FCC TEST REPORT (15.247)

REPORT NO.:	RF140312C09-3
MODEL NO.:	N435
FCC ID:	P4Q-N435
RECEIVED:	Mar. 12, 2014
TESTED:	Jul. 04, 2014 ~ Jul. 17, 2014
ISSUED:	Jul. 25, 2014

APPLICANT:	MiTAC International Corp.
ADDRESS:	Building B, No. 209, Sec. 1, Nan Gang Rd., Nan Gang Dist., Taipei 11568, Taiwan, R.O.C.
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
RF140312C09-3	Original release	Jul. 25, 2014

1. CERTIFICATION

PRODUCT:	Tablet PC
MODEL NO.:	N435
BRAND:	Mio ; Mitac ; Code ; Janam ; Stryker
APPLICANT:	MiTAC International Corp.
TESTED:	Jul. 04, 2014 ~ Jul. 17, 2014
TEST SAMPLE:	Production Unit
STANDARDS:	**FCC Part 15, Subpart C (Section 15.247)**
	ANSI C63.10-2009

The above equipment (model: N435) 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 : _____ **, DATE :** Jul. 25, 2014

Ivonne Wu / Supervisor

APPROVED BY : _____ **, DATE :** Jul. 25, 2014

Sam Chen / Senior Project Engineer

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 -11.31dB at 0.51328MHz.
15.205 & 15.209	Radiated Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -0.51dB at 2488.00MHz.
15.247(d)	Band Edge Measurement	PASS	Meet the requirement of limit.
15.247(d)	Antenna Port Emission	PASS	Meet the requirement of limit.
15.247(a)(2)	6dB bandwidth	PASS	Meet the requirement of limit.
15.247(b)	Conducted power	PASS	Meet the requirement of limit.
15.247(e)	Power Spectral Density	PASS	Meet the requirement of limit.
15.203	Antenna Requirement	PASS	No antenna connector is used.

2.1 MEASUREMENT UNCERTAINTY

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

MEASUREMENT	FREQUENCY	UNCERTAINTY
Conducted emissions	9kHz~30MHz	2.44 dB
Radiated emissions	30MHz ~ 200MHz	2.93 dB
	200MHz ~1000MHz	2.95 dB
	1GHz ~ 18GHz	2.26 dB
	18GHz ~ 40GHz	1.94 dB

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

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

EUT	Tablet PC
MODEL NO.	N435
POWER SUPPLY	5Vdc (adapter) 3.7Vdc (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 / 1.0 Mbps 802.11g: 54.0 / 48.0 / 36.0 / 24.0 / 18.0 / 12.0 / 9.0 / 6.0 Mbps 802.11a: 54.0 / 48.0 / 36.0 / 24.0 / 18.0 / 12.0 / 9.0 / 6.0 Mbps 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	90.57mW for 2412 ~ 2462MHz 114.82mW for 5745 ~ 5825MHz
ANTENNA TYPE	**2.4GHz:** PCB antenna with 3.3dBi gain **5.0GHz:** PCB antenna with 3.5dBi 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. WLAN 2.4GHz cannot transmit simultaneously with WLAN 5GHz.
2. The EUT contains following accessory devices.

ITEM	BRAND	MODEL	SPECIFICATION
Adapter 1	TPT	MII050200	I/P: 100-240Vac, 50-60Hz, 0.3A O/P: 5Vdc, 2A
Adapter 2	SINPRO	MPU16A-102	I/P: 100-240Vac, 47-63Hz, 0.33-0.18A O/P: 5Vdc, 2.6A
Battery	Tian Yu	SJS3060	3.7Vdc, 3060mAh
BCR Scanner 1 (2D LED)	Honeywell	N5600, N56X3, N56X0, N5603	--
BCR Scanner 2 (2D)	Code	CR8012	--
BCR Scanner 3 (2D Laser)	Honeywell	N5603, N56X3	--
LCD Panel	TIANME	TM059YDH01	5.88 inch
Front Camera	LITE-ON	10P2SA511	--
Rear Camera	LITE-ON	10P2SF130	--
WWAN Module	Ublox	LISA-U200	--
WLAN, BT Module	Jorjin	WG7833-B0 & WX7833-B0	--

3. 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 (5745 ~ 5825MHz):

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

WLAN 2.4GHz:

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE≥1G	RE<1G	PLC	APCM	
A	√	√	√	√	Tablet w/ 2D Laser Honeywell Scanner + Adapter 1
B	√	√	-	-	Tablet w/ 2D LED Honeywell Scanner + Adapter 1
C	√	√	-	-	Tablet w/ 2D Code Scanner + Adapter 1
D	-	√	-	-	Tablet w/ 2D Laser Honeywell Scanner + Adapter 2
E	-	√	-	-	Tablet w/ 2D LED Honeywell Scanner + Adapter 2
F	-	√	-	-	Tablet w/ 2D Code Scanner + Adapter 2

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

NOTE: 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).

☒ 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
	802.11n (20MHz)	1 to 11	1, 6, 11	OFDM	BPSK	MCS0
	802.11n (40MHz)	3 to 9	3, 6, 9	OFDM	BPSK	MCS0
B, C	802.11n (40MHz)	3 to 9	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)
A~F	802.11n (40MHz)	3 to 9	9	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)
A	802.11n (40MHz)	3 to 9	9	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	802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1.0
A	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6.0
A	802.11n (20MHz)	1 to 11	1, 6, 11	OFDM	BPSK	MCS0
A	802.11n (40MHz)	3 to 9	3, 6, 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
A	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6.0
A	802.11n (20MHz)	1 to 11	1, 6, 11	OFDM	BPSK	MCS0
A	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	Will Chen
RE<1G	25deg. C, 65%RH	120Vac, 60Hz	Will Chen
PLC	25deg. C, 65%RH	120Vac, 60Hz	Gavin Wu
APCM	25deg. C, 65%RH	120Vac, 60Hz	David Huang

WLAN 5.0GHz (5745 ~ 5825MHz):

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE≥1G	RE<1G	PLC	APCM	
A	√	√	√	√	Tablet w/ 2D Laser Honeywell Scanner + Adapter 1
B	√	√	-	-	Tablet w/ 2D LED Honeywell Scanner + Adapter 1
C	√	√	-	-	Tablet w/ 2D Code Scanner + Adapter 1
D	-	√	-	-	Tablet w/ 2D Laser Honeywell Scanner + Adapter 2
E	-	√	-	-	Tablet w/ 2D LED Honeywell Scanner + Adapter 2
F	-	√	-	-	Tablet w/ 2D Code Scanner + Adapter 2

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

NOTE: 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 161	149, 157, 165	OFDM	BPSK	6.0
	802.11n (20MHz)	149 to 161	149, 157, 165	OFDM	BPSK	MCS0
	802.11n (40MHz)	151 to 159	151, 159	OFDM	BPSK	MCS0
B, C	802.11n (40MHz)	151 to 159	151	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)
A~F	802.11n (40MHz)	151 to 159	151	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)
A	802.11n (40MHz)	151 to 159	151	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 161	149, 157, 165	OFDM	BPSK	6.0
A	802.11n (20MHz)	149 to 161	149, 157, 165	OFDM	BPSK	MCS0
A	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 161	149, 157, 165	OFDM	BPSK	6.0
A	802.11n (20MHz)	149 to 161	149, 157, 165	OFDM	BPSK	MCS0
A	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	Will Chen
RE<1G	25deg. C, 65%RH	120Vac, 60Hz	Will Chen
PLC	25deg. C, 65%RH	120Vac, 60Hz	Gavin Wu
APCM	25deg. C, 65%RH	120Vac, 60Hz	David Huang

3.3 DESCRIPTION OF SUPPORT UNITS

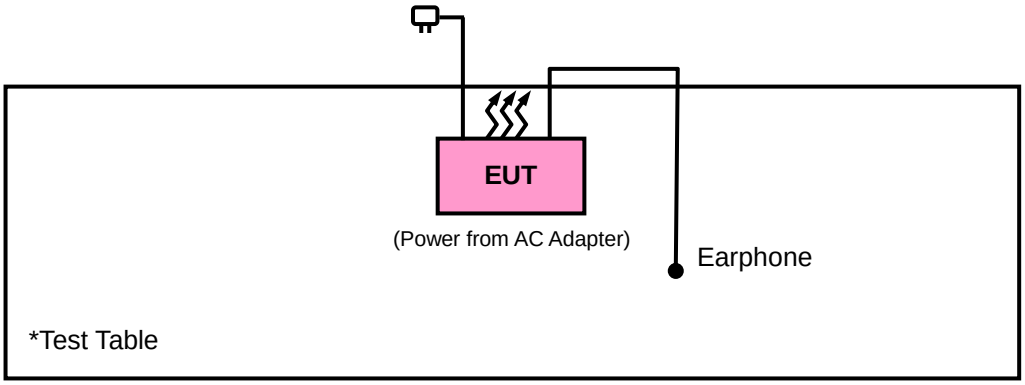
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	Earphone	N/A	N/A	N/A	N/A

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	N/A

NOTE: 1. All power cords of the above support units are non shielded (1.8m).

3.3.1 CONFIGURATION OF SYSTEM UNDER TEST



3.4 DUTY CYCLE TEST SIGNAL

WLAN 2.4GHz

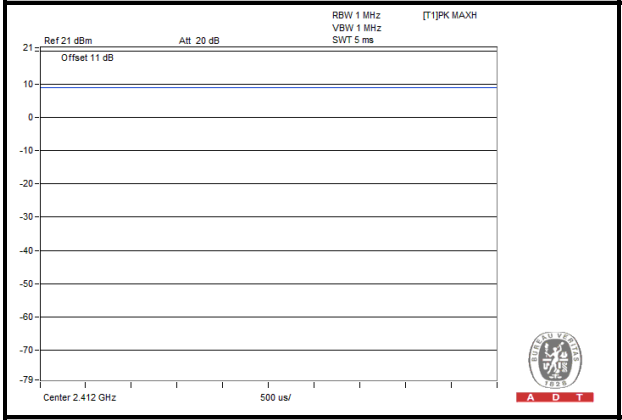
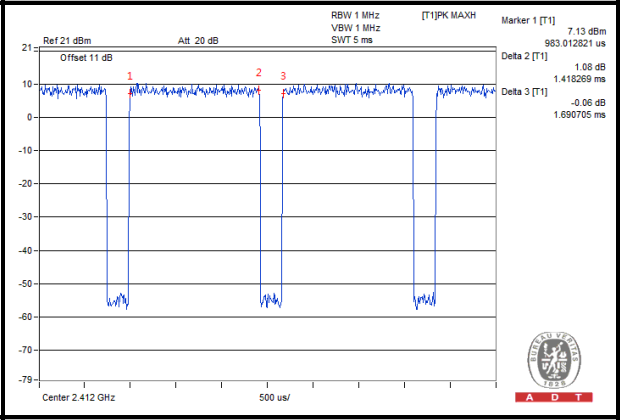
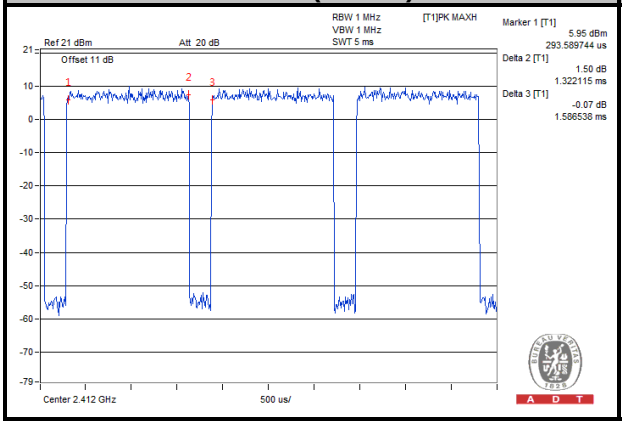
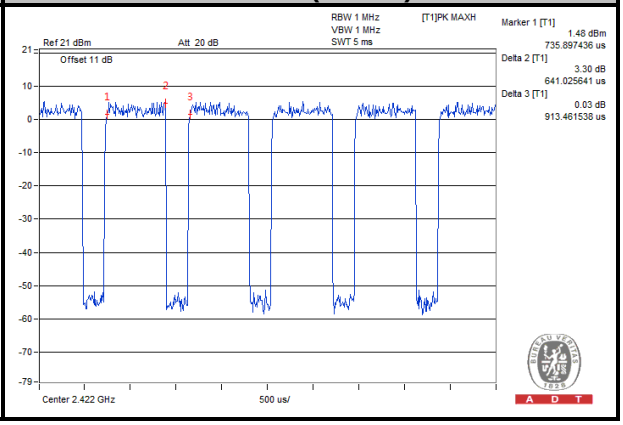
802.11b: Duty cycle of test signal is 100 %

Duty cycle is < 98%

802.11g: Duty cycle = 1.418/1.691 = 0.838, Duty factor = 10 * log(1/0.838) = 0.77

802.11n (20MHz): Duty cycle = 1.322/1.586 = 0.833, Duty factor = 10 * log(1/0.833) = 0.79

802.11n (40MHz): Duty cycle = 641.02/913.46 = 0.702, Duty factor = 10 * log(1/0.702) = 1.54

802.11b	802.11g (20MHz)
	
802.11n (20MHz)	**802.11n (40MHz)**
	

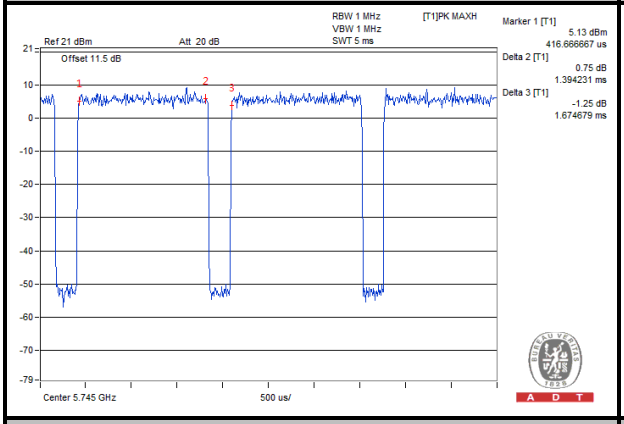
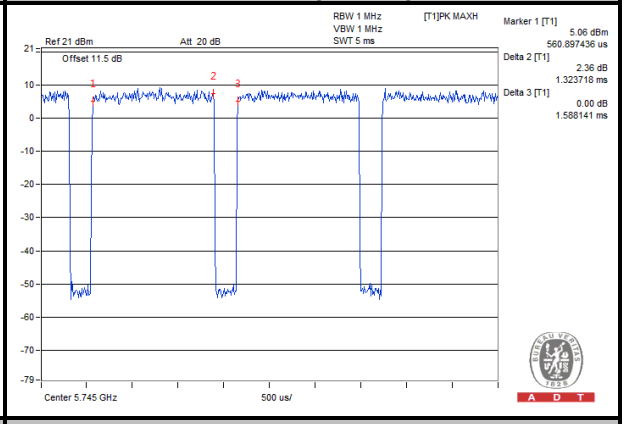
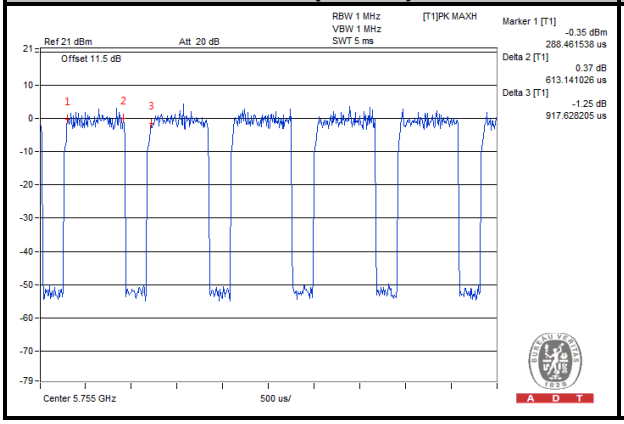
5725MHz ~ 5850MHz

Duty cycle is < 98%

802.11a: Duty cycle = 1.394/1.675 = 0.832, Duty factor = 10 * log(1/0.832) = 0.80

802.11n (20MHz): Duty cycle = 1.324/1.588 = 0.834, Duty factor = 10 * log(1/0.834) = 0.79

802.11n (40MHz): Duty cycle = 613.14/917.63 = 0.668, Duty factor = 10 * log(1/0.668) = 1.75

802.11a	802.11n (20MHz)
	
802.11n (40MHz)	
	

