FCC Test Report

Report No.: RF160613C30-3

FCC ID: TVE-281BB022

Test Model: FAP-U421EV, FAP-U423EV

Series Model: FortiAP-U421EVxxxxxx, FAP-U421EVxxxxxx, FORTIAP-U421EVxxxxxx, FortiAP-U423EVxxxxxx, FAP-U423EVxxxxxx, FORTIAP-U423EVxxxxxx (where “x” can be used as “A-Z” or “0-9” or “-“ or blank for software changes or marketing purposes only) (refer to item 3.1 for more details)

Received Date: Jun. 13, 2016

Test Date: Jun. 17 ~ Jul. 04, 2016

Issued Date: Jul. 05, 2016

Applicant: Fortinet Inc.

Address: 899 Kifer Road Sunnyvale, CA 94086 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.)

Test Location: No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, TAIWAN (R.O.C.)

This report is for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence, provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents. Unless specific mention, the uncertainty of measurement has been explicitly taken into account to declare the compliance or non-compliance to the specification.
The report must not be used by the client to claim product certification, approval, or endorsement by TAF or any government agencies.

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Release Control Record

Issue No.	Description	Date Issued
RF160613C30-3	Original release.	Jul. 05, 2016

1 Certificate of Conformity

Product: Secured Wireless Access Point

Brand: Fortinet Inc.

Test Model: FAP-U421EV, FAP-U423EV

Series Model: FortiAP-U421EVxxxxxx, FAP-U421EVxxxxxx, FORTIAP-U421EVxxxxxx, FortiAP-U423EVxxxxxx, FAP-U423EVxxxxxx, FORTIAP-U423EVxxxxxx (where "x" can be used as "A-Z" or "0-9" or "-" or blank for software changes or marketing purposes only) (refer to item 3.1 for more details)

Sample Status: Engineering sample

Applicant: Fortinet Inc.

Test Date: Jun. 17 ~ Jul. 04, 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:** Jul. 05, 2016
Suntee Liu / Specialist

Approved by : _____ , **Date:** Jul. 05, 2016
Ken Liu / Senior 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 -3.86dB at 0.52130MHz.
15.407(b) (1/2/3/4/6)	Radiated Emissions & Band Edge Measurement	PASS	Meet the requirement of limit. Minimum passing margin is -1.0dB at 5150.00, 10360.00, 10400.00, 10480.00MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	PASS	Meet the requirement of limit.
15.407(a)(1/2/3)	Peak Power Spectral Density	PASS	Meet the requirement of limit.
15.407(e)	6dB bandwidth	PASS	Meet the requirement of limit. (U-NII-3 Band only)
15.407(g)	Frequency Stability	PASS	Meet the requirement of limit.
15.203	Antenna Requirement	PASS	Antenna connector is IPEX or RPSMA not a standard connector.

3 General Information

3.1 General Description of EUT

Product	Secured Wireless Access Point
Brand	Fortinet Inc.
Test Model	FAP-U421EV, FAP-U423EV
Series Model	FortiAP-U421EVxxxxxx, FAP-U421EVxxxxxx, FORTIAP-U421EVxxxxxx, FortiAP-U423EVxxxxxx, FAP-U423EVxxxxxx, FORTIAP-U423EVxxxxxx (where "x" can be used as "A-Z" or "0-9" or "-" or blank for software changes or marketing purposes only) (refer to Note for more details)
Model Difference	Refer to Note
Sample Status	Engineering sample
Power Supply Rating	12Vdc (adapter) 54Vdc (POE)
Modulation Type	256QAM, 64QAM, 16QAM, QPSK, BPSK
Modulation Technology	OFDM
Transfer Rate	802.11a: 54/48/36/24/18/12/9/6Mbps 802.11n: up to 600Mbps 802.11ac: up to 1733Mbps
Operating Frequency	5180~5240MHz, 5745~5825MHz
Number of Channel	5180~5240MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 4 802.11n (HT40), 802.11ac (VHT40): 2 802.11ac (VHT80): 1 5745~5825MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 5 802.11n (HT40), 802.11ac (VHT40): 2 802.11ac (VHT80): 1
Output Power	5180~5240MHz: 222.462mW 5745~5825MHz: 205.153mW
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	NA
Data Cable Supplied	NA

Note:

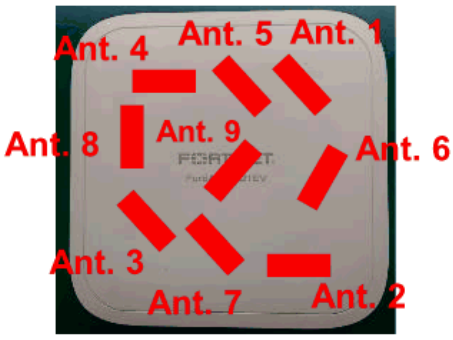
1. The EUT incorporates a MIMO function. Physically, the EUT provides 4 completed transmitters and 4 receivers.

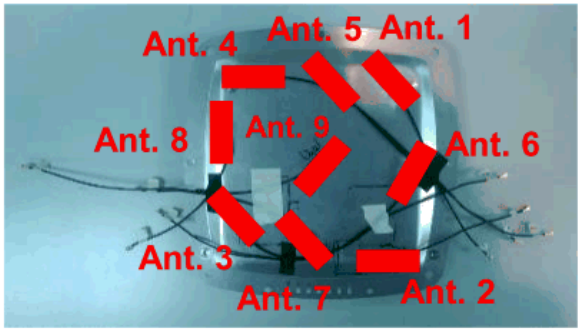
Modulation Mode	TX Function
802.11a	4TX
802.11n (HT20)	4TX
802.11n (HT40)	4TX
802.11ac (VHT20)	4TX
802.11ac (VHT40)	4TX
802.11ac (VHT80)	4TX

* The modulation and bandwidth are similar for 802.11n mode for HT20 / HT40 and 802.11ac mode for VHT20 / VHT40, therefore investigated worst case to representative mode in test report. (Final test mode refer section 3.2.1)

2. The EUT uses following antennas.

Antenna Type	Printed	Antenna Connector	IPEX
Gain (dBi)	Frequency (MHz)		
	2400~2500	5150~5850	
WLAN Internal Ant. 1	3.81	-	
WLAN Internal Ant. 2	3.98	-	
WLAN Internal Ant. 3	3.47	-	
WLAN Internal Ant. 4	3.75	-	
WLAN Internal Ant. 5	-	5.65	
WLAN Internal Ant. 6	-	5.50	
WLAN Internal Ant. 7	-	5.84	
WLAN Internal Ant. 8	-	5.84	
Gain (dBi)	Frequency (MHz)		
	2400	2450	2500
BT Internal Ant. 9	2.56	2.91	2.62





Antenna Type	Dipole	Antenna Connector	RPSMA
Gain (dBi)	Frequency (MHz)		
	2400~2500	5150~5850	
WLAN External Ant.	4.42	3	

3. All models are listed as below (where “x” can be used as “A-Z” or “0-9” or “-“ or blank for software changes or marketing purposes only). Models FAP-U421EV and FAP-U423EV are the representatives for final test.

Brand	Model	Difference
Fortinet Inc.	FortiAP-U421EVxxxxxx	Internal antenna
	FAP-U421EVxxxxxx	
	FORTIAP-U421EVxxxxxx	
	FortiAP-U423EVxxxxxx	External antenna
	FAP-U423EVxxxxxx	
	FORTIAP-U423EVxxxxx	

4. WLAN 2.4GHz and WLAN 5GHz and BT technologies can transmit at same time.
5. Spurious emission of the simultaneous operation (WLAN 2.4GHz and WLAN 5GHz and BT) has been evaluated and no non-compliance was found.

3.2 Description of Test Modes

FOR 5180 ~ 5240MHz:

4 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20):

Channel	Frequency	Channel	Frequency
36	5180 MHz	44	5220 MHz
40	5200 MHz	48	5240 MHz

2 channels are provided for 802.11n (HT40), 802.11ac (40MHz):

Channel	Frequency	Channel	Frequency
38	5190 MHz	46	5230 MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
42	5210MHz

FOR 5745 ~ 5825MHz:

5 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20):

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

2 channels are provided for 802.11n (HT40), 802.11ac (VHT40):

Channel	Frequency	Channel	Frequency
151	5755MHz	159	5795MHz

1 channel is provided for 802.11ac (VHT80):

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	
A	√	√	√	√	Internal antenna, Power from adapter
B	-	√	√	-	Internal antenna, Power from POE
C	√	√	√	-	External antenna, Power from adapter
D	-	√	√	-	External antenna, Power from POE

Where RE≥1G: Radiated Emission above 1GHz & Bandedge Measurement RE<1G: Radiated Emission below 1GHz

PLC: Power Line Conducted Emission APCM: Antenna Port Conducted Measurement

Note:

1. The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on Y-plane.
2. "-" means no effect.

Radiated Emission Test (Above 1GHz):

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

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

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)
A, C	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	6.0
A, C	802.11ac (VHT20)		36 to 48	36, 40, 48	OFDM	7.2
A, C	802.11ac (VHT40)		38 to 46	38, 46	OFDM	15.0
A, C	802.11ac (VHT80)		42	42	OFDM	130.0
A, C	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	6.0
A, C	802.11ac (VHT20)		149 to 165	149, 157, 165	OFDM	7.2
A, C	802.11ac (VHT40)		151 to 159	151, 159	OFDM	15.0
A, C	802.11ac (VHT80)		155	155	OFDM	130.0

Radiated Emission Test (Below 1GHz):

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

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

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)
A, B, C, D	802.11a	5180-5240	36 to 48	157	OFDM	6.0
	802.11a	5745-5825	149 to 165		OFDM	6.0

Power Line Conducted Emission Test:

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

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

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)
A, B, C, D	802.11a	5180-5240	36 to 48	157	OFDM	6.0
	802.11a	5745-5825	149 to 165		OFDM	6.0

Antenna Port Conducted Measurement:

☒ This item includes all test value of each mode, but only includes spectrum plot of worst value of each mode.
☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
☒ Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)
A	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	6.0
A	802.11ac (VHT20)		36 to 48	36, 40, 48	OFDM	7.2
A	802.11ac (VHT40)		38 to 46	38, 46	OFDM	15.0
A	802.11ac (VHT80)		42	42	OFDM	130.0
A	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	6.0
A	802.11ac (VHT20)		149 to 165	149, 157, 165	OFDM	7.2
A	802.11ac (VHT40)		151 to 159	151, 159	OFDM	15.0
A	802.11ac (VHT80)		155	155	OFDM	130.0

Test Condition:

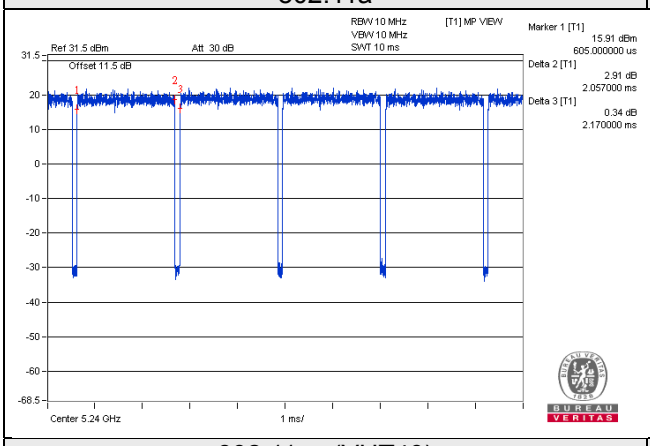
Applicable to	Environmental Conditions	Input Power	Tested by
RE≥1G	19 deg. C, 70% RH 16 deg. C, 70% RH	120Vac, 60Hz	Jones Chang Nick Hsu
RE<1G	18 deg. C, 70% RH	120Vac, 60Hz	Nick Hsu
PLC	18 deg. C, 70% RH	120Vac, 60Hz	Nick Hsu
APCM	25 deg. C, 60% RH	120Vac, 60Hz	Leo Tsai

3.3 Duty Cycle of Test Signal

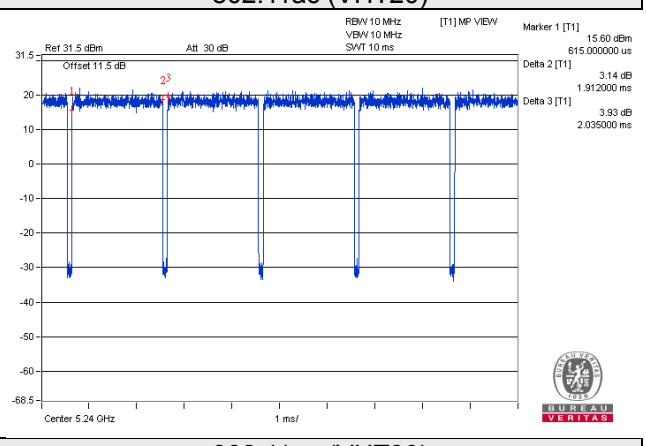
Duty cycle of test signal is < 98%, duty factor shall be considered.

802.11a: Duty cycle = 2.057/2.17 = 0.948, Duty factor = 10 * log(1/0.948) = 0.23
802.11ac (VHT20): Duty cycle = 1.912/2.035 = 0.94, Duty factor = 10 * log(1/0.94) = 0.27
802.11ac (VHT40): Duty cycle = 0.94/1.06 = 0.887, Duty factor = 10 * log(1/0.887) = 0.52
802.11ac (VHT80): Duty cycle = 0.455/0.49 = 0.929, Duty factor = 10 * log(1/0.929) = 0.32

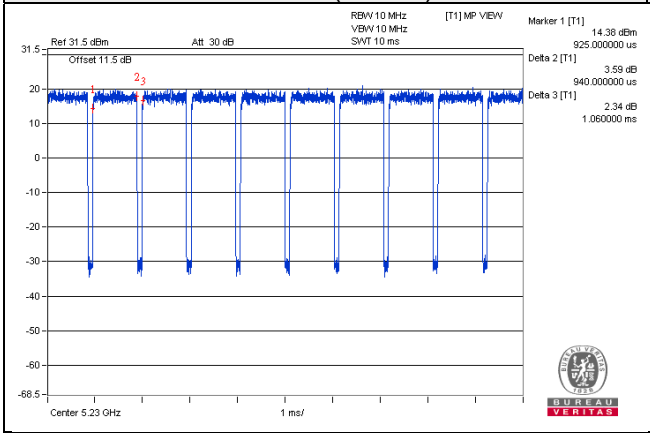
802.11a



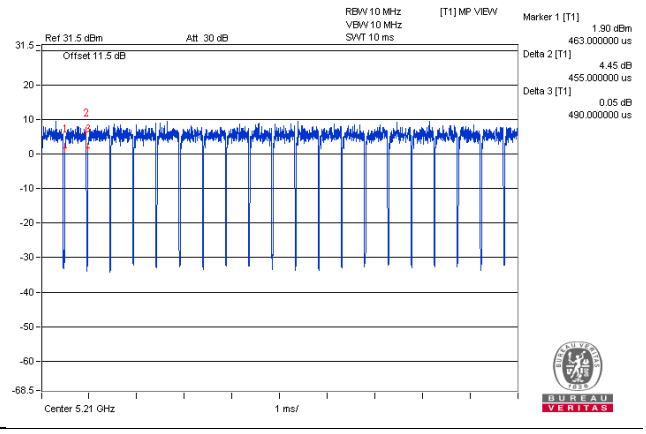
802.11ac (VHT20)



802.11ac (VHT40)



802.11ac (VHT80)



3.4 Description of Support Units

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

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Notebook	DELL	E5410	1HC2XM1	FCC DoC Approved	-
B.	Load	NA	NA	NA	NA	-
C.	Flash	Transcend	8GB	NA	NA	-
D.	Adapter	Asian Power Devices Inc.	WA-36A12R	NA	NA	Option of EUT I/P: 100-240Vac, 50-60Hz, 0.9A Max. O/P: 12Vdc, 3A 1.8m DC cable with 1 core
E.	POE	EnGenius	EPA5006GAT	NA	NA	Option of EUT I/P: 100-240Vac, 50-60Hz, 0.8A O/P: 54Vdc, 0.6A 0.5m power cable w/o core

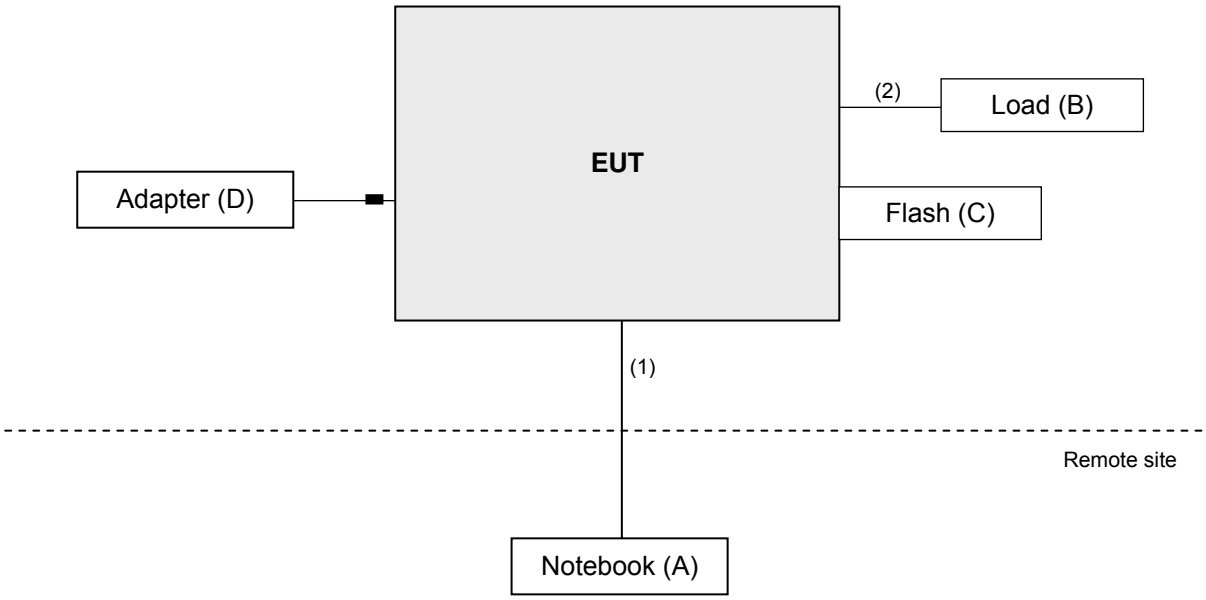
Note:

1. All power cords of the above support units are non-shielded (1.8m).
2. Item A acted as a communication partner to transfer data.

