



FCC TEST REPORT (15.247)

REPORT NO.: RF121129C09-4
MODEL NO.: PN07130
FCC ID: NM8PN07130
RECEIVED: Nov. 29, 2012
TESTED: Dec. 27, 2012 ~ Jan. 23, 2013
ISSUED: Jan. 31, 2013

APPLICANT: HTC Corporation

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF121129C09-4	Original release	Jan. 31, 2013

1. CERTIFICATION

PRODUCT: Smartphone
MODEL NO.: PN07130
BRAND: HTC
APPLICANT: HTC Corporation
TESTED: Dec. 27, 2012 ~ Jan. 23, 2013
TEST SAMPLE: Production Unit
STANDARDS: **FCC Part 15, Subpart C (Section 15.247)**
ANSI C63.10-2009

The above equipment (model: PN07130) 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** : Jan. 31, 2013
Vera Huang / Specialist

APPROVED BY :  , **DATE** : Jan. 31, 2013
Anderson Chiu / Senior 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 -7.74dB at 0.51719MHz.
15.247(d) 15.209	Radiated Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -2.26dB at 2483.5MHz.
15.247(d)	Band Edge Measurement	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	Smartphone
MODEL NO.	PN07130
POWER SUPPLY	5.0Vdc (adapter or host equipment) 3.8Vdc (Li-ion battery)
MODULATION TYPE	CCK, DQPSK, DBPSK for DSSS 256QAM, 64QAM, 16QAM, QPSK, BPSK for OFDM
MODULATION TECHNOLOGY	DSSS, OFDM
TRANSFER RATE	802.11b: 11.0/ 5.5/ 2.0/ 1.0Mbps 802.11g: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0Mbps 802.11a: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0Mbps 802.11n: up to MCS7 802.11ac: up to V9
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) 1 for 802.11ac (80MHz)
OUTPUT POWER	287.078mW for 2412 ~ 2462MHz 252.348mW for 5745 ~ 5825MHz
ANTENNA TYPE	2.4GHz: PIFA antenna with -1dBi gain 5.0GHz: PIFA antenna with -2Bi 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



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NOTE:

1. The EUT's accessories list refers to Ext. Pho.
2. The EUT provides one completed transmitter and one receiver.

MODULATION MODE	TX FUNCTION
802.11b	1TX
802.11g	1TX
802.11a	1TX
802.11n (20MHz)	1TX
802.11n (40MHz)	1TX
802.11ac (80MHz)	1TX

3. The device has 2 configurations as below.
Main Sample (A): Battery 1 + LCD Panel 1 + Front Camera 1
2nd Sample (B): Battery 2 + LCD Panel 2 + Front Camera 2
4. The above EUT information is declared by the manufacturer and for more detailed features description, please refer to the manufacturer's specifications or User's Manual.

3.2 DESCRIPTION OF TEST MODES

FOR 2.4GHz:

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

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

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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
3	2422MHz	7	2442MHz
4	2427MHz	8	2447MHz
5	2432MHz	9	2452MHz
6	2437MHz		

FOR 5.0GHz:

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

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

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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
151	5755MHz	159	5795MHz

1 channel are provided for 802.11ac (80MHz):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
155	5775MHz		

3.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

FOR 2.4GHz:

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE \geq 1G	RE $<$ 1G	PLC	APCM	
A	√	√	√	√	Main Sample
B	√	-	-	-	2nd Sample

Where **RE \geq 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 X-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	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	802.11n (20MHz)	1 to 11	1	OFDM	BPSK	MCS0



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



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TEST CONDITION:

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



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FOR 5.0GHz:

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

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	802.11a	149 to 165	149, 157, 165	OFDM	BPSK	6.0
	802.11n (20MHz)	149 to 165	149, 157, 165	OFDM	BPSK	MCS0
	802.11n (40MHz)	151 to 159	151, 159	OFDM	BPSK	MCS0
	802.11ac (80MHz)	155	155	OFDM	BPSK	V0
B	802.11n (20MHz)	149 to 165	149	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	802.11n (20MHz)	149 to 165	149	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 (20MHz)	149 to 165	149	OFDM	BPSK	MCS0



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BANDEDGE MEASUREMENT:

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

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A	802.11a	149 to 165	149, 157, 165	OFDM	BPSK	6.0
	802.11n (20MHz)	149 to 165	149, 157, 165	OFDM	BPSK	MCS0
	802.11n (40MHz)	151 to 159	151, 159	OFDM	BPSK	MCS0
	802.11ac (80MHz)	155	155	OFDM	BPSK	V0

ANTENNA PORT CONDUCTED MEASUREMENT:

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

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A	802.11a	149 to 165	149, 157, 165	OFDM	BPSK	6.0
	802.11n (20MHz)	149 to 165	149, 157, 165	OFDM	BPSK	MCS0
	802.11n (40MHz)	151 to 159	151, 159	OFDM	BPSK	MCS0
	802.11ac (80MHz)	155	155	OFDM	BPSK	V0

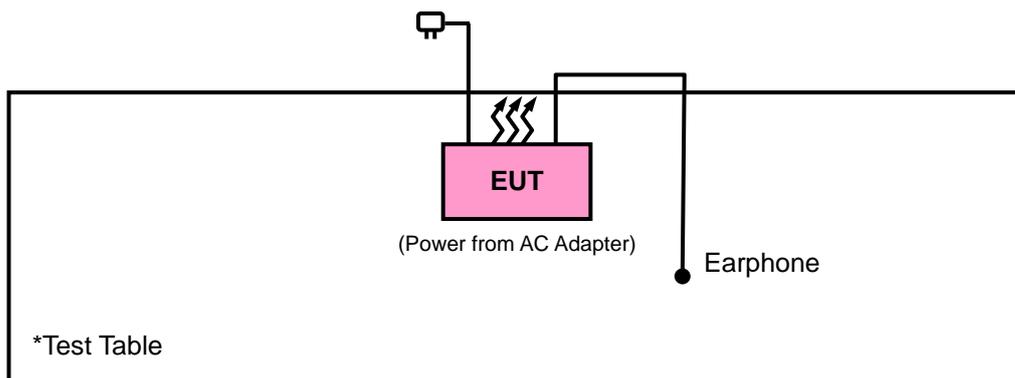
TEST CONDITION:

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

3.3 DESCRIPTION OF SUPPORT UNITS

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

3.3.1 CONFIGURATION OF SYSTEM UNDER TEST



3.4 GENERAL DESCRIPTION OF APPLIED STANDARDS

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

FCC Part 15, Subpart C (15.247)

ANSI C63.10-2009

KDB 558074 D01 DTS Meas Guidance v01

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.



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4.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESCI	100744	Apr. 19, 2012	Apr. 18, 2013
Spectrum Analyzer ROHDE & SCHWARZ	FSU43	101261	Dec. 17, 2012	Dec. 16, 2013
BILOG Antenna SCHWARZBECK	VULB9168	9168-472	Apr. 03, 2012	Apr. 02, 2013
HORN Antenna SCHWARZBECK	BBHA 9120 D	209	Sep. 03, 2012	Sep. 02, 2013
HORN Antenna SCHWARZBECK	BBHA 9170	9170-480	Dec. 25, 2012	Dec. 24, 2013
Loop Antenna	HFH2-Z2	100070	Jan. 31, 2012	Jan. 30, 2014
Preamplifier EMCI	EMC 012645	980115	Dec. 30, 2011	Dec. 29, 2012
Preamplifier EMCI	EMC 012645	980115	Dec. 28, 2012	Dec. 27, 2013
Preamplifier EMCI	EMC 330H	980112	Dec. 30, 2011	Dec. 29, 2012
Preamplifier EMCI	EMC 330H	980112	Dec. 28, 2012	Dec. 27, 2013
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	309219/4	Oct. 19, 2012	Oct. 18, 2013
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	250130/4	Oct. 19, 2012	Oct. 18, 2013
RF signal cable Worken	RG-213	NA	Jan. 02, 2012	Jan. 01, 2013
RF signal cable Worken	RG-213	NA	Dec. 29, 2012	Dec. 28, 2013
Software	E3 6.120103	NA	NA	NA
Antenna Tower MF	MFA-440H	NA	NA	NA
Turn Table MF	MFT-201SS	NA	NA	NA
Antenna Tower & Turn Table Controller MF	MF-7802	NA	NA	NA
Bluetooth Tester	CBT	100870	Jan. 26, 2012	Jan. 25, 2013
Power Meter	ML2495A	1232002	Aug. 10, 2012	Aug. 09, 2013
Power Sensor	MA2411B	1207325	Aug. 15, 2012	Aug. 14, 2013

- 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 9.
 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 460141.
 6. The IC Site Registration No. is IC7450F-4.

4.1.3 TEST PROCEDURES

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

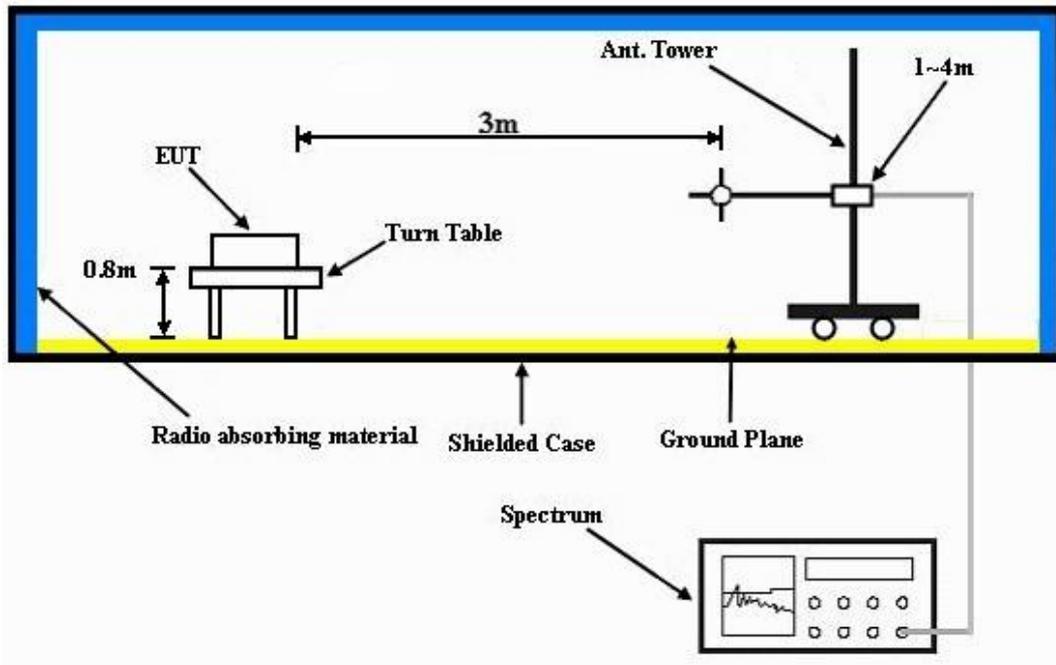
NOTE:

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

4.1.4 DEVIATION FROM TEST STANDARD

No deviation.

4.1.5 TEST SETUP



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

4.1.6 EUT OPERATING CONDITIONS

- a. Placed the EUT on a testing table.
- b. Use the software to control the EUT under transmission condition continuously at specific channel frequency.



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4.1.7 TEST RESULTS

ABOVE 1GHz WORST-CASE DATA

TEST MODE A

802.11b

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	37.6	42.08	54	-16.4	28.17	4.87	37.52	103	28	Average
2390	50.29	54.77	74	-23.71	28.17	4.87	37.52	103	28	Peak
2412	98.89	103.32			28.22	4.87	37.52	103	28	Average
2412	103.15	107.58			28.22	4.87	37.52	103	28	Peak
2492	48.4	52.21	54	-5.6	28.5	4.94	37.25	103	28	Average
2492	55.58	59.39	74	-18.42	28.5	4.94	37.25	103	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
2384	37.28	41.82	54	-16.72	28.11	4.85	37.5	100	311	Average
2384	50.36	54.9	74	-23.64	28.11	4.85	37.5	100	311	Peak
2412	93.32	97.75			28.22	4.87	37.52	100	311	Average
2412	97.72	102.15			28.22	4.87	37.52	100	311	Peak
2496	37.6	41.41	54	-16.4	28.5	4.94	37.25	100	311	Average
2496	51.8	55.61	74	-22.2	28.5	4.94	37.25	100	311	Peak

REMARKS:

- 2412MHz: Fundamental frequency.



