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FCC TEST REPORT (15.247)

REPORT NO.: RF110208C10

MODEL NO.: DAP-1513

FCC ID: KA2AP1513A1

RECEIVED: Feb. 08, 2011

TESTED: Feb. 08 ~ Feb. 14, 2011

ISSUED: Feb. 16, 2011

APPLICANT: D-Link Corporation

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
Original release	N/A	Feb. 16, 2011



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1. CERTIFICATION

PRODUCT: Wireless N Dual Band MediaBridge®

MODEL NO.: DAP-1513

BRAND: D-Link

APPLICANT: D-Link Corporation

TEST SAMPLE: ENGINEERING SAMPLE

TESTED: Feb. 08 ~ Feb. 14, 2011

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

ANSI C63.4-2003

ANSI C63.10-2009

The above equipment (Model: DAP-1513) 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: Feb. 16, 2011
Andrea Hsia / Specialist

APPROVED BY : Gary Chang , DATE: Feb. 16, 2011
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 (SECTION 15.247)			
STANDARD SECTION	TEST TYPE AND LIMIT	RESULT	REMARK
15.207	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is -16.61dB at 2.957MHz.
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 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 -1.0dB at 2483.50 & 11650.00MHz
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.
15.203	Antenna Requirement	PASS	No antenna connector is used.

2.1 MEASUREMENT UNCERTAINTY

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

MEASUREMENT	FREQUENCY	UNCERTAINTY
Conducted emissions	9kHz~30MHz	2.44 dB
Radiated emissions	30MHz ~ 200MHz	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 N Dual Band MediaBridge®
MODEL NO.	DAP-1513
FCC ID	KA2AP1513A1
NOMINAL VOLTAGE	5Vdc
MODULATION TYPE	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
MODULATION TECHNOLOGY	DSSS, OFDM
TRANSFER RATE	802.11b: 11.0/ 5.5/ 2.0/ 1.0Mbps 802.11g: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0Mbps 802.11a: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0Mbps 802.11n: up to 300.0Mbps
OPERATING FREQUENCY	2.4GHz: 2412.0 ~ 2462.0MHz 5.0GHz: 5745.0 ~ 5825.0MHz
NUMBER OF CHANNEL	2.4GHz: 11 for 802.11b, 802.11g, 802.11n (20MHz) 7 for 802.11n (40MHz) 5.0GHz: 5 for 802.11a, 802.11n (20MHz) 2 for 802.11n (40MHz)
OUTPUT POWER	372.5mW for 2412.0 ~ 2462.0MHz 275.7mW for 5745.0 ~ 5825.0MHz
ANTENNA TYPE	Refer to Note as below
ANTENNA CONNECTER	NA
DATA CABLE	NA
I/O PORTS	RJ45
ACCESSORY DEVICES	Adapter

NOTE:

- The EUT is a Wireless N Dual Band MediaBridge®. The test data are separated into following test reports.

	TEST STANDARD	REFERENCE REPORT
WLAN 802.11b/g, 802.11n	FCC Part 15, Subpart C (Section 15.247)	RF110208C10
WLAN 802.11a, 802.11n (5745~5825 MHz)		
WLAN 802.11a, 802.11n (5180~ 5240MHz)	FCC Part 15, Subpart E (Section 15.407)	RF110208C10-1

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

Frequency Band (MHz)	2412~2462	5180~5240	5745~5825
802.11b	√		
802.11g	√		
802.11a		√	√
802.11n (20MHz)	√	√	√
802.11n (40MHz)	√	√	√

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

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

4. The EUT uses following adapter

ADAPTER 1	
BRAND	D-Link
MODEL	CF0605-B IW
INPUT POWER	100-240Vac, 50-60Hz, 0.18A
OUTPUT POWER	5Vdc, 1.2A
POEWR LINE	1.8 m non-shielded cable without core

ADAPTER 2	
BRAND	D-Link
MODEL	AMS1-0501200FU
INPUT POWER	100-240Vac, 50-60Hz, 0.2A, 15VA
OUTPUT POWER	5Vdc, 1.2A
POEWR LINE	1.8 m non-shielded cable without core

5. The antenna used in this EUT is listed as below table:

FREQUENCY (GHz)	TYPE	ANTENNA CONNECTOR	GAIN (dBi)	
			Peak Gain	Average Gain
2.45 GHz	Printed Monopole	NA	ANT1: 1.17	ANT1: -3.04
			ANT2: 2.02	ANT2: -2.83
5.00 GHz	Printed Monopole	NA	ANT1: 3.02	ANT1: -2.36
			ANT2: 3.42	ANT2: -2.07

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

3.2 DESCRIPTION OF TEST MODES

FOR 2.4GHz:

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

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

7 channels are provided for 802.11n (40MHz):

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

FOR 5.0GHz (5745 ~ 5825MHz):

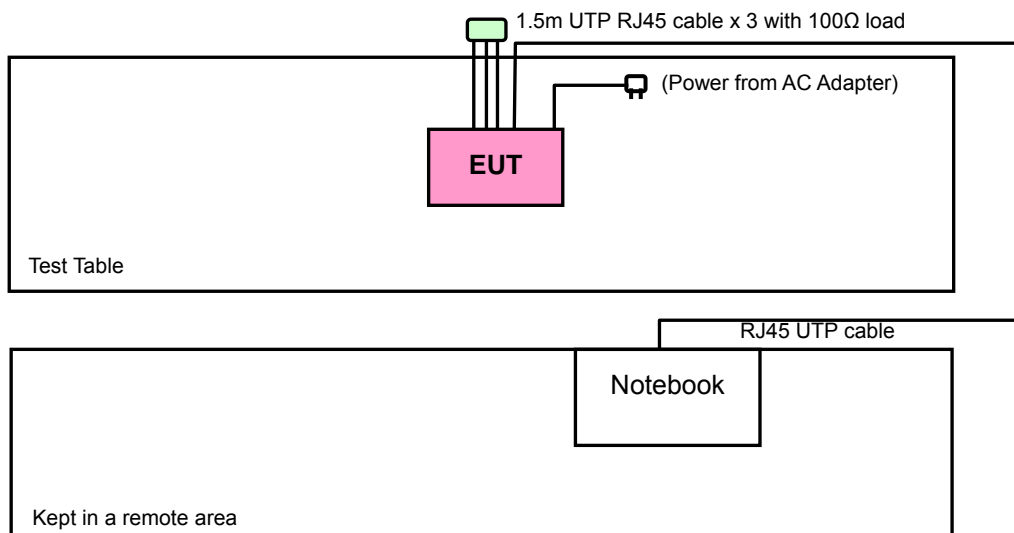
5 channels are provided for 802.11a and 802.11n (20MHz):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
149	5745MHz	161	5805MHz
153	5765MHz	165	5825MHz
157	5785MHz		

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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
151	5755MHz	159	5795MHz

3.2.1 CONFIGURATION OF SYSTEM UNDER TEST





3.2.2 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

FOR 2.4GHz:

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE≥1G	RE<1G	PLC	APCM	
A	√	√	√	√	Power from adapter 1
B	-	√	√	-	Power from adapter 2

Where **RE≥1G**: Radiated Emission above 1GHz **RE<1G**: Radiated Emission below 1GHz
PLC: Power Line Conducted Emission **APCM**: Antenna Port Conducted Measurement
NOTE: "-" means no effect.

RADIATED EMISSION TEST (ABOVE 1GHz):

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

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)	TX FUNCTION	AXIS
A	802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1.0	1TX	Z
	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6.0	1TX	Z
	802.11n (20MHz)	1 to 11	1, 6, 11	OFDM	BPSK	7.2	1TX	Z
	802.11n (20MHz)	1 to 11	1, 6, 11	OFDM	BPSK	14.4	2TX	Z
	802.11n (40MHz)	1 to 7	1, 4, 7	OFDM	BPSK	15.0	1TX	Z
	802.11n (40MHz)	1 to 7	1, 4, 7	OFDM	BPSK	30.0	2TX	Z

RADIATED EMISSION TEST (BELOW 1GHz):

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

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)	TX FUNCTION	AXIS
A & B	802.11g	1 to 11	1	OFDM	BPSK	6.0	1TX	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.

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)	TX FUNCTION
A & B	802.11g	1 to 11	1	OFDM	BPSK	6.0	1TX



BANDEDGE MEASUREMENT:

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

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)	TX FUNCTION
A	802.11b	1 to 11	1, 11	DSSS	DBPSK	1.0	1TX
	802.11g	1 to 11	1, 11	OFDM	BPSK	6.0	1TX
	802.11n (20MHz)	1 to 11	1, 11	OFDM	BPSK	7.2	1TX
	802.11n (20MHz)	1 to 11	1, 11	OFDM	BPSK	14.4	2TX
	802.11n (40MHz)	1 to 7	1, 7	OFDM	BPSK	15.0	1TX
	802.11n (40MHz)	1 to 7	1, 7	OFDM	BPSK	30.0	2TX

ANTENNA PORT CONDUCTED MEASUREMENT:

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

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)	TX FUNCTION
A	802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1.0	1TX
	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6.0	1TX
	802.11n (20MHz)	1 to 11	1, 6, 11	OFDM	BPSK	7.2	1TX
	802.11n (20MHz)	1 to 11	1, 6, 11	OFDM	BPSK	14.4	2TX
	802.11n (40MHz)	1 to 7	1, 4, 7	OFDM	BPSK	15.0	1TX
	802.11n (40MHz)	1 to 7	1, 4, 7	OFDM	BPSK	30.0	2TX

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE≥1G	24deg. C, 64%RH, 1020 hPa	120Vac, 60Hz	Sun Lin Frank Wang
RE<1G	23deg. C, 66%RH, 1008 hPa	120Vac, 60Hz	Mark Liao
PLC	25deg. C, 68%RH, 1020 hPa	120Vac, 60Hz	Sun Lin
APCM	23deg. C, 66%RH, 1020 hPa	120Vac, 60Hz	Mark Liao



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FOR 5.745 ~ 5.825GHz:

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE≥1G	RE<1G	PLC	APCM	
A	√	√	√	√	Power from adapter 1
B	-	√	√	-	Power from adapter 2

Where **RE≥1G**: Radiated Emission above 1GHz **RE<1G**: Radiated Emission below 1GHz
PLC: Power Line Conducted Emission **APCM**: Antenna Port Conducted Measurement
NOTE: "-" means no effect.

RADIATED EMISSION TEST (ABOVE 1GHz):

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

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)	TX FUNCTION	AXIS
A	802.11a	149 to 165	149, 157, 165	OFDM	BPSK	6.0	1TX	Z
	802.11n (20MHz)	149 to 165	149, 157, 165	OFDM	BPSK	7.2	1TX	Z
	802.11n (20MHz)	149 to 165	149, 157, 165	OFDM	BPSK	14.4	2TX	Z
	802.11n (40MHz)	151 to 159	151, 159	OFDM	BPSK	15.0	1TX	Z
	802.11n (40MHz)	151 to 159	151, 159	OFDM	BPSK	30.0	2TX	Z

RADIATED EMISSION TEST (BELOW 1GHz):

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

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)	TX FUNCTION	AXIS
A & B	802.11a	149 to 165	157	OFDM	BPSK	6.0	1TX	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.

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)	TX FUNCTION
A & B	802.11a	149 to 165	157	OFDM	BPSK	6.0	1TX



BANDEDGE MEASUREMENT:

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

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)	TX FUNCTION
A	802.11a	149 to 165	149, 165	OFDM	BPSK	6.0	1TX
	802.11n (20MHz)	149 to 165	149, 165	OFDM	BPSK	7.2	1TX
	802.11n (20MHz)	149 to 165	149, 165	OFDM	BPSK	14.4	2TX
	802.11n (40MHz)	151 to 159	151, 159	OFDM	BPSK	15.0	1TX
	802.11n (40MHz)	151 to 159	151, 159	OFDM	BPSK	30.0	2TX

ANTENNA PORT CONDUCTED MEASUREMENT:

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

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)	TX FUNCTION
A	802.11a	149 to 165	149, 157, 165	OFDM	BPSK	6.0	1TX
	802.11n (20MHz)	149 to 165	149, 157, 165	OFDM	BPSK	7.2	1TX
	802.11n (20MHz)	149 to 165	149, 157, 165	OFDM	BPSK	14.4	2TX
	802.11n (40MHz)	151 to 159	151, 159	OFDM	BPSK	15.0	1TX
	802.11n (40MHz)	151 to 159	151, 159	OFDM	BPSK	30.0	2TX

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE≥1G	23deg. C, 66%RH, 1020 hPa	120Vac, 60Hz	Frank Wang
RE<1G	23deg. C, 66%RH, 1020 hPa	120Vac, 60Hz	Mark Liao
PLC	25deg. C, 68%RH, 1020 hPa	120Vac, 60Hz	Sun Lin
APCM	23deg. C, 66%RH, 1020 hPa	120Vac, 60Hz	Mark Liao



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

ANSI C63.10-2009

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	DELL	D600	CN-0D2125-48643-4CC-5381	QDS-BRCM1005-D

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

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



4. TEST TYPES AND RESULTS (FOR 2.4GHz BAND)

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.



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4.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESCI	100424	Aug. 04, 2010	Aug. 03, 2011
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100041	Jul. 09, 2010	Jul. 08, 2011
BILOG Antenna SCHWARZBECK	VULB9168	9168-156	Apr. 30, 2010	Apr. 29, 2011
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-209	Aug. 02, 2010	Aug. 01, 2011
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170243	Dec. 27, 2010	Dec. 26, 2011
Preamplifier Agilent	8449B	3008A01910	Sep. 09, 2010	Sep. 08, 2011
Preamplifier Agilent	8447D	2944A10638	Nov. 03, 2010	Nov. 02, 2011
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	218190/4 231241/4	May 14, 2010	May 13, 2011
RF signal cable Worken	8D-FB	Cable-HYCH9-01	Aug. 20, 2010	Aug. 19, 2011
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.



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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.

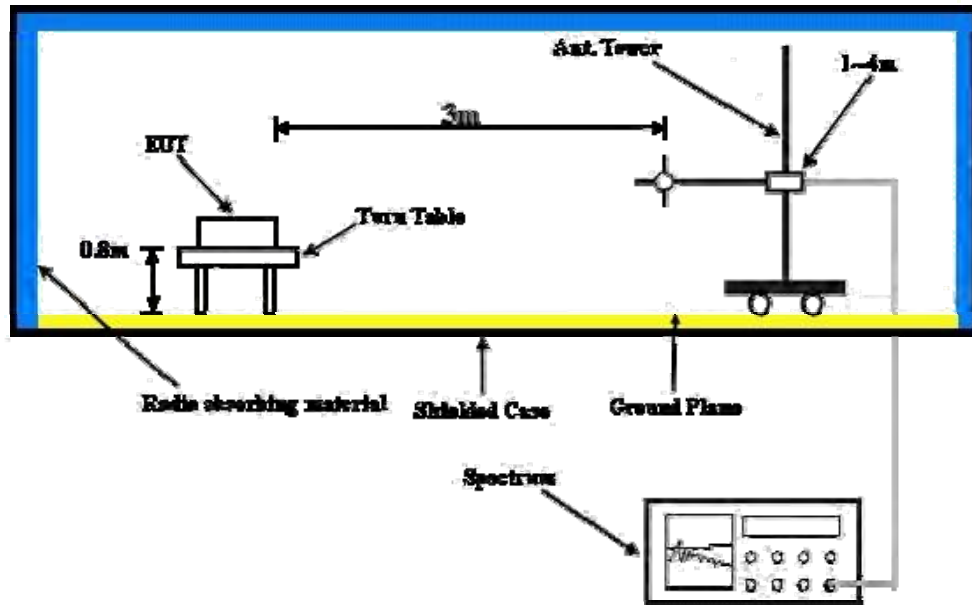
NOTE:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 100kHz and video bandwidth is 300kHz 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

- a. Placed the EUT on the testing table.
- b. Prepared notebook systems to act as communication partners and placed them outside of testing area.
- c. The communication partners connected with EUT via a RJ45 cable and run a test program (provided by manufacturer) to enable EUT under transmission condition continuously at specific channel frequency.
- d. The necessary accessories enable the EUT in full functions.



A D T

4.1.7 TEST RESULTS

802.11b: 1TX

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 1020 hPa	TESTED BY	Frank Wang

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	56.9 PK	74.0	-17.1	1.75 H	70	26.40	30.50
2	2390.00	48.0 AV	54.0	-6.0	1.75 H	70	17.50	30.50
3	*2412.00	109.0 PK			1.73 H	77	78.40	30.60
4	*2412.00	105.1 AV			1.73 H	77	74.50	30.60
5	4824.00	46.6 PK	74.0	-27.4	1.01 H	271	10.00	36.60
6	4824.00	39.4 AV	54.0	-14.6	1.01 H	271	2.80	36.60
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	55.0 PK	74.0	-19.0	1.05 V	2	24.50	30.50
2	2390.00	44.9 AV	54.0	-9.1	1.05 V	2	14.40	30.50
3	*2412.00	105.5 PK			1.05 V	2	74.90	30.60
4	*2412.00	101.5 AV			1.05 V	2	70.90	30.60
5	4824.00	51.4 PK	74.0	-22.6	1.08 V	305	14.80	36.60
6	4824.00	48.1 AV	54.0	-5.9	1.08 V	305	11.50	36.60

- REMARKS:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
 3. The other emission levels were very low against the limit.
 4. Margin value = Emission level – Limit value.
 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 1020 hPa	TESTED BY	Frank Wang

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	108.5 PK			1.44 H	62	77.80	30.70
2	*2437.00	105.0 AV			1.44 H	62	74.30	30.70
3	4874.00	46.0 PK	74.0	-28.0	1.00 H	267	9.30	36.70
4	4874.00	38.4 AV	54.0	-15.6	1.00 H	267	1.70	36.70
5	7311.00	58.0 PK	74.0	-16.0	1.22 H	312	14.70	43.30
6	7311.00	52.8 AV	54.0	-1.2	1.22 H	312	9.50	43.30
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	104.8 PK			1.00 V	335	74.10	30.70
2	*2437.00	100.8 AV			1.00 V	335	70.10	30.70
3	4874.00	49.7 PK	74.0	-24.3	1.24 V	314	13.00	36.70
4	4874.00	45.5 AV	54.0	-8.5	1.24 V	314	8.80	36.70
5	7311.00	55.8 PK	74.0	-18.2	1.26 V	252	12.50	43.30
6	7311.00	49.4 AV	54.0	-4.6	1.26 V	252	6.10	43.30

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



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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 1020 hPa	TESTED BY	Frank Wang

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	109.5 PK			1.63 H	78	78.70	30.80
2	*2462.00	105.5 AV			1.63 H	78	74.70	30.80
3	2483.50	60.2 PK	74.0	-13.8	1.65 H	77	29.30	30.90
4	2483.50	52.9 AV	54.0	-1.1	1.65 H	77	22.00	30.90
5	4924.00	47.4 PK	74.0	-26.6	1.00 H	270	10.60	36.80
6	4924.00	41.6 AV	54.0	-12.4	1.00 H	270	4.80	36.80
7	7386.00	57.5 PK	74.0	-16.5	1.30 H	325	14.10	43.40
8	7386.00	51.8 AV	54.0	-2.2	1.30 H	325	8.40	43.40
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	105.4 PK			1.20 V	335	74.60	30.80
2	*2462.00	101.4 AV			1.20 V	335	70.60	30.80
3	2483.50	58.0 PK	74.0	-16.0	1.10 V	14	27.10	30.90
4	2483.50	48.5 AV	54.0	-5.5	1.10 V	14	17.60	30.90
5	4924.00	53.2 PK	74.0	-20.8	1.21 V	313	16.40	36.80
6	4924.00	50.3 AV	54.0	-3.7	1.21 V	313	13.50	36.80
7	7386.00	58.5 PK	74.0	-15.5	1.17 V	264	15.10	43.40
8	7386.00	52.6 AV	54.0	-1.4	1.17 V	264	9.20	43.40

- 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

802.11g: 1TX

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 1020 hPa	TESTED BY	Sun Lin

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	70.5 PK	74.0	-3.5	1.72 H	76	40.00	30.50
2	2390.00	52.3 AV	54.0	-1.7	1.72 H	76	21.80	30.50
3	*2412.00	108.1 PK			1.72 H	76	77.50	30.60
4	*2412.00	98.7 AV			1.72 H	76	68.10	30.60
5	4824.00	45.0 PK	74.0	-29.0	1.07 H	322	8.40	36.60
6	4824.00	32.7 AV	54.0	-21.3	1.07 H	322	-3.90	36.60
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	60.9 PK	74.0	-13.1	1.27 V	342	30.40	30.50
2	2390.00	46.0 AV	54.0	-8.0	1.27 V	342	15.50	30.50
3	*2412.00	104.9 PK			1.27 V	342	74.30	30.60
4	*2412.00	94.9 AV			1.27 V	342	64.30	30.60
5	4824.00	45.2 PK	74.0	-28.8	1.36 V	312	8.60	36.60
6	4824.00	31.6 AV	54.0	-22.4	1.36 V	312	-5.00	36.60

- REMARKS:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
 3. The other emission levels were very low against the limit.
 4. Margin value = Emission level – Limit value.
 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 1020 hPa	TESTED BY	Sun Lin

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	109.8 PK			1.71 H	77	79.10	30.70
2	*2437.00	100.3 AV			1.71 H	77	69.60	30.70
3	4874.00	43.5 PK	74.0	-30.5	1.05 H	135	6.80	36.70
4	4874.00	31.7 AV	54.0	-22.3	1.05 H	135	-5.00	36.70
5	7311.00	64.4 PK	74.0	-9.6	1.20 H	304	21.10	43.30
6	7311.00	50.5 AV	54.0	-3.5	1.20 H	304	7.20	43.30
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	106.9 PK			1.33 V	325	76.20	30.70
2	*2437.00	96.9 AV			1.33 V	325	66.20	30.70
3	4874.00	45.6 PK	74.0	-28.4	1.28 V	169	8.90	36.70
4	4874.00	32.3 AV	54.0	-21.7	1.28 V	169	-4.40	36.70
5	7311.00	63.5 PK	74.0	-10.5	1.15 V	325	20.20	43.30
6	7311.00	48.8 AV	54.0	-5.2	1.15 V	325	5.50	43.30

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



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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 1020 hPa	TESTED BY	Sun Lin

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	107.1 PK			1.65 H	77	76.30	30.80
2	*2462.00	97.4 AV			1.65 H	77	66.60	30.80
3	2483.50	71.0 PK	74.0	-3.0	1.65 H	77	40.10	30.90
4	2483.50	52.9 AV	54.0	-1.1	1.65 H	77	22.00	30.90
5	4924.00	43.3 PK	74.0	-30.7	1.15 H	239	6.50	36.80
6	4924.00	32.0 AV	54.0	-22.0	1.15 H	239	-4.80	36.80
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	103.9 PK			1.43 V	299	73.10	30.80
2	*2462.00	94.3 AV			1.43 V	299	63.50	30.80
3	2483.50	59.8 PK	74.0	-14.2	1.43 V	299	28.90	30.90
4	2483.50	45.2 AV	54.0	-8.8	1.43 V	299	14.30	30.90
5	4924.00	45.0 PK	74.0	-29.0	1.04 V	132	8.20	36.80
6	4924.00	31.2 AV	54.0	-22.8	1.04 V	132	-5.60	36.80

- 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

802.11n (20MHz): 1TX

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 1020 hPa	TESTED BY	Frank Wang

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	72.3 PK	74.0	-1.7	1.00 H	328	41.80	30.50
2	2390.00	51.0 AV	54.0	-3.0	1.00 H	328	20.50	30.50
3	*2412.00	107.8 PK			1.00 H	328	77.20	30.60
4	*2412.00	97.1 AV			1.00 H	328	66.50	30.60
5	4824.00	44.9 PK	74.0	-29.1	1.24 H	98	8.30	36.60
6	4824.00	31.3 AV	54.0	-22.7	1.24 H	98	-5.30	36.60
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	65.5 PK	74.0	-8.5	1.25 V	41	35.00	30.50
2	2390.00	46.5 AV	54.0	-7.5	1.25 V	41	16.00	30.50
3	*2412.00	103.5 PK			1.24 V	339	72.90	30.60
4	*2412.00	93.7 AV			1.24 V	339	63.10	30.60
5	4824.00	45.9 PK	74.0	-28.1	1.00 V	294	9.30	36.60
6	4824.00	32.2 AV	54.0	-21.8	1.00 V	294	-4.40	36.60

- REMARKS:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
 3. The other emission levels were very low against the limit.
 4. Margin value = Emission level – Limit value.
 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 1020 hPa	TESTED BY	Frank Wang

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	107.3 PK			1.70 H	78	76.60	30.70
2	*2437.00	97.5 AV			1.70 H	78	66.80	30.70
3	4874.00	46.2 PK	74.0	-27.8	1.26 H	72	9.50	36.70
4	4874.00	31.6 AV	54.0	-22.4	1.26 H	72	-5.10	36.70
5	7311.00	63.1 PK	74.0	-10.9	1.18 H	297	19.80	43.30
6	7311.00	47.5 AV	54.0	-6.5	1.18 H	297	4.20	43.30
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	104.7 PK			1.51 V	338	74.00	30.70
2	*2437.00	94.5 AV			1.51 V	338	63.80	30.70
3	4874.00	46.6 PK	74.0	-27.4	1.00 V	336	9.90	36.70
4	4874.00	32.5 AV	54.0	-21.5	1.00 V	336	-4.20	36.70
5	7311.00	59.7 PK	74.0	-14.3	1.00 V	270	16.40	43.30
6	7311.00	44.2 AV	54.0	-9.8	1.00 V	270	0.90	43.30

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



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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 1020 hPa	TESTED BY	Frank Wang

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	106.4 PK			1.13 H	316	75.60	30.80
2	*2462.00	95.7 AV			1.13 H	316	64.90	30.80
3	2483.50	70.1 PK	74.0	-3.9	1.13 H	316	39.20	30.90
4	2483.50	52.2 AV	54.0	-1.8	1.13 H	316	21.30	30.90
5	4924.00	43.4 PK	74.0	-30.6	1.00 H	320	6.60	36.80
6	4924.00	30.0 AV	54.0	-24.0	1.00 H	320	-6.80	36.80

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	103.7 PK			1.50 V	45	72.90	30.80
2	*2462.00	92.2 AV			1.50 V	45	61.40	30.80
3	2483.50	62.9 PK	74.0	-11.1	1.50 V	45	32.00	30.90
4	2483.50	47.0 AV	54.0	-7.0	1.50 V	45	16.10	30.90
5	4924.00	44.5 PK	74.0	-29.5	1.00 V	302	7.70	36.80
6	4924.00	31.2 AV	54.0	-22.8	1.00 V	302	-5.60	36.80

- 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

802.11n (20MHz): 2TX

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 1020 hPa	TESTED BY	Frank Wang

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	68.5 PK	74.0	-5.5	1.00 H	335	38.00	30.50
2	2390.00	52.9 AV	54.0	-1.1	1.00 H	335	22.40	30.50
3	*2412.00	110.0 PK			1.46 H	64	79.40	30.60
4	*2412.00	99.7 AV			1.46 H	64	69.10	30.60
5	4824.00	42.8 PK	74.0	-31.2	1.28 H	70	6.20	36.60
6	4824.00	30.7 AV	54.0	-23.3	1.28 H	70	-5.90	36.60
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	63.6 PK	74.0	-10.4	1.02 V	330	33.10	30.50
2	2390.00	49.5 AV	54.0	-4.5	1.02 V	330	19.00	30.50
3	*2412.00	106.4 PK			1.00 V	75	75.80	30.60
4	*2412.00	95.5 AV			1.00 V	75	64.90	30.60
5	4824.00	45.7 PK	74.0	-28.3	1.10 V	320	9.10	36.60
6	4824.00	32.3 AV	54.0	-21.7	1.10 V	320	-4.30	36.60

- REMARKS:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
 3. The other emission levels were very low against the limit.
 4. Margin value = Emission level – Limit value.
 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	24deg. C, 64%RH 1020 hPa	TESTED BY	Frank Wang

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	110.5 PK			1.69 H	73	79.80	30.70
2	*2437.00	100.1 AV			1.69 H	73	69.40	30.70
3	4874.00	45.4 PK	74.0	-28.6	1.00 H	70	8.70	36.70
4	4874.00	31.1 AV	54.0	-22.9	1.00 H	70	-5.60	36.70
5	7311.00	61.7 PK	74.0	-12.3	1.20 H	302	18.40	43.30
6	7311.00	45.5 AV	54.0	-8.5	1.20 H	302	2.20	43.30
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	107.0 PK			1.02 V	337	76.30	30.70
2	*2437.00	96.4 AV			1.02 V	337	65.70	30.70
3	4874.00	45.2 PK	74.0	-28.8	1.48 V	316	8.50	36.70
4	4874.00	32.6 AV	54.0	-21.4	1.48 V	316	-4.10	36.70
5	7311.00	57.1 PK	74.0	-16.9	1.00 V	271	13.80	43.30
6	7311.00	42.5 AV	54.0	-11.5	1.00 V	271	-0.80	43.30

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



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	24deg. C, 64%RH 1020 hPa	TESTED BY	Frank Wang

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	107.6 PK			1.65 H	74	76.80	30.80
2	*2462.00	97.3 AV			1.65 H	74	66.50	30.80
3	2483.50	69.7 PK	74.0	-4.3	1.10 H	311	38.80	30.90
4	2483.50	52.4 AV	54.0	-1.6	1.10 H	311	21.50	30.90
5	4924.00	42.6 PK	74.0	-31.4	1.27 H	50	5.80	36.80
6	4924.00	29.4 AV	54.0	-24.6	1.27 H	50	-7.40	36.80
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	104.1 PK			1.00 V	123	73.30	30.80
2	*2462.00	93.8 AV			1.00 V	123	63.00	30.80
3	2483.50	63.6 PK	74.0	-10.4	1.00 V	130	32.70	30.90
4	2483.50	49.2 AV	54.0	-4.8	1.00 V	130	18.30	30.90
5	4924.00	43.6 PK	74.0	-30.4	1.47 V	325	6.80	36.80
6	4924.00	30.4 AV	54.0	-23.6	1.47 V	325	-6.40	36.80

- 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

802.11n (40MHz): 1TX

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 1020 hPa	TESTED BY	Frank Wang

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	70.4 PK	74.0	-3.6	1.00 H	328	39.90	30.50
2	2390.00	52.6 AV	54.0	-1.4	1.00 H	328	22.10	30.50
3	*2422.00	104.1 PK			1.43 H	58	73.50	30.60
4	*2422.00	94.6 AV			1.43 H	58	64.00	30.60
5	4844.00	42.4 PK	74.0	-31.6	1.10 H	105	5.80	36.60
6	4844.00	29.9 AV	54.0	-24.1	1.10 H	105	-6.70	36.60
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	59.9 PK	74.0	-14.1	1.01 V	258	29.40	30.50
2	2390.00	45.8 AV	54.0	-8.2	1.01 V	258	15.30	30.50
3	*2422.00	99.5 PK			1.01 V	258	68.90	30.60
4	*2422.00	89.8 AV			1.01 V	258	59.20	30.60
5	4844.00	41.0 PK	74.0	-33.0	1.08 V	137	4.40	36.60
6	4844.00	28.9 AV	54.0	-25.1	1.08 V	137	-7.70	36.60

- REMARKS:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
 3. The other emission levels were very low against the limit.
 4. Margin value = Emission level – Limit value.
 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	24deg. C, 64%RH 1020 hPa	TESTED BY	Frank Wang

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	103.4 PK			1.66 H	76	72.70	30.70
2	*2437.00	94.3 AV			1.66 H	76	63.60	30.70
3	2483.50	72.1 PK	74.0	-1.9	1.66 H	76	41.20	30.90
4	2483.50	53.0 AV	54.0	-1.0	1.66 H	76	22.10	30.90
5	4874.00	42.7 PK	74.0	-31.3	1.32 H	263	6.00	36.70
6	4874.00	31.4 AV	54.0	-22.6	1.32 H	263	-5.30	36.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	99.3 PK			1.02 V	261	68.60	30.70
2	*2437.00	89.5 AV			1.02 V	261	58.80	30.70
3	2483.50	59.2 PK	74.0	-14.8	1.01 V	261	28.30	30.90
4	2483.50	45.3 AV	54.0	-8.7	1.01 V	261	14.40	30.90
5	4874.00	41.3 PK	74.0	-32.7	1.27 V	107	4.60	36.70
6	4874.00	28.5 AV	54.0	-25.5	1.27 V	107	-8.20	36.70

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



A D T

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	24deg. C, 64%RH 1020 hPa	TESTED BY	Frank Wang

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	102.2 PK			1.60 H	79	71.40	30.80
2	*2452.00	92.0 AV			1.60 H	79	61.20	30.80
3	2483.50	67.8 PK	74.0	-6.2	1.12 H	314	36.90	30.90
4	2483.50	52.5 AV	54.0	-1.5	1.12 H	314	21.60	30.90
5	4904.00	43.6 PK	74.0	-30.4	1.00 H	340	6.80	36.80
6	4904.00	30.1 AV	54.0	-23.9	1.00 H	340	-6.70	36.80
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	97.5 PK			1.02 V	2	66.70	30.80
2	*2452.00	87.2 AV			1.02 V	2	56.40	30.80
3	2483.50	62.3 PK	74.0	-11.7	1.02 V	3	31.40	30.90
4	2483.50	46.2 AV	54.0	-7.8	1.02 V	3	15.30	30.90
5	4904.00	40.5 PK	74.0	-33.5	1.05 V	47	3.70	36.80
6	4904.00	28.9 AV	54.0	-25.1	1.05 V	47	-7.90	36.80

- 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

802.11n (40MHz): 2TX

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 1020 hPa	TESTED BY	Frank Wang

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	67.4 PK	74.0	-6.6	1.00 H	335	36.90	30.50
2	2390.00	52.3 AV	54.0	-1.7	1.00 H	335	21.80	30.50
3	*2422.00	103.3 PK			1.43 H	77	72.70	30.60
4	*2422.00	93.0 AV			1.43 H	77	62.40	30.60
5	4844.00	42.5 PK	74.0	-31.5	1.00 H	65	5.90	36.60
6	4844.00	30.2 AV	54.0	-23.8	1.00 H	65	-6.40	36.60
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	61.0 PK	74.0	-13.0	1.03 V	260	30.50	30.50
2	2390.00	47.4 AV	54.0	-6.6	1.03 V	260	16.90	30.50
3	*2422.00	98.9 PK			1.00 V	260	68.30	30.60
4	*2422.00	88.2 AV			1.00 V	260	57.60	30.60
5	4844.00	42.9 PK	74.0	-31.1	1.10 V	307	6.30	36.60
6	4844.00	29.7 AV	54.0	-24.3	1.10 V	307	-6.90	36.60

- REMARKS:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
 3. The other emission levels were very low against the limit.
 4. Margin value = Emission level – Limit value.
 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	24deg. C, 64%RH 1020 hPa	TESTED BY	Frank Wang

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	105.5 PK			1.45 H	63	74.80	30.70
2	*2437.00	94.9 AV			1.45 H	63	64.20	30.70
3	4874.00	45.3 PK	74.0	-28.7	1.00 H	75	8.60	36.70
4	4874.00	30.8 AV	54.0	-23.2	1.00 H	75	-5.90	36.70
5	7311.00	55.2 PK	74.0	-18.8	1.18 H	254	11.90	43.30
6	7311.00	42.6 AV	54.0	-11.4	1.18 H	254	-0.70	43.30
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	99.7 PK			1.00 V	134	69.00	30.70
2	*2437.00	89.7 AV			1.00 V	134	59.00	30.70
3	4874.00	46.0 PK	74.0	-28.0	1.20 V	311	9.30	36.70
4	4874.00	31.5 AV	54.0	-22.5	1.20 V	311	-5.20	36.70
5	7311.00	52.5 PK	74.0	-21.5	1.00 V	285	9.20	43.30
6	7311.00	39.4 AV	54.0	-14.6	1.00 V	285	-3.90	43.30

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



A D T

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	24deg. C, 64%RH 1020 hPa	TESTED BY	Frank Wang

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	102.6 PK			1.66 H	74	71.80	30.80
2	*2452.00	91.6 AV			1.66 H	74	60.80	30.80
3	2483.50	69.8 PK	74.0	-4.2	1.10 H	308	38.90	30.90
4	2483.50	52.8 AV	54.0	-1.2	1.10 H	308	21.90	30.90
5	4904.00	42.7 PK	74.0	-31.3	1.02 H	68	5.90	36.80
6	4904.00	30.5 AV	54.0	-23.5	1.02 H	68	-6.30	36.80
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	97.5 PK			1.00 V	135	66.70	30.80
2	*2452.00	87.1 AV			1.00 V	135	56.30	30.80
3	2483.50	64.3 PK	74.0	-9.7	1.00 V	134	33.40	30.90
4	2483.50	49.3 AV	54.0	-4.7	1.00 V	134	18.40	30.90
5	4904.00	43.0 PK	74.0	-31.0	1.12 V	305	6.20	36.80
6	4904.00	29.8 AV	54.0	-24.2	1.12 V	305	-7.00	36.80

- 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

BELOW 1GHz WORST-CASE DATA : 802.11g: 1TX

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	23deg. C, 66%RH 1008 hPa	TEST MODE	A
TESTED BY	Mark Liao		

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	62.95	29.7 QP	40.0	-10.3	1.50 H	58	16.80	12.90
2	206.83	32.8 QP	43.5	-10.7	1.25 H	127	21.90	10.90
3	234.05	31.4 QP	46.0	-14.6	1.50 H	91	19.20	12.20
4	500.42	38.7 QP	46.0	-7.3	1.75 H	337	19.40	19.30
5	519.86	34.2 QP	46.0	-11.8	1.25 H	325	14.30	19.90
6	624.85	39.1 QP	46.0	-6.9	1.50 H	22	16.90	22.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	55.18	36.4 QP	40.0	-3.6	1.25 V	238	22.80	13.60
2	62.95	35.4 QP	40.0	-4.6	1.00 V	64	22.50	12.90
3	107.67	37.9 QP	43.5	-5.6	1.25 V	319	27.60	10.30
4	469.31	34.5 QP	46.0	-11.5	1.00 V	349	16.10	18.40
5	500.42	35.5 QP	46.0	-10.5	1.00 V	28	16.20	19.30
6	624.85	39.1 QP	46.0	-6.9	1.50 V	331	16.90	22.20

- 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.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	23deg. C, 66%RH 1008 hPa	TEST MODE	B
TESTED BY	Mark Liao		

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	49.34	30.4 QP	40.0	-9.6	1.00 H	301	16.80	13.60
2	210.72	28.4 QP	43.5	-15.1	1.25 H	100	17.30	11.10
3	500.42	36.9 QP	46.0	-9.1	1.75 H	319	17.60	19.30
4	599.58	33.8 QP	46.0	-12.2	1.25 H	22	11.80	22.00
5	624.85	30.2 QP	46.0	-15.8	1.25 H	322	8.00	22.20
6	751.23	29.1 QP	46.0	-16.9	1.00 H	328	5.10	24.00
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	55.18	33.8 QP	40.0	-6.2	1.00 V	25	20.20	13.60
2	103.78	33.2 QP	43.5	-10.3	1.00 V	67	23.40	9.80
3	201.00	29.3 QP	43.5	-14.2	1.50 V	10	18.60	10.70
4	249.60	28.1 QP	46.0	-17.9	1.00 V	271	15.20	12.90
5	500.42	33.6 QP	46.0	-12.4	1.00 V	10	14.30	19.30
6	599.58	31.4 QP	46.0	-14.6	1.50 V	352	9.40	22.00

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



4.2 CONDUCTED EMISSION MEASUREMENT

4.2.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

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

- NOTE:** 1. The lower limit shall apply at the transition frequencies.
 2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.
 3. All emanations from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

4.2.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESCS30	100289	Nov. 23, 2010	Nov. 22, 2011
RF signal cable Woken	5D-FB	Cable-HYCO2-01	Dec. 30, 2010	Dec. 29, 2011
LISN ROHDE & SCHWARZ	ESH2-Z5	100100	Jan. 06, 2011	Jan. 05, 2012
LISN ROHDE & SCHWARZ	ESH3-Z5	100311	Jul. 08, 2010	Jul. 07, 2011
V-LISN SCHWARZBECK	NNBL 8226-2	8226-142	Jul. 12, 2010	Jul. 11, 2011
LISN ROHDE & SCHWARZ	ENV216	100072	Jun. 11, 2010	Jun. 10, 2011
Software ADT	ADT_Cond_ 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 2.
 3. The VCCI Site Registration No. is C-2047.



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4.2.3 TEST PROCEDURES

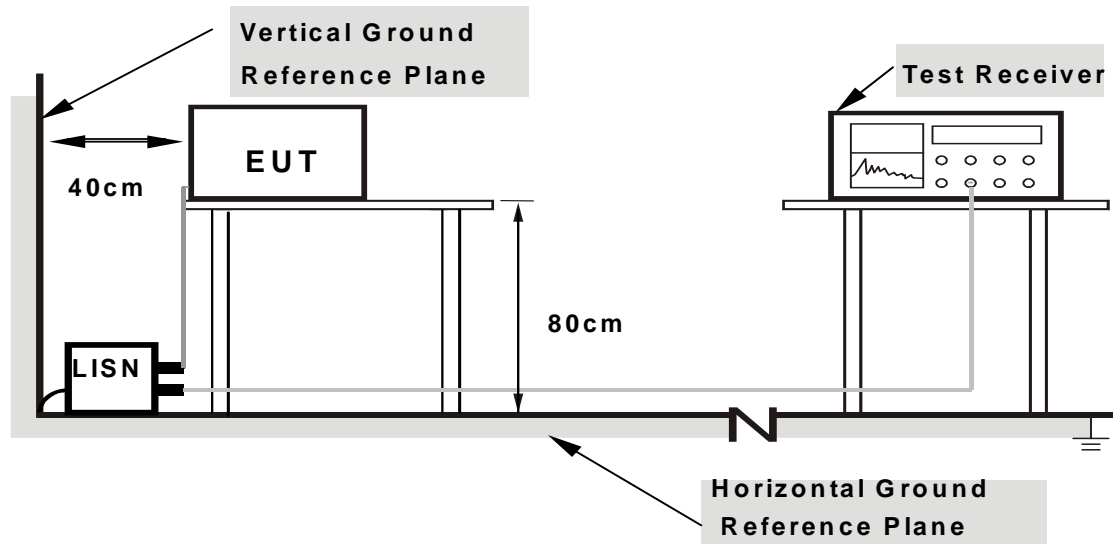
- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling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

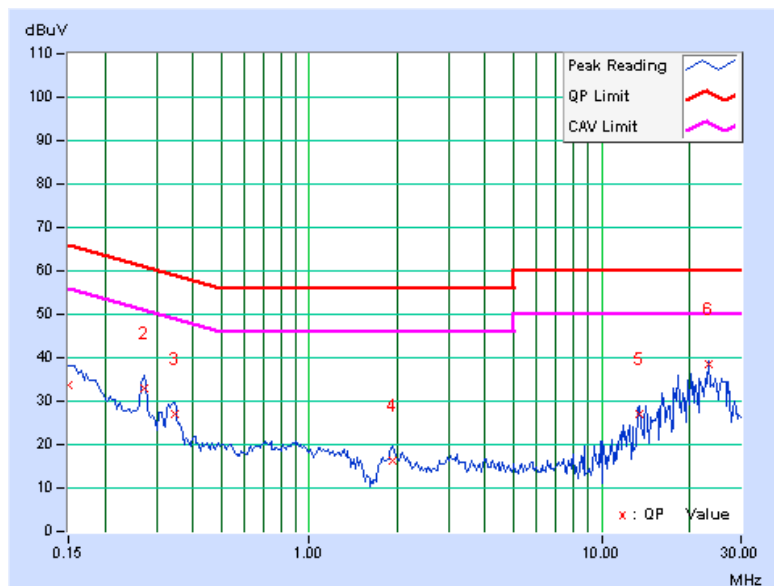
4.2.7 TEST RESULTS

CONDUCTED WORST-CASE DATA : 802.11g

PHASE	Line 1	6dB BANDWIDTH	9kHz
TEST MODE	A		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.150	0.15	33.42	-	33.57	-	66.00	56.00	-32.43	-
2	0.271	0.16	32.71	-	32.87	-	61.08	51.08	-28.22	-
3	0.345	0.16	26.72	-	26.88	-	59.07	49.07	-32.19	-
4	1.922	0.22	16.19	-	16.41	-	56.00	46.00	-39.59	-
5	13.418	0.77	26.27	-	27.04	-	60.00	50.00	-32.96	-
6	23.129	1.20	37.27	-	38.47	-	60.00	50.00	-21.53	-

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



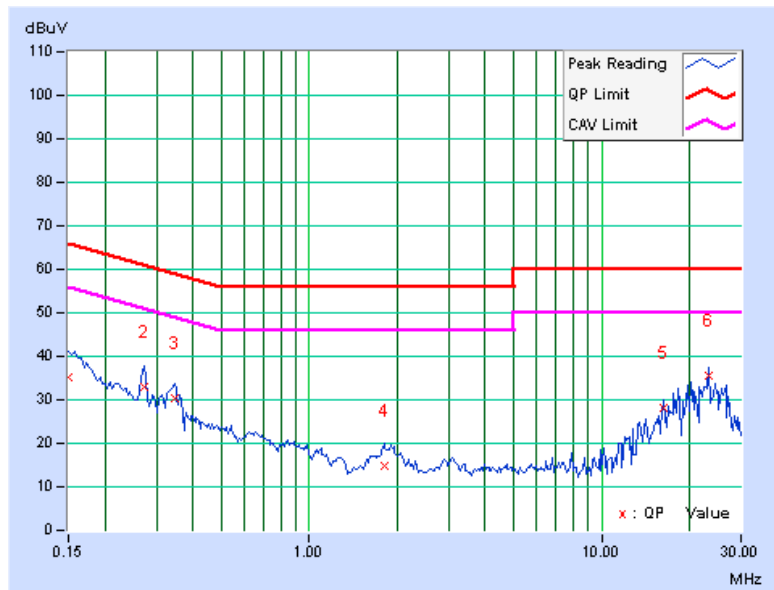


A D T

PHASE	Line 2	6dB BANDWIDTH	9kHz
TEST MODE	A		

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	0.150	0.16	34.92	-	35.08	-	66.00	56.00	-30.92	-
2	0.271	0.18	32.95	-	33.13	-	61.08	51.08	-27.96	-
3	0.345	0.18	30.32	-	30.50	-	59.07	49.07	-28.57	-
4	1.805	0.23	14.69	-	14.92	-	56.00	46.00	-41.08	-
5	16.227	0.78	27.43	-	28.21	-	60.00	50.00	-31.79	-
6	23.129	1.00	34.41	-	35.41	-	60.00	50.00	-24.59	-

- 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.



