



FCC TEST REPORT (15.247)

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MODEL NO.: PN07110
FCC ID: NM8PN07110
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APPLICANT: HTC Corporation

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TABLE OF CONTENTS

RELEASE CONTROL RECORD	5
1. CERTIFICATION.....	6
2. SUMMARY OF TEST RESULTS	7
2.1 MEASUREMENT UNCERTAINTY	7
3. GENERAL INFORMATION.....	8
3.1 GENERAL DESCRIPTION OF EUT	8
3.2 DESCRIPTION OF TEST MODES	10
3.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL.....	11
3.3 DESCRIPTION OF SUPPORT UNITS	16
3.3.1 CONFIGURATION OF SYSTEM UNDER TEST	16
3.4 GENERAL DESCRIPTION OF APPLIED STANDARDS	16
4. TEST TYPES AND RESULTS (FOR 2.4GHz BAND).....	17
4.1 RADIATED EMISSION AND BANDEDGE MEASUREMENT	17
4.1.1 LIMITS OF RADIATED EMISSION AND BANDEDGE MEASUREMENT.....	17
4.1.2 TEST INSTRUMENTS.....	18
4.1.3 TEST PROCEDURES.....	19
4.1.4 DEVIATION FROM TEST STANDARD.....	19
4.1.5 TEST SETUP	20
4.1.6 EUT OPERATING CONDITIONS	20
4.1.7 TEST RESULTS.....	21
4.2 CONDUCTED EMISSION MEASUREMENT	35
4.2.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT.....	35
4.2.2 TEST INSTRUMENTS.....	35
4.2.3 TEST PROCEDURES.....	36
4.2.4 DEVIATION FROM TEST STANDARD.....	36
4.2.5 TEST SETUP	37
4.2.6 EUT OPERATING CONDITIONS	37
4.2.7 TEST RESULTS.....	38
4.3 6dB BANDWIDTH MEASUREMENT.....	40
4.3.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT	40
4.3.2 TEST SETUP	40
4.3.3 TEST INSTRUMENTS.....	40
4.3.4 TEST PROCEDURE	40
4.3.5 DEVIATION FROM TEST STANDARD.....	40
4.3.6 EUT OPERATING CONDITIONS	40
4.3.7 TEST RESULTS.....	41
4.4 CONDUCTED OUTPUT POWER.....	42
4.4.1 LIMITS OF CONDUCTED OUTPUT POWER MEASUREMENT.....	42
4.4.2 TEST SETUP	42
4.4.3 TEST INSTRUMENTS.....	42



4.4.4	TEST PROCEDURES.....	42
4.4.5	DEVIATION FROM TEST STANDARD.....	43
4.4.6	EUT OPERATING CONDITIONS	43
4.4.7	TEST RESULTS.....	44
4.5	POWER SPECTRAL DENSITY MEASUREMENT	45
4.5.1	LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT	45
4.5.2	TEST SETUP	45
4.5.3	TEST INSTRUMENTS.....	45
4.5.4	TEST PROCEDURE	45
4.5.5	DEVIATION FROM TEST STANDARD.....	45
4.5.6	EUT OPERATING CONDITION.....	45
4.5.7	TEST RESULTS.....	46
4.6	CONDUCTED OUT OF BAND EMISSION MEASUREMENT	47
4.6.1	LIMITS OF CONDUCTED OUT OF BAND EMISSION MEASUREMENT	47
4.6.2	TEST SETUP	47
4.6.3	TEST INSTRUMENTS.....	47
4.6.4	TEST PROCEDURE	47
4.6.5	DEVIATION FROM TEST STANDARD.....	48
4.6.6	EUT OPERATING CONDITION.....	48
4.6.7	TEST RESULTS.....	48
5.	TEST TYPES AND RESULTS (FOR 5.0GHz BAND).....	53
5.1	RADIATED EMISSION AND BANDEDGE MEASUREMENT	53
5.1.1	LIMITS OF RADIATED EMISSION AND BANDEDGE MEASUREMENT	53
5.1.2	TEST INSTRUMENTS.....	54
5.1.3	TEST PROCEDURES.....	54
5.1.4	DEVIATION FROM TEST STANDARD.....	54
5.1.5	TEST SETUP	54
5.1.6	EUT OPERATING CONDITIONS	54
5.1.7	TEST RESULTS.....	55
5.2	CONDUCTED EMISSION MEASUREMENT	66
5.2.1	LIMITS OF CONDUCTED EMISSION MEASUREMENT.....	66
5.2.2	TEST INSTRUMENTS	66
5.2.3	TEST PROCEDURES.....	66
5.2.4	DEVIATION FROM TEST STANDARD.....	66
5.2.5	TEST SETUP	66
5.2.6	EUT OPERATING CONDITIONS	66
5.2.7	TEST RESULTS.....	67
5.3	6dB BANDWIDTH MEASUREMENT	69
5.3.1	LIMITS OF 6dB BANDWIDTH MEASUREMENT	69
5.3.2	TEST SETUP	69
5.3.3	TEST INSTRUMENTS.....	69



A D T

5.3.4	TEST PROCEDURE	69
5.3.5	DEVIATION FROM TEST STANDARD.....	69
5.3.6	EUT OPERATING CONDITIONS	69
5.3.7	TEST RESULTS.....	70
5.4	MAXIMUM OUTPUT POWER	71
5.4.1	LIMITS OF MAXIMUM OUTPUT POWER MEASUREMENT	71
5.4.2	TEST SETUP	71
5.4.3	INSTRUMENTS	71
5.4.4	TEST PROCEDURES.....	71
5.4.5	DEVIATION FROM TEST STANDARD.....	71
5.4.6	EUT OPERATING CONDITIONS	71
5.4.7	TEST RESULTS.....	72
5.5	POWER SPECTRAL DENSITY MEASUREMENT	73
5.5.1	LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT	73
5.5.2	TEST SETUP	73
5.5.3	TEST INSTRUMENTS.....	73
5.5.4	TEST PROCEDURE.....	73
5.5.5	DEVIATION FROM TEST STANDARD.....	73
5.5.6	EUT OPERATING CONDITION.....	73
5.5.7	TEST RESULTS.....	74
5.6	CONDUCTED OUT OF BAND EMISSION MEASUREMENT	75
5.6.1	LIMITS OF OUT OF BAND EMISSION MEASUREMENT	75
5.6.2	TEST SETUP	75
5.6.3	TEST INSTRUMENTS.....	75
5.6.4	TEST PROCEDURE	75
5.6.5	DEVIATION FROM TEST STANDARD.....	75
5.6.6	EUT OPERATING CONDITION.....	75
5.6.7	TEST RESULTS.....	75
6.	PHOTOGRAPHS OF THE TEST CONFIGURATION	79
7.	INFORMATION ON THE TESTING LABORATORIES.....	80
8.	APPENDIX A - MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB	81



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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF130109C20-3	Original release	Feb. 05, 2013



2. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC PART 15, SUBPART C (SECTION 15.247)			
STANDARD SECTION	TEST TYPE	RESULT	REMARK
15.207	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is -2.97dB at 13.56250MHz.
15.247(d) 15.209	Radiated Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -4.07dB at 62.94MHz.
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 $k = 2$.



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3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

EUT	Smartphone
MODEL NO.	PN07110
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	272.270mW for 2412 ~ 2462MHz 244.343mW 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 (20MHz)	1 to 11	11	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	6	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	6	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	V3
B	802.11ac (80MHz)	155	155	OFDM	BPSK	V3

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



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	V3

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	V3

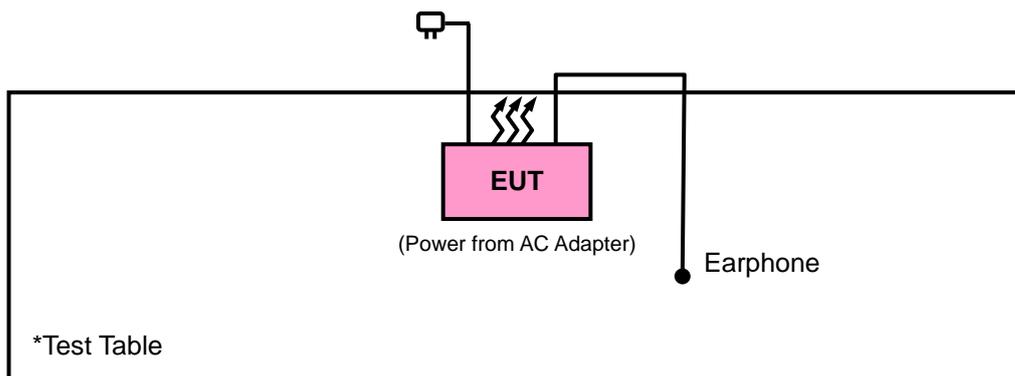
TEST CONDITION:

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. 28, 2012	Dec. 27, 2013
Preamplifier EMCI	EMC 330H	980112	Dec. 28, 2012	Dec. 27, 2013
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	309219/4	Oct. 19, 2012	Oct. 18, 2013
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	250130/4	Oct. 19, 2012	Oct. 18, 2013
RF signal cable Worken	RG-213	NA	Dec. 29, 2012	Dec. 28, 2013
Software	E3 6.120103	NA	NA	NA
Antenna Tower MF	MFA-440H	NA	NA	NA
Turn Table MF	MFT-201SS	NA	NA	NA
Antenna Tower & Turn Table Controller MF	MF-7802	NA	NA	NA
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.

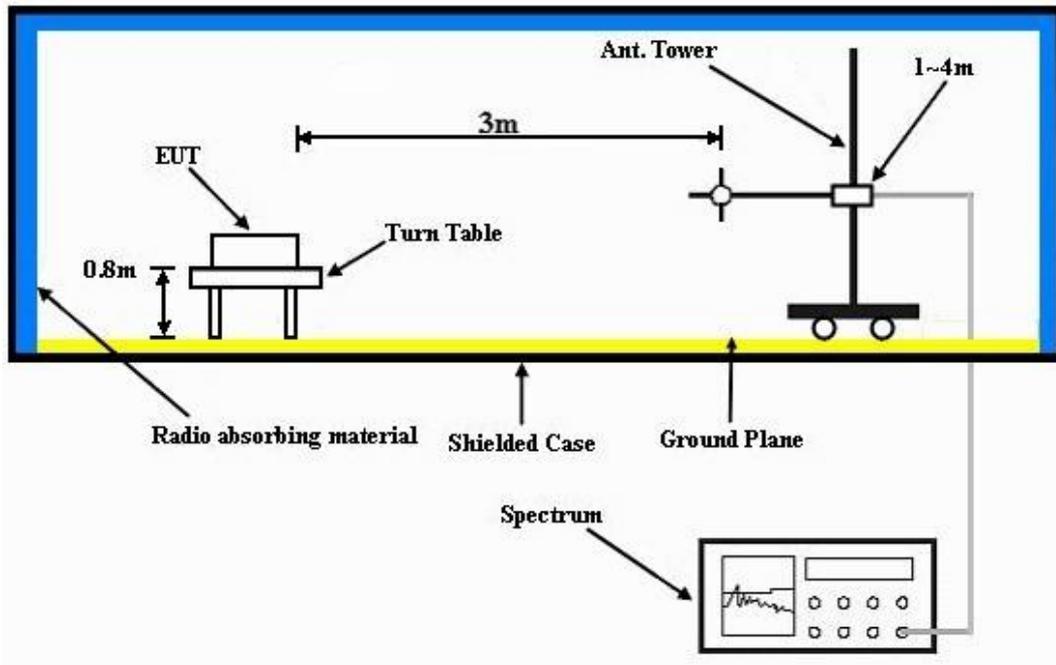
NOTE:

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	39.63	44.11	54	-14.37	28.17	4.87	37.52	105	42	Average
2390	51.09	55.57	74	-22.91	28.17	4.87	37.52	105	42	Peak
2412	100.88	105.31			28.22	4.87	37.52	105	42	Average
2412	105.14	109.57			28.22	4.87	37.52	105	42	Peak
2490	49.41	53.31	54	-4.59	28.5	4.92	37.32	105	42	Average
2490	56.77	60.67	74	-17.23	28.5	4.92	37.32	105	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
2390	38.3	42.78	54	-15.7	28.17	4.87	37.52	100	309	Average
2390	51.08	55.56	74	-22.92	28.17	4.87	37.52	100	309	Peak
2412	96.22	100.65			28.22	4.87	37.52	100	309	Average
2412	100.42	104.85			28.22	4.87	37.52	100	309	Peak
2494	43.8	47.61	54	-10.2	28.5	4.94	37.25	100	309	Average
2494	53.05	56.86	74	-20.95	28.5	4.94	37.25	100	309	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
2358	38.61	43.22	54	-15.39	28.06	4.82	37.49	100	37	Average
2358	51.57	56.18	74	-22.43	28.06	4.82	37.49	100	37	Peak
2437	98.86	103.1			28.33	4.89	37.46	100	37	Average
2437	103.77	108.01			28.33	4.89	37.46	100	37	Peak
2494	38.75	42.56	54	-15.25	28.5	4.94	37.25	100	37	Average
2494	52.04	55.85	74	-21.96	28.5	4.94	37.25	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
2362	38.1	42.71	54	-15.9	28.06	4.82	37.49	100	312	Average
2362	51.46	56.07	74	-22.54	28.06	4.82	37.49	100	312	Peak
2437	95.13	99.37			28.33	4.89	37.46	100	312	Average
2437	99.93	104.17			28.33	4.89	37.46	100	312	Peak
2494	37.41	41.22	54	-16.59	28.5	4.94	37.25	100	312	Average
2494	51.83	55.64	74	-22.17	28.5	4.94	37.25	100	312	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
2384	44.65	49.19	54	-9.35	28.11	4.85	37.5	105	42	Average
2384	53.73	58.27	74	-20.27	28.11	4.85	37.5	105	42	Peak
2462	101.14	105.23			28.39	4.91	37.39	105	42	Average
2462	105.29	109.38			28.39	4.91	37.39	105	42	Peak
2483.5	40.68	44.64	54	-13.32	28.44	4.92	37.32	105	42	Average
2483.5	52.48	56.44	74	-21.52	28.44	4.92	37.32	105	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
2390	39.1	43.58	54	-14.9	28.17	4.87	37.52	100	353	Average
2390	49.69	54.17	74	-24.31	28.17	4.87	37.52	100	353	Peak
2462	95.6	99.69			28.39	4.91	37.39	100	353	Average
2462	99.58	103.67			28.39	4.91	37.39	100	353	Peak
2483.5	39.15	43.11	54	-14.85	28.44	4.92	37.32	100	353	Average
2483.5	51.69	55.65	74	-22.31	28.44	4.92	37.32	100	353	Peak

REMARKS:

- 2462MHz: Fundamental frequency.



802.11g

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1GHz ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	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	38.75	43.23	54	-15.25	28.17	4.87	37.52	101	40	Average
2390	63.68	68.16	74	-10.32	28.17	4.87	37.52	101	40	Peak
2412	87.35	91.78			28.22	4.87	37.52	101	40	Average
2412	101.91	106.34			28.22	4.87	37.52	101	40	Peak
2490	41.19	45.09	54	-12.81	28.5	4.92	37.32	101	40	Average
2490	57.31	61.21	74	-16.69	28.5	4.92	37.32	101	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	40.73	45.21	54	-13.27	28.17	4.87	37.52	100	310	Average
2390	58.93	63.41	74	-15.07	28.17	4.87	37.52	100	310	Peak
2412	87.16	91.59			28.22	4.87	37.52	100	310	Average
2412	97.34	101.77			28.22	4.87	37.52	100	310	Peak
2492	40.93	44.74	54	-13.07	28.5	4.94	37.25	100	310	Average
2492	53.56	57.37	74	-20.44	28.5	4.94	37.25	100	310	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
2362	38.48	43.09	54	-15.52	28.06	4.82	37.49	100	37	Average
2362	50.79	55.4	74	-23.21	28.06	4.82	37.49	100	37	Peak
2437	92.46	96.7			28.33	4.89	37.46	100	37	Average
2437	102.09	106.33			28.33	4.89	37.46	100	37	Peak
2484	39.34	43.3	54	-14.66	28.44	4.92	37.32	100	37	Average
2484	52.76	56.72	74	-21.24	28.44	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
2388	38.05	42.53	54	-15.95	28.17	4.85	37.5	100	312	Average
2388	51.84	56.32	74	-22.16	28.17	4.85	37.5	100	312	Peak
2437	87.53	91.77			28.33	4.89	37.46	100	312	Average
2437	97.37	101.61			28.33	4.89	37.46	100	312	Peak
2498	38.14	41.95	54	-15.86	28.5	4.94	37.25	100	312	Average
2498	51.84	55.65	74	-22.16	28.5	4.94	37.25	100	312	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
2380	40.08	44.62	54	-13.92	28.11	4.85	37.5	100	38	Average
2380	52.62	57.16	74	-21.38	28.11	4.85	37.5	100	38	Peak
2462	92.64	96.73			28.39	4.91	37.39	100	38	Average
2462	102.5	106.59			28.39	4.91	37.39	100	38	Peak
2483.5	46.13	50.09	54	-7.87	28.44	4.92	37.32	100	38	Average
2483.5	63.91	67.87	74	-10.09	28.44	4.92	37.32	100	38	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	38.76	43.24	54	-15.24	28.17	4.85	37.5	100	312	Average
2388	51.86	56.34	74	-22.14	28.17	4.85	37.5	100	312	Peak
2462	88.18	92.27			28.39	4.91	37.39	100	312	Average
2462	98	102.09			28.39	4.91	37.39	100	312	Peak
2483.5	41.85	45.81	54	-12.15	28.44	4.92	37.32	100	312	Average
2483.5	58.34	62.3	74	-15.66	28.44	4.92	37.32	100	312	Peak

REMARKS:

- 2462MHz: Fundamental frequency.



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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	47.55	52.03	54	-6.45	28.17	4.87	37.52	108	39	Average
2390	67.47	71.95	74	-6.53	28.17	4.87	37.52	108	39	Peak
2412	93.01	97.44			28.22	4.87	37.52	108	39	Average
2412	102.83	107.26			28.22	4.87	37.52	108	39	Peak
2488	43.87	47.77	54	-10.13	28.5	4.92	37.32	108	39	Average
2488	54.91	58.81	74	-19.09	28.5	4.92	37.32	108	39	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	42.87	47.35	54	-11.13	28.17	4.87	37.52	100	311	Average
2390	61.83	66.31	74	-12.17	28.17	4.87	37.52	100	311	Peak
2412	87.62	92.05			28.22	4.87	37.52	100	311	Average
2412	97.61	102.04			28.22	4.87	37.52	100	311	Peak
2498	40.91	44.72	54	-13.09	28.5	4.94	37.25	100	311	Average
2498	53.31	57.12	74	-20.69	28.5	4.94	37.25	100	311	Peak

REMARKS:

- 2412MHz: 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
2362	39.05	43.66	54	-14.95	28.06	4.82	37.49	103	38	Average
2362	51.32	55.93	74	-22.68	28.06	4.82	37.49	103	38	Peak
2437	93.37	97.61			28.33	4.89	37.46	103	38	Average
2437	103.58	107.82			28.33	4.89	37.46	103	38	Peak
2486	39.6	43.56	54	-14.4	28.44	4.92	37.32	103	38	Average
2486	52.83	56.79	74	-21.17	28.44	4.92	37.32	103	38	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
2360	38.16	42.77	54	-15.84	28.06	4.82	37.49	100	312	Average
2360	51.95	56.56	74	-22.05	28.06	4.82	37.49	100	312	Peak
2437	87.69	91.93			28.33	4.89	37.46	100	312	Average
2437	97.36	101.6			28.33	4.89	37.46	100	312	Peak
2494	38.1	41.91	54	-15.9	28.5	4.94	37.25	100	312	Average
2494	51.56	55.37	74	-22.44	28.5	4.94	37.25	100	312	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	39.81	44.29	54	-14.19	28.17	4.87	37.52	100	40	Average
2390	52.94	57.42	74	-21.06	28.17	4.87	37.52	100	40	Peak
2462	93.32	97.41			28.39	4.91	37.39	100	40	Average
2462	103.05	107.14			28.39	4.91	37.39	100	40	Peak
2483.5	49.53	53.49	54	-4.47	28.44	4.92	37.32	100	40	Average
2483.5	71.64	75.6	74	-2.36	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
2386	38.7	43.18	54	-15.3	28.17	4.85	37.5	100	311	Average
2386	51.18	55.66	74	-22.82	28.17	4.85	37.5	100	311	Peak
2462	88.17	92.26			28.39	4.91	37.39	100	311	Average
2462	98.08	102.17			28.39	4.91	37.39	100	311	Peak
2483.5	43.65	47.61	54	-10.35	28.44	4.92	37.32	100	311	Average
2483.5	63.14	67.1	74	-10.86	28.44	4.92	37.32	100	311	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
2388	47.59	52.07	54	-6.41	28.17	4.85	37.5	104	38	Average
2388	63.42	67.9	74	-10.58	28.17	4.85	37.5	104	38	Peak
2422	89.04	93.33			28.28	4.89	37.46	104	38	Average
2422	98.4	102.69			28.28	4.89	37.46	104	38	Peak
2486	40.51	44.47	54	-13.49	28.44	4.92	37.32	104	38	Average
2486	52.6	56.56	74	-21.4	28.44	4.92	37.32	104	38	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	43.21	47.69	54	-10.79	28.17	4.87	37.52	100	312	Average
2390	59.78	64.26	74	-14.22	28.17	4.87	37.52	100	312	Peak
2422	83.82	88.11			28.28	4.89	37.46	100	312	Average
2422	93.6	97.89			28.28	4.89	37.46	100	312	Peak
2492	38.6	42.41	54	-15.4	28.5	4.94	37.25	100	312	Average
2492	50.67	54.48	74	-23.33	28.5	4.94	37.25	100	312	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	41.13	45.61	54	-12.87	28.17	4.87	37.52	102	41	Average
2390	56.42	60.9	74	-17.58	28.17	4.87	37.52	102	41	Peak
2437	88.03	92.27			28.33	4.89	37.46	102	41	Average
2437	98.34	102.58			28.33	4.89	37.46	102	41	Peak
2483.5	41.68	45.64	54	-12.32	28.44	4.92	37.32	102	41	Average
2483.5	60.82	64.78	74	-13.18	28.44	4.92	37.32	102	41	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	38.99	43.47	54	-15.01	28.17	4.87	37.52	100	311	Average
2390	51.74	56.22	74	-22.26	28.17	4.87	37.52	100	311	Peak
2437	83.09	87.33			28.33	4.89	37.46	100	311	Average
2437	92.83	97.07			28.33	4.89	37.46	100	311	Peak
2492	39.07	42.88	54	-14.93	28.5	4.94	37.25	100	311	Average
2492	51.38	55.19	74	-22.62	28.5	4.94	37.25	100	311	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
2390	38.22	42.7	54	-15.78	28.17	4.87	37.52	100	40	Average
2390	51.43	55.91	74	-22.57	28.17	4.87	37.52	100	40	Peak
2452	88.46	92.61			28.33	4.91	37.39	100	40	Average
2452	98.46	102.61			28.33	4.91	37.39	100	40	Peak
2488	47.21	51.11	54	-6.79	28.5	4.92	37.32	100	40	Average
2488	65.61	69.51	74	-8.39	28.5	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
2338	37.46	42.14	54	-16.54	28	4.79	37.47	100	311	Average
2338	52.2	56.88	74	-21.8	28	4.79	37.47	100	311	Peak
2452	83.65	87.8			28.33	4.91	37.39	100	311	Average
2452	93	97.15			28.33	4.91	37.39	100	311	Peak
2483.5	41.72	45.68	54	-12.28	28.44	4.92	37.32	100	311	Average
2483.5	59.21	63.17	74	-14.79	28.44	4.92	37.32	100	311	Peak

REMARKS:

1. 2452MHz: Fundamental frequency.