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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	37.67	42.15	54	-16.33	28.17	4.87	37.52	103	28	Average
2390	50.73	55.21	74	-23.27	28.17	4.87	37.52	103	28	Peak
2437	100.76	105			28.33	4.89	37.46	103	28	Average
2437	104.92	109.16			28.33	4.89	37.46	103	28	Peak
2483.5	37.04	41	54	-16.96	28.44	4.92	37.32	103	28	Average
2483.5	50.99	54.95	74	-23.01	28.44	4.92	37.32	103	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	36.58	41.06	54	-17.42	28.17	4.87	37.52	100	311	Average
2390	49.18	53.66	74	-24.82	28.17	4.87	37.52	100	311	Peak
2437	94.72	98.96			28.33	4.89	37.46	100	311	Average
2437	98.91	103.15			28.33	4.89	37.46	100	311	Peak
2483.5	36.62	40.58	54	-17.38	28.44	4.92	37.32	100	311	Average
2483.5	49.43	53.39	74	-24.57	28.44	4.92	37.32	100	311	Peak

REMARKS:

- 2437MHz: Fundamental frequency.



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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	37.73	42.21	54	-16.27	28.17	4.87	37.52	100	27	Average
2390	50.93	55.41	74	-23.07	28.17	4.87	37.52	100	27	Peak
2462	100.02	104.11			28.39	4.91	37.39	100	27	Average
2462	103.69	107.78			28.39	4.91	37.39	100	27	Peak
2483.5	38	41.96	54	-16	28.44	4.92	37.32	100	27	Average
2483.5	50.66	54.62	74	-23.34	28.44	4.92	37.32	100	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	36.28	40.76	54	-17.72	28.17	4.87	37.52	100	10	Average
2390	48.38	52.86	74	-25.62	28.17	4.87	37.52	100	10	Peak
2462	94.23	98.32			28.39	4.91	37.39	100	10	Average
2462	98.12	102.21			28.39	4.91	37.39	100	10	Peak
2483.5	37.69	41.65	54	-16.31	28.44	4.92	37.32	100	10	Average
2483.5	49.81	53.77	74	-24.19	28.44	4.92	37.32	100	10	Peak

REMARKS:

- 2462MHz: Fundamental frequency.



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802.11g

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	46.86	51.34	54	-7.14	28.17	4.87	37.52	100	33	Average
2390	67.97	72.45	74	-6.03	28.17	4.87	37.52	100	33	Peak
2412	93.2	97.63			28.22	4.87	37.52	100	33	Average
2412	102.33	106.76			28.22	4.87	37.52	100	33	Peak
2486	45.95	49.91	54	-8.05	28.44	4.92	37.32	100	33	Average
2486	57.63	61.59	74	-16.37	28.44	4.92	37.32	100	33	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	42.93	47.41	54	-11.07	28.17	4.87	37.52	100	311	Average
2390	57.67	62.15	74	-16.33	28.17	4.87	37.52	100	311	Peak
2412	88.61	93.04			28.22	4.87	37.52	100	311	Average
2412	98.31	102.74			28.22	4.87	37.52	100	311	Peak
2496	40.39	44.2	54	-13.61	28.5	4.94	37.25	100	311	Average
2496	52.61	56.42	74	-21.39	28.5	4.94	37.25	100	311	Peak

REMARKS:

- 2412MHz: Fundamental frequency.



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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	39	43.48	54	-15	28.17	4.87	37.52	104	16	Average
2390	50.62	55.1	74	-23.38	28.17	4.87	37.52	104	16	Peak
2437	93.37	97.61			28.33	4.89	37.46	104	16	Average
2437	103.58	107.82			28.33	4.89	37.46	104	16	Peak
2483.5	39.76	43.72	54	-14.24	28.44	4.92	37.32	104	16	Average
2483.5	51.89	55.85	74	-22.11	28.44	4.92	37.32	104	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
2390	37.36	41.84	54	-16.64	28.17	4.87	37.52	100	309	Average
2390	49.6	54.08	74	-24.4	28.17	4.87	37.52	100	309	Peak
2437	87.06	91.3			28.33	4.89	37.46	100	309	Average
2437	96.59	100.83			28.33	4.89	37.46	100	309	Peak
2483.5	37.33	41.29	54	-16.67	28.44	4.92	37.32	100	309	Average
2483.5	49.74	53.7	74	-24.26	28.44	4.92	37.32	100	309	Peak

REMARKS:

- 2437MHz: Fundamental frequency.



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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2386	40.7	45.18	54	-13.3	28.17	4.85	37.5	100	22	Average
2386	52.67	57.15	74	-21.33	28.17	4.85	37.5	100	22	Peak
2462	94.66	98.75			28.39	4.91	37.39	100	22	Average
2462	104.39	108.48			28.39	4.91	37.39	100	22	Peak
2483.5	48.5	52.46	54	-5.5	28.44	4.92	37.32	100	22	Average
2483.5	67.05	71.01	74	-6.95	28.44	4.92	37.32	100	22	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	37.52	42	54	-16.48	28.17	4.87	37.52	100	4	Average
2390	49.46	53.94	74	-24.54	28.17	4.87	37.52	100	4	Peak
2462	88.16	92.25			28.39	4.91	37.39	100	4	Average
2462	97.91	102			28.39	4.91	37.39	100	4	Peak
2483.5	44.04	48	54	-9.96	28.44	4.92	37.32	100	4	Average
2483.5	59.95	63.91	74	-14.05	28.44	4.92	37.32	100	4	Peak

REMARKS:

- 2462MHz: Fundamental frequency.



A D T

802.11n (20MHz)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	47.39	51.87	54	-6.61	28.17	4.87	37.52	100	27	Average
2390	64.25	68.73	74	-9.75	28.17	4.87	37.52	100	27	Peak
2412	92.18	96.61			28.22	4.87	37.52	100	27	Average
2412	101.95	106.38			28.22	4.87	37.52	100	27	Peak
2486	45.84	49.8	54	-8.16	28.44	4.92	37.32	100	27	Average
2486	56.96	60.92	74	-17.04	28.44	4.92	37.32	100	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	44.28	48.76	54	-9.72	28.17	4.87	37.52	100	328	Average
2390	59.71	64.19	74	-14.29	28.17	4.87	37.52	100	328	Peak
2412	86.89	91.32			28.22	4.87	37.52	100	328	Average
2412	97.1	101.53			28.22	4.87	37.52	100	328	Peak
2488	38.11	42.01	54	-15.89	28.5	4.92	37.32	100	328	Average
2488	52.23	56.13	74	-21.77	28.5	4.92	37.32	100	328	Peak

REMARKS:

- 2412MHz: Fundamental frequency.



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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	37.25	41.73	54	-16.75	28.17	4.87	37.52	100	27	Average
2390	50.05	54.53	74	-23.95	28.17	4.87	37.52	100	27	Peak
2437	91.82	96.06			28.33	4.89	37.46	100	27	Average
2437	100.92	105.16			28.33	4.89	37.46	100	27	Peak
2486	36.69	40.65	54	-17.31	28.44	4.92	37.32	100	27	Average
2486	51.36	55.32	74	-22.64	28.44	4.92	37.32	100	27	Peak
2512	43.9	47.68	54	-10.1	28.53	4.94	37.25	100	27	Average
2512	54.28	58.06	74	-19.72	28.53	4.94	37.25	100	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	36.66	41.14	54	-17.34	28.17	4.87	37.52	100	326	Average
2390	48.89	53.37	74	-25.11	28.17	4.87	37.52	100	326	Peak
2437	85.65	89.89			28.33	4.89	37.46	100	326	Average
2437	93.94	98.18			28.33	4.89	37.46	100	326	Peak
2483.5	36.74	40.7	54	-17.26	28.44	4.92	37.32	100	326	Average
2483.5	48.05	52.01	74	-25.95	28.44	4.92	37.32	100	326	Peak

REMARKS:

1. 2437MHz: Fundamental frequency.



A D T

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	36.66	41.14	54	-17.34	28.17	4.87	37.52	100	27	Average
2390	52.09	56.57	74	-21.91	28.17	4.87	37.52	100	27	Peak
2462	93.1	97.19			28.39	4.91	37.39	100	27	Average
2462	102.79	106.88			28.39	4.91	37.39	100	27	Peak
2483.5	49.43	53.39	54	-4.57	28.44	4.92	37.32	100	27	Average
2483.5	67.46	71.42	74	-6.54	28.44	4.92	37.32	100	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	36.14	40.62	54	-17.86	28.17	4.87	37.52	100	9	Average
2390	50.44	54.92	74	-23.56	28.17	4.87	37.52	100	9	Peak
2462	86.32	90.41			28.39	4.91	37.39	100	9	Average
2462	96.04	100.13			28.39	4.91	37.39	100	9	Peak
2483.5	44.39	48.35	54	-9.61	28.44	4.92	37.32	100	9	Average
2483.5	61.44	65.4	74	-12.56	28.44	4.92	37.32	100	9	Peak

REMARKS:

- 2462MHz: Fundamental frequency.



A D T

802.11n (40MHz)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	47.01	51.49	54	-6.99	28.17	4.87	37.52	100	43	Average
2390	65.23	69.71	74	-8.77	28.17	4.87	37.52	100	43	Peak
2422	87.86	92.15			28.28	4.89	37.46	100	43	Average
2422	97.33	101.62			28.28	4.89	37.46	100	43	Peak
2500	40.38	44.19	54	-13.62	28.5	4.94	37.25	100	43	Average
2500	53.19	57	74	-20.81	28.5	4.94	37.25	100	43	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	45.34	49.82	54	-8.66	28.17	4.85	37.5	100	313	Average
2388	62.84	67.32	74	-11.16	28.17	4.85	37.5	100	313	Peak
2422	84.42	88.71			28.28	4.89	37.46	100	313	Average
2422	94.87	99.16			28.28	4.89	37.46	100	313	Peak
2488	38.31	42.21	54	-15.69	28.5	4.92	37.32	100	313	Average
2488	53.22	57.12	74	-20.78	28.5	4.92	37.32	100	313	Peak

REMARKS:

- 2422MHz: Fundamental frequency.



A D T

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	42.78	47.26	54	-11.22	28.17	4.87	37.52	100	40	Average
2390	58.8	63.28	74	-15.2	28.17	4.87	37.52	100	40	Peak
2437	89.52	93.76			28.33	4.89	37.46	100	40	Average
2437	99.18	103.42			28.33	4.89	37.46	100	40	Peak
2483.5	42.04	46	54	-11.96	28.44	4.92	37.32	100	40	Average
2483.5	57.41	61.37	74	-16.59	28.44	4.92	37.32	100	40	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	41.26	45.74	54	-12.74	28.17	4.87	37.52	100	313	Average
2390	55.07	59.55	74	-18.93	28.17	4.87	37.52	100	313	Peak
2437	85.75	89.99			28.33	4.89	37.46	100	313	Average
2437	95.59	99.83			28.33	4.89	37.46	100	313	Peak
2483.5	38.75	42.71	54	-15.25	28.44	4.92	37.32	100	313	Average
2483.5	52.86	56.82	74	-21.14	28.44	4.92	37.32	100	313	Peak

REMARKS:

- 2437MHz: Fundamental frequency.



A D T

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2378	38.62	43.16	54	-15.38	28.11	4.85	37.5	100	42	Average
2378	51.25	55.79	74	-22.75	28.11	4.85	37.5	100	42	Peak
2452	90.14	94.29			28.33	4.91	37.39	100	42	Average
2452	100.03	104.18			28.33	4.91	37.39	100	42	Peak
2490	49.03	52.93	54	-4.97	28.5	4.92	37.32	100	42	Average
2490	67.83	71.73	74	-6.17	28.5	4.92	37.32	100	42	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
2374	38.24	42.78	54	-15.76	28.11	4.85	37.5	100	313	Average
2374	51.67	56.21	74	-22.33	28.11	4.85	37.5	100	313	Peak
2452	86.01	90.16			28.33	4.91	37.39	100	313	Average
2452	96.28	100.43			28.33	4.91	37.39	100	313	Peak
2496	43.55	47.36	54	-10.45	28.5	4.94	37.25	100	313	Average
2496	59.5	63.31	74	-14.5	28.5	4.94	37.25	100	313	Peak

REMARKS:

1. 2452MHz: Fundamental frequency.



