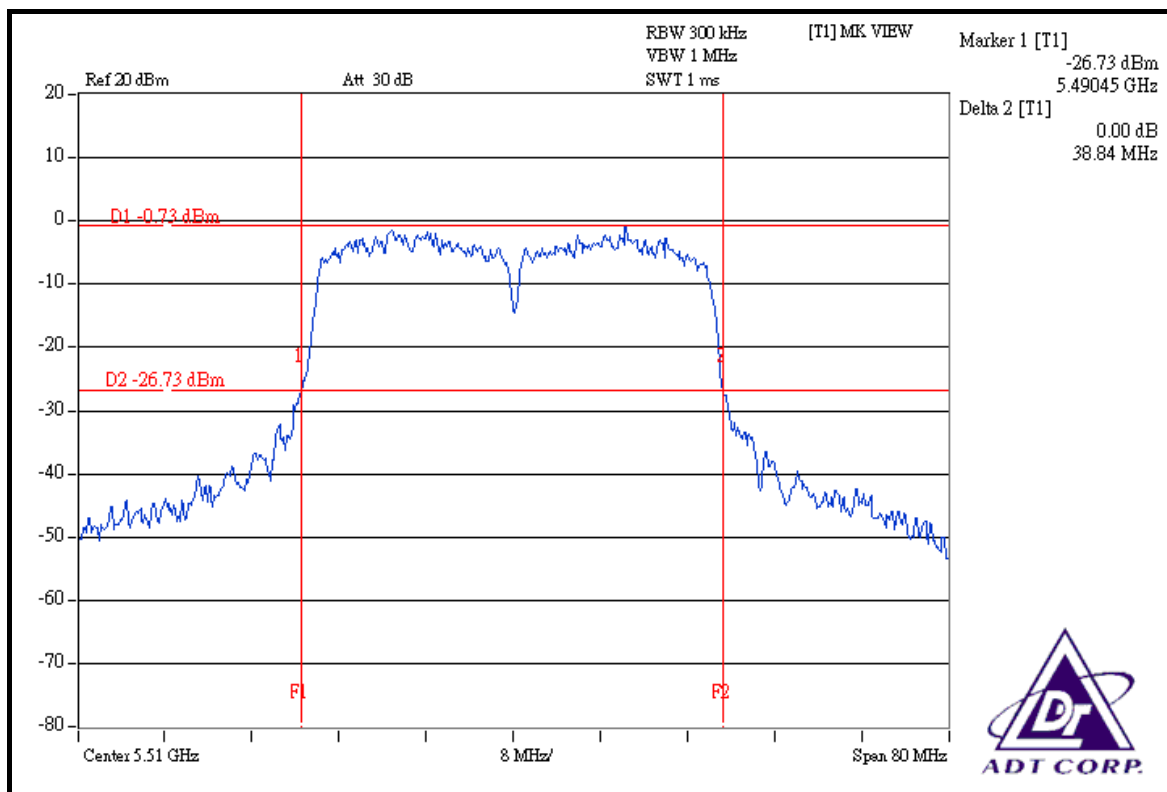
CH 54



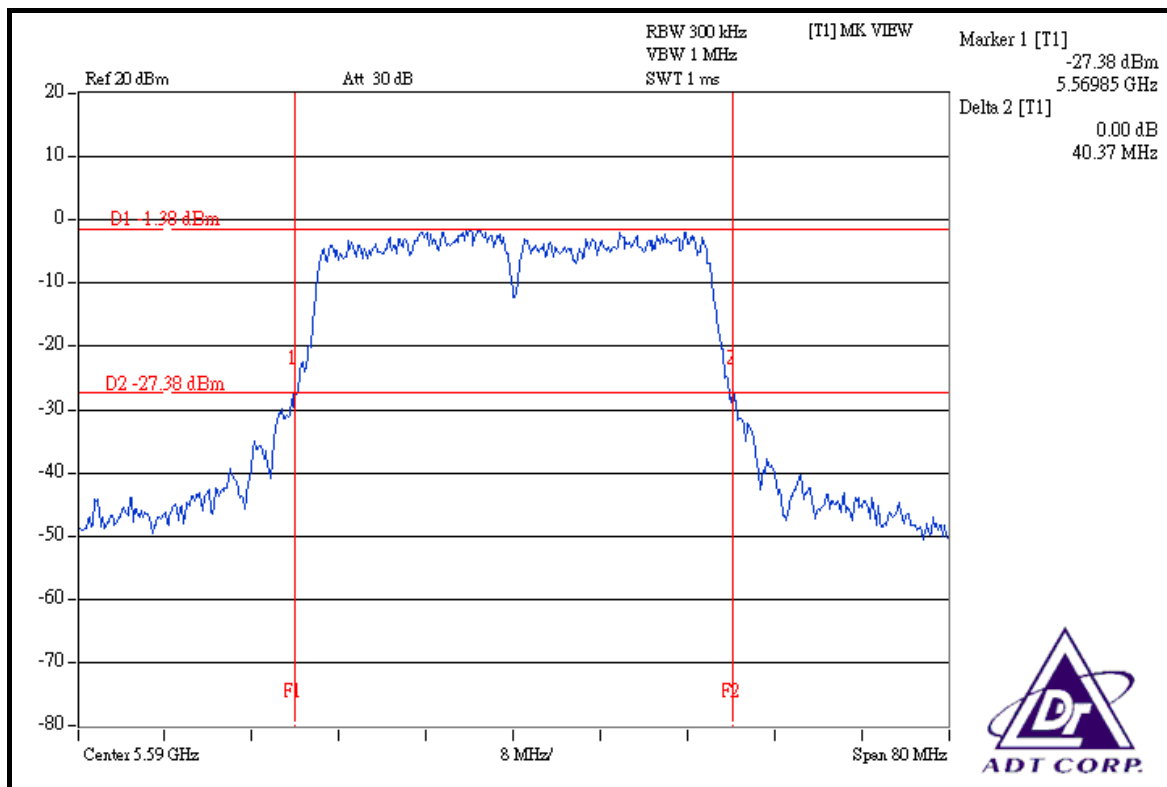
CH 62



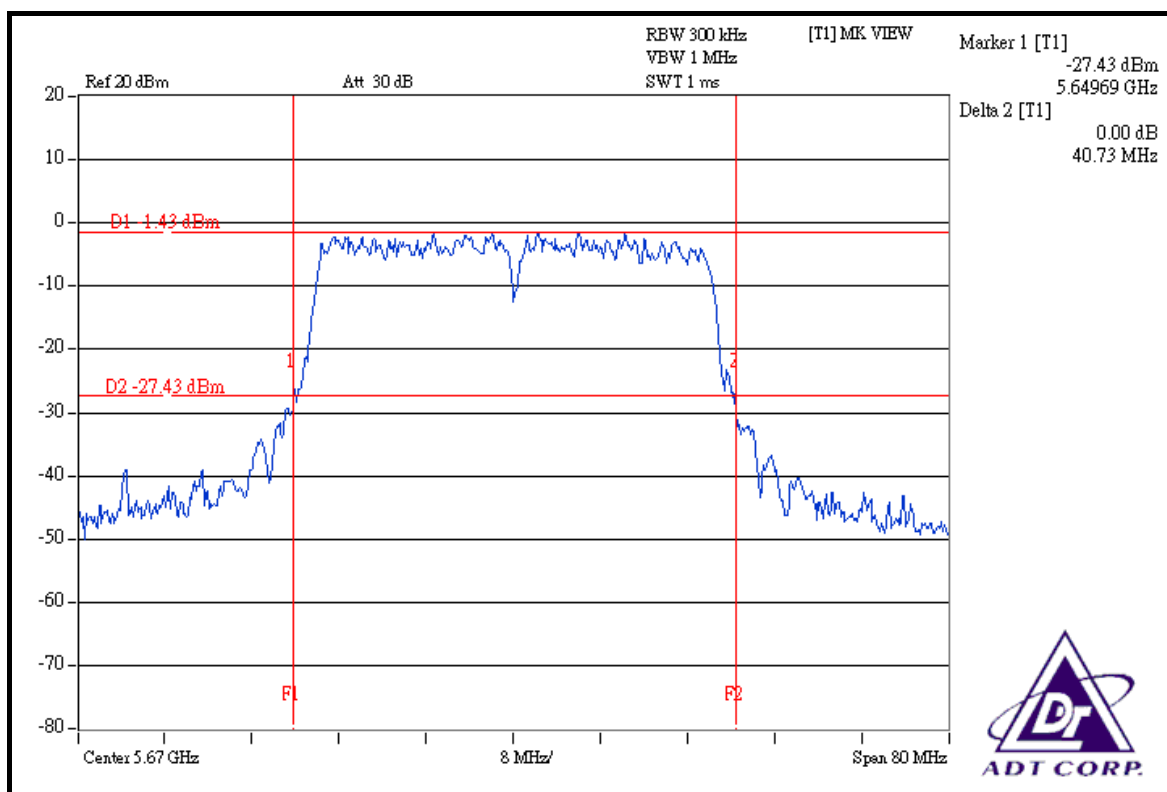
CH 102



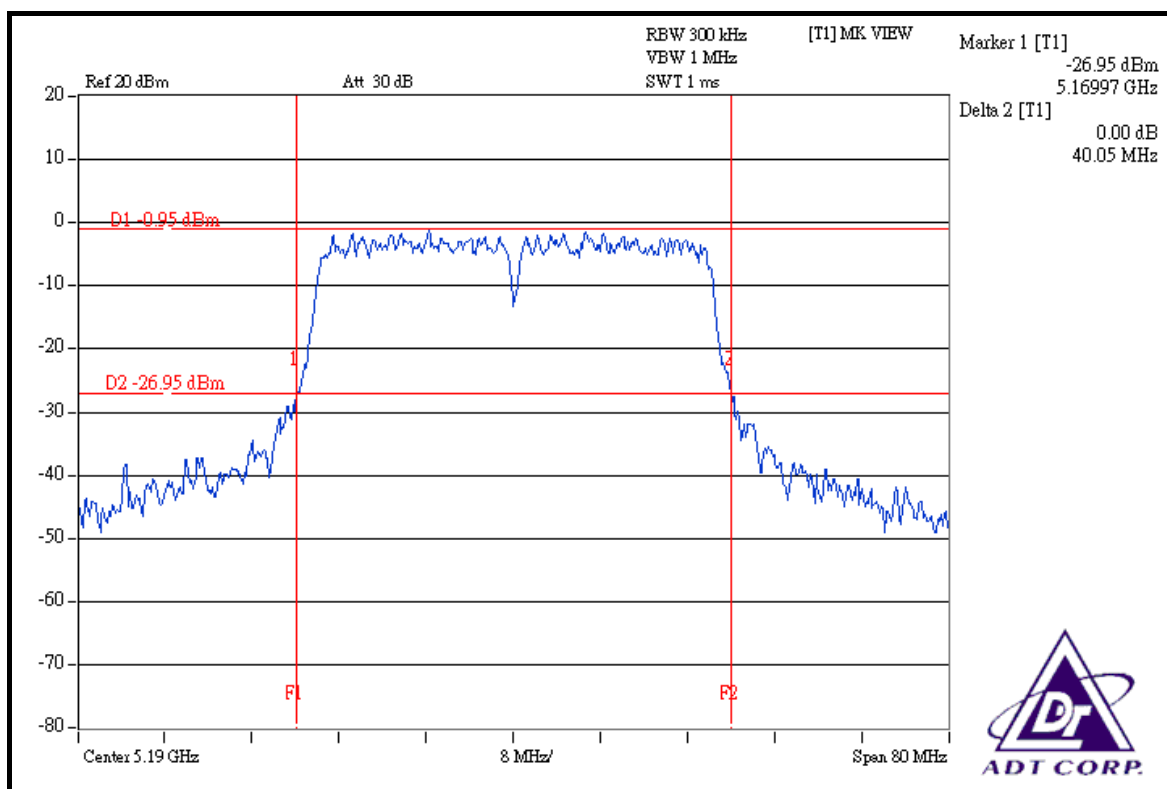
CH 118



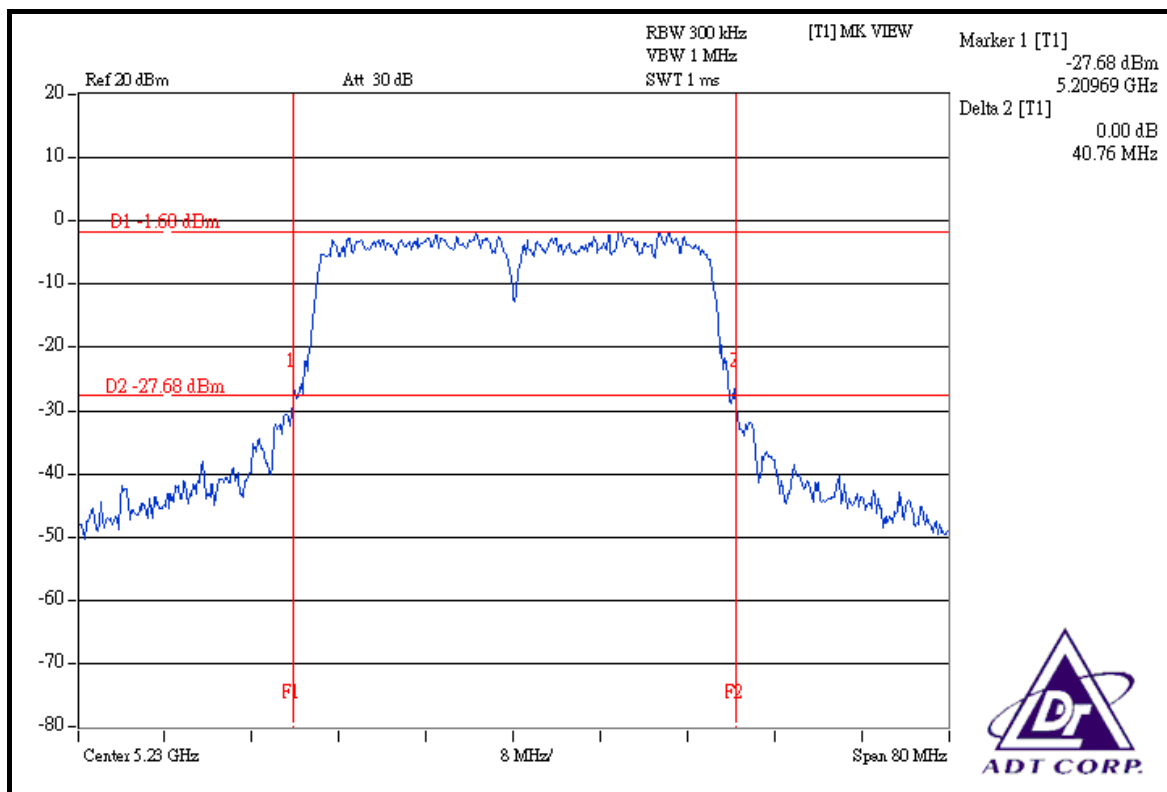
CH 134



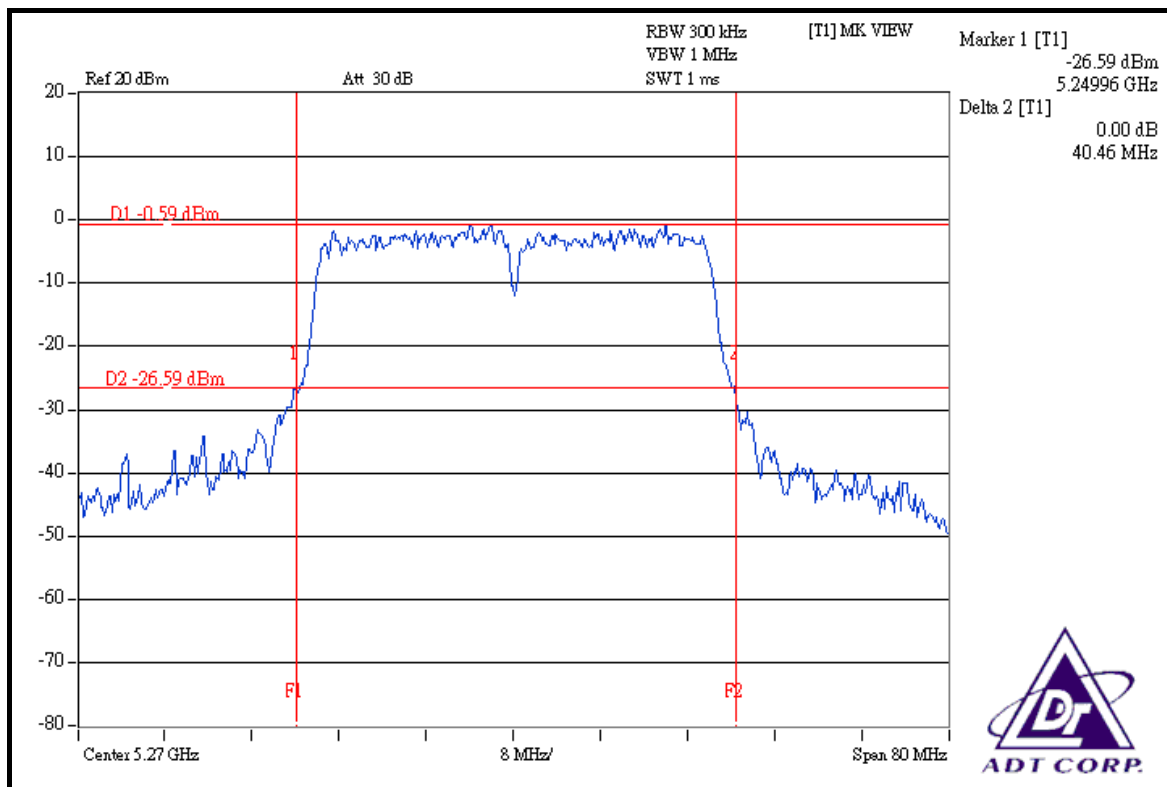
CHAIN 1: CH 38



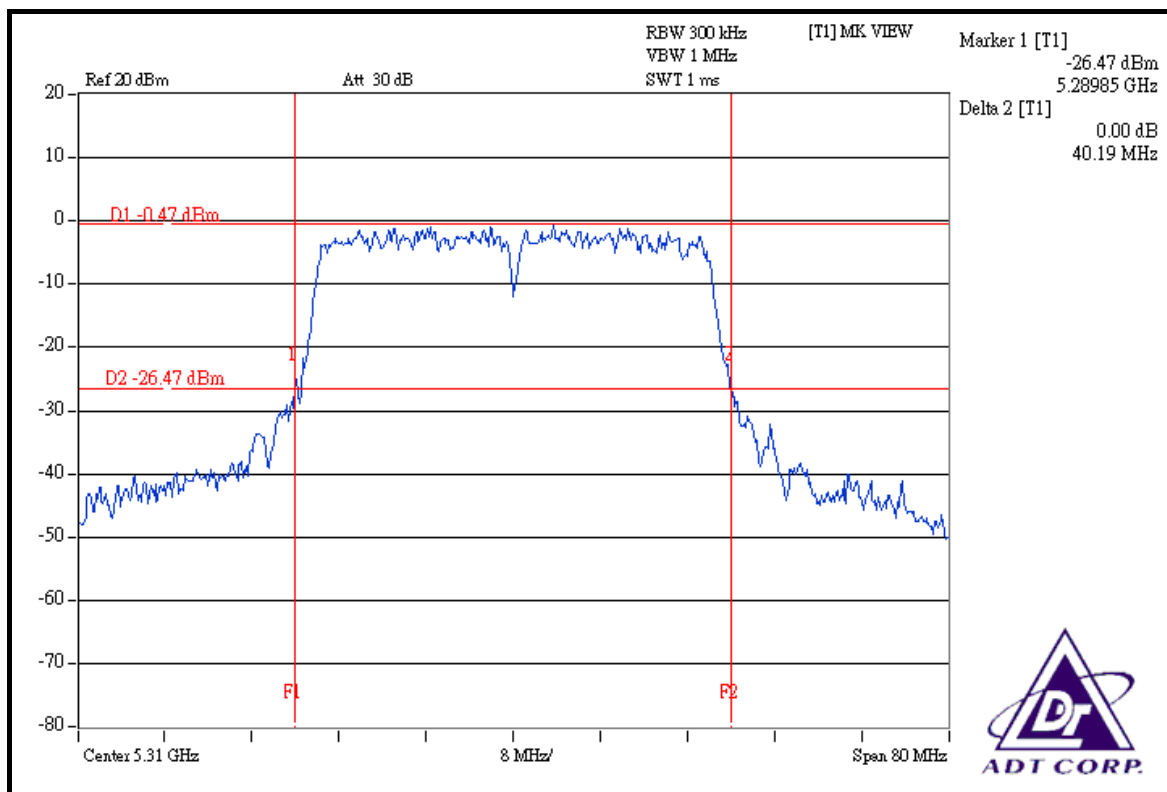
CH 46



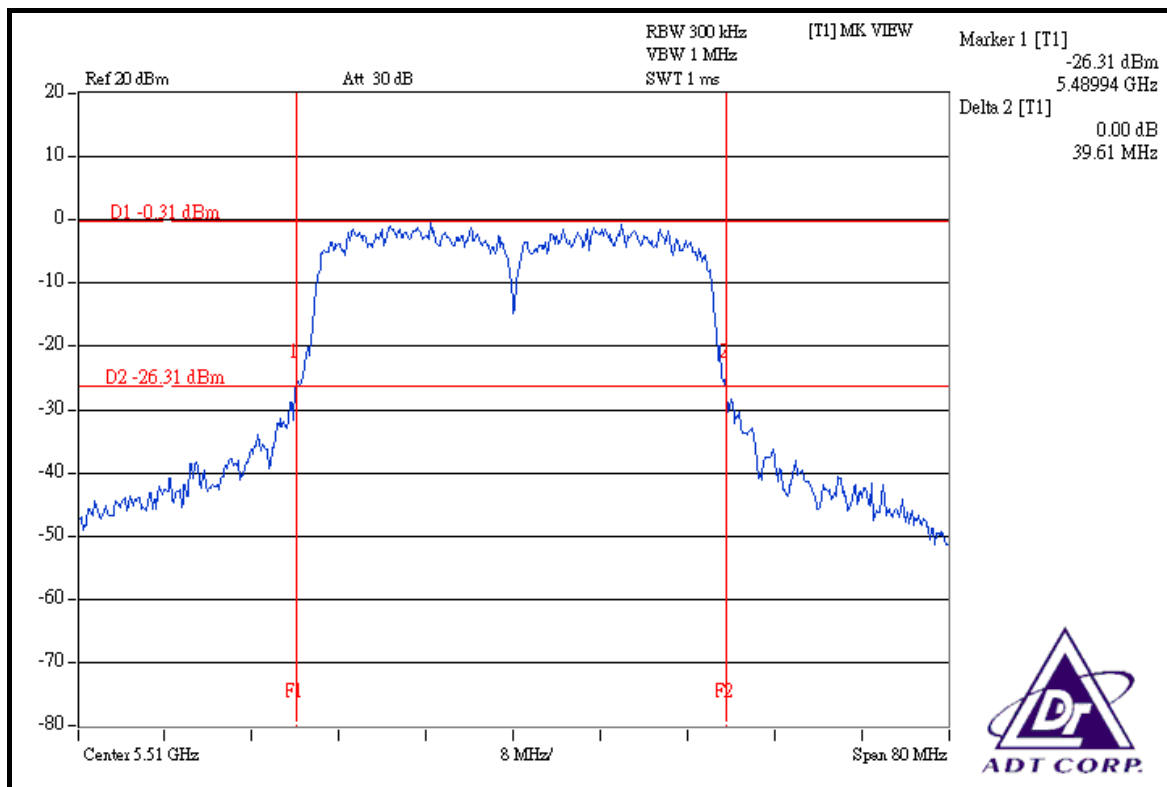
CH 54



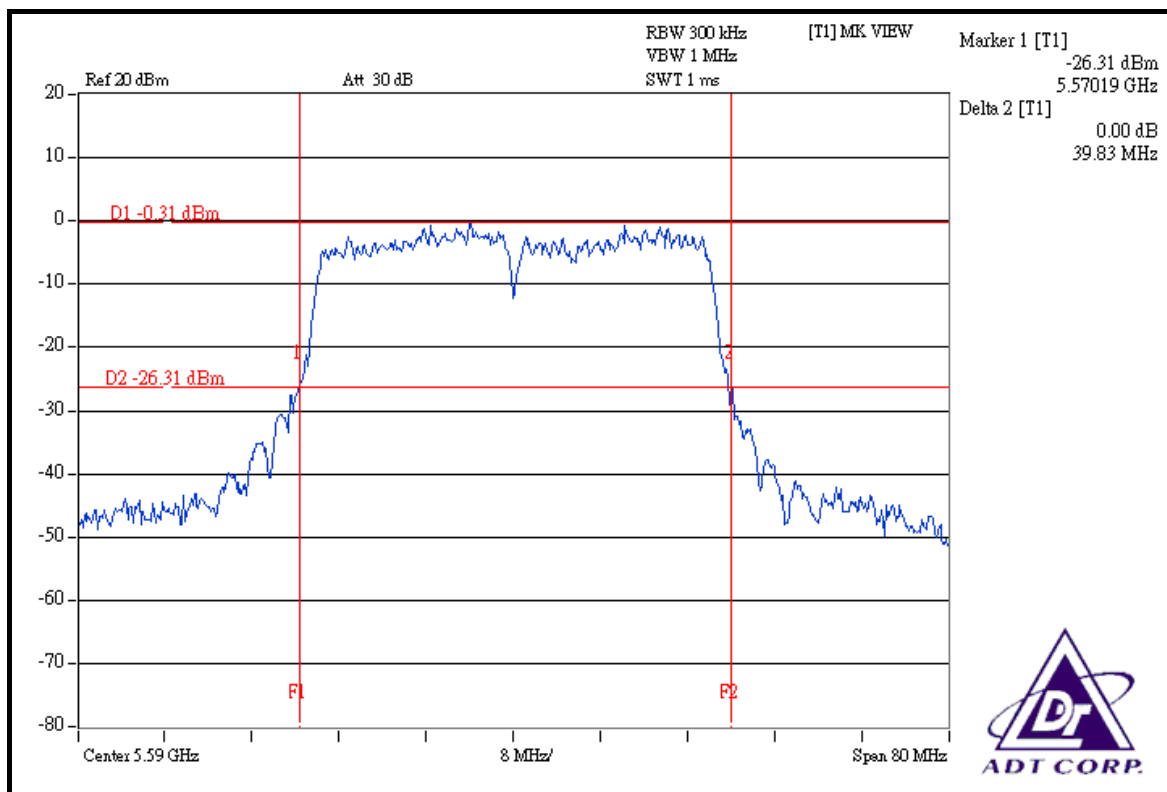
CH 62



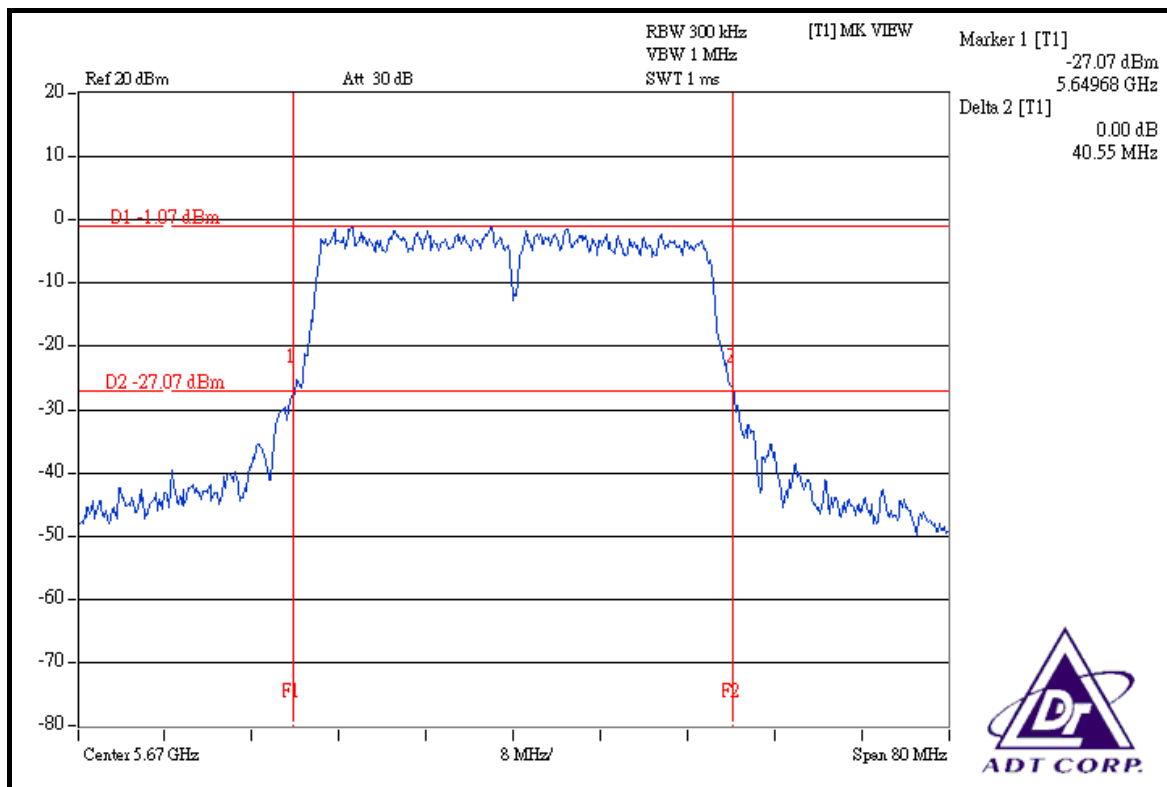
CH 102



CH 118



CH 134



4.4 PEAK POWER EXCURSION MEASUREMENT

4.4.1 LIMITS OF PEAK POWER EXCURSION MEASUREMENT

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

4.4.2 TEST INSTRUMENTS

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

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

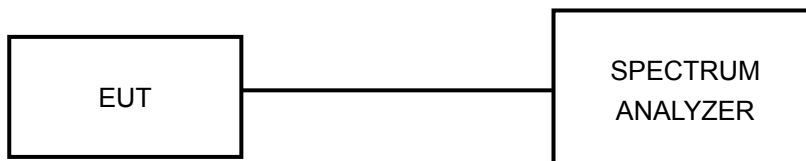
4.4.3 TEST PROCEDURE

- The transmitter output was connected to the spectrum analyzer.
- Set the spectrum bandwidth span to view the entire spectrum.
- Using peak detector and Max-hold function for Trace 1 (RB = 1MHz, VB = 3MHz) and 2 (RB = 1MHz, VB = 300kHz).
- 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.

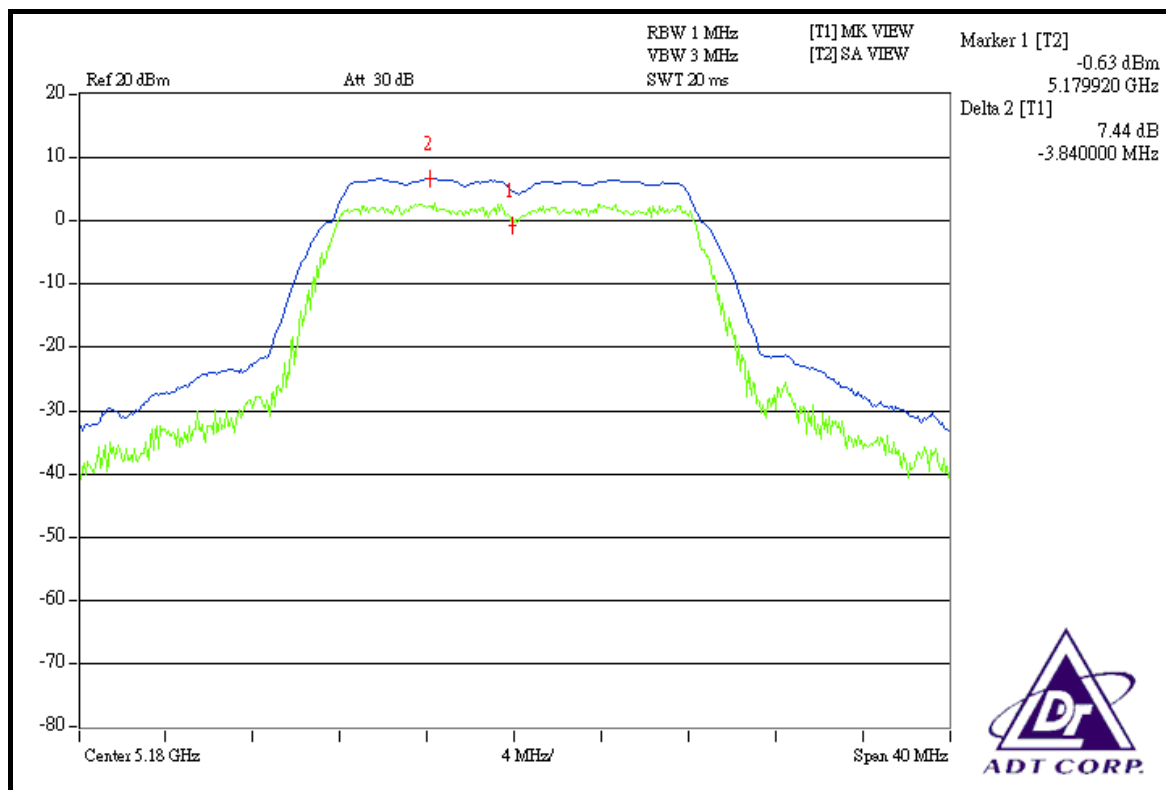
4.4.7 TEST RESULTS

802.11a OFDM MODULATION

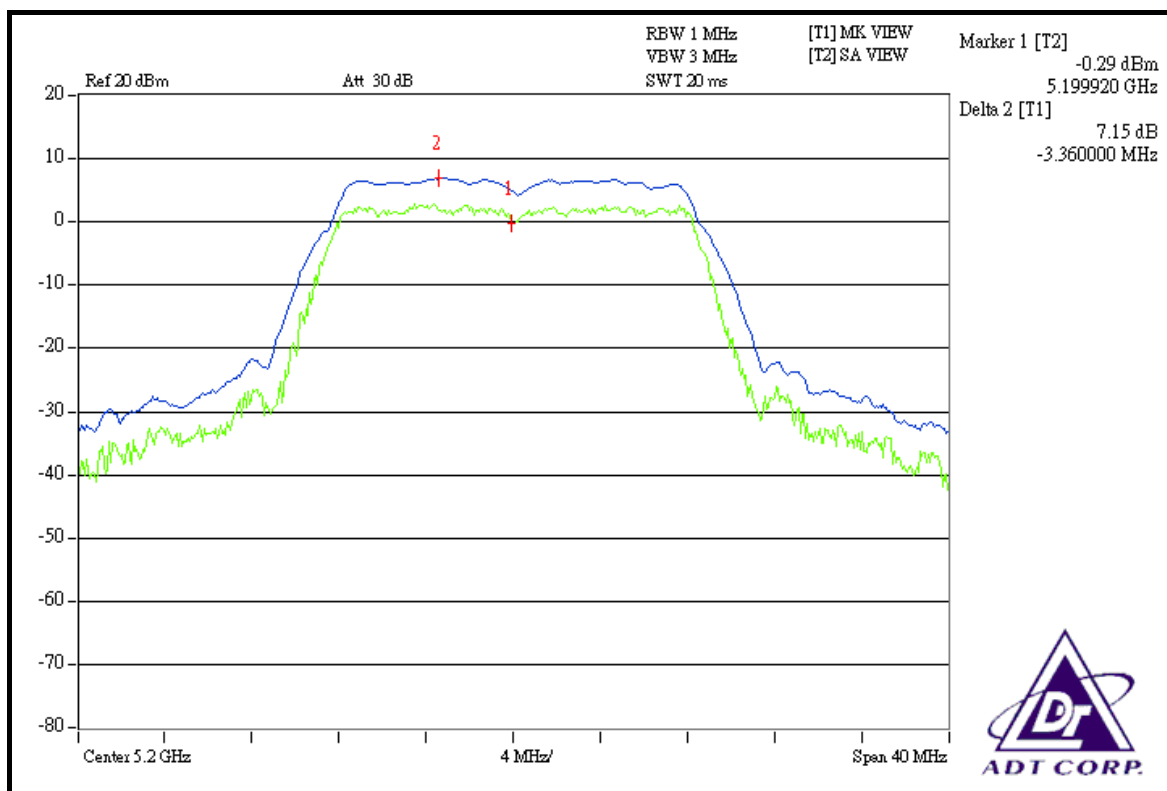
MODULATION TYPE	BPSK	TRANSFER RATE	6.0Mbps
INPUT POWER (SYSTEM)	120Vac, 60Hz	ENVIRONMENTAL CONDITIONS	27deg.C, 65%RH, 991hPa
TESTED BY	Dean Wang		

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER EXCURSION (dB)	PEAK TO AVERAGE EXCURSION LIMIT (dB)	PASS / FAIL
36	5180	7.44	13	PASS
40	5200	7.15	13	PASS
48	5240	7.25	13	PASS
52	5260	7.14	13	PASS
60	5300	6.96	13	PASS
64	5320	7.11	13	PASS
100	5500	7.14	13	PASS
120	5600	7.07	13	PASS
140	5700	7.73	13	PASS

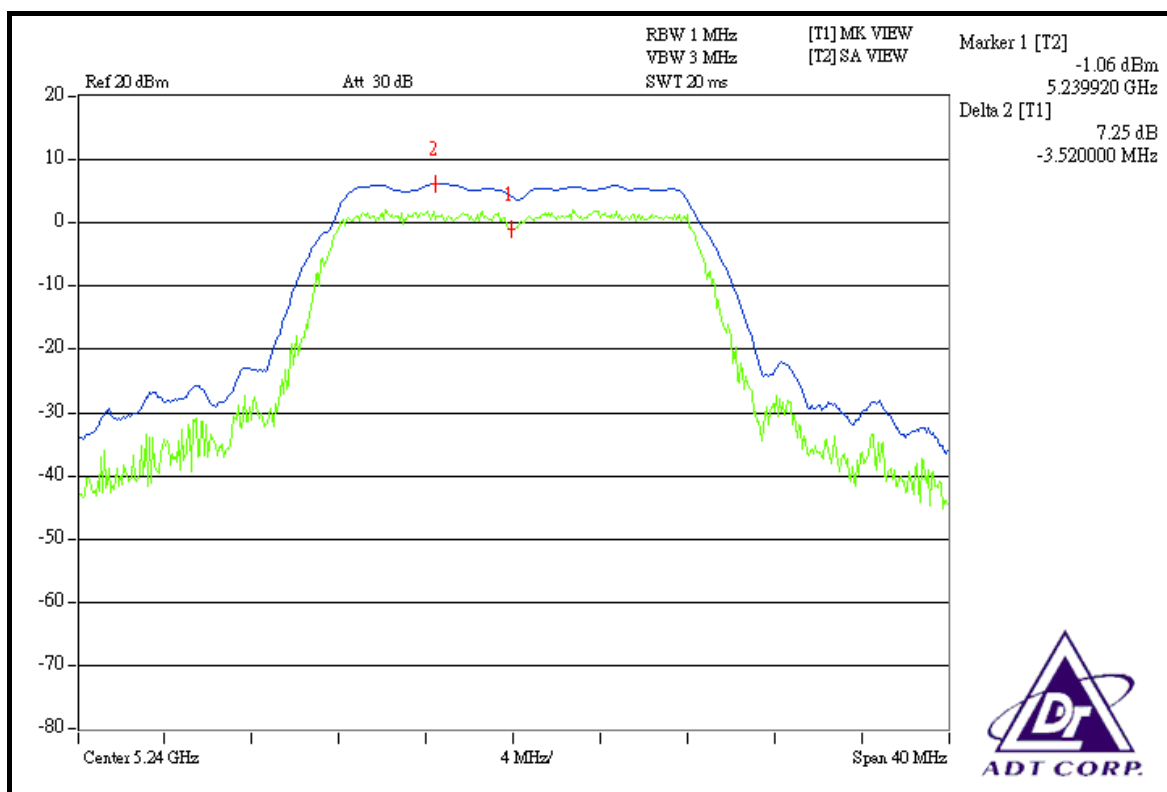
CH 36



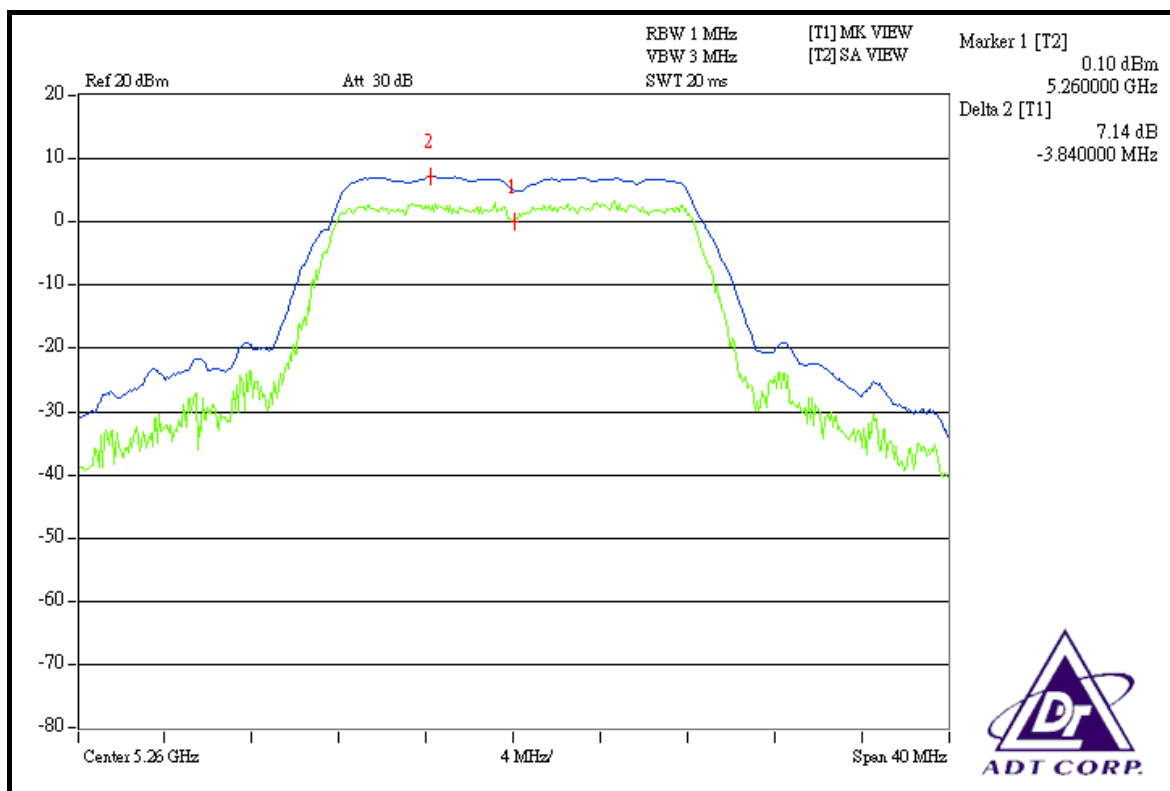
CH 40



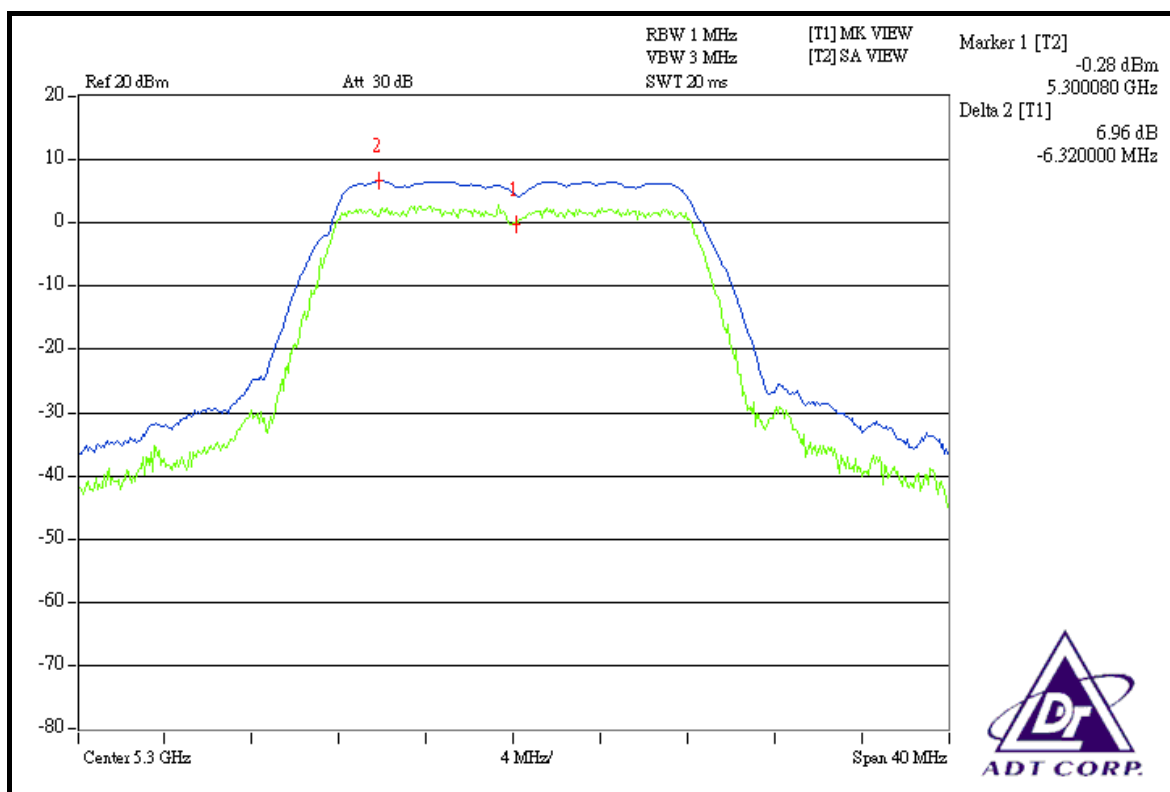
CH 48



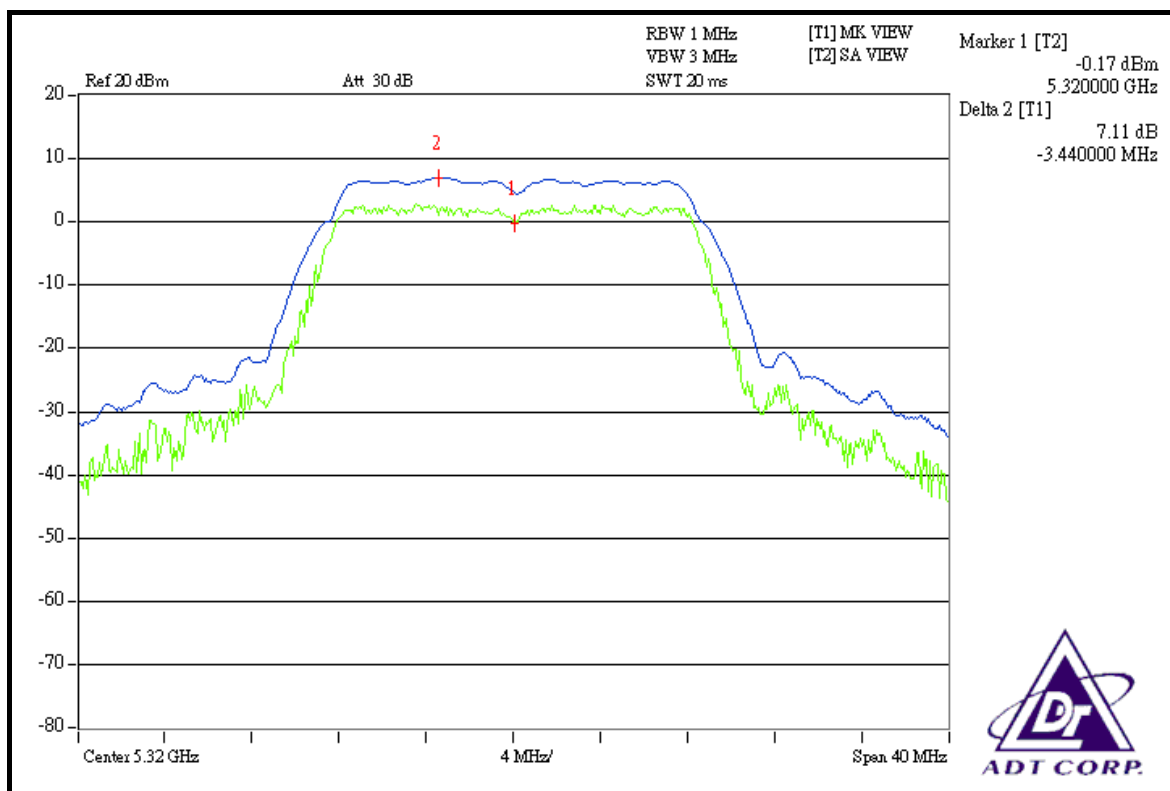
CH 52



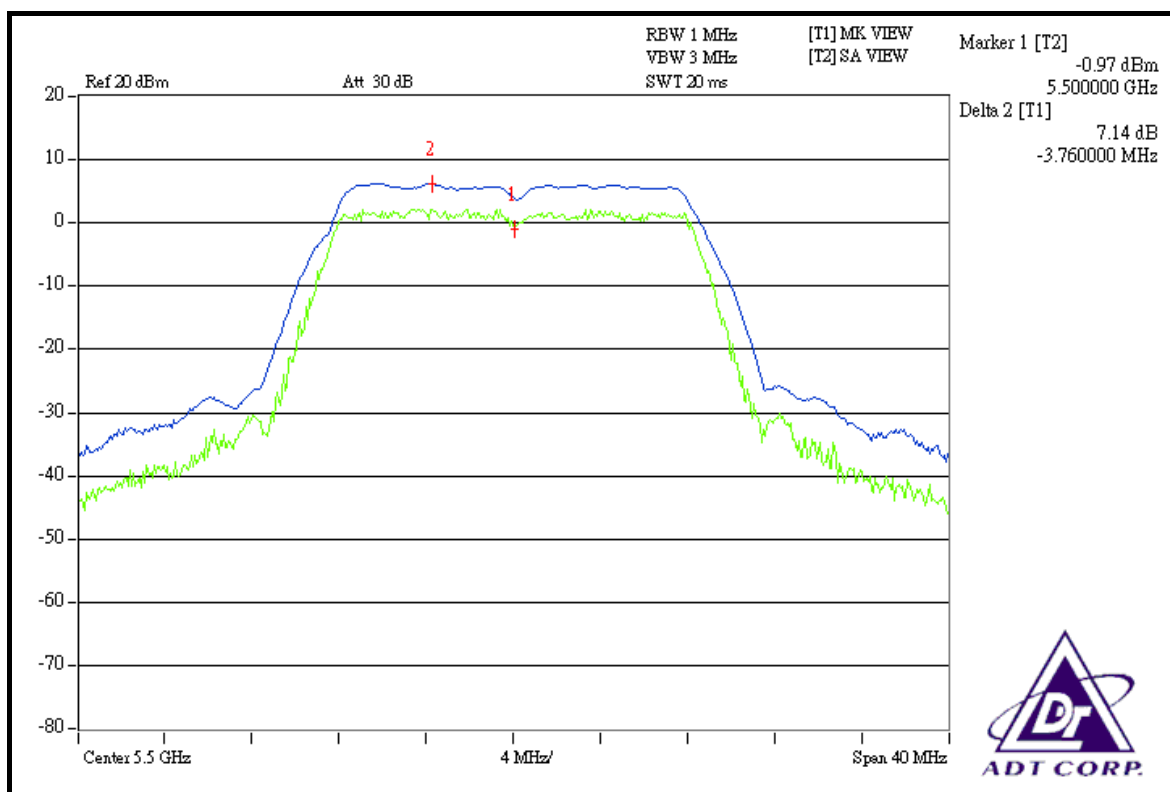
CH 60



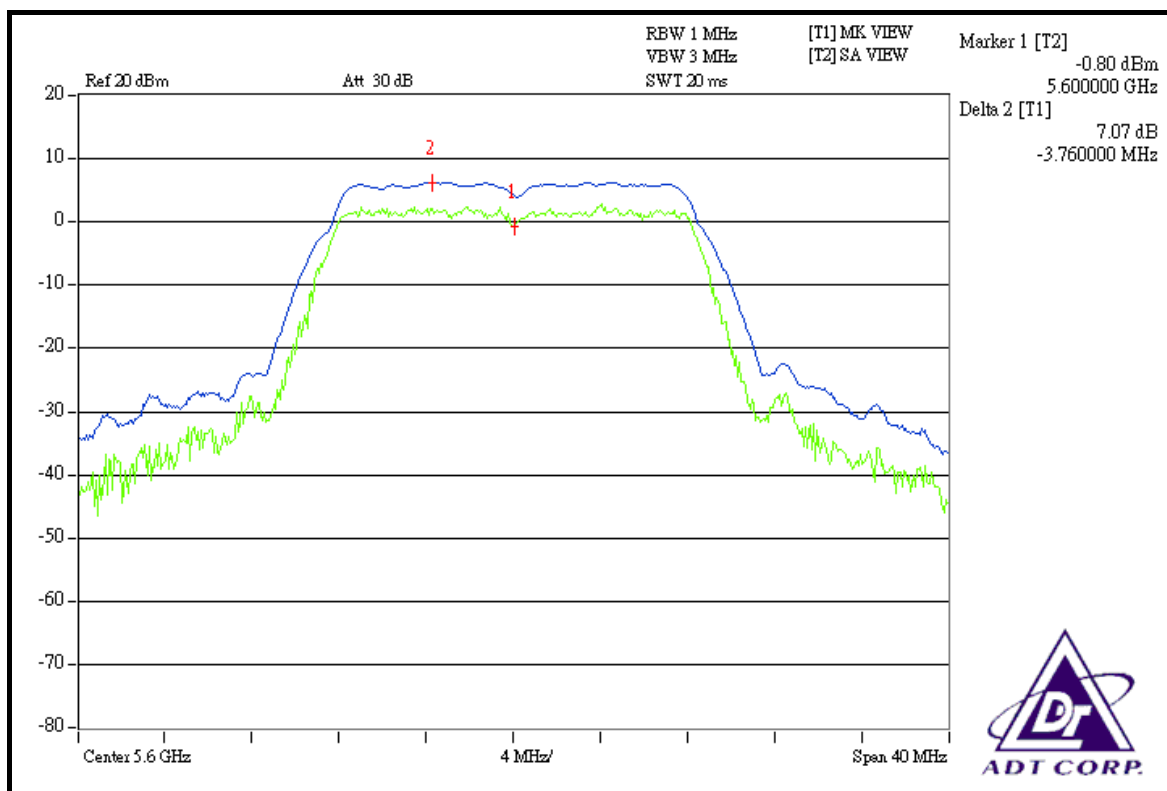
CH 64



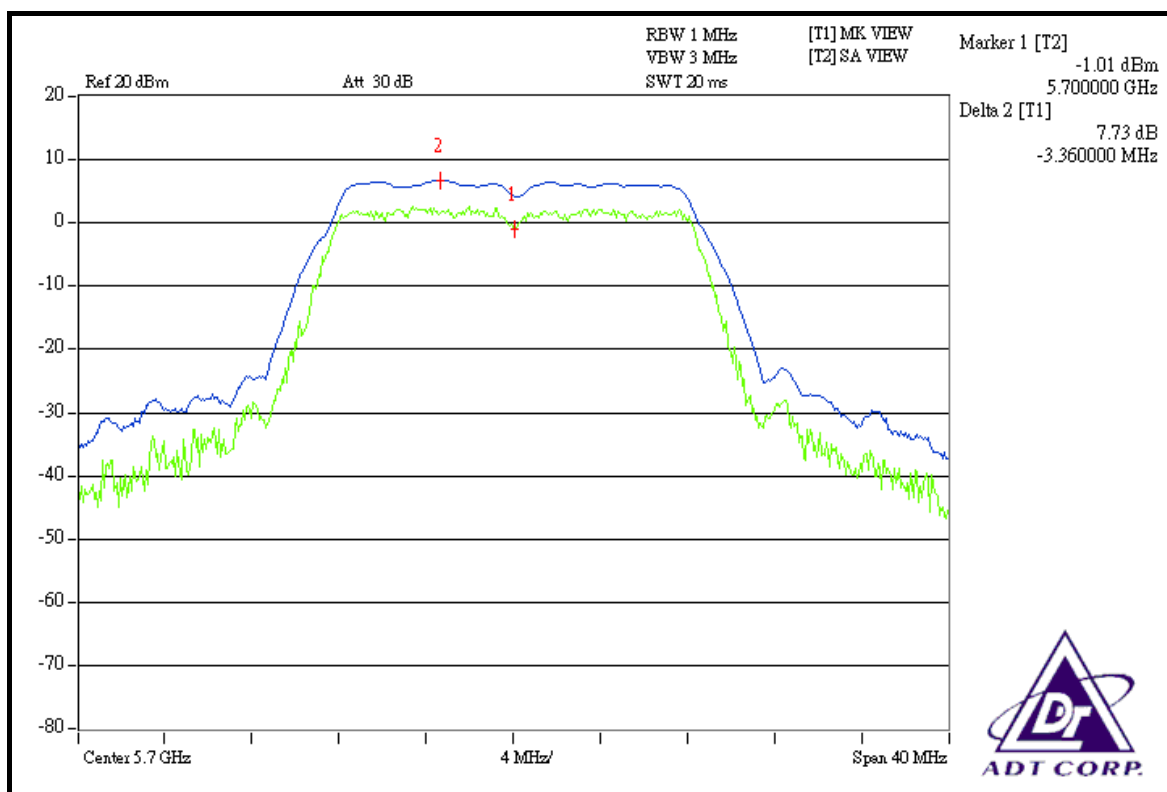
CH 100



CH 120



CH 140

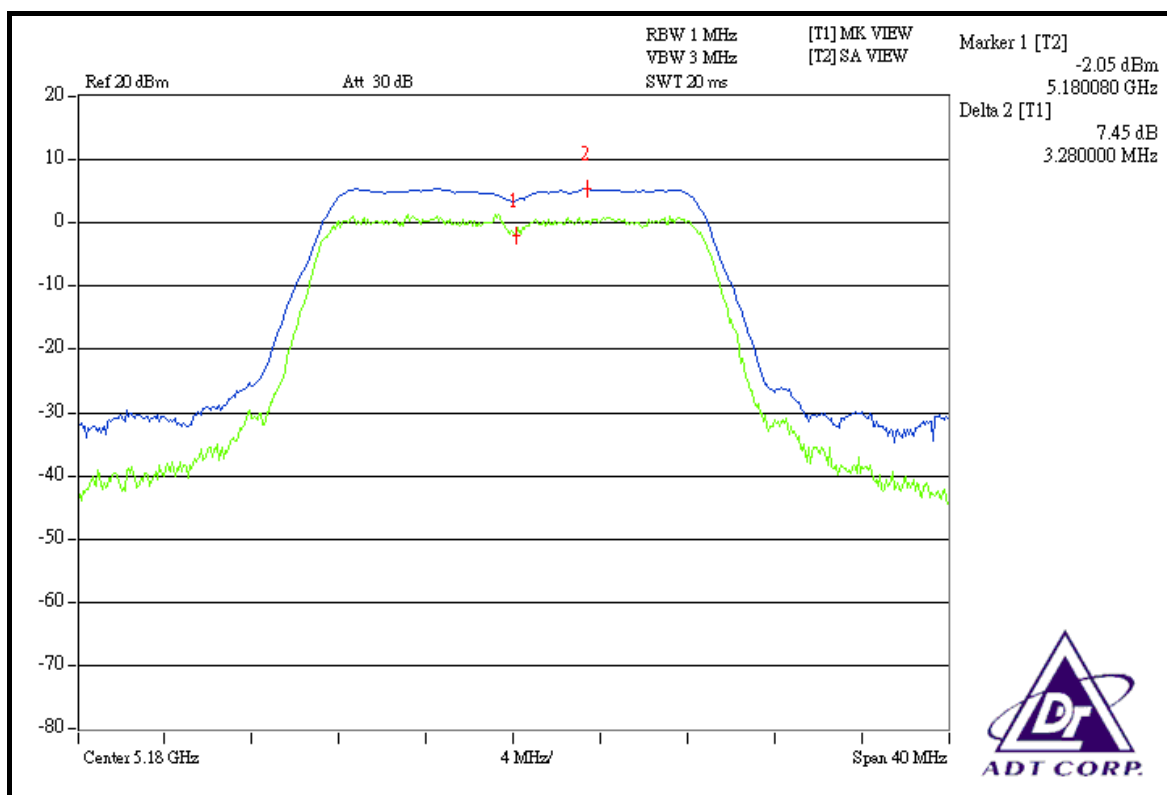


DRAFT 802.11n (20MHz) OFDM MODULATION

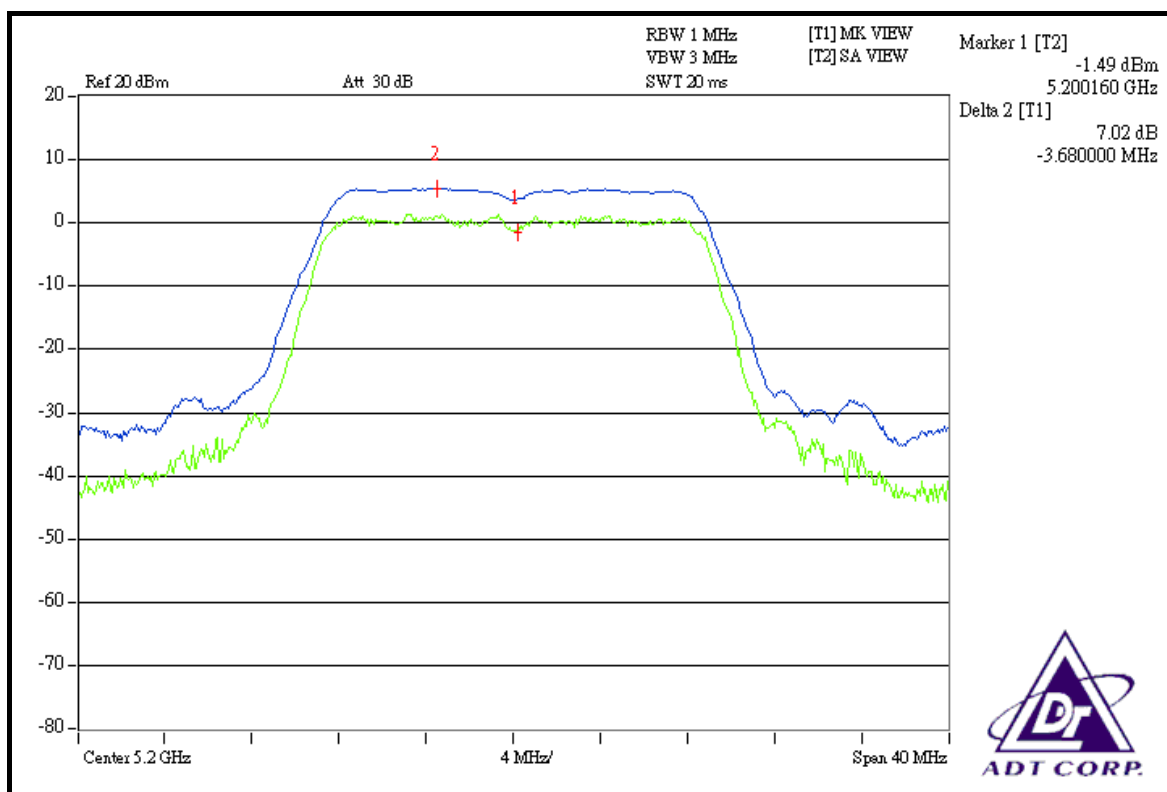
MODULATION TYPE	BPSK	TRANSFER RATE	7.2Mbps
INPUT POWER (SYSTEM)	120Vac, 60Hz	ENVIRONMENTAL CONDITIONS	27deg.C, 65%RH, 991hPa
TESTED BY	Dean Wang		

