FCC TEST REPORT (15.247)

REPORT NO.:	RF120618C25
MODEL NO.:	CAP4200AG(Refer to item 3.1 for more details)
FCC ID:	U2M-CAP4200AG
RECEIVED:	Jun. 18, 2012
TESTED:	Aug. 11 ~ Aug. 17, 2012 (For test mode A, B)
	Sep. 05 ~ Oct. 11, 2012 (For test mode C, D)
ISSUED:	Oct. 22, 2012

APPLICANT:	Senao Networks, Inc.
ADDRESS:	3F, No. 529, Chung Cheng Rd., Hsintien, Taipei, Taiwan, R.O.C.

ISSUED BY:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
LAB ADDRESS:	No. 47, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan, R.O.C.
TEST LOCATION:	No. 19, Hwa Ya 2nd Rd, Wen Hwa Tsuen, Kwei Shan Hsiang, Taoyuan Hsien 333, Taiwan, R.O.C.

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

TABLE OF CONTENTS

RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF120618C25	Original release	Oct. 22, 2012

1. CERTIFICATION

PRODUCT:	Wireless 802.11abgn Access Point
MODEL NO.:	CAP4200AG (Refer to item 3.1 for more details)
BRAND:	Senao Networks
APPLICANT:	Senao Networks, Inc.
TESTED:	Aug. 11 ~ Aug. 17, 2012 (For test mode A, B)
	Sep. 05 ~ Oct. 11, 2012 (For test mode C, D)
TEST SAMPLE:	ENGINEERING SAMPLE
STANDARDS:	**FCC Part 15, Subpart C (Section 15.247)**
	ANSI C63.10-2009

The above equipment (model: CAP4200AG, CAP4201AG) has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch,** and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

PREPARED BY : _____ , **DATE :** Oct. 22, 2012
Pettie Chen / Senior Specialist

APPROVED BY : _____ , **DATE :** Oct. 22, 2012
Ken Liu / 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 -3.02dB at 0.39609MHz.
15.247(d) 15.209	Radiated Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -1.0dB at 2288.00, 2390.00, 2483.50, 5725.00, 11490.00MHz.
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	Antenna connector is UFL & RSMA not a standard connector.

2.1 MEASUREMENT UNCERTAINTY

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

MEASUREMENT	FREQUENCY	UNCERTAINTY
Conducted emissions	9kHz~30MHz	2.44 dB
Radiated emissions	30MHz ~ 200MHz	3.34 dB
	200MHz ~1000MHz	3.35 dB
	1GHz ~ 18GHz	2.26 dB
	18GHz ~ 40GHz	1.94 dB

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

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

EUT	Wireless 802.11abgn Access Point
MODEL NO.	CAP4200AG (Refer to Note for more details)
POWER SUPPLY	12Vdc (adapter) 48Vdc (PoE) 56Vdc (PoE)
MODULATION TYPE	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
MODULATION TECHNOLOGY	DSSS, OFDM
TRANSFER RATE	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 300.0Mbps
OPERATING FREQUENCY	**2.4GHz:** 2412 ~ 2462MHz **5.0GHz:** 5745 ~ 5825MHz
NUMBER OF CHANNEL	**2.4GHz:** 11 for 802.11b, 802.11g, 802.11n (20MHz) 7 for 802.11n (40MHz) **5.0GHz:** 5 for 802.11a, 802.11n (20MHz) 2 for 802.11n (40MHz)
OUTPUT POWER	560.22mW for 2412 ~ 2462MHz 543.54mW for 5745 ~ 5825MHz
ANTENNA TYPE	Refer to Note
ANTENNA CONNECTOR	Refer to Note
DATA CABLE	NA
I/O PORTS	RJ45
ACCESSORY DEVICE	Adapter

NOTE:

1. All models are listed as below. All models are hardware, software, electrically identical, different model names are for different antenna. (refer to as below for more detail)

BRAND	MODEL	DESCRIPTION
Senao Networks	CAP4201AG	With External Antenna only
	CAP4200AG	With Internal Antenna only
	CAP4202AG	

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

MODULATION MODE	TX FUNCTION
802.11b	2TX
802.11g	2TX
802.11a	2TX
802.11n (20MHz)	2TX
802.11n (40MHz)	2TX

3. The EUT consumes power from the following adapter.

BRAND:	Powertron
MODEL:	PA1015-2I/PA1015-2I120125
INPUT:	100-240Vac, 50-60Hz, 0.4A
OUTPUT:	12Vdc, 1.25A, 15W
POWER LINE:	1.5m non-shielded, w/o core

4. The following antennas were provided to the EUT.

No.	Type	Gain(dBi)	Connector
1	Embedded	2.4GHz Band: 3dBi 5GHz Band: 4dBi	UFL
2	Dipole	2.4GHz Band: 3dBi 5GHz Band: 3dBi	RSMA

5. The above EUT information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or user's manual.

3.2 DESCRIPTION OF TEST MODES

FOR 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 (5745 ~ 5825MHz):

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≥1G	RE<1G	PLC	APCM	EUT Model	Power
A	√	√	√	-	CAP4200AG	Power from adapter
B	-	√	√	-		Power from PoE
C	√	√	√	√	CAP4201AG	Power from adapter
D	-	√	√	-		Power from PoE

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 **X-plane.**
NOTE: "-"means no effect.

RADIATED EMISSION TEST (ABOVE 1GHz):

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

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A, C	802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1.0
A, C	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6.0
A, C	802.11n (20MHz)	1 to 11	1, 6, 11	OFDM	BPSK	6.5
A, C	802.11n (40MHz)	3 to 9	3, 6, 9	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.

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A, B	802.11g	1 to 11	6	OFDM	BPSK	6.0
C, D	802.11n (20MHz)	1 to 11	6	OFDM	BPSK	6.5

POWER LINE CONDUCTED EMISSION TEST:

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

☒ Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A, B	802.11g	1 to 11	6	OFDM	BPSK	6.0
C, D	802.11n (20MHz)	1 to 11	6	OFDM	BPSK	6.5

BANDEDGE MEASUREMENT:

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

☒ Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A, C	802.11b	1 to 11	1, 11	DSSS	DBPSK	1.0
A, C	802.11g	1 to 11	1, 11	OFDM	BPSK	6.0
A, C	802.11n (20MHz)	1 to 11	1, 11	OFDM	BPSK	6.5
A, C	802.11n (40MHz)	3 to 9	3, 9	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.

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
C	802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1.0
C	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6.0
C	802.11n (20MHz)	1 to 11	1, 6, 11	OFDM	BPSK	6.5
C	802.11n (40MHz)	3 to 9	3, 6, 9	OFDM	BPSK	13.5

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE≥1G	25deg. C, 65%RH	120Vac, 60Hz (Test Mode A, C)	Aska Huang, Chris Lin
RE<1G	25deg. C, 65%RH	120Vac, 60Hz (Test Mode A, C) 48Vdc (Test Mode B) 56Vdc (Test Mode D)	Aska Huang, Chris Lin
PLC	25deg. C, 65%RH	120Vac, 60Hz (Test Mode A, C) 48Vdc (Test Mode B) 56Vdc (Test Mode D)	Anderson Hong, Cedric Wu
APCM	25deg. C, 65%RH	120Vac, 60Hz (Test Mode C)	Mark Liao

FOR 5.0GHz (5745 ~ 5825MHz):

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION	
	RE≥1G	RE<1G	PLC	APCM	EUT Model	Power
A	√	√	√	√	CAP4200AG	Power from adapter
B	-	√	√	-		Power from PoE
C	√	√	√	-	CAP4201AG	Power from adapter
D	-	√	√	-		Power from PoE

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 **X-plane.**
NOTE: "-"means no effect.

RADIATED EMISSION TEST (ABOVE 1GHz):

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

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A, C	802.11a	149 to 165	149, 157, 165	OFDM	BPSK	6.0
A, C	802.11n (20MHz)	149 to 165	149, 157, 165	OFDM	BPSK	6.5
A, C	802.11n (40MHz)	151 to 159	151, 159	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.

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A, B, C, D	802.11a	149 to 165	149	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.

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A, B, C, D	802.11a	149 to 165	149	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.

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A, C	802.11a	149 to 165	149, 165	OFDM	BPSK	6.0
A, C	802.11n (20MHz)	149 to 165	149, 165	OFDM	BPSK	6.5
A, C	802.11n (40MHz)	151 to 159	151, 159	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.

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A	802.11a	149 to 165	149, 157, 165	OFDM	BPSK	6.0
A	802.11n (20MHz)	149 to 165	149, 157, 165	OFDM	BPSK	6.5
A	802.11n (40MHz)	151 to 159	151, 159	OFDM	BPSK	13.5

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE≥1G	25deg. C, 65%RH	120Vac, 60Hz (Test Mode A, C)	Aska Huang, Chris Lin
RE<1G	25deg. C, 65%RH	120Vac, 60Hz (Test Mode A, C) 48Vdc (Test Mode B) 56Vdc (Test Mode D)	Aska Huang, Chris Lin
PLC	25deg. C, 65%RH	120Vac, 60Hz (Test Mode A, C) 48Vdc (Test Mode B) 56Vdc (Test Mode D)	Anderson Hong, Cedric Wu
APCM	25deg. C, 65%RH	120Vac, 60Hz (Test Mode A)	Mark Liao

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	Notebook	DELL	E5420	33MLMQ1	FCC DoC Approved
2	POE	I.T.E	PENB1032E4800F02	NA	NA
3	POE	PHIHONG	POE21U-1AF	NA	NA

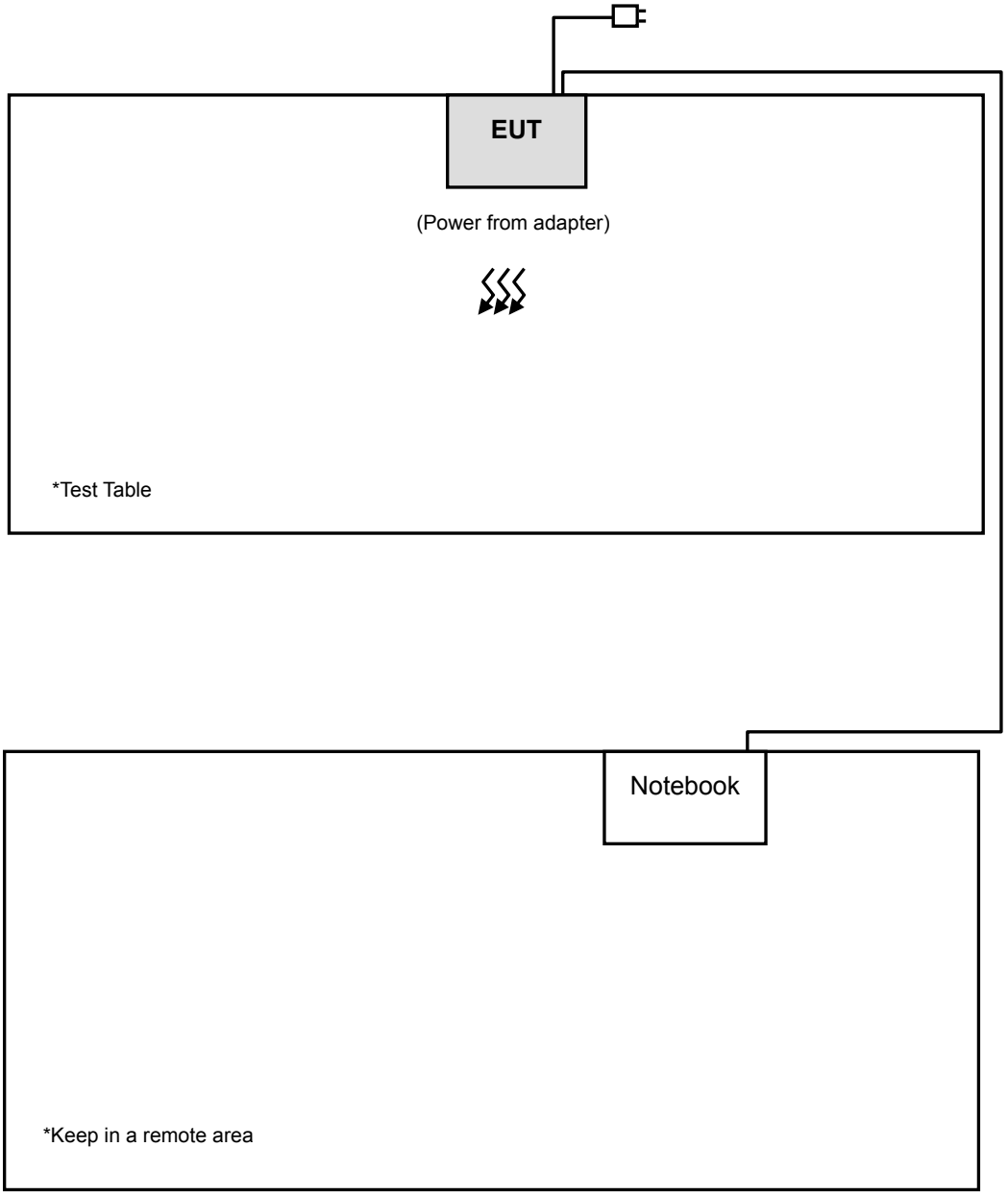
NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	3m RJ45 UTP cable
2	3m RJ45 UTP cable
3	3m RJ45 UTP cable

NOTE:

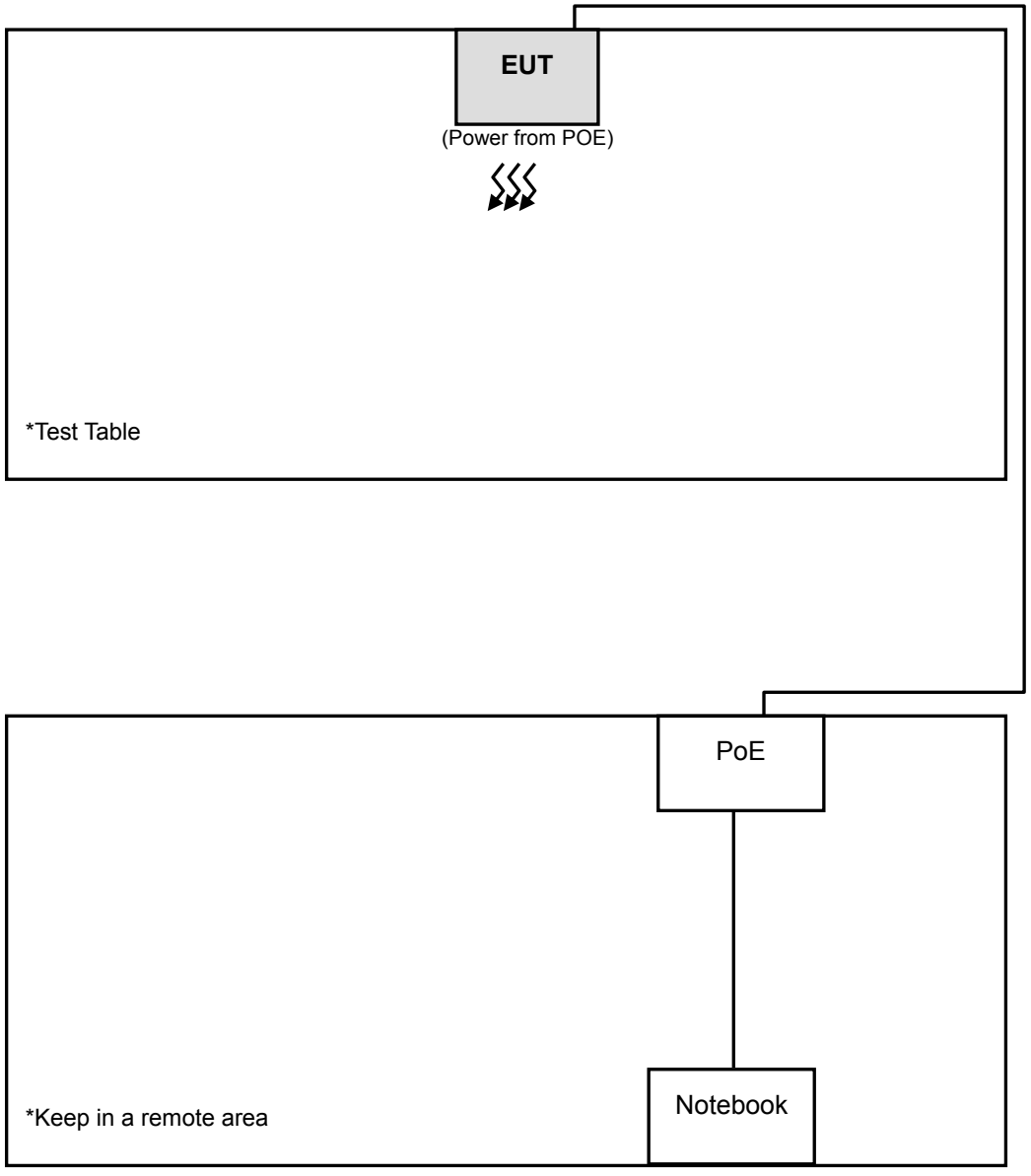
1. All power cords of the above support units are non-shielded (1.8 m).
2. Item 1, 2, 3 acted as a communication partner to transfer data.
3. Item 2 was for test mode B. Item 3 was for test mode D.

3.3.1 CONFIGURATION OF SYSTEM UNDER TEST

Test Mode A, C



Test Mode B, D


EUT
(Power from POE)
*Test Table
PoE
Notebook
*Keep in a remote area

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)
558074 D01 DTS Meas Guidance v02
662911 D01 Multiple Transmitter Output v01 r02
ANSI C63.10-2009

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

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

4. TEST TYPES AND RESULTS (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

Test Mode A, B

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESIB7	100212	Aug. 06, 2012	Aug. 05, 2013
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100039	Feb. 03, 2012	Feb. 02, 2013
BILOG Antenna SCHWARZBECK	VULB9168	9168-160	Apr. 06, 2012	Apr. 05, 2013
HORN Antenna SCHWARZBECK	9120D	209	Aug. 25, 2011	Aug. 24, 2012
HORN Antenna SCHWARZBECK	BBHA 9170	148	Jul. 11, 2012	Jul. 10, 2013
Loop Antenna	HFH2-Z2	100070	Jan. 31, 2012	Jan. 30, 2014
Preamplifier Agilent	8447D	2944A10633	Oct. 29, 2011	Oct. 28, 2012
Preamplifier Agilent	8449B	3008A01964	Oct. 29, 2011	Oct. 28, 2012
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	250723/4	Aug. 30, 2011	Aug. 29, 2012
RF signal cable HUBER+SUHNNER	SUCOFLEX 106	12738/6+309224/4	Aug. 30, 2011	Aug. 29, 2012
Software ADT.	ADT_Radiated_ V7.6.15.9.2	NA	NA	NA
Antenna Tower inn-co GmbH	MA 4000	013303	NA	NA
Antenna Tower Controller inn-co GmbH	CO2000	017303	NA	NA
Turn Table ADT.	TT100	TT93021703	NA	NA
Turn Table Controller ADT.	SC100	SC93021703	NA	NA
26GHz ~ 40GHz Amplifier	EM26400	815221	Oct. 29, 2011	Oct. 28, 2012
High Speed Peak Power Meter	ML2495A	0842014	Apr. 28, 2012	Apr. 27, 2013
Power Sensor	MA2411B	0738404	Apr. 28, 2012	Apr. 27, 2013

NOTE: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The calibration interval of the loop antenna is 24 months and the calibrations are traceable to NML/ROC and NIST/USA.
3. The test was performed in HwaYa Chamber 3.
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 988962.
6. The IC Site Registration No. is IC 7450F-3.

Test Mode C, D

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESIB7	100212	Aug. 06, 2012	Aug. 05, 2013
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100039	Feb. 03, 2012	Feb. 02, 2013
BILOG Antenna SCHWARZBECK	VULB9168	9168-160	Apr. 06, 2012	Apr. 05, 2013
HORN Antenna SCHWARZBECK	9120D	209	Sep. 03, 2012	Sep. 02, 2013
HORN Antenna SCHWARZBECK	BBHA 9170	148	Jul. 11, 2012	Jul. 10, 2013
Loop Antenna	HFH2-Z2	100070	Jan. 31, 2012	Jan. 30, 2014
Preamplifier Agilent	8447D	2944A10633	Oct. 29, 2011	Oct. 28, 2012
Preamplifier Agilent	8449B	3008A01964	Oct. 29, 2011	Oct. 28, 2012
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	250723/4	Aug. 28, 2012	Aug. 27, 2013
RF signal cable HUBER+SUHNNER	SUCOFLEX 106	12738/6+309224/4	Aug. 28, 2012	Aug. 27, 2013
Software ADT.	ADT_Radiated_ V7.6.15.9.2	NA	NA	NA
Antenna Tower inn-co GmbH	MA 4000	013303	NA	NA
Antenna Tower Controller inn-co GmbH	CO2000	017303	NA	NA
Turn Table ADT.	TT100	TT93021703	NA	NA
Turn Table Controller ADT.	SC100	SC93021703	NA	NA
26GHz ~ 40GHz Amplifier	EM26400	815221	Oct. 29, 2011	Oct. 28, 2012

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 3.