A D T

TEST MODE B

802.11n (40MHz)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2386	38.21	43.95	54	-15.79	26.91	4.85	37.5	100	37	Average
2386	51.81	57.55	74	-22.19	26.91	4.85	37.5	100	37	Peak
2452	90.77	96.19			27.06	4.91	37.39	100	37	Average
2452	101.21	106.63			27.06	4.91	37.39	100	37	Peak
2483.5	51.58	56.83	54	-2.42	27.15	4.92	37.32	100	37	Average
2483.5	71.74	76.99	74	-2.26	27.15	4.92	37.32	100	37	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	37.09	42.83	54	-16.91	26.91	4.87	37.52	100	307	Average
2390	50.65	56.39	74	-23.35	26.91	4.87	37.52	100	307	Peak
2452	83.72	89.14			27.06	4.91	37.39	100	307	Average
2452	93.24	98.66			27.06	4.91	37.39	100	307	Peak
2483.5	42.97	48.22	54	-11.03	27.15	4.92	37.32	100	307	Average
2483.5	63.22	68.47	74	-10.78	27.15	4.92	37.32	100	307	Peak

REMARKS:

- 2452MHz: Fundamental frequency.



A D T

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
42.96	27.88	44.68	40	-12.12	13.58	0.7	31.08	100	227	Peak
112.35	33.42	53.87	43.5	-10.08	10.27	1.14	31.86	100	224	Peak
150.42	31.5	49.06	43.5	-12	12.71	1.34	31.61	100	133	Peak
314.7	22.16	38.66	46	-23.84	13.31	2.11	31.92	158	74	Peak
631.8	24.96	33.92	46	-21.04	19.99	3.18	32.13	133	288	Peak
869.8	28.05	33.06	46	-17.95	23.12	3.88	32.01	100	274	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	31.26	49.85	40	-8.74	11.98	0.57	31.14	122	221	QP
42.42	33.26	50.06	40	-6.74	13.58	0.7	31.08	100	225	QP
158.52	31.06	48.78	43.5	-12.44	12.73	1.38	31.83	100	263	Peak
402.9	20.6	34.87	46	-25.4	15.39	2.43	32.09	121	125	Peak
596.8	22.85	32.46	46	-23.15	19.52	3.08	32.21	152	225	Peak
834.8	28.16	33.46	46	-17.84	22.68	3.78	31.76	100	225	Peak

4.2 CONDUCTED EMISSION MEASUREMENT

4.2.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

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

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

4.2.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESCS30	100288	Nov. 09, 2012	Nov. 08, 2013
RF signal cable Woken	5D-FB	Cable-HYCO2-01	Dec. 28, 2012	Dec. 27, 2013
LISN ROHDE & SCHWARZ (EUT)	ESH2-Z5	100100	Dec. 21, 2012	Dec. 20, 2013
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100311	Jul. 06, 2012	Jul. 05, 2013
Software ADT	BV ADT_Cond_ V7.3.7.3	NA	NA	NA

- NOTE:** 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HwaYa Shielded Room 2.
3. The VCCI Site Registration No. is C-2047.



A D T

4.2.3 TEST PROCEDURES

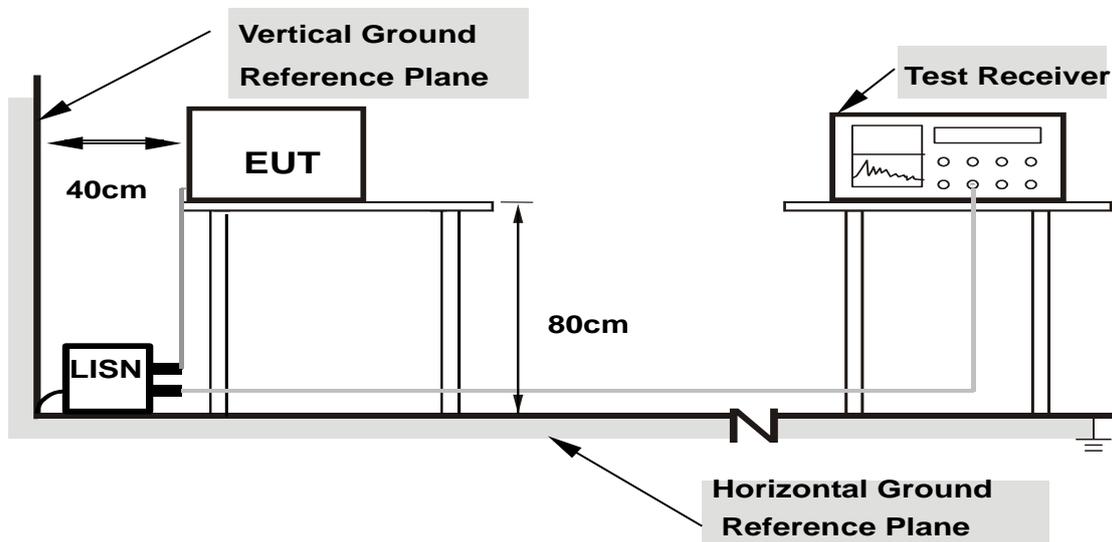
- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

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

4.2.4 DEVIATION FROM TEST STANDARD

No deviation.

4.2.5 TEST SETUP



- Note:**
1. Support units were connected to second LISN.
 2. Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

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

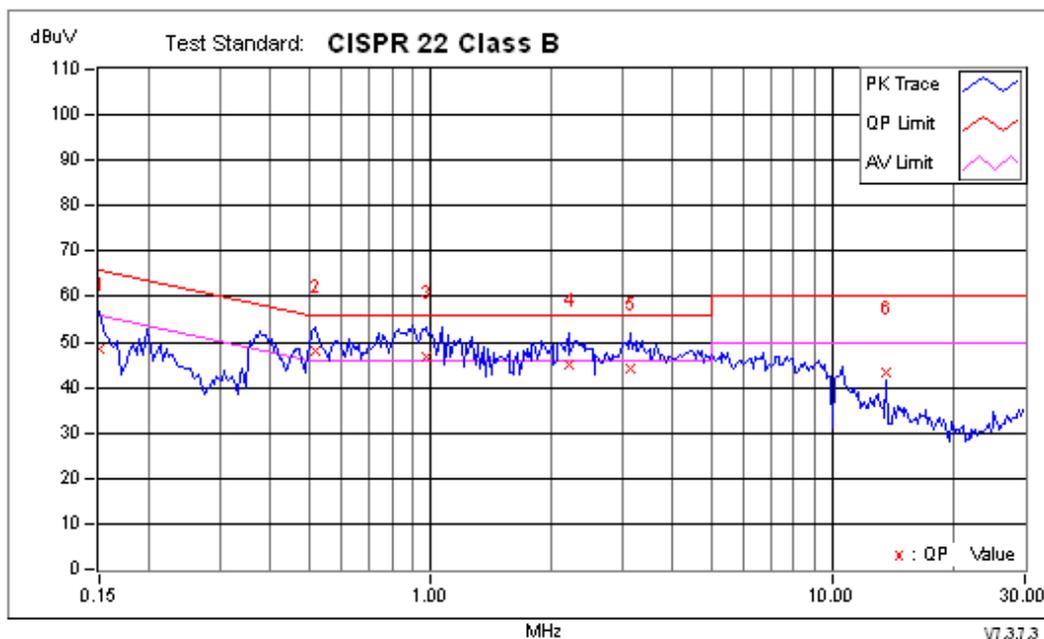
4.2.6 EUT OPERATING CONDITIONS

Same as 4.1.6.

4.2.7 TEST RESULTS

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

PHASE	Line 1	6dB BANDWIDTH	9kHz
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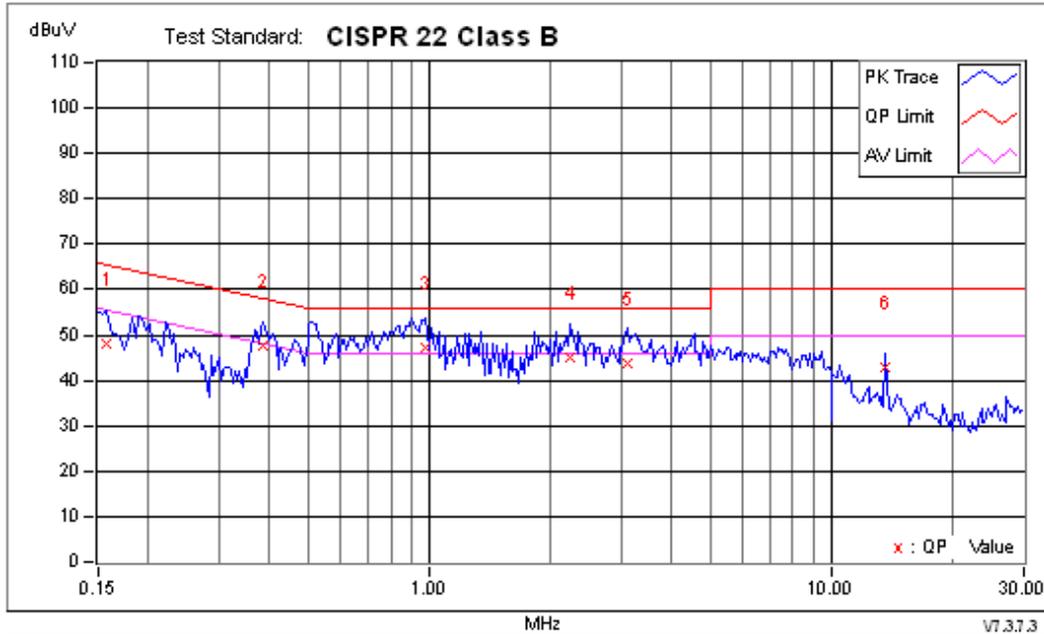


No.	Frequency MHz	Corr. Factor	Reading dBuV		Emission dBuV		Limit dBuV		Margins dB		Notes
			QP	AV	QP	AV	QP	AV	QP	AV	
1	0.15000	0.18	48.44	34.28	48.62	34.46	66.00	56.00	-17.38	-21.54	
+2	0.51719	0.22	48.04	37.51	48.26	37.73	56.00	46.00	-7.74	-8.27	
3	0.97422	0.26	46.44	36.88	46.70	37.14	56.00	46.00	-9.30	-8.86	
4	2.19531	0.30	44.65	36.42	44.95	36.72	56.00	46.00	-11.05	-9.28	
5	3.14453	0.34	43.74	35.04	44.08	35.38	56.00	46.00	-11.92	-10.62	
6	13.56250	0.53	42.78	39.99	43.31	40.52	60.00	50.00	-16.69	-9.48	

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
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No.	Frequency MHz	Corr. Factor	Reading dBuV		Emission dBuV		Limit dBuV		Margins dB		Notes
			QP	AV	QP	AV	QP	AV	QP	AV	
1	0.15781	0.16	47.83	33.87	47.99	34.03	65.58	55.58	-17.59	-21.55	
+2	0.38438	0.20	47.25	39.82	47.45	40.02	58.18	48.18	-10.74	-8.17	
3	0.97031	0.26	46.90	36.38	47.16	36.64	56.00	46.00	-8.84	-9.36	
4	2.23828	0.30	44.53	36.32	44.83	36.62	56.00	46.00	-11.17	-9.38	
5	3.09375	0.34	43.52	35.22	43.86	35.56	56.00	46.00	-12.14	-10.44	
6	13.55859	0.59	42.17	39.69	42.76	40.28	60.00	50.00	-17.24	-9.72	

REMARKS:

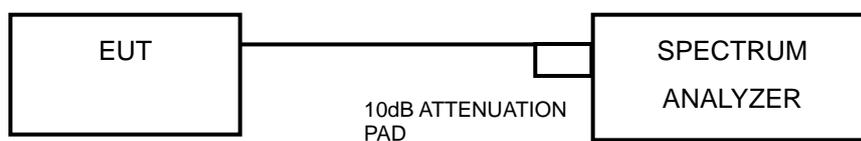
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level - Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value.

4.3 6dB BANDWIDTH MEASUREMENT

4.3.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

4.3.2 TEST SETUP



4.3.3 TEST INSTRUMENTS

Refer to section 4.1.2 to get information of above instrument.

