FCC Test Report

Report No.:	RF190514C12-4
FCC ID:	2ARXKVHE10
Test Model:	VHE10
Series Model:	VHE10XXX (X=A-Z, 0-9, blank or "-")
Received Date:	May 14, 2019
Test Date:	Jun. 18 ~ Jul. 20, 2019
Issued Date:	Jul. 26, 2019
Applicant:	Veea Inc
Address:	164 E 83rd Street, New York NY, 10028, 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.)
FCC Registration / Designation Number:	788550 / TW0003

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Release Control Record

Issue No.	Description	Date Issued
RF190514C12-4	Original release	Jul. 26, 2019

1 Certificate of Conformity

Product:	veeaHub
Brand:	veeaHub
Test Model:	VHE10
Series Model:	VHE10XXX (X=A-Z, 0-9, blank or "-")
Sample Status:	Engineering sample
Applicant:	Veea Inc
Test Date:	Jun. 18 ~ Jul. 20, 2019
Standards:	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 RF characteristics under the conditions specified in this report.

Prepared by : Celine Chou , **Date:** Jul. 26, 2019

Celine Chou / Senior Specialist

Approved by : Bruce Chen , **Date:** Jul. 26, 2019

Bruce Chen / Project Engineer

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 -0.27dB at 0.48678MHz.
15.407(b) (1/2/3/4(i/ii)/6)	Radiated Emissions & Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -1.0dB at 5150.00MHz.
15.407(a)(1/2/3)	Max Average Transmit Power	Pass	Meet the requirement of limit.
---	Occupied Bandwidth Measurement	-	Reference only.
15.407(a)(1/2/3)	Peak Power Spectral Density	Pass	Meet the requirement of limit.
15.407(e)	6dB bandwidth	Pass	Meet the requirement of limit. (U-NII-3 Band only)
15.407(g)	Frequency Stability	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	No antenna connector is used.

Note:
1. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.
2. For U-NII-3 band compliance with rule part 15.407(b)(4)(i), the OOBE test plots were recorded in Annex A.

2.1 Measurement Uncertainty

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

Measurement	Frequency	Expanded Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150kHz ~ 30MHz	2.94 dB
Radiated Emissions up to 1 GHz	9kHz ~ 30MHz	3.04 dB
	30MHz ~ 200MHz	3.86 dB
	200MHz ~1000MHz	3.87 dB
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	2.29 dB
	18GHz ~ 40GHz	2.29 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	veeaHub
Brand	veeaHub
Test Model	VHE10
Series Model	VHE10XXX (X=A-Z, 0-9, blank or "-")
Model Difference	Marketing purposes
Sample Status	Engineering sample
Power Supply Rating	48Vdc (Adapter and 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 1733.3Mbps
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	CDD Mode: 5180 ~ 5240MHz: 787.197mW 5745 ~ 5825MHz: 933.929mW Beamforming Mode: 5180 ~ 5240MHz: 599.077mW 5745 ~ 5825MHz: 611.912mW
Antenna Type	Chip antenna with 2.1dBi gain
Antenna Connector	NA
Accessory Device	Adapter
Cable Supplied	NA

Note:

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

Modulation Mode	Beamforming Mode	TX Function
802.11a	Not Support	4TX
802.11n (HT20)	Support	4TX
802.11n (HT40)	Support	4TX
802.11ac (VHT20)	Support	4TX
802.11ac (VHT40)	Support	4TX
802.11ac (VHT80)	Support	4TX

* The modulation and bandwidth are similar for 802.11n mode for HT20/HT40 and 802.11ac mode for VHT20/VHT40. After pre-testing, 802.11ac (VHT20/VHT40) power is lower than 802.11n (HT20/HT40), therefore 802.11n (HT20/HT40) is the worst case to representative mode in test report. (Final test mode refer section 3.2.1)

* For 802.11n, CDD mode and Beamforming mode are presented in power output test item. For other test items, CDD mode is the worst case for final tests after pretesting.

2. The EUT has two sale types.

Type	Description
A	Without LTE function, BT internal ant.
B	With LTE function, BT external ant.

3. The following RF Modules are for the EUT.

RF Module	Band
Module 1	5180 ~ 5240MHz
Module 2	5745 ~ 5825MHz
Module 3	2412 ~ 2462MHz

4. The EUT uses following adapter and POE.

Adapter	
Brand	EDACPOWER ELEC.
Model	EA1062SGR-480
Input Power	100-240Vac, 50-60Hz, 2.5A
Output Power	48Vdc, 1.35A
Power Line	1.2m DC cable with one core

POE (Support unit)	
Model	APOE02-WM
Output Power	48Vdc

5. WLAN, zigbee and Bluetooth technology can transmit at same time.

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 (VHT40):

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	√	√	√	√	Power from adapter
B	-	√	√	-	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 **Z-plane for U-NII-1 Band and Y-plane for U-NII-3 Band**.
2. Radiated emission test (below 1GHz) and power line conducted emission test items chosen the worst maximum power.