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 988962.

6. The IC Site Registration No. is IC 7450F-3.

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. 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 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.

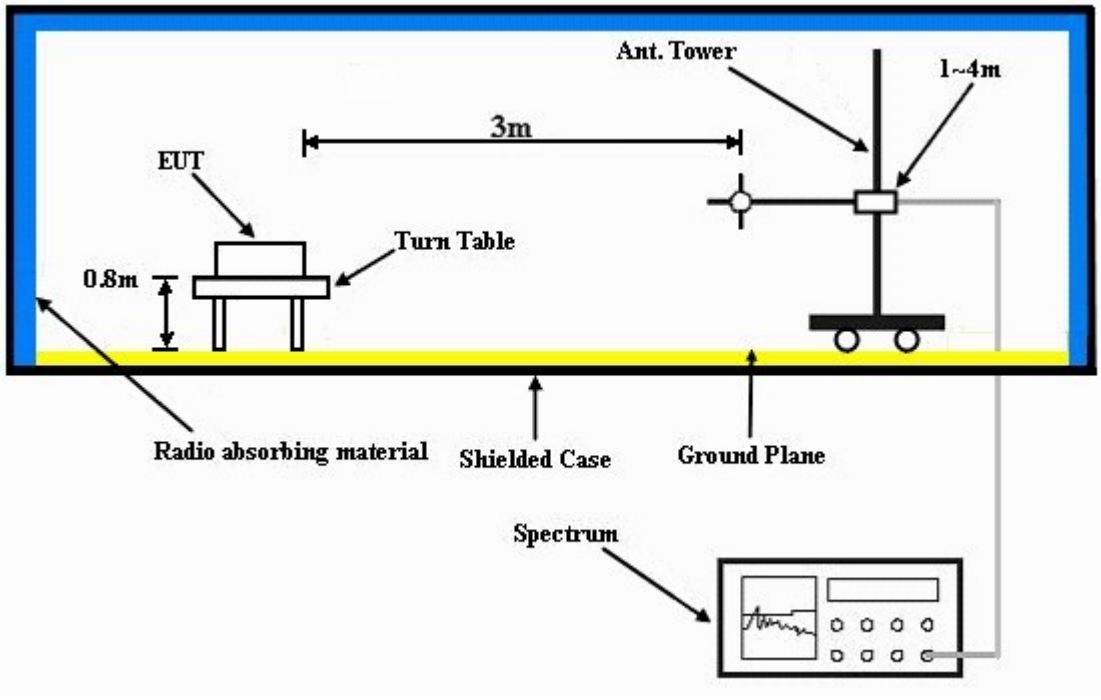
NOTE:

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 100kHz and video bandwidth is 300kHz 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.

4.1.4 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 the testing table.
b. Prepared notebook to act as communication partner and placed it outside of testing area.
c. The communication partner connected with EUT via a RJ45 cable and run a test program (provided by manufacturer) to enable EUT under transmission condition continuously at specific channel frequency.
d. The communication partner sent data to EUT by command "PING".
e. The necessary accessories enable the system in full functions.

4.1.7 TEST RESULTS

ABOVE 1GHz DATA：802.11b

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2288.00	54.8 PK	74.0	-19.2	1.30 H	36	23.80	31.00
2	2288.00	42.3 AV	54.0	-11.7	1.30 H	36	11.30	31.00
3	2390.00	59.6 PK	74.0	-14.4	1.97 H	356	28.30	31.30
4	2390.00	44.2 AV	54.0	-9.8	1.97 H	356	12.90	31.30
5	*2412.00	104.2 PK			1.04 H	360	72.80	31.40
6	*2412.00	99.9 AV			1.04 H	360	68.50	31.40
7	4824.00	47.5 PK	74.0	-26.5	1.03 H	354	10.30	37.20
8	4824.00	37.6 AV	54.0	-16.4	1.03 H	354	0.40	37.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2288.00	58.1 PK	74.0	-15.9	1.00 V	319	27.10	31.00
2	2288.00	50.8 AV	54.0	-3.2	1.00 V	319	19.80	31.00
3	2390.00	58.8 PK	74.0	-15.2	1.00 V	320	27.50	31.30
4	2390.00	45.2 AV	54.0	-8.8	1.00 V	320	13.90	31.30
5	*2412.00	106.0 PK			1.00 V	327	74.60	31.40
6	*2412.00	101.8 AV			1.00 V	327	70.40	31.40
7	4824.00	47.9 PK	74.0	-26.1	1.50 V	100	10.70	37.20
8	4824.00	40.4 AV	54.0	-13.6	1.50 V	100	3.20	37.20

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	101.6 PK			1.01 H	348	70.10	31.50
2	*2437.00	97.4 AV			1.01 H	348	65.90	31.50
3	4874.00	46.6 PK	74.0	-27.4	1.00 H	35	9.30	37.30
4	4874.00	35.0 AV	54.0	-19.0	1.00 H	35	-2.30	37.30
5	7311.00	50.5 PK	74.0	-23.5	1.10 H	125	7.00	43.50
6	7311.00	38.1 AV	54.0	-15.9	1.10 H	125	-5.40	43.50
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	105.3 PK			1.44 V	360	73.80	31.50
2	*2437.00	101.1 AV			1.44 V	360	69.60	31.50
3	4874.00	49.0 PK	74.0	-25.0	1.22 V	360	11.70	37.30
4	4874.00	40.2 AV	54.0	-13.8	1.22 V	360	2.90	37.30
5	7311.00	51.3 PK	74.0	-22.7	1.10 V	325	7.80	43.50
6	7311.00	37.9 AV	54.0	-16.1	1.10 V	325	-5.60	43.50

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	100.6 PK			1.82 H	324	69.00	31.60
2	*2462.00	96.7 AV			1.82 H	324	65.10	31.60
3	2483.50	58.2 PK	74.0	-15.8	1.10 H	147	26.60	31.60
4	2483.50	44.1 AV	54.0	-9.9	1.10 H	147	12.50	31.60
5	4924.00	46.8 PK	74.0	-27.2	1.01 H	113	9.40	37.40
6	4924.00	36.2 AV	54.0	-17.8	1.01 H	113	-1.20	37.40
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	106.9 PK			1.15 V	360	75.30	31.60
2	*2462.00	102.7 AV			1.15 V	360	71.10	31.60
3	2483.50	56.0 PK	74.0	-18.0	1.01 V	154	24.40	31.60
4	2483.50	44.3 AV	54.0	-9.7	1.01 V	154	12.70	31.60
5	4924.00	48.8 PK	74.0	-25.2	1.60 V	147	11.40	37.40
6	4924.00	41.4 AV	54.0	-12.6	1.60 V	147	4.00	37.40

REMARKS:

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

802.11g

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	68.3 PK	74.0	-5.7	1.03 H	353	37.00	31.30
2	2390.00	50.8 AV	54.0	-3.2	1.03 H	353	19.50	31.30
3	*2412.00	106.1 PK			1.04 H	342	74.70	31.40
4	*2412.00	95.5 AV			1.04 H	342	64.10	31.40
5	4824.00	44.9 PK	74.0	-29.1	1.07 H	125	7.70	37.20
6	4824.00	33.1 AV	54.0	-20.9	1.07 H	125	-4.10	37.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	67.2 PK	74.0	-6.8	1.00 V	255	35.90	31.30
2	2390.00	51.2 AV	54.0	-2.8	1.00 V	255	19.90	31.30
3	*2412.00	110.9 PK			1.21 V	360	79.50	31.40
4	*2412.00	101.1 AV			1.21 V	360	69.70	31.40
5	4824.00	42.9 PK	74.0	-31.1	1.00 V	147	5.70	37.20
6	4824.00	33.3 AV	54.0	-20.7	1.00 V	147	-3.90	37.20

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	107.1 PK			1.02 H	346	75.60	31.50
2	*2437.00	96.9 AV			1.02 H	346	65.40	31.50
3	4874.00	46.0 PK	74.0	-28.0	1.04 H	116	8.70	37.30
4	4874.00	32.7 AV	54.0	-21.3	1.04 H	116	-4.60	37.30
5	7311.00	50.8 PK	74.0	-23.2	1.01 H	135	7.30	43.50
6	7311.00	37.9 AV	54.0	-16.1	1.01 H	135	-5.60	43.50
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	109.7 PK			1.45 V	10	78.20	31.50
2	*2437.00	99.8 AV			1.45 V	10	68.30	31.50
3	4874.00	45.2 PK	74.0	-28.8	1.10 V	147	7.90	37.30
4	4874.00	32.8 AV	54.0	-21.2	1.10 V	147	-4.50	37.30
5	7311.00	50.4 PK	74.0	-23.6	1.01 V	124	6.90	43.50
6	7311.00	37.8 AV	54.0	-16.2	1.01 V	124	-5.70	43.50

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	104.1 PK			1.56 H	360	72.50	31.60
2	*2462.00	94.6 AV			1.56 H	360	63.00	31.60
3	2483.50	65.6 PK	74.0	-8.4	1.01 H	19	34.00	31.60
4	2483.50	47.8 AV	54.0	-6.2	1.01 H	19	16.20	31.60
5	4924.00	45.6 PK	74.0	-28.4	1.10 H	124	8.20	37.40
6	4924.00	32.9 AV	54.0	-21.1	1.10 H	124	-4.50	37.40
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	107.5 PK			1.41 V	324	75.90	31.60
2	*2462.00	98.1 AV			1.41 V	324	66.50	31.60
3	2483.50	68.1 PK	74.0	-5.9	1.39 V	314	36.50	31.60
4	2483.50	51.0 AV	54.0	-3.0	1.39 V	314	19.40	31.60
5	4924.00	45.4 PK	74.0	-28.6	1.10 V	126	8.00	37.40
6	4924.00	32.7 AV	54.0	-21.3	1.10 V	126	-4.70	37.40

REMARKS:

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

802.11n (20MHz)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	68.1 PK	74.0	-5.9	1.00 H	353	36.80	31.30
2	2390.00	50.0 AV	54.0	-4.0	1.00 H	353	18.70	31.30
3	*2412.00	106.8 PK			1.05 H	351	75.40	31.40
4	*2412.00	97.2 AV			1.05 H	351	65.80	31.40
5	4824.00	45.1 PK	74.0	-28.9	1.01 H	136	7.90	37.20
6	4824.00	32.0 AV	54.0	-22.0	1.01 H	136	-5.20	37.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	68.5 PK	74.0	-5.5	1.00 V	127	37.20	31.30
2	2390.00	51.2 AV	54.0	-2.8	1.00 V	127	19.90	31.30
3	*2412.00	108.7 PK			1.22 V	360	77.30	31.40
4	*2412.00	99.6 AV			1.22 V	360	68.20	31.40
5	4824.00	44.1 PK	74.0	-29.9	1.04 V	126	6.90	37.20
6	4824.00	31.0 AV	54.0	-23.0	1.04 V	126	-6.20	37.20

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	106.7 PK			1.01 H	346	75.20	31.50
2	*2437.00	96.7 AV			1.01 H	346	65.20	31.50
3	4874.00	45.4 PK	74.0	-28.6	1.03 H	154	8.10	37.30
4	4874.00	32.6 AV	54.0	-21.4	1.03 H	154	-4.70	37.30
5	7311.00	50.5 PK	74.0	-23.5	1.10 H	147	7.00	43.50
6	7311.00	37.7 AV	54.0	-16.3	1.10 H	147	-5.80	43.50
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	109.0 PK			1.47 V	18	77.50	31.50
2	*2437.00	99.9 AV			1.47 V	18	68.40	31.50
3	4874.00	46.3 PK	74.0	-27.7	1.10 V	125	9.00	37.30
4	4874.00	33.5 AV	54.0	-20.5	1.10 V	125	-3.80	37.30
5	7311.00	51.0 PK	74.0	-23.0	1.10 V	128	7.50	43.50
6	7311.00	37.5 AV	54.0	-16.5	1.10 V	128	-6.00	43.50

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	65.3 PK	74.0	-8.7	1.00 H	128	34.00	31.30
2	2390.00	47.9 AV	54.0	-6.1	1.00 H	128	16.60	31.30
3	*2462.00	103.3 PK			1.00 H	360	71.70	31.60
4	*2462.00	94.3 AV			1.00 H	360	62.70	31.60
5	4924.00	45.6 PK	74.0	-28.4	1.10 H	132	8.20	37.40
6	4924.00	33.1 AV	54.0	-20.9	1.10 H	132	-4.30	37.40
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2462.00	109.3 PK			1.18 V	327	77.70	31.60
2	*2462.00	98.8 AV			1.18 V	327	67.20	31.60
3	2483.50	70.8 PK	74.0	-3.2	1.16 V	0	39.20	31.60
4	2483.50	50.6 AV	54.0	-3.4	1.16 V	0	19.00	31.60
5	4924.00	45.2 PK	74.0	-28.8	1.10 V	124	7.80	37.40
6	4924.00	32.1 AV	54.0	-21.9	1.10 V	124	-5.30	37.40

REMARKS:

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

802.11n (40MHz)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	60.1 PK	74.0	-13.9	1.08 H	349	28.80	31.30
2	2390.00	47.8 AV	54.0	-6.2	1.08 H	349	16.50	31.30
3	*2422.00	99.3 PK			1.00 H	343	67.90	31.40
4	*2422.00	90.3 AV			1.00 H	343	58.90	31.40
5	4844.00	45.2 PK	74.0	-28.8	1.01 H	143	7.90	37.30
6	4844.00	33.3 AV	54.0	-20.7	1.01 H	143	-4.00	37.30
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	65.3 PK	74.0	-8.7	1.48 V	360	34.00	31.30
2	2390.00	52.3 AV	54.0	-1.7	1.48 V	360	21.00	31.30
3	*2422.00	102.7 PK			1.21 V	9	71.30	31.40
4	*2422.00	93.4 AV			1.21 V	9	62.00	31.40
5	4844.00	45.5 PK	74.0	-28.5	1.01 V	123	8.20	37.30
6	4844.00	32.0 AV	54.0	-22.0	1.01 V	123	-5.30	37.30

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	102.4 PK			1.00 H	340	70.90	31.50
2	*2437.00	93.4 AV			1.00 H	340	61.90	31.50
3	4874.00	45.2 PK	74.0	-28.8	1.01 H	132	7.90	37.30
4	4874.00	32.3 AV	54.0	-21.7	1.01 H	132	-5.00	37.30
5	7311.00	51.8 PK	74.0	-22.2	1.12 H	145	8.30	43.50
6	7311.00	37.9 AV	54.0	-16.1	1.12 H	145	-5.60	43.50
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2437.00	107.5 PK			1.18 V	360	76.00	31.50
2	*2437.00	97.4 AV			1.18 V	360	65.90	31.50
3	4874.00	45.9 PK	74.0	-28.1	1.18 V	142	8.60	37.30
4	4874.00	32.7 AV	54.0	-21.3	1.18 V	142	-4.60	37.30
5	7311.00	51.0 PK	74.0	-23.0	1.10 V	124	7.50	43.50
6	7311.00	38.2 AV	54.0	-15.8	1.10 V	124	-5.30	43.50

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2452.00	99.4 PK			1.02 H	338	67.90	31.50
2	*2452.00	87.0 AV			1.02 H	338	55.50	31.50
3	2483.50	62.7 PK	74.0	-11.3	1.01 H	15	31.10	31.60
4	2483.50	48.2 AV	54.0	-5.8	1.01 H	15	16.60	31.60
5	4904.00	47.0 PK	74.0	-27.0	1.08 H	153	9.60	37.40
6	4904.00	33.7 AV	54.0	-20.3	1.08 H	153	-3.70	37.40
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2452.00	104.0 PK			1.16 V	34	72.50	31.50
2	*2452.00	91.4 AV			1.16 V	34	59.90	31.50
3	2483.50	68.5 PK	74.0	-5.5	1.36 V	291	36.90	31.60
4	2483.50	52.5 AV	54.0	-1.5	1.36 V	291	20.90	31.60
5	4904.00	46.7 PK	74.0	-27.3	1.04 V	91	9.30	37.40
6	4904.00	33.5 AV	54.0	-20.5	1.04 V	91	-3.90	37.40

REMARKS:

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

802.11b

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2288.00	59.1 PK	74.0	-14.9	1.10 H	204	28.20	30.90
2	2288.00	52.4 AV	54.0	-1.6	1.10 H	204	21.50	30.90
3	2390.00	53.6 PK	74.0	-20.4	1.04 H	325	22.40	31.20
4	2390.00	44.3 AV	54.0	-9.7	1.04 H	325	13.10	31.20
5	*2412.00	98.8 PK			1.03 H	330	67.50	31.30
6	*2412.00	95.0 AV			1.03 H	330	63.70	31.30
7	4824.00	45.4 PK	74.0	-28.6	1.07 H	146	8.20	37.20
8	4824.00	33.0 AV	54.0	-21.0	1.07 H	146	-4.20	37.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2288.00	60.2 PK	74.0	-13.8	1.17 V	83	29.30	30.90
2	2288.00	52.7 AV	54.0	-1.3	1.17 V	83	21.80	30.90
3	2387.00	71.4 PK	74.0	-2.6	1.43 V	193	40.20	31.20
4	2387.00	52.6 AV	54.0	-1.4	1.43 V	193	21.40	31.20
5	*2412.00	112.3 PK			1.35 V	349	81.00	31.30
6	*2412.00	109.0 AV			1.35 V	349	77.70	31.30
7	4824.00	46.6 PK	74.0	-27.4	1.14 V	308	9.40	37.20
8	4824.00	33.3 AV	54.0	-20.7	1.14 V	308	-3.90	37.20

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2288.00	59.7 PK	74.0	-14.3	1.11 H	208	28.80	30.90
2	2288.00	52.9 AV	54.0	-1.1	1.11 H	208	22.00	30.90
3	*2437.00	98.7 PK			1.02 H	184	67.30	31.40
4	*2437.00	95.0 AV			1.02 H	184	63.60	31.40
5	4874.00	46.4 PK	74.0	-27.6	1.10 H	147	9.10	37.30
6	4874.00	34.1 AV	54.0	-19.9	1.10 H	147	-3.20	37.30
7	7311.00	51.2 PK	74.0	-22.8	1.17 H	129	7.60	43.60
8	7311.00	37.9 AV	54.0	-16.1	1.17 H	129	-5.70	43.60
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2288.00	59.0 PK	74.0	-15.0	1.00 V	176	28.10	30.90
2	2288.00	52.4 AV	54.0	-1.6	1.00 V	176	21.50	30.90
3	*2437.00	112.6 PK			1.04 V	66	81.20	31.40
4	*2437.00	109.4 AV			1.04 V	66	78.00	31.40
5	4874.00	46.5 PK	74.0	-27.5	1.01 V	143	9.20	37.30
6	4874.00	35.3 AV	54.0	-18.7	1.01 V	143	-2.00	37.30
7	7311.00	51.1 PK	74.0	-22.9	1.07 V	123	7.50	43.60
8	7311.00	38.3 AV	54.0	-15.7	1.07 V	123	-5.30	43.60

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2288.00	57.4 PK	74.0	-16.6	1.37 H	7	26.50	30.90
2	2288.00	49.5 AV	54.0	-4.5	1.37 H	7	18.60	30.90
3	*2462.00	99.1 PK			1.19 H	342	67.60	31.50
4	*2462.00	95.6 AV			1.19 H	342	64.10	31.50
5	2487.70	55.4 PK	74.0	-18.6	1.14 H	152	23.80	31.60
6	2487.70	43.3 AV	54.0	-10.7	1.14 H	152	11.70	31.60
7	4924.00	46.9 PK	74.0	-27.1	1.01 H	126	9.50	37.40
8	4924.00	33.5 AV	54.0	-20.5	1.01 H	126	-3.90	37.40
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2288.00	59.2 PK	74.0	-14.8	1.17 V	80	28.30	30.90
2	2288.00	52.6 AV	54.0	-1.4	1.17 V	80	21.70	30.90
3	*2462.00	113.0 PK			1.10 V	315	81.50	31.50
4	*2462.00	109.3 AV			1.10 V	315	77.80	31.50
5	2487.70	66.3 PK	74.0	-7.7	1.06 V	258	34.70	31.60
6	2487.70	52.6 AV	54.0	-1.4	1.06 V	258	21.00	31.60
7	4924.00	48.0 PK	74.0	-26.0	1.14 V	148	10.60	37.40
8	4924.00	40.8 AV	54.0	-13.2	1.14 V	148	3.40	37.40

REMARKS:

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

802.11g

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2288.00	56.3 PK	74.0	-17.7	1.37 H	360	25.40	30.90
2	2288.00	46.8 AV	54.0	-7.2	1.37 H	360	15.90	30.90
3	2390.00	54.6 PK	74.0	-19.4	1.23 H	312	23.40	31.20
4	2390.00	44.1 AV	54.0	-9.9	1.23 H	312	12.90	31.20
5	*2412.00	98.3 PK			1.43 H	322	67.00	31.30
6	*2412.00	88.9 AV			1.43 H	322	57.60	31.30
7	4824.00	45.5 PK	74.0	-28.5	1.07 H	142	8.30	37.20
8	4824.00	32.3 AV	54.0	-21.7	1.07 H	142	-4.90	37.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2288.00	59.3 PK	74.0	-14.7	1.14 V	63	28.40	30.90
2	2288.00	52.3 AV	54.0	-1.7	1.14 V	63	21.40	30.90
3	2390.00	70.5 PK	74.0	-3.5	1.14 V	131	39.30	31.20
4	2390.00	52.5 AV	54.0	-1.5	1.14 V	131	21.30	31.20
5	*2412.00	111.0 PK			1.08 V	53	79.70	31.30
6	*2412.00	101.4 AV			1.08 V	53	70.10	31.30
7	4824.00	46.3 PK	74.0	-27.7	1.21 V	271	9.10	37.20
8	4824.00	33.1 AV	54.0	-20.9	1.21 V	271	-4.10	37.20

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2288.00	55.7 PK	74.0	-18.3	1.41 H	360	24.80	30.90
2	2288.00	46.6 AV	54.0	-7.4	1.41 H	360	15.70	30.90
3	*2437.00	100.6 PK			1.31 H	332	69.20	31.40
4	*2437.00	91.0 AV			1.31 H	332	59.60	31.40
5	4874.00	45.0 PK	74.0	-29.0	1.01 H	139	7.70	37.30
6	4874.00	32.3 AV	54.0	-21.7	1.01 H	139	-5.00	37.30
7	7311.00	50.4 PK	74.0	-23.6	1.00 H	128	6.80	43.60
8	7311.00	37.6 AV	54.0	-16.4	1.00 H	128	-6.00	43.60
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2288.00	58.0 PK	74.0	-16.0	1.18 V	150	27.10	30.90
2	2288.00	52.0 AV	54.0	-2.0	1.18 V	150	21.10	30.90
3	*2437.00	109.5 PK			1.04 V	64	78.10	31.40
4	*2437.00	100.2 AV			1.04 V	64	68.80	31.40
5	4874.00	45.0 PK	74.0	-29.0	1.11 V	147	7.70	37.30
6	4874.00	32.4 AV	54.0	-21.6	1.11 V	147	-4.90	37.30
7	7311.00	50.4 PK	74.0	-23.6	1.01 V	122	6.80	43.60
8	7311.00	38.3 AV	54.0	-15.7	1.01 V	122	-5.30	43.60

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2288.00	56.1 PK	74.0	-17.9	1.37 H	360	25.20	30.90
2	2288.00	46.5 AV	54.0	-7.5	1.37 H	360	15.60	30.90
3	*2462.00	100.6 PK			1.05 H	121	69.10	31.50
4	*2462.00	91.6 AV			1.05 H	121	60.10	31.50
5	2483.50	55.8 PK	74.0	-18.2	1.14 H	134	24.30	31.50
6	2483.50	44.8 AV	54.0	-9.2	1.14 H	134	13.30	31.50
7	4924.00	45.5 PK	74.0	-28.5	1.17 H	136	8.10	37.40
8	4924.00	32.1 AV	54.0	-21.9	1.17 H	136	-5.30	37.40
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2288.00	59.2 PK	74.0	-14.8	1.14 V	61	28.30	30.90
2	2288.00	52.5 AV	54.0	-1.5	1.14 V	61	21.60	30.90
3	*2462.00	111.7 PK			1.08 V	308	80.20	31.50
4	*2462.00	101.6 AV			1.08 V	308	70.10	31.50
5	2483.50	69.1 PK	74.0	-4.9	1.06 V	302	37.60	31.50
6	**2483.50**	**53.0 AV**	**54.0**	**-1.0**	**1.06 V**	**302**	**21.50**	**31.50**
7	4924.00	46.0 PK	74.0	-28.0	1.00 V	6	8.60	37.40
8	4924.00	33.1 AV	54.0	-20.9	1.00 V	6	-4.30	37.40

REMARKS:

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

802.11n (20MHz)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2288.00	59.7 PK	74.0	-14.3	1.10 H	135	28.80	30.90
2	2288.00	45.4 AV	54.0	-8.6	1.10 H	135	14.50	30.90
3	2390.00	58.3 PK	74.0	-15.7	1.07 H	325	27.10	31.20
4	2390.00	44.3 AV	54.0	-9.7	1.07 H	325	13.10	31.20
5	*2412.00	100.2 PK			1.00 H	350	68.90	31.30
6	*2412.00	91.1 AV			1.00 H	350	59.80	31.30
7	4824.00	46.5 PK	74.0	-27.5	1.17 H	124	9.30	37.20
8	4824.00	31.5 AV	54.0	-22.5	1.17 H	124	-5.70	37.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2288.00	58.9 PK	74.0	-15.1	1.18 V	151	28.00	30.90
2	2288.00	52.2 AV	54.0	-1.8	1.18 V	151	21.30	30.90
3	2390.00	65.6 PK	74.0	-8.4	1.40 V	181	34.40	31.20
4	2390.00	48.8 AV	54.0	-5.2	1.40 V	181	17.60	31.20
5	*2412.00	109.9 PK			1.14 V	200	78.60	31.30
6	*2412.00	100.1 AV			1.14 V	200	68.80	31.30
7	4824.00	46.7 PK	74.0	-27.3	1.14 V	109	9.50	37.20
8	4824.00	32.6 AV	54.0	-21.4	1.14 V	109	-4.60	37.20

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2288.00	54.8 PK	74.0	-19.2	1.51 H	255	23.90	30.90
2	2288.00	45.3 AV	54.0	-8.7	1.51 H	255	14.40	30.90
3	*2437.00	103.2 PK			1.30 H	332	71.80	31.40
4	*2437.00	93.3 AV			1.30 H	332	61.90	31.40
5	4874.00	45.5 PK	74.0	-28.5	1.14 H	135	8.20	37.30
6	4874.00	32.8 AV	54.0	-21.2	1.14 H	135	-4.50	37.30
7	7311.00	50.9 PK	74.0	-23.1	1.17 H	142	7.30	43.60
8	7311.00	38.5 AV	54.0	-15.5	1.17 H	142	-5.10	43.60
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2288.00	59.2 PK	74.0	-14.8	1.17 V	148	28.30	30.90
2	2288.00	52.6 AV	54.0	-1.4	1.17 V	148	21.70	30.90
3	*2437.00	111.8 PK			1.04 V	64	80.40	31.40
4	*2437.00	102.2 AV			1.04 V	64	70.80	31.40
5	4874.00	46.0 PK	74.0	-28.0	1.10 V	120	8.70	37.30
6	4874.00	32.4 AV	54.0	-21.6	1.10 V	120	-4.90	37.30
7	7311.00	50.5 PK	74.0	-23.5	1.07 V	142	6.90	43.60
8	7311.00	38.2 AV	54.0	-15.8	1.07 V	142	-5.40	43.60

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2288.00	54.8 PK	74.0	-19.2	1.10 H	132	23.90	30.90
2	2288.00	45.4 AV	54.0	-8.6	1.10 H	132	14.50	30.90
3	*2462.00	103.7 PK			1.04 H	120	72.20	31.50
4	*2462.00	94.4 AV			1.04 H	120	62.90	31.50
5	2483.50	61.3 PK	74.0	-12.7	1.14 H	130	29.80	31.50
6	2483.50	47.0 AV	54.0	-7.0	1.14 H	130	15.50	31.50
7	4924.00	46.6 PK	74.0	-27.4	1.01 H	116	9.20	37.40
8	4924.00	33.0 AV	54.0	-21.0	1.01 H	116	-4.40	37.40
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2288.00	58.8 PK	74.0	-15.2	1.19 V	149	27.90	30.90
2	**2288.00**	**53.0 AV**	**54.0**	**-1.0**	**1.19 V**	**149**	**22.10**	**30.90**
3	*2462.00	112.0 PK			1.08 V	308	80.50	31.50
4	*2462.00	102.2 AV			1.08 V	308	70.70	31.50
5	2483.50	69.9 PK	74.0	-4.1	1.05 V	308	38.40	31.50
6	2483.50	52.8 AV	54.0	-1.2	1.05 V	308	21.30	31.50
7	4924.00	46.7 PK	74.0	-27.3	1.07 V	134	9.30	37.40
8	4924.00	31.5 AV	54.0	-22.5	1.07 V	134	-5.90	37.40

REMARKS:

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

802.11n (40MHz)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2288.00	53.9 PK	74.0	-20.1	1.04 H	152	23.00	30.90
2	2288.00	44.4 AV	54.0	-9.6	1.04 H	152	13.50	30.90
3	2390.00	54.9 PK	74.0	-19.1	1.14 H	152	23.70	31.20
4	2390.00	44.7 AV	54.0	-9.3	1.14 H	152	13.50	31.20
5	*2422.00	90.9 PK			1.32 H	321	59.60	31.30
6	*2422.00	81.9 AV			1.32 H	321	50.60	31.30
7	4844.00	46.0 PK	74.0	-28.0	1.07 H	145	8.70	37.30
8	4844.00	32.3 AV	54.0	-21.7	1.07 H	145	-5.00	37.30
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2288.00	58.1 PK	74.0	-15.9	1.16 V	34	27.20	30.90
2	2288.00	52.9 AV	54.0	-1.1	1.16 V	34	22.00	30.90
3	2390.00	68.0 PK	74.0	-6.0	1.12 V	346	36.80	31.20
4	**2390.00**	**53.0 AV**	**54.0**	**-1.0**	**1.12 V**	**346**	**21.80**	**31.20**
5	*2422.00	103.5 PK			1.11 V	308	72.20	31.30
6	*2422.00	94.4 AV			1.11 V	308	63.10	31.30
7	4844.00	45.7 PK	74.0	-28.3	1.06 V	126	8.40	37.30
8	4844.00	32.8 AV	54.0	-21.2	1.06 V	126	-4.50	37.30

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2288.00	54.4 PK	74.0	-19.6	1.07 H	138	23.50	30.90
2	2288.00	45.7 AV	54.0	-8.3	1.07 H	138	14.80	30.90
3	*2437.00	96.5 PK			1.30 H	333	65.10	31.40
4	*2437.00	87.6 AV			1.30 H	333	56.20	31.40
5	4874.00	45.0 PK	74.0	-29.0	1.17 H	143	7.70	37.30
6	4874.00	32.6 AV	54.0	-21.4	1.17 H	143	-4.70	37.30
7	7311.00	50.8 PK	74.0	-23.2	1.10 H	135	7.20	43.60
8	7311.00	38.4 AV	54.0	-15.6	1.10 H	135	-5.20	43.60
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2288.00	59.0 PK	74.0	-15.0	1.00 V	160	28.10	30.90
2	2288.00	52.5 AV	54.0	-1.5	1.00 V	160	21.60	30.90
3	*2437.00	104.0 PK			1.04 V	63	72.60	31.40
4	*2437.00	94.5 AV			1.04 V	63	63.10	31.40
5	4874.00	46.0 PK	74.0	-28.0	1.10 V	142	8.70	37.30
6	4874.00	32.7 AV	54.0	-21.3	1.10 V	142	-4.60	37.30
7	7311.00	51.4 PK	74.0	-22.6	1.07 V	152	7.80	43.60
8	7311.00	38.3 AV	54.0	-15.7	1.07 V	152	-5.30	43.60

REMARKS:

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

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2288.00	54.5 PK	74.0	-19.5	1.04 H	116	23.60	30.90
2	2288.00	44.1 AV	54.0	-9.9	1.04 H	116	13.20	30.90
3	*2452.00	92.8 PK			1.05 H	120	61.30	31.50
4	*2452.00	83.6 AV			1.05 H	120	52.10	31.50
5	2483.50	57.4 PK	74.0	-16.6	1.10 H	135	25.90	31.50
6	2483.50	44.7 AV	54.0	-9.3	1.10 H	135	13.20	31.50
7	4904.00	46.8 PK	74.0	-27.2	1.17 H	106	9.40	37.40
8	4904.00	32.8 AV	54.0	-21.2	1.17 H	106	-4.60	37.40
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2288.00	58.8 PK	74.0	-15.2	1.20 V	315	27.90	30.90
2	**2288.00**	**53.0 AV**	**54.0**	**-1.0**	**1.20 V**	**315**	**22.10**	**30.90**
3	*2452.00	104.6 PK			1.08 V	308	73.20	31.40
4	*2452.00	94.8 AV			1.08 V	308	63.40	31.40
5	2483.50	68.1 PK	74.0	-5.9	1.10 V	125	36.60	31.50
6	2483.50	52.7 AV	54.0	-1.3	1.10 V	125	21.20	31.50
7	4904.00	46.3 PK	74.0	-27.7	1.00 V	23	8.90	37.40
8	4904.00	33.8 AV	54.0	-20.2	1.00 V	23	-3.60	37.40

REMARKS:

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

BELOW 1GHz WORST-CASE DATA :

802.11g

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Aska Huang
TEST MODE	A		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	131.00	38.0 QP	43.5	-5.5	2.00 H	110	25.20	12.80
2	208.77	36.8 QP	43.5	-6.7	1.50 H	257	25.50	11.30
3	374.04	37.7 QP	46.0	-8.3	1.00 H	113	20.80	16.90
4	624.85	43.6 QP	46.0	-2.4	1.25 H	135	21.30	22.30
5	675.40	38.1 QP	46.0	-7.9	1.25 H	23	15.30	22.80
6	875.67	35.8 QP	46.0	-10.2	1.75 H	15	9.30	26.50
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	38.86	34.6 QP	40.0	-5.4	1.50 V	212	21.10	13.50
2	80.45	34.1 QP	40.0	-5.9	1.25 V	63	24.30	9.80
3	134.89	36.7 QP	43.5	-6.8	1.00 V	351	23.60	13.10
4	374.04	39.9 QP	46.0	-6.1	1.25 V	162	23.00	16.90
5	675.40	35.6 QP	46.0	-10.4	1.50 V	122	12.80	22.80
6	875.67	34.7 QP	46.0	-11.3	1.25 V	225	8.20	26.50

REMARKS:

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

802.11g

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Aska Huang
TEST MODE	B		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	47.40	28.1 QP	40.0	-11.9	1.00 H	51	14.10	14.00
2	131.00	30.1 QP	43.5	-13.4	1.25 H	243	17.30	12.80
3	206.83	35.6 QP	43.5	-7.9	1.50 H	122	24.30	11.30
4	344.87	33.4 QP	46.0	-12.6	1.00 H	291	17.30	16.10
5	675.40	40.8 QP	46.0	-5.2	1.50 H	282	18.00	22.80
6	733.73	35.4 QP	46.0	-10.6	1.00 H	102	11.50	23.90
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	47.40	37.5 QP	40.0	-2.5	1.00 V	321	23.50	14.00
2	150.45	28.8 QP	43.5	-14.7	1.00 V	266	14.70	14.10
3	344.87	35.6 QP	46.0	-10.4	1.75 V	83	19.50	16.10
4	399.31	34.3 QP	46.0	-11.7	1.00 V	132	16.80	17.50
5	500.42	30.6 QP	46.0	-15.4	1.00 V	183	10.60	20.00
6	675.40	36.2 QP	46.0	-9.8	1.25 V	312	13.40	22.80

REMARKS:

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

802.11n (20MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Chris Lin
TEST MODE	C		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	101.84	36.5 QP	43.5	-7.0	1.49 H	295	26.80	9.70
2	274.88	37.2 QP	46.0	-8.8	1.00 H	268	23.20	14.00
3	374.04	33.5 QP	46.0	-12.5	1.00 H	96	16.60	16.90
4	449.87	35.9 QP	46.0	-10.1	1.00 H	208	17.20	18.70
5	624.85	35.2 QP	46.0	-10.8	1.49 H	192	12.90	22.30
6	881.50	34.7 QP	46.0	-11.3	1.49 H	15	8.10	26.60
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	62.95	37.9 QP	40.0	-2.1	1.00 V	321	24.80	13.10
2	101.84	37.9 QP	43.5	-5.6	1.49 V	186	28.20	9.70
3	278.77	31.8 QP	46.0	-14.2	1.00 V	102	17.70	14.10
4	449.87	36.0 QP	46.0	-10.0	1.00 V	183	17.30	18.70
5	624.85	33.6 QP	46.0	-12.4	1.00 V	285	11.30	22.30
6	881.50	37.9 QP	46.0	-8.1	1.00 V	162	11.30	26.60

REMARKS:

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

802.11n (20MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	23deg. C, 67%RH	TESTED BY	Chris Lin
TEST MODE	D		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	125.17	31.7 QP	43.5	-11.8	1.00 H	94	19.40	12.30
2	214.61	40.0 QP	43.5	-3.5	1.52 H	135	28.40	11.60
3	337.10	38.5 QP	46.0	-7.5	1.24 H	4	22.60	15.90
4	374.04	37.3 QP	46.0	-8.7	1.00 H	253	20.40	16.90
5	624.85	34.6 QP	46.0	-11.4	1.74 H	223	12.30	22.30
6	675.40	36.5 QP	46.0	-9.5	1.36 H	184	13.70	22.80
7	875.67	40.0 QP	46.0	-6.0	1.50 H	225	13.50	26.50
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	43.63	35.2 QP	40.0	-4.8	1.26 V	0	21.30	13.90
2	64.90	37.0 QP	40.0	-3.0	1.74 V	19	24.10	12.90
3	274.88	33.1 QP	46.0	-12.9	2.00 V	55	19.10	14.00
4	374.04	39.6 QP	46.0	-6.4	1.65 V	190	22.70	16.90
5	500.42	34.0 QP	46.0	-12.0	1.75 V	168	14.00	20.00
6	875.67	37.9 QP	46.0	-8.1	1.85 V	236	11.40	26.50

REMARKS:

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

4.2 CONDUCTED EMISSION MEASUREMENT

4.2.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

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

NOTE: 1. The lower limit shall apply at the transition frequencies.

2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

3. All emanations from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

4.2.2 TEST INSTRUMENTS

Test Mode A, B

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESCS30	100289	Nov. 19, 2011	Nov. 18, 2012
RF signal cable Woken	5D-FB	Cable-HYCO2-01	Dec. 29, 2011	Dec. 28, 2012
LISN ROHDE & SCHWARZ (EUT)	ESH2-Z5	100100	Dec. 30, 2011	Dec. 29, 2012
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.

Test Mode C, D

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESCS30	100291	Nov. 23, 2011	Nov. 22, 2012
RF signal cable Woken	5D-FB	Cable-HYC01-01	Dec. 29, 2011	Dec. 28, 2012
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100312	Jul. 02, 2012	Jul. 01, 2013
LISN ROHDE & SCHWARZ (EUT)	ESH3-Z5	835239/001	Feb. 07, 2012	Feb. 06, 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 1.
3. The VCCI Site Registration No. is C-2040.

4.2.3 TEST PROCEDURES

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

b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

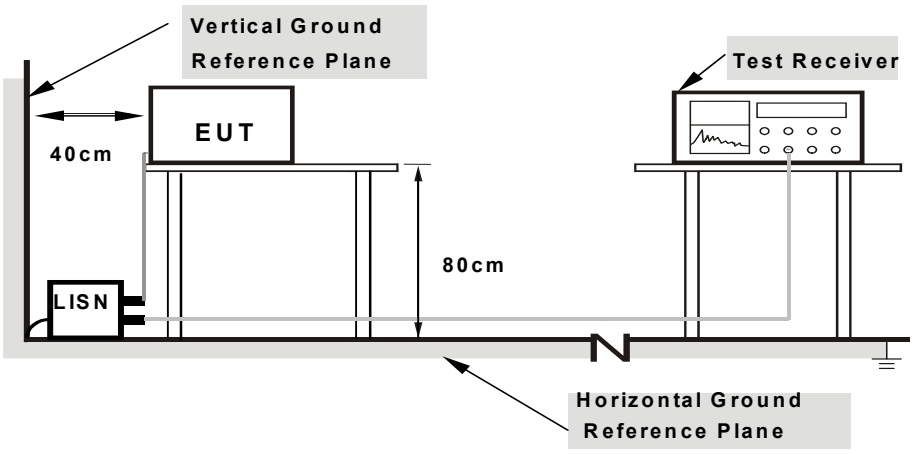
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

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

4.2.4 DEVIATION FROM TEST STANDARD

No deviation.

4.2.5 TEST SETUP



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

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

4.2.6 EUT OPERATING CONDITIONS

Same as 4.1.6.