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER EXCURSION (dB)		PEAK to AVERAGE EXCURSION LIMIT (dB)	PASS/FAIL
		CHAIN 0	CHAIN 1		
36	5180	7.45	7.50	13	PASS
40	5200	7.02	7.03	13	PASS
48	5240	7.47	7.86	13	PASS
52	5260	7.75	7.66	13	PASS
60	5300	7.70	7.59	13	PASS
64	5320	8.00	7.54	13	PASS
100	5500	7.17	6.90	13	PASS
120	5600	8.43	8.49	13	PASS
140	5700	7.14	7.22	13	PASS

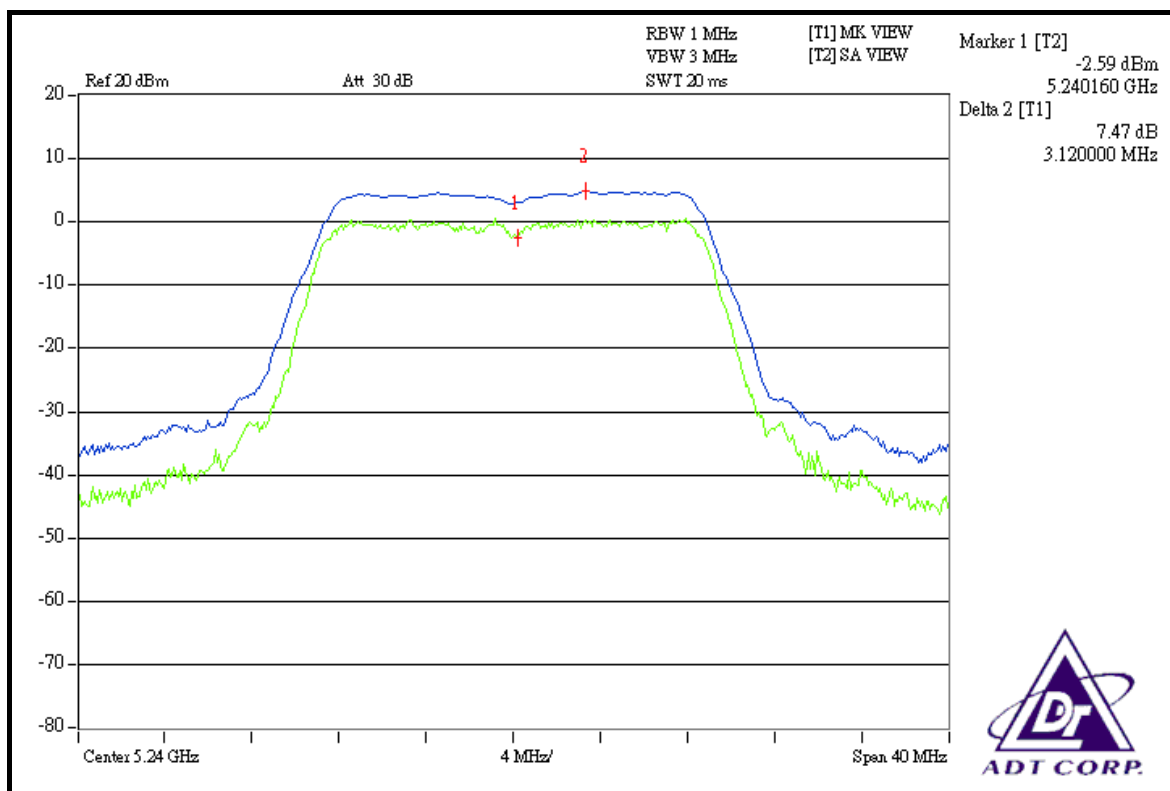
CHAIN 0: CH 36



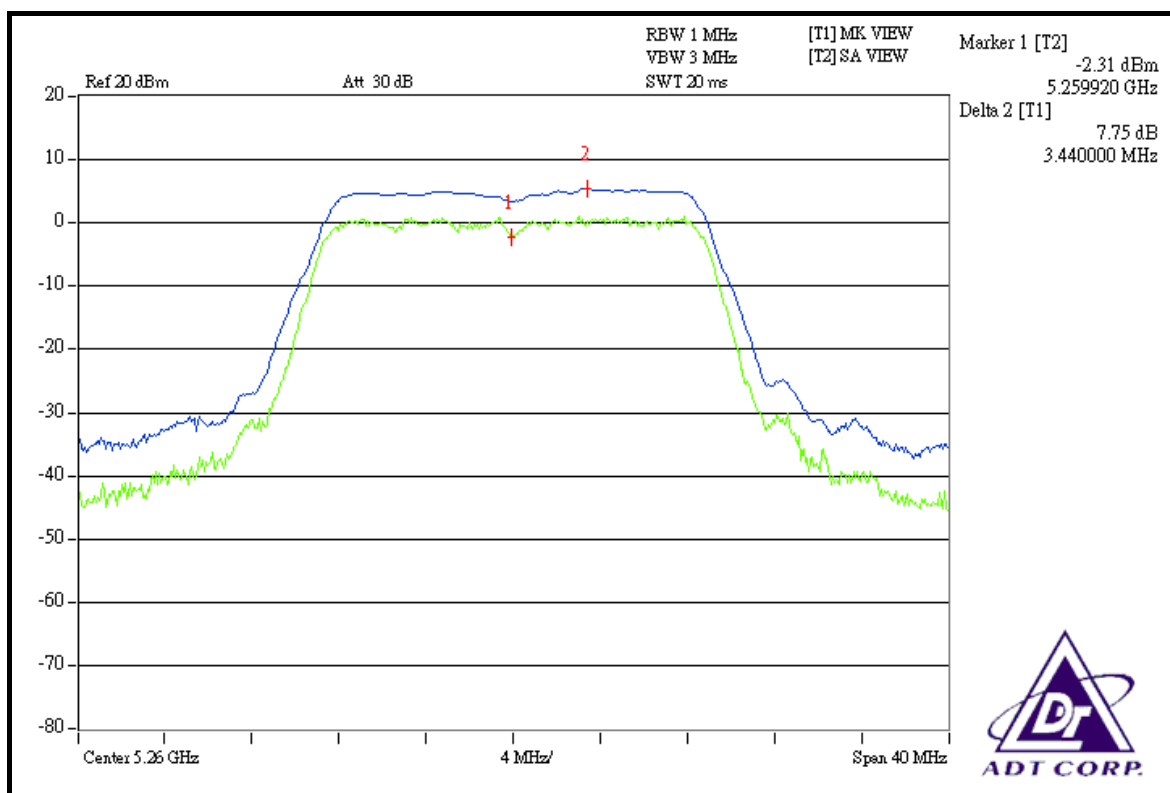
CH 40



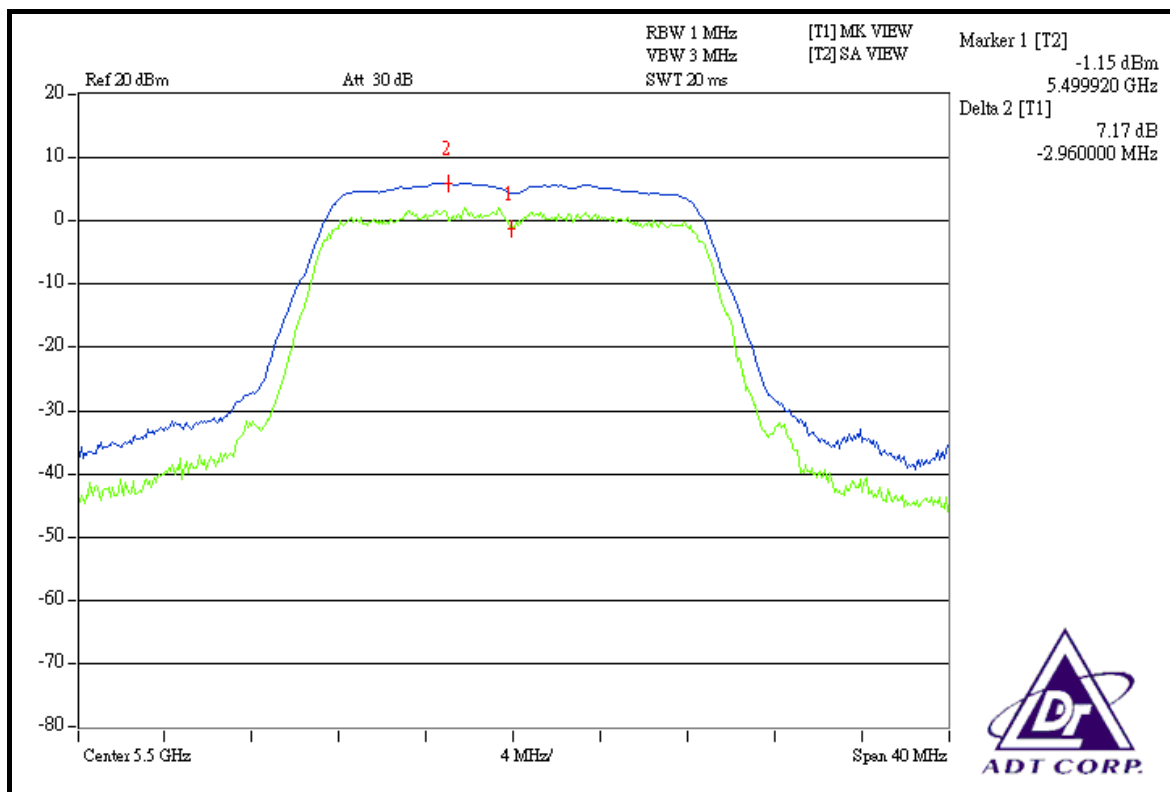
CH 48



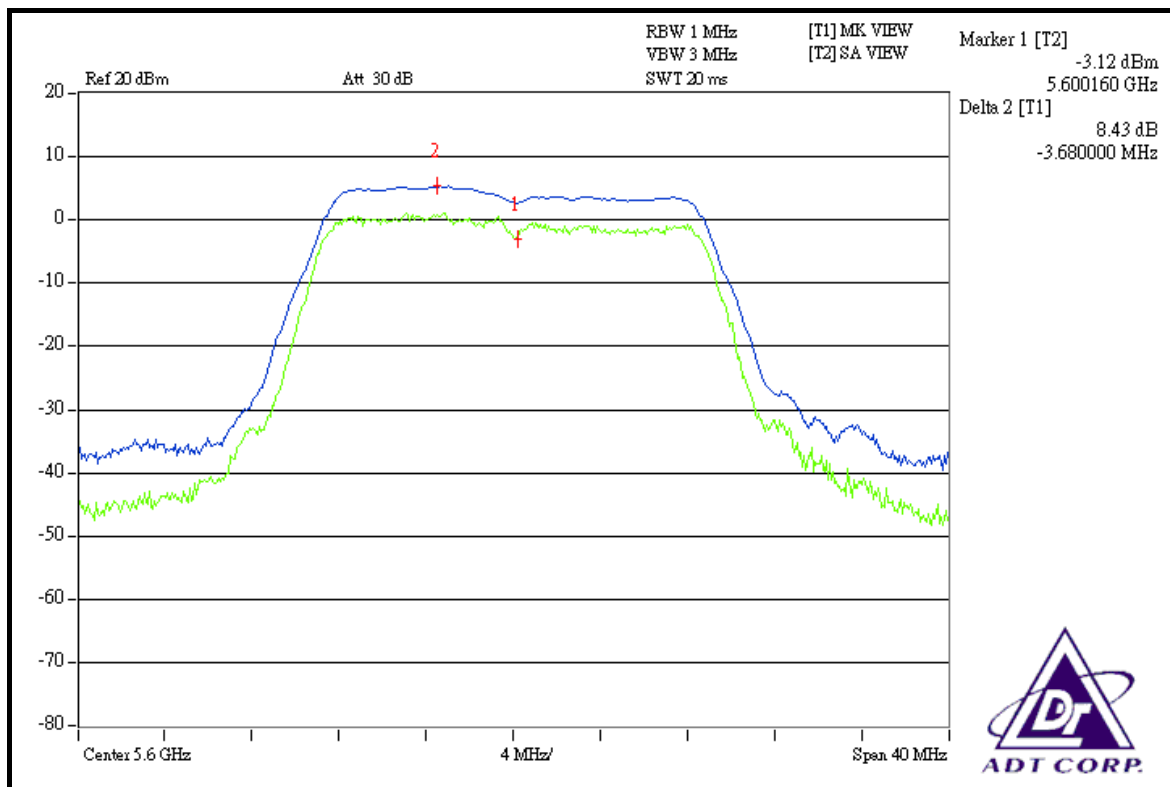
CH 52



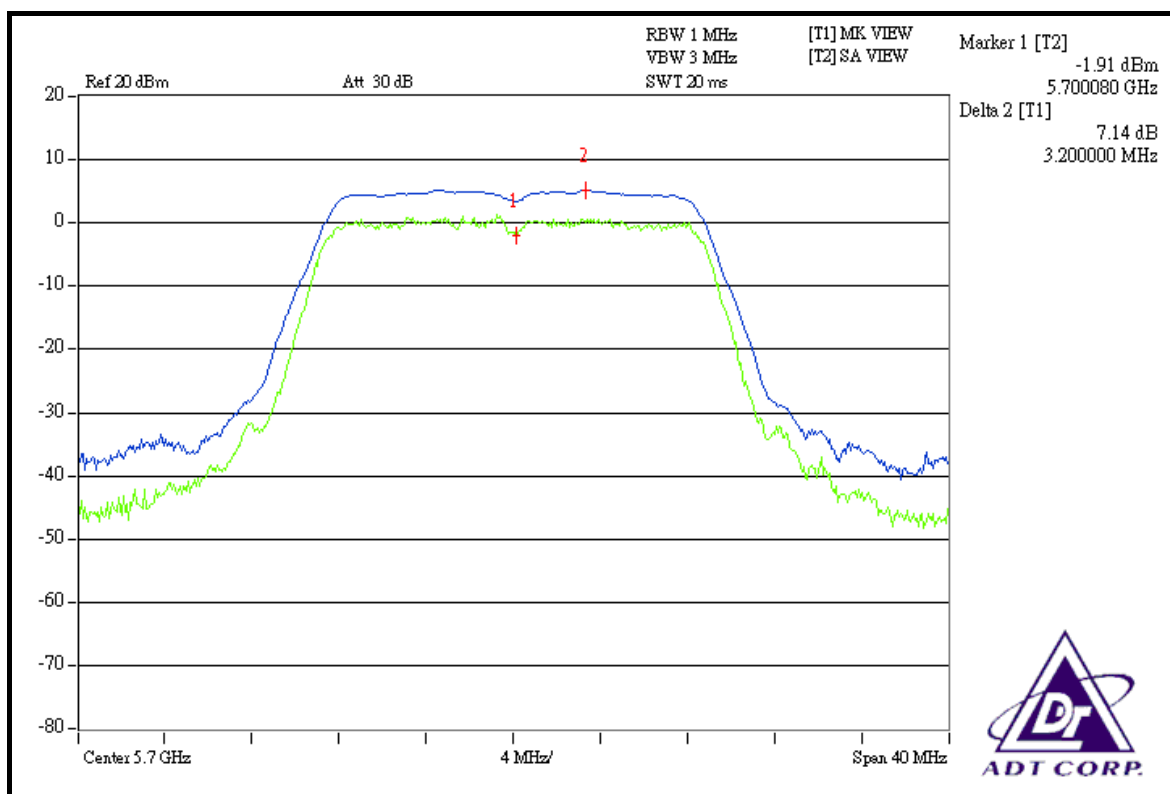
CH 100



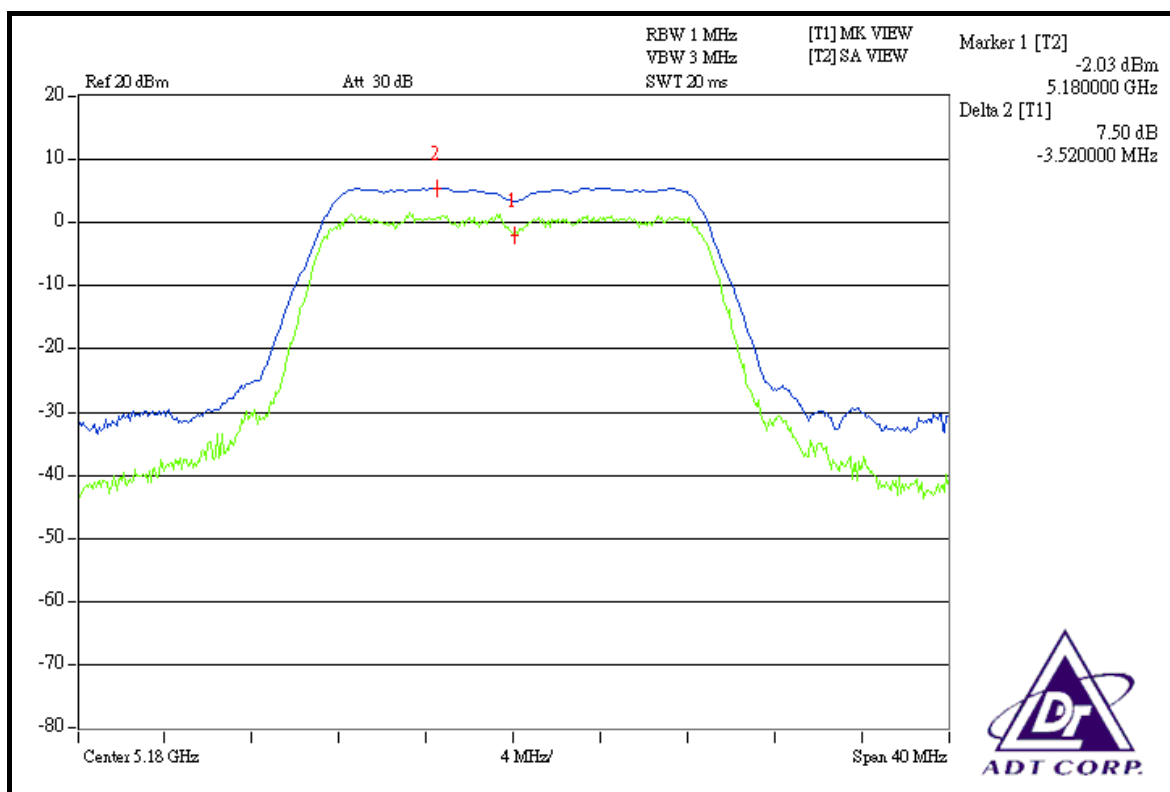
CH 120



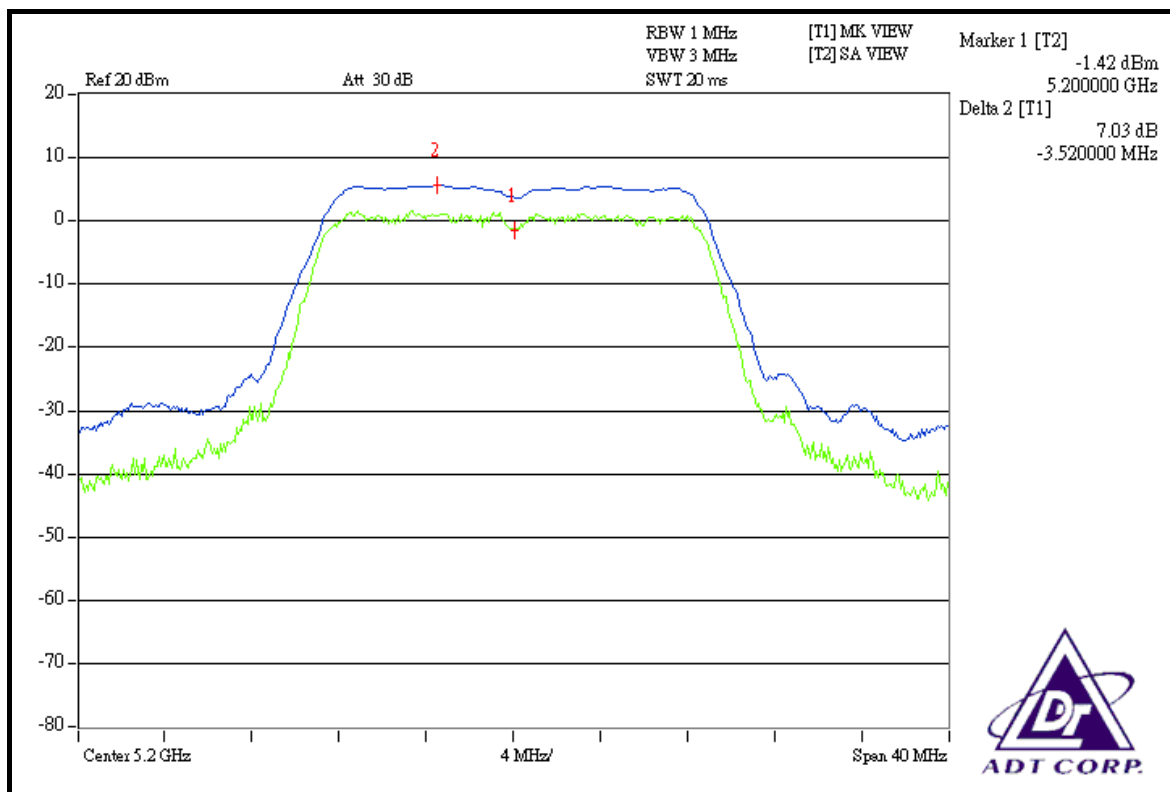
CH 140



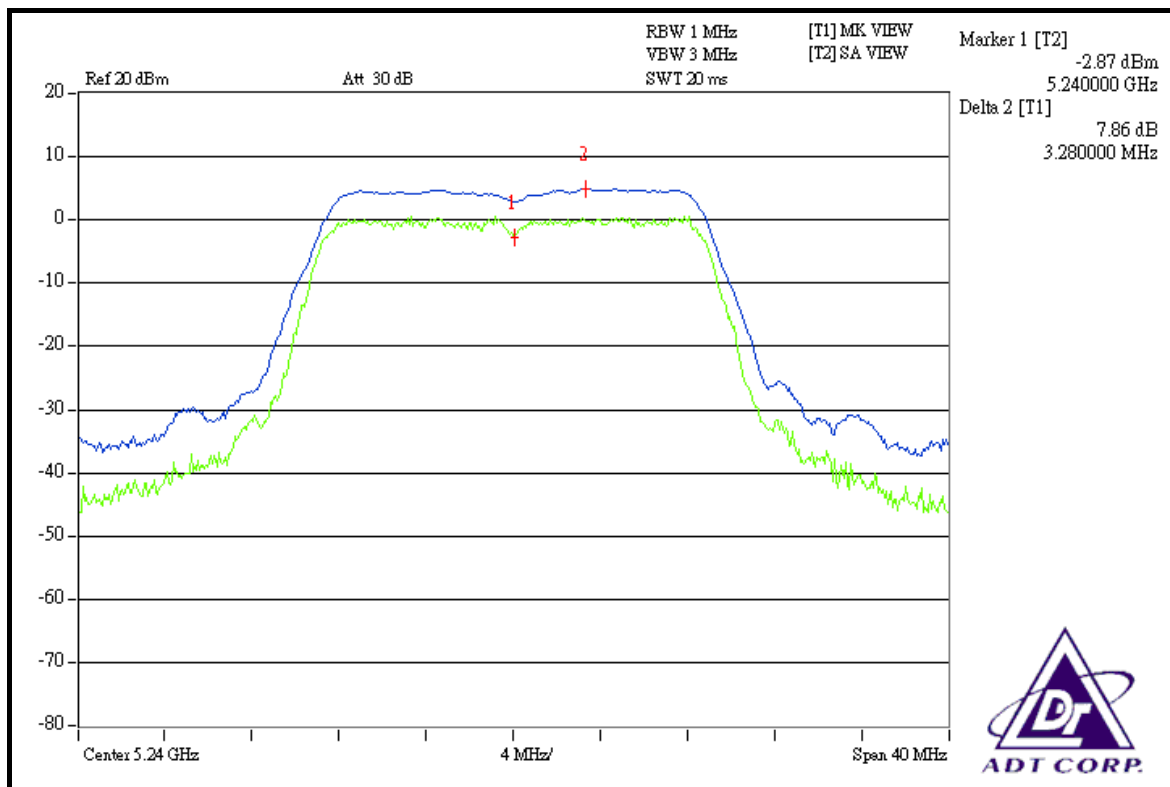
CHAIN 1: CH 36



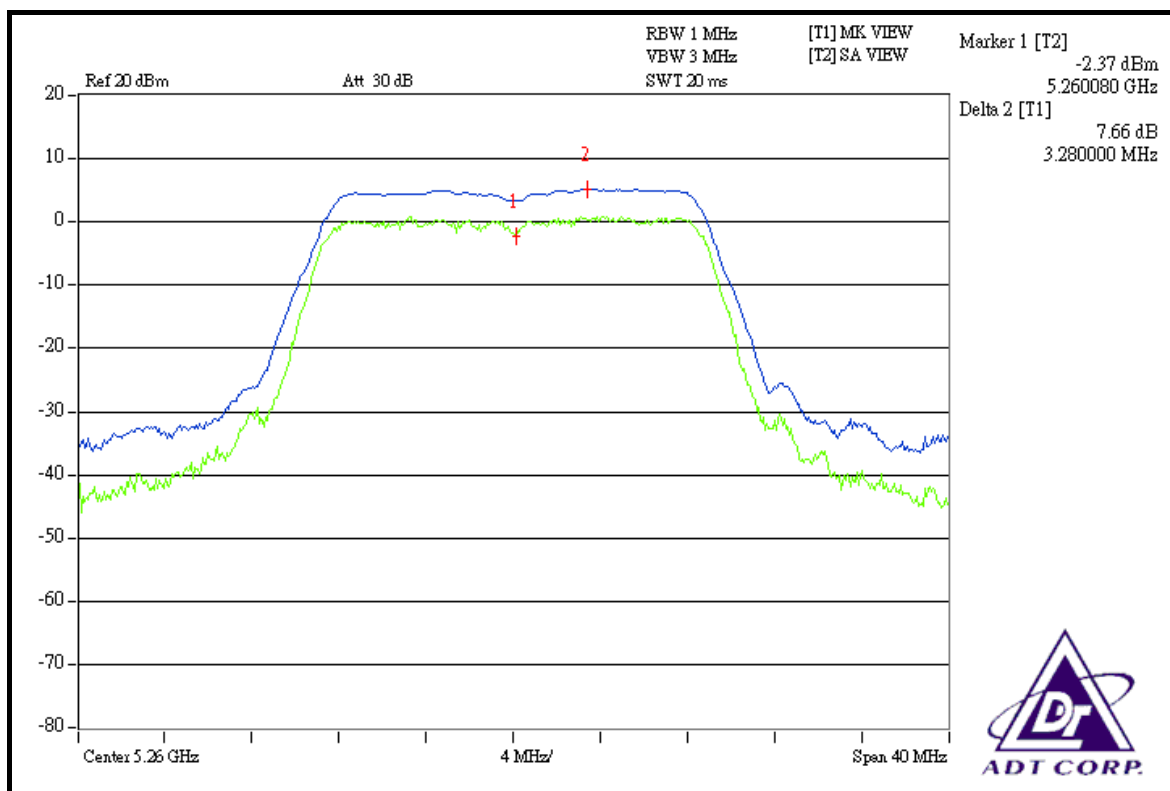
CH 40



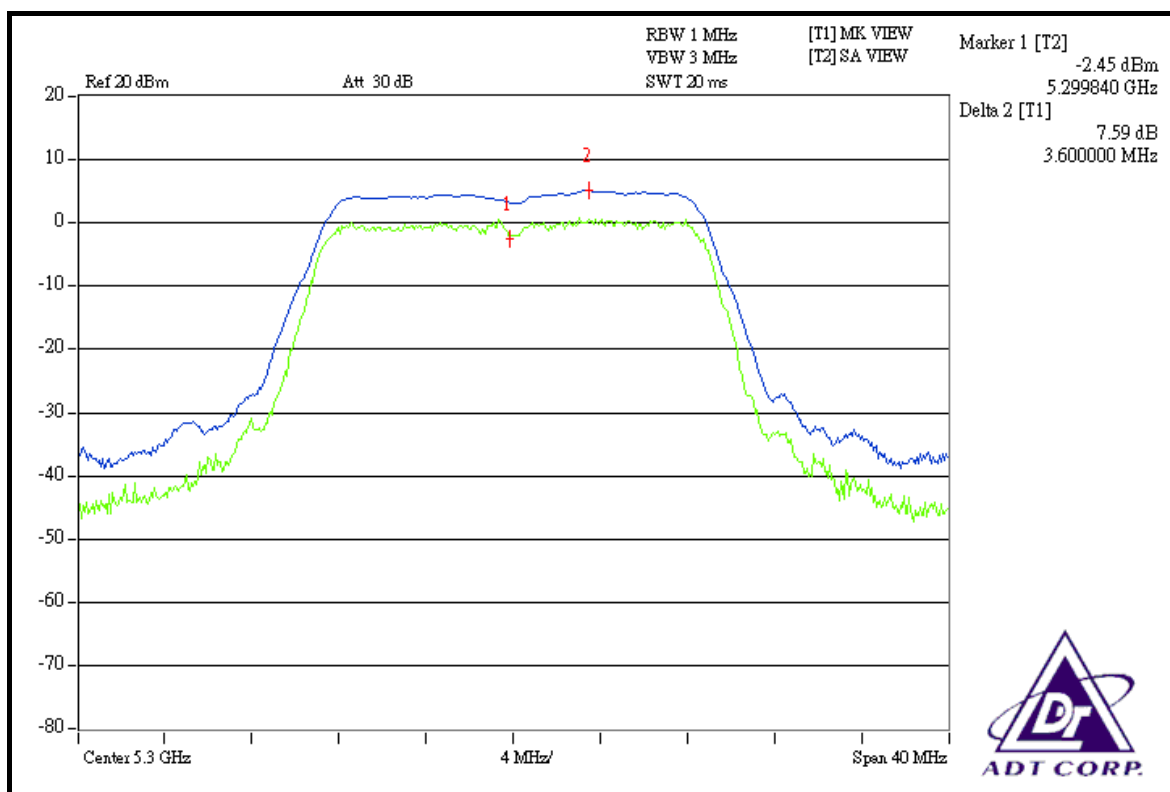
CH 48



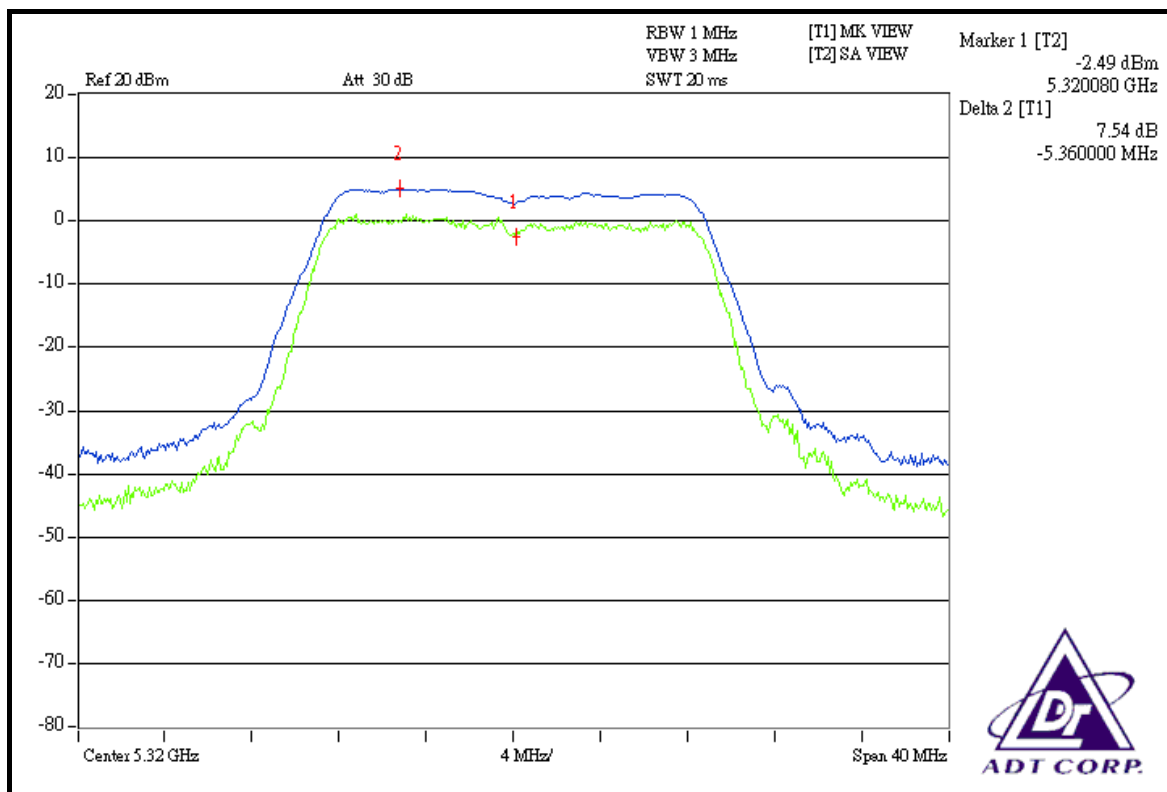
CH 52



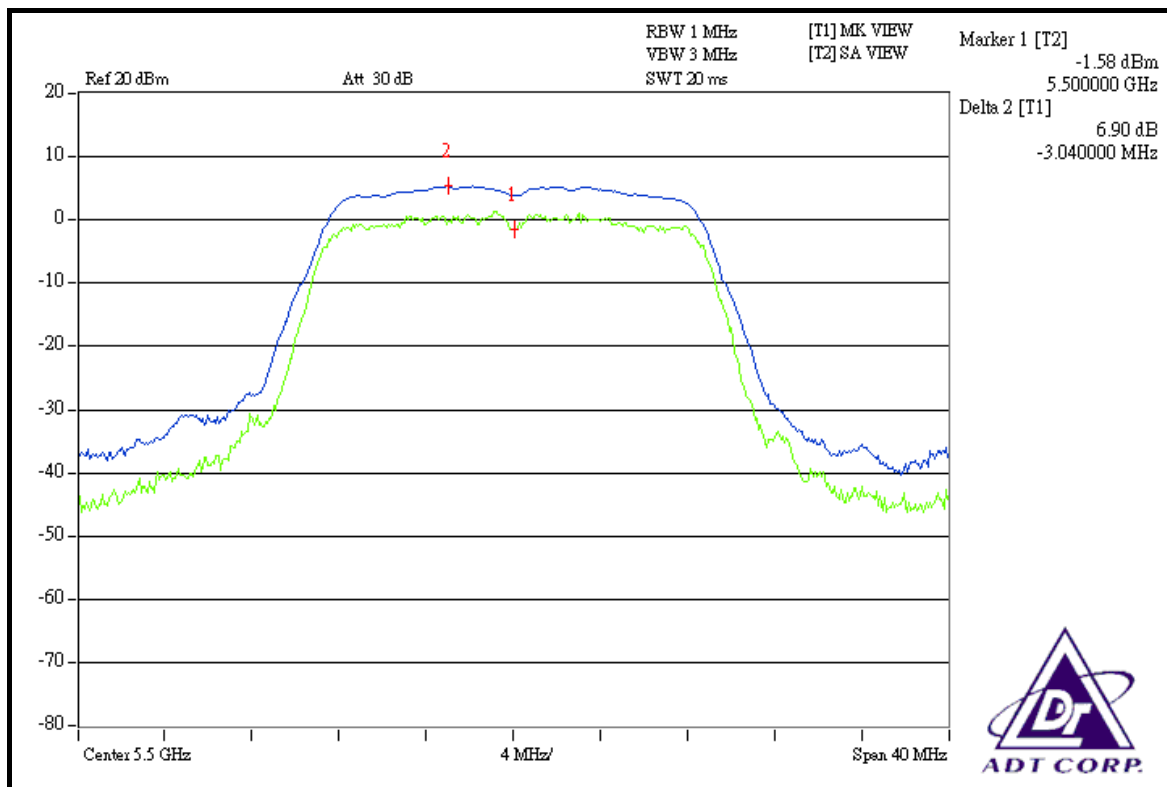
CH 60



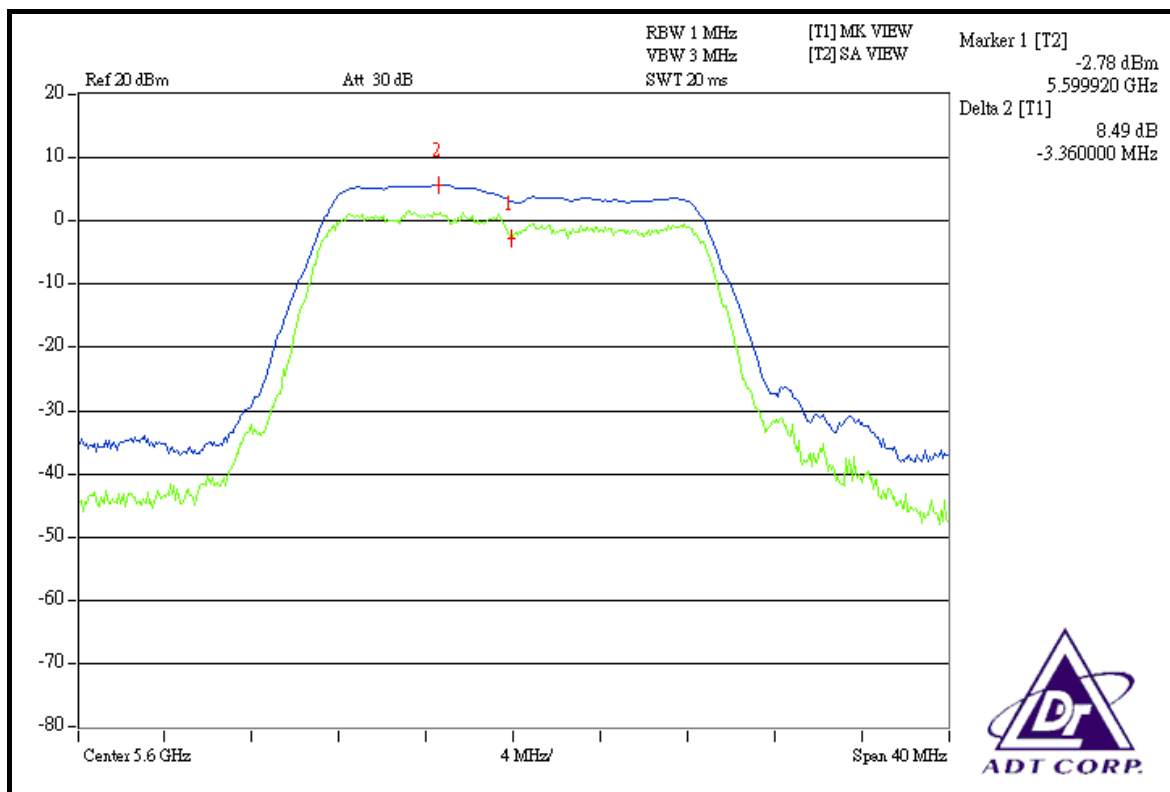
CH 64



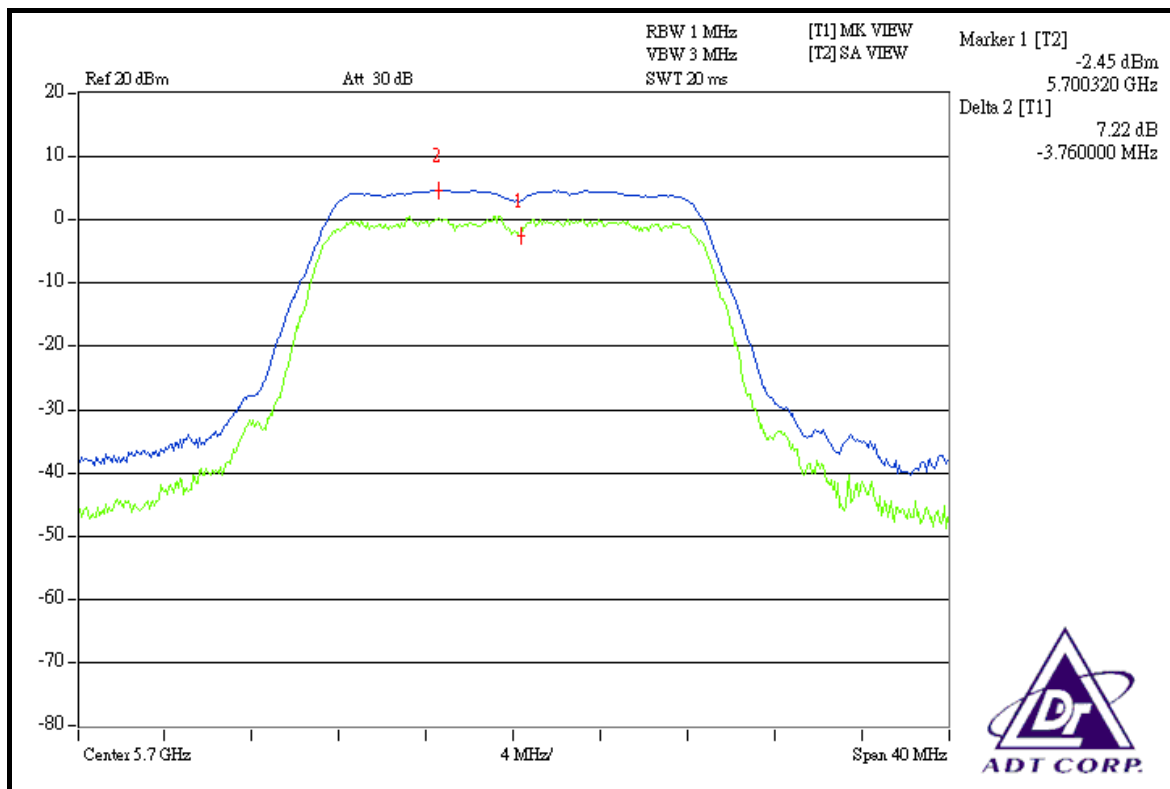
CH 100



CH 120



CH 140

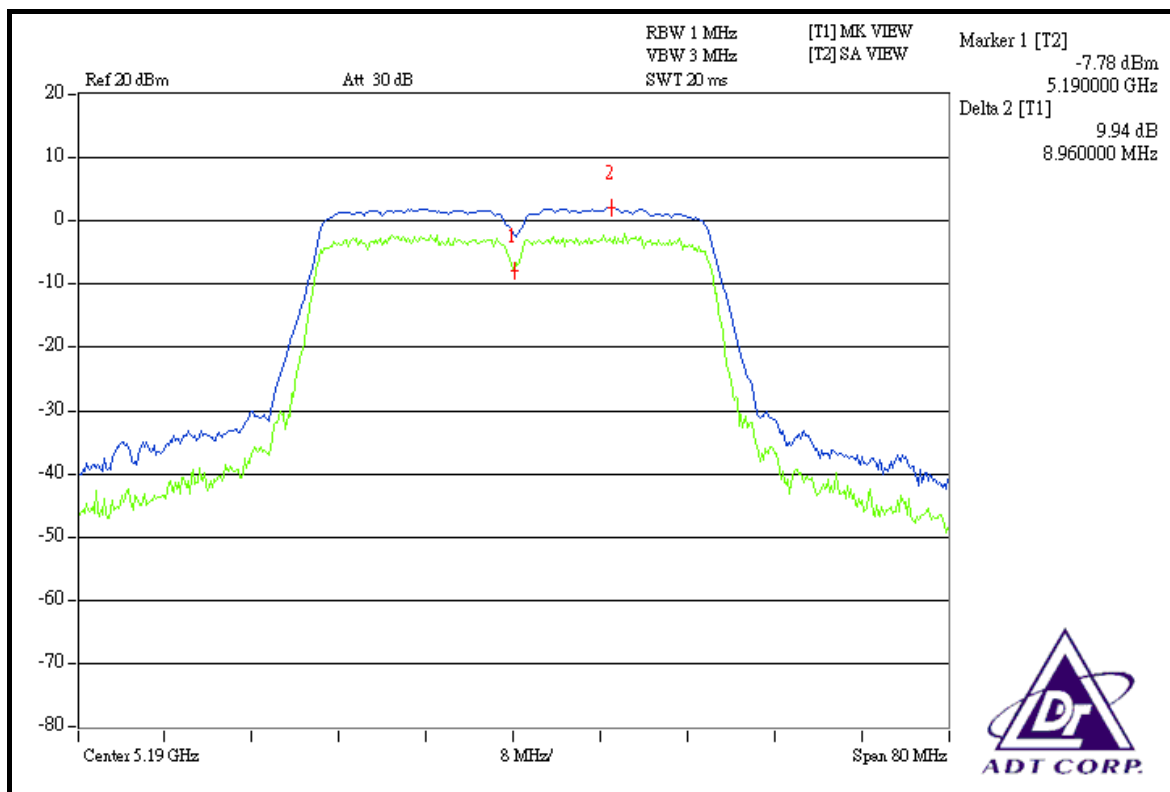


DRAFT 802.11n (40MHz) OFDM MODULATION

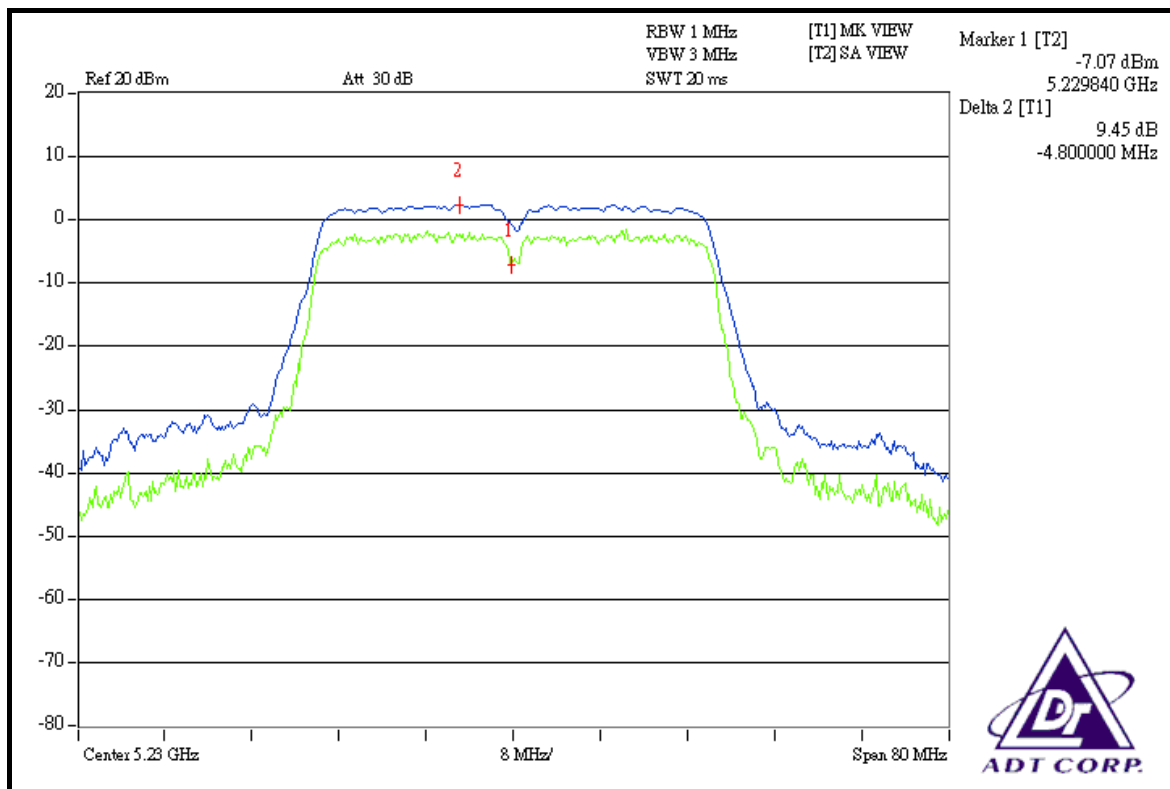
MODULATION TYPE	BPSK	TRANSFER RATE	15.0Mbps
INPUT POWER (SYSTEM)	120Vac, 60Hz	ENVIRONMENTAL CONDITIONS	27deg.C, 65%RH, 991hPa
TESTED BY	Dean Wang		

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER EXCURSION (dB)		PEAK to AVERAGE EXCURSION LIMIT (dB)	PASS/FAIL
		CHAIN 0	CHAIN 1		
38	5190	9.94	9.70	13	PASS
46	5230	9.45	9.87	13	PASS
54	5270	11.13	10.33	13	PASS
62	5310	10.73	9.94	13	PASS
102	5510	12.12	12.24	13	PASS
118	5590	11.11	10.68	13	PASS
134	5670	10.11	10.53	13	PASS

