

FCC TEST REPORT

REPORT NO.: RF980617L02
MODEL NO.: WHR-HP-GN
RECEIVED: May 25, 2009
TESTED: May 26 ~ Jun. 22, 2009
ISSUED: Jun. 30, 2009

APPLICANT: BUFFALO INC.

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1. CERTIFICATION

PRODUCT: WIRELESS ROUTER

MODEL: WHR-HP-GN

BRAND: Buffalo

APPLICANT: BUFFALO INC.

TESTED: May 26 ~ Jun. 22, 2009

TEST SAMPLE: ENGINEERING SAMPLE

STANDARDS: FCC Part 15, Subpart C (Section 15.247)
ANSI C63.4-2003

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

PREPARED BY : Andrea Hsia , **DATE** : Jun. 30, 2009
Andrea Hsia / Specialist

TECHNICAL
ACCEPTANCE : Long Chen , **DATE** : Jun. 30, 2009
Responsible for RF Long Chen / Senior Engineer

APPROVED BY : Gary Chang , **DATE** : Jun. 30, 2009
Gary Chang / Assistant Manager

2. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 15, Subpart C			
Standard Section	Test Type and Limit	Result	Remark
15.207	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is -2.53dB at 0.459MHz.
15.247(a)(2)	Spectrum Bandwidth of a Direct Sequence Spread Spectrum System Limit: min. 500kHz	PASS	Meet the requirement of limit.
15.247(b)	Maximum Peak Output Power Limit: max. 30dBm	PASS	Meet the requirement of limit.
15.247(d)	Radiated Emissions Limit: Table 15.209	PASS	Meet the requirement of limit. Minimum passing margin is -1.00dB at 2390.00MHz.
15.247(e)	Power Spectral Density Limit: max. 8dBm	PASS	Meet the requirement of limit.
15.247(d)	Band Edge Measurement Limit: 20dB less than the peak value of fundamental frequency	PASS	Meet the requirement of limit.

2.1 MEASUREMENT UNCERTAINTY

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

MEASUREMENT	FREQUENCY	UNCERTAINTY
Conducted emissions	150kHz~30MHz	2.44 dB
Radiated emissions	30MHz ~ 200MHz	2.93 dB
	200MHz ~1000MHz	2.95 dB
	1GHz ~ 18GHz	2.26 dB
	18GHz ~ 40GHz	1.94 dB

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

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	WIRELESS ROUTER
MODEL NO.	WHR-HP-GN
FCC ID	FDI-09101567-0
POWER SUPPLY	5Vdc from AC Adapter
MODULATION TYPE	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
MODULATION TECHNOLOGY	DSSS, OFDM
TRANSFER RATE	802.11b: 11.0/ 5.5/ 2.0/ 1.0Mbps 802.11g: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0Mbps Draft 802.11n: up to 150Mbps
OPRTAING FREQUENCY	2412MHz ~ 2462MHz
NUMBER OF CHANNEL	11 for 802.11b, 802.11g, draft 802.11n (20MHz) 7 for draft 802.11n (40MHz)
MAXIMUM OUTPUT POWER	492.040mW
ANTENNA TYPE	Dipole antenna with 2.0dBi gain
DATA CABLE	NA
I/O PORTS	RJ45
ACCESSORY DEVICES	AC adapter

NOTE:

- The EUT provides one completed transmitter and one receiver.

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

- The EUT was operated with following power adapter:

BRAND:	BUFFALO
MODEL:	US100523
INPUT:	100-120Vac, 50/60Hz, 0.3A
OUTPUT:	5Vdc, 2.3A
POWER LINE:	DC:1.9m non-shielded cable without core

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

3.2 DESCRIPTION OF TEST MODES

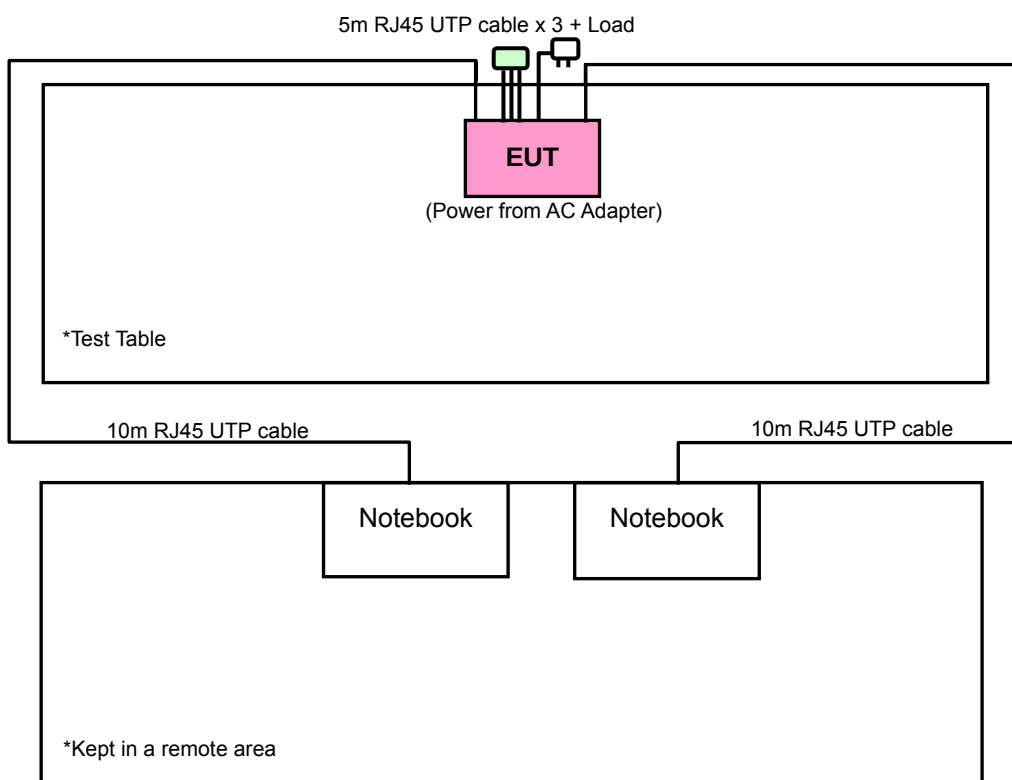
Eleven channels are provided for 802.11b, 802.11g and draft 802.11n (20MHz):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
1	2412MHz	7	2442MHz
2	2417MHz	8	2447MHz
3	2422MHz	9	2452MHz
4	2427MHz	10	2457MHz
5	2432MHz	11	2462MHz
6	2437MHz		

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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
1	2422MHz	5	2442MHz
2	2427MHz	6	2447MHz
3	2432MHz	7	2452MHz
4	2437MHz		

3.2.1 CONFIGURATION OF SYSTEM UNDER TEST



3.2.2 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE $\geq$ 1G	RE<1G	PLC	APCM	
-	√	√	√	√	-

Where **PLC**: Power Line Conducted Emission

RE<1G: Radiated Emission below 1GHz

RE $\geq$ 1G: Radiated Emission above 1GHz

APCM: Antenna Port Conducted Measurement

RADIATED EMISSION TEST (ABOVE 1 GHz):

- ☒ 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	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)	AXIS
802.11b	1 to 11	1, 2, 6, 10, 11	DSSS	DBPSK	1.0	Z
802.11g	1 to 11	1, 2, 6, 10, 11	OFDM	BPSK	6.0	Z
Draft 802.11n (20MHz)	1 to 11	1, 2, 6, 10, 11	OFDM	BPSK	6.5	Z
Draft 802.11n (40MHz)	1 to 7	1, 2, 4, 6, 7	OFDM	BPSK	13.5	Z

RADIATED EMISSION TEST (BELOW 1 GHz):

- ☒ 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	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)	AXIS
802.11g	1 to 11	10	OFDM	BPSK	6.0	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	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11g	1 to 11	10	OFDM	BPSK	6.0

BANDEDGE MEASUREMENT:

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

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11b	1 to 11	1, 2, 10, 11	DSSS	DBPSK	1.0
802.11g	1 to 11	1, 2, 10, 11	OFDM	BPSK	6.0
Draft 802.11n (20MHz)	1 to 11	1, 2, 10, 11	OFDM	BPSK	6.5
Draft 802.11n (40MHz)	1 to 7	1, 2, 6, 7	OFDM	BPSK	13.5

ANTENNA PORT CONDUCTED MEASUREMENT:

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

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11b	1 to 11	1, 2, 6, 10, 11	DSSS	DBPSK	1.0
802.11g	1 to 11	1, 2, 6, 10, 11	OFDM	BPSK	6.0
Draft 802.11n (20MHz)	1 to 11	1, 2, 6, 10, 11	OFDM	BPSK	6.5
Draft 802.11n (40MHz)	1 to 7	1, 2, 4, 6, 7	OFDM	BPSK	13.5

3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

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

FCC Part 15, Subpart C (15.247)

ANSI C63.4-2003

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

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

3.4 DESCRIPTION OF SUPPORT UNITS

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

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	NOTEBOOK COMPUTER	DELL	PP05L	25191592336	E2K24CLNS
2	NOTEBOOK COMPUTER	DELL	PP05L	12130898320	E2K24CLNS

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

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

4. TEST TYPES AND RESULTS

4.1 RADIATED EMISSION MEASUREMENT

4.1.1 LIMITS OF RADIATED EMISSION MEASUREMENT

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

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

NOTE:

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

4.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESIB7	100212	May 25, 2009	May 24, 2010
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100269	Aug. 08, 2008	Aug. 07, 2009
BILOG Antenna SCHWARZBECK	VULB9168	9168-156	Apr. 30, 2009	Apr. 29, 2010
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-563	Aug. 06, 2008	Aug. 05, 2009
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170242	Jan. 06, 2009	Jan. 05, 2010
Preamplifier Agilent	8449B	3008A01911	Sep. 10, 2008	Sep. 09, 2009
Preamplifier Agilent	8447D	2944A10638	Dec. 26, 2008	Dec. 25, 2009
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	218190/4 231241/4	May 13, 2009	May 12, 2010
RF signal cable Worken	8D-FB	Cable-HYCH9-01	Aug. 09, 2008	Aug. 08, 2009
Software	ADT_Radiated_ V7.6.15.9.2	NA	NA	NA
Antenna Tower EMCO	2070/2080	512.835.4684	NA	NA
Turn Table EMCO	2087-2.03	NA	NA	NA
Antenna Tower & Turn Table Controller EMCO	2090	NA	NA	NA

- NOTE:**
1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
 2. The test was performed in HwaYa Chamber 9.
 3. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
 4. The FCC Site Registration No. is 460141.
 5. The IC Site Registration No. is IC 7450F-4.

4.1.3 TEST PROCEDURES

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meters semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The antenna is a broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. If the emission level of the EUT in peak mode was lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

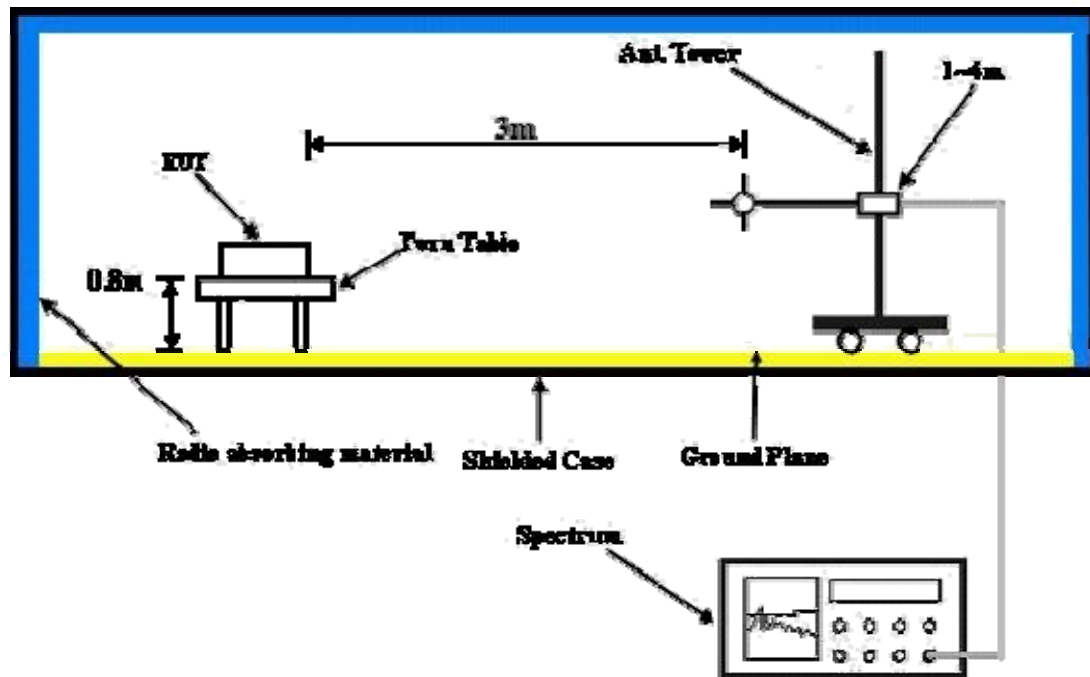
NOTE:

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

4.1.4 DEVIATION FROM TEST STANDARD

No deviation.

4.1.5 TEST SETUP



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

4.1.6 EUT OPERATING CONDITIONS

- Placed the EUT on the testing table.
- Prepared notebook systems to act as a communication partner and placed them outside of testing area.
- The communication partners connected with EUT via a UTP cable and run a test program (provided by manufacturer) to enable EUT under transmission condition continuously at specific channel frequency.
- The communication partners sent data to EUT by command "PING".

4.1.7 TEST RESULTS

802.11b DSSS MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 1000 hPa	TESTED BY	Brad Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	59.27 PK	74.00	-14.73	1.46 H	62	26.19	33.08
2	2390.00	47.04 AV	54.00	-6.96	1.46 H	62	13.96	33.08
3	*2412.00	103.01 PK			1.46 H	62	69.83	33.18
4	*2412.00	98.45 AV			1.46 H	62	65.27	33.18
5	4824.00	56.66 PK	74.00	-17.34	1.15 H	229	17.51	39.15
6	4824.00	52.81 AV	54.00	-1.19	1.15 H	229	13.66	39.15
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2386.00	60.12 PK	74.00	-13.88	1.00 V	155	27.06	33.06
2	2386.00	49.51 AV	54.00	-4.49	1.00 V	155	16.45	33.06
3	*2412.00	111.54 PK			1.00 V	155	78.36	33.18
4	*2412.00	107.01 AV			1.00 V	155	73.83	33.18
5	4824.00	55.64 PK	74.00	-18.36	1.07 V	295	16.49	39.15
6	4824.00	52.11 AV	54.00	-1.89	1.07 V	295	12.96	39.15

- 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 2	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 1000 hPa	TESTED BY	Brad Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	59.18 PK	74.00	-14.82	1.42 H	59	26.10	33.08
2	2390.00	46.97 AV	54.00	-7.03	1.42 H	59	13.89	33.08
3	*2417.00	102.58 PK			1.44 H	62	69.38	33.20
4	*2417.00	98.11 AV			1.44 H	62	64.91	33.20
5	4834.00	55.89 PK	74.00	-18.11	1.10 H	247	16.74	39.15
6	4834.00	52.08 AV	54.00	-1.92	1.10 H	247	12.93	39.15
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2386.00	59.87 PK	74.00	-14.13	1.00 V	166	26.81	33.06
2	2386.00	49.32 AV	54.00	-4.68	1.00 V	166	16.26	33.06
3	*2417.00	111.19 PK			1.01 V	168	77.99	33.20
4	*2417.00	106.62 AV			1.01 V	168	73.42	33.20
5	4834.00	55.20 PK	74.00	-18.80	1.04 V	262	16.06	39.15
6	4834.00	50.89 AV	54.00	-3.11	1.04 V	262	11.75	39.15

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.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 1000 hPa	TESTED BY	Brad Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	102.76 PK			1.41 H	66	69.48	33.28
2	*2437.00	98.14 AV			1.41 H	66	64.86	33.28
3	4874.00	56.06 PK	74.00	-17.94	1.18 H	257	16.92	39.14
4	4874.00	52.48 AV	54.00	-1.52	1.18 H	257	13.34	39.14
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	111.94 PK			1.00 V	170	78.66	33.28
2	*2437.00	107.29 AV			1.00 V	170	74.01	33.28
3	4874.00	55.14 PK	74.00	-18.86	1.04 V	261	15.99	39.14
4	4874.00	51.02 AV	54.00	-2.98	1.04 V	261	11.87	39.14

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 10	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 1000 hPa	TESTED BY	Brad Wu

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	*2457.00	102.85 PK			1.40 H	68	69.49	33.36
2	*2457.00	98.43 AV			1.40 H	68	65.07	33.36
3	2483.50	60.19 PK	74.00	-13.81	1.40 H	68	26.73	33.46
4	2483.50	47.45 AV	54.00	-6.55	1.40 H	68	13.99	33.46
5	4914.00	56.34 PK	74.00	-17.66	1.21 H	256	17.07	39.26
6	4914.00	52.88 AV	54.00	-1.12	1.21 H	256	13.62	39.26
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	*2457.00	111.40 PK			1.00 V	172	78.04	33.36
2	*2457.00	107.05 AV			1.00 V	172	73.69	33.36
3	2483.50	59.65 PK	74.00	-14.35	1.00 V	171	26.19	33.46
4	2483.50	48.42 AV	54.00	-5.58	1.00 V	171	14.96	33.46
5	4914.00	55.26 PK	74.00	-18.74	1.14 V	236	16.00	39.26
6	4914.00	51.18 AV	54.00	-2.82	1.14 V	236	11.92	39.26

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.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 1000 hPa	TESTED BY	Brad Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	102.98 PK			1.41 H	68	69.60	33.38
2	*2462.00	98.56 AV			1.41 H	68	65.18	33.38
3	2483.50	60.26 PK	74.00	-13.74	1.41 H	68	26.80	33.46
4	2483.50	47.54 AV	54.00	-6.46	1.41 H	68	14.08	33.46
5	4924.00	56.32 PK	74.00	-17.68	1.12 H	223	16.96	39.35
6	4924.00	52.94 AV	54.00	-1.06	1.12 H	223	13.59	39.35
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	*2462.00	111.10 PK			1.00 V	171	77.72	33.38
2	*2462.00	106.60 AV			1.00 V	171	73.22	33.38
3	2483.50	59.87 PK	74.00	-14.13	1.00 V	171	26.41	33.46
4	2483.50	48.63 AV	54.00	-5.37	1.00 V	171	15.17	33.46
5	4924.00	55.34 PK	74.00	-18.66	1.09 V	245	15.99	39.35
6	4924.00	51.26 AV	54.00	-2.74	1.09 V	245	11.91	39.35

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.

802.11g OFDM MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 1000 hPa	TESTED BY	Brad Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	61.86 PK	74.00	-12.14	1.01 H	339	28.78	33.08
2	2390.00	47.69 AV	54.00	-6.31	1.01 H	339	14.61	33.08
3	*2412.00	99.14 PK			1.01 H	339	65.96	33.18
4	*2412.00	89.36 AV			1.01 H	339	56.18	33.18
5	4824.00	53.95 PK	74.00	-20.05	1.04 H	256	14.80	39.15
6	4824.00	39.12 AV	54.00	-14.88	1.04 H	256	-0.03	39.15
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	72.95 PK	74.00	-1.05	1.00 V	188	39.87	33.08
2	2390.00	52.92 AV	54.00	-1.08	1.00 V	188	19.84	33.08
3	*2412.00	113.69 PK			1.00 V	232	80.51	33.18
4	*2412.00	102.35 AV			1.00 V	232	69.17	33.18
5	4824.00	57.23 PK	74.00	-16.77	1.02 V	191	18.08	39.15
6	4824.00	39.29 AV	54.00	-14.71	1.02 V	191	0.14	39.15

- 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.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 2	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 1000 hPa	TESTED BY	Brad Wu

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	*2417.00	100.38 PK			1.02 H	341	67.18	33.20
2	*2417.00	90.62 AV			1.02 H	341	57.42	33.20
3	4834.00	57.68 PK	74.00	-16.32	1.01 H	354	18.53	39.15
4	4834.00	39.72 AV	54.00	-14.28	1.01 H	354	0.57	39.15
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	72.50 PK	74.00	-1.50	1.00 V	172	39.42	33.08
2	2390.00	50.80 AV	54.00	-3.20	1.00 V	172	17.72	33.08
3	*2417.00	114.60 PK			1.00 V	148	81.40	33.20
4	*2417.00	103.78 AV			1.00 V	148	70.58	33.20
5	4834.00	57.50 PK	74.00	-16.50	1.00 V	347	18.36	39.15
6	4834.00	39.54 AV	54.00	-14.46	1.00 V	347	0.40	39.15

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 1000 hPa	TESTED BY	Brad Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	101.26 PK			1.03 H	336	67.98	33.28
2	*2437.00	91.43 AV			1.03 H	336	58.15	33.28
3	4874.00	64.86 PK	74.00	-9.14	1.24 H	53	25.72	39.14
4	4874.00	46.22 AV	54.00	-7.78	1.24 H	53	7.08	39.14
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	61.53 PK	74.00	-12.47	1.00 V	194	28.45	33.08
2	2390.00	50.53 AV	54.00	-3.47	1.00 V	194	17.45	33.08
3	*2437.00	115.93 PK			1.00 V	192	82.65	33.28
4	*2437.00	104.66 AV			1.00 V	192	71.38	33.28
5	2483.50	65.27 PK	74.00	-8.73	1.00 V	196	31.81	33.46
6	2483.50	49.33 AV	54.00	-4.67	1.00 V	196	15.87	33.46
7	4874.00	64.86 PK	74.00	-9.14	1.03 V	214	25.72	39.14
8	4874.00	45.43 AV	54.00	-8.57	1.03 V	214	6.29	39.14

- 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 10	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 1000 hPa	TESTED BY	Brad Wu

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	*2457.00	100.02 PK			1.04 H	326	66.66	33.36
2	*2457.00	90.31 AV			1.04 H	326	56.95	33.36
3	4914.00	63.24 PK	74.00	-10.76	1.01 H	27	23.98	39.26
4	4914.00	46.12 AV	54.00	-7.88	1.01 H	27	6.86	39.26
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	*2457.00	114.38 PK			1.00 V	242	81.02	33.36
2	*2457.00	103.10 AV			1.00 V	242	69.74	33.36
3	2483.50	72.53 PK	74.00	-1.47	1.00 V	149	39.07	33.46
4	2483.50	50.72 AV	54.00	-3.28	1.00 V	149	17.26	33.46
5	4914.00	63.03 PK	74.00	-10.97	1.04 V	306	23.76	39.26
6	4914.00	45.83 AV	54.00	-8.17	1.04 V	306	6.56	39.26

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.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH 1000 hPa	TESTED BY	Brad Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	99.22 PK			1.03 H	339	65.84	33.38
2	*2462.00	89.48 AV			1.03 H	339	56.10	33.38
3	2483.50	70.86 PK	74.00	-3.14	1.03 H	339	37.40	33.46
4	2483.50	50.59 AV	54.00	-3.41	1.03 H	339	17.13	33.46
5	4924.00	53.92 PK	74.00	-20.08	1.02 H	251	14.57	39.35
6	4924.00	38.84 AV	54.00	-15.16	1.02 H	251	-0.51	39.35
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	*2462.00	113.02 PK			1.00 V	230	79.64	33.38
2	*2462.00	101.72 AV			1.00 V	230	68.34	33.38
3	2483.50	72.49 PK	74.00	-1.51	1.00 V	227	39.03	33.46
4	2483.50	52.89 AV	54.00	-1.11	1.00 V	227	19.43	33.46
5	4924.00	57.46 PK	74.00	-16.54	1.01 V	25	18.11	39.35
6	4924.00	39.52 AV	54.00	-14.48	1.01 V	25	0.17	39.35

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.

DRAFT 802.11n (20MHz) OFDM MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 63%RH 1000 hPa	TESTED BY	Brad Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	59.14 PK	74.00	-14.86	1.00 H	62	26.06	33.08
2	2390.00	46.98 AV	54.00	-7.02	1.00 H	62	13.90	33.08
3	*2412.00	98.42 PK			1.00 H	61	65.24	33.18
4	*2412.00	87.77 AV			1.00 H	61	54.59	33.18
5	4824.00	53.16 PK	74.00	-20.84	1.00 H	101	14.01	39.15
6	4824.00	36.46 AV	54.00	-17.54	1.00 H	101	-2.69	39.15
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	70.61 PK	74.00	-3.39	1.00 V	135	37.53	33.08
2	2390.00	52.87 AV	54.00	-1.13	1.00 V	135	19.79	33.08
3	*2412.00	110.97 PK			1.00 V	295	77.79	33.18
4	*2412.00	99.90 AV			1.00 V	295	66.72	33.18
5	4824.00	49.08 PK	74.00	-24.92	1.00 V	330	9.93	39.15
6	4824.00	37.25 AV	54.00	-16.75	1.00 V	330	-1.89	39.15

- 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.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 2	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 63%RH 1000 hPa	TESTED BY	Brad Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	59.69 PK	74.00	-14.31	1.00 H	64	26.61	33.08
2	2390.00	47.52 AV	54.00	-6.48	1.00 H	64	14.44	33.08
3	*2417.00	101.48 PK			1.00 H	56	68.28	33.20
4	*2417.00	90.49 AV			1.00 H	56	57.29	33.20
5	4834.00	57.17 PK	74.00	-16.83	1.00 H	108	18.03	39.15
6	4834.00	43.08 AV	54.00	-10.92	1.00 H	108	3.94	39.15
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	71.84 PK	74.00	-2.16	1.00 V	148	38.76	33.08
2	2390.00	52.36 AV	54.00	-1.64	1.00 V	148	19.28	33.08
3	*2417.00	114.12 PK			1.00 V	298	80.92	33.20
4	*2417.00	102.90 AV			1.00 V	298	69.70	33.20
5	4834.00	54.34 PK	74.00	-19.66	1.00 V	321	15.20	39.15
6	4834.00	40.33 AV	54.00	-13.67	1.00 V	321	1.19	39.15

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 63%RH 1000 hPa	TESTED BY	Brad Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	57.44 PK	74.00	-16.56	1.00 H	59	24.36	33.08
2	2390.00	46.90 AV	54.00	-7.10	1.00 H	59	13.82	33.08
3	*2437.00	101.95 PK			1.00 H	57	68.67	33.28
4	*2437.00	92.01 AV			1.00 H	57	58.73	33.28
5	2483.50	55.74 PK	74.00	-18.26	1.00 H	58	22.28	33.46
6	2483.50	47.13 AV	54.00	-6.87	1.00 H	58	13.67	33.46
7	4874.00	60.87 PK	74.00	-13.13	1.00 H	238	21.72	39.14
8	4874.00	43.23 AV	54.00	-10.77	1.00 H	238	4.08	39.14
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	60.48 PK	74.00	-13.52	1.02 V	142	27.40	33.08
2	2390.00	49.46 AV	54.00	-4.54	1.02 V	142	16.38	33.08
3	*2437.00	114.32 PK			1.00 V	312	81.04	33.28
4	*2437.00	103.09 AV			1.00 V	312	69.81	33.28
5	2483.50	57.98 PK	74.00	-16.02	1.02 V	141	24.52	33.46
6	2483.50	48.97 AV	54.00	-5.03	1.02 V	141	15.51	33.46
7	4874.00	52.90 PK	74.00	-21.10	1.00 V	319	13.75	39.14
8	4874.00	40.72 AV	54.00	-13.28	1.00 V	319	1.57	39.14

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.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 10	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 63%RH 1000 hPa	TESTED BY	Brad Wu

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	*2457.00	102.48 PK			1.00 H	60	69.12	33.36
2	*2457.00	91.22 AV			1.00 H	60	57.86	33.36
3	2483.50	59.64 PK	74.00	-14.36	1.00 H	59	26.18	33.46
4	2483.50	47.88 AV	54.00	-6.12	1.00 H	59	14.42	33.46
5	4914.00	61.67 PK	74.00	-12.33	1.00 H	163	22.40	39.26
6	4914.00	44.23 AV	54.00	-9.77	1.00 H	163	4.97	39.26
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	*2457.00	114.64 PK			1.00 V	268	81.28	33.36
2	*2457.00	102.48 AV			1.00 V	268	69.12	33.36
3	2483.50	72.03 PK	74.00	-1.97	1.00 V	207	38.57	33.46
4	2483.50	52.50 AV	54.00	-1.50	1.00 V	207	19.04	33.46
5	4914.00	56.66 PK	74.00	-17.34	1.00 V	328	17.39	39.26
6	4914.00	40.18 AV	54.00	-13.82	1.00 V	328	0.91	39.26

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.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 63%RH 1000 hPa	TESTED BY	Brad Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	98.70 PK			1.00 H	59	65.32	33.38
2	*2462.00	87.26 AV			1.00 H	59	53.88	33.38
3	2483.50	59.84 PK	74.00	-14.16	1.00 H	58	26.38	33.46
4	2483.50	47.26 AV	54.00	-6.74	1.00 H	58	13.80	33.46
5	4924.00	54.00 PK	74.00	-20.00	1.00 H	264	14.64	39.35
6	4924.00	36.94 AV	54.00	-17.06	1.00 H	264	-2.42	39.35
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	*2462.00	110.58 PK			1.00 V	226	77.20	33.38
2	*2462.00	99.43 AV			1.00 V	226	66.05	33.38
3	2483.50	68.19 PK	74.00	-5.81	1.00 V	149	34.73	33.46
4	2483.50	52.84 AV	54.00	-1.16	1.00 V	149	19.38	33.46
5	4924.00	49.33 PK	74.00	-24.67	1.00 V	326	9.97	39.35
6	4924.00	36.19 AV	54.00	-17.81	1.00 V	326	-3.17	39.35

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.

DRAFT 802.11n (40MHz) OFDM MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 63%RH 1000 hPa	TESTED BY	Brad Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	59.35 PK	74.00	-14.65	1.01 H	58	26.27	33.08
2	2390.00	47.33 AV	54.00	-6.67	1.01 H	58	14.25	33.08
3	*2422.00	92.29 PK			1.00 H	58	59.07	33.22
4	*2422.00	80.96 AV			1.00 H	58	47.74	33.22
5	4804.00	48.12 PK	74.00	-25.88	1.00 H	104	8.97	39.15
6	4804.00	35.34 AV	54.00	-18.66	1.00 H	104	-3.81	39.15
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	72.47 PK	74.00	-1.53	1.00 V	143	39.39	33.08
2	2390.00	52.94 AV	54.00	-1.06	1.00 V	143	19.86	33.08
3	*2422.00	104.79 PK			1.00 V	315	71.57	33.22
4	*2422.00	93.41 AV			1.00 V	315	60.19	33.22
5	4844.00	48.66 PK	74.00	-25.34	1.01 V	325	9.52	39.15
6	4844.00	35.53 AV	54.00	-18.47	1.01 V	325	-3.61	39.15

- 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.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 2	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 63%RH 1000 hPa	TESTED BY	Brad Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	59.42 PK	74.00	-14.58	1.01 H	287	26.34	33.08
2	2390.00	47.28 AV	54.00	-6.72	1.01 H	287	14.20	33.08
3	*2427.00	94.57 PK			1.01 H	287	61.33	33.24
4	*2427.00	82.77 AV			1.01 H	287	49.53	33.24
5	4854.00	47.58 PK	74.00	-26.42	1.00 H	201	8.44	39.14
6	4854.00	35.29 AV	54.00	-18.71	1.00 H	201	-3.85	39.14
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	68.76 PK	74.00	-5.24	1.00 V	150	35.68	33.08
2	2390.00	53.00 AV	54.00	-1.00	1.00 V	150	19.92	33.08
3	*2427.00	106.64 PK			1.00 V	148	73.40	33.24
4	*2427.00	95.11 AV			1.00 V	148	61.87	33.24
5	4854.00	47.86 PK	74.00	-26.14	1.07 V	99	8.71	39.14
6	4854.00	35.65 AV	54.00	-18.35	1.07 V	99	-3.50	39.14

- 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.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 4	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 63%RH 1000 hPa	TESTED BY	Brad Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	56.85 PK	74.00	-17.15	1.02 H	137	23.77	33.08
2	2390.00	47.30 AV	54.00	-6.70	1.02 H	137	14.22	33.08
3	*2437.00	95.54 PK			1.02 H	137	62.26	33.28
4	*2437.00	84.22 AV			1.02 H	137	50.94	33.28
5	2483.50	57.92 PK	74.00	-16.08	1.02 H	137	24.46	33.46
6	2483.50	47.96 AV	54.00	-6.04	1.02 H	137	14.50	33.46
7	4874.00	54.21 PK	74.00	-19.79	1.05 H	55	15.07	39.14
8	4874.00	37.11 AV	54.00	-16.89	1.05 H	55	-2.03	39.14
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	71.84 PK	74.00	-2.16	1.00 V	147	38.76	33.08
2	2390.00	52.61 AV	54.00	-1.39	1.00 V	147	19.53	33.08
3	*2437.00	110.09 PK			1.00 V	147	76.81	33.28
4	*2437.00	98.46 AV			1.00 V	147	65.18	33.28
5	2483.50	69.22 PK	74.00	-4.78	1.00 V	232	35.76	33.46
6	2483.50	50.69 AV	54.00	-3.31	1.00 V	232	17.23	33.46
7	4874.00	55.30 PK	74.00	-18.70	1.00 V	345	16.15	39.14
8	4874.00	37.31 AV	54.00	-16.69	1.00 V	345	-1.84	39.14

- 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.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 63%RH 1000 hPa	TESTED BY	Brad Wu

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	*2447.00	94.56 PK			1.00 H	59	61.24	33.32
2	*2447.00	83.46 AV			1.00 H	59	50.14	33.32
3	2483.50	59.62 PK	74.00	-14.38	1.00 H	62	26.16	33.46
4	2483.50	47.11 AV	54.00	-6.89	1.00 H	62	13.65	33.46
5	4894.00	49.04 PK	74.00	-24.96	1.04 H	39	9.90	39.14
6	4894.00	37.01 AV	54.00	-16.99	1.04 H	39	-2.13	39.14
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	*2447.00	106.99 PK			1.00 V	144	73.67	33.32
2	*2447.00	94.51 AV			1.00 V	144	61.19	33.32
3	2483.50	64.27 PK	74.00	-9.73	1.00 V	206	30.81	33.46
4	2483.50	52.40 AV	54.00	-1.60	1.00 V	206	18.94	33.46
5	4894.00	49.08 PK	74.00	-24.92	1.02 V	332	9.94	39.14
6	4894.00	36.52 AV	54.00	-17.48	1.02 V	332	-2.62	39.14

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 7	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 63%RH 1000 hPa	TESTED BY	Brad Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2452.00	94.42 PK			1.00 H	47	61.08	33.34
2	*2452.00	81.91 AV			1.00 H	47	48.57	33.34
3	2483.50	59.25 PK	74.00	-14.75	1.00 H	35	25.79	33.46
4	2483.50	47.01 AV	54.00	-6.99	1.00 H	35	13.55	33.46
5	4904.00	49.95 PK	74.00	-24.05	1.02 H	48	10.77	39.18
6	4904.00	36.19 AV	54.00	-17.81	1.02 H	48	-2.99	39.18
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2452.00	105.58 PK			1.00 V	198	72.24	33.34
2	*2452.00	93.80 AV			1.00 V	198	60.46	33.34
3	2483.50	67.88 PK	74.00	-6.12	1.00 V	202	34.42	33.46
4	2483.50	52.26 AV	54.00	-1.74	1.00 V	202	18.80	33.46
5	4904.00	49.12 PK	74.00	-24.88	1.01 V	336	9.94	39.18
6	4904.00	36.24 AV	54.00	-17.76	1.01 V	336	-2.94	39.18

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.

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 10	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH 999 hPa	TESTED BY	Lori Chiu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	59.06	28.38 QP	40.00	-11.62	1.50 H	229	14.96	13.42
2	103.78	28.15 QP	43.50	-15.35	2.00 H	136	18.37	9.79
3	599.58	28.14 QP	46.00	-17.86	1.00 H	154	6.24	21.90
4	624.85	28.88 QP	46.00	-17.12	1.25 H	274	6.77	22.11
5	751.23	31.25 QP	46.00	-14.75	1.25 H	82	7.27	23.98
6	799.84	35.24 QP	46.00	-10.76	1.00 H	160	9.93	25.32
7	955.38	33.20 QP	46.00	-12.80	2.00 H	124	6.68	26.51
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	53.23	37.50 QP	40.00	-2.50	1.00 V	49	23.91	13.59
2	72.67	31.94 QP	40.00	-8.06	2.00 V	346	21.32	10.62
3	103.78	35.07 QP	43.50	-8.43	1.75 V	328	25.28	9.79
4	751.23	35.13 QP	46.00	-10.87	1.00 V	232	11.15	23.98
5	799.84	39.26 QP	46.00	-6.74	1.25 V	166	13.94	25.32
6	947.60	36.71 QP	46.00	-9.29	1.00 V	31	10.23	26.47

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.

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 0.50 MHz.
 3. All emanations from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

4.2.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESCS30	100291	Nov. 19, 2008	Nov. 18, 2009
RF signal cable Woken	5D-FB	Cable-HYC01-01	Dec. 31, 2008	Dec. 30, 2009
LISN ROHDE & SCHWARZ	ESH3-Z5	100312	Jun. 13, 2008	Jun. 12, 2009
LISN ROHDE & SCHWARZ	ESH2-Z5	100104	Dec. 04, 2008	Dec. 03, 2009
Software ADT	ADT_Conc_ V7.3.7	NA	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

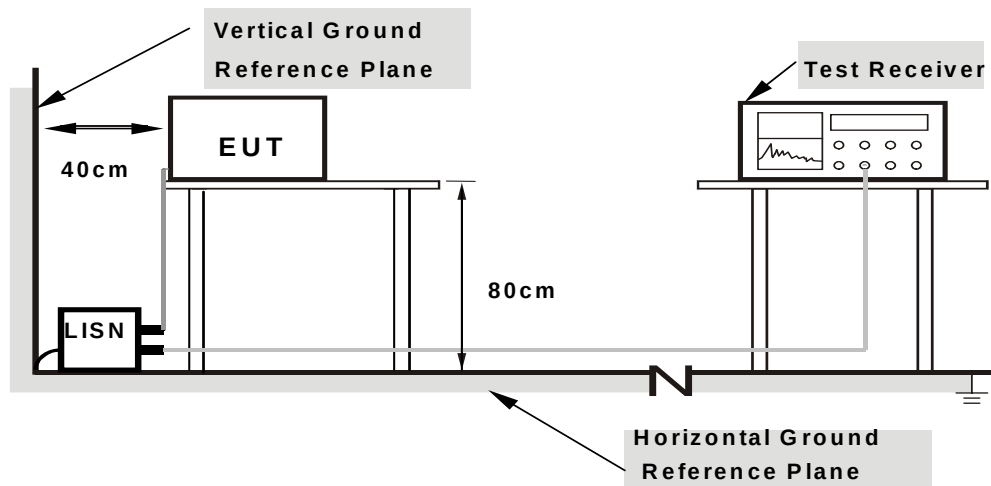
- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling 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.

NOTE: All modes of operation were investigated and the worst-case emissions are reported.

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 cm from other units and other metal planes

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

4.2.6 EUT OPERATING CONDITIONS

Same as 4.1.6.

