



# FCC TEST REPORT (15.247)

**REPORT NO.:** RF130507C21-1

**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  
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## RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF130507C21-1	Original release	Jun. 10, 2013



## 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 C (Section 15.247)**  
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:

APPLIED STANDARD: FCC PART 15, SUBPART C (SECTION 15.247)			
STANDARD SECTION	TEST TYPE	RESULT	REMARK
15.207	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is -15.49dB at 0.53281MHz.
15.247(d) 15.209	Radiated Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -3.03dB at 11650MHz.
15.247(d)	Band Edge Measurement	PASS	Meet the requirement of limit.
15.247(a)(2)	6dB bandwidth	PASS	Meet the requirement of limit.
15.247(b)	Conducted power	PASS	Meet the requirement of limit.
15.247(e)	Power Spectral Density	PASS	Meet the requirement of limit.
15.203	Antenna Requirement	PASS	No antenna connector is used.

### 2.1 MEASUREMENT UNCERTAINTY

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

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

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



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### 3. GENERAL INFORMATION

#### 3.1 GENERAL DESCRIPTION OF EUT

<b>EUT</b>	ASUS Tablet
<b>MODEL NO.</b>	K00A
<b>POWER SUPPLY</b>	5Vdc (adapter) 3.7Vdc (battery)
<b>MODULATION TYPE</b>	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
<b>MODULATION TECHNOLOGY</b>	DSSS, OFDM
<b>TRANSFER RATE</b>	802.11b: 11.0/ 5.5/ 2.0/ 1.0Mbps 802.11g: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0Mbps 802.11a: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0Mbps 802.11n: up to MCS7
<b>OPERATING FREQUENCY</b>	<b>2.4GHz:</b> 2412 ~ 2462MHz <b>5.0GHz:</b> 5745 ~ 5825MHz
<b>NUMBER OF CHANNEL</b>	<b>2.4GHz:</b> 11 for 802.11b, 802.11g, 802.11n (20MHz) 7 for 802.11n (40MHz) <b>5.0GHz:</b> 5 for 802.11a, 802.11n (20MHz) 2 for 802.11n (40MHz)
<b>OUTPUT POWER</b>	229.615mW for 2412 ~ 2462MHz 92.045mW for 5745 ~ 5825MHz
<b>ANTENNA TYPE</b>	<b>2.4GHz:</b> PCB antenna with 5.69dBi gain <b>5GHz:</b> PCB antenna with 3.41dBi gain
<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 2.4GHz:

11 channels are provided for 802.11b, 802.11g and 802.11n (20MHz):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
1	2412MHz	7	2442MHz
2	2417MHz	8	2447MHz
3	2422MHz	9	2452MHz
4	2427MHz	10	2457MHz
5	2432MHz	11	2462MHz
6	2437MHz		

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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
3	2422MHz	7	2442MHz
4	2427MHz	8	2447MHz
5	2432MHz	9	2452MHz
6	2437MHz		

#### FOR 5.0GHz:

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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
149	5745MHz	161	5805MHz
153	5765MHz	165	5825MHz
157	5785MHz		

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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
151	5755MHz	159	5795MHz

### 3.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

#### FOR 2.4GHz:

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE $\geq$ 1G	RE<1G	PLC	APCM	
-	√	√	√	√	-

Where **RE $\geq$ 1G**: Radiated Emission above 1GHz

**RE<1G**: Radiated Emission below 1GHz

**PLC**: Power Line Conducted Emission

**APCM**: Antenna Port Conducted Measurement

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

#### RADIATED EMISSION TEST (ABOVE 1GHz):

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

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1.0
802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6.0
802.11n (20MHz)	1 to 11	1, 6, 11	OFDM	BPSK	MCS0
802.11n (40MHz)	3 to 9	3, 6, 9	OFDM	BPSK	MCS0

#### 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	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11g	1 to 11	6	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	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11g	1 to 11	6	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	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11b	1 to 11	1, 11	DSSS	DBPSK	1.0
802.11g	1 to 11	1, 11	OFDM	BPSK	6.0
802.11n (20MHz)	1 to 11	1, 11	OFDM	BPSK	MCS0
802.11n (40MHz)	3 to 9	3, 9	OFDM	BPSK	MCS0

**ANTENNA PORT CONDUCTED MEASUREMENT:**

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

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1.0
802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6.0
802.11n (20MHz)	1 to 11	1, 6, 11	OFDM	BPSK	MCS0
802.11n (40MHz)	3 to 9	3, 6, 9	OFDM	BPSK	MCS0

**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



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**FOR 5.0GHz:**

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	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11a	149 to 165	149, 157, 165	OFDM	BPSK	6.0
802.11n (20MHz)	149 to 165	149, 157, 165	OFDM	BPSK	MCS0
802.11n (40MHz)	151 to 159	151, 159	OFDM	BPSK	MCS0

**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	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11n (20MHz)	149 to 165	165	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	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11n (20MHz)	149 to 165	165	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	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11a	149 to 165	149, 165	OFDM	BPSK	6.0
802.11n (20MHz)	149 to 165	149, 165	OFDM	BPSK	MCS0
802.11n (40MHz)	151 to 159	151, 159	OFDM	BPSK	MCS0

**ANTENNA PORT CONDUCTED MEASUREMENT:**

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

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11a	149 to 165	149, 157, 165	OFDM	BPSK	6.0
802.11n (20MHz)	149 to 165	149, 157, 165	OFDM	BPSK	MCS0
802.11n (40MHz)	151 to 159	151, 159	OFDM	BPSK	MCS0

**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

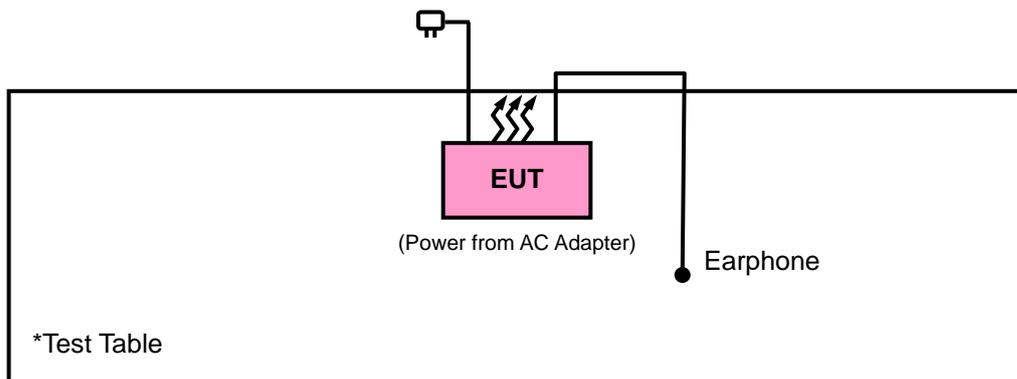
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

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 GENERAL DESCRIPTION OF APPLIED STANDARDS

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

#### FCC Part 15, Subpart C (15.247)

ANSI C63.10-2009

KDB 558074 D01 DTS Meas Guidance v02

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 (FOR 2.4GHz BAND)

### 4.1 RADIATED EMISSION AND BANDEDGE MEASUREMENT

#### 4.1.1 LIMITS OF RADIATED EMISSION AND BANDEDGE MEASUREMENT

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table. Other emissions shall be at least 20dB below the highest level of the desired power:

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

**NOTE:**

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



#### 4.1.2 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
Preamplicifier EMCI	EMC 012645	980115	Dec. 28, 2012	Dec. 27, 2013
Preamplicifier EMCI	EMC 184045	980116	Dec. 28, 2012	Dec. 27, 2013
Preamplicifier 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 preamplicifier (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.

#### 4.1.3 TEST PROCEDURES

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meters semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. Height of receiving antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. If the emission level of the EUT in peak mode was lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

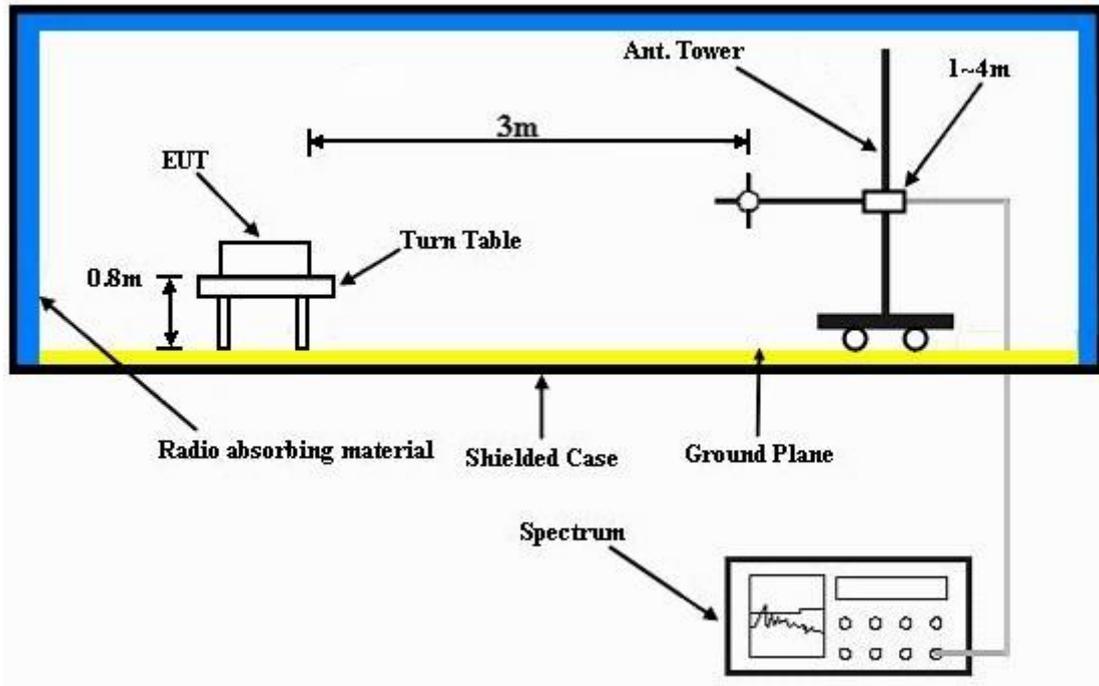
**NOTE:**

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

#### 4.1.4 DEVIATION FROM TEST STANDARD

No deviation.

#### 4.1.5 TEST SETUP



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

#### 4.1.6 EUT OPERATING CONDITIONS

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



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### 4.1.7 TEST RESULTS

#### ABOVE 1GHz WORST-CASE DATA

##### 802.11b

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2388	42.67	48.84	54	-11.33	31.93	5.4	43.5	100	325	Average
2388	51.77	57.94	74	-22.23	31.93	5.4	43.5	100	325	Peak
2412	98.78	104.94			31.96	5.43	43.55	100	325	Average
2412	101.63	107.79			31.96	5.43	43.55	100	325	Peak
2496	34.33	40.49	54	-19.67	32.1	5.53	43.79	100	325	Average
2496	49.33	55.49	74	-24.67	32.1	5.53	43.79	100	325	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2386	43.79	49.96	54	-10.21	31.93	5.4	43.5	115	17	Average
2386	52.36	58.53	74	-21.64	31.93	5.4	43.5	115	17	Peak
2412	101.3	107.46			31.96	5.43	43.55	115	17	Average
2412	104.08	110.24			31.96	5.43	43.55	115	17	Peak
2484	34.48	40.62	54	-19.52	32.1	5.5	43.74	115	17	Average
2484	52.32	58.46	74	-21.68	32.1	5.5	43.74	115	17	Peak

#### REMARKS:

- 2412MHz: Fundamental frequency.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1GHz ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Kay Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2366	35.68	41.81	54	-18.32	31.9	5.37	43.4	100	326	Average
2366	51.23	57.36	74	-22.77	31.9	5.37	43.4	100	326	Peak
2437	99.73	105.91			32.01	5.46	43.65	100	326	Average
2437	102.72	108.9			32.01	5.46	43.65	100	326	Peak
2492	35.19	41.35	54	-18.81	32.1	5.53	43.79	100	326	Average
2492	50.76	56.92	74	-23.24	32.1	5.53	43.79	100	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
2358	36.18	42.34	54	-17.82	31.87	5.37	43.4	114	17	Average
2358	49.12	55.28	74	-24.88	31.87	5.37	43.4	114	17	Peak
2437	100.93	107.11			32.01	5.46	43.65	114	17	Average
2437	103.82	110			32.01	5.46	43.65	114	17	Peak
2498	37.5	43.66	54	-16.5	32.1	5.53	43.79	114	17	Average
2498	50.98	57.14	74	-23.02	32.1	5.53	43.79	114	17	Peak

**REMARKS:**

1. 2437MHz: Fundamental frequency.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1GHz ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Kay Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2380	34.68	40.86	54	-19.32	31.9	5.37	43.45	168	342	Average
2380	50.05	56.23	74	-23.95	31.9	5.37	43.45	168	342	Peak
2462	100.91	107.06			32.04	5.5	43.69	168	342	Average
2462	103.91	110.06			32.04	5.5	43.69	168	342	Peak
2484	44.47	50.61	54	-9.53	32.1	5.5	43.74	168	342	Average
2484	53.44	59.58	74	-20.56	32.1	5.5	43.74	168	342	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
2370	34.8	40.98	54	-19.2	31.9	5.37	43.45	112	17	Average
2370	51.67	57.85	74	-22.33	31.9	5.37	43.45	112	17	Peak
2462	100.86	107.01			32.04	5.5	43.69	112	17	Average
2462	103.82	109.97			32.04	5.5	43.69	112	17	Peak
2484	44.87	51.01	54	-9.13	32.1	5.5	43.74	112	17	Average
2484	54.83	60.97	74	-19.17	32.1	5.5	43.74	112	17	Peak

**REMARKS:**

- 2462MHz: Fundamental frequency.



