FCC Test Report

Report No.: RF160422D13-1

FCC ID: Q87-LAPAC2600

Test Model: LAPAC2600

Received Date: Apr. 22, 2016

Test Date: May 4 ~ 16, 2016

Issued Date: May 27, 2016

Applicant: Linksys LLC

Address: 121 Theory Drive, Irvine, CA 92617, USA

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
RF160422D13-1	Original release.	May 27, 2016

1 Certificate of Conformity

Product: LAPAC2600 Dual Band Access Point

Brand: Linksys

Test Model: LAPAC2600

Sample Status: Engineering sample

Applicant: Linksys LLC

Test Date: May 4 ~ 16, 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 : _____ , **Date:** May 27, 2016
(Celia Chen / Supervisor)

Approved by : _____ , **Date:** May 27, 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 -10.65dB at 0.33750MHz.
15.407(b) (1/2/3/4(i/ii)/6)	Radiated Emissions & Band Edge Measurement*	Pass	Meet the requirement of limit. Minimum passing margin is -1.0dB at 5649.99MHz.
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	Antenna connector is I-PEX not a standard connector.

*For U-NII-3 band compliance with rule part 15.407(b)(4)(i), the OOBE test plots were recorded in Annex A.

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	2.78 dB
Radiated Emissions up to 1 GHz	30MHz ~ 1000MHz	4.00 dB
Radiated Emissions above 1 GHz	1GHz ~ 40GHz	3.36 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	LAPAC2600 Dual Band Access Point
Brand	Linksys
Test Model	LAPAC2600
Status of EUT	Engineering sample
Power Supply Rating	12Vdc from adapter
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 600Mbps 802.11ac: up to 1732Mbps
Operating Frequency	5180 ~ 5240MHz 5745 ~ 5825MHz
Number of Channel	**5180 ~ 5240MHz** 4 for 802.11a, 802.11n (20MHz), 802.11ac (20MHz) 2 for 802.11n (40MHz), 802.11ac (40MHz) 1 for 802.11ac (80MHz) **5745 ~ 5825MHz** 5 for 802.11a, 802.11n (20MHz) 802.11ac (20MHz) 2 for 802.11n (40MHz) 802.11ac (40MHz) 1 for 802.11ac (80MHz)
Output Power	**5180 ~ 5240MHz:** 479.709mW **5745 ~ 5825MHz:** 539.849mW
Antenna Type	**CDD Mode:** PIFA antenna with 2.45dBi gain **Beamforming Mode:** PIFA antenna with 7.87dBi gain
Antenna Connector	I-PEX
Accessory Device	Adapter
Data Cable Supplied	N/A
Driver Version	V1.0.00.003

Note:

1. The EUT provides 4 completed transmitters and 4 receivers.

Modulation Mode	TX Function	
	5.0GHz (Non-Beamforming)	5.0GHz (Beamforming)
802.11a	4TX	-
802.11n (20MHz)	4TX	-
802.11n (40MHz)	4TX	-
802.11ac (20MHz)	4TX	4TX
802.11ac (40MHz)	4TX	4TX
802.11ac (80MHz)	4TX	4TX

* 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)

2. The EUT was power supplied from the following power adapters (accessory device) and PoE (support unit):

Item	Brand	Model No.	Plug Type	Rating
Adapter 1	LEI	MU30-P120250-A1	US	AC I/P: 100-240V, 0.8A, 50/60Hz DC O/P: 12V, 2.5A
Adapter 2		MU30-P120250-A3	AU	
Two adapters are identical with each other except for their plug type difference				
Adapter 3	APD	WA-30J12FU	US	AC I/P: 100-240V, 0.9A, 50-60Hz DC O/P: 12V, 2.5A
Adapter 4		WA-30J12FN	AU	
Two adapters are identical with each other except for their plug type difference				
Adapter 5	APD	WA-30J12R	US	AC I/P: 100-240V, 0.9A, 50-60Hz DC O/P: 12V, 2.5A
Adapter 6			EU	
Adapter 7			UK	
Three adapters are identical with each other except for their plug type difference				
Adapter 8	Ktec	KSAS0361200250D5	US	AC I/P: 100-240V, 1.0A, 50/60Hz DC O/P: 12V, 2.5A
Adapter 9			EU	
Adapter 10			UK	
Three adapters are identical with each other except for their plug type difference				
Support unit provided by client				
PoE	Microsemi	PD-9601G/AC		AC I/P: 100-240V, 1.35A, 50-60Hz DC O/P: 55V, 1.75A

After pre-tested above adapters and PoE, **adapter 1** was selected as a representative one and therefore only its test data was recorded in this report.

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

3.2 Description of Test Modes

FOR 5180 ~ 5240MHz:

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

NOTE: The EUT had been pre-tested on the positioned of each 2 axis. The worst case was found when positioned on **X-plane**.

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.

CDD Mode							
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
-	802.11ac (20MHz)		36 to 48	36, 40, 48	OFDM	BPSK	6.5
-	802.11ac (40MHz)		38 to 46	38, 46	OFDM	BPSK	13.5
-	802.11ac (80MHz)		42	42	OFDM	BPSK	29.3
-	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	BPSK	6.0
-	802.11ac (20MHz)		149 to 165	149, 157, 165	OFDM	BPSK	6.5
-	802.11ac (40MHz)		151 to 159	151, 159	OFDM	BPSK	13.5
-	802.11ac (80MHz)		155	155	OFDM	BPSK	29.3
Beamforming Mode							
EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
-	802.11ac (20MHz)	5180-5240	36 to 48	36, 40, 48	OFDM	BPSK	6.5
-	802.11ac (40MHz)		38 to 46	38, 46	OFDM	BPSK	13.5
-	802.11ac (80MHz)		42	42	OFDM	BPSK	29.3
-	802.11ac (20MHz)	5745-5825	149 to 165	149, 157, 165	OFDM	BPSK	6.5
-	802.11ac (40MHz)		151 to 159	151, 159	OFDM	BPSK	13.5
-	802.11ac (80MHz)		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.

CDD Mode							
EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
-	802.11ac (40MHz)	5180-5240	38 to 46	46	OFDM	BPSK	13.5
-	802.11ac (40MHz)	5745-5825	151 to 159		OFDM	BPSK	13.5

Power Line Conducted Emission Test:

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

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

CDD Mode							
EUT CONFIGURE MODE	MODE	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
-	802.11ac (40MHz)	5180-5240	38 to 46	46	OFDM	BPSK	13.5
-	802.11ac (40MHz)	5745-5825	151 to 159		OFDM	BPSK	13.5

Antenna Port Conducted Measurement:

☒ This item includes all test value of each mode, but only includes spectrum plot of worst value of each mode.

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

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

CDD Mode							
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
-	802.11ac (20MHz)		36 to 48	36, 40, 48	OFDM	BPSK	6.5
-	802.11ac (40MHz)		38 to 46	38, 46	OFDM	BPSK	13.5
-	802.11ac (80MHz)		42	42	OFDM	BPSK	29.3
-	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	BPSK	6.0
-	802.11ac (20MHz)		149 to 165	149, 157, 165	OFDM	BPSK	6.5
-	802.11ac (40MHz)		151 to 159	151, 159	OFDM	BPSK	13.5
-	802.11ac (80MHz)		155	155	OFDM	BPSK	29.3

Test Condition:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE≥1G	18deg. C, 73%RH	120Vac, 60Hz	Aaron You
RE<1G	18deg. C, 73%RH	120Vac, 60Hz	Aaron You
PLC	23deg. C, 72%RH	120Vac, 60Hz	Aaron You
APCM	25deg. C, 60%RH	120Vac, 60Hz	Dalen Dai

3.3 Duty Cycle of Test Signal

Duty cycle of test signal is < 98 %, duty factor is required

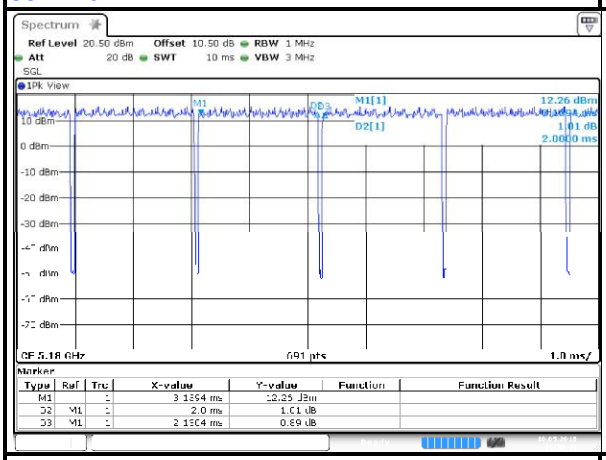
802.11a: Duty cycle = 2/2.13 = 0.939, Duty factor = 10 * log(1/0.939) = 0.27

802.11ac (20MHz): Duty cycle = 4.927/5.144 = 0.958, Duty factor = 10 * log(1/0.928) = 0.19

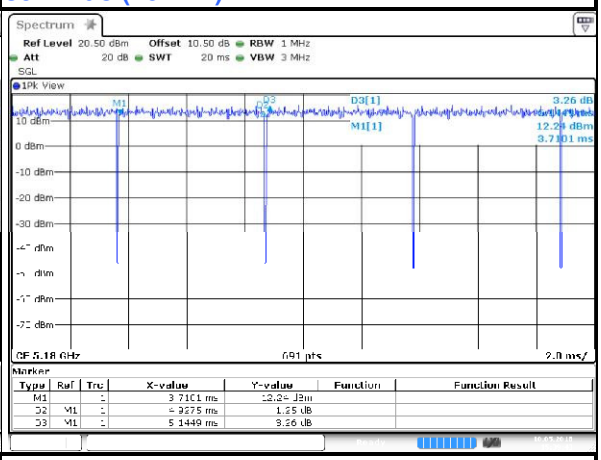
802.11ac (40MHz): Duty cycle = 2.347/2.507 = 0.936, Duty factor = 10 * log(1/0.936) = 0.29

802.11ac (80MHz): Duty cycle = 1.108/1.21 = 0.916, Duty factor = 10 * log(1/0.916) = 0.38

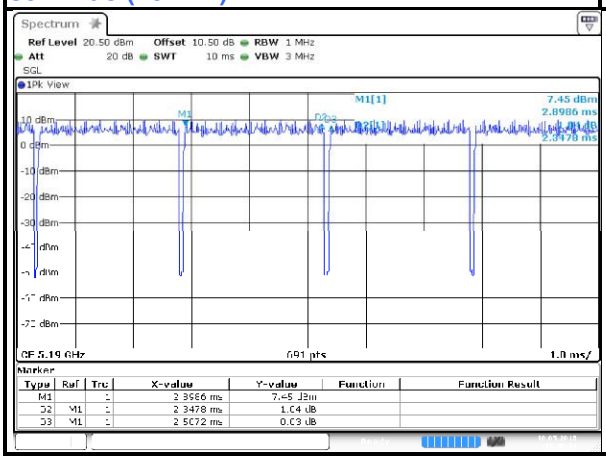
802.11a



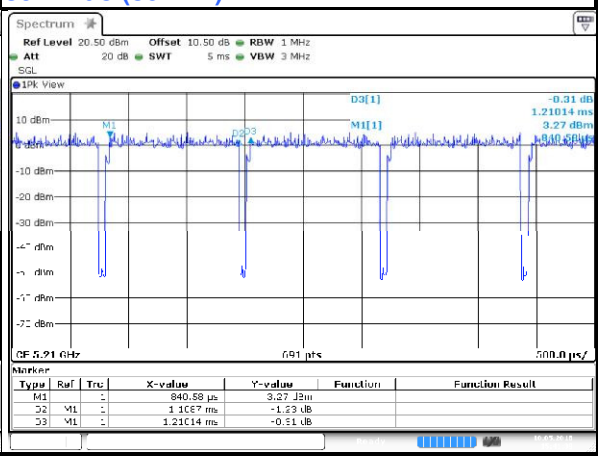
802.11ac (20MHz)



802.11ac (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.

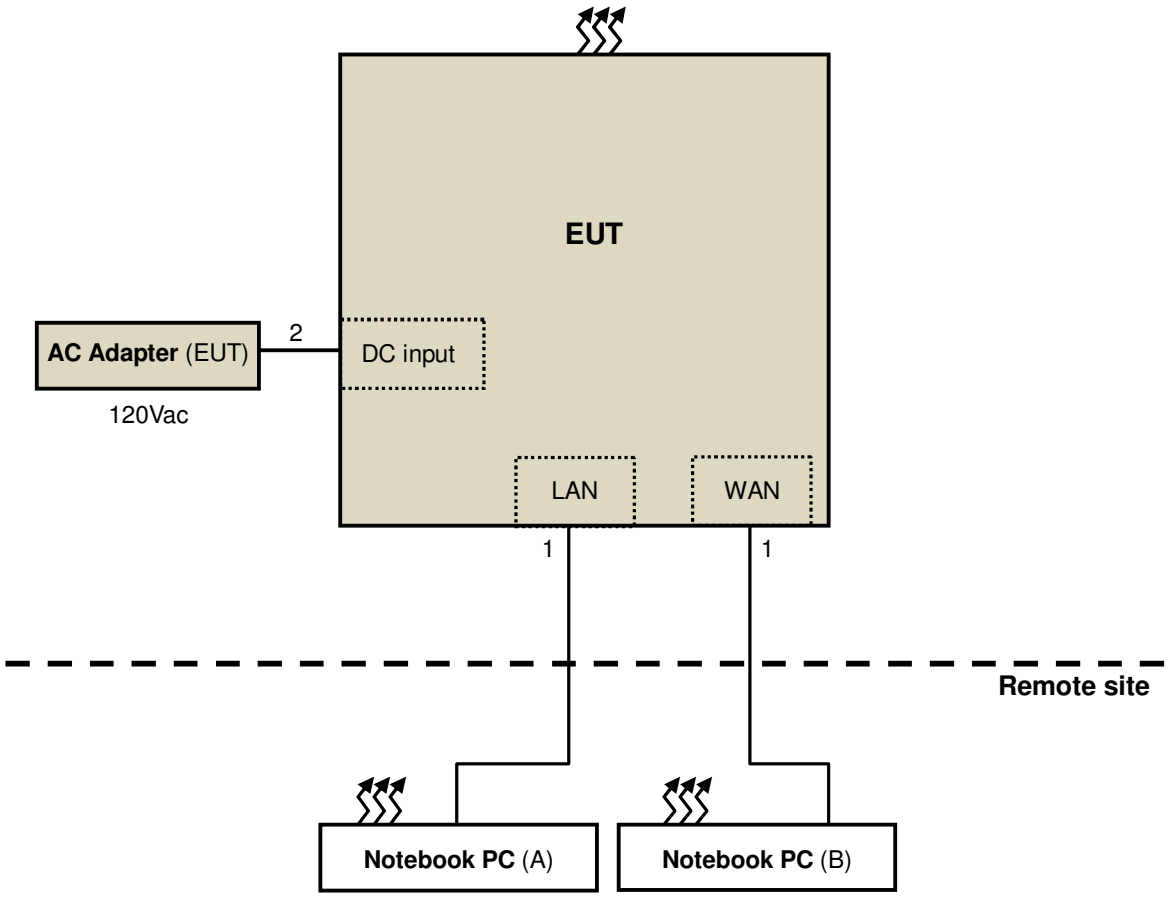
ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Notebook PC	DELL	PP27L	8SNZ12S	FCC DoC Approved	Provided by Lab
B.	Notebook PC	DELL	E6530	9331GV1	FCC DoC Approved	Provided by Lab

Note:
1. All power cords of the above support units are non-shielded (1.8m).
2. Items A & B acted as communication partners to transfer data.

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	LAN cable	2	10	N	0	Provided by Lab
2.	DC cable	1	1.5	N	0	Supplied by client

Note: The core(s) is(are) originally attached to the cable(s).

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 v01r02

KDB 662911 D01 Multiple Transmitter Output v02r01

ANSI C63.10-2013

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

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 v01r02	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)(i)	PK:-27 (dBm/MHz) *1 PK:10 (dBm/MHz) *2 PK:15.6 (dBm/MHz) *3 PK:27 (dBm/MHz) *4	PK: 68.2(dBμV/m) *1 PK:105.2 (dBμV/m) *2 PK: 110.8(dBμV/m) *3 PK:122.2 (dBμV/m) *4
15.407(b)(4)(ii)	FIELD STRENGTH at 3m / § 15.247(d),	
	PK:74 (dBμV/m)	AV:54 (dBμV/m)

*1 beyond 75 MHz or more above of the band edge.