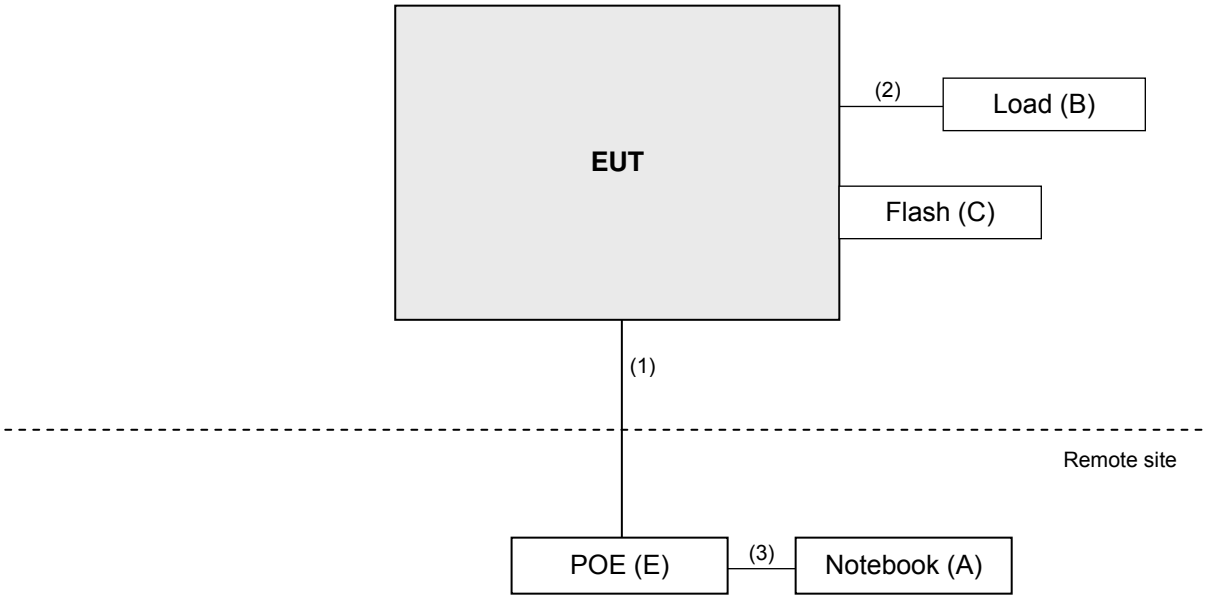
ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	RJ45	1	5	N	0	-
2.	RJ45	2	1	N	0	-
3.	RJ45	1	1.8	N	0	-

3.4.1 Configuration of System under Test

Mode A, C



Mode B, D



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)
789033 D02 General UNII Test Procedures New Rules v01r02
662911 D01 Multiple Transmitter Output v02r01
ANSI C63.10:2013

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

Note: The EUT has been verified to comply with the requirements of FCC Part 15, Subpart B, Class B (DoC). The test report has been issued separately.

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

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

Frequencies (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

NOTE:

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

Limits of Unwanted Emission Out of The Restricted Bands

Applicable To	Limit	
789033 D02 General UNII Test Procedures 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)	PK: -27 (dBm/MHz) *1 PK: -17 (dBm/MHz) *2	PK: 68.2 (dBμV/m) *1 PK: 78.2 (dBμV/m) *2

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

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

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

4.1.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESIB7	100187	Apr. 18, 2016	Apr. 17, 2017
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100041	Sep. 02, 2015	Sep. 01, 2016
BILOG Antenna SCHWARZBECK	VULB9168	9168-171	Jan. 07, 2016	Jan. 06, 2017
HORN Antenna SCHWARZBECK	9120D	209	Jan. 20, 2016	Jan. 19, 2017
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Jan. 18, 2016	Jan. 17, 2017
Preamplifier Agilent	8447D	2944A10738	Oct.18, 2015	Oct. 17, 2016
Preamplifier Agilent	8449B	3008A01964	Aug. 22, 2015	Aug. 21, 2016
RF signal cable HUBER+SUHNER	SUCOFLEX 104	Cable-CH3-03 (214378)	Aug. 22, 2015	Aug. 21, 2016
RF signal cable HUBER+SUHNER	SUCOFLEX 106	Cable-CH3-03 (309224+12738)	Aug. 22, 2015	Aug. 21, 2016
Software BV ADT	ADT_Radiated_ V7.6.15.9.4	NA	NA	NA
Antenna Tower inn-co GmbH	MA 4000	013303	NA	NA
Antenna Tower Controller BV ADT	AT100	AT93021702	NA	NA
Turn Table BV ADT	TT100	TT93021702	NA	NA
Turn Table Controller BV ADT	SC100	SC93021702	NA	NA
26GHz ~ 40GHz Amplifier	EM26400	815221	Oct. 18, 2015	Oct. 17, 2016
High Speed Peak Power Meter	ML2495A	0824011	Jul. 09, 2015	Jul. 08, 2016
Power Sensor	MA2411B	0738171	Jul. 09, 2015	Jul. 08, 2016

Note:
1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HwaYa Chamber 3.
3. The horn antenna and preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
4. The FCC Site Registration No. is 988962.
5. The IC Site Registration No. is IC 7450F-3.

4.1.3 Test Procedure

a. The EUT was placed on the top of a rotating table 0.8 meters (for below 1GHz) / 1.5 meters (for above 1GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.

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

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

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

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

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

Note:

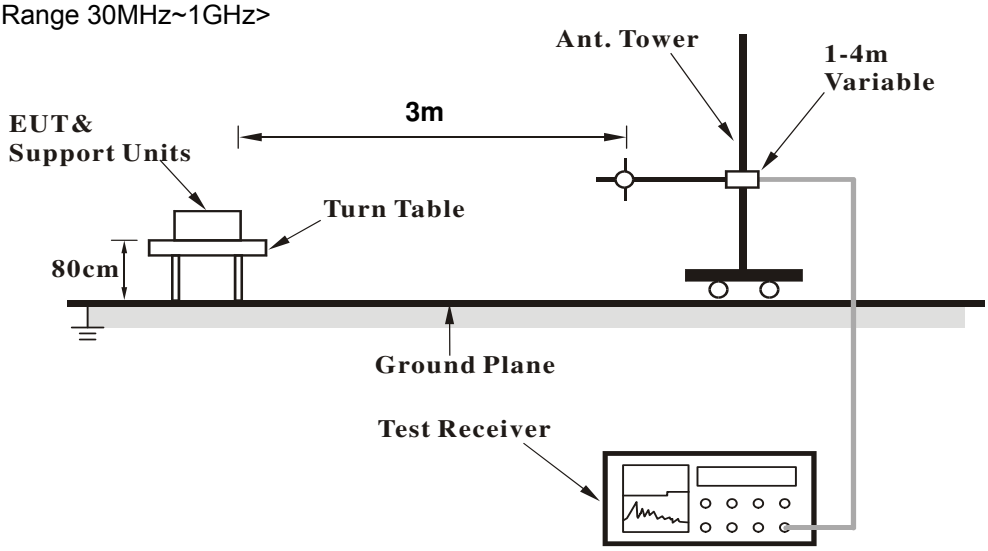
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.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

4.1.4 Deviation from Test Standard

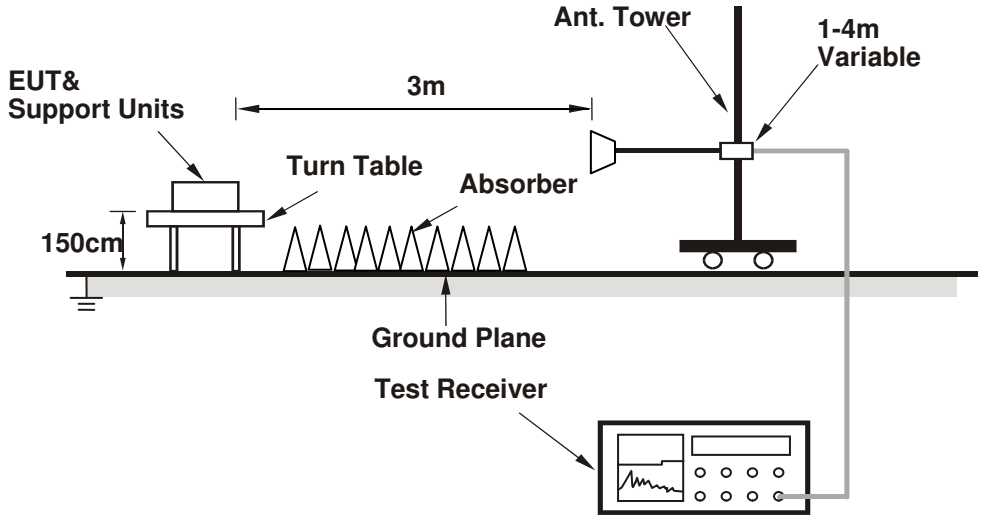
No deviation.

4.1.5 Test Setup

<Frequency Range 30MHz~1GHz>



<Frequency Range above 1GHz>



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

4.1.6 EUT Operating Conditions

a. Placed the EUT on the testing table.
b. Prepared a notebook to act as a communication partner and placed it outside of testing area.
c. The communication partner connected with EUT via a RJ45 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".

4.1.7 Test Results

Above 1GHz Data:

Mode A

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	61.6 PK	74.0	-12.4	1.76 H	286	55.6	6.0
2	5150.00	48.1 AV	54.0	-5.9	1.76 H	286	42.1	6.0
3	*5180.00	120.3 PK			1.99 H	50	80.9	39.4
4	*5180.00	109.4 AV			1.99 H	50	70.0	39.4
5	#10360.00	65.6 PK	74.0	-8.4	1.67 H	304	47.8	17.8
6	#10360.00	52.9 AV	54.0	-1.1	1.67 H	304	35.1	17.8
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	57.9 PK	74.0	-16.1	1.55 V	329	51.9	6.0
2	5150.00	45.0 AV	54.0	-9.0	1.55 V	329	39.0	6.0
3	*5180.00	114.2 PK			2.68 V	336	74.8	39.4
4	*5180.00	103.5 AV			2.68 V	336	64.1	39.4
5	#10360.00	63.2 PK	74.0	-10.8	1.72 V	308	45.4	17.8
6	#10360.00	50.6 AV	54.0	-3.4	1.72 V	308	32.8	17.8

Remarks:

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

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	121.6 PK			1.94 H	50	82.1	39.5
2	*5200.00	110.8 AV			1.94 H	50	71.3	39.5
3	#10400.00	64.3 PK	74.0	-9.7	2.10 H	59	46.6	17.7
4	#10400.00	52.9 AV	54.0	-1.1	2.10 H	59	35.2	17.7
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	114.8 PK			2.81 V	333	75.3	39.5
2	*5200.00	104.5 AV			2.81 V	333	65.0	39.5
3	#10400.00	65.1 PK	74.0	-8.9	3.35 V	24	47.4	17.7
4	#10400.00	52.1 AV	54.0	-1.9	3.35 V	24	34.4	17.7

Remarks:

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

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	122.4 PK			2.07 H	48	82.8	39.6
2	*5240.00	111.4 AV			2.07 H	48	71.8	39.6
3	5395.00	62.5 PK	74.0	-11.5	1.87 H	52	55.8	6.7
4	5395.00	50.2 AV	54.0	-3.8	1.87 H	52	43.5	6.7
5	#10480.00	67.1 PK	74.0	-6.9	1.68 H	304	48.4	18.7
6	**#10480.00**	**53.0 AV**	**54.0**	**-1.0**	**1.68 H**	**304**	**34.3**	**18.7**
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	114.0 PK			2.01 V	348	74.4	39.6
2	*5240.00	103.5 AV			2.01 V	348	63.9	39.6
3	5395.00	59.9 PK	74.0	-14.1	1.89 V	352	53.2	6.7
4	5395.00	47.2 AV	54.0	-6.8	1.89 V	352	40.5	6.7
5	#10480.00	62.7 PK	74.0	-11.3	1.75 V	308	44.0	18.7
6	#10480.00	50.8 AV	54.0	-3.2	1.75 V	308	32.1	18.7

Remarks:

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

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	#5714.90	64.0 PK	74.0	-10.0	2.80 H	283	56.6	7.4
2	#5714.90	48.2 AV	54.0	-5.8	2.80 H	283	40.8	7.4
3	#5722.90	76.6 PK	78.2	-1.6	2.72 H	287	69.2	7.4
4	#5725.00	57.7 PK	78.2	-20.5	2.56 H	275	50.3	7.4
5	*5745.00	117.4 PK			1.73 H	50	76.9	40.5
6	*5745.00	107.8 AV			1.73 H	50	67.3	40.5
7	11490.00	59.9 PK	74.0	-14.1	1.25 H	318	41.2	18.7
8	11490.00	47.1 AV	54.0	-6.9	1.25 H	318	28.4	18.7
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	#5714.90	64.3 PK	74.0	-9.7	3.81 V	341	56.9	7.4
2	#5714.90	47.2 AV	54.0	-6.8	3.81 V	341	39.8	7.4
3	#5722.90	67.8 PK	78.2	-10.4	3.82 V	333	60.4	7.4
4	#5725.00	52.1 PK	78.2	-26.1	3.88 V	315	44.7	7.4
5	*5745.00	114.4 PK			3.93 V	357	73.9	40.5
6	*5745.00	103.7 AV			3.93 V	357	63.2	40.5
7	11490.00	59.4 PK	74.0	-14.6	3.52 V	276	40.7	18.7
8	11490.00	46.9 AV	54.0	-7.1	3.52 V	276	28.2	18.7

Remarks:

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

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	121.9 PK			1.79 H	50	81.3	40.6
2	*5785.00	111.9 AV			1.79 H	50	71.3	40.6
3	#6030.00	66.6 PK	68.2	-1.6	1.47 H	50	58.6	8.0
4	11570.00	60.7 PK	74.0	-13.3	3.56 H	284	42.0	18.7
5	11570.00	48.8 AV	54.0	-5.2	3.56 H	284	30.1	18.7
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	116.7 PK			3.85 V	3	76.1	40.6
2	*5785.00	107.1 AV			3.85 V	3	66.5	40.6
3	#6030.00	62.5 PK	68.2	-5.7	3.82 V	0	54.5	8.0
4	11570.00	59.9 PK	74.0	-14.1	3.88 V	360	41.2	18.7
5	11570.00	48.1 AV	54.0	-5.9	3.88 V	360	29.4	18.7

Remarks:

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

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	119.4 PK			1.83 H	51	78.8	40.6
2	*5825.00	109.2 AV			1.83 H	51	68.6	40.6
3	#5850.00	58.2 PK	78.2	-20.0	1.69 H	30	50.6	7.6
4	#5852.10	76.4 PK	78.2	-1.8	2.03 H	50	68.7	7.7
5	#5860.10	69.1 PK	74.0	-4.9	1.68 H	45	61.4	7.7
6	#5860.10	51.5 AV	54.0	-2.5	1.68 H	45	43.8	7.7
7	11650.00	59.5 PK	74.0	-14.5	1.55 H	206	40.3	19.2
8	11650.00	47.7 AV	54.0	-6.3	1.55 H	206	28.5	19.2
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	116.6 PK			4.00 V	2	76.0	40.6
2	*5825.00	106.5 AV			4.00 V	2	65.9	40.6
3	#5850.00	53.3 PK	78.2	-24.9	3.98 V	350	45.7	7.6
4	#5852.10	72.2 PK	78.2	-6.0	3.97 V	341	64.5	7.7
5	#5860.10	63.0 PK	74.0	-11.0	3.83 V	331	55.3	7.7
6	#5860.10	49.1 AV	54.0	-4.9	3.83 V	331	41.4	7.7
7	11650.00	59.5 PK	74.0	-14.5	3.73 V	330	40.3	19.2
8	11650.00	47.5 AV	54.0	-6.5	3.73 V	330	28.3	19.2