802.11g

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	49.5	55.67	54	-4.5	31.93	5.4	43.5	100	323	Average
2390	66.27	72.44	74	-7.73	31.93	5.4	43.5	100	323	Peak
2412	96.29	102.45			31.96	5.43	43.55	100	323	Average
2412	103.93	110.09			31.96	5.43	43.55	100	323	Peak
2500	36.85	43.01	54	-17.15	32.1	5.53	43.79	100	323	Average
2500	50.64	56.8	74	-23.36	32.1	5.53	43.79	100	323	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	50.31	56.48	54	-3.69	31.93	5.4	43.5	115	22	Average
2390	67.8	73.97	74	-6.2	31.93	5.4	43.5	115	22	Peak
2412	98.56	104.72			31.96	5.43	43.55	115	22	Average
2412	106.27	112.43			31.96	5.43	43.55	115	22	Peak
2484	37.45	43.59	54	-16.55	32.1	5.5	43.74	115	22	Average
2484	53.5	59.64	74	-20.5	32.1	5.5	43.74	115	22	Peak

REMARKS:

- 2412MHz: Fundamental frequency.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1GHz ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Kay Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	45.04	51.21	54	-8.96	31.93	5.4	43.5	100	324	Average
2390	58	64.17	74	-16	31.93	5.4	43.5	100	324	Peak
2437	97.01	103.19			32.01	5.46	43.65	100	324	Average
2437	105.37	111.55			32.01	5.46	43.65	100	324	Peak
2486	43.59	49.7	54	-10.41	32.1	5.53	43.74	100	324	Average
2486	56.12	62.23	74	-17.88	32.1	5.53	43.74	100	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
2390	45.19	51.36	54	-8.81	31.93	5.4	43.5	112	16	Average
2390	57.12	63.29	74	-16.88	31.93	5.4	43.5	112	16	Peak
2437	97.96	104.14			32.01	5.46	43.65	112	16	Average
2437	106.01	112.19			32.01	5.46	43.65	112	16	Peak
2486	45.9	52.01	54	-8.1	32.1	5.53	43.74	112	16	Average
2486	56.15	62.26	74	-17.85	32.1	5.53	43.74	112	16	Peak

**REMARKS:**

- 1. 2437MHz: Fundamental frequency.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1GHz ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Kay Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2386	38.39	44.56	54	-15.61	31.93	5.4	43.5	129	254	Average
2386	54.52	60.69	74	-19.48	31.93	5.4	43.5	129	254	Peak
2462	98.48	104.63			32.04	5.5	43.69	129	254	Average
2462	104.58	110.73			32.04	5.5	43.69	129	254	Peak
2484	50.38	56.52	54	-3.62	32.1	5.5	43.74	129	254	Average
2484	68.68	74.82	74	-5.32	32.1	5.5	43.74	129	254	Peak

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2386	38.53	44.7	54	-15.47	31.93	5.4	43.5	113	274	Average
2386	53.1	59.27	74	-20.9	31.93	5.4	43.5	113	274	Peak
2462	97.68	103.83			32.04	5.5	43.69	113	274	Average
2462	105.18	111.33			32.04	5.5	43.69	113	274	Peak
2484	50.36	56.5	54	-3.64	32.1	5.5	43.74	113	274	Average
2484	68.35	74.49	74	-5.65	32.1	5.5	43.74	113	274	Peak

**REMARKS:**

1. 2462MHz: Fundamental frequency.



## 802.11n (20MHz)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	50.1	56.27	54	-3.9	31.93	5.4	43.5	100	325	Average
2390	65.23	71.4	74	-8.77	31.93	5.4	43.5	100	325	Peak
2412	95.98	102.14			31.96	5.43	43.55	100	325	Average
2412	104.52	110.68			31.96	5.43	43.55	100	325	Peak
2490	37.08	43.24	54	-16.92	32.1	5.53	43.79	100	325	Average
2490	52.26	58.42	74	-21.74	32.1	5.53	43.79	100	325	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2388	50.42	56.59	54	-3.58	31.93	5.4	43.5	114	20	Average
2388	69.1	75.27	74	-4.9	31.93	5.4	43.5	114	20	Peak
2412	98.23	104.39			31.96	5.43	43.55	114	20	Average
2412	106.42	112.58			31.96	5.43	43.55	114	20	Peak
2488	37.65	43.81	54	-16.35	32.1	5.53	43.79	114	20	Average
2488	53.49	59.65	74	-20.51	32.1	5.53	43.79	114	20	Peak

## REMARKS:

- 2412MHz: Fundamental frequency.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1GHz ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Kay Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2388	45.46	51.63	54	-8.54	31.93	5.4	43.5	100	326	Average
2388	57.03	63.2	74	-16.97	31.93	5.4	43.5	100	326	Peak
2437	96.82	103			32.01	5.46	43.65	100	326	Average
2437	103.97	110.15			32.01	5.46	43.65	100	326	Peak
2484	44.01	50.15	54	-9.99	32.1	5.5	43.74	100	326	Average
2484	57.2	63.34	74	-16.8	32.1	5.5	43.74	100	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
2388	45.25	51.42	54	-8.75	31.93	5.4	43.5	113	18	Average
2388	57.5	63.67	74	-16.5	31.93	5.4	43.5	113	18	Peak
2437	98.03	104.21			32.01	5.46	43.65	113	18	Average
2437	106.26	112.44			32.01	5.46	43.65	113	18	Peak
2484	45.65	51.79	54	-8.35	32.1	5.5	43.74	113	18	Average
2484	57.84	63.98	74	-16.16	32.1	5.5	43.74	113	18	Peak

**REMARKS:**

- 1. 2437MHz: Fundamental frequency.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 11	FREQUENCY RANGE	1GHz ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Kay Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	38.79	44.96	54	-15.21	31.93	5.4	43.5	131	256	Average
2390	52.66	58.83	74	-21.34	31.93	5.4	43.5	131	256	Peak
2462	96.39	102.54			32.04	5.5	43.69	131	256	Average
2462	104.29	110.44			32.04	5.5	43.69	131	256	Peak
2488	50.57	56.73	54	-3.43	32.1	5.53	43.79	131	256	Average
2488	67.73	73.89	74	-6.27	32.1	5.53	43.79	131	256	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2388	38.85	45.02	54	-15.15	31.93	5.4	43.5	114	275	Average
2388	53.34	59.51	74	-20.66	31.93	5.4	43.5	114	275	Peak
2462	97.28	103.43			32.04	5.5	43.69	114	275	Average
2462	105.31	111.46			32.04	5.5	43.69	114	275	Peak
2484	49.08	55.22	54	-4.92	32.1	5.5	43.74	114	275	Average
2484	69.38	75.52	74	-4.62	32.1	5.5	43.74	114	275	Peak

**REMARKS:**

1. 2462MHz: Fundamental frequency.



A D T

802.11n (40MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 3	FREQUENCY RANGE	1GHz ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Kay Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	50.88	57.05	54	-3.12	31.93	5.4	43.5	135	256	Average
2390	65.02	71.19	74	-8.98	31.93	5.4	43.5	135	256	Peak
2422	94.89	101.07			31.99	5.43	43.6	135	256	Average
2422	102.51	108.69			31.99	5.43	43.6	135	256	Peak
2486	40.97	47.08	54	-13.03	32.1	5.53	43.74	135	256	Average
2486	56.14	62.25	74	-17.86	32.1	5.53	43.74	135	256	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	50.2	56.37	54	-3.8	31.93	5.4	43.5	113	278	Average
2390	65.17	71.34	74	-8.83	31.93	5.4	43.5	113	278	Peak
2422	94.92	101.1			31.99	5.43	43.6	113	278	Average
2422	102.66	108.84			31.99	5.43	43.6	113	278	Peak
2494	42.11	48.27	54	-11.89	32.1	5.53	43.79	113	278	Average
2494	57.12	63.28	74	-16.88	32.1	5.53	43.79	113	278	Peak

REMARKS:

- 2422MHz: Fundamental frequency.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	1GHz ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Kay Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2388	45.76	51.93	54	-8.24	31.93	5.4	43.5	111	274	Average
2388	61.22	67.39	74	-12.78	31.93	5.4	43.5	111	274	Peak
2437	94.32	100.5			32.01	5.46	43.65	111	274	Average
2437	102.1	108.28			32.01	5.46	43.65	111	274	Peak
2484	45.49	51.63	54	-8.51	32.1	5.5	43.74	111	274	Average
2484	60.94	67.08	74	-13.06	32.1	5.5	43.74	111	274	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	47.9	54.07	54	-6.1	31.93	5.4	43.5	136	257	Average
2390	63.55	69.72	74	-10.45	31.93	5.4	43.5	136	257	Peak
2437	96.18	102.36			32.01	5.46	43.65	136	257	Average
2437	103.55	109.73			32.01	5.46	43.65	136	257	Peak
2486	46.07	52.18	54	-7.93	32.1	5.53	43.74	136	257	Average
2486	59.96	66.07	74	-14.04	32.1	5.53	43.74	136	257	Peak

**REMARKS:**

- 2437MHz: Fundamental frequency.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 9	FREQUENCY RANGE	1GHz ~ 25GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Kay Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2388	43.38	49.55	54	-10.62	31.93	5.4	43.5	131	252	Average
2388	56.6	62.77	74	-17.4	31.93	5.4	43.5	131	252	Peak
2452	92.17	98.32			32.04	5.46	43.65	131	252	Average
2452	102.33	108.48			32.04	5.46	43.65	131	252	Peak
2490	50.77	56.93	54	-3.23	32.1	5.53	43.79	131	252	Average
2490	66.5	72.66	74	-7.5	32.1	5.53	43.79	131	252	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2386	43.75	49.92	54	-10.25	31.93	5.4	43.5	114	274	Average
2386	56.21	62.38	74	-17.79	31.93	5.4	43.5	114	274	Peak
2452	94.65	100.8			32.04	5.46	43.65	114	274	Average
2452	104.31	110.46			32.04	5.46	43.65	114	274	Peak
2486	50.65	56.76	54	-3.35	32.1	5.53	43.74	114	274	Average
2486	69.02	75.13	74	-4.98	32.1	5.53	43.74	114	274	Peak

**REMARKS:**

1. 2452MHz: Fundamental frequency.



