



# FCC TEST REPORT (15.407)

**REPORT NO.:** RF130507C21-2

**MODEL NO.:** K00A

**FCC ID:** MSQK00A

**RECEIVED:** May 07, 2013

**TESTED:** May 23, 2013 ~ May 30, 2013

**ISSUED:** Jun. 10, 2013

**APPLICANT:** ASUSTek COMPUTER INC.

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

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**TEST LOCATION:** No. 19, Hwa Ya 2nd Rd, Wen Hwa Tsuen, Kwei  
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## RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF130507C21-2	Original release	Jun. 10, 2013



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## 1. CERTIFICATION

**PRODUCT:** ASUS Tablet

**MODEL NO.:** K00A

**BRAND:** ASUS

**APPLICANT:** ASUSTek COMPUTER INC.

**TESTED:** May 23, 2013 ~ May 30, 2013

**TEST SAMPLE:** Production Unit

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

ANSI C63.10-2009

The above equipment (model: K00A) 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** : Vera Huang , **DATE** : Jun. 10, 2013

Vera Huang / Specialist

**APPROVED BY** : Sam chen , **DATE** : Jun. 10, 2013

Sam Chen / Assistant Manager

## 2. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

<b>APPLIED STANDARD: FCC PART 15, SUBPART E (SECTION 15.407)</b>			
<b>STANDARD SECTION</b>	<b>TEST TYPE</b>	<b>RESULT</b>	<b>REMARK</b>
15.407(b)(6)	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is -15.49dB at 0.53281MHz.
15.407(b/1/2/3) (b)(6)	Spurious Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -3.41dB at 3800MHz.
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:

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

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



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### 3. GENERAL INFORMATION

#### 3.1 GENERAL DESCRIPTION OF EUT

<b>EUT</b>	ASUS Tablet
<b>MODEL NO.</b>	K00A
<b>POWER SUPPLY</b>	5Vdc (adapter) 3.7Vdc (battery)
<b>MODULATION TYPE</b>	64QAM, 16QAM, QPSK, BPSK
<b>MODULATION TECHNOLOGY</b>	OFDM
<b>TRANSFER RATE</b>	802.11a: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0Mbps 802.11n: up to MCS7
<b>OPERATING FREQUENCY</b>	5180 ~ 5240MHz, 5260 ~ 5320MHz & 5500 ~ 5700MHz
<b>NUMBER OF CHANNEL</b>	5180 ~ 5240MHz: 4 for 802.11a, 802.11n (20MHz) 2 for 802.11n (40MHz) 5260 ~ 5320MHz: 4 for 802.11a, 802.11n (20MHz) 2 for 802.11n (40MHz) 5500 ~ 5700MHz: 8 for 802.11a, 802.11n (20MHz) 3 for 802.11n (40MHz)
<b>OUTPUT POWER</b>	11.376mW for 5180 ~ 5240MHz 11.429mW for 5260 ~ 5320MHz 9.528mW for 5500 ~ 5700MHz
<b>ANTENNA TYPE</b>	PCB antenna with 2.59dBi gain (5180 ~ 5240MHz) PCB antenna with 1.5dBi gain (5260 ~ 5320MHz) PCB antenna with 2.73dBi gain (5500 ~ 5700MHz)
<b>ANTENNA CONNECTOR</b>	NA
<b>DATA CABLE</b>	Refer to Note as below
<b>I/O PORTS</b>	Refer to user's manual
<b>ACCESSORY DEVICES</b>	Refer to Note as below

**NOTE:**

1. The EUT has following accessories.

ITEM	BRAND	MODEL	DESCRIPTION
AC Adapter 1	ASUS	AD83531	I/P: 100-240Vac, 50-60Hz, 0.3A O/P: 5Vdc, 2A
AC Adapter 2	ASUS	W12-010N3A	I/P: 100-240Vac, 50-60Hz, 0.3A O/P: 5Vdc, 2A
AC Adapter 3	ASUS	AD876320	I/P: 100-240Vac, 50-60Hz, 0.3A O/P: 5Vdc, 2A
AC Adapter 4	ASUS	PSA 10A-050Q	I/P: 100-240Vac, 50-60Hz, 0.28A O/P: 5Vdc, 2A
Li-ion Battery 1	ASUS	C12P1301	Rating: 3.7Vdc, 25Wh
Li-ion Battery 2	ASUS	C12P1301	Rating: 3.7Vdc, 25Wh
USB cable	ASUS	AA780300	0.9m non-shielded cable w/o ferrite core
LCD Panel 1	AUO	B101UAN01.7_H/W 1A	--
LCD Panel 2	CPT	CLAA101FP05	--
Front Camera 1	Foxlink	FO50AF-404H	--
Front Camera 2	Chicony	CJAC533-1	--
Front Camera 3	Liteon	12P2BA536A	--
Rear Camera 1	Foxlink	FM12FF-412H	--
Rear Camera 2	Liteon	12P2SF181	--
WLAN/BT Module	Broadcom	BCM43340	--
CPU	CT+ _Security key	INT Z2560	LPDDR2 (220 balls), 1.6GHz
Mainboard	ASUS	ME302C_MB	--
eMMC 1	Hynix	H26M52002EQR	16G
eMMC 2	Hynix	H26M64002DQR	32G
eMMC 3	Toshiba	THGBMAG8A4JBA4R	32G

\* The 2<sup>nd</sup> source of accessories (Battery, LCD Panel, Camera, and eMMC) has same design, material, and specification. The difference between them is manufacturer only.

2. The EUT provides one completed transmitter and one receiver.

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

3. 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

#### 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

#### 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		



### 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.

MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11a	5180-5240	36 to 48	36, 44, 48	OFDM	BPSK	6.0
802.11n (20MHz)		36 to 48	36, 44, 48	OFDM	BPSK	6.5
802.11n (40MHz)		38 to 46	38, 46	OFDM	BPSK	13.5
802.11a	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
802.11a	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

#### **RADIATED EMISSION TEST (BELOW 1GHz):**

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

MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11a	5260-5320	52 to 64	52	OFDM	BPSK	6.0

**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.

MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11a	5260-5320	52 to 64	52	OFDM	BPSK	6.0

**BANDEDGE MEASUREMENT:**

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

MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11a	5180-5240	36 to 48	36, 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
802.11a	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
802.11a	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



**ANTENNA PORT CONDUCTED MEASUREMENT:**

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

MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11a	5180-5240	36 to 48	36, 44, 48	OFDM	BPSK	6.0
802.11n (20MHz)		36 to 48	36, 44, 48	OFDM	BPSK	6.5
802.11n (40MHz)		38 to 46	38, 46	OFDM	BPSK	13.5
802.11a	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
802.11a	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

**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	Johnson Liao
PLC	25deg. C, 65%RH	120Vac, 60Hz	Johnson Liao
APCM	25deg. C, 65%RH	120Vac, 60Hz	Howard Kao

### 3.3 DESCRIPTION OF SUPPORT UNITS

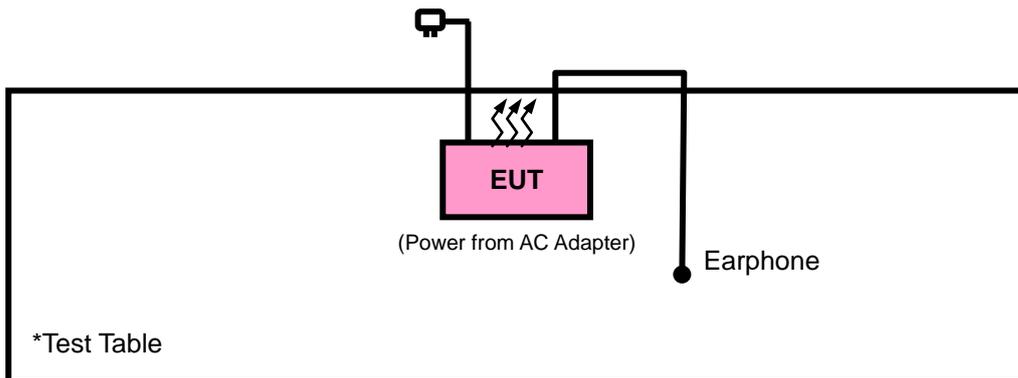
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	EARPHONE	Acon	CW-010M.V	N/A	N/A