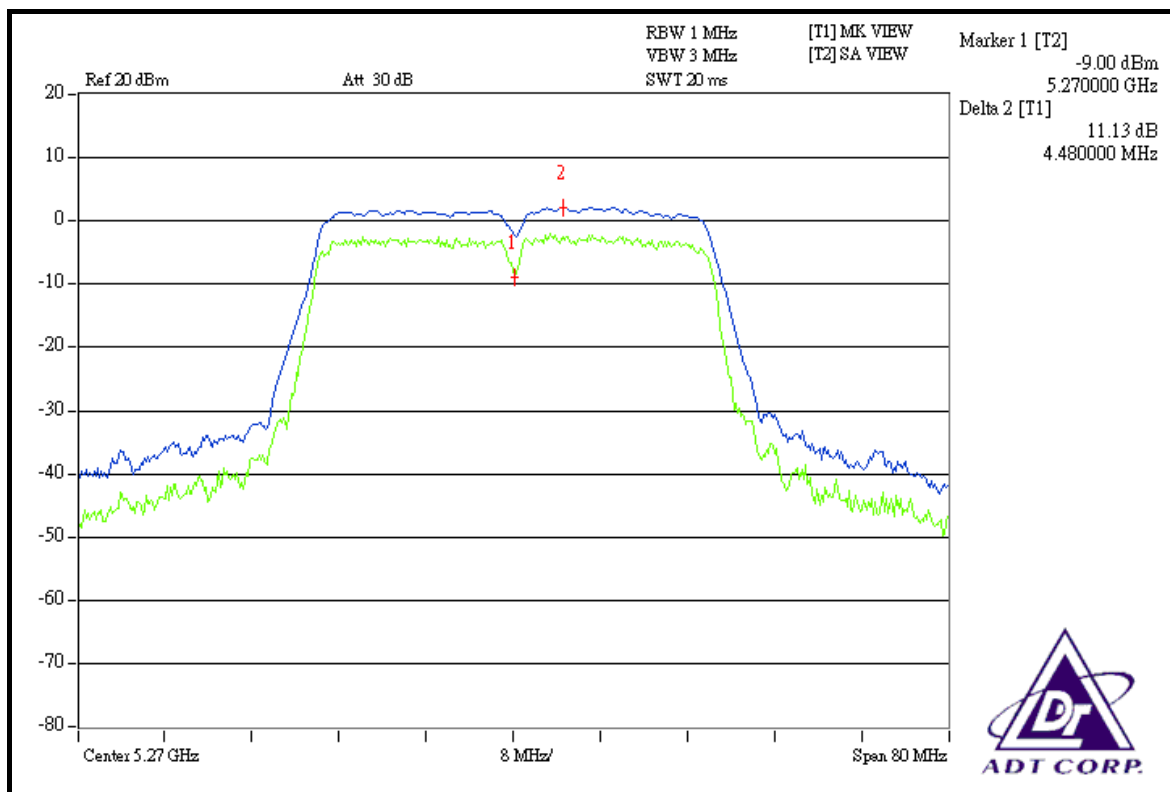
CHAIN 0: CH 38



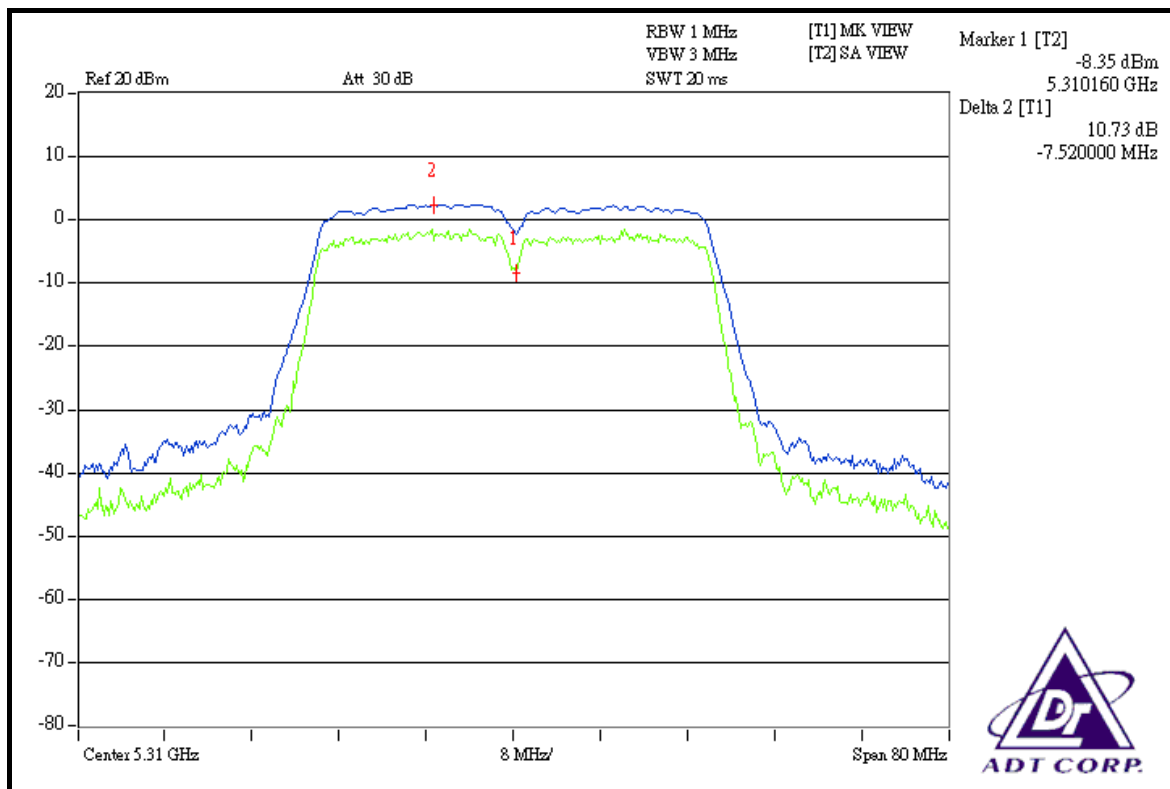
CH 46



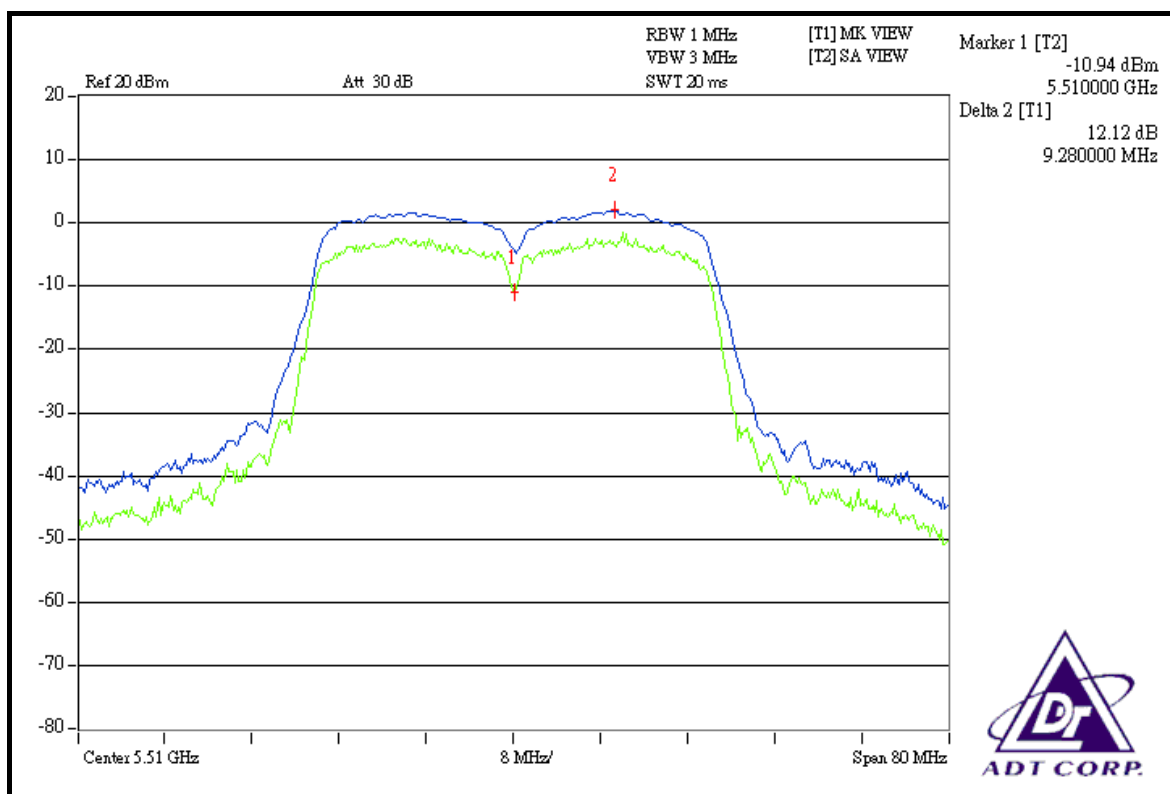
CH 54



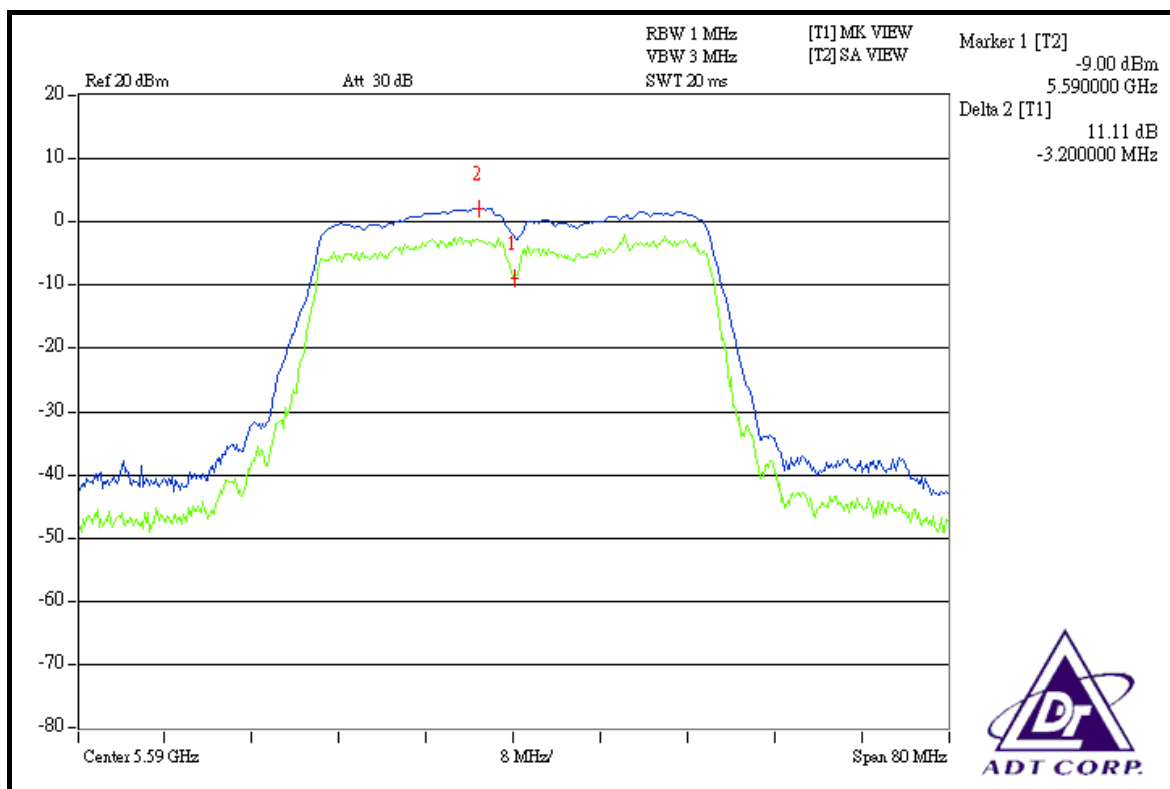
CH 62



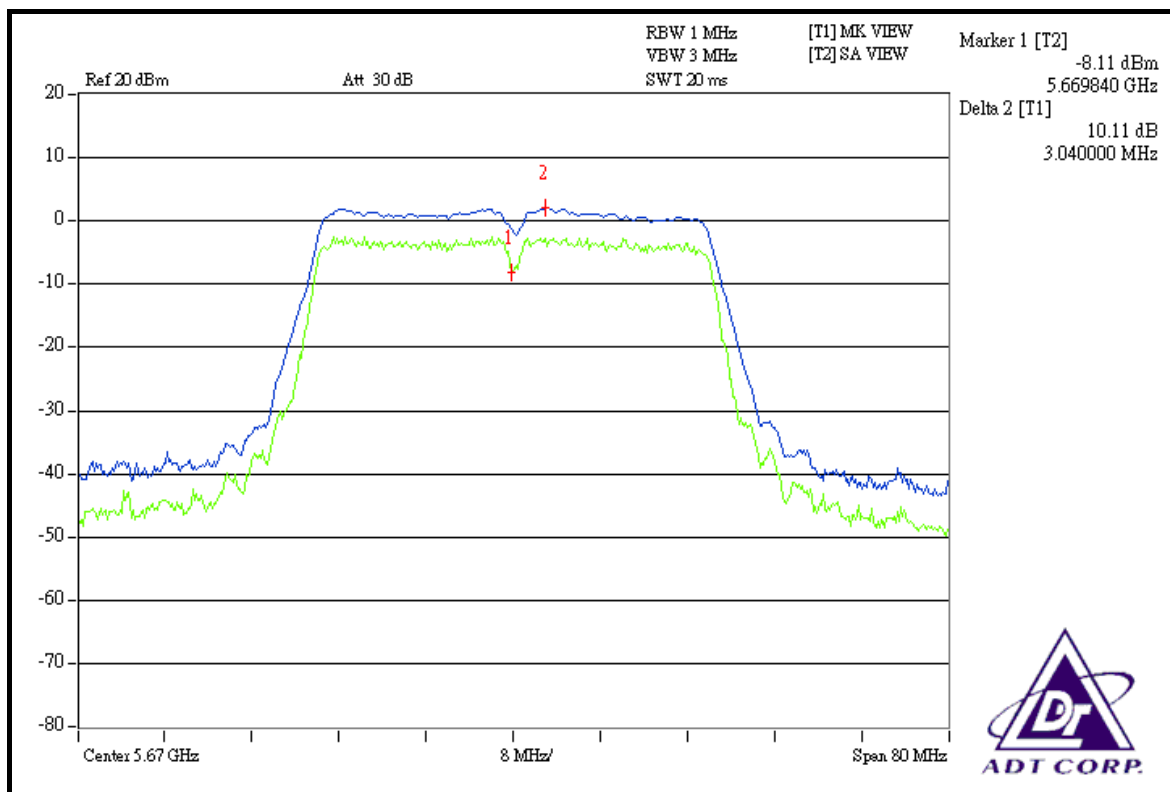
CH 102



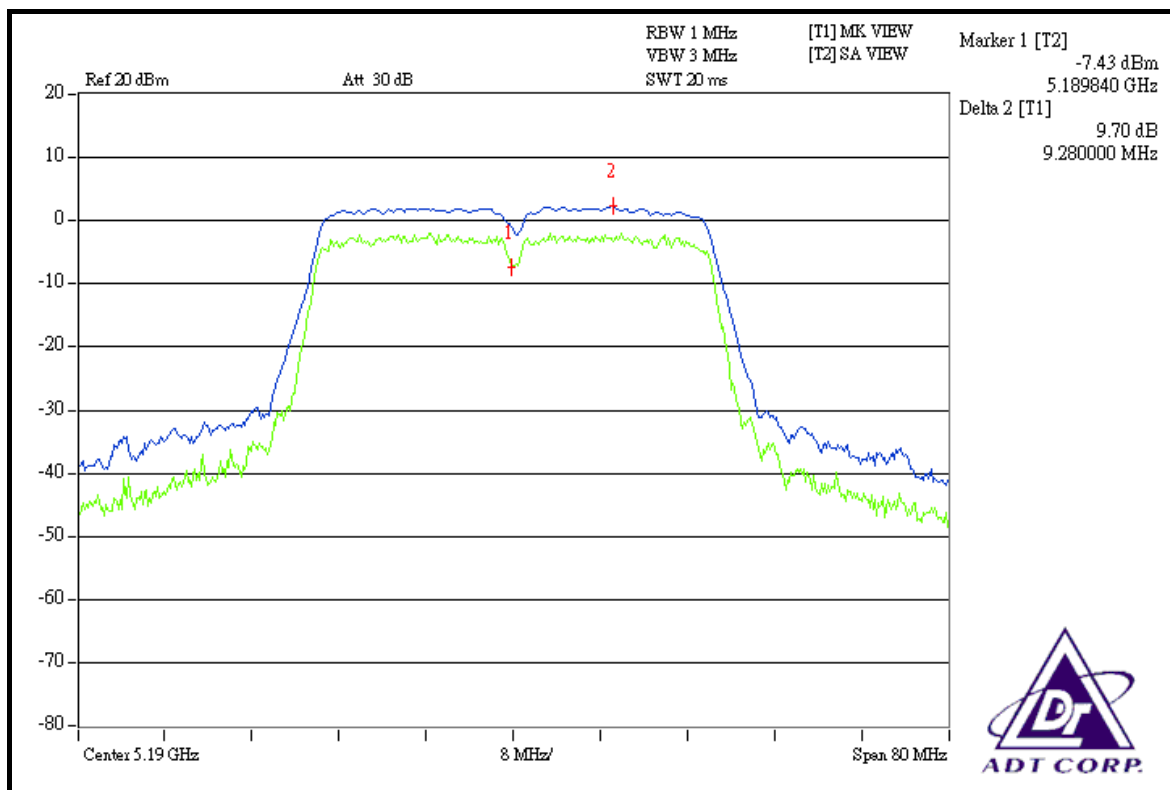
CH 118



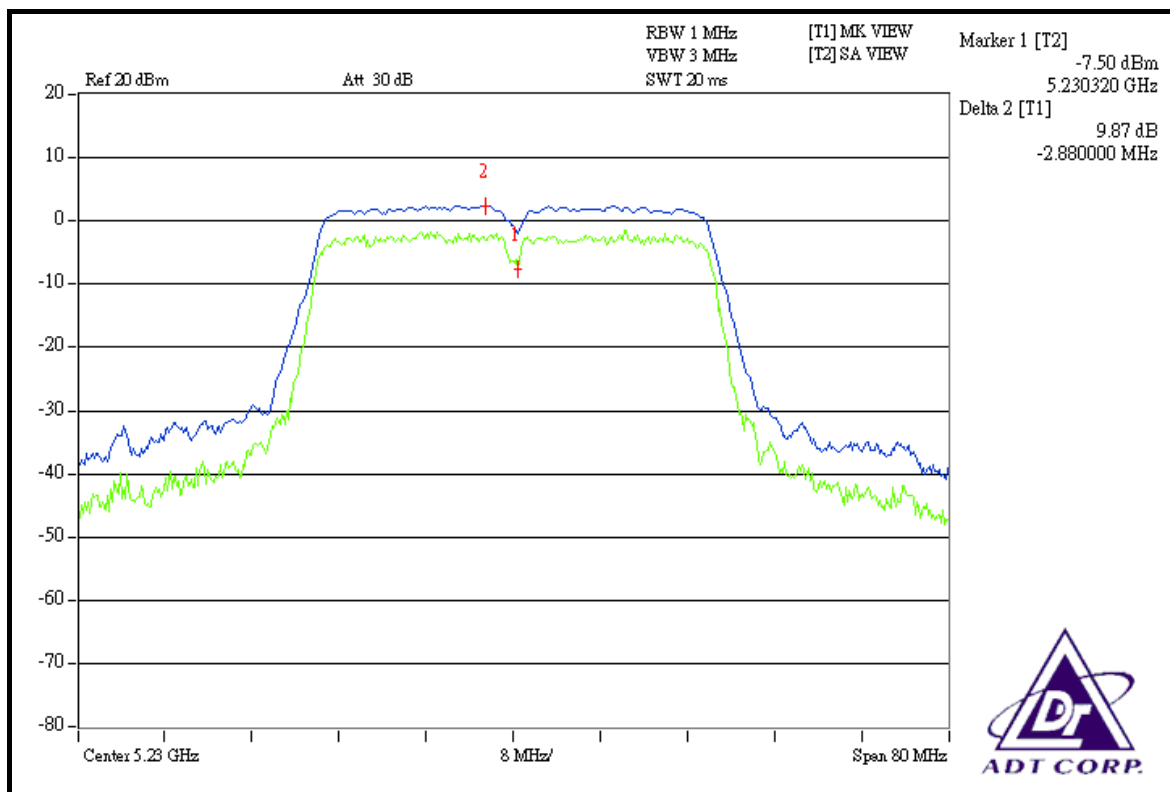
CH 134



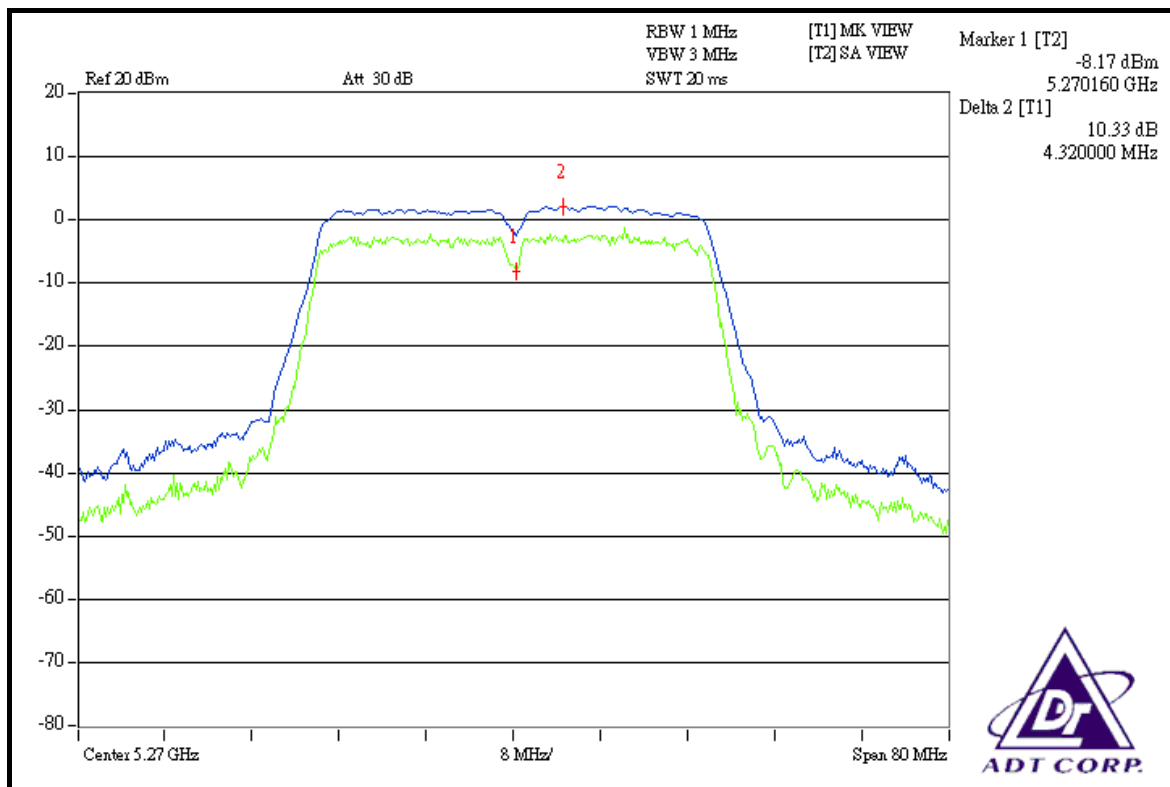
CHAIN 1: CH 38



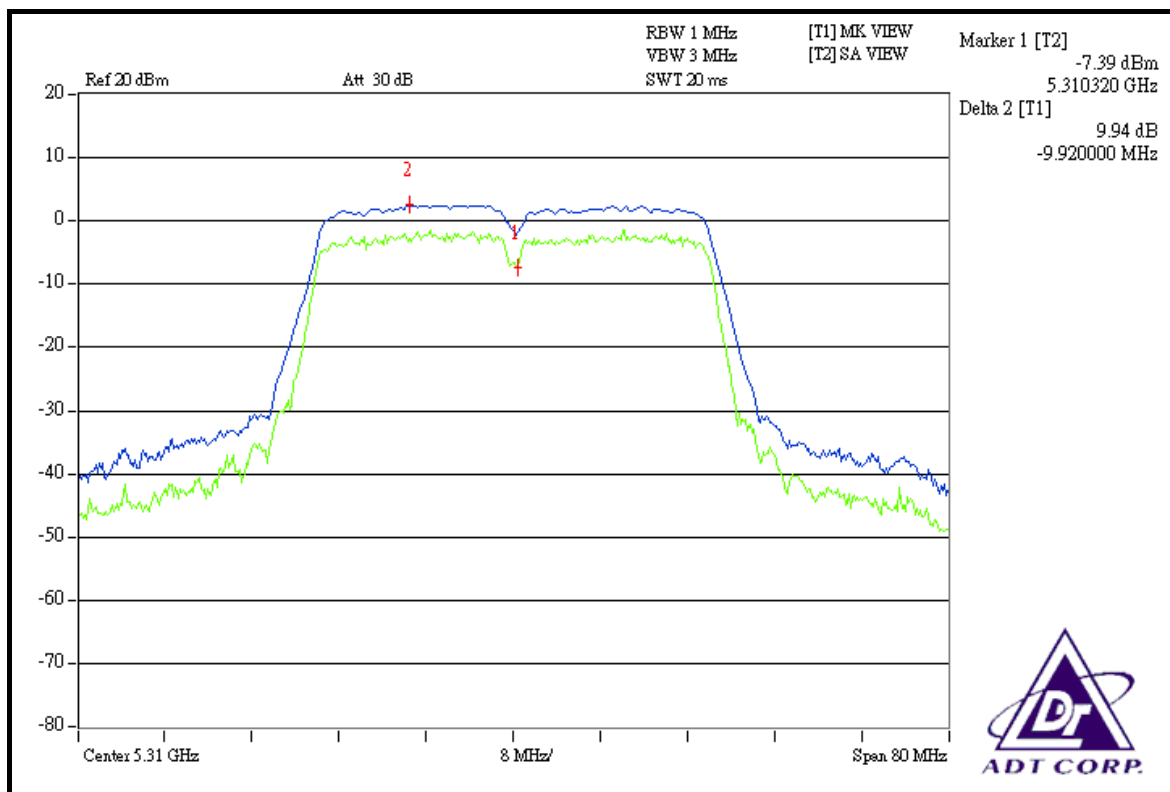
CH 46



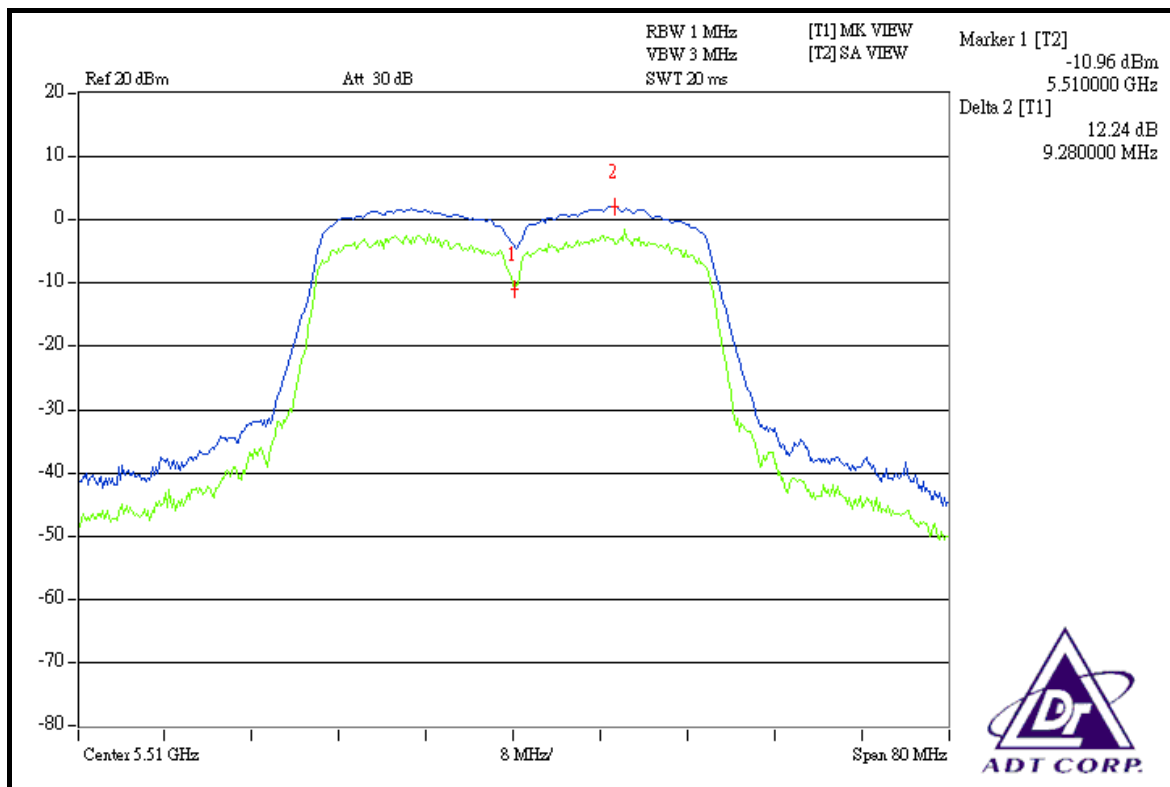
CH 54



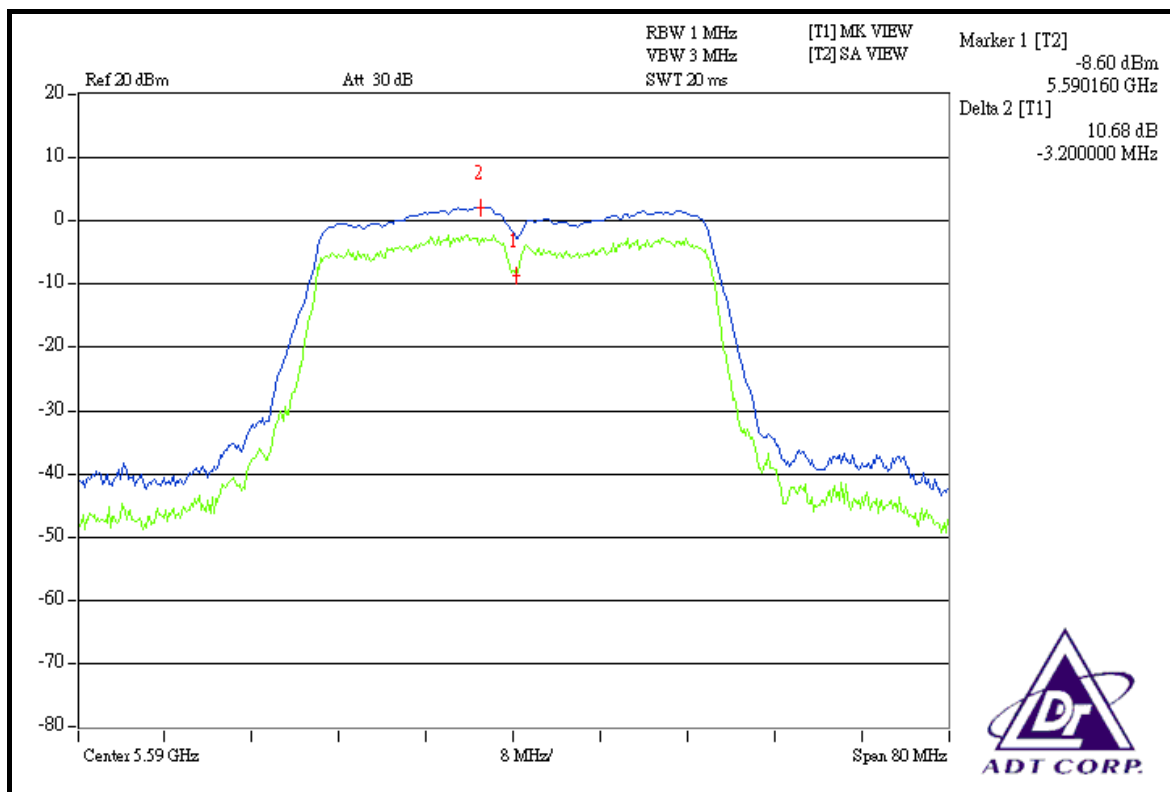
CH 62



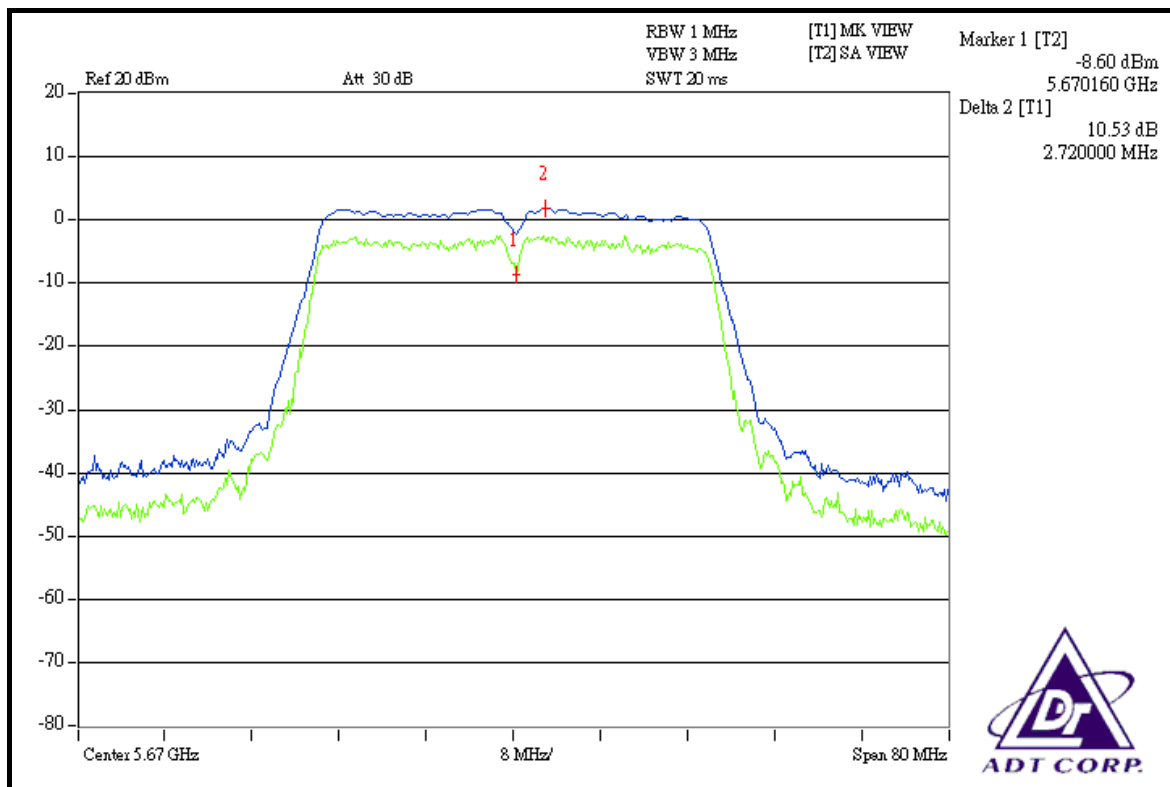
CH 102



CH 118



CH 134



4.5 PEAK POWER SPECTRAL DENSITY MEASUREMENT

4.5.1 LIMITS OF PEAK POWER SPECTRAL DENSITY MEASUREMENT

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

4.5.2 TEST INSTRUMENTS

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

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

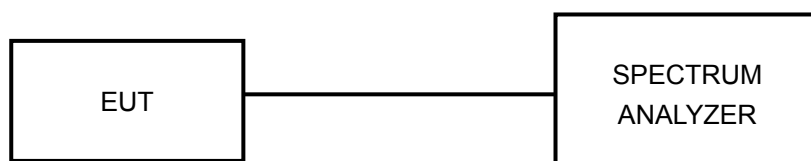
4.5.3 TEST PROCEDURES

- a. The transmitter output was connected to the spectrum analyzer.
- b. Set RBW = 1MHz, VBW = 3MHz. The PPSD is the highest level found across the emission in any 1MHz band.

4.5.4 DEVIATION FROM TEST STANDARD

No deviation

4.5.5 TEST SETUP



4.5.6 EUT OPERATING CONDITIONS

Same as 5.3.6

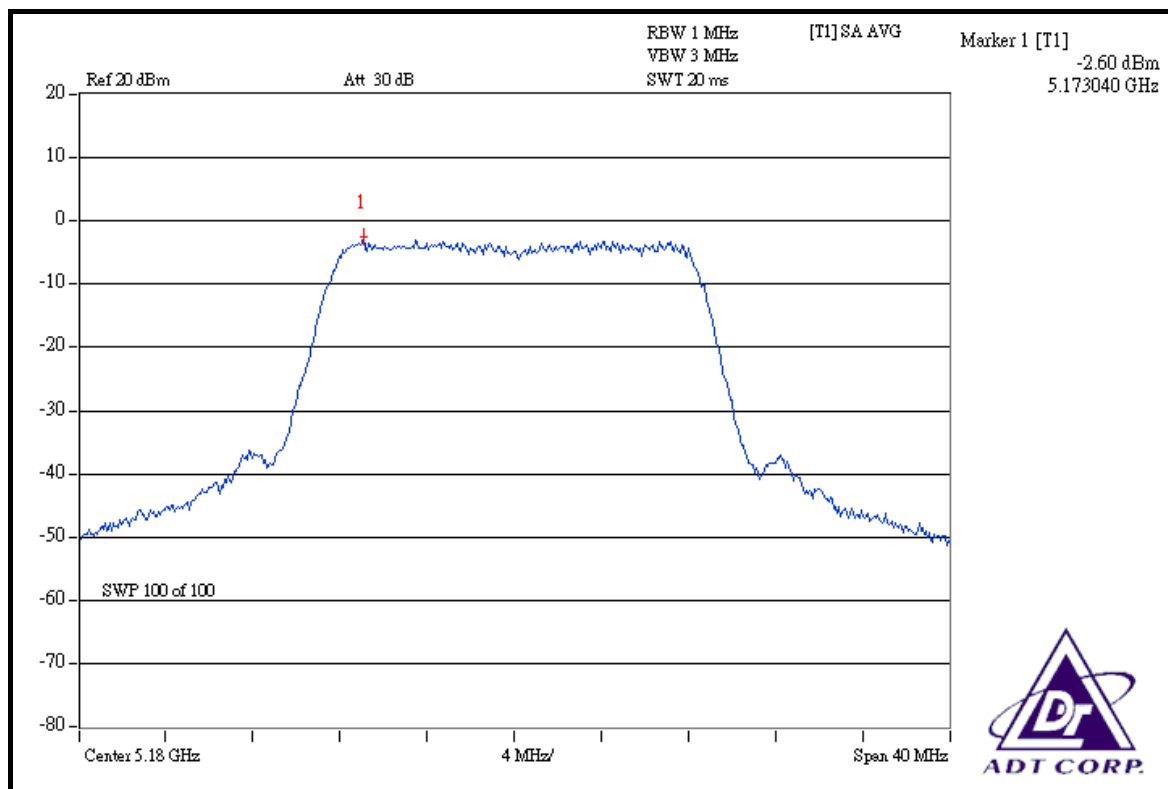
4.5.7 TEST RESULTS

802.11a OFDM MODULATION

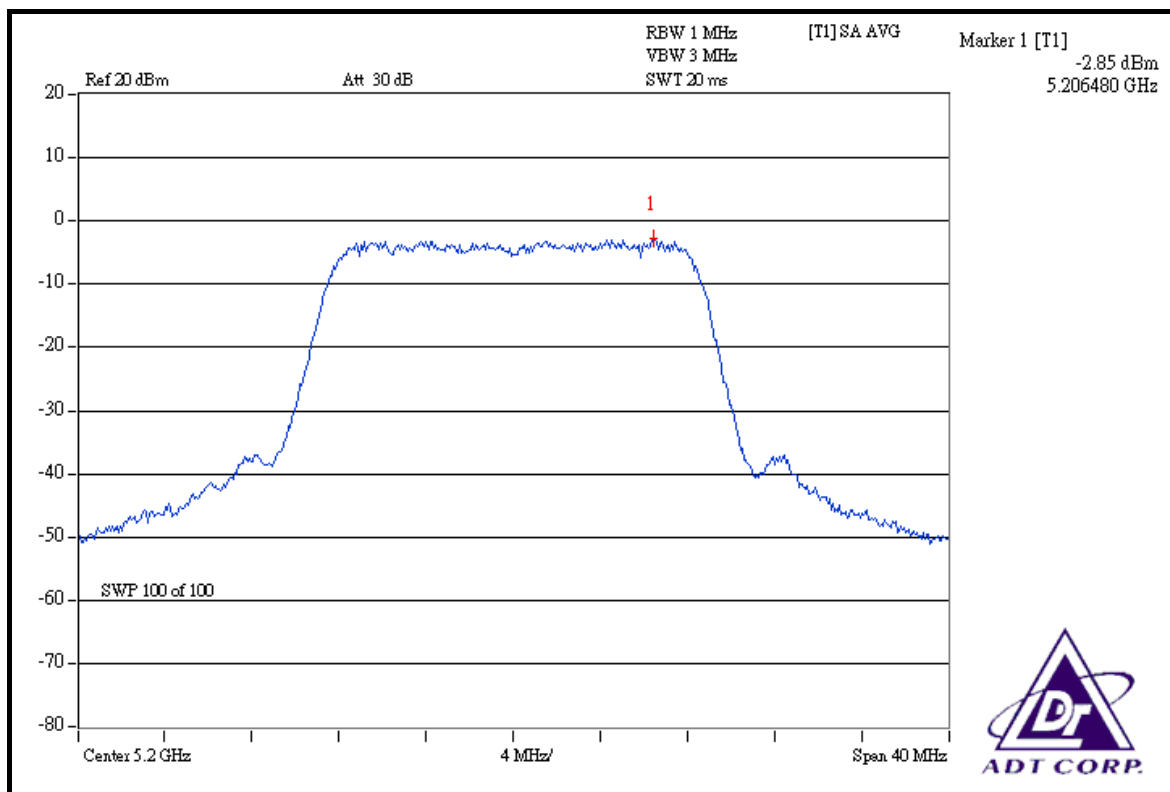
MODULATION TYPE	BPSK	TRANSFER RATE	6.0Mbps
INPUT POWER (SYSTEM)	120Vac, 60Hz	ENVIRONMENTAL CONDITIONS	27deg.C, 65%RH, 991hPa
TESTED BY	Dean Wang		

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 1MHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
36	5180	-2.60	4	PASS
40	5200	-2.85	4	PASS
48	5240	-2.52	4	PASS
52	5260	-2.61	11	PASS
60	5300	-2.59	11	PASS
64	5320	-2.78	11	PASS
100	5500	-2.42	11	PASS
120	5600	-2.61	11	PASS
140	5700	-2.62	11	PASS