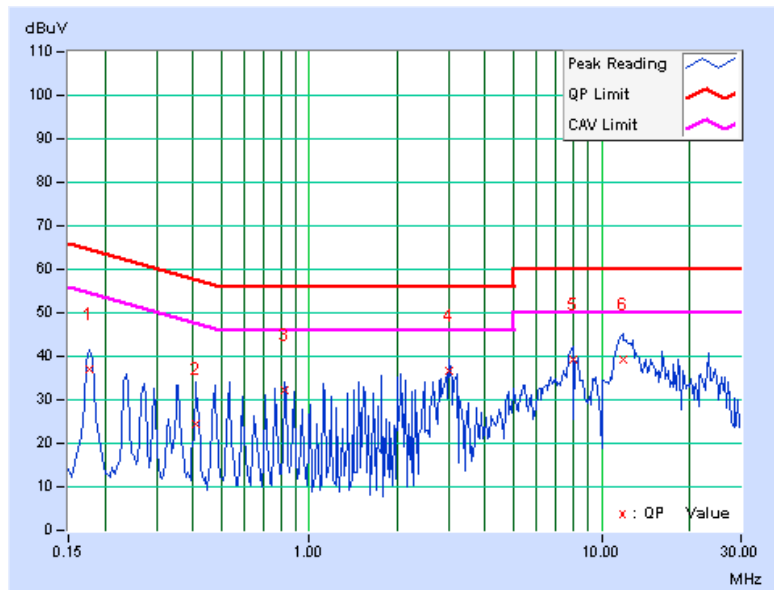


A D T

PHASE	Line 1	6dB BANDWIDTH	9kHz
TEST MODE	B		

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	0.177	0.15	36.96	-	37.11	-	64.61	54.61	-27.50	-
2	0.408	0.17	24.35	-	24.52	-	57.69	47.69	-33.17	-
3	0.826	0.18	32.15	-	32.33	-	56.00	46.00	-23.67	-
4	3.012	0.27	36.36	-	36.63	-	56.00	46.00	-19.37	-
5	7.973	0.48	38.77	-	39.25	-	60.00	50.00	-20.75	-
6	11.809	0.67	38.49	-	39.16	-	60.00	50.00	-20.84	-

- 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.



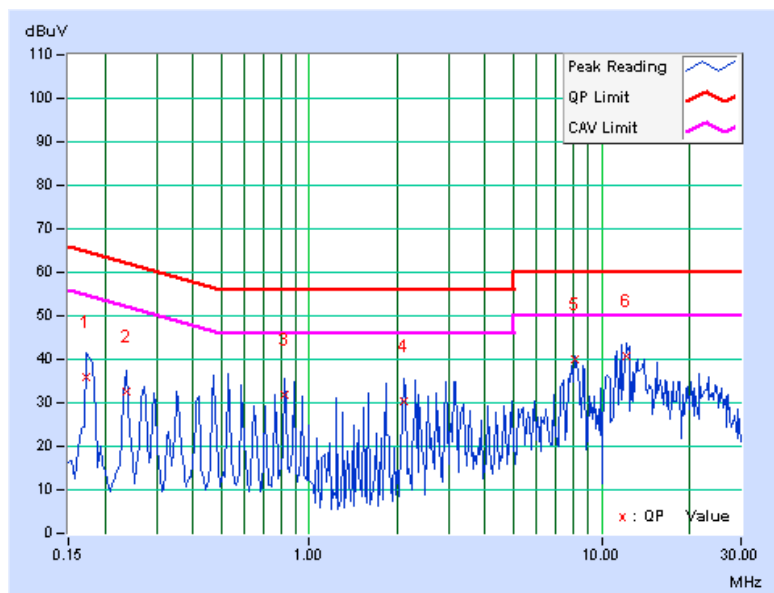


A D T

PHASE	Line 2	6dB BANDWIDTH	9kHz
TEST MODE	B		

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	0.173	0.16	35.90	-	36.06	-	64.79	54.79	-28.73	-
2	0.236	0.17	32.57	-	32.74	-	62.24	52.24	-29.49	-
3	0.826	0.20	31.49	-	31.69	-	56.00	46.00	-24.31	-
4	2.121	0.24	30.23	-	30.47	-	56.00	46.00	-25.53	-
5	8.086	0.44	39.61	-	40.05	-	60.00	50.00	-19.95	-
6	12.159	0.60	40.13	-	40.73	-	60.00	50.00	-19.27	-

- 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	DUE DATE OF CALIBRATION
SPECTRUM ANALYZER R&S	FSP40	100039	Jul. 09, 2010	Jul. 08, 2011

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

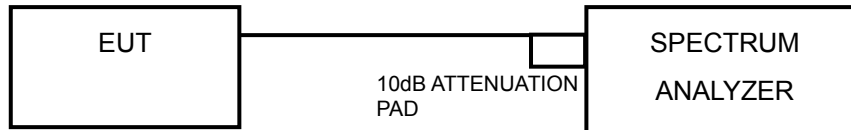
4.3.3 TEST PROCEDURE

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.



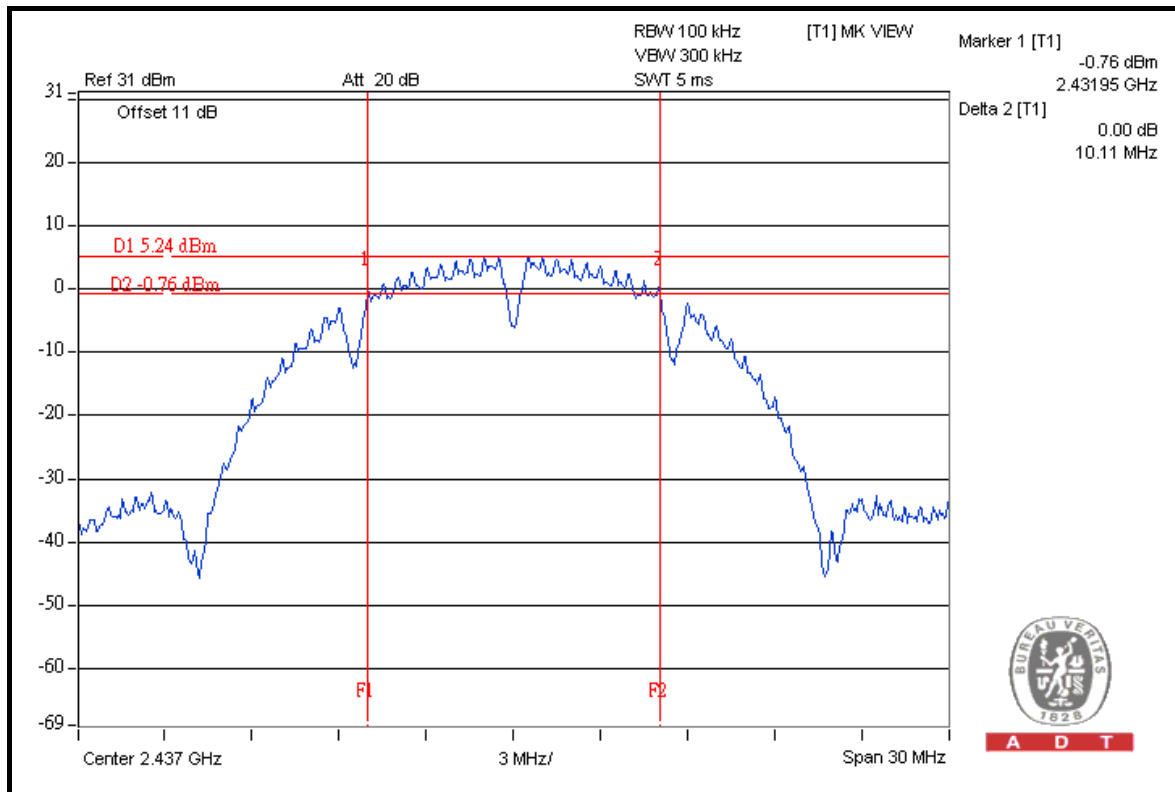
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4.3.7 TEST RESULTS

802.11b: 1TX

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	10.09	0.5	PASS
6	2437	10.11	0.5	PASS
11	2462	10.10	0.5	PASS

CH 6



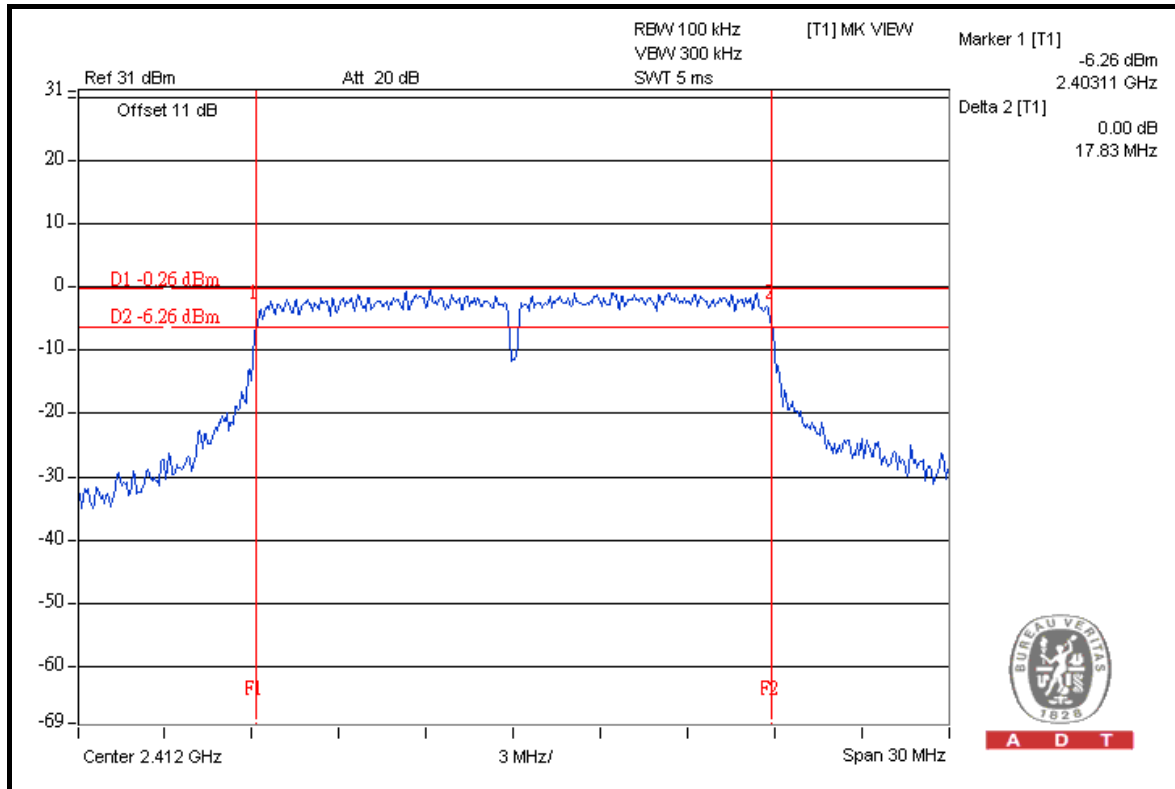


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802.11n (20MHz): 1TX

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	17.83	0.5	PASS
6	2437	17.83	0.5	PASS
11	2462	17.82	0.5	PASS

CH 1



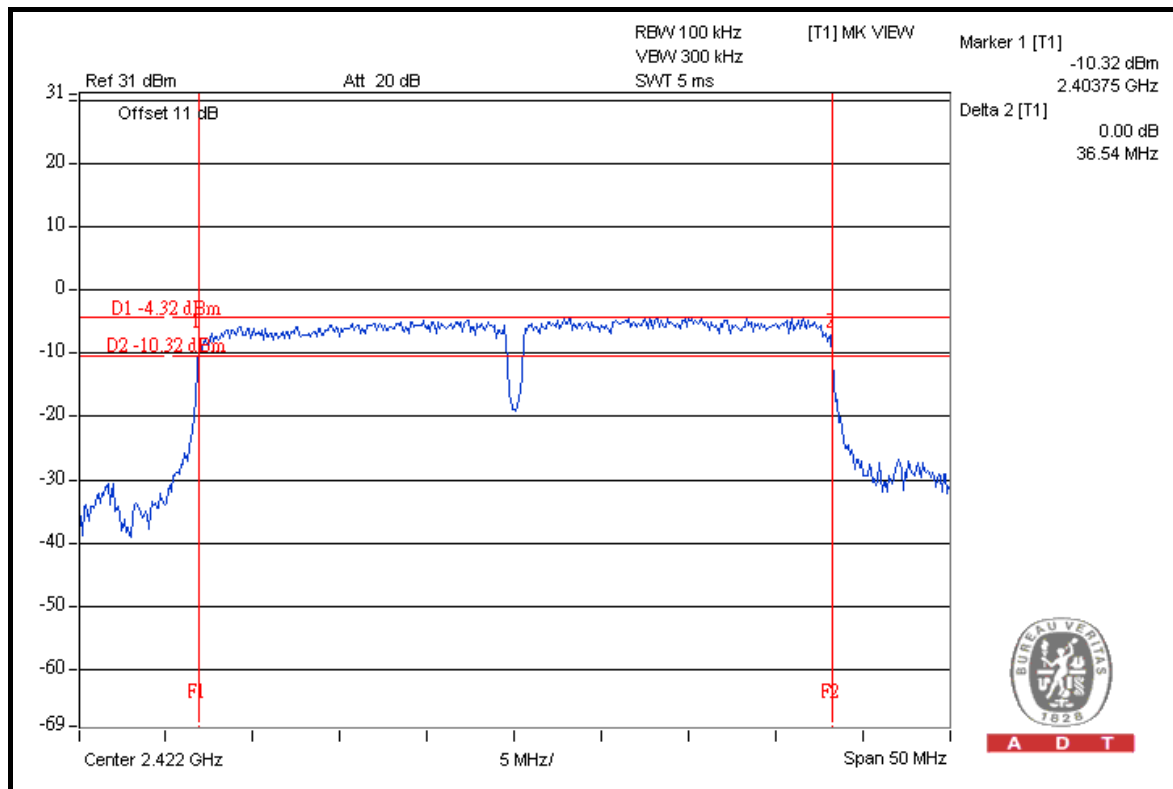


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802.11n (40MHz): 1TX

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2422	36.54	0.5	PASS
4	2437	36.54	0.5	PASS
7	2452	36.54	0.5	PASS

CH 1



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4.4 MAXIMUM OUTPUT POWER

4.4.1 LIMITS OF MAXIMUM OUTPUT POWER MEASUREMENT

The Maximum Output Power Measurement is 30dBm.

4.4.2 INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
High Speed Peak Power Meter	ML2495A	0842014	Apr. 21, 2010	Apr. 20, 2011
Power Sensor	MA2411B	0738404	Apr. 21, 2010	Apr. 20, 2011

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.

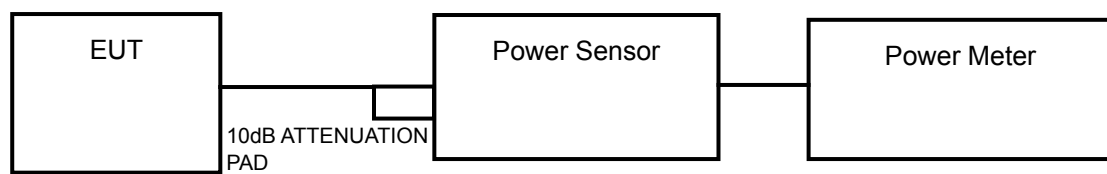
4.4.3 TEST PROCEDURES

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: 1TX

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
1	2412	81.3	19.1	30	PASS
6	2437	75.9	18.8	30	PASS
11	2462	91.2	19.6	30	PASS

802.11g: 1TX

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
1	2412	195.0	22.9	30	PASS
6	2437	190.5	22.8	30	PASS
11	2462	162.2	22.1	30	PASS

802.11n (20MHz): 1TX

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
1	2412	182.0	22.6	30	PASS
6	2437	182.0	22.6	30	PASS
11	2462	147.9	21.7	30	PASS

802.11n (20MHz): 2TX

CHAN.	CHAN. FREQ. (MHz)	POWER OUTPUT (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
1	2412	22.8	22.6	372.5	25.7	30	PASS
6	2437	22.6	22.4	355.8	25.5	30	PASS
11	2462	21.1	22.3	298.6	24.8	30	PASS

802.11n (40MHz): 1TX

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
1	2422	162.2	22.1	30	PASS
4	2437	166.0	22.2	30	PASS
7	2452	123.0	20.9	30	PASS

802.11n (40MHz): 1TX

CHAN.	CHAN. FREQ. (MHz)	POWER OUTPUT (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
1	2422	21.4	22.1	300.2	24.8	30	PASS
4	2437	22.2	21.6	310.5	24.9	30	PASS
7	2452	21.0	20.8	246.1	23.9	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	DUE DATE OF CALIBRATION
SPECTRUM ANALYZER R&S	FSP40	100039	Jul. 09, 2010	Jul. 08, 2011

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

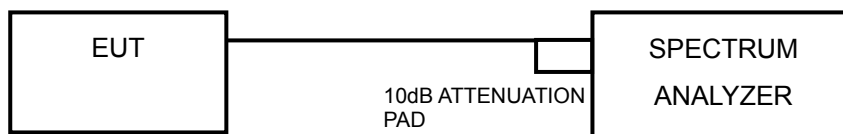
The transmitter output was connected to the spectrum analyzer through an attenuator, the bandwidth of the fundamental frequency was measured with the spectrum analyzer using 3kHz RBW and 30kHz VBW, set sweep time = span/3kHz. The power spectral density was measured and recorded.

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



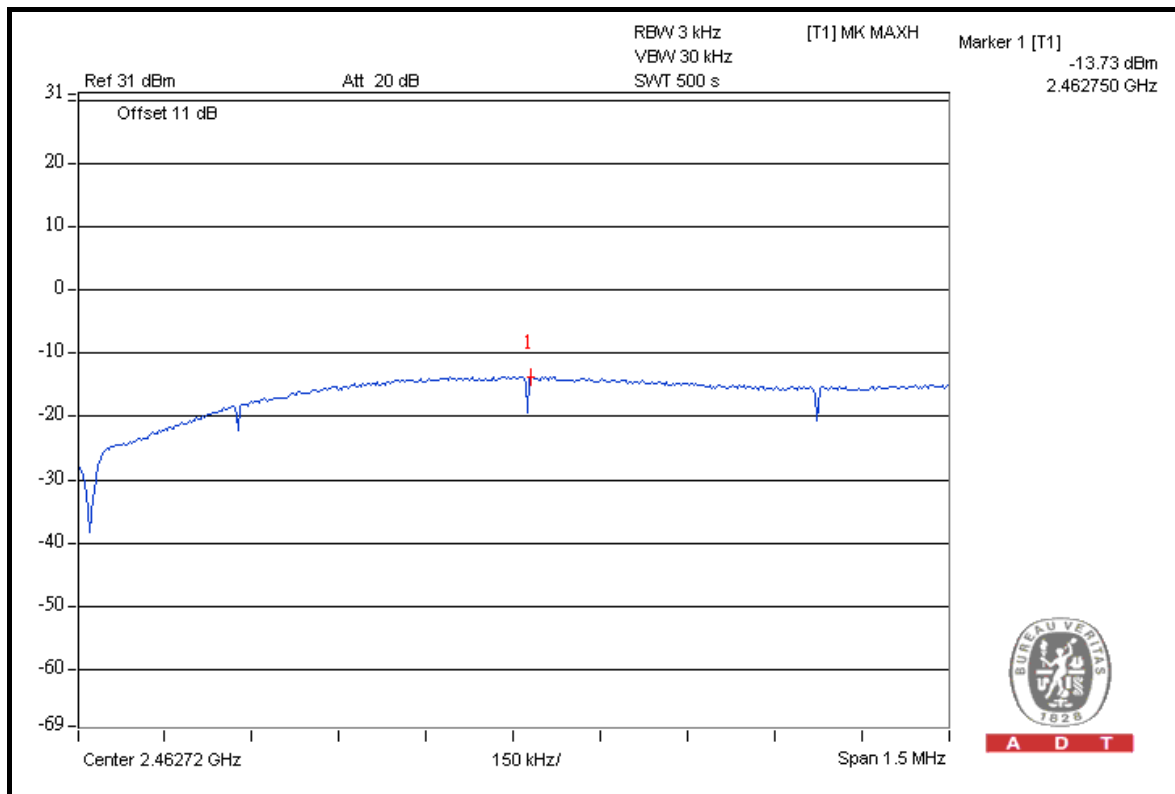
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4.5.7 TEST RESULTS

802.11b: 1TX

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3 kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	2412	-14.0	8	PASS
6	2437	-14.4	8	PASS
11	2462	-13.7	8	PASS

CH 11



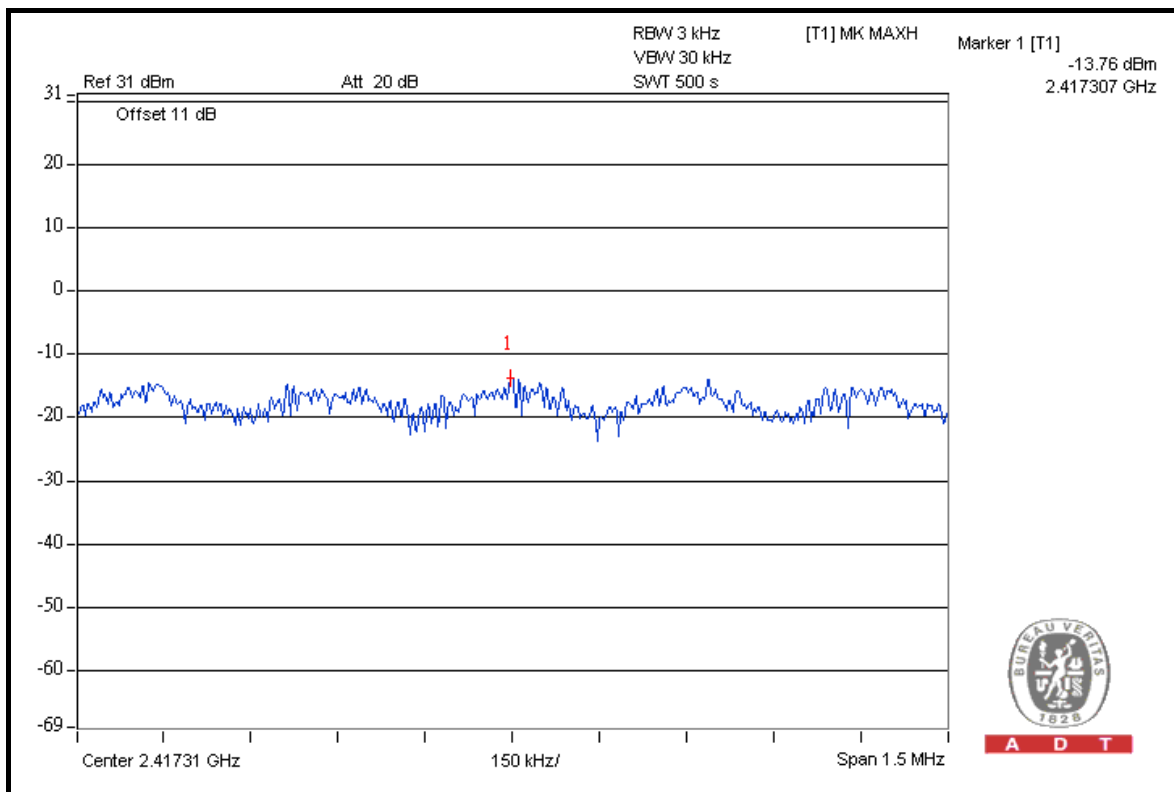


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802.11g: 1TX

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3 kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	2412	-13.8	8	PASS
6	2437	-13.9	8	PASS
11	2462	-14.4	8	PASS

CH 1



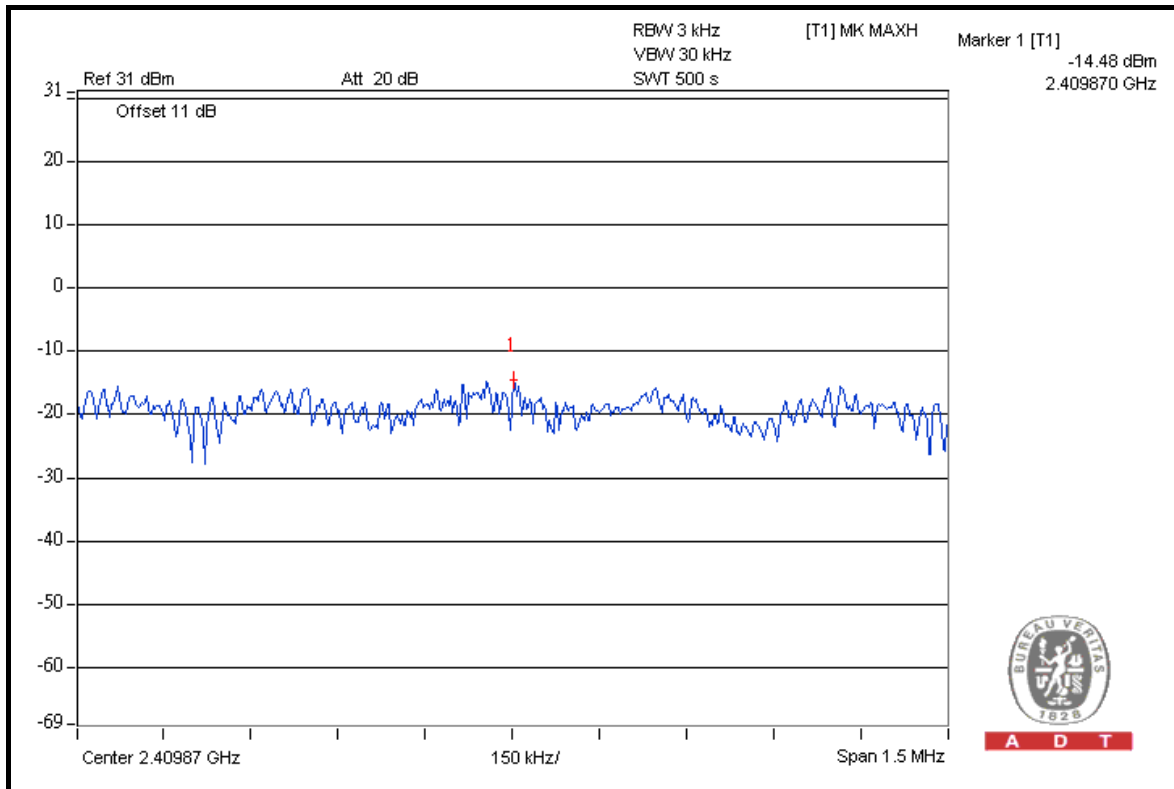


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802.11n (20MHz): 1TX

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3 kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	2412	-14.5	8	PASS
6	2437	-14.5	8	PASS
11	2462	-15.3	8	PASS

CH 1



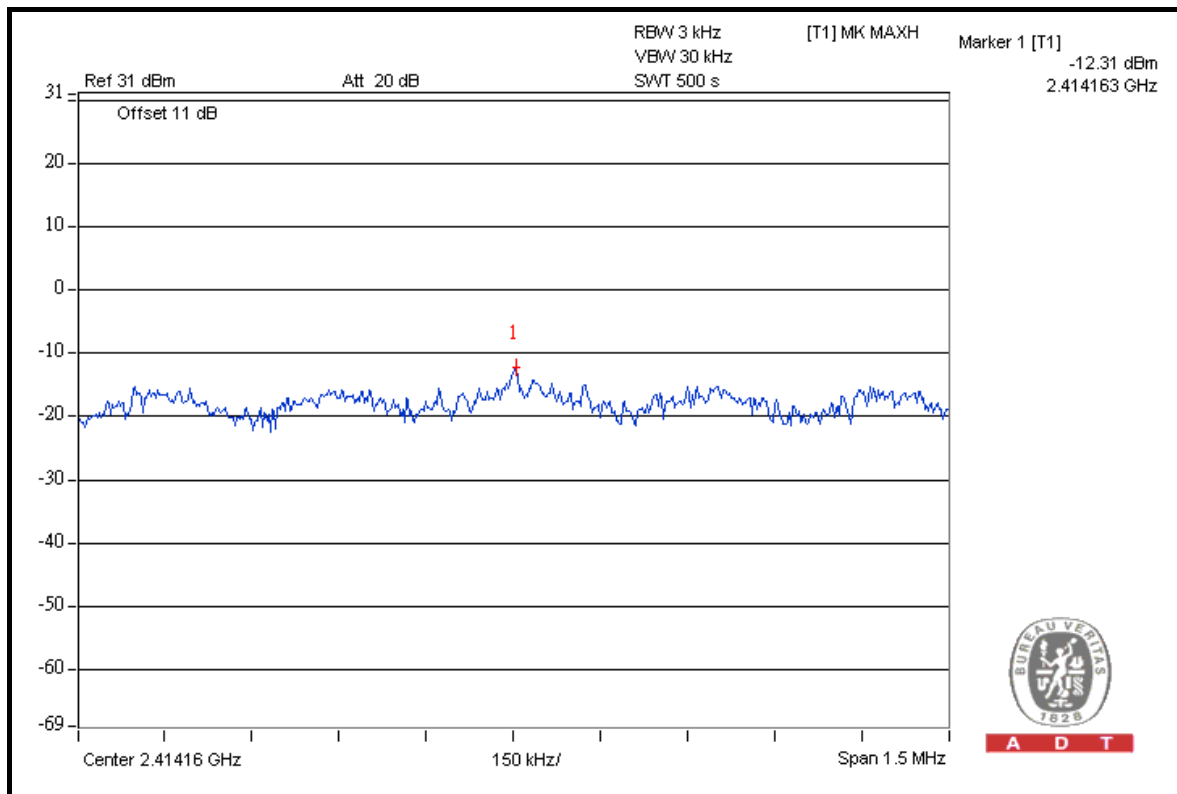


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802.11n (20MHz): 2TX

CHAN.	CHAN. FREQ. (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)		TOTAL POWER DENSITY (dBm)	MAX. LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1			
1	2412	-12.3	-13.1	-9.7	8	PASS
6	2437	-12.5	-13.5	-10.0	8	PASS
11	2462	-14.1	-13.5	-10.8	8	PASS

FOR CHAIN 0: CH 1



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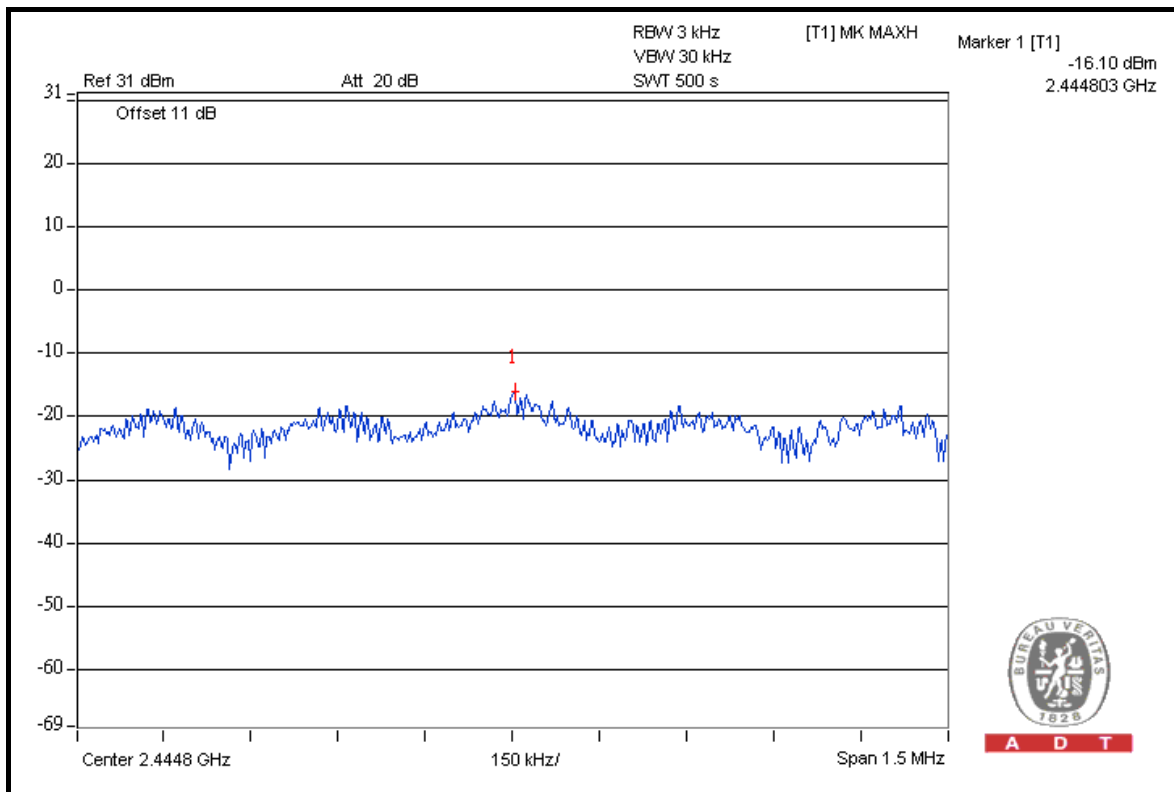


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802.11n (40MHz): 1TX

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3 kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	2422	-16.2	8	PASS
4	2437	-16.1	8	PASS
7	2452	-17.4	8	PASS

CH 4



A D T

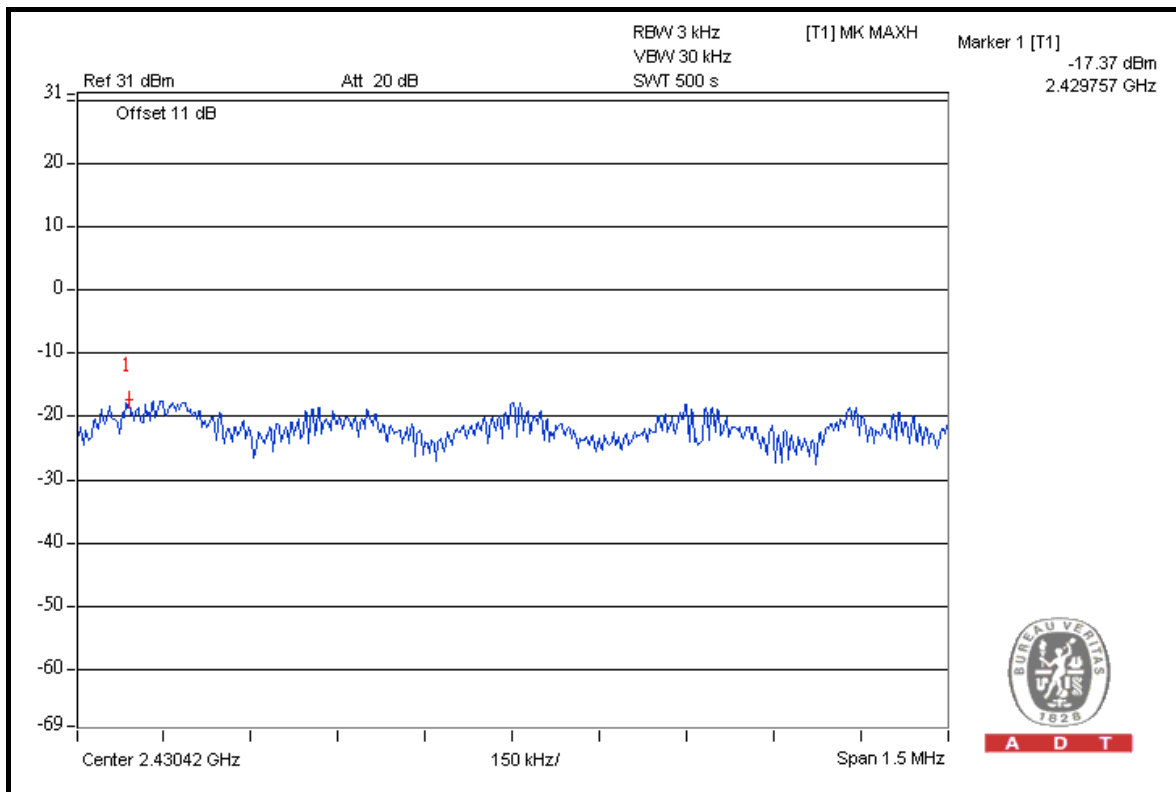


A D T

802.11n (40MHz): 2TX

CHAN.	CHAN. FREQ. (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)		TOTAL POWER DENSITY (dBm)	MAX. LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1			
1	2422	-18.3	-17.4	-14.8	8	PASS
4	2437	-17.5	-17.7	-14.6	8	PASS
7	2452	-18.5	-18.9	-15.7	8	PASS

FOR CHAIN 1: CH 1



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	DUE DATE OF CALIBRATION
FOR CONDUCTED MEASUREMENT				
SPECTRUM ANALYZER R&S	FSP40	100039	Jul. 09, 2010	Jul. 08, 2011
FOR RADIATED MEASUREMENT				
Test Receiver ROHDE & SCHWARZ	ESCI	100424	Aug. 04, 2010	Aug. 03, 2011
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100041	Jul. 09, 2010	Jul. 08, 2011
BILOG Antenna SCHWARZBECK	VULB9168	9168-156	Apr. 30, 2010	Apr. 29, 2011
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-209	Aug. 02, 2010	Aug. 01, 2011
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170243	Dec. 27, 2010	Dec. 26, 2011
Preamplifier Agilent	8449B	3008A01910	Sep. 09, 2010	Sep. 08, 2011
Preamplifier Agilent	8447D	2944A10638	Nov. 03, 2010	Nov. 02, 2011
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	218190/4 231241/4	May 14, 2010	May 13, 2011
RF signal cable Worken	8D-FB	Cable-HYCH9-01	Aug. 20, 2010	Aug. 19, 2011
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
Turn Table Controller ADT.	SC100.	SC93021703	NA	NA

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



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4.6.3 TEST PROCEDURE

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The antenna is a broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. Set both RBW and VBW of spectrum analyzer to 100kHz 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) are attached on the following pages.

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

4.6.4 DEVIATION FROM TEST STANDARD

No deviation

4.6.5 EUT OPERATING CONDITION

Same as Item 4.3.6



4.6.6 TEST RESULTS

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

802.11b: 1TX

RESTRICT BAND (2310 ~ 2390 MHz)

FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH IN RESTRICT BAND (dBuV/m)	LIMIT (dBuV/m)
2412.00 (PK)	109.0	53.09	55.91	74.00
2412.00 (AV)	105.1	58.89	46.21	54.00

RESTRICT BAND (2483.5 ~ 2500 MHz)

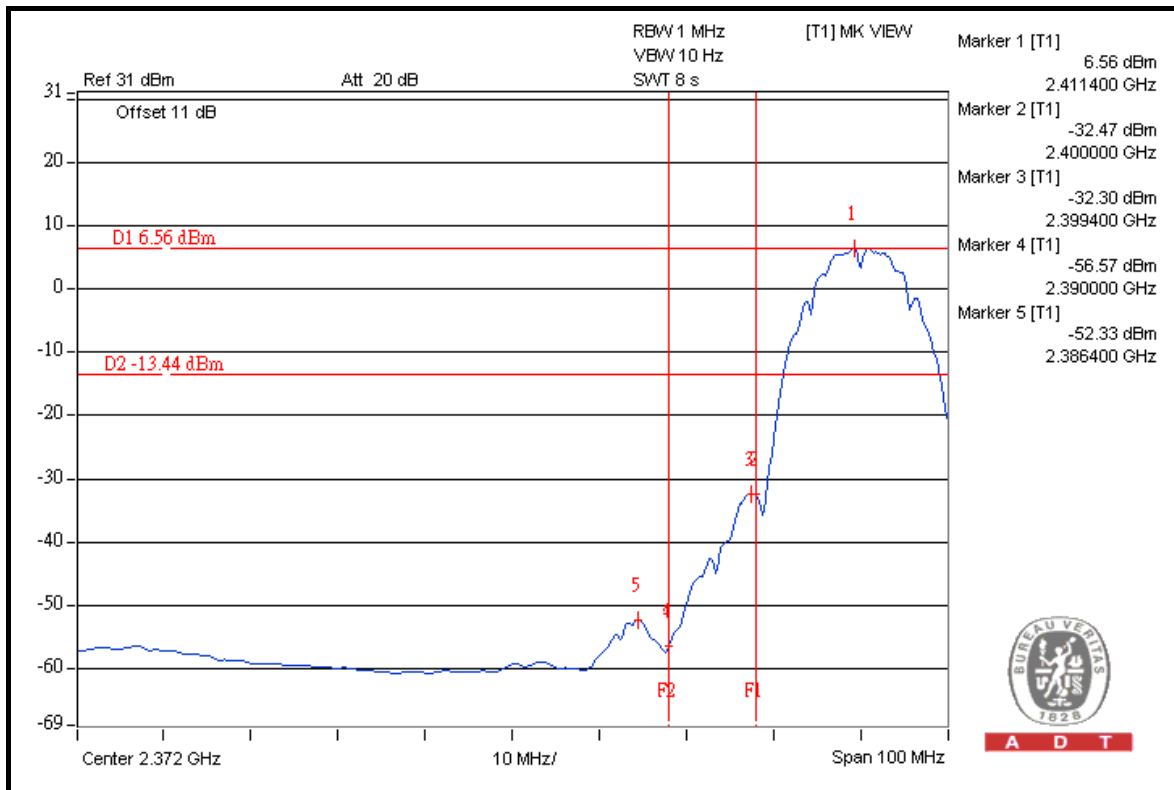
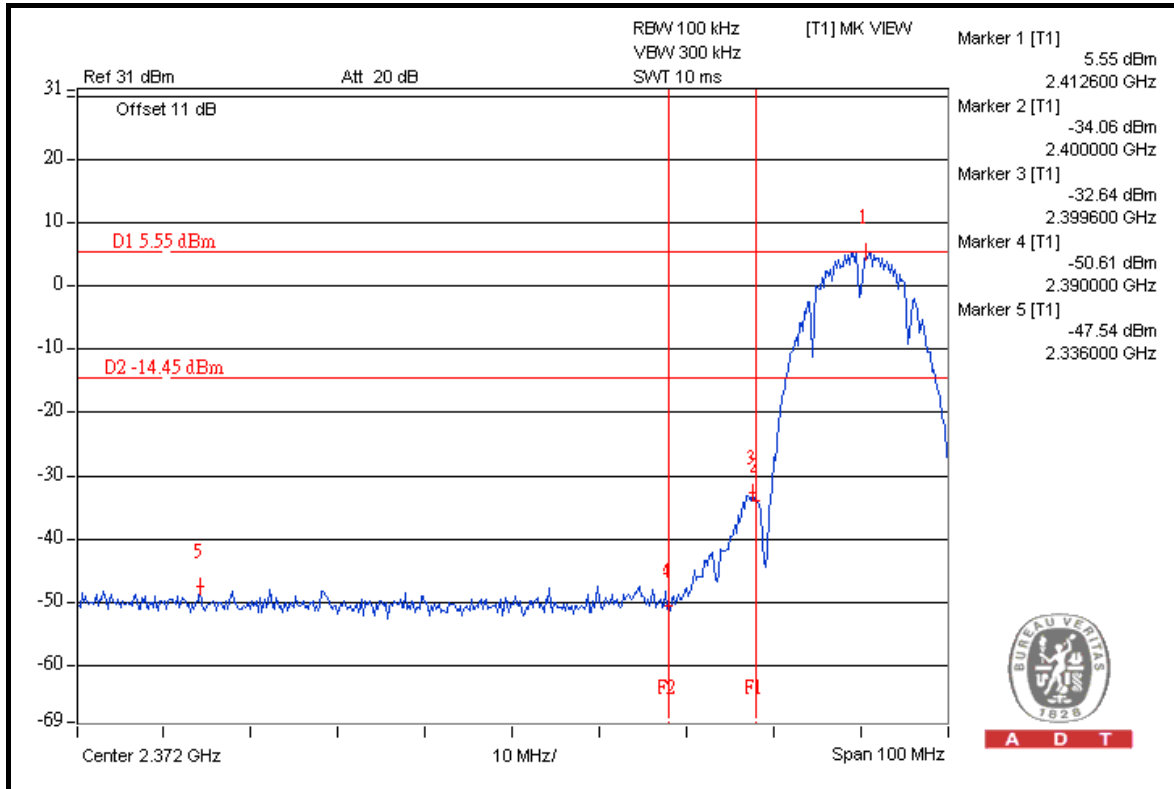
FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH IN RESTRICT BAND (dBuV/m)	LIMIT (dBuV/m)
2462.00 (PK)	109.5	48.40	61.10	74.00
2462.00 (AV)	105.5	52.75	52.75	54.00

NOTE:

1. Delta = Amplitude between the peak of the fundamental and the peak of the band edge emission. Please check following 3 pages.
2. Maximum field strength in restrict band = Fundamental emission – Delta.