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	N/A

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

#### 3.3.1 CONFIGURATION OF SYSTEM UNDER TEST





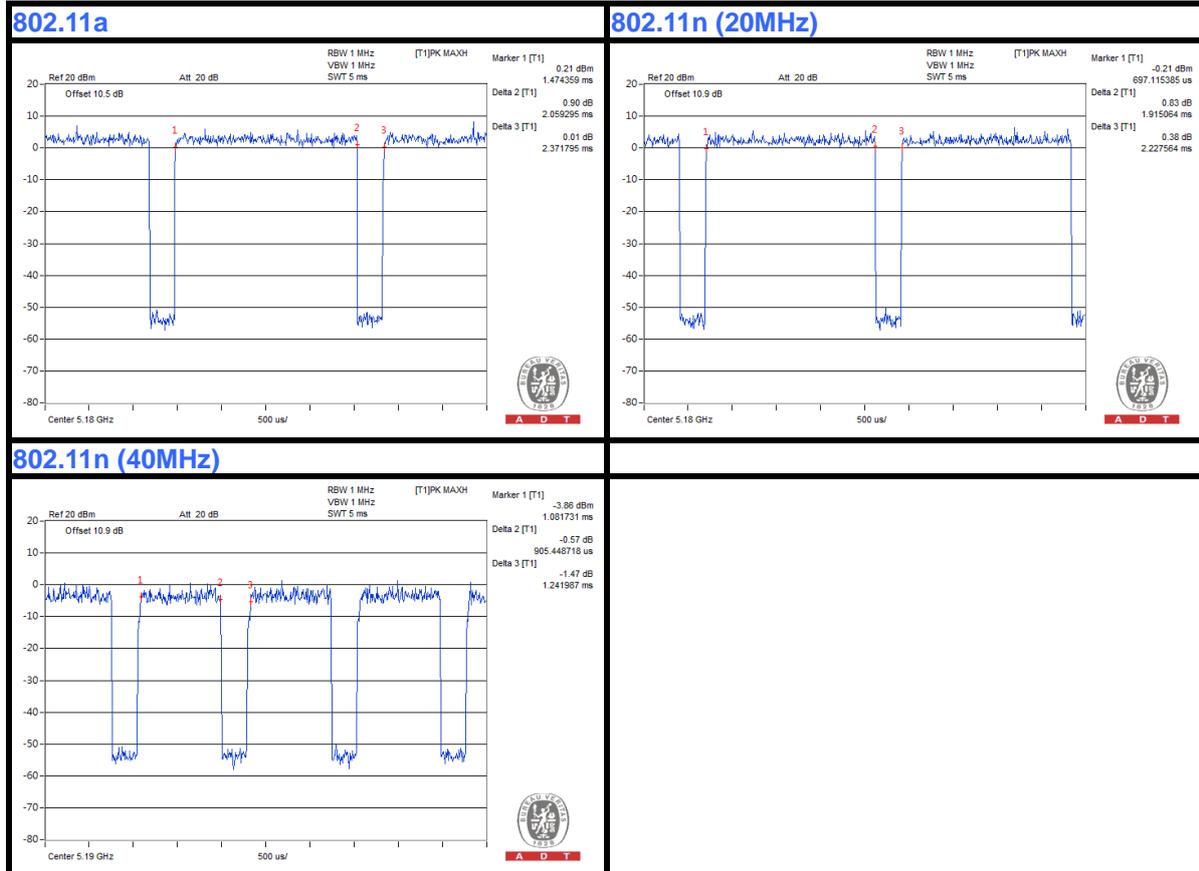
### 3.4 DUTY CYCLE OF TEST SIGNAL

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

**802.11a:** Duty cycle = 2.059/2.372 = 0.868, Duty factor =  $10 * \log(1/0.868) = 0.61$

**802.11n (20MHz):** Duty cycle = 1.915/2.228 = 0.86, Duty factor =  $10 * \log(1/0.86) = 0.66$

**802.11n (40MHz):** Duty cycle = 0.905/1.242 = 0.729, Duty factor =  $10 * \log(1/0.729) = 1.37$



### 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 v01r02

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. 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 (dB $\mu$ V/m)	
	PK	AV
	74	54
√	EIRP LIMIT (dBm)	EQUIVALENT FIELD STRENGTH AT 3m (dB $\mu$ V/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	Aug. 21, 2012	Aug. 20, 2013
Spectrum Analyzer ROHDE & SCHWARZ	FSU43	101261	Dec. 17, 2012	Dec. 16, 2013
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	Dec. 25, 2012	Dec. 24, 2013
Loop Antenna	HFH2-Z2	100070	Jan. 31, 2012	Jan. 30, 2014
Preamplifier EMCI	EMC 012645	980115	Dec. 28, 2012	Dec. 27, 2013
Preamplifier EMCI	EMC 184045	980116	Dec. 28, 2012	Dec. 27, 2013
Preamplifier EMCI	EMC 330H	980112	Dec. 28, 2012	Dec. 27, 2013
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	309219/4	Oct. 19, 2012	Oct. 18, 2013
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	250130/4	Oct. 19, 2012	Oct. 18, 2013
RF signal cable Worken	RG-213	NA	Dec. 29, 2012	Dec. 28, 2013
Software	E3 6.120103	NA	NA	NA
Antenna Tower MF	MFA-440H	NA	NA	NA
Turn Table MF	MFT-201SS	NA	NA	NA
Antenna Tower & Turn Table Controller MF	MF-7802	NA	NA	NA

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

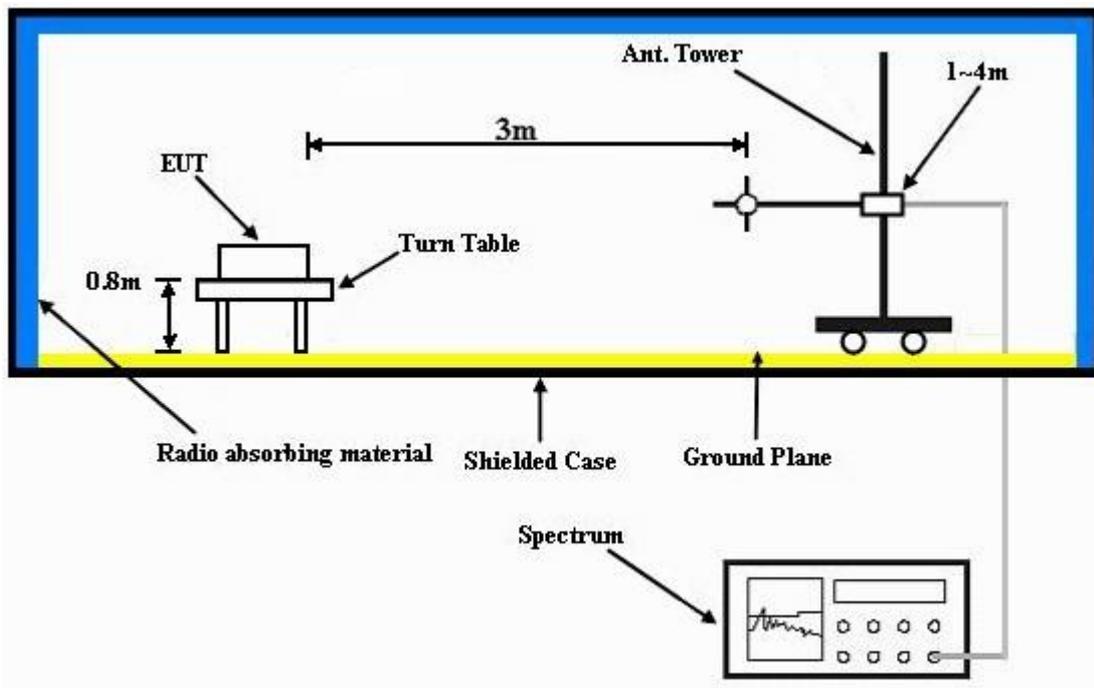
**NOTE:**

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

#### 4.1.5 DEVIATION FROM TEST STANDARD

No deviation.

#### 4.1.6 TEST SETUP



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

#### 4.1.7 EUT OPERATING CONDITION

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



### 4.1.8 TEST RESULTS

#### ABOVE 1GHz DATA:

##### 802.11a

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5148	40.52	42.82	54	-13.48	34.46	8.13	44.89	100	302	Average
5148	55.01	57.31	74	-18.99	34.46	8.13	44.89	100	302	Peak
5180	87.56	89.87			34.47	8.16	44.94	100	302	Average
5180	94.41	96.72			34.47	8.16	44.94	100	302	Peak
5446	36.25	38.25	54	-17.75	34.5	8.51	45.01	100	302	Average
5446	50.04	52.04	74	-23.96	34.5	8.51	45.01	100	302	Peak
10360	59.22	50.79	68.3	-9.08	37.63	12.26	41.46	103	167	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	44.49	46.79	54	-9.51	34.46	8.13	44.89	172	110	Average
5150	62.07	64.37	74	-11.93	34.46	8.13	44.89	172	110	Peak
5180	92.8	95.11			34.47	8.16	44.94	172	110	Average
5180	98.57	100.88			34.47	8.16	44.94	172	110	Peak
5436	36.24	38.28	54	-17.76	34.5	8.48	45.02	172	110	Average
5436	50.74	52.78	74	-23.26	34.5	8.48	45.02	172	110	Peak

#### REMARKS:

1. 5180MHz: Fundamental frequency.
2. 10360MHz: Out of restricted band



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
5090	36.38	38.67	54	-17.62	34.44	8.07	44.8	108	302	Average
5090	49.95	52.24	74	-24.05	34.44	8.07	44.8	108	302	Peak
5220	87.1	89.36			34.49	8.22	44.97	108	302	Average
5220	94.32	96.58			34.49	8.22	44.97	108	302	Peak
5446	36.04	38.04	54	-17.96	34.5	8.51	45.01	108	302	Average
5446	51.47	53.47	74	-22.53	34.5	8.51	45.01	108	302	Peak
10440	56.2	47.6	68.3	-12.1	37.74	12.48	41.62	100	123	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
5074	36.32	38.69	54	-17.68	34.43	8.03	44.83	170	100	Average
5074	49.96	52.33	74	-24.04	34.43	8.03	44.83	170	100	Peak
5220	92.08	94.34			34.49	8.22	44.97	170	100	Average
5220	98.15	100.41			34.49	8.22	44.97	170	100	Peak
5460	36.17	38.17	54	-17.83	34.5	8.51	45.01	170	100	Average
5460	50.99	52.99	74	-23.01	34.5	8.51	45.01	170	100	Peak

