



FCC TEST REPORT (15.407)

REPORT NO.: RF130820C06-1

MODEL NO.: EUB1200AC

FCC ID: A8J-EUB1200AC-1

RECEIVED: Aug. 20, 2013

TESTED: Aug. 29 ~ Sep. 25, 2013

ISSUED: Sep. 26, 2013

APPLICANT: EnGenius Technologies

ADDRESS: 1580 Scenic Avenue, Costa Mesa, CA92626

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

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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	8
3.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL	10
3.3 DUTY CYCLE OF TEST SIGNAL	13
3.4 DESCRIPTION OF SUPPORT UNITS	13
3.4.1 CONFIGURATION OF SYSTEM UNDER TEST	14
3.5 GENERAL DESCRIPTION OF APPLIED STANDARDS	14
4. TEST TYPES AND RESULTS	15
4.1 RADIATED EMISSION AND BANDEDGE MEASUREMENT	15
4.1.1 LIMITS OF RADIATED EMISSION AND BANDEDGE MEASUREMENT	15
4.1.2 LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS	15
4.1.3 TEST INSTRUMENTS	16
4.1.4 TEST PROCEDURES	17
4.1.5 DEVIATION FROM TEST STANDARD	17
4.1.6 TEST SETUP	18
4.1.7 EUT OPERATING CONDITION	19
4.1.8 TEST RESULTS	20
4.2 CONDUCTED EMISSION MEASUREMENT	69
4.2.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT	69
4.2.2 TEST INSTRUMENTS	69
4.2.3 TEST PROCEDURES	70
4.2.4 DEVIATION FROM TEST STANDARD	70
4.2.5 TEST SETUP	70
4.2.6 EUT OPERATING CONDITIONS	70
4.2.7 TEST RESULTS	71
4.3 PEAK TRANSMIT POWER MEASUREMENT	75
4.3.1 LIMITS OF PEAK TRANSMIT POWER MEASUREMENT	75
4.3.2 TEST SETUP	75
4.3.3 TEST INSTRUMENTS	76
4.3.4 TEST PROCEDURE	76
4.3.5 DEVIATION FROM TEST STANDARD	76
4.3.6 EUT OPERATING CONDITIONS	77
4.3.7 TEST RESULTS	78
4.4 PEAK POWER SPECTRAL DENSITY MEASUREMENT	88
4.4.1 LIMITS OF PEAK POWER SPECTRAL DENSITY MEASUREMENT	88
4.4.2 TEST SETUP	88
4.4.3 TEST INSTRUMENTS	88
4.4.4 TEST PROCEDURES	88
4.4.5 DEVIATION FROM TEST STANDARD	88
4.4.6 EUT OPERATING CONDITIONS	88
4.4.7 TEST RESULTS	89
4.5 PEAK POWER EXCURSION MEASUREMENT	94
4.5.1 LIMITS OF PEAK POWER EXCURSION MEASUREMENT	94
4.5.2 TEST SETUP	94
4.5.3 TEST INSTRUMENTS	94



4.5.4	TEST PROCEDURE	94
4.5.5	DEVIATION FROM TEST STANDARD	94
4.5.6	EUT OPERATING CONDITIONS.....	94
4.5.7	TEST RESULTS.....	95
4.6	FREQUENCY STABILITY	97
4.6.1	LIMITS OF FREQUENCY STABILITY MEASUREMENT	97
4.6.2	TEST SETUP	97
4.6.3	TEST INSTRUMENTS	97
4.6.4	TEST PROCEDURE	98
4.6.5	DEVIATION FROM TEST STANDARD	98
4.6.6	EUT OPERATING CONDITION	98
4.6.7	TEST RESULTS.....	99
5.	PHOTOGRAPHS OF THE TEST CONFIGURATION	100
6.	INFORMATION ON THE TESTING LABORATORIES.....	101
7.	APPENDIX A – MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB	102



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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF130820C06-1	Original release	Sep. 26, 2013



1. CERTIFICATION

PRODUCT: Dual Band Wireless-AC USB Adapter

MODEL: EUB1200AC

BRAND: EnGenius

APPLICANT: EnGenius Technologies


TESTED: Aug. 29 ~ Sep. 25, 2013


TEST SAMPLE: ENGINEERING SAMPLE

STANDARDS: FCC Part 15, Subpart E (Section 15.407)

ANSI C63.10-2009

The above equipment (model: EUB1200AC) has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

PREPARED BY :  , **DATE :** Sep. 26, 2013
Pettie Chen / Senior Specialist

APPROVED BY :  , **DATE :** Sep. 26, 2013
Ken Liu / Senior Manager

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 -17.26dB at 0.35703MHz.
15.407(b/1/2/3)(b)(6)	Radiated Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -1.3dB at 5350.00MHz.
15.407(a/1/2)	Max Average 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	3.19 dB
	200MHz ~1000MHz	3.21 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	Dual Band Wireless-AC USB Adapter
MODEL NO.	EUB1200AC
POWER SUPPLY	5Vdc (Host equipment)
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 300Mbps 802.11ac: up to 867Mbps
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	49.094mW for 5180 ~ 5240MHz 62.166mW for 5260 ~ 5320MHz 46.249mW for 5500 ~ 5700MHz
ANTENNA TYPE	Printed antenna with 4.0dBi gain
ANTENNA CONNECTOR	NA
DATA CABLE	NA
I/O PORTS	Refer to user's manual
ACCESSORY DEVICES	NA

NOTE:

- The EUT incorporates a MIMO function. Physically, the EUT provides two completed transmitters and two receivers.

MODULATION MODE	TX FUNCTION
802.11b	1TX, 2RX
802.11g	1TX, 2RX
802.11a	1TX, 2RX
802.11n (20MHz) MCS 0-7	1TX, 2RX
802.11n (20MHz) MCS 8-15	2TX, 2RX
802.11n (40MHz) MCS 0-7	1TX, 2RX
802.11n (40MHz) MCS 8-15	2TX, 2RX
802.11ac (80MHz) MCS 0-9	1TX, 2RX
802.11ac (80MHz) MCS 0-9	2TX, 2RX

- The above EUT information is declared by 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 is provided for 802.11ac (80MHz):

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 is provided for 802.11ac (80MHz):

CHANNEL	FREQUENCY
58	5290MHz



FOR 5500 ~ 5700MHz

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

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

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

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

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

CHANNEL	FREQUENCY
106	5530MHz

3.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE≥1G	RE<1G	PLC	APCM	
-	√	√	√	√	-

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

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

RADIATED EMISSION TEST (ABOVE 1GHz):

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

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)	TX FUNCTION
-	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	BPSK	6.0	1TX
-	802.11n(20MHz)		36 to 48	36, 40, 48	OFDM	BPSK	7.2	1TX
-	802.11n(20MHz)		36 to 48	36, 40, 48	OFDM	BPSK	14.4	2TX
-	802.11n(40MHz)		38 to 46	38, 46	OFDM	BPSK	15.0	1TX
-	802.11n(40MHz)		38 to 46	38, 46	OFDM	BPSK	30.0	2TX
-	802.11ac(80MHz)		42	42	OFDM	BPSK	32.5	1TX
-	802.11ac(80MHz)		42	42	OFDM	BPSK	65.0	2TX
-	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	BPSK	6.0	1TX
-	802.11n(20MHz)		52 to 64	52, 60, 64	OFDM	BPSK	7.2	1TX
-	802.11n(20MHz)		52 to 64	52, 60, 64	OFDM	BPSK	14.4	2TX
-	802.11n(40MHz)		54 to 62	54, 62	OFDM	BPSK	15.0	1TX
-	802.11n(40MHz)		54 to 62	54, 62	OFDM	BPSK	30.0	2TX
-	802.11ac(80MHz)		58	58	OFDM	BPSK	32.5	1TX
-	802.11ac(80MHz)		58	58	OFDM	BPSK	65.0	2TX
-	802.11a	5500-5700	100 to 140	100, 116, 140	OFDM	BPSK	6.0	1TX
-	802.11n(20MHz)		100 to 140	100, 116, 140	OFDM	BPSK	7.2	1TX
-	802.11n(20MHz)		100 to 140	100, 116, 140	OFDM	BPSK	14.4	2TX
-	802.11n(40MHz)		102 to 134	102, 110, 134	OFDM	BPSK	15.0	1TX
-	802.11n(40MHz)		102 to 134	102, 110, 134	OFDM	BPSK	30.0	2TX
-	802.11ac(80MHz)		106	106	OFDM	BPSK	32.5	1TX
-	802.11ac(80MHz)		106	106	OFDM	BPSK	65.0	2TX

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	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)	TX FUNCTION
-	802.11n(20MHz)	5180-5320	36 to 64	48	OFDM	BPSK	14.4	2TX
-	802.11n(20MHz)	5500-5700	100 to 140	140	OFDM	BPSK	14.4	2TX

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 CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)	TX FUNCTION
-	802.11n(20MHz)	5180-5320	36 to 64	48	OFDM	BPSK	14.4	2TX
-	802.11n(20MHz)	5500-5700	100 to 140	140	OFDM	BPSK	14.4	2TX



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	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)	TX FUNCTION
-	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	BPSK	6.0	1TX
-	802.11n(20MHz)		36 to 48	36, 40, 48	OFDM	BPSK	7.2	1TX
-	802.11n(20MHz)		36 to 48	36, 40, 48	OFDM	BPSK	14.4	2TX
-	802.11n(40MHz)		38 to 46	38, 46	OFDM	BPSK	15.0	1TX
-	802.11n(40MHz)		38 to 46	38, 46	OFDM	BPSK	30.0	2TX
-	802.11ac(80MHz)		42	42	OFDM	BPSK	32.5	1TX
-	802.11ac(80MHz)		42	42	OFDM	BPSK	65.0	2TX
-	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	BPSK	6.0	1TX
-	802.11n(20MHz)		52 to 64	52, 60, 64	OFDM	BPSK	7.2	1TX
-	802.11n(20MHz)		52 to 64	52, 60, 64	OFDM	BPSK	14.4	2TX
-	802.11n(40MHz)		54 to 62	54, 62	OFDM	BPSK	15.0	1TX
-	802.11n(40MHz)		54 to 62	54, 62	OFDM	BPSK	30.0	2TX
-	802.11ac(80MHz)		58	58	OFDM	BPSK	32.5	1TX
-	802.11ac(80MHz)		58	58	OFDM	BPSK	65.0	2TX
-	802.11a	5500-5700	100 to 140	100, 116, 140	OFDM	BPSK	6.0	1TX
-	802.11n(20MHz)		100 to 140	100, 116, 140	OFDM	BPSK	7.2	1TX
-	802.11n(20MHz)		100 to 140	100, 116, 140	OFDM	BPSK	14.4	2TX
-	802.11n(40MHz)		102 to 134	102, 110, 134	OFDM	BPSK	15.0	1TX
-	802.11n(40MHz)		102 to 134	102, 110, 134	OFDM	BPSK	30.0	2TX
-	802.11ac(80MHz)		106	106	OFDM	BPSK	32.5	1TX
-	802.11ac(80MHz)		106	106	OFDM	BPSK	65.0	2TX

TEST CONDITION:

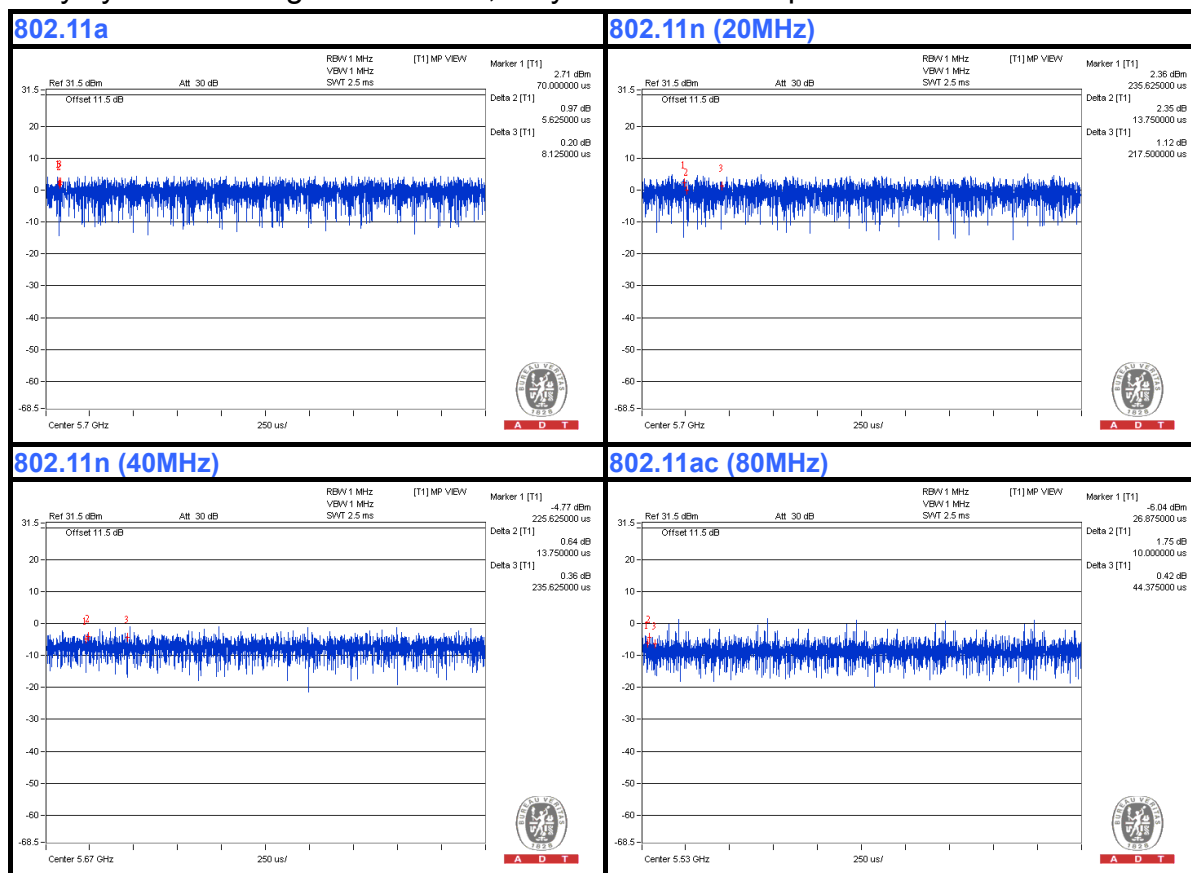
APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER (SYSTEM)	TESTED BY
RE≥1G	23deg. C, 65%RH	120Vac, 60Hz	Alan Wu
RE<1G	23deg. C, 65%RH	120Vac, 60Hz	Alan Wu
PLC	25deg. C, 65%RH	120Vac, 60Hz	Ted Chang
APCM	25deg. C, 65%RH	120Vac, 60Hz	Nick Chen



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3.3 DUTY CYCLE OF TEST SIGNAL

Duty cycle of test signal is > 98 %, duty factor is not required.



3.4 DESCRIPTION OF SUPPORT UNITS

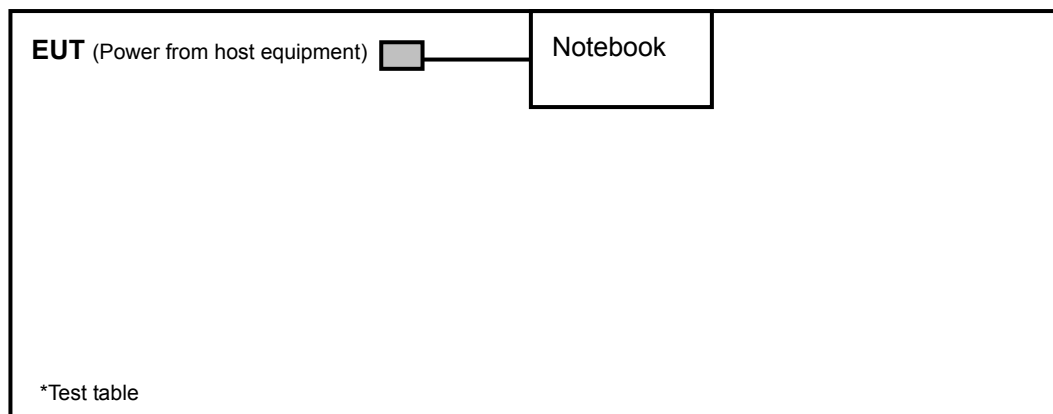
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	NOTEBOOK	DELL	E5520	8Y4DMQ1	FCC Doc approved

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	0.3m USB Cable without core

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

3.4.1 CONFIGURATION OF SYSTEM UNDER TEST



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)

789033 D01 General UNII Test Procedures v01 r03

662911 D01 Multiple Transmitter Output v02

ANSI C63.10-2009

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

NOTE: The EUT is also considered as a kind of computer peripheral, because the connection to computer is necessary for typical use. It has been verified to comply with the requirements of FCC Part 15, Subpart B, Class B (DoC). The test report has been issued separately.

