FCC TEST REPORT (15.407)

REPORT NO.:	RF131024C08-2
MODEL NO.:	CB1C13
FCC ID:	HFS-ZM7
RECEIVED:	Oct. 24, 2013
TESTED:	Nov. 27, 2013 ~ Nov. 29, 2013
ISSUED:	Dec. 04, 2013

APPLICANT:	Quanta Computer Inc.
ADDRESS:	No,211, Wen Hwa 2nd RD.; Kuei Shan Hsiang, Tao Yuan Shien, 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
RF131024C08-2	Original release	Dec. 04, 2013

1. CERTIFICATION

PRODUCT:	Portable Computer
MODEL NO.:	CB1C13
BRAND:	Dell
APPLICANT:	Quanta Computer Inc.
TESTED:	Nov. 27, 2013 ~ Nov. 29, 2013
TEST SAMPLE:	PRODUCTION UNIT
STANDARDS:	**FCC Part 15, Subpart E (Section 15.407)**
	ANSI C63.10-2009

The above equipment (model: CB1C13) has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch,** and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

PREPARED BY : _____ , **DATE :** Dec. 04, 2013

Ivonne Wu / Supervisor

APPROVED BY : _____ , **DATE :** Dec. 04, 2013

Sam Chen / Assistant Manager

2. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC PART 15, SUBPART E (SECTION 15.407)			
STANDARD SECTION	**TEST TYPE**	**RESULT**	**REMARK**
15.407(b)(6)	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is -12.89dB at 0.17734MHz.
15.407(b/1/2/3)(b)(6)	Spurious Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -1.31dB at 5470.00MHz.
15.407(a/1/2)	Peak Transmit Power	PASS	Meet the requirement of limit.
15.407(a)(6)	Peak Power Excursion	PASS	Meet the requirement of limit.
15.407(a/1/2)	Peak Power Spectral Density	PASS	Meet the requirement of limit.
15.407(g)	Frequency Stability	PASS	Meet the requirement of limit.
15.203	Antenna Requirement	PASS	No antenna connector is used.

2.1 MEASUREMENT UNCERTAINTY

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

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

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

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

EUT	Portable Computer
MODEL NO.	CB1C13
POWER SUPPLY	19.5Vdc (adapter) 11.1Vdc (Li-ion battery)
MODULATION TYPE	64QAM, 16QAM, QPSK, BPSK
MODULATION TECHNOLOGY	OFDM
TRANSFER RATE	802.11a: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0Mbps 802.11n: up to MCS7
OPERATING FREQUENCY	5180 ~ 5240MHz, 5260 ~ 5320MHz & 5500 ~ 5700MHz
NUMBER OF CHANNEL	5180 ~ 5240MHz: 4 for 802.11a, 802.11n (20MHz) 2 for 802.11n (40MHz) 5260 ~ 5320MHz: 4 for 802.11a, 802.11n (20MHz) 2 for 802.11n (40MHz) 5500 ~ 5700MHz: 8 for 802.11a, 802.11n (20MHz) 3 for 802.11n (40MHz)
OUTPUT POWER	29.580mW for 5180 ~ 5240MHz 38.723mW for 5260 ~ 5320MHz 38.273mW for 5500 ~ 5700MHz
ANTENNA TYPE	PIFA antenna with 2.44dBi gain (5180 ~ 5240MHz) PIFA antenna with 2.44dBi gain (5260 ~ 5320MHz) PIFA antenna with 2.04dBi gain (5500 ~ 5700MHz)
ANTENNA CONNECTOR	NA
DATA CABLE	Refer to Note as below
I/O PORTS	Refer to user's manual
ACCESSORY DEVICES	Refer to Note as below

NOTE:

1. The EUT contains following accessory devices.

ITEM	BRAND	MODEL	SPECIFICATION
Adapter	Dell	LA65NM130	I/P: 100-240Vac, 50~60Hz, 1.7A O/P: 19.5Vdc, 3.34A Power Cord: 1.85m non-shielded cable w/o core
Battery	SAMSUNG	CB1C13	3.8Vdc, 11.1Vdc, 4564mAh
WLAN Module	Qualcomm Atheros	AR5B22	--

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

MODULATION MODE	TX FUNCTION
802.11b	1TX / 2TX
802.11g	1TX / 2TX
802.11a	1TX / 2TX
802.11n (20MHz)	2TX
802.11n (40MHz)	2TX

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

3.2 DESCRIPTION OF TEST MODES

FOR 5260 ~ 5320MHz

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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
52	5260 MHz	60	5300 MHz
56	5280 MHz	64	5320 MHz

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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
54	5270 MHz	62	5310 MHz

FOR 5500 ~ 5700MHz

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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
100	5500MHz	116	5580MHz
104	5520MHz	132	5660MHz
108	5540MHz	136	5680MHz
112	5560MHz	140	5700MHz

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

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

3.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE≥1G	RE<1G	PLC	APCM	
A	√	-	-	√	1TX
B	√	√	√	√	2TX

Where **RE≥1G:** Radiated Emission above 1GHz **RE<1G:** Radiated Emission below 1GHz
PLC: Power Line Conducted Emission **APCM:** Antenna Port Conducted Measurement

RADIATED EMISSION TEST (ABOVE 1GHz):

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

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

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A, B	802.11a	5180-5240	36 to 48	36, 44, 48	OFDM	BPSK	6.0
B	802.11n (20MHz)		36 to 48	36, 44, 48	OFDM	BPSK	MCS0
B	802.11n (40MHz)		38 to 46	38, 46	OFDM	BPSK	MCS0
A, B	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	BPSK	6.0
B	802.11n (20MHz)		52 to 64	52, 60, 64	OFDM	BPSK	MCS0
B	802.11n (40MHz)		54 to 62	54, 62	OFDM	BPSK	MCS0
A, B	802.11a	5500-5700	100 to 140	100, 116, 140	OFDM	BPSK	6.0
B	802.11n (20MHz)		100 to 140	100, 116, 140	OFDM	BPSK	MCS0
B	802.11n (40MHz)		102 to 134	102, 110, 134	OFDM	BPSK	MCS0

RADIATED EMISSION TEST (BELOW 1GHz):

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

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

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
B	802.11n (40MHz)	5180-5240	36 to 48	38	OFDM	BPSK	6.0
		5260-5320	52 to 64	62	OFDM	BPSK	MCS0
		5500-5700	100 to 140	102	OFDM	BPSK	MCS0

POWER LINE CONDUCTED EMISSION TEST:

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
B	802.11n (40MHz)	5500-5700	100 to 140	102	OFDM	BPSK	MCS0

BANDEDGE MEASUREMENT:

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

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

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A, B	802.11a	5180-5240	36 to 48	36, 48	OFDM	BPSK	6.0
B	802.11n (20MHz)		36 to 48	36, 48	OFDM	BPSK	MCS0
B	802.11n (40MHz)		38 to 46	38, 46	OFDM	BPSK	MCS0
A, B	802.11a	5260-5320	52 to 64	52, 64	OFDM	BPSK	6.0
B	802.11n (20MHz)		52 to 64	52, 64	OFDM	BPSK	MCS0
B	802.11n (40MHz)		54 to 62	54, 62	OFDM	BPSK	MCS0
A, B	802.11a	5500-5700	100 to 140	100, 140	OFDM	BPSK	6.0
B	802.11n (20MHz)		100 to 140	100, 140	OFDM	BPSK	MCS0
B	802.11n (40MHz)		102 to 134	102, 134	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	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
A, B	802.11a	5180-5240	36 to 48	36, 44, 48	OFDM	BPSK	6.0
B	802.11n (20MHz)		36 to 48	36, 44, 48	OFDM	BPSK	MCS0
B	802.11n (40MHz)		38 to 46	38, 46	OFDM	BPSK	MCS0
A, B	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	BPSK	6.0
B	802.11n (20MHz)		52 to 64	52, 60, 64	OFDM	BPSK	MCS0
B	802.11n (40MHz)		54 to 62	54, 62	OFDM	BPSK	MCS0
A, B	802.11a	5500-5700	100 to 140	100, 116, 140	OFDM	BPSK	6.0
B	802.11n (20MHz)		100 to 140	100, 116, 140	OFDM	BPSK	MCS0
B	802.11n (40MHz)		102 to 134	102, 110, 134	OFDM	BPSK	MCS0

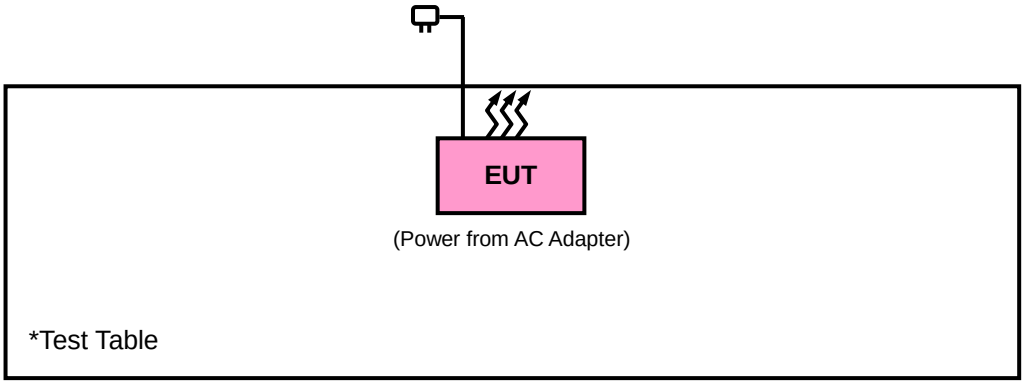
TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE≥1G	25deg. C, 65%RH	120Vac, 60Hz	David Huang
RE<1G	25deg. C, 65%RH	120Vac, 60Hz	David Huang
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.

3.3.1 CONFIGURATION OF SYSTEM UNDER TEST



3.4 DUTY CYCLE TEST SIGNAL

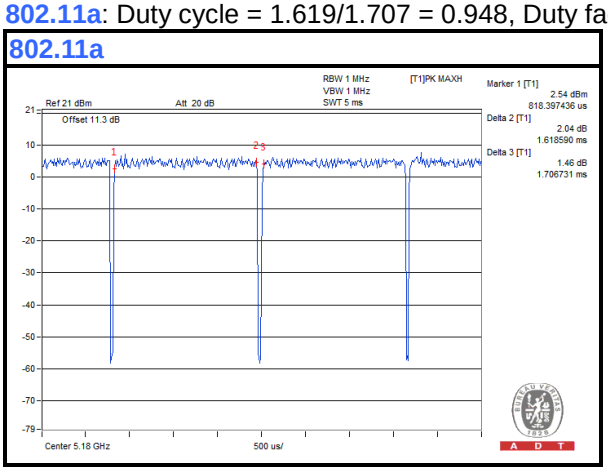
Mode A

MODULATION TYPE: BPSK

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

802.11a: Duty cycle = 1.619/1.707 = 0.948, Duty factor = 10 * log(1/0.948) = 0.23

802.11a

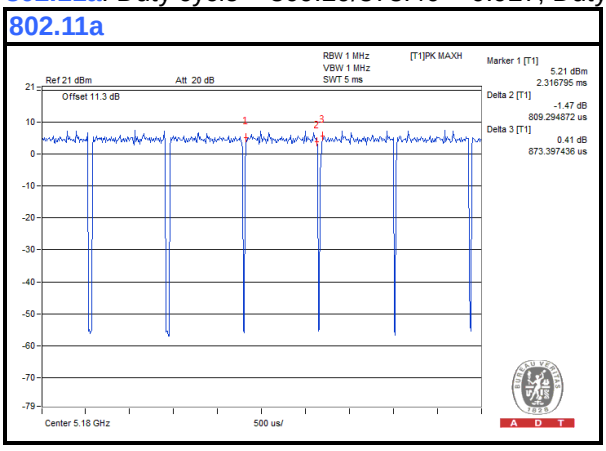


MODULATION TYPE: QPSK

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

802.11a: Duty cycle = 809.29/873.40 = 0.927, Duty factor = 10 * log(1/0.927) = 0.33

802.11a

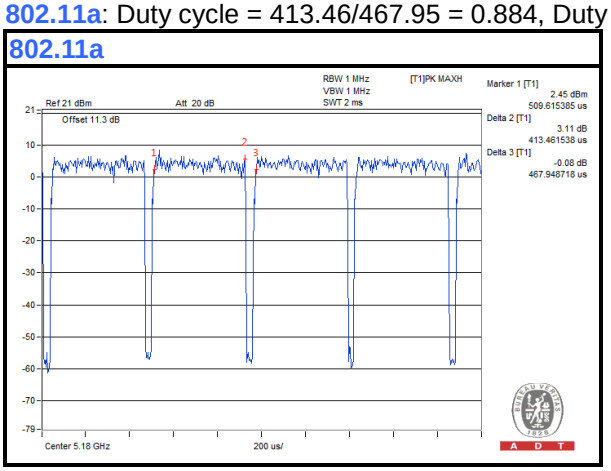


MODULATION TYPE: 16QAM

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

802.11a: Duty cycle = 413.46/467.95 = 0.884, Duty factor = 10 * log(1/0.884) = 0.54

