FCC Test Report

Report No.: RF130223C15G

FCC ID: KA2WA171A1

Test Model: DWA-171

Received Date: Feb. 23, 2013

Test Date: Jan. 19, 2016

Issued Date: Jan. 22, 2016

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. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan (R.O.C.)

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Release Control Record

Issue No.	Description	Date Issued
RF130223C15G	Original release	Jan. 22, 2016

1 Certificate of Conformity

Product: Wireless AC Dual Band USB Adapter

Brand: D-Link

Test Model: DWA-171

Sample Status: Engineering Sample

Applicant: D-Link Corporation

Test Date: Jan. 19, 2016

Standard: 47 CFR FCC Part 15, Subpart E (Section 15.407)
ANSI C63.10: 2013

The above equipment 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 : Annie Chang , **Date:** Jan. 22, 2016

Annie Chang / Senior Specialist

Approved by : Rex. Lai , **Date:** Jan. 22, 2016

Rex Lai / Assistant Manager

2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (SECTION 15.407)			
FCC Clause	Test Item	Result	Remarks
15.407(b)(6)	AC Power Conducted Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -13.79dB at 0.18516MHz.
15.407(b) (1/2/3/4/6)	Radiated Emissions & Band Edge Measurement	PASS	Meet the requirement of limit. Minimum passing margin is -1.0dB at 10520.00, 5150.00MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	PASS	Meet the requirement of limit.
15.407(a)(1/2/3)	Peak Power Spectral Density	PASS	Meet the requirement of limit.
15.407(e)	6dB bandwidth	PASS	Meet the requirement of limit. (U-NII-3 Band only)
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	Expended Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150kHz ~ 30MHz	2.44 dB
Radiated Emissions up to 1 GHz	30MHz ~ 200MHz	2.93 dB
	200MHz ~1000MHz	2.95 dB
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	2.26 dB
	18GHz ~ 40GHz	1.94 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	Wireless AC Dual Band USB Adapter
Brand	D-Link
Test Model	DWA-171
Status of EUT	Engineering Sample
Power Supply Rating	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 150Mbps 802.11ac: up to 433Mbps
Operating Frequency	5180~5240MHz, 5260~5320MHz, 5500~5700MHz & 5745~5825MHz
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 **5745~5825MHz** 802.11a, 802.11n (20MHz): 5 802.11n (40MHz): 2 802.11ac (80MHz): 1
Output Power	**5180~5240MHz:** 44.875mW **5260~5320MHz:** 61.944mW **5500~5700MHz:** 130.317Mw **5745~5825MHz:** 9.268mW
Antenna Type	PIFA antenna with 0dBi gain
Antenna Connector	NA
Accessory Device	NA
Data Cable Supplied	NA

Note:

1. This report is issued as a supplementary report to BV CPS report no. RF130223C15. The difference compared with original report is upgrading test standard to latest version, therefore the EUT is re-tested in this report.

2. This report is prepared for FCC class II permissive change.

3. The EUT incorporates a SISO function. Physically, the EUT provides one completed transmitter and one receiver.

Modulation Mode	TX FUNCTION
802.11a	1TX
802.11n (20MHz)	1TX
802.11n (40MHz)	1TX
802.11ac (20MHz)	1TX
802.11ac (40MHz)	1TX
802.11ac (80MHz)	1TX

* The modulation and bandwidth are similar for 802.11n mode for 20MHz / 40MHz and 802.11ac mode for 20MHz / 40MHz, therefore investigated worst case to representative mode in test report. (Final test mode refer section 3.2.1)

4. 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), 802.11ac (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), 802.11ac (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), 802.11ac (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), 802.11ac (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), 802.11ac (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), 802.11ac (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

FOR 5745 ~ 5825MHz:

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

Channel	Frequency	Channel	Frequency
149	5745MHz	161	5805MHz
153	5765MHz	165	5825MHz
157	5785MHz		

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

Channel	Frequency	Channel	Frequency
151	5755MHz	159	5795MHz

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

Channel	Frequency
155	5775MHz

3.2.1 Test Mode Applicability and Tested Channel Detail

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	6.5
-	802.11n (40MHz)		38 to 46	38, 46	OFDM	BPSK	13.5
-	802.11ac (80MHz)	5210	42	42	OFDM	BPSK	29.3
-	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	6.5
-	802.11n (40MHz)		54 to 62	54, 62	OFDM	BPSK	13.5
-	802.11ac (80MHz)	5290	58	58	OFDM	BPSK	29.3
-	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	6.5
-	802.11n (40MHz)		102 to 134	102, 110, 134	OFDM	BPSK	13.5
-	802.11ac (80MHz)	5530	106	106	OFDM	BPSK	29.3
-	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	BPSK	6.0
-	802.11n (20MHz)		149 to 165	149, 157, 165	OFDM	BPSK	6.5
-	802.11n (40MHz)		151 to 159	151, 159	OFDM	BPSK	13.5
-	802.11ac (80MHz)	155	155	155	OFDM	BPSK	29.3

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	36 to 64	48	OFDM	BPSK	6.0
-	802.11a	5500-5700	100 to 140	140	OFDM	BPSK	6.0
-	802.11a	5745-5825	149 to 165	149	OFDM	BPSK	6.0

Power Line Conducted Emission Test:

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

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

EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
-	802.11a	5180-5320	36 to 64	48	OFDM	BPSK	6.0
-	802.11a	5500-5700	100 to 140	140	OFDM	BPSK	6.0
-	802.11a	5745-5825	149 to 165	149	OFDM	BPSK	6.0

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	6.5
-	802.11n (40MHz)		38 to 46	38, 46	OFDM	BPSK	13.5
-	802.11ac (80MHz)	5210	42	42	OFDM	BPSK	29.3
-	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	6.5
-	802.11n (40MHz)		54 to 62	54, 62	OFDM	BPSK	13.5
-	802.11ac (80MHz)	5290	58	58	OFDM	BPSK	29.3
-	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	6.5
-	802.11n (40MHz)		102 to 134	102, 110, 134	OFDM	BPSK	13.5
-	802.11ac (80MHz)	5530	106	106	OFDM	BPSK	29.3
-	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	BPSK	6.0
-	802.11n (20MHz)		149 to 165	149, 157, 165	OFDM	BPSK	6.5
-	802.11n (40MHz)		151 to 159	151, 159	OFDM	BPSK	13.5
-	802.11ac (80MHz)	155	155	155	OFDM	BPSK	29.3

Test Condition:

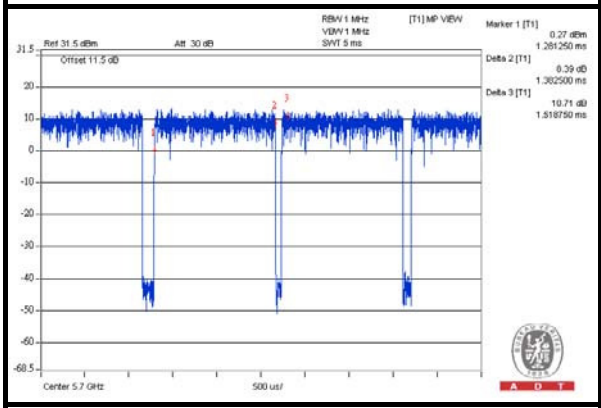
APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE≥1G	21deg. C, 68%RH 24deg. C, 69%RH	120Vac, 60Hz	Sun Lin Brad Tung Alan Wu
RE<1G	21deg. C, 68%RH 25deg. C, 68%RH 25deg. C, 67%RH	120Vac, 60Hz	Sun Lin Martin Lee
PLC	25deg. C, 67%RH 20deg. C, 70%RH	120Vac, 60Hz	Sun Lin Martin Lee
APCM	25deg. C, 60%RH	120Vac, 60Hz	Martin Lee Saxon Lee

3.3 Duty Cycle of Test Signal

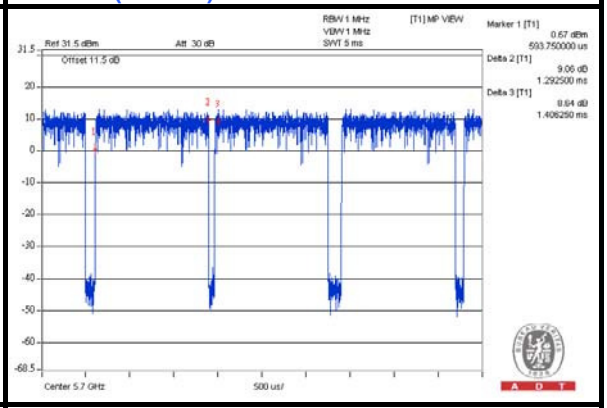
If duty cycle is < 98%, duty factor shall be considered.

802.11a: Duty cycle = 1.382/1.519 = 0.910, Duty factor = 10* log(1/0.91) = 0.41
802.11n (20MHz): Duty cycle = 1.292/1.406 = 0.919, Duty factor = 10* log(1/0.919) = 0.37
802.11n (40MHz): Duty cycle of test signal is > 98 %, duty factor is not required.
802.11ac (80MHz): Duty cycle of test signal is > 98 %, duty factor is not required.

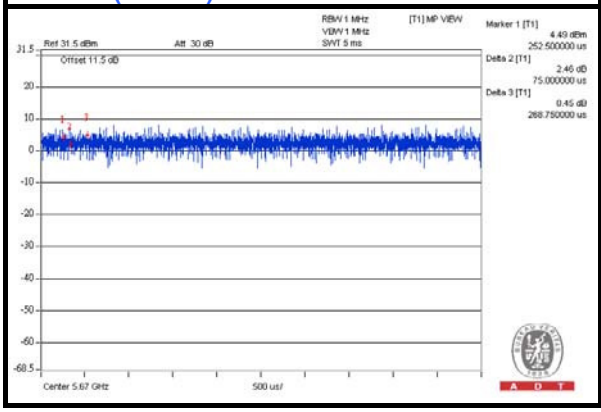
802.11a



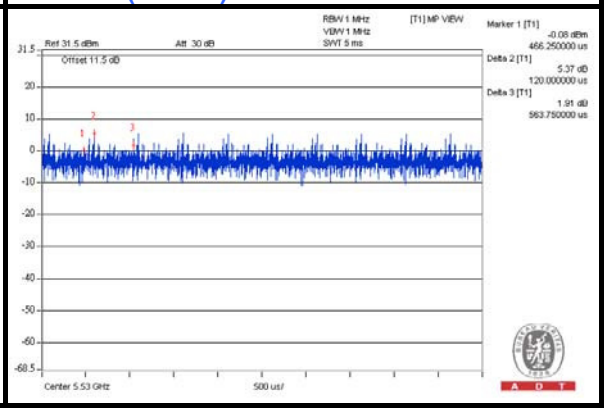
802.11n (20MHz)



802.11n (40MHz)



802.11ac (80MHz)



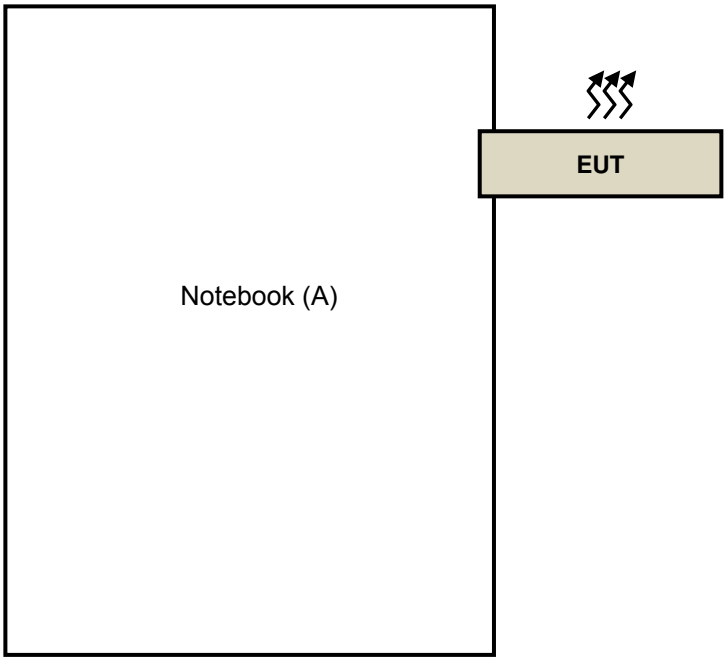
3.4 Description of Support Units

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.

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Notebook	DELL	D531	CN-0XM006-48643-81 U-2973	QDS-BRCM1020	Provided by Lab

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 Standard

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)
KDB 789033 D02 General UNII Test Procedure New Rules v01r01
ANSI C63.10-2013

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.

LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS

APPLICABLE TO	**LIMIT**	
789033 D02 General UNII Test Procedure New Rules v01r01	FIELD STRENGTH AT 3m	
	PK:74 (dBμV/m)	AV:54 (dBμV/m)
APPLICABLE TO	**EIRP LIMIT**	**EQUIVALENT FIELD STRENGTH AT 3m**
15.407(b)(1)	PK:-27 (dBm/MHz)	PK:68.2(dBμV/m)
15.407(b)(2)		
15.407(b)(3)		
15.407(b)(4)	PK:-27 (dBm/MHz) *1 PK:-17 (dBm/MHz) *2	PK: 68.2(dBμV/m) *1 PK:78.2 (dBμV/m) *2

NOTE: *1 beyond 10MHz of the band edge *2 within 10 MHz of band edge

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).

4.1.2 Test Instruments

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
HP Preamplifier	8447D	2432A03504	Feb. 26, 2015	Feb. 25, 2016
HP Preamplifier	8449B	3008A01201	Feb. 26, 2015	Feb. 25, 2016
MITEQ Preamplifier	AMF-6F-260400-33-8P	892164	Mar. 01, 2015	Feb. 28, 2016
Agilent TEST RECEIVER	N9038A	MY51210129	Jan. 20, 2015	Jan. 19, 2016
Schwarzbeck Antenna	VULB 9168	139	Feb. 04, 2015	Feb. 03, 2016
Schwarzbeck Antenna	VHBA 9123	480	May 29, 2015	May 28, 2017
Schwarzbeck Horn Antenna	BBHA-9170	212	Feb. 09, 2015	Feb. 08, 2016
Schwarzbeck Horn Antenna	BBHA 9120-D1	D130	Feb. 10, 2015	Feb. 09, 2016
ADT. Turn Table	TT100	0306	NA	NA
ADT. Tower	AT100	0306	NA	NA
Software	Radiated_V7.6.15.9.4	NA	NA	NA
SUHNER RF cable With 4dB PAD	SF104	CABLE-CH6	Aug. 15, 2015	Aug. 14, 2016
SUHNER RF cable With 3dB PAD	SF102	Cable-CH8-3.6m	Aug. 15, 2015	Aug. 14, 2016
EMCO Horn Antenna	3115	00028257	Feb. 05, 2015	Feb. 04, 2016
Highpass filter Wainwright Instruments	WHK 3.1/18G-10SS	SN 8	NA	NA
ROHDE & SCHWARZ Spectrum Analyzer	FSV40	101042	Sep. 23, 2015	Sep. 22, 2016
Anritsu Power Sensor	MA2411B	0738404	Apr. 21, 2015	Apr. 20, 2016
Anritsu Power Meter	ML2495A	0842014	Apr. 21, 2015	Apr. 20, 2016

NOTE:
1. The calibration interval of the above test instruments is 12/24 months. And the calibrations are traceable to NML/ROC and NIST/USA.
2. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
3. The test was performed in Chamber No. 6.
4. The Industry Canada Reference No. IC 7450E-6.
5. The FCC Site Registration No. is 447212.