4.2.7 TEST RESULTS

CONDUCTED WORST-CASE DATA :

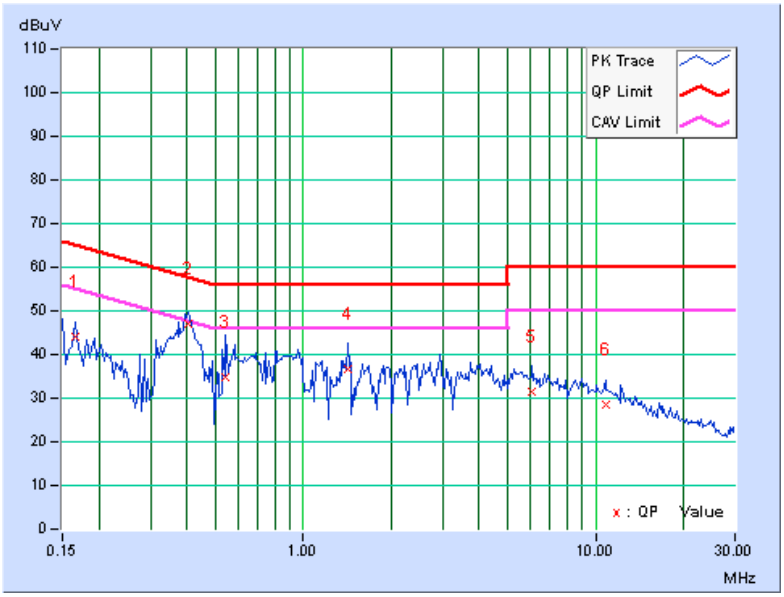
802.11g

PHASE	Line 1	6dB BANDWIDTH	9kHz
TEST MODE	A		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16562	0.17	44.07	34.05	44.24	34.22	65.18	55.18	-20.94	-20.96
2	0.40391	0.20	46.73	38.07	46.93	38.27	57.77	47.77	-10.84	-9.50
3	0.54453	0.21	34.60	26.81	34.81	27.02	56.00	46.00	-21.19	-18.98
4	1.41406	0.26	36.28	28.03	36.54	28.29	56.00	46.00	-19.46	-17.71
5	6.05859	0.42	30.94	23.15	31.36	23.57	60.00	50.00	-28.64	-26.43
6	10.81250	0.50	27.87	19.91	28.37	20.41	60.00	50.00	-31.63	-29.59

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.

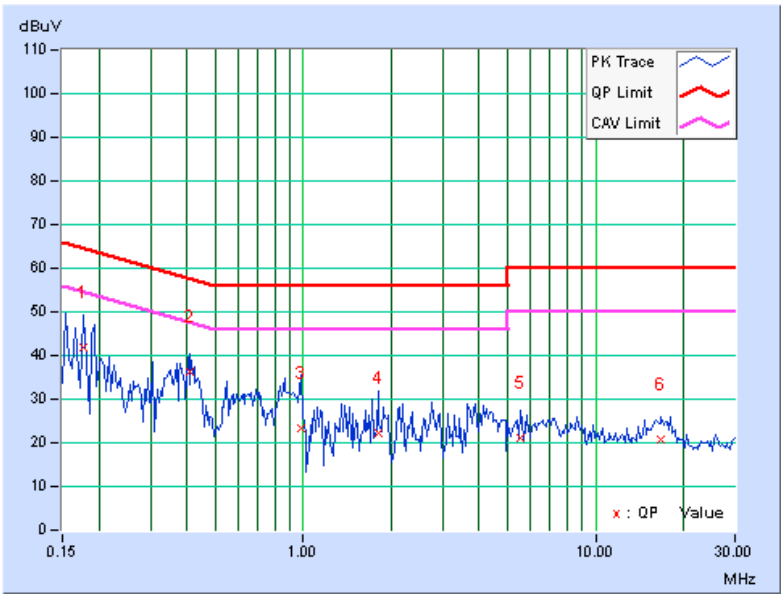


PHASE	Line 2	6dB BANDWIDTH	9kHz
TEST MODE	A		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.17734	0.16	41.87	24.10	42.03	24.26	64.61	54.61	-22.58	-30.35
2	0.41172	0.18	35.96	24.06	36.14	24.24	57.61	47.61	-21.47	-23.37
3	0.98594	0.19	23.08	10.32	23.27	10.51	56.00	46.00	-32.73	-35.49
4	1.80078	0.25	22.08	11.55	22.33	11.80	56.00	46.00	-33.67	-34.20
5	5.52734	0.43	20.59	10.40	21.02	10.83	60.00	50.00	-38.98	-39.17
6	16.75000	0.74	20.09	7.71	20.83	8.45	60.00	50.00	-39.17	-41.55

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.



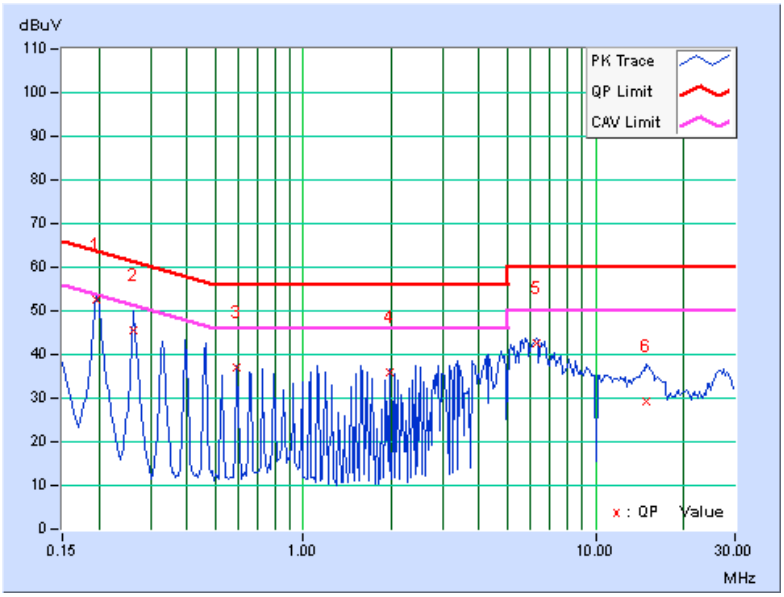
802.11g

PHASE	Line 1	6dB BANDWIDTH	9kHz
TEST MODE	B		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.19687	0.15	52.28	41.98	52.43	42.13	63.74	53.74	-11.31	-11.61
2	0.26328	0.16	45.41	35.25	45.57	35.41	61.33	51.33	-15.76	-15.92
3	0.59141	0.18	36.88	36.33	37.06	36.51	56.00	46.00	-18.94	-9.49
4	1.97656	0.26	35.51	35.21	35.77	35.47	56.00	46.00	-20.23	-10.53
5	6.26172	0.37	42.36	40.37	42.73	40.74	60.00	50.00	-17.27	-9.26
6	14.83594	0.53	28.65	16.76	29.18	17.29	60.00	50.00	-30.82	-32.71

REMARKS:

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

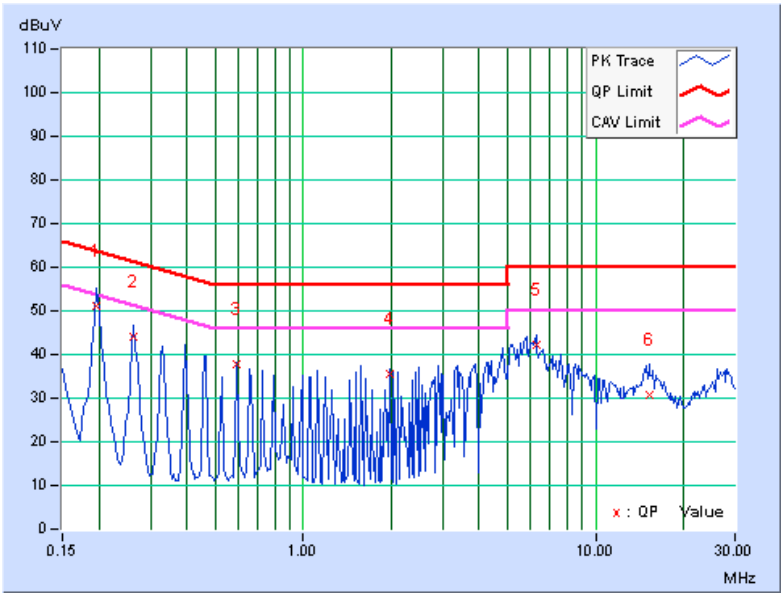


PHASE	Line 2	6dB BANDWIDTH	9kHz
TEST MODE	B		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.19687	0.14	51.00	40.22	51.14	40.36	63.74	53.74	-12.60	-13.38
2	0.26328	0.15	43.94	34.23	44.09	34.38	61.33	51.33	-17.24	-16.95
3	0.59141	0.17	37.69	36.72	37.86	36.89	56.00	46.00	-18.14	-9.11
4	1.97266	0.26	35.43	35.28	35.69	35.54	56.00	46.00	-20.31	-10.46
5	6.25000	0.40	41.64	39.98	42.04	40.38	60.00	50.00	-17.96	-9.62
6	15.26563	0.61	29.97	16.66	30.58	17.27	60.00	50.00	-29.42	-32.73

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.



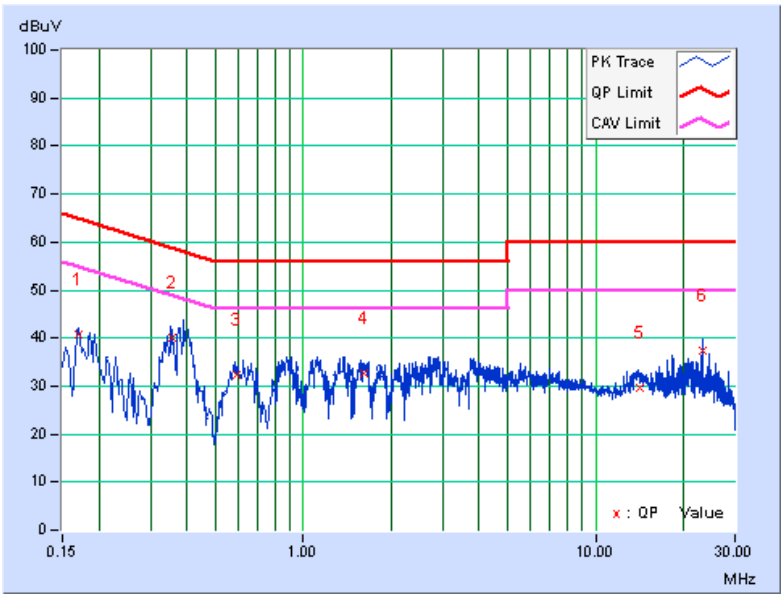
802.11n (20MHz)

PHASE	Line 1	6dB BANDWIDTH	9kHz
TEST MODE	C		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16967	0.21	40.40	30.03	40.61	30.24	64.98	54.98	-24.37	-24.74
2	0.35389	0.24	39.98	29.18	40.22	29.42	58.87	48.87	-18.66	-19.46
3	0.59002	0.26	32.10	20.59	32.36	20.85	56.00	46.00	-23.64	-25.15
4	1.60452	0.33	32.26	22.41	32.59	22.74	56.00	46.00	-23.41	-23.26
5	14.08915	0.63	28.90	23.29	29.53	23.92	60.00	50.00	-30.47	-26.08
6	23.12907	0.79	36.69	32.59	37.48	33.38	60.00	50.00	-22.52	-16.62

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.

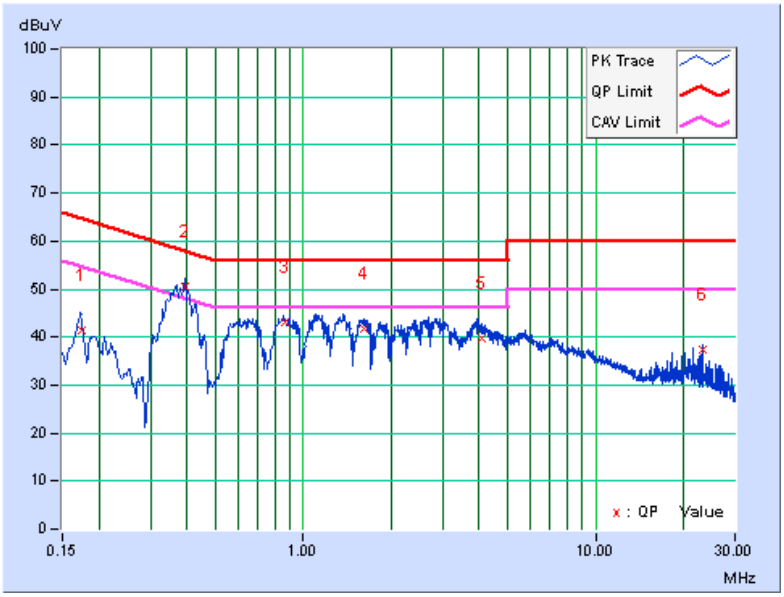


PHASE	Line 2	6dB BANDWIDTH	9kHz
TEST MODE	C		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.17374	0.20	41.24	33.29	41.44	33.49	64.78	54.78	-23.34	-21.29
2	0.39219	0.22	50.30	41.63	50.52	41.85	58.02	48.02	-7.50	-6.17
3	0.86162	0.26	42.81	35.63	43.07	35.89	56.00	46.00	-12.93	-10.11
4	1.60587	0.29	41.41	33.94	41.70	34.23	56.00	46.00	-14.30	-11.77
5	4.06391	0.43	39.17	32.27	39.60	32.70	56.00	46.00	-16.40	-13.30
6	23.12907	0.86	36.38	32.74	37.24	33.60	60.00	50.00	-22.76	-16.40

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.



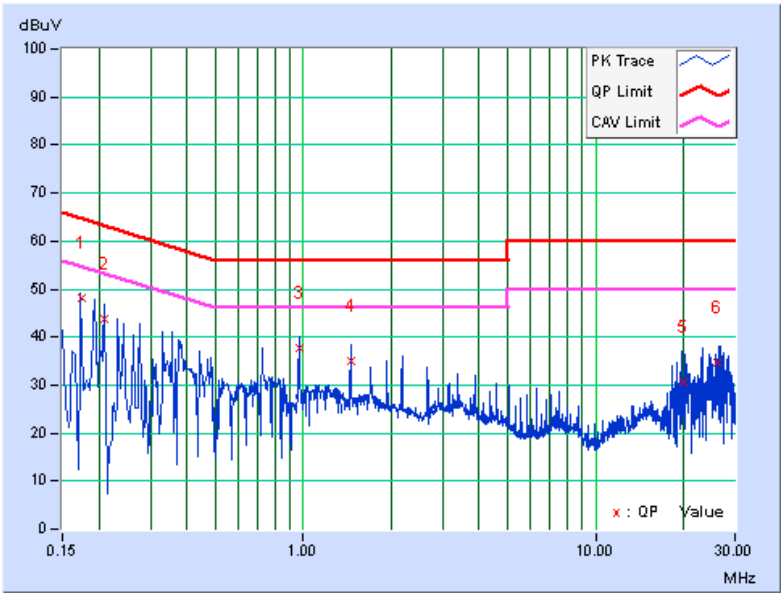
802.11n (20MHz)

PHASE	Line 1	6dB BANDWIDTH	9kHz
TEST MODE	D		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.17374	0.21	47.80	24.73	48.01	24.94	64.78	54.78	-16.77	-29.84
2	0.20783	0.22	43.59	22.23	43.81	22.45	63.29	53.29	-19.48	-30.84
3	0.96573	0.31	37.33	35.37	37.64	35.68	56.00	46.00	-18.36	-10.32
4	1.44905	0.32	34.59	32.26	34.91	32.58	56.00	46.00	-21.09	-13.42
5	19.89159	0.79	29.69	27.56	30.48	28.35	60.00	50.00	-29.52	-21.65
6	25.99901	0.77	33.79	30.54	34.56	31.31	60.00	50.00	-25.44	-18.69

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.

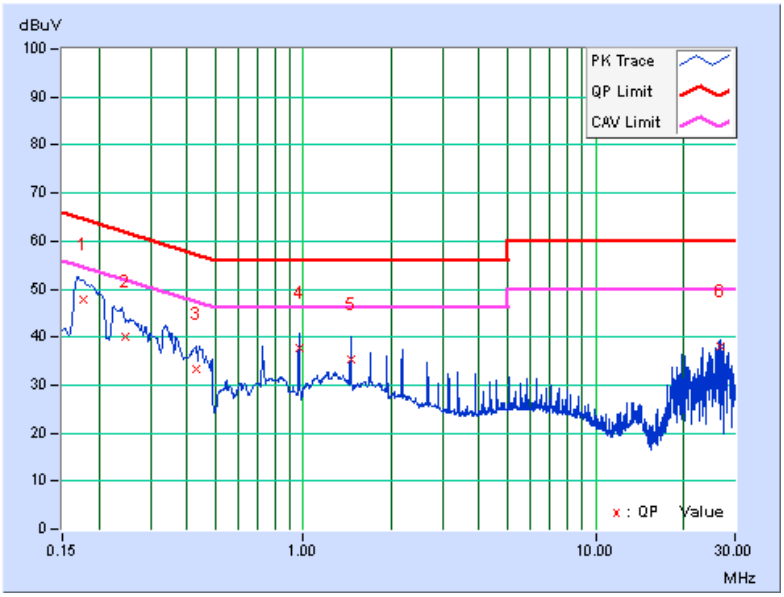


PHASE	Line 2	6dB BANDWIDTH	9kHz
TEST MODE	D		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.17737	0.23	47.74	24.09	47.97	24.32	64.61	54.61	-16.64	-30.29
2	0.24510	0.23	39.88	30.66	40.11	30.89	61.92	51.92	-21.81	-21.03
3	0.42895	0.25	33.03	14.50	33.28	14.75	57.27	47.27	-23.99	-32.52
4	0.96573	0.31	37.39	35.44	37.70	35.75	56.00	46.00	-18.30	-10.25
5	1.44905	0.33	35.02	33.39	35.35	33.72	56.00	46.00	-20.65	-12.28
6	26.60897	1.61	36.40	33.19	38.01	34.80	60.00	50.00	-21.99	-15.20

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.

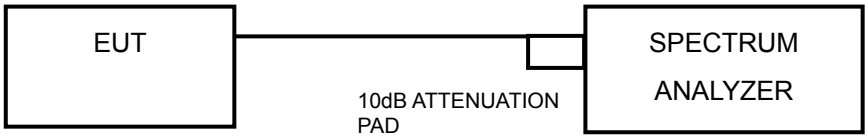


4.3 6dB BANDWIDTH MEASUREMENT

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) ≥ 3 x 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
		CHAIN 0	CHAIN 1		
1	2412	9.65	10.28	0.5	PASS
6	2437	10.24	10.27	0.5	PASS
11	2462	10.30	10.30	0.5	PASS

802.11g

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
1	2412	16.39	16.51	0.5	PASS
6	2437	16.65	16.57	0.5	PASS
11	2462	16.42	16.57	0.5	PASS

802.11n (20MHz)

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
1	2412	17.72	17.77	0.5	PASS
6	2437	17.75	17.84	0.5	PASS
11	2462	17.78	17.79	0.5	PASS

802.11n (40MHz)

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
3	2422	36.90	37.03	0.5	PASS
6	2437	37.22	37.19	0.5	PASS
9	2452	36.90	36.76	0.5	PASS

4.4 CONDUCTED OUTPUT POWER

4.4.1 LIMITS OF CONDUCTED OUTPUT POWER MEASUREMENT

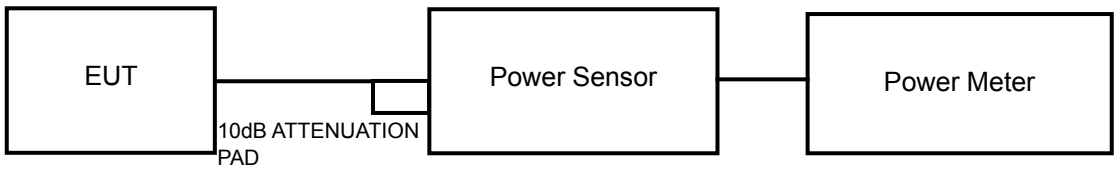
For systems using digital modulation in the 2400–2483.5 MHz bands: 1 Watt (30dBm)

Per KDB 662911 D01 Multiple Transmitter Output v01r02 Method of conducted output power measurement on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for NANT ≤ 4;
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any NANT;
Array Gain = 5 log(NANT/NSS) dB or 3 dB, whichever is less for 20-MHz channel widths with NANT ≥ 5.

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

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.