3.5 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 v03r01
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	100744	Apr. 15, 2014	Apr. 14, 2015
Spectrum Analyzer ROHDE & SCHWARZ	FSU43	101261	Dec. 21, 2013	Dec. 20, 2014
BILOG Antenna SCHWARZBECK	VULB9168	9168-472	Feb. 27. 2014	Feb. 26, 2015
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-969	Feb. 19, 2014	Feb. 18, 2015
HORN Antenna SCHWARZBECK	BBHA 9170	9170-480	Dec. 18, 2013	Dec. 17, 2014
Loop Antenna	HFH2-Z2	100070	Mar. 06, 2014	Mar. 05, 2016
Preamplifier EMCI	EMC 012645	980115	Dec. 26, 2013	Dec. 25, 2014
Preamplifier EMCI	EMC 184045	980116	Jan. 13, 2014	Jan. 12, 2015
Preamplifier EMCI	EMC 330H	980112	Dec. 27, 2013	Dec. 26, 2014
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	309219/4 2950114	Oct. 18, 2013	Oct. 17, 2014
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	250130/4	Oct. 18, 2013	Oct. 17, 2014
RF signal cable Worken	RG-213	NA	Nov. 07, 2013	Nov. 06, 2014
Software BV ADT	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
Power Meter	ML2495A	1232002	Aug. 23, 2013	Aug. 22, 2014
Power Sensor	MA2411B	1207325	Aug. 23, 2013	Aug. 22, 2014

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:

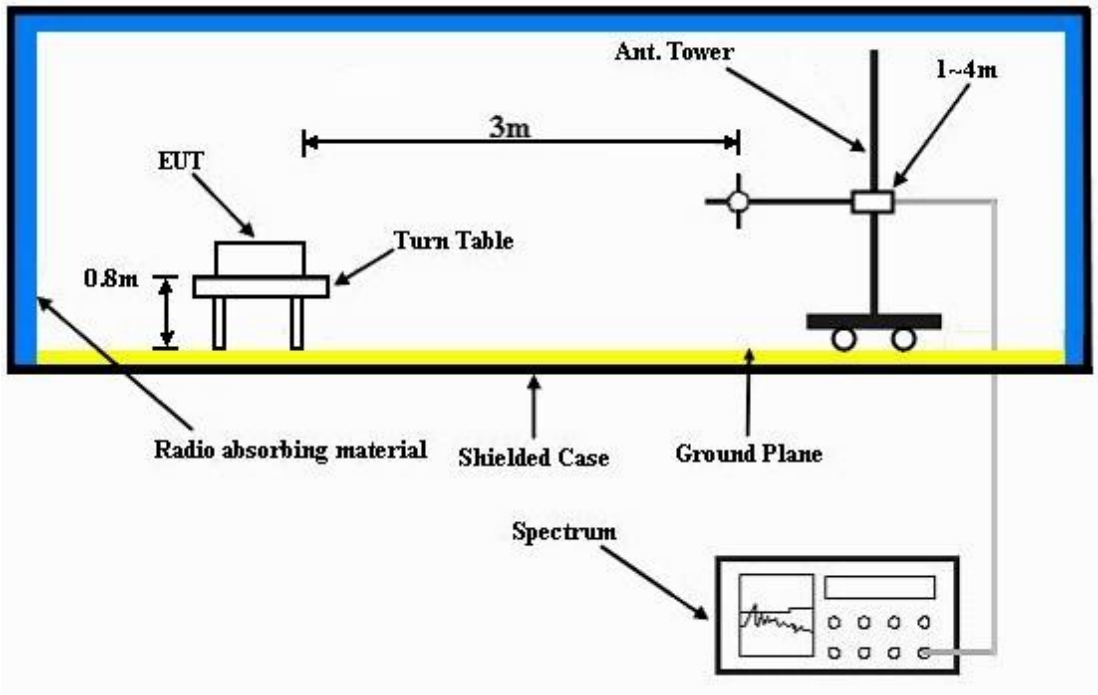
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 1kHz (Duty cycle < 98%) or 10Hz (Duty cycle > 98%) 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

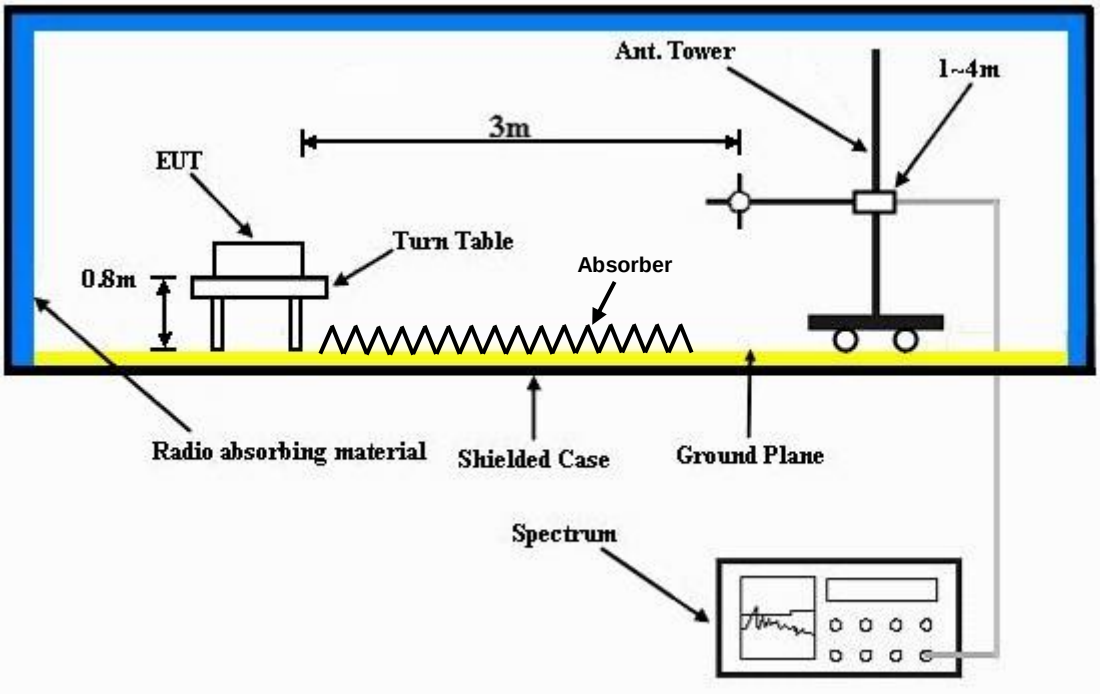
No deviation.

4.1.5 TEST SETUP

Frequency Range 30MHz ~ 1GHz



Frequency Range above 1GHz



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	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Will Chen

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
2388	45.99	44.28	54	-8.01	31.8	5.4	35.49	115	6	Average
2388	56.72	55.01	74	-17.28	31.8	5.4	35.49	115	6	Peak
2412	103.63	101.86			31.81	5.43	35.47	115	6	Average
2412	106.5	104.73			31.81	5.43	35.47	115	6	Peak
2484	40.2	38.24	54	-13.8	31.88	5.5	35.42	115	6	Average
2484	55.79	53.83	74	-18.21	31.88	5.5	35.42	115	6	Peak
4824	47.83	39.7	54	-6.17	33.97	8.26	34.1	148	227	Average
4824	53.65	45.52	74	-20.35	33.97	8.26	34.1	148	227	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	47.2	45.54	54	-6.8	31.78	5.37	35.49	103	88	Average
2378	59.47	57.81	74	-14.53	31.78	5.37	35.49	103	88	Peak
2412	104.4	102.63			31.81	5.43	35.47	103	88	Average
2412	107.1	105.33			31.81	5.43	35.47	103	88	Peak
2500	40.29	38.27	54	-13.71	31.9	5.53	35.41	103	88	Average
2500	55.92	53.9	74	-18.08	31.9	5.53	35.41	103	88	Peak
4824	48.62	40.49	54	-5.38	33.97	8.26	34.1	134	181	Average
4824	54.03	45.9	74	-19.97	33.97	8.26	34.1	134	181	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 2412MHz: Fundamental frequency.

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

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
2388	40.5	38.79	54	-13.5	31.8	5.4	35.49	137	26	Average
2388	56.07	54.36	74	-17.93	31.8	5.4	35.49	137	26	Peak
2437	103.41	101.56			31.85	5.46	35.46	137	26	Average
2437	106.3	104.45			31.85	5.46	35.46	137	26	Peak
2494	40.56	38.54	54	-13.44	31.9	5.53	35.41	137	26	Average
2494	56.32	54.3	74	-17.68	31.9	5.53	35.41	137	26	Peak
4874	52.29	44.1	54	-1.71	33.98	8.27	34.06	102	233	Average
4874	56.41	48.22	74	-17.59	33.98	8.27	34.06	102	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
2380	40.35	38.69	54	-13.65	31.78	5.37	35.49	100	87	Average
2380	55.94	54.28	74	-18.06	31.78	5.37	35.49	100	87	Peak
2437	104.24	102.39			31.85	5.46	35.46	100	87	Average
2437	107.04	105.19			31.85	5.46	35.46	100	87	Peak
2486	41.37	39.38	54	-12.63	31.88	5.53	35.42	100	87	Average
2486	56	54.01	74	-18	31.88	5.53	35.42	100	87	Peak
4874	45.25	37.06	54	-8.75	33.98	8.27	34.06	102	191	Average
4874	52.63	44.44	74	-21.37	33.98	8.27	34.06	102	191	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 2437MHz: Fundamental frequency.

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

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	39.74	38.08	54	-14.26	31.78	5.37	35.49	135	29	Average
2378	55.76	54.1	74	-18.24	31.78	5.37	35.49	135	29	Peak
2462	103.03	101.1			31.87	5.5	35.44	135	29	Average
2462	105.83	103.9			31.87	5.5	35.44	135	29	Peak
2488	45.31	43.3	54	-8.69	31.9	5.53	35.42	135	29	Average
2488	57.07	55.06	74	-16.93	31.9	5.53	35.42	135	29	Peak
4924	52.15	43.9	54	-1.85	33.99	8.28	34.02	100	233	Average
4924	56.26	48.01	74	-17.74	33.99	8.28	34.02	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
2382	39.87	38.18	54	-14.13	31.78	5.4	35.49	123	89	Average
2382	56.2	54.51	74	-17.8	31.78	5.4	35.49	123	89	Peak
2462	104.93	103			31.87	5.5	35.44	123	89	Average
2462	107.8	105.87			31.87	5.5	35.44	123	89	Peak
2484	46.09	44.13	54	-7.91	31.88	5.5	35.42	123	89	Average
2484	57.68	55.72	74	-16.32	31.88	5.5	35.42	123	89	Peak
4924	48	39.75	54	-6	33.99	8.28	34.02	103	192	Average
4924	53.84	45.59	74	-20.16	33.99	8.28	34.02	103	192	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 2462MHz: Fundamental frequency.

802.11g

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

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	50.56	48.83	54	-3.44	31.8	5.4	35.47	115	5	Average
2390	67.01	65.28	74	-6.99	31.8	5.4	35.47	115	5	Peak
2412	98.94	97.17			31.81	5.43	35.47	115	5	Average
2412	107.11	105.34			31.81	5.43	35.47	115	5	Peak
2492	40.94	38.92	54	-13.06	31.9	5.53	35.41	115	5	Average
2492	56.95	54.93	74	-17.05	31.9	5.53	35.41	115	5	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	53.4	51.67	54	-0.6	31.8	5.4	35.47	103	88	Average
2390	71.52	69.79	74	-2.48	31.8	5.4	35.47	103	88	Peak
2412	99.57	97.8			31.81	5.43	35.47	103	88	Average
2412	107.74	105.97			31.81	5.43	35.47	103	88	Peak
2494	41.03	39.01	54	-12.97	31.9	5.53	35.41	103	88	Average
2494	56.64	54.62	74	-17.36	31.9	5.53	35.41	103	88	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 2412MHz: Fundamental frequency.

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

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	42.93	41.2	54	-11.07	31.8	5.4	35.47	136	27	Average
2390	59.38	57.65	74	-14.62	31.8	5.4	35.47	136	27	Peak
2437	100.61	98.76			31.85	5.46	35.46	136	27	Average
2437	108.75	106.9			31.85	5.46	35.46	136	27	Peak
2484	41.9	39.94	54	-12.1	31.88	5.5	35.42	136	27	Average
2484	57.11	55.15	74	-16.89	31.88	5.5	35.42	136	27	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	41.05	54	-11.22	31.8	5.4	35.47	100	87	Average
2390	58.04	56.31	74	-15.96	31.8	5.4	35.47	100	87	Peak
2437	101.75	99.9			31.85	5.46	35.46	100	87	Average
2437	109.5	107.65			31.85	5.46	35.46	100	87	Peak
2484	43.29	41.33	54	-10.71	31.88	5.5	35.42	100	87	Average
2484	59.12	57.16	74	-14.88	31.88	5.5	35.42	100	87	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 2437MHz: Fundamental frequency.

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

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
2354	40.39	38.8	54	-13.61	31.76	5.33	35.5	135	29	Average
2354	56.56	54.97	74	-17.44	31.76	5.33	35.5	135	29	Peak
2462	97.89	95.96			31.87	5.5	35.44	135	29	Average
2462	106.07	104.14			31.87	5.5	35.44	135	29	Peak
2484	50.05	48.09	54	-3.95	31.88	5.5	35.42	135	29	Average
2484	70.2	68.24	74	-3.8	31.88	5.5	35.42	135	29	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
2328	40.27	38.76	54	-13.73	31.73	5.3	35.52	100	120	Average
2328	56.14	54.63	74	-17.86	31.73	5.3	35.52	100	120	Peak
2462	99.05	97.12			31.87	5.5	35.44	100	120	Average
2462	107.71	105.78			31.87	5.5	35.44	100	120	Peak
2483.5	53.48	51.52	54	-0.52	31.88	5.5	35.42	100	120	Average
2483.5	72.89	70.93	74	-1.11	31.88	5.5	35.42	100	120	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 2462MHz: Fundamental frequency.

802.11n (20MHz)

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

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	50.7	48.97	54	-3.3	31.8	5.4	35.47	115	6	Average
2390	67.69	65.96	74	-6.31	31.8	5.4	35.47	115	6	Peak
2412	98.25	96.48			31.81	5.43	35.47	115	6	Average
2412	105.69	103.92			31.81	5.43	35.47	115	6	Peak
2484	41.04	39.08	54	-12.96	31.88	5.5	35.42	115	6	Average
2484	55.96	54	74	-18.04	31.88	5.5	35.42	115	6	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
2389.2	52.97	51.26	54	-1.03	31.8	5.4	35.49	103	88	Average
2389.2	69.71	68	74	-4.29	31.8	5.4	35.49	103	88	Peak
2412	98.78	97.01			31.81	5.43	35.47	103	88	Average
2412	106.91	105.14			31.81	5.43	35.47	103	88	Peak
2496	41.14	39.12	54	-12.86	31.9	5.53	35.41	103	88	Average
2496	56.3	54.28	74	-17.7	31.9	5.53	35.41	103	88	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 2412MHz: Fundamental frequency.

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

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	42.42	40.69	54	-11.58	31.8	5.4	35.47	137	27	Average
2390	59.61	57.88	74	-14.39	31.8	5.4	35.47	137	27	Peak
2437	100.43	98.58			31.85	5.46	35.46	137	27	Average
2437	108.67	106.82			31.85	5.46	35.46	137	27	Peak
2496	41.65	39.63	54	-12.35	31.9	5.53	35.41	137	27	Average
2496	56.84	54.82	74	-17.16	31.9	5.53	35.41	137	27	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	42.03	40.37	54	-11.97	31.78	5.37	35.49	100	87	Average
2376	56.19	54.53	74	-17.81	31.78	5.37	35.49	100	87	Peak
2437	101.11	99.26			31.85	5.46	35.46	100	87	Average
2437	109.3	107.45			31.85	5.46	35.46	100	87	Peak
2484	42.84	40.88	54	-11.16	31.88	5.5	35.42	100	87	Average
2484	56.55	54.59	74	-17.45	31.88	5.5	35.42	100	87	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 2437MHz: Fundamental frequency.

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

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	40.62	38.89	54	-13.38	31.8	5.4	35.47	135	29	Average
2390	55.47	53.74	74	-18.53	31.8	5.4	35.47	135	29	Peak
2462	97.86	95.93			31.87	5.5	35.44	135	29	Average
2462	105.65	103.72			31.87	5.5	35.44	135	29	Peak
2484	50.62	48.66	54	-3.38	31.88	5.5	35.42	135	29	Average
2484	65.46	63.5	74	-8.54	31.88	5.5	35.42	135	29	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	40.58	38.87	54	-13.42	31.8	5.4	35.49	123	87	Average
2388	56.92	55.21	74	-17.08	31.8	5.4	35.49	123	87	Peak
2462	99.76	97.83			31.87	5.5	35.44	123	87	Average
2462	107.65	105.72			31.87	5.5	35.44	123	87	Peak
2484	53.44	51.48	54	-0.56	31.88	5.5	35.42	123	87	Average
2484	70.41	68.45	74	-3.59	31.88	5.5	35.42	123	87	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 2462MHz: Fundamental frequency.

802.11n (40MHz)

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

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
2380	48.64	46.98	54	-5.36	31.78	5.37	35.49	115	6	Average
2380	68.02	66.36	74	-5.98	31.78	5.37	35.49	115	6	Peak
2422	92.1	90.3			31.83	5.43	35.46	115	6	Average
2422	100.79	98.99			31.83	5.43	35.46	115	6	Peak
2490	41.83	39.82	54	-12.17	31.9	5.53	35.42	115	6	Average
2490	56.43	54.42	74	-17.57	31.9	5.53	35.42	115	6	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
2384.72	52.45	50.76	54	-1.55	31.78	5.4	35.49	100	88	Average
2384.72	70.49	68.8	74	-3.51	31.78	5.4	35.49	100	88	Peak
2422	93.38	91.58			31.83	5.43	35.46	100	88	Average
2422	102.27	100.47			31.83	5.43	35.46	100	88	Peak
2492	42.06	40.04	54	-11.94	31.9	5.53	35.41	100	88	Average
2492	56.86	54.84	74	-17.14	31.9	5.53	35.41	100	88	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 2422MHz: Fundamental frequency.

