FCC TEST REPORT (15.247)

REPORT NO.:	RF131213C05-4
MODEL NO.:	T00D
FCC ID:	MSQT00D
RECEIVED:	Dec. 13, 2013
TESTED:	Dec. 23, 2013 ~ Feb. 20, 2014
ISSUED:	Feb. 27, 2014

APPLICANT:	ASUSTek COMPUTER INC.
ADDRESS:	4F, No. 150, LI-TE Rd., PEITOU, TAIPEI 112, TAIWAN

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.

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF131213C05-4	Original release	Feb. 27, 2014

1. CERTIFICATION

PRODUCT:	PadFone X
MODEL NO.:	T00D
BRAND:	ASUS
APPLICANT:	ASUSTek COMPUTER INC.
TESTED:	Dec. 23, 2013 ~ Feb. 20, 2014
TEST SAMPLE:	ENGINEERING SAMPLE
STANDARDS:	**FCC Part 15, Subpart C (Section 15.247)**
	ANSI C63.10-2009

The above equipment (model: T00D) 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 : Evonne Liu , **DATE :** Feb. 27, 2014

Evonne Liu / Specialist

APPROVED BY : Sam Chen , **DATE :** Feb. 27, 2014

Sam Chen / Senior Project Engineer

2. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC PART 15, SUBPART 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 -1.91dB at 0.79063MHz.
15.247(d) 15.209	Radiated Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -2.65dB at 4824MHz.
15.247(d)	Band Edge Measurement	PASS	Meet the requirement of limit.
15.247(a)(2)	6dB bandwidth	PASS	Meet the requirement of limit.
15.247(b)	Conducted power	PASS	Meet the requirement of limit.
15.247(e)	Power Spectral Density	PASS	Meet the requirement of limit.
15.203	Antenna Requirement	PASS	No antenna connector is used.

2.1 MEASUREMENT UNCERTAINTY

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

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

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

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

EUT	PadFone X
MODEL NO.	T00D
POWER SUPPLY	5.0Vdc (adapter or host equipment) 3.8Vdc (Li-ion battery)
MODULATION TYPE	CCK, DQPSK, DBPSK for DSSS 256QAM, 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 MCS7 802.11ac: up to V9
OPERATING FREQUENCY	**2.4GHz:** 2412 ~ 2462MHz **5.0GHz:** 5745 ~ 5805MHz
NUMBER OF CHANNEL	**2.4GHz:** 11 for 802.11b, 802.11g, 802.11n (20MHz) **5.0GHz:** 4 for 802.11a, 802.11n (20MHz) 2 for 802.11n (40MHz) 1 for 802.11ac (80MHz)
OUTPUT POWER	167.109mW for 2412 ~ 2462MHz 244.343mW for 5745 ~ 5805MHz
ANTENNA TYPE	**2.4GHz:** PIFA antenna with 1dBi gain **5.0GHz:** PIFA antenna with 2dBi gain
ANTENNA CONNECTOR	NA
DATA CABLE	Refer to Note as below
I/O PORTS	Refer to user's manual
ACCESSORY DEVICES	Refer to Note as below

NOTE:

1. The EUT contains following accessory devices.

ITEM	BRAND	MODEL	SPECIFICATION
AC Adapter 1	ASUS	AD897320	I/P: 100-240Vac, 50-60Hz, 0.3A O/P: 5Vdc, 2A
AC Adapter 2	ASUS	W12-010N3A	I/P: 100-240Vac, 50-60Hz, 0.3A O/P: 5Vdc, 2A
Li-ion Battery	ASUS	C11P1322	Rating: 3.8Vdc, 8.7Wh
Earphone 1	ASUS	OBOPRO2	1.27m cable
Earphone 2	ASUS	WW	1.25m cable
Earphone 3	ASUS	CHM-125STS02001	1.15m cable
USB cable 1	ASUS	AA780300	0.85m cable
USB cable 2	ASUS	L65U2008-CS-B	0.95m cable
USB cable 3	ASUS	CUHD003B-Y05-EF	0.95m cable
LCD Panel	SHARP	LS050T1SX04	--
Front Camera 1	AZWAVE	AM-2F024	--
Front Camera 2	Chicony	CCFD21220003871LH	--
Rear Camera	LARVIEW	CBAA0-010A	--
WLAN / BT Module	QUALCOMM	WIRELESS IC 79BWLNSP	--
PadFone X Station	ASUS	T00DP	--
Battery for PadFone X Station	ASUS	C11P1323	3.8Vdc, 19Wh

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

MODULATION MODE	TX FUNCTION
802.11b	1TX
802.11g	1TX
802.11a	1TX
802.11n (20MHz)	1TX
802.11n (40MHz)	1TX
802.11ac (80MHz)	1TX

3. The configurations of the device listed as below.

   SKU 1 (PadFone X): Phone (with Front Camera 1) + AC Adapter 2 + Earphone 2 + USB cable 2

   SKU 2 (PadFone X Station):
   Phone (with Front Camera 1) + Pad + AC Adapter 2 + Earphone 2 + USB cable 2

   SKU 3 (PadFone X): Phone (with Front Camera 2) + AC Adapter 2 + Earphone 2 + USB cable 2

   SKU 4 (PadFone X Station):
   Phone (with Front Camera 2) + Pad + AC Adapter 2 + Earphone 2 + USB cable 2

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

3.2 DESCRIPTION OF TEST MODES

FOR 2.4GHz:

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

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

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

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

FOR 5.0GHz (5745 ~ 5805MHz):

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

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

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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
151	5755MHz	159	5795MHz

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

CHANNEL	FREQUENCY
155	5775MHz

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	
A	√	√	√	√	SKU 1 (PadFone X)
B	√	√	√	-	SKU 2 (PadFone X Station)
C	√	√	-	-	SKU 3 (PadFone X)
D	√	√	-	-	SKU 4 (PadFone X Station)

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** for Mode A, C and **Z-plane** for Mode B, D**.**

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	802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1.0
	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6.0
	802.11n (20MHz)	1 to 11	1, 6, 11	OFDM	BPSK	MCS0
B, C, D	802.11b	1 to 11	1	DSSS	DBPSK	1.0

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	802.11b	1 to 11	6	OFDM	BPSK	MCS0
B, C, D	802.11b	1 to 11	1	DSSS	DBPSK	1.0

POWER LINE CONDUCTED EMISSION TEST:

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A	802.11b	1 to 11	6	OFDM	BPSK	MCS0
B	802.11b	1 to 11	1	DSSS	DBPSK	1.0

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	802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1.0
	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6.0
	802.11n (20MHz)	1 to 11	1, 6, 11	OFDM	BPSK	MCS0

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	802.11b	1 to 11	1, 6, 11	DSSS	DBPSK	1.0
	802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6.0
	802.11n (20MHz)	1 to 11	1, 6, 11	OFDM	BPSK	MCS0

TEST CONDITION:

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

FOR 5.0GHz (5745 ~ 5805MHz):

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE≥1G	RE<1G	PLC	APCM	
A	√	√	√	√	SKU 1 (PadFone X)
B	√	√	-	-	SKU 2 (PadFone X Station)
C	√	√	-	-	SKU 3 (PadFone X)
D	√	√	-	-	SKU 4 (PadFone X Station)

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** for Mode A, B and **Z-plane** for Mode C, D**.**

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	802.11a	149 to 161	149, 157, 161	OFDM	BPSK	6.0
	802.11n (20MHz)	149 to 161	149, 157, 161	OFDM	BPSK	MCS0
	802.11n (40MHz)	151 to 159	151, 159	OFDM	BPSK	MCS0
	802.11ac (80MHz)	155	155	OFDM	BPSK	V0
B, C, D	802.11ac (80MHz)	155	155	OFDM	BPSK	V0

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	802.11a	149 to 161	157	OFDM	BPSK	6.0
B, C, D	802.11ac (80MHz)	155	155	OFDM	BPSK	V0

POWER LINE CONDUCTED EMISSION TEST:

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A	802.11a	149 to 161	157	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	802.11a	149 to 161	149, 157, 161	OFDM	BPSK	6.0
	802.11n (20MHz)	149 to 161	149, 157, 161	OFDM	BPSK	MCS0
	802.11n (40MHz)	151 to 159	151, 159	OFDM	BPSK	MCS0
	802.11ac (80MHz)	155	155	OFDM	BPSK	V0

ANTENNA PORT CONDUCTED MEASUREMENT:

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

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

EUT CONFIGURE MODE	MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A	802.11a	149 to 161	149, 157, 161	OFDM	BPSK	6.0
	802.11n (20MHz)	149 to 161	149, 157, 161	OFDM	BPSK	MCS0
	802.11n (40MHz)	151 to 159	151, 159	OFDM	BPSK	MCS0
	802.11ac (80MHz)	155	155	OFDM	BPSK	V0

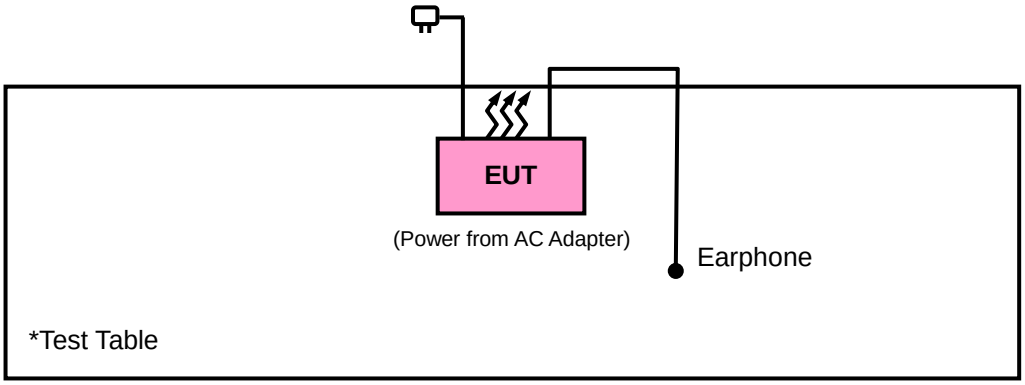
TEST CONDITION:

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

3.3 DESCRIPTION OF SUPPORT UNITS

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

3.3.1 CONFIGURATION OF SYSTEM UNDER TEST



3.4 DUTY CYCLE TEST SIGNAL

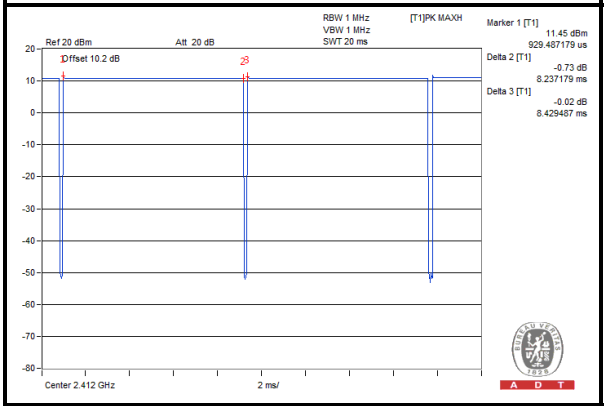
2.4GHz

802.11b: Duty cycle = 8.237/8.429 = 0.977, Duty factor = 10 * log(1/0.977) = 0.10

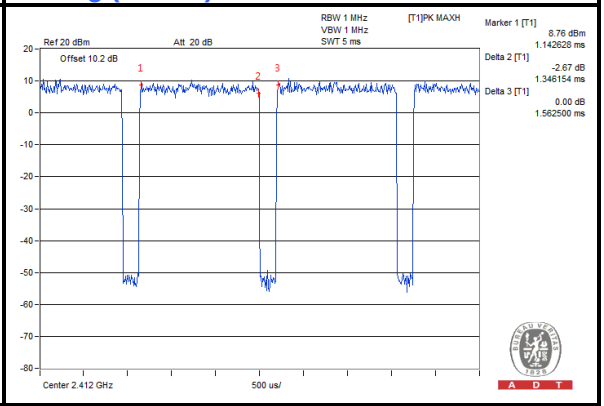
802.11g: Duty cycle = 1.346/1.563 = 0.861, Duty factor = 10 * log(1/0.861) = 0.65

802.11n (20MHz): Duty cycle = 1.266/1.482 = 0.854, Duty factor = 10 * log(1/0.854) = 0.69

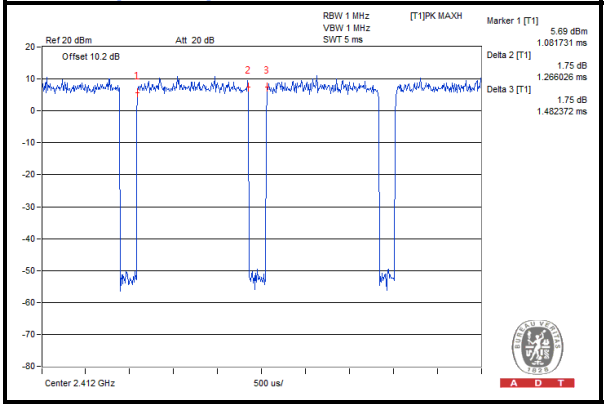
802.11b



802.11g (20MHz)



802.11n (20MHz)



5725MHz ~ 5850MHz

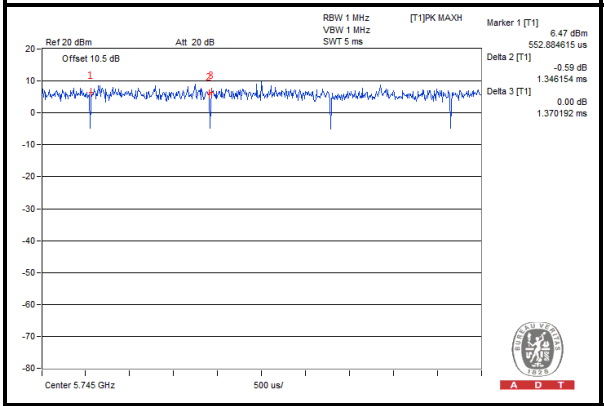
802.11a: Duty cycle = 1.346/1.370 = 0.982

802.11n (20MHz): Duty cycle = 1.266/1.282 = 0.987

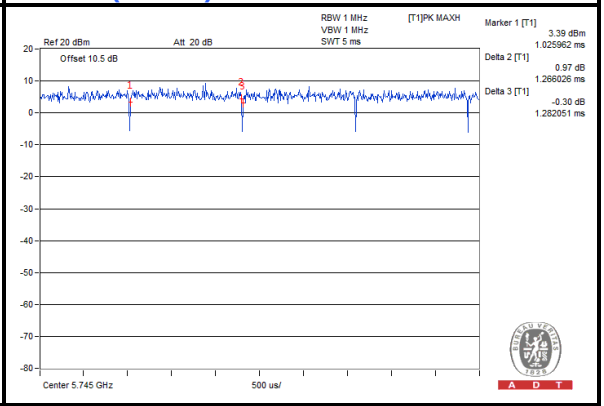
802.11n (40MHz): Duty cycle = 596/660 = 0.903, Duty factor = 10 * log(1/0.903) = 0.44

802.11ac (80MHz): Duty cycle = 216/261 = 0.828, Duty factor = 10 * log(1/0.828) = 0.82

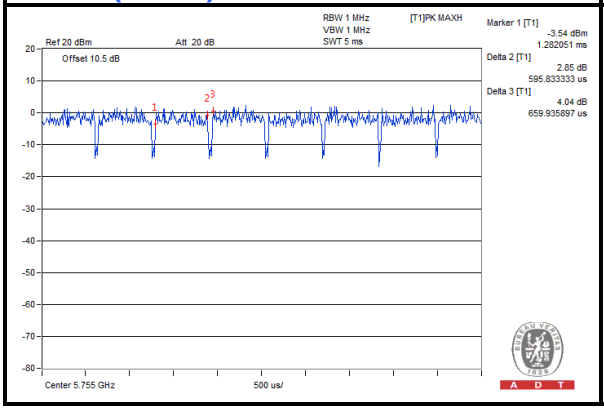
802.11a



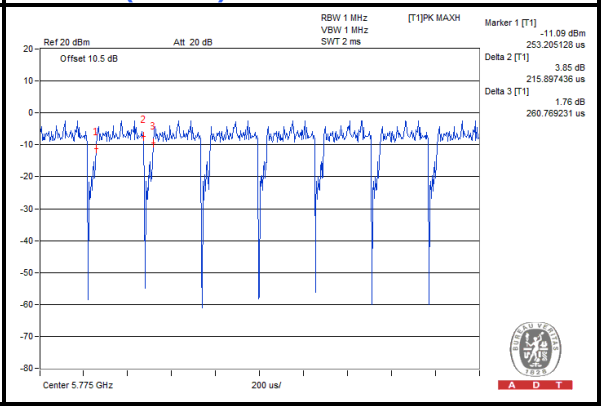
802.11n (20MHz)