**REMARKS:**

1. 5220MHz: Fundamental frequency.
2. 10440MHz: Out of restricted band



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
5050	36.16	38.63	54	-17.84	34.42	8	44.89	108	309	Average
5050	50.53	53	74	-23.47	34.42	8	44.89	108	309	Peak
5240	87.52	89.74			34.49	8.26	44.97	108	309	Average
5240	93.66	95.88			34.49	8.26	44.97	108	309	Peak
5454	36.17	38.17	54	-17.83	34.5	8.51	45.01	108	309	Average
5454	51.89	53.89	74	-22.11	34.5	8.51	45.01	108	309	Peak
10480	56.18	47.68	68.3	-12.12	37.78	12.53	41.81	100	117	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
5078	36	38.37	54	-18	34.43	8.03	44.83	118	130	Average
5078	50.35	52.72	74	-23.65	34.43	8.03	44.83	118	130	Peak
5240	92.34	94.56			34.49	8.26	44.97	118	130	Average
5240	98.84	101.06			34.49	8.26	44.97	118	130	Peak
5376	36.05	38.16	54	-17.95	34.5	8.41	45.02	118	130	Average
5376	49.64	51.75	74	-24.36	34.5	8.41	45.02	118	130	Peak

**REMARKS:**

- 5240MHz: Fundamental frequency.
- 10480MHz: Out of restricted band



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
5056	36.13	38.53	54	-17.87	34.43	8.03	44.86	106	351	Average
5056	49.9	52.3	74	-24.1	34.43	8.03	44.86	106	351	Peak
5260	88.07	90.29			34.5	8.26	44.98	106	351	Average
5260	95.2	97.42			34.5	8.26	44.98	106	351	Peak
5444	36.26	38.3	54	-17.74	34.5	8.48	45.02	106	351	Average
5444	50.25	52.29	74	-23.75	34.5	8.48	45.02	106	351	Peak
10520	57.12	48.58	68.3	-11.18	37.81	12.61	41.88	100	169	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	36.18	38.71	54	-17.82	34.41	7.97	44.91	121	105	Average
5026	50.09	52.62	74	-23.91	34.41	7.97	44.91	121	105	Peak
5260	92.95	95.17			34.5	8.26	44.98	121	105	Average
5260	99.23	101.45			34.5	8.26	44.98	121	105	Peak
5354	36.97	39.1	54	-17.03	34.5	8.38	45.01	121	105	Average
5354	51.01	53.14	74	-22.99	34.5	8.38	45.01	121	105	Peak
10520	55.59	47.05	68.3	-12.71	37.81	12.61	41.88	100	212	Peak

**REMARKS:**

1. 5260MHz: Fundamental frequency.
2. 10520MHz: Out of restricted band



A D T

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5088	38.37	40.7	54	-15.63	34.43	8.07	44.83	105	348	Average
5088	50.01	52.34	74	-23.99	34.43	8.07	44.83	105	348	Peak
5300	88.81	90.97			34.5	8.32	44.98	105	348	Average
5300	95.84	98			34.5	8.32	44.98	105	348	Peak
5352	38.95	41.08	54	-15.05	34.5	8.38	45.01	105	348	Average
5352	52.43	54.56	74	-21.57	34.5	8.38	45.01	105	348	Peak
10600	47.85	39.29	54	-6.15	37.84	12.66	41.94	100	122	Average
10600	57.89	49.33	74	-16.11	37.84	12.66	41.94	100	122	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
5090	37.87	40.16	54	-16.13	34.44	8.07	44.8	120	105	Average
5090	50.26	52.55	74	-23.74	34.44	8.07	44.8	120	105	Peak
5300	93.64	95.8			34.5	8.32	44.98	120	105	Average
5300	100.38	102.54			34.5	8.32	44.98	120	105	Peak
5350	42.11	44.24	54	-11.89	34.5	8.38	45.01	120	105	Average
5350	55.88	58.01	74	-18.12	34.5	8.38	45.01	120	105	Peak
10600	46.76	38.2	54	-7.24	37.84	12.66	41.94	100	223	Average
10600	56.7	48.14	74	-17.3	37.84	12.66	41.94	100	223	Peak

REMARKS: 5300MHz: Fundamental frequency.



A D T

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5050	36.24	38.71	54	-17.76	34.42	8	44.89	105	349	Average
5050	50.48	52.95	74	-23.52	34.42	8	44.89	105	349	Peak
5320	89.26	91.4			34.5	8.35	44.99	105	349	Average
5320	96.52	98.66			34.5	8.35	44.99	105	349	Peak
5350	40.28	42.41	54	-13.72	34.5	8.38	45.01	105	349	Average
5350	57.73	59.86	74	-16.27	34.5	8.38	45.01	105	349	Peak
10640	47.25	38.7	54	-6.75	37.85	12.7	42	100	122	Average
10640	55.74	47.19	74	-18.26	37.85	12.7	42	100	122	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
5078	36.24	38.61	54	-17.76	34.43	8.03	44.83	109	98	Average
5078	50.42	52.79	74	-23.58	34.43	8.03	44.83	109	98	Peak
5320	93.45	95.59			34.5	8.35	44.99	109	98	Average
5320	99.66	101.8			34.5	8.35	44.99	109	98	Peak
5350	44.26	46.39	54	-9.74	34.5	8.38	45.01	109	98	Average
5350	63.23	65.36	74	-10.77	34.5	8.38	45.01	109	98	Peak
10640	46.15	37.6	54	-7.85	37.85	12.7	42	100	210	Average
10640	56.4	47.85	74	-17.6	37.85	12.7	42	100	210	Peak

REMARKS: 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
5452	40.18	42.18	54	-13.82	34.5	8.51	45.01	100	355	Average
5452	52.85	54.85	74	-21.15	34.5	8.51	45.01	100	355	Peak
5470	56.34	58.33	68.3	-11.96	34.5	8.51	45	100	355	Peak
5500	89.99	91.9			34.5	8.57	44.98	100	355	Average
5500	96.98	98.89			34.5	8.57	44.98	100	355	Peak
5725	48.5	49.95	68.3	-19.8	34.67	8.65	44.77	100	355	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
3668	47.98	53.65	54	-6.02	33.13	6.84	45.64	100	85	Average
3668	49.51	55.18	74	-24.49	33.13	6.84	45.64	100	85	Peak
5456	43.78	45.78	54	-10.22	34.5	8.51	45.01	100	114	Average
5456	56.73	58.73	74	-17.27	34.5	8.51	45.01	100	114	Peak
5470	58.9	60.89	68.3	-9.4	34.5	8.51	45	100	114	Peak
5500	94.72	96.63			34.5	8.57	44.98	100	114	Average
5500	101.92	103.83			34.5	8.57	44.98	100	114	Peak
5725	49.31	50.76	68.3	-18.99	34.67	8.65	44.77	100	114	Peak

**REMARKS:**

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



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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5416	36.25	38.34	54	-17.75	34.5	8.44	45.03	100	352	Average
5416	50.39	52.48	74	-23.61	34.5	8.44	45.03	100	352	Peak
5470	48.16	50.15	68.3	-20.14	34.5	8.51	45	100	352	Peak
5580	89.91	91.63			34.57	8.6	44.89	100	352	Average
5580	97.01	98.73			34.57	8.6	44.89	100	352	Peak
5725	47.89	49.34	68.3	-20.41	34.67	8.65	44.77	100	352	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
3720	47.72	53.27	54	-6.28	33.23	6.9	45.68	100	89	Average
3720	49.52	55.07	74	-24.48	33.23	6.9	45.68	100	89	Peak
5350	36.6	38.73	54	-17.4	34.5	8.38	45.01	110	112	Average
5350	49.67	51.8	74	-24.33	34.5	8.38	45.01	110	112	Peak
5470	48.21	50.2	68.3	-20.09	34.5	8.51	45	110	112	Peak
5580	93.5	95.22			34.57	8.6	44.89	110	112	Average
5580	100.32	102.04			34.57	8.6	44.89	110	112	Peak
5725	49.36	50.81	68.3	-18.94	34.67	8.65	44.77	110	112	Peak

**REMARKS:**

- 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
5368	36.11	38.22	54	-17.89	34.5	8.41	45.02	109	253	Average
5368	50.86	52.97	74	-23.14	34.5	8.41	45.02	109	253	Peak
5470	49.02	51.01	68.3	-19.28	34.5	8.51	45	109	253	Peak
5700	91.15	92.64			34.66	8.64	44.79	109	253	Average
5700	98.17	99.66			34.66	8.64	44.79	109	253	Peak
5725	63.53	64.98	68.3	-4.77	34.67	8.65	44.77	109	253	Peak
11400	48.03	39.56	54	-5.97	38.27	12.67	42.47	100	152	Average
11400	57.01	48.54	74	-16.99	38.27	12.67	42.47	100	152	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
3800	49.92	55.33	54	-4.08	33.34	6.99	45.74	100	122	Average
3800	52.1	57.51	74	-21.9	33.34	6.99	45.74	100	122	Peak
5430	36.13	38.17	54	-17.87	34.5	8.48	45.02	100	77	Average
5430	51.18	53.22	74	-22.82	34.5	8.48	45.02	100	77	Peak
5470	49.17	51.16	68.3	-19.13	34.5	8.51	45	100	77	Peak
5700	93.15	94.64			34.66	8.64	44.79	100	77	Average
5700	99.59	101.08			34.66	8.64	44.79	100	77	Peak
5725	64.26	65.71	68.3	-4.04	34.67	8.65	44.77	100	77	Peak

