

FCC TEST REPORT (15.407)

REPORT NO.: RF131023C26-1
MODEL NO.: 0P6B130
FCC ID: NM80P6B130
RECEIVED: Oct. 23, 2013
TESTED: Nov. 19, 2013 ~ Jan. 04, 2014
ISSUED: Jan. 09, 2014

APPLICANT: HTC Corporation

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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 DESCRIPTION OF SUPPORT UNITS	13
3.3.1 CONFIGURATION OF SYSTEM UNDER TEST	13
3.4 DUTY CYCLE TEST SIGNAL	14
3.5 GENERAL DESCRIPTION OF APPLIED STANDARDS	18
4. TEST TYPES AND RESULTS	19
4.1 RADIATED EMISSION AND BANDEDGE MEASUREMENT	19
4.1.1 LIMITS OF RADIATED EMISSION AND BANDEDGE MEASUREMENT	19
4.1.2 LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS	19
4.1.3 TEST INSTRUMENTS	20
4.1.4 TEST PROCEDURES	21
4.1.5 DEVIATION FROM TEST STANDARD	21
4.1.6 TEST SETUP	22
4.1.7 EUT OPERATING CONDITIONS	23
4.1.8 TEST RESULTS	24
4.2 CONDUCTED EMISSION MEASUREMENT	57
4.2.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT	57
4.2.2 TEST INSTRUMENTS	57
4.2.3 TEST PROCEDURES	58
4.2.4 DEVIATION FROM TEST STANDARD	58
4.2.5 TEST SETUP	59
4.2.6 EUT OPERATING CONDITIONS	59
4.2.7 TEST RESULTS	60
4.3 PEAK TRANSMIT POWER MEASUREMENT	62
4.3.1 LIMITS OF PEAK TRANSMIT POWER MEASUREMENT	62
4.3.2 TEST SETUP	62
4.3.3 TEST INSTRUMENTS	62
4.3.4 TEST PROCEDURE	63
4.3.5 DEVIATION FROM TEST STANDARD	63
4.3.6 EUT OPERATING CONDITIONS	63
4.3.7 TEST RESULTS	64
4.4 PEAK POWER SPECTRAL DENSITY MEASUREMENT	68
4.4.1 LIMITS OF PEAK POWER SPECTRAL DENSITY MEASUREMENT	68
4.4.2 TEST SETUP	68
4.4.3 TEST INSTRUMENTS	68
4.4.4 TEST PROCEDURES	68
4.4.5 DEVIATION FROM TEST STANDARD	69
4.4.6 EUT OPERATING CONDITIONS	69
4.4.7 TEST RESULTS	69
4.5 PEAK POWER EXCURSION MEASUREMENT	72
4.5.1 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT	72
4.5.2 TEST SETUP	72
4.5.3 TEST INSTRUMENTS	72
4.5.4 TEST PROCEDURE	72
4.5.5 DEVIATION FROM TEST STANDARD	72



A D T

4.5.6	EUT OPERATING CONDITION.....	72
4.5.7	TEST RESULTS.....	73
4.6	FREQUENCY STABILITY	74
4.6.1	LIMITS OF FREQUENCY STABILITY MEASUREMENT	74
4.6.2	TEST SETUP	74
4.6.3	TEST INSTRUMENTS	74
4.6.4	TEST PROCEDURE	75
4.6.5	DEVIATION FROM TEST STANDARD	75
4.6.6	EUT OPERATING CONDITION.....	75
4.6.7	TEST RESULTS.....	76
5.	PHOTOGRAPHS OF THE TEST CONFIGURATION.....	77
6.	INFORMATION ON THE TESTING LABORATORIES	78
7.	APPENDIX A - MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB	79



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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF131023C26-1	Original release	Jan. 09, 2014

1. CERTIFICATION

PRODUCT: Smartphone

MODEL NO.: 0P6B130

BRAND: HTC

APPLICANT: HTC Corporation

TESTED: Nov. 19, 2013 ~ Jan. 04, 2014

TEST SAMPLE: PRODUCTION UNIT

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

ANSI C63.10-2009

The above equipment (model: 0P6B130) 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 : Ivonne Wu , **DATE** : Jan. 09, 2014
Ivonne Wu / Supervisor

APPROVED BY : Sam Chen , **DATE** : Jan. 09, 2014
Sam Chen / Senior Project Engineer

2. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC PART 15, SUBPART 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 -4.16dB at 13.56250MHz.
15.407(b/1/2/3) (b)(6)	Spurious Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -2.34dB at 5725.00MHz.
15.407(a/1/2)	Peak Transmit Power	PASS	Meet the requirement of limit.
15.407(a)(6)	Peak Power Excursion	PASS	Meet the requirement of limit.
15.407(a/1/2)	Peak Power Spectral Density	PASS	Meet the requirement of limit.
15.407(g)	Frequency Stability	PASS	Meet the requirement of limit.
15.203	Antenna Requirement	PASS	No antenna connector is used.

2.1 MEASUREMENT UNCERTAINTY

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

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

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

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

EUT	Smartphone
MODEL NO.	0P6B130
POWER SUPPLY	5.0Vdc (adapter or host equipment) 3.8Vdc (Li-ion battery)
MODULATION TYPE	256QAM, 64QAM, 16QAM, QPSK, BPSK
MODULATION TECHNOLOGY	OFDM
TRANSFER RATE	802.11a: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0Mbps 802.11n: up to 135Mbps 802.11ac: up to V9
OPERATING FREQUENCY	5180 ~ 5240MHz, 5260 ~ 5320MHz & 5500 ~ 5700MHz
NUMBER OF CHANNEL	5180 ~ 5240MHz: 4 for 802.11a, 802.11n (20MHz) 2 for 802.11n (40MHz) 1 for 802.11ac (80MHz) 5260 ~ 5320MHz: 4 for 802.11a, 802.11n (20MHz) 2 for 802.11n (40MHz) 1 for 802.11ac (80MHz) 5500 ~ 5700MHz: 8 for 802.11a, 802.11n (20MHz) 3 for 802.11n (40MHz) 1 for 802.11ac (80MHz)
OUTPUT POWER	41.591mW for 5180 ~ 5240MHz 49.431mW for 5260 ~ 5320MHz 50.234mW for 5500 ~ 5700MHz
ANTENNA TYPE	PIFA antenna with -3.5dBi gain (5180 ~ 5240MHz) PIFA antenna with -3dBi gain (5260 ~ 5320MHz) PIFA antenna with -3dBi gain (5500 ~ 5700MHz)
ANTENNA CONNECTOR	NA
DATA CABLE	Refer to Note as below
I/O PORTS	Refer to user's manual
ACCESSORY DEVICES	Refer to Note as below

NOTE:

- The EUT's accessories list refers to Ext. Pho.
- There're 2 configurations for the EUT listed as below.
Main Sample (A): Battery 1 + LCD Panel 1
2nd Sample (B): Battery 2 + LCD Panel 2
✧ Only the worst test data was presented in the report.
- The above EUT information is declared by the manufacturer and for more detailed features description, please refer to the manufacturer's specifications or User's Manual.

3.2 DESCRIPTION OF TEST MODES

FOR 5180 ~ 5240MHz

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

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

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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
38	5190 MHz	46	5230 MHz

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

CHANNEL	FREQUENCY
42	5210 MHz

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

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

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

1 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	
A	√	√	√	√	Main sample
B	√	√	-	-	2 nd sample

Where **RE≥1G**: Radiated Emission above 1GHz

RE<1G: Radiated Emission below 1GHz

PLC: Power Line Conducted Emission

APCM: Antenna Port Conducted Measurement

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

RADIATED EMISSION TEST (ABOVE 1GHz):

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

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

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)
A	802.11n (20MHz)	5180-5240	36 to 48	36	OFDM	BPSK	6.5
		5260-5320	52 to 64	64	OFDM	BPSK	6.5
		5500-5700	100 to 140	140	OFDM	BPSK	6.5
B	802.11n (20MHz)	5500-5700	100 to 140	140	OFDM	BPSK	6.5

POWER LINE CONDUCTED EMISSION TEST:

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

BANDEDGE MEASUREMENT:

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

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

ANTENNA PORT CONDUCTED MEASUREMENT:

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

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

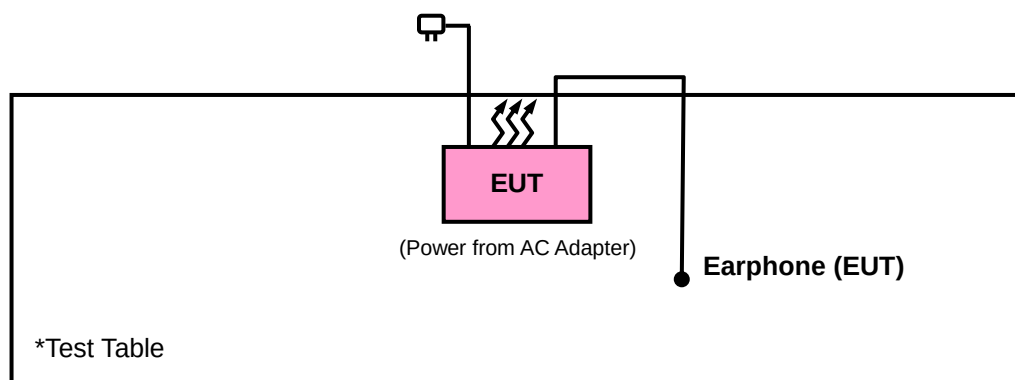
TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE≥1G	25deg. C, 65%RH	120Vac, 60Hz	Kay Wu
RE<1G	25deg. C, 65%RH	120Vac, 60Hz	Kay Wu
PLC	25deg. C, 65%RH	120Vac, 60Hz	Johnson Liao
APCM	25deg. C, 65%RH	120Vac, 60Hz	Demon Lin

3.3 DESCRIPTION OF SUPPORT UNITS

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

3.3.1 CONFIGURATION OF SYSTEM UNDER TEST



3.4 DUTY CYCLE TEST SIGNAL

MODULATION TYPE: BPSK

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

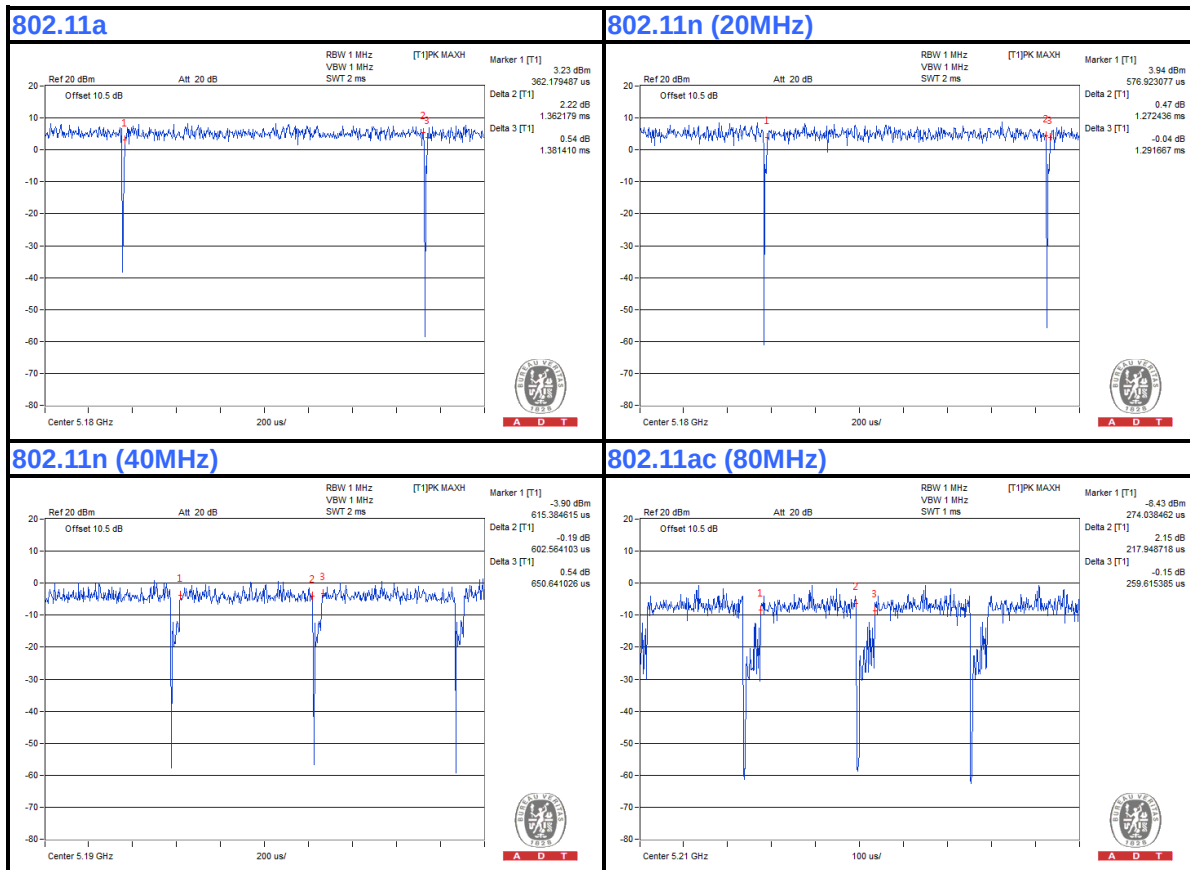
802.11a: Duty cycle = $1.362/1.381 = 0.986$