4.3.4 TEST PROCEDURE

- a. Set resolution bandwidth (RBW) = approximately 1% of the emission bandwidth
- b. Set the video bandwidth (VBW) $\geq 3 \times$ 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	8.52	0.5	PASS
6	2437	8.55	0.5	PASS
11	2462	8.57	0.5	PASS

802.11g

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	16.56	0.5	PASS
6	2437	16.56	0.5	PASS
11	2462	16.58	0.5	PASS

802.11n (20MHz)

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	17.63	0.5	PASS
6	2437	17.66	0.5	PASS
11	2462	17.75	0.5	PASS

802.11n (40MHz)

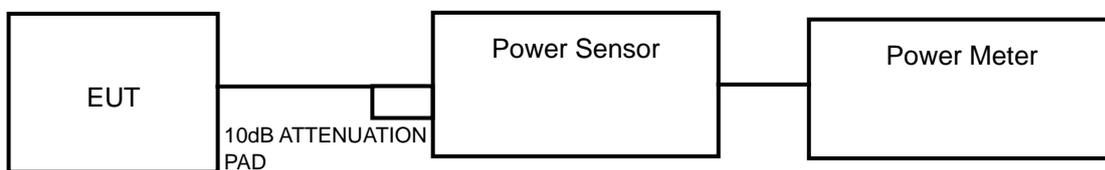
CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
3	2422	36.52	0.5	PASS
6	2437	36.39	0.5	PASS
9	2452	36.66	0.5	PASS

4.4 CONDUCTED OUTPUT POWER

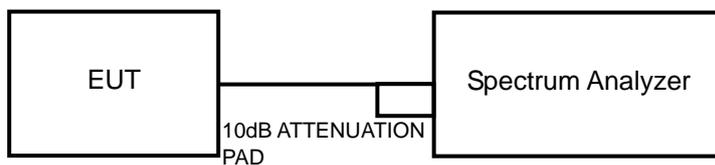
4.4.1 LIMITS OF CONDUCTED OUTPUT POWER MEASUREMENT

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

4.4.2 TEST SETUP



or



4.4.3 TEST INSTRUMENTS

Refer to section 4.1.2 to get information of above instrument.

4.4.4 TEST PROCEDURES

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

4.4.5 DEVIATION FROM TEST STANDARD

No deviation.

4.4.6 EUT OPERATING CONDITIONS

Same as Item 4.3.6.



4.4.7 TEST RESULTS

802.11b

CHANNEL	FREQUENCY (MHz)	PEAK POWER (mW)	PEAK POWER (dBm)	LIMIT (dBm)	PASS/FAIL
1	2412	127.938	21.07	30	PASS
6	2437	130.918	21.17	30	PASS
11	2462	123.027	20.9	30	PASS

802.11g

CHANNEL	FREQUENCY (MHz)	PEAK POWER (mW)	PEAK POWER (dBm)	LIMIT (dBm)	PASS/FAIL
1	2412	285.102	24.55	30	PASS
6	2437	282.488	24.51	30	PASS
11	2462	260.016	24.15	30	PASS

802.11n (20MHz)

CHANNEL	FREQUENCY (MHz)	PEAK POWER (mW)	PEAK POWER (dBm)	LIMIT (dBm)	PASS/FAIL
1	2412	287.078	24.58	30	PASS
6	2437	286.418	24.57	30	PASS
11	2462	263.633	24.21	30	PASS

802.11n (40MHz)

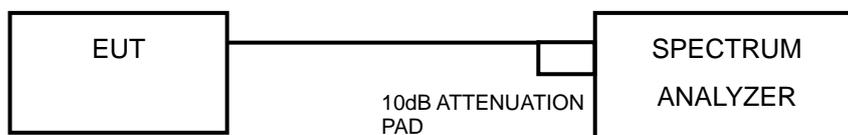
CHANNEL	FREQUENCY (MHz)	PEAK POWER (mW)	PEAK POWER (dBm)	LIMIT (dBm)	PASS/FAIL
3	2422	238.781	23.78	30	PASS
6	2437	224.905	23.52	30	PASS
9	2452	207.014	23.16	30	PASS

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

- Set the RBW = 100 kHz, VBW = 300 kHz, Detector = peak.
- Sweep time = auto couple, Trace mode = max hold, allow trace to fully stabilize.
- Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.
- Scale the observed power level to an equivalent value in 3 kHz by adjusting (reducing) the measured power by a bandwidth correction factor (BWCF) where $BWCF = 10\log(3 \text{ kHz}/100\text{kHz})$

4.5.5 DEVIATION FROM TEST STANDARD

No deviation.

4.5.6 EUT OPERATING CONDITION

Same as Item 4.3.6

4.5.7 TEST RESULTS

802.11b

Channel	FREQ. (MHz)	PSD (dBm/100kHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
1	2412	10.90	-4.30	8	PASS
6	2437	10.73	-4.47	8	PASS
11	2462	10.31	-4.89	8	PASS

802.11g

Channel	FREQ. (MHz)	PSD (dBm/100kHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
1	2412	4.87	-10.33	8	PASS
6	2437	5.01	-10.19	8	PASS
11	2462	4.85	-10.35	8	PASS

802.11n (20MHz)

Channel	FREQ. (MHz)	PSD (dBm/100kHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
1	2412	5.08	-10.12	8	PASS
6	2437	5.14	-10.06	8	PASS
11	2462	4.78	-10.42	8	PASS

802.11n (40MHz)

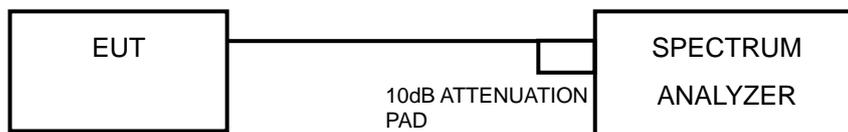
Channel	FREQ. (MHz)	PSD (dBm/100kHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
3	2422	-0.05	-15.25	8	PASS
6	2437	-0.07	-15.27	8	PASS
9	2452	-0.11	-15.31	8	PASS

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 \geq 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 OOB

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

4.6.5 DEVIATION FROM TEST STANDARD

No deviation.

4.6.6 EUT OPERATING CONDITION

Same as Item 4.3.6

4.6.7 TEST RESULTS

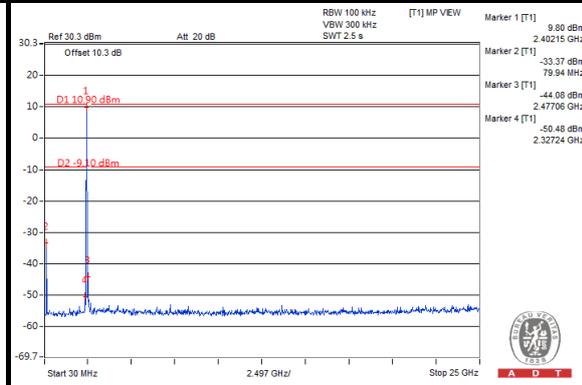
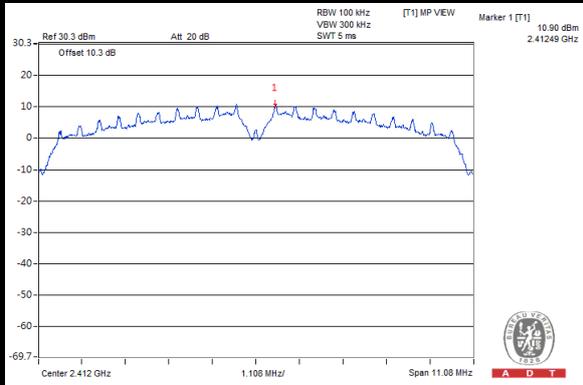
The spectrum plots are attached on the following pages. D1 line indicates the highest level, and D2 line indicates the 20dB offset below D1. It shows compliance with the requirement.



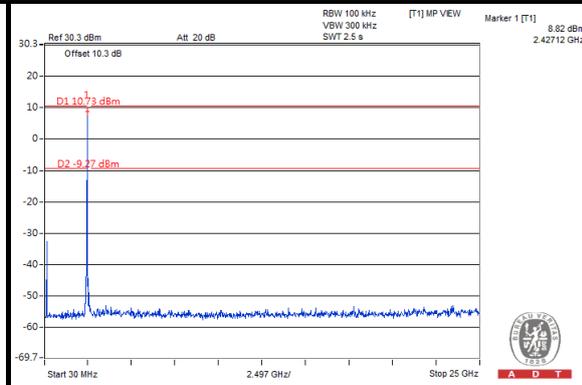
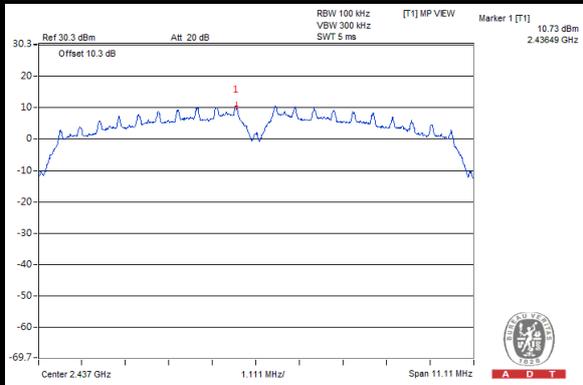
A D T

802.11b

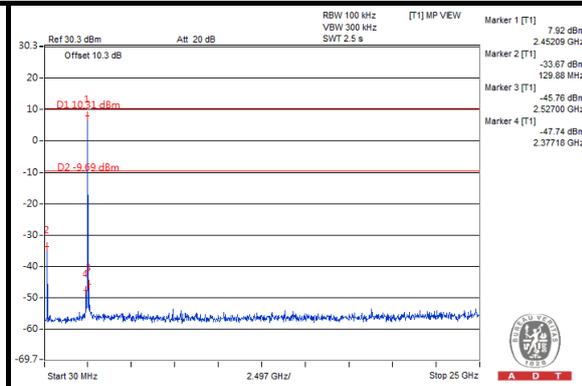
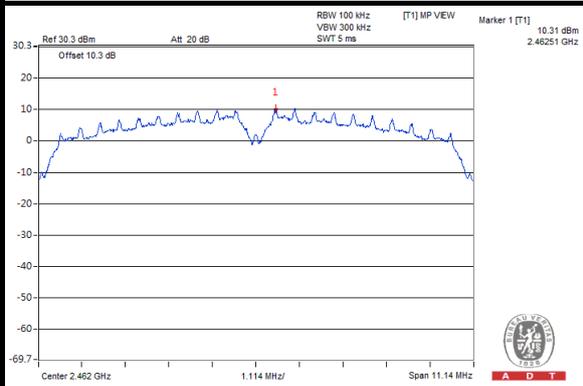
CH 1