**REMARKS:**

- 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
5148	40.83	43.13	54	-13.17	34.46	8.13	44.89	100	303	Average
5148	59.11	61.41	74	-14.89	34.46	8.13	44.89	100	303	Peak
5180	86.99	89.3			34.47	8.16	44.94	100	303	Average
5180	94.25	96.56			34.47	8.16	44.94	100	303	Peak
5388	35.86	37.98	54	-18.14	34.5	8.41	45.03	100	303	Average
5388	49.46	51.58	74	-24.54	34.5	8.41	45.03	100	303	Peak
10360	57.06	48.63	68.3	-11.24	37.63	12.26	41.46	100	174	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5146	43.94	46.24	54	-10.06	34.46	8.13	44.89	172	108	Average
5146	63.51	65.81	74	-10.49	34.46	8.13	44.89	172	108	Peak
5180	92.25	94.56			34.47	8.16	44.94	172	108	Average
5180	98.38	100.69			34.47	8.16	44.94	172	108	Peak
5372	36.12	38.23	54	-17.88	34.5	8.41	45.02	172	108	Average
5372	50.46	52.57	74	-23.54	34.5	8.41	45.02	172	108	Peak

REMARKS: 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
5088	36.32	38.65	54	-17.68	34.43	8.07	44.83	110	306	Average
5088	49.88	52.21	74	-24.12	34.43	8.07	44.83	110	306	Peak
5220	86.94	89.2			34.49	8.22	44.97	110	306	Average
5220	93.02	95.28			34.49	8.22	44.97	110	306	Peak
5408	36.15	38.25	54	-17.85	34.5	8.44	45.04	110	306	Average
5408	50.7	52.8	74	-23.3	34.5	8.44	45.04	110	306	Peak
10440	57.26	48.66	68.3	-11.04	37.74	12.48	41.62	100	124	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
5108	36.25	38.53	54	-17.75	34.45	8.1	44.83	173	96	Average
5108	49.84	52.12	74	-24.16	34.45	8.1	44.83	173	96	Peak
5220	91.49	93.75			34.49	8.22	44.97	173	96	Average
5220	97.56	99.82			34.49	8.22	44.97	173	96	Peak
5392	36.01	38.13	54	-17.99	34.5	8.41	45.03	173	96	Average
5392	50.48	52.6	74	-23.52	34.5	8.41	45.03	173	96	Peak

**REMARKS:**

- 5220MHz: Fundamental frequency.
- 10440MHz: Out of restricted band



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
5058	36.12	38.52	54	-17.88	34.43	8.03	44.86	115	314	Average
5058	50.56	52.96	74	-23.44	34.43	8.03	44.86	115	314	Peak
5240	87.93	90.15			34.49	8.26	44.97	115	314	Average
5240	94.89	97.11			34.49	8.26	44.97	115	314	Peak
5440	36.16	38.2	54	-17.84	34.5	8.48	45.02	115	314	Average
5440	50.07	52.11	74	-23.93	34.5	8.48	45.02	115	314	Peak
10480	56.63	48.13	68.3	-11.67	37.78	12.53	41.81	100	125	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
5068	36.14	38.54	54	-17.86	34.43	8.03	44.86	173	95	Average
5068	50.31	52.71	74	-23.69	34.43	8.03	44.86	173	95	Peak
5240	92.45	94.67			34.49	8.26	44.97	173	95	Average
5240	98.58	100.8			34.49	8.26	44.97	173	95	Peak
5352	36.08	38.21	54	-17.92	34.5	8.38	45.01	173	95	Average
5352	50.18	52.31	74	-23.82	34.5	8.38	45.01	173	95	Peak

**REMARKS:**

- 5240MHz: Fundamental frequency.
- 10480MHz: Out of restricted band



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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
5066	36.15	38.55	54	-17.85	34.43	8.03	44.86	105	349	Average
5066	50.36	52.76	74	-23.64	34.43	8.03	44.86	105	349	Peak
5260	88.02	90.24			34.5	8.26	44.98	105	349	Average
5260	94.54	96.76			34.5	8.26	44.98	105	349	Peak
5414	36.28	38.37	54	-17.72	34.5	8.44	45.03	105	349	Average
5414	50.34	52.43	74	-23.66	34.5	8.44	45.03	105	349	Peak
10520	59.49	50.95	68.3	-8.81	37.81	12.61	41.88	100	123	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5052	36.23	38.7	54	-17.77	34.42	8	44.89	122	95	Average
5052	50.61	53.08	74	-23.39	34.42	8	44.89	122	95	Peak
5260	91.84	94.06			34.5	8.26	44.98	122	95	Average
5260	98.1	100.32			34.5	8.26	44.98	122	95	Peak
5446	36.59	38.59	54	-17.41	34.5	8.51	45.01	122	95	Average
5446	50.47	52.47	74	-23.53	34.5	8.51	45.01	122	95	Peak
10520	56.15	47.61	68.3	-12.15	37.81	12.61	41.88	100	221	Peak

**REMARKS:**

- 5260MHz: Fundamental frequency.
- 10520MHz: Out of restricted band



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	38.05	40.45	54	-15.95	34.43	8.03	44.86	104	349	Average
5062	50.74	53.14	74	-23.26	34.43	8.03	44.86	104	349	Peak
5300	89.03	91.19			34.5	8.32	44.98	104	349	Average
5300	96.67	98.83			34.5	8.32	44.98	104	349	Peak
5350	39.16	41.29	54	-14.84	34.5	8.38	45.01	104	349	Average
5350	54.25	56.38	74	-19.75	34.5	8.38	45.01	104	349	Peak
10600	45.71	37.15	54	-8.29	37.84	12.66	41.94	100	221	Average
10600	56.28	47.72	74	-17.72	37.84	12.66	41.94	100	221	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	37.73	40.1	54	-16.27	34.43	8.03	44.83	120	105	Average
5072	49.34	51.71	74	-24.66	34.43	8.03	44.83	120	105	Peak
5300	93.22	95.38			34.5	8.32	44.98	120	105	Average
5300	99.36	101.52			34.5	8.32	44.98	120	105	Peak
5350	41.91	44.04	54	-12.09	34.5	8.38	45.01	120	105	Average
5350	54.62	56.75	74	-19.38	34.5	8.38	45.01	120	105	Peak
10600	45.71	37.15	54	-8.29	37.84	12.66	41.94	100	211	Average
10600	55.76	47.2	74	-18.24	37.84	12.66	41.94	100	211	Peak

REMARKS: 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
5050	36.14	38.61	54	-17.86	34.42	8	44.89	105	350	Average
5050	50.21	52.68	74	-23.79	34.42	8	44.89	105	350	Peak
5320	89.2	91.34			34.5	8.35	44.99	105	350	Average
5320	95.61	97.75			34.5	8.35	44.99	105	350	Peak
5350	36.76	38.89	54	-17.24	34.5	8.38	45.01	105	350	Average
5350	56.66	58.79	74	-17.34	34.5	8.38	45.01	105	350	Peak
10640	47.85	39.3	54	-6.15	37.85	12.7	42	100	122	Average
10640	57.92	49.37	74	-16.08	37.85	12.7	42	100	122	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	37.38	39.66	54	-16.62	34.45	8.1	44.83	120	104	Average
5118	50.57	52.85	74	-23.43	34.45	8.1	44.83	120	104	Peak
5320	93.3	95.44			34.5	8.35	44.99	120	104	Average
5320	99.07	101.21			34.5	8.35	44.99	120	104	Peak
5350	44.51	46.64	54	-9.49	34.5	8.38	45.01	120	104	Average
5350	62.2	64.33	74	-11.8	34.5	8.38	45.01	120	104	Peak

REMARKS: 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
5454	40.21	42.21	54	-13.79	34.5	8.51	45.01	100	356	Average
5454	54.61	56.61	74	-19.39	34.5	8.51	45.01	100	356	Peak
5470	57.04	59.03	68.3	-11.26	34.5	8.51	45	100	356	Peak
5500	89.66	91.57			34.5	8.57	44.98	100	356	Average
5500	96.65	98.56			34.5	8.57	44.98	100	356	Peak
5725	49.55	51	68.3	-18.75	34.67	8.65	44.77	100	356	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
3668	46.56	52.23	54	-7.44	33.13	6.84	45.64	100	52	Average
3668	48.48	54.15	74	-25.52	33.13	6.84	45.64	100	52	Peak
5450	43.75	45.75	54	-10.25	34.5	8.51	45.01	100	86	Average
5450	58.12	60.12	74	-15.88	34.5	8.51	45.01	100	86	Peak
5470	59.35	61.34	68.3	-8.95	34.5	8.51	45	100	86	Peak
5500	94.54	96.45			34.5	8.57	44.98	100	86	Average
5500	101.12	103.03			34.5	8.57	44.98	100	86	Peak
5725	48.49	49.94	68.3	-19.81	34.67	8.65	44.77	100	86	Peak

**REMARKS:**

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



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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5448	36.53	38.53	54	-17.47	34.5	8.51	45.01	110	253	Average
5448	51.56	53.56	74	-22.44	34.5	8.51	45.01	110	253	Peak
5470	49.01	51	68.3	-19.29	34.5	8.51	45	110	253	Peak
5580	90.78	92.5			34.57	8.6	44.89	110	253	Average
5580	98.52	100.24			34.57	8.6	44.89	110	253	Peak
5725	48.39	49.84	68.3	-19.91	34.67	8.65	44.77	110	253	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
3720	48.34	53.89	54	-5.66	33.23	6.9	45.68	100	256	Average
3720	49.97	55.52	74	-24.03	33.23	6.9	45.68	100	256	Peak
5436	36.06	38.1	54	-17.94	34.5	8.48	45.02	108	88	Average
5436	50.42	52.46	74	-23.58	34.5	8.48	45.02	108	88	Peak
5470	51.17	53.16	68.3	-17.13	34.5	8.51	45	108	88	Peak
5580	93.87	95.59			34.57	8.6	44.89	108	88	Average
5580	100.66	102.38			34.57	8.6	44.89	108	88	Peak
5725	48.51	49.96	68.3	-19.79	34.67	8.65	44.77	108	88	Peak

