FCC TEST REPORT (15.247)

REPORT NO.:	RF130320C22-1
MODEL NO.:	MT11X-A1 (Refer to item 3.1 for more details)
FCC ID:	HFS-BZ1
RECEIVED:	Mar. 20, 2013
TESTED:	Apr. 14, 2013 ~ May 02, 2013
ISSUED:	May 06, 2013

APPLICANT:	QUANTA COMPUTER INC.
ADDRESS:	No.188, Wenhwa 2nd Rd., Kueishan Hsiang Taoyuan Hsien, 333 Taiwan

ISSUED BY:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
LAB ADDRESS:	No. 47, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan (R.O.C)
TEST LOCATION:	No. 19, Hwa Ya 2nd Rd, Wen Hwa Tsuen, Kwei Shan Hsiang, Taoyuan Hsien 333, Taiwan, R.O.C.

This report should not be used by the client to claim product certification, approval, or endorsement by TAF or any government agencies.

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF130320C22-1	Original release	May 06, 2013

1. CERTIFICATION

PRODUCT:	Tablet PC
MODEL NO.:	MT11X-A1 (Refer to item 3.1 for more details)
BRAND:	VIZIO
APPLICANT:	QUANTA COMPUTER INC.
TESTED:	Apr. 14, 2013 ~ May 02, 2013
TEST SAMPLE:	ENGINEERING SAMPLE
STANDARDS:	**FCC Part 15, Subpart C (Section 15.247)**
	ANSI C63.10-2009

The above equipment (model: MT11X-A1) 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 : Vera Huang **, DATE :** May 06, 2013

Vera Huang / Specialist

APPROVED BY : Sam chen **, DATE :** May 06, 2013

Sam Chen / 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**	**RESULT**	**REMARK**
15.207	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is -2.29dB at 0.18516MHz.
15.247(d) 15.209	Radiated Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -1.05dB at 4924MHz.
15.247(d)	Band Edge Measurement (Radiated)	PASS	Meet the requirement of limit.
15.247(a)(2)	6dB bandwidth	N/A	Meet the requirement of limit.
15.247(b)	Conducted power	N/A	Meet the requirement of limit.
15.247(e)	Power Spectral Density	N/A	Meet the requirement of limit.
15.203	Antenna Requirement	PASS	Meet the requirement of limit.

2.1 MEASUREMENT UNCERTAINTY

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

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

EUT	Tablet PC
MODEL NO.	MT11X-A1 (Refer to NOTE as below)
POWER SUPPLY	12Vdc (adapter or host equipment) 7.4Vdc (Li-ion battery)
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 MCS7
OPERATING FREQUENCY	**2.4GHz:** 2412 ~ 2462MHz **5.0GHz:** 5745 ~ 5825MHz
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	366.18mW for 2412 ~ 2462MHz 203.72mW for 5745 ~ 5825MHz
ANTENNA TYPE	**2.4GHz:** Monopole antenna with 1.17dBi gain **5.0GHz:** Monopole antenna with 0.62dBi gain
ANTENNA CONNECTOR	NA
DATA CABLE	Refer to Note as below
I/O PORTS	Refer to user's manual
ACCESSORY DEVICES	Refer to Note as below

NOTE:

1. The following models are provided to the EUT.

MODEL NO.	DIFFERENCE
MT11X-A1	All models are identically, different model names are for marketing purpose.
MT11X-A1S	

2. The following wireless modules are collocated in the EUT.

ITEM	BRAND	MODEL
WLAN/BT module	Atheros	AR5B22

3. The EUT contains following accessory devices.

ITEM	BRAND	MODEL	SPECIFICATION
Adapter	Vizio	W13-024N1A	Input: 100-240Vac, 0.6A, 50-60Hz Output: 12Vdc, 2.0A
Battery	SMP	SQU-1205	Rating: 7.4Vdc, 4700mAh

4. The EUT incorporates a MIMO function. Physically, the EUT provides 2 completed transmitters and 2 receivers.

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

5. The above EUT information is declared by the 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
3	2422MHz	7	2442MHz
4	2427MHz	8	2447MHz
5	2432MHz	9	2452MHz
6	2437MHz		

FOR 5.0GHz:

5 channels are provided for 802.11a, 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 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

FOR 2.4GHz:

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

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

NOTE: The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **Z-plane.**

RADIATED EMISSION TEST (ABOVE 1GHz):

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

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A	802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1.0
	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6.0
B	802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1.0
	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6.0
	802.11n (20MHz)	1 to 11	1, 6, 11	OFDM	BPSK	MCS0
	802.11n (40MHz)	3 to 9	3, 6, 9	OFDM	BPSK	MCS0

RADIATED EMISSION TEST (BELOW 1GHz):

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

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

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
B	802.11g	1 to 11	6	OFDM	BPSK	6.0

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)
B	802.11g	1 to 11	6	OFDM	BPSK	6.0

BANDEDGE MEASUREMENT:

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

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

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A	802.11b	1 to 11	1, 11	DSSS	DBPSK	1.0
	802.11g	1 to 11	1, 11	OFDM	BPSK	6.0
B	802.11b	1 to 11	1, 11	DSSS	DBPSK	1.0
	802.11g	1 to 11	1, 11	OFDM	BPSK	6.0
	802.11n (20MHz)	1 to 11	1, 11	OFDM	BPSK	MCS0
	802.11n (40MHz)	3 to 9	3, 9	OFDM	BPSK	MCS0

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)
A	802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1.0
	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6.0
B	802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1.0
	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6.0
	802.11n (20MHz)	1 to 11	1, 6, 11	OFDM	BPSK	MCS0
	802.11n (40MHz)	3 to 9	3, 6, 9	OFDM	BPSK	MCS0

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE≥1G	25deg. C, 65%RH	120Vac, 60Hz	David Huang
RE<1G	25deg. C, 65%RH	120Vac, 60Hz	David Huang
PLC	25deg. C, 65%RH	120Vac, 60Hz	Anson Lin
APCM	25deg. C, 65%RH	120Vac, 60Hz	Howard Kao

FOR 5.0GHz:

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

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

NOTE: The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **Y-plane.**

RADIATED EMISSION TEST (ABOVE 1GHz):

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

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A	802.11a	149 to 165	149, 157, 165	OFDM	BPSK	6.0
B	802.11a	149 to 165	149, 157, 165	OFDM	BPSK	6.0
	802.11n (20MHz)	149 to 165	149, 157, 165	OFDM	BPSK	MCS0
	802.11n (40MHz)	151 to 159	151, 159	OFDM	BPSK	MCS0

RADIATED EMISSION TEST (BELOW 1GHz):

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

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
B	802.11n (20MHz)	149 to 165	165	OFDM	BPSK	MCS0

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)
B	802.11n (20MHz)	149 to 165	165	OFDM	BPSK	MCS0

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)
A	802.11a	149 to 165	149, 165	OFDM	BPSK	6.0
B	802.11a	149 to 165	149, 165	OFDM	BPSK	6.0
	802.11n (20MHz)	149 to 165	149, 165	OFDM	BPSK	MCS0
	802.11n (40MHz)	151 to 159	151, 159	OFDM	BPSK	MCS0

ANTENNA PORT CONDUCTED MEASUREMENT:

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

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

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A	802.11a	149 to 165	149, 157, 165	OFDM	BPSK	6.0
B	802.11a	149 to 165	149, 157, 165	OFDM	BPSK	6.0
	802.11n (20MHz)	149 to 165	149, 157, 165	OFDM	BPSK	MCS0
	802.11n (40MHz)	151 to 159	151, 159	OFDM	BPSK	MCS0

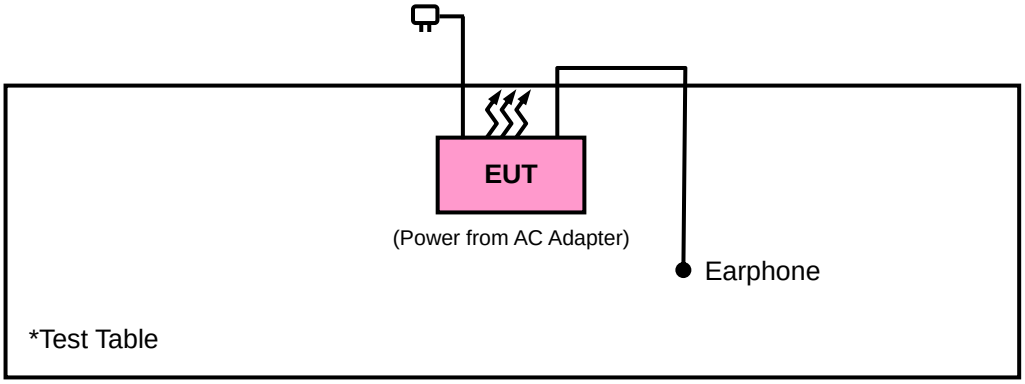
TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE≥1G	25deg. C, 65%RH	120Vac, 60Hz	David Huang
RE<1G	25deg. C, 65%RH	120Vac, 60Hz	David Huang
PLC	25deg. C, 65%RH	120Vac, 60Hz	Anson Lin
APCM	25deg. C, 65%RH	120Vac, 60Hz	Howard Kao

3.3 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units.

3.3.1 CONFIGURATION OF SYSTEM UNDER TEST



3.4 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)
558074 D01 DTS Meas Guidance v02
662911 D01 Multiple Transmitter Output v01 r02
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.

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

4.1 RADIATED EMISSION AND BANDEDGE MEASUREMENT

4.1.1 LIMITS OF RADIATED EMISSION AND BANDEDGE MEASUREMENT

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table. Other emissions shall be at least 20dB below the highest level of the desired power:

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. For frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.

4.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESCI	100424	Aug. 21, 2012	Aug. 20, 2013
Spectrum Analyzer ROHDE & SCHWARZ	FSU43	101261	Dec. 17, 2012	Dec. 16, 2013
BILOG Antenna SCHWARZBECK	VULB9168	9168-472	Mar. 25, 2013	Mar. 24, 2014
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-969	Jan. 07, 2013	Jan. 06, 2014
HORN Antenna SCHWARZBECK	BBHA 9170	9170-480	Dec. 25, 2012	Dec. 24, 2013
Loop Antenna	HFH2-Z2	100070	Jan. 31, 2012	Jan. 30, 2014
Preamplifier EMCI	EMC 012645	980115	Dec. 28, 2012	Dec. 27, 2013
Preamplifier EMCI	EMC 184045	980116	Dec. 28, 2012	Dec. 27, 2013
Preamplifier EMCI	EMC 330H	980112	Dec. 28, 2012	Dec. 27, 2013
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	309219/4	Oct. 19, 2012	Oct. 18, 2013
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	250130/4	Oct. 19, 2012	Oct. 18, 2013
RF signal cable Worken	RG-213	NA	Dec. 29, 2012	Dec. 28, 2013
Software	E3 6.120103	NA	NA	NA
Antenna Tower MF	MFA-440H	NA	NA	NA
Turn Table MF	MFT-201SS	NA	NA	NA
Antenna Tower &Turn Table Controller MF	MF-7802	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 calibration interval of the loop antenna is 24 months and the calibrations are traceable to NML/ROC and NIST/USA.
3. The test was performed in HwaYa Chamber 10.
4. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
5. The FCC Site Registration No. is 690701.
6. The IC Site Registration No. is IC 7450F-10.

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. Height of receiving antenna 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.

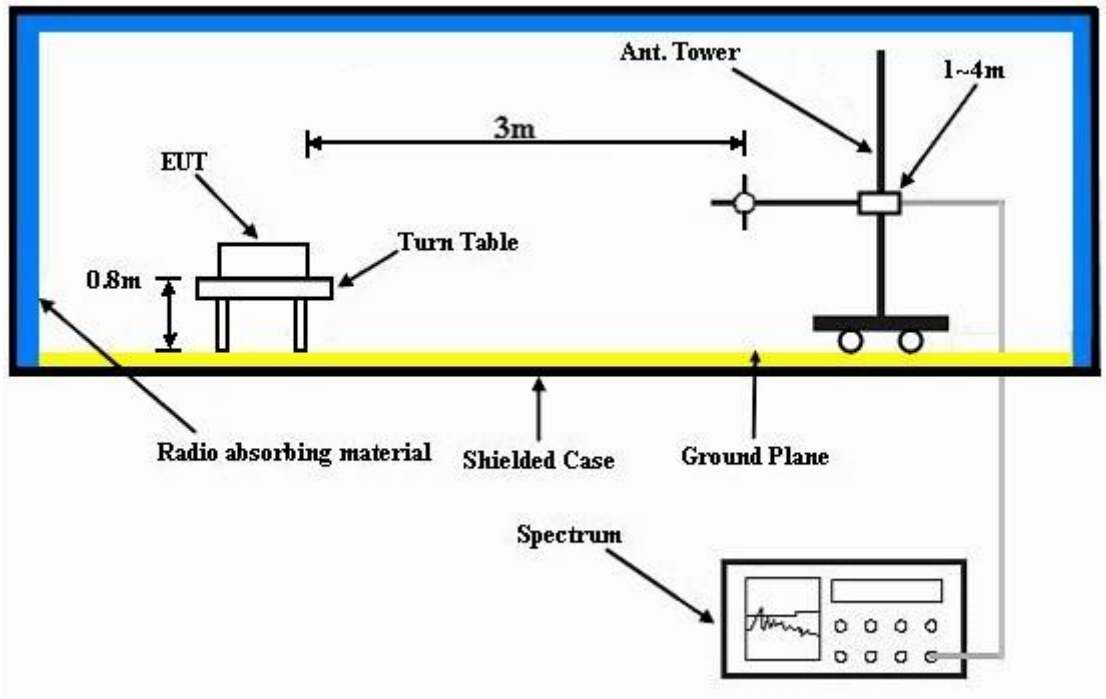
NOTE:

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

4.1.4 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 a testing table.

b. Use the software to control the EUT under transmission condition continuously at specific channel frequency.

4.1.7 TEST RESULTS

ABOVE 1GHz WORST-CASE DATA

MODE A

802.11b

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	**FREQUENCY RANGE**	1GHz ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION**	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	**TESTED BY**	David Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	**EMISSION LEVEL (dBuV/m)**	**READ LEVEL (dBuV)**	**LIMIT (dBuV/m)**	**MARGIN (dB)**	**ANTENNA FACTOR (dB/m)**	**CABLE LOSS (dB)**	**PREAMP FACTOR (dB)**	**ANTENNA HEIGHT (cm)**	**TABLE ANGLE (Degree)**	**REMARK**
2390	40.14	45.88	54	-13.86	26.91	4.87	37.52	125	248	Average
2390	51.27	57.01	74	-22.73	26.91	4.87	37.52	125	248	Peak
2412	95.94	101.63			26.96	4.87	37.52	125	248	Average
2412	100.16	105.85			26.96	4.87	37.52	125	248	Peak
2483.5	38.95	44.2	54	-15.05	27.15	4.92	37.32	125	248	Average
2483.5	50.16	55.41	74	-23.84	27.15	4.92	37.32	125	248	Peak
4824	50.14	64.53	54	-3.86	30.99	7.7	53.08	100	2	Average
4824	52.72	67.11	74	-21.28	30.99	7.7	53.08	100	2	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	**EMISSION LEVEL (dBuV/m)**	**READ LEVEL (dBuV)**	**LIMIT (dBuV/m)**	**MARGIN (dB)**	**ANTENNA FACTOR (dB/m)**	**CABLE LOSS (dB)**	**PREAMP FACTOR (dB)**	**ANTENNA HEIGHT (cm)**	**TABLE ANGLE (Degree)**	**REMARK**
2390	42.78	48.52	54	-11.22	26.91	4.87	37.52	100	217	Average
2390	53.82	59.56	74	-20.18	26.91	4.87	37.52	100	217	Peak
2412	101.3	106.99			26.96	4.87	37.52	100	217	Average
2412	105.56	111.25			26.96	4.87	37.52	100	217	Peak
2483.5	38.65	43.9	54	-15.35	27.15	4.92	37.32	100	217	Average
2483.5	51.9	57.15	74	-22.1	27.15	4.92	37.32	100	217	Peak
4824	46.53	60.92	54	-7.47	30.99	7.7	53.08	101	147	Average
4824	50.01	64.4	74	-23.99	30.99	7.7	53.08	101	147	Peak

REMARKS:

1. 2412MHz: Fundamental frequency.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1GHz ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	David Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	39.08	44.82	54	-14.92	26.91	4.87	37.52	100	242	Average
2390	49.93	55.67	74	-24.07	26.91	4.87	37.52	100	242	Peak
2437	92.09	97.6			27.06	4.89	37.46	100	242	Average
2437	96.23	101.74			27.06	4.89	37.46	100	242	Peak
2483.5	39.23	44.48	54	-14.77	27.15	4.92	37.32	100	242	Average
2483.5	51.25	56.5	74	-22.75	27.15	4.92	37.32	100	242	Peak
4874	52.52	66.79	54	-1.48	31.06	7.72	53.05	100	345	Average
4874	55.09	69.36	74	-18.91	31.06	7.72	53.05	100	345	Peak
7311	43.06	49.49	54	-10.94	35.84	9.58	51.85	100	329	Average
7311	52.37	58.8	74	-21.63	35.84	9.58	51.85	100	329	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	40.23	45.97	54	-13.77	26.91	4.87	37.52	100	203	Average
2390	52.64	58.38	74	-21.36	26.91	4.87	37.52	100	203	Peak
2437	101.14	106.65			27.06	4.89	37.46	100	203	Average
2437	105.28	110.79			27.06	4.89	37.46	100	203	Peak
2483.5	41.16	46.41	54	-12.84	27.15	4.92	37.32	100	203	Average
2483.5	52.59	57.84	74	-21.41	27.15	4.92	37.32	100	203	Peak
4874	49.11	63.38	54	-4.89	31.06	7.72	53.05	100	24	Average
4874	51.15	65.42	74	-22.85	31.06	7.72	53.05	100	24	Peak
7311	40.32	46.75	54	-13.68	35.84	9.58	51.85	128	138	Average
7311	50.16	56.59	74	-23.84	35.84	9.58	51.85	128	138	Peak

REMARKS:

1. 2437MHz: Fundamental frequency.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1GHz ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	David Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	36	41.74	54	-18	26.91	4.87	37.52	124	247	Average
2390	49.33	55.07	74	-24.67	26.91	4.87	37.52	124	247	Peak
2462	96.91	102.29			27.1	4.91	37.39	124	247	Average
2462	101.12	106.5			27.1	4.91	37.39	124	247	Peak
2490	45.58	50.78	54	-8.42	27.2	4.92	37.32	124	247	Average
2490	54.26	59.46	74	-19.74	27.2	4.92	37.32	124	247	Peak
4924	51.86	66.04	54	-2.14	31.12	7.73	53.03	100	3	Average
4924	55.34	69.52	74	-18.66	31.12	7.73	53.03	100	3	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	37.09	42.83	54	-16.91	26.91	4.87	37.52	100	214	Average
2390	50.48	56.22	74	-23.52	26.91	4.87	37.52	100	214	Peak
2462	103.49	108.87			27.1	4.91	37.39	100	214	Average
2462	107.74	113.12			27.1	4.91	37.39	100	214	Peak
2500	52.17	57.28	54	-1.83	27.2	4.94	37.25	100	214	Average
2500	59	64.11	74	-15	27.2	4.94	37.25	100	214	Peak
4924	47.43	61.61	54	-6.57	31.12	7.73	53.03	100	170	Average
4924	50.8	64.98	74	-23.2	31.12	7.73	53.03	100	170	Peak

REMARKS:

1. 2462MHz: Fundamental frequency.