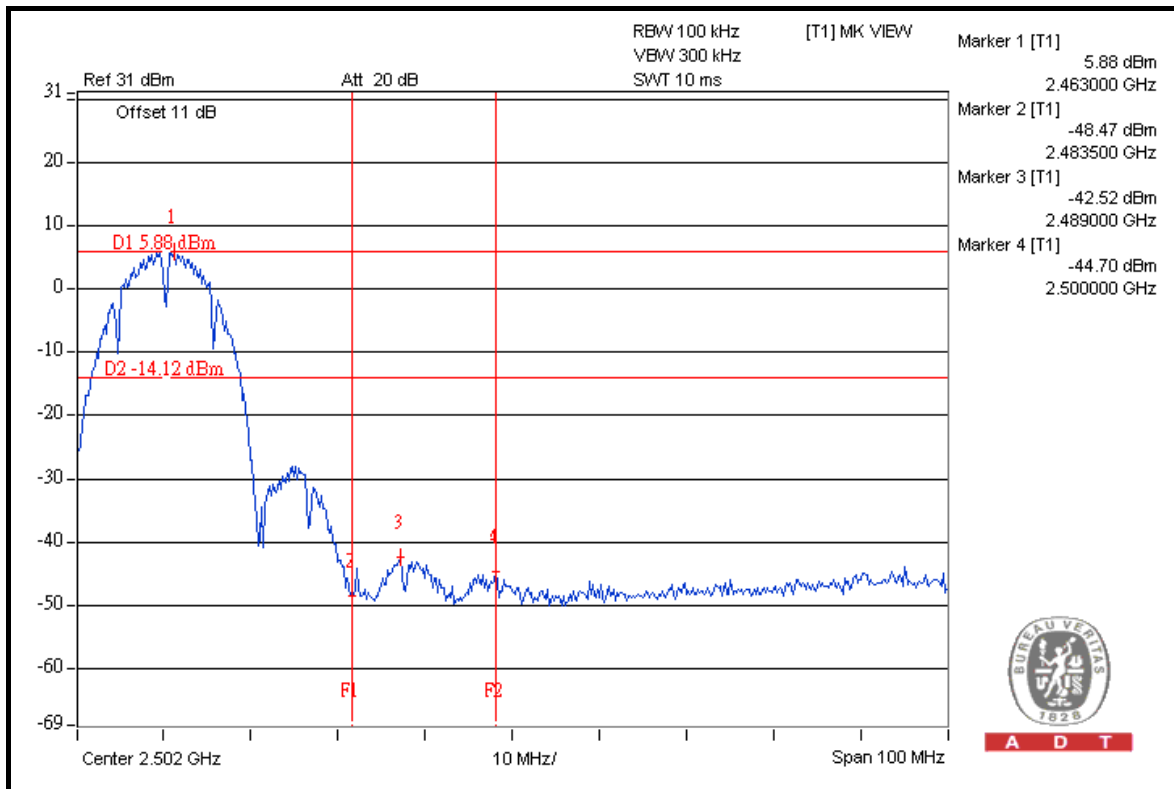
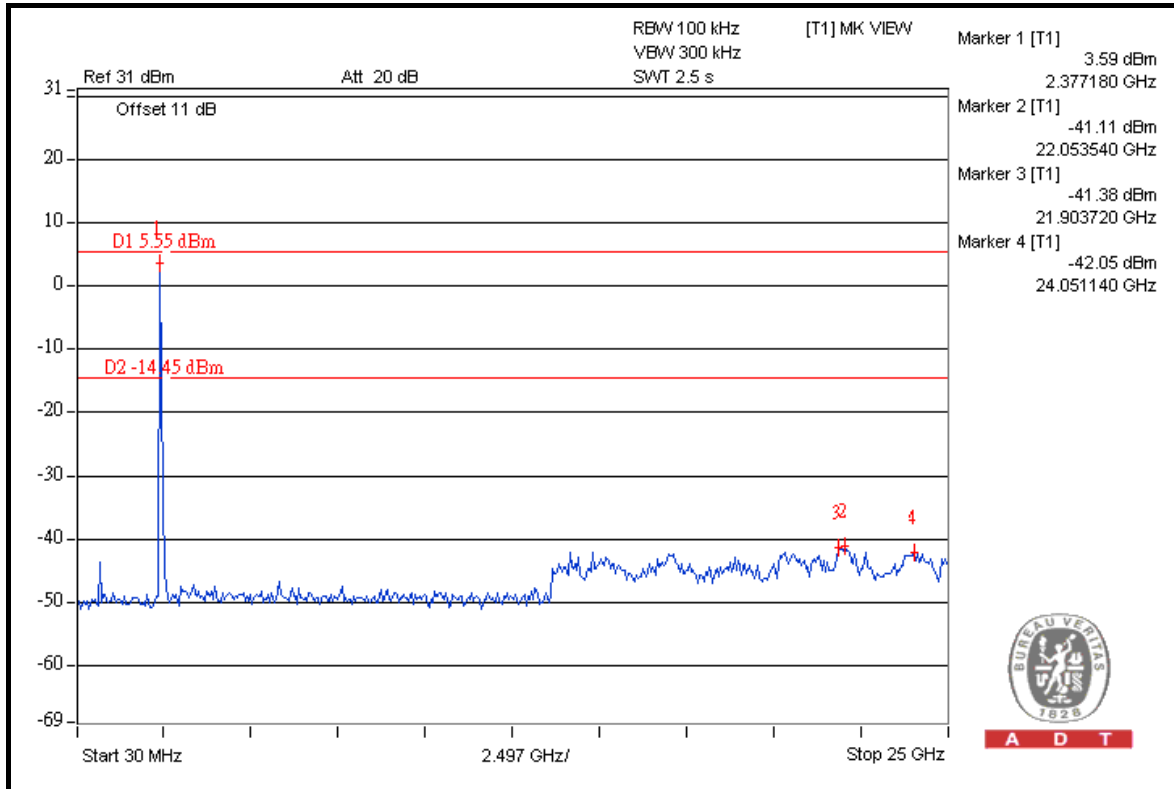


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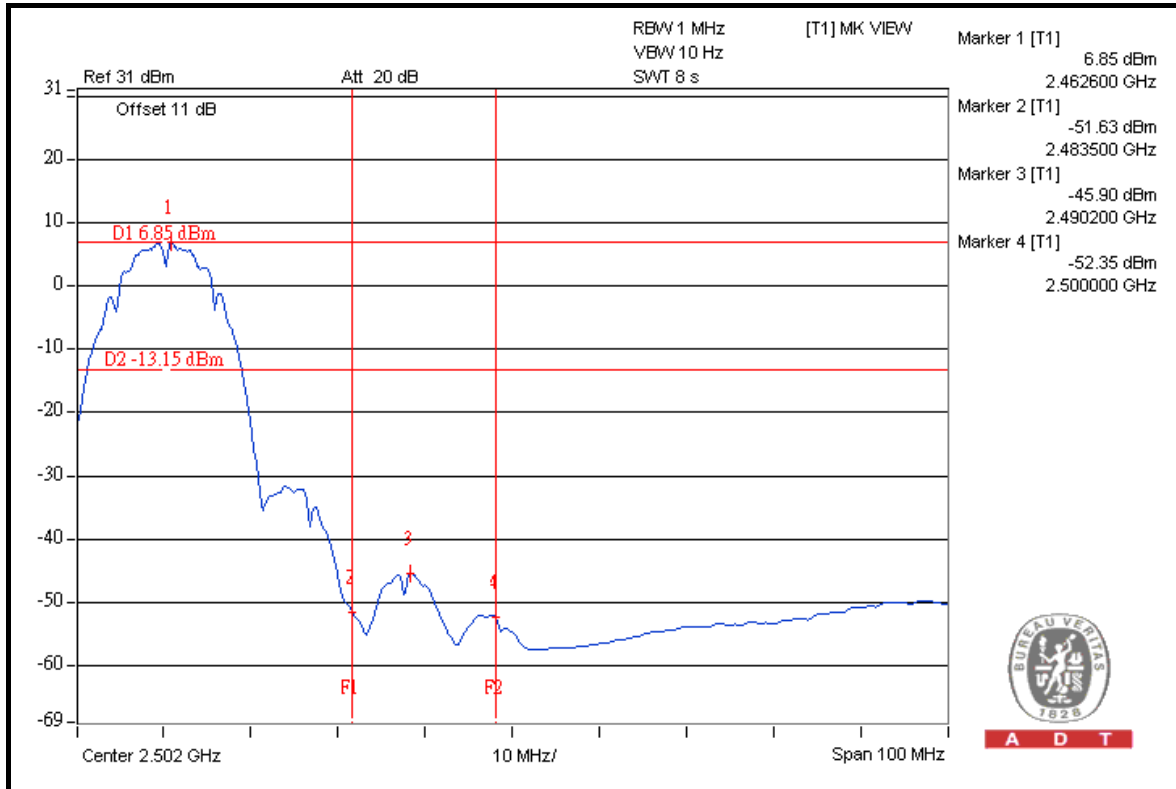


A D T

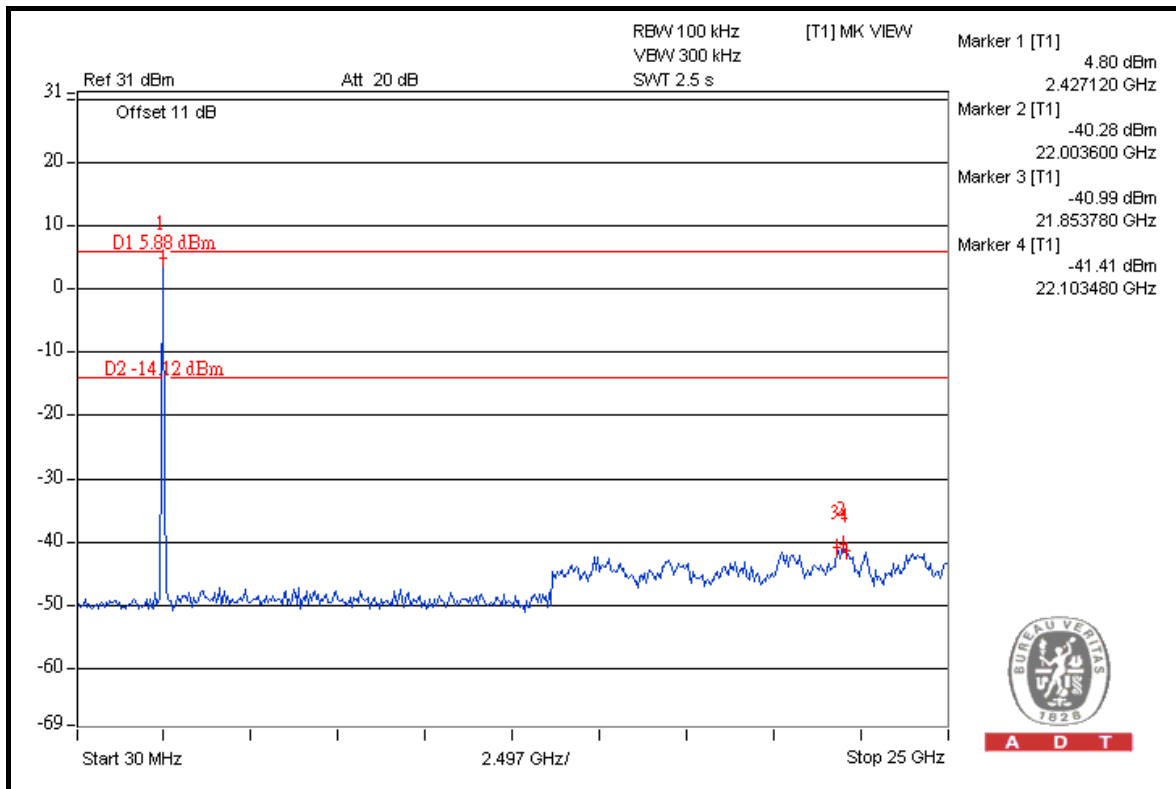




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802.11g: 1TX

RESTRICT BAND (2310 ~ 2390 MHz)

FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH IN RESTRICT BAND (dBuV/m)	LIMIT (dBuV/m)
2412.00 (PK)	108.1	38.03	70.07	74.00
2412.00 (AV)	98.7	46.12	52.58	54.00

RESTRICT BAND (2483.5 ~ 2500 MHz)

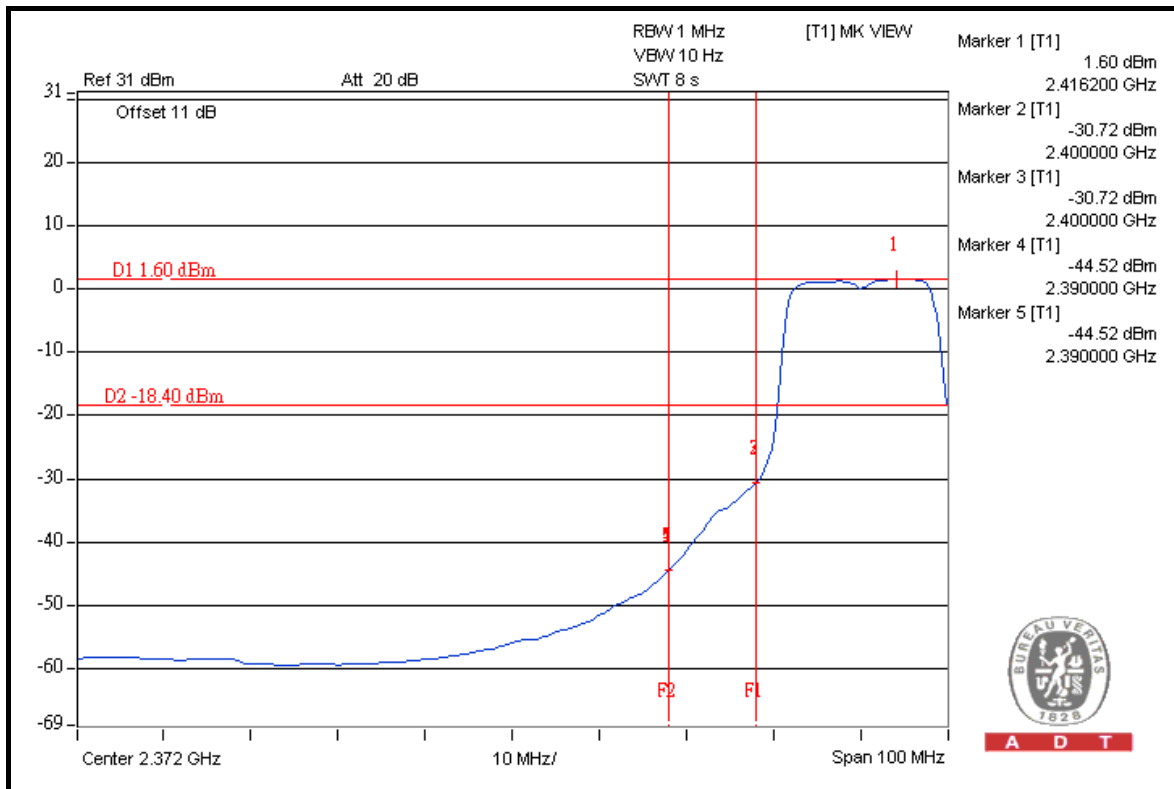
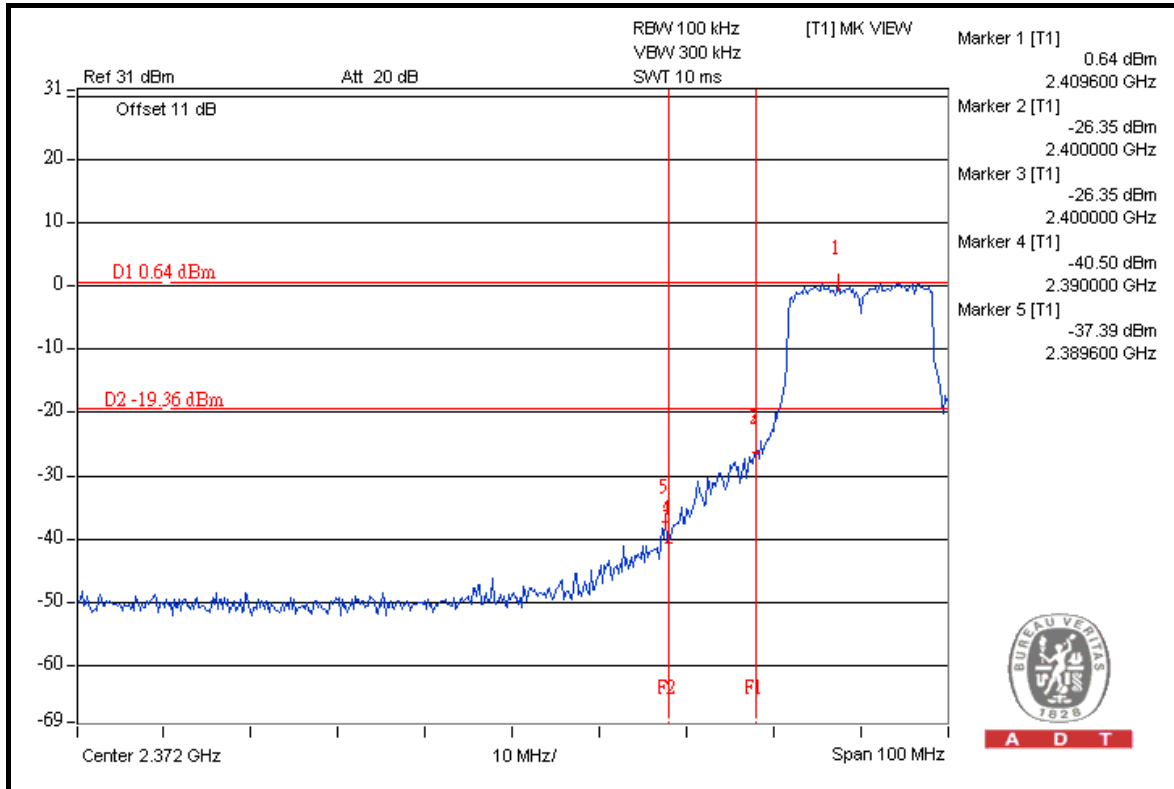
FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH IN RESTRICT BAND (dBuV/m)	LIMIT (dBuV/m)
2462.00 (PK)	107.1	34.16	72.94	74.00
2462.00 (AV)	97.4	44.80	52.60	54.00

NOTE:

1. Delta = Amplitude between the peak of the fundamental and the peak of the band edge emission. Please check following 3 pages.
2. Maximum field strength in restrict band = Fundamental emission – Delta.

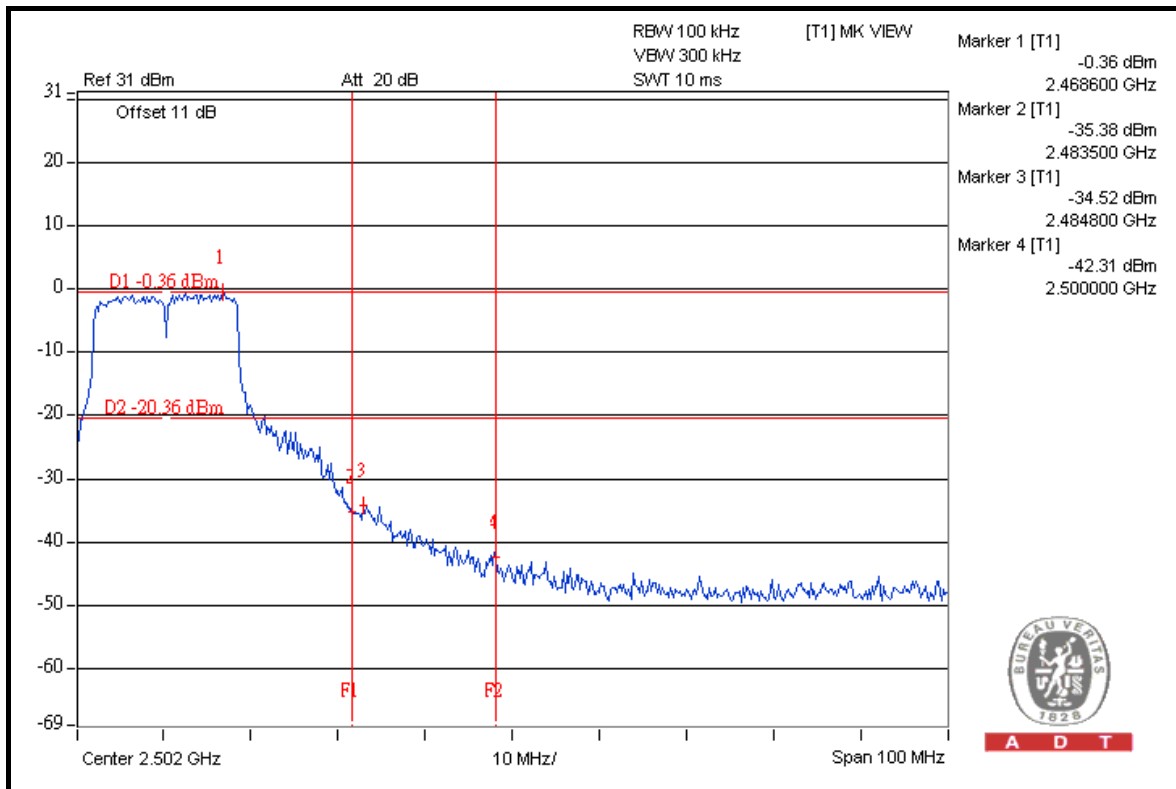
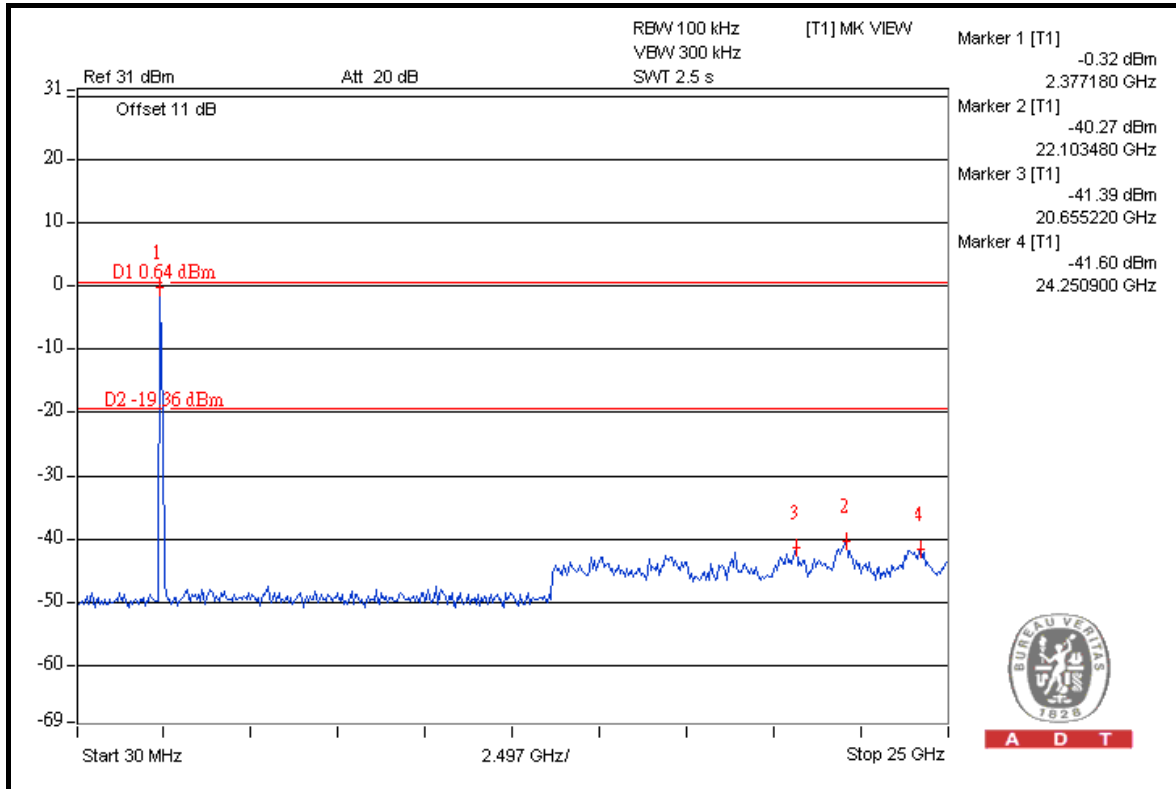


A D T



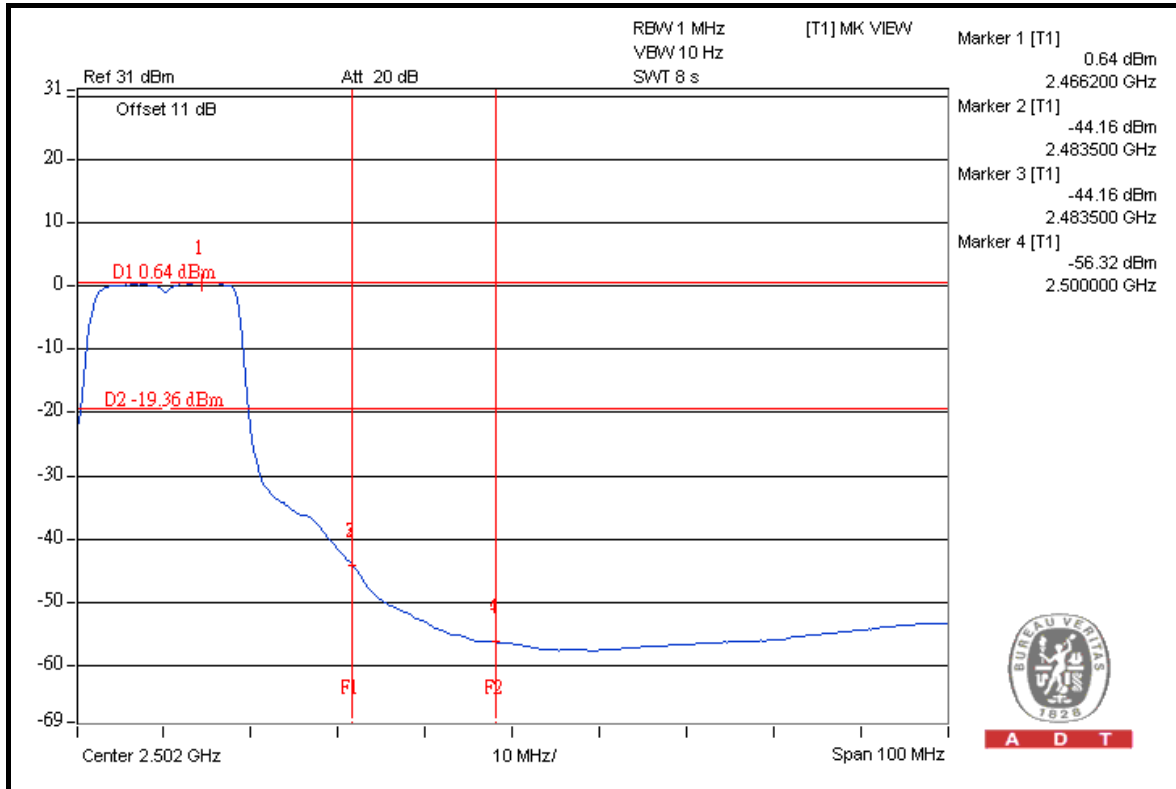


A D T

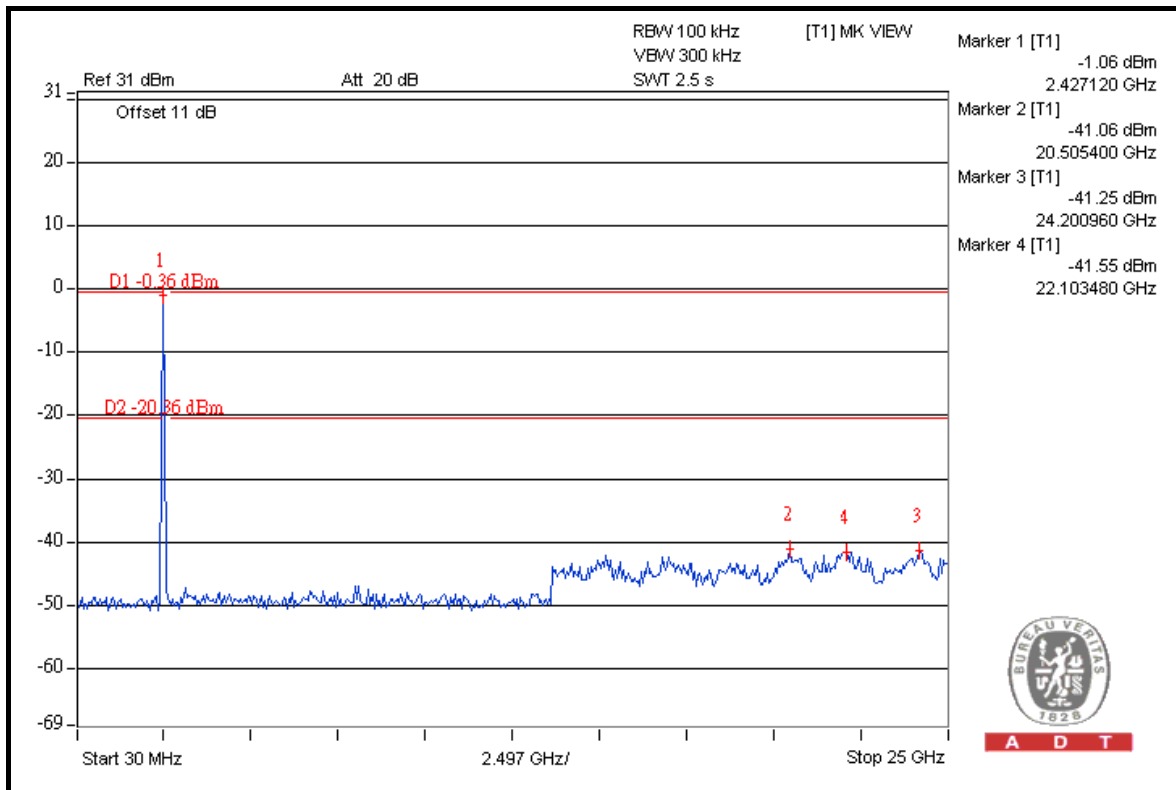




A D T



A D T



A D T



A D T

802.11n (20MHz): 1TX

RESTRICT BAND (2310 ~ 2390 MHz)

FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH IN RESTRICT BAND (dBuV/m)	LIMIT (dBuV/m)
2412.00 (PK)	107.8	39.16	68.64	74.00
2412.00 (AV)	97.5	48.13	49.37	54.00

RESTRICT BAND (2483.5 ~ 2500 MHz)

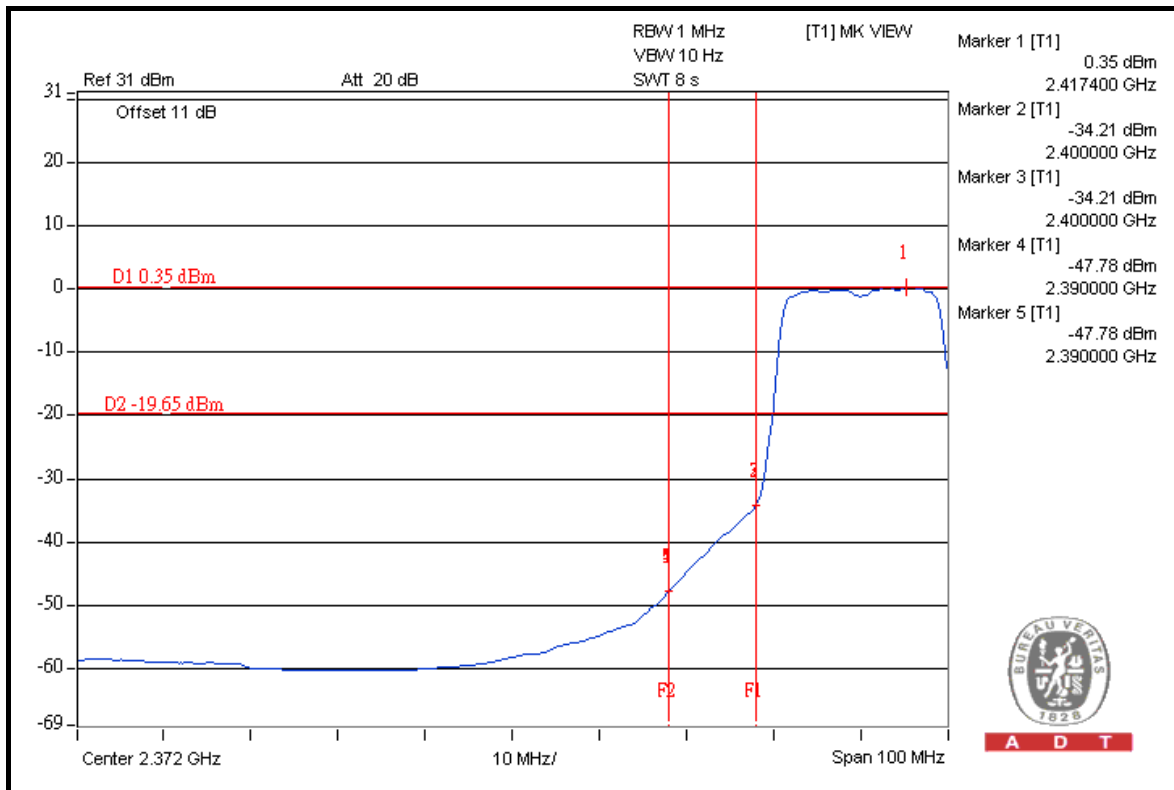
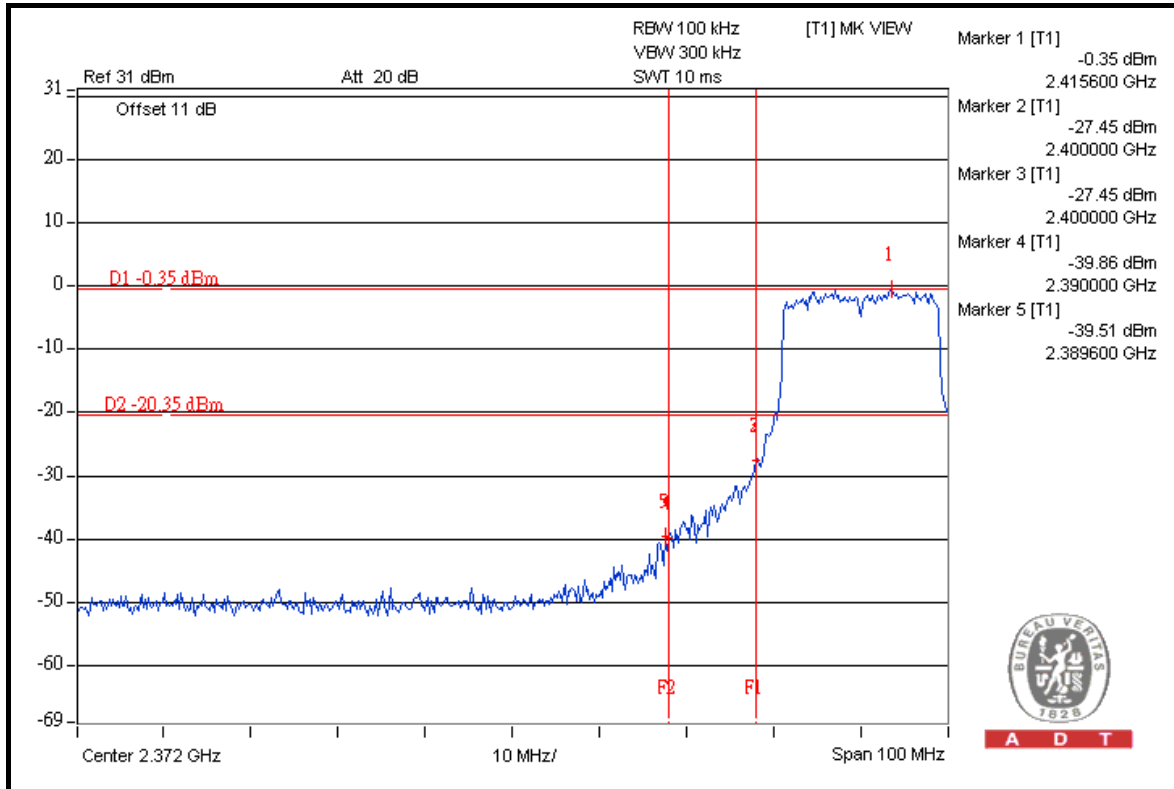
FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH IN RESTRICT BAND (dBuV/m)	LIMIT (dBuV/m)
2462.00 (PK)	106.4	33.47	72.93	74.00
2462.00 (AV)	95.7	43.85	51.85	54.00

NOTE:

1. Delta = Amplitude between the peak of the fundamental and the peak of the band edge emission. Please check following 3 pages.
2. Maximum field strength in restrict band = Fundamental emission – Delta.