A D T

TEST MODE B

802.11n (20MHz)

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	37.41	43.15	54	-16.59	26.91	4.87	37.52	100	45	Average
2390	50.84	56.58	74	-23.16	26.91	4.87	37.52	100	45	Peak
2462	92.11	97.49			27.1	4.91	37.39	100	45	Average
2462	102.49	107.87			27.1	4.91	37.39	100	45	Peak
2483.5	49.77	55.02	54	-4.23	27.15	4.92	37.32	100	45	Average
2483.5	67.37	72.62	74	-6.63	27.15	4.92	37.32	100	45	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	35.04	40.78	54	-18.96	26.91	4.87	37.52	100	329	Average
2390	48.15	53.89	74	-25.85	26.91	4.87	37.52	100	329	Peak
2462	82.71	88.09			27.1	4.91	37.39	100	329	Average
2462	92.26	97.64			27.1	4.91	37.39	100	329	Peak
2483.5	40.61	45.86	54	-13.39	27.15	4.92	37.32	100	329	Average
2483.5	58.54	63.79	74	-15.46	27.15	4.92	37.32	100	329	Peak

REMARKS:

- 2462MHz: Fundamental frequency.



A D T

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	30MHz ~ 1GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	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	28.65	45.45	40	-11.35	13.58	0.7	31.08	112	129	Peak
57	28.29	46.58	40	-11.71	12.25	0.81	31.35	118	184	Peak
110.46	26.83	47.46	43.5	-16.67	10.09	1.13	31.85	113	318	Peak
521.2	21.9	32.84	46	-24.1	17.79	2.85	31.58	113	320	Peak
672.4	24.82	32.83	46	-21.18	20.48	3.33	31.82	114	262	Peak
841.8	28.31	33.56	46	-17.69	22.76	3.8	31.81	118	186	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
32.16	34.87	53.1	40	-5.13	12.3	0.58	31.11	100	360	QP
45.66	34.28	51.2	40	-5.72	13.5	0.74	31.16	113	345	QP
62.94	35.93	54.99	40	-4.07	11.59	0.85	31.5	106	263	Peak
546.4	22.38	32.94	46	-23.62	18.37	2.93	31.86	105	241	Peak
732.6	26.48	33.26	46	-19.52	21.27	3.52	31.57	107	184	Peak
814.5	28.37	33.75	46	-17.63	22.42	3.73	31.53	112	218	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.

4.2.3 TEST PROCEDURES

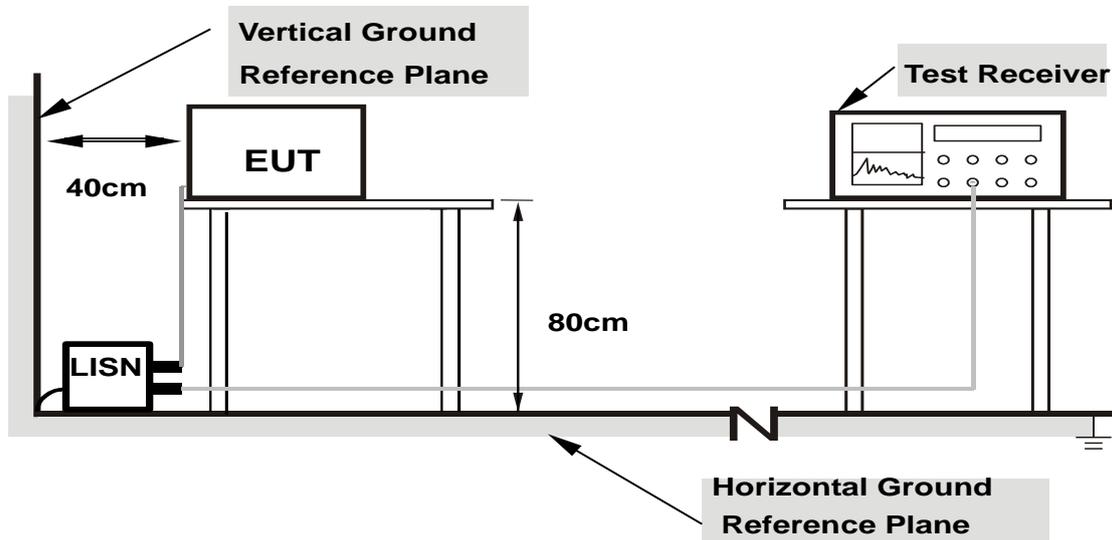
- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling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

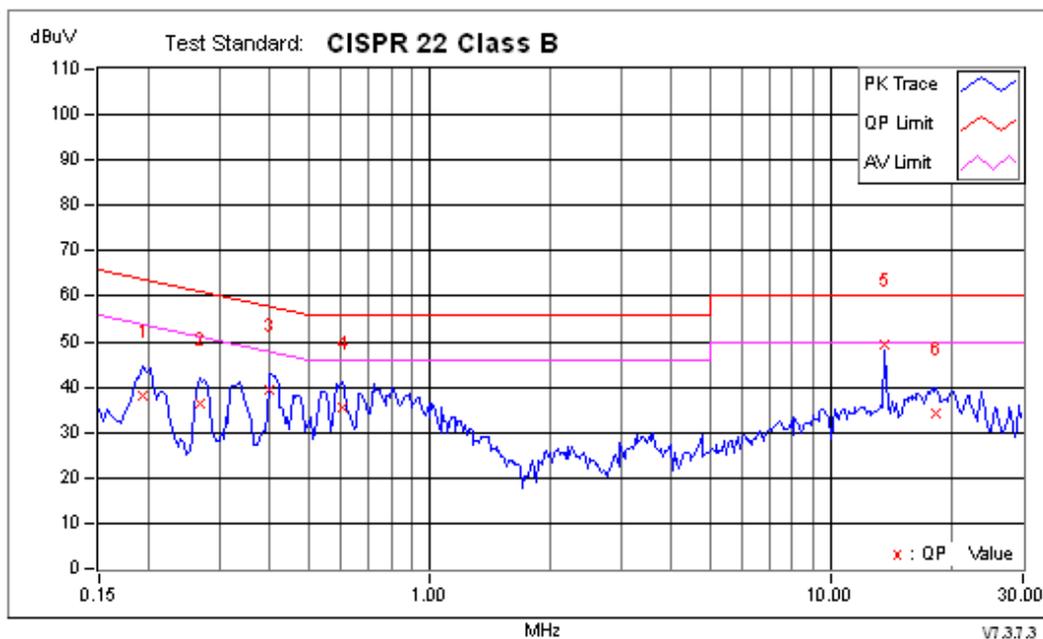
4.2.6 EUT OPERATING CONDITIONS

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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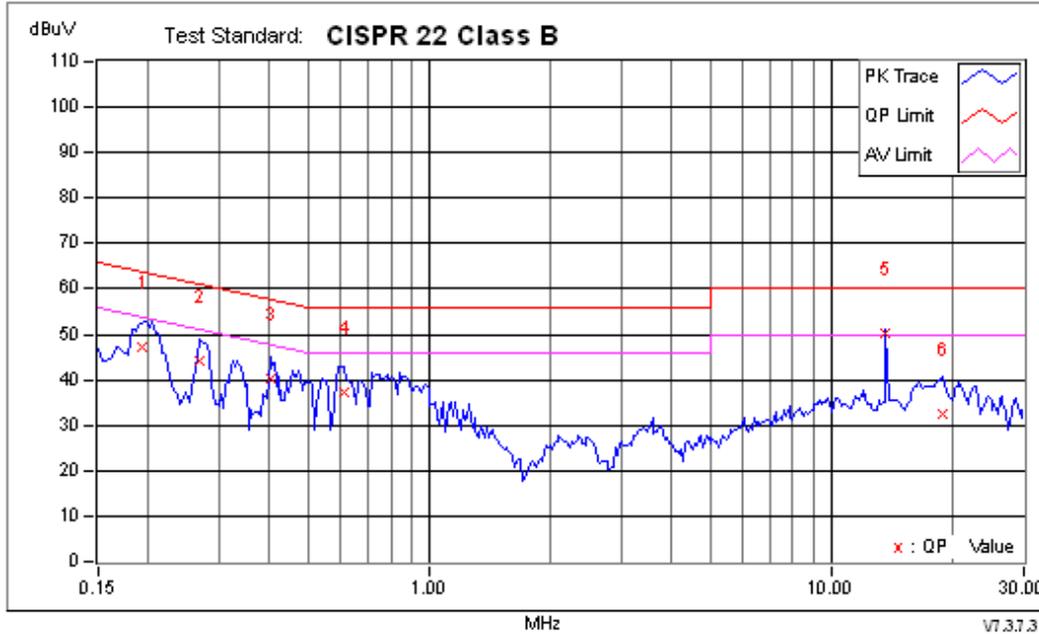


No.	Frequency MHz	Corr. Factor dB	Reading dBuV		Emission dBuV		Limit dBuV		Margins dB		Notes
			QP	AV	QP	AV	QP	AV	QP	AV	
1	0.19297	0.17	37.74	27.34	37.91	27.51	63.91	53.91	-26.00	-26.40	
2	0.26719	0.18	36.12	26.75	36.30	26.93	61.20	51.20	-24.90	-24.27	
3	0.40000	0.21	39.26	24.12	39.47	24.33	57.85	47.85	-18.38	-23.52	
4	0.60313	0.23	35.13	25.41	35.36	25.64	56.00	46.00	-20.64	-20.36	
+5	13.55859	0.53	49.00	45.66	49.53	46.19	60.00	50.00	-10.47	-3.81	
6	18.29688	0.64	33.46	25.97	34.10	26.61	60.00	50.00	-25.90	-23.39	

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	0.19297	0.16	47.13	36.31	47.29	36.47	63.91	53.91	-16.62	-17.44	
2	0.26719	0.17	43.88	31.34	44.05	31.51	61.20	51.20	-17.15	-19.69	
3	0.40391	0.20	40.25	26.16	40.45	26.36	57.77	47.77	-17.32	-21.41	
4	0.61484	0.22	36.89	25.81	37.11	26.03	56.00	46.00	-18.89	-19.97	
+5	13.56250	0.59	49.43	46.26	50.02	46.85	60.00	50.00	-9.98	-3.15	
6	18.86719	0.74	31.93	24.88	32.67	25.62	60.00	50.00	-27.33	-24.38	

REMARKS:

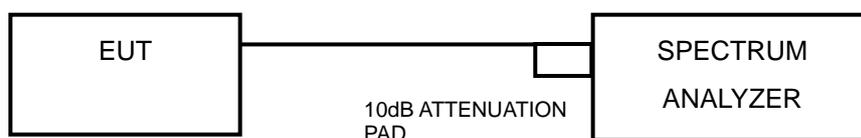
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level - Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value.