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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	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
55.92	24.95	43.14	40	-15.05	12.35	0.8	31.34	102	162	Peak
158.25	20.62	38.34	43.5	-22.88	12.73	1.38	31.83	100	262	Peak
202.8	16.47	37.1	43.5	-27.03	9.48	1.61	31.72	100	114	Peak
395.9	22.8	37.24	46	-23.2	15.24	2.41	32.09	108	152	Peak
662.6	25.88	34.14	46	-20.12	20.36	3.29	31.91	100	166	Peak
924.4	28.46	32.79	46	-17.54	23.65	4.02	32	100	177	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
34.59	28.39	46.07	40	-11.61	12.79	0.59	31.06	100	114	QP
43.23	30.27	47.08	40	-9.73	13.59	0.71	31.11	100	163	QP
214.95	13.29	33.26	43.5	-30.21	10.01	1.67	31.65	100	61	Peak
491.1	22.35	34.22	46	-23.65	17.14	2.75	31.76	100	235	Peak
668.9	24.83	32.9	46	-21.17	20.44	3.31	31.82	100	147	Peak
869.8	28.07	33.08	46	-17.93	23.12	3.88	32.01	104	196	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

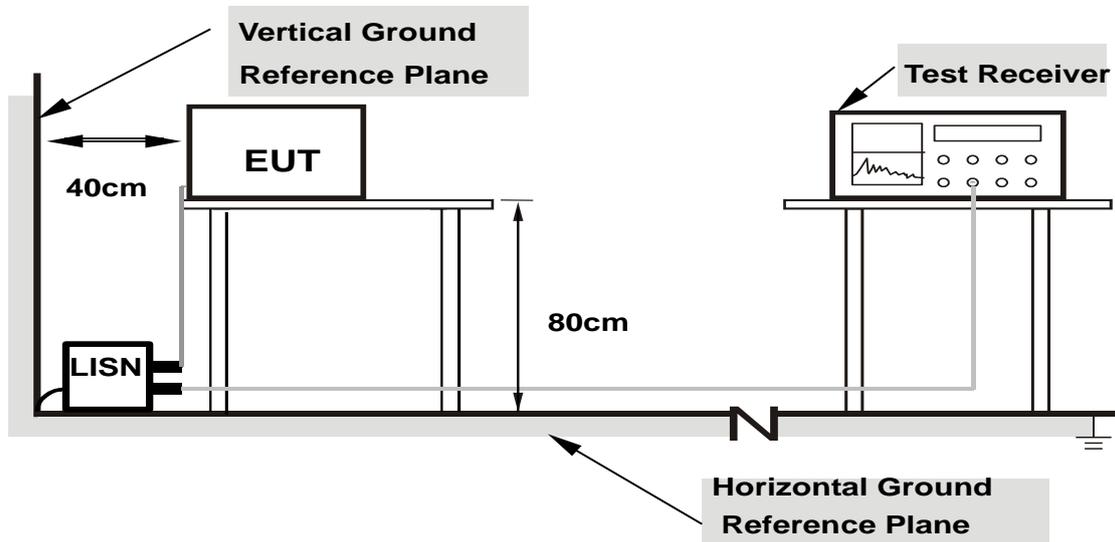
- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling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

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

#### 4.2.4 DEVIATION FROM TEST STANDARD

No deviation.

#### 4.2.5 TEST SETUP



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

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

#### 4.2.6 EUT OPERATING CONDITIONS

Same as 4.1.6.

### 4.2.7 TEST RESULTS

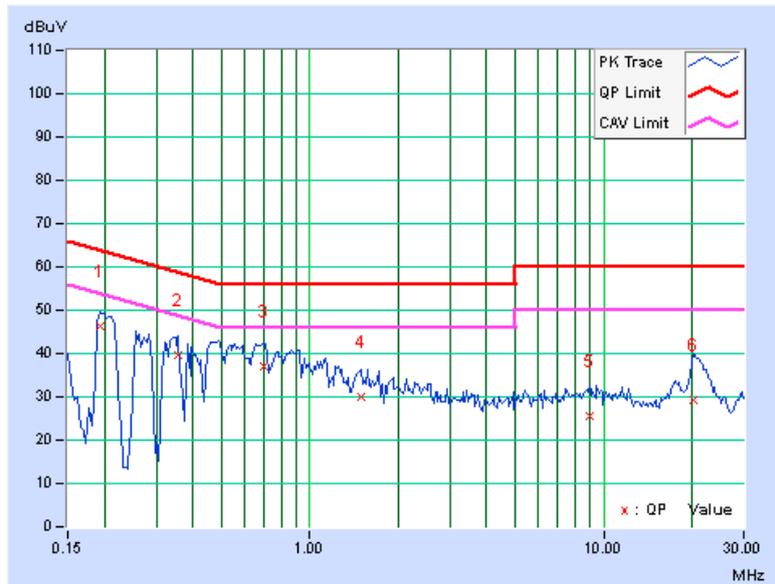
**CONDUCTED WORST-CASE DATA : 802.11g**

<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	0.19297	0.12	46.28	29.97	46.40	30.09	63.91
2	0.35703	0.14	39.50	21.81	39.64	21.95	58.80	48.80	-19.15	-26.84
3	0.70078	0.18	36.88	21.03	37.06	21.21	56.00	46.00	-18.94	-24.79
4	1.50000	0.22	29.79	15.14	30.01	15.36	56.00	46.00	-25.99	-30.64
5	8.96094	0.60	25.13	19.69	25.73	20.29	60.00	50.00	-34.27	-29.71
6	20.16016	1.24	28.16	21.56	29.40	22.80	60.00	50.00	-30.60	-27.20

**REMARKS:**

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





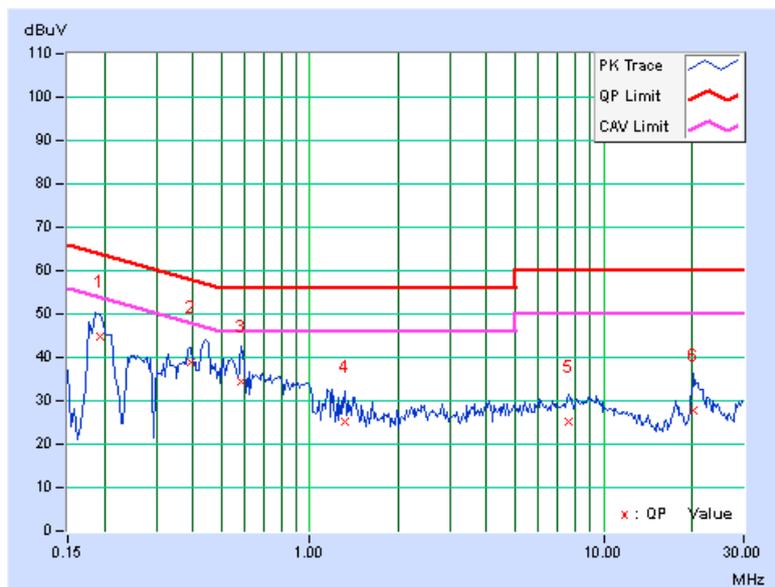
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PHASE	Line 2	6dB BANDWIDTH	9kHz
-------	--------	---------------	------

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	0.19297	0.17	44.74	26.65	44.91	26.82	63.91
2	0.39219	0.21	38.69	21.71	38.90	21.92	58.02	48.02	-19.12	-26.10
3	0.58750	0.22	34.28	17.78	34.50	18.00	56.00	46.00	-21.50	-28.00
4	1.31250	0.26	25.06	10.23	25.32	10.49	56.00	46.00	-30.68	-35.51
5	7.60547	0.51	24.55	18.71	25.06	19.22	60.00	50.00	-34.94	-30.78
6	20.22266	0.94	26.72	20.25	27.66	21.19	60.00	50.00	-32.34	-28.81

**REMARKS:**

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

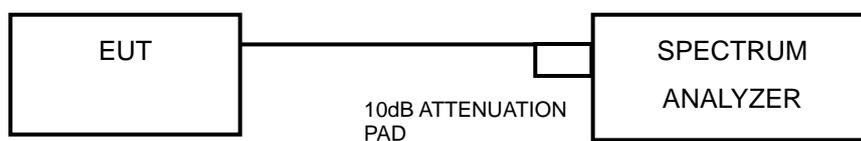


### 4.3 6dB BANDWIDTH MEASUREMENT

#### 4.3.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

#### 4.3.2 TEST SETUP



#### 4.3.3 TEST INSTRUMENTS

Refer to section 4.1.2 to get information of above instrument.

#### 4.3.4 TEST PROCEDURE

- a. Set resolution bandwidth (RBW) = approximately 1% of the emission bandwidth
- b. Set the video bandwidth (VBW)  $\geq 3 \times$  RBW, Detector = Peak.
- c. Trace mode = max hold.
- d. Sweep = auto couple.
- e. Measure the maximum width of the emission that is constrained by the frequencies associated with the two amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission

#### 4.3.5 DEVIATION FROM TEST STANDARD

No deviation.

#### 4.3.6 EUT OPERATING CONDITIONS

The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.



#### 4.3.7 TEST RESULTS

##### 802.11b

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	8.04	0.5	PASS
6	2437	8.06	0.5	PASS
11	2462	8.08	0.5	PASS

##### 802.11g

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	15.11	0.5	PASS
6	2437	15.10	0.5	PASS
11	2462	15.15	0.5	PASS

##### 802.11n (20MHz)

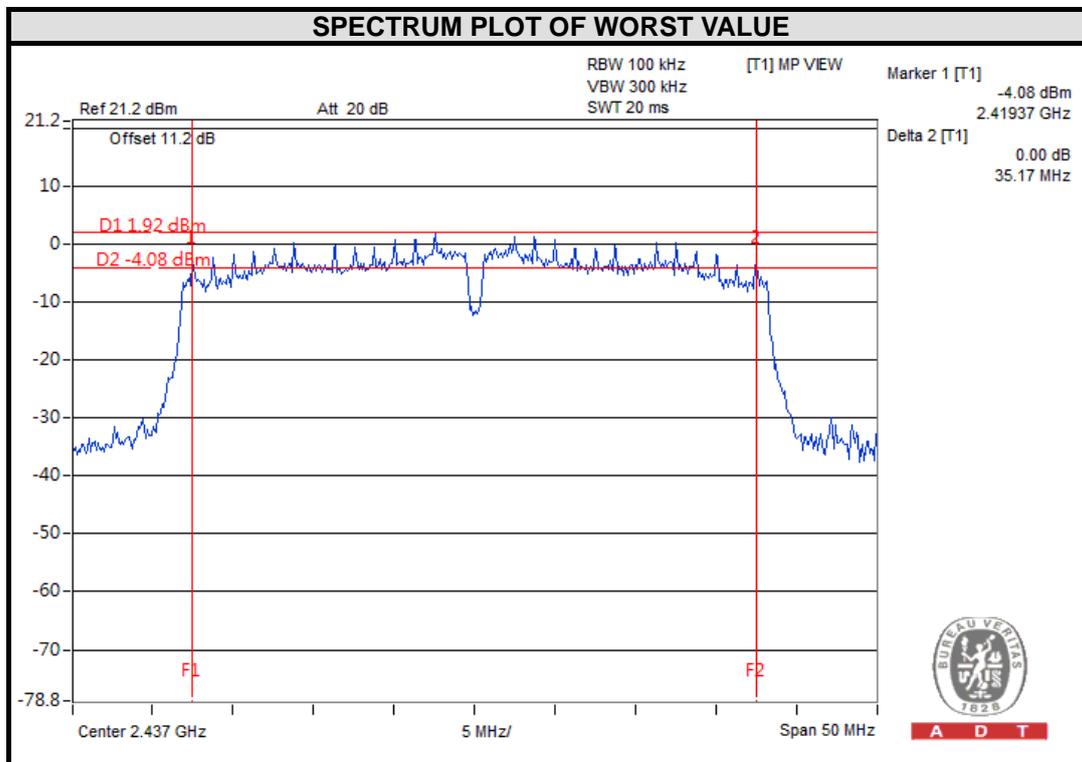
CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	15.15	0.5	PASS
6	2437	15.15	0.5	PASS
11	2462	16.08	0.5	PASS



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802.11n (40MHz)

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
3	2422	35.09	0.5	PASS
6	2437	35.17	0.5	PASS
9	2452	35.14	0.5	PASS

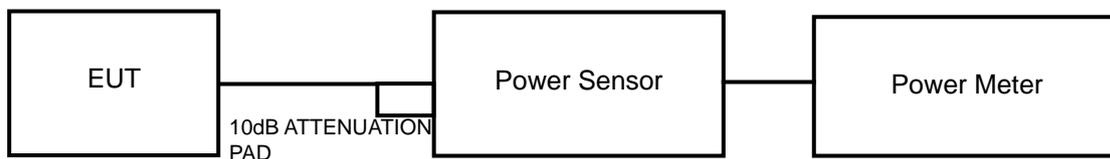


## 4.4 CONDUCTED OUTPUT POWER

### 4.4.1 LIMITS OF CONDUCTED OUTPUT POWER MEASUREMENT

For systems using digital modulation in the 2400–2483.5 MHz bands: 1 Watt (30dBm)

### 4.4.2 TEST SETUP



### 4.4.3 TEST INSTRUMENTS

Refer to section 4.1.2 to get information of above instrument.

### 4.4.4 TEST PROCEDURES

A peak power sensor was used on the output port of the EUT. A power meter was used to read the response of the peak power sensor. Record the peak power level.

### 4.4.5 DEVIATION FROM TEST STANDARD

No deviation.

### 4.4.6 EUT OPERATING CONDITIONS

Same as Item 4.3.6.