802.11g

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1GHz ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	David Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	45.19	50.93	54	-8.81	26.91	4.87	37.52	100	243	Average
2390	62.34	68.08	74	-11.66	26.91	4.87	37.52	100	243	Peak
2412	87.41	93.1			26.96	4.87	37.52	100	243	Average
2412	97.16	102.85			26.96	4.87	37.52	100	243	Peak
2483.5	35.73	40.98	54	-18.27	27.15	4.92	37.32	100	243	Average
2483.5	50.31	55.56	74	-23.69	27.15	4.92	37.32	100	243	Peak
4824	36.74	51.13	54	-17.26	30.99	7.7	53.08	100	2	Average
4824	47.88	62.27	74	-26.12	30.99	7.7	53.08	100	2	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	51.75	57.49	54	-2.25	26.91	4.87	37.52	102	212	Average
2390	71.38	77.12	74	-2.62	26.91	4.87	37.52	102	212	Peak
2412	96.27	101.96			26.96	4.87	37.52	102	212	Average
2412	105.95	111.64			26.96	4.87	37.52	102	212	Peak
2483.5	38.84	44.09	54	-15.16	27.15	4.92	37.32	102	212	Average
2483.5	51.46	56.71	74	-22.54	27.15	4.92	37.32	102	212	Peak
4824	34.44	48.83	54	-19.56	30.99	7.7	53.08	100	150	Average
4824	45.67	60.06	74	-28.33	30.99	7.7	53.08	100	150	Peak

REMARKS:

1. 2412MHz: Fundamental frequency.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1GHz ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	David Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	36.51	42.25	54	-17.49	26.91	4.87	37.52	100	245	Average
2390	50.87	56.61	74	-23.13	26.91	4.87	37.52	100	245	Peak
2437	88.54	94.05			27.06	4.89	37.46	100	245	Average
2437	98.45	103.96			27.06	4.89	37.46	100	245	Peak
2483.5	37.69	42.94	54	-16.31	27.15	4.92	37.32	100	245	Average
2483.5	52.19	57.44	74	-21.81	27.15	4.92	37.32	100	245	Peak
4874	40.76	55.03	54	-13.24	31.06	7.72	53.05	103	345	Average
4874	52.7	66.97	74	-21.3	31.06	7.72	53.05	103	345	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	39.75	45.49	54	-14.25	26.91	4.87	37.52	100	204	Average
2390	53.1	58.84	74	-20.9	26.91	4.87	37.52	100	204	Peak
2437	97.37	102.88			27.06	4.89	37.46	100	204	Average
2437	107.17	112.68			27.06	4.89	37.46	100	204	Peak
2483.5	44.76	50.01	54	-9.24	27.15	4.92	37.32	100	204	Average
2483.5	57.23	62.48	74	-16.77	27.15	4.92	37.32	100	204	Peak
4874	38.12	52.39	54	-15.88	31.06	7.72	53.05	100	169	Average
4874	48.39	62.66	74	-25.61	31.06	7.72	53.05	100	169	Peak

REMARKS:

1. 2437MHz: Fundamental frequency.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1GHz ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	David Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	34.51	40.25	54	-19.49	26.91	4.87	37.52	119	246	Average
2390	49.97	55.71	74	-24.03	26.91	4.87	37.52	119	246	Peak
2462	87.17	92.55			27.1	4.91	37.39	119	246	Average
2462	98.95	104.33			27.1	4.91	37.39	119	246	Peak
2483.5	44.74	49.99	54	-9.26	27.15	4.92	37.32	119	246	Average
2483.5	62.92	68.17	74	-11.08	27.15	4.92	37.32	119	246	Peak
4924	35.33	49.51	54	-18.67	31.12	7.73	53.03	100	2	Average
4924	48.33	62.51	74	-25.67	31.12	7.73	53.03	100	2	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	36.3	42.04	54	-17.7	26.91	4.87	37.52	102	212	Average
2390	50.55	56.29	74	-23.45	26.91	4.87	37.52	102	212	Peak
2462	94.86	100.24			27.1	4.91	37.39	102	212	Average
2462	105.53	110.91			27.1	4.91	37.39	102	212	Peak
2483.5	51.9	57.15	54	-2.1	27.15	4.92	37.32	102	212	Average
2483.5	68.89	74.14	74	-5.11	27.15	4.92	37.32	102	212	Peak

REMARKS:

1. 2462MHz: Fundamental frequency.

MODE B

802.11b

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1GHz ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	David Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2378	36.87	42.66	54	-17.13	26.86	4.85	37.5	100	175	Average
2378	51.88	57.67	74	-22.12	26.86	4.85	37.5	100	175	Peak
2412	91.92	97.61			26.96	4.87	37.52	100	175	Average
2412	95.94	101.63			26.96	4.87	37.52	100	175	Peak
2492	36.46	41.57	54	-17.54	27.2	4.94	37.25	100	175	Average
2492	52.03	57.14	74	-21.97	27.2	4.94	37.25	100	175	Peak
4824	52.34	66.73	54	-1.66	30.99	7.7	53.08	100	4	Average
4824	53.48	67.87	74	-20.52	30.99	7.7	53.08	100	4	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2382	39.7	45.49	54	-14.3	26.86	4.85	37.5	100	174	Average
2382	52.41	58.2	74	-21.59	26.86	4.85	37.5	100	174	Peak
2412	100.24	105.93			26.96	4.87	37.52	100	174	Average
2412	105.5	111.19			26.96	4.87	37.52	100	174	Peak
2500	37	42.11	54	-17	27.2	4.94	37.25	100	174	Average
2500	52.26	57.37	74	-21.74	27.2	4.94	37.25	100	174	Peak
4824	49.77	64.16	54	-4.23	30.99	7.7	53.08	102	24	Average
4824	50.85	65.24	74	-23.15	30.99	7.7	53.08	102	24	Peak

REMARKS:

1. 2412MHz: Fundamental frequency.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1GHz ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	David Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2378	34.23	40.02	54	-19.77	26.86	4.85	37.5	100	10	Average
2378	47.71	53.5	74	-26.29	26.86	4.85	37.5	100	10	Peak
2437	89.05	94.56			27.06	4.89	37.46	100	10	Average
2437	93.54	99.05			27.06	4.89	37.46	100	10	Peak
2494	35.03	40.14	54	-18.97	27.2	4.94	37.25	100	10	Average
2494	48.77	53.88	74	-25.23	27.2	4.94	37.25	100	10	Peak
4874	52.69	66.96	54	-1.31	31.06	7.72	53.05	100	347	Average
4874	52.83	67.1	74	-21.17	31.06	7.72	53.05	100	347	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2376	35.3	41.09	54	-18.7	26.86	4.85	37.5	100	350	Average
2376	51.6	57.39	74	-22.4	26.86	4.85	37.5	100	350	Peak
2437	99.02	104.53			27.06	4.89	37.46	100	350	Average
2437	103.54	109.05			27.06	4.89	37.46	100	350	Peak
2488	36.85	42.05	54	-17.15	27.2	4.92	37.32	100	350	Average
2488	53.34	58.54	74	-20.66	27.2	4.92	37.32	100	350	Peak
4874	49.9	64.17	74	-24.1	31.06	7.72	53.05	100	24	Peak
4874	48.75	63.02	54	-5.25	31.06	7.72	53.05	100	24	Average

REMARKS:

1. 2437MHz: Fundamental frequency.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1GHz ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	David Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2338	34.74	40.65	54	-19.26	26.77	4.79	37.47	100	100	Average
2338	51.53	57.44	74	-22.47	26.77	4.79	37.47	100	100	Peak
2462	92.59	97.97			27.1	4.91	37.39	100	100	Average
2462	96.64	102.02			27.1	4.91	37.39	100	100	Peak
2484	39.43	44.68	54	-14.57	27.15	4.92	37.32	100	100	Average
2484	52.84	58.09	74	-21.16	27.15	4.92	37.32	100	100	Peak
4924	52.95	67.13	54	-1.05	31.12	7.73	53.03	108	398	Average
4924	54.01	68.19	74	-19.99	31.12	7.73	53.03	108	398	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2368	36.73	42.57	54	-17.27	26.81	4.85	37.5	100	52	Average
2368	51.88	57.72	74	-22.12	26.81	4.85	37.5	100	52	Peak
2462	103.13	108.51			27.1	4.91	37.39	100	52	Average
2462	107.5	112.88			27.1	4.91	37.39	100	52	Peak
2484	45.2	50.45	54	-8.8	27.15	4.92	37.32	100	52	Average
2484	56.11	61.36	74	-17.89	27.15	4.92	37.32	100	52	Peak
4924	47.78	61.96	54	-6.22	31.12	7.73	53.03	100	167	Average
4924	49.82	64	74	-24.18	31.12	7.73	53.03	100	167	Peak

REMARKS:

1. 2462MHz: Fundamental frequency.

802.11g

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1GHz ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	David Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	37.99	43.73	54	-16.01	26.91	4.87	37.52	100	300	Average
2390	55.6	61.34	74	-18.4	26.91	4.87	37.52	100	300	Peak
2412	85.25	90.94			26.96	4.87	37.52	100	300	Average
2412	94.96	100.65			26.96	4.87	37.52	100	300	Peak
2500	36.01	41.12	54	-17.99	27.2	4.94	37.25	100	300	Average
2500	51.16	56.27	74	-22.84	27.2	4.94	37.25	100	300	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	39.99	45.73	54	-14.01	26.91	4.87	37.52	100	130	Average
2390	57.85	63.59	74	-16.15	26.91	4.87	37.52	100	130	Peak
2412	93.81	99.5			26.96	4.87	37.52	100	130	Average
2412	103.49	109.18			26.96	4.87	37.52	100	130	Peak
2500	38.41	43.52	54	-15.59	27.2	4.94	37.25	100	130	Average
2500	53.12	58.23	74	-20.88	27.2	4.94	37.25	100	130	Peak

REMARKS:

1. 2412MHz: Fundamental frequency.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1GHz ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	David Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	35.39	41.13	54	-18.61	26.91	4.87	37.52	100	0	Average
2390	46.27	52.01	74	-27.73	26.91	4.87	37.52	100	0	Peak
2437	86.63	92.14			27.06	4.89	37.46	100	0	Average
2437	95.91	101.42			27.06	4.89	37.46	100	0	Peak
2483.5	35.56	40.81	54	-18.44	27.15	4.92	37.32	100	0	Average
2483.5	46.24	51.49	74	-27.76	27.15	4.92	37.32	100	0	Peak
4874	38.26	52.53	54	-15.74	31.06	7.72	53.05	100	0	Average
4874	51.51	65.78	74	-22.49	31.06	7.72	53.05	100	0	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	36.95	42.69	54	-17.05	26.91	4.87	37.52	100	330	Average
2390	50.5	56.24	74	-23.5	26.91	4.87	37.52	100	330	Peak
2437	96.52	102.03			27.06	4.89	37.46	100	330	Average
2437	106.46	111.97			27.06	4.89	37.46	100	330	Peak
2483.5	39.27	44.52	54	-14.73	27.15	4.92	37.32	100	330	Average
2483.5	55.17	60.42	74	-18.83	27.15	4.92	37.32	100	330	Peak
4874	35.89	50.16	54	-18.11	31.06	7.72	53.05	100	24	Average
4874	46.96	61.23	74	-27.04	31.06	7.72	53.05	100	24	Peak

REMARKS:

1. 2437MHz: Fundamental frequency.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1GHz ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	David Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	34.96	40.7	54	-19.04	26.91	4.87	37.52	100	300	Average
2390	51.72	57.46	74	-22.28	26.91	4.87	37.52	100	300	Peak
2462	85.19	90.57			27.1	4.91	37.39	100	300	Average
2462	95.15	100.53			27.1	4.91	37.39	100	300	Peak
2484	42.08	47.33	54	-11.92	27.15	4.92	37.32	100	300	Average
2484	69.15	74.4	74	-4.85	27.15	4.92	37.32	100	300	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2386	36.04	41.78	54	-17.96	26.91	4.85	37.5	100	133	Average
2386	52.02	57.76	74	-21.98	26.91	4.85	37.5	100	133	Peak
2462	93.65	99.03			27.1	4.91	37.39	100	133	Average
2462	104.09	109.47			27.1	4.91	37.39	100	133	Peak
2484	42.25	47.5	54	-11.75	27.15	4.92	37.32	100	133	Average
2484	64.76	70.01	74	-9.24	27.15	4.92	37.32	100	133	Peak

REMARKS:

1. 2462MHz: Fundamental frequency.

802.11n (20MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1GHz ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	David Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	37.72	43.46	54	-16.28	26.91	4.87	37.52	100	233	Average
2390	53.73	59.47	74	-20.27	26.91	4.87	37.52	100	233	Peak
2412	83.09	88.78			26.96	4.87	37.52	100	233	Average
2412	93.77	99.46			26.96	4.87	37.52	100	233	Peak
2483.5	35.58	40.83	54	-18.42	27.15	4.92	37.32	100	233	Average
2483.5	51.37	56.62	74	-22.63	27.15	4.92	37.32	100	233	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	43.06	48.8	54	-10.94	26.91	4.87	37.52	100	218	Average
2390	58.94	64.68	74	-15.06	26.91	4.87	37.52	100	218	Peak
2412	92.44	98.13			26.96	4.87	37.52	100	218	Average
2412	102.31	108			26.96	4.87	37.52	100	218	Peak
2483.5	37.8	43.05	54	-16.2	27.15	4.92	37.32	100	218	Average
2483.5	52.41	57.66	74	-21.59	27.15	4.92	37.32	100	218	Peak

REMARKS:

1. 2412MHz: Fundamental frequency.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1GHz ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	David Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	34.74	40.48	54	-19.26	26.91	4.87	37.52	100	241	Average
2390	47.95	53.69	74	-26.05	26.91	4.87	37.52	100	241	Peak
2437	83.47	88.98			27.06	4.89	37.46	100	241	Average
2437	94.69	100.2			27.06	4.89	37.46	100	241	Peak
2483.5	34.93	40.18	54	-19.07	27.15	4.92	37.32	100	241	Average
2483.5	46.61	51.86	74	-27.39	27.15	4.92	37.32	100	241	Peak
4874	34.89	49.16	54	-19.11	31.06	7.72	53.05	100	0	Average
4874	48.27	62.54	74	-25.73	31.06	7.72	53.05	100	0	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	36.01	41.75	54	-17.99	26.91	4.87	37.52	100	202	Average
2390	51.95	57.69	74	-22.05	26.91	4.87	37.52	100	202	Peak
2437	93.14	98.65			27.06	4.89	37.46	100	202	Average
2437	104.62	110.13			27.06	4.89	37.46	100	202	Peak
2483.5	38.63	43.88	54	-15.37	27.15	4.92	37.32	100	202	Average
2483.5	53.72	58.97	74	-20.28	27.15	4.92	37.32	100	202	Peak
4874	33.47	47.74	54	-20.53	31.06	7.72	53.05	100	170	Average
4874	45.33	59.6	74	-28.67	31.06	7.72	53.05	100	170	Peak

REMARKS:

1. 2437MHz: Fundamental frequency.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1GHz ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	David Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	35	40.74	54	-19	26.91	4.87	37.52	100	234	Average
2390	49.81	55.55	74	-24.19	26.91	4.87	37.52	100	234	Peak
2462	82.71	88.09			27.1	4.91	37.39	100	234	Average
2462	93.96	99.34			27.1	4.91	37.39	100	234	Peak
2483.5	39.7	44.95	54	-14.3	27.15	4.92	37.32	100	234	Average
2483.5	59.6	64.85	74	-14.4	27.15	4.92	37.32	100	234	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	35.92	41.66	54	-18.08	26.91	4.87	37.52	100	194	Average
2390	50.24	55.98	74	-23.76	26.91	4.87	37.52	100	194	Peak
2462	91.98	97.36			27.1	4.91	37.39	100	194	Average
2462	103.2	108.58			27.1	4.91	37.39	100	194	Peak
2483.5	46.14	51.39	54	-7.86	27.15	4.92	37.32	100	194	Average
2483.5	66.47	71.72	74	-7.53	27.15	4.92	37.32	100	194	Peak

REMARKS:

1. 2462MHz: Fundamental frequency.

802.11n (40MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 3	FREQUENCY RANGE	1GHz ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	David Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	36.51	42.25	54	-17.49	26.91	4.87	37.52	100	171	Average
2390	52.56	58.3	74	-21.44	26.91	4.87	37.52	100	171	Peak
2422	74.52	80.08			27.01	4.89	37.46	100	171	Average
2422	85.6	91.16			27.01	4.89	37.46	100	171	Peak
2492	35.75	40.86	54	-18.25	27.2	4.94	37.25	100	171	Average
2492	47.98	53.09	74	-26.02	27.2	4.94	37.25	100	171	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2388	43.41	49.15	54	-10.59	26.91	4.85	37.5	100	57	Average
2388	62.67	68.41	74	-11.33	26.91	4.85	37.5	100	57	Peak
2422	85.54	91.1			27.01	4.89	37.46	100	57	Average
2422	96.65	102.21			27.01	4.89	37.46	100	57	Peak
2498	34.63	39.74	54	-19.37	27.2	4.94	37.25	100	57	Average
2498	48.76	53.87	74	-25.24	27.2	4.94	37.25	100	57	Peak

REMARKS:

1. 2422MHz: Fundamental frequency.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1GHz ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	David Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	34.74	40.48	54	-19.26	26.91	4.87	37.52	100	241	Average
2390	48.91	54.65	74	-25.09	26.91	4.87	37.52	100	241	Peak
2437	78.44	83.95			27.06	4.89	37.46	100	241	Average
2437	90.17	95.68			27.06	4.89	37.46	100	241	Peak
2483.5	35.03	40.28	54	-18.97	27.15	4.92	37.32	100	241	Average
2483.5	50.27	55.52	74	-23.73	27.15	4.92	37.32	100	241	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	37.1	42.84	54	-16.9	26.91	4.87	37.52	100	201	Average
2390	52.51	58.25	74	-21.49	26.91	4.87	37.52	100	201	Peak
2437	87.45	92.96			27.06	4.89	37.46	100	201	Average
2437	98.71	104.22			27.06	4.89	37.46	100	201	Peak
2483.5	40.06	45.31	54	-13.94	27.15	4.92	37.32	100	201	Average
2483.5	59.08	64.33	74	-14.92	27.15	4.92	37.32	100	201	Peak

REMARKS:

1. 2437MHz: Fundamental frequency.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 9	FREQUENCY RANGE	1GHz ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	David Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2312	34.56	40.57	54	-19.44	26.67	4.77	37.45	100	48	Average
2312	52.03	58.04	74	-21.97	26.67	4.77	37.45	100	48	Peak
2452	77.88	83.3			27.06	4.91	37.39	100	48	Average
2452	89.44	94.86			27.06	4.91	37.39	100	48	Peak
2484	42.17	47.42	54	-11.83	27.15	4.92	37.32	100	48	Average
2484	59.31	64.56	74	-14.69	27.15	4.92	37.32	100	48	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2378	35.66	41.45	54	-18.34	26.86	4.85	37.5	100	131	Average
2378	51.9	57.69	74	-22.1	26.86	4.85	37.5	100	131	Peak
2452	88.5	93.92			27.06	4.91	37.39	100	131	Average
2452	99	104.42			27.06	4.91	37.39	100	131	Peak
2484	52.14	57.39	54	-1.86	27.15	4.92	37.32	100	131	Average
2484	69.39	74.64	74	-4.61	27.15	4.92	37.32	100	131	Peak

REMARKS:

1. 2452MHz: Fundamental frequency.

BELOW 1GHz WORST-CASE DATA: 802.11g

MODE B

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	30MHz ~ 1GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	David Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
103.98	33.3	54.69	43.5	-10.2	9.43	1.09	31.91	102	127	Peak
143.94	32.83	50.68	43.5	-10.67	12.47	1.31	31.63	103	315	Peak
242.76	38.38	57.25	46	-7.62	11.15	1.8	31.82	102	115	Peak
325.9	29.91	46.04	46	-16.09	13.57	2.14	31.84	101	154	Peak
413.4	24.75	38.68	46	-21.25	15.6	2.48	32.01	104	141	Peak
799.8	28.99	34.5	46	-17.01	22.23	3.69	31.43	107	194	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
30.27	28.26	46.85	40	-11.74	11.98	0.57	31.14	105	129	QP
32.16	26.85	45.08	40	-13.15	12.3	0.58	31.11	105	152	QP
145.02	33.86	51.62	43.5	-9.64	12.54	1.32	31.62	102	131	Peak
325.9	26.64	42.77	46	-19.36	13.57	2.14	31.84	104	151	Peak
586.3	26.99	36.77	46	-19.01	19.3	3.05	32.13	106	263	Peak
912.5	29.32	33.78	46	-16.68	23.58	4	32.04	108	84	Peak

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	100288	Nov. 09, 2012	Nov. 08, 2013
RF signal cable Woken	5D-FB	Cable-HYCO2-01	Dec. 28, 2012	Dec. 27, 2013
LISN ROHDE & SCHWARZ (EUT)	ESH2-Z5	100100	Dec. 21, 2012	Dec. 20, 2013
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100311	Jul. 06, 2012	Jul. 05, 2013
Software ADT	BV ADT_Cond_ V7.3.7.3	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.

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.