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	802.11a	5180-5240	36 to 48	36, 40, 48	OFDM	6.0
	802.11n (HT20)		36 to 48	36, 40, 48	OFDM	6.5
	802.11n (HT40)		38 to 46	38, 46	OFDM	13.5
	802.11ac (VHT80)		42	42	OFDM	29.3
A	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	6.0
	802.11n (HT20)		149 to 165	149, 157, 165	OFDM	6.5
	802.11n (HT40)		151 to 159	151, 159	OFDM	13.5
	802.11ac (VHT80)		155	155	OFDM	29.3

Radiated Emission Test (Below 1GHz):

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

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)
A, B	802.11n (HT20)	5180-5240	36 to 48	40	OFDM	6.5
A, B	802.11n (HT20)	5745-5825	149 to 165	149	OFDM	6.5

Power Line Conducted Emission Test:

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

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology	Data Rate (Mbps)
A, B	802.11n (HT20)	5180-5240	36 to 48	40	OFDM	6.5
A, B	802.11n (HT20)	5745-5825	149 to 165	149	OFDM	6.5

Antenna Port Conducted Measurement:

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

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
	802.11n (HT20)		36 to 48	36, 40, 48	OFDM	6.5
	802.11n (HT40)		38 to 46	38, 46	OFDM	13.5
	802.11ac (VHT80)		42	42	OFDM	29.3
A	802.11a	5745-5825	149 to 165	149, 157, 165	OFDM	6.0
	802.11n (HT20)		149 to 165	149, 157, 165	OFDM	6.5
	802.11n (HT40)		151 to 159	151, 159	OFDM	13.5
	802.11ac (VHT80)		155	155	OFDM	29.3

Test Condition:

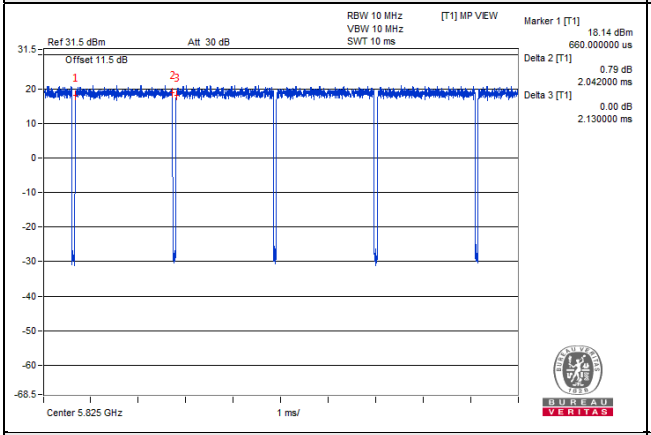
Applicable to	Environmental Conditions	Input Power	Tested by
RE≥1G	25 deg. C, 70% RH 26 deg. C, 70% RH	120Vac, 60Hz	Willy Cheng
RE<1G	25 deg. C, 68% RH	120Vac, 60Hz 48Vdc	Willy Cheng
PLC	21 deg. C, 61% RH	120Vac, 60Hz 48Vdc	Willy Cheng
APCM	25 deg. C, 60% RH	120Vac, 60Hz	Ted Chang

3.3 Duty Cycle of Test Signal

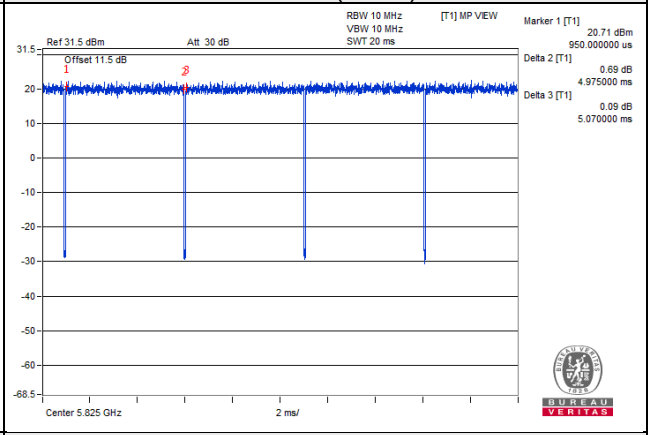
802.11n (HT20): Duty cycle of test signal ≥ 98%, duty factor is not required.
802.11a, 802.11g, 802.11n (HT40), 802.11ac (VHT80): Duty cycle of test signal is < 98%, duty factor is required.

802.11a: Duty cycle = 2.042/2.130 = 0.959, Duty factor = 10 * log (1/0.959) = 0.18
802.11n (HT20): Duty cycle = 4.975/5.070 = 0.981
802.11n (HT40): Duty cycle = 2.405/2.515 = 0.956, Duty factor = 10 * log (1/0.956) = 0.19
802.11ac (VHT80): Duty cycle = 1.145/1.221 = 0.938, Duty factor = 10 * log (1/0.938) = 0.28

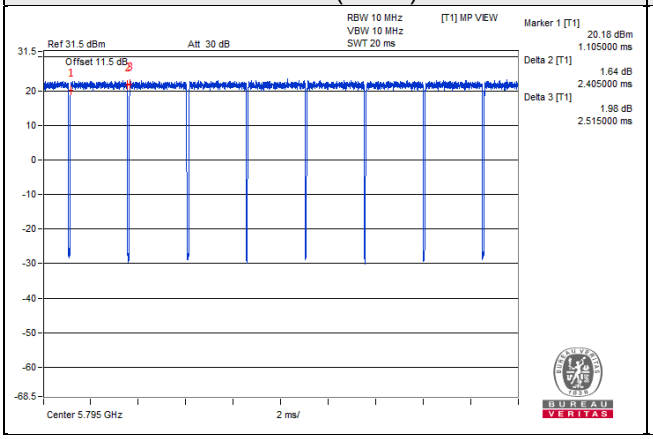
802.11a



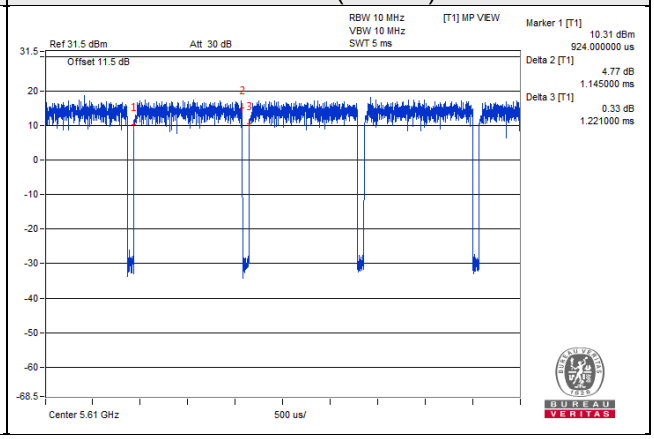
802.11n (HT20)