*2 below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above.

*3 below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above.

*4 from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

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

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

4.1.2 Test Instruments

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
HP Preamplifier	8447D	2432A03504	Feb. 26, 2016	Feb. 25, 2017
HP Preamplifier	8449B	3008A01201	Feb. 26, 2016	Feb. 25, 2017
MITEQ Preamplifier	AMF-6F-260400-3 3-8P	892164	Mar. 01, 2016	Feb. 28, 2017
Agilent TEST RECEIVER	N9038A	MY51210129	Feb. 02, 2016	Feb. 01, 2017
Schwarzbeck Antenna	VULB 9168	139	Jan. 04, 2016	Jan. 03, 2017
Schwarzbeck Antenna	VHBA 9123	480	May 29, 2015	May 28, 2017
Schwarzbeck Horn Antenna	BBHA-9170	212	Jan. 08, 2016	Jan. 07, 2017
Schwarzbeck Horn Antenna	BBHA 9120-D1	D130	Jan. 21, 2016	Jan. 20, 2017
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
KEYSIGHT Spectrum Analyzer	N9030A	MY54490260	Jul. 14, 2015	Jul. 13, 2016
EMCO Horn Antenna	3115	00028257	Jan. 19, 2016	Jan. 18, 2017
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. 28, 2016	Apr. 27, 2017
Anritsu Power Meter	ML2495A	0842014	Apr. 28, 2016	Apr. 27, 2017

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.
6. Tested Date: May 4 ~ 16, 2016.

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:

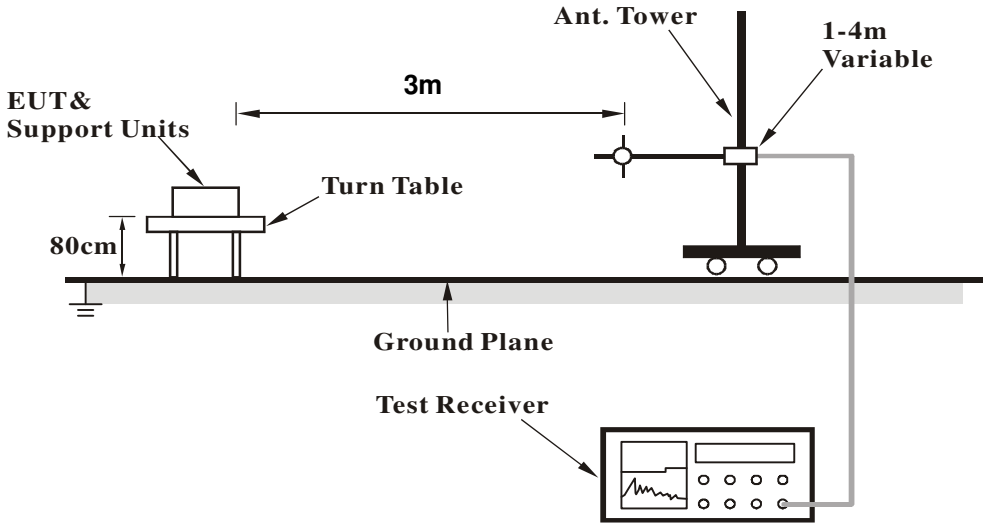
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.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

4.1.4 Deviation from Test Standard

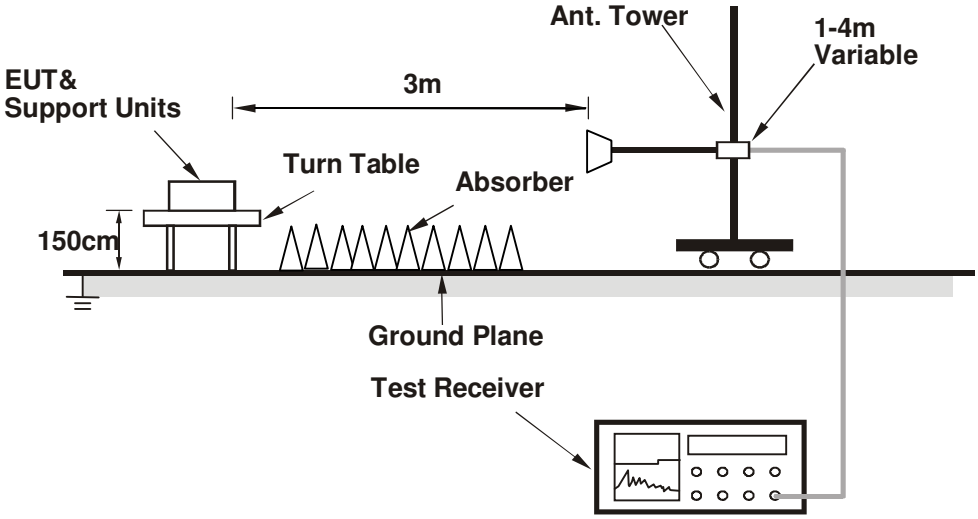
No deviation.

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

4.1.7 Test Results

ABOVE 1GHz DATA

CDD Mode

802.11a

CHANNEL	TX Channel 36	**DETECTOR FUNCTION**	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	65.0 PK	74.0	-9.1	3.95 H	140	58.10	6.85
2	5150.00	51.1 AV	54.0	-2.9	3.95 H	140	44.25	6.85
3	*5180.00	112.5 PK			3.95 H	140	105.51	6.95
4	*5180.00	102.4 AV			3.95 H	140	95.41	6.95
5	#10360.00	56.3 PK	74.0	-17.7	1.81 H	210	39.20	17.14
6	#10360.00	43.6 AV	54.0	-10.4	1.81 H	210	26.44	17.14
7	15540.00	59.7 PK	74.0	-14.3	3.84 H	193	39.13	20.55
8	15540.00	46.5 AV	54.0	-7.5	3.84 H	193	25.93	20.55
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	65.6 PK	74.0	-8.4	2.87 V	217	58.77	6.85
2	5150.00	52.6 AV	54.0	-1.4	2.87 V	217	45.79	6.85
3	*5180.00	115.9 PK			2.87 V	217	108.91	6.95
4	*5180.00	105.4 AV			2.87 V	217	98.40	6.95
5	#10360.00	57.5 PK	74.0	-16.5	3.20 V	43	40.34	17.14
6	#10360.00	43.7 AV	54.0	-10.3	3.20 V	43	26.52	17.14
7	15540.00	60.9 PK	74.0	-13.1	3.19 V	4	40.32	20.55
8	15540.00	47.8 AV	54.0	-6.2	3.19 V	4	27.24	20.55

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) – Pre-Amplifier 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.

CHANNEL	TX Channel 40	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	113.8 PK			3.29 H	216	106.82	7.01
2	*5200.00	103.6 AV			3.29 H	216	96.58	7.01
3	#10400.00	55.7 PK	74.0	-18.3	1.92 H	46	38.26	17.44
4	#10400.00	43.1 AV	54.0	-10.9	1.92 H	46	25.64	17.44
5	15600.00	60.1 PK	74.0	-13.9	2.48 H	3	39.15	20.93
6	15600.00	46.8 AV	54.0	-7.2	2.48 H	3	25.91	20.93
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	116.9 PK			2.87 V	211	109.93	7.01
2	*5200.00	105.9 AV			2.87 V	211	98.93	7.01
3	#10400.00	56.9 PK	74.0	-17.1	1.70 V	1	39.47	17.44
4	#10400.00	43.7 AV	54.0	-10.3	1.70 V	1	26.27	17.44
5	15600.00	62.3 PK	74.0	-11.7	3.16 V	357	41.35	20.93
6	15600.00	47.8 AV	54.0	-6.2	3.16 V	357	26.86	20.93

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) – Pre-Amplifier 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.

CHANNEL	TX Channel 48	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	110.7 PK			1.29 H	164	103.58	7.16
2	*5240.00	103.3 AV			1.29 H	164	96.15	7.16
3	5350.00	54.6 PK	74.0	-19.4	1.29 H	164	46.98	7.64
4	5350.00	39.1 AV	54.0	-14.9	1.29 H	164	31.44	7.64
5	#10480.00	56.4 PK	74.0	-17.6	1.11 H	208	38.56	17.87
6	#10480.00	43.8 AV	54.0	-10.2	1.11 H	208	25.95	17.87
7	15720.00	59.7 PK	74.0	-14.3	1.58 H	263	39.62	20.06
8	15720.00	46.0 AV	54.0	-8.0	1.58 H	263	25.96	20.06
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	114.2 PK			1.13 V	76	106.99	7.16
2	*5240.00	105.3 AV			1.13 V	76	98.13	7.16
3	5350.00	59.8 PK	74.0	-14.2	1.13 V	76	52.14	7.64
4	5350.00	44.7 AV	54.0	-9.3	1.13 V	76	37.10	7.64
5	#10480.00	57.1 PK	74.0	-16.9	1.84 V	94	39.26	17.87
6	#10480.00	44.1 AV	54.0	-9.9	1.84 V	94	26.20	17.87
7	15720.00	60.7 PK	74.0	-13.3	2.06 V	35	40.62	20.06
8	15720.00	47.8 AV	54.0	-6.2	2.06 V	35	27.72	20.06

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) – Pre-Amplifier 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.

CHANNEL	TX Channel 149	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	#5649.99	61.5 PK	68.2	-6.7	3.91 H	209	52.88	8.64
2	*5745.00	117.1 PK			3.91 H	209	108.63	8.43
3	*5745.00	107.0 AV			3.91 H	209	98.61	8.43
4	11490.00	57.6 PK	74.0	-16.4	1.89 H	221	38.90	18.65
5	11490.00	44.8 AV	54.0	-9.2	1.89 H	221	26.11	18.65
6	#17235.00	61.1 PK	68.2	-7.1	2.91 H	89	38.32	22.74
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	#5649.99	62.1 PK	68.2	-6.1	2.88 V	354	53.46	8.64
2	*5745.00	118.8 PK			2.88 V	354	110.32	8.43
3	*5745.00	109.0 AV			2.88 V	354	100.55	8.43
4	11490.00	58.3 PK	74.0	-15.7	1.69 V	266	39.62	18.65
5	11490.00	45.3 AV	54.0	-8.7	1.69 V	266	26.66	18.65
6	#17235.00	62.1 PK	68.2	-6.1	2.00 V	53	39.40	22.74

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) – Pre-Amplifier 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.

CHANNEL	TX Channel 157	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	115.0 PK			4.00 H	216	106.64	8.34
2	*5785.00	104.3 AV			4.00 H	216	95.98	8.34
3	11570.00	57.6 PK	74.0	-16.4	2.95 H	21	38.76	18.81
4	11570.00	45.7 AV	54.0	-8.3	2.95 H	21	26.89	18.81
5	#17355.00	61.4 PK	68.2	-6.8	3.02 H	15	37.68	23.69
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	118.4 PK			2.48 V	356	110.09	8.34
2	*5785.00	107.8 AV			2.48 V	356	99.50	8.34
3	11570.00	58.0 PK	74.0	-16.0	1.63 V	60	39.21	18.81
4	11570.00	45.9 AV	54.0	-8.1	1.63 V	60	27.10	18.81
5	#17355.00	62.2 PK	68.2	-6.0	2.88 V	23	38.49	23.69

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) – Pre-Amplifier 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.

CHANNEL	TX Channel 165	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	116.3 PK			4.00 H	276	107.94	8.33
2	*5825.00	105.7 AV			4.00 H	276	97.36	8.33
3	#5925.01	58.9 PK	68.2	-9.3	4.00 H	276	50.36	8.50
4	11650.00	59.3 PK	74.0	-14.7	2.51 H	26	40.69	18.59
5	11650.00	46.2 AV	54.0	-7.8	2.51 H	26	27.59	18.59
6	#17475.00	61.6 PK	68.2	-6.6	3.09 H	194	36.71	24.87
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	119.4 PK			2.64 V	353	111.02	8.33
2	*5825.00	108.9 AV			2.64 V	353	100.55	8.33
3	#5925.01	60.2 PK	68.2	-8.1	2.64 V	353	51.65	8.50
4	11650.00	60.5 PK	74.0	-13.5	2.26 V	93	41.94	18.59
5	11650.00	47.1 AV	54.0	-6.9	2.26 V	93	28.50	18.59
6	#17475.00	62.0 PK	68.2	-6.2	3.22 V	20	37.14	24.87

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) – Pre-Amplifier 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 (20MHz)

CHANNEL	TX Channel 36	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	66.2 PK	74.0	-7.8	1.88 H	241	59.32	6.85
2	5150.00	50.1 AV	54.0	-3.9	1.88 H	241	43.29	6.85
3	*5180.00	113.2 PK			1.88 H	241	106.24	6.95
4	*5180.00	102.8 AV			1.88 H	241	95.86	6.95
5	#10360.00	56.6 PK	74.0	-17.4	2.14 H	30	39.42	17.14
6	#10360.00	43.0 AV	54.0	-11.0	2.14 H	30	25.85	17.14
7	15540.00	60.0 PK	74.0	-14.0	2.98 H	11	39.48	20.55
8	15540.00	46.5 AV	54.0	-7.5	2.98 H	11	25.98	20.55
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	67.1 PK	74.0	-6.9	2.77 V	214	60.26	6.85
2	5150.00	51.3 AV	54.0	-2.7	2.77 V	214	44.47	6.85
3	*5180.00	116.8 PK			2.77 V	214	109.89	6.95
4	*5180.00	105.5 AV			2.77 V	214	98.53	6.95
5	#10360.00	57.7 PK	74.0	-16.3	1.94 V	46	40.58	17.14
6	#10360.00	43.5 AV	54.0	-10.5	1.94 V	46	26.36	17.14
7	15540.00	60.8 PK	74.0	-13.2	3.19 V	6	40.25	20.55
8	15540.00	47.9 AV	54.0	-6.2	3.19 V	6	27.30	20.55

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) – Pre-Amplifier 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.

CHANNEL	TX Channel 40	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	111.2 PK			2.86 H	64	104.15	7.01
2	*5200.00	101.4 AV			2.86 H	64	94.36	7.01
3	#10400.00	57.6 PK	74.0	-16.4	2.16 H	332	40.16	17.44
4	#10400.00	44.9 AV	54.0	-9.1	2.16 H	332	27.49	17.44
5	15600.00	61.1 PK	74.0	-12.9	3.15 H	41	40.16	20.93
6	15600.00	46.6 AV	54.0	-7.4	3.15 H	41	25.65	20.93
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	113.9 PK			3.50 V	77	106.89	7.01
2	*5200.00	104.6 AV			3.50 V	77	97.54	7.01
3	#10400.00	58.7 PK	74.0	-15.3	1.60 V	273	41.26	17.44
4	#10400.00	44.8 AV	54.0	-9.2	1.60 V	273	27.34	17.44
5	15600.00	62.7 PK	74.0	-11.3	3.99 V	32	41.76	20.93
6	15600.00	47.8 AV	54.0	-6.2	3.99 V	32	26.87	20.93

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) – Pre-Amplifier 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.

CHANNEL	TX Channel 48	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	111.0 PK			1.94 H	46	103.88	7.16
2	*5240.00	103.0 AV			1.94 H	46	95.86	7.16
3	5350.00	58.1 PK	74.0	-15.9	1.94 H	46	50.46	7.64
4	5350.00	44.3 AV	54.0	-9.7	1.94 H	46	36.66	7.64
5	#10480.00	57.7 PK	74.0	-16.3	2.69 H	34	39.85	17.87
6	#10480.00	43.1 AV	54.0	-10.9	2.69 H	34	25.20	17.87
7	15720.00	59.9 PK	74.0	-14.2	2.05 H	79	39.79	20.06
8	15720.00	45.1 AV	54.0	-8.9	2.05 H	79	25.03	20.06
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	114.7 PK			3.00 V	350	107.50	7.16
2	*5240.00	105.3 AV			3.00 V	350	98.11	7.16
3	5350.00	59.3 PK	74.0	-14.7	3.00 V	350	51.65	7.64
4	5350.00	44.9 AV	54.0	-9.1	3.00 V	350	37.22	7.64
5	#10480.00	58.1 PK	74.0	-15.9	1.85 V	44	40.22	17.87
6	#10480.00	44.0 AV	54.0	-10.0	1.85 V	44	26.14	17.87
7	15720.00	60.9 PK	74.0	-13.1	2.94 V	67	40.87	20.06
8	15720.00	47.9 AV	54.0	-6.2	2.94 V	67	27.79	20.06

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) – Pre-Amplifier 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.