4. TEST TYPES AND RESULTS

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

APPLICABLE TO	LIMIT	
√	FIELD STRENGTH AT 3m (dBμV/m)	
	PK	AV
	74	54
	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	100424	Sep. 09, 2013	Sep. 08, 2014
Spectrum Analyzer ROHDE & SCHWARZ	FSU 43	100115	Oct. 25, 2012	Oct. 24, 2013
BILOG Antenna SCHWARZBECK	VULB9168	9168-155	Mar. 25, 2013	Mar. 24, 2014
HORN Antenna SCHWARZBECK	BBHA 9120D	9120D-404	Dec. 22, 2012	Dec. 21, 2013
HORN Antenna SCHWARZBECK	BBHA 9170	148	Jul. 15, 2013	Jul. 14, 2014
Loop Antenna	HFH2-Z2	100070	Jan. 31, 2012	Jan. 30, 2014
Preamplifier Agilent	8449B	3008A01961	Oct. 25, 2012	Oct. 24, 2013
Preamplifier Agilent	8447D	2944A10738	Oct. 23, 2012	Oct. 22, 2013
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	309220/4	Aug. 26, 2013	Aug. 25, 2014
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	250724/4	Aug. 26, 2013	Aug. 25, 2014
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	295012/4	Aug. 26, 2013	Aug. 25, 2014
Software BV ADT	ADT_Radiated_ V7.6.15.9.4	NA	NA	NA
Antenna Tower inn-co GmbH	MA 4000	010303	NA	NA
Antenna Tower Controller inn-co GmbH	CO2000	019303	NA	NA
Turn Table BV ADT	TT100.	TT93021704	NA	NA
Turn Table Controller BV ADT	SC100.	SC93021704	NA	NA
26GHz ~ 40GHz Amplifier	EM26400	815221	Oct. 25, 2012	Oct. 24, 2013
High Speed Peak Power Meter	ML2495A	0824011	Jul. 29, 2013	Jul. 28, 2014
Power Sensor	MA2411B	0738171	Jul. 29, 2013	Jul. 28, 2014

- NOTE:** 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The calibration interval of the loop antenna is 24 months and the calibrations are traceable to NML/ROC and NIST/USA.
3. The test was performed in HwaYa Chamber 4.
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.

4.1.4 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:

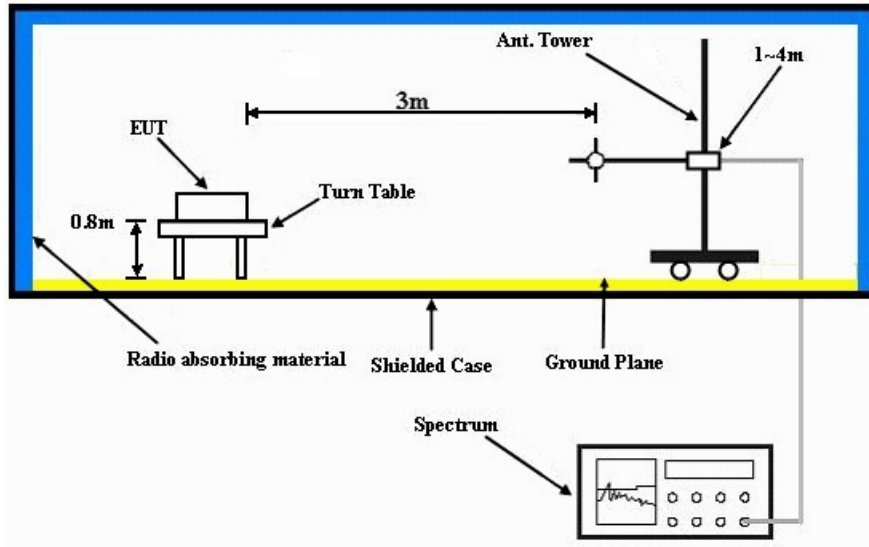
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 1kHz(Duty cycle < 98%) or 10Hz(Duty cycle > 98%) for Average detection (AV) at frequency above 1GHz.
4. All modes of operation were investigated and the worst-case emissions are reported.

4.1.5 DEVIATION FROM TEST STANDARD

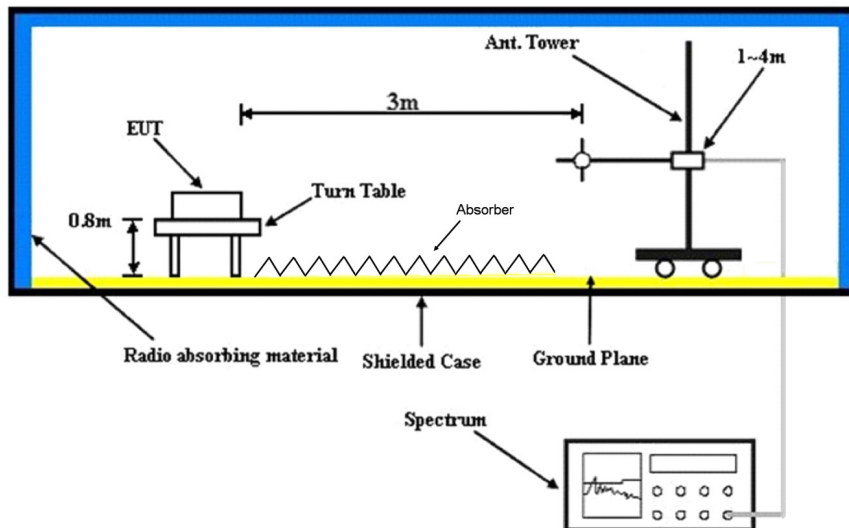
No deviation.

4.1.6 TEST SETUP

Frequency range 30MHz~1GHz



Frequency range above 1GHz



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

4.1.7 EUT OPERATING CONDITION

- a. The EUT was connected to the notebook with USB cable and placed them on the testing table.
- b. The notebook system ran a test program (provided by manufacturer) to enable EUT under transmission condition continuously at specific channel frequency.
- c. The necessary accessories enable the system in full functions.



4.1.8 TEST RESULTS

ABOVE 1GHz DATA :

802.11a

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 36	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 64%RH	TESTED BY	Alan Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	59.0 PK	74.0	-15.0	1.00 H	217	53.60	5.40
2	5150.00	45.6 AV	54.0	-8.4	1.00 H	217	40.20	5.40
3	*5180.00	106.5 PK			1.00 H	219	67.20	39.30
4	*5180.00	97.5 AV			1.00 H	219	58.20	39.30
5	#10360.00	56.1 PK	74.0	-17.9	1.06 H	22	40.10	16.00
6	#10360.00	43.6 AV	54.0	-10.4	1.06 H	22	27.60	16.00
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	60.0 PK	74.0	-14.0	1.30 V	199	54.60	5.40
2	5150.00	46.1 AV	54.0	-7.9	1.30 V	199	40.70	5.40
3	*5180.00	109.4 PK			1.31 V	197	70.10	39.30
4	*5180.00	100.0 AV			1.31 V	197	60.70	39.30
5	#10360.00	56.9 PK	74.0	-17.1	1.19 V	140	40.90	16.00
6	#10360.00	44.6 AV	54.0	-9.4	1.19 V	140	28.60	16.00

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. “ * “: Fundamental frequency.
6. “#”:The radiated frequency is out the restricted band.



EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 40	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 64%RH	TESTED BY	Alan Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	106.2 PK			1.00 H	236	66.90	39.30
2	*5200.00	96.7 AV			1.00 H	236	57.40	39.30
3	#10400.00	56.2 PK	74.0	-17.8	1.00 H	22	40.00	16.20
4	#10400.00	44.0 AV	54.0	-10.0	1.00 H	22	27.80	16.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	110.1 PK			1.06 V	200	70.80	39.30
2	*5200.00	100.2 AV			1.06 V	200	60.90	39.30
3	#10400.00	57.5 PK	74.0	-16.5	1.16 V	149	41.30	16.20
4	#10400.00	45.0 AV	54.0	-9.0	1.16 V	149	28.80	16.20

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
– Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. “ * “: Fundamental frequency.
6. “#”:The radiated frequency is out the restricted band.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 48	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 64%RH	TESTED BY	Alan Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	105.8 PK			1.10 H	235	66.50	39.30
2	*5240.00	96.0 AV			1.10 H	235	56.70	39.30
3	5350.00	58.4 PK	74.0	-15.6	1.06 H	230	52.90	5.50
4	5350.00	45.2 AV	54.0	-8.8	1.06 H	230	39.70	5.50
5	#10480.00	55.4 PK	74.0	-18.6	1.00 H	26	38.60	16.80
6	#10480.00	42.8 AV	54.0	-11.2	1.00 H	26	26.00	16.80
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	108.6 PK			1.42 V	196	69.30	39.30
2	*5240.00	98.9 AV			1.42 V	196	59.60	39.30
3	5350.00	59.5 PK	74.0	-14.5	1.44 V	193	54.00	5.50
4	5350.00	45.7 AV	54.0	-8.3	1.44 V	193	40.20	5.50
5	#10480.00	56.8 PK	74.0	-17.2	1.13 V	144	40.00	16.80
6	#10480.00	44.4 AV	54.0	-9.6	1.13 V	144	27.60	16.80

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. "#":The radiated frequency is out the restricted band.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 52	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 64%RH	TESTED BY	Alan Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	56.6 PK	74.0	-17.4	1.09 H	217	51.20	5.40
2	5150.00	43.5 AV	54.0	-10.5	1.09 H	217	38.10	5.40
3	*5260.00	103.7 PK			1.08 H	216	64.40	39.30
4	*5260.00	94.3 AV			1.08 H	216	55.00	39.30
5	#10520.00	54.7 PK	74.0	-19.3	1.09 H	27	37.90	16.80
6	#10520.00	43.7 AV	54.0	-10.3	1.09 H	27	26.90	16.80
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	57.9 PK	74.0	-16.1	1.05 V	194	52.50	5.40
2	5150.00	44.1 AV	54.0	-9.9	1.05 V	194	38.70	5.40
3	*5260.00	108.4 PK			1.04 V	198	69.10	39.30
4	*5260.00	98.9 AV			1.04 V	198	59.60	39.30
5	#10520.00	55.2 PK	74.0	-18.8	1.14 V	145	38.40	16.80
6	#10520.00	44.3 AV	54.0	-9.7	1.14 V	145	27.50	16.80

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. "#":The radiated frequency is out the restricted band.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 60	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 64%RH	TESTED BY	Alan Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	104.0 PK			1.00 H	222	64.60	39.40
2	*5300.00	94.1 AV			1.00 H	222	54.70	39.40
3	10600.00	55.7 PK	74.0	-18.3	1.00 H	24	39.20	16.50
4	10600.00	44.9 AV	54.0	-9.1	1.00 H	24	28.40	16.50
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	107.8 PK			1.04 V	199	68.40	39.40
2	*5300.00	98.8 AV			1.04 V	199	59.40	39.40
3	10600.00	56.1 PK	74.0	-17.9	1.17 V	140	39.60	16.50
4	10600.00	45.5 AV	54.0	-8.5	1.17 V	140	29.00	16.50

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
– Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. “ * “: Fundamental frequency.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 64	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 64%RH	TESTED BY	Alan Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	104.3 PK			1.07 H	217	64.90	39.40
2	*5320.00	94.8 AV			1.07 H	217	55.40	39.40
3	5350.00	57.2 PK	74.0	-16.8	1.09 H	217	51.70	5.50
4	5350.00	43.8 AV	54.0	-10.2	1.09 H	217	38.30	5.50
5	10640.00	55.5 PK	74.0	-18.5	1.07 H	29	38.70	16.80
6	10640.00	44.1 AV	54.0	-9.9	1.07 H	29	27.30	16.80
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	108.9 PK			1.04 V	199	69.50	39.40
2	*5320.00	98.9 AV			1.04 V	199	59.50	39.40
3	5350.00	58.4 PK	74.0	-15.6	1.07 V	193	52.90	5.50
4	5350.00	45.3 AV	54.0	-8.7	1.07 V	193	39.80	5.50
5	10640.00	56.0 PK	74.0	-18.0	1.13 V	147	39.20	16.80
6	10640.00	44.7 AV	54.0	-9.3	1.13 V	147	27.90	16.80

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
– Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. “ * “: Fundamental frequency.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 100	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 64%RH	TESTED BY	Alan Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	55.5 PK	74.0	-18.5	1.05 H	216	49.90	5.60
2	5460.00	42.8 AV	54.0	-11.2	1.05 H	216	37.20	5.60
3	#5470.00	56.9 PK	74.0	-17.1	1.05 H	216	51.30	5.60
4	#5470.00	43.5 AV	54.0	-10.5	1.05 H	216	37.90	5.60
5	*5500.00	98.0 PK			1.03 H	218	58.40	39.60
6	*5500.00	88.7 AV			1.03 H	218	49.10	39.60
7	11000.00	57.1 PK	74.0	-16.9	1.06 H	25	38.60	18.50
8	11000.00	44.2 AV	54.0	-9.8	1.06 H	25	25.70	18.50
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	56.3 PK	74.0	-17.7	1.00 V	195	50.70	5.60
2	5460.00	43.2 AV	54.0	-10.8	1.00 V	195	37.60	5.60
3	#5470.00	56.7 PK	74.0	-17.3	1.00 V	195	51.10	5.60
4	#5470.00	43.9 AV	54.0	-10.1	1.00 V	195	38.30	5.60
5	*5500.00	101.4 PK			1.00 V	198	61.80	39.60
6	*5500.00	91.9 AV			1.00 V	198	52.30	39.60
7	11000.00	58.3 PK	74.0	-15.7	1.15 V	140	39.80	18.50
8	11000.00	45.7 AV	54.0	-8.3	1.15 V	140	27.20	18.50

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
– Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. "#":The radiated frequency is out the restricted band.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 116	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 64%RH	TESTED BY	Alan Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	99.3 PK			1.03 H	233	59.50	39.80
2	*5580.00	89.8 AV			1.03 H	233	50.00	39.80
3	11160.00	57.6 PK	74.0	-16.4	1.05 H	22	39.20	18.40
4	11160.00	45.2 AV	54.0	-8.8	1.05 H	22	26.80	18.40
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	100.7 PK			1.10 V	198	60.90	39.80
2	*5580.00	91.7 AV			1.10 V	198	51.90	39.80
3	11160.00	58.8 PK	74.0	-15.2	1.14 V	140	40.40	18.40
4	11160.00	46.6 AV	54.0	-7.4	1.14 V	140	28.20	18.40

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
– Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. "#":The radiated frequency is out the restricted band.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 140	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 64%RH	TESTED BY	Alan Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	98.7 PK			1.00 H	234	58.60	40.10
2	*5700.00	89.6 AV			1.00 H	234	49.50	40.10
3	#5725.00	56.5 PK	74.0	-17.5	1.00 H	231	50.20	6.30
4	#5725.00	43.7 AV	54.0	-10.3	1.00 H	231	37.40	6.30
5	11400.00	57.0 PK	74.0	-17.0	1.01 H	20	38.80	18.20
6	11400.00	44.0 AV	54.0	-10.0	1.01 H	20	25.80	18.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	102.0 PK			1.07 V	195	61.90	40.10
2	*5700.00	92.7 AV			1.07 V	195	52.60	40.10
3	#5725.00	57.0 PK	74.0	-17.0	1.08 V	193	50.70	6.30
4	#5725.00	44.3 AV	54.0	-9.7	1.08 V	193	38.00	6.30
5	11400.00	58.2 PK	74.0	-15.8	1.13 V	148	40.00	18.20
6	11400.00	45.5 AV	54.0	-8.5	1.13 V	148	27.30	18.20

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
– Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. “ * “: Fundamental frequency.
6. “#”:The radiated frequency is out the restricted band.