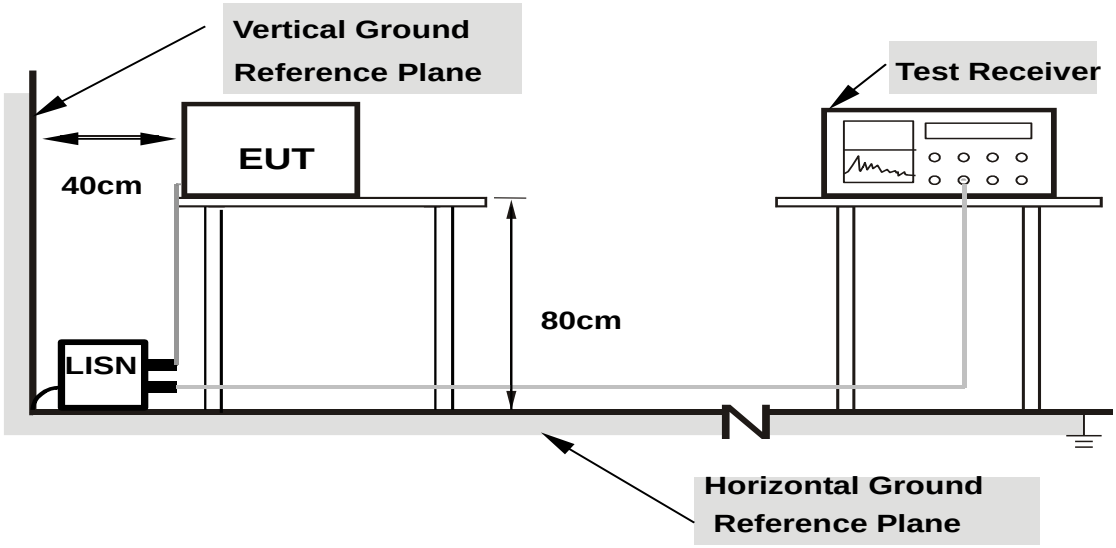
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

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

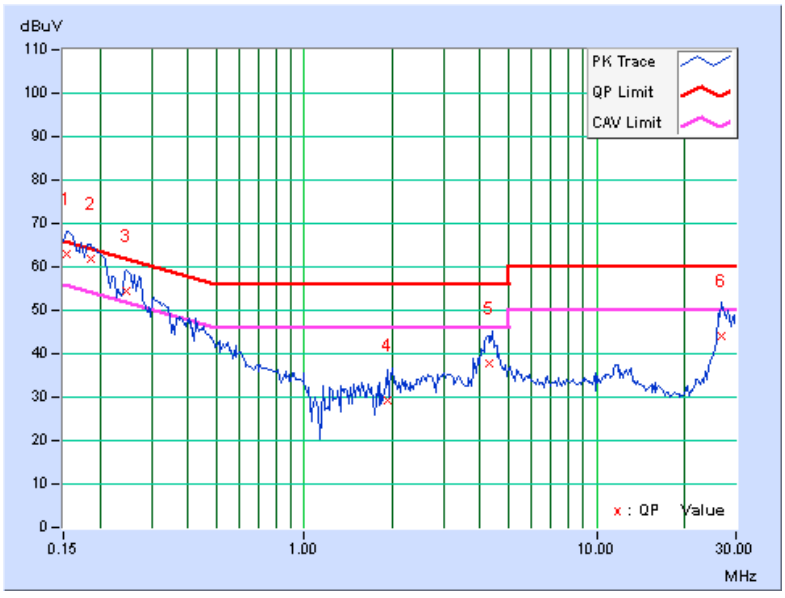
CONDUCTED WORST-CASE DATA：802.11g

PHASE	Line 1	6dB BANDWIDTH	9kHz

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15391	0.12	62.86	46.82	62.98	46.94	65.79	55.79	-2.80	-8.84
2	**0.18516**	**0.12**	**61.84**	**45.88**	**61.96**	**46.00**	**64.25**	**54.25**	**-2.29**	**-8.25**
3	0.24766	0.13	54.29	38.88	54.42	39.01	61.84	51.84	-7.42	-12.83
4	1.92188	0.23	28.92	18.63	29.15	18.86	56.00	46.00	-26.85	-27.14
5	4.26953	0.36	37.48	26.85	37.84	27.21	56.00	46.00	-18.16	-18.79
6	26.92188	1.42	42.73	30.58	44.15	32.00	60.00	50.00	-15.85	-18.00

REMARKS:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level - Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value.

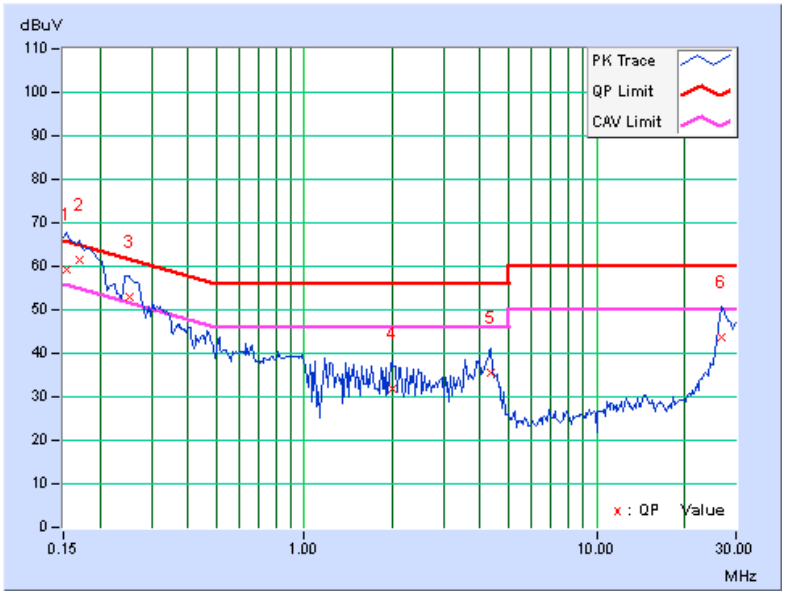


PHASE	Line 2	6dB BANDWIDTH	9kHz

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15391	0.17	59.20	40.68	59.37	40.85	65.79	55.79	-6.41	-14.93
2	0.16953	0.17	61.13	45.03	61.30	45.20	64.98	54.98	-3.68	-9.78
3	0.25156	0.18	52.74	36.59	52.92	36.77	61.71	51.71	-8.79	-14.94
4	1.99609	0.28	31.67	22.66	31.95	22.94	56.00	46.00	-24.05	-23.06
5	4.34766	0.39	35.01	23.31	35.40	23.70	56.00	46.00	-20.60	-22.30
6	26.91016	1.07	42.63	31.56	43.70	32.63	60.00	50.00	-16.30	-17.37

REMARKS:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level - Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value.

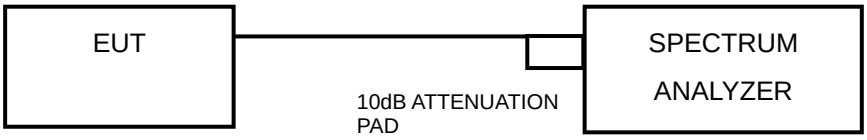


4.3 6dB BANDWIDTH MEASUREMENT

4.3.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

4.3.2 TEST SETUP



4.3.3 TEST INSTRUMENTS

Refer to section 4.1.2 to get information of above instrument.

4.3.4 TEST PROCEDURE

a. Set resolution bandwidth (RBW) = approximately 1% of the emission bandwidth
b. Set the video bandwidth (VBW) ≥ 3 x RBW, Detector = Peak.
c. Trace mode = max hold.
d. Sweep = auto couple.
e. Measure the maximum width of the emission that is constrained by the frequencies associated with the two amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission

4.3.5 DEVIATION FROM TEST STANDARD

No deviation.

4.3.6 EUT OPERATING CONDITIONS

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

4.3.7 TEST RESULTS

MODE A

802.11b

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	10.10	0.5	PASS
6	2437	10.14	0.5	PASS
11	2462	10.14	0.5	PASS

802.11g

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	16.47	0.5	PASS
6	2437	16.55	0.5	PASS
11	2462	16.52	0.5	PASS

MODE B

802.11b

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
1	2412	10.13	10.14	0.5	PASS
6	2437	10.15	10.10	0.5	PASS
11	2462	10.14	10.11	0.5	PASS

802.11g

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
1	2412	16.44	16.43	0.5	PASS
6	2437	16.44	16.47	0.5	PASS
11	2462	16.48	16.45	0.5	PASS

802.11n (20MHz)

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
1	2412	17.72	17.74	0.5	PASS
6	2437	17.70	17.75	0.5	PASS
11	2462	17.70	17.73	0.5	PASS

802.11n (40MHz)

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
3	2422	36.45	36.44	0.5	PASS
6	2437	36.45	36.57	0.5	PASS
9	2452	36.36	36.49	0.5	PASS

4.4 CONDUCTED OUTPUT POWER

4.4.1 LIMITS OF CONDUCTED OUTPUT POWER MEASUREMENT

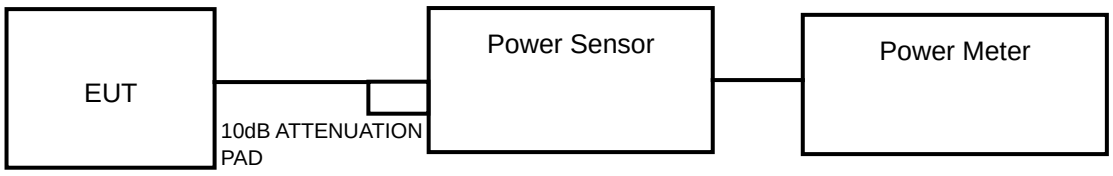
For systems using digital modulation in the 2400–2483.5 MHz bands: 1 Watt (30dBm)

Per KDB 662911 D01 Multiple Transmitter Output v01r02 Method of conducted output power measurement on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for NANT ≤ 4;
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any NANT;
Array Gain = 5 log(NANT/NSS) dB or 3 dB, whichever is less for 20-MHz channel widths with NANT ≥ 5.

For power measurements on all other devices: Array Gain = 10 log(NANT/NSS) dB.

4.4.2 TEST SETUP



4.4.3 TEST INSTRUMENTS

Refer to section 4.1.2 to get information of above instrument.

4.4.4 TEST PROCEDURES

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

4.4.5 DEVIATION FROM TEST STANDARD

No deviation.

4.4.6 EUT OPERATING CONDITIONS

Same as Item 4.3.6.

4.4.7 TEST RESULTS

MODE A

802.11b

CHANNEL	FREQUENCY (MHz)	PEAK POWER (mW)	PEAK POWER (dBm)	LIMIT (dBm)	PASS/FAIL
1	2412	72.611	18.61	30	PASS
6	2437	53.088	17.25	30	PASS
11	2462	41.020	16.13	30	PASS

802.11g

CHANNEL	FREQUENCY (MHz)	PEAK POWER (mW)	PEAK POWER (dBm)	LIMIT (dBm)	PASS/FAIL
1	2412	283.792	24.53	30	PASS
6	2437	264.850	24.23	30	PASS
11	2462	193.642	22.87	30	PASS

MODE B

802.11b

CHAN.	FREQUENCY (MHz)	PEAK POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS/ FAIL
		CHAIN 0	CHAIN 1				
1	2412	18.70	18.76	149.29	21.74	30	PASS
6	2437	17.06	17.39	105.64	20.24	30	PASS
11	2462	16.74	16.69	93.87	19.73	30	PASS

802.11g

CHAN.	FREQUENCY (MHz)	PEAK POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS/ FAIL
		CHAIN 0	CHAIN 1				
1	2412	22.61	22.33	353.39	25.48	30	PASS
6	2437	22.86	22.38	366.18	25.64	30	PASS
11	2462	21.17	20.86	252.82	24.03	30	PASS

802.11n (20MHz)

CHAN.	FREQUENCY (MHz)	PEAK POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS/ FAIL
		CHAIN 0	CHAIN 1				
1	2412	20.77	20.94	243.56	23.87	30	PASS
6	2437	20.78	21.82	271.73	24.34	30	PASS
11	2462	19.54	20.30	197.10	22.95	30	PASS

802.11n (40MHz)

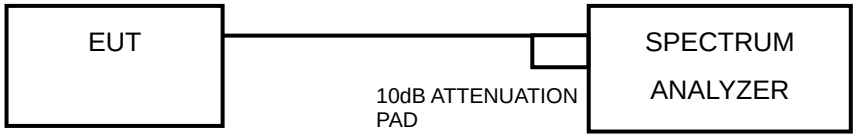
CHAN.	FREQUENCY (MHz)	PEAK POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS/ FAIL
		CHAIN 0	CHAIN 1				
3	2422	17.11	17.23	104.25	20.18	30	PASS
6	2437	17.23	18.42	122.35	20.88	30	PASS
9	2452	17.58	18.37	125.99	21.00	30	PASS

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 SETUP



4.5.3 TEST INSTRUMENTS

Refer to section 4.1.2 to get information of above instrument.

4.5.4 TEST PROCEDURE

a. Set the RBW = 3 kHz, VBW = 10 kHz, Detector = peak.

b. Sweep time = auto couple, Trace mode = max hold, allow trace to fully stabilize.

c. Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.

4.5.5 DEVIATION FROM TEST STANDARD

No deviation.

4.5.6 EUT OPERATING CONDITION

Same as Item 4.3.6

4.5.7 TEST RESULTS

MODE A

802.11b

Channel	FREQ. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
1	2412	-7.81	8	PASS
6	2437	-8.41	8	PASS
11	2462	-9.96	8	PASS

802.11g

Channel	FREQ. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
1	2412	-10.99	8	PASS
6	2437	-8.78	8	PASS
11	2462	-10.96	8	PASS

MODE B

802.11b

TX chain	Channel	Freq. (MHz)	PSD (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
0	1	2412	-7.54	3.01	-4.53	8	PASS
	6	2437	-9.08	3.01	-6.07	8	PASS
	11	2462	-10.56	3.01	-7.55	8	PASS
1	1	2412	-8.32	3.01	-5.31	8	PASS
	6	2437	-7.35	3.01	-4.34	8	PASS
	11	2462	-8.56	3.01	-5.55	8	PASS

NOTE: Directional gain = 1.17dBi + 10log(2) = 4.18dBi < 6dBi, so the limit no need to reduced.

802.11g

TX chain	Channel	Freq. (MHz)	PSD (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
0	1	2412	-13.48	3.01	-10.47	8	PASS
	6	2437	-14.03	3.01	-11.02	8	PASS
	11	2462	-14.79	3.01	-11.78	8	PASS
1	1	2412	-13.21	3.01	-10.2	8	PASS
	6	2437	-13.82	3.01	-10.81	8	PASS
	11	2462	-15.06	3.01	-12.05	8	PASS

NOTE: Directional gain = 1.17dBi + 10log(2) = 4.18dBi < 6dBi, so the limit no need to reduced.

802.11n (20MHz)

TX chain	Channel	Freq. (MHz)	PSD (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
0	1	2412	-16.14	3.01	-13.13	8	PASS
	6	2437	-17.67	3.01	-14.66	8	PASS
	11	2462	-17.37	3.01	-14.36	8	PASS
1	1	2412	-16.34	3.01	-13.33	8	PASS
	6	2437	-16.00	3.01	-12.99	8	PASS
	11	2462	-17.11	3.01	-14.1	8	PASS

NOTE: Directional gain = 1.17dBi + 10log(2) = 4.18dBi < 6dBi, so the limit no need to reduced.

802.11n (40MHz)

TX chain	Channel	Freq. (MHz)	PSD (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
0	3	2422	-22.49	3.01	-19.48	8	PASS
	6	2437	-22.58	3.01	-19.57	8	PASS
	9	2452	-21.47	3.01	-18.46	8	PASS
1	3	2422	-20.36	3.01	-17.35	8	PASS
	6	2437	-21.97	3.01	-18.96	8	PASS
	9	2452	-22.18	3.01	-19.17	8	PASS

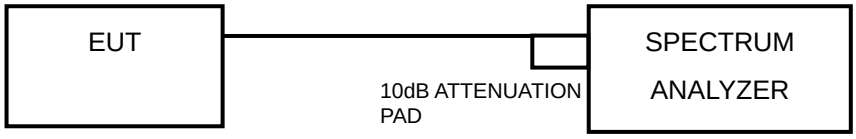
NOTE: Directional gain = 1.17dBi + 10log(2) = 4.18dBi < 6dBi, so the limit no need to reduced.

4.6 CONDUCTED OUT OF BAND EMISSION MEASUREMENT

4.6.1 LIMITS OF CONDUCTED OUT OF BAND EMISSION MEASUREMENT

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

4.6.2 TEST SETUP



4.6.3 TEST INSTRUMENTS

Refer to section 4.1.2 to get information of above instrument.

4.6.4 TEST PROCEDURE

MEASUREMENT PROCEDURE REF

1. Set the RBW = 100 kHz.
2. Set the VBW ≥ 300 kHz.
3. Detector = peak.
4. Sweep time = auto couple.
5. Trace mode = max hold.
6. Allow trace to fully stabilize.
7. Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.

MEASUREMENT PROCEDURE OOBE

1. Set RBW = 100 kHz.
2. Set VBW ≥ 300 kHz.
3. Set span to encompass the spectrum to be examined.
4. Detector = peak.
5. Trace Mode = max hold.
6. Sweep = auto couple.

4.6.5 DEVIATION FROM TEST STANDARD

No deviation.

4.6.6 EUT OPERATING CONDITION

Same as Item 4.3.6

4.6.7 TEST RESULTS

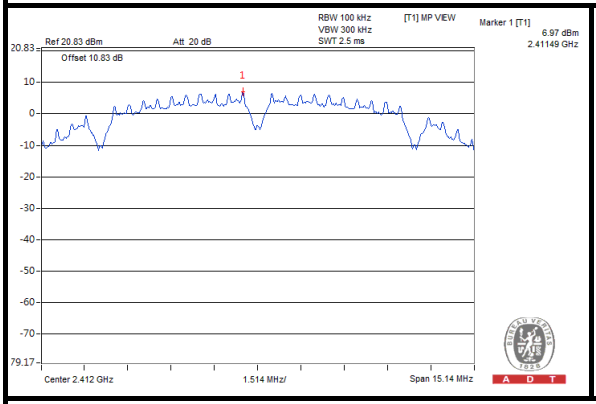
The conducted emission test is performed on each TX port of operating mode without summing or adding 10log (N) since the limit is relative emission limit.

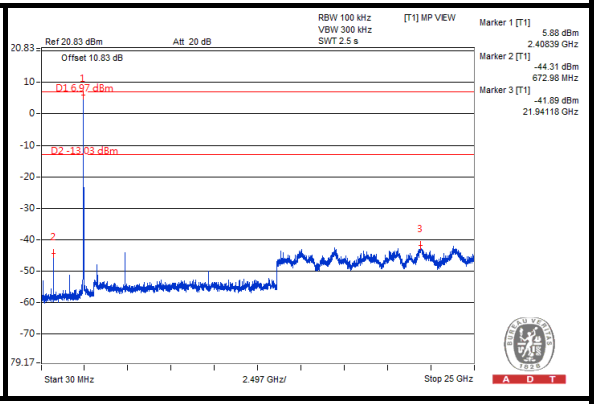
The spectrum plots are attached on the following pages. D1 line indicates the highest level, and D2 line indicates the 20dB offset below D1. It shows compliance with the requirement.