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#### 4.4.7 TEST RESULTS

##### 802.11b

CHANNEL	FREQUENCY (MHz)	PEAK POWER (mW)	PEAK POWER (dBm)	LIMIT (dBm)	PASS/FAIL
1	2412	39.994	16.02	30	PASS
6	2437	42.658	16.30	30	PASS
11	2462	42.462	16.28	30	PASS

##### 802.11g

CHANNEL	FREQUENCY (MHz)	PEAK POWER (mW)	PEAK POWER (dBm)	LIMIT (dBm)	PASS/FAIL
1	2412	224.905	23.52	30	PASS
6	2437	229.615	23.61	30	PASS
11	2462	189.671	22.78	30	PASS

##### 802.11n (20MHz)

CHANNEL	FREQUENCY (MHz)	PEAK POWER (mW)	PEAK POWER (dBm)	LIMIT (dBm)	PASS/FAIL
1	2412	207.970	23.18	30	PASS
6	2437	214.289	23.31	30	PASS
11	2462	165.196	22.18	30	PASS

##### 802.11n (40MHz)

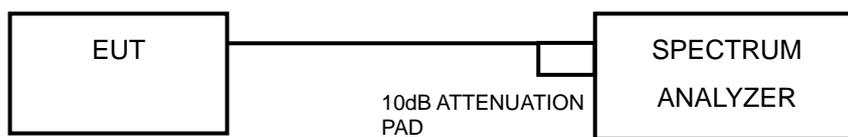
CHANNEL	FREQUENCY (MHz)	PEAK POWER (mW)	PEAK POWER (dBm)	LIMIT (dBm)	PASS/FAIL
3	2422	155.239	21.91	30	PASS
6	2437	182.810	22.62	30	PASS
9	2452	180.302	22.56	30	PASS

## 4.5 POWER SPECTRAL DENSITY MEASUREMENT

### 4.5.1 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT

The Maximum of Power Spectral Density Measurement is 8dBm.

### 4.5.2 TEST SETUP



### 4.5.3 TEST INSTRUMENTS

Refer to section 4.1.2 to get information of above instrument.

### 4.5.4 TEST PROCEDURE

- Set the RBW = 3 kHz, VBW = 10 kHz, Detector = peak.
- Sweep time = auto couple, Trace mode = max hold, allow trace to fully stabilize.
- Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.

### 4.5.5 DEVIATION FROM TEST STANDARD

No deviation.

### 4.5.6 EUT OPERATING CONDITION

Same as Item 4.3.6



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## 4.5.7 TEST RESULTS

### 802.11b

Channel	FREQ. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
1	2412	-8.43	8	PASS
6	2437	-7.04	8	PASS
11	2462	-8.54	8	PASS

### 802.11g

Channel	FREQ. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
1	2412	-10.84	8	PASS
6	2437	-10.78	8	PASS
11	2462	-10.34	8	PASS

### 802.11n (20MHz)

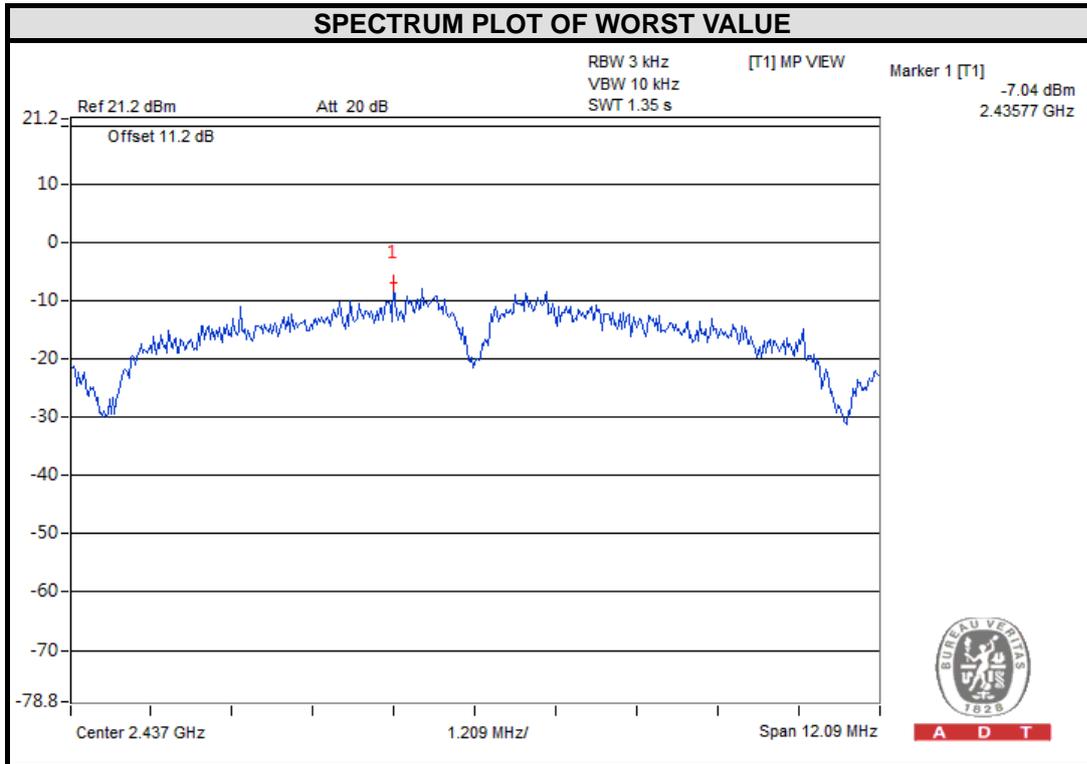
Channel	FREQ. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
1	2412	-10.94	8	PASS
6	2437	-10.20	8	PASS
11	2462	-10.78	8	PASS

### 802.11n (40MHz)

Channel	FREQ. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
3	2422	-11.81	8	PASS
6	2437	-12.63	8	PASS
9	2452	-12.23	8	PASS



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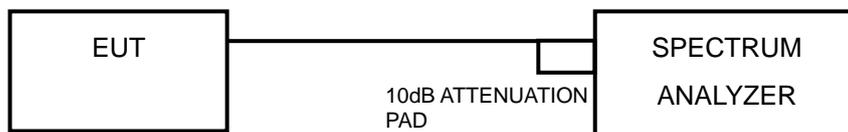


## 4.6 CONDUCTED OUT OF BAND EMISSION MEASUREMENT

### 4.6.1 LIMITS OF CONDUCTED OUT OF BAND EMISSION MEASUREMENT

Below  $-20\text{dB}$  of the highest emission level of operating band (in 100kHz Resolution Bandwidth).

### 4.6.2 TEST SETUP



### 4.6.3 TEST INSTRUMENTS

Refer to section 4.1.2 to get information of above instrument.

### 4.6.4 TEST PROCEDURE

#### MEASUREMENT PROCEDURE REF

1. Set the RBW = 100 kHz.
2. Set the VBW  $\geq$  300 kHz.
3. Detector = peak.
4. Sweep time = auto couple.
5. Trace mode = max hold.
6. Allow trace to fully stabilize.
7. Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.

## MEASUREMENT PROCEDURE OOB

1. Set RBW = 100 kHz.
2. Set VBW  $\geq$  300 kHz.
3. Set span to encompass the spectrum to be examined.
4. Detector = peak.
5. Trace Mode = max hold.
6. Sweep = auto couple.

### 4.6.5 DEVIATION FROM TEST STANDARD

No deviation.

### 4.6.6 EUT OPERATING CONDITION

Same as Item 4.3.6

### 4.6.7 TEST RESULTS

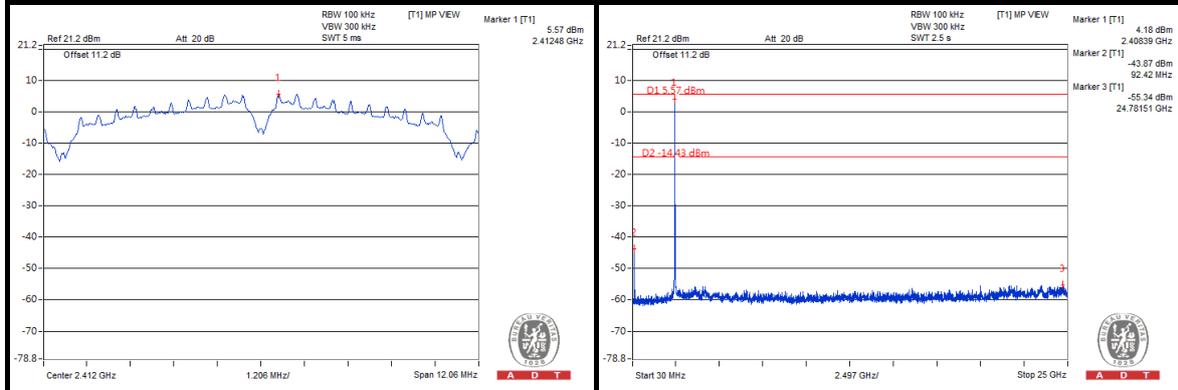
The spectrum plots are attached on the following pages. D1 line indicates the highest level, and D2 line indicates the 20dB offset below D1. It shows compliance with the requirement.



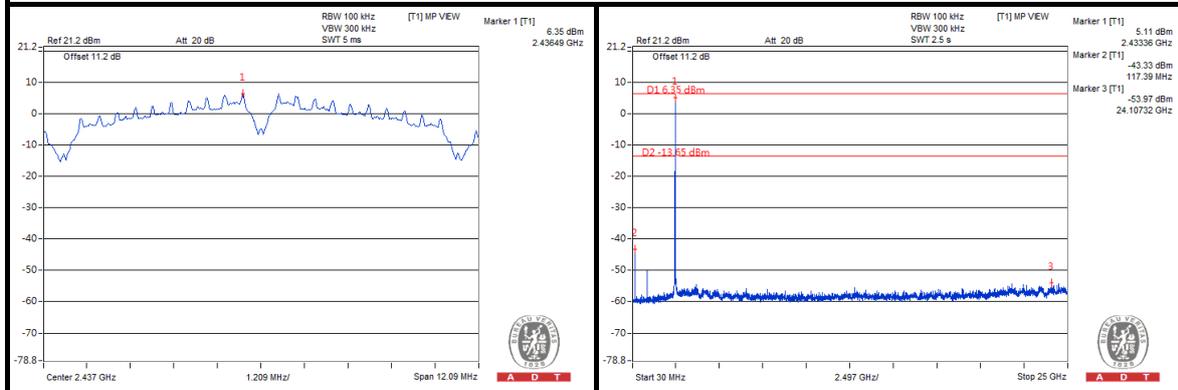
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### 802.11b