802.11n (40MHz)



802.11ac (80MHz)



3.5 GENERAL DESCRIPTION OF APPLIED STANDARDS

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

FCC Part 15, Subpart C (15.247)
ANSI C63.10-2009
KDB 558074 D01 DTS Meas Guidance v03r01
662911 D01 Multiple Transmitter Output v01 r02

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 Date: Dec. 23, 2013 ~ Feb. 20, 2014

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESCI	100744	Apr. 15, 2013	Apr. 14, 2014
Spectrum Analyzer ROHDE & SCHWARZ	FSU43	101261	Dec. 21, 2013	Dec. 20, 2014
BILOG Antenna SCHWARZBECK	VULB9168	9168-472	Mar. 25, 2013	Mar. 24, 2014
HORN Antenna SCHWARZBECK	BBHA 9120D	9120D-405	Feb. 21, 2013	Feb. 20, 2014
HORN Antenna SCHWARZBECK	BBHA 9170	9170-480	Dec. 18, 2013	Dec. 17, 2014
Preamplifier EMCI	EMC0126545	980076	Feb. 27, 2013	Feb. 26, 2014
Preamplifier EMCI	EMC 330H	980071	Feb. 27, 2013	Feb. 26, 2014
Preamplifier EMCI	EMC 330H	980112	Dec. 27, 2013	Dec. 26, 2014
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	309219/4	Oct. 18, 2013	Oct. 17, 2014
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	250130/4	Oct. 18, 2013	Oct. 17, 2014
RF signal cable Worken	RG-213	NA	Nov. 07, 2013	Nov. 06, 2014
Software BV ADT	E3 6.120103	NA	NA	NA
Antenna Tower MF	MFA-440H	NA	NA	NA
Turn Table MF	MFT-201SS	NA	NA	NA
Antenna Tower &Turn Table Controller MF	MF-7802	NA	NA	NA
Power Meter	ML2495A	1232002	Aug. 23, 2013	Aug. 22, 2014
Power Sensor	MA2411B	1207325	Aug. 23, 2013	Aug. 22, 2014

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

4.1.3 TEST PROCEDURES

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meters semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. Height of receiving antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

f. If the emission level of the EUT in peak mode was lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

NOTE:

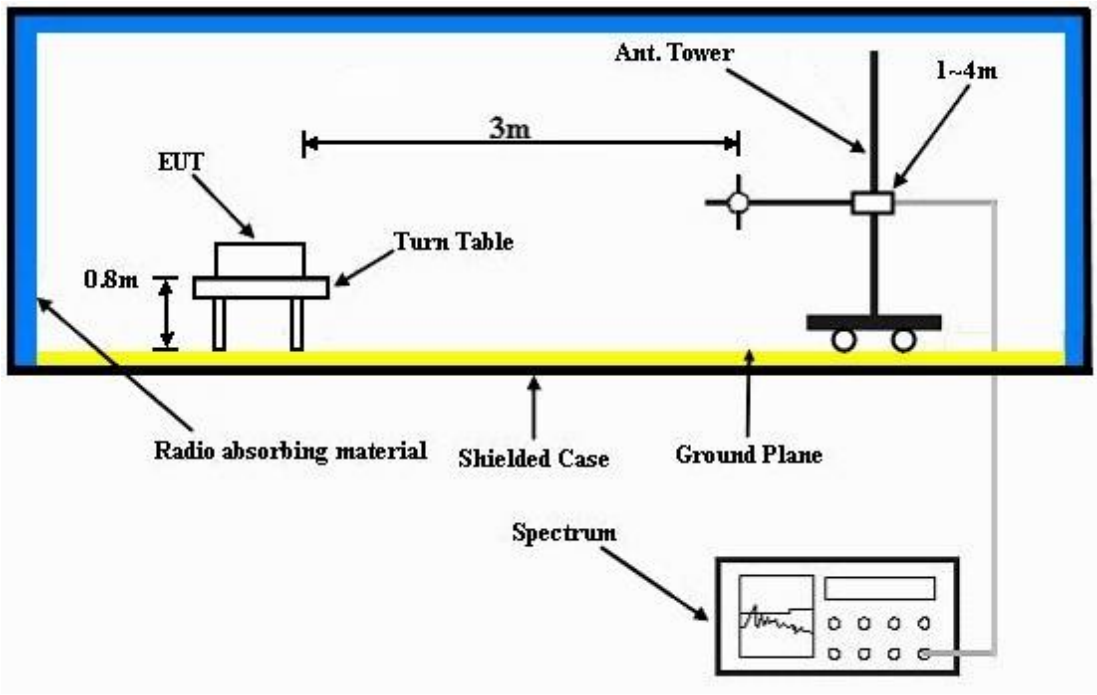
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
3. The resolution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

4.1.4 DEVIATION FROM TEST STANDARD

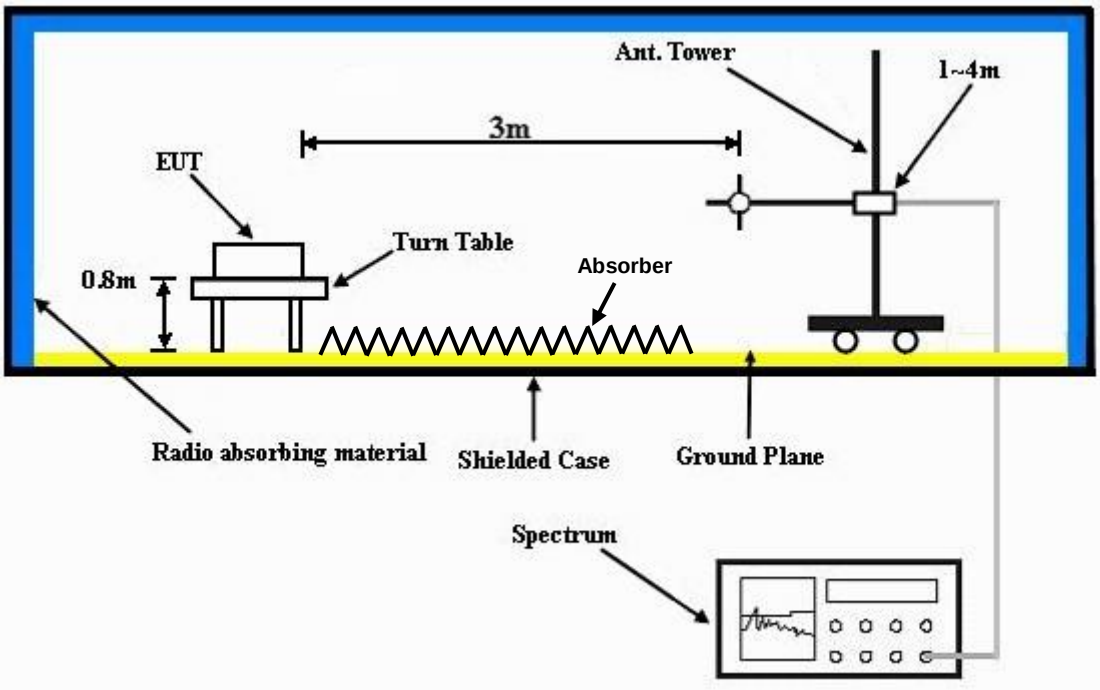
No deviation.

4.1.5 TEST SETUP

Frequency Range 30MHz ~ 1GHz



Frequency Range above 1GHz



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

4.1.6 EUT OPERATING CONDITIONS

a. Placed the EUT on a testing table.

b. Use the software to control the EUT under transmission condition continuously at specific channel frequency.

4.1.7 TEST RESULTS

Mode A

ABOVE 1GHz WORST-CASE DATA

802.11b

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	**EMISSION LEVEL (dBuV/m)**	**READ LEVEL (dBuV)**	**LIMIT (dBuV/m)**	**MARGIN (dB)**	**ANTENNA FACTOR (dB/m)**	**CABLE LOSS (dB)**	**PREAMP FACTOR (dB)**	**ANTENNA HEIGHT (cm)**	**TABLE ANGLE (Degree)**	**REMARK**
2388	42.45	40.61	54	-11.55	31.93	5.4	35.49	132	301	Average
2388	56.99	55.15	74	-17.01	31.93	5.4	35.49	132	301	Peak
2412	102.39	100.47			31.96	5.43	35.47	132	301	Average
2412	105.98	104.06			31.96	5.43	35.47	132	301	Peak
2500	42.19	39.97	54	-11.81	32.1	5.53	35.41	132	301	Average
2500	57.09	54.87	74	-16.91	32.1	5.53	35.41	132	301	Peak
4824	49.06	41	54	-4.94	34.26	7.9	34.1	155	0	Average
4824	52.69	44.63	74	-21.31	34.26	7.9	34.1	155	0	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	**EMISSION LEVEL (dBuV/m)**	**READ LEVEL (dBuV)**	**LIMIT (dBuV/m)**	**MARGIN (dB)**	**ANTENNA FACTOR (dB/m)**	**CABLE LOSS (dB)**	**PREAMP FACTOR (dB)**	**ANTENNA HEIGHT (cm)**	**TABLE ANGLE (Degree)**	**REMARK**
2368	40.79	39.01	54	-13.21	31.9	5.37	35.49	114	333	Average
2368	55.07	53.29	74	-18.93	31.9	5.37	35.49	114	333	Peak
2412	99.01	97.09			31.96	5.43	35.47	114	333	Average
2412	101.53	99.61			31.96	5.43	35.47	114	333	Peak
2492	41.29	39.07	54	-12.71	32.1	5.53	35.41	114	333	Average
2492	55.8	53.58	74	-18.2	32.1	5.53	35.41	114	333	Peak
4824	51.35	43.29	54	-2.65	34.26	7.9	34.1	144	272	Average
4824	54.16	46.1	74	-19.84	34.26	7.9	34.1	144	272	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 2412MHz: Fundamental frequency.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	41.85	39.99	54	-12.15	31.93	5.4	35.47	130	300	Average
2390	58.46	56.6	74	-15.54	31.93	5.4	35.47	130	300	Peak
2437	100.97	98.96			32.01	5.46	35.46	130	300	Average
2437	104.01	102			32.01	5.46	35.46	130	300	Peak
2494	42.15	39.93	54	-11.85	32.1	5.53	35.41	130	300	Average
2494	59.06	56.84	74	-14.94	32.1	5.53	35.41	130	300	Peak
4874	49.11	40.96	54	-4.89	34.3	7.91	34.06	152	130	Average
4874	52.74	44.59	74	-21.26	34.3	7.91	34.06	152	130	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2322	38.64	37.05	54	-15.36	31.81	5.3	35.52	113	332	Average
2322	56.76	55.17	74	-17.24	31.81	5.3	35.52	113	332	Peak
2437	99.18	97.17			32.01	5.46	35.46	113	332	Average
2437	101.02	99.01			32.01	5.46	35.46	113	332	Peak
2484	41.12	38.94	54	-12.88	32.1	5.5	35.42	113	332	Average
2484	56.98	54.8	74	-17.02	32.1	5.5	35.42	113	332	Peak
4874	48.28	40.13	54	-5.72	34.3	7.91	34.06	166	343	Average
4874	52.37	44.22	74	-21.63	34.3	7.91	34.06	166	343	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 2437MHz: Fundamental frequency.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2376	38.79	37.01	54	-15.21	31.9	5.37	35.49	124	304	Average
2376	56.49	54.71	74	-17.51	31.9	5.37	35.49	124	304	Peak
2462	101.4	99.3			32.04	5.5	35.44	124	304	Average
2462	104.29	102.19			32.04	5.5	35.44	124	304	Peak
2486	42.22	40.01	54	-11.78	32.1	5.53	35.42	124	304	Average
2486	57.86	55.65	74	-16.14	32.1	5.53	35.42	124	304	Peak
4924	51.05	42.45	54	-2.95	34.34	8.28	34.02	137	331	Average
4924	53.25	44.65	74	-20.75	34.34	8.28	34.02	137	331	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2380	40.86	39.08	54	-13.14	31.9	5.37	35.49	110	332	Average
2380	56.14	54.36	74	-17.86	31.9	5.37	35.49	110	332	Peak
2462	97.54	95.44			32.04	5.5	35.44	110	332	Average
2462	100.38	98.28			32.04	5.5	35.44	110	332	Peak
2492	41.22	39	54	-12.78	32.1	5.53	35.41	110	332	Average
2492	56.82	54.6	74	-17.18	32.1	5.53	35.41	110	332	Peak
4924	49.59	40.99	54	-4.41	34.34	8.28	34.02	155	228	Average
4924	53.27	44.67	74	-20.73	34.34	8.28	34.02	155	228	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 2462MHz: Fundamental frequency.

802.11g

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	50.74	48.88	54	-3.26	31.93	5.4	35.47	134	306	Average
2390	62.57	60.71	74	-11.43	31.93	5.4	35.47	134	306	Peak
2412	97.79	95.87			31.96	5.43	35.47	134	306	Average
2412	105.13	103.21			31.96	5.43	35.47	134	306	Peak
2496	40.97	38.75	54	-13.03	32.1	5.53	35.41	134	306	Average
2496	55.68	53.46	74	-18.32	32.1	5.53	35.41	134	306	Peak
4824	49.92	41.5	54	-4.08	34.26	8.26	34.1	156	0	Average
4824	57.13	48.71	74	-16.87	34.26	8.26	34.1	156	0	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	47.49	45.63	54	-6.51	31.93	5.4	35.47	110	86	Average
2390	63.23	61.37	74	-10.77	31.93	5.4	35.47	110	86	Peak
2412	92.64	90.72			31.96	5.43	35.47	110	86	Average
2412	100.06	98.14			31.96	5.43	35.47	110	86	Peak
2498	40.88	38.66	54	-13.12	32.1	5.53	35.41	110	86	Average
2498	55.65	53.43	74	-18.35	32.1	5.53	35.41	110	86	Peak
4824	49.3	40.88	54	-4.7	34.26	8.26	34.1	146	0	Average
4824	56.31	47.89	74	-17.69	34.26	8.26	34.1	146	0	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 2412MHz: Fundamental frequency.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2384	48.53	46.69	54	-5.47	31.93	5.4	35.49	131	303	Average
2384	58.61	56.77	74	-15.39	31.93	5.4	35.49	131	303	Peak
2437	99.96	97.95			32.01	5.46	35.46	131	303	Average
2437	107.6	105.59			32.01	5.46	35.46	131	303	Peak
2490	46.7	44.49	54	-7.3	32.1	5.53	35.42	131	303	Average
2490	58	55.79	74	-16	32.1	5.53	35.42	131	303	Peak
4874	49.9	41.39	54	-4.1	34.3	8.27	34.06	138	360	Average
4874	57.78	49.27	74	-16.22	34.3	8.27	34.06	138	360	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2386	44.85	43.01	54	-9.15	31.93	5.4	35.49	105	86	Average
2386	56.01	54.17	74	-17.99	31.93	5.4	35.49	105	86	Peak
2437	96.09	94.08			32.01	5.46	35.46	105	86	Average
2437	104.19	102.18			32.01	5.46	35.46	105	86	Peak
2490	44.58	42.37	54	-9.42	32.1	5.53	35.42	105	86	Average
2490	56.74	54.53	74	-17.26	32.1	5.53	35.42	105	86	Peak
4874	50.58	42.07	54	-3.42	34.3	8.27	34.06	160	0	Average
4874	58.32	49.81	74	-15.68	34.3	8.27	34.06	160	0	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 2437MHz: Fundamental frequency.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2366	41.11	39.33	54	-12.89	31.9	5.37	35.49	127	303	Average
2366	55.79	54.01	74	-18.21	31.9	5.37	35.49	127	303	Peak
2462	96.22	94.12			32.04	5.5	35.44	127	303	Average
2462	103.92	101.82			32.04	5.5	35.44	127	303	Peak
2484	50.89	48.71	54	-3.11	32.1	5.5	35.42	127	303	Average
2484	66.86	64.68	74	-7.14	32.1	5.5	35.42	127	303	Peak
4924	47.39	38.79	54	-6.61	34.34	8.28	34.02	156	0	Average
4924	55.22	46.62	74	-18.78	34.34	8.28	34.02	156	0	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2376	40.33	38.55	54	-13.67	31.9	5.37	35.49	106	86	Average
2376	55.41	53.63	74	-18.59	31.9	5.37	35.49	106	86	Peak
2462	92.35	90.25			32.04	5.5	35.44	106	86	Average
2462	100.62	98.52			32.04	5.5	35.44	106	86	Peak
2484	46.41	44.23	54	-7.59	32.1	5.5	35.42	106	86	Average
2484	63.11	60.93	74	-10.89	32.1	5.5	35.42	106	86	Peak
4924	47.06	38.46	54	-6.94	34.34	8.28	34.02	159	0	Average
4924	55.8	47.2	74	-18.2	34.34	8.28	34.02	159	0	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 2462MHz: Fundamental frequency.