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	8.09	0.5	PASS
6	2437	8.09	0.5	PASS
11	2462	8.05	0.5	PASS

802.11g

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	16.55	0.5	PASS
6	2437	16.56	0.5	PASS
11	2462	16.53	0.5	PASS

802.11n (20MHz)

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	17.65	0.5	PASS
6	2437	17.74	0.5	PASS
11	2462	17.79	0.5	PASS

802.11n (40MHz)

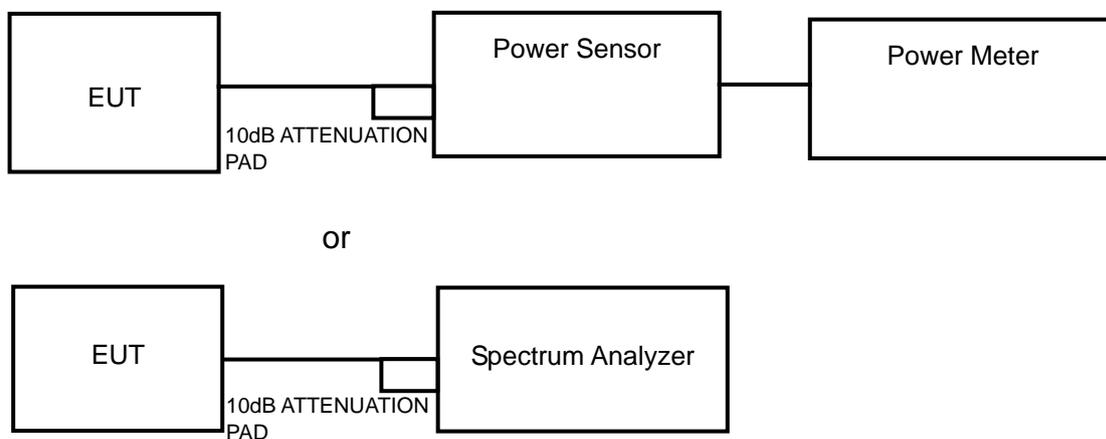
CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
3	2422	36.51	0.5	PASS
6	2437	36.47	0.5	PASS
9	2452	36.39	0.5	PASS

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



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 or spectrum analyzer 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.



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4.4.5 DEVIATION FROM TEST STANDARD

No deviation.

4.4.6 EUT OPERATING CONDITIONS

Same as Item 4.3.6.



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4.4.7 TEST RESULTS

802.11b

CHANNEL	FREQUENCY (MHz)	PEAK POWER (mW)	PEAK POWER (dBm)	LIMIT (dBm)	PASS/FAIL
1	2412	137.721	21.39	30	PASS
6	2437	145.546	21.63	30	PASS
11	2462	141.906	21.52	30	PASS

802.11g

CHANNEL	FREQUENCY (MHz)	PEAK POWER (mW)	PEAK POWER (dBm)	LIMIT (dBm)	PASS/FAIL
1	2412	247.172	23.93	30	PASS
6	2437	263.027	24.20	30	PASS
11	2462	250.035	23.98	30	PASS

802.11n (20MHz)

CHANNEL	FREQUENCY (MHz)	PEAK POWER (mW)	PEAK POWER (dBm)	LIMIT (dBm)	PASS/FAIL
1	2412	263.633	24.21	30	PASS
6	2437	272.270	24.35	30	PASS
11	2462	259.418	24.14	30	PASS

802.11n (40MHz)

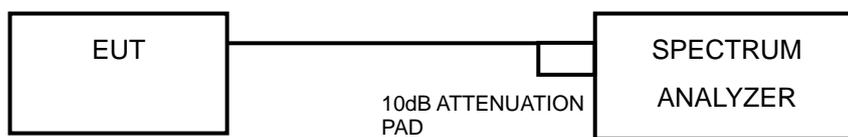
CHANNEL	FREQUENCY (MHz)	PEAK POWER (mW)	PEAK POWER (dBm)	LIMIT (dBm)	PASS/FAIL
3	2422	205.116	23.12	30	PASS
6	2437	208.449	23.19	30	PASS
9	2452	203.236	23.08	30	PASS

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	10.45	-4.75	8	PASS
6	2437	10.90	-4.30	8	PASS
11	2462	10.79	-4.41	8	PASS

802.11g

Channel	FREQ. (MHz)	PSD (dBm/100kHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
1	2412	4.62	-10.58	8	PASS
6	2437	4.84	-10.36	8	PASS
11	2462	4.60	-10.60	8	PASS

802.11n (20MHz)

Channel	FREQ. (MHz)	PSD (dBm/100kHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
1	2412	4.47	-10.73	8	PASS
6	2437	4.94	-10.26	8	PASS
11	2462	4.48	-10.72	8	PASS

802.11n (40MHz)

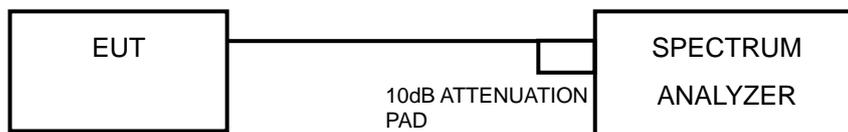
Channel	FREQ. (MHz)	PSD (dBm/100kHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
3	2422	-0.06	-15.26	8	PASS
6	2437	0.19	-15.01	8	PASS
9	2452	0.03	-15.17	8	PASS

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.



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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

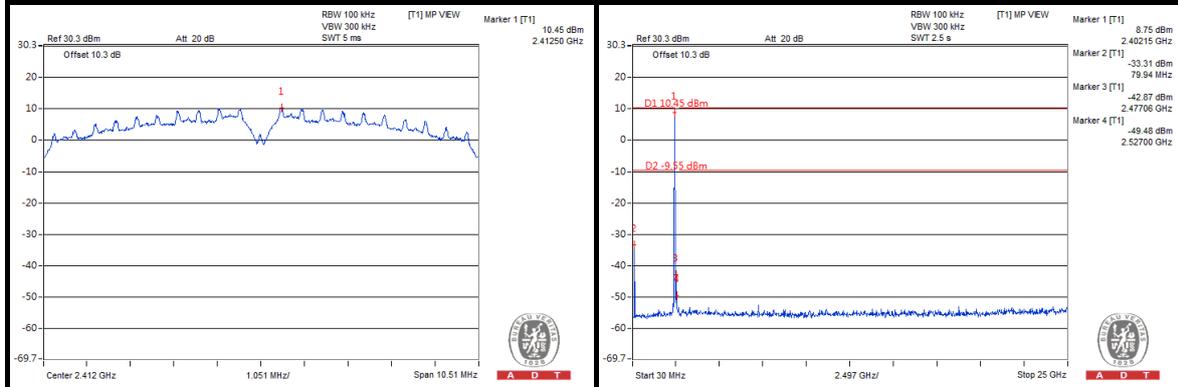
The spectrum plots are attached on the following pages. D1 line indicates the highest level, and D2 line indicates the 20dB offset below D1. It shows compliance with the requirement.