4.1.3 Test Procedure

a. The EUT was placed on the top of a rotating table 0.8 meters (for below 1GHz) / 1.5 meters (for above 1GHz) above the ground at 3 meter chamber room for test. 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 height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

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

e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.

f. The test-receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Note:

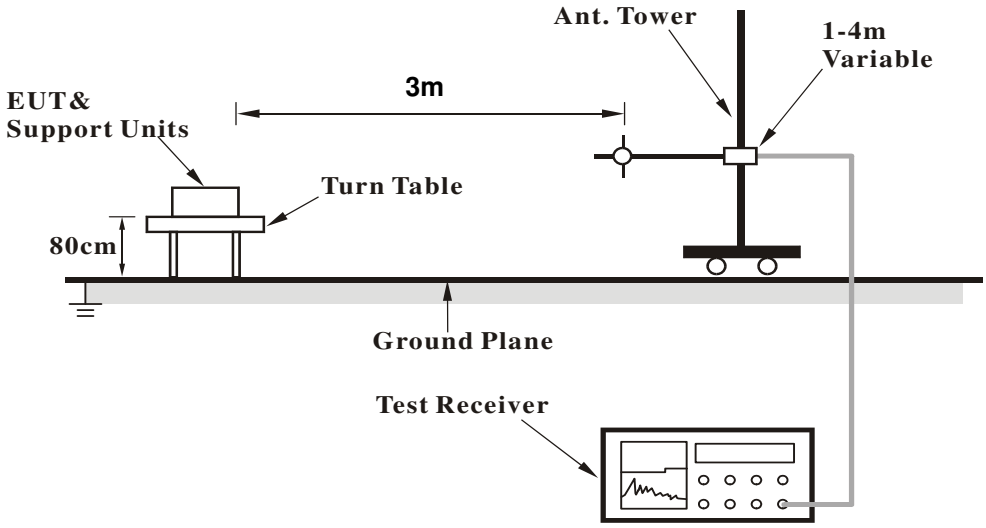
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 3MHz for RMS Average (Duty cycle < 98%) for Average detection (AV) at frequency above 1GHz, then the measurement results was added to a correction factor (10 log(1/duty cycle)).
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz (Duty cycle ≥ 98%) for Average detection (AV) at frequency above 1GHz.
5. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 Deviation from Test Standard

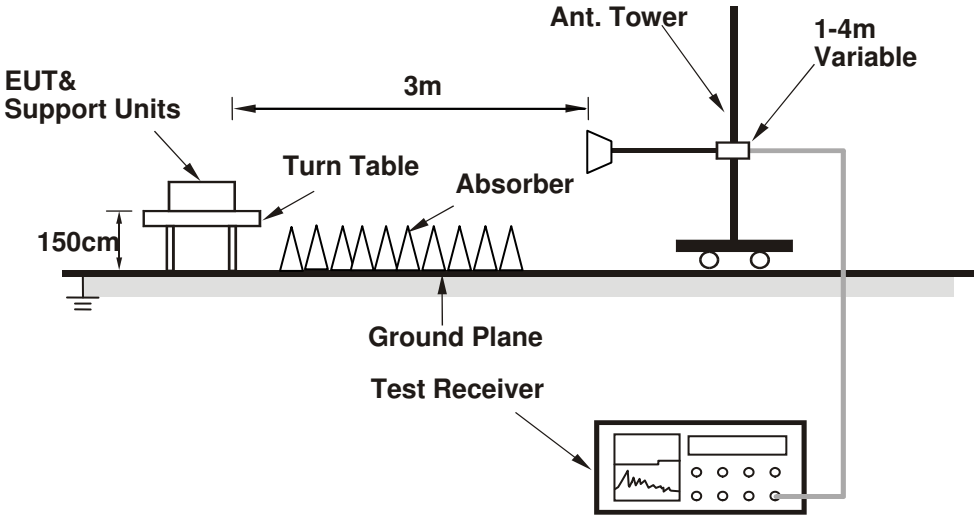
No deviation.

4.1.5 Test Setup

<Frequency Range below 1GHz>



<Frequency Range above 1GHz>



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

4.1.6 EUT Operating Condition

a. Plugged the EUT into a notebook and placed on a testing table.
b. The notebook ran a test program (provided by manufacturer) to enable EUT under transmission condition continuously at specific channel frequency.

4.1.7 Test Results

ABOVE 1GHz DATA：

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	21deg. C, 68%RH	**TESTED BY**	Brad Tung

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	58.8 PK	74.0	-15.2	1.46 H	85	19.30	39.50
2	5150.00	44.7 AV	54.0	-9.3	1.46 H	85	5.20	39.50
3	*5180.00	98.2 PK			1.46 H	84	58.70	39.50
4	*5180.00	88.4 AV			1.46 H	84	48.90	39.50
5	#10360.00	55.9 PK	74.0	-18.1	1.30 H	250	9.20	46.70
6	#10360.00	44.9 AV	54.0	-9.1	1.30 H	250	-1.80	46.70
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	5150.00	57.1 PK	74.0	-16.9	1.32 V	271	17.60	39.50
2	5150.00	43.7 AV	54.0	-10.3	1.32 V	271	4.20	39.50
3	*5180.00	94.6 PK			1.30 V	272	55.10	39.50
4	*5180.00	84.7 AV			1.30 V	272	45.20	39.50
5	#10360.00	53.8 PK	74.0	-20.2	1.24 V	170	7.10	46.70
6	#10360.00	42.9 AV	54.0	-11.1	1.24 V	170	-3.80	46.70

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 40	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	21deg. C, 68%RH	TESTED BY	Brad Tung

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	98.7 PK			1.47 H	83	59.20	39.50
2	*5200.00	88.4 AV			1.47 H	83	48.90	39.50
3	#10400.00	56.0 PK	74.0	-18.0	1.33 H	241	9.30	46.70
4	#10400.00	45.0 AV	54.0	-9.0	1.33 H	241	-1.70	46.70
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	*5200.00	95.0 PK			1.31 V	264	55.50	39.50
2	*5200.00	85.2 AV			1.31 V	264	45.70	39.50
3	#10400.00	53.6 PK	74.0	-20.4	1.28 V	188	6.90	46.70
4	#10400.00	43.3 AV	54.0	-10.7	1.28 V	188	-3.40	46.70

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 48	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	21deg. C, 68%RH	TESTED BY	Brad Tung

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	98.5 PK			1.44 H	87	58.90	39.60
2	*5240.00	88.3 AV			1.44 H	87	48.70	39.60
3	5350.00	44.9 PK	74.0	-29.1	1.44 H	87	5.10	39.80
4	5350.00	35.4 AV	54.0	-18.6	1.44 H	87	-4.40	39.80
5	#10480.00	61.1 PK	74.0	-12.9	1.40 H	177	14.30	46.80
6	#10480.00	48.8 AV	54.0	-5.2	1.40 H	177	2.00	46.80
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	*5240.00	95.2 PK			1.31 V	266	55.60	39.60
2	*5240.00	85.1 AV			1.31 V	266	45.50	39.60
3	5350.00	45.2 PK	74.0	-28.8	1.31 V	266	5.40	39.80
4	5350.00	34.7 AV	54.0	-19.3	1.31 V	266	-5.10	39.80
5	#10480.00	59.3 PK	74.0	-14.7	1.25 V	180	12.50	46.80
6	#10480.00	46.9 AV	54.0	-7.1	1.25 V	180	0.10	46.80

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 52	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	21deg. 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	50.9 PK	74.0	-23.1	1.02 H	138	11.40	39.50
2	5150.00	36.8 AV	54.0	-17.2	1.02 H	138	-2.70	39.50
3	*5260.00	101.9 PK			1.02 H	138	62.30	39.60
4	*5260.00	92.3 AV			1.02 H	138	52.70	39.60
5	5350.00	60.8 PK	74.0	-13.2	1.02 H	138	21.00	39.80
6	5350.00	46.8 AV	54.0	-7.2	1.02 H	138	7.00	39.80
7	#10520.00	67.4 PK	74.0	-6.6	1.49 H	128	20.60	46.80
8	**#10520.00**	**53.0 AV**	**54.0**	**-1.0**	**1.49 H**	**128**	**6.20**	**46.80**

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	47.6 PK	74.0	-26.4	1.40 V	199	8.10	39.50
2	5150.00	35.7 AV	54.0	-18.3	1.40 V	199	-3.80	39.50
3	*5260.00	98.7 PK			1.40 V	199	59.10	39.60
4	*5260.00	87.7 AV			1.40 V	199	48.10	39.60
5	5350.00	58.3 PK	74.0	-15.7	1.40 V	199	18.50	39.80
6	5350.00	44.6 AV	54.0	-9.4	1.40 V	199	4.80	39.80
7	#10520.00	60.3 PK	74.0	-13.7	1.37 V	337	13.50	46.80
8	#10520.00	46.4 AV	54.0	-7.6	1.37 V	337	-0.40	46.80

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 60	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	21deg. 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	101.3 PK			1.39 H	136	61.60	39.70
2	*5300.00	90.9 AV			1.39 H	136	51.20	39.70
3	10600.00	67.9 PK	74.0	-6.1	1.34 H	106	21.10	46.80
4	10600.00	52.6 AV	54.0	-1.4	1.34 H	106	5.80	46.80
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	*5300.00	99.5 PK			1.37 V	193	59.80	39.70
2	*5300.00	88.7 AV			1.37 V	193	49.00	39.70
3	10600.00	60.1 PK	74.0	-13.9	1.38 V	336	13.30	46.80
4	10600.00	45.8 AV	54.0	-8.2	1.38 V	336	-1.00	46.80

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.

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	21deg. 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	102.2 PK			1.39 H	135	62.50	39.70
2	*5320.00	91.3 AV			1.39 H	135	51.60	39.70
3	5350.00	63.7 PK	74.0	-10.3	1.39 H	135	23.90	39.80
4	5350.00	45.8 AV	54.0	-8.2	1.39 H	135	6.00	39.80
5	10640.00	67.6 PK	74.0	-6.4	1.35 H	130	20.70	46.90
6	10640.00	52.8 AV	54.0	-1.2	1.35 H	130	5.90	46.90
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	*5320.00	99.6 PK			1.00 V	242	59.90	39.70
2	*5320.00	89.0 AV			1.00 V	242	49.30	39.70
3	5350.00	62.3 PK	74.0	-11.7	1.00 V	242	22.50	39.80
4	5350.00	38.9 AV	54.0	-15.1	1.00 V	242	-0.90	39.80
5	10640.00	61.3 PK	74.0	-12.7	1.53 V	165	14.40	46.90
6	10640.00	47.6 AV	54.0	-6.4	1.53 V	165	0.70	46.90

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.

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	21deg. 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	57.8 PK	74.0	-16.2	1.71 H	141	17.80	40.00
2	5460.00	43.8 AV	54.0	-10.2	1.71 H	141	3.80	40.00
3	#5470.00	58.9 PK	74.0	-15.1	1.74 H	141	18.90	40.00
4	#5470.00	44.5 AV	54.0	-9.5	1.74 H	141	4.50	40.00
5	*5500.00	102.7 PK			1.74 H	141	62.70	40.00
6	*5500.00	92.3 AV			1.74 H	141	52.30	40.00
7	11000.00	67.3 PK	74.0	-6.7	1.25 H	150	19.60	47.70
8	11000.00	52.5 AV	54.0	-1.5	1.25 H	150	4.80	47.70
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	57.2 PK	74.0	-16.8	1.33 V	193	17.20	40.00
2	5460.00	41.9 AV	54.0	-12.1	1.33 V	193	1.90	40.00
3	#5470.00	57.9 PK	74.0	-16.1	1.33 V	193	17.90	40.00
4	#5470.00	42.9 AV	54.0	-11.1	1.33 V	193	2.90	40.00
5	*5500.00	102.5 PK			1.33 V	193	62.50	40.00
6	*5500.00	92.3 AV			1.33 V	193	52.30	40.00
7	11000.00	61.2 PK	74.0	-12.8	1.20 V	55	13.50	47.70
8	11000.00	46.5 AV	54.0	-7.5	1.20 V	55	-1.20	47.70

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	21deg. 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	102.9 PK			1.07 H	142	62.80	40.10
2	*5580.00	92.3 AV			1.07 H	142	52.20	40.10
3	11160.00	67.5 PK	74.0	-6.5	1.55 H	44	19.70	47.80
4	11160.00	52.7 AV	54.0	-1.3	1.55 H	44	4.90	47.80
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	*5580.00	102.4 PK			1.31 V	232	62.30	40.10
2	*5580.00	91.6 AV			1.31 V	232	51.50	40.10
3	11160.00	61.2 PK	74.0	-12.8	1.74 V	4	13.40	47.80
4	11160.00	46.3 AV	54.0	-7.7	1.74 V	4	-1.50	47.80

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.