802.11n (HT40)



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.	USB Flash	HP	v250W	03	NA	-
D.	USB Flash	HP	v250W	05	NA	-
E.	USB Flash	HP	v250W	09	NA	-
F.	POE	NA	APOE02-WM	NA	NA	Provided by manufacturer

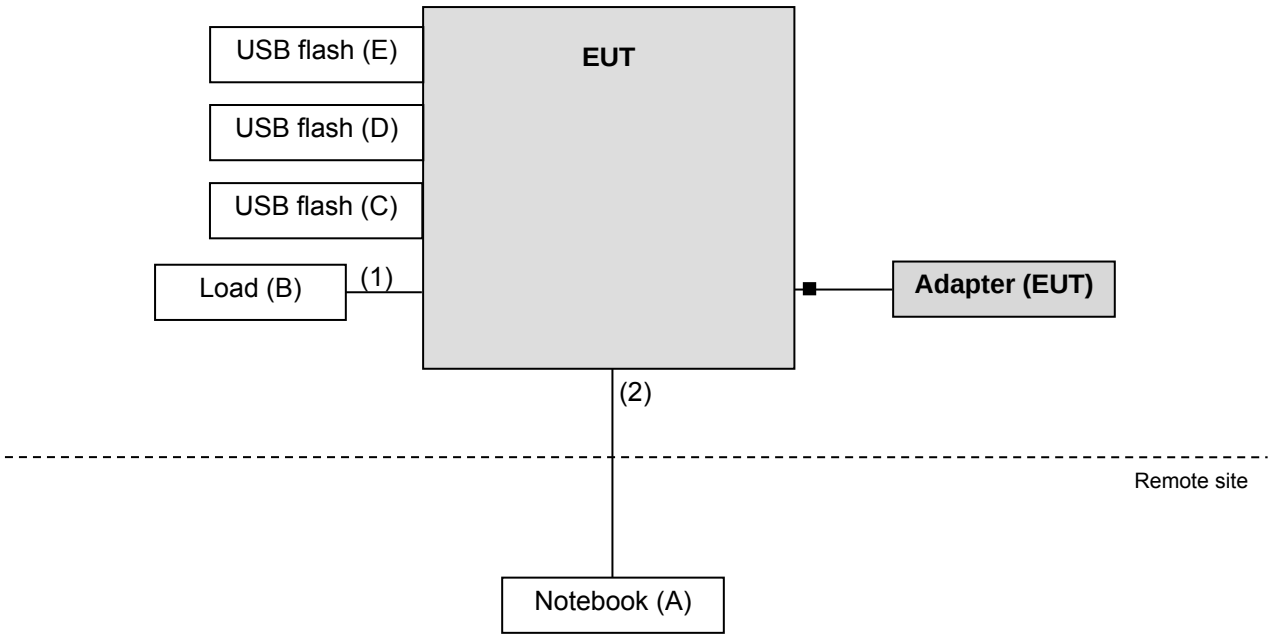
Note:

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.

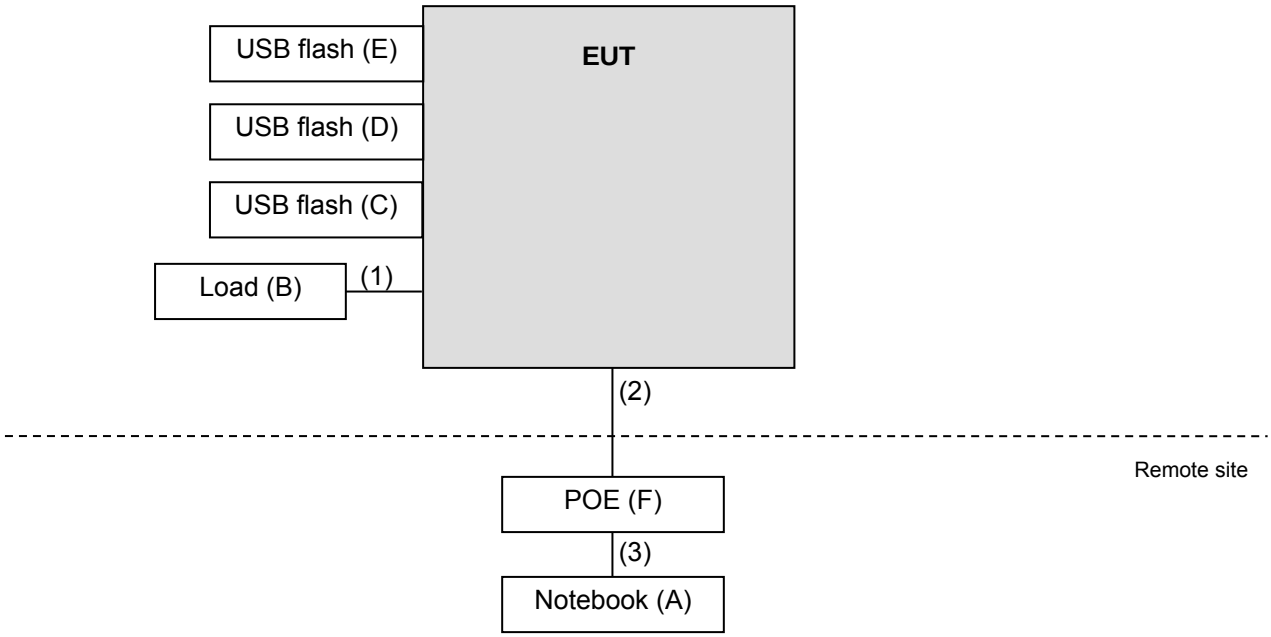
ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	RJ45 cable	1	1.5	N	0	Cat5e
2.	RJ45 cable	1	5	N	0	Cat5e
3.	RJ45 cable	1	1.5	N	0	Cat5e