802.11n (20MHz): Duty cycle = $1.272/1.292 = 0.985$

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

802.11n (40MHz): Duty cycle = $602.56/650.64 = 0.926$, Duty factor = $10 * \log(1/0.926) = 0.33$

802.11ac (80MHz): Duty cycle = $217.95/259.62 = 0.839$, Duty factor = $10 * \log(1/0.839) = 0.76$



MODULATION TYPE: QPSK

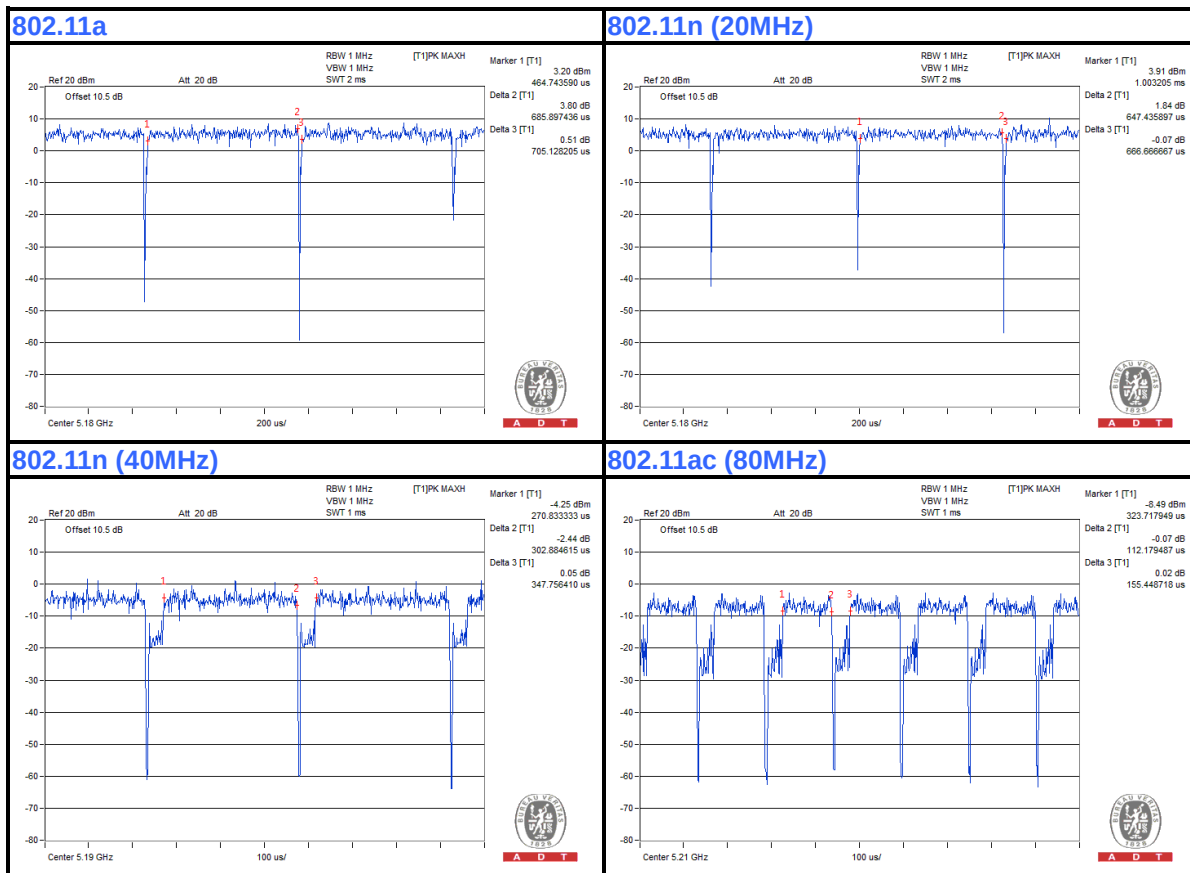
If duty cycle is < 98%, duty factor shall be considered.

802.11a: Duty cycle = $685.90/705.13 = 0.972$, Duty factor = $10 * \log(1/0.972) = 0.12$

802.11n (20MHz): Duty cycle = $647.44/666.67 = 0.971$, Duty factor = $10 * \log(1/0.971) = 0.13$

802.11n (40MHz): Duty cycle = $302.88/347.76 = 0.871$, Duty factor = $10 * \log(1/0.871) = 0.60$

802.11ac (80MHz): Duty cycle = $112.18/155.45 = 0.721$, Duty factor = $10 * \log(1/0.721) = 1.42$



MODULATION TYPE: 16QAM

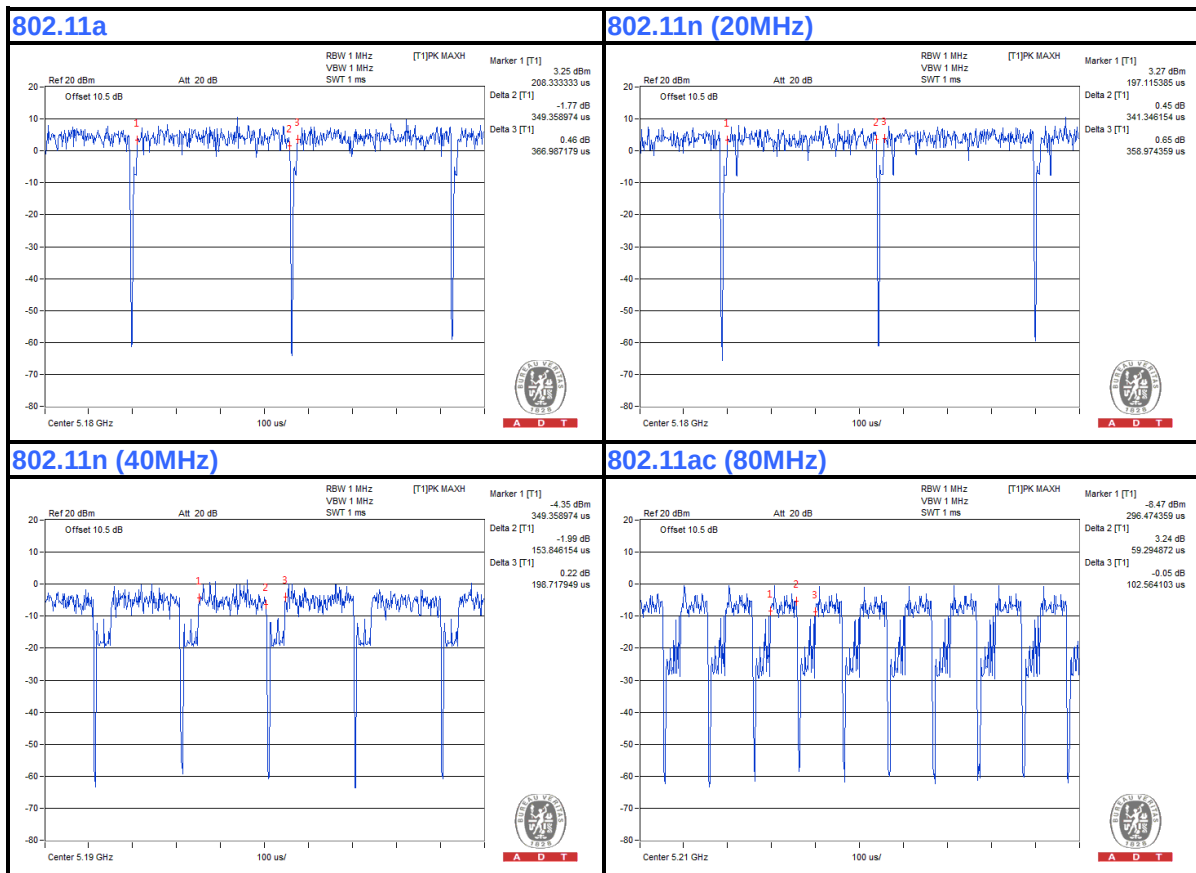
If duty cycle is < 98%, duty factor shall be considered.

802.11a: Duty cycle = $349.36/366.99 = 0.952$, Duty factor = $10 * \log(1/0.952) = 0.21$

802.11n (20MHz): Duty cycle = $341.35/358.97 = 0.951$, Duty factor = $10 * \log(1/0.951) = 0.22$

802.11n (40MHz): Duty cycle = $153.85/198.72 = 0.774$, Duty factor = $10 * \log(1/0.774) = 1.11$

802.11ac (80MHz): Duty cycle = $59.29/102.56 = 0.578$, Duty factor = $10 * \log(1/0.578) = 2.38$



MODULATION TYPE: 64QAM

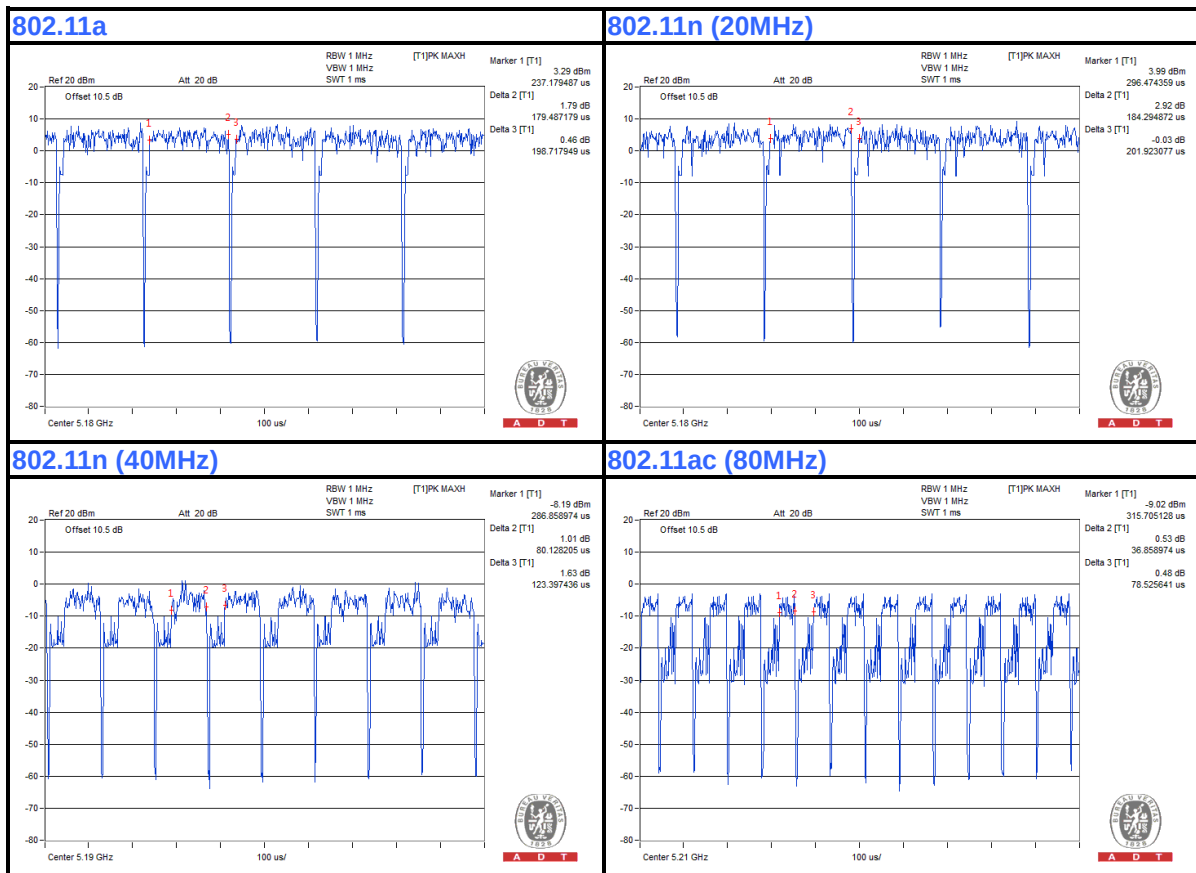
If duty cycle is < 98%, duty factor shall be considered.

