



FCC TEST REPORT (15.407)

REPORT NO.: RF121129C10-5
MODEL NO.: PN07120
FCC ID: NM8PN07120
RECEIVED: Nov. 29, 2012
TESTED: Dec. 19, 2012 ~ Jan. 23, 2013
ISSUED: Jan. 31, 2013

APPLICANT: HTC Corporation

ADDRESS: 23, Xinghua Rd., Taoyuan 330, Taiwan, R.O.C.

ISSUED BY: Bureau Veritas Consumer Products Services
(H.K.) Ltd., Taoyuan Branch

LAB ADDRESS: No. 47, 14th Ling, Chia Pau Vil., Lin Kou Dist.,
New Taipei City, Taiwan (R.O.C)

TEST LOCATION: No. 19, Hwa Ya 2nd Rd, Wen Hwa Tsuen, Kwei
Shan Hsiang, Taoyuan Hsien 333, Taiwan, R.O.C.

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



This report is for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence, provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents. Unless specific mention, the uncertainty of measurement has been explicitly taken into account to declare the compliance or non-compliance to the specification

TABLE OF CONTENTS

RELEASE CONTROL RECORD	4
1. CERTIFICATION	5
2. SUMMARY OF TEST RESULTS	6
2.1 MEASUREMENT UNCERTAINTY	6
3. GENERAL INFORMATION.....	7
3.1 GENERAL DESCRIPTION OF EUT	7
3.2 DESCRIPTION OF TEST MODES	9
3.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL	11
3.3 DESCRIPTION OF SUPPORT UNITS	14
3.3.1 CONFIGURATION OF SYSTEM UNDER TEST	14
3.4 DUTY CYCLE OF TEST SIGNAL	15
3.5 GENERAL DESCRIPTION OF APPLIED STANDARDS	15
4. TEST TYPES AND RESULTS	16
4.1 RADIATED EMISSION AND BANDEDGE MEASUREMENT	16
4.1.1 LIMITS OF RADIATED EMISSION AND BANDEDGE MEASUREMENT	16
4.1.2 LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS	16
4.1.3 TEST INSTRUMENTS	17
4.1.4 TEST PROCEDURES	19
4.1.5 DEVIATION FROM TEST STANDARD	19
4.1.6 TEST SETUP	20
4.1.7 EUT OPERATING CONDITION.....	20
4.1.8 TEST RESULTS	21
4.2 CONDUCTED EMISSION MEASUREMENT	53
4.2.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT	53
4.2.2 TEST INSTRUMENTS	53
4.2.3 TEST PROCEDURES	54
4.2.4 DEVIATION FROM TEST STANDARD	54
4.2.5 TEST SETUP	54
4.2.6 EUT OPERATING CONDITIONS	54
4.2.7 TEST RESULTS	55
4.3 PEAK TRANSMIT POWER MEASUREMENT	59
4.3.1 LIMITS OF PEAK TRANSMIT POWER MEASUREMENT	59
4.3.2 TEST SETUP	59
4.3.3 TEST INSTRUMENTS	59
4.3.4 TEST PROCEDURE	60
4.3.5 DEVIATION FROM TEST STANDARD	60
4.3.6 EUT OPERATING CONDITIONS	60
4.3.7 TEST RESULTS	61
4.4 PEAK POWER SPECTRAL DENSITY MEASUREMENT	64
4.4.1 LIMITS OF PEAK POWER SPECTRAL DENSITY MEASUREMENT	64
4.4.2 TEST SETUP	64
4.4.3 TEST INSTRUMENTS	64
4.4.4 TEST PROCEDURES	64
4.4.5 DEVIATION FROM TEST STANDARD	65
4.4.6 EUT OPERATING CONDITIONS	65
4.4.7 TEST RESULTS	65
4.5 PEAK POWER EXCURSION MEASUREMENT	67



A D T

4.5.1	LIMITS OF PEAK POWER EXCURSION MEASUREMENT	67
4.5.2	TEST SETUP	67
4.5.3	TEST INSTRUMENTS	67
4.5.4	TEST PROCEDURE	67
4.5.5	DEVIATION FROM TEST STANDARD	67
4.5.6	EUT OPERATING CONDITIONS	67
4.5.7	TEST RESULTS	68
4.6	FREQUENCY STABILITY	72
4.6.1	LIMITS OF FREQUENCY STABILITY MEASUREMENT	72
4.6.2	TEST SETUP	72
4.6.3	TEST INSTRUMENTS	72
4.6.4	TEST PROCEDURE	73
4.6.5	DEVIATION FROM TEST STANDARD	73
4.6.6	EUT OPERATING CONDITION	73
4.6.7	TEST RESULTS	74
5.	PHOTOGRAPHS OF THE TEST CONFIGURATION	75
6.	INFORMATION ON THE TESTING LABORATORIES	76
7.	APPENDIX A - MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB	77



A D T

RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF121129C10-5	Original release	Jan. 31, 2013



1. CERTIFICATION

PRODUCT: Smartphone
MODEL NO.: PN07120
BRAND: HTC
APPLICANT: HTC Corporation
TESTED: Dec. 19, 2012 ~ Jan. 23, 2013
TEST SAMPLE: Production Unit
STANDARDS: **FCC Part 15, Subpart E (Section 15.407)**
ANSI C63.10-2009

The above equipment (model: PN07120) 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 : Evonne Liu , **DATE** : Jan. 31, 2013
Evonne Liu / Specialist

APPROVED BY : Anderson Chiu , **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 E (SECTION 15.407)			
STANDARD SECTION	TEST TYPE	RESULT	REMARK
15.407(b)(6)	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is -1.26dB at 13.56250MHz.
15.407(b/1/2/3) (b)(6)	Spurious Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -1dB at 5725MHz.
15.407(a/1/2)	Peak Transmit Power	PASS	Meet the requirement of limit.
15.407(a)(6)	Peak Power Excursion	PASS	Meet the requirement of limit.
15.407(a/1/2)	Peak Power Spectral Density	PASS	Meet the requirement of limit.
15.407(g)	Frequency Stability	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.	PN07120
POWER SUPPLY	5.0Vdc (adapter or host equipment) 3.8Vdc (Li-ion battery)
MODULATION TYPE	256QAM, 64QAM, 16QAM, QPSK, BPSK
MODULATION TECHNOLOGY	OFDM
TRANSFER RATE	802.11a: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0Mbps 802.11n: up to 135Mbps 802.11ac: up to V9
OPERATING FREQUENCY	5180 ~ 5240MHz, 5260 ~ 5320MHz & 5500 ~ 5700MHz
NUMBER OF CHANNEL	5180 ~ 5240MHz: 4 for 802.11a, 802.11n (20MHz) 2 for 802.11n (40MHz) 1 for 802.11ac (80MHz) 5260 ~ 5320MHz: 4 for 802.11a, 802.11n (20MHz) 2 for 802.11n (40MHz) 1 for 802.11ac (80MHz) 5500 ~ 5700MHz: 8 for 802.11a, 802.11n (20MHz) 3 for 802.11n (40MHz) 1 for 802.11ac (80MHz)
OUTPUT POWER	40.53mW for 5180 ~ 5240MHz 46.10mW for 5260 ~ 5320MHz 50.90mW for 5500 ~ 5700MHz
ANTENNA TYPE	PIFA antenna with -2dBi gain (5180 ~ 5240MHz) PIFA antenna with -2dBi gain (5260 ~ 5320MHz) PIFA antenna with -2dBi gain (5500 ~ 5700MHz)
ANTENNA CONNECTOR	NA
DATA CABLE	Refer to Note as below
I/O PORTS	Refer to user's manual
ACCESSORY DEVICES	Refer to Note as below

NOTE:

1. The 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
802.11 ac (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 5180 ~ 5240MHz

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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
36	5180 MHz	44	5220 MHz
40	5200 MHz	48	5240 MHz

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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
38	5190 MHz	46	5230 MHz

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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
42	5210MHz		

FOR 5260 ~ 5320MHz

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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
52	5260 MHz	60	5300 MHz
56	5280 MHz	64	5320 MHz

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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
54	5270 MHz	62	5310 MHz

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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
58	5290MHz		

FOR 5500 ~ 5700MHz

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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
100	5500MHz	116	5580MHz
104	5520MHz	132	5660MHz
108	5540MHz	136	5680MHz
112	5560MHz	140	5700MHz

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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
102	5510MHz	134	5670MHz
110	5550MHz		

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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
106	5530MHz		

3.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

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 **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	FREQ. BAND (MHz)	AVAILABLE CH.	TESTED CH.	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A	802.11a	5180-5240	36 to 48	36, 44, 48	OFDM	BPSK	6.0
A	802.11n (20MHz)		36 to 48	36, 44, 48	OFDM	BPSK	6.5
B	802.11n (20MHz)		36 to 48	36	OFDM	BPSK	6.5
A	802.11n (40MHz)		38 to 46	38, 46	OFDM	BPSK	13.5
A	802.11ac (80MHz)		42	42	OFDM	BPSK	V0
A	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	BPSK	6.0
A	802.11n (20MHz)		52 to 64	52, 60, 64	OFDM	BPSK	6.5
B	802.11n (20MHz)		52 to 64	60	OFDM	BPSK	6.5
A	802.11n (40MHz)		54 to 62	54, 62	OFDM	BPSK	13.5
A	802.11ac (80MHz)		58	58	OFDM	BPSK	V0
A	802.11a	5500-5700	100 to 140	100, 116, 140	OFDM	BPSK	6.0
A	802.11n (20MHz)		100 to 140	100, 116, 140	OFDM	BPSK	6.5
B	802.11n (20MHz)		100 to 140	140	OFDM	BPSK	6.5
A	802.11n (40MHz)		102 to 134	102, 110, 134	OFDM	BPSK	13.5
A	802.11ac (80MHz)		106	106	OFDM	BPSK	V0

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.

MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11n (20MHz)	5500-5700	100 to 140	116	OFDM	BPSK	6.5

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	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CH.	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A	802.11n (20MHz)	5500-5700	100 to 140	116	OFDM	BPSK	6.5
B	802.11n (20MHz)	5500-5700	100 to 140	116	OFDM	BPSK	6.5

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.

MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11a	5180-5240	36 to 48	36, 44, 48	OFDM	BPSK	6.0
802.11n (20MHz)		36 to 48	36, 44, 48	OFDM	BPSK	6.5
802.11n (40MHz)		38 to 46	38, 46	OFDM	BPSK	13.5
802.11ac (80MHz)		42	42	OFDM	BPSK	V0
802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	BPSK	6.0
802.11n (20MHz)		52 to 64	52, 60, 64	OFDM	BPSK	6.5
802.11n (40MHz)		54 to 62	54, 62	OFDM	BPSK	13.5
802.11ac (80MHz)		58	58	OFDM	BPSK	V0
802.11a	5500-5700	100 to 140	100, 116, 140	OFDM	BPSK	6.0
802.11n (20MHz)		100 to 140	100, 116, 140	OFDM	BPSK	6.5
802.11n (40MHz)		102 to 134	102, 110, 134	OFDM	BPSK	13.5
802.11ac (80MHz)		106	106	OFDM	BPSK	V0



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.

MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11a	5180-5240	36 to 48	36, 44, 48	OFDM	BPSK	6.0
802.11n (20MHz)		36 to 48	36, 44, 48	OFDM	BPSK	6.5
802.11n (40MHz)		38 to 46	38, 46	OFDM	BPSK	13.5
802.11ac (80MHz)		42	42	OFDM	BPSK	V0
802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	BPSK	6.0
802.11n (20MHz)		52 to 64	52, 60, 64	OFDM	BPSK	6.5
802.11n (40MHz)		54 to 62	54, 62	OFDM	BPSK	13.5
802.11ac (80MHz)		58	58	OFDM	BPSK	V0
802.11a	5500-5700	100 to 140	100, 116, 140	OFDM	BPSK	6.0
802.11n (20MHz)		100 to 140	100, 116, 140	OFDM	BPSK	6.5
802.11n (40MHz)		102 to 134	102, 110, 134	OFDM	BPSK	13.5
802.11ac (80MHz)		106	106	OFDM	BPSK	V0

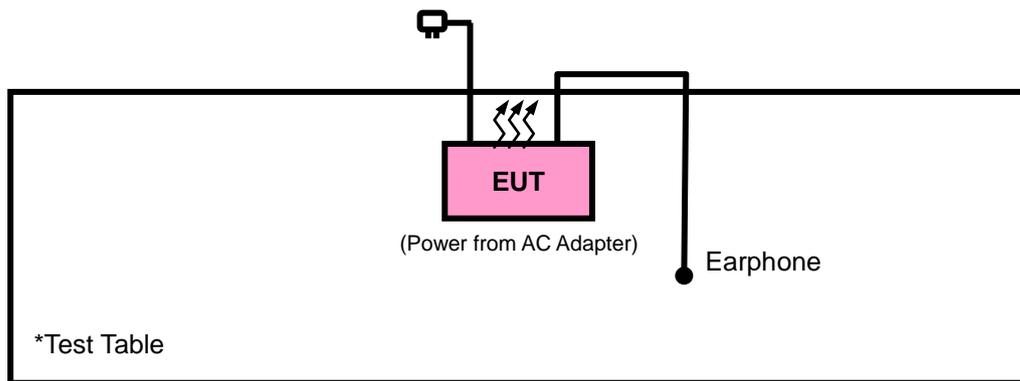
TEST CONDITION:

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	Phoenix Chen

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 DUTY CYCLE OF TEST SIGNAL

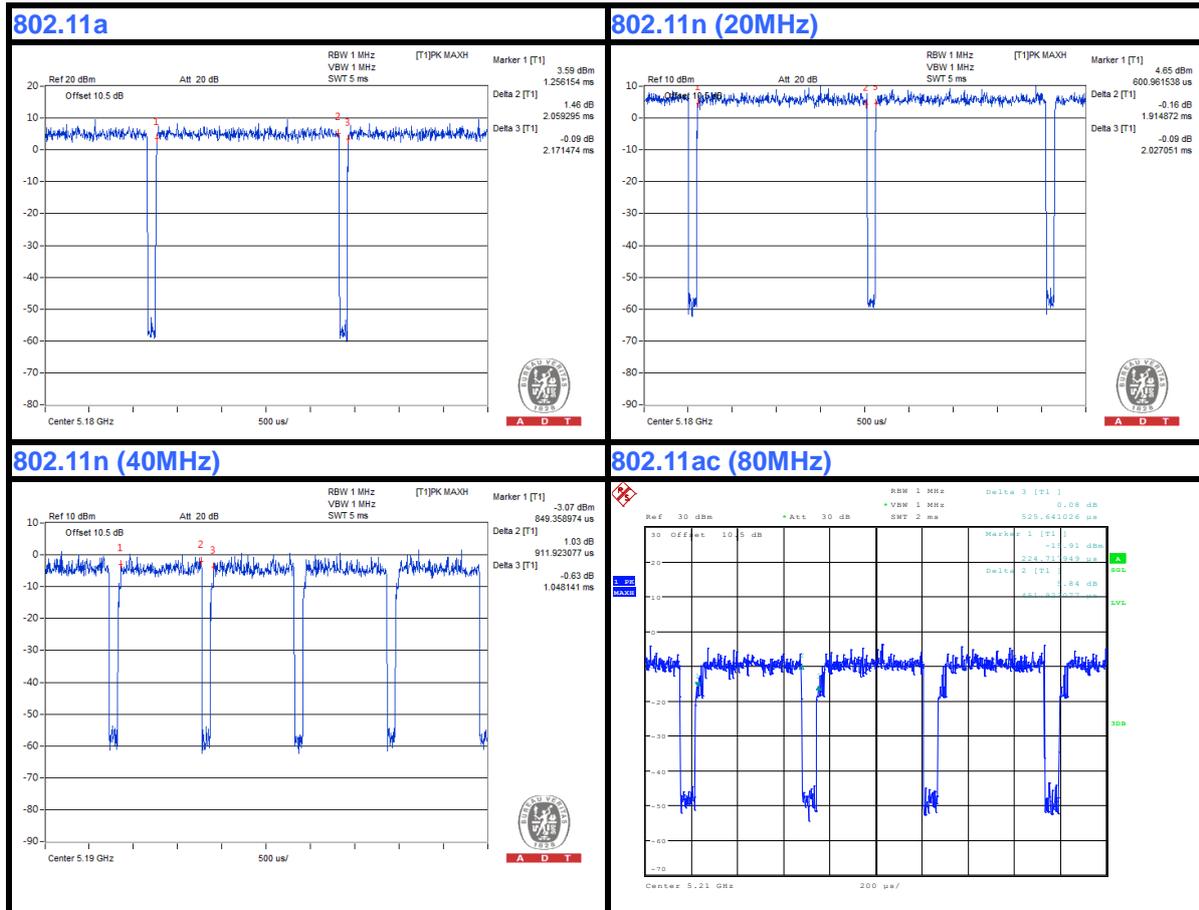
If duty cycle is < 98%, duty factor shall be considered.

802.11a: Duty cycle = 2.06/2.17 = 0.949, Duty factor = $10 * \log(1/0.949) = 0.23$

802.11n (20MHz): Duty cycle = 1.91/2.02 = 0.945, Duty factor = $10 * \log(1/0.945) = 0.25$

802.11n (40MHz): Duty cycle = 0.911/1.048 = 0.869, Duty factor = $10 * \log(1/0.869) = 0.60$

802.11ac (80MHz): Duty cycle = 0.451/0.525 = 0.859, Duty factor = $10 * \log(1/0.859) = 0.66$



3.5 GENERAL DESCRIPTION OF APPLIED STANDARDS

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

FCC Part 15, Subpart E (15.407)

ANSI C63.10-2009

KDB 789033 D01 General UNII Test Procedures v01r01

All test items have been performed and recorded as per the above standards.

4. TEST TYPES AND RESULTS

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:

FREQUENCIES (MHz)	FIELD STRENGTH (microvolts/meter)	MEASUREMENT DISTANCE (meters)
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

NOTE:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. For frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.

4.1.2 LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS

EIRP LIMIT (dBm)	EQUIVALENT FIELD STRENGTH AT 3m (dBµV/m)
PK	PK
-27	68.3

NOTE: The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

$$E = \frac{1000000\sqrt{30P}}{3} \mu\text{V/m, where P is the eirp (Watts).}$$

4.1.3 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	BBHA9170153	Jan. 17, 2012	Jan. 16, 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



A D T

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
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 IC 7450F-4.

4.1.4 TEST PROCEDURES

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The antenna is a broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. 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 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

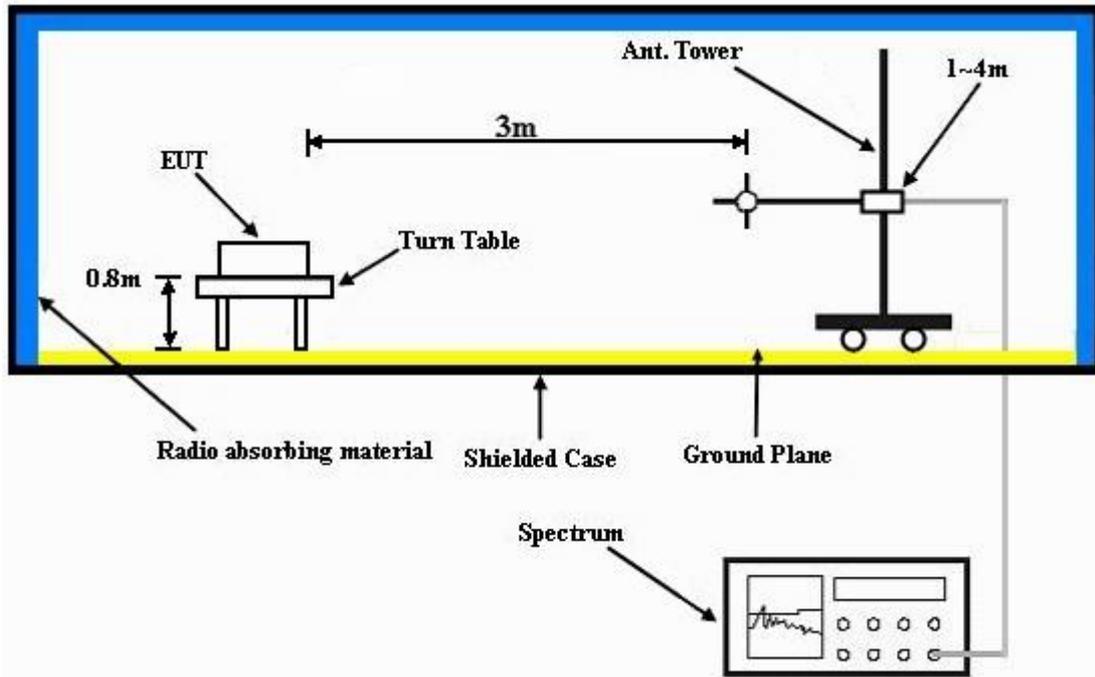
NOTE:

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

4.1.5 DEVIATION FROM TEST STANDARD

No deviation.

4.1.6 TEST SETUP



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

4.1.7 EUT OPERATING CONDITION

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



A D T

4.1.8 TEST RESULTS

ABOVE 1GHz DATA: 802.11a

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 36	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
5068	41.2	38.9	54	-12.8	32.27	7.3	37.27	107	343	Average
5068	56.46	54.16	74	-17.54	32.27	7.3	37.27	107	343	Peak
5180	88.01	85.65			32.38	7.32	37.34	107	343	Average
5180	98.03	95.67			32.38	7.32	37.34	107	343	Peak
5356	41.44	38.67	54	-12.56	32.55	7.4	37.18	107	343	Average
5356	58.02	55.25	74	-15.98	32.55	7.4	37.18	107	343	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
5122	41.62	39.26	54	-12.38	32.32	7.34	37.3	101	5	Average
5122	57.08	54.72	74	-16.92	32.32	7.34	37.3	101	5	Peak
5180	89.96	87.6			32.38	7.32	37.34	101	5	Average
5180	99.83	97.47			32.38	7.32	37.34	101	5	Peak
5432	41.09	38.12	54	-12.91	32.63	7.47	37.13	101	5	Average
5432	57.26	54.29	74	-16.74	32.63	7.47	37.13	101	5	Peak

REMARKS: 5180MHz: Fundamental frequency.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 44	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
5136	41.34	38.97	54	-12.66	32.33	7.34	37.3	104	346	Average
5136	56.38	54.01	74	-17.62	32.33	7.34	37.3	104	346	Peak
5220	88.7	86.32			32.42	7.32	37.36	104	346	Average
5220	97.97	95.59			32.42	7.32	37.36	104	346	Peak
5436	41.61	38.64	54	-12.39	32.63	7.47	37.13	104	346	Average
5436	57.13	54.16	74	-16.87	32.63	7.47	37.13	104	346	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
5136	41.92	39.55	54	-12.08	32.33	7.34	37.3	100	0	Average
5136	57.53	55.16	74	-16.47	32.33	7.34	37.3	100	0	Peak
5220	90.38	88			32.42	7.32	37.36	100	0	Average
5220	100.22	97.84			32.42	7.32	37.36	100	0	Peak
5452	41.15	38.05	54	-12.85	32.65	7.53	37.08	100	0	Average
5452	57.11	54.01	74	-16.89	32.65	7.53	37.08	100	0	Peak

REMARKS: 5220MHz: Fundamental frequency.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 48	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
5112	40.62	38.23	54	-13.38	32.32	7.35	37.28	106	345	Average
5112	57.24	54.85	74	-16.76	32.32	7.35	37.28	106	345	Peak
5240	89.73	87.28			32.43	7.34	37.32	106	345	Average
5240	99.14	96.69			32.43	7.34	37.32	106	345	Peak
5392	41.24	38.44	54	-12.76	32.58	7.4	37.18	106	345	Average
5392	57.6	54.8	74	-16.4	32.58	7.4	37.18	106	345	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5022	40.39	38.21	54	-13.61	32.23	7.19	37.24	100	3	Average
5022	56.47	54.29	74	-17.53	32.23	7.19	37.24	100	3	Peak
5240	89.64	87.19			32.43	7.34	37.32	100	3	Average
5240	99.41	96.96			32.43	7.34	37.32	100	3	Peak
5444	41.26	38.29	54	-12.74	32.63	7.47	37.13	100	3	Average
5444	57.45	54.48	74	-16.55	32.63	7.47	37.13	100	3	Peak

