FCC TEST REPORT (15.407)

REPORT NO.:	RF130107C12A-1
MODEL NO.:	DWA-180 (Refer to item 3.1 for more details)
FCC ID:	KA2WA180A1
RECEIVED:	Jan. 04, 2013
TESTED:	Jan. 08 ~ Apr. 13, 2013
ISSUED:	Apr. 17, 2013

APPLICANT:	D-Link Corporation
ADDRESS:	17595 Mt. Hermann, Fountain Valley, CA 92708, U.S.A.

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

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

TABLE OF CONTENTS

RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF130107C12A-1	Original release	Apr. 17, 2013

1. CERTIFICATION

PRODUCT: Wireless AC1000 Dual Band USB Adapter
(Refer to item 3.1 for more details)

MODEL: DWA-180 (Refer to item 3.1 for more details)

BRAND: D-Link

APPLICANT: D-Link Corporation

TESTED: Jan. 08 ~ Apr. 13, 2013

TEST SAMPLE: ENGINEERING SAMPLE

STANDARDS: **FCC Part 15, Subpart E (Section 15.407)**
ANSI C63.10-2009

The above equipment (model: DWA-180) 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 :** Apr. 17, 2013
Ivy Lin / Specialist

APPROVED BY : _____ **, DATE :** Apr. 17, 2013
Ken Liu / Senior 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 -18.48dB at 22.23047MHz.
15.407(b/1/2/3)(b)(6)	Spurious Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -1.0dB at 15960.00MHz, 5470.00MHz
15.407(a/1/2)	Max Average 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	Antenna connector is UFL not a standard connector.

2.1 MEASUREMENT UNCERTAINTY

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

MEASUREMENT	FREQUENCY	UNCERTAINTY
Conducted emissions	9kHz~30MHz	2.44 dB
Radiated emissions	30MHz ~ 200MHz	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	Wireless AC1000 Dual Band USB Adapter (Refer to Note for more details)
MODEL NO.	DWA-180 (Refer to Note for more details)
POWER SUPPLY	5Vdc (Host equipment)
MODULATION TYPE	64QAM, 16QAM, QPSK, BPSK 256QAM for OFDM in 11ac mode only
MODULATION TECHNOLOGY	OFDM
TRANSFER RATE	802.11a: 54/48/36/24/18/12/9/6Mbps 802.11n: up to 300Mbps 802.11ac: up to 867Mbps
OPERATING FREQUENCY	5180 ~ 5240MHz, 5260 ~ 5320MHz, 5500 ~ 5700MHz
NUMBER OF CHANNEL	**5180 ~ 5240MHz:** 802.11a, 802.11n (20MHz): 4 802.11n (40MHz): 2 802.11ac (80MHz): 1 **5260 ~ 5320MHz:** 802.11a, 802.11n (20MHz): 4 802.11n (40MHz): 2 802.11ac (80MHz): 1 **5500 ~ 5700MHz:** 802.11a, 802.11n (20MHz): 8 802.11n (40MHz): 3 802.11ac (80MHz): 1
OUTPUT POWER	43.473mW for 5180 ~ 5240MHz 45.082mW for 5260 ~ 5320MHz 64.076mW for 5500 ~ 5700MHz
ANTENNA TYPE	PIFA antenna with 0dBi gain
ANTENNA CONNECTOR	UFL
DATA CABLE	1m shielded USB cable without core
I/O PORTS	Refer to user's manual
ACCESSORY DEVICES	NA

NOTE:

1. The EUT incorporates a MIMO function. The EUT provides 2 completed transmitters and 2 receivers.

MODULATION MODE	TX FUNCTION
802.11b	1TX
802.11g	1TX
802.11a	1TX
802.11n (20MHz)	2TX
802.11n (40MHz)	2TX
802.11ac (80MHz)	2TX

2. The models and product names as below are electrically identical, different models no. and product names are for marketing purpose.

BRAND	PRODUCT NAME	MODEL
D-Link	Wireless AC1000 Dual Band USB Adapter	DWA-180
	Wireless AC1200 Dual Band USB Adapter	DWA-182

* The model: DWA-180 was chosen for the final test and presented in the test report.

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

3.2 DESCRIPTION OF TEST MODES

FOR 5180 ~ 5240MHz

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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
36	5180 MHz	44	5220 MHz
40	5200 MHz	48	5240 MHz

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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
38	5190 MHz	46	5230 MHz

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

CHANNEL	FREQUENCY
42	5210MHz

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

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

CHANNEL	FREQUENCY
58	5290MHz

FOR 5500 ~ 5700MHz

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

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

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

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

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

CHANNEL	FREQUENCY
106	5530MHz

3.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE≥1G	RE<1G	PLC	APCM	
-	√	√	√	√	-

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

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)
-	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	BPSK	6.0
-	802.11n (20MHz)		36 to 48	36, 40, 48	OFDM	BPSK	7.2
-	802.11n (40MHz)		38 to 46	38, 46	OFDM	BPSK	15.0
-	802.11ac (80MHz)	5210	42	42	OFDM	BPSK	58.5
-	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	BPSK	6.0
-	802.11n (20MHz)		52 to 64	52, 60, 64	OFDM	BPSK	7.2
-	802.11n (40MHz)		54 to 62	54, 62	OFDM	BPSK	15.0
-	802.11ac (80MHz)	5290	58	58	OFDM	BPSK	58.5
-	802.11a	5500-5700	100 to 140	100, 116, 140	OFDM	BPSK	6.0
-	802.11n (20MHz)		100 to 140	100, 116, 140	OFDM	BPSK	7.2
-	802.11n (40MHz)		102 to 134	102, 110, 134	OFDM	BPSK	15.0
-	802.11ac (80MHz)	5530	106	106	OFDM	BPSK	58.5

RADIATED EMISSION TEST (BELOW 1GHz):

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

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

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
-	802.11a	5180-5320	52 to 64	60	OFDM	BPSK	6.0
-	802.11n (40MHz)	5500-5700	102 to 134	134	OFDM	BPSK	15.0

POWER LINE CONDUCTED EMISSION TEST:

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

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

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
-	802.11a	5180-5320	52 to 64	60	OFDM	BPSK	6.0
-	802.11n (40MHz)	5500-5700	102 to 134	134	OFDM	BPSK	15.0

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.

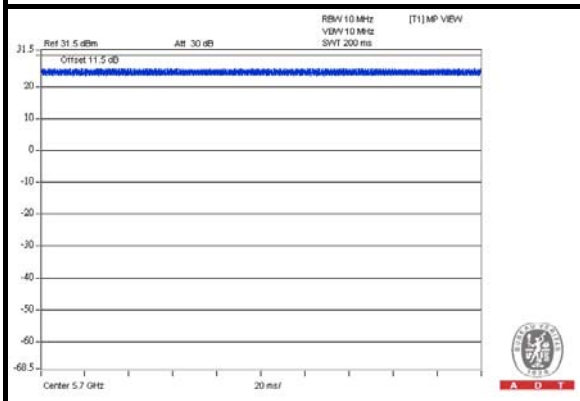
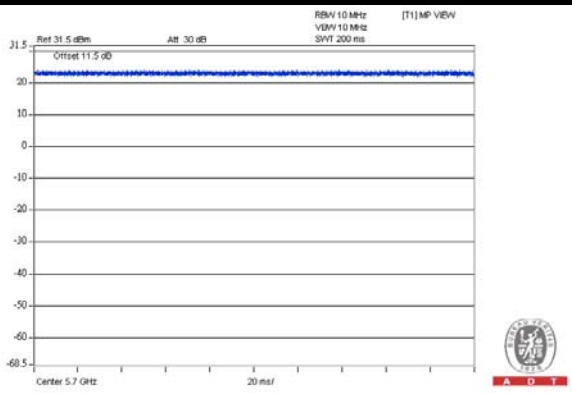
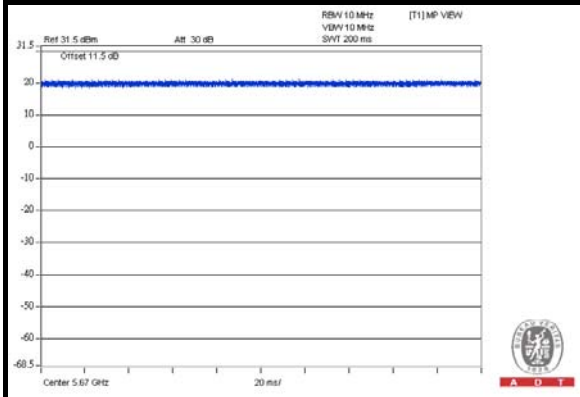
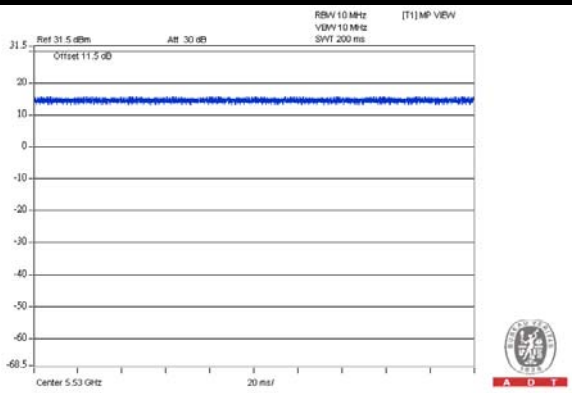
EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
-	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	BPSK	6.0
-	802.11n (20MHz)		36 to 48	36, 40, 48	OFDM	BPSK	7.2
-	802.11n (40MHz)		38 to 46	38, 46	OFDM	BPSK	15.0
-	802.11ac (80MHz)	5210	42	42	OFDM	BPSK	58.5
-	802.11a	5260-5320	52 to 64	52, 60, 64	OFDM	BPSK	6.0
-	802.11n (20MHz)		52 to 64	52, 60, 64	OFDM	BPSK	7.2
-	802.11n (40MHz)		54 to 62	54, 62	OFDM	BPSK	15.0
-	802.11ac (80MHz)	5290	58	58	OFDM	BPSK	58.5
-	802.11a	5500-5700	100 to 140	100, 116, 140	OFDM	BPSK	6.0
-	802.11n (20MHz)		100 to 140	100, 116, 140	OFDM	BPSK	7.2
-	802.11n (40MHz)		102 to 134	102, 110, 134	OFDM	BPSK	15.0
-	802.11ac (80MHz)	5530	106	106	OFDM	BPSK	58.5

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER (SYSTEM)	TESTED BY
RE≥1G	25deg. C, 68%RH	120Vac, 60Hz	Sun Lin, Martin Lee
RE<1G	25deg. C, 68%RH	120Vac, 60Hz	Martin Lee
PLC	18deg. C, 67%RH	120Vac, 60Hz	Sun Lin
APCM	25deg. C, 60%RH	120Vac, 60Hz	Antony Lee

3.3 DUTY CYCLE OF TEST SIGNAL

Duty cycle of test signal is 100 %, duty factor is not required.