3.4.1 Configuration of System under Test

Test Mode A



Test Mode B



3.5 General Description of Applied Standards

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

FCC Part 15, Subpart E (15.407)
KDB 789033 D02 General UNII Test Procedure New Rules v02r01
KDB 662911 D01 Multiple Transmitter Output v02r01
ANSI C63.10:2013

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

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

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

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

Note:

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

Limits of unwanted emission out of the restricted bands

<table>
<tr><td colspan="3">Applicable To</td><td colspan="2">Limit</td></tr>
<tr><td colspan="3" rowspan="2">789033 D02 General UNII Test Procedure New Rules v02r01</td><td colspan="2">Field Strength at 3m</td></tr>
<tr><td>PK: 74 (dBμV/m)</td><td>AV: 54 (dBμV/m)</td></tr>
<tr><td>Frequency Band</td><td colspan="2">Applicable To</td><td>EIRP Limit</td><td>Equivalent Field Strength at 3m</td></tr>
<tr><td>5150~5250 MHz</td><td colspan="2">15.407(b)(1)</td><td rowspan="3">PK: -27 (dBm/MHz)</td><td rowspan="3">PK: 68.2(dBμV/m)</td></tr>
<tr><td>5250~5350 MHz</td><td colspan="2">15.407(b)(2)</td></tr>
<tr><td>5470~5725 MHz</td><td colspan="2">15.407(b)(3)</td></tr>
<tr><td rowspan="2">5725~5850 MHz</td><td>☒</td><td>15.407(b)(4)(i)</td><td>PK: -27 (dBm/MHz) *1
PK: 10 (dBm/MHz) *2
PK: 15.6 (dBm/MHz) *3
PK: 27 (dBm/MHz) *4</td><td>PK: 68.2(dBμV/m) *1
PK: 105.2 (dBμV/m) *2
PK: 110.8(dBμV/m) *3
PK: 122.2 (dBμV/m) *4</td></tr>
<tr><td>☐</td><td>15.407(b)(4)(ii)</td><td colspan="2">Emission limits in section 15.247(d)</td></tr>
<tr><td colspan="5">*1 beyond 75 MHz or more above of the band edge.
*2 below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above.
*3 below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above.
*4 from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.</td></tr>
</table>

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

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

4.1.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESIB7	100187	May 30, 2019	May 29, 2020
BILOG Antenna SCHWARZBECK	VULB9168	9168-171	Nov. 22, 2018	Nov. 21, 2019
HORN Antenna SCHWARZBECK	9120D	209	Nov. 25, 2018	Nov. 24, 2019
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Nov. 25, 2018	Nov. 24, 2019
Loop Antenna EMCI	EM-6879	269	Sep. 07, 2018	Sep. 06, 2019
Preamplifier Agilent (Below 1GHz)	8447D	2944A10738	Aug. 21, 2018	Aug. 20, 2019
Preamplifier Agilent (Above 1GHz)	8449B	3008A02465	Mar. 27, 2019	Mar. 26, 2020
RF signal cable HUBER+SUHNER	SUCOFLEX 104	Cable-CH3-03 (223653/4)	Aug. 21, 2018	Aug. 20, 2019
RF signal cable HUBER+SUHNER& EMCI	SUCOFLEX 104&EMC104-SM-S M-8000	Cable-CH3-03 (309224+170907)	Aug. 21, 2018	Aug. 20, 2019
RF signal cable WOKEN	8D-FB	Cable-CH3-01	Aug. 21, 2018	Aug. 20, 2019
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	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
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA
Pre-amplifier (18GHz-40GHz) EMC	EMC184045B	980175	Nov. 14, 2018	Nov. 13, 2019
Peak Power Analyzer KEYSIGHT (Support 8TX 160M Bandwidth)	8990B	MY51000485	Jan. 14, 2019	Jan. 13, 2020
USB Wideband Power Sensor KEYSIGHT	U2021XA	MY55050005/MY5519 0004/MY55190007/MY 55210005	Jul. 17, 2018	Jul. 16, 2019
			Jul. 15, 2019	Jul. 14, 2020

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.

4.1.3 Test Procedures

For Radiated emission below 30MHz

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber room. 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. Parallel, perpendicular, and ground-parallel orientations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case 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.

Note:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9kHz at frequency below 30MHz.