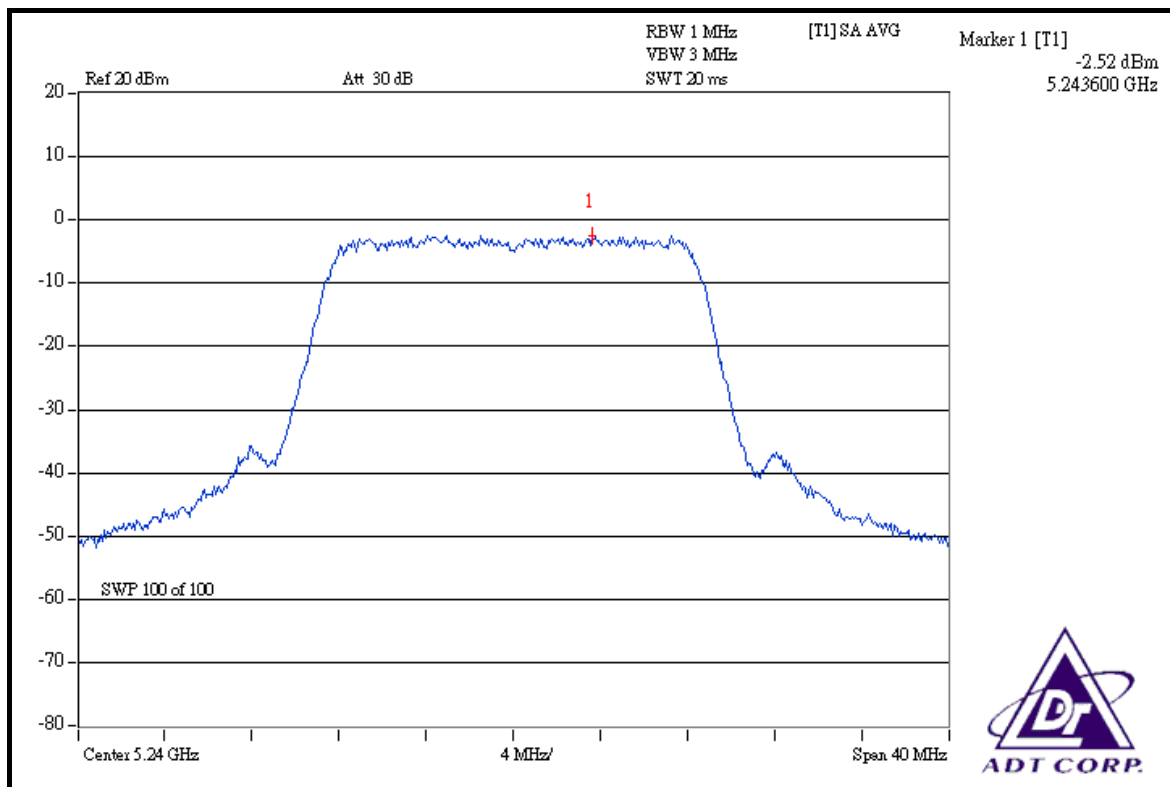
CH 36



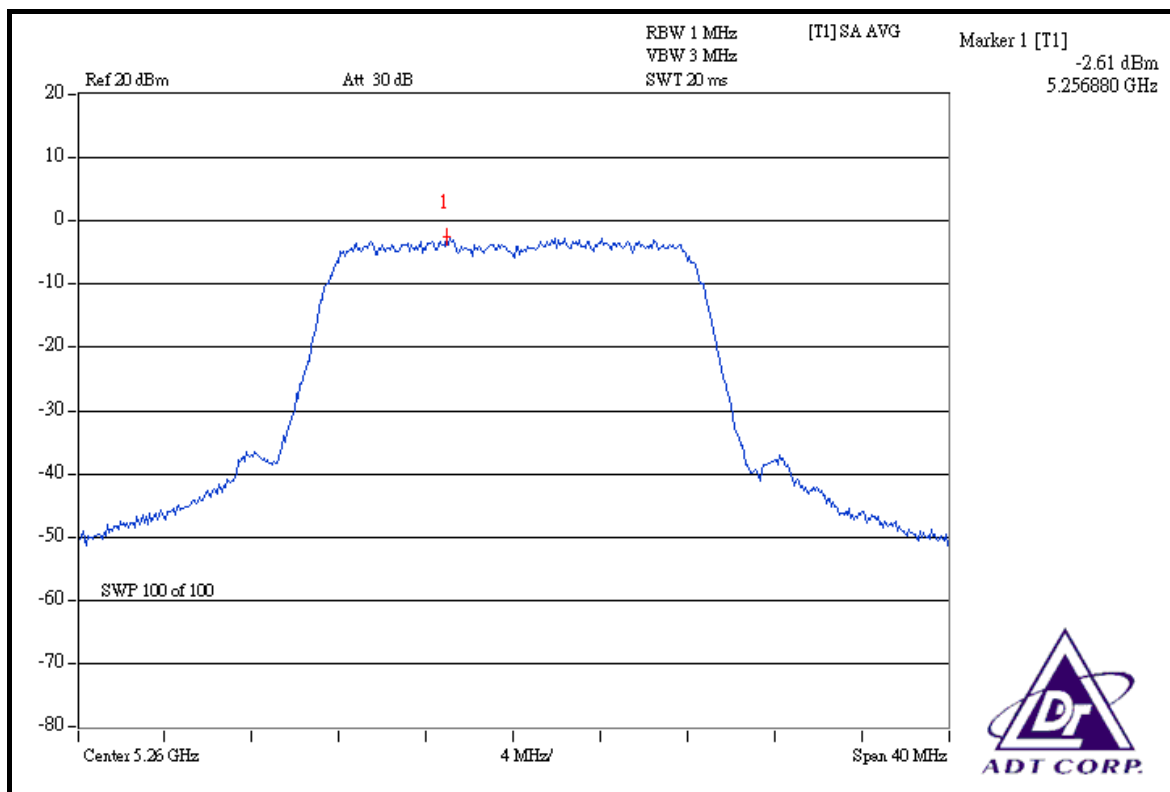
CH 40



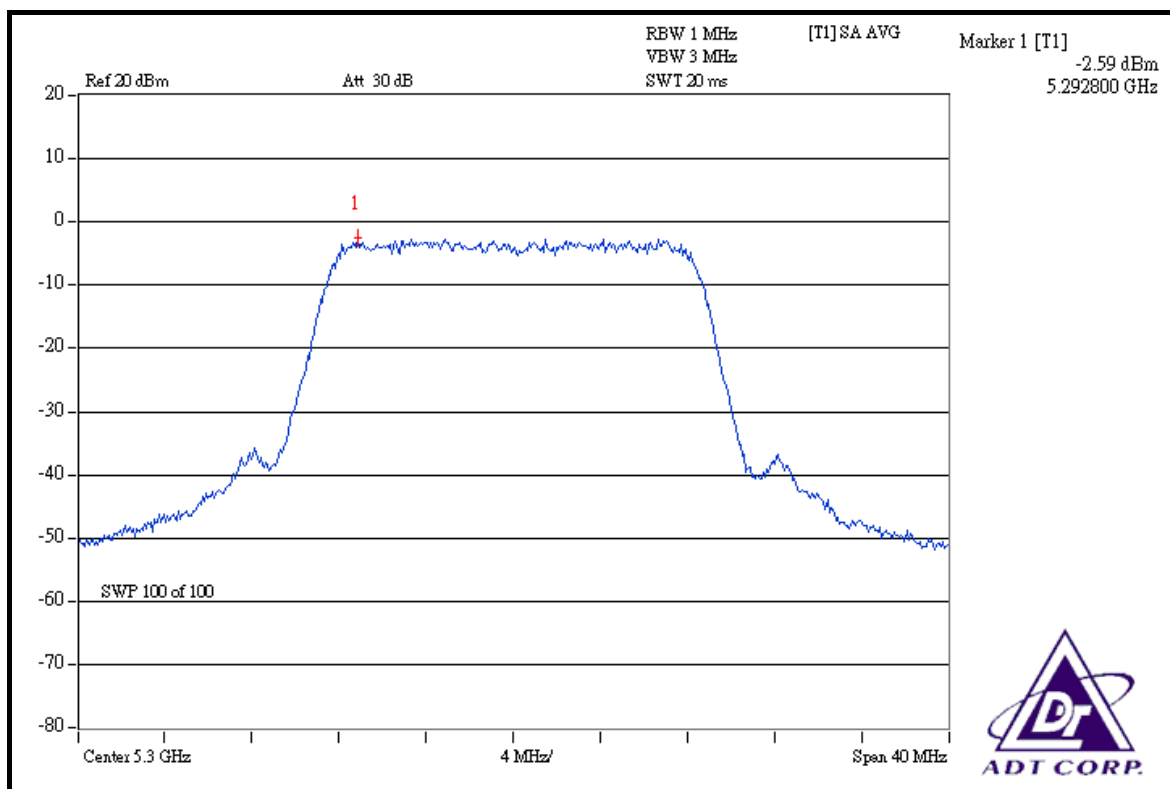
CH 48



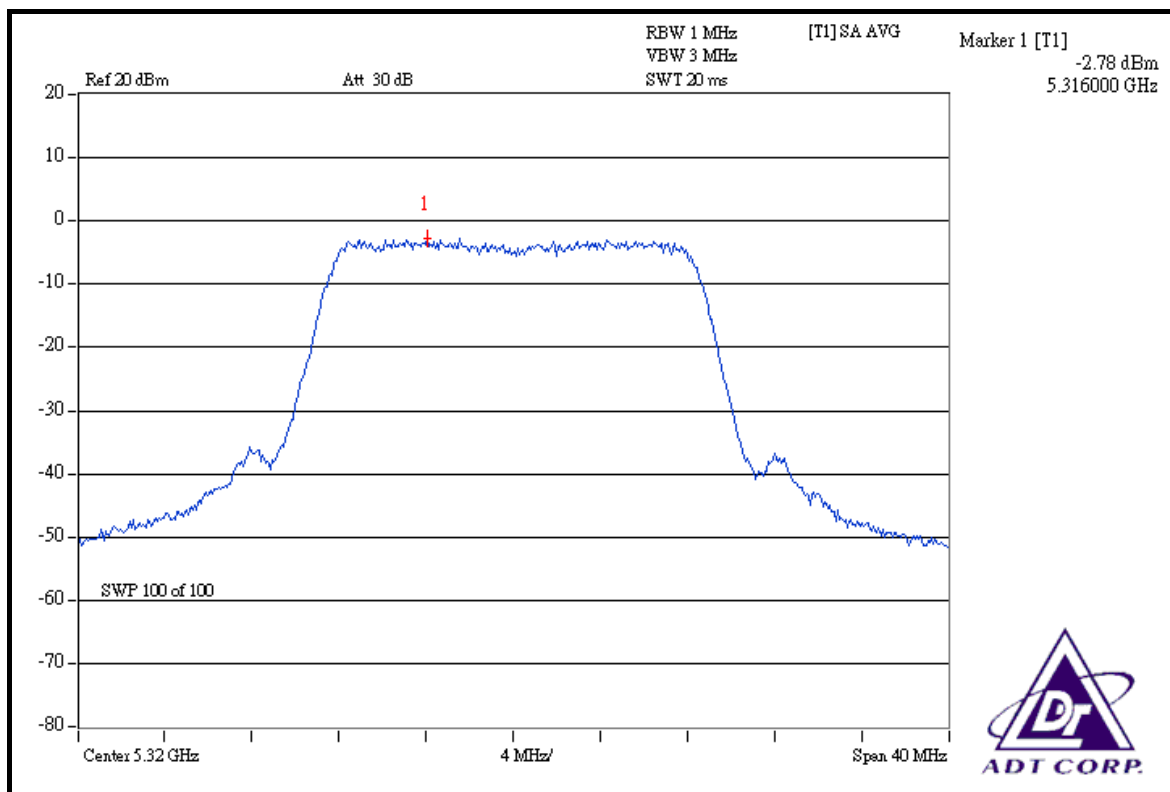
CH 52



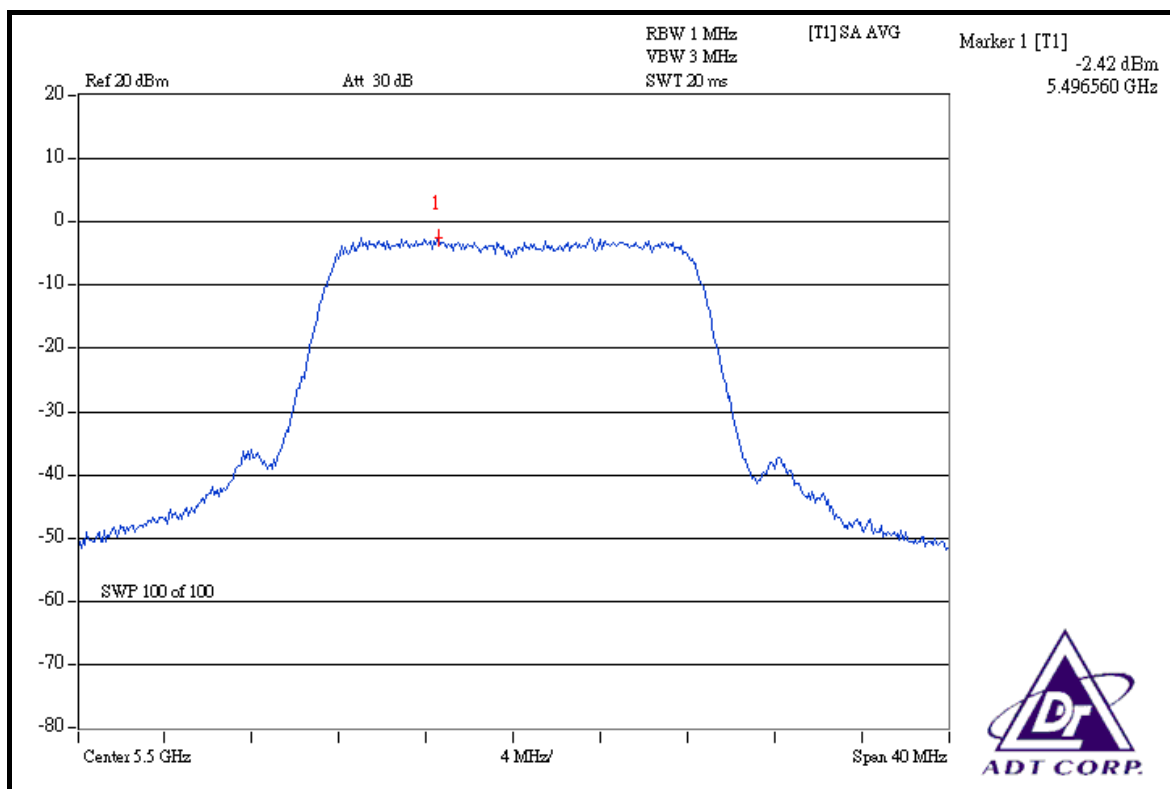
CH 60



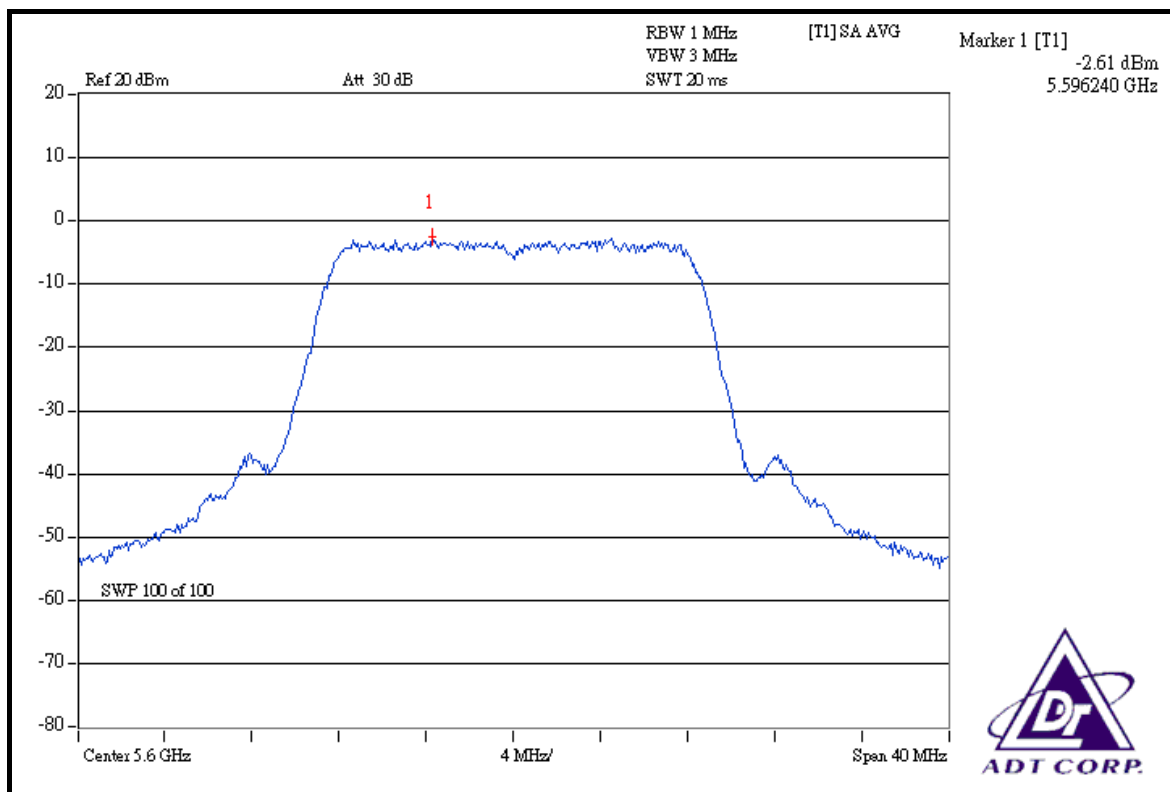
CH 64



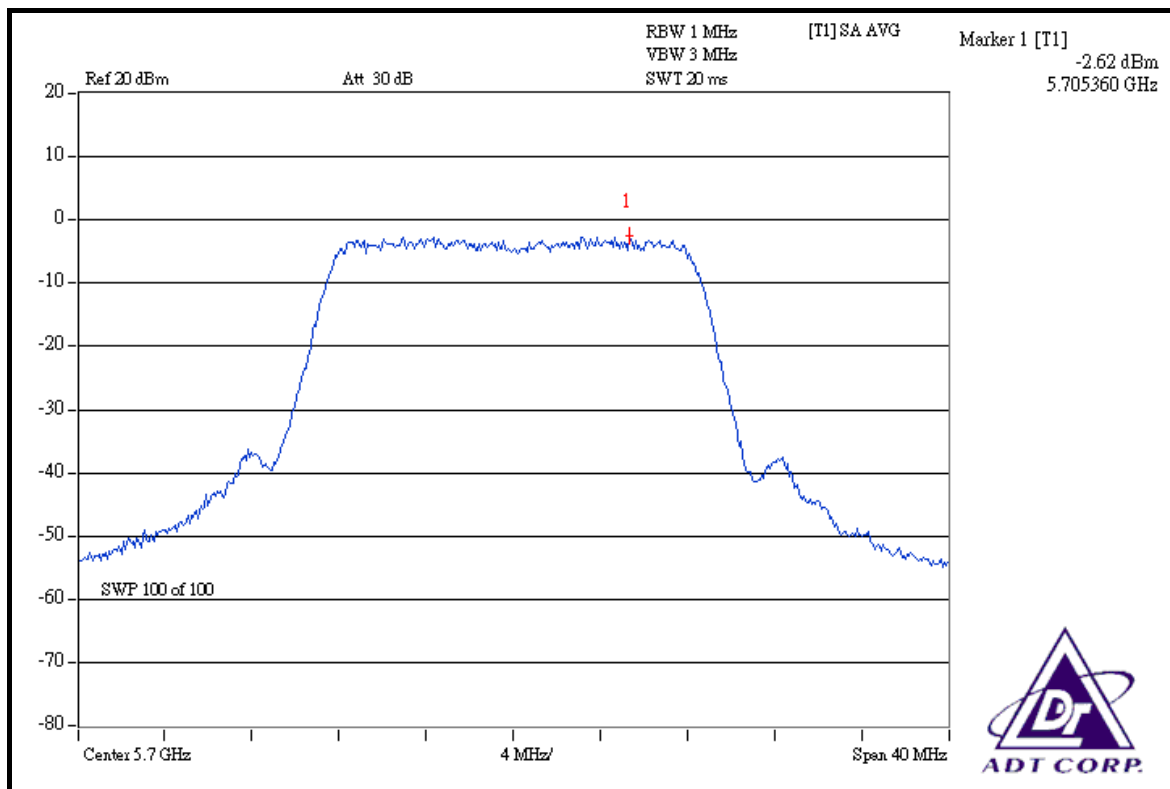
CH 100



CH 120



CH 140

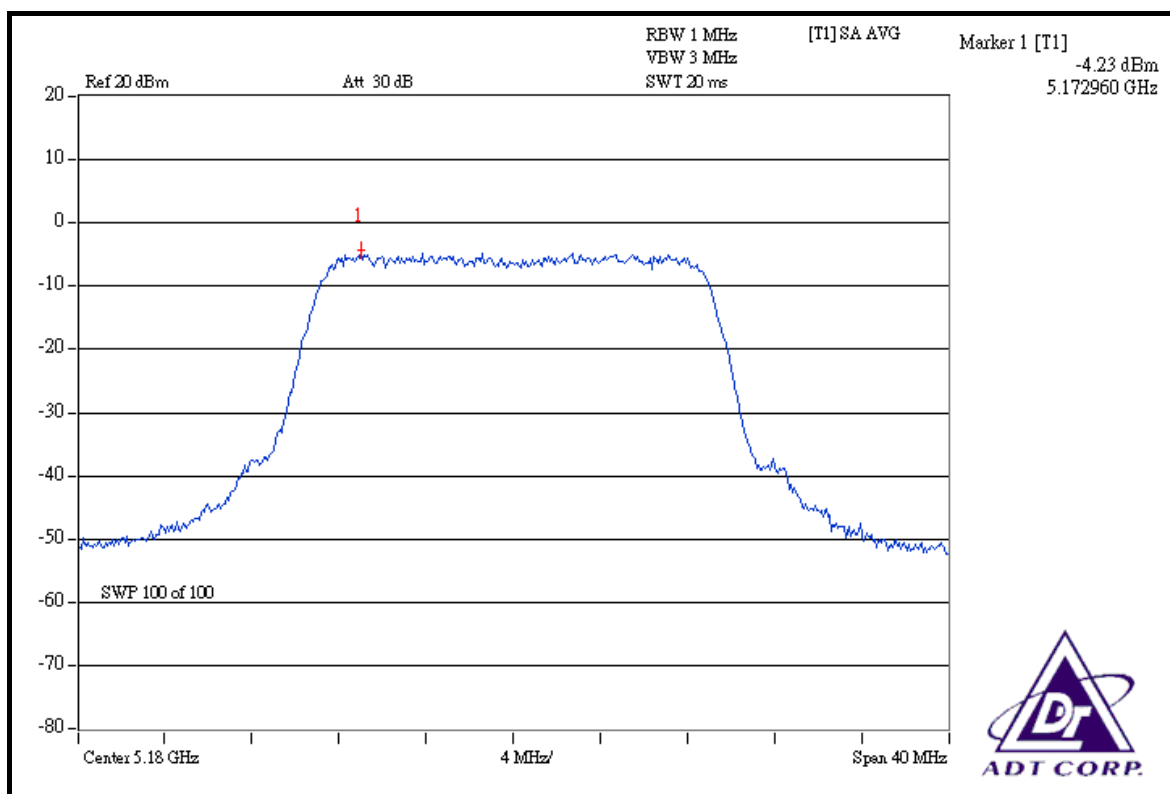


DRAFT 802.11n (20MHz) OFDM MODULATION

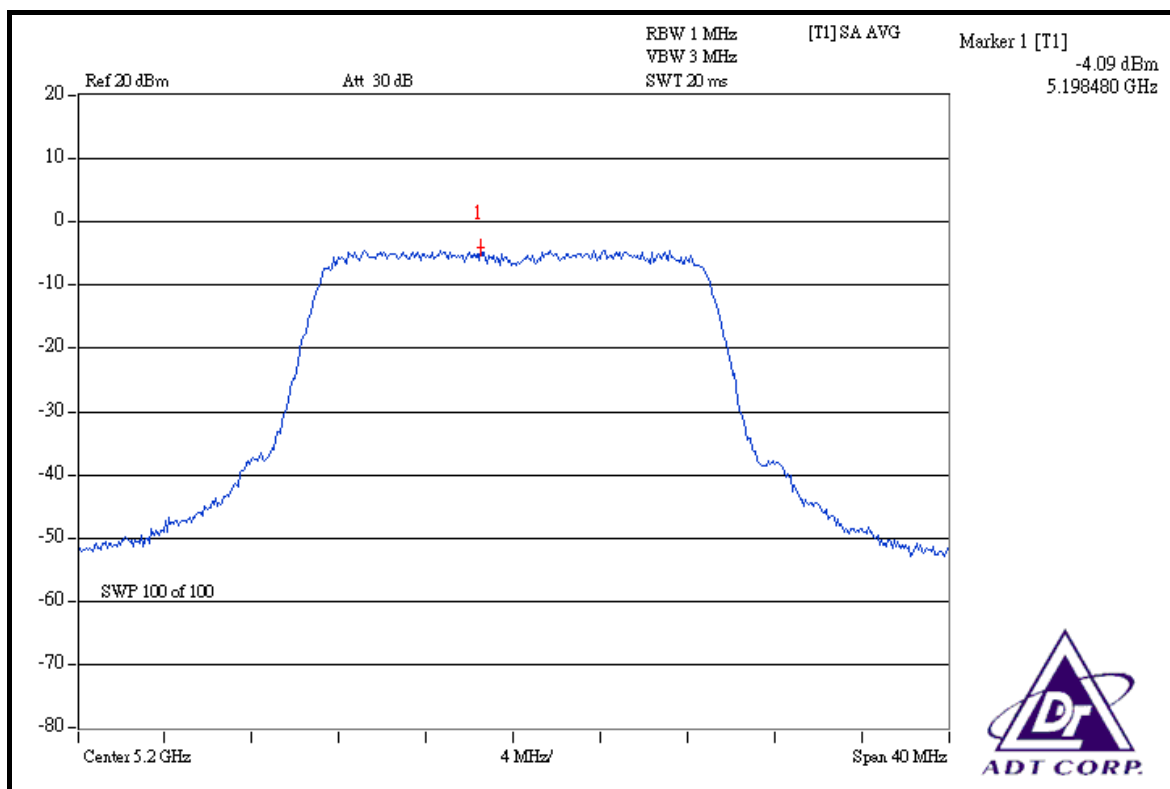
MODULATION TYPE	BPSK	TRANSFER RATE	7.2Mbps
INPUT POWER (SYSTEM)	120Vac, 60Hz	ENVIRONMENTAL CONDITIONS	27deg.C, 65%RH, 991hPa
TESTED BY	Dean Wang		

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				
36	5180	-4.23	-4.51	0.732	-1.36	4	PASS
40	5200	-4.09	-4.63	0.734	-1.34	4	PASS
48	5240	-4.06	-4.29	0.765	-1.16	4	PASS
52	5260	-4.23	-4.68	0.718	-1.44	11	PASS
60	5300	-4.05	-4.30	0.765	-1.16	11	PASS
64	5320	-4.04	-4.35	0.762	-1.18	11	PASS
100	5500	-3.99	-4.30	0.771	-1.13	11	PASS
120	5600	-4.04	-4.27	0.769	-1.14	11	PASS
140	5700	-4.00	-4.35	0.765	-1.16	11	PASS