802.11a: Duty cycle = $179.49/198.72 = 0.903$, Duty factor = $10 * \log(1/0.903) = 0.44$

802.11n (20MHz): Duty cycle = $184.29/201.92 = 0.913$, Duty factor = $10 * \log(1/0.913) = 0.40$

802.11n (40MHz): Duty cycle = $80.13/123.40 = 0.649$, Duty factor = $10 * \log(1/0.649) = 1.87$

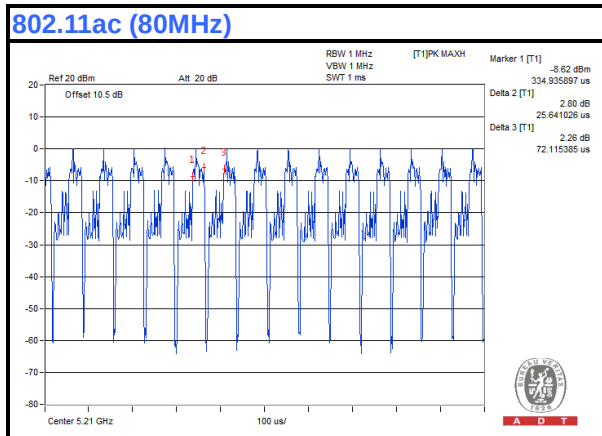
802.11ac (80MHz): Duty cycle = $36.86/78.53 = 0.469$, Duty factor = $10 * \log(1/0.469) = 3.28$



MODULATION TYPE: 256QAM

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

802.11ac (80MHz): Duty cycle = $25.64/72.12 = 0.356$, Duty factor = $10 * \log(1/0.356) = 4.49$



3.5 GENERAL DESCRIPTION OF APPLIED STANDARDS

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

FCC Part 15, Subpart E (15.407)

ANSI C63.10-2009

KDB 789033 D01 General UNII Test Procedures v01r03

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:

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

4.1.3 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESCI	100744	Apr. 15, 2013	Apr. 14, 2014
Spectrum Analyzer ROHDE & SCHWARZ	FSU-26	101645	Jul. 16, 2013	Jul. 15, 2014
BILOG Antenna SCHWARZBECK	VULB9168	9168-472	Mar. 25, 2013	Mar. 24, 2014
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-969	Jan. 07, 2013	Jan. 06, 2014
HORN Antenna SCHWARZBECK	BBHA 9170	9170-480	Jan. 07, 2013	Jan. 06, 2014
Loop Antenna	HFH2-Z2	100070	Jan. 31, 2012	Jan. 30, 2014
Preamplifier EMCI	EMC 330H	980112	Dec. 28, 2012	Dec. 26, 2014
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	309219/4	Oct. 18, 2013	Oct. 17, 2014
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	250130/4	Oct. 18, 2013	Oct. 17, 2014
RF signal cable Worken	RG-213	NA	Nov. 07, 2013	Nov. 06, 2014
Software BV ADT	E3 6.120103	NA	NA	NA
Antenna Tower MF	MFA-440H	NA	NA	NA
Turn Table MF	MFT-201SS	NA	NA	NA
Antenna Tower & Turn Table Controller MF	MF-7802	NA	NA	NA
Power Meter	ML2495A	1232002	Aug. 23, 2013	Aug. 22, 2014
Power Sensor	MA2411B	1207325	Aug. 23, 2013	Aug. 22, 2014

- NOTE:** 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The calibration interval of the loop antenna is 24 months and the calibrations are traceable to NML/ROC and NIST/USA.
3. The test was performed in HwaYa Chamber 10.
4. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
5. The FCC Site Registration No. is 690701.
6. The IC Site Registration No. is IC 7450F-10.

4.1.4 TEST PROCEDURES

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

NOTE:

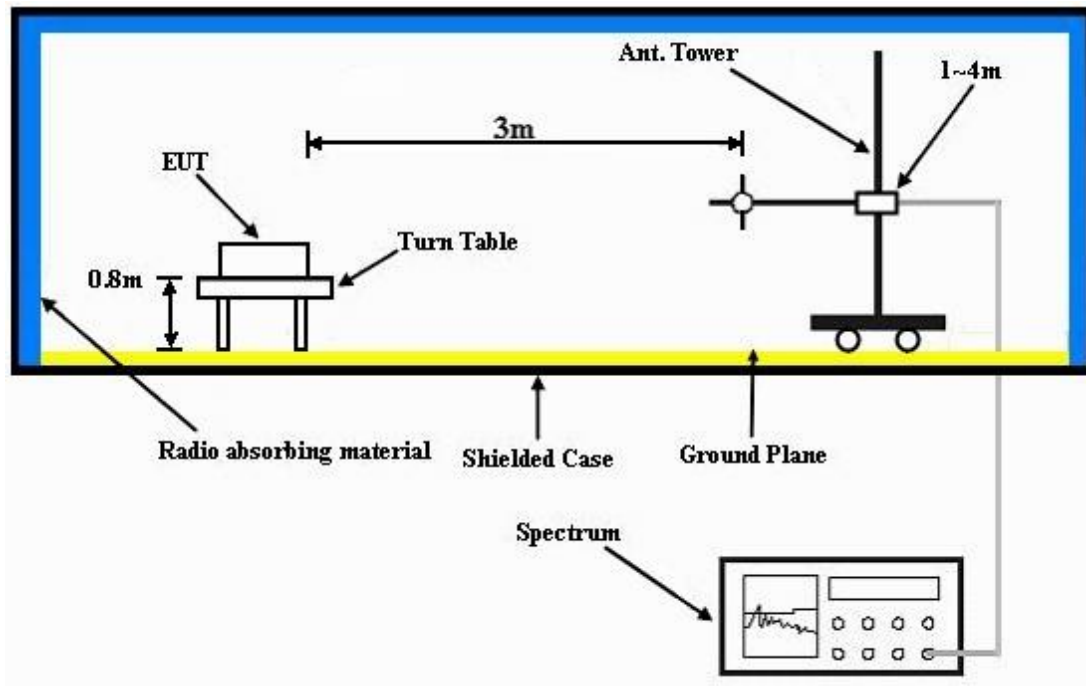
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Peak detection (PK) and Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 1kHz (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

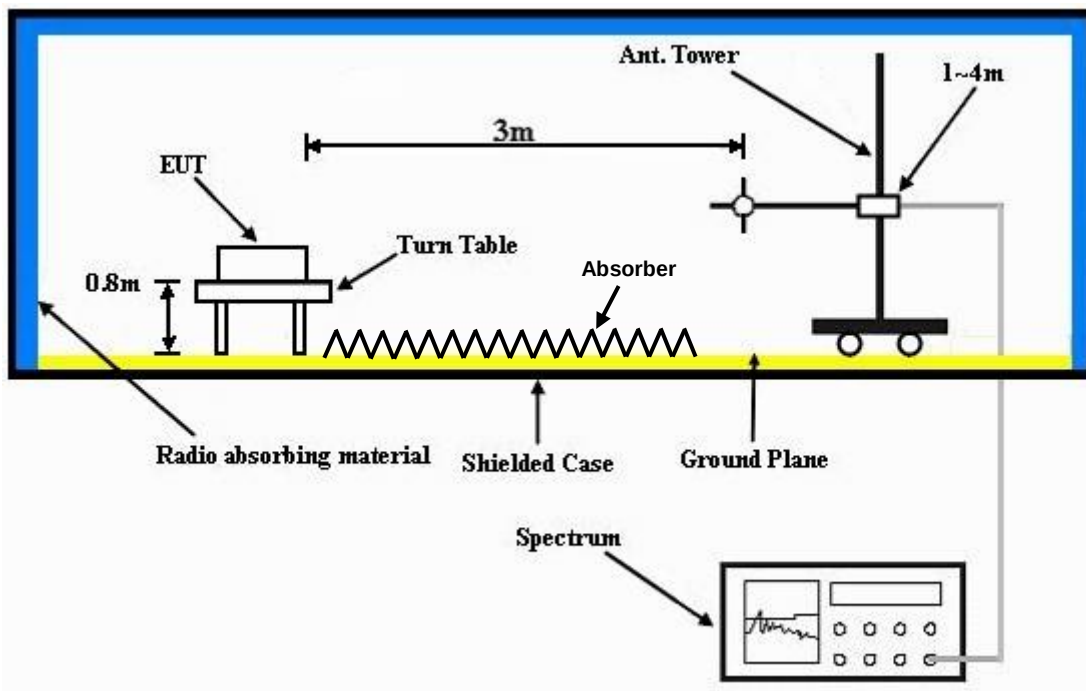
No deviation.

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).



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4.1.7 EUT OPERATING CONDITIONS

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

4.1.8 TEST RESULTS

ABOVE 1GHz WORST-CASE DATA

TEST MODE A

802.11a

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 36	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Kay Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5082	44.16	35.64	54	-9.84	34.43	8.07	33.98	101	301	Average
5082	57.82	49.3	74	-16.18	34.43	8.07	33.98	101	301	Peak
5180	93.71	85.08			34.47	8.16	34	101	301	Average
5180	101.35	92.72			34.47	8.16	34	101	301	Peak
5424	44.21	35.27	54	-9.79	34.5	8.48	34.04	101	301	Average
5424	57.88	48.94	74	-16.12	34.5	8.48	34.04	101	301	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	45.8	37.21	54	-8.2	34.46	8.13	34	102	90	Average
5150	59.71	51.12	74	-14.29	34.46	8.13	34	102	90	Peak
5180	97.96	89.33			34.47	8.16	34	102	90	Average
5180	105.01	96.38			34.47	8.16	34	102	90	Peak
5426	45.12	36.18	54	-8.88	34.5	8.48	34.04	102	90	Average
5426	57.25	48.31	74	-16.75	34.5	8.48	34.04	102	90	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5180MHz: Fundamental frequency.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 44	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Kay Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5020	43.62	35.21	54	-10.38	34.41	7.97	33.97	100	301	Average
5020	56.98	48.57	74	-17.02	34.41	7.97	33.97	100	301	Peak
5220	94.5	85.79			34.49	8.22	34	100	301	Average
5220	102.42	93.71			34.49	8.22	34	100	301	Peak
5434	44.21	35.27	54	-9.79	34.5	8.48	34.04	100	301	Average
5434	58.32	49.38	74	-15.68	34.5	8.48	34.04	100	301	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5072	43.72	35.24	54	-10.28	34.43	8.03	33.98	100	90	Average
5072	56.57	48.09	74	-17.43	34.43	8.03	33.98	100	90	Peak
5220	98.31	89.6			34.49	8.22	34	100	90	Average
5220	106.66	97.95			34.49	8.22	34	100	90	Peak
5392	44.14	35.27	54	-9.86	34.5	8.41	34.04	100	90	Average
5392	57.24	48.37	74	-16.76	34.5	8.41	34.04	100	90	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5220MHz: Fundamental frequency.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 48	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Kay Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5078	43.92	35.44	54	-10.08	34.43	8.03	33.98	100	285	Average
5078	56.4	47.92	74	-17.6	34.43	8.03	33.98	100	285	Peak
5240	95.37	86.63			34.49	8.26	34.01	100	285	Average
5240	103.3	94.56			34.49	8.26	34.01	100	285	Peak
5448	44.24	35.27			34.5	8.51	34.04	100	285	Average
5448	57.31	48.34	74	-16.69	34.5	8.51	34.04	100	285	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5118	43.78	35.22	54	-10.22	34.45	8.1	33.99	100	90	Average
5118	57.11	48.55	74	-16.89	34.45	8.1	33.99	100	90	Peak
5240	98.25	89.51			34.49	8.26	34.01	100	90	Average
5240	104.89	96.15			34.49	8.26	34.01	100	90	Peak
5452	44.24	35.28	54	-9.76	34.5	8.51	34.05	100	90	Average
5452	57.56	48.6	74	-16.44	34.5	8.51	34.05	100	90	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5240MHz: Fundamental frequency.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 52	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Kay Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5018	42.95	34.54	54	-11.05	34.41	7.97	33.97	100	287	Average
5018	57.82	49.41	74	-16.18	34.41	7.97	33.97	100	287	Peak
5260	94.48	85.73			34.5	8.26	34.01	100	287	Average
5260	102.96	94.21			34.5	8.26	34.01	100	287	Peak
5420	43.73	34.79	54	-10.27	34.5	8.48	34.04	100	287	Average
5420	56.66	47.72	74	-17.34	34.5	8.48	34.04	100	287	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5042	43.01	34.57	54	-10.99	34.42	8	33.98	100	89	Average
5042	56.21	47.77	74	-17.79	34.42	8	33.98	100	89	Peak
5260	97.52	88.77			34.5	8.26	34.01	100	89	Average
5260	104.88	96.13			34.5	8.26	34.01	100	89	Peak
5430	43.43	34.49	54	-10.57	34.5	8.48	34.04	100	89	Average
5430	57.77	48.83	74	-16.23	34.5	8.48	34.04	100	89	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5260MHz: Fundamental frequency.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5062	43.32	34.84	54	-10.68	34.43	8.03	33.98	100	316	Average
5062	57	48.52	74	-17	34.43	8.03	33.98	100	316	Peak
5300	94.68	85.88			34.5	8.32	34.02	100	316	Average
5300	100.88	92.08			34.5	8.32	34.02	100	316	Peak
5360	43.74	34.89	54	-10.26	34.5	8.38	34.03	100	316	Average
5360	58.04	49.19	74	-15.96	34.5	8.38	34.03	100	316	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5142	43.84	35.24	54	-10.16	34.46	8.13	33.99	100	49	Average
5142	57.34	48.74	74	-16.66	34.46	8.13	33.99	100	49	Peak
5300	97.55	88.75			34.5	8.32	34.02	100	49	Average
5300	104.92	96.12			34.5	8.32	34.02	100	49	Peak
5352	43.67	34.82	54	-10.33	34.5	8.38	34.03	100	49	Average
5352	56.95	48.1	74	-17.05	34.5	8.38	34.03	100	49	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5300MHz: Fundamental frequency.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 64	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Kay Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5142	43.37	34.77	54	-10.63	34.46	8.13	33.99	100	292	Average
5142	56.89	48.29	74	-17.11	34.46	8.13	33.99	100	292	Peak
5320	95.01	86.18			34.5	8.35	34.02	100	292	Average
5320	101.9	93.07			34.5	8.35	34.02	100	292	Peak
5350	44.41	35.56	54	-9.59	34.5	8.38	34.03	100	292	Average
5350	58.31	49.46	74	-15.69	34.5	8.38	34.03	100	292	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5080	43.73	35.25	54	-10.27	34.43	8.03	33.98	100	48	Average
5080	57.22	48.74	74	-16.78	34.43	8.03	33.98	100	48	Peak
5320	97.22	88.39			34.5	8.35	34.02	100	48	Average
5320	104.4	95.57			34.5	8.35	34.02	100	48	Peak
5350	46.06	37.21	54	-7.94	34.5	8.38	34.03	100	48	Average
5350	62.45	53.6	74	-11.55	34.5	8.38	34.03	100	48	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5320MHz: Fundamental frequency.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 100	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Kay Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5460	45.13	36.17	54	-8.87	34.5	8.51	34.05	101	310	Average
5460	57.73	48.77	74	-16.27	34.5	8.51	34.05	101	310	Peak
5470	60.49	51.53	68.3	-7.81	34.5	8.51	34.05	101	310	Peak
5500	97.62	88.6			34.5	8.57	34.05	101	310	Average
5500	104.65	95.63			34.5	8.57	34.05	101	310	Peak
5725	55.76	46.55	68.3	-12.54	34.67	8.65	34.11	101	310	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5433	46.83	37.89	54	-7.17	34.5	8.48	34.04	100	37	Average
5433	57.79	48.85	74	-16.21	34.5	8.48	34.04	100	37	Peak
5470	61.83	52.87	68.3	-6.47	34.5	8.51	34.05	100	37	Peak
5500	98.17	89.15			34.5	8.57	34.05	100	37	Average
5500	106.13	97.11			34.5	8.57	34.05	100	37	Peak
5725	56.25	47.04	68.3	-12.05	34.67	8.65	34.11	100	37	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5500MHz: Fundamental frequency.
- 5470MHz & 5725MHz: Out of restricted band