802.11a	802.11n (20MHz)
	
802.11n (40MHz)	**802.11ac (80MHz)**
	

3.4 DESCRIPTION OF SUPPORT UNITS

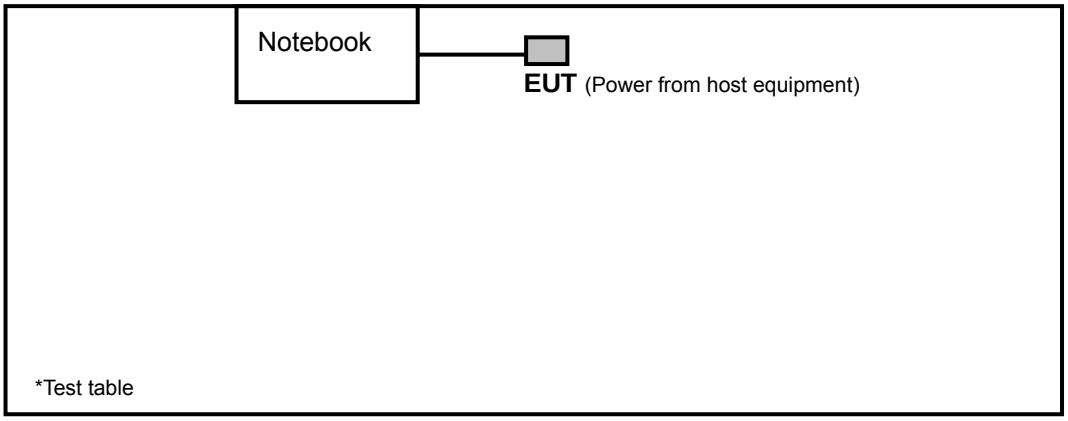
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	NOTEBOOK	DELL	D531	CN-0XM006-48643-81U-2973	QDS-BRCM1020

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	NA

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

3.4.1 CONFIGURATION OF SYSTEM UNDER TEST



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)
789033 D01 General UNII Test Procedures v01 r02
662911 D01 Multiple Transmitter Output v01 r02
ANSI C63.10-2009

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

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

4. TEST TYPES AND RESULTS

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. 19, 2012	Apr. 18, 2013
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100040	Jul. 16, 2012	Jul. 15, 2013
BILOG Antenna SCHWARZBECK	VULB9168	9168-156	Apr. 03, 2012	Apr. 02, 2013
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-209	Sep. 03, 2012	Sep. 02, 2013
HORN Antenna SCHWARZBECK	BBHA 9170	148	Jul. 11, 2012	Jul. 10, 2013
Preamplifier Agilent	8449B	3008A01911	Oct. 25, 2012	Oct. 24, 2013
Preamplifier Agilent	8447D	2944A10638	Oct. 25, 2012	Oct. 24, 2013
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	295013/4 283403/4	Aug. 28, 2012	Aug. 27, 2013
RF signal cable Worken	8D-FB	Cable-HYCH9-01	Aug. 11, 2012	Aug. 10, 2013
Software	ADT_Radiated_ V7.6.15.9.2	NA	NA	NA
Antenna Tower EMCO	2070/2080	512.835.4684	NA	NA
Turn Table EMCO	2087-2.03	NA	NA	NA
Antenna Tower &Turn Table Controller EMCO	2090	NA	NA	NA
26GHz ~ 40GHz Amplifier	EM26400	815221	Oct. 25, 2012	Oct. 24, 2013
High Speed Peak Power Meter	ML2495A	0842014	Apr. 28, 2012	Apr. 27, 2013
Power Sensor	MA2411B	0738404	Apr. 28, 2012	Apr. 27, 2013

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

2. The calibration interval of the loop antenna is 24 months and the calibrations are traceable to NML/ROC and NIST/USA.
3. The test was performed in HwaYa Chamber 9.
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 215374.
6. The IC Site Registration No. is IC 7450F-9.

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

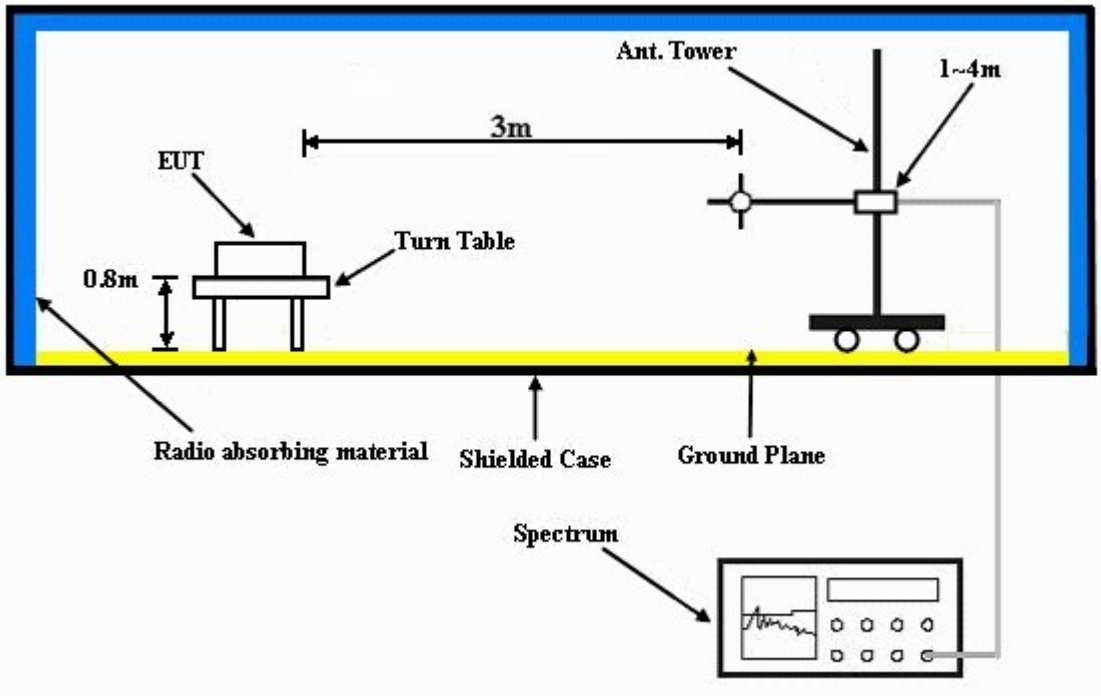
NOTE:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 100kHz and video bandwidth is 300kHz for Peak detection at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 1kHz for Average detection (AV) at frequency above 1GHz.
4. All modes of operation were investigated and the worst-case emissions are reported.

4.1.5 DEVIATION FROM TEST STANDARD

No deviation.

4.1.6 TEST SETUP



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

4.1.7 EUT OPERATING CONDITIONS

a. The EUT was connected to the notebook with USB cable and placed them on the testing table.
b. The notebook system ran a test program (provided by manufacturer) to enable EUT under transmission condition continuously at specific channel frequency.
c. The necessary accessories enable the system in full functions.

4.1.8 TEST RESULTS

802.11a

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 36	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 68%RH	TESTED BY	Sun Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	54.1 PK	74.0	-19.9	1.42 H	102	16.30	37.80
2	5150.00	42.2 AV	54.0	-11.8	1.42 H	102	4.40	37.80
3	*5180.00	98.5 PK			1.54 H	77	60.70	37.80
4	*5180.00	88.5 AV			1.54 H	77	50.70	37.80
5	#10360.00	58.3 PK	74.0	-15.7	1.37 H	193	9.50	48.80
6	#10360.00	45.1 AV	54.0	-8.9	1.37 H	193	-3.70	48.80
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	52.8 PK	74.0	-21.2	1.00 V	98	15.00	37.80
2	5150.00	41.2 AV	54.0	-12.8	1.00 V	98	3.40	37.80
3	*5180.00	96.0 PK			1.00 V	97	58.20	37.80
4	*5180.00	87.0 AV			1.00 V	97	49.20	37.80
5	#10360.00	58.8 PK	74.0	-15.2	1.56 V	185	10.00	48.80
6	#10360.00	45.6 AV	54.0	-8.4	1.56 V	185	-3.20	48.80

REMARKS:

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 40	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 68%RH	TESTED BY	Sun Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	98.0 PK			1.52 H	82	60.10	37.90
2	*5200.00	88.7 AV			1.52 H	82	50.80	37.90
3	#10400.00	57.9 PK	74.0	-16.1	1.42 H	201	9.10	48.80
4	#10400.00	44.8 AV	54.0	-9.2	1.42 H	201	-4.00	48.80
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	96.4 PK			1.02 V	107	58.50	37.90
2	*5200.00	87.3 AV			1.02 V	107	49.40	37.90
3	#10400.00	58.6 PK	74.0	-15.4	1.62 V	158	9.80	48.80
4	#10400.00	45.6 AV	54.0	-8.4	1.62 V	158	-3.20	48.80

REMARKS:

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 48	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 68%RH	TESTED BY	Sun Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	98.2 PK			1.52 H	57	60.30	37.90
2	*5240.00	88.9 AV			1.52 H	57	51.00	37.90
3	#10480.00	58.8 PK	74.0	-15.2	1.29 H	187	9.80	49.00
4	#10480.00	45.5 AV	54.0	-8.5	1.29 H	187	-3.50	49.00
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	96.2 PK			1.01 V	59	58.30	37.90
2	*5240.00	87.0 AV			1.01 V	59	49.10	37.90
3	#10480.00	58.5 PK	74.0	-15.5	1.65 V	202	9.50	49.00
4	#10480.00	45.8 AV	54.0	-8.2	1.65 V	202	-3.20	49.00

REMARKS:

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 52	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 68%RH	TESTED BY	Sun Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5260.00	104.3 PK			1.12 H	55	66.40	37.90
2	*5260.00	93.1 AV			1.12 H	55	55.20	37.90
3	#10520.00	58.8 PK	74.0	-15.2	1.29 H	202	9.70	49.10
4	#10520.00	45.6 AV	54.0	-8.4	1.29 H	202	-3.50	49.10
5	15780.00	64.4 PK	74.0	-9.6	1.04 H	277	16.40	48.00
6	15780.00	51.2 AV	54.0	-2.8	1.04 H	277	3.20	48.00
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5260.00	101.2 PK			1.02 V	89	63.30	37.90
2	*5260.00	92.2 AV			1.02 V	89	54.30	37.90
3	#10520.00	57.5 PK	74.0	-16.5	1.64 V	189	8.40	49.10
4	#10520.00	44.8 AV	54.0	-9.2	1.64 V	189	-4.30	49.10
5	15780.00	62.4 PK	74.0	-11.6	1.20 V	342	14.40	48.00
6	15780.00	48.2 AV	54.0	-5.8	1.20 V	342	0.20	48.00

REMARKS:

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 60	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 68%RH	TESTED BY	Sun Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	104.1 PK			1.21 H	57	66.10	38.00
2	*5300.00	92.8 AV			1.21 H	57	54.80	38.00
3	10600.00	57.8 PK	74.0	-16.2	1.34 H	215	8.80	49.00
4	10600.00	45.0 AV	54.0	-9.0	1.34 H	215	-4.00	49.00
5	15900.00	66.1 PK	74.0	-7.9	1.00 H	272	18.50	47.60
6	15900.00	52.6 AV	54.0	-1.4	1.00 H	272	5.00	47.60
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	101.4 PK			1.00 V	92	63.40	38.00
2	*5300.00	92.4 AV			1.00 V	92	54.40	38.00
3	10600.00	57.2 PK	74.0	-16.8	1.58 V	178	8.20	49.00
4	10600.00	44.2 AV	54.0	-9.8	1.58 V	178	-4.80	49.00
5	15900.00	62.8 PK	74.0	-11.2	1.18 V	324	15.20	47.60
6	15900.00	50.3 AV	54.0	-3.7	1.18 V	324	2.70	47.60