REMARKS: 5240MHz: Fundamental frequency.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 52	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
5092	40.47	38.14	54	-13.53	32.3	7.3	37.27	105	346	Average
5092	56.51	54.18	74	-17.49	32.3	7.3	37.27	105	346	Peak
5260	88.91	86.35			32.47	7.36	37.27	105	346	Average
5260	98.4	95.84			32.47	7.36	37.27	105	346	Peak
5426	41.25	38.29	54	-12.75	32.62	7.47	37.13	105	346	Average
5426	57.4	54.44	74	-16.6	32.62	7.47	37.13	105	346	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
5140	40.6	38.21	54	-13.4	32.35	7.34	37.3	100	3	Average
5140	57.13	54.74	74	-16.87	32.35	7.34	37.3	100	3	Peak
5260	90.68	88.12			32.47	7.36	37.27	100	3	Average
5260	100.82	98.26			32.47	7.36	37.27	100	3	Peak
5450	41.36	38.26	54	-12.64	32.65	7.53	37.08	100	3	Average
5450	57.92	54.82	74	-16.08	32.65	7.53	37.08	100	3	Peak

REMARKS: 5260MHz: Fundamental frequency.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 60	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
5082	40.37	38.06	54	-13.63	32.28	7.3	37.27	104	347	Average
5082	56.99	54.68	74	-17.01	32.28	7.3	37.27	104	347	Peak
5300	89.82	87.11			32.5	7.4	37.19	104	347	Average
5300	99.5	96.79			32.5	7.4	37.19	104	347	Peak
5384	45.25	42.45	54	-8.75	32.58	7.4	37.18	104	347	Average
5384	58.18	55.38	74	-15.82	32.58	7.4	37.18	104	347	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5120	40.53	38.17	54	-13.47	32.32	7.34	37.3	100	4	Average
5120	56.65	54.29	74	-17.35	32.32	7.34	37.3	100	4	Peak
5300	90.59	87.88			32.5	7.4	37.19	100	4	Average
5300	100.27	97.56			32.5	7.4	37.19	100	4	Peak
5378	43.82	41.02	54	-10.18	32.58	7.4	37.18	100	4	Average
5378	57.42	54.62	74	-16.58	32.58	7.4	37.18	100	4	Peak

REMARKS: 5300MHz: Fundamental frequency.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 64	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
5084	40.49	38.18	54	-13.51	32.28	7.3	37.27	103	341	Average
5084	57.11	54.8	74	-16.89	32.28	7.3	37.27	103	341	Peak
5320	90.12	87.39			32.52	7.4	37.19	103	341	Average
5320	99.36	96.63			32.52	7.4	37.19	103	341	Peak
5400	45.78	42.96	54	-8.22	32.6	7.4	37.18	103	341	Average
5400	58.93	56.11	74	-15.07	32.6	7.4	37.18	103	341	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
5076	40.37	38.06	54	-13.63	32.28	7.3	37.27	100	5	Average
5076	57.31	55	74	-16.69	32.28	7.3	37.27	100	5	Peak
5320	90.68	87.95			32.52	7.4	37.19	100	5	Average
5320	100.2	97.47			32.52	7.4	37.19	100	5	Peak
5394	44.12	41.32	54	-9.88	32.58	7.4	37.18	100	5	Average
5394	58.77	55.97	74	-15.23	32.58	7.4	37.18	100	5	Peak

REMARKS: 5320MHz: Fundamental frequency.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 100	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
5414	43.21	40.37	54	-10.79	32.62	7.4	37.18	100	350	Average
5414	58.87	56.03	74	-15.13	32.62	7.4	37.18	100	350	Peak
5470	57.27	54.15	68.3	-11.03	32.67	7.53	37.08	100	350	Peak
5500	91.19	87.93			32.7	7.59	37.03	100	350	Average
5500	101.06	97.8			32.7	7.59	37.03	100	350	Peak
5725	56.83	53.58	68.3	-11.47	32.97	7.71	37.43	100	350	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
5444	42.44	39.47	54	-11.56	32.63	7.47	37.13	100	113	Average
5444	57.68	54.71	74	-16.32	32.63	7.47	37.13	100	113	Peak
5470	57.53	54.41	68.3	-10.77	32.67	7.53	37.08	100	113	Peak
5500	91.77	88.51			32.7	7.59	37.03	100	113	Average
5500	101.73	98.47			32.7	7.59	37.03	100	113	Peak
5725	56.52	53.27	68.3	-11.78	32.97	7.71	37.43	100	113	Peak

REMARKS:

1. 5500MHz: Fundamental frequency.
2. 5470MHz & 5725MHz: Out of restricted band



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 116	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
5428	41.1	38.14	54	-10.79	32.62	7.47	37.13	100	162	Average
5428	57.86	54.9	74	-15.13	32.62	7.47	37.13	100	162	Peak
5470	56.09	52.97	68.3	-12.21	32.67	7.53	37.08	100	162	Peak
5580	89.88	86.69			32.78	7.57	37.16	100	162	Average
5580	100.22	97.03			32.78	7.57	37.16	100	162	Peak
5725	56.53	53.28	68.3	-11.77	32.97	7.71	37.43	100	162	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5450	41.17	38.07	54	-12.83	32.65	7.53	37.08	100	118	Average
5450	57.98	54.88	74	-16.02	32.65	7.53	37.08	100	118	Peak
5470	57.47	54.35	68.3	-10.83	32.67	7.53	37.08	100	118	Peak
5580	91.96	88.77			32.78	7.57	37.16	100	118	Average
5580	102.49	99.3			32.78	7.57	37.16	100	118	Peak
5725	58.16	54.91	68.3	-10.14	32.97	7.71	37.43	100	118	Peak

REMARKS:

1. 5580MHz: Fundamental frequency.
2. 5470MHz & 5725MHz: Out of restricted band



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 140	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
5432	41	38.03	54	-10.79	32.63	7.47	37.13	100	109	Average
5432	56.98	54.01	74	-15.13	32.63	7.47	37.13	100	109	Peak
5470	55.46	52.34	68.3	-12.84	32.67	7.53	37.08	100	109	Peak
5700	89.53	86.31			32.93	7.69	37.4	100	109	Average
5700	99.24	96.02			32.93	7.69	37.4	100	109	Peak
5725	57	53.75	68.3	-11.3	32.97	7.71	37.43	100	109	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
5440	40.97	38	54	-13.03	32.63	7.47	37.13	100	139	Average
5440	58.03	55.06	74	-15.97	32.63	7.47	37.13	100	139	Peak
5470	55.52	52.4	68.3	-12.78	32.67	7.53	37.08	100	139	Peak
5700	90.59	87.37			32.93	7.69	37.4	100	139	Average
5700	101.15	97.93			32.93	7.69	37.4	100	139	Peak
5725	59.19	55.94	68.3	-9.11	32.97	7.71	37.43	100	139	Peak

REMARKS:

- 5700MHz: Fundamental frequency.
- 5470MHz & 5725MHz: Out of restricted band



A D T

802.11ac (80MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 42	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
5138	41.86	39.49	54	-12.14	32.33	7.34	37.3	100	162	Average
5138	53.57	51.2	74	-20.43	32.33	7.34	37.3	100	162	Peak
5210	80.06	77.68			32.42	7.32	37.36	100	162	Average
5210	88.96	86.58			32.42	7.32	37.36	100	162	Peak
5432	41.68	38.71	54	-12.32	32.63	7.47	37.13	100	162	Average
5432	53.12	50.15	74	-20.88	32.63	7.47	37.13	100	162	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5144	43.22	40.86	54	-10.78	32.35	7.33	37.32	100	354	Average
5144	55.02	52.66	74	-18.98	32.35	7.33	37.32	100	354	Peak
5210	83.04	80.66			32.42	7.32	37.36	100	354	Average
5210	91.97	89.59			32.42	7.32	37.36	100	354	Peak
5400	41.65	38.83	54	-12.35	32.6	7.4	37.18	100	354	Average
5400	53.18	50.36	74	-20.82	32.6	7.4	37.18	100	354	Peak

REMARKS: 5210MHz: Fundamental frequency.



A D T

802.11n (20MHz)

Main Sample (A)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 36	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
5150	42.29	39.93	54	-11.71	32.35	7.33	37.32	108	343	Average
5150	58.45	56.09	74	-15.55	32.35	7.33	37.32	108	343	Peak
5180	88.74	86.38			32.38	7.32	37.34	108	343	Average
5180	98.85	96.49			32.38	7.32	37.34	108	343	Peak
5422	41.15	38.31	54	-12.85	32.62	7.4	37.18	108	343	Average
5422	57.81	54.97	74	-16.19	32.62	7.4	37.18	108	343	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
5150	43.67	41.31	54	-10.33	32.35	7.33	37.32	100	4	Average
5150	58.53	56.17	74	-15.47	32.35	7.33	37.32	100	4	Peak
5180	90.59	88.23			32.38	7.32	37.34	100	4	Average
5180	100.19	97.83			32.38	7.32	37.34	100	4	Peak
5452	41.21	38.11	54	-12.79	32.65	7.53	37.08	100	4	Average
5452	57.58	54.48	74	-16.42	32.65	7.53	37.08	100	4	Peak

REMARKS: 5180MHz: Fundamental frequency.



A D T

2nd Sample (B)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 36	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
5150	44.23	42.9	54	-9.77	31.32	7.33	37.32	100	132	Average
5150	53.79	52.46	74	-20.21	31.32	7.33	37.32	100	132	Peak
5180	90.31	88.98			31.35	7.32	37.34	100	132	Average
5180	98.62	97.29			31.35	7.32	37.34	100	132	Peak
5350	39.77	38.07	54	-14.23	31.48	7.4	37.18	100	132	Average
5350	51.32	49.62	74	-22.68	31.48	7.4	37.18	100	132	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	44.27	42.94	54	-9.73	31.32	7.33	37.32	100	133	Average
5150	57.86	56.53	74	-16.14	31.32	7.33	37.32	100	133	Peak
5180	90.8	89.47			31.35	7.32	37.34	100	133	Average
5180	99.94	98.61			31.35	7.32	37.34	100	133	Peak
5350	40.2	38.5	54	-13.8	31.48	7.4	37.18	100	133	Average
5350	50.25	48.55	74	-23.75	31.48	7.4	37.18	100	133	Peak

REMARKS: 5180MHz: Fundamental frequency.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 44	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
5138	41.59	39.22	54	-12.41	32.33	7.34	37.3	106	345	Average
5138	57.88	55.51	74	-16.12	32.33	7.34	37.3	106	345	Peak
5220	88.89	86.51			32.42	7.32	37.36	106	345	Average
5220	98.56	96.18			32.42	7.32	37.36	106	345	Peak
5440	41.35	38.38	54	-12.65	32.63	7.47	37.13	106	345	Average
5440	57.76	54.79	74	-16.24	32.63	7.47	37.13	106	345	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5142	42.54	40.15	54	-11.46	32.35	7.34	37.3	100	3	Average
5142	57.88	55.49	74	-16.12	32.35	7.34	37.3	100	3	Peak
5220	92.75	90.37			32.42	7.32	37.36	100	3	Average
5220	102.24	99.86			32.42	7.32	37.36	100	3	Peak
5440	41.47	38.5	54	-12.53	32.63	7.47	37.13	100	3	Average
5440	57.52	54.55	74	-16.48	32.63	7.47	37.13	100	3	Peak

REMARKS: 5220MHz: Fundamental frequency.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 48	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
5138	40.61	38.24	54	-13.39	32.33	7.34	37.3	104	345	Average
5138	56.52	54.15	74	-17.48	32.33	7.34	37.3	104	345	Peak
5240	91.92	89.47			32.43	7.34	37.32	104	345	Average
5240	101.44	98.99			32.43	7.34	37.32	104	345	Peak
5348	41.84	39.07	54	-12.16	32.55	7.4	37.18	104	345	Average
5348	57.68	54.91	74	-16.32	32.55	7.4	37.18	104	345	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5126	40.95	38.58	54	-13.05	32.33	7.34	37.3	100	3	Average
5126	57.77	55.4	74	-16.23	32.33	7.34	37.3	100	3	Peak
5240	92.89	90.44			32.43	7.34	37.32	100	3	Average
5240	102.18	99.73			32.43	7.34	37.32	100	3	Peak
5428	41.8	38.84	54	-12.2	32.62	7.47	37.13	100	3	Average
5428	56.54	53.58	74	-17.46	32.62	7.47	37.13	100	3	Peak

REMARKS: 5240MHz: Fundamental frequency.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 52	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
5074	39.79	37.48	54	-14.21	32.28	7.3	37.27	105	156	Average
5074	52.21	49.9	74	-21.79	32.28	7.3	37.27	105	156	Peak
5260	88.79	86.23			32.47	7.36	37.27	105	156	Average
5260	98.8	96.24			32.47	7.36	37.27	105	156	Peak
5350	40.99	38.22	54	-13.01	32.55	7.4	37.18	105	156	Average
5350	54.73	51.96	74	-19.27	32.55	7.4	37.18	105	156	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
5028	40	37.82	54	-14	32.23	7.19	37.24	100	358	Average
5028	51.84	49.66	74	-22.16	32.23	7.19	37.24	100	358	Peak
5260	92.03	89.47			32.47	7.36	37.27	100	358	Average
5260	101.91	99.35			32.47	7.36	37.27	100	358	Peak
5350	41.14	38.37	54	-12.86	32.55	7.4	37.18	100	358	Average
5350	54.29	51.52	74	-19.71	32.55	7.4	37.18	100	358	Peak

REMARKS: 5260MHz: Fundamental frequency.