For Radiated emission above 30MHz

a. The EUT was placed on the top of a rotating table 0.8 meters (for 30MHz ~ 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:

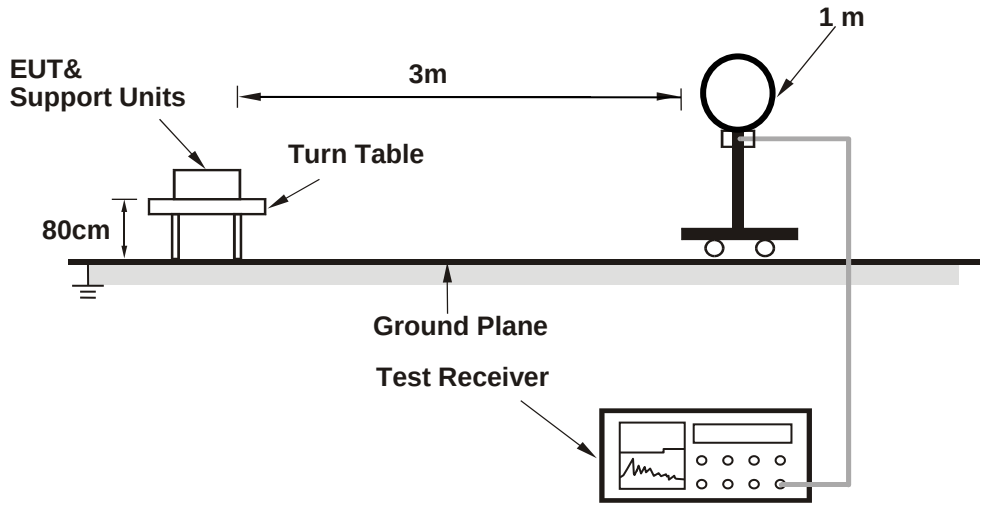
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is ≥ 1/T (Duty cycle < 98%) or 10Hz (Duty cycle ≥ 98%) for Average detection (AV) at frequency above 1GHz. (802.11a: RBW = 1MHz, VBW = 1kHz; 802.11n (HT20): RBW = 1MHz, VBW = 10Hz;
   802.11n (HT40): RBW = 1MHz, VBW = 1kHz; 802.11ac (VHT80): RBW = 1MHz, VBW = 1kHz)
4. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 Deviation from Test Standard

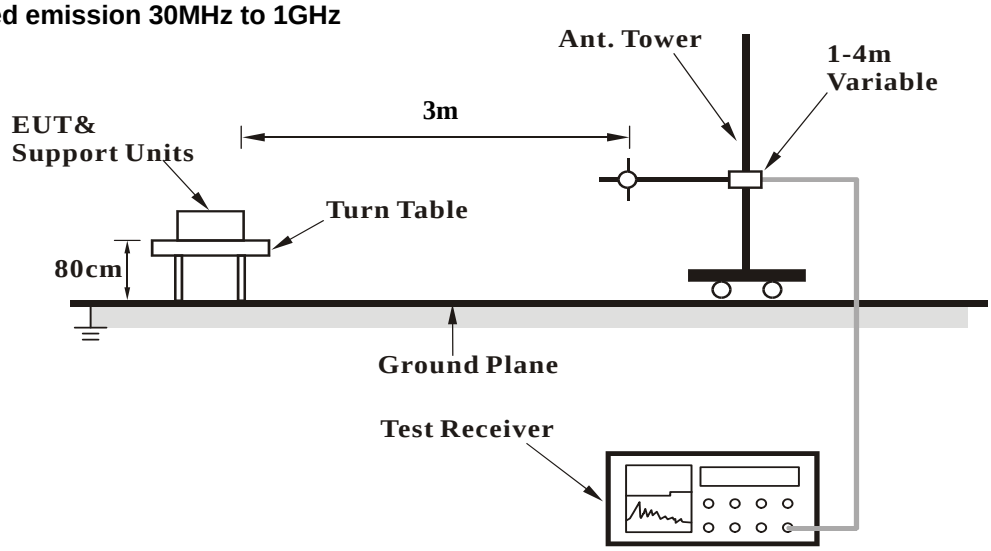
No deviation.

4.1.5 Test Setup

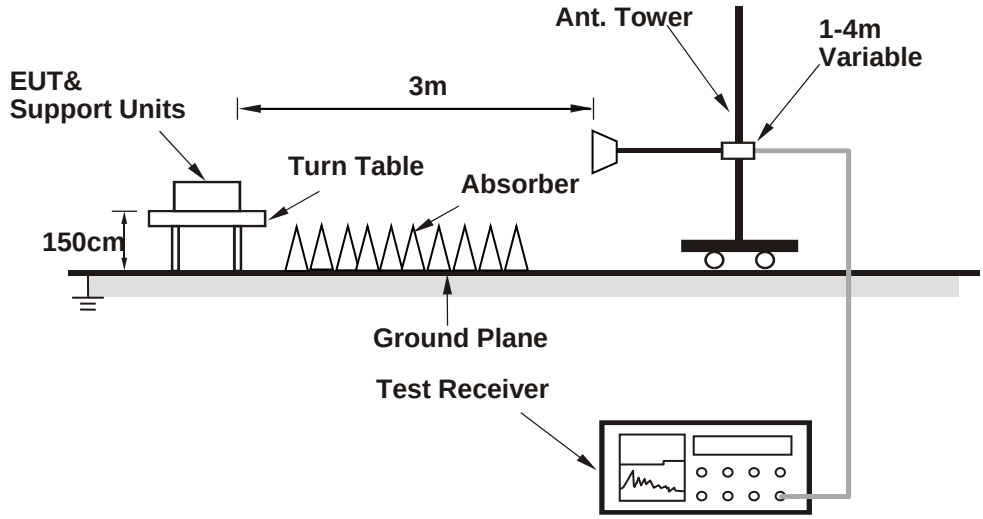
For Radiated emission below 30MHz



For Radiated emission 30MHz to 1GHz



For Radiated emission 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 (QRCT V3.0.264.0) to enable EUT under transmission condition continuously at specific channel frequency.
d. The necessary accessories enable the system in full functions.