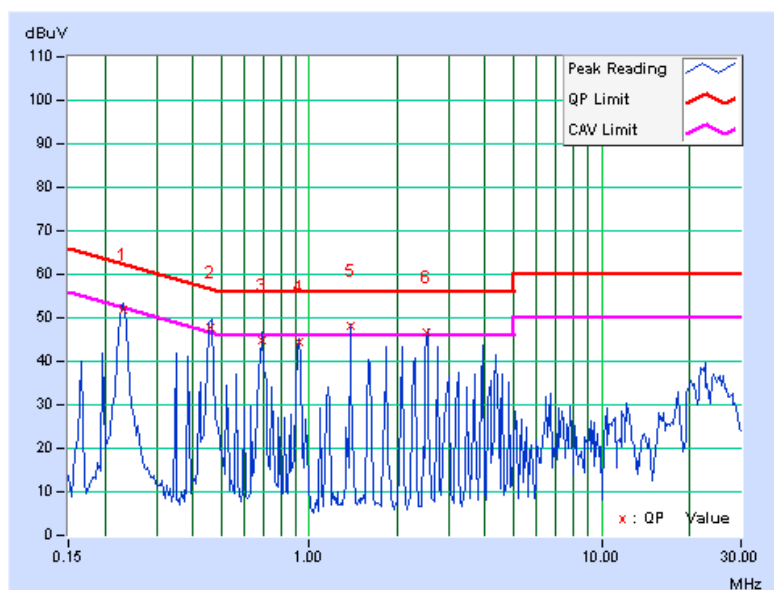
4.2.7 TEST RESULTS

CONDUCTED WORST-CASE DATA: 802.11g OFDM MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 10	PHASE	Line 1
MODULATION TYPE	BPSK	INPUT POWER	120Vac, 60Hz
TRANSFER RATE	6.0Mbps	6dB BANDWIDTH	9kHz
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH, 1027hPa	TESTED BY	Lori Chiu

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.232	0.13	51.68	-	51.81	-	62.38	52.38	-10.57	-
2	0.459	0.14	47.74	44.04	47.88	44.18	56.72	46.72	-8.83	-2.53
3	0.693	0.15	44.83	-	44.98	-	56.00	46.00	-11.02	-
4	0.920	0.17	44.13	-	44.30	-	56.00	46.00	-11.70	-
5	1.381	0.18	47.82	42.69	48.00	42.87	56.00	46.00	-8.00	-3.13
6	2.534	0.21	46.28	40.21	46.49	40.42	56.00	46.00	-9.51	-5.58

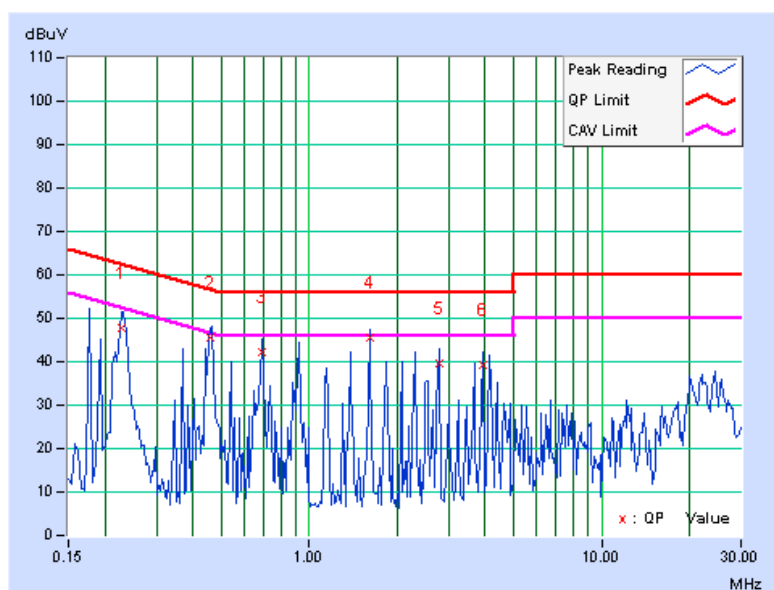
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = 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 10	PHASE	Line 2
MODULATION TYPE	BPSK	INPUT POWER	120Vac, 60Hz
TRANSFER RATE	6.0Mbps	6dB BANDWIDTH	9kHz
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH, 1027hPa	TESTED BY	Lori Chiu

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.228	0.13	47.70	-	47.83	-	62.52	52.52	-14.68	-
2	0.461	0.15	45.23	-	45.38	-	56.67	46.67	-11.29	-
3	0.693	0.16	42.16	-	42.32	-	56.00	46.00	-13.68	-
4	1.619	0.19	45.39	-	45.58	-	56.00	46.00	-10.42	-
5	2.773	0.24	39.53	-	39.77	-	56.00	46.00	-16.23	-
6	3.930	0.30	39.08	-	39.38	-	56.00	46.00	-16.62	-

- 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 6dB BANDWIDTH MEASUREMENT

4.3.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

4.3.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	CALIBRATED UNTIL
R&S SPECTRUM ANALYZER	FSP40	100040	Jul. 04, 2008	Jul. 03, 2009

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

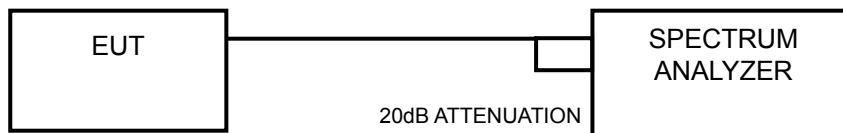
4.3.3 TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with 100kHz RBW and 300kHz VBW. The 6dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6dB.

4.3.4 DEVIATION FROM TEST STANDARD

No deviation.

4.3.5 TEST SETUP



4.3.6 EUT OPERATING CONDITIONS

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

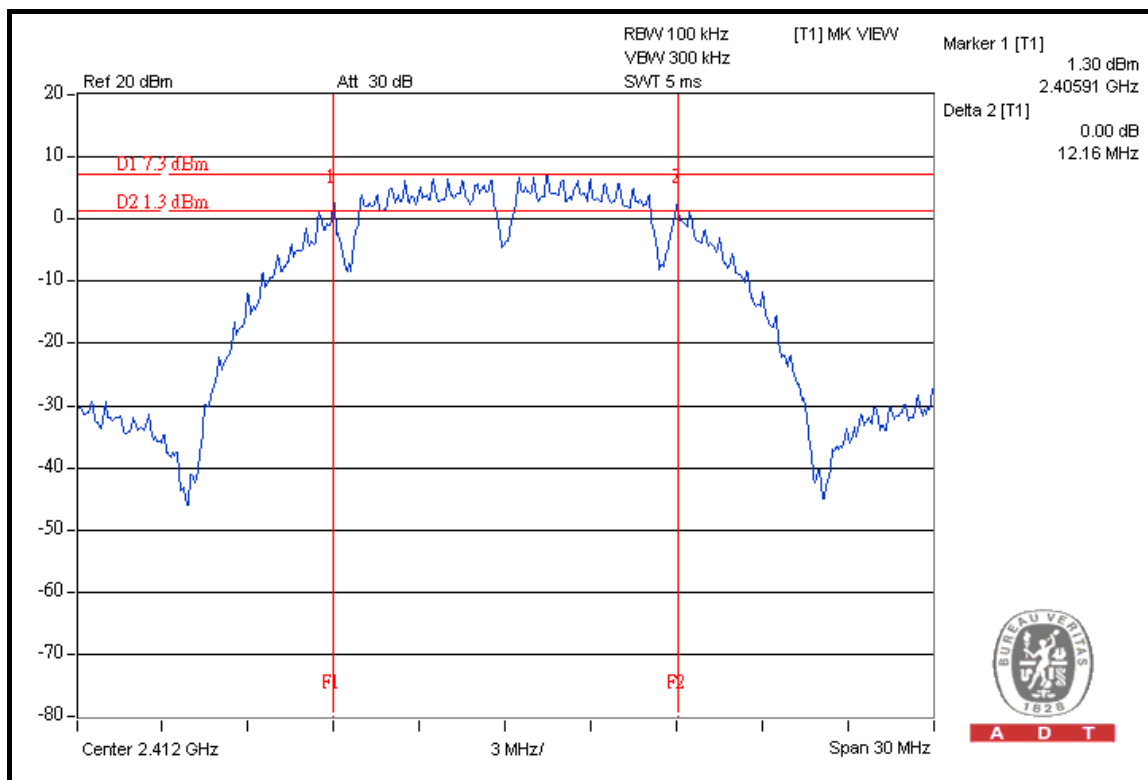
4.3.7 TEST RESULTS

802.11b DSSS MODULATION

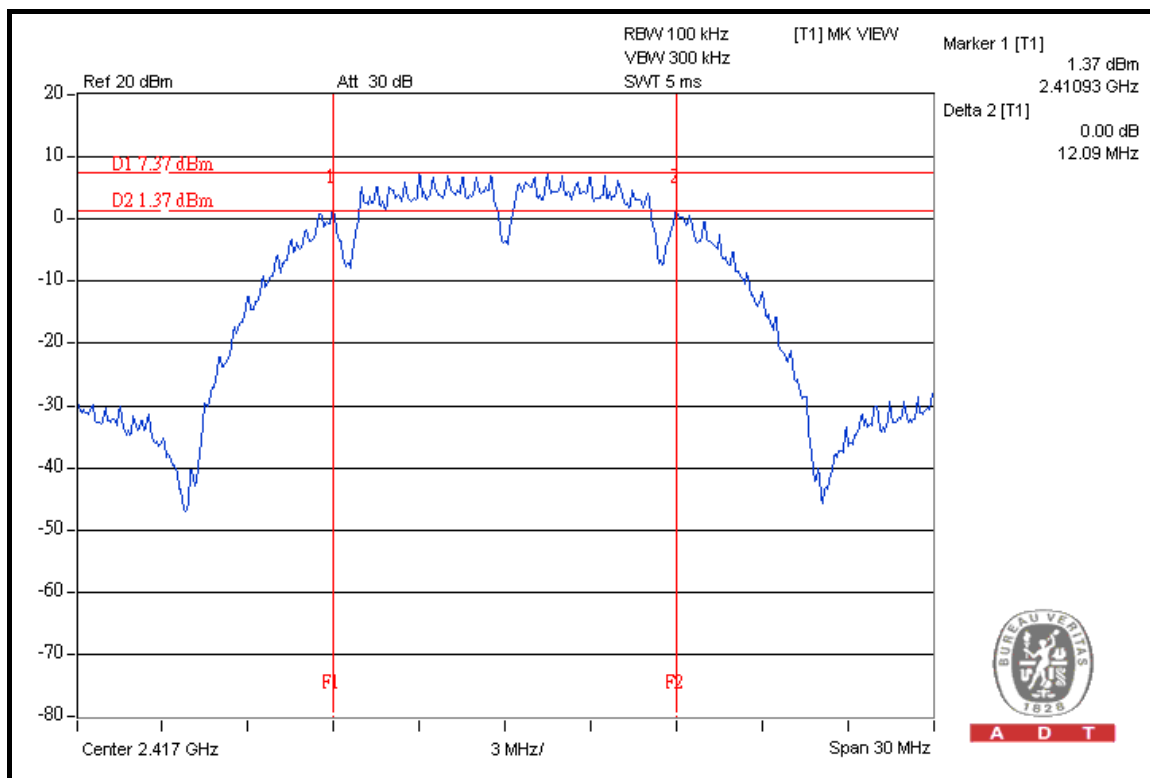
MODULATION TYPE	DBPSK	TRANSFER RATE	1.0Mbps
INPUT POWER	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	27deg.C, 66%RH, 991hPa
TESTED BY	Dean Wang		

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	12.16	0.5	PASS
2	2417	12.09	0.5	PASS
6	2437	12.08	0.5	PASS
10	2457	12.08	0.5	PASS
11	2462	12.11	0.5	PASS

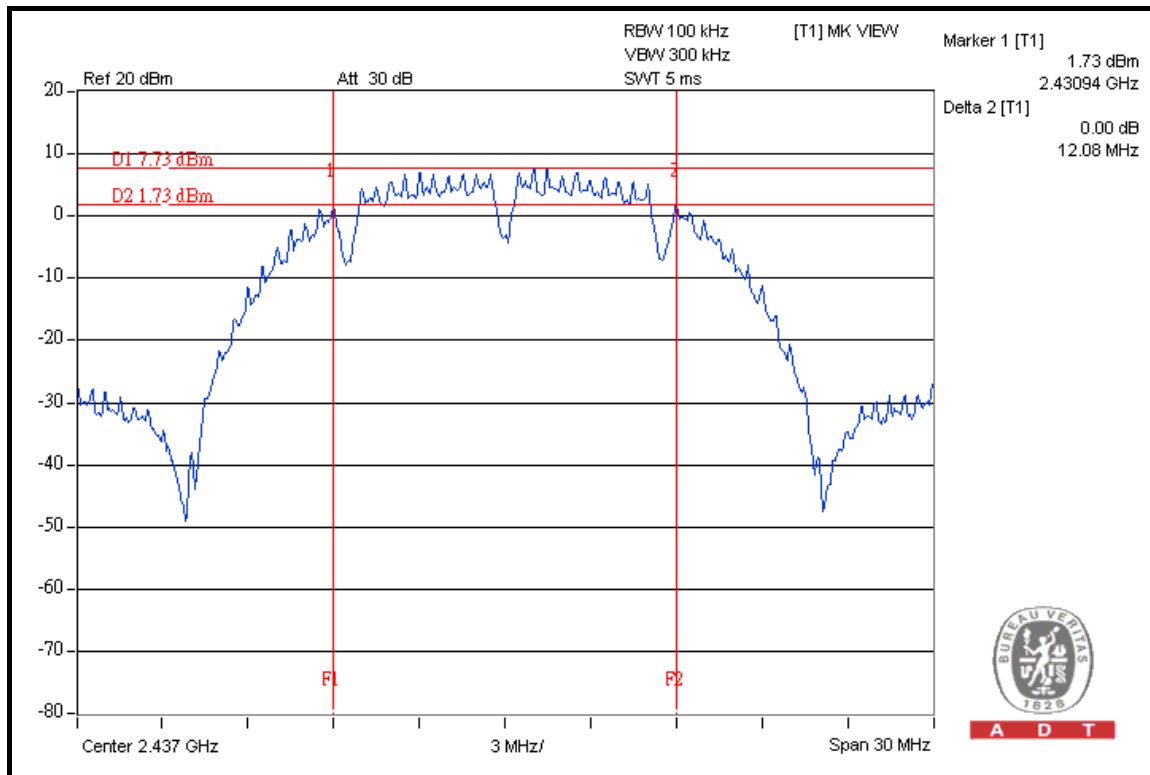
CH 1



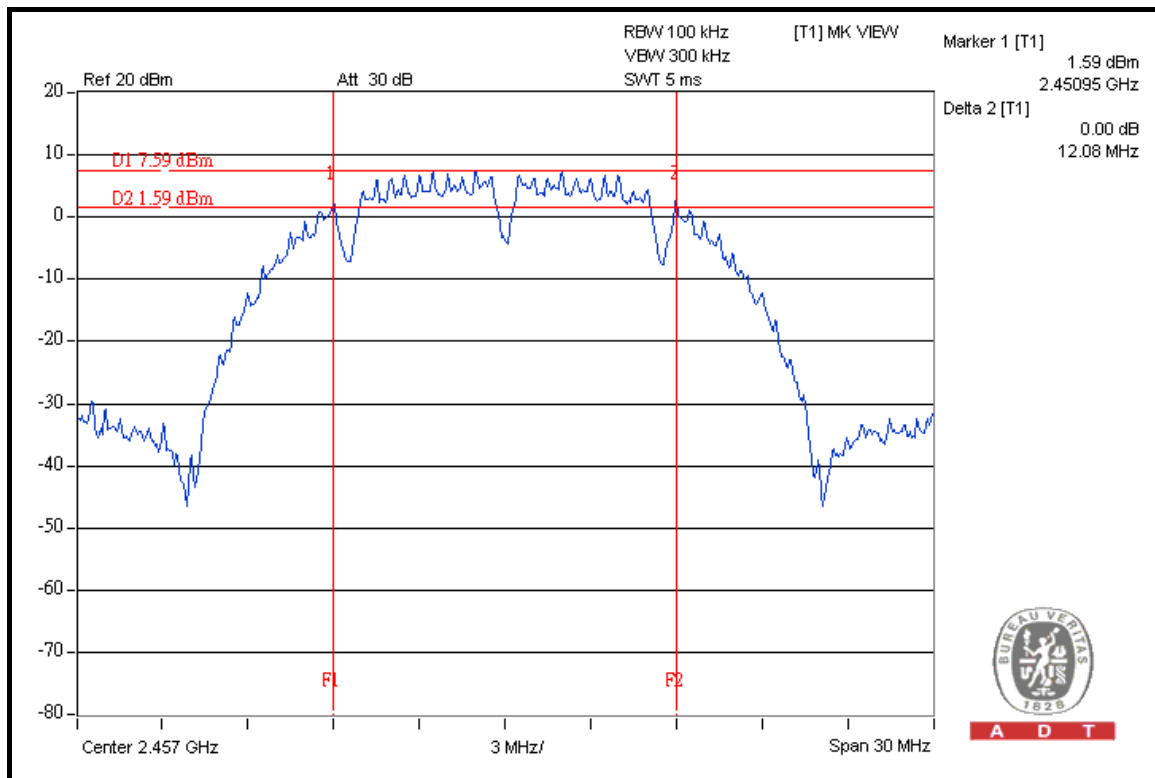
CH 2



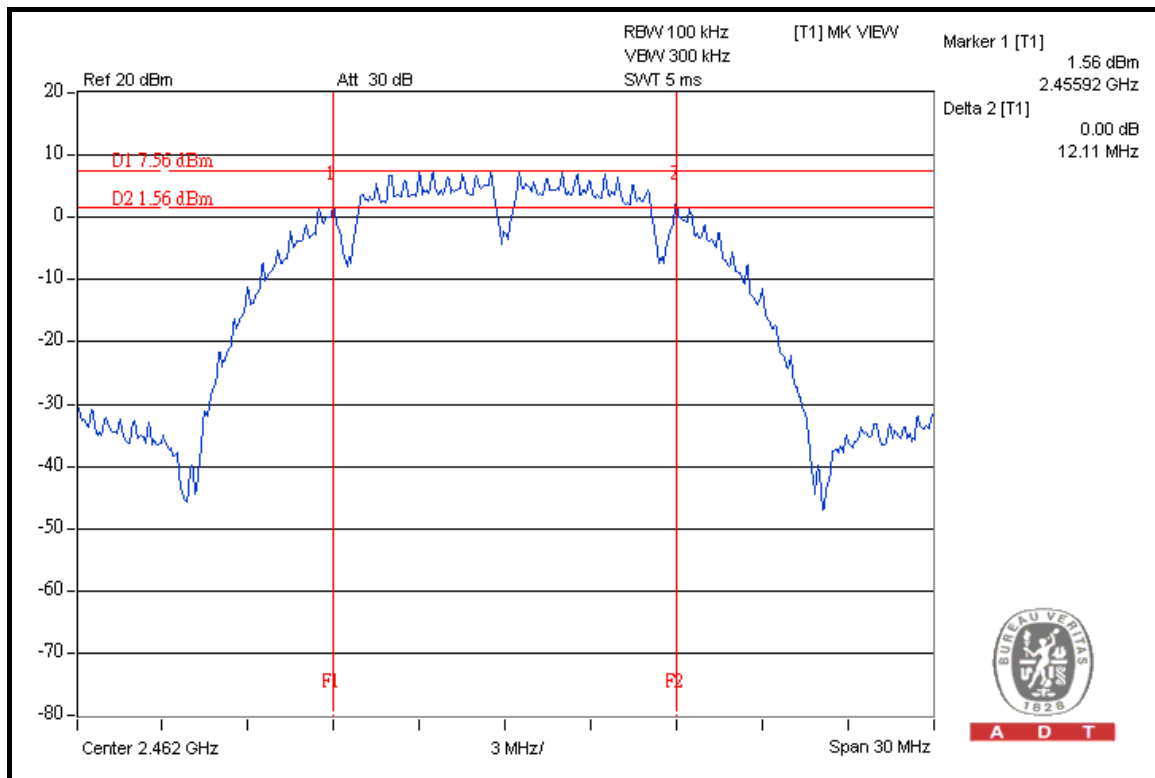
CH 6



CH 10



CH 11

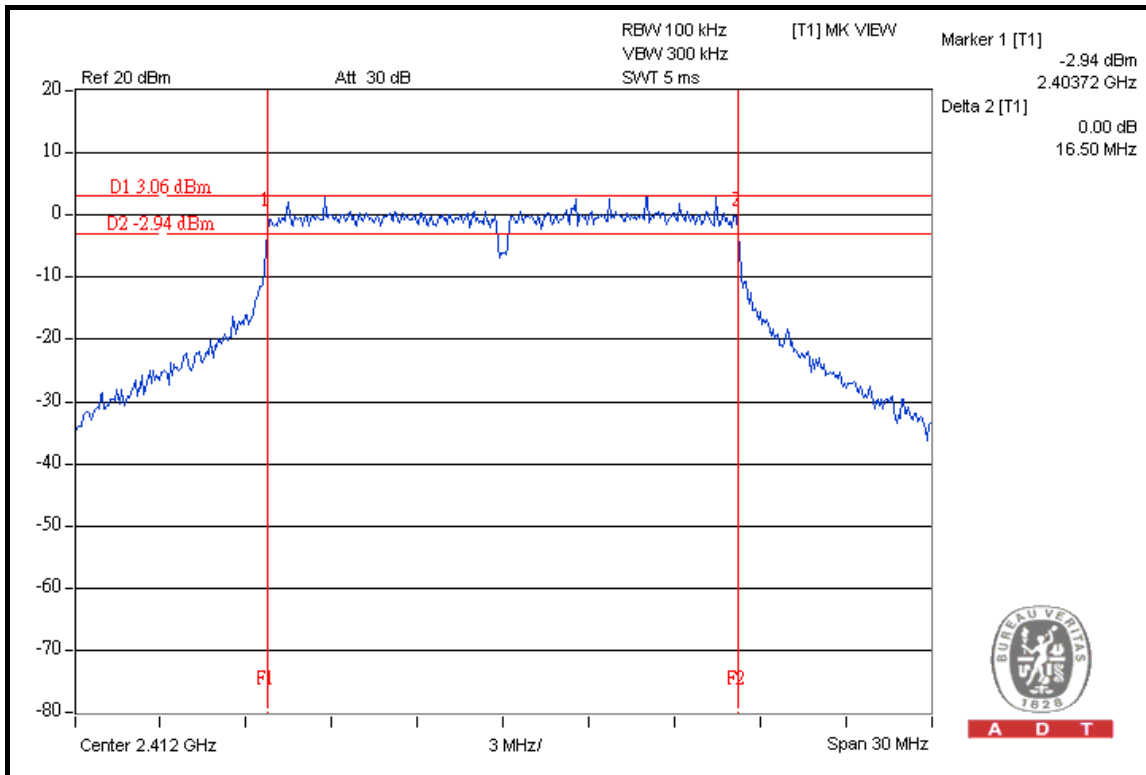


802.11g OFDM MODULATION

MODULATION TYPE	BPSK	TRANSFER RATE	6.0Mbps
INPUT POWER	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	27deg.C, 66%RH, 991hPa
TESTED BY	Dean Wang		

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	16.50	0.5	PASS
2	2417	16.47	0.5	PASS
6	2437	16.46	0.5	PASS
10	2457	16.47	0.5	PASS
11	2462	16.46	0.5	PASS

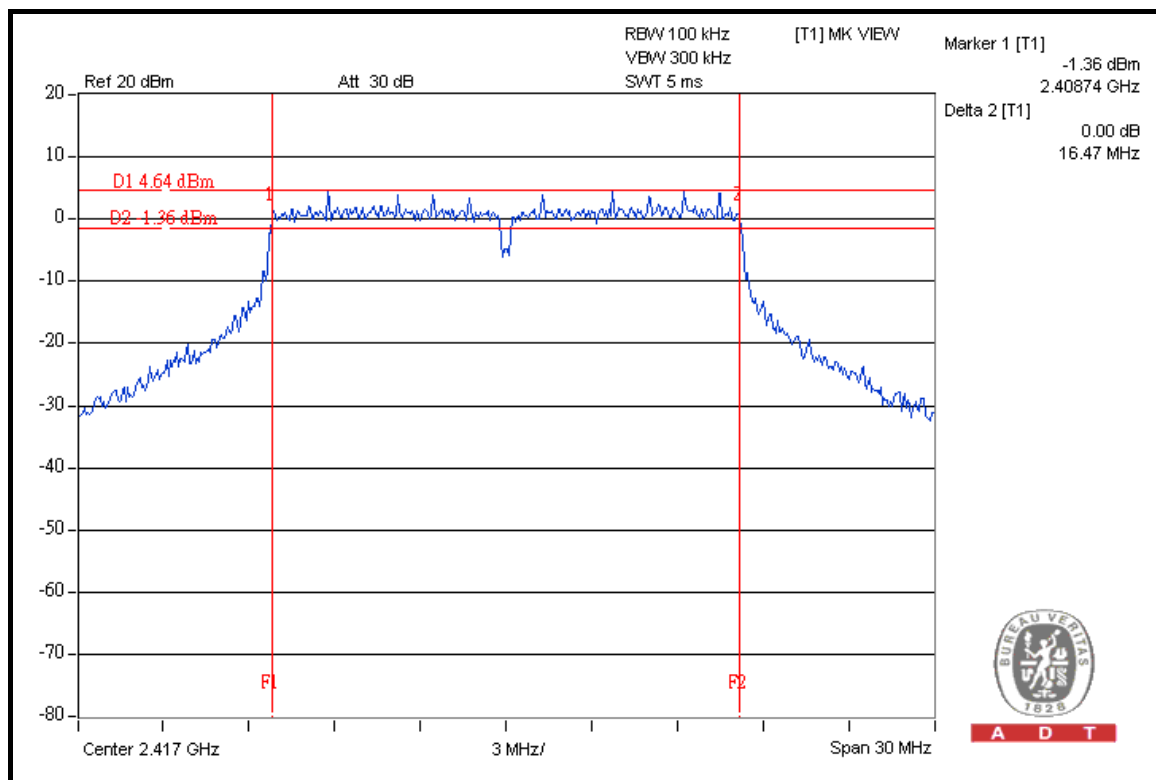
CH 1



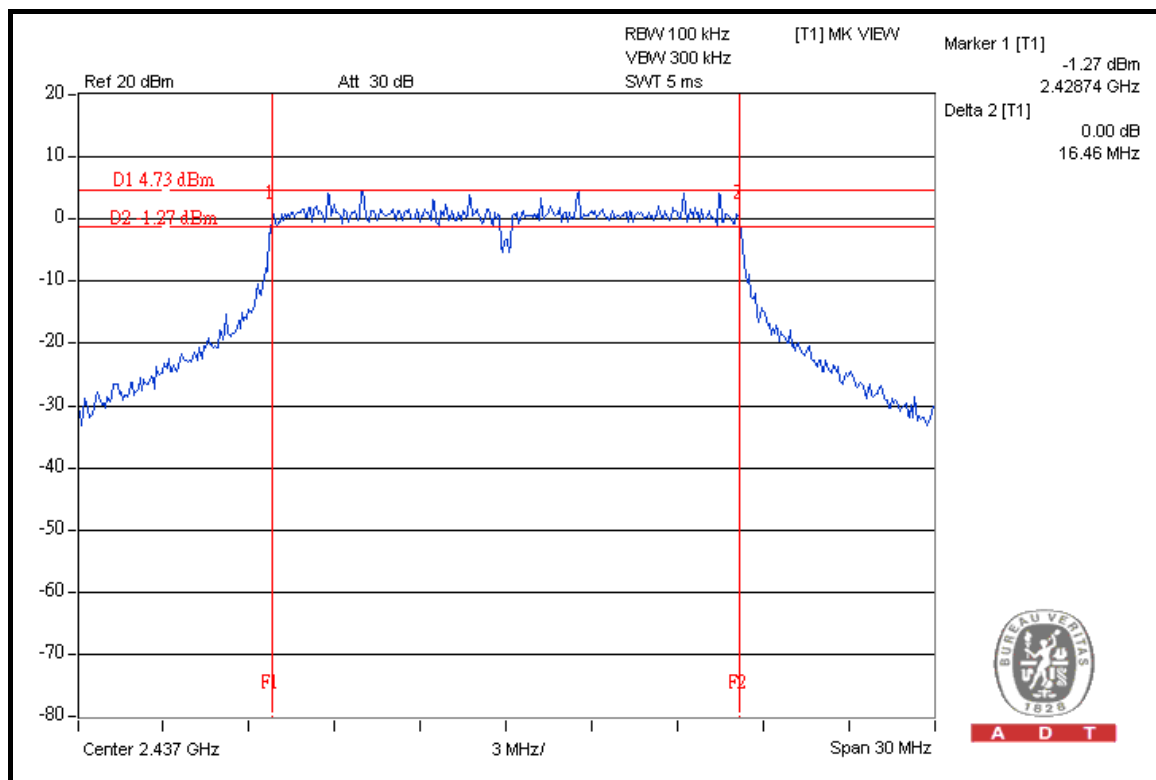


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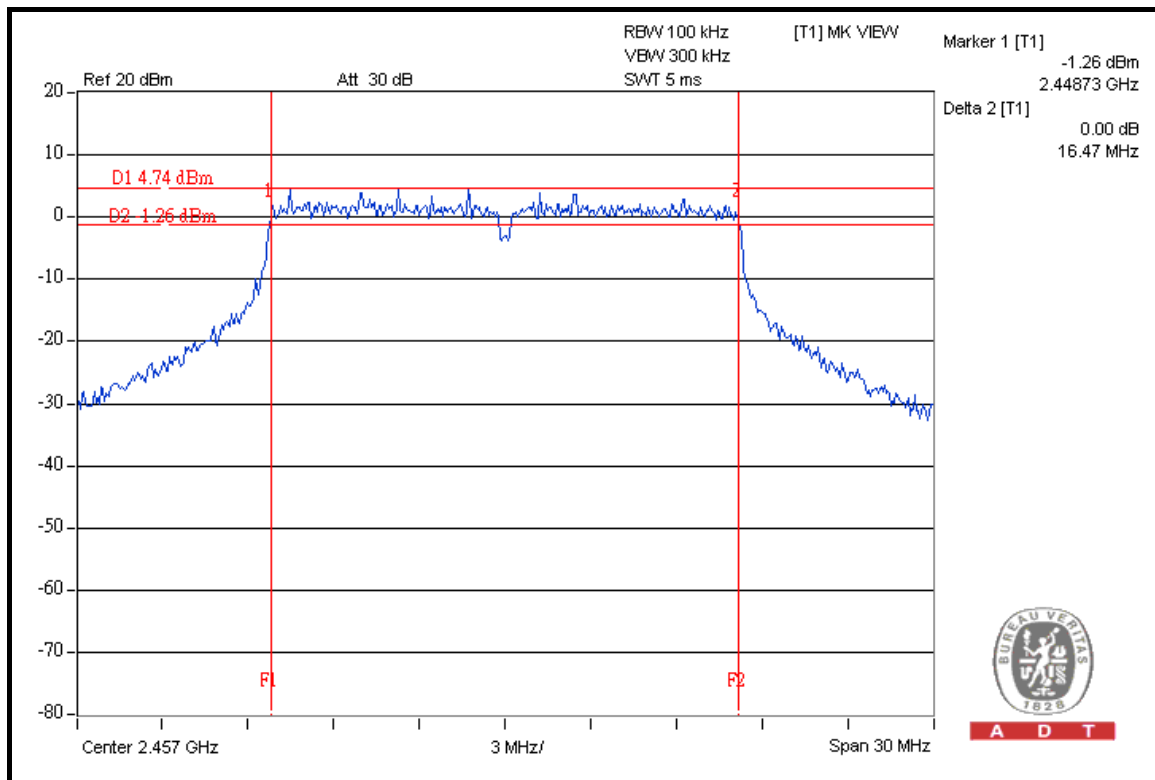
CH 2



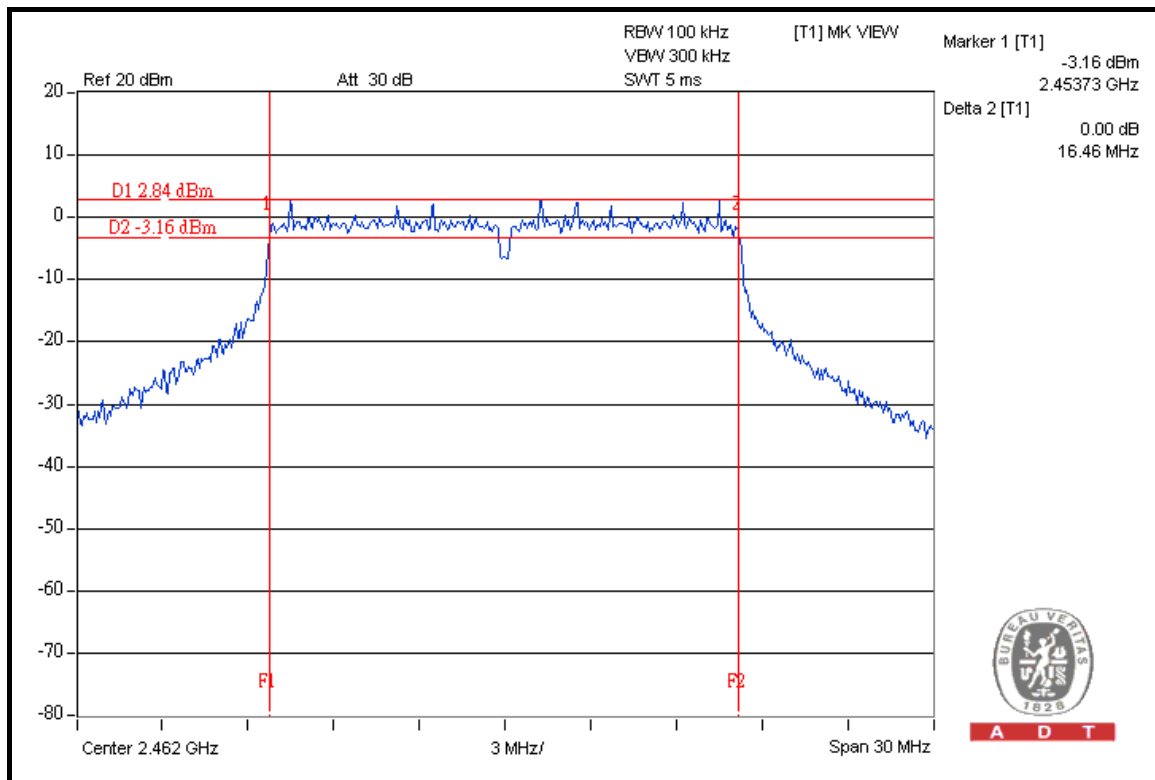
CH 6



CH 10



CH 11

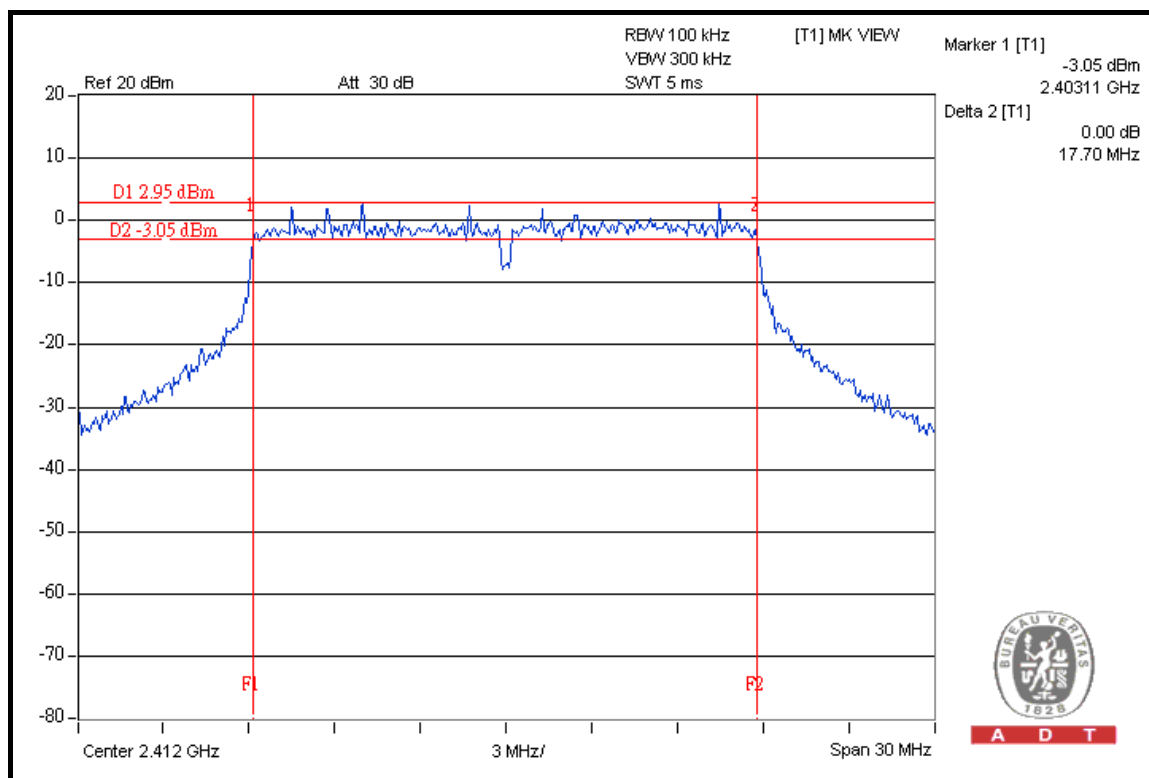


DRAFT 802.11n (20MHz) OFDM MODULATION

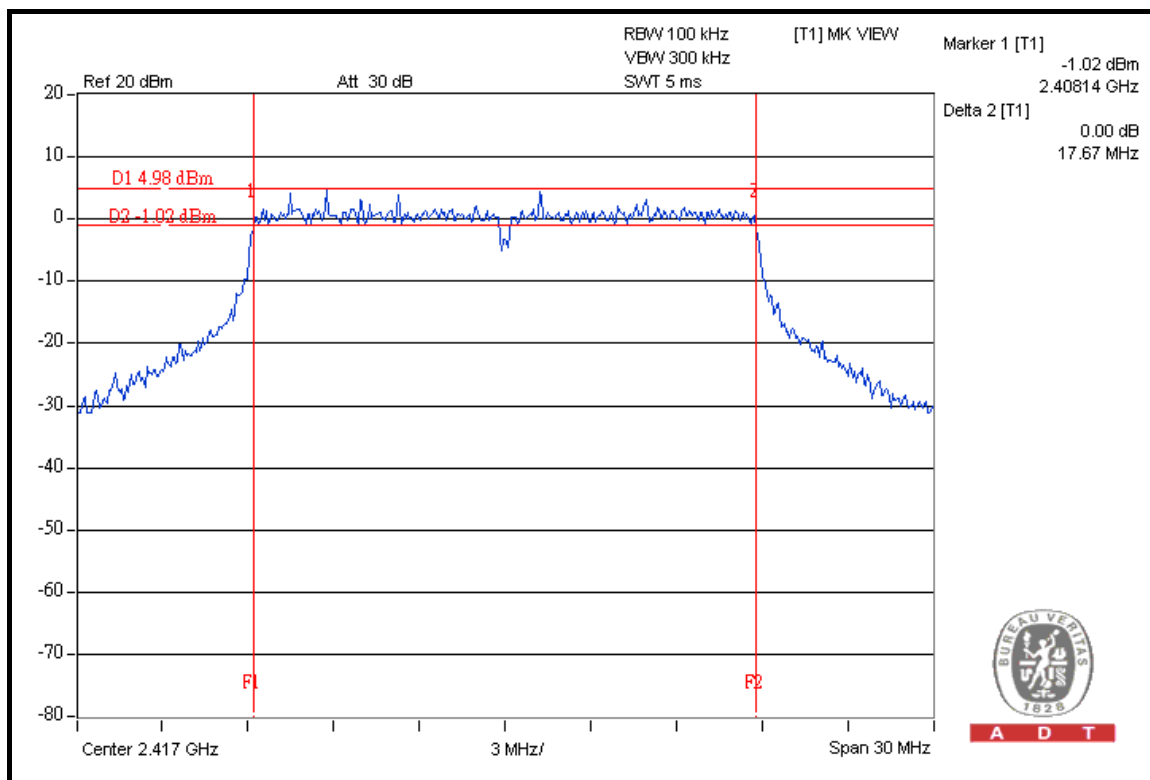
MODULATION TYPE	BPSK	TRANSFER RATE	6.5Mbps
INPUT POWER	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	27deg.C, 66%RH, 991hPa
TESTED BY	Dean Wang		

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	17.70	0.5	PASS
2	2417	17.67	0.5	PASS
6	2437	17.68	0.5	PASS
10	2457	17.66	0.5	PASS
11	2462	17.68	0.5	PASS