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	21deg. 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	102.2 PK			1.29 H	75	62.00	40.20
2	*5700.00	92.5 AV			1.29 H	75	52.30	40.20
3	#5725.00	59.6 PK	74.0	-14.4	1.29 H	75	19.30	40.30
4	#5725.00	45.9 AV	54.0	-8.1	1.29 H	75	5.60	40.30
5	11400.00	64.0 PK	74.0	-10.0	1.30 H	71	15.80	48.20
6	11400.00	51.7 AV	54.0	-2.3	1.30 H	71	3.50	48.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	101.5 PK			1.29 V	232	61.30	40.20
2	*5700.00	92.0 AV			1.29 V	232	51.80	40.20
3	#5725.00	59.6 PK	74.0	-14.4	1.29 V	232	19.30	40.30
4	#5725.00	44.9 AV	54.0	-9.1	1.29 V	232	4.60	40.30
5	11400.00	58.2 PK	74.0	-15.8	1.32 V	44	10.00	48.20
6	11400.00	46.8 AV	54.0	-7.2	1.32 V	44	-1.40	48.20

REMARKS:

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 149	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	21deg. C, 68%RH	TESTED BY	Brad Tung

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5725.00	57.9 PK	78.2	-20.3	1.30 H	74	17.60	40.30
2	*5745.00	95.6 PK			1.37 H	74	55.30	40.30
3	*5745.00	86.2 AV			1.37 H	74	45.90	40.30
4	11490.00	66.0 PK	74.0	-8.0	1.31 H	177	17.60	48.40
5	11490.00	52.9 AV	54.0	-1.1	1.31 H	177	4.50	48.40
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	#5725.00	57.7 PK	78.2	-20.5	1.25 V	266	17.40	40.30
2	*5745.00	95.4 PK			1.27 V	265	55.10	40.30
3	*5745.00	89.4 AV			1.27 V	265	49.10	40.30
4	11490.00	56.0 PK	74.0	-18.0	1.25 V	198	7.60	48.40
5	11490.00	45.0 AV	54.0	-9.0	1.25 V	198	-3.40	48.40

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.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 157	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	21deg. C, 68%RH	TESTED BY	Brad Tung

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5785.00	92.8 PK			1.64 H	73	52.50	40.30
2	*5785.00	82.9 AV			1.64 H	73	42.60	40.30
3	11570.00	63.7 PK	74.0	-10.3	1.47 H	178	15.30	48.40
4	11570.00	52.3 AV	54.0	-1.7	1.47 H	178	3.90	48.40
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	*5785.00	92.4 PK			1.28 V	253	52.10	40.30
2	*5785.00	82.1 AV			1.28 V	253	41.80	40.30
3	11570.00	55.5 PK	74.0	-18.5	1.23 V	135	7.10	48.40
4	11570.00	46.8 AV	54.0	-7.2	1.23 V	135	-1.60	48.40

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.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 165	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	21deg. C, 68%RH	TESTED BY	Brad Tung

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	93.4 PK			1.38 H	83	53.00	40.40
2	*5825.00	83.3 AV			1.38 H	83	42.90	40.40
3	#5850.00	53.6 PK	78.2	-24.6	1.35 H	83	13.20	40.40
4	11650.00	65.8 PK	74.0	-8.2	1.27 H	175	17.30	48.50
5	11650.00	52.9 AV	54.0	-1.1	1.27 H	175	4.40	48.50
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	*5825.00	93.0 PK			1.14 V	265	52.60	40.40
2	*5825.00	83.1 AV			1.14 V	265	42.70	40.40
3	#5850.00	53.2 PK	78.2	-25.0	1.20 V	260	12.80	40.40
4	11650.00	55.8 PK	74.0	-18.2	1.35 V	165	7.30	48.50
5	11650.00	45.5 AV	54.0	-8.5	1.35 V	165	-3.00	48.50

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.

802.11n (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	21deg. C, 68%RH	TESTED BY	Brad Tung

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	59.4 PK	74.0	-14.6	1.46 H	85	19.90	39.50
2	5150.00	44.4 AV	54.0	-9.6	1.46 H	85	4.90	39.50
3	*5180.00	97.1 PK			1.46 H	85	57.60	39.50
4	*5180.00	86.6 AV			1.46 H	85	47.10	39.50
5	#10360.00	59.5 PK	74.0	-14.5	1.48 H	177	12.80	46.70
6	#10360.00	46.5 AV	54.0	-7.5	1.48 H	177	-0.20	46.70
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	5150.00	57.1 PK	74.0	-16.9	1.50 V	200	17.60	39.50
2	5150.00	44.1 AV	54.0	-9.9	1.50 V	200	4.60	39.50
3	*5180.00	96.4 PK			1.49 V	200	56.90	39.50
4	*5180.00	86.3 AV			1.49 V	200	46.80	39.50
5	#10360.00	53.3 PK	74.0	-20.7	1.30 V	188	6.60	46.70
6	#10360.00	42.9 AV	54.0	-11.1	1.30 V	188	-3.80	46.70

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 40	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	21deg. C, 68%RH	TESTED BY	Brad Tung

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	98.2 PK			1.46 H	86	58.70	39.50
2	*5200.00	87.8 AV			1.46 H	86	48.30	39.50
3	#10400.00	61.2 PK	74.0	-12.8	1.41 H	180	14.50	46.70
4	#10400.00	47.4 AV	54.0	-6.6	1.41 H	180	0.70	46.70
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	*5200.00	98.2 PK			1.24 V	204	58.70	39.50
2	*5200.00	87.9 AV			1.24 V	204	48.40	39.50
3	#10400.00	52.0 PK	74.0	-22.0	1.28 V	196	5.30	46.70
4	#10400.00	42.6 AV	54.0	-11.4	1.28 V	196	-4.10	46.70

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 48	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	21deg. C, 68%RH	TESTED BY	Brad Tung

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	97.4 PK			1.43 H	83	57.80	39.60
2	*5240.00	87.1 AV			1.43 H	83	47.50	39.60
3	5350.00	44.2 PK	74.0	-29.8	1.43 H	83	4.40	39.80
4	5350.00	33.9 AV	54.0	-20.1	1.43 H	83	-5.90	39.80
5	#10480.00	62.1 PK	74.0	-11.9	1.45 H	175	15.30	46.80
6	#10480.00	48.6 AV	54.0	-5.4	1.45 H	175	1.80	46.80
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	*5240.00	95.9 PK			1.22 V	197	56.30	39.60
2	*5240.00	90.1 AV			1.22 V	197	50.50	39.60
3	5350.00	43.6 PK	74.0	-30.4	1.22 V	197	3.80	39.80
4	5350.00	32.8 AV	54.0	-21.2	1.22 V	197	-7.00	39.80
5	#10480.00	53.0 PK	74.0	-21.0	1.30 V	220	6.20	46.80
6	#10480.00	42.8 AV	54.0	-11.2	1.30 V	220	-4.00	46.80

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 52	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 69%RH	TESTED BY	Alan Wu

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	100.7 PK			1.01 H	140	61.10	39.60
2	*5260.00	90.0 AV			1.01 H	140	50.40	39.60
3	5350.00	60.9 PK	74.0	-13.1	1.06 H	135	21.10	39.80
4	5350.00	46.4 AV	54.0	-7.6	1.06 H	135	6.60	39.80
5	#10520.00	67.7 PK	74.0	-6.3	1.36 H	112	20.90	46.80
6	#10520.00	52.6 AV	54.0	-1.4	1.36 H	112	5.80	46.80
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	*5260.00	97.9 PK			1.00 V	171	58.30	39.60
2	*5260.00	87.5 AV			1.00 V	171	47.90	39.60
3	5350.00	58.1 PK	74.0	-15.9	1.00 V	174	18.30	39.80
4	5350.00	44.8 AV	54.0	-9.2	1.00 V	174	5.00	39.80
5	#10520.00	61.3 PK	74.0	-12.7	1.00 V	330	14.50	46.80
6	#10520.00	47.1 AV	54.0	-6.9	1.00 V	330	0.30	46.80

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 60	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 69%RH	TESTED BY	Alan Wu

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	100.9 PK			1.13 H	135	61.20	39.70
2	*5300.00	90.4 AV			1.13 H	135	50.70	39.70
3	10600.00	67.0 PK	74.0	-7.0	1.35 H	129	20.20	46.80
4	10600.00	52.5 AV	54.0	-1.5	1.35 H	129	5.70	46.80
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	*5300.00	99.0 PK			1.00 V	241	59.30	39.70
2	*5300.00	88.5 AV			1.00 V	241	48.80	39.70
3	10600.00	61.5 PK	74.0	-12.5	1.00 V	333	14.70	46.80
4	10600.00	47.5 AV	54.0	-6.5	1.00 V	333	0.70	46.80

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.

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	24deg. C, 69%RH	TESTED BY	Alan Wu

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	101.2 PK			1.41 H	106	61.50	39.70
2	*5320.00	90.8 AV			1.41 H	106	51.10	39.70
3	5350.00	61.8 PK	74.0	-12.2	1.42 H	109	22.00	39.80
4	5350.00	46.7 AV	54.0	-7.3	1.42 H	109	6.90	39.80
5	10640.00	66.9 PK	74.0	-7.1	1.37 H	111	20.00	46.90
6	10640.00	52.6 AV	54.0	-1.4	1.37 H	111	5.70	46.90
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	*5320.00	99.7 PK			1.00 V	247	60.00	39.70
2	*5320.00	89.2 AV			1.00 V	247	49.50	39.70
3	5350.00	60.9 PK	74.0	-13.1	1.00 V	247	21.10	39.80
4	5350.00	45.3 AV	54.0	-8.7	1.00 V	247	5.50	39.80
5	10640.00	60.5 PK	74.0	-13.5	1.00 V	337	13.60	46.90
6	10640.00	46.8 AV	54.0	-7.2	1.00 V	337	-0.10	46.90

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.

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	24deg. C, 69%RH	TESTED BY	Alan Wu

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	57.9 PK	74.0	-16.1	1.31 H	113	17.90	40.00
2	5460.00	44.0 AV	54.0	-10.0	1.31 H	113	4.00	40.00
3	#5470.00	58.1 PK	74.0	-15.9	1.31 H	113	18.10	40.00
4	#5470.00	44.6 AV	54.0	-9.4	1.31 H	113	4.60	40.00
5	*5500.00	102.8 PK			1.35 H	118	62.80	40.00
6	*5500.00	92.4 AV			1.35 H	118	52.40	40.00
7	11000.00	67.4 PK	74.0	-6.6	1.37 H	31	19.70	47.70
8	11000.00	52.4 AV	54.0	-1.6	1.37 H	31	4.70	47.70
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	57.3 PK	74.0	-16.7	1.30 V	201	17.30	40.00
2	5460.00	42.8 AV	54.0	-11.2	1.30 V	201	2.80	40.00
3	#5470.00	57.6 PK	74.0	-16.4	1.30 V	201	17.60	40.00
4	#5470.00	43.5 AV	54.0	-10.5	1.30 V	201	3.50	40.00
5	*5500.00	102.6 PK			1.34 V	200	62.60	40.00
6	*5500.00	92.2 AV			1.34 V	200	52.20	40.00
7	11000.00	61.1 PK	74.0	-12.9	1.00 V	331	13.40	47.70
8	11000.00	46.6 AV	54.0	-7.4	1.00 V	331	-1.10	47.70

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	24deg. C, 69%RH	TESTED BY	Alan Wu

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	102.7 PK			1.31 H	117	62.60	40.10
2	*5580.00	92.2 AV			1.31 H	117	52.10	40.10
3	11160.00	67.6 PK	74.0	-6.4	1.30 H	89	19.80	47.80
4	11160.00	52.9 AV	54.0	-1.1	1.30 H	89	5.10	47.80
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	*5580.00	102.3 PK			1.32 V	201	62.20	40.10
2	*5580.00	91.4 AV			1.32 V	201	51.30	40.10
3	11160.00	61.3 PK	74.0	-12.7	1.00 V	338	13.50	47.80
4	11160.00	46.1 AV	54.0	-7.9	1.00 V	338	-1.70	47.80

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.

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	24deg. C, 69%RH	TESTED BY	Alan Wu

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	101.9 PK			1.07 H	143	61.70	40.20
2	*5700.00	92.2 AV			1.07 H	143	52.00	40.20
3	#5725.00	59.3 PK	74.0	-14.7	1.07 H	144	19.00	40.30
4	#5725.00	45.2 AV	54.0	-8.8	1.07 H	144	4.90	40.30
5	11400.00	64.2 PK	74.0	-9.8	1.29 H	77	16.00	48.20
6	11400.00	51.7 AV	54.0	-2.3	1.29 H	77	3.50	48.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	101.4 PK			1.03 V	235	61.20	40.20
2	*5700.00	92.1 AV			1.03 V	235	51.90	40.20
3	#5725.00	58.2 PK	74.0	-15.8	1.08 V	230	17.90	40.30
4	#5725.00	44.7 AV	54.0	-9.3	1.08 V	230	4.40	40.30
5	11400.00	58.6 PK	74.0	-15.4	1.00 V	338	10.40	48.20
6	11400.00	45.8 AV	54.0	-8.2	1.00 V	338	-2.40	48.20

REMARKS:

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 149	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	21deg. C, 68%RH	TESTED BY	Brad Tung

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5725.00	60.2 PK	78.2	-18.0	1.41 H	80	19.90	40.30
2	*5745.00	96.2 PK			1.41 H	80	55.90	40.30
3	*5745.00	85.5 AV			1.41 H	80	45.20	40.30
4	11490.00	66.4 PK	74.0	-7.6	1.47 H	178	18.00	48.40
5	11490.00	52.7 AV	54.0	-1.3	1.47 H	178	4.30	48.40
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	#5725.00	61.0 PK	78.2	-17.2	1.20 V	201	20.70	40.30
2	*5745.00	97.0 PK			1.20 V	201	56.70	40.30
3	*5745.00	87.7 AV			1.20 V	201	47.40	40.30
4	11490.00	56.1 PK	74.0	-17.9	1.25 V	200	7.70	48.40
5	11490.00	45.1 AV	54.0	-8.9	1.25 V	200	-3.30	48.40

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.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 157	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	21deg. C, 68%RH	TESTED BY	Brad Tung

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5785.00	96.1 PK			1.38 H	84	55.80	40.30
2	*5785.00	86.0 AV			1.38 H	84	45.70	40.30
3	11570.00	66.9 PK	74.0	-7.1	1.36 H	143	18.50	48.40
4	11570.00	52.8 AV	54.0	-1.2	1.36 H	143	4.40	48.40
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	*5785.00	97.0 PK			1.20 V	201	56.70	40.30
2	*5785.00	86.8 AV			1.20 V	201	46.50	40.30
3	11570.00	55.7 PK	74.0	-18.3	1.24 V	190	7.30	48.40
4	11570.00	45.2 AV	54.0	-8.8	1.24 V	190	-3.20	48.40

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.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 165	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	21deg. C, 68%RH	TESTED BY	Brad Tung

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5825.00	94.2 PK			1.38 H	79	53.80	40.40
2	*5825.00	84.5 AV			1.38 H	79	44.10	40.40
3	#5850.00	54.2 PK	78.2	-24.0	1.38 H	79	13.80	40.40
4	11650.00	65.8 PK	74.0	-8.2	1.39 H	143	17.30	48.50
5	**11650.00**	**53.0 AV**	**54.0**	**-1.0**	**1.39 H**	**143**	**4.50**	**48.50**
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	*5825.00	95.3 PK			1.20 V	197	54.90	40.40
2	*5825.00	85.5 AV			1.20 V	197	45.10	40.40
3	#5850.00	55.3 PK	78.2	-22.9	1.20 V	197	14.90	40.40
4	11650.00	55.7 PK	74.0	-18.3	1.15 V	179	7.20	48.50
5	11650.00	44.5 AV	54.0	-9.5	1.15 V	179	-4.00	48.50

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.