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

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	51.46	49.73	54	-2.54	31.8	5.4	35.47	137	28	Average
2390	65.86	64.13	74	-8.14	31.8	5.4	35.47	137	28	Peak
2437	95.59	93.74			31.85	5.46	35.46	137	28	Average
2437	103.59	101.74			31.85	5.46	35.46	137	28	Peak
2484	49.4	47.44	54	-4.6	31.88	5.5	35.42	137	28	Average
2484	66.55	64.59	74	-7.45	31.88	5.5	35.42	137	28	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	51.38	49.65	54	-2.62	31.8	5.4	35.47	100	87	Average
2390	65.94	64.21	74	-8.06	31.8	5.4	35.47	100	87	Peak
2437	96.56	94.71			31.85	5.46	35.46	100	87	Average
2437	105.04	103.19			31.85	5.46	35.46	100	87	Peak
2484	53.39	51.43	54	-0.61	31.88	5.5	35.42	100	87	Average
2484	69.3	67.34	74	-4.7	31.88	5.5	35.42	100	87	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 2437MHz: Fundamental frequency.

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

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
2370	43.13	41.47	54	-10.87	31.78	5.37	35.49	114	355	Average
2370	56	54.34	74	-18	31.78	5.37	35.49	114	355	Peak
2452	92.46	90.59			31.85	5.46	35.44	114	355	Average
2452	100.68	98.81			31.85	5.46	35.44	114	355	Peak
2488	52.89	50.88	54	-1.11	31.9	5.53	35.42	114	355	Average
2488	70.94	68.93	74	-3.06	31.9	5.53	35.42	114	355	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	41.15	39.44	54	-12.85	31.8	5.4	35.49	122	87	Average
2388	55.69	53.98	74	-18.31	31.8	5.4	35.49	122	87	Peak
2452	94.81	92.94			31.85	5.46	35.44	122	87	Average
2452	102.62	100.75			31.85	5.46	35.44	122	87	Peak
2488	53.49	51.48	54	-0.51	31.9	5.53	35.42	122	87	Average
2488	71.81	69.8	74	-2.19	31.9	5.53	35.42	122	87	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 2452MHz: Fundamental frequency.

MODE B

802.11n (40MHz)

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

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
2368	40.77	39.13	54	-13.23	31.76	5.37	35.49	114	353	Average
2368	56.72	55.08	74	-17.28	31.76	5.37	35.49	114	353	Peak
2452	85.91	84.04			31.85	5.46	35.44	114	353	Average
2452	94.05	92.18			31.85	5.46	35.44	114	353	Peak
2490	44.31	42.3	54	-9.69	31.9	5.53	35.42	114	353	Average
2490	63.38	61.37	74	-10.62	31.9	5.53	35.42	114	353	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
2342	40.81	39.24	54	-13.19	31.74	5.33	35.5	122	86	Average
2342	55.77	54.2	74	-18.23	31.74	5.33	35.5	122	86	Peak
2452	91.6	89.73			31.85	5.46	35.44	122	86	Average
2452	100.2	98.33			31.85	5.46	35.44	122	86	Peak
2490	46	43.99	54	-8	31.9	5.53	35.42	122	86	Average
2490	65.45	63.44	74	-8.55	31.9	5.53	35.42	122	86	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 2452MHz: Fundamental frequency.

MODE C

802.11n (40MHz)

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

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
2384	40.85	39.16	54	-13.15	31.78	5.4	35.49	114	352	Average
2384	56.27	54.58	74	-17.73	31.78	5.4	35.49	114	352	Peak
2452	89.46	87.59			31.85	5.46	35.44	114	352	Average
2452	97.6	95.73			31.85	5.46	35.44	114	352	Peak
2484	47.09	45.13	54	-6.91	31.88	5.5	35.42	114	352	Average
2484	66.73	64.77	74	-7.27	31.88	5.5	35.42	114	352	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	41.03	39.34	54	-12.97	31.78	5.4	35.49	122	86	Average
2382	55.97	54.28	74	-18.03	31.78	5.4	35.49	122	86	Peak
2452	90.44	88.57			31.85	5.46	35.44	122	86	Average
2452	98.9	97.03			31.85	5.46	35.44	122	86	Peak
2490	46.26	44.25	54	-7.74	31.9	5.53	35.42	122	86	Average
2490	65.72	63.71	74	-8.28	31.9	5.53	35.42	122	86	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 2452MHz: Fundamental frequency.

BELOW 1GHz WORST-CASE DATA:

MODE A

802.11n (40MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 9	FREQUENCY RANGE	30MHz ~ 1GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Will Chen

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
90.48	21.04	42.7	43.5	-22.46	8.94	1.11	31.71	115	192	Peak
142.32	27.55	48.96	43.5	-15.95	9.48	1.38	32.27	163	276	Peak
216.3	31.81	50.85	46	-14.19	11.54	1.65	32.23	112	241	Peak
395.9	17.6	29.67	46	-28.4	17.8	2.34	32.21	134	219	Peak
554.1	21.23	30.4	46	-24.77	20.27	2.76	32.2	113	351	Peak
801.2	27.32	31.45	46	-18.68	24.6	3.32	32.05	154	247	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	21.5	35.48	40	-18.5	17.55	0.74	32.27	167	281	Peak
136.65	18.09	39.7	43.5	-25.41	9.27	1.38	32.26	136	246	Peak
274.89	18.99	35.47	46	-27.01	13.7	1.94	32.12	149	274	Peak
444.9	18.25	29.96	46	-27.75	17.95	2.49	32.15	132	224	Peak
636.7	22.95	30.08	46	-23.05	22.1	2.93	32.16	166	214	Peak
783	25.58	30.53	46	-20.42	23.87	3.27	32.09	149	116	Peak

REMARKS: Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor

Margin value = Emission level – Limit value

MODE B

802.11n (40MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 9	FREQUENCY RANGE	30MHz ~ 1GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Will Chen

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
89.13	28.7	50.5	43.5	-14.8	8.85	1.11	31.76	175	204	Peak
198.21	31.67	51.56	43.5	-11.83	10.79	1.61	32.29	102	169	Peak
262.2	25.43	42.23	46	-20.57	13.37	1.94	32.11	124	111	Peak
558.3	22.23	31.44	46	-23.77	20.23	2.76	32.2	104	75	Peak
713.7	26.26	31.98	46	-19.74	23.27	3.11	32.1	133	155	Peak
996.5	29.2	29.79	54	-24.8	26.04	3.72	30.35	101	207	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
31.62	21.72	36.67	40	-18.28	16.57	0.74	32.26	114	109	Peak
50.25	20.18	43.73	40	-19.82	7.77	0.9	32.22	138	14	Peak
202.8	24.46	44.11	43.5	-19.04	10.99	1.65	32.29	112	100	Peak
521.2	21.83	30.76	46	-24.17	20.51	2.7	32.14	105	64	Peak
728.4	25.42	30.98	46	-20.58	23.4	3.16	32.12	191	132	Peak
967.8	29.21	30.47	54	-24.79	25.88	3.67	30.81	107	88	Peak

REMARKS: Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor

Margin value = Emission level – Limit value

MODE C

802.11n (40MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 9	FREQUENCY RANGE	30MHz ~ 1GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Will Chen

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
88.86	27.95	49.75	43.5	-15.55	8.85	1.11	31.76	175	139	Peak
192	33.81	54	43.5	-9.69	10.46	1.61	32.26	145	169	Peak
240.06	30.03	47.77	46	-15.97	12.54	1.85	32.13	111	132	Peak
531.7	27.09	35.98	46	-18.91	20.57	2.7	32.16	102	110	Peak
665.4	35.4	41.57	46	-10.6	22.97	2.99	32.13	114	138	Peak
798.4	36.7	41.02	46	-9.3	24.42	3.32	32.06	106	118	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
74.55	34.77	57.64	40	-5.23	8.24	1.11	32.22	135	268	Peak
145.83	40.05	61.15	43.5	-3.45	9.79	1.38	32.27	161	198	Peak
192.27	27.58	47.72	43.5	-15.92	10.51	1.61	32.26	107	116	Peak
514.9	30.09	39.39	46	-15.91	20.13	2.7	32.13	176	164	Peak
581.4	35.58	44.61	46	-10.42	20.35	2.82	32.2	150	193	Peak
798.4	31.62	35.94	46	-14.38	24.42	3.32	32.06	106	38	Peak

REMARKS: Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor

Margin value = Emission level – Limit value

MODE D

802.11n (40MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 9	FREQUENCY RANGE	30MHz ~ 1GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Will Chen

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
49.17	10.1	33.36	40	-29.9	8.06	0.9	32.22	124	281	Peak
131.52	15.2	36.84	43.5	-28.3	9.22	1.38	32.24	124	314	Peak
253.29	27.24	44.32	46	-18.76	13.08	1.94	32.1	117	216	Peak
453.3	18.79	30.35	46	-27.21	18.09	2.49	32.14	119	342	Peak
666.1	24.22	30.39	46	-21.78	22.97	2.99	32.13	157	261	Peak
918.8	28.29	30.14	46	-17.71	25.96	3.53	31.34	132	217	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
96.69	22.89	44.29	43.5	-20.61	9.42	1.28	32.1	164	217	Peak
132.33	16.79	38.43	43.5	-26.71	9.22	1.38	32.24	126	214	Peak
220.35	22.05	40.9	46	-23.95	11.72	1.65	32.22	174	315	Peak
435.8	18.17	30.01	46	-27.83	17.84	2.49	32.17	126	246	Peak
575.8	21.84	31.12	46	-24.16	20.1	2.82	32.2	163	297	Peak
785.1	25.65	30.59	46	-20.35	23.87	3.27	32.08	154	125	Peak

REMARKS: Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor

Margin value = Emission level – Limit value

MODE E

802.11n (40MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 9	FREQUENCY RANGE	30MHz ~ 1GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Will Chen

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
89.13	28.86	50.66	43.5	-14.64	8.85	1.11	31.76	142	268	Peak
199.29	31.57	51.38	43.5	-11.93	10.84	1.65	32.3	169	245	Peak
225.48	27.77	46.21	46	-18.23	11.9	1.85	32.19	154	312	Peak
398.7	18.84	30.62	46	-27.16	18.1	2.34	32.22	162	217	Peak
558.3	23.15	32.36	46	-22.85	20.23	2.76	32.2	148	310	Peak
718.6	26.51	32.15	46	-19.49	23.31	3.16	32.11	176	245	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
35.67	26.26	43.87	40	-13.74	13.88	0.74	32.23	176	289	Peak
88.05	27.45	49.35	43.5	-16.05	8.8	1.11	31.81	139	261	Peak
220.62	23.68	42.52	46	-22.32	11.72	1.65	32.21	144	296	Peak
405.7	18.29	30.18	46	-27.71	17.99	2.34	32.22	142	277	Peak
659.8	24.27	30.89	46	-21.73	22.53	2.99	32.14	114	215	Peak
776	25.14	30.47	46	-20.86	23.5	3.27	32.1	166	345	Peak

REMARKS: Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor

Margin value = Emission level – Limit value

MODE F

802.11n (40MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 9	FREQUENCY RANGE	30MHz ~ 1GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Will Chen

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
89.4	24.57	46.34	43.5	-18.93	8.88	1.11	31.76	119	102	Peak
192	33.07	53.26	43.5	-10.43	10.46	1.61	32.26	165	82	Peak
240.06	31.25	48.99	46	-14.75	12.54	1.85	32.13	112	135	Peak
514.9	27.94	37.24	46	-18.06	20.13	2.7	32.13	100	335	Peak
665.4	32.9	39.07	46	-13.1	22.97	2.99	32.13	108	265	Peak
798.4	36.81	41.13	46	-9.19	24.42	3.32	32.06	173	198	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
88.86	27.23	49.03	43.5	-16.27	8.85	1.11	31.76	102	310	Peak
192	27.19	47.38	43.5	-16.31	10.46	1.61	32.26	112	167	Peak
240.06	24.01	41.75	46	-21.99	12.54	1.85	32.13	108	269	Peak
514.9	30.62	39.92	46	-15.38	20.13	2.7	32.13	191	163	Peak
581.4	34.2	43.23	46	-11.8	20.35	2.82	32.2	172	196	Peak
798.4	32.99	37.31	46	-13.01	24.42	3.32	32.06	198	284	Peak

REMARKS: Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor

Margin value = Emission level – Limit value

4.2 CONDUCTED EMISSION MEASUREMENT

4.2.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

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

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

4.2.2 TEST INSTRUMENTS

Tested Date: Jul. 17, 2014

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESCS30	100288	Apr. 24, 2014	Apr. 23, 2015
RF signal cable Woken	5D-FB	Cable-HYCO2-01	Dec. 27, 2013	Dec. 26, 2014
LISN ROHDE & SCHWARZ (EUT)	ESH2-Z5	100100	Dec. 23, 2013	Dec. 22, 2014
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100312	Jul. 10, 2014	Jul. 09, 2015
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

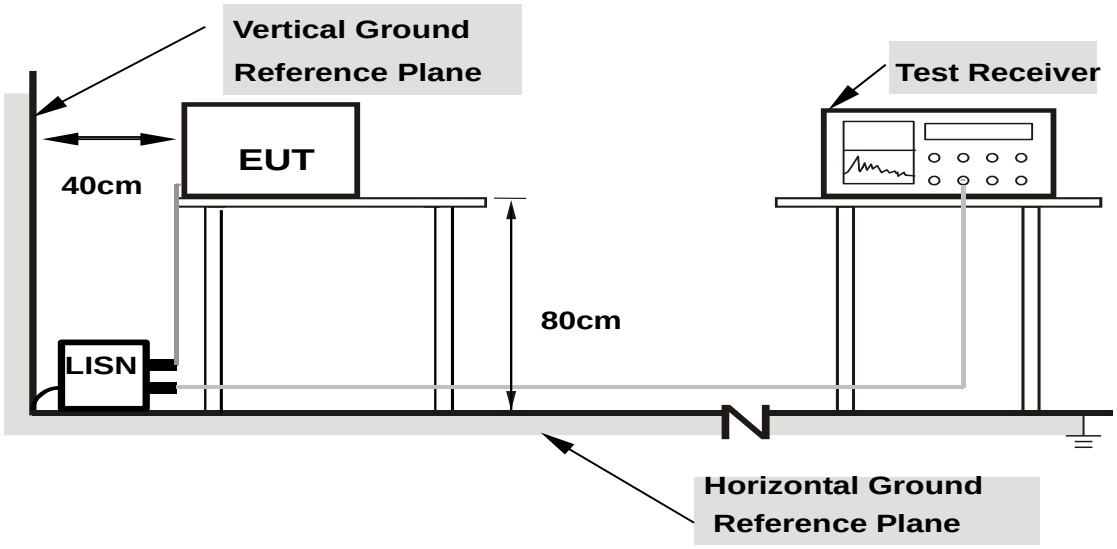
a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling 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 section 4.1.6.