CHANNEL	TX Channel 149	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	#5649.99	60.8 PK	68.2	-7.4	3.26 H	16	52.16	8.64
2	*5745.00	117.1 PK			3.26 H	16	108.64	8.43
3	*5745.00	104.8 AV			3.26 H	16	96.36	8.43
4	11490.00	56.6 PK	74.0	-17.4	2.08 H	164	37.94	18.65
5	11490.00	45.7 AV	54.0	-8.4	2.08 H	164	27.00	18.65
6	#17235.00	61.4 PK	68.2	-6.8	3.40 H	11	38.63	22.74
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	#5649.99	61.9 PK	68.2	-6.3	2.70 V	295	53.22	8.64
2	*5745.00	119.9 PK			2.70 V	295	111.49	8.43
3	*5745.00	108.1 AV			2.70 V	295	99.66	8.43
4	11490.00	56.8 PK	74.0	-17.2	2.43 V	202	38.14	18.65
5	11490.00	45.8 AV	54.0	-8.2	2.43 V	202	27.16	18.65
6	#17235.00	62.0 PK	68.2	-6.2	3.31 V	20	39.26	22.74

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) – Pre-Amplifier 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.

CHANNEL	TX Channel 157	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	117.0 PK			2.15 H	335	108.64	8.34
2	*5785.00	104.6 AV			2.15 H	335	96.23	8.34
3	11570.00	57.6 PK	74.0	-16.4	2.36 H	332	38.79	18.81
4	11570.00	43.5 AV	54.0	-10.5	2.36 H	332	24.68	18.81
5	#17355.00	61.7 PK	68.2	-6.6	2.83 H	342	37.96	23.69
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	119.9 PK			2.47 V	154	111.53	8.34
2	*5785.00	107.8 AV			2.47 V	154	99.50	8.34
3	11570.00	58.5 PK	74.0	-15.5	1.54 V	141	39.64	18.81
4	11570.00	44.2 AV	54.0	-9.9	1.54 V	141	25.34	18.81
5	#17355.00	62.1 PK	68.2	-6.1	2.38 V	325	38.42	23.69

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) – Pre-Amplifier 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.

CHANNEL	TX Channel 165	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	118.0 PK			2.50 H	33	109.65	8.33
2	*5825.00	104.8 AV			2.50 H	33	96.45	8.33
3	#5925.01	60.2 PK	68.2	-8.0	2.50 H	33	51.70	8.50
4	11650.00	56.6 PK	74.0	-17.4	2.12 H	36	38.05	18.59
5	11650.00	42.7 AV	54.0	-11.3	2.12 H	36	24.11	18.59
6	#17475.00	61.7 PK	68.2	-6.5	2.77 H	341	36.85	24.87
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	120.5 PK			2.46 V	352	112.16	8.33
2	*5825.00	108.0 AV			2.46 V	352	99.70	8.33
3	#5925.01	61.2 PK	68.2	-7.0	2.46 V	352	52.73	8.50
4	11650.00	57.3 PK	74.0	-16.7	1.84 V	201	38.66	18.59
5	11650.00	43.5 AV	54.0	-10.5	1.84 V	201	24.95	18.59
6	#17475.00	62.1 PK	68.2	-6.1	2.99 V	110	37.22	24.87

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) – Pre-Amplifier 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 (40MHz)

CHANNEL	TX Channel 38	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	64.1 PK	74.0	-9.9	1.64 H	251	57.26	6.85
2	5150.00	48.5 AV	54.0	-5.5	1.64 H	251	41.69	6.85
3	*5190.00	105.7 PK			1.64 H	251	98.69	6.99
4	*5190.00	95.6 AV			1.64 H	251	88.65	6.99
5	#10380.00	57.0 PK	74.0	-17.0	1.43 H	31	39.68	17.29
6	#10380.00	42.8 AV	54.0	-11.3	1.43 H	31	25.46	17.29
7	15570.00	59.4 PK	74.0	-14.6	2.69 H	55	38.64	20.74
8	15570.00	46.4 AV	54.0	-7.6	2.69 H	55	25.64	20.74
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	67.6 PK	74.0	-6.4	1.67 V	78	60.78	6.85
2	5150.00	52.8 AV	54.0	-1.2	1.67 V	78	45.95	6.85
3	*5190.00	108.8 PK			1.67 V	78	101.77	6.99
4	*5190.00	98.1 AV			1.67 V	78	91.10	6.99
5	#10380.00	57.6 PK	74.0	-16.5	1.88 V	4	40.26	17.29
6	#10380.00	43.7 AV	54.0	-10.3	1.88 V	4	26.45	17.29
7	15570.00	60.2 PK	74.0	-13.8	2.44 V	358	39.43	20.74
8	15570.00	46.9 AV	54.0	-7.1	2.44 V	358	26.19	20.74

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) – Pre-Amplifier 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.

CHANNEL	TX Channel 46	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	108.5 PK			2.06 H	99	101.36	7.13
2	*5230.00	98.8 AV			2.06 H	99	91.64	7.13
3	5350.00	59.3 PK	74.0	-14.7	2.06 H	99	51.64	7.64
4	5350.00	44.0 AV	54.0	-10.0	2.06 H	99	36.39	7.64
5	#10460.00	56.4 PK	74.0	-17.6	2.98 H	174	38.67	17.77
6	#10460.00	42.9 AV	54.0	-11.1	2.98 H	174	25.16	17.77
7	15690.00	59.6 PK	74.0	-14.4	3.21 H	194	39.26	20.36
8	15690.00	46.0 AV	54.0	-8.0	3.21 H	194	25.64	20.36
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	111.8 PK			1.49 V	78	104.67	7.13
2	*5230.00	101.6 AV			1.49 V	78	94.46	7.13
3	5350.00	61.5 PK	74.0	-12.5	1.49 V	78	53.90	7.64
4	5350.00	47.2 AV	54.0	-6.8	1.49 V	78	39.56	7.64
5	#10460.00	57.4 PK	74.0	-16.6	1.83 V	44	39.64	17.77
6	#10460.00	44.8 AV	54.0	-9.2	1.83 V	44	26.99	17.77
7	15690.00	60.8 PK	74.0	-13.2	3.17 V	273	40.46	20.36
8	15690.00	47.8 AV	54.0	-6.2	3.17 V	273	27.47	20.36

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) – Pre-Amplifier 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.

CHANNEL	TX Channel 151	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	#5649.99	65.0 PK	68.2	-3.2	1.86 H	295	56.39	8.64
2	*5755.00	113.3 PK			1.86 H	295	104.84	8.41
3	*5755.00	102.6 AV			1.86 H	295	94.22	8.41
4	11510.00	56.3 PK	74.0	-17.7	2.19 H	342	37.67	18.61
5	11510.00	43.1 AV	54.0	-10.9	2.19 H	342	24.46	18.61
6	#17265.00	61.0 PK	68.2	-7.2	3.62 H	154	38.14	22.85
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	#5649.99	67.1 PK	68.2	-1.1	3.10 V	5	58.50	8.64
2	*5755.00	115.9 PK			3.10 V	5	107.47	8.41
3	*5755.00	105.9 AV			3.10 V	5	97.49	8.41
4	11510.00	57.3 PK	74.0	-16.7	3.09 V	313	38.73	18.61
5	11510.00	44.5 AV	54.0	-9.5	3.09 V	313	25.92	18.61
6	#17265.00	62.0 PK	68.2	-6.2	3.12 V	62	39.13	22.85

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) – Pre-Amplifier 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.

CHANNEL	TX Channel 159	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	113.4 PK			3.21 H	186	105.05	8.32
2	*5795.00	103.5 AV			3.21 H	186	95.22	8.32
3	#5925.01	64.8 PK	68.2	-3.4	3.21 H	186	56.29	8.50
4	11590.00	56.4 PK	74.0	-17.6	1.77 H	4	37.49	18.87
5	11590.00	43.9 AV	54.0	-10.1	1.77 H	4	25.03	18.87
6	#17385.00	61.6 PK	68.2	-6.6	2.63 H	95	37.49	24.09
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	116.6 PK			2.67 V	9	108.27	8.32
2	*5795.00	106.3 AV			2.67 V	9	98.00	8.32
3	#5925.01	67.1 PK	68.2	-1.1	2.67 V	9	58.57	8.50
4	11590.00	57.3 PK	74.0	-16.7	2.57 V	44	38.41	18.87
5	11590.00	44.8 AV	54.0	-9.3	2.57 V	44	25.88	18.87
6	#17385.00	62.1 PK	68.2	-6.1	3.11 V	20	38.05	24.09

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) – Pre-Amplifier 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)

CHANNEL	TX Channel 42	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	67.5 PK	74.0	-6.5	4.00 H	40	60.68	6.85
2	5150.00	50.1 AV	54.0	-3.9	4.00 H	40	43.23	6.85
3	*5210.00	105.4 PK			4.00 H	40	98.38	7.05
4	*5210.00	95.5 AV			4.00 H	40	88.40	7.05
5	5350.00	59.3 PK	74.0	-14.7	4.00 H	40	51.66	7.64
6	5350.00	45.5 AV	54.0	-8.5	4.00 H	40	37.88	7.64
7	#10420.00	56.7 PK	74.0	-17.3	2.84 H	179	39.13	17.55
8	#10420.00	43.5 AV	54.0	-10.5	2.84 H	179	25.98	17.55
9	15630.00	59.5 PK	74.0	-14.5	3.11 H	203	38.75	20.74
10	15630.00	46.2 AV	54.0	-7.8	3.11 H	203	25.43	20.74
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	68.7 PK	74.0	-5.3	1.50 V	79	61.81	6.85
2	5150.00	52.7 AV	54.0	-1.3	1.50 V	79	45.83	6.85
3	*5210.00	106.2 PK			1.50 V	79	99.12	7.05
4	*5210.00	96.1 AV			1.50 V	79	89.09	7.05
5	5350.00	60.2 PK	74.0	-13.8	1.50 V	79	52.58	7.64
6	5350.00	45.6 AV	54.0	-8.4	1.50 V	79	37.92	7.64
7	#10420.00	56.8 PK	74.0	-17.2	1.75 V	38	39.22	17.55
8	#10420.00	44.4 AV	54.0	-9.6	1.75 V	38	26.83	17.55
9	15630.00	60.4 PK	74.0	-13.6	3.00 V	254	39.64	20.74
10	15630.00	46.8 AV	54.0	-7.2	3.00 V	254	26.08	20.74

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) – Pre-Amplifier 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.

CHANNEL	TX Channel 155	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	#5649.99	65.1 PK	68.2	-3.1	2.08 H	85	56.43	8.64
2	*5775.00	110.0 PK			2.08 H	85	101.64	8.37
3	*5775.00	99.4 AV			2.08 H	85	91.03	8.37
4	#5925.01	61.7 PK	68.2	-6.5	2.08 H	85	53.19	8.50
5	11550.00	55.9 PK	74.0	-18.1	1.34 H	291	37.13	18.74
6	11550.00	43.4 AV	54.0	-10.6	1.34 H	291	24.69	18.74
7	#17325.00	60.5 PK	68.2	-7.7	1.99 H	2	37.16	23.30
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	**#5649.99**	**67.2 PK**	**68.2**	**-1.0**	**3.09 V**	**8**	**58.52**	**8.64**
2	*5775.00	113.1 PK			3.09 V	8	104.75	8.37
3	*5775.00	103.0 AV			3.09 V	8	94.58	8.37
4	#5925.01	63.6 PK	68.2	-4.6	3.09 V	8	55.07	8.50
5	11550.00	57.7 PK	74.0	-16.3	2.98 V	44	38.98	18.74
6	11550.00	44.1 AV	54.0	-9.9	2.98 V	44	25.36	18.74
7	#17325.00	61.8 PK	68.2	-6.4	2.10 V	2	38.46	23.30

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier 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.

Beamforming Mode

802.11ac (20MHz)

CHANNEL	TX Channel 36	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	65.5 PK	74.0	-8.5	3.47 H	268	58.67	6.85
2	5150.00	48.1 AV	54.0	-5.9	3.47 H	268	41.24	6.85
3	*5180.00	112.5 PK			3.47 H	268	105.51	6.95
4	*5180.00	101.5 AV			3.47 H	268	94.57	6.95
5	#10360.00	55.7 PK	74.0	-18.3	1.82 H	271	38.58	17.14
6	#10360.00	41.3 AV	54.0	-12.7	1.82 H	271	24.15	17.14
7	15540.00	58.2 PK	74.0	-15.8	2.06 H	283	37.69	20.55
8	15540.00	45.3 AV	54.0	-8.7	2.06 H	283	24.75	20.55
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	66.3 PK	74.0	-7.7	2.84 V	94	59.42	6.85
2	5150.00	52.2 AV	54.0	-1.8	2.84 V	94	45.32	6.85
3	*5180.00	116.0 PK			2.84 V	94	109.04	6.95
4	*5180.00	103.6 AV			2.84 V	94	96.65	6.95
5	#10360.00	56.2 PK	74.0	-17.8	1.40 V	316	39.08	17.14
6	#10360.00	43.4 AV	54.0	-10.7	1.40 V	316	26.21	17.14
7	15540.00	59.2 PK	74.0	-14.8	1.62 V	265	38.65	20.55
8	15540.00	45.7 AV	54.0	-8.3	1.62 V	265	25.16	20.55

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) – Pre-Amplifier 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.

CHANNEL	TX Channel 40	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	112.9 PK			1.89 H	274	105.86	7.01
2	*5200.00	103.9 AV			1.89 H	274	96.87	7.01
3	#10400.00	57.3 PK	74.0	-16.7	2.38 H	95	39.86	17.44
4	#10400.00	43.4 AV	54.0	-10.6	2.38 H	95	25.98	17.44
5	15600.00	59.8 PK	74.0	-14.2	1.33 H	245	38.88	20.93
6	15600.00	45.7 AV	54.0	-8.3	1.33 H	245	24.78	20.93
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	115.4 PK			2.67 V	246	108.37	7.01
2	*5200.00	104.9 AV			2.67 V	246	97.93	7.01
3	#10400.00	57.6 PK	74.0	-16.4	1.92 V	306	40.19	17.44
4	#10400.00	44.3 AV	54.0	-9.7	1.92 V	306	26.88	17.44
5	15600.00	60.4 PK	74.0	-13.7	3.08 V	253	39.42	20.93
6	15600.00	47.1 AV	54.0	-6.9	3.08 V	253	26.19	20.93

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) – Pre-Amplifier 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.

CHANNEL	TX Channel 48	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	110.0 PK			2.94 H	344	102.85	7.16
2	*5240.00	102.0 AV			2.94 H	344	94.85	7.16
3	5350.00	57.1 PK	74.0	-16.9	2.94 H	344	49.42	7.64
4	5350.00	44.0 AV	54.0	-10.0	2.94 H	344	36.32	7.64
5	#10480.00	57.5 PK	74.0	-16.5	2.05 H	132	39.62	17.87
6	#10480.00	42.9 AV	54.0	-11.1	2.05 H	132	25.05	17.87
7	15720.00	59.3 PK	74.0	-14.7	1.86 H	306	39.28	20.06
8	15720.00	44.3 AV	54.0	-9.7	1.86 H	306	24.28	20.06
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	113.8 PK			2.88 V	280	106.64	7.16
2	*5240.00	103.9 AV			2.88 V	280	96.69	7.16
3	5350.00	59.1 PK	74.0	-14.9	2.88 V	280	51.44	7.64
4	5350.00	44.1 AV	54.0	-9.9	2.88 V	280	36.45	7.64
5	#10480.00	57.7 PK	74.0	-16.3	2.56 V	129	39.82	17.87
6	#10480.00	43.8 AV	54.0	-10.2	2.56 V	129	25.89	17.87
7	15720.00	59.5 PK	74.0	-14.5	3.01 V	6	39.47	20.06
8	15720.00	47.5 AV	54.0	-6.5	3.01 V	6	27.41	20.06

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) – Pre-Amplifier 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.