802.11n (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	21deg. 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	64.7 PK	74.0	-9.3	1.80 H	110	25.20	39.50
2	5150.00	51.4 AV	54.0	-2.6	1.80 H	110	11.90	39.50
3	*5190.00	92.7 PK			1.75 H	109	53.20	39.50
4	*5190.00	83.8 AV			1.75 H	109	44.30	39.50
5	#10380.00	58.8 PK	74.0	-15.2	1.37 H	178	12.10	46.70
6	#10380.00	45.3 AV	54.0	-8.7	1.37 H	178	-1.40	46.70
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	5150.00	65.8 PK	74.0	-8.2	1.40 V	203	26.30	39.50
2	5150.00	52.0 AV	54.0	-2.0	1.40 V	203	12.50	39.50
3	*5190.00	92.2 PK			1.37 V	205	52.70	39.50
4	*5190.00	83.2 AV			1.37 V	205	43.70	39.50
5	#10380.00	54.4 PK	74.0	-19.6	1.18 V	46	7.70	46.70
6	#10380.00	43.5 AV	54.0	-10.5	1.18 V	46	-3.20	46.70

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 46	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	21deg. 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	92.4 PK			1.75 H	108	52.80	39.60
2	*5230.00	83.5 AV			1.75 H	108	43.90	39.60
3	5350.00	46.9 PK	74.0	-27.1	1.75 H	108	7.10	39.80
4	5350.00	35.8 AV	54.0	-18.2	1.75 H	108	-4.00	39.80
5	#10460.00	58.6 PK	74.0	-15.4	1.53 H	167	11.90	46.70
6	#10460.00	47.1 AV	54.0	-6.9	1.53 H	167	0.40	46.70
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	*5230.00	91.8 PK			1.33 V	205	52.20	39.60
2	*5230.00	82.5 AV			1.33 V	205	42.90	39.60
3	5350.00	45.4 PK	74.0	-28.6	1.33 V	205	5.60	39.80
4	5350.00	35.3 AV	54.0	-18.7	1.33 V	205	-4.50	39.80
5	#10460.00	54.2 PK	74.0	-19.8	1.09 V	50	7.50	46.70
6	#10460.00	42.4 AV	54.0	-11.6	1.09 V	50	-4.30	46.70

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 54	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 69%RH	TESTED BY	Alan Wu

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	100.6 PK			1.01 H	139	60.90	39.70
2	*5270.00	90.5 AV			1.01 H	139	50.80	39.70
3	5350.00	61.9 PK	74.0	-12.1	1.04 H	136	22.10	39.80
4	5350.00	47.0 AV	54.0	-7.0	1.04 H	136	7.20	39.80
5	#10540.00	66.5 PK	74.0	-7.5	1.35 H	106	19.70	46.80
6	#10540.00	52.8 AV	54.0	-1.2	1.35 H	106	6.00	46.80
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	*5270.00	97.9 PK			1.02 V	240	58.20	39.70
2	*5270.00	87.6 AV			1.02 V	240	47.90	39.70
3	5350.00	60.0 PK	74.0	-14.0	1.01 V	240	20.20	39.80
4	5350.00	46.0 AV	54.0	-8.0	1.01 V	240	6.20	39.80
5	#10540.00	60.1 PK	74.0	-13.9	1.00 V	331	13.30	46.80
6	#10540.00	46.0 AV	54.0	-8.0	1.00 V	331	-0.80	46.80

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 62	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 69%RH	TESTED BY	Alan Wu

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	99.1 PK			1.13 H	132	59.40	39.70
2	*5310.00	89.6 AV			1.13 H	132	49.90	39.70
3	5350.00	71.6 PK	74.0	-2.4	1.17 H	130	31.80	39.80
4	5350.00	52.3 AV	54.0	-1.7	1.17 H	130	12.50	39.80
5	10620.00	65.9 PK	74.0	-8.1	1.36 H	114	19.00	46.90
6	10620.00	51.4 AV	54.0	-2.6	1.36 H	114	4.50	46.90
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	*5310.00	96.6 PK			1.00 V	241	56.90	39.70
2	*5310.00	86.4 AV			1.00 V	241	46.70	39.70
3	5350.00	68.7 PK	74.0	-5.3	1.00 V	249	28.90	39.80
4	5350.00	49.2 AV	54.0	-4.8	1.00 V	249	9.40	39.80
5	10620.00	59.4 PK	74.0	-14.6	1.00 V	339	12.50	46.90
6	10620.00	45.5 AV	54.0	-8.5	1.00 V	339	-1.40	46.90

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.

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	24deg. C, 69%RH	TESTED BY	Alan Wu

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	65.6 PK	74.0	-8.4	1.36 H	108	25.60	40.00
2	5460.00	47.5 AV	54.0	-6.5	1.36 H	108	7.50	40.00
3	#5470.00	70.6 PK	74.0	-3.4	1.36 H	108	30.60	40.00
4	#5470.00	52.8 AV	54.0	-1.2	1.36 H	108	12.80	40.00
5	*5510.00	100.0 PK			1.34 H	108	60.00	40.00
6	*5510.00	90.0 AV			1.34 H	108	50.00	40.00
7	11020.00	65.4 PK	74.0	-8.6	1.32 H	116	17.70	47.70
8	11020.00	51.6 AV	54.0	-2.4	1.32 H	116	3.90	47.70
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	65.1 PK	74.0	-8.9	1.39 V	202	25.10	40.00
2	5460.00	47.2 AV	54.0	-6.8	1.39 V	202	7.20	40.00
3	#5470.00	69.6 PK	74.0	-4.4	1.39 V	202	29.60	40.00
4	#5470.00	52.0 AV	54.0	-2.0	1.39 V	202	12.00	40.00
5	*5510.00	99.2 PK			1.33 V	200	59.20	40.00
6	*5510.00	89.3 AV			1.33 V	200	49.30	40.00
7	11020.00	59.9 PK	74.0	-14.1	1.00 V	337	12.20	47.70
8	11020.00	45.7 AV	54.0	-8.3	1.00 V	337	-2.00	47.70

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 110	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 69%RH	TESTED BY	Alan Wu

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	100.9 PK			1.34 H	120	60.80	40.10
2	*5550.00	91.0 AV			1.34 H	120	50.90	40.10
3	11100.00	67.5 PK	74.0	-6.5	1.30 H	87	19.70	47.80
4	11100.00	52.9 AV	54.0	-1.1	1.30 H	87	5.10	47.80
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	*5550.00	99.6 PK			1.00 V	205	59.50	40.10
2	*5550.00	89.3 AV			1.00 V	205	49.20	40.10
3	11100.00	61.2 PK	74.0	-12.8	1.00 V	332	13.40	47.80
4	11100.00	46.1 AV	54.0	-7.9	1.00 V	332	-1.70	47.80

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.

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	24deg. C, 69%RH	TESTED BY	Alan Wu

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	100.3 PK			1.33 H	121	60.10	40.20
2	*5670.00	90.5 AV			1.33 H	121	50.30	40.20
3	#5725.00	60.0 PK	74.0	-14.0	1.35 H	120	19.70	40.30
4	#5725.00	46.1 AV	54.0	-7.9	1.35 H	120	5.80	40.30
5	11340.00	65.2 PK	74.0	-8.8	1.28 H	82	17.00	48.20
6	11340.00	52.0 AV	54.0	-2.0	1.28 H	82	3.80	48.20
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5670.00	99.3 PK			1.02 V	250	59.10	40.20
2	*5670.00	89.0 AV			1.02 V	250	48.80	40.20
3	#5725.00	59.0 PK	74.0	-15.0	1.02 V	247	18.70	40.30
4	#5725.00	45.7 AV	54.0	-8.3	1.02 V	247	5.40	40.30
5	11340.00	59.7 PK	74.0	-14.3	1.00 V	335	11.50	48.20
6	11340.00	46.0 AV	54.0	-8.0	1.00 V	335	-2.20	48.20

REMARKS:

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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 151	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	21deg. 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	#5725.00	62.6 PK	78.2	-15.6	1.38 H	95	22.30	40.30
2	*5755.00	93.2 PK			1.38 H	95	52.90	40.30
3	*5755.00	83.6 AV			1.38 H	95	43.30	40.30
4	11510.00	65.0 PK	74.0	-9.0	1.33 H	174	16.60	48.40
5	11510.00	52.7 AV	54.0	-1.3	1.33 H	174	4.30	48.40
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	#5725.00	63.7 PK	78.2	-14.5	1.20 V	197	23.40	40.30
2	*5755.00	95.5 PK			1.20 V	197	55.20	40.30
3	*5755.00	85.7 AV			1.20 V	197	45.40	40.30
4	11510.00	59.1 PK	74.0	-14.9	1.20 V	105	10.70	48.40
5	11510.00	46.5 AV	54.0	-7.5	1.20 V	105	-1.90	48.40

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.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 159	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	21deg. 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	*5795.00	93.7 PK			1.38 H	79	53.30	40.40
2	*5795.00	84.2 AV			1.38 H	79	43.80	40.40
3	#5850.00	54.3 PK	78.2	-23.9	1.38 H	79	13.90	40.40
4	11590.00	65.3 PK	74.0	-8.7	1.39 H	141	16.90	48.40
5	11590.00	52.9 AV	54.0	-1.1	1.39 H	141	4.50	48.40
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5795.00	95.0 PK			1.54 V	198	54.60	40.40
2	*5795.00	85.0 AV			1.54 V	198	44.60	40.40
3	#5850.00	57.9 PK	78.2	-20.3	1.54 V	198	17.50	40.40
4	11590.00	58.9 PK	74.0	-15.1	1.18 V	100	10.50	48.40
5	11590.00	46.2 AV	54.0	-7.8	1.18 V	100	-2.20	48.40

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.

802.11ac (80MHz)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 42	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	21deg. 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	66.1 PK	74.0	-7.9	1.49 H	82	26.60	39.50
2	5150.00	52.6 AV	54.0	-1.4	1.49 H	82	13.10	39.50
3	*5210.00	92.8 PK			1.46 H	82	53.20	39.60
4	*5210.00	82.1 AV			1.46 H	82	42.50	39.60
5	5350.00	55.6 PK	74.0	-18.4	1.49 H	82	15.80	39.80
6	5350.00	43.4 AV	54.0	-10.6	1.49 H	82	3.60	39.80
7	#10420.00	56.5 PK	74.0	-17.5	1.41 H	167	9.80	46.70
8	#10420.00	46.4 AV	54.0	-7.6	1.41 H	167	-0.30	46.70
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	5150.00	66.5 PK	74.0	-7.5	1.26 V	191	27.00	39.50
2	**5150.00**	**53.0 AV**	**54.0**	**-1.0**	**1.26 V**	**191**	**13.50**	**39.50**
3	*5210.00	92.2 PK			1.22 V	196	52.60	39.60
4	*5210.00	83.1 AV			1.22 V	196	43.50	39.60
5	5350.00	52.6 PK	74.0	-21.4	1.26 V	191	12.80	39.80
6	5350.00	43.4 AV	54.0	-10.6	1.26 V	191	3.60	39.80
7	#10420.00	53.4 PK	74.0	-20.6	1.14 V	125	6.70	46.70
8	#10420.00	40.9 AV	54.0	-13.1	1.14 V	125	-5.80	46.70

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 58	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	21deg. 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	97.7 PK			1.12 H	133	58.00	39.70
2	*5290.00	87.2 AV			1.12 H	133	47.50	39.70
3	5350.00	69.5 PK	74.0	-4.5	1.14 H	139	29.70	39.80
4	5350.00	52.4 AV	54.0	-1.6	1.14 H	139	12.60	39.80
5	#10580.00	65.1 PK	74.0	-8.9	1.49 H	127	18.30	46.80
6	#10580.00	50.6 AV	54.0	-3.4	1.49 H	127	3.80	46.80
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	*5290.00	94.4 PK			1.00 V	240	54.70	39.70
2	*5290.00	84.0 AV			1.00 V	240	44.30	39.70
3	5350.00	66.4 PK	74.0	-7.6	1.00 V	237	26.60	39.80
4	5350.00	49.6 AV	54.0	-4.4	1.00 V	237	9.80	39.80
5	#10580.00	59.6 PK	74.0	-14.4	1.00 V	332	12.80	46.80
6	#10580.00	44.6 AV	54.0	-9.4	1.00 V	332	-2.20	46.80

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 106	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	21deg. 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	69.3 PK	74.0	-4.7	1.07 H	135	29.30	40.00
2	5460.00	52.1 AV	54.0	-1.9	1.07 H	135	12.10	40.00
3	#5470.00	69.8 PK	74.0	-4.2	1.07 H	135	29.80	40.00
4	#5470.00	52.6 AV	54.0	-1.4	1.07 H	135	12.60	40.00
5	*5530.00	96.8 PK			1.08 H	137	56.80	40.00
6	*5530.00	86.8 AV			1.08 H	137	46.80	40.00
7	11060.00	63.9 PK	74.0	-10.1	1.31 H	90	16.20	47.70
8	11060.00	50.9 AV	54.0	-3.1	1.31 H	90	3.20	47.70
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	67.2 PK	74.0	-6.8	1.25 V	204	27.20	40.00
2	5460.00	50.3 AV	54.0	-3.7	1.25 V	204	10.30	40.00
3	#5470.00	67.7 PK	74.0	-6.3	1.25 V	204	27.70	40.00
4	#5470.00	50.8 AV	54.0	-3.2	1.25 V	204	10.80	40.00
5	*5530.00	95.3 PK			1.30 V	207	55.30	40.00
6	*5530.00	85.1 AV			1.30 V	207	45.10	40.00
7	11060.00	57.2 PK	74.0	-16.8	1.00 V	339	9.50	47.70
8	11060.00	44.9 AV	54.0	-9.1	1.00 V	339	-2.80	47.70

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 155	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	21deg. 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	#5725.00	63.2 PK	78.2	-15.0	1.65 H	77	22.90	40.30
2	*5775.00	91.9 PK			1.65 H	77	51.60	40.30
3	*5775.00	82.4 AV			1.65 H	77	42.10	40.30
4	#5850.00	66.5 PK	78.2	-11.7	1.65 H	77	26.10	40.40
5	11550.00	65.6 PK	74.0	-8.4	1.24 H	139	17.20	48.40
6	**11550.00**	**53.0 AV**	**54.0**	**-1.0**	**1.24 H**	**139**	**4.60**	**48.40**
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	#5725.00	69.7 PK	78.2	-8.5	1.21 V	195	29.40	40.30
2	*5775.00	94.1 PK			1.21 V	195	53.80	40.30
3	*5775.00	84.7 AV			1.21 V	195	44.40	40.30
4	#5850.00	65.2 PK	78.2	-13.0	1.21 V	195	24.80	40.40
5	11550.00	60.6 PK	74.0	-13.4	1.53 V	103	12.20	48.40
6	11550.00	46.8 AV	54.0	-7.2	1.53 V	103	-1.60	48.40

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.