REMARKS:

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 64	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 68%RH	TESTED BY	Sun Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	103.8 PK			1.00 H	51	65.80	38.00
2	*5320.00	94.0 AV			1.00 H	51	56.00	38.00
3	5350.00	60.2 PK	74.0	-13.8	1.00 H	55	22.10	38.10
4	5350.00	46.5 AV	54.0	-7.5	1.00 H	55	8.40	38.10
5	10640.00	58.4 PK	74.0	-15.6	1.25 H	207	9.20	49.20
6	10640.00	45.6 AV	54.0	-8.4	1.25 H	207	-3.60	49.20
7	15960.00	66.4 PK	74.0	-7.6	1.00 H	272	18.90	47.50
8	**15960.00**	**53.0 AV**	**54.0**	**-1.0**	**1.00 H**	**272**	**5.50**	**47.50**
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	100.5 PK			1.00 V	92	62.50	38.00
2	*5320.00	91.6 AV			1.00 V	92	53.60	38.00
3	5350.00	55.8 PK	74.0	-18.2	1.00 V	101	17.70	38.10
4	5350.00	42.4 AV	54.0	-11.6	1.00 V	101	4.30	38.10
5	10640.00	57.8 PK	74.0	-16.2	1.29 V	247	8.60	49.20
6	10640.00	45.0 AV	54.0	-9.0	1.29 V	247	-4.20	49.20
7	15960.00	64.2 PK	74.0	-9.8	1.16 V	322	16.70	47.50
8	15960.00	50.9 AV	54.0	-3.1	1.16 V	322	3.40	47.50

REMARKS:

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 100	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 68%RH	TESTED BY	Martin Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	59.1 PK	74.0	-14.9	1.16 H	246	20.80	38.30
2	5460.00	45.0 AV	54.0	-9.0	1.16 H	246	6.70	38.30
3	#5470.00	61.9 PK	74.0	-12.1	1.21 H	270	23.60	38.30
4	#5470.00	47.3 AV	54.0	-6.7	1.21 H	270	9.00	38.30
5	*5500.00	104.9 PK			1.02 H	226	66.60	38.30
6	*5500.00	96.1 AV			1.02 H	226	57.80	38.30
7	11000.00	56.3 PK	74.0	-17.7	1.45 H	16	6.60	49.70
8	11000.00	43.8 AV	54.0	-10.2	1.45 H	16	-5.90	49.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	63.7 PK	74.0	-10.3	1.05 V	166	25.40	38.30
2	5460.00	48.0 AV	54.0	-6.0	1.05 V	166	9.70	38.30
3	#5470.00	64.8 PK	74.0	-9.2	1.03 V	168	26.50	38.30
4	#5470.00	50.1 AV	54.0	-3.9	1.03 V	168	11.80	38.30
5	*5500.00	107.5 PK			1.00 V	153	69.20	38.30
6	*5500.00	98.5 AV			1.00 V	153	60.20	38.30
7	11000.00	52.3 PK	74.0	-21.7	1.20 V	185	2.60	49.70
8	11000.00	47.1 AV	54.0	-6.9	1.20 V	185	-2.60	49.70

REMARKS:

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 116	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 68%RH	TESTED BY	Martin Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	103.0 PK			1.00 H	188	64.60	38.40
2	*5580.00	94.7 AV			1.00 H	188	56.30	38.40
3	11160.00	60.2 PK	74.0	-13.8	1.08 H	251	10.70	49.50
4	11160.00	47.1 AV	54.0	-6.9	1.08 H	251	-2.40	49.50
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	106.2 PK			1.00 V	89	67.80	38.40
2	*5580.00	96.3 AV			1.00 V	89	57.90	38.40
3	11160.00	57.3 PK	74.0	-16.7	1.16 V	238	7.80	49.50
4	11160.00	45.7 AV	54.0	-8.3	1.16 V	238	-3.80	49.50

REMARKS:

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 140	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 68%RH	TESTED BY	Martin Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	104.3 PK			1.11 H	215	65.60	38.70
2	*5700.00	94.0 AV			1.11 H	215	55.30	38.70
3	#5725.00	64.4 PK	74.0	-9.6	1.12 H	214	25.70	38.70
4	#5725.00	49.4 AV	54.0	-4.6	1.12 H	214	10.70	38.70
5	11400.00	54.7 PK	74.0	-19.3	1.20 H	44	5.30	49.40
6	11400.00	44.5 AV	54.0	-9.5	1.20 H	44	-4.90	49.40
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	109.0 PK			1.24 V	49	70.30	38.70
2	*5700.00	99.0 AV			1.24 V	49	60.30	38.70
3	#5725.00	71.1 PK	74.0	-2.9	1.23 V	49	32.40	38.70
4	#5725.00	52.9 AV	54.0	-1.1	1.23 V	49	14.20	38.70
5	11400.00	56.8 PK	74.0	-17.2	1.32 V	45	7.40	49.40
6	11400.00	44.7 AV	54.0	-9.3	1.32 V	45	-4.70	49.40

REMARKS:

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

802.11n (20MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 36	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 68%RH	TESTED BY	Martin Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	54.9 PK	74.0	-19.1	1.13 H	100	17.10	37.80
2	5150.00	42.5 AV	54.0	-11.5	1.13 H	100	4.70	37.80
3	*5180.00	101.6 PK			1.00 H	122	63.80	37.80
4	*5180.00	90.3 AV			1.00 H	122	52.50	37.80
5	#10360.00	56.1 PK	74.0	-17.9	1.20 H	255	7.30	48.80
6	#10360.00	45.0 AV	54.0	-9.0	1.20 H	255	-3.80	48.80
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	54.5 PK	74.0	-19.5	1.30 V	122	16.70	37.80
2	5150.00	42.4 AV	54.0	-11.6	1.30 V	122	4.60	37.80
3	*5180.00	100.3 PK			1.02 V	88	62.50	37.80
4	*5180.00	89.1 AV			1.02 V	88	51.30	37.80
5	#10360.00	55.8 PK	74.0	-18.2	1.24 V	158	7.00	48.80
6	#10360.00	46.2 AV	54.0	-7.8	1.24 V	158	-2.60	48.80

REMARKS:

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 40	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 68%RH	TESTED BY	Martin Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	102.6 PK			1.00 H	205	64.70	37.90
2	*5200.00	91.3 AV			1.00 H	205	53.40	37.90
3	#10400.00	57.3 PK	74.0	-16.7	1.13 H	240	8.50	48.80
4	#10400.00	44.6 AV	54.0	-9.4	1.13 H	240	-4.20	48.80
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	100.7 PK			1.00 V	91	62.80	37.90
2	*5200.00	89.7 AV			1.00 V	91	51.80	37.90
3	#10400.00	55.8 PK	74.0	-18.2	1.14 V	160	7.00	48.80
4	#10400.00	46.0 AV	54.0	-8.0	1.14 V	160	-2.80	48.80

REMARKS:

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 48	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 68%RH	TESTED BY	Martin Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	101.5 PK			1.00 H	207	63.60	37.90
2	*5240.00	91.5 AV			1.00 H	207	53.60	37.90
3	#10480.00	56.4 PK	74.0	-17.6	1.06 H	263	7.40	49.00
4	#10480.00	45.2 AV	54.0	-8.8	1.06 H	263	-3.80	49.00
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	101.1 PK			1.00 V	87	63.20	37.90
2	*5240.00	90.7 AV			1.00 V	87	52.80	37.90
3	#10480.00	56.4 PK	74.0	-17.6	1.24 V	168	7.40	49.00
4	#10480.00	45.2 AV	54.0	-8.8	1.24 V	168	-3.80	49.00

REMARKS:

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 52	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 68%RH	TESTED BY	Martin Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	59.0 PK	74.0	-15.0	1.03 H	32	21.20	37.80
2	5150.00	47.2 AV	54.0	-6.8	1.03 H	32	9.40	37.80
3	*5260.00	107.5 PK			1.11 H	207	69.60	37.90
4	*5260.00	96.8 AV			1.11 H	207	58.90	37.90
5	#10520.00	61.0 PK	74.0	-13.0	1.20 H	66	11.90	49.10
6	#10520.00	48.6 AV	54.0	-5.4	1.20 H	66	-0.50	49.10
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	59.4 PK	74.0	-14.6	1.00 V	2	21.60	37.80
2	5150.00	46.8 AV	54.0	-7.2	1.00 V	2	9.00	37.80
3	*5260.00	108.0 PK			1.05 V	338	70.10	37.90
4	*5260.00	97.7 AV			1.05 V	338	59.80	37.90
5	#10520.00	60.2 PK	74.0	-13.8	1.22 V	320	11.10	49.10
6	#10520.00	46.6 AV	54.0	-7.4	1.22 V	320	-2.50	49.10

REMARKS:

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 60	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 68%RH	TESTED BY	Martin Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	106.5 PK			1.10 H	210	68.50	38.00
2	*5300.00	95.4 AV			1.10 H	210	57.40	38.00
3	10600.00	58.7 PK	74.0	-15.3	1.14 H	32	9.70	49.00
4	10600.00	46.7 AV	54.0	-7.3	1.14 H	32	-2.30	49.00
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	110.3 PK			1.27 V	208	72.30	38.00
2	*5300.00	99.0 AV			1.27 V	208	61.00	38.00
3	10600.00	59.2 PK	74.0	-14.8	4.00 V	316	10.20	49.00
4	10600.00	47.4 AV	54.0	-6.6	4.00 V	316	-1.60	49.00

REMARKS:

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 64	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 68%RH	TESTED BY	Martin Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	108.0 PK			1.00 H	202	70.00	38.00
2	*5320.00	97.8 AV			1.00 H	202	59.80	38.00
3	5350.00	62.9 PK	74.0	-11.1	1.00 H	220	24.80	38.10
4	5350.00	50.2 AV	54.0	-3.8	1.00 H	220	12.10	38.10
5	10640.00	59.9 PK	74.0	-14.1	1.37 H	103	10.70	49.20
6	10640.00	46.7 AV	54.0	-7.3	1.37 H	103	-2.50	49.20
7	15960.00	63.4 PK	74.0	-10.6	1.00 H	228	15.90	47.50
8	15960.00	49.6 AV	54.0	-4.4	1.00 H	228	2.10	47.50
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	112.0 PK			1.26 V	210	74.00	38.00
2	*5320.00	100.8 AV			1.26 V	210	62.80	38.00
3	5350.00	67.3 PK	74.0	-6.7	1.26 V	210	29.20	38.10
4	5350.00	52.9 AV	54.0	-1.1	1.26 V	210	14.80	38.10
5	10640.00	58.5 PK	74.0	-15.5	1.26 V	297	9.30	49.20
6	10640.00	45.6 AV	54.0	-8.4	1.26 V	297	-3.60	49.20
7	15960.00	59.8 PK	74.0	-14.2	1.38 V	231	12.30	47.50
8	15960.00	48.3 AV	54.0	-5.7	1.38 V	231	0.80	47.50