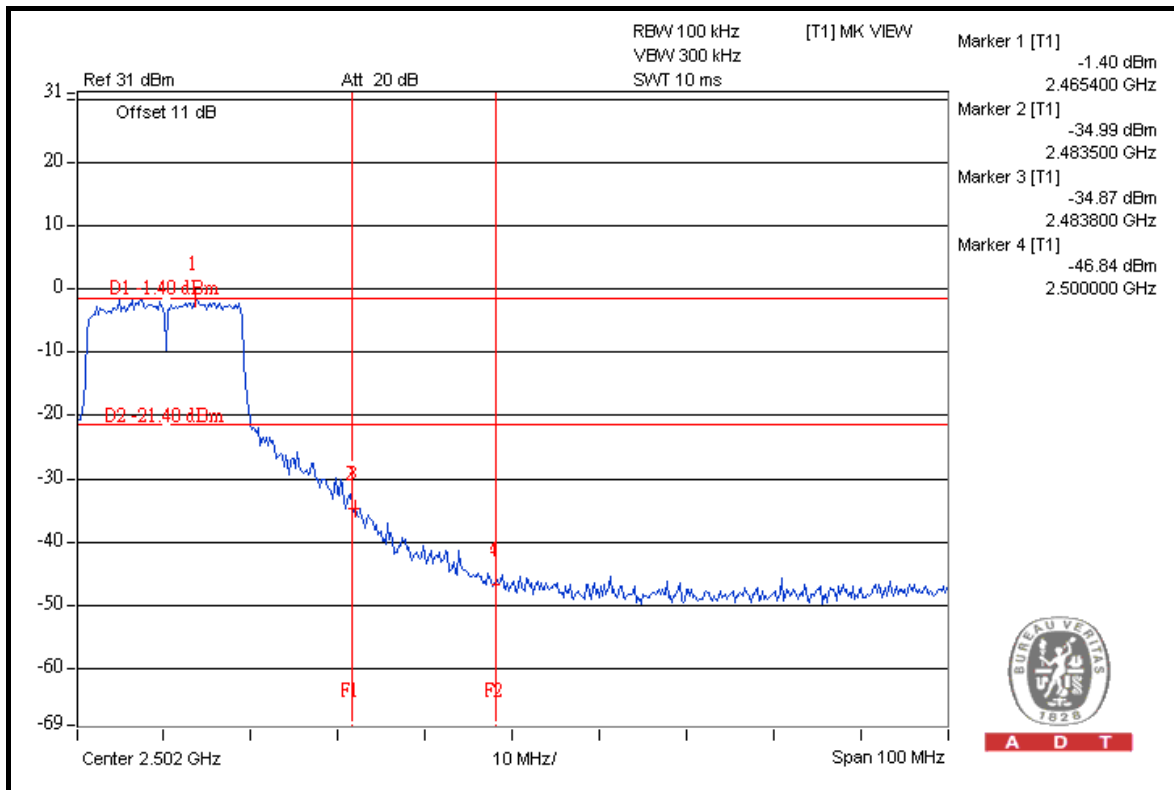
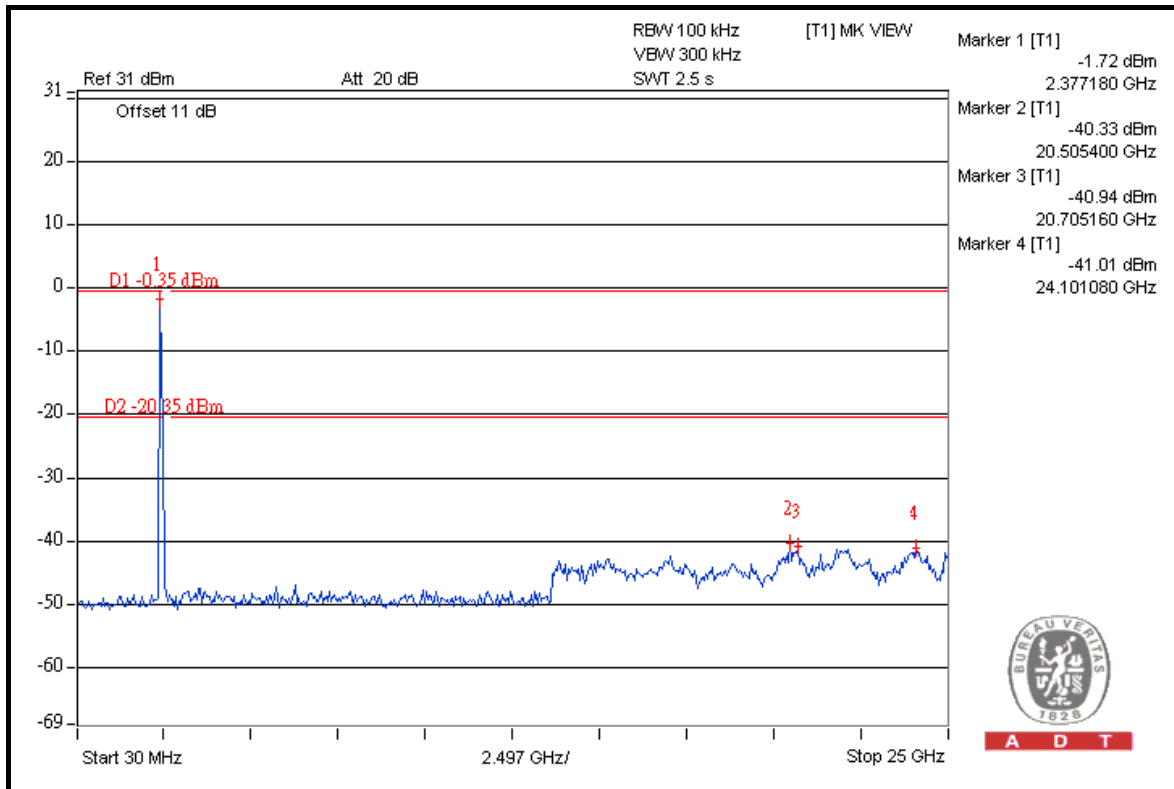


A D T



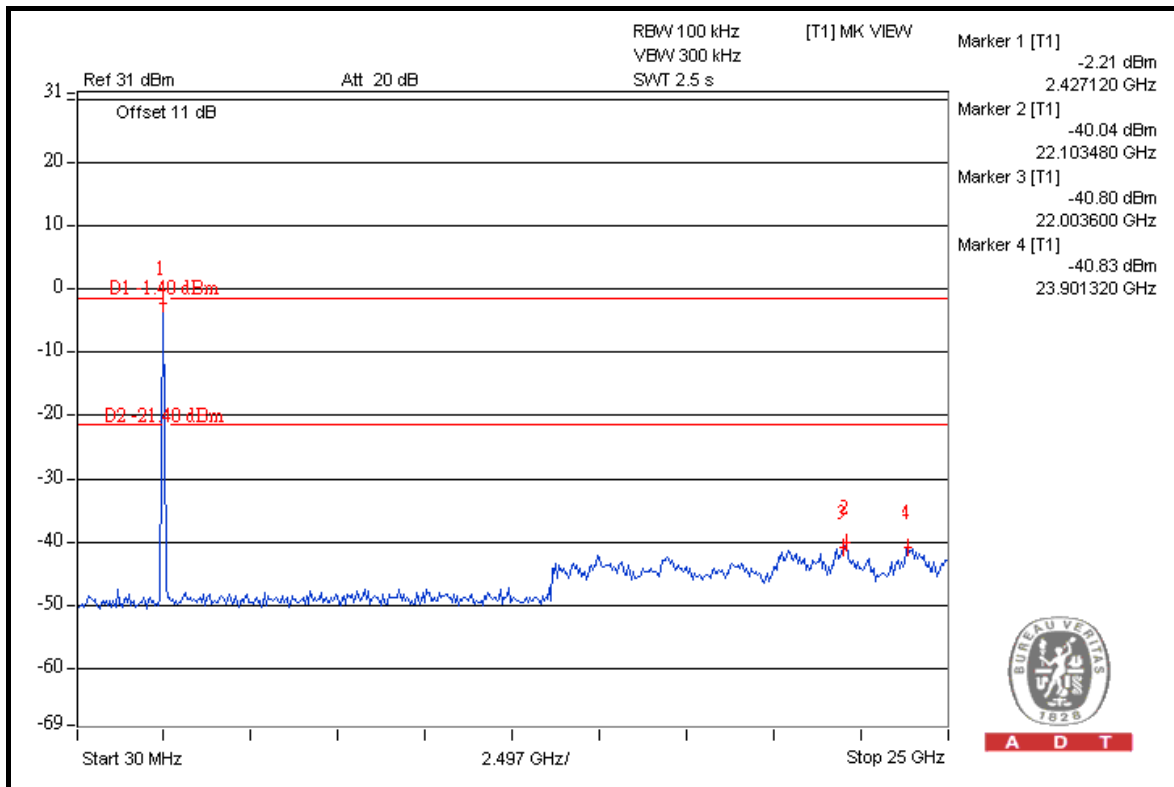
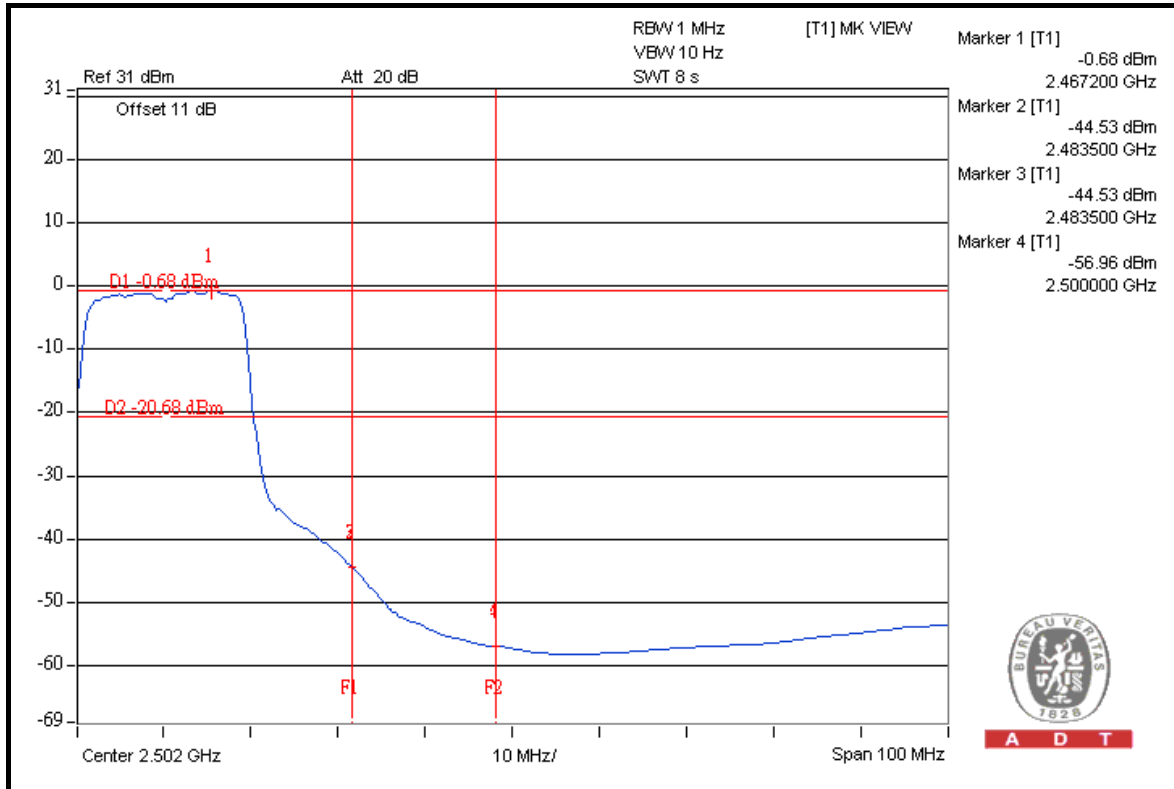


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802.11n (20MHz): 2TX

RESTRICT BAND (2310 ~ 2390 MHz)

FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH IN RESTRICT BAND (dBuV/m)	LIMIT (dBuV/m)
2412.00 (PK)	110.0	40.37	69.63	74.00
2412.00 (AV)	99.7	47.53	52.17	54.00

RESTRICT BAND (2483.5 ~ 2500 MHz)

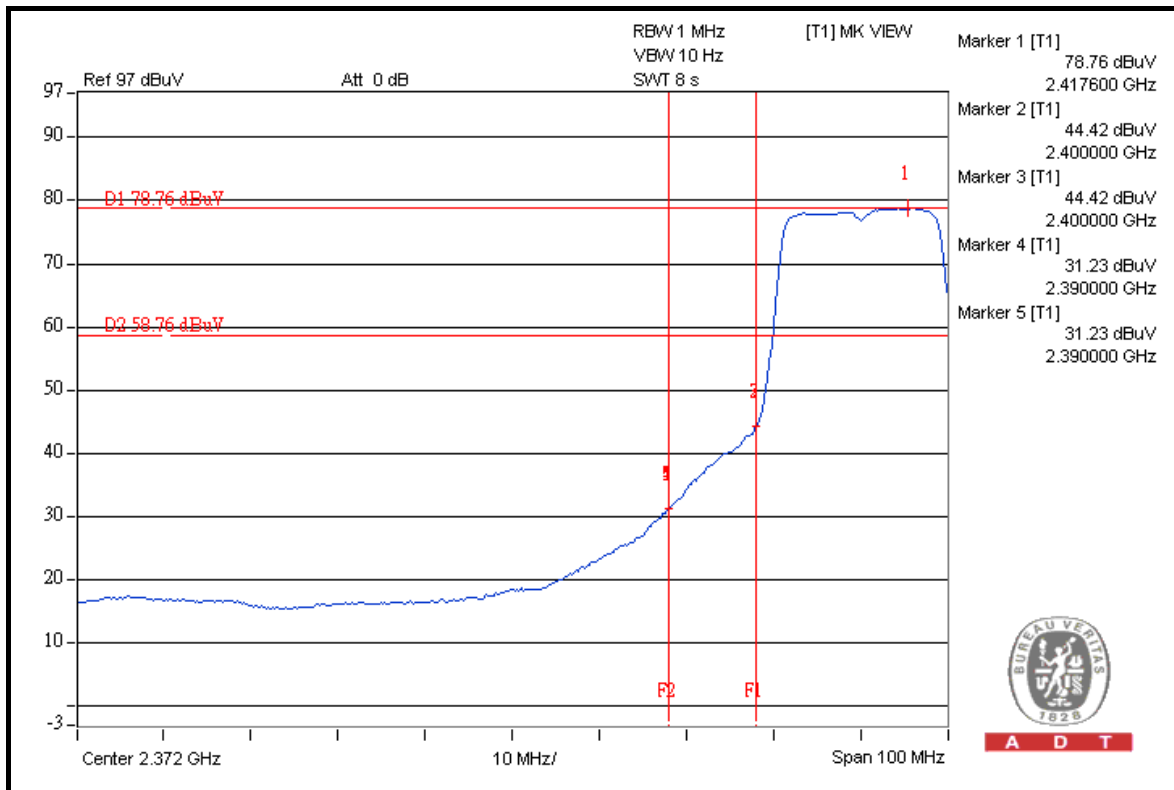
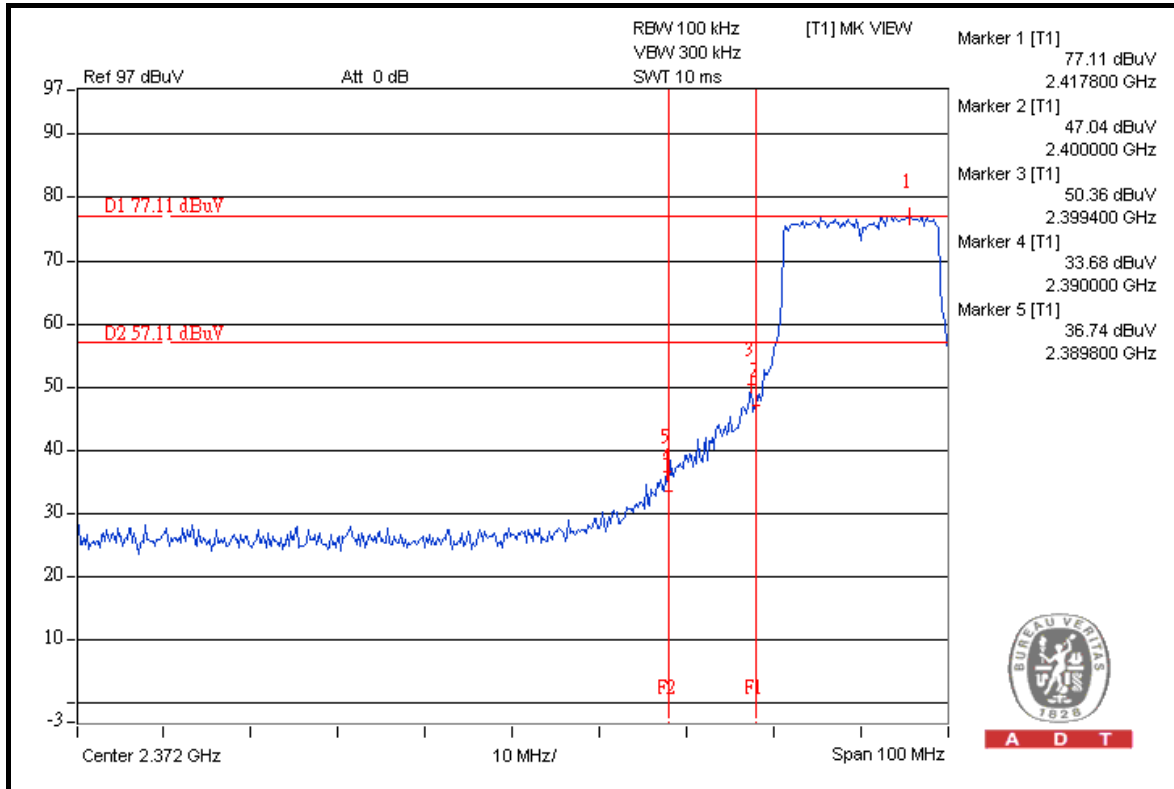
FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH IN RESTRICT BAND (dBuV/m)	LIMIT (dBuV/m)
2462.00 (PK)	107.6	42.03	65.57	74.00
2462.00 (AV)	97.3	45.00	52.30	54.00

NOTE:

1. Delta = Amplitude between the peak of the fundamental and the peak of the band edge emission. Please check following 3 pages.
2. Maximum field strength in restrict band = Fundamental emission – Delta.

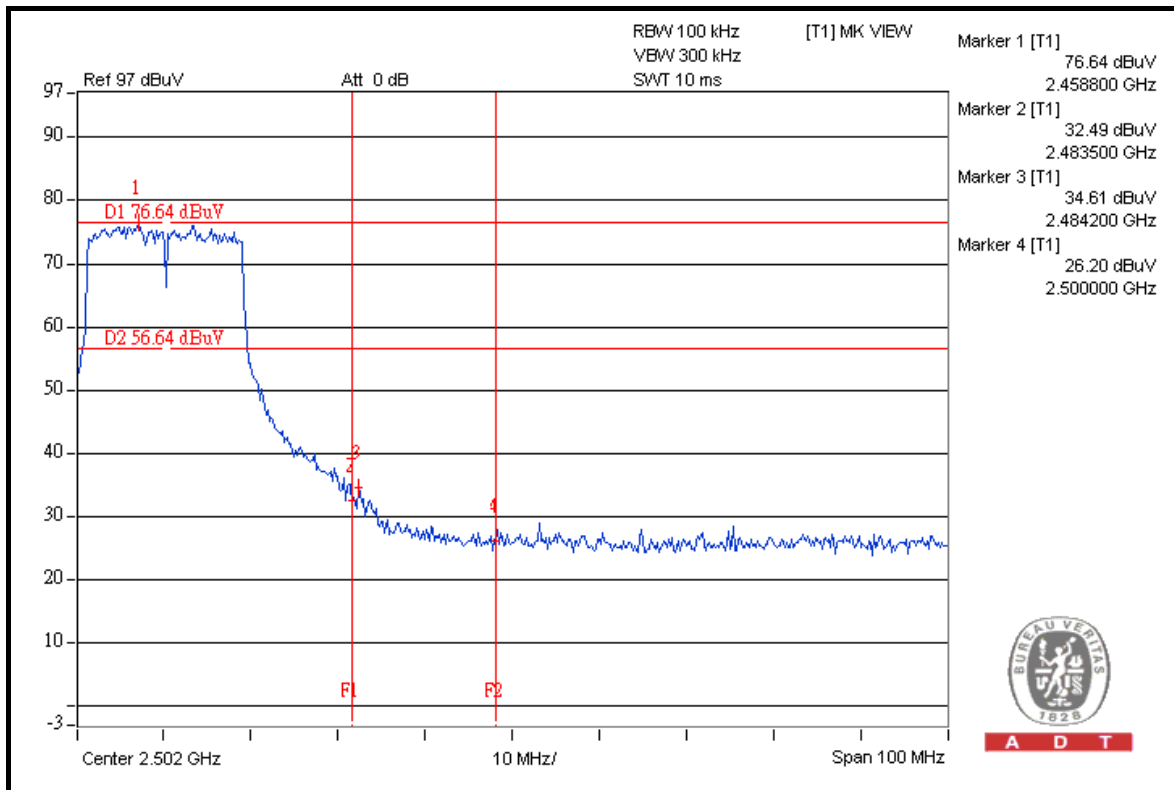
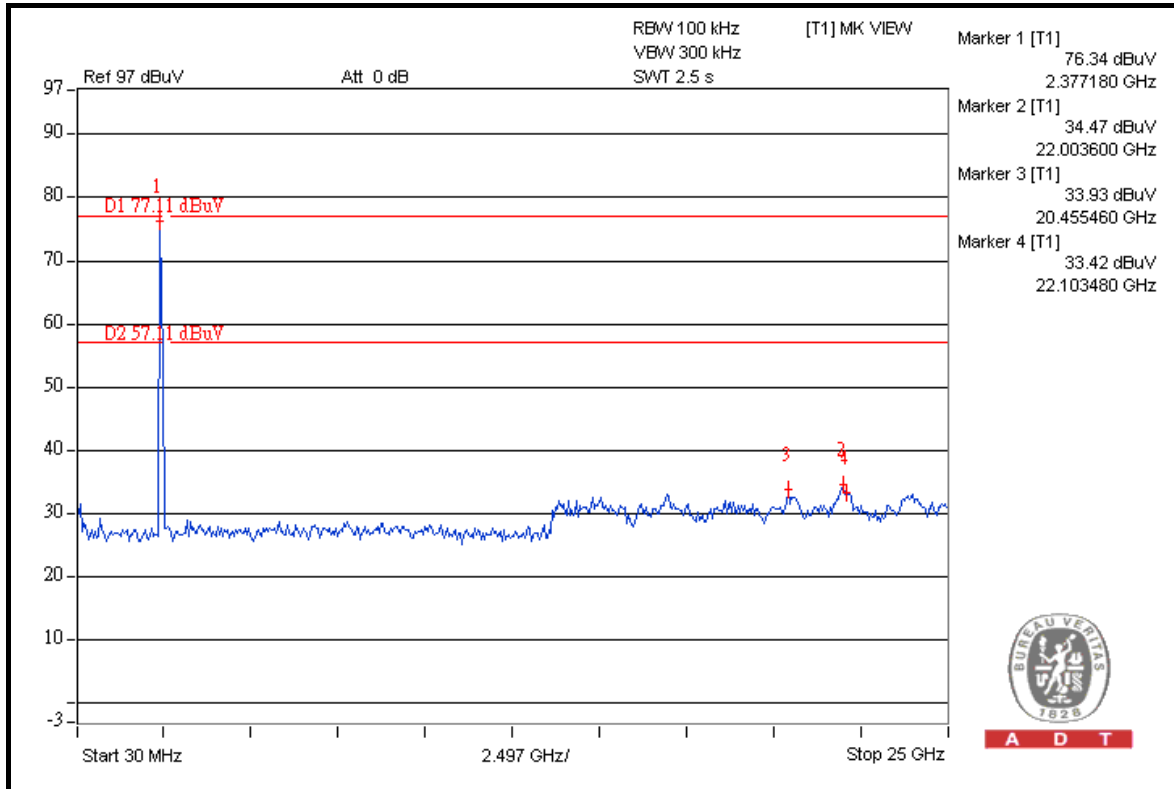


A D T



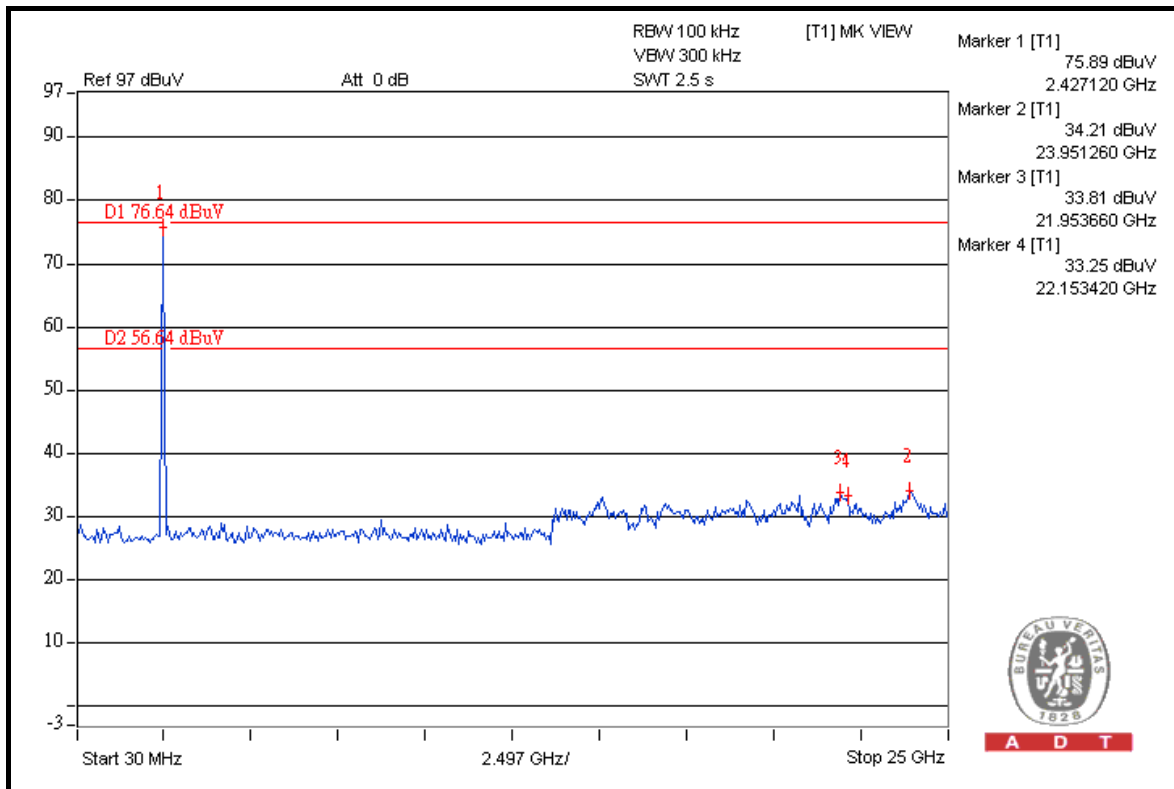
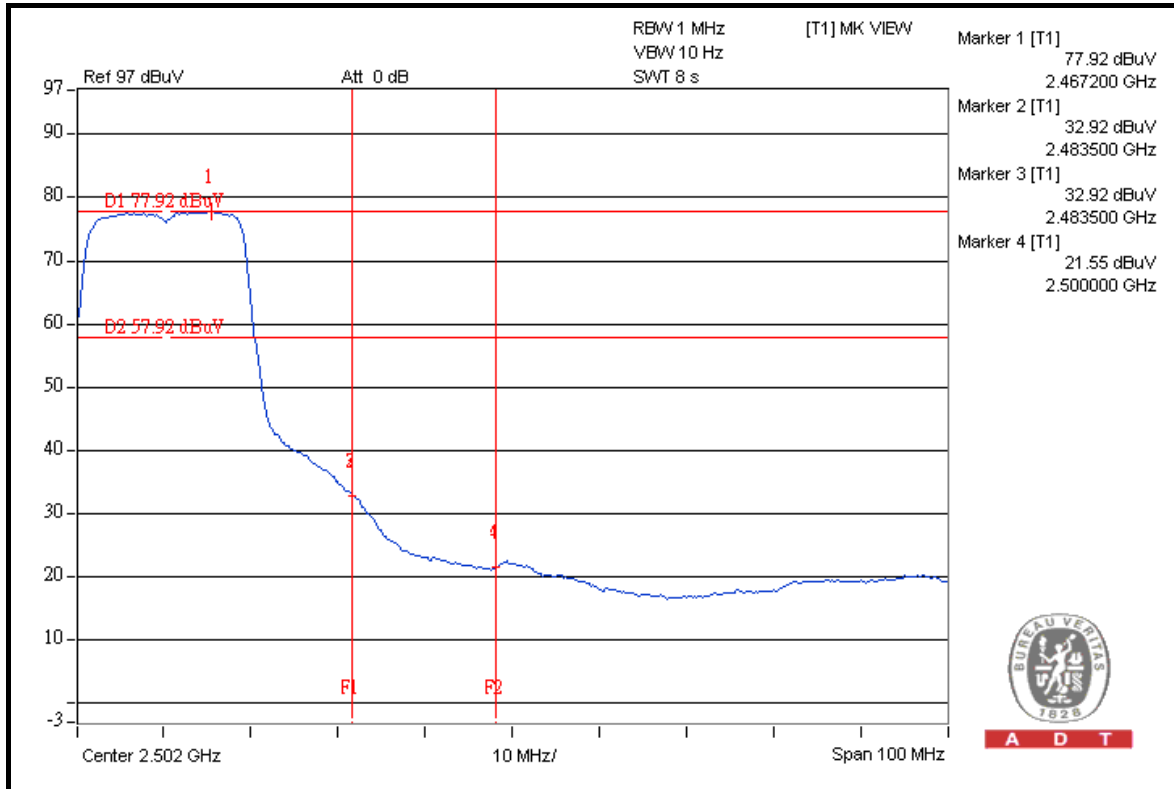


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802.11n (40MHz): 1TX

RESTRICT BAND (2310 ~ 2390 MHz)

FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH IN RESTRICT BAND (dBuV/m)	LIMIT (dBuV/m)
2422.00 (PK)	104.1	36.17	67.93	74.00
2422.00 (AV)	94.6	42.95	51.65	54.00

RESTRICT BAND (2483.5 ~ 2500 MHz)

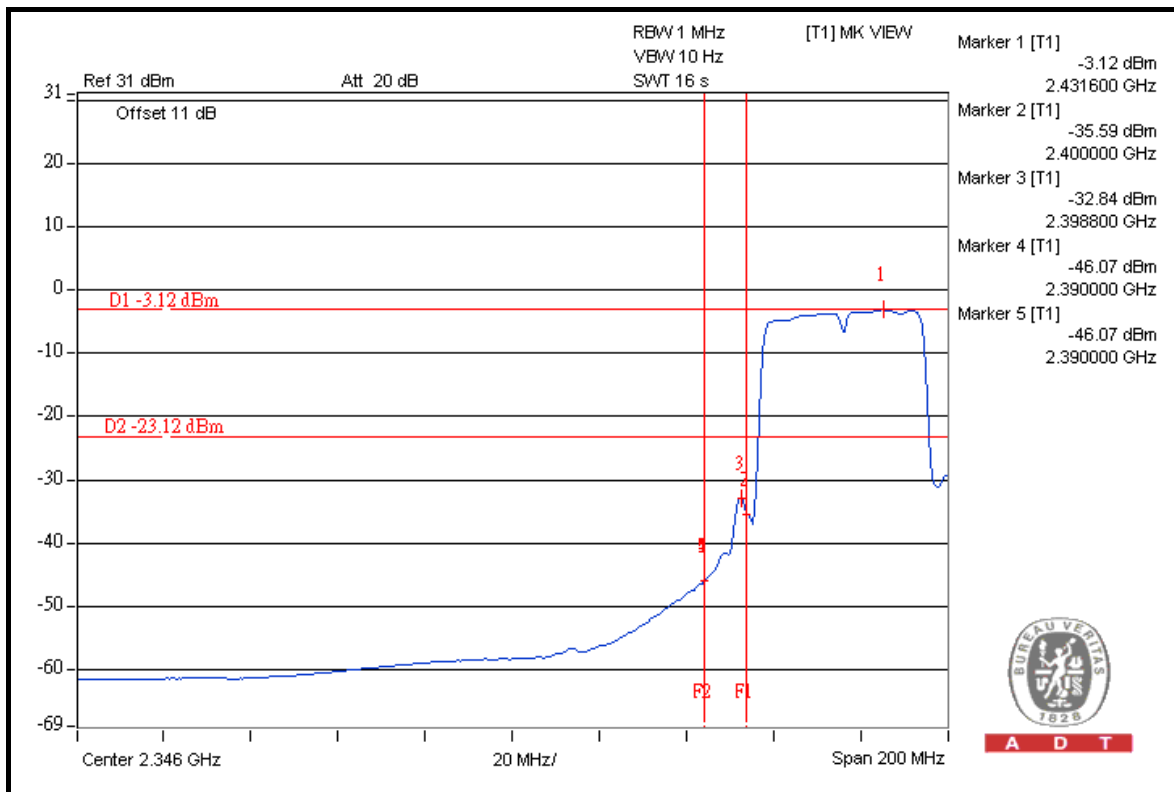
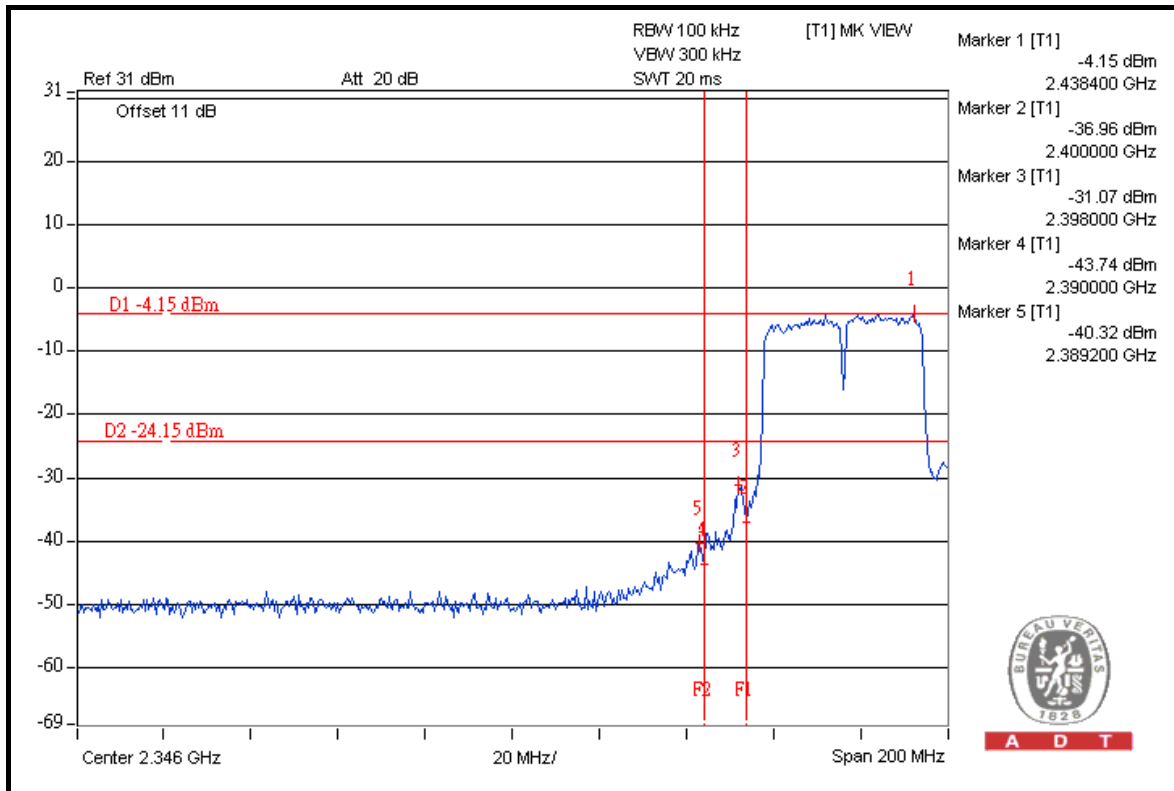
FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH IN RESTRICT BAND (dBuV/m)	LIMIT (dBuV/m)
2452.00 (PK)	102.2	29.32	72.88	74.00
2452.00 (AV)	92.0	40.77	51.23	54.00

NOTE:

1. Delta = Amplitude between the peak of the fundamental and the peak of the band edge emission. Please check following 3 pages.
2. Maximum field strength in restrict band = Fundamental emission – Delta.

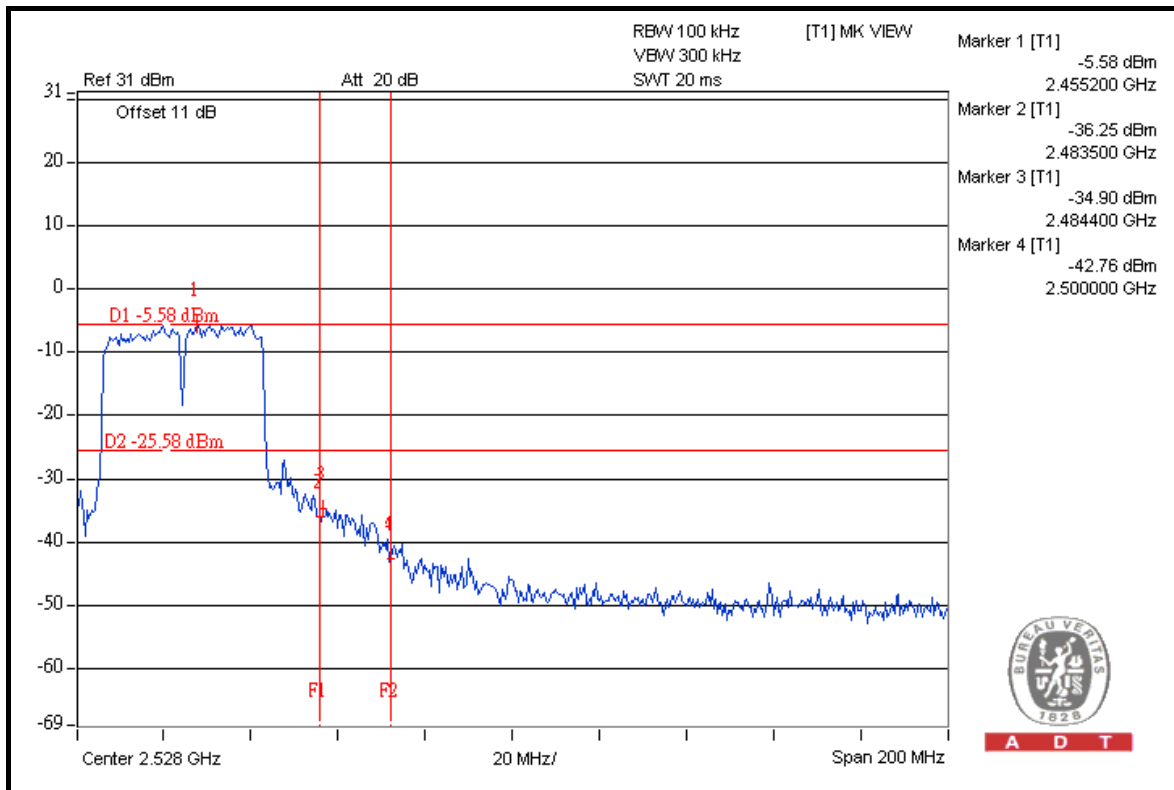
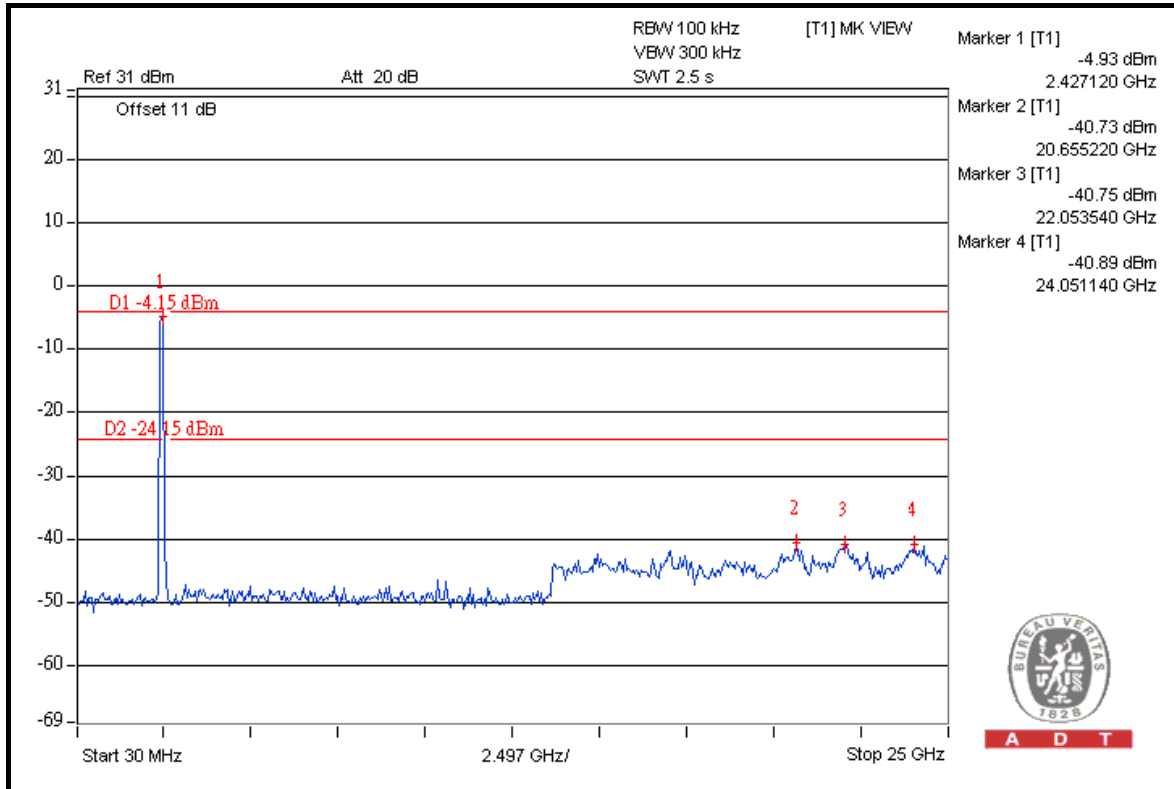


A D T



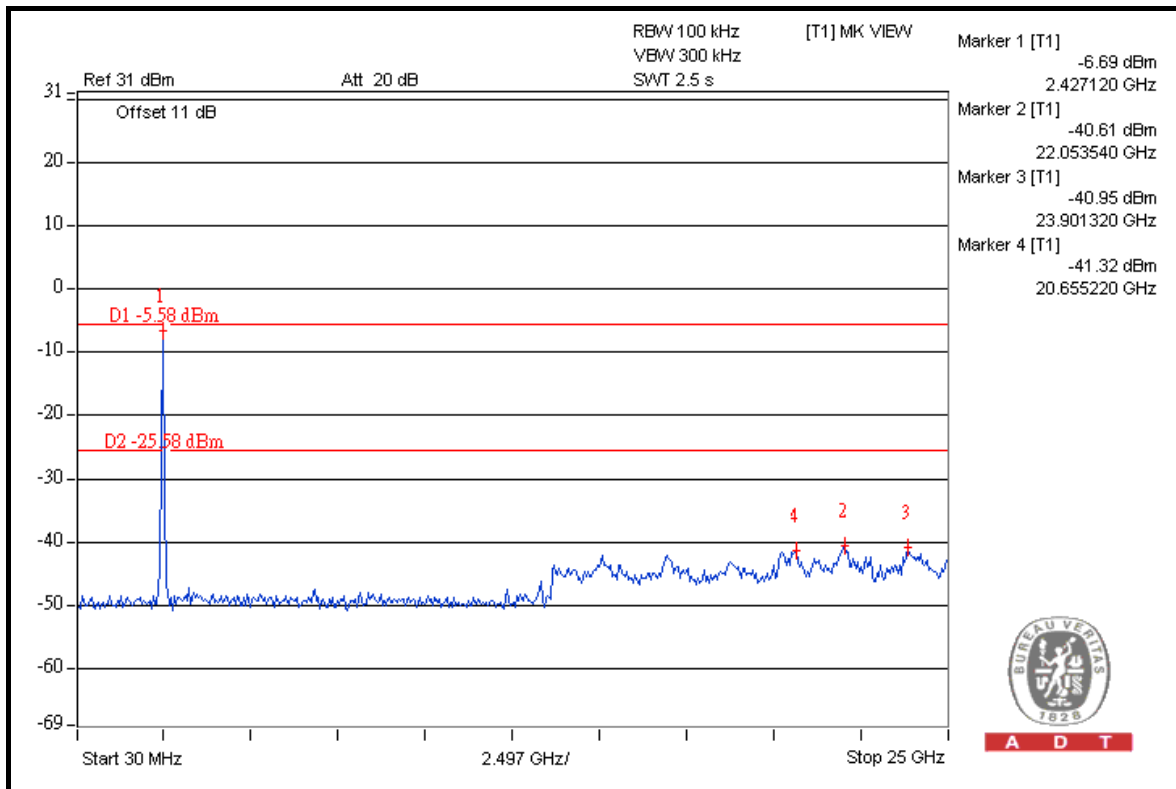
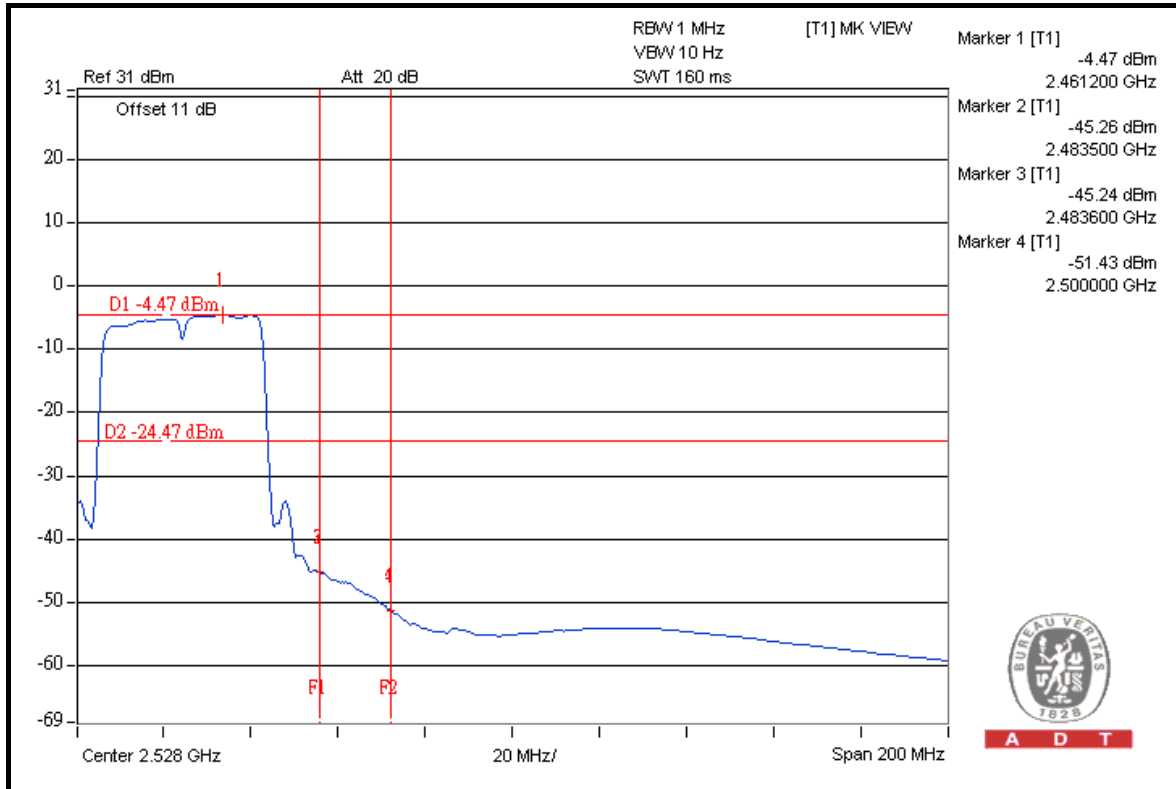


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A D T





A D T

802.11n (40MHz): 2TX

RESTRICT BAND (2310 ~ 2390 MHz)

FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH IN RESTRICT BAND (dBuV/m)	LIMIT (dBuV/m)
2422.00 (PK)	103.3	38.38	64.92	74.00
2422.00 (AV)	93.0	41.47	51.53	54.00

RESTRICT BAND (2483.5 ~ 2500 MHz)

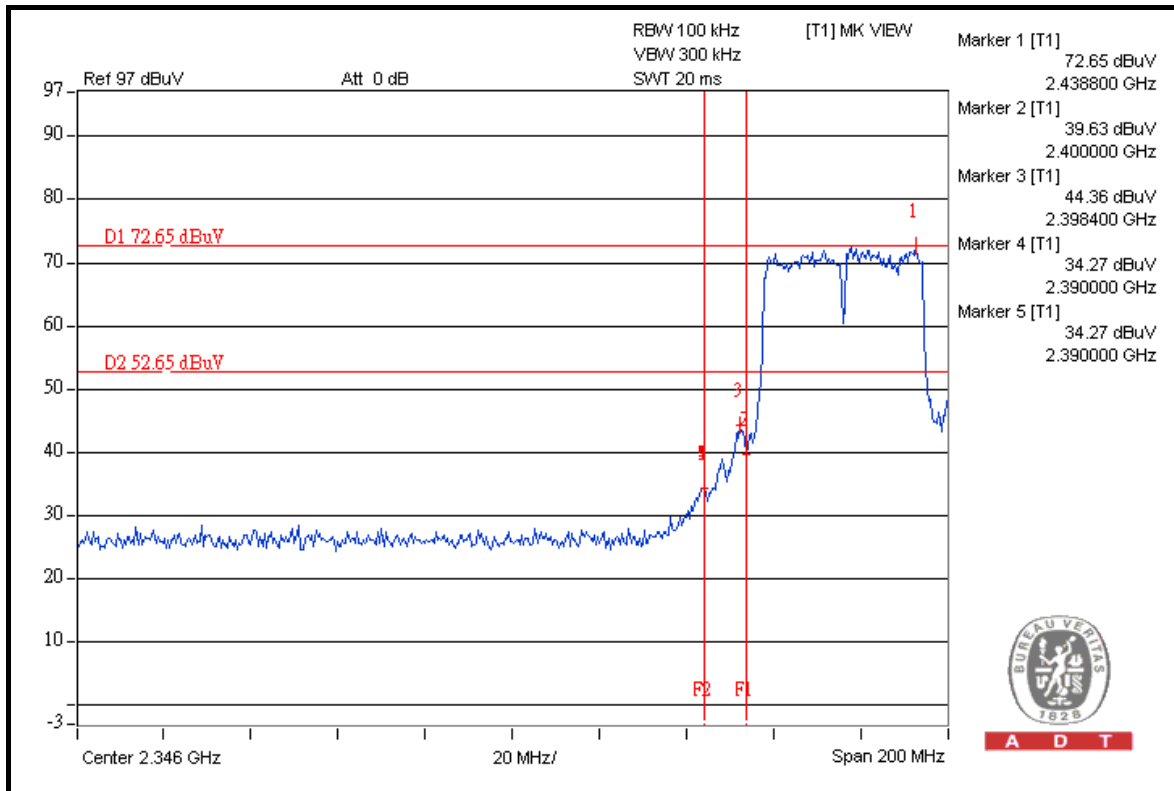
FREQUENCY (MHz)	FUNDAMENTAL EMISSION (dBuV/m)	DELTA (dB)	MAXIMUM FIELD STRENGTH IN RESTRICT BAND (dBuV/m)	LIMIT (dBuV/m)
2452.00 (PK)	102.6	35.99	66.61	74.00
2452.00 (AV)	91.6	39.06	52.54	54.00

NOTE:

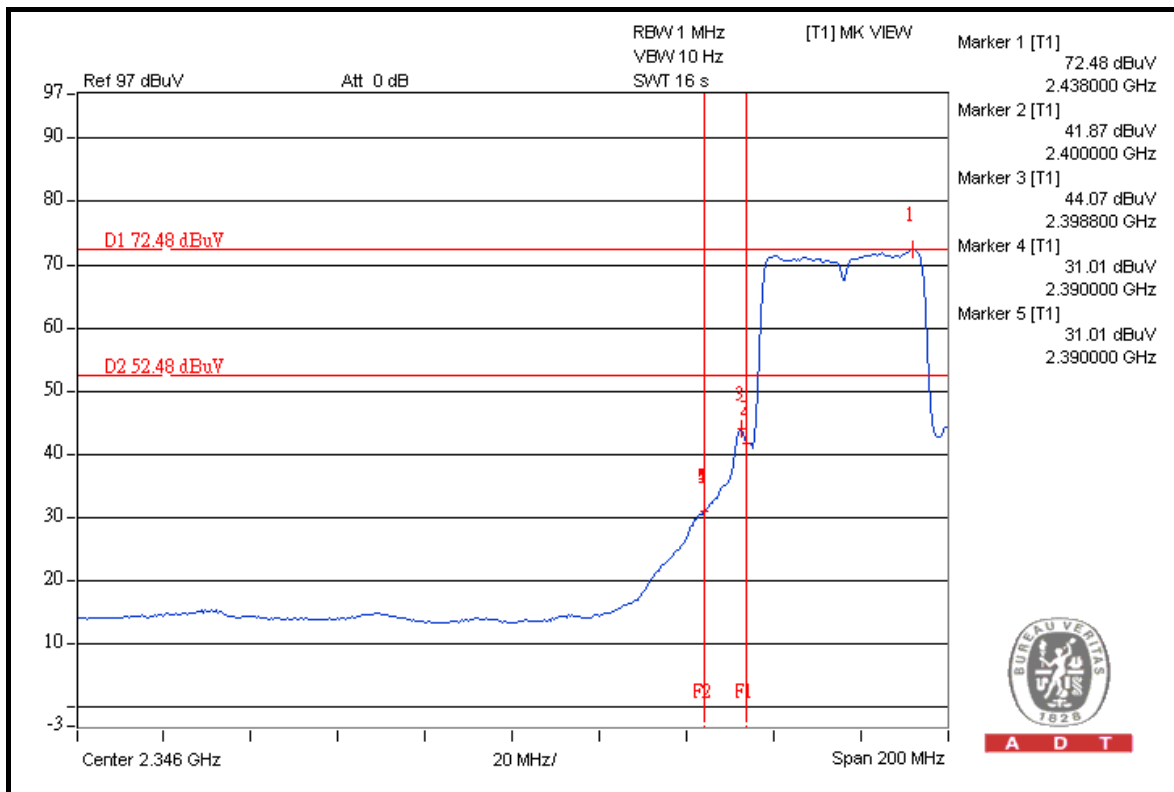
1. Delta = Amplitude between the peak of the fundamental and the peak of the band edge emission. Please check following 3 pages.
2. Maximum field strength in restrict band = Fundamental emission – Delta.