A D T

Main Sample (A)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 60	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
5076	39.75	37.44	54	-14.25	32.28	7.3	37.27	104	335	Average
5076	51.98	49.67	74	-22.02	32.28	7.3	37.27	104	335	Peak
5300	91.67	88.96			32.5	7.4	37.19	104	335	Average
5300	101.23	98.52			32.5	7.4	37.19	104	335	Peak
5376	46.92	44.13	54	-7.08	32.57	7.4	37.18	104	335	Average
5376	58.05	55.26	74	-15.95	32.57	7.4	37.18	104	335	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
5114	39.86	37.47	54	-14.14	32.32	7.35	37.28	110	360	Average
5114	51.07	48.68	74	-22.93	32.32	7.35	37.28	110	360	Peak
5300	92.08	89.37			32.5	7.4	37.19	110	360	Average
5300	101.8	99.09			32.5	7.4	37.19	110	360	Peak
5374	44.45	41.66	54	-9.55	32.57	7.4	37.18	110	360	Average
5374	55.37	52.58	74	-18.63	32.57	7.4	37.18	110	360	Peak

REMARKS: 5300MHz: Fundamental frequency.



A D T

2nd Sample (B)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 60	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
5150	39.71	38.38	54	-14.29	31.32	7.33	37.32	100	155	Average
5150	48.67	47.34	74	-25.33	31.32	7.33	37.32	100	155	Peak
5300	91.16	89.51			31.44	7.4	37.19	100	155	Average
5300	100.34	98.69			31.44	7.4	37.19	100	155	Peak
5372	46.52	44.81	54	-7.48	31.49	7.4	37.18	100	155	Average
5372	57.68	55.97	74	-16.32	31.49	7.4	37.18	100	155	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
5150	39.57	38.24	54	-14.43	31.32	7.33	37.32	100	129	Average
5150	47.85	46.52	74	-26.15	31.32	7.33	37.32	100	129	Peak
5300	90.67	89.02			31.44	7.4	37.19	100	129	Average
5300	99.5	97.85			31.44	7.4	37.19	100	129	Peak
5376	42.58	40.87	54	-11.42	31.49	7.4	37.18	100	129	Average
5376	54.5	52.79	74	-19.5	31.49	7.4	37.18	100	129	Peak

REMARKS: 5300MHz: Fundamental frequency.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 64	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
5090	40.12	37.79	54	-13.88	32.3	7.3	37.27	103	335	Average
5090	51.99	49.66	74	-22.01	32.3	7.3	37.27	103	335	Peak
5320	92.5	89.77			32.52	7.4	37.19	103	335	Average
5320	102.1	99.37			32.52	7.4	37.19	103	335	Peak
5350	46.02	43.25	54	-7.98	32.55	7.4	37.18	103	335	Average
5350	57.52	54.75	74	-16.48	32.55	7.4	37.18	103	335	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
5146	39.97	37.61	54	-14.03	32.35	7.33	37.32	100	315	Average
5146	51.36	49	74	-22.64	32.35	7.33	37.32	100	315	Peak
5320	91.81	89.08			32.52	7.4	37.19	100	315	Average
5320	102.05	99.32			32.52	7.4	37.19	100	315	Peak
5350	43.6	40.83	54	-10.4	32.55	7.4	37.18	100	315	Average
5350	58.51	55.74	74	-15.49	32.55	7.4	37.18	100	315	Peak

REMARKS: 5320MHz: Fundamental frequency.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 100	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
5456	42.28	39.18	54	-10.79	32.65	7.53	37.08	100	158	Average
5456	53.71	50.61	74	-15.13	32.65	7.53	37.08	100	158	Peak
5470	54.9	51.78	68.3	-13.4	32.67	7.53	37.08	100	158	Peak
5500	91.43	88.17			32.7	7.59	37.03	100	158	Average
5500	101.31	98.05			32.7	7.59	37.03	100	158	Peak
5725	51.84	48.59	68.3	-16.46	32.97	7.71	37.43	100	158	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
5456	42.03	38.93	54	-11.97	32.65	7.53	37.08	100	81	Average
5456	52.74	49.64	74	-21.26	32.65	7.53	37.08	100	81	Peak
5470	54.12	51	68.3	-14.18	32.67	7.53	37.08	100	81	Peak
5500	91.65	88.39			32.7	7.59	37.03	100	81	Average
5500	100.97	97.71			32.7	7.59	37.03	100	81	Peak
5725	50.87	47.62	68.3	-17.43	32.97	7.71	37.43	100	81	Peak

REMARKS:

1. 5500MHz: Fundamental frequency.
2. 5470MHz & 5725MHz: Out of restricted band



EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 116	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
5354	40.64	37.87	54	-10.79	32.55	7.4	37.18	100	321	Average
5354	52.31	49.54	74	-15.13	32.55	7.4	37.18	100	321	Peak
5470	51.64	48.52	68.3	-16.66	32.67	7.53	37.08	100	321	Peak
5580	91.48	88.29			32.78	7.57	37.16	100	321	Average
5580	101.1	97.91			32.78	7.57	37.16	100	321	Peak
5725	50.95	47.7	68.3	-17.35	32.97	7.71	37.43	100	321	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
5418	40.68	37.84	54	-13.32	32.62	7.4	37.18	103	24	Average
5418	52.09	49.25	74	-21.91	32.62	7.4	37.18	103	24	Peak
5470	51.61	48.49	68.3	-16.69	32.67	7.53	37.08	103	24	Peak
5580	91.47	88.28			32.78	7.57	37.16	103	24	Average
5580	101.06	97.87			32.78	7.57	37.16	103	24	Peak
5725	52.91	49.66	68.3	-15.39	32.97	7.71	37.43	103	24	Peak

REMARKS:

- 5580MHz: Fundamental frequency.
- 5470MHz & 5725MHz: Out of restricted band



Main Sample (A)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 140	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
5420	40.6	37.76	54	-10.79	32.62	7.4	37.18	100	109	Average
5420	52.5	49.66	74	-15.13	32.62	7.4	37.18	100	109	Peak
5470	51.61	48.49	68.3	-16.69	32.67	7.53	37.08	100	109	Peak
5700	89.45	86.23			32.93	7.69	37.4	100	109	Average
5700	99.23	96.01			32.93	7.69	37.4	100	109	Peak
5725	61.62	58.37	68.3	-6.68	32.97	7.71	37.43	100	109	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
5426	40.77	37.81	54	-13.23	32.62	7.47	37.13	100	134	Average
5426	53.08	50.12	74	-20.92	32.62	7.47	37.13	100	134	Peak
5470	50.51	47.39	68.3	-17.79	32.67	7.53	37.08	100	134	Peak
5700	90.19	86.97			32.93	7.69	37.4	100	134	Average
5700	100.92	97.7			32.93	7.69	37.4	100	134	Peak
5725	58.94	55.69	68.3	-9.36	32.97	7.71	37.43	100	134	Peak

REMARKS:

- 5700MHz: Fundamental frequency.
- 5470MHz & 5725MHz: Out of restricted band



A D T

2nd Sample (B)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 140	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
5460	39.66	37.65	54	-14.34	31.56	7.53	37.08	100	0	Average
5460	50.79	48.78	74	-23.21	31.56	7.53	37.08	100	0	Peak
5470	49.65	47.63	68.3	-18.65	31.57	7.53	37.08	100	0	Peak
5700	92	89.81			31.9	7.69	37.4	100	0	Average
5700	101.08	98.89			31.9	7.69	37.4	100	0	Peak
5725	65.3	63.06	68.3	-3	31.96	7.71	37.43	100	0	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5460	39.94	37.93	54	-14.06	31.56	7.53	37.08	100	201	Average
5460	48.96	46.95	74	-25.04	31.56	7.53	37.08	100	201	Peak
5470	50.02	48	68.3	-18.28	31.57	7.53	37.08	100	201	Peak
5700	94.34	92.15			31.9	7.69	37.4	100	201	Average
5700	104.68	102.49			31.9	7.69	37.4	100	201	Peak
5725	67.3	65.06	68.3	-1	31.96	7.71	37.43	100	201	Peak

REMARKS:

- 5700MHz: Fundamental frequency.
- 5470MHz & 5725MHz: Out of restricted band

802.11ac (80MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 58	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
5100	40.79	38.42	54	-13.21	32.3	7.35	37.28	104	160	Average
5100	51.91	49.54	74	-22.09	32.3	7.35	37.28	104	160	Peak
5290	82.5	79.87			32.48	7.38	37.23	104	160	Average
5290	91.49	88.86			32.48	7.38	37.23	104	160	Peak
5350	44.26	41.49	54	-9.74	32.55	7.4	37.18	104	160	Average
5350	57.68	54.91	74	-16.32	32.55	7.4	37.18	104	160	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
5088	40.87	38.56	54	-13.13	32.28	7.3	37.27	100	358	Average
5088	51.92	49.61	74	-22.08	32.28	7.3	37.27	100	358	Peak
5290	83.79	81.16			32.48	7.38	37.23	100	358	Average
5290	93.31	90.68			32.48	7.38	37.23	100	358	Peak
5352	42.48	39.71	54	-11.52	32.55	7.4	37.18	100	358	Average
5352	59.69	56.92	74	-14.31	32.55	7.4	37.18	100	358	Peak

REMARKS: 5290MHz: Fundamental frequency.



A D T

802.11n (40MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 38	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
5148	40.8	38.44	54	-13.2	32.35	7.33	37.32	108	331	Average
5148	52	49.64	74	-22	32.35	7.33	37.32	108	331	Peak
5190	81.69	79.33			32.38	7.32	37.34	108	331	Average
5190	92.46	90.1			32.38	7.32	37.34	108	331	Peak
5420	40.94	38.1	54	-13.06	32.62	7.4	37.18	108	331	Average
5420	53.24	50.4	74	-20.76	32.62	7.4	37.18	108	331	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
5148	42.43	40.07	54	-11.57	32.35	7.33	37.32	100	354	Average
5148	56.81	54.45	74	-17.19	32.35	7.33	37.32	100	354	Peak
5190	85.63	83.27			32.38	7.32	37.34	100	354	Average
5190	95.18	92.82			32.38	7.32	37.34	100	354	Peak
5356	40.81	38.04	54	-13.19	32.55	7.4	37.18	100	354	Average
5356	52.63	49.86	74	-21.37	32.55	7.4	37.18	100	354	Peak

REMARKS: 5190MHz: Fundamental frequency.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 46	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
5132	39.9	37.53	54	-14.1	32.33	7.34	37.3	103	343	Average
5132	51.51	49.14	74	-22.49	32.33	7.34	37.3	103	343	Peak
5230	83.48	81.03			32.43	7.34	37.32	103	343	Average
5230	92.88	90.43			32.43	7.34	37.32	103	343	Peak
5460	41.06	37.96	54	-12.94	32.65	7.53	37.08	103	343	Average
5460	52.51	49.41	74	-21.49	32.65	7.53	37.08	103	343	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
5072	39.91	37.6	54	-14.09	32.28	7.3	37.27	100	353	Average
5072	51.73	49.42	74	-22.27	32.28	7.3	37.27	100	353	Peak
5230	85.7	83.25			32.43	7.34	37.32	100	353	Average
5230	95.44	92.99			32.43	7.34	37.32	100	353	Peak
5426	40.88	37.92	54	-13.12	32.62	7.47	37.13	100	353	Average
5426	52.53	49.57	74	-21.47	32.62	7.47	37.13	100	353	Peak