802.11n (20MHz)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	50.58	48.72	54	-3.42	31.93	5.4	35.47	132	303	Average
2390	63.9	62.04	74	-10.1	31.93	5.4	35.47	132	303	Peak
2412	96.54	94.62			31.96	5.43	35.47	132	303	Average
2412	104.95	103.03			31.96	5.43	35.47	132	303	Peak
2498	40.92	38.7	54	-13.08	32.1	5.53	35.41	132	303	Average
2498	56.61	54.39	74	-17.39	32.1	5.53	35.41	132	303	Peak
4824	48.67	40.25	54	-5.33	34.26	8.26	34.1	154	360	Average
4824	57.27	48.85	74	-16.73	34.26	8.26	34.1	154	360	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2390	47.49	45.63	54	-6.51	31.93	5.4	35.47	143	88	Average
2390	59.73	57.87	74	-14.27	31.93	5.4	35.47	143	88	Peak
2412	91.62	89.7			31.96	5.43	35.47	143	88	Average
2412	99.13	97.21			31.96	5.43	35.47	143	88	Peak
2490	40.81	38.6	54	-13.19	32.1	5.53	35.42	143	88	Average
2490	55.24	53.03	74	-18.76	32.1	5.53	35.42	143	88	Peak
4824	47.82	39.4	54	-6.18	34.26	8.26	34.1	163	0	Average
4824	56.91	48.49	74	-17.09	34.26	8.26	34.1	163	0	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 2412MHz: Fundamental frequency.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2386	49.82	47.98	54	-4.18	31.93	5.4	35.49	132	304	Average
2386	59.12	57.28	74	-14.88	31.93	5.4	35.49	132	304	Peak
2437	99.45	97.44			32.01	5.46	35.46	132	304	Average
2437	107.29	105.28			32.01	5.46	35.46	132	304	Peak
2490	47.14	44.93	54	-6.86	32.1	5.53	35.42	132	304	Average
2490	56.93	54.72	74	-17.07	32.1	5.53	35.42	132	304	Peak
4874	49.04	40.53	54	-4.96	34.3	8.27	34.06	156	220	Average
4874	56.46	47.95	74	-17.54	34.3	8.27	34.06	156	220	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2386	46.25	44.41	54	-7.75	31.93	5.4	35.49	108	86	Average
2386	57.59	55.75	74	-16.41	31.93	5.4	35.49	108	86	Peak
2437	96.05	94.04			32.01	5.46	35.46	108	86	Average
2437	103.36	101.35			32.01	5.46	35.46	108	86	Peak
2484	44.51	42.33	54	-9.49	32.1	5.5	35.42	108	86	Average
2484	56.33	54.15	74	-17.67	32.1	5.5	35.42	108	86	Peak
4874	48.04	39.53	54	-5.96	34.3	8.27	34.06	166	0	Average
4874	59.57	51.06	74	-14.43	34.3	8.27	34.06	166	0	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 2437MHz: Fundamental frequency.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2376	40.59	38.81	54	-13.41	31.9	5.37	35.49	128	304	Average
2376	56.03	54.25	74	-17.97	31.9	5.37	35.49	128	304	Peak
2462	94.83	92.73			32.04	5.5	35.44	128	304	Average
2462	101.94	99.84			32.04	5.5	35.44	128	304	Peak
2484	50.96	48.78	54	-3.04	32.1	5.5	35.42	128	304	Average
2484	63.11	60.93	74	-10.89	32.1	5.5	35.42	128	304	Peak
4924	48.75	40.15	54	-5.25	34.34	8.28	34.02	142	206	Average
4924	54.29	45.69	74	-19.71	34.34	8.28	34.02	142	206	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2380	40.1	38.32	54	-13.9	31.9	5.37	35.49	139	85	Average
2380	55.79	54.01	74	-18.21	31.9	5.37	35.49	139	85	Peak
2462	90.51	88.41			32.04	5.5	35.44	139	85	Average
2462	97.65	95.55			32.04	5.5	35.44	139	85	Peak
2486	46.72	44.51	54	-7.28	32.1	5.53	35.42	139	85	Average
2486	60.92	58.71	74	-13.08	32.1	5.53	35.42	139	85	Peak
4924	48.72	40.12	54	-5.28	34.34	8.28	34.02	163	215	Average
4924	54	45.4	74	-20	34.34	8.28	34.02	163	215	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 2462MHz: Fundamental frequency.

BELOW 1GHz WORST-CASE DATA:

802.11b

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 6	FREQUENCY RANGE	30MHz ~ 1GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Kay Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
58.08	18.35	42.7	40	-21.65	6.98	0.9	32.23	155	216	Peak
67.8	21.53	45.03	40	-18.47	7.82	0.9	32.22	102	165	Peak
96.42	35.06	56.4	43.5	-8.44	9.42	1.28	32.04	133	265	Peak
360.9	20.32	33.8	46	-25.68	16.36	2.26	32.1	102	216	Peak
496	20.28	30.76	46	-25.72	18.99	2.63	32.1	133	226	Peak
601	26.78	35	46	-19.22	21.1	2.87	32.19	156	157	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
47.28	21	43.67	40	-19	8.65	0.9	32.22	155	95	Peak
94.53	35.3	56.92	43.5	-8.2	9.26	1.11	31.99	184	157	Peak
146.91	16.93	37.83	43.5	-26.57	9.85	1.52	32.27	125	187	Peak
393.8	21.14	33.36	46	-24.86	17.65	2.34	32.21	125	184	Peak
527.5	21.31	30.1	46	-24.69	20.66	2.7	32.15	102	158	Peak
623.4	23.96	31.1	46	-22.04	22.1	2.93	32.17	174	88	Peak

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

Mode B

ABOVE 1GHz WORST-CASE DATA

802.11b

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2372	40.94	39.16	54	-13.06	31.9	5.37	35.49	100	188	Average
2372	55.37	53.59	74	-18.63	31.9	5.37	35.49	100	188	Peak
2412	95.95	94.03			31.96	5.43	35.47	100	188	Average
2412	98.94	97.02			31.96	5.43	35.47	100	188	Peak
2492	39.91	37.69	54	-14.09	32.1	5.53	35.41	100	188	Average
2492	56.09	53.87	74	-17.91	32.1	5.53	35.41	100	188	Peak
4824	49.3	40.88	54	-4.7	34.26	8.26	34.1	100	129	Average
4824	51.14	42.72	74	-22.86	34.26	8.26	34.1	100	129	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2358	41.17	39.43	54	-12.83	31.87	5.37	35.5	102	180	Average
2358	55.49	53.75	74	-18.51	31.87	5.37	35.5	102	180	Peak
2412	98.97	97.05			31.96	5.43	35.47	102	180	Average
2412	102	100.08			31.96	5.43	35.47	102	180	Peak
2496	40	37.78	54	-14	32.1	5.53	35.41	102	180	Average
2496	55.79	53.57	74	-18.21	32.1	5.53	35.41	102	180	Peak
4824	48.99	40.57	54	-5.01	34.26	8.26	34.1	100	140	Average
4824	50.96	42.54	74	-23.04	34.26	8.26	34.1	100	140	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 2412MHz: Fundamental frequency.

BELOW 1GHz WORST-CASE DATA:

802.11b

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
91.29	28.64	50.28	43.5	-14.86	9.02	1.11	31.77	105	228	Peak
122.07	25.42	47.48	43.5	-18.08	8.8	1.38	32.24	152	24	Peak
179.85	25.05	45.32	43.5	-18.45	10.36	1.61	32.24	133	57	Peak
400.1	21.79	33.57	46	-24.21	18.1	2.34	32.22	100	85	Peak
468	22.96	33.9	46	-23.04	18.63	2.56	32.13	100	33	Peak
719.3	25.17	30.81	46	-20.83	23.31	3.16	32.11	100	164	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
31.62	30.75	45.7	40	-9.25	16.57	0.74	32.26	133	85	Peak
85.08	27.84	50.03	40	-12.16	8.66	1.11	31.96	198	58	Peak
151.5	17.4	37.93	43.5	-26.1	10.22	1.52	32.27	133	253	Peak
468	20.93	31.87	46	-25.07	18.63	2.56	32.13	100	132	Peak
599.6	24.09	32.31	46	-21.91	21.1	2.87	32.19	100	85	Peak
792.1	25.65	30.22	46	-20.35	24.23	3.27	32.07	100	152	Peak

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

Mode C

ABOVE 1GHz WORST-CASE DATA

802.11b

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2386	37.17	42.92	54	-16.83	28.23	3.52	37.5	132	298	Average
2386	52.55	58.3	74	-21.45	28.23	3.52	37.5	132	298	Peak
2412	96.51	102.23			28.26	3.54	37.52	132	298	Average
2412	100.68	106.4			28.26	3.54	37.52	132	298	Peak
2490	34.59	39.89	54	-19.41	28.4	3.62	37.32	132	298	Average
2490	51.09	56.39	74	-22.91	28.4	3.62	37.32	132	298	Peak
4824	48.91	63.2	54	-5.09	33.02	5.77	53.08	100	157	Average
4824	52.43	66.72	74	-21.57	33.02	5.77	53.08	100	157	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2388	34.82	40.55	54	-19.18	28.23	3.54	37.5	119	2	Average
2388	51.35	57.08	74	-22.65	28.23	3.54	37.5	119	2	Peak
2412	89.52	95.24			28.26	3.54	37.52	119	2	Average
2412	93.5	99.22			28.26	3.54	37.52	119	2	Peak
2494	34.42	39.65	54	-19.58	28.4	3.62	37.25	119	2	Average
2494	51.02	56.25	74	-22.98	28.4	3.62	37.25	119	2	Peak
4824	48.37	62.66	54	-5.63	33.02	5.77	53.08	102	249	Average
4824	50.7	64.99	74	-23.3	33.02	5.77	53.08	102	249	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 2412MHz: Fundamental frequency.

BELOW 1GHz WORST-CASE DATA:

802.11b

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
97.5	19.3	41.29	43.5	-24.2	8.91	1.06	31.96	100	46	Peak
144.48	20.29	38.09	43.5	-23.21	12.51	1.32	31.63	100	85	Peak
271.65	20.37	38.33	46	-25.63	12.11	1.92	31.99	100	105	Peak
458.2	19.64	32.51	46	-26.36	16.48	2.64	31.99	100	166	Peak
669.6	25.12	33.19	46	-20.88	20.44	3.31	31.82	100	192	Peak
897.8	28.92	33.48	46	-17.08	23.49	3.96	32.01	100	182	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
37.56	32.8	49.95	40	-7.2	13.24	0.63	31.02	100	312	Peak
145.56	18.83	36.59	43.5	-24.67	12.54	1.32	31.62	100	156	Peak
256.8	15.34	33.69	46	-30.66	11.68	1.85	31.88	100	254	Peak
373.5	18.16	33.07	46	-27.84	14.7	2.32	31.93	100	158	Peak
560.4	21.86	32.24	46	-24.14	18.7	2.98	32.06	100	241	Peak
820.1	27.01	32.38	46	-18.99	22.49	3.75	31.61	100	178	Peak

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

Mode D

ABOVE 1GHz WORST-CASE DATA

802.11b

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2386	35.32	41.07	54	-18.68	28.23	3.52	37.5	144	266	Average
2386	51.75	57.5	74	-22.25	28.23	3.52	37.5	144	266	Peak
2412	93.7	99.42			28.26	3.54	37.52	144	266	Average
2412	97.69	103.41			28.26	3.54	37.52	144	266	Peak
2492	34.63	39.86	54	-19.37	28.4	3.62	37.25	144	266	Average
2492	51.85	57.08	74	-22.15	28.4	3.62	37.25	144	266	Peak
4824	44.67	58.96	54	-9.33	33.02	5.77	53.08	102	38	Average
4824	49.55	63.84	74	-24.45	33.02	5.77	53.08	102	38	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
2348	34.74	40.58	54	-19.26	28.15	3.5	37.49	121	334	Average
2348	51.39	57.23	74	-22.61	28.15	3.5	37.49	121	334	Peak
2412	91.55	97.27			28.26	3.54	37.52	121	334	Average
2412	95.62	101.34			28.26	3.54	37.52	121	334	Peak
2500	34.41	39.64	54	-19.59	28.4	3.62	37.25	121	334	Average
2500	51.33	56.56	74	-22.67	28.4	3.62	37.25	121	334	Peak
4824	46.43	60.72	54	-7.57	33.02	5.77	53.08	110	220	Average
4824	50.4	64.69	74	-23.6	33.02	5.77	53.08	110	220	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 2412MHz: Fundamental frequency.

BELOW 1GHz WORST-CASE DATA:

802.11b

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
49.44	18.74	36.18	40	-21.26	13.08	0.76	31.28	100	169	Peak
154.74	16.33	33.98	43.5	-27.17	12.72	1.37	31.74	100	276	Peak
255.99	15.44	33.83	46	-30.56	11.65	1.85	31.89	100	53	Peak
514.9	21.58	32.67	46	-24.42	17.66	2.83	31.58	100	201	Peak
733.3	25.79	32.53	46	-20.21	21.29	3.53	31.56	100	167	Peak
934.2	28.69	32.92	46	-17.31	23.7	4.04	31.97	100	313	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
41.34	24.95	41.76	40	-15.05	13.56	0.68	31.05	100	142	Peak
149.61	16.31	33.9	43.5	-27.19	12.68	1.34	31.61	100	68	Peak
256.26	14.42	32.81	46	-31.58	11.65	1.85	31.89	100	312	Peak
493.2	21.61	33.37	46	-24.39	17.2	2.76	31.72	100	228	Peak
667.5	24.66	32.78	46	-21.34	20.42	3.31	31.85	100	138	Peak
924.4	28.24	32.57	46	-17.76	23.65	4.02	32	100	185	Peak

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

4.2 CONDUCTED EMISSION MEASUREMENT

4.2.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

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

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

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

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

4.2.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESCS30	100288	Nov. 17, 2013	Nov. 16, 2014
RF signal cable Woken	5D-FB	Cable-HYCO2-01	Dec. 27, 2013	Dec. 26, 2014
LISN ROHDE & SCHWARZ (EUT)	ESH2-Z5	100100	Dec. 23, 2013	Dec. 22, 2014
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100312	Jul. 08, 2013	Jul. 07, 2014
Software ADT	BV ADT_Cond_ V7.3.7.3	NA	NA	NA

NOTE: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

2. The test was performed in HwaYa Shielded Room 2.

3. The VCCI Site Registration No. is C-2047.

4.2.3 TEST PROCEDURES

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

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

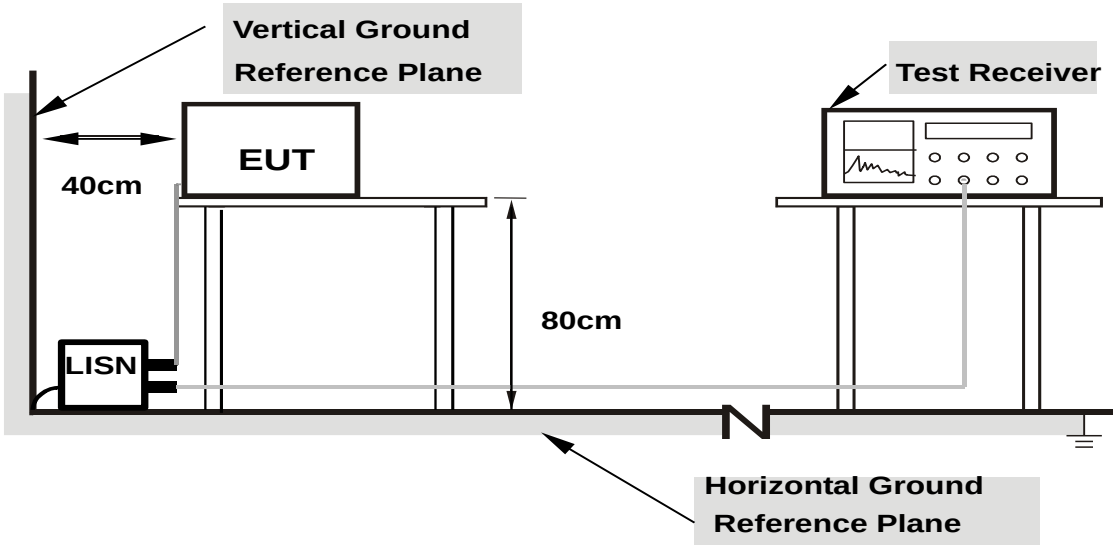
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

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

4.2.4 DEVIATION FROM TEST STANDARD

No deviation.