BELOW 1GHz WORST-CASE DATA：802.11a

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 48	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	21deg. 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	239.52	32.3 QP	46.0	-13.7	1.24 H	302	19.80	12.50
2	299.66	29.7 QP	46.0	-16.3	1.00 H	107	14.80	14.90
3	336.52	27.7 QP	46.0	-18.3	1.00 H	105	11.90	15.80
4	431.58	31.1 QP	46.0	-14.9	1.99 H	76	12.90	18.20
5	666.32	34.5 QP	46.0	-11.5	1.24 H	234	11.50	23.00
6	720.64	30.9 QP	46.0	-15.1	1.00 H	131	7.20	23.70
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	144.46	26.2 QP	43.5	-17.3	1.00 V	78	12.90	13.30
2	189.08	24.2 QP	43.5	-19.3	1.00 V	220	12.50	11.70
3	231.76	23.9 QP	46.0	-22.1	1.00 V	90	11.70	12.20
4	336.52	26.5 QP	46.0	-19.5	1.50 V	276	10.70	15.80
5	431.58	27.5 QP	46.0	-18.5	1.50 V	11	9.30	18.20
6	666.32	30.2 QP	46.0	-15.8	1.50 V	181	7.20	23.00

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.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 140	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Quasi-Peak
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	144.46	30.7 QP	43.5	-12.8	1.50 H	166	17.40	13.30
2	239.52	34.0 QP	46.0	-12.0	1.00 H	249	21.50	12.50
3	480.08	35.9 QP	46.0	-10.1	1.77 H	16	16.40	19.50
4	720.64	36.9 QP	46.0	-9.1	1.56 H	302	13.20	23.70
5	916.58	42.5 QP	46.0	-3.5	2.00 H	295	15.90	26.60
6	960.11	46.6 QP	54.0	-7.4	1.23 H	311	19.50	27.10
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	99.84	34.5 QP	43.5	-9.0	1.25 V	242	25.60	8.90
2	144.46	31.6 QP	43.5	-11.9	1.00 V	116	18.30	13.30
3	336.52	26.4 QP	46.0	-19.6	1.49 V	69	10.60	15.80
4	480.08	27.9 QP	46.0	-18.1	1.78 V	4	8.40	19.50
5	916.58	42.7 QP	46.0	-3.3	2.25 V	146	16.10	26.60
6	960.20	45.5 QP	54.0	-8.5	1.36 V	258	18.40	27.10

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.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 149	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	21deg. 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	239.52	32.4 QP	46.0	-13.6	1.00 H	262	19.90	12.50
2	297.72	29.3 QP	46.0	-16.7	1.00 H	111	14.50	14.80
3	336.52	28.3 QP	46.0	-17.7	1.00 H	119	12.50	15.80
4	431.58	30.1 QP	46.0	-15.9	2.00 H	72	11.90	18.20
5	497.54	27.4 QP	46.0	-18.6	1.50 H	304	7.40	20.00
6	664.38	34.8 QP	46.0	-11.2	1.25 H	242	11.80	23.00
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	99.84	27.2 QP	43.5	-16.3	1.00 V	63	18.30	8.90
2	189.08	24.7 QP	43.5	-18.8	1.99 V	119	13.00	11.70
3	231.76	23.9 QP	46.0	-22.1	1.00 V	79	11.70	12.20
4	336.52	26.7 QP	46.0	-19.3	1.49 V	294	10.90	15.80
5	431.58	28.5 QP	46.0	-17.5	1.99 V	10	10.30	18.20
6	666.32	31.8 QP	46.0	-14.2	1.24 V	179	8.80	23.00

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.

4.2 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

Frequency (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15 - 0.5	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30.0	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.

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 Procedure

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.

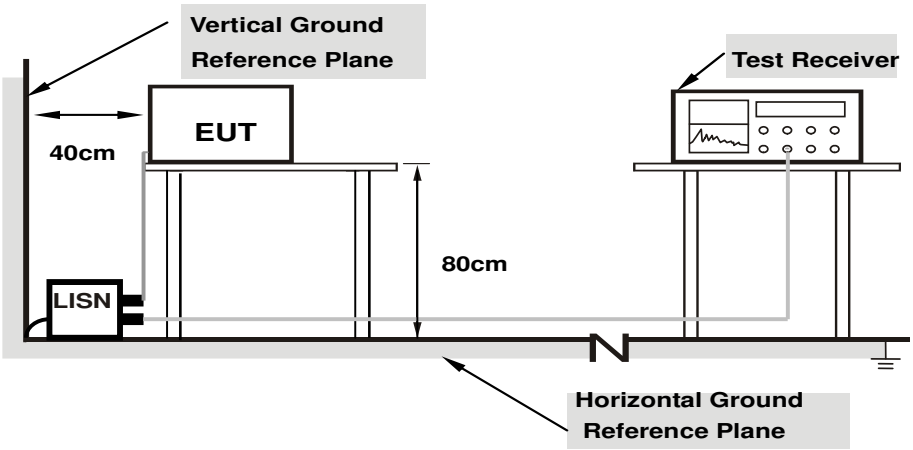
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

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 Condition

Same as 4.1.6.

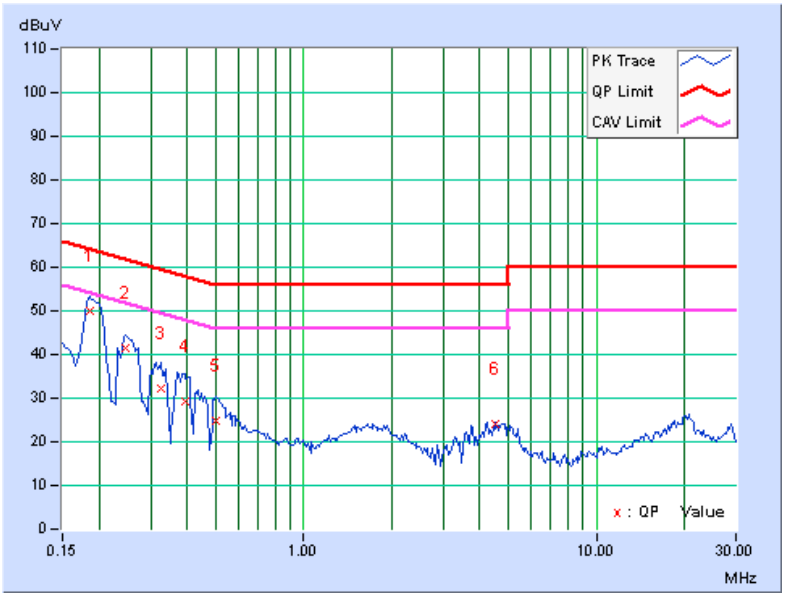
4.2.7 Test Results

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
Channel	Channel 48		

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	0.18516	0.17	49.93	32.40	50.10	32.57	64.25	54.25	-14.15	-21.68
2	0.24766	0.18	41.12	23.56	41.30	23.74	61.84	51.84	-20.54	-28.10
3	0.32578	0.20	32.00	15.10	32.20	15.30	59.56	49.56	-27.36	-34.26
4	0.39219	0.21	29.18	12.99	29.39	13.20	58.02	48.02	-28.63	-34.82
5	0.50156	0.22	24.41	11.09	24.63	11.31	56.00	46.00	-31.37	-34.69
6	4.51172	0.38	23.72	11.00	24.10	11.38	56.00	46.00	-31.90	-34.62

REMARKS:

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

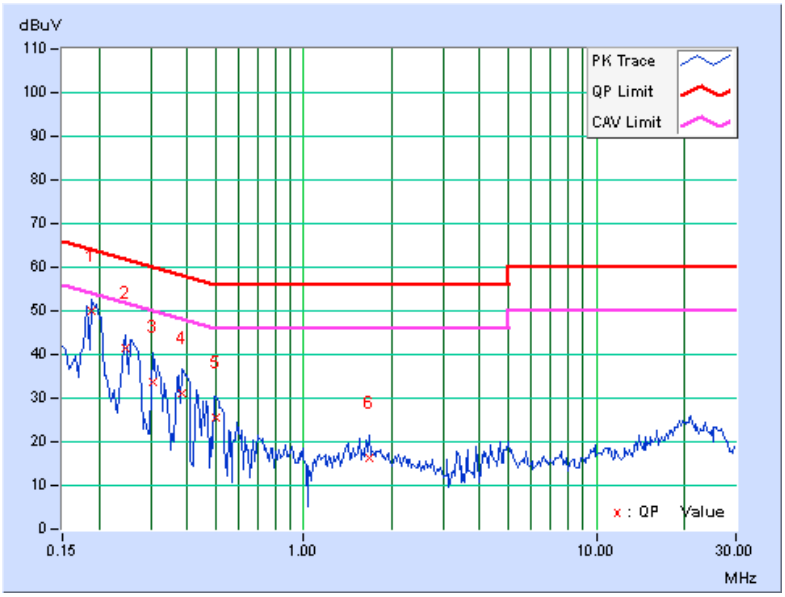


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Channel	Channel 48		

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	0.18906	0.18	49.70	34.04	49.88	34.22	64.08	54.08	-14.20	-19.86
2	0.24766	0.20	41.20	22.18	41.40	22.38	61.84	51.84	-20.44	-29.46
3	0.30625	0.22	33.54	12.90	33.76	13.12	60.07	50.07	-26.31	-36.95
4	0.38438	0.24	30.94	13.66	31.18	13.90	58.18	48.18	-27.00	-34.28
5	0.50156	0.25	25.28	8.04	25.53	8.29	56.00	46.00	-30.47	-37.71
6	1.68750	0.26	15.87	4.92	16.13	5.18	56.00	46.00	-39.87	-40.82

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.

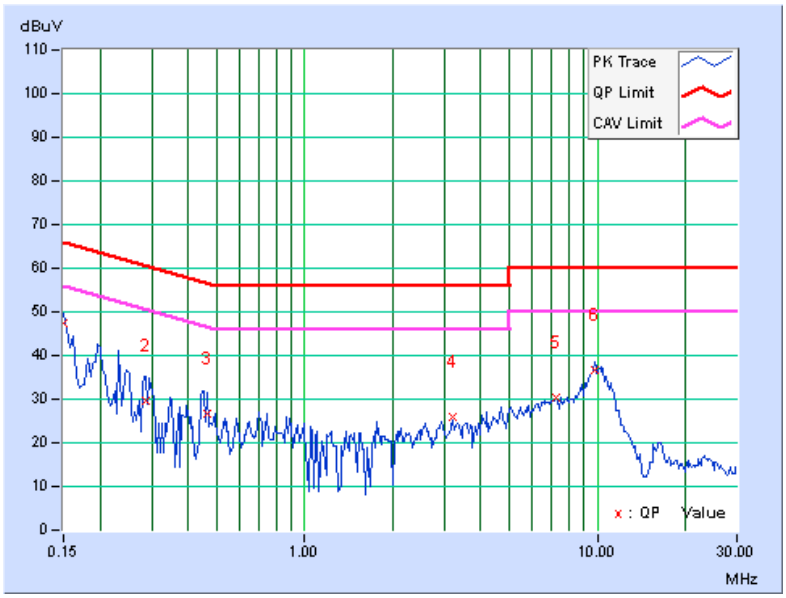


Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
Channel	Channel 140		

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	0.13	47.35	37.55	47.48	37.68	66.00	56.00	-18.52	-18.32
2	0.28672	0.16	29.42	16.21	29.58	16.37	60.62	50.62	-31.04	-34.25
3	0.46250	0.18	26.41	16.73	26.59	16.91	56.65	46.65	-30.05	-29.73
4	3.21484	0.32	25.44	16.37	25.76	16.69	56.00	46.00	-30.24	-29.31
5	7.21484	0.51	29.95	23.68	30.46	24.19	60.00	50.00	-29.54	-25.81
6	9.78906	0.63	36.06	30.48	36.69	31.11	60.00	50.00	-23.31	-18.89

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.

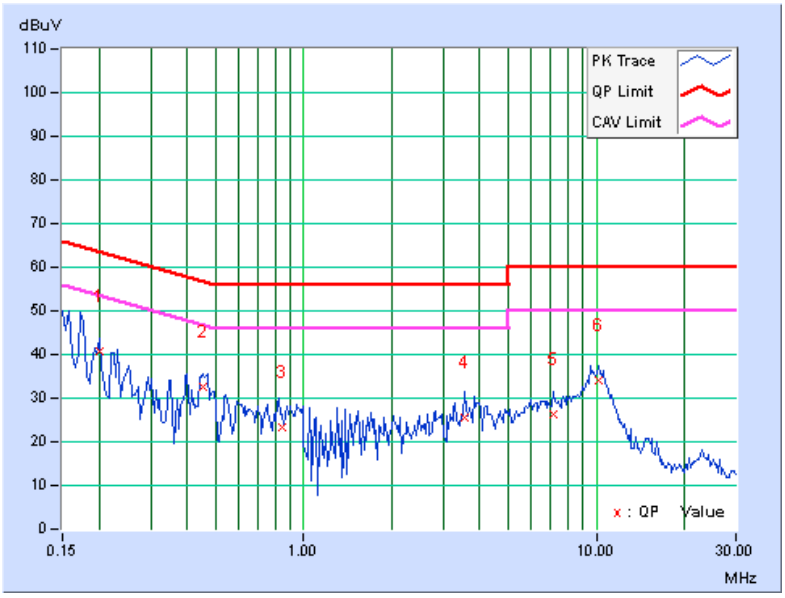


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Channel	Channel 140		

No	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.20139	0.15	40.56	32.83	40.71	32.98	63.55	53.55	-22.84	-20.57
2	0.45078	0.19	32.27	29.16	32.46	29.35	56.86	46.86	-24.40	-17.51
3	0.84103	0.22	23.07	20.18	23.29	20.40	56.00	46.00	-32.71	-25.60
4	3.53906	0.33	25.21	18.57	25.54	18.90	56.00	46.00	-30.46	-27.10
5	7.09766	0.45	25.95	21.36	26.40	21.81	60.00	50.00	-33.60	-28.19
6	10.16797	0.56	33.36	28.83	33.92	29.39	60.00	50.00	-26.08	-20.61

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.