802.11a

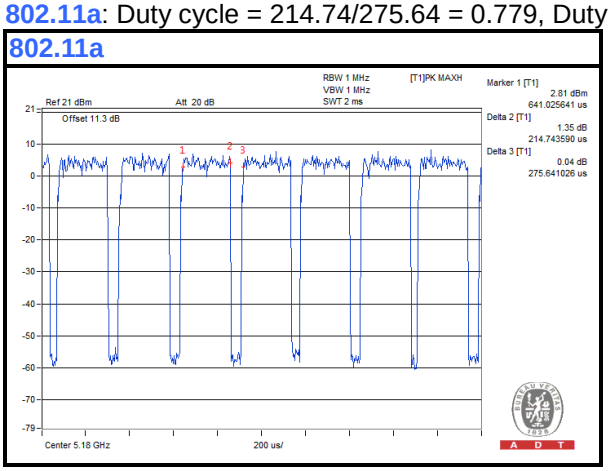


MODULATION TYPE: 64QAM

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

802.11a: Duty cycle = 214.74/275.64 = 0.779, Duty factor = 10 * log(1/0.779) = 1.08

802.11a



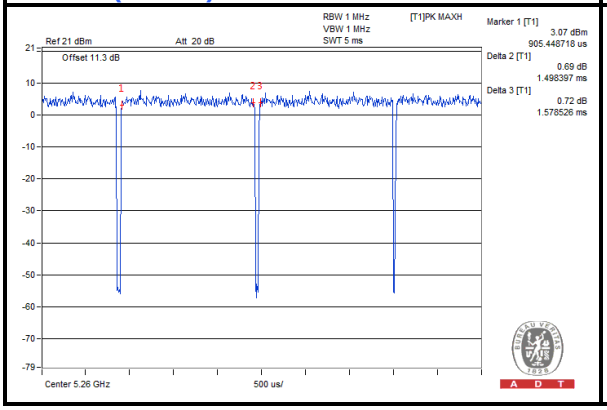
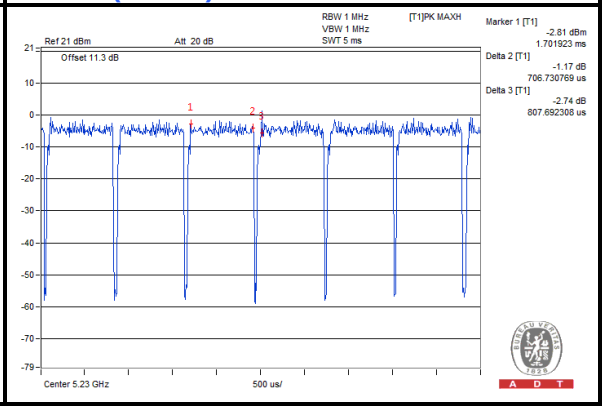
Mode B

MODULATION TYPE: BPSK

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

802.11n (20MHz): Duty cycle = 1.498/1.579 = 0.949, Duty factor = 10 * log(1/0.949) = 0.23

802.11n (40MHz): Duty cycle = 706.73/807.69 = 0.875, Duty factor = 10 * log(1/0.875) = 0.58

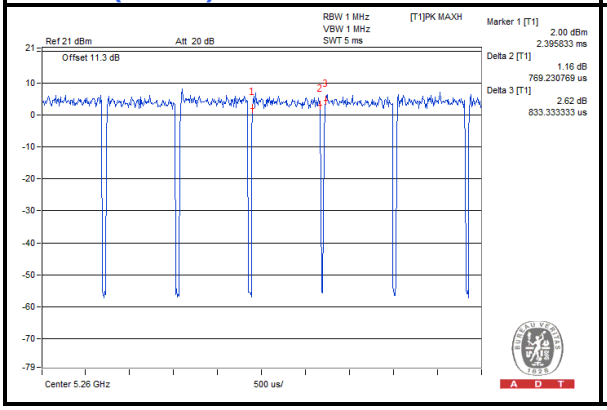
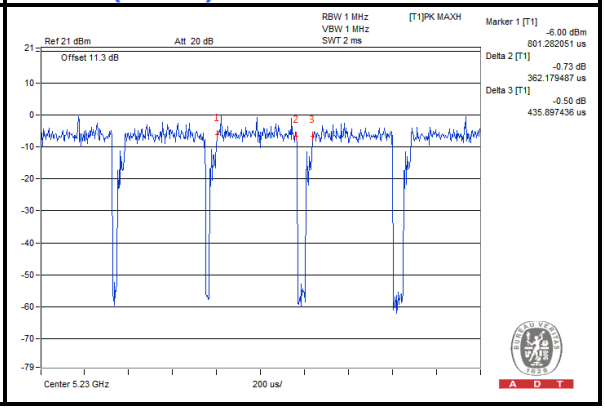
802.11n (20MHz)	802.11n (40MHz)
	

MODULATION TYPE: QPSK

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

802.11n (20MHz): Duty cycle = 769.23/833.33 = 0.923, Duty factor = 10 * log(1/0.923) = 0.35

802.11n (40MHz): Duty cycle = 362.18/435.90 = 0.831, Duty factor = 10 * log(1/0.831) = 0.80

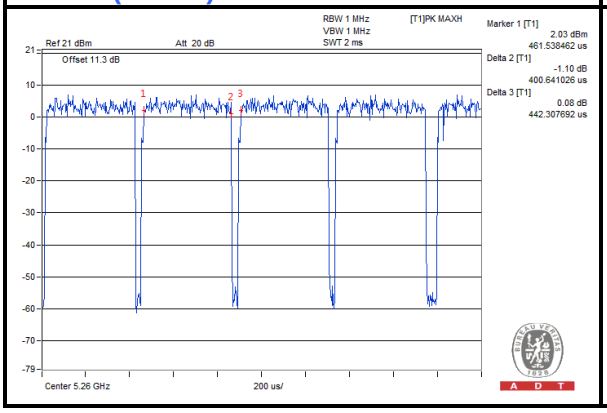
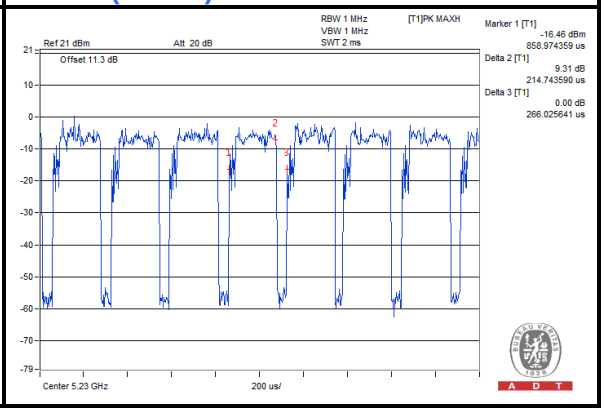
802.11n (20MHz)	802.11n (40MHz)
	

MODULATION TYPE: 16QAM

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

802.11n (20MHz): Duty cycle = 400.64/442.31 = 0.906, Duty factor = 10 * log(1/0.906) = 0.43

802.11n (40MHz): Duty cycle = 214.74/266.03 = 0.807, Duty factor = 10 * log(1/0.807) = 0.93

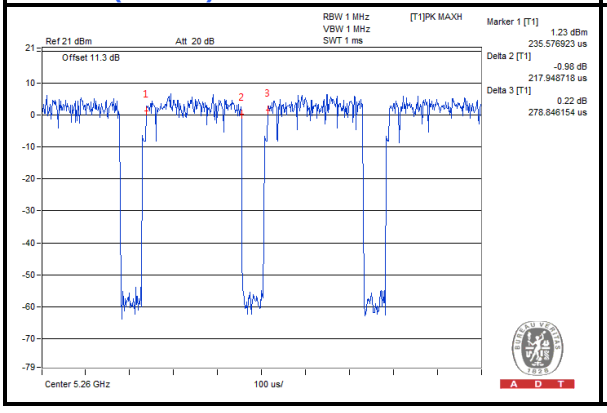
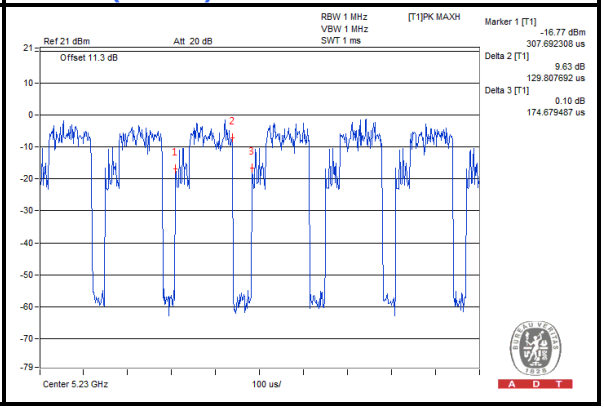
802.11n (20MHz)	802.11n (40MHz)
	

MODULATION TYPE: 64QAM

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

802.11n (20MHz): Duty cycle = 217.95/278.85 = 0.781, Duty factor = 10 * log(1/0.781) = 1.07

802.11n (40MHz): Duty cycle = 129.81/174.68 = 0.743, Duty factor = 10 * log(1/0.743) = 1.29

802.11n (20MHz)	802.11n (40MHz)
	

3.5 GENERAL DESCRIPTION OF APPLIED STANDARDS

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

FCC Part 15, Subpart E (15.407)

ANSI C63.10-2009

KDB 789033 D01 General UNII Test Procedures v01r03

662911 D01 Multiple Transmitter Output v02

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

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

4. TEST TYPES AND RESULTS

4.1 RADIATED EMISSION AND BANDEDGE MEASUREMENT

4.1.1 LIMITS OF RADIATED EMISSION AND BANDEDGE MEASUREMENT

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table:

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

NOTE:

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

4.1.2 LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS

APPLICABLE TO	LIMIT	
	FIELD STRENGTH AT 3m (dBµV/m)	
	PK	AV
	74	54
	EIRP LIMIT (dBm)	EQUIVALENT FIELD STRENGTH AT 3m (dBµV/m)
√	PK	PK
	-27	68.3

NOTE: The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

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

4.1.3 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESCI	100744	Apr. 15, 2013	Apr. 14, 2014
Spectrum Analyzer ROHDE & SCHWARZ	FSU43	101261	Dec. 17, 2012	Dec. 16, 2013
BILOG Antenna SCHWARZBECK	VULB9168	9168-472	Mar. 25, 2013	Mar. 24, 2014
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-969	Jan. 07, 2013	Jan. 06, 2014
HORN Antenna SCHWARZBECK	BBHA 9170	9170-480	Dec. 25, 2012	Dec. 24, 2013
Loop Antenna	HFH2-Z2	100070	Jan. 31, 2012	Jan. 30, 2014
Preamplifier EMCI	EMC 012645	980115	Dec. 28, 2012	Dec. 27, 2013
Preamplifier EMCI	EMC 184045	980116	Dec. 28, 2012	Dec. 27, 2013
Preamplifier EMCI	EMC 330H	980112	Dec. 28, 2012	Dec. 27, 2013
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	309219/4	Oct. 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	Dec. 29, 2012	Dec. 28, 2013
Software BV ADT	E3 6.120103	NA	NA	NA
Antenna Tower MF	MFA-440H	NA	NA	NA
Turn Table MF	MFT-201SS	NA	NA	NA
Antenna Tower &Turn Table Controller MF	MF-7802	NA	NA	NA
Power Meter	ML2495A	1232002	Aug. 23, 2013	Aug. 22, 2014
Power Sensor	MA2411B	1207325	Aug. 23, 2013	Aug. 22, 2014

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

4.1.4 TEST PROCEDURES

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

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

c. The antenna is a broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

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

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

f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

NOTE:

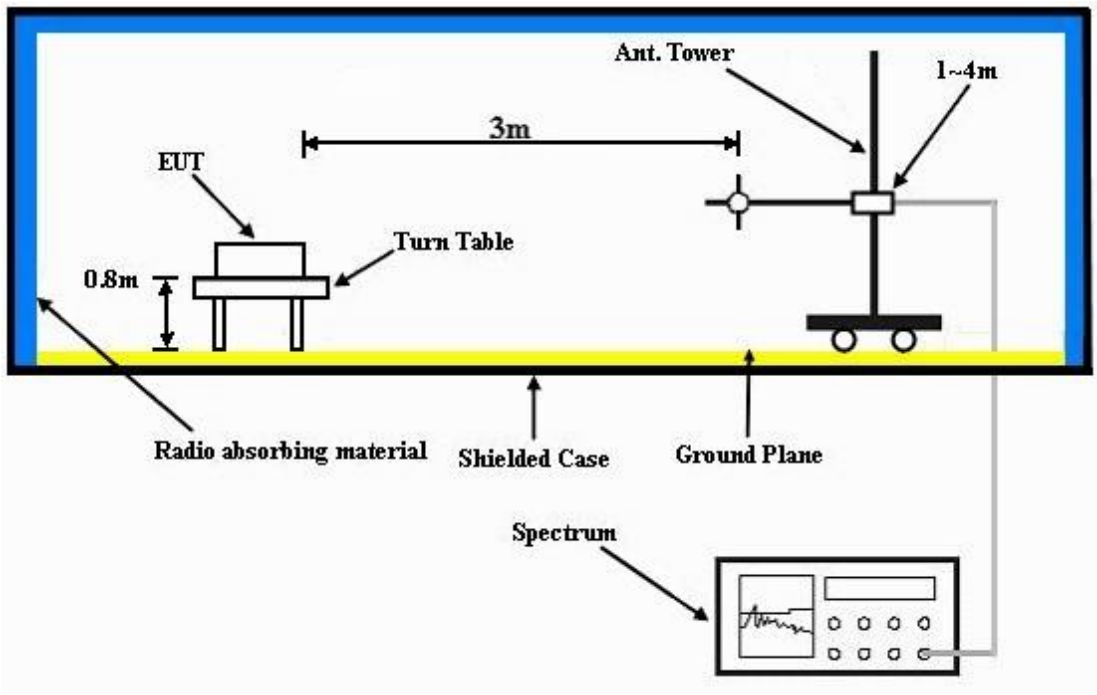
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Peak detection (PK) and Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency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