4.1.7 Test Results

Above 1GHz data:

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	66.8 PK	74.0	-7.2	1.31 H	16	62.4	4.4
2	5150.00	52.3 AV	54.0	-1.7	1.31 H	16	47.9	4.4
3	*5180.00	117.4 PK			1.54 H	12	77.9	39.5
4	*5180.00	106.3 AV			1.54 H	12	66.8	39.5
5	#10000.00	58.8 PK	68.2	-9.4	1.40 H	12	43.5	15.3
6	#10360.00	57.8 PK	68.2	-10.4	1.69 H	135	41.8	16.0
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	5150.00	67.6 PK	74.0	-6.4	1.40 V	8	63.2	4.4
2	5150.00	52.7 AV	54.0	-1.3	1.40 V	8	48.3	4.4
3	*5180.00	118.6 PK			1.18 V	12	79.1	39.5
4	*5180.00	107.8 AV			1.18 V	12	68.3	39.5
5	#10000.00	60.7 PK	68.2	-7.5	1.78 V	341	45.4	15.3
6	#10360.00	57.5 PK	68.2	-10.7	1.79 V	9	41.5	16.0

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
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	5150.00	62.5 PK	74.0	-11.5	1.44 H	59	58.1	4.4
2	5150.00	47.9 AV	54.0	-6.1	1.44 H	59	43.5	4.4
3	*5200.00	120.0 PK			1.56 H	35	80.5	39.5
4	*5200.00	108.6 AV			1.56 H	35	69.1	39.5
5	#10400.00	57.9 PK	68.2	-10.3	2.83 H	159	41.7	16.2
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	5150.00	65.4 PK	74.0	-8.6	1.59 V	349	61.0	4.4
2	5150.00	52.3 AV	54.0	-1.7	1.59 V	349	47.9	4.4
3	*5200.00	119.3 PK			1.26 V	18	79.8	39.5
4	*5200.00	108.9 AV			1.26 V	18	69.4	39.5
5	#10400.00	57.6 PK	68.2	-10.6	2.36 V	166	41.4	16.2

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) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
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	120.5 PK			1.64 H	36	81.2	39.3
2	*5240.00	109.0 AV			1.64 H	36	69.7	39.3
3	5350.00	56.8 PK	74.0	-17.2	1.72 H	45	52.5	4.3
4	5350.00	43.4 AV	54.0	-10.6	1.72 H	45	39.1	4.3
5	#10480.00	58.8 PK	68.2	-9.4	1.73 H	218	41.8	17.0
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	*5240.00	121.0 PK			1.32 V	8	81.7	39.3
2	*5240.00	110.1 AV			1.32 V	8	70.8	39.3
3	5350.00	56.9 PK	74.0	-17.1	1.53 V	17	52.6	4.3
4	5350.00	43.3 AV	54.0	-10.7	1.53 V	17	39.0	4.3
5	#10480.00	58.5 PK	68.2	-9.7	1.67 V	271	41.5	17.0

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
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	#5646.15	58.9 PK	68.2	-9.3	1.49 H	294	54.4	4.5
2	*5745.00	121.4 PK			1.49 H	294	81.3	40.1
3	*5745.00	110.6 AV			1.49 H	294	70.5	40.1
4	#5931.41	58.7 PK	68.2	-9.5	1.49 H	294	53.4	5.3
5	11490.00	62.5 PK	74.0	-11.5	1.59 H	11	44.5	18.0
6	11490.00	49.1 AV	54.0	-4.9	1.59 H	11	31.1	18.0
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	#5646.15	58.2 PK	68.2	-10.0	1.19 V	272	53.7	4.5
2	*5745.00	122.6 PK			1.19 V	272	82.5	40.1
3	*5745.00	111.1 AV			1.19 V	272	71.0	40.1
4	#5940.38	58.7 PK	68.2	-9.5	1.19 V	272	53.4	5.3
5	11490.00	64.2 PK	74.0	-9.8	2.23 V	15	46.2	18.0
6	11490.00	50.8 AV	54.0	-3.2	2.23 V	15	32.8	18.0

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
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	#5608.33	55.1 PK	68.2	-13.1	1.57 H	296	50.5	4.6
2	*5785.00	119.2 PK			1.57 H	296	78.9	40.3
3	*5785.00	108.6 AV			1.57 H	296	68.3	40.3
4	#5931.41	57.6 PK	68.2	-10.6	1.57 H	296	52.3	5.3
5	11570.00	66.7 PK	74.0	-7.3	1.52 H	341	49.0	17.7
6	11570.00	52.9 AV	54.0	-1.1	1.52 H	341	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	#5609.62	55.8 PK	68.2	-12.4	1.17 V	276	51.2	4.6
2	*5785.00	120.6 PK			1.17 V	276	80.3	40.3
3	*5785.00	109.1 AV			1.17 V	276	68.8	40.3
4	#5962.82	58.3 PK	68.2	-9.9	1.17 V	276	53.0	5.3
5	11570.00	65.4 PK	74.0	-8.6	1.00 V	13	47.7	17.7
6	11570.00	51.9 AV	54.0	-2.1	1.00 V	13	34.2	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) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
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	#5641.67	55.1 PK	68.2	-13.1	1.55 H	352	50.6	4.5
2	*5825.00	115.9 PK			1.55 H	352	75.5	40.4
3	*5825.00	104.9 AV			1.55 H	352	64.5	40.4
4	#5983.97	57.2 PK	68.2	-11.0	1.55 H	352	51.8	5.4
5	11650.00	66.9 PK	74.0	-7.1	1.53 H	340	49.4	17.5
6	11650.00	52.9 AV	54.0	-1.1	1.53 H	340	35.4	17.5
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	#5612.82	56.4 PK	68.2	-11.8	1.22 V	277	51.8	4.6
2	*5825.00	116.1 PK			1.22 V	277	75.7	40.4
3	*5825.00	104.8 AV			1.22 V	277	64.4	40.4
4	#5971.15	58.2 PK	68.2	-10.0	1.22 V	277	52.9	5.3
5	11650.00	65.5 PK	74.0	-8.5	1.00 V	14	48.0	17.5
6	11650.00	52.0 AV	54.0	-2.0	1.00 V	14	34.5	17.5