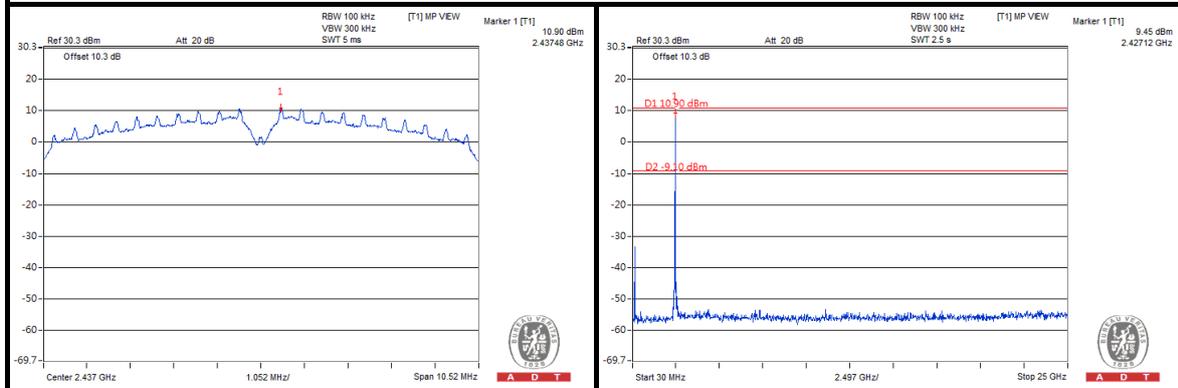
A D T

802.11b

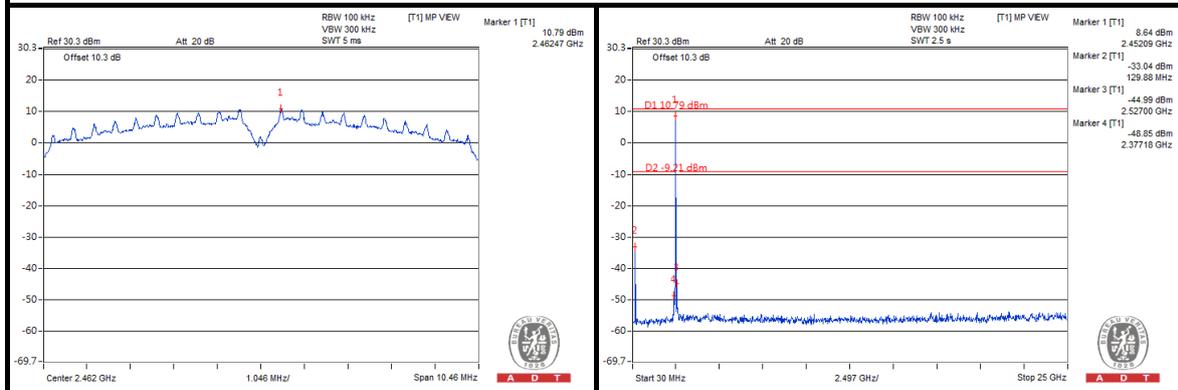
CH 1



CH 6



CH 11

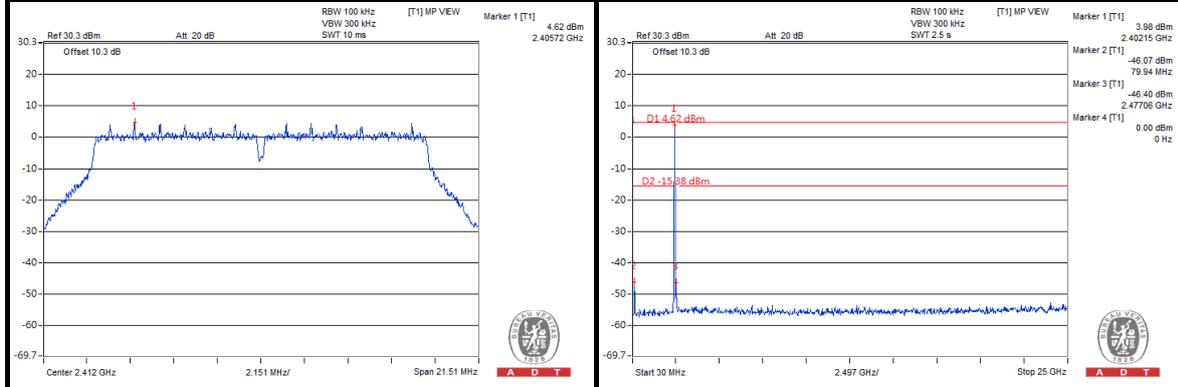




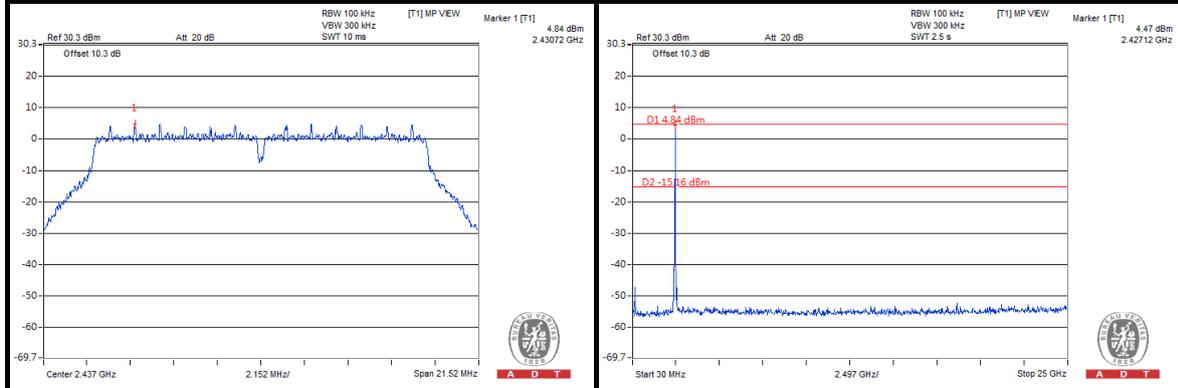
A D T

802.11g

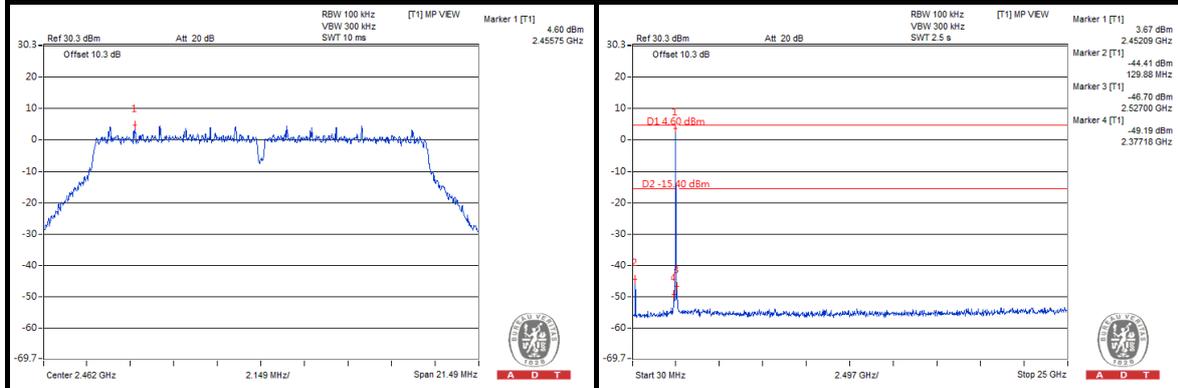
CH 1



CH 6



CH 11

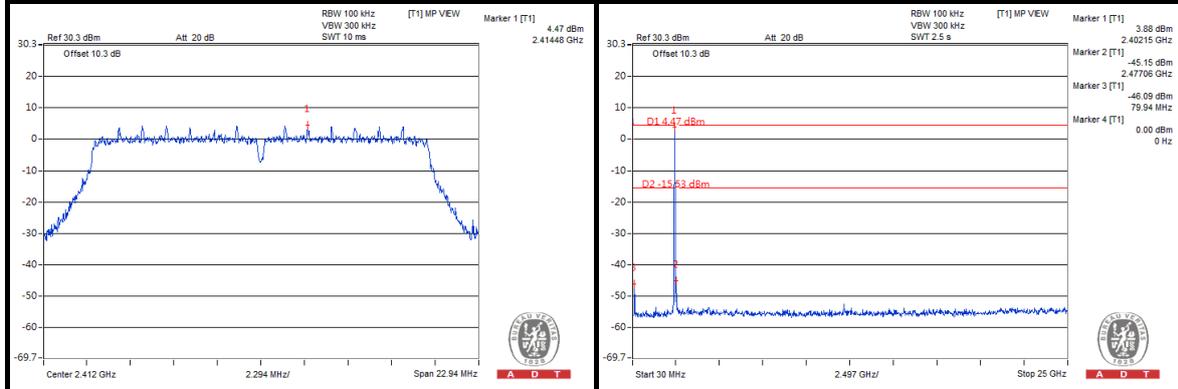




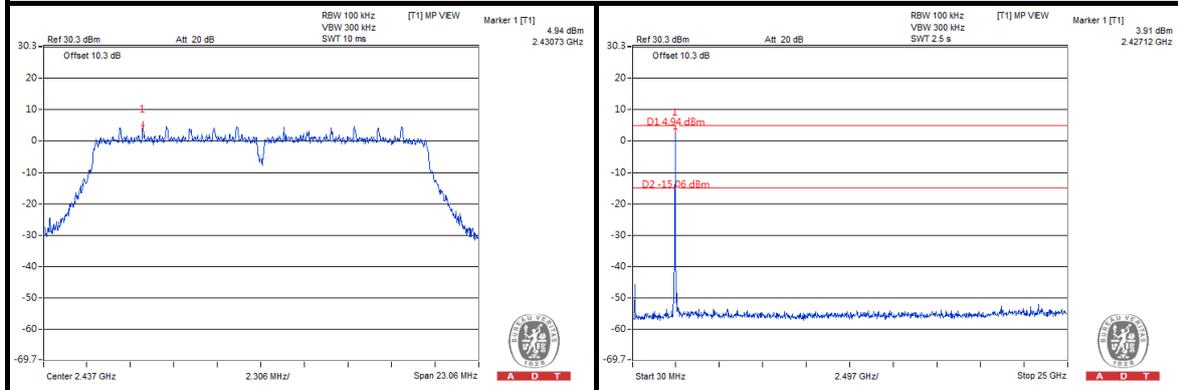
A D T

802.11n (20MHz)

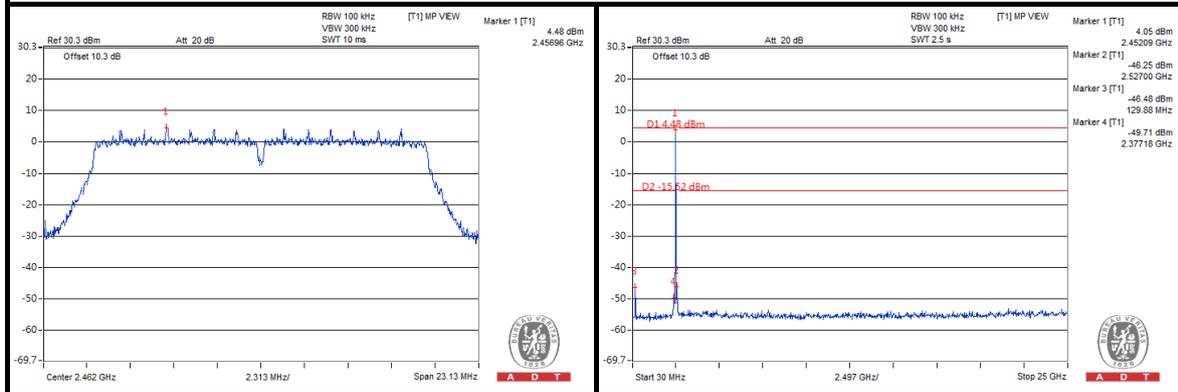
CH 1



CH 6



CH 11

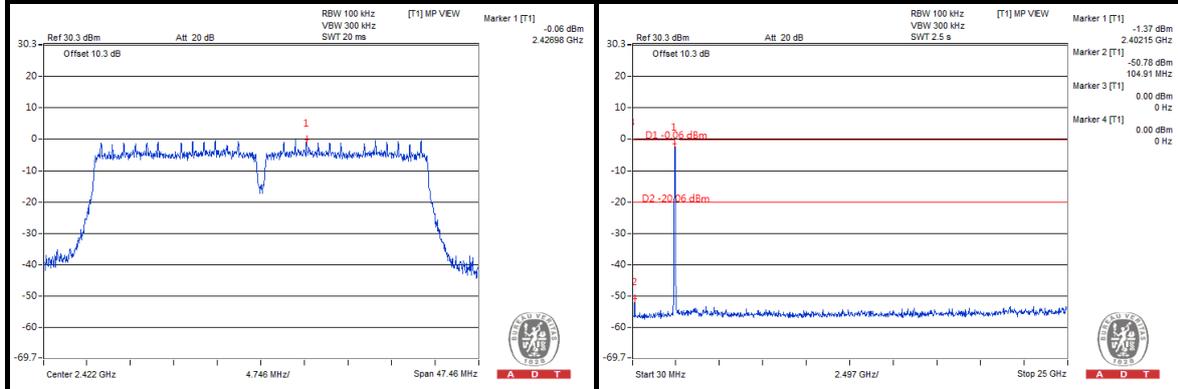




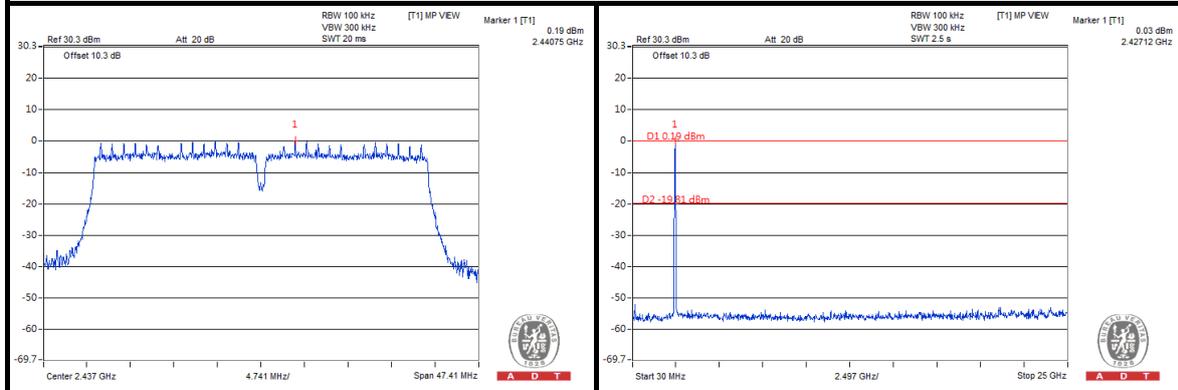
A D T

802.11n (40MHz)