REMARKS:

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 100	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 68%RH	TESTED BY	Martin Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	58.9 PK	74.0	-15.1	1.02 H	184	20.60	38.30
2	5460.00	46.0 AV	54.0	-8.0	1.02 H	184	7.70	38.30
3	#5470.00	61.7 PK	74.0	-12.3	1.07 H	190	23.40	38.30
4	#5470.00	49.0 AV	54.0	-5.0	1.07 H	190	10.70	38.30
5	*5500.00	104.8 PK			1.17 H	210	66.50	38.30
6	*5500.00	94.0 AV			1.17 H	210	55.70	38.30
7	11000.00	57.3 PK	74.0	-16.7	1.25 H	266	7.60	49.70
8	11000.00	45.7 AV	54.0	-8.3	1.25 H	266	-4.00	49.70
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	65.4 PK	74.0	-8.6	1.00 V	208	27.10	38.30
2	5460.00	50.4 AV	54.0	-3.6	1.00 V	208	12.10	38.30
3	#5470.00	66.1 PK	74.0	-7.9	1.00 V	208	27.80	38.30
4	#5470.00	52.5 AV	54.0	-1.5	1.00 V	208	14.20	38.30
5	*5500.00	111.2 PK			1.34 V	209	72.90	38.30
6	*5500.00	99.8 AV			1.34 V	209	61.50	38.30
7	11000.00	58.3 PK	74.0	-15.7	1.30 V	155	8.60	49.70
8	11000.00	45.7 AV	54.0	-8.3	1.30 V	155	-4.00	49.70

REMARKS:

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 116	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 68%RH	TESTED BY	Martin Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	105.5 PK			1.17 H	195	67.10	38.40
2	*5580.00	94.8 AV			1.17 H	195	56.40	38.40
3	11160.00	56.6 PK	74.0	-17.4	1.32 H	278	7.10	49.50
4	11160.00	45.0 AV	54.0	-9.0	1.32 H	278	-4.50	49.50
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	110.0 PK			1.09 V	197	71.60	38.40
2	*5580.00	99.0 AV			1.09 V	197	60.60	38.40
3	11160.00	58.2 PK	74.0	-15.8	1.15 V	281	8.70	49.50
4	11160.00	45.5 AV	54.0	-8.5	1.15 V	281	-4.00	49.50

REMARKS:

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 140	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 68%RH	TESTED BY	Martin Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	104.2 PK			1.02 H	196	65.50	38.70
2	*5700.00	93.8 AV			1.02 H	196	55.10	38.70
3	#5725.00	66.2 PK	74.0	-7.8	1.32 H	190	27.50	38.70
4	#5725.00	50.2 AV	54.0	-3.8	1.32 H	190	11.50	38.70
5	11400.00	58.0 PK	74.0	-16.0	1.33 H	241	8.60	49.40
6	11400.00	46.3 AV	54.0	-7.7	1.33 H	241	-3.10	49.40
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	108.5 PK			1.30 V	207	69.80	38.70
2	*5700.00	96.5 AV			1.30 V	207	57.80	38.70
3	#5725.00	69.0 PK	74.0	-5.0	1.16 V	225	30.30	38.70
4	#5725.00	52.8 AV	54.0	-1.2	1.16 V	225	14.10	38.70
5	11400.00	61.2 PK	74.0	-12.8	1.60 V	180	11.80	49.40
6	11400.00	48.0 AV	54.0	-6.0	1.60 V	180	-1.40	49.40

REMARKS:

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

802.11n (40MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 38	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 68%RH	TESTED BY	Martin Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	57.1 PK	74.0	-16.9	1.13 H	228	19.30	37.80
2	5150.00	44.0 AV	54.0	-10.0	1.13 H	228	6.20	37.80
3	*5190.00	99.7 PK			1.43 H	204	61.90	37.80
4	*5190.00	88.7 AV			1.43 H	204	50.90	37.80
5	#10380.00	54.0 PK	74.0	-20.0	1.06 H	296	5.20	48.80
6	#10380.00	43.0 AV	54.0	-11.0	1.06 H	296	-5.80	48.80
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	58.8 PK	74.0	-15.2	1.38 V	122	21.00	37.80
2	5150.00	45.9 AV	54.0	-8.1	1.38 V	122	8.10	37.80
3	*5190.00	101.0 PK			1.44 V	204	63.20	37.80
4	*5190.00	90.1 AV			1.44 V	204	52.30	37.80
5	#10380.00	55.4 PK	74.0	-18.6	1.23 V	235	6.60	48.80
6	#10380.00	44.5 AV	54.0	-9.5	1.23 V	235	-4.30	48.80

REMARKS:

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 46	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 68%RH	TESTED BY	Sun Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5230.00	100.0 PK			1.23 H	208	62.10	37.90
2	*5230.00	89.5 AV			1.23 H	208	51.60	37.90
3	#10460.00	53.9 PK	74.0	-20.1	1.08 H	304	4.90	49.00
4	#10460.00	42.8 AV	54.0	-11.2	1.08 H	304	-6.20	49.00
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5230.00	101.4 PK			1.28 V	125	63.50	37.90
2	*5230.00	90.3 AV			1.28 V	125	52.40	37.90
3	#10460.00	55.1 PK	74.0	-18.9	1.28 V	245	6.10	49.00
4	#10460.00	44.2 AV	54.0	-9.8	1.28 V	245	-4.80	49.00

REMARKS:

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 54	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 68%RH	TESTED BY	Sun Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5270.00	105.6 PK			1.14 H	196	67.60	38.00
2	*5270.00	93.4 AV			1.14 H	196	55.40	38.00
3	#10540.00	54.8 PK	74.0	-19.2	1.02 H	322	5.70	49.10
4	#10540.00	43.6 AV	54.0	-10.4	1.02 H	322	-5.50	49.10
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5270.00	107.8 PK			1.52 V	134	69.80	38.00
2	*5270.00	96.4 AV			1.52 V	134	58.40	38.00
3	#10540.00	55.2 PK	74.0	-18.8	1.29 V	252	6.10	49.10
4	#10540.00	44.1 AV	54.0	-9.9	1.29 V	252	-5.00	49.10

REMARKS:

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 62	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 68%RH	TESTED BY	Sun Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5310.00	102.2 PK			1.21 H	202	64.20	38.00
2	*5310.00	91.3 AV			1.21 H	202	53.30	38.00
3	5350.00	65.7 PK	74.0	-8.3	1.21 H	182	27.60	38.10
4	5350.00	50.5 AV	54.0	-3.5	1.21 H	182	12.40	38.10
5	10620.00	53.2 PK	74.0	-20.8	1.08 H	304	4.10	49.10
6	10620.00	42.5 AV	54.0	-11.5	1.08 H	304	-6.60	49.10
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5310.00	105.0 PK			1.48 V	129	67.00	38.00
2	*5310.00	93.2 AV			1.48 V	129	55.20	38.00
3	5350.00	68.4 PK	74.0	-5.6	1.35 V	123	30.30	38.10
4	5350.00	52.5 AV	54.0	-1.5	1.35 V	123	14.40	38.10
5	10620.00	54.9 PK	74.0	-19.1	1.27 V	252	5.80	49.10
6	10620.00	44.1 AV	54.0	-9.9	1.27 V	252	-5.00	49.10

REMARKS:

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 102	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 68%RH	TESTED BY	Sun Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	58.2 PK	74.0	-15.8	1.21 H	202	19.90	38.30
2	5460.00	46.8 AV	54.0	-7.2	1.21 H	202	8.50	38.30
3	#5470.00	65.0 PK	74.0	-9.0	1.21 H	202	26.70	38.30
4	#5470.00	50.8 AV	54.0	-3.2	1.21 H	202	12.50	38.30
5	*5510.00	101.6 PK			1.18 H	208	63.20	38.40
6	*5510.00	90.8 AV			1.18 H	208	52.40	38.40
7	11020.00	54.5 PK	74.0	-19.5	1.29 H	254	4.90	49.60
8	11020.00	42.8 AV	54.0	-11.2	1.29 H	254	-6.80	49.60
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	62.0 PK	74.0	-12.0	1.34 V	206	23.70	38.30
2	5460.00	49.4 AV	54.0	-4.6	1.34 V	206	11.10	38.30
3	#5470.00	67.4 PK	74.0	-6.6	1.34 V	206	29.10	38.30
4	**#5470.00**	**53.0 AV**	**54.0**	**-1.0**	**1.34 V**	**206**	**14.70**	**38.30**
5	*5510.00	105.3 PK			1.32 V	208	66.90	38.40
6	*5510.00	94.6 AV			1.32 V	208	56.20	38.40
7	11020.00	54.8 PK	74.0	-19.2	1.25 V	241	5.20	49.60
8	11020.00	43.2 AV	54.0	-10.8	1.25 V	241	-6.40	49.60

REMARKS:

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 110	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 68%RH	TESTED BY	Sun Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5550.00	105.9 PK			1.12 H	167	67.50	38.40
2	*5550.00	93.5 AV			1.12 H	167	55.10	38.40
3	11100.00	54.6 PK	74.0	-19.4	1.34 H	241	5.10	49.50
4	11100.00	43.2 AV	54.0	-10.8	1.34 H	241	-6.30	49.50
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5550.00	108.1 PK			1.32 V	209	69.70	38.40
2	*5550.00	97.5 AV			1.32 V	209	59.10	38.40
3	11100.00	54.9 PK	74.0	-19.1	1.22 V	261	5.40	49.50
4	11100.00	43.5 AV	54.0	-10.5	1.22 V	261	-6.00	49.50

REMARKS:

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 134	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 68%RH	TESTED BY	Sun Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5670.00	104.7 PK			1.15 H	210	66.10	38.60
2	*5670.00	93.8 AV			1.15 H	210	55.20	38.60
3	#5725.00	66.2 PK	74.0	-7.8	1.15 H	211	27.50	38.70
4	#5725.00	50.8 AV	54.0	-3.2	1.15 H	211	12.10	38.70
5	11340.00	54.8 PK	74.0	-19.2	1.25 H	269	5.30	49.50
6	11340.00	42.4 AV	54.0	-11.6	1.25 H	269	-7.10	49.50
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5670.00	107.4 PK			1.08 V	207	68.80	38.60
2	*5670.00	97.0 AV			1.08 V	207	58.40	38.60
3	#5725.00	67.4 PK	74.0	-6.6	1.06 V	195	28.70	38.70
4	#5725.00	52.8 AV	54.0	-1.2	1.06 V	195	14.10	38.70
5	11340.00	54.6 PK	74.0	-19.4	1.28 V	254	5.10	49.50
6	11340.00	42.8 AV	54.0	-11.2	1.28 V	254	-6.70	49.50

REMARKS:

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

802.11ac (80MHz)