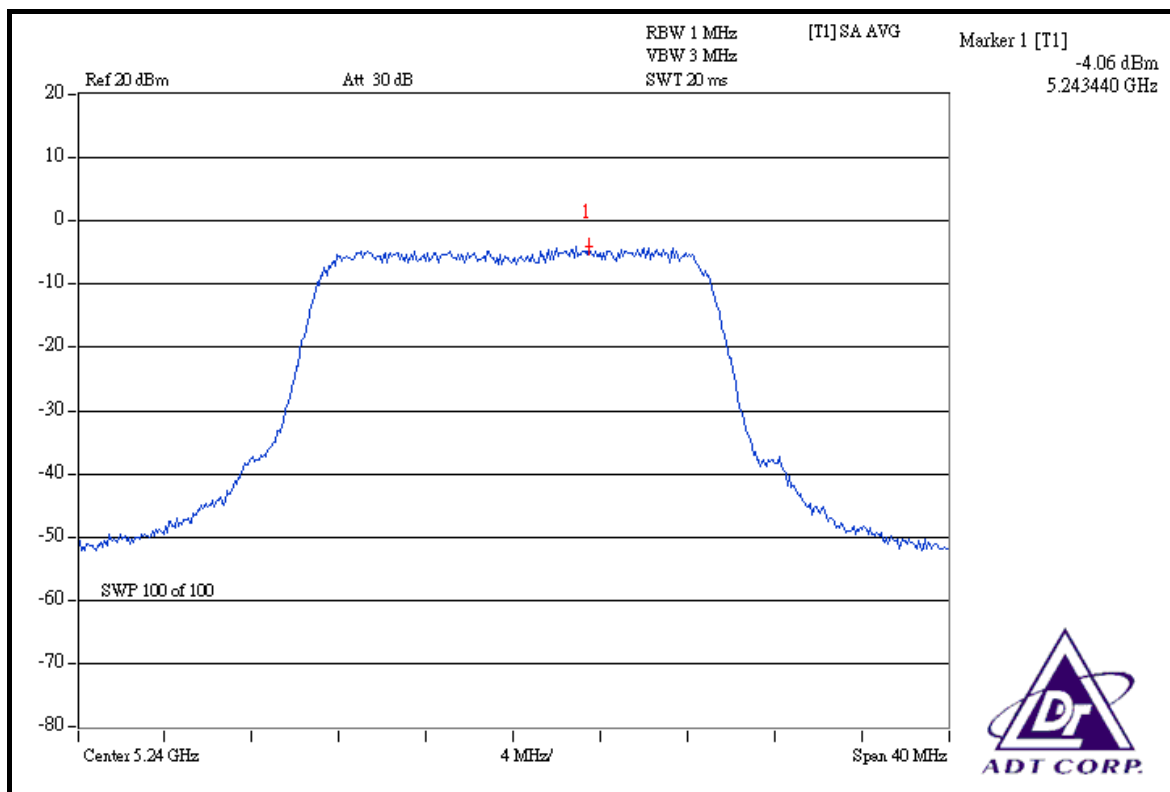
CHAIN 0: CH 36



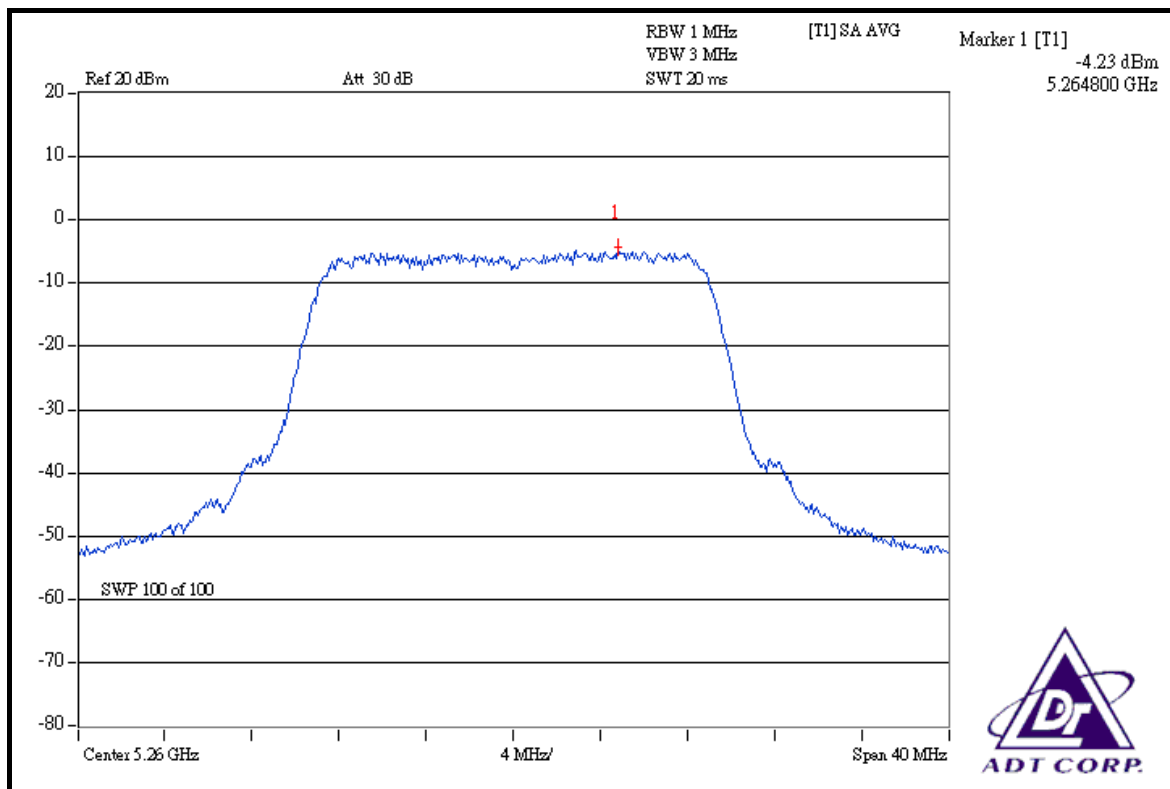
CH 40



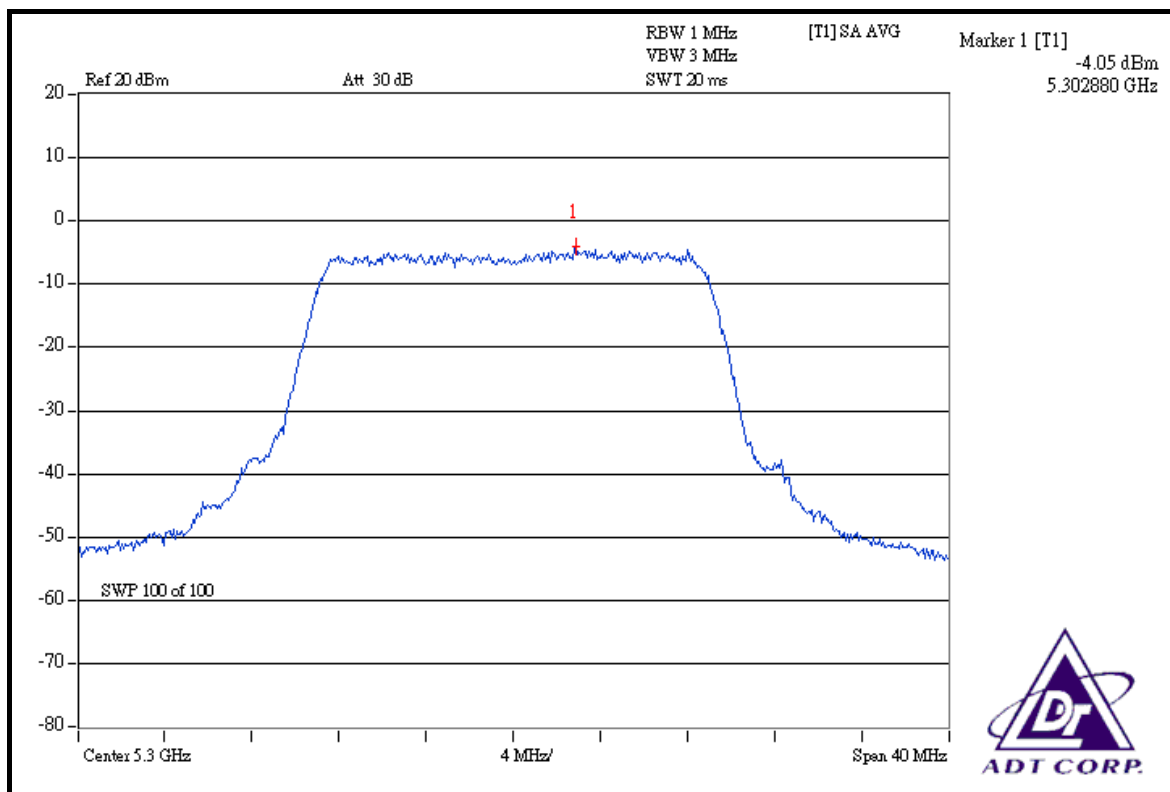
CH 48



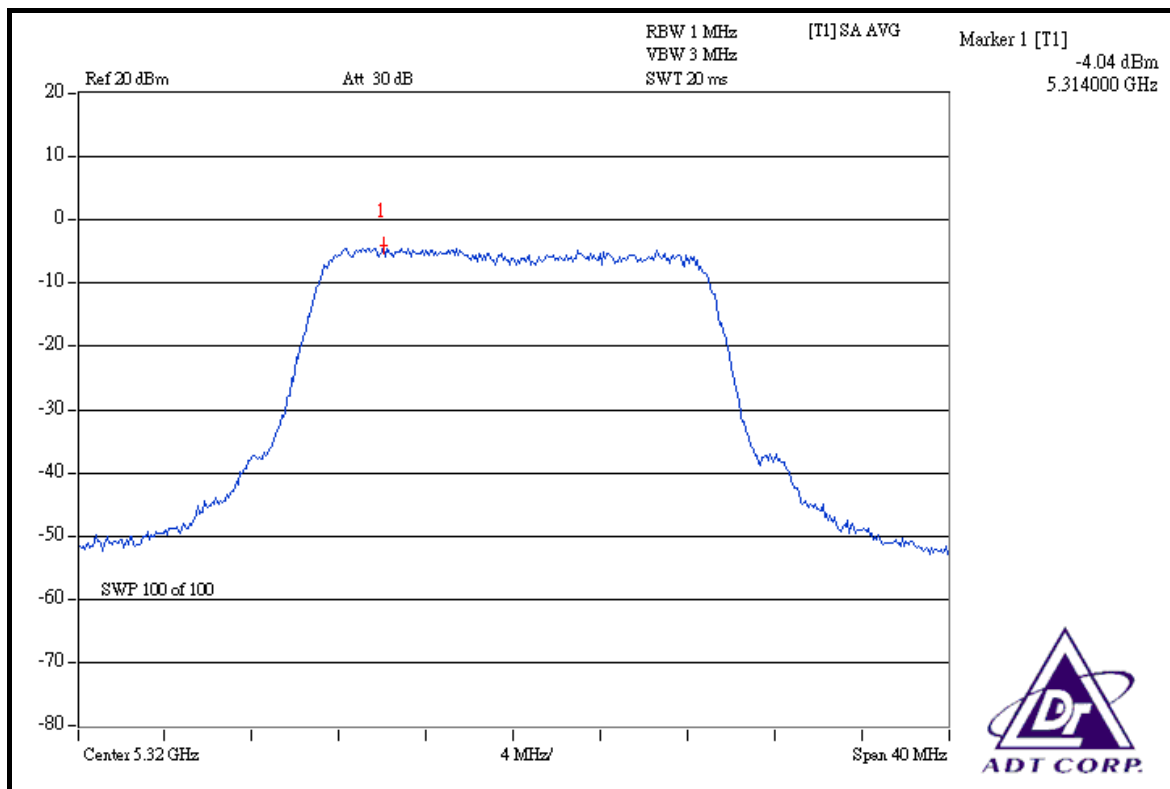
CH 52



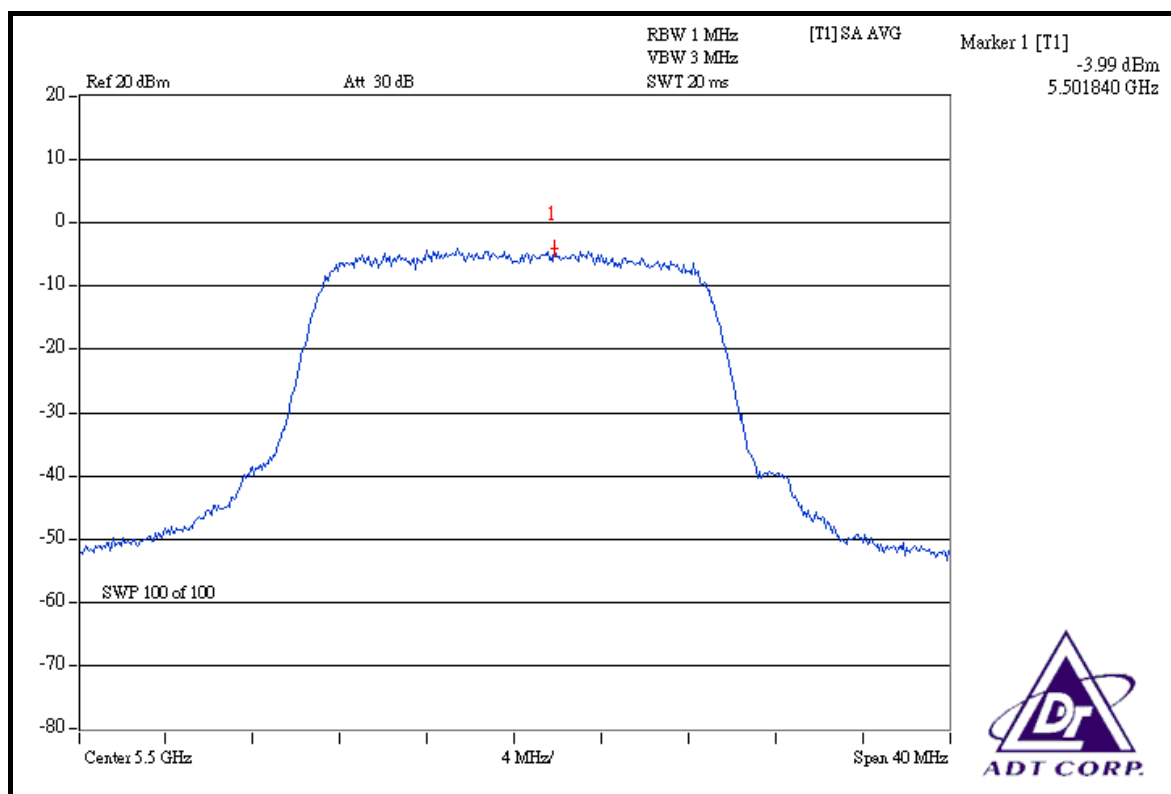
CH 60



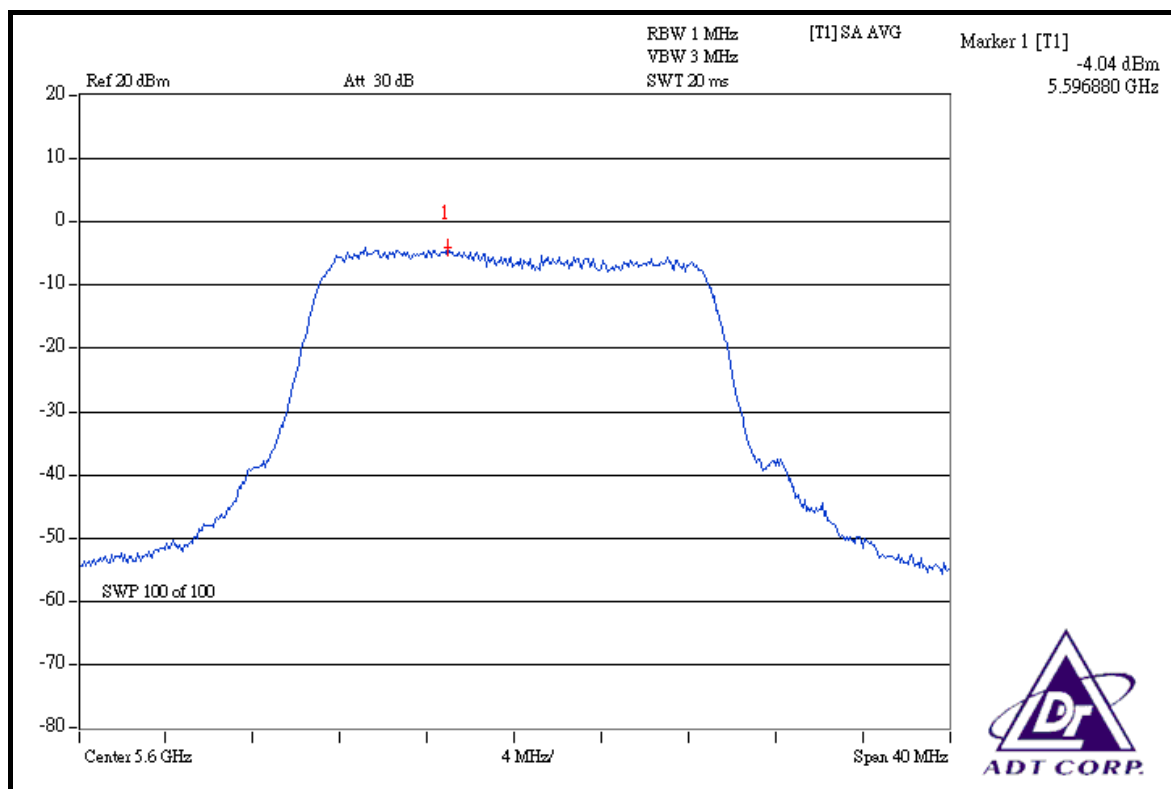
CH 64



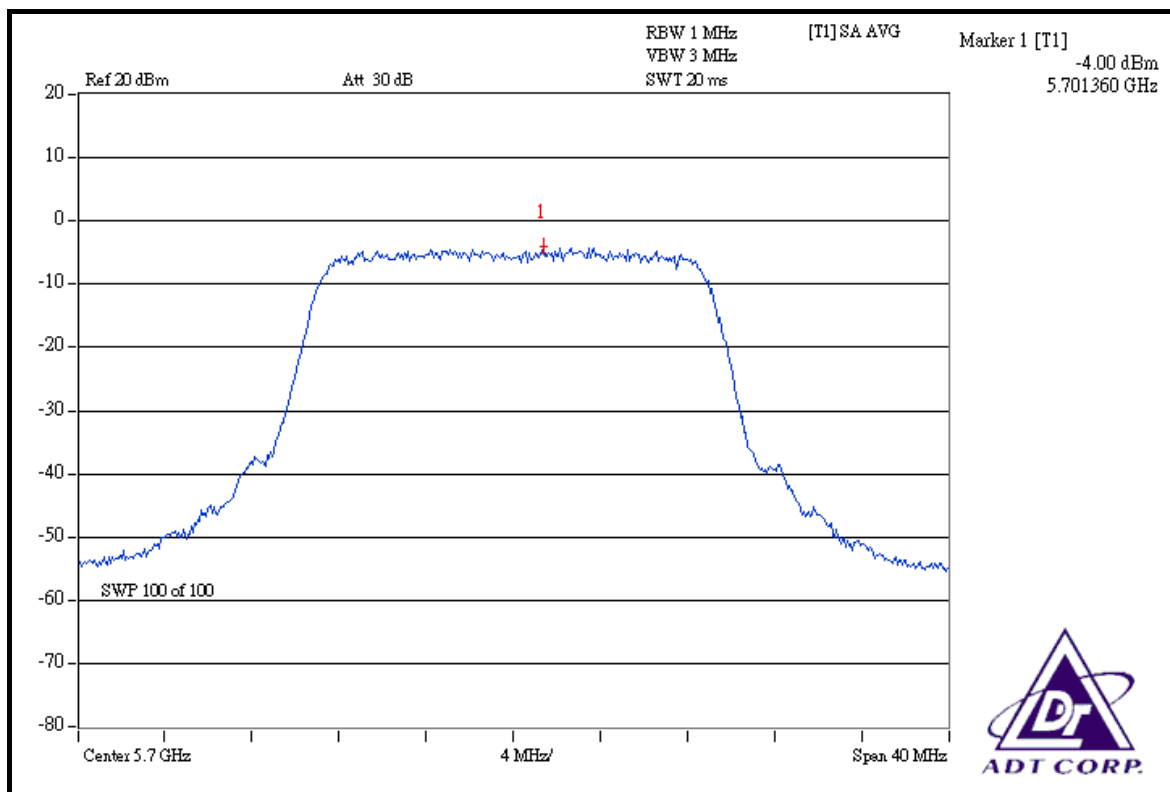
CH 100



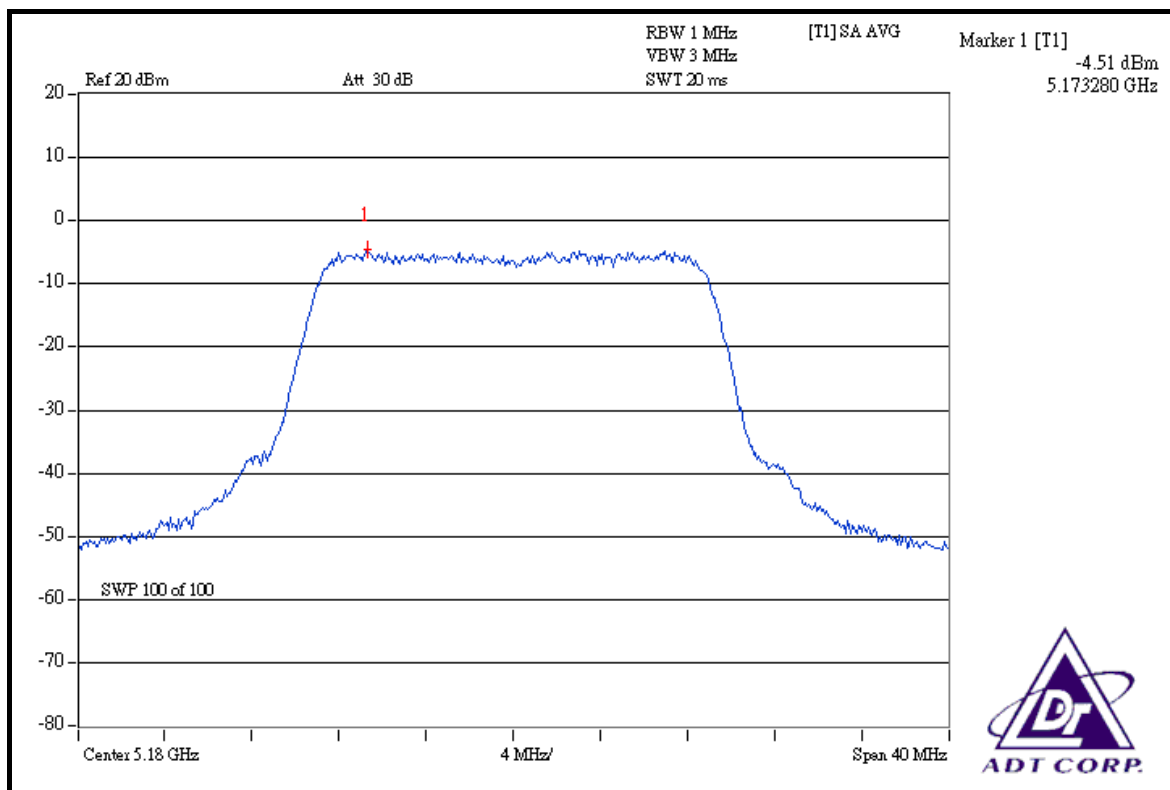
CH 120



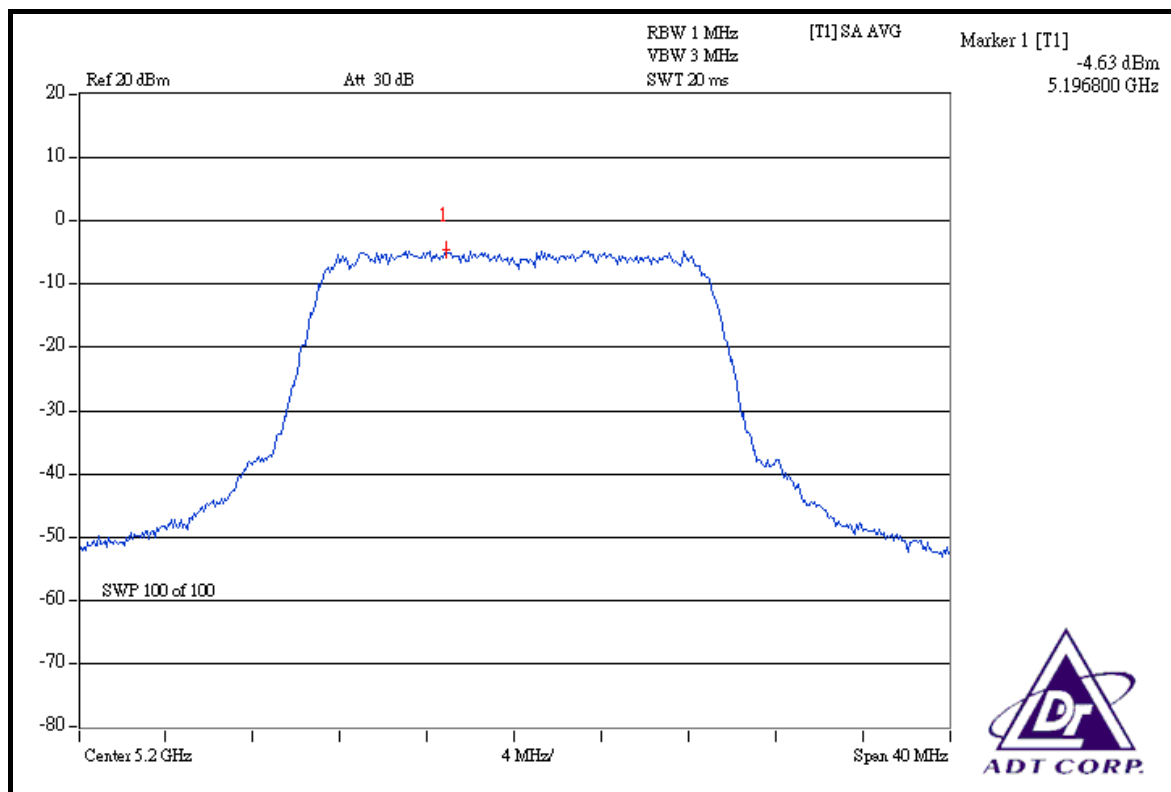
CH 140



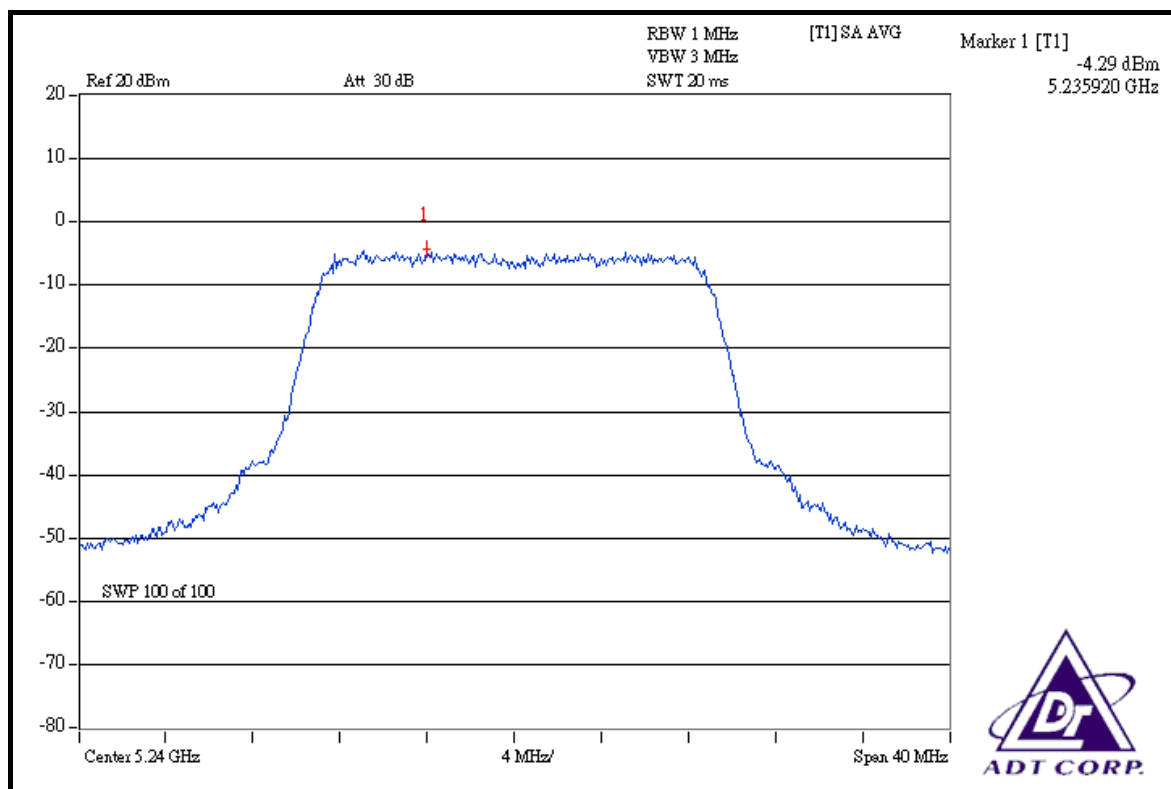
CHAIN 1: CH 36



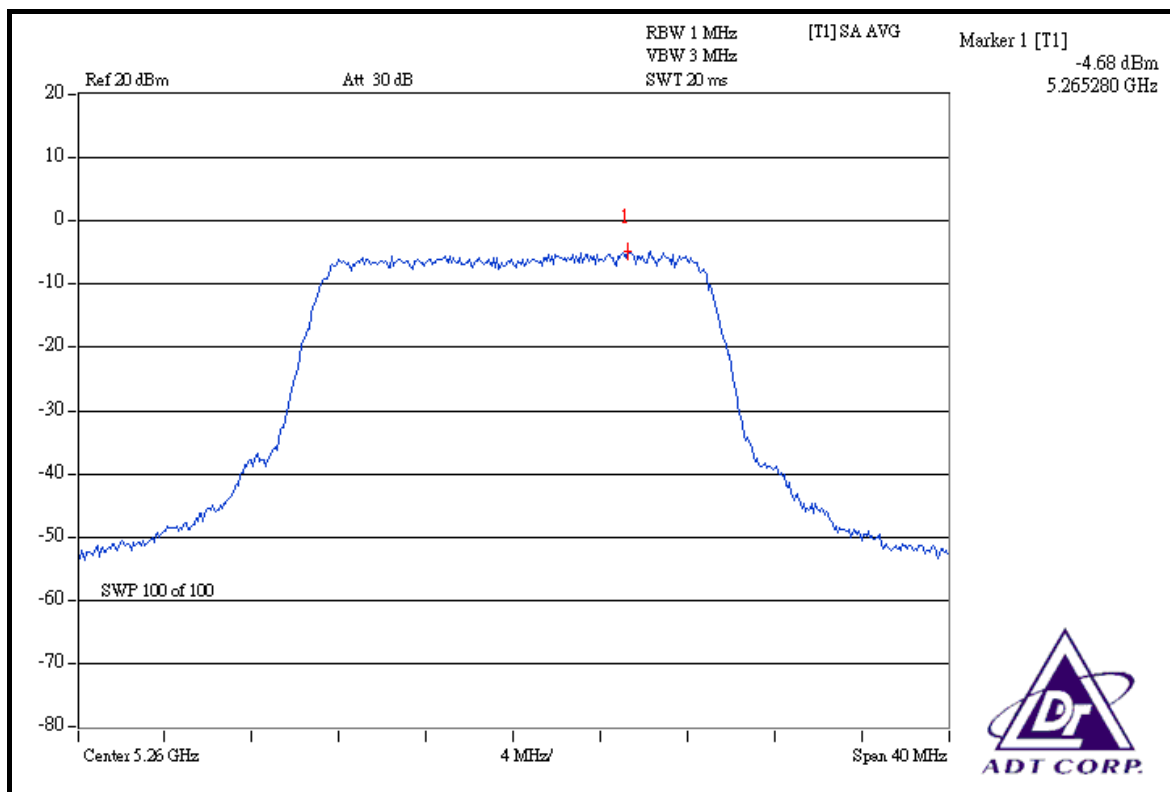
CH 40



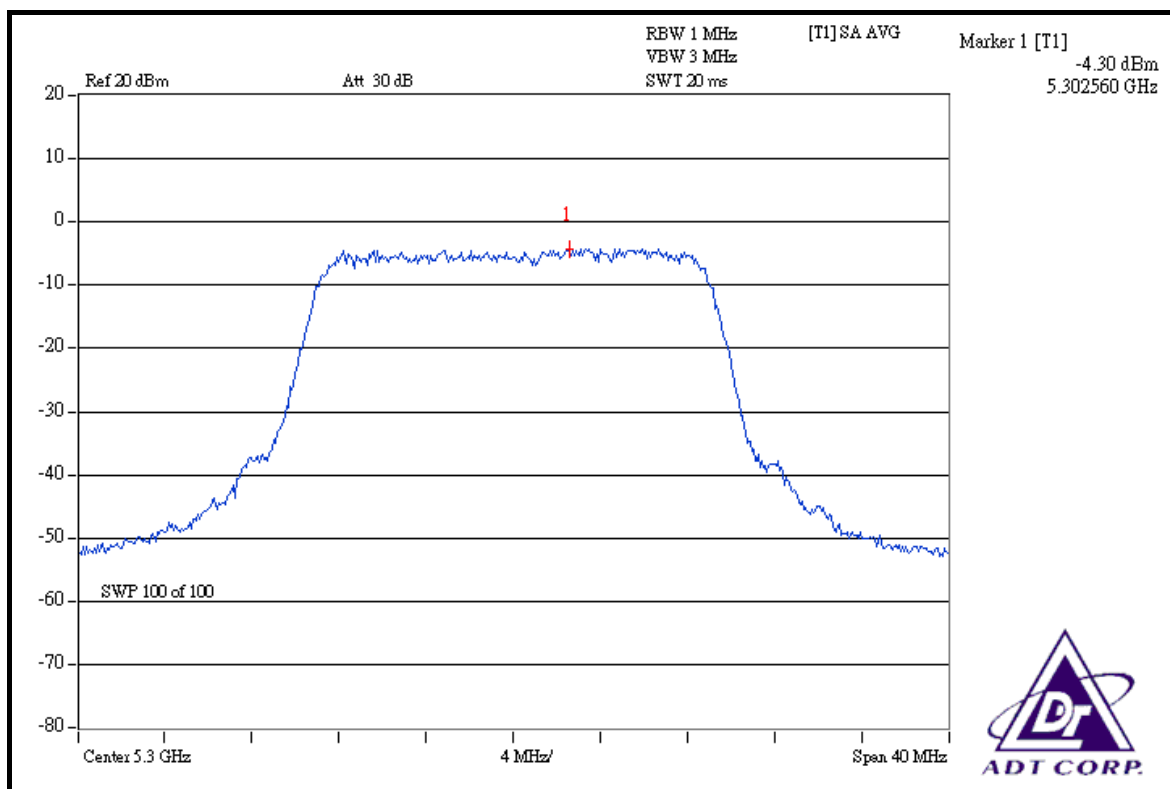
CH 48



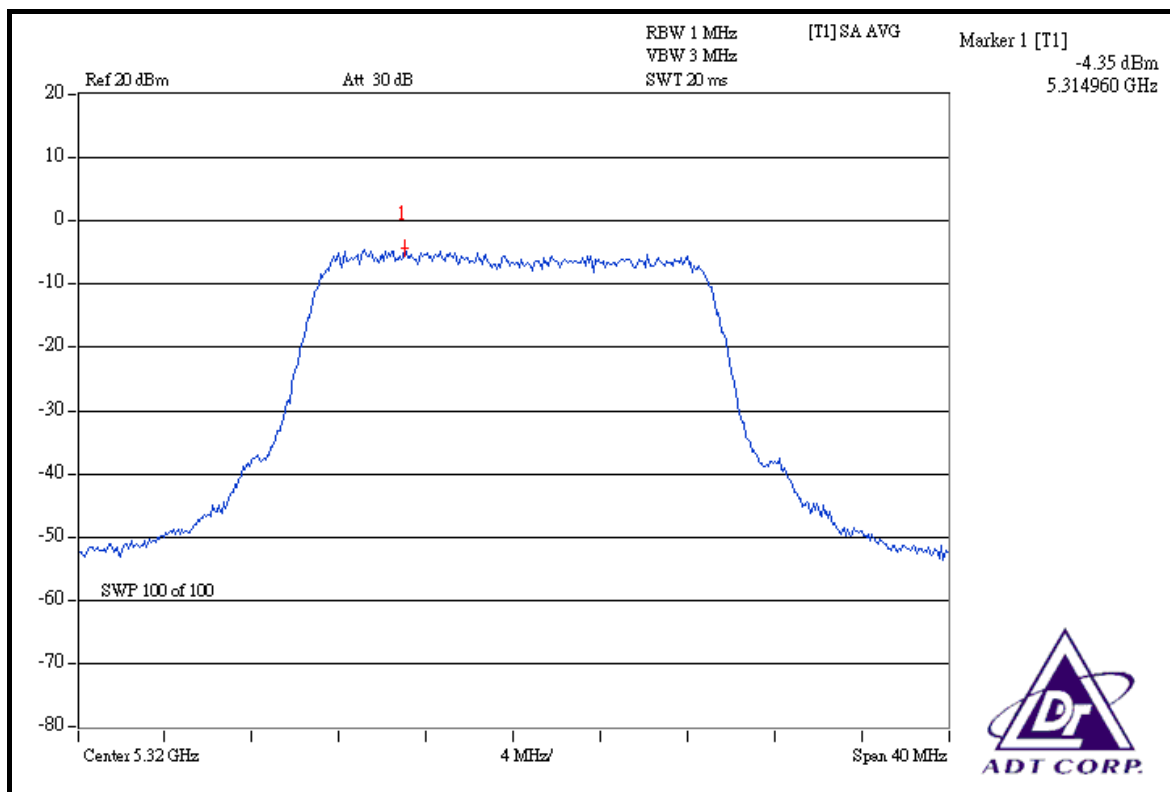
CH 52



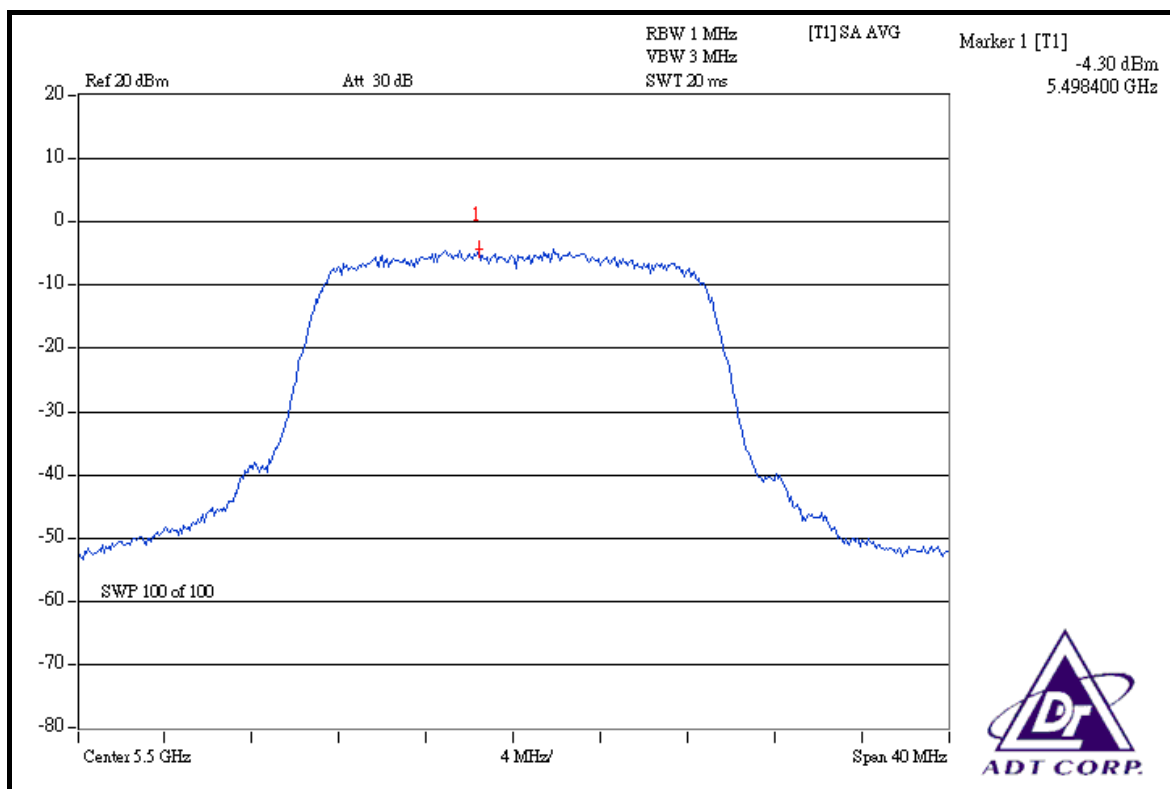
CH 60



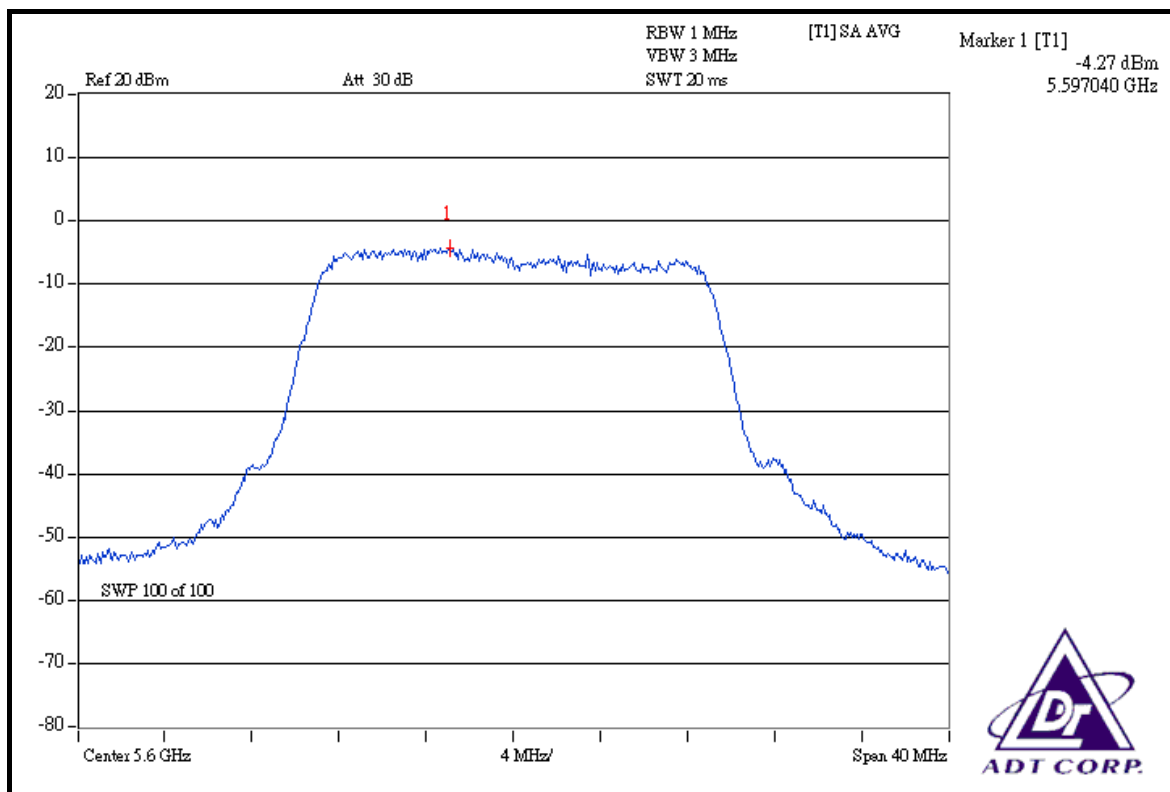
CH 64



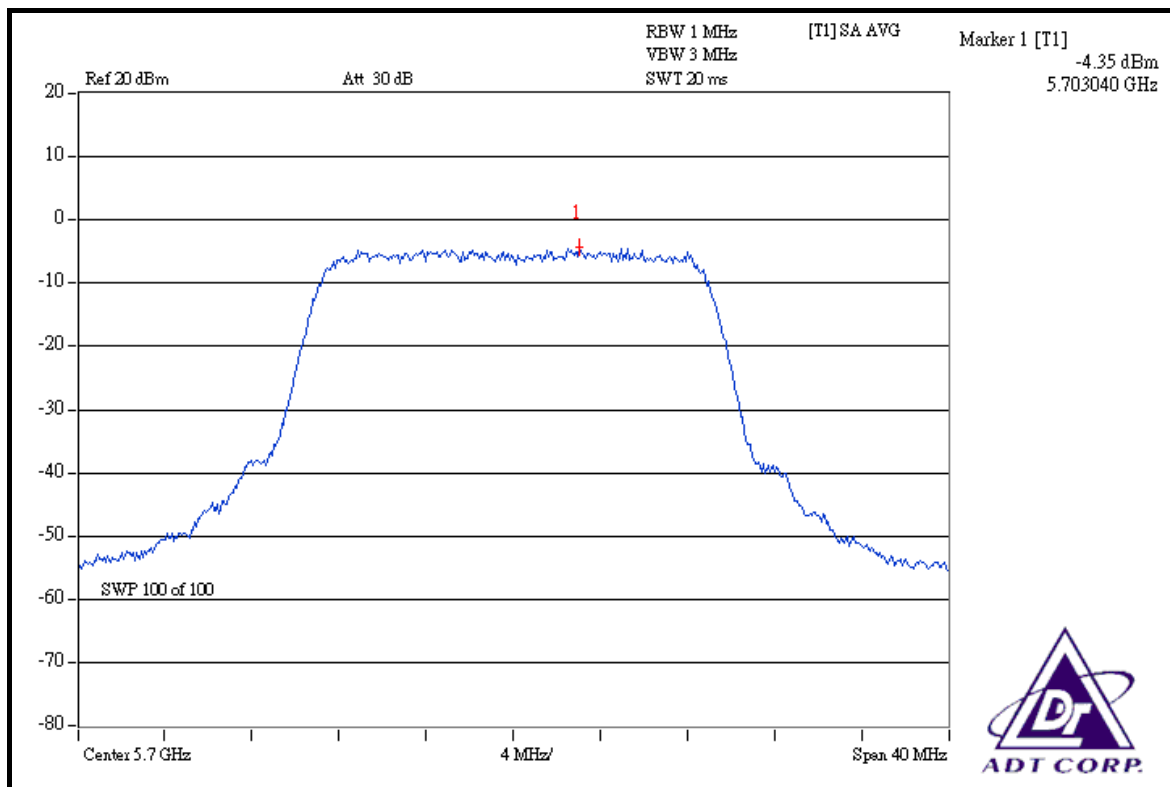
CH 100



CH 120



CH 140

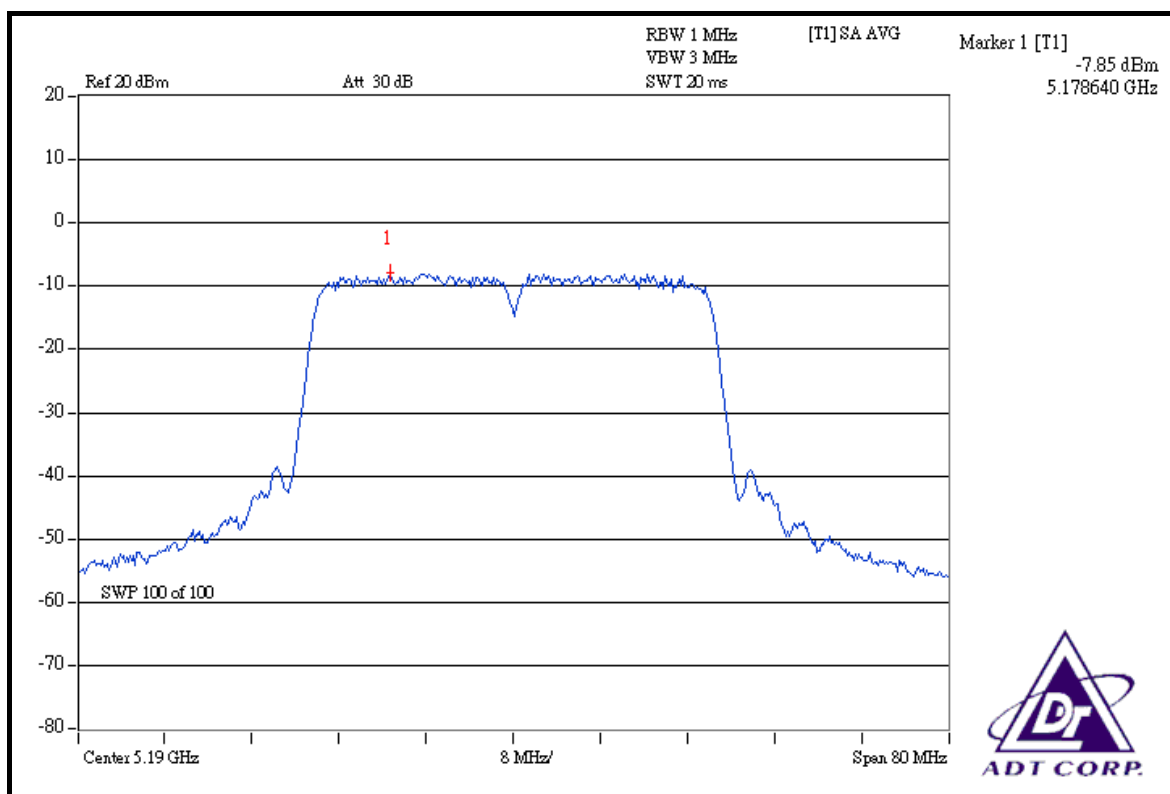


DRAFT 802.11n (40MHz) OFDM MODULATION

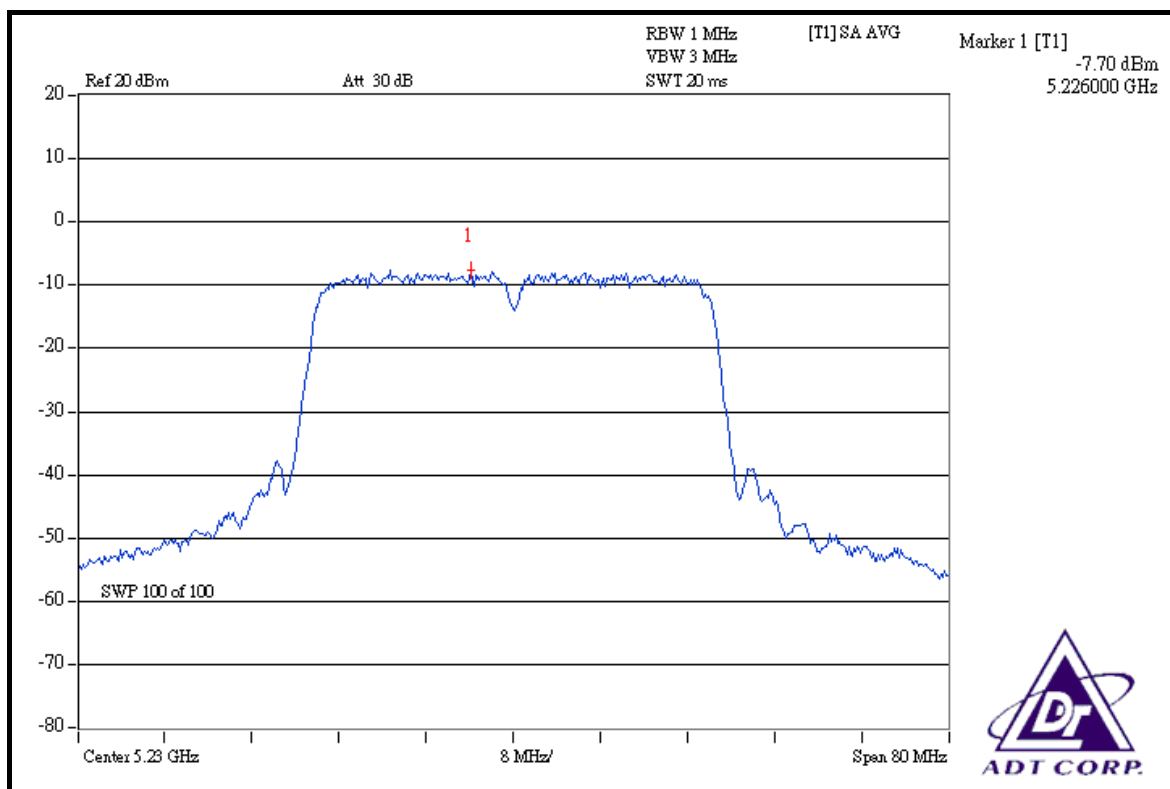
MODULATION TYPE	BPSK	TRANSFER RATE	15.0Mbps
INPUT POWER (SYSTEM)	120Vac, 60Hz	ENVIRONMENTAL CONDITIONS	25 deg.C, 65 %RH, 991hPa
TESTED BY	Dean Wang		

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				
38	5190	-7.85	-7.68	0.335	-4.75	4	PASS
46	5230	-7.70	-7.46	0.349	-4.57	4	PASS
54	5270	-7.62	-7.81	0.339	-4.70	4	PASS
62	5310	-7.61	-7.45	0.353	-4.52	11	PASS
102	5510	-7.61	-7.47	0.352	-4.53	11	PASS
118	5590	-7.83	-7.62	0.338	-4.71	11	PASS
134	5670	-8.06	-7.75	0.324	-4.89	11	PASS

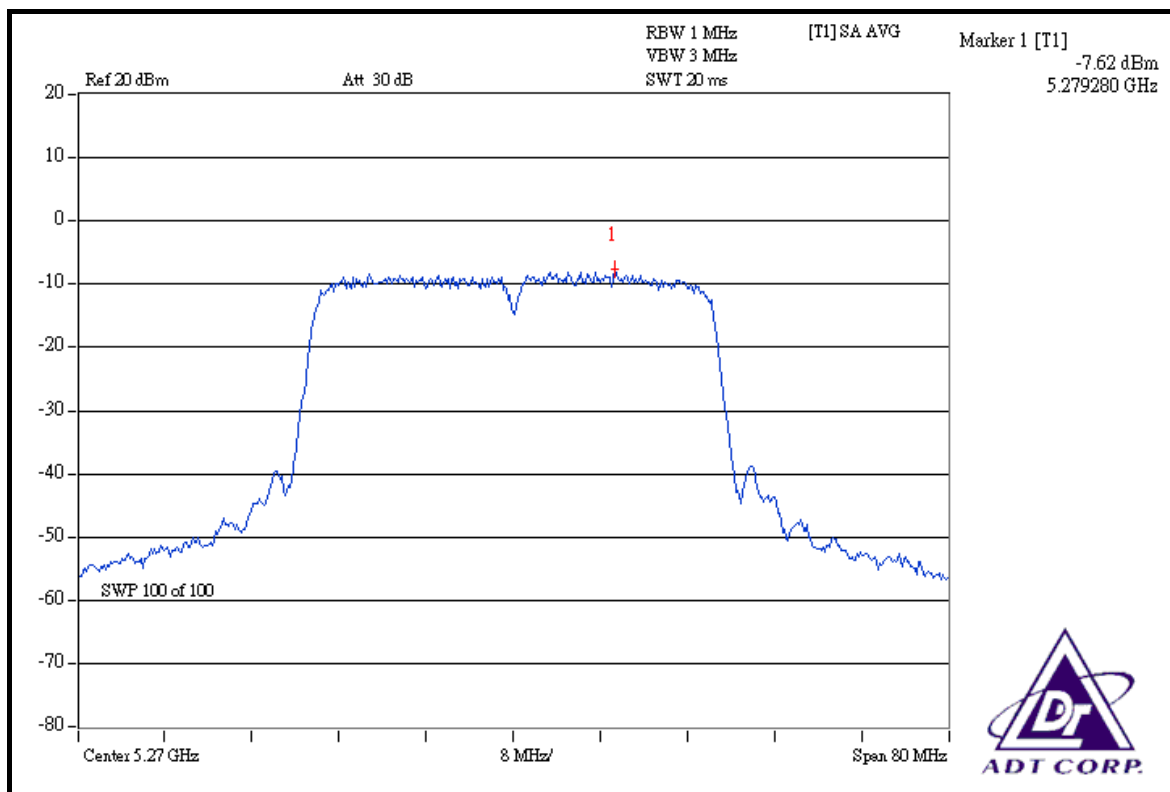
CHAIN 0: CH 38



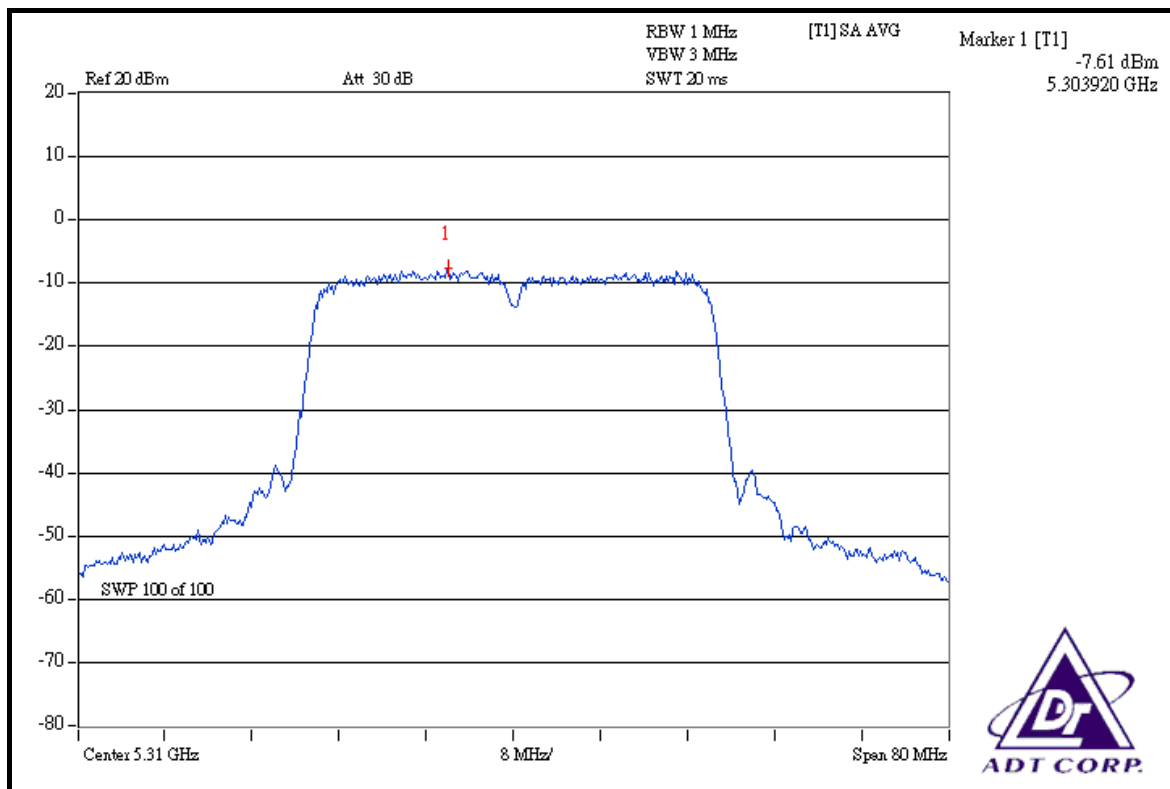
CH 46



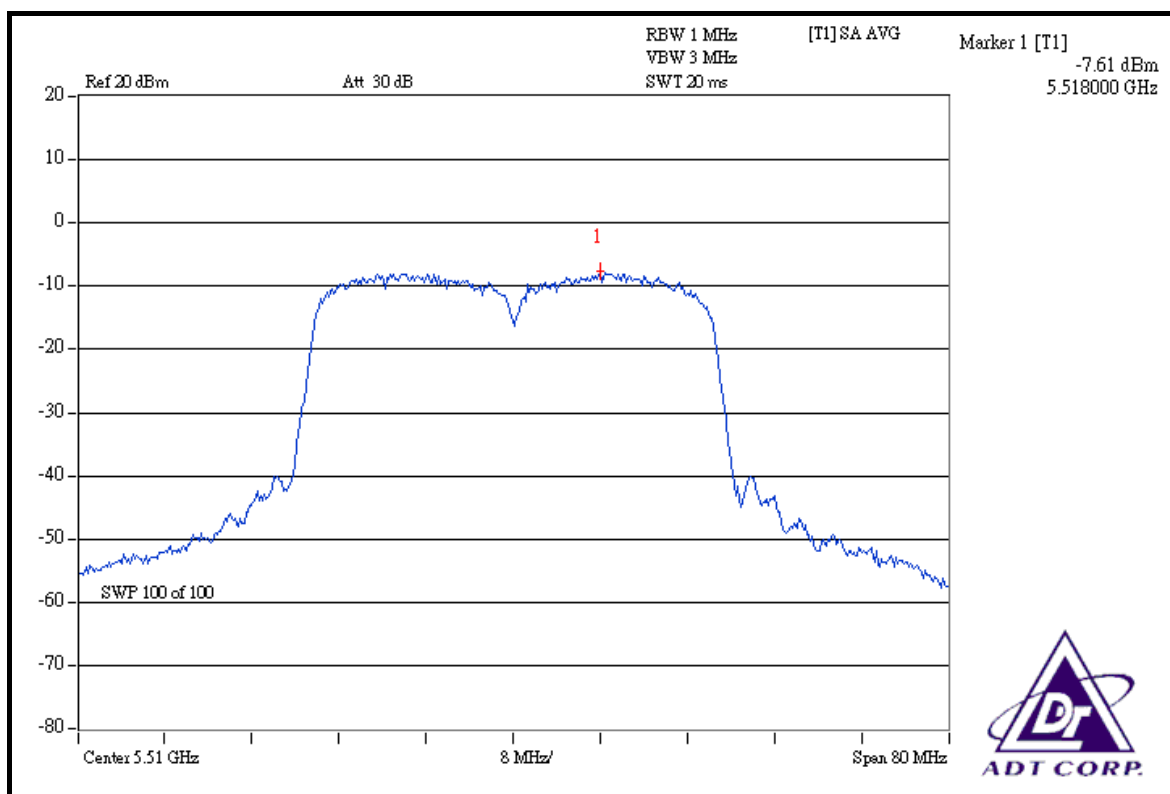
CH 54



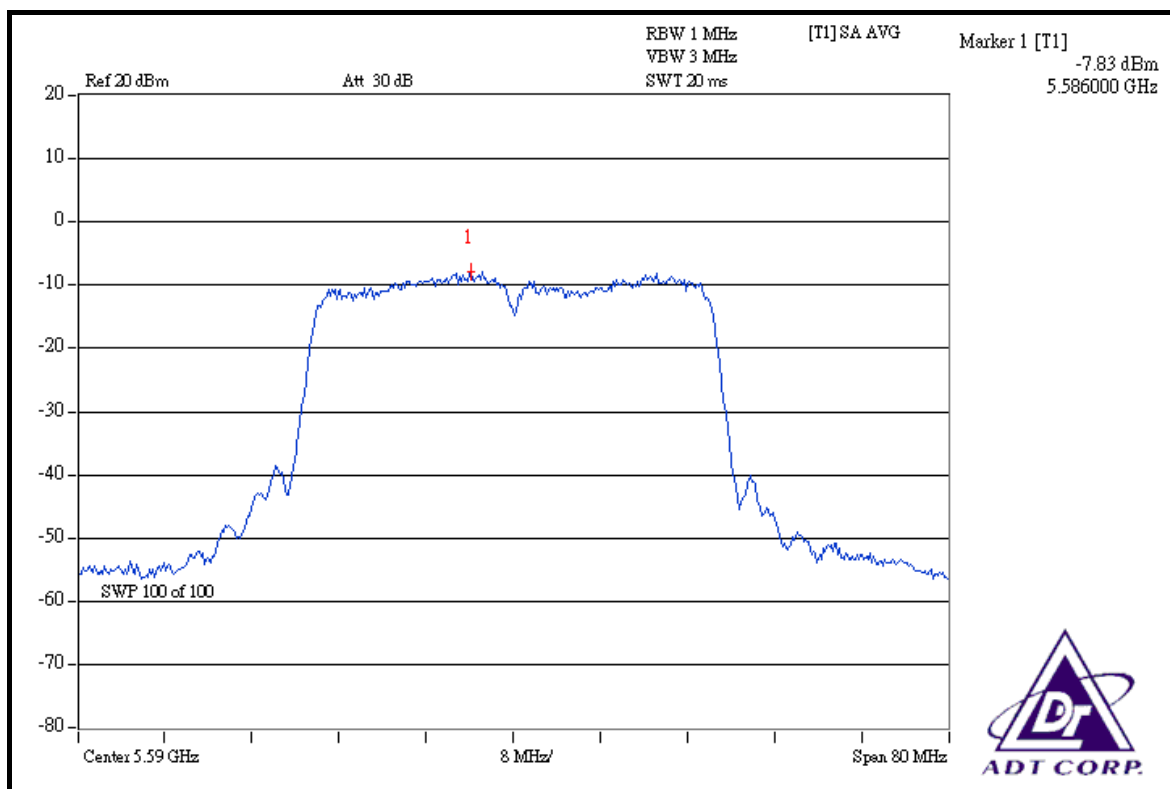
CH 62



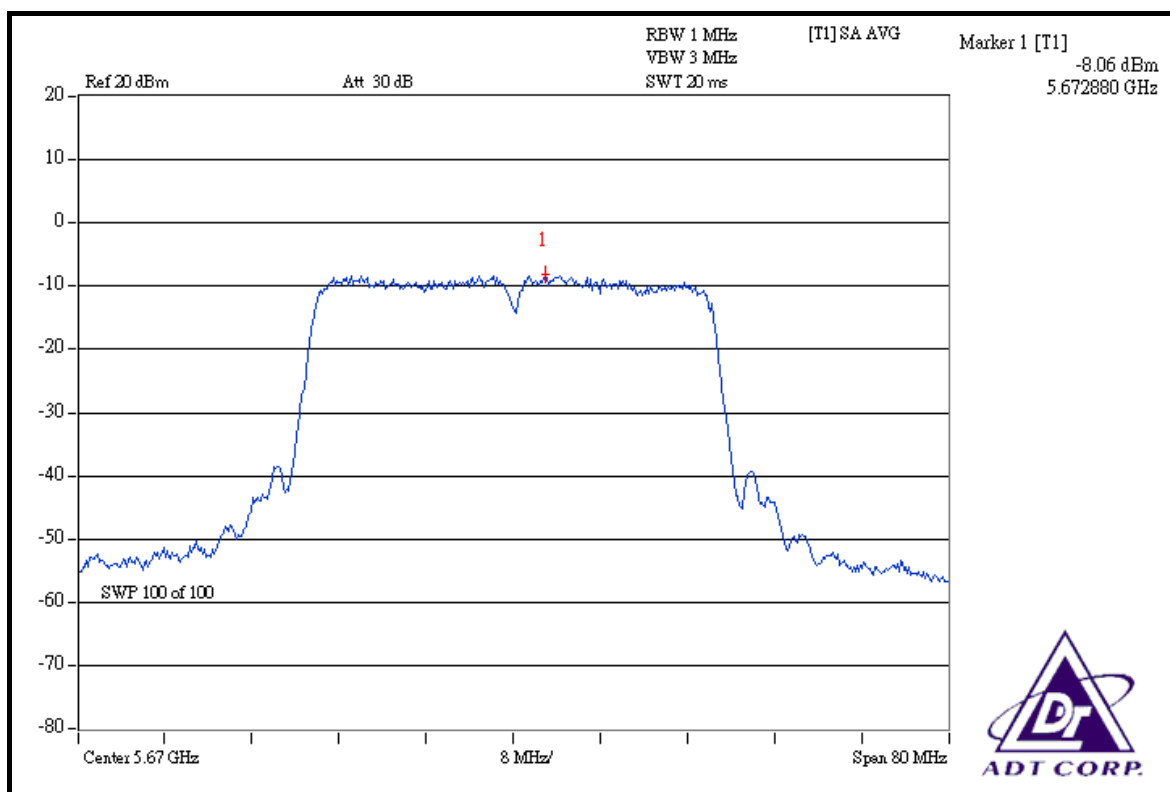
CH 102



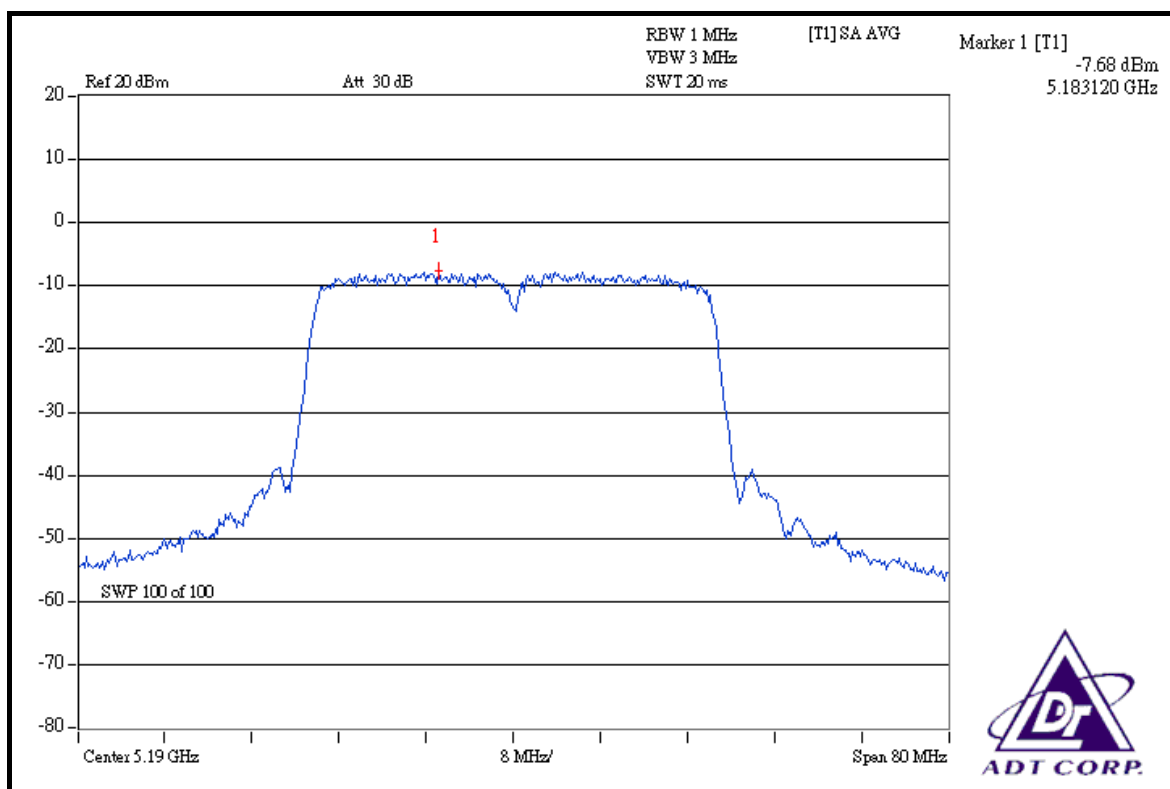
CH 118



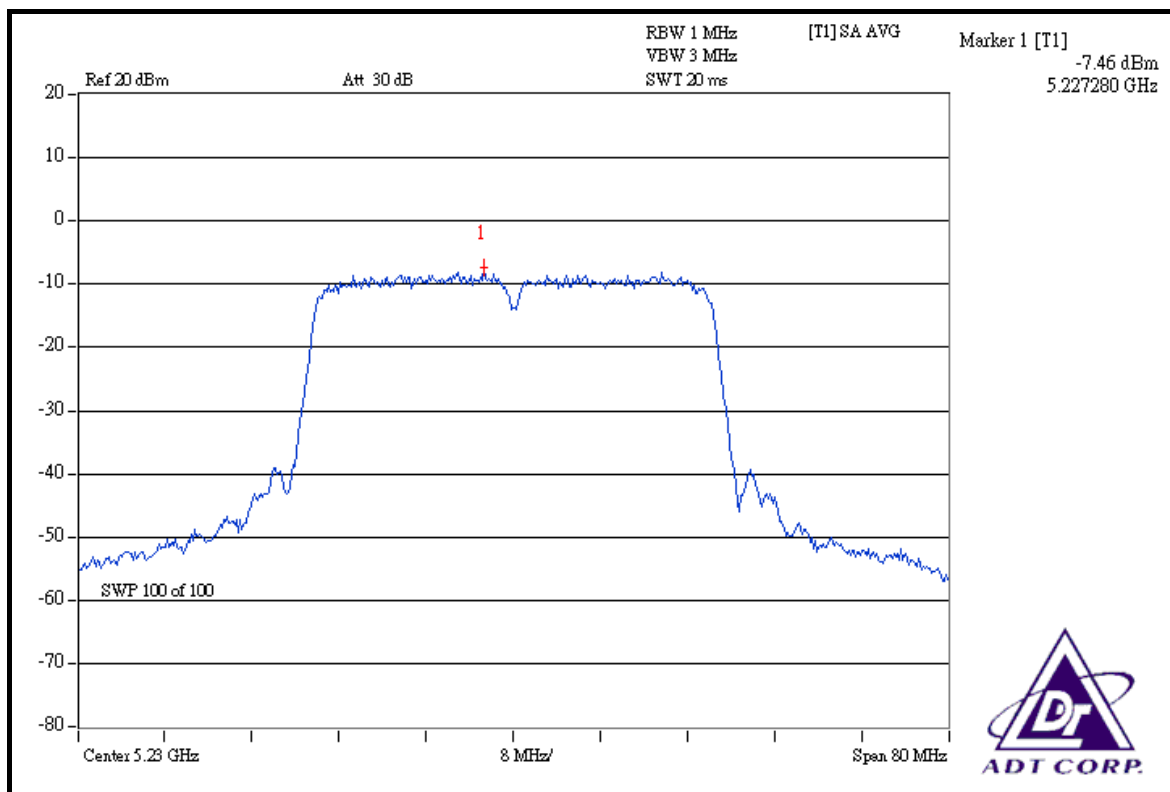
CH 134



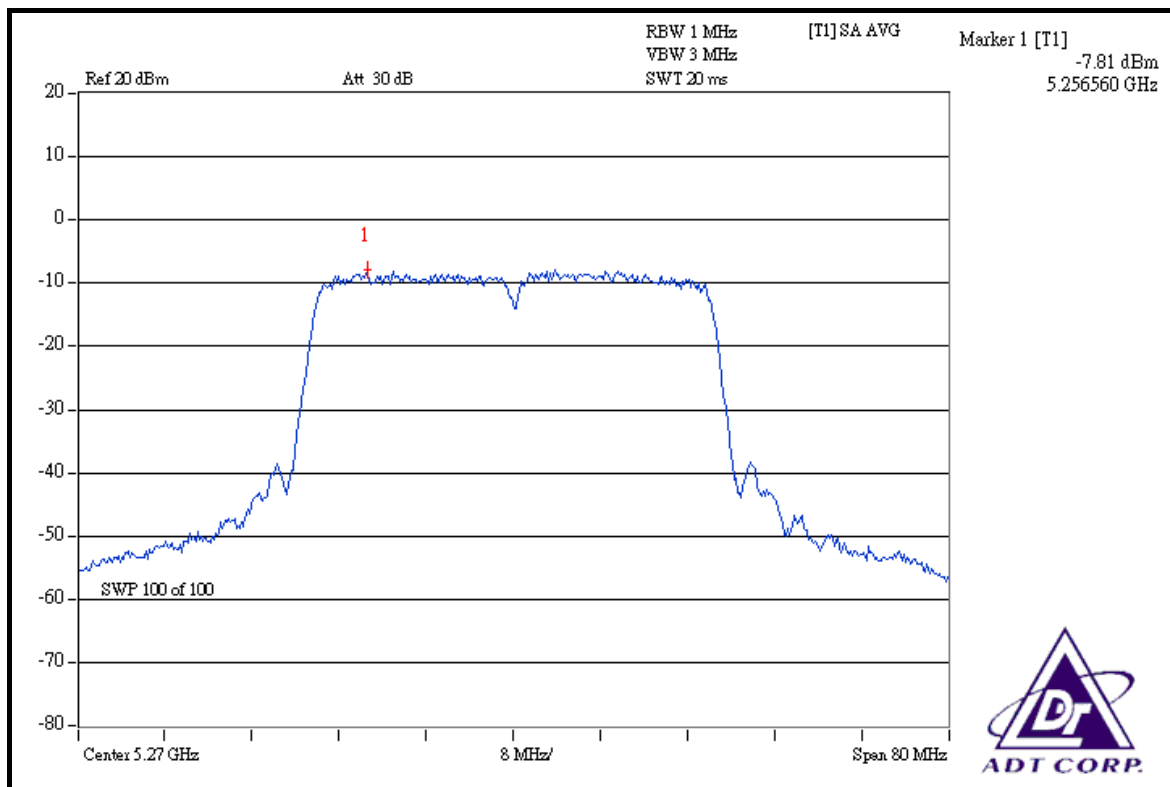
CHAIN 1: CH 38



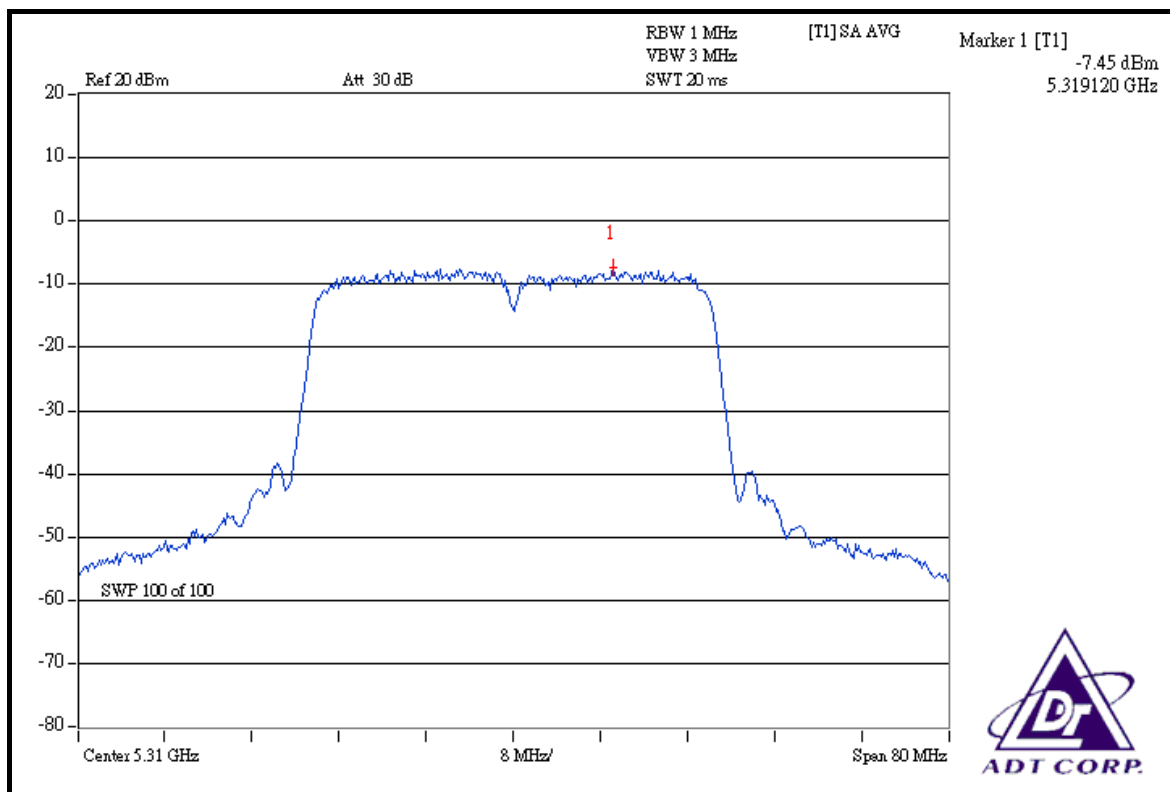
CH 46



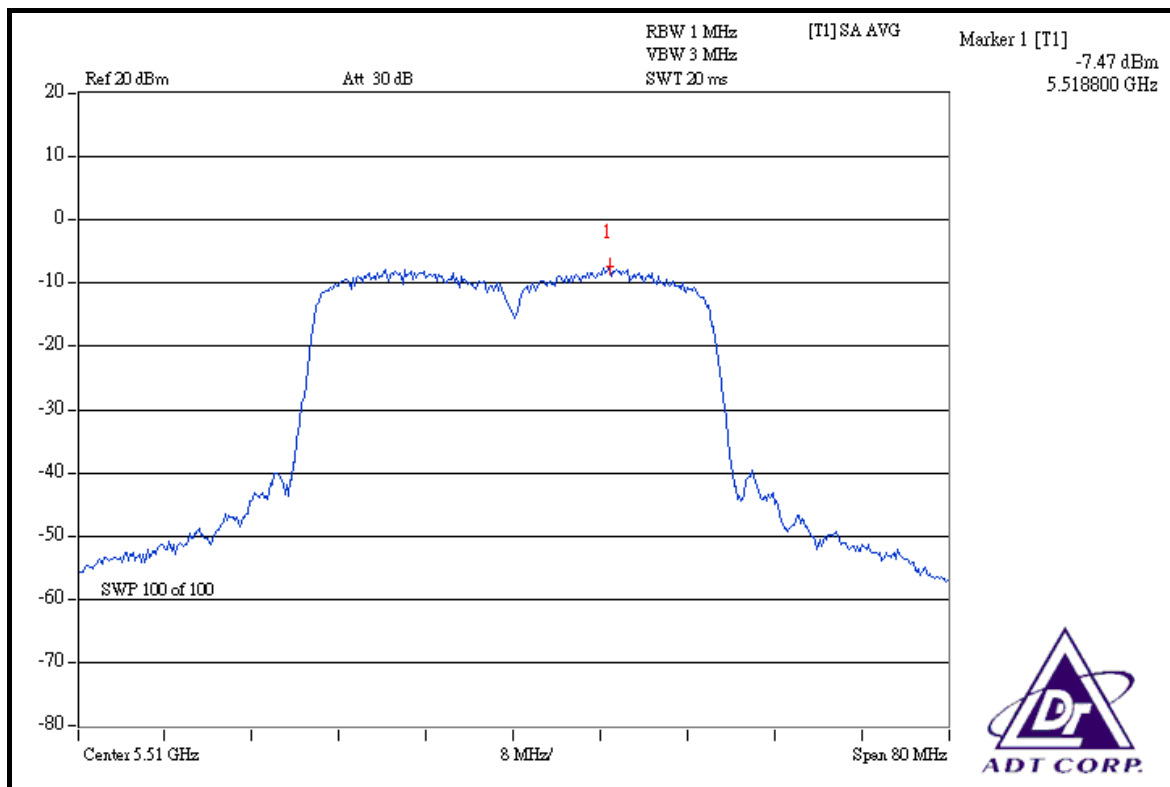
CH 54



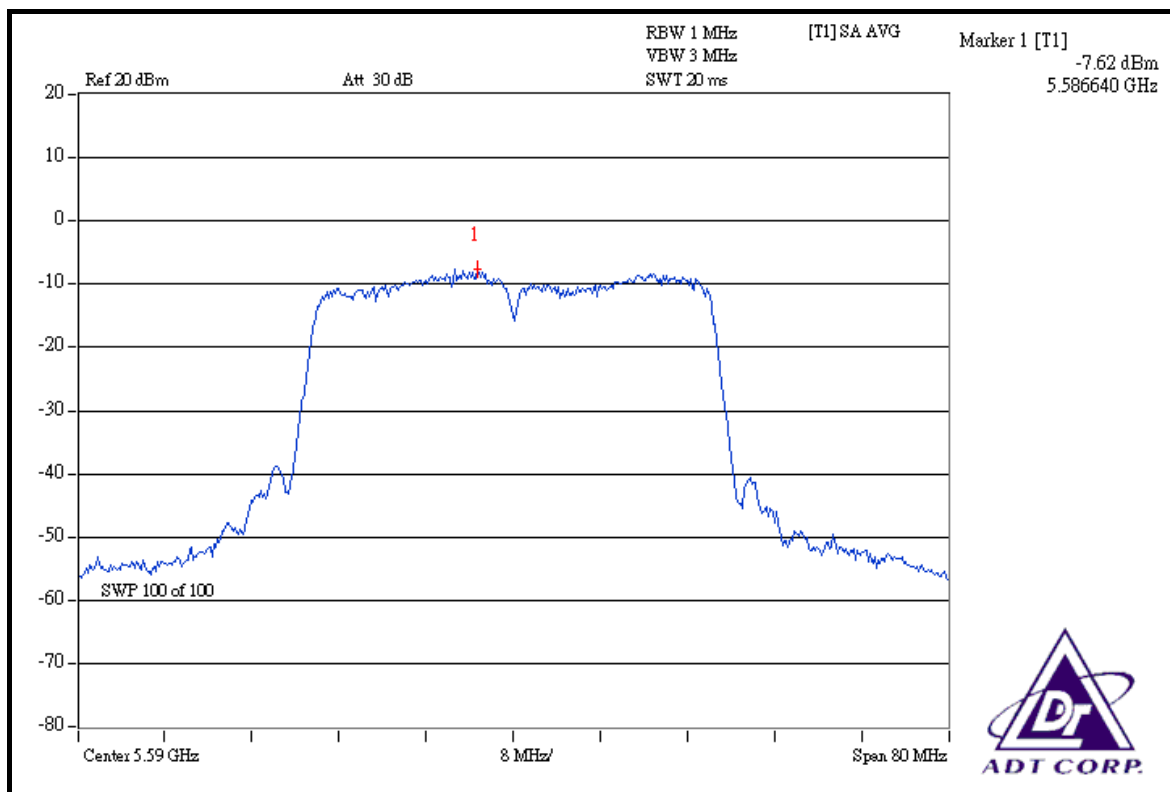
CH 62



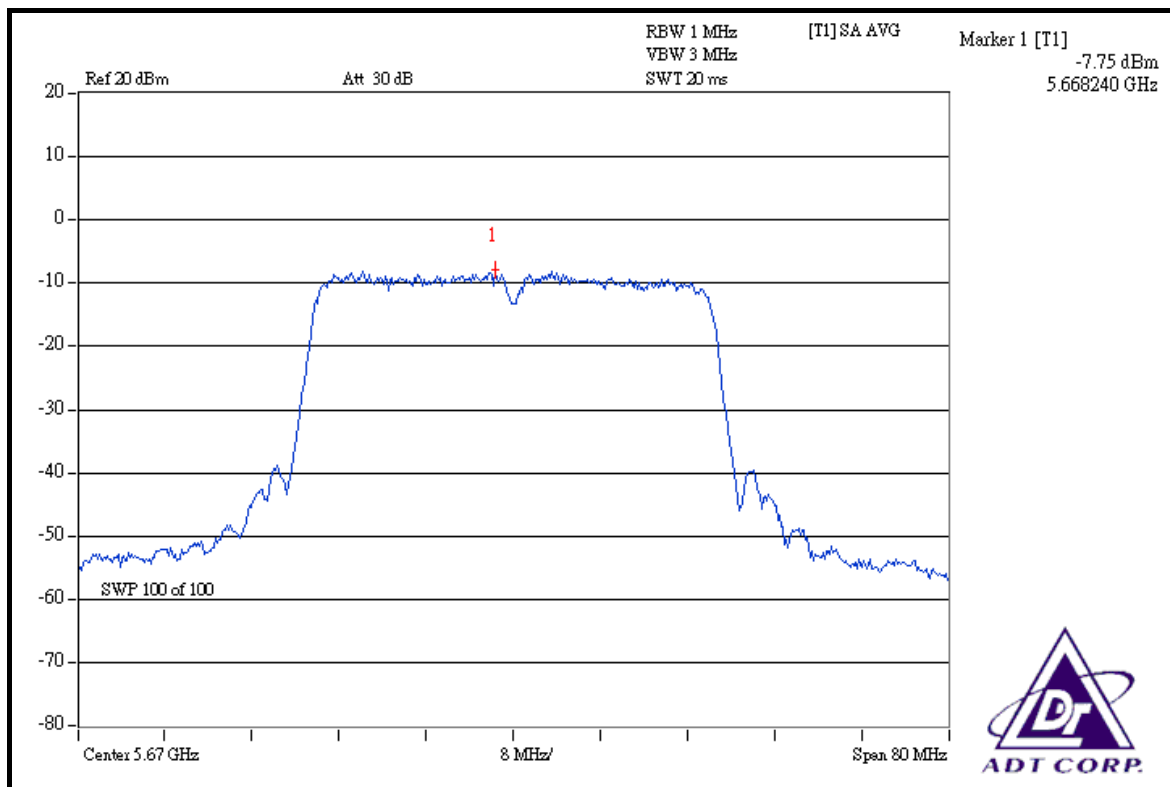
CH 102



CH 118



CH 134



4.6 FREQUENCY STABILITY

4.6.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

The frequency tolerance of the carrier signal shall be maintained within $\pm 0.02\%$ 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.

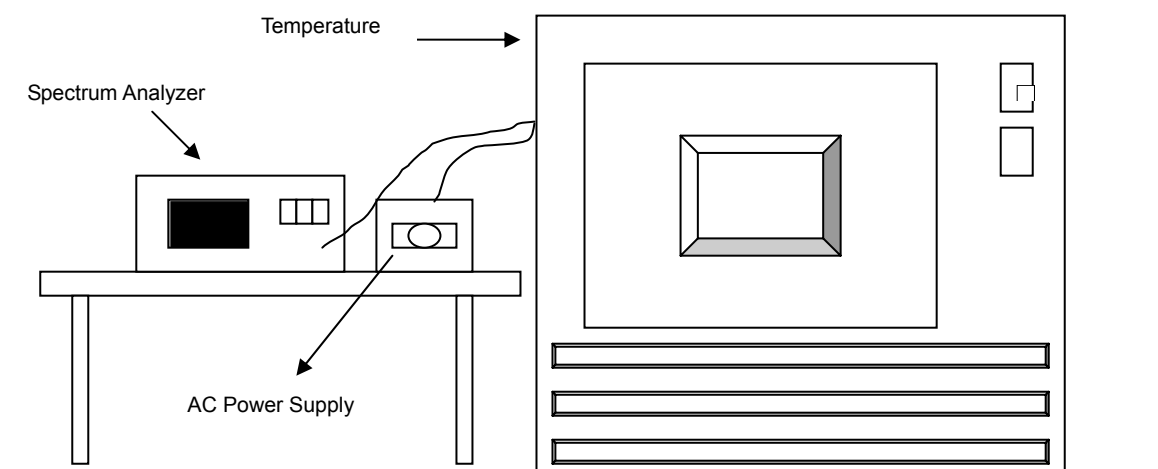
4.6.3 TEST PROCEDURE

- The EUT was placed inside the environmental test chamber and powered by nominal DC voltage.
- Turn the EUT on and couple its output to a spectrum analyzer.
- Turn the EUT off and set the chamber to the highest temperature specified.
- 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.
- Repeat step 2 and 3 with the temperature chamber set to the lowest temperature.
- 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: $\pm 0.01\%$			
TEMP. (°C)	POWER SUPPLY (Vac)	0 MINUTE		2 MINUTE		5 MINUTE		10 MINUTE	
		(MHz)	(%)	(MHz)	(%)	(MHz)	(%)	(MHz)	(%)
50	126.5	5319.907605	-0.0017367	5319.917985	-0.0015416	5319.941192	-0.0011054	5319.939179	-0.0011433
	110.0	5319.923467	-0.0014386	5319.923765	-0.0014330	5319.923502	-0.0014379	5319.923624	-0.0014356
	93.5	5319.926401	-0.0013834	5319.926624	-0.0013792	5319.926598	-0.0013797	5319.926555	-0.0013805
40	126.5	5319.919138	-0.0015200	5319.919035	-0.0015219	5319.918780	-0.0015267	5319.919227	-0.0015183
	110.0	5319.924902	-0.0014116	5319.924902	-0.0014116	5319.924739	-0.0014147	5319.924912	-0.0014114
	93.5	5319.936776	-0.0011884	5319.936525	-0.0011931	5319.936948	-0.0011852	5319.936971	-0.0011848
30	126.5	5319.919936	-0.0015050	5319.920187	-0.0015002	5319.919989	-0.0015040	5319.920026	-0.0015033
	110.0	5319.925766	-0.0013954	5319.926074	-0.0013896	5319.926127	-0.0013886	5319.926524	-0.0013811
	93.5	5319.943854	-0.0010554	5319.943764	-0.0010571	5319.943700	-0.0010583	5319.944283	-0.0010473
20	126.5	5319.926929	-0.0013735	5319.926575	-0.0013802	5319.926678	-0.0013782	5319.927310	-0.0013664
	110.0	5319.927783	-0.0013575	5319.927533	-0.0013622	5319.928011	-0.0013532	5319.927448	-0.0013638
	93.5	5319.951732	-0.0009073	5319.951826	-0.0009055	5319.951602	-0.0009097	5319.951656	-0.0009087
10	126.5	5319.933957	-0.0012414	5319.934062	-0.0012394	5319.934292	-0.0012351	5319.934292	-0.0012351
	110.0	5319.942645	-0.0010781	5319.942799	-0.0010752	5319.942604	-0.0010789	5319.942600	-0.0010789
	93.5	5319.958016	-0.0007892	5319.958247	-0.0007848	5319.957804	-0.0007932	5319.957847	-0.0007923
0	126.5	5319.937805	-0.0011691	5319.937694	-0.0011712	5319.937767	-0.0011698	5319.937564	-0.0011736
	110.0	5319.949784	-0.0009439	5319.949445	-0.0009503	5319.949970	-0.0009404	5319.949577	-0.0009478
	93.5	5319.963884	-0.0006789	5319.963912	-0.0006783	5319.963746	-0.0006815	5319.964184	-0.0006732
-10	126.5	5319.950183	-0.0009364	5319.949927	-0.0009412	5319.949935	-0.0009411	5319.950031	-0.0009393
	110.0	5319.956997	-0.0008083	5319.956618	-0.0008155	5319.957005	-0.0008082	5319.956796	-0.0008121
	93.5	5319.971433	-0.0005370	5319.971236	-0.0005407	5319.971068	-0.0005438	5319.971027	-0.0005446
-20	126.5	5319.955026	-0.0008454	5319.955271	-0.0008408	5319.955327	-0.0008397	5319.954832	-0.0008490
	110.0	5319.960300	-0.0007462	5319.960510	-0.0007423	5319.960210	-0.0007479	5319.960597	-0.0007407
	93.5	5319.975344	-0.0004635	5319.975027	-0.0004694	5319.975118	-0.0004677	5319.975140	-0.0004673
-30	126.5	5319.960173	-0.0007486	5319.960202	-0.0007481	5319.960490	-0.0007427	5319.960223	-0.0007477
	110.0	5319.974775	-0.0004742	5319.974693	-0.0004757	5319.974843	-0.0004729	5319.974328	-0.0004826
	93.5	5319.977732	-0.0004186	5319.977822	-0.0004169	5319.978013	-0.0004133	5319.977428	-0.0004243

4.7 BAND EDGES MEASUREMENT

4.7.1 TEST INSTRUMENTS

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

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

4.7.2 TEST PROCEDURE

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

4.7.3 EUT OPERATING CONDITION

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

4.7.4 TEST RESULTS

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

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

FOR 5150-5350MHz BAND: 802.11a OFDM MODULATION

Channel 36 (5180MHz)

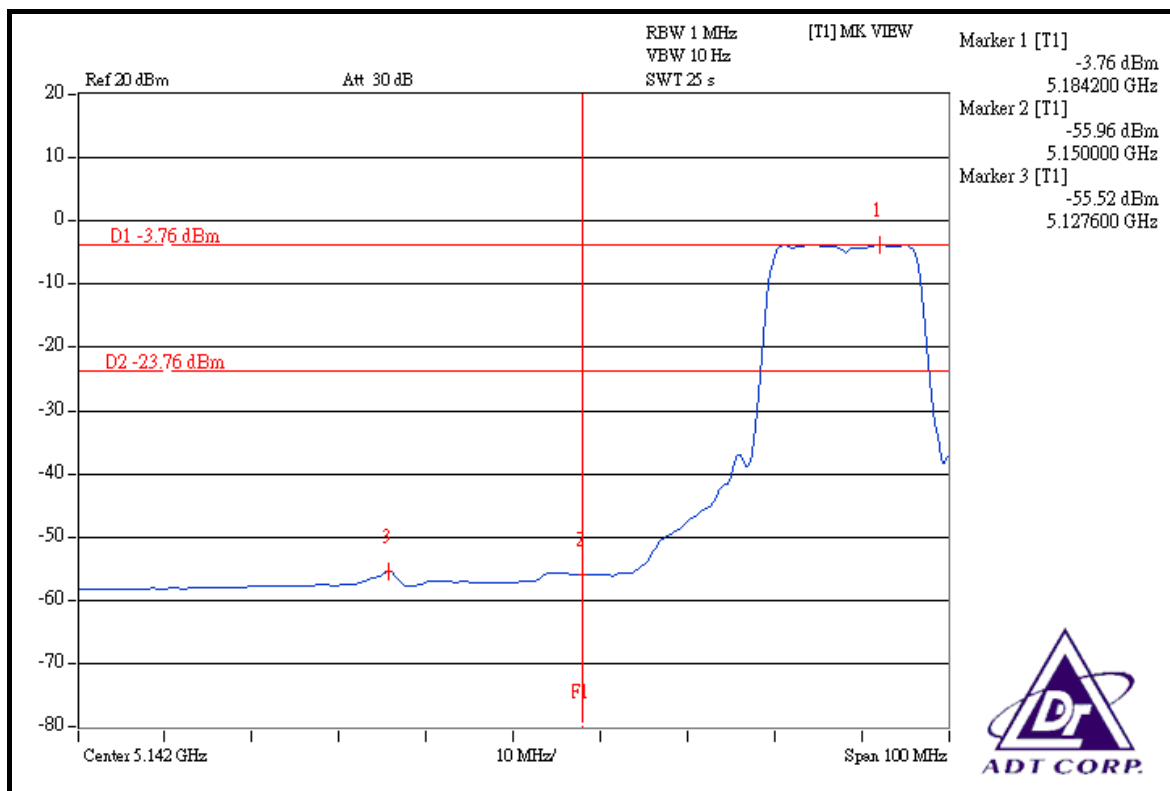
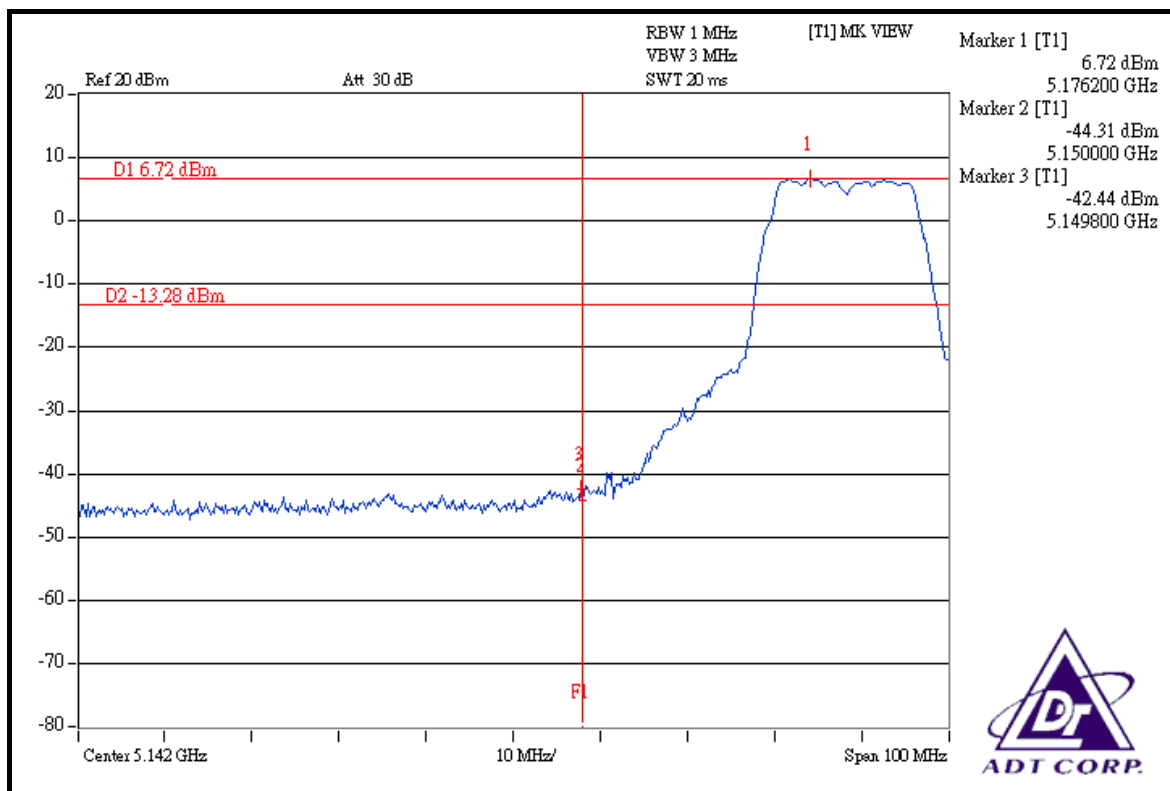
The band edge emission plot on the next page shows 49.16dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 36 is 108.13dBuV/m (Peak), so the maximum field strength in restrict band is $108.13 - 49.16 = 58.97$ dBuV/m which is under 74dBuV/m limit.