REMARKS: 5230MHz: Fundamental frequency.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 54	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
5098	40.24	37.87	54	-13.76	32.3	7.35	37.28	100	154	Average
5098	52.16	49.79	74	-21.84	32.3	7.35	37.28	100	154	Peak
5270	80.66	78.1			32.47	7.36	37.27	100	154	Average
5270	90.73	88.17			32.47	7.36	37.27	100	154	Peak
5380	41.34	38.54	54	-12.66	32.58	7.4	37.18	100	154	Average
5380	53.45	50.65	74	-20.55	32.58	7.4	37.18	100	154	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5052	40.11	37.86	54	-13.89	32.25	7.25	37.25	100	350	Average
5052	52.41	50.16	74	-21.59	32.25	7.25	37.25	100	350	Peak
5270	86.18	83.62			32.47	7.36	37.27	100	350	Average
5270	96.6	94.04			32.47	7.36	37.27	100	350	Peak
5358	41.72	38.95	54	-12.28	32.55	7.4	37.18	100	350	Average
5358	53.11	50.34	74	-20.89	32.55	7.4	37.18	100	350	Peak

REMARKS: 5270MHz: Fundamental frequency.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 62	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
5034	40.17	37.99	54	-13.83	32.23	7.19	37.24	102	154	Average
5034	52.56	50.38	74	-21.44	32.23	7.19	37.24	102	154	Peak
5310	84.4	81.67			32.52	7.4	37.19	102	154	Average
5310	94.51	91.78			32.52	7.4	37.19	102	154	Peak
5352	41.49	38.72	54	-12.51	32.55	7.4	37.18	102	154	Average
5352	57.68	54.91	74	-16.32	32.55	7.4	37.18	102	154	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5114	39.99	37.6	54	-14.01	32.32	7.35	37.28	100	351	Average
5114	52.31	49.92	74	-21.69	32.32	7.35	37.28	100	351	Peak
5310	86.17	83.44			32.52	7.4	37.19	100	351	Average
5310	97.23	94.5			32.52	7.4	37.19	100	351	Peak
5350	41.61	38.84	54	-12.39	32.55	7.4	37.18	100	351	Average
5350	60.35	57.58	74	-13.65	32.55	7.4	37.18	100	351	Peak

REMARKS: 5310MHz: Fundamental frequency.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 102	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
5460	41.98	38.88	54	-10.79	32.65	7.53	37.08	100	156	Average
5460	54.73	51.63	74	-15.13	32.65	7.53	37.08	100	156	Peak
5470	57.68	54.56	68.3	-10.62	32.67	7.53	37.08	100	156	Peak
5510	86.5	83.27			32.7	7.59	37.06	100	156	Average
5510	96.69	93.46			32.7	7.59	37.06	100	156	Peak
5725	52.02	48.77	68.3	-16.28	32.97	7.71	37.43	100	156	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
5460	42.07	38.97	54	-11.93	32.65	7.53	37.08	100	113	Average
5460	54.29	51.19	74	-19.71	32.65	7.53	37.08	100	113	Peak
5470	59.72	56.6	68.3	-8.58	32.67	7.53	37.08	100	113	Peak
5510	86.3	83.07			32.7	7.59	37.06	100	113	Average
5510	96.57	93.34			32.7	7.59	37.06	100	113	Peak
5725	52.67	49.42	68.3	-15.63	32.97	7.71	37.43	100	113	Peak

REMARKS:

1. 5510MHz: Fundamental frequency.
2. 5470MHz & 5725MHz: Out of restricted band



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 110	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
5440	41.24	38.27	54	-10.79	32.63	7.47	37.13	100	333	Average
5440	53.57	50.6	74	-15.13	32.63	7.47	37.13	100	333	Peak
5470	52.05	48.93	68.3	-16.25	32.67	7.53	37.08	100	333	Peak
5550	86.39	83.14			32.76	7.58	37.09	100	333	Average
5550	97.38	94.13			32.76	7.58	37.09	100	333	Peak
5725	52.89	49.64	68.3	-15.41	32.97	7.71	37.43	100	333	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
5426	41.03	38.07	54	-12.97	32.62	7.47	37.13	100	115	Average
5426	53.26	50.3	74	-20.74	32.62	7.47	37.13	100	115	Peak
5470	52.2	49.08	68.3	-16.1	32.67	7.53	37.08	100	115	Peak
5550	86.66	83.41			32.76	7.58	37.09	100	115	Average
5550	96.95	93.7			32.76	7.58	37.09	100	115	Peak
5725	52.84	49.59	68.3	-15.46	32.97	7.71	37.43	100	115	Peak

REMARKS:

- 5550MHz: Fundamental frequency.
- 5470MHz & 5725MHz: Out of restricted band



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 134	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
5430	41.2	38.23	54	-10.79	32.63	7.47	37.13	100	111	Average
5430	53.04	50.07	74	-15.13	32.63	7.47	37.13	100	111	Peak
5470	51.3	48.18	68.3	-17	32.67	7.53	37.08	100	111	Peak
5670	84.02	80.79			32.91	7.66	37.34	100	111	Average
5670	94.85	91.62			32.91	7.66	37.34	100	111	Peak
5725	52.09	48.84	68.3	-16.21	32.97	7.71	37.43	100	111	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
5370	41	38.21	54	-13	32.57	7.4	37.18	100	126	Average
5370	52.73	49.94	74	-21.27	32.57	7.4	37.18	100	126	Peak
5470	52.26	49.14	68.3	-16.04	32.67	7.53	37.08	100	126	Peak
5670	86.34	83.11			32.91	7.66	37.34	100	126	Average
5670	96.85	93.62			32.91	7.66	37.34	100	126	Peak
5725	52.89	49.64	68.3	-15.41	32.97	7.71	37.43	100	126	Peak

REMARKS:

- 5670MHz: Fundamental frequency.
- 5470MHz & 5725MHz: Out of restricted band



A D T

802.11ac (80MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 106	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
5454	45.12	42.02	54	-10.79	32.65	7.53	37.08	100	162	Average
5454	57.46	54.36	74	-15.13	32.65	7.53	37.08	100	162	Peak
5470	56.12	53	68.3	-12.18	32.67	7.53	37.08	100	162	Peak
5530	81.93	78.72			32.72	7.58	37.09	100	162	Average
5530	91.54	88.33			32.72	7.58	37.09	100	162	Peak
5725	51.87	48.62	68.3	-16.43	32.97	7.71	37.43	100	162	Peak

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5460	44.69	41.59	54	-9.31	32.65	7.53	37.08	100	116	Average
5460	54.83	51.73	74	-19.17	32.65	7.53	37.08	100	116	Peak
5470	56.82	53.7	68.3	-11.48	32.67	7.53	37.08	100	116	Peak
5530	84.77	81.56			32.72	7.58	37.09	100	116	Average
5530	93.17	89.96			32.72	7.58	37.09	100	116	Peak
5725	51.68	48.43	68.3	-16.62	32.97	7.71	37.43	100	116	Peak

REMARKS:

1. 5530MHz: Fundamental frequency.
2. 5470MHz & 5725MHz: Out of restricted band



A D T

BELOW 1GHz WORST-CASE DATA : 802.11a

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 36	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
42.42	23.51	40.31	40	-16.49	13.58	0.7	31.08	123	78	Peak
111.27	30.53	51.06	43.5	-12.97	10.18	1.14	31.85	104	250	Peak
238.71	21.23	40.25	46	-24.77	10.99	1.78	31.79	114	137	Peak
398.7	19.76	34.15	46	-26.24	15.31	2.42	32.12	118	332	Peak
596.8	23.57	33.18	46	-22.43	19.52	3.08	32.21	100	91	Peak
783.7	27.11	32.88	46	-18.89	22	3.65	31.42	130	241	Peak
ANTENNA POLARITY & test distance: VERTICAL at 3 m										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
30.81	31.49	49.9	40	-8.51	12.14	0.57	31.12	113	271	QP
42.69	29.02	45.82	40	-10.98	13.58	0.7	31.08	103	221	QP
158.25	30.62	48.34	43.5	-12.88	12.73	1.38	31.83	108	18	Peak
422.5	20.04	33.78	46	-25.96	15.79	2.51	32.04	104	57	Peak
564.6	23.76	34.05	46	-22.24	18.79	2.99	32.07	112	167	Peak
762.7	26.8	32.92	46	-19.2	21.7	3.6	31.42	102	55	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

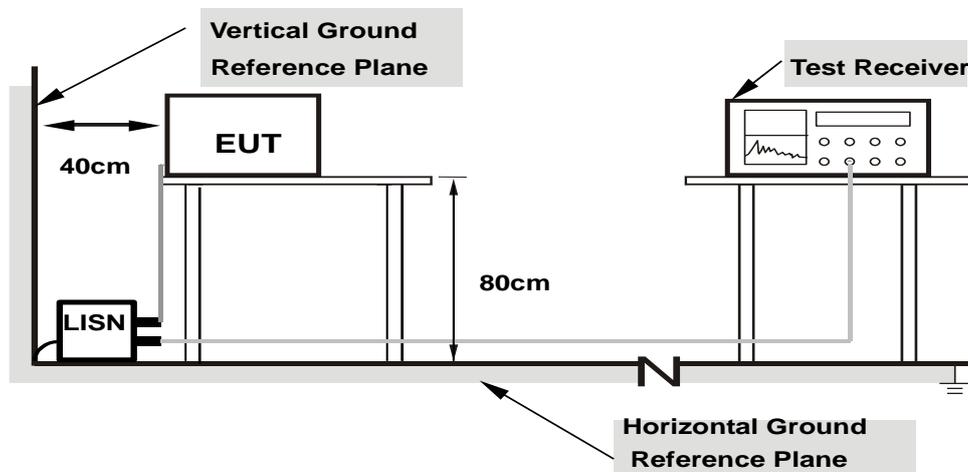
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.
- Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- 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:**
- Support units were connected to second LISN.
 - 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

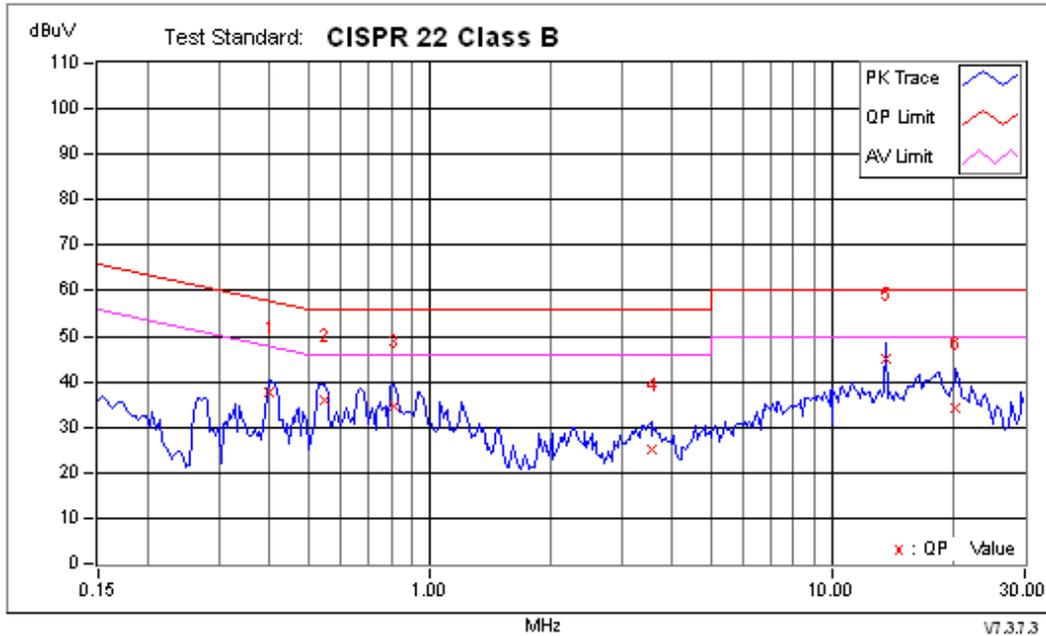
Same as 4.1.6.