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802.11n (20MHz): 1TX

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 36	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 64%RH	TESTED BY	Alan Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	57.0 PK	74.0	-17.0	1.00 H	222	51.60	5.40
2	5150.00	46.6 AV	54.0	-7.4	1.00 H	222	41.20	5.40
3	*5180.00	102.3 PK			1.00 H	222	63.00	39.30
4	*5180.00	92.8 AV			1.00 H	222	53.50	39.30
5	#10360.00	58.2 PK	74.0	-15.8	1.06 H	26	42.20	16.00
6	#10360.00	46.3 AV	54.0	-7.7	1.06 H	26	30.30	16.00

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	58.6 PK	74.0	-15.4	1.44 V	200	53.20	5.40
2	5150.00	47.4 AV	54.0	-6.6	1.44 V	200	42.00	5.40
3	*5180.00	108.4 PK			1.44 V	200	69.10	39.30
4	*5180.00	99.3 AV			1.44 V	200	60.00	39.30
5	#10360.00	58.1 PK	74.0	-15.9	1.11 V	125	42.10	16.00
6	#10360.00	46.2 AV	54.0	-7.8	1.11 V	125	30.20	16.00

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. “ * “: Fundamental frequency.
6. “#”:The radiated frequency is out the restricted band.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 40	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 64%RH	TESTED BY	Alan Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	102.1 PK			1.00 H	225	62.80	39.30
2	*5200.00	92.6 AV			1.00 H	225	53.30	39.30
3	#10400.00	58.1 PK	74.0	-15.9	1.10 H	30	41.90	16.20
4	#10400.00	46.2 AV	54.0	-7.8	1.10 H	30	30.00	16.20

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	108.0 PK			1.40 V	203	68.70	39.30
2	*5200.00	99.0 AV			1.40 V	203	59.70	39.30
3	#10400.00	58.0 PK	74.0	-16.0	1.09 V	116	41.80	16.20
4	#10400.00	46.1 AV	54.0	-7.9	1.09 V	116	29.90	16.20

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. “ * “: Fundamental frequency.
6. “#”:The radiated frequency is out the restricted band.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 48	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 64%RH	TESTED BY	Alan Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	102.2 PK			1.00 H	217	62.90	39.30
2	*5240.00	92.8 AV			1.00 H	217	53.50	39.30
3	#10480.00	58.2 PK	74.0	-15.8	1.07 H	24	41.40	16.80
4	#10480.00	46.3 AV	54.0	-7.7	1.07 H	24	29.50	16.80
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	108.2 PK			1.42 V	200	68.90	39.30
2	*5240.00	99.1 AV			1.42 V	200	59.80	39.30
3	#10480.00	58.0 PK	74.0	-16.0	1.16 V	133	41.20	16.80
4	#10480.00	46.0 AV	54.0	-8.0	1.16 V	133	29.20	16.80

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. “ * “: Fundamental frequency.
6. “#”:The radiated frequency is out the restricted band.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 52	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 64%RH	TESTED BY	Alan Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5260.00	102.3 PK			1.39 H	160	63.00	39.30
2	*5260.00	93.0 AV			1.39 H	160	53.70	39.30
3	#10520.00	58.4 PK	74.0	-15.6	1.00 H	51	41.60	16.80
4	#10520.00	46.4 AV	54.0	-7.6	1.00 H	51	29.60	16.80
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5260.00	105.3 PK			1.00 V	222	66.00	39.30
2	*5260.00	97.0 AV			1.00 V	222	57.70	39.30
3	#10520.00	58.5 PK	74.0	-15.5	1.08 V	140	41.70	16.80
4	#10520.00	46.5 AV	54.0	-7.5	1.08 V	140	29.70	16.80

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
– Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. “ * “: Fundamental frequency.
6. “#”:The radiated frequency is out the restricted band.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 60	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 64%RH	TESTED BY	Alan Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	102.5 PK			1.32 H	152	63.10	39.40
2	*5300.00	93.2 AV			1.32 H	152	53.80	39.40
3	10600.00	58.3 PK	74.0	-15.7	1.00 H	60	41.80	16.50
4	10600.00	46.5 AV	54.0	-7.5	1.00 H	60	30.00	16.50
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	105.8 PK			1.00 V	212	66.40	39.40
2	*5300.00	96.9 AV			1.00 V	212	57.50	39.40
3	10600.00	58.1 PK	74.0	-15.9	1.03 V	130	41.60	16.50
4	10600.00	46.2 AV	54.0	-7.8	1.03 V	130	29.70	16.50

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. “ * “: Fundamental frequency.



EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 64	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 64%RH	TESTED BY	Alan Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	102.3 PK			1.34 H	140	62.90	39.40
2	*5320.00	93.0 AV			1.34 H	140	53.60	39.40
3	5350.00	55.8 PK	74.0	-18.2	1.34 H	140	50.30	5.50
4	5350.00	35.5 AV	54.0	-18.5	1.34 H	140	30.00	5.50
5	10640.00	58.2 PK	74.0	-15.8	1.00 H	53	41.40	16.80
6	10640.00	46.4 AV	54.0	-7.6	1.00 H	53	29.60	16.80
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	105.6 PK			1.00 V	210	66.20	39.40
2	*5320.00	96.8 AV			1.00 V	210	57.40	39.40
3	5350.00	56.5 PK	74.0	-17.5	1.00 V	210	51.00	5.50
4	5350.00	44.4 AV	54.0	-9.6	1.00 V	210	38.90	5.50
5	10640.00	58.0 PK	74.0	-16.0	1.05 V	133	41.20	16.80
6	10640.00	46.0 AV	54.0	-8.0	1.05 V	133	29.20	16.80

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
– Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. “ * ”: Fundamental frequency.



EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 100	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 64%RH	TESTED BY	Alan Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	55.7 PK	74.0	-18.3	1.00 H	325	50.10	5.60
2	5460.00	44.8 AV	54.0	-9.2	1.00 H	325	39.20	5.60
3	#5470.00	57.1 PK	74.0	-16.9	1.00 H	325	51.50	5.60
4	#5470.00	45.6 AV	54.0	-8.4	1.00 H	325	40.00	5.60
5	*5500.00	99.8 PK			1.00 H	325	60.20	39.60
6	*5500.00	90.8 AV			1.00 H	325	51.20	39.60
7	11000.00	59.4 PK	74.0	-14.6	1.08 H	30	40.90	18.50
8	11000.00	46.9 AV	54.0	-7.1	1.08 H	30	28.40	18.50
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	56.5 PK	74.0	-17.5	1.00 V	174	50.90	5.60
2	5460.00	44.5 AV	54.0	-9.5	1.00 V	174	38.90	5.60
3	#5470.00	59.0 PK	74.0	-15.0	1.00 V	174	53.40	5.60
4	#5470.00	45.2 AV	54.0	-8.8	1.00 V	174	39.60	5.60
5	*5500.00	101.4 PK			1.00 V	174	61.80	39.60
6	*5500.00	91.5 AV			1.00 V	174	51.90	39.60
7	11000.00	59.2 PK	74.0	-14.8	1.14 V	127	40.70	18.50
8	11000.00	46.7 AV	54.0	-7.3	1.14 V	127	28.20	18.50

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. “ * “: Fundamental frequency.
6. “#”:The radiated frequency is out the restricted band.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 116	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 64%RH	TESTED BY	Alan Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	100.0 PK			1.00 H	333	60.20	39.80
2	*5580.00	90.9 AV			1.00 H	333	51.10	39.80
3	11160.00	59.3 PK	74.0	-14.7	1.13 H	50	40.90	18.40
4	11160.00	47.0 AV	54.0	-7.0	1.13 H	50	28.60	18.40
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	101.5 PK			1.00 V	180	61.70	39.80
2	*5580.00	91.6 AV			1.00 V	180	51.80	39.80
3	11160.00	59.3 PK	74.0	-14.7	1.06 V	133	40.90	18.40
4	11160.00	47.0 AV	54.0	-7.0	1.06 V	133	28.60	18.40

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. “ * “: Fundamental frequency.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 140	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 64%RH	TESTED BY	Alan Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	101.0 PK			1.00 H	326	60.90	40.10
2	*5700.00	91.0 AV			1.00 H	326	50.90	40.10
3	#5725.00	56.8 PK	74.0	-17.2	1.00 H	326	50.50	6.30
4	#5725.00	44.9 AV	54.0	-9.1	1.00 H	326	38.60	6.30
5	11400.00	59.5 PK	74.0	-14.5	1.04 H	40	41.30	18.20
6	11400.00	47.2 AV	54.0	-6.8	1.04 H	40	29.00	18.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	103.3 PK			1.50 V	200	63.20	40.10
2	*5700.00	93.3 AV			1.50 V	200	53.20	40.10
3	#5725.00	57.2 PK	74.0	-16.8	1.50 V	200	50.90	6.30
4	#5725.00	45.3 AV	54.0	-8.7	1.50 V	200	39.00	6.30
5	11400.00	59.4 PK	74.0	-14.6	1.15 V	142	41.20	18.20
6	11400.00	47.0 AV	54.0	-7.0	1.15 V	142	28.80	18.20

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
– Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. “ * “: Fundamental frequency.



802.11n (20MHz): 2TX

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 36	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 64%RH	TESTED BY	Alan Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	56.1 PK	74.0	-17.9	1.00 H	239	50.70	5.40
2	5150.00	45.8 AV	54.0	-8.2	1.00 H	239	40.40	5.40
3	*5180.00	102.4 PK			1.00 H	236	63.10	39.30
4	*5180.00	92.8 AV			1.00 H	236	53.50	39.30
5	#10360.00	57.9 PK	74.0	-16.1	1.00 H	29	41.90	16.00
6	#10360.00	45.7 AV	54.0	-8.3	1.00 H	29	29.70	16.00
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	56.5 PK	74.0	-17.5	1.02 V	189	51.10	5.40
2	5150.00	46.2 AV	54.0	-7.8	1.02 V	189	40.80	5.40
3	*5180.00	108.8 PK			1.06 V	182	69.50	39.30
4	*5180.00	99.4 AV			1.06 V	182	60.10	39.30
5	#10360.00	58.0 PK	74.0	-16.0	1.09 V	122	42.00	16.00
6	#10360.00	45.9 AV	54.0	-8.1	1.09 V	122	29.90	16.00

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. “ * “: Fundamental frequency.
6. “#”:The radiated frequency is out the restricted band.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 40	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 64%RH	TESTED BY	Alan Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	103.4 PK			1.10 H	234	64.10	39.30
2	*5200.00	93.4 AV			1.10 H	234	54.10	39.30
3	#10400.00	56.9 PK	74.0	-17.1	1.14 H	37	40.70	16.20
4	#10400.00	44.8 AV	54.0	-9.2	1.14 H	37	28.60	16.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	109.0 PK			1.05 V	207	69.70	39.30
2	*5200.00	99.9 AV			1.05 V	207	60.60	39.30
3	#10400.00	57.5 PK	74.0	-16.5	1.06 V	119	41.30	16.20
4	#10400.00	45.7 AV	54.0	-8.3	1.06 V	119	29.50	16.20

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. “ * “: Fundamental frequency.
6. “#”:The radiated frequency is out the restricted band.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 48	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 64%RH	TESTED BY	Alan Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	103.9 PK			1.00 H	238	64.60	39.30
2	*5240.00	93.8 AV			1.00 H	238	54.50	39.30
3	5350.00	57.3 PK	74.0	-16.7	1.00 H	230	51.80	5.50
4	5350.00	44.7 AV	54.0	-9.3	1.00 H	230	39.20	5.50
5	#10480.00	58.3 PK	74.0	-15.7	1.04 H	27	41.50	16.80
6	#10480.00	46.1 AV	54.0	-7.9	1.04 H	27	29.30	16.80
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	109.4 PK			1.05 V	182	70.10	39.30
2	*5240.00	99.3 AV			1.05 V	182	60.00	39.30
3	5350.00	57.6 PK	74.0	-16.4	1.08 V	184	52.10	5.50
4	5350.00	45.2 AV	54.0	-8.8	1.08 V	184	39.70	5.50
5	#10480.00	58.5 PK	74.0	-15.5	1.13 V	136	41.70	16.80
6	#10480.00	46.5 AV	54.0	-7.5	1.13 V	136	29.70	16.80

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. “ * “: Fundamental frequency.
6. “#”:The radiated frequency is out the restricted band.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 52	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 64%RH	TESTED BY	Alan Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	57.5 PK	74.0	-16.5	1.00 H	233	52.10	5.40
2	5150.00	44.6 AV	54.0	-9.4	1.00 H	233	39.20	5.40
3	*5260.00	104.4 PK			1.00 H	237	65.10	39.30
4	*5260.00	94.8 AV			1.00 H	237	55.50	39.30
5	#10520.00	57.2 PK	74.0	-16.8	1.01 H	50	40.40	16.80
6	#10520.00	45.0 AV	54.0	-9.0	1.01 H	50	28.20	16.80
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	58.0 PK	74.0	-16.0	1.09 V	163	52.60	5.40
2	5150.00	45.1 AV	54.0	-8.9	1.09 V	163	39.70	5.40
3	*5260.00	110.0 PK			1.05 V	168	70.70	39.30
4	*5260.00	98.7 AV			1.05 V	168	59.40	39.30
5	#10520.00	58.3 PK	74.0	-15.7	1.04 V	148	41.50	16.80
6	#10520.00	46.1 AV	54.0	-7.9	1.04 V	148	29.30	16.80

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
– Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. “ * “: Fundamental frequency.
6. “#”:The radiated frequency is out the restricted band.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 60	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 64%RH	TESTED BY	Alan Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	103.6 PK			1.20 H	237	64.20	39.40
2	*5300.00	94.1 AV			1.20 H	237	54.70	39.40
3	10600.00	57.1 PK	74.0	-16.9	1.06 H	60	40.60	16.50
4	10600.00	45.1 AV	54.0	-8.9	1.06 H	60	28.60	16.50
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	109.5 PK			1.03 V	184	70.10	39.40
2	*5300.00	98.5 AV			1.03 V	184	59.10	39.40
3	10600.00	57.9 PK	74.0	-16.1	1.03 V	133	41.40	16.50
4	10600.00	45.8 AV	54.0	-8.2	1.03 V	133	29.30	16.50

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. “ * “: Fundamental frequency.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 64	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 64%RH	TESTED BY	Alan Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	104.2 PK			1.09 H	252	64.80	39.40
2	*5320.00	93.9 AV			1.09 H	252	54.50	39.40
3	5350.00	56.3 PK	74.0	-17.7	1.04 H	258	50.80	5.50
4	5350.00	45.3 AV	54.0	-8.7	1.04 H	258	39.80	5.50
5	10640.00	57.2 PK	74.0	-16.8	1.03 H	50	40.40	16.80
6	10640.00	44.5 AV	54.0	-9.5	1.03 H	50	27.70	16.80
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	108.5 PK			1.04 V	194	69.10	39.40
2	*5320.00	98.4 AV			1.04 V	194	59.00	39.40
3	5350.00	57.1 PK	74.0	-16.9	1.01 V	199	51.60	5.50
4	5350.00	45.8 AV	54.0	-8.2	1.01 V	199	40.30	5.50
5	10640.00	57.5 PK	74.0	-16.5	1.03 V	135	40.70	16.80
6	10640.00	45.0 AV	54.0	-9.0	1.03 V	135	28.20	16.80

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. “ * ”: Fundamental frequency.



EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 100	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 64%RH	TESTED BY	Alan Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	56.2 PK	74.0	-17.8	1.02 H	230	50.60	5.60
2	5460.00	44.2 AV	54.0	-9.8	1.02 H	230	38.60	5.60
3	#5470.00	57.8 PK	74.0	-16.2	1.02 H	230	52.20	5.60
4	#5470.00	45.1 AV	54.0	-8.9	1.02 H	230	39.50	5.60
5	*5500.00	100.2 PK			1.02 H	232	60.60	39.60
6	*5500.00	91.1 AV			1.02 H	232	51.50	39.60
7	11000.00	58.3 PK	74.0	-15.7	1.03 H	38	39.80	18.50
8	11000.00	45.5 AV	54.0	-8.5	1.03 H	38	27.00	18.50
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	57.1 PK	74.0	-16.9	1.00 V	196	51.50	5.60
2	5460.00	44.9 AV	54.0	-9.1	1.00 V	196	39.30	5.60
3	#5470.00	59.5 PK	74.0	-14.5	1.00 V	196	53.90	5.60
4	#5470.00	45.8 AV	54.0	-8.2	1.00 V	196	40.20	5.60
5	*5500.00	102.5 PK			1.00 V	193	62.90	39.60
6	*5500.00	91.8 AV			1.00 V	193	52.20	39.60
7	11000.00	59.1 PK	74.0	-14.9	1.17 V	124	40.60	18.50
8	11000.00	46.3 AV	54.0	-7.7	1.17 V	124	27.80	18.50

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. “ * “: Fundamental frequency.
6. “#”:The radiated frequency is out the restricted band.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 116	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 64%RH	TESTED BY	Alan Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	99.9 PK			1.00 H	234	60.10	39.80
2	*5580.00	91.7 AV			1.00 H	234	51.90	39.80
3	11160.00	58.2 PK	74.0	-15.8	1.10 H	57	39.80	18.40
4	11160.00	46.0 AV	54.0	-8.0	1.10 H	57	27.60	18.40
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	104.2 PK			1.00 V	193	64.40	39.80
2	*5580.00	93.1 AV			1.00 V	193	53.30	39.80
3	11160.00	59.2 PK	74.0	-14.8	1.03 V	132	40.80	18.40
4	11160.00	46.5 AV	54.0	-7.5	1.03 V	132	28.10	18.40

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. “ * “: Fundamental frequency.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 140	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 64%RH	TESTED BY	Alan Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	101.3 PK			1.00 H	230	61.20	40.10
2	*5700.00	91.3 AV			1.00 H	230	51.20	40.10
3	#5725.00	57.4 PK	74.0	-16.6	1.00 H	225	51.10	6.30
4	#5725.00	45.3 AV	54.0	-8.7	1.00 H	225	39.00	6.30
5	11400.00	58.4 PK	74.0	-15.6	1.00 H	44	40.20	18.20
6	11400.00	45.9 AV	54.0	-8.1	1.00 H	44	27.70	18.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	103.5 PK			1.00 V	187	63.40	40.10
2	*5700.00	93.9 AV			1.00 V	187	53.80	40.10
3	#5725.00	57.9 PK	74.0	-16.1	1.00 V	189	51.60	6.30
4	#5725.00	45.8 AV	54.0	-8.2	1.00 V	189	39.50	6.30
5	11400.00	59.3 PK	74.0	-14.7	1.12 V	145	41.10	18.20
6	11400.00	46.7 AV	54.0	-7.3	1.12 V	145	28.50	18.20

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
– Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. “ * “: Fundamental frequency.



802.11n (40MHz): 1TX

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 38	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 64%RH	TESTED BY	Alan Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	59.9 PK	74.0	-14.1	1.00 H	209	54.50	5.40
2	5150.00	46.4 AV	54.0	-7.6	1.00 H	209	41.00	5.40
3	*5190.00	98.8 PK			1.00 H	209	59.50	39.30
4	*5190.00	89.5 AV			1.00 H	209	50.20	39.30
5	#10380.00	59.0 PK	74.0	-15.0	1.00 H	211	42.90	16.10
6	#10380.00	47.0 AV	54.0	-7.0	1.00 H	211	30.90	16.10
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	64.4 PK	74.0	-9.6	1.00 V	212	59.00	5.40
2	5150.00	50.2 AV	54.0	-3.8	1.00 V	212	44.80	5.40
3	*5190.00	102.3 PK			1.00 V	212	63.00	39.30
4	*5190.00	93.4 AV			1.00 V	212	54.10	39.30
5	#10380.00	58.1 PK	74.0	-15.9	1.14 V	311	42.00	16.10
6	#10380.00	46.1 AV	54.0	-7.9	1.14 V	311	30.00	16.10

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. “ * “: Fundamental frequency.
6. “#”:The radiated frequency is out the restricted band.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 46	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 64%RH	TESTED BY	Alan Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5230.00	98.7 PK			1.00 H	205	59.40	39.30
2	*5230.00	89.3 AV			1.00 H	205	50.00	39.30
3	#10460.00	58.8 PK	74.0	-15.2	1.00 H	213	42.20	16.60
4	#10460.00	46.8 AV	54.0	-7.2	1.00 H	213	30.20	16.60
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5230.00	102.0 PK			1.00 V	222	62.70	39.30
2	*5230.00	93.1 AV			1.00 V	222	53.80	39.30
3	#10460.00	58.4 PK	74.0	-15.6	1.06 V	306	41.80	16.60
4	#10460.00	46.3 AV	54.0	-7.7	1.06 V	306	29.70	16.60

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. “ * “: Fundamental frequency.
6. “#”:The radiated frequency is out the restricted band.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 54	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 64%RH	TESTED BY	Alan Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5270.00	99.1 PK			1.00 H	209	59.70	39.40
2	*5270.00	90.1 AV			1.00 H	209	50.70	39.40
3	#10540.00	58.7 PK	74.0	-15.3	1.00 H	240	42.00	16.70
4	#10540.00	46.6 AV	54.0	-7.4	1.00 H	240	29.90	16.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5270.00	102.1 PK			1.29 V	199	62.70	39.40
2	*5270.00	93.2 AV			1.29 V	199	53.80	39.40
3	#10540.00	58.3 PK	74.0	-15.7	1.00 V	290	41.60	16.70
4	#10540.00	46.2 AV	54.0	-7.8	1.00 V	290	29.50	16.70

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. “ * “: Fundamental frequency.
6. “#”:The radiated frequency is out the restricted band.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 62	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 64%RH	TESTED BY	Alan Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5310.00	99.2 PK			1.00 H	210	59.80	39.40
2	*5310.00	90.0 AV			1.00 H	210	50.60	39.40
3	5350.00	58.0 PK	74.0	-16.0	1.00 H	210	52.50	5.50
4	5350.00	45.1 AV	54.0	-8.9	1.00 H	210	39.60	5.50
5	10620.00	58.9 PK	74.0	-15.1	1.00 H	227	42.20	16.70
6	10620.00	46.8 AV	54.0	-7.2	1.00 H	227	30.10	16.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5310.00	102.5 PK			1.36 V	206	63.10	39.40
2	*5310.00	93.3 AV			1.36 V	206	53.90	39.40
3	5350.00	59.4 PK	74.0	-14.6	1.36 V	206	53.90	5.50
4	5350.00	46.6 AV	54.0	-7.4	1.36 V	206	41.10	5.50
5	10620.00	58.2 PK	74.0	-15.8	1.03 V	286	41.50	16.70
6	10620.00	46.3 AV	54.0	-7.7	1.03 V	286	29.60	16.70

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
– Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. “ * ”: Fundamental frequency.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 102	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 64%RH	TESTED BY	Alan Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	55.1 PK	74.0	-18.9	1.00 H	209	49.50	5.60
2	5460.00	43.2 AV	54.0	-10.8	1.00 H	209	37.60	5.60
3	#5470.00	57.4 PK	74.0	-16.6	1.00 H	209	51.80	5.60
4	#5470.00	44.7 AV	54.0	-9.3	1.00 H	209	39.10	5.60
5	*5510.00	93.8 PK			1.00 H	209	54.20	39.60
6	*5510.00	84.6 AV			1.00 H	209	45.00	39.60
7	11020.00	59.0 PK	74.0	-15.0	1.00 H	225	40.40	18.60
8	11020.00	46.8 AV	54.0	-7.2	1.00 H	225	28.20	18.60
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	55.6 PK	74.0	-18.4	1.43 V	208	50.00	5.60
2	5460.00	44.8 AV	54.0	-9.2	1.43 V	208	39.20	5.60
3	#5470.00	58.0 PK	74.0	-16.0	1.43 V	208	52.40	5.60
4	#5470.00	45.8 AV	54.0	-8.2	1.43 V	208	40.20	5.60
5	*5510.00	97.8 PK			1.43 V	208	58.20	39.60
6	*5510.00	88.1 AV			1.43 V	208	48.50	39.60
7	11020.00	58.5 PK	74.0	-15.5	1.00 V	275	39.90	18.60
8	11020.00	46.3 AV	54.0	-7.7	1.00 V	275	27.70	18.60

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
– Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. “ * “: Fundamental frequency.
6. "#":The radiated frequency is out the restricted band.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 110	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 64%RH	TESTED BY	Alan Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5550.00	93.6 PK			1.00 H	203	53.80	39.80
2	*5550.00	84.5 AV			1.00 H	203	44.70	39.80
3	11100.00	58.9 PK	74.0	-15.1	1.00 H	213	40.30	18.60
4	11100.00	46.6 AV	54.0	-7.4	1.00 H	213	28.00	18.60
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5550.00	97.6 PK			1.40 V	210	57.80	39.80
2	*5550.00	88.0 AV			1.40 V	210	48.20	39.80
3	11100.00	58.2 PK	74.0	-15.8	1.00 V	277	39.60	18.60
4	11100.00	46.1 AV	54.0	-7.9	1.00 V	277	27.50	18.60

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. “ * “: Fundamental frequency.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 134	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 64%RH	TESTED BY	Alan Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5670.00	94.7 PK			1.00 H	205	54.70	40.00
2	*5670.00	85.1 AV			1.00 H	205	45.10	40.00
3	#5725.00	55.1 PK	74.0	-18.9	1.00 H	205	48.80	6.30
4	#5725.00	44.0 AV	54.0	-10.0	1.00 H	205	37.70	6.30
5	11340.00	58.0 PK	74.0	-16.0	1.00 H	210	39.70	18.30
6	11340.00	46.5 AV	54.0	-7.5	1.00 H	210	28.20	18.30
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5670.00	97.7 PK			1.02 V	207	57.70	40.00
2	*5670.00	88.1 AV			1.02 V	207	48.10	40.00
3	#5725.00	56.3 PK	74.0	-17.7	1.02 V	207	50.00	6.30
4	#5725.00	44.8 AV	54.0	-9.2	1.02 V	207	38.50	6.30
5	11340.00	58.0 PK	74.0	-16.0	1.00 V	242	39.70	18.30
6	11340.00	46.0 AV	54.0	-8.0	1.00 V	242	27.70	18.30

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
– Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. “ * “: Fundamental frequency.
6. “#”:The radiated frequency is out the restricted band.



A D T

802.11n (40MHz): 2TX

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 38	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 64%RH	TESTED BY	Alan Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	60.8 PK	74.0	-13.2	1.24 H	235	55.40	5.40
2	5150.00	47.0 AV	54.0	-7.0	1.24 H	235	41.60	5.40
3	*5190.00	100.5 PK			1.22 H	234	61.20	39.30
4	*5190.00	91.9 AV			1.22 H	234	52.60	39.30
5	#10380.00	57.6 PK	74.0	-16.4	1.01 H	200	41.50	16.10
6	#10380.00	45.2 AV	54.0	-8.8	1.01 H	200	29.10	16.10

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	64.5 PK	74.0	-9.5	1.18 V	182	59.10	5.40
2	5150.00	50.3 AV	54.0	-3.7	1.18 V	182	44.90	5.40
3	*5190.00	102.6 PK			1.18 V	189	63.30	39.30
4	*5190.00	94.0 AV			1.18 V	189	54.70	39.30
5	#10380.00	57.9 PK	74.0	-16.1	1.11 V	314	41.80	16.10
6	#10380.00	45.7 AV	54.0	-8.3	1.11 V	314	29.60	16.10

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. “ * “: Fundamental frequency.
6. “#”:The radiated frequency is out the restricted band.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 46	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 64%RH	TESTED BY	Alan Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5230.00	101.1 PK			1.08 H	233	61.80	39.30
2	*5230.00	92.2 AV			1.08 H	233	52.90	39.30
3	5350.00	58.7 PK	74.0	-15.3	1.02 H	235	53.20	5.50
4	5350.00	46.1 AV	54.0	-7.9	1.02 H	235	40.60	5.50
5	#10460.00	57.6 PK	74.0	-16.4	1.03 H	210	41.00	16.60
6	#10460.00	45.4 AV	54.0	-8.6	1.03 H	210	28.80	16.60
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5230.00	103.0 PK			1.05 V	189	63.70	39.30
2	*5230.00	94.4 AV			1.05 V	189	55.10	39.30
3	5350.00	59.8 PK	74.0	-14.2	1.08 V	184	54.30	5.50
4	5350.00	46.5 AV	54.0	-7.5	1.08 V	184	41.00	5.50
5	#10460.00	58.2 PK	74.0	-15.8	1.00 V	300	41.60	16.60
6	#10460.00	45.9 AV	54.0	-8.1	1.00 V	300	29.30	16.60

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. “ * ”: Fundamental frequency.
6. “#” :The radiated frequency is out the restricted band.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 54	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 64%RH	TESTED BY	Alan Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	56.9 PK	74.0	-17.1	1.08 H	234	51.50	5.40
2	5150.00	44.7 AV	54.0	-9.3	1.08 H	234	39.30	5.40
3	*5270.00	102.7 PK			1.09 H	233	63.30	39.40
4	*5270.00	93.9 AV			1.09 H	233	54.50	39.40
5	#10540.00	57.5 PK	74.0	-16.5	1.00 H	204	40.80	16.70
6	#10540.00	45.2 AV	54.0	-8.8	1.00 H	204	28.50	16.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	57.2 PK	74.0	-16.8	1.05 V	190	51.80	5.40
2	5150.00	45.2 AV	54.0	-8.8	1.05 V	190	39.80	5.40
3	*5270.00	105.9 PK			1.04 V	195	66.50	39.40
4	*5270.00	94.9 AV			1.04 V	195	55.50	39.40
5	#10540.00	58.1 PK	74.0	-15.9	1.00 V	280	41.40	16.70
6	#10540.00	45.8 AV	54.0	-8.2	1.00 V	280	29.10	16.70

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
– Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. “ * “: Fundamental frequency.
6. “#”:The radiated frequency is out the restricted band.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 62	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 64%RH	TESTED BY	Alan Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5310.00	99.9 PK			1.00 H	210	60.50	39.40
2	*5310.00	91.1 AV			1.00 H	210	51.70	39.40
3	5350.00	58.4 PK	74.0	-15.6	1.00 H	205	52.90	5.50
4	5350.00	46.6 AV	54.0	-7.4	1.00 H	205	41.10	5.50
5	10620.00	57.7 PK	74.0	-16.3	1.07 H	220	41.00	16.70
6	10620.00	45.4 AV	54.0	-8.6	1.07 H	220	28.70	16.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5310.00	104.6 PK			1.03 V	194	65.20	39.40
2	*5310.00	93.7 AV			1.03 V	194	54.30	39.40
3	5350.00	62.2 PK	74.0	-11.8	1.01 V	195	56.70	5.50
4	5350.00	49.5 AV	54.0	-4.5	1.01 V	195	44.00	5.50
5	10620.00	58.0 PK	74.0	-16.0	1.06 V	283	41.30	16.70
6	10620.00	45.9 AV	54.0	-8.1	1.06 V	283	29.20	16.70

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
– Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. “ * “: Fundamental frequency.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 102	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 64%RH	TESTED BY	Alan Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	58.6 PK	74.0	-15.4	1.08 H	231	53.00	5.60
2	5460.00	44.5 AV	54.0	-9.5	1.08 H	231	38.90	5.60
3	#5470.00	60.1 PK	74.0	-13.9	1.08 H	231	54.50	5.60
4	#5470.00	46.1 AV	54.0	-7.9	1.08 H	231	40.50	5.60
5	*5510.00	97.0 PK			1.04 H	234	57.40	39.60
6	*5510.00	86.1 AV			1.04 H	234	46.50	39.60
7	11020.00	58.1 PK	74.0	-15.9	1.00 H	229	39.50	18.60
8	11020.00	45.4 AV	54.0	-8.6	1.00 H	229	26.80	18.60

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	59.1 PK	74.0	-14.9	1.00 V	192	53.50	5.60
2	5460.00	45.4 AV	54.0	-8.6	1.00 V	192	39.80	5.60
3	#5470.00	60.9 PK	74.0	-13.1	1.00 V	192	55.30	5.60
4	#5470.00	46.8 AV	54.0	-7.2	1.00 V	192	41.20	5.60
5	*5510.00	103.4 PK			1.00 V	193	63.80	39.60
6	*5510.00	92.5 AV			1.00 V	193	52.90	39.60
7	11020.00	58.3 PK	74.0	-15.7	1.00 V	272	39.70	18.60
8	11020.00	45.9 AV	54.0	-8.1	1.00 V	272	27.30	18.60

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
– Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. “ * “: Fundamental frequency.
6. “#”:The radiated frequency is out the restricted band.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 118	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 64%RH	TESTED BY	Alan Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5550.00	96.5 PK			1.14 H	231	56.70	39.80
2	*5550.00	85.8 AV			1.14 H	231	46.00	39.80
3	11100.00	57.7 PK	74.0	-16.3	1.03 H	219	39.10	18.60
4	11100.00	45.2 AV	54.0	-8.8	1.03 H	219	26.60	18.60
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5550.00	102.4 PK			1.00 V	193	62.60	39.80
2	*5550.00	92.0 AV			1.00 V	193	52.20	39.80
3	11100.00	58.0 PK	74.0	-16.0	1.00 V	270	39.40	18.60
4	11100.00	45.7 AV	54.0	-8.3	1.00 V	270	27.10	18.60

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. “ * “: Fundamental frequency.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 134	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 64%RH	TESTED BY	Alan Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5670.00	97.9 PK			1.00 H	231	57.90	40.00
2	*5670.00	87.1 AV			1.00 H	231	47.10	40.00
3	#5725.00	56.6 PK	74.0	-17.4	1.00 H	237	50.30	6.30
4	#5725.00	45.5 AV	54.0	-8.5	1.00 H	237	39.20	6.30
5	11340.00	57.2 PK	74.0	-16.8	1.00 H	212	38.90	18.30
6	11340.00	45.1 AV	54.0	-8.9	1.00 H	212	26.80	18.30
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5670.00	102.6 PK			1.08 V	193	62.60	40.00
2	*5670.00	91.5 AV			1.08 V	193	51.50	40.00
3	#5725.00	57.9 PK	74.0	-16.1	1.05 V	196	51.60	6.30
4	#5725.00	46.4 AV	54.0	-7.6	1.05 V	196	40.10	6.30
5	11340.00	57.5 PK	74.0	-16.5	1.02 V	241	39.20	18.30
6	11340.00	45.6 AV	54.0	-8.4	1.02 V	241	27.30	18.30

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
– Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. "#":The radiated frequency is out the restricted band.