CHANNEL	TX Channel 149	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	#5649.99	60.3 PK	68.2	-8.0	1.58 H	274	51.61	8.64
2	*5745.00	109.0 PK			1.58 H	274	100.56	8.43
3	*5745.00	98.7 AV			1.58 H	274	90.25	8.43
4	11490.00	55.8 PK	74.0	-18.2	2.23 H	184	37.16	18.65
5	11490.00	44.8 AV	54.0	-9.2	2.23 H	184	26.13	18.65
6	#17235.00	61.0 PK	68.2	-7.2	1.85 H	34	38.26	22.74
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	#5649.99	60.4 PK	68.2	-7.8	2.73 V	285	51.79	8.64
2	*5745.00	112.1 PK			2.73 V	285	103.62	8.43
3	*5745.00	100.8 AV			2.73 V	285	92.37	8.43
4	11490.00	56.3 PK	74.0	-17.7	3.14 V	251	37.64	18.65
5	11490.00	45.2 AV	54.0	-8.8	3.14 V	251	26.53	18.65
6	#17235.00	61.9 PK	68.2	-6.3	2.01 V	2	39.12	22.74

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) – Pre-Amplifier 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.

CHANNEL	TX Channel 157	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	109.6 PK			1.53 H	269	101.23	8.34
2	*5785.00	99.8 AV			1.53 H	269	91.45	8.34
3	11570.00	56.9 PK	74.0	-17.1	2.18 H	179	38.11	18.81
4	11570.00	43.4 AV	54.0	-10.6	2.18 H	179	24.59	18.81
5	#17355.00	61.5 PK	68.2	-6.7	1.80 H	26	37.82	23.69
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	113.0 PK			2.95 V	357	104.63	8.34
2	*5785.00	101.8 AV			2.95 V	357	93.50	8.34
3	11570.00	58.3 PK	74.0	-15.7	3.07 V	243	39.52	18.81
4	11570.00	44.0 AV	54.0	-10.0	3.07 V	243	25.22	18.81
5	#17355.00	61.9 PK	68.2	-6.3	1.93 V	6	38.20	23.69

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) – Pre-Amplifier 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.

CHANNEL	TX Channel 165	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	111.7 PK			3.49 H	264	103.38	8.33
2	*5825.00	101.5 AV			3.49 H	264	93.18	8.33
3	#5925.01	58.9 PK	68.2	-9.3	3.49 H	264	50.39	8.50
4	11650.00	56.6 PK	74.0	-17.4	2.17 H	193	38.01	18.59
5	11650.00	42.6 AV	54.0	-11.4	2.17 H	193	24.03	18.59
6	#17475.00	61.6 PK	68.2	-6.6	1.89 H	30	36.75	24.87
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	113.6 PK			2.46 V	358	105.27	8.33
2	*5825.00	102.4 AV			2.46 V	358	94.02	8.33
3	#5925.01	60.1 PK	68.2	-8.1	2.46 V	358	51.62	8.50
4	11650.00	57.1 PK	74.0	-16.9	3.08 V	243	38.52	18.59
5	11650.00	43.5 AV	54.0	-10.6	3.08 V	243	24.86	18.59
6	#17475.00	62.1 PK	68.2	-6.1	2.13 V	12	37.20	24.87

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) – Pre-Amplifier 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 (40MHz)

CHANNEL	TX Channel 38	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	65.5 PK	74.0	-8.5	1.82 H	348	58.67	6.85
2	5150.00	47.9 AV	54.0	-6.1	1.82 H	348	41.02	6.85
3	*5190.00	105.5 PK			1.82 H	348	98.46	6.99
4	*5190.00	93.5 AV			1.82 H	348	86.55	6.99
5	#10380.00	56.5 PK	74.0	-17.5	1.18 H	284	39.22	17.29
6	#10380.00	42.8 AV	54.0	-11.3	1.18 H	284	25.46	17.29
7	15570.00	59.2 PK	74.0	-14.8	1.66 H	140	38.42	20.74
8	15570.00	45.4 AV	54.0	-8.6	1.66 H	140	24.63	20.74
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	67.2 PK	74.0	-6.8	2.92 V	100	60.34	6.85
2	5150.00	52.1 AV	54.0	-1.9	2.92 V	100	45.26	6.85
3	*5190.00	108.2 PK			2.92 V	100	101.22	6.99
4	*5190.00	97.0 AV			2.92 V	100	89.96	6.99
5	#10380.00	56.9 PK	74.0	-17.1	2.23 V	156	39.64	17.29
6	#10380.00	43.4 AV	54.0	-10.6	2.23 V	156	26.15	17.29
7	15570.00	59.6 PK	74.0	-14.5	2.79 V	264	38.81	20.74
8	15570.00	45.9 AV	54.0	-8.1	2.79 V	264	25.13	20.74

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) – Pre-Amplifier 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.

CHANNEL	TX Channel 46	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	109.6 PK			1.78 H	69	102.45	7.13
2	*5230.00	97.8 AV			1.78 H	69	90.69	7.13
3	5350.00	59.8 PK	74.0	-14.2	1.78 H	69	52.16	7.64
4	5350.00	45.1 AV	54.0	-8.9	1.78 H	69	37.44	7.64
5	#10460.00	54.2 PK	74.0	-19.8	1.87 H	206	36.44	17.77
6	#10460.00	42.6 AV	54.0	-11.4	1.87 H	206	24.81	17.77
7	15690.00	59.6 PK	74.0	-14.4	2.21 H	13	39.25	20.36
8	15690.00	45.6 AV	54.0	-8.4	2.21 H	13	25.22	20.36
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	112.3 PK			2.42 V	56	105.20	7.13
2	*5230.00	101.1 AV			2.42 V	56	93.96	7.13
3	5350.00	61.0 PK	74.0	-13.0	2.42 V	56	53.37	7.64
4	5350.00	45.9 AV	54.0	-8.1	2.42 V	56	38.29	7.64
5	#10460.00	57.2 PK	74.0	-16.8	1.11 V	265	39.41	17.77
6	#10460.00	44.3 AV	54.0	-9.8	1.11 V	265	26.48	17.77
7	15690.00	60.0 PK	74.0	-14.0	2.54 V	184	39.63	20.36
8	15690.00	47.5 AV	54.0	-6.5	2.54 V	184	27.16	20.36

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) – Pre-Amplifier 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.

CHANNEL	TX Channel 151	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	#5649.99	64.6 PK	68.2	-3.6	3.33 H	265	55.93	8.64
2	*5755.00	109.6 PK			3.33 H	265	101.18	8.41
3	*5755.00	97.5 AV			3.33 H	265	89.09	8.41
4	11510.00	56.2 PK	74.0	-17.8	2.08 H	199	37.63	18.61
5	11510.00	43.0 AV	54.0	-11.0	2.08 H	199	24.40	18.61
6	#17265.00	60.7 PK	68.2	-7.5	1.79 H	42	37.89	22.85
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	#5649.99	66.6 PK	68.2	-1.6	2.23 V	287	57.94	8.64
2	*5755.00	112.9 PK			2.23 V	287	104.46	8.41
3	*5755.00	101.8 AV			2.23 V	287	93.40	8.41
4	11510.00	57.2 PK	74.0	-16.8	2.91 V	260	38.56	18.61
5	11510.00	44.3 AV	54.0	-9.7	2.91 V	260	25.69	18.61
6	#17265.00	61.8 PK	68.2	-6.4	1.82 V	23	38.96	22.85

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) – Pre-Amplifier 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.

CHANNEL	TX Channel 159	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	110.5 PK			3.24 H	263	102.22	8.32
2	*5795.00	98.2 AV			3.24 H	263	89.89	8.32
3	#5925.01	62.7 PK	68.2	-5.5	3.24 H	263	54.17	8.50
4	11590.00	56.3 PK	74.0	-17.7	2.00 H	200	37.39	18.87
5	11590.00	43.9 AV	54.0	-10.1	2.00 H	200	25.00	18.87
6	#17385.00	61.4 PK	68.2	-6.8	1.60 H	51	37.28	24.09
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5795.00	113.6 PK			2.47 V	287	105.28	8.32
2	*5795.00	100.8 AV			2.47 V	287	92.43	8.32
3	#5925.01	64.4 PK	68.2	-3.8	2.47 V	287	55.93	8.50
4	11590.00	57.3 PK	74.0	-16.7	2.38 V	170	38.39	18.87
5	11590.00	44.6 AV	54.0	-9.4	2.38 V	170	25.76	18.87
6	#17385.00	62.1 PK	68.2	-6.1	1.77 V	4	38.00	24.09

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) – Pre-Amplifier 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)

CHANNEL	TX Channel 42	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	67.1 PK	74.0	-6.9	2.28 H	56	60.25	6.85
2	5150.00	52.0 AV	54.0	-2.0	2.28 H	56	45.12	6.85
3	*5210.00	107.3 PK			2.28 H	56	100.26	7.05
4	*5210.00	97.6 AV			2.28 H	56	90.58	7.05
5	5350.00	57.9 PK	74.0	-16.1	2.28 H	56	50.28	7.64
6	5350.00	44.5 AV	54.0	-9.5	2.28 H	56	36.86	7.64
7	#10420.00	56.1 PK	74.0	-17.9	1.87 H	194	38.52	17.55
8	#10420.00	43.9 AV	54.0	-10.1	1.87 H	194	26.34	17.55
9	15630.00	59.2 PK	74.0	-14.8	1.33 H	315	38.46	20.74
10	15630.00	46.8 AV	54.0	-7.3	1.33 H	315	26.01	20.74
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	68.7 PK	74.0	-5.3	2.71 V	287	61.83	6.85
2	5150.00	52.4 AV	54.0	-1.6	2.71 V	287	45.58	6.85
3	*5210.00	110.8 PK			2.71 V	287	103.77	7.05
4	*5210.00	96.1 AV			2.71 V	287	89.05	7.05
5	5350.00	58.9 PK	74.0	-15.1	2.71 V	287	51.23	7.64
6	5350.00	44.8 AV	54.0	-9.2	2.71 V	287	37.15	7.64
7	#10420.00	56.5 PK	74.0	-17.5	2.19 V	145	38.93	17.55
8	#10420.00	44.3 AV	54.0	-9.7	2.19 V	145	26.79	17.55
9	15630.00	60.0 PK	74.0	-14.0	1.92 V	341	39.22	20.74
10	15630.00	47.1 AV	54.0	-6.9	1.92 V	341	26.34	20.74

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) – Pre-Amplifier 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.

CHANNEL	TX Channel 155	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	#5649.99	64.8 PK	68.2	-3.4	3.01 H	257	56.17	8.64
2	*5775.00	107.3 PK			3.01 H	257	98.96	8.37
3	*5775.00	94.4 AV			3.01 H	257	85.99	8.37
4	#5925.01	61.6 PK	68.2	-6.6	3.01 H	257	53.11	8.50
5	11550.00	55.8 PK	74.0	-18.2	2.03 H	211	37.08	18.74
6	11550.00	43.3 AV	54.0	-10.7	2.03 H	211	24.58	18.74
7	#17325.00	60.4 PK	68.2	-7.8	1.57 H	43	37.10	23.30
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5649.99	67.1 PK	68.2	-1.1	2.51 V	285	58.45	8.64
2	*5775.00	110.1 PK			2.51 V	285	101.76	8.37
3	*5775.00	97.2 AV			2.51 V	285	88.84	8.37
4	#5925.01	66.5 PK	68.2	-1.7	2.51 V	285	58.02	8.50
5	11550.00	57.5 PK	74.0	-16.5	2.31 V	178	38.75	18.74
6	11550.00	43.9 AV	54.0	-10.1	2.31 V	178	25.17	18.74
7	#17325.00	61.5 PK	68.2	-6.7	2.14 V	5	38.23	23.30

REMARKS:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier 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

802.11ac (40MHz)

CHANNEL	TX Channel 46	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 1GHz		

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	30.29	25.0 QP	40.0	-15.0	4.00 H	240	36.53	-11.49
2	81.22	21.9 QP	40.0	-18.1	4.00 H	258	36.12	-14.21
3	320.08	35.4 QP	46.0	-10.7	3.27 H	240	42.76	-7.41
4	502.04	29.5 QP	46.0	-16.5	1.88 H	219	33.10	-3.59
5	849.94	31.1 QP	46.0	-14.9	1.03 H	94	29.03	2.10
6	919.44	33.3 QP	46.0	-12.7	1.00 H	247	29.11	4.15
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	36.16	32.3 QP	40.0	-7.7	1.66 V	173	43.33	-11.07
2	103.72	23.9 QP	43.5	-19.6	1.19 V	64	37.42	-13.53
3	319.59	39.9 QP	46.0	-6.1	1.87 V	9	47.35	-7.41
4	501.61	30.7 QP	46.0	-15.3	2.31 V	48	34.26	-3.59
5	799.99	31.9 QP	46.0	-14.1	2.68 V	324	30.38	1.54
6	944.86	33.0 QP	46.0	-13.0	1.93 V	194	28.47	4.51

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) – Pre-Amplifier 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.	Cal. Date	Cal. Due
ROHDE & SCHWARZ TEST RECEIVER	ESCS 30	100276	Apr. 12, 2016	Apr. 11, 2017
ROHDE & SCHWARZ Artificial Mains Network (for EUT)	ENV216	101197	May 04, 2016	May 03, 2017
LISN With Adapter (for EUT)	AD10	C10Ada-002	May 04, 2016	May 03, 2017
ROHDE & SCHWARZ Artificial Mains Network (for peripherals)	ESH3-Z5	100218	Nov. 25, 2015	Nov. 24, 2016
SCHWARZBECK Artificial Mains Network (For EUT)	NNLK8129	8129229	May 04, 2016	May 03, 2017
Software	Cond_V7.3.7	NA	NA	NA
RF cable (JYEBAO) With 10dB PAD	5D-FB	Cable-C10.01	Feb. 15, 2016	Feb. 14, 2017
SUHNER Terminator (For ROHDE & SCHWARZ LISN)	65BNC-5001	E1-011484	May 12, 2016	May 11, 2017
ROHDE & SCHWARZ Artificial Mains Network (For TV EUT)	ESH3-Z5	100220	Nov. 13, 2015	Nov. 12, 2016
LISN With Adapter (for TV EUT)	100220	N/A	Nov. 13, 2015	Nov. 12, 2016

Notes: 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 Shielded Room No. 10.
3. The VCCI Site Registration No. C-1852.
4. Tested Date: May 12, 2016.

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.

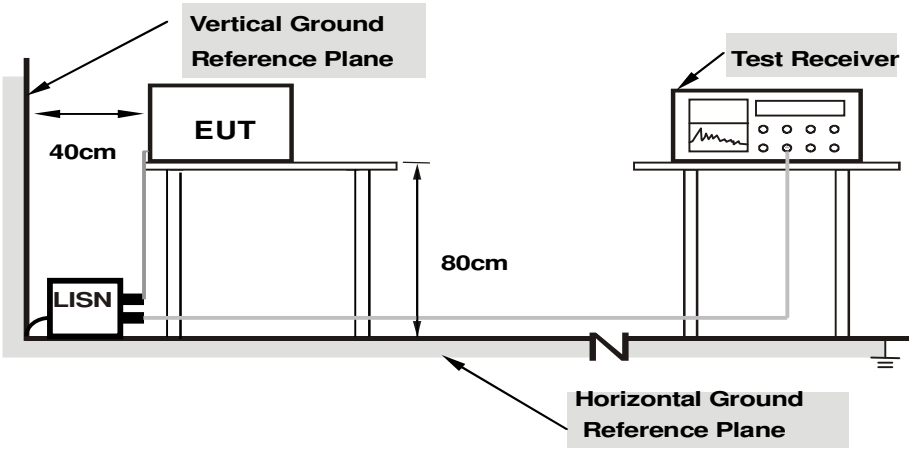
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

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

CDD Mode

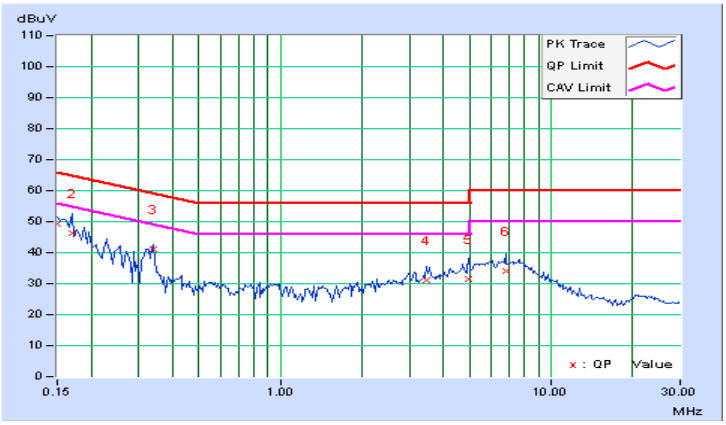
802.11ac (40MHz)

Frequency Range	150kHz ~ 30MHz	**Detector Function & Resolution Bandwidth**	Quasi-Peak (QP) / Average (AV), 9kHz