MODE A

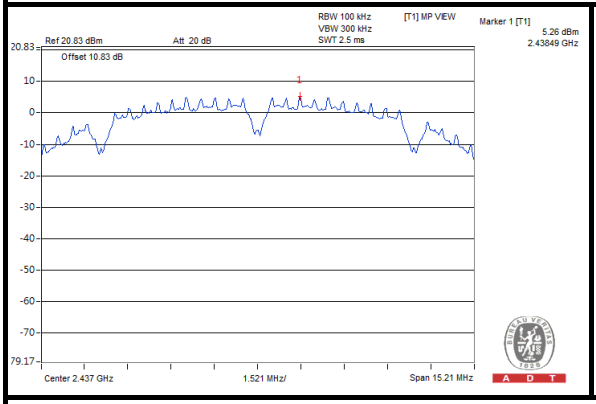
802.11b

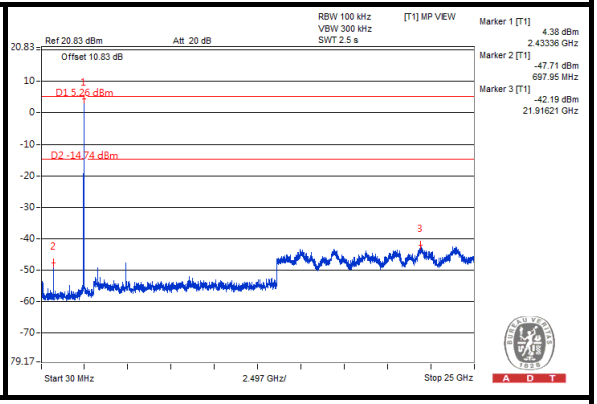
CH 1



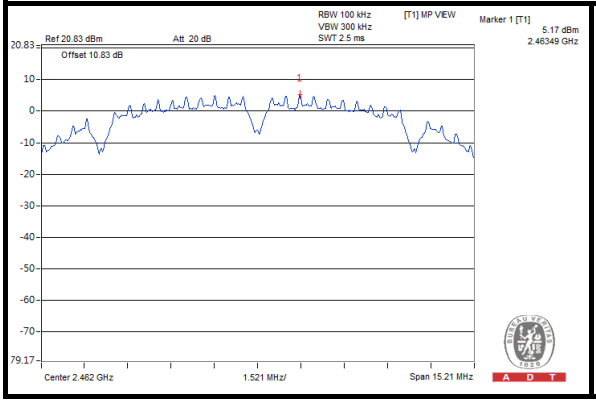


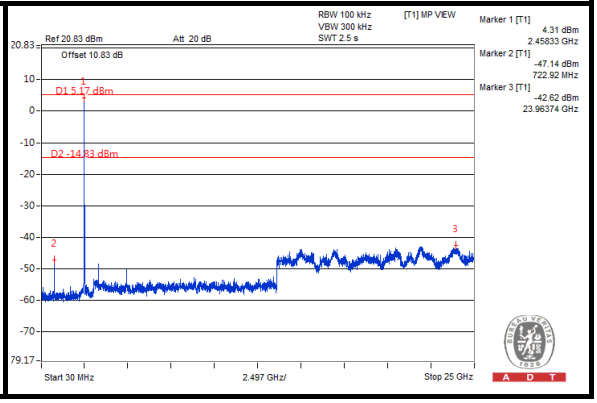
CH 6





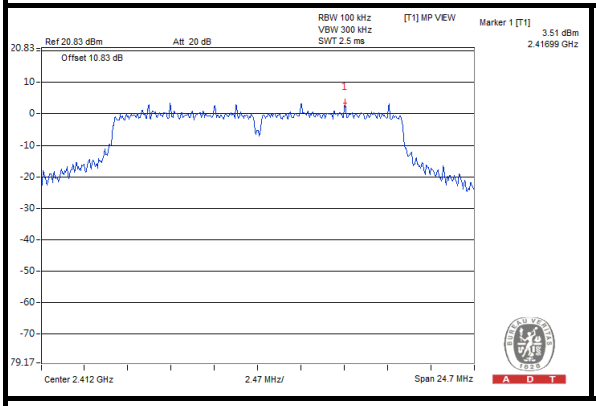
CH 11

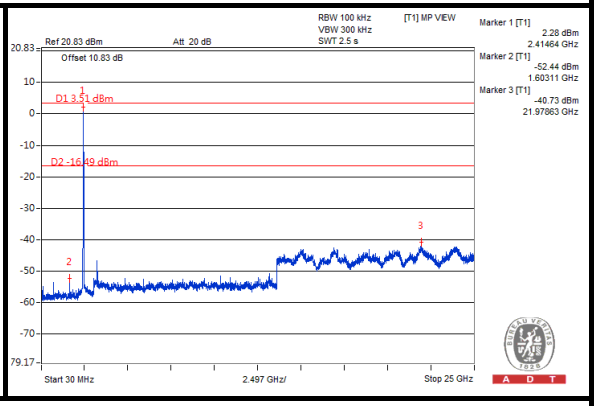




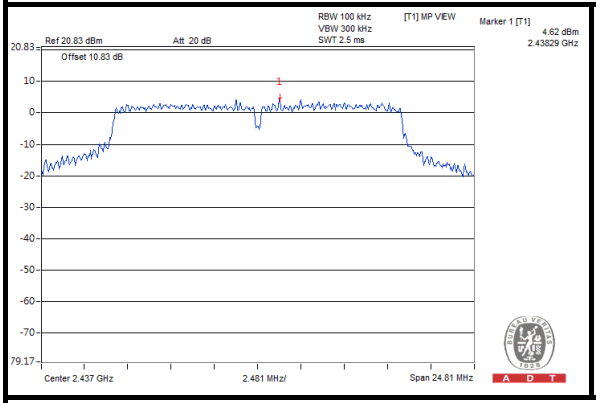
802.11g

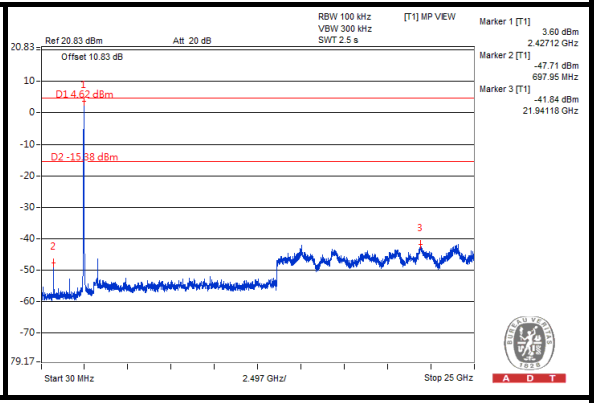
CH 1



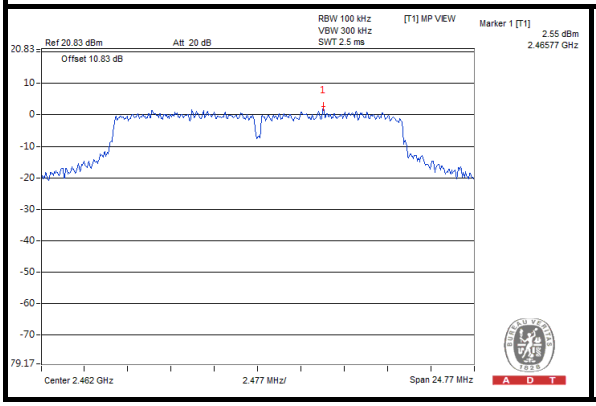


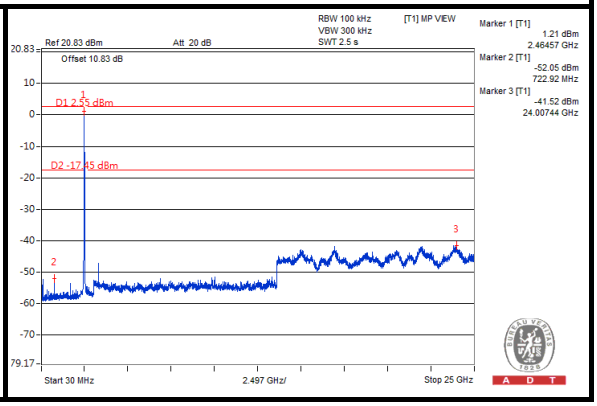
CH 6





CH 11



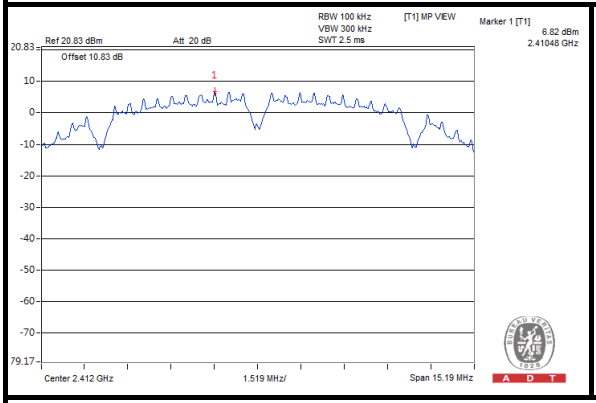


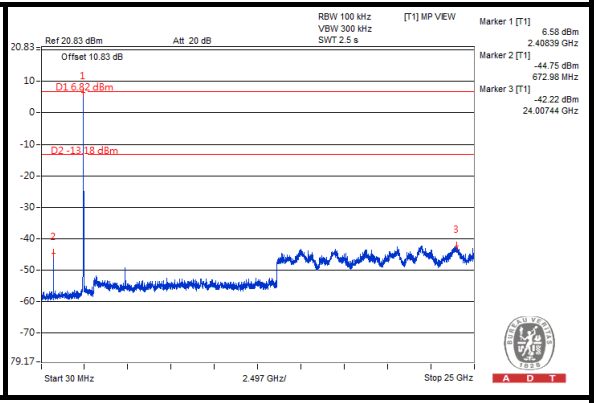
MODE B

<CHAIN 0>

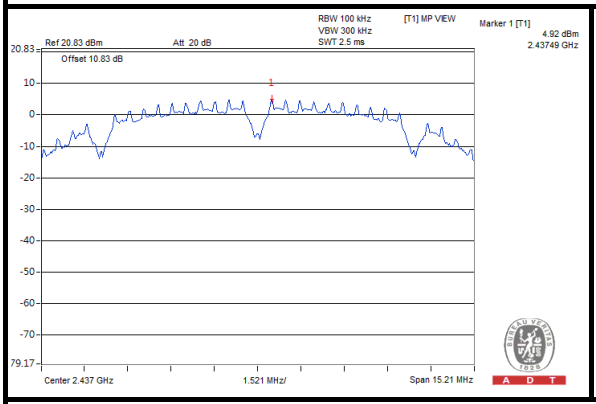
802.11b

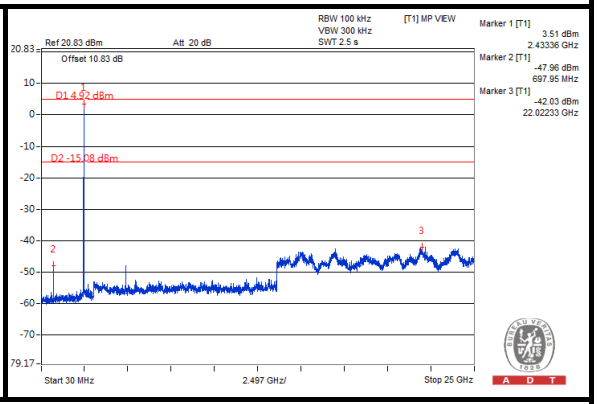
CH 1



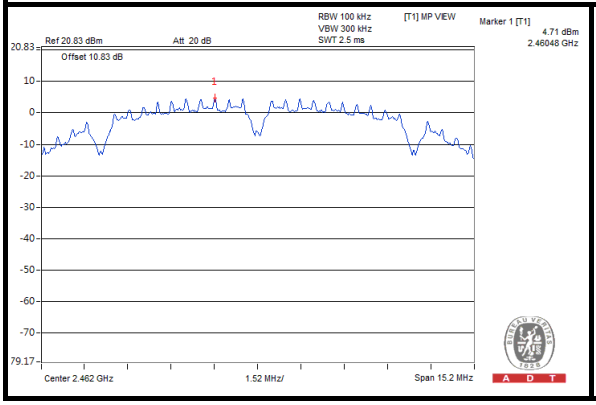


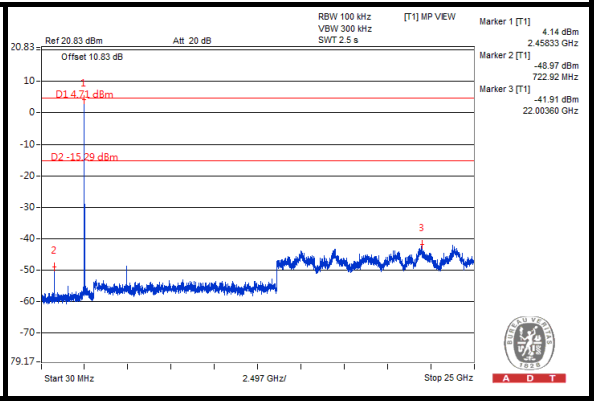
CH 6





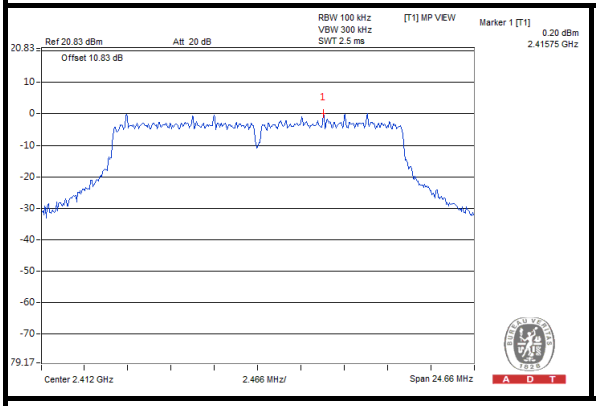
CH 11

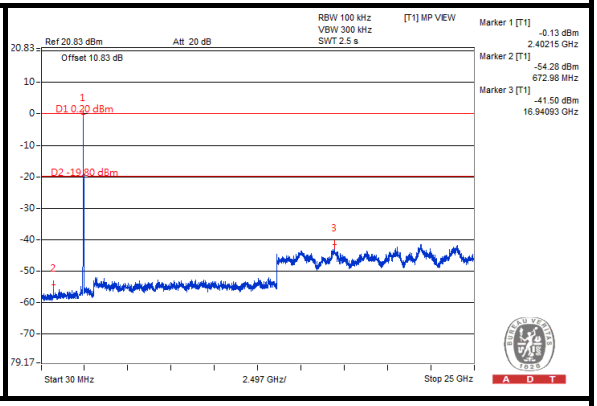




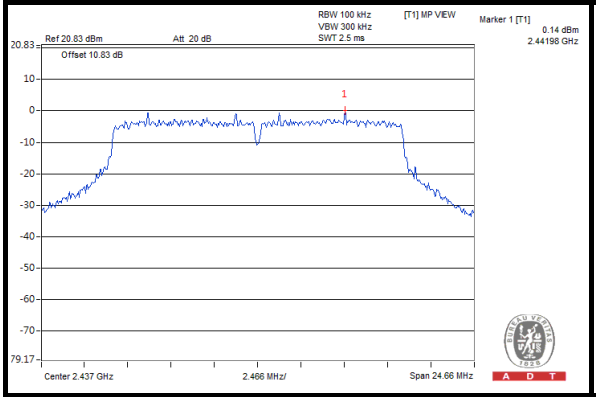
802.11g

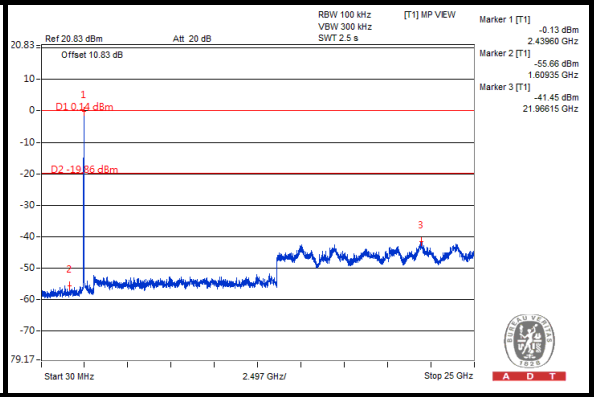
CH 1



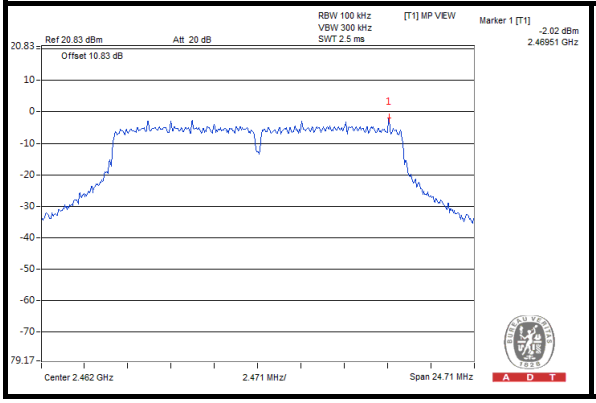


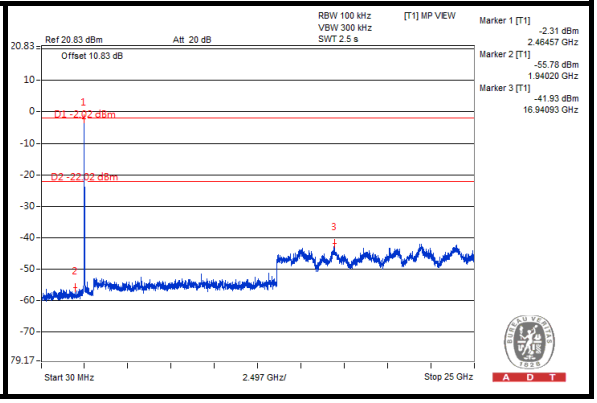
CH 6





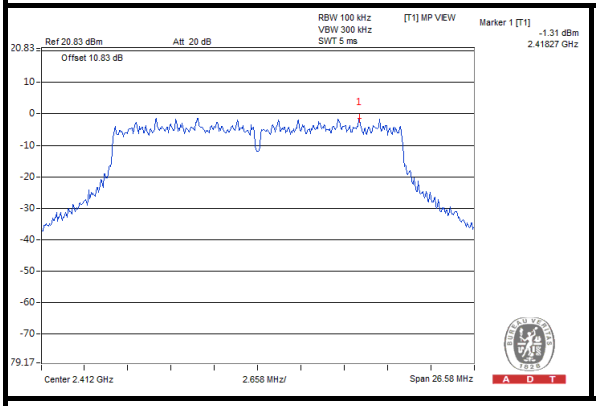
CH 11

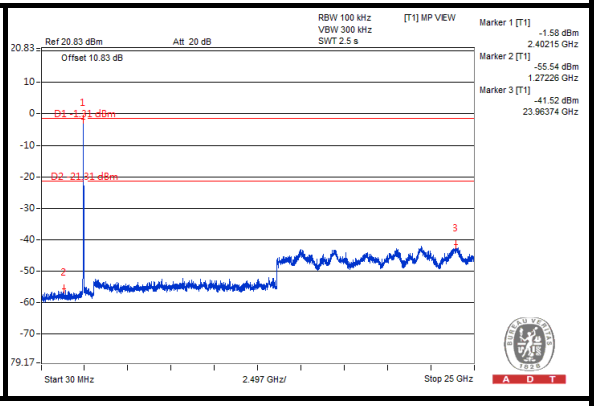




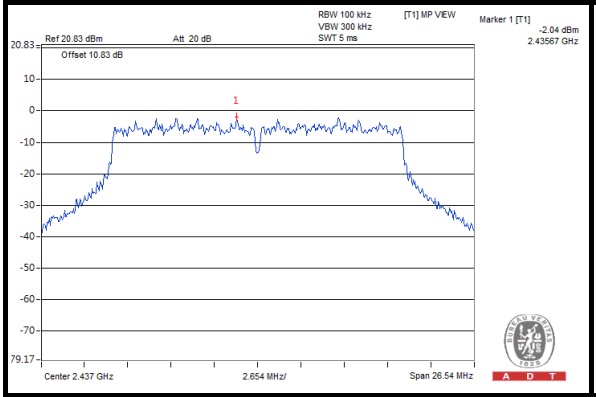
802.11n (20MHz)

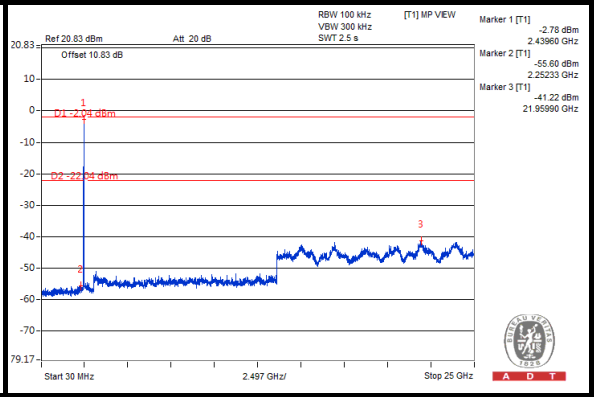
CH 1



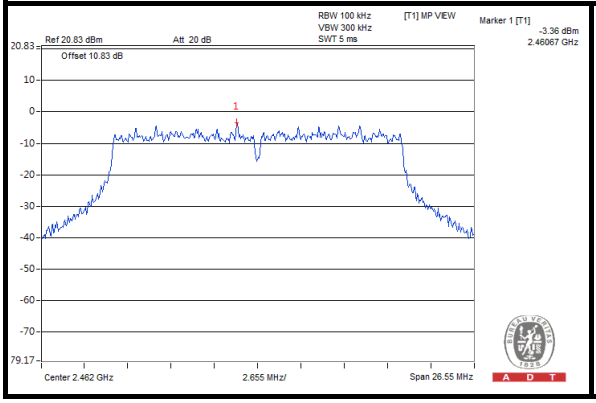


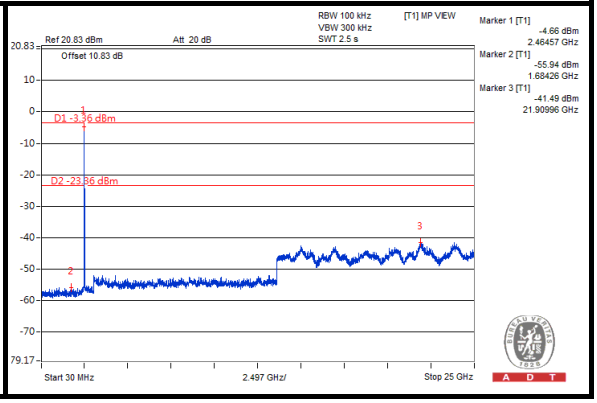
CH 6





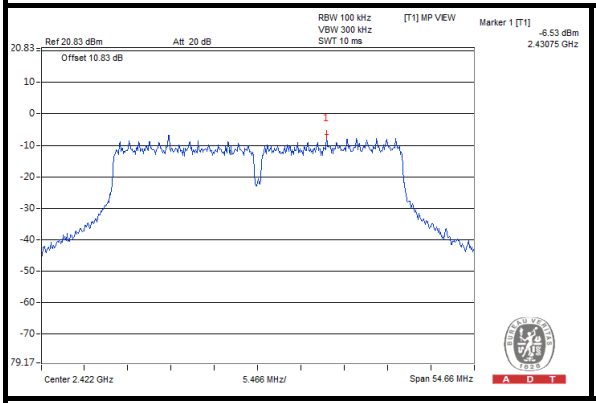
CH 11

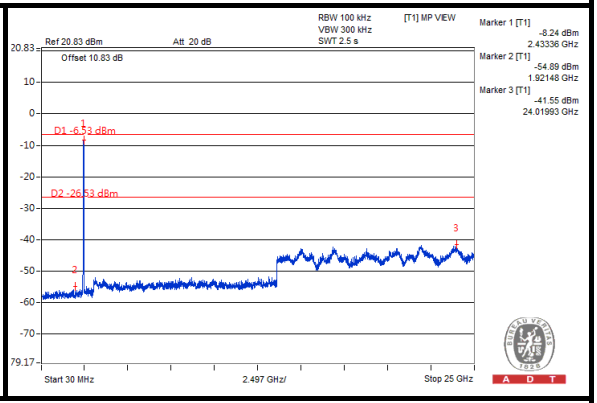




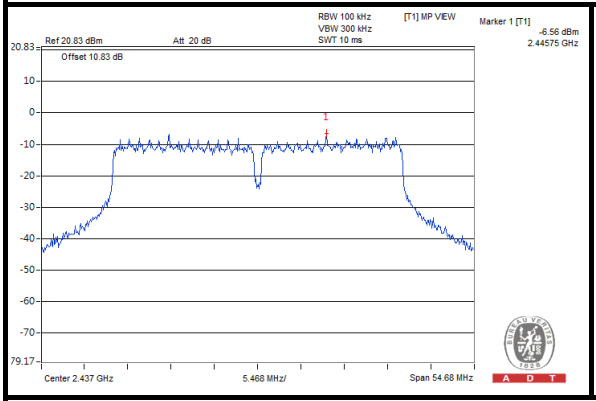
802.11n (40MHz)