A D T



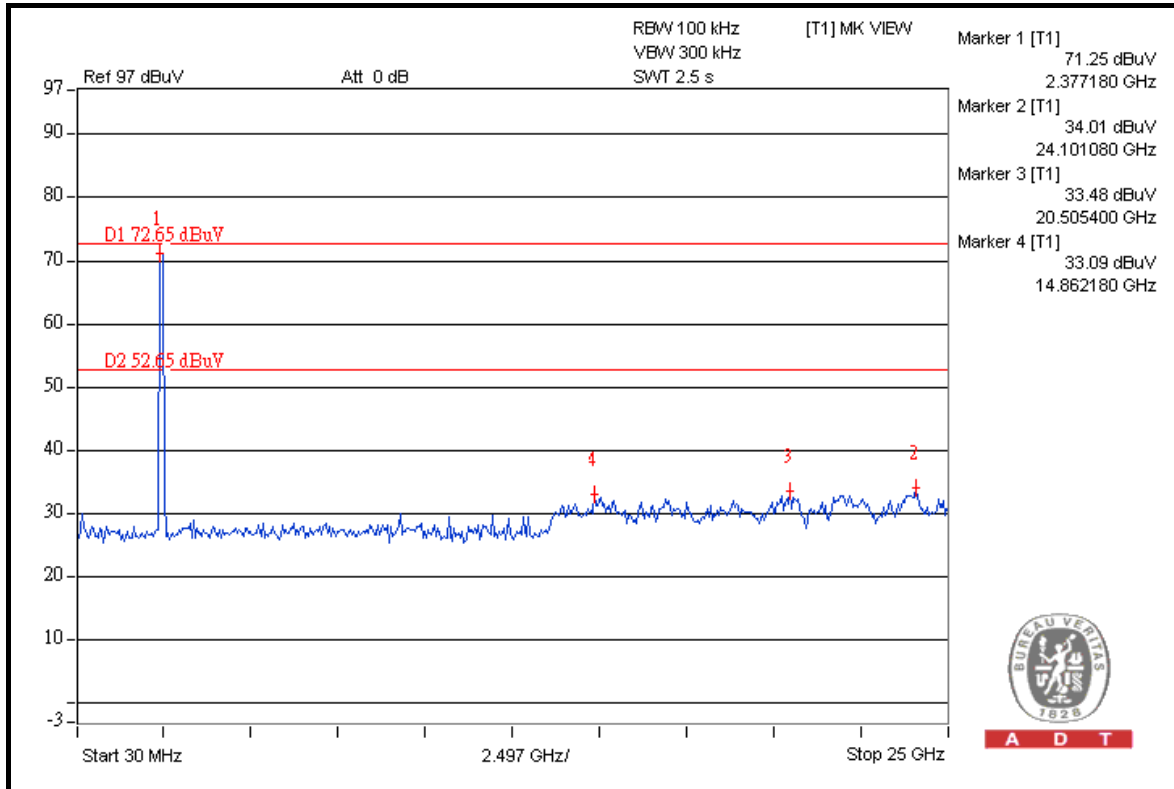
A D T



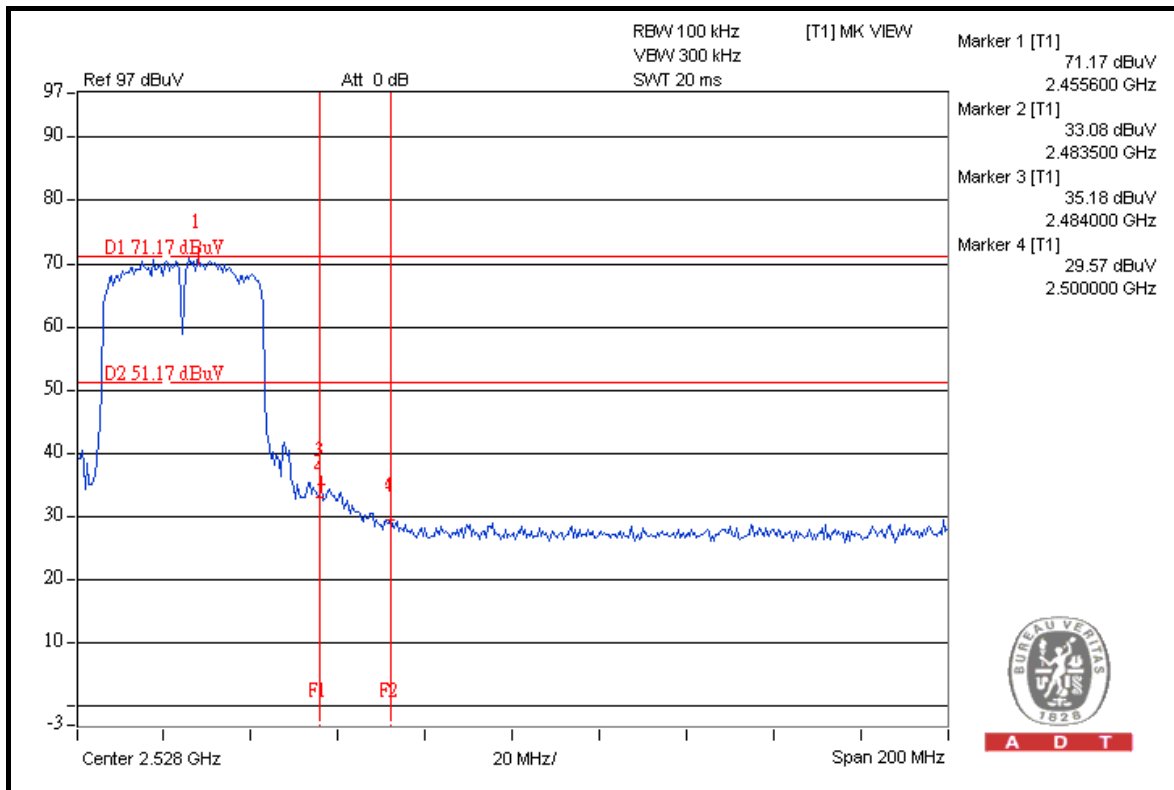
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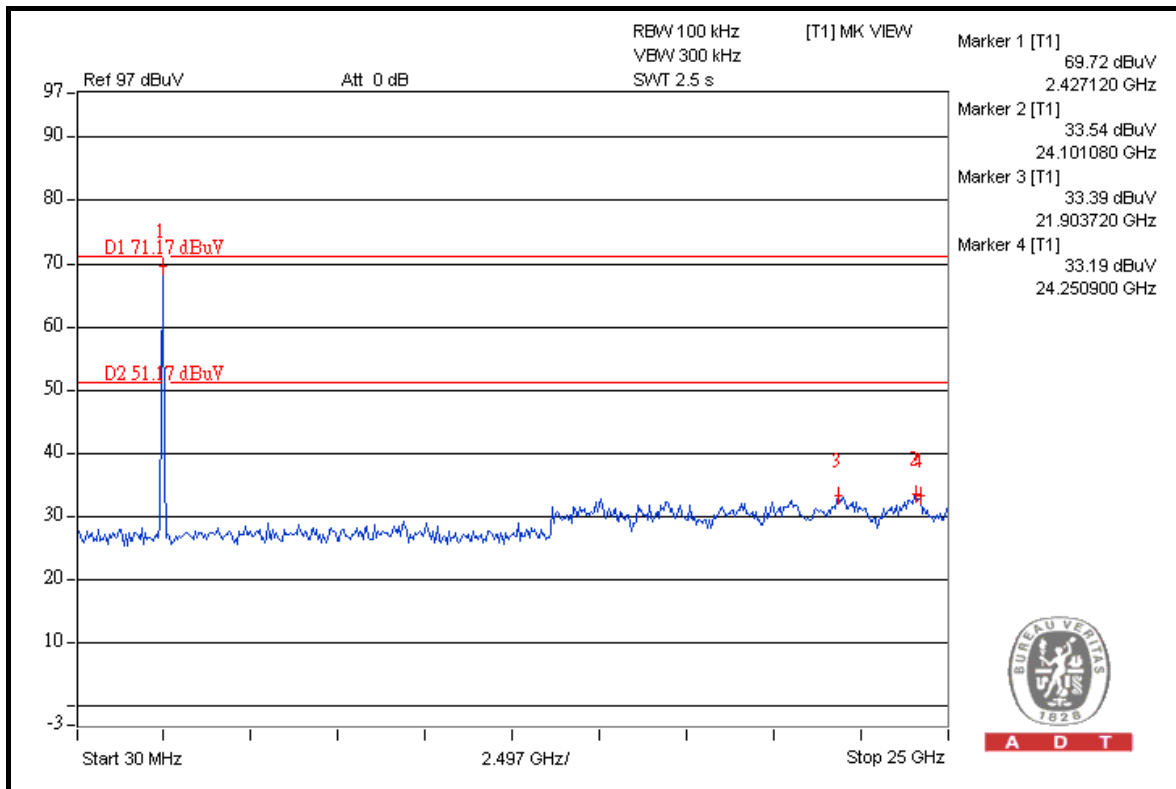
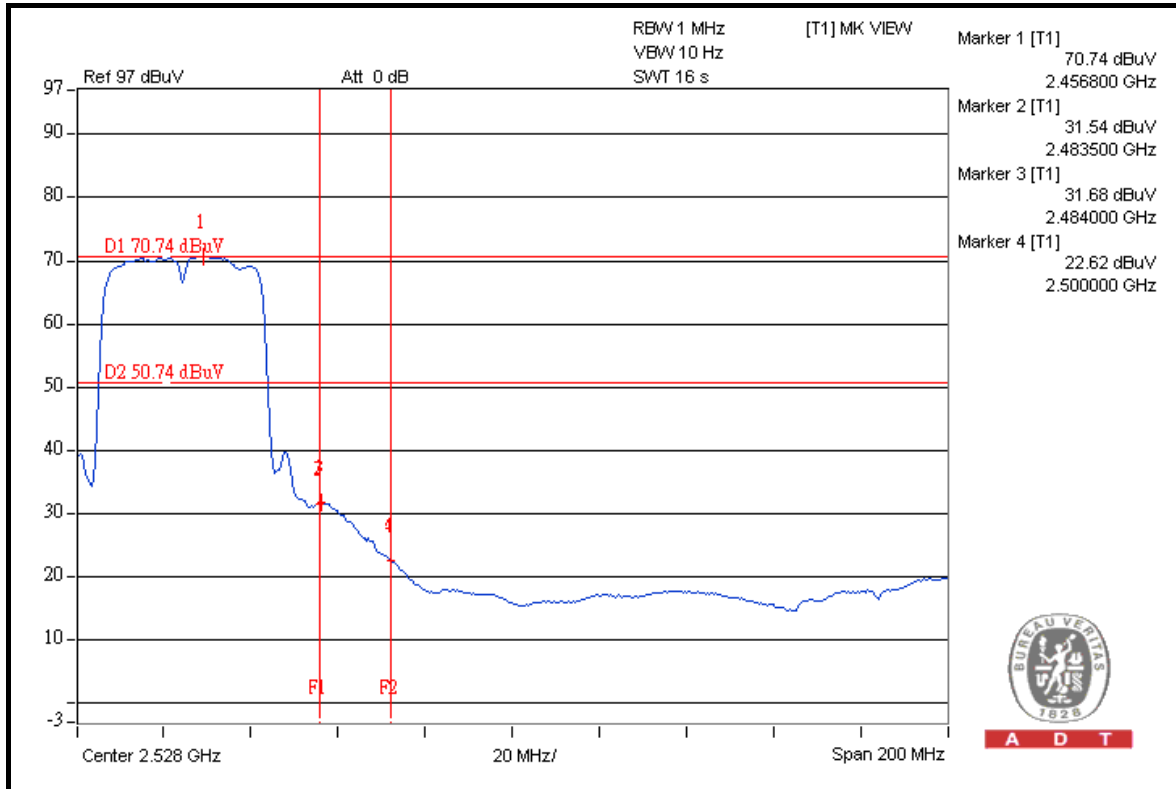
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5. TEST TYPES AND RESULTS (FOR 5.0GHz BAND)

5.1 RADIATED EMISSION MEASUREMENT

5.1.1 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.



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5.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESCI	100424	Aug. 04, 2010	Aug. 03, 2011
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100041	Jul. 09, 2010	Jul. 08, 2011
BILOG Antenna SCHWARZBECK	VULB9168	9168-156	Apr. 30, 2010	Apr. 29, 2011
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-209	Aug. 02, 2010	Aug. 01, 2011
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170243	Dec. 27, 2010	Dec. 26, 2011
Preamplifier Agilent	8449B	3008A01910	Sep. 09, 2010	Sep. 08, 2011
Preamplifier Agilent	8447D	2944A10638	Nov. 03, 2010	Nov. 02, 2011
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	218190/4 231241/4	May 14, 2010	May 13, 2011
RF signal cable Worken	8D-FB	Cable-HYCH9-01	Aug. 20, 2010	Aug. 19, 2011
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
26GHz ~ 40GHz Amplifier	EM26400	07026401	Aug. 25, 2010	Aug. 24, 2011

- 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.



5.1.3 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.

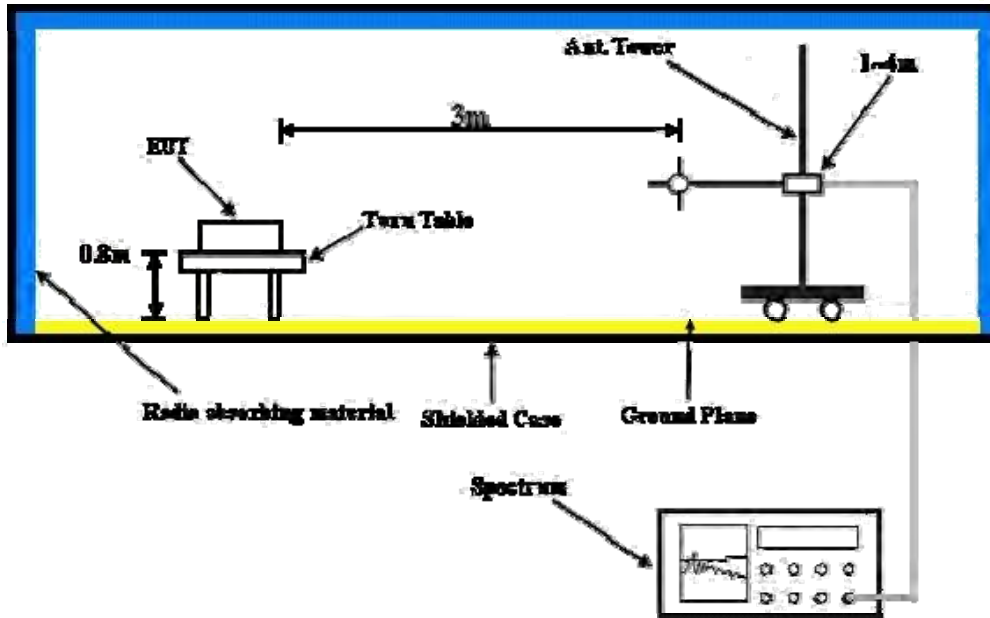
NOTE:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 100kHz and video bandwidth is 300kHz 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.

5.1.4 DEVIATION FROM TEST STANDARD

No deviation

5.1.5 TEST SETUP



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

5.1.6 EUT OPERATING CONDITIONS

Same as 4.1.6



A D T

5.1.7 TEST RESULTS

802.11a: 1TX

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 149	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 66%RH 1020 hPa	TESTED BY	Frank Wang

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	#5725.00	74.6 PK	85.9	-11.3	1.15 H	331	36.30	38.30
2	#5725.00	58.7 AV	76.1	-17.4	1.15 H	331	20.40	38.30
3	*5745.00	105.9 PK			1.15 H	330	67.50	38.40
4	*5745.00	96.1 AV			1.15 H	330	57.70	38.40
5	11490.00	58.1 PK	74.0	-15.9	1.17 H	67	8.40	49.70
6	11490.00	45.1 AV	54.0	-8.9	1.17 H	67	-4.60	49.70

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5725.00	77.3 PK	86.6	-9.3	1.00 V	11	39.00	38.30
2	#5725.00	61.9 AV	76.9	-15.0	1.00 V	11	23.60	38.30
3	*5745.00	106.6 PK			1.00 V	11	68.20	38.40
4	*5745.00	96.9 AV			1.00 V	11	58.50	38.40
5	11490.00	67.1 PK	74.0	-6.9	1.77 V	104	17.40	49.70
6	11490.00	52.6 AV	54.0	-1.4	1.77 V	104	2.90	49.70

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



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 157	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 66%RH 1020 hPa	TESTED BY	Frank Wang

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	3857.00	44.6 PK	74.0	-29.4	1.27 H	254	10.40	34.20
2	3857.00	40.0 AV	54.0	-14.0	1.27 H	254	5.80	34.20
3	*5785.00	108.0 PK			1.18 H	307	69.50	38.50
4	*5785.00	98.3 AV			1.18 H	307	59.80	38.50
5	11570.00	58.9 PK	74.0	-15.1	1.12 H	67	9.40	49.50
6	11570.00	45.8 AV	54.0	-8.2	1.12 H	67	-3.70	49.50
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	3857.00	42.1 PK	74.0	-31.9	1.08 V	235	7.90	34.20
2	3857.00	29.7 AV	54.0	-24.3	1.08 V	235	-4.50	34.20
3	*5785.00	108.9 PK			1.08 V	15	70.40	38.50
4	*5785.00	99.1 AV			1.08 V	15	60.60	38.50
5	11570.00	65.7 PK	74.0	-8.3	1.67 V	120	16.20	49.50
6	11570.00	52.2 AV	54.0	-1.8	1.67 V	120	2.70	49.50

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



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 165	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 66%RH 1020 hPa	TESTED BY	Frank Wang

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	*5825.00	106.9 PK			1.09 H	296	68.30	38.60
2	*5825.00	97.0 AV			1.09 H	296	58.40	38.60
3	#5850.00	62.7 PK	86.9	-24.2	1.09 H	296	24.00	38.70
4	#5850.00	48.3 AV	77.0	-28.7	1.09 H	296	9.60	38.70
5	11650.00	57.5 PK	74.0	-16.5	1.75 H	105	8.10	49.40
6	11650.00	45.9 AV	54.0	-8.1	1.75 H	105	-3.50	49.40
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	*5825.00	107.6 PK			1.08 V	14	69.00	38.60
2	*5825.00	97.9 AV			1.08 V	14	59.30	38.60
3	#5850.00	66.7 PK	87.6	-20.9	1.08 V	14	28.00	38.70
4	#5850.00	51.0 AV	77.9	-26.9	1.08 V	14	12.30	38.70
5	11650.00	68.2 PK	74.0	-5.8	1.95 V	93	18.80	49.40
6	11650.00	53.0 AV	54.0	-1.0	1.95 V	93	3.60	49.40

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



A D T

802.11n (20MHz): 1TX

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 149	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 66%RH 1020 hPa	TESTED BY	Frank Wang

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	#5725.00	77.2 PK	86.1	-8.9	1.17 H	299	38.90	38.30
2	#5725.00	60.1 AV	76.3	-16.2	1.17 H	299	21.80	38.30
3	*5745.00	106.1 PK			1.17 H	299	67.70	38.40
4	*5745.00	96.3 AV			1.17 H	299	57.90	38.40
5	11490.00	58.3 PK	74.0	-15.7	1.08 H	105	8.60	49.70
6	11490.00	45.2 AV	54.0	-8.8	1.08 H	105	-4.50	49.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5725.00	81.8 PK	86.9	-5.1	1.00 V	12	43.50	38.30
2	#5725.00	64.2 AV	77.0	-12.8	1.00 V	12	25.90	38.30
3	*5745.00	106.9 PK			1.00 V	12	68.50	38.40
4	*5745.00	97.0 AV			1.00 V	12	58.60	38.40
5	11490.00	68.3 PK	74.0	-5.7	1.78 V	100	18.60	49.70
6	11490.00	52.8 AV	54.0	-1.2	1.78 V	100	3.10	49.70

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



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 157	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 66%RH 1020 hPa	TESTED BY	Frank Wang

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	3857.00	45.2 PK	74.0	-28.8	1.29 H	254	11.00	34.20
2	3857.00	40.4 AV	54.0	-13.6	1.29 H	254	6.20	34.20
3	*5785.00	108.5 PK			1.28 H	305	70.00	38.50
4	*5785.00	98.7 AV			1.28 H	305	60.20	38.50
5	11570.00	58.5 PK	74.0	-15.5	1.20 H	98	9.00	49.50
6	11570.00	45.3 AV	54.0	-8.7	1.20 H	98	-4.20	49.50
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	3857.00	42.3 PK	74.0	-31.7	1.12 V	263	8.10	34.20
2	3857.00	30.2 AV	54.0	-23.8	1.12 V	263	-4.00	34.20
3	*5785.00	109.2 PK			1.05 V	17	70.70	38.50
4	*5785.00	99.3 AV			1.05 V	17	60.80	38.50
5	11570.00	65.9 PK	74.0	-8.1	1.72 V	118	16.40	49.50
6	11570.00	52.3 AV	54.0	-1.7	1.72 V	118	2.80	49.50

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



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 165	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 66%RH 1020 hPa	TESTED BY	Frank Wang

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	*5825.00	106.7 PK			1.21 H	305	68.10	38.60
2	*5825.00	96.6 AV			1.21 H	305	58.00	38.60
3	#5850.00	66.7 PK	86.7	-20.0	1.21 H	305	28.00	38.70
4	#5850.00	49.3 AV	76.6	-27.3	1.21 H	305	10.60	38.70
5	11650.00	59.2 PK	74.0	-14.8	1.35 H	122	9.80	49.40
6	11650.00	44.7 AV	54.0	-9.3	1.35 H	122	-4.70	49.40
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	*5825.00	107.4 PK			1.08 V	10	68.80	38.60
2	*5825.00	97.3 AV			1.08 V	10	58.70	38.60
3	#5850.00	68.9 PK	87.4	-18.5	1.08 V	10	30.20	38.70
4	#5850.00	51.6 AV	77.3	-25.7	1.08 V	10	12.90	38.70
5	11650.00	68.1 PK	74.0	-5.9	2.22 V	96	18.70	49.40
6	11650.00	52.6 AV	54.0	-1.4	2.22 V	96	3.20	49.40

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



A D T

802.11n (20MHz): 2TX

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 149	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 66%RH 1020 hPa	TESTED BY	Frank Wang

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	#5725.00	73.0 PK	87.4	-14.4	1.00 H	326	34.70	38.30
2	#5725.00	56.4 AV	77.0	-20.6	1.00 H	326	18.10	38.30
3	*5745.00	107.4 PK			1.00 H	326	69.00	38.40
4	*5745.00	97.0 AV			1.00 H	326	58.60	38.40
5	11490.00	61.6 PK	74.0	-12.4	1.08 H	98	11.90	49.70
6	11490.00	48.4 AV	54.0	-5.6	1.08 H	98	-1.30	49.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5725.00	76.9 PK	89.5	-12.6	1.00 V	13	38.60	38.30
2	#5725.00	61.5 AV	78.3	-16.8	1.00 V	13	23.20	38.30
3	*5745.00	109.5 PK			1.00 V	13	71.10	38.40
4	*5745.00	98.3 AV			1.00 V	13	59.90	38.40
5	11490.00	67.1 PK	74.0	-6.9	1.77 V	104	17.40	49.70
6	11490.00	52.4 AV	54.0	-1.6	1.77 V	104	2.70	49.70

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



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 157	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 66%RH 1020 hPa	TESTED BY	Frank Wang

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	3857.00	44.7 PK	74.0	-29.3	1.00 H	261	10.50	34.20
2	3857.00	40.0 AV	54.0	-14.0	1.00 H	261	5.80	34.20
3	*5785.00	108.4 PK			1.14 H	332	69.90	38.50
4	*5785.00	97.5 AV			1.14 H	332	59.00	38.50
5	11570.00	61.9 PK	74.0	-12.1	1.18 H	98	12.40	49.50
6	11570.00	47.9 AV	54.0	-6.1	1.18 H	98	-1.60	49.50
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	3857.00	41.5 PK	74.0	-32.5	1.00 V	202	7.30	34.20
2	3857.00	30.1 AV	54.0	-23.9	1.00 V	202	-4.10	34.20
3	*5785.00	109.7 PK			1.07 V	18	71.20	38.50
4	*5785.00	98.7 AV			1.07 V	18	60.20	38.50
5	11570.00	66.3 PK	74.0	-7.7	1.02 V	120	16.80	49.50
6	11570.00	52.5 AV	54.0	-1.5	1.02 V	120	3.00	49.50

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



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 165	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 66%RH 1020 hPa	TESTED BY	Frank Wang

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	*5825.00	108.0 PK			1.12 H	334	69.40	38.60
2	*5825.00	97.5 AV			1.12 H	334	58.90	38.60
3	#5850.00	68.5 PK	88.0	-19.5	1.12 H	334	29.80	38.70
4	#5850.00	54.4 AV	77.5	-23.1	1.12 H	334	15.70	38.70
5	11650.00	61.6 PK	74.0	-12.4	1.17 H	100	12.20	49.40
6	11650.00	48.6 AV	54.0	-5.4	1.17 H	100	-0.80	49.40
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	*5825.00	108.5 PK			1.09 V	19	69.90	38.60
2	*5825.00	98.1 AV			1.09 V	19	59.50	38.60
3	#5850.00	69.3 PK	88.5	-19.2	1.09 V	19	30.60	38.70
4	#5850.00	55.7 AV	78.1	-22.4	1.09 V	19	17.00	38.70
5	11650.00	67.0 PK	74.0	-7.0	2.22 V	79	17.60	49.40
6	11650.00	52.5 AV	54.0	-1.5	2.22 V	79	3.10	49.40

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



A D T

802.11n (40MHz): 1TX

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 151	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 66%RH 1020 hPa	TESTED BY	Frank Wang

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	#5725.00	76.8 PK	83.7	-6.9	1.05 H	35	38.50	38.30
2	#5725.00	62.9 AV	73.6	-10.7	1.05 H	35	24.60	38.30
3	*5755.00	103.7 PK			1.05 H	35	65.30	38.40
4	*5755.00	93.6 AV			1.05 H	35	55.20	38.40
5	11510.00	60.7 PK	74.0	-13.3	1.22 H	326	11.00	49.70
6	11510.00	47.8 AV	54.0	-6.2	1.22 H	326	-1.90	49.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5725.00	81.0 PK	84.2	-3.2	1.00 V	13	42.70	38.30
2	#5725.00	67.1 AV	74.2	-7.1	1.00 V	13	28.80	38.30
3	*5755.00	104.2 PK			1.00 V	13	65.80	38.40
4	*5755.00	94.2 AV			1.00 V	13	55.80	38.40
5	11510.00	65.9 PK	74.0	-8.1	2.05 V	102	16.20	49.70
6	11510.00	52.5 AV	54.0	-1.5	2.05 V	102	2.80	49.70

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



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 159	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 66%RH 1020 hPa	TESTED BY	Frank Wang

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	*5795.00	104.0 PK			1.07 H	65	65.40	38.60
2	*5795.00	93.8 AV			1.07 H	65	55.20	38.60
3	#5850.00	61.7 PK	84.0	-22.3	1.07 H	65	23.00	38.70
4	#5850.00	46.3 AV	73.8	-27.5	1.07 H	65	7.60	38.70
5	11590.00	61.2 PK	74.0	-12.8	1.28 H	298	11.70	49.50
6	11590.00	48.2 AV	54.0	-5.8	1.28 H	298	-1.30	49.50
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	*5795.00	104.7 PK			1.00 V	11	66.10	38.60
2	*5795.00	94.5 AV			1.00 V	11	55.90	38.60
3	#5850.00	65.6 PK	84.7	-19.1	1.00 V	11	26.90	38.70
4	#5850.00	50.8 AV	74.5	-23.7	1.00 V	11	12.10	38.70
5	11590.00	65.7 PK	74.0	-8.3	2.26 V	97	16.20	49.50
6	11590.00	52.7 AV	54.0	-1.3	2.26 V	97	3.20	49.50

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



A D T

802.11n (40MHz): 2TX

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 151	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 66%RH 1020 hPa	TESTED BY	Frank Wang

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	#5725.00	75.1 PK	82.7	-7.6	1.05 H	330	36.80	38.30
2	#5725.00	60.4 AV	71.9	-11.5	1.05 H	330	22.10	38.30
3	*5755.00	102.7 PK			1.05 H	330	64.30	38.40
4	*5755.00	91.9 AV			1.05 H	330	53.50	38.40
5	11510.00	52.8 PK	74.0	-21.2	1.00 H	212	3.10	49.70
6	11510.00	48.9 AV	54.0	-5.1	1.00 H	212	-0.80	49.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5725.00	77.8 PK	84.6	-6.8	1.00 V	12	39.50	38.30
2	#5725.00	63.9 AV	74.4	-10.5	1.00 V	12	25.60	38.30
3	*5755.00	104.6 PK			1.00 V	12	66.20	38.40
4	*5755.00	94.4 AV			1.00 V	12	56.00	38.40
5	11510.00	58.5 PK	74.0	-15.5	2.22 V	83	8.80	49.70
6	11510.00	52.6 AV	54.0	-1.4	2.22 V	83	2.90	49.70

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



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 159	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 66%RH 1020 hPa	TESTED BY	Frank Wang

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	*5795.00	103.3 PK			1.04 H	333	64.70	38.60
2	*5795.00	92.3 AV			1.04 H	333	53.70	38.60
3	#5850.00	61.2 PK	83.3	-22.1	1.04 H	333	22.50	38.70
4	#5850.00	47.5 AV	72.3	-24.8	1.04 H	333	8.80	38.70
5	11590.00	62.0 PK	74.0	-12.0	1.00 H	230	12.50	49.50
6	11590.00	48.5 AV	54.0	-5.5	1.00 H	230	-1.00	49.50
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	*5795.00	104.8 PK			1.00 V	9	66.20	38.60
2	*5795.00	94.5 AV			1.00 V	9	55.90	38.60
3	#5850.00	63.7 PK	84.8	-21.1	1.00 V	9	25.00	38.70
4	#5850.00	49.7 AV	74.5	-24.8	1.00 V	9	11.00	38.70
5	11590.00	66.1 PK	74.0	-7.9	2.23 V	92	16.60	49.50
6	11590.00	52.6 AV	54.0	-1.4	2.23 V	92	3.10	49.50

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



A D T

BELOW 1GHz WORST-CASE DATA : 802.11a: 1TX

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 157	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	23deg. C, 66%RH 1020 hPa	TEST MODE	A
TESTED BY	Mark Liao		

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	64.90	29.5 QP	40.0	-10.5	1.75 H	52	17.00	12.50
2	156.28	31.6 QP	43.5	-11.9	2.00 H	67	17.80	13.80
3	230.16	29.0 QP	46.0	-17.0	1.50 H	265	17.00	12.00
4	469.31	31.9 QP	46.0	-14.1	1.75 H	43	13.50	18.40
5	500.42	38.9 QP	46.0	-7.1	1.75 H	313	19.60	19.30
6	624.85	37.1 QP	46.0	-8.9	1.25 H	16	14.90	22.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	55.18	36.3 QP	40.0	-3.7	1.25 V	184	22.70	13.60
2	62.95	35.3 QP	40.0	-4.7	1.00 V	37	22.40	12.90
3	107.67	37.8 QP	43.5	-5.7	1.00 V	310	27.50	10.30
4	469.31	36.9 QP	46.0	-9.1	1.00 V	331	18.50	18.40
5	500.42	35.4 QP	46.0	-10.6	1.25 V	37	16.10	19.30
6	624.85	37.0 QP	46.0	-9.0	1.75 V	10	14.80	22.20

- 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.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 157	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	23deg. C, 66%RH 1020 hPa	TEST MODE	B
TESTED BY	Mark Liao		

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	26.4 QP	40.0	-13.6	1.25 H	34	12.90	13.50
2	220.44	29.3 QP	46.0	-16.7	1.25 H	298	17.70	11.60
3	500.42	35.7 QP	46.0	-10.3	1.50 H	337	16.40	19.30
4	547.08	32.6 QP	46.0	-13.4	1.50 H	7	11.90	20.70
5	599.58	33.6 QP	46.0	-12.4	1.25 H	22	11.60	22.00
6	652.07	28.7 QP	46.0	-17.3	1.25 H	61	6.30	22.40
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	33.79	35.2 QP	40.0	-4.8	1.00 V	166	23.00	12.20
2	113.50	37.7 QP	43.5	-5.8	1.00 V	280	26.70	11.00
3	183.50	30.5 QP	43.5	-13.0	1.50 V	70	18.50	12.00
4	500.42	33.7 QP	46.0	-12.3	1.00 V	19	14.40	19.30
5	599.58	32.5 QP	46.0	-13.5	1.75 V	349	10.50	22.00
6	751.23	31.0 QP	46.0	-15.0	1.25 V	25	7.00	24.00

- 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.



5.2 CONDUCTED EMISSION MEASUREMENT

5.2.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

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

- NOTE:** 1. The lower limit shall apply at the transition frequencies.
 2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.
 3. All emanations from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

5.2.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESCS30	100289	Nov. 23, 2010	Nov. 22, 2011
RF signal cable Woken	5D-FB	Cable-HYCO2-01	Dec. 30, 2010	Dec. 29, 2011
LISN ROHDE & SCHWARZ	ESH2-Z5	100100	Jan. 06, 2011	Jan. 05, 2012
LISN ROHDE & SCHWARZ	ESH3-Z5	100311	Jul. 08, 2010	Jul. 07, 2011
V-LISN SCHWARZBECK	NNBL 8226-2	8226-142	Jul. 12, 2010	Jul. 11, 2011
LISN ROHDE & SCHWARZ	ENV216	100072	Jun. 11, 2010	Jun. 10, 2011
Software ADT	ADT_Cond_ 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 2.
 3. The VCCI Site Registration No. is C-2047.



A D T

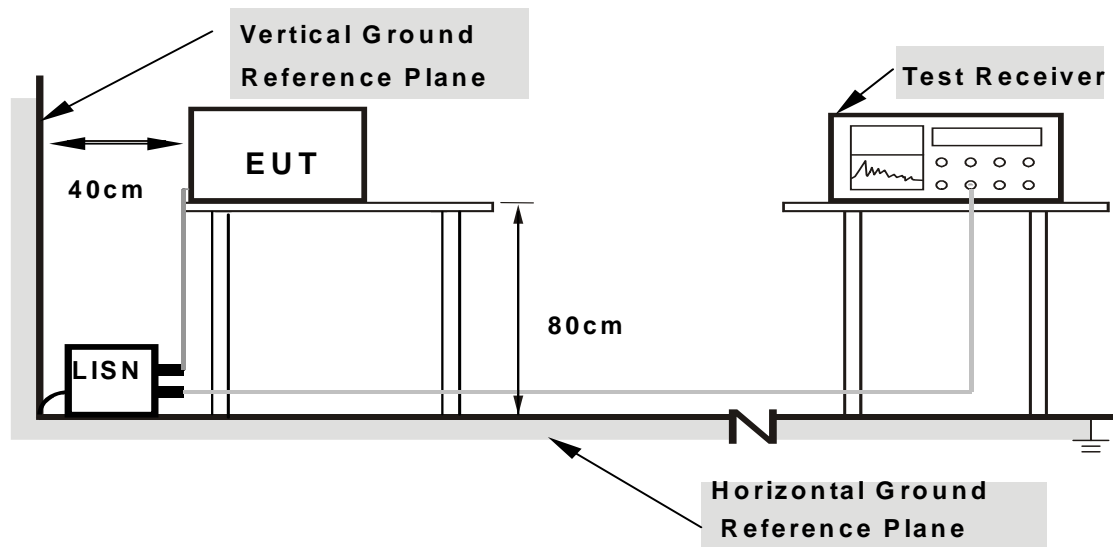
5.2.3 TEST PROCEDURES

- 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.

5.2.4 DEVIATION FROM TEST STANDARD

No deviation

5.2.5 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).

5.2.6 EUT OPERATING CONDITIONS

Same as 4.1.6

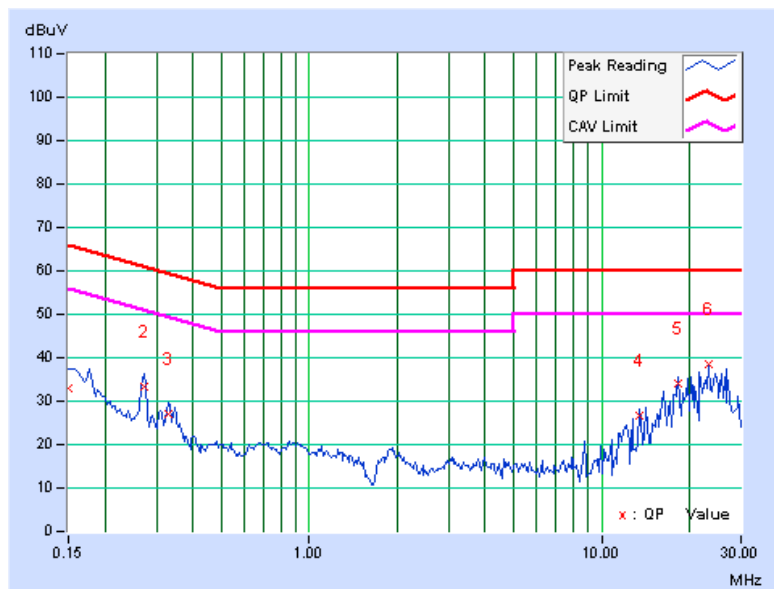
5.2.7 TEST RESULTS

CONDUCTED WORST-CASE DATA : 802.11a

PHASE	Line 1	6dB BANDWIDTH	9kHz
TEST MODE	A		

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	0.150	0.15	32.71	-	32.86	-	66.00	56.00	-33.14	-
2	0.271	0.16	33.06	-	33.22	-	61.08	51.08	-27.87	-
3	0.330	0.16	26.90	-	27.06	-	59.46	49.46	-32.40	-
4	13.418	0.77	25.85	-	26.62	-	60.00	50.00	-33.38	-
5	18.242	1.05	33.15	-	34.20	-	60.00	50.00	-25.80	-
6	23.129	1.20	37.20	-	38.40	-	60.00	50.00	-21.60	-

- 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.