4.1.5 DEVIATION FROM TEST STANDARD

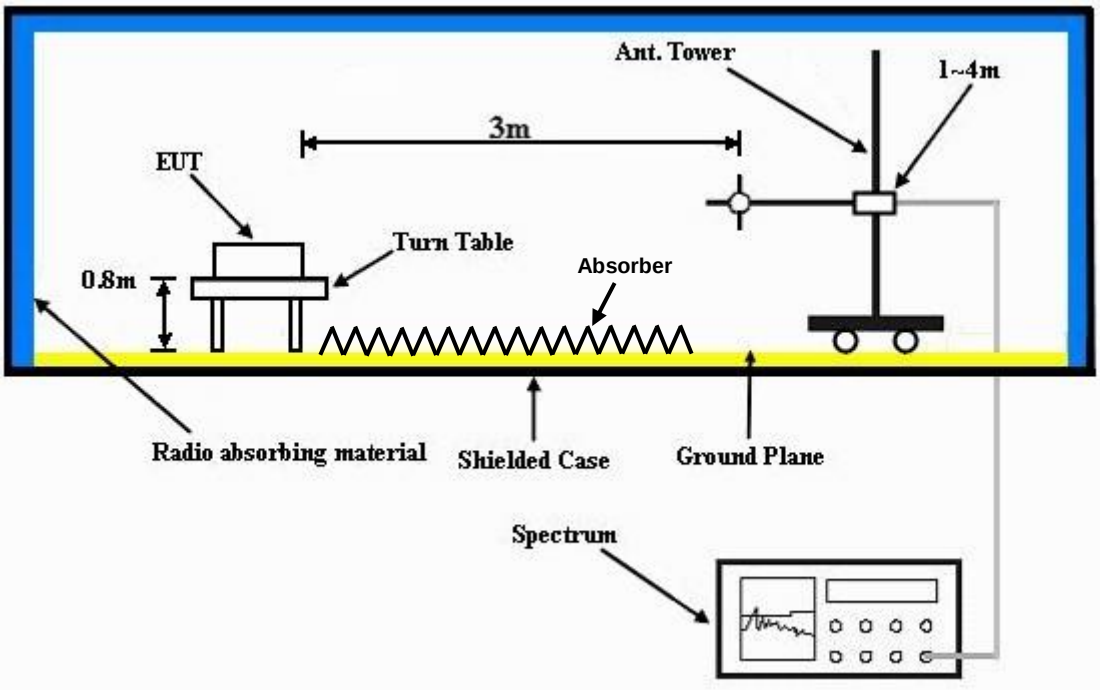
No deviation.

4.1.6 TEST SETUP

Frequency Range 30MHz ~ 1GHz



Frequency Range above 1GHz



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

4.1.7 EUT OPERATING CONDITIONS

a. Placed the EUT on a testing table.

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

4.1.8 TEST RESULTS

ABOVE 1GHz WORST-CASE DATA

Mode A

802.11a

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	**EMISSION LEVEL (dBuV/m)**	**READ LEVEL (dBuV)**	**LIMIT (dBuV/m)**	**MARGIN (dB)**	**ANTENNA FACTOR (dB/m)**	**CABLE LOSS (dB)**	**PREAMP FACTOR (dB)**	**ANTENNA HEIGHT (cm)**	**TABLE ANGLE (Degree)**	**REMARK**
5124	39.72	40.43	54	-14.28	31.31	5.28	37.3	112	108	Average
5124	59.55	60.26	74	-14.45	31.31	5.28	37.3	112	108	Peak
5180	91.69	92.37			31.35	5.31	37.34	112	108	Average
5180	100.67	101.35			31.35	5.31	37.34	112	108	Peak
5424	40.78	41.01	54	-13.22	31.53	5.42	37.18	112	108	Average
5424	60.38	60.61	74	-13.62	31.53	5.42	37.18	112	108	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	**EMISSION LEVEL (dBuV/m)**	**READ LEVEL (dBuV)**	**LIMIT (dBuV/m)**	**MARGIN (dB)**	**ANTENNA FACTOR (dB/m)**	**CABLE LOSS (dB)**	**PREAMP FACTOR (dB)**	**ANTENNA HEIGHT (cm)**	**TABLE ANGLE (Degree)**	**REMARK**
5150	44.34	45.05	54	-9.66	31.32	5.29	37.32	100	206	Average
5150	64.18	64.89	74	-9.82	31.32	5.29	37.32	100	206	Peak
5180	97.67	98.35			31.35	5.31	37.34	100	206	Average
5180	106.62	107.3			31.35	5.31	37.34	100	206	Peak
5416	40.31	40.54	54	-13.69	31.53	5.42	37.18	100	206	Average
5416	60.06	60.29	74	-13.94	31.53	5.42	37.18	100	206	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5180MHz: Fundamental frequency.

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

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
5144	38.43	39.14	54	-15.57	31.32	5.29	37.32	115	107	Average
5144	60.16	60.87	74	-13.84	31.32	5.29	37.32	115	107	Peak
5220	93.82	94.48			31.37	5.33	37.36	115	107	Average
5220	102.93	103.59			31.37	5.33	37.36	115	107	Peak
5394	40	40.26	54	-14	31.51	5.41	37.18	115	107	Average
5394	59.68	59.94	74	-14.32	31.51	5.41	37.18	115	107	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
5102	39.93	40.66	54	-14.07	31.28	5.27	37.28	100	208	Average
5102	59.5	60.23	74	-14.5	31.28	5.27	37.28	100	208	Peak
5220	99.43	100.09			31.37	5.33	37.36	100	208	Average
5220	108.84	109.5			31.37	5.33	37.36	100	208	Peak
5392	41.3	41.56	54	-12.7	31.51	5.41	37.18	100	208	Average
5392	59.56	59.82	74	-14.44	31.51	5.41	37.18	100	208	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5220MHz: Fundamental frequency.

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

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
5080	37.69	38.43	54	-16.31	31.27	5.26	37.27	102	110	Average
5080	58.78	59.52	74	-15.22	31.27	5.26	37.27	102	110	Peak
5240	95.56	96.15			31.39	5.34	37.32	102	110	Average
5240	104.38	104.97			31.39	5.34	37.32	102	110	Peak
5418	39.97	40.2	54	-14.03	31.53	5.42	37.18	102	110	Average
5418	60	60.23	74	-14	31.53	5.42	37.18	102	110	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
5066	38.81	39.55	54	-15.19	31.25	5.26	37.25	100	208	Average
5066	58.78	59.52	74	-15.22	31.25	5.26	37.25	100	208	Peak
5240	100.45	101.04			31.39	5.34	37.32	100	208	Average
5240	109.25	109.84			31.39	5.34	37.32	100	208	Peak
5396	40.24	40.49	54	-13.76	31.52	5.41	37.18	100	208	Average
5396	59.35	59.6	74	-14.65	31.52	5.41	37.18	100	208	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5240MHz: Fundamental frequency.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5082	37.75	38.49	54	-16.25	31.27	5.26	37.27	114	112	Average
5082	59.42	60.16	74	-14.58	31.27	5.26	37.27	114	112	Peak
5260	97.25	97.77			31.41	5.34	37.27	114	112	Average
5260	106.04	106.56			31.41	5.34	37.27	114	112	Peak
5378	40.06	40.33	54	-13.94	31.51	5.4	37.18	114	112	Average
5378	59.18	59.45	74	-14.82	31.51	5.4	37.18	114	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
5054	38.47	39.23	54	-15.53	31.24	5.25	37.25	100	210	Average
5054	59.85	60.61	74	-14.15	31.24	5.25	37.25	100	210	Peak
5260	101.62	102.14			31.41	5.34	37.27	100	210	Average
5260	109.95	110.47			31.41	5.34	37.27	100	210	Peak
5434	40.84	41	54	-13.16	31.55	5.42	37.13	100	210	Average
5434	59.39	59.55	74	-14.61	31.55	5.42	37.13	100	210	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5260MHz: Fundamental frequency.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5148	37.63	38.34	54	-16.37	31.32	5.29	37.32	113	112	Average
5148	59.13	59.84	74	-14.87	31.32	5.29	37.32	113	112	Peak
5300	95.74	96.12			31.44	5.37	37.19	113	112	Average
5300	104.7	105.08			31.44	5.37	37.19	113	112	Peak
5396	40.71	40.96	54	-13.29	31.52	5.41	37.18	113	112	Average
5396	59.54	59.79	74	-14.46	31.52	5.41	37.18	113	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
5050	38.44	39.2	54	-15.56	31.24	5.25	37.25	103	265	Average
5050	58.86	59.62	74	-15.14	31.24	5.25	37.25	103	265	Peak
5300	101.53	101.91			31.44	5.37	37.19	103	265	Average
5300	109.98	110.36			31.44	5.37	37.19	103	265	Peak
5400	44.17	44.42	54	-9.83	31.52	5.41	37.18	103	265	Average
5400	60.03	60.28	74	-13.97	31.52	5.41	37.18	103	265	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5300MHz: Fundamental frequency.

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

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
5122	37.73	38.46	54	-16.27	31.29	5.28	37.3	112	112	Average
5122	59.57	60.3	74	-14.43	31.29	5.28	37.3	112	112	Peak
5320	95.41	95.77			31.45	5.38	37.19	112	112	Average
5320	104.33	104.69			31.45	5.38	37.19	112	112	Peak
5350	41.82	42.13	54	-12.18	31.48	5.39	37.18	112	112	Average
5350	59.87	60.18	74	-14.13	31.48	5.39	37.18	112	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
5064	38.75	39.49	54	-15.25	31.25	5.26	37.25	102	266	Average
5064	59.82	60.56	74	-14.18	31.25	5.26	37.25	102	266	Peak
5320	101.23	101.59			31.45	5.38	37.19	102	266	Average
5320	109.6	109.96			31.45	5.38	37.19	102	266	Peak
5350	46.53	46.84	54	-7.47	31.48	5.39	37.18	102	266	Average
5350	65.94	66.25	74	-8.06	31.48	5.39	37.18	102	266	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5320MHz: Fundamental frequency.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5452	40.94	41.02	54	-13.06	31.56	5.44	37.08	110	108	Average
5452	60.4	60.48	74	-13.6	31.56	5.44	37.08	110	108	Peak
5470	61.8	61.86	68.3	-6.5	31.57	5.45	37.08	110	108	Peak
5500	95.1	95.07			31.6	5.46	37.03	110	108	Average
5500	103.65	103.62			31.6	5.46	37.03	110	108	Peak
5725	58.74	58.62	68.3	-9.56	31.96	5.59	37.43	110	108	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5460	45.57	45.65	54	-8.43	31.56	5.44	37.08	100	298	Average
5460	60.32	60.4	74	-13.68	31.56	5.44	37.08	100	298	Peak
5470	66.16	66.22	68.3	-2.14	31.57	5.45	37.08	100	298	Peak
5500	101.18	101.15			31.6	5.46	37.03	100	298	Average
5500	110.66	110.63			31.6	5.46	37.03	100	298	Peak
5725	58.75	58.63	68.3	-9.55	31.96	5.59	37.43	100	298	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5500MHz: Fundamental frequency.
3. 5470MHz & 5725MHz: Out of restricted band

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

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
5350	39.82	40.13	54	-14.18	31.48	5.39	37.18	108	108	Average
5350	59.58	59.89	74	-14.42	31.48	5.39	37.18	108	108	Peak
5470	57.67	57.73	68.3	-10.63	31.57	5.45	37.08	108	108	Peak
5580	96.39	96.34			31.71	5.5	37.16	108	108	Average
5580	105.36	105.31			31.71	5.5	37.16	108	108	Peak
5725	57.73	57.61	68.3	-10.57	31.96	5.59	37.43	108	108	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
5382	42.86	43.13	54	-11.14	31.51	5.4	37.18	108	287	Average
5382	59.71	59.98	74	-14.29	31.51	5.4	37.18	108	287	Peak
5470	57.62	57.68	68.3	-10.68	31.57	5.45	37.08	108	287	Peak
5580	101.52	101.47			31.71	5.5	37.16	108	287	Average
5580	110.27	110.22			31.71	5.5	37.16	108	287	Peak
5725	58.96	58.84	68.3	-9.34	31.96	5.59	37.43	108	287	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5580MHz: Fundamental frequency.
3. 5470MHz & 5725MHz: Out of restricted band

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

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
5420	40.42	40.65	54	-13.58	31.53	5.42	37.18	106	108	Average
5420	59.86	60.09	74	-14.14	31.53	5.42	37.18	106	108	Peak
5470	57.89	57.95	68.3	-10.41	31.57	5.45	37.08	106	108	Peak
5700	92.59	92.52			31.9	5.57	37.4	106	108	Average
5700	101.52	101.45			31.9	5.57	37.4	106	108	Peak
5725	59.81	59.69	68.3	-8.49	31.96	5.59	37.43	106	108	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
5410	40.82	41.07	54	-13.18	31.52	5.41	37.18	100	223	Average
5410	59.71	59.96	74	-14.29	31.52	5.41	37.18	100	223	Peak
5470	57.53	57.59	68.3	-10.77	31.57	5.45	37.08	100	223	Peak
5700	97.55	97.48			31.9	5.57	37.4	100	223	Average
5700	106.58	106.51			31.9	5.57	37.4	100	223	Peak
5725	65.18	65.06	68.3	-3.12	31.96	5.59	37.43	100	223	Peak

REMARKS:

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

Mode B

802.11a

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	39.2	39.91	54	-14.8	31.32	5.29	37.32	112	151	Average
5150	57.35	58.06	74	-16.65	31.32	5.29	37.32	112	151	Peak
5180	92.29	92.97			31.35	5.31	37.34	112	151	Average
5180	100.04	100.72			31.35	5.31	37.34	112	151	Peak
5350	37.71	38.02	54	-16.29	31.48	5.39	37.18	112	151	Average
5350	57.84	58.15	74	-16.16	31.48	5.39	37.18	112	151	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	41.2	41.91	54	-12.8	31.32	5.29	37.32	100	43	Average
5150	57.2	57.91	74	-16.8	31.32	5.29	37.32	100	43	Peak
5180	98.31	98.99			31.35	5.31	37.34	100	43	Average
5180	106.35	107.03			31.35	5.31	37.34	100	43	Peak
5350	37.71	38.02	54	-16.29	31.48	5.39	37.18	100	43	Average
5350	57.08	57.39	74	-16.92	31.48	5.39	37.18	100	43	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5180MHz: Fundamental frequency.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	37.72	38.43	54	-16.28	31.32	5.29	37.32	100	158	Average
5150	57.36	58.07	74	-16.64	31.32	5.29	37.32	100	158	Peak
5220	92.83	93.49			31.37	5.33	37.36	100	158	Average
5220	101.52	102.18			31.37	5.33	37.36	100	158	Peak
5350	38	38.31	54	-16	31.48	5.39	37.18	100	158	Average
5350	58.66	58.97	74	-15.34	31.48	5.39	37.18	100	158	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	37.86	38.57	54	-16.14	31.32	5.29	37.32	101	179	Average
5150	58.55	59.26	74	-15.45	31.32	5.29	37.32	101	179	Peak
5220	100.67	101.33			31.37	5.33	37.36	101	179	Average
5220	108.94	109.6			31.37	5.33	37.36	101	179	Peak
5350	38.23	38.54	54	-15.77	31.48	5.39	37.18	101	179	Average
5350	58.04	58.35	74	-15.96	31.48	5.39	37.18	101	179	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5220MHz: Fundamental frequency.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	37.64	38.35	54	-16.36	31.32	5.29	37.32	103	291	Average
5150	57	57.71	74	-17	31.32	5.29	37.32	103	291	Peak
5240	94.03	94.62			31.39	5.34	37.32	103	291	Average
5240	103.01	103.6			31.39	5.34	37.32	103	291	Peak
5350	37.82	38.13	54	-16.18	31.48	5.39	37.18	103	291	Average
5350	57.45	57.76	74	-16.55	31.48	5.39	37.18	103	291	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	37.97	38.68	54	-16.03	31.32	5.29	37.32	100	187	Average
5150	57.87	58.58	74	-16.13	31.32	5.29	37.32	100	187	Peak
5240	100.99	101.58			31.39	5.34	37.32	100	187	Average
5240	109.94	110.53			31.39	5.34	37.32	100	187	Peak
5350	37.9	38.21	54	-16.1	31.48	5.39	37.18	100	187	Average
5350	56.66	56.97	74	-17.34	31.48	5.39	37.18	100	187	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5240MHz: Fundamental frequency.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5090	37.61	38.33	54	-16.39	31.28	5.27	37.27	102	182	Average
5090	59.81	60.53	74	-14.19	31.28	5.27	37.27	102	182	Peak
5260	96.26	96.78			31.41	5.34	37.27	102	182	Average
5260	104.8	105.32			31.41	5.34	37.27	102	182	Peak
5350	38.77	39.08	54	-15.23	31.48	5.39	37.18	102	182	Average
5350	60.16	60.47	74	-13.84	31.48	5.39	37.18	102	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
5108	38.88	39.6	54	-15.12	31.29	5.27	37.28	100	358	Average
5108	59.96	60.68	74	-14.04	31.29	5.27	37.28	100	358	Peak
5260	101.47	101.99			31.41	5.34	37.27	100	358	Average
5260	110.5	111.02			31.41	5.34	37.27	100	358	Peak
5424	42.52	42.75	54	-11.48	31.53	5.42	37.18	100	358	Average
5424	60.72	60.95	74	-13.28	31.53	5.42	37.18	100	358	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5260MHz: Fundamental frequency.

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

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
5136	37.75	38.46	54	-16.25	31.31	5.28	37.3	103	184	Average
5136	59.78	60.49	74	-14.22	31.31	5.28	37.3	103	184	Peak
5300	95.25	95.63			31.44	5.37	37.19	103	184	Average
5300	104.03	104.41			31.44	5.37	37.19	103	184	Peak
5366	38.53	38.82	54	-15.47	31.49	5.4	37.18	103	184	Average
5366	59.87	60.16	74	-14.13	31.49	5.4	37.18	103	184	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5034	37.94	38.71	54	-16.06	31.23	5.24	37.24	100	176	Average
5034	59.63	60.4	74	-14.37	31.23	5.24	37.24	100	176	Peak
5300	101.69	102.07			31.44	5.37	37.19	100	176	Average
5300	110.73	111.11			31.44	5.37	37.19	100	176	Peak
5460	42.55	42.63	54	-11.45	31.56	5.44	37.08	100	176	Average
5460	60.52	60.6	74	-13.48	31.56	5.44	37.08	100	176	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5300MHz: Fundamental frequency.

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

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
5042	37.56	38.32	54	-16.44	31.24	5.25	37.25	101	182	Average
5042	59.41	60.17	74	-14.59	31.24	5.25	37.25	101	182	Peak
5320	94.54	94.9			31.45	5.38	37.19	101	182	Average
5320	103.82	104.18			31.45	5.38	37.19	101	182	Peak
5372	38.81	39.1	54	-15.19	31.49	5.4	37.18	101	182	Average
5372	60.11	60.4	74	-13.89	31.49	5.4	37.18	101	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
5146	38.21	38.92	54	-15.79	31.32	5.29	37.32	100	176	Average
5146	60.04	60.75	74	-13.96	31.32	5.29	37.32	100	176	Peak
5320	101.27	101.63			31.45	5.38	37.19	100	176	Average
5320	110.17	110.53			31.45	5.38	37.19	100	176	Peak
5350	43.54	43.85	54	-10.46	31.48	5.39	37.18	100	176	Average
5350	59.94	60.25	74	-14.06	31.48	5.39	37.18	100	176	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5320MHz: Fundamental frequency.

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

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
5386	39.6	39.87	54	-14.4	31.51	5.4	37.18	108	295	Average
5386	59.84	60.11	74	-14.16	31.51	5.4	37.18	108	295	Peak
5470	59.2	59.26	68.3	-9.1	31.57	5.45	37.08	108	295	Peak
5500	96.17	96.14			31.6	5.46	37.03	108	295	Average
5500	105.18	105.15			31.6	5.46	37.03	108	295	Peak
5725	59.78	59.66	68.3	-8.52	31.96	5.59	37.43	108	295	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
5454	43.82	43.9	54	-10.18	31.56	5.44	37.08	100	103	Average
5454	60.11	60.19	74	-13.89	31.56	5.44	37.08	100	103	Peak
5470	65.15	65.21	68.3	-3.15	31.57	5.45	37.08	100	103	Peak
5500	100.58	100.55			31.6	5.46	37.03	100	103	Average
5500	109.27	109.24			31.6	5.46	37.03	100	103	Peak
5725	59.13	59.01	68.3	-9.17	31.96	5.59	37.43	100	103	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5500MHz: Fundamental frequency.
3. 5470MHz & 5725MHz: Out of restricted band

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

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
5438	38.84	38.98	54	-15.16	31.55	5.44	37.13	108	295	Average
5438	60.71	60.85	74	-13.29	31.55	5.44	37.13	108	295	Peak
5470	58.52	58.58	68.3	-9.78	31.57	5.45	37.08	108	295	Peak
5580	95.74	95.69			31.71	5.5	37.16	108	295	Average
5580	105.4	105.35			31.71	5.5	37.16	108	295	Peak
5725	59.56	59.44	68.3	-8.74	31.96	5.59	37.43	108	295	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
5426	40.22	40.4	54	-13.78	31.53	5.42	37.13	100	103	Average
5426	60.17	60.35	74	-13.83	31.53	5.42	37.13	100	103	Peak
5470	57.49	57.55	68.3	-10.81	31.57	5.45	37.08	100	103	Peak
5580	100.38	100.33			31.71	5.5	37.16	100	103	Average
5580	109.53	109.48			31.71	5.5	37.16	100	103	Peak
5725	58.69	58.57	68.3	-9.61	31.96	5.59	37.43	100	103	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5580MHz: Fundamental frequency.
3. 5470MHz & 5725MHz: Out of restricted band

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

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
5420	39.18	39.41	54	-14.82	31.53	5.42	37.18	113	293	Average
5420	59.73	59.96	74	-14.27	31.53	5.42	37.18	113	293	Peak
5470	58.56	58.62	68.3	-9.74	31.57	5.45	37.08	113	293	Peak
5700	91.54	91.47			31.9	5.57	37.4	103	293	Average
5700	98.51	98.44			31.9	5.57	37.4	103	293	Peak
5725	59.45	59.33	68.3	-8.85	31.96	5.59	37.43	113	293	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
5438	40.25	40.39	54	-13.75	31.55	5.44	37.13	103	197	Average
5438	60.59	60.73	74	-13.41	31.55	5.44	37.13	103	197	Peak
5470	58.59	58.65	68.3	-9.71	31.57	5.45	37.08	103	197	Peak
5700	97.62	97.55			31.9	5.57	37.4	103	197	Average
5700	104.76	104.69			31.9	5.57	37.4	103	197	Peak
5725	62.7	62.58	68.3	-5.6	31.96	5.59	37.43	103	197	Peak

REMARKS:

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

802.11n (20MHz)

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5068	38.48	39.24	54	-15.52	31.25	5.26	37.27	111	156	Average
5068	59.3	60.06	74	-14.7	31.25	5.26	37.27	111	156	Peak
5180	91.18	91.86			31.35	5.31	37.34	111	156	Average
5180	100.28	100.96			31.35	5.31	37.34	111	156	Peak
5354	38.62	38.93	54	-15.38	31.48	5.39	37.18	111	156	Average
5354	59.38	59.69	74	-14.62	31.48	5.39	37.18	111	156	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5040	41.81	42.56	54	-12.19	31.24	5.25	37.24	102	175	Average
5040	59.11	59.86	74	-14.89	31.24	5.25	37.24	102	175	Peak
5180	99.42	100.1			31.35	5.31	37.34	102	175	Average
5180	108.41	109.09			31.35	5.31	37.34	102	175	Peak
5374	41.82	42.11	54	-12.18	31.49	5.4	37.18	102	175	Average
5374	59.86	60.15	74	-14.14	31.49	5.4	37.18	102	175	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5180MHz: Fundamental frequency.

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

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
5044	37.76	38.52	54	-16.24	31.24	5.25	37.25	103	180	Average
5044	59.33	60.09	74	-14.67	31.24	5.25	37.25	103	180	Peak
5220	94.18	94.84			31.37	5.33	37.36	103	180	Average
5220	103.35	104.01			31.37	5.33	37.36	103	180	Peak
5428	38.98	39.16	54	-15.02	31.53	5.42	37.13	103	180	Average
5428	59.85	60.03	74	-14.15	31.53	5.42	37.13	103	180	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
5070	39.36	40.12	54	-14.64	31.25	5.26	37.27	101	175	Average
5070	59.79	60.55	74	-14.21	31.25	5.26	37.27	101	175	Peak
5220	100.27	100.93			31.37	5.33	37.36	101	175	Average
5220	109.09	109.75			31.37	5.33	37.36	101	175	Peak
5378	42.22	42.49	54	-11.78	31.51	5.4	37.18	101	175	Average
5378	60.73	61	74	-13.27	31.51	5.4	37.18	101	175	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5220MHz: Fundamental frequency.

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

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
5086	37.73	38.47	54	-16.27	31.27	5.26	37.27	102	181	Average
5086	59.41	60.15	74	-14.59	31.27	5.26	37.27	102	181	Peak
5240	94.35	94.94			31.39	5.34	37.32	102	181	Average
5240	103.54	104.13			31.39	5.34	37.32	102	181	Peak
5444	38.91	39.05	54	-15.09	31.55	5.44	37.13	102	181	Average
5444	59.93	60.07	74	-14.07	31.55	5.44	37.13	102	181	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
5048	38.51	39.27	54	-15.49	31.24	5.25	37.25	100	188	Average
5048	59.48	60.24	74	-14.52	31.24	5.25	37.25	100	188	Peak
5240	100.73	101.32			31.39	5.34	37.32	100	188	Average
5240	109.85	110.44			31.39	5.34	37.32	100	188	Peak
5400	42.55	42.8	54	-11.45	31.52	5.41	37.18	100	188	Average
5400	60.56	60.81	74	-13.44	31.52	5.41	37.18	100	188	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5240MHz: Fundamental frequency.