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 116	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Kay Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5424	43.54	34.6	54	-10.46	34.5	8.48	34.04	102	296	Average
5424	56.1	47.16	74	-17.9	34.5	8.48	34.04	102	296	Peak
5470	54.64	45.68	68.3	-13.66	34.5	8.51	34.05	102	296	Peak
5580	97.75	88.66			34.57	8.6	34.08	102	296	Average
5580	104.49	95.4			34.57	8.6	34.08	102	296	Peak
5725	54.68	45.47	68.3	-13.62	34.67	8.65	34.11	102	296	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5364	44.12	35.27	54	-9.88	34.5	8.38	34.03	100	38	Average
5364	57.23	48.38	74	-16.77	34.5	8.38	34.03	100	38	Peak
5470	55.64	46.68	68.3	-12.66	34.5	8.51	34.05	100	38	Peak
5580	98.29	89.2			34.57	8.6	34.08	100	38	Average
5580	106.19	97.1			34.57	8.6	34.08	100	38	Peak
5725	55.69	46.48	68.3	-12.61	34.67	8.65	34.11	100	38	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5580MHz: Fundamental frequency.
- 5470MHz & 5725MHz: Out of restricted band

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 140	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Kay Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5422	44.54	35.6	54	-9.46	34.5	8.48	34.04	101	322	Average
5422	57.33	48.39	74	-16.67	34.5	8.48	34.04	101	322	Peak
5470	55.84	46.88	68.3	-12.46	34.5	8.51	34.05	101	322	Peak
5700	95.43	86.23			34.66	8.64	34.1	101	322	Average
5700	103.3	94.1			34.66	8.64	34.1	101	322	Peak
5725	62.03	52.82	68.3	-6.27	34.67	8.65	34.11	101	322	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5460	38.58	38.66	54	-15.42	31.56	5.44	37.08	100	37	Average
5460	56.18	56.26	74	-17.82	31.56	5.44	37.08	100	37	Peak
5470	53.5	53.56	68.3	-14.8	31.57	5.45	37.08	100	37	Peak
5700	95.95	95.88			31.9	5.57	37.4	100	37	Average
5700	105.36	105.29			31.9	5.57	37.4	100	37	Peak
5725	64.79	64.67	68.3	-3.51	31.96	5.59	37.43	100	37	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5700MHz: Fundamental frequency.
- 5470MHz & 5725MHz: Out of restricted band

802.11n (20MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 36	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Kay Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5124	44.08	35.52	54	-9.92	34.45	8.1	33.99	100	305	Average
5124	58.35	49.79	74	-15.65	34.45	8.1	33.99	100	305	Peak
5180	93.25	84.62			34.47	8.16	34	100	305	Average
5180	100.33	91.7			34.47	8.16	34	100	305	Peak
5392	44.15	35.28	54	-9.85	34.5	8.41	34.04	100	305	Average
5392	57.82	48.95	74	-16.18	34.5	8.41	34.04	100	305	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	48.58	39.99	54	-5.42	34.46	8.13	34	100	88	Average
5150	61.21	52.62	74	-12.79	34.46	8.13	34	100	88	Peak
5180	98.53	89.9			34.47	8.16	34	100	88	Average
5180	105.25	96.62			34.47	8.16	34	100	88	Peak
5424	45.1	36.16	54	-8.9	34.5	8.48	34.04	100	88	Average
5424	57.53	48.59	74	-16.47	34.5	8.48	34.04	100	88	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5180MHz: Fundamental frequency.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 44	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Kay Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5118	44.07	35.51	54	-9.93	34.45	8.1	33.99	101	292	Average
5118	56.79	48.23	74	-17.21	34.45	8.1	33.99	101	292	Peak
5220	94.57	85.86			34.49	8.22	34	101	292	Average
5220	101.69	92.98			34.49	8.22	34	101	292	Peak
5376	43.7	34.83	54	-10.3	34.5	8.41	34.04	101	292	Average
5376	57.37	48.5	74	-16.63	34.5	8.41	34.04	101	292	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5080	44.61	36.13	54	-9.39	34.43	8.03	33.98	100	91	Average
5080	57.09	48.61	74	-16.91	34.43	8.03	33.98	100	91	Peak
5220	98.27	89.56			34.49	8.22	34	100	91	Average
5220	105.09	96.38			34.49	8.22	34	100	91	Peak
5396	43.37	34.47	54	-10.63	34.5	8.44	34.04	100	91	Average
5396	57.05	48.15	74	-16.95	34.5	8.44	34.04	100	91	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5220MHz: Fundamental frequency.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 48	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Kay Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5028	43.17	34.76	54	-10.83	34.41	7.97	33.97	100	283	Average
5028	56.63	48.22	74	-17.37	34.41	7.97	33.97	100	283	Peak
5240	95.65	86.91			34.49	8.26	34.01	100	283	Average
5240	102.56	93.82			34.49	8.26	34.01	100	283	Peak
5386	44.15	35.28	54	-9.85	34.5	8.41	34.04	100	283	Average
5386	57.54	48.67	74	-16.46	34.5	8.41	34.04	100	283	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5056	43.72	35.24	54	-10.28	34.43	8.03	33.98	100	90	Average
5056	56.67	48.19	74	-17.33	34.43	8.03	33.98	100	90	Peak
5240	98.19	89.45			34.49	8.26	34.01	100	90	Average
5240	105.57	96.83			34.49	8.26	34.01	100	90	Peak
5358	42.99	34.14	54	-11.01	34.5	8.38	34.03	100	90	Average
5358	57.34	48.49	74	-16.66	34.5	8.38	34.03	100	90	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5240MHz: Fundamental frequency.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 52	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Kay Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	43.11	34.52	54	-10.89	34.46	8.13	34	100	306	Average
5150	56.43	47.84	74	-17.57	34.46	8.13	34	100	306	Peak
5260	94.85	86.1			34.5	8.26	34.01	100	306	Average
5260	102	93.25			34.5	8.26	34.01	100	306	Peak
5450	43.6	34.64	54	-10.4	34.5	8.51	34.05	100	306	Average
5450	57.8	48.84	74	-16.2	34.5	8.51	34.05	100	306	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5054	42.91	34.46	54	-11.09	34.43	8	33.98	100	91	Average
5054	57.22	48.77	74	-16.78	34.43	8	33.98	100	91	Peak
5260	97.94	89.19			34.5	8.26	34.01	100	91	Average
5260	104.88	96.13			34.5	8.26	34.01	100	91	Peak
5446	43.89	34.92	54	-10.11	34.5	8.51	34.04	100	91	Average
5446	58.04	49.07	74	-15.96	34.5	8.51	34.04	100	91	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5260MHz: Fundamental frequency.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5078	43.33	34.85	54	-10.67	34.43	8.03	33.98	100	286	Average
5078	56.69	48.21	74	-17.31	34.43	8.03	33.98	100	286	Peak
5300	94.9	86.1			34.5	8.32	34.02	100	286	Average
5300	102.44	93.64			34.5	8.32	34.02	100	286	Peak
5452	43.6	34.64	54	-10.4	34.5	8.51	34.05	100	286	Average
5452	57.61	48.65	74	-16.39	34.5	8.51	34.05	100	286	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5040	43.01	34.56	54	-10.99	34.42	8	33.97	100	48	Average
5040	57.08	48.63	74	-16.92	34.42	8	33.97	100	48	Peak
5300	98	89.2			34.5	8.32	34.02	100	48	Average
5300	105.13	96.33			34.5	8.32	34.02	100	48	Peak
5408	43.8	34.9	54	-10.2	34.5	8.44	34.04	100	48	Average
5408	57.01	48.11	74	-16.99	34.5	8.44	34.04	100	48	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5300MHz: Fundamental frequency.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 64	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Kay Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5062	43.32	34.84	54	-10.68	34.43	8.03	33.98	100	290	Average
5062	57.05	48.57	74	-16.95	34.43	8.03	33.98	100	290	Peak
5320	95.63	86.8			34.5	8.35	34.02	100	290	Average
5320	102.07	93.24			34.5	8.35	34.02	100	290	Peak
5354	47.47	38.62	54	-6.53	34.5	8.38	34.03	100	290	Average
5354	57.91	49.06	74	-16.09	34.5	8.38	34.03	100	290	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5026	43.64	35.23	54	-10.36	34.41	7.97	33.97	100	48	Average
5026	57.04	48.63	74	-16.96	34.41	7.97	33.97	100	48	Peak
5320	97.8	88.97			34.5	8.35	34.02	100	48	Average
5320	105.62	96.79			34.5	8.35	34.02	100	48	Peak
5350	48.47	39.62	54	-5.53	34.5	8.38	34.03	100	48	Average
5350	61.83	52.98	74	-12.17	34.5	8.38	34.03	100	48	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5320MHz: Fundamental frequency.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 100	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Kay Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5448	47.26	38.29	54	-6.74	34.5	8.51	34.04	101	303	Average
5448	58.8	49.83	74	-15.2	34.5	8.51	34.04	101	303	Peak
5470	60.46	51.5	68.3	-7.84	34.5	8.51	34.05	101	303	Peak
5500	97.86	88.84			34.5	8.57	34.05	101	303	Average
5500	104.23	95.21			34.5	8.57	34.05	101	303	Peak
5725	55.06	45.85	68.3	-13.24	34.67	8.65	34.11	101	303	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5446	45.97	37	54	-8.03	34.5	8.51	34.04	101	61	Average
5446	58.82	49.85	74	-15.18	34.5	8.51	34.04	101	61	Peak
5470	60.41	51.45	68.3	-7.89	34.5	8.51	34.05	101	61	Peak
5500	97.46	88.44			34.5	8.57	34.05	101	61	Average
5500	105.46	96.44			34.5	8.57	34.05	101	61	Peak
5725	56.14	46.93	68.3	-12.16	34.67	8.65	34.11	101	61	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5500MHz: Fundamental frequency.
- 5470MHz & 5725MHz: Out of restricted band