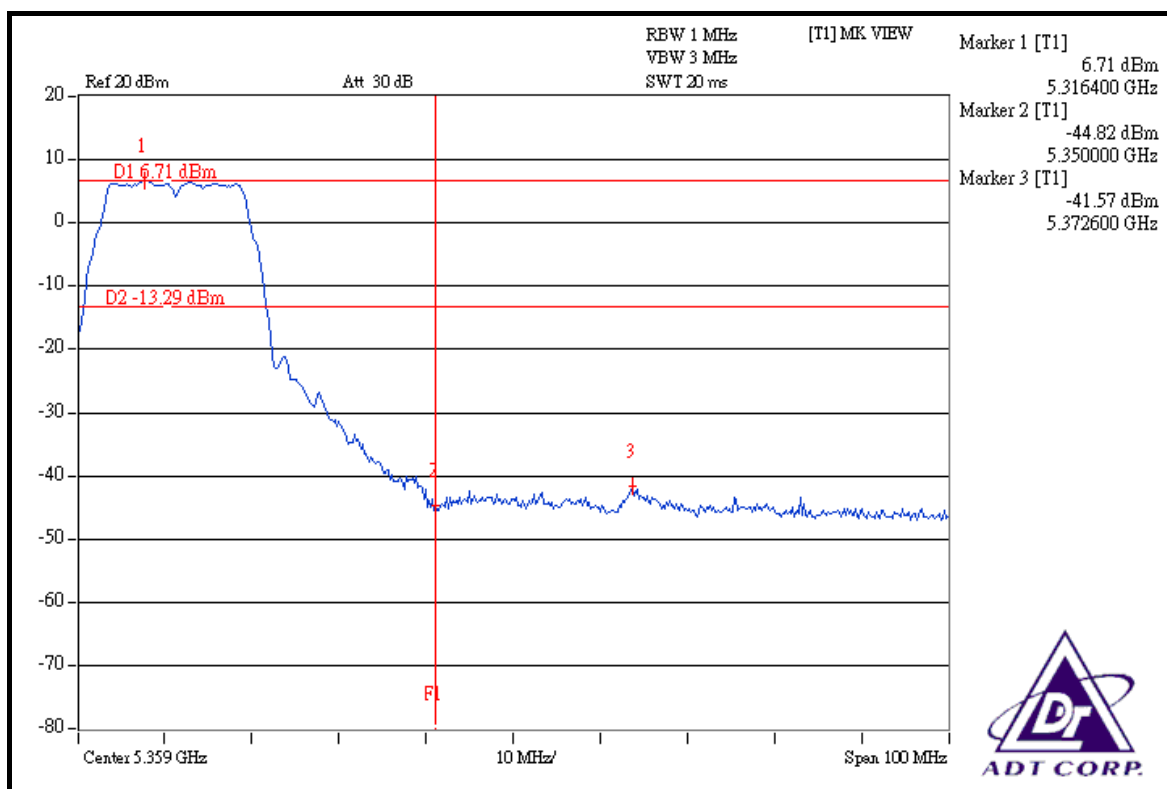
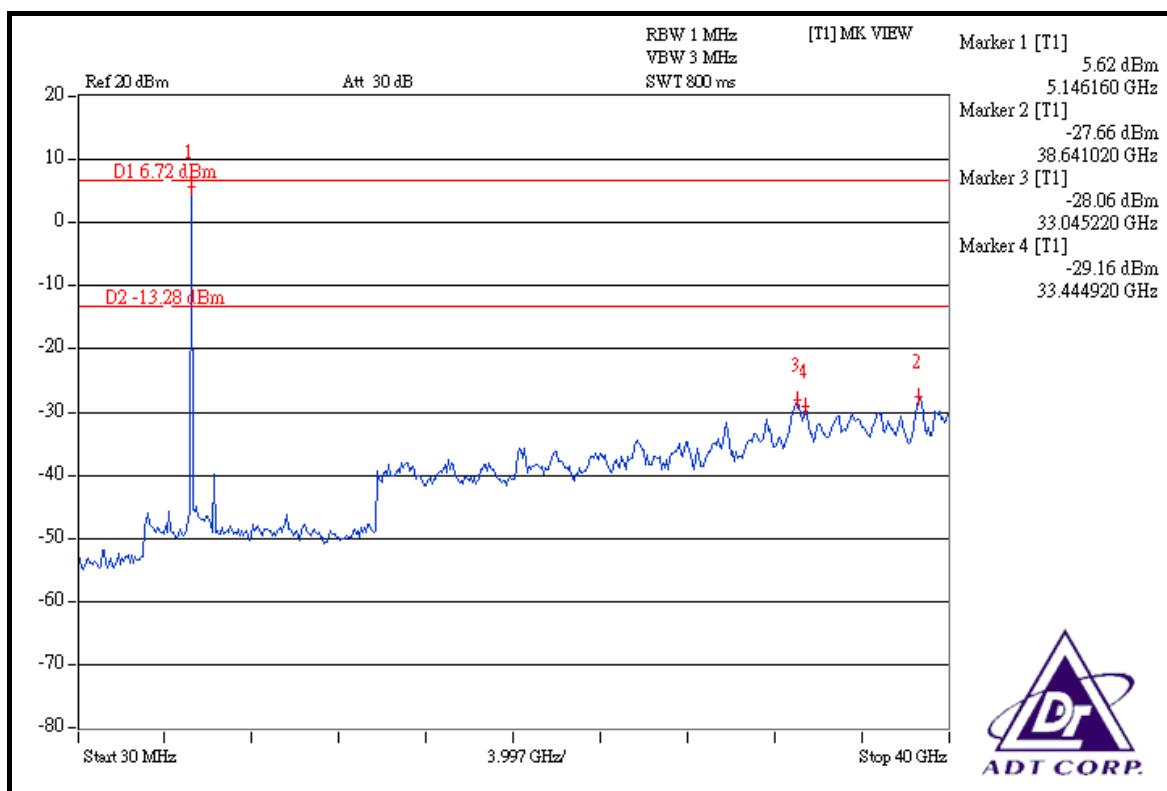
The band edge emission plot on the next page shows 51.76dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 36 is 98.42dBuV/m (Average), so the maximum field strength in restrict band is $98.42 - 51.76 = 46.66$ dBuV/m which is under 54dBuV/m limit.

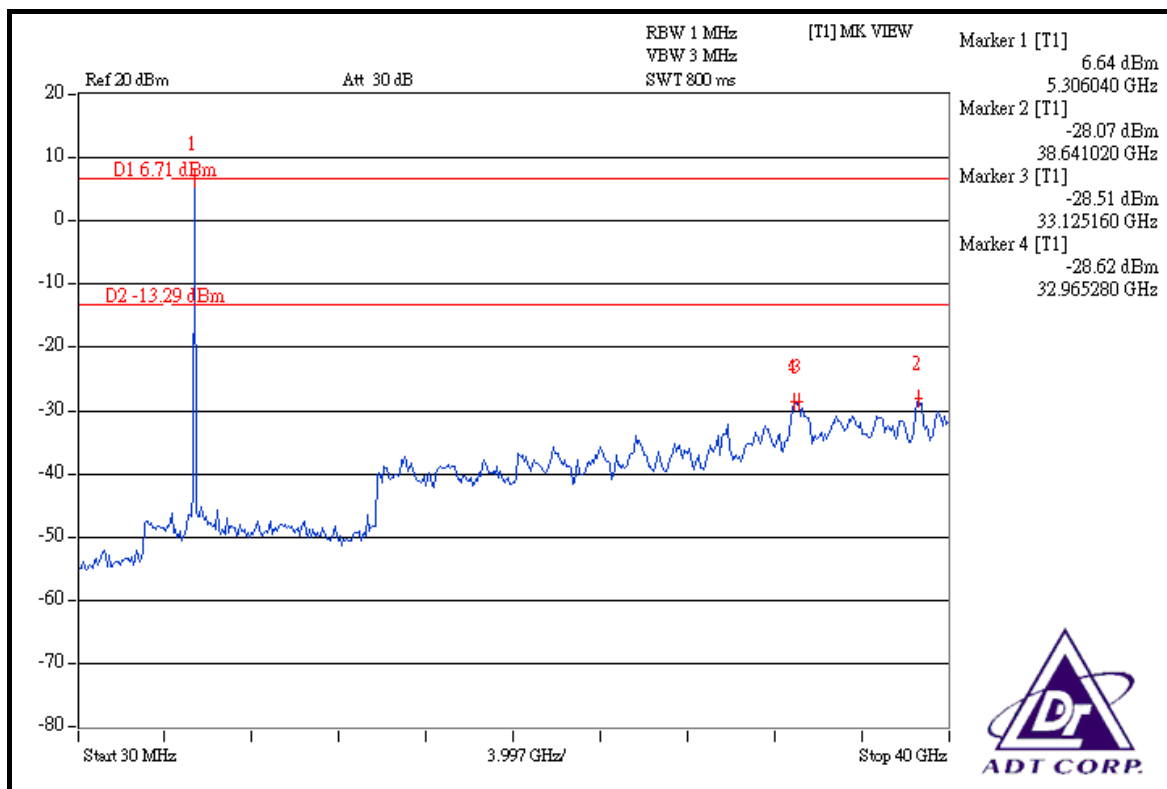
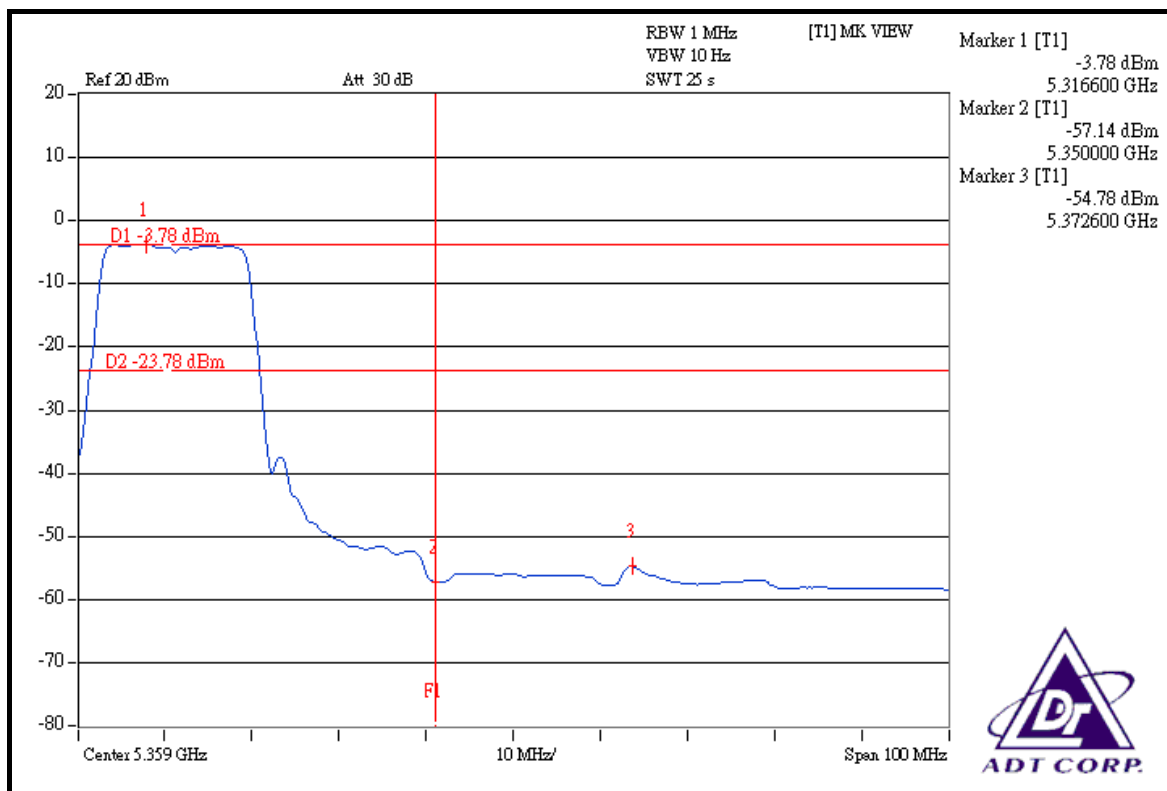
Channel 64 (5320MHz)

The band edge emission plot on the next second page shows 48.28dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 64 is 108.87dBuV/m (Peak), so the maximum field strength in restrict band is $108.87 - 48.28 = 60.59$ dBuV/m which is under 74dBuV/m limit.

The band edge emission plot on the next third page shows 51.00dBc 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 99.05dBuV/m (Average), so the maximum field strength in restrict band is $99.05 - 51.00 = 48.05$ dBuV/m which is under 54dBuV/m limit.







FOR 5470-5725MHz BAND: 802.11a OFDM MODULATION

Channel 100 (5500MHz)

The band edge emission plot (5.470GHz) on the next page shows 48.83dBc 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 107.42dBuV/m (Peak), so the maximum field strength in restrict band is $107.42 - 48.83 = 58.59\text{dBuV/m}$ which is under 88.3dBuV/m limit.

The band edge emission plot (5.470GHz) on the next page shows 51.46dBc 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 97.37dBuV/m (Average), so the maximum field strength in restrict band is $97.37 - 51.46 = 45.91\text{dBuV/m}$ which is under 68.3dBuV/m limit.

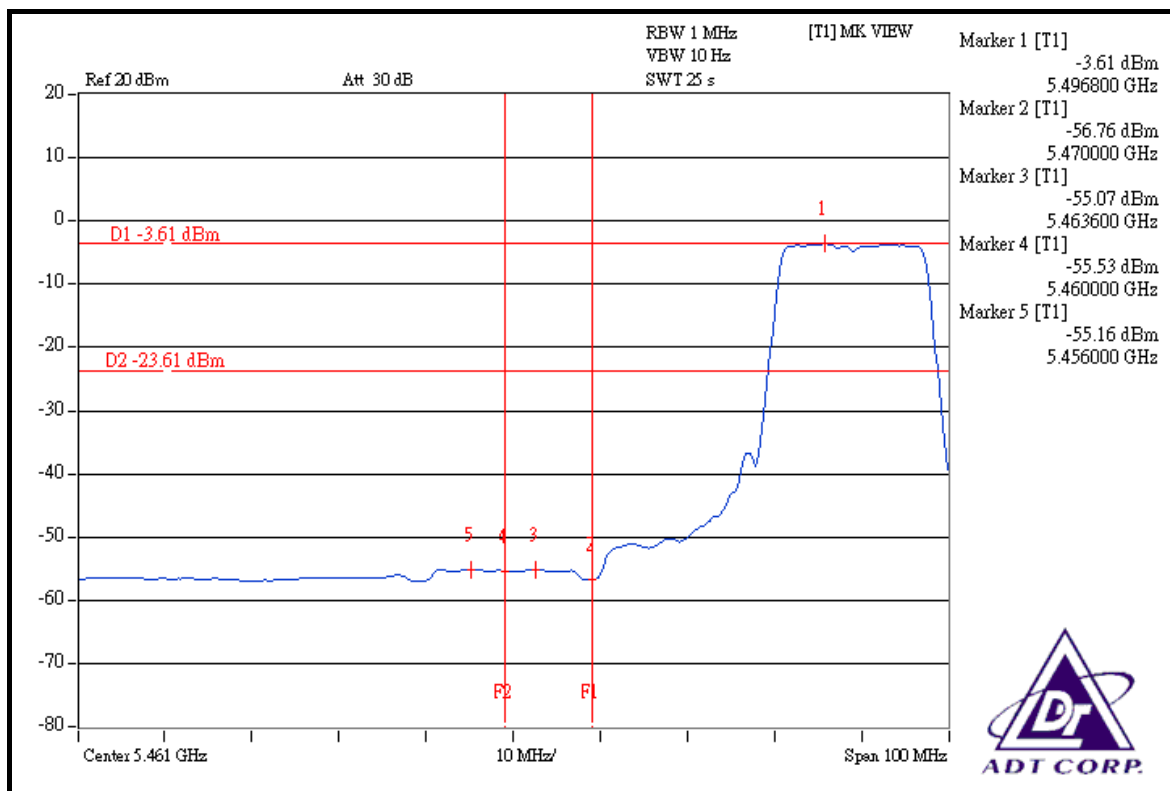
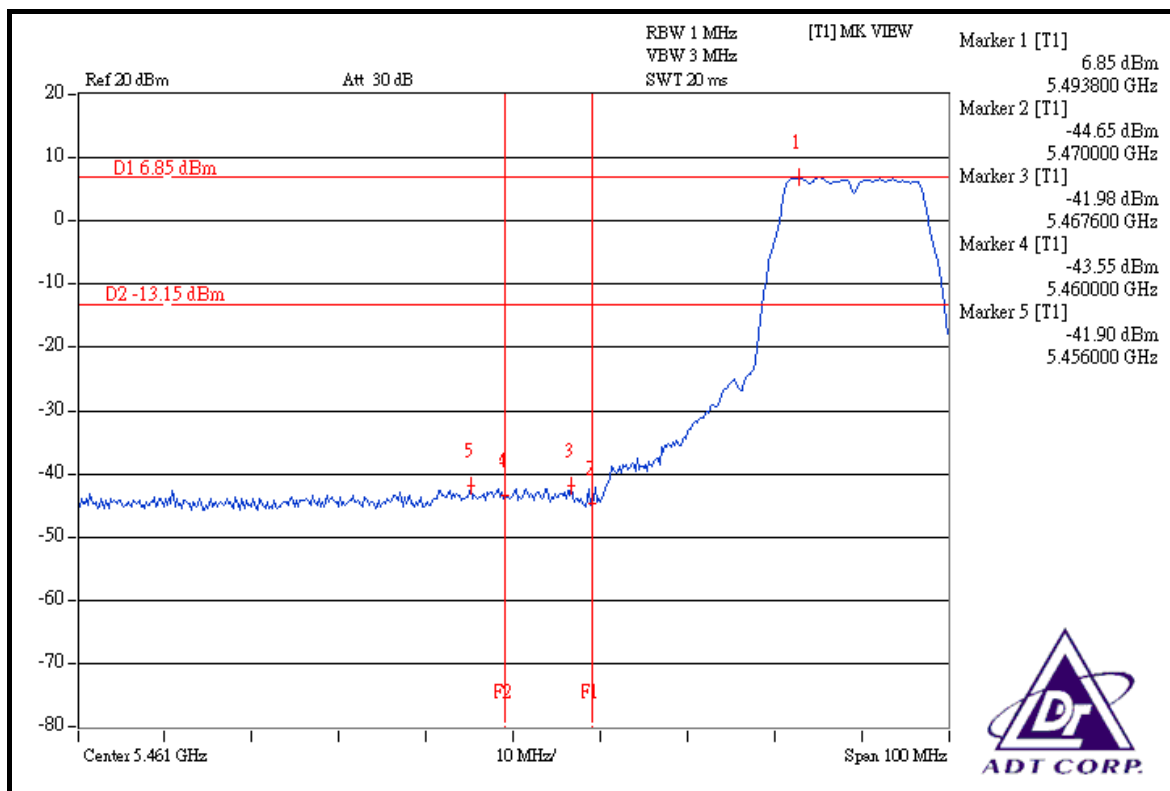
The band edge emission plot (5.460GHz) on the next page shows 48.75dBc between carrier maximum power and local maximum emission out of band emission. The emission of carrier strength list in the test result of channel 100 is 107.42dBuV/m (Peak), so the maximum field strength out of band emission is $107.42 - 48.75 = 58.67\text{dBuV/m}$ which is under 74dBuV/m limit.

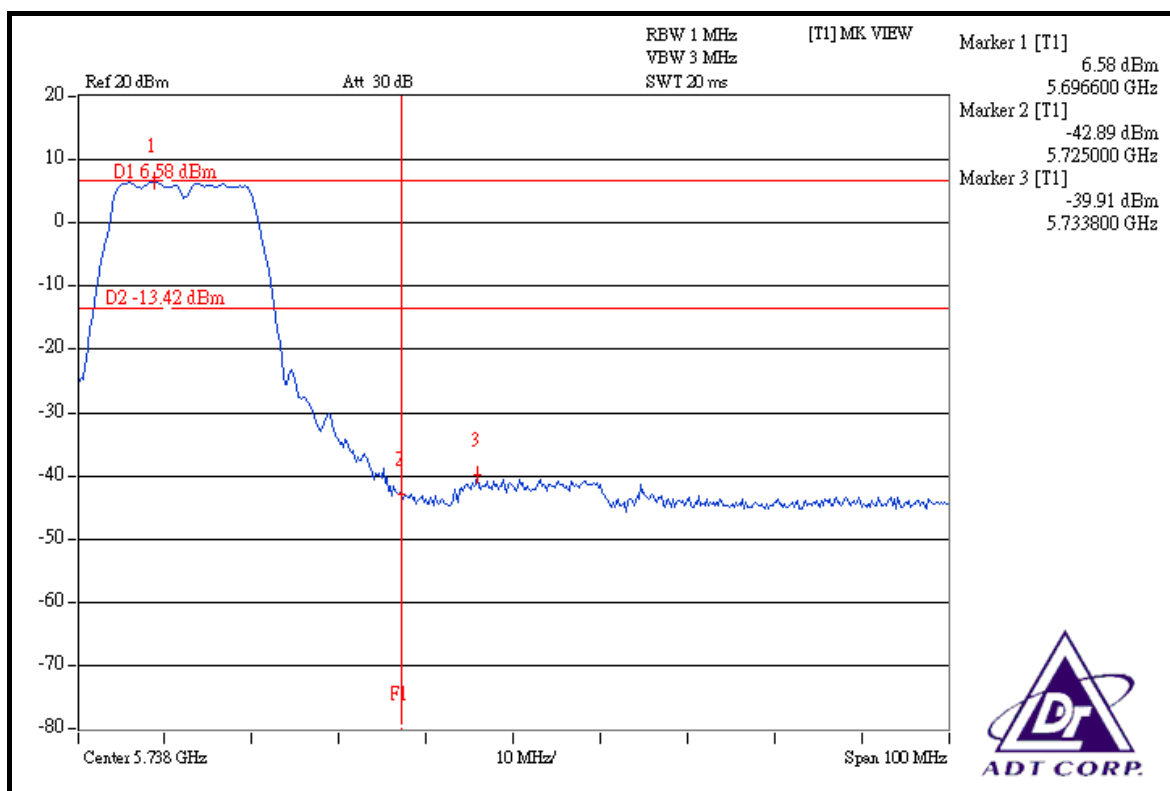
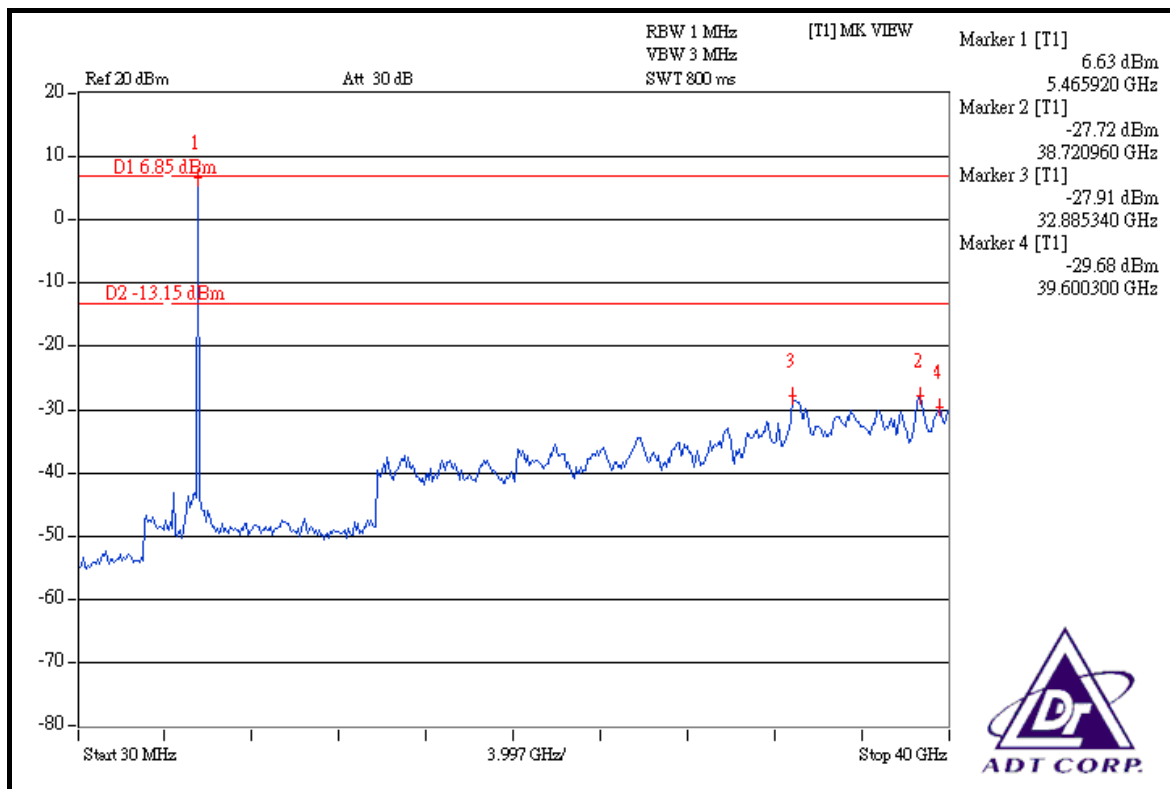
The band edge emission plot (5.460GHz) on the next page shows 51.55dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 100 is 97.37dBuV/m (Average), so the maximum field strength in restrict band is $97.37 - 51.55 = 45.82\text{dBuV/m}$ which is under 54dBuV/m limit.

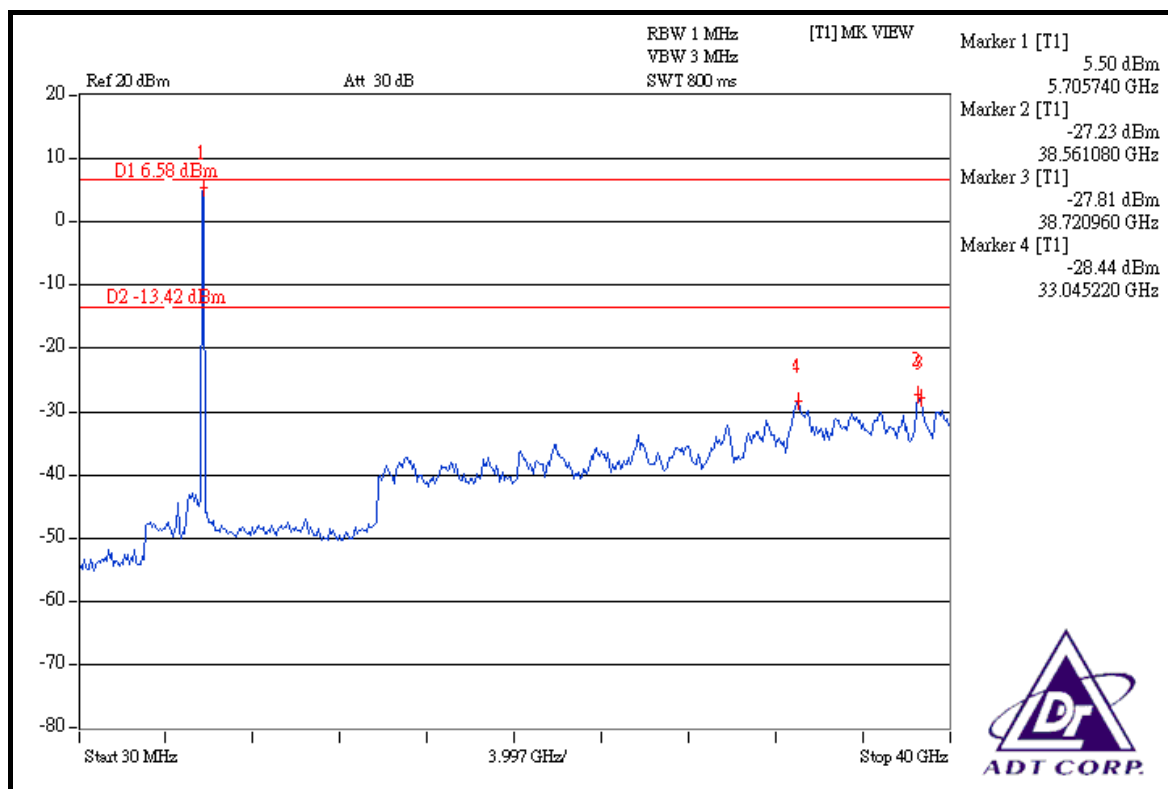
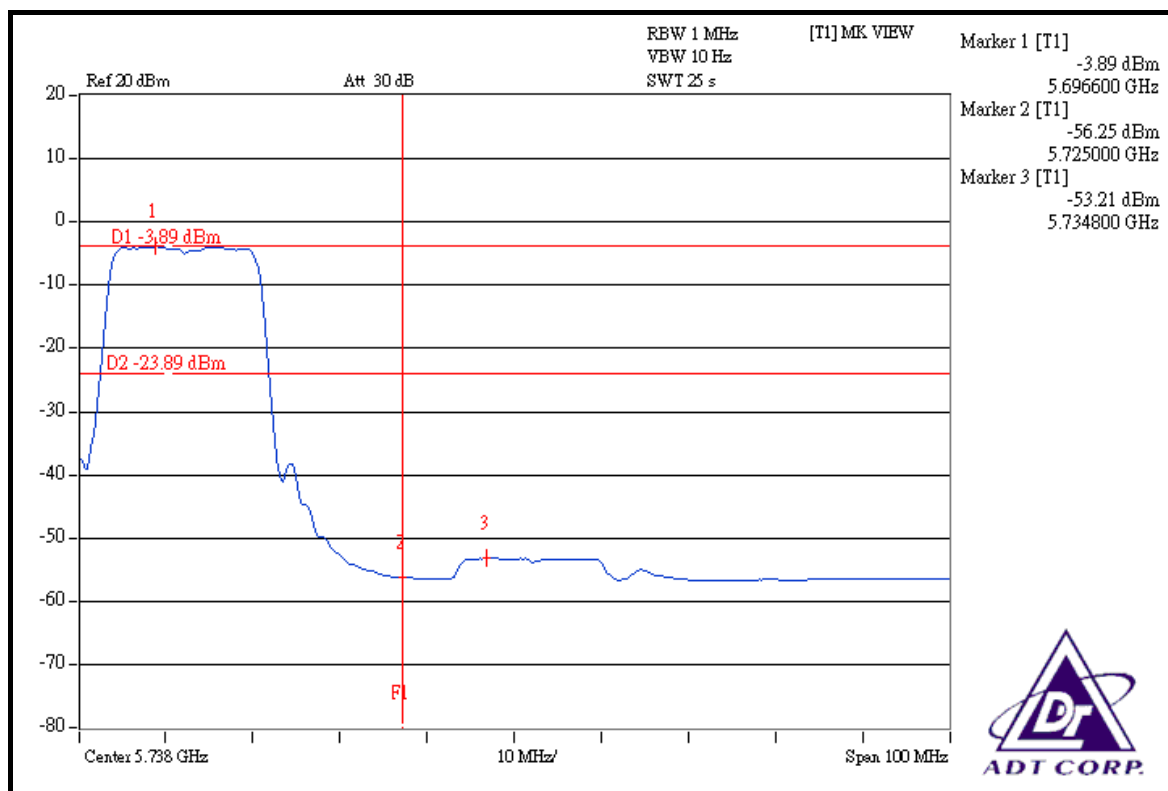
Channel 140 (5700MHz)

The band edge emission plot on the next second page shows 46.49dBc 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 108.19dBuV/m (Peak), so the maximum field strength in restrict band is $108.19 - 46.49 = 61.70\text{dBuV/m}$ which is under 88.3dBuV/m limit.

The band edge emission plot on the next third page shows 49.32dBc 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 98.23dBuV/m (Average), so the maximum field strength in restrict band is $98.23 - 49.32 = 48.91\text{dBuV/m}$ which is under 68.3dBuV/m limit.







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

Channel 36 (5180MHz)

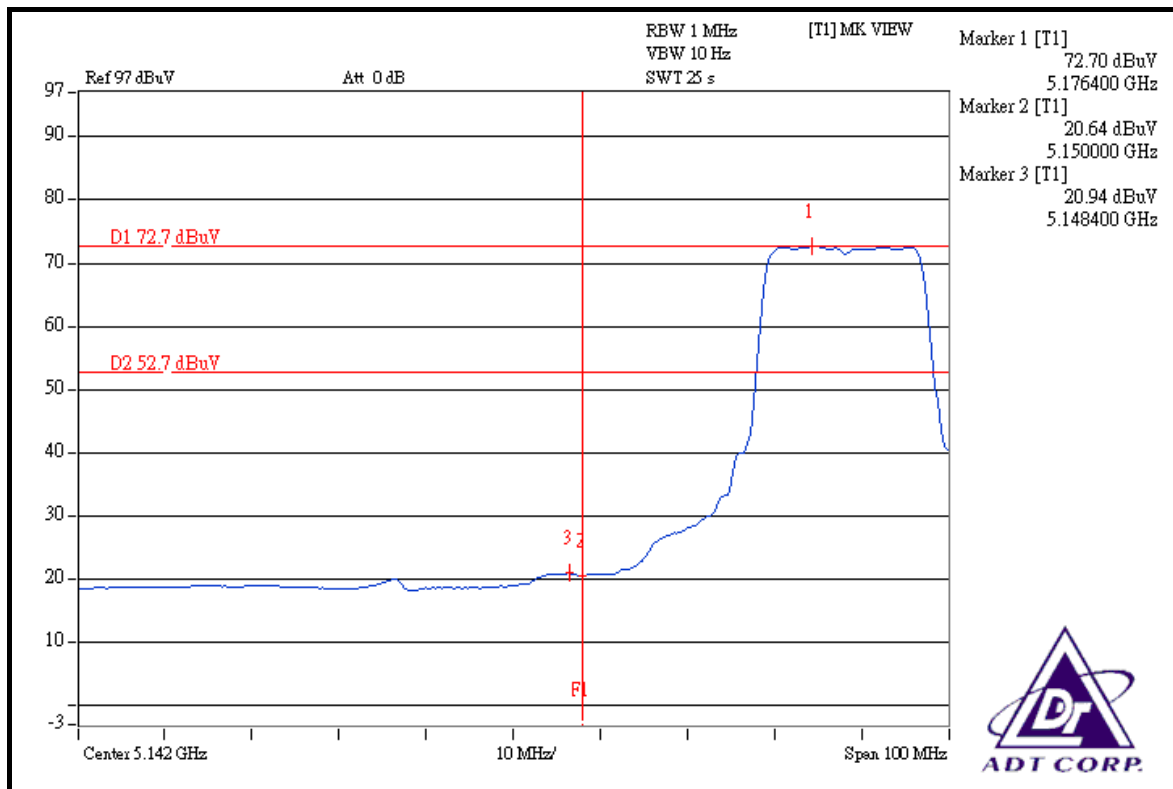
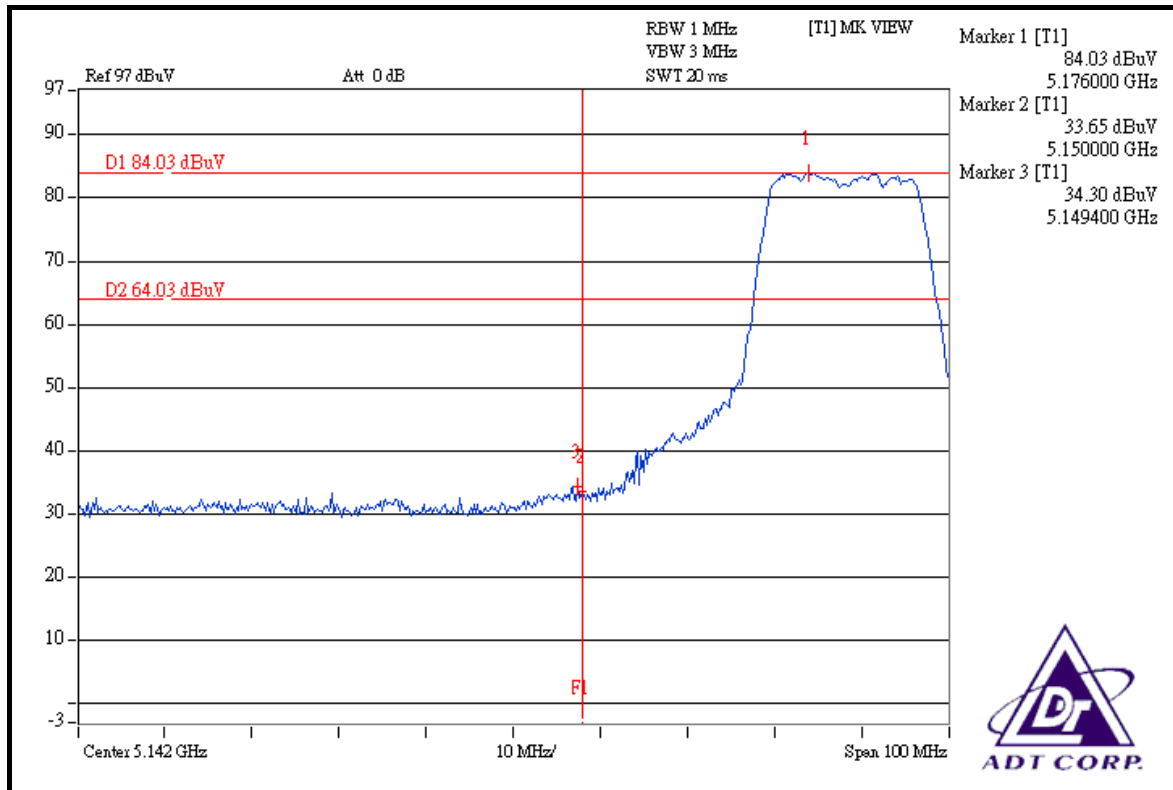
The band edge emission plot on the next page shows 49.73dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 36 is 111.61dBuV/m (Peak), so the maximum field strength in restrict band is $111.61 - 49.73 = 61.88\text{dBuV/m}$ which is under 74dBuV/m limit.

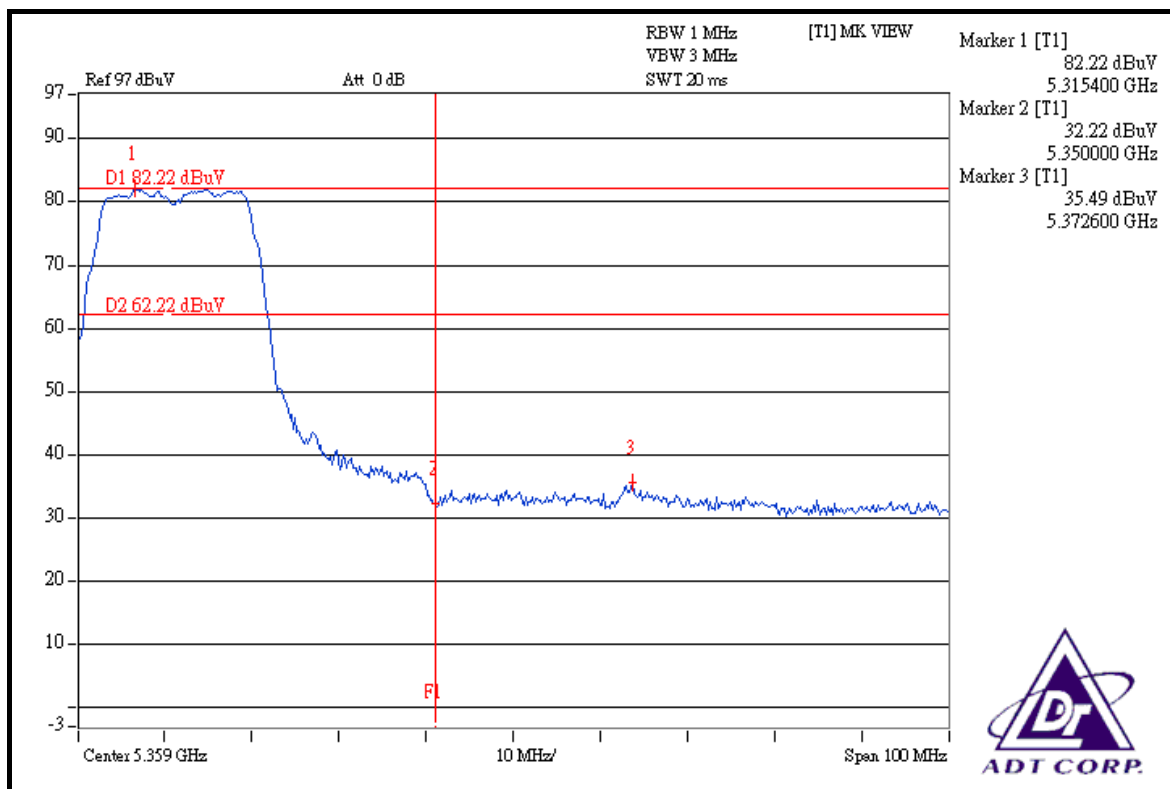
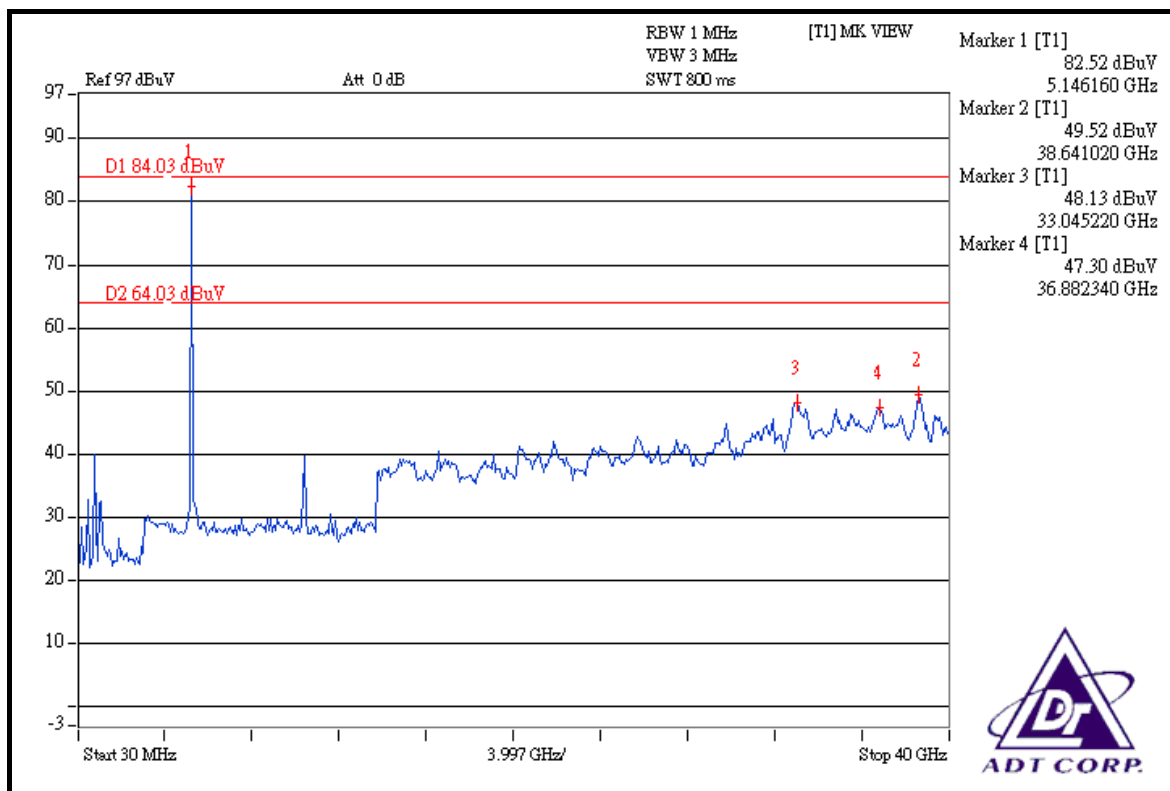
The band edge emission plot on the next page shows 51.76dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 36 is 101.53dBuV/m (Average), so the maximum field strength in restrict band is $101.53 - 51.76 = 49.77\text{dBuV/m}$ which is under 54dBuV/m limit.

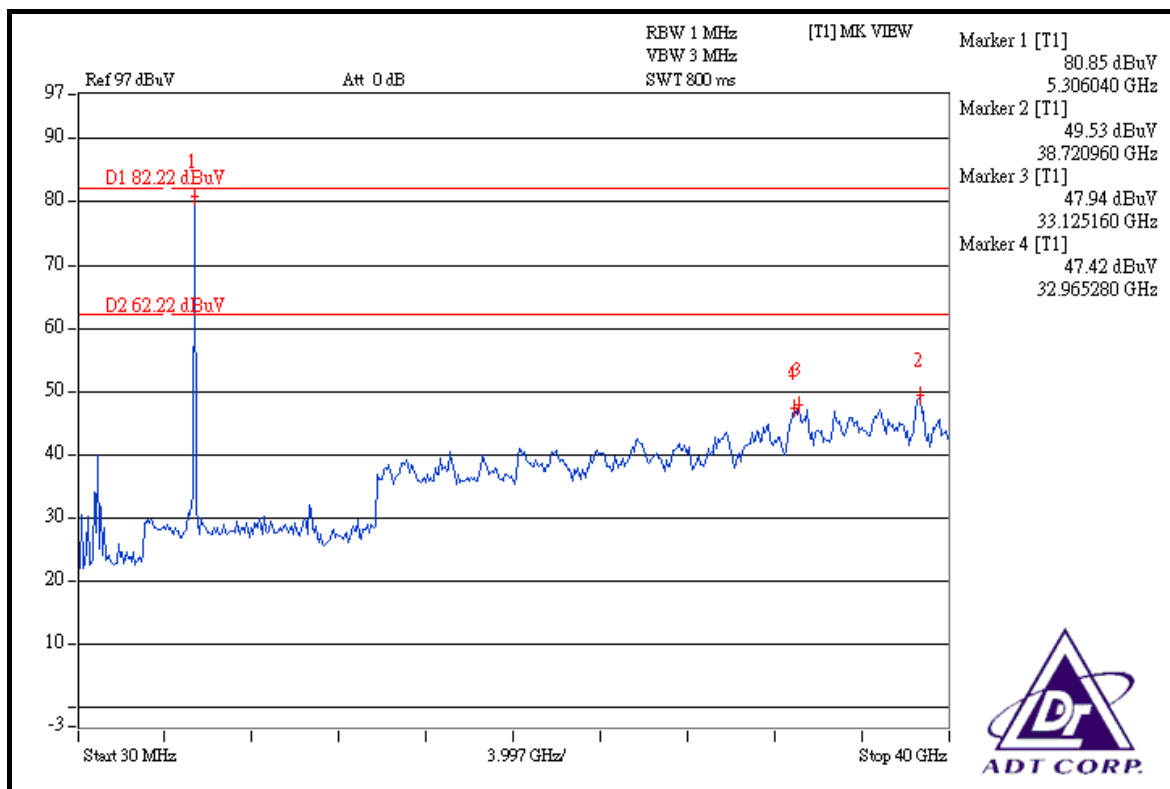
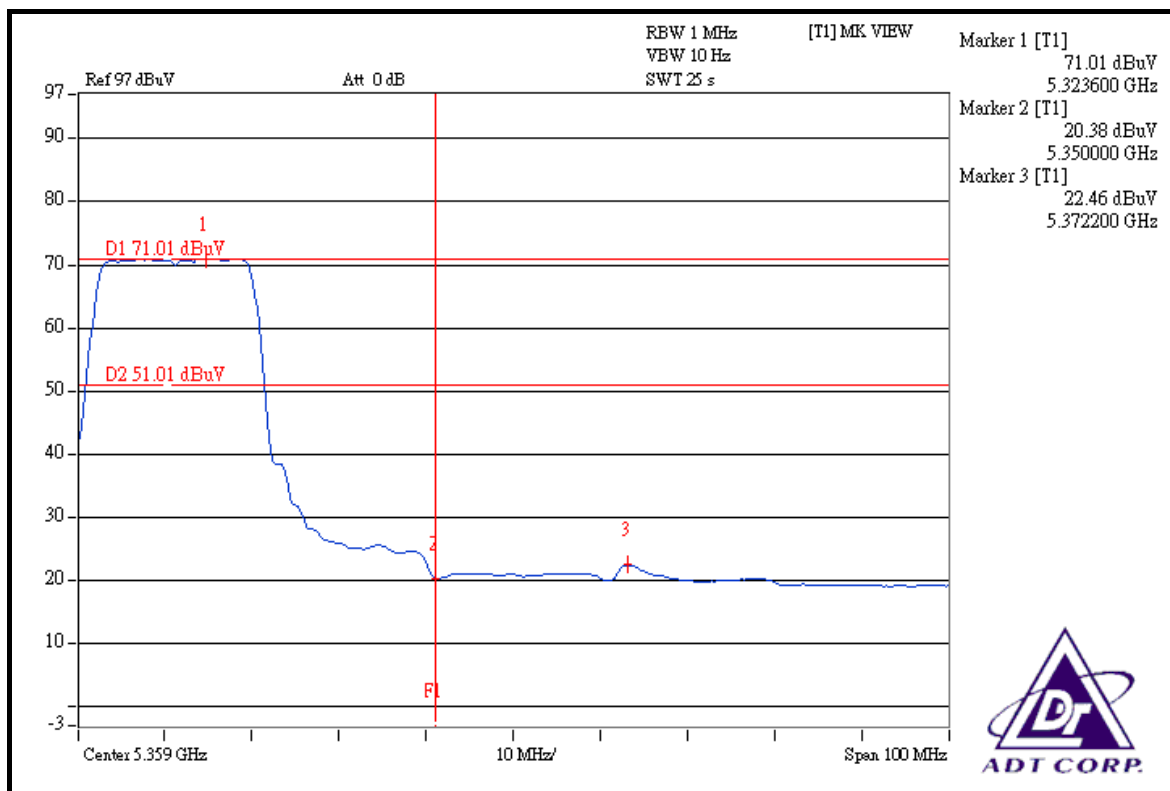
Channel 64 (5320MHz)

The band edge emission plot on the next second page shows 46.73dBc 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 110.83dBuV/m (Peak), so the maximum field strength in restrict band is $110.83 - 46.73 = 64.10\text{dBuV/m}$ which is under 74dBuV/m limit.

The band edge emission plot on the next third page shows 48.55dBc 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 100.41dBuV/m (Average), so the maximum field strength in restrict band is $100.41 - 48.55 = 51.86\text{dBuV/m}$ which is under 54dBuV/m limit.







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 47.39dBc 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 111.78dBuV/m (Peak), so the maximum field strength out of band emission is $111.78 - 47.39 = 64.39\text{dBuV/m}$ which is under 88.3dBuV/m limit.

The band edge emission plot (5.470GHz) on the next page shows 49.31dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 100 is 101.59dBuV/m (Average), so the maximum field strength in restrict band is $101.59 - 49.31 = 52.28\text{dBuV/m}$ which is under 68.3dBuV/m limit.

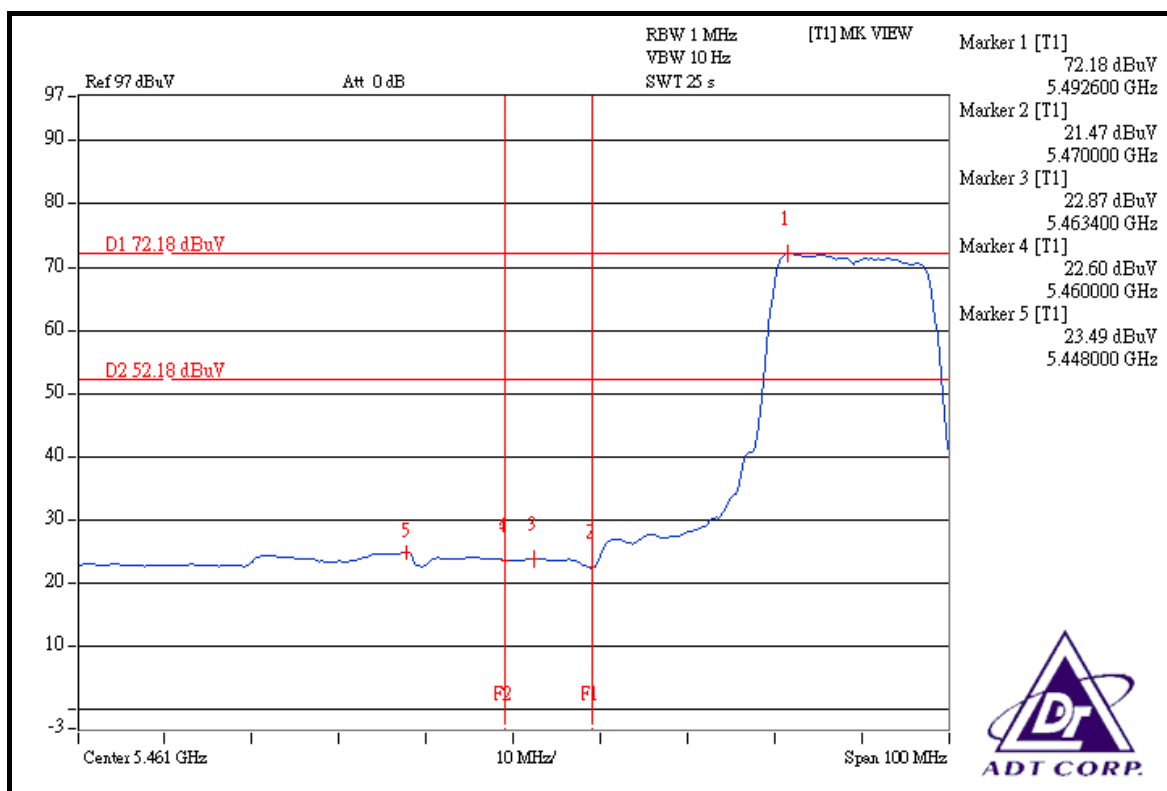
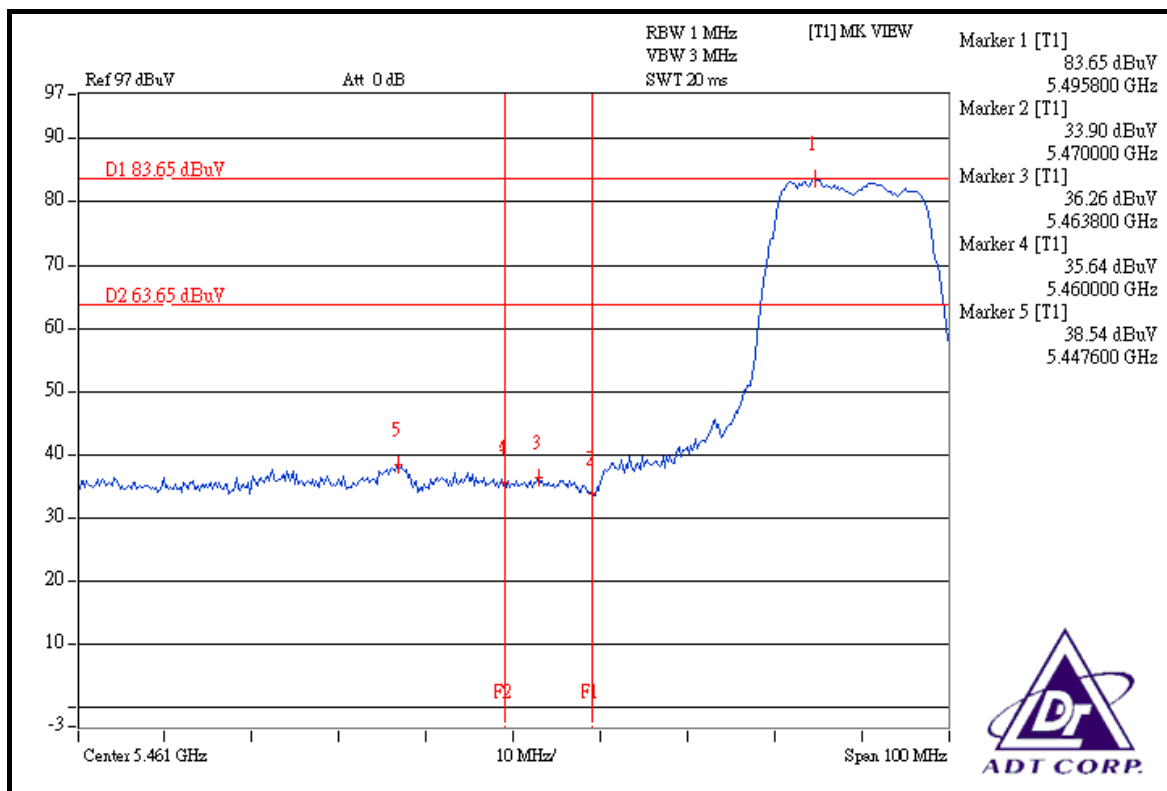
The band edge emission plot (5.460GHz) on the next page shows 45.11dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 100 is 111.78dBuV/m (Peak), so the maximum field strength in restrict band is $111.78 - 45.11 = 66.67\text{dBuV/m}$ which is under 74dBuV/m limit.