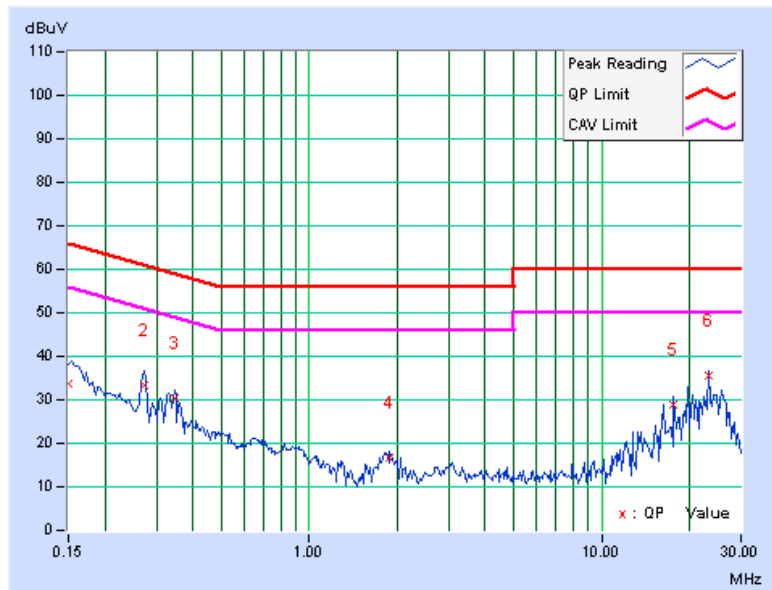


A D T

PHASE	Line 2	6dB BANDWIDTH	9kHz
TEST MODE	A		

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	0.150	0.16	33.72	-	33.88	-	66.00	56.00	-32.12	-
2	0.271	0.18	33.14	-	33.32	-	61.08	51.08	-27.77	-
3	0.345	0.18	30.02	-	30.20	-	59.07	49.07	-28.87	-
4	1.891	0.23	16.54	-	16.77	-	56.00	46.00	-39.23	-
5	17.691	0.83	28.00	-	28.83	-	60.00	50.00	-31.17	-
6	23.129	1.00	34.55	-	35.55	-	60.00	50.00	-24.45	-

- 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.



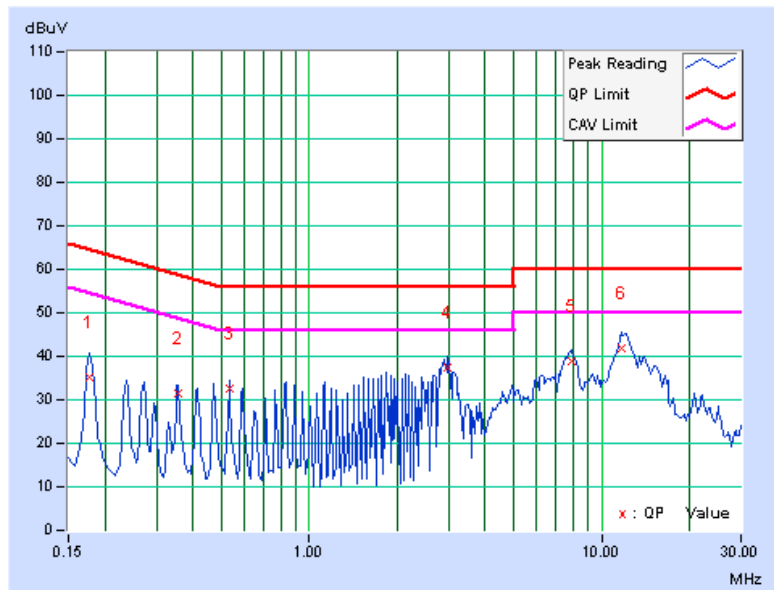


A D T

PHASE	Line 1	6dB BANDWIDTH	9kHz
TEST MODE	B		

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	0.177	0.15	34.92	-	35.07	-	64.61	54.61	-29.54	-
2	0.357	0.17	31.47	-	31.64	-	58.80	48.80	-27.16	-
3	0.533	0.17	32.50	-	32.67	-	56.00	46.00	-23.33	-
4	2.957	0.27	37.24	-	37.51	-	56.00	46.00	-18.49	-
5	7.926	0.48	38.24	-	38.72	-	60.00	50.00	-21.28	-
6	11.711	0.67	41.23	-	41.90	-	60.00	50.00	-18.10	-

- 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.



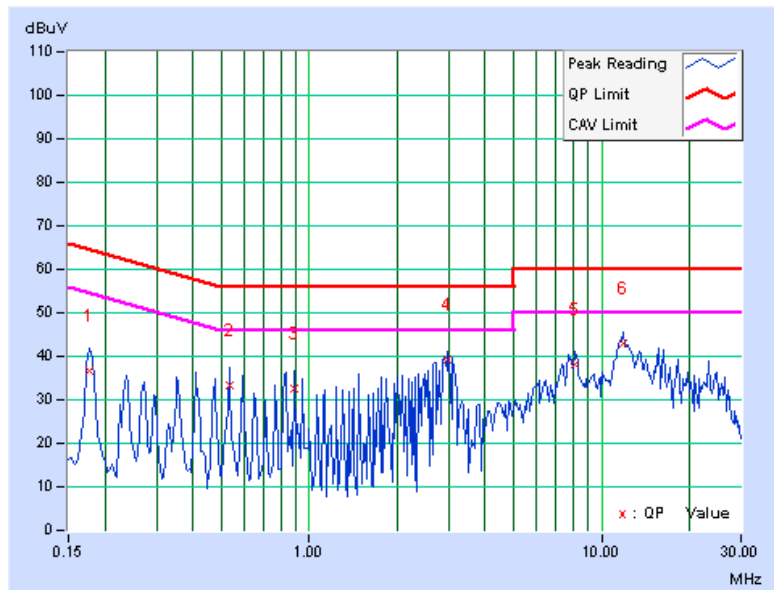


A D T

PHASE	Line 2	6dB BANDWIDTH	9kHz
TEST MODE	B		

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	0.177	0.16	36.45	-	36.61	-	64.61	54.61	-28.00	-
2	0.533	0.19	33.17	-	33.36	-	56.00	46.00	-22.64	-
3	0.888	0.21	32.39	-	32.60	-	56.00	46.00	-23.40	-
4	2.957	0.27	39.12	-	39.39	-	56.00	46.00	-16.61	-
5	8.102	0.44	37.85	-	38.29	-	60.00	50.00	-21.71	-
6	11.887	0.59	42.35	-	42.94	-	60.00	50.00	-17.06	-

- 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.





A D T

5.3 6dB BANDWIDTH MEASUREMENT

5.3.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT

The minimum of 6dB Bandwidth Measurement is 0.5MHz.

5.3.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
SPECTRUM ANALYZER R&S	FSP40	100039	Jul. 09, 2010	Jul. 08, 2011

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

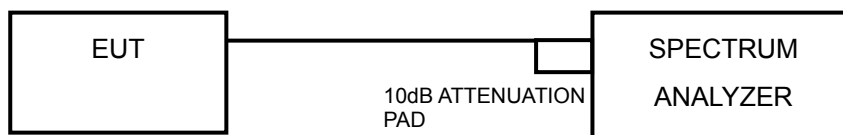
5.3.3 TEST PROCEDURE

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

5.3.4 DEVIATION FROM TEST STANDARD

No deviation

5.3.5 TEST SETUP



5.3.6 EUT OPERATING CONDITIONS

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



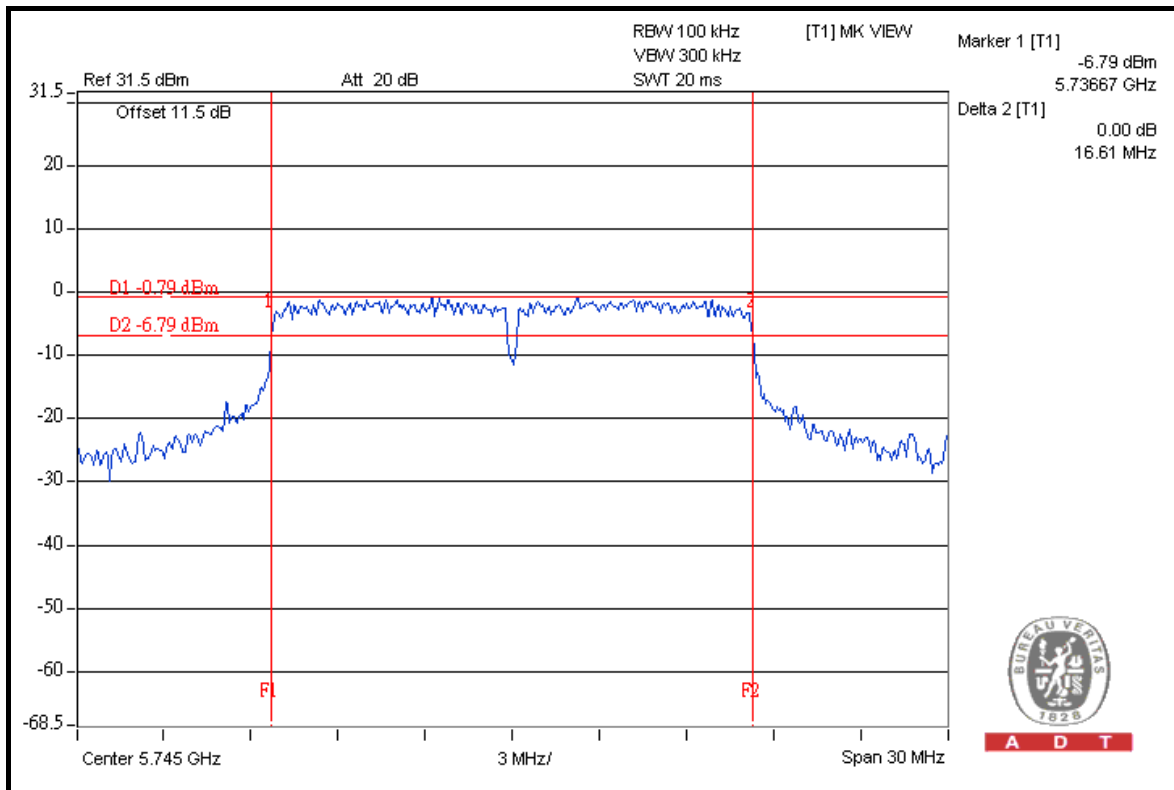
A D T

5.3.7 TEST RESULTS

802.11a: 1TX

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
149	5745	16.61	0.5	PASS
157	5785	16.60	0.5	PASS
165	5825	16.60	0.5	PASS

CH 149



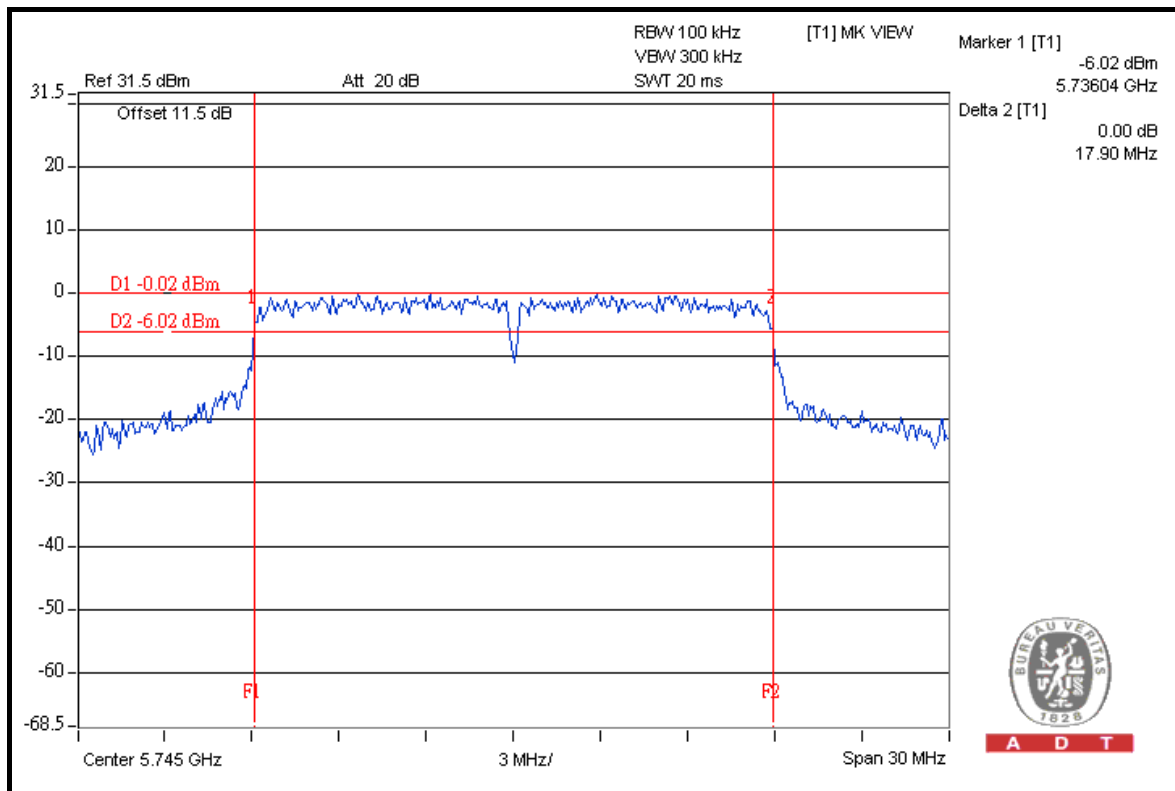


A D T

802.11n (20MHz): 1TX

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
149	5745	17.90	0.5	PASS
157	5785	17.85	0.5	PASS
165	5825	17.84	0.5	PASS

CH 149



A D T

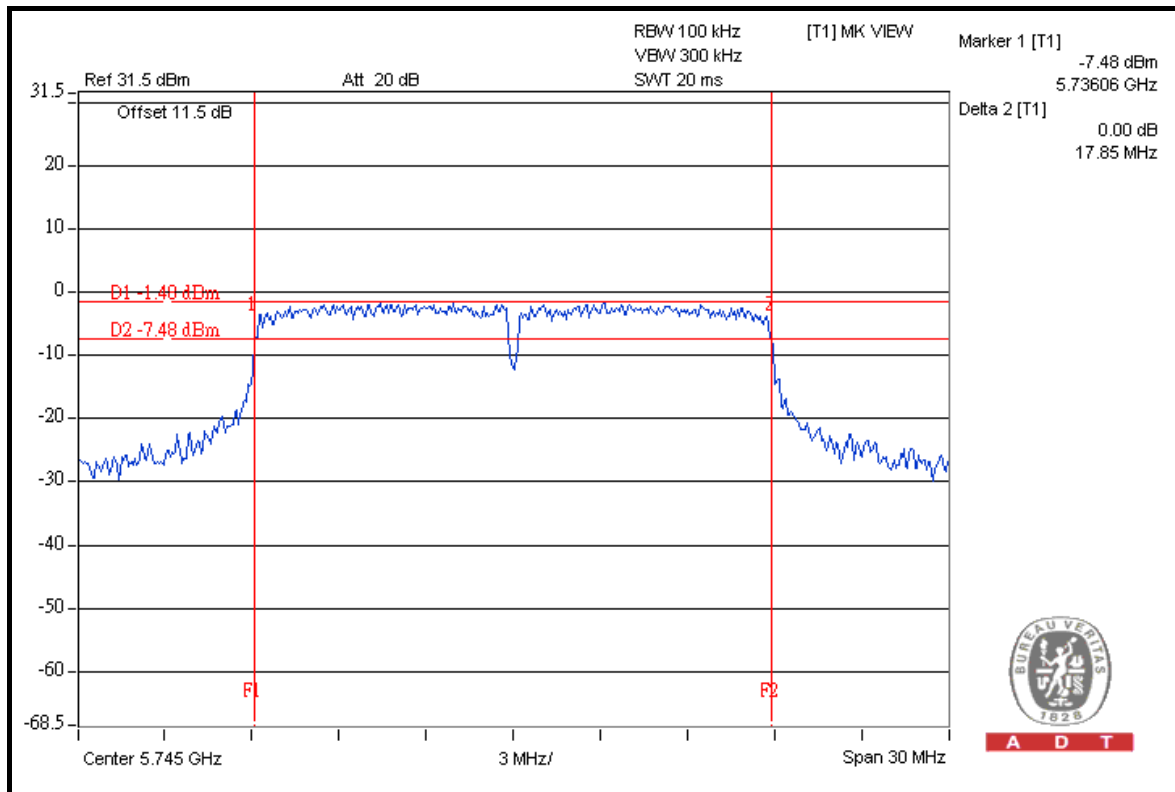


A D T

802.11n (20MHz): 2TX

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
149	5745	17.69	17.85	0.5	PASS
157	5785	17.71	17.83	0.5	PASS
165	5825	17.75	17.83	0.5	PASS

FOR CHAIN 1: CH 149



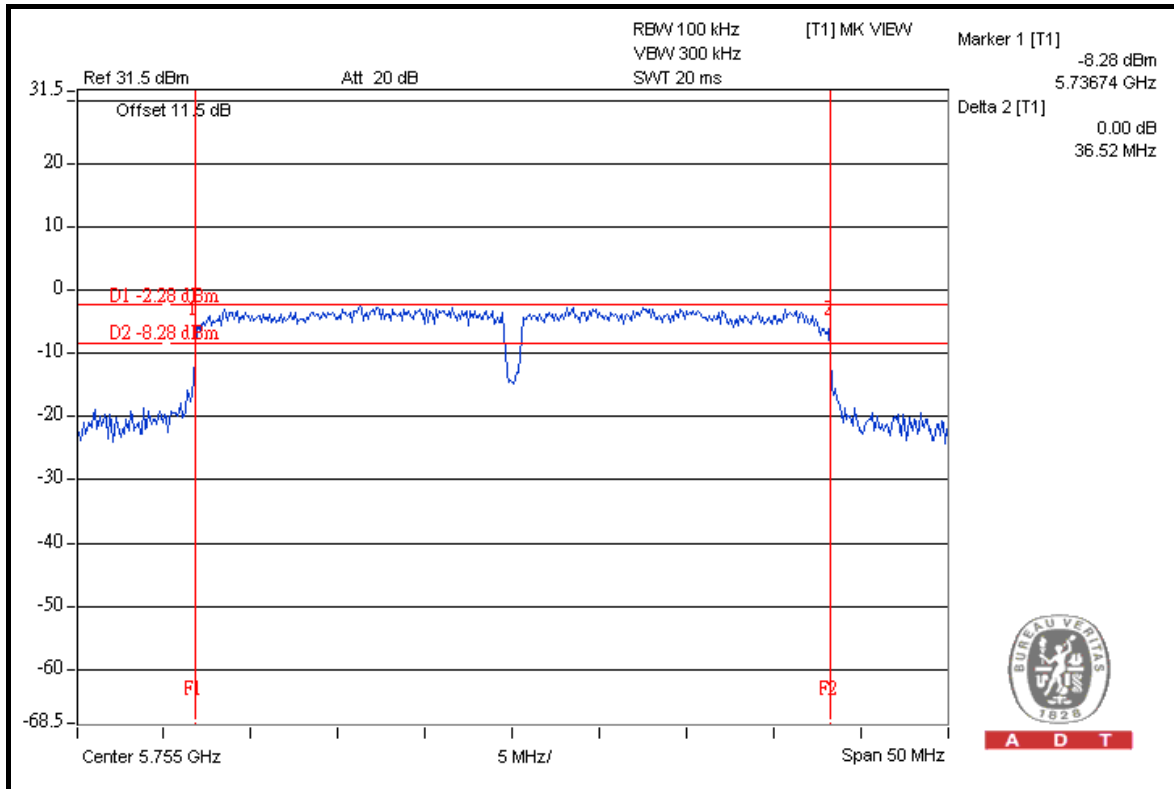


A D T

802.11n (40MHz): 1TX

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
151	5755	36.52	0.5	PASS
159	5795	36.52	0.5	PASS

CH 151



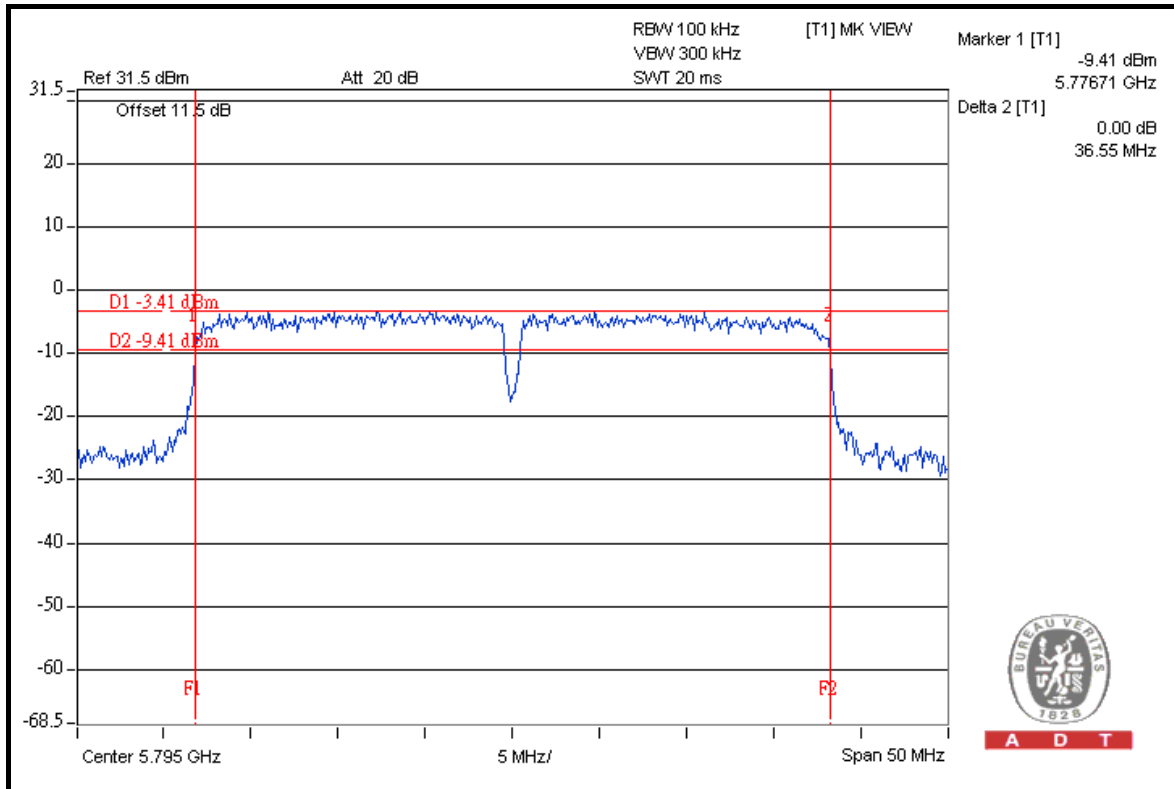


A D T

802.11n (40MHz): 2TX

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
151	5755	36.48	36.53	0.5	PASS
159	5795	36.51	36.55	0.5	PASS

FOR CHAIN 1: CH 159





A D T

5.4 MAXIMUM OUTPUT POWER

5.4.1 LIMITS OF MAXIMUM OUTPUT POWER MEASUREMENT

The Maximum Peak Output Power Measurement is 30dBm.

5.4.2 INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
High Speed Peak Power Meter	ML2495A	0842014	Apr. 21, 2010	Apr. 20, 2011
Power Sensor	MA2411B	0738404	Apr. 21, 2010	Apr. 20, 2011

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.

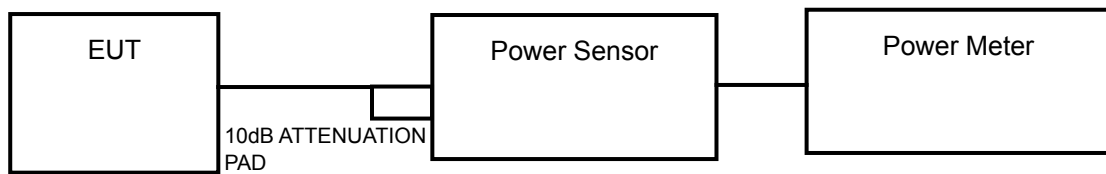
5.4.3 TEST PROCEDURES

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.

5.4.4 DEVIATION FROM TEST STANDARD

No deviation

5.4.5 TEST SETUP



5.4.6 EUT OPERATING CONDITIONS

Same as Item 5.3.6



A D T

5.4.7 TEST RESULTS

802.11a: 1TX

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
149	5745	83.2	19.2	30	PASS
157	5785	89.1	19.5	30	PASS
165	5825	81.3	19.1	30	PASS

802.11n (20MHz): 1TX

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
149	5745	85.1	19.3	30	PASS
157	5785	89.1	19.5	30	PASS
165	5825	83.2	19.2	30	PASS

802.11n (20MHz): 2TX

CHAN.	CHAN. FREQ. (MHz)	POWER OUTPUT (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
149	5745	22.1	19.4	249.3	24.0	30	PASS
157	5785	22.4	19.4	260.9	24.2	30	PASS
165	5825	22.0	19.3	243.6	23.9	30	PASS

802.11n (40MHz): 1TX

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
151	5755	83.2	19.2	30	PASS
159	5795	85.1	19.3	30	PASS

802.11n (40MHz): 2TX

CHAN.	CHAN. FREQ. (MHz)	POWER OUTPUT (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
151	5755	22.7	19.3	271.3	24.3	30	PASS
159	5795	22.8	19.3	275.7	24.4	30	PASS



5.5 POWER SPECTRAL DENSITY MEASUREMENT

5.5.1 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT

The Maximum of Power Spectral Density Measurement is 8dBm.

5.5.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
SPECTRUM ANALYZER R&S	FSP40	100039	Jul. 09, 2010	Jul. 08, 2011

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

5.5.3 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.

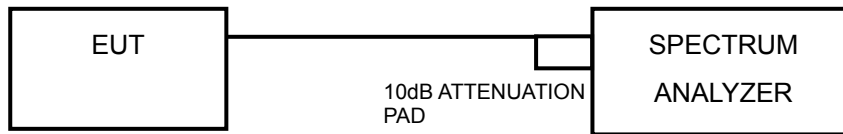


A D T

5.5.4 DEVIATION FROM TEST STANDARD

No deviation

5.5.5 TEST SETUP



5.5.6 EUT OPERATING CONDITION

Same as Item 5.3.6



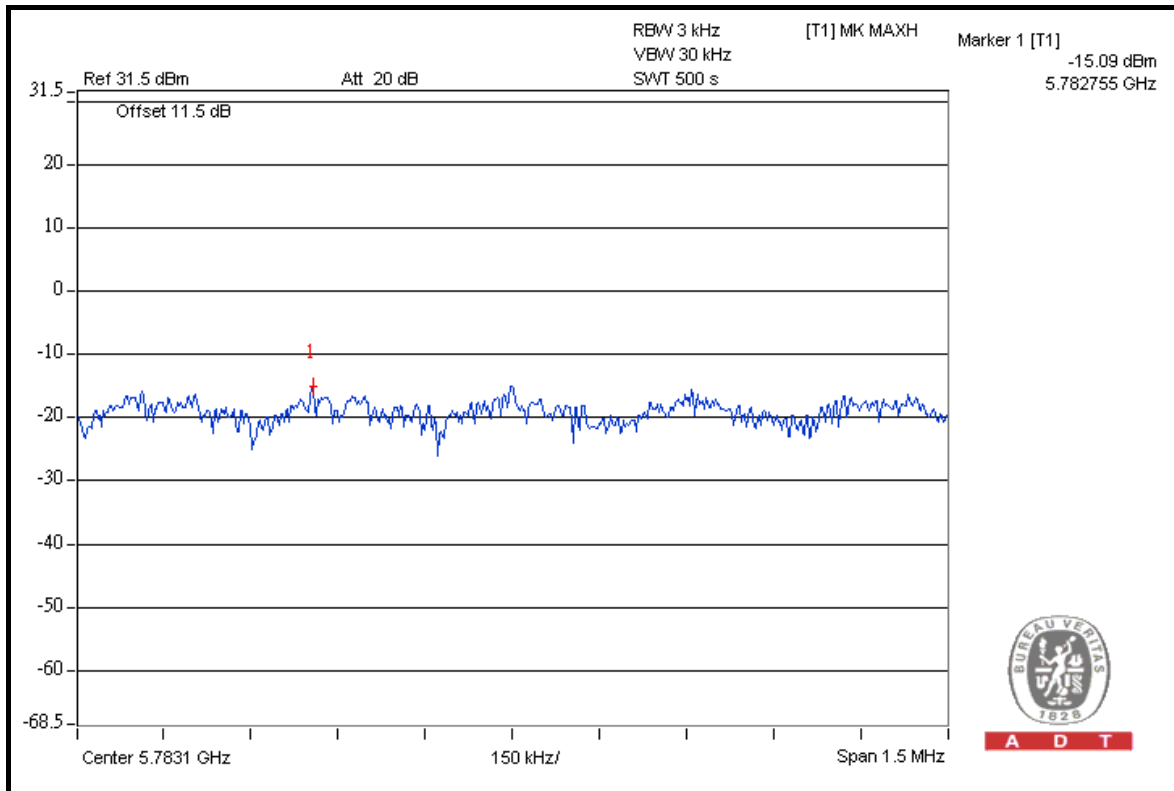
A D T

5.5.7 TEST RESULTS

802.11a: 1TX

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3 kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
149	5745	-15.3	8	PASS
157	5785	-15.1	8	PASS
165	5825	-15.6	8	PASS

CH 157



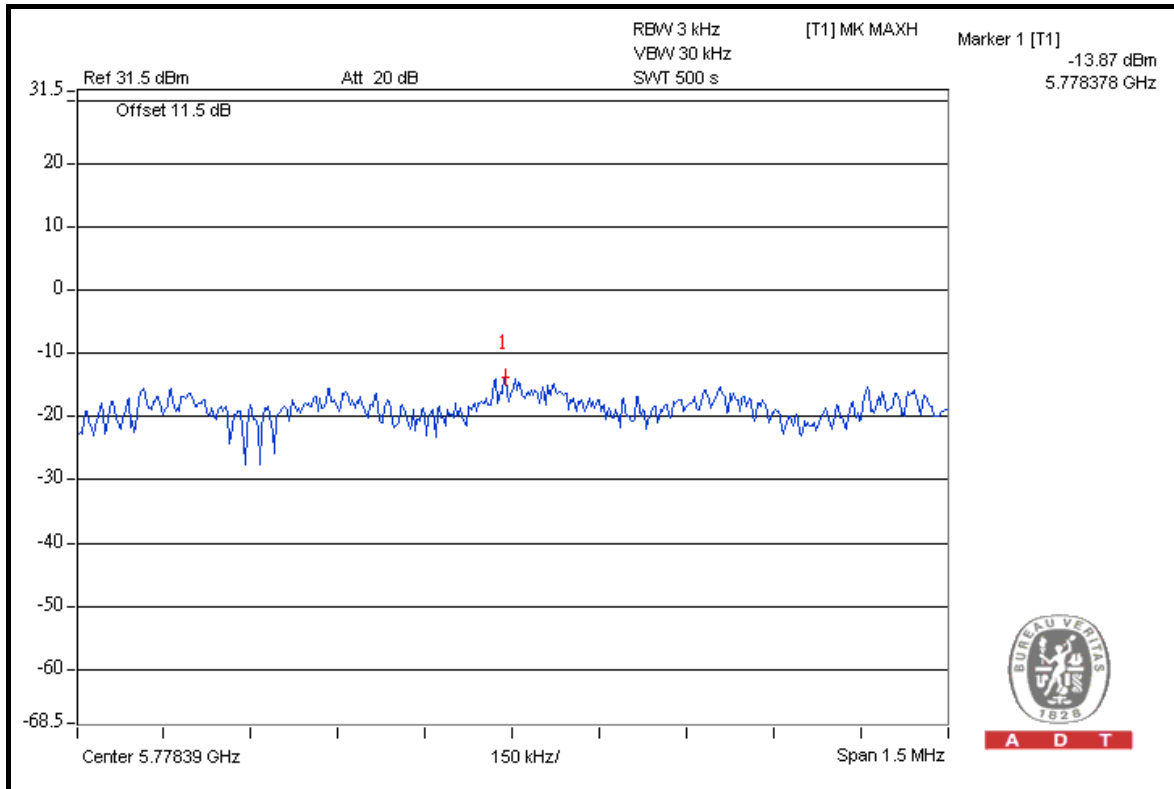


A D T

802.11n (20MHz): 1TX

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3 kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
149	5745	-14.3	8	PASS
157	5785	-13.9	8	PASS
165	5825	-14.3	8	PASS

CH 157



A D T

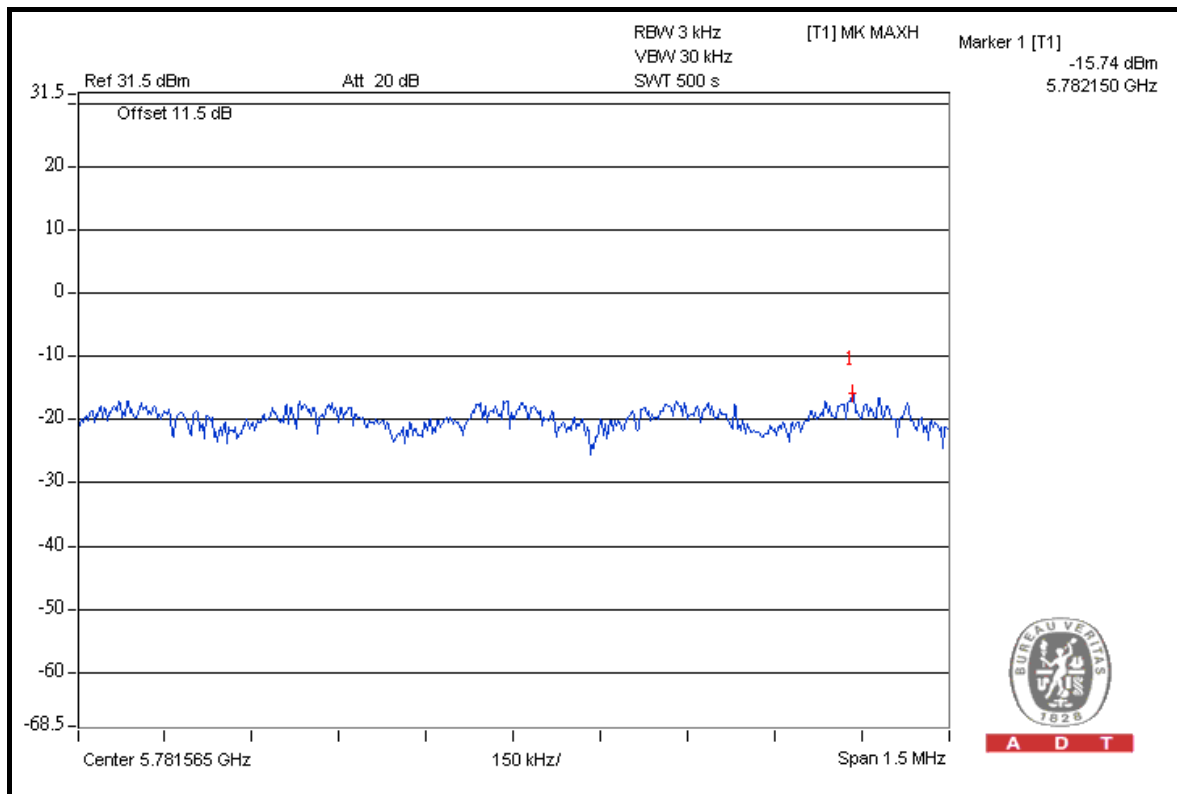


A D T

802.11n (20MHz)

CHAN.	CHAN. FREQ. (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)		TOTAL POWER DENSITY (dBm)	MAX. LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1			
149	5745	-15.9	-16.3	-13.1	8	PASS
157	5785	-15.7	-16.5	-13.1	8	PASS
165	5825	-16.1	-16.5	-13.3	8	PASS

FOR CHAIN 0: CH 157



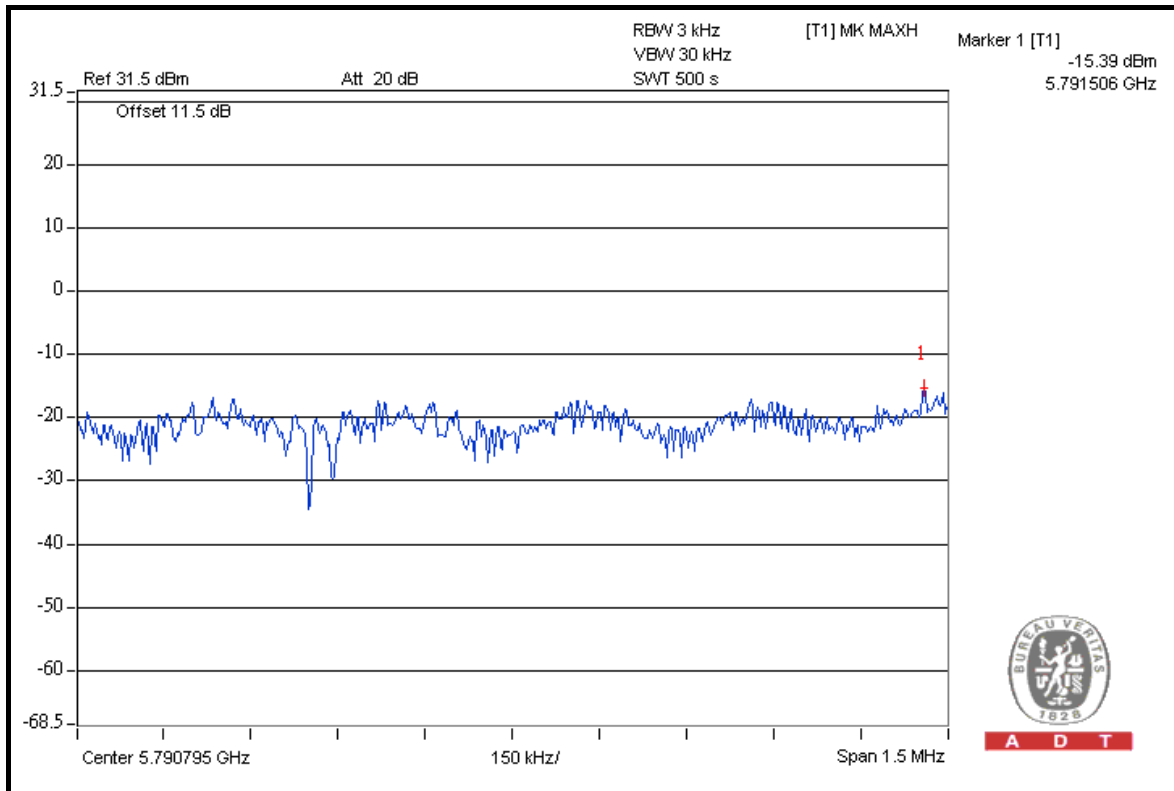


A D T

802.11n (40MHz): 1TX

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3 kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
151	5755	-15.6	8	PASS
159	5795	-15.4	8	PASS

CH 159



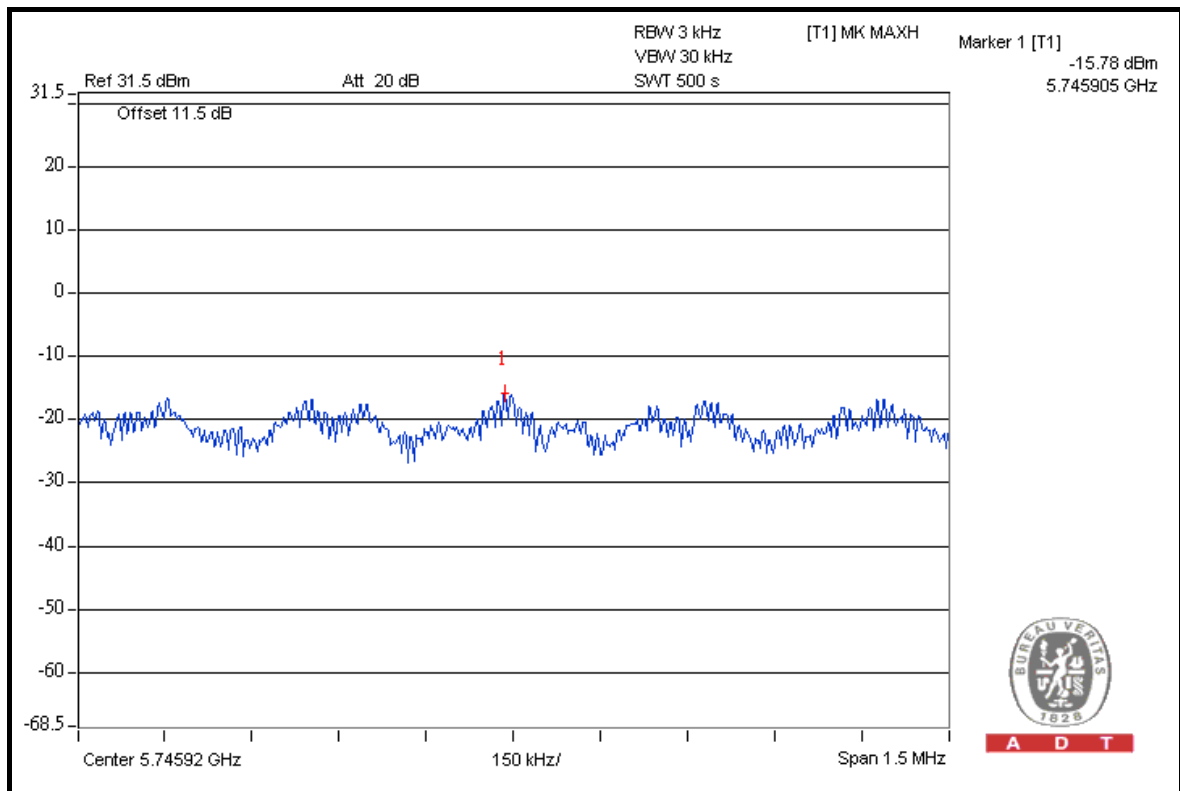


A D T

802.11n (40MHz)

CHAN.	CHAN. FREQ. (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)		TOTAL POWER DENSITY (dBm)	MAX. LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1			
151	5755	-15.8	-16.5	-13.1	8	PASS
159	5795	-15.9	-16.3	-13.1	8	PASS

FOR CHAIN 0: CH 151



A D T



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5.6 BAND EDGES MEASUREMENT

5.6.1 LIMITS OF BAND EDGES MEASUREMENT

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

5.6.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
FOR CONDUCTED MEASUREMENT				
SPECTRUM ANALYZER R&S	FSP40	100039	Jul. 09, 2010	Jul. 08, 2011
FOR RADIATED MEASUREMENT				
Test Receiver ROHDE & SCHWARZ	ESCI	100424	Aug. 04, 2010	Aug. 03, 2011
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100041	Jul. 09, 2010	Jul. 08, 2011
BILOG Antenna SCHWARZBECK	VULB9168	9168-156	Apr. 30, 2010	Apr. 29, 2011
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-209	Aug. 02, 2010	Aug. 01, 2011
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170243	Dec. 27, 2010	Dec. 26, 2011
Preamplifier Agilent	8449B	3008A01910	Sep. 09, 2010	Sep. 08, 2011
Preamplifier Agilent	8447D	2944A10638	Nov. 03, 2010	Nov. 02, 2011
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	218190/4 231241/4	May 14, 2010	May 13, 2011
RF signal cable Worken	8D-FB	Cable-HYCH9-01	Aug. 20, 2010	Aug. 19, 2011
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
26GHz ~ 40GHz Amplifier	EM26400	07026401	Aug. 25, 2010	Aug. 24, 2011

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



5.6.3 TEST PROCEDURE

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The antenna is a broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. Set both RBW and VBW of spectrum analyzer to 100kHz and 300kHz with suitable frequency span including 100MHz bandwidth from band edge. The band edges was measured and recorded.