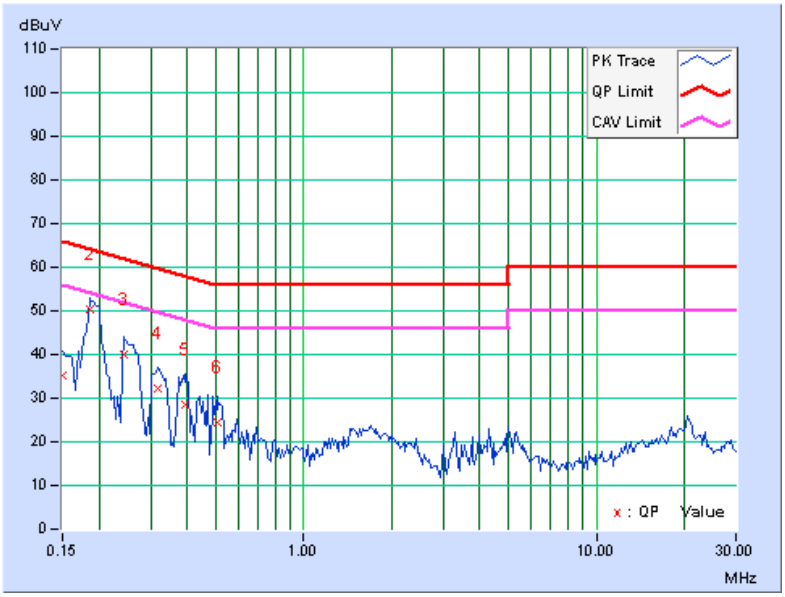


Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
Channel	Channel 149		

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	0.18	34.88	10.56	35.06	10.74	66.00	56.00	-30.94	-45.26
2	0.18516	0.17	50.22	31.69	50.39	31.86	64.25	54.25	-13.86	-22.39
3	0.24375	0.18	39.93	19.72	40.11	19.90	61.97	51.97	-21.86	-32.07
4	0.31797	0.19	32.08	15.85	32.27	16.04	59.76	49.76	-27.49	-33.72
5	0.39609	0.21	28.33	10.48	28.54	10.69	57.93	47.93	-29.40	-37.25
6	0.50547	0.22	24.30	11.81	24.52	12.03	56.00	46.00	-31.48	-33.97

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.

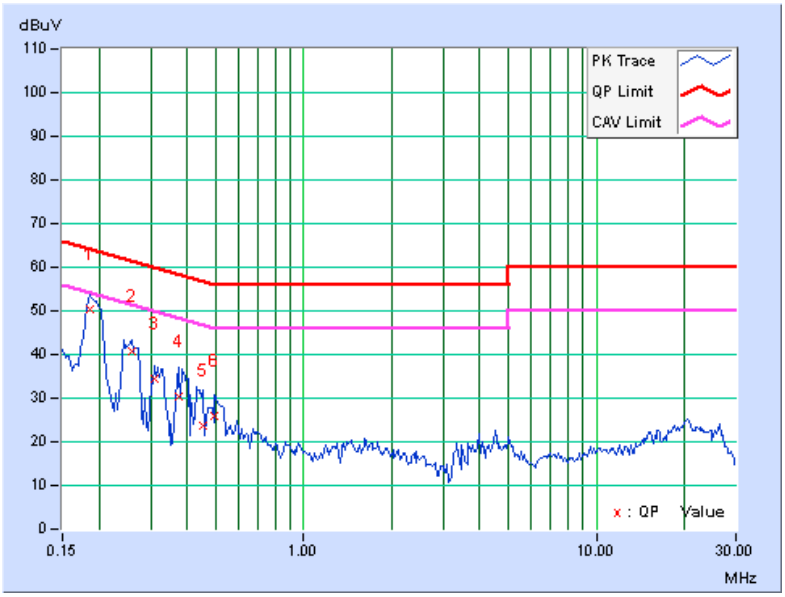


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Channel	Channel 149		

No	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	**0.18516**	**0.18**	**50.28**	**31.79**	**50.46**	**31.97**	**64.25**	**54.25**	**-13.79**	**-22.28**
2	0.25938	0.20	40.67	25.69	40.87	25.89	61.45	51.45	-20.58	-25.56
3	0.31016	0.22	34.25	16.36	34.47	16.58	59.97	49.97	-25.50	-33.39
4	0.37266	0.24	30.25	12.11	30.49	12.35	58.44	48.44	-27.95	-36.09
5	0.45469	0.25	23.39	7.43	23.64	7.68	56.79	46.79	-33.15	-39.11
6	0.49766	0.25	25.66	9.47	25.91	9.72	56.04	46.04	-30.13	-36.32

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 Transmit Power Measurment

4.3.1 Limits of Transmit Power Measurement

Operation Band	EUT Category		LIMIT
U-NII-1		Outdoor Access Point	1 Watt (30 dBm) (Max. e.i.r.p ≦ 125mW(21 dBm) at any elevation angle above 30 degrees as measured from the horizon)
		Fixed point-to-point Access Point	1 Watt (30 dBm)
		Indoor Access Point	1 Watt (30 dBm)
	√	Mobile and Portable client device	250mW (24 dBm)
U-NII-2A	√		250mW (24 dBm) or 11 dBm+10 log B*
U-NII-2C	√		250mW (24 dBm) or 11 dBm+10 log B*
U-NII-3	√		1 Watt (30 dBm)

*B is the 26 dB emission bandwidth in megahertz

Per KDB 662911 Method of conducted output power measurement on IEEE 802.11 devices,

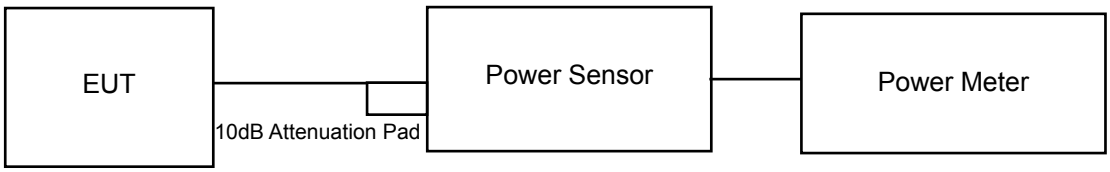
Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$;
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT};
Array Gain = 5 log(N_{ANT}/N_{SS}) dB or 3 dB, whichever is less for 20-MHz channel widths with $N_{ANT} \geq 5$.

For power measurements on all other devices: Array Gain = 10 log(N_{ANT}/N_{SS}) dB.

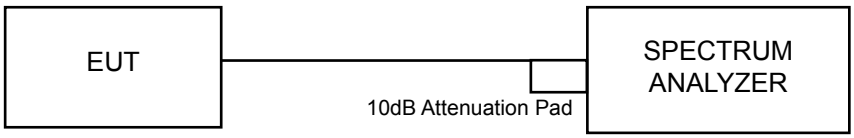
4.3.2 Test Setup

FOR POWER OUTPUT MEASUREMENT

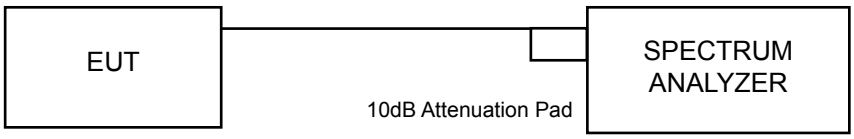
For 802.11a, 802.11n (20MHz), 802.11n (40MHz)



For 802.11ac (80MHz)



FOR 26dB & OCCUPIED BANDWIDTH



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

FOR AVERAGE POWER MEASUREMENT

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

If duty cycle > 98%
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.

If duty cycle < 98%
Duty cycle of test signal is < 98 %. 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 802.11ac (80MHz)

1) Set span to encompass the entire 26 dB EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal.
2) Set sweep trigger to “free run”.
3) Set RBW = 1 MHz.
4) Set VBW ≥ 3 MHz
5) Number of points in sweep ≥ 2 Span / RBW.
6) Sweep time ≤ (number of points in sweep) * T
7) Using emission bandwidth to determine the frequency span for integration the channel bandwidth.
8)Detector = RMS.
9) Trace mode = max hold.
10) Allow max hold to run for at least 60 seconds, or longer as needed to allow the trace to stabilize.

FOR 26 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%.

FOR OCCUPIED BANDWIDTH

The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with resolution bandwidth in the range of 1% to 5% of the anticipated emission bandwidth, and a video bandwidth at least 3x the resolution bandwidth and set the detector to AVERAGE. The width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5 %of the total mean power of a given emission.

4.3.5 Deviation from Test Standard

No deviation.

4.3.6 EUT Operating Condition

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

4.3.7 Test Result

POWER OUTPUT:

802.11a

Channel	Channel Frequency (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass/Fail
36	5180	42.170	16.25	24	PASS
40	5200	43.752	16.41	24	PASS
48	5240	**44.875**	16.52	24	PASS
52	5260	54.325	17.35	23.92	PASS
60	5300	59.156	17.72	24	PASS
64	5320	**61.944**	17.92	23.95	PASS
100	5500	99.541	19.98	24	PASS
116	5580	117.490	20.70	24	PASS
140	5700	**130.317**	21.15	24	PASS
149	5745	**9.268**	9.67	30	PASS
157	5785	4.645	6.67	30	PASS
165	5825	6.039	7.81	30	PASS

NOTE:

For U-NII-2A, U-NII-2C Band:

1. 11dBm + 10log(19.59) = 23.92 dBm < 24dBm.
2. 11dBm + 10log(20.08) = 24.03 dBm > 24dBm.
3. 11dBm + 10log(19.73) = 23.95 dBm < 24dBm.
4. 11dBm + 10log(22.97) = 24.61 dBm > 24dBm.
5. 11dBm + 10log(29.43) = 25.69 dBm > 24dBm.
6. 11dBm + 10log(30.54) = 25.85 dBm > 24dBm.

802.11n (20MHz)

Channel	Channel Frequency (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass/Fail
36	5180	42.756	16.31	24	PASS
40	5200	44.259	16.46	24	PASS
48	5240	43.853	16.42	24	PASS
52	5260	54.325	17.35	24	PASS
60	5300	59.156	17.72	24	PASS
64	5320	58.076	17.64	24	PASS
100	5500	107.152	20.30	24	PASS
116	5580	130.017	21.14	24	PASS
140	5700	127.057	21.04	24	PASS
149	5745	8.670	9.38	30	PASS
157	5785	9.204	9.64	30	PASS
165	5825	8.831	9.46	30	PASS

NOTE:

For U-NII-2A, U-NII-2C Band:

1. 11dBm + 10log(20.13) = 24.04 dBm > 24dBm.
2. 11dBm + 10log(20.26) = 24.07 dBm > 24dBm.
3. 11dBm + 10log(20.46) = 24.11 dBm > 24dBm.
4. 11dBm + 10log(23.54) = 24.72 dBm > 24dBm.
5. 11dBm + 10log(25.12) = 25.00 dBm > 24dBm.
6. 11dBm + 10log(28.93) = 25.61 dBm > 24dBm.

802.11n (40MHz)

Channel	Channel Frequency (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass/Fail
38	5190	39.264	15.94	24	PASS
46	5230	42.855	16.32	24	PASS
54	5270	41.400	16.17	24	PASS
62	5310	41.115	16.14	24	PASS
102	5510	67.920	18.32	24	PASS
110	5550	100.000	20.00	24	PASS
134	5670	112.460	20.51	24	PASS
151	5755	8.851	9.47	30	PASS
159	5795	8.954	9.52	30	PASS

NOTE:

For U-NII-2A, U-NII-2C Band:

1. 11dBm + 10log(51.27) = 28.10 dBm > 24dBm.
2. 11dBm + 10log(44.92) = 27.52 dBm > 24dBm.
3. 11dBm + 10log(51.14) = 28.09 dBm > 24dBm.
4. 11dBm + 10log(72.50) = 29.60 dBm > 24dBm.
5. 11dBm + 10log(76.91) = 29.86 dBm > 24dBm.

802.11ac (80MHz)

Channel	Channel Frequency (MHz)	Maximum Conducted Power (mW)	Maximum Conducted Power (dBm)	Power Limit (dBm)	Pass/Fail
42	5210	39.264	15.94	24	PASS
58	5290	29.174	14.65	24	PASS
106	5530	43.152	16.35	24	PASS
155	5775	8.770	9.43	30	PASS

NOTE:

For U-NII-2A, U-NII-2C Band:

1. 11dBm + 10log(84.50) = 30.27 dBm > 24dBm.
2. 11dBm + 10log(86.40) = 30.37 dBm > 24dBm.