4.4.7 TEST RESULTS

802.11b

CHAN.	FREQUENCY (MHz)	PEAK POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
1	2412	15.10	15.80	70.38	18.47	30	PASS
6	2437	17.30	17.20	106.18	20.26	30	PASS
11	2462	18.30	18.50	138.40	21.41	30	PASS

802.11g

CHAN.	FREQUENCY (MHz)	PEAK POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
1	2412	21.60	21.40	282.58	24.51	30	PASS
6	2437	23.00	22.50	377.35	25.77	30	PASS
11	2462	21.20	23.00	331.35	25.20	30	PASS

802.11n (20MHz)

CHAN.	FREQUENCY (MHz)	PEAK POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
1	2412	23.20	24.00	460.12	26.63	30	PASS
6	2437	24.00	24.90	560.22	27.48	30	PASS
11	2462	24.30	23.70	503.58	27.02	30	PASS

802.11n (40MHz)

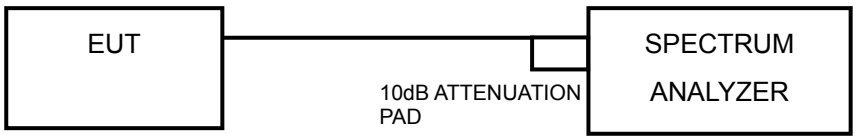
CHAN.	FREQUENCY (MHz)	PEAK POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
3	2422	16.40	17.50	99.89	20.00	30	PASS
6	2437	21.40	21.80	289.39	24.61	30	PASS
9	2452	17.50	17.50	112.47	20.51	30	PASS

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

a. Set the RBW = 100 kHz, VBW =300 kHz, Detector = peak.
b. Sweep time = auto couple, Trace mode = max hold, allow trace to fully stabilize.
c. Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.
d. Scale the observed power level to an equivalent value in 3 kHz by adjusting (reducing) the measured power by a bandwidth correction factor (BWCF) where BWCF = 10log(3 kHz/100kHz)

4.5.5 DEVIATION FROM TEST STANDARD

No deviation.

4.5.6 EUT OPERATING CONDITION

Same as Item 4.3.6

4.5.7 TEST RESULTS

802.11b

TX chain	Channel	FREQ. (MHz)	PSD (dBm/100kHz)	PSD (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
0	1	2412	5.00	-10.23	3.01	-7.22	8	PASS
	6	2437	6.22	-9.01	3.01	-6.00	8	PASS
	11	2462	7.51	-7.72	3.01	-4.71	8	PASS
1	1	2412	4.13	-11.10	3.01	-8.09	8	PASS
	6	2437	5.64	-9.59	3.01	-6.58	8	PASS
	11	2462	7.12	-8.11	3.01	-5.10	8	PASS

NOTE: Directional gain = 3dBi + 10log(2) = 6dBi = 6dBi which meet the requirement of antenna gain, so the power density limit is not reduced.

802.11g

TX chain	Channel	FREQ. (MHz)	PSD (dBm/100kHz)	PSD (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
0	1	2412	-1.35	-16.58	3.01	-13.57	8	PASS
	6	2437	0.25	-14.98	3.01	-11.97	8	PASS
	11	2462	-1.53	-16.76	3.01	-13.75	8	PASS
1	1	2412	-0.69	-15.92	3.01	-12.91	8	PASS
	6	2437	1.27	-13.96	3.01	-10.95	8	PASS
	11	2462	-1.16	-16.39	3.01	-13.38	8	PASS

NOTE: Directional gain = 3dBi + 10log(2) = 6dBi = 6dBi which meet the requirement of antenna gain, so the power density limit is not reduced.

802.11n (20MHz)

TX chain	Channel	FREQ. (MHz)	PSD (dBm/100kHz)	PSD (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
0	1	2412	0.82	-14.41	3.01	-11.40	8	PASS
	6	2437	2.37	-12.86	3.01	-9.85	8	PASS
	11	2462	1.83	-13.40	3.01	-10.39	8	PASS
1	1	2412	1.25	-13.98	3.01	-10.97	8	PASS
	6	2437	2.24	-12.99	3.01	-9.98	8	PASS
	11	2462	1.36	-13.87	3.01	-10.86	8	PASS

NOTE: Directional gain = 3dBi + 10log(2) = 6dBi = 6dBi which meet the requirement of antenna gain, so the power density limit is not reduced.

802.11n (40MHz)

TX chain	Channel	FREQ. (MHz)	PSD (dBm/100kHz)	PSD (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
0	3	2422	-10.12	-25.35	3.01	-22.34	8	PASS
	6	2437	-4.97	-20.20	3.01	-17.19	8	PASS
	9	2452	-9.36	-24.59	3.01	-21.58	8	PASS
1	3	2422	-10.45	-25.68	3.01	-22.67	8	PASS
	6	2437	-4.84	-20.07	3.01	-17.06	8	PASS
	9	2452	-8.73	-23.96	3.01	-20.95	8	PASS

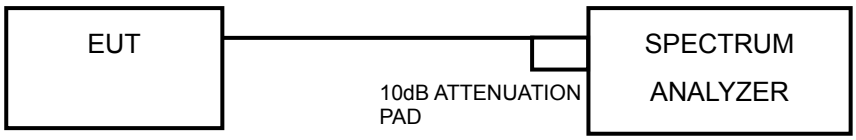
NOTE: Directional gain = 3dBi + 10log(2) = 6dBi = 6dBi which meet the requirement of antenna gain, so the power density limit is not reduced.

4.6 CONDUCTED OUT OF BAND EMISSION MEASUREMENT

4.6.1 LIMITS OF CONDUCTED OUT OF BAND EMISSION MEASUREMENT

Below –20dB 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 ≥ 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 OOBE

1. Set RBW = 100 kHz.
2. Set VBW ≥ 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

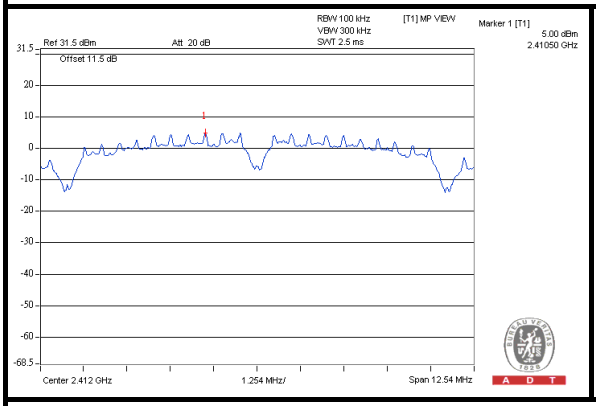
4.6.7 TEST RESULTS

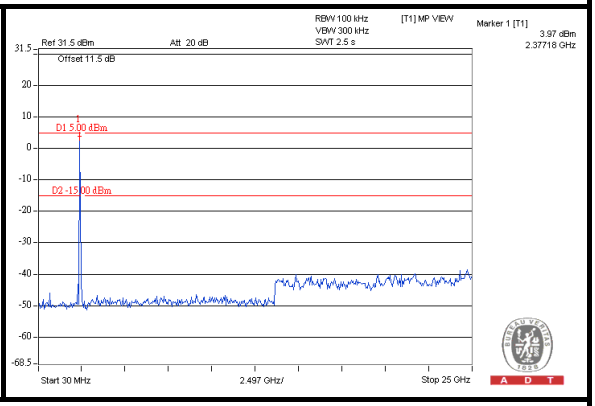
The spectrum plots are attached on the following pages. D1 line indicates the highest level, and D2 line indicates the 20dB offset below D1. It shows compliance with the requirement.

4.6.8 TEST RESULTS

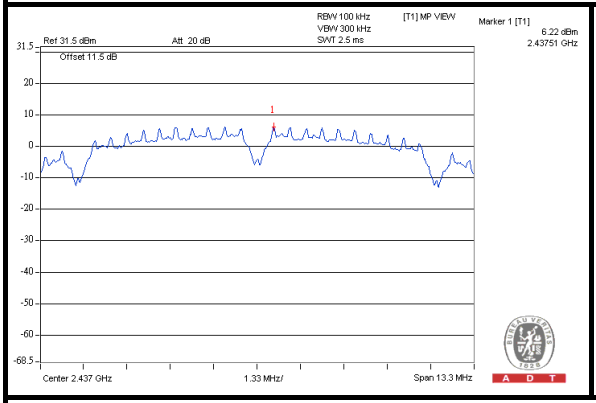
802.11b

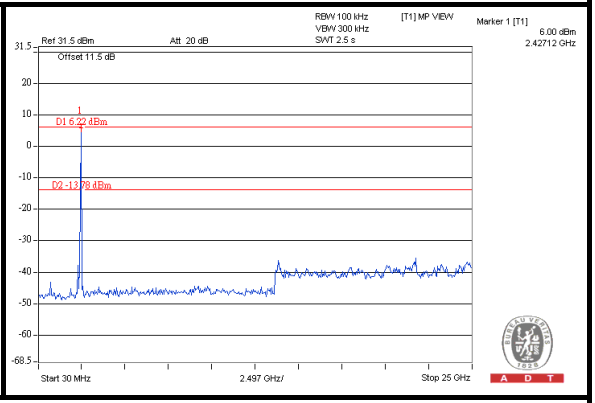
CH 1



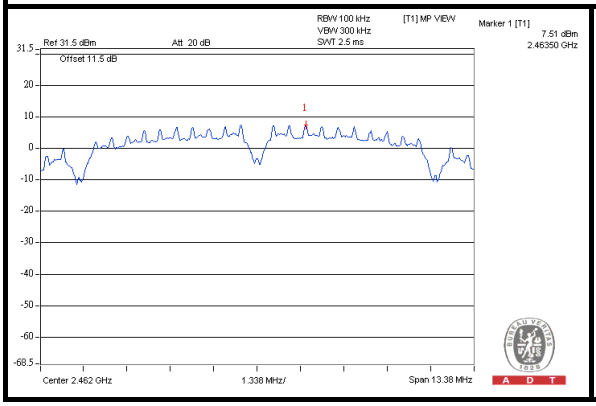


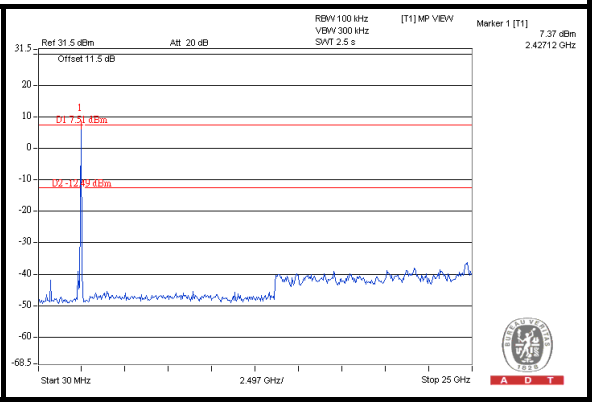
CH 6





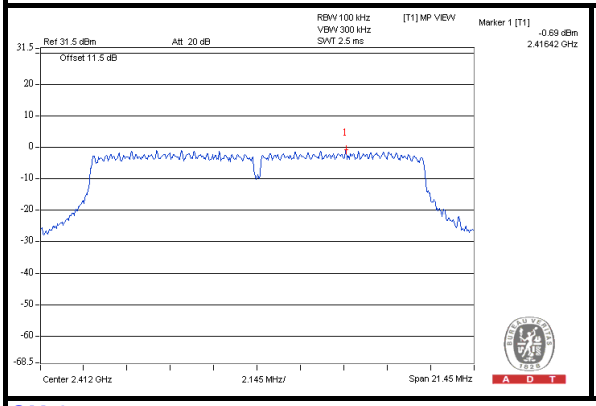
CH 11

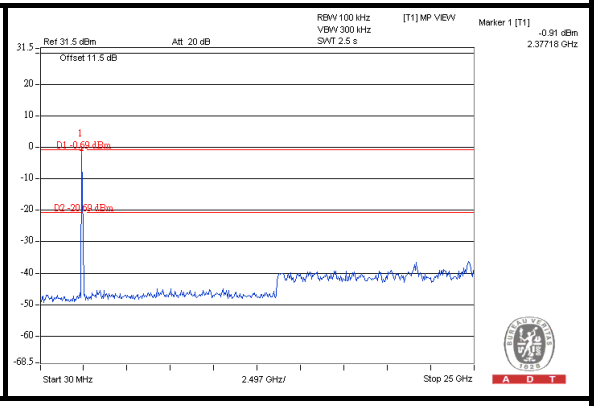




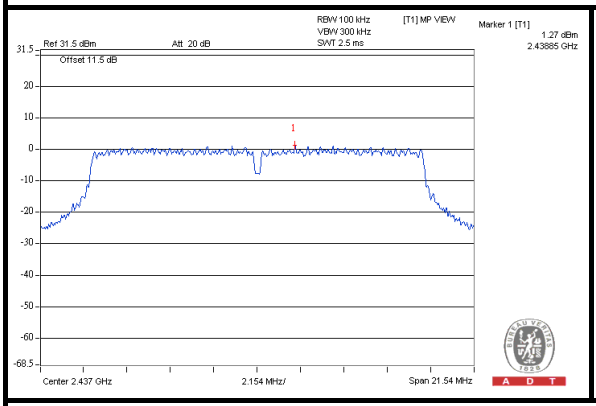
802.11g

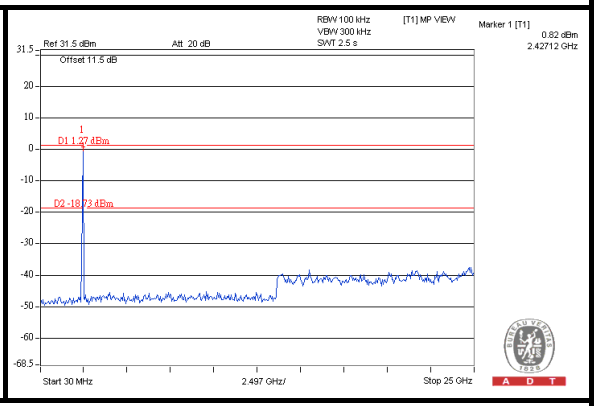
CH 1



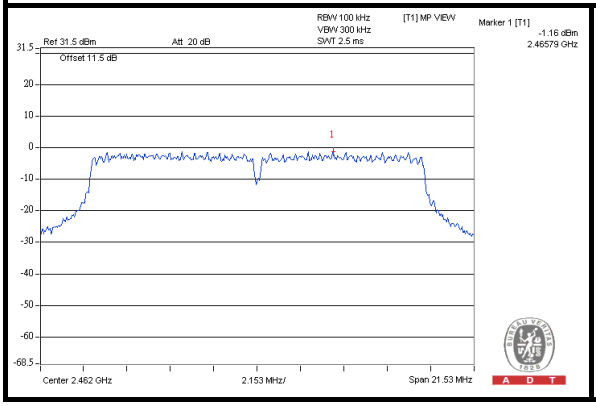


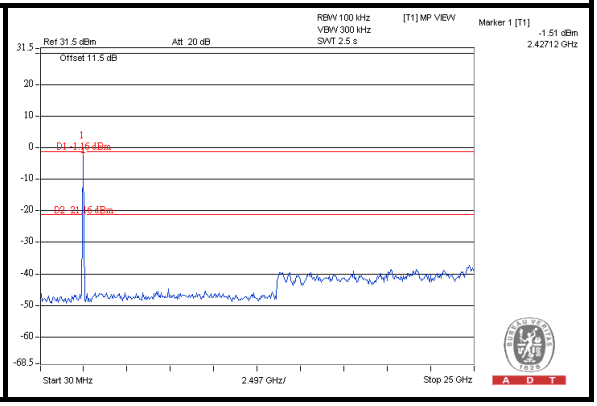
CH 6





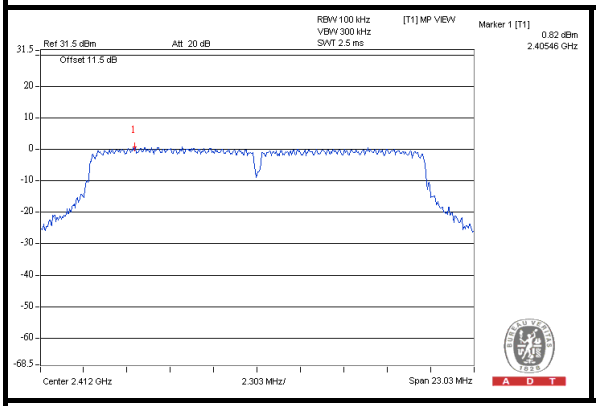
CH 11

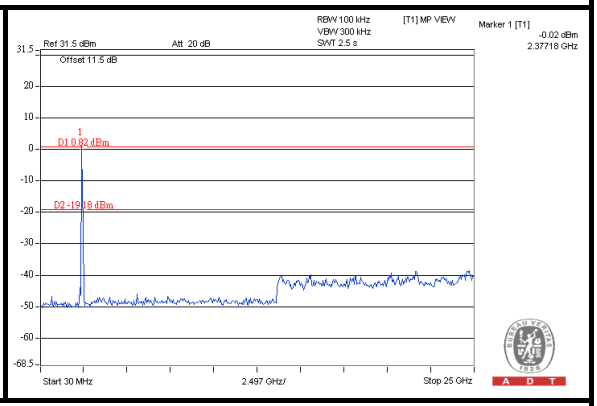




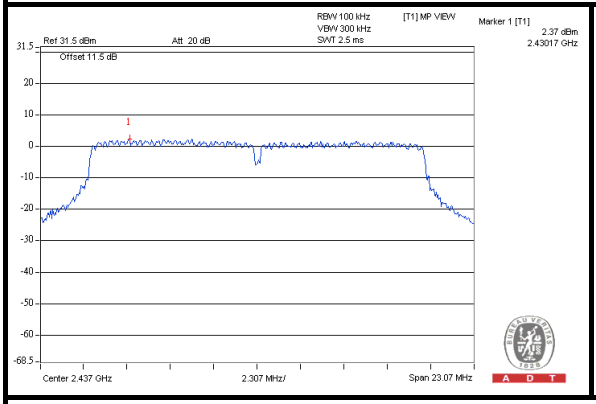
802.11n (20MHz)

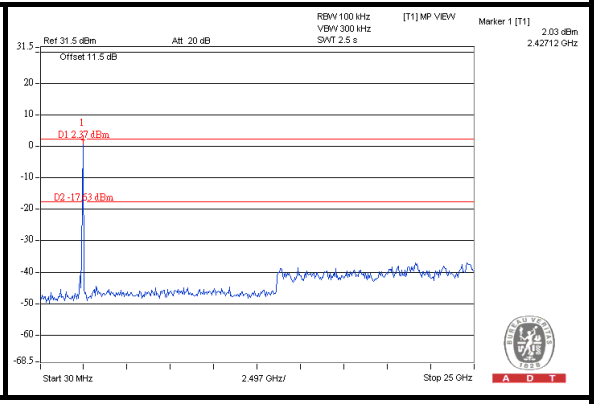
CH 1



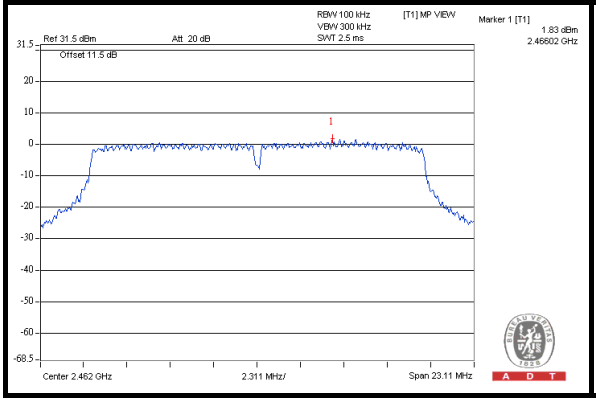


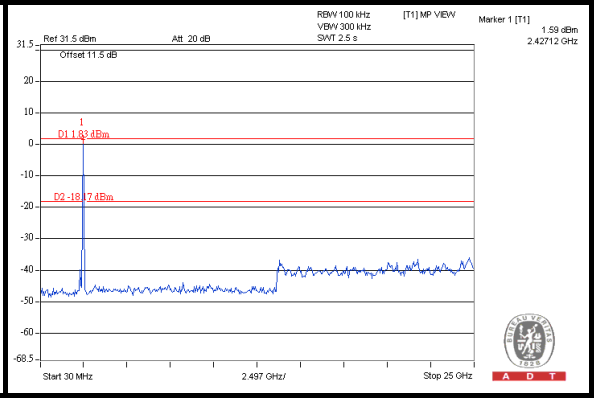
CH 6





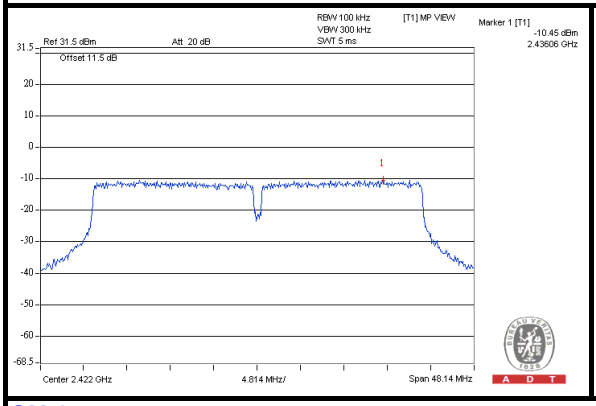
CH 11

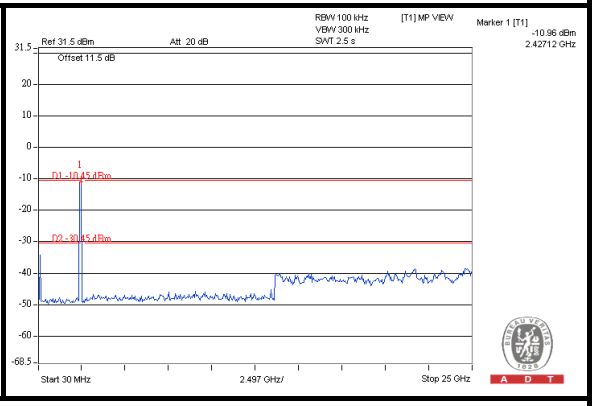




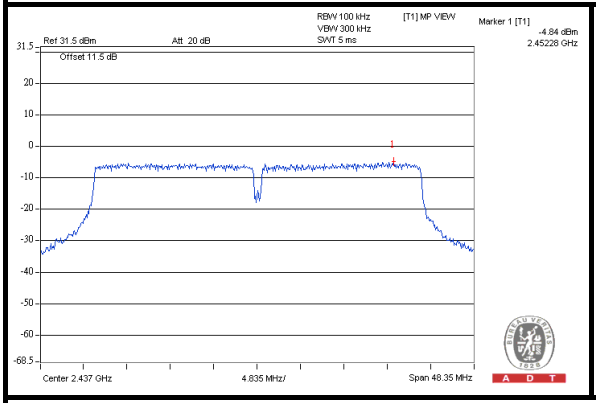
802.11n (40MHz)