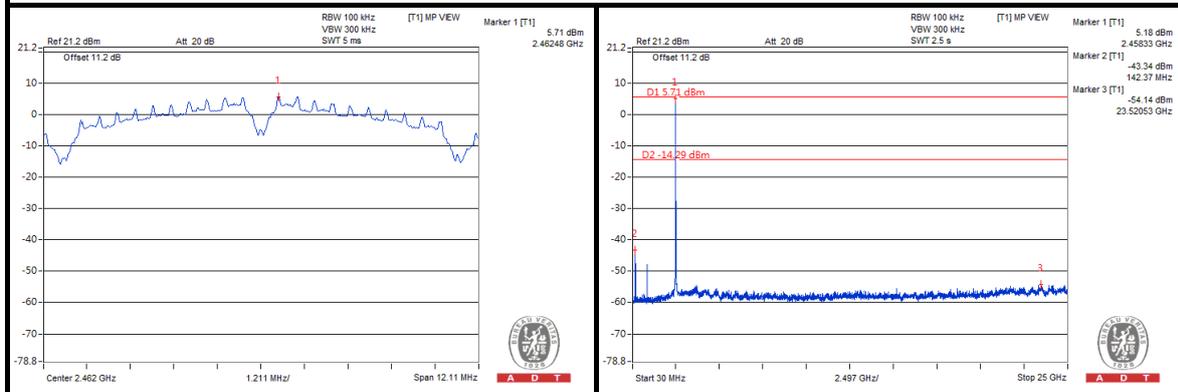
#### CH 1



#### CH 6



#### CH 11

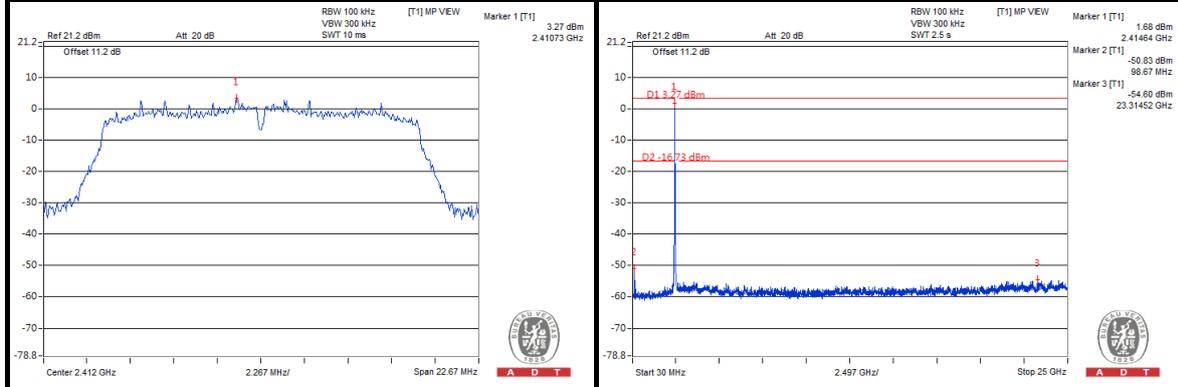




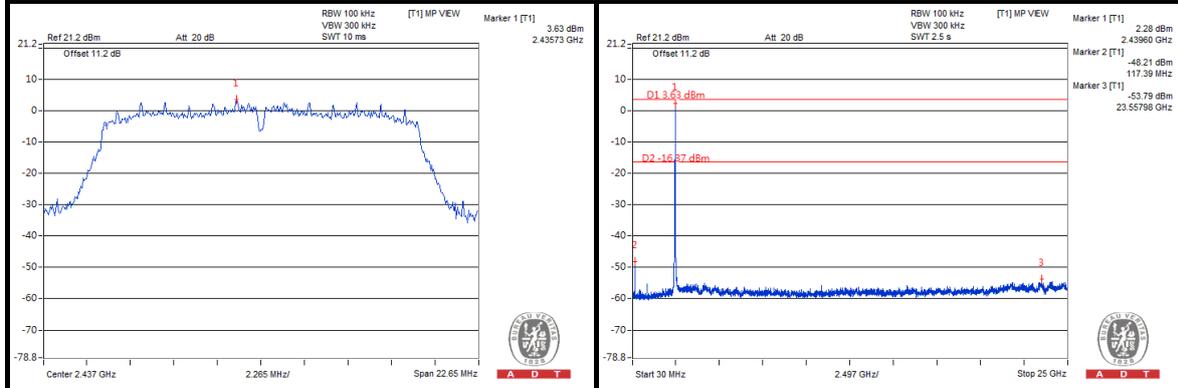
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### 802.11g

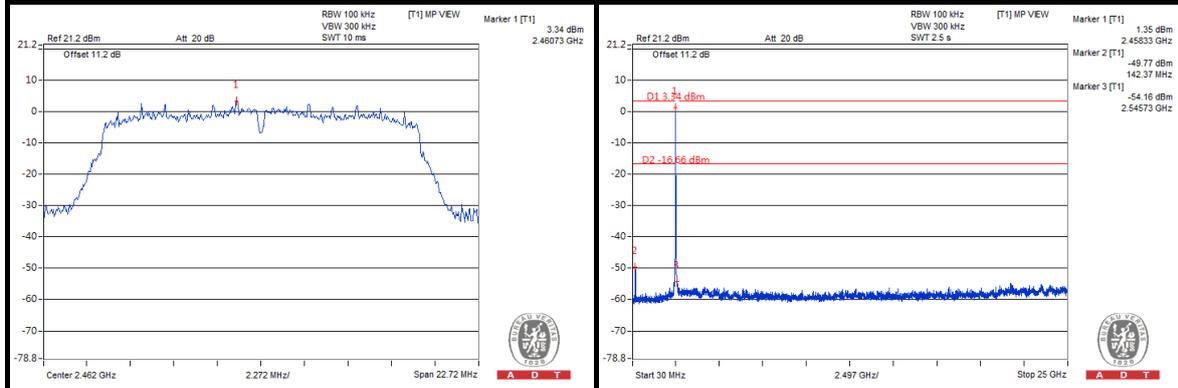
#### CH 1



#### CH 6



#### CH 11

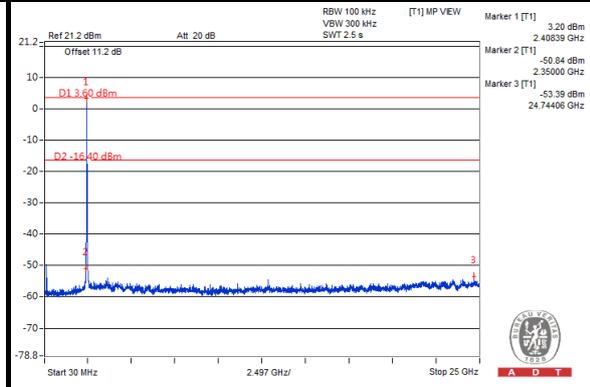
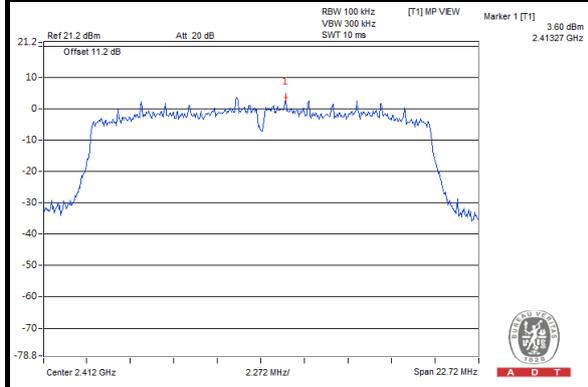




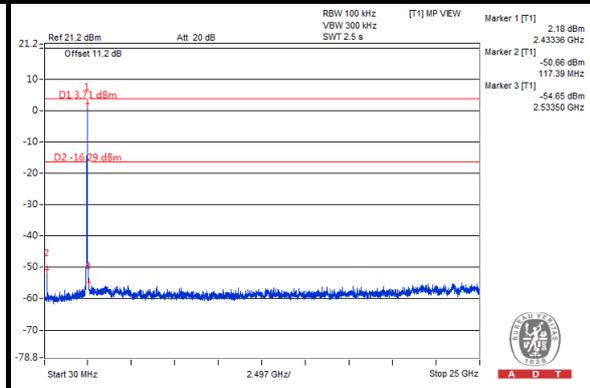
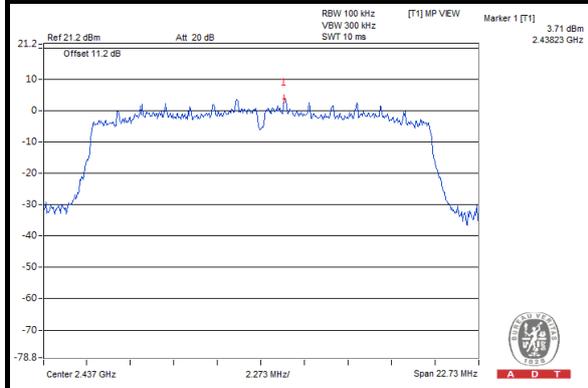
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### 802.11n (20MHz)

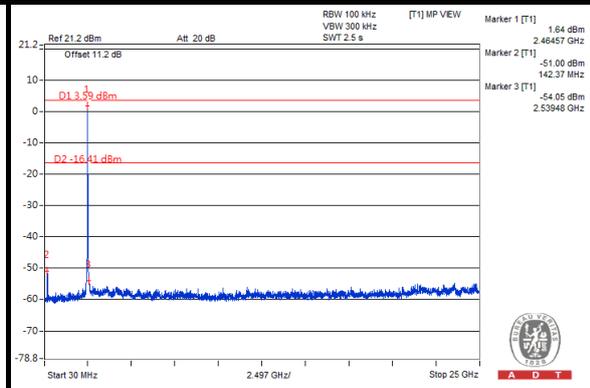
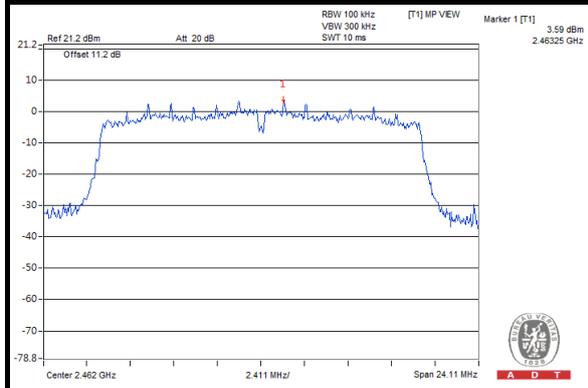
#### CH 1



#### CH 6



#### CH 11

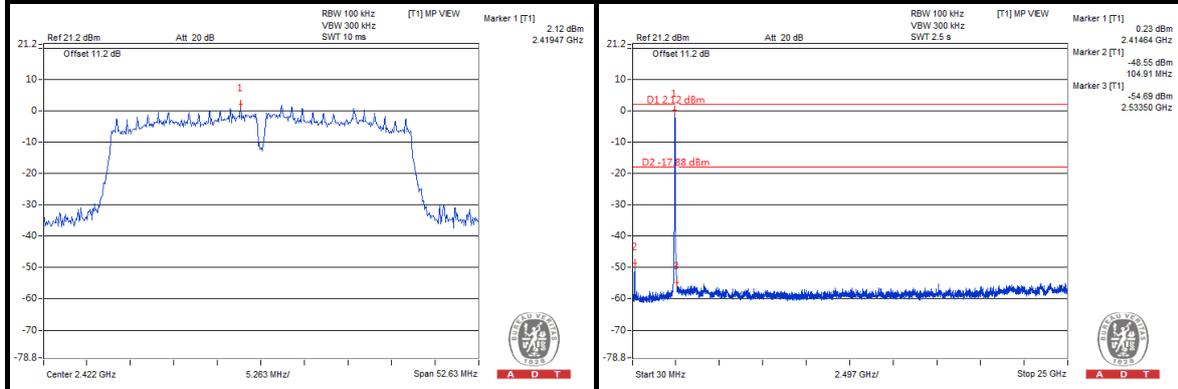




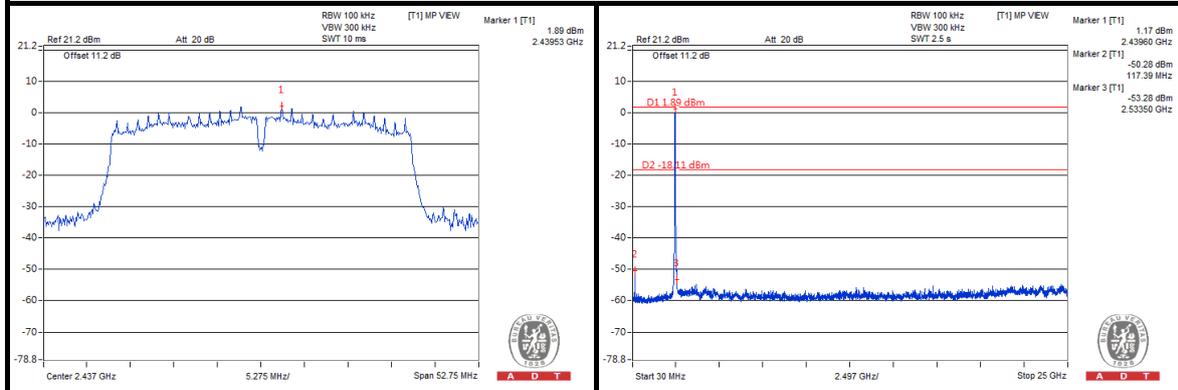
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### 802.11n (40MHz)

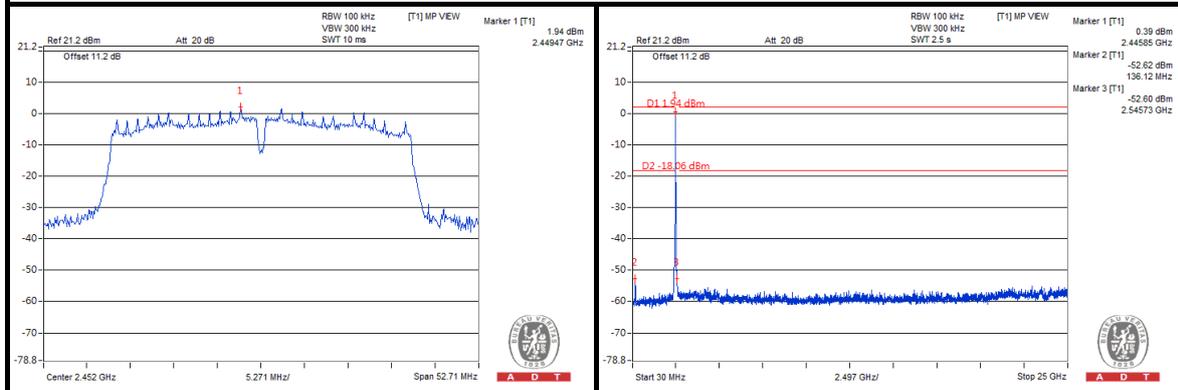
#### CH 3



#### CH 6



#### CH 9



## 5. TEST TYPES AND RESULTS (FOR 5.0GHz BAND)

### 5.1 RADIATED EMISSION AND BANDEDGE MEASUREMENT

#### 5.1.1 LIMITS OF RADIATED EMISSION AND BANDEDGE MEASUREMENT

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table. Other emissions shall be at least 20dB below the highest level of the desired power:

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

**NOTE:**

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



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### 5.1.2 TEST INSTRUMENTS

Same as item 4.1.2.