802.11ac (80MHz): 1TX

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 42	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 64%RH	TESTED BY	Alan Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	61.7 PK	74.0	-12.3	1.00 H	236	56.30	5.40
2	5150.00	48.3 AV	54.0	-5.7	1.00 H	236	42.90	5.40
3	*5210.00	96.3 PK			1.00 H	236	57.00	39.30
4	*5210.00	86.9 AV			1.00 H	236	47.60	39.30
5	#10420.00	57.0 PK	74.0	-17.0	1.00 H	216	40.60	16.40
6	#10420.00	45.2 AV	54.0	-8.8	1.00 H	216	28.80	16.40
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	65.3 PK	74.0	-8.7	1.48 V	203	59.90	5.40
2	5150.00	52.3 AV	54.0	-1.7	1.48 V	203	46.90	5.40
3	*5210.00	100.7 PK			1.45 V	207	61.40	39.30
4	*5210.00	91.2 AV			1.45 V	207	51.90	39.30
5	#10420.00	57.3 PK	74.0	-16.7	1.01 V	215	40.90	16.40
6	#10420.00	45.7 AV	54.0	-8.3	1.01 V	215	29.30	16.40

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. “ * “: Fundamental frequency.
6. “#”:The radiated frequency is out the restricted band.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 58	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 64%RH	TESTED BY	Alan Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5290.00	98.4 PK			1.09 H	237	59.00	39.40
2	*5290.00	89.0 AV			1.09 H	237	49.60	39.40
3	5350.00	62.5 PK	74.0	-11.5	1.04 H	234	57.00	5.50
4	5350.00	48.7 AV	54.0	-5.3	1.04 H	234	43.20	5.50
5	#10580.00	57.2 PK	74.0	-16.8	1.00 H	218	40.60	16.60
6	#10580.00	45.3 AV	54.0	-8.7	1.00 H	218	28.70	16.60
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5290.00	102.4 PK			1.03 V	211	63.00	39.40
2	*5290.00	92.8 AV			1.03 V	211	53.40	39.40
3	5350.00	67.8 PK	74.0	-6.2	1.04 V	217	62.30	5.50
4	5350.00	52.5 AV	54.0	-1.5	1.04 V	217	47.00	5.50
5	#10580.00	57.5 PK	74.0	-16.5	1.03 V	211	40.90	16.60
6	#10580.00	45.8 AV	54.0	-8.2	1.03 V	211	29.20	16.60

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. “ * “: Fundamental frequency.
6. “#”:The radiated frequency is out the restricted band.



EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 106	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 64%RH	TESTED BY	Alan Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	59.5 PK	74.0	-14.5	1.00 H	203	53.90	5.60
2	5460.00	46.1 AV	54.0	-7.9	1.00 H	203	40.50	5.60
3	#5470.00	60.0 PK	74.0	-14.0	1.00 H	203	54.40	5.60
4	#5470.00	46.5 AV	54.0	-7.5	1.00 H	203	40.90	5.60
5	*5530.00	92.2 PK			1.00 H	207	52.50	39.70
6	*5530.00	83.0 AV			1.00 H	207	43.30	39.70
7	11060.00	56.5 PK	74.0	-17.5	1.03 H	210	38.00	18.50
8	11060.00	44.2 AV	54.0	-9.8	1.03 H	210	25.70	18.50
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	60.5 PK	74.0	-13.5	1.44 V	209	54.90	5.60
2	5460.00	47.0 AV	54.0	-7.0	1.44 V	209	41.40	5.60
3	#5470.00	61.0 PK	74.0	-13.0	1.44 V	209	55.40	5.60
4	#5470.00	47.3 AV	54.0	-6.7	1.44 V	209	41.70	5.60
5	*5530.00	98.1 PK			1.48 V	206	58.40	39.70
6	*5530.00	88.5 AV			1.48 V	206	48.80	39.70
7	11060.00	56.9 PK	74.0	-17.1	1.05 V	213	38.40	18.50
8	11060.00	44.8 AV	54.0	-9.2	1.05 V	213	26.30	18.50

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
– Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. "#":The radiated frequency is out the restricted band.



802.11ac (80MHz): 2TX

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 42	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 64%RH	TESTED BY	Alan Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	62.0 PK	74.0	-12.0	1.19 H	231	56.60	5.40
2	5150.00	48.5 AV	54.0	-5.5	1.19 H	231	43.10	5.40
3	*5210.00	99.0 PK			1.11 H	237	59.70	39.30
4	*5210.00	90.8 AV			1.11 H	237	51.50	39.30
5	#10420.00	58.0 PK	74.0	-16.0	1.00 H	218	41.60	16.40
6	#10420.00	45.7 AV	54.0	-8.3	1.00 H	218	29.30	16.40

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	64.6 PK	74.0	-9.4	1.06 V	192	59.20	5.40
2	5150.00	52.3 AV	54.0	-1.7	1.06 V	192	46.90	5.40
3	*5210.00	103.5 PK			1.06 V	194	64.20	39.30
4	*5210.00	94.2 AV			1.06 V	194	54.90	39.30
5	#10420.00	58.2 PK	74.0	-15.8	1.03 V	211	41.80	16.40
6	#10420.00	46.1 AV	54.0	-7.9	1.03 V	211	29.70	16.40

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) - Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level - Limit value
5. " * " : Fundamental frequency.
6. "#":The radiated frequency is out the restricted band.



EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 58	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 64%RH	TESTED BY	Alan Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5290.00	99.3 PK			1.00 H	211	59.90	39.40
2	*5290.00	89.2 AV			1.00 H	211	49.80	39.40
3	5350.00	62.8 PK	74.0	-11.2	1.00 H	216	57.30	5.50
4	5350.00	48.9 AV	54.0	-5.1	1.00 H	216	43.40	5.50
5	#10580.00	57.5 PK	74.0	-16.5	1.00 H	212	40.90	16.60
6	#10580.00	45.8 AV	54.0	-8.2	1.00 H	212	29.20	16.60

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5290.00	102.7 PK			1.04 V	187	63.30	39.40
2	*5290.00	93.5 AV			1.04 V	187	54.10	39.40
3	5350.00	64.4 PK	74.0	-9.6	1.08 V	183	58.90	5.50
4	5350.00	52.7 AV	54.0	-1.3	1.08 V	183	47.20	5.50
5	#10580.00	58.0 PK	74.0	-16.0	1.00 V	215	41.40	16.60
6	#10580.00	46.2 AV	54.0	-7.8	1.00 V	215	29.60	16.60

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. “ * “: Fundamental frequency.
6. “#“:The radiated frequency is out the restricted band.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 106	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 64%RH	TESTED BY	Alan Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	58.4 PK	74.0	-15.6	1.00 H	232	52.80	5.60
2	5460.00	46.2 AV	54.0	-7.8	1.00 H	232	40.60	5.60
3	#5470.00	59.5 PK	74.0	-14.5	1.00 H	232	53.90	5.60
4	#5470.00	47.5 AV	54.0	-6.5	1.00 H	232	41.90	5.60
5	*5530.00	93.6 PK			1.00 H	230	53.90	39.70
6	*5530.00	84.8 AV			1.00 H	230	45.10	39.70
7	11060.00	57.2 PK	74.0	-16.8	1.00 H	212	38.70	18.50
8	11060.00	44.4 AV	54.0	-9.6	1.00 H	212	25.90	18.50

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	60.0 PK	74.0	-14.0	1.00 V	192	54.40	5.60
2	5460.00	48.0 AV	54.0	-6.0	1.00 V	192	42.40	5.60
3	#5470.00	61.9 PK	74.0	-12.1	1.00 V	192	56.30	5.60
4	#5470.00	49.1 AV	54.0	-4.9	1.00 V	192	43.50	5.60
5	*5530.00	101.0 PK			1.00 V	193	61.30	39.70
6	*5530.00	90.8 AV			1.00 V	193	51.10	39.70
7	11060.00	57.5 PK	74.0	-16.5	1.02 V	212	39.00	18.50
8	11060.00	44.9 AV	54.0	-9.1	1.02 V	212	26.40	18.50

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
– Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. “ * “: Fundamental frequency.
6. “#”:The radiated frequency is out the restricted band.



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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 48	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	23deg. C, 65%RH	TESTED BY	Alan Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	123.04	31.0 QP	43.5	-12.5	1.50 H	6	47.10	-16.10
2	165.73	34.8 QP	43.5	-8.7	1.00 H	217	49.20	-14.40
3	239.46	36.9 QP	46.0	-9.1	1.00 H	213	51.80	-14.90
4	336.48	29.6 QP	46.0	-16.4	2.00 H	209	41.40	-11.80
5	697.40	36.4 QP	46.0	-9.6	1.75 H	213	41.80	-5.40
6	751.73	40.9 QP	46.0	-5.1	1.00 H	251	44.60	-3.70

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	35.72	31.2 QP	40.0	-8.8	1.50 V	6	45.90	-14.70
2	165.73	29.9 QP	43.5	-13.6	1.50 V	6	44.30	-14.40
3	365.59	25.5 QP	46.0	-20.5	3.00 V	6	36.90	-11.40
4	431.56	27.2 QP	46.0	-18.8	1.25 V	6	37.20	-10.00
5	697.40	32.9 QP	46.0	-13.1	1.00 V	144	38.30	-5.40
6	751.73	37.1 QP	46.0	-8.9	1.00 V	81	40.80	-3.70

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 140	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	23deg. C, 65%RH	TESTED BY	Alan Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	165.73	29.3 QP	43.5	-14.2	1.24 H	273	43.70	-14.40
2	239.46	34.2 QP	46.0	-11.8	1.75 H	233	49.10	-14.90
3	431.56	32.3 QP	46.0	-13.7	3.00 H	159	42.30	-10.00
4	676.05	27.2 QP	46.0	-18.8	1.24 H	192	32.90	-5.70
5	697.40	35.5 QP	46.0	-10.5	1.00 H	231	40.90	-5.40
6	751.73	40.2 QP	46.0	-5.8	1.00 H	245	43.90	-3.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	35.72	29.1 QP	40.0	-10.9	1.25 V	13	43.80	-14.70
2	165.73	27.4 QP	43.5	-16.1	3.00 V	333	41.80	-14.40
3	499.48	31.2 QP	46.0	-14.8	1.25 V	200	40.20	-9.00
4	699.34	27.5 QP	46.0	-18.5	1.01 V	139	32.90	-5.40
5	751.73	34.9 QP	46.0	-11.1	1.01 V	69	38.60	-3.70
6	864.27	31.4 QP	46.0	-14.6	2.00 V	267	33.80	-2.40

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value

4.2 CONDUCTED EMISSION MEASUREMENT

4.2.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY OF EMISSION (MHz)	CONDUCTED LIMIT (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	100289	Nov. 16, 2012	Nov. 15, 2013
RF signal cable Woken	5D-FB	Cable-HYC01-01	Dec. 28, 2012	Dec. 27, 2013
LISN ROHDE & SCHWARZ (EUT)	ESH3-Z5	835239/001	Feb. 04, 2013	Feb. 03, 2014
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100312	Jul. 08, 2013	Jul. 07, 2014
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 1.
 3. The VCCI Site Registration No. is C-2040.

4.2.3 TEST PROCEDURES

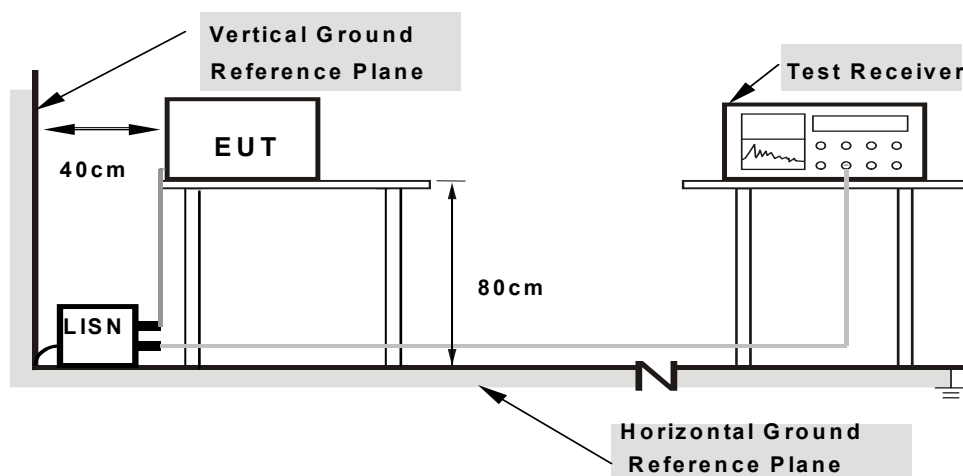
- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling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

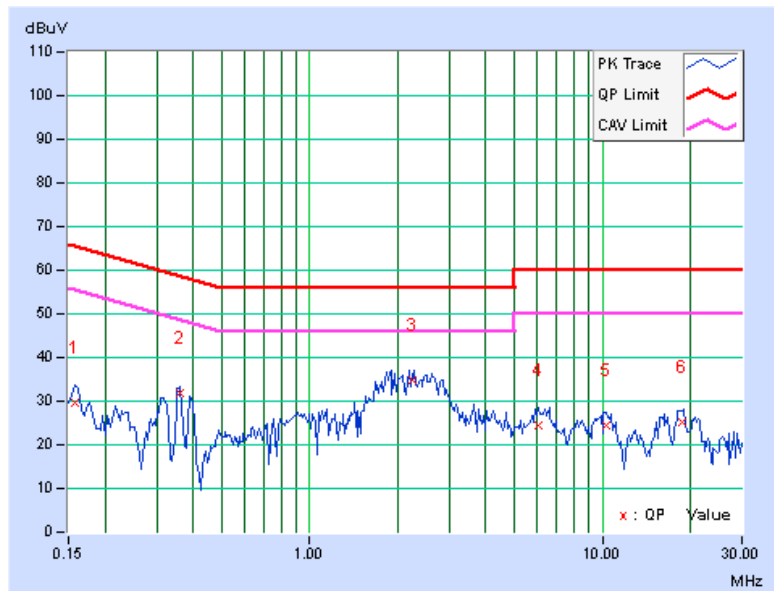
4.2.7 TEST RESULTS

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

PHASE	Line 1	6dB BANDWIDTH	9kHz
CHANNEL	Channel 48		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15781	0.16	29.48	22.16	29.64	22.32	65.58	55.58	-35.94	-33.26
2	0.36094	0.22	31.71	28.29	31.93	28.51	58.71	48.71	-26.78	-20.20
3	2.25391	0.30	34.34	26.61	34.64	26.91	56.00	46.00	-21.36	-19.09
4	6.05859	0.51	23.95	18.55	24.46	19.06	60.00	50.00	-35.54	-30.94
5	10.32813	0.74	23.79	16.17	24.53	16.91	60.00	50.00	-35.47	-33.09
6	18.80859	1.17	23.94	17.60	25.11	18.77	60.00	50.00	-34.89	-31.23

- 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.