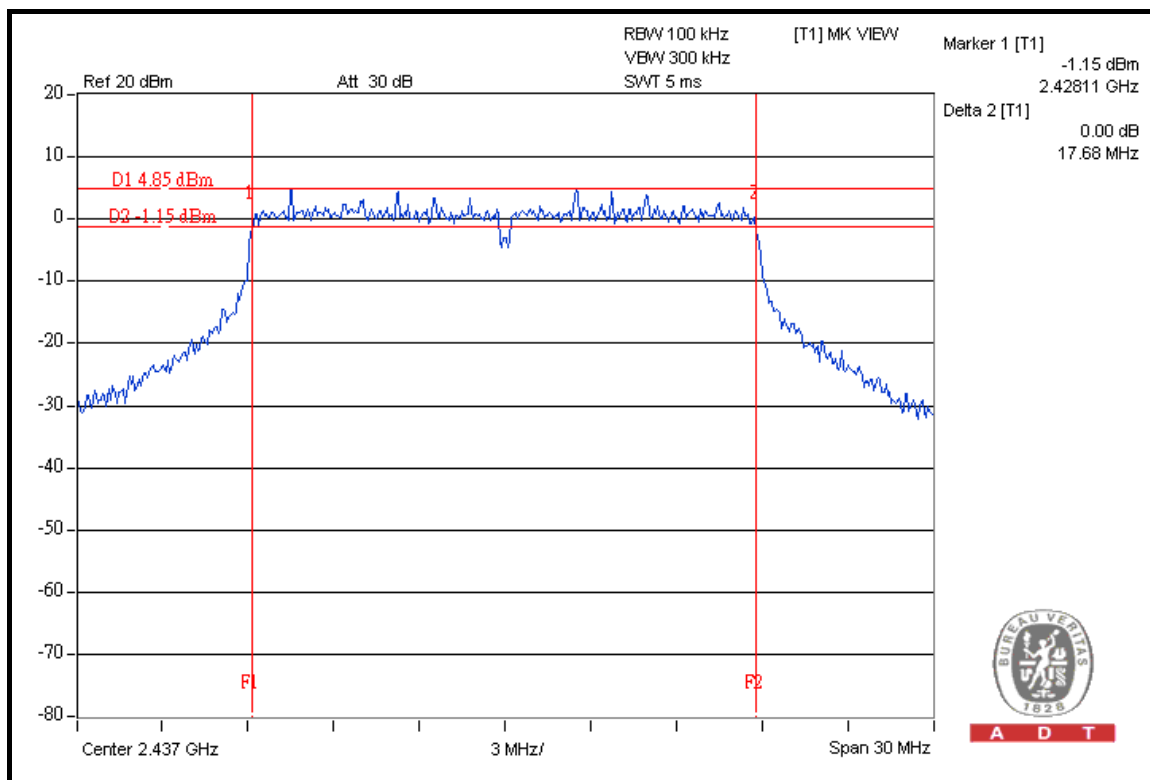
CH 1



CH 2



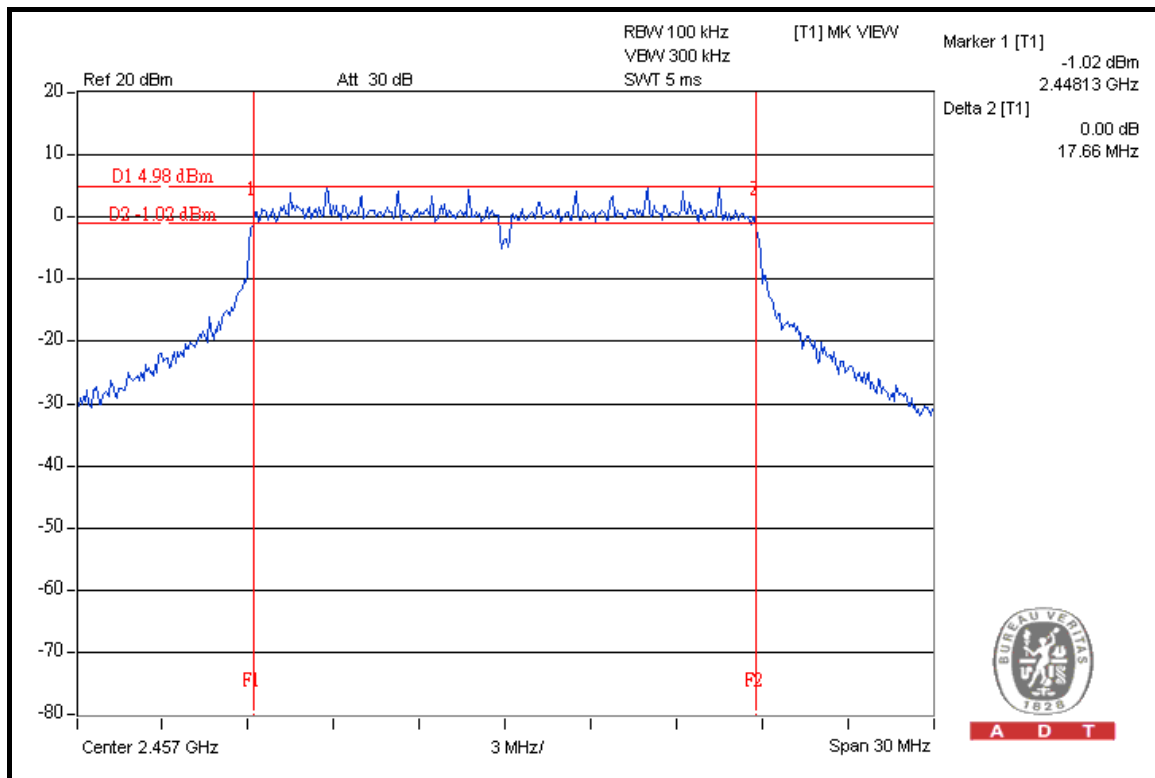
CH 6



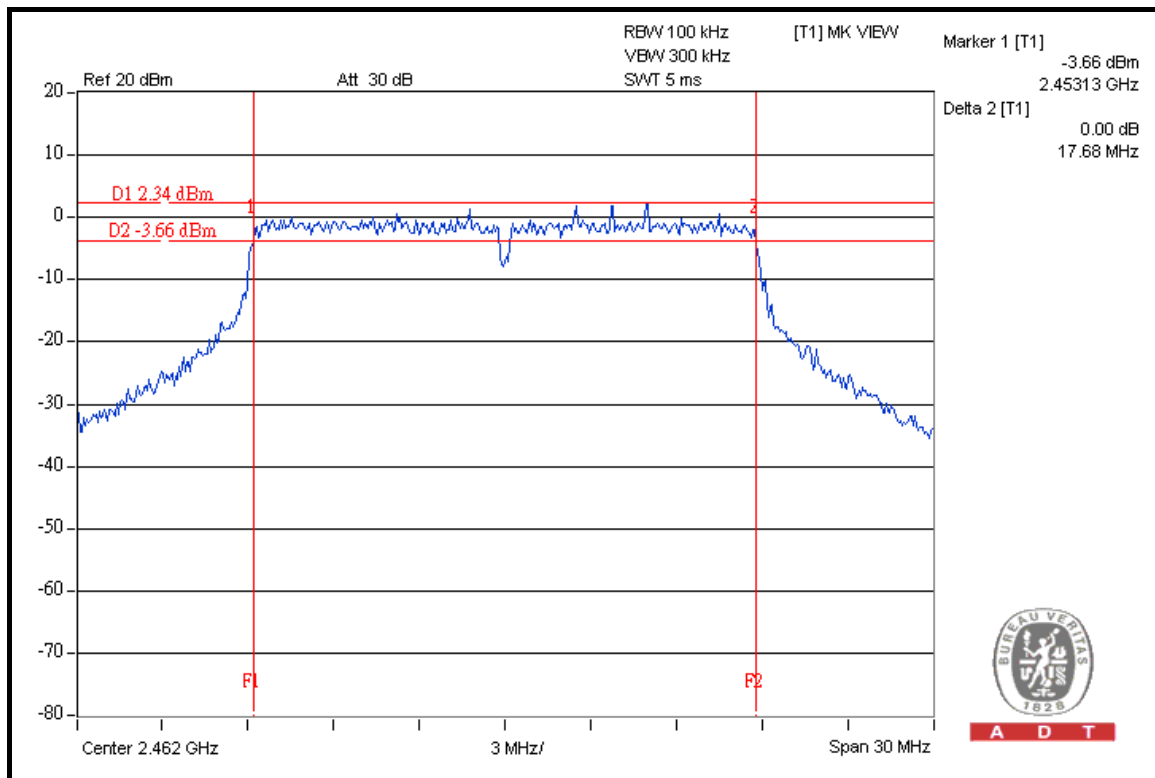


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CH 10



CH 11

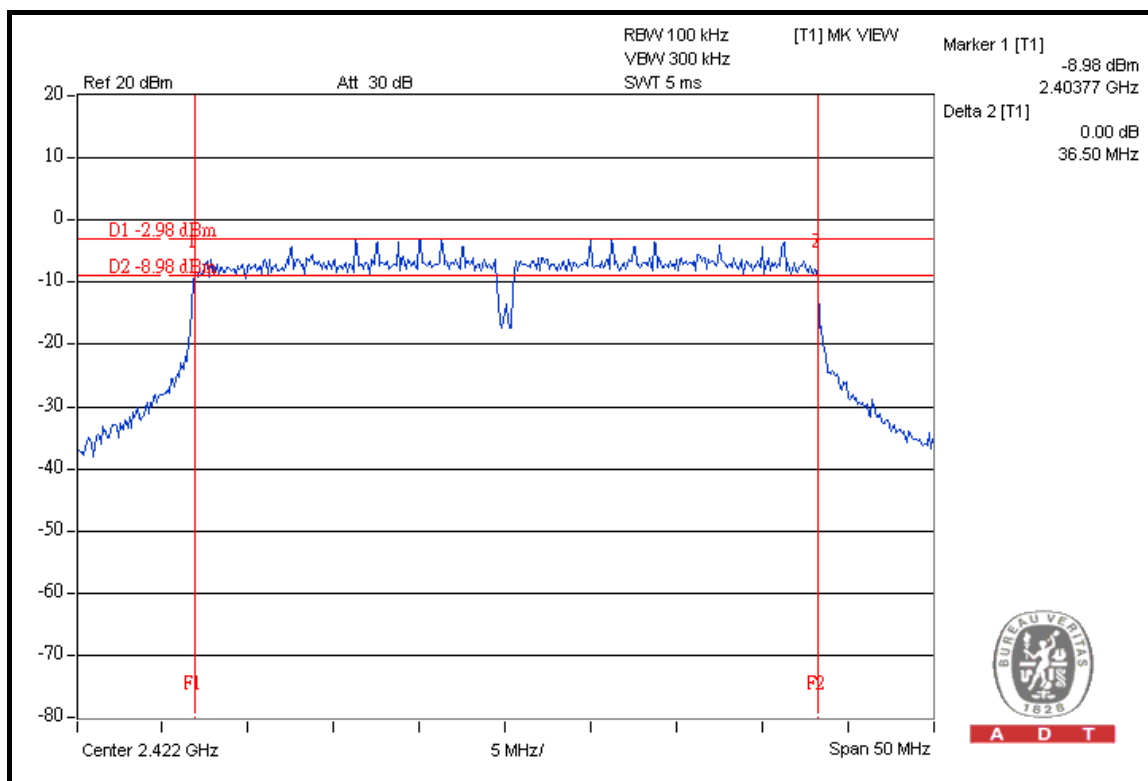


DRAFT 802.11n (40MHz) OFDM MODULATION

MODULATION TYPE	BPSK	TRANSFER RATE	13.5Mbps
INPUT POWER	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	27deg.C, 66%RH, 991hPa
TESTED BY	Dean Wang		

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2422	36.50	0.5	PASS
2	2427	36.48	0.5	PASS
4	2437	36.45	0.5	PASS
6	2457	36.49	0.5	PASS
7	2452	36.49	0.5	PASS

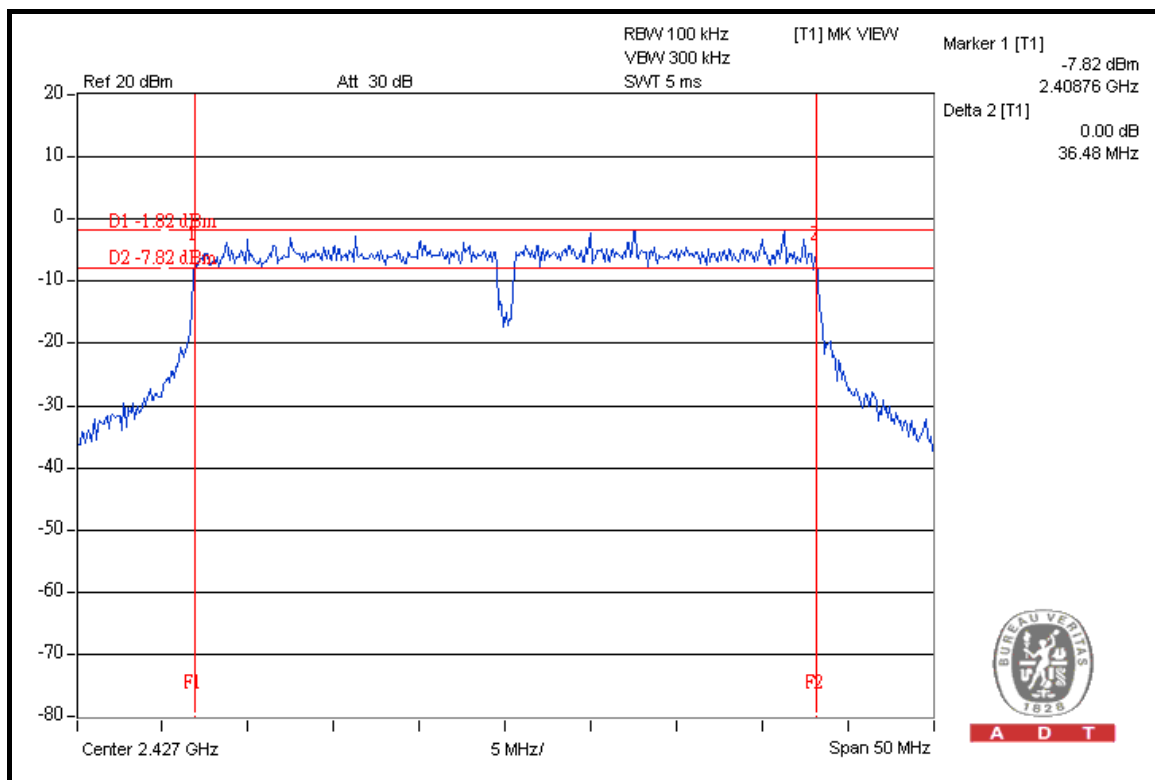
CH 1



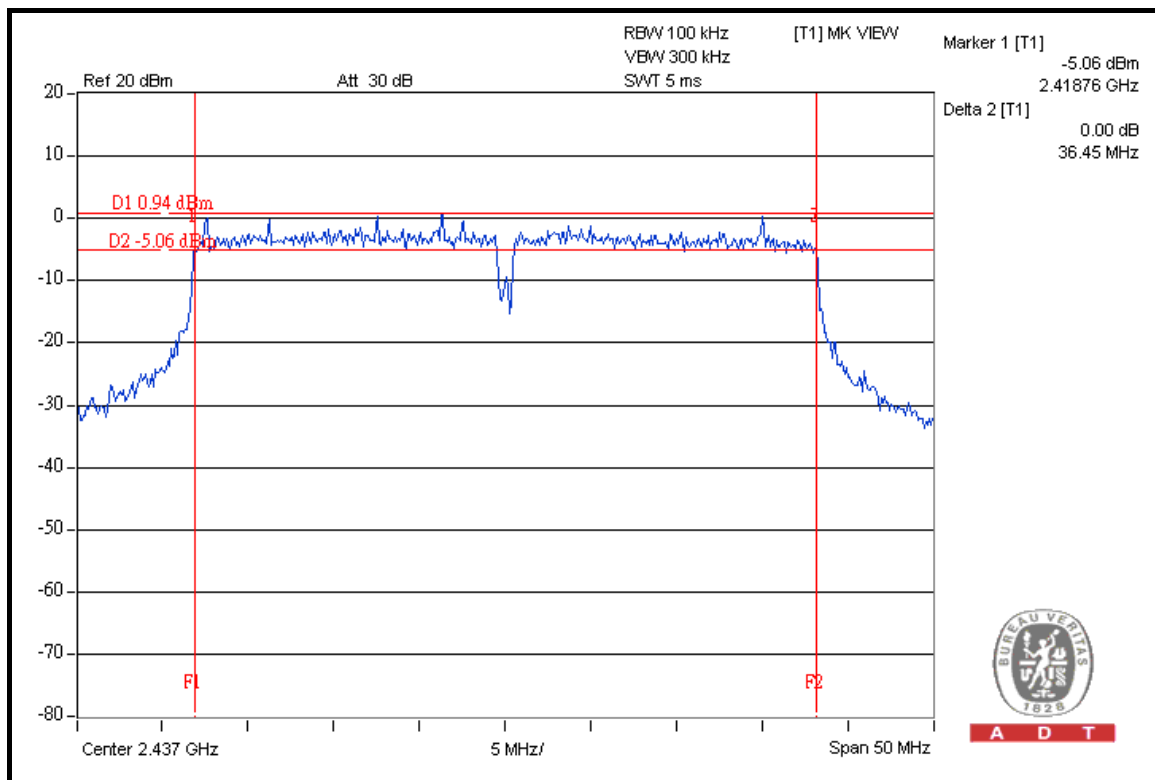


A D T

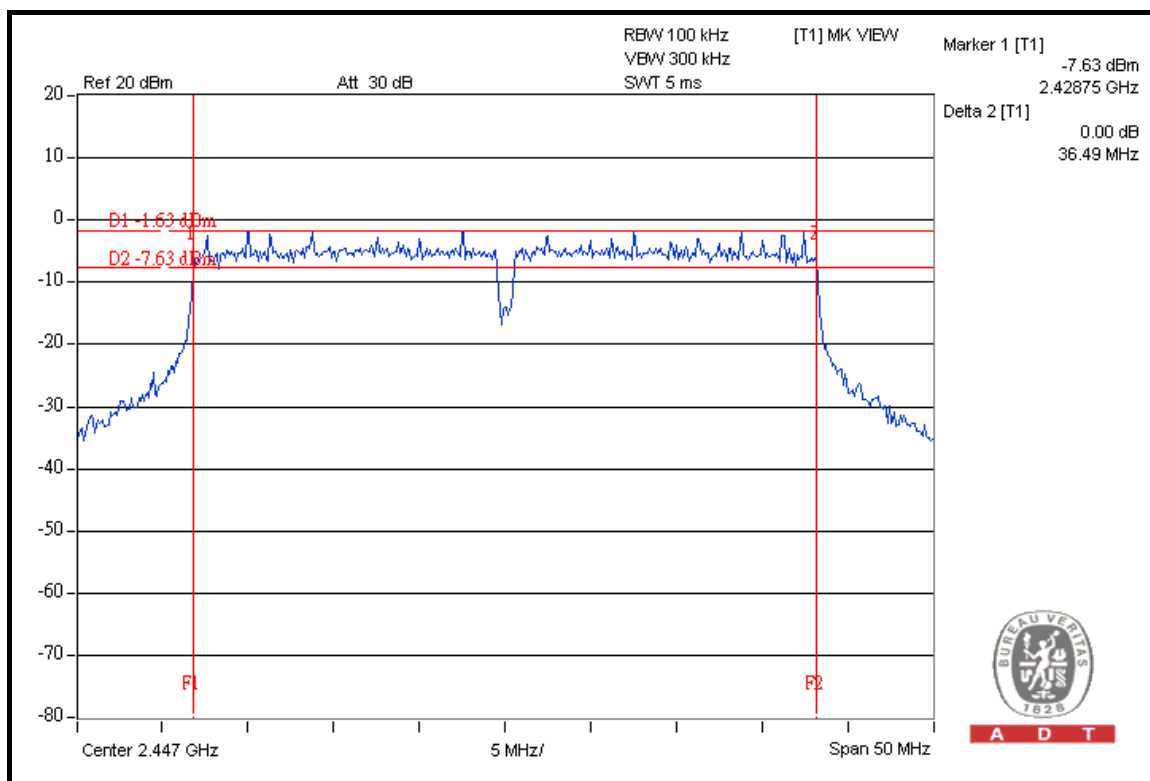
CH 2



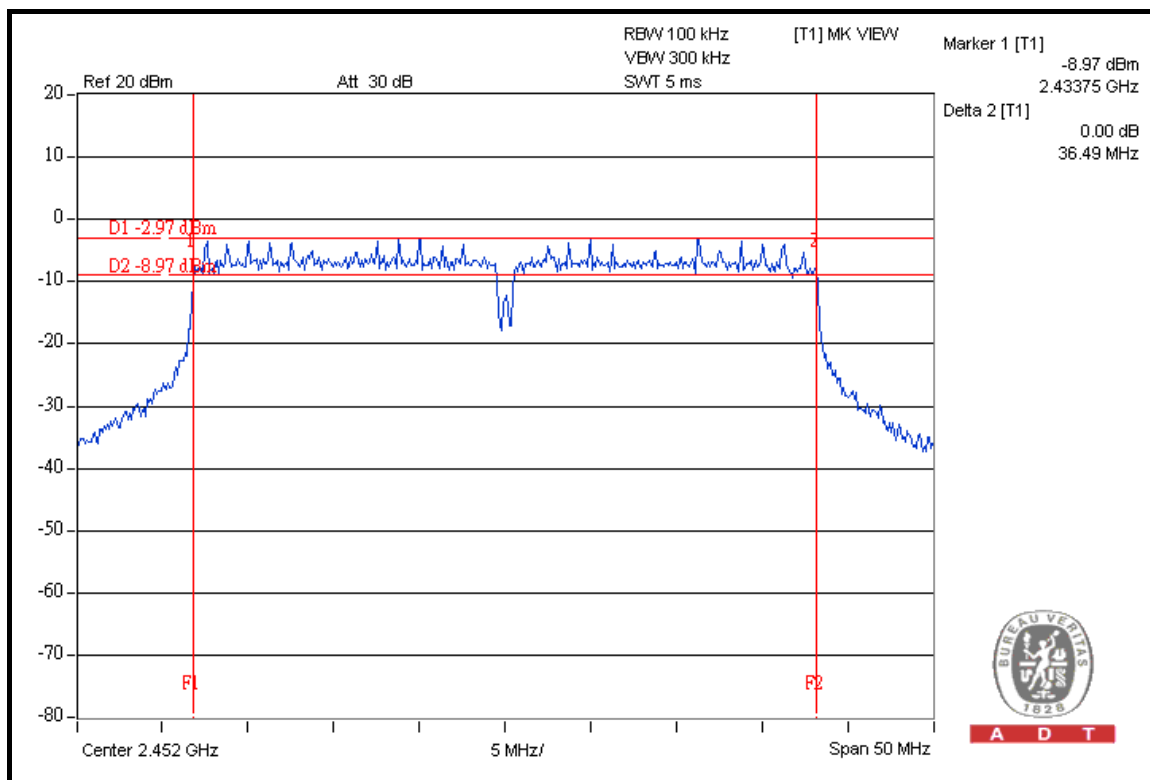
CH 4



CH 6



CH 7



4.4 MAXIMUM PEAK OUTPUT POWER

4.4.1 LIMITS OF MAXIMUM PEAK OUTPUT POWER MEASUREMENT

The Maximum Peak Output Power Measurement is 30dBm.

4.4.2 INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	CALIBRATED UNTIL
High Speed Peak Power Meter	ML2495A	0824012	Aug. 04, 2008	Aug. 03, 2009
Power Sensor	MA2411B	0738138	Aug. 04, 2008	Aug. 03, 2009

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. Measurement Bandwidth of ML2495A is 65MHz greater than 6dB bandwidth of emission.

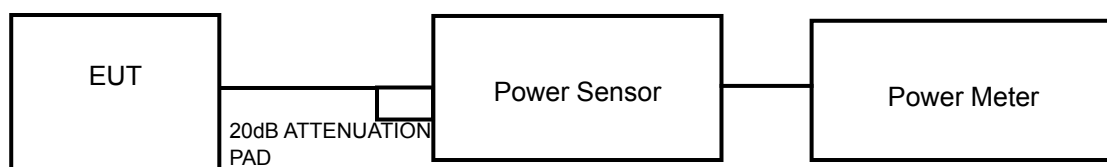
4.4.3 TEST PROCEDURES

A power sensor was used on the output port of the EUT. A power meter was used to read the response of the power sensor. Record the power level.

4.4.4 DEVIATION FROM TEST STANDARD

No deviation.

4.4.5 TEST SETUP



4.4.6 EUT OPERATING CONDITIONS

Same as Item 4.3.6.

4.4.7 TEST RESULTS

802.11b DSSS MODULATION

MODULATION TYPE	DBPSK	TRANSFER RATE	1.0Mbps
INPUT POWER	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	27deg.C, 66%RH, 991hPa
TESTED BY	Dean Wang		

CHAN	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
1	2412	121.619	20.85	30	PASS
2	2417	127.057	21.04	30	PASS
6	2437	130.317	21.15	30	PASS
10	2457	127.644	21.06	30	PASS
11	2462	127.350	21.05	30	PASS

802.11g OFDM MODULATION

MODULATION TYPE	BPSK	TRANSFER RATE	6.0Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	27deg.C, 66%RH, 991hPa
TESTED BY	Dean Wang		

CHAN	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
1	2412	341.979	25.34	30	PASS
2	2417	473.151	26.75	30	PASS
6	2437	488.652	26.89	30	PASS
10	2457	492.040	26.92	30	PASS
11	2462	314.051	24.97	30	PASS



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DRAFT 802.11n (20MHz) OFDM MODULATION

MODULATION TYPE	BPSK	TRANSFER RATE	6.5Mbps
INPUT POWER	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	27deg.C, 66%RH, 991hPa
TESTED BY	Dean Wang		

CHAN	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
1	2412	299.226	24.76	30	PASS
2	2417	456.037	26.59	30	PASS
6	2437	448.745	26.52	30	PASS
10	2457	470.977	26.73	30	PASS
11	2462	267.301	24.27	30	PASS

DRAFT 802.11n (40MHz) OFDM MODULATION

MODULATION TYPE	BPSK	TRANSFER RATE	13.5Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	27deg.C, 66%RH, 991hPa
TESTED BY	Dean Wang		

CHAN	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
1	2422	145.881	21.64	30	PASS
2	2427	201.372	23.04	30	PASS
4	2437	343.558	25.36	30	PASS
6	2457	204.644	23.11	30	PASS
7	2452	148.252	21.71	30	PASS

4.5 POWER SPECTRAL DENSITY MEASUREMENT

4.5.1 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT

The Maximum of Power Spectral Density Measurement is 8dBm.

4.5.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	CALIBRATED UNTIL
R&S SPECTRUM ANALYZER	FSP40	100040	Jul. 04, 2008	Jul. 03, 2009

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

4.5.3 TEST PROCEDURE

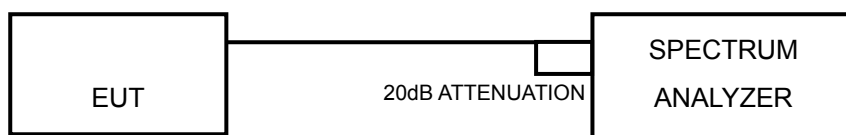
The transmitter output was connected to the spectrum analyzer through an attenuator, the bandwidth of the fundamental frequency was measured with the spectrum analyzer using 3kHz RBW and 30kHz VBW, set sweep time = span/3kHz. The power spectral density was measured and recorded.

The sweep time is allowed to be longer than span/3kHz for a full response of the mixer in the spectrum analyzer.

4.5.4 DEVIATION FROM TEST STANDARD

No deviation.

4.5.5 TEST SETUP



4.5.6 EUT OPERATING CONDITION

Same as Item 4.3.6.



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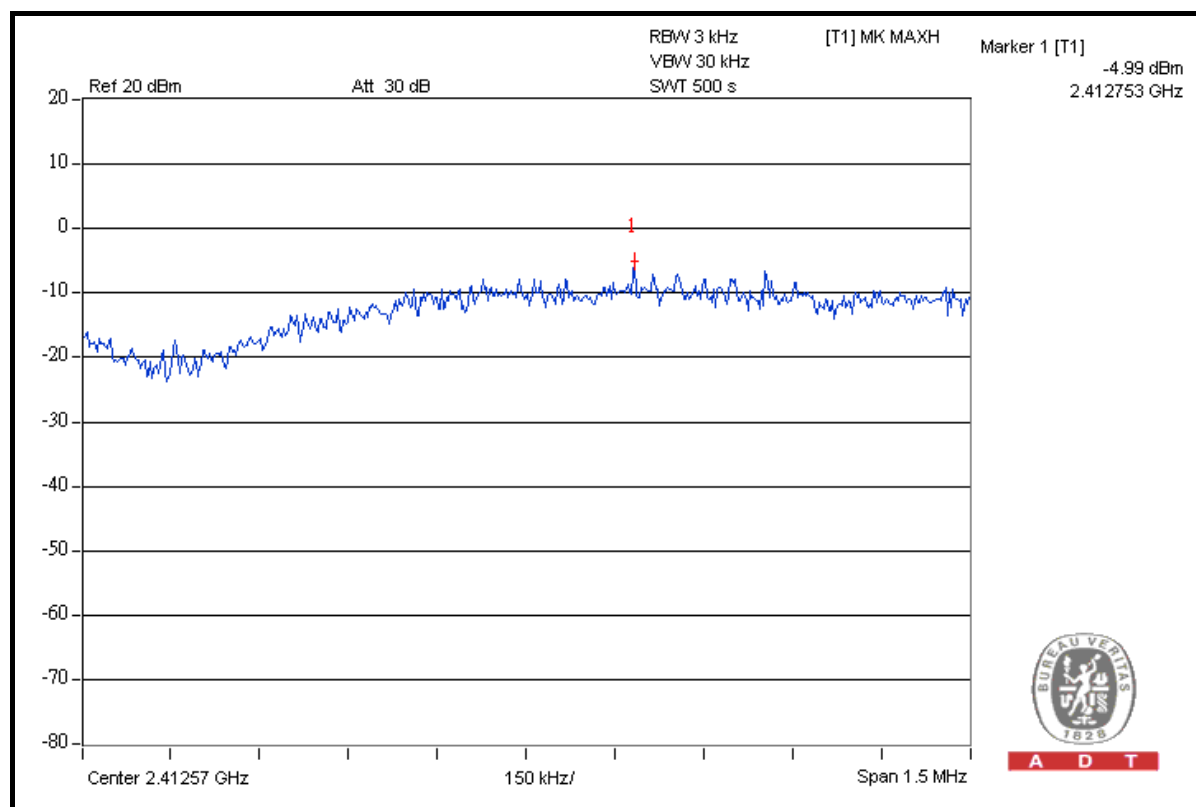
4.5.7 TEST RESULTS

802.11b DSSS MODULATION

MODULATION TYPE	DBPSK	TRANSFER RATE	1.0Mbps
INPUT POWER	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	27deg.C, 66%RH, 991hPa
TESTED BY	Dean Wang		

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3 kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	2412	-4.99	8	PASS
2	2417	-4.82	8	PASS
6	2437	-4.67	8	PASS
10	2457	-4.77	8	PASS
11	2462	-4.80	8	PASS

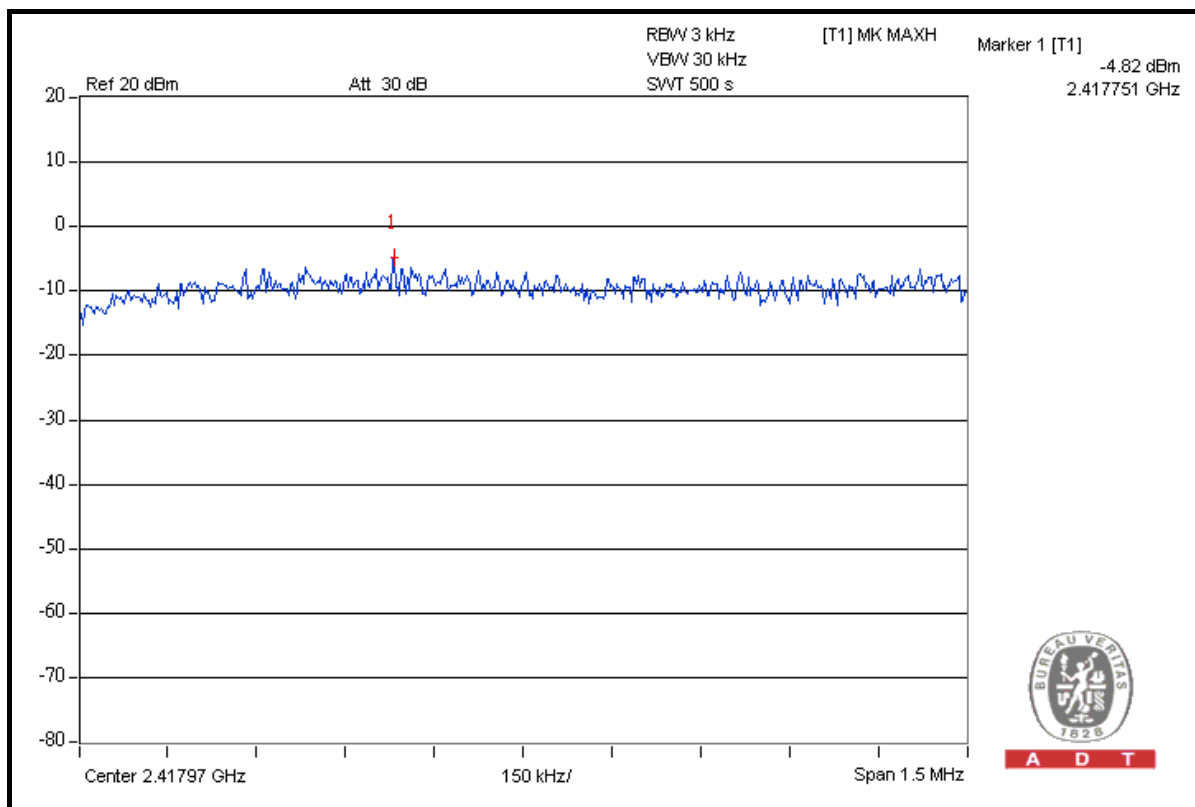
CH 1



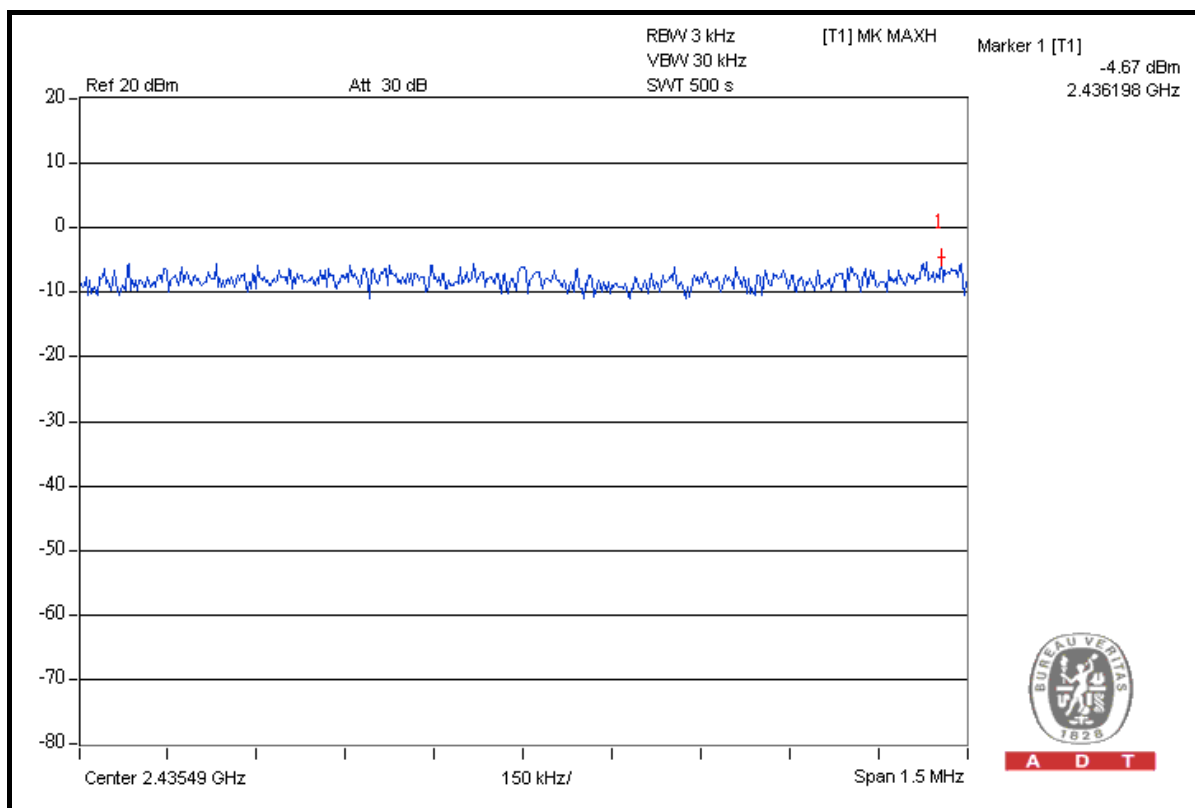


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CH 2



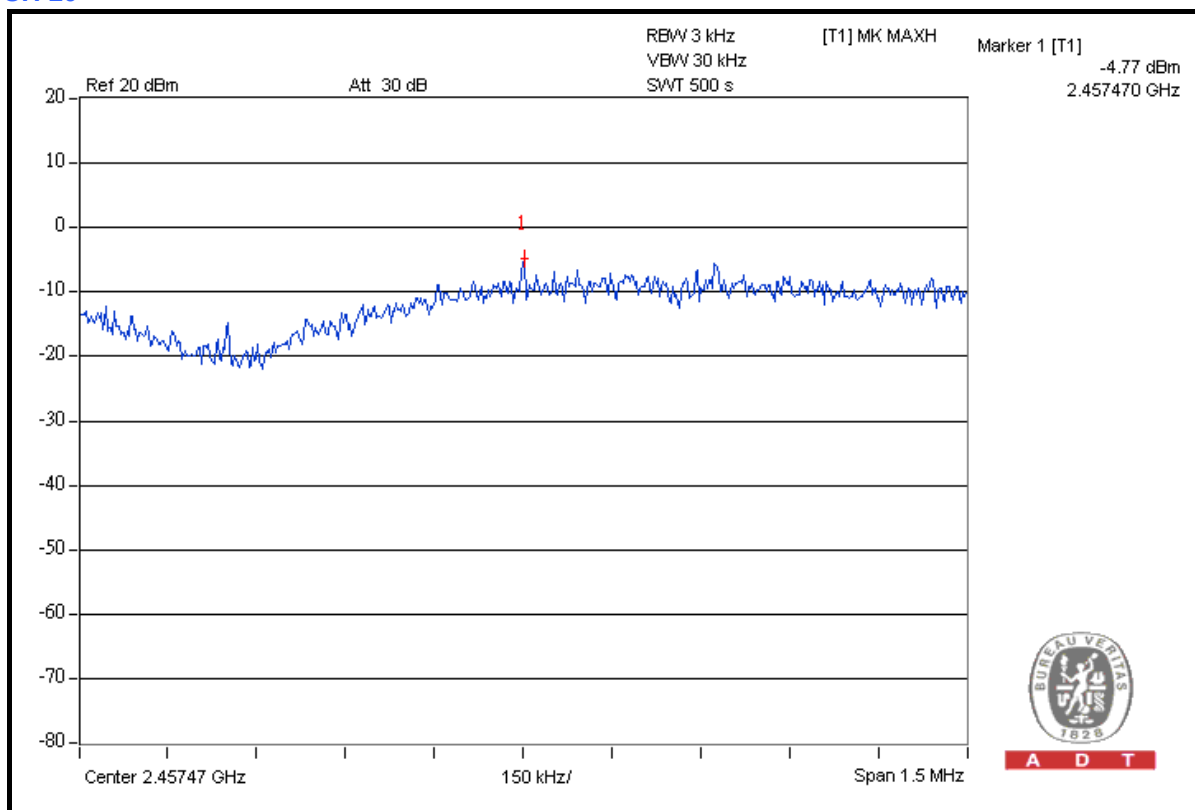
CH 6



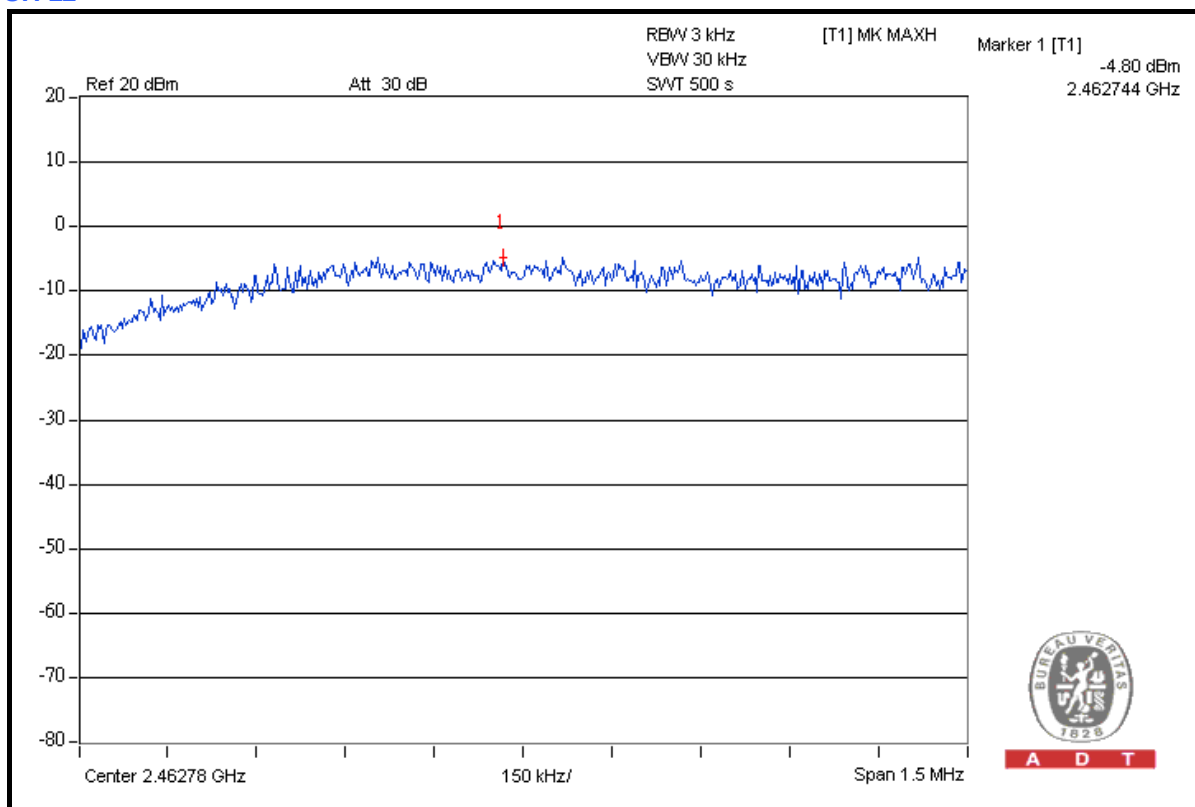


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CH 10



CH 11





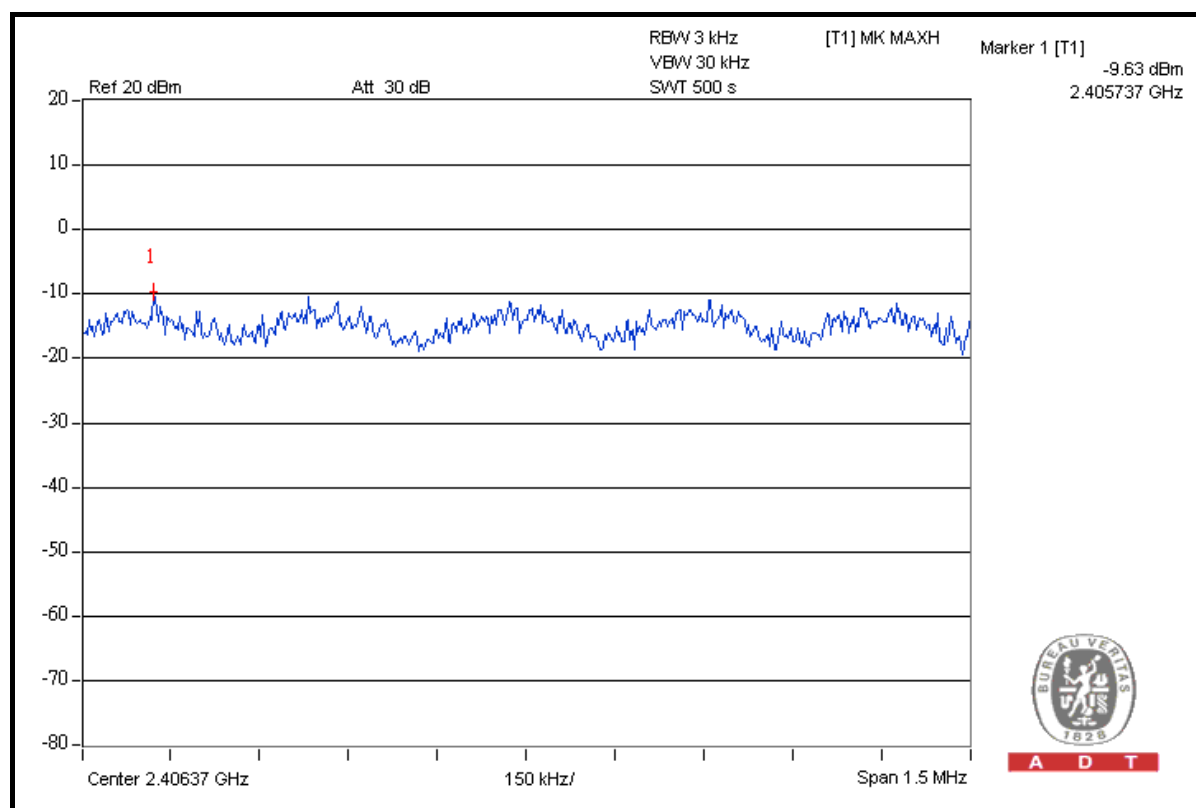
A D T

802.11g OFDM MODULATION

MODULATION TYPE	BPSK	TRANSFER RATE	6.0Mbps
INPUT POWER	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	27deg.C, 66%RH, 991hPa
TESTED BY	Dean Wang		