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

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
5070	37.5	38.26	54	-16.5	31.25	5.26	37.27	102	181	Average
5070	60.14	60.9	74	-13.86	31.25	5.26	37.27	102	181	Peak
5260	95.81	96.33			31.41	5.34	37.27	102	181	Average
5260	105.18	105.7			31.41	5.34	37.27	102	181	Peak
5434	38.86	39.02	54	-15.14	31.55	5.42	37.13	102	181	Average
5434	59.72	59.88	74	-14.28	31.55	5.42	37.13	102	181	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
5132	38.71	39.42	54	-15.29	31.31	5.28	37.3	101	175	Average
5132	59.99	60.7	74	-14.01	31.31	5.28	37.3	101	175	Peak
5260	102.95	103.47			31.41	5.34	37.27	101	175	Average
5260	111.75	112.27			31.41	5.34	37.27	101	175	Peak
5454	41.88	41.96	54	-12.12	31.56	5.44	37.08	101	175	Average
5454	60.57	60.65	74	-13.43	31.56	5.44	37.08	101	175	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5260MHz: Fundamental frequency.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	37.78	38.49	54	-16.22	31.32	5.29	37.32	112	182	Average
5150	59.64	60.35	74	-14.36	31.32	5.29	37.32	112	182	Peak
5300	95.32	95.7			31.44	5.37	37.19	112	182	Average
5300	104.62	105			31.44	5.37	37.19	112	182	Peak
5372	38.67	38.96	54	-15.33	31.49	5.4	37.18	112	182	Average
5372	60.62	60.91	74	-13.38	31.49	5.4	37.18	112	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
5028	38.11	38.88	54	-15.89	31.23	5.24	37.24	100	175	Average
5028	59.79	60.56	74	-14.21	31.23	5.24	37.24	100	175	Peak
5300	102.29	102.67			31.44	5.37	37.19	100	175	Average
5300	111	111.38			31.44	5.37	37.19	100	175	Peak
5374	43.15	43.44	54	-10.85	31.49	5.4	37.18	100	175	Average
5374	60.67	60.96	74	-13.33	31.49	5.4	37.18	100	175	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5300MHz: Fundamental frequency.

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

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
5010	37.76	38.56	54	-16.24	31.21	5.22	37.23	112	297	Average
5010	59.7	60.5	74	-14.3	31.21	5.22	37.23	112	297	Peak
5320	94.79	95.15			31.45	5.38	37.19	112	297	Average
5320	103.89	104.25			31.45	5.38	37.19	112	297	Peak
5408	39.8	40.05	54	-14.2	31.52	5.41	37.18	112	297	Average
5408	59.96	60.21	74	-14.04	31.52	5.41	37.18	112	297	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5056	38.24	38.99	54	-15.76	31.25	5.25	37.25	100	183	Average
5056	59.8	60.55	74	-14.2	31.25	5.25	37.25	100	183	Peak
5320	100.73	101.09			31.45	5.38	37.19	100	183	Average
5320	109.69	110.05			31.45	5.38	37.19	100	183	Peak
5350	43.11	43.42	54	-10.89	31.48	5.39	37.18	100	183	Average
5350	62.18	62.49	74	-11.82	31.48	5.39	37.18	100	183	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5320MHz: Fundamental frequency.

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

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
5396	39.66	39.91	54	-14.34	31.52	5.41	37.18	100	294	Average
5396	60.4	60.65	74	-13.6	31.52	5.41	37.18	100	294	Peak
5470	62.21	62.27	68.3	-6.09	31.57	5.45	37.08	100	294	Peak
5500	96.48	96.45			31.6	5.46	37.03	100	294	Average
5500	106.12	106.09			31.6	5.46	37.03	100	294	Peak
5725	59.84	59.72	68.3	-8.46	31.96	5.59	37.43	100	294	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5460	43.54	43.62	54	-10.46	31.56	5.44	37.08	100	117	Average
5460	62.05	62.13	74	-11.95	31.56	5.44	37.08	100	117	Peak
5470	66.71	66.77	68.3	-1.59	31.57	5.45	37.08	100	117	Peak
5500	101.41	101.38			31.6	5.46	37.03	100	117	Average
5500	110.16	110.13			31.6	5.46	37.03	100	117	Peak
5725	59.02	58.9	68.3	-9.28	31.96	5.59	37.43	100	117	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5500MHz: Fundamental frequency.
3. 5470MHz & 5725MHz: Out of restricted band

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

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
5382	38.67	38.94	54	-15.33	31.51	5.4	37.18	100	23	Average
5382	59.63	59.9	74	-14.37	31.51	5.4	37.18	100	23	Peak
5470	58.63	58.69	68.3	-9.67	31.57	5.45	37.08	100	23	Peak
5580	95.19	95.14			31.71	5.5	37.16	100	23	Average
5580	104.65	104.6			31.71	5.5	37.16	100	23	Peak
5725	58.9	58.78	68.3	-9.4	31.96	5.59	37.43	100	23	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
5408	39.86	40.11	54	-14.14	31.52	5.41	37.18	100	106	Average
5408	60.33	60.58	74	-13.67	31.52	5.41	37.18	100	106	Peak
5470	58.97	59.03	68.3	-9.33	31.57	5.45	37.08	100	106	Peak
5580	100.39	100.34			31.71	5.5	37.16	100	106	Average
5580	110.19	110.14			31.71	5.5	37.16	100	106	Peak
5725	58.96	58.84	68.3	-9.34	31.96	5.59	37.43	100	106	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5580MHz: Fundamental frequency.
3. 5470MHz & 5725MHz: Out of restricted band

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5456	38.39	38.47	54	-15.61	31.56	5.44	37.08	100	317	Average
5456	58.95	59.03	74	-15.05	31.56	5.44	37.08	100	317	Peak
5470	58.02	58.08	68.3	-10.28	31.57	5.45	37.08	100	317	Peak
5700	92.45	92.38			31.9	5.57	37.4	100	317	Average
5700	101.65	101.58			31.9	5.57	37.4	100	317	Peak
5725	59.58	59.46	68.3	-8.72	31.96	5.59	37.43	100	317	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
5430	39.25	39.41	54	-14.75	31.55	5.42	37.13	100	46	Average
5430	60.07	60.23	74	-13.93	31.55	5.42	37.13	100	46	Peak
5470	58.13	58.19	68.3	-10.17	31.57	5.45	37.08	100	46	Peak
5700	97.34	97.27			31.9	5.57	37.4	100	46	Average
5700	106.84	106.77			31.9	5.57	37.4	100	46	Peak
5725	65.14	65.02	68.3	-3.16	31.96	5.59	37.43	100	46	Peak

REMARKS:

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

802.11n (40MHz)

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

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
5074	40.02	40.76	54	-13.98	31.27	5.26	37.27	133	150	Average
5074	59.14	59.88	74	-14.86	31.27	5.26	37.27	133	150	Peak
5190	86.09	86.76			31.35	5.32	37.34	133	150	Average
5190	95.61	96.28			31.35	5.32	37.34	133	150	Peak
5360	38.65	38.96	54	-15.35	31.48	5.39	37.18	133	150	Average
5360	59.84	60.15	74	-14.16	31.48	5.39	37.18	133	150	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5150	50.5	51.21	54	-3.5	31.32	5.29	37.32	102	173	Average
5150	65.66	66.37	74	-8.34	31.32	5.29	37.32	102	173	Peak
5190	95.27	95.94			31.35	5.32	37.34	102	173	Average
5190	103.98	104.65			31.35	5.32	37.34	102	173	Peak
5458	42.58	42.66	54	-11.42	31.56	5.44	37.08	102	173	Average
5458	59.68	59.76	74	-14.32	31.56	5.44	37.08	102	173	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5190MHz: Fundamental frequency.

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

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
5134	37.85	38.56	54	-16.15	31.31	5.28	37.3	102	292	Average
5134	59.61	60.32	74	-14.39	31.31	5.28	37.3	102	292	Peak
5230	90.15	90.75			31.39	5.33	37.32	102	292	Average
5230	99.23	99.83			31.39	5.33	37.32	102	292	Peak
5430	39.86	40.02	54	-14.14	31.55	5.42	37.13	102	292	Average
5430	60.24	60.4	74	-13.76	31.55	5.42	37.13	102	292	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5086	39.15	39.89	54	-14.85	31.27	5.26	37.27	102	182	Average
5086	60.18	60.92	74	-13.82	31.27	5.26	37.27	102	182	Peak
5230	97.41	98.01			31.39	5.33	37.32	102	182	Average
5230	106.24	106.84			31.39	5.33	37.32	102	182	Peak
5400	41.82	42.07	54	-12.18	31.52	5.41	37.18	102	182	Average
5400	59.66	59.91	74	-14.34	31.52	5.41	37.18	102	182	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5230MHz: Fundamental frequency.

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

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
5006	37.73	38.53	54	-16.27	31.21	5.22	37.23	101	181	Average
5006	59.4	60.2	74	-14.6	31.21	5.22	37.23	101	181	Peak
5270	90.53	91.04			31.41	5.35	37.27	101	181	Average
5270	99.16	99.67			31.41	5.35	37.27	101	181	Peak
5400	39.88	40.13	54	-14.12	31.52	5.41	37.18	101	181	Average
5400	60.28	60.53	74	-13.72	31.52	5.41	37.18	101	181	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
5136	38.48	39.19	54	-15.52	31.31	5.28	37.3	100	185	Average
5136	59.55	60.26	74	-14.45	31.31	5.28	37.3	100	185	Peak
5270	97.93	98.44			31.41	5.35	37.27	100	185	Average
5270	106.81	107.32			31.41	5.35	37.27	100	185	Peak
5428	44.25	44.43	54	-9.75	31.53	5.42	37.13	100	185	Average
5428	59.88	60.06	74	-14.12	31.53	5.42	37.13	100	185	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5270MHz: Fundamental frequency.

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

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
5052	37.84	38.6	54	-16.16	31.24	5.25	37.25	100	294	Average
5052	59.55	60.31	74	-14.45	31.24	5.25	37.25	100	294	Peak
5310	88.92	89.29			31.45	5.37	37.19	100	294	Average
5310	97	97.37			31.45	5.37	37.19	100	294	Peak
5350	43.99	44.3	54	-10.01	31.48	5.39	37.18	100	294	Average
5350	60.24	60.55	74	-13.76	31.48	5.39	37.18	100	294	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5002	38.32	39.13	54	-15.68	31.2	5.22	37.23	100	186	Average
5002	59.55	60.36	74	-14.45	31.2	5.22	37.23	100	186	Peak
5310	95.93	96.3			31.45	5.37	37.19	100	186	Average
5310	104.73	105.1			31.45	5.37	37.19	100	186	Peak
5350	49.3	49.61	54	-4.7	31.48	5.39	37.18	100	186	Average
5350	63.63	63.94	74	-10.37	31.48	5.39	37.18	100	186	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5310MHz: Fundamental frequency.

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

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
5444	40.43	40.57	54	-13.57	31.55	5.44	37.13	108	294	Average
5444	60.51	60.65	74	-13.49	31.55	5.44	37.13	108	294	Peak
5470	62.88	62.94	68.3	-5.42	31.57	5.45	37.08	108	294	Peak
5510	90.3	90.3			31.6	5.46	37.06	108	294	Average
5510	99.18	99.18			31.6	5.46	37.06	108	294	Peak
5725	58.31	58.19	68.3	-9.99	31.96	5.59	37.43	108	294	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5460	45.73	45.81	54	-8.27	31.56	5.44	37.08	100	91	Average
5460	62.14	62.22	74	-11.86	31.56	5.44	37.08	100	91	Peak
5470	66.99	67.05	68.3	-1.31	31.57	5.45	37.08	100	91	Peak
5510	94.61	94.61			31.6	5.46	37.06	100	91	Average
5510	104.12	104.12			31.6	5.46	37.06	100	91	Peak
5725	59.65	59.53	68.3	-8.65	31.96	5.59	37.43	100	91	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5510MHz: Fundamental frequency.
3. 5470MHz & 5725MHz: Out of restricted band

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

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
5442	39.89	40.03	54	-14.11	31.55	5.44	37.13	107	291	Average
5442	59.6	59.74	74	-14.4	31.55	5.44	37.13	107	291	Peak
5470	58.97	59.03	68.3	-9.33	31.57	5.45	37.08	107	291	Peak
5550	91.65	91.57			31.68	5.49	37.09	107	291	Average
5550	100.93	100.85			31.68	5.49	37.09	107	291	Peak
5725	60.89	60.77	68.3	-7.41	31.96	5.59	37.43	107	291	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5460	41.28	41.36	54	-12.72	31.56	5.44	37.08	100	104	Average
5460	59.21	59.29	74	-14.79	31.56	5.44	37.08	100	104	Peak
5470	59.24	59.3	68.3	-9.06	31.57	5.45	37.08	100	104	Peak
5550	96	95.92			31.68	5.49	37.09	100	104	Average
5550	104.72	104.64			31.68	5.49	37.09	100	104	Peak
5725	57.61	57.49	68.3	-10.69	31.96	5.59	37.43	100	104	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5550MHz: Fundamental frequency.
3. 5470MHz & 5725MHz: Out of restricted band

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
5424	39.38	39.61	54	-14.62	31.53	5.42	37.18	100	160	Average
5424	59.45	59.68	74	-14.55	31.53	5.42	37.18	100	160	Peak
5470	58.4	58.46	68.3	-9.9	31.57	5.45	37.08	100	160	Peak
5670	88.28	88.18			31.88	5.56	37.34	100	160	Average
5670	96.76	96.66			31.88	5.56	37.34	100	160	Peak
5725	59.06	58.94	68.3	-9.24	31.96	5.59	37.43	100	160	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
5444	41.27	41.41	54	-12.73	31.55	5.44	37.13	102	213	Average
5444	60.03	60.17	74	-13.97	31.55	5.44	37.13	102	213	Peak
5470	58.04	58.1	68.3	-10.26	31.57	5.45	37.08	102	213	Peak
5670	93.97	93.87			31.88	5.56	37.34	102	213	Average
5670	102.73	102.63			31.88	5.56	37.34	102	213	Peak
5725	58.79	58.67	68.3	-9.51	31.96	5.59	37.43	102	213	Peak

REMARKS:

1. Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor
   Margin value = Emission level – Limit value
2. 5670MHz: Fundamental frequency.
3. 5470MHz & 5725MHz: Out of restricted band

BELOW 1GHz WORST-CASE DATA:

802.11n (40MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 38	FREQUENCY RANGE	30MHz ~ 1GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	David Huang

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
45.39	28.14	45.06	40	-11.86	13.5	0.74	31.16	100	25	Peak
114.24	25.59	45.85	43.5	-17.91	10.46	1.15	31.87	100	124	Peak
275.97	26.67	44.38	46	-19.33	12.25	1.94	31.9	100	151	Peak
355.3	30.91	46.3	46	-15.09	14.26	2.25	31.9	100	154	Peak
479.9	28.34	40.55	46	-17.66	16.93	2.71	31.85	100	136	Peak
797	36.77	42.31	46	-9.23	22.19	3.69	31.42	100	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
111.27	19.66	40.19	43.5	-23.84	10.18	1.14	31.85	100	215	Peak
182.82	32.11	51.86	43.5	-11.39	10.53	1.51	31.79	100	141	Peak
282.72	25.61	42.96	46	-20.39	12.45	1.97	31.77	100	153	Peak
355.3	24.72	40.11	46	-21.28	14.26	2.25	31.9	100	207	Peak
535.2	30.69	41.37	46	-15.31	18.13	2.9	31.71	100	286	Peak
624.8	33.37	42.47	46	-12.63	19.9	3.16	32.16	100	305	Peak

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 62	FREQUENCY RANGE	30MHz ~ 1GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	David Huang

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
51.6	19.49	37.16	40	-20.51	12.87	0.77	31.31	100	263	Peak
110.19	23.29	43.92	43.5	-20.21	10.09	1.13	31.85	100	155	Peak
182.55	25.8	45.5	43.5	-17.7	10.6	1.51	31.81	100	144	Peak
355.3	31.92	47.31	46	-14.08	14.26	2.25	31.9	100	209	Peak
505.8	27.82	39.16	46	-18.18	17.46	2.8	31.6	100	341	Peak
799.8	36.43	41.94	46	-9.57	22.23	3.69	31.43	100	117	Peak
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB/m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
82.65	19.85	42.31	40	-20.15	8.16	0.98	31.6	100	321	Peak
113.97	19.73	39.99	43.5	-23.77	10.46	1.15	31.87	100	141	Peak
182.01	32.15	51.85	43.5	-11.35	10.6	1.51	31.81	100	129	Peak
355.3	24.58	39.97	46	-21.42	14.26	2.25	31.9	100	132	Peak
538.7	30.39	41.01	46	-15.61	18.19	2.91	31.72	100	225	Peak
624.8	32.41	41.51	46	-13.59	19.9	3.16	32.16	100	136	Peak

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 102	FREQUENCY RANGE	30MHz ~ 1GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK)
ENVIRONMENTAL CONDITIONS	25deg. C, 65%RH	TESTED BY	David Huang

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
110.73	22.58	43.21	43.5	-20.92	10.09	1.13	31.85	100	226	Peak
182.55	25.88	45.58	43.5	-17.62	10.6	1.51	31.81	100	139	Peak
280.02	26.49	43.98	46	-19.51	12.37	1.96	31.82	100	125	Peak
355.3	31.02	46.41	46	-14.98	14.26	2.25	31.9	100	296	Peak
509.3	27.77	39.02	46	-18.23	17.53	2.81	31.59	100	174	Peak
799.8	34.88	40.39	46	-11.12	22.23	3.69	31.43	100	230	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
82.92	20.01	42.49	40	-19.99	8.18	0.99	31.65	100	259	Peak
182.28	32.26	51.96	43.5	-11.24	10.6	1.51	31.81	100	152	Peak
281.64	25.73	43.17	46	-20.27	12.4	1.97	31.81	100	193	Peak
355.3	24.7	40.09	46	-21.3	14.26	2.25	31.9	100	201	Peak
547.8	30.56	41.12	46	-15.44	18.41	2.94	31.91	100	188	Peak
640.2	33.06	41.85	46	-12.94	20.09	3.21	32.09	100	205	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. 28, 2012	Dec. 27, 2013
LISN ROHDE & SCHWARZ (EUT)	ESH2-Z5	100100	Dec. 21, 2012	Dec. 20, 2013
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100312	Jul. 08, 2013	Jul. 07, 2014
Software ADT	BV ADT_Cond_ V7.3.7.3	NA	NA	NA

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

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

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

4.2.3 TEST PROCEDURES

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

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

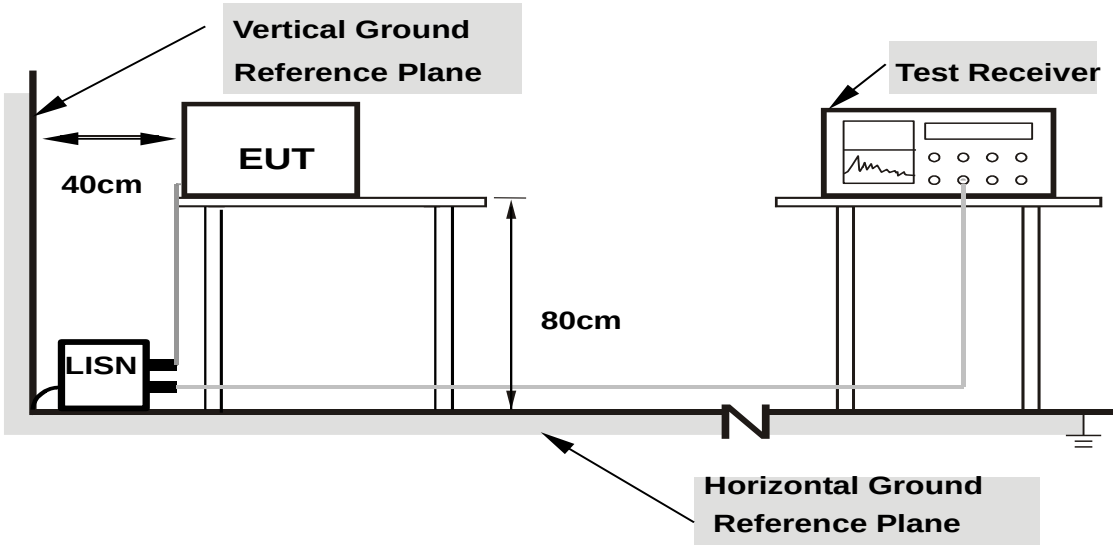
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

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

4.2.4 DEVIATION FROM TEST STANDARD

No deviation.

4.2.5 TEST SETUP



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

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

4.2.6 EUT OPERATING CONDITIONS

Same as 4.1.6.

4.2.7 TEST RESULTS

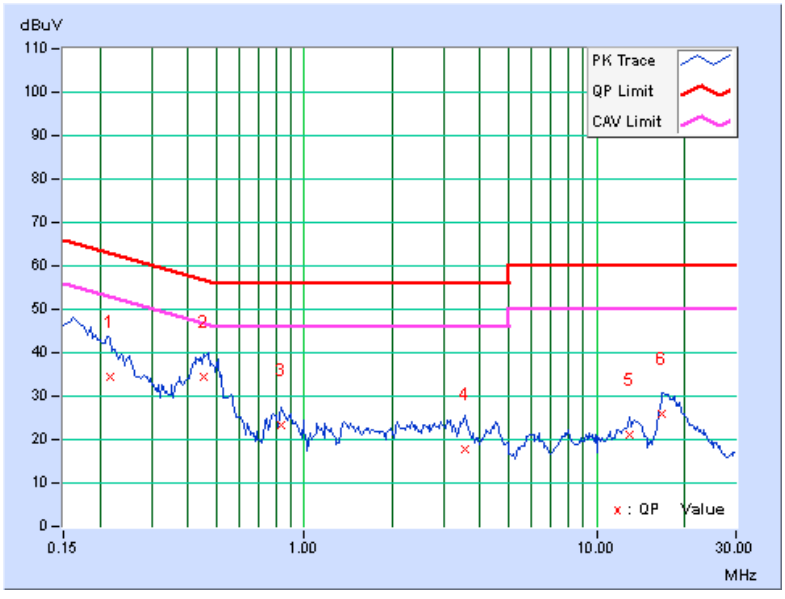
CONDUCTED WORST-CASE DATA：

PHASE	Line 1	6dB BANDWIDTH	9kHz

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	34.43	18.47	34.60	18.64	62.96	52.96	-28.35	-34.31
2	0.45469	0.22	34.40	30.67	34.62	30.89	56.79	46.79	-22.17	-15.90
3	0.83750	0.25	23.19	17.89	23.44	18.14	56.00	46.00	-32.56	-27.86
4	3.56641	0.35	17.55	7.49	17.90	7.84	56.00	46.00	-38.10	-38.16
5	13.00781	0.49	20.61	15.96	21.10	16.45	60.00	50.00	-38.90	-33.55
6	16.81250	0.57	25.27	20.21	25.84	20.78	60.00	50.00	-34.16	-29.22

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

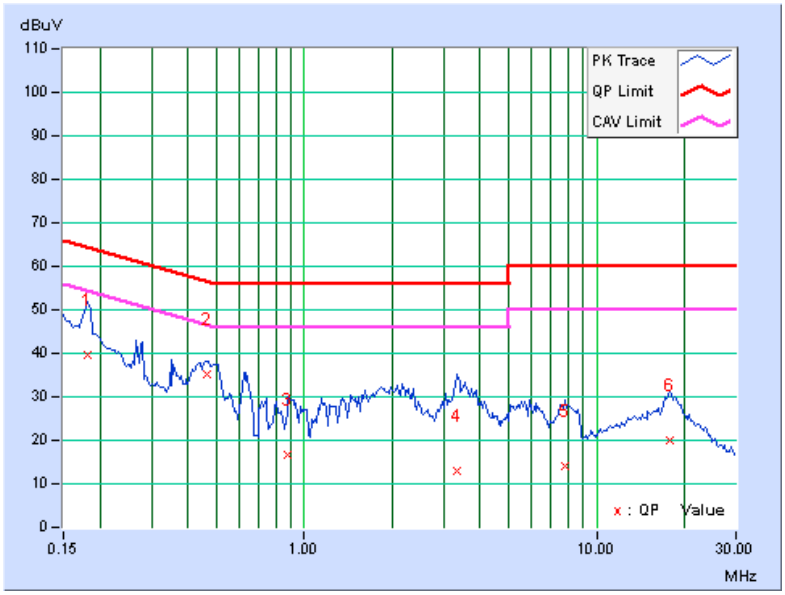


PHASE	Line 2	6dB BANDWIDTH	9kHz

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	0.18125	0.18	39.60	30.79	39.78	30.97	64.43	54.43	-24.65	-23.46
2	0.46641	0.25	35.02	29.36	35.27	29.61	56.58	46.58	-21.31	-16.97
3	0.87656	0.23	16.37	10.72	16.60	10.95	56.00	46.00	-39.40	-35.05
4	3.34375	0.35	12.51	4.57	12.86	4.92	56.00	46.00	-43.14	-41.08
5	7.82813	0.45	13.51	8.24	13.96	8.69	60.00	50.00	-46.04	-41.31
6	17.70703	0.67	19.50	13.63	20.17	14.30	60.00	50.00	-39.83	-35.70

REMARKS:

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



4.3 PEAK TRANSMIT POWER MEASUREMENT

4.3.1 LIMITS OF PEAK TRANSMIT POWER MEASUREMENT

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

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

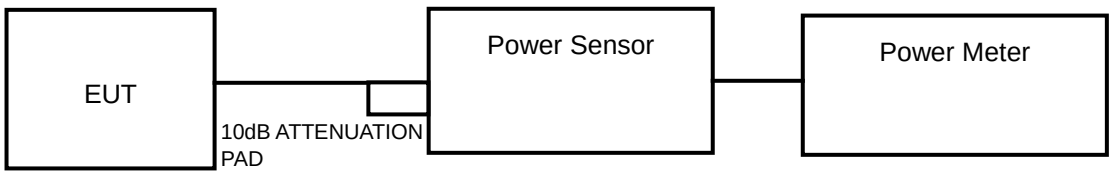
Per KDB 662911 D01 Multiple Transmitter Output v02 Method of conducted output power measurement on IEEE 802.11 devices,

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

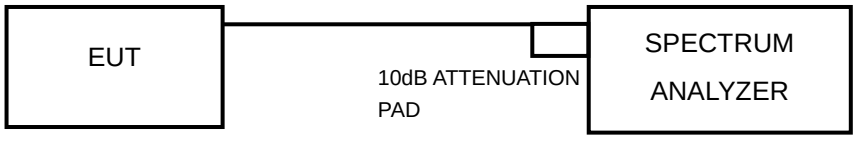
For power measurements on all other devices: Array Gain = 10 log(NANT/NSS) dB.

4.3.2 TEST SETUP

FOR POWER OUTPUT MEASUREMENT



FOR 26dB BANDWIDTH



4.3.3 TEST INSTRUMENTS

Refer to section 4.1.3 to get information of above instrument.

4.3.4 TEST PROCEDURE

FOR AVERAGE POWER MEASUREMENT

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

Method PM is used to perform output power measurement, trigger and gating function of wide band power meter is enabled to measure max output power of TX on burst. Duty factor is added to measured value.

FOR 26dB BANDWIDTH

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

4.3.5 DEVIATION FROM TEST STANDARD

No deviation.