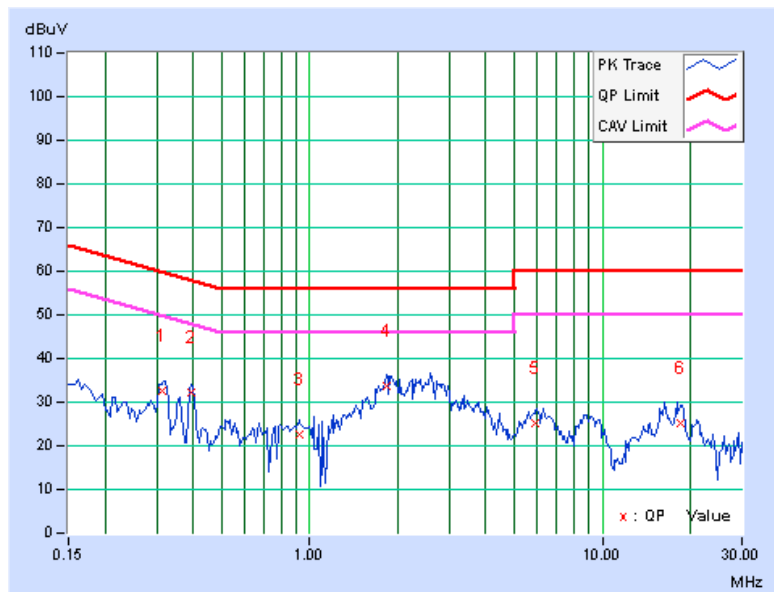




PHASE	Line 2	6dB BANDWIDTH	9kHz
CHANNEL	Channel 48		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.31406	0.21	32.21	26.51	32.42	26.72	59.86	49.86	-27.44	-23.14
2	0.39219	0.24	31.84	28.92	32.08	29.16	58.02	48.02	-25.94	-18.86
3	0.91953	0.25	22.51	16.31	22.76	16.56	56.00	46.00	-33.24	-29.44
4	1.82813	0.27	33.56	26.55	33.83	26.82	56.00	46.00	-22.17	-19.18
5	5.87891	0.45	24.86	17.67	25.31	18.12	60.00	50.00	-34.69	-31.88
6	18.62109	0.88	24.48	19.44	25.36	20.32	60.00	50.00	-34.64	-29.68

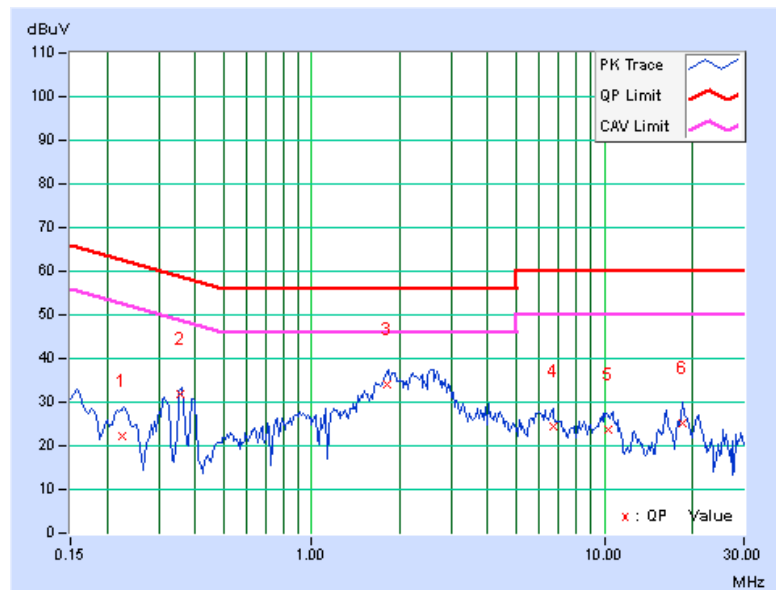
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. The emission levels of other frequencies were very low against the limit.
 3. Margin value = Emission level - Limit value
 4. Correction factor = Insertion loss + Cable loss
 5. Emission Level = Correction Value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



PHASE	Line 1	6dB BANDWIDTH	9kHz
CHANNEL	Channel 140		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.22422	0.17	22.16	17.02	22.33	17.19	62.66	52.66	-40.33	-35.47
2	0.35703	0.21	31.72	31.32	31.93	31.53	58.80	48.80	-26.86	-17.26
3	1.80469	0.28	33.79	25.46	34.07	25.74	56.00	46.00	-21.93	-20.26
4	6.66797	0.54	23.98	15.86	24.52	16.40	60.00	50.00	-35.48	-33.60
5	10.30859	0.74	22.95	16.54	23.69	17.28	60.00	50.00	-36.31	-32.72
6	18.47266	1.15	24.04	18.25	25.19	19.40	60.00	50.00	-34.81	-30.60

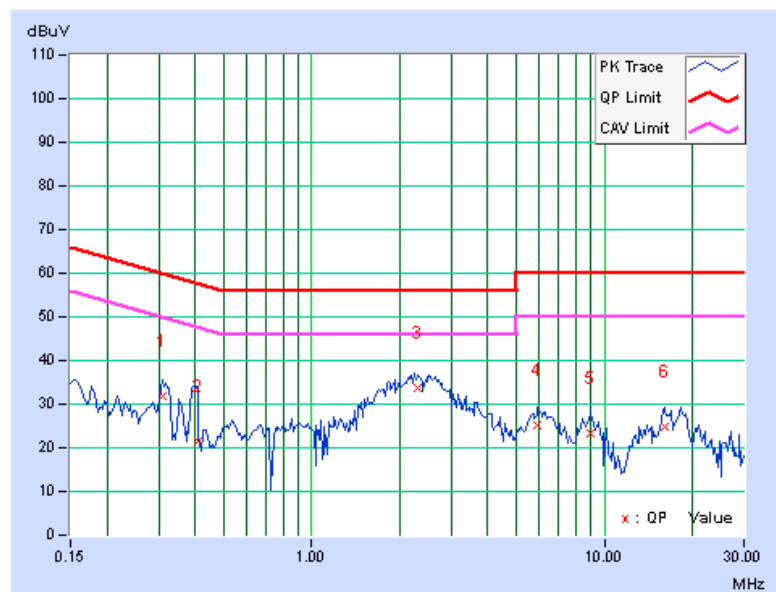
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. The emission levels of other frequencies were very low against the limit.
 3. Margin value = Emission level - Limit value
 4. Correction factor = Insertion loss + Cable loss
 5. Emission Level = Correction Factor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



PHASE	Line 2	6dB BANDWIDTH	9kHz
CHANNEL	Channel 140		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.31016	0.21	31.47	22.85	31.68	23.06	59.97	49.97	-28.29	-26.91
2	0.40781	0.24	21.21	13.20	21.45	13.44	57.69	47.69	-36.24	-34.25
3	2.30078	0.30	33.32	26.99	33.62	27.29	56.00	46.00	-22.38	-18.71
4	5.86719	0.45	24.72	17.78	25.17	18.23	60.00	50.00	-34.83	-31.77
5	8.97656	0.56	22.95	17.52	23.51	18.08	60.00	50.00	-36.49	-31.92
6	16.03125	0.80	23.96	18.55	24.76	19.35	60.00	50.00	-35.24	-30.65

- 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 Value + 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.

Per KDB 662911 D01 Multiple Transmitter Output v02 Method of conducted output power measurement on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for NANT \leq 4;

Array Gain = 0 dB (i.e., no array gain) for channel widths \geq 40 MHz for any NANT;

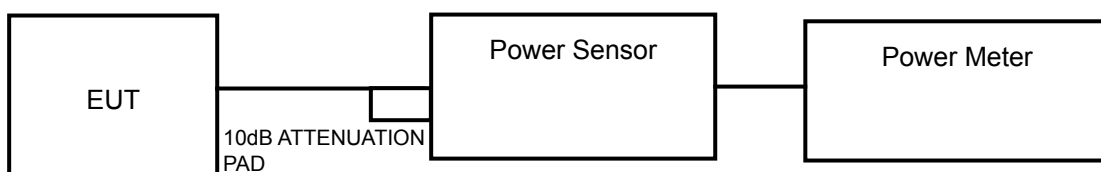
Array Gain = 5 log(NANT/NSS) dB or 3 dB, whichever is less for 20-MHz channel widths with NANT \geq 5.

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

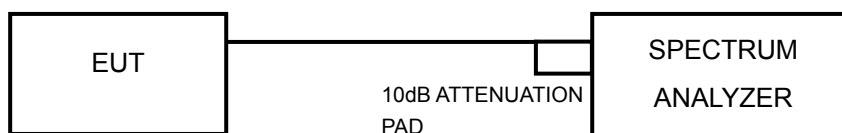
4.3.2 TEST SETUP

FOR POWER OUTPUT MEASUREMENT

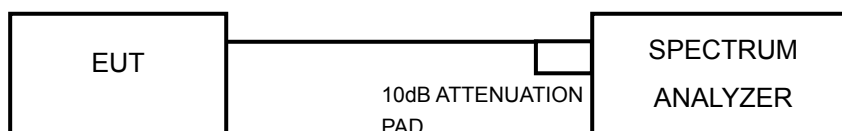
For 802.11a, 802.11n (20MHz), 802.11n (40MHz)



For 802.11ac (80MHz)



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

For 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.

For 802.11ac (80MHz)

Method SA-1

- 1) Set span to encompass the entire emission bandwidth (EBW) of the signal.
- 2) Set RBW = 1 MHz.
- 3) Set VBW \geq 3 MHz.
- 4) Number of points in sweep \geq 2 Span / RBW.
- 5) Sweep time = auto.
- 6) Set trigger to free run (duty cycle \geq 98 percent); Set video trigger (duty cycle $<$ 98 percent)
- 7) Detector = RMS.
- 8) Trace average at least 100 traces in power averaging mode
- 9) Compute power by integrating the spectrum across the 26 dB EBW of the signal.

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.



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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	45.290	16.56	17	PASS
40	5200	44.771	16.51	17	PASS
48	5240	47.424	16.76	17	PASS
52	5260	46.026	16.63	24	PASS
60	5300	47.973	16.81	24	PASS
64	5320	49.204	16.92	24	PASS
100	5500	17.989	12.55	24	PASS
116	5580	17.458	12.42	24	PASS
140	5700	19.055	12.80	24	PASS

NOTE:

For 5180~5240MHz:

1. $4\text{dBm} + 10\log(21.85) = 17.39\text{dBm} > 17\text{dBm}$.
2. $4\text{dBm} + 10\log(22.37) = 17.50\text{dBm} > 17\text{dBm}$.
3. $4\text{dBm} + 10\log(22.64) = 17.55\text{dBm} > 17\text{dBm}$.

For 5260~5700MHz:

1. $11\text{dBm} + 10\log(22.28) = 24.48\text{dBm} > 24\text{dBm}$.
2. $11\text{dBm} + 10\log(21.83) = 24.39\text{dBm} > 24\text{dBm}$.
3. $11\text{dBm} + 10\log(22.28) = 24.48\text{dBm} > 24\text{dBm}$.
4. $11\text{dBm} + 10\log(20.44) = 24.10\text{dBm} > 24\text{dBm}$.
5. $11\text{dBm} + 10\log(20.42) = 24.10\text{dBm} > 24\text{dBm}$.
6. $11\text{dBm} + 10\log(20.44) = 24.10\text{dBm} > 24\text{dBm}$.



802.11n (20MHz): 1TX

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)	POWER LIMIT (dBm)	PASS/FAIL
36	5180	44.875	16.52	17	PASS
40	5200	44.463	16.48	17	PASS
48	5240	48.753	16.88	17	PASS
52	5260	47.206	16.74	24	PASS
60	5300	45.082	16.54	24	PASS
64	5320	45.290	16.56	24	PASS
100	5500	17.418	12.41	24	PASS
116	5580	17.219	12.36	24	PASS
140	5700	21.135	13.25	24	PASS

NOTE:

For 5180~5240MHz:

1. $4\text{dBm} + 10\log(21.18) = 17.26\text{dBm} > 17\text{dBm}$.
2. $4\text{dBm} + 10\log(22.25) = 17.47\text{dBm} > 17\text{dBm}$.
3. $4\text{dBm} + 10\log(22.62) = 17.54\text{dBm} > 17\text{dBm}$.

For 5260~5700MHz:

1. $11\text{dBm} + 10\log(21.32) = 24.29\text{dBm} > 24\text{dBm}$.
2. $11\text{dBm} + 10\log(21.38) = 24.30\text{dBm} > 24\text{dBm}$.
3. $11\text{dBm} + 10\log(21.30) = 24.28\text{dBm} > 24\text{dBm}$.
4. $11\text{dBm} + 10\log(20.81) = 24.18\text{dBm} > 24\text{dBm}$.
5. $11\text{dBm} + 10\log(20.64) = 24.15\text{dBm} > 24\text{dBm}$.
6. $11\text{dBm} + 10\log(20.89) = 24.20\text{dBm} > 24\text{dBm}$.



802.11n (20MHz): 2TX

CHAN.	CHAN. FREQ. (MHz)	AVERAGE POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
36	5180	13.77	13.88	48.257	16.84	17	PASS
40	5200	13.72	13.84	47.760	16.79	17	PASS
48	5240	13.88	13.92	49.094	16.91	17	PASS
52	5260	14.99	14.66	60.792	17.84	24	PASS
60	5300	14.98	14.74	61.262	17.87	24	PASS
64	5320	14.77	14.88	60.753	17.84	24	PASS
100	5500	11.34	12.42	31.072	14.92	24	PASS
116	5580	11.66	13.18	35.452	15.50	24	PASS
140	5700	11.88	14.89	46.249	16.65	24	PASS

NOTE:

For 5180~5240MHz:

CHAIN 0

- 1. 4dBm + 10log(20.64) = 17.15dBm > 17dBm.
- 2. 4dBm + 10log(21.36) = 17.30dBm > 17dBm.
- 3. 4dBm + 10log(20.30) = 17.07dBm > 17dBm.

CHAIN 1

- 1. 4dBm + 10log(20.65) = 17.15dBm > 17dBm.
- 2. 4dBm + 10log(20.83) = 17.19dBm > 17dBm.
- 3. 4dBm + 10log(20.39) = 17.09dBm > 17dBm.

For 5260~5700MHz:

CHAIN 0

- 1. 11dBm + 10log(20.63) = 24.14dBm > 24dBm.
- 2. 11dBm + 10log(20.57) = 24.13dBm > 24dBm.
- 3. 11dBm + 10log(20.74) = 24.17dBm > 24dBm.
- 4. 11dBm + 10log(20.62) = 24.14dBm > 24dBm.
- 5. 11dBm + 10log(20.66) = 24.15dBm > 24dBm.
- 6. 11dBm + 10log(20.84) = 24.19dBm > 24dBm.

CHAIN 1

- 1. 11dBm + 10log(20.89) = 24.20dBm > 24dBm.
- 2. 11dBm + 10log(20.70) = 24.16dBm > 24dBm.
- 3. 11dBm + 10log(20.57) = 24.13dBm > 24dBm.
- 4. 11dBm + 10log(20.89) = 24.20dBm > 24dBm.
- 5. 11dBm + 10log(20.54) = 24.13dBm > 24dBm.
- 6. 11dBm + 10log(20.84) = 24.19dBm > 24dBm.



802.11n (40MHz): 1TX

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)	POWER LIMIT (dBm)	PASS/FAIL
38	5190	46.452	16.67	17	PASS
46	5230	48.084	16.82	17	PASS
54	5270	33.651	15.27	24	PASS
62	5310	35.810	15.54	24	PASS
102	5510	15.136	11.80	24	PASS
110	5550	15.101	11.79	24	PASS
134	5670	14.588	11.64	24	PASS

NOTE:

For 5190~5230MHz:

1. $4\text{dBm} + 10\log(58.58) = 21.68\text{dBm} > 17\text{dBm}$.
2. $4\text{dBm} + 10\log(69.17) = 22.40\text{dBm} > 17\text{dBm}$.

For 5270~5670MHz:

1. $11\text{dBm} + 10\log(44.61) = 27.49\text{dBm} > 24\text{dBm}$.
2. $11\text{dBm} + 10\log(46.39) = 27.66\text{dBm} > 24\text{dBm}$.
3. $11\text{dBm} + 10\log(44.51) = 27.48\text{dBm} > 24\text{dBm}$.
4. $11\text{dBm} + 10\log(44.70) = 27.50\text{dBm} > 24\text{dBm}$.
5. $11\text{dBm} + 10\log(44.60) = 27.49\text{dBm} > 24\text{dBm}$.