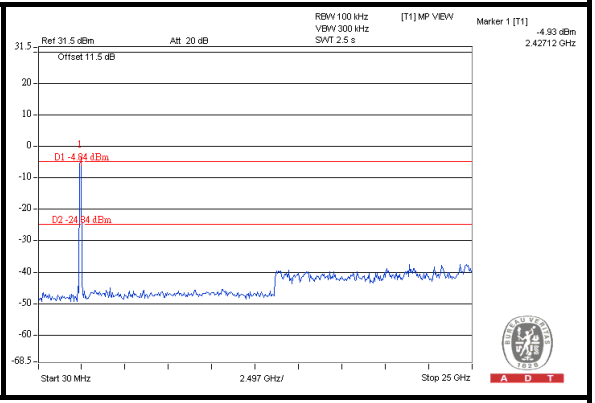
CH 3



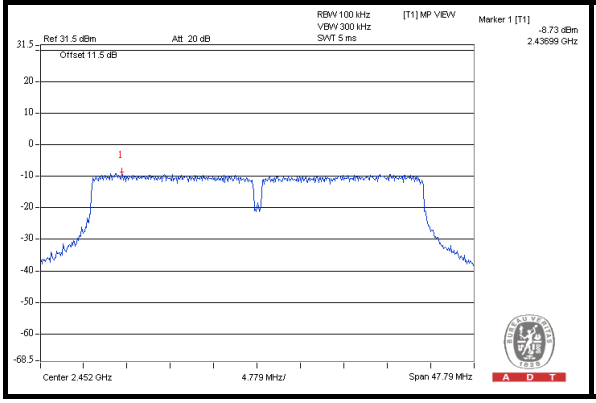


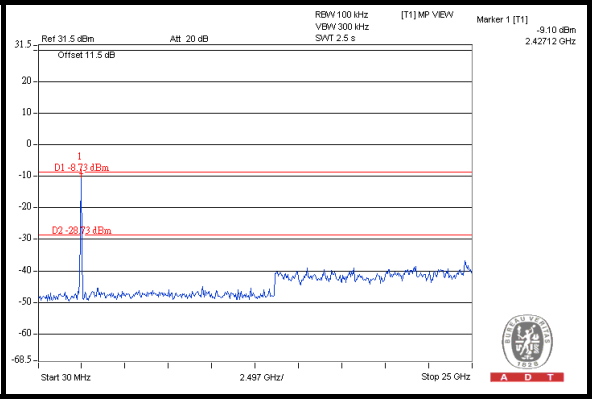
CH 6





CH 9





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

5.1 RADIATED EMISSION MEASUREMENT

5.1.1 LIMITS OF RADIATED EMISSION 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.

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 item 4.1.6.

5.1.7 TEST RESULTS

ABOVE 1GHz DATA :

802.11a

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5725.00	91.3 PK	94.3	-3.0	1.23 H	128	52.50	38.80
2	#5725.00	81.1 AV	84.1	-3.0	1.23 H	128	42.30	38.80
3	*5745.00	114.3 PK			1.54 H	158	75.50	38.80
4	*5745.00	104.1 AV			1.54 H	158	65.30	38.80
5	11490.00	63.9 PK	74.0	-10.1	1.00 H	319	13.80	50.10
6	11490.00	51.1 AV	54.0	-2.9	1.00 H	319	1.00	50.10
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5725.00	97.2 PK	99.2	-2.0	1.10 V	201	58.40	38.80
2	#5725.00	86.7 AV	88.7	-2.0	1.10 V	201	47.90	38.80
3	*5745.00	119.2 PK			1.00 V	202	80.40	38.80
4	*5745.00	108.7 AV			1.00 V	202	69.90	38.80
5	11490.00	64.9 PK	74.0	-9.1	1.00 V	183	14.80	50.10
6	11490.00	52.3 AV	54.0	-1.7	1.00 V	183	2.20	50.10

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.
7. "#":The radiated frequency is out the restricted band.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5785.00	111.3 PK			1.62 H	163	72.40	38.90
2	*5785.00	100.9 AV			1.62 H	163	62.00	38.90
3	11570.00	59.6 PK	74.0	-14.4	1.31 H	322	9.60	50.00
4	11570.00	48.3 AV	54.0	-5.7	1.31 H	322	-1.70	50.00
5	#17355.00	64.5 PK	91.3	-26.8	1.10 H	148	11.40	53.10
6	#17355.00	51.1 AV	80.9	-29.8	1.10 H	148	-2.00	53.10
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5785.00	115.6 PK			1.00 V	201	76.70	38.90
2	*5785.00	105.6 AV			1.00 V	201	66.70	38.90
3	11570.00	65.7 PK	74.0	-8.3	1.06 V	175	15.70	50.00
4	11570.00	52.8 AV	54.0	-1.2	1.06 V	175	2.80	50.00
5	#17355.00	63.7 PK	95.6	-31.9	1.22 V	168	10.60	53.10
6	#17355.00	52.5 AV	85.6	-33.1	1.22 V	168	-0.60	53.10

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.
7. "#":The radiated frequency is out the restricted band.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	110.7 PK			1.68 H	154	71.80	38.90
2	*5825.00	100.2 AV			1.68 H	154	61.30	38.90
3	#5850.00	75.7 PK	90.7	-15.0	1.68 H	154	36.70	39.00
4	#5850.00	65.2 AV	80.2	-15.0	1.68 H	154	26.20	39.00
5	11650.00	60.4 PK	74.0	-13.6	1.00 H	258	10.40	50.00
6	11650.00	47.8 AV	54.0	-6.2	1.00 H	258	-2.20	50.00
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	114.5 PK			1.09 V	201	75.60	38.90
2	*5825.00	104.5 AV			1.09 V	201	65.60	38.90
3	#5850.00	79.5 PK	94.5	-15.0	1.10 V	200	40.50	39.00
4	#5850.00	69.5 AV	84.5	-15.0	1.10 V	200	30.50	39.00
5	11650.00	66.2 PK	74.0	-7.8	1.00 V	177	16.20	50.00
6	11650.00	52.3 AV	54.0	-1.7	1.00 V	177	2.30	50.00

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.
7. "#":The radiated frequency is out the restricted band.

802.11n (20MHz)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5725.00	81.1 PK	91.1	-10.0	1.59 H	158	42.30	38.80
2	#5725.00	71.5 AV	81.5	-10.0	1.59 H	158	32.70	38.80
3	*5745.00	111.1 PK			1.63 H	161	72.30	38.80
4	*5745.00	101.5 AV			1.63 H	161	62.70	38.80
5	11490.00	58.8 PK	74.0	-15.2	1.14 H	159	8.70	50.10
6	11490.00	48.3 AV	54.0	-5.7	1.14 H	159	-1.80	50.10
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5725.00	86.5 PK	96.5	-10.0	1.11 V	200	47.70	38.80
2	#5725.00	75.9 AV	85.9	-10.0	1.11 V	200	37.10	38.80
3	*5745.00	116.5 PK			1.00 V	202	77.70	38.80
4	*5745.00	105.9 AV			1.00 V	202	67.10	38.80
5	11490.00	64.7 PK	74.0	-9.3	1.68 V	151	14.60	50.10
6	**11490.00**	**53.0 AV**	**54.0**	**-1.0**	**1.68 V**	**151**	**2.90**	**50.10**

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.
7. "#":The radiated frequency is out the restricted band.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5785.00	112.1 PK			1.80 H	161	73.20	38.90
2	*5785.00	101.8 AV			1.80 H	161	62.90	38.90
3	11570.00	62.6 PK	74.0	-11.4	1.20 H	323	12.60	50.00
4	11570.00	50.1 AV	54.0	-3.9	1.20 H	323	0.10	50.00
5	#17355.00	62.4 PK	92.1	-29.7	1.14 H	189	9.30	53.10
6	#17355.00	50.9 AV	81.8	-30.9	1.14 H	189	-2.20	53.10
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5785.00	115.9 PK			1.11 V	201	77.00	38.90
2	*5785.00	106.8 AV			1.11 V	201	67.90	38.90
3	11570.00	65.7 PK	74.0	-8.3	1.00 V	4	15.70	50.00
4	11570.00	52.8 AV	54.0	-1.2	1.00 V	4	2.80	50.00
5	#17355.00	64.0 PK	95.9	-31.9	1.17 V	154	10.90	53.10
6	#17355.00	51.7 AV	86.8	-35.1	1.17 V	154	-1.40	53.10

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.
7. "#":The radiated frequency is out the restricted band.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	110.8 PK			1.54 H	155	71.90	38.90
2	*5825.00	100.0 AV			1.54 H	155	61.10	38.90
3	#5850.00	70.8 PK	90.8	-20.0	1.51 H	150	31.80	39.00
4	#5850.00	60.0 AV	80.0	-20.0	1.51 H	150	21.00	39.00
5	11650.00	58.1 PK	74.0	-15.9	1.07 H	156	8.10	50.00
6	11650.00	48.0 AV	54.0	-6.0	1.07 H	156	-2.00	50.00
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	114.7 PK			1.09 V	201	75.80	38.90
2	*5825.00	104.2 AV			1.09 V	201	65.30	38.90
3	#5850.00	74.7 PK	94.7	-20.0	1.00 V	199	35.70	39.00
4	#5850.00	64.2 AV	84.2	-20.0	1.00 V	199	25.20	39.00
5	11650.00	62.9 PK	74.0	-11.1	1.00 V	174	12.90	50.00
6	11650.00	52.6 AV	54.0	-1.4	1.00 V	174	2.60	50.00

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.
7. "#":The radiated frequency is out the restricted band.

802.11n (40MHz)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	**#5725.00**	**87.1 PK**	**88.1**	**-1.0**	**1.20 H**	**158**	**48.30**	**38.80**
2	**#5725.00**	**76.8 AV**	**77.8**	**-1.0**	**1.20 H**	**158**	**38.00**	**38.80**
3	*5755.00	108.1 PK			1.55 H	158	69.30	38.80
4	*5755.00	97.8 AV			1.55 H	158	59.00	38.80
5	11510.00	58.9 PK	74.0	-15.1	1.00 H	128	8.80	50.10
6	11510.00	48.3 AV	54.0	-5.7	1.00 H	128	-1.80	50.10
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	**#5725.00**	**91.3 PK**	**92.3**	**-1.0**	**1.23 V**	**159**	**52.50**	**38.80**
2	**#5725.00**	**81.0 AV**	**82.0**	**-1.0**	**1.23 V**	**159**	**42.20**	**38.80**
3	*5755.00	112.3 PK			1.11 V	201	73.50	38.80
4	*5755.00	102.0 AV			1.11 V	201	63.20	38.80
5	11510.00	58.7 PK	74.0	-15.3	1.00 V	360	8.60	50.10
6	11510.00	47.2 AV	54.0	-6.8	1.00 V	360	-2.90	50.10

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.
7. "#":The radiated frequency is out the restricted band.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5795.00	107.3 PK			1.35 H	296	68.40	38.90
2	*5795.00	96.5 AV			1.35 H	296	57.60	38.90
3	#5850.00	80.3 PK	87.3	-7.0	1.64 H	153	41.30	39.00
4	#5850.00	69.5 AV	76.5	-7.0	1.64 H	153	30.50	39.00
5	11590.00	59.6 PK	74.0	-14.4	1.00 H	315	9.60	50.00
6	11590.00	47.7 AV	54.0	-6.3	1.00 H	315	-2.30	50.00
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5795.00	113.1 PK			1.00 V	202	74.20	38.90
2	*5795.00	103.6 AV			1.00 V	202	64.70	38.90
3	#5850.00	86.1 PK	93.1	-7.0	1.19 V	199	47.10	39.00
4	#5850.00	76.6 AV	83.6	-7.0	1.19 V	199	37.60	39.00
5	11590.00	65.3 PK	74.0	-8.7	1.00 V	360	15.30	50.00
6	11590.00	52.2 AV	54.0	-1.8	1.00 V	360	2.20	50.00

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.
7. "#":The radiated frequency is out the restricted band.

802.11a

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	1490.00	36.1 PK	74.0	-37.9	1.14 H	152	7.30	28.80
2	1490.00	23.8 AV	54.0	-30.2	1.14 H	152	-5.00	28.80
3	#5725.00	76.8 PK	84.2	-7.4	1.26 H	266	37.80	39.00
4	#5725.00	67.4 AV	74.8	-7.4	1.26 H	266	28.40	39.00
5	*5745.00	104.2 PK			1.26 H	266	65.20	39.00
6	*5745.00	94.8 AV			1.26 H	266	55.80	39.00
7	11490.00	64.1 PK	74.0	-9.9	1.14 H	152	13.80	50.30
8	11490.00	50.4 AV	54.0	-3.6	1.14 H	152	0.10	50.30
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5725.00	85.1 PK	92.5	-7.4	1.00 V	200	46.10	39.00
2	#5725.00	75.8 AV	83.2	-7.4	1.00 V	200	36.80	39.00
3	*5745.00	112.5 PK			1.00 V	200	73.50	39.00
4	*5745.00	103.2 AV			1.00 V	200	64.20	39.00
5	11490.00	66.3 PK	74.0	-7.7	1.04 V	162	16.00	50.30
6	11490.00	52.8 AV	54.0	-1.2	1.04 V	162	2.50	50.30

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.
7. "#":The radiated frequency is out the restricted band.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5785.00	105.2 PK			1.42 H	357	66.10	39.10
2	*5785.00	95.1 AV			1.42 H	357	56.00	39.10
3	11570.00	58.1 PK	74.0	-15.9	1.07 H	103	7.90	50.20
4	11570.00	45.5 AV	54.0	-8.5	1.07 H	103	-4.70	50.20
5	#17355.00	65.4 PK	85.2	-19.8	1.01 H	147	11.40	54.00
6	#17355.00	51.8 AV	75.1	-23.3	1.01 H	147	-2.20	54.00
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5785.00	112.3 PK			1.00 V	197	73.20	39.10
2	*5785.00	102.3 AV			1.00 V	197	63.20	39.10
3	11570.00	61.7 PK	74.0	-12.3	1.26 V	102	11.50	50.20
4	11570.00	49.7 AV	54.0	-4.3	1.26 V	102	-0.50	50.20
5	#17355.00	65.2 PK	92.3	-27.1	1.07 V	114	11.20	54.00
6	#17355.00	51.8 AV	82.3	-30.5	1.07 V	114	-2.20	54.00

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.
7. "#":The radiated frequency is out the restricted band.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	104.5 PK			1.24 H	359	65.40	39.10
2	*5825.00	95.0 AV			1.24 H	359	55.90	39.10
3	#5850.00	65.5 PK	84.5	-19.0	1.24 H	360	26.30	39.20
4	#5850.00	56.0 AV	75.0	-19.0	1.24 H	360	16.80	39.20
5	11650.00	57.9 PK	74.0	-16.1	1.10 H	152	7.70	50.20
6	11650.00	45.8 AV	54.0	-8.2	1.10 H	152	-4.40	50.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	111.6 PK			1.09 V	199	72.50	39.10
2	*5825.00	101.8 AV			1.09 V	199	62.70	39.10
3	#5850.00	77.6 PK	91.6	-14.0	1.09 V	199	38.40	39.20
4	#5850.00	62.8 AV	81.8	-19.0	1.09 V	199	23.60	39.20
5	11650.00	62.8 PK	74.0	-11.2	1.09 V	180	12.60	50.20
6	11650.00	49.8 AV	54.0	-4.2	1.09 V	180	-0.40	50.20

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.
7. "#":The radiated frequency is out the restricted band.

802.11n (20MHz)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5725.00	76.6 PK	82.9	-6.3	1.00 H	134	37.60	39.00
2	#5725.00	66.9 AV	73.2	-6.3	1.00 H	134	27.90	39.00
3	*5745.00	102.9 PK			1.00 H	134	63.90	39.00
4	*5745.00	93.2 AV			1.00 H	134	54.20	39.00
5	11490.00	56.8 PK	74.0	-17.2	1.10 H	74	6.50	50.30
6	11490.00	46.5 AV	54.0	-7.5	1.10 H	74	-3.80	50.30
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5725.00	85.3 PK	91.6	-6.3	1.15 V	147	46.30	39.00
2	#5725.00	75.8 AV	82.1	-6.3	1.15 V	147	36.80	39.00
3	*5745.00	111.6 PK			1.00 V	320	72.60	39.00
4	*5745.00	102.1 AV			1.00 V	320	63.10	39.00
5	11490.00	61.9 PK	74.0	-12.1	1.00 V	163	11.60	50.30
6	11490.00	49.9 AV	54.0	-4.1	1.00 V	163	-0.40	50.30

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.
7. "#":The radiated frequency is out the restricted band.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5785.00	104.5 PK			1.01 H	358	65.40	39.10
2	*5785.00	94.3 AV			1.01 H	358	55.20	39.10
3	11570.00	58.6 PK	74.0	-15.4	1.07 H	148	8.40	50.20
4	11570.00	45.8 AV	54.0	-8.2	1.07 H	148	-4.40	50.20
5	#17355.00	65.0 PK	84.5	-19.5	1.07 H	152	11.00	54.00
6	#17355.00	52.2 AV	74.3	-22.1	1.07 H	152	-1.80	54.00
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5785.00	112.0 PK			1.18 V	198	72.90	39.10
2	*5785.00	102.0 AV			1.18 V	198	62.90	39.10
3	11570.00	62.2 PK	74.0	-11.8	1.07 V	142	12.00	50.20
4	11570.00	51.2 AV	54.0	-2.8	1.07 V	142	1.00	50.20
5	#17355.00	65.0 PK	92.0	-27.0	1.00 V	88	11.00	54.00
6	#17355.00	52.1 AV	82.0	-29.9	1.00 V	88	-1.90	54.00

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.
7. "#":The radiated frequency is out the restricted band.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	107.6 PK			1.25 H	358	68.50	39.10
2	*5825.00	97.0 AV			1.25 H	358	57.90	39.10
3	#5850.00	71.9 PK	87.6	-15.7	1.37 H	182	32.70	39.20
4	#5850.00	61.4 AV	77.0	-15.6	1.37 H	182	22.20	39.20
5	11650.00	60.8 PK	74.0	-13.2	1.04 H	171	10.60	50.20
6	11650.00	48.5 AV	54.0	-5.5	1.04 H	171	-1.70	50.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	112.4 PK			1.25 V	135	73.30	39.10
2	*5825.00	102.5 AV			1.25 V	135	63.40	39.10
3	#5850.00	76.7 PK	92.4	-15.7	1.37 V	182	37.50	39.20
4	#5850.00	66.8 AV	82.5	-15.7	1.37 V	182	27.60	39.20
5	11650.00	67.5 PK	74.0	-6.5	1.00 V	193	17.30	50.20
6	11650.00	52.7 AV	54.0	-1.3	1.00 V	193	2.50	50.20

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.
7. "#":The radiated frequency is out the restricted band.