4.2.5 TEST SETUP



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

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

4.2.6 EUT OPERATING CONDITIONS

Same as 4.1.6.

4.2.7 TEST RESULTS

Mode A

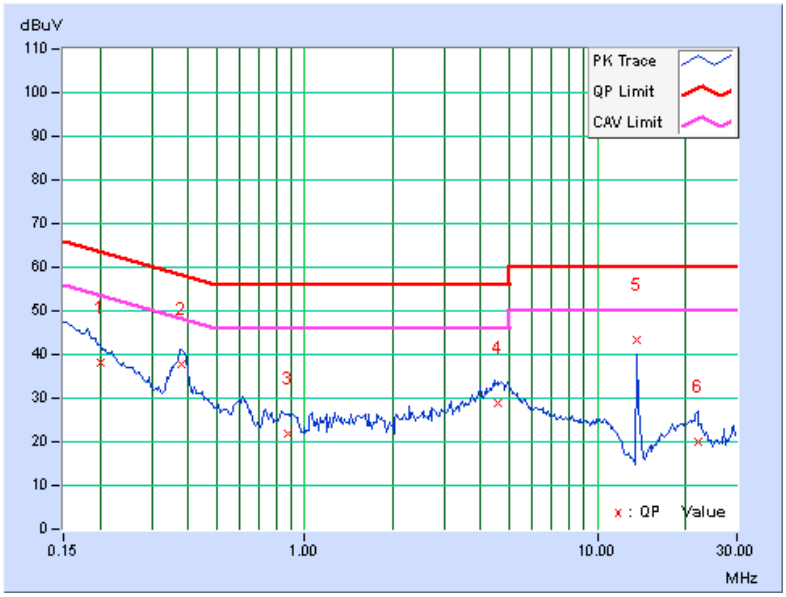
CONDUCTED WORST-CASE DATA：

PHASE	Line 1	6dB BANDWIDTH	9kHz

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	0.20078	0.17	38.11	25.98	38.28	26.15	63.58	53.58	-25.30	-27.43
2	0.38047	0.21	37.45	33.74	37.66	33.95	58.27	48.27	-20.61	-14.32
3	0.87656	0.26	21.70	17.72	21.96	17.98	56.00	46.00	-34.04	-28.02
4	4.55078	0.38	28.65	19.15	29.03	19.53	56.00	46.00	-26.97	-26.47
5	13.56250	0.50	42.66	37.85	43.16	38.35	60.00	50.00	-16.84	-11.65
6	22.09375	0.62	19.55	12.03	20.17	12.65	60.00	50.00	-39.83	-37.35

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

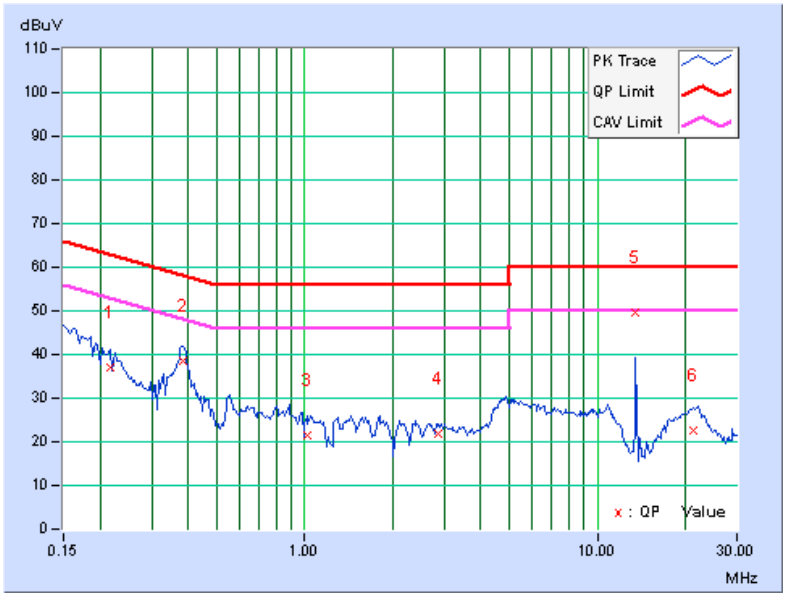


PHASE	Line 2	6dB BANDWIDTH	9kHz

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	0.21641	0.19	36.67	24.87	36.86	25.06	62.96	52.96	-26.10	-27.90
2	0.38438	0.24	38.23	34.42	38.47	34.66	58.18	48.18	-19.71	-13.52
3	1.01563	0.23	21.11	12.67	21.34	12.90	56.00	46.00	-34.66	-33.10
4	2.84766	0.33	21.64	16.78	21.97	17.11	56.00	46.00	-34.03	-28.89
5	13.55859	0.57	48.88	41.39	49.45	41.96	60.00	50.00	-10.55	-8.04
6	21.28516	0.72	21.99	15.41	22.71	16.13	60.00	50.00	-37.29	-33.87

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



Mode B

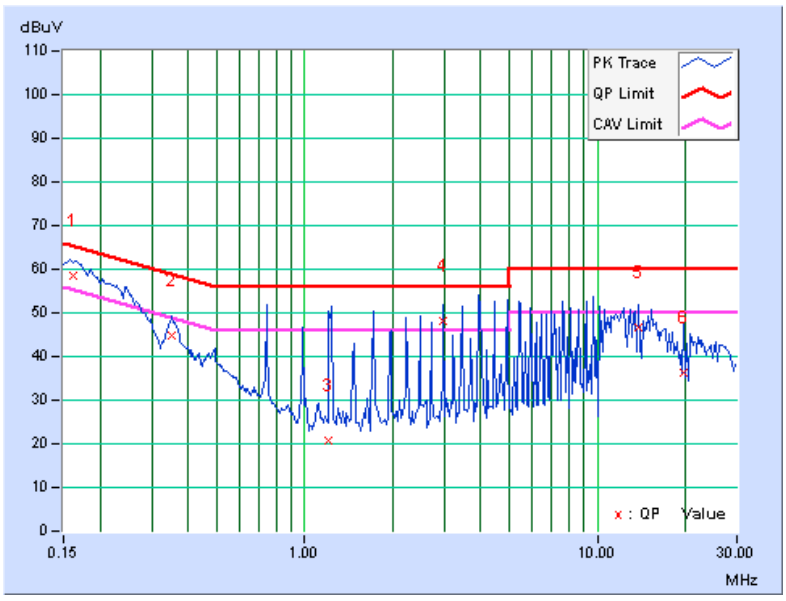
CONDUCTED WORST-CASE DATA：

PHASE	Line 1	6dB BANDWIDTH	9kHz

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	0.16172	0.14	58.43	43.77	58.57	43.91	65.38	55.38	-6.81	-11.47
2	0.35313	0.15	44.76	30.79	44.91	30.94	58.89	48.89	-13.98	-17.95
3	1.20703	0.18	20.68	10.94	20.86	11.12	56.00	46.00	-35.14	-34.88
4	2.96094	0.26	47.85	43.56	48.11	43.82	56.00	46.00	-7.89	-2.18
5	13.83203	0.85	46.00	40.94	46.85	41.79	60.00	50.00	-13.15	-8.21
6	19.76953	1.18	35.25	28.32	36.43	29.50	60.00	50.00	-23.57	-20.50

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

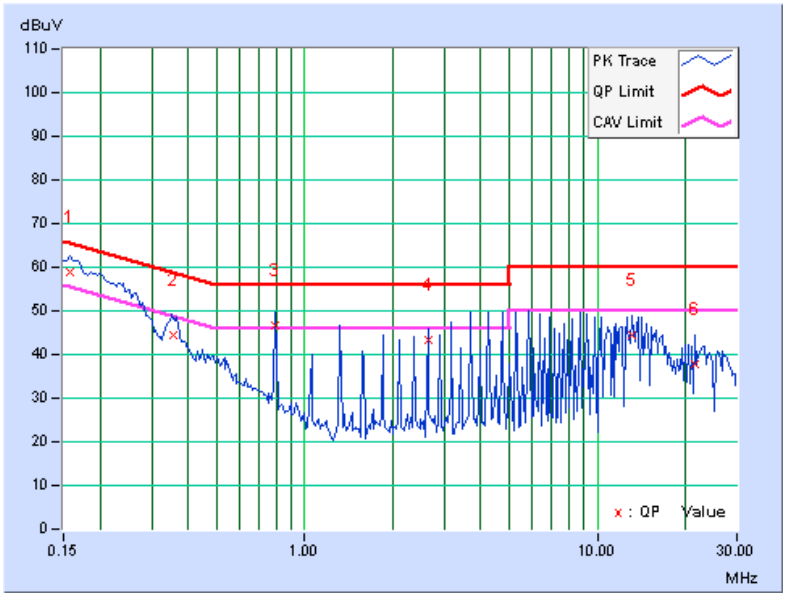


PHASE	Line 2	6dB BANDWIDTH	9kHz

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	0.15781	0.11	58.64	43.95	58.75	44.06	65.58	55.58	-6.83	-11.52
2	0.35703	0.12	44.15	31.61	44.27	31.73	58.80	48.80	-14.53	-17.07
3	**0.79063**	**0.13**	**46.62**	**43.96**	**46.75**	**44.09**	**56.00**	**46.00**	**-9.25**	**-1.91**
4	2.63672	0.20	43.19	39.59	43.39	39.79	56.00	46.00	-12.61	-6.21
5	13.19531	0.56	43.76	38.62	44.32	39.18	60.00	50.00	-15.68	-10.82
6	21.65234	0.78	37.15	30.94	37.93	31.72	60.00	50.00	-22.07	-18.28

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

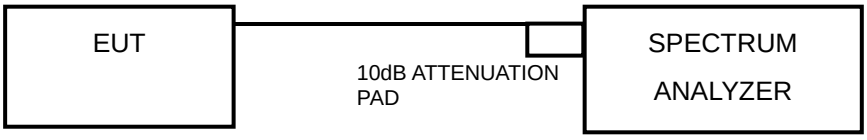


4.3 6dB BANDWIDTH MEASUREMENT

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) = 100kHz
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
1	2412	9.03	0.5	PASS
6	2437	9.06	0.5	PASS
11	2462	8.59	0.5	PASS

802.11g

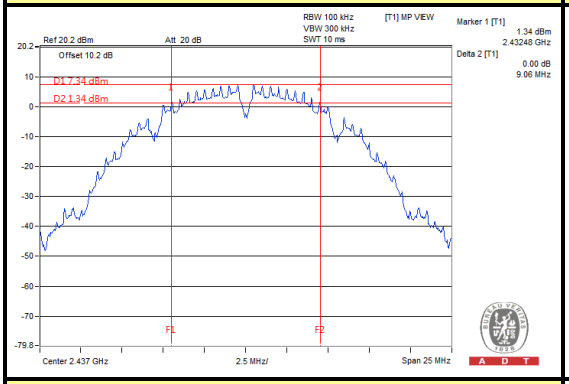
CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	16.39	0.5	PASS
6	2437	16.4	0.5	PASS
11	2462	16.39	0.5	PASS

802.11n (20MHz)

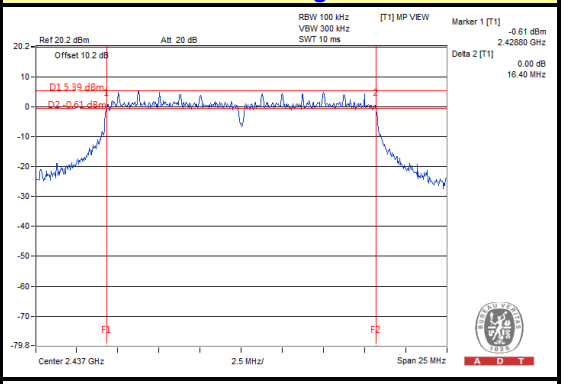
CHANNEL	FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
1	2412	17.61	0.5	PASS
6	2437	17.62	0.5	PASS
11	2462	17.62	0.5	PASS

SPECTRUM PLOT OF WORST VALUE

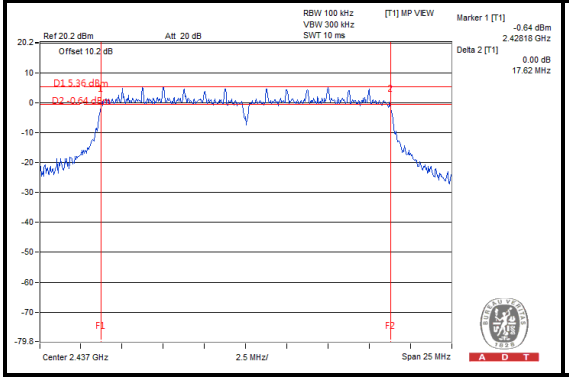
802.11b



802.11g



802.11n (20MHz)

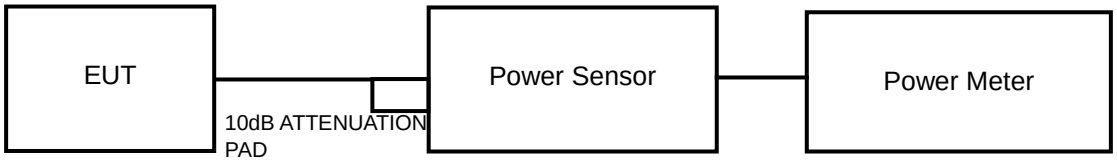


4.4 CONDUCTED OUTPUT POWER

4.4.1 LIMITS OF CONDUCTED OUTPUT POWER MEASUREMENT

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

4.4.2 TEST SETUP



4.4.3 TEST INSTRUMENTS

Refer to section 4.1.2 to get information of above instrument.

4.4.4 TEST PROCEDURES

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

4.4.5 DEVIATION FROM TEST STANDARD

No deviation.

4.4.6 EUT OPERATING CONDITIONS

Same as Item 4.3.6.

4.4.7 TEST RESULTS

802.11b

CHANNEL	FREQUENCY (MHz)	PEAK POWER (mW)	PEAK POWER (dBm)	LIMIT (dBm)	PASS/FAIL
1	2412	50.234	17.01	30	PASS
6	2437	75.509	18.78	30	PASS
11	2462	76.208	18.82	30	PASS

802.11g

CHANNEL	FREQUENCY (MHz)	PEAK POWER (mW)	PEAK POWER (dBm)	LIMIT (dBm)	PASS/FAIL
1	2412	133.660	21.26	30	PASS
6	2437	162.181	22.1	30	PASS
11	2462	115.611	20.63	30	PASS

802.11n (20MHz)

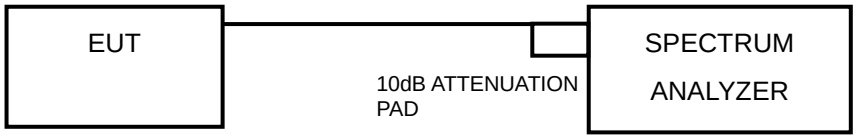
CHANNEL	FREQUENCY (MHz)	PEAK POWER (mW)	PEAK POWER (dBm)	LIMIT (dBm)	PASS/FAIL
1	2412	131.522	21.19	30	PASS
6	2437	167.109	22.23	30	PASS
11	2462	115.611	20.63	30	PASS

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 = 3 kHz, VBW =10 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.