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3 kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	2412	-9.63	8	PASS
2	2417	-8.34	8	PASS
6	2437	-8.30	8	PASS
10	2457	-8.14	8	PASS
11	2462	-10.22	8	PASS

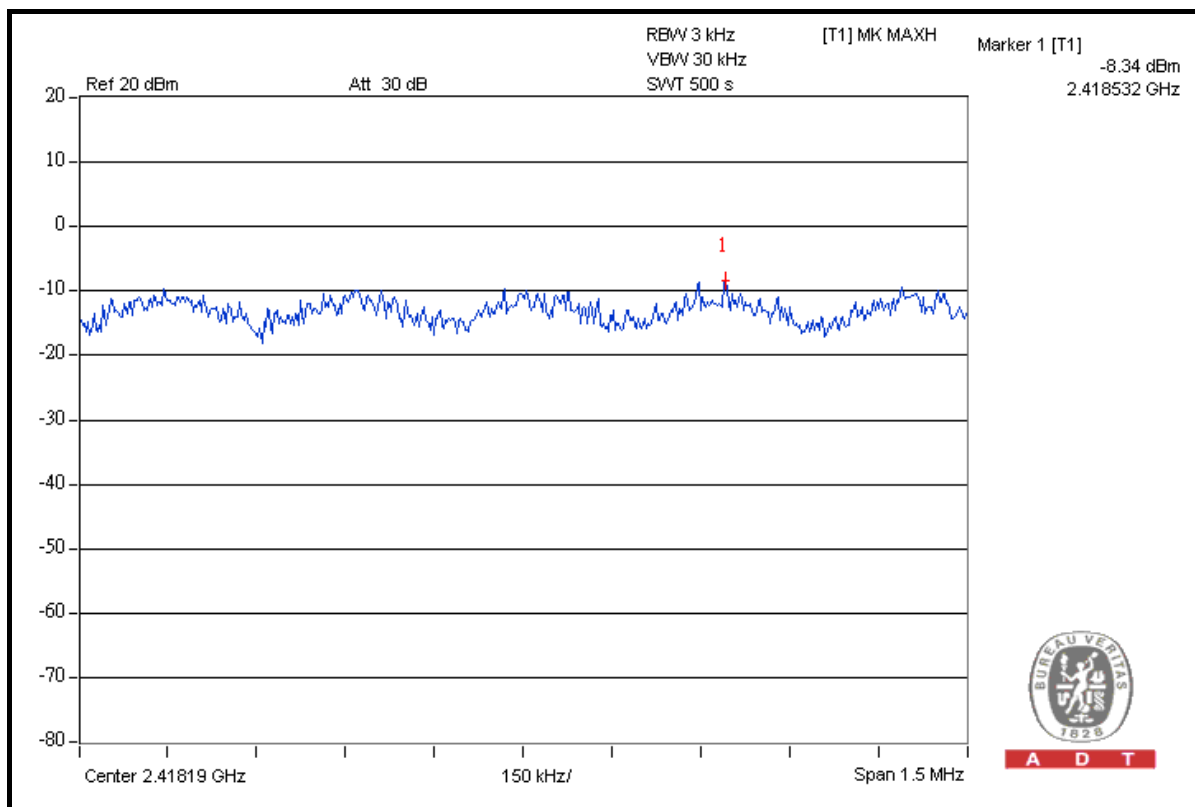
CH 1



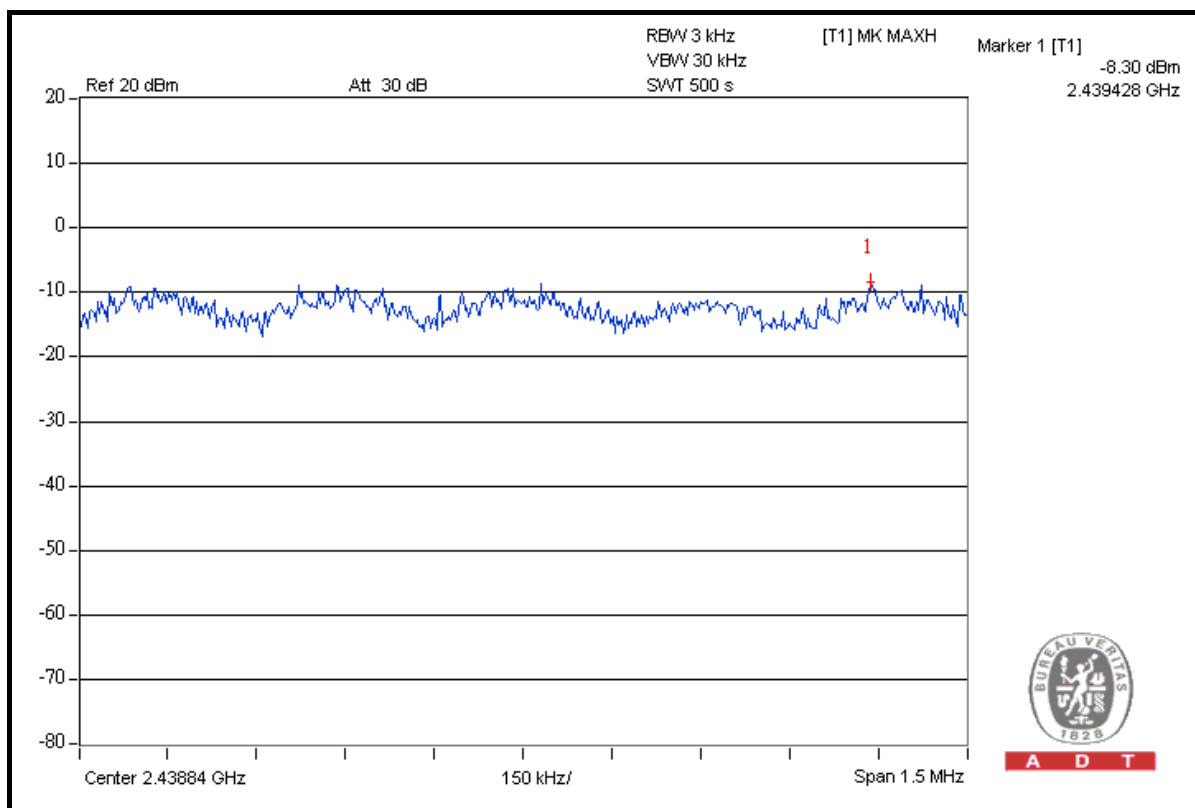


A D T

CH 2



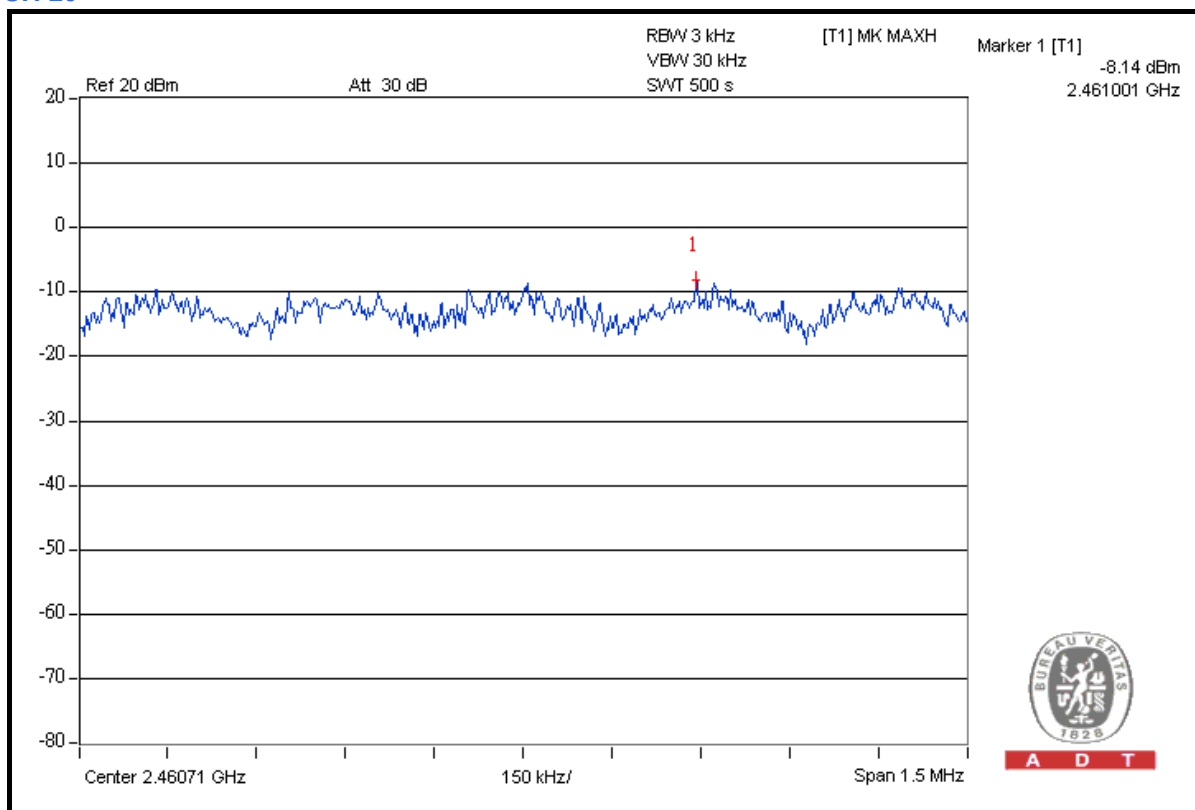
CH 6



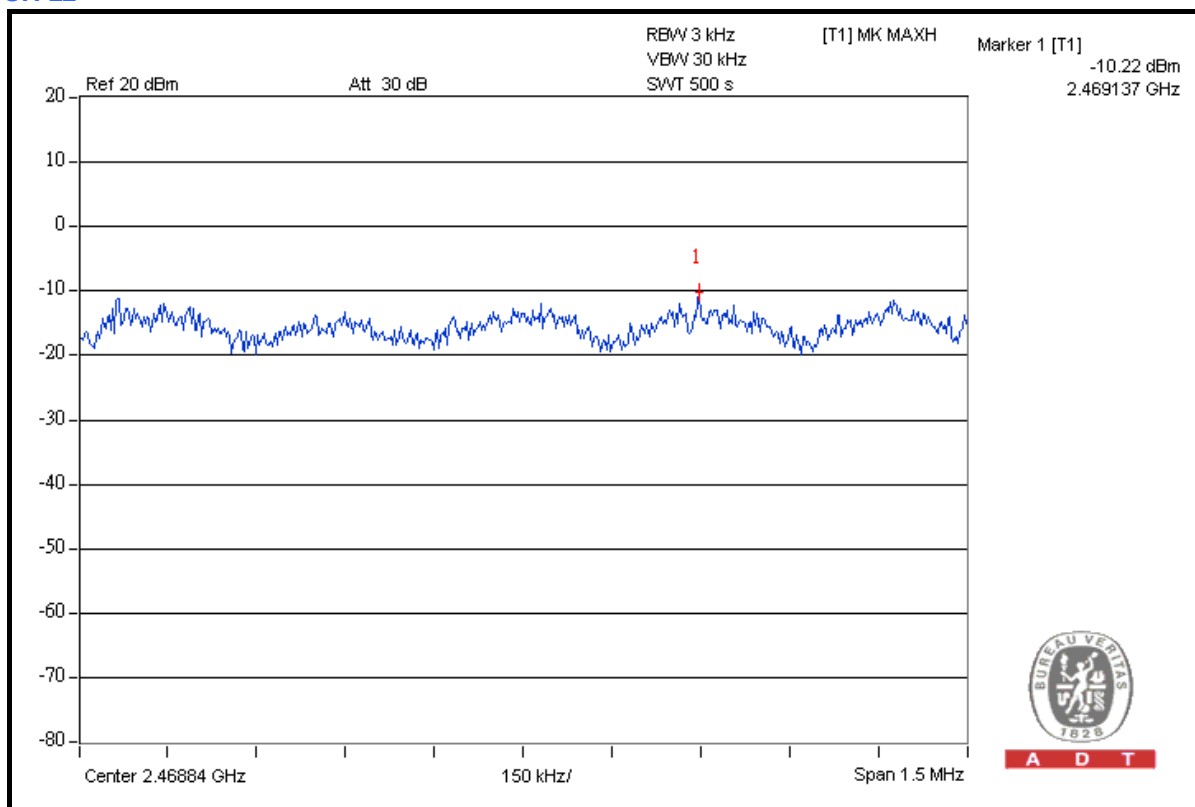


A D T

CH 10



CH 11



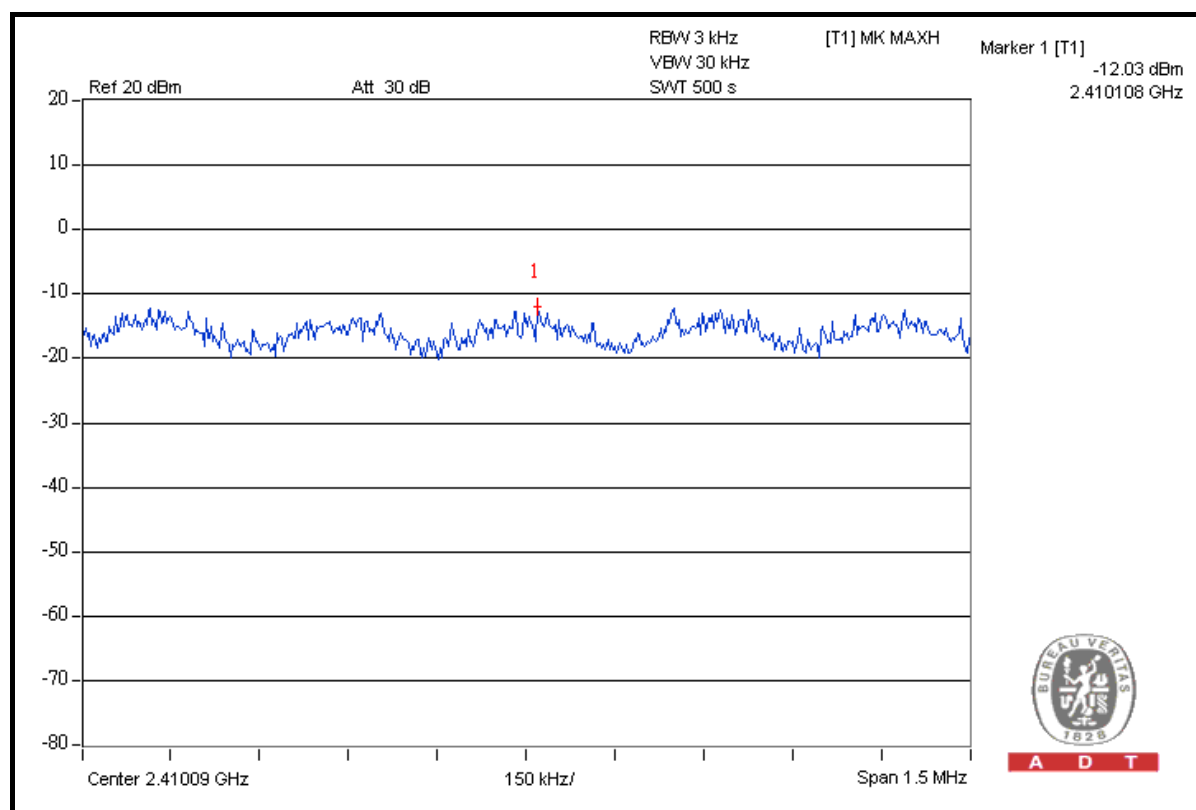


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DRAFT 802.11n (20MHz) OFDM MODULATION

MODULATION TYPE	BPSK	TRANSFER RATE	6.5Mbps
INPUT POWER	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	27deg.C, 66%RH, 991hPa
TESTED BY	Dean Wang		

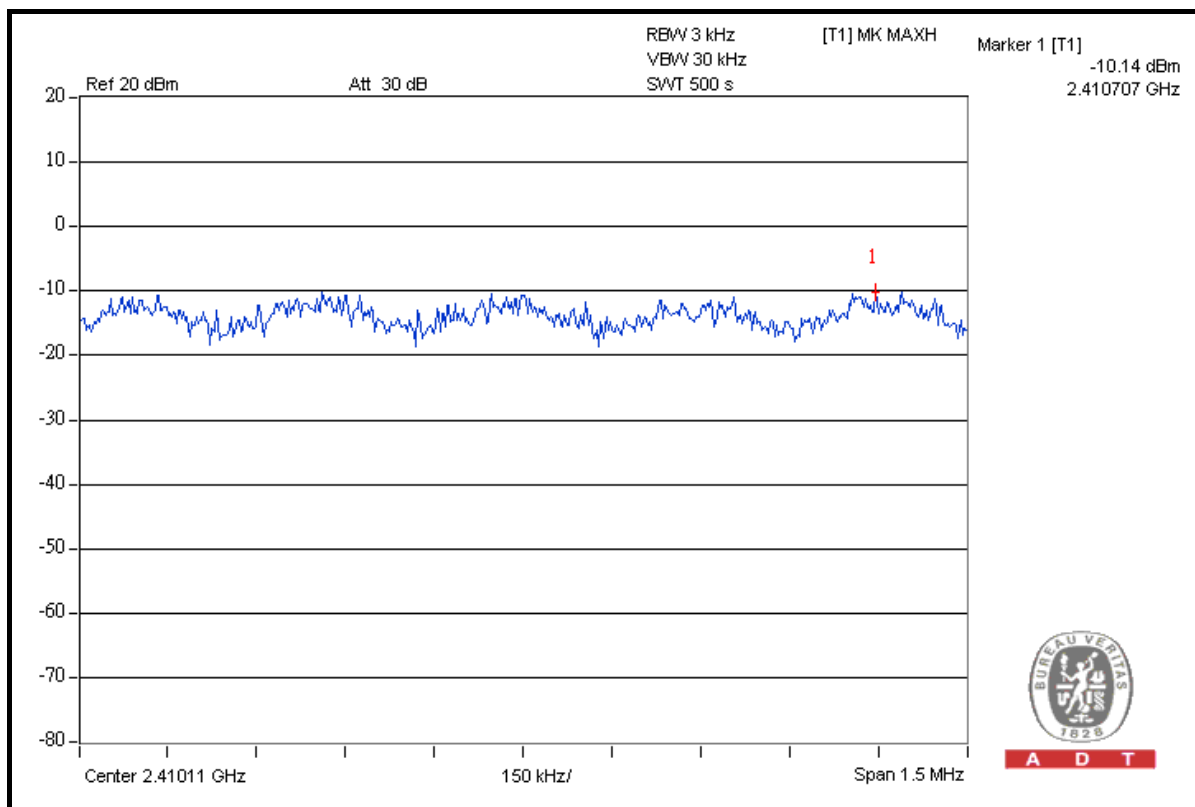
CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3 kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	2412	-12.03	8	PASS
2	2417	-10.14	8	PASS
6	2437	-10.29	8	PASS
10	2457	-10.09	8	PASS
11	2462	-12.37	8	PASS

CH 1

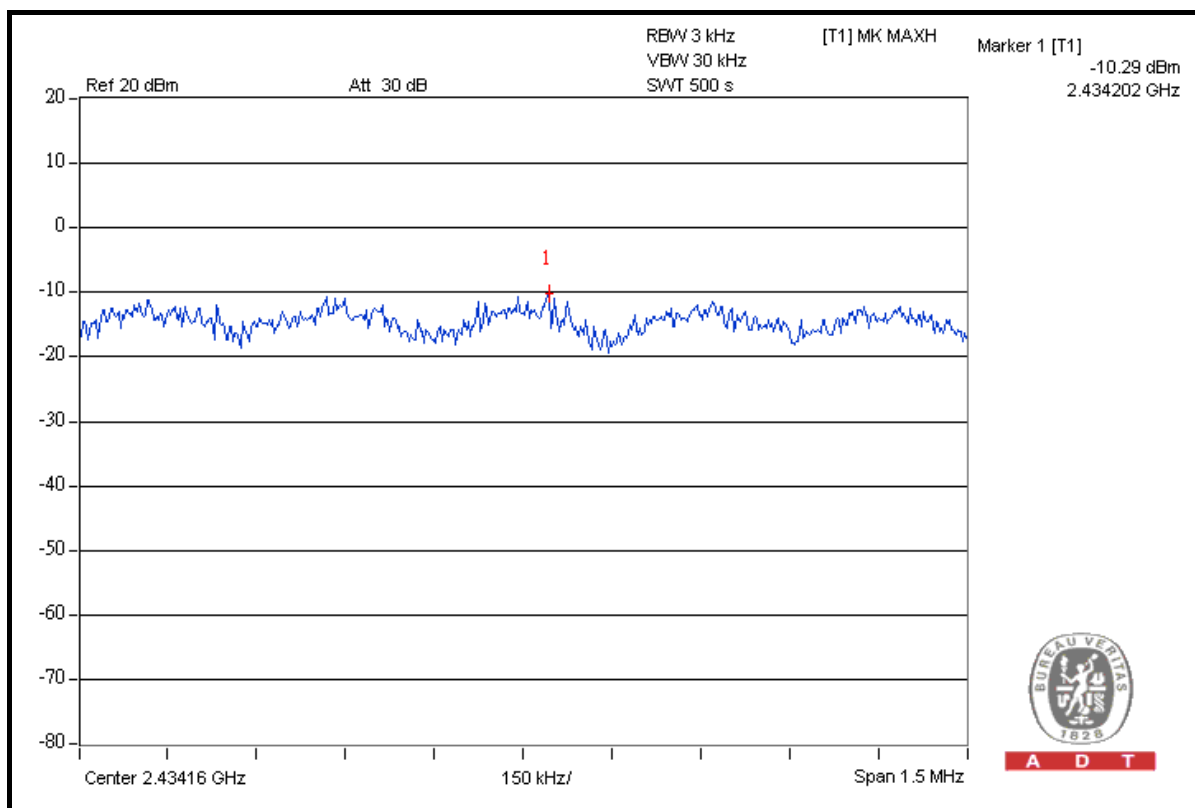


A D T

CH 2



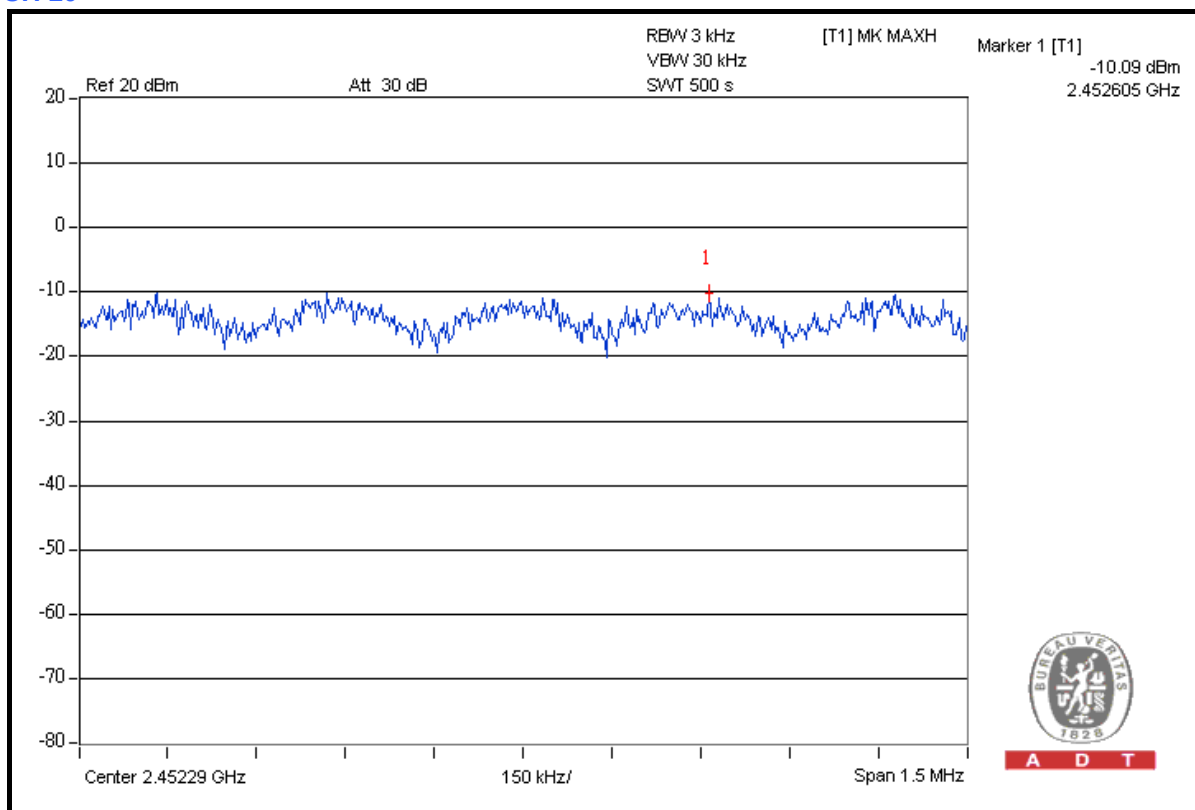
CH 6



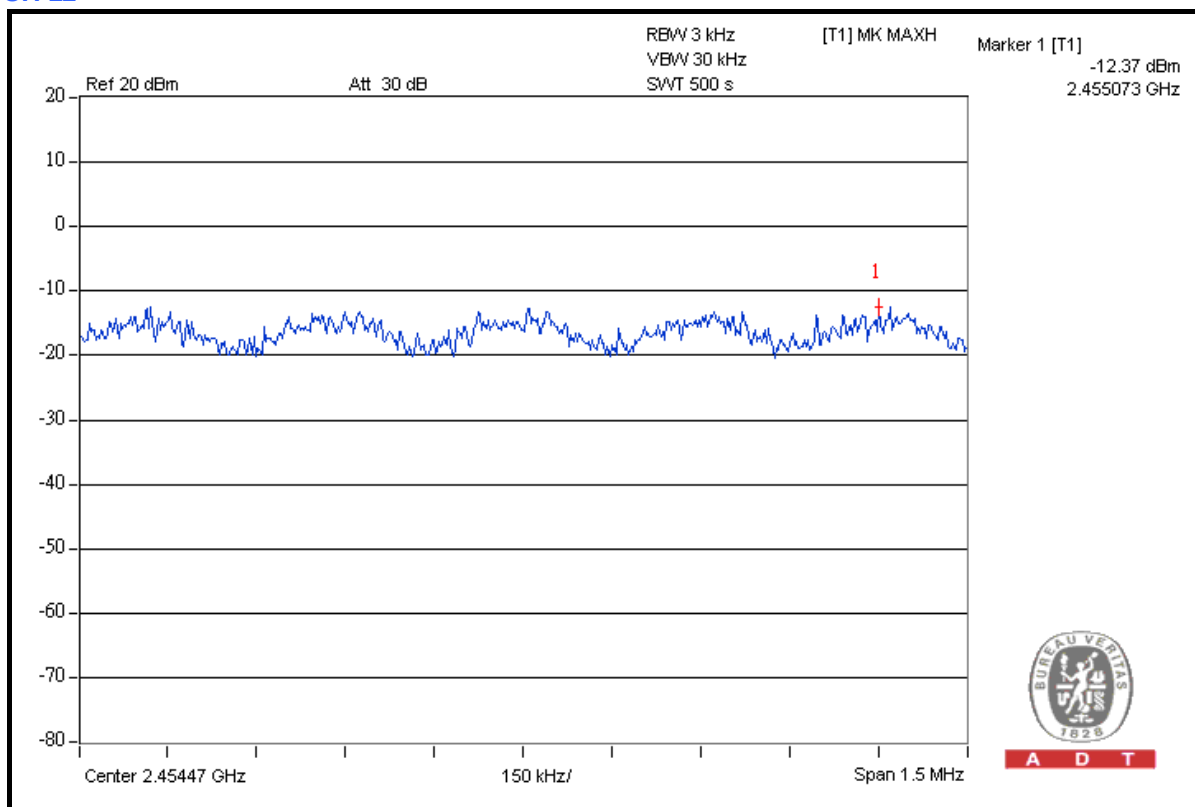


A D T

CH 10



CH 11





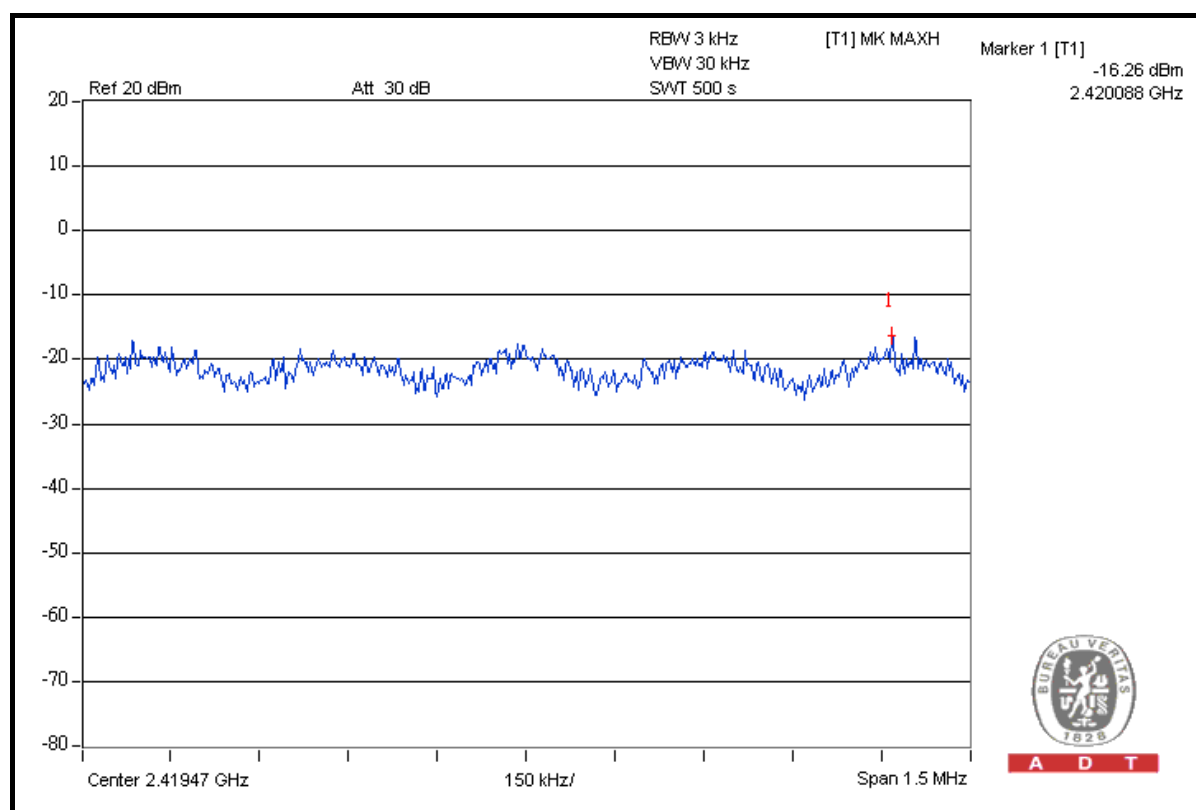
A D T

DRAFT 802.11n (40MHz) OFDM MODULATION

MODULATION TYPE	BPSK	TRANSFER RATE	13.5Mbps
INPUT POWER	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	27deg.C, 66%RH, 991hPa
TESTED BY	Dean Wang		

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3 kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	2422	-16.26	8	PASS
2	2427	-14.81	8	PASS
4	2437	-12.58	8	PASS
6	2457	-14.74	8	PASS
7	2452	-16.12	8	PASS