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) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

802.11n (HT20)

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	64.4 PK	74.0	-9.6	1.48 H	59	60.0	4.4
2	5150.00	49.3 AV	54.0	-4.7	1.48 H	59	44.9	4.4
3	*5180.00	118.0 PK			1.60 H	37	78.5	39.5
4	*5180.00	107.0 AV			1.60 H	37	67.5	39.5
5	#10360.00	57.0 PK	68.2	-11.2	2.99 H	213	41.0	16.0
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	5150.00	66.6 PK	74.0	-7.4	1.40 V	5	62.2	4.4
2	5150.00	52.9 AV	54.0	-1.1	1.40 V	5	48.5	4.4
3	*5180.00	118.1 PK			1.32 V	7	78.6	39.5
4	*5180.00	107.4 AV			1.32 V	7	67.9	39.5
5	#10360.00	57.3 PK	68.2	-10.9	1.73 V	233	41.3	16.0

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
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	5150.00	61.6 PK	74.0	-12.4	1.53 H	42	57.2	4.4
2	5150.00	48.6 AV	54.0	-5.4	1.53 H	42	44.2	4.4
3	*5200.00	119.5 PK			1.45 H	35	80.0	39.5
4	*5200.00	108.0 AV			1.45 H	35	68.5	39.5
5	#10400.00	57.5 PK	68.2	-10.7	2.31 H	181	41.3	16.2
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	5150.00	66.8 PK	74.0	-7.2	1.47 V	347	62.4	4.4
2	5150.00	51.6 AV	54.0	-2.4	1.47 V	347	47.2	4.4
3	*5200.00	119.9 PK			1.28 V	8	80.4	39.5
4	*5200.00	108.8 AV			1.28 V	8	69.3	39.5
5	#10400.00	57.9 PK	68.2	-10.3	1.79 V	283	41.7	16.2

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) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
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	119.7 PK			1.65 H	36	80.4	39.3
2	*5240.00	108.5 AV			1.65 H	36	69.2	39.3
3	5350.00	45.9 PK	74.0	-28.1	1.72 H	43	41.6	4.3
4	5350.00	43.2 AV	54.0	-10.8	1.72 H	43	38.9	4.3
5	#10480.00	59.0 PK	68.2	-9.2	2.23 H	189	42.0	17.0
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	*5240.00	120.5 PK			1.33 V	6	81.2	39.3
2	*5240.00	109.8 AV			1.33 V	6	70.5	39.3
3	5350.00	56.3 PK	74.0	-17.7	1.42 V	15	52.0	4.3
4	5350.00	43.1 AV	54.0	-10.9	1.42 V	15	38.8	4.3
5	#10480.00	59.5 PK	68.2	-8.7	1.64 V	231	42.5	17.0

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
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	#5642.95	56.5 PK	68.2	-11.7	1.34 H	324	52.0	4.5
2	*5745.00	121.0 PK			1.34 H	324	80.9	40.1
3	*5745.00	109.9 AV			1.34 H	324	69.8	40.1
4	#5984.62	57.3 PK	68.2	-10.9	1.34 H	324	51.9	5.4
5	11490.00	63.6 PK	74.0	-10.4	1.36 H	13	45.6	18.0
6	11490.00	49.4 AV	54.0	-4.6	1.36 H	13	31.4	18.0
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	#5648.72	57.9 PK	68.2	-10.3	2.41 V	30	53.4	4.5
2	*5745.00	119.5 PK			2.41 V	30	79.4	40.1
3	*5745.00	108.5 AV			2.41 V	30	68.4	40.1
4	#5958.33	58.4 PK	68.2	-9.8	2.41 V	30	53.1	5.3
5	11490.00	64.5 PK	74.0	-9.5	2.25 V	13	46.5	18.0
6	11490.00	50.2 AV	54.0	-3.8	2.25 V	13	32.2	18.0

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
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	#5641.67	55.1 PK	68.2	-13.1	1.52 H	297	50.6	4.5
2	*5785.00	119.6 PK			1.52 H	297	79.3	40.3
3	*5785.00	108.3 AV			1.52 H	297	68.0	40.3
4	#5978.85	57.1 PK	68.2	-11.1	1.52 H	297	51.7	5.4
5	11570.00	66.4 PK	74.0	-7.6	1.49 H	341	48.7	17.7
6	11570.00	52.5 AV	54.0	-1.5	1.49 H	341	34.8	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	#5633.33	53.0 PK	68.2	-15.2	1.12 V	274	48.5	4.5
2	*5785.00	120.6 PK			1.12 V	274	80.3	40.3
3	*5785.00	109.2 AV			1.12 V	274	68.9	40.3
4	#5944.23	53.2 PK	68.2	-15.0	1.12 V	274	47.9	5.3
5	11570.00	66.1 PK	74.0	-7.9	2.30 V	360	48.4	17.7
6	11570.00	51.9 AV	54.0	-2.1	2.30 V	360	34.2	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) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
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	#5601.92	54.6 PK	68.2	-13.6	1.60 H	296	50.0	4.6
2	*5825.00	116.7 PK			1.60 H	296	76.3	40.4
3	*5825.00	105.7 AV			1.60 H	296	65.3	40.4
4	#5937.18	57.4 PK	68.2	-10.8	1.60 H	296	52.1	5.3
5	11650.00	67.4 PK	74.0	-6.6	1.57 H	339	49.9	17.5
6	11650.00	52.9 AV	54.0	-1.1	1.57 H	339	35.4	17.5
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	#5608.33	51.7 PK	68.2	-16.5	1.15 V	272	47.1	4.6
2	*5825.00	116.6 PK			1.15 V	272	76.2	40.4
3	*5825.00	105.1 AV			1.15 V	272	64.7	40.4
4	#5945.51	53.1 PK	68.2	-15.1	1.15 V	272	47.8	5.3
5	11650.00	67.7 PK	74.0	-6.3	1.00 V	360	50.2	17.5
6	11650.00	52.4 AV	54.0	-1.6	1.00 V	360	34.9	17.5