EUT TEST CONDITION		MEBSUREMENT DETBIL	
CHBNNEL	Channel 42	FREQUENCY RBNGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTBL CONDITIONS	25deg. C, 68%RH	TESTED BY	Martin Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	60.1 PK	74.0	-13.9	1.14 H	221	22.30	37.80
2	5150.00	46.5 AV	54.0	-7.5	1.14 H	221	8.70	37.80
3	*5210.00	98.5 PK			1.12 H	217	60.60	37.90
4	*5210.00	86.4 AV			1.12 H	217	48.50	37.90
5	#10420.00	54.2 PK	74.0	-19.8	1.22 H	272	5.30	48.90
6	#10420.00	42.5 AV	54.0	-11.5	1.22 H	272	-6.40	48.90
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	63.5 PK	74.0	-10.5	1.18 V	167	25.70	37.80
2	5150.00	50.8 AV	54.0	-3.2	1.18 V	167	13.00	37.80
3	*5210.00	101.0 PK			1.16 V	167	63.10	37.90
4	*5210.00	91.6 AV			1.16 V	167	53.70	37.90
5	#10420.00	56.0 PK	74.0	-18.0	1.42 V	212	7.10	48.90
6	#10420.00	44.9 AV	54.0	-9.1	1.42 V	212	-4.00	48.90

REMARKS:

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

EUT TEST CONDITION		MEBSUREMENT DETBIL	
CHBNNEL	Channel 58	FREQUENCY RBNGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTBL CONDITIONS	25deg. C, 68%RH	TESTED BY	Martin Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5290.00	99.8 PK			1.18 H	225	61.80	38.00
2	*5290.00	87.5 AV			1.18 H	225	49.50	38.00
3	5350.00	65.2 PK	74.0	-8.8	1.14 H	242	27.10	38.10
4	5350.00	50.2 AV	54.0	-3.8	1.14 H	242	12.10	38.10
5	#10580.00	54.6 PK	74.0	-19.4	1.18 H	269	5.60	49.00
6	#10580.00	42.8 AV	54.0	-11.2	1.18 H	269	-6.20	49.00
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5290.00	102.2 PK			1.40 V	206	64.20	38.00
2	*5290.00	92.5 AV			1.40 V	206	54.50	38.00
3	5350.00	68.9 PK	74.0	-5.1	1.39 V	207	30.80	38.10
4	5350.00	52.5 AV	54.0	-1.5	1.39 V	207	14.40	38.10
5	#10580.00	55.1 PK	74.0	-18.9	1.34 V	208	6.10	49.00
6	#10580.00	44.2 AV	54.0	-9.8	1.34 V	208	-4.80	49.00

REMARKS:

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

EUT TEST CONDITION		MEBSUREMENT DETBIL	
CHBNNEL	Channel 106	FREQUENCY RBNGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTBL CONDITIONS	25deg. C, 68%RH	TESTED BY	Martin Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	61.8 PK	74.0	-12.2	1.12 H	239	23.50	38.30
2	5460.00	46.8 AV	54.0	-7.2	1.12 H	239	8.50	38.30
3	#5470.00	62.4 PK	74.0	-11.6	1.12 H	239	24.10	38.30
4	#5470.00	47.5 AV	54.0	-6.5	1.12 H	239	9.20	38.30
5	*5530.00	101.2 PK			1.18 H	224	62.80	38.40
6	*5530.00	89.2 AV			1.18 H	224	50.80	38.40
7	11060.00	52.2 PK	74.0	-21.8	1.24 H	272	2.60	49.60
8	11060.00	43.1 AV	54.0	-10.9	1.24 H	272	-6.50	49.60
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	66.0 PK	74.0	-8.0	1.00 V	177	27.70	38.30
2	5460.00	50.4 AV	54.0	-3.6	1.00 V	177	12.10	38.30
3	#5470.00	67.1 PK	74.0	-6.9	1.00 V	177	28.80	38.30
4	#5470.00	52.8 AV	54.0	-1.2	1.00 V	177	14.50	38.30
5	*5530.00	103.9 PK			1.00 V	207	65.50	38.40
6	*5530.00	95.1 AV			1.00 V	207	56.70	38.40
7	11060.00	54.1 PK	74.0	-19.9	1.31 V	198	4.50	49.60
8	11060.00	43.8 AV	54.0	-10.2	1.31 V	198	-5.80	49.60

REMARKS:

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

BELOW 1GHz WORST-CASE DATA：802.11a

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 60	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	25deg. C, 68%RH	TESTED BY	Sun Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	68.80	29.3 QP	40.0	-10.7	1.99 H	200	17.00	12.30
2	111.50	28.4 QP	43.5	-15.1	1.49 H	136	18.10	10.30
3	208.50	36.6 QP	43.5	-6.9	1.00 H	316	25.40	11.20
4	278.30	38.9 QP	46.0	-7.1	1.00 H	249	24.80	14.10
5	410.20	41.1 QP	46.0	-4.9	1.99 H	292	23.50	17.60
6	627.50	36.8 QP	46.0	-9.2	1.49 H	16	14.20	22.60
7	701.20	37.5 QP	46.0	-8.5	1.00 H	273	14.10	23.40
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	84.30	28.4 QP	40.0	-11.6	1.22 V	173	19.70	8.70
2	150.30	28.5 QP	43.5	-15.0	2.00 V	14	14.90	13.60
3	278.30	34.6 QP	46.0	-11.4	1.36 V	14	20.50	14.10
4	416.10	37.2 QP	46.0	-8.8	1.44 V	156	19.40	17.80
5	439.30	33.7 QP	46.0	-12.3	1.69 V	166	15.30	18.40
6	627.50	33.6 QP	46.0	-12.4	1.00 V	179	11.00	22.60

REMARKS:

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

802.11n (40MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 134	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	25deg. C, 68%RH	TESTED BY	Sun Lin

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	84.30	29.5 QP	40.0	-10.5	1.49 H	193	20.80	8.70
2	142.50	28.8 QP	43.5	-14.7	1.24 H	298	15.60	13.20
3	280.30	35.8 QP	46.0	-10.2	1.49 H	353	21.70	14.10
4	414.10	35.3 QP	46.0	-10.7	2.00 H	265	17.60	17.70
5	629.50	33.2 QP	46.0	-12.8	1.00 H	185	10.50	22.70
6	699.30	32.6 QP	46.0	-13.4	2.00 H	317	9.30	23.30
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	84.30	27.5 QP	40.0	-12.5	1.49 V	187	18.80	8.70
2	138.60	27.6 QP	43.5	-15.9	1.00 V	254	14.70	12.90
3	280.30	37.3 QP	46.0	-8.7	1.49 V	348	23.20	14.10
4	404.40	37.0 QP	46.0	-9.0	1.99 V	254	19.50	17.50
5	414.10	37.4 QP	46.0	-8.6	1.00 V	167	19.70	17.70
6	629.50	33.9 QP	46.0	-12.1	1.00 V	22	11.20	22.70

REMARKS:

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

4.2 CONDUCTED EMISSION MEASUREMENT

4.2.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

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

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

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

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

4.2.2 TEST INSTRUMENTS

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

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

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

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

4.2.3 TEST PROCEDURES

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

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

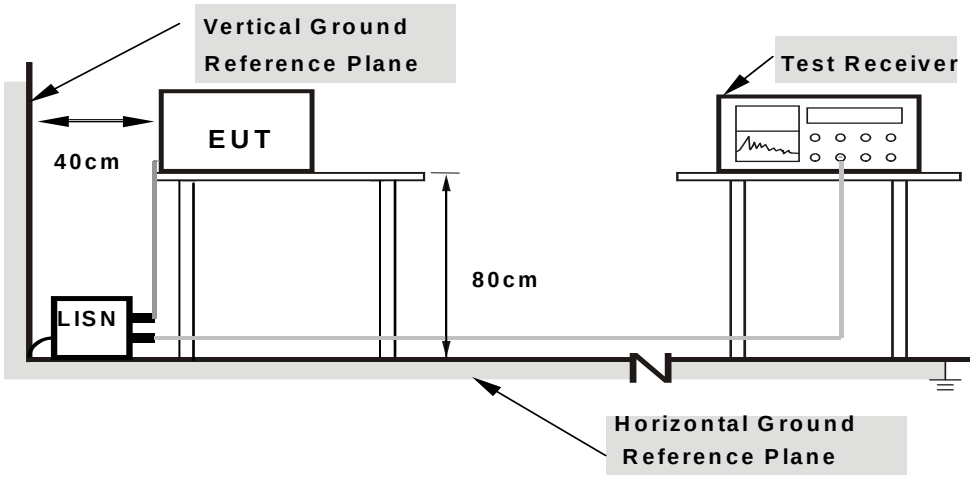
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

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

4.2.4 DEVIATION FROM TEST STANDARD

No deviation.

4.2.5 TEST SETUP



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

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

4.2.6 EUT OPERATING CONDITIONS

Same as 4.1.6.

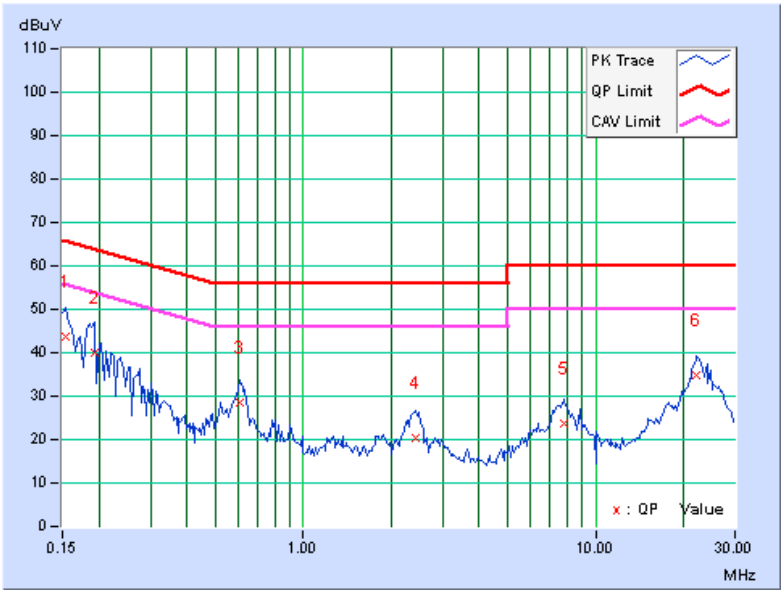
4.2.7 TEST RESULTS

CONDUCTED WORST-CASE DATA：802.11a

PHASE	Line 1	6dB BANDWIDTH	9kHz
CHANNEL	Channel 60		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15391	0.17	43.65	31.06	43.82	31.23	65.79	55.79	-21.96	-24.55
2	0.19297	0.17	39.80	28.20	39.97	28.37	63.91	53.91	-23.94	-25.54
3	0.60313	0.23	28.46	21.28	28.69	21.51	56.00	46.00	-27.31	-24.49
4	2.41016	0.31	20.13	14.57	20.44	14.88	56.00	46.00	-35.56	-31.12
5	7.75391	0.41	23.22	11.56	23.63	11.97	60.00	50.00	-36.37	-38.03
6	22.21094	0.67	34.21	30.09	34.88	30.76	60.00	50.00	-25.12	-19.24