Phase Of Power : Line (L)										
No	**Frequency (MHz)**	**Correction Factor (dB)**	**Reading Value (dBuV)**		**Emission Level (dBuV)**		**Limit (dBuV)**		**Margin (dB)**	
			Q.P.	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**
1	0.15001	9.66	39.59	26.34	49.25	36.00	66.00	56.00	-16.75	-20.00
2	0.16953	9.66	36.73	22.38	46.39	32.04	64.98	54.98	-18.60	-22.95
3	**0.33750**	**9.67**	**31.49**	**28.94**	**41.16**	**38.61**	**59.26**	**49.26**	**-18.10**	**-10.65**
4	3.47656	9.97	21.14	13.89	31.11	23.86	56.00	46.00	-24.89	-22.14
5	4.98438	10.02	21.61	15.26	31.63	25.28	56.00	46.00	-24.37	-20.72
6	6.78125	10.05	23.86	18.34	33.91	28.39	60.00	50.00	-26.09	-21.61

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

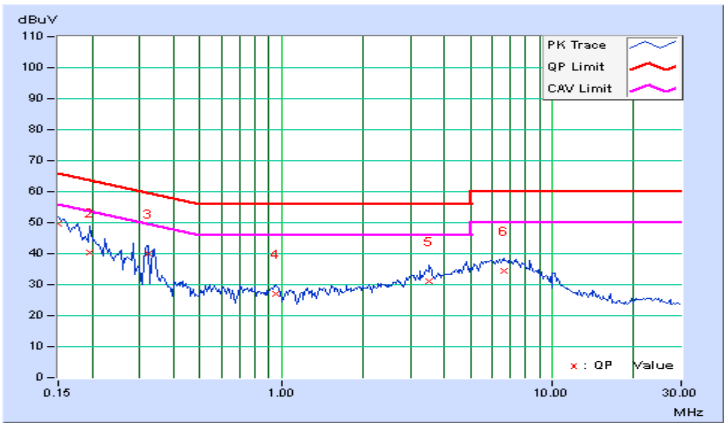


Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz

Phase Of Power : Neutral (N)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15001	9.69	39.91	26.43	49.60	36.12	66.00	56.00	-16.40	-19.88
2	0.19687	9.69	30.85	16.32	40.54	26.01	63.74	53.74	-23.20	-27.73
3	0.32188	9.71	30.19	23.76	39.90	33.47	59.66	49.66	-19.76	-16.19
4	0.95469	9.79	17.14	12.66	26.93	22.45	56.00	46.00	-29.07	-23.55
5	3.51172	10.06	21.19	13.71	31.25	23.77	56.00	46.00	-24.75	-22.23
6	6.60938	10.15	24.28	18.79	34.43	28.94	60.00	50.00	-25.57	-21.06

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

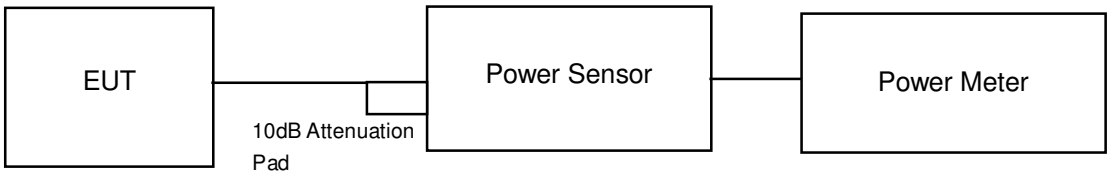
Per KDB 662911 Method of conducted output power measurement on IEEE 802.11 devices,

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 $N_{ANT} \geq 5$.

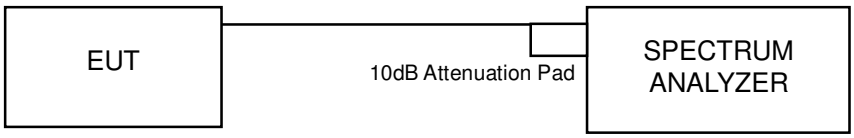
For power measurements on all other devices: Array Gain = 10 log(N_{ANT}/N_{SS}) dB.

4.3.2 Test Setup

FOR POWER OUTPUT MEASUREMENT



FOR 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, 802.11ac (20MHz), 802.11ac (40MHz)

Method PM is used to perform output power measurement, trigger and gating function of wide band power meter is enabled to measure max output power of TX on burst. Duty factor is not added to measured value.

For 802.11ac (80MHz)

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 26dB BANDWIDTH

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

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

CDD Mode

Power Output:

802.11a

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass/Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	20.36	20.61	20.24	20.73	447.709	26.51	30	Pass
40	5200	20.51	20.71	20.57	20.82	465.027	26.67	30	Pass
48	5240	20.35	20.69	20.46	20.71	454.547	26.58	30	Pass
149	5745	20.98	20.88	20.26	20.65	470.091	26.72	30	Pass
157	5785	21.10	20.96	20.37	20.73	480.76	26.82	30	Pass
165	5825	21.41	21.30	20.91	21.38	533.967	27.28	30	Pass

802.11ac (20MHz)

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass/Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	20.69	20.23	20.37	20.19	436.024	26.40	30	Pass
40	5200	20.67	20.24	20.43	20.23	438.21	26.42	30	Pass
48	5240	20.48	20.16	20.29	20.09	424.438	26.28	30	Pass
149	5745	20.62	20.43	20.21	20.52	443.427	26.47	30	Pass
157	5785	21.06	21.04	20.51	20.56	480.924	26.82	30	Pass
165	5825	21.11	21.33	20.78	21.47	524.908	27.20	30	Pass

802.11ac (40MHz)

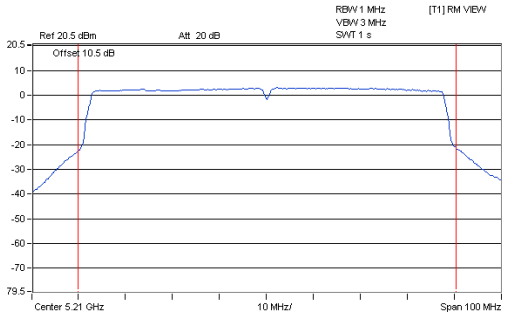
Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass/Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
38	5190	20.13	19.78	19.84	19.75	388.888	25.90	30	Pass
46	5230	21.29	20.63	20.75	20.44	**479.709**	26.81	30	Pass
151	5755	21.16	20.62	20.43	21.04	483.427	26.84	30	Pass
159	5795	21.52	21.34	20.97	21.36	**539.849**	27.32	30	Pass

802.11ac (80MHz)

Chan.	Chan. Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass/Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
42	5210	20.02	19.63	19.68	19.36	371.49	25.70	30	Pass
155	5775	19.29	19.04	18.67	18.92	316.69	25.01	30	Pass

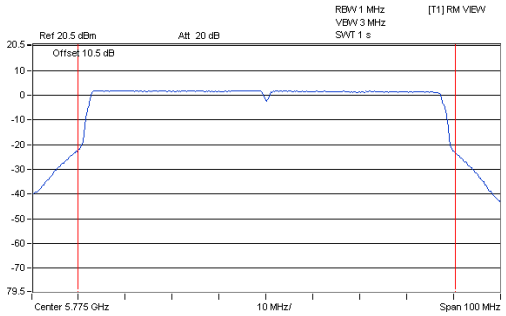
Spectrum Plot of Worst Value

802.11ac (80MHz)
Chan. 42



TX Channel Bandwidth 81 MHz Power 20.02 dBm

802.11ac (80MHz)
Chan. 155



TX Channel Bandwidth 81 MHz Power 19.29 dBm

26dB Bandwidth:

802.11a

Channel	Channel Frequency (MHz)	26dBc Bandwidth (MHz)				Pass/Fail
		Chain 0	Chain 1	Chain 2	Chain 3	
36	5180	19.92	20.17	20.15	20.08	Pass
40	5200	20.17	20.16	20.18	20.09	Pass
48	5240	20.01	20.04	20.08	20.00	Pass

802.11ac (20MHz)

Channel	Channel Frequency (MHz)	26dBc Bandwidth (MHz)				Pass/Fail
		Chain 0	Chain 1	Chain 2	Chain 3	
36	5180	20.91	20.84	20.76	20.88	Pass
40	5200	20.74	20.65	20.75	20.82	Pass
48	5240	20.55	20.61	20.72	20.57	Pass

802.11ac (40MHz)

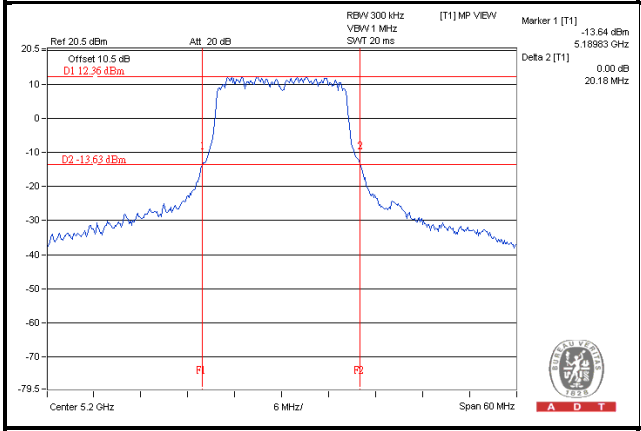
Channel	Channel Frequency (MHz)	26dBc Bandwidth (MHz)				Pass/Fail
		Chain 0	Chain 1	Chain 2	Chain 3	
38	5190	39.54	39.74	39.65	39.64	Pass
46	5230	39.70	39.64	39.74	39.52	Pass

802.11ac (80MHz)

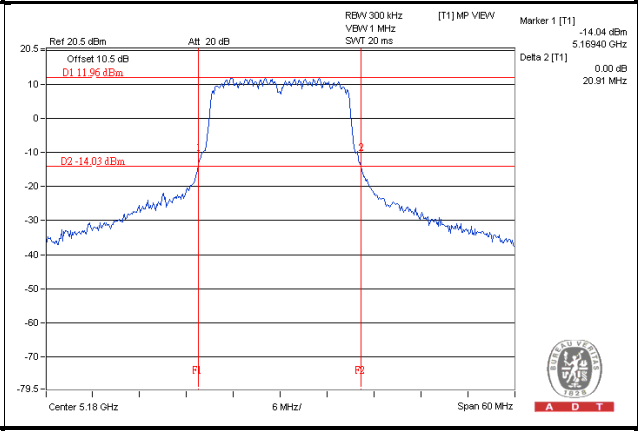
Channel	Channel Frequency (MHz)	26dBc Bandwidth (MHz)				Pass/Fail
		Chain 0	Chain 1	Chain 2	Chain 3	
42	5210	80.78	80.82	80.83	80.76	Pass

Spectrum Plot of Worst Value

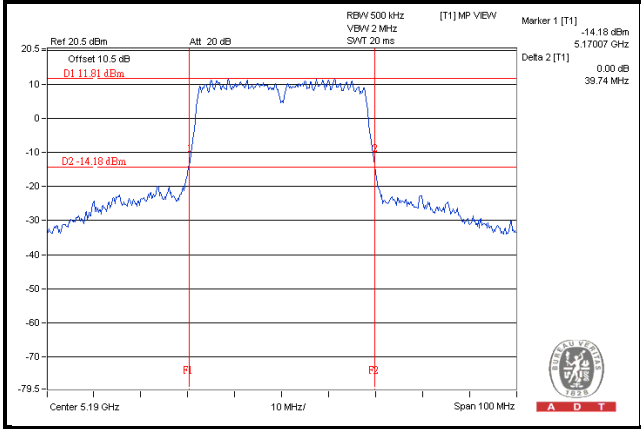
802.11a



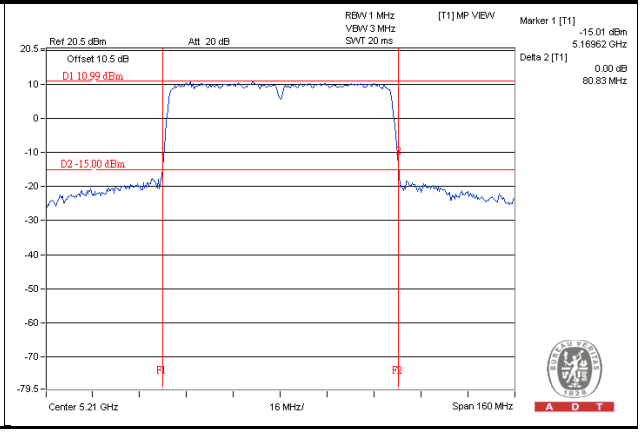
802.11ac (20MHz)



802.11ac (40MHz)



802.11ac (80MHz)



Occupied Bandwidth:

802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	OCCUPIED BANDWIDTH (MHz)				PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2	CHAIN 3	
36	5180	16.44	16.44	16.44	16.44	PASS
40	5200	16.44	16.44	16.44	16.44	PASS
48	5240	16.44	16.44	16.44	16.44	PASS
149	5745	16.52	16.60	16.60	16.70	PASS
157	5785	16.50	16.50	16.50	16.50	PASS
165	5825	16.50	16.50	16.50	16.50	PASS

802.11ac (20MHz)

CHANNEL	CHANNEL FREQUENCY (MHz)	OCCUPIED BANDWIDTH (MHz)				PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2	CHAIN 3	
36	5180	17.64	17.64	17.64	17.64	PASS
40	5200	17.64	17.64	17.64	17.64	PASS
48	5240	17.64	17.64	17.64	17.64	PASS
149	5745	17.65	17.70	17.90	18.00	PASS
157	5785	17.90	17.90	17.90	17.90	PASS
165	5825	17.70	17.90	17.90	18.00	PASS

802.11ac (40MHz)

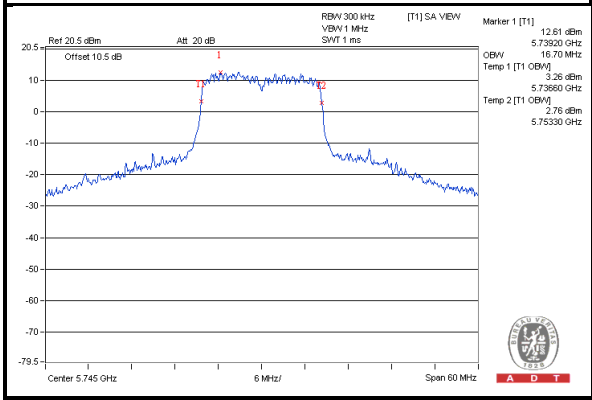
CHANNEL	CHANNEL FREQUENCY (MHz)	OCCUPIED BANDWIDTH (MHz)				PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2	CHAIN 3	
38	5190	36.00	36.20	36.00	36.00	PASS
46	5230	36.20	36.00	36.20	36.20	PASS
151	5755	36.23	36.33	36.33	36.33	PASS
159	5795	36.33	36.33	36.33	36.33	PASS

802.11ac (80MHz)

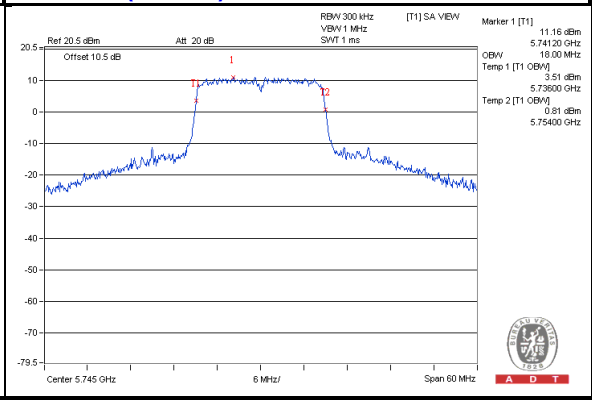
CHANNEL	CHANNEL FREQUENCY (MHz)	OCCUPIED BANDWIDTH (MHz)				PASS / FAIL
		CHAIN 0	CHAIN 1	CHAIN 2	CHAIN 3	
42	5210	75.60	75.60	75.84	75.60	PASS
155	5775	75.88	75.88	75.88	75.88	PASS