Remarks:

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

802.11ac (VHT20)

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	67.5 PK	74.0	-6.5	2.69 H	57	61.5	6.0
2	5150.00	49.2 AV	54.0	-4.8	2.69 H	57	43.2	6.0
3	*5180.00	119.9 PK			1.97 H	55	80.5	39.4
4	*5180.00	108.3 AV			1.97 H	55	68.9	39.4
5	#10360.00	65.7 PK	74.0	-8.3	2.73 H	291	47.9	17.8
6	#10360.00	52.9 AV	54.0	-1.1	2.73 H	291	35.1	17.8
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	60.6 PK	74.0	-13.4	2.62 V	344	54.6	6.0
2	5150.00	45.8 AV	54.0	-8.2	2.62 V	344	39.8	6.0
3	*5180.00	113.4 PK			2.72 V	342	74.0	39.4
4	*5180.00	102.1 AV			2.72 V	342	62.7	39.4
5	#10360.00	65.0 PK	74.0	-9.0	2.61 V	27	47.2	17.8
6	#10360.00	52.0 AV	54.0	-2.0	2.61 V	27	34.2	17.8

Remarks:

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

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	120.5 PK			1.97 H	50	81.0	39.5
2	*5200.00	109.4 AV			1.97 H	50	69.9	39.5
3	#10400.00	68.6 PK	74.0	-5.4	2.04 H	279	50.9	17.7
4	**#10400.00**	**53.0 AV**	**54.0**	**-1.0**	**2.04 H**	**279**	**35.3**	**17.7**
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	112.5 PK			2.80 V	330	73.0	39.5
2	*5200.00	102.3 AV			2.80 V	330	62.8	39.5
3	#10400.00	64.3 PK	74.0	-9.7	2.62 V	26	46.6	17.7
4	#10400.00	51.1 AV	54.0	-2.9	2.62 V	26	33.4	17.7

Remarks:

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

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	121.2 PK			1.83 H	50	81.6	39.6
2	*5240.00	110.1 AV			1.83 H	50	70.5	39.6
3	5395.00	61.7 PK	74.0	-12.3	2.43 H	49	55.0	6.7
4	5395.00	49.4 AV	54.0	-4.6	2.43 H	49	42.7	6.7
5	#10480.00	67.5 PK	74.0	-6.5	2.09 H	280	48.8	18.7
6	**#10480.00**	**53.0 AV**	**54.0**	**-1.0**	**2.09 H**	**280**	**34.3**	**18.7**
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	114.4 PK			3.07 V	339	74.8	39.6
2	*5240.00	103.8 AV			3.07 V	339	64.2	39.6
3	5395.00	59.3 PK	74.0	-14.7	2.01 V	8	52.6	6.7
4	5395.00	46.7 AV	54.0	-7.3	2.01 V	8	40.0	6.7
5	#10480.00	63.1 PK	74.0	-10.9	2.36 V	310	44.4	18.7
6	#10480.00	50.4 AV	54.0	-3.6	2.36 V	310	31.7	18.7

Remarks:

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

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	#5714.90	68.3 PK	74.0	-5.7	2.95 H	286	60.9	7.4
2	#5714.90	50.6 AV	54.0	-3.4	2.95 H	286	43.2	7.4
3	#5722.90	76.4 PK	78.2	-1.8	1.86 H	47	69.0	7.4
4	#5725.00	59.7 PK	78.2	-18.5	2.59 H	284	52.3	7.4
5	*5745.00	118.4 PK			1.77 H	52	77.9	40.5
6	*5745.00	107.8 AV			1.77 H	52	67.3	40.5
7	11490.00	59.4 PK	74.0	-14.6	1.22 H	306	40.7	18.7
8	11490.00	47.0 AV	54.0	-7.0	1.22 H	306	28.3	18.7
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	#5714.90	69.8 PK	74.0	-4.2	3.99 V	339	62.4	7.4
2	#5714.90	48.9 AV	54.0	-5.1	3.99 V	339	41.5	7.4
3	#5722.90	71.1 PK	78.2	-7.1	4.00 V	354	63.7	7.4
4	#5725.00	59.6 PK	78.2	-18.6	4.00 V	336	52.2	7.4
5	*5745.00	114.8 PK			3.95 V	336	74.3	40.5
6	*5745.00	104.2 AV			3.95 V	336	63.7	40.5
7	11490.00	59.6 PK	74.0	-14.4	2.64 V	221	40.9	18.7
8	11490.00	46.8 AV	54.0	-7.2	2.64 V	221	28.1	18.7

Remarks:

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

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	120.7 PK			1.82 H	50	80.1	40.6
2	*5785.00	111.2 AV			1.82 H	50	70.6	40.6
3	#6033.00	66.7 PK	68.2	-1.5	1.80 H	51	58.7	8.0
4	11570.00	60.1 PK	74.0	-13.9	1.60 H	80	41.4	18.7
5	11570.00	47.1 AV	54.0	-6.9	1.60 H	80	28.4	18.7
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	116.8 PK			4.00 V	3	76.2	40.6
2	*5785.00	106.7 AV			4.00 V	3	66.1	40.6
3	#6030.00	62.9 PK	68.2	-5.3	4.00 V	5	54.9	8.0
4	11570.00	60.4 PK	74.0	-13.6	3.02 V	176	41.7	18.7
5	11570.00	47.9 AV	54.0	-6.1	3.02 V	176	29.2	18.7

Remarks:

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

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	120.3 PK			1.78 H	55	79.7	40.6
2	*5825.00	109.8 AV			1.78 H	55	69.2	40.6
3	#5850.00	62.5 PK	78.2	-15.7	1.72 H	56	54.9	7.6
4	#5852.10	76.6 PK	78.2	-1.6	1.45 H	51	68.9	7.7
5	#6073.00	66.4 PK	68.2	-1.8	1.08 H	53	58.3	8.1
6	11650.00	60.1 PK	74.0	-13.9	1.80 H	85	40.9	19.2
7	11650.00	47.5 AV	54.0	-6.5	1.80 H	85	28.3	19.2
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	115.3 PK			4.00 V	6	74.7	40.6
2	*5825.00	104.5 AV			4.00 V	6	63.9	40.6
3	#5850.00	52.5 PK	78.2	-25.7	4.00 V	323	44.9	7.6
4	#5852.10	70.8 PK	78.2	-7.4	3.80 V	330	63.1	7.7
5	#6073.00	61.5 PK	68.2	-6.7	3.93 V	7	53.4	8.1
6	11650.00	60.7 PK	74.0	-13.3	2.96 V	302	41.5	19.2
7	11650.00	47.7 AV	54.0	-6.3	2.96 V	302	28.5	19.2

Remarks:

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

802.11ac (VHT40)

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	69.7 PK	74.0	-4.3	1.78 H	277	63.7	6.0
2	**5150.00**	**53.0 AV**	**54.0**	**-1.0**	**1.78 H**	**277**	**47.0**	**6.0**
3	*5190.00	113.5 PK			1.82 H	53	74.1	39.4
4	*5190.00	103.3 AV			1.82 H	53	63.9	39.4
5	#10380.00	61.3 PK	74.0	-12.7	2.00 H	277	43.6	17.7
6	#10380.00	48.7 AV	54.0	-5.3	2.00 H	277	31.0	17.7
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	62.7 PK	74.0	-11.3	2.71 V	329	56.7	6.0
2	5150.00	48.1 AV	54.0	-5.9	2.71 V	329	42.1	6.0
3	*5190.00	105.4 PK			2.45 V	359	66.0	39.4
4	*5190.00	95.7 AV			2.45 V	359	56.3	39.4
5	#10380.00	60.5 PK	74.0	-13.5	2.38 V	169	42.8	17.7
6	#10380.00	46.9 AV	54.0	-7.1	2.38 V	169	29.2	17.7

Remarks:

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

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	116.4 PK			1.89 H	52	76.8	39.6
2	*5230.00	105.8 AV			1.89 H	52	66.2	39.6
3	5381.00	66.6 PK	74.0	-7.4	2.69 H	284	59.9	6.7
4	5381.00	52.7 AV	54.0	-1.3	2.69 H	284	46.0	6.7
5	#10460.00	63.1 PK	74.0	-10.9	1.94 H	281	44.6	18.5
6	#10460.00	50.5 AV	54.0	-3.5	1.94 H	281	32.0	18.5
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	109.9 PK			2.28 V	0	70.3	39.6
2	*5230.00	100.4 AV			2.28 V	0	60.8	39.6
3	5381.00	60.5 PK	74.0	-13.5	2.12 V	343	53.8	6.7
4	5381.00	49.1 AV	54.0	-4.9	2.12 V	343	42.4	6.7
5	#10460.00	60.6 PK	74.0	-13.4	2.19 V	28	42.1	18.5
6	#10460.00	48.5 AV	54.0	-5.5	2.19 V	28	30.0	18.5

Remarks:

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

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	5000.00	59.1 PK	74.0	-14.9	1.00 H	38	53.4	5.7
2	5000.00	50.7 AV	54.0	-3.3	1.00 H	38	45.0	5.7
3	5115.00	59.2 PK	74.0	-14.8	1.68 H	56	53.2	6.0
4	5115.00	49.5 AV	54.0	-4.5	1.68 H	56	43.5	6.0
5	#5714.90	65.9 PK	74.0	-8.1	1.67 H	54	58.5	7.4
6	#5714.90	52.4 AV	54.0	-1.6	1.67 H	54	45.0	7.4
7	#5722.90	70.9 PK	78.2	-7.3	1.78 H	52	63.5	7.4
8	#5725.00	60.6 PK	78.2	-17.6	1.78 H	52	53.2	7.4
9	*5755.00	110.7 PK			1.83 H	52	70.1	40.6
10	*5755.00	100.7 AV			1.83 H	52	60.1	40.6
11	#6234.00	61.2 PK	68.2	-7.0	1.70 H	60	50.2	11.0
12	#6394.00	56.5 PK	68.2	-11.7	1.53 H	60	45.5	11.0
13	11510.00	59.3 PK	74.0	-14.7	1.39 H	35	40.6	18.7
14	11510.00	46.7 AV	54.0	-7.3	1.39 H	35	28.0	18.7
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	5000.00	57.6 PK	74.0	-16.4	1.86 V	333	51.9	5.7
2	5000.00	45.9 AV	54.0	-8.1	1.86 V	333	40.2	5.7
3	5115.00	57.3 PK	74.0	-16.7	1.86 V	236	51.3	6.0
4	5115.00	44.6 AV	54.0	-9.4	1.86 V	236	38.6	6.0
5	#5714.90	59.4 PK	74.0	-14.6	1.91 V	350	52.0	7.4
6	#5714.90	47.3 AV	54.0	-6.7	1.91 V	350	39.9	7.4
7	#5722.90	63.7 PK	78.2	-14.5	2.01 V	5	56.3	7.4
8	#5725.00	53.9 PK	78.2	-24.3	2.01 V	5	46.5	7.4
9	*5755.00	104.8 PK			1.90 V	0	64.2	40.6
10	*5755.00	93.9 AV			1.90 V	0	53.3	40.6
11	#6234.00	54.6 PK	68.2	-13.6	1.65 V	306	43.6	11.0
12	#6394.00	54.3 PK	68.2	-13.9	1.75 V	330	43.3	11.0
13	11510.00	59.6 PK	74.0	-14.4	2.09 V	211	40.9	18.7
14	11510.00	46.9 AV	54.0	-7.1	2.09 V	211	28.2	18.7

Remarks:

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

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	5000.00	59.2 PK	74.0	-14.8	1.35 H	37	53.5	5.7
2	5000.00	48.9 AV	54.0	-5.1	1.35 H	37	43.2	5.7
3	*5795.00	117.6 PK			1.73 H	49	77.0	40.6
4	*5795.00	107.4 AV			1.73 H	49	66.8	40.6
5	#5850.00	60.1 PK	78.2	-18.1	1.57 H	54	52.5	7.6
6	#5852.10	73.2 PK	78.2	-5.0	1.57 H	54	65.5	7.7
7	#5860.10	69.0 PK	74.0	-5.0	1.61 H	51	61.3	7.7
8	#5860.10	52.7 AV	54.0	-1.3	1.61 H	51	45.0	7.7
9	#6277.00	59.1 PK	68.2	-9.1	1.84 H	275	48.2	10.9
10	#6438.00	59.6 PK	68.2	-8.6	2.33 H	286	48.5	11.1
11	11590.00	60.0 PK	74.0	-14.0	1.93 H	152	41.2	18.8
12	11590.00	47.0 AV	54.0	-7.0	1.93 H	152	28.2	18.8
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	5000.00	57.7 PK	74.0	-16.3	2.22 V	323	52.0	5.7
2	5000.00	45.7 AV	54.0	-8.3	2.22 V	323	40.0	5.7
3	*5795.00	108.3 PK			2.34 V	334	67.7	40.6
4	*5795.00	98.4 AV			2.34 V	334	57.8	40.6
5	#5850.00	51.6 PK	78.2	-26.6	1.66 V	8	44.0	7.6
6	#5852.10	64.1 PK	78.2	-14.1	1.66 V	8	56.4	7.7
7	#5860.10	62.2 PK	74.0	-11.8	1.97 V	346	54.5	7.7
8	#5860.10	47.9 AV	54.0	-6.1	1.97 V	346	40.2	7.7
9	#6277.00	55.5 PK	68.2	-12.7	2.51 V	331	44.6	10.9
10	#6438.00	56.0 PK	68.2	-12.2	3.23 V	15	44.9	11.1
11	11590.00	60.5 PK	74.0	-13.5	2.35 V	152	41.7	18.8
12	11590.00	47.1 AV	54.0	-6.9	2.35 V	152	28.3	18.8

Remarks:

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

802.11ac (VHT80)

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	68.5 PK	74.0	-5.5	2.35 H	286	62.5	6.0
2	5150.00	52.5 AV	54.0	-1.5	2.35 H	286	46.5	6.0
3	*5210.00	107.3 PK			1.36 H	281	67.8	39.5
4	*5210.00	97.8 AV			1.36 H	281	58.3	39.5
5	5350.00	58.9 PK	74.0	-15.1	1.55 H	277	52.4	6.5
6	5350.00	47.3 AV	54.0	-6.7	1.55 H	277	40.8	6.5
7	#10420.00	59.1 PK	74.0	-14.9	1.36 H	251	41.2	17.9
8	#10420.00	46.1 AV	54.0	-7.9	1.36 H	251	28.2	17.9
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	62.9 PK	74.0	-11.1	3.89 V	5	56.9	6.0
2	5150.00	47.9 AV	54.0	-6.1	3.89 V	5	41.9	6.0
3	*5210.00	102.2 PK			3.77 V	4	62.7	39.5
4	*5210.00	93.0 AV			3.77 V	4	53.5	39.5
5	5350.00	58.2 PK	74.0	-15.8	2.55 V	15	51.7	6.5
6	5350.00	46.6 AV	54.0	-7.4	2.55 V	15	40.1	6.5
7	#10420.00	58.2 PK	74.0	-15.8	2.82 V	218	40.3	17.9
8	#10420.00	46.0 AV	54.0	-8.0	2.82 V	218	28.1	17.9

Remarks:

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

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	5000.00	59.4 PK	74.0	-14.6	1.17 H	37	53.7	5.7
2	5000.00	49.7 AV	54.0	-4.3	1.17 H	37	44.0	5.7
3	#5714.90	68.0 PK	74.0	-6.0	1.65 H	57	60.6	7.4
4	#5714.90	52.3 AV	54.0	-1.7	1.65 H	57	44.9	7.4
5	#5722.90	67.8 PK	78.2	-10.4	1.83 H	54	60.4	7.4
6	#5725.00	58.3 PK	78.2	-19.9	1.83 H	54	50.9	7.4
7	*5775.00	106.6 PK			1.67 H	52	66.0	40.6
8	*5775.00	96.1 AV			1.67 H	52	55.5	40.6
9	#5850.00	54.5 PK	78.2	-23.7	1.60 H	54	46.9	7.6
10	#5852.10	64.2 PK	78.2	-14.0	1.60 H	54	56.5	7.7
11	#5860.10	62.7 PK	74.0	-11.3	1.88 H	49	55.0	7.7
12	#5860.10	49.8 AV	54.0	-4.2	1.88 H	49	42.1	7.7
13	11550.00	60.4 PK	74.0	-13.6	1.78 H	177	41.8	18.6
14	11550.00	47.7 AV	54.0	-6.3	1.78 H	177	29.1	18.6
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	5000.00	57.4 PK	74.0	-16.6	1.70 V	336	51.7	5.7
2	5000.00	46.3 AV	54.0	-7.7	1.70 V	336	40.6	5.7
3	#5714.90	60.2 PK	74.0	-13.8	1.36 V	339	52.8	7.4
4	#5714.90	47.2 AV	54.0	-6.8	1.36 V	339	39.8	7.4
5	#5722.90	61.1 PK	78.2	-17.1	1.36 V	341	53.7	7.4
6	#5725.00	52.3 PK	78.2	-25.9	1.36 V	341	44.9	7.4
7	*5775.00	97.6 PK			2.28 V	354	57.0	40.6
8	*5775.00	87.5 AV			2.28 V	354	46.9	40.6
9	#5850.00	51.1 PK	78.2	-27.1	1.74 V	352	43.5	7.6
10	#5852.10	60.2 PK	78.2	-18.0	1.74 V	352	52.5	7.7
11	#5860.10	59.4 PK	74.0	-14.6	1.51 V	348	51.7	7.7
12	#5860.10	46.3 AV	54.0	-7.7	1.51 V	348	38.6	7.7
13	11550.00	60.4 PK	74.0	-13.6	1.62 V	174	41.8	18.6
14	11550.00	47.0 AV	54.0	-7.0	1.62 V	174	28.4	18.6

Remarks:

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

Mode C

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	5103.00	61.0 PK	74.0	-13.0	2.22 H	318	55.1	5.9
2	5103.00	48.8 AV	54.0	-5.2	2.22 H	318	42.9	5.9
3	*5180.00	117.9 PK			1.60 H	15	78.5	39.4
4	*5180.00	107.3 AV			1.60 H	15	67.9	39.4
5	#10360.00	67.5 PK	74.0	-6.5	1.46 H	354	49.7	17.8
6	**#10360.00**	**53.0 AV**	**54.0**	**-1.0**	**1.46 H**	**354**	**35.2**	**17.8**
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	5103.00	56.8 PK	74.0	-17.2	2.04 V	285	50.9	5.9
2	5103.00	44.5 AV	54.0	-9.5	2.04 V	285	38.6	5.9
3	*5180.00	107.0 PK			1.89 V	36	67.6	39.4
4	*5180.00	97.3 AV			1.89 V	36	57.9	39.4
5	#10360.00	60.4 PK	74.0	-13.6	1.72 V	304	42.6	17.8
6	#10360.00	47.2 AV	54.0	-6.8	1.72 V	304	29.4	17.8

Remarks:

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

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	5126.00	62.3 PK	74.0	-11.7	2.49 H	318	56.3	6.0
2	5126.00	49.3 AV	54.0	-4.7	2.49 H	318	43.3	6.0
3	*5200.00	118.7 PK			2.49 H	14	79.2	39.5
4	*5200.00	108.9 AV			2.49 H	14	69.4	39.5
5	#10400.00	67.6 PK	74.0	-6.4	2.52 H	340	49.9	17.7
6	#10400.00	52.9 AV	54.0	-1.1	2.52 H	340	35.2	17.7
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	5126.00	57.5 PK	74.0	-16.5	1.64 V	330	51.5	6.0
2	5126.00	44.8 AV	54.0	-9.2	1.64 V	330	38.8	6.0
3	*5200.00	110.1 PK			1.17 V	12	70.6	39.5
4	*5200.00	100.5 AV			1.17 V	12	61.0	39.5
5	#10400.00	59.8 PK	74.0	-14.2	1.93 V	299	42.1	17.7
6	#10400.00	47.4 AV	54.0	-6.6	1.93 V	299	29.7	17.7

Remarks:

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

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	119.1 PK			2.77 H	22	79.5	39.6
2	*5240.00	109.3 AV			2.77 H	22	69.7	39.6
3	5401.00	61.2 PK	74.0	-12.8	2.84 H	338	54.5	6.7
4	5401.00	48.7 AV	54.0	-5.3	2.84 H	338	42.0	6.7
5	#10480.00	67.4 PK	74.0	-6.6	1.59 H	346	48.7	18.7
6	#10480.00	52.8 AV	54.0	-1.2	1.59 H	346	34.1	18.7
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	108.3 PK			2.56 V	187	68.7	39.6
2	*5240.00	98.2 AV			2.56 V	187	58.6	39.6
3	5401.00	58.5 PK	74.0	-15.5	1.68 V	186	51.8	6.7
4	5401.00	45.6 AV	54.0	-8.4	1.68 V	186	38.9	6.7
5	#10480.00	62.0 PK	74.0	-12.0	1.84 V	22	43.3	18.7
6	#10480.00	48.6 AV	54.0	-5.4	1.84 V	22	29.9	18.7

Remarks:

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

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	#5512.00	63.4 PK	74.0	-10.6	2.39 H	25	56.4	7.0
2	#5512.00	51.0 AV	54.0	-3.0	2.39 H	25	44.0	7.0
3	#5714.90	69.6 PK	74.0	-4.4	2.58 H	25	62.2	7.4
4	#5714.90	51.3 AV	54.0	-2.7	2.58 H	25	43.9	7.4
5	#5722.90	76.9 PK	78.2	-1.3	3.21 H	3	69.5	7.4
6	#5725.00	62.9 PK	78.2	-15.3	2.49 H	40	55.5	7.4
7	*5745.00	116.9 PK			2.76 H	350	76.4	40.5
8	*5745.00	107.6 AV			2.76 H	350	67.1	40.5
9	#5990.00	66.6 PK	68.2	-1.6	2.21 H	27	58.7	7.9
10	11490.00	60.6 PK	74.0	-13.4	2.73 H	309	41.9	18.7
11	11490.00	48.5 AV	54.0	-5.5	2.73 H	309	29.8	18.7
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	#5512.00	59.4 PK	74.0	-14.6	2.89 V	291	52.4	7.0
2	#5512.00	46.5 AV	54.0	-7.5	2.89 V	291	39.5	7.0
3	#5714.90	58.6 PK	74.0	-15.4	2.98 V	298	51.2	7.4
4	#5714.90	46.4 AV	54.0	-7.6	2.98 V	298	39.0	7.4
5	#5722.90	68.8 PK	78.2	-9.4	2.80 V	225	61.4	7.4
6	#5725.00	55.2 PK	78.2	-23.0	2.80 V	225	47.8	7.4
7	*5745.00	108.2 PK			2.76 V	310	67.7	40.5
8	*5745.00	98.7 AV			2.76 V	310	58.2	40.5
9	#5990.00	60.0 PK	68.2	-8.2	2.73 V	304	52.1	7.9
10	11490.00	58.8 PK	74.0	-15.2	2.18 V	221	40.1	18.7
11	11490.00	45.8 AV	54.0	-8.2	2.18 V	221	27.1	18.7

Remarks:

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

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	#5543.00	64.8 PK	68.2	-3.4	2.95 H	340	57.8	7.0
2	#5714.90	64.5 PK	74.0	-9.5	2.82 H	357	57.1	7.4
3	#5714.90	51.4 AV	54.0	-2.6	2.82 H	357	44.0	7.4
4	*5785.00	121.4 PK			3.13 H	340	80.8	40.6
5	*5785.00	111.8 AV			3.13 H	340	71.2	40.6
6	#5860.10	65.9 PK	74.0	-8.1	2.80 H	356	58.2	7.7
7	#5860.10	52.4 AV	54.0	-1.6	2.80 H	356	44.7	7.7
8	#5945.00	64.4 PK	68.2	-3.8	2.37 H	27	56.7	7.7
9	#6032.00	59.7 PK	68.2	-8.5	3.02 H	28	51.7	8.0
10	11570.00	60.9 PK	74.0	-13.1	2.95 H	323	42.2	18.7
11	11570.00	48.4 AV	54.0	-5.6	2.95 H	323	29.7	18.7
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	#5543.00	61.9 PK	68.2	-6.3	3.21 V	91	54.9	7.0
2	#5714.90	59.6 PK	74.0	-14.4	3.01 V	39	52.2	7.4
3	#5714.90	47.8 AV	54.0	-6.2	3.01 V	39	40.4	7.4
4	*5785.00	110.6 PK			3.02 V	317	70.0	40.6
5	*5785.00	100.5 AV			3.02 V	317	59.9	40.6
6	#5860.10	61.8 PK	74.0	-12.2	3.06 V	89	54.1	7.7
7	#5860.10	48.3 AV	54.0	-5.7	3.06 V	89	40.6	7.7
8	#5945.00	59.9 PK	68.2	-8.3	3.00 V	40	52.2	7.7
9	#6032.00	55.1 PK	68.2	-13.1	3.46 V	298	47.1	8.0
10	11570.00	59.3 PK	74.0	-14.7	3.14 V	224	40.6	18.7
11	11570.00	47.0 AV	54.0	-7.0	3.14 V	224	28.3	18.7

Remarks:

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

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	#5584.00	63.7 PK	68.2	-4.5	3.50 H	6	56.6	7.1
2	*5825.00	118.4 PK			2.95 H	349	77.8	40.6
3	*5825.00	109.1 AV			2.95 H	349	68.5	40.6
4	#5850.00	60.1 PK	78.2	-18.1	3.38 H	13	52.5	7.6
5	#5852.10	76.6 PK	78.2	-1.6	3.38 H	13	68.9	7.7
6	#5860.10	67.2 PK	74.0	-6.8	3.35 H	26	59.5	7.7
7	#5860.10	50.5 AV	54.0	-3.5	3.35 H	26	42.8	7.7
8	#5906.00	64.7 PK	68.2	-3.5	3.39 H	12	57.0	7.7
9	#5986.00	65.5 PK	68.2	-2.7	3.40 H	4	57.6	7.9
10	#6067.00	56.6 PK	68.2	-11.6	3.49 H	329	48.5	8.1
11	11650.00	60.9 PK	74.0	-13.1	2.52 H	219	41.7	19.2
12	11650.00	48.5 AV	54.0	-5.5	2.52 H	219	29.3	19.2

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	#5584.00	59.6 PK	68.2	-8.6	3.05 V	307	52.5	7.1
2	*5825.00	111.5 PK			3.15 V	309	70.9	40.6
3	*5825.00	102.0 AV			3.15 V	309	61.4	40.6
4	#5850.00	56.3 PK	78.2	-21.9	3.09 V	297	48.7	7.6
5	#5852.10	71.5 PK	78.2	-6.7	3.09 V	297	63.8	7.7
6	#5860.10	62.8 PK	74.0	-11.2	3.02 V	217	55.1	7.7
7	#5860.10	47.5 AV	54.0	-6.5	3.02 V	217	39.8	7.7
8	#5906.00	59.9 PK	68.2	-8.3	2.92 V	219	52.2	7.7
9	#5986.00	59.8 PK	68.2	-8.4	3.08 V	243	51.9	7.9
10	#6067.00	53.4 PK	68.2	-14.8	3.12 V	307	45.3	8.1
11	11650.00	59.8 PK	74.0	-14.2	2.75 V	57	40.6	19.2
12	11650.00	47.2 AV	54.0	-6.8	2.75 V	57	28.0	19.2

Remarks:

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

802.11ac (VHT20)

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	5103.00	61.9 PK	74.0	-12.1	2.31 H	17	56.0	5.9
2	5103.00	49.1 AV	54.0	-4.9	2.31 H	17	43.2	5.9
3	*5180.00	118.7 PK			2.61 H	16	79.3	39.4
4	*5180.00	106.2 AV			2.61 H	16	66.8	39.4
5	#10360.00	67.0 PK	74.0	-7.0	1.76 H	354	49.2	17.8
6	**#10360.00**	**53.0 AV**	**54.0**	**-1.0**	**1.76 H**	**354**	**35.2**	**17.8**
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	5103.00	57.3 PK	74.0	-16.7	2.40 V	171	51.4	5.9
2	5103.00	45.0 AV	54.0	-9.0	2.40 V	171	39.1	5.9
3	*5180.00	109.3 PK			2.90 V	301	69.9	39.4
4	*5180.00	98.9 AV			2.90 V	301	59.5	39.4
5	#10360.00	60.9 PK	74.0	-13.1	2.86 V	335	43.1	17.8
6	#10360.00	48.8 AV	54.0	-5.2	2.86 V	335	31.0	17.8

Remarks:

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

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	5126.00	61.6 PK	74.0	-12.4	2.62 H	18	55.6	6.0
2	5126.00	49.4 AV	54.0	-4.6	2.62 H	18	43.4	6.0
3	*5200.00	119.2 PK			2.51 H	16	79.7	39.5
4	*5200.00	108.1 AV			2.51 H	16	68.6	39.5
5	#10400.00	67.3 PK	74.0	-6.7	2.28 H	347	49.6	17.7
6	#10400.00	52.9 AV	54.0	-1.1	2.28 H	347	35.2	17.7
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	5126.00	57.7 PK	74.0	-16.3	2.75 V	261	51.7	6.0
2	5126.00	45.0 AV	54.0	-9.0	2.75 V	261	39.0	6.0
3	*5200.00	109.4 PK			2.75 V	307	69.9	39.5
4	*5200.00	99.8 AV			2.75 V	307	60.3	39.5
5	#10400.00	61.2 PK	74.0	-12.8	2.61 V	344	43.5	17.7
6	#10400.00	49.2 AV	54.0	-4.8	2.61 V	344	31.5	17.7

Remarks:

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

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	119.2 PK			2.61 H	25	79.6	39.6
2	*5240.00	107.9 AV			2.61 H	25	68.3	39.6
3	5401.00	61.3 PK	74.0	-12.7	2.59 H	347	54.6	6.7
4	5401.00	47.8 AV	54.0	-6.2	2.59 H	347	41.1	6.7
5	#10480.00	66.4 PK	74.0	-7.6	2.55 H	346	47.7	18.7
6	#10480.00	52.7 AV	54.0	-1.3	2.55 H	346	34.0	18.7
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	110.5 PK			3.20 V	337	70.9	39.6
2	*5240.00	100.6 AV			3.20 V	337	61.0	39.6
3	5401.00	58.3 PK	74.0	-15.7	2.47 V	105	51.6	6.7
4	5401.00	45.2 AV	54.0	-8.8	2.47 V	105	38.5	6.7
5	#10480.00	61.2 PK	74.0	-12.8	2.95 V	278	42.5	18.7
6	#10480.00	49.5 AV	54.0	-4.5	2.95 V	278	30.8	18.7

Remarks:

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

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	#5514.00	62.0 PK	74.0	-12.0	2.87 H	346	55.0	7.0
2	#5514.00	50.9 AV	54.0	-3.1	2.87 H	346	43.9	7.0
3	#5714.90	69.9 PK	74.0	-4.1	3.35 H	13	62.5	7.4
4	#5714.90	51.6 AV	54.0	-2.4	3.35 H	13	44.2	7.4
5	#5722.90	76.5 PK	78.2	-1.7	3.12 H	12	69.1	7.4
6	#5725.00	63.2 PK	78.2	-15.0	3.12 H	12	55.8	7.4
7	*5745.00	116.1 PK			3.03 H	354	75.6	40.5
8	*5745.00	105.3 AV			3.03 H	354	64.8	40.5
9	#5993.00	64.5 PK	68.2	-3.7	2.87 H	28	56.6	7.9
10	11490.00	60.4 PK	74.0	-13.6	3.06 H	109	41.7	18.7
11	11490.00	47.8 AV	54.0	-6.2	3.06 H	109	29.1	18.7
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	#5514.00	58.9 PK	74.0	-15.1	3.14 V	228	51.9	7.0
2	#5514.00	46.5 AV	54.0	-7.5	3.14 V	228	39.5	7.0
3	#5714.90	59.6 PK	74.0	-14.4	2.86 V	320	52.2	7.4
4	#5714.90	46.4 AV	54.0	-7.6	2.86 V	320	39.0	7.4
5	#5722.90	73.3 PK	78.2	-4.9	3.43 V	304	65.9	7.4
6	#5725.00	57.7 PK	78.2	-20.5	3.43 V	304	50.3	7.4
7	*5745.00	110.9 PK			3.52 V	308	70.4	40.5
8	*5745.00	99.8 AV			3.52 V	308	59.3	40.5
9	#5993.00	59.7 PK	68.2	-8.5	3.02 V	258	51.8	7.9
10	11490.00	58.1 PK	74.0	-15.9	3.00 V	183	39.4	18.7
11	11490.00	45.6 AV	54.0	-8.4	3.00 V	183	26.9	18.7

Remarks:

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

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	#5545.00	64.8 PK	68.2	-3.4	3.06 H	326	57.8	7.0
2	#5714.90	65.6 PK	74.0	-8.4	3.06 H	348	58.2	7.4
3	#5714.90	52.5 AV	54.0	-1.5	3.06 H	348	45.1	7.4
4	*5785.00	122.1 PK			3.27 H	339	81.5	40.6
5	*5785.00	111.1 AV			3.27 H	339	70.5	40.6
6	#5860.10	65.3 PK	74.0	-8.7	3.20 H	348	57.6	7.7
7	#5860.10	52.6 AV	54.0	-1.4	3.20 H	348	44.9	7.7
8	#5945.00	63.8 PK	68.2	-4.4	3.02 H	18	56.1	7.7
9	#6032.00	59.4 PK	68.2	-8.8	2.94 H	28	51.4	8.0
10	11570.00	60.7 PK	74.0	-13.3	2.92 H	311	42.0	18.7
11	11570.00	48.4 AV	54.0	-5.6	2.92 H	311	29.7	18.7
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	#5545.00	61.0 PK	68.2	-7.2	3.28 V	314	54.0	7.0
2	#5714.90	60.3 PK	74.0	-13.7	2.97 V	298	52.9	7.4
3	#5714.90	47.3 AV	54.0	-6.7	2.97 V	298	39.9	7.4
4	*5785.00	112.3 PK			2.75 V	221	71.7	40.6
5	*5785.00	102.7 AV			2.75 V	221	62.1	40.6
6	#5860.10	60.1 PK	74.0	-13.9	2.79 V	298	52.4	7.7
7	#5860.10	47.8 AV	54.0	-6.2	2.79 V	298	40.1	7.7
8	#5945.00	59.3 PK	68.2	-8.9	2.78 V	303	51.6	7.7
9	#6032.00	53.4 PK	68.2	-14.8	2.67 V	216	45.4	8.0
10	11570.00	60.1 PK	74.0	-13.9	2.79 V	273	41.4	18.7
11	11570.00	46.8 AV	54.0	-7.2	2.79 V	273	28.1	18.7

Remarks:

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

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	#5584.00	63.0 PK	68.2	-5.2	3.22 H	339	55.9	7.1
2	*5825.00	118.7 PK			3.51 H	349	78.1	40.6
3	*5825.00	107.8 AV			3.51 H	349	67.2	40.6
4	#5850.00	62.6 PK	78.2	-15.6	3.40 H	329	55.0	7.6
5	#5852.10	76.8 PK	78.2	-1.4	3.40 H	329	69.1	7.7
6	#5860.10	70.2 PK	74.0	-3.8	3.41 H	328	62.5	7.7
7	#5860.10	50.6 AV	54.0	-3.4	3.41 H	328	42.9	7.7
8	#5906.00	63.0 PK	68.2	-5.2	3.20 H	334	55.3	7.7
9	#5986.00	63.8 PK	68.2	-4.4	3.38 H	6	55.9	7.9
10	#6067.00	56.7 PK	68.2	-11.5	3.40 H	18	48.6	8.1
11	11650.00	59.7 PK	74.0	-14.3	3.05 H	208	40.5	19.2
12	11650.00	46.7 AV	54.0	-7.3	3.05 H	208	27.5	19.2
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	#5584.00	58.8 PK	68.2	-9.4	3.09 V	210	51.7	7.1
2	*5825.00	111.8 PK			3.47 V	314	71.2	40.6
3	*5825.00	101.7 AV			3.47 V	314	61.1	40.6
4	#5850.00	55.5 PK	78.2	-22.7	3.09 V	298	47.9	7.6
5	#5852.10	69.6 PK	78.2	-8.6	3.09 V	298	61.9	7.7
6	#5860.10	60.1 PK	74.0	-13.9	3.29 V	321	52.4	7.7
7	#5860.10	47.2 AV	54.0	-6.8	3.29 V	321	39.5	7.7
8	#5906.00	59.8 PK	68.2	-8.4	2.86 V	309	52.1	7.7
9	#5986.00	60.5 PK	68.2	-7.7	3.23 V	295	52.6	7.9
10	#6067.00	52.3 PK	68.2	-15.9	3.14 V	285	44.2	8.1
11	11650.00	60.4 PK	74.0	-13.6	2.75 V	185	41.2	19.2
12	11650.00	47.6 AV	54.0	-6.4	2.75 V	185	28.4	19.2

Remarks:

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

802.11ac (VHT40)

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	67.2 PK	74.0	-6.8	2.41 H	18	61.2	6.0
2	5150.00	52.4 AV	54.0	-1.6	2.41 H	18	46.4	6.0
3	*5190.00	111.9 PK			2.34 H	17	72.5	39.4
4	*5190.00	100.5 AV			2.34 H	17	61.1	39.4
5	#10380.00	62.6 PK	74.0	-11.4	2.41 H	351	44.9	17.7
6	#10380.00	48.4 AV	54.0	-5.6	2.41 H	351	30.7	17.7
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	62.0 PK	74.0	-12.0	3.02 V	235	56.0	6.0
2	5150.00	46.5 AV	54.0	-7.5	3.02 V	235	40.5	6.0
3	*5190.00	104.7 PK			3.01 V	300	65.3	39.4
4	*5190.00	94.1 AV			3.01 V	300	54.7	39.4
5	#10380.00	61.2 PK	74.0	-12.8	2.66 V	242	43.5	17.7
6	#10380.00	47.6 AV	54.0	-6.4	2.66 V	242	29.9	17.7

Remarks:

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

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	5061.00	63.3 PK	74.0	-10.7	2.34 H	15	57.5	5.8
2	5061.00	51.8 AV	54.0	-2.2	2.34 H	15	46.0	5.8
3	*5230.00	117.0 PK			2.43 H	314	77.4	39.6
4	*5230.00	106.4 AV			2.43 H	314	66.8	39.6
5	5382.00	63.0 PK	74.0	-11.0	2.35 H	344	56.3	6.7
6	5382.00	52.3 AV	54.0	-1.7	2.35 H	344	45.6	6.7
7	#10460.00	64.6 PK	74.0	-9.4	2.35 H	352	46.1	18.5
8	#10460.00	51.2 AV	54.0	-2.8	2.35 H	352	32.7	18.5
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	5061.00	48.5 PK	74.0	-25.5	3.11 V	304	42.7	5.8
2	5061.00	46.7 AV	54.0	-7.3	3.11 V	304	40.9	5.8
3	*5230.00	111.2 PK			3.07 V	302	71.6	39.6
4	*5230.00	101.3 AV			3.07 V	302	61.7	39.6
5	5382.00	60.1 PK	74.0	-13.9	3.14 V	301	53.4	6.7
6	5382.00	48.8 AV	54.0	-5.2	3.14 V	301	42.1	6.7
7	#10460.00	61.4 PK	74.0	-12.6	2.96 V	334	42.9	18.5
8	#10460.00	48.5 AV	54.0	-5.5	2.96 V	334	30.0	18.5

Remarks:

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

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	#5714.90	68.2 PK	74.0	-5.8	3.38 H	346	60.8	7.4
2	#5714.90	52.8 AV	54.0	-1.2	3.38 H	346	45.4	7.4
3	#5722.90	71.3 PK	78.2	-6.9	3.37 H	343	63.9	7.4
4	#5725.00	60.2 PK	78.2	-18.0	3.37 H	343	52.8	7.4
5	*5755.00	110.3 PK			2.89 H	354	69.7	40.6
6	*5755.00	99.5 AV			2.89 H	354	58.9	40.6
7	#6230.00	58.2 PK	68.2	-10.0	3.45 H	309	47.1	11.1
8	11510.00	59.2 PK	74.0	-14.8	2.73 H	164	40.5	18.7
9	11510.00	45.7 AV	54.0	-8.3	2.73 H	164	27.0	18.7
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	#5714.90	60.5 PK	74.0	-13.5	2.78 V	228	53.1	7.4
2	#5714.90	47.1 AV	54.0	-6.9	2.78 V	228	39.7	7.4
3	#5722.90	64.6 PK	78.2	-13.6	2.80 V	223	57.2	7.4
4	#5725.00	54.6 PK	78.2	-23.6	2.80 V	223	47.2	7.4
5	*5755.00	102.4 PK			2.87 V	223	61.8	40.6
6	*5755.00	91.9 AV			2.87 V	223	51.3	40.6
7	#6230.00	56.4 PK	68.2	-11.8	2.94 V	289	45.3	11.1
8	11510.00	58.7 PK	74.0	-15.3	2.74 V	182	40.0	18.7
9	11510.00	45.8 AV	54.0	-8.2	2.74 V	182	27.1	18.7

Remarks:

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

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	114.2 PK			2.48 H	36	73.6	40.6
2	*5795.00	103.9 AV			2.48 H	36	63.3	40.6
3	#5850.00	60.5 PK	78.2	-17.7	2.87 H	22	52.9	7.6
4	#5852.10	75.6 PK	78.2	-2.6	2.87 H	22	67.9	7.7
5	#5860.10	68.4 PK	74.0	-5.6	2.83 H	20	60.7	7.7
6	#5860.10	52.5 AV	54.0	-1.5	2.83 H	20	44.8	7.7
7	#6277.00	57.4 PK	68.2	-10.8	3.33 H	321	46.5	10.9
8	11590.00	59.3 PK	74.0	-14.7	2.49 H	211	40.5	18.8
9	11590.00	47.0 AV	54.0	-7.0	2.49 H	211	28.2	18.8
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	107.6 PK			2.83 V	224	67.0	40.6
2	*5795.00	97.9 AV			2.83 V	224	57.3	40.6
3	#5850.00	55.1 PK	78.2	-23.1	3.25 V	296	47.5	7.6
4	#5852.10	68.9 PK	78.2	-9.3	3.25 V	296	61.2	7.7
5	#5860.10	62.6 PK	74.0	-11.4	3.04 V	295	54.9	7.7
6	#5860.10	47.4 AV	54.0	-6.6	3.04 V	295	39.7	7.7
7	#6277.00	54.2 PK	68.2	-14.0	3.23 V	300	43.3	10.9
8	11590.00	59.5 PK	74.0	-14.5	2.78 V	191	40.7	18.8
9	11590.00	46.8 AV	54.0	-7.2	2.78 V	191	28.0	18.8

Remarks:

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

802.11ac (VHT80)

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	68.5 PK	74.0	-5.5	2.45 H	17	62.5	6.0
2	5150.00	52.4 AV	54.0	-1.6	2.45 H	17	46.4	6.0
3	*5210.00	107.8 PK			2.48 H	17	68.3	39.5
4	*5210.00	97.1 AV			2.48 H	17	57.6	39.5
5	5350.00	59.5 PK	74.0	-14.5	2.25 H	27	53.0	6.5
6	5350.00	47.8 AV	54.0	-6.2	2.25 H	27	41.3	6.5
7	#10420.00	60.6 PK	74.0	-13.4	2.49 H	257	42.7	17.9
8	#10420.00	48.3 AV	54.0	-5.7	2.49 H	257	30.4	17.9
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	59.2 PK	74.0	-14.8	2.70 V	302	53.2	6.0
2	5150.00	46.4 AV	54.0	-7.6	2.70 V	302	40.4	6.0
3	*5210.00	101.2 PK			3.06 V	300	61.7	39.5
4	*5210.00	91.3 AV			3.06 V	300	51.8	39.5
5	5350.00	58.4 PK	74.0	-15.6	2.91 V	143	51.9	6.5
6	5350.00	46.7 AV	54.0	-7.3	2.91 V	143	40.2	6.5
7	#10420.00	60.3 PK	74.0	-13.7	2.31 V	300	42.4	17.9
8	#10420.00	48.2 AV	54.0	-5.8	2.31 V	300	30.3	17.9

Remarks:

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

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	#5714.90	67.4 PK	74.0	-6.6	3.22 H	346	60.0	7.4
2	#5714.90	52.4 AV	54.0	-1.6	3.22 H	346	45.0	7.4
3	#5722.90	66.3 PK	78.2	-11.9	3.21 H	345	58.9	7.4
4	#5725.00	57.6 PK	78.2	-20.6	3.21 H	345	50.2	7.4
5	*5775.00	104.5 PK			2.83 H	22	63.9	40.6
6	*5775.00	93.5 AV			2.83 H	22	52.9	40.6
7	#5850.00	53.1 PK	78.2	-25.1	3.25 H	355	45.5	7.6
8	#5852.10	62.5 PK	78.2	-15.7	3.25 H	355	54.8	7.7
9	#5860.10	62.1 PK	74.0	-11.9	3.07 H	348	54.4	7.7
10	#5860.10	48.7 AV	54.0	-5.3	3.07 H	348	41.0	7.7
11	11550.00	60.2 PK	74.0	-13.8	2.82 H	247	41.6	18.6
12	11550.00	46.5 AV	54.0	-7.5	2.82 H	247	27.9	18.6
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	#5714.90	60.9 PK	74.0	-13.1	3.57 V	301	53.5	7.4
2	#5714.90	48.3 AV	54.0	-5.7	3.57 V	301	40.9	7.4
3	#5722.90	62.8 PK	78.2	-15.4	3.45 V	302	55.4	7.4
4	#5725.00	53.4 PK	78.2	-24.8	3.45 V	302	46.0	7.4
5	*5775.00	99.4 PK			3.54 V	306	58.8	40.6
6	*5775.00	89.2 AV			3.54 V	306	48.6	40.6
7	#5850.00	51.7 PK	78.2	-26.5	3.30 V	311	44.1	7.6
8	#5852.10	61.2 PK	78.2	-17.0	3.30 V	311	53.5	7.7
9	#5860.10	59.9 PK	74.0	-14.1	2.84 V	291	52.2	7.7
10	#5860.10	47.2 AV	54.0	-6.8	2.84 V	291	39.5	7.7
11	11550.00	58.9 PK	74.0	-15.1	2.84 V	235	40.3	18.6
12	11550.00	46.3 AV	54.0	-7.7	2.84 V	235	27.7	18.6

Remarks:

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

Below 1GHz Worst-Case Data: 802.11a

Mode A

CHANNEL	TX Channel 157	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 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	57.12	31.5 QP	40.0	-8.5	2.00 H	244	46.1	-14.6
2	136.84	26.5 QP	43.5	-17.0	1.51 H	256	41.4	-14.9
3	210.72	28.4 QP	43.5	-15.1	1.51 H	146	44.7	-16.3
4	305.99	26.9 QP	46.0	-19.1	1.00 H	157	38.9	-12.0
5	722.07	31.1 QP	46.0	-14.9	2.00 H	175	34.8	-3.7
6	900.94	35.8 QP	46.0	-10.2	1.00 H	138	35.7	0.1
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	33.79	36.8 QP	40.0	-3.2	1.00 V	214	52.5	-15.7
2	53.23	36.9 QP	40.0	-3.1	1.00 V	350	51.1	-14.2
3	140.72	25.5 QP	43.5	-18.0	1.00 V	165	40.0	-14.5
4	722.07	36.4 QP	46.0	-9.6	1.50 V	16	40.1	-3.7
5	778.45	37.4 QP	46.0	-8.6	1.50 V	273	39.7	-2.3
6	900.94	36.0 QP	46.0	-10.0	1.00 V	175	35.9	0.1

Remarks:

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

Mode B

CHANNEL	TX Channel 157	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 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	57.12	30.8 QP	40.0	-9.2	2.00 H	19	45.4	-14.6
2	88.23	28.1 QP	43.5	-15.4	2.00 H	281	47.9	-19.8
3	212.66	31.3 QP	43.5	-12.2	1.49 H	140	47.4	-16.1
4	304.04	26.4 QP	46.0	-19.6	1.01 H	131	38.5	-12.1
5	385.70	30.0 QP	46.0	-16.0	2.00 H	154	40.5	-10.5
6	714.29	42.6 QP	46.0	-3.4	1.49 H	33	46.5	-3.9
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	36.87	36.9 QP	40.0	-3.1	1.01 V	174	52.4	-15.5
2	64.90	29.4 QP	40.0	-10.6	1.51 V	11	44.7	-15.3
3	111.56	26.3 QP	43.5	-17.2	1.51 V	182	43.4	-17.1
4	210.72	28.1 QP	43.5	-15.4	1.51 V	113	44.4	-16.3
5	387.65	27.4 QP	46.0	-18.6	1.01 V	227	37.8	-10.4
6	832.89	36.0 QP	46.0	-10.0	1.51 V	258	37.5	-1.5

Remarks:

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

Mode C

CHANNEL	TX Channel 157	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 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	30.00	26.7 QP	40.0	-13.3	1.00 H	146	42.9	-16.2
2	57.12	30.9 QP	40.0	-9.1	1.99 H	15	45.5	-14.6
3	107.67	24.8 QP	43.5	-18.7	1.50 H	112	42.4	-17.6
4	136.84	28.3 QP	43.5	-15.2	1.99 H	277	43.2	-14.9
5	218.50	29.3 QP	46.0	-16.7	1.00 H	151	45.3	-16.0
6	305.99	27.4 QP	46.0	-18.6	1.00 H	165	39.4	-12.0
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	47.40	34.4 QP	40.0	-5.6	1.00 V	352	48.9	-14.5
2	69.80	26.6 QP	40.0	-13.4	1.00 V	229	42.8	-16.2
3	111.56	25.4 QP	43.5	-18.1	1.00 V	208	42.5	-17.1
4	138.78	24.6 QP	43.5	-18.9	1.00 V	197	39.3	-14.7
5	181.55	26.1 QP	43.5	-17.4	1.50 V	91	41.5	-15.4
6	307.93	25.7 QP	46.0	-20.3	1.50 V	4	37.6	-11.9

Remarks:

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

Mode D

CHANNEL	TX Channel 157	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 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	57.12	30.1 QP	40.0	-9.9	1.51 H	16	44.7	-14.6
2	90.17	30.9 QP	43.5	-12.6	2.00 H	262	50.6	-19.7
3	109.62	25.6 QP	43.5	-17.9	1.51 H	101	43.0	-17.4
4	140.72	22.4 QP	43.5	-21.1	2.00 H	120	36.9	-14.5
5	189.33	27.3 QP	43.5	-16.2	1.51 H	146	43.5	-16.2
6	212.66	32.2 QP	43.5	-11.3	1.51 H	140	48.3	-16.1
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	37.86	35.1 QP	40.0	-4.9	1.05 V	11	50.4	-15.3
2	90.17	24.1 QP	43.5	-19.4	1.49 V	115	43.8	-19.7
3	103.78	25.0 QP	43.5	-18.5	1.00 V	280	43.2	-18.2
4	142.67	25.7 QP	43.5	-17.8	1.00 V	136	40.0	-14.3
5	185.44	26.4 QP	43.5	-17.1	1.00 V	110	42.2	-15.8
6	210.72	25.0 QP	43.5	-18.5	1.00 V	124	41.3	-16.3

Remarks:

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

4.2 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

Frequency (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15 - 0.5	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30.0	60	50

Note: 1. The lower limit shall apply at the transition frequencies.
2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

4.2.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESCI	100613	Nov. 16, 2015	Nov. 15, 2016
RF signal cable (with 10dB PAD) Woken	5D-FB	Cable-cond1-01	Dec. 26, 2015	Dec. 25, 2016
LISN ROHDE & SCHWARZ (EUT)	ESH3-Z5	835239/001	Feb. 26, 2016	Feb. 25, 2017
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100311	Jul. 24, 2015	Jul. 23, 2016
Software ADT	BV ADT_Cond_ V7.3.7.3	NA	NA	NA

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HwaYa Shielded Room 1.
3. The VCCI Site Registration No. is C-2040.

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: The resolution bandwidth and video bandwidth of test receiver is 9kHz for quasi-peak detection (QP) and average detection (AV) at frequency 0.15MHz-30MHz.

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 Test Setup

4.2.7 Test Results

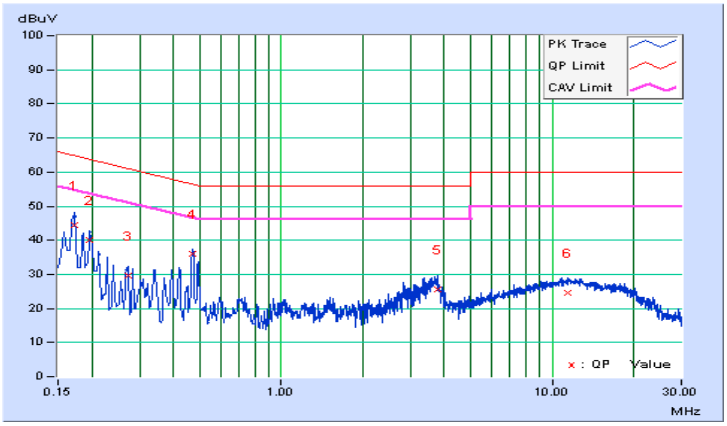
Worst-Case Data: 802.11a

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	A		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.17328	10.08	34.45	22.35	44.53	32.43	64.80	54.80	-20.27	-22.37
2	0.19692	10.08	30.13	17.93	40.21	28.01	63.74	53.74	-23.53	-25.73
3	0.27120	10.11	19.41	8.65	29.52	18.76	61.08	51.08	-31.56	-32.32
4	0.47062	10.18	25.97	25.46	36.15	35.64	56.50	46.50	-20.35	-10.86
5	3.76284	10.46	15.28	7.50	25.74	17.96	56.00	46.00	-30.26	-28.04
6	11.46163	10.86	13.86	8.32	24.72	19.18	60.00	50.00	-35.28	-30.82

Remarks:

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

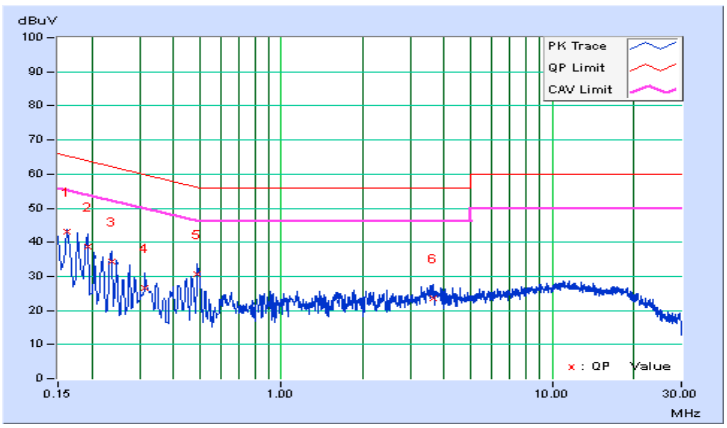


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	A		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16173	10.08	32.89	19.80	42.97	29.88	65.37	55.37	-22.40	-25.49
2	0.19301	10.08	28.65	17.19	38.73	27.27	63.91	53.91	-25.18	-26.64
3	0.23602	10.11	24.19	10.24	34.30	20.35	62.24	52.24	-27.94	-31.89
4	0.31432	10.17	16.55	9.58	26.72	19.75	59.86	49.86	-33.14	-30.11
5	0.49017	10.25	20.37	14.50	30.62	24.75	56.16	46.16	-25.54	-21.41
6	3.62990	10.55	12.98	6.74	23.53	17.29	56.00	46.00	-32.47	-28.71

Remarks:

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

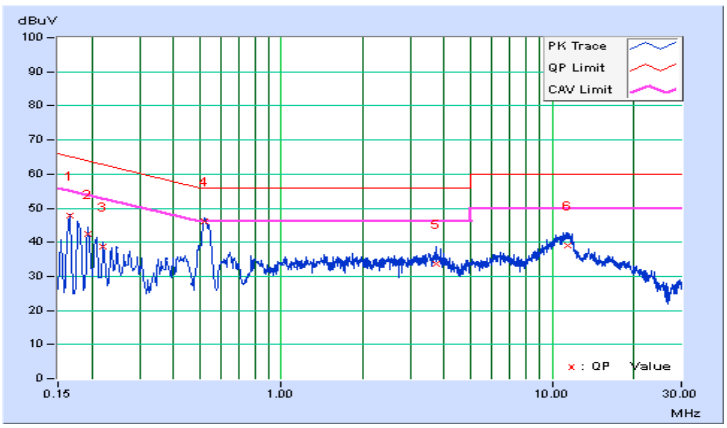


Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	B		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16564	10.08	37.74	24.37	47.82	34.45	65.18	55.18	-17.36	-20.73
2	0.19305	10.08	32.34	20.26	42.42	30.34	63.90	53.90	-21.48	-23.56
3	0.22038	10.09	28.50	17.39	38.59	27.48	62.80	52.80	-24.21	-25.32
4	**0.52130**	**10.19**	**35.80**	**31.95**	**45.99**	**42.14**	**56.00**	**46.00**	**-10.01**	**-3.86**
5	3.74720	10.46	23.21	18.08	33.67	28.54	56.00	46.00	-22.33	-17.46
6	11.43817	10.85	28.19	23.42	39.04	34.27	60.00	50.00	-20.96	-15.73

Remarks:

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

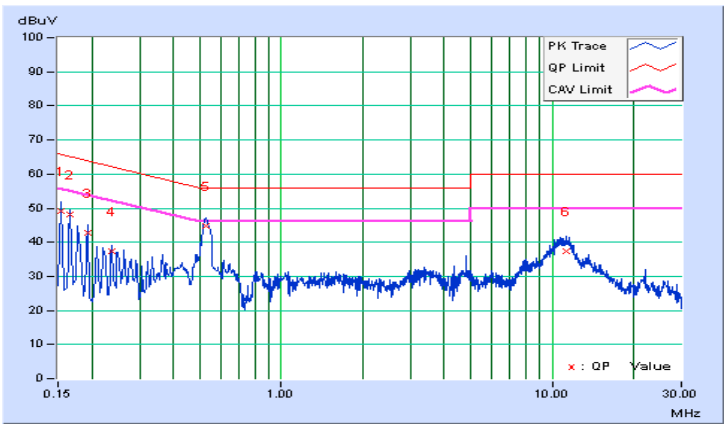


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	B		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15391	10.08	39.20	23.47	49.28	33.55	65.79	55.79	-16.51	-22.24
2	0.16564	10.08	37.91	24.71	47.99	34.79	65.18	55.18	-17.19	-20.39
3	0.19301	10.08	32.62	20.65	42.70	30.73	63.91	53.91	-21.21	-23.18
4	0.23602	10.11	27.30	17.06	37.41	27.17	62.24	52.24	-24.83	-25.07
5	0.52821	10.25	34.52	28.18	44.77	38.43	56.00	46.00	-11.23	-7.57
6	11.25831	10.93	26.48	21.26	37.41	32.19	60.00	50.00	-22.59	-17.81

Remarks:

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

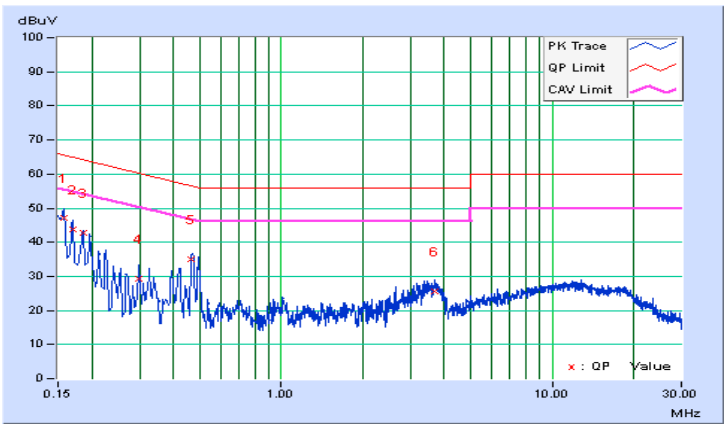


Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	C		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15760	10.08	36.91	24.13	46.99	34.21	65.59	55.59	-18.60	-21.38
2	0.16955	10.08	33.75	22.96	43.83	33.04	64.98	54.98	-21.15	-21.94
3	0.18519	10.08	32.70	19.90	42.78	29.98	64.25	54.25	-21.47	-24.27
4	0.29858	10.12	19.03	9.78	29.15	19.90	60.28	50.28	-31.13	-30.38
5	0.46669	10.18	24.96	22.43	35.14	32.61	56.57	46.57	-21.43	-13.96
6	3.69637	10.45	15.13	7.04	25.58	17.49	56.00	46.00	-30.42	-28.51

Remarks:

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

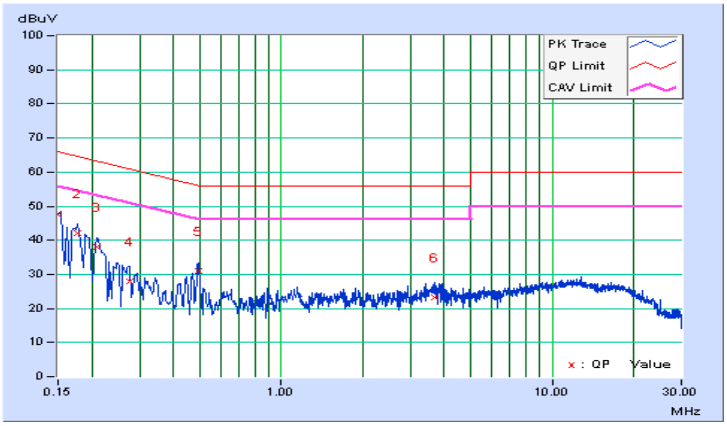


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	C		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	10.08	37.52	24.45	47.60	34.53	66.00	56.00	-18.40	-21.47
2	0.17698	10.08	32.05	20.26	42.13	30.34	64.63	54.63	-22.50	-24.29
3	0.20893	10.09	27.82	14.26	37.91	24.35	63.25	53.25	-25.34	-28.90
4	0.27480	10.14	17.67	7.30	27.81	17.44	60.97	50.97	-33.16	-33.53
5	0.49408	10.25	20.61	18.16	30.86	28.41	56.10	46.10	-25.24	-17.69
6	3.68073	10.56	12.78	6.66	23.34	17.22	56.00	46.00	-32.66	-28.78

Remarks:

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

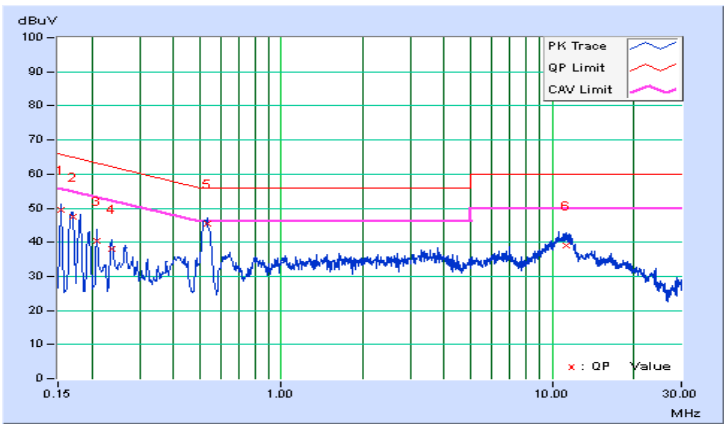


Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	D		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15391	10.08	39.47	23.93	49.55	34.01	65.79	55.79	-16.24	-21.78
2	0.16955	10.08	37.26	23.68	47.34	33.76	64.98	54.98	-17.64	-21.22
3	0.20865	10.08	30.49	17.89	40.57	27.97	63.26	53.26	-22.69	-25.29
4	0.23602	10.10	27.86	18.83	37.96	28.93	62.24	52.24	-24.28	-23.31
5	0.53318	10.20	35.15	27.80	45.35	38.00	56.00	46.00	-10.65	-8.00
6	11.27395	10.85	28.04	23.18	38.89	34.03	60.00	50.00	-21.11	-15.97

Remarks:

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

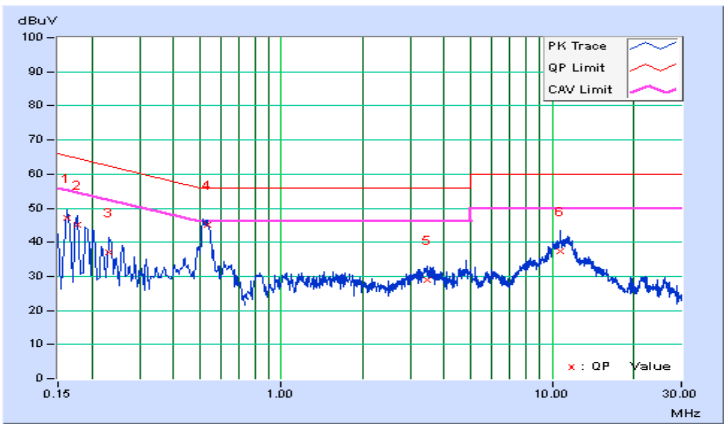


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	D		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16181	10.08	37.17	23.86	47.25	33.94	65.37	55.37	-18.12	-21.43
2	0.17698	10.08	34.89	20.27	44.97	30.35	64.63	54.63	-19.66	-24.28
3	0.23216	10.11	26.98	15.06	37.09	25.17	62.37	52.37	-25.28	-27.20
4	0.53318	10.25	34.97	27.63	45.22	37.88	56.00	46.00	-10.78	-8.12
5	3.44222	10.53	18.42	13.03	28.95	23.56	56.00	46.00	-27.05	-22.44
6	10.70309	10.90	26.32	20.98	37.22	31.88	60.00	50.00	-22.78	-18.12

Remarks:

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



4.3 Transmit Power Measurement

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

*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(NANT/NSS) dB.

4.3.2 Test Setup

For Power Output Measurement
802.11a, 802.11ac (VHT20), 802.11ac (VHT40)

802.11ac (VHT80)

For 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

802.11a, 802.11ac (VHT20), 802.11ac (VHT40)
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.