4.2.7 TEST RESULTS

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

Main Sample (A)

PHASE	Line 1	6dB BANDWIDTH	9kHz
-------	--------	---------------	------

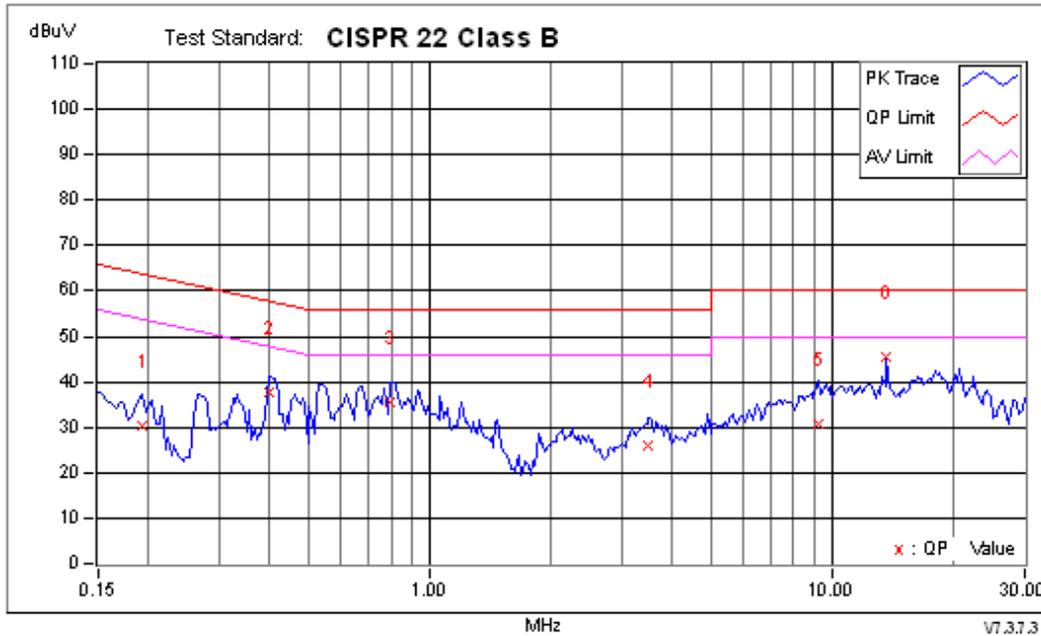


No.	Frequency	Corr. Factor	Reading dBuV		Emission dBuV		Limit dBuV		Margins dB		Notes
	MHz		QP	AV	QP	AV	QP	AV	QP	AV	
1	0.40000	0.21	37.43	25.07	37.64	25.28	57.85	47.85	-20.21	-22.57	
2	0.54453	0.22	35.69	26.51	35.91	26.73	56.00	46.00	-20.09	-19.27	
3	0.81406	0.24	34.56	25.03	34.80	25.27	56.00	46.00	-21.20	-20.73	
4	3.55078	0.35	24.79	18.88	25.14	19.23	56.00	46.00	-30.86	-26.77	
+5	13.55859	0.53	44.54	40.61	45.07	41.14	60.00	50.00	-14.93	-8.86	
6	20.22266	0.68	33.52	26.61	34.20	27.29	60.00	50.00	-25.80	-22.71	

REMARKS:

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

PHASE	Line 2	6dB BANDWIDTH	9kHz
-------	--------	---------------	------



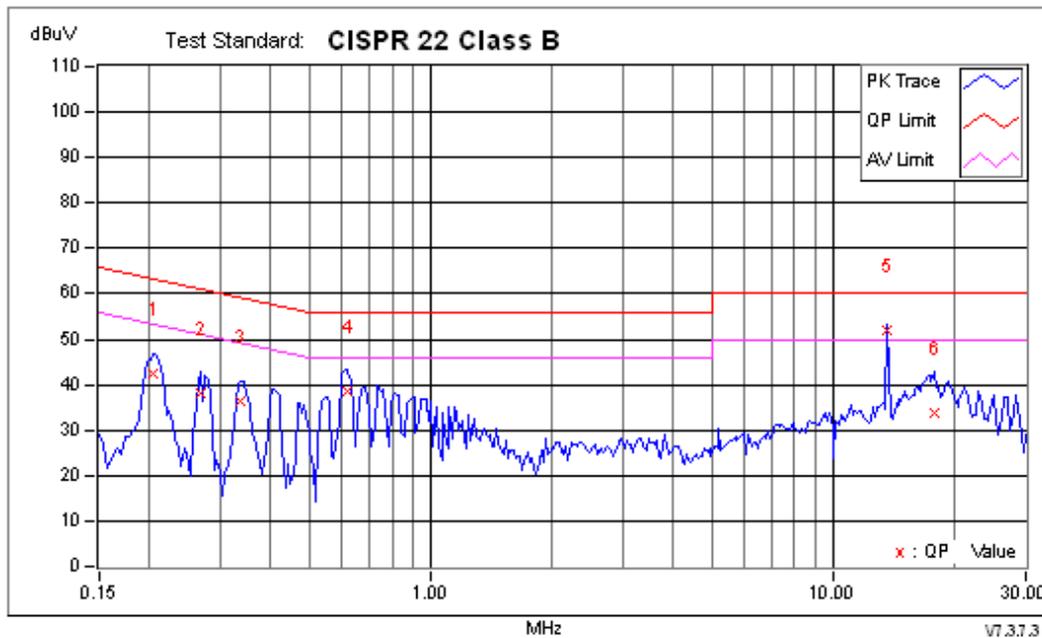
No.	Frequency	Corr. Factor	Reading dBuV		Emission dBuV		Limit dBuV		Margins dB		Notes
	MHz	dB	QP	AV	QP	AV	QP	AV	QP	AV	
1	0.19297	0.16	30.36	18.68	30.52	18.84	63.91	53.91	-33.39	-35.07	
2	0.39609	0.20	37.43	23.59	37.63	23.79	57.93	47.93	-20.31	-24.15	
3	0.79453	0.24	35.17	25.15	35.41	25.39	56.00	46.00	-20.59	-20.61	
4	3.48438	0.36	25.51	19.45	25.87	19.81	56.00	46.00	-30.13	-26.19	
5	9.19922	0.48	30.45	23.01	30.93	23.49	60.00	50.00	-29.07	-26.51	
+6	13.55859	0.59	44.78	40.81	45.37	41.40	60.00	50.00	-14.63	-8.60	

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.

2nd Sample (B)

PHASE	Line 1	6dB BANDWIDTH	9kHz
--------------	--------	----------------------	------

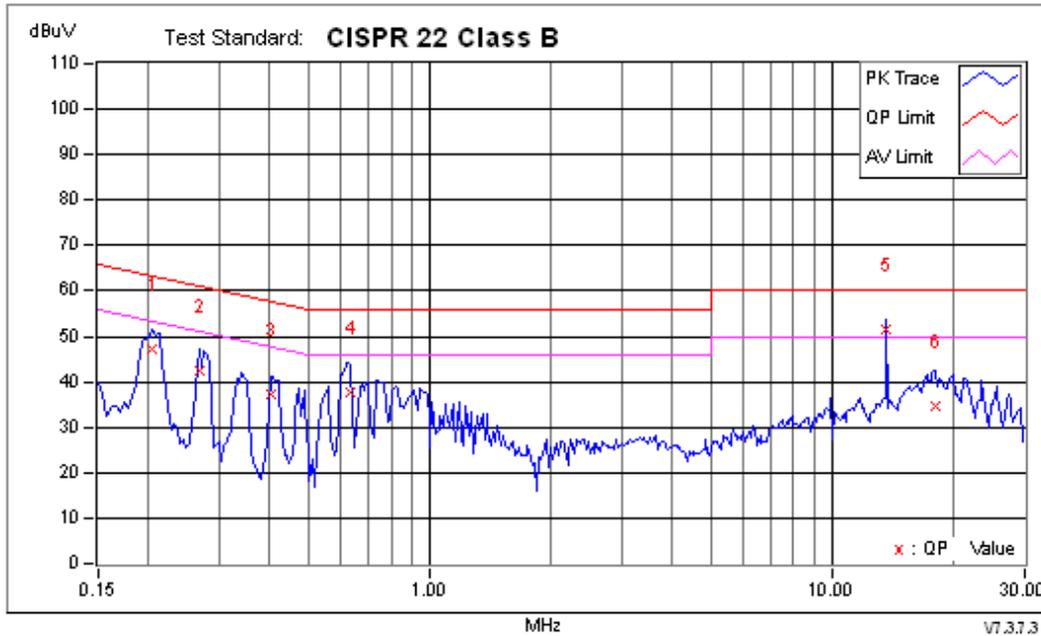


No.	Frequency MHz	Corr. Factor dB	Reading dBuV		Emission dBuV		Limit dBuV		Margins dB		Notes
			QP	AV	QP	AV	QP	AV	QP	AV	
1	0.20469	0.17	42.21	31.82	42.38	31.99	63.42	53.42	-21.04	-21.43	
2	0.26719	0.18	37.90	23.76	38.08	23.94	61.20	51.20	-23.12	-27.26	
3	0.33750	0.20	36.24	23.53	36.44	23.73	59.26	49.26	-22.83	-25.54	
4	0.61875	0.23	38.19	24.65	38.42	24.88	56.00	46.00	-17.58	-21.12	
+5	13.56250	0.50	51.27	48.23	51.77	48.73	60.00	50.00	-8.23	-1.27	
6	17.79297	0.59	33.26	25.42	33.85	26.01	60.00	50.00	-26.15	-23.99	

REMARKS:

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

PHASE	Line 2	6dB BANDWIDTH	9kHz
-------	--------	---------------	------



No.	Frequency	Corr. Factor	Reading dBuV		Emission dBuV		Limit dBuV		Margins dB		Notes
	MHz	dB	QP	AV	QP	AV	QP	AV	QP	AV	
1	0.20469	0.18	47.23	36.68	47.41	36.86	63.42	53.42	-16.01	-16.56	
2	0.26719	0.20	42.36	27.78	42.56	27.98	61.20	51.20	-18.64	-23.22	
3	0.40391	0.25	36.99	23.68	37.24	23.93	57.77	47.77	-20.53	-23.84	
4	0.63047	0.24	37.60	20.95	37.84	21.19	56.00	46.00	-18.16	-24.81	
+5	13.56250	0.57	51.13	48.17	51.70	48.74	60.00	50.00	-8.30	-1.26	
6	17.98438	0.68	34.00	25.19	34.68	25.87	60.00	50.00	-25.32	-24.13	

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 PEAK TRANSMIT POWER MEASUREMENT

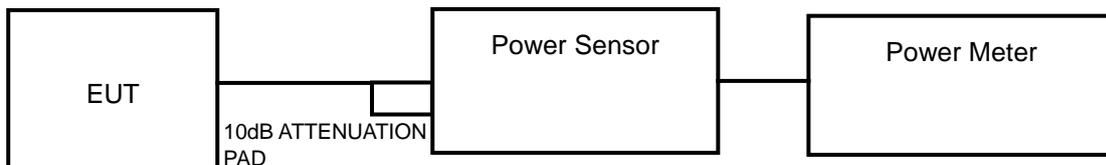
4.3.1 LIMITS OF PEAK TRANSMIT POWER MEASUREMENT

FREQUENCY BAND	LIMIT
5.150 ~ 5.250GHz	The lesser of 50mW (17dBm) or 4dBm + 10logB
5.250 ~ 5.350GHz	The lesser of 250mW (24dBm) or 11dBm + 10logB
5.470 ~ 5.725GHz	The lesser of 250mW (24dBm) or 11dBm + 10logB

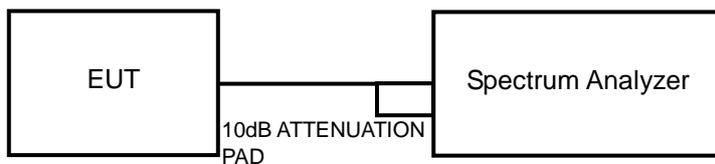
NOTE: Where B is the 26dB emission bandwidth in MHz.

4.3.2 TEST SETUP

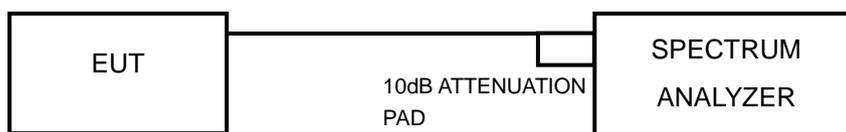
FOR POWER OUTPUT MEASUREMENT



or



FOR 26dB BANDWIDTH



4.3.3 TEST INSTRUMENTS

Refer to section 4.1.3 to get information of above instrument.