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 116	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Kay Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5394	44.2	35.3	54	-9.8	34.5	8.44	34.04	101	307	Average
5394	56.69	47.79	74	-17.31	34.5	8.44	34.04	101	307	Peak
5470	54.61	45.65	68.3	-13.69	34.5	8.51	34.05	101	307	Peak
5580	97.42	88.33			34.57	8.6	34.08	101	307	Average
5580	104.31	95.22			34.57	8.6	34.08	101	307	Peak
5725	54.32	45.11	68.3	-13.98	34.67	8.65	34.11	101	307	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5404	43.53	34.63	54	-10.47	34.5	8.44	34.04	101	47	Average
5404	58.73	49.83	74	-15.27	34.5	8.44	34.04	101	47	Peak
5470	57.14	48.18	68.3	-11.16	34.5	8.51	34.05	101	47	Peak
5580	98.03	88.94			34.57	8.6	34.08	101	47	Average
5580	105.23	96.14			34.57	8.6	34.08	101	47	Peak
5725	56.6	47.39	68.3	-11.7	34.67	8.65	34.11	101	47	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5580MHz: Fundamental frequency.
- 5470MHz & 5725MHz: Out of restricted band

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 140	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Kay Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5454	44.24	35.28	54	-9.76	34.5	8.51	34.05	101	307	Average
5454	57.63	48.67	74	-16.37	34.5	8.51	34.05	101	307	Peak
5470	55.46	46.5	68.3	-12.84	34.5	8.51	34.05	101	307	Peak
5700	97.85	88.65			34.66	8.64	34.1	101	307	Average
5700	103.46	94.26			34.66	8.64	34.1	101	307	Peak
5725	62.47	53.26	68.3	-5.83	34.67	8.65	34.11	101	307	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5356	43.47	34.62	54	-10.53	34.5	8.38	34.03	101	51	Average
5356	58.84	49.99	74	-15.16	34.5	8.38	34.03	101	51	Peak
5470	60.31	51.35	68.3	-7.99	34.5	8.51	34.05	101	51	Peak
5700	97.87	88.67			34.66	8.64	34.1	101	51	Average
5700	104.06	94.86			34.66	8.64	34.1	101	51	Peak
5725	65.96	56.75	68.3	-2.34	34.67	8.65	34.11	101	51	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5700MHz: Fundamental frequency.
- 5470MHz & 5725MHz: Out of restricted band

802.11n (40MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 38	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Kay Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5068	43.99	35.51	54	-10.01	34.43	8.03	33.98	102	283	Average
5068	56.91	48.43	74	-17.09	34.43	8.03	33.98	102	283	Peak
5190	88.93	80.27			34.47	8.19	34	102	283	Average
5190	95.03	86.37			34.47	8.19	34	102	283	Peak
5434	43.76	34.82	54	-10.24	34.5	8.48	34.04	102	283	Average
5434	57.26	48.32	74	-16.74	34.5	8.48	34.04	102	283	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5024	44.34	35.93	54	-9.66	34.41	7.97	33.97	100	89	Average
5024	57.07	48.66	74	-16.93	34.41	7.97	33.97	100	89	Peak
5190	91.48	82.82			34.47	8.19	34	100	89	Average
5190	98.64	89.98			34.47	8.19	34	100	89	Peak
5436	44.22	35.28	54	-9.78	34.5	8.48	34.04	100	89	Average
5436	58.21	49.27	74	-15.79	34.5	8.48	34.04	100	89	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5190MHz: Fundamental frequency.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 46	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Kay Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5130	43.43	34.87	54	-10.57	34.45	8.1	33.99	100	284	Average
5130	56.83	48.27	74	-17.17	34.45	8.1	33.99	100	284	Peak
5230	89.44	80.74			34.49	8.22	34.01	100	284	Average
5230	96.86	88.16			34.49	8.22	34.01	100	284	Peak
5388	44.15	35.28	54	-9.85	34.5	8.41	34.04	100	284	Average
5388	57.48	48.61	74	-16.52	34.5	8.41	34.04	100	284	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5034	43.74	35.3	54	-10.26	34.41	8	33.97	100	89	Average
5034	56.97	48.53	74	-17.03	34.41	8	33.97	100	89	Peak
5230	92.83	84.13			34.49	8.22	34.01	100	89	Average
5230	99.17	90.47			34.49	8.22	34.01	100	89	Peak
5418	43.47	34.57	54	-10.53	34.5	8.44	34.04	100	89	Average
5418	57.41	48.51	74	-16.59	34.5	8.44	34.04	100	89	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5230MHz: Fundamental frequency.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 54	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Kay Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5078	43.23	34.75	54	-10.77	34.43	8.03	33.98	101	316	Average
5078	57.35	48.87	74	-16.65	34.43	8.03	33.98	101	316	Peak
5270	87.64	78.86			34.5	8.29	34.01	101	316	Average
5270	94.77	85.99			34.5	8.29	34.01	101	316	Peak
5384	44.15	35.28	54	-9.85	34.5	8.41	34.04	101	316	Average
5384	57.4	48.53	74	-16.6	34.5	8.41	34.04	101	316	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5062	43.7	35.22	54	-10.3	34.43	8.03	33.98	101	79	Average
5062	57.36	48.88	74	-16.64	34.43	8.03	33.98	101	79	Peak
5270	91.08	82.3			34.5	8.29	34.01	101	79	Average
5270	98.25	89.47			34.5	8.29	34.01	101	79	Peak
5424	43.54	34.6	54	-10.46	34.5	8.48	34.04	101	79	Average
5424	57.27	48.33	74	-16.73	34.5	8.48	34.04	101	79	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5270MHz: Fundamental frequency.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 62	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Kay Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5068	43.99	35.51	54	-10.01	34.43	8.03	33.98	100	318	Average
5068	57.41	48.93	74	-16.59	34.43	8.03	33.98	100	318	Peak
5310	88	79.2			34.5	8.32	34.02	100	318	Average
5310	96.51	87.71			34.5	8.32	34.02	100	318	Peak
5400	44.2	35.3	54	-9.8	34.5	8.44	34.04	100	318	Average
5400	56.87	47.97	74	-17.13	34.5	8.44	34.04	100	318	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5096	43.1	34.58	54	-10.9	34.44	8.07	33.99	100	78	Average
5096	57.48	48.96	74	-16.52	34.44	8.07	33.99	100	78	Peak
5310	91.13	82.33			34.5	8.32	34.02	100	78	Average
5310	98.89	90.09			34.5	8.32	34.02	100	78	Peak
5388	43.67	34.8	54	-10.33	34.5	8.41	34.04	100	78	Average
5388	57.69	48.82	74	-16.31	34.5	8.41	34.04	100	78	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5310MHz: Fundamental frequency.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 102	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Kay Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5414	44.2	35.3	54	-9.8	34.5	8.44	34.04	102	298	Average
5414	56.11	47.21	74	-17.89	34.5	8.44	34.04	102	298	Peak
5470	56.04	47.08	68.3	-12.26	34.5	8.51	34.05	102	298	Peak
5510	89.61	80.59			34.51	8.57	34.06	102	298	Average
5510	96.37	87.35			34.51	8.57	34.06	102	298	Peak
5725	54.09	44.88	68.3	-14.21	34.67	8.65	34.11	102	298	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5400	43.53	34.63	54	-10.47	34.5	8.44	34.04	100	53	Average
5400	57.42	48.52	74	-16.58	34.5	8.44	34.04	100	53	Peak
5470	56.57	47.61	68.3	-11.73	34.5	8.51	34.05	100	53	Peak
5510	90.74	81.72			34.51	8.57	34.06	100	53	Average
5510	98.75	89.73			34.51	8.57	34.06	100	53	Peak
5725	54.81	45.6	68.3	-13.49	34.67	8.65	34.11	100	53	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5510MHz: Fundamental frequency.
- 5470MHz & 5725MHz: Out of restricted band

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 110	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Kay Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5456	44.26	35.3	54	-9.74	34.5	8.51	34.05	101	294	Average
5456	56.42	47.46	74	-17.58	34.5	8.51	34.05	101	294	Peak
5470	55.58	46.62	68.3	-12.72	34.5	8.51	34.05	101	294	Peak
5550	90.61	81.55			34.54	8.59	34.07	101	294	Average
5550	97.64	88.58			34.54	8.59	34.07	101	294	Peak
5725	54.98	45.77	68.3	-13.32	34.67	8.65	34.11	101	294	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5458	44.53	35.57	54	-9.47	34.5	8.51	34.05	101	55	Average
5458	57.58	48.62	74	-16.42	34.5	8.51	34.05	101	55	Peak
5470	55.99	47.03	68.3	-12.31	34.5	8.51	34.05	101	55	Peak
5550	91.7	82.64			34.54	8.59	34.07	101	55	Average
5550	98.86	89.8			34.54	8.59	34.07	101	55	Peak
5725	57.02	47.81	68.3	-11.28	34.67	8.65	34.11	101	55	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5550MHz: Fundamental frequency.
- 5470MHz & 5725MHz: Out of restricted band

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 134	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Kay Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5448	44.26	35.29	54	-9.74	34.5	8.51	34.04	101	315	Average
5448	58.1	49.13	74	-15.9	34.5	8.51	34.04	101	315	Peak
5470	56.08	47.12	68.3	-12.22	34.5	8.51	34.05	101	315	Peak
5670	90.05	80.89			34.63	8.63	34.1	101	315	Average
5670	96.15	86.99			34.63	8.63	34.1	101	315	Peak
5725	56.83	47.62	68.3	-11.47	34.67	8.65	34.11	101	315	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5422	44.23	35.29	54	-9.77	34.5	8.48	34.04	101	51	Average
5422	58.08	49.14	74	-15.92	34.5	8.48	34.04	101	51	Peak
5470	57.41	48.45	68.3	-10.89	34.5	8.51	34.05	101	51	Peak
5670	91.12	81.96			34.63	8.63	34.1	101	51	Average
5670	98.5	89.34			34.63	8.63	34.1	101	51	Peak
5725	56.27	47.06	68.3	-12.03	34.67	8.65	34.11	101	51	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5670MHz: Fundamental frequency.
- 5470MHz & 5725MHz: Out of restricted band