4.2.7 TEST RESULTS

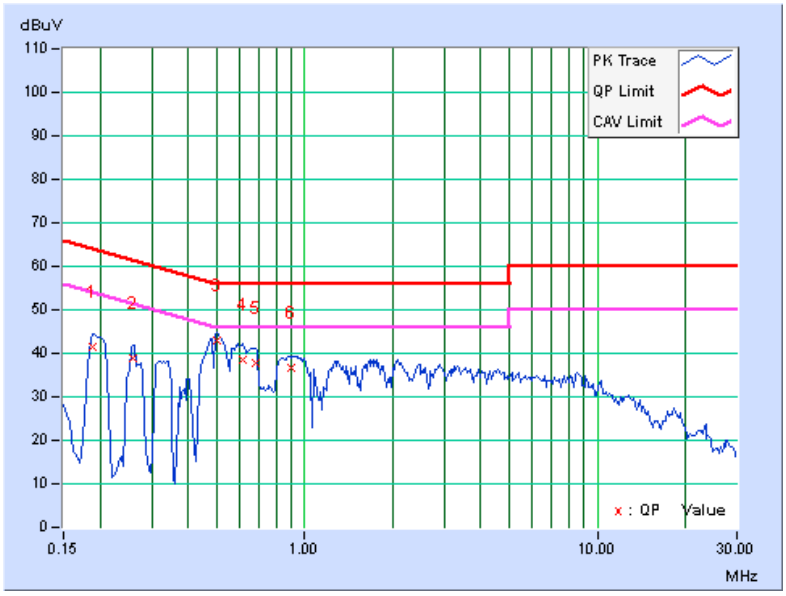
CONDUCTED WORST-CASE DATA：

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	0.18906	0.28	41.15	28.53	41.43	28.81	64.08	54.08	-22.65	-25.27
2	0.25938	0.29	38.45	29.59	38.74	29.88	61.45	51.45	-22.72	-21.58
3	0.50000	0.31	42.52	28.30	42.83	28.61	56.00	46.00	-13.17	-17.39
4	0.61094	0.31	38.13	22.79	38.44	23.10	56.00	46.00	-17.56	-22.90
5	0.67734	0.32	37.32	22.29	37.64	22.61	56.00	46.00	-18.36	-23.39
6	0.89609	0.33	36.37	22.86	36.70	23.19	56.00	46.00	-19.30	-22.81

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

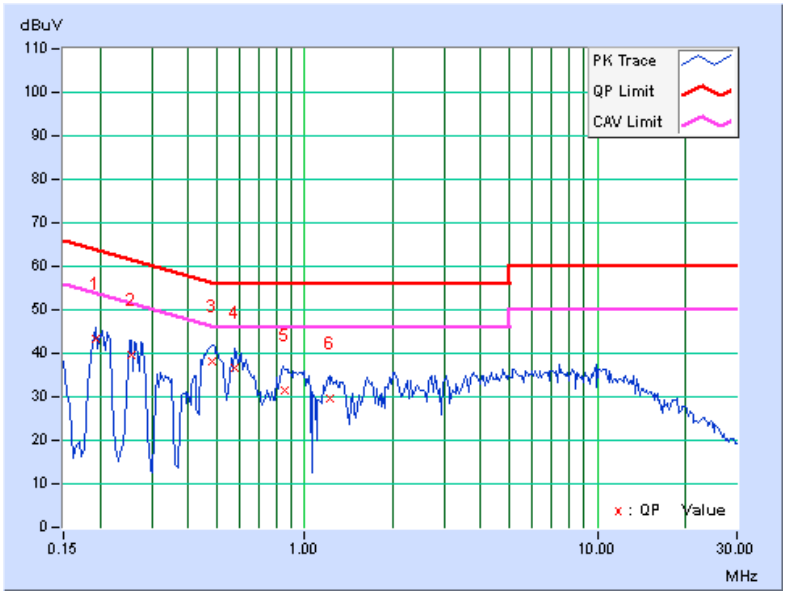


PHASE	Line 2	6dB BANDWIDTH	9kHz

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	0.19297	0.28	42.97	29.66	43.25	29.94	63.91	53.91	-20.66	-23.97
2	0.25547	0.29	39.18	25.01	39.47	25.30	61.58	51.58	-22.11	-26.28
3	0.48203	0.31	38.00	25.48	38.31	25.79	56.30	46.30	-18.00	-20.52
4	0.57578	0.31	36.26	22.85	36.57	23.16	56.00	46.00	-19.43	-22.84
5	0.85313	0.33	31.03	15.60	31.36	15.93	56.00	46.00	-24.64	-30.07
6	1.21484	0.35	29.11	15.30	29.46	15.65	56.00	46.00	-26.54	-30.35

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

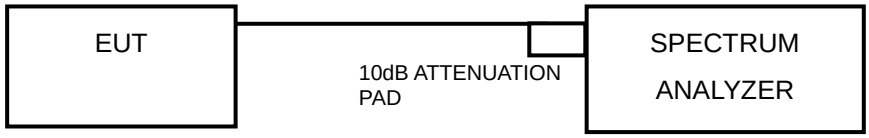


4.3 6dB BANDWIDTH MEASUREMENT

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) = 100kHz
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

802.11b

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	9.59	0.5	PASS
6	2437	10.07	0.5	PASS
11	2462	10.08	0.5	PASS

802.11g

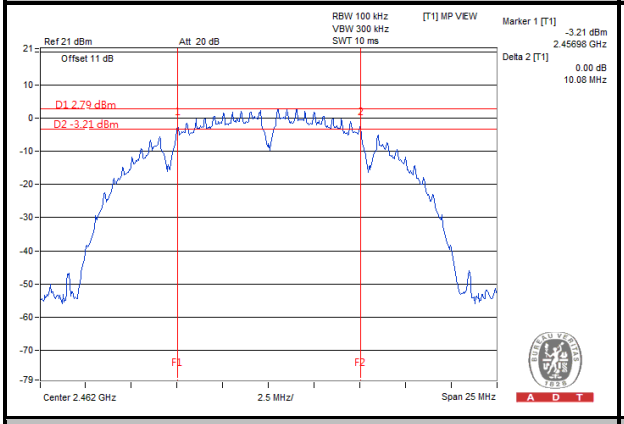
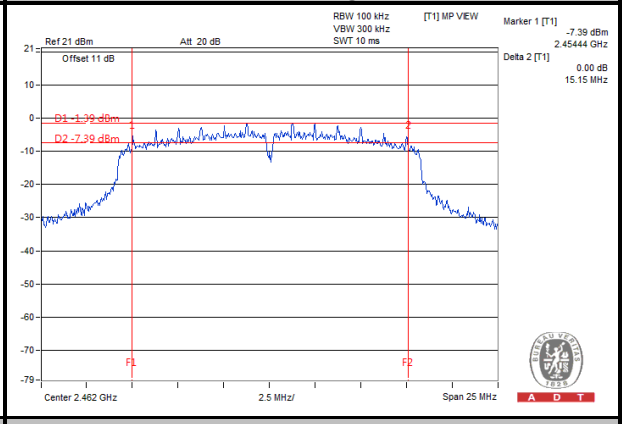
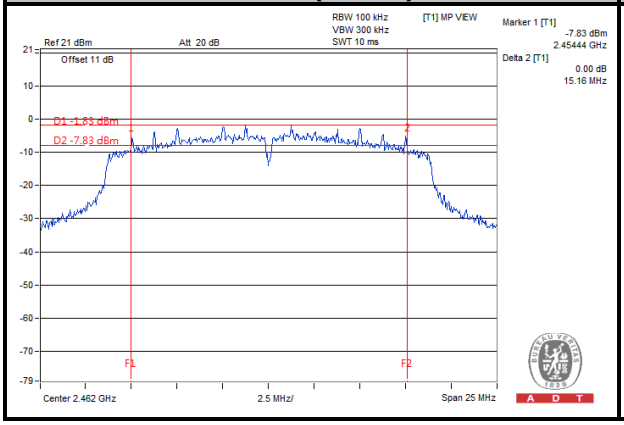
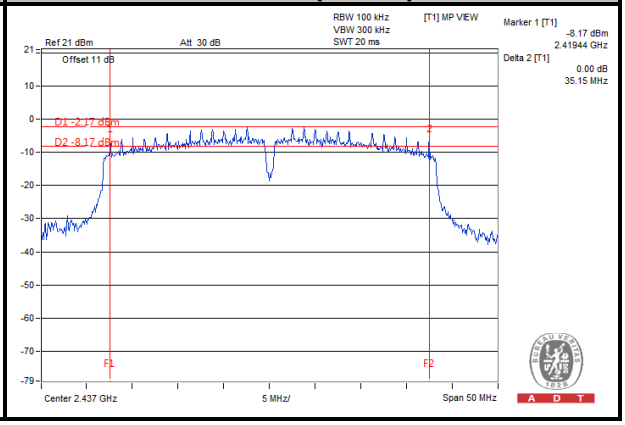
CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	15.08	0.5	PASS
6	2437	15.11	0.5	PASS
11	2462	15.15	0.5	PASS

802.11n (20MHz)

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	15.13	0.5	PASS
6	2437	15.12	0.5	PASS
11	2462	15.16	0.5	PASS

802.11n (40MHz)

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
3	2422	33.96	0.5	PASS
6	2437	35.15	0.5	PASS
6	2452	35.14	0.5	PASS

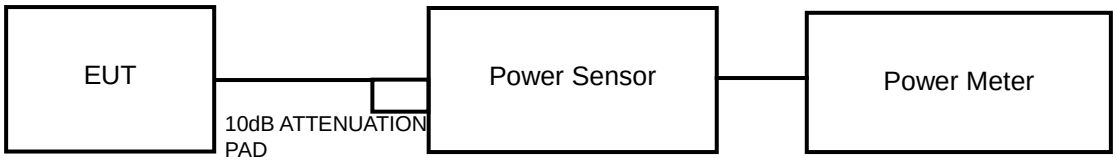
SPECTRUM PLOT OF WORST VALUE	
802.11b	802.11g
	
802.11n (20MHz)	802.11n (40MHz)
	

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)

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 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 section 4.3.6.

4.4.7 TEST RESULTS

802.11b

CHANNEL	FREQUENCY (MHz)	PEAK POWER (mW)	PEAK POWER (dBm)	LIMIT (dBm)	PASS / FAIL
1	2412	24.38	13.87	30	PASS
6	2437	24.27	13.85	30	PASS
11	2462	23.55	13.72	30	PASS

802.11g

CHANNEL	FREQUENCY (MHz)	PEAK POWER (mW)	PEAK POWER (dBm)	LIMIT (dBm)	PASS / FAIL
1	2412	41.98	16.23	30	PASS
6	2437	90.57	19.57	30	PASS
11	2462	41.69	16.2	30	PASS

802.11n (20MHz)

CHANNEL	FREQUENCY (MHz)	PEAK POWER (mW)	PEAK POWER (dBm)	LIMIT (dBm)	PASS / FAIL
1	2412	40.09	16.03	30	PASS
6	2437	87.90	19.44	30	PASS
11	2462	38.19	15.82	30	PASS

802.11n (40MHz)

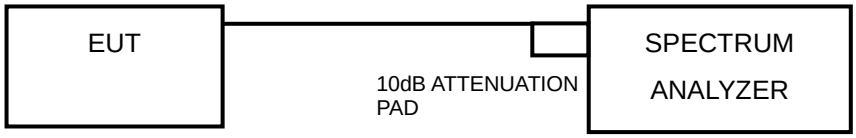
CHANNEL	FREQUENCY (MHz)	PEAK POWER (mW)	PEAK POWER (dBm)	LIMIT (dBm)	PASS / FAIL
3	2422	36.14	15.58	30	PASS
6	2437	70.47	18.48	30	PASS
9	2452	33.57	15.26	30	PASS

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 section 4.3.6.

4.5.7 TEST RESULTS

802.11b

CHANNEL	FREQUENCY (MHz)	PSD (dBm/3kHz)	LIMIT (dBm/3kHz)	PASS / FAIL
1	2412	-11.30	8	PASS
6	2437	-9.46	8	PASS
11	2462	-10.83	8	PASS

802.11g

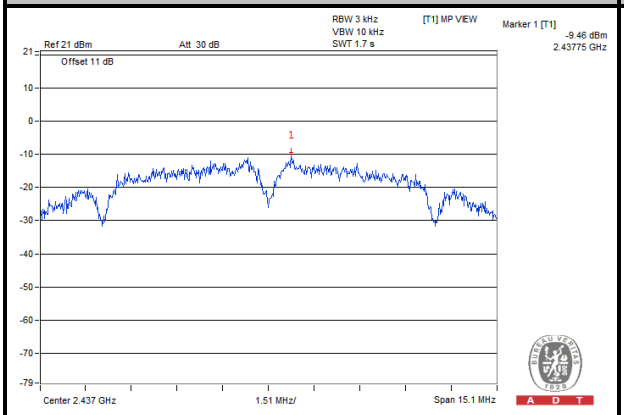
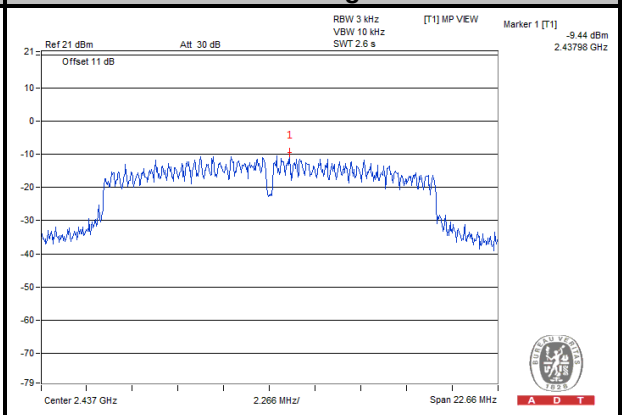
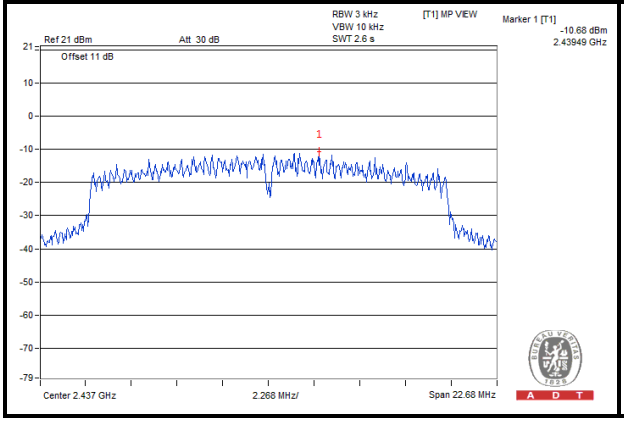
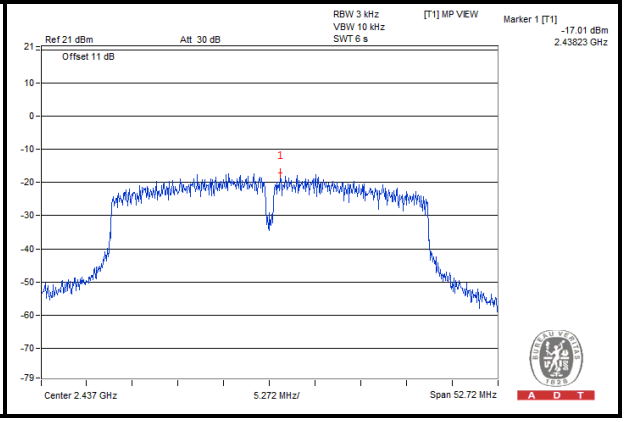
CHANNEL	FREQUENCY (MHz)	PSD (dBm/3kHz)	LIMIT (dBm/3kHz)	PASS / FAIL
1	2412	-15.04	8	PASS
6	2437	-9.44	8	PASS
11	2462	-15.03	8	PASS

802.11n (20MHz)

CHANNEL	FREQUENCY (MHz)	PSD (dBm/3kHz)	LIMIT (dBm/3kHz)	PASS / FAIL
1	2412	-16.43	8	PASS
6	2437	-10.68	8	PASS
11	2462	-16.50	8	PASS

802.11n (40MHz)

CHANNEL	FREQUENCY (MHz)	PSD (dBm/3kHz)	LIMIT (dBm/3kHz)	PASS / FAIL
3	2422	-19.91	8	PASS
6	2437	-17.01	8	PASS
9	2452	-19.77	8	PASS

SPECTRUM PLOT OF WORST VALUE	
802.11b	802.11g
	
802.11n (20MHz)	802.11n (40MHz)
	

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. Ensure that the number of measurement points ≥ span/RBW
4. According to measurement points to set differ measurement span.
5. Detector = peak.
6. Trace Mode = max hold.
7. Sweep = auto couple.

4.6.5 DEVIATION FROM TEST STANDARD

No deviation.

4.6.6 EUT OPERATING CONDITION

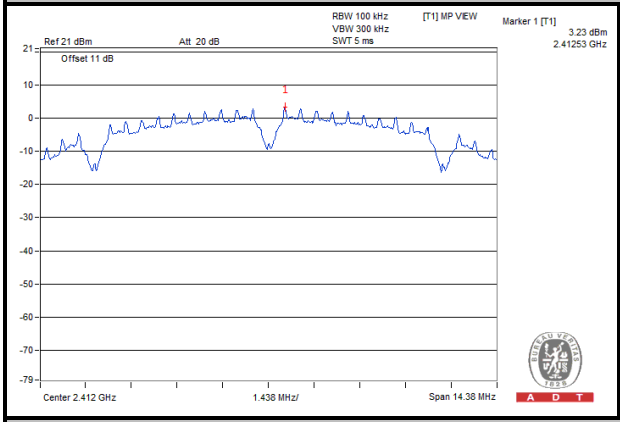
Same as section 4.3.6.