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

Channel	FREQ. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
1	2412	-7.55	8	PASS
6	2437	-7.22	8	PASS
11	2462	-7.01	8	PASS

802.11g

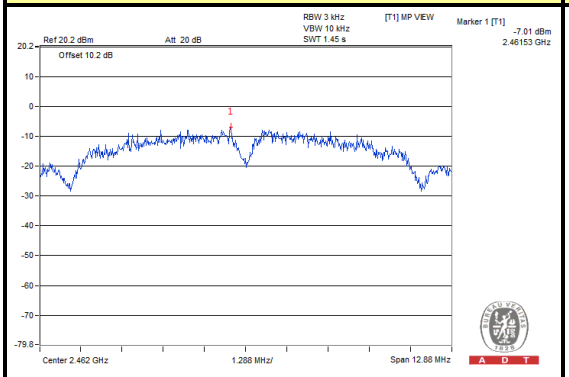
Channel	FREQ. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
1	2412	-9.94	8	PASS
6	2437	-9.50	8	PASS
11	2462	-11.23	8	PASS

802.11n (20MHz)

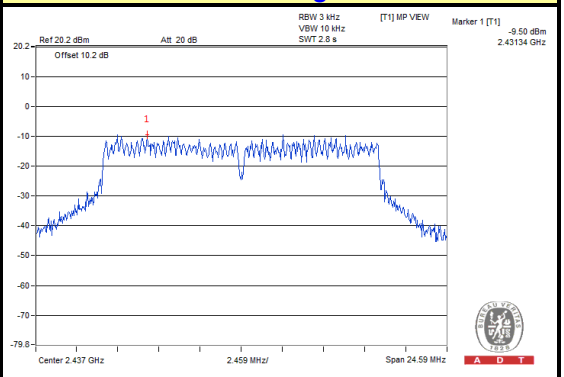
Channel	FREQ. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
1	2412	-12.70	8	PASS
6	2437	-9.81	8	PASS
11	2462	-14.23	8	PASS

SPECTRUM PLOT OF WORST VALUE

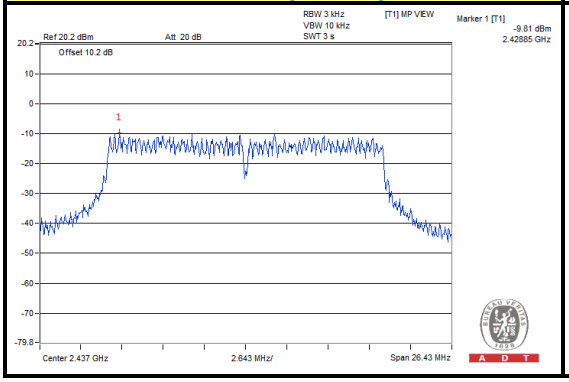
802.11b



802.11g



802.11n (20MHz)

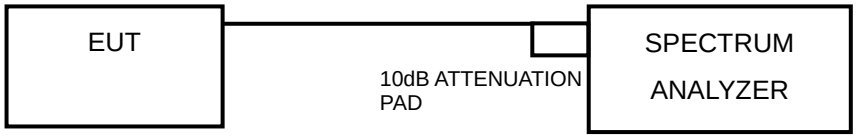


4.6 CONDUCTED OUT OF BAND EMISSION MEASUREMENT

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. Ensure that the number of measurement points ≥ span/RBW
4. According to measurement points to set differ measurement span.
5. Detector = peak.
6. Trace Mode = max hold.
7. Sweep = auto couple.

4.6.5 DEVIATION FROM TEST STANDARD

No deviation.

4.6.6 EUT OPERATING CONDITION

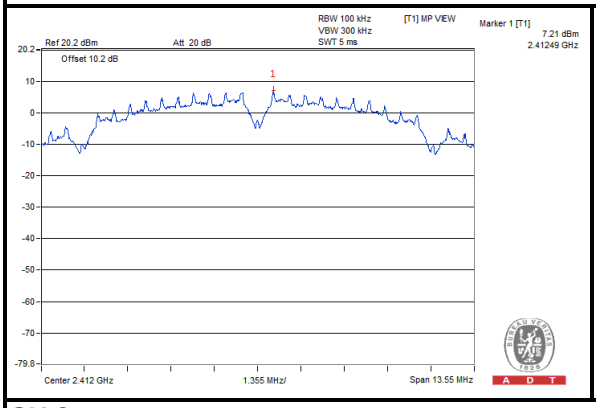
Same as Item 4.3.6

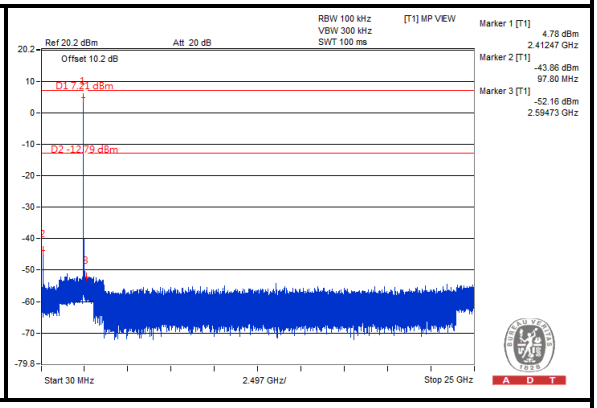
4.6.7 TEST RESULTS

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.

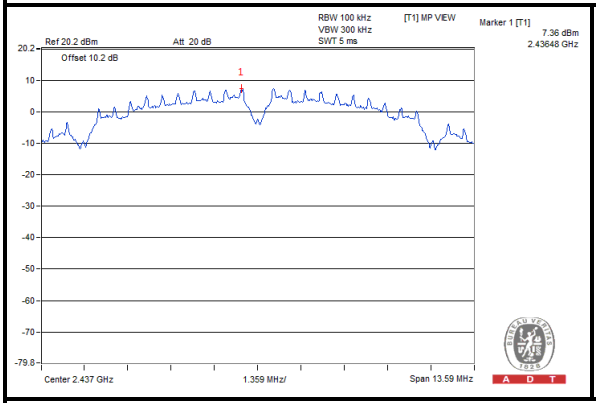
802.11b

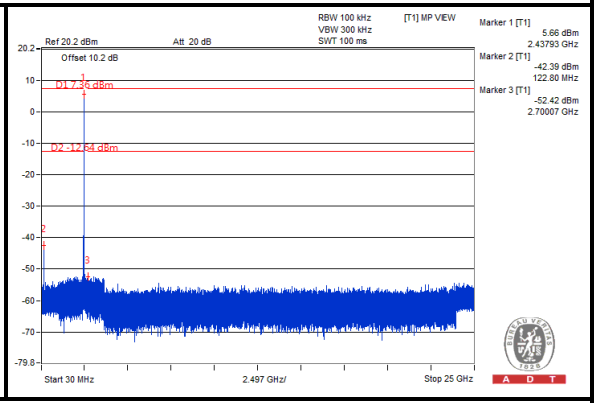
CH 1



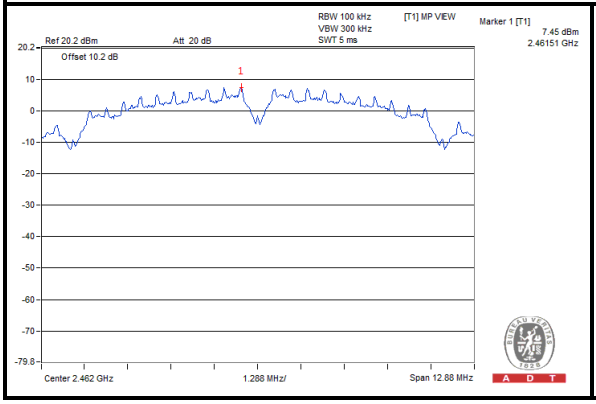


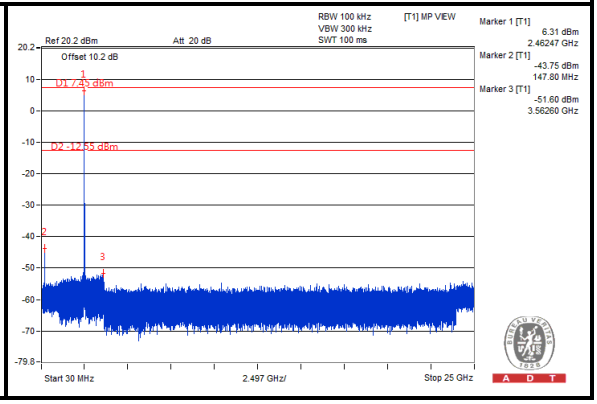
CH 6





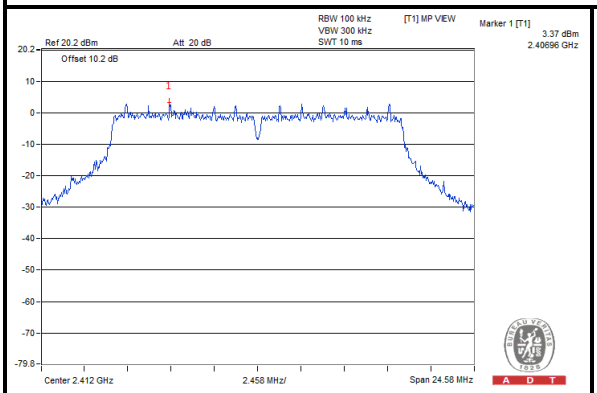
CH 11

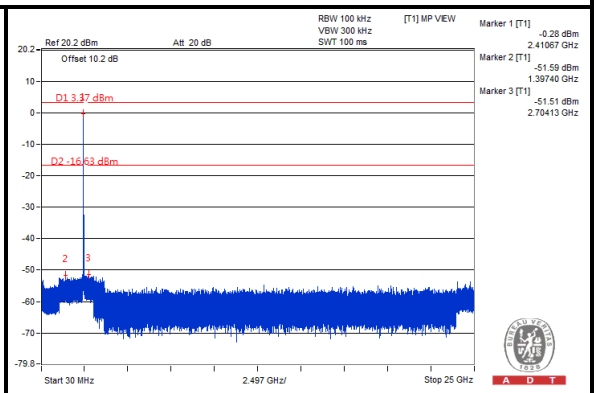




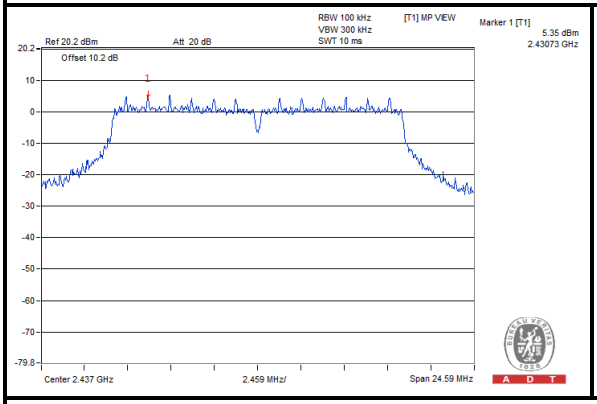
802.11g

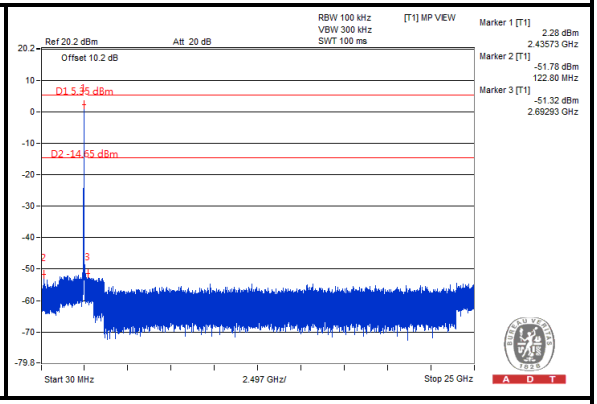
CH 1



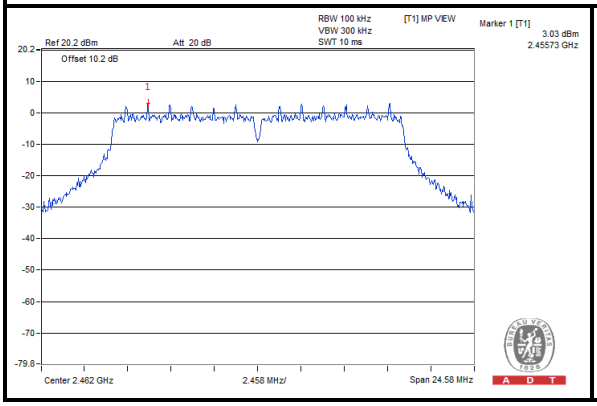


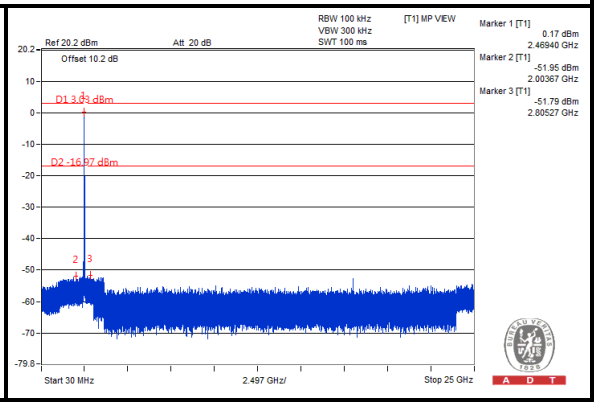
CH 6





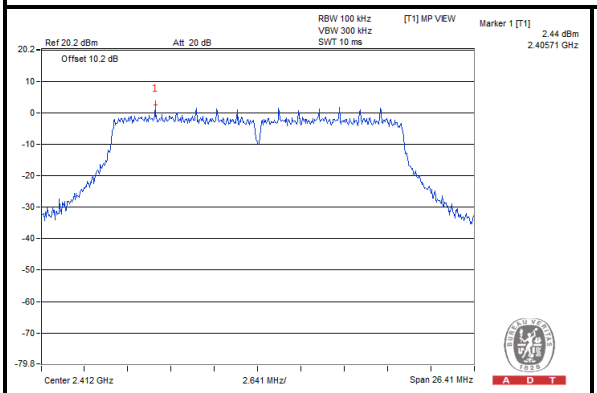
CH 11

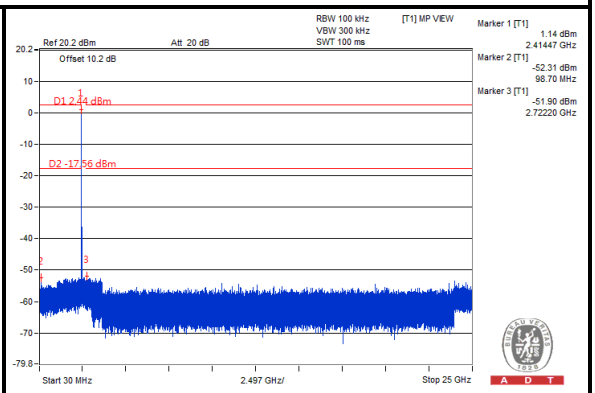




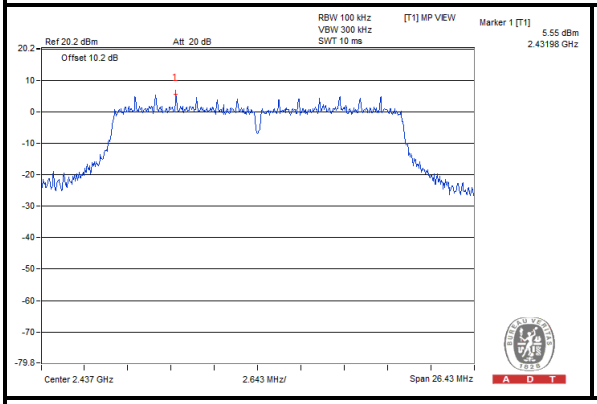
802.11n (20MHz)

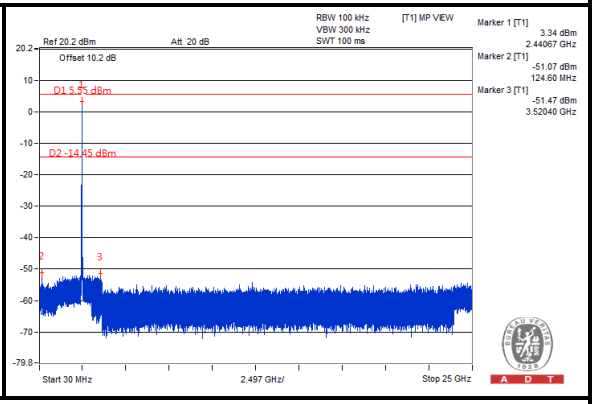
CH 1



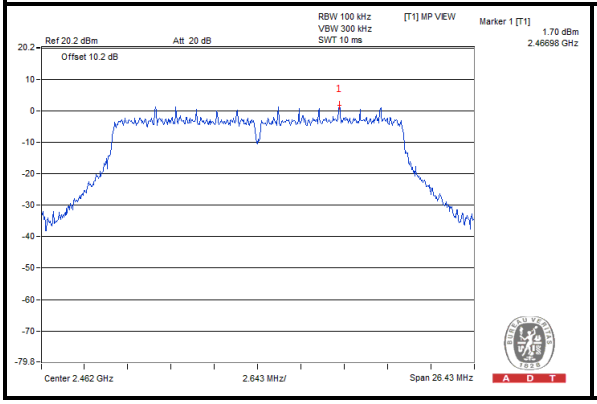


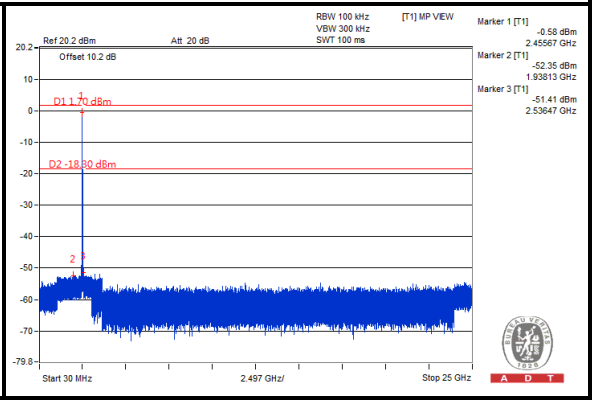
CH 6





CH 11





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

5.1 RADIATED EMISSION AND BANDEDGE MEASUREMENT

5.1.1 LIMITS OF RADIATED EMISSION AND BANDEDGE MEASUREMENT

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

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

NOTE:

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

5.1.2 TEST INSTRUMENTS

Same as item 4.1.2.