802.11ac (VHT80)

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

For 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 300 kHz RBW and 1MHz VBW. 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 Conditions

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

4.3.7 Test Result

Average Power:

802.11a

Channel	Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	14.45	14.48	14.15	15.01	113.613	20.55	30	Pass
40	5200	15.40	15.18	14.93	15.74	136.249	21.34	30	Pass
48	5240	15.24	15.19	15.12	16.04	139.145	21.43	30	Pass
149	5745	14.07	14.41	14.02	14.55	106.878	20.29	30	Pass
157	5785	16.82	17.11	16.94	17.50	**205.153**	23.12	30	Pass
165	5825	15.64	16.11	15.68	16.51	159.230	22.02	30	Pass

802.11ac (VHT20)

Channel	Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	14.25	14.42	14.28	13.78	104.946	20.21	30	Pass
40	5200	14.42	14.29	14.26	14.95	112.452	20.51	30	Pass
48	5240	14.92	14.86	14.35	15.48	124.211	20.94	30	Pass
149	5745	13.54	14.15	12.97	13.45	90.542	19.57	30	Pass
157	5785	16.59	17.11	16.42	17.22	193.584	22.87	30	Pass
165	5825	15.62	16.05	15.17	16.18	151.127	21.79	30	Pass

802.11ac (VHT40)

Channel	Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
38	5190	11.65	11.76	11.33	12.37	60.460	17.81	30	Pass
46	5230	17.55	17.12	17.33	17.78	**222.462**	23.47	30	Pass
151	5755	9.04	9.01	8.75	9.52	32.432	15.11	30	Pass
159	5795	15.21	15.43	15.31	15.82	140.260	21.47	30	Pass

802.11ac (VHT80)

Channel	Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
42	5210	9.94	10.46	10.32	9.41	40.475	16.07	30	Pass
155	5775	7.61	7.84	7.56	7.93	23.76	13.76	30	Pass

26dB Bandwidth:

802.11a

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)				Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3	
36	5180	21.79	21.86	21.81	21.78	Pass
40	5200	21.99	21.81	24.60	21.98	Pass
48	5240	21.91	21.73	21.90	22.13	Pass

802.11ac (VHT20)

Channel	Frequency (MHz)	26dBc Bandwidth (MHz)				Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3	
36	5180	22.05	21.87	21.97	21.66	Pass
40	5200	22.15	22.07	21.98	21.97	Pass
48	5240	22.05	22.15	22.05	22.81	Pass

802.11ac (VHT40)

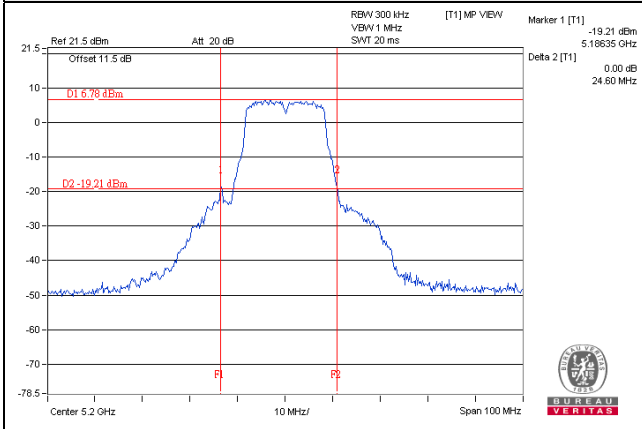
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)				Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3	
38	5190	41.34	40.97	40.89	41.10	Pass
46	5230	73.31	69.54	69.03	71.49	Pass

802.11ac (VHT80)

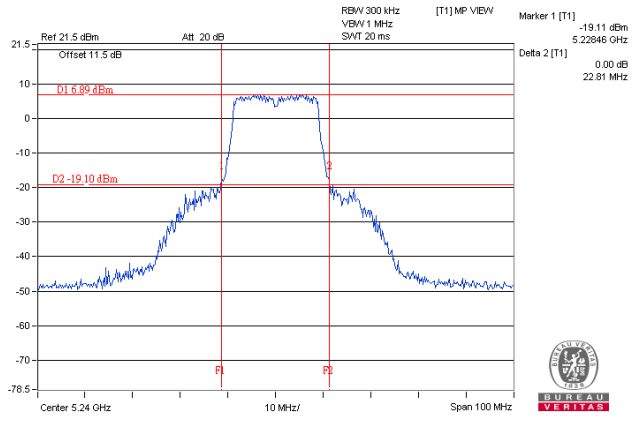
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)				Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3	
42	5210	82.17	81.88	81.48	81.75	Pass

Spectrum Plot of Worst Value

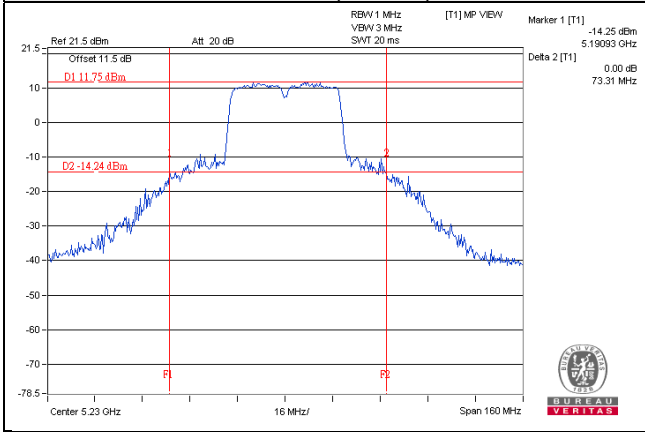
802.11a



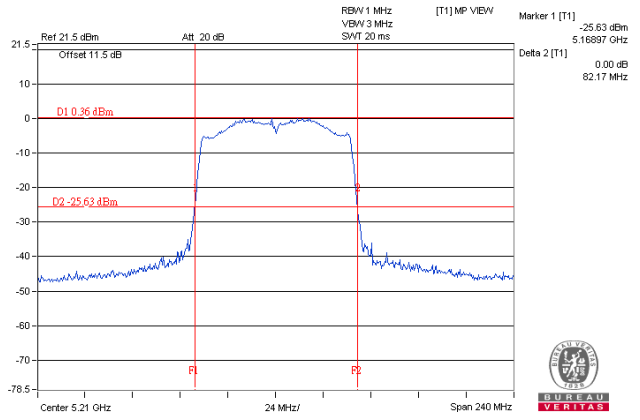
802.11ac (VHT20)



802.11ac (VHT40)



802.11ac (VHT80)



Occupied Bandwidth:

802.11a

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
36	5180	17.16	17.04	16.92	17.04
40	5200	17.16	17.04	17.04	17.04
48	5240	17.16	17.16	17.04	17.16
149	5745	17.04	17.13	16.86	17.04
157	5785	17.40	17.28	17.04	17.40
165	5825	17.28	17.16	16.92	17.16

802.11ac (VHT20)

Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
36	5180	18.24	18.00	18.00	18.00
40	5200	18.12	18.00	18.12	18.12
48	5240	18.24	18.00	18.00	18.12
149	5745	18.24	18.00	18.00	18.00
157	5785	18.48	18.24	18.24	18.48
165	5825	18.12	18.00	18.12	18.12

802.11ac (VHT40)

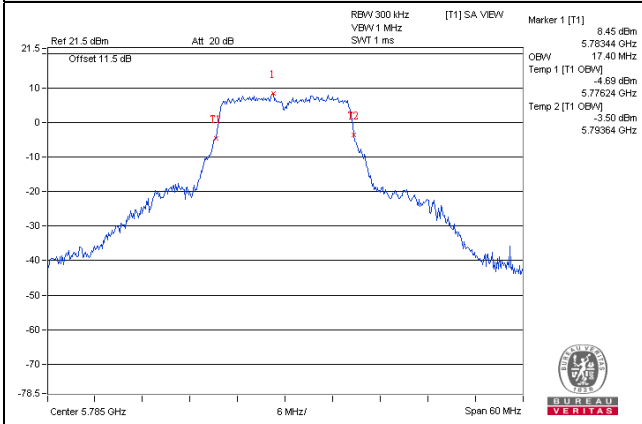
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
38	5190	36.48	36.60	36.72	36.72
46	5230	37.20	36.96	36.96	37.08
151	5755	36.72	36.60	36.72	36.72
159	5795	36.84	36.72	36.84	36.84

802.11ac (VHT80)

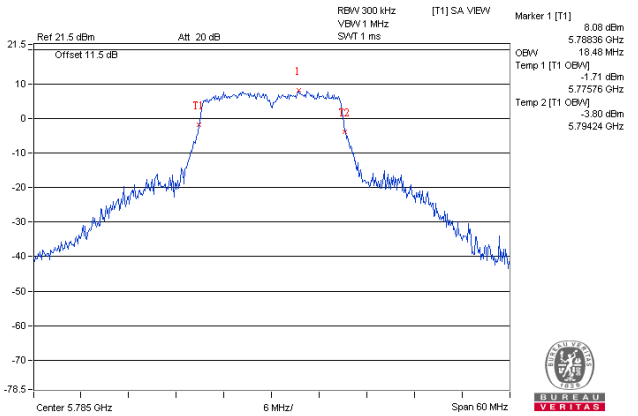
Channel	Frequency (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
42	5210	75.04	75.04	75.04	75.04
155	5775	75.88	76.16	76.16	75.88

Spectrum Plot of Worst Value

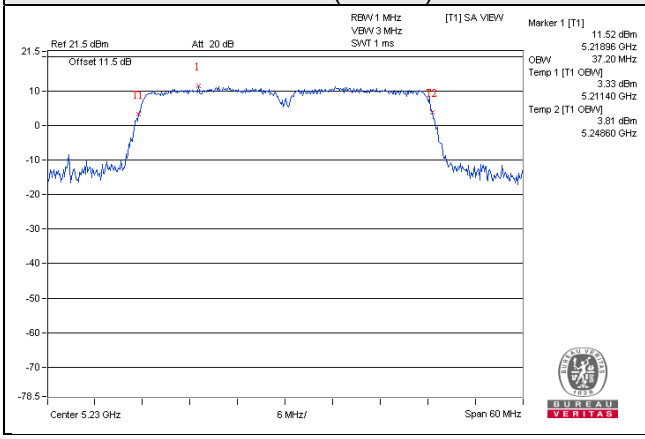
802.11a



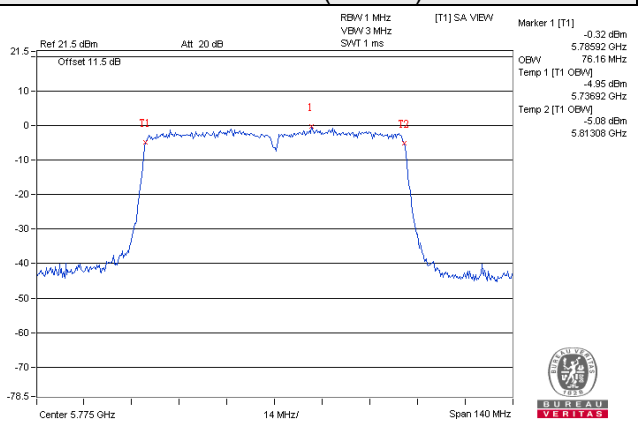
802.11ac (VHT20)



802.11ac (VHT40)



802.11ac (VHT80)

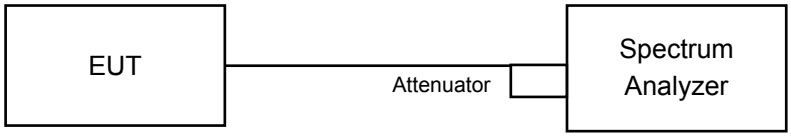


4.4 Peak Power Spectral Density Measurement

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-1
a. Set span to encompass the entire emission bandwidth (EBW) of the signal.
b. Set RBW = 1 MHz, Set VBW ≥ 3 MHz, Detector = RMS
c. Sweep time = auto, trigger set to “free run”.
d. Trace average at least 100 traces in power averaging mode.
e. Record the max value and add 10 log (1/duty cycle).

For U-NII-3 band:
a. Set span to encompass the entire emission bandwidth (EBW) of the signal.
b. Set RBW = 300 kHz, Set VBW ≥ 3 RBW, Detector = RMS
c. Sweep time = auto, trigger set to “free run”.
d. Trace average at least 100 traces in power averaging mode.
e. Record the max value and add 10 log (1/duty cycle).
f. Scale the observed power level to an equivalent value in 500 kHz by adjusting (reducing) the measured power by a bandwidth correction factor (BWCF) where BWCF = 10log(500kHz/300kHz).

4.4.5 Deviation from Test Standard

No deviation.

4.4.6 EUT Operating Condition

Same as 4.3.6.

4.4.7 Test Results

For U-NII-1 Band

802.11a

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	1.50	1.29	1.24	2.16	7.59	0.23	7.82	11.14	Pass
40	5200	2.11	2.15	1.72	3.07	8.31	0.23	8.54	11.14	Pass
48	5240	2.14	1.95	2.00	3.01	8.32	0.23	8.55	11.14	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 = 5.84dBi + 10log(4) = 11.86dBi > 6dBi, so the limit shall be reduced to 17-(11.86-6) = 11.14dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT20)

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	-0.77	-1.47	-1.31	-0.24	5.10	0.27	5.37	11.14	Pass
40	5200	0.90	0.74	0.84	1.74	7.09	0.27	7.36	11.14	Pass
48	5240	1.58	1.06	1.38	1.92	7.52	0.27	7.79	11.14	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 = 5.84dBi + 10log(4) = 11.86dBi > 6dBi, so the limit shall be reduced to 17-(11.86-6) = 11.14dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT40)

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	-4.64	-5.09	-4.91	-4.21	1.32	0.52	1.84	11.14	Pass
46	5230	0.90	0.34	0.75	1.21	6.83	0.52	7.35	11.14	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 = 5.84dBi + 10log(4) = 11.86dBi > 6dBi, so the limit shall be reduced to 17-(11.86-6) = 11.14dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

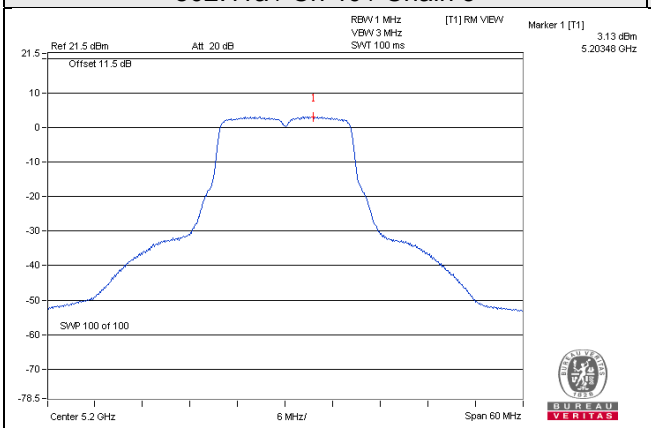
Chan.	Freq. (MHz)	PSD (dBm)				Total PSD w/o duty factor (dBm)	Duty factor	Total PSD with duty factor (dBm)	Max. Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3					
42	5210	-10.51	-10.15	-10.40	-9.96	-4.23	0.32	-3.91	11.14	Pass

Note:

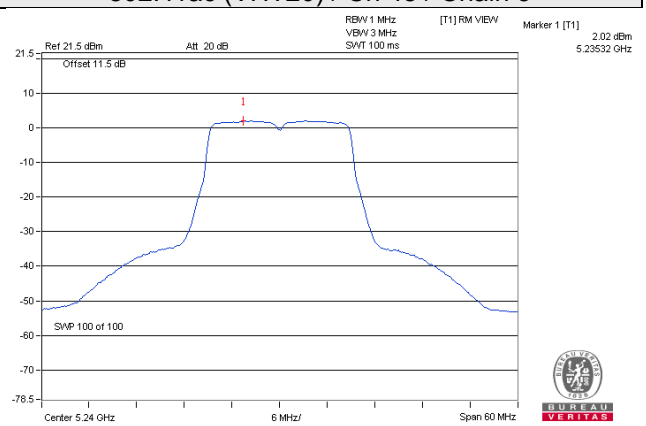
1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 5.84dBi + 10log(4) = 11.86dBi > 6dBi, so the limit shall be reduced to 17-(11.86-6) = 11.14dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