4.3.6 EUT OPERATING CONDITIONS

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

4.3.7 TEST RESULTS

POWER OUTPUT
Mode A
802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)	POWER LIMIT (dBm)	PASS/FAIL
36	5180	29.174	14.65	17	PASS
44	5220	28.973	14.62	17	PASS
48	5240	29.580	14.71	17	PASS
52	5260	36.308	15.60	24	PASS
60	5300	34.834	15.42	24	PASS
64	5320	36.392	15.61	24	PASS
100	5500	28.249	14.51	24	PASS
116	5580	34.435	15.37	24	PASS
140	5700	22.961	13.61	24	PASS

Mode B

802.11a

CHAN.	CHAN. FREQ. (MHz)	AVERAGE POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
36	5180	11.82	11.0	27.882	14.45	17	PASS
44	5200	11.95	10.3	26.407	14.22	17	PASS
48	5240	11.83	10.3	26.030	14.15	17	PASS
52	5260	13.3	11.1	34.322	15.36	24	PASS
60	5300	13.53	11.6	36.964	15.68	24	PASS
64	5320	13.52	11.5	36.648	15.64	24	PASS
100	5500	11.57	10.9	26.658	14.26	24	PASS
116	5580	13.52	11.5	36.454	15.62	24	PASS
140	5700	12.05	10.3	26.792	14.28	24	PASS

802.11n (20MHz)

CHAN.	CHAN. FREQ. (MHz)	AVERAGE POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
36	5180	11.55	10.59	25.744	14.11	17	PASS
44	5200	11.6	10.3	25.236	14.02	17	PASS
48	5240	11.5	10.23	24.540	13.90	17	PASS
52	5260	13.5	12.09	38.723	15.88	24	PASS
60	5300	13.5	11.77	37.522	15.74	24	PASS
64	5320	13.6	11.79	37.747	15.77	24	PASS
100	5500	12.6	12.47	35.649	15.52	24	PASS
116	5580	13.6	11.88	38.273	15.83	24	PASS
140	5700	13.4	12.13	38.158	15.82	24	PASS

802.11n (40MHz)

CHAN.	CHAN. FREQ. (MHz)	AVERAGE POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
38	5190	9.42	8.73	16.214	12.10	17	PASS
46	5230	11.0	10.16	23.023	13.62	17	PASS
54	5270	10.9	9.34	20.950	13.21	24	PASS
62	5310	10.3	7.74	16.535	12.18	24	PASS
102	5510	9.2	8.08	14.764	11.69	24	PASS
110	5550	11.4	9.49	22.569	13.54	24	PASS
134	5670	11.2	9.39	21.933	13.41	24	PASS

26dB BANDWIDTH

Mode A

802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)	PASS / FAIL
36	5180	26.19	PASS
44	5220	25.64	PASS
48	5240	25.85	PASS
52	5260	29.21	PASS
60	5300	28.77	PASS
64	5320	28.79	PASS
100	5500	25.65	PASS
116	5580	26.40	PASS
140	5700	25.05	PASS

Mode B

802.11a

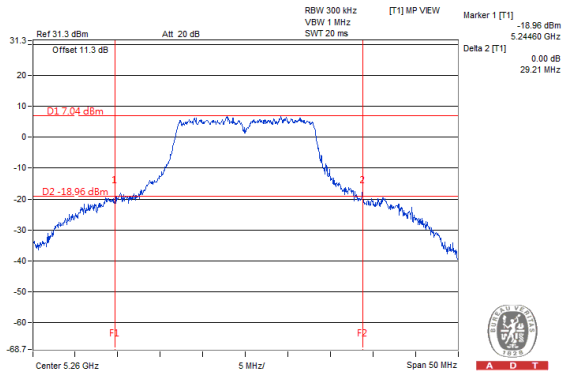
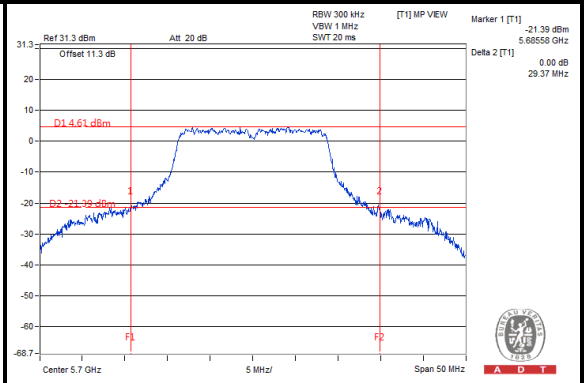
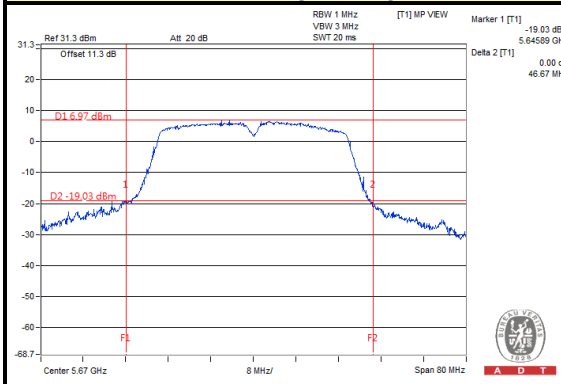
CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)		PASS / FAIL
		CHAIN 0	CHAIN 1	
36	5180	24.74	24.87	PASS
40	5200	24.52	24.61	PASS
48	5240	24.92	24.53	PASS
52	5260	26.51	24.83	PASS
60	5300	25.37	25.16	PASS
64	5320	25.04	24.67	PASS
100	5500	24.55	24.49	PASS
116	5580	25.57	24.87	PASS
140	5700	25.13	24.42	PASS

802.11n (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)		PASS / FAIL
		CHAIN 0	CHAIN 1	
36	5180	26.16	26.04	PASS
40	5200	25.85	25.96	PASS
48	5240	25.77	25.84	PASS
52	5260	27.00	26.05	PASS
60	5300	27.68	26.07	PASS
64	5320	27.72	29.07	PASS
100	5500	27.04	26.18	PASS
116	5580	27.42	26.58	PASS
140	5700	29.37	26.26	PASS

802.11n (40MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)		PASS / FAIL
		CHAIN 0	CHAIN 1	
38	5190	44.17	44.53	PASS
46	5230	46.05	44.62	PASS
54	5270	44.53	43.67	PASS
62	5310	45.12	44.64	PASS
102	5510	45.01	44.62	PASS
110	5550	44.53	43.55	PASS
134	5670	46.67	43.76	PASS

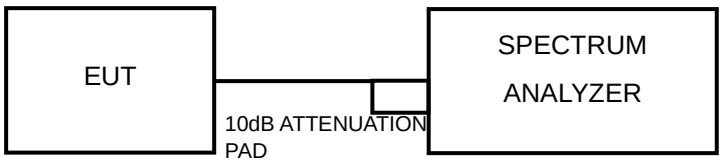
SPECTRUM PLOT OF WORST VALUE	
802.11a	802.11n (20MHz)
	
802.11n (40MHz)	
	

4.4 PEAK POWER SPECTRAL DENSITY MEASUREMENT

4.4.1 LIMITS OF PEAK POWER SPECTRAL DENSITY MEASUREMENT

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

4.4.2 TEST SETUP



4.4.3 TEST INSTRUMENTS

Refer to section 4.1.3 to get information of above instrument.

4.4.4 TEST PROCEDURES

<802.11a, 802.11n (20MHz), 802.11n (40MHz)>
Using method SA-2 alternative
1) Set span to encompass the entire emission bandwidth (EBW) of the signal.
2) Set RBW = 1 MHz, Set VBW ≥ 3 MHz, Detector = RMS
3) Sweep time = 4second.
4) Perform a single sweep.
5) Record the max value and add 10 log (1/duty cycle)

4.4.5 DEVIATION FROM TEST STANDARD

No deviation.

4.4.6 EUT OPERATING CONDITIONS

Same as Item 4.3.6.

4.4.7 TEST RESULTS

Mode A

802.11a

CHANNEL	FREQUENCY (MHz)	PSD W/O DUTY FACTOR (dBm)	DUTY FACTOR	PSD WITH DUTY FACTOR (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
36	5180	1.90	0.23	2.13	4	PASS
44	5220	2.11	0.23	2.34	4	PASS
48	5240	2.55	0.23	2.78	4	PASS
52	5260	3.40	0.23	3.63	11	PASS
60	5300	3.40	0.23	3.63	11	PASS
64	5320	3.83	0.23	4.06	11	PASS
100	5500	2.46	0.23	2.69	11	PASS
116	5580	3.50	0.23	3.73	11	PASS
140	5700	1.36	0.23	1.59	11	PASS

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

Mode B

802.11a

CH.	CHAN. FREQ. (MHz)	PSD W/O DUTY FACTOR (dBm)		DUTY FACTOR	PSD W/ DUTY FACTOR (dBm)		TOTAL PSD WITH DUTY FACTOR (dBm)	MAX. LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1		CHAIN 0	CHAIN 1			
36	5180	0.12	-1.72	0.23	0.35	-1.49	2.54	4	PASS
44	5220	-0.07	-1.76	0.23	0.16	-1.53	2.41	4	PASS
48	5240	0.00	-1.77	0.23	0.23	-1.54	2.45	4	PASS
52	5260	1.55	-0.63	0.23	1.78	-0.40	3.84	11	PASS
60	5300	2.10	-0.16	0.23	2.33	0.07	4.36	11	PASS
64	5320	2.01	-0.22	0.23	2.24	0.01	4.28	11	PASS
100	5500	0.50	-0.49	0.23	0.73	-0.26	3.27	11	PASS
116	5580	1.63	-0.40	0.23	1.86	-0.17	3.97	11	PASS
140	5700	-0.68	-2.66	0.23	-0.45	-2.43	1.68	11	PASS

NOTE: 1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.

2. **For 5180~5240MHz:**

Directional gain = 2.44dBi + 10log(2) = 5.45dBi < 6dBi , so the limit no need to reduced.

For 5260~5320MHz:

Directional gain = 2.44dBi + 10log(2) = 5.45dBi < 6dBi , so the limit no need to reduced.

For 5500~5700MHz:

Directional gain = 2.04dBi + 10log(2) = 5.05dBi < 6dBi , so the limit no need to reduced.

3. Refer to section 3.4 for duty cycle spectrum plot.

802.11n (20MHz)

CH.	CHAN. FREQ. (MHz)	PSD W/O DUTY FACTOR (dBm)		DUTY FACTOR	PSD W/ DUTY FACTOR (dBm)		TOTAL PSD WITH DUTY FACTOR (dBm)	MAX. LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1		CHAIN 0	CHAIN 1			
36	5180	-0.81	-3.89	0.23	-0.58	-3.66	1.15	4	PASS
44	5220	-0.64	-4.38	0.23	-0.41	-4.15	1.12	4	PASS
48	5240	-0.91	-4.14	0.23	-0.68	-3.91	1.01	4	PASS
52	5260	1.83	-2.71	0.23	2.06	-2.48	3.36	11	PASS
60	5300	2.31	-2.66	0.23	2.54	-2.43	3.74	11	PASS
64	5320	2.17	-2.96	0.23	2.40	-2.73	3.56	11	PASS
100	5500	1.54	-1.18	0.23	1.77	-0.95	3.63	11	PASS
116	5580	2.15	-1.11	0.23	2.38	-0.88	4.06	11	PASS
140	5700	1.37	-1.28	0.23	1.60	-1.05	3.48	11	PASS

NOTE: 1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.

2. **For 5180~5240MHz:**

Directional gain = 2.44dBi + 10log(2) = 5.45dBi < 6dBi , so the limit no need to reduced.

For 5260~5320MHz:

Directional gain = 2.44dBi + 10log(2) = 5.45dBi < 6dBi , so the limit no need to reduced.

For 5500~5700MHz:

Directional gain = 2.04dBi + 10log(2) = 5.05dBi < 6dBi , so the limit no need to reduced.

3. Refer to section 3.4 for duty cycle spectrum plot.

802.11n (40MHz)

CH.	CHAN. FREQ. (MHz)	PSD W/O DUTY FACTOR (dBm)		DUTY FACTOR	PSD W/ DUTY FACTOR (dBm)		TOTAL PSD WITH DUTY FACTOR (dBm)	MAX. LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1		CHAIN 0	CHAIN 1			
38	5190	-5.24	-9.20	0.58	-4.66	-8.62	-3.19	4	PASS
46	5230	-3.90	-8.17	0.58	-3.32	-7.59	-1.94	4	PASS
54	5270	-3.99	-8.97	0.58	-3.41	-8.39	-2.21	4	PASS
62	5310	-4.61	-10.56	0.58	-4.03	-9.98	-3.05	11	PASS
102	5510	-5.02	-8.45	0.58	-4.44	-7.87	-2.81	11	PASS
110	5550	-3.04	-7.30	0.58	-2.46	-6.72	-1.08	11	PASS
134	5670	-2.43	-6.55	0.58	-1.85	-5.97	-0.43	11	PASS

NOTE: 1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.

2. **For 5180~5240MHz:**

Directional gain = 2.44dBi + 10log(2) = 5.45dBi < 6dBi , so the limit no need to reduced.