26dB BANDWIDTH:

802.11a

Channel	Channel Frequency (MHz)	26dBc Bandwidth (MHz)	Pass / Fail
36	5180	19.65	PASS
40	5200	19.92	PASS
48	5240	19.68	PASS
52	5260	19.59	PASS
60	5300	20.08	PASS
64	5320	19.73	PASS
100	5500	22.97	PASS
116	5580	29.43	PASS
140	5700	30.54	PASS

802.11n (20MHz)

Channel	Channel Frequency (MHz)	26dBc Bandwidth (MHz)	Pass / Fail
36	5180	20.22	PASS
40	5200	20.63	PASS
48	5240	20.04	PASS
52	5260	20.13	PASS
60	5300	20.26	PASS
64	5320	20.46	PASS
100	5500	23.54	PASS
116	5580	25.12	PASS
140	5700	28.93	PASS

802.11n (40MHz)

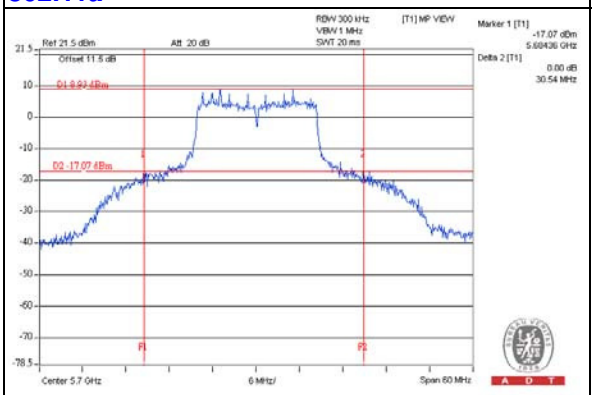
Channel	Channel Frequency (MHz)	26dBc Bandwidth (MHz)	Pass / Fail
38	5190	44.62	PASS
46	5230	44.51	PASS
54	5270	51.27	PASS
62	5310	44.92	PASS
102	5510	51.14	PASS
110	5550	72.50	PASS
134	5670	76.91	PASS

802.11ac (80MHz)

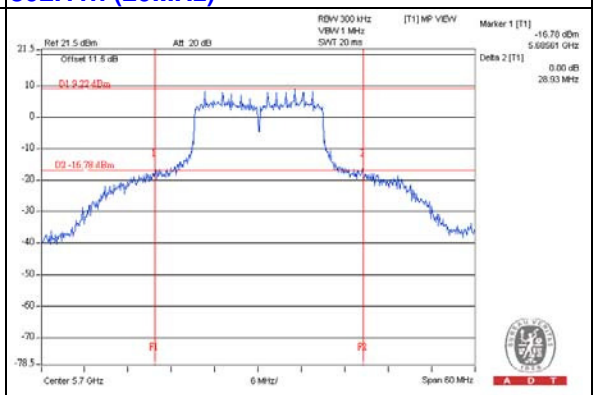
Channel	Channel Frequency (MHz)	26dBc Bandwidth (MHz)	Pass / Fail
42	5210	86.65	PASS
58	5290	84.50	PASS
106	5530	86.40	PASS

SPECTRUM PLOT OF WORST VALUE

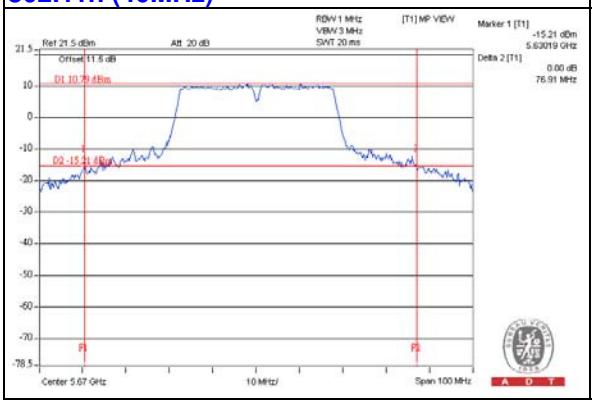
802.11a



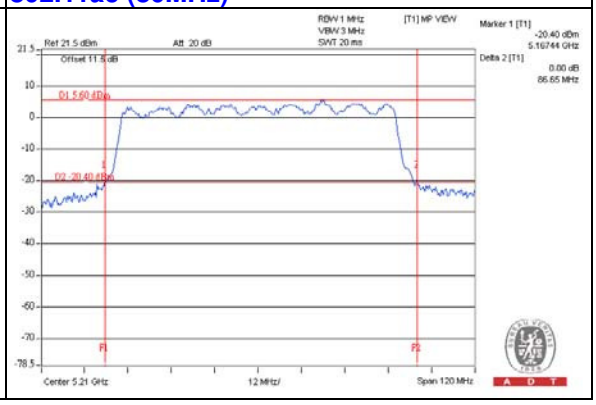
802.11n (20MHz)



802.11n (40MHz)



802.11ac (80MHz)



OCCUPIED BANDWIDTH:

802.11a

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)	Pass / Fail
36	5180	16.44	PASS
40	5200	16.44	PASS
48	5240	16.44	PASS
52	5260	16.44	PASS
60	5300	16.44	PASS
64	5320	16.56	PASS
100	5500	16.56	PASS
116	5580	16.92	PASS
140	5700	17.28	PASS
149	5745	16.68	PASS
157	5785	16.80	PASS
165	5825	16.68	PASS

802.11n (HT20)

Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)	Pass / Fail
36	5180	17.64	PASS
40	5200	17.64	PASS
48	5240	17.64	PASS
52	5260	17.64	PASS
60	5300	17.76	PASS
64	5320	17.64	PASS
100	5500	17.76	PASS
116	5580	17.88	PASS
140	5700	18.00	PASS
149	5745	17.88	PASS
157	5785	17.76	PASS
165	5825	17.88	PASS

802.11n (HT40)

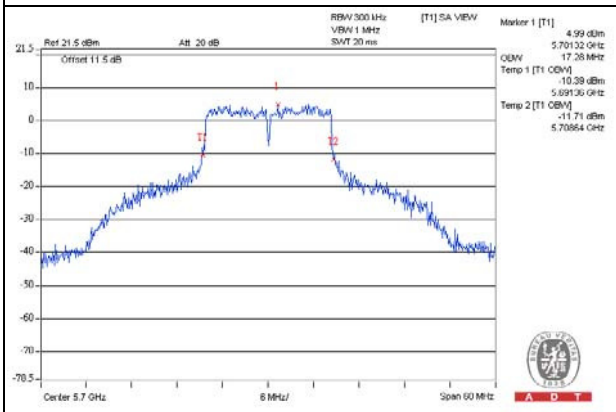
Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)	Pass / Fail
38	5190	36.60	PASS
46	5230	36.60	PASS
54	5270	36.60	PASS
62	5310	36.60	PASS
102	5510	36.40	PASS
110	5550	37.00	PASS
134	5670	37.00	PASS
151	5755	36.60	PASS
159	5795	37.00	PASS

802.11ac (80MHz)

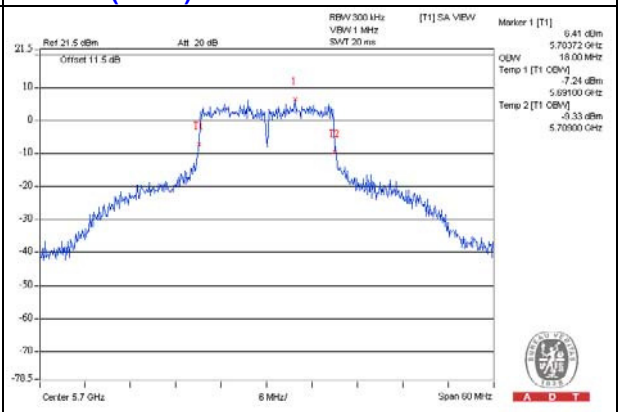
Channel	Channel Frequency (MHz)	Occupied Bandwidth (MHz)	Pass / Fail
42	5210	75.84	PASS
58	5290	75.84	PASS
106	5530	75.84	PASS
155	5775	76.08	PASS

SPECTRUM PLOT OF WORST VALUE

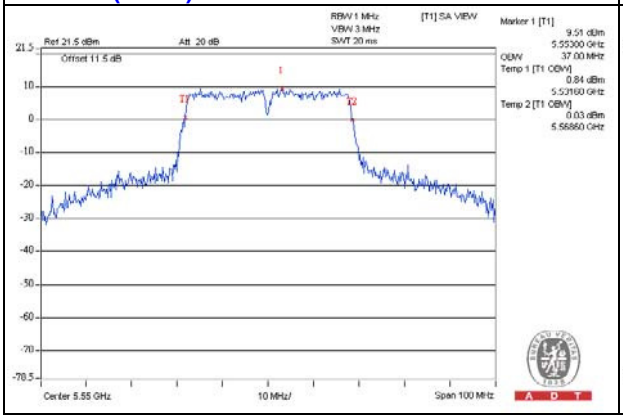
802.11a



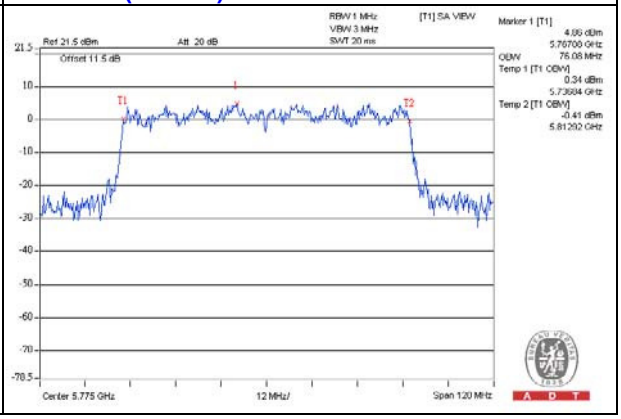
802.11n (HT20)



802.11n (HT40)



802.11ac (80MHz)



EUT MAXIMUM CONDUCTED POWER

802.11a

FREQUENCY BAND (MHz)	MAX. POWER	
	OUTPUT POWER (mW)	OUTPUT POWER (dBm)
5250~5350	61.944	17.92
5470~5725	130.317	21.15

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

802.11n (20MHz)

FREQUENCY BAND (MHz)	MAX. POWER	
	OUTPUT POWER (mW)	OUTPUT POWER (dBm)
5250~5350	59.156	17.72
5470~5725	130.017	21.14

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

802.11n (40MHz)

FREQUENCY BAND (MHz)	MAX. POWER	
	OUTPUT POWER (mW)	OUTPUT POWER (dBm)
5250~5350	41.400	16.17
5470~5725	112.460	20.51

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

802.11ac (80MHz)

FREQUENCY BAND (MHz)	MAX. POWER	
	OUTPUT POWER (mW)	OUTPUT POWER (dBm)
5250~5350	29.174	14.65
5470~5725	43.152	16.35

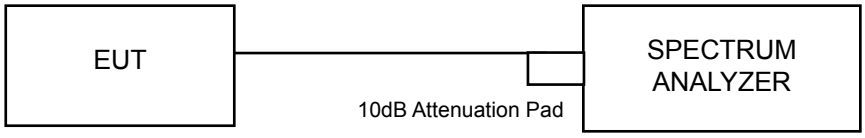
NOTE: Manufacturer provides Transmit Power Control description to meet this requirement.

4.4 Peak Power Spectral Density Measurement

4.4.1 Limits of Peak Power Spectral Density Measurement

Operation Band	EUT Category		LIMIT
U-NII-1		Outdoor Access Point	17dBm/ MHz
		Fixed point-to-point Access Point	
		Indoor Access Point	
	√	Mobile and Portable client device	11dBm/ MHz
U-NII-2A	√		11dBm/ MHz
U-NII-2C	√		11dBm/ MHz
U-NII-3	√		30dBm/ 500kHz

4.4.2 Test Setup



4.4.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.4.4 Test Procedure

For U-NII-1, U-NII-2A, U-NII-2C band:

Using method SA-2

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 = auto, trigger set to “free run”.
4) Trace average at least 100 traces in power averaging mode.
5) Record the max value and add 10 log (1/duty cycle)

For U-NII-3:

1) Set span to encompass the entire emission bandwidth (EBW) of the signal.
2) Set RBW = 500 kHz, Set VBW ≥ 3 RBW, Detector = RMS
3) Sweep time = auto, trigger set to “free run”.
4) Trace average at least 100 traces in power averaging mode.
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 Condition

Same as Item 4.3.6.

4.4.7 Test Results

For U-NII-1, U-NII-2A, U-NII-2C Band

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	2.50	0.41	2.91	17	PASS
40	5200	2.53	0.41	2.94	17	PASS
48	5240	3.19	0.41	3.60	17	PASS
52	5260	3.64	0.41	4.05	11	PASS
60	5300	3.56	0.41	3.97	11	PASS
64	5320	3.98	0.41	4.39	11	PASS
100	5500	5.24	0.41	5.65	11	PASS
116	5580	6.10	0.41	6.51	11	PASS
140	5700	7.25	0.41	7.66	11	PASS

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

802.11n (20MHz)

Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm)	Duty Factor	Psd With Duty Factor (dBm)	Maximum Limit (dBm)	Pass/Fail
36	5180	2.17	0.37	2.54	17	PASS
40	5200	2.53	0.37	2.90	17	PASS
48	5240	2.67	0.37	3.04	17	PASS
52	5260	3.42	0.37	3.79	11	PASS
60	5300	3.57	0.37	3.94	11	PASS
64	5320	3.58	0.37	3.95	11	PASS
100	5500	4.81	0.37	5.18	11	PASS
116	5580	5.96	0.37	6.33	11	PASS
140	5700	7.08	0.37	7.45	11	PASS

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

802.11n (40MHz)

Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm)	Duty Factor	Psd With Duty Factor (dBm)	Maximum Limit (dBm)	Pass/Fail
38	5190	-1.79	0	-1.79	17	PASS
46	5230	-0.59	0	-0.59	17	PASS
54	5270	-1.36	0	-1.36	11	PASS
62	5310	-0.43	0	-0.43	11	PASS
102	5510	-0.97	0	-0.97	11	PASS
110	5550	1.47	0	1.47	11	PASS
134	5670	1.99	0	1.99	11	PASS

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

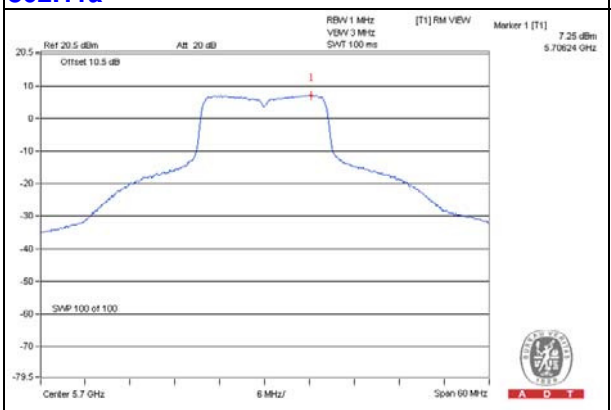
802.11ac (80MHz)

Channel	Frequency (MHz)	PSD w/o Duty Factor (dBm)	Duty Factor	Psd With Duty Factor (dBm)	Maximum Limit (dBm)	Pass/Fail
42	5210	-2.69	0	-2.69	17	PASS
58	5290	-4.03	0	-4.03	11	PASS
106	5530	-2.56	0	-2.56	11	PASS

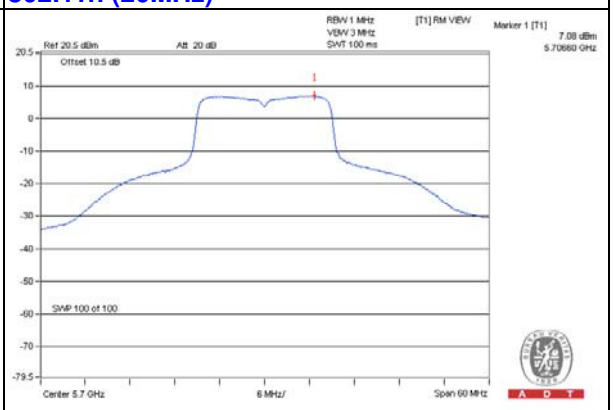
NOTE: Refer to section 3.3 for duty cycle spectrum plot.