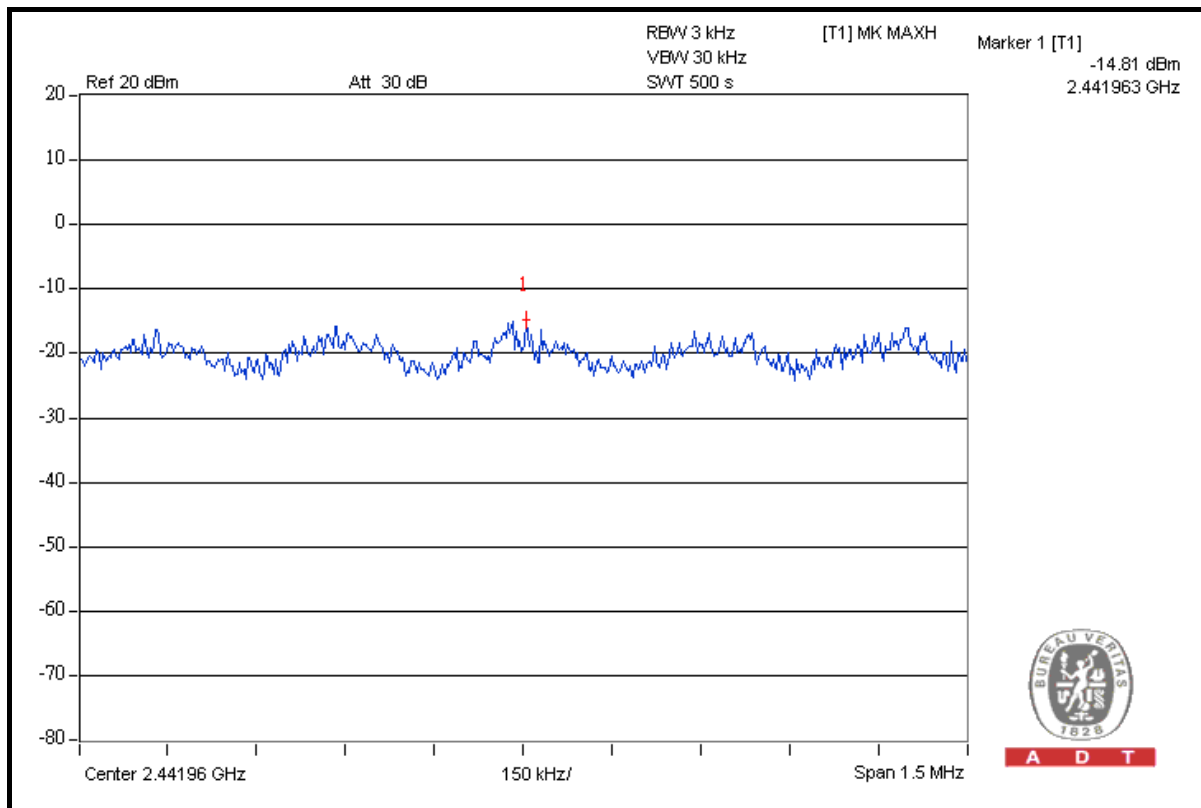
CH 1



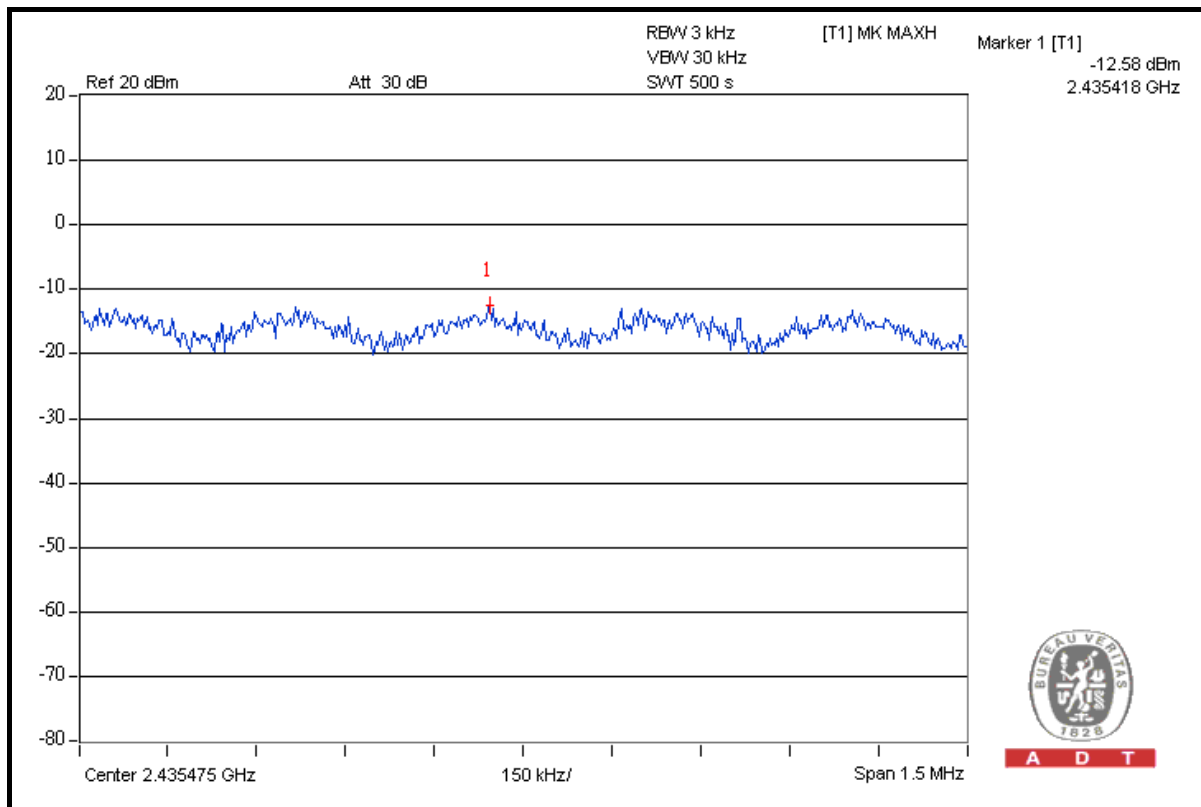


A D T

CH 2



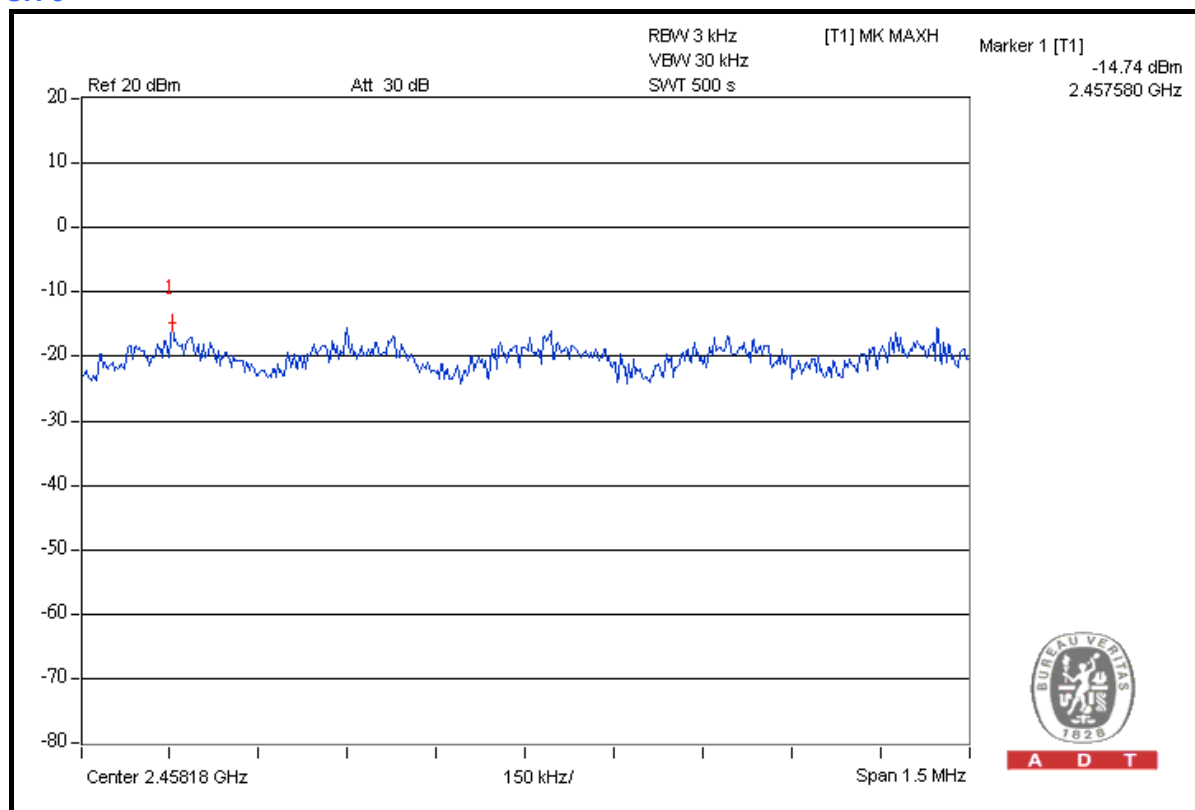
CH 4



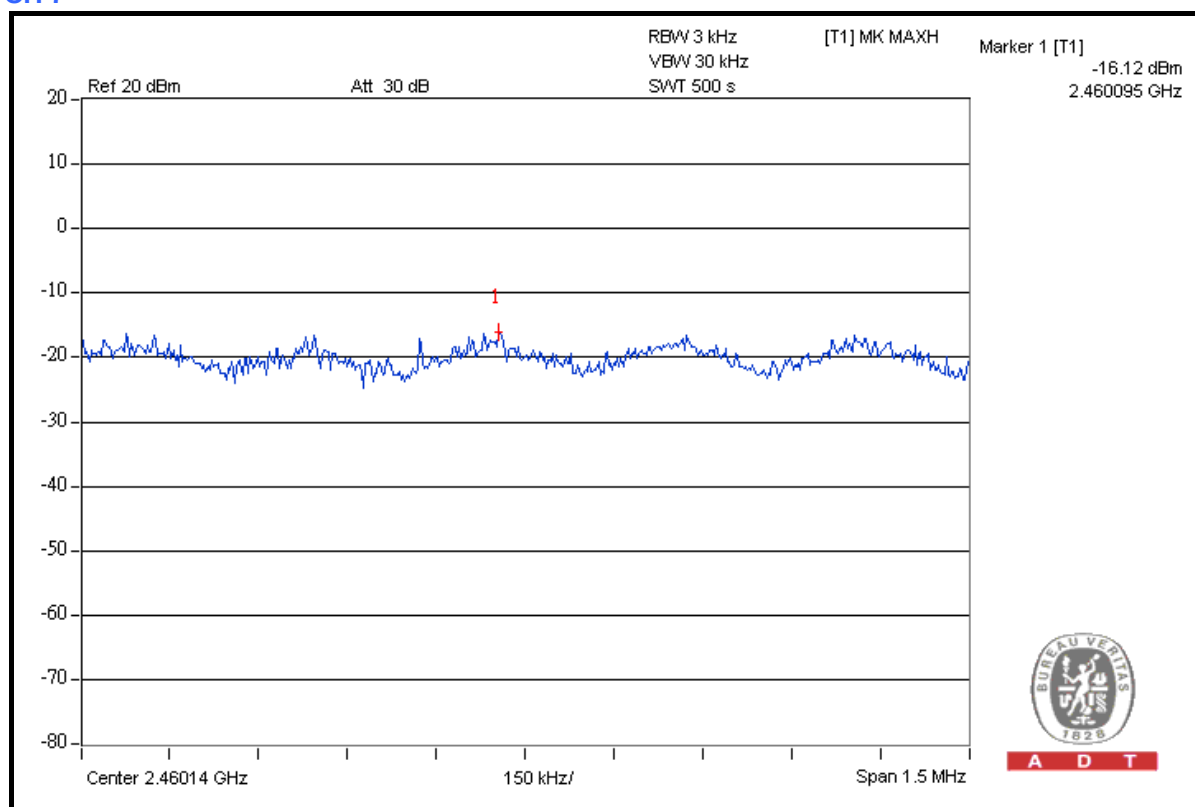


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CH 6



CH 7



4.6 BAND EDGES MEASUREMENT

4.6.1 LIMITS OF BAND EDGES MEASUREMENT

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

4.6.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	CALIBRATED UNTIL
R&S SPECTRUM ANALYZER	FSP40	100040	Jul. 04, 2008	Jul. 03, 2009

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 transmitter output was connected to the spectrum analyzer via a low lose cable. Set both RBW and VBW of spectrum analyzer to 100kHz and 300kHz with suitable frequency span including 100MHz bandwidth from band edge. The band edges was measured and recorded.

The spectrum plots (Peak RBW = 100kHz, VBW = 300kHz; Average RBW = 1MHz, VBW = 10Hz) are attached on the following pages.

4.6.4 DEVIATION FROM TEST STANDARD

No deviation.

4.6.5 EUT OPERATING CONDITION

Same as Item 4.3.6.

4.6.6 TEST RESULTS

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

802.11b DSSS MODULATION

NOTE 1: The band edge emission plot on the next second page shows 53.98dBc between carrier maximum power and local maximum emission in restrict band (2.3870GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.1.7 is 111.54dBuV/m (Peak), so the maximum field strength in restrict band is $111.54 - 53.98 = 57.56$ dBuV/m which is under 74dBuV/m limit.

The band edge emission plot on the next second page shows 56.87dBc between carrier maximum power and local maximum emission in restrict band (2.3868GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.1.7 is 107.01dBuV/m (Average), so the maximum field strength in restrict band is $107.01 - 56.87 = 50.14$ dBuV/m which is under 54dBuV/m limit.

NOTE 2: The band edge emission plot on the next third page shows 53.84dBc between carrier maximum power and local maximum emission in restrict band (2.3792GHz). The emission of carrier strength list in the test result of channel 2 at the item 4.1.7 is 111.19dBuV/m (Peak), so the maximum field strength in restrict band is $111.19 - 53.84 = 57.35$ dBuV/m which is under 74dBuV/m limit.

The band edge emission plot on the next fourth page shows 60.13dBc between carrier maximum power and local maximum emission in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 2 at the item 4.1.7 is 106.62dBuV/m (Average), so the maximum field strength in restrict band is $106.62 - 60.13 = 46.49$ dBuV/m which is under 54dBuV/m limit.

NOTE 3: The band edge emission plot on the next fourth page shows 55.06dBc between carrier maximum power and local maximum emission in restrict band (2.4930GHz). The emission of carrier strength list in the test result of channel 10 at the item 4.1.7 is 111.40dBuV/m (Peak), so the maximum field strength in restrict band is $111.40 - 55.06 = 56.34\text{dBuV/m}$ which is under 74dBuV/m limit.

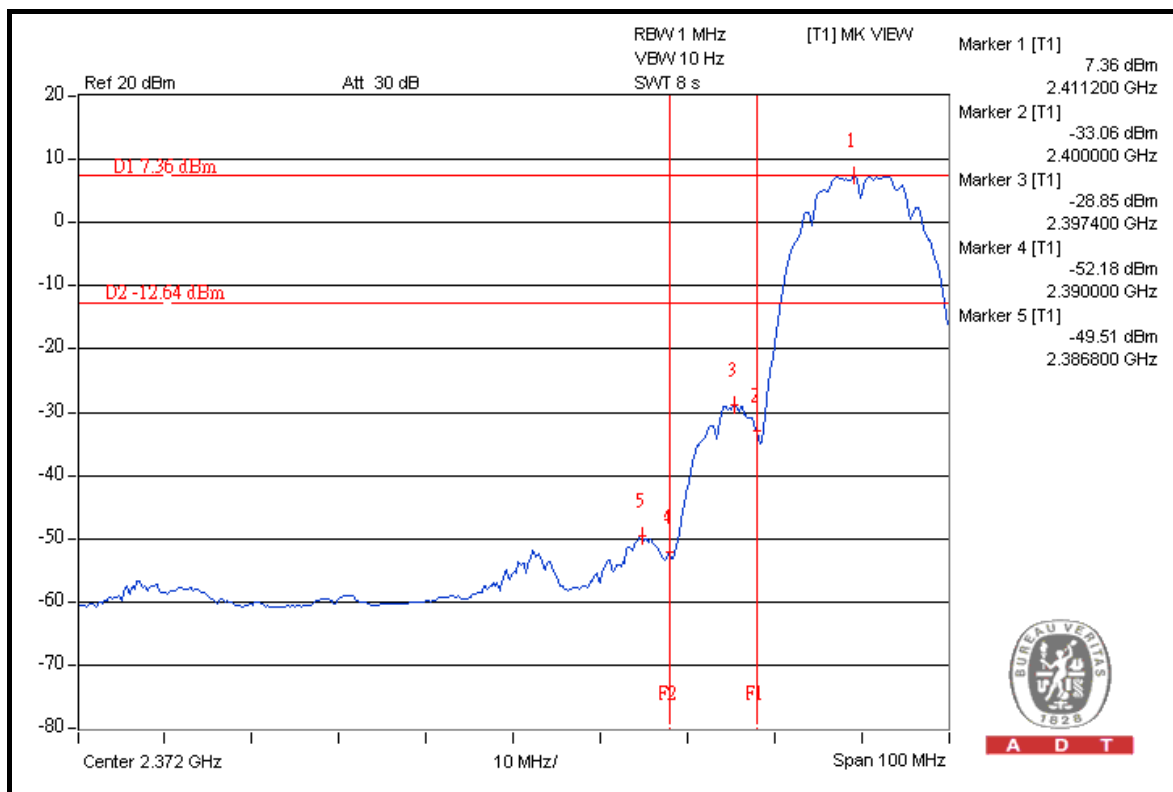
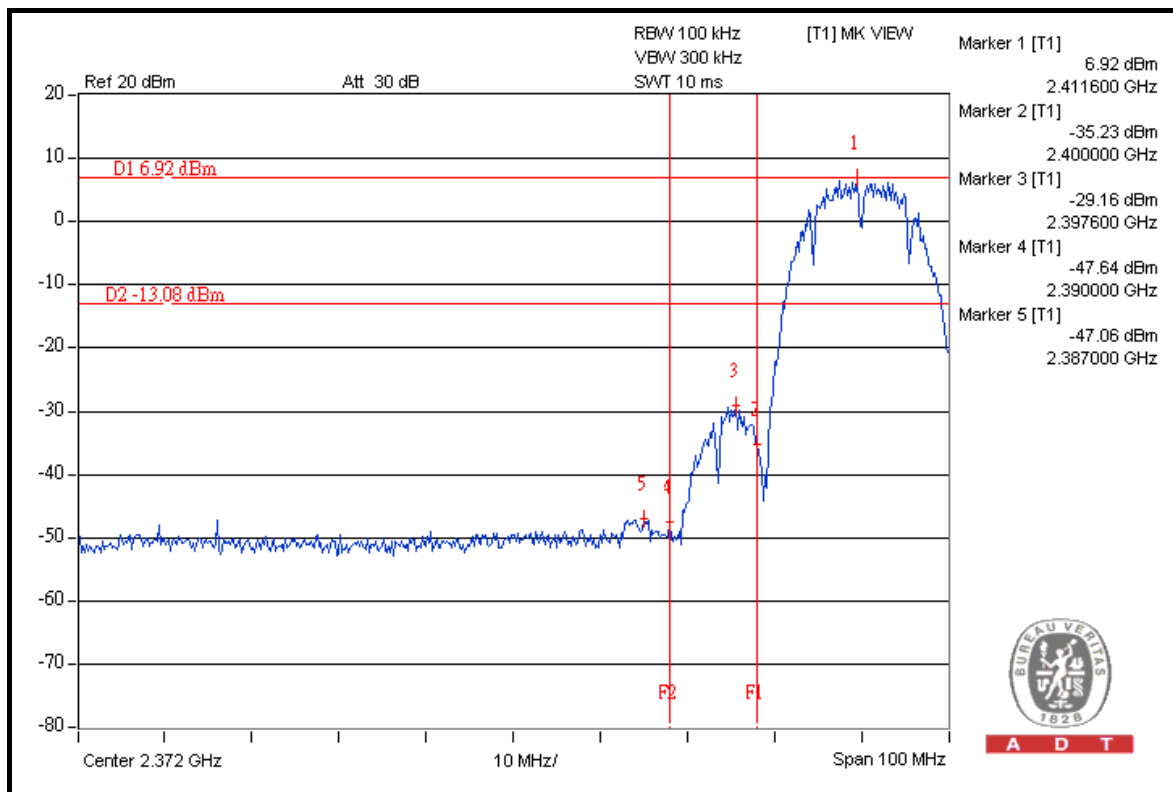
The band edge emission plot on the next fourth page shows 62.30dBc between carrier maximum power and local maximum emission in restrict band (2.4835GHz). The emission of carrier strength list in the test result of channel 10 at the item 4.1.7 is 107.05dBuV/m (Average), so the maximum field strength in restrict band is $107.05 - 62.30 = 44.75\text{dBuV/m}$ which is under 54dBuV/m limit.

NOTE 4: The band edge emission plot on the next fifth page shows 52.77dBc between carrier maximum power and local maximum emission in restrict band (2.4876GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.1.7 is 111.10dBuV/m (Peak), so the maximum field strength in restrict band is $111.10 - 52.77 = 58.33\text{dBuV/m}$ which is under 74dBuV/m limit.

The band edge emission plot on the next sixth page shows 54.51dBc between carrier maximum power and local maximum emission in restrict band (2.4878GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.1.7 is 106.60dBuV/m (Average), so the maximum field strength in restrict band is $106.60 - 54.51 = 52.09\text{dBuV/m}$ which is under 54dBuV/m limit.

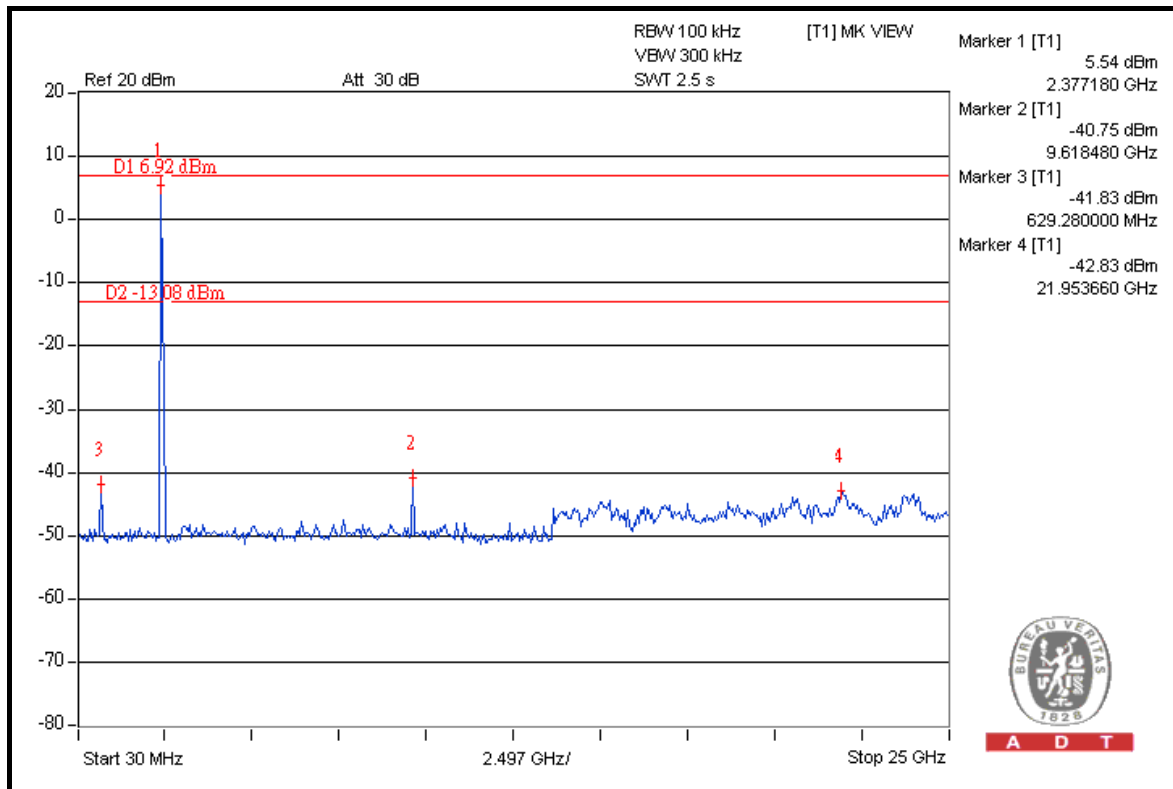


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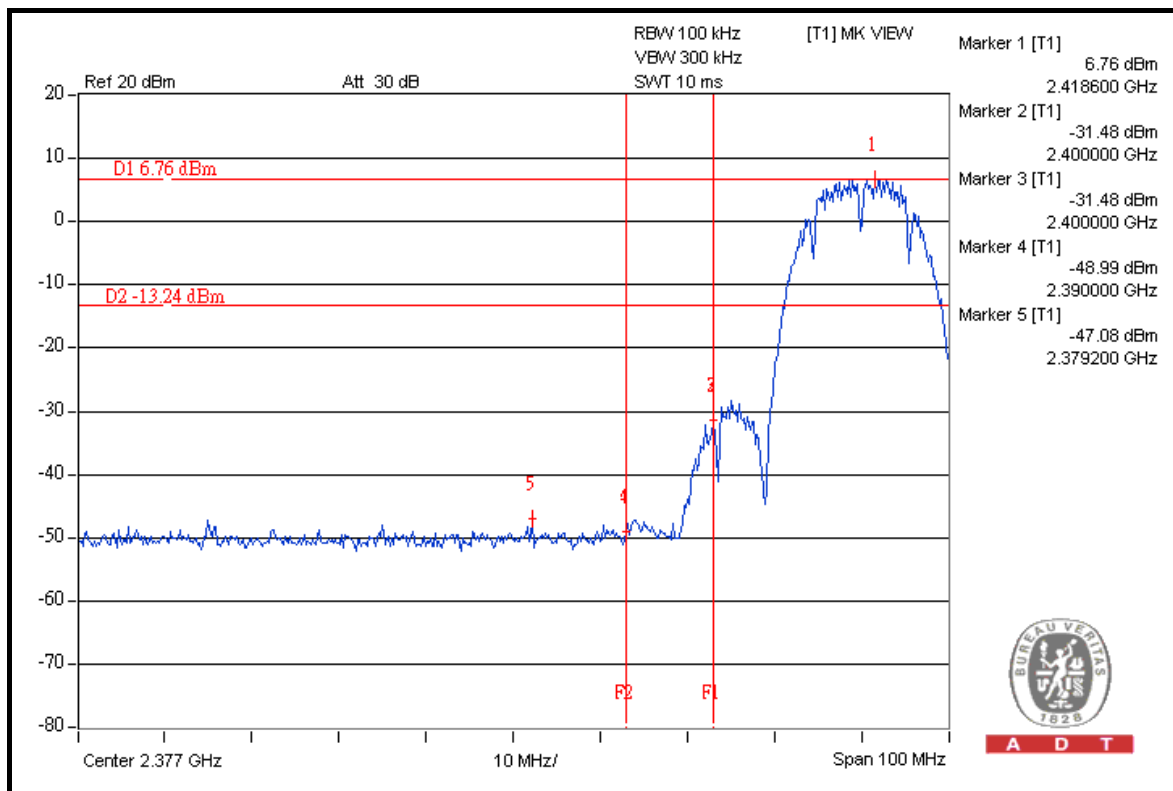




A D T



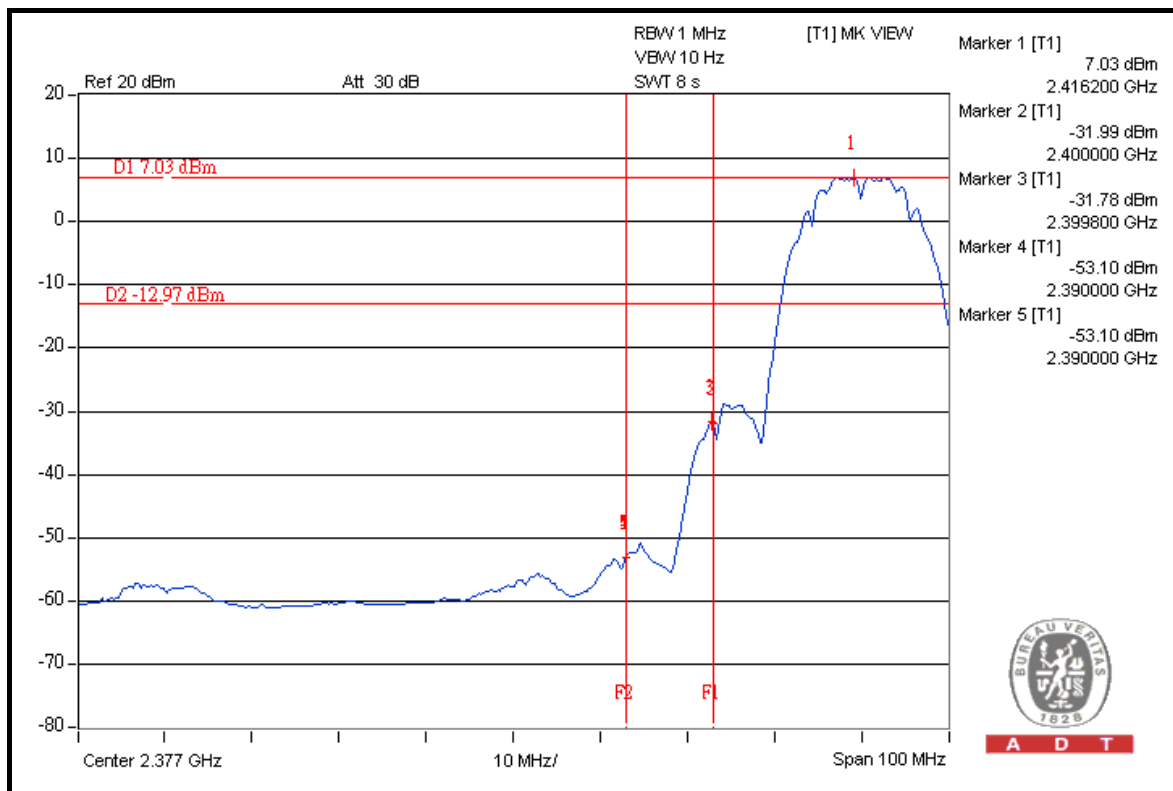
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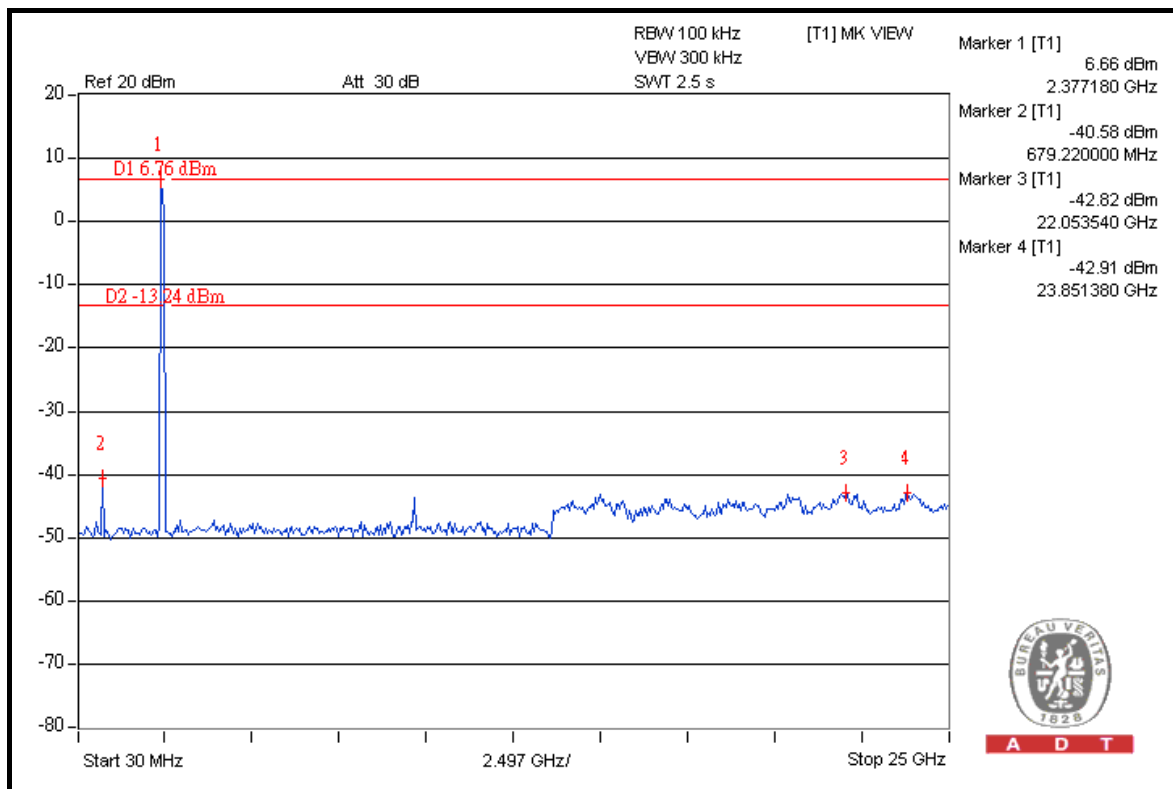
A D T



A D T



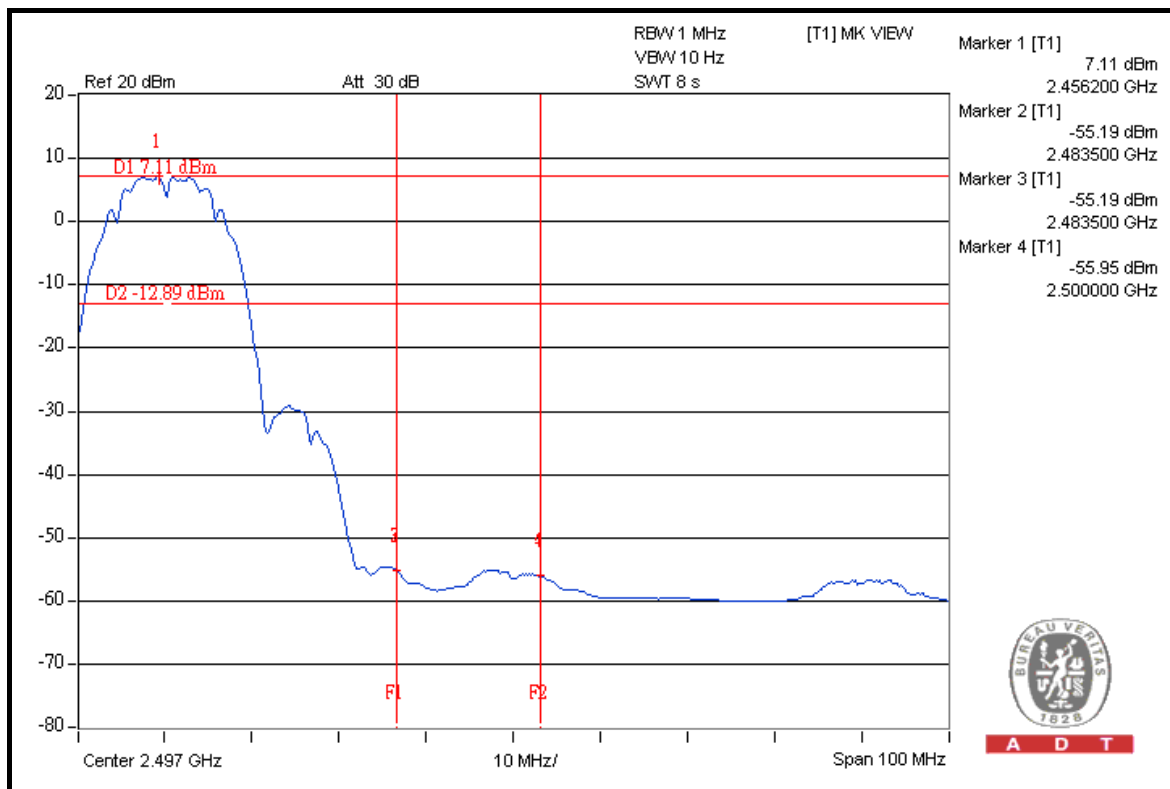
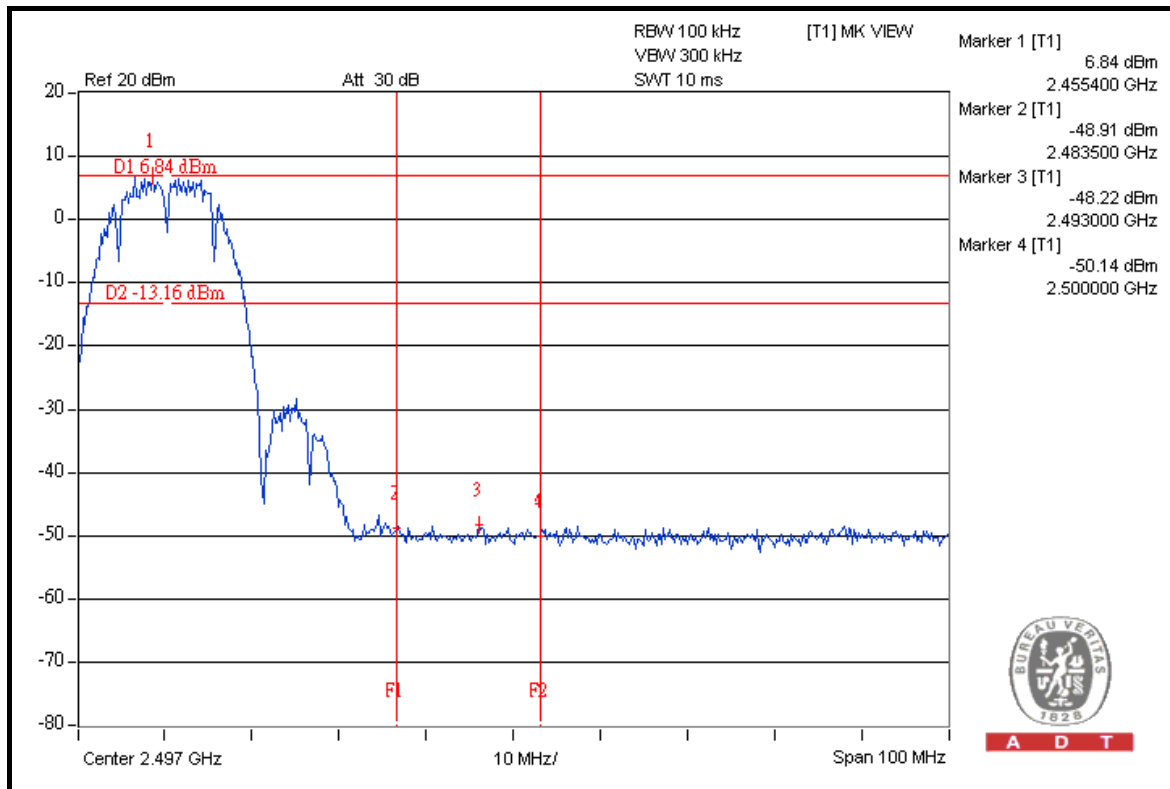
A D T