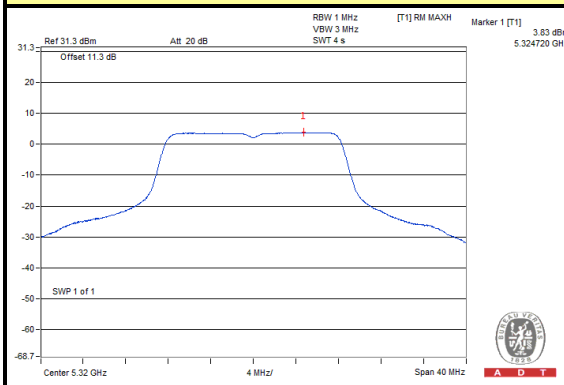
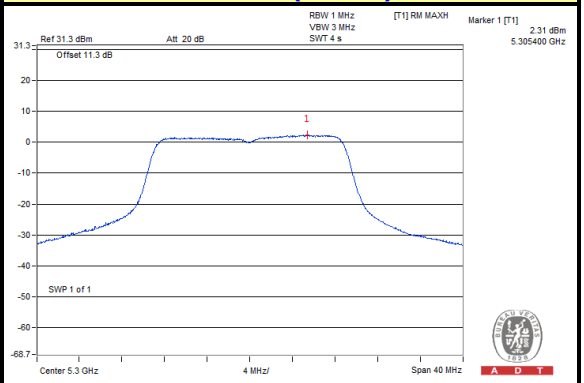
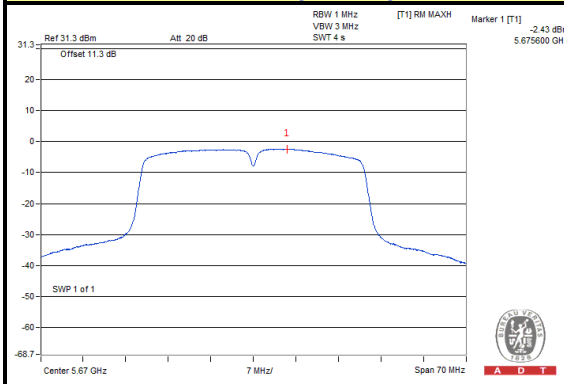
For 5260~5320MHz:

Directional gain = 2.44dBi + 10log(2) = 5.45dBi < 6dBi , so the limit no need to reduced.

For 5500~5700MHz:

Directional gain = 2.04dBi + 10log(2) = 5.05dBi < 6dBi , so the limit no need to reduced.

3. Refer to section 3.4 for duty cycle spectrum plot.

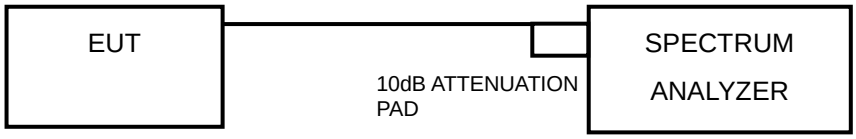
SPECTRUM PLOT OF WORST VALUE	
802.11a	**802.11n (20MHz)**
	
802.11n (40MHz)	
	

4.5 PEAK POWER EXCURSION MEASUREMENT

4.5.1 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT

Shall not exceed 13 dB.

4.5.2 TEST SETUP



4.5.3 TEST INSTRUMENTS

Refer to section 4.1.3 to get information of above instrument.

4.5.4 TEST PROCEDURE

a. Set the RBW = 1 kHz, VBW ≥ 3 MHz, Detector = peak.

b. Trace mode = max-hold. Allow the sweeps to continue until the trace stabilizes.

c. Use the peak search function to find the peak of the spectrum.

d. Measure the PPSD.

e. Compute the ratio of the maximum of the peak-max-hold spectrum to the PPSD.
Find the worst channel and modulation mode as above test procedure, and follow KDB 789033 D01 General UNII Test Procedures v01r03 and repeat step 1 to 5 for final testing of each modulation mode on a single channel (all modulation types) in a single operating band to compliance with the peak excursion requirement.

4.5.5 DEVIATION FROM TEST STANDARD

No deviation.

4.5.6 EUT OPERATING CONDITION

Same as Item 4.3.6

4.5.7 TEST RESULTS

Mode A

802.11a

MODULATION MODE	MODULATION TYPE	CHAN. FREQ. (MHz)	PEAK VALUE (dBm)	PPSD WITHOUT DUTY FACTOR (dBm)	PPSD WITH DUTY FACTOR (dBm)	PEAK EXCURSION (dB)	LIMIT (dB)	PASS /FAIL
802.11a	BPSK	5320	12.59	3.83	4.06	8.53	13	PASS
	QPSK		13.60	3.89	4.22	9.38	13	PASS
	16QAM		13.43	3.79	4.33	9.10	13	PASS
	64QAM		13.94	3.51	4.59	9.35	13	PASS

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

Mode B

802.11a

Modulation Mode	Modulation type	Channel Frequency (MHz)	PEAK VALUE (dBm)		PPSD WITHOUT DUTY FACTOR (dBm)		PPSD WITH DUTY FACTOR (dBm)	
			CHAIN0	CHAIN1	CHAIN0	CHAIN1	CHAIN0	CHAIN1
HT 20	BPSK	5300	10.62	9.59	2.10	-0.16	2.33	0.07
	QPSK		11.31	9.79	1.97	-0.10	2.30	0.23
	16QAM		11.93	9.74	1.78	-0.15	2.32	0.39
	64QAM		11.66	10.14	1.59	-0.58	2.67	0.50

PEAK Excursion (dB)		LIMIT (dB)	PASS /FAIL
CHAIN0	CHAIN1		
8.29	9.52	13	PASS
9.01	9.56	13	PASS
9.61	9.35	13	PASS
8.99	9.64	13	PASS

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

802.11n (20MHz)

Modulation Mode	Modulation type	Channel Frequency (MHz)	PEAK VALUE (dBm)		PPSD WITHOUT DUTY FACTOR (dBm)		PPSD WITH DUTY FACTOR (dBm)	
			CHAIN0	CHAIN1	CHAIN0	CHAIN1	CHAIN0	CHAIN1
HT 20	BPSK	5260	10.66	6.05	1.83	-2.71	2.06	-2.48
	QPSK		11.47	7.59	1.38	-2.85	1.73	-2.50
	16QAM		11.36	6.97	1.62	-2.74	2.05	-2.31
	64QAM		12.17	7.68	1.14	-3.00	2.21	-1.93

PEAK Excursion (dB)		LIMIT (dB)	PASS /FAIL
CHAIN0	CHAIN1		
8.60	8.53	13	PASS
9.74	10.09	13	PASS
9.31	9.28	13	PASS
9.96	9.61	13	PASS

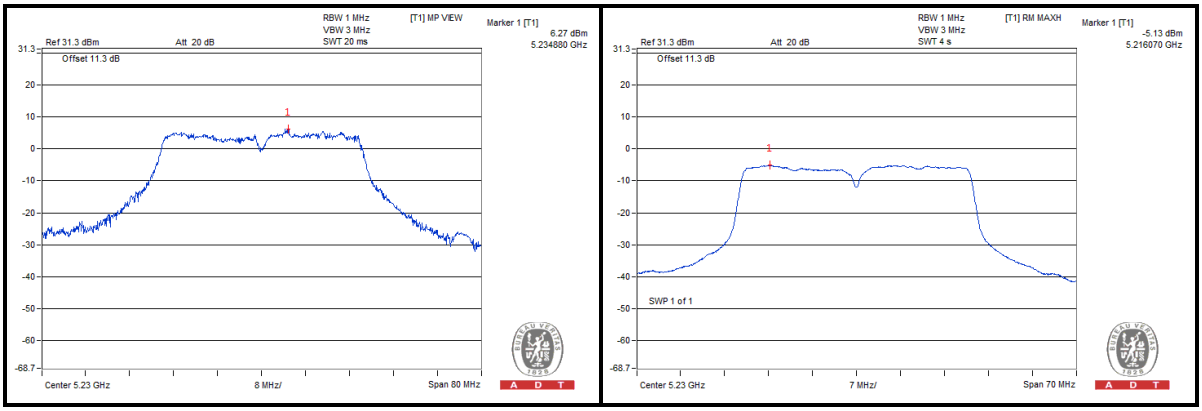
NOTE: Refer to section 3.3 for duty cycle spectrum plot.

802.11n (40MHz)

Modulation Mode	Modulation type	Channel Frequency (MHz)	PEAK VALUE (dBm)		PPSD WITHOUT DUTY FACTOR (dBm)		PPSD WITH DUTY FACTOR (dBm)	
			CHAIN0	CHAIN1	CHAIN0	CHAIN1	CHAIN0	CHAIN1
HT 40	BPSK	5230	5.71	2.15	-3.90	-8.17	-3.32	-7.59
	QPSK		5.69	1.10	-4.23	-8.77	-3.43	-7.97
	16QAM		5.18	1.50	-4.43	-8.75	-3.50	-7.82
	64QAM		6.27	2.27	-5.13	-8.95	-3.84	-7.66

PEAK Excursion (dB)		LIMIT (dB)	PASS /FAIL
CHAIN0	CHAIN1		
9.03	9.74	13	PASS
9.12	9.07	13	PASS
8.68	9.32	13	PASS
10.11	9.93	13	PASS

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

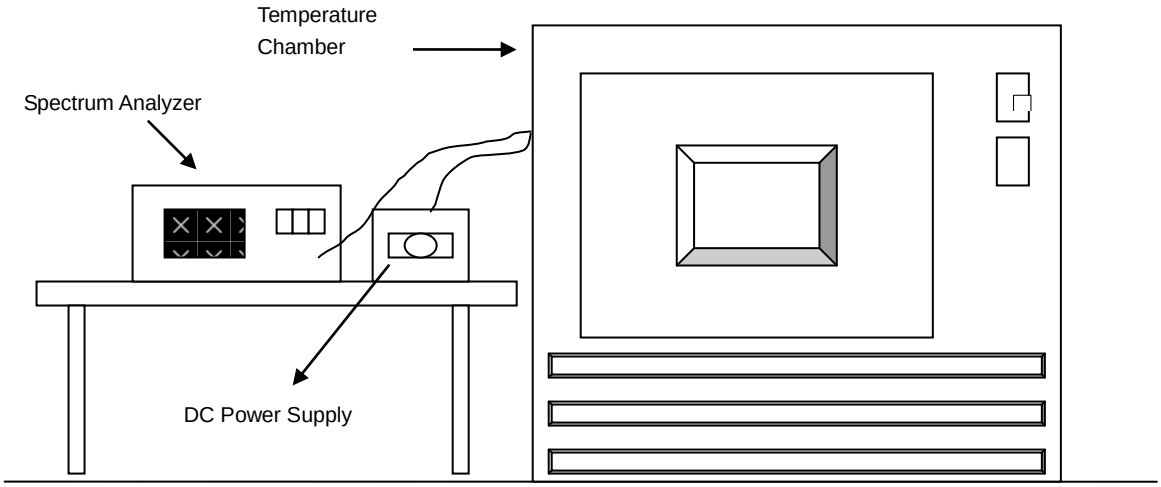


4.6 FREQUENCY STABILITY

4.6.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

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

4.6.2 TEST SETUP



4.6.3 TEST INSTRUMENTS

Refer to section 4.1.3 to get information of above instrument.

4.6.4 TEST PROCEDURE

a. To ensure emission at the band edge is maintained within the authorized band, those values shall be measured by radiation emissions at upper and lower frequency points, and finally compensated by frequency deviation as procedures below.

b. The EUT was operated at the maximum output power, and connected to the spectrum analyzer, which is set to maximum hold function and peak detector. The peak value of the power envelope was measured and noted. The upper and lower frequency points were respectively measured relatively 10dB lower than the measured peak value.

c. The frequency deviation was calculated by adding the upper frequency point and the lower frequency point divided by two. Those detailed values of frequency deviation are provided in table below.

4.6.5 DEVIATION FROM TEST STANDARD

No deviation.

4.6.6 EUT OPERATING CONDITION

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

4.6.7 TEST RESULTS

FREQUEMCY STABILITY VERSUS TEMP.									
OPERATING FREQUENCY: 5320MHz									
TEMP. (℃)	POWER SUPPLY (Vdc)	0 MINUTE		2 MINUTE		5 MINUTE		10 MINUTE	
		Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)
50	11.4	5320.015339	2.883	5320.015172	2.852	5320.015141	2.846	5320.015445	2.903
40	11.4	5320.016115	3.029	5320.016292	3.062	5320.015691	2.949	5320.015623	2.937
30	11.4	5320.017134	3.221	5320.017138	3.221	5320.017187	3.231	5320.016855	3.168
20	11.4	5320.018297	3.439	5320.018126	3.407	5320.017969	3.378	5320.017922	3.369
10	11.4	5320.019944	3.749	5320.019485	3.663	5320.019921	3.745	5320.019095	3.589
0	11.4	5320.017759	3.338	5320.018552	3.487	5320.018228	3.426	5320.017967	3.377
-10	11.4	5320.016703	3.140	5320.016638	3.127	5320.016508	3.103	5320.016341	3.072
-20	11.4	5320.016029	3.013	5320.016115	3.029	5320.016152	3.036	5320.015917	2.992
-30	11.4	5320.014840	2.789	5320.015281	2.872	5320.015182	2.854	5320.014803	2.783

FREQUEMCY STABILITY VERSUS VOLTAGE									
OPERATING FREQUENCY: 5320MHz									
TEMP. (℃)	POWER SUPPLY (Vdc)	0 MINUTE		2 MINUTE		5 MINUTE		10 MINUTE	
		Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)
20	11.4	5320.017674	3.322	5320.017568	3.302	5320.017319	3.255	5320.017680	3.323
	11.4	5320.018297	3.439	5320.018126	3.407	5320.017969	3.378	5320.017922	3.369
	19.50	5320.019136	3.597	5320.019563	3.677	5320.019411	3.649	5320.019399	3.646

5. PHOTOGRAPHS OF THE TEST CONFIGURATION

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

6. INFORMATION ON THE TESTING LABORATORIES

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

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

Linko EMC/RF Lab:
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Web Site: www.bureauveritas-adt.com

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

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

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

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