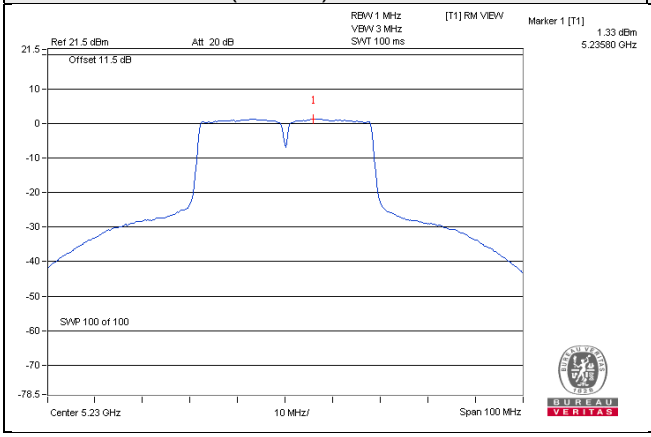
802.11a / Ch 40 / Chain 3



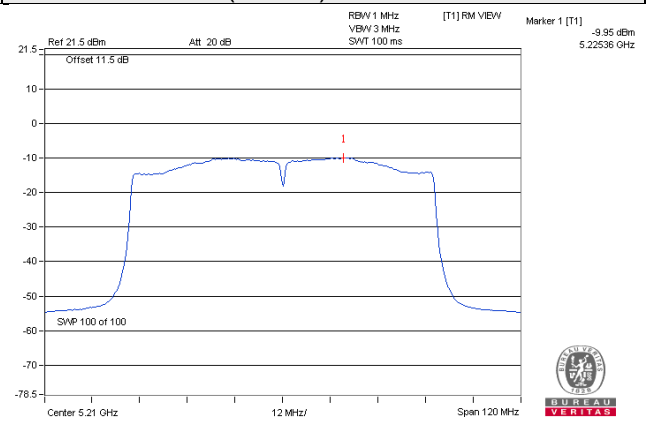
802.11ac (VHT20) / Ch 48 / Chain 3



802.11ac (VHT40) / Ch 46 / Chain 3



802.11ac (VHT80) / Ch 42 / Chain 3



For U-NII-3 Band

802.11a

TX chain	Channel	Freq. (MHz)	PSD (dBm/300kHz)	PSD (dBm/500kHz)	10 log (N=4) dB	Duty factor	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
0	149	5745	-7.70	-5.48	6.02	0.23	0.77	24.14	Pass
	157	5785	-4.45	-2.23	6.02	0.23	4.02	24.14	Pass
	165	5825	-5.32	-3.10	6.02	0.23	3.15	24.14	Pass
1	149	5745	-7.43	-5.21	6.02	0.23	1.04	24.14	Pass
	157	5785	-4.80	-2.58	6.02	0.23	3.67	24.14	Pass
	165	5825	-5.56	-3.34	6.02	0.23	2.91	24.14	Pass
2	149	5745	-7.68	-5.46	6.02	0.23	0.79	24.14	Pass
	157	5785	-4.63	-2.41	6.02	0.23	3.84	24.14	Pass
	165	5825	-5.87	-3.65	6.02	0.23	2.60	24.14	Pass
3	149	5745	-7.35	-5.13	6.02	0.23	1.12	24.14	Pass
	157	5785	-4.10	-1.88	6.02	0.23	4.37	24.14	Pass
	165	5825	-5.02	-2.80	6.02	0.23	3.45	24.14	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 = 5.84dBi + 10log(4) = 11.86dBi > 6dBi, so the limit shall be reduced to 30-(11.86-6) = 24.14dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT20)

TX chain	Channel	Freq. (MHz)	PSD (dBm/300kHz)	PSD (dBm/500kHz)	10 log (N=4) dB	Duty factor	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
0	149	5745	-9.07	-6.85	6.02	0.27	-0.56	24.14	Pass
	157	5785	-4.83	-2.61	6.02	0.27	3.68	24.14	Pass
	165	5825	-5.98	-3.76	6.02	0.27	2.53	24.14	Pass
1	149	5745	-9.28	-7.06	6.02	0.27	-0.77	24.14	Pass
	157	5785	-5.01	-2.79	6.02	0.27	3.50	24.14	Pass
	165	5825	-6.15	-3.93	6.02	0.27	2.36	24.14	Pass
2	149	5745	-9.61	-7.39	6.02	0.27	-1.10	24.14	Pass
	157	5785	-5.20	-2.98	6.02	0.27	3.31	24.14	Pass
	165	5825	-6.57	-4.35	6.02	0.27	1.94	24.14	Pass
3	149	5745	-8.78	-6.56	6.02	0.27	-0.27	24.14	Pass
	157	5785	-4.69	-2.47	6.02	0.27	3.82	24.14	Pass
	165	5825	-6.04	-3.82	6.02	0.27	2.47	24.14	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 = 5.84dBi + 10log(4) = 11.86dBi > 6dBi, so the limit shall be reduced to 30-(11.86-6) = 24.14dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT40)

TX chain	Channel	Freq. (MHz)	PSD (dBm/300kHz)	PSD (dBm/500kHz)	10 log (N=4) dB	Duty factor	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
0	151	5755	-16.31	-14.09	6.02	0.52	-7.55	24.14	Pass
	159	5795	-10.17	-7.95	6.02	0.52	-1.41	24.14	Pass
1	151	5755	-16.63	-14.41	6.02	0.52	-7.87	24.14	Pass
	159	5795	-10.44	-8.22	6.02	0.52	-1.68	24.14	Pass
2	151	5755	-16.98	-14.76	6.02	0.52	-8.22	24.14	Pass
	159	5795	-10.40	-8.18	6.02	0.52	-1.64	24.14	Pass
3	151	5755	-16.10	-13.88	6.02	0.52	-7.34	24.14	Pass
	159	5795	-9.58	-7.36	6.02	0.52	-0.82	24.14	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 = 5.84dBi + 10log(4) = 11.86dBi > 6dBi, so the limit shall be reduced to 30-(11.86-6) = 24.14dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

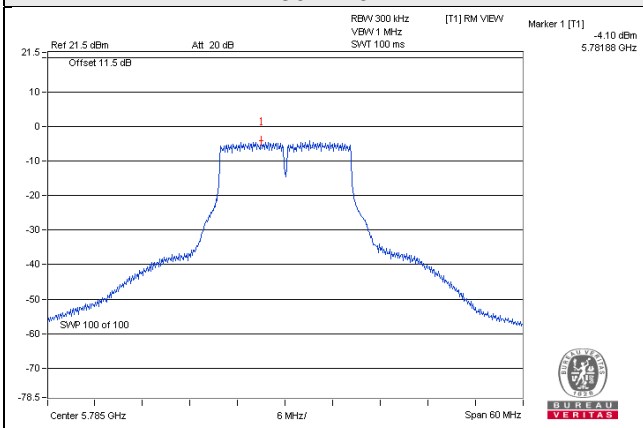
TX chain	Channel	Freq. (MHz)	PSD (dBm/300kHz)	PSD (dBm/500kHz)	10 log (N=4) dB	Duty factor	Total PSD (dBm/500kHz)	Limit (dBm/500kHz)	Pass / Fail
0	155	5775	-20.68	-18.46	6.02	0.32	-12.12	24.14	Pass
1	155	5775	-20.10	-17.88	6.02	0.32	-11.54	24.14	Pass
2	155	5775	-20.54	-18.32	6.02	0.32	-11.98	24.14	Pass
3	155	5775	-20.14	-17.92	6.02	0.32	-11.58	24.14	Pass

Note:

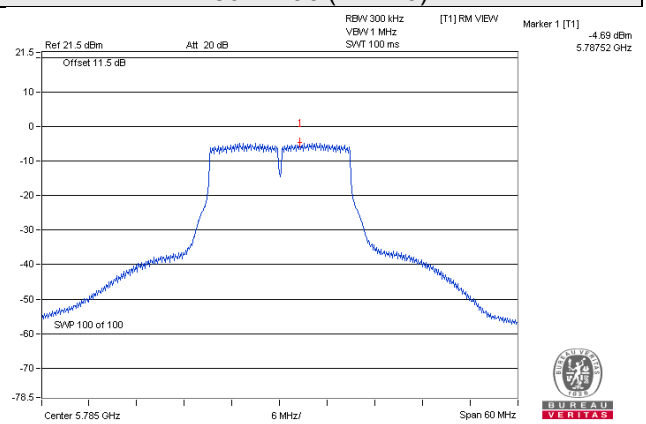
1. Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 5.84dBi + 10log(4) = 11.86dBi > 6dBi, so the limit shall be reduced to 30-(11.86-6) = 24.14dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

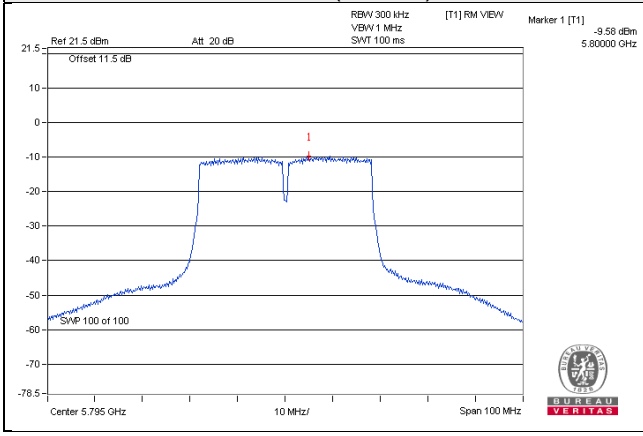
802.11a



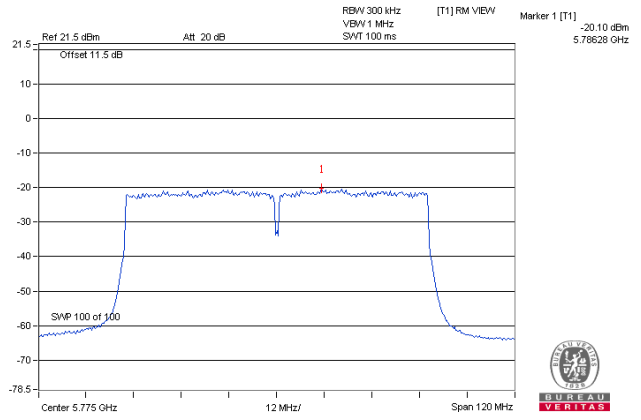
802.11ac (VHT20)



802.11ac (VHT40)



802.11ac (VHT80)

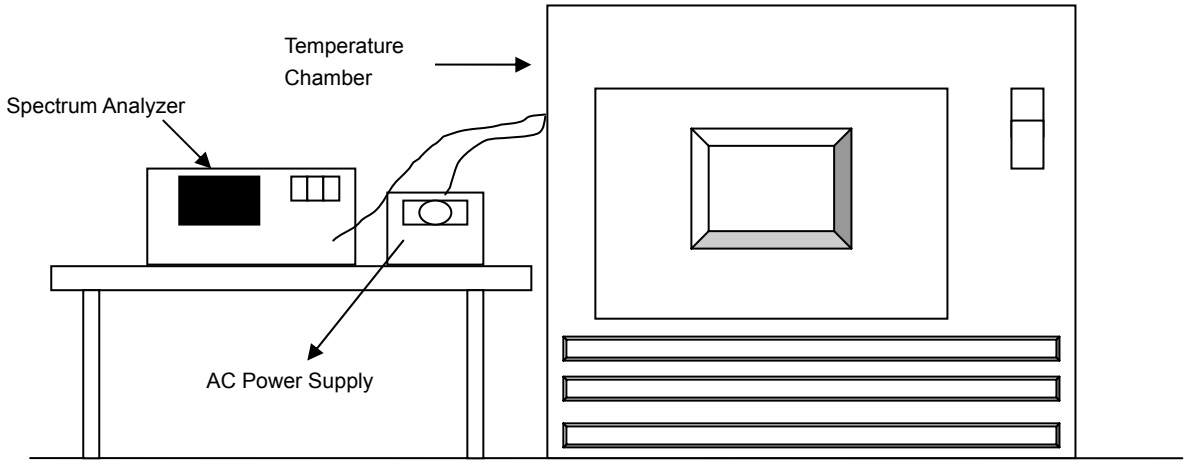


4.5 Frequency Stability

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

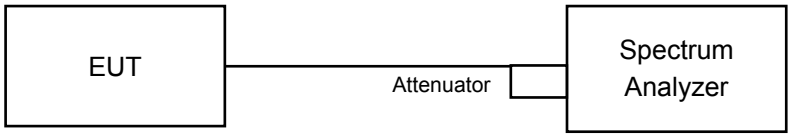
Frequency Stability Versus Temp.	
Operating Frequency: 5180MHz	
Temp. (	

4.6 6dB Bandwidth Measurement

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

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

4.6.5 Deviation from Test Standard

No deviation.

4.6.6 EUT Operating Condition

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

4.6.7 Test Results

802.11a

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
149	5745	16.40	16.39	16.39	16.38	0.5	Pass
157	5785	16.41	16.43	16.41	16.40	0.5	Pass
165	5825	16.42	16.42	16.41	16.40	0.5	Pass

802.11ac (VHT20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
149	5745	17.68	17.67	17.66	17.66	0.5	Pass
157	5785	17.66	17.66	17.66	17.66	0.5	Pass
165	5825	17.66	17.66	17.67	17.66	0.5	Pass

802.11ac (VHT40)

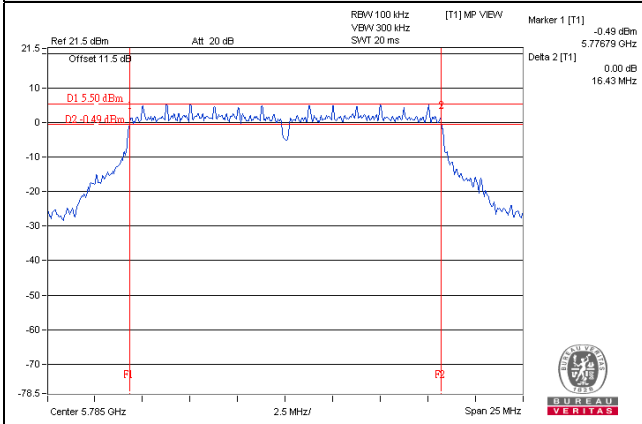
Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
151	5755	36.48	36.49	36.46	36.47	0.5	Pass
159	5795	36.47	36.48	36.48	36.45	0.5	Pass

802.11ac (VHT80)

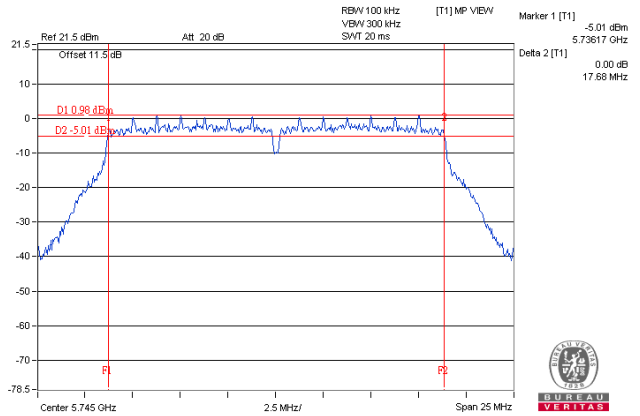
Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
155	5775	76.33	76.54	76.51	76.34	0.5	Pass

Spectrum Plot of Worst Value

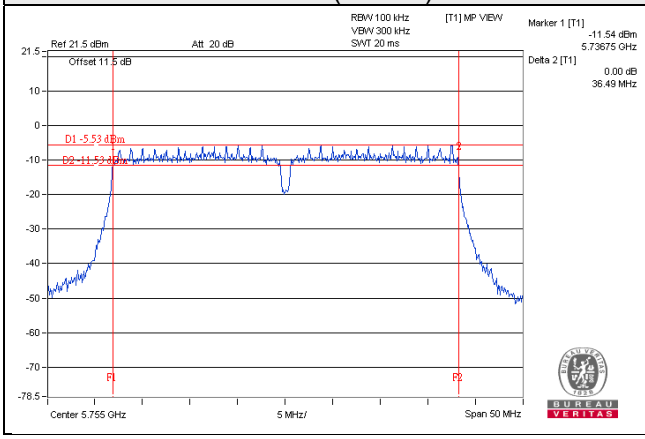
802.11a



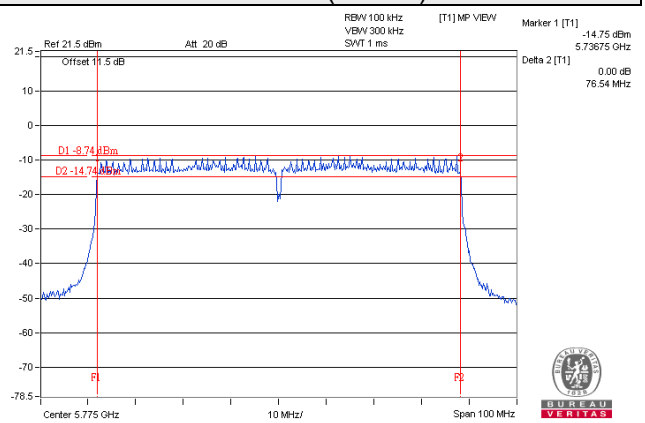
802.11ac (VHT20)



802.11ac (VHT40)



802.11ac (VHT80)



5 Pictures of Test Arrangements

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

Appendix – Information on the Testing Laboratories

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

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

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

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