A D T

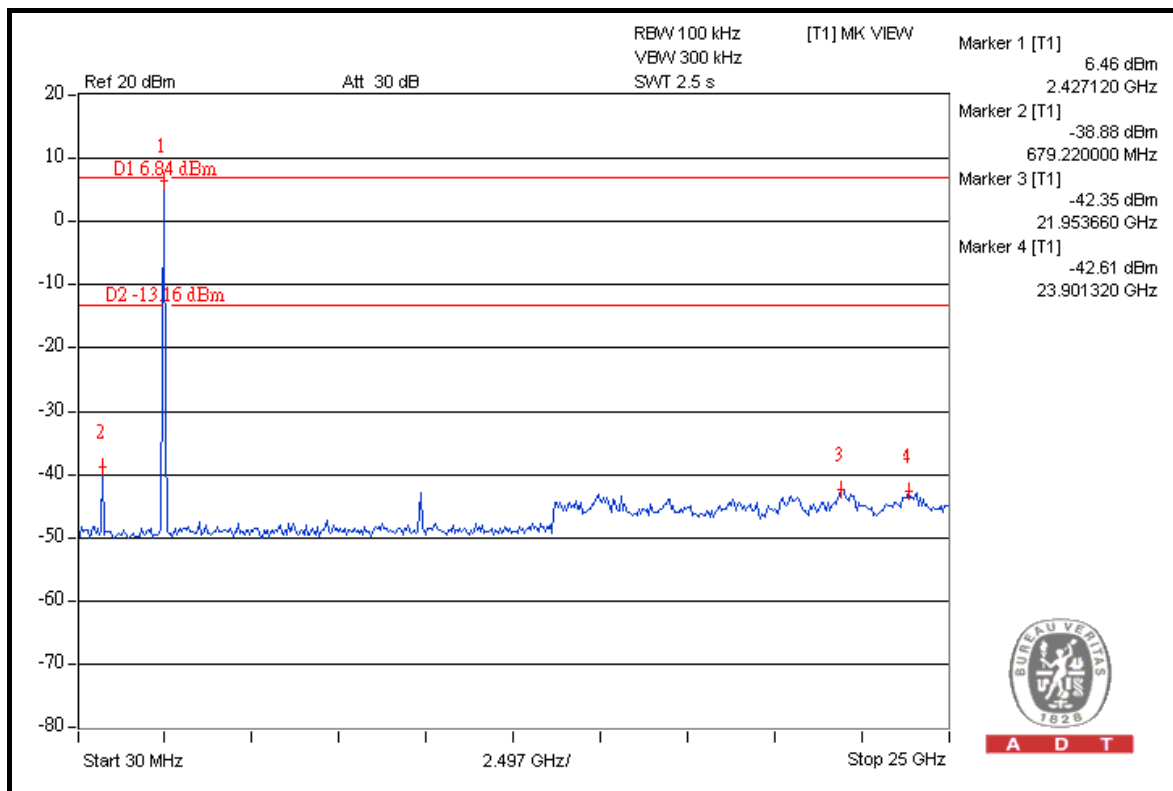


A D T

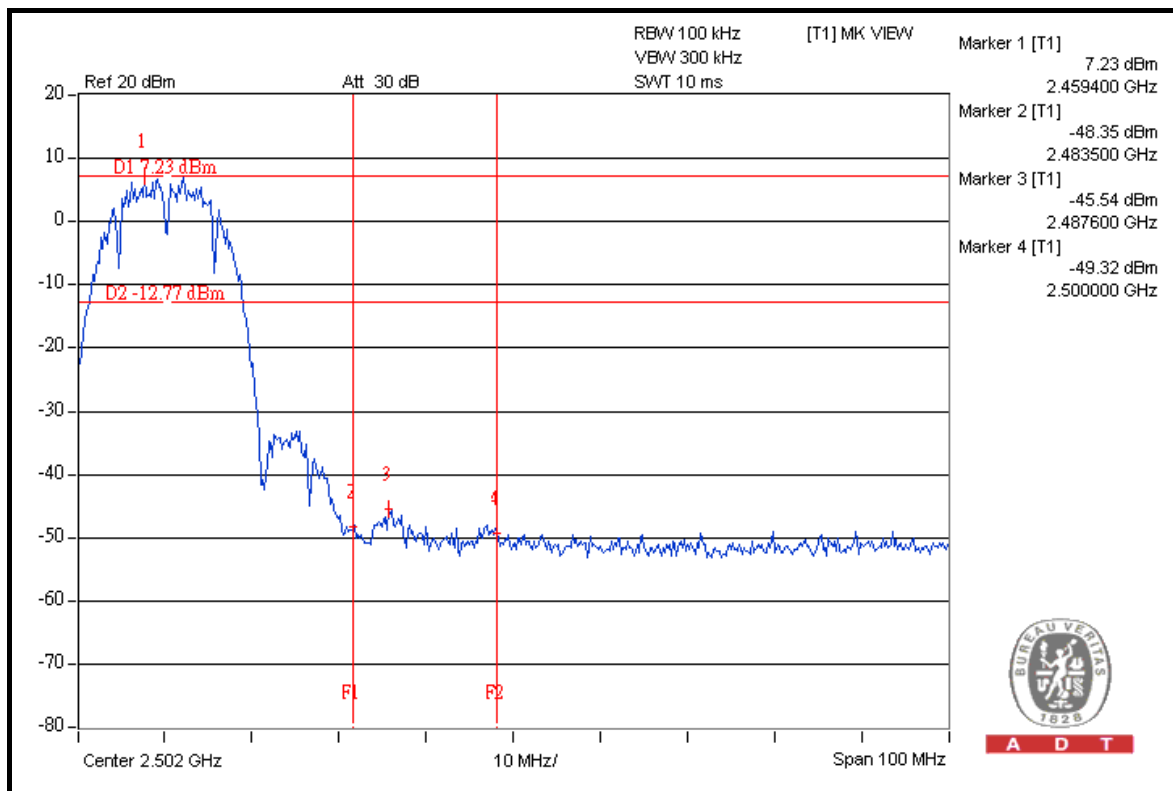




A D T



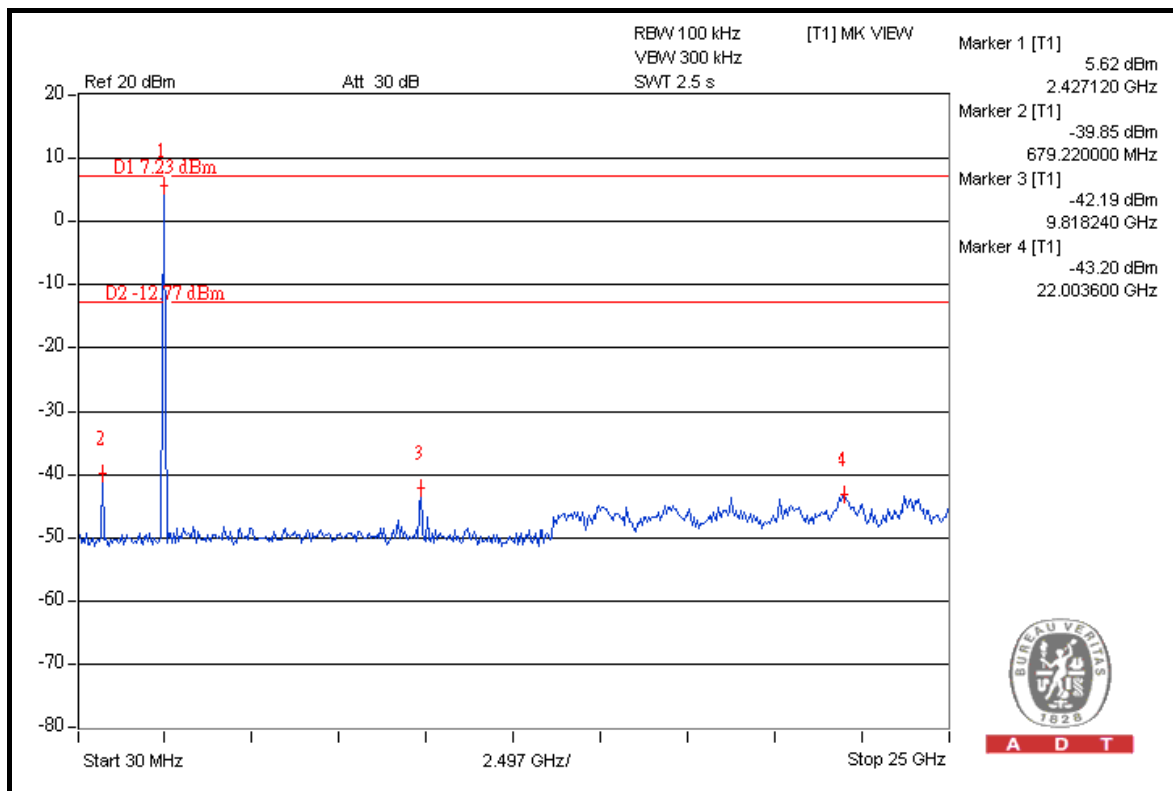
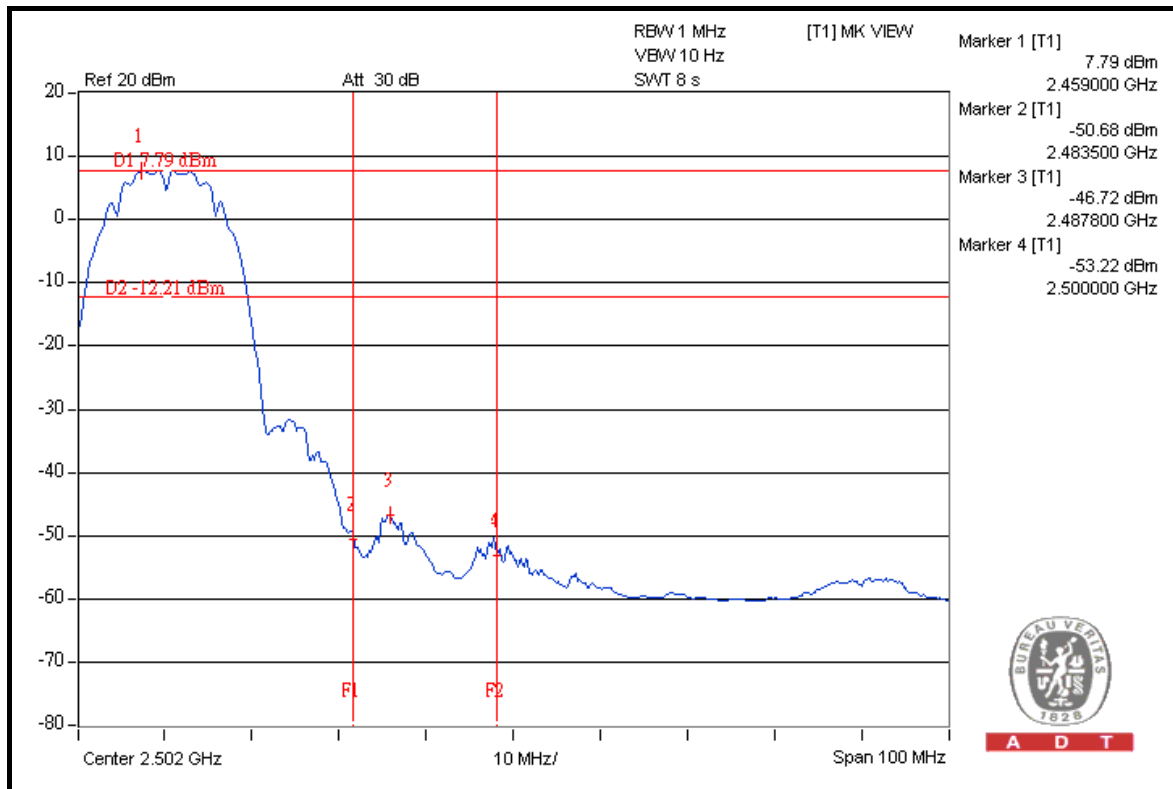
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802.11g OFDM MODULATION

NOTE 1: The band edge emission plot on the next second page shows 47.14dBc between carrier maximum power and local maximum emission in restrict band (2.3896GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.1.7 is 113.69dBuV/m (Peak), so the maximum field strength in restrict band is $113.69 - 47.14 = 66.55$ dBuV/m which is under 74dBuV/m limit.

The band edge emission plot on the next second page shows 49.66dBc between carrier maximum power and local maximum emission in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.1.7 is 102.35dBuV/m (Average), so the maximum field strength in restrict band is $102.35 - 49.66 = 52.69$ dBuV/m which is under 54dBuV/m limit.

NOTE 2: The band edge emission plot on the next third page shows 48.01dBc between carrier maximum power and local maximum emission in restrict band (2.3898GHz). The emission of carrier strength list in the test result of channel 2 at the item 4.1.7 is 114.60dBuV/m (Peak), so the maximum field strength in restrict band is $114.60 - 48.01 = 66.59$ dBuV/m which is under 74dBuV/m limit.

The band edge emission plot on the next fourth page shows 54.41dBc between carrier maximum power and local maximum emission in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 2 at the item 4.1.7 is 103.78dBuV/m (Average), so the maximum field strength in restrict band is $103.78 - 54.41 = 49.37$ dBuV/m which is under 54dBuV/m limit.

NOTE 3: The band edge emission plot on the next fourth page shows 47.26dBc between carrier maximum power and local maximum emission in restrict band (2.4836GHz). The emission of carrier strength list in the test result of channel 10 at the item 4.1.7 is 114.38dBuV/m (Peak), so the maximum field strength in restrict band is $114.38 - 47.26 = 67.12\text{dBuV/m}$ which is under 74dBuV/m limit.

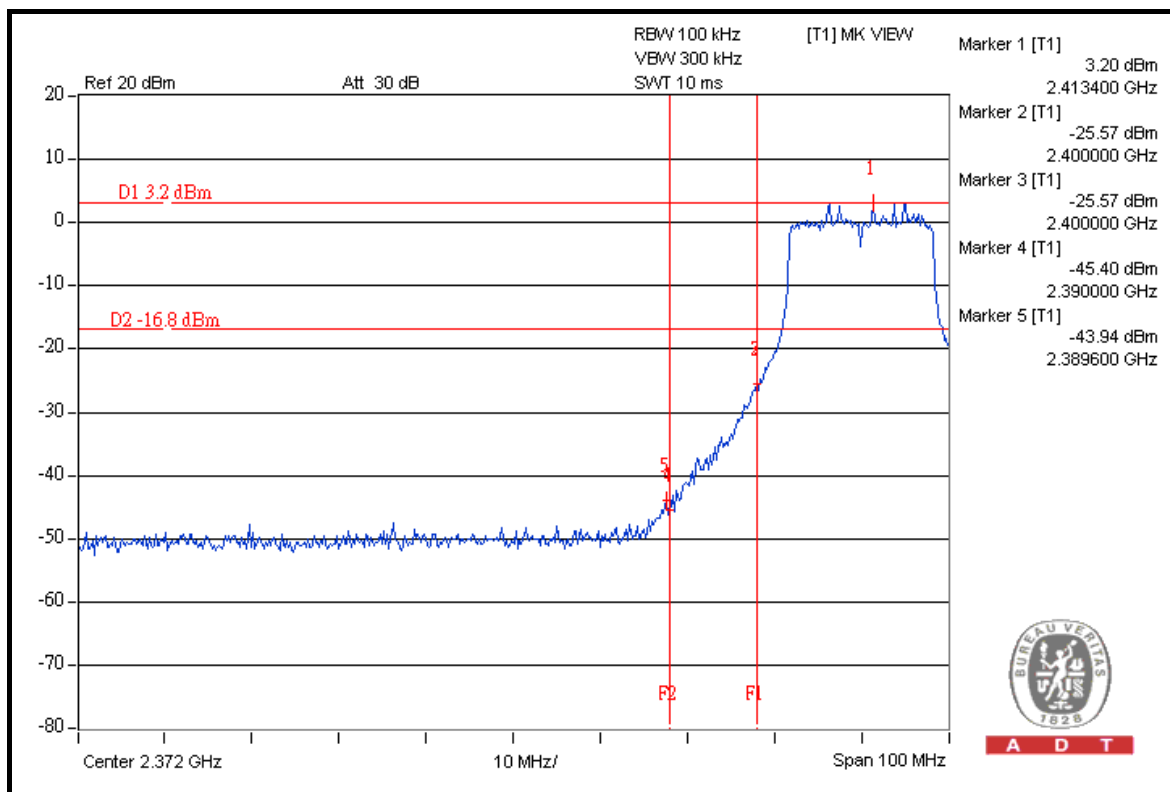
The band edge emission plot on the next fourth page shows 51.29dBc between carrier maximum power and local maximum emission in restrict band (2.4835GHz). The emission of carrier strength list in the test result of channel 10 at the item 4.1.7 is 103.10dBuV/m (Average), so the maximum field strength in restrict band is $103.10 - 51.29 = 51.81\text{dBuV/m}$ which is under 54dBuV/m limit.

NOTE 4: The band edge emission plot on the next fifth page shows 47.43dBc between carrier maximum power and local maximum emission in restrict band (2.4838GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.1.7 is 113.02dBuV/m (Peak), so the maximum field strength in restrict band is $113.02 - 47.43 = 65.59\text{dBuV/m}$ which is under 74dBuV/m limit.

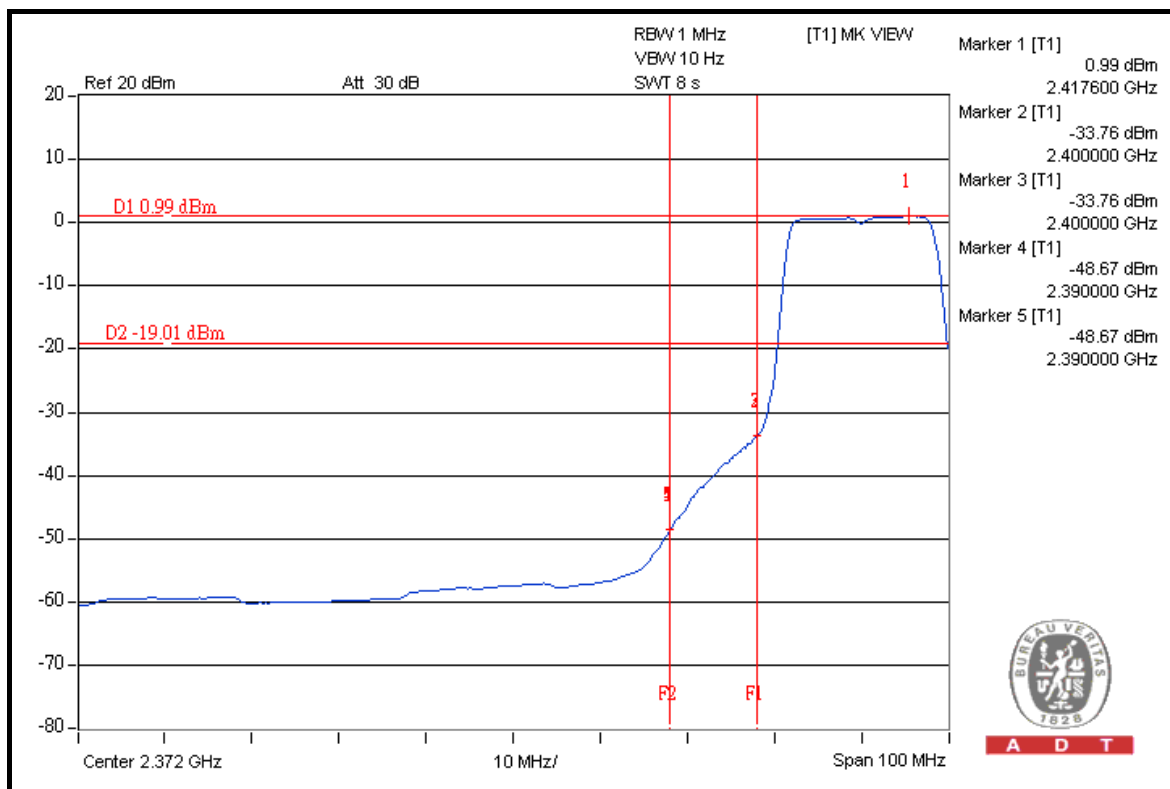
The band edge emission plot on the next sixth page shows 49.24dBc between carrier maximum power and local maximum emission in restrict band (2.4835GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.1.7 is 101.72dBuV/m (Average), so the maximum field strength in restrict band is $101.72 - 49.24 = 52.48\text{dBuV/m}$ which is under 54dBuV/m limit.



A D T



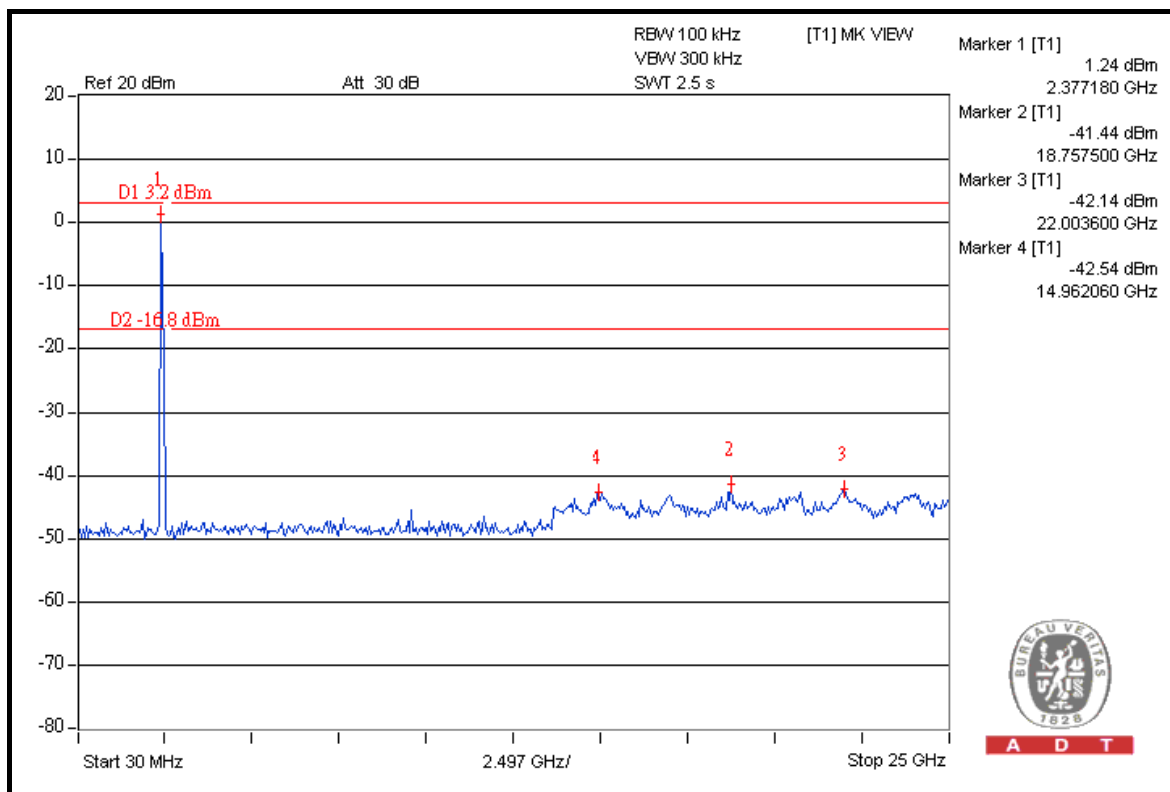
A D T



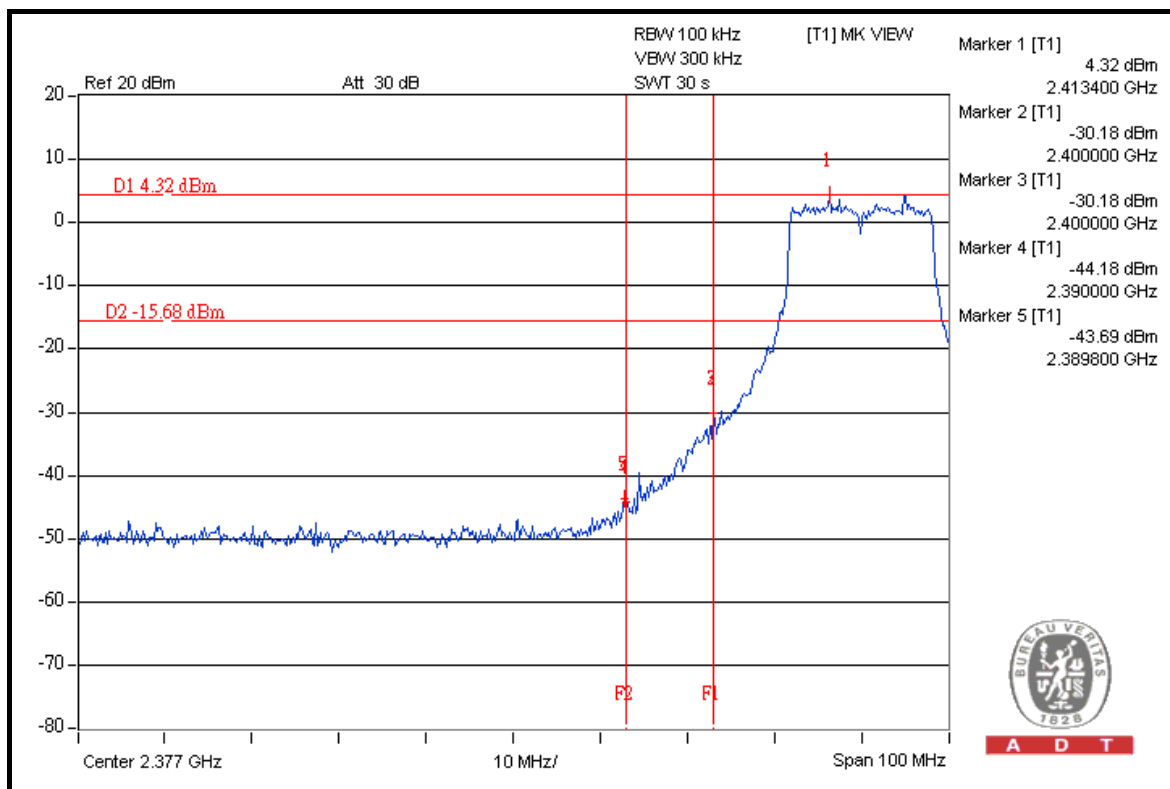
A D T



A D T



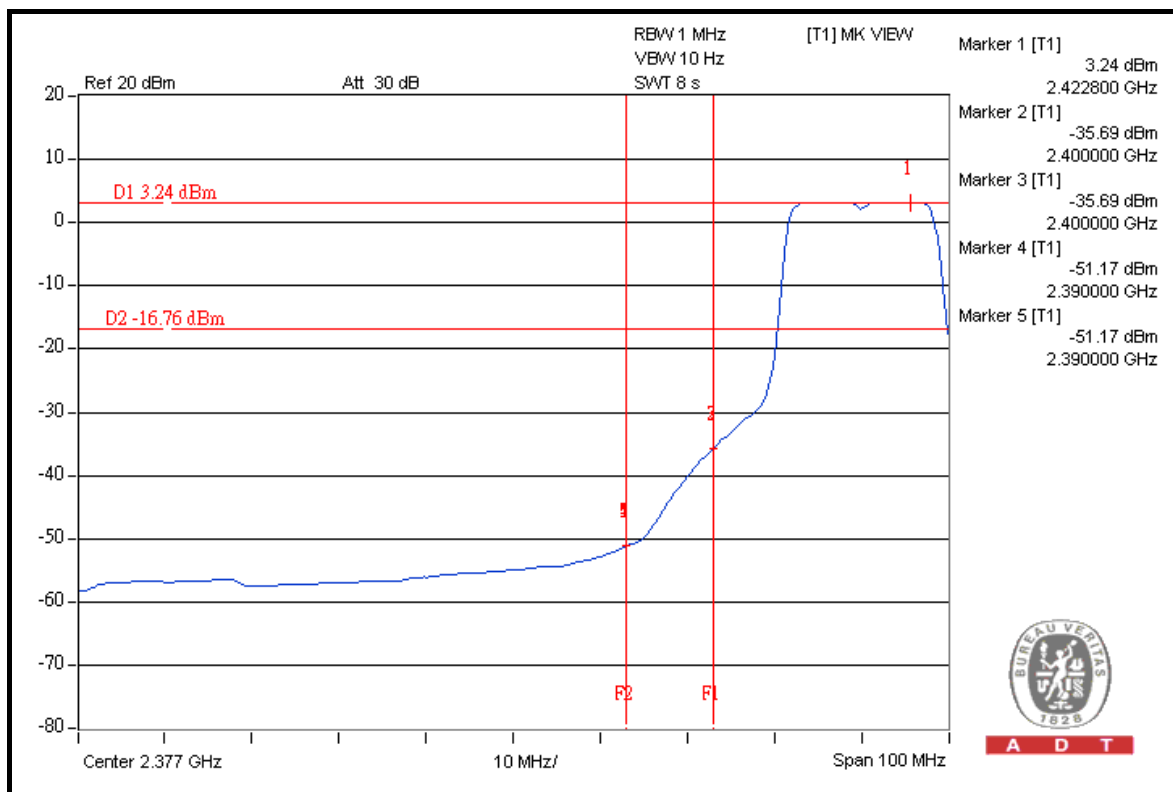
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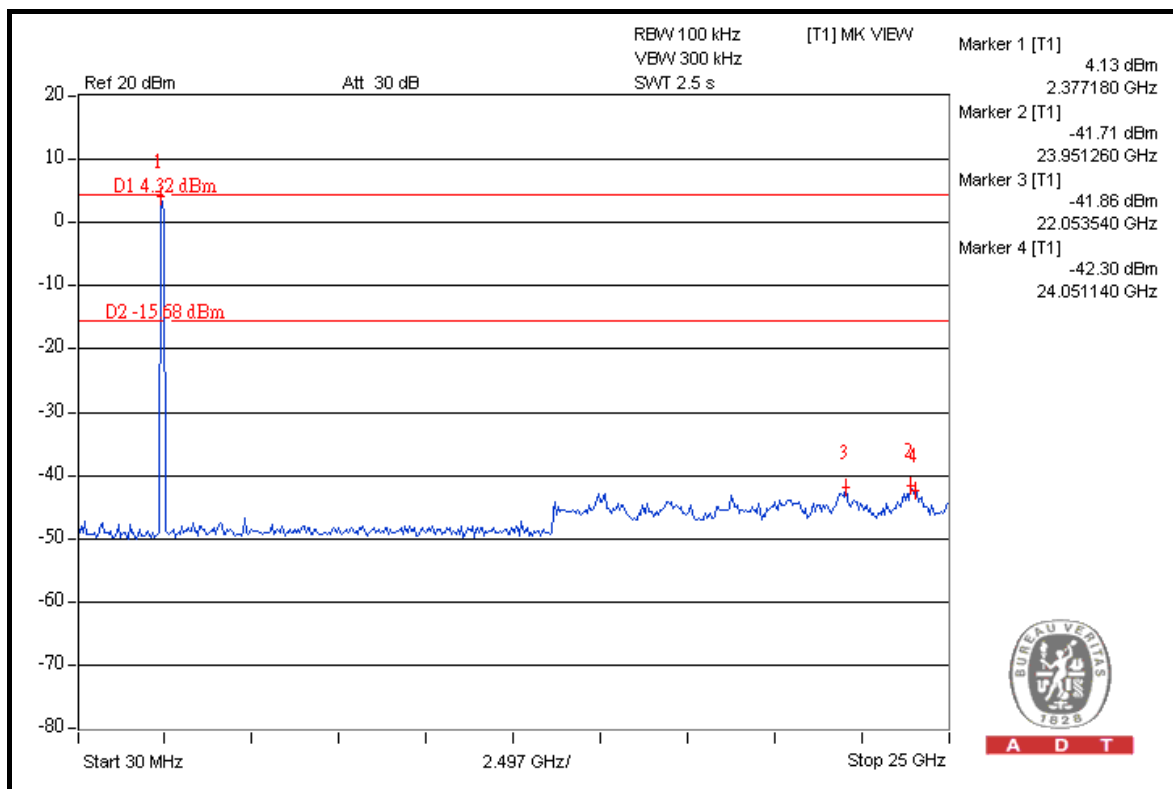
A D T



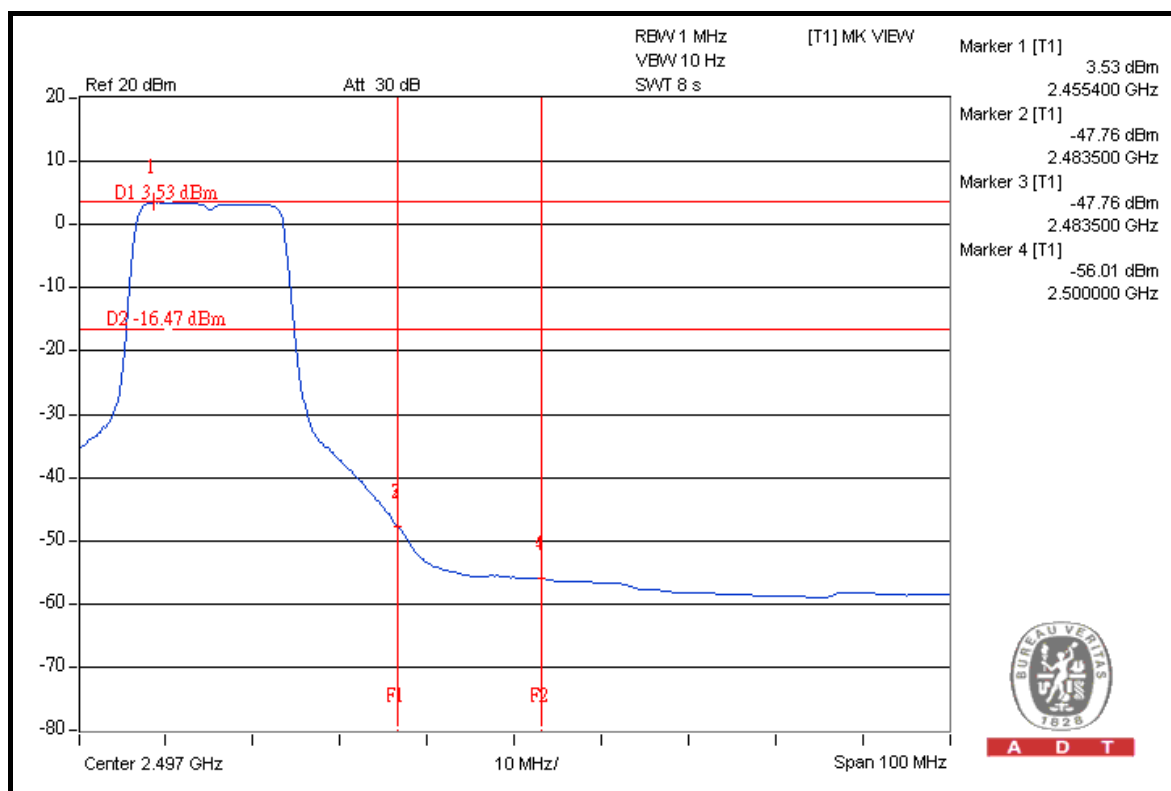
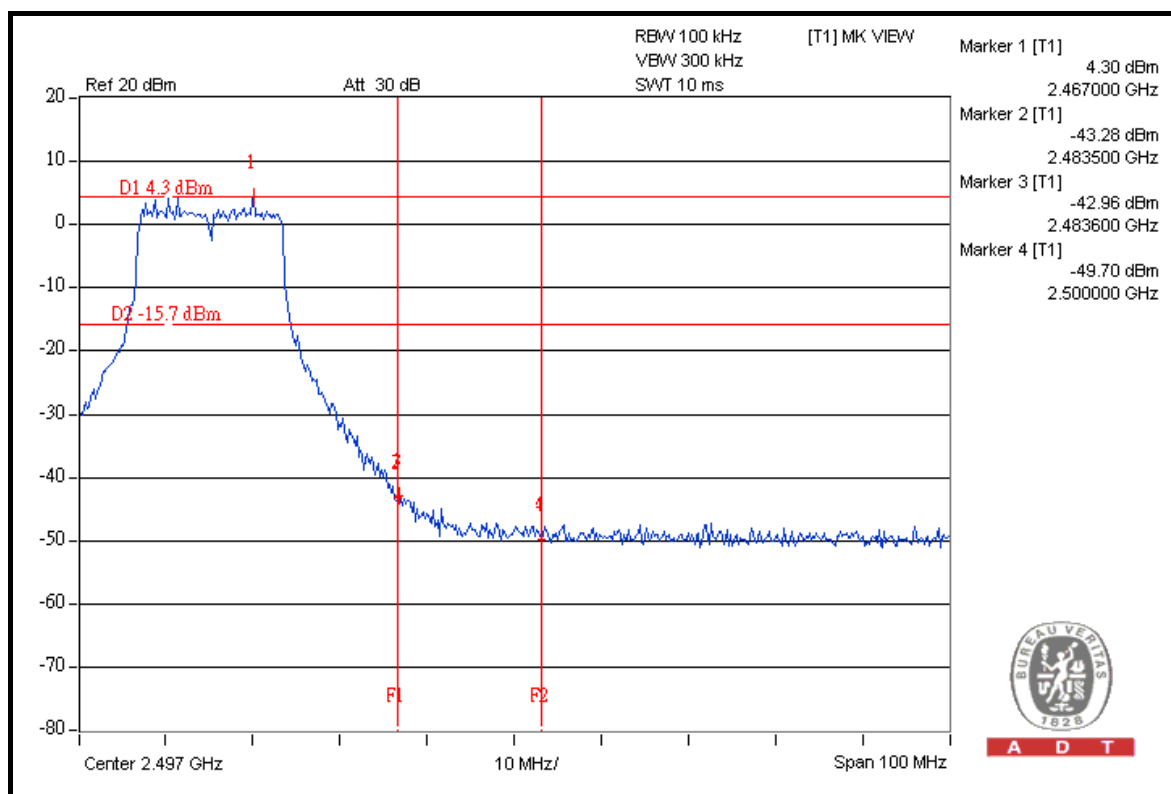
A D T



A D T

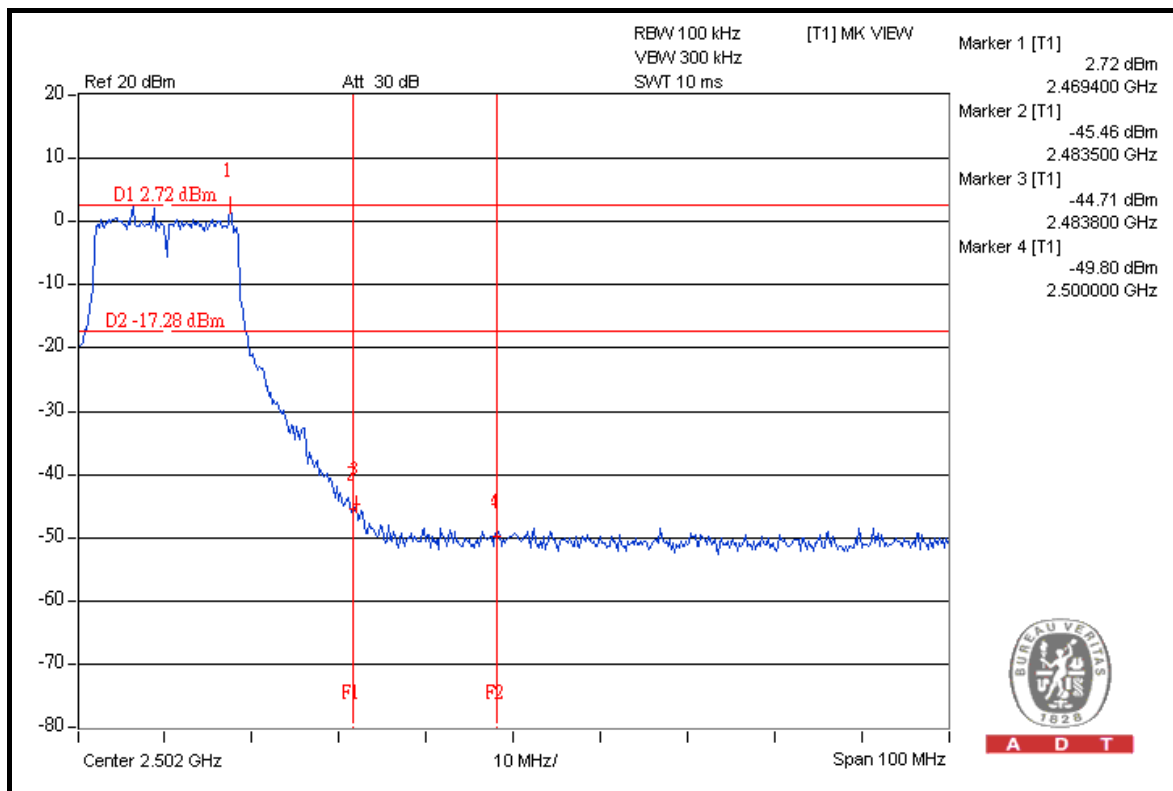
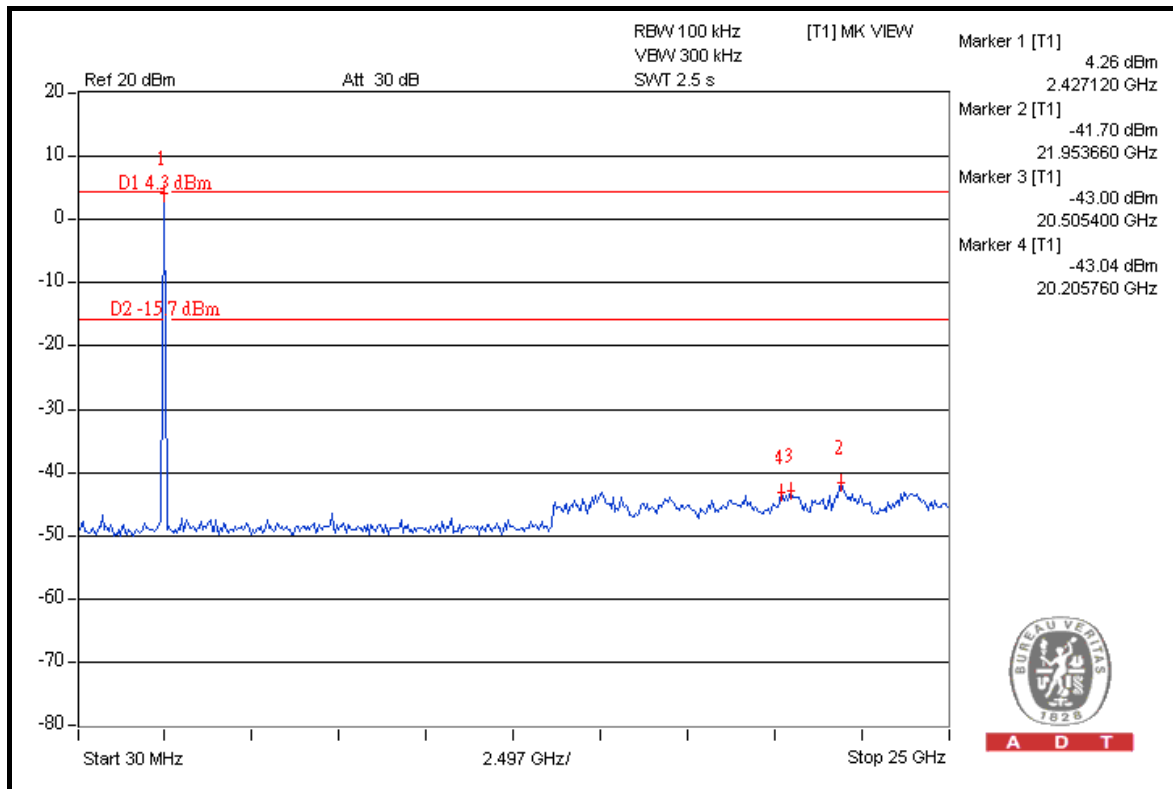


A D T



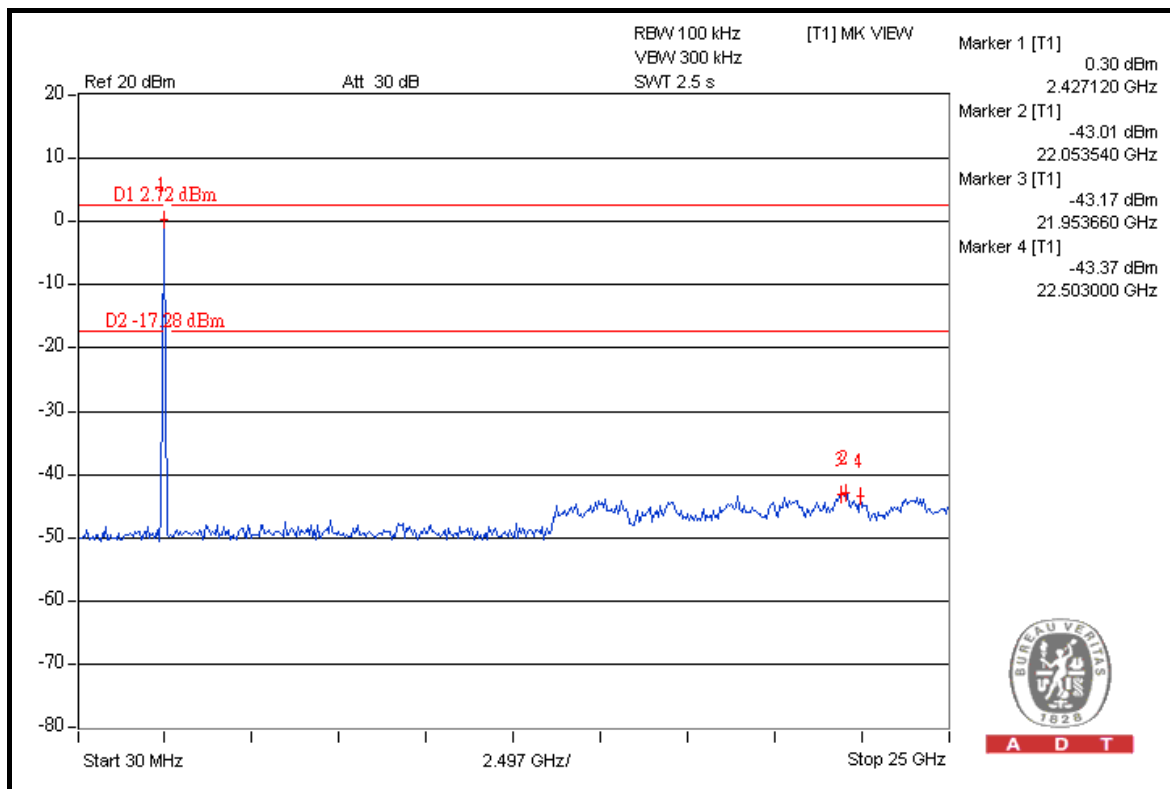
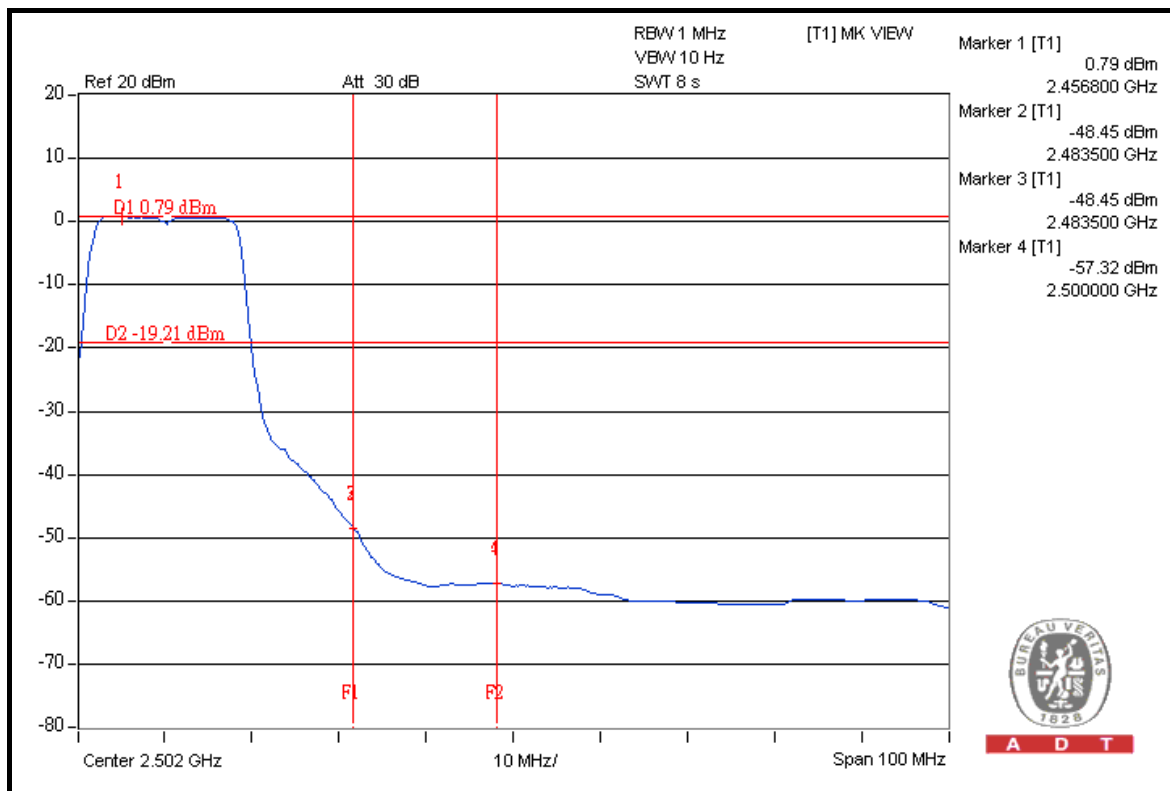


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DRAFT 802.11n (20MHz) OFDM MODULATION

NOTE 1: The band edge emission plot on the next second page shows 45.40dBc between carrier maximum power and local maximum emission in restrict band (2.3888GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.1.7 is 110.97dBuV/m (Peak), so the maximum field strength in restrict band is $110.97 - 45.40 = 65.57\text{dBuV/m}$ which is under 74dBuV/m limit.