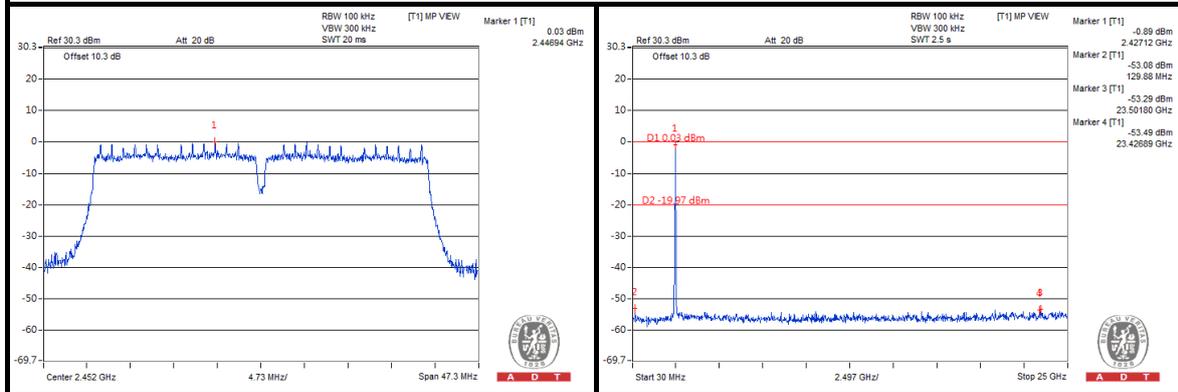
CH 3



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	42.5	39.25	60.86	-18.36	32.97	7.71	37.43	100	107	Average
5725	52.86	49.61	69.99	-17.13	32.97	7.71	37.43	100	107	Peak
5745	80.86	77.6			32.99	7.74	37.47	100	107	Average
5745	89.99	86.73			32.99	7.74	37.47	100	107	Peak
5850	41.88	38.45	60.86	-18.98	33.11	7.83	37.51	100	107	Average
5850	51.57	48.14	69.99	-18.42	33.11	7.83	37.51	100	107	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5725	44.41	41.16	68.54	-24.13	32.97	7.71	37.43	100	212	Average
5725	54.49	51.24	77.39	-22.9	32.97	7.71	37.43	100	212	Peak
5745	88.54	85.28			32.99	7.74	37.47	100	212	Average
5745	97.39	94.13			32.99	7.74	37.47	100	212	Peak
5850	42.91	39.48	68.54	-25.63	33.11	7.83	37.51	100	212	Average
5850	51.64	48.21	77.39	-25.75	33.11	7.83	37.51	100	212	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	41.53	38.28	60.3	-18.77	32.97	7.71	37.43	100	102	Average
5725	53.01	49.76	70.45	-17.44	32.97	7.71	37.43	100	102	Peak
5785	80.3	77.01			33.03	7.8	37.54	100	102	Average
5785	90.45	87.16			33.03	7.8	37.54	100	102	Peak
5850	41.71	38.28	60.3	-18.59	33.11	7.83	37.51	100	102	Average
5850	53.22	49.79	70.45	-17.23	33.11	7.83	37.51	100	102	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	41.86	38.61	69.08	-27.22	32.97	7.71	37.43	100	211	Average
5725	52.92	49.67	78.5	-25.58	32.97	7.71	37.43	100	211	Peak
5785	89.08	85.79			33.03	7.8	37.54	100	211	Average
5785	98.5	95.21			33.03	7.8	37.54	100	211	Peak
5850	42.2	38.77	69.08	-26.88	33.11	7.83	37.51	100	211	Average
5850	51.4	47.97	78.5	-27.1	33.11	7.83	37.51	100	211	Peak

REMARKS:

1. 5785MHz: Fundamental frequency.
2. 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	41.47	39.23	60.23	-18.76	31.96	7.71	37.43	100	112	Average
5725	51.29	49.05	69.47	-18.18	31.96	7.71	37.43	100	112	Peak
5825	80.23	77.82			32.12	7.82	37.53	100	112	Average
5825	89.47	87.06			32.12	7.82	37.53	100	112	Peak
5850	41.58	39.11	60.23	-18.65	32.15	7.83	37.51	100	112	Average
5850	51.25	48.78	69.47	-18.22	32.15	7.83	37.51	100	112	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	41.88	39.64	69.16	-27.28	31.96	7.71	37.43	100	216	Average
5725	52.08	49.84	77.77	-25.69	31.96	7.71	37.43	100	216	Peak
5825	89.16	86.75			32.12	7.82	37.53	100	216	Average
5825	97.77	95.36			32.12	7.82	37.53	100	216	Peak
5850	42.77	40.3	69.16	-26.39	32.15	7.83	37.51	100	216	Average
5850	52.14	49.67	77.77	-25.63	32.15	7.83	37.51	100	216	Peak

REMARKS:

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



802.11n (20MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 149	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	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	43.04	39.79	60.38	-17.34	32.97	7.71	37.43	100	108	Average
5725	54.68	51.43	68.81	-14.13	32.97	7.71	37.43	100	108	Peak
5745	80.38	77.12			32.99	7.74	37.47	100	108	Average
5745	88.81	85.55			32.99	7.74	37.47	100	108	Peak
5850	41.8	38.37	60.38	-18.58	33.11	7.83	37.51	100	108	Average
5850	52.21	48.78	68.81	-16.6	33.11	7.83	37.51	100	108	Peak

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5725	46.64	43.39	69.56	-22.92	32.97	7.71	37.43	100	202	Average
5725	58.29	55.04	78.99	-20.7	32.97	7.71	37.43	100	202	Peak
5745	89.56	86.3			32.99	7.74	37.47	100	202	Average
5745	98.99	95.73			32.99	7.74	37.47	100	202	Peak
5850	42.18	38.75	69.56	-27.38	33.11	7.83	37.51	100	202	Average
5850	52.03	48.6	78.99	-26.96	33.11	7.83	37.51	100	202	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	41.44	39.2	60.19	-18.75	31.96	7.71	37.43	100	113	Average
5725	52.38	50.14	67.72	-15.34	31.96	7.71	37.43	100	113	Peak
5785	80.19	77.89			32.04	7.8	37.54	100	113	Average
5785	87.72	85.42			32.04	7.8	37.54	100	113	Peak
5850	41.88	39.41	60.19	-18.31	32.15	7.83	37.51	100	113	Average
5850	52.17	49.7	67.72	-15.55	32.15	7.83	37.51	100	113	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	41.71	38.46	69.52	-27.81	32.97	7.71	37.43	100	206	Average
5725	51.17	47.92	78.66	-27.49	32.97	7.71	37.43	100	206	Peak
5785	89.52	86.23			33.03	7.8	37.54	100	206	Average
5785	98.66	95.37			33.03	7.8	37.54	100	206	Peak
5850	42.37	38.94	69.52	-27.15	33.11	7.83	37.51	100	206	Average
5850	51.37	47.94	78.66	-27.29	33.11	7.83	37.51	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	41.46	38.21	60.81	-19.35	32.97	7.71	37.43	100	99	Average
5725	50.5	47.25	69.9	-19.4	32.97	7.71	37.43	100	99	Peak
5825	80.81	77.43			33.09	7.82	37.53	100	99	Average
5825	89.9	86.52			33.09	7.82	37.53	100	99	Peak
5850	41.67	38.24	60.81	-19.14	33.11	7.83	37.51	100	99	Average
5850	52.56	49.13	69.9	-17.34	33.11	7.83	37.51	100	99	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	42.14	38.89	69.03	-26.89	32.97	7.71	37.43	100	206	Average
5725	51.18	47.93	78.42	-27.24	32.97	7.71	37.43	100	206	Peak
5825	89.03	85.65			33.09	7.82	37.53	100	206	Average
5825	98.42	95.04			33.09	7.82	37.53	100	206	Peak
5850	43.09	39.66	69.03	-25.94	33.11	7.83	37.51	100	206	Average
5850	54.81	51.38	78.42	-23.61	33.11	7.83	37.51	100	206	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	41.83	38.58	54.7	-12.87	32.97	7.71	37.43	100	279	Average
5725	51.75	48.5	63.86	-12.11	32.97	7.71	37.43	100	279	Peak
5755	74.7	71.42			33.01	7.74	37.47	100	279	Average
5755	83.86	80.58			33.01	7.74	37.47	100	279	Peak
5850	41.91	38.48	54.7	-12.79	33.11	7.83	37.51	100	279	Average
5850	52.11	48.68	63.86	-11.75	33.11	7.83	37.51	100	279	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	45.26	42.01	64.37	-19.11	32.97	7.71	37.43	100	214	Average
5725	60.1	56.85	73.84	-13.74	32.97	7.71	37.43	100	214	Peak
5755	84.37	81.09			33.01	7.74	37.47	100	214	Average
5755	93.84	90.56			33.01	7.74	37.47	100	214	Peak
5850	42.15	38.72	64.37	-22.22	33.11	7.83	37.51	100	214	Average
5850	52.63	49.2	73.84	-21.21	33.11	7.83	37.51	100	214	Peak

REMARKS:

1. 5755MHz: Fundamental frequency.
2. 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	41.54	38.29	54.5	-12.96	32.97	7.71	37.43	100	279	Average
5725	52.57	49.32	63.08	-10.51	32.97	7.71	37.43	100	279	Peak
5795	74.5	71.19			33.05	7.8	37.54	100	279	Average
5795	83.08	79.77			33.05	7.8	37.54	100	279	Peak
5850	41.88	38.45	54.5	-12.62	33.11	7.83	37.51	100	279	Average
5850	52	48.57	63.08	-11.08	33.11	7.83	37.51	100	279	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	41.71	38.46	63.39	-21.68	32.97	7.71	37.43	100	205	Average
5725	51.91	48.66	72.79	-20.88	32.97	7.71	37.43	100	205	Peak
5795	83.39	80.08			33.05	7.8	37.54	100	205	Average
5795	92.79	89.48			33.05	7.8	37.54	100	205	Peak
5850	42.04	38.61	63.39	-21.35	33.11	7.83	37.51	100	205	Average
5850	52.59	49.16	72.79	-20.2	33.11	7.83	37.51	100	205	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	48.41	46.17	60.99	-12.58	31.96	7.71	37.43	100	29	Average
5725	60.69	58.45	70.46	-9.77	31.96	7.71	37.43	100	29	Peak
5775	80.99	78.68			32.04	7.77	37.5	100	29	Average
5775	90.46	88.15			32.04	7.77	37.5	100	29	Peak
5850	43.27	40.8	60.99	-17.72	32.15	7.83	37.51	100	29	Average
5850	53.72	51.25	70.46	-16.74	32.15	7.83	37.51	100	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
5725	52.47	50.23	64.66	-12.19	31.96	7.71	37.43	100	0	Average
5725	67.62	65.38	74.25	-6.63	31.96	7.71	37.43	100	0	Peak
5775	84.66	82.35			32.04	7.77	37.5	100	0	Average
5775	94.25	91.94			32.04	7.77	37.5	100	0	Peak
5850	46.53	44.06	64.66	-18.13	32.15	7.83	37.51	100	0	Average
5850	54.84	52.37	74.25	-19.41	32.15	7.83	37.51	100	0	Peak

REMARKS:

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



A D T

TEST MODE B

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	46.48	44.24	66.69	-20.21	31.96	7.71	37.43	100	23	Average
5725	58.2	55.96	70.87	-12.67	31.96	7.71	37.43	100	23	Peak
5775	86.69	84.38			32.04	7.77	37.5	100	23	Average
5775	90.87	88.56			32.04	7.77	37.5	100	23	Peak
5850	43.68	41.21	66.69	-23.01	32.15	7.83	37.51	100	23	Average
5850	53.96	51.49	70.87	-16.91	32.15	7.83	37.51	100	23	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5725	44.2	41.96	63.56	-19.36	31.96	7.71	37.43	100	53	Average
5725	55.74	53.5	71.12	-15.38	31.96	7.71	37.43	100	53	Peak
5775	83.56	81.25			32.04	7.77	37.5	100	53	Average
5775	91.12	88.81			32.04	7.77	37.5	100	53	Peak
5850	41.29	38.82	63.56	-22.27	32.15	7.83	37.51	100	53	Average
5850	52.28	49.81	71.12	-18.84	32.15	7.83	37.51	100	53	Peak

REMARKS:

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



A D T

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
42.96	29.38	46.18	40	-10.62	13.58	0.7	31.08	100	360	Peak
56.73	29.04	47.33	40	-10.96	12.25	0.81	31.35	100	360	Peak
111.27	26.03	46.56	43.5	-17.47	10.18	1.14	31.85	100	360	Peak
468	20.56	33.09	46	-25.44	16.7	2.68	31.91	102	128	Peak
535.2	23.17	33.85	46	-22.83	18.13	2.9	31.71	109	249	Peak
745.2	26.76	33.14	46	-19.24	21.45	3.56	31.39	116	165	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
30.54	34.16	52.57	40	-5.84	12.14	0.57	31.12	103	268	QP
42.69	34.25	51.05	40	-5.75	13.58	0.7	31.08	114	154	QP
106.95	22.4	43.46	43.5	-21.1	9.71	1.11	31.88	100	231	Peak
533.1	21.83	32.56	46	-24.17	18.08	2.89	31.7	102	232	Peak
665.4	25.38	33.55	46	-20.62	20.4	3.3	31.87	114	189	Peak
807.5	28.55	33.96	46	-17.45	22.33	3.71	31.45	104	157	Peak

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.