**REMARKS:**

- 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
5400	36.01	38.11	54	-17.99	34.5	8.44	45.04	107	254	Average
5400	50.66	52.76	74	-23.34	34.5	8.44	45.04	107	254	Peak
5470	48.96	50.95	68.3	-19.34	34.5	8.51	45	107	254	Peak
5700	91	92.49			34.66	8.64	44.79	107	254	Average
5700	97.77	99.26			34.66	8.64	44.79	107	254	Peak
5725	56.9	58.35	68.3	-11.4	34.67	8.65	44.77	107	254	Peak
11400	46.76	38.29	54	-7.24	38.27	12.67	42.47	100	52	Average
11400	56.69	48.22	74	-17.31	38.27	12.67	42.47	100	52	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
3800	50.59	56	54	-3.41	33.34	6.99	45.74	100	25	Average
3800	52.02	57.43	74	-21.98	33.34	6.99	45.74	100	25	Peak
5402	36.19	38.29	54	-17.81	34.5	8.44	45.04	110	107	Average
5402	50.13	52.23	74	-23.87	34.5	8.44	45.04	110	107	Peak
5470	48.41	50.4	68.3	-19.89	34.5	8.51	45	110	107	Peak
5700	93.57	95.06			34.66	8.64	44.79	110	107	Average
5700	100.49	101.98			34.66	8.64	44.79	110	107	Peak
5725	64.33	65.78	68.3	-3.97	34.67	8.65	44.77	110	107	Peak
11400	48.42	39.95	54	-5.58	38.27	12.67	42.47	100	123	Average
11400	57.64	49.17	74	-16.36	38.27	12.67	42.47	100	123	Peak

**REMARKS:**

- 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
5150	45.35	47.65	54	-8.65	34.46	8.13	44.89	100	303	Average
5150	58.01	60.31	74	-15.99	34.46	8.13	44.89	100	303	Peak
5190	84.79	87.07			34.47	8.19	44.94	100	303	Average
5190	92.11	94.39			34.47	8.19	44.94	100	303	Peak
5454	36.4	38.4	54	-17.6	34.5	8.51	45.01	100	303	Average
5454	50.79	52.79	74	-23.21	34.5	8.51	45.01	100	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
5144	49.19	51.49	54	-4.81	34.46	8.13	44.89	156	83	Average
5144	62.36	64.66	74	-11.64	34.46	8.13	44.89	156	83	Peak
5190	90.65	92.93			34.47	8.19	44.94	156	83	Average
5190	97.55	99.83			34.47	8.19	44.94	156	83	Peak
5460	36.69	38.69	54	-17.31	34.5	8.51	45.01	156	83	Average
5460	51.59	53.59	74	-22.41	34.5	8.51	45.01	156	83	Peak

REMARKS: 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
5066	36.94	39.34	54	-17.06	34.43	8.03	44.86	107	308	Average
5066	51.29	53.69	74	-22.71	34.43	8.03	44.86	107	308	Peak
5230	85.33	87.59			34.49	8.22	44.97	107	308	Average
5230	91.7	93.96			34.49	8.22	44.97	107	308	Peak
5436	37.28	39.32	54	-16.72	34.5	8.48	45.02	107	308	Average
5436	51.19	53.23	74	-22.81	34.5	8.48	45.02	107	308	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
5110	38.88	41.16	54	-15.12	34.45	8.1	44.83	108	106	Average
5110	51.91	54.19	74	-22.09	34.45	8.1	44.83	108	106	Peak
5230	90.83	93.09			34.49	8.22	44.97	108	106	Average
5230	96.93	99.19			34.49	8.22	44.97	108	106	Peak
5452	36.77	38.77	54	-17.23	34.5	8.51	45.01	108	106	Average
5452	51.93	53.93	74	-22.07	34.5	8.51	45.01	108	106	Peak

REMARKS: 5230MHz: Fundamental frequency.



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
5094	36.74	39.03	54	-17.26	34.44	8.07	44.8	105	350	Average
5094	52.18	54.47	74	-21.82	34.44	8.07	44.8	105	350	Peak
5270	86.06	88.25			34.5	8.29	44.98	105	350	Average
5270	93.32	95.51			34.5	8.29	44.98	105	350	Peak
5352	38.04	40.17	54	-15.96	34.5	8.38	45.01	105	350	Average
5352	50.27	52.4	74	-23.73	34.5	8.38	45.01	105	350	Peak
10540	56.27	47.71	68.3	-12.03	37.82	12.63	41.89	100	124	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5126	36.6	38.91	54	-17.4	34.45	8.1	44.86	121	97	Average
5126	49.93	52.24	74	-24.07	34.45	8.1	44.86	121	97	Peak
5270	90.55	92.74			34.5	8.29	44.98	121	97	Average
5270	96.9	99.09			34.5	8.29	44.98	121	97	Peak
5364	39.68	41.82	54	-14.32	34.5	8.38	45.02	121	97	Average
5364	52.57	54.71	74	-21.43	34.5	8.38	45.02	121	97	Peak

**REMARKS:**

1. 5270MHz: Fundamental frequency.
2. 10540MHz: Out of restricted band



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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
5054	37.72	40.18	54	-16.28	34.43	8	44.89	103	350	Average
5054	50.39	52.85	74	-23.61	34.43	8	44.89	103	350	Peak
5310	86.92	89.09			34.5	8.32	44.99	103	350	Average
5310	93.67	95.84			34.5	8.32	44.99	103	350	Peak
5354	43.83	45.96	54	-10.17	34.5	8.38	45.01	103	350	Average
5354	57.94	60.07	74	-16.06	34.5	8.38	45.01	103	350	Peak
10620	45.71	37.15	54	-8.29	37.85	12.68	41.97	100	123	Average
10620	55.89	47.33	74	-18.11	37.85	12.68	41.97	100	123	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	36.63	39	54	-17.37	34.43	8.03	44.83	120	106	Average
5080	50.07	52.44	74	-23.93	34.43	8.03	44.83	120	106	Peak
5310	90.9	93.07			34.5	8.32	44.99	120	106	Average
5310	98.12	100.29			34.5	8.32	44.99	120	106	Peak
5352	47.8	49.93	54	-6.2	34.5	8.38	45.01	120	106	Average
5352	62.23	64.36	74	-11.77	34.5	8.38	45.01	120	106	Peak

REMARKS: 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
5460	40.63	42.63	54	-13.37	34.5	8.51	45.01	100	357	Average
5460	57.52	59.52	74	-16.48	34.5	8.51	45.01	100	357	Peak
5470	55.99	57.98	68.3	-12.31	34.5	8.51	45	100	357	Peak
5510	87.79	89.69			34.51	8.57	44.98	100	357	Average
5510	95.14	97.04			34.51	8.57	44.98	100	357	Peak
5725	49.22	50.67	68.3	-19.08	34.67	8.65	44.77	100	357	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
3676	47.27	52.9	54	-6.73	33.17	6.84	45.64	100	123	Average
3676	48.97	54.6	74	-25.03	33.17	6.84	45.64	100	123	Peak
5458	44.36	46.36	54	-9.64	34.5	8.51	45.01	100	86	Average
5458	62.19	64.19	74	-11.81	34.5	8.51	45.01	100	86	Peak
5470	62.03	64.02	68.3	-6.27	34.5	8.51	45	100	86	Peak
5510	92.26	94.16			34.51	8.57	44.98	100	86	Average
5510	99.85	101.75			34.51	8.57	44.98	100	86	Peak
5725	50.92	52.37	68.3	-17.38	34.67	8.65	44.77	100	86	Peak

**REMARKS:**

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



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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
5454	37.57	39.57	54	-16.43	34.5	8.51	45.01	100	305	Average
5454	50.06	52.06	74	-23.94	34.5	8.51	45.01	100	305	Peak
5470	50.06	52.05	68.3	-18.24	34.5	8.51	45	100	305	Peak
5550	87.89	89.67			34.54	8.59	44.91	100	305	Average
5550	94.71	96.49			34.54	8.59	44.91	100	305	Peak
5725	48.17	49.62	68.3	-20.13	34.67	8.65	44.77	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
3700	48.66	54.26	54	-5.34	33.2	6.87	45.67	100	0	Average
3700	49.47	55.07	74	-24.53	33.2	6.87	45.67	100	0	Peak
5458	39.12	41.12	54	-14.88	34.5	8.51	45.01	109	86	Average
5458	50.99	52.99	74	-23.01	34.5	8.51	45.01	109	86	Peak
5470	51.37	53.36	68.3	-16.93	34.5	8.51	45	109	86	Peak
5550	91.47	93.25			34.54	8.59	44.91	109	86	Average
5550	98.22	100			34.54	8.59	44.91	109	86	Peak
5725	48.31	49.76	68.3	-19.99	34.67	8.65	44.77	109	86	Peak