The band edge emission plot on the next second page shows 47.02dBc between carrier maximum power and local maximum emission in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.1.7 is 99.90dBuV/m (Average), so the maximum field strength in restrict band is $99.90 - 47.02 = 52.88\text{dBuV/m}$ which is under 54dBuV/m limit.

NOTE 2: The band edge emission plot on the next third page shows 47.89dBc between carrier maximum power and local maximum emission in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 2 at the item 4.1.7 is 114.12dBuV/m (Peak), so the maximum field strength in restrict band is $114.12 - 47.89 = 66.23\text{dBuV/m}$ which is under 74dBuV/m limit.

The band edge emission plot on the next fourth page shows 53.49dBc between carrier maximum power and local maximum emission in restrict band (2.3898GHz). The emission of carrier strength list in the test result of channel 2 at the item 4.1.7 is 102.90dBuV/m (Average), so the maximum field strength in restrict band is $102.90 - 53.49 = 49.41\text{dBuV/m}$ which is under 54dBuV/m limit.

NOTE 3: The band edge emission plot on the next fourth page shows 49.46dBc between carrier maximum power and local maximum emission in restrict band (2.4880GHz). The emission of carrier strength list in the test result of channel 10 at the item 4.1.7 is 114.64dBuV/m (Peak), so the maximum field strength in restrict band is $114.64 - 49.46 = 65.18\text{dBuV/m}$ which is under 74dBuV/m limit.

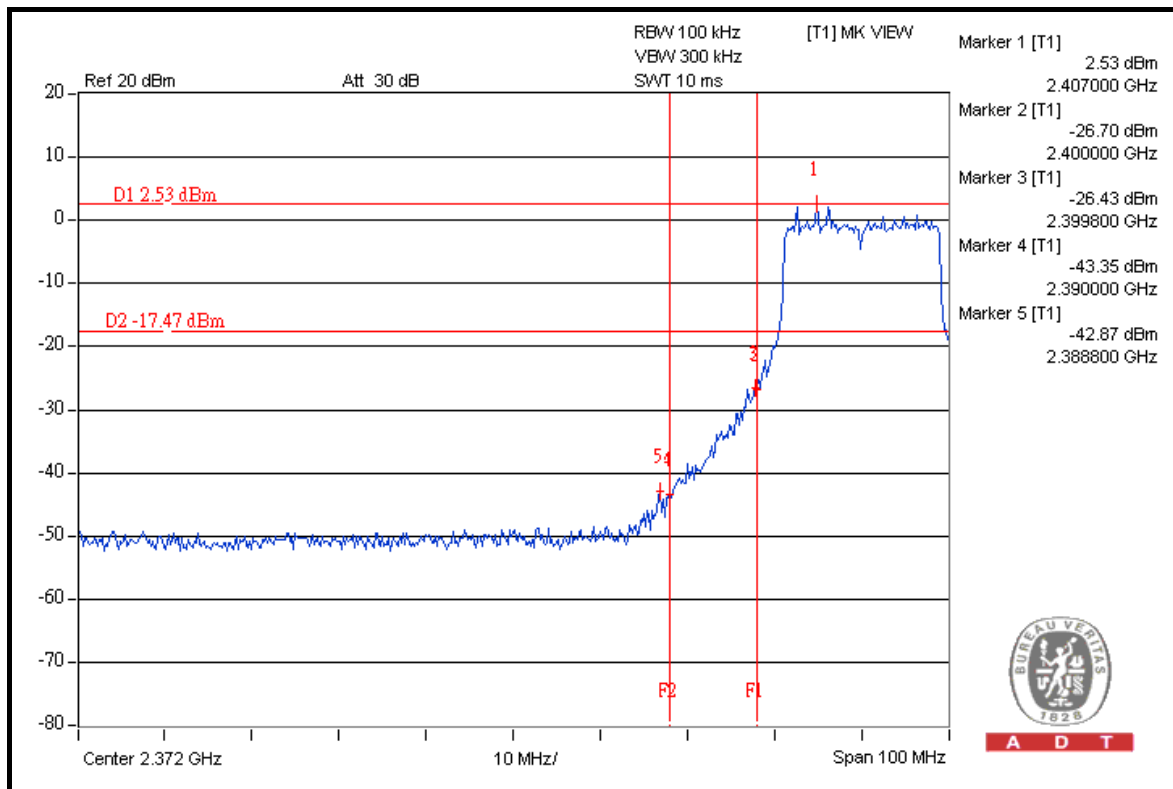
The band edge emission plot on the next fourth page shows 55.13dBc between carrier maximum power and local maximum emission in restrict band (2.4835GHz). The emission of carrier strength list in the test result of channel 10 at the item 4.1.7 is 102.48dBuV/m (Average), so the maximum field strength in restrict band is $102.48 - 55.13 = 47.35\text{dBuV/m}$ which is under 54dBuV/m limit.

NOTE 4: The band edge emission plot on the next fifth page shows 44.63dBc between carrier maximum power and local maximum emission in restrict band (2.4838GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.1.7 is 110.58dBuV/m (Peak), so the maximum field strength in restrict band is $110.58 - 44.63 = 65.95\text{dBuV/m}$ which is under 74dBuV/m limit.

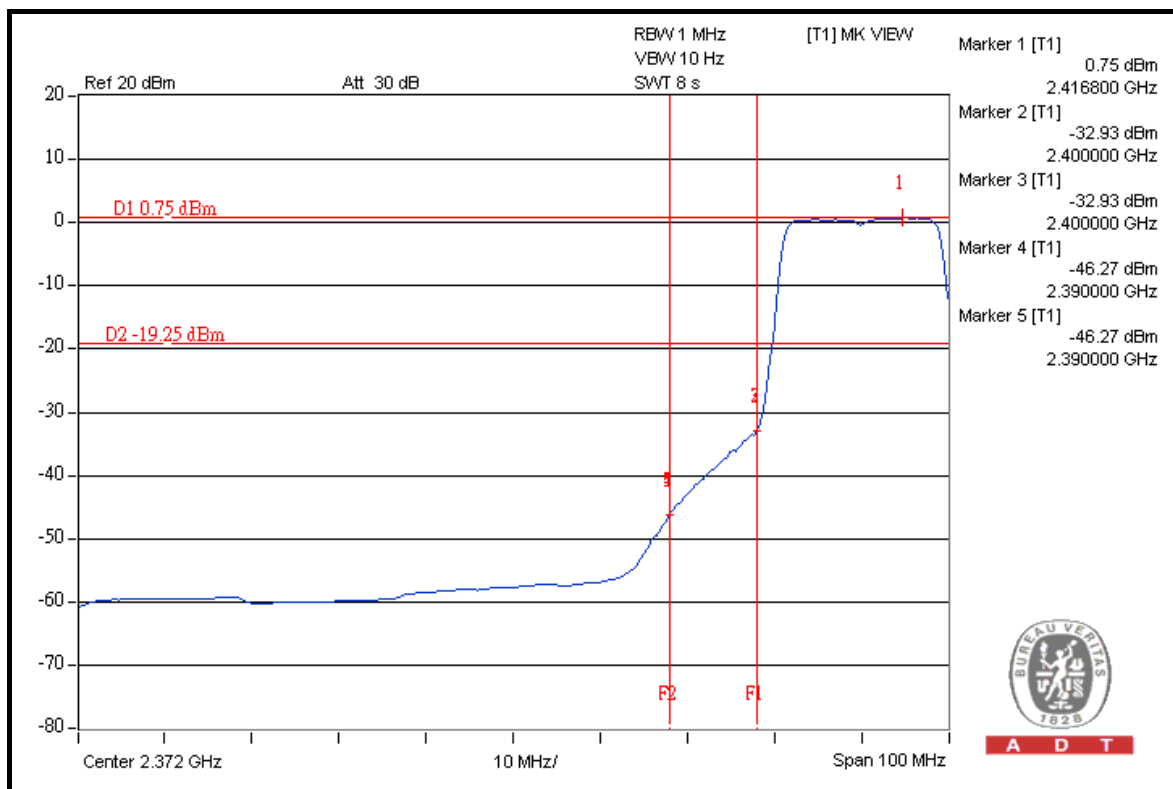
The band edge emission plot on the next sixth page shows 47.80dBc between carrier maximum power and local maximum emission in restrict band (2.4835GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.1.7 is 99.43dBuV/m (Average), so the maximum field strength in restrict band is $99.43 - 47.80 = 51.63\text{dBuV/m}$ which is under 54dBuV/m limit.



A D T



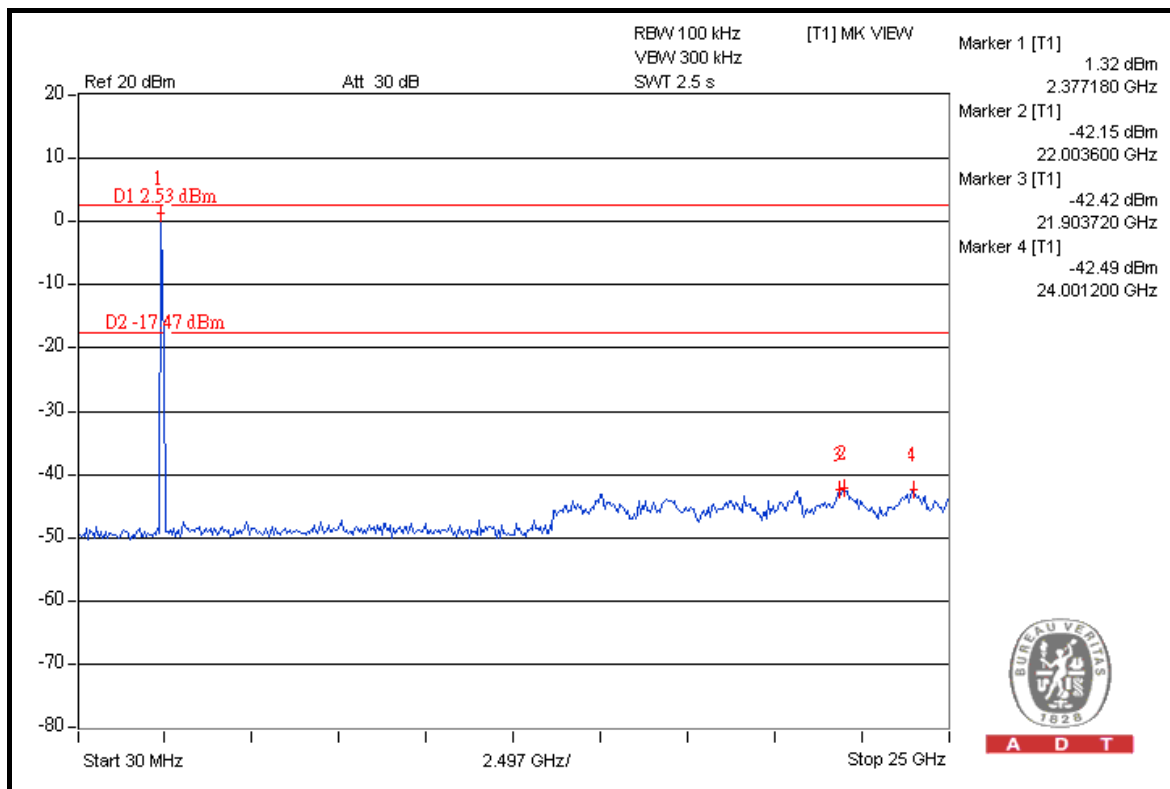
A D T



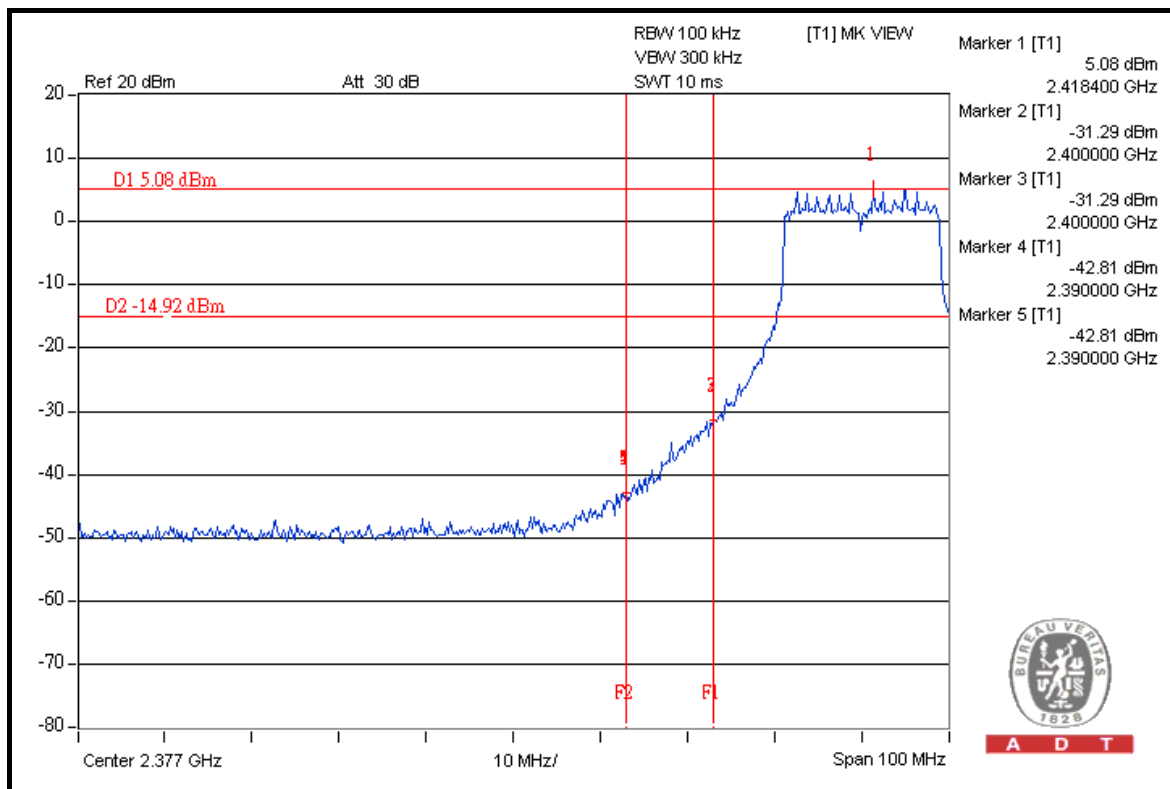
A D T



A D T



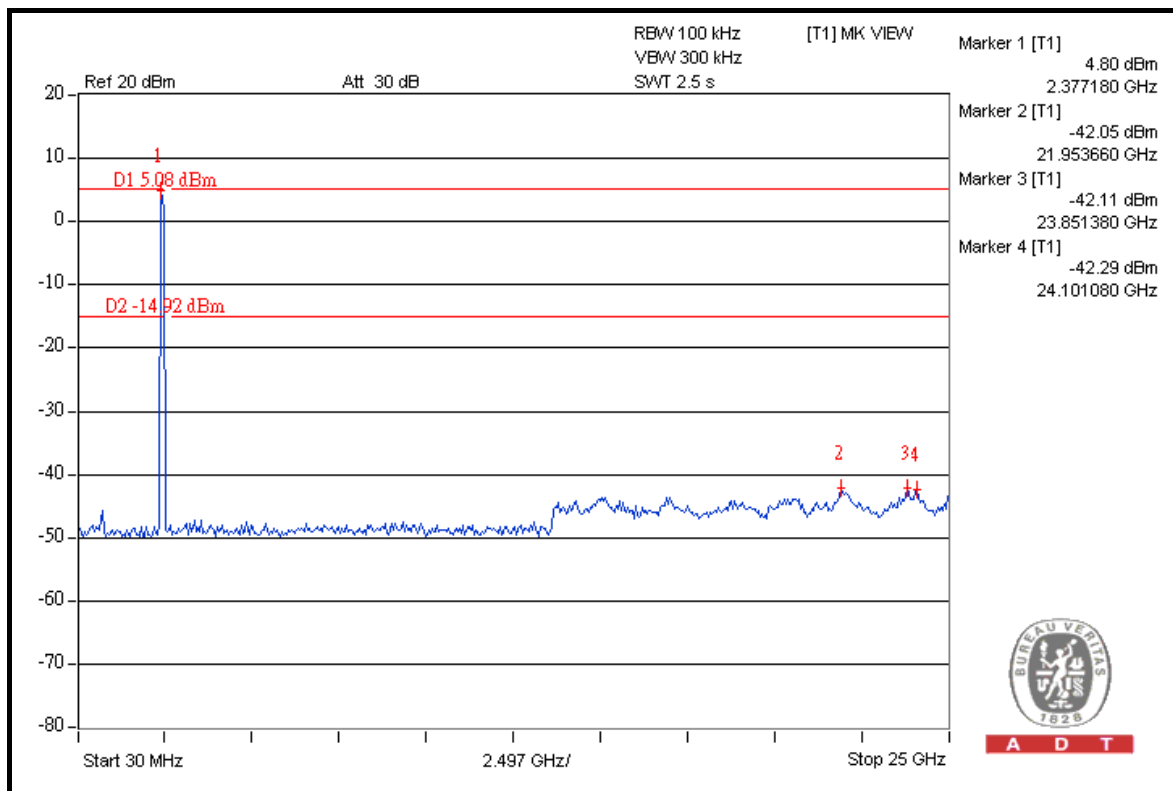
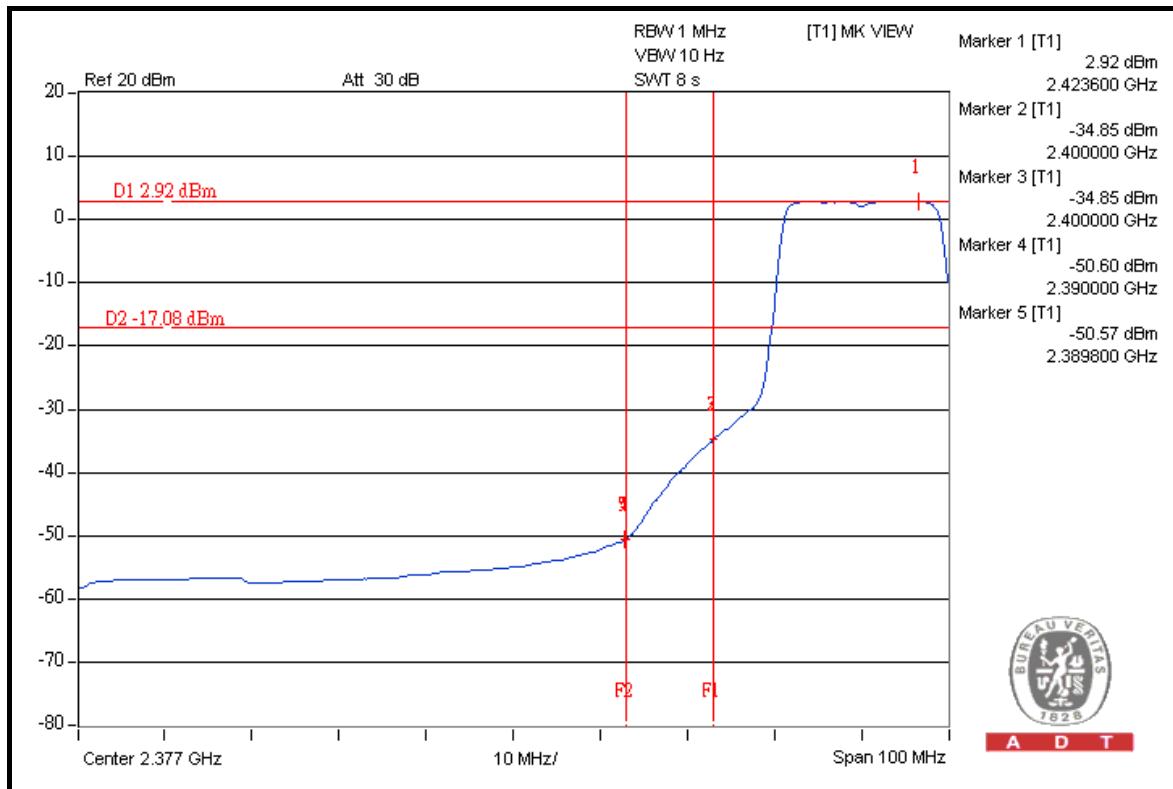
A D T



A D T

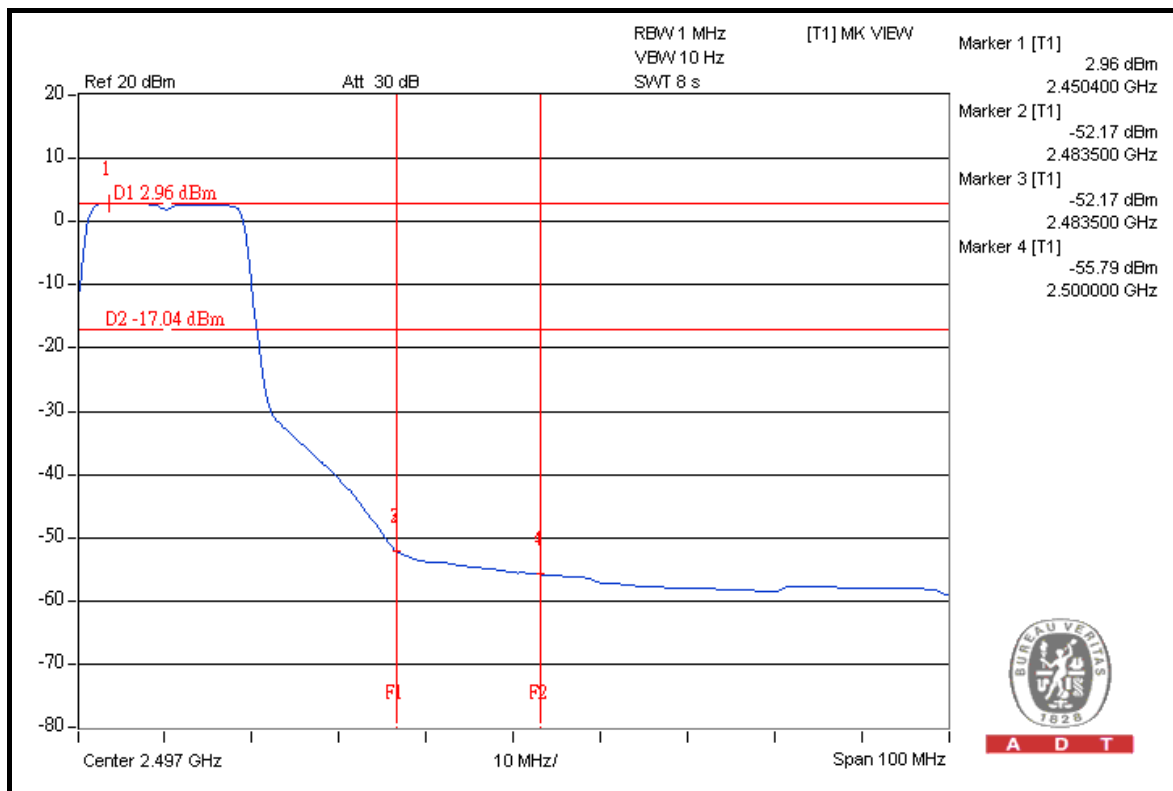
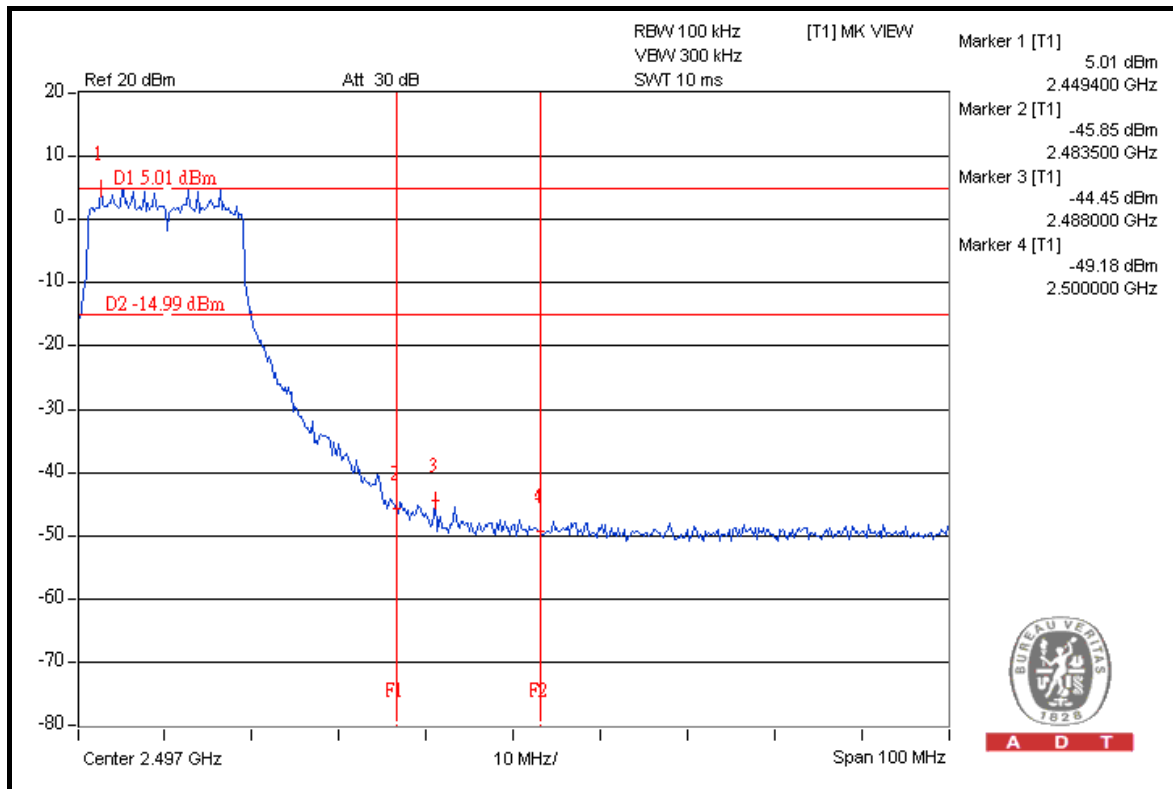


A D T



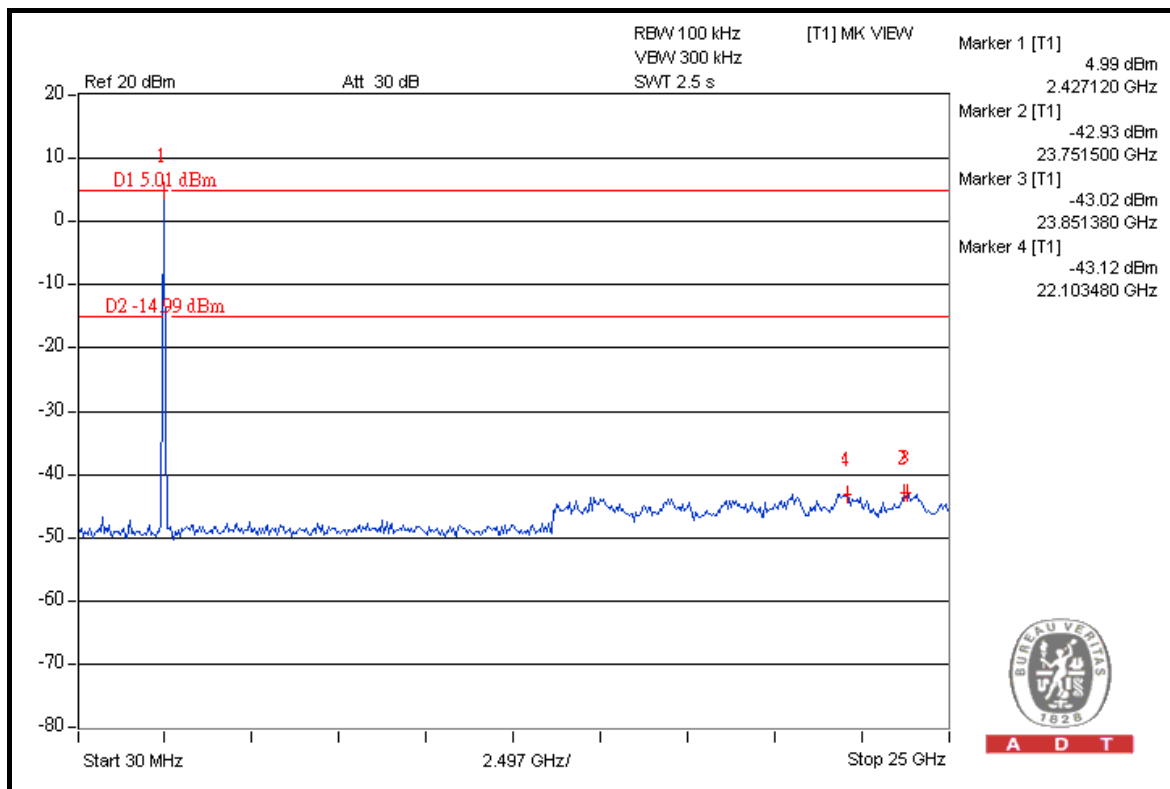


A D T

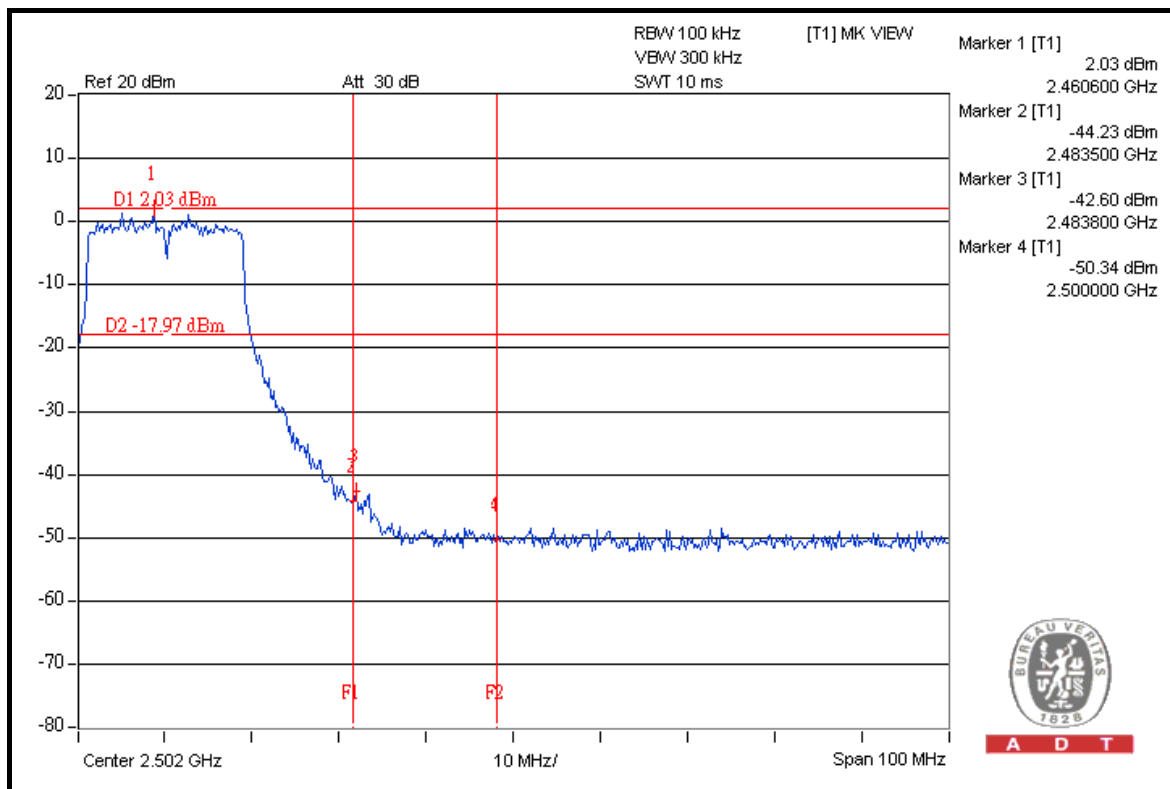




A D T



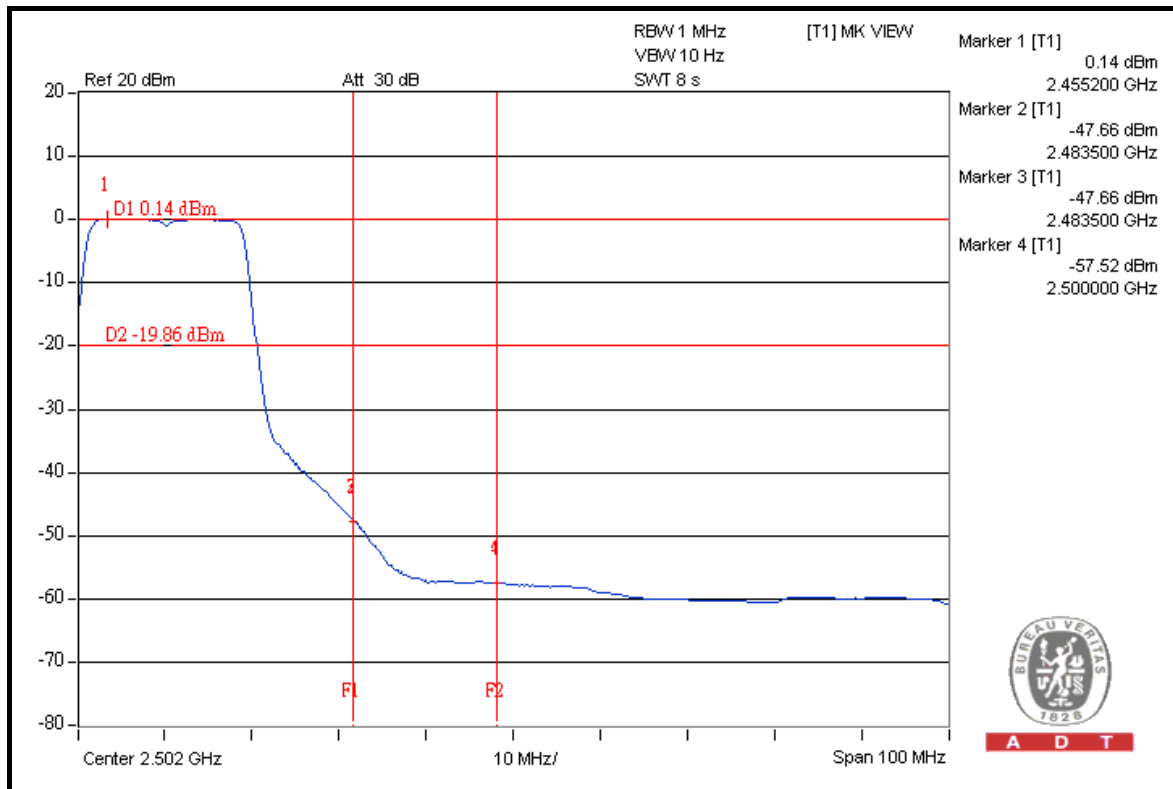
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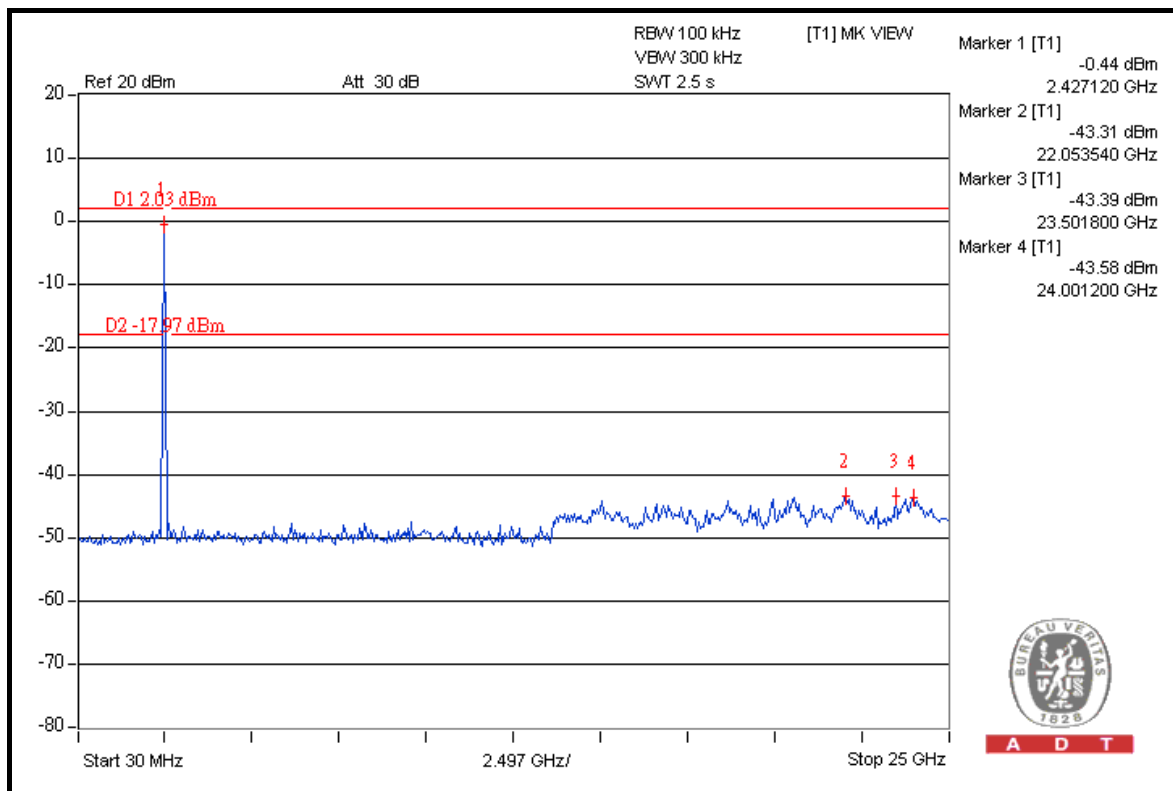
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DRAFT 802.11n (40MHz) OFDM MODULATION

NOTE 1: The band edge emission plot on the next second page shows 39.61dBc between carrier maximum power and local maximum emission in restrict band (2.3868GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.1.7 is 104.79dBuV/m (Peak), so the maximum field strength in restrict band is $104.79 - 39.61 = 65.18$ dBuV/m which is under 74dBuV/m limit.