SPECTRUM PLOT OF WORST VALUE

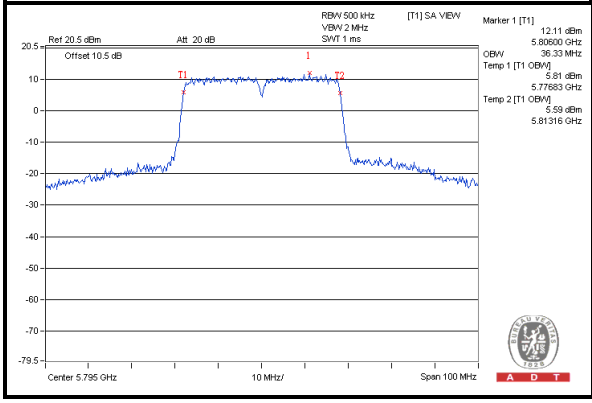
802.11a



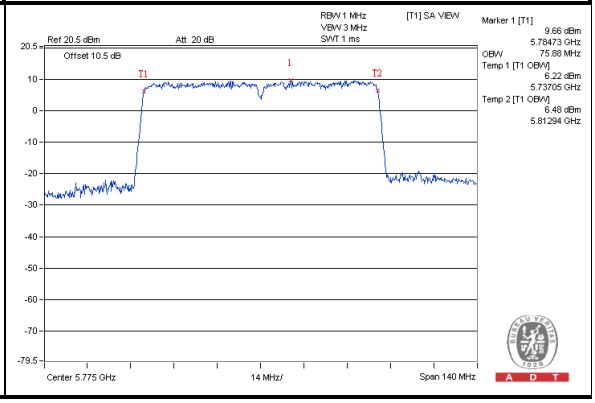
802.11ac (20MHz)



802.11ac (40MHz)



802.11ac (80MHz)

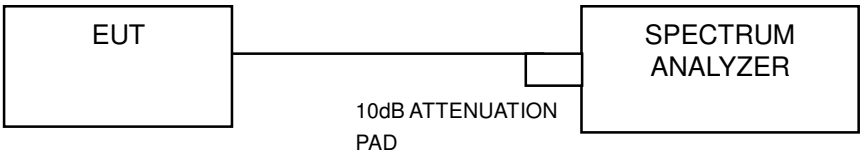


4.4 Peak Power Spectral Density Measurement

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 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 band:

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

CDD Mode

For U-NII-1 band

802.11a

Chan.	Chan. Freq. (MHz)	PSD (dBm)				Total PSD W/O Duty Factor (dBm)	Duty Factor	Total PSD WITH Duty Factor (dBm)	MAX. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3					
36	5180	7.32	7.35	7.35	7.27	13.35	0.27	13.62	14.53	Pass
40	5200	7.26	7.25	7.33	7.33	13.32	0.27	13.59	14.53	Pass
48	5240	7.15	7.18	7.25	7.23	13.23	0.27	13.50	14.53	Pass

NOTE:

1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 2.45dBi + 10log(4) = 8.47dBi > 6dBi , so the power density limit shall be reduced to 17-(8.47-6) = 14.53dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (20MHz)

Chan.	Chan. Freq. (MHz)	PSD (dBm)				Total PSD W/O Duty Factor (dBm)	Duty Factor	Total PSD WITH Duty Factor (dBm)	MAX. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3					
36	5180	6.88	6.85	6.78	6.78	12.84	0.19	13.03	14.53	Pass
40	5200	6.76	6.74	6.74	6.76	12.77	0.19	12.96	14.53	Pass
48	5240	6.71	6.71	6.68	6.70	12.72	0.19	12.91	14.53	Pass

NOTE:

1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 2.45dBi + 10log(4) = 8.47dBi > 6dBi , so the power density limit shall be reduced to 17-(8.47-6) = 14.53dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (40MHz)

Chan.	Chan. Freq. (MHz)	PSD (dBm)				Total PSD W/O Duty Factor (dBm)	Duty Factor	Total PSD WITH Duty Factor (dBm)	MAX. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3					
38	5190	3.50	3.48	3.52	3.46	9.51	0.29	9.80	14.53	Pass
46	5230	4.32	4.32	4.30	4.22	10.31	0.29	10.60	14.53	Pass

NOTE:

1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 2.45dBi + 10log(4) = 8.47dBi > 6dBi , so the power density limit shall be reduced to 17-(8.47-6) = 14.53dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (80MHz)

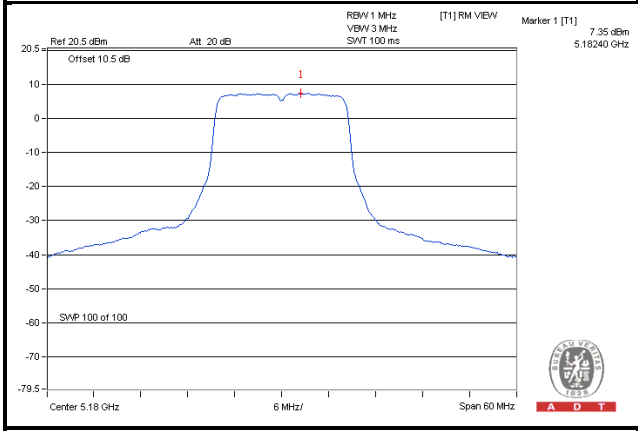
Chan.	Chan. Freq. (MHz)	PSD (dBm)				Total PSD W/O Duty Factor (dBm)	Duty Factor	Total PSD With Duty Factor (dBm)	MAX. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3					
42	5210	-0.37	-0.34	-0.37	-0.33	5.67	0.38	6.05	14.53	Pass

NOTE:

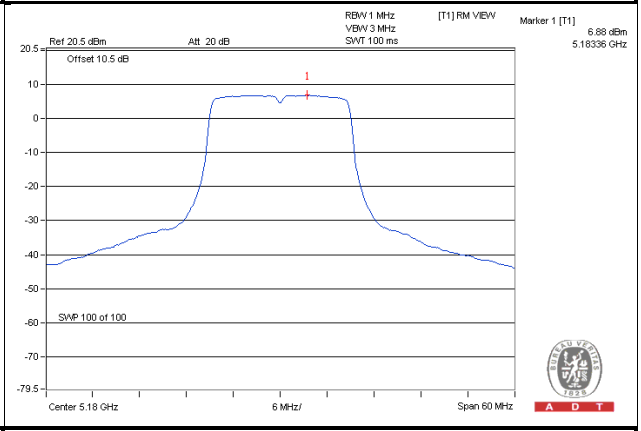
1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 2.45dBi + 10log(4) = 8.47dBi > 6dBi , so the power density limit shall be reduced to 17-(8.47-6) = 14.53dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

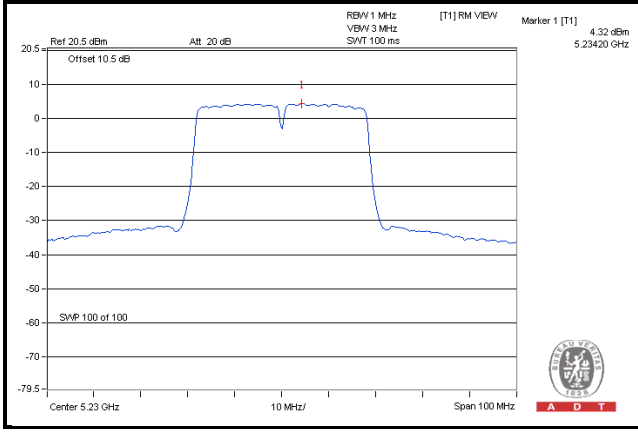
802.11a



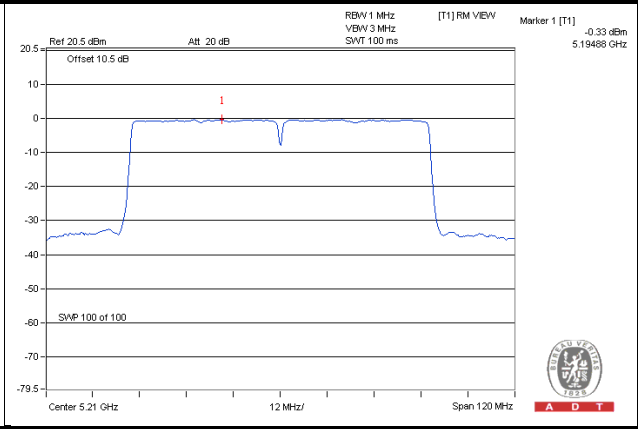
802.11ac (20MHz)



802.11ac (40MHz)



802.11ac (80MHz)



For U-NII-3 Band

802.11a

TX chain	Channel	Freq. (MHz)	PSD (dBm/500kHz)	10 log (N=4) dB	Duty Factor	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
0	149	5745	15.97	6.02	0.27	22.26	27.53	Pass
	157	5785	15.91	6.02	0.27	22.20	27.53	Pass
	165	5825	16.88	6.02	0.27	23.17	27.53	Pass
1	149	5745	15.73	6.02	0.27	22.02	27.53	Pass
	157	5785	16.11	6.02	0.27	22.40	27.53	Pass
	165	5825	16.65	6.02	0.27	22.94	27.53	Pass
2	149	5745	16.23	6.02	0.27	22.52	27.53	Pass
	157	5785	16.00	6.02	0.27	22.29	27.53	Pass
	165	5825	16.92	6.02	0.27	23.21	27.53	Pass
3	149	5745	16.21	6.02	0.27	22.50	27.53	Pass
	157	5785	16.32	6.02	0.27	22.61	27.53	Pass
	165	5825	16.54	6.02	0.27	22.83	27.53	Pass

NOTE:

1. Directional gain = 2.45dBi + 10log(4) = 8.47dBi > 6dBi, so the power density limit shall be reduced to 30-(8.47-6) = 27.53dBm.
2. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (20MHz)

TX chain	Channel	Freq. (MHz)	PSD (dBm/500kHz)	10 log (N=4) dB	Duty Factor	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
0	149	5745	14.89	6.02	0.19	21.10	27.53	Pass
	157	5785	14.89	6.02	0.19	21.10	27.53	Pass
	165	5825	15.29	6.02	0.19	21.50	27.53	Pass
1	149	5745	14.76	6.02	0.19	20.97	27.53	Pass
	157	5785	14.81	6.02	0.19	21.02	27.53	Pass
	165	5825	15.35	6.02	0.19	21.56	27.53	Pass
2	149	5745	14.96	6.02	0.19	21.17	27.53	Pass
	157	5785	14.88	6.02	0.19	21.09	27.53	Pass
	165	5825	15.25	6.02	0.19	21.46	27.53	Pass
3	149	5745	14.77	6.02	0.19	20.98	27.53	Pass
	157	5785	15.13	6.02	0.19	21.34	27.53	Pass
	165	5825	15.29	6.02	0.19	21.50	27.53	Pass

NOTE:

1. Directional gain = 2.45dBi + 10log(4) = 8.47dBi > 6dBi, so the power density limit shall be reduced to 30-(8.47-6) = 27.53dBm.
2. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (40MHz)

TX chain	Channel	Freq. (MHz)	PSD (dBm/500kHz)	10 log (N=4) dB	Duty Factor	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
0	151	5755	12.03	6.02	0.29	18.34	27.53	Pass
	159	5795	12.35	6.02	0.29	18.66	27.53	Pass
1	151	5755	11.96	6.02	0.29	18.27	27.53	Pass
	159	5795	12.32	6.02	0.29	18.63	27.53	Pass
2	151	5755	12.02	6.02	0.29	18.33	27.53	Pass
	159	5795	12.25	6.02	0.29	18.56	27.53	Pass
3	151	5755	12.02	6.02	0.29	18.33	27.53	Pass
	159	5795	12.37	6.02	0.29	18.68	27.53	Pass

NOTE:

1. Directional gain = 2.45dBi + 10log(4) = 8.47dBi > 6dBi, so the power density limit shall be reduced to 30-(8.47-6) = 27.53dBm.
2. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (80MHz)

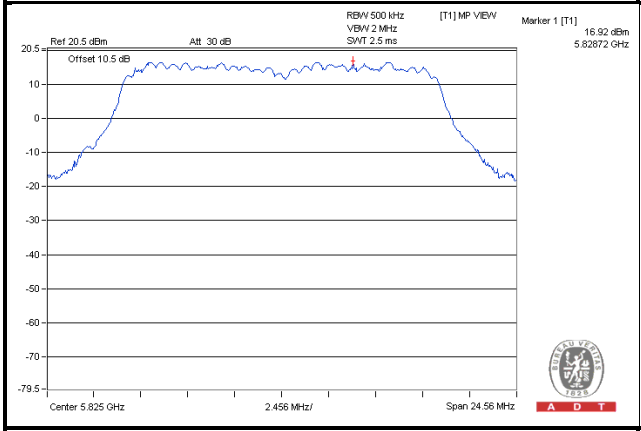
TX chain	Channel	Freq. (MHz)	PSD (dBm/500kHz)	10 log (N=4) dB	Duty Factor	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass /Fail
0	155	5775	6.48	6.02	0.38	12.88	27.53	Pass
1	155	5775	6.44	6.02	0.38	12.84	27.53	Pass
2	155	5775	6.41	6.02	0.38	12.81	27.53	Pass
3	155	5775	6.43	6.02	0.38	12.83	27.53	Pass

NOTE:

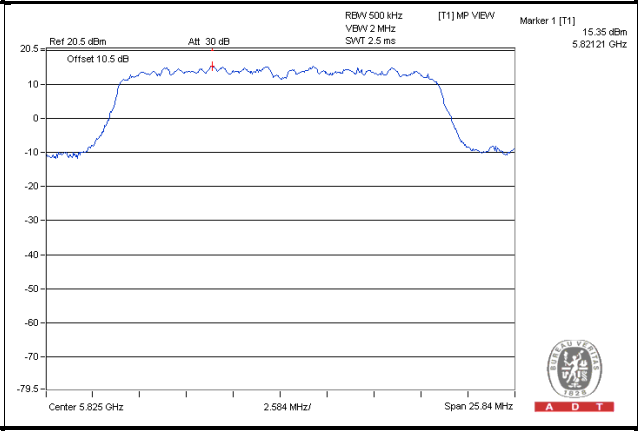
1. Directional gain = 2.45dBi + 10log(4) = 8.47dBi > 6dBi, so the power density limit shall be reduced to 30-(8.47-6) = 27.53dBm.
2. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

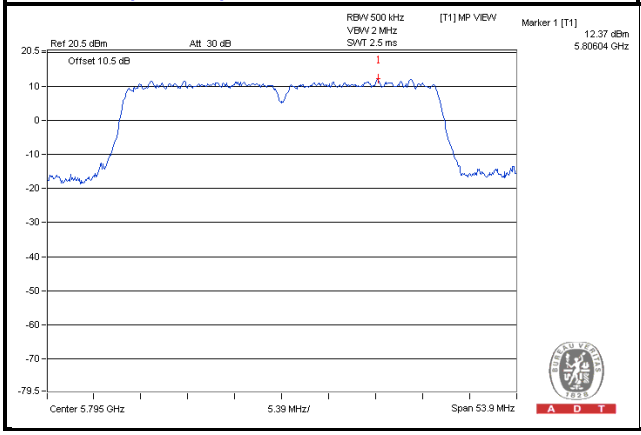
802.11a



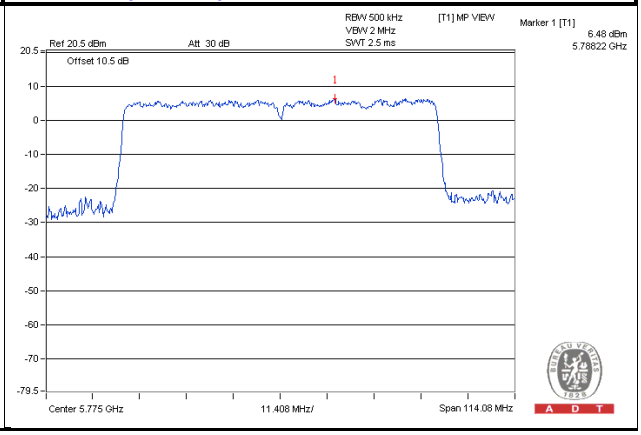
802.11ac (20MHz)



802.11ac (40MHz)



802.11ac (80MHz)