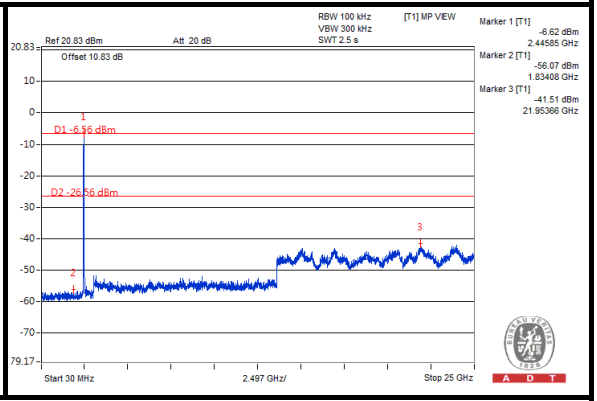
CH 3



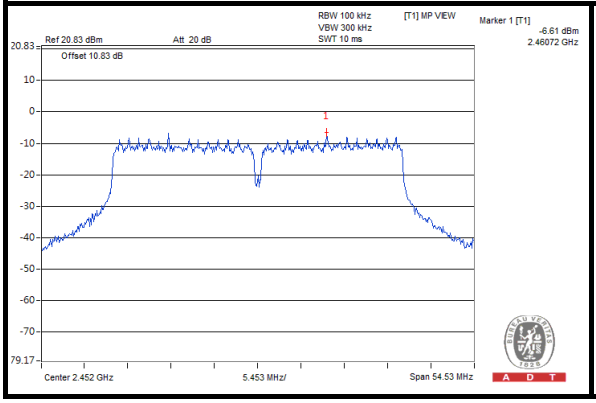


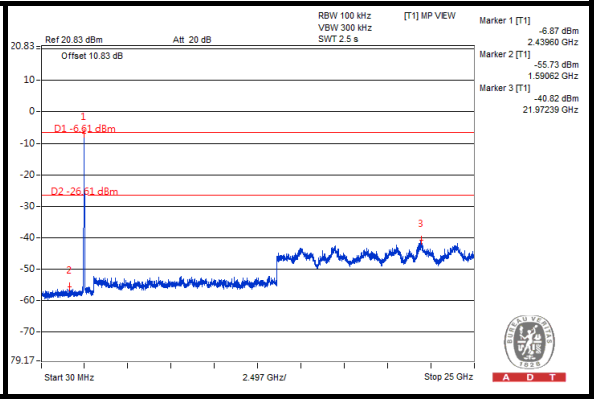
CH 6





CH 9



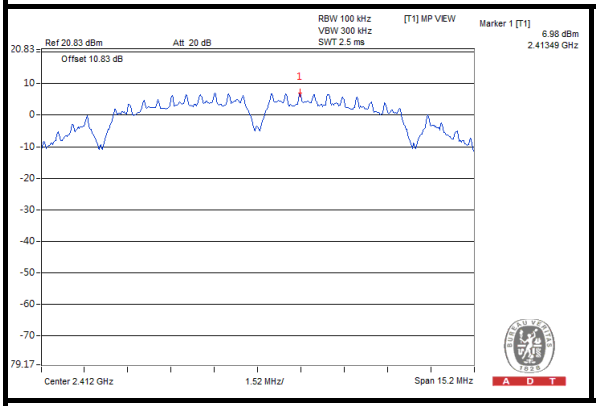


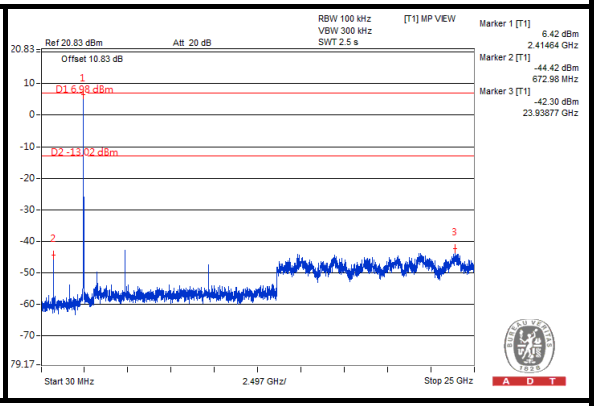
MODE B

<CHAIN 1>

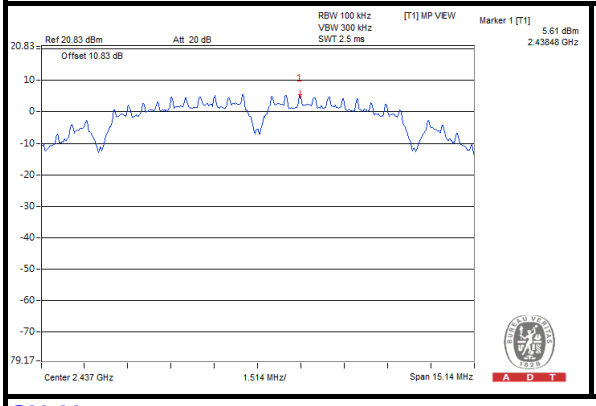
802.11b

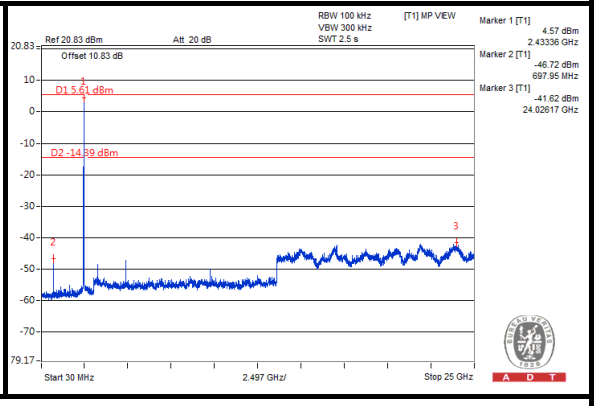
CH 1



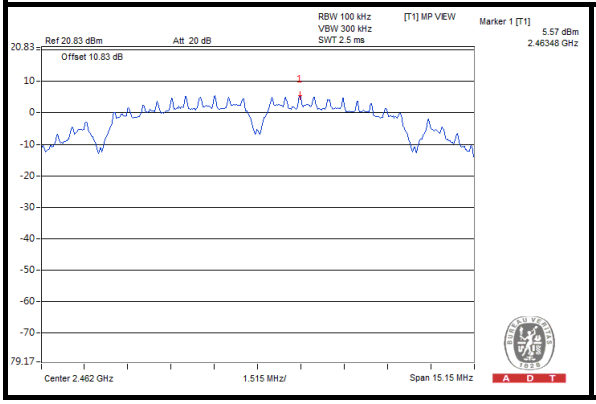


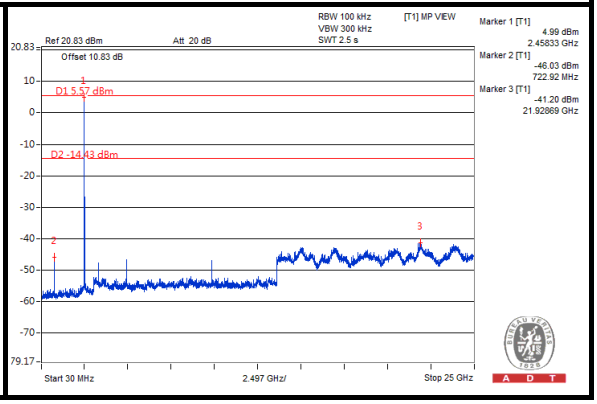
CH 6





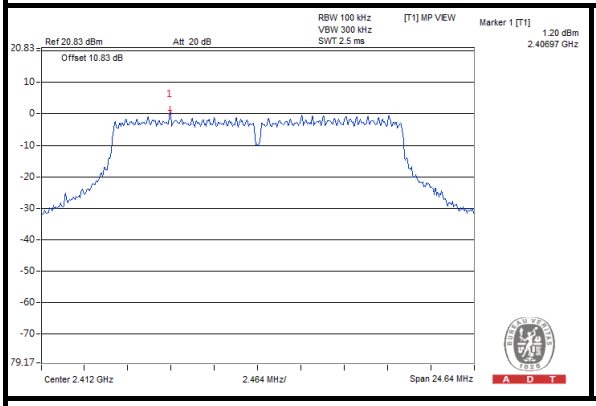
CH 11

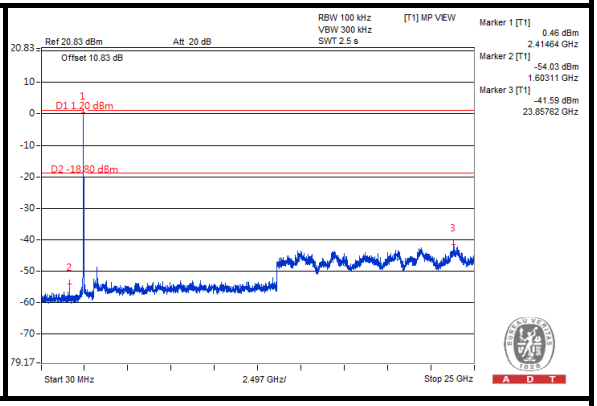




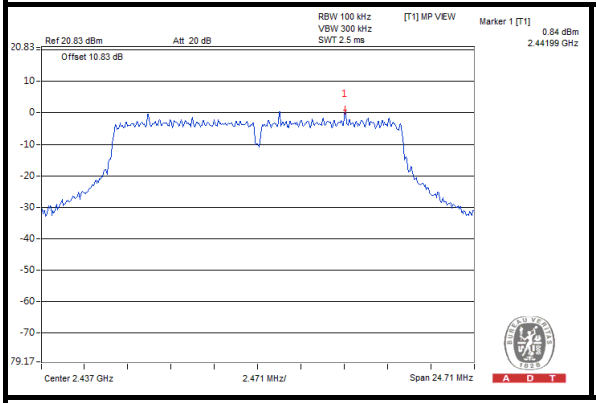
802.11g

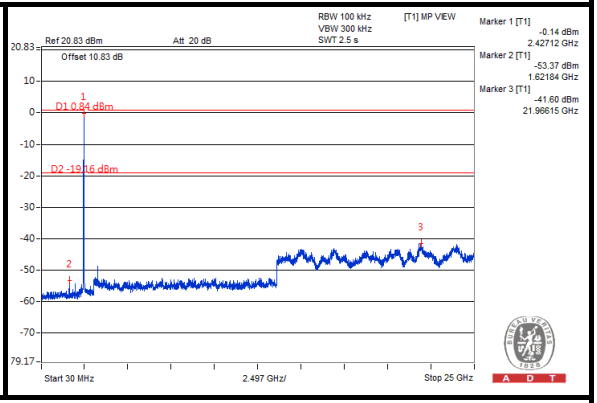
CH 1



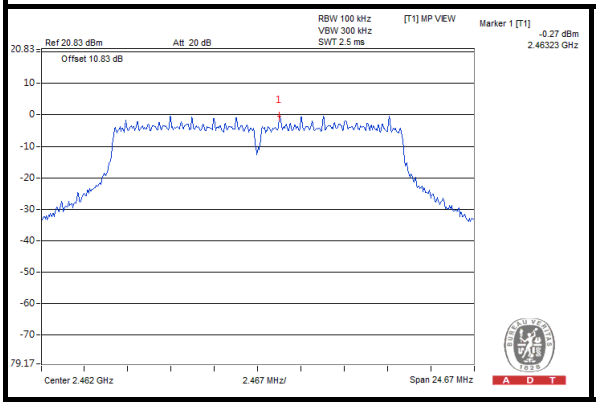


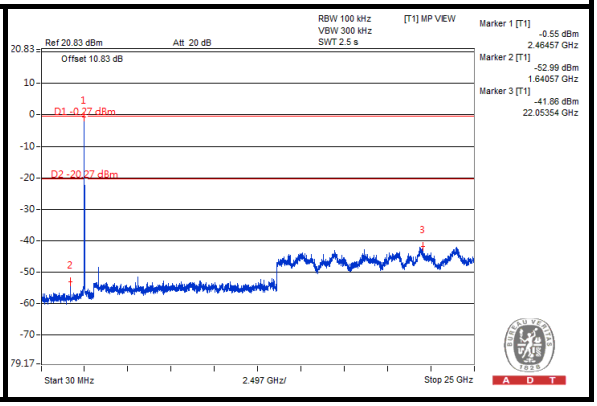
CH 6





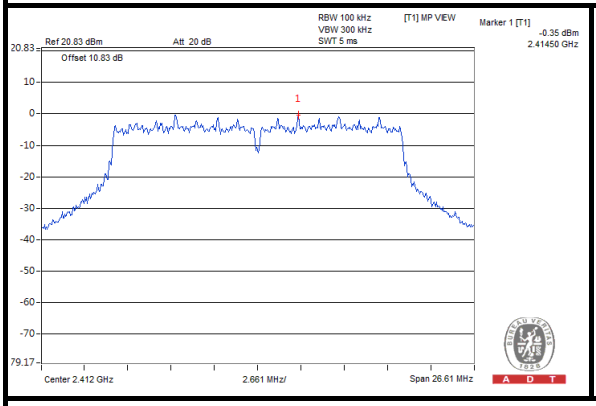
CH 11

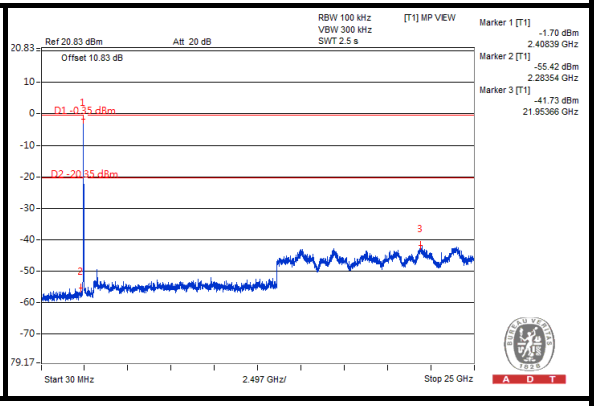




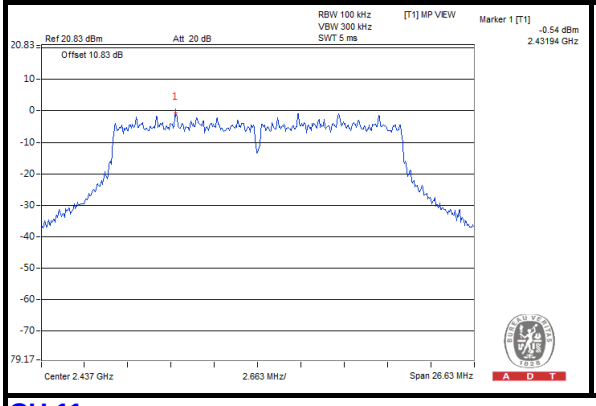
802.11n (20MHz)

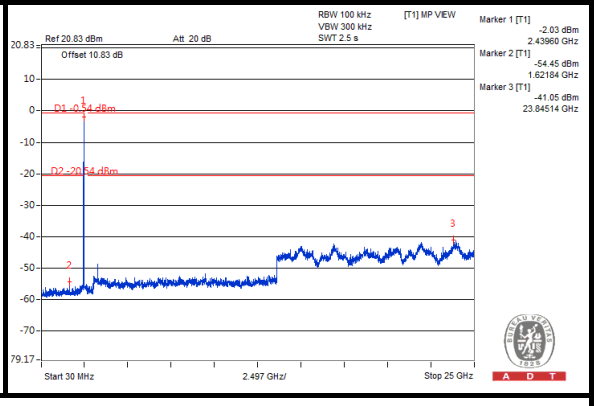
CH 1



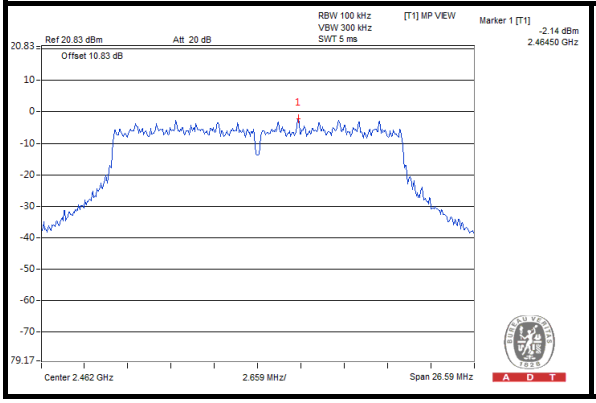


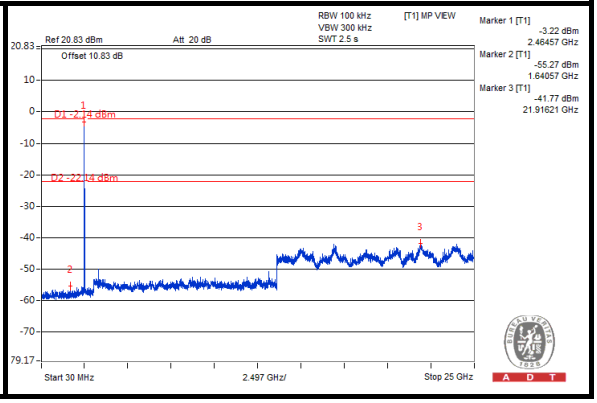
CH 6





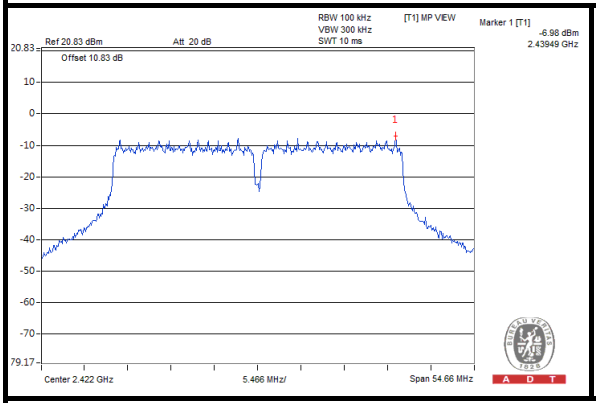
CH 11

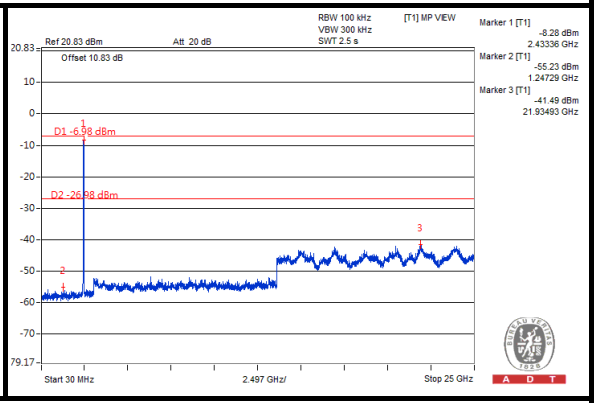




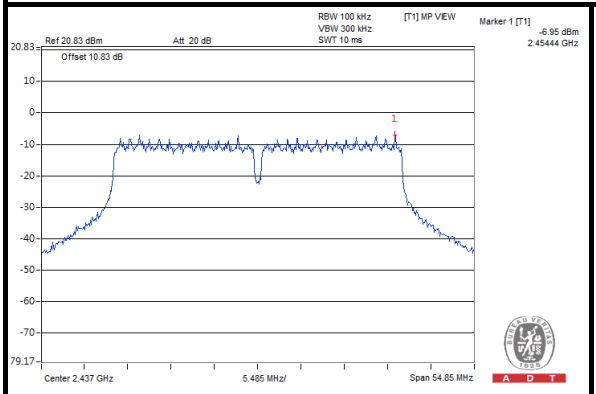
802.11n (40MHz)

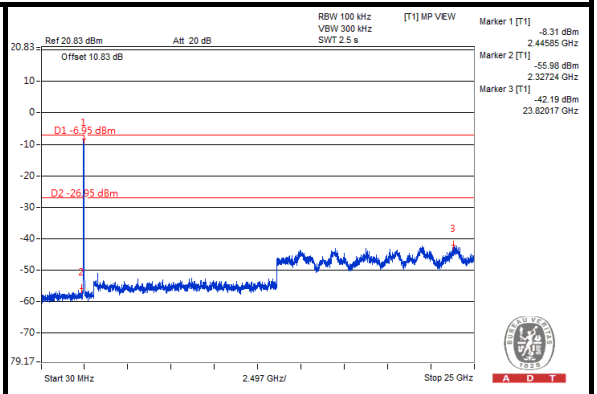
CH 3



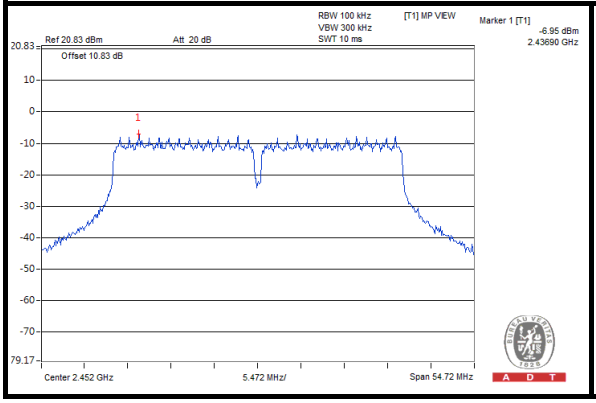


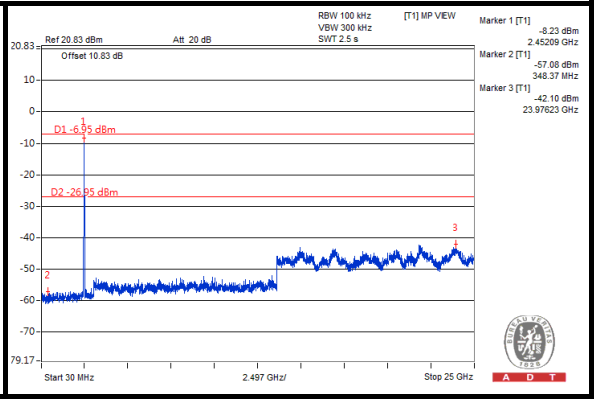
CH 6





CH 9





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

5.1 RADIATED EMISSION AND BANDEDGE MEASUREMENT

5.1.1 LIMITS OF RADIATED EMISSION AND BANDEDGE MEASUREMENT

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table. Other emissions shall be at least 20dB below the highest level of the desired power:

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. 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.