**REMARKS:**

1. 5550MHz: Fundamental frequency.
2. 5470MHz & 5725MHz: Out of restricted band



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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
5456	36.73	38.73	54	-17.27	34.5	8.51	45.01	100	264	Average
5456	50.51	52.51	74	-23.49	34.5	8.51	45.01	100	264	Peak
5470	48.81	50.8	68.3	-19.49	34.5	8.51	45	100	264	Peak
5670	87.73	89.27			34.63	8.63	44.8	100	264	Average
5670	95.78	97.32			34.63	8.63	44.8	100	264	Peak
5725	49.85	51.3	68.3	-18.45	34.67	8.65	44.77	100	264	Peak
11340	48.16	39.58	54	-5.84	38.21	12.71	42.34	100	260	Average
11340	57.02	48.44	74	-16.98	38.21	12.71	42.34	100	260	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
3780	50.55	55.99	54	-3.45	33.33	6.96	45.73	100	21	Average
3780	52.44	57.88	74	-21.56	33.33	6.96	45.73	100	21	Peak
5440	36.54	38.58	54	-17.46	34.5	8.48	45.02	100	35	Average
5440	50.15	52.19	74	-23.85	34.5	8.48	45.02	100	35	Peak
5470	50.25	52.24	68.3	-18.05	34.5	8.51	45	100	35	Peak
5670	91.45	92.99			34.63	8.63	44.8	100	35	Average
5670	98.91	100.45			34.63	8.63	44.8	100	35	Peak
5725	53.35	54.8	68.3	-14.95	34.67	8.65	44.77	100	35	Peak

**REMARKS:**

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



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**BELOW 1GHz WORST-CASE DATA : 802.11a**

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 52	FREQUENCY RANGE	30MHz ~ 1GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Quasi-Peak (QP)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Johnson Liao

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
35.67	21.52	39.02	40	-18.48	12.94	0.61	31.05	100	106	Peak
176.34	14.05	33.27	43.5	-29.45	11.1	1.48	31.8	100	195	Peak
260.85	14.82	33.03	46	-31.18	11.79	1.87	31.87	100	205	Peak
498.1	20.07	31.66	46	-25.93	17.29	2.77	31.65	100	206	Peak
557	24.07	32.06	46	-21.93	20.5	3.33	31.82	100	160	Peak
897.8	26.95	31.51	46	-19.05	23.49	3.96	32.01	100	101	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
33.78	29.65	47.51	40	-10.35	12.63	0.59	31.08	100	167	QP
42.96	30.83	47.63	40	-9.17	13.58	0.7	31.08	100	204	QP
277.32	15.39	33.04	46	-30.61	12.28	1.95	31.88	100	108	Peak
468.7	21.64	34.17	46	-24.36	16.7	2.68	31.91	100	208	Peak
671	24.98	33	46	-21.02	20.47	3.32	31.81	100	266	Peak
914.6	27.99	32.43	46	-18.01	23.59	4	32.03	100	192	Peak



## 4.2 CONDUCTED EMISSION MEASUREMENT

### 4.2.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

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

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

### 4.2.2 TEST INSTRUMENTS

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

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

### 4.2.3 TEST PROCEDURES

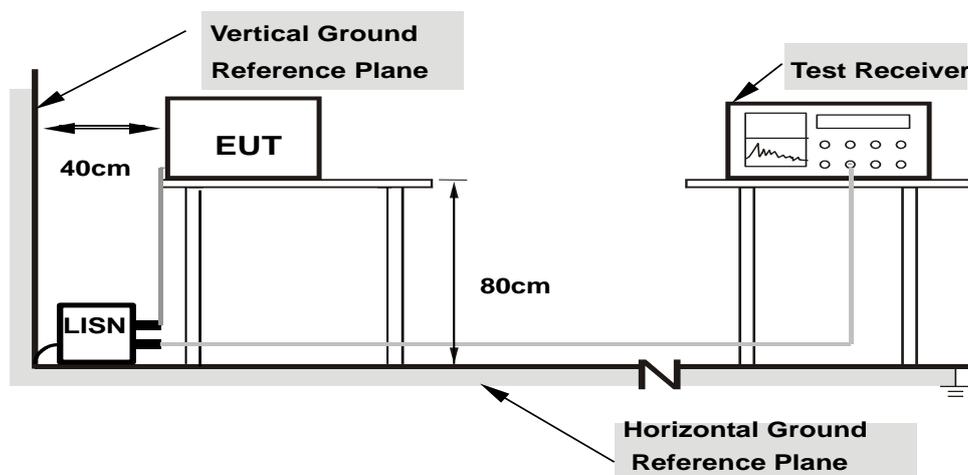
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance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

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

### 4.2.4 DEVIATION FROM TEST STANDARD

No deviation.

### 4.2.5 TEST SETUP



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

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

### 4.2.6 EUT OPERATING CONDITIONS

Same as 4.1.6.

### 4.2.7 TEST RESULTS

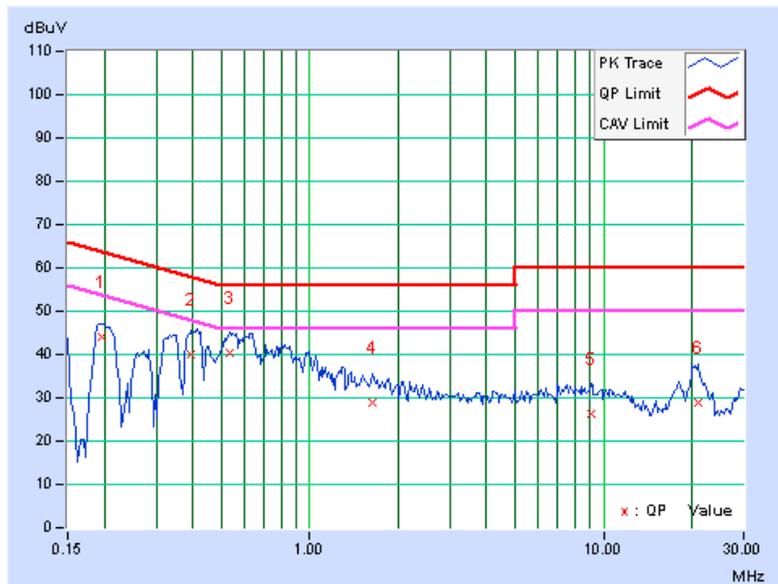
**CONDUCTED WORST-CASE DATA : 802.11a**

<b>PHASE</b>	Line 1	<b>6dB BANDWIDTH</b>	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	0.19687	0.12	44.13	30.79	44.25	30.91	63.74	53.74	-19.49	-22.83
2	0.39609	0.15	39.85	25.16	40.00	25.31	57.93	47.93	-17.94	-22.63
<b>3</b>	<b>0.53281</b>	<b>0.16</b>	<b>40.35</b>	<b>25.76</b>	<b>40.51</b>	<b>25.92</b>	<b>56.00</b>	<b>46.00</b>	<b>-15.49</b>	<b>-20.08</b>
4	1.63672	0.22	28.56	13.35	28.78	13.57	56.00	46.00	-27.22	-32.43
5	9.05078	0.60	25.73	19.48	26.33	20.08	60.00	50.00	-33.67	-29.92
6	21.15234	1.27	27.68	19.98	28.95	21.25	60.00	50.00	-31.05	-28.75

**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

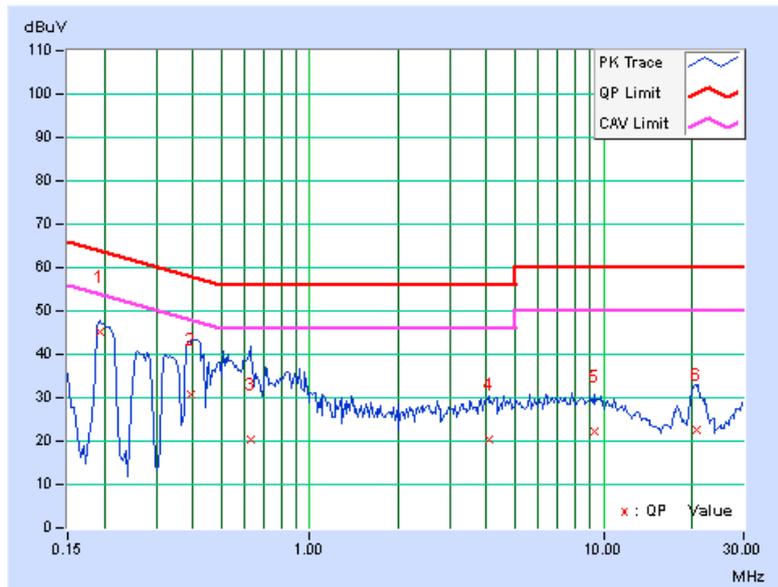


PHASE	Line 2	6dB BANDWIDTH	9kHz
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No	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
	[MHz]	Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.19297	0.17	45.05	26.65	45.22	26.82	63.91	53.91	-18.69	-27.09
2	0.39609	0.21	30.65	20.89	30.86	21.10	57.93	47.93	-27.08	-26.84
3	0.62656	0.23	20.07	11.46	20.30	11.69	56.00	46.00	-35.70	-34.31
4	4.05859	0.38	19.85	13.64	20.23	14.02	56.00	46.00	-35.77	-31.98
5	9.34375	0.57	21.60	15.54	22.17	16.11	60.00	50.00	-37.83	-33.89
6	20.67188	0.95	21.51	14.43	22.46	15.38	60.00	50.00	-37.54	-34.62

**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

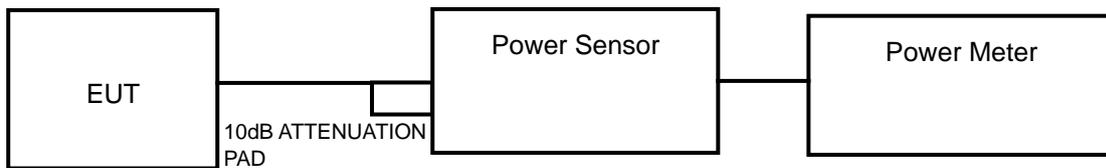
#### 4.3.1 LIMITS OF PEAK TRANSMIT POWER MEASUREMENT

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

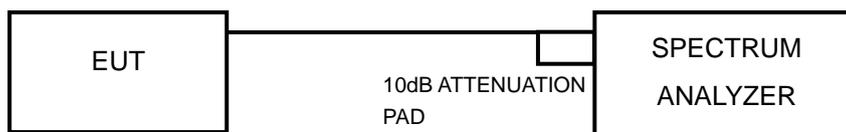
**NOTE:** Where B is the 26dB emission bandwidth in MHz.