CH 6



CH 11

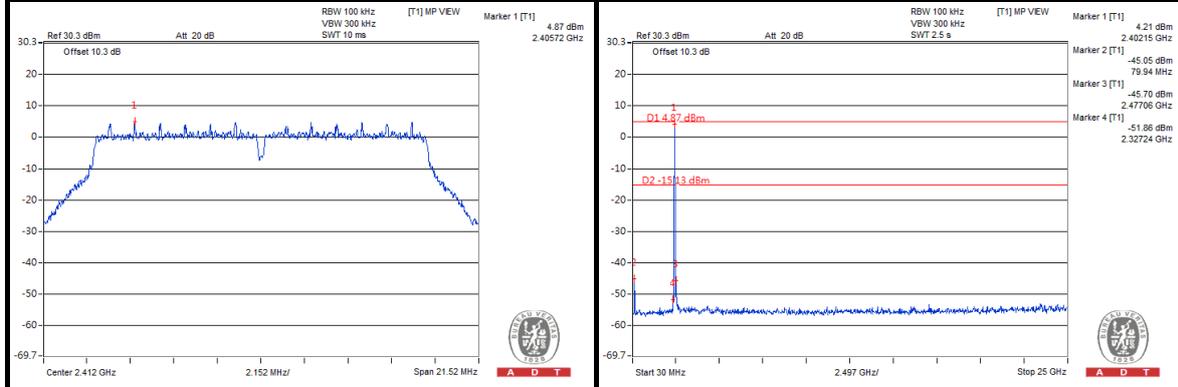




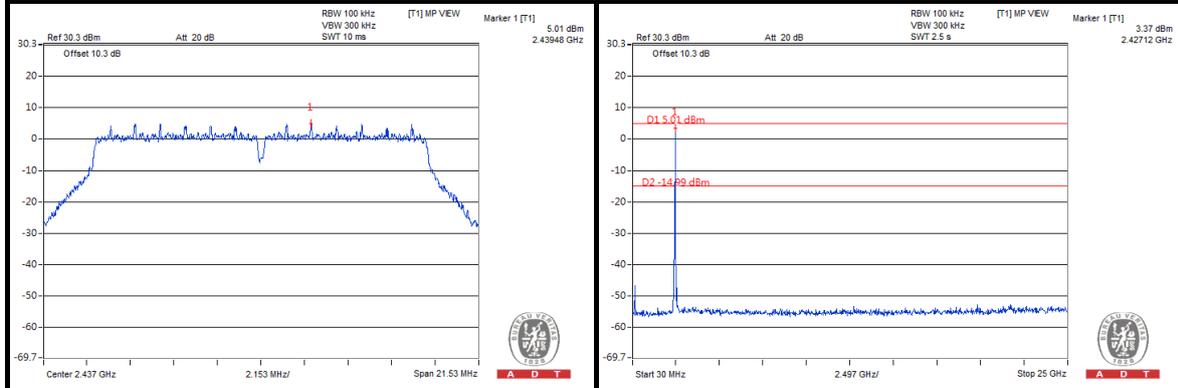
A D T

802.11g

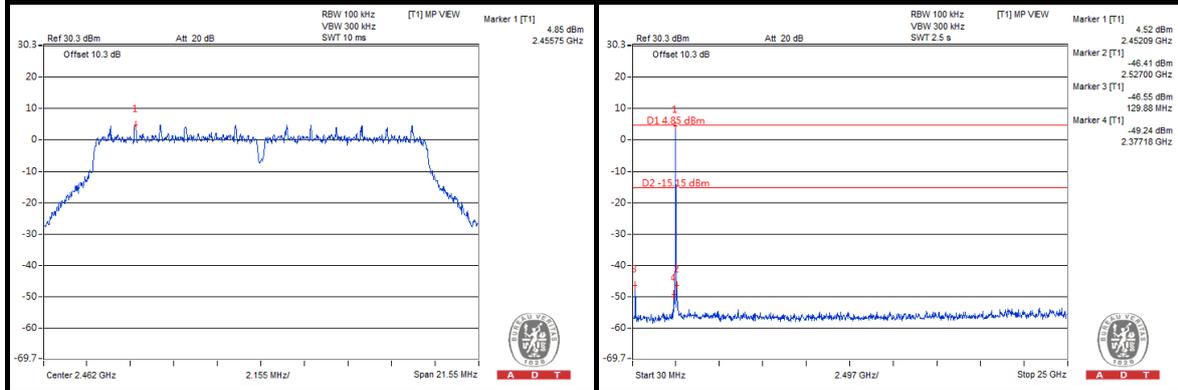
CH 1



CH 6



CH 11

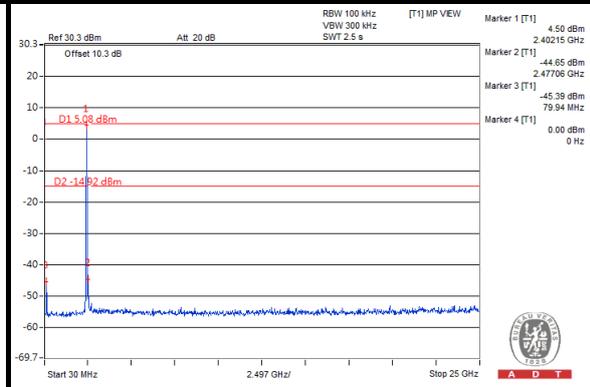
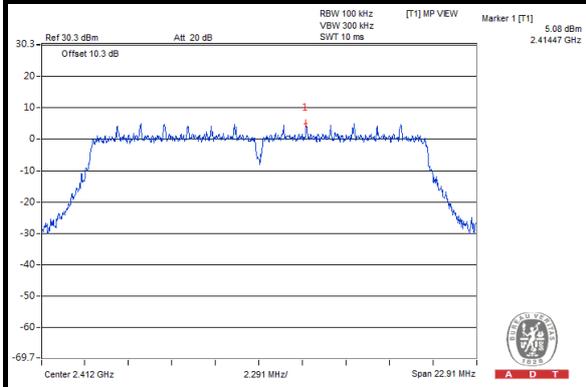




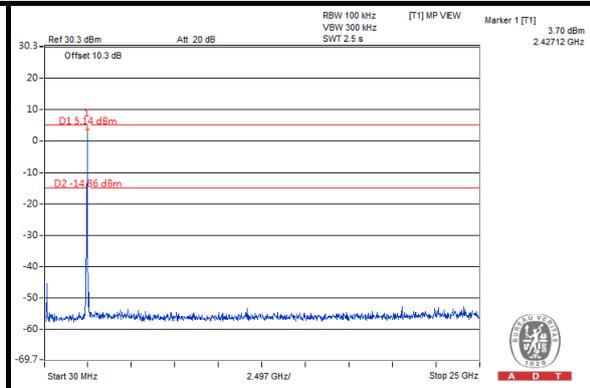
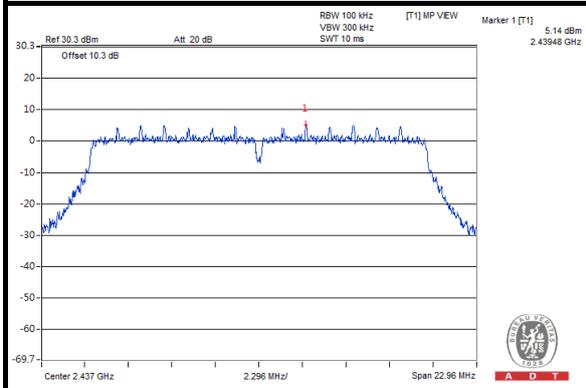
A D T

802.11n (20MHz)

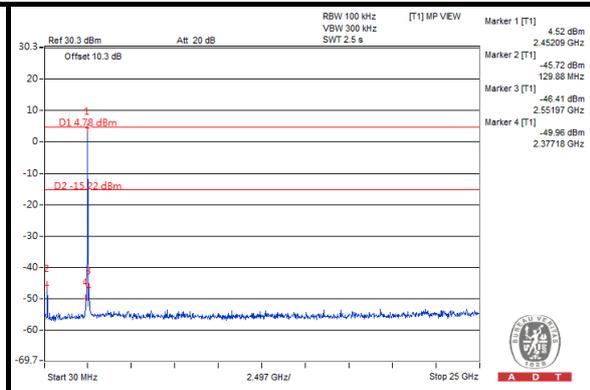
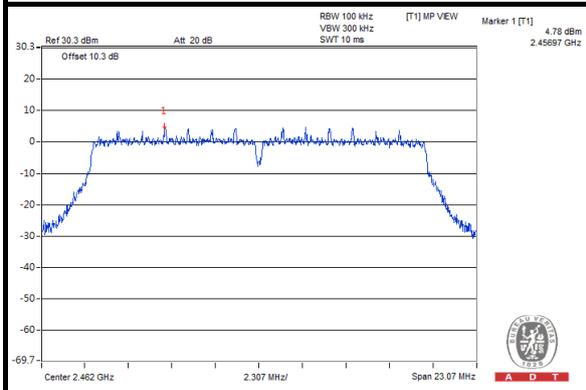
CH 1



CH 6



CH 11

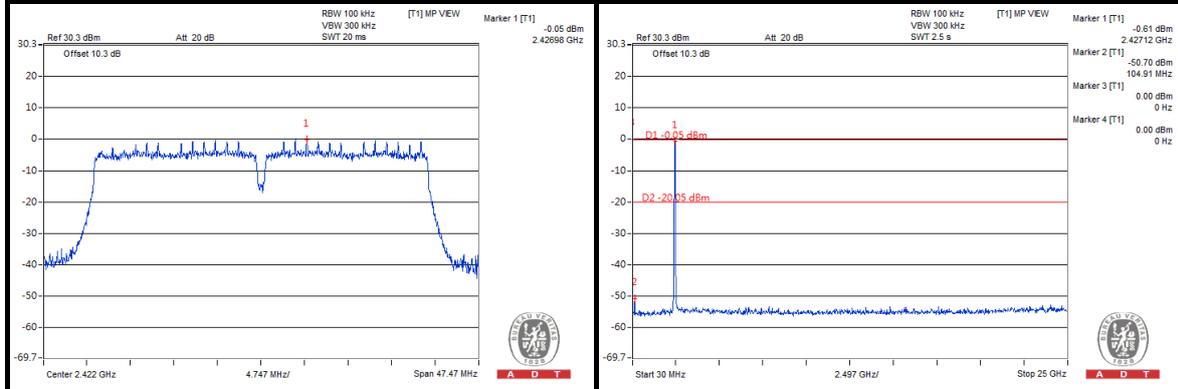




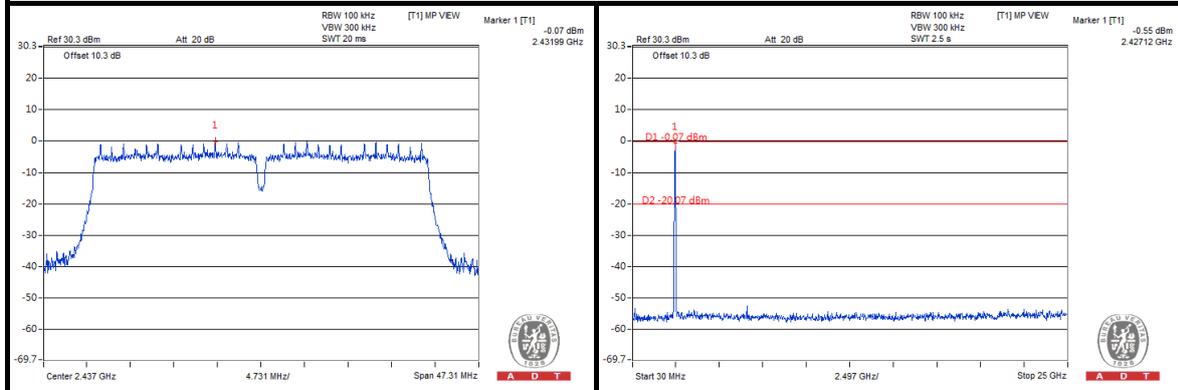
A D T

802.11n (40MHz)

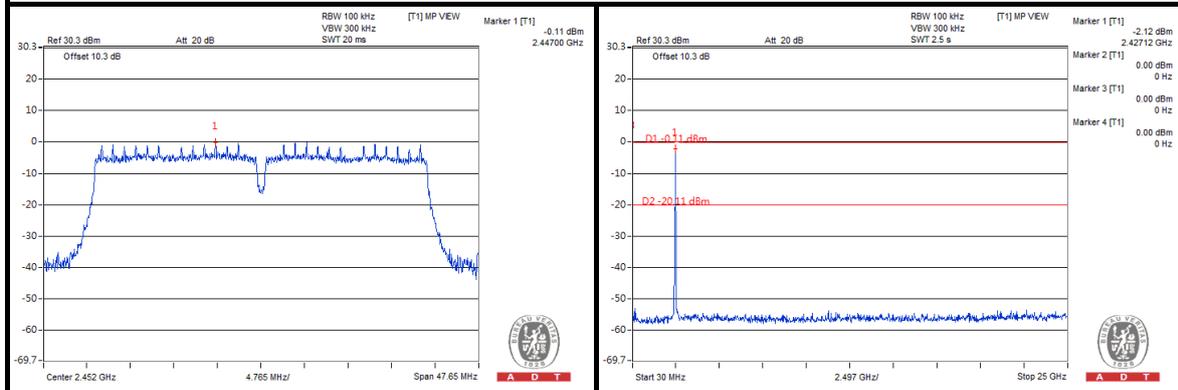
CH 3



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.



A D T

5.1.2 TEST INSTRUMENTS

Same as item 4.1.2.

5.1.3 TEST PROCEDURES

Same as item 4.1.3.

5.1.4 DEVIATION FROM TEST STANDARD

No deviation.

5.1.5 TEST SETUP

Same as item 4.1.5.

5.1.6 EUT OPERATING CONDITIONS

Same as 4.1.6.