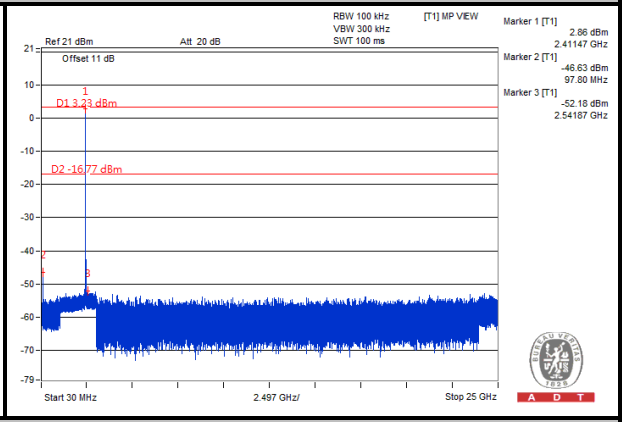
4.6.7 TEST RESULTS

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

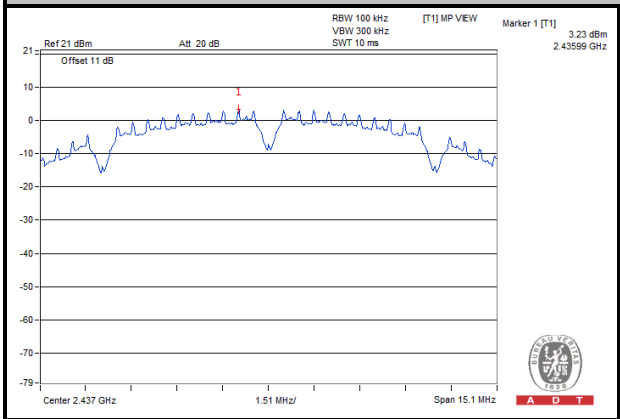
802.11b

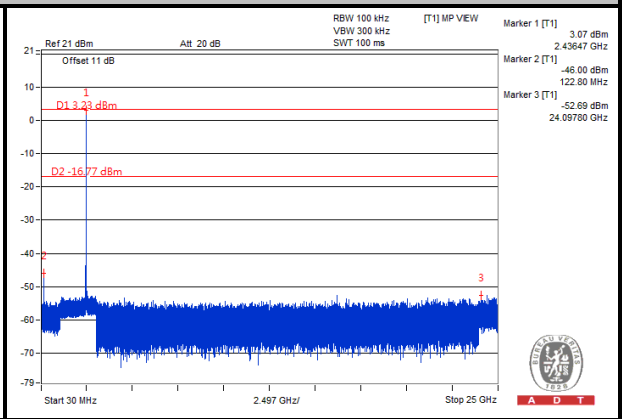
CH 1



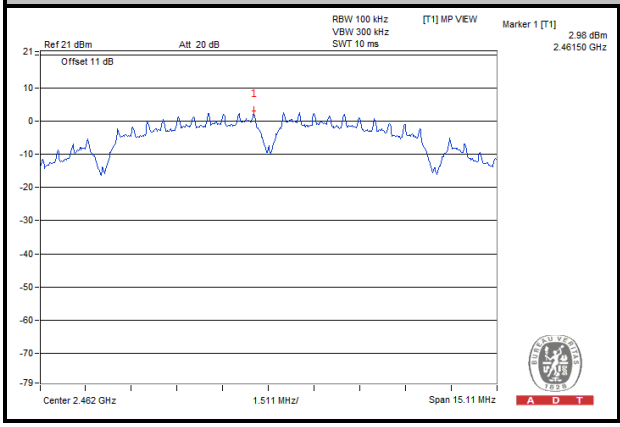


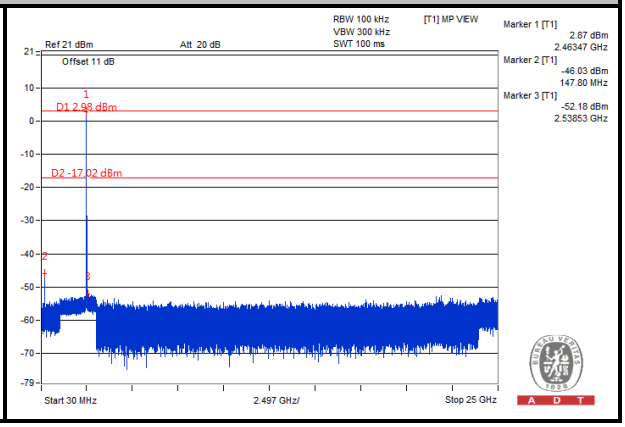
CH 6





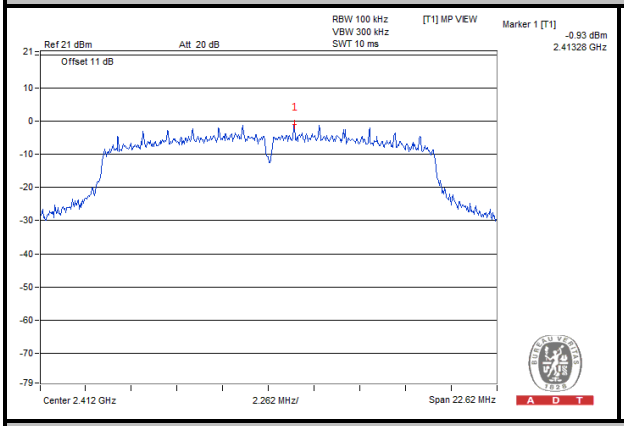
CH 11

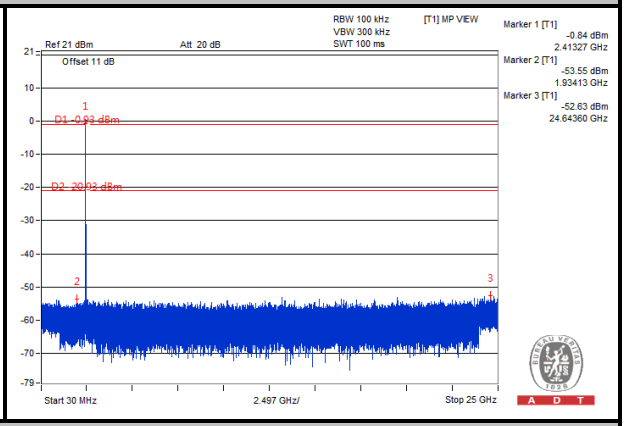




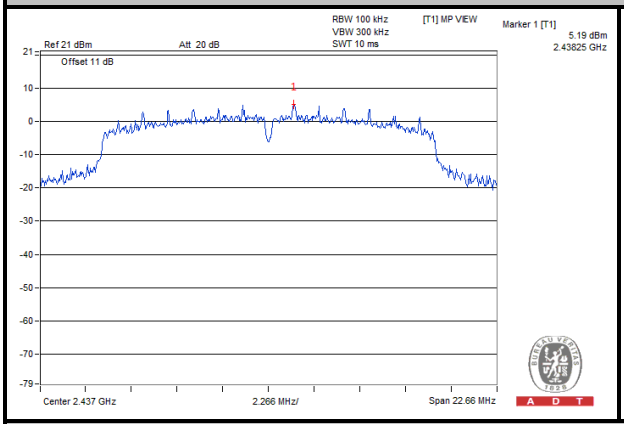
802.11g

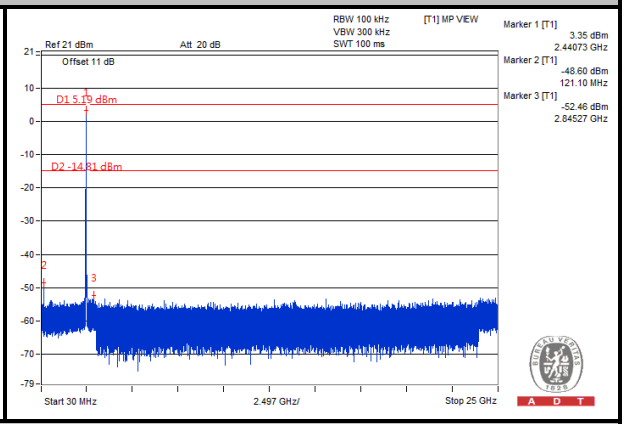
CH 1



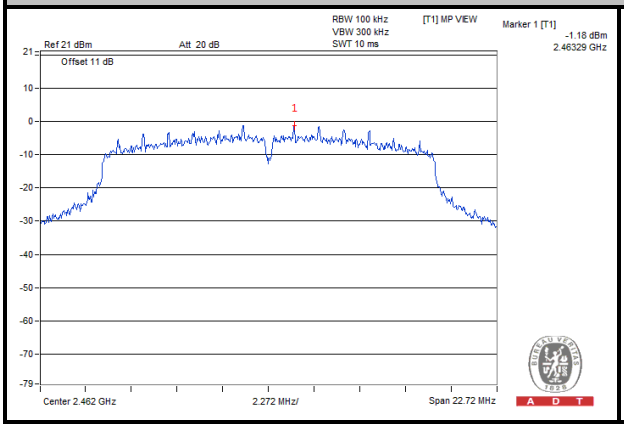


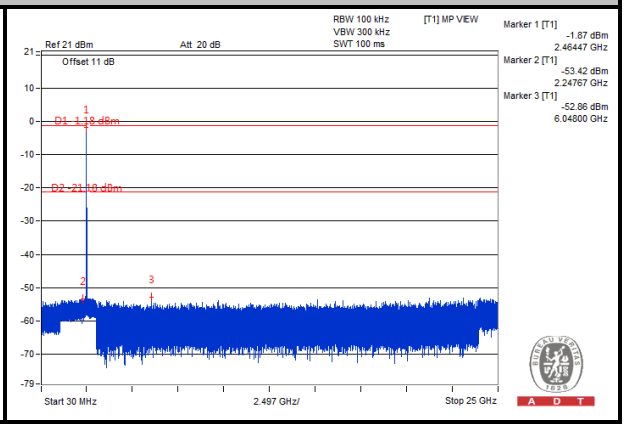
CH 6





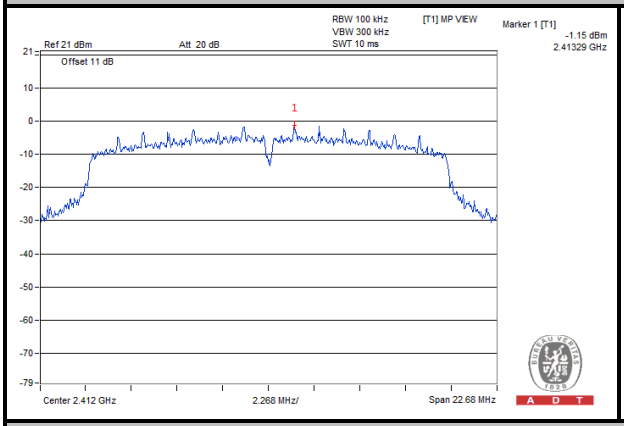
CH 11

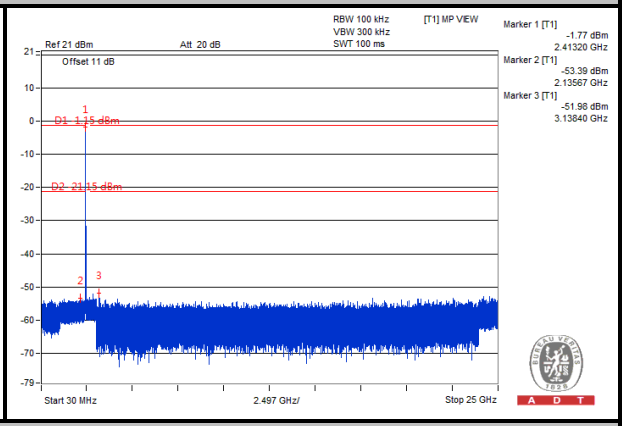




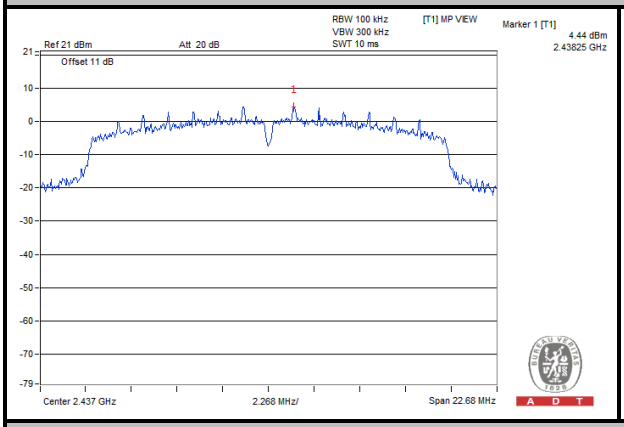
802.11n (20MHz)

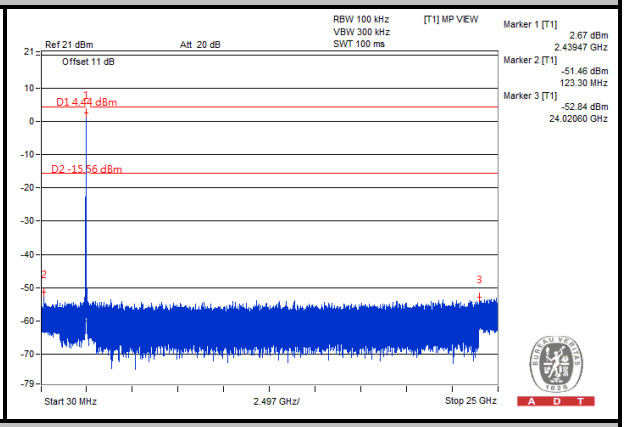
CH 1



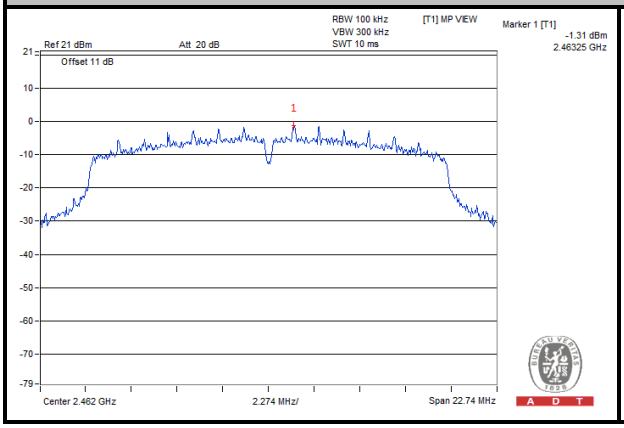


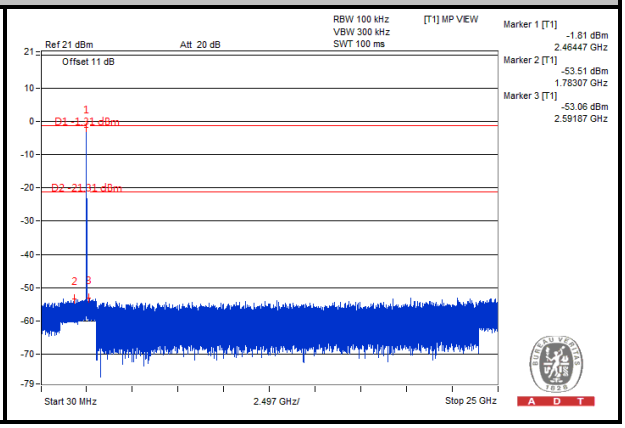
CH 6





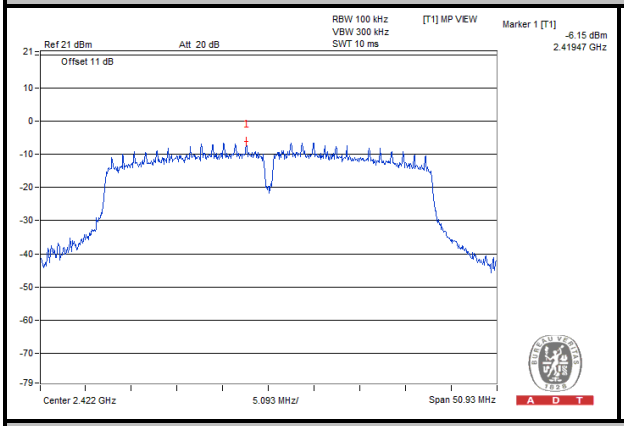
CH 11

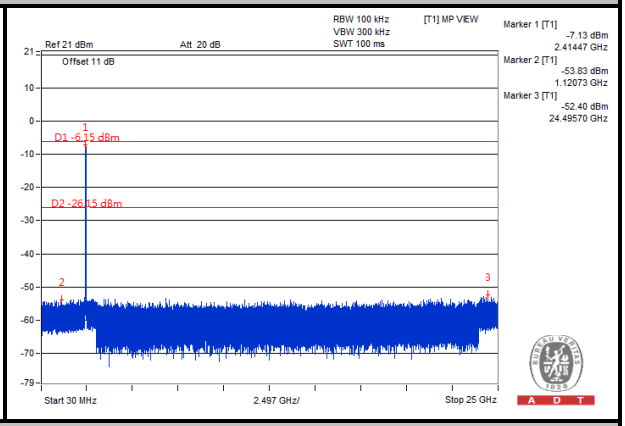




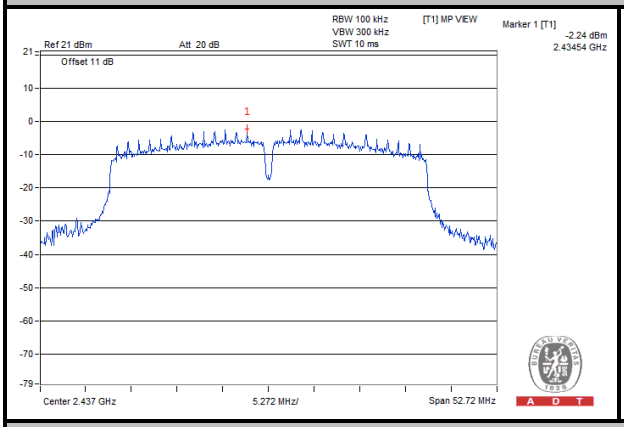
802.11n (40MHz)