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



A D T

5.6.4 DEVIATION FROM TEST STANDARD

No deviation

5.6.5 EUT OPERATING CONDITION

Same as Item 5.3.6

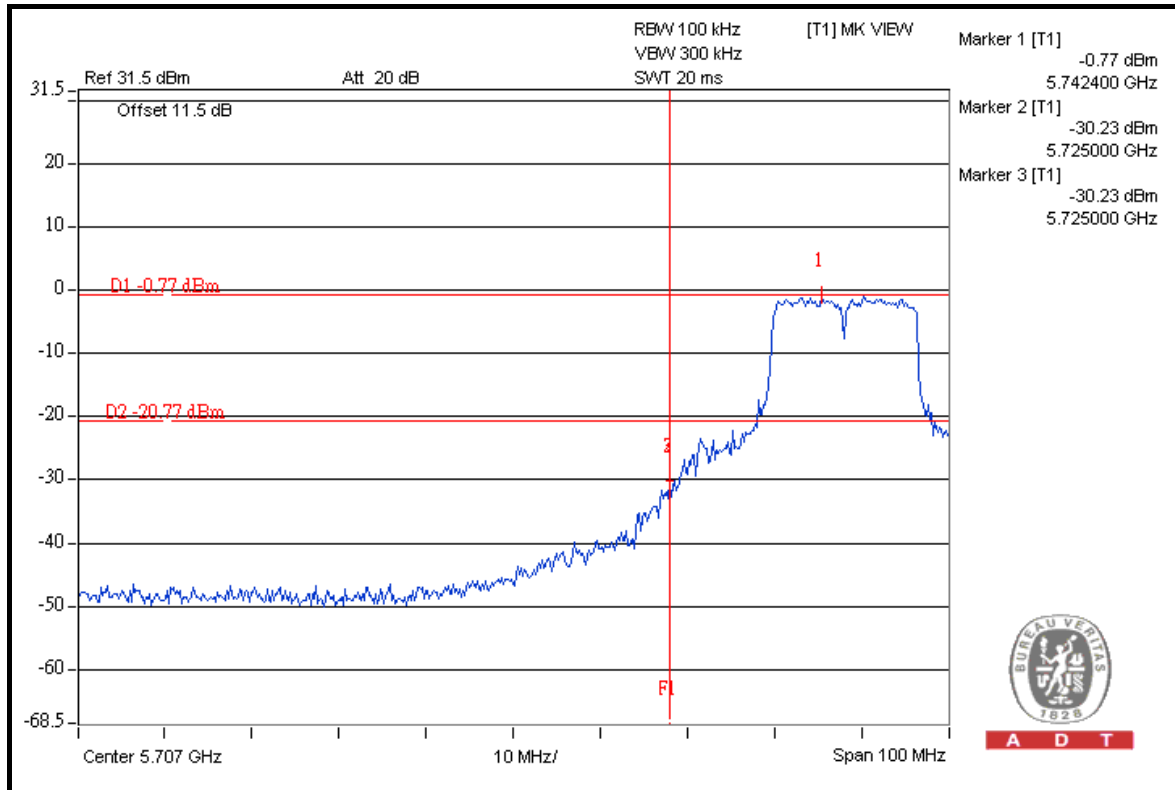
5.6.6 TEST RESULTS

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

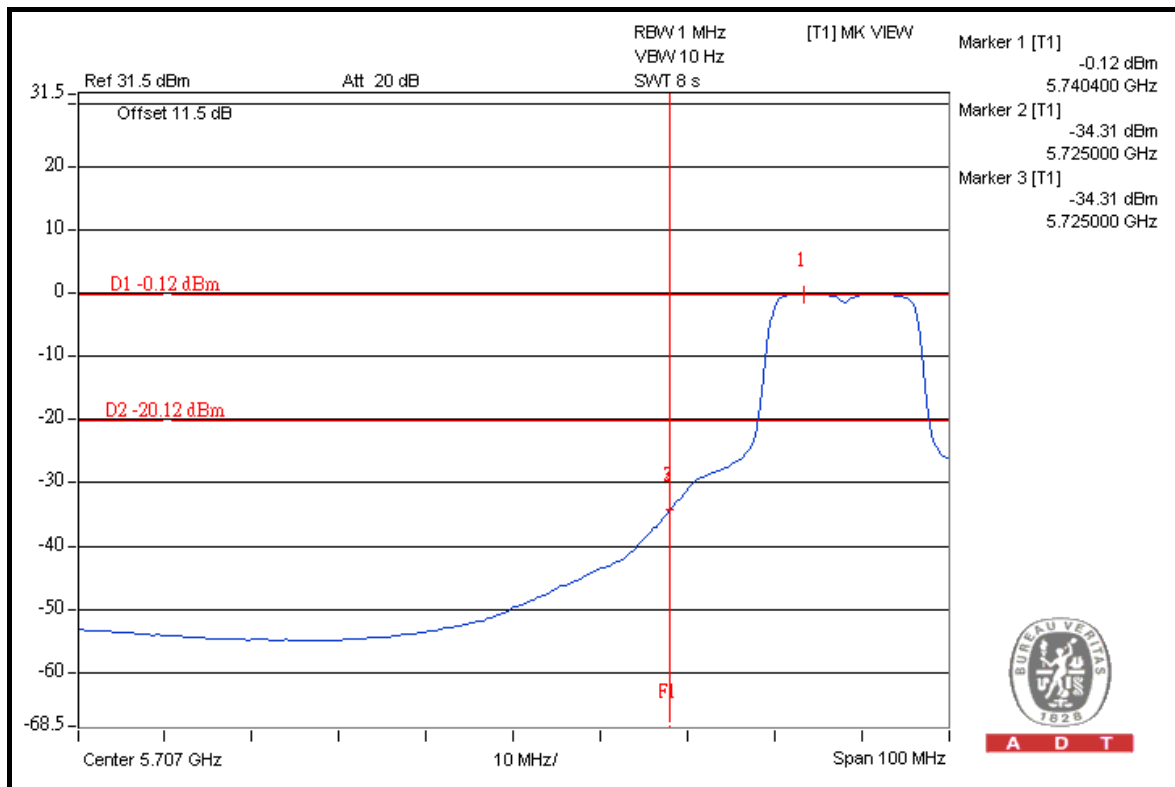


A D T

802.11a: 1TX



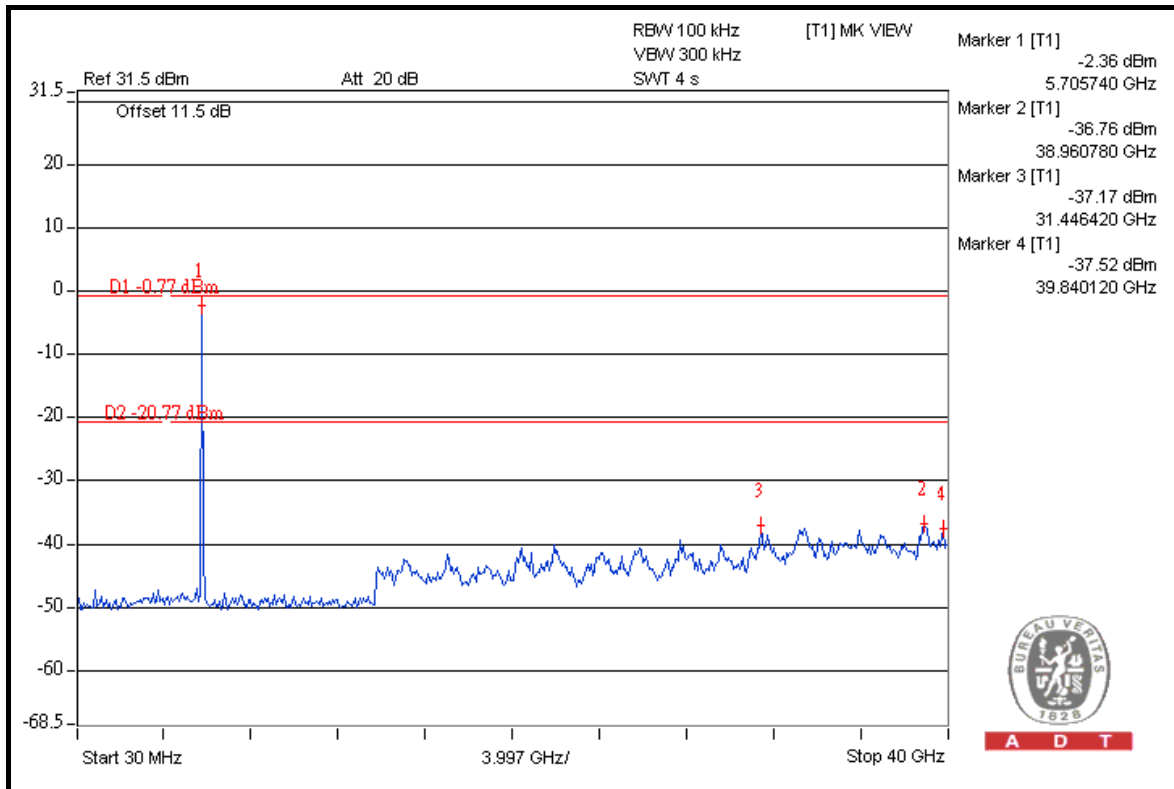
A D T



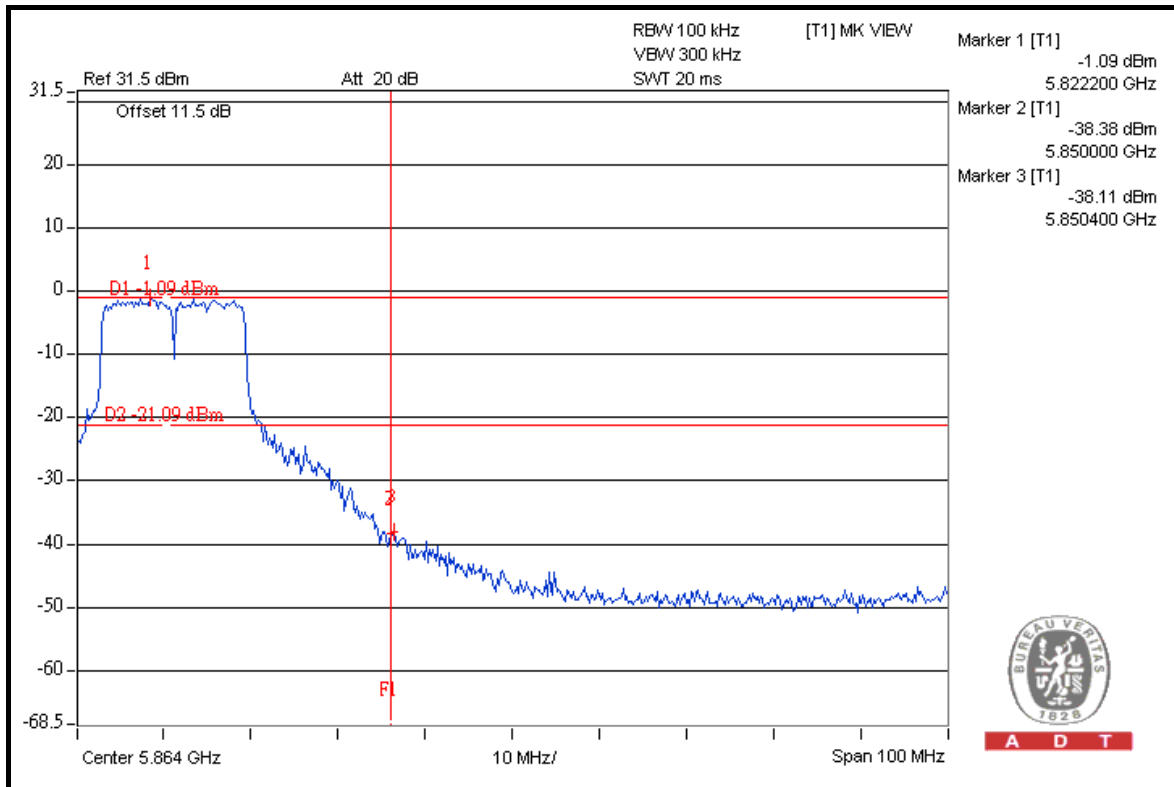
A D T



A D T



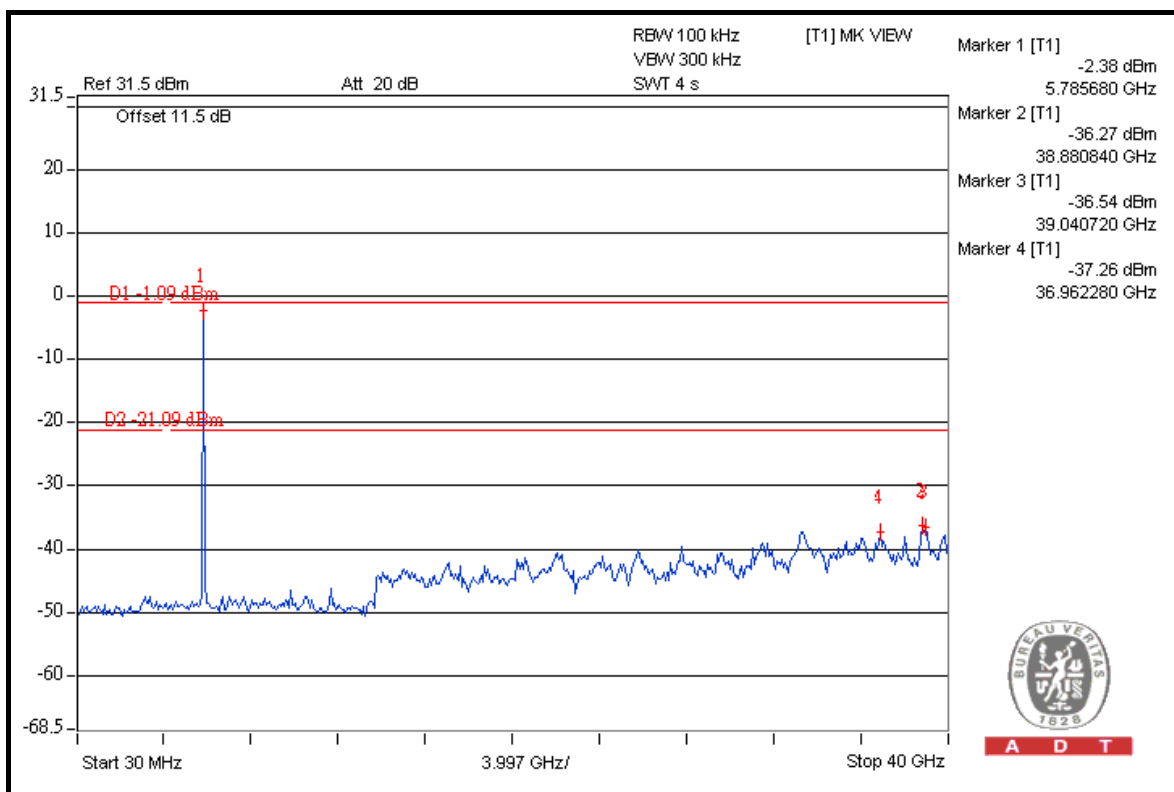
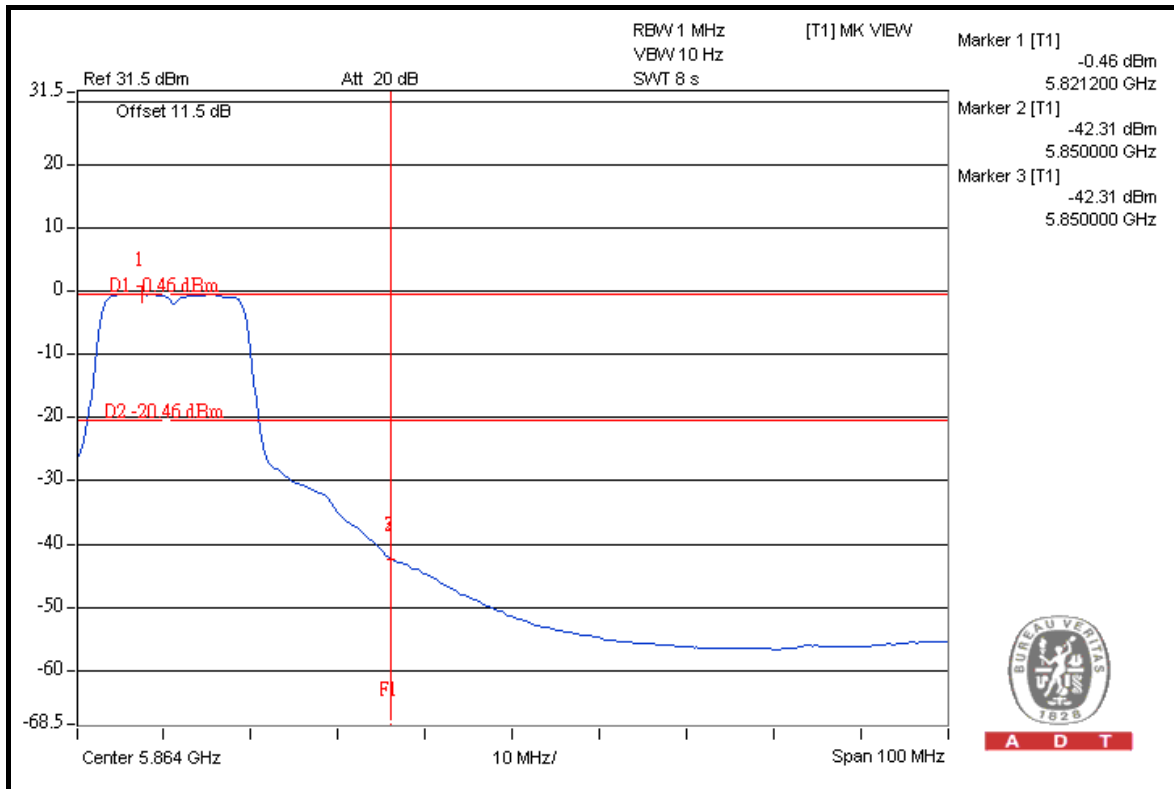
A D T



A D T



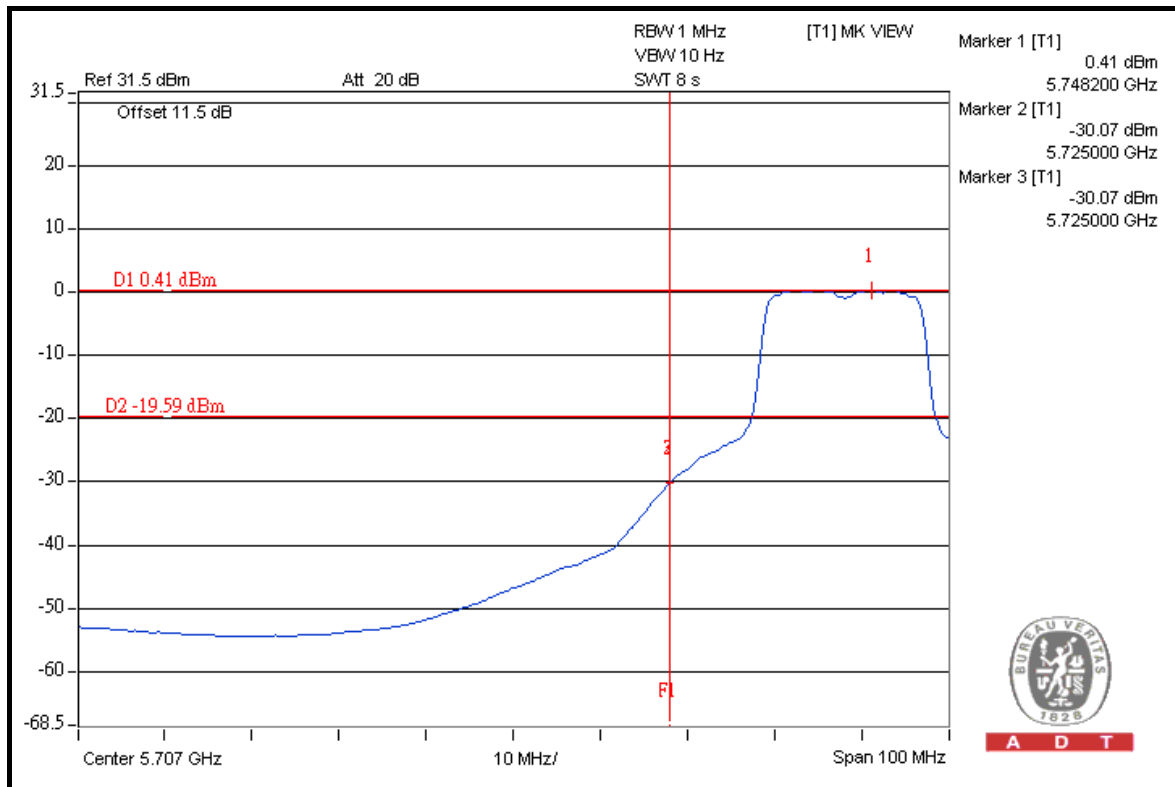
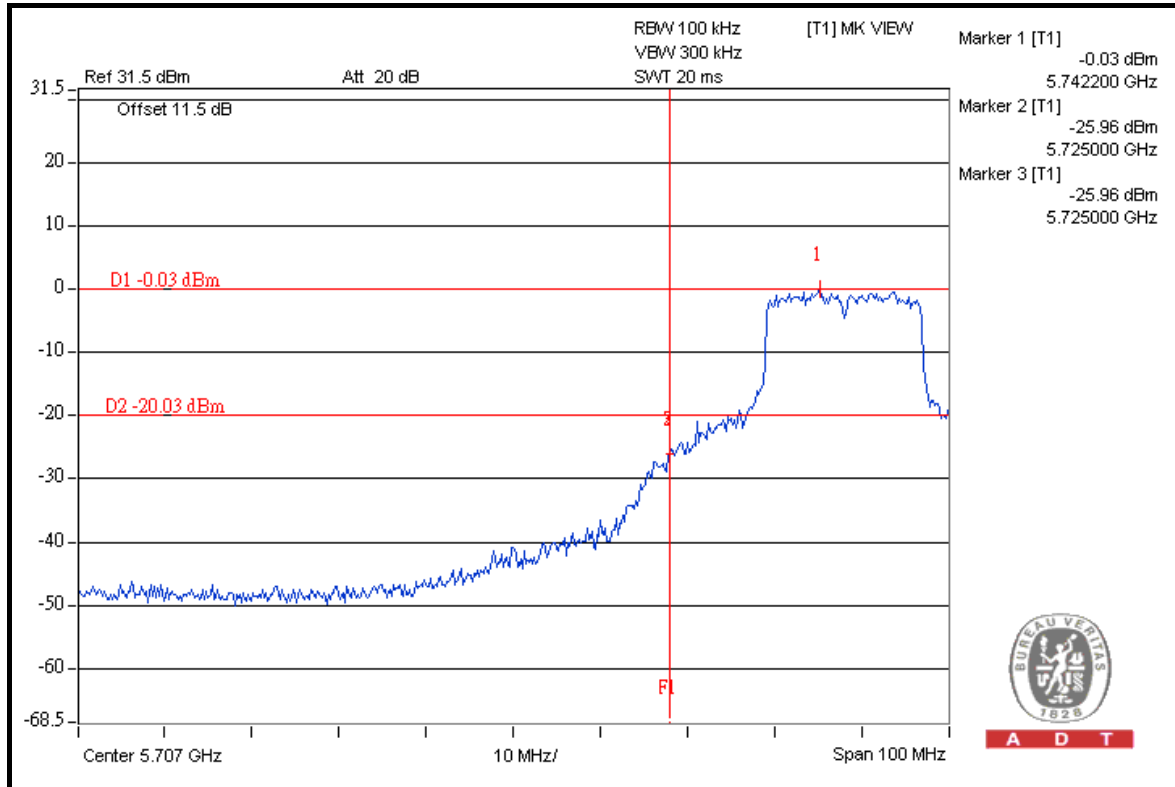
A D T





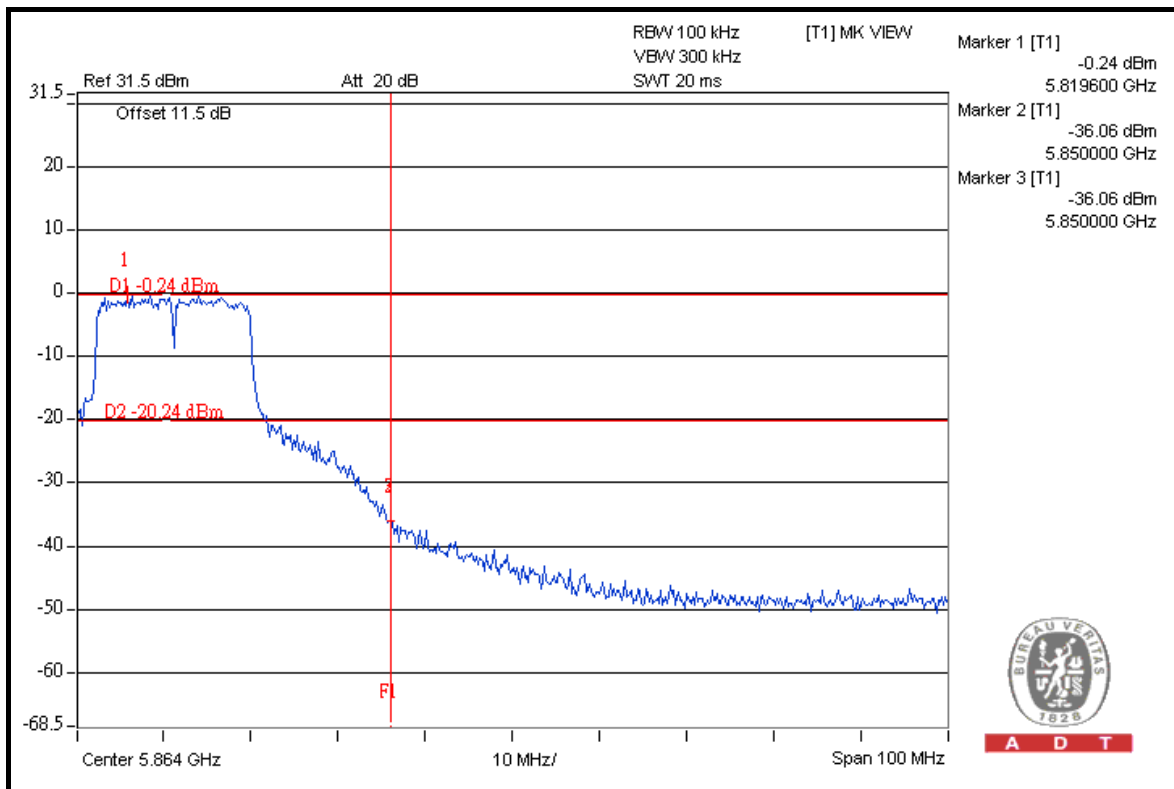
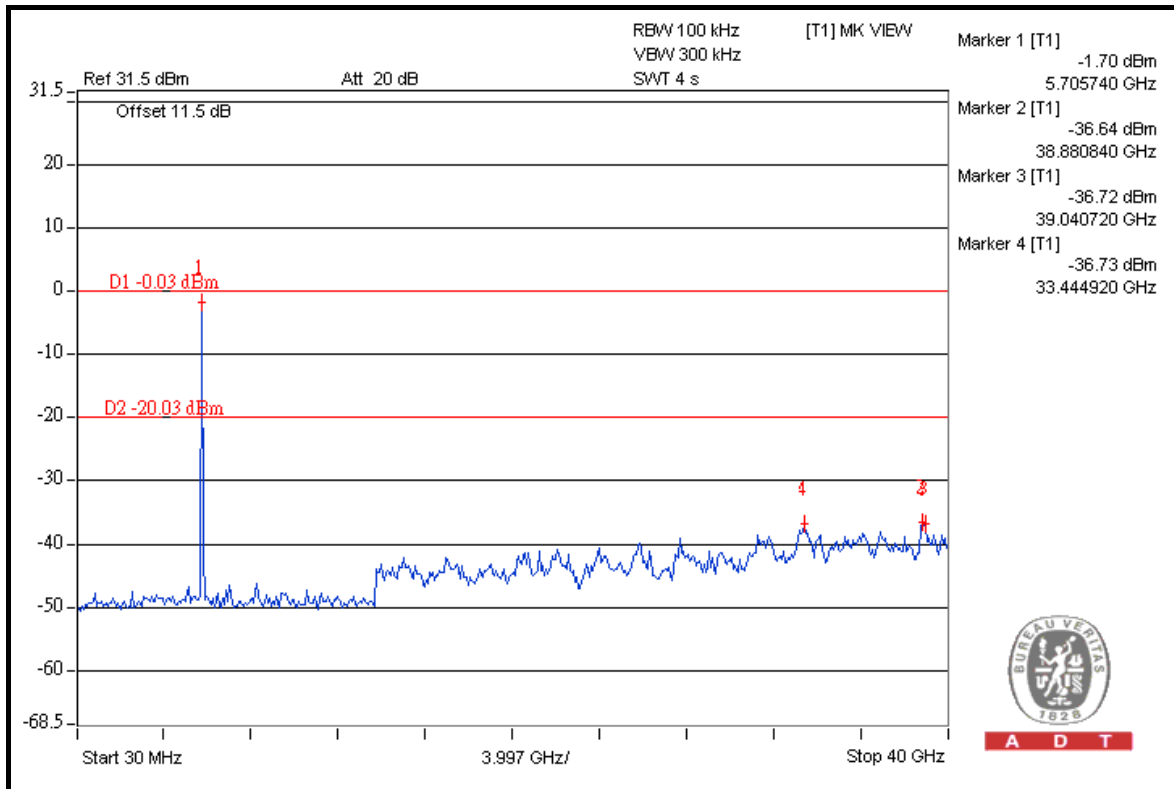
A D T

802.11n (20MHz): 1TX



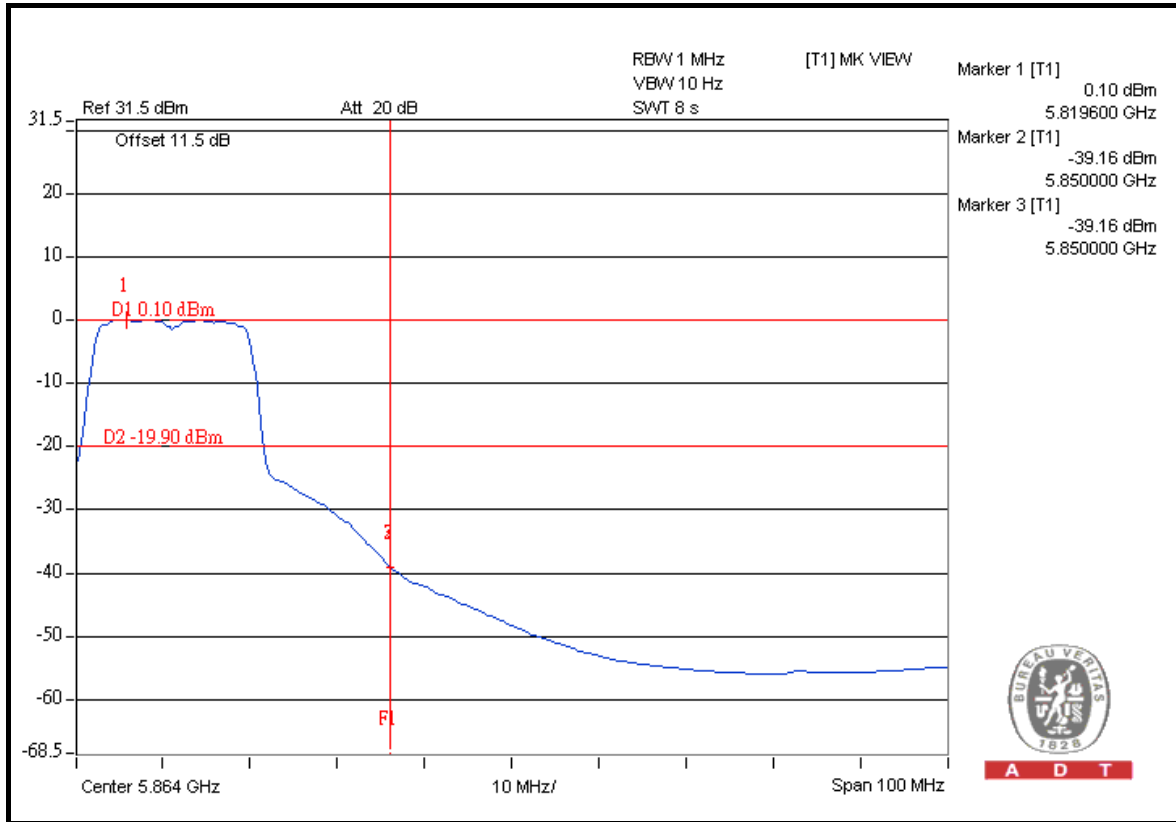


A D T

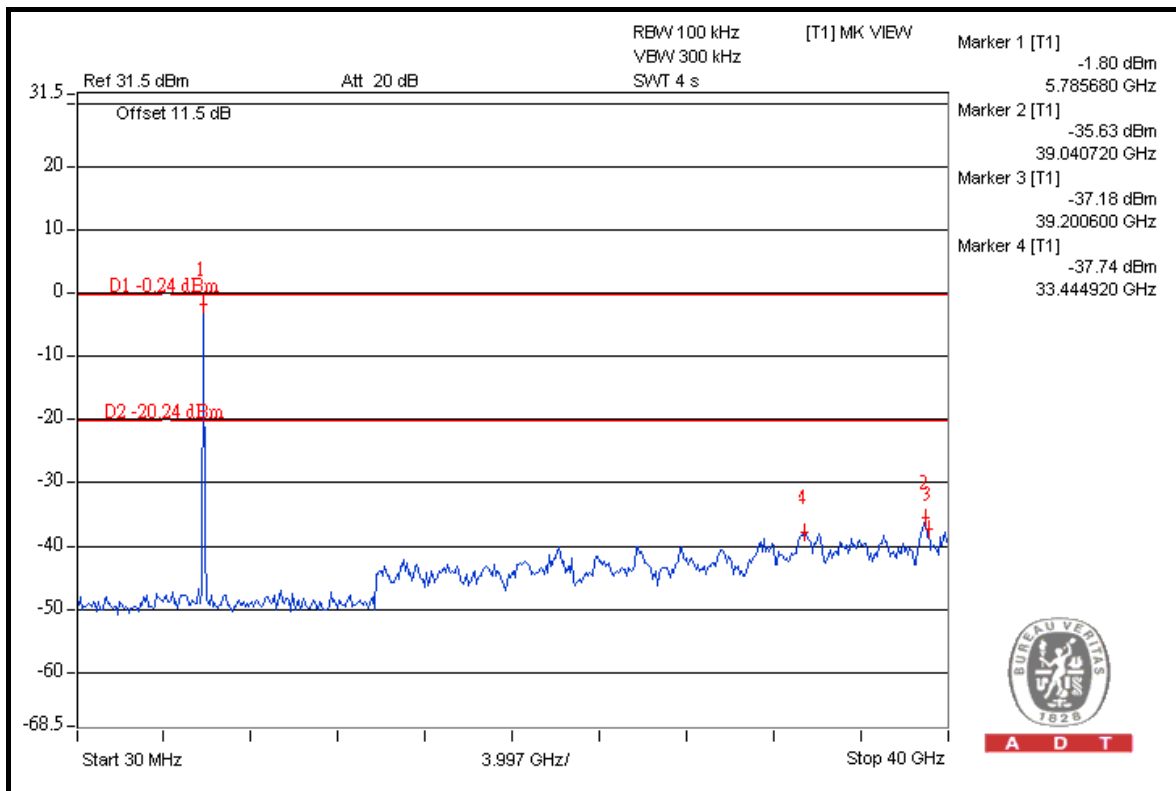




A D T



A D T

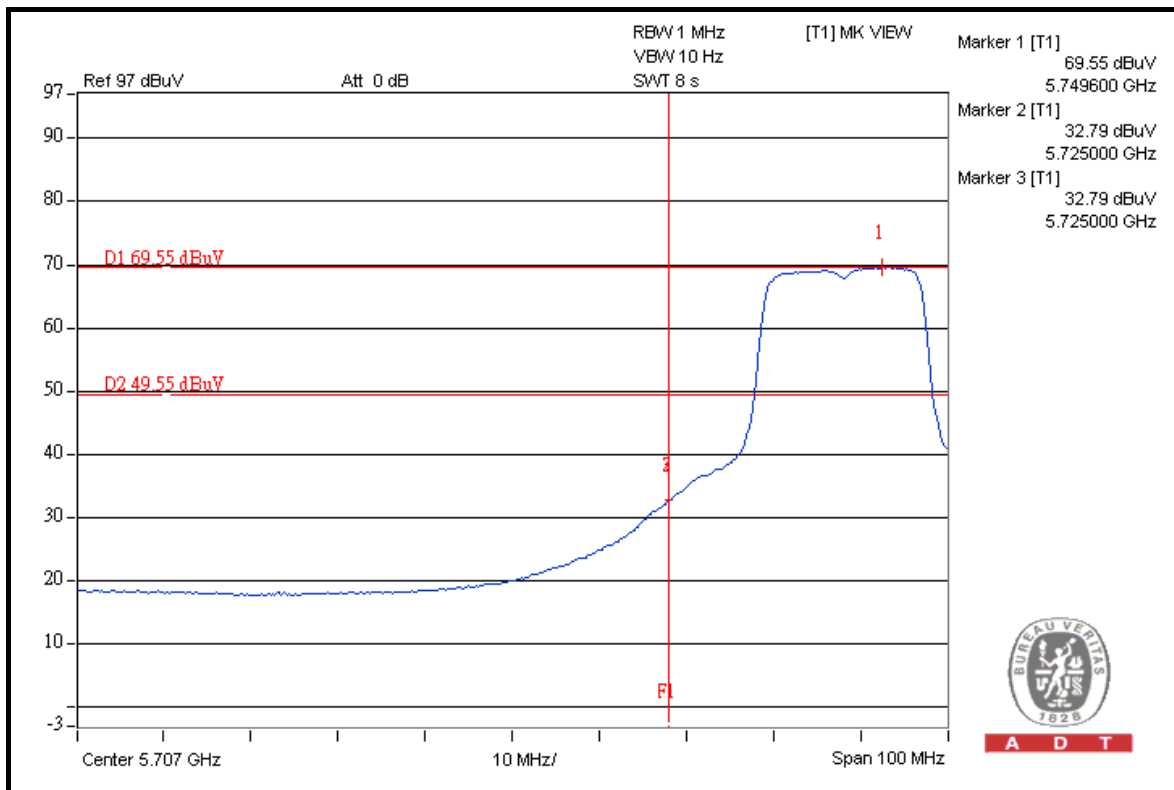
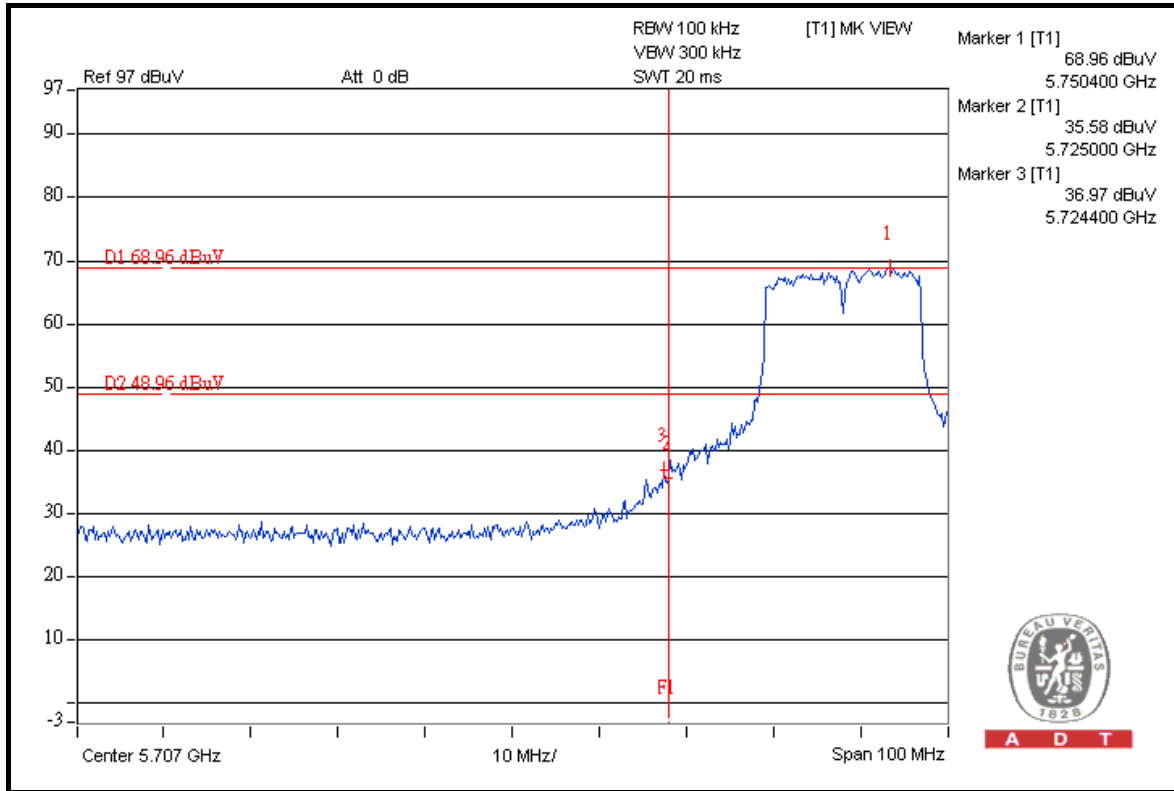


A D T



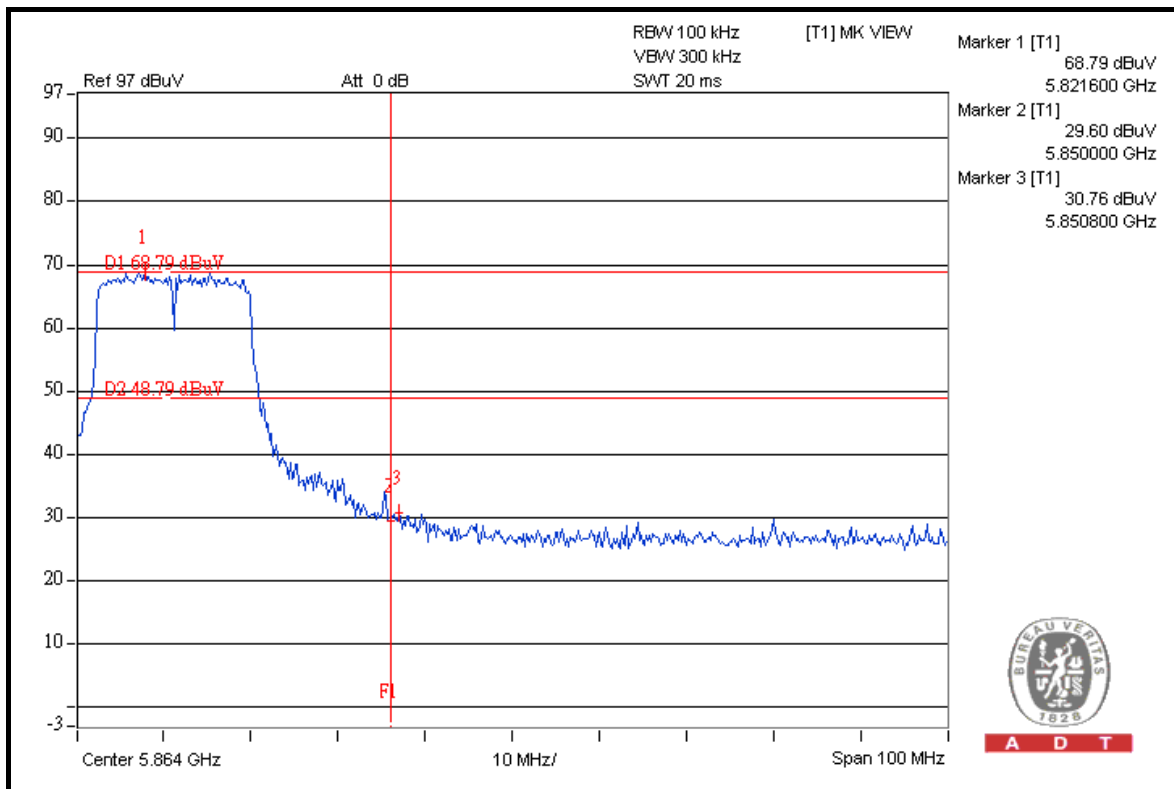
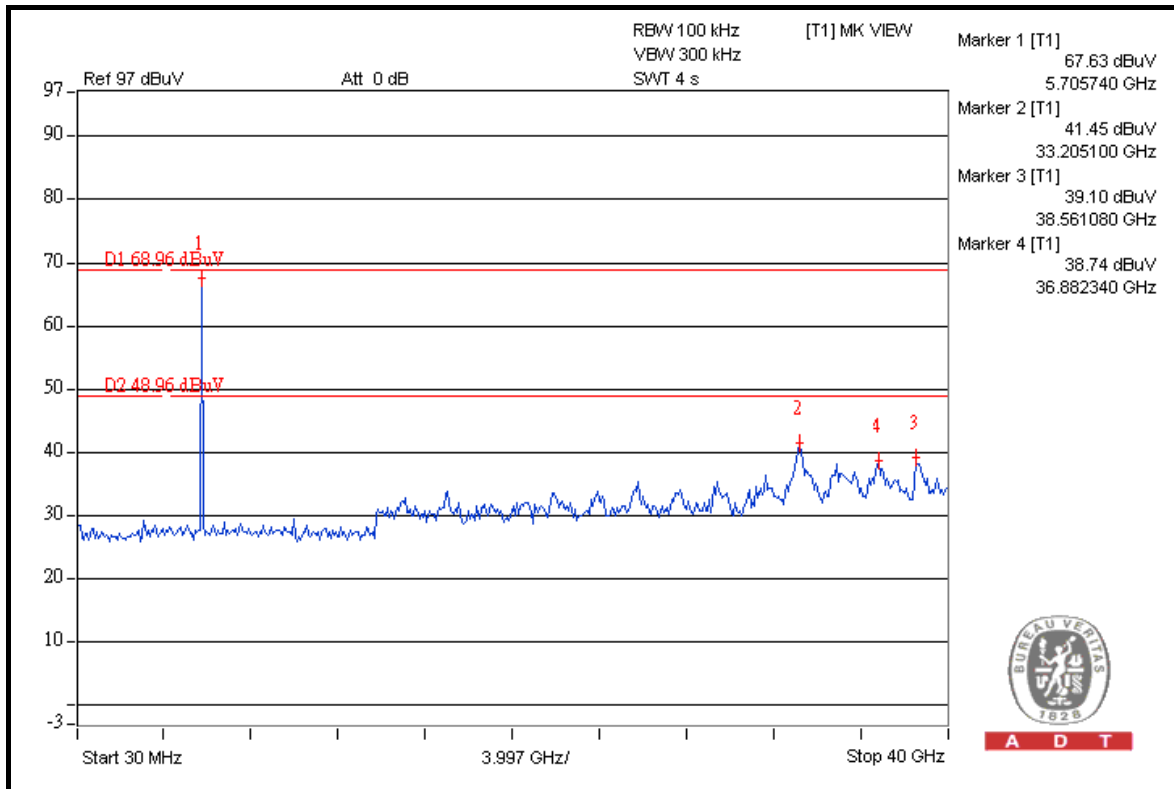
A D T