5.1.2 TEST INSTRUMENTS

Same as item 4.1.2.

5.1.3 TEST PROCEDURES

Same as item 4.1.3.

5.1.4 DEVIATION FROM TEST STANDARD

No deviation.

5.1.5 TEST SETUP

Same as item 4.1.5.

5.1.6 EUT OPERATING CONDITIONS

Same as 4.1.6.

5.1.7 TEST RESULTS

ABOVE 1GHz WORST-CASE DATA

MODE A

802.11a

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 149	**FREQUENCY RANGE**	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION**	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	**TESTED BY**	David Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	**EMISSION LEVEL (dBuV/m)**	**READ LEVEL (dBuV)**	**LIMIT (dBuV/m)**	**MARGIN (dB)**	**ANTENNA FACTOR (dB/m)**	**CABLE LOSS (dB)**	**PREAMP FACTOR (dB)**	**ANTENNA HEIGHT (cm)**	**TABLE ANGLE (Degree)**	**REMARK**
5725	51.58	49.34	71.11	-19.53	31.96	7.71	37.43	100	176	Average
5725	65.9	63.66	80.11	-14.21	31.96	7.71	37.43	100	176	Peak
5745	91.11	88.85			31.99	7.74	37.47	100	176	Average
5745	100.11	97.85			31.99	7.74	37.47	100	176	Peak
5850	40.41	37.94	71.11	-30.7	32.15	7.83	37.51	100	176	Average
5850	60.6	58.13	80.11	-19.51	32.15	7.83	37.51	100	176	Peak
11490	47	47.46	54	-7	39.91	12.46	52.83	110	269	Average
11490	56.4	56.86	74	-17.6	39.91	12.46	52.83	110	269	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	**EMISSION LEVEL (dBuV/m)**	**READ LEVEL (dBuV)**	**LIMIT (dBuV/m)**	**MARGIN (dB)**	**ANTENNA FACTOR (dB/m)**	**CABLE LOSS (dB)**	**PREAMP FACTOR (dB)**	**ANTENNA HEIGHT (cm)**	**TABLE ANGLE (Degree)**	**REMARK**
5725	48.25	46.01	68.27	-20.02	31.96	7.71	37.43	107	159	Average
5725	61.79	59.55	77.82	-16.03	31.96	7.71	37.43	107	159	Peak
5745	88.27	86.01			31.99	7.74	37.47	107	159	Average
5745	97.82	95.56			31.99	7.74	37.47	107	159	Peak
5850	40.5	38.03	68.27	-27.77	32.15	7.83	37.51	107	159	Average
5850	60.52	58.05	77.82	-17.3	32.15	7.83	37.51	107	159	Peak
11490	46.74	47.2	54	-7.26	39.91	12.46	52.83	100	193	Average
11490	55.57	56.03	74	-18.43	39.91	12.46	52.83	100	193	Peak

REMARKS:

1. 5745MHz: Fundamental frequency.
2. 5725MHz & 5850MHz: Out of restricted band

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 157	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	David Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5725	38.92	37.77	71.06	-32.14	31.96	6.62	37.43	100	176	Average
5725	54.22	53.07	80.32	-26.1	31.96	6.62	37.43	100	176	Peak
5785	91.06	89.86			32.04	6.7	37.54	100	176	Average
5785	100.32	99.12			32.04	6.7	37.54	100	176	Peak
5850	39.02	37.68	71.06	-32.04	32.15	6.7	37.51	100	176	Average
5850	54.49	53.15	80.32	-25.83	32.15	6.7	37.51	100	176	Peak
11570	45.85	46.98	54	-8.15	39.78	12.42	53.33	103	154	Average
11570	54.86	55.99	74	-19.14	39.78	12.42	53.33	103	154	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5725	38.95	37.8	68.56	-29.61	31.96	6.62	37.43	100	234	Average
5725	54.32	53.17	76.99	-22.67	31.96	6.62	37.43	100	234	Peak
5785	88.56	87.36			32.04	6.7	37.54	100	234	Average
5785	96.99	95.79			32.04	6.7	37.54	100	234	Peak
5850	39.09	37.75	68.56	-29.47	32.15	6.7	37.51	100	234	Average
5850	54	52.66	76.99	-22.99	32.15	6.7	37.51	100	234	Peak
11570	44.79	45.92	54	-9.21	39.78	12.42	53.33	104	219	Average
11570	53.82	54.95	74	-20.18	39.78	12.42	53.33	104	219	Peak

REMARKS:

1. 5785MHz: Fundamental frequency.
2. 5725MHz & 5850MHz: Out of restricted band

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 165	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	David Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5725	40.22	37.98	71.03	-30.81	31.96	7.71	37.43	100	176	Average
5725	50.55	48.31	80.69	-30.14	31.96	7.71	37.43	100	176	Peak
5825	91.03	88.62			32.12	7.82	37.53	100	176	Average
5825	100.69	98.28			32.12	7.82	37.53	100	176	Peak
5850	41.2	38.73	71.03	-29.83	32.15	7.83	37.51	100	176	Average
5850	54.53	52.06	80.69	-26.16	32.15	7.83	37.51	100	176	Peak
11650	45.87	47.14	54	-8.13	39.65	12.43	53.35	100	132	Average
11650	56.1	57.37	74	-17.9	39.65	12.43	53.35	100	132	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5725	40.25	38.01	69.45	-29.2	31.96	7.71	37.43	103	181	Average
5725	52.94	50.7	79.87	-26.93	31.96	7.71	37.43	103	181	Peak
5825	89.45	87.04			32.12	7.82	37.53	103	181	Average
5825	99.87	97.46			32.12	7.82	37.53	103	181	Peak
5850	41.14	38.67	69.45	-28.31	32.15	7.83	37.51	103	181	Average
5850	56.8	54.33	79.87	-23.07	32.15	7.83	37.51	103	181	Peak
11650	45.63	46.9	54	-8.37	39.65	12.43	53.35	100	189	Average
11650	55.55	56.82	74	-18.45	39.65	12.43	53.35	100	189	Peak

REMARKS:

1. 5825MHz: Fundamental frequency.
2. 5725MHz & 5850MHz: Out of restricted band

MODE B

802.11a

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 149	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	David Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5725	46.59	44.35	70.99	-24.4	31.96	7.71	37.43	100	155	Average
5725	62.54	60.3	81.31	-18.77	31.96	7.71	37.43	100	155	Peak
5745	90.99	88.73			31.99	7.74	37.47	100	155	Average
5745	101.31	99.05			31.99	7.74	37.47	100	155	Peak
5850	39.83	37.36	70.99	-31.16	32.15	7.83	37.51	100	155	Average
5850	55.74	53.27	81.31	-25.57	32.15	7.83	37.51	100	155	Peak
11490	47.37	47.83	54	-6.63	39.91	12.46	52.83	100	203	Average
11490	55.36	55.82	74	-18.64	39.91	12.46	52.83	100	203	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5725	44.93	42.69	68.12	-23.19	31.96	7.71	37.43	105	170	Average
5725	63.48	61.24	78.2	-14.72	31.96	7.71	37.43	105	170	Peak
5745	88.12	85.86			31.99	7.74	37.47	105	170	Average
5745	98.2	95.94			31.99	7.74	37.47	105	170	Peak
5850	39.79	37.32	68.12	-28.33	32.15	7.83	37.51	105	170	Average
5850	55.08	52.61	78.2	-23.12	32.15	7.83	37.51	105	170	Peak
11490	47.12	47.58	54	-6.88	39.91	12.46	52.83	100	118	Average
11490	54.79	55.25	74	-19.21	39.91	12.46	52.83	100	118	Peak

REMARKS:

1. 5745MHz: Fundamental frequency.
2. 5725MHz & 5850MHz: Out of restricted band

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 157	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	David Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5725	38.93	37.78	73.39	-34.46	31.96	6.62	37.43	101	332	Average
5725	53.91	52.76	82.31	-28.4	31.96	6.62	37.43	101	332	Peak
5785	93.39	92.19			32.04	6.7	37.54	101	332	Average
5785	102.31	101.11			32.04	6.7	37.54	101	332	Peak
5850	39.04	37.7	73.39	-34.35	32.15	6.7	37.51	101	332	Average
5850	54.28	52.94	82.31	-28.03	32.15	6.7	37.51	101	332	Peak
11570	45.72	46.85	54	-8.28	39.78	12.42	53.33	102	221	Average
11570	54.86	55.99	74	-19.14	39.78	12.42	53.33	102	221	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5725	38.76	37.61	67.54	-28.78	31.96	6.62	37.43	100	20	Average
5725	53.48	52.33	76.28	-22.8	31.96	6.62	37.43	100	20	Peak
5785	87.54	86.34			32.04	6.7	37.54	100	20	Average
5785	96.28	95.08			32.04	6.7	37.54	100	20	Peak
5850	39.11	37.77	67.54	-28.43	32.15	6.7	37.51	100	20	Average
5850	54.32	52.98	76.28	-21.96	32.15	6.7	37.51	100	20	Peak
11570	46.18	47.31	54	-7.82	39.78	12.42	53.33	105	174	Average
11570	55.47	56.6	74	-18.53	39.78	12.42	53.33	105	174	Peak

REMARKS:

1. 5785MHz: Fundamental frequency.
2. 5725MHz & 5850MHz: Out of restricted band

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 165	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	David Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5725	39.65	37.41	73.3	-33.65	31.96	7.71	37.43	100	153	Average
5725	55.32	53.08	83.34	-28.02	31.96	7.71	37.43	100	153	Peak
5825	93.3	90.89			32.12	7.82	37.53	100	153	Average
5825	103.34	100.93			32.12	7.82	37.53	100	153	Peak
5850	44.37	41.9	73.3	-28.93	32.15	7.83	37.51	100	153	Average
5850	62.08	59.61	83.34	-21.26	32.15	7.83	37.51	100	153	Peak
11650	45.97	47.24	54	-8.03	39.65	12.43	53.35	100	224	Average
11650	57.5	58.77	74	-16.5	39.65	12.43	53.35	100	224	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5725	39.57	37.33	69.99	-30.42	31.96	7.71	37.43	103	180	Average
5725	54.93	52.69	80.08	-25.15	31.96	7.71	37.43	103	180	Peak
5825	89.99	87.58			32.12	7.82	37.53	103	180	Average
5825	100.08	97.67			32.12	7.82	37.53	103	180	Peak
5850	41.79	39.32	69.99	-28.2	32.15	7.83	37.51	103	180	Average
5850	60.77	58.3	80.08	-19.31	32.15	7.83	37.51	103	180	Peak
11650	46.06	47.33	54	-7.94	39.65	12.43	53.35	100	191	Average
11650	55.71	56.98	74	-18.29	39.65	12.43	53.35	100	191	Peak

REMARKS:

1. 5825MHz: Fundamental frequency.
2. 5725MHz & 5850MHz: Out of restricted band

802.11n (20MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 149	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	David Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5725	51.94	49.7	71.54	-19.6	31.96	7.71	37.43	100	35	Average
5725	71.99	69.75	81.95	-9.96	31.96	7.71	37.43	100	35	Peak
5745	91.54	89.28			31.99	7.74	37.47	100	35	Average
5745	101.95	99.69			31.99	7.74	37.47	100	35	Peak
5850	39.8	37.33	71.54	-31.74	32.15	7.83	37.51	100	35	Average
5850	56.13	53.66	81.95	-25.82	32.15	7.83	37.51	100	35	Peak
11490	45.94	46.4	54	-8.06	39.91	12.46	52.83	100	162	Average
11490	56.67	57.13	74	-17.33	39.91	12.46	52.83	100	162	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5725	46.39	44.15	69	-22.61	31.96	7.71	37.43	106	165	Average
5725	68.5	66.26	79.47	-10.97	31.96	7.71	37.43	106	165	Peak
5745	89	86.74			31.99	7.74	37.47	106	165	Average
5745	99.47	97.21			31.99	7.74	37.47	106	165	Peak
5850	39.79	37.32	69	-29.21	32.15	7.83	37.51	106	165	Average
5850	54.94	52.47	79.47	-24.53	32.15	7.83	37.51	106	165	Peak
11490	45.59	46.05	54	-8.41	39.91	12.46	52.83	100	142	Average
11490	56.42	56.88	74	-17.58	39.91	12.46	52.83	100	142	Peak

REMARKS:

1. 5745MHz: Fundamental frequency.
2. 5725MHz & 5850MHz: Out of restricted band

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 157	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	David Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5725	38.88	37.73	71.43	-32.55	31.96	6.62	37.43	100	333	Average
5725	53.12	51.97	81.57	-28.45	31.96	6.62	37.43	100	333	Peak
5785	91.43	90.23			32.04	6.7	37.54	100	333	Average
5785	101.57	100.37			32.04	6.7	37.54	100	333	Peak
5850	39.01	37.67	71.43	-32.42	32.15	6.7	37.51	100	333	Average
5850	53.51	52.17	81.57	-28.06	32.15	6.7	37.51	100	333	Peak
11570	44.75	45.88	54	-9.25	39.78	12.42	53.33	101	138	Average
11570	54	55.13	74	-20	39.78	12.42	53.33	101	138	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5725	38.84	37.69	67.34	-28.5	31.96	6.62	37.43	103	2	Average
5725	53.42	52.27	78.02	-24.6	31.96	6.62	37.43	103	2	Peak
5785	87.34	86.14			32.04	6.7	37.54	103	2	Average
5785	98.02	96.82			32.04	6.7	37.54	103	2	Peak
5850	39.07	37.73	67.34	-28.27	32.15	6.7	37.51	103	2	Average
5850	54.4	53.06	78.02	-23.62	32.15	6.7	37.51	103	2	Peak
11570	45.71	46.84	54	-8.29	39.78	12.42	53.33	106	265	Average
11570	54.23	55.36	74	-19.77	39.78	12.42	53.33	106	265	Peak

REMARKS:

1. 5785MHz: Fundamental frequency.
2. 5725MHz & 5850MHz: Out of restricted band

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 165	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	David Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5725	39.66	37.42	73.09	-33.43	31.96	7.71	37.43	100	39	Average
5725	55.67	53.43	83.05	-27.38	31.96	7.71	37.43	100	39	Peak
5825	93.09	90.68			32.12	7.82	37.53	100	39	Average
5825	103.05	100.64			32.12	7.82	37.53	100	39	Peak
5850	48.78	46.31	73.09	-24.31	32.15	7.83	37.51	100	39	Average
5850	66.82	64.35	83.05	-16.23	32.15	7.83	37.51	100	39	Peak
11650	45.87	47.14	54	-8.13	39.65	12.43	53.35	100	213	Average
11650	55.1	56.37	74	-18.9	39.65	12.43	53.35	100	213	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5725	39.54	37.3	66.93	-27.39	31.96	7.71	37.43	100	207	Average
5725	54.67	52.43	77.15	-22.48	31.96	7.71	37.43	100	207	Peak
5825	86.93	84.52			32.12	7.82	37.53	100	207	Average
5825	97.15	94.74			32.12	7.82	37.53	100	207	Peak
5850	44.07	41.6	66.93	-22.86	32.15	7.83	37.51	100	207	Average
5850	62.98	60.51	77.15	-14.17	32.15	7.83	37.51	100	207	Peak
11650	45.52	46.79	54	-8.48	39.65	12.43	53.35	100	169	Average
11650	55.39	56.66	74	-18.61	39.65	12.43	53.35	100	169	Peak

REMARKS:

1. 5825MHz: Fundamental frequency.
2. 5725MHz & 5850MHz: Out of restricted band

802.11n (40MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 151	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	David Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5725	69.41	67.17	75.53	-6.12	31.96	7.71	37.43	100	334	Average
5725	79.8	77.56	84.88	-5.08	31.96	7.71	37.43	100	334	Peak
5755	95.53	93.25			32.01	7.74	37.47	100	334	Average
5755	104.88	102.6			32.01	7.74	37.47	100	334	Peak
5850	41.21	38.74	75.53	-34.32	32.15	7.83	37.51	100	334	Average
5850	51.26	48.79	84.88	-33.62	32.15	7.83	37.51	100	334	Peak
11510	47.42	48.12	54	-6.58	39.9	12.47	53.07	100	221	Average
11510	54.55	55.25	74	-19.45	39.9	12.47	53.07	100	221	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5725	62.56	60.32	68.39	-5.83	31.96	7.71	37.43	100	44	Average
5725	72.02	69.78	79.45	-7.43	31.96	7.71	37.43	100	44	Peak
5755	88.39	86.11			32.01	7.74	37.47	100	44	Average
5755	99.45	97.17			32.01	7.74	37.47	100	44	Peak
5850	40.72	38.25	68.39	-27.67	32.15	7.83	37.51	100	44	Average
5850	50.26	47.79	79.45	-29.19	32.15	7.83	37.51	100	44	Peak
11510	46.46	47.16	54	-7.54	39.9	12.47	53.07	100	193	Average
11510	54.74	55.44	74	-19.26	39.9	12.47	53.07	100	193	Peak

REMARKS:

1. 5755MHz: Fundamental frequency.
2. 5725MHz & 5850MHz: Out of restricted band

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 159	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	David Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5725	45.28	43.04	74.73	-29.45	31.96	7.71	37.43	100	333	Average
5725	61.22	58.98	84.78	-23.56	31.96	7.71	37.43	100	333	Peak
5795	94.73	92.4			32.07	7.8	37.54	100	333	Average
5795	104.78	102.45			32.07	7.8	37.54	100	333	Peak
5850	54.09	51.62	74.73	-20.64	32.15	7.83	37.51	100	333	Average
5850	65.12	62.65	84.78	-19.66	32.15	7.83	37.51	100	333	Peak
11590	47.07	48.24	54	-6.93	39.74	12.42	53.33	100	163	Average
11590	55.22	56.39	74	-18.78	39.74	12.42	53.33	100	163	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5725	43.4	41.16	70.02	-26.62	31.96	7.71	37.43	103	19	Average
5725	55.79	53.55	79.7	-23.91	31.96	7.71	37.43	103	19	Peak
5795	90.02	87.69			32.07	7.8	37.54	103	19	Average
5795	99.7	97.37			32.07	7.8	37.54	103	19	Peak
5850	50.48	48.01	70.02	-19.54	32.15	7.83	37.51	103	19	Average
5850	61.75	59.28	79.7	-17.95	32.15	7.83	37.51	103	19	Peak
11590	46.16	47.33	54	-7.84	39.74	12.42	53.33	100	126	Average
11590	54.39	55.56	74	-19.61	39.74	12.42	53.33	100	126	Peak

REMARKS:

1. 5795MHz: Fundamental frequency.
2. 5725MHz & 5850MHz: Out of restricted band

BELOW 1GHz WORST-CASE DATA：802.11n (20MHz)

MODE B

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 165	FREQUENCY RANGE	30MHz ~ 1GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Kay Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
104.25	31.93	53.21	43.5	-11.57	9.53	1.09	31.9	100	193	Peak
145.02	37.08	54.84	43.5	-6.42	12.54	1.32	31.62	100	336	Peak
203.88	30.86	51.43	43.5	-12.64	9.52	1.61	31.7	100	188	Peak
325.9	26.79	42.92	46	-19.21	13.57	2.14	31.84	100	199	Peak
584.9	23.23	33.06	46	-22.77	19.26	3.04	32.13	100	263	Peak
762.7	27.8	33.92	46	-18.2	21.7	3.6	31.42	100	177	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
30.27	37.89	56.48	40	-2.11	11.98	0.57	31.14	100	113	Peak
74.01	34.46	55.43	40	-5.54	9.81	0.93	31.71	100	193	Peak
176.61	34.48	53.7	43.5	-9.02	11.1	1.48	31.8	100	123	Peak
455.4	27.61	40.51	46	-18.39	16.45	2.64	31.99	100	185	Peak
845.3	30.57	35.79	46	-15.43	22.81	3.81	31.84	100	69	Peak
911.8	31.27	35.74	46	-14.73	23.58	3.99	32.04	100	129	Peak

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 T EST INSTRUMENTS

Same as item 4.2.2.

5.2.3 TEST PROCEDURES

Same as item 4.2.3.