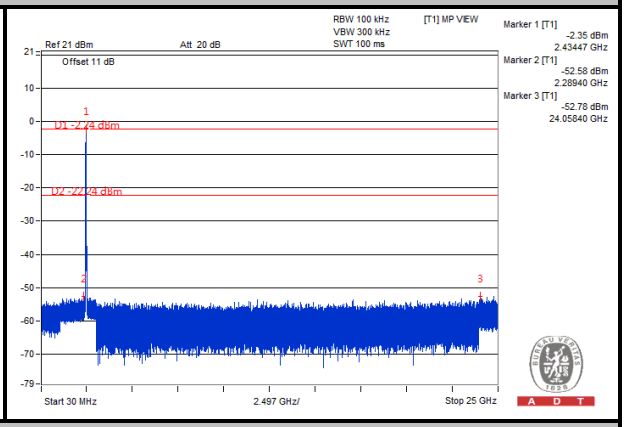
CH 3



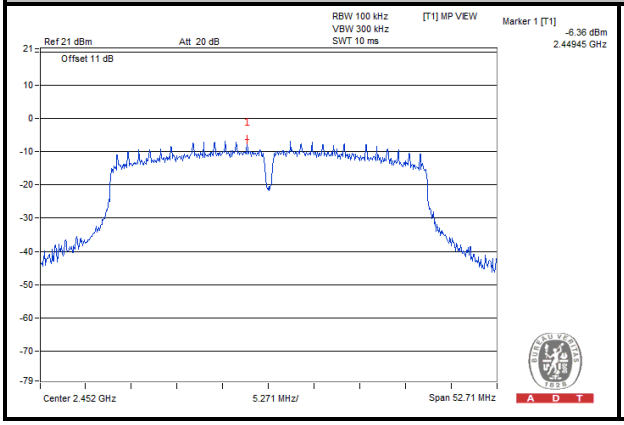


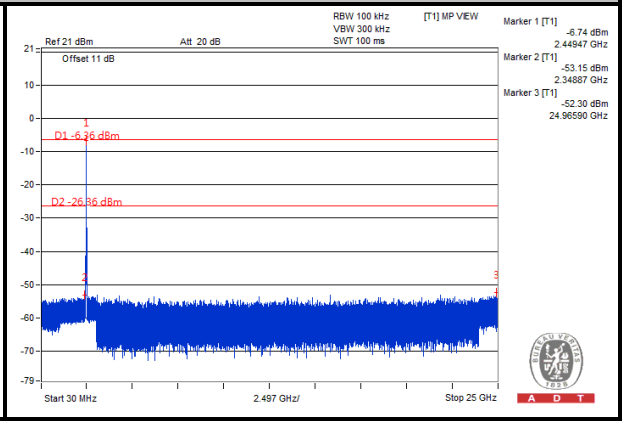
CH 6





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 section 4.1.2.

5.1.3 TEST PROCEDURES

Same as section 4.1.3.

5.1.4 DEVIATION FROM TEST STANDARD

No deviation.

5.1.5 TEST SETUP

Same as section 4.1.5.

5.1.6 EUT OPERATING CONDITIONS

Same as section 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	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Will Chen

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	66.06	56.9	80.61	-14.55	34.62	8.65	34.11	122	265	Average
5725	85.38	76.22	87.94	-2.56	34.62	8.65	34.11	122	265	Peak
5745	100.61	91.42			34.64	8.66	34.11	122	265	Average
5745	107.94	98.75			34.64	8.66	34.11	122	265	Peak
5850	43.92	34.62	80.61	-36.69	34.74	8.7	34.14	122	265	Average
5850	63.41	54.11	87.94	-24.53	34.74	8.7	34.14	122	265	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	73.61	64.45	88.16	-14.55	34.62	8.65	34.11	100	90	Average
5725	92.96	83.8	94.77	-1.81	34.62	8.65	34.11	100	90	Peak
5745	108.16	98.97			34.64	8.66	34.11	100	90	Average
5745	114.77	105.58			34.64	8.66	34.11	100	90	Peak
5850	46.54	37.24	88.16	-41.62	34.74	8.7	34.14	100	90	Average
5850	65.77	56.47	94.77	-29	34.74	8.7	34.14	100	90	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5745MHz: Fundamental frequency.
3. 5725MHz & 5850MHz: Out of restricted band

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

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	44.77	35.61	79.99	-35.22	34.62	8.65	34.11	145	257	Average
5725	63.39	54.23	87.77	-24.38	34.62	8.65	34.11	145	257	Peak
5785	99.99	90.76			34.68	8.68	34.13	145	257	Average
5785	107.77	98.54			34.68	8.68	34.13	145	257	Peak
5850	44.19	34.89	79.99	-35.8	34.74	8.7	34.14	145	257	Average
5850	62.72	53.42	87.77	-25.05	34.74	8.7	34.14	145	257	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	48.6	39.44	87.92	-39.32	34.62	8.65	34.11	100	91	Average
5725	64.42	55.26	94.61	-30.19	34.62	8.65	34.11	100	91	Peak
5785	107.92	98.69			34.68	8.68	34.13	100	91	Average
5785	114.61	105.38			34.68	8.68	34.13	100	91	Peak
5850	46.16	36.86	87.92	-41.76	34.74	8.7	34.14	100	91	Average
5850	62.31	53.01	94.61	-32.3	34.74	8.7	34.14	100	91	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5785MHz: Fundamental frequency.
3. 5725MHz & 5850MHz: Out of restricted band

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

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	44.51	35.35	80.52	-36.01	34.62	8.65	34.11	102	124	Average
5725	64.45	55.29	87.21	-22.76	34.62	8.65	34.11	102	124	Peak
5825	100.52	91.23			34.73	8.69	34.13	102	124	Average
5825	107.21	97.92			34.73	8.69	34.13	102	124	Peak
5850	58.34	49.04	80.52	-22.18	34.74	8.7	34.14	102	124	Average
5850	77.63	68.33	87.21	-9.58	34.74	8.7	34.14	102	124	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	48.74	39.58	86.77	-38.03	34.62	8.65	34.11	100	91	Average
5725	63.12	53.96	93.47	-30.35	34.62	8.65	34.11	100	91	Peak
5825	106.77	97.48			34.73	8.69	34.13	100	91	Average
5825	113.47	104.18			34.73	8.69	34.13	100	91	Peak
5850	63.82	54.52	86.77	-22.95	34.74	8.7	34.14	100	91	Average
5850	82.87	73.57	93.47	-10.6	34.74	8.7	34.14	100	91	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5825MHz: Fundamental frequency.
3. 5725MHz & 5850MHz: Out of restricted band

802.11n (20MHz)

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

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	67.13	57.97	80.77	-13.64	34.62	8.65	34.11	121	266	Average
5725	86.1	76.94	88.14	-2.04	34.62	8.65	34.11	121	266	Peak
5745	100.77	91.58			34.64	8.66	34.11	121	266	Average
5745	108.14	98.95			34.64	8.66	34.11	121	266	Peak
5850	44.26	34.96	80.77	-36.51	34.74	8.7	34.14	121	266	Average
5850	63.28	53.98	88.14	-24.86	34.74	8.7	34.14	121	266	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	75.07	65.91	87.94	-12.87	34.62	8.65	34.11	100	91	Average
5725	92.42	83.26	94.41	-1.99	34.62	8.65	34.11	100	91	Peak
5745	107.94	98.75			34.64	8.66	34.11	100	91	Average
5745	114.41	105.22			34.64	8.66	34.11	100	91	Peak
5850	46.28	36.98	87.94	-41.66	34.74	8.7	34.14	100	91	Average
5850	63.42	54.12	94.41	-30.99	34.74	8.7	34.14	100	91	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5745MHz: Fundamental frequency.
3. 5725MHz & 5850MHz: Out of restricted band

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

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	44.3	35.14	79.44	-35.14	34.62	8.65	34.11	145	257	Average
5725	62.67	53.51	87.32	-24.65	34.62	8.65	34.11	145	257	Peak
5785	99.44	90.21			34.68	8.68	34.13	145	257	Average
5785	107.32	98.09			34.68	8.68	34.13	145	257	Peak
5850	44.05	34.75	79.44	-35.39	34.74	8.7	34.14	145	257	Average
5850	62.43	53.13	87.32	-24.89	34.74	8.7	34.14	145	257	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	48.44	39.28	87.54	-39.1	34.62	8.65	34.11	100	90	Average
5725	63.95	54.79	95.6	-31.65	34.62	8.65	34.11	100	90	Peak
5785	107.54	98.31			34.68	8.68	34.13	100	90	Average
5785	115.6	106.37			34.68	8.68	34.13	100	90	Peak
5850	46.09	36.79	87.54	-41.45	34.74	8.7	34.14	100	90	Average
5850	62.72	53.42	95.6	-32.88	34.74	8.7	34.14	100	90	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5785MHz: Fundamental frequency.
3. 5725MHz & 5850MHz: Out of restricted band

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

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	44.35	35.19	80.27	-35.92	34.62	8.65	34.11	102	124	Average
5725	63.21	54.05	87.82	-24.61	34.62	8.65	34.11	102	124	Peak
5825	100.27	90.98			34.73	8.69	34.13	102	124	Average
5825	107.82	98.53			34.73	8.69	34.13	102	124	Peak
5850	59.4	50.1	80.27	-20.87	34.74	8.7	34.14	102	124	Average
5850	78.27	68.97	87.82	-9.55	34.74	8.7	34.14	102	124	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	48.72	39.56	86.5	-37.78	34.62	8.65	34.11	100	90	Average
5725	63.45	54.29	93.22	-29.77	34.62	8.65	34.11	100	90	Peak
5825	106.5	97.21			34.73	8.69	34.13	100	90	Average
5825	113.22	103.93			34.73	8.69	34.13	100	90	Peak
5850	64.28	54.98	86.5	-22.22	34.74	8.7	34.14	100	90	Average
5850	82.37	73.07	93.22	-10.85	34.74	8.7	34.14	100	90	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5825MHz: Fundamental frequency.
3. 5725MHz & 5850MHz: Out of restricted band

802.11n (40MHz)

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

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	63.52	54.36	75.83	-12.31	34.62	8.65	34.11	122	265	Average
5725	81.1	71.94	82.44	-1.34	34.62	8.65	34.11	122	265	Peak
5755	95.83	86.62			34.66	8.66	34.11	122	265	Average
5755	102.44	93.23			34.66	8.66	34.11	122	265	Peak
5850	43.92	34.62	75.83	-31.91	34.74	8.7	34.14	122	265	Average
5850	63.03	53.73	82.44	-19.41	34.74	8.7	34.14	122	265	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	72.23	63.07	83.35	-11.12	34.62	8.65	34.11	100	91	Average
5725	89.57	80.41	90.34	-0.77	34.62	8.65	34.11	100	91	Peak
5755	103.35	94.14			34.66	8.66	34.11	100	91	Average
5755	110.34	101.13			34.66	8.66	34.11	100	91	Peak
5850	46.23	36.93	83.35	-37.12	34.74	8.7	34.14	100	91	Average
5850	62.85	53.55	90.34	-27.49	34.74	8.7	34.14	100	91	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5755MHz: Fundamental frequency.
3. 5725MHz & 5850MHz: Out of restricted band

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

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	52.49	43.33	77.13	-24.64	34.62	8.65	34.11	103	124	Average
5725	71.48	62.32	84.65	-13.17	34.62	8.65	34.11	103	124	Peak
5795	97.13	87.89			34.69	8.68	34.13	103	124	Average
5795	104.65	95.41			34.69	8.68	34.13	103	124	Peak
5850	52.76	43.46	77.13	-24.37	34.74	8.7	34.14	103	124	Average
5850	71.5	62.2	84.65	-13.15	34.74	8.7	34.14	103	124	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	60.73	51.57	83.73	-23	34.62	8.65	34.11	100	90	Average
5725	79.45	70.29	90.79	-11.34	34.62	8.65	34.11	100	90	Peak
5795	103.73	94.49			34.69	8.68	34.13	100	90	Average
5795	110.79	101.55			34.69	8.68	34.13	100	90	Peak
5850	58.06	48.76	83.73	-25.67	34.74	8.7	34.14	100	90	Average
5850	76.25	66.95	90.79	-14.54	34.74	8.7	34.14	100	90	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5795MHz: Fundamental frequency.
3. 5725MHz & 5850MHz: Out of restricted band

MODE B

802.11n (40MHz)

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

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	62.2	53.04	74.35	-12.15	34.62	8.65	34.11	133	264	Average
5725	79.07	69.91	82.46	-3.39	34.62	8.65	34.11	133	264	Peak
5755	94.35	85.14			34.66	8.66	34.11	133	264	Average
5755	102.46	93.25			34.66	8.66	34.11	133	264	Peak
5850	44.14	34.84	74.35	-30.21	34.74	8.7	34.14	133	264	Average
5850	57.57	48.27	82.46	-24.89	34.74	8.7	34.14	133	264	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	70.21	61.05	81.18	-10.97	34.62	8.65	34.11	100	90	Average
5725	87.12	77.96	87.72	-0.6	34.62	8.65	34.11	100	90	Peak
5755	101.18	91.97			34.66	8.66	34.11	100	90	Average
5755	107.72	98.51			34.66	8.66	34.11	100	90	Peak
5850	45.38	36.08	81.18	-35.8	34.74	8.7	34.14	100	90	Average
5850	57.34	48.04	87.72	-30.38	34.74	8.7	34.14	100	90	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5755MHz: Fundamental frequency.
3. 5725MHz & 5850MHz: Out of restricted band

MODE C

802.11n (40MHz)

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

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	64.33	55.17	75.99	-11.66	34.62	8.65	34.11	116	124	Average
5725	82.62	73.46	83.47	-0.85	34.62	8.65	34.11	116	124	Peak
5755	95.99	86.78			34.66	8.66	34.11	116	124	Average
5755	103.47	94.26			34.66	8.66	34.11	116	124	Peak
5850	44.23	34.93	75.99	-31.76	34.74	8.7	34.14	116	124	Average
5850	57.25	47.95	83.47	-26.22	34.74	8.7	34.14	116	124	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	71.33	62.17	82.81	-11.48	34.62	8.65	34.11	100	90	Average
5725	88.6	79.44	90.14	-1.54	34.62	8.65	34.11	100	90	Peak
5755	102.81	93.6			34.66	8.66	34.11	100	90	Average
5755	110.14	100.93			34.66	8.66	34.11	100	90	Peak
5850	46.28	36.98	82.81	-36.53	34.74	8.7	34.14	100	90	Average
5850	57.31	48.01	90.14	-32.83	34.74	8.7	34.14	100	90	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5755MHz: Fundamental frequency.
3. 5725MHz & 5850MHz: Out of restricted band

BELOW 1GHz WORST-CASE DATA：

MODE A

802.11n (40MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 151	FREQUENCY RANGE	30MHz ~ 1GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Will Chen

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
88.86	14.54	36.34	43.5	-28.96	8.85	1.11	31.76	196	274	Peak
137.19	31.65	53.25	43.5	-11.85	9.28	1.38	32.26	256	267	Peak
226.83	24.11	42.49	46	-21.89	11.96	1.85	32.19	145	214	Peak
383.3	22.07	35	46	-23.93	16.9	2.34	32.17	169	246	Peak
626.2	23.29	30.43	46	-22.71	22.1	2.93	32.17	137	312	Peak
801.2	26.02	30.15	46	-19.98	24.6	3.32	32.05	109	275	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
80.49	12.98	35.66	40	-27.02	8.42	1.11	32.21	179	315	Peak
136.38	21.88	43.49	43.5	-21.62	9.27	1.38	32.26	178	241	Peak
244.92	19.51	37.01	46	-26.49	12.77	1.85	32.12	196	207	Peak
491.8	20.23	30.73	46	-25.77	18.97	2.63	32.1	114	218	Peak
643.7	23.86	30.92	46	-22.14	22.1	2.99	32.15	163	249	Peak
795.6	25.93	30.31	46	-20.07	24.42	3.27	32.07	114	127	Peak

REMARKS: Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor

Margin value = Emission level – Limit value

MODE B

802.11n (40MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 151	FREQUENCY RANGE	30MHz ~ 1GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Quasi-peak (QP)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Will Chen

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
89.13	28.69	50.49	43.5	-14.81	8.85	1.11	31.76	162	184	Peak
197.67	31.08	50.97	43.5	-12.42	10.79	1.61	32.29	154	207	Peak
247.62	23.76	41.14	46	-22.24	12.88	1.85	32.11	142	132	Peak
549.2	22.05	31.19	46	-23.95	20.3	2.76	32.2	130	224	Peak
730.5	25.1	30.69	46	-20.9	23.37	3.16	32.12	140	187	Peak
929.3	28.75	30.19	46	-17.25	26.2	3.62	31.26	144	16	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	23.59	37.57	40	-16.41	17.55	0.74	32.27	109	188	Peak
89.94	18.15	39.85	43.5	-25.35	8.9	1.11	31.71	185	34	Peak
197.67	24.37	44.26	43.5	-19.13	10.79	1.61	32.29	165	330	Peak
486.2	20.18	30.72	46	-25.82	18.94	2.63	32.11	100	334	Peak
667.5	24.43	30.54	46	-21.57	22.97	3.05	32.13	159	37	Peak
802.6	27.1	31.23	46	-18.9	24.6	3.32	32.05	108	116	Peak