5.1.3 TEST PROCEDURES

Same as item 4.1.3.

5.1.4 DEVIATION FROM TEST STANDARD

No deviation.

5.1.5 TEST SETUP

Same as item 4.1.5.

5.1.6 EUT OPERATING CONDITIONS

Same as 4.1.6.

5.1.7 TEST RESULTS

Mode A

ABOVE 1GHz WORST-CASE DATA：802.11a

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5725	40.56	31.35	68.96	-28.4	34.67	8.65	34.11	122	245	Average
5725	60.27	51.06	78.41	-18.14	34.67	8.65	34.11	122	245	Peak
5745	88.96	79.71			34.7	8.66	34.11	122	245	Average
5745	98.41	89.16			34.7	8.66	34.11	122	245	Peak
5850	38.17	28.74	68.96	-30.79	34.87	8.7	34.14	122	245	Average
5850	59.87	50.44	78.41	-18.54	34.87	8.7	34.14	122	245	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5725	42.82	33.61	72.62	-29.8	34.67	8.65	34.11	100	194	Average
5725	59.73	50.52	82.14	-22.41	34.67	8.65	34.11	100	194	Peak
5745	92.62	83.37			34.7	8.66	34.11	100	194	Average
5745	102.14	92.89			34.7	8.66	34.11	100	194	Peak
5850	38.17	28.74	72.62	-34.45	34.87	8.7	34.14	100	194	Average
5850	57.64	48.21	82.14	-24.5	34.87	8.7	34.14	100	194	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5745MHz: Fundamental frequency.
3. 5725MHz & 5850MHz: Out of restricted band

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5725	37.84	28.63	69.74	-31.9	34.67	8.65	34.11	120	245	Average
5725	60.24	51.03	79.24	-19	34.67	8.65	34.11	120	245	Peak
5785	89.74	80.43			34.76	8.68	34.13	120	245	Average
5785	99.24	89.93			34.76	8.68	34.13	120	245	Peak
5850	38.36	28.93	69.74	-31.38	34.87	8.7	34.14	120	245	Average
5850	58.95	49.52	79.24	-20.29	34.87	8.7	34.14	120	245	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5725	37.92	28.71	73.1	-35.18	34.67	8.65	34.11	100	15	Average
5725	58.91	49.7	82.17	-23.26	34.67	8.65	34.11	100	15	Peak
5785	93.1	83.79			34.76	8.68	34.13	100	15	Average
5785	102.17	92.86			34.76	8.68	34.13	100	15	Peak
5850	38.42	28.99	73.1	-34.68	34.87	8.7	34.14	100	15	Average
5850	58.36	48.93	82.17	-23.81	34.87	8.7	34.14	100	15	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5785MHz: Fundamental frequency.
3. 5725MHz & 5850MHz: Out of restricted band

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 161	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Kay Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5725	40.02	39.9	69.31	-29.29	31.96	5.59	37.43	100	268	Average
5725	58.63	58.51	79.47	-20.84	31.96	5.59	37.43	100	268	Peak
5805	89.31	89.12			32.1	5.63	37.54	100	268	Average
5805	99.47	99.28			32.1	5.63	37.54	100	268	Peak
5825	39.42	39.19	69.31	-29.89	32.12	5.64	37.53	100	268	Average
5825	58.13	57.9	79.47	-21.34	32.12	5.64	37.53	100	268	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5725	39.59	39.47	73.89	-34.3	31.96	5.59	37.43	100	23	Average
5725	58.75	58.63	83.2	-24.45	31.96	5.59	37.43	100	23	Peak
5805	93.89	93.7			32.1	5.63	37.54	100	23	Average
5805	103.2	103.01			32.1	5.63	37.54	100	23	Peak
5825	39.83	39.6	73.89	-34.06	32.12	5.64	37.53	100	23	Average
5825	61.31	61.08	83.2	-21.89	32.12	5.64	37.53	100	23	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5805MHz: Fundamental frequency.
3. 5725MHz & 5825MHz: Out of restricted band

802.11n (20MHz)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5725	41.32	32.11	68.93	-27.61	34.67	8.65	34.11	121	267	Average
5725	60.53	51.32	78.69	-18.16	34.67	8.65	34.11	121	267	Peak
5745	88.93	79.68			34.7	8.66	34.11	121	267	Average
5745	98.69	89.44			34.7	8.66	34.11	121	267	Peak
5850	37.98	28.55	68.93	-30.95	34.87	8.7	34.14	121	267	Average
5850	58.47	49.04	78.69	-20.22	34.87	8.7	34.14	121	267	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5725	43.27	34.06	72.59	-29.32	34.67	8.65	34.11	100	16	Average
5725	60.19	50.98	82.38	-22.19	34.67	8.65	34.11	100	16	Peak
5745	92.59	83.34			34.7	8.66	34.11	100	16	Average
5745	102.38	93.13			34.7	8.66	34.11	100	16	Peak
5850	38.15	28.72	72.59	-34.44	34.87	8.7	34.14	100	16	Average
5850	58.91	49.48	82.38	-23.47	34.87	8.7	34.14	100	16	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5745MHz: Fundamental frequency.
3. 5725MHz & 5850MHz: Out of restricted band

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5725	37.91	28.7	69.57	-31.66	34.67	8.65	34.11	124	266	Average
5725	59.17	49.96	78.67	-19.5	34.67	8.65	34.11	124	266	Peak
5785	89.57	80.26			34.76	8.68	34.13	124	266	Average
5785	98.67	89.36			34.76	8.68	34.13	124	266	Peak
5850	38.14	28.71	69.57	-31.43	34.87	8.7	34.14	124	266	Average
5850	59.69	50.26	78.67	-18.98	34.87	8.7	34.14	124	266	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5725	38.1	28.89	72.99	-34.89	34.67	8.65	34.11	100	16	Average
5725	58.89	49.68	82.45	-23.56	34.67	8.65	34.11	100	16	Peak
5785	92.99	83.68			34.76	8.68	34.13	100	16	Average
5785	102.45	93.14			34.76	8.68	34.13	100	16	Peak
5850	38.36	28.93	72.99	-34.63	34.87	8.7	34.14	100	16	Average
5850	60.39	50.96	82.45	-22.06	34.87	8.7	34.14	100	16	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5785MHz: Fundamental frequency.
3. 5725MHz & 5850MHz: Out of restricted band

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 161	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Kay Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5725	40.51	40.39	69.27	-28.76	31.96	5.59	37.43	100	268	Average
5725	59.14	59.02	79.15	-20.01	31.96	5.59	37.43	100	268	Peak
5805	89.27	89.08			32.1	5.63	37.54	100	268	Average
5805	99.15	98.96			32.1	5.63	37.54	100	268	Peak
5825	38.84	38.61	69.27	-30.43	32.12	5.64	37.53	100	268	Average
5825	60.14	59.91	79.15	-19.01	32.12	5.64	37.53	100	268	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5725	41.4	41.28	73.65	-32.25	31.96	5.59	37.43	100	23	Average
5725	59.94	59.82	82.78	-22.84	31.96	5.59	37.43	100	23	Peak
5805	93.65	93.46			32.1	5.63	37.54	100	23	Average
5805	102.78	102.59			32.1	5.63	37.54	100	23	Peak
5825	39.22	38.99	73.65	-34.43	32.12	5.64	37.53	100	23	Average
5825	60.16	59.93	82.78	-22.62	32.12	5.64	37.53	100	23	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5805MHz: Fundamental frequency.
3. 5725MHz & 5825MHz: Out of restricted band

802.11n (40MHz)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5725	43.18	33.97	66.79	-23.61	34.67	8.65	34.11	122	267	Average
5725	60.73	51.52	76.14	-15.41	34.67	8.65	34.11	122	267	Peak
5755	86.79	77.54			34.7	8.66	34.11	122	267	Average
5755	96.14	86.89			34.7	8.66	34.11	122	267	Peak
5850	38.4	28.97	66.79	-28.39	34.87	8.7	34.14	122	267	Average
5850	57.75	48.32	76.14	-18.39	34.87	8.7	34.14	122	267	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5725	45.79	36.58	70.08	-24.29	34.67	8.65	34.11	100	15	Average
5725	63.3	54.09	79.36	-16.06	34.67	8.65	34.11	100	15	Peak
5755	90.08	80.83			34.7	8.66	34.11	100	15	Average
5755	99.36	90.11			34.7	8.66	34.11	100	15	Peak
5850	38.5	29.07	70.08	-31.58	34.87	8.7	34.14	100	15	Average
5850	58.67	49.24	79.36	-20.69	34.87	8.7	34.14	100	15	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5755MHz: Fundamental frequency.
3. 5725MHz & 5850MHz: Out of restricted band

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5725	38.14	28.93	66.51	-28.37	34.67	8.65	34.11	100	266	Average
5725	57.59	48.38	75.31	-17.72	34.67	8.65	34.11	100	266	Peak
5795	86.51	77.2			34.76	8.68	34.13	100	266	Average
5795	95.31	86			34.76	8.68	34.13	100	266	Peak
5850	38.54	29.11	66.51	-27.97	34.87	8.7	34.14	100	266	Average
5850	58.61	49.18	75.31	-16.7	34.87	8.7	34.14	100	266	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5725	38.33	29.12	70.59	-32.26	34.67	8.65	34.11	100	7	Average
5725	58.78	49.57	79.14	-20.36	34.67	8.65	34.11	100	7	Peak
5795	90.59	81.28			34.76	8.68	34.13	100	7	Average
5795	99.14	89.83			34.76	8.68	34.13	100	7	Peak
5850	38.78	29.35	70.59	-31.81	34.87	8.7	34.14	100	7	Average
5850	58.18	48.75	79.14	-20.96	34.87	8.7	34.14	100	7	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5795MHz: Fundamental frequency.
3. 5725MHz & 5850MHz: Out of restricted band

802.11ac (80MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 155	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Kay Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5725	46.21	37	64.48	-18.27	34.67	8.65	34.11	123	267	Average
5725	64.91	55.7	73.2	-8.29	34.67	8.65	34.11	123	267	Peak
5775	84.48	75.2			34.73	8.67	34.12	123	267	Average
5775	93.2	83.92			34.73	8.67	34.12	123	267	Peak
5850	40.33	30.9	64.48	-24.15	34.87	8.7	34.14	123	267	Average
5850	53.35	43.92	73.2	-19.85	34.87	8.7	34.14	123	267	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5725	48.4	39.19	67.51	-19.11	34.67	8.65	34.11	100	23	Average
5725	67.76	58.55	76.79	-9.03	34.67	8.65	34.11	100	23	Peak
5775	87.51	78.23			34.73	8.67	34.12	100	23	Average
5775	96.79	87.51			34.73	8.67	34.12	100	23	Peak
5850	40.91	31.48	67.51	-26.6	34.87	8.7	34.14	100	23	Average
5850	54.2	44.77	76.79	-22.59	34.87	8.7	34.14	100	23	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5775MHz: Fundamental frequency.
3. 5725MHz & 5850MHz: Out of restricted band

BELOW 1GHz WORST-CASE DATA：

802.11a

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 161	FREQUENCY RANGE	30MHz ~ 1GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Kay Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
58.08	20.92	45.27	40	-19.08	6.98	0.9	32.23	165	221	Peak
66.99	20.98	44.57	40	-19.02	7.73	0.9	32.22	102	165	Peak
96.15	33.6	54.98	43.5	-9.9	9.38	1.28	32.04	185	236	Peak
390.3	20.89	33.24	46	-25.11	17.5	2.34	32.19	166	251	Peak
578.6	22.66	31.81	46	-23.34	20.23	2.82	32.2	107	185	Peak
636.7	26.25	33.38	46	-19.75	22.1	2.93	32.16	145	112	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
47.82	20.83	43.67	40	-19.17	8.48	0.9	32.22	162	336	Peak
61.86	25.6	49.9	40	-14.4	7.03	0.9	32.23	155	206	Peak
92.91	32.75	54.38	43.5	-10.75	9.14	1.11	31.88	185	220	Peak
360.9	19.76	33.24	46	-26.24	16.36	2.26	32.1	163	220	Peak
505.1	23.48	33.58	46	-22.52	19.38	2.63	32.11	185	215	Peak
601	23	31.22	46	-23	21.1	2.87	32.19	172	106	Peak

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

Mode B

ABOVE 1GHz WORST-CASE DATA：

802.11ac (80MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 155	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Kay Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5725	42.24	33.03	60.66	-18.42	34.67	8.65	34.11	108	175	Average
5725	60.54	51.33	69.67	-9.13	34.67	8.65	34.11	108	175	Peak
5775	80.66	71.38			34.73	8.67	34.12	108	175	Average
5775	89.67	80.39			34.73	8.67	34.12	108	175	Peak
5850	39.5	30.07	60.66	-21.16	34.87	8.7	34.14	108	175	Average
5850	53.22	43.79	69.67	-16.45	34.87	8.7	34.14	108	175	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5725	47.74	38.53	66.38	-18.64	34.67	8.65	34.11	100	283	Average
5725	62.33	53.12	75.65	-13.32	34.67	8.65	34.11	100	283	Peak
5775	86.38	77.1			34.73	8.67	34.12	100	283	Average
5775	95.65	86.37			34.73	8.67	34.12	100	283	Peak
5850	40.46	31.03	66.38	-25.92	34.87	8.7	34.14	100	283	Average
5850	52.9	43.47	75.65	-22.75	34.87	8.7	34.14	100	283	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5775MHz: Fundamental frequency.
3. 5725MHz & 5850MHz: Out of restricted band

BELOW 1GHz WORST-CASE DATA：

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 155	FREQUENCY RANGE	30MHz ~ 1GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Kay Wu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
92.37	29.01	50.62	43.5	-14.49	9.1	1.11	31.82	122	133	Peak
173.1	25.71	46.23	43.5	-17.79	10.11	1.61	32.24	152	42	Peak
268.95	24.8	41.43	46	-21.2	13.54	1.94	32.11	100	25	Peak
348.3	20.84	34.41	46	-25.16	16.31	2.19	32.07	100	12	Peak
400.1	22.3	34.08	46	-23.7	18.1	2.34	32.22	100	325	Peak
630.4	24.3	31.44	46	-21.7	22.1	2.93	32.17	100	122	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
31.35	30.81	45.51	40	-9.19	16.82	0.74	32.26	400	158	Peak
74.55	29.56	52.43	40	-10.44	8.24	1.11	32.22	125	74	Peak
120.18	17.98	40.25	43.5	-25.52	8.7	1.28	32.25	214	58	Peak
458.9	20.41	31.63	46	-25.59	18.36	2.56	32.14	100	199	Peak
599.6	27.01	35.23	46	-18.99	21.1	2.87	32.19	100	85	Peak
788.6	25.86	30.62	46	-20.14	24.05	3.27	32.08	100	255	Peak

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

Mode C

ABOVE 1GHz WORST-CASE DATA：

802.11ac (80MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 155	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Anson Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5725	44.56	42.4	64.78	-20.22	34	5.59	37.43	100	278	Average
5725	60.64	58.48	74.54	-13.9	34	5.59	37.43	100	278	Peak
5775	84.78	82.66			34	5.62	37.5	100	278	Average
5775	94.54	92.42			34	5.62	37.5	100	278	Peak
5825	44.3	42.19	64.78	-20.48	34	5.64	37.53	100	278	Average
5825	60.57	58.46	74.54	-13.97	34	5.64	37.53	100	278	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5725	44.88	42.72	65.78	-20.9	34	5.59	37.43	102	192	Average
5725	63.3	61.14	74.75	-11.45	34	5.59	37.43	102	192	Peak
5775	85.78	83.66			34	5.62	37.5	102	192	Average
5775	94.75	92.63			34	5.62	37.5	102	192	Peak
5825	43.98	41.87	65.78	-21.8	34	5.64	37.53	102	192	Average
5825	63.5	61.39	74.75	-11.25	34	5.64	37.53	102	192	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5775MHz: Fundamental frequency.
3. 5725MHz & 5850MHz: Out of restricted band