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802.11ac (80MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 42	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Kay Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5124	45.3	36.74	54	-8.7	34.45	8.1	33.99	100	284	Average
5124	57.07	48.51	74	-16.93	34.45	8.1	33.99	100	284	Peak
5210	87.27	78.59			34.49	8.19	34	100	284	Average
5210	94.74	86.06			34.49	8.19	34	100	284	Peak
5434	44.54	35.6	54	-9.46	34.5	8.48	34.04	100	284	Average
5434	58.89	49.95	74	-15.11	34.5	8.48	34.04	100	284	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5144	45.74	37.15	54	-8.26	34.46	8.13	34	100	90	Average
5144	58.36	49.77	74	-15.64	34.46	8.13	34	100	90	Peak
5210	89.27	80.59			34.49	8.19	34	100	90	Average
5210	97.42	88.74			34.49	8.19	34	100	90	Peak
5430	44.21	35.27	54	-9.79	34.5	8.48	34.04	100	90	Average
5430	57.28	48.34	74	-16.72	34.5	8.48	34.04	100	90	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5210MHz: Fundamental frequency.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 58	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Kay Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5078	43.33	34.85	54	-10.67	34.43	8.03	33.98	103	324	Average
5078	57.04	48.56	74	-16.96	34.43	8.03	33.98	103	324	Peak
5290	85.5	76.7			34.5	8.32	34.02	103	324	Average
5290	93.14	84.34			34.5	8.32	34.02	103	324	Peak
5364	44.47	35.62	54	-9.53	34.5	8.38	34.03	103	324	Average
5364	57.89	49.04	74	-16.11	34.5	8.38	34.03	103	324	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5034	43.67	35.23	54	-10.33	34.41	8	33.97	101	77	Average
5034	56.46	48.02	74	-17.54	34.41	8	33.97	101	77	Peak
5290	90.39	81.59			34.5	8.32	34.02	101	77	Average
5290	98.61	89.81			34.5	8.32	34.02	101	77	Peak
5372	45.27	36.39	54	-8.73	34.5	8.41	34.03	101	77	Average
5372	59.15	50.27	74	-14.85	34.5	8.41	34.03	101	77	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5290MHz: Fundamental frequency.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 106	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Kay Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5454	45.24	36.28	54	-8.76	34.5	8.51	34.05	100	305	Average
5454	55.63	46.67	74	-18.37	34.5	8.51	34.05	100	305	Peak
5470	58.89	49.93	68.3	-9.41	34.5	8.51	34.05	100	305	Peak
5530	87.97	78.93			34.53	8.58	34.07	100	305	Average
5530	95.75	86.71			34.53	8.58	34.07	100	305	Peak
5725	53.46	44.25	68.3	-14.84	34.67	8.65	34.11	100	305	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5458	45.87	36.91	54	-8.13	34.5	8.51	34.05	100	45	Average
5458	57.65	48.69	74	-16.35	34.5	8.51	34.05	100	45	Peak
5470	61.74	52.78	68.3	-6.56	34.5	8.51	34.05	100	45	Peak
5530	88.97	79.93			34.53	8.58	34.07	100	45	Average
5530	96.33	87.29			34.53	8.58	34.07	100	45	Peak
5725	56.21	47	68.3	-12.09	34.67	8.65	34.11	100	45	Peak

REMARKS:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
- 5530MHz: Fundamental frequency.
- 5470MHz & 5725MHz: Out of restricted band



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TEST MODE B**802.11n (20MHz)**

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 140	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Kay Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5460	38.17	38.25	54	-15.83	31.56	5.44	37.08	100	246	Average
5460	55.12	55.2	74	-18.88	31.56	5.44	37.08	100	246	Peak
5470	54.98	55.04	68.3	-13.32	31.57	5.45	37.08	100	246	Peak
5700	95.83	95.76			31.9	5.57	37.4	100	246	Average
5700	102.95	102.88			31.9	5.57	37.4	100	246	Peak
5725	63.55	63.43	68.3	-4.75	31.96	5.59	37.43	100	246	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5433	37.75	37.93	54	-16.25	31.53	5.42	37.13	100	187	Average
5433	54.33	54.51	74	-19.67	31.53	5.42	37.13	100	187	Peak
5470	53.22	53.28	68.3	-15.08	31.57	5.45	37.08	100	187	Peak
5700	96.52	96.45			31.9	5.57	37.4	100	187	Average
5700	103.99	103.92			31.9	5.57	37.4	100	187	Peak
5725	65.42	65.3	68.3	-2.88	31.96	5.59	37.43	100	187	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value
2. 5700MHz: Fundamental frequency.
3. 5470MHz & 5725MHz: Out of restricted band

BELOW 1GHz WORST-CASE DATA:

TEST MODE A

802.11n (20MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 36	FREQUENCY RANGE	30MHz ~ 1GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Kay Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
58.08	16.63	40.98	40	-23.37	6.98	0.9	32.23	102	115	Peak
94.26	25.64	47.2	43.5	-17.86	9.26	1.11	31.93	116	253	Peak
143.67	31.58	52.86	43.5	-11.92	9.61	1.38	32.27	102	147	Peak
342	20.59	34.42	46	-25.41	16.06	2.19	32.08	152	125	Peak
520.5	22.76	31.69	46	-23.24	20.51	2.7	32.14	114	157	Peak
619.2	21.63	28.92	46	-24.37	21.96	2.93	32.18	152	148	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
30.27	32.96	46.94	40	-7.04	17.55	0.74	32.27	158	226	Peak
56.46	25.77	49.98	40	-14.23	7.12	0.9	32.23	156	235	Peak
139.62	22.45	44.04	43.5	-21.05	9.3	1.38	32.27	182	220	Peak
342	20.64	34.47	46	-25.36	16.06	2.19	32.08	105	236	Peak
471.5	18.81	29.56	46	-27.19	18.81	2.56	32.12	110	225	Peak
635.3	22.66	29.79	46	-23.34	22.1	2.93	32.16	157	158	Peak

REMARKS: Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value

802.11n (20MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 64	FREQUENCY RANGE	30MHz ~ 1GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Kay Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
30	20.67	34.4	40	-19.33	17.8	0.74	32.27	124	225	Peak
113.7	19	40.83	43.5	-24.5	9.14	1.28	32.25	102	147	Peak
196.59	34.51	54.45	43.5	-8.99	10.73	1.61	32.28	111	202	Peak
342	22.46	36.29	46	-23.54	16.06	2.19	32.08	102	157	Peak
593.3	20.64	29.11	46	-25.36	20.85	2.87	32.19	115	124	Peak
675.2	23.65	29.36	46	-22.35	23.36	3.05	32.12	188	215	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
30.81	33.59	47.92	40	-6.41	17.19	0.74	32.26	112	154	Peak
55.65	27.16	51.28	40	-12.84	7.21	0.9	32.23	158	158	Peak
142.59	21.18	42.52	43.5	-22.32	9.55	1.38	32.27	102	52	Peak
380.5	17.76	30.91	46	-28.24	16.75	2.26	32.16	110	23	Peak
545.7	20.2	29.24	46	-25.8	20.39	2.76	32.19	117	330	Peak
629	22.66	29.8	46	-23.34	22.1	2.93	32.17	152	215	Peak

REMARKS: Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value



A D T

802.11n (20MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 140	FREQUENCY RANGE	30MHz ~ 1GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Kay Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
31.62	19.97	34.92	40	-20.03	16.57	0.74	32.26	112	201	Peak
93.18	19.56	41.15	43.5	-23.94	9.18	1.11	31.88	152	215	Peak
142.59	27.84	49.18	43.5	-15.66	9.55	1.38	32.27	155	236	Peak
342	23.96	37.79	46	-22.04	16.06	2.19	32.08	152	158	Peak
515.6	20.19	29.49	46	-25.81	20.13	2.7	32.13	110	147	Peak
615	22.77	30.35	46	-23.23	21.67	2.93	32.18	152	326	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
31.62	33.07	48.02	40	-6.93	16.57	0.74	32.26	112	154	Peak
92.91	18.79	40.42	43.5	-24.71	9.14	1.11	31.88	102	326	Peak
143.13	20.44	41.78	43.5	-23.06	9.55	1.38	32.27	199	235	Peak
342	16.65	30.48	46	-29.35	16.06	2.19	32.08	115	258	Peak
505.8	20.17	30.27	46	-25.83	19.38	2.63	32.11	102	157	Peak
546.4	20.64	29.73	46	-25.36	20.34	2.76	32.19	155	147	Peak

REMARKS: Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value



A D T

TEST MODE B**802.11n (20MHz)**

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 140	FREQUENCY RANGE	30MHz ~ 1GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Kay Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
68.61	22.78	42.77	40	-17.22	10.89	0.89	31.77	100	18	Peak
143.13	24.94	42.79	43.5	-18.56	12.47	1.31	31.63	100	265	Peak
213.06	30.64	50.68	43.5	-12.86	9.93	1.66	31.63	100	129	Peak
442.8	18.14	31.34	46	-27.86	16.2	2.59	31.99	100	106	Peak
576.5	21.05	31.07	46	-24.95	19.06	3.02	32.1	100	79	Peak
743.1	24.73	31.19	46	-21.27	21.42	3.55	31.43	100	228	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
65.64	29.91	49.44	40	-10.09	11.24	0.87	31.64	105	261	Peak
146.91	23.39	41.07	43.5	-20.11	12.61	1.33	31.62	100	178	Peak
212.52	21.86	41.93	43.5	-21.64	9.89	1.65	31.61	100	199	Peak
325.9	16.54	32.67	46	-29.46	13.57	2.14	31.84	100	215	Peak
565.3	21.37	31.64	46	-24.63	18.81	2.99	32.07	100	176	Peak
778.8	25.68	31.53	46	-20.32	21.93	3.64	31.42	100	302	Peak

REMARKS: Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
Margin value = Emission level – Limit value

4.2 CONDUCTED EMISSION MEASUREMENT

4.2.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

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

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

4.2.2 TEST INSTRUMENTS

Tested Date: Nov. 29, 2013

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESCS30	100288	Nov. 17, 2013	Nov. 16, 2014
RF signal cable Woken	5D-FB	Cable-HYCO2-01	Dec. 28, 2012	Dec. 27, 2013
LISN ROHDE & SCHWARZ (EUT)	ESH2-Z5	100100	Dec. 21, 2012	Dec. 20, 2013
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	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 2.
3. The VCCI Site Registration No. is C-2047.

4.2.3 TEST PROCEDURES

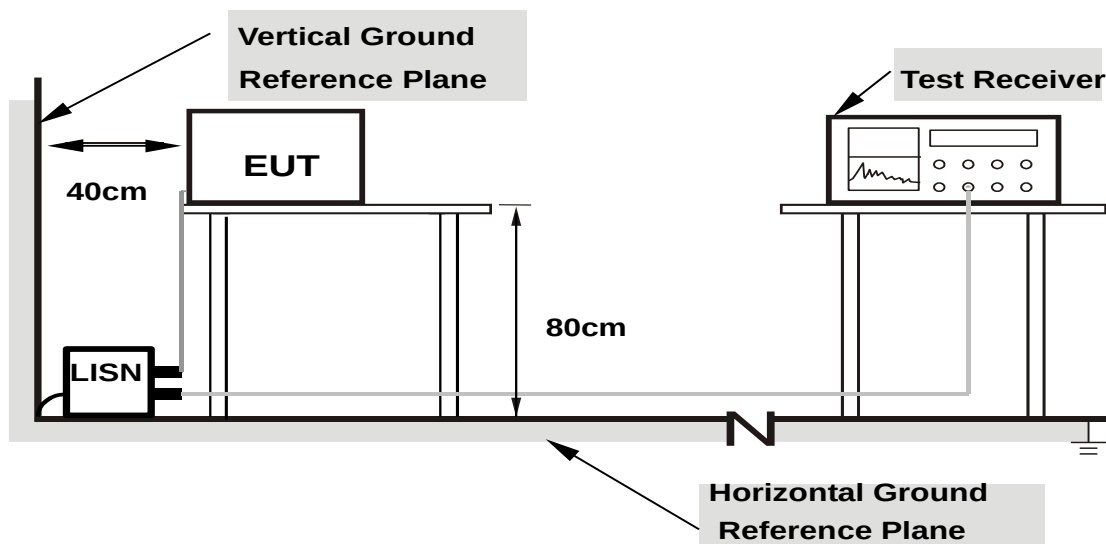
- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling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

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

4.2.4 DEVIATION FROM TEST STANDARD

No deviation.

4.2.5 TEST SETUP



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

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

4.2.6 EUT OPERATING CONDITIONS

Same as 4.1.6.