REMARKS: Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor

Margin value = Emission level – Limit value

MODE C

802.11n (40MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 151	FREQUENCY RANGE	30MHz ~ 1GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Quasi-peak (QP)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Will Chen

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
89.4	25.95	47.72	43.5	-17.55	8.88	1.11	31.76	161	212	Peak
192	36.43	56.62	43.5	-7.07	10.46	1.61	32.26	157	192	Peak
240.06	30.79	48.53	46	-15.21	12.54	1.85	32.13	123	164	Peak
514.9	26.94	36.24	46	-19.06	20.13	2.7	32.13	100	337	Peak
665.4	34.97	41.14	46	-11.03	22.97	2.99	32.13	107	219	Peak
798.4	37.14	41.46	46	-8.86	24.42	3.32	32.06	154	117	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
31.89	23.33	38.52	40	-16.67	16.33	0.74	32.26	109	265	Peak
192.27	29.27	49.41	43.5	-14.23	10.51	1.61	32.26	107	150	Peak
240.06	24.17	41.91	46	-21.83	12.54	1.85	32.13	152	169	Peak
514.9	29.81	39.11	46	-16.19	20.13	2.7	32.13	117	133	Peak
581.4	35.72	44.75	46	-10.28	20.35	2.82	32.2	199	256	Peak
706.7	32.63	38.43	46	-13.37	23.19	3.11	32.1	100	312	Peak

REMARKS: Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor

Margin value = Emission level – Limit value

MODE D

802.11n (40MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 151	FREQUENCY RANGE	30MHz ~ 1GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Quasi-peak (QP)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Will Chen

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
90.75	16.76	38.44	43.5	-26.74	8.98	1.11	31.77	163	241	Peak
133.95	22.54	44.17	43.5	-20.96	9.24	1.38	32.25	169	275	Peak
199.83	26.93	46.68	43.5	-16.57	10.9	1.65	32.3	152	218	Peak
445.6	18.67	30.38	46	-27.33	17.95	2.49	32.15	162	312	Peak
557.6	21.21	30.4	46	-24.79	20.25	2.76	32.2	194	261	Peak
872.6	27.03	30.44	46	-18.97	24.8	3.44	31.65	136	235	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
96.69	22.62	44.02	43.5	-20.88	9.42	1.28	32.1	115	327	Peak
133.41	25.65	47.28	43.5	-17.85	9.24	1.38	32.25	132	264	Peak
213.6	27.34	46.48	43.5	-16.16	11.45	1.65	32.24	157	215	Peak
529.6	21.38	30.23	46	-24.62	20.61	2.7	32.16	163	274	Peak
621.3	23.82	31.1	46	-22.18	21.96	2.93	32.17	126	281	Peak
801.2	25.55	29.68	46	-20.45	24.6	3.32	32.05	154	127	Peak

REMARKS: Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor

Margin value = Emission level – Limit value

MODE E

802.11n (40MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 151	FREQUENCY RANGE	30MHz ~ 1GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Quasi-peak (QP)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Will Chen

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
89.4	30.76	52.53	43.5	-12.74	8.88	1.11	31.76	145	271	Peak
153.66	22.95	43.31	43.5	-20.55	10.39	1.52	32.27	190	112	Peak
205.23	33.08	52.57	43.5	-10.42	11.13	1.65	32.27	164	249	Peak
517.7	20.63	29.74	46	-25.37	20.32	2.7	32.13	148	129	Peak
687.1	24.45	30.27	46	-21.55	23.23	3.05	32.1	164	278	Peak
802.6	25.92	30.05	46	-20.08	24.6	3.32	32.05	163	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
88.59	29.83	51.7	43.5	-13.67	8.83	1.11	31.81	186	145	Peak
170.94	21.28	41.96	43.5	-22.22	10.04	1.52	32.24	165	214	Peak
217.11	27.26	46.26	46	-18.74	11.58	1.65	32.23	147	162	Peak
526.1	21.43	30.22	46	-24.57	20.66	2.7	32.15	156	243	Peak
714.4	25.25	30.97	46	-20.75	23.27	3.11	32.1	125	126	Peak
923.7	28.06	29.64	46	-17.94	26.2	3.53	31.31	175	310	Peak

REMARKS: Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor

Margin value = Emission level – Limit value

MODE F

802.11n (40MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 151	FREQUENCY RANGE	30MHz ~ 1GHz
INPUT POWER	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Quasi-peak (QP)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Will Chen

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
90.75	29.34	51.02	43.5	-14.16	8.98	1.11	31.77	152	143	Peak
192	33.11	53.3	43.5	-10.39	10.46	1.61	32.26	107	163	Peak
240.06	31.53	49.27	46	-14.47	12.54	1.85	32.13	102	145	Peak
548.5	28.65	37.75	46	-17.35	20.34	2.76	32.2	104	182	Peak
665.4	33.97	40.14	46	-12.03	22.97	2.99	32.13	114	138	Peak
798.4	36.94	41.26	46	-9.06	24.42	3.32	32.06	100	319	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
35.94	26.6	44.34	40	-13.4	13.75	0.74	32.23	169	130	Peak
90.75	31.38	53.06	43.5	-12.12	8.98	1.11	31.77	107	154	Peak
192.27	26.81	46.95	43.5	-16.69	10.51	1.61	32.26	106	149	Peak
514.9	31.08	40.38	46	-14.92	20.13	2.7	32.13	112	185	Peak
581.4	34.51	43.54	46	-11.49	20.35	2.82	32.2	160	178	Peak
798.4	32.49	36.81	46	-13.51	24.42	3.32	32.06	133	267	Peak

REMARKS: Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor

Margin value = Emission level – Limit value

5.2 CONDUCTED EMISSION MEASUREMENT

5.2.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

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

NOTE: 1. The lower limit shall apply at the transition frequencies.

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

5.2.2 T EST INSTRUMENTS

Same as section 4.2.2.

5.2.3 TEST PROCEDURES

Same as section 4.2.3.

5.2.4 DEVIATION FROM TEST STANDARD

No deviation.

5.2.5 TEST SETUP

Same as section 4.2.5.

5.2.6 EUT OPERATING CONDITIONS

Same as section 4.1.6.

5.2.7 TEST RESULTS

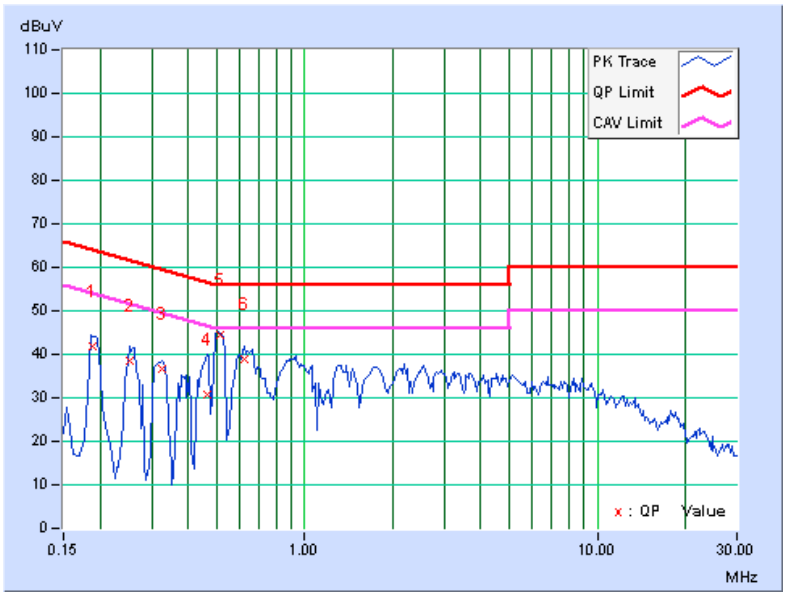
CONDUCTED WORST-CASE DATA：

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	0.18906	0.28	41.70	32.59	41.98	32.87	64.08	54.08	-22.10	-21.21
2	0.25156	0.29	38.36	30.09	38.65	30.38	61.71	51.71	-23.06	-21.33
3	0.32578	0.29	36.21	27.60	36.50	27.89	59.56	49.56	-23.06	-21.67
4	0.46641	0.30	30.29	12.40	30.59	12.70	56.58	46.58	-25.98	-33.87
5	0.51328	0.31	44.24	34.38	44.55	34.69	56.00	46.00	-11.45	-11.31
6	0.61875	0.31	38.54	28.42	38.85	28.73	56.00	46.00	-17.15	-17.27

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

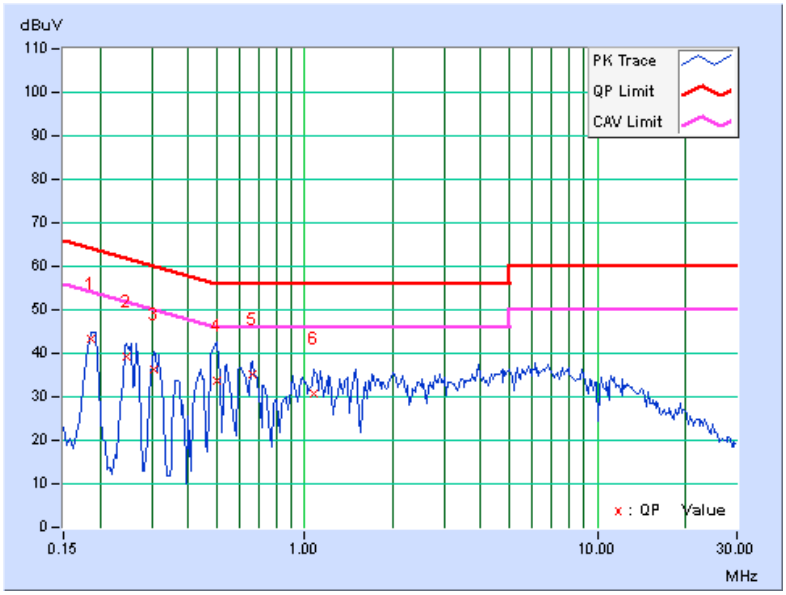


PHASE	Line 2	6dB BANDWIDTH	9kHz

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	0.18516	0.28	43.04	34.44	43.32	34.72	64.25	54.25	-20.94	-19.54
2	0.24766	0.28	38.91	28.39	39.19	28.67	61.84	51.84	-22.64	-23.16
3	0.30625	0.29	36.17	28.00	36.46	28.29	60.07	50.07	-23.61	-21.78
4	0.50156	0.31	33.38	16.91	33.69	17.22	56.00	46.00	-22.31	-28.78
5	0.66563	0.32	34.93	27.03	35.25	27.35	56.00	46.00	-20.75	-18.65
6	1.07031	0.34	30.51	21.30	30.85	21.64	56.00	46.00	-25.15	-24.36

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 section 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 section 4.3.4.

5.3.5 DEVIATION FROM TEST STANDARD

No deviation.

5.3.6 EUT OPERATING CONDITIONS

Same as section 4.3.6.

5.3.7 TEST RESULTS

802.11a

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
149	5745	15.17	0.5	PASS
157	5785	15.14	0.5	PASS
165	5825	15.16	0.5	PASS

802.11n (20MHz)

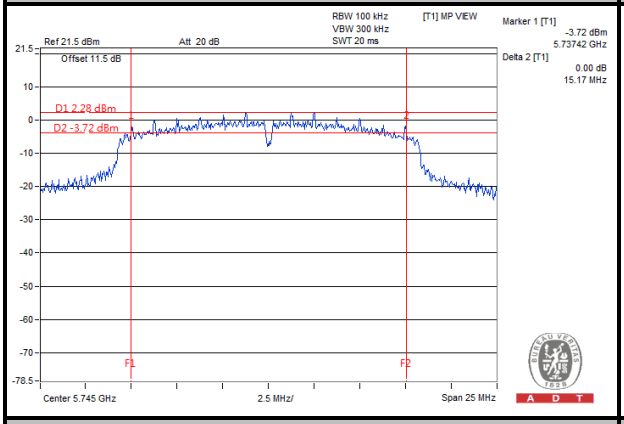
CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
149	5745	15.12	0.5	PASS
157	5785	15.15	0.5	PASS
165	5825	15.15	0.5	PASS

802.11n (40MHz)

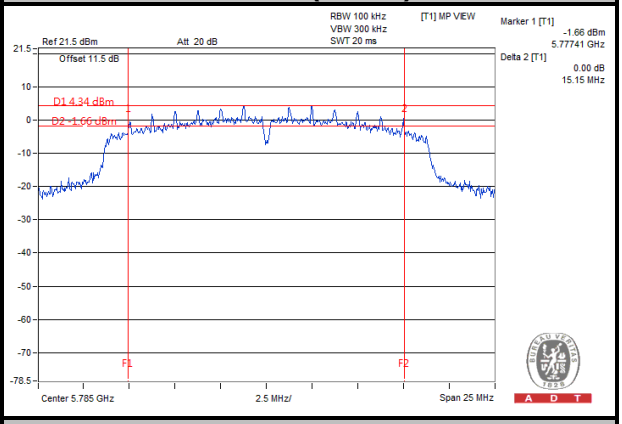
CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
151	5755	35.14	0.5	PASS
159	5795	35.12	0.5	PASS

SPECTRUM PLOT OF WORST VALUE

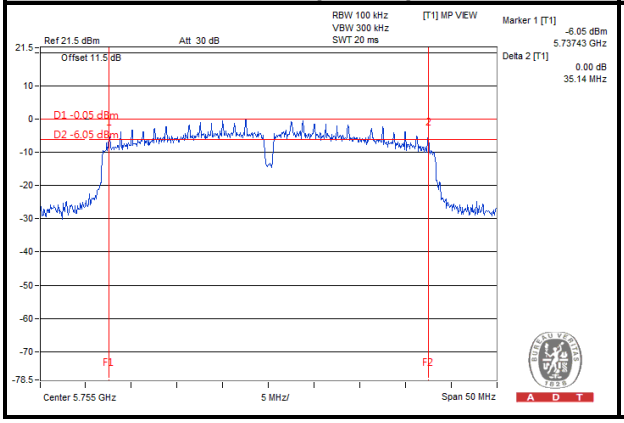
802.11a



802.11n (20MHz)



802.11n (40MHz)



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)

5.4.2 TEST SETUP

Same as section 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 section 4.4.4.

5.4.5 DEVIATION FROM TEST STANDARD

No deviation.

5.4.6 EUT OPERATING CONDITIONS

Same as section 4.3.6.

5.4.7 TEST RESULTS

802.11a

CHANNEL	FREQUENCY (MHz)	PEAK POWER (mW)	PEAK POWER (dBm)	LIMIT (dBm)	PASS / FAIL
149	5745	114.82	20.6	30	PASS
157	5785	109.65	20.4	30	PASS
165	5825	103.51	20.15	30	PASS

802.11n (20MHz)

CHANNEL	FREQUENCY (MHz)	PEAK POWER (mW)	PEAK POWER (dBm)	LIMIT (dBm)	PASS / FAIL
149	5745	112.20	20.5	30	PASS
157	5785	109.90	20.41	30	PASS
165	5825	101.86	20.08	30	PASS

802.11n (40MHz)

CHANNEL	FREQUENCY (MHz)	PEAK POWER (mW)	PEAK POWER (dBm)	LIMIT (dBm)	PASS / FAIL
151	5755	102.57	20.11	30	PASS
159	5795	106.91	20.29	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 section 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 section 4.5.4.

5.5.5 DEVIATION FROM TEST STANDARD

No deviation.

5.5.6 EUT OPERATING CONDITION

Same as section 4.3.6.