802.11n (40MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 151	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 62%RH	TESTED BY	Chris Lin
TEST MODE	C		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5725.00	79.5 PK	82.5	-3.0	1.00 H	165	40.80	38.70
2	#5725.00	61.7 AV	72.7	-11.0	1.00 H	165	23.00	38.70
3	*5755.00	102.5 PK			1.00 H	165	63.80	38.70
4	*5755.00	92.7 AV			1.00 H	165	54.00	38.70
5	11510.00	61.3 PK	74.0	-12.7	1.00 H	35	11.80	49.50
6	11510.00	48.4 AV	54.0	-5.6	1.00 H	35	-1.10	49.50
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5725.00	90.8 PK	92.6	-1.8	1.04 V	159	52.10	38.70
2	#5725.00	77.2 AV	82.7	-5.5	1.04 V	159	38.50	38.70
3	*5755.00	112.6 PK			1.04 V	161	73.90	38.70
4	*5755.00	102.7 AV			1.04 V	161	64.00	38.70
5	11510.00	61.0 PK	74.0	-13.0	1.00 V	64	11.50	49.50
6	11510.00	48.2 AV	54.0	-5.8	1.00 V	64	-1.30	49.50

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.
7. "#":The radiated frequency is out the restricted band.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 159	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 62%RH	TESTED BY	Chris Lin
TEST MODE	C		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5795.00	102.4 PK			1.00 H	169	63.60	38.80
2	*5795.00	92.0 AV			1.00 H	169	53.20	38.80
3	#5850.00	61.0 PK	82.4	-21.4	1.00 H	166	22.10	38.90
4	#5850.00	44.6 AV	72.0	-27.4	1.00 H	166	5.70	38.90
5	11590.00	62.4 PK	74.0	-11.6	1.00 H	58	13.00	49.40
6	11590.00	49.6 AV	54.0	-4.4	1.00 H	58	0.20	49.40
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5795.00	110.9 PK			1.02 V	156	72.10	38.80
2	*5795.00	101.0 AV			1.02 V	156	62.20	38.80
3	#5850.00	70.9 PK	90.9	-20.0	1.02 V	157	32.00	38.90
4	#5850.00	53.8 AV	81.0	-27.2	1.02 V	157	14.90	38.90
5	11590.00	62.3 PK	74.0	-11.7	1.00 V	158	12.90	49.40
6	11590.00	49.8 AV	54.0	-4.2	1.00 V	158	0.40	49.40

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.
7. "#":The radiated frequency is out the restricted band.

BELOW 1GHz WORST-CASE DATA：

802.11a

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 149	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Haru Yang
TEST MODE	A		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	129.06	38.5 QP	43.5	-5.0	1.74 H	100	25.90	12.60
2	206.83	38.3 QP	43.5	-5.2	1.50 H	261	27.00	11.30
3	374.04	38.3 QP	46.0	-7.7	1.00 H	237	21.40	16.90
4	624.85	43.2 QP	46.0	-2.8	1.24 H	130	20.90	22.30
5	675.40	38.2 QP	46.0	-7.8	1.24 H	225	15.40	22.80
6	875.67	36.2 QP	46.0	-9.8	1.74 H	15	9.70	26.50
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	38.51	38.3 QP	40.0	-1.7	1.13 V	148	24.90	13.40
2	121.28	37.5 QP	43.5	-6.0	1.00 V	353	25.60	11.90
3	208.77	33.3 QP	43.5	-10.2	1.00 V	121	22.00	11.30
4	374.04	37.8 QP	46.0	-8.2	1.24 V	158	20.90	16.90
5	500.42	32.8 QP	46.0	-13.2	1.00 V	224	12.80	20.00
6	675.40	36.2 QP	46.0	-9.8	1.50 V	21	13.40	22.80

REMARKS:

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

802.11a

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 149	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Haru Yang
TEST MODE	B		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	53.23	31.6 QP	40.0	-8.4	1.50 H	63	17.80	13.80
2	132.95	28.9 QP	43.5	-14.6	1.75 H	254	15.90	13.00
3	206.83	36.8 QP	43.5	-6.7	1.50 H	191	25.50	11.30
4	346.82	31.3 QP	46.0	-14.7	1.25 H	90	15.10	16.20
5	500.42	31.5 QP	46.0	-14.5	1.75 H	238	11.50	20.00
6	675.40	40.9 QP	46.0	-5.1	1.25 H	4	18.10	22.80
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	47.40	37.9 QP	40.0	-2.1	1.00 V	265	23.90	14.00
2	150.45	28.5 QP	43.5	-15.0	1.00 V	265	14.40	14.10
3	206.83	28.1 QP	43.5	-15.4	1.99 V	276	16.80	11.30
4	344.87	34.4 QP	46.0	-11.6	1.24 V	43	18.30	16.10
5	399.31	33.2 QP	46.0	-12.8	1.00 V	121	15.70	17.50
6	675.40	37.1 QP	46.0	-8.9	1.24 V	345	14.30	22.80

REMARKS:

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

802.11a

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 149	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Chris Lin
TEST MODE	C		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	101.84	36.8 QP	43.5	-6.7	1.49 H	301	27.10	9.70
2	214.61	33.2 QP	43.5	-10.3	1.00 H	153	21.60	11.60
3	274.88	36.0 QP	46.0	-10.0	1.00 H	255	22.00	14.00
4	449.87	35.9 QP	46.0	-10.1	1.00 H	225	17.20	18.70
5	624.85	35.8 QP	46.0	-10.2	1.49 H	197	13.50	22.30
6	881.50	34.9 QP	46.0	-11.1	1.49 H	5	8.30	26.60
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	62.95	37.4 QP	40.0	-2.6	1.00 V	193	24.30	13.10
2	101.84	38.0 QP	43.5	-5.5	1.00 V	191	28.30	9.70
3	274.88	32.0 QP	46.0	-14.0	1.00 V	73	18.00	14.00
4	449.87	36.4 QP	46.0	-9.6	1.00 V	170	17.70	18.70
5	624.85	33.2 QP	46.0	-12.8	1.00 V	284	10.90	22.30
6	881.50	35.1 QP	46.0	-10.9	1.00 V	6	8.50	26.60

REMARKS:

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

802.11a

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 149	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	23deg. C, 67%RH	TESTED BY	Chris Lin
TEST MODE	D		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	125.17	32.0 QP	43.5	-11.5	1.36 H	262	19.70	12.30
2	245.72	41.0 QP	46.0	-5.0	1.44 H	8	28.10	12.90
3	374.04	37.7 QP	46.0	-8.3	1.88 H	264	20.80	16.90
4	449.87	32.1 QP	46.0	-13.9	1.88 H	218	13.40	18.70
5	624.85	35.3 QP	46.0	-10.7	1.62 H	128	13.00	22.30
6	875.67	40.5 QP	46.0	-5.5	1.50 H	220	14.00	26.50
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	43.51	37.5 QP	40.0	-2.5	1.50 V	324	23.60	13.90
2	64.90	36.1 QP	40.0	-3.9	1.32 V	178	23.20	12.90
3	274.88	30.8 QP	46.0	-15.2	1.47 V	63	16.80	14.00
4	374.04	36.5 QP	46.0	-9.5	1.55 V	144	19.60	16.90
5	624.85	34.5 QP	46.0	-11.5	1.99 V	125	12.20	22.30
6	875.67	37.9 QP	46.0	-8.1	1.66 V	160	11.40	26.50

REMARKS:

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

5.2 CONDUCTED EMISSION MEASUREMENT

5.2.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

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

NOTE: 1. The lower limit shall apply at the transition frequencies.

2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

3. All emanations from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

5.2.2 T EST 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 item 4.1.6.

5.2.7 TEST RESULTS

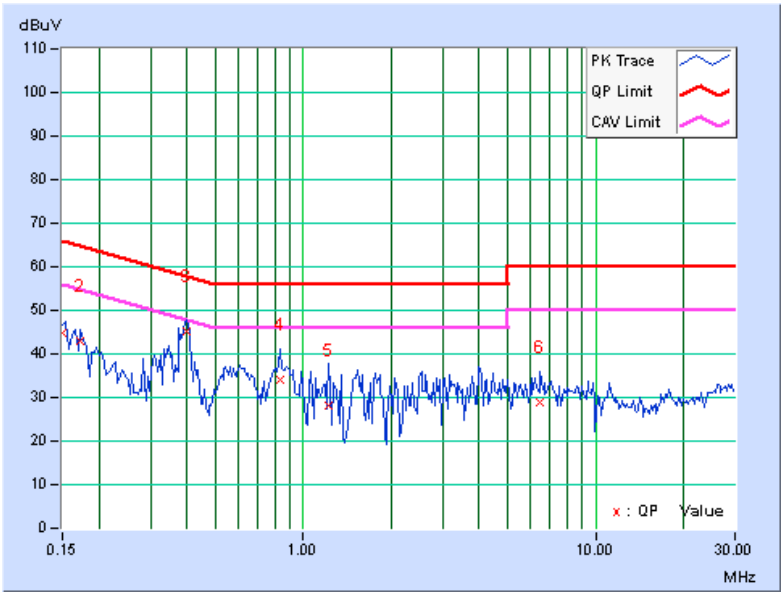
CONDUCTED WORST-CASE DATA：802.11a

PHASE	Line 1	6dB BANDWIDTH	9kHz
TEST MODE	A		

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	0.17	44.75	35.28	44.92	35.45	66.00	56.00	-21.08	-20.55
2	0.17344	0.17	42.71	34.07	42.88	34.24	64.79	54.79	-21.91	-20.55
3	0.40000	0.20	44.92	34.43	45.12	34.63	57.85	47.85	-12.73	-13.22
4	0.82969	0.22	33.69	21.15	33.91	21.37	56.00	46.00	-22.09	-24.63
5	1.21875	0.25	28.08	16.03	28.33	16.28	56.00	46.00	-27.67	-29.72
6	6.48047	0.43	28.58	15.72	29.01	16.15	60.00	50.00	-30.99	-33.85

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.

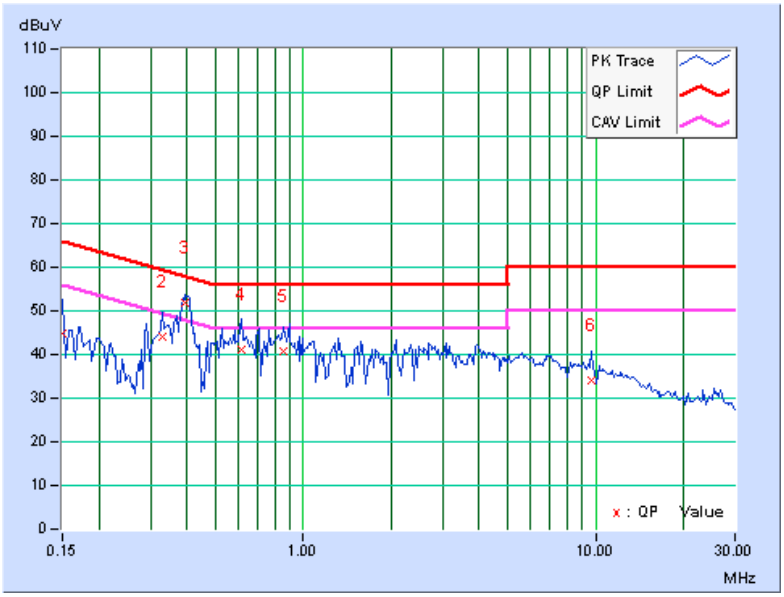


PHASE	Line 2	6dB BANDWIDTH	9kHz
TEST MODE	A		

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	0.17	44.71	33.80	44.88	33.97	66.00	56.00	-21.12	-22.03
2	0.32969	0.17	44.02	38.14	44.19	38.31	59.46	49.46	-15.27	-11.15
3	**0.39609**	**0.18**	**51.61**	**44.74**	**51.79**	**44.92**	**57.93**	**47.93**	**-6.15**	**-3.02**
4	0.61094	0.18	41.01	35.64	41.19	35.82	56.00	46.00	-14.81	-10.18
5	0.85703	0.19	40.50	33.84	40.69	34.03	56.00	46.00	-15.31	-11.97
6	9.65234	0.56	33.47	26.60	34.03	27.16	60.00	50.00	-25.97	-22.84

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.

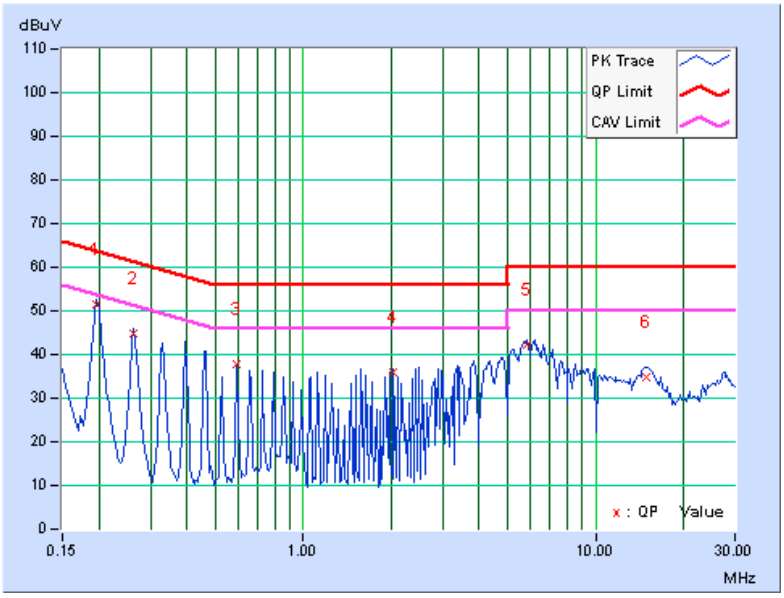


PHASE	Line 1	6dB BANDWIDTH	9kHz
TEST MODE	B		

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.19687	0.15	51.48	41.25	51.63	41.40	63.74	53.74	-12.11	-12.34
2	0.26328	0.16	44.66	34.71	44.82	34.87	61.33	51.33	-16.51	-16.46
3	0.59141	0.18	37.49	36.58	37.67	36.76	56.00	46.00	-18.33	-9.24
4	2.03906	0.26	35.85	35.40	36.11	35.66	56.00	46.00	-19.89	-10.34
5	5.85547	0.37	41.99	39.41	42.36	39.78	60.00	50.00	-17.64	-10.22
6	14.94141	0.53	34.24	29.92	34.77	30.45	60.00	50.00	-25.23	-19.55

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.

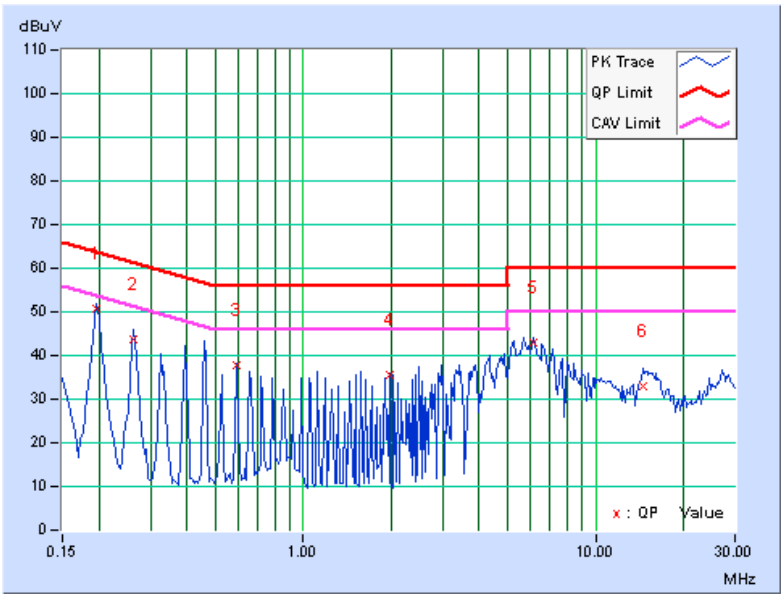


PHASE	Line 2	6dB BANDWIDTH	9kHz
TEST MODE	B		

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.19687	0.14	50.75	39.82	50.89	39.96	63.74	53.74	-12.85	-13.78
2	0.26328	0.15	43.66	33.93	43.81	34.08	61.33	51.33	-17.52	-17.25
3	0.59141	0.17	37.75	36.80	37.92	36.97	56.00	46.00	-18.08	-9.03
4	1.97266	0.26	35.47	35.34	35.73	35.60	56.00	46.00	-20.27	-10.40
5	6.11328	0.40	42.74	41.48	43.14	41.88	60.00	50.00	-16.86	-8.12
6	14.59375	0.59	32.50	27.42	33.09	28.01	60.00	50.00	-26.91	-21.99

REMARKS:

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

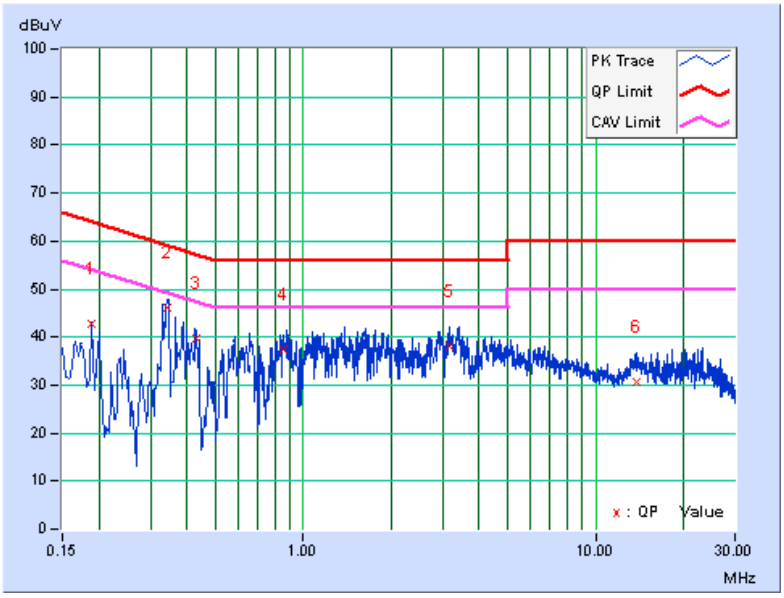


PHASE	Line 1	6dB BANDWIDTH	9kHz
TEST MODE	C		

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.18754	0.22	42.59	34.05	42.81	34.27	64.14	54.14	-21.34	-19.88
2	0.34108	0.23	45.80	33.85	46.03	34.08	59.18	49.18	-13.14	-15.09
3	0.43152	0.24	39.37	27.16	39.61	27.40	57.22	47.22	-17.61	-19.82
4	0.85100	0.29	37.14	21.68	37.43	21.97	56.00	46.00	-18.57	-24.03
5	3.15679	0.40	37.78	26.37	38.18	26.77	56.00	46.00	-17.82	-19.23
6	13.75289	0.62	30.18	23.33	30.80	23.95	60.00	50.00	-29.20	-26.05

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.

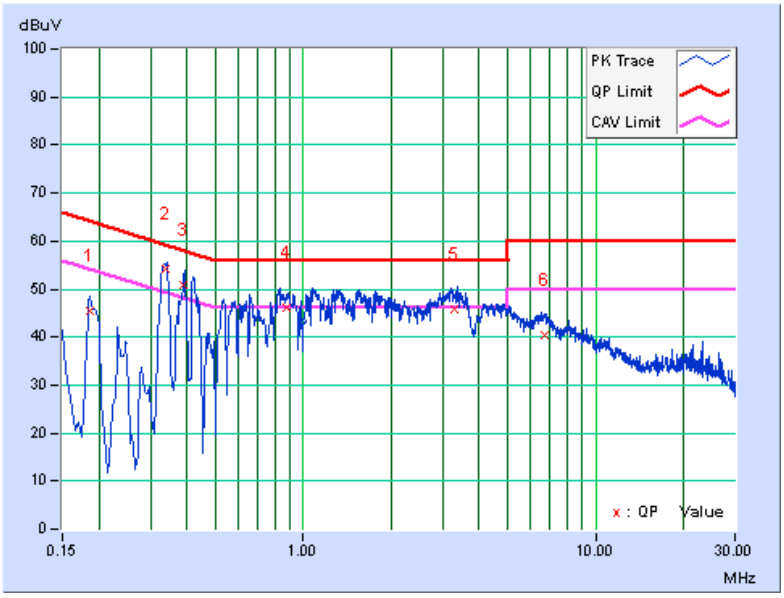


PHASE	Line 2	6dB BANDWIDTH	9kHz
TEST MODE	C		

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.18508	0.20	45.11	38.88	45.31	39.08	64.25	54.25	-18.94	-15.17
2	0.33928	0.21	54.16	45.21	54.37	45.42	59.22	49.22	-4.85	-3.80
3	0.38730	0.22	50.74	41.01	50.96	41.23	58.12	48.12	-7.16	-6.89
4	0.87372	0.26	45.70	31.82	45.96	32.08	56.00	46.00	-10.04	-13.92
5	3.27097	0.39	45.41	33.87	45.80	34.26	56.00	46.00	-10.20	-11.74
6	6.66406	0.51	39.91	31.26	40.42	31.77	60.00	50.00	-19.58	-18.23

REMARKS:

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

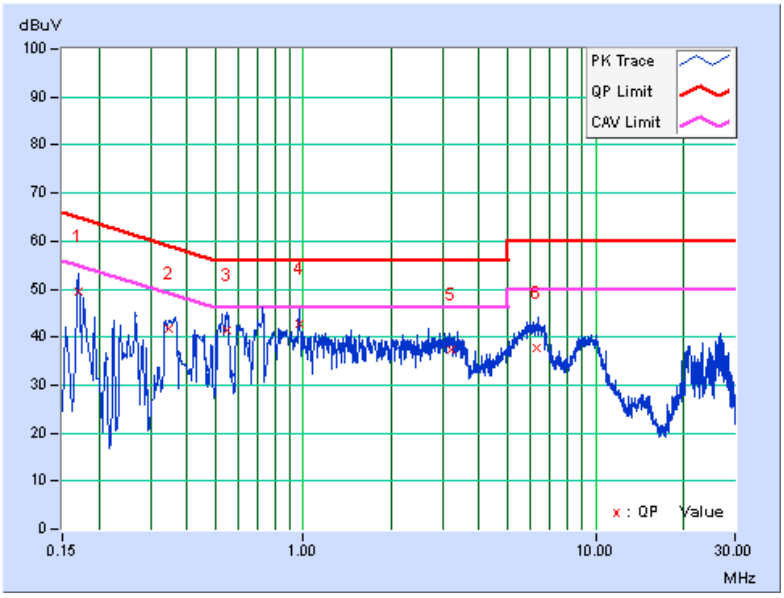


PHASE	Line 1	6dB BANDWIDTH	9kHz
TEST MODE	D		

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16967	0.21	49.41	31.88	49.62	32.09	64.98	54.98	-15.36	-22.89
2	0.34560	0.23	41.49	31.27	41.72	31.50	59.07	49.07	-17.34	-17.56
3	0.54518	0.26	41.06	25.99	41.32	26.25	56.00	46.00	-14.68	-19.75
4	0.96573	0.31	42.59	40.38	42.90	40.69	56.00	46.00	-13.10	-5.31
5	3.19198	0.40	36.85	28.31	37.25	28.71	56.00	46.00	-18.75	-17.29
6	6.26524	0.47	37.38	31.29	37.85	31.76	60.00	50.00	-22.15	-18.24

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.