BELOW 1GHz WORST-CASE DATA：

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 155	FREQUENCY RANGE	30MHz ~ 1GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Anson Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
96.42	18.47	40.62	43.5	-25.03	8.76	1.05	31.96	100	118	Peak
169.86	16.14	34.67	43.5	-27.36	11.76	1.44	31.73	100	126	Peak
270.84	17.28	35.29	46	-28.72	12.08	1.92	32.01	100	309	Peak
482	20.58	32.73	46	-25.42	16.96	2.72	31.83	100	300	Peak
701.1	25.11	32.62	46	-20.89	20.83	3.44	31.78	100	187	Peak
923	29.48	33.82	46	-16.52	23.64	4.02	32	100	224	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
37.02	29	46.32	40	-11	13.09	0.62	31.03	100	82	Peak
95.61	18.36	40.51	43.5	-25.14	8.76	1.05	31.96	100	134	Peak
147.99	17.25	34.9	43.5	-26.25	12.64	1.33	31.62	100	225	Peak
435.1	19.11	32.51	46	-26.89	16.04	2.56	32	100	228	Peak
618.5	23.97	33.16	46	-22.03	19.83	3.14	32.16	100	185	Peak
894.3	27.54	32.15	46	-18.46	23.44	3.95	32	100	167	Peak

REMARKS: Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor

Margin value = Emission level – Limit value

Mode D

ABOVE 1GHz WORST-CASE DATA：

802.11ac (80MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 155	FREQUENCY RANGE	1GHz ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Anson Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5725	44.1	41.94	63.69	-19.59	34	5.59	37.43	100	278	Average
5725	60.64	58.48	73.54	-12.9	34	5.59	37.43	100	278	Peak
5775	83.69	81.57			34	5.62	37.5	100	278	Average
5775	93.54	91.42			34	5.62	37.5	100	278	Peak
5850	43.77	41.62	63.69	-19.92	34	5.66	37.51	100	278	Average
5850	60.05	57.9	73.54	-13.49	34	5.66	37.51	100	278	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5725	44.62	42.46	64.48	-19.86	34	5.59	37.43	102	192	Average
5725	63.3	61.14	73.75	-10.45	34	5.59	37.43	102	192	Peak
5775	84.48	82.36			34	5.62	37.5	102	192	Average
5775	93.75	91.63			34	5.62	37.5	102	192	Peak
5850	44.25	42.1	64.48	-20.23	34	5.66	37.51	102	192	Average
5850	60.28	58.13	73.75	-13.47	34	5.66	37.51	102	192	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5775MHz: Fundamental frequency.
3. 5725MHz & 5850MHz: Out of restricted band

BELOW 1GHz WORST-CASE DATA：

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 155	FREQUENCY RANGE	30MHz ~ 1GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	Anson Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
49.98	18.86	36.43	40	-21.14	12.97	0.77	31.31	100	131	Peak
145.56	17.04	34.8	43.5	-26.46	12.54	1.32	31.62	100	154	Peak
258.42	15.02	33.32	46	-30.98	11.71	1.86	31.87	100	85	Peak
384	23.89	38.56	46	-22.11	14.96	2.36	31.99	100	126	Peak
657	25	33.41	46	-21	20.29	3.27	31.97	100	335	Peak
833.4	27.32	32.63	46	-18.68	22.65	3.78	31.74	100	197	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
42.96	22.8	39.6	40	-17.2	13.58	0.7	31.08	100	247	Peak
141.78	15.18	33.1	43.5	-28.32	12.41	1.3	31.63	100	140	Peak
259.77	14.99	33.21	46	-31.01	11.77	1.86	31.85	100	108	Peak
473.6	20.82	33.22	46	-25.18	16.79	2.69	31.88	100	62	Peak
682.9	25.01	32.87	46	-20.99	20.61	3.37	31.84	100	293	Peak
936.3	28.33	32.52	46	-17.67	23.71	4.05	31.95	100	162	Peak

REMARKS: Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor

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 4.1.6

5.2.7 TEST RESULTS

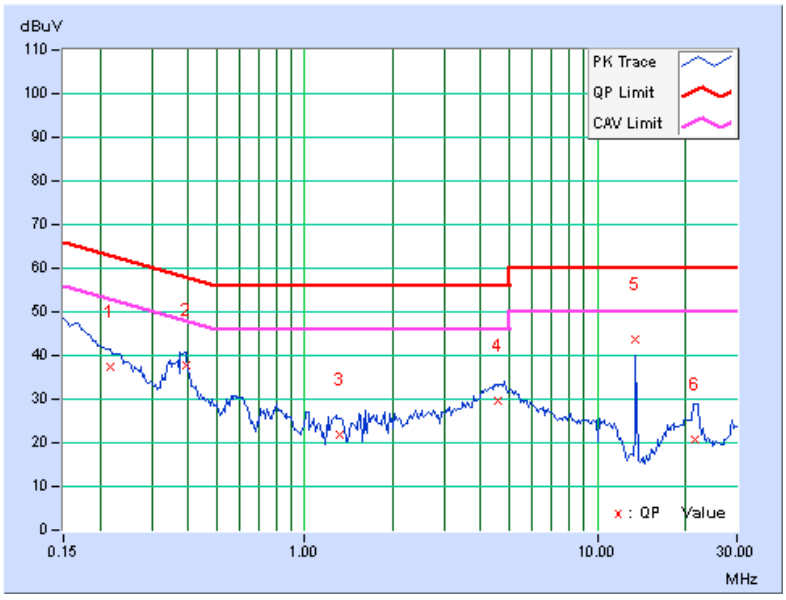
CONDUCTED WORST-CASE DATA :

PHASE	Line 1	6dB BANDWIDTH	9kHz

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	0.21641	0.17	37.33	24.71	37.50	24.88	62.96	52.96	-25.45	-28.07
2	0.39219	0.21	37.48	34.04	37.69	34.25	58.02	48.02	-20.33	-13.77
3	1.32422	0.27	21.58	17.72	21.85	17.99	56.00	46.00	-34.15	-28.01
4	4.56641	0.38	29.17	19.08	29.55	19.46	56.00	46.00	-26.45	-26.54
5	13.55859	0.50	43.33	36.69	43.83	37.19	60.00	50.00	-16.17	-12.81
6	21.61719	0.63	20.20	12.94	20.83	13.57	60.00	50.00	-39.17	-36.43

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

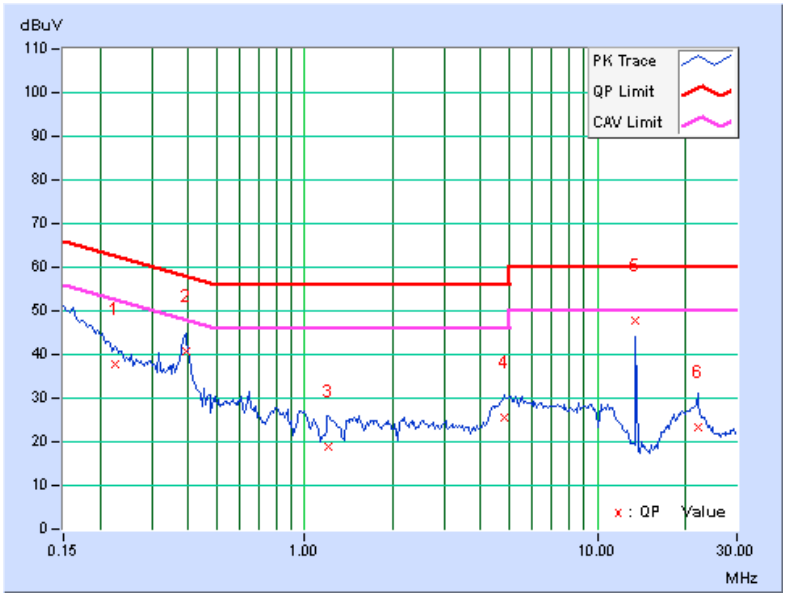


PHASE	Line 2	6dB BANDWIDTH	9kHz

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	0.22422	0.19	37.77	25.02	37.96	25.21	62.66	52.66	-24.70	-27.45
2	0.39219	0.25	40.34	36.91	40.59	37.16	58.02	48.02	-17.43	-10.86
3	1.20703	0.24	18.83	17.27	19.07	17.51	56.00	46.00	-36.93	-28.49
4	4.81250	0.40	25.33	19.34	25.73	19.74	56.00	46.00	-30.27	-26.26
5	13.55859	0.57	47.32	42.10	47.89	42.67	60.00	50.00	-12.11	-7.33
6	22.08594	0.71	22.45	15.17	23.16	15.88	60.00	50.00	-36.84	-34.12

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	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
149	5745	16.39	0.5	PASS
157	5785	16.43	0.5	PASS
161	5805	16.42	0.5	PASS

802.11n (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
149	5745	17.6	0.5	PASS
157	5785	17.62	0.5	PASS
161	5805	17.63	0.5	PASS

802.11n (40MHz)

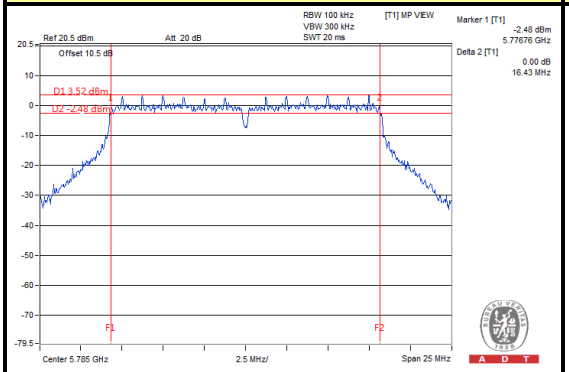
CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
151	5755	35.21	0.5	PASS
159	5795	35.7	0.5	PASS

802.11ac (80MHz)

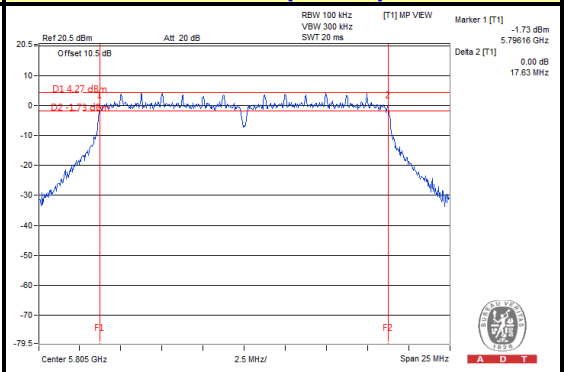
CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS / FAIL
155	5775	75.22	0.5	PASS

SPECTRUM PLOT OF WORST VALUE

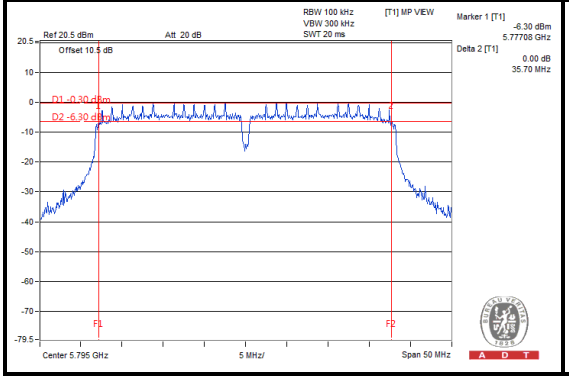
802.11a



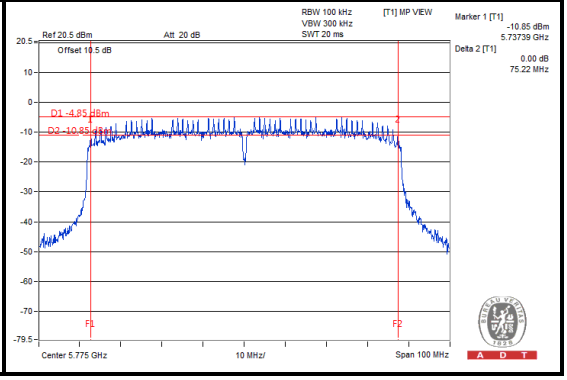
802.11n (20MHz)



802.11n (40MHz)



802.11ac (80MHz)



5.4 MAXIMUM OUTPUT POWER

5.4.1 LIMITS OF MAXIMUM OUTPUT POWER MEASUREMENT

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

5.4.2 TEST SETUP

Same as Item 4.4.2.

5.4.3 INSTRUMENTS

Refer to section 4.1.2 to get information of above instrument.

5.4.4 TEST PROCEDURES

Same as Item 4.4.4.

5.4.5 DEVIATION FROM TEST STANDARD

No deviation.

5.4.6 EUT OPERATING CONDITIONS

Same as Item 4.3.6.

5.4.7 TEST RESULTS

802.11a

CHANNEL	FREQUENCY (MHz)	PEAK POWER (mW)	PEAK POWER (dBm)	LIMIT (dBm)	PASS/FAIL
149	5745	228.560	23.59	30	PASS
157	5785	242.103	23.84	30	PASS
161	5805	244.343	23.88	30	PASS

802.11n (20MHz)

CHANNEL	FREQUENCY (MHz)	PEAK POWER (mW)	PEAK POWER (dBm)	LIMIT (dBm)	PASS/FAIL
149	5745	225.944	23.54	30	PASS
157	5785	236.048	23.73	30	PASS
161	5805	239.332	23.79	30	PASS

802.11n (40MHz)

CHANNEL	FREQUENCY (MHz)	PEAK POWER (mW)	PEAK POWER (dBm)	LIMIT (dBm)	PASS/FAIL
151	5755	208.930	23.2	30	PASS
159	5795	214.289	23.31	30	PASS

802.11ac (80MHz)

CHANNEL	FREQUENCY (MHz)	PEAK POWER (mW)	PEAK POWER (dBm)	LIMIT (dBm)	PASS/FAIL
155	5775	102.329	20.1	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

Channel	FREQ. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
149	5745	-12.37	8	PASS
157	5785	-10.75	8	PASS
161	5805	-8.99	8	PASS

802.11n (20MHz)

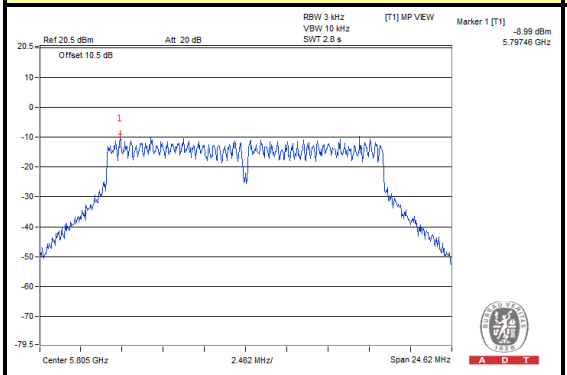
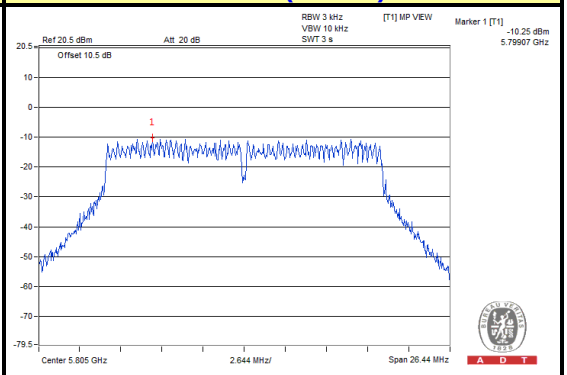
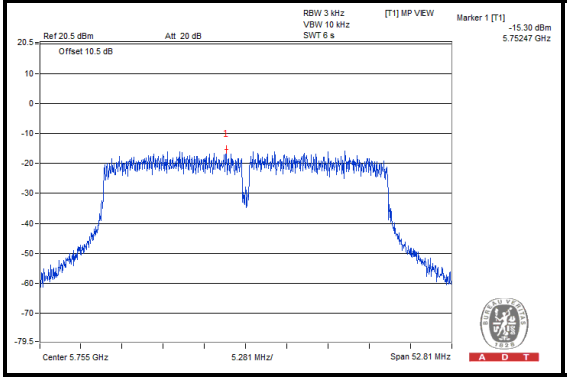
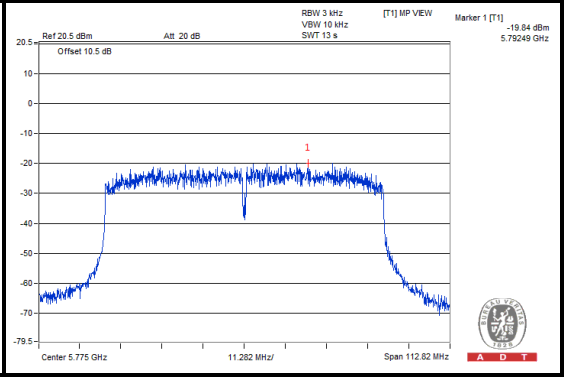
Channel	FREQ. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
149	5745	-11.87	8	PASS
157	5785	-10.73	8	PASS
161	5805	-10.25	8	PASS