5.2.4 DEVIATION FROM TEST STANDARD

No deviation.

5.2.5 TEST SETUP

Same as item 4.2.5.

5.2.6 EUT OPERATING CONDITIONS

Same as 4.1.6

5.2.7 TEST RESULTS

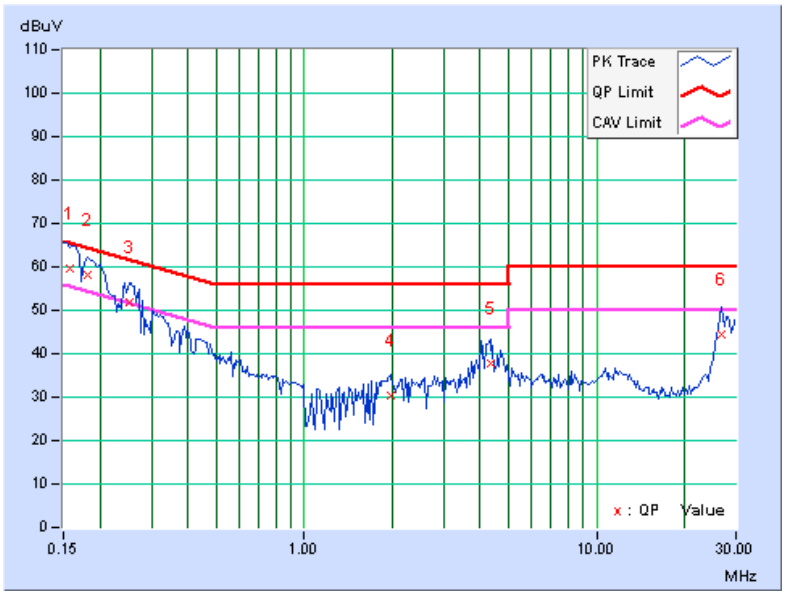
CONDUCTED WORST-CASE DATA：802.11n (20MHz)

PHASE	Line 1	6dB BANDWIDTH	9kHz

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15781	0.12	59.38	42.65	59.50	42.77	65.58	55.58	-6.07	-12.80
2	0.18125	0.12	58.06	40.02	58.18	40.14	64.43	54.43	-6.25	-14.29
3	0.25156	0.13	51.85	36.47	51.98	36.60	61.71	51.71	-9.73	-15.11
4	1.96875	0.23	30.17	19.52	30.40	19.75	56.00	46.00	-25.60	-26.25
5	4.32813	0.37	37.31	26.62	37.68	26.99	56.00	46.00	-18.32	-19.01
6	26.87891	1.42	42.89	31.39	44.31	32.81	60.00	50.00	-15.69	-17.19

REMARKS:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level - Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value.

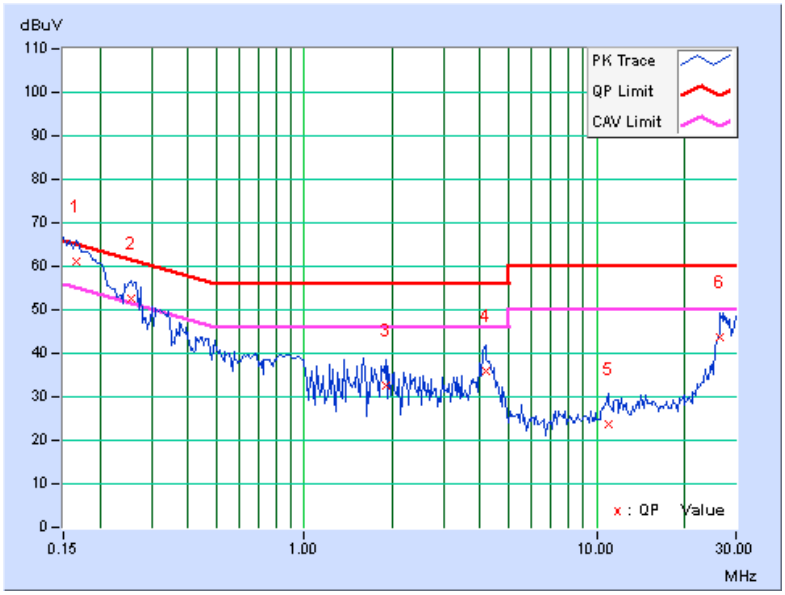


PHASE	Line 2	6dB BANDWIDTH	9kHz

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	**0.16562**	**0.17**	**61.02**	**45.22**	**61.19**	**45.39**	**65.18**	**55.18**	**-3.98**	**-9.78**
2	0.25547	0.18	52.47	35.60	52.65	35.78	61.58	51.58	-8.93	-15.80
3	1.89844	0.28	32.44	22.57	32.72	22.85	56.00	46.00	-23.28	-23.15
4	4.16016	0.39	35.53	23.73	35.92	24.12	56.00	46.00	-20.08	-21.88
5	10.96094	0.62	22.94	17.15	23.56	17.77	60.00	50.00	-36.44	-32.23
6	26.56250	1.07	42.60	31.13	43.67	32.20	60.00	50.00	-16.33	-17.80

REMARKS:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level - Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value.



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 SETUP

Same as item 4.3.2.

5.3.3 TEST INSTRUMENTS

Refer to section 4.1.2 to get information of above instrument.

5.3.4 TEST PROCEDURE

Same as item 4.3.4.

5.3.5 DEVIATION FROM TEST STANDARD

No deviation.

5.3.6 EUT OPERATING CONDITIONS

Same as item 4.3.6.

5.3.7 TEST RESULTS

MODE A

802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
149	5745	16.41	0.5	PASS
157	5785	16.46	0.5	PASS
165	5825	16.39	0.5	PASS

MODE B

802.11a

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
149	5745	16.38	16.44	0.5	PASS
157	5785	16.44	16.43	0.5	PASS
165	5825	16.39	16.43	0.5	PASS

802.11n (20MHz)

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
149	5745	17.70	17.74	0.5	PASS
157	5785	17.68	17.71	0.5	PASS
165	5825	17.72	17.72	0.5	PASS

802.11n (40MHz)

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
151	5755	35.41	35.22	0.5	PASS
159	5795	35.19	35.25	0.5	PASS

5.4 MAXIMUM OUTPUT POWER

5.4.1 LIMITS OF MAXIMUM OUTPUT POWER MEASUREMENT

For systems using digital modulation in the 5725 –5850 MHz bands: 1 Watt (30dBm)

Per KDB 662911 D01 Multiple Transmitter Output v01r02 Method of conducted output power measurement on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for NANT ≤ 4;
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any NANT;
Array Gain = 5 log(NANT/NSS) dB or 3 dB, whichever is less for 20-MHz channel widths with NANT ≥ 5.

For power measurements on all other devices: Array Gain = 10 log(NANT/NSS) dB.

5.4.2 TEST SETUP

Same as Item 4.4.2.

5.4.3 INSTRUMENTS

Refer to section 4.1.2 to get information of above instrument.

5.4.4 TEST PROCEDURES

Same as Item 4.4.4.

5.4.5 DEVIATION FROM TEST STANDARD

No deviation.

5.4.6 EUT OPERATING CONDITIONS

Same as Item 4.3.6.

5.4.7 TEST RESULTS

MODE A

802.11a

CHANNEL	FREQUENCY (MHz)	PEAK POWER (mW)	PEAK POWER (dBm)	LIMIT (dBm)	PASS/FAIL
149	5745	134.586	21.29	30	PASS
157	5785	140.605	21.48	30	PASS
165	5825	133.660	21.26	30	PASS

MODE B

802.11a

CHAN.	CHAN. FREQ. (MHz)	PEAK POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
149	5745	19.18	19.26	167.13	22.23	30	PASS
157	5785	20.10	19.73	196.30	22.93	30	PASS
165	5825	19.52	19.52	179.07	22.53	30	PASS

802.11n (20MHz)

CHAN.	CHAN. FREQ. (MHz)	PEAK POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
149	5745	19.81	19.61	187.13	22.72	30	PASS
157	5785	20.06	20.10	203.72	23.09	30	PASS
165	5825	19.42	19.75	181.90	22.60	30	PASS

802.11n (40MHz)

CHAN.	CHAN. FREQ. (MHz)	PEAK POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
151	5755	19.77	19.66	187.31	22.73	30	PASS
159	5795	19.45	19.13	169.95	22.30	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 SETUP

Same as item 4.5.2.

5.5.3 TEST INSTRUMENTS

Refer to section 4.1.2 to get information of above instrument.

5.5.4 TEST PROCEDURE.

Same as item 4.5.4.

5.5.5 DEVIATION FROM TEST STANDARD

No deviation.

5.5.6 EUT OPERATING CONDITION

Same as item 4.3.6.

5.5.7 TEST RESULTS

MODE A

802.11a

Channel	FREQ. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
149	5745	-13.58	8	PASS
157	5785	-13.16	8	PASS
165	5825	-12.11	8	PASS

MODE B

802.11a

TX chain	Channel	Freq. (MHz)	PSD (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
0	149	5745	-18.75	3.01	-15.74	8	PASS
	157	5785	-15.91	3.01	-12.9	8	PASS
	165	5825	-16.08	3.01	-13.07	8	PASS
1	149	5745	-16.52	3.01	-13.51	8	PASS
	157	5785	-13.96	3.01	-10.95	8	PASS
	165	5825	-14.76	3.01	-11.75	8	PASS

NOTE: Directional gain = 0.62dBi + 10log(2) = 3.63dBi < 6dBi, so the limit no need to reduced.

802.11n (20MHz)

TX chain	Channel	Freq. (MHz)	PSD (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
0	149	5745	-16.43	3.01	-13.42	8	PASS
	157	5785	-15.72	3.01	-12.71	8	PASS
	165	5825	-15.83	3.01	-12.82	8	PASS
1	149	5745	-15.72	3.01	-12.71	8	PASS
	157	5785	-14.58	3.01	-11.57	8	PASS
	165	5825	-15.05	3.01	-12.04	8	PASS

NOTE: Directional gain = 0.62dBi + 10log(2) = 3.63dBi < 6dBi, so the limit no need to reduced.

802.11n (40MHz)

TX chain	Channel	Freq. (MHz)	PSD (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
0	151	5755	-18.03	3.01	-15.02	8	PASS
	159	5795	-17.40	3.01	-14.39	8	PASS
1	151	5755	-17.45	3.01	-14.44	8	PASS
	159	5795	-15.55	3.01	-12.54	8	PASS

NOTE: Directional gain = 0.62dBi + 10log(2) = 3.63dBi < 6dBi, so the limit no need to reduced.

5.6 CONDUCTED OUT OF BAND EMISSION MEASUREMENT

5.6.1 LIMITS OF OUT OF BAND EMISSION MEASUREMENT

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

5.6.2 TEST SETUP

Same as Item 4.6.2

5.6.3 TEST INSTRUMENTS

Refer to section 4.1.2 to get information of above instrument.

5.6.4 TEST PROCEDURE

Same as Item 4.6.4

5.6.5 DEVIATION FROM TEST STANDARD

No deviation.

5.6.6 EUT OPERATING CONDITION

Same as Item 4.3.6

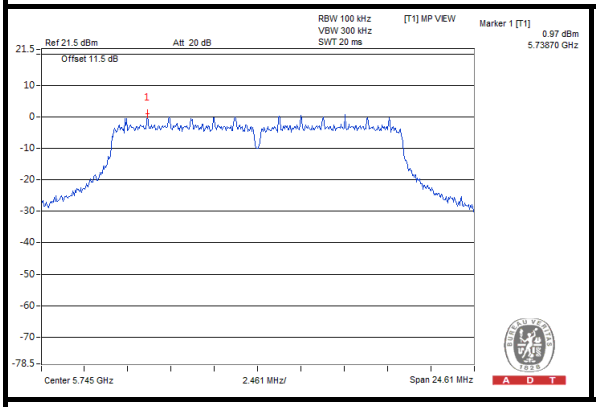
5.6.7 TEST RESULTS

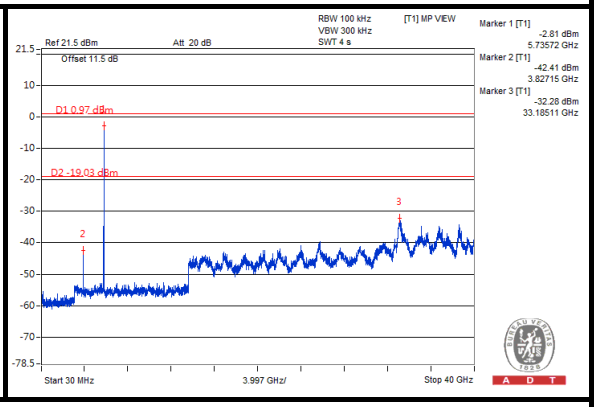
The spectrum plots are attached on the following pages. D1 line indicates the highest level, and D2 line indicates the 20dB offset below D1. It shows compliance with the requirement.

MODE A

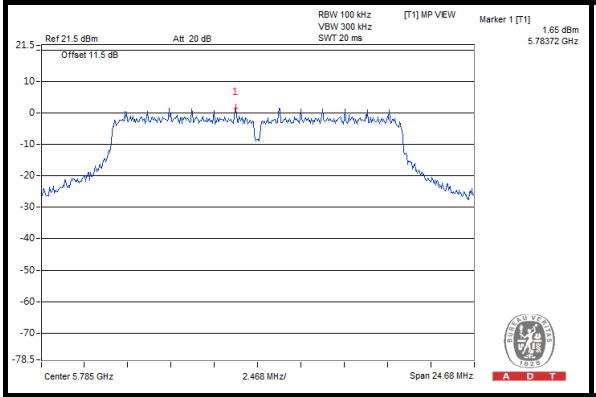
802.11a

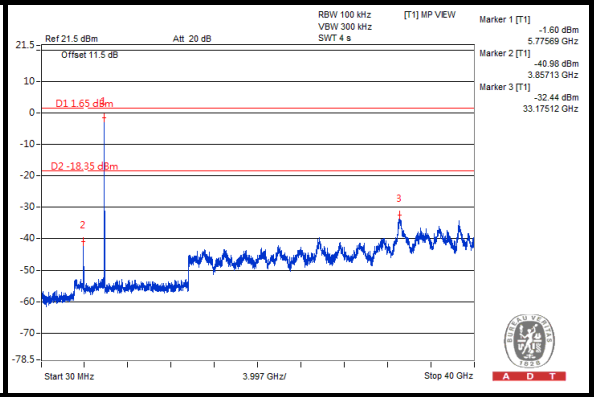
CH 149



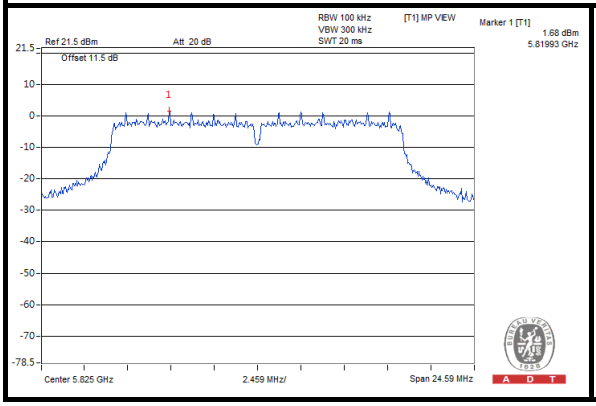


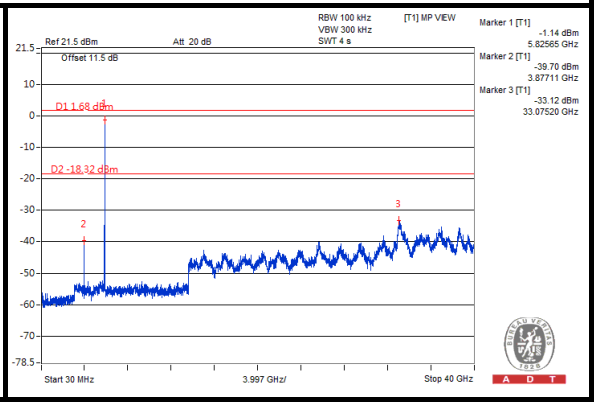
CH 157





CH 165



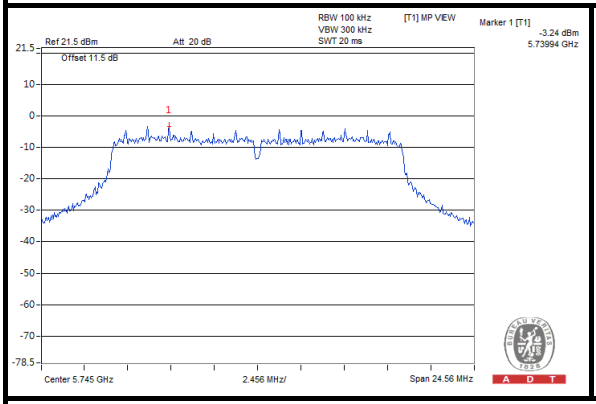


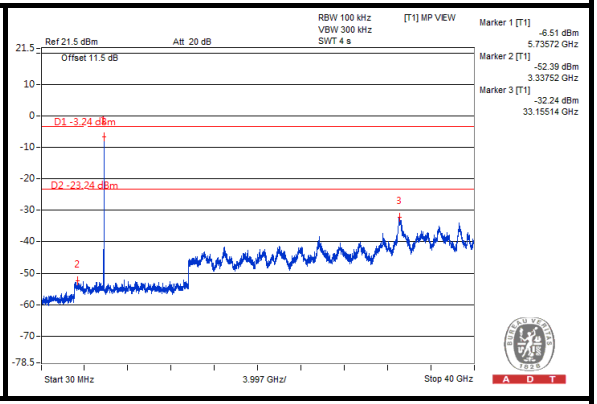
MODE B

<CHAIN 0>

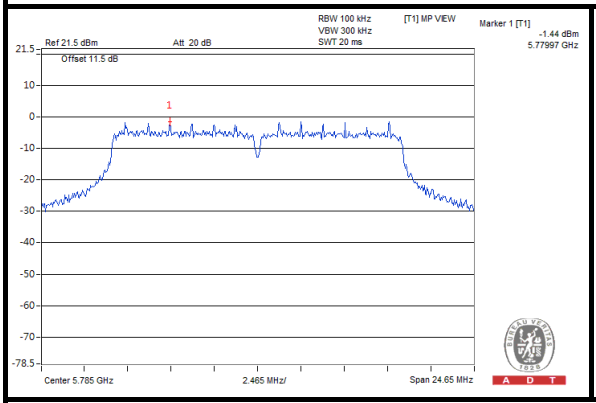
802.11a

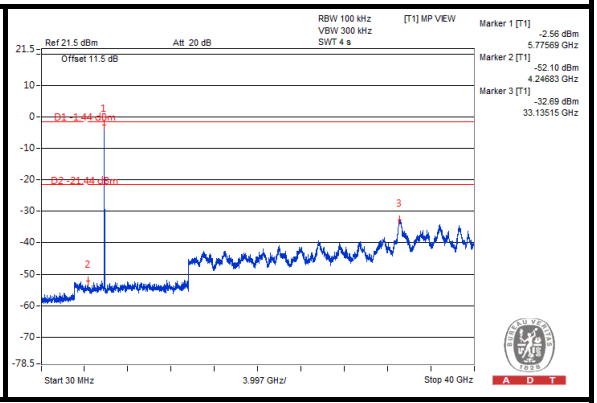
CH 149



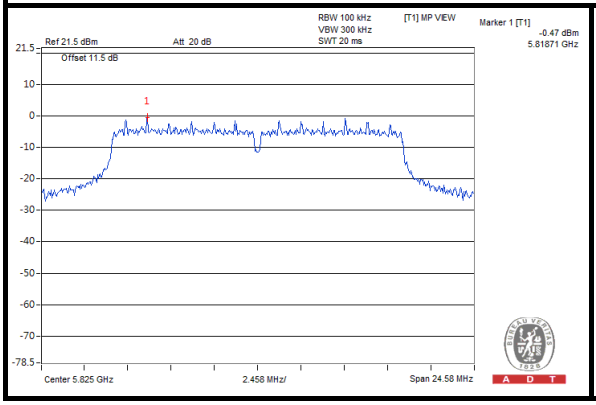


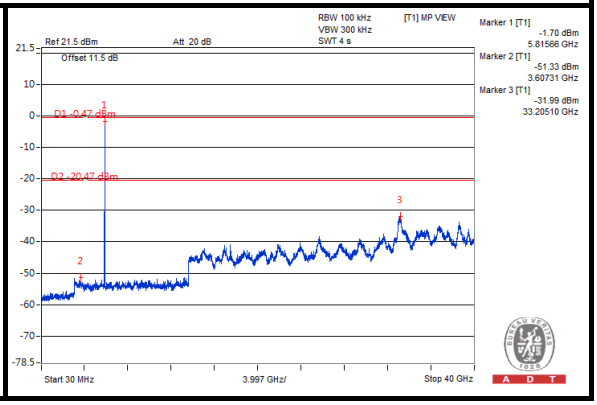
CH 157





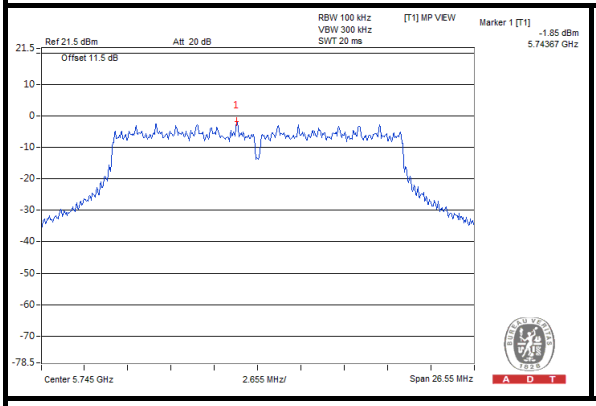
CH 165

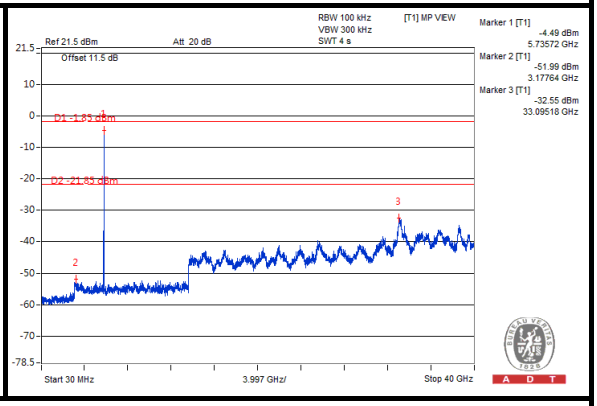




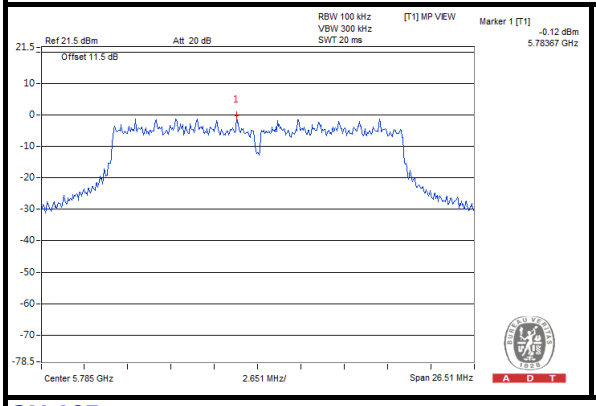
802.11n (20MHz)