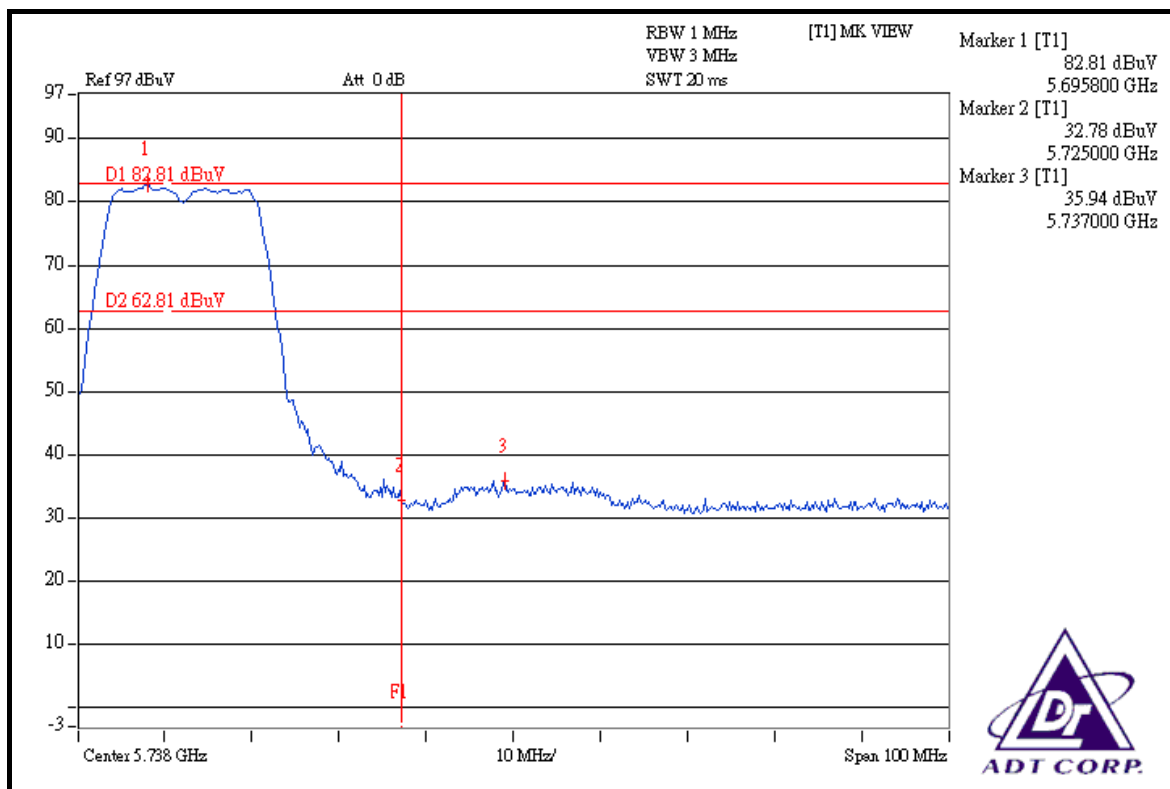
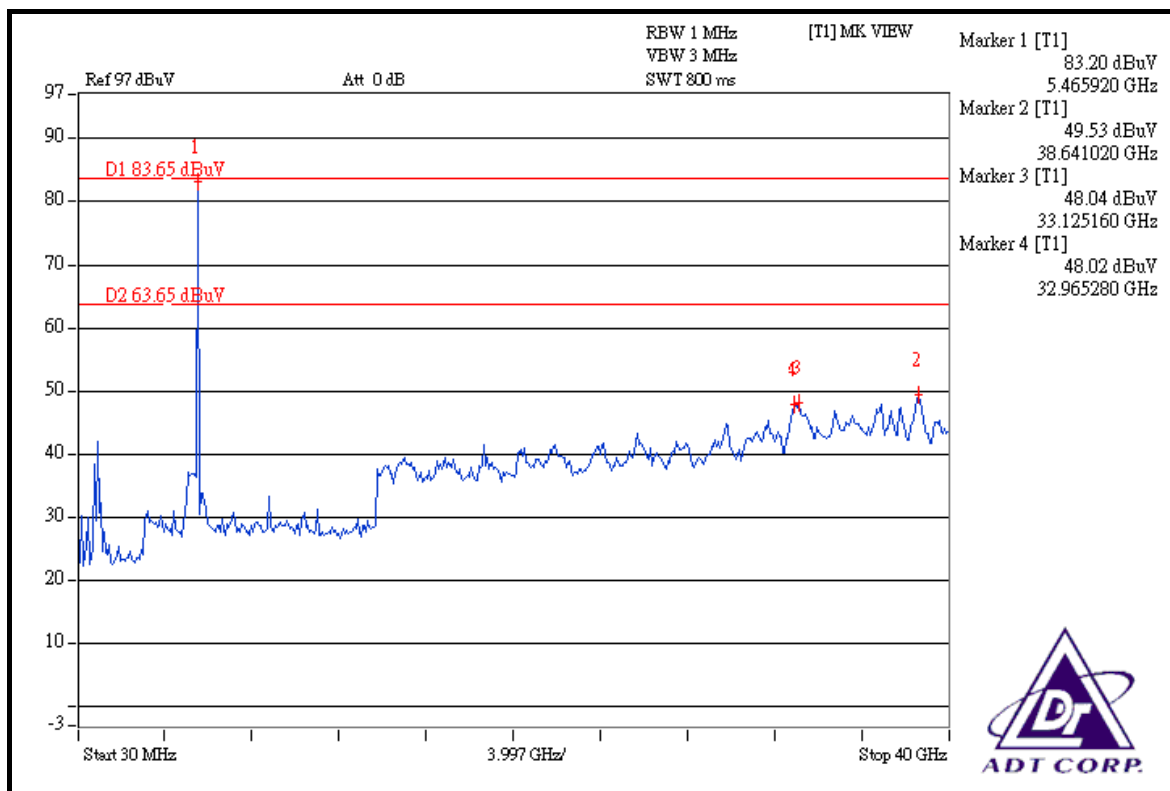
The band edge emission plot (5.460GHz) on the next page shows 48.69dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 100 is 101.59dBuV/m (Average), so the maximum field strength in restrict band is $101.59 - 48.69 = 52.90\text{dBuV/m}$ which is under 54dBuV/m limit.

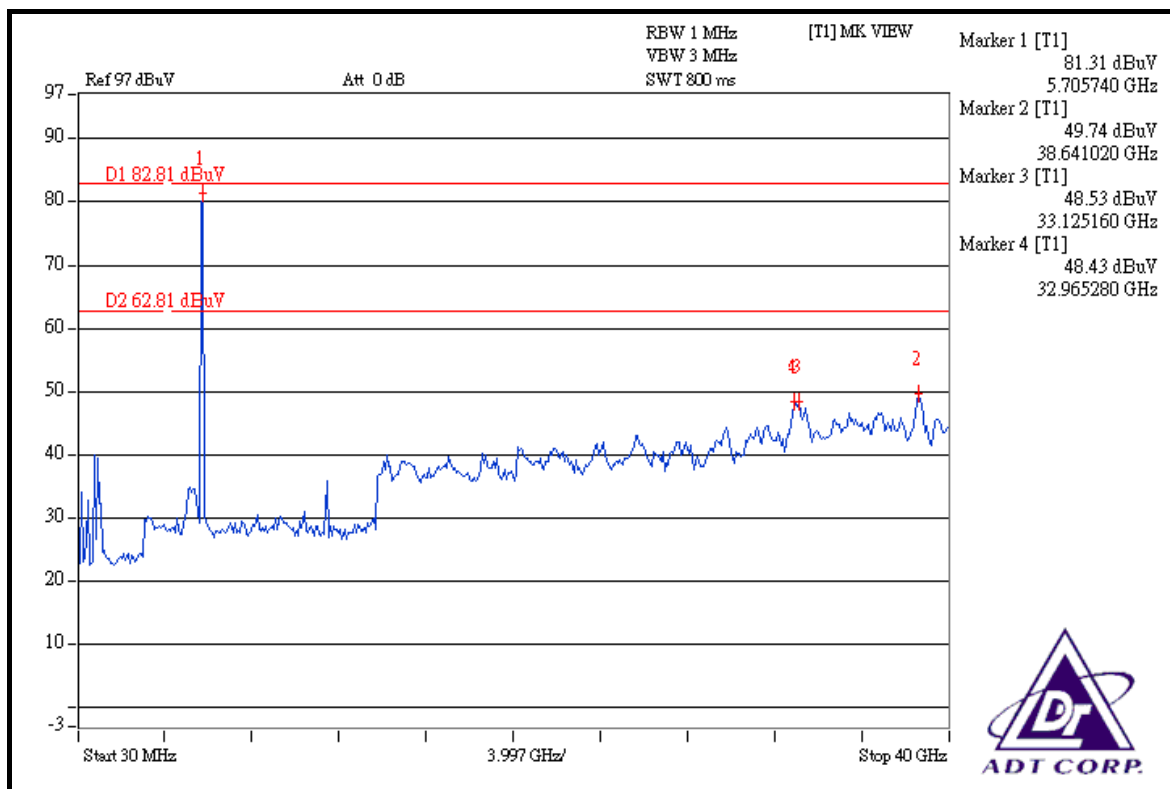
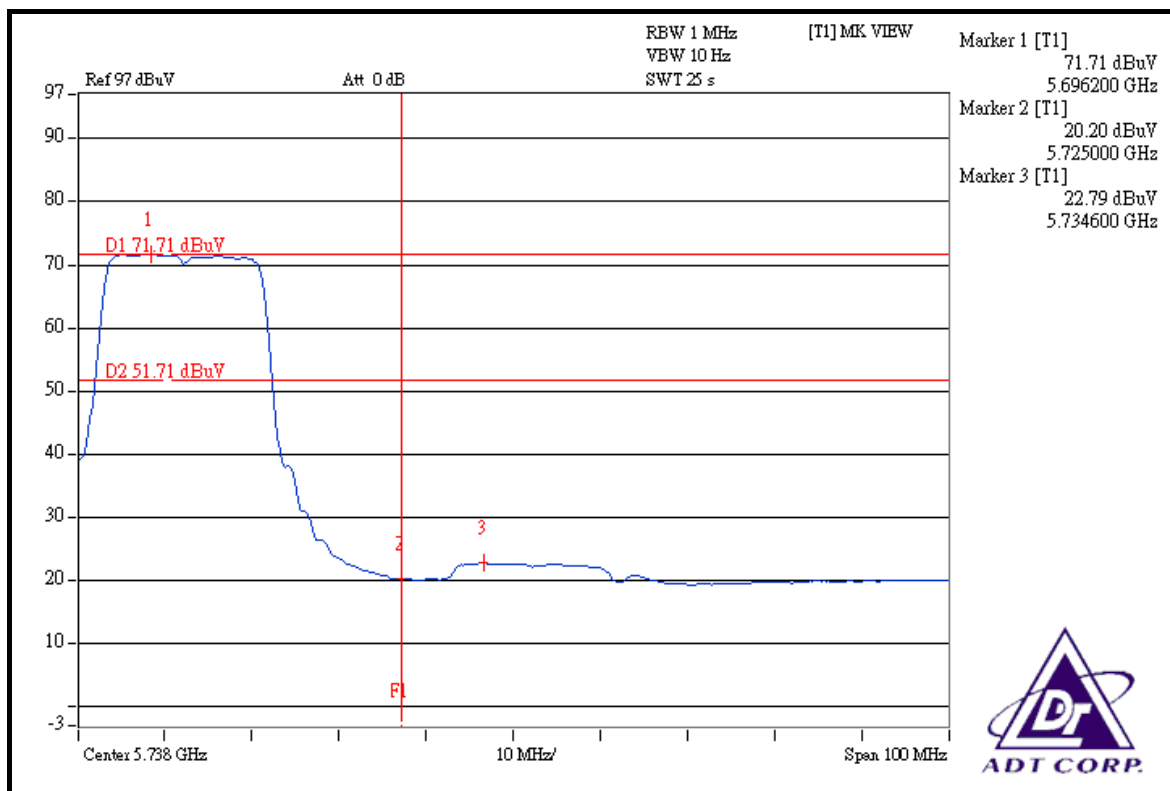
Channel 140 (5700MHz)

The band edge emission plot on the next second page shows 46.87dBc 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 111.07dBuV/m (Peak), so the maximum field strength in restrict band is $111.07 - 46.87 = 64.20\text{dBuV/m}$ which is under 88.3dBuV/m limit.

The band edge emission plot on the next third page shows 48.92dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 140 is 101.42dBuV/m (Average), so the maximum field strength in restrict band is $101.42 - 48.92 = 52.50\text{dBuV/m}$ which is under 68.3dBuV/m limit.







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

Channel 38 (5190MHz)

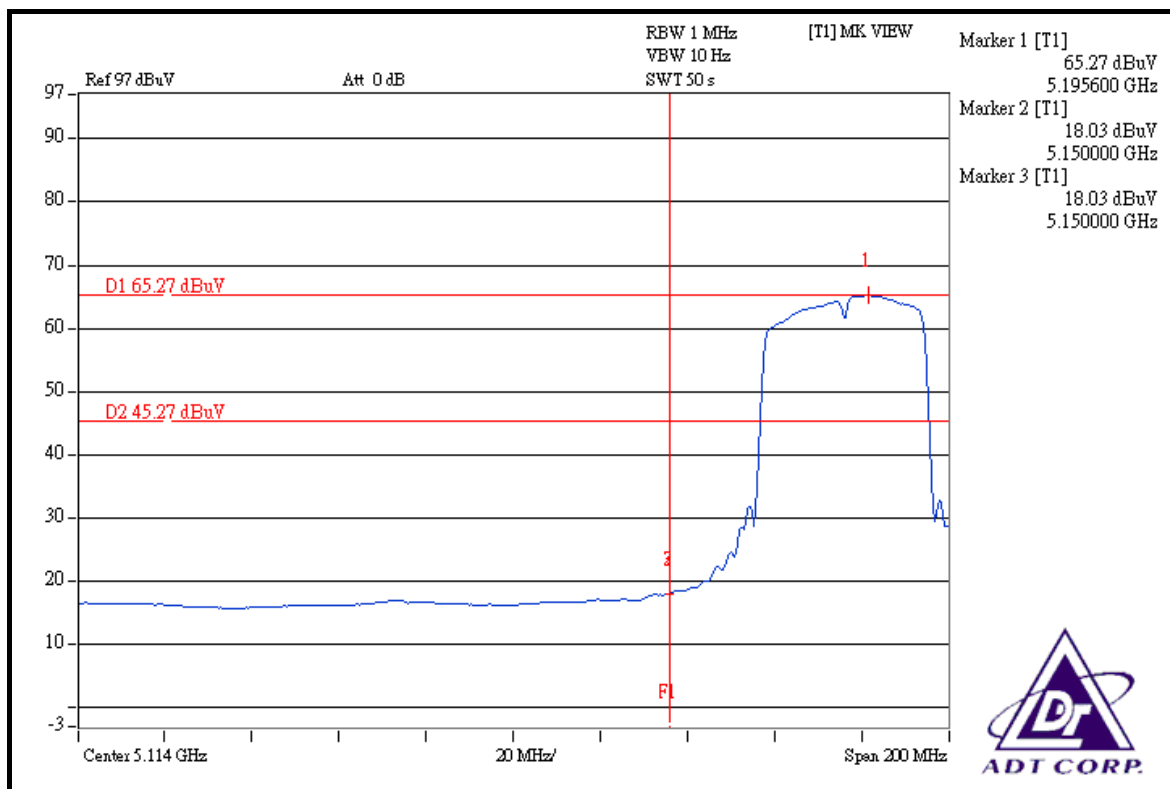
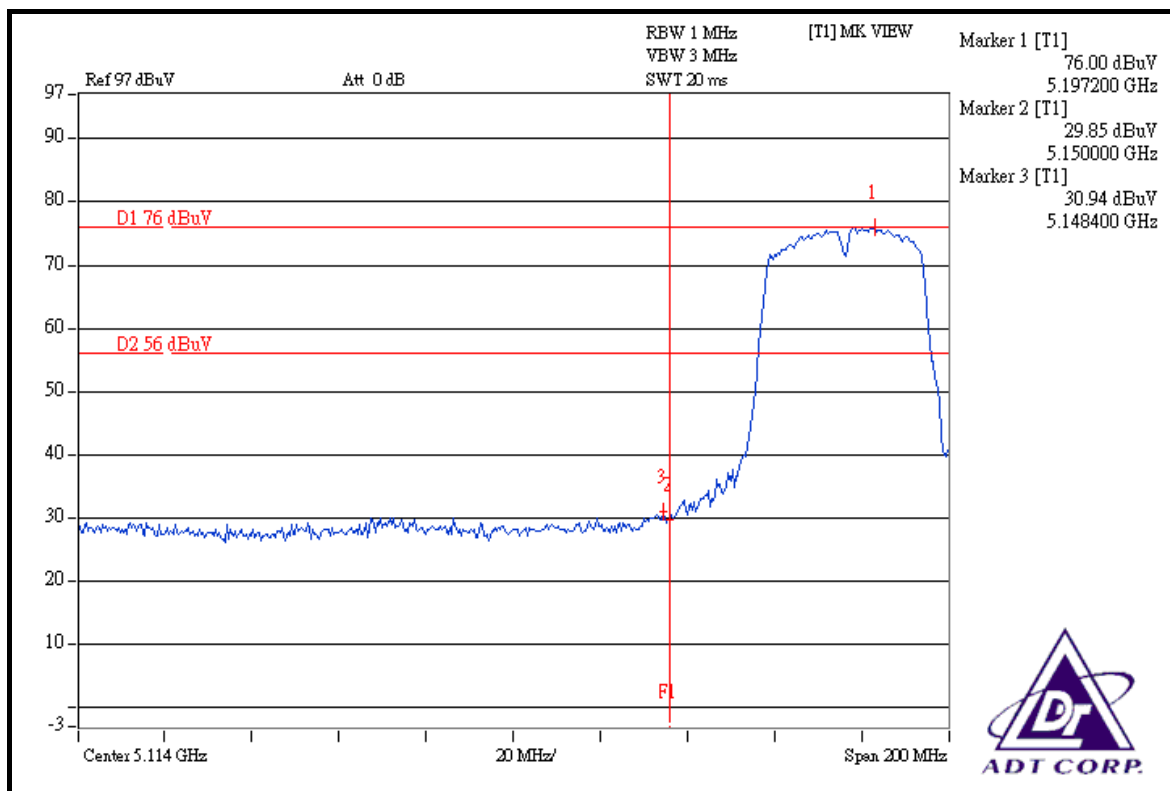
The band edge emission plot on the next page shows 45.06dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 38 is 104.45dBuV/m (Peak), so the maximum field strength in restrict band is $104.45 - 45.06 = 59.39\text{dBuV/m}$ which is under 74dBuV/m limit.

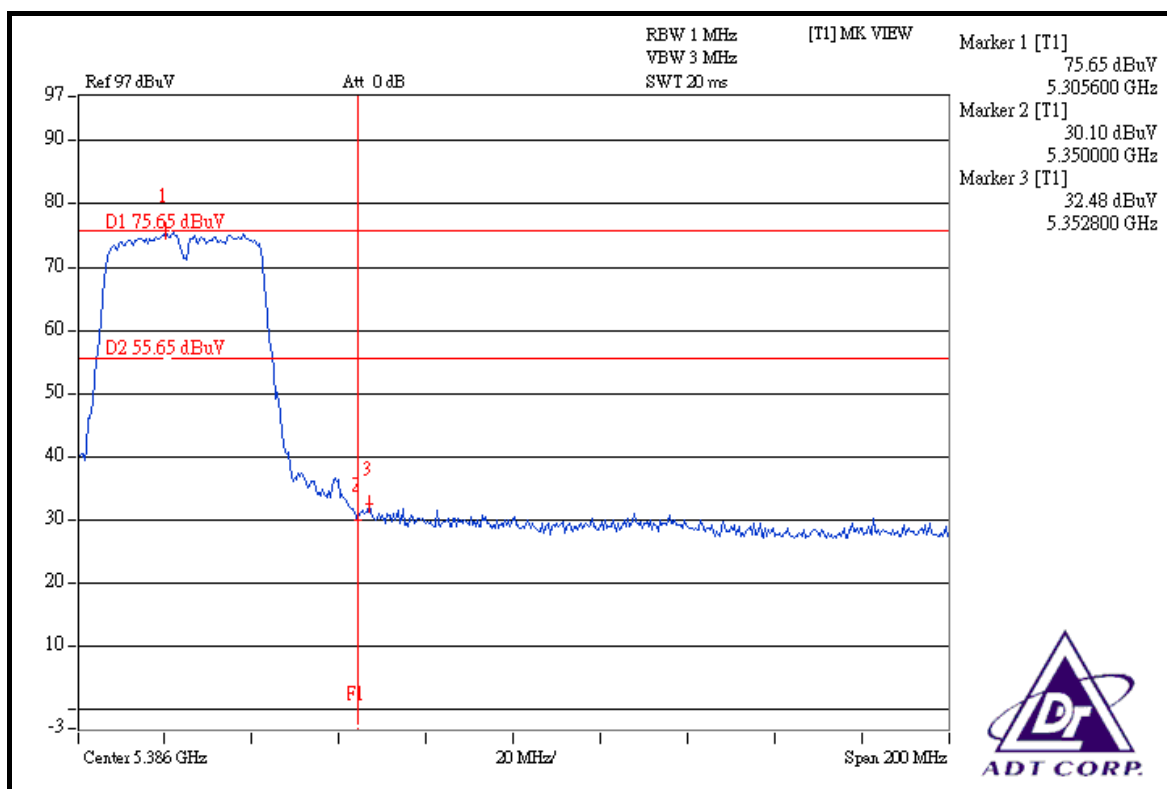
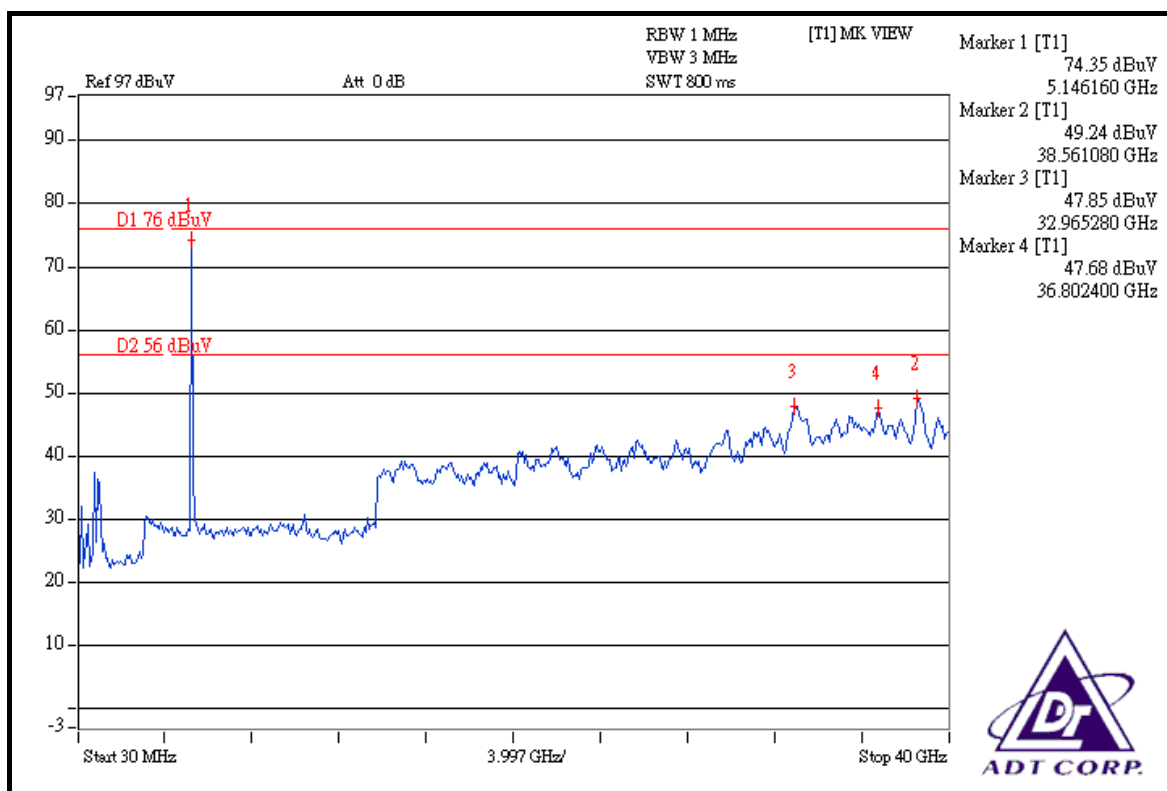
The band edge emission plot on the next page shows 47.24dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 38 is 94.26dBuV/m (Average), so the maximum field strength in restrict band is $94.26 - 47.24 = 47.02\text{dBuV/m}$ which is under 54dBuV/m limit.

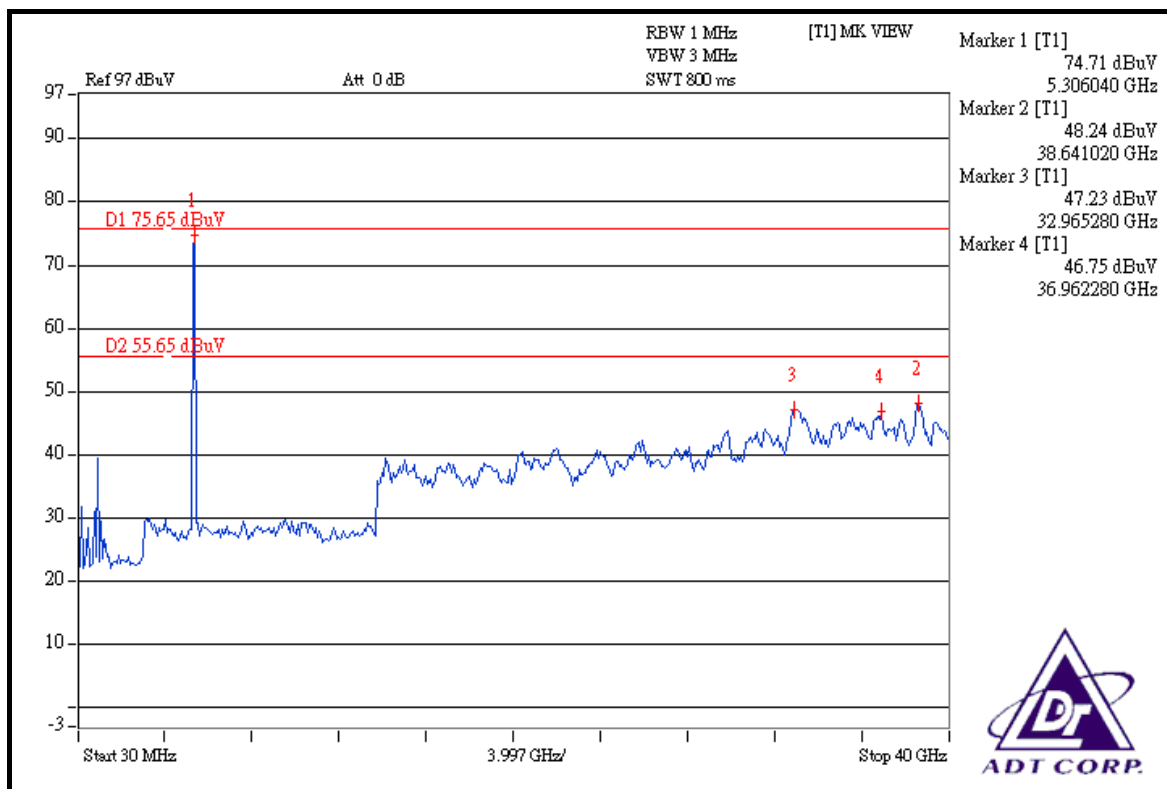
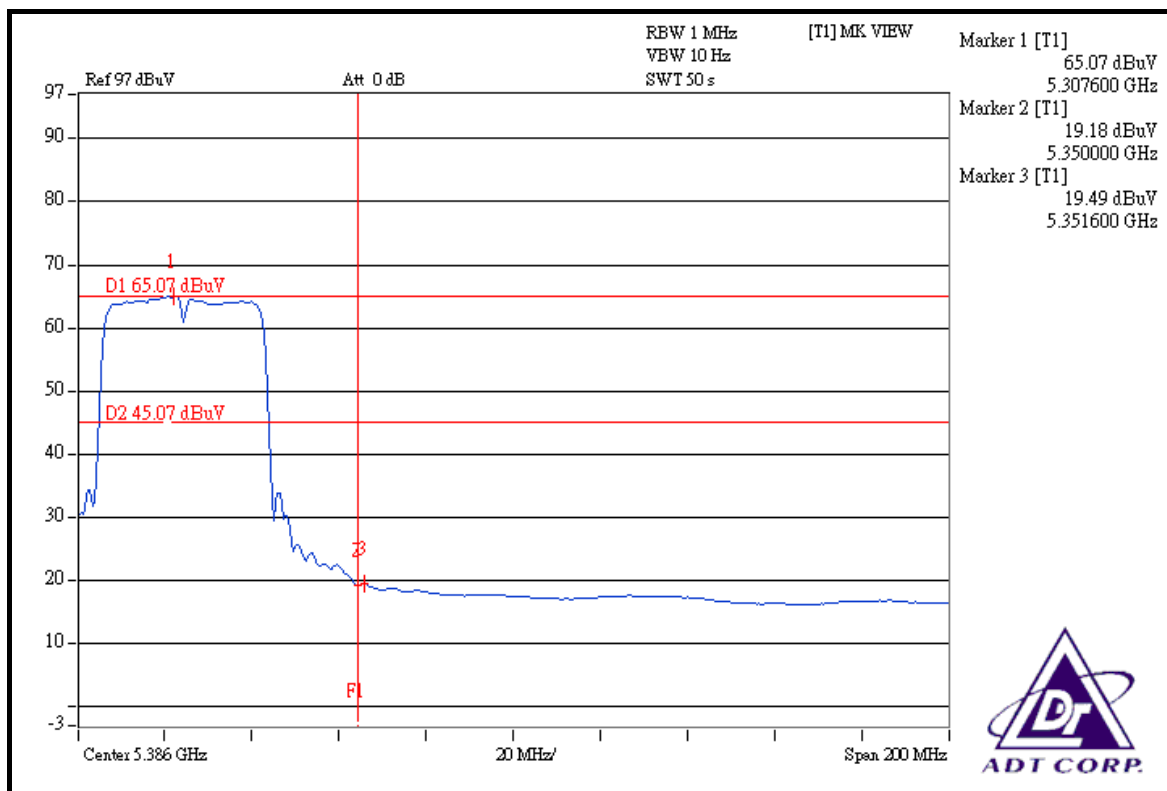
Channel 62 (5310MHz)

The band edge emission plot on the next second page shows 43.17dBc 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 103.74dBuV/m (Peak), so the maximum field strength in restrict band is $103.74 - 43.17 = 60.57\text{dBuV/m}$ which is under 74dBuV/m limit.

The band edge emission plot on the next third page shows 45.58dBc 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 93.36dBuV/m (Average), so the maximum field strength in restrict band is $93.36 - 45.58 = 47.78\text{dBuV/m}$ which is under 54dBuV/m limit.







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 44.72dBc 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 105.11dBuV/m (Peak), so the maximum field strength out of band emission is $105.11 - 44.51 = 60.60\text{dBuV/m}$ which is under 88.3dBuV/m limit.

The band edge emission plot (5.470GHz) on the next page shows 45.59dBc 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 95.01dBuV/m (Average), so the maximum field strength in restrict band is $95.01 - 45.59 = 49.42\text{dBuV/m}$ which is under 68.3dBuV/m limit.

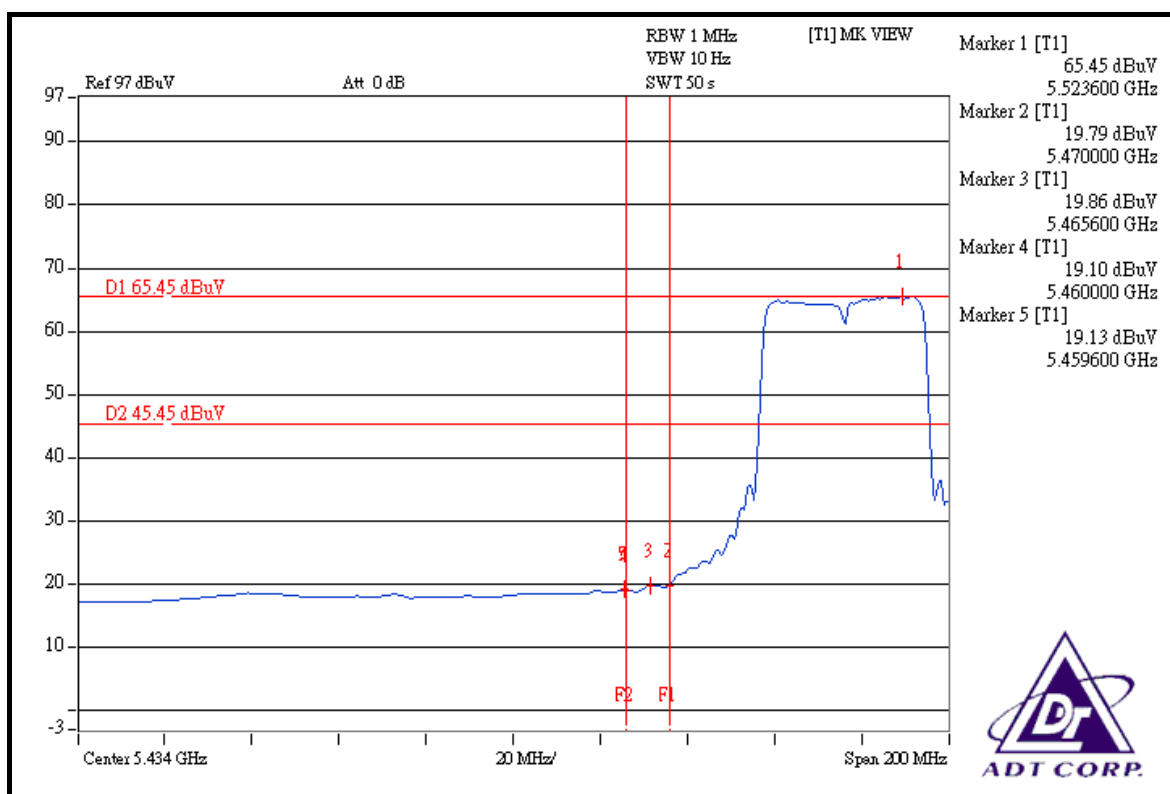
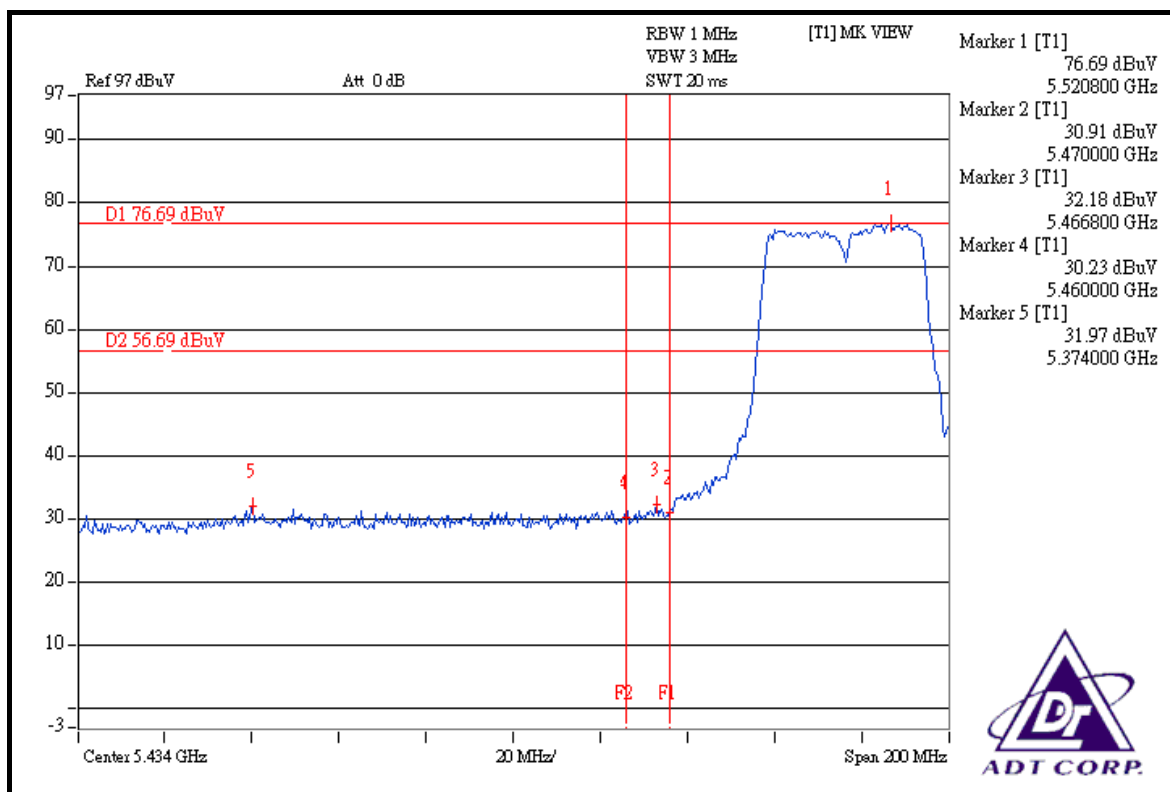
The band edge emission plot (5.460GHz) on the next page shows 44.72dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 102 is 105.11dBuV/m (Peak), so the maximum field strength in restrict band is $105.11 - 44.72 = 60.39\text{dBuV/m}$ which is under 74dBuV/m limit.

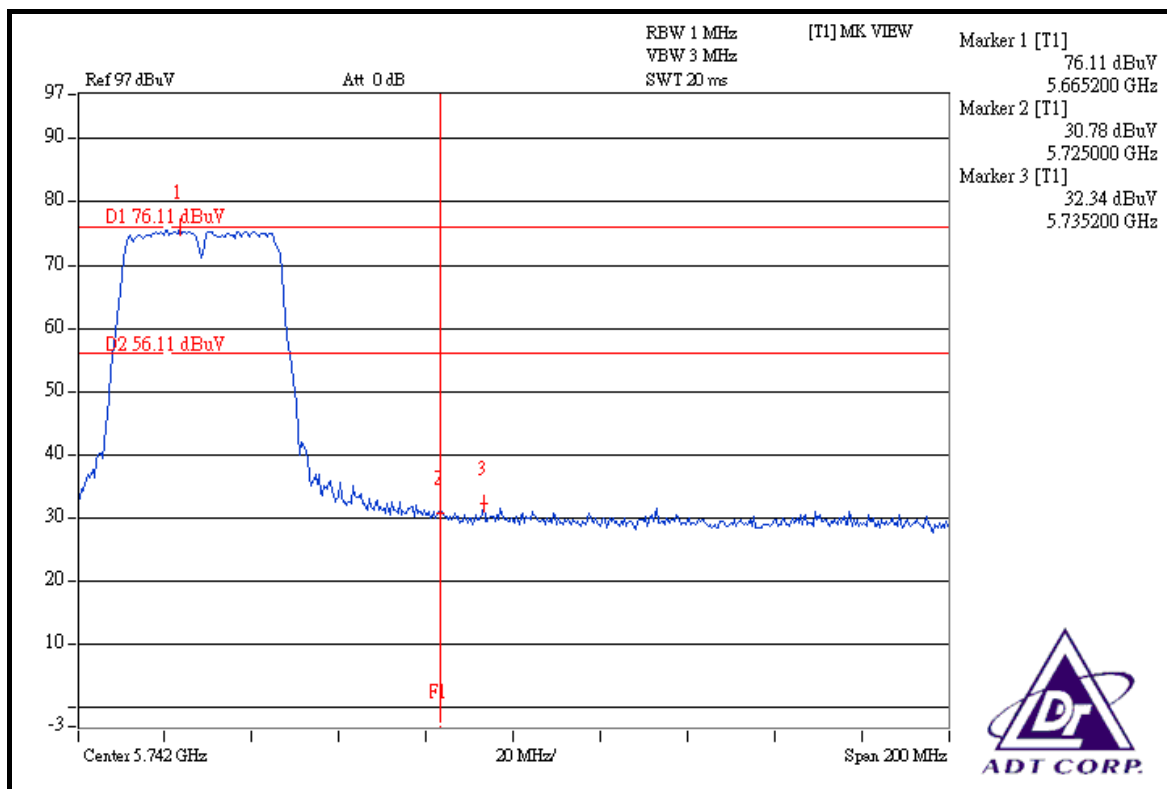
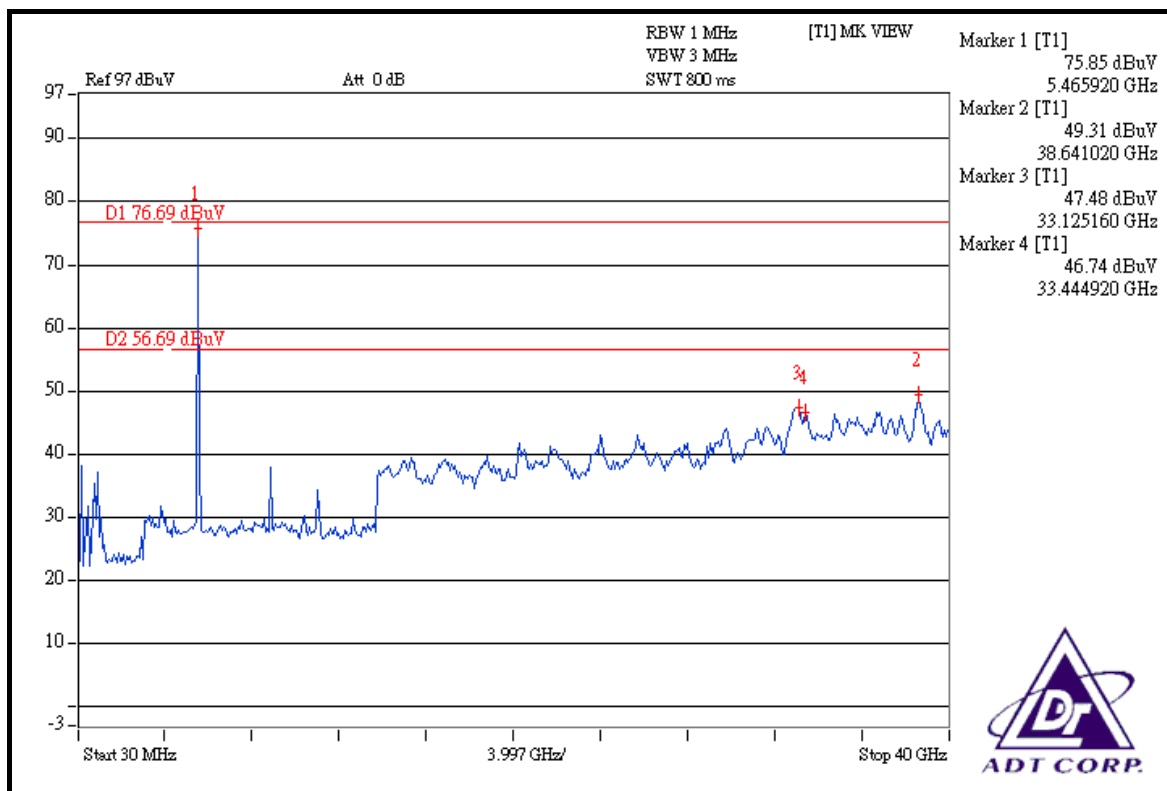
The band edge emission plot (5.460GHz) on the next page shows 46.32dBc between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 102 is 95.01dBuV/m (Average), so the maximum field strength in restrict band is $95.01 - 46.32 = 48.69\text{dBuV/m}$ which is under 54dBuV/m limit.

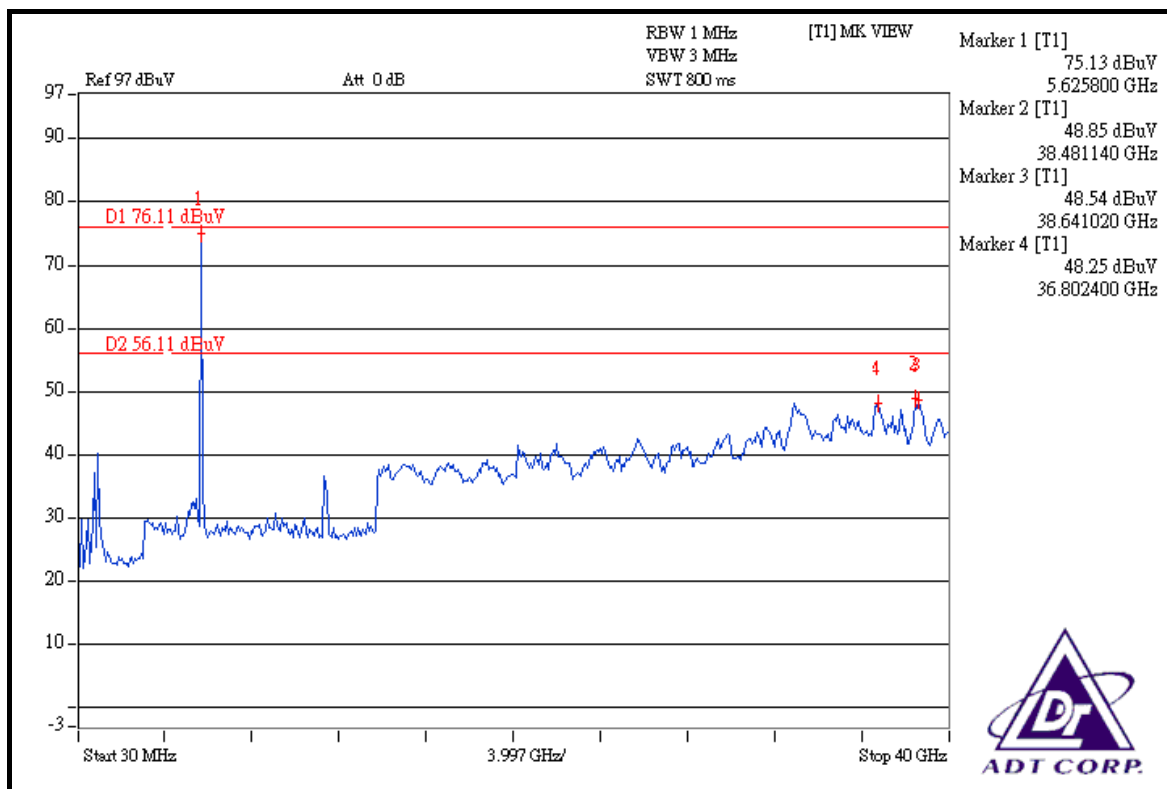
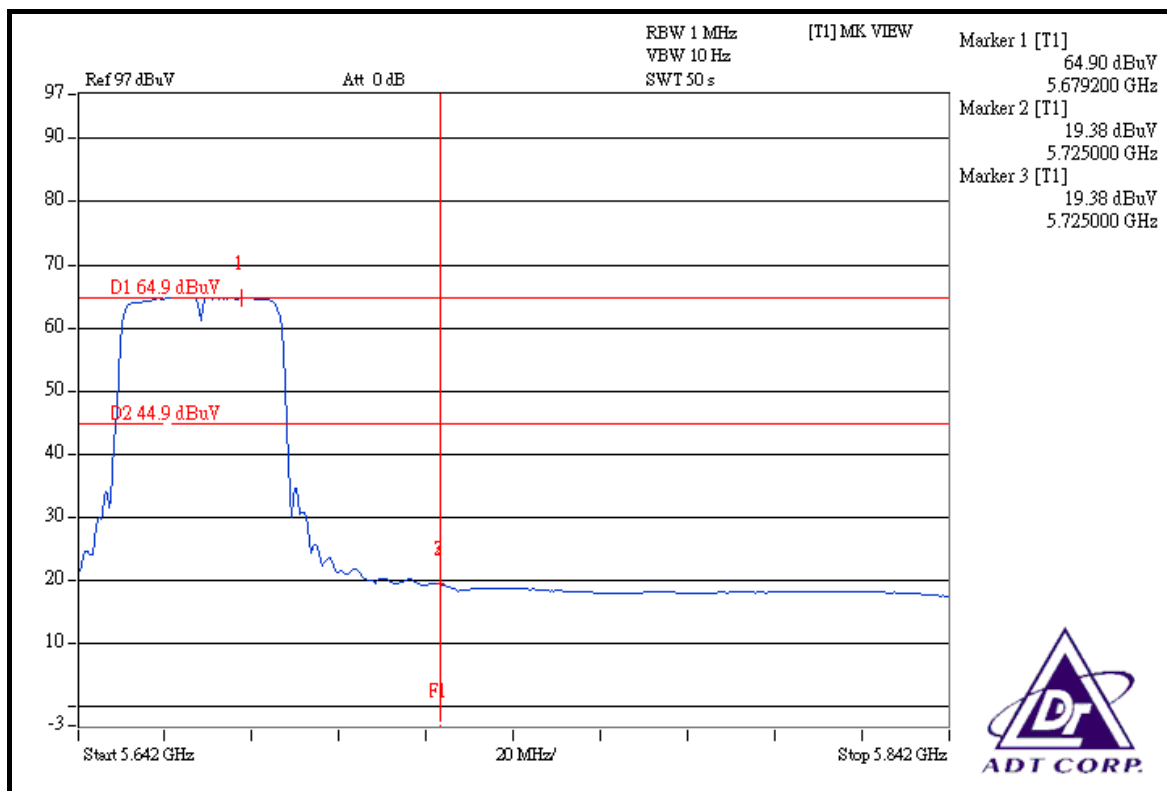
Channel 134 (5670MHz)

The band edge emission plot on the next second page shows 43.77dBc 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 104.04dBuV/m (Peak), so the maximum field strength in restrict band is $104.04 - 43.77 = 60.27\text{dBuV/m}$ which is under 88.3dBuV/m limit.

The band edge emission plot on the next third page shows 45.52dBc 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 94.23dBuV/m (Average), so the maximum field strength in restrict band is $94.23 - 45.52 = 48.71\text{dBuV/m}$ which is under 68.3dBuV/m limit.







4.8 DYNAMIC FREQUENCY SELECTION

4.8.1 OPERATING FREQUENCY BANDS AND MODE OF EUT

**TABLE 1:
OPERATING FREQUENCY BANDS AND MODE OF EUT**

Operational Mode	Operating Frequency Range	
	5250~5350MHz	5470~5725MHz
Client without radar detection and ad hoc function	✓	✓

4.8.2 EUT SOFTWARE AND FIRMWARE VERSION

**TABLE 2:
THE EUT SOFTWARE/FIRMWARE VERSION**

No.	Product	Model No.	Software/Firmware Version
1	AirStation Wireless-N Dualband NFINITI Keychain USB2.0 Adapter	WLI-UC-AG300N	Driver Version: 1.2.0.0 Utility Version: ClientMgr3 11n 40MHz Utility :AirSataion 300Mbps Mode setting Version 1.1.5

4.8.3 DESCRIPTION OF AVAILABLE ANTENNAS TO THE EUT

**TABLE 3:
ANTENNA LIST**

Ant NO.	Antenna	Type	Operation Frequency Range	Max. Gain(dBi)
1	Printed	Printed	5250~5470MHz	4
2	Printed	Printed	5470~5725MHz	4

4.8.4 EUT MAXIMUM AND MINIMUM CONDUCTED POWER

**TABLE 4:
THE MEASURED CONDUCTED OUTPUT POWER**

IEEE 802.11a:

Ant NO.	Frequency Band(MHz)	MAX. Power		MIN. Power	
		Output Power(dBm)	Output Power(mW)	Output Power(dBm)	Output Power(mW)
1	5250~5470MHz	12.12	16.292	10.5	11.22
1	5470~5725MHz	12.12	16.292	10.5	11.22

Draft 802.11n (20MHz):

Ant NO.	Frequency Band(MHz)	MAX. Power		MIN. Power	
		Output Power(dBm)	Output Power(mW)	Output Power(dBm)	Output Power(mW)
1	5250~5470MHz	14.10	25.678	8	6.309
1	5470~5725MHz	14.11	25.736	8	6.309

Draft 802.11n (40MHz):

Ant NO.	Frequency Band(MHz)	MAX. Power		MIN. Power	
		Output Power(dBm)	Output Power(mW)	Output Power(dBm)	Output Power(mW)
1	5250~5470MHz	14.09	25.618	8	6.309
1	5470~5725MHz	14.14	25.944	8	6.309

4.8.5 EUT MAXIMUM AND MINIMUM E.I.R.P. POWER

**TABLE 5:
THE E.I.R.P OUTPUT POWER LIST**

IEEE 802.11a:

Ant NO.	Frequency Band(MHz)	MAX. Power		MIN. Power	
		Output Power(dBm)	Output Power(mW)	Output Power(dBm)	Output Power(mW)
1	5250~5470MHz	16.12	40.926	14.5	28.183
1	5470~5725MHz	16.12	40.926	14.5	28.183

Draft 802.11n (20MHz):

Ant NO.	Frequency Band(MHz)	MAX. Power		MIN. Power	
		Output Power(dBm)	Output Power(mW)	Output Power(dBm)	Output Power(mW)
1	5250~5470MHz	18.10	64.565	12	15.848
1	5470~5725MHz	18.11	64.714	12	15.848

Draft 802.11n (40MHz):

Ant NO.	Frequency Band(MHz)	MAX. Power		MIN. Power	
		Output Power(dBm)	Output Power(mW)	Output Power(dBm)	Output Power(mW)
1	5250~5470MHz	18.09	64.417	12	15.848
1	5470~5725MHz	18.14	65.163	12	15.848

4.8.6 STATEMENT OF MAUNFACTURER

Manufacturer statement confirming that information regarding the parameters of the detected Radar Waveforms is not available to the end user. **And the device doesn't have Ad Hoc mode on DFS frequency band.**

4.8.7 U-NII DFS RULE REQUIREMENTS

WORKING MODES AND REQUIRED TEST ITEMS

The manufacturer shall state whether the UUT is capable of operating as a Master and/or a Client. If the UUT is capable of operating in more than one operating mode then each operating mode shall be tested separately. See tables 1 and 2 for the applicability of DFS requirements for each of the operational modes.