The band edge emission plot on the next second page shows 40.87dBc between carrier maximum power and local maximum emission in restrict band (2.3896GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.1.7 is 93.41dBuV/m (Average), so the maximum field strength in restrict band is $93.41 - 40.87 = 52.54$ dBuV/m which is under 54dBuV/m limit.

NOTE 2: The band edge emission plot on the next third page shows 39.56dBc between carrier maximum power and local maximum emission in restrict band (2.3898GHz). The emission of carrier strength list in the test result of channel 2 at the item 4.1.7 is 106.64dBuV/m (Peak), so the maximum field strength in restrict band is $106.64 - 39.56 = 67.08$ dBuV/m which is under 74dBuV/m limit.

The band edge emission plot on the next fourth page shows 42.28dBc between carrier maximum power and local maximum emission in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 2 at the item 4.1.7 is 95.11dBuV/m (Average), so the maximum field strength in restrict band is $95.11 - 42.28 = 52.83$ dBuV/m which is under 54dBuV/m limit.

NOTE 3: The band edge emission plot on the next fourth page shows 44.19dBc between carrier maximum power and local maximum emission in restrict band (2.4838GHz). The emission of carrier strength list in the test result of channel 6 at the item 4.1.7 is 106.99dBuV/m (Peak), so the maximum field strength in restrict band is $106.99 - 44.19 = 62.80\text{dBuV/m}$ which is under 74dBuV/m limit.

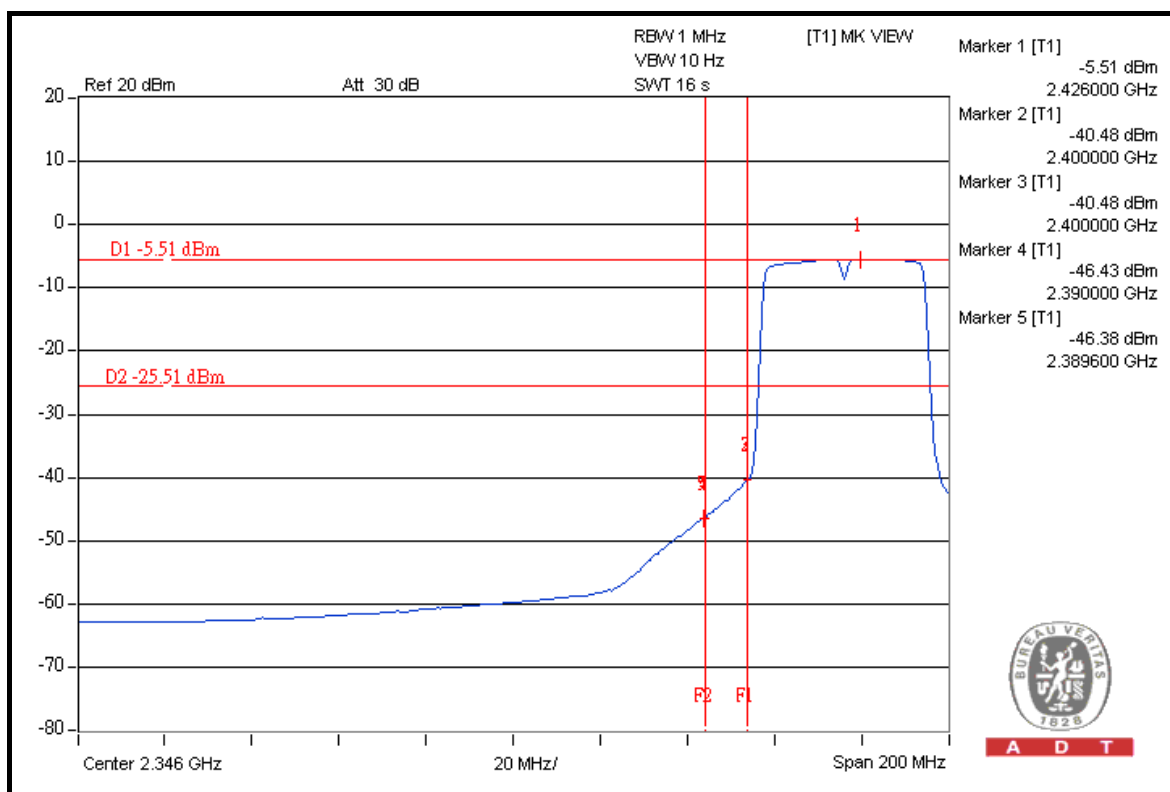
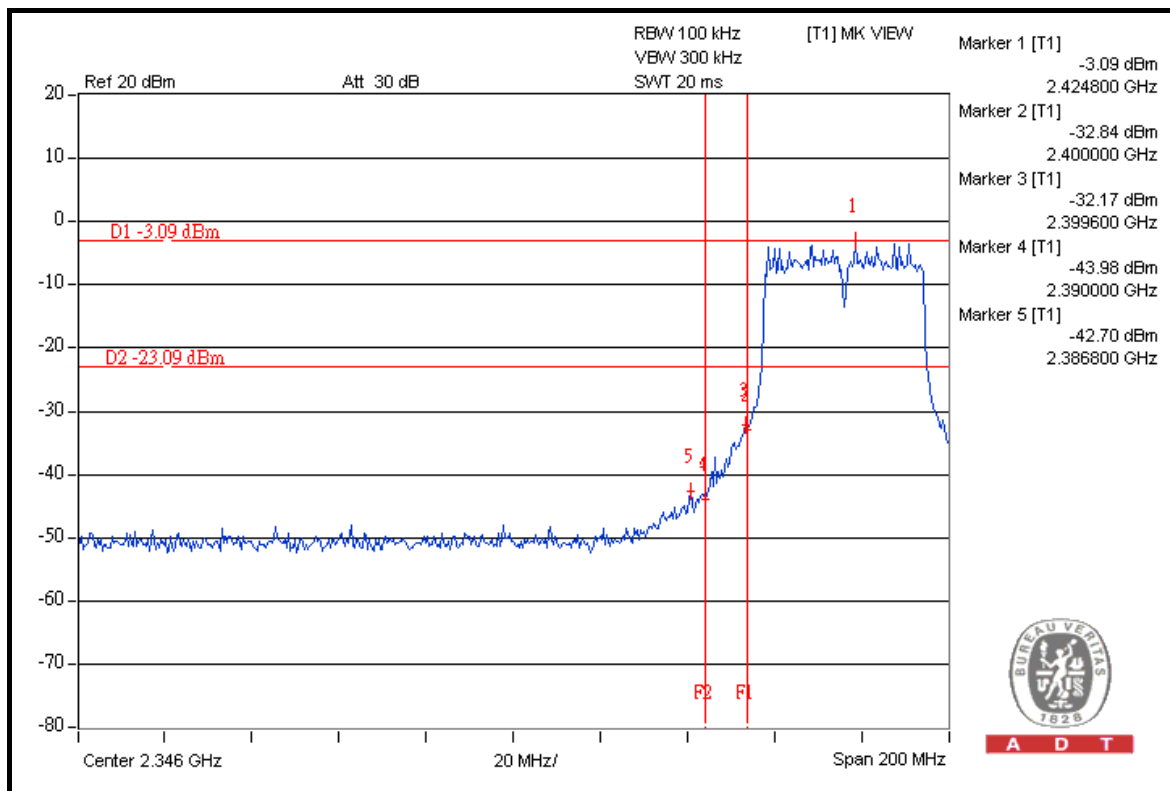
The band edge emission plot on the next fourth page shows 44.76dBc between carrier maximum power and local maximum emission in restrict band (2.4835GHz). The emission of carrier strength list in the test result of channel 6 at the item 4.1.7 is 94.51dBuV/m (Average), so the maximum field strength in restrict band is $94.51 - 44.76 = 49.75\text{dBuV/m}$ which is under 54dBuV/m limit.

NOTE 4: The band edge emission plot on the next fifth page shows 41.99dBc between carrier maximum power and local maximum emission in restrict band (2.4868GHz). The emission of carrier strength list in the test result of channel 7 at the item 4.1.7 is 105.58dBuV/m (Peak), so the maximum field strength in restrict band is $105.58 - 41.99 = 63.59\text{dBuV/m}$ which is under 74dBuV/m limit.

The band edge emission plot on the next sixth page shows 42.04dBc between carrier maximum power and local maximum emission in restrict band (2.4835GHz). The emission of carrier strength list in the test result of channel 7 at the item 4.1.7 is 93.80dBuV/m (Average), so the maximum field strength in restrict band is $93.80 - 42.04 = 51.76\text{dBuV/m}$ which is under 54dBuV/m limit.

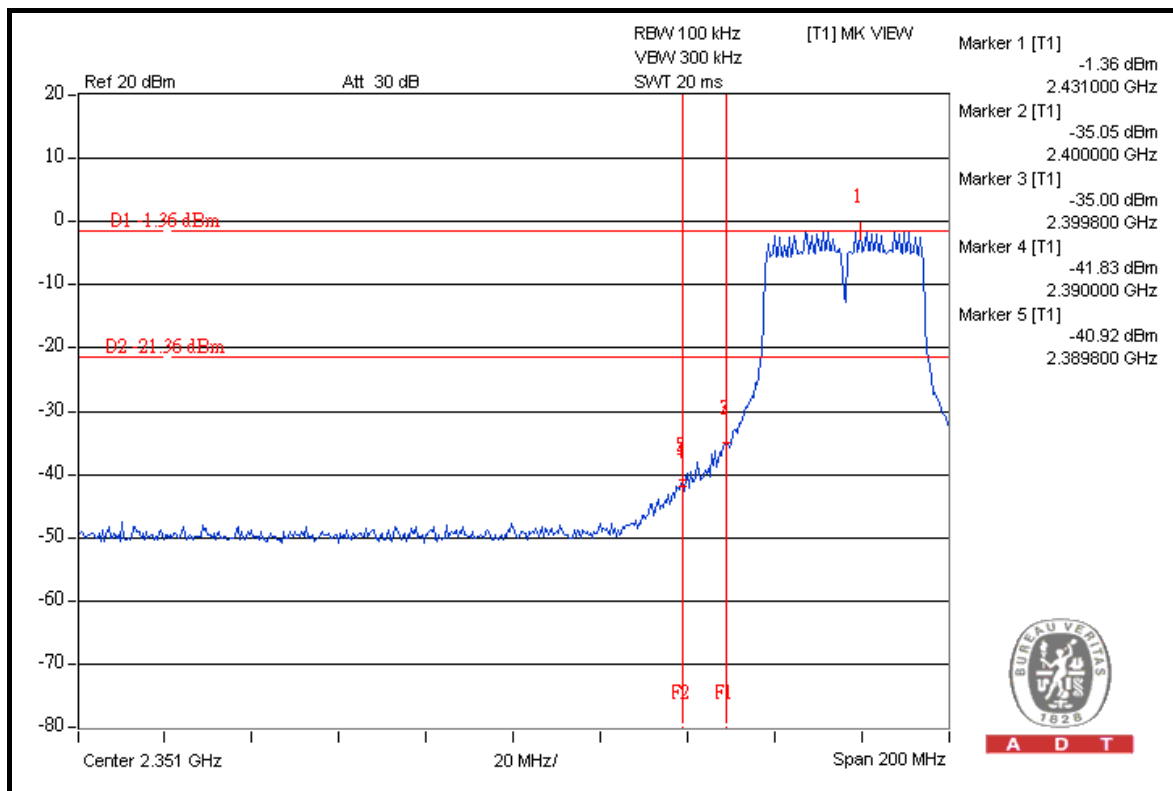
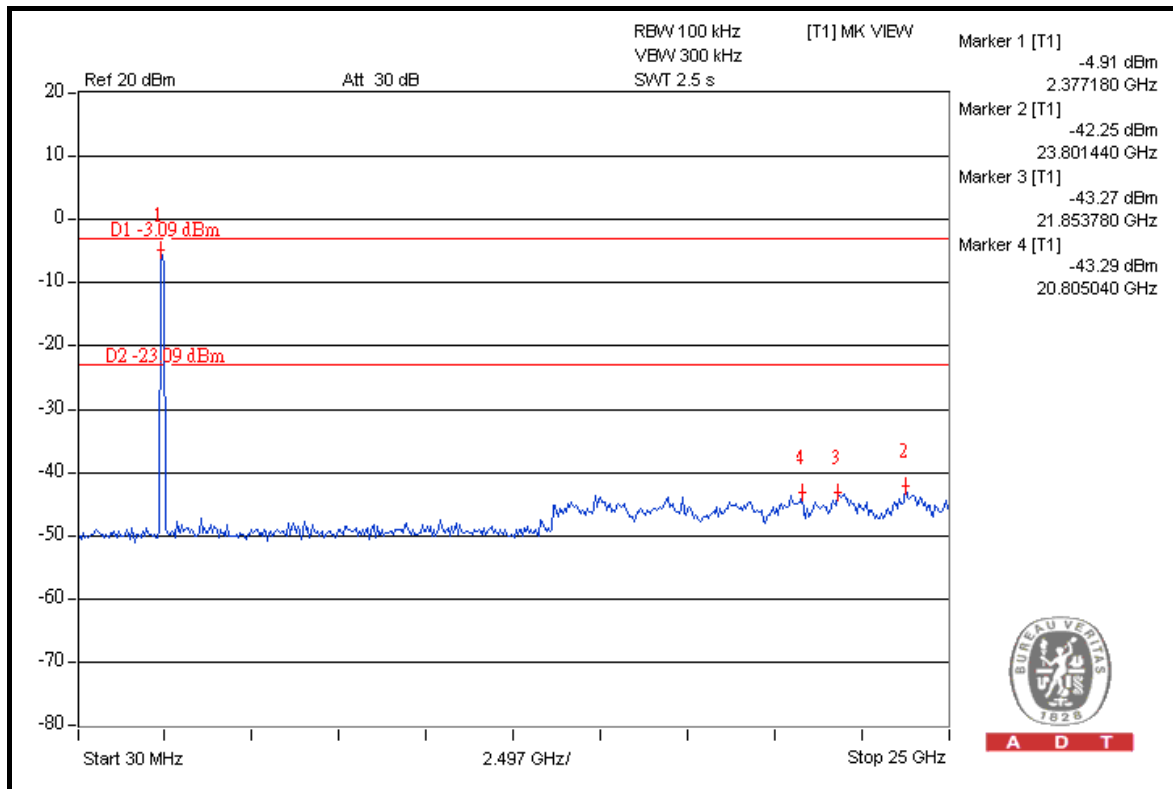


A D T



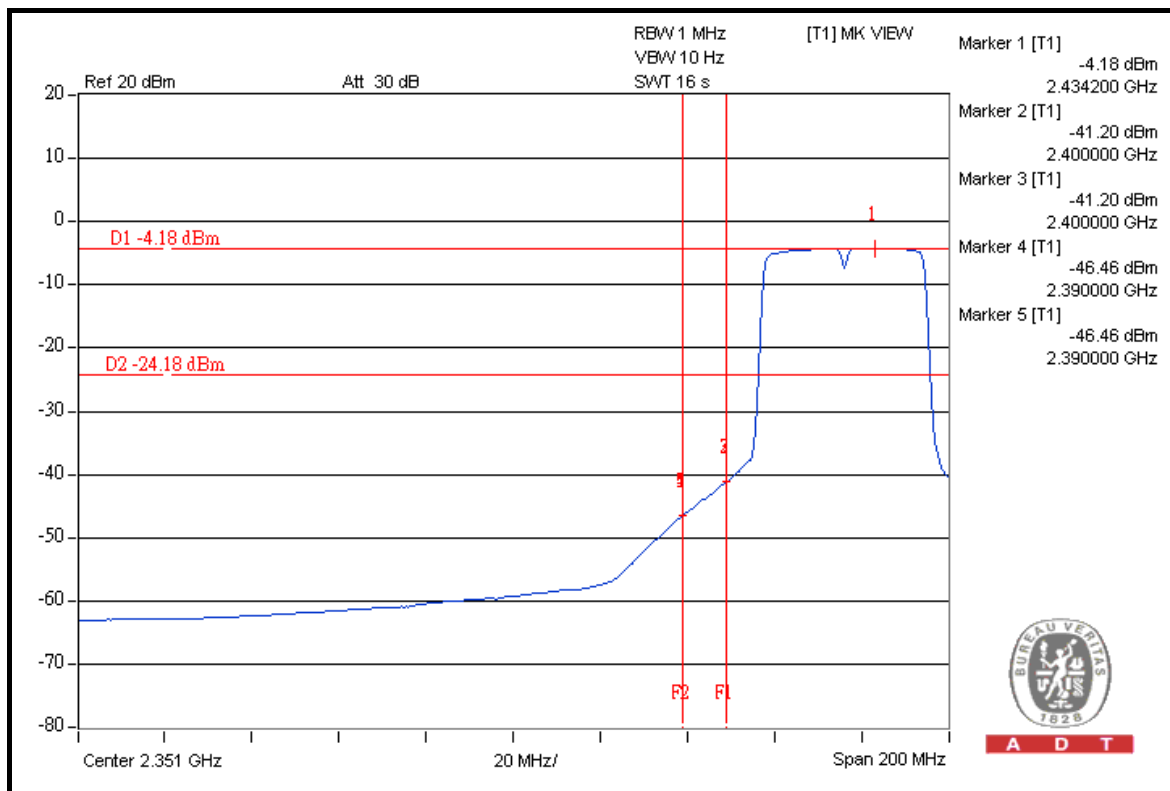


A D T

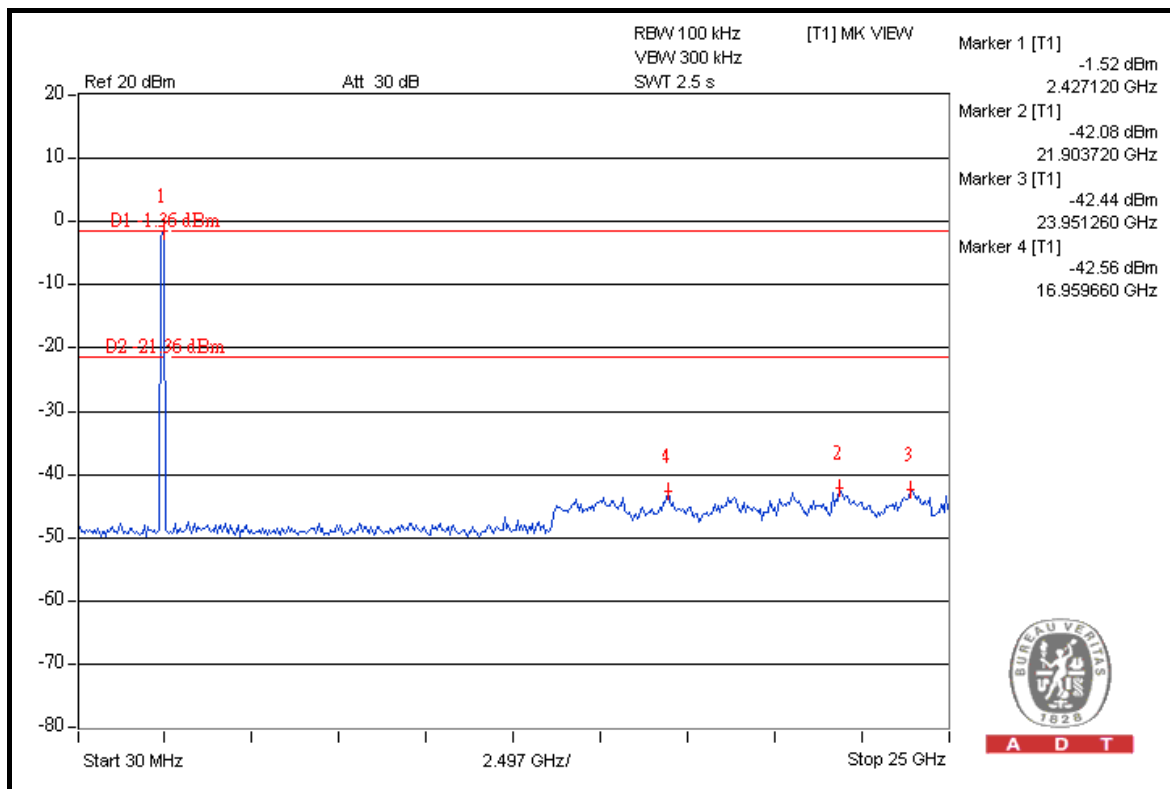




A D T



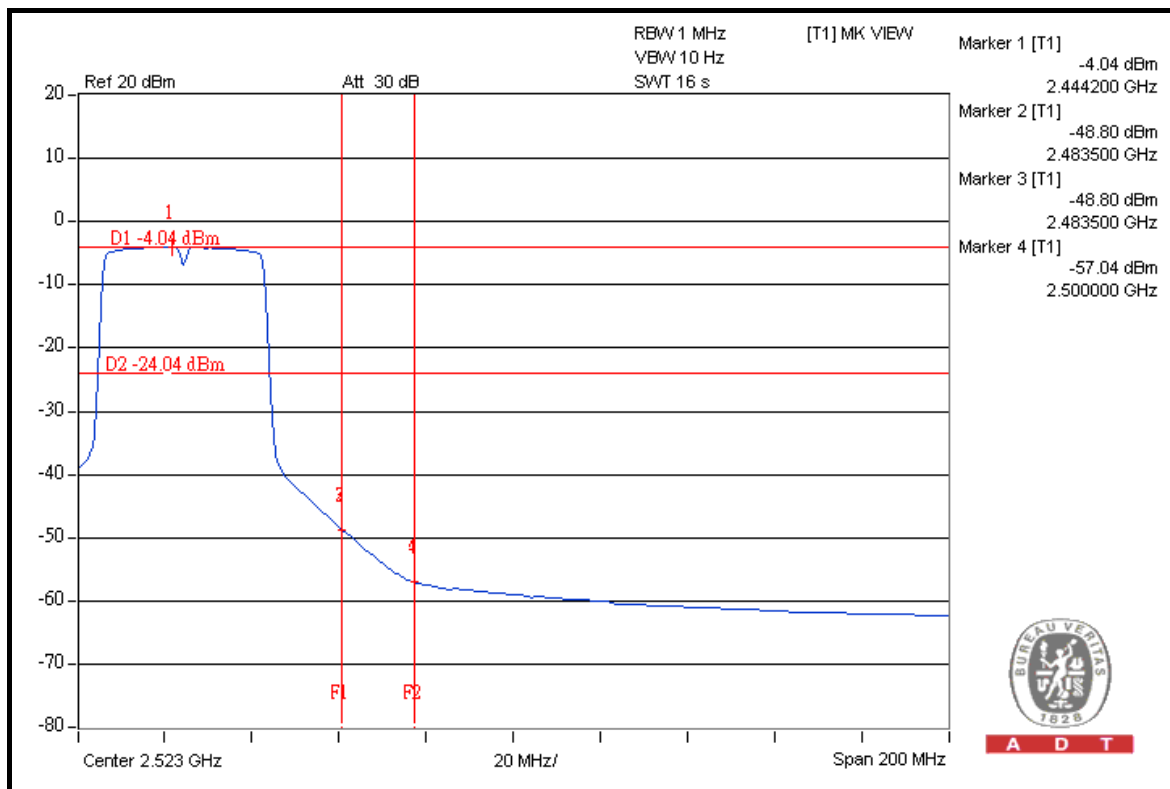
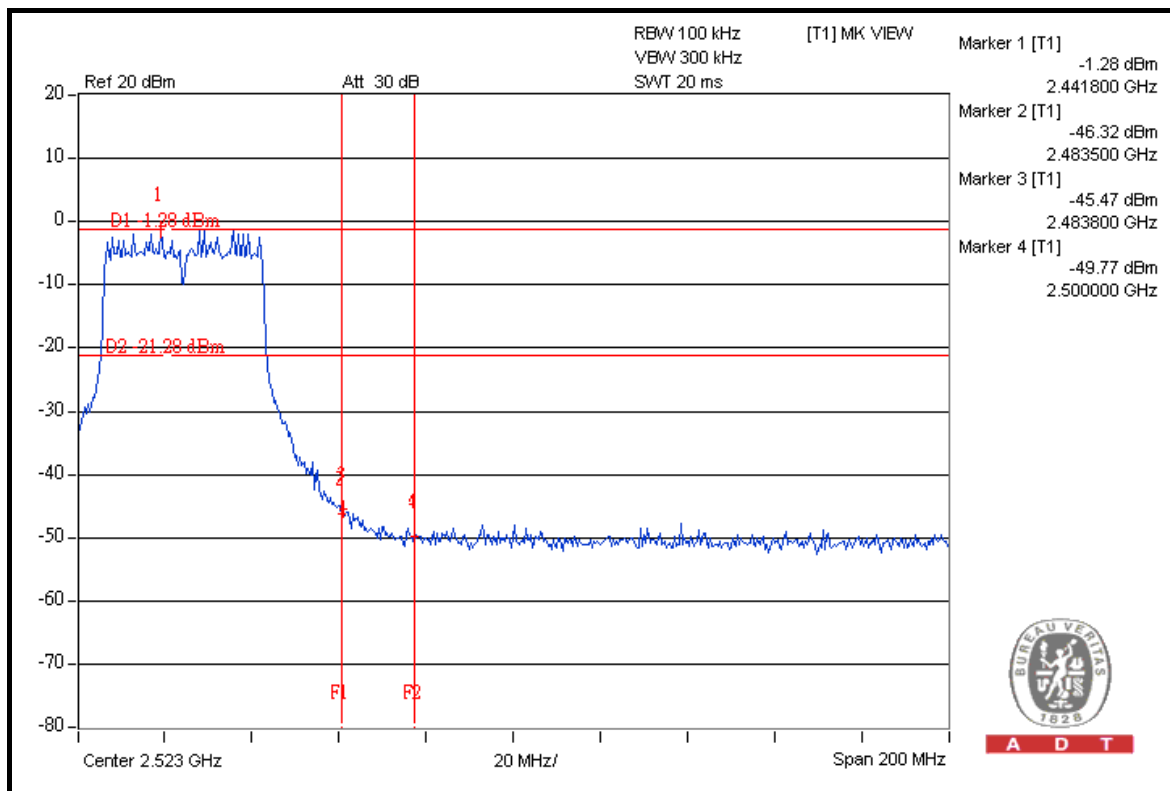
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A D T

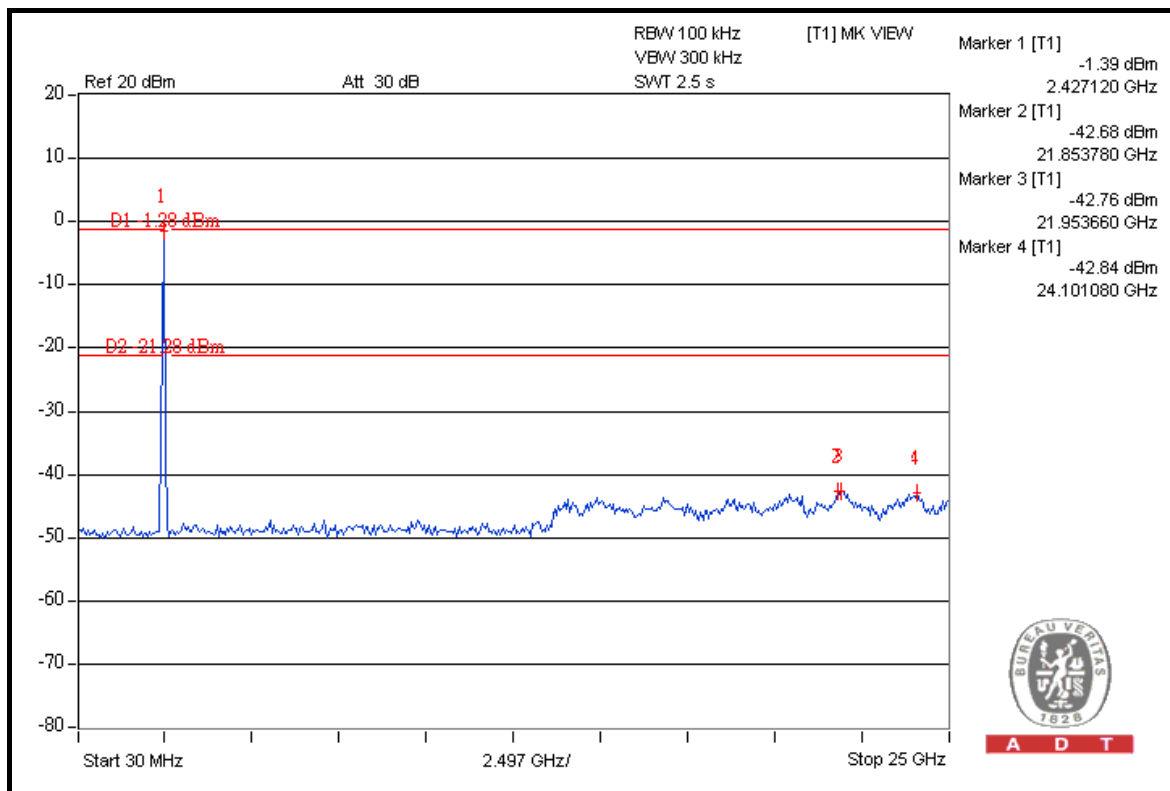


A D T

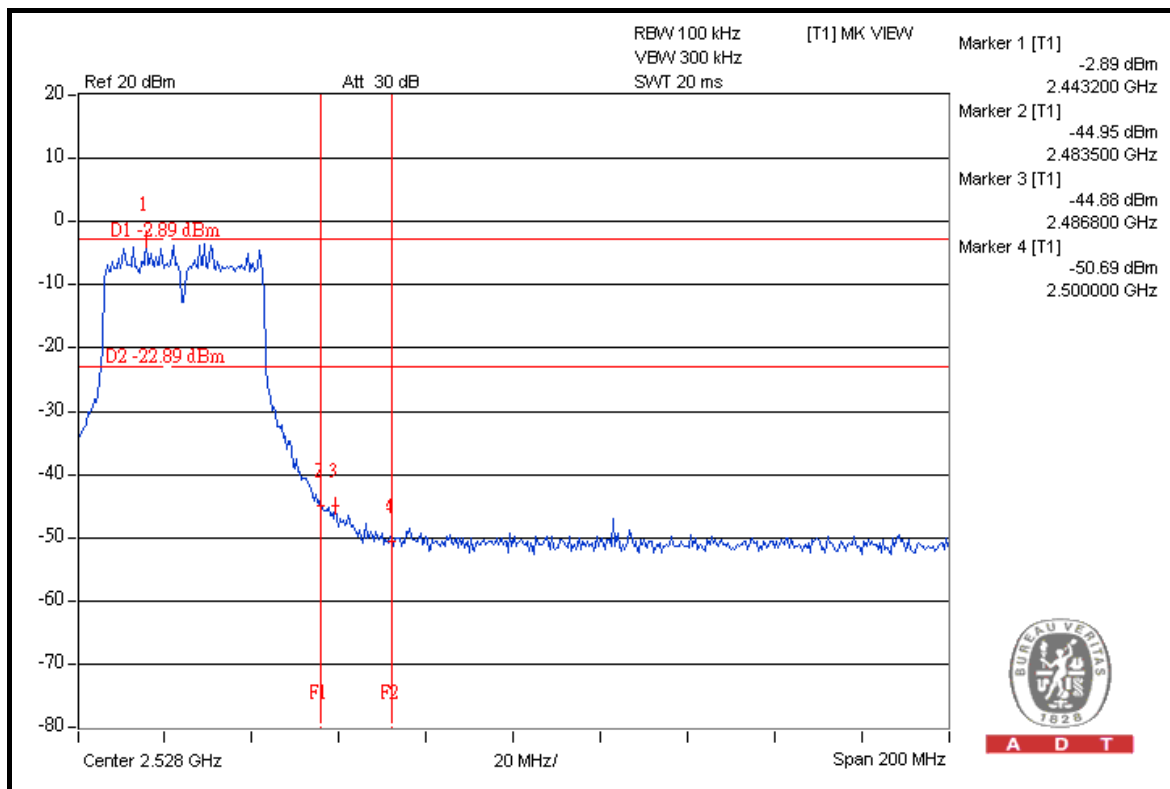




A D T



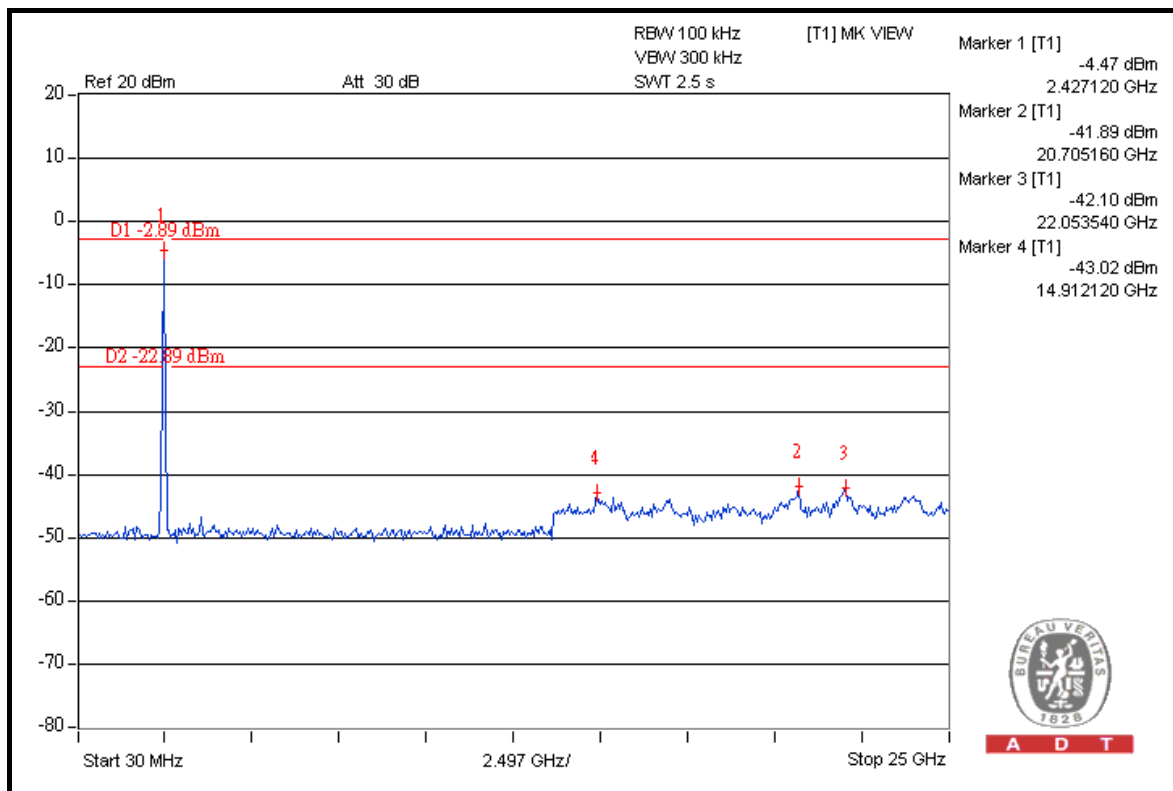
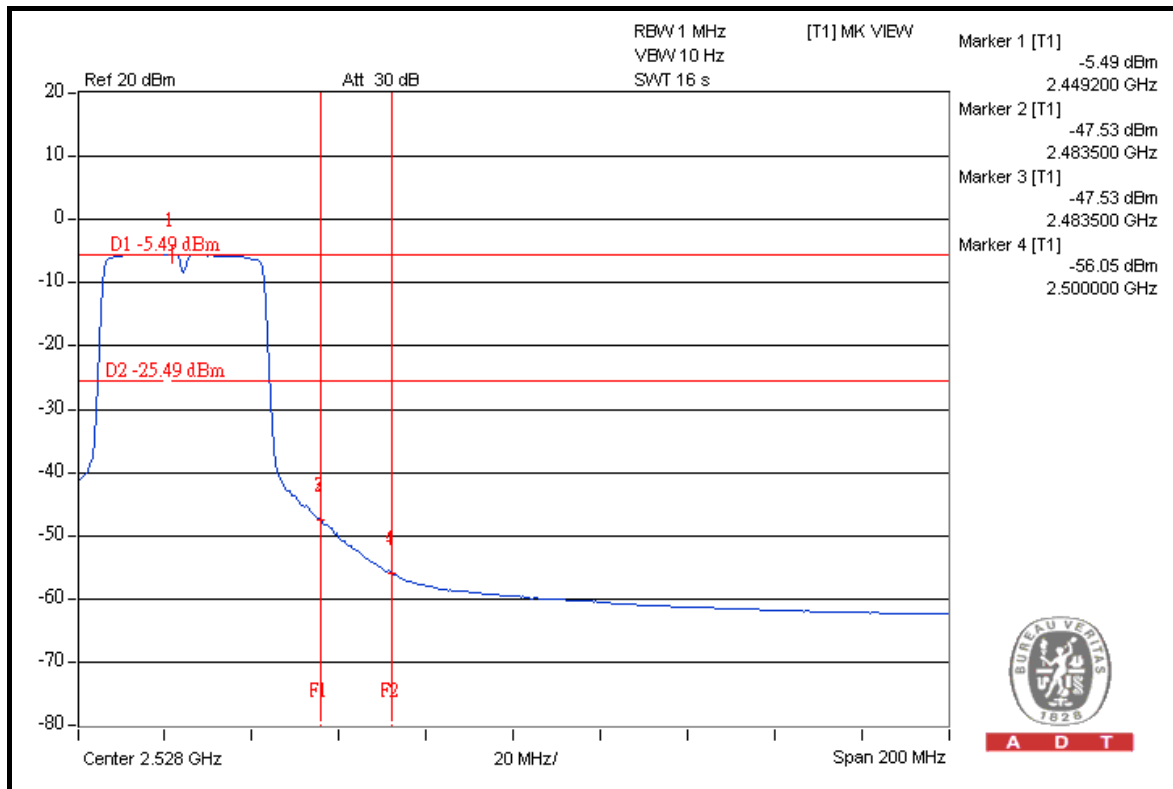
A D T



A D T



A D T



4.7 ANTENNA REQUIREMENT

4.7.1 STANDARD APPLICABLE

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

4.7.2 ANTENNA CONNECTED CONSTRUCTION

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

5. PHOTOGRAPHS OF THE TEST CONFIGURATION

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

6. INFORMATION ON THE TESTING LABORATORIES

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved by the following approval agencies according to ISO/IEC 17025.

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

Copies of accreditation certificates of our laboratories obtained from approval agencies can be downloaded from our web site:

www.adt.com.tw/index.5/phtml. If you have any comments, please feel free to contact us at the following:

Linko EMC/RF Lab:

Tel: 886-2-26052180

Fax: 886-2-26051924

Hsin Chu EMC/RF Lab:

Tel: 886-3-5935343

Fax: 886-3-5935342

Hwa Ya EMC/RF/Safety Telecom Lab:

Tel: 886-3-3183232

Fax: 886-3-3185050

Web Site: www.adt.com.tw

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

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

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

--- END ---