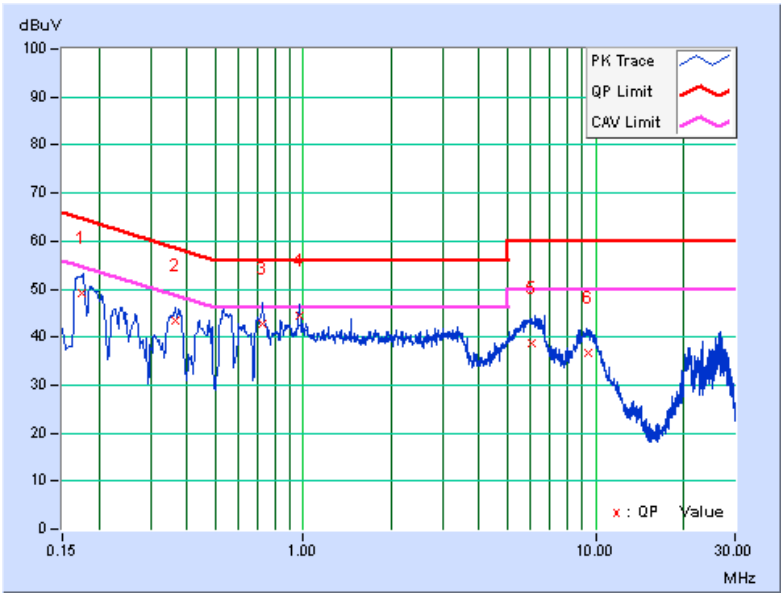


PHASE	Line 2	6dB BANDWIDTH	9kHz
TEST MODE	D		

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.17420	0.20	49.08	33.20	49.28	33.40	64.76	54.76	-15.48	-21.36
2	0.36334	0.22	43.26	34.92	43.48	35.14	58.65	48.65	-15.18	-13.52
3	0.72084	0.25	42.64	35.40	42.89	35.65	56.00	46.00	-13.11	-10.35
4	0.96573	0.27	44.12	40.44	44.39	40.71	56.00	46.00	-11.61	-5.29
5	6.02282	0.49	38.28	30.70	38.77	31.19	60.00	50.00	-21.23	-18.81
6	9.38542	0.59	35.97	30.21	36.56	30.80	60.00	50.00	-23.44	-19.20

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.



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	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
149	5745	16.69	16.48	0.5	PASS
157	5785	16.54	16.48	0.5	PASS
165	5825	16.49	16.62	0.5	PASS

802.11n (20MHz)

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
149	5745	17.55	17.54	0.5	PASS
157	5785	17.66	17.72	0.5	PASS
165	5825	17.64	17.86	0.5	PASS

802.11n (40MHz)

CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)		MINIMUM LIMIT (MHz)	PASS / FAIL
		CHAIN 0	CHAIN 1		
151	5755	37.11	37.08	0.5	PASS
159	5795	37.08	36.48	0.5	PASS

5.4 CONDUCTED OUTPUT POWER

5.4.1 LIMITS OF CONDUCTED OUTPUT POWER MEASUREMENT

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

Per KDB 662911 D01 Multiple Transmitter Output v01r02 Method of conducted output power measurement on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for NANT ≤ 4;
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any NANT;
Array Gain = 5 log(NANT/NSS) dB or 3 dB, whichever is less for 20-MHz channel widths with NANT ≥ 5.

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

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

CHAN.	FREQ. (MHz)	PEAK POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
149	5745	24.71	23.94	543.54	27.35	30	PASS
157	5785	24.10	22.91	452.47	26.56	30	PASS
165	5825	23.82	23.22	450.88	26.54	30	PASS

802.11n (20MHz)

CHAN.	FREQ. (MHz)	PEAK POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
149	5745	24.34	23.56	498.63	26.98	30	PASS
157	5785	24.18	23.42	481.60	26.83	30	PASS
165	5825	23.78	23.10	442.95	26.46	30	PASS

802.11n (40MHz)

CHAN.	FREQ. (MHz)	PEAK POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
151	5755	23.83	23.29	454.85	26.58	30	PASS
159	5795	24.14	23.48	482.26	26.83	30	PASS

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

TX chain	Channel	FREQ. (MHz)	PSD (dBm/100kHz)	PSD (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
0	149	5745	12.86	-2.37	3.01	0.64	6.99	PASS
	157	5785	12.26	-2.97	3.01	0.04	6.99	PASS
	165	5825	11.81	-3.42	3.01	-0.41	6.99	PASS
1	149	5745	12.37	-2.86	3.01	0.15	6.99	PASS
	157	5785	11.50	-3.73	3.01	-0.72	6.99	PASS
	165	5825	11.14	-4.09	3.01	-1.08	6.99	PASS

NOTE: Directional gain = 4dBi + 10log(2) = 7.01dBi > 6dBi , so the power density limit shall be reduced to 8-(7.01-6) = 6.99dBm.

802.11n (20MHz)

TX chain	Channel	FREQ. (MHz)	PSD (dBm/100kHz)	PSD (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
0	149	5745	11.67	-3.56	3.01	-0.55	6.99	PASS
	157	5785	11.47	-3.76	3.01	-0.75	6.99	PASS
	165	5825	10.91	-4.32	3.01	-1.31	6.99	PASS
1	149	5745	10.01	-5.22	3.01	-2.21	6.99	PASS
	157	5785	9.72	-5.51	3.01	-2.50	6.99	PASS
	165	5825	9.37	-5.86	3.01	-2.85	6.99	PASS

NOTE: Directional gain = 4dBi + 10log(2) = 7.01dBi > 6dBi , so the power density limit shall be reduced to 8-(7.01-6) = 6.99dBm.

802.11n (40MHz)

TX chain	Channel	FREQ. (MHz)	PSD (dBm/100kHz)	PSD (dBm/3kHz)	10 log (N=2) dB	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
0	151	5755	7.01	-8.22	3.01	-5.21	6.99	PASS
	159	5795	7.41	-7.82	3.01	-4.81	6.99	PASS
1	151	5755	5.78	-9.45	3.01	-6.44	6.99	PASS
	159	5795	6.04	-9.19	3.01	-6.18	6.99	PASS

NOTE: Directional gain = 4dBi + 10log(2) = 7.01dBi > 6dBi , so the power density limit shall be reduced to 8-(7.01-6) = 6.99dBm.

5.6 CONDUCTED OUT OF BAND EMISSION MEASUREMENT

5.6.1 LIMITS OF CONDUCTED OUT OF BAND EMISSION MEASUREMENT

Below –20dB 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

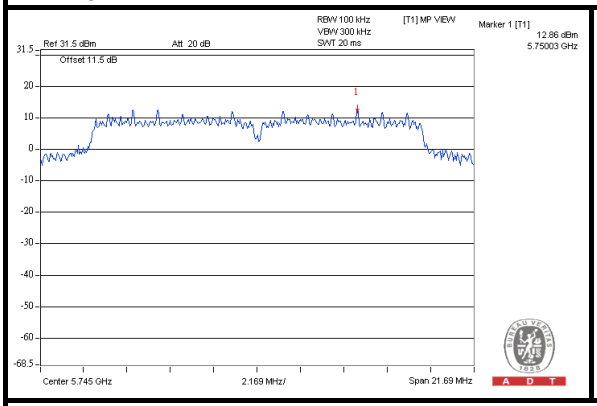
Same as Item 4.3.6

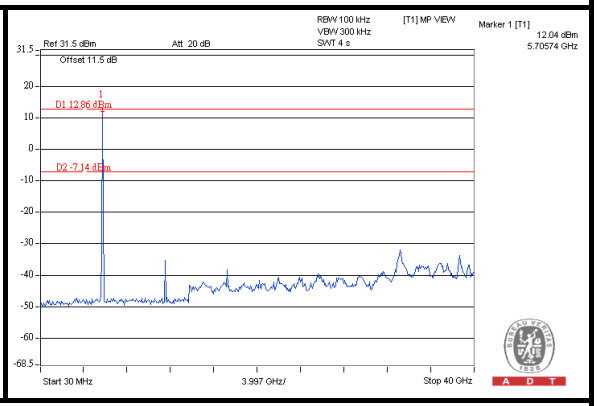
5.6.7 TEST RESULTS

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.

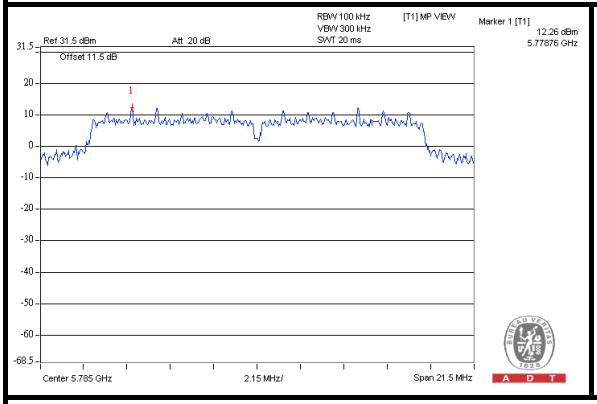
802.11a

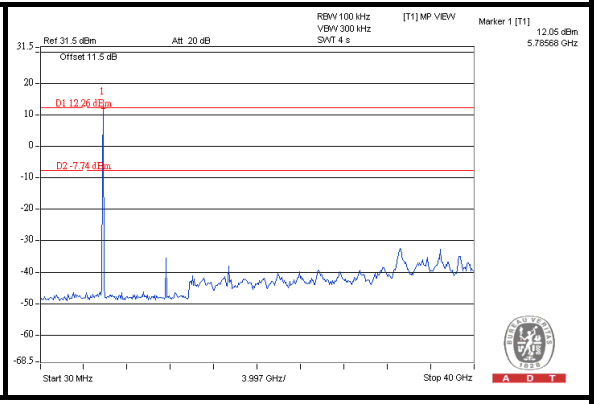
CH 149



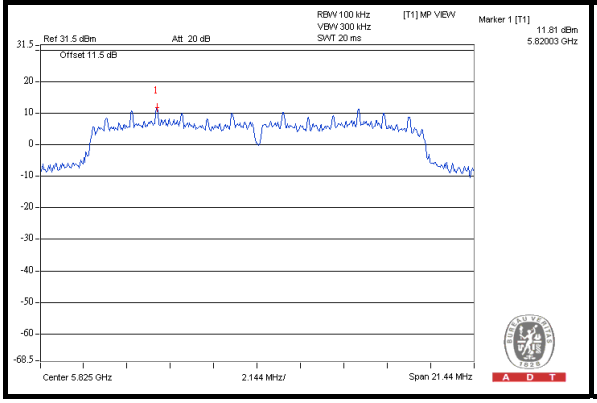


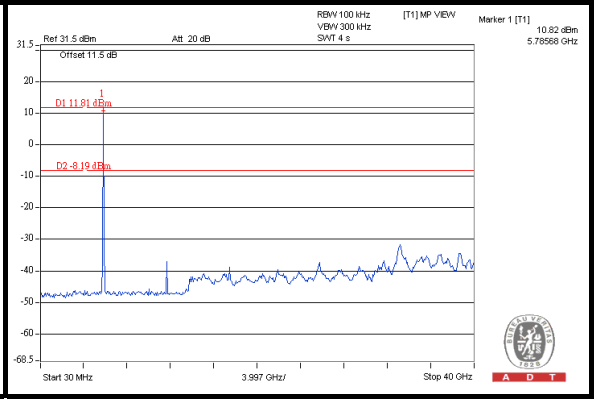
CH 157





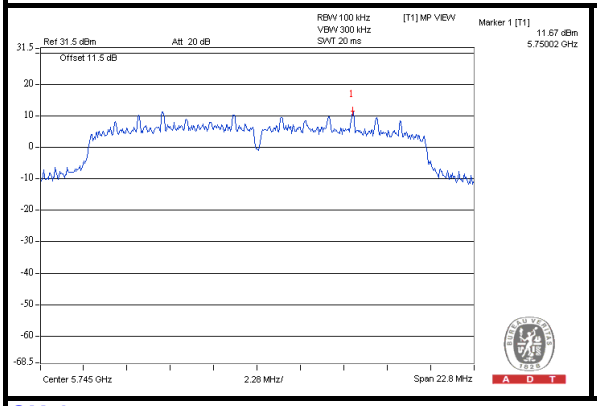
CH 165

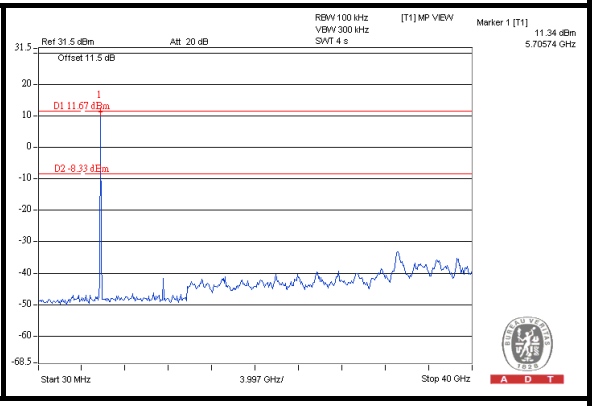




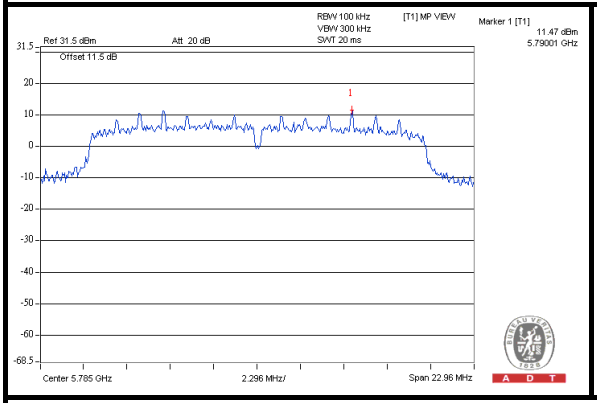
802.11n (20MHz)

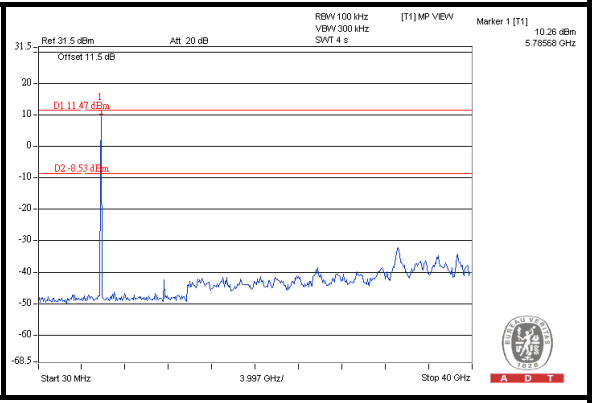
CH 149



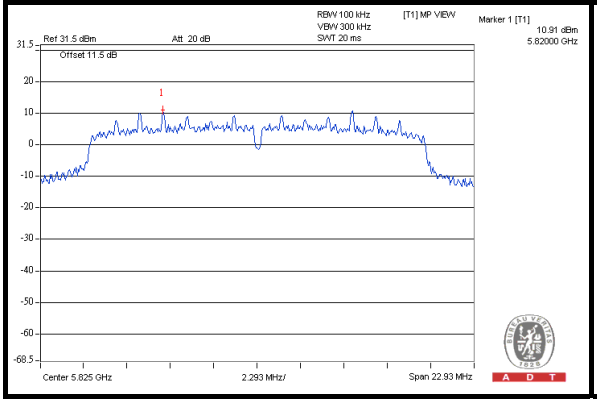


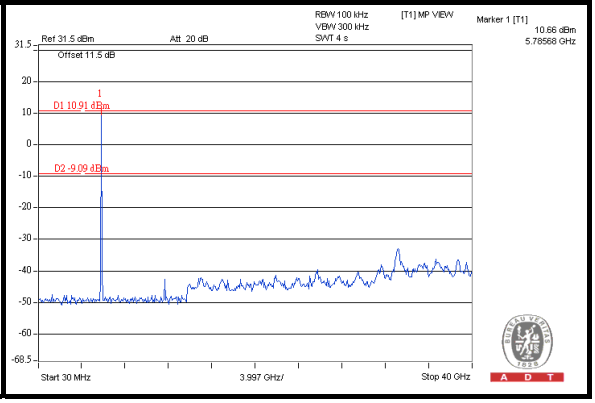
CH 157





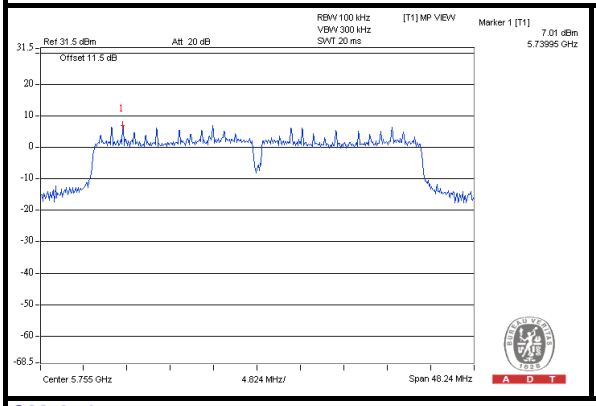
CH 165

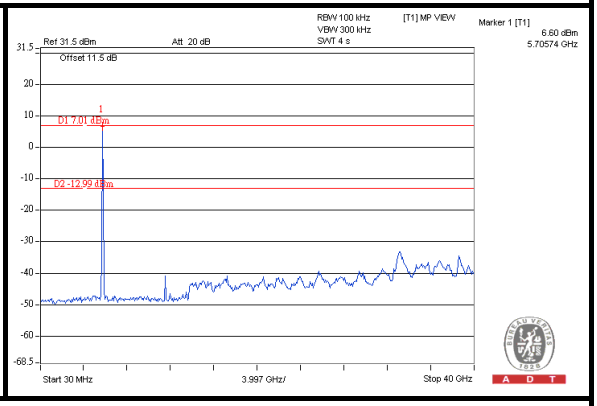




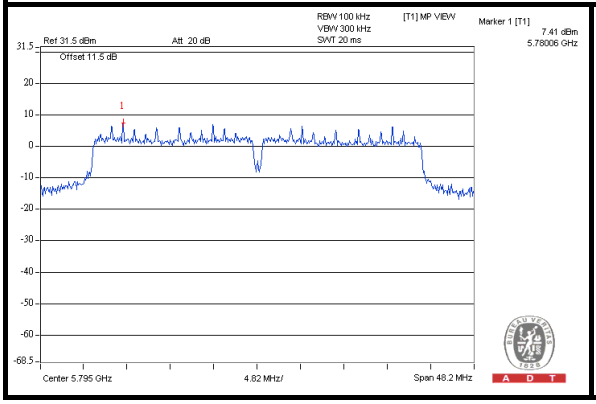
802.11n (40MHz)

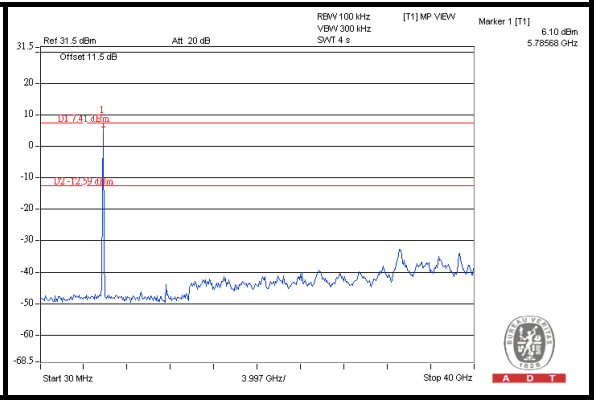
CH 151





CH 159





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:

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Web Site: www.bureauveritas-adt.com

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

8. 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---