TABLE 6:
APPLICABILITY OF DFS REQUIREMENTS PRIOR TO USE A CHANNEL

Requirement	Operational Mode		
	Master	Client without radar detection	Client with radar detection
Non-Occupancy Period	✓	Not required	✓
DFS Detection Threshold	✓	Not required	✓
Channel Availability Check Time	✓	Not required	Not required
Uniform Spreading	✓	Not required	Not required
U-NII Detection Bandwidth	✓	Not required	✓

TABLE 7:
APPLICABILITY OF DFS REQUIREMENTS DURING NORMAL OPERATION

Requirement	Operational Mode		
	Master	Client without radar detection	Client with radar detection
DFS Detection Threshold	✓	Not required	✓
Channel Closing Transmission Time	✓	✓	✓
Channel Move Time	✓	✓	✓
U-NII Detection Bandwidth	✓	Not required	✓

4.8.8 TEST LIMITS AND RADAR SIGNAL PARAMETERS

DETECTION THRESHOLD VALUES

**TABLE 8:
DFS DETECTION THRESHOLDS FOR MASTER DEVICES AND CLIENT DEVICES
WITH RADAR DETECTION.**

Maximum Transmit Power	Value (See Notes 1 and 2)
≥ 200 milliwatt	-64 dBm
< 200 milliwatt	-62 dBm

Note 1: This is the level at the input of the receiver assuming a 0 dBi receive antenna.
 Note 2: Throughout these test procedures an additional 1 dB has been added to the amplitude of the test transmission waveforms to account for variations in measurement equipment. This will ensure that the test signal is at or above the detection threshold level to trigger a DFS response.

**TABLE 9:
DFS RESPONSE REQUIREMENT VALUES**

Parameter	Value
Non-occupancy period	Minimum 30 minutes
Channel Availability Check Time	60 seconds
Channel Move Time	10 seconds See Note 1.
Channel Closing Transmission Time	200 milliseconds + an aggregate of 60 milliseconds over remaining 10 second period. See Notes 1 and 2.
U-NII Detection Bandwidth	Minimum 80% of the UNII 99% transmission power bandwidth. See Note 3.

Note 1: The instant that the Channel Move Time and the Channel Closing Transmission Time begins is as follows:
 • For the Short Pulse Radar Test Signals this instant is the end of the Burst.
 • For the Frequency Hopping radar Test Signal, this instant is the end of the last radar Burst generated.
 • For the Long Pulse Radar Test Signal this instant is the end of the 12 second period defining the Radar Waveform.
Note 2: The Channel Closing Transmission Time is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any additional intermittent control signals required to facilitate a Channel move (an aggregate of 60 milliseconds) during the remainder of the 10 second period. The aggregate duration of control signals will not count quiet periods in between transmissions.
Note 3: During the U-NII Detection Bandwidth detection test, radar type 1 is used and for each frequency step the minimum percentage of detection is 90 percent. Measurements are performed with no data traffic.

PARAMETERS OF DFS TEST SIGNALS

Step intervals of 0.1 microsecond for Pulse Width, 1 microsecond for PRI, 1 MHz for chirp width and 1 for the number of pulses will be utilized for the random determination of specific test waveforms.

**TABLE 10:
SHORT PULSE RADAR TEST WAVEFORMS.**

Radar Type	Pulse Width (μsec)	PRI (μsec)	Number of Pulses	Minimum Percentage of Successful Detection	Minimum Number of Trials
1	1	1428	18	60%	30
2	1-5	150-230	23-29	60%	30
3	6-10	200-500	16-18	60%	30
4	11-20	200-500	12-16	60%	30
Aggregate (Radar Types 1-4)				80%	120

**TABLE 11:
LONG PULSE RADAR TEST WAVEFORM**

Radar Type	Pulse Width (μsec)	Chirp Width (MHz)	PRI (μsec)	Number of Pulses per Burst	Number of Bursts	Minimum Percentage of Successful Detection	Minimum Number of Trials
5	50-100	5-20	1000-2000	1-3	8-20	80%	30

**TABLE 12:
FREQUENCY HOPPING RADAR TEST WAVEFORM**

Radar Type	Pulse Width (μsec)	PRI (μsec)	Pulses per Hop	Hopping Rate (kHz)	Hopping Sequence Length (msec)	Minimum Percentage of Successful Detection	Minimum Number of Trials
6	1	333	9	0.333	300	70%	30

4.8.9 TEST & SUPPORT EQUIPMENT LIST

TEST INSTRUMENTS

**TABLE 1:
TEST INSTRUMENTS LIST.**

DESCRIPTION & MANUFACTURER	MODEL NO.	BRAND	CALIBRATED UNTIL
R&S SPECTRUM ANALYZER	FSP40	R&S	May. 26, 2009
SIGNAL GENERATOR	8645A	Agilent	Jun. 09, 2009
OSCILLOSCOPE	TDS 5104	Tektronix	Aug. 31. 2009

DESCRIPTION OF SUPPORT UNITS

**TABLE 2:
SUPPORT UNIT INFORMATION.**

NO.	PRODUCT	BRAND	MODEL NO.	ID	SPEC.
1	802.11a/b/g/n Access Point	Cisco	AIR-AP1252AG-A-K9	LDK102061	NA

Note: This device was functioned as a ■ Master □ Slave device during the DFS test.

**TABLE 3:
SOFTWARE/FIRMWARE INFORMATION.**

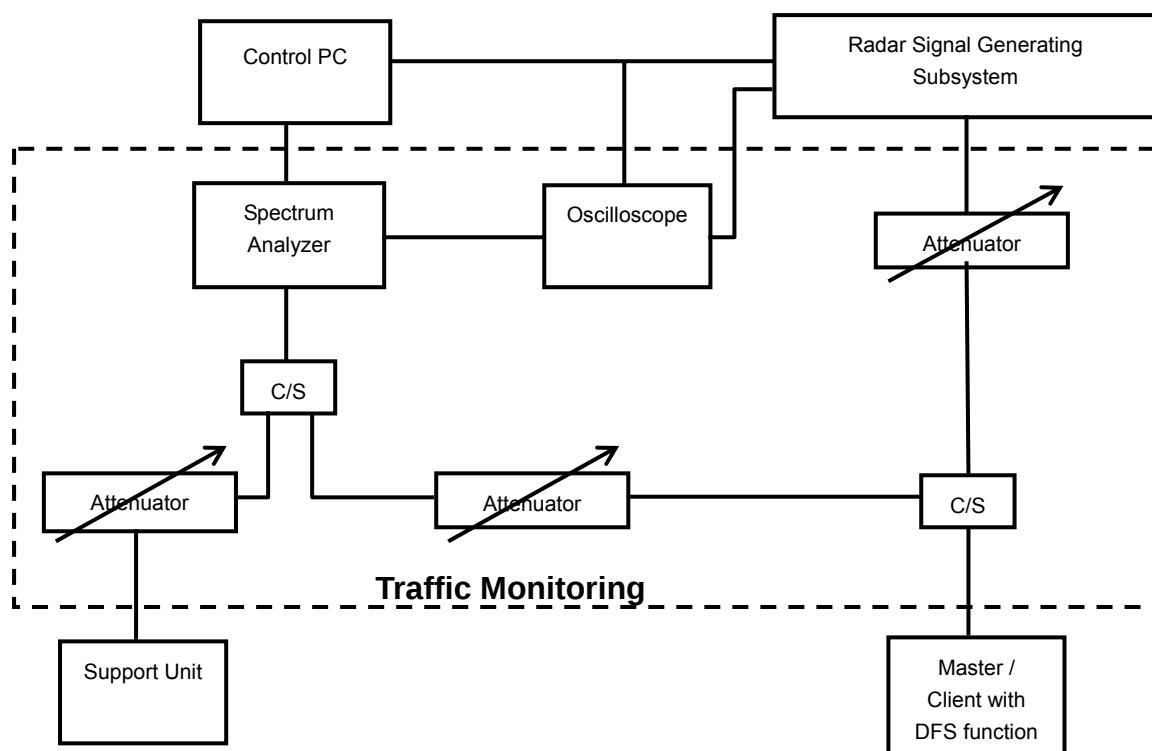
NO.	PRODUCT	MODEL NO.	SOFTWARE/FIRMWARE VERSION
1.	802.11a/b/g/n Access Point	AIR-AP1252AG-A-K9	12.4(10b)JA1

4.8.10 TEST PROCEDURE

ADT DFS MEASUREMENT SYSTEM:

A complete ADT DFS Measurement System consists of two subsystems: (1) the Radar Signal Generating Subsystem and (2) the Traffic Monitoring Subsystem. The control PC is necessary for generating the Radar waveforms in Table 6, 7 and 8. The traffic monitoring subsystem is specified to the type of unit under test (UUT).

Conducted setup configuration of ADT DFS Measurement System



The test transmission will always be from the Master Device to the Client Device. While the Client device is set up to associate with the Master device and play the MPEG file (6 $\frac{1}{2}$ Magic Hours) from Master device, the designated MPEG test file and instructions are located at:

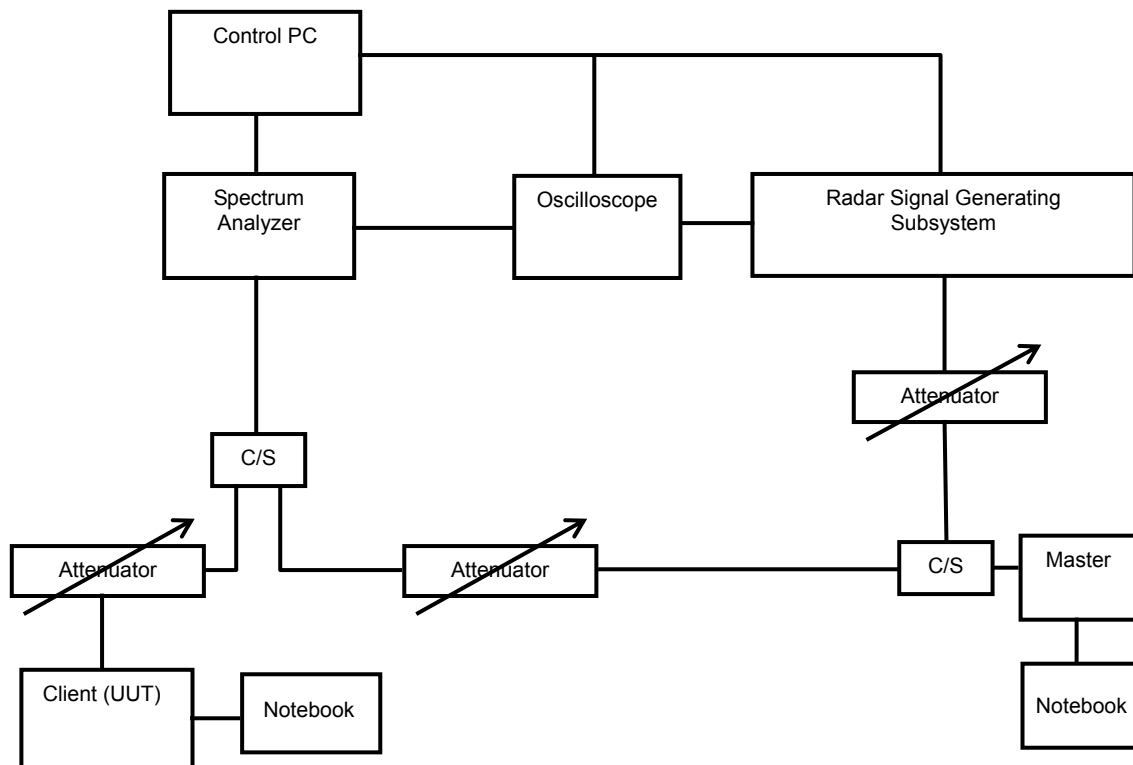
<http://ntiacsd.ntia.doc.gov/dfs/>.

4.8.12 DEVIATION FROM TEST STANDARD

No deviation.

4.8.13 CONDUCTED TEST SETUP CONFIGURATION

CLIENT WITHOUT RADAR DETECTION MODE



The UUT is a U-NII Device operating in Client mode without radar detection. The radar test signals are injected into the Master Device.

4.8.14 TEST RESULTS

SUMMARY OF TEST RESULT

Clause	Test Parameter	Remarks	Pass/Fail
15.407	DFS Detection Threshold	Not Applicable	NA
15.407	Channel Availability Check Time	Not Applicable	NA
15.407	Channel Move Time	Applicable	Pass
15.407	Channel Closing Transmission Time	Applicable	Pass
15.407	Non- Occupancy Period	Applicable	Pass
15.407	Uniform Spreading	Not Applicable	NA
15.407	U-NII Detection Bandwidth	Not Applicable	NA
15.407	Non-associated test	Applicable	Pass

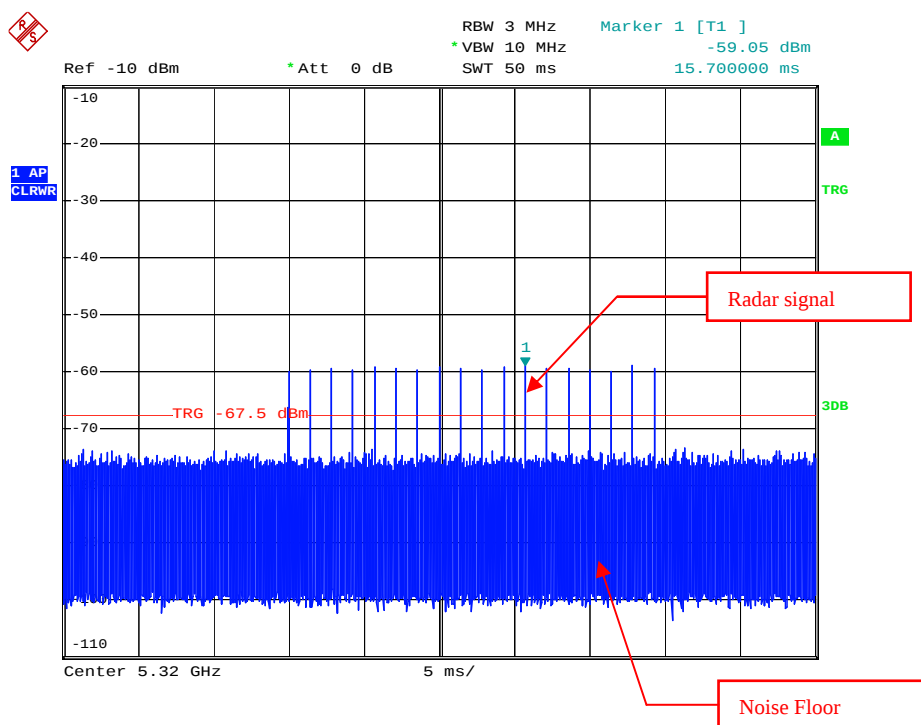
4.8.15 DETELED TEST RESULTS

Test Mode: Device operating in Client without Radar Detection mode.

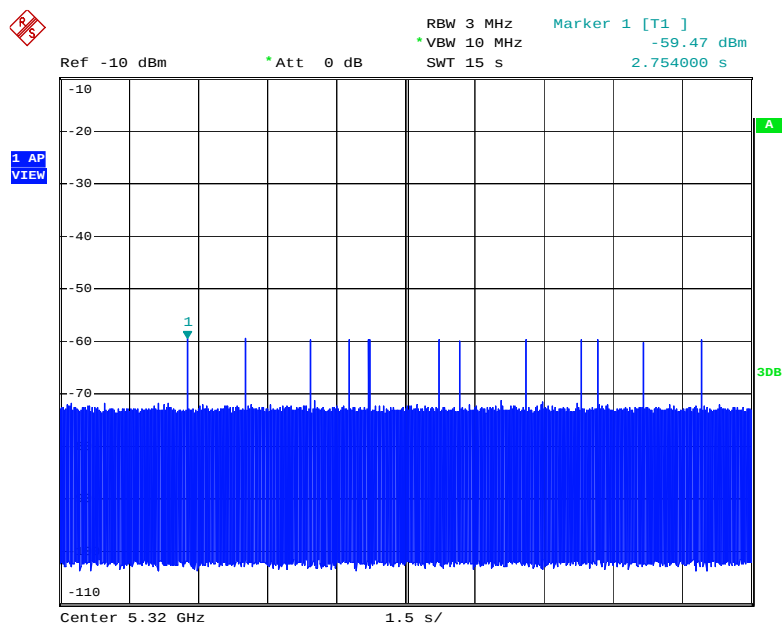
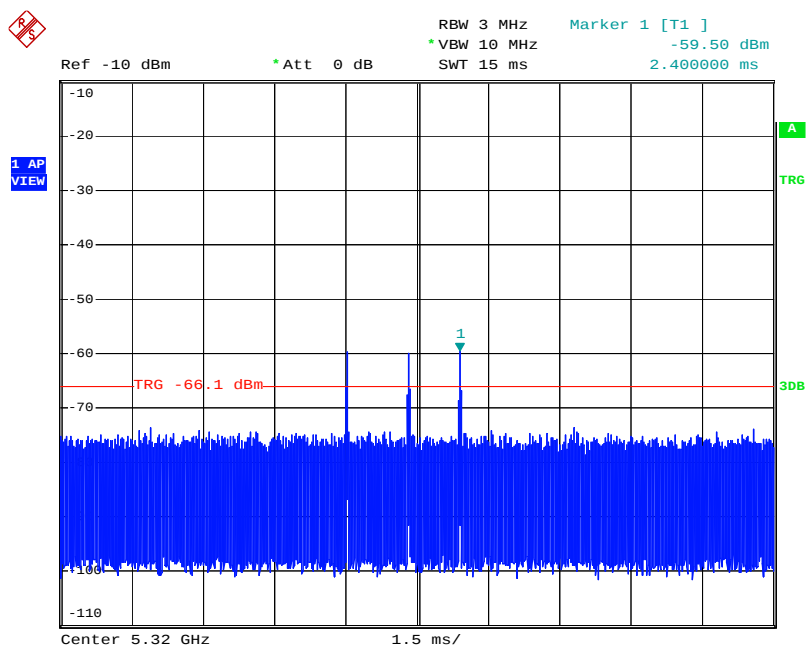
Client with injection at the Master. (The radar test signals are injected into the Master Device.

DFS DETECTION THRESHOLD

For a detection threshold level of -62dBm and the Master antenna gain is 3dBi . The Required detection threshold is -58dBm ($= -62 + 1 + 3\text{dBm}$). The conducted radar burst level is set to -59dBm . The tested level is lower than required level hence it provides margin to the limit.



Radar Signal 1



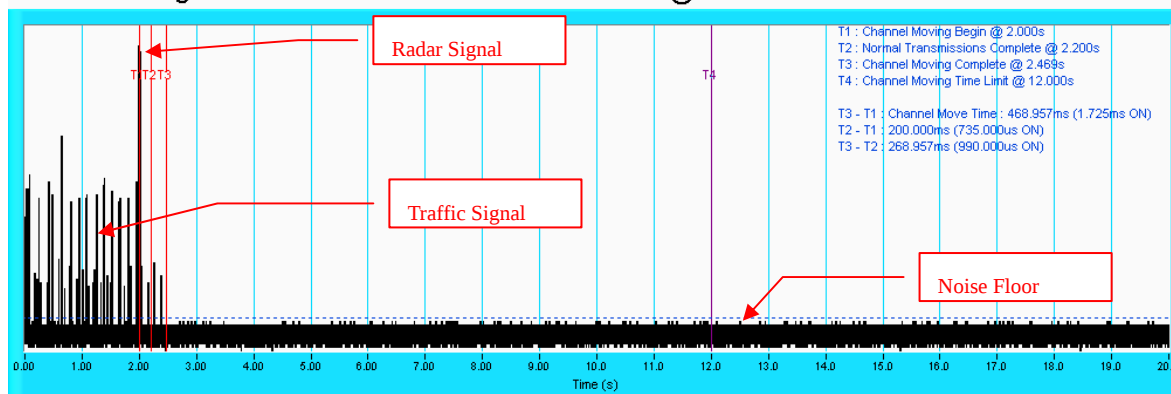
Radar Signal 5

4.8.16 Channel Closing Transmission and Channel Move Time

Radar signal 1

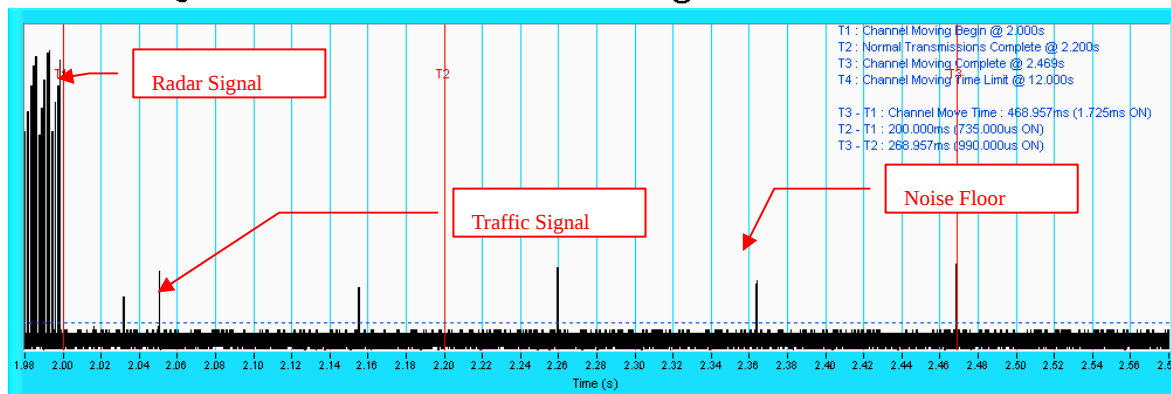
IEEE 802.11a

Channel Closing Transmission Time & Channel Move Time @ CH100 - 5500MHz



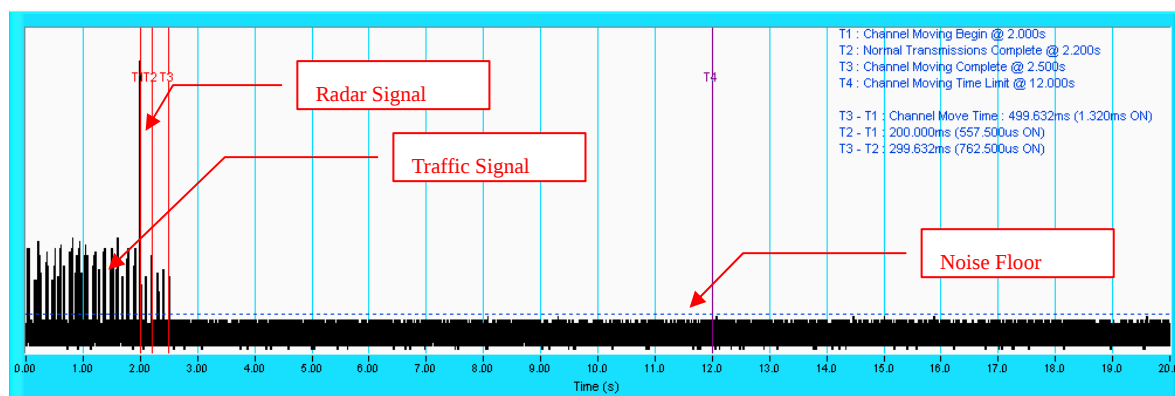
NOTE: T1 denotes the start of Channel Move Time upon the end of the last Radar burst. T2 denotes the data transmission time of 200ms from T1. T4 denotes the 10 second from T1 to observe the aggregate duration of transmissions.

Channel Closing Transmission Time & Channel Move Time @ CH100 - 5500MHz

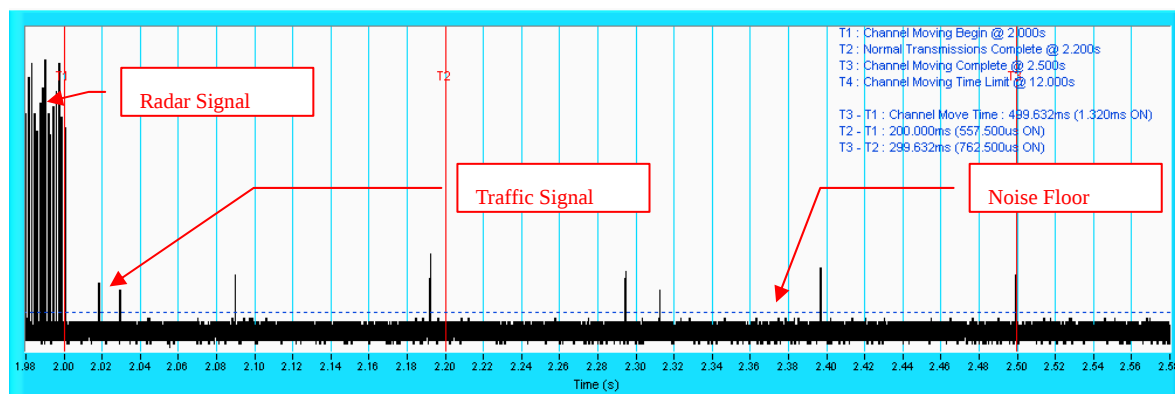


NOTE: An expanded plot for the device vacates the channel in the required 200ms.

Draft 802.11n(20MHz)

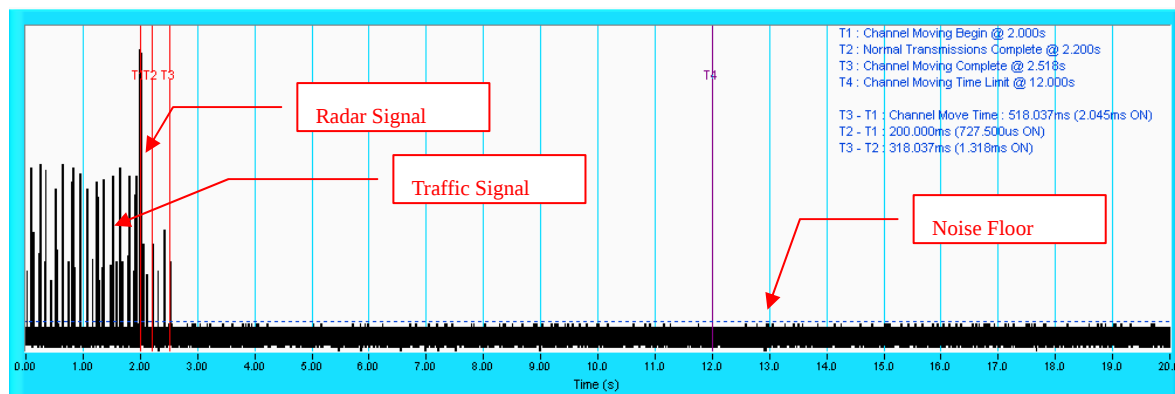


NOTE: T1 denotes the start of Channel Move Time upon the end of the last Radar burst. T2 denotes the data transmission time of 200ms from T1. T4 denotes the 10 second from T1 to observe the aggregate duration of transmissions.

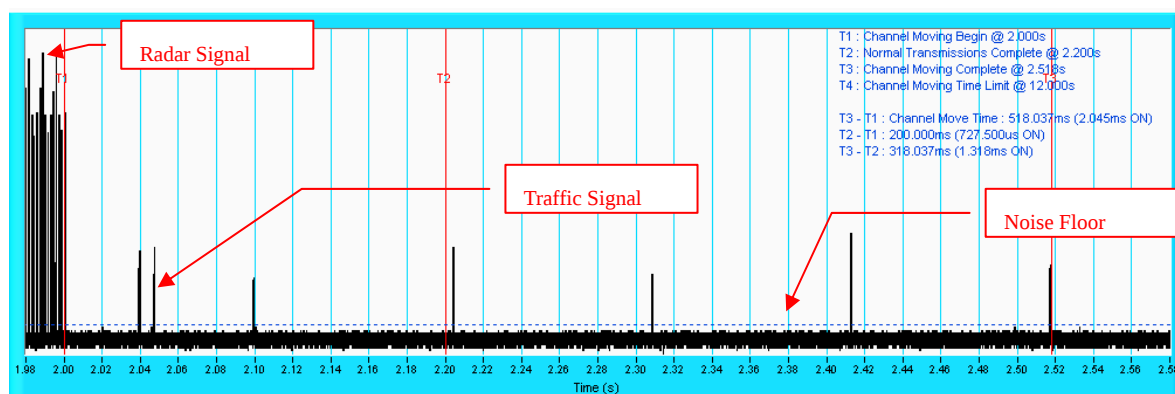


NOTE: An expanded plot for the device vacates the channel in the required 200ms.

Draft 802.11n(40MHz)



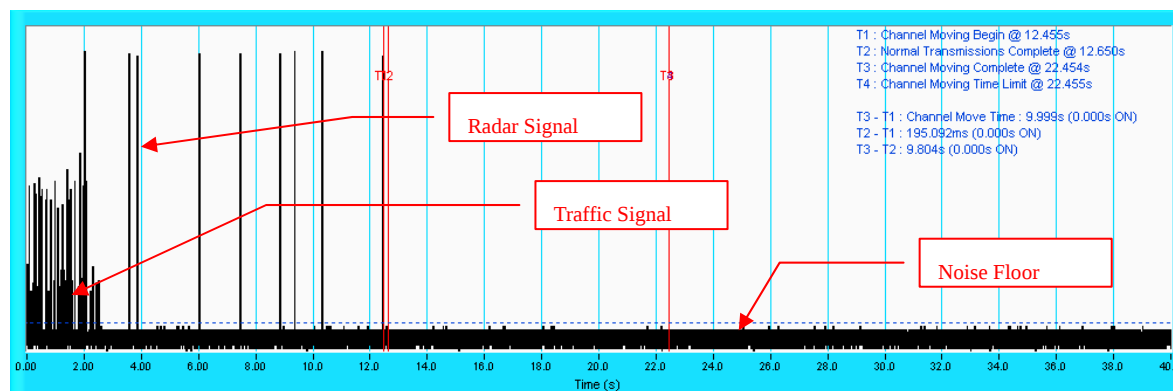
NOTE: T1 denotes the start of Channel Move Time upon the end of the last Radar burst. T2 denotes the data transmission time of 200ms from T1. T4 denotes the 10 second from T1 to observe the aggregate duration of transmissions.



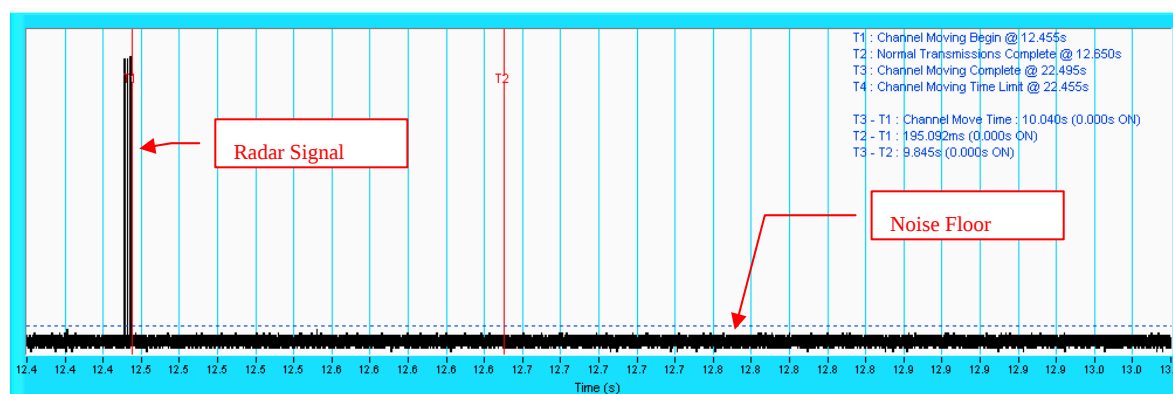
NOTE: An expanded plot for the device vacates the channel in the required 200ms.

Radar signal 5

IEEE 802.11a

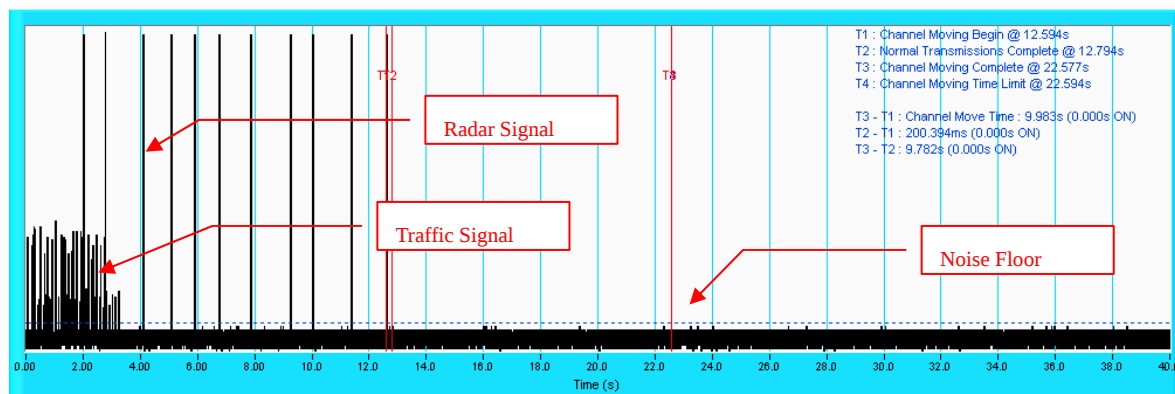


NOTE: T1 denotes the start of Channel Move Time upon the end of the last Radar burst. T2 denotes the data transmission time of 200ms from T1. T4 denotes the 10 second from T1 to observe the aggregate duration of transmissions.

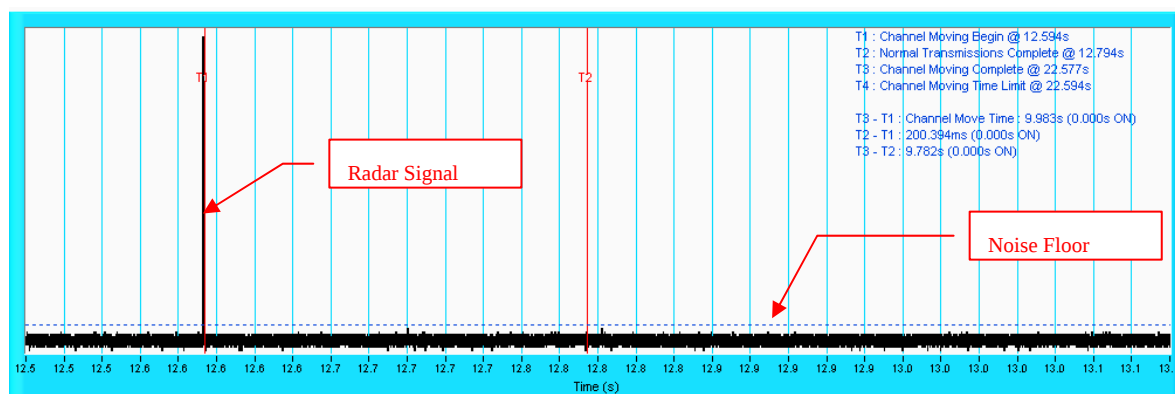


NOTE: An expanded plot for the device vacates the channel in the required 200ms.

Draft 802.11n(40MHz)



NOTE: T1 denotes the start of Channel Move Time upon the end of the last Radar burst. T2 denotes the data transmission time of 200ms from T1. T4 denotes the 10 second from T1 to observe the aggregate duration of transmissions.

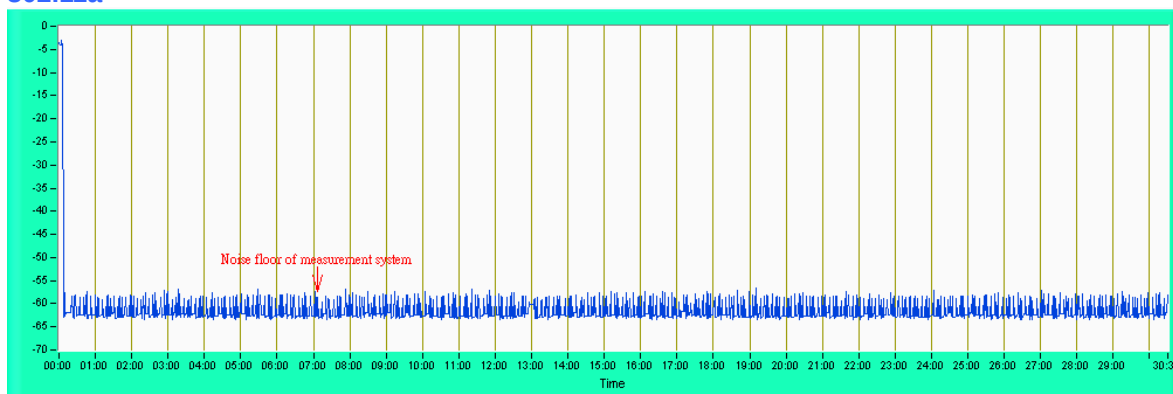


NOTE: An expanded plot for the device vacates the channel in the required 200ms.

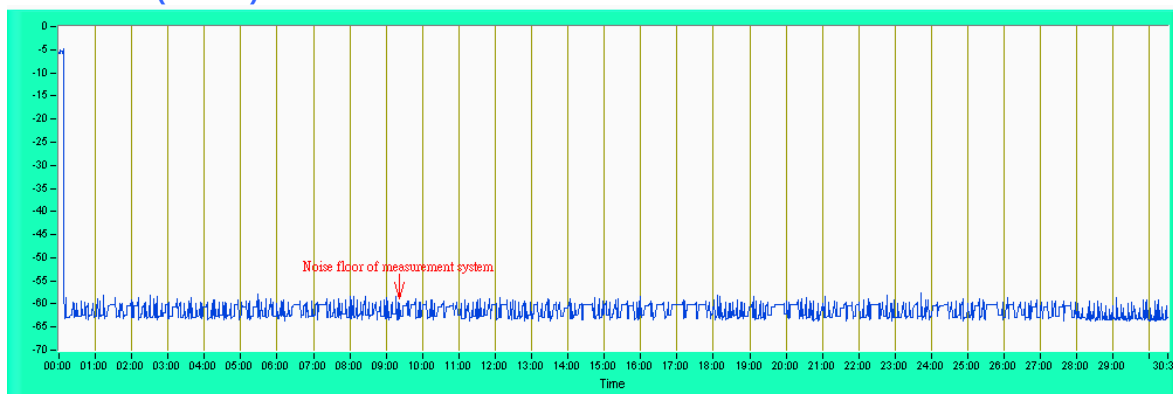
Non- Occupancy Period

During the 30 minutes observation time, UUT did not make any transmissions on a channel after a radar signal was detected on that channel by either the Channel Availability Check or the In-Service Monitoring.

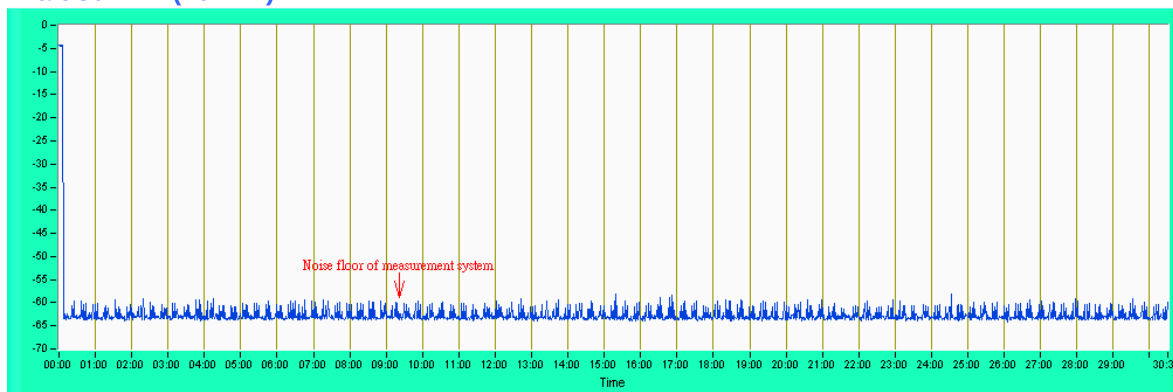
802.11a



Draft 802.11n(20MHz)



Draft 802.11n(40MHz)

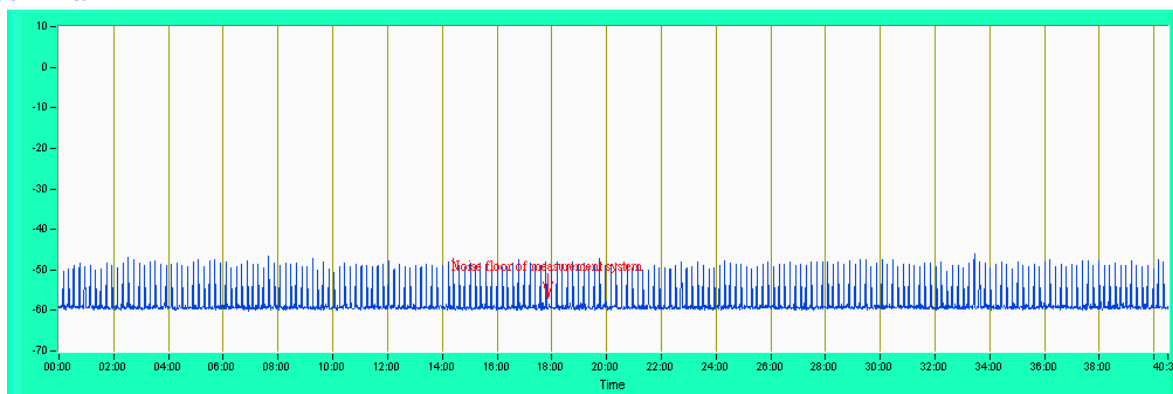


Non-associated test

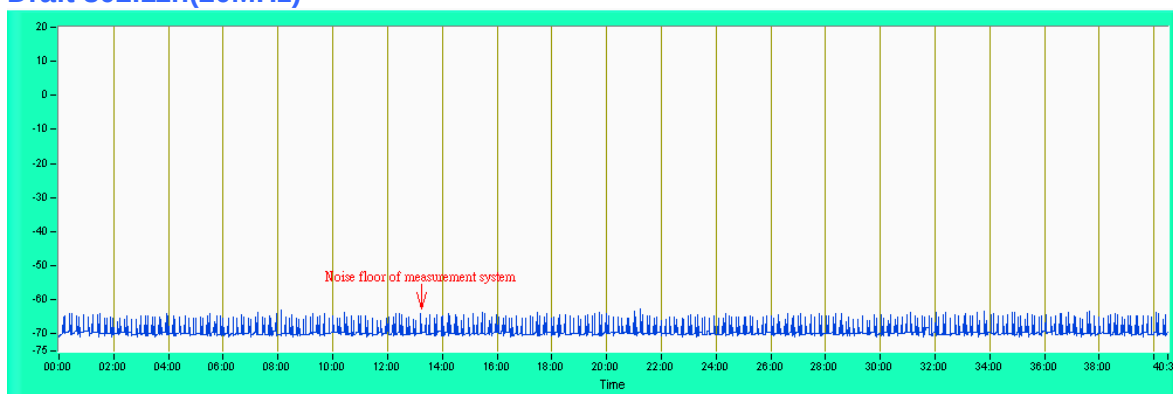
Master was off.

During the 30 minutes observation time, The UUT did not make any transmissions in the DFS band after UUT power up.

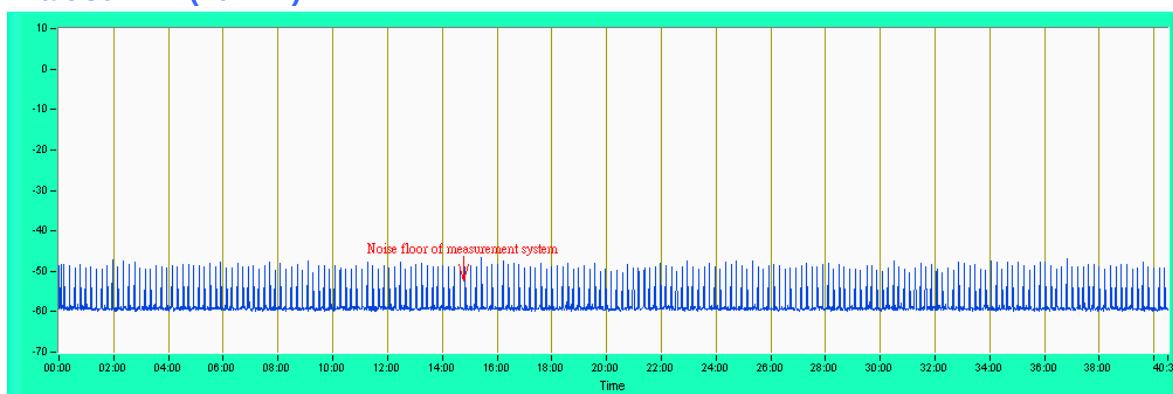
802.11a



Draft 802.11n(20MHz)



Draft 802.11n(40MHz)



4.9 ANTENNA REQUIREMENT

4.9.1 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.

4.9.2 ANTENNA CONNECTED CONSTRUCTION

The antenna used in this product is Printed antenna without. The maximum Gain of the antenna is 4dBi.

5. PHOTOGRAPHS OF THE TEST CONFIGURATION

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

6. INFORMATION ON THE TESTING LABORATORIES

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

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

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

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

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

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

Web Site: www.adt.com.tw

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

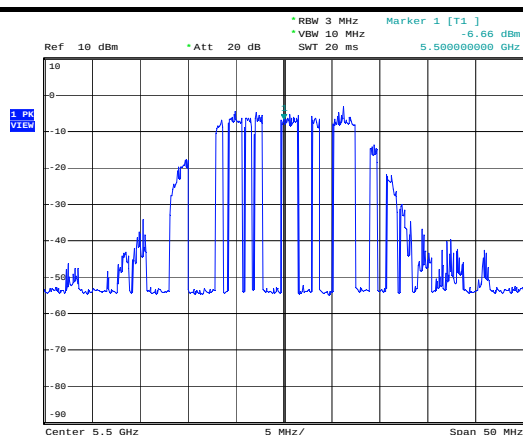
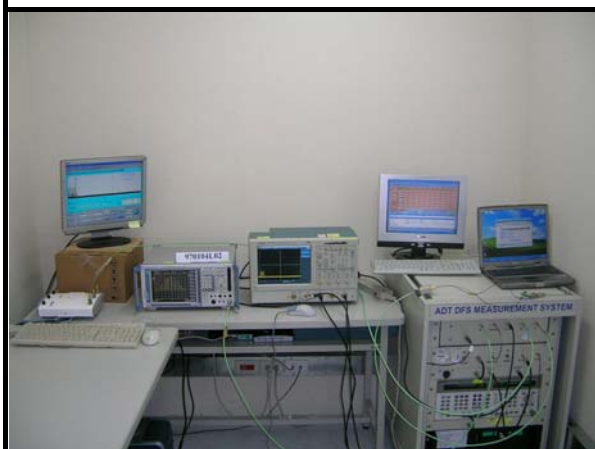
7. APPENDIX A - MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

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

8. APPENDIX B-MODIFICATIONS OR ADDING COMPONENTS DURING THE TEST

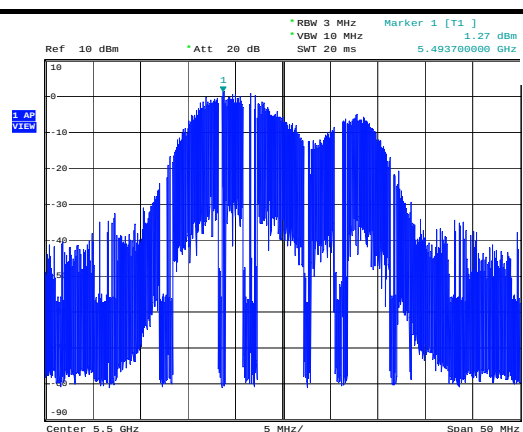
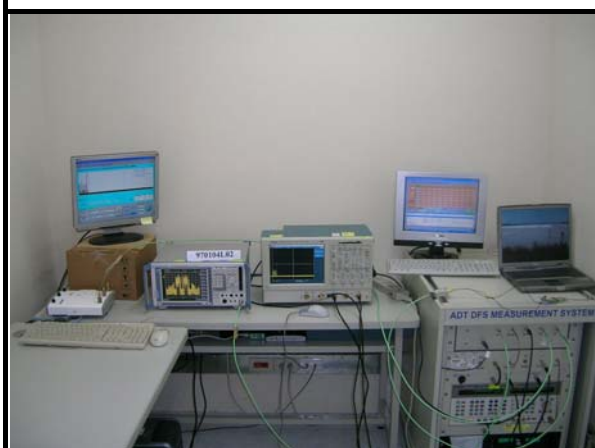
Modifications or adding components during the test

1) Test results demonstrating an associated client link is established with the master on a test frequency.



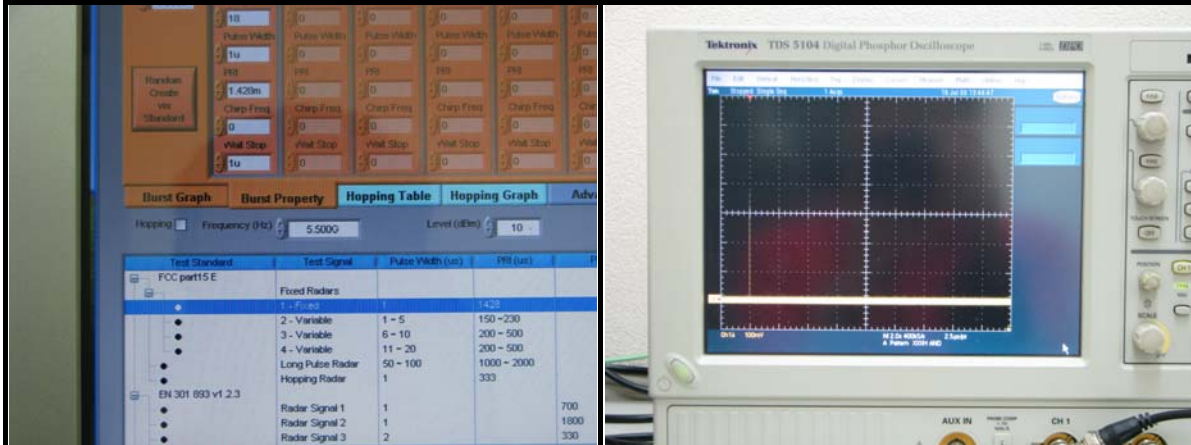
EUT (Client) links with master on 5500MHz

2) The client and DFS-certified master device are associated, and the movie can be streamed as specified in the DFS Order for a non-occupancy period test;



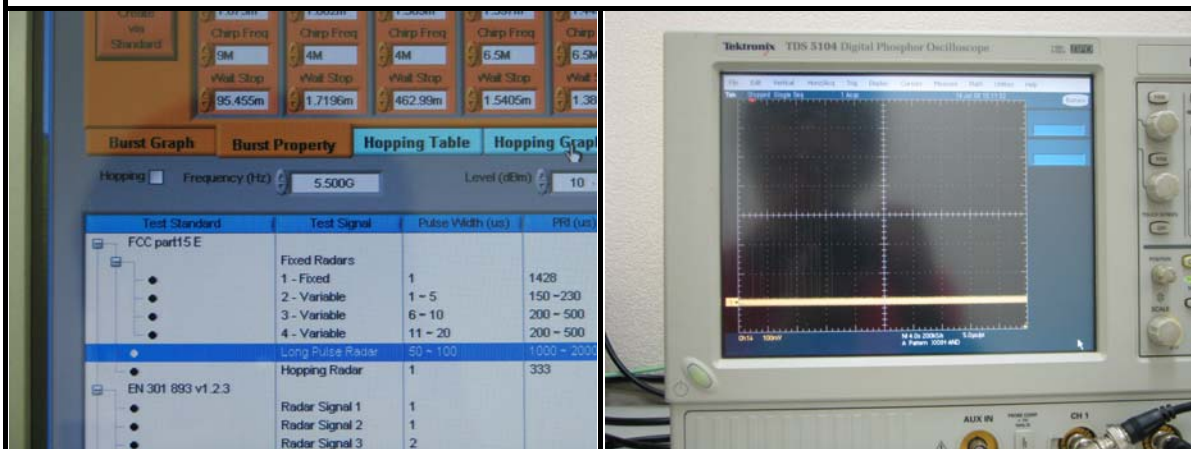
Client plays a specified file via master.

3). The device transmits one type of radar as specified in the DFS Order;



Radar 1 are used to test during DFS testing.

3). The device transmits one type of radar as specified in the DFS Order;

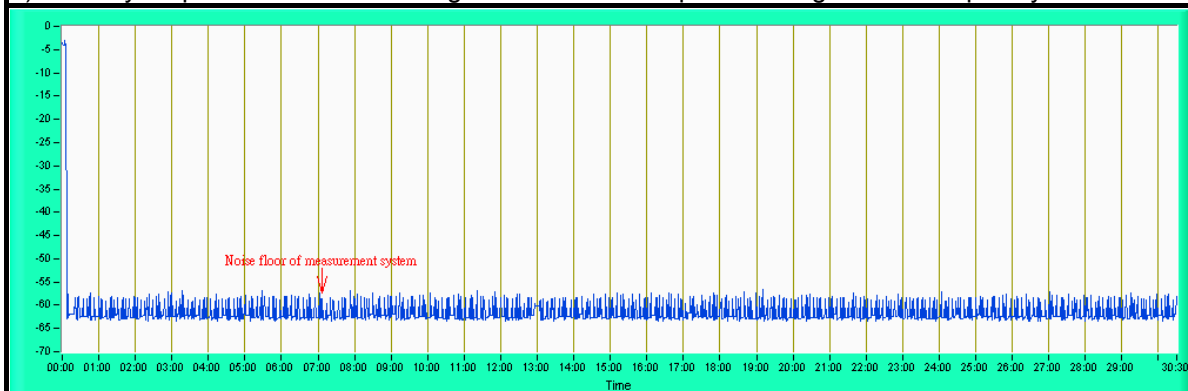


Radar 5 are used to test during DFS testing.

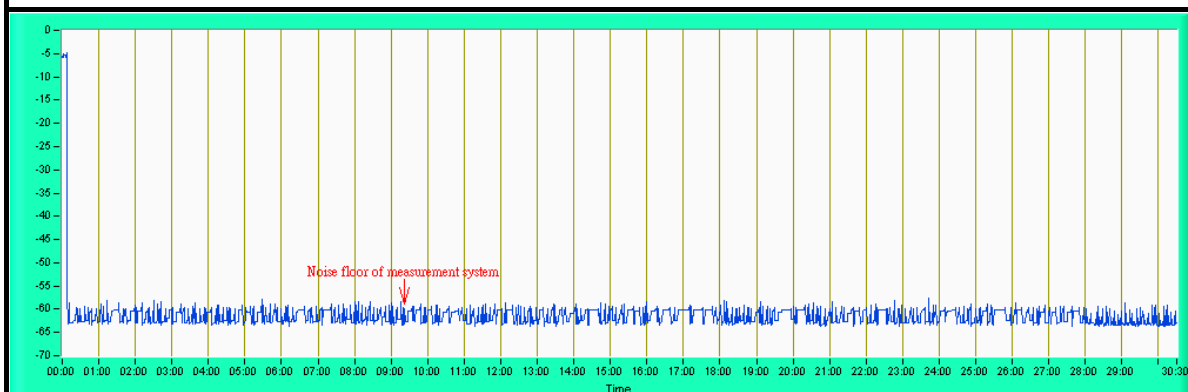
4) The test frequency has been monitored to ensure no transmission of any type has occurred for 30 minutes;

Note: If the client moves with the master, the device is considered compliant if nothing appears in the client nonoccupancy period test. For devices that shut down (rather than moving channels), no beacons should appear;

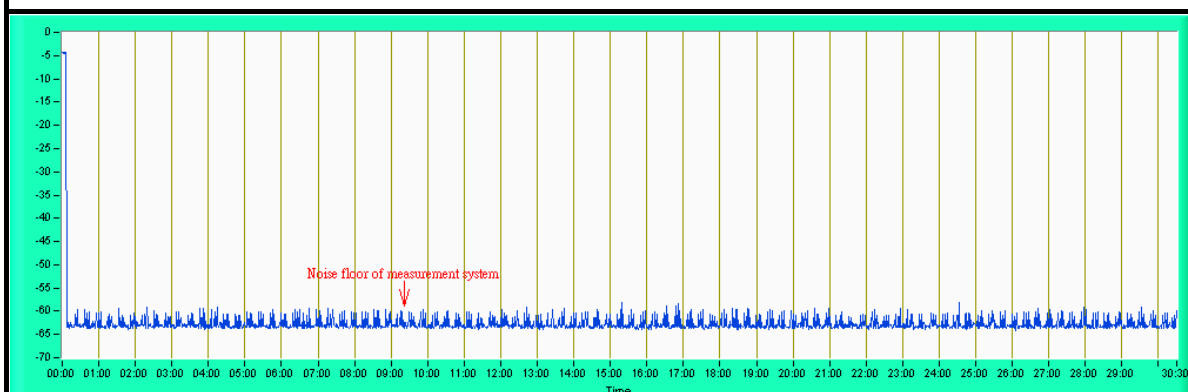
5) An analyzer plot that contains a single 30-minute sweep on the original test frequency.



802.11a (20MHz)



Draft 802.11n(20MHz)



Draft 802.11n(40MHz)

---END---