5.5.7 TEST RESULTS

802.11a

CHANNEL	FREQUENCY (MHz)	PSD (dBm/3kHz)	LIMIT (dBm/3kHz)	PASS / FAIL
149	5745	-12.09	8	PASS
157	5785	-11.11	8	PASS
165	5825	-10.42	8	PASS

802.11n (20MHz)

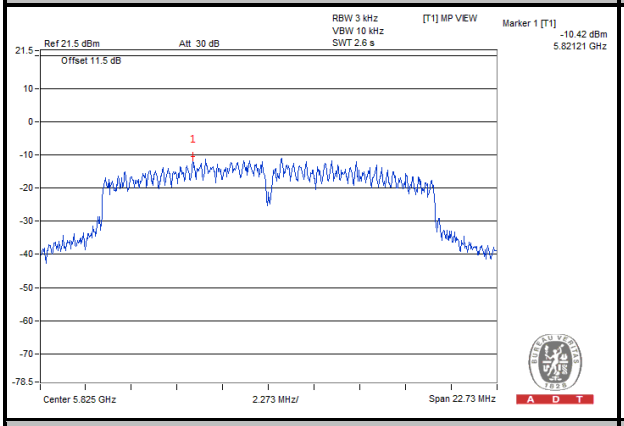
CHANNEL	FREQUENCY (MHz)	PSD (dBm/3kHz)	LIMIT (dBm/3kHz)	PASS / FAIL
149	5745	-11.88	8	PASS
157	5785	-11.40	8	PASS
165	5825	-11.04	8	PASS

802.11n (40MHz)

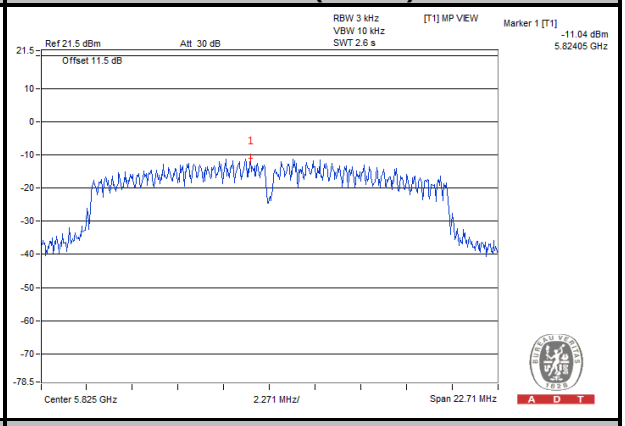
CHANNEL	FREQUENCY (MHz)	PSD (dBm/3kHz)	LIMIT (dBm/3kHz)	PASS / FAIL
151	5755	-15.63	8	PASS
159	5795	-12.50	8	PASS

SPECTRUM PLOT OF WORST VALUE

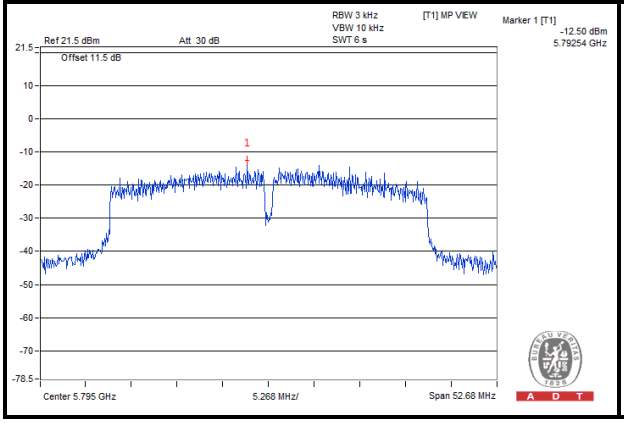
802.11a



802.11n (20MHz)



802.11n (40MHz)



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 section 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 section 4.6.4

5.6.5 DEVIATION FROM TEST STANDARD

No deviation.

5.6.6 EUT OPERATING CONDITION

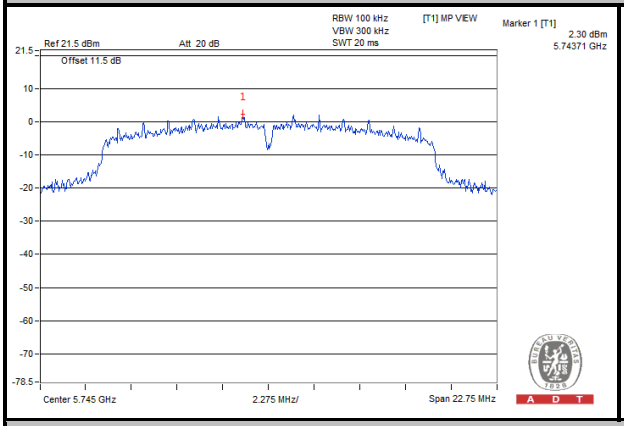
Same as section 4.3.6

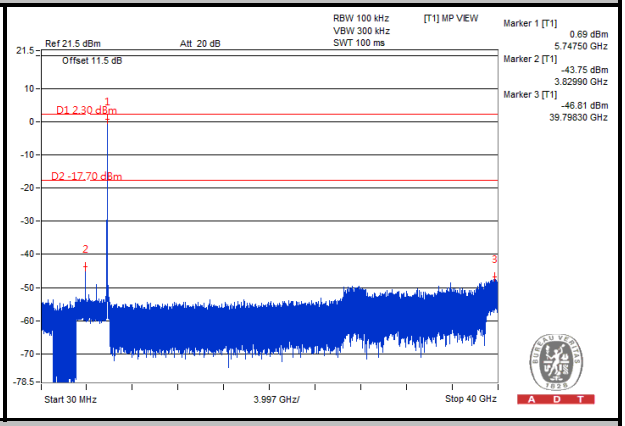
5.6.7 TEST RESULTS

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.

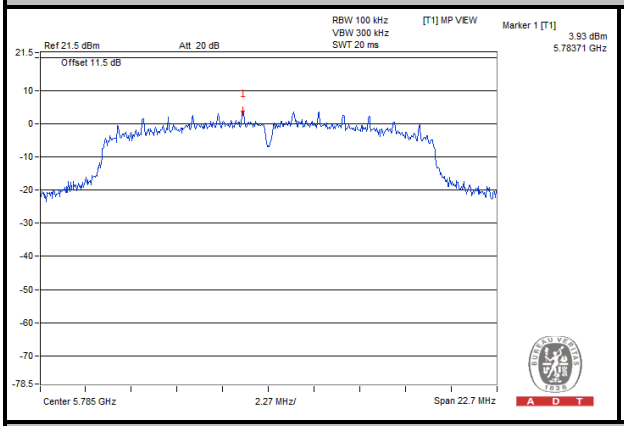
802.11a

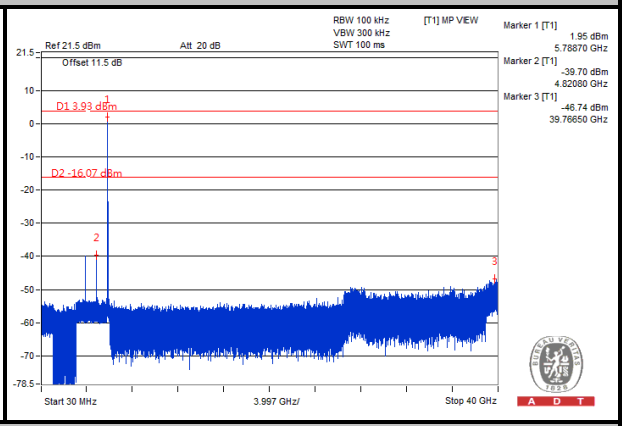
CH 149



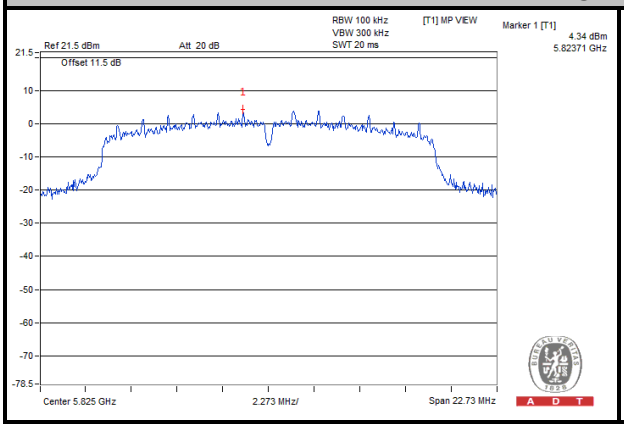


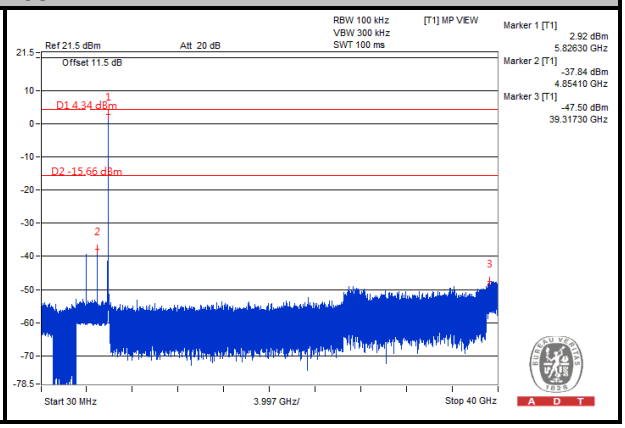
CH 157





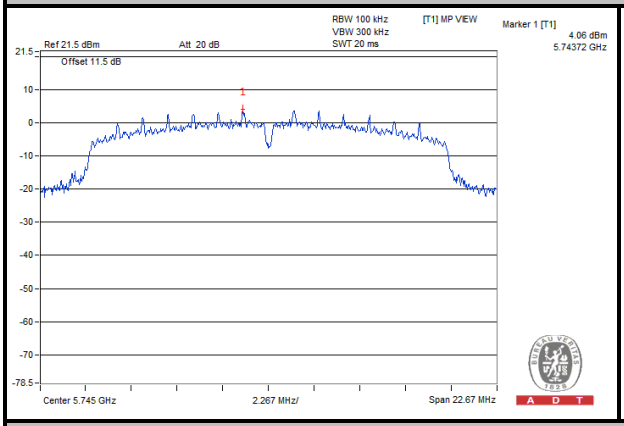
CH 165

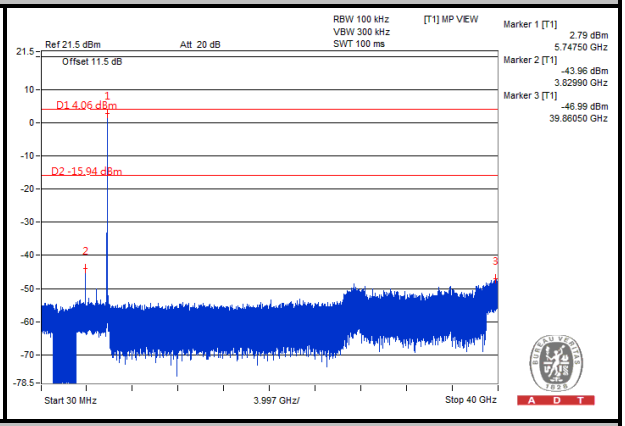




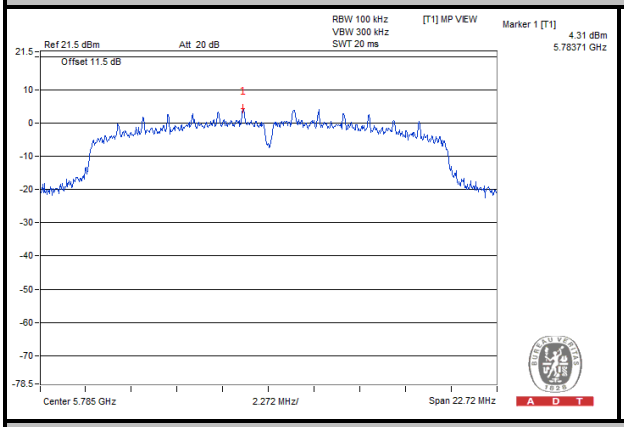
802.11n (20MHz)

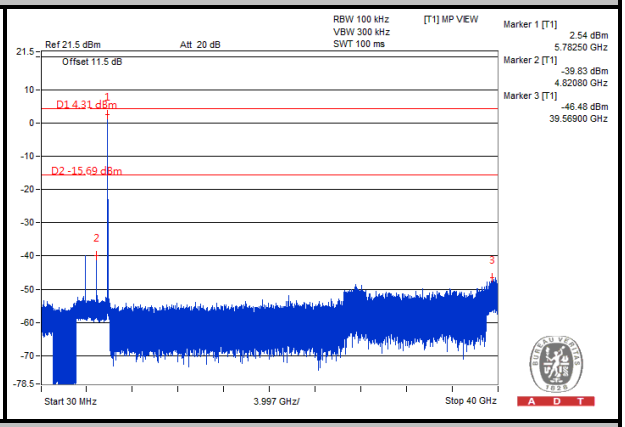
CH 149



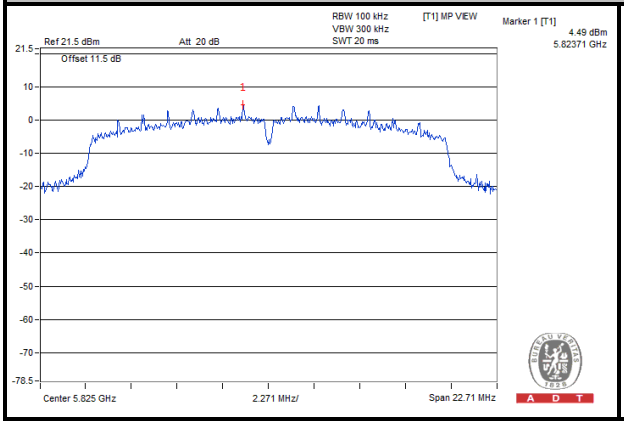


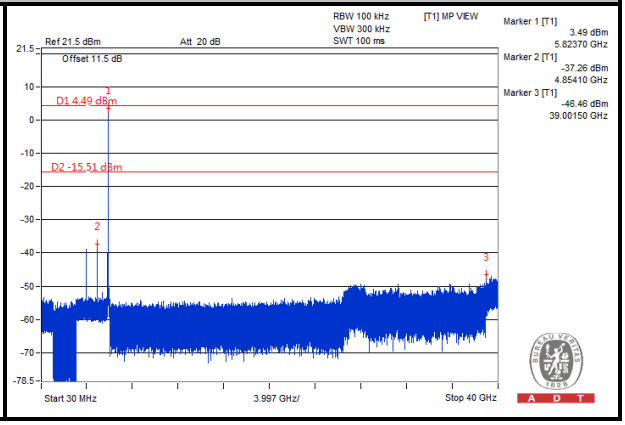
CH 157





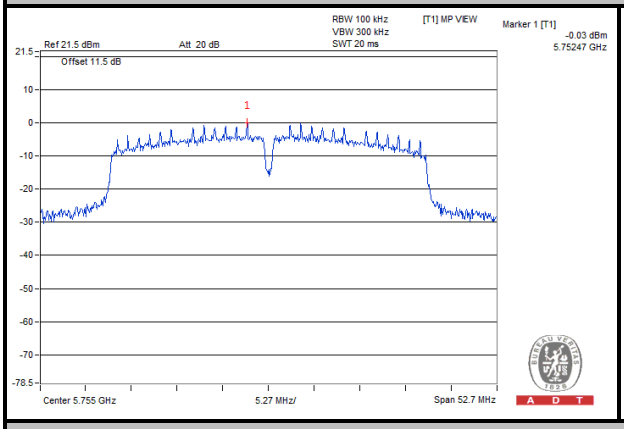
CH 165

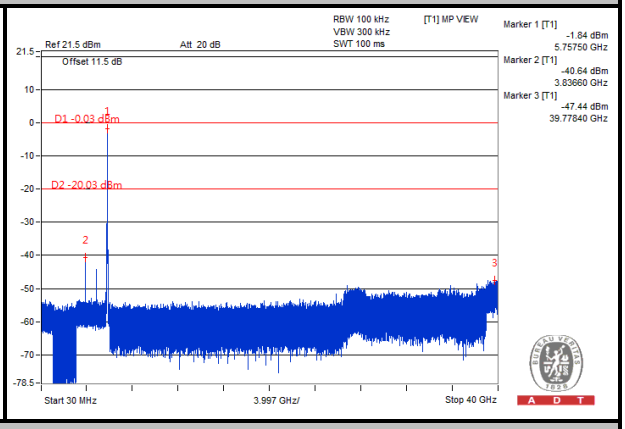




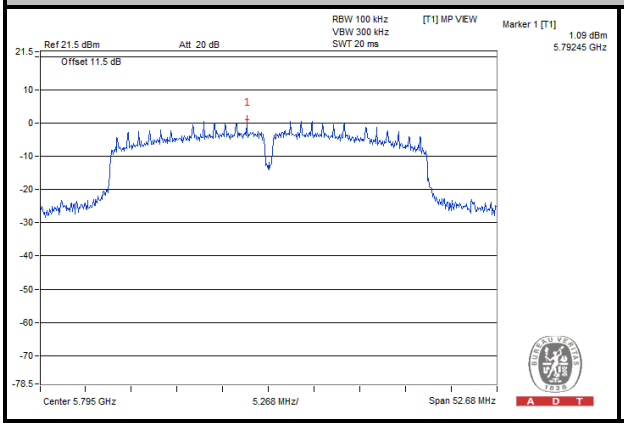
802.11n (40MHz)

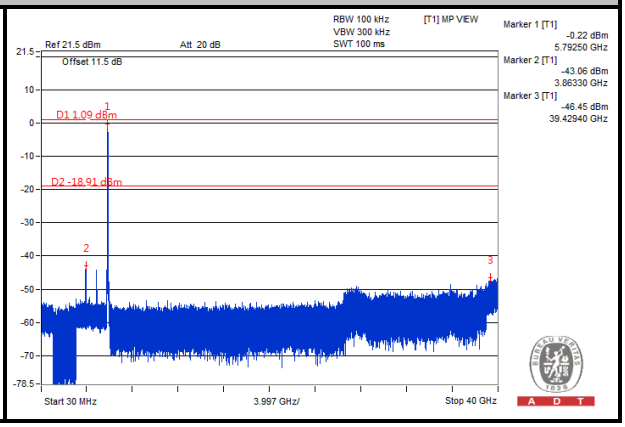
CH 151





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:

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

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

Hwa Ya EMC/RF/Safety Telecom Lab:
Tel: 886-3-3183232
Fax: 886-3-3270892

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---