802.11n (40MHz): 2TX

CHAN.	CHAN. FREQ. (MHz)	AVERAGE POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
38	5190	13.62	13.81	47.058	16.73	17	PASS
46	5230	13.66	13.71	46.723	16.70	17	PASS
54	5270	14.57	14.22	55.066	17.41	24	PASS
62	5310	14.21	14.16	52.425	17.20	24	PASS
102	5510	11.21	12.07	29.319	14.67	24	PASS
110	5550	11.01	12.07	28.724	14.58	24	PASS
134	5670	11.04	13.64	35.827	15.54	24	PASS

NOTE:

For 5190~5230MHz:

CHAIN 0

- 1. 4dBm + 10log(43.81) = 20.42dBm > 17dBm.
- 2. 4dBm + 10log(44.24) = 20.46dBm > 17dBm.

CHAIN 1

- 1. 4dBm + 10log(43.04) = 20.34dBm > 17dBm.
- 2. 4dBm + 10log(43.28) = 20.36dBm > 17dBm.

For 5270~5670MHz:

CHAIN 0

- 1. 11dBm + 10log(43.61) = 27.40dBm > 24dBm.
- 2. 11dBm + 10log(43.57) = 27.39dBm > 24dBm.
- 3. 11dBm + 10log(43.96) = 27.43dBm > 24dBm.
- 4. 11dBm + 10log(43.86) = 27.42dBm > 24dBm.
- 5. 11dBm + 10log(44.58) = 27.49dBm > 24dBm.

CHAIN 1

- 1. 11dBm + 10log(43.09) = 27.34dBm > 24dBm.
- 2. 11dBm + 10log(43.42) = 27.38dBm > 24dBm.
- 3. 11dBm + 10log(43.47) = 27.38dBm > 24dBm.
- 4. 11dBm + 10log(43.61) = 27.40dBm > 24dBm.
- 5. 11dBm + 10log(43.63) = 27.40dBm > 24dBm.



802.11ac (80MHz): 1TX

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)	POWER LIMIT (dBm)	PASS/FAIL
42	5210	18.836	12.75	17	PASS
58	5290	36.058	15.57	24	PASS
106	5530	16.943	12.29	24	PASS

NOTE:

For 5180~5240MHz:

1. 4dBm + 10log(84.48) = 23.27dBm > 17dBm.

For 5260~5700MHz:

1. 11dBm + 10log(85.02) = 30.30dBm > 24dBm.

2. 11dBm + 10log(84.66) = 30.28dBm > 24dBm.

802.11ac (80MHz): 2TX

CHAN.	CHAN. FREQ. (MHz)	AVERAGE POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
42	5210	13.85	13.88	48.700	16.88	17	PASS
58	5290	14.97	14.88	62.166	17.94	24	PASS
106	5530	11.05	12.84	31.966	15.05	24	PASS

NOTE:

For 5180~5240MHz:

CHAIN 0

1. 4dBm + 10log(84.90) = 23.29dBm > 17dBm.

CHAIN 1

1. 4dBm + 10log(83.90) = 23.24dBm > 17dBm.

For 5260~5700MHz:

CHAIN 0

1. 11dBm + 10log(84.23) = 30.25dBm > 24dBm.

2. 11dBm + 10log(85.06) = 30.30dBm > 24dBm.

CHAIN 1

1. 11dBm + 10log(85.08) = 30.30dBm > 24dBm.

2. 11dBm + 10log(84.13) = 30.25dBm > 24dBm.



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26dB BANDWIDTH:

802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)	PASS / FAIL
36	5180	21.85	PASS
40	5200	22.37	PASS
48	5240	22.64	PASS
52	5260	22.28	PASS
60	5300	21.83	PASS
64	5320	22.28	PASS
100	5500	20.44	PASS
116	5580	20.42	PASS
140	5700	20.44	PASS



802.11n (20MHz): 1TX

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)	PASS / FAIL
36	5180	21.18	PASS
40	5200	22.25	PASS
48	5240	22.62	PASS
52	5260	21.32	PASS
60	5300	21.38	PASS
64	5320	21.30	PASS
100	5500	20.81	PASS
116	5580	20.64	PASS
140	5700	20.89	PASS

802.11n (20MHz): 2TX

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)		PASS / FAIL
		CHAIN 0	CHAIN 1	
36	5180	20.64	20.65	PASS
40	5200	21.36	20.83	PASS
48	5240	20.30	20.39	PASS
52	5260	20.63	20.89	PASS
60	5300	20.57	20.70	PASS
64	5320	20.74	20.57	PASS
100	5500	20.62	20.89	PASS
116	5580	20.66	20.54	PASS
140	5700	20.84	20.84	PASS



802.11n (40MHz): 1TX

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)	PASS / FAIL
38	5190	58.57	PASS
46	5230	69.17	PASS
54	5270	44.61	PASS
62	5310	46.39	PASS
102	5510	44.51	PASS
110	5550	44.70	PASS
134	5670	44.60	PASS

802.11n (40MHz): 2TX

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)		PASS / FAIL
		CHAIN 0	CHAIN 1	
38	5190	43.81	43.04	PASS
46	5230	44.24	43.28	PASS
54	5270	43.61	43.09	PASS
62	5310	43.57	43.42	PASS
102	5510	43.96	43.47	PASS
110	5550	43.86	43.61	PASS
134	5670	44.58	43.63	PASS

802.11ac (80MHz): 1TX

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)	PASS / FAIL
42	5210	84.48	PASS
58	5290	85.02	PASS
106	5530	84.66	PASS

802.11ac (80MHz): 2TX

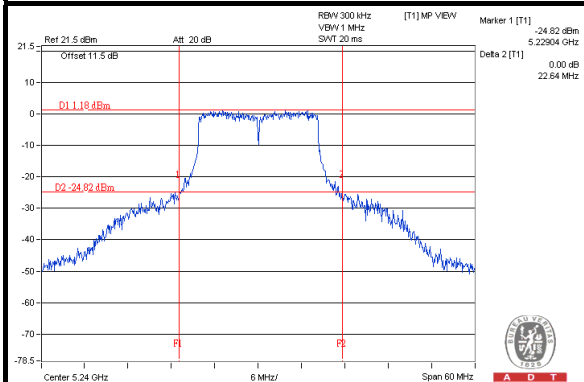
CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)		PASS / FAIL
		CHAIN 0	CHAIN 1	
42	5210	84.90	83.90	PASS
58	5290	84.23	85.08	PASS
106	5530	85.06	84.13	PASS



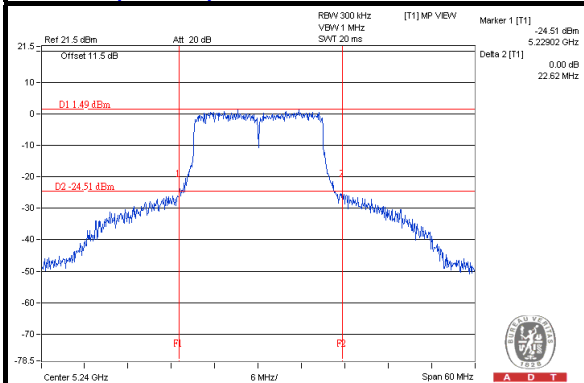
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SPECTRUM PLOT OF WORST VALUE

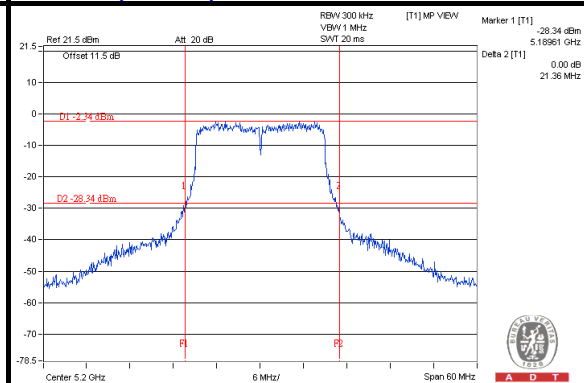
802.11a



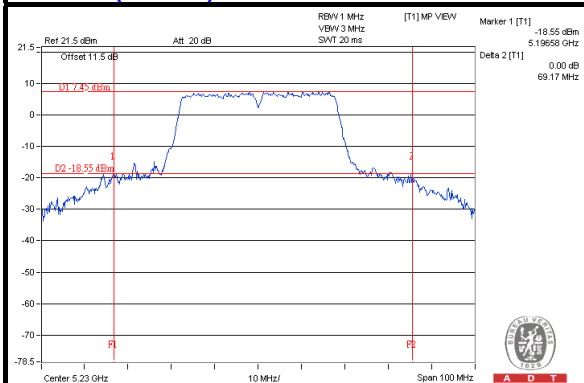
802.11n (20MHz): 1TX



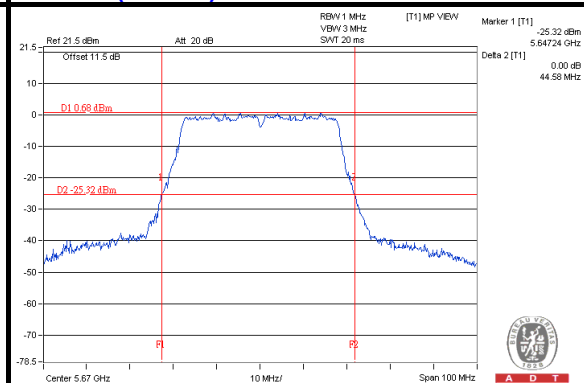
802.11n (20MHz): 2TX



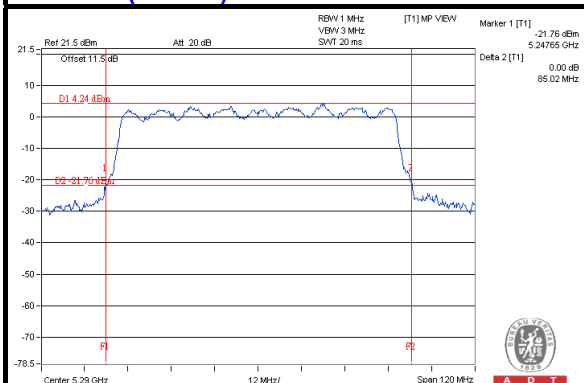
802.11n (40MHz): 1TX



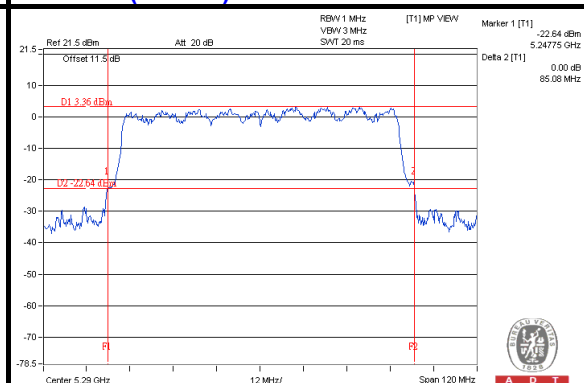
802.11n (40MHz): 2TX



802.11ac (80MHz): 1TX



802.11ac (80MHz): 2TX



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

Using method SA-1

- 1) Set span to encompass the entire emission bandwidth (EBW) of the signal.
- 2) Set RBW = 30 KHz, Set VBW \geq 1 MHz, Detector = RMS
- 3) Set Channel power measure = 1MHz
- 4) Sweep time = auto, trigger set to "free run".
- 5) Trace average at least 100 traces in power averaging mode.
- 6) Record the max value

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 (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
36	5180	3.39	4	PASS
40	5200	3.67	4	PASS
48	5240	3.61	4	PASS
52	5260	3.42	11	PASS
60	5300	3.70	11	PASS
64	5320	3.56	11	PASS
100	5500	-0.36	11	PASS
116	5580	-0.37	11	PASS
140	5700	-0.54	11	PASS

**802.11n (20MHz): 1TX**

CHANNEL	FREQUENCY (MHz)	PSD (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
36	5180	3.07	4	PASS
40	5200	3.26	4	PASS
48	5240	3.54	4	PASS
52	5260	3.39	11	PASS
60	5300	3.51	11	PASS
64	5320	3.37	11	PASS
100	5500	-1.28	11	PASS
116	5580	-1.23	11	PASS
140	5700	-1.24	11	PASS

802.11n (20MHz): 2TX

CHAN.	CHAN. FREQ. (MHz)	PSD (dBm)		TOTAL POWER DENSITY (dBm)	MAX. LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1			
36	5180	-0.46	-1.08	2.25	2.99	PASS
40	5200	-0.19	-1.11	2.38	2.99	PASS
48	5240	-0.16	-0.41	2.73	2.99	PASS
52	5260	0.48	-0.18	3.17	9.99	PASS
60	5300	0.69	0.38	3.55	9.99	PASS
64	5320	0.55	0.04	3.31	9.99	PASS
100	5500	-2.68	-2.12	0.62	9.99	PASS
116	5580	-2.93	-0.86	1.24	9.99	PASS
140	5700	-2.60	-0.03	1.88	9.99	PASS

NOTE: 1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.

2. For 5180~5240MHz:

Directional gain = 4dBi + 10log(2) = 7.01dBi > 6dBi , so the power density limit shall be reduced to 4-(7.01-6) = 2.99dBm.

For 5260~5700MHz:

Directional gain = 4dBi + 10log(2) = 7.01dBi > 6dBi , so the power density limit shall be reduced to 11-(7.01-6) = 9.99dBm.

**802.11n (40MHz): 1TX**

CHANNEL	FREQUENCY (MHz)	PSD (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
38	5190	-0.19	4	PASS
46	5230	0.52	4	PASS
54	5270	-0.77	11	PASS
62	5310	-0.11	11	PASS
102	5510	-5.14	11	PASS
110	5550	-4.92	11	PASS
134	5670	-5.29	11	PASS

802.11n (40MHz): 2TX

CHAN.	CHAN. FREQ. (MHz)	PSD (dBm)		TOTAL POWER DENSITY (dBm)	MAX. LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1			
38	5190	-4.88	-4.53	-1.69	2.99	PASS
46	5230	-3.90	-4.17	-1.02	2.99	PASS
54	5270	-3.11	-3.50	-0.29	9.99	PASS
62	5310	-2.78	-3.24	0.01	9.99	PASS
102	5510	-6.77	-5.95	-3.33	9.99	PASS
110	5550	-6.70	-5.78	-3.21	9.99	PASS
134	5670	-8.17	-4.67	-3.07	9.99	PASS

NOTE: 1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.

2. For 5190~5230MHz:

Directional gain = 4dBi + 10log(2) = 7.01dBi > 6dBi , so the power density limit shall be reduced to 4-(7.01-6) = 2.99dBm.

For 5270~5670MHz:

Directional gain = 4dBi + 10log(2) = 7.01dBi > 6dBi , so the power density limit shall be reduced to 11-(7.01-6) = 9.99dBm.

**802.11ac (80MHz): 1TX**

CHANNEL	FREQUENCY (MHz)	PSD (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
42	5210	-6.86	4	PASS
58	5290	-3.34	11	PASS
106	5530	-6.61	11	PASS

802.11ac (80MHz): 2TX

CHAN.	CHAN. FREQ. (MHz)	PSD (dBm)		TOTAL POWER DENSITY (dBm)	MAX. LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1			
42	5210	-6.27	-6.19	-3.22	2.99	PASS
58	5290	-5.12	-5.21	-2.15	9.99	PASS
106	5530	-8.71	-7.46	-5.03	9.99	PASS

NOTE: 1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.

2. For 5210MHz:

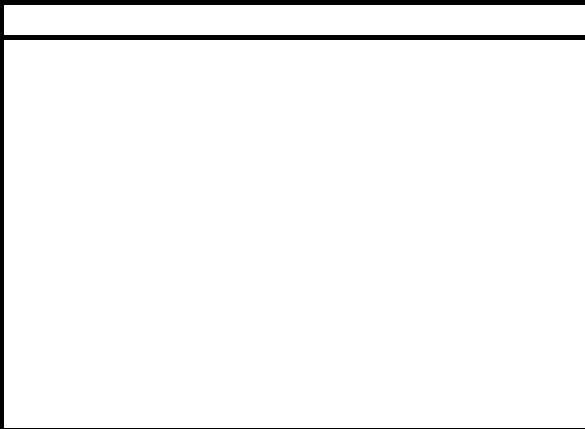
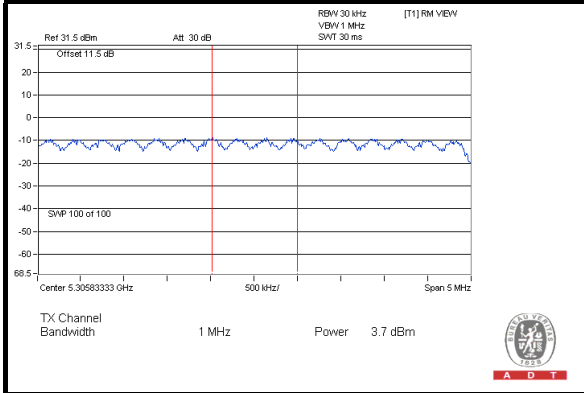
Directional gain = $4\text{dBi} + 10\log(2) = 7.01\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $4-(7.01-6) = 2.99\text{dBm}$.