### 5.1.3 TEST PROCEDURES

Same as item 4.1.3.

### 5.1.4 DEVIATION FROM TEST STANDARD

No deviation.

### 5.1.5 TEST SETUP

Same as item 4.1.5.

### 5.1.6 EUT OPERATING CONDITIONS

Same as 4.1.6.



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### 5.1.7 TEST RESULTS

#### ABOVE 1GHz WORST-CASE DATA

##### 802.11a

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 149	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Kay Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
3832	45.24	50.52	54	-8.76	33.37	7.02	45.67	137	247	Average
3832	50.25	55.53	74	-23.75	33.37	7.02	45.67	137	247	Peak
5725	48.68	50.13	71.46	-22.78	34.67	8.65	44.77	106	252	Average
5725	63.16	64.61	79.08	-15.92	34.67	8.65	44.77	106	252	Peak
5745	91.46	92.86			34.7	8.66	44.76	106	252	Average
5745	99.08	100.48			34.7	8.66	44.76	106	252	Peak
5850	36.51	37.77	71.46	-34.95	34.87	8.7	44.83	106	252	Average
5850	48.59	49.85	79.08	-30.49	34.87	8.7	44.83	106	252	Peak
11490	50.13	41.68	54	-3.87	38.4	12.6	42.55	118	131	Average
11490	59.72	51.27	74	-14.28	38.4	12.6	42.55	118	131	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
3832	50.42	55.7	54	-3.58	33.37	7.02	45.67	102	102	Average
3832	52.45	57.73	74	-21.55	33.37	7.02	45.67	102	102	Peak
5725	52.54	53.99	74.49	-21.95	34.67	8.65	44.77	111	102	Average
5725	69.61	71.06	81.06	-11.45	34.67	8.65	44.77	111	102	Peak
5745	94.49	95.89			34.7	8.66	44.76	111	102	Average
5745	101.06	102.46			34.7	8.66	44.76	111	102	Peak
5850	36.85	38.11	74.49	-37.64	34.87	8.7	44.83	111	102	Average
5850	49.38	50.64	81.06	-31.68	34.87	8.7	44.83	111	102	Peak
11490	49.9	41.45	54	-4.1	38.4	12.6	42.55	100	164	Average
11490	58.42	49.97	74	-15.58	38.4	12.6	42.55	100	164	Peak

#### REMARKS:

- 5745MHz: Fundamental frequency.
- 5725MHz & 5850MHz: Out of restricted band



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 157	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Kay Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
3856	44.92	50.12	54	-9.08	33.39	7.05	45.64	100	21	Average
3856	48.18	53.38	74	-25.82	33.39	7.05	45.64	100	21	Peak
5725	37.97	39.42	71.16	-33.19	34.67	8.65	44.77	105	256	Average
5725	50.01	51.46	78.77	-28.76	34.67	8.65	44.77	105	256	Peak
5785	91.16	92.47			34.76	8.68	44.75	105	256	Average
5785	98.77	100.08			34.76	8.68	44.75	105	256	Peak
5850	37.58	38.84	71.16	-33.58	34.87	8.7	44.83	105	256	Average
5850	50.4	51.66	78.77	-28.37	34.87	8.7	44.83	105	256	Peak
11570	50.36	41.6	54	-3.64	38.45	12.71	42.4	100	360	Average
11570	60.61	51.85	74	-13.39	38.45	12.71	42.4	100	360	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
3856	50.29	55.49	54	-3.71	33.39	7.05	45.64	100	195	Average
3856	53.32	58.52	74	-20.68	33.39	7.05	45.64	100	195	Peak
5725	40.05	41.5	74.4	-34.35	34.67	8.65	44.77	110	100	Average
5725	51.1	52.55	80.79	-29.69	34.67	8.65	44.77	110	100	Peak
5785	94.4	95.71			34.76	8.68	44.75	110	100	Average
5785	100.79	102.1			34.76	8.68	44.75	110	100	Peak
5850	38.33	39.59	74.4	-36.07	34.87	8.7	44.83	110	100	Average
5850	50.13	51.39	80.79	-30.66	34.87	8.7	44.83	110	100	Peak
11570	50.36	41.6	54	-3.64	38.45	12.71	42.4	100	12	Average
11570	60.59	51.83	74	-13.41	38.45	12.71	42.4	100	12	Peak

**REMARKS:**

- 5785MHz: Fundamental frequency.
- 5725MHz & 5850MHz: Out of restricted band



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 165	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Kay Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
3884	46.6	51.67	54	-7.4	33.41	7.08	45.56	100	223	Average
3884	48.98	54.05	74	-25.02	33.41	7.08	45.56	100	223	Peak
5725	36.75	38.2	71.65	-34.9	34.67	8.65	44.77	106	255	Average
5725	47.97	49.42	78.21	-30.24	34.67	8.65	44.77	106	255	Peak
5825	91.65	92.95			34.81	8.69	44.8	106	255	Average
5825	98.21	99.51			34.81	8.69	44.8	106	255	Peak
5850	42.75	44.01	71.65	-28.9	34.87	8.7	44.83	106	255	Average
5850	56.73	57.99	78.21	-21.48	34.87	8.7	44.83	106	255	Peak
11650	50.97	41.85	54	-3.03	38.52	12.83	42.23	100	52	Average
11650	61.38	52.26	74	-12.62	38.52	12.83	42.23	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
3884	50.64	55.71	54	-3.36	33.41	7.08	45.56	100	159	Average
3884	53.94	59.01	74	-20.06	33.41	7.08	45.56	100	159	Peak
5724	37.12	38.57	74.06	-36.94	34.67	8.65	44.77	120	98	Average
5724	49.5	50.95	81.42	-31.92	34.67	8.65	44.77	120	98	Peak
5825	94.06	95.36			34.81	8.69	44.8	120	98	Average
5825	101.42	102.72			34.81	8.69	44.8	120	98	Peak
5850	43.4	44.66	74.06	-30.66	34.87	8.7	44.83	120	98	Average
5850	60.41	61.67	81.42	-21.01	34.87	8.7	44.83	120	98	Peak
11650	50.66	41.54	54	-3.34	38.52	12.83	42.23	100	155	Average
11650	60.87	51.75	74	-13.13	38.52	12.83	42.23	100	155	Peak

**REMARKS:**

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



802.11n (20MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 149	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Kay Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5725	47.05	48.5	70.88	-23.83	34.67	8.65	44.77	106	255	Average
5725	64.02	65.47	78.31	-14.29	34.67	8.65	44.77	106	255	Peak
5745	90.88	92.28			34.7	8.66	44.76	106	255	Average
5745	98.31	99.71			34.7	8.66	44.76	106	255	Peak
5850	36.55	37.81	70.88	-34.33	34.87	8.7	44.83	106	255	Average
5850	48.9	50.16	78.31	-29.41	34.87	8.7	44.83	106	255	Peak
11490	48.08	39.63	54	-5.92	38.4	12.6	42.55	100	360	Average
11490	57.66	49.21	74	-16.34	38.4	12.6	42.55	100	360	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
3832	49.95	55.23	54	-4.05	33.37	7.02	45.67	100	23	Average
3832	53.21	58.49	74	-20.79	33.37	7.02	45.67	100	23	Peak
5725	50.9	52.35	74.26	-23.36	34.67	8.65	44.77	111	100	Average
5725	62.57	64.02	80.83	-18.26	34.67	8.65	44.77	111	100	Peak
5745	94.26	95.66			34.7	8.66	44.76	111	100	Average
5745	100.83	102.23			34.7	8.66	44.76	111	100	Peak
5850	37.2	38.46	74.26	-37.06	34.87	8.7	44.83	111	100	Average
5850	49.08	50.34	80.83	-31.75	34.87	8.7	44.83	111	100	Peak
11490	49.14	40.69	54	-4.86	38.4	12.6	42.55	100	55	Average
11490	59.13	50.68	74	-14.87	38.4	12.6	42.55	100	55	Peak

REMARKS:

- 5745MHz: Fundamental frequency.
- 5725MHz & 5850MHz: Out of restricted band



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 157	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Kay Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
3856	44.73	49.93	54	-9.27	33.39	7.05	45.64	100	56	Average
3856	48.06	53.26	74	-25.94	33.39	7.05	45.64	100	56	Peak
5725	38.39	39.84	71.25	-32.86	34.67	8.65	44.77	106	256	Average
5725	50.36	51.81	77.85	-27.49	34.67	8.65	44.77	106	256	Peak
5785	91.25	92.56			34.76	8.68	44.75	106	256	Average
5785	97.85	99.16			34.76	8.68	44.75	106	256	Peak
5850	37.47	38.73	71.25	-33.78	34.87	8.7	44.83	106	256	Average
5850	48.99	50.25	77.85	-28.86	34.87	8.7	44.83	106	256	Peak
11570	49.46	40.7	54	-4.54	38.45	12.71	42.4	100	98	Average
11570	59.07	50.31	74	-14.93	38.45	12.71	42.4	100	98	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
3856	50.28	55.48	54	-3.72	33.39	7.05	45.64	100	59	Average
3856	53.35	58.55	74	-20.65	33.39	7.05	45.64	100	59	Peak
5725	40.11	41.56	74.16	-34.05	34.67	8.65	44.77	110	99	Average
5725	52.35	53.8	81.58	-29.23	34.67	8.65	44.77	110	99	Peak
5785	94.16	95.47			34.76	8.68	44.75	110	99	Average
5785	101.58	102.89			34.76	8.68	44.75	110	99	Peak
5850	37.93	39.19	74.16	-36.23	34.87	8.7	44.83	110	99	Average
5850	51.23	52.49	81.58	-30.35	34.87	8.7	44.83	110	99	Peak
11566	48.46	39.7	54	-5.54	38.45	12.71	42.4	100	65	Average
11566	58.45	49.69	74	-15.55	38.45	12.71	42.4	100	65	Peak

**REMARKS:**

- 5785MHz: Fundamental frequency.
- 5725MHz & 5850MHz: Out of restricted band



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 165	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Kay Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
3884	46.75	51.82	54	-7.25	33.41	7.08	45.56	100	65	Average
3884	49.12	54.19	74	-24.88	33.41	7.08	45.56	100	65	Peak
5725	36.42	37.87	71.33	-34.91	34.67	8.65	44.77	104	253	Average
5725	49.05	50.5	78.11	-29.06	34.67	8.65	44.77	104	253	Peak
5825	91.33	92.63			34.81	8.69	44.8	104	253	Average
5825	98.11	99.41			34.81	8.69	44.8	104	253	Peak
5850	42.49	43.75	71.33	-28.84	34.87	8.7	44.83	104	253	Average
5850	61.61	62.87	78.11	-16.5	34.87	8.7	44.83	104	253	Peak
11650	50.37	41.25	54	-3.63	38.52	12.83	42.23	100	221	Average
11650	60.35	51.23	74	-13.65	38.52	12.83	42.23	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
3884	50.74	55.81	54	-3.26	33.41	7.08	45.56	100	96	Average
3884	53.84	58.91	74	-20.16	33.41	7.08	45.56	100	96	Peak
5725	37.25	38.7	73.94	-36.69	34.67	8.65	44.77	110	97	Average
5725	50.25	51.7	81.69	-31.44	34.67	8.65	44.77	110	97	Peak
5825	93.94	95.24			34.81	8.69	44.8	110	97	Average
5825	101.69	102.99			34.81	8.69	44.8	110	97	Peak
5850	43.9	45.16	73.94	-30.04	34.87	8.7	44.83	110	97	Average
5850	60.35	61.61	81.69	-21.34	34.87	8.7	44.83	110	97	Peak
11650	50.76	41.64	54	-3.24	38.52	12.83	42.23	100	75	Average
11650	61.55	52.43	74	-12.45	38.52	12.83	42.23	100	75	Peak

**REMARKS:**

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



802.11n (40MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 151	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Kay Wu

**ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M**

FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
3836	46.68	51.93	54	-7.32	33.37	7.05	45.67	100	256	Average
3836	48.79	54.04	74	-25.21	33.37	7.05	45.67	100	256	Peak
5725	49.39	50.84	68.91	-19.52	34.67	8.65	44.77	107	254	Average
5725	59.42	60.87	75.64	-16.22	34.67	8.65	44.77	107	254	Peak
5755	88.91	90.31			34.7	8.66	44.76	107	254	Average
5755	95.64	97.04			34.7	8.66	44.76	107	254	Peak
5850	37.9	39.16	68.91	-31.01	34.87	8.7	44.83	107	254	Average
5850	49.34	50.6	75.64	-26.3	34.87	8.7	44.83	107	254	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
3836	50.68	55.93	54	-3.26	33.37	7.05	45.67	100	86	Average
3836	54.8	60.05	74	-20.16	33.37	7.05	45.67	100	86	Peak
5725	52.24	53.69	72.14	-19.9	34.67	8.65	44.77	111	98	Average
5725	63	64.45	78.83	-15.83	34.67	8.65	44.77	111	98	Peak
5755	92.14	93.54			34.7	8.66	44.76	111	98	Average
5755	98.83	100.23			34.7	8.66	44.76	111	98	Peak
5850	38.62	39.88	72.14	-33.52	34.87	8.7	44.83	111	98	Average
5850	50.66	51.92	78.83	-28.17	34.87	8.7	44.83	111	98	Peak

**REMARKS:**

- 5755MHz: Fundamental frequency.
- 5725MHz & 5850MHz: Out of restricted band



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 159	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Kay Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
3864	47.74	52.9	54	-6.26	33.4	7.08	45.64	100	223	Average
3864	49.81	54.97	74	-24.19	33.4	7.08	45.64	100	223	Peak
5725	39.38	40.83	69.07	-29.69	34.67	8.65	44.77	107	255	Average
5725	50.48	51.93	75.78	-25.3	34.67	8.65	44.77	107	255	Peak
5795	89.07	90.37			34.76	8.68	44.74	107	255	Average
5795	95.78	97.08			34.76	8.68	44.74	107	255	Peak
5850	39.84	41.1	69.07	-29.23	34.87	8.7	44.83	107	255	Average
5850	50.78	52.04	75.78	-25	34.87	8.7	44.83	107	255	Peak
11590	48.53	39.66	54	-5.47	38.47	12.75	42.35	100	123	Peak
11590	58.48	49.61	74	-15.52	38.47	12.75	42.35	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
3864	50.71	55.87	54	-3.29	33.4	7.08	45.64	100	123	Average
3864	54.14	59.3	74	-19.86	33.4	7.08	45.64	100	123	Peak
5725	40.58	42.03	71.82	-31.24	34.67	8.65	44.77	120	99	Average
5725	51.32	52.77	78.59	-27.27	34.67	8.65	44.77	120	99	Peak
5795	91.82	93.12			34.76	8.68	44.74	120	99	Average
5795	98.59	99.89			34.76	8.68	44.74	120	99	Peak
5850	40.57	41.83	71.82	-31.25	34.87	8.7	44.83	120	99	Average
5850	54.89	56.15	78.59	-23.7	34.87	8.7	44.83	120	99	Peak
11590	48.13	39.26	54	-5.87	38.47	12.75	42.35	100	223	Average
11590	58.13	49.26	74	-15.87	38.47	12.75	42.35	100	223	Peak

**REMARKS:**

- 5795MHz: Fundamental frequency.
- 5725MHz & 5850MHz: Out of restricted band



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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 165	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
42.96	25.73	42.53	40	-14.27	13.58	0.7	31.08	100	163	Peak
157.17	20.17	37.87	43.5	-23.33	12.72	1.38	31.8	100	204	Peak
274.62	16.35	34.15	46	-29.65	12.2	1.93	31.93	100	301	Peak
410.6	23.89	37.88	46	-22.11	15.54	2.46	31.99	100	107	Peak
656.3	25.09	33.5	46	-20.91	20.29	3.27	31.97	100	267	Peak
937	28.45	32.63	46	-17.55	23.72	4.05	31.95	100	338	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
34.32	34.32	52.18	40	-5.68	12.63	0.59	31.08	100	192	Peak
131.79	16.93	35.7	43.5	-26.57	11.81	1.25	31.83	103	304	Peak
246.27	14.63	33.37	46	-31.37	11.32	1.82	31.88	100	241	Peak
375.6	18.94	33.8	46	-27.06	14.75	2.33	31.94	105	66	Peak
671	24.68	32.7	46	-21.32	20.47	3.32	31.81	103	93	Peak
882.4	27.75	32.52	46	-18.25	23.29	3.92	31.98	104	116	Peak



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## 5.2 CONDUCTED EMISSION MEASUREMENT

### 5.2.1 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.

### 5.2.2 TEST INSTRUMENTS

Same as item 4.2.2.

### 5.2.3 TEST PROCEDURES

Same as item 4.2.3.

### 5.2.4 DEVIATION FROM TEST STANDARD

No deviation.

### 5.2.5 TEST SETUP

Same as item 4.2.5.

### 5.2.6 EUT OPERATING CONDITIONS

Same as 4.1.6

### 5.2.7 TEST RESULTS

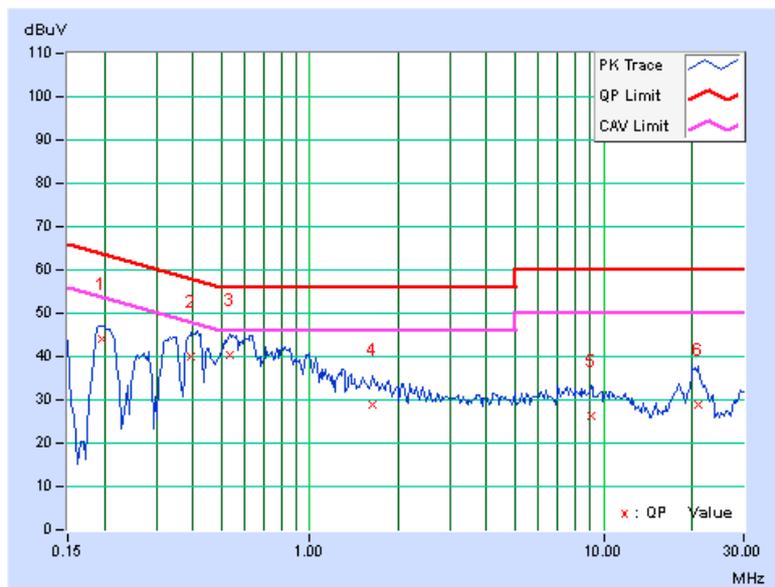
CONDUCTED WORST-CASE DATA : 802.11n (20MHz)

PHASE	Line 1	6dB BANDWIDTH	9kHz
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.19687	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





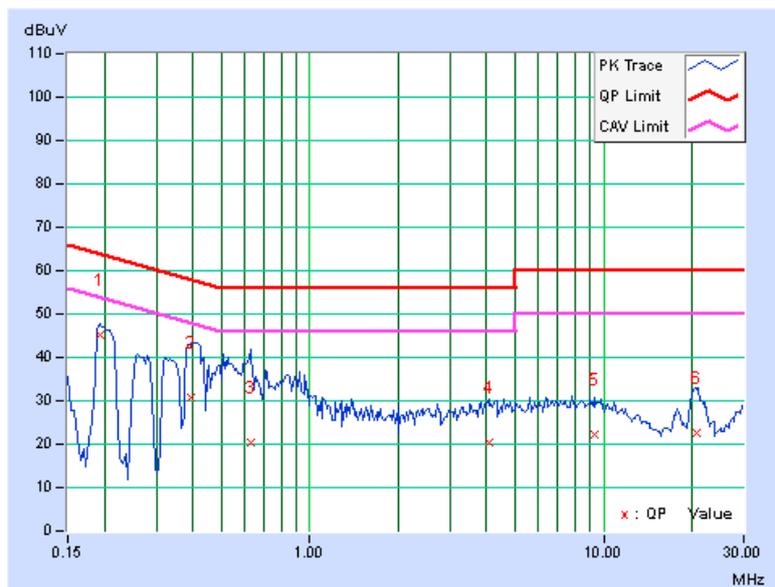
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PHASE	Line 2	6dB BANDWIDTH	9kHz
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
			1	0.19297	0.17	45.05	26.65	45.22	26.82	63.91
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





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### **5.3 6dB BANDWIDTH MEASUREMENT**

#### **5.3.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT**

The minimum of 6dB Bandwidth Measurement is 0.5MHz.

#### **5.3.2 TEST SETUP**

Same as item 4.3.2.

#### **5.3.3 TEST INSTRUMENTS**

Refer to section 4.1.2 to get information of above instrument.

#### **5.3.4 TEST PROCEDURE**

Same as item 4.3.4.

#### **5.3.5 DEVIATION FROM TEST STANDARD**

No deviation.

#### **5.3.6 EUT OPERATING CONDITIONS**

Same as item 4.3.6.



### 5.3.7 TEST RESULTS

#### 802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
149	5745	15.13	0.5	PASS
157	5785	15.16	0.5	PASS
165	5825	15.16	0.5	PASS

#### 802.11n (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
149	5745	15.13	0.5	PASS
157	5785	15.17	0.5	PASS
165	5825	15.17	0.5	PASS

#### 802.11n (40MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
151	5755	35.17	0.5	PASS
159	5795	35.18	0.5	PASS



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## **5.4 MAXIMUM OUTPUT POWER**

### **5.4.1 LIMITS OF MAXIMUM OUTPUT POWER MEASUREMENT**

For systems using digital modulation in the 5725–5850 MHz bands: 1 Watt (30dBm)

### **5.4.2 TEST SETUP**

Same as Item 4.4.2.

### **5.4.3 INSTRUMENTS**

Refer to section 4.1.2 to get information of above instrument.

### **5.4.4 TEST PROCEDURES**

Same as Item 4.4.4.

### **5.4.5 DEVIATION FROM TEST STANDARD**

No deviation.

### **5.4.6 EUT OPERATING CONDITIONS**

Same as Item 4.3.6.



## 5.4.7 TEST RESULTS

### 802.11a

CHANNEL	FREQUENCY (MHz)	PEAK POWER (mW)	PEAK POWER (dBm)	LIMIT (dBm)	PASS/FAIL
149	5745	86.696	19.38	30	PASS
157	5785	88.920	19.49	30	PASS
165	5825	90.573	19.57	30	PASS

### 802.11n (20MHz)

CHANNEL	FREQUENCY (MHz)	PEAK POWER (mW)	PEAK POWER (dBm)	LIMIT (dBm)	PASS/FAIL
149	5745	86.696	19.38	30	PASS
157	5785	88.512	19.47	30	PASS
165	5825	92.045	19.64	30	PASS

### 802.11n (40MHz)

CHANNEL	FREQUENCY (MHz)	PEAK POWER (mW)	PEAK POWER (dBm)	LIMIT (dBm)	PASS/FAIL
151	5755	88.716	19.48	30	PASS
159	5795	89.125	19.50	30	PASS



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## **5.5 POWER SPECTRAL DENSITY MEASUREMENT**

### **5.5.1 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT**

The Maximum of Power Spectral Density Measurement is 8dBm.

### **5.5.2 TEST SETUP**

Same as item 4.5.2.

### **5.5.3 TEST INSTRUMENTS**

Refer to section 4.1.2 to get information of above instrument.

### **5.5.4 TEST PROCEDURE.**

Same as item 4.5.4.

### **5.5.5 DEVIATION FROM TEST STANDARD**

No deviation.

### **5.5.6 EUT OPERATING CONDITION**

Same as item 4.3.6.



## 5.5.7 TEST RESULTS

### 802.11a

Channel	FREQ. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
149	5745	-15.27	8	PASS
157	5785	-15.12	8	PASS
165	5825	-14.01	8	PASS

### 802.11n (20MHz)

Channel	FREQ. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
149	5745	-15.90	8	PASS
157	5785	-16.23	8	PASS
165	5825	-14.32	8	PASS

### 802.11n (40MHz)

Channel	FREQ. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
151	5755	-18.04	8	PASS
159	5795	-18.03	8	PASS

## 5.6 CONDUCTED OUT OF BAND EMISSION MEASUREMENT

### 5.6.1 LIMITS OF OUT OF BAND EMISSION MEASUREMENT

Below  $-20\text{dB}$  of the highest emission level of operating band (in 100kHz Resolution Bandwidth).

### 5.6.2 TEST SETUP

Same as Item 4.6.2

### 5.6.3 TEST INSTRUMENTS

Refer to section 4.1.2 to get information of above instrument.

### 5.6.4 TEST PROCEDURE

Same as Item 4.6.4

### 5.6.5 DEVIATION FROM TEST STANDARD

No deviation.