4.2.7 TEST RESULTS

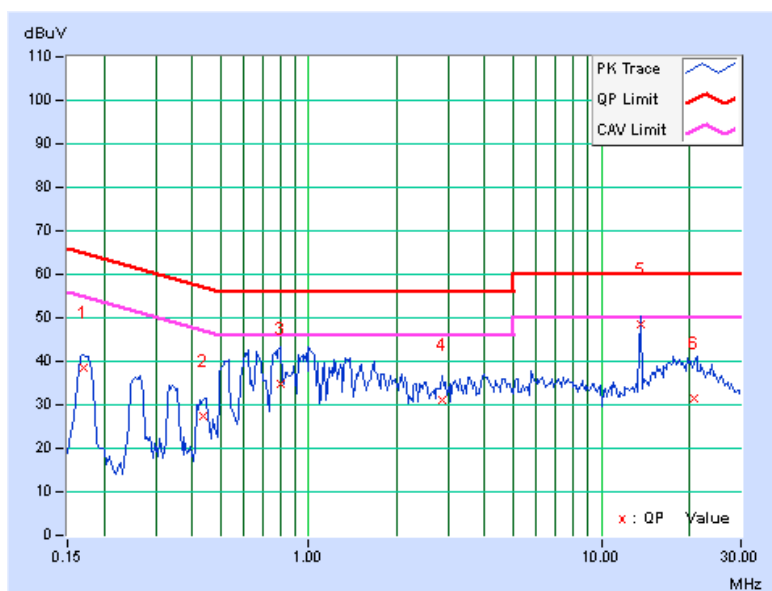
CONDUCTED WORST-CASE DATA :

PHASE	Line 1	6dB BANDWIDTH	9kHz
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16953	0.17	38.53	28.75	38.70	28.92	64.98	54.98	-26.28	-26.06
2	0.43516	0.21	27.37	16.76	27.58	16.97	57.15	47.15	-29.57	-30.18
3	0.80234	0.25	34.71	22.60	34.96	22.85	56.00	46.00	-21.04	-23.15
4	2.85156	0.32	30.70	19.46	31.02	19.78	56.00	46.00	-24.98	-26.22
5	13.56250	0.50	48.12	45.34	48.62	45.84	60.00	50.00	-11.38	-4.16
6	20.83594	0.63	30.88	23.21	31.51	23.84	60.00	50.00	-28.49	-26.16

REMARKS:

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

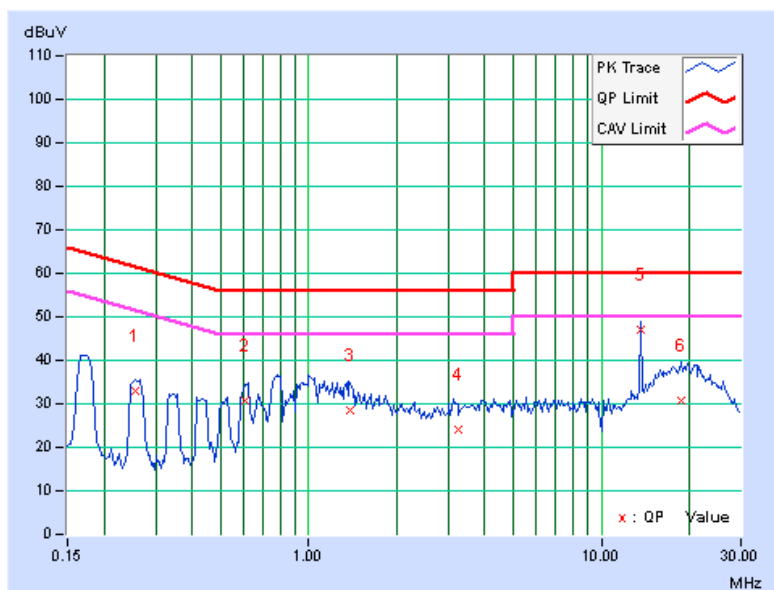


PHASE	Line 2	6dB BANDWIDTH	9kHz
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.25547	0.20	32.83	21.54	33.03	21.74	61.58	51.58	-28.55	-29.84
2	0.60703	0.24	30.46	20.38	30.70	20.62	56.00	46.00	-25.30	-25.38
3	1.39453	0.25	28.43	17.44	28.68	17.69	56.00	46.00	-27.32	-28.31
4	3.23828	0.35	23.72	14.44	24.07	14.79	56.00	46.00	-31.93	-31.21
5	13.56250	0.57	46.48	42.12	47.05	42.69	60.00	50.00	-12.95	-7.31
6	18.83203	0.70	30.15	20.13	30.85	20.83	60.00	50.00	-29.15	-29.17

REMARKS:

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



4.3 PEAK TRANSMIT POWER MEASUREMENT

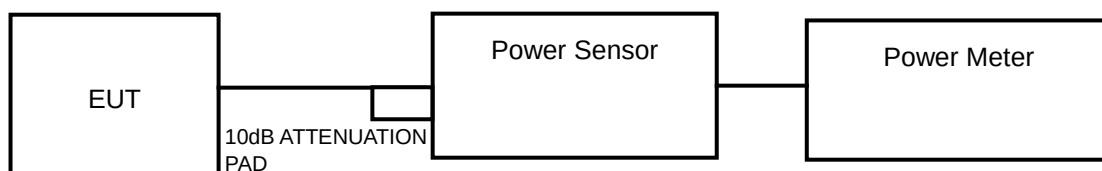
4.3.1 LIMITS OF PEAK TRANSMIT POWER MEASUREMENT

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

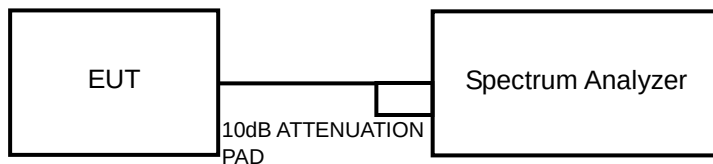
NOTE: Where B is the 26dB emission bandwidth in MHz.

4.3.2 TEST SETUP

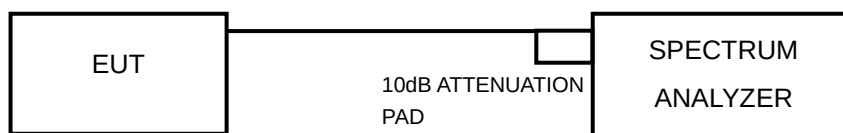
FOR POWER OUTPUT MEASUREMENT



or



FOR 26dB BANDWIDTH



4.3.3 TEST INSTRUMENTS

Refer to section 4.1.3 to get information of above instrument.

4.3.4 TEST PROCEDURE

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

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

<802.11ac (80MHz)>

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

FOR 26dB BANDWIDTH

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

4.3.5 DEVIATION FROM TEST STANDARD

No deviation.

4.3.6 EUT OPERATING CONDITIONS

The software provided by client to enable the EUT under transmission condition continuously at specific channel frequencies individually.

4.3.7 TEST RESULTS

POWER OUTPUT:

802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)	POWER LIMIT (dBm)	PASS/FAIL
36	5180	41.591	16.19	17	PASS
44	5220	39.355	15.95	17	PASS
48	5240	40.644	16.09	17	PASS
52	5260	39.174	15.93	24	PASS
60	5300	41.879	16.22	24	PASS
64	5320	40.365	16.06	24	PASS
100	5500	41.115	16.14	24	PASS
116	5580	40.087	16.03	24	PASS
140	5700	40.365	16.06	24	PASS

802.11n (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)	POWER LIMIT (dBm)	PASS/FAIL
36	5180	40.179	16.04	17	PASS
44	5220	38.371	15.84	17	PASS
48	5240	39.084	15.92	17	PASS
52	5260	48.306	16.84	24	PASS
60	5300	49.431	16.94	24	PASS
64	5320	48.417	16.85	24	PASS
100	5500	50.234	17.01	24	PASS
116	5580	49.317	16.93	24	PASS
140	5700	48.417	16.85	24	PASS

802.11n (40MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)	POWER LIMIT (dBm)	PASS/FAIL
38	5190	20.845	13.19	17	PASS
46	5230	20.749	13.17	17	PASS
54	5270	20.417	13.10	24	PASS
62	5310	20.370	13.09	24	PASS
102	5510	21.232	13.27	24	PASS
110	5550	20.464	13.11	24	PASS
134	5670	20.654	13.15	24	PASS

802.11ac (80MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)	POWER LIMIT (dBm)	PASS/FAIL
42	5210	19.907	12.99	17	PASS
58	5290	22.542	13.53	24	PASS
106	5530	23.388	13.69	24	PASS

26dB BANDWIDTH: 802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)	PASS / FAIL
36	5180	24.36	PASS
44	5220	22.39	PASS
48	5240	22.24	PASS
52	5260	21.98	PASS
60	5300	21.92	PASS
64	5320	22.77	PASS
100	5500	23.31	PASS
116	5580	22.37	PASS
140	5700	23.08	PASS

802.11n (20MHz)

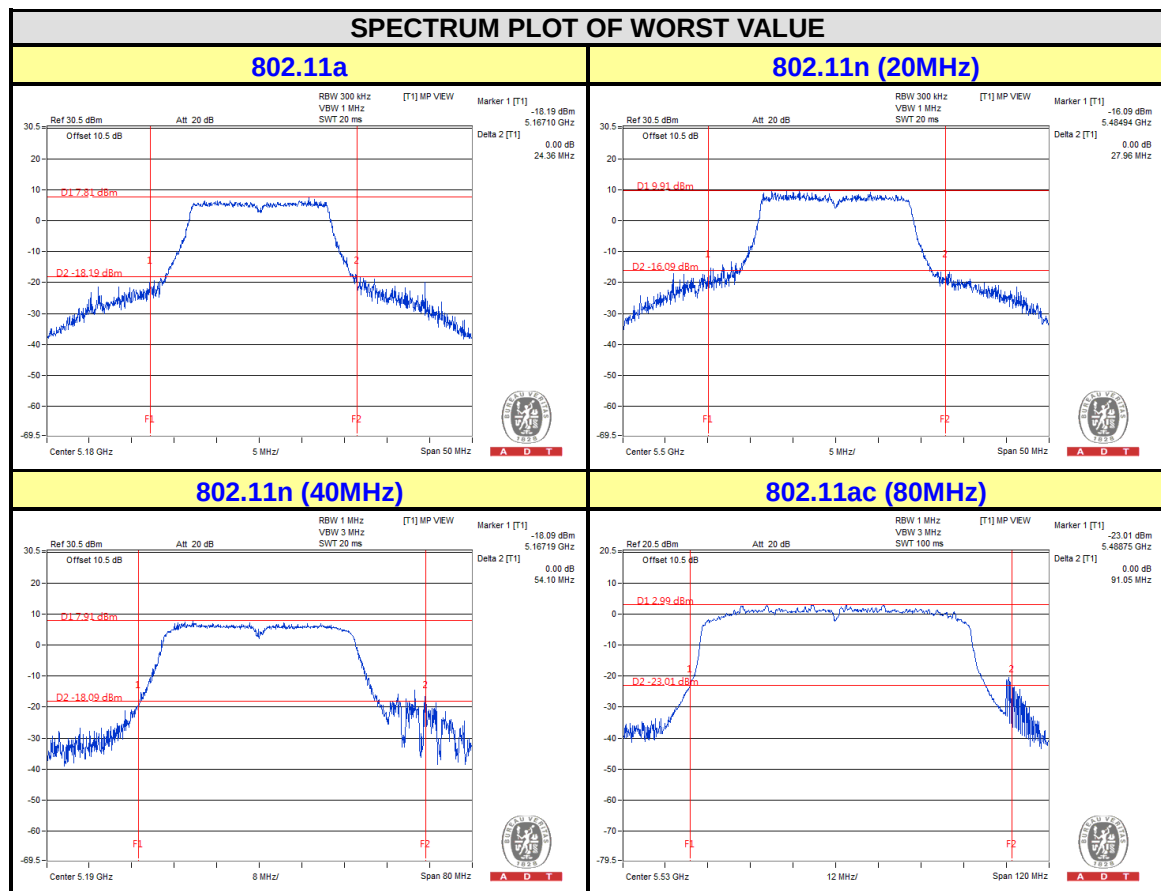
CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)	PASS / FAIL
36	5180	27.11	PASS
44	5220	24.37	PASS
48	5240	24.42	PASS
52	5260	27.26	PASS
60	5300	26.98	PASS
64	5320	26.67	PASS
100	5500	27.96	PASS
116	5580	27.13	PASS
140	5700	27.11	PASS

802.11n (40MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)	PASS / FAIL
38	5190	54.10	PASS
46	5230	44.60	PASS
54	5270	46.12	PASS
62	5310	45.03	PASS
102	5510	47.07	PASS
110	5550	44.98	PASS
134	5670	45.49	PASS

802.11ac (80MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)	PASS / FAIL
42	5210	83.41	PASS
58	5290	82.55	PASS
106	5530	91.05	PASS

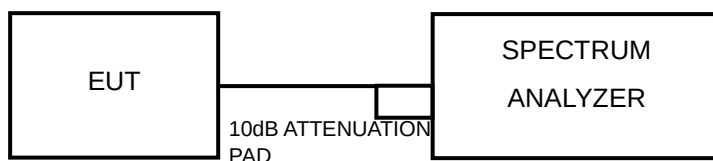


4.4 PEAK POWER SPECTRAL DENSITY MEASUREMENT

4.4.1 LIMITS OF PEAK POWER SPECTRAL DENSITY MEASUREMENT

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

4.4.2 TEST SETUP



4.4.3 TEST INSTRUMENTS

Refer to section 4.1.3 to get information of above instrument.

4.4.4 TEST PROCEDURES

<802.11a, 802.11n (20MHz) >

Using method SA-1

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

<802.11n (40MHz), 802.11ac (80MHz)>

Using method SA-2 alternative

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

4.4.5 DEVIATION FROM TEST STANDARD

No deviation.

4.4.6 EUT OPERATING CONDITIONS

Same as Item 4.3.6.