#### 4.3.2 TEST SETUP

##### FOR POWER OUTPUT MEASUREMENT



##### 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

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 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	11.350	10.55	17	PASS
44	5220	11.272	10.52	17	PASS
48	5240	10.990	10.41	17	PASS
52	5260	11.429	10.58	24	PASS
60	5300	10.641	10.27	24	PASS
64	5320	10.351	10.15	24	PASS
100	5500	8.851	9.47	24	PASS
116	5580	8.750	9.42	24	PASS
140	5700	9.441	9.75	24	PASS

#### 802.11n (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)	POWER LIMIT (dBm)	PASS/FAIL
36	5180	11.194	10.49	17	PASS
44	5220	11.143	10.47	17	PASS
48	5240	11.015	10.42	17	PASS
52	5260	11.220	10.50	24	PASS
60	5300	10.544	10.23	24	PASS
64	5320	10.399	10.17	24	PASS
100	5500	8.511	9.30	24	PASS
116	5580	8.730	9.41	24	PASS
140	5700	9.141	9.61	24	PASS

#### 802.11n (40MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)	POWER LIMIT (dBm)	PASS/FAIL
38	5190	11.350	10.55	17	PASS
46	5230	11.376	10.56	17	PASS
54	5270	11.429	10.58	24	PASS
62	5310	11.092	10.45	24	PASS
102	5510	9.226	9.65	24	PASS
110	5550	9.120	9.60	24	PASS
134	5670	9.528	9.79	24	PASS

**26dB BANDWIDTH:****802.11a**

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)	PASS / FAIL
36	5180	28.63	PASS
44	5220	22.36	PASS
48	5240	26.16	PASS
52	5260	26.47	PASS
60	5300	26.94	PASS
64	5320	23.73	PASS
100	5500	19.54	PASS
116	5580	19.24	PASS
140	5700	19.27	PASS

**802.11n (20MHz)**

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)	PASS / FAIL
36	5180	22.01	PASS
44	5220	23.95	PASS
48	5240	25.71	PASS
52	5260	23.96	PASS
60	5300	23.84	PASS
64	5320	26.95	PASS
100	5500	21.14	PASS
116	5580	19.61	PASS
140	5700	20.70	PASS

**802.11n (40MHz)**

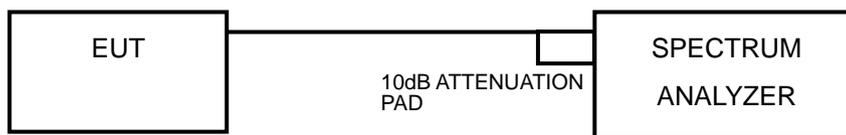
CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)	PASS / FAIL
38	5190	41.02	PASS
46	5230	41.31	PASS
54	5270	57.33	PASS
62	5310	56.30	PASS
102	5510	46.02	PASS
110	5550	41.08	PASS
134	5670	41.05	PASS

## 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

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  $10 \log (1/\text{duty cycle})$



#### 4.4.5 DEVIATION FROM TEST STANDARD

No deviation.

#### 4.4.6 EUT OPERATING CONDITIONS

Same as 4.3.6.

#### 4.4.7 TEST RESULTS

##### 802.11a

CHANNEL	FREQUENCY (MHz)	PSD W/O DUTY FACTOR (dBm)	DUTY FACTOR	PSD WITH DUTY FACTOR (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
36	5180	-1.07	0.61	-0.46	4	PASS
44	5220	-1.28	0.61	-0.67	4	PASS
48	5240	-1.15	0.61	-0.54	4	PASS
52	5260	-1.06	0.61	-0.45	11	PASS
60	5300	-1.18	0.61	-0.57	11	PASS
64	5320	-1.24	0.61	-0.63	11	PASS
100	5500	-1.86	0.61	-1.25	11	PASS
116	5580	-1.90	0.61	-1.29	11	PASS
140	5700	-2.14	0.61	-1.53	11	PASS

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



### 802.11n (20MHz)

CHANNEL	FREQUENCY (MHz)	PSD W/O DUTY FACTOR (dBm)	DUTY FACTOR	PSD WITH DUTY FACTOR (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
36	5180	-1.42	0.66	-0.76	4	PASS
44	5220	-1.52	0.66	-0.86	4	PASS
48	5240	-1.66	0.66	-1.00	4	PASS
52	5260	-1.50	0.66	-0.84	11	PASS
60	5300	-1.74	0.66	-1.08	11	PASS
64	5320	-1.69	0.66	-1.03	11	PASS
100	5500	-2.35	0.66	-1.69	11	PASS
116	5580	-2.35	0.66	-1.69	11	PASS
140	5700	-2.53	0.66	-1.87	11	PASS

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

### 802.11n (40MHz)

CHANNEL	FREQUENCY (MHz)	PSD W/O DUTY FACTOR (dBm)	DUTY FACTOR	PSD WITH DUTY FACTOR (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
38	5190	-4.18	1.37	-2.81	4	PASS
46	5230	-4.23	1.37	-2.86	4	PASS
54	5270	-4.20	1.37	-2.83	11	PASS
62	5310	-4.40	1.37	-3.03	11	PASS
102	5510	-5.10	1.37	-3.73	11	PASS
110	5550	-9.49	1.37	-8.12	11	PASS
134	5670	-8.65	1.37	-7.28	11	PASS

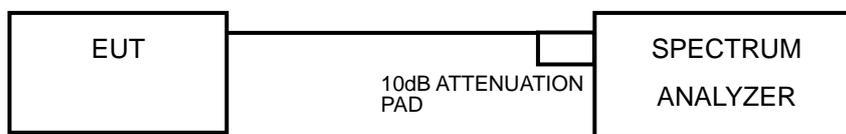
**NOTE:** Refer to section 3.3 for duty cycle spectrum plot.

## 4.5 PEAK POWER EXCURSION MEASUREMENT

### 4.5.1 LIMITS OF PEAK POWER EXCURSION MEASUREMENT

Shall not exceed 13 dB.

### 4.5.2 TEST SETUP



### 4.5.3 TEST INSTRUMENTS

Refer to section 4.1.3 to get information of above instrument.

### 4.5.4 TEST PROCEDURE

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

### 4.5.5 DEVIATION FROM TEST STANDARD

No deviation.

### 4.5.6 EUT OPERATING CONDITIONS

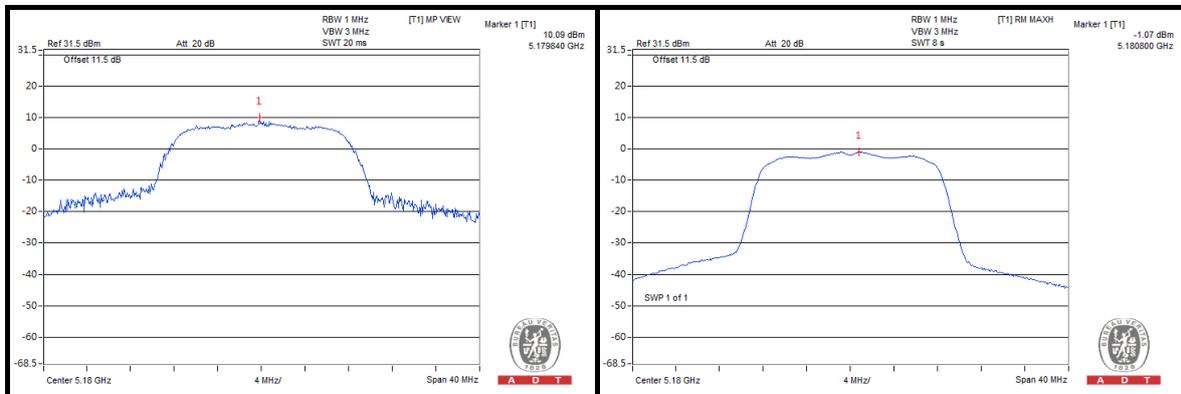
Same as 4.2.6

## 4.5.7 TEST RESULTS

### 802.11a

CHAN.	CHANNEL FREQUENCY (MHz)	PEAK VALUE (dBm)	PPSD WITHOUT DUTY FACTOR (dBm)	PPSD WITH DUTY FACTOR (dBm)	PEAK POWER EXCURSION (dB)	PEAK to AVERAGE EXCURSION LIMIT (dB)	PASS /FAIL
36	5180	10.09	-1.07	-0.46	10.55	13	PASS
44	5220	9.08	-1.28	-0.67	9.75	13	PASS
48	5240	9.18	-1.15	-0.54	9.72	13	PASS
52	5260	9.68	-1.06	-0.45	10.13	13	PASS
60	5300	9.16	-1.18	-0.57	9.73	13	PASS
64	5320	9.02	-1.24	-0.63	9.65	13	PASS
100	5500	8.13	-1.86	-1.25	9.38	13	PASS
116	5580	7.82	-1.90	-1.29	9.11	13	PASS
140	5700	8.53	-2.14	-1.53	10.06	13	PASS