### 5.6.6 EUT OPERATING CONDITION

Same as Item 4.3.6

### 5.6.7 TEST RESULTS

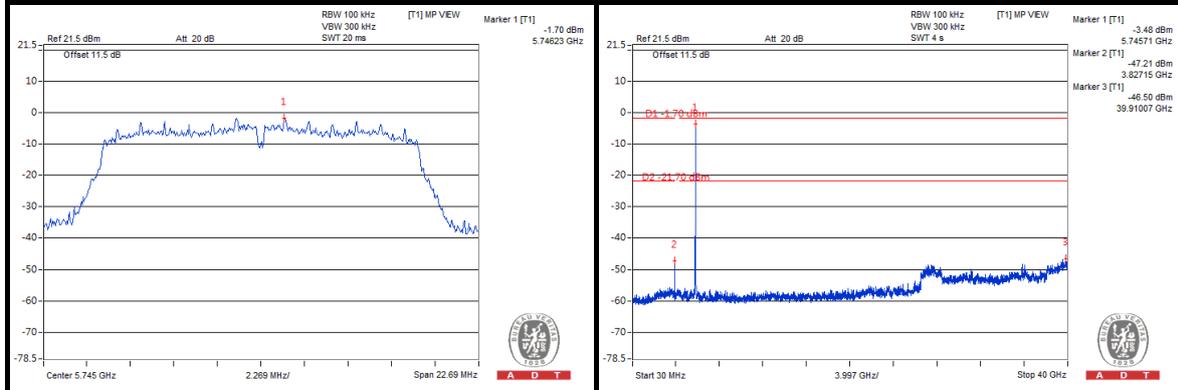
The spectrum plots are attached on the following pages. D1 line indicates the highest level, and D2 line indicates the 20dB offset below D1. It shows compliance with the requirement.



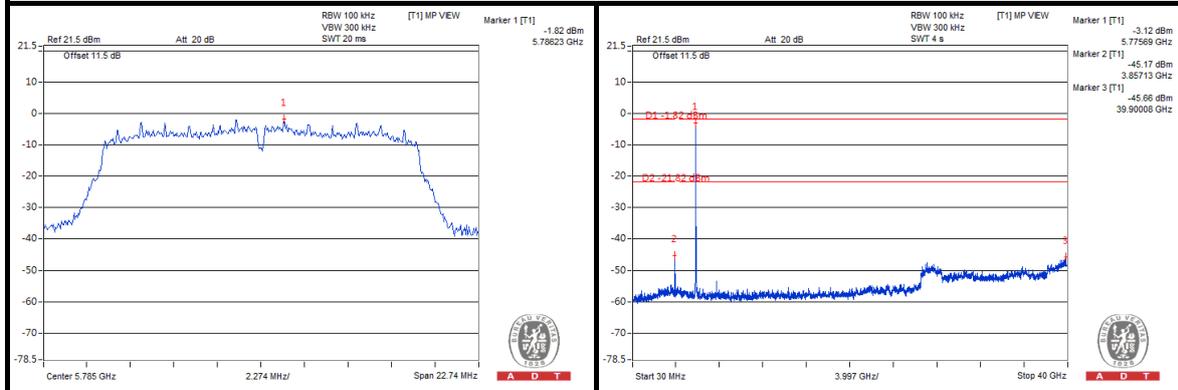
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### 802.11a

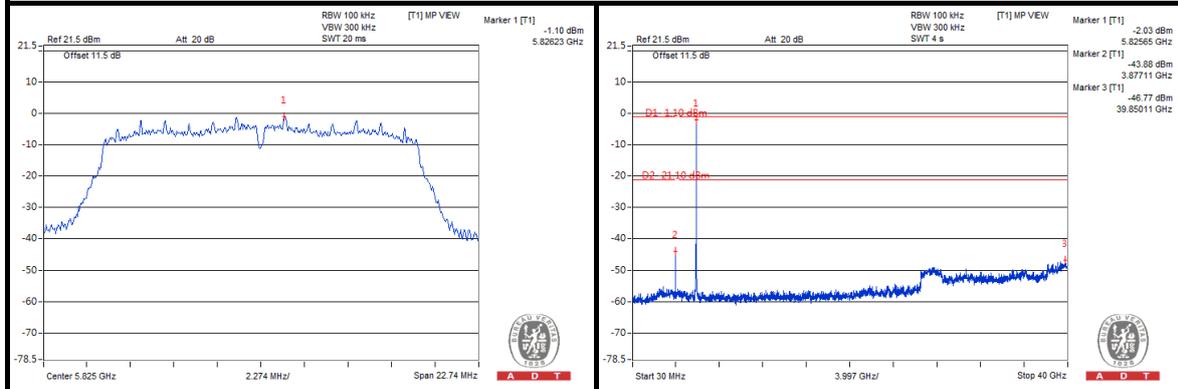
#### CH 149



#### CH 157



#### CH 165

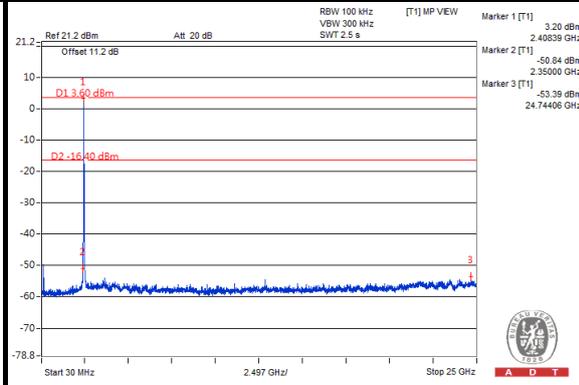
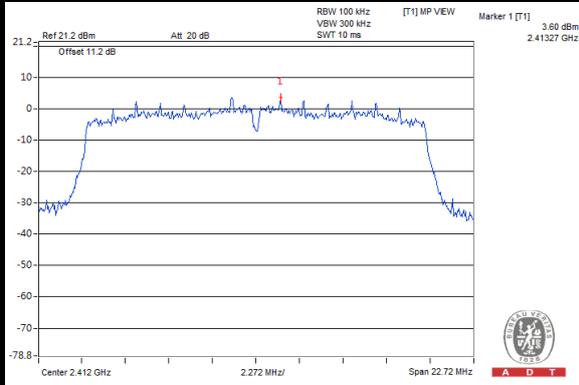




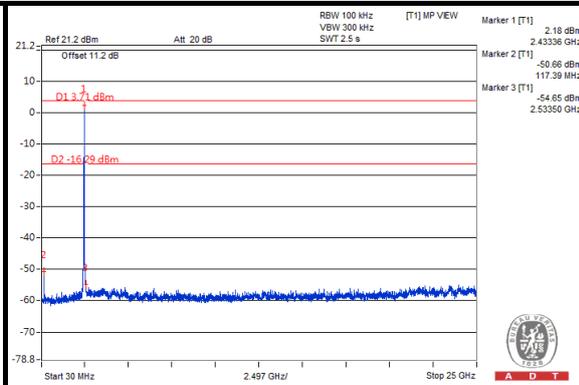
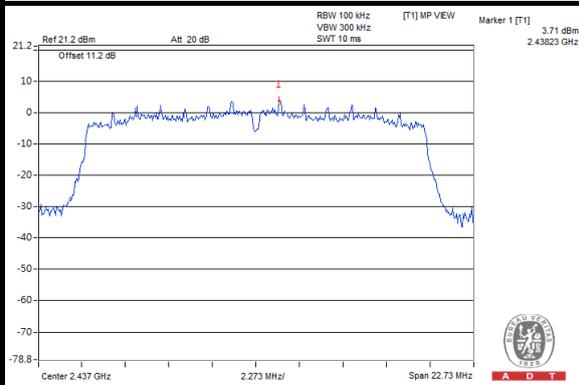
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### 802.11n (20MHz)

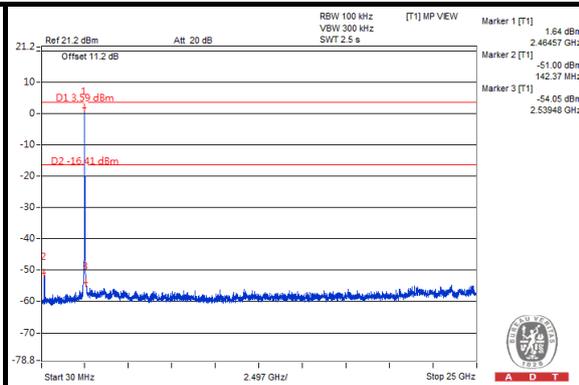
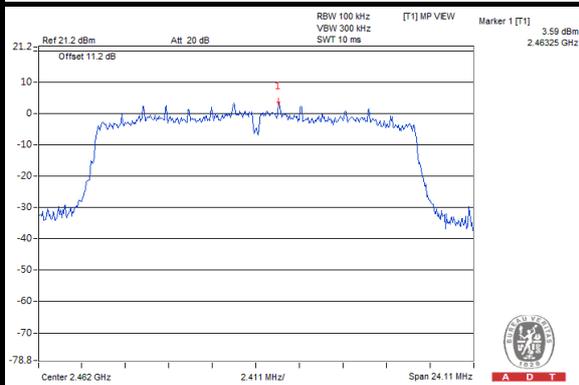
#### CH 149



#### CH 157



#### CH 165

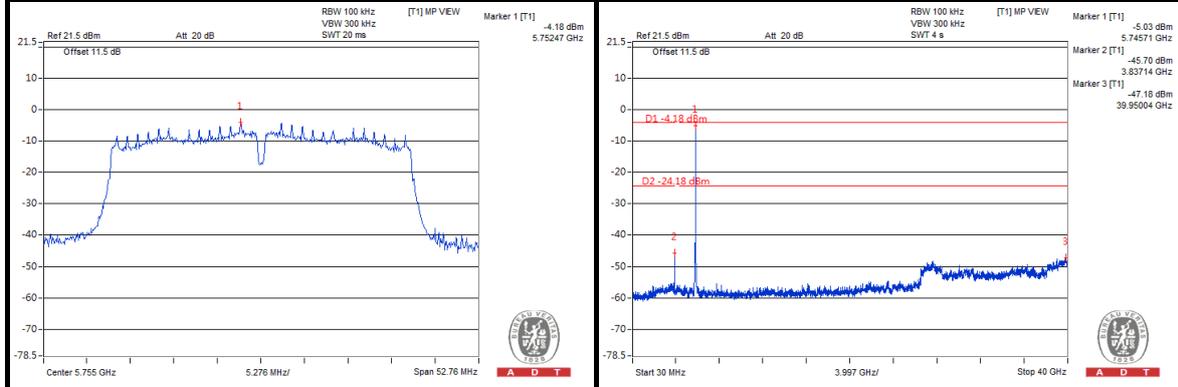




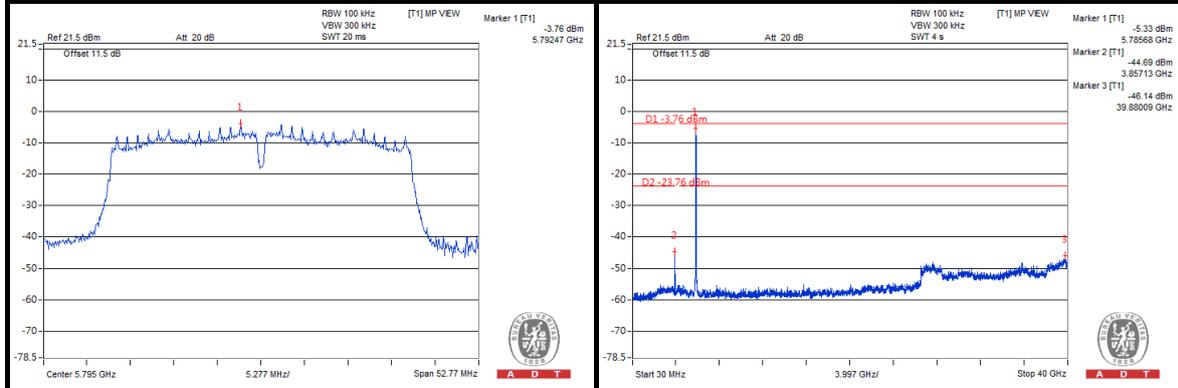
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### 802.11n (40MHz)

#### CH 151



#### CH 159





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## 6. PHOTOGRAPHS OF THE TEST CONFIGURATION

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



## 7. INFORMATION ON THE TESTING LABORATORIES

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

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

**Linko EMC/RF Lab:**

Tel: 886-2-26052180

Fax: 886-2-26051924

**Hsin Chu EMC/RF Lab:**

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Fax: 886-3-5935342

**Hwa Ya EMC/RF/Safety Telecom Lab:**

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

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

---END---