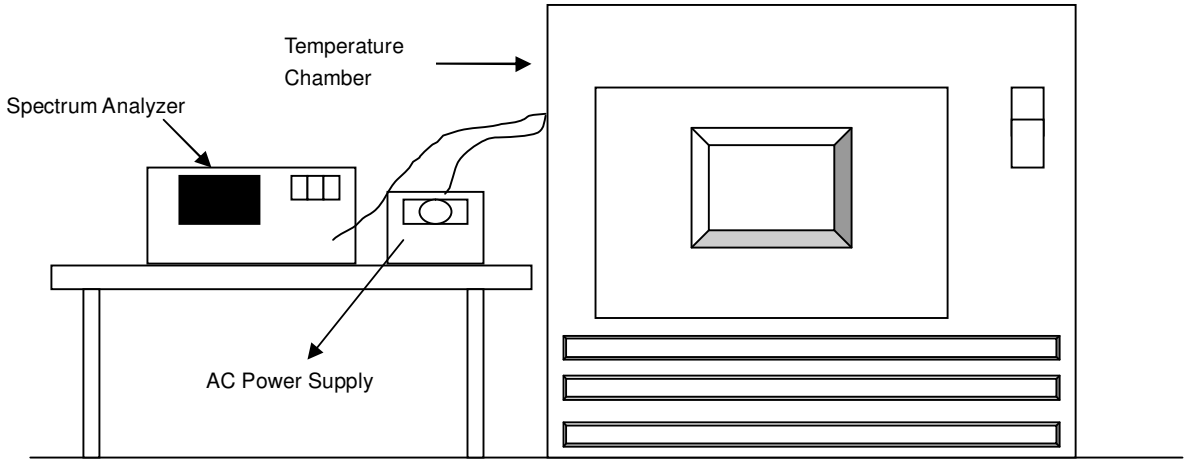


4.5 Frequency Stability Measurement

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

CDD Mode

FREQUEMCY STABILITY VERSUS TEMP.									
OPERATING FREQUENCY: 5180MHz									
TEMP. (℃)	POWER SUPPLY (Vac)	0 MINUTE		2 MINUTE		5 MINUTE		10 MINUTE	
		Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)
50	120	5180.043808	8.4572212	5180.043726	8.4413127	5180.043678	8.4320406	5180.043707	8.4376448
40	120	5180.042311	8.1681371	5180.04244	8.1930502	5180.042247	8.1557711	5180.042123	8.1318533
30	120	5180.04313	8.3262927	5180.043225	8.3445946	5180.043041	8.3090809	5180.042965	8.2944015
20	120	5180.04325	8.3494149	5180.043197	8.3391892	5180.043197	8.3392022	5180.043063	8.3133205
10	120	5180.042893	8.2805270	5180.04285	8.2722008	5180.042654	8.2344337	5180.042934	8.2884170
0	120	5180.043047	8.3103021	5180.043132	8.3266409	5180.043132	8.3267000	5180.043013	8.3036680
-10	120	5180.043391	8.3766720	5180.043095	8.3194981	5180.043578	8.4128312	5180.043537	8.4048263
-20	120	5180.043635	8.4237339	5180.043264	8.3521292	5180.043355	8.3696911	5180.043477	8.3932432

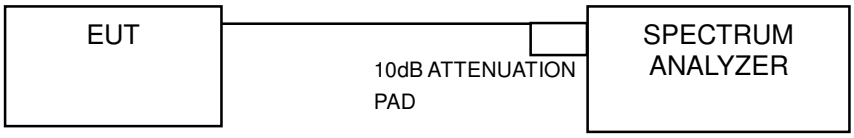
FREQUEMCY STABILITY VERSUS VOLTAGE									
OPERATING FREQUENCY: 5180MHz									
TEMP. (℃)	POWER SUPPLY (Vac)	0 MINUTE		2 MINUTE		5 MINUTE		10 MINUTE	
		Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)	Measured Frequency (MHz)	Frequency Drift (ppm)
20	138	5180.043429	8.3839706	5180.043372	8.3729730	5180.043418	8.3818964	5180.043602	8.4173745
	120	5180.04325	8.3494149	5180.043197	8.3391892	5180.043197	8.3392022	5180.043063	8.3133205
	102	5180.041911	8.0909245	5180.042232	8.1528958	5180.041861	8.0811904	5180.042034	8.1146718

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

CDD Mode

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
149	5745	16.35	16.38	16.36	16.38	0.5	Pass
157	5785	16.36	16.37	16.37	16.36	0.5	Pass
165	5825	16.36	16.36	16.37	16.38	0.5	Pass

802.11ac (20MHz)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
149	5745	17.20	16.95	17.28	17.20	0.5	Pass
157	5785	17.08	17.20	17.56	17.59	0.5	Pass
165	5825	17.31	17.22	17.22	17.57	0.5	Pass

802.11ac (40MHz)

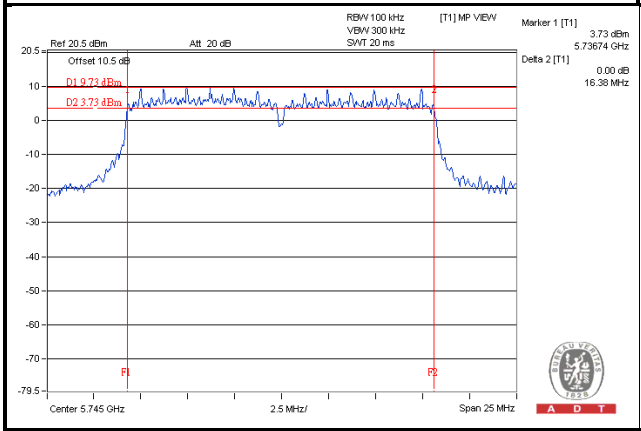
Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
151	5755	36.38	36.01	36.36	36.35	0.5	Pass
159	5795	35.81	36.32	35.98	35.93	0.5	Pass

802.11ac (80MHz)

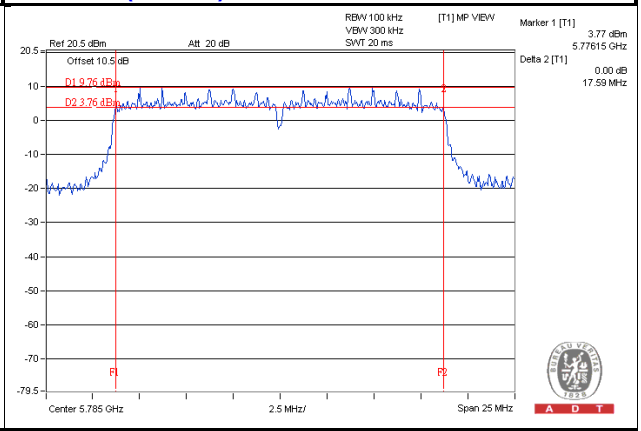
Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
155	5775	76.05	76.36	76.33	76.31	0.5	Pass

Spectrum Plot of Worst Value

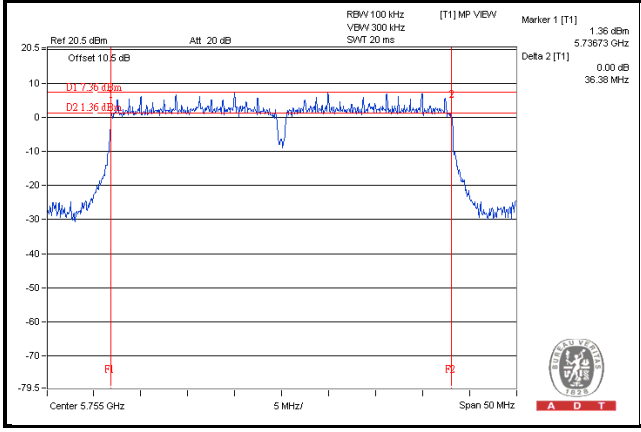
802.11a



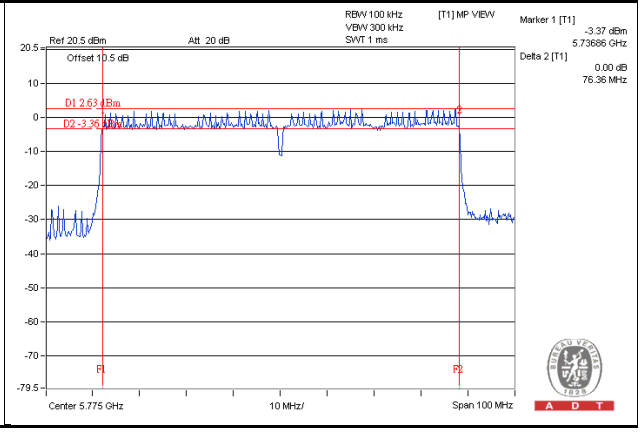
802.11ac (20MHz)



802.11ac (40MHz)



802.11ac (80MHz)



5 Pictures of Test Arrangements

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

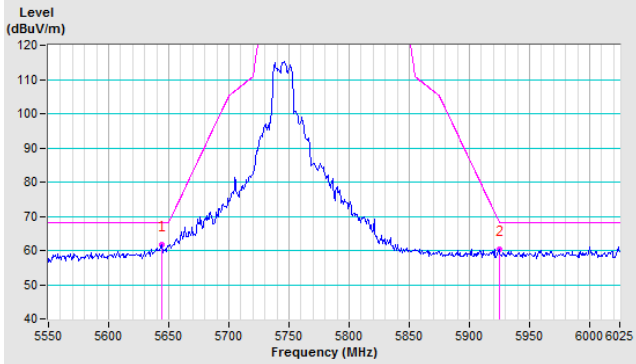
Annex A- Radiated Out of Band Emisison (OOBE) Measurement (For U-NII-3 band)

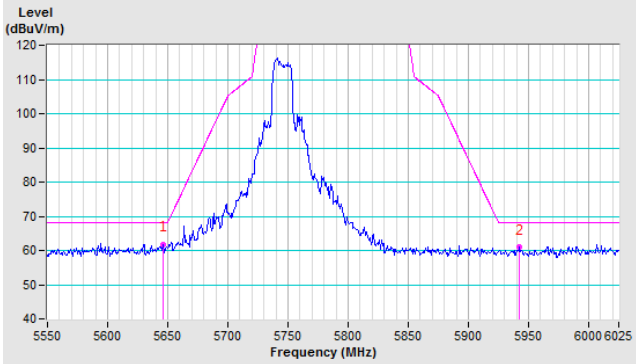
CDD Mode

802.11a

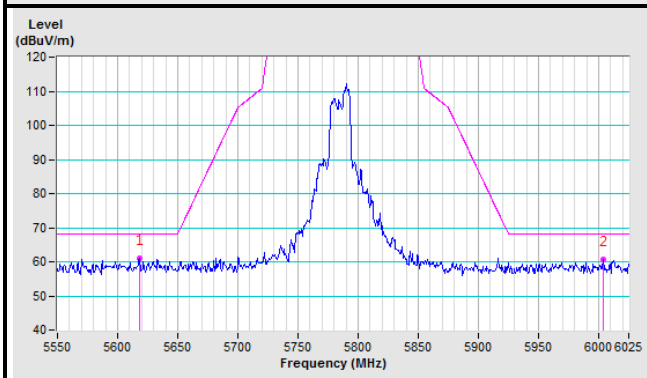
Test Plots

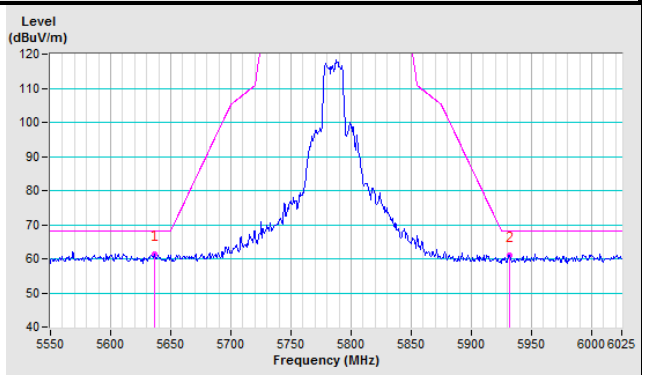
Channel 149



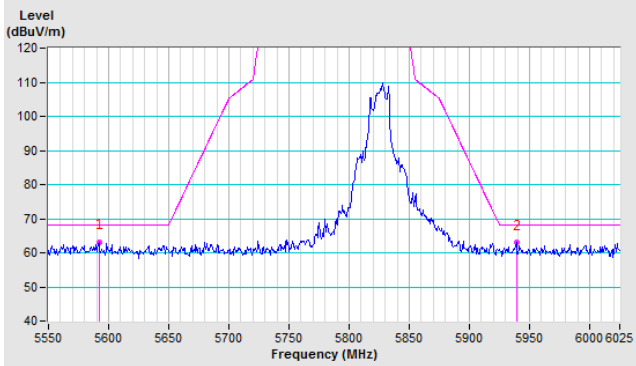


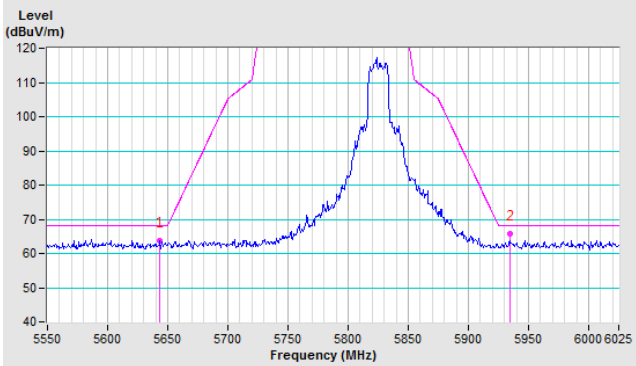
Channel 157





Channel 165

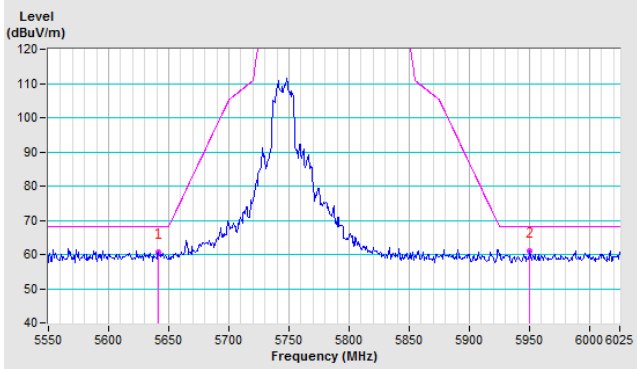


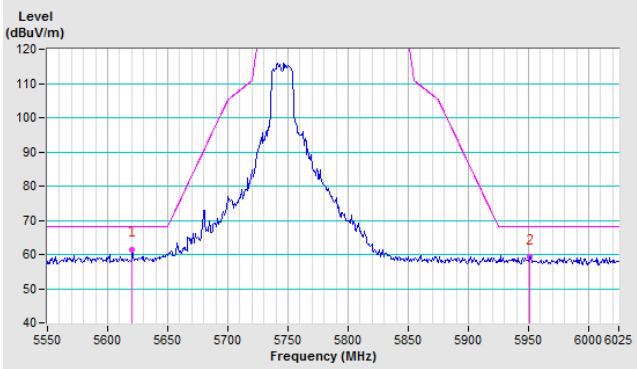


802.11ac (20MHz)