802.11n (40MHz)

Channel	FREQ. (MHz)	PSD (dBm/100kHz)	Limit (dBm/3kHz)	PASS /FAIL
151	5755	-15.30	8	PASS
159	5795	-15.30	8	PASS

802.11ac (80MHz)

Channel	FREQ. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	PASS /FAIL
155	5775	-19.84	8	PASS

SPECTRUM PLOT OF WORST VALUE	
802.11a	802.11n (20MHz)
	
802.11n (40MHz)	802.11ac (80MHz)
	

5.6 CONDUCTED OUT OF BAND EMISSION MEASUREMENT

5.6.1 LIMITS OF 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

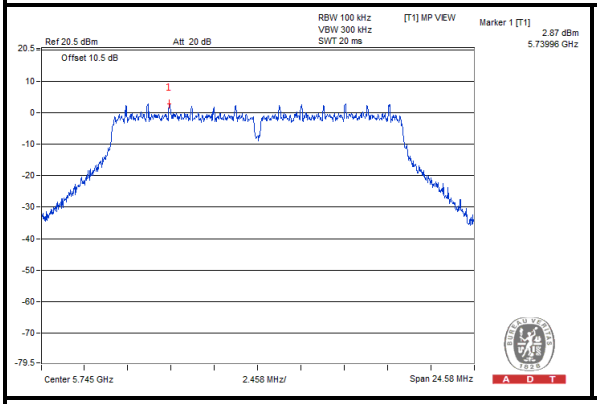
Same as Item 4.3.6

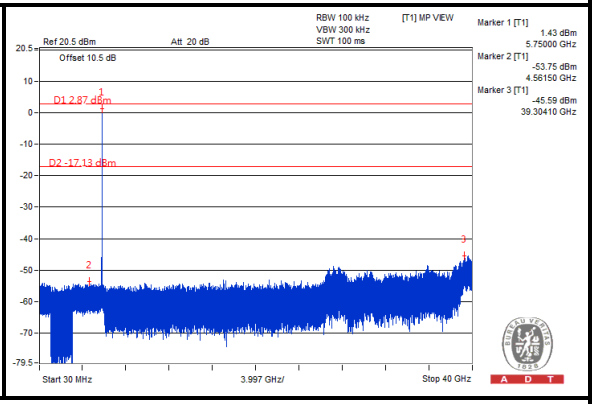
5.6.7 TEST RESULTS

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.

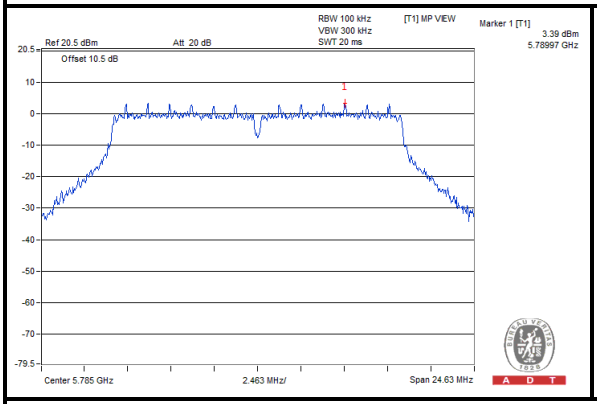
802.11a

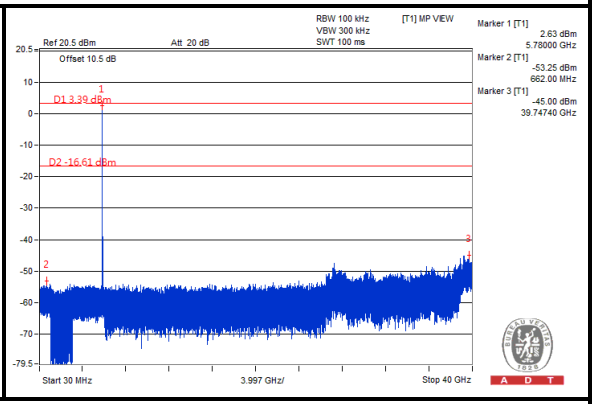
CH 149



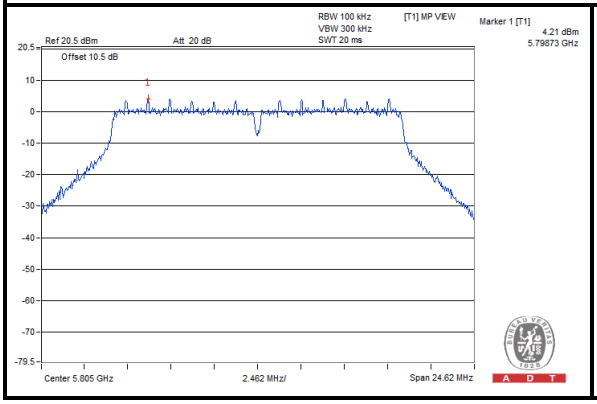


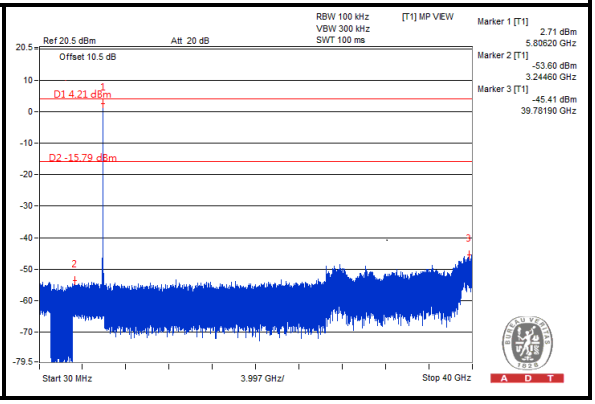
CH 157





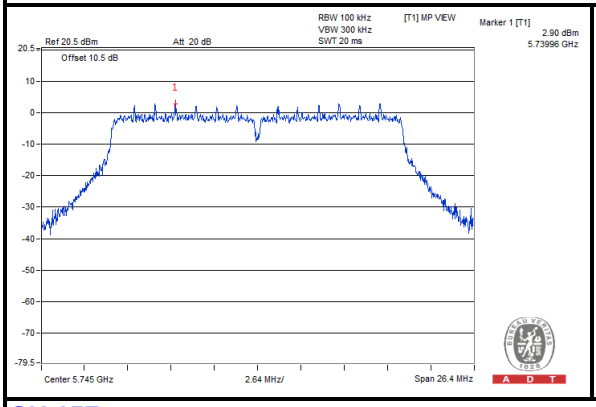
CH 161

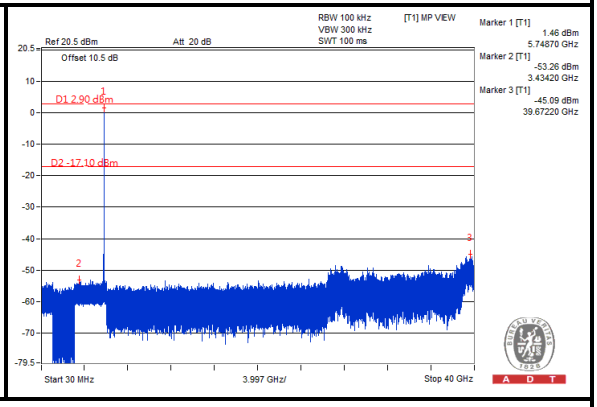




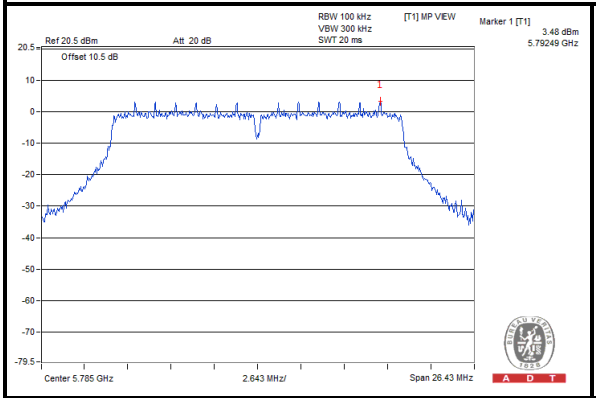
802.11n (20MHz)

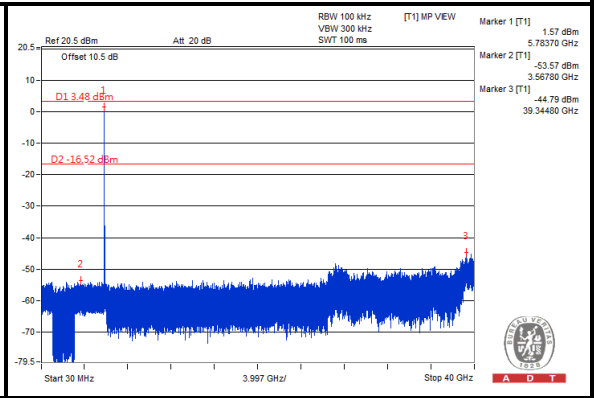
CH 149



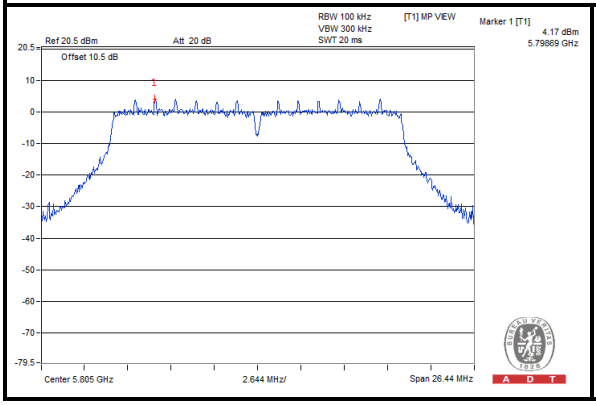


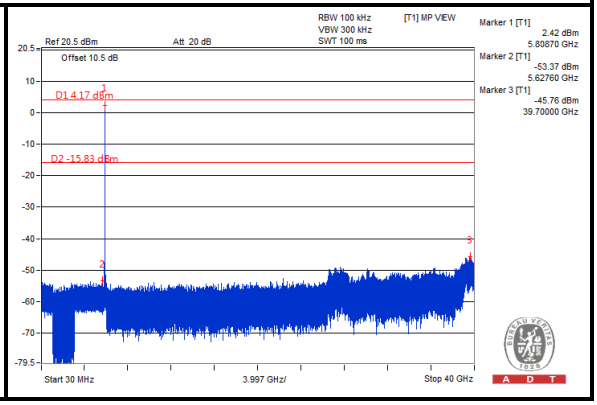
CH 157





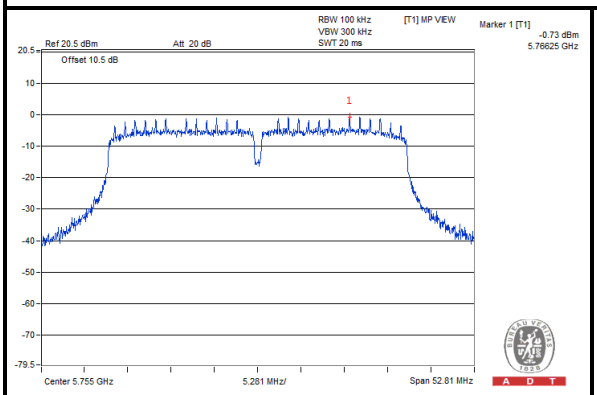
CH 161

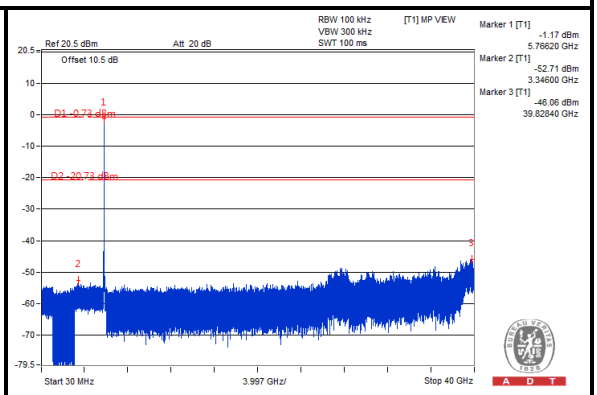




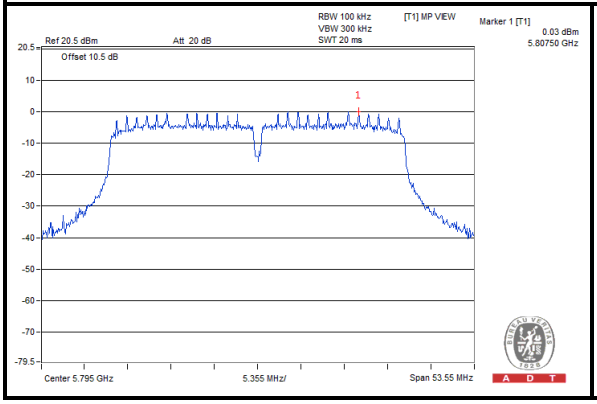
802.11n (40MHz)

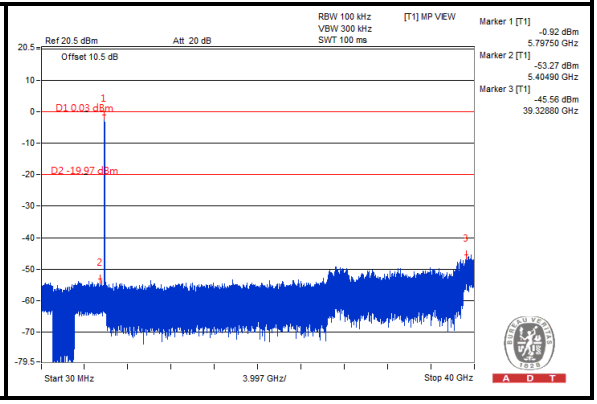
CH 151





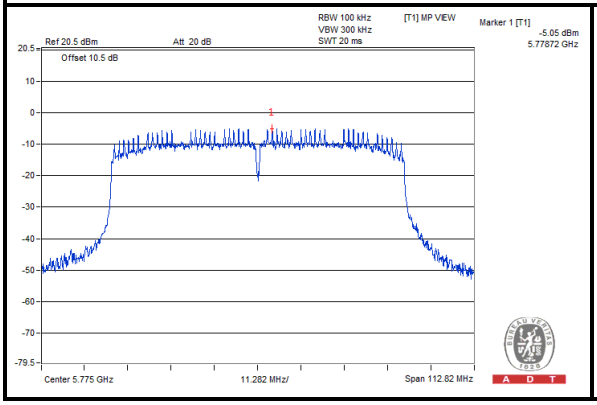
CH 159

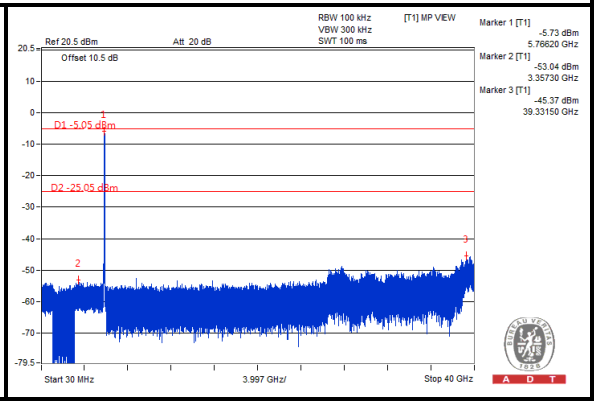




802.11ac (80MHz)

CH 155





6. PHOTOGRAPHS OF THE TEST CONFIGURATION

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

7. INFORMATION ON THE TESTING LABORATORIES

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

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

Linko EMC/RF Lab:
Tel: 886-2-26052180
Fax: 886-2-26051924

Hsin Chu EMC/RF Lab:
Tel: 886-3-5935343
Fax: 886-3-5935342

Hwa Ya EMC/RF/Safety Telecom Lab:
Tel: 886-3-3183232
Fax: 886-3-3270892

Email: service.adt@tw.bureauveritas.com
Web Site: www.bureauveritas-adt.com

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

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

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

---END---