802.11n (20MHz): 2TX



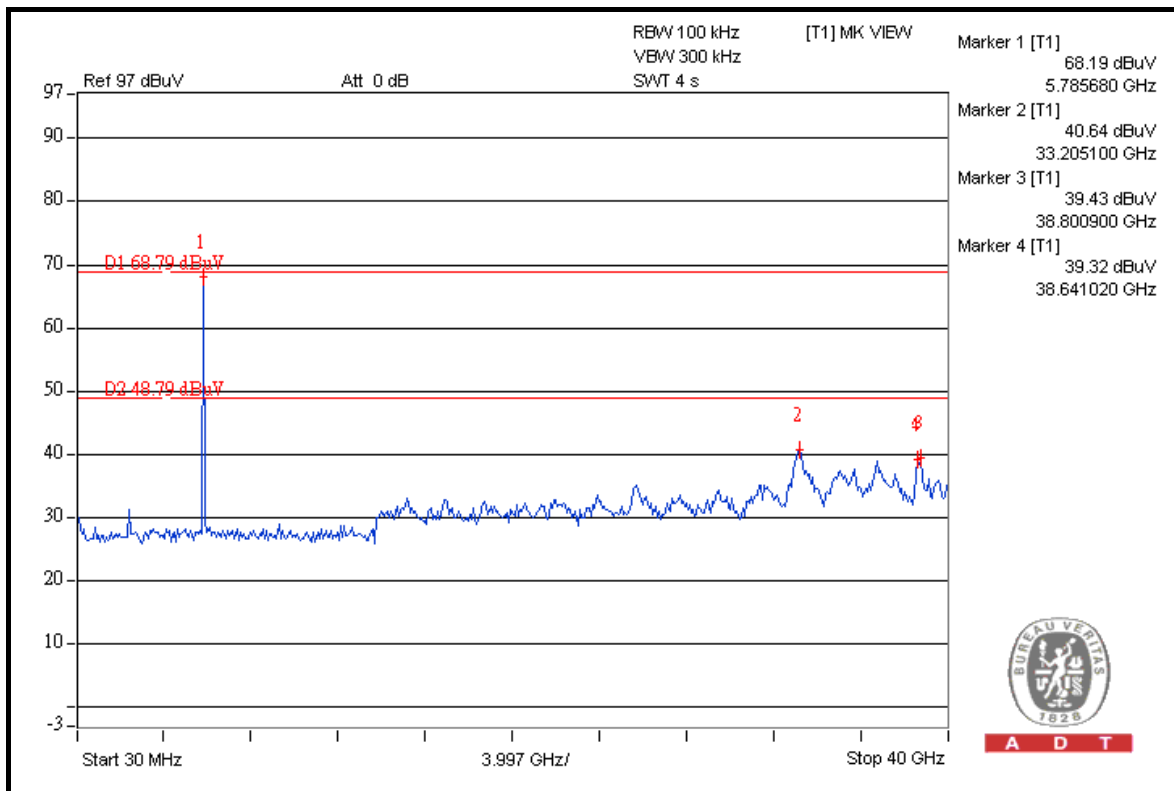
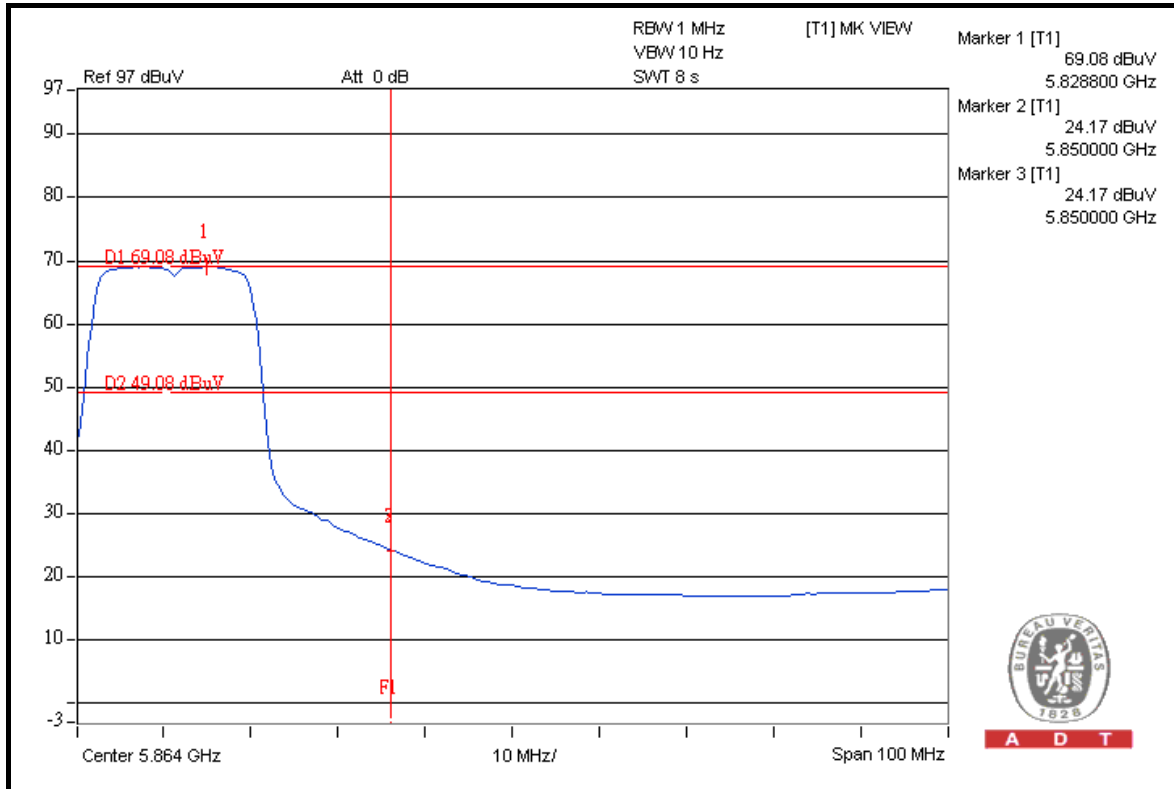


A D T





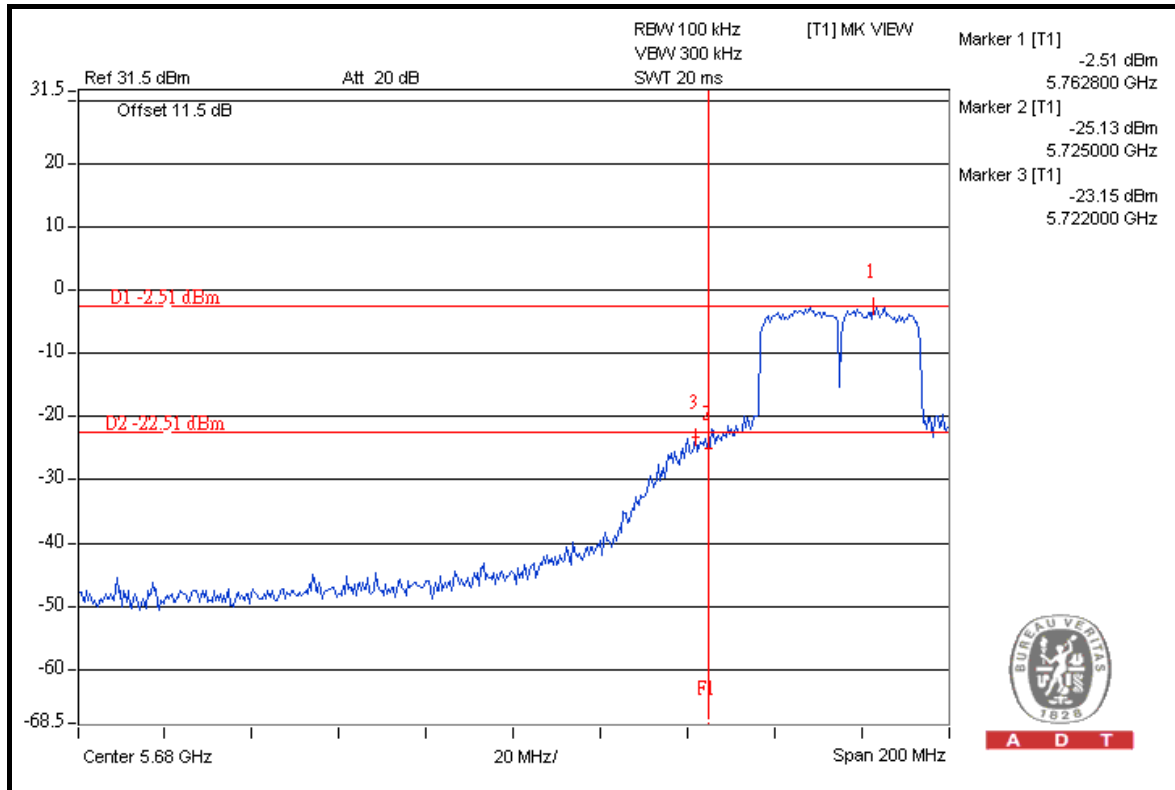
A D T



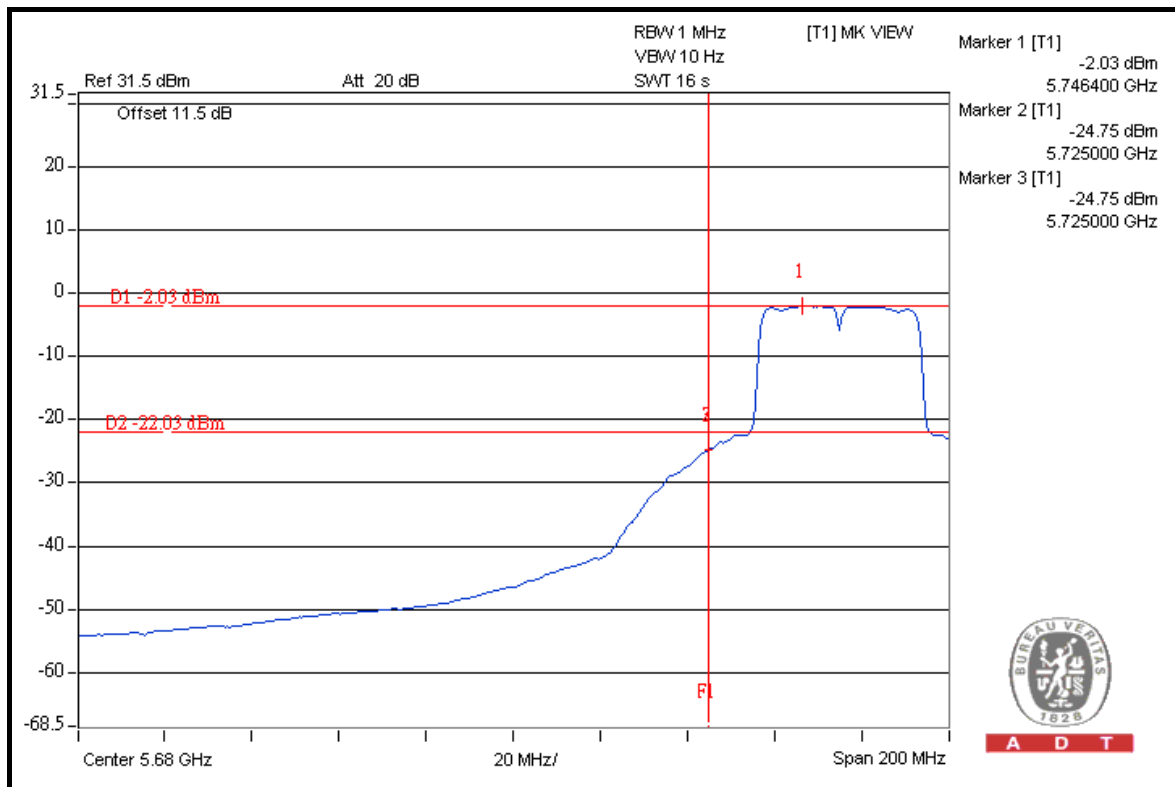


A D T

802.11n (40MHz): 1TX



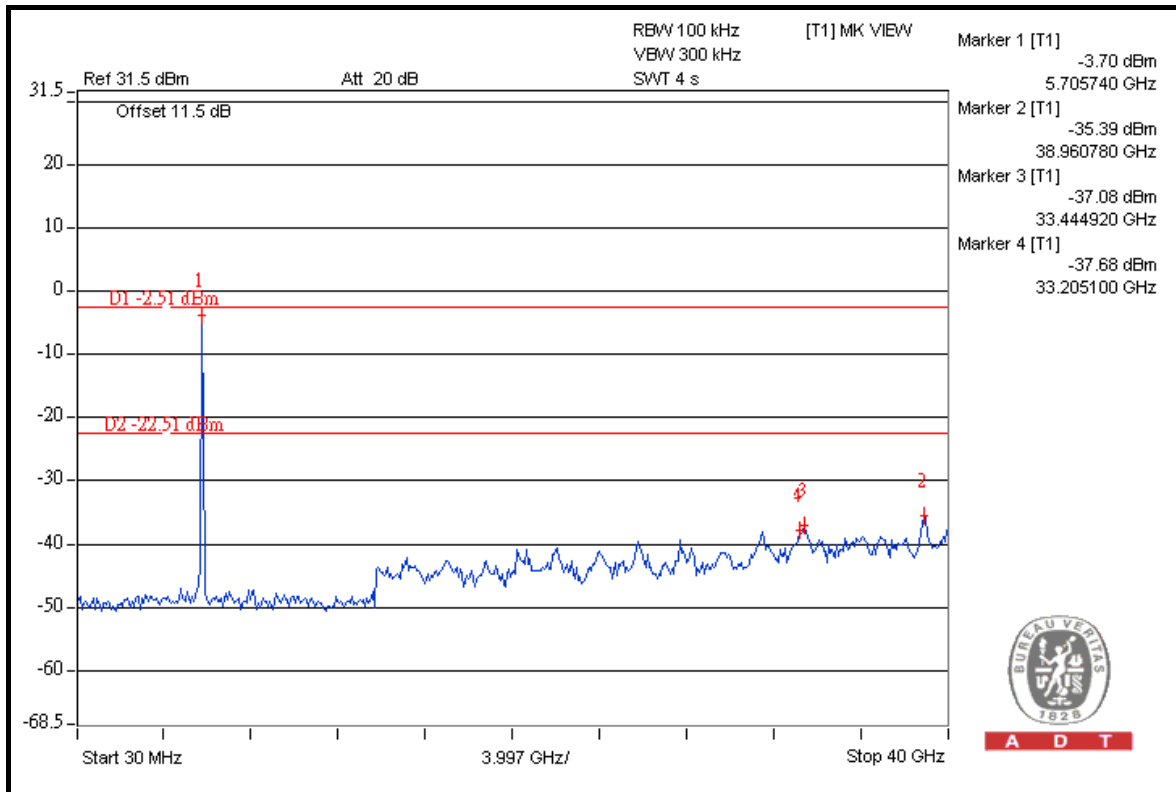
A D T



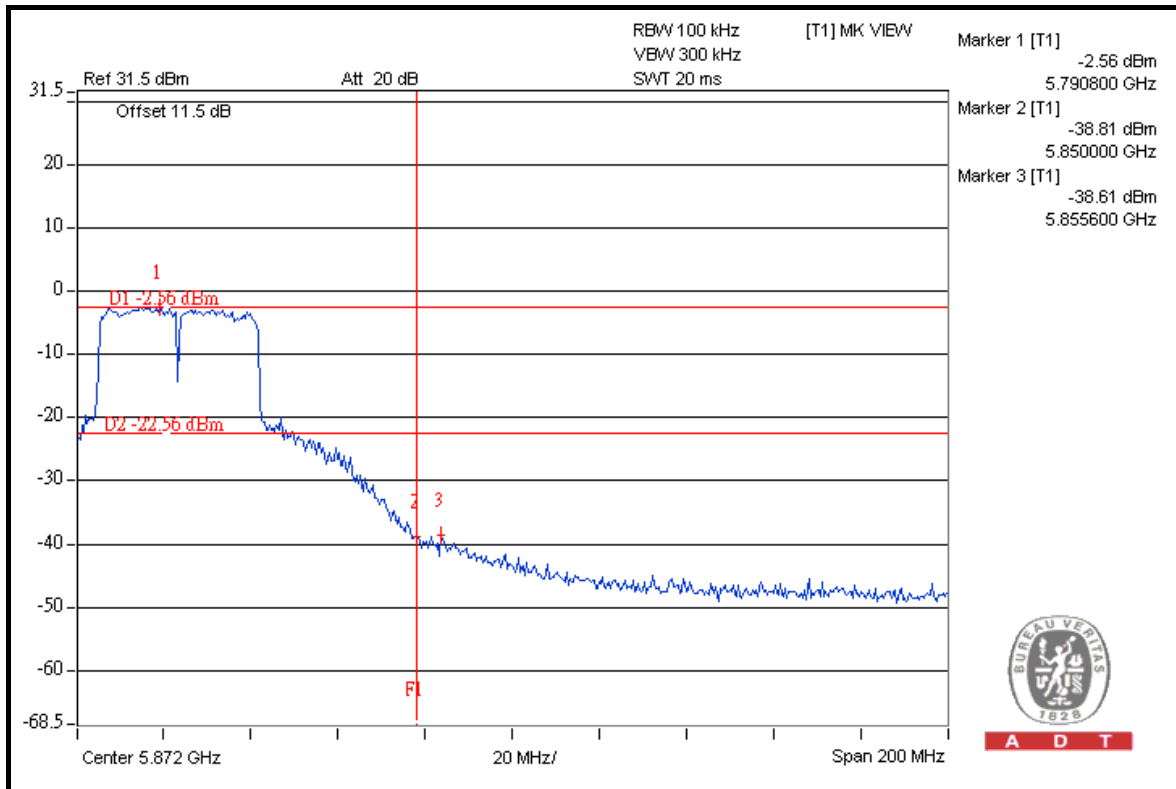
A D T



A D T



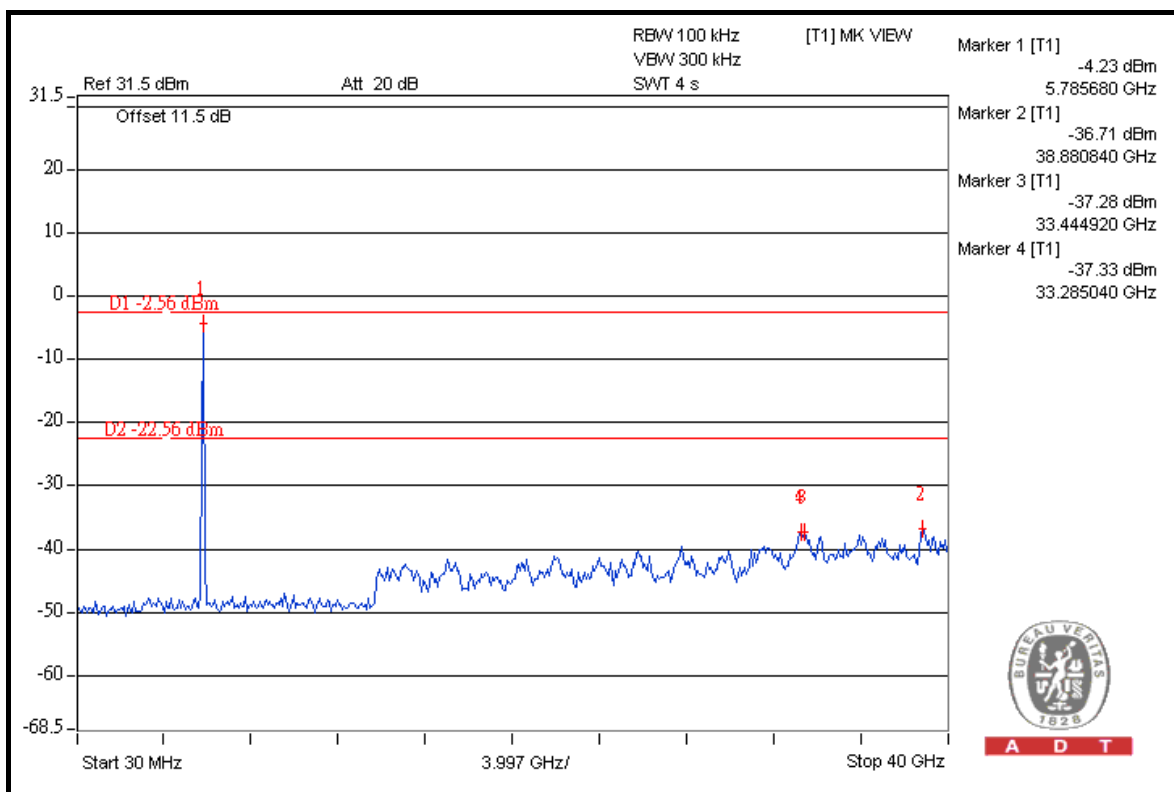
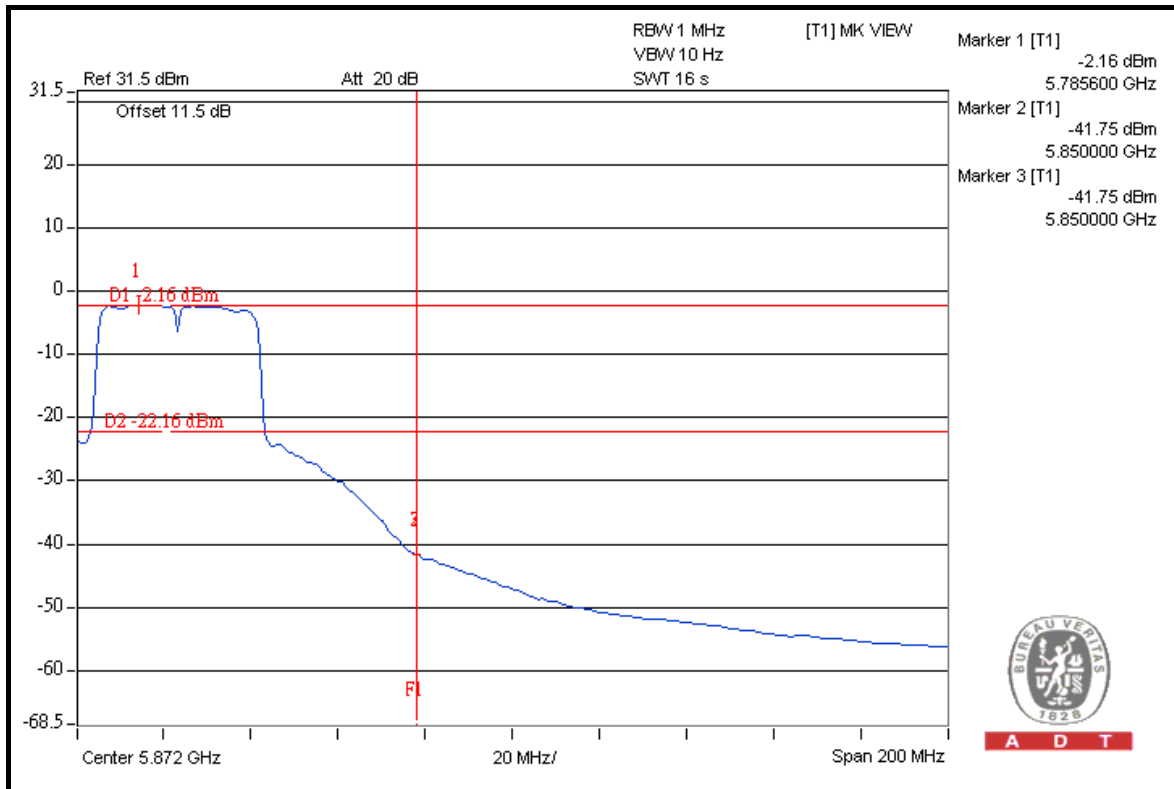
A D T



A D T



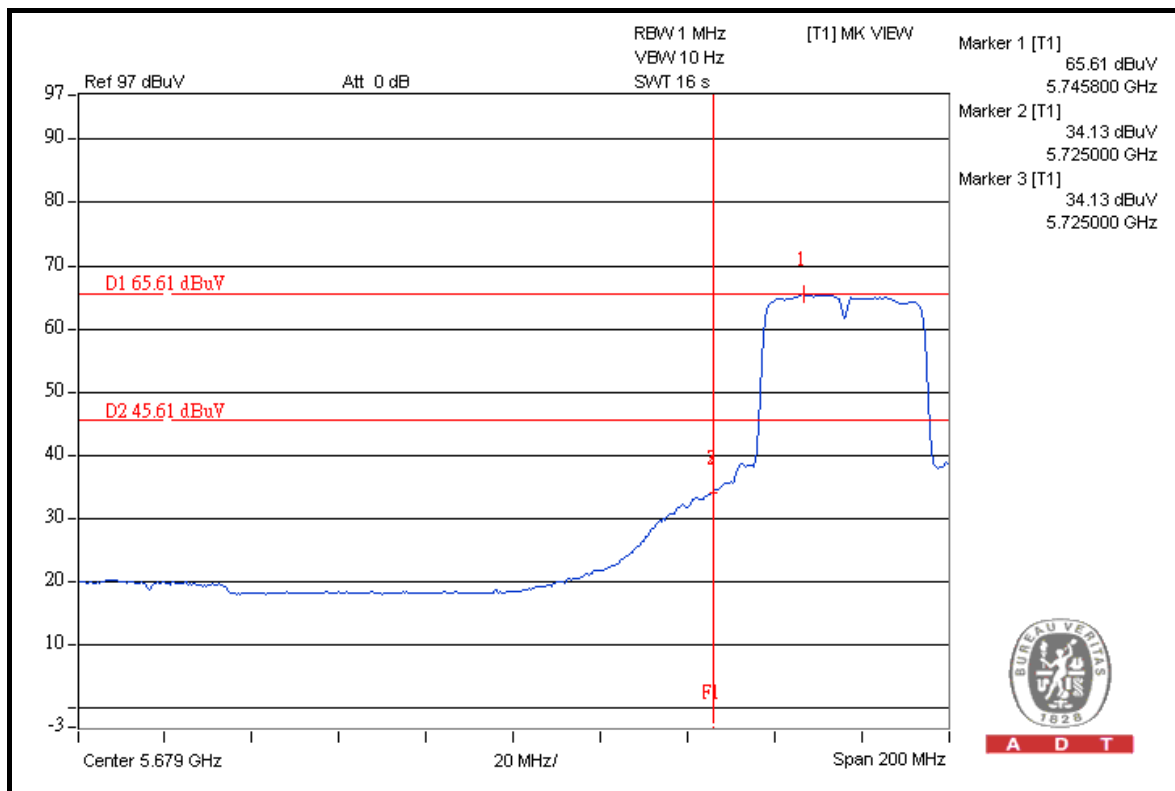
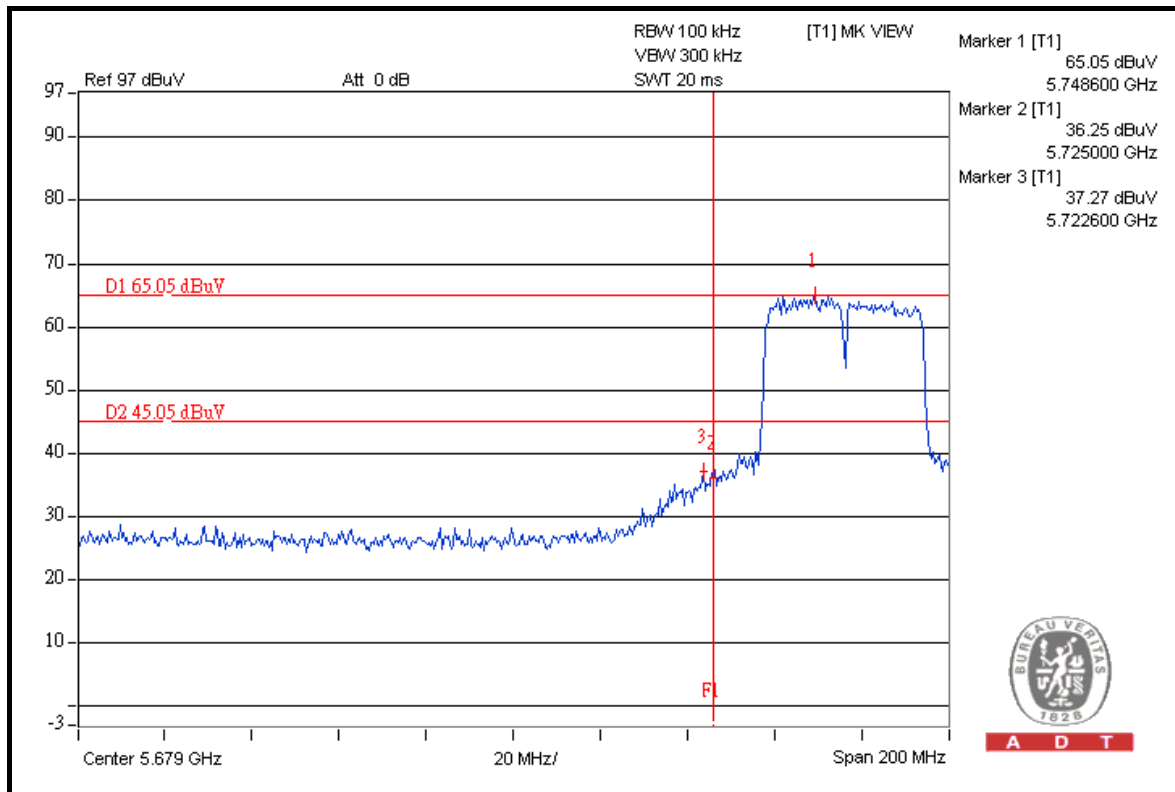
A D T





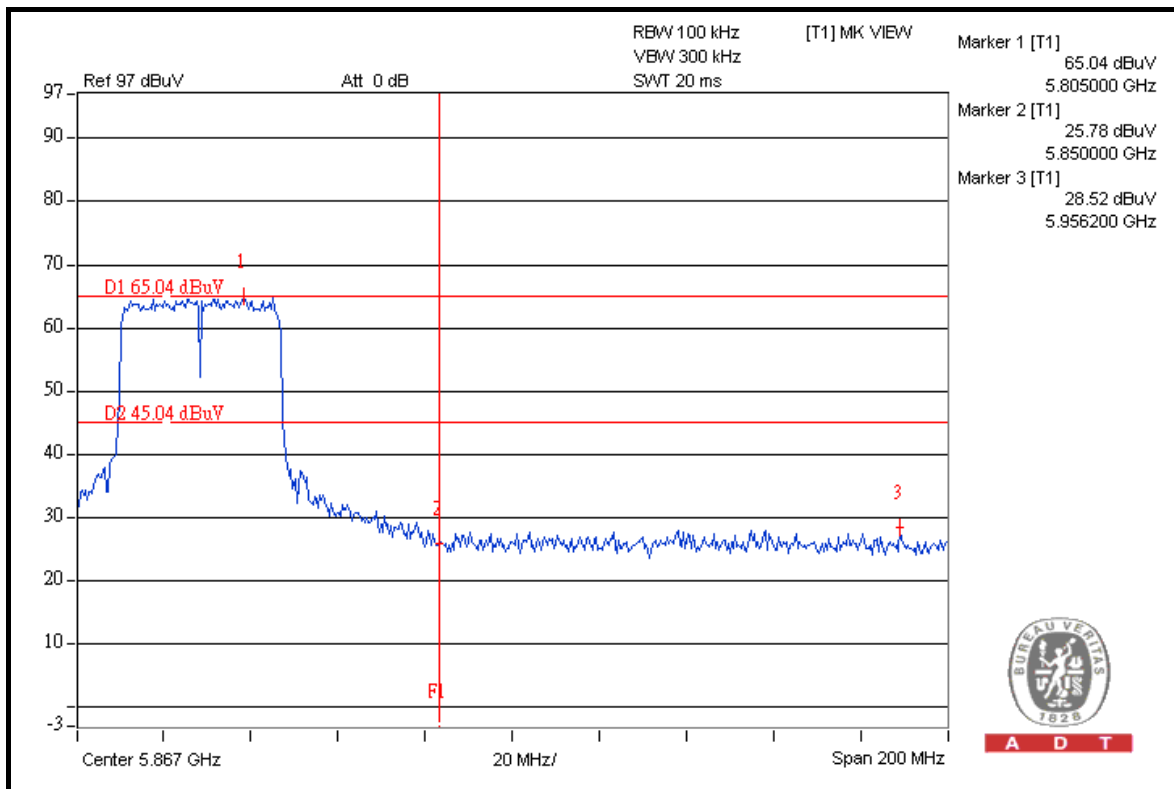
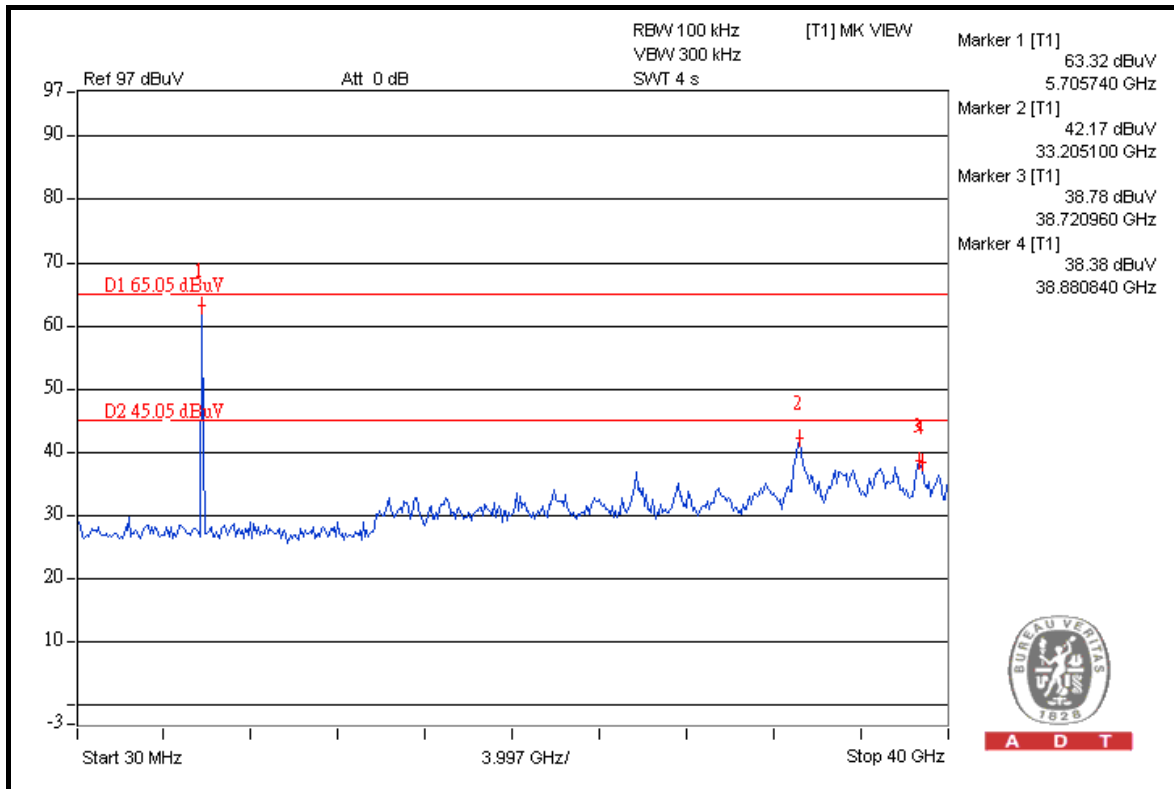
A D T

802.11n (40MHz): 2TX



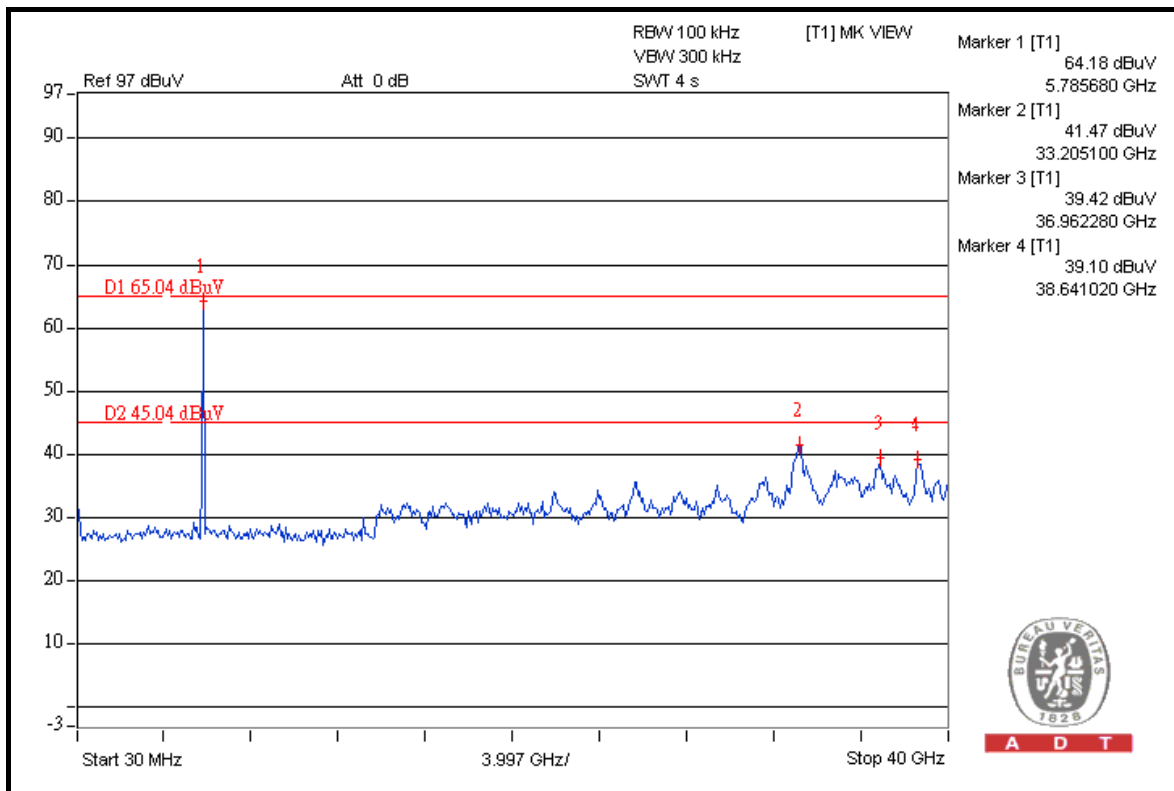
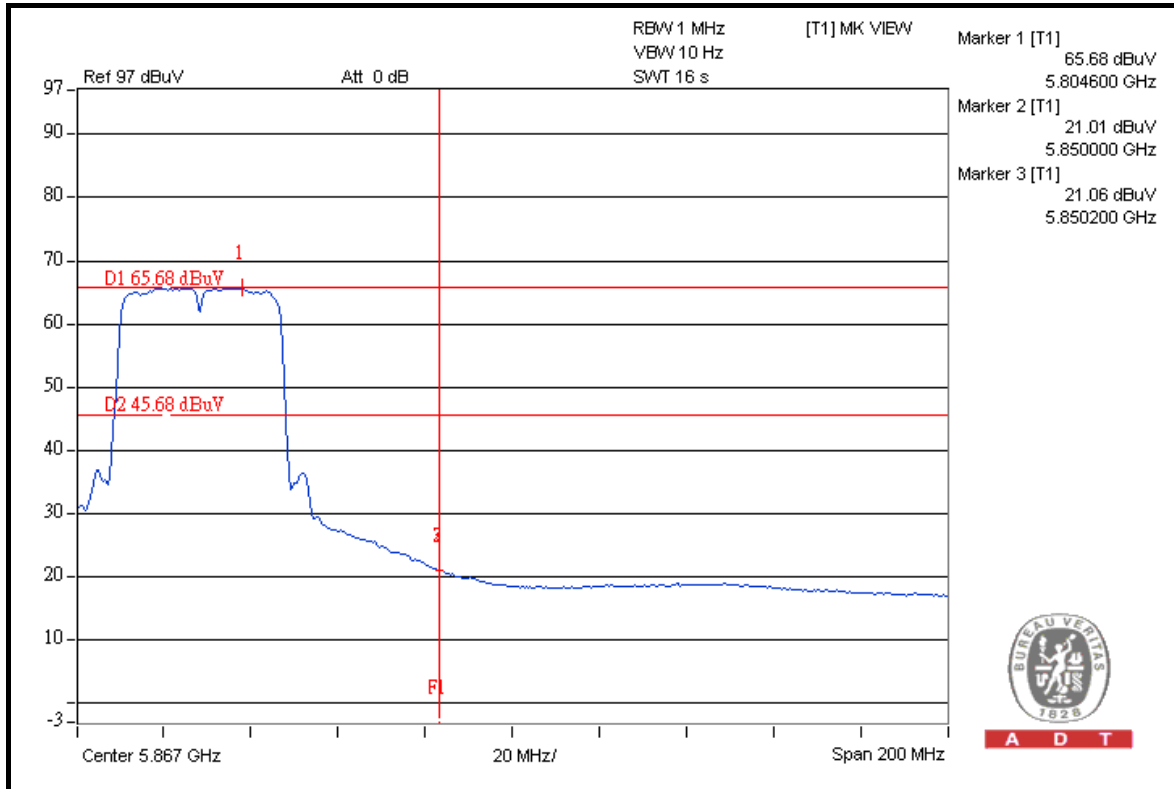


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6. PHOTOGRAPHS OF THE TEST CONFIGURATION

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



A D T

7. 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 according to ISO/IEC 17025.

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.



A D T

8. 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---