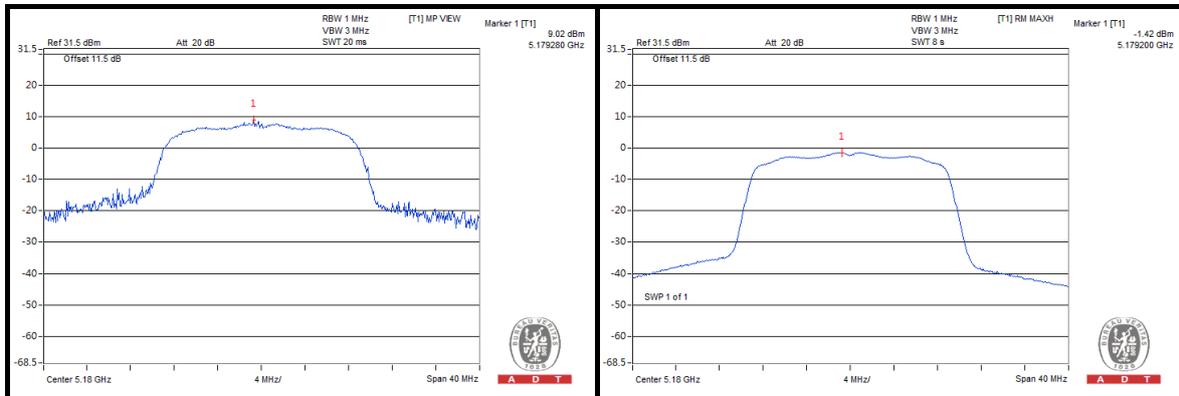
**NOTE:** Refer to section 3.3 for duty cycle spectrum plot.



**802.11n (20MHz)**

CHAN.	CHANNEL FREQUENCY (MHz)	PEAK VALUE (dBm)	PPSD WITHOUT DUTY FACTOR (dBm)	PPSD WITH DUTY FACTOR (dBm)	PEAK POWER EXCURSION (dB)	PEAK to AVERAGE EXCURSION LIMIT (dB)	PASS /FAIL
36	5180	9.02	-1.42	-0.76	9.78	13	PASS
44	5220	8.16	-1.52	-0.86	9.02	13	PASS
48	5240	7.88	-1.66	-1.00	8.88	13	PASS
52	5260	8.36	-1.50	-0.84	9.20	13	PASS
60	5300	8.24	-1.74	-1.08	9.32	13	PASS
64	5320	8.03	-1.69	-1.03	9.06	13	PASS
100	5500	7.70	-2.35	-1.69	9.39	13	PASS
116	5580	7.29	-2.35	-1.69	8.98	13	PASS
140	5700	7.33	-2.53	-1.87	9.20	13	PASS

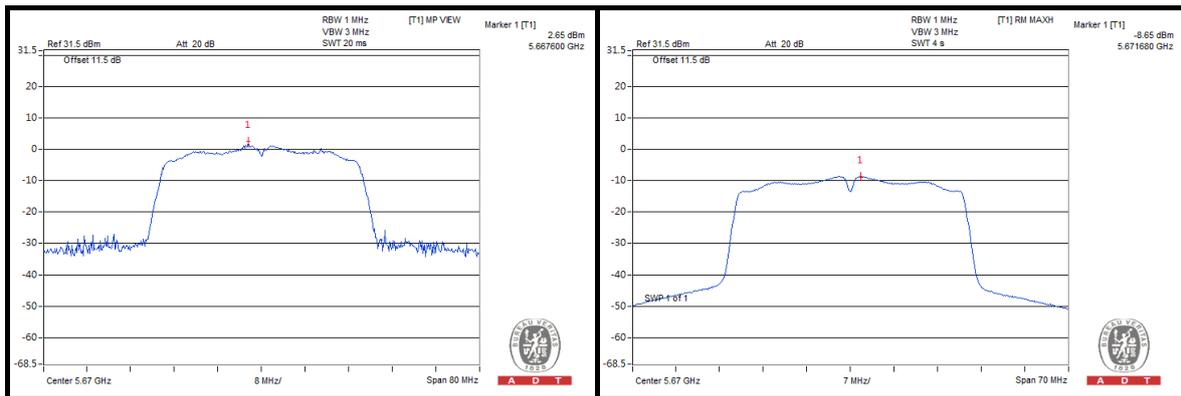
**NOTE:** Refer to section 3.3 for duty cycle spectrum plot.



802.11n (40MHz)

CHAN.	CHANNEL FREQUENCY (MHz)	PEAK VALUE (dBm)	PPSD WITHOUT DUTY FACTOR (dBm)	PPSD WITH DUTY FACTOR (dBm)	PEAK POWER EXCURSION (dB)	PEAK to AVERAGE EXCURSION LIMIT (dB)	PASS /FAIL
38	5190	6.07	-4.18	-2.81	8.88	13	PASS
46	5230	6.36	-4.23	-2.86	9.22	13	PASS
54	5270	6.37	-4.20	-2.83	9.20	13	PASS
62	5310	5.78	-4.40	-3.03	8.81	13	PASS
102	5510	5.11	-5.10	-3.73	8.84	13	PASS
110	5550	0.29	-9.49	-8.12	8.41	13	PASS
134	5670	2.65	-8.65	-7.28	9.93	13	PASS

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

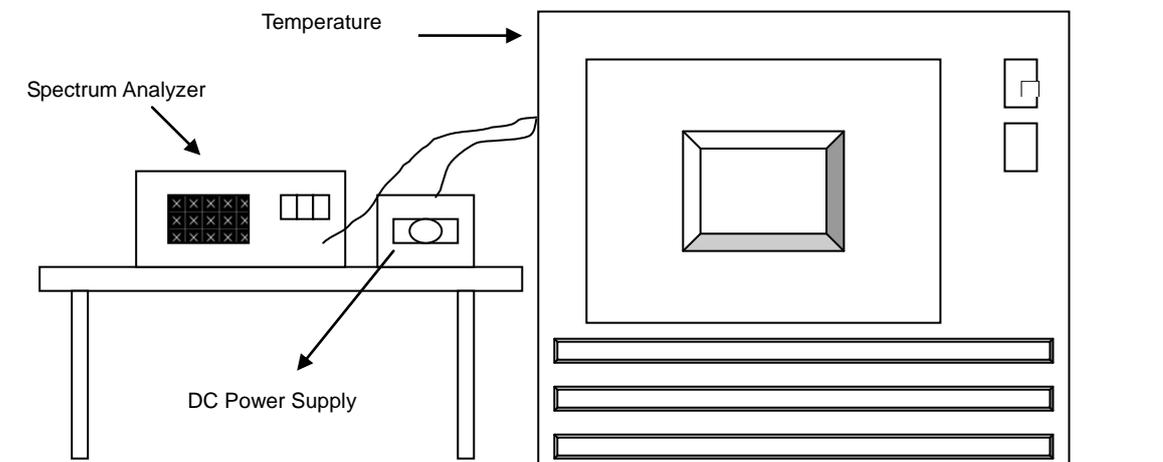


## 4.6 FREQUENCY STABILITY

### 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)						
50	3.8	5320.040161	7.549	5320.040563	7.625	5320.040350	7.585	5320.040457	7.605
40	3.8	5320.040935	7.695	5320.040999	7.707	5320.040955	7.698	5320.040913	7.690
30	3.8	5320.042180	7.929	5320.042067	7.907	5320.041933	7.882	5320.041872	7.871
20	3.8	5320.043237	8.127	5320.042978	8.079	5320.043122	8.106	5320.043359	8.150
10	3.8	5320.044644	8.392	5320.044167	8.302	5320.044895	8.439	5320.044468	8.359
0	3.8	5320.042954	8.074	5320.042749	8.036	5320.043076	8.097	5320.043463	8.170
-10	3.8	5320.041338	7.770	5320.041426	7.787	5320.041181	7.741	5320.041614	7.822
-20	3.8	5320.040888	7.686	5320.040871	7.683	5320.041053	7.717	5320.041255	7.755
-30	3.8	5320.039773	7.476	5320.039895	7.499	5320.039796	7.480	5320.040108	7.539

FREQUENCY STABILITY VERSUS VOLTAGE									
OPERATING FREQUENCY: 5320MHz									
TEMP. (°C)	POWER SUPPLY (Vac)	0 MINUTE		2 MINUTE		5 MINUTE		10 MINUTE	
		Measured Frequency (MHz)	Frequency Drift (ppm)						
20	3.6	5320.042879	8.060	5320.042802	8.045	5320.042599	8.007	5320.042827	8.050
	3.8	5320.043237	8.127	5320.042978	8.079	5320.043122	8.106	5320.043359	8.150
	4.20	5320.044213	8.311	5320.044404	8.347	5320.044136	8.296	5320.044429	8.351



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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:

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**Web Site:** [www.bureauveritas-adt.com](http://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---