For 5290~5530MHz:

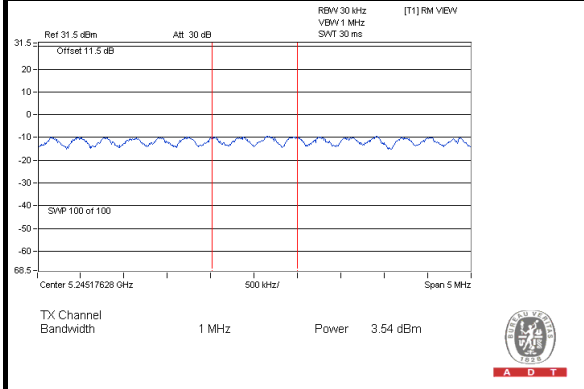
Directional gain = $4\text{dBi} + 10\log(2) = 7.01\text{dBi} > 6\text{dBi}$, so the power density limit shall be reduced to $11-(7.01-6) = 9.99\text{dBm}$.

SPECTRUM PLOT OF WORST VALUE

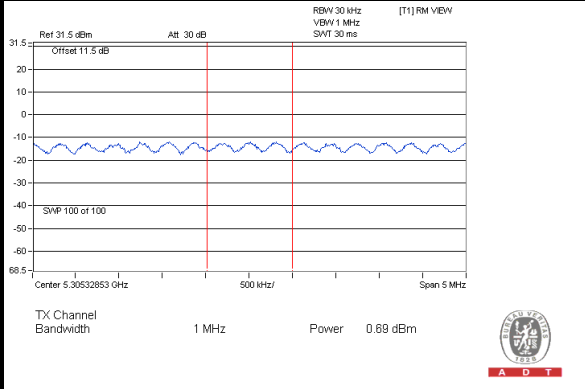
802.11a



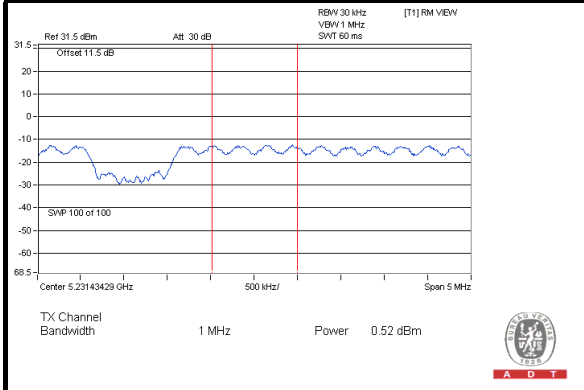
802.11n (20MHz): 1TX



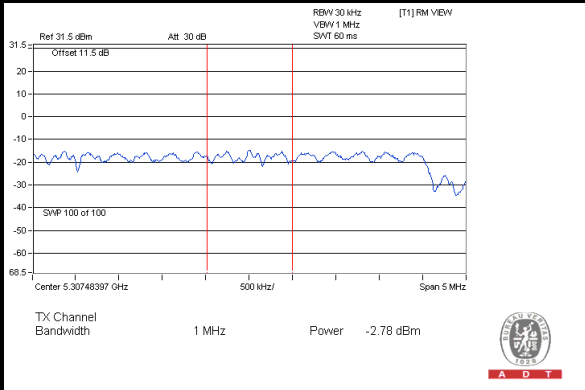
802.11n (20MHz): 2TX



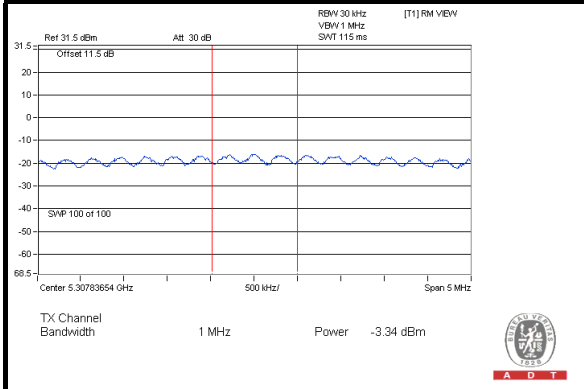
802.11n (40MHz): 1TX



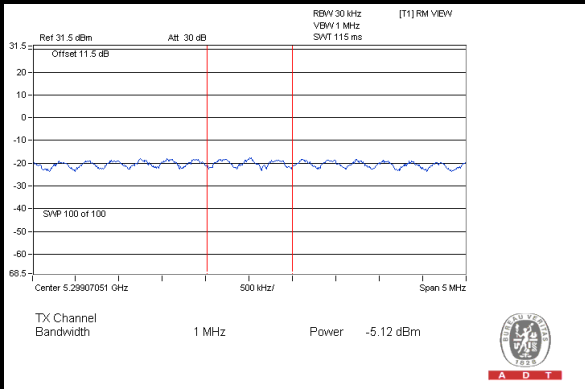
802.11n (40MHz): 2TX



802.11ac (80MHz): 1TX



802.11ac (80MHz): 2TX

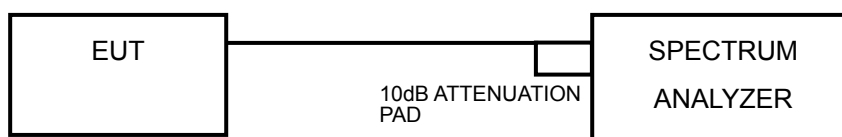


4.5 PEAK POWER EXCURSION MEASUREMENT

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.
Find the worst channel and modulation mode as above test procedure, and follow KDB 789033 D01 General UNII Test Procedures v01r03 and repeat step 1 to 5 for final testing of each modulation mode on a single channel (all modulation types) in a single operating band to compliance with the peak excursion requirement.

4.5.5 DEVIATION FROM TEST STANDARD

No deviation.

4.5.6 EUT OPERATING CONDITIONS

Same as 4.2.6

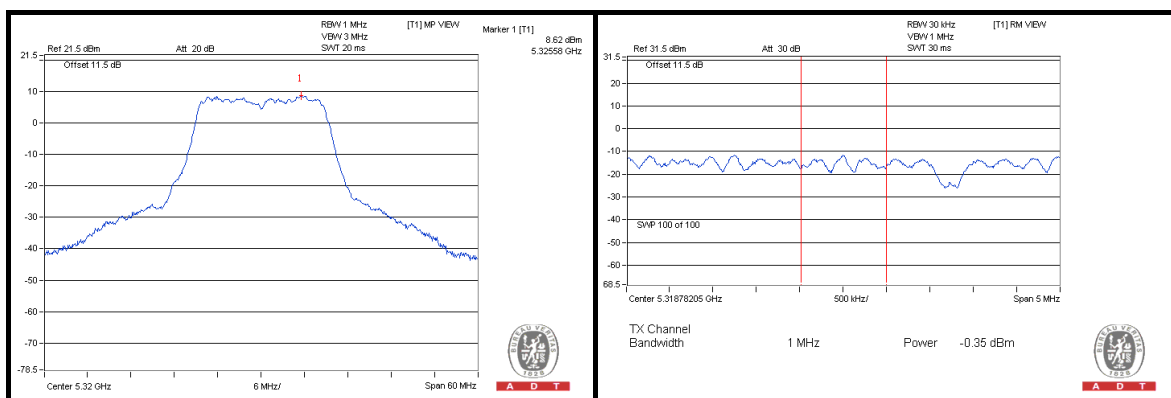


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4.5.7 TEST RESULTS

FOR 5180 ~ 5320MHz

MODULATION MODE	MODULATION TYPE	CHANNEL FREQUENCY (MHz)	PEAK VALUE (dBm)	PPSD (dBm)	PEAK EXCURSION (dB)	LIMIT (dB)	PASS/ FAIL
802.11a	BPSK	5260	10.67	3.42	7.25	13	PASS
	QPSK		12.07	3.95	8.12	13	PASS
	16QAM		11.00	3.72	7.28	13	PASS
	64QAM		12.30	3.89	8.41	13	PASS
802.11n (20MHz)	BPSK	5320	10.64	3.37	7.27	13	PASS
	QPSK		8.46	0.48	7.98	13	PASS
	16QAM		9.29	0.65	8.64	13	PASS
	64QAM		8.62	-0.35	8.97	13	PASS
802.11n (40MHz)	BPSK	5270	6.84	-0.77	7.61	13	PASS
	QPSK		4.62	-3.39	8.01	13	PASS
	16QAM		4.76	-3.78	8.54	13	PASS
	64QAM		4.11	-3.60	7.71	13	PASS
802.11ac (80MHz)	BPSK	5210	0.99	-6.86	7.85	13	PASS
	QPSK		1.20	-6.42	7.62	13	PASS
	16QAM		1.50	-6.70	8.20	13	PASS
	64QAM		2.45	-5.83	8.28	13	PASS
	256QAM		1.53	-5.66	7.19	13	PASS

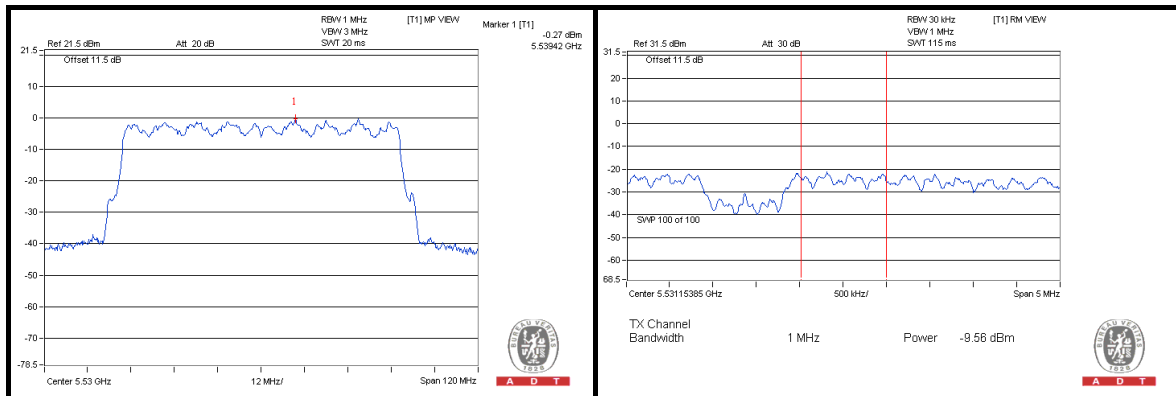




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FOR 5500 ~ 5700MHz

MODULATION MODE	MODULATION TYPE	CHANNEL FREQUENCY (MHz)	PEAK VALUE (dBm)	PPSD (dBm)	PEAK EXCURSION (dB)	LIMIT (dB)	PASS/ FAIL
802.11a	BPSK	5500	6.75	-0.36	7.11	13	PASS
	QPSK		7.92	-0.56	8.48	13	PASS
	16QAM		7.26	-0.33	7.59	13	PASS
	64QAM		8.23	-0.76	8.99	13	PASS
802.11n (20MHz)	BPSK	5700	8.80	-0.03	8.83	13	PASS
	QPSK		7.13	0.02	7.11	13	PASS
	16QAM		7.98	0.46	7.52	13	PASS
	64QAM		8.67	-0.06	8.73	13	PASS
802.11n (40MHz)	BPSK	5670	2.09	-5.29	7.38	13	PASS
	QPSK		4.01	-4.21	8.22	13	PASS
	16QAM		3.77	-4.65	8.42	13	PASS
	64QAM		3.33	-4.13	7.46	13	PASS
802.11ac (80MHz)	BPSK	5530	0.86	-6.61	7.47	13	PASS
	QPSK		-0.98	-9.24	8.26	13	PASS
	16QAM		-0.97	-9.27	8.30	13	PASS
	64QAM		-0.27	-9.56	9.29	13	PASS
	256QAM		-0.56	-9.20	8.64	13	PASS

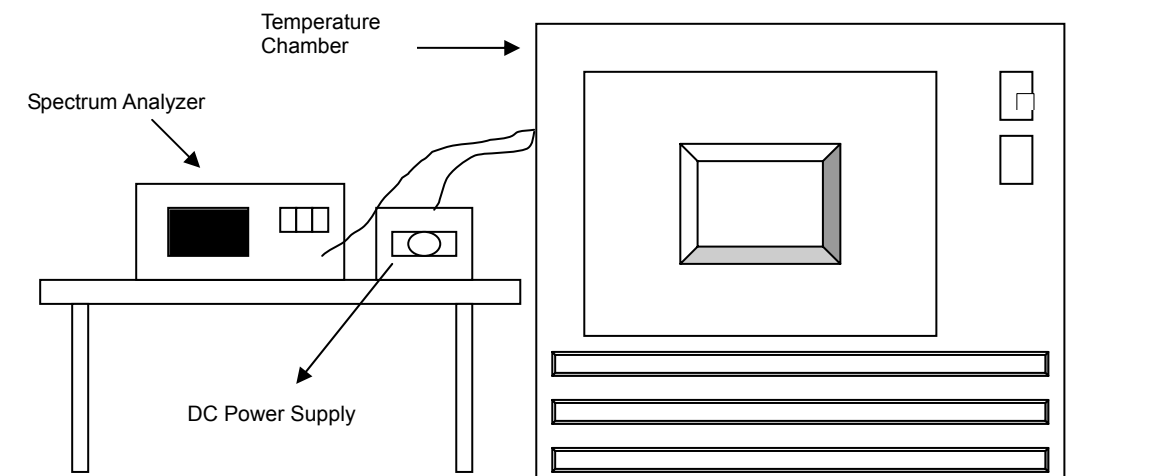


4.6 FREQUENCY STABILITY

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. The EUT was placed inside the environmental test chamber and powered by nominal DC voltage.
- b. Turn the EUT on and couple its output to a spectrum analyzer.
- c. Turn the EUT off and set the chamber to the highest temperature specified.
- d. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT on and measure the operating frequency after 2, 5, and 10 minutes.
- e. Repeat step 2 and 3 with the temperature chamber set to the lowest temperature.
- f. The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.

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 (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)
55	5	5320.0127	0.00024	5320.0061	0.00011	5320.0139	0.00026	5320.0106	0.00020
50	5	5319.9876	-0.00023	5319.9925	-0.00014	5319.9869	-0.00025	5319.9909	-0.00017
40	5	5320.0148	0.00028	5320.0199	0.00037	5320.0132	0.00025	5320.0154	0.00029
30	5	5320.0076	0.00014	5320.0066	0.00012	5320.0080	0.00015	5320.0110	0.00021
20	5	5320.0018	0.00003	5320.0053	0.00010	5320.0030	0.00006	5320.0115	0.00022
10	5	5319.9965	-0.00007	5320.0014	0.00003	5319.9952	-0.00009	5320.0007	0.00001
0	5	5320.0008	0.00002	5320.0094	0.00018	5320.0055	0.00010	5320.0083	0.00016
-10	5	5320.0136	0.00026	5320.0076	0.00014	5320.0156	0.00029	5320.0161	0.00030
-20	5	5319.9920	-0.00015	5319.9879	-0.00023	5319.9891	-0.00020	5319.9956	-0.00008
-30	5	5320.0127	0.00024	5320.0061	0.00011	5320.0139	0.00026	5320.0106	0.00020

FREQUENCY STABILITY VERSUS VOLTAGE									
OPERATING FREQUENCY: 5320MHz									
TEMP. (°C)	POWER SUPPLY (Vdc)	0 MINUTE		2 MINUTE		5 MINUTE		10 MINUTE	
		Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)
20	5.75	5320.0072	0.00014	5320.0060	0.00011	5320.0084	0.00016	5320.0103	0.00019
	5	5320.0076	0.00014	5320.0066	0.00012	5320.0080	0.00015	5320.0110	0.00021
	4.25	5320.0081	0.00015	5320.0066	0.00012	5320.0082	0.00015	5320.0114	0.00021



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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.



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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---