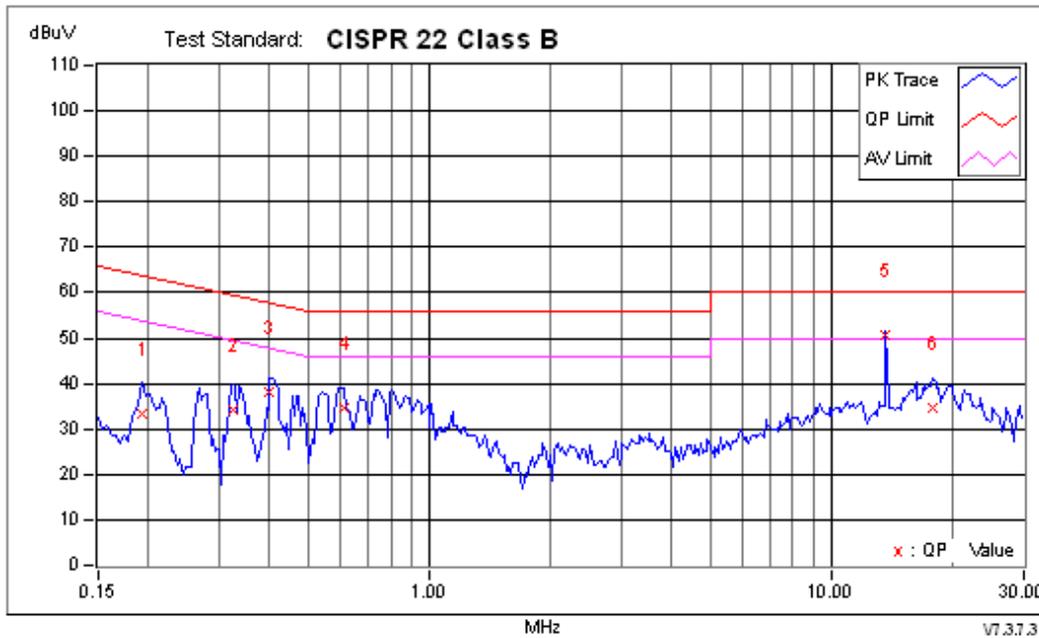
5.2.6 EUT OPERATING CONDITIONS

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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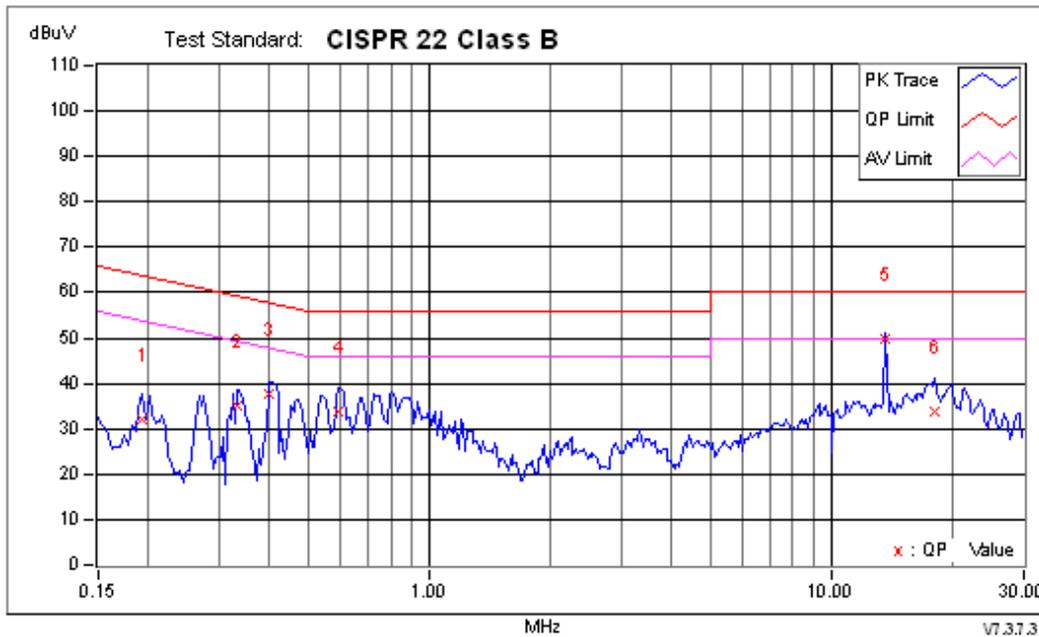


No.	Frequency MHz	Corr. Factor	Reading dBuV		Emission dBuV		Limit dBuV		Margins dB		Notes
			QP	AV	QP	AV	QP	AV	QP	AV	
1	0.19297	0.17	33.06	23.58	33.23	23.75	63.91	53.91	-30.68	-30.16	
2	0.32578	0.20	33.86	21.26	34.06	21.46	59.56	49.56	-25.50	-28.10	
3	0.40000	0.21	37.98	23.24	38.19	23.45	57.85	47.85	-19.66	-24.40	
4	0.61094	0.23	34.60	25.83	34.83	26.06	56.00	46.00	-21.17	-19.94	
+5	13.56250	0.53	49.94	46.50	50.47	47.03	60.00	50.00	-9.53	-2.97	
6	17.75781	0.63	34.08	26.82	34.71	27.45	60.00	50.00	-25.29	-22.55	

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	0.19297	0.16	32.05	22.88	32.21	23.04	63.91	53.91	-31.70	-30.87	
2	0.33359	0.19	35.10	22.46	35.29	22.65	59.36	49.36	-24.07	-26.71	
3	0.40000	0.20	37.29	22.92	37.49	23.12	57.85	47.85	-20.36	-24.73	
4	0.59531	0.22	33.44	23.89	33.66	24.11	56.00	46.00	-22.34	-21.89	
+5	13.55859	0.59	49.39	46.24	49.98	46.83	60.00	50.00	-10.02	-3.17	
6	18.03516	0.71	33.14	25.95	33.85	26.66	60.00	50.00	-26.15	-23.34	

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.



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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	16.59	0.5	PASS
165	5825	16.60	0.5	PASS

802.11n (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
149	5745	17.76	0.5	PASS
157	5785	17.82	0.5	PASS
165	5825	17.80	0.5	PASS

802.11n (40MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
151	5755	37.05	0.5	PASS
159	5795	36.63	0.5	PASS

802.11ac (80MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
155	5775	83.20	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

FOR PEAK POWER

802.11a

CHANNEL	FREQUENCY (MHz)	PEAK POWER (mW)	PEAK POWER (dBm)	LIMIT (dBm)	PASS/FAIL
149	5745	237.137	23.75	30	PASS
157	5785	229.087	23.6	30	PASS
165	5825	213.304	23.29	30	PASS

802.11n (20MHz)

CHANNEL	FREQUENCY (MHz)	PEAK POWER (mW)	PEAK POWER (dBm)	LIMIT (dBm)	PASS/FAIL
149	5745	244.343	23.88	30	PASS
157	5785	229.615	23.61	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	182.810	22.62	30	PASS
159	5795	179.887	22.55	30	PASS

802.11ac (80MHz)

CHANNEL	FREQUENCY (MHz)	PEAK POWER (mW)	PEAK POWER (dBm)	LIMIT (dBm)	PASS/FAIL
155	5775	174.985	22.43	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	4.16	-11.04	8	PASS
157	5785	4.00	-11.20	8	PASS
165	5825	4.17	-11.03	8	PASS

802.11n (20MHz)

Channel	FREQ. (MHz)	PSD (dBm/100kHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
149	5745	4.14	-11.06	8	PASS
157	5785	4.30	-10.90	8	PASS
165	5825	4.52	-10.68	8	PASS

802.11n (40MHz)

Channel	FREQ. (MHz)	PSD (dBm/100kHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
151	5755	-1.48	-16.68	8	PASS
159	5795	-1.09	-16.29	8	PASS

802.11ac (80MHz)

Channel	FREQ. (MHz)	PSD (dBm/100kHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
155	5775	-3.79	-18.99	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

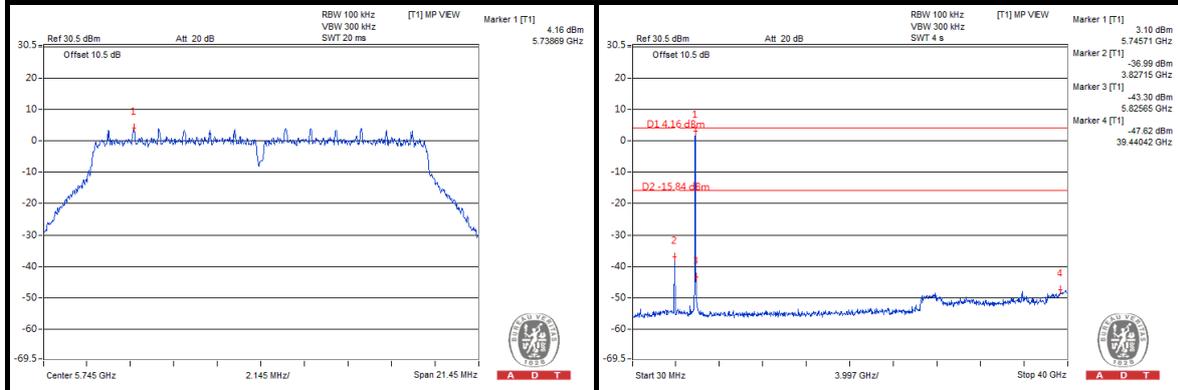
The spectrum plots are attached on the following pages. D1 line indicates the highest level, and D2 line indicates the 20dB offset below D1. It shows compliance with the requirement.