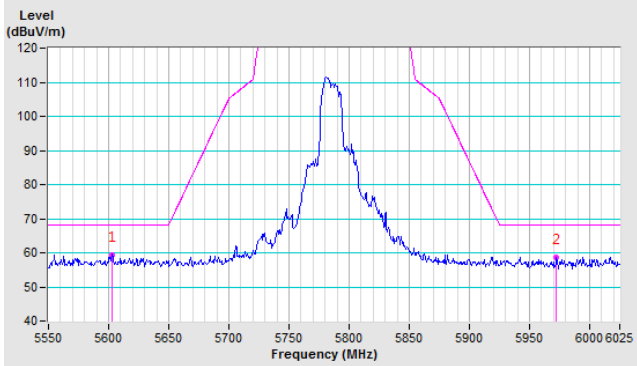
Test Plots

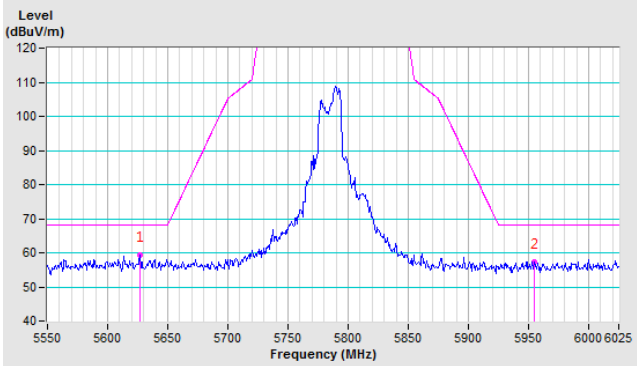
Channel 149



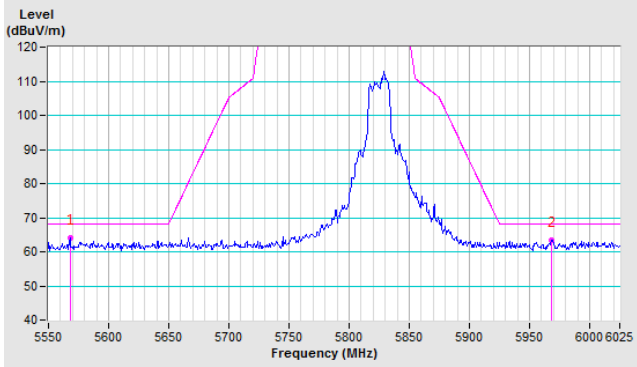


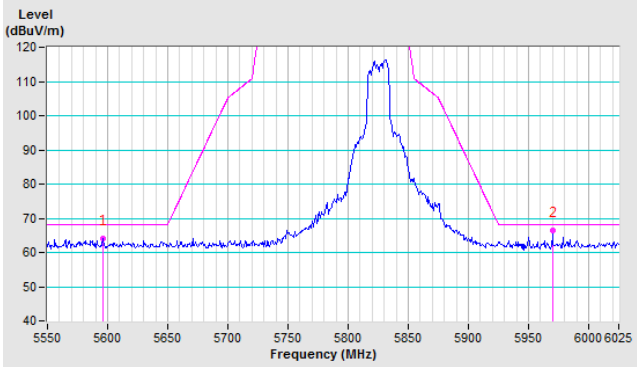
Channel 157



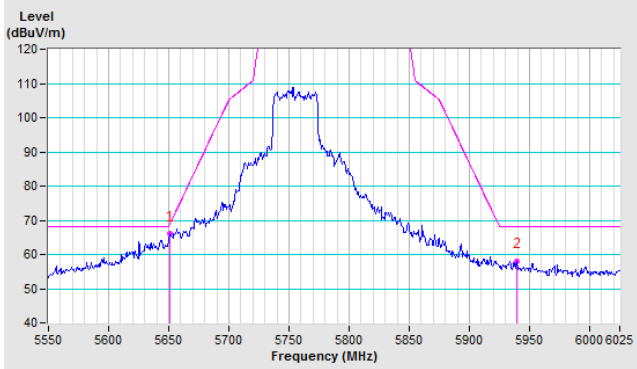
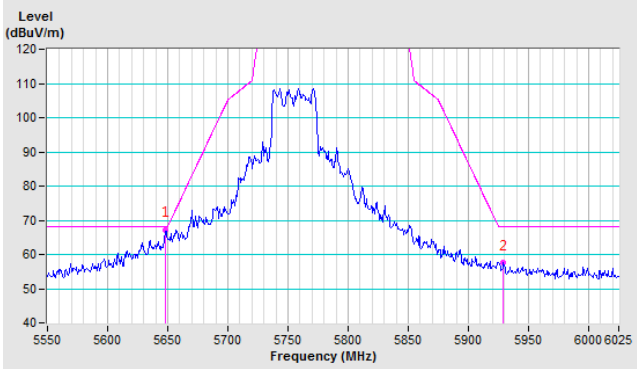
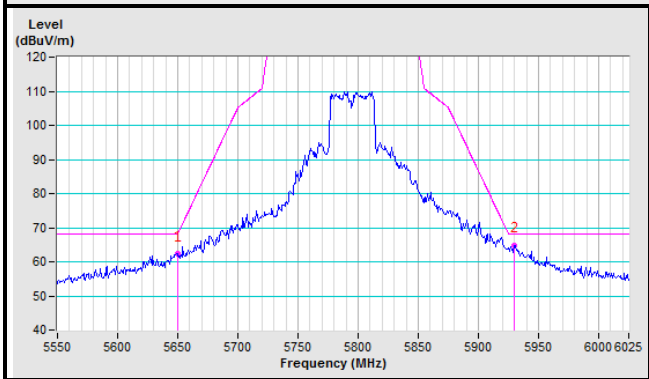
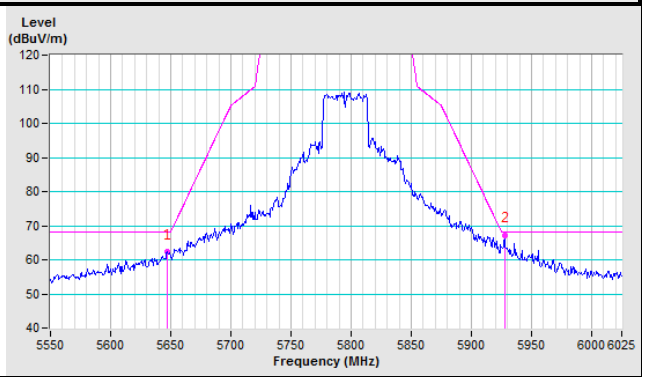


Channel 165

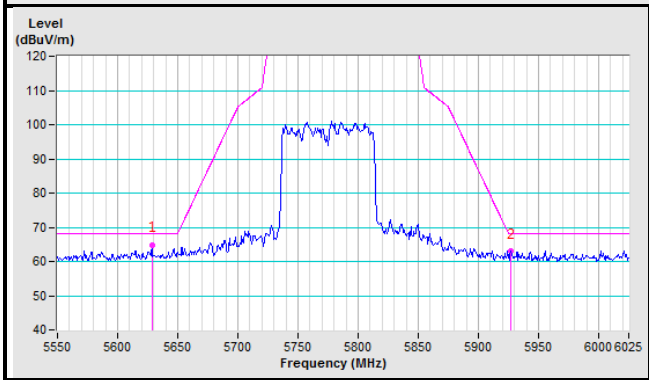
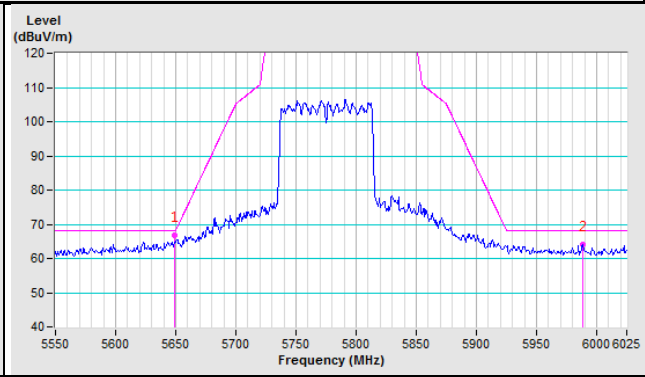




802.11ac (40MHz)

Test Plots	
Channel 151	
	
Channel 159	
	

802.11ac (80MHz)

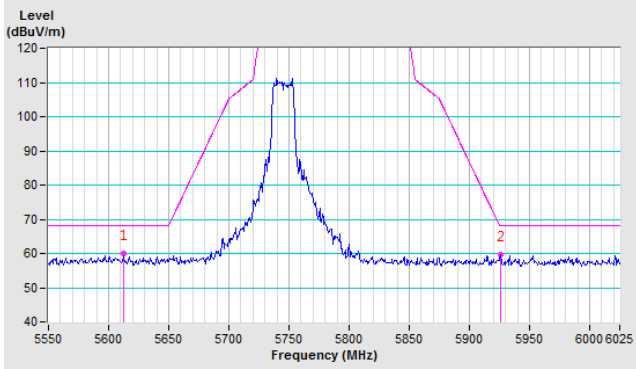
Test Plots	
Channel 155	
	

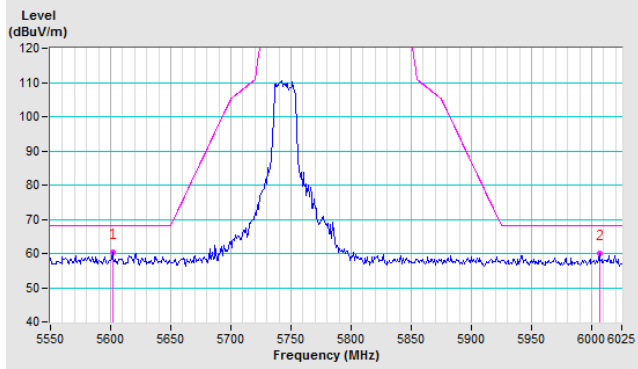
Beamforming Mode

802.11ac (20MHz)

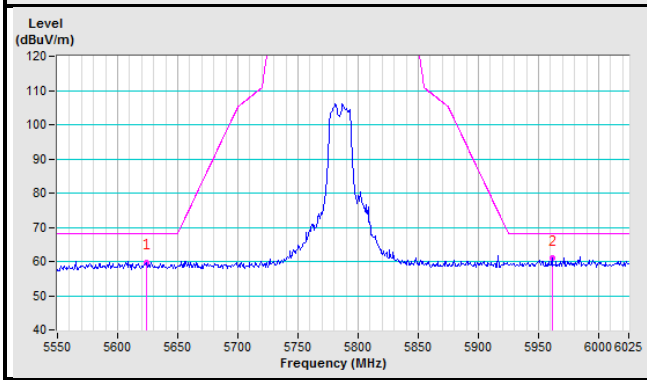
Test Plots

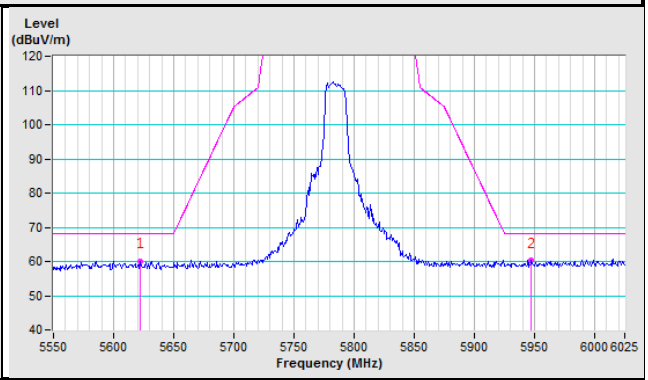
Channel 149



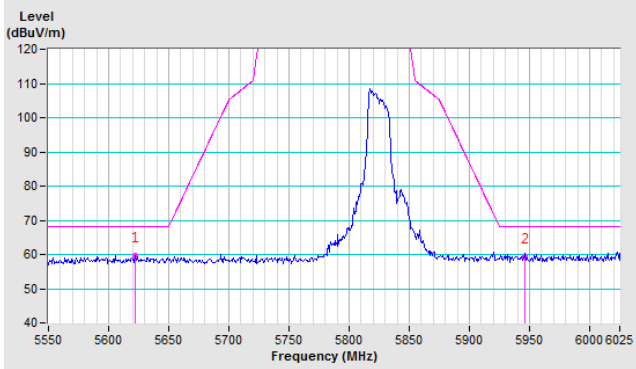


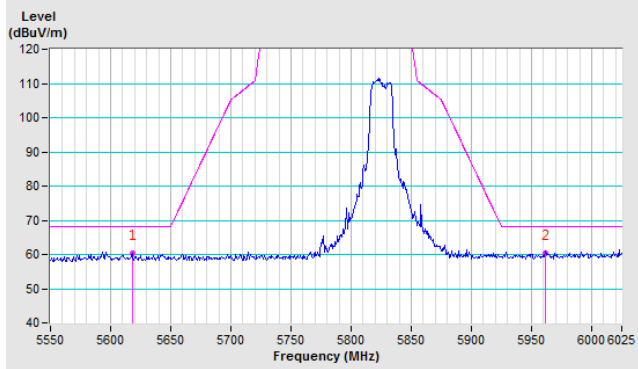
Channel 157





Channel 165

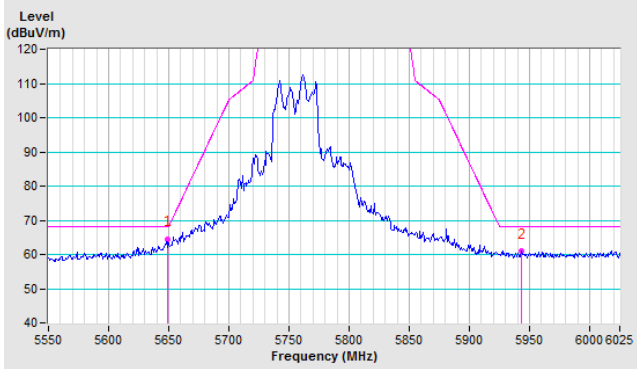


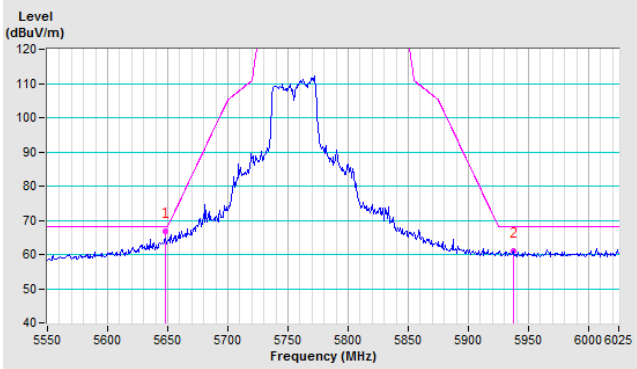


802.11ac (40MHz)

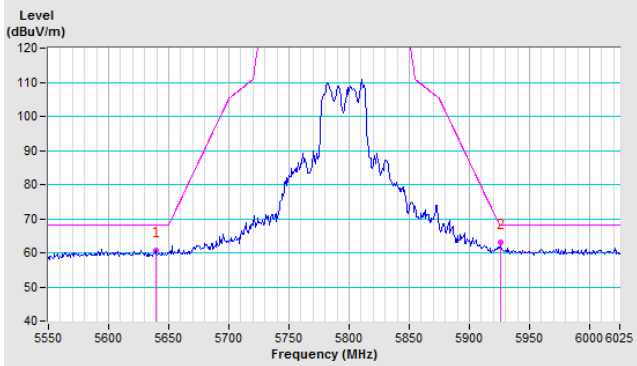
Test Plots

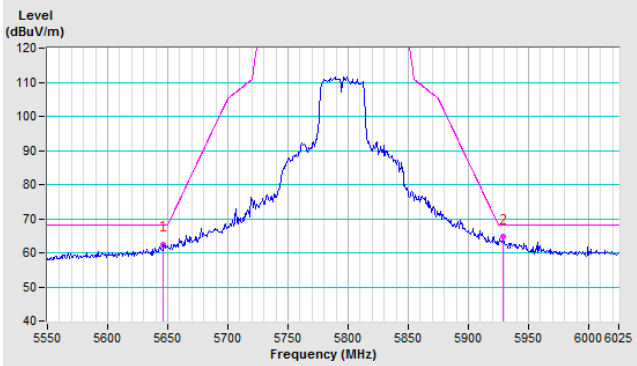
Channel 151





Channel 159

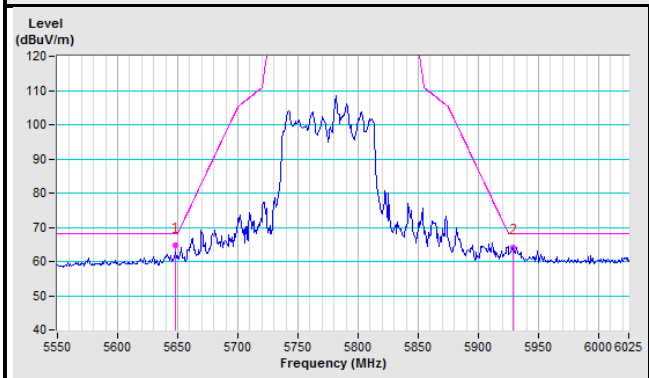


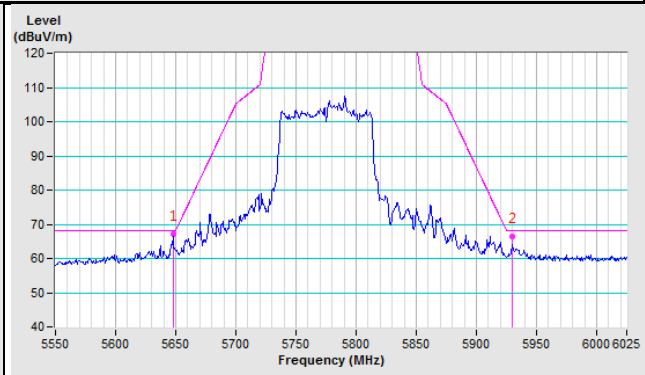


802.11ac (80MHz)

Test Plots

Channel 155





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

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

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

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

--- END ---