4.3.4 TEST PROCEDURE

FOR AVERAGE POWER MEASUREMENT

<802.11a, 802.11n (20MHz), 802.11n (40MHz)>

Method PM is used to perform output power measurement, trigger and gating function of wide band power meter is enabled to measure max output power of TX on burst. Duty factor is not added to measured value.

<802.11 ac (80MHz)>

Method SA-1 is used to perform output power measurement, trigger and gating function of spectrum analyzer is enabled to measure max output power of TX on burst. Duty factor is not added to measured value.

FOR 26dB BANDWIDTH

- 1) Set RBW = approximately 1% of the emission bandwidth.
- 2) Set the VBW > RBW.
- 3) Detector = Peak.
- 4) Trace mode = max hold.
- 5) Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

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 specific channel frequencies individually.



4.3.7 TEST RESULTS

POWER OUTPUT: 802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)	POWER LIMIT (dBm)	PASS/FAIL
36	5180	35.98	15.56	17	PASS
44	5220	36.65	15.64	17	PASS
48	5240	40.00	16.02	17	PASS
52	5260	36.06	15.57	24	PASS
60	5300	36.48	15.62	24	PASS
64	5320	37.94	15.79	24	PASS
100	5500	36.99	15.68	24	PASS
116	5580	41.98	16.23	24	PASS
140	5700	40.28	16.05	24	PASS

802.11n (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)	POWER LIMIT (dBm)	PASS/FAIL
36	5180	36.45	15.62	17	PASS
44	5220	39.15	15.93	17	PASS
48	5240	40.53	16.08	17	PASS
52	5260	43.83	16.42	24	PASS
60	5300	44.74	16.51	24	PASS
64	5320	46.10	16.64	24	PASS
100	5500	48.39	16.85	24	PASS
116	5580	50.90	17.07	24	PASS
140	5700	45.26	16.56	24	PASS

802.11n (40MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)	POWER LIMIT (dBm)	PASS/FAIL
38	5190	22.41	13.50	17	PASS
46	5230	22.88	13.59	17	PASS
54	5270	22.83	13.58	24	PASS
62	5310	22.78	13.57	24	PASS
102	5510	26.58	14.24	24	PASS
110	5550	27.83	14.44	24	PASS
134	5670	24.80	13.94	24	PASS



A D T

802.11ac (80MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)	POWER LIMIT (dBm)	PASS/FAIL
42	5210	20.99	13.22	17	PASS
58	5290	23.60	13.73	24	PASS
106	5530	22.23	13.47	24	PASS

26dB BANDWIDTH: 802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)	PASS / FAIL
36	5180	20.90	PASS
44	5220	20.87	PASS
48	5240	20.98	PASS
52	5260	20.97	PASS
60	5300	20.95	PASS
64	5320	20.85	PASS
100	5500	20.94	PASS
116	5580	21.01	PASS
140	5700	20.99	PASS

802.11n (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)	PASS / FAIL
36	5180	22.12	PASS
44	5220	22.34	PASS
48	5240	21.65	PASS
52	5260	21.58	PASS
60	5300	24.40	PASS
64	5320	23.26	PASS
100	5500	24.66	PASS
116	5580	23.54	PASS
140	5700	22.54	PASS

802.11n (40MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)	PASS / FAIL
38	5190	41.37	PASS
46	5230	41.34	PASS
54	5270	41.03	PASS
62	5310	41.34	PASS
102	5510	41.37	PASS
110	5550	41.34	PASS
134	5670	41.31	PASS

802.11ac (80MHz)

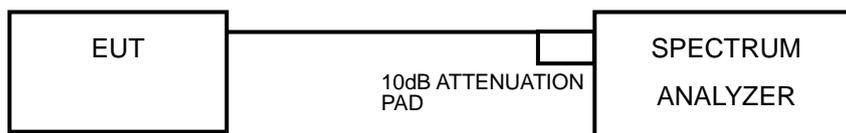
CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)	PASS / FAIL
42	5210	82.90	PASS
58	5290	82.90	PASS
106	5530	82.90	PASS

4.4 PEAK POWER SPECTRAL DENSITY MEASUREMENT

4.4.1 LIMITS OF PEAK POWER SPECTRAL DENSITY MEASUREMENT

FREQUENCY BAND	LIMIT
5.150 ~ 5.250GHz	4dBm
5.250 ~ 5.350GHz	11dBm
5.470 ~ 5.725GHz	11dBm

4.4.2 TEST SETUP



4.4.3 TEST INSTRUMENTS

Refer to section 4.1.3 to get information of above instrument.

4.4.4 TEST PROCEDURES

<802.11a, 802.11n (20MHz), 802.11n (40MHz)>

Using method SA-2 alternative

- 1) Set span to encompass the entire emission bandwidth (EBW) of the signal.
- 2) Set RBW = 1 MHz, Set VBW \geq 3 MHz, Detector = RMS
- 3) Sweep time = 4second.
- 4) Perform a single sweep.
- 5) Record the max value and add 10 log (1/duty cycle)

<802.11ac (80MHz)>

Using method SA-1

- 1) Set span to encompass the entire emission bandwidth (EBW) of the signal.
- 2) Set RBW = 1 MHz, Set VBW \geq 3 MHz, Detector = RMS
- 3) Sweep time = 4second.
- 4) Perform a single sweep.

4.4.5 DEVIATION FROM TEST STANDARD

No deviation.

4.4.6 EUT OPERATING CONDITIONS

Same as 4.3.6.

4.4.7 TEST RESULTS

802.11a

CHANNEL	FREQUENCY (MHz)	PSD W/O DUTY FACTOR (dBm)	DUTY FACTOR	PSD WITH DUTY FACTOR (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
36	5180	2.67	0.23	2.90	4	PASS
44	5220	2.73	0.23	2.96	4	PASS
48	5240	3.08	0.23	3.31	4	PASS
52	5260	3.25	0.23	3.48	11	PASS
60	5300	2.09	0.23	2.32	11	PASS
64	5320	3.33	0.23	3.56	11	PASS
100	5500	3.30	0.23	3.53	11	PASS
116	5580	3.74	0.23	3.97	11	PASS
140	5700	3.89	0.23	4.12	11	PASS

NOTE: Refer to section 3.3 for duty cycle spectrum plot.

802.11n (20MHz)

CHANNEL	FREQUENCY (MHz)	PSD W/O DUTY FACTOR (dBm)	DUTY FACTOR	PSD WITH DUTY FACTOR (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
36	5180	2.37	0.25	2.62	4	PASS
44	5220	2.44	0.25	2.69	4	PASS
48	5240	2.93	0.25	3.18	4	PASS
52	5260	3.63	0.25	3.88	11	PASS
60	5300	3.70	0.25	3.95	11	PASS
64	5320	3.95	0.25	4.20	11	PASS
100	5500	4.13	0.25	4.38	11	PASS
116	5580	4.52	0.25	4.77	11	PASS
140	5700	3.43	0.25	3.68	11	PASS

NOTE: Refer to section 3.3 for duty cycle spectrum plot.



802.11n (40MHz)

CHANNEL	FREQUENCY (MHz)	PSD W/O DUTY FACTOR (dBm)	DUTY FACTOR	PSD WITH DUTY FACTOR (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
38	5190	-2.71	0.60	-2.11	4	PASS
46	5230	-2.16	0.60	-1.56	4	PASS
54	5270	-2.05	0.60	-1.45	11	PASS
62	5310	-1.76	0.60	-1.16	11	PASS
102	5510	-1.47	0.60	-0.87	11	PASS
110	5550	-1.07	0.60	-0.47	11	PASS
134	5670	-2.22	0.60	-1.62	11	PASS

NOTE: Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (80MHz)

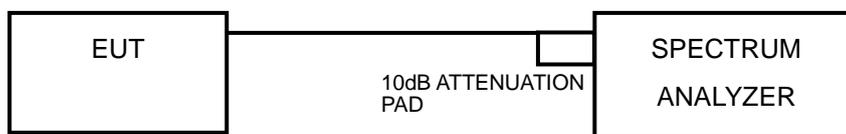
CHANNEL	FREQUENCY (MHz)	PSD (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
42	5210	-4.43	4	PASS
58	5290	-3.96	11	PASS
106	5530	-4.29	11	PASS

4.5 PEAK POWER EXCURSION MEASUREMENT

4.5.1 LIMITS OF PEAK POWER EXCURSION MEASUREMENT

Shall not exceed 13 dB.

4.5.2 TEST SETUP



4.5.3 TEST INSTRUMENTS

Refer to section 4.1.3 to get information of above instrument.

4.5.4 TEST PROCEDURE

- 1) Set RBW = 1 MHz, VBW \geq 3 MHz, Detector = peak.
- 2) Trace mode = max-hold. Allow the sweeps to continue until the trace stabilizes.
- 3) Use the peak search function to find the peak of the spectrum.
- 4) Measure the PPSD.
- 5) Compute the ratio of the maximum of the peak-max-hold spectrum to the PPSD.

4.5.5 DEVIATION FROM TEST STANDARD

No deviation.

4.5.6 EUT OPERATING CONDITIONS

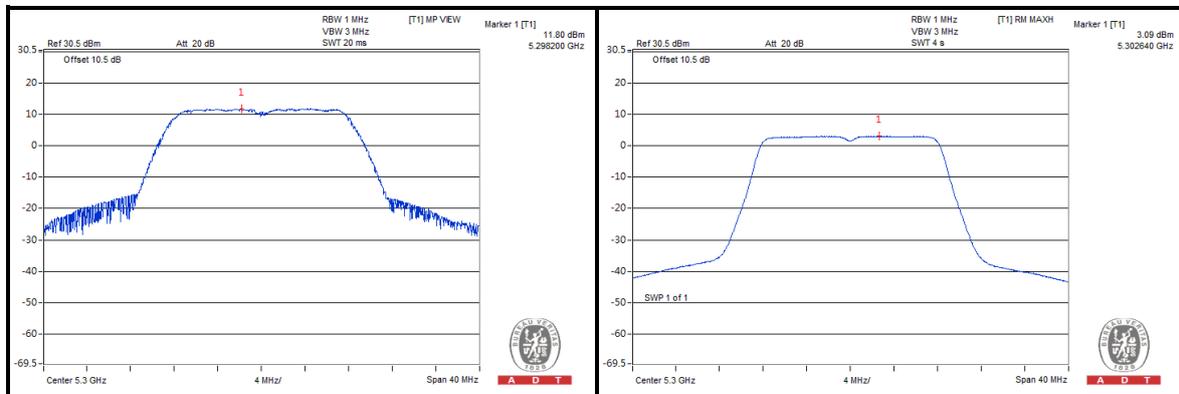
Same as 4.2.6

4.5.7 TEST RESULTS

802.11a

CHAN.	CHANNEL FREQUENCY (MHz)	PEAK VALUE (dBm)	PPSD WITHOUT DUTY FACTOR (dBm)	PPSD WITH DUTY FACTOR (dBm)	PEAK POWER EXCURSION (dB)	PEAK to AVERAGE EXCURSION LIMIT (dB)	PASS /FAIL
36	5180	11.37	2.67	2.90	8.47	13	PASS
44	5220	11.78	2.73	2.96	8.82	13	PASS
48	5240	11.79	3.08	3.31	8.48	13	PASS
52	5260	11.93	3.25	3.48	8.45	13	PASS
60	5300	11.80	3.09	2.32	9.48	13	PASS
64	5320	12.03	3.33	3.56	8.47	13	PASS
100	5500	12.04	3.30	3.53	8.51	13	PASS
116	5580	12.46	3.74	3.97	8.49	13	PASS
140	5700	12.60	3.89	4.12	8.48	13	PASS

NOTE: Refer to section 3.3 for duty cycle spectrum plot.