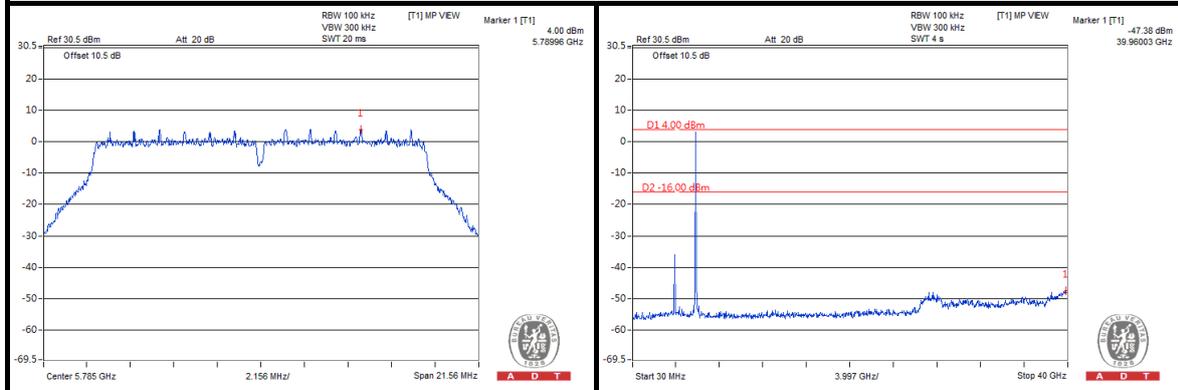
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802.11a

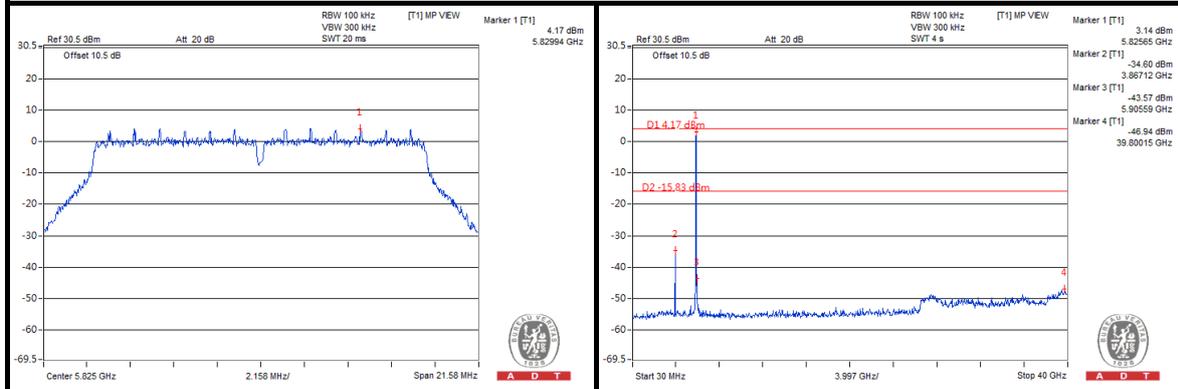
CH 149



CH 157



CH 165

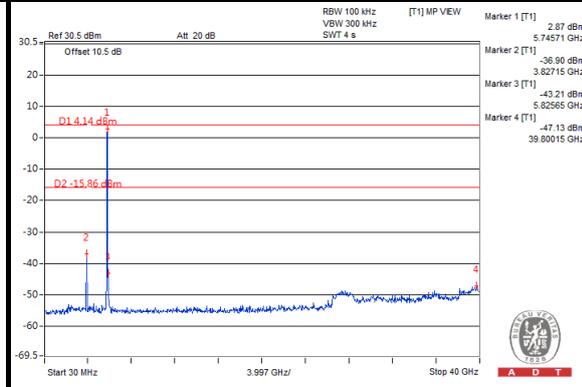
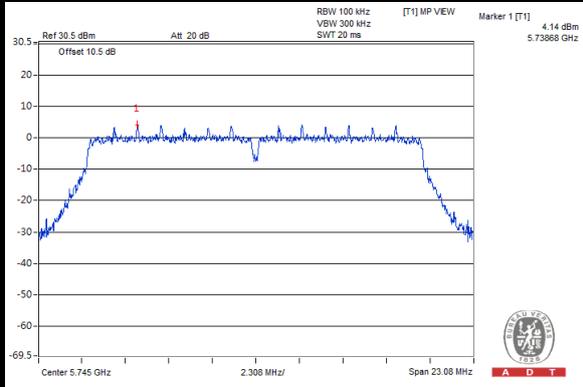




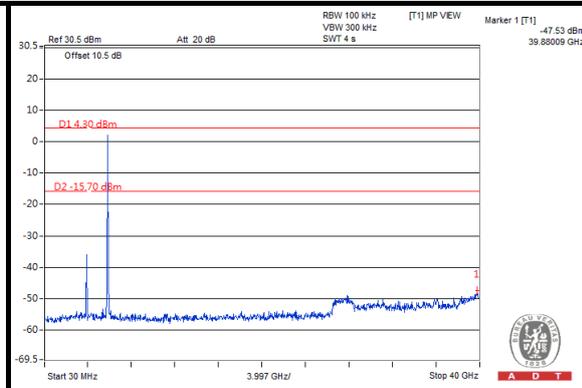
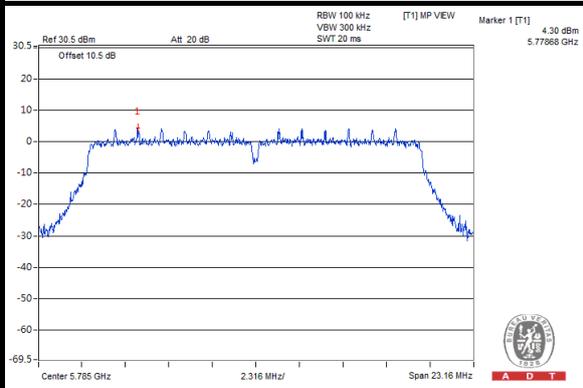
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802.11n (20MHz)

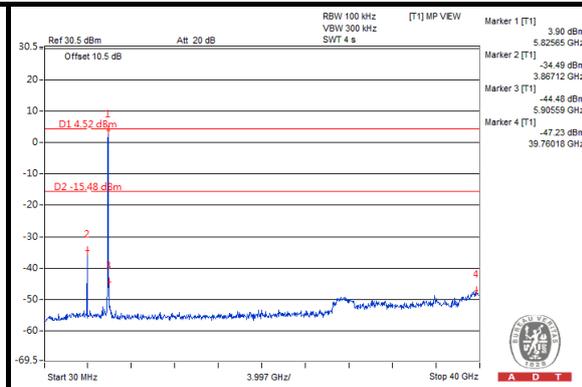
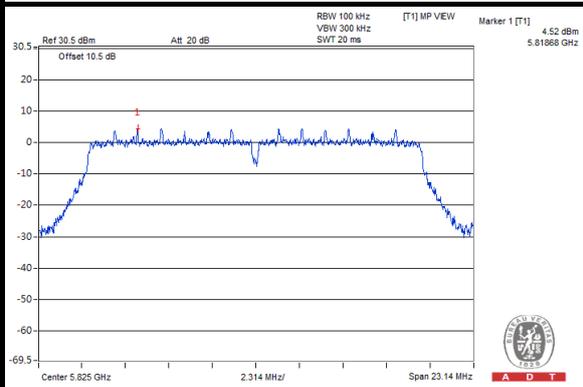
CH 149



CH 157



CH 165

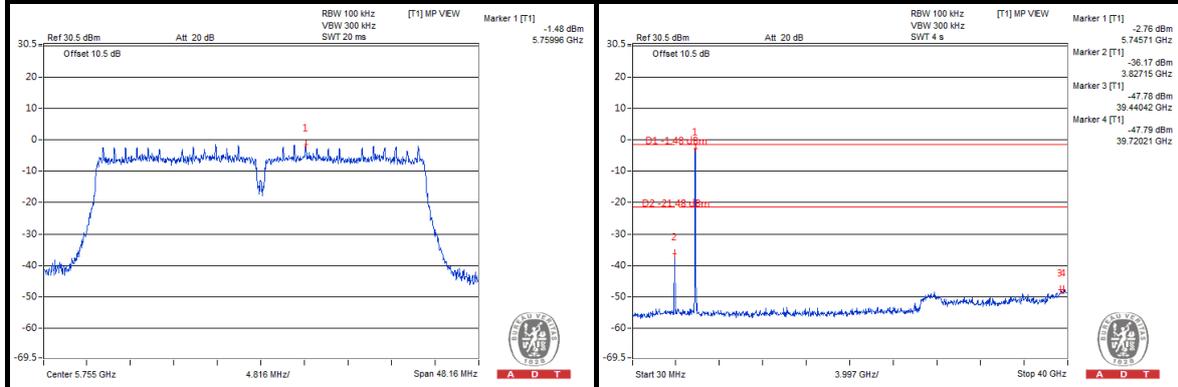




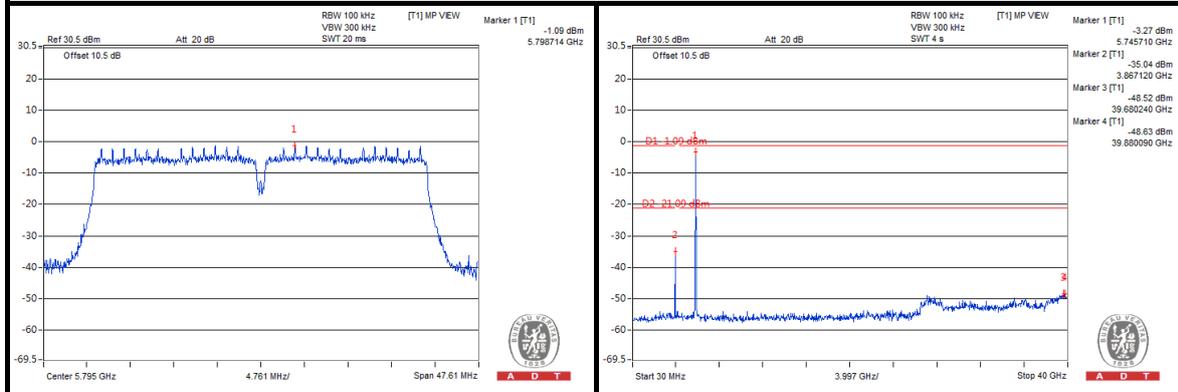
A D T

802.11n (40MHz)

CH 151

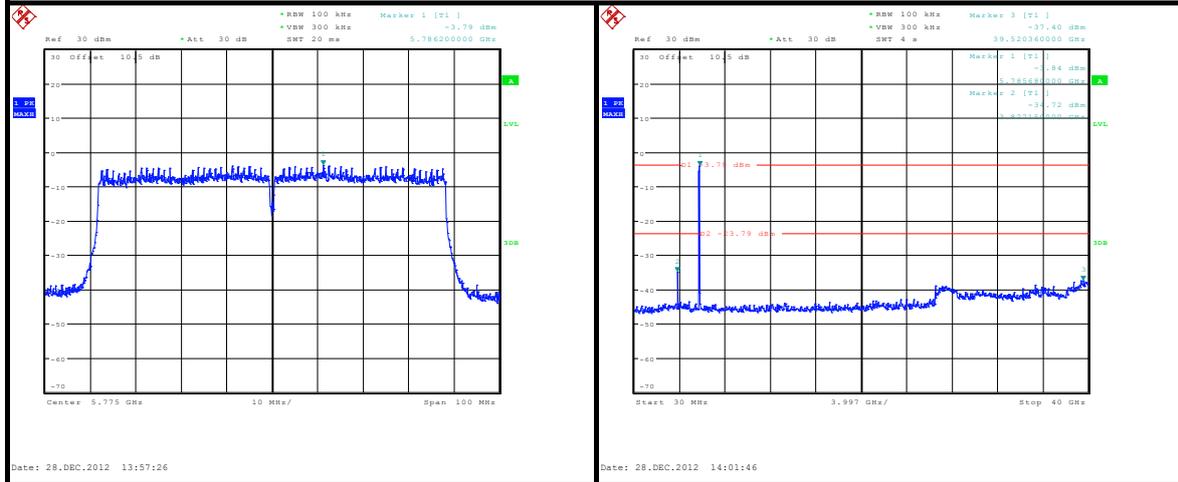


CH 159



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:

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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.



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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---