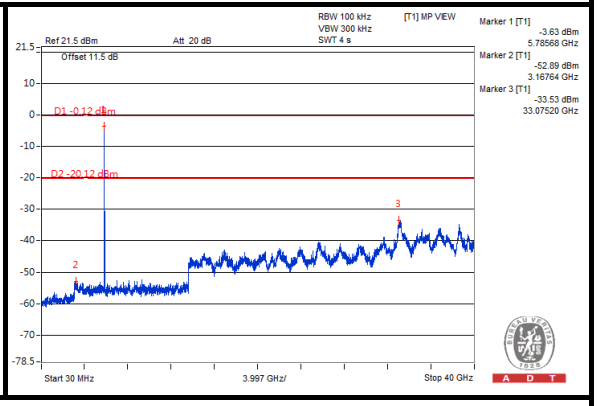
CH 149



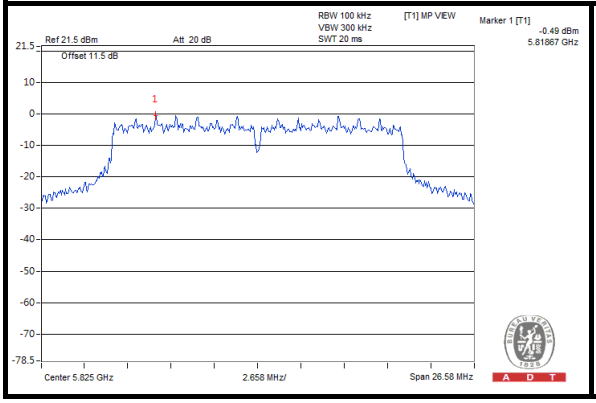


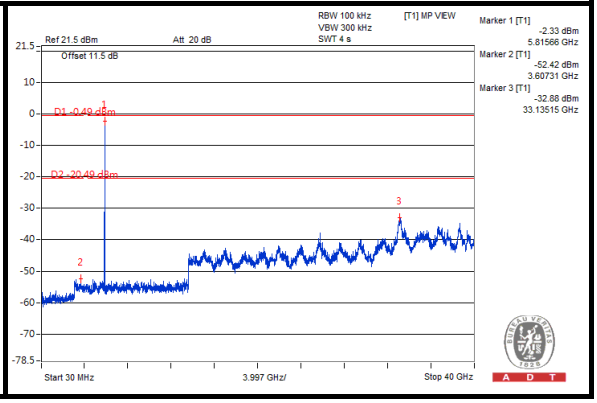
CH 157





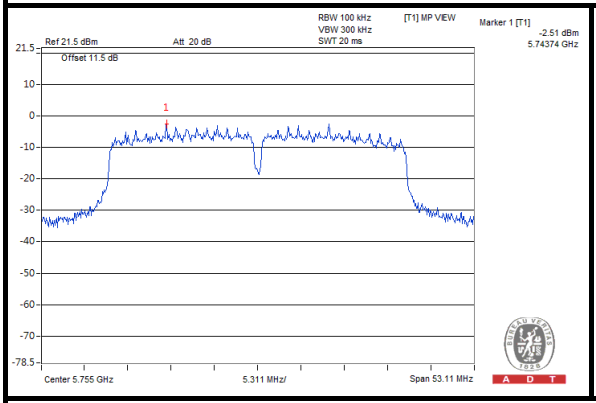
CH 165

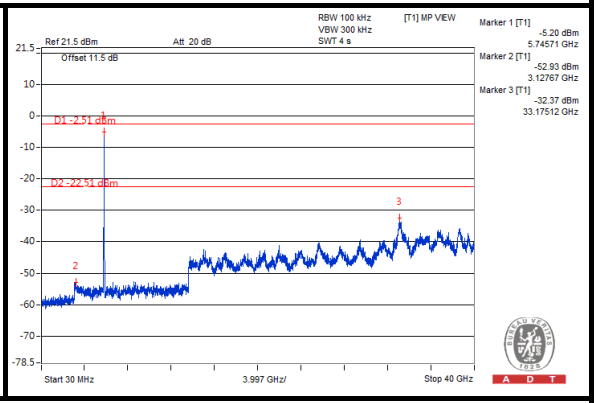




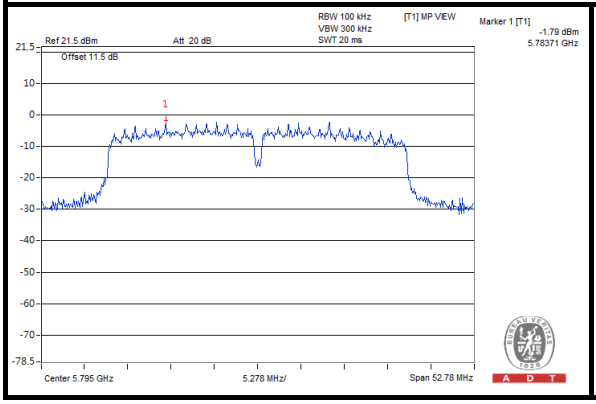
802.11n (40MHz)

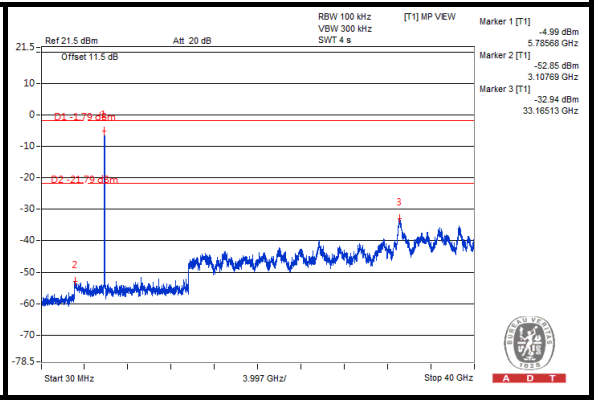
CH 151





CH 159



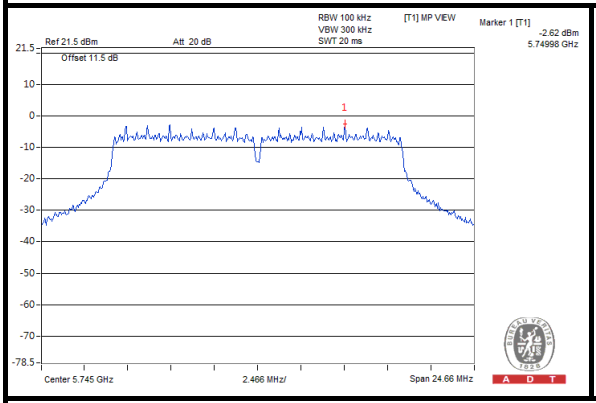


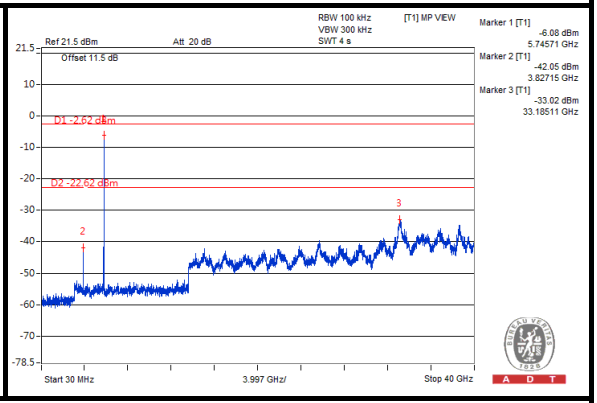
MODE B

<CHAIN 1>

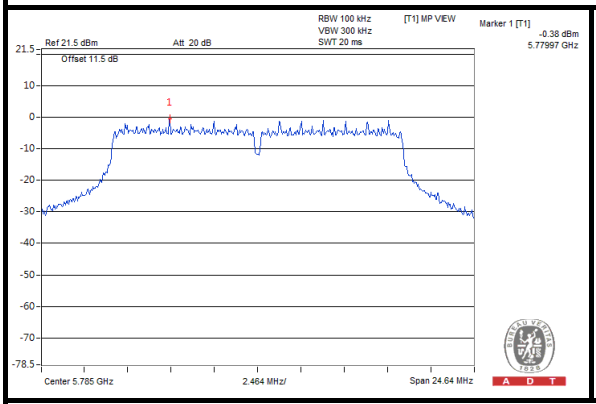
802.11a

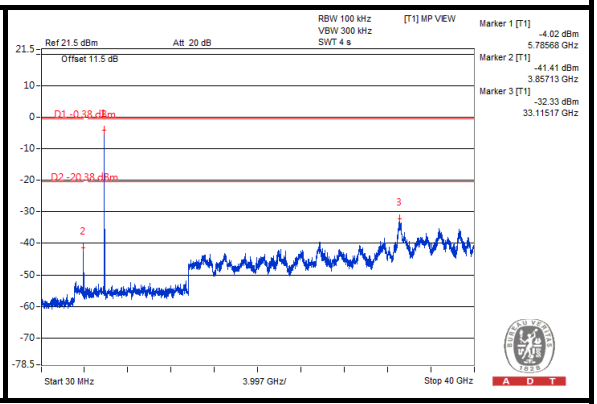
CH 149



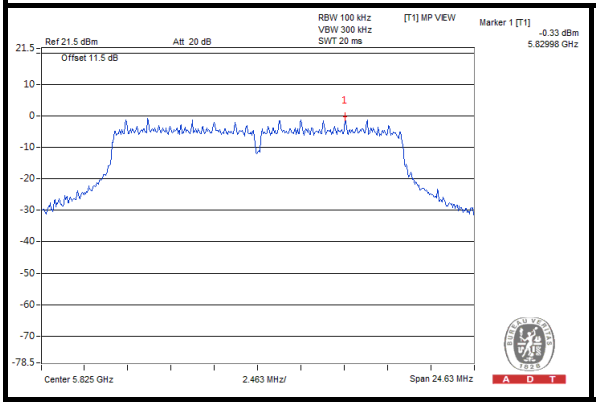


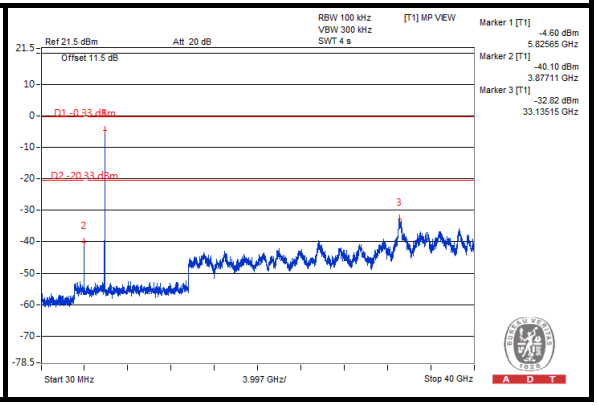
CH 157





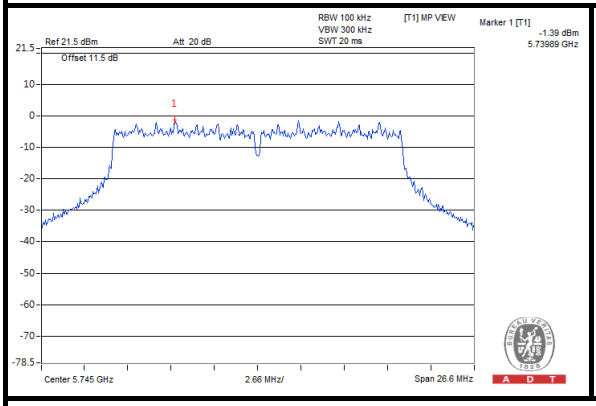
CH 165

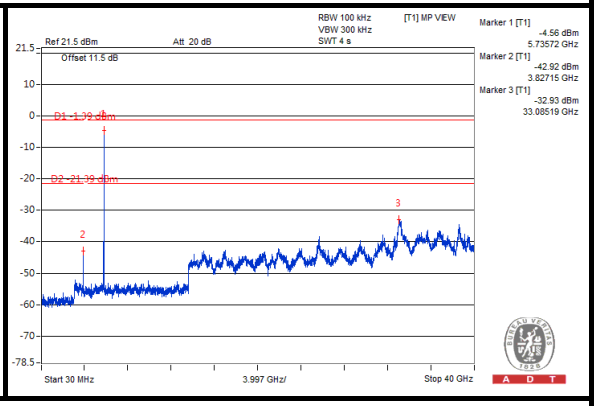




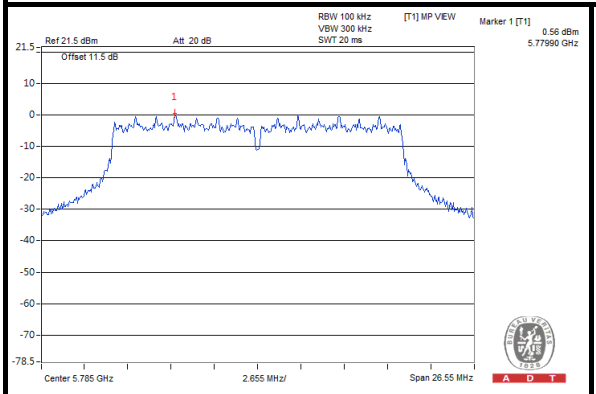
802.11n (20MHz)

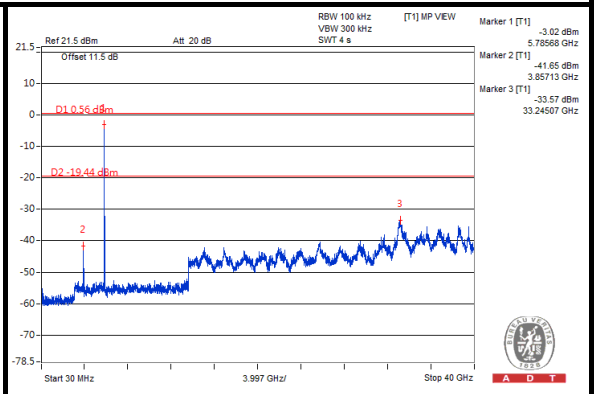
CH 149



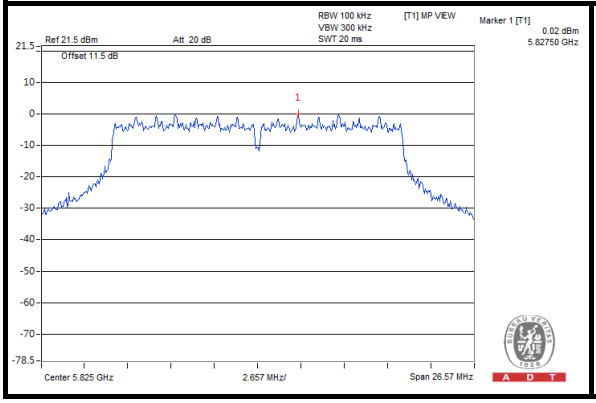


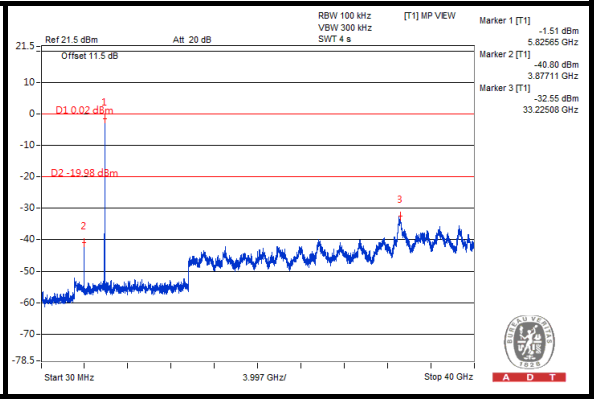
CH 157





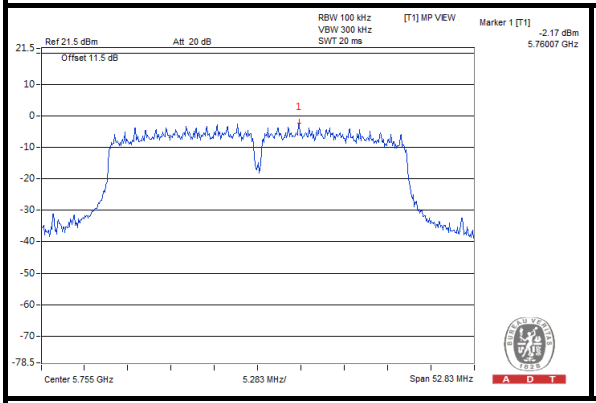
CH 165

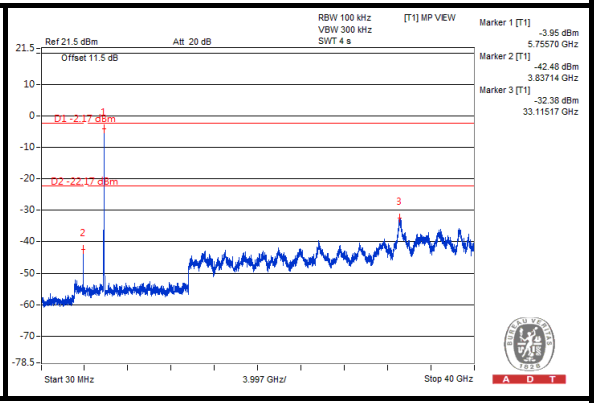




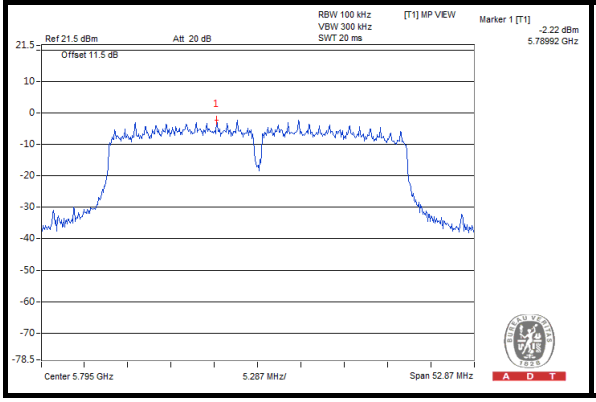
802.11n (40MHz)

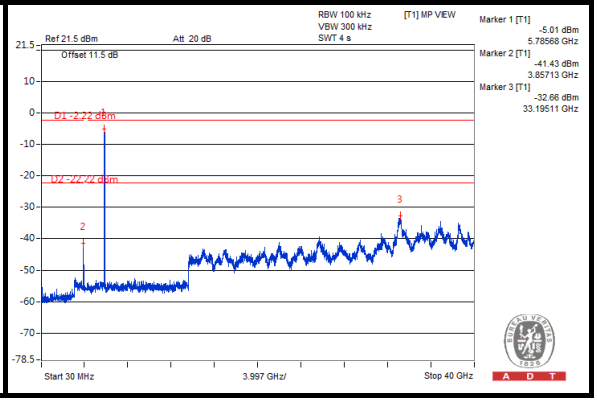
CH 151





CH 159





6. PHOTOGRAPHS OF THE TEST CONFIGURATION

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

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.

If you have any comments, please feel free to contact us at the following:

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Hwa Ya EMC/RF/Safety Telecom Lab:
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Fax: 886-3-3270892

Email: service.adt@tw.bureauveritas.com
Web Site: www.bureauveritas-adt.com

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

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---