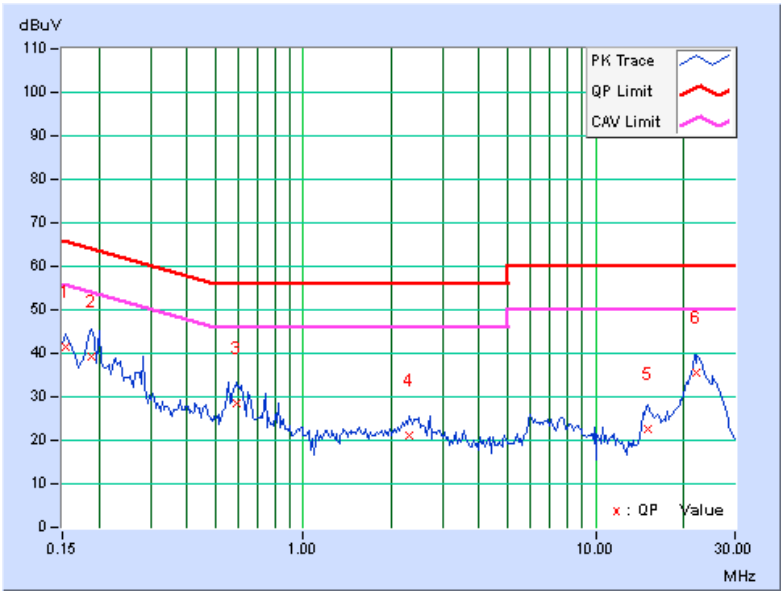
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level - Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading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



PHASE	Line 2	6dB BANDWIDTH	9kHz
CHANNEL	Channel 60		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15391	0.16	41.45	26.96	41.61	27.12	65.79	55.79	-24.18	-28.67
2	0.18906	0.16	39.02	27.52	39.18	27.68	64.08	54.08	-24.90	-26.40
3	0.59531	0.22	28.16	20.45	28.38	20.67	56.00	46.00	-27.62	-25.33
4	2.30078	0.30	20.77	13.93	21.07	14.23	56.00	46.00	-34.93	-31.77
5	15.17578	0.63	21.91	15.77	22.54	16.40	60.00	50.00	-37.46	-33.60
6	**22.23047**	**0.75**	**34.98**	**30.77**	**35.73**	**31.52**	**60.00**	**50.00**	**-24.27**	**-18.48**

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

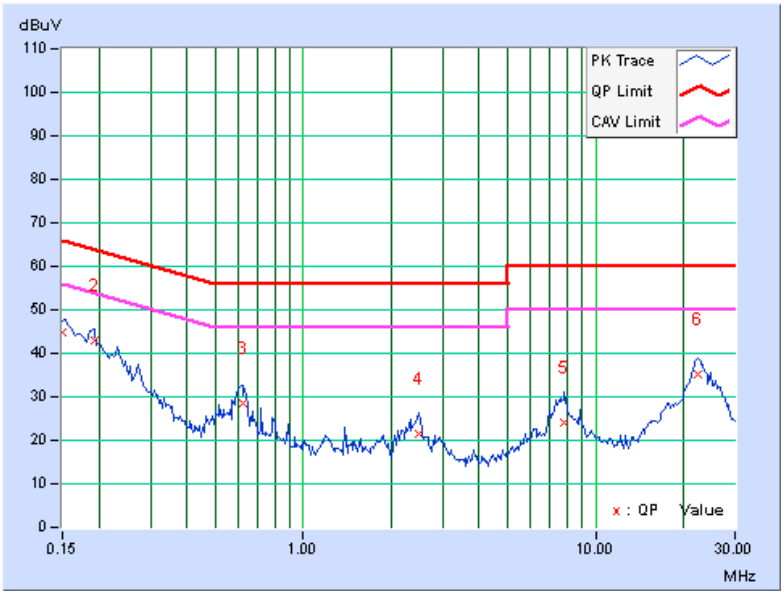


802.11n (40MHz)

PHASE	Line 1	6dB BANDWIDTH	9kHz
CHANNEL	Channel 134		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	0.18	44.74	30.56	44.92	30.74	66.00	56.00	-21.08	-25.26
2	0.19297	0.17	42.63	30.28	42.80	30.45	63.91	53.91	-21.11	-23.46
3	0.61875	0.23	28.20	21.58	28.43	21.81	56.00	46.00	-27.57	-24.19
4	2.47266	0.31	21.14	12.95	21.45	13.26	56.00	46.00	-34.55	-32.74
5	7.82031	0.41	23.60	12.68	24.01	13.09	60.00	50.00	-35.99	-36.91
6	22.32031	0.67	34.49	30.24	35.16	30.91	60.00	50.00	-24.84	-19.09

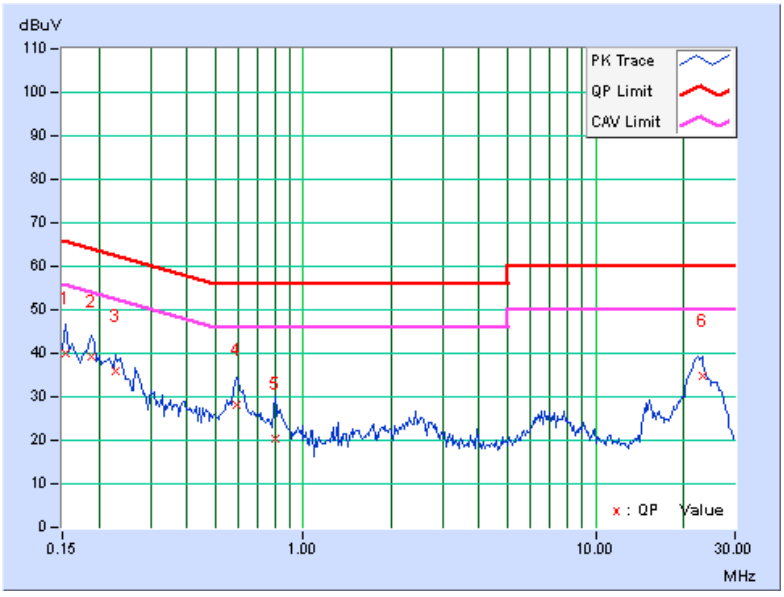
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level - Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading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



PHASE	Line 2	6dB BANDWIDTH	9kHz
CHANNEL	Channel 134		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15391	0.16	39.88	27.10	40.04	27.26	65.79	55.79	-25.75	-28.53
2	0.18906	0.16	38.96	28.06	39.12	28.22	64.08	54.08	-24.96	-25.86
3	0.22812	0.17	35.71	22.31	35.88	22.48	62.52	52.52	-26.64	-30.04
4	0.59141	0.22	28.02	20.11	28.24	20.33	56.00	46.00	-27.76	-25.67
5	0.80625	0.24	19.99	13.48	20.23	13.72	56.00	46.00	-35.77	-32.28
6	23.18750	0.73	33.99	29.91	34.72	30.64	60.00	50.00	-25.28	-19.36

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 v01r02 Method of conducted output power measurement on IEEE 802.11 devices,

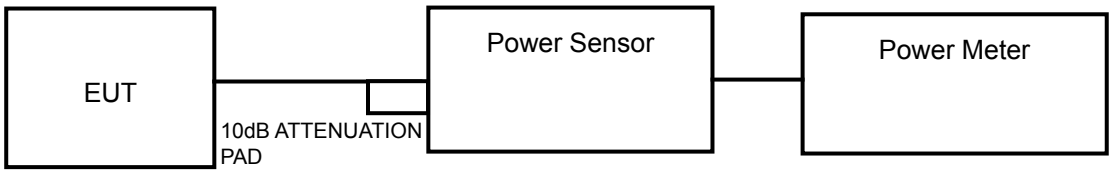
Array Gain = 0 dB (i.e., no array gain) for NANT ≤ 4;
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any NANT;
Array Gain = 5 log(NANT/NSS) dB or 3 dB, whichever is less for 20-MHz channel widths with NANT ≥ 5.

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

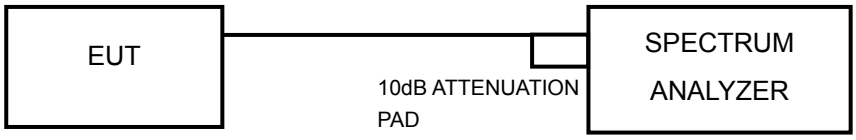
4.3.2 TEST SETUP

FOR POWER OUTPUT MEASUREMENT

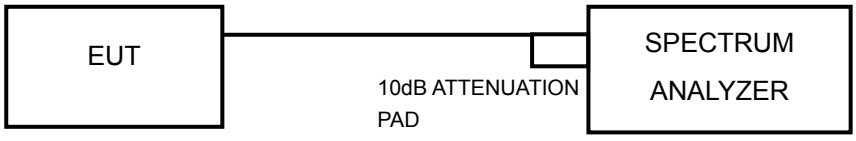
For 802.11a, 802.11n (20MHz), 802.11n (40MHz)



For 802.11ac (80MHz)



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

For 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 not added to measured value.

For 802.11ac (80MHz)

Method SA-1

1) Set span to encompass the entire emission bandwidth (EBW) of the signal.
2) Set RBW = 1 MHz.
3) Set VBW ≥ 3 MHz.
4) Number of points in sweep ≥ 2 Span / RBW.
5) Sweep time = auto.
6) Set trigger to free run (duty cycle≥98 percent); Set video trigger (duty cycle<98 percent)
7) Detector = RMS.
8) Trace average at least 100 traces in power averaging mode
9) Compute power by integrating the spectrum across the 26 dB EBW of the signal.

FOR 26dB BANDWIDTH

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

4.3.5 DEVIATION FROM TEST STANDARD

No deviation.