A D T

5.1.7 TEST RESULTS

ABOVE 1GHz WORST-CASE DATA

TEST MODE A

802.11a

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5725	47.95	44.7	71.27	-23.32	32.97	7.71	37.43	103	8	Average
5725	63.85	60.6	81.08	-17.23	32.97	7.71	37.43	103	8	Peak
5745	91.27	88.01			32.99	7.74	37.47	103	8	Average
5745	101.08	97.82			32.99	7.74	37.47	103	8	Peak
5850	42.26	38.83	71.27	-29.01	33.11	7.83	37.51	103	8	Average
5850	53.11	49.68	81.08	-27.97	33.11	7.83	37.51	103	8	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	50.54	47.29	74.45	-23.91	32.97	7.71	37.43	100	205	Average
5725	67.19	63.94	84.22	-17.03	32.97	7.71	37.43	100	205	Peak
5745	94.45	91.19			32.99	7.74	37.47	100	205	Average
5745	104.22	100.96			32.99	7.74	37.47	100	205	Peak
5850	44.41	41.03	74.45	-30.04	33.09	7.82	37.53	100	205	Average
5850	52.81	49.43	84.22	-31.41	33.09	7.82	37.53	100	205	Peak

REMARKS:

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



A D T

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5725	41.82	38.57	69.85	-28.03	32.97	7.71	37.43	101	9	Average
5725	52.83	49.58	80	-27.17	32.97	7.71	37.43	101	9	Peak
5785	89.85	86.56			33.03	7.8	37.54	101	9	Average
5785	100	96.71			33.03	7.8	37.54	101	9	Peak
5850	41.62	38.24	69.85	-28.23	33.09	7.82	37.53	101	9	Average
5850	52.31	48.93	80	-27.69	33.09	7.82	37.53	101	9	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	41.99	38.74	74.19	-32.2	32.97	7.71	37.43	100	206	Average
5725	53.6	50.35	83.72	-30.12	32.97	7.71	37.43	100	206	Peak
5785	94.19	90.9			33.03	7.8	37.54	100	206	Average
5785	103.72	100.43			33.03	7.8	37.54	100	206	Peak
5850	42.57	39.19	74.19	-31.62	33.09	7.82	37.53	100	206	Average
5850	53.82	50.44	83.72	-29.9	33.09	7.82	37.53	100	206	Peak

REMARKS:

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



A D T

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5725	41.41	38.16	69.79	-28.38	32.97	7.71	37.43	122	14	Average
5725	51.57	48.32	79.28	-27.71	32.97	7.71	37.43	122	14	Peak
5825	89.79	86.41			33.09	7.82	37.53	122	14	Average
5825	99.28	95.9			33.09	7.82	37.53	122	14	Peak
5850	42.08	38.65	69.79	-27.71	33.11	7.83	37.51	122	14	Average
5850	53.69	50.26	79.28	-25.59	33.11	7.83	37.51	122	14	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	41.44	38.19	73.75	-32.31	32.97	7.71	37.43	100	205	Average
5725	53.23	49.98	83.46	-30.23	32.97	7.71	37.43	100	205	Peak
5825	93.75	90.37			33.09	7.82	37.53	100	205	Average
5825	103.46	100.08			33.09	7.82	37.53	100	205	Peak
5850	43.12	39.69	73.75	-30.63	33.11	7.83	37.51	100	205	Average
5850	56.2	52.77	83.46	-27.26	33.11	7.83	37.51	100	205	Peak

REMARKS:

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



A D T

802.11n (20MHz)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5725	49.27	46.02	69.29	-20.02	32.97	7.71	37.43	100	9	Average
5725	64.85	61.6	79.14	-14.29	32.97	7.71	37.43	100	9	Peak
5745	89.29	86.03			32.99	7.74	37.47	100	9	Average
5745	99.14	95.88			32.99	7.74	37.47	100	9	Peak
5850	41.45	38.02	69.29	-27.84	33.11	7.83	37.51	100	9	Average
5850	51.78	48.35	79.14	-27.36	33.11	7.83	37.51	100	9	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	49.69	46.44	71.35	-21.66	32.97	7.71	37.43	100	158	Average
5725	68.55	65.3	81.04	-12.49	32.97	7.71	37.43	100	158	Peak
5745	91.35	88.09			32.99	7.74	37.47	100	158	Average
5745	101.04	97.78			32.99	7.74	37.47	100	158	Peak
5850	41.66	38.23	71.35	-29.69	33.11	7.83	37.51	100	158	Average
5850	52.67	49.24	81.04	-28.37	33.11	7.83	37.51	100	158	Peak

REMARKS:

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



A D T

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5725	41.81	39.17	69.38	-27.57	32.36	7.71	37.43	100	104	Average
5725	52.56	49.92	78.8	-26.24	32.36	7.71	37.43	100	104	Peak
5785	89.38	86.69			32.43	7.8	37.54	100	104	Average
5785	98.8	96.11			32.43	7.8	37.54	100	104	Peak
5850	42.66	39.81	69.38	-26.72	32.53	7.83	37.51	100	104	Average
5850	52.69	49.84	78.8	-26.11	32.53	7.83	37.51	100	104	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5725	40.5	37.86	70.41	-29.91	32.36	7.71	37.43	100	154	Average
5725	51.49	48.85	81.2	-29.71	32.36	7.71	37.43	100	154	Peak
5785	90.41	87.72			32.43	7.8	37.54	100	154	Average
5785	101.2	98.51			32.43	7.8	37.54	100	154	Peak
5850	40.98	38.13	70.41	-29.43	32.53	7.83	37.51	100	154	Average
5850	52.01	49.16	81.2	-29.19	32.53	7.83	37.51	100	154	Peak

REMARKS:

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



A D T

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5725	41.92	38.67	67.23	-25.31	32.97	7.71	37.43	100	16	Average
5725	50.86	47.61	76.49	-25.63	32.97	7.71	37.43	100	16	Peak
5825	87.23	83.85			33.09	7.82	37.53	100	16	Average
5825	96.49	93.11			33.09	7.82	37.53	100	16	Peak
5850	42.53	39.1	67.23	-24.7	33.11	7.83	37.51	100	16	Average
5850	56.31	52.88	76.49	-20.18	33.11	7.83	37.51	100	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
5725	42.31	39.06	72.02	-29.71	32.97	7.71	37.43	100	208	Average
5725	51.92	48.67	81.49	-29.57	32.97	7.71	37.43	100	208	Peak
5825	92.02	88.64			33.09	7.82	37.53	100	208	Average
5825	101.49	98.11			33.09	7.82	37.53	100	208	Peak
5850	44.64	41.21	72.02	-27.38	33.11	7.83	37.51	100	208	Average
5850	61.36	57.93	81.49	-20.13	33.11	7.83	37.51	100	208	Peak

REMARKS:

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



A D T

802.11n (40MHz)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5725	43.19	39.94	61.02	-17.83	32.97	7.71	37.43	100	35	Average
5725	54.58	51.33	69.96	-15.38	32.97	7.71	37.43	100	35	Peak
5755	81.02	77.74			33.01	7.74	37.47	100	35	Average
5755	89.96	86.68			33.01	7.74	37.47	100	35	Peak
5850	42.58	39.15	61.02	-18.44	33.11	7.83	37.51	100	35	Average
5850	51.2	47.77	69.96	-18.76	33.11	7.83	37.51	100	35	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	45.62	42.37	66.29	-20.67	32.97	7.71	37.43	100	207	Average
5725	59.41	56.16	75.67	-16.26	32.97	7.71	37.43	100	207	Peak
5755	86.29	83.01			33.01	7.74	37.47	100	207	Average
5755	95.67	92.39			33.01	7.74	37.47	100	207	Peak
5850	42.18	38.75	66.29	-24.11	33.11	7.83	37.51	100	207	Average
5850	52.39	48.96	75.67	-23.28	33.11	7.83	37.51	100	207	Peak

REMARKS:

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



A D T

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5725	42	38.75	60.93	-18.93	32.97	7.71	37.43	100	16	Average
5725	52.5	49.25	70.74	-18.24	32.97	7.71	37.43	100	16	Peak
5795	80.93	77.62			33.05	7.8	37.54	100	16	Average
5795	90.74	87.43			33.05	7.8	37.54	100	16	Peak
5850	42.19	38.76	60.93	-18.74	33.11	7.83	37.51	100	16	Average
5850	50.82	47.39	70.74	-19.92	33.11	7.83	37.51	100	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
5725	42	38.75	65.94	-23.94	32.97	7.71	37.43	100	214	Average
5725	52.79	49.54	75.19	-22.4	32.97	7.71	37.43	100	214	Peak
5795	85.94	82.63			33.05	7.8	37.54	100	214	Average
5795	95.19	91.88			33.05	7.8	37.54	100	214	Peak
5850	41.99	38.56	65.94	-23.95	33.11	7.83	37.51	100	214	Average
5850	53.26	49.83	75.19	-21.93	33.11	7.83	37.51	100	214	Peak

REMARKS:

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



A D T

802.11ac (80MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 155	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Kay Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5725	42.5	39.25	57.98	-15.48	32.97	7.71	37.43	100	15	Average
5725	52.51	49.26	66.5	-13.99	32.97	7.71	37.43	100	15	Peak
5775	77.98	74.68			33.03	7.77	37.5	100	15	Average
5775	86.5	83.2			33.03	7.77	37.5	100	15	Peak
5850	41.95	38.52	57.98	-16.03	33.11	7.83	37.51	100	15	Average
5850	51.72	48.29	66.5	-14.78	33.11	7.83	37.51	100	15	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5725	43.52	40.27	60.07	-16.55	32.97	7.71	37.43	100	197	Average
5725	54.17	50.92	69.95	-15.78	32.97	7.71	37.43	100	197	Peak
5775	80.07	76.77			33.03	7.77	37.5	100	197	Average
5775	89.95	86.65			33.03	7.77	37.5	100	197	Peak
5850	42.32	38.89	60.07	-17.75	33.11	7.83	37.51	100	197	Average
5850	53.18	49.75	69.95	-16.77	33.11	7.83	37.51	100	197	Peak

REMARKS:

- 5775MHz: Fundamental frequency.
- 5725MHz & 5850MHz: Out of restricted band



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TEST MODE B

802.11n (20MHz)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5725	52.69	50.45	68.8	-16.11	31.96	7.71	37.43	100	52	Average
5725	69.36	67.12	78.57	-9.21	31.96	7.71	37.43	100	52	Peak
5745	88.8	86.54			31.99	7.74	37.47	100	52	Average
5745	98.57	96.31			31.99	7.74	37.47	100	52	Peak
5850	40.7	38.23	68.8	-28.1	32.15	7.83	37.51	100	52	Average
5850	51.9	49.43	78.57	-26.67	32.15	7.83	37.51	100	52	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	55.47	53.23	70.78	-15.31	31.96	7.71	37.43	102	189	Average
5725	71.84	69.6	80.5	-8.66	31.96	7.71	37.43	102	189	Peak
5745	90.78	88.52			31.99	7.74	37.47	102	189	Average
5745	100.5	98.24			31.99	7.74	37.47	102	189	Peak
5850	40.68	38.21	80.5	-39.82	32.15	7.83	37.51	102	189	Average
5850	50.76	48.29	70.78	-20.02	32.15	7.83	37.51	102	189	Peak

REMARKS:

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



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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 149	FREQUENCY RANGE	30MHz ~ 1GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Kay Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
43.23	26.37	43.18	40	-13.63	13.59	0.71	31.11	100	312	Peak
110.19	32.77	53.4	43.5	-10.73	10.09	1.13	31.85	100	225	Peak
151.23	31.32	48.9	43.5	-12.18	12.71	1.35	31.64	100	174	Peak
323.8	20.8	37	46	-25.2	13.52	2.14	31.86	100	66	Peak
492.5	20.84	32.64	46	-25.16	17.18	2.75	31.73	198	88	Peak
727	26.23	33.13	46	-19.77	21.2	3.51	31.61	100	253	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	31.25	49.84	40	-8.75	11.98	0.57	31.14	115	214	QP
42.96	33.26	50.06	40	-6.74	13.58	0.7	31.08	120	256	QP
70.77	31.34	51.69	40	-8.66	10.53	0.91	31.79	100	26	Peak
372.8	18.87	33.8	46	-27.13	14.68	2.32	31.93	105	78	Peak
549.9	23.11	33.65	46	-22.89	18.46	2.95	31.95	100	252	Peak
753.6	26.81	33.01	46	-19.19	21.57	3.58	31.35	133	295	Peak



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5.2 CONDUCTED EMISSION MEASUREMENT

5.2.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

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

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

5.2.2 TEST INSTRUMENTS

Same as item 4.2.2.

5.2.3 TEST PROCEDURES

Same as item 4.2.3.

5.2.4 DEVIATION FROM TEST STANDARD

No deviation.

5.2.5 TEST SETUP

Same as item 4.2.5.