4.4.7 TEST RESULTS

802.11a

CHANNEL	FREQUENCY (MHz)	PSD (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
36	5180	3.79	4	PASS
44	5220	3.97	4	PASS
48	5240	3.98	4	PASS
52	5260	4.05	11	PASS
60	5300	4.36	11	PASS
64	5320	4.37	11	PASS
100	5500	4.48	11	PASS
116	5580	4.10	11	PASS
140	5700	3.50	11	PASS

802.11n (20MHz)

CHANNEL	FREQUENCY (MHz)	PSD (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
36	5180	3.64	4	PASS
44	5220	3.87	4	PASS
48	5240	3.93	4	PASS
52	5260	4.79	11	PASS
60	5300	4.98	11	PASS
64	5320	5.01	11	PASS
100	5500	4.97	11	PASS
116	5580	4.72	11	PASS
140	5700	4.01	11	PASS

802.11n (40MHz)

CHANNEL	FREQUENCY (MHz)	PSD W/O DUTY FACTOR (dBm)	DUTY FACTOR	PSD WITH DUTY FACTOR (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
38	5190	-2.01	0.33	-1.68	4	PASS
46	5230	-2.07	0.33	-1.74	4	PASS
54	5270	-1.57	0.33	-1.24	11	PASS
62	5310	-1.33	0.33	-1.00	11	PASS
102	5510	-1.55	0.33	-1.22	11	PASS
110	5550	-1.82	0.33	-1.49	11	PASS
134	5670	-2.58	0.33	-2.25	11	PASS

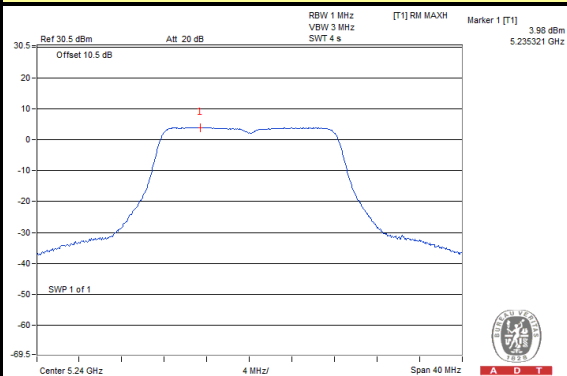
NOTE: Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (80MHz)

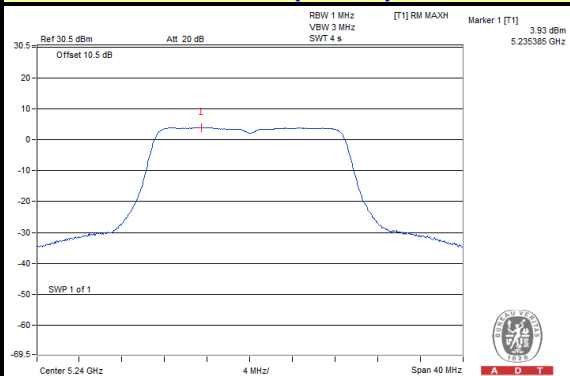
CHANNEL	FREQUENCY (MHz)	PSD W/O DUTY FACTOR (dBm)	DUTY FACTOR	PSD WITH DUTY FACTOR (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
42	5210	-5.79	0.76	-5.03	4	PASS
58	5290	-5.22	0.76	-4.46	11	PASS
106	5530	-5.44	0.76	-4.68	11	PASS

SPECTRUM PLOT OF WORST VALUE

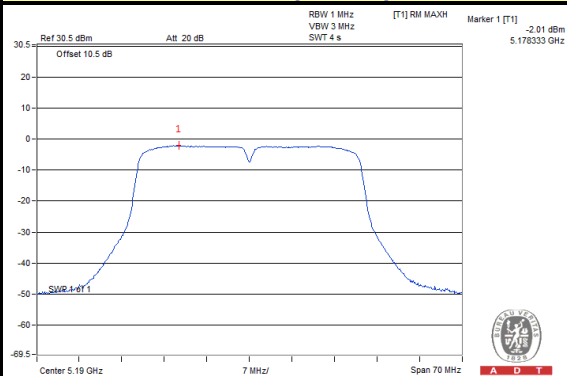
802.11a



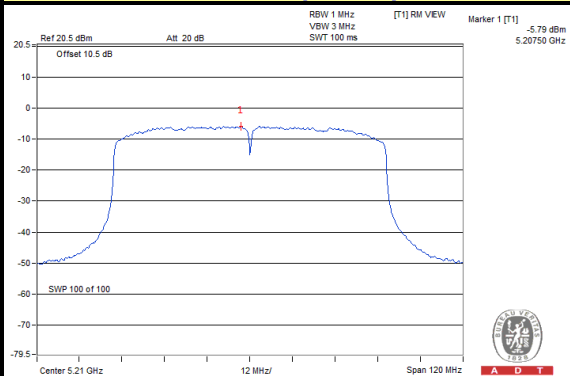
802.11n (20MHz)



802.11n (40MHz)



802.11ac (80MHz)



4.5 PEAK POWER EXCURSION MEASUREMENT

4.5.1 LIMITS OF POWER SPECTRAL DENSITY 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

- Set the RBW = 1 kHz, VBW $\geq$ 3 MHz, Detector = peak.
- Trace mode = max-hold. Allow the sweeps to continue until the trace stabilizes.
- Use the peak search function to find the peak of the spectrum.
- Measure the PPSD.
- 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 CONDITION

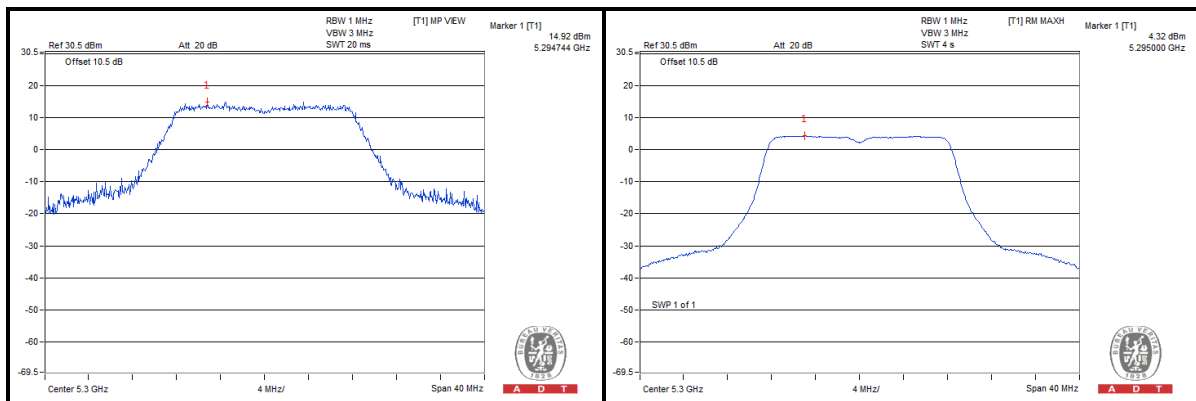
Same as Item 4.3.6

4.5.7 TEST RESULTS

MODULATION MODE	MODULATION TYPE	CHANNEL FREQUENCY (MHz)	PEAK VALUE (dBm)	PPSD (dBm)	PEAK EXCURSION (dB)	LIMIT (dB)	PASS/ FAIL
802.11a	BPSK	5300	13.50	4.36	9.14	13	PASS
	QPSK		14.81	4.45	10.36	13	PASS
	16QAM		14.59	4.34	10.25	13	PASS
	64QAM		14.92	4.32	10.60	13	PASS
802.11n (20MHz)	BPSK	5500	13.96	4.97	8.99	13	PASS
	QPSK		15.37	4.90	10.47	13	PASS
	16QAM		15.41	4.89	10.52	13	PASS
	64QAM		15.18	4.81	10.37	13	PASS

MODULATION MODE	MODULATION TYPE	CHAN. FREQ. (MHz)	PEAK VALUE (dBm)	PPSD WITHOUT DUTY FACTOR (dBm)	PPSD WITH DUTY FACTOR (dBm)	PEAK EXCURSION (dB)	LIMIT (dB)	PASS /FAIL
802.11n (40MHz)	BPSK	5510	7.80	-1.55	-1.22	9.02	13	PASS
	QPSK		8.36	-1.72	-1.12	9.48	13	PASS
	16QAM		8.36	-1.69	-0.58	8.94	13	PASS
	64QAM		8.37	-1.72	0.15	8.22	13	PASS
802.11ac (80MHz)	BPSK	5530	3.05	-5.44	-4.68	7.73	13	PASS
	QPSK		3.03	-5.45	-4.03	7.06	13	PASS
	16QAM		3.26	-5.24	-2.86	6.12	13	PASS
	64QAM		3.17	-4.87	-1.59	4.76	13	PASS
	256QAM		3.51	-5.04	-0.55	4.06	13	PASS

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

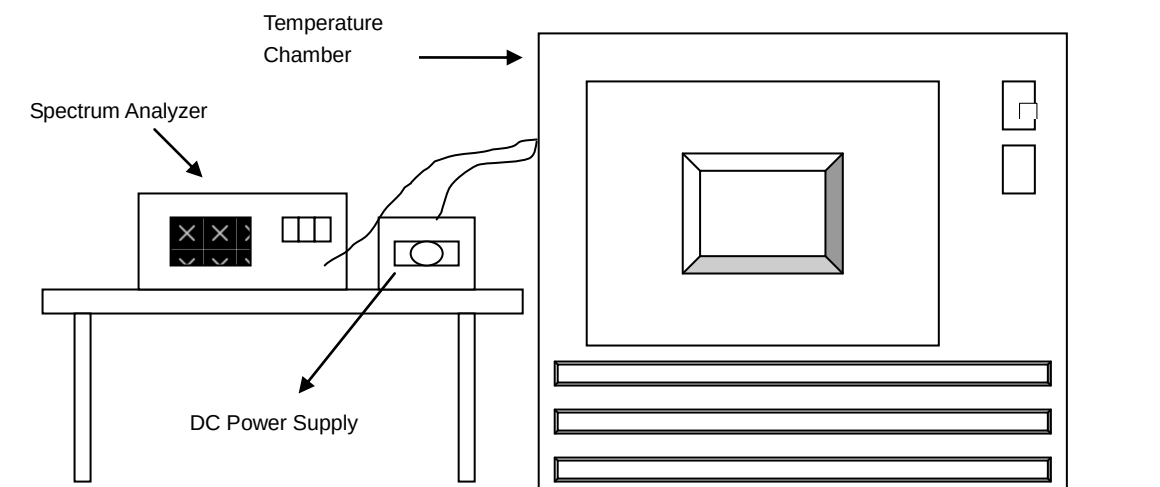


4.6 FREQUENCY STABILITY

4.6.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

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

4.6.2 TEST SETUP



4.6.3 TEST INSTRUMENTS

Refer to section 4.1.3 to get information of above instrument.

4.6.4 TEST PROCEDURE

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

4.6.5 DEVIATION FROM TEST STANDARD

No deviation.

4.6.6 EUT OPERATING CONDITION

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

4.6.7 TEST RESULTS

FREQUENCY STABILITY VERSUS TEMP.									
OPERATING FREQUENCY: 5320MHz									
TEMP. (°C)	POWER SUPPLY (Vdc)	0 MINUTE		2 MINUTE		5 MINUTE		10 MINUTE	
		Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)
50	3.8	5320.015122	2.842	5320.015242	2.865	5320.014849	2.791	5320.014924	2.805
40	3.8	5320.015773	2.965	5320.015413	2.897	5320.015280	2.872	5320.015875	2.984
30	3.8	5320.016994	3.194	5320.016858	3.169	5320.017027	3.201	5320.016728	3.144
20	3.8	5320.017948	3.374	5320.017999	3.383	5320.018255	3.431	5320.017966	3.377
10	3.8	5320.019440	3.654	5320.019585	3.681	5320.019498	3.665	5320.019599	3.684
0	3.8	5320.017966	3.377	5320.017674	3.322	5320.018339	3.447	5320.017710	3.329
-10	3.8	5320.016426	3.088	5320.016769	3.152	5320.016735	3.146	5320.017013	3.198
-20	3.8	5320.015926	2.994	5320.015701	2.951	5320.015733	2.957	5320.016073	3.021
-30	3.8	5320.014835	2.789	5320.014935	2.807	5320.015103	2.839	5320.014932	2.807

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 (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)
20	3.6	5320.017570	3.303	5320.017273	3.247	5320.017510	3.291	5320.017310	3.254
	3.8	5320.017948	3.374	5320.017999	3.383	5320.018255	3.431	5320.017966	3.377
	4.35	5320.019210	3.611	5320.019205	3.610	5320.019408	3.648	5320.019331	3.634

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.

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Web Site: www.bureauveritas-adt.com

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



A D T

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

No any modifications are made to the EUT by the lab during the test.

---END---