4.3.6 EUT OPERATING CONDITIONS

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

4.3.7 TEST RESULTS

POWER OUTPUT:

802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER (mW)	AVERAGE POWER (dBm)	POWER LIMIT (dBm)	PASS/FAIL
36	5180	25.763	14.11	17	PASS
40	5200	26.363	14.21	17	PASS
48	5240	25.177	14.01	17	PASS
52	5260	40.832	16.11	24	PASS
60	5300	**45.082**	16.54	24	PASS
64	5320	40.644	16.09	24	PASS
100	5500	37.844	15.78	24	PASS
116	5580	56.105	17.49	24	PASS
140	5700	56.624	17.53	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	12.46	13.53	40.162	16.04	17	PASS
40	5200	12.47	13.83	41.815	16.21	17	PASS
48	5240	12.41	13.98	42.421	16.28	17	PASS
52	5260	9.55	8.27	15.730	11.97	24	PASS
60	5300	9.57	8.16	15.603	11.93	24	PASS
64	5320	9.52	8.21	15.576	11.92	24	PASS
100	5500	14.41	15.05	59.595	17.75	24	PASS
116	5580	14.41	15.20	60.719	17.83	24	PASS
140	5700	14.68	14.97	60.781	17.84	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	12.36	13.73	40.824	16.11	17	PASS
46	5230	12.58	13.78	41.991	16.23	17	PASS
54	5270	9.28	7.97	14.738	11.68	24	PASS
62	5310	9.46	8.28	15.561	11.92	24	PASS
102	5510	14.07	15.36	59.883	17.77	24	PASS
110	5550	14.33	15.42	61.936	17.92	24	PASS
134	5670	14.50	15.55	**64.076**	18.07	24	PASS

802.11ac (80MHz)

CHAN.	CHAN. FREQ. (MHz)	AVERAGE POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1				
42	5210	12.27	14.25	**43.473**	16.38	17	PASS
58	5290	9.34	8.34	15.413	11.88	24	PASS
106	5530	14.01	15.71	62.416	17.95	24	PASS

26dB BANDWIDTH:

802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)	PASS / FAIL
36	5180	20.56	PASS
40	5200	20.60	PASS
48	5240	20.49	PASS
52	5260	20.51	PASS
60	5300	20.81	PASS
64	5320	21.45	PASS
100	5500	20.40	PASS
116	5580	21.73	PASS
140	5700	21.42	PASS

802.11n (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)		PASS / FAIL
		CHAIN 0	CHAIN 1	
36	5180	19.93	20.09	PASS
40	5200	20.07	19.88	PASS
48	5240	20.14	20.02	PASS
52	5260	19.47	19.66	PASS
60	5300	19.96	19.76	PASS
64	5320	19.67	19.93	PASS
100	5500	23.85	24.81	PASS
116	5580	23.93	23.19	PASS
140	5700	23.23	24.82	PASS

802.11n (40MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)		PASS / FAIL
		CHAIN 0	CHAIN 1	
38	5190	43.16	43.84	PASS
46	5230	43.97	43.06	PASS
54	5270	43.57	42.26	PASS
62	5310	43.55	42.59	PASS
102	5510	44.67	43.40	PASS
110	5550	61.76	55.71	PASS
134	5670	54.13	52.95	PASS

802.11ac (80MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc BANDWIDTH (MHz)		PASS / FAIL
		CHAIN 0	CHAIN 1	
42	5210	84.07	83.31	PASS
58	5290	84.83	83.44	PASS
106	5530	109.29	109.83	PASS

EUT HIGHEST AND LOWEST CONDUCTED POWER

802.11a

FREQUENCY BAND (MHz)	MAX. POWER		MIN. POWER	
	OUTPUT POWER (mW)	OUTPUT POWER (dBm)	OUTPUT POWER (mW)	OUTPUT POWER (dBm)
5250~5350	45.082	16.54	11.324	10.54
5470~5725	56.624	17.53	14.223	11.53

NOTE: Manufacturer provides Transmit Power Control description to meet this requirement.

802.11n (20MHz)

FREQUENCY BAND (MHz)	MAX. POWER		MIN. POWER	
	OUTPUT POWER (mW)	OUTPUT POWER (dBm)	OUTPUT POWER (mW)	OUTPUT POWER (dBm)
5250~5350	15.730	11.97	3.954	5.97
5470~5725	60.781	17.84	15.276	11.84

NOTE: Manufacturer provides Transmit Power Control description to meet this requirement.

802.11n (40MHz)

FREQUENCY BAND (MHz)	MAX. POWER		MIN. POWER	
	OUTPUT POWER (mW)	OUTPUT POWER (dBm)	OUTPUT POWER (mW)	OUTPUT POWER (dBm)
5250~5350	15.561	11.92	3.908	5.92
5470~5725	64.076	18.07	16.106	12.07

NOTE: Manufacturer provides Transmit Power Control description to meet this requirement.

802.11ac (80MHz)

FREQUENCY BAND (MHz)	MAX. POWER		MIN. POWER	
	OUTPUT POWER (mW)	OUTPUT POWER (dBm)	OUTPUT POWER (mW)	OUTPUT POWER (dBm)
5250~5350	15.413	11.88	3.873	5.88
5470~5725	62.416	17.95	15.704	11.95

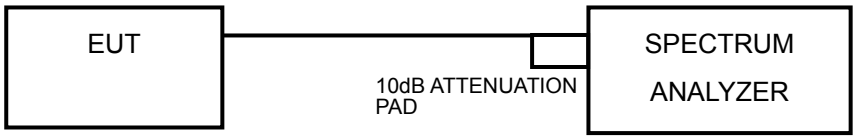
NOTE: Manufacturer provides Transmit Power Control description to meet this requirement.

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

1) Set span to encompass the entire emission bandwidth (EBW) of the signal.
2) Set RBW = 30 KHz, Set VBW ≥ 1 MHz, Detector = RMS
3) Set Channel power measure = 1MHz
4) Sweep time = auto, trigger set to “free run”.
5) Trace average at least 100 traces in power averaging mode.
6) Record the max value

4.4.5 DEVIATION FROM TEST STANDARD

No deviation.

4.4.6 EUT OPERATING CONDITIONS

Same as 4.3.6.

4.4.7 TEST RESULTS

802.11a

CHANNEL	FREQUENCY (MHz)	PSD (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
36	5180	1.08	4	PASS
40	5200	0.63	4	PASS
48	5240	0.85	4	PASS
52	5260	2.51	11	PASS
60	5300	2.68	11	PASS
64	5320	2.55	11	PASS
100	5500	1.99	11	PASS
116	5580	3.06	11	PASS
140	5700	2.77	11	PASS

802.11n (20MHz)

CHAN.	CHAN. FREQ. (MHz)	PSD (dBm)		TOTAL POWER DENSITY (dBm)	MAX. LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1			
36	5180	0.71	-0.15	3.31	4	PASS
40	5200	0.95	0.66	3.82	4	PASS
48	5240	0.43	0.07	3.26	4	PASS
52	5260	-3.44	-3.23	-0.32	11	PASS
60	5300	-4.02	-4.10	-1.05	11	PASS
64	5320	-3.31	-3.03	-0.16	11	PASS
100	5500	1.57	2.37	5.00	11	PASS
116	5580	0.56	0.88	3.73	11	PASS
140	5700	0.18	0.77	3.50	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 = 0dBi + 10log(2) = 3dBi < 6dBi, so the limit no need to reduced.

For 5260~5700MHz:

Directional gain = 0dBi + 10log(2) = 3dBi < 6dBi, so the limit no need to reduced.

802.11n (40MHz)

CHAN.	CHAN. FREQ. (MHz)	PSD (dBm)		TOTAL POWER DENSITY (dBm)	MAX. LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1			
38	5190	-0.63	-0.80	2.30	4	PASS
46	5230	0.66	0.62	3.65	4	PASS
54	5270	-3.54	-5.54	-1.42	11	PASS
62	5310	-3.15	-5.11	-1.01	11	PASS
102	5510	1.06	1.32	4.20	11	PASS
110	5550	1.98	1.66	4.83	11	PASS
134	5670	0.09	1.39	3.80	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 5190~5230MHz:**

Directional gain = 0dBi + 10log(2) = 3dBi < 6dBi, so the limit no need to reduced.

For 5270~5670MHz:

Directional gain = 0dBi + 10log(2) = 3dBi < 6dBi, so the limit no need to reduced.

802.11ac (80MHz)

CHAN.	CHAN. FREQ. (MHz)	PSD (dBm)		TOTAL POWER DENSITY (dBm)	MAX. LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1			
42	5210	-4.27	-3.92	-1.08	4	PASS
58	5290	-5.40	-7.62	-3.36	11	PASS
106	5530	-1.06	-0.37	2.31	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 5210~5290MHz:**

Directional gain = 0dBi + 10log(2) = 3dBi < 6dBi, so the limit no need to reduced.

For 5530MHz:

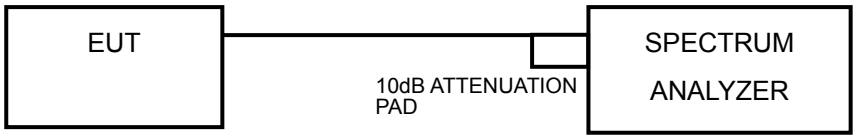
Directional gain = 0dBi + 10log(2) = 3dBi < 6dBi, so the limit no need to reduced.

4.5 PEAK POWER EXCURSION MEASUREMENT

4.5.1 LIMITS OF PEAK POWER EXCURSION MEASUREMENT

Shall not exceed 13 dB.

4.5.2 TEST SETUP



4.5.3 TEST INSTRUMENTS

Refer to section 4.1.3 to get information of above instrument.

4.5.4 TEST PROCEDURE

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

4.5.5 DEVIATION FROM TEST STANDARD

No deviation.

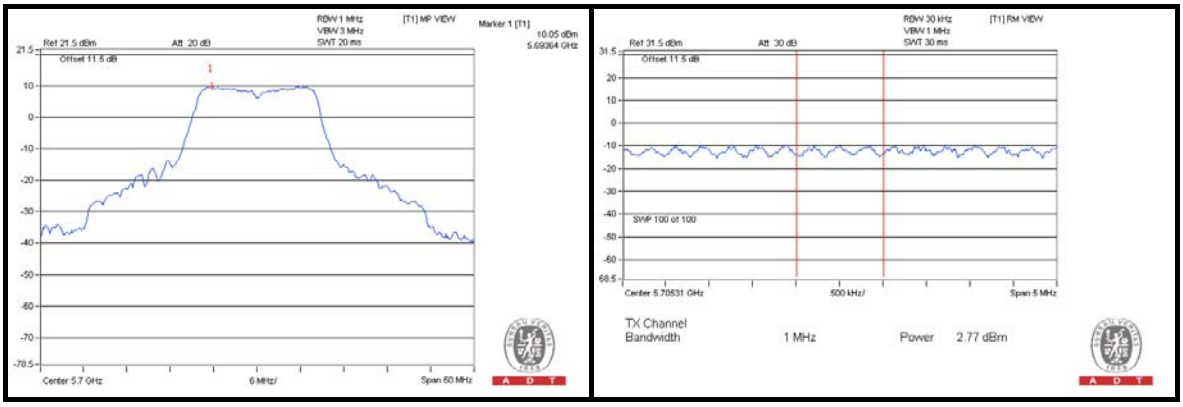
4.5.6 EUT OPERATING CONDITIONS

Same as 4.2.6

4.5.7 TEST RESULTS

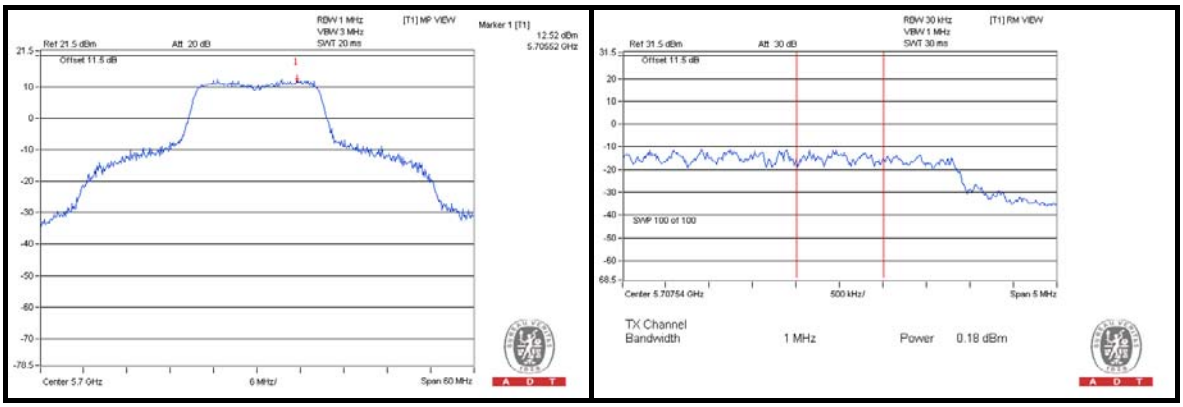
802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK VALUE (dBm)	PPSD (dBm)	PEAK EXCURSION (dB)	LIMIT (dB)	PASS/FAIL
36	5180	7.80	1.08	6.72	13	PASS
40	5200	7.36	0.63	6.73	13	PASS
48	5240	7.77	0.85	6.92	13	PASS
52	5260	9.43	2.51	6.92	13	PASS
60	5300	9.58	2.68	6.90	13	PASS
64	5320	9.39	2.55	6.84	13	PASS
100	5500	8.71	1.99	6.72	13	PASS
116	5580	10.26	3.06	7.20	13	PASS
140	5700	10.05	2.77	7.28	13	PASS