SPECTRUM PLOT OF WORST VALUE

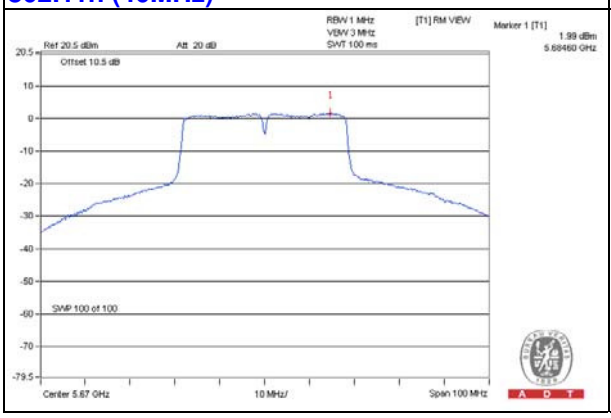
802.11a



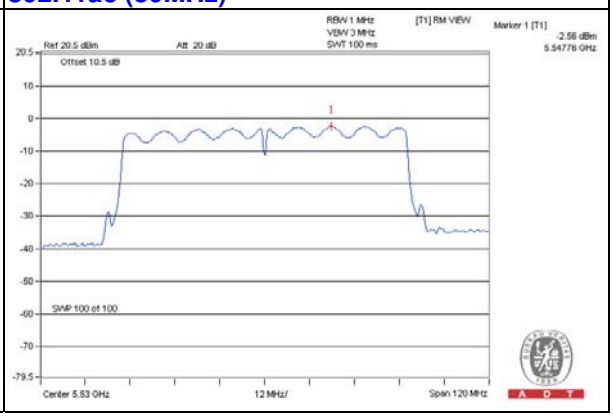
802.11n (20MHz)



802.11n (40MHz)



802.11ac (80MHz)



For U-NII-3 Band

802.11a

Channel	Freq. (MHz)	PSD (dBm/500kHz)	DUTY FACTOR	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	PASS /FAIL
149	5745	4.00	0.41	4.41	30	PASS
157	5785	0.72	0.41	1.13	30	PASS
165	5825	1.64	0.41	2.05	30	PASS

802.11n (20MHz)

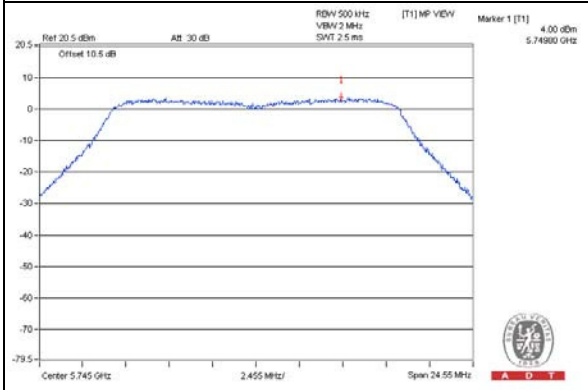
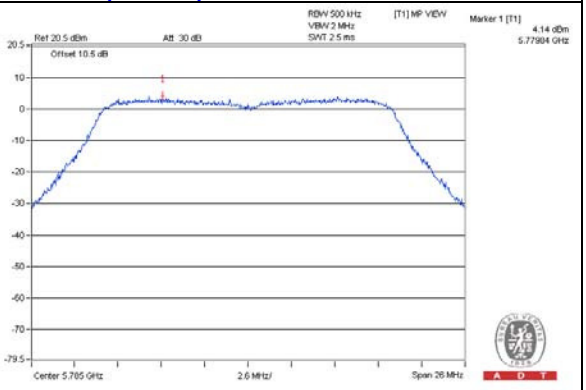
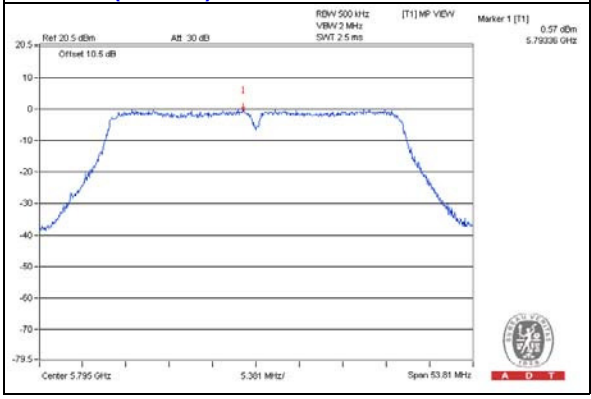
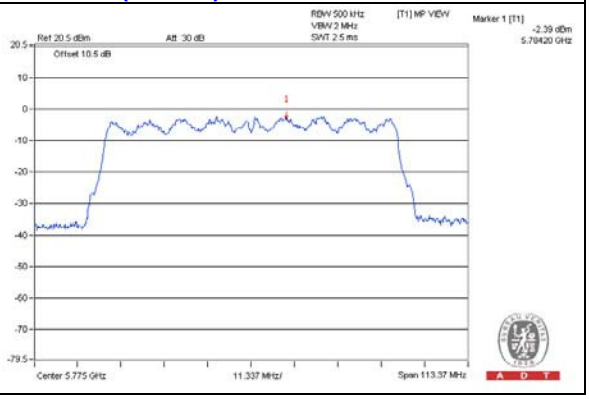
Channel	Freq. (MHz)	PSD (dBm/500kHz)	DUTY FACTOR	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	PASS /FAIL
149	5745	3.36	0.37	3.73	30	PASS
157	5785	4.14	0.37	4.51	30	PASS
165	5825	3.44	0.37	3.81	30	PASS

802.11n (40MHz)

Channel	Freq. (MHz)	PSD (dBm/500kHz)	DUTY FACTOR	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	PASS /FAIL
151	5755	0.30	0	0.30	30	PASS
159	5795	0.57	0	0.57	30	PASS

802.11ac (80MHz)

Channel	Freq. (MHz)	PSD (dBm/500kHz)	DUTY FACTOR	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	PASS /FAIL
155	5775	-2.39	0	-2.39	30	PASS

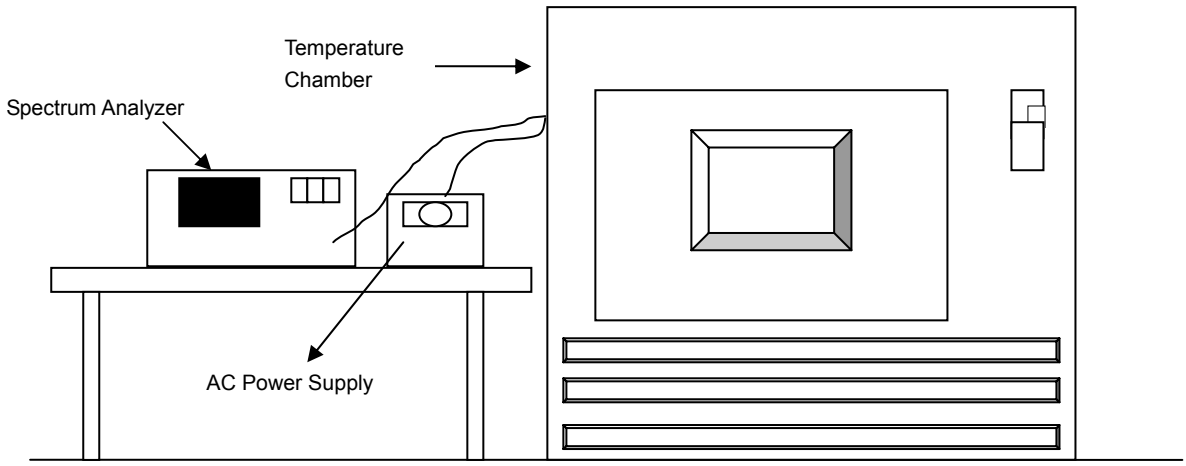
SPECTRUM PLOT OF WORST VALUE	
802.11a	**802.11n (20MHz)**
	
802.11n (40MHz)	**802.11ac (80MHz)**
	

4.5 Frequency Stability Measurement

4.5.1 Limits of Frequency Stability Measurement

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

4.5.2 Test Setup



4.5.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.5.4 Test Procedure

a. 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.
.

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Condition

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

4.5.7 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 (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)
60	120	5299.9916	-0.00016	5300.0097	0.00018	5299.9908	-0.00017	5300.0059	0.00011
50	120	5300.0118	0.00022	5300.0098	0.00018	5300.0104	0.00020	5300.0053	0.00010
40	120	5300.015	0.00028	5300.0149	0.00028	5300.0113	0.00021	5300.012	0.00023
30	120	5300.0238	0.00045	5300.0207	0.00039	5300.018	0.00034	5300.0219	0.00041
20	120	5300.025	0.00047	5300.0256	0.00048	5300.0271	0.00051	5300.0267	0.00050
10	120	5299.9966	-0.00006	5299.9974	-0.00005	5299.9976	-0.00005	5299.999	-0.00002
0	120	5300.0104	0.00020	5300.0123	0.00023	5300.0088	0.00017	5300.0123	0.00023
-10	120	5299.9755	-0.00046	5299.9747	-0.00048	5299.9811	-0.00036	5299.9764	-0.00045
-20	120	5300.0188	0.00035	5300.0252	0.00048	5300.0284	0.00054	5300.022	0.00042
-30	120	5300.0281	0.00053	5300.0277	0.00052	5300.024	0.00045	5300.0274	0.00052

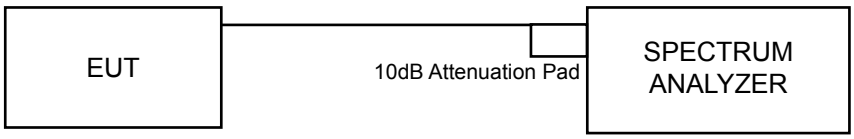
FREQUEMCY STABILITY VERSUS VOLTAGE									
OPERATING FREQUENCY: 5300MHz									
TEMP. (℃)	POWER SUPPLY (Vac)	0 MINUTE		2 MINUTE		5 MINUTE		10 MINUTE	
		Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)	Measured Frequency (MHz)	Frequency Drift (%)
20	138	5300.0261	0.00049	5300.0257	0.00048	5300.028	0.00053	5300.0266	0.00050
	120	5300.0250	0.00047	5300.0256	0.00048	5300.0271	0.00051	5300.0267	0.00050
	102	5300.0254	0.00048	5300.0251	0.00047	5300.0288	0.00054	5300.0264	0.00050

4.6 6dB Bandwidth Measurment

4.6.1 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is 0.5MHz.

4.6.2 Test Setup



4.6.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.6.4 Test Procedure

MEASUREMENT PROCEDURE REF

a. Set resolution bandwidth (RBW) = 100kHz
b. Set the video bandwidth (VBW) ≥ 3 x RBW, Detector = Peak.
c. Trace mode = max hold.
d. Sweep = auto couple.
e. Measure the maximum width of the emission that is constrained by the frequencies associated with the two amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission

4.6.5 Deviation from Test Standard

No deviation.

4.6.6 EUT Operating Condition

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

4.6.7 Test Results

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
149	5745	16.39	0.5	PASS
157	5785	16.39	0.5	PASS
165	5825	16.38	0.5	PASS

802.11n (HT20)

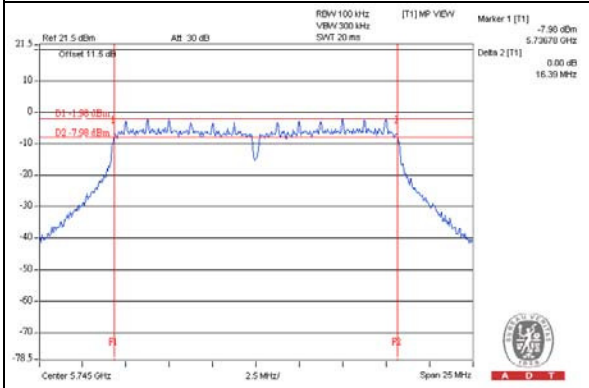
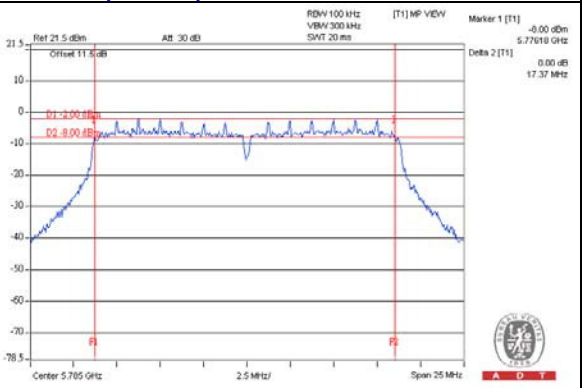
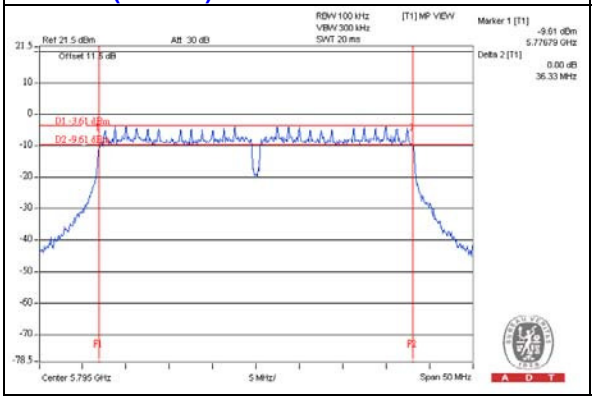
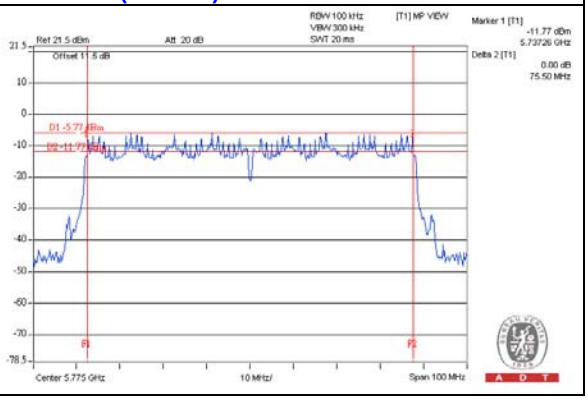
Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
149	5745	17.34	0.5	PASS
157	5785	17.37	0.5	PASS
165	5825	17.10	0.5	PASS

802.11n (HT40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
151	5755	36.24	0.5	PASS
159	5795	36.33	0.5	PASS

802.11ac (80MHz)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
155	5775	75.50	0.5	PASS

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

5 Pictures of Test Arrangements

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

Appendix – 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/Telecom Lab
Tel: 886-3-6668565
Fax: 886-3-6668323

Hwa Ya EMC/RF/Safety
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.

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