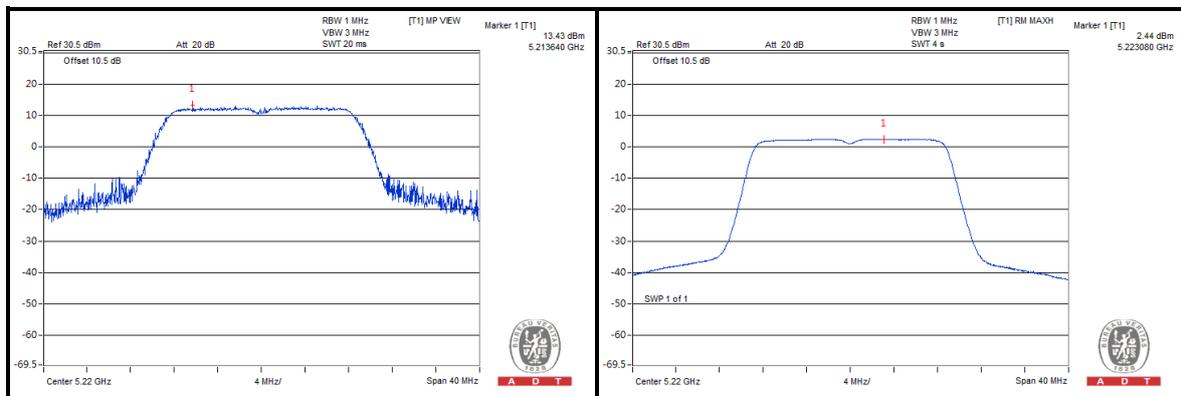




802.11n (20MHz)

CHAN.	CHANNEL FREQUENCY (MHz)	PEAK VALUE (dBm)	PPSD WITHOUT DUTY FACTOR (dBm)	PPSD WITH DUTY FACTOR (dBm)	PEAK POWER EXCURSION (dB)	PEAK to AVERAGE EXCURSION LIMIT (dB)	PASS /FAIL
36	5180	13.36	2.37	2.62	10.74	13	PASS
44	5220	13.43	2.44	2.69	10.74	13	PASS
48	5240	13.63	2.93	3.18	10.45	13	PASS
52	5260	14.21	3.63	3.88	10.33	13	PASS
60	5300	13.56	3.70	3.95	9.61	13	PASS
64	5320	12.93	3.95	4.20	8.73	13	PASS
100	5500	13.34	4.13	4.38	8.96	13	PASS
116	5580	14.06	4.52	4.77	9.29	13	PASS
140	5700	13.78	3.43	3.68	10.1	13	PASS

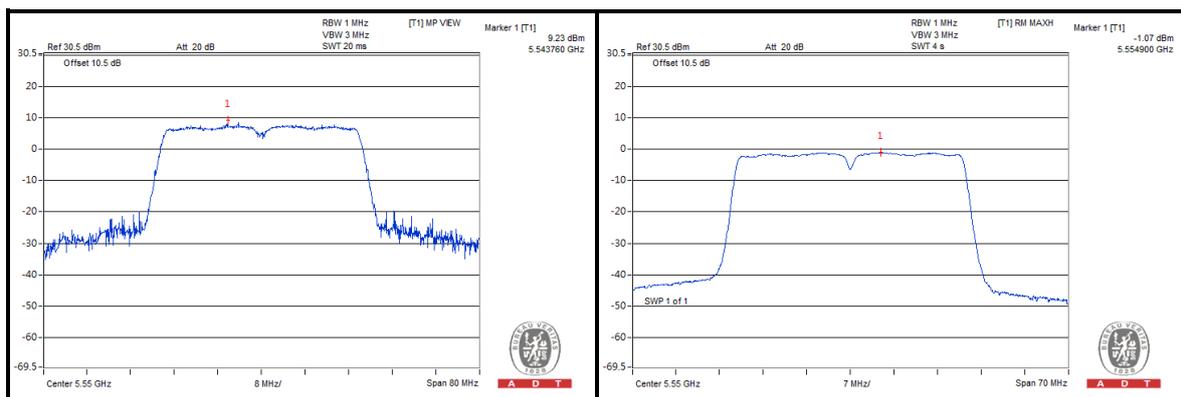
NOTE: Refer to section 3.3 for duty cycle spectrum plot.



802.11n (40MHz)

CHAN.	CHANNEL FREQUENCY (MHz)	PEAK VALUE (dBm)	PPSD WITHOUT DUTY FACTOR (dBm)	PPSD WITH DUTY FACTOR (dBm)	PEAK POWER EXCURSION (dB)	PEAK to AVERAGE EXCURSION LIMIT (dB)	PASS /FAIL
38	5190	6.63	-2.71	-2.11	8.74	13	PASS
46	5230	6.86	-2.16	-1.56	8.42	13	PASS
54	5270	6.91	-2.05	-1.45	8.36	13	PASS
62	5310	7.25	-1.76	-1.16	8.41	13	PASS
102	5510	8.05	-1.47	-0.87	8.92	13	PASS
110	5550	9.23	-1.07	-0.47	9.7	13	PASS
134	5670	7.25	-2.22	-1.62	8.87	13	PASS

NOTE: Refer to section 3.3 for duty cycle spectrum plot.

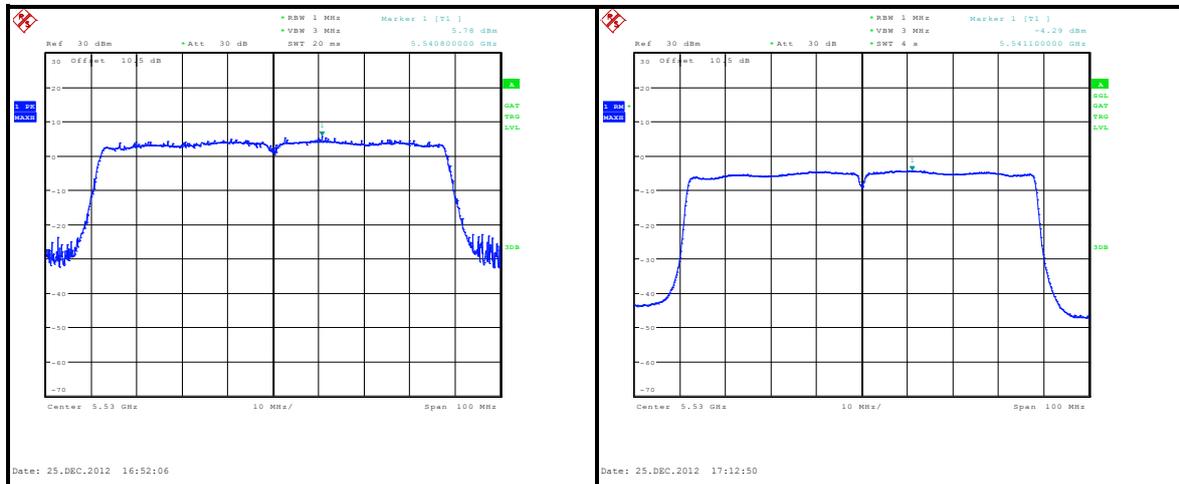




A D T

802.11ac (80MHz)

CHAN.	CHANNEL FREQUENCY (MHz)	PEAK VALUE (dBm)	PPSD (dBm)	PEAK POWER EXCURSION (dB)	PEAK to AVERAGE EXCURSION LIMIT (dB)	PASS /FAIL
42	5210	5.63	-4.43	10.06	13	PASS
58	5290	5.74	-3.96	9.70	13	PASS
106	5530	5.78	-4.29	10.07	13	PASS

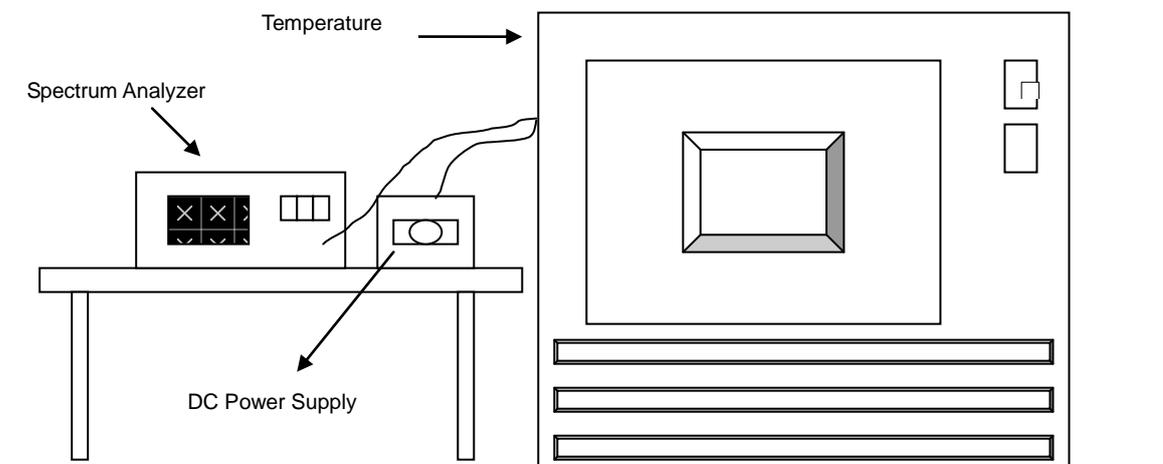


4.6 FREQUENCY STABILITY

4.6.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

The frequency of the carrier signal shall be maintained within band of operation

4.6.2 TEST SETUP



4.6.3 TEST INSTRUMENTS

Refer to section 4.1.3 to get information of above instrument.

4.6.4 TEST PROCEDURE

- a. To ensure emission at the band edge is maintained within the authorized band, those values shall be measured by radiation emissions at upper and lower frequency points, and finally compensated by frequency deviation as procedures below.
- b. The EUT was operated at the maximum output power, and connected to the spectrum analyzer, which is set to maximum hold function and peak detector. The peak value of the power envelope was measured and noted. The upper and lower frequency points were respectively measured relatively 10dB lower than the measured peak value.
- c. The frequency deviation was calculated by adding the upper frequency point and the lower frequency point divided by two. Those detailed values of frequency deviation are provided in table below.

4.6.5 DEVIATION FROM TEST STANDARD

No deviation.

4.6.6 EUT OPERATING CONDITION

Set the EUT transmit at un-modulation mode to test frequency stability.

4.6.7 TEST RESULTS

FREQUENCY STABILITY VERSUS TEMP.									
OPERATING FREQUENCY: 5320MHz									
TEMP. (°C)	POWER SUPPLY (Vdc)	0 MINUTE		2 MINUTE		5 MINUTE		10 MINUTE	
		Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)
50	3.8	5320.013880	2.609	5320.014082	2.647	5320.014154	2.661	5320.013855	2.604
40	3.8	5320.014377	2.702	5320.014304	2.689	5320.014360	2.699	5320.014575	2.740
30	3.8	5320.015480	2.910	5320.015745	2.960	5320.016042	3.015	5320.015914	2.991
20	3.8	5320.018532	3.483	5320.018508	3.479	5320.017767	3.340	5320.017855	3.356
10	3.8	5320.018492	3.476	5320.018466	3.471	5320.018451	3.468	5320.018824	3.538
0	3.8	5320.017061	3.207	5320.016818	3.161	5320.017018	3.199	5320.017198	3.233
-10	3.8	5320.015720	2.955	5320.015852	2.980	5320.015421	2.899	5320.015743	2.959
-20	3.8	5320.015168	2.851	5320.014603	2.745	5320.015281	2.872	5320.015206	2.858
-30	3.8	5320.014050	2.641	5320.013870	2.607	5320.013739	2.583	5320.013970	2.626

FREQUENCY STABILITY VERSUS VOLTAGE									
OPERATING FREQUENCY: 5320MHz									
TEMP. (°C)	POWER SUPPLY (Vac)	0 MINUTE		2 MINUTE		5 MINUTE		10 MINUTE	
		Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)
20	3.6	5320.017464	3.283	5320.017117	3.217	5320.017307	3.253	5320.017075	3.210
	3.8	5320.018532	3.483	5320.018508	3.479	5320.017767	3.340	5320.017855	3.356
	4.35	5320.019249	3.618	5320.019828	3.727	5320.020011	3.761	5320.019269	3.622

5. PHOTOGRAPHS OF THE TEST CONFIGURATION

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



6. INFORMATION ON THE TESTING LABORATORIES

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025.

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

Linko EMC/RF Lab:

Tel: 886-2-26052180

Fax: 886-2-26051924

Hsin Chu EMC/RF Lab:

Tel: 886-3-5935343

Fax: 886-3-5935342

Hwa Ya EMC/RF/Safety Telecom Lab:

Tel: 886-3-3183232

Fax: 886-3-3270892

Email: service.adt@tw.bureauveritas.com

Web Site: www.bureauveritas-adt.com

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

7. APPENDIX A - MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No modifications were made to the EUT by the lab during the test.

---END---