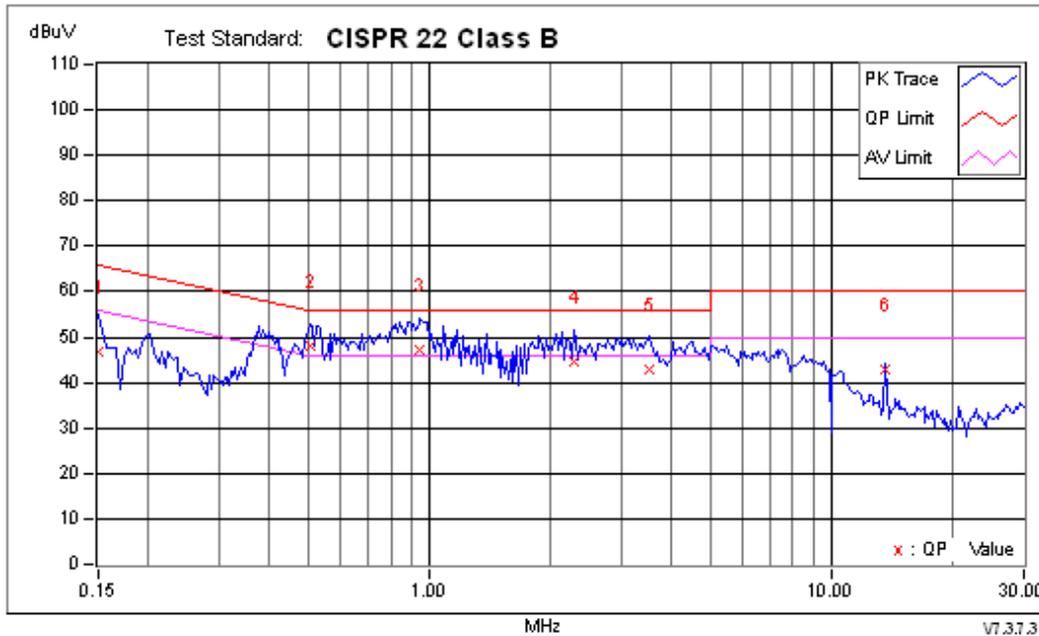
5.2.6 EUT OPERATING CONDITIONS

Same as 4.1.6

5.2.7 TEST RESULTS

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

PHASE	Line 1	6dB BANDWIDTH	9kHz
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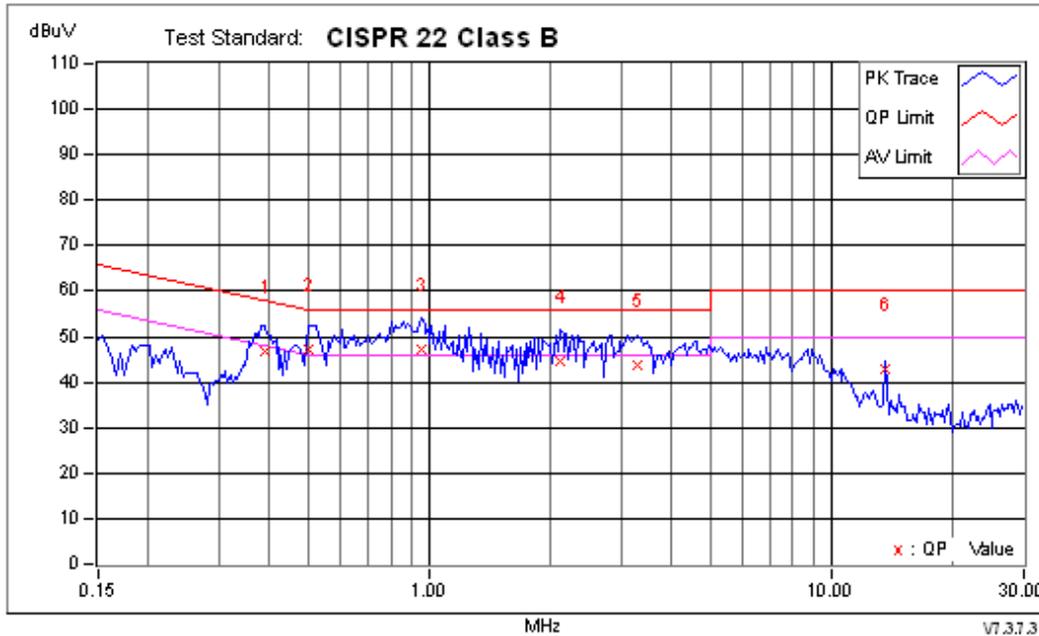


No.	Frequency MHz	Corr. Factor	Reading dBuV		Emission dBuV		Limit dBuV		Margins dB		Notes
			QP	AV	QP	AV	QP	AV	QP	AV	
1	0.15000	0.18	46.68	33.33	46.86	33.51	66.00	56.00	-19.14	-22.49	
+2	0.50547	0.22	47.65	34.08	47.87	34.30	56.00	46.00	-8.13	-11.70	
3	0.94688	0.26	46.77	35.75	47.03	36.01	56.00	46.00	-8.97	-9.99	
4	2.28125	0.30	44.45	35.99	44.75	36.29	56.00	46.00	-11.25	-9.71	
5	3.49609	0.35	42.33	34.23	42.68	34.58	56.00	46.00	-13.32	-11.42	
6	13.56250	0.53	42.25	39.65	42.78	40.18	60.00	50.00	-17.22	-9.82	

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
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No.	Frequency MHz	Corr. Factor	Reading dBuV		Emission dBuV		Limit dBuV		Margins dB		Notes
			QP	AV	QP	AV	QP	AV	QP	AV	
+1	0.38828	0.20	46.72	39.98	46.92	40.18	58.10	48.10	-11.18	-7.92	
2	0.50156	0.21	46.94	32.42	47.15	32.63	56.00	46.00	-8.85	-13.37	
3	0.95078	0.26	46.91	35.91	47.17	36.17	56.00	46.00	-8.83	-9.83	
4	2.10156	0.29	44.29	36.63	44.58	36.92	56.00	46.00	-11.42	-9.08	
5	3.27734	0.35	43.60	35.12	43.95	35.47	56.00	46.00	-12.05	-10.53	
6	13.55859	0.59	42.35	39.36	42.94	39.95	60.00	50.00	-17.06	-10.05	

REMARKS:

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

5.3 6dB BANDWIDTH MEASUREMENT

5.3.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT

The minimum of 6dB Bandwidth Measurement is 0.5MHz.

5.3.2 TEST SETUP

Same as item 4.3.2.

5.3.3 TEST INSTRUMENTS

Refer to section 4.1.2 to get information of above instrument.

5.3.4 TEST PROCEDURE

Same as item 4.3.4.

5.3.5 DEVIATION FROM TEST STANDARD

No deviation.

5.3.6 EUT OPERATING CONDITIONS

Same as item 4.3.6.



5.3.7 TEST RESULTS

802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
149	5745	16.50	0.5	PASS
157	5785	16.56	0.5	PASS
165	5825	16.61	0.5	PASS

802.11n (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
149	5745	17.77	0.5	PASS
157	5785	17.72	0.5	PASS
165	5825	17.64	0.5	PASS

802.11n (40MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
151	5755	36.72	0.5	PASS
159	5795	36.81	0.5	PASS

802.11ac (80MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
155	5775	83.50	0.5	PASS



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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 Item 4.4.2.

5.4.3 INSTRUMENTS

Refer to section 4.1.2 to get information of above instrument.

5.4.4 TEST PROCEDURES

Same as Item 4.4.4.

5.4.5 DEVIATION FROM TEST STANDARD

No deviation.

5.4.6 EUT OPERATING CONDITIONS

Same as Item 4.3.6.



5.4.7 TEST RESULTS

802.11a

CHANNEL	FREQUENCY (MHz)	PEAK POWER (mW)	PEAK POWER (dBm)	LIMIT (dBm)	PASS/FAIL
149	5745	239.883	23.8	30	PASS
157	5785	229.087	23.6	30	PASS
165	5825	212.324	23.27	30	PASS

802.11n (20MHz)

CHANNEL	FREQUENCY (MHz)	PEAK POWER (mW)	PEAK POWER (dBm)	LIMIT (dBm)	PASS/FAIL
149	5745	252.348	24.02	30	PASS
157	5785	235.505	23.72	30	PASS
165	5825	220.293	23.43	30	PASS

802.11n (40MHz)

CHANNEL	FREQUENCY (MHz)	PEAK POWER (mW)	PEAK POWER (dBm)	LIMIT (dBm)	PASS/FAIL
151	5755	180.302	22.56	30	PASS
159	5795	178.238	22.51	30	PASS

802.11ac (80MHz)

CHANNEL	FREQUENCY (MHz)	PEAK POWER (mW)	PEAK POWER (dBm)	LIMIT (dBm)	PASS/FAIL
155	5775	150.661	21.78	30	PASS



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5.5 POWER SPECTRAL DENSITY MEASUREMENT

5.5.1 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT

The Maximum of Power Spectral Density Measurement is 8dBm.

5.5.2 TEST SETUP

Same as item 4.5.2.

5.5.3 TEST INSTRUMENTS

Refer to section 4.1.2 to get information of above instrument.

5.5.4 TEST PROCEDURE.

Same as item 4.5.4.

5.5.5 DEVIATION FROM TEST STANDARD

No deviation.

5.5.6 EUT OPERATING CONDITION

Same as item 4.3.6.

5.5.7 TEST RESULTS

802.11a

Channel	FREQ. (MHz)	PSD (dBm/100kHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
149	5745	3.07	-12.13	8	PASS
157	5785	3.26	-11.94	8	PASS
165	5825	3.67	-11.53	8	PASS

802.11n (20MHz)

Channel	FREQ. (MHz)	PSD (dBm/100kHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
149	5745	3.08	-12.12	8	PASS
157	5785	3.46	-11.74	8	PASS
165	5825	3.69	-11.51	8	PASS

802.11n (40MHz)

Channel	FREQ. (MHz)	PSD (dBm/100kHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
151	5755	-2.54	-17.74	8	PASS
159	5795	-1.92	-17.12	8	PASS

802.11ac (80MHz)

Channel	FREQ. (MHz)	PSD (dBm/100kHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
155	5775	-4.70	-19.90	8	PASS

5.6 CONDUCTED OUT OF BAND EMISSION MEASUREMENT

5.6.1 LIMITS OF OUT OF BAND EMISSION MEASUREMENT

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

5.6.2 TEST SETUP

Same as Item 4.6.2

5.6.3 TEST INSTRUMENTS

Refer to section 4.1.2 to get information of above instrument.

5.6.4 TEST PROCEDURE

Same as Item 4.6.4

5.6.5 DEVIATION FROM TEST STANDARD

No deviation.

5.6.6 EUT OPERATING CONDITION

Same as Item 4.3.6

5.6.7 TEST RESULTS

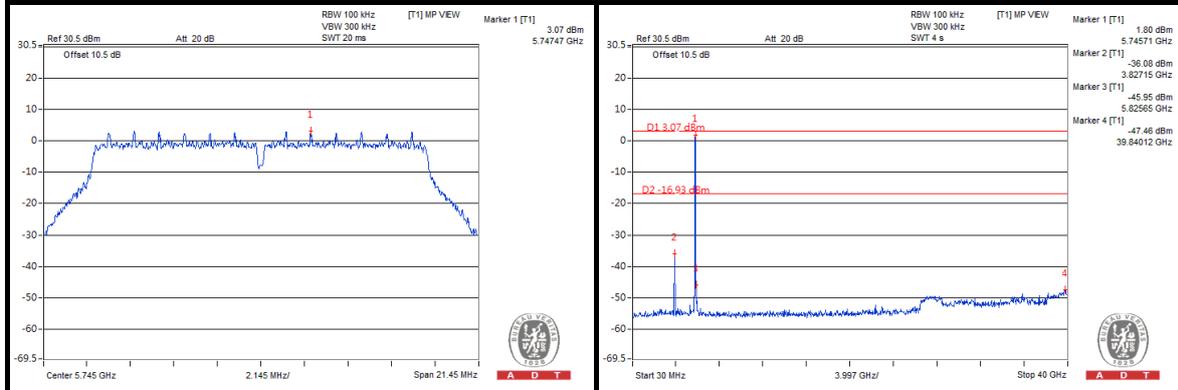
The spectrum plots are attached on the following pages. D1 line indicates the highest level, and D2 line indicates the 20dB offset below D1. It shows compliance with the requirement.