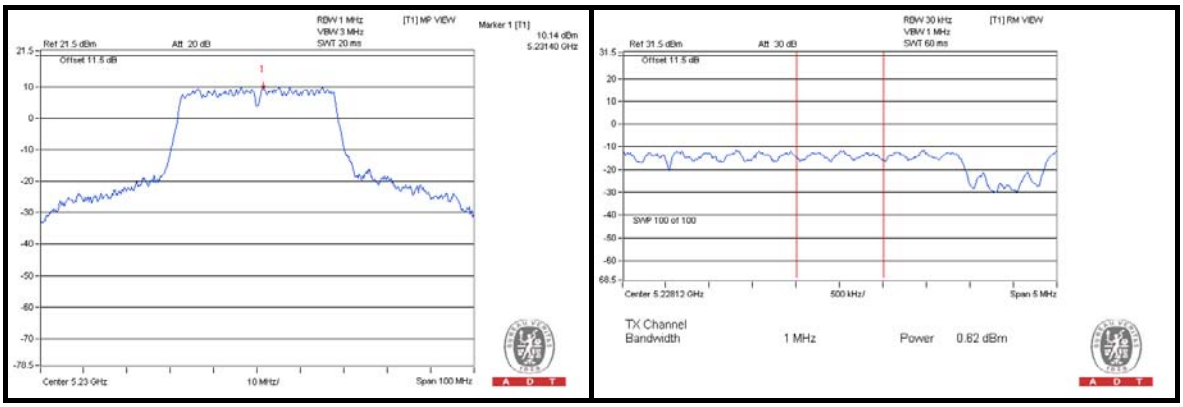
802.11n (20MHz)

CHAN.	CHAN. FREQ. (MHz)	PEAK VALUE (dBm)		PPSD (dBm)		PEAK EXCURSION (dB)		LIMIT (dB)	PASS/ FAIL
		CHAIN 0	CHAIN 1	CHAIN 0	CHAIN 1	CHAIN 0	CHAIN 1		
36	5180	11.34	10.98	0.71	-0.15	10.63	11.13	13	PASS
40	5200	11.71	11.70	0.95	0.66	10.76	11.04	13	PASS
48	5240	11.37	11.32	0.43	0.07	10.94	11.25	13	PASS
52	5260	7.19	7.19	-3.44	-3.23	10.63	10.42	13	PASS
60	5300	6.89	8.03	-4.02	-4.10	10.91	12.13	13	PASS
64	5320	7.12	8.25	-3.31	-3.03	10.43	11.28	13	PASS
100	5500	13.84	14.05	1.57	2.37	12.27	11.68	13	PASS
116	5580	12.30	12.66	0.56	0.88	11.74	11.78	13	PASS
140	5700	12.52	11.67	0.18	0.77	12.34	10.90	13	PASS



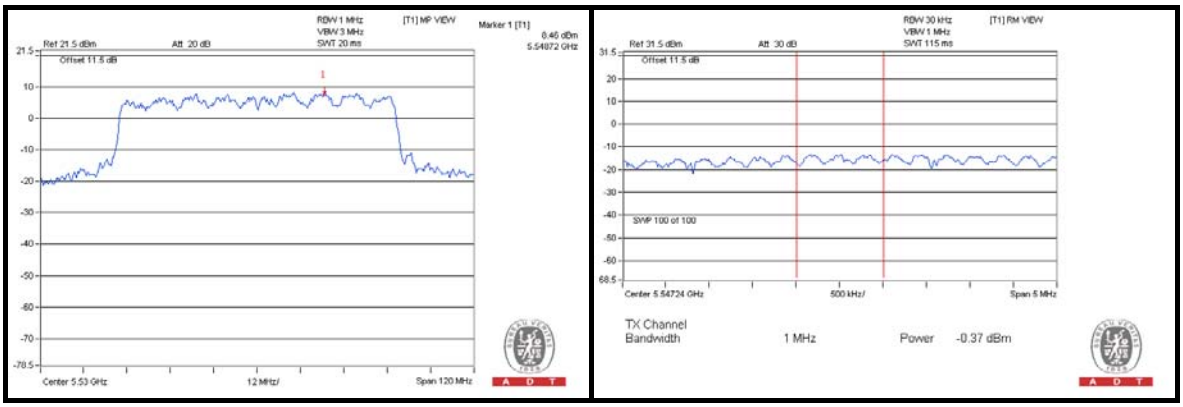
802.11n (40MHz)

CHAN.	CHAN. FREQ. (MHz)	PEAK VALUE (dBm)		PPSD (dBm)		PEAK EXCURSION (dB)		LIMIT (dB)	PASS/ FAIL
		CHAIN 0	CHAIN 1	CHAIN 0	CHAIN 1	CHAIN 0	CHAIN 1		
38	5190	8.78	7.23	-0.63	-0.80	9.41	8.03	13	PASS
46	5230	9.54	10.14	0.66	0.62	8.88	9.52	13	PASS
54	5270	5.39	3.80	-3.54	-5.54	8.93	9.34	13	PASS
62	5310	5.18	3.80	-3.15	-5.11	8.33	8.91	13	PASS
102	5510	9.38	10.42	1.06	1.32	8.32	9.10	13	PASS
110	5550	10.50	11.09	1.98	1.66	8.52	9.43	13	PASS
134	5670	8.41	10.53	0.09	1.39	8.32	9.14	13	PASS



802.11ac (80MHz)

CHAN.	CHAN. FREQ. (MHz)	PEAK VALUE (dBm)		PPSD (dBm)		PEAK EXCURSION (dB)		LIMIT (dB)	PASS/ FAIL
		CHAIN 0	CHAIN 1	CHAIN 0	CHAIN 1	CHAIN 0	CHAIN 1		
42	5210	2.82	4.88	-4.27	-3.92	7.09	8.80	13	PASS
58	5290	1.86	0.60	-5.40	-7.62	7.26	8.22	13	PASS
106	5530	6.13	8.46	-1.06	-0.37	7.19	8.83	13	PASS

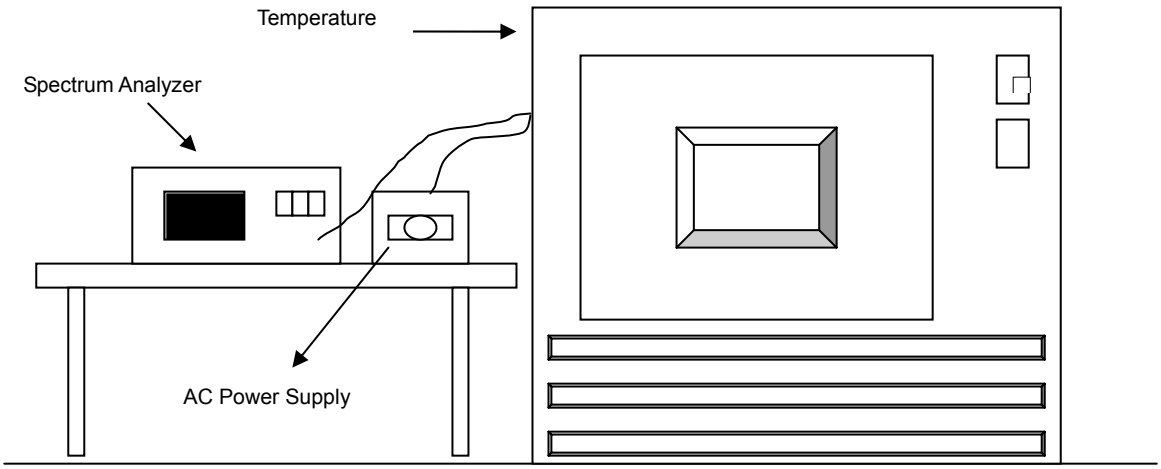


4.6 FREQUENCY STABILITY

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. The EUT was placed inside the environmental test chamber and powered by nominal AC voltage.

b. Turn the EUT on and couple its output to a spectrum analyzer.

c. Turn the EUT off and set the chamber to the highest temperature specified.

d. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT on and measure the operating frequency after 2, 5, and 10 minutes.

e. Repeat step 2 and 3 with the temperature chamber set to the lowest temperature.

f. The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.

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: 5300MHz									
TEMP. (℃)	POWER SUPPLY (Vac)	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)
60	120	5299.9963	-0.6981	5299.9955	-0.8491	5299.9968	-0.6038	5299.9963	-0.6981
50	120	5299.9975	-0.4717	5299.9967	-0.6226	5299.9959	-0.7736	5299.9959	-0.7736
40	120	5299.9891	-2.0566	5299.9941	-1.1132	5299.9871	-2.4340	5299.9918	-1.5472
30	120	5299.9961	-0.7358	5299.9985	-0.2830	5299.9986	-0.2642	5300.0047	0.8868
20	120	5299.9897	-1.9434	5299.9911	-1.6792	5299.9903	-1.8302	5299.9920	-1.5094
10	120	5299.9826	-3.2830	5299.9835	-3.1132	5299.9793	-3.9057	5299.9831	-3.1887
0	120	5300.0289	5.4528	5300.0191	3.6038	5300.0242	4.5660	5300.0283	5.3396
-10	120	5299.9917	-1.5660	5299.9907	-1.7547	5299.9922	-1.4717	5299.9930	-1.3208
-20	120	5300.0046	0.8679	5300.0069	1.3019	5300.0019	0.3585	5300.0058	1.0943
-30	120	5300.0096	1.8113	5300.0168	3.1698	5300.0061	1.1509	5300.0073	1.3774

FREQUEMCY STABILITY VERSUS VOLTAGE									
OPERATING FREQUENCY: 5300MHz									
TEMP. (℃)	POWER SUPPLY (Vac)	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	138	5299.9887	-2.1321	5299.9907	-1.7547	5299.9890	-2.0755	5299.9927	-1.3774
	120	5299.9897	-1.9434	5299.9911	-1.6792	5299.9903	-1.8302	5299.9920	-1.5094
	102	5299.9898	-1.9245	5299.9911	-1.6792	5299.9894	-2.0000	5299.9936	-1.2075

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:
Tel: 886-2-26052180
Fax: 886-2-26051924

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

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

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

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

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

No modifications were made to the EUT by the lab during the test.

---END---