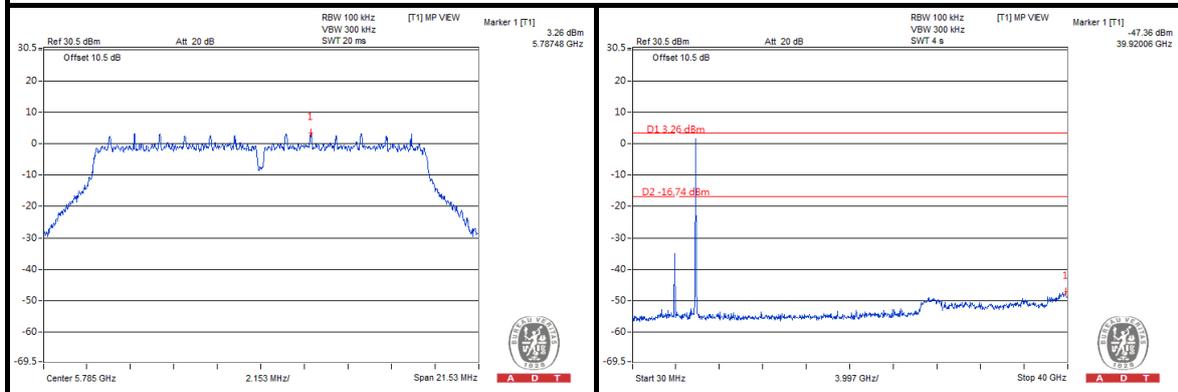
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802.11a

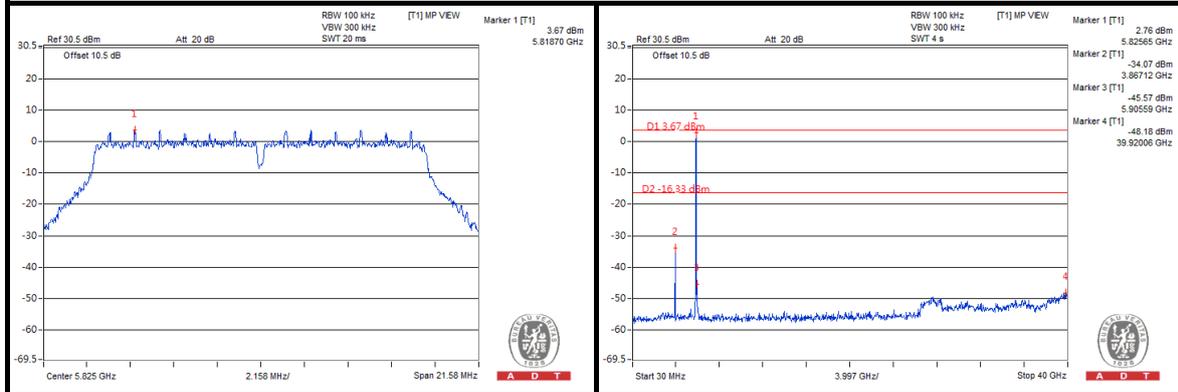
CH 149



CH 157



CH 165

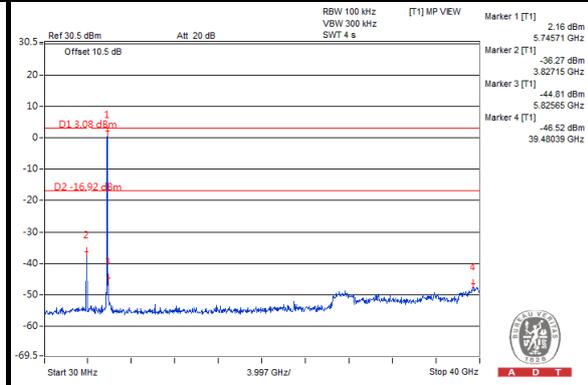
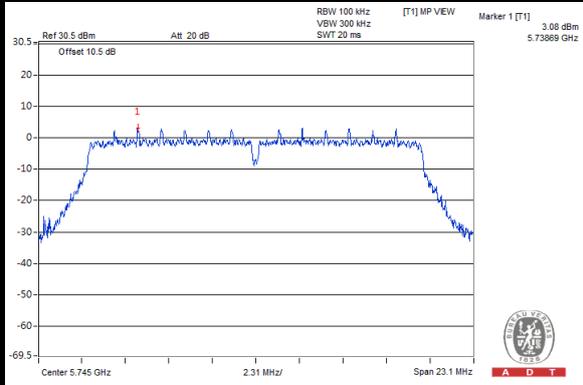




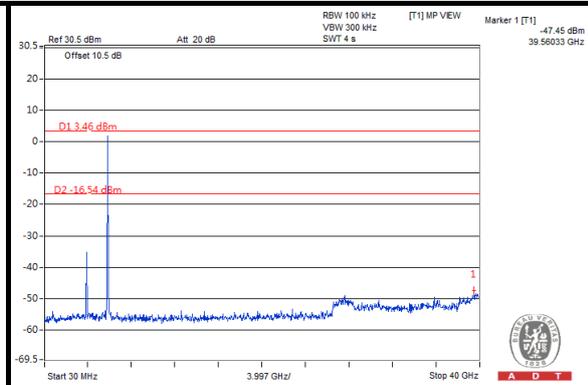
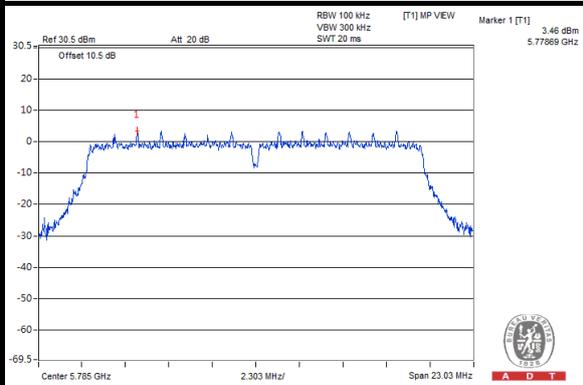
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802.11n (20MHz)

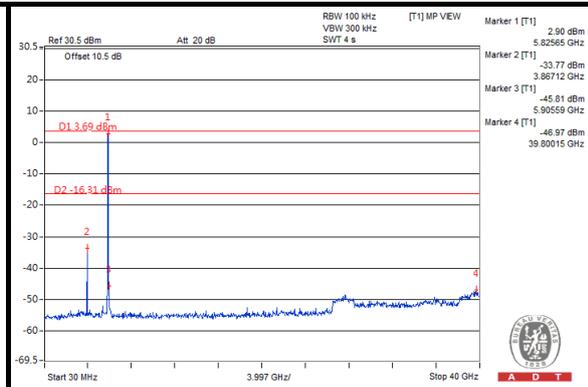
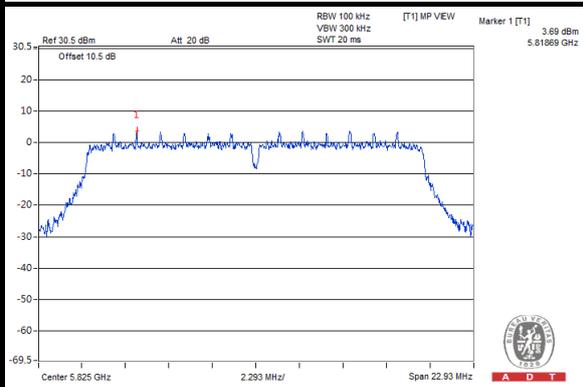
CH 149



CH 157



CH 165

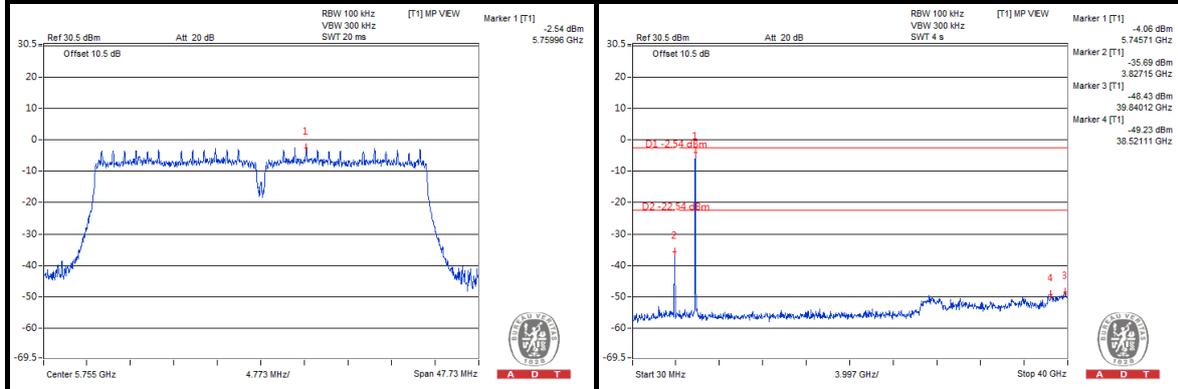




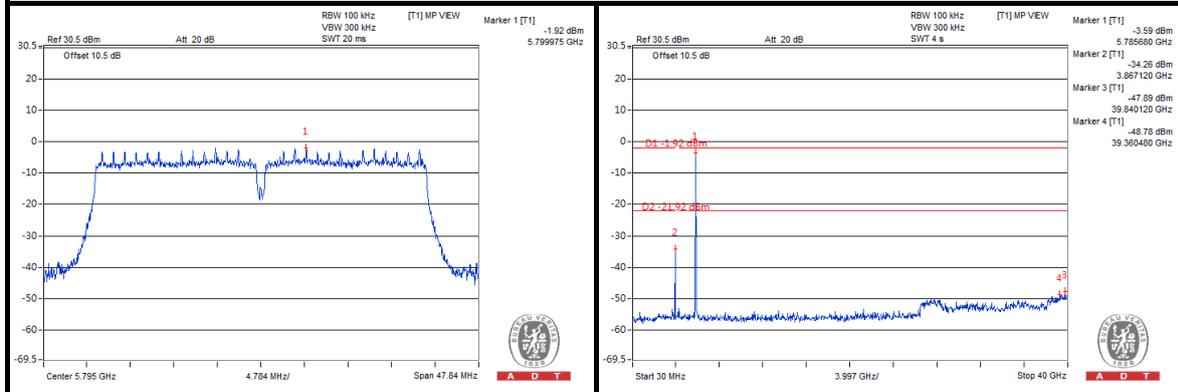
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802.11n (40MHz)

CH 151

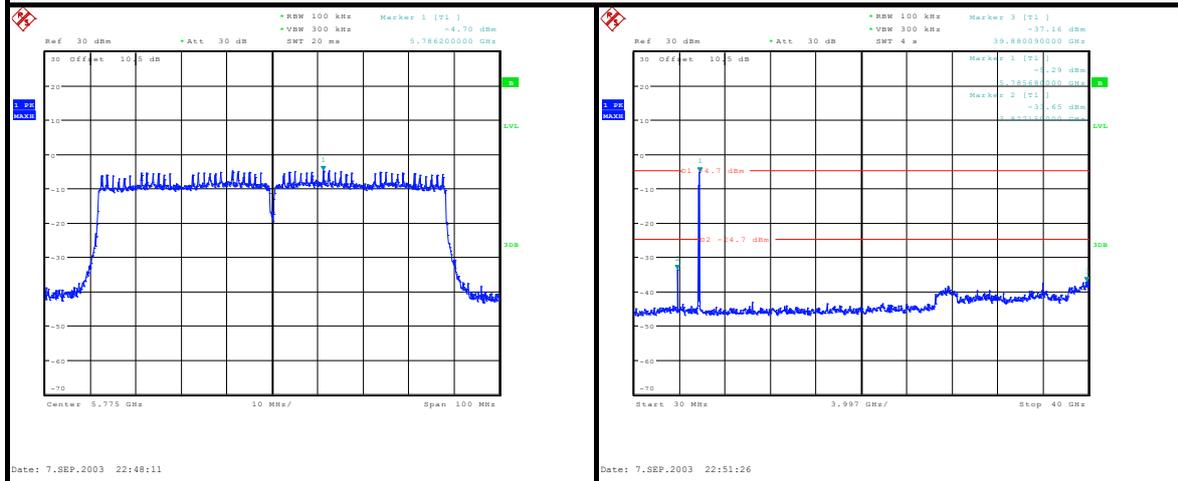


CH 159



802.11ac (80MHz)

CH 155





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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

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Hsin Chu EMC/RF Lab:

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Web Site: www.bureauveritas-adt.com

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



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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---