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) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

802.11n (HT40)

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	66.1 PK	74.0	-7.9	2.61 H	39	61.7	4.4
2	5150.00	52.4 AV	54.0	-1.6	2.61 H	39	48.0	4.4
3	*5190.00	114.2 PK			1.56 H	35	74.7	39.5
4	*5190.00	103.7 AV			1.56 H	35	64.2	39.5
5	#10380.00	57.7 PK	68.2	-10.5	2.39 H	225	41.5	16.2
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	5150.00	67.4 PK	74.0	-6.6	3.02 V	355	63.0	4.4
2	**5150.00**	**53.0 AV**	**54.0**	**-1.0**	**3.02 V**	**355**	**48.6**	**4.4**
3	*5190.00	114.9 PK			1.48 V	5	75.4	39.5
4	*5190.00	104.5 AV			1.48 V	5	65.0	39.5
5	#10380.00	57.5 PK	68.2	-10.7	1.84 V	222	41.3	16.2

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) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
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	5150.00	62.9 PK	74.0	-11.1	1.70 H	11	58.5	4.4
2	5150.00	49.4 AV	54.0	-4.6	1.70 H	11	45.0	4.4
3	*5230.00	113.9 PK			1.52 H	35	74.6	39.3
4	*5230.00	103.3 AV			1.52 H	35	64.0	39.3
5	5350.00	56.3 PK	74.0	-17.7	1.62 H	356	52.0	4.3
6	5350.00	43.4 AV	54.0	-10.6	1.62 H	356	39.1	4.3
7	#10460.00	58.2 PK	68.2	-10.0	1.68 H	231	41.4	16.8
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	66.6 PK	74.0	-7.4	3.32 V	2	62.2	4.4
2	5150.00	52.3 AV	54.0	-1.7	3.32 V	2	47.9	4.4
3	*5230.00	115.0 PK			1.35 V	6	75.7	39.3
4	*5230.00	104.8 AV			1.35 V	6	65.5	39.3
5	5350.00	57.1 PK	74.0	-16.9	2.86 V	359	52.8	4.3
6	5350.00	43.3 AV	54.0	-10.7	2.86 V	359	39.0	4.3
7	#10460.00	59.2 PK	68.2	-9.0	1.93 V	216	42.4	16.8

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) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
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	#5650.00	66.5 PK	68.2	-1.7	2.14 H	16	62.0	4.5
2	#5650.00	63.2 PK	68.2	-5.0	2.16 H	17	58.7	4.5
3	*5755.00	117.2 PK			2.16 H	17	77.1	40.1
4	*5755.00	107.0 AV			2.16 H	17	66.9	40.1
5	#5926.28	57.6 PK	68.2	-10.6	2.16 H	17	52.3	5.3
6	11510.00	63.2 PK	74.0	-10.8	2.16 H	347	45.1	18.1
7	11510.00	49.8 AV	54.0	-4.2	2.16 H	347	31.7	18.1
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	#5646.15	63.4 PK	68.2	-4.8	1.14 V	273	58.9	4.5
2	#5650.00	66.3 PK	68.2	-1.9	1.51 V	45	61.8	4.5
3	*5755.00	117.1 PK			1.14 V	273	77.0	40.1
4	*5755.00	107.2 AV			1.14 V	273	67.1	40.1
5	#5942.31	59.0 PK	68.2	-9.2	1.14 V	273	53.7	5.3
6	11510.00	61.7 PK	74.0	-12.3	2.26 V	360	43.6	18.1
7	11510.00	48.3 AV	54.0	-5.7	2.26 V	360	30.2	18.1

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) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
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	#5642.95	55.2 PK	68.2	-13.0	1.51 H	297	50.7	4.5
2	*5795.00	117.2 PK			1.51 H	297	76.8	40.4
3	*5795.00	106.5 AV			1.51 H	297	66.1	40.4
4	#5925.00	66.5 PK	68.2	-1.7	1.34 H	299	61.2	5.3
5	#5927.56	61.0 PK	68.2	-7.2	1.51 H	297	55.7	5.3
6	11590.00	64.5 PK	74.0	-9.5	1.55 H	341	46.9	17.6
7	11590.00	51.6 AV	54.0	-2.4	1.55 H	341	34.0	17.6
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	#5617.95	55.6 PK	68.2	-12.6	2.32 V	19	51.0	4.6
2	*5795.00	115.0 PK			2.32 V	19	74.6	40.4
3	*5795.00	104.6 AV			2.32 V	19	64.2	40.4
4	#5925.00	64.0 PK	68.2	-4.2	2.42 V	42	58.7	5.3
5	#5957.05	58.8 PK	68.2	-9.4	2.32 V	19	53.5	5.3
6	11590.00	63.8 PK	74.0	-10.2	1.00 V	360	46.2	17.6
7	11590.00	50.4 AV	54.0	-3.6	1.00 V	360	32.8	17.6

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) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
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	65.2 PK	74.0	-8.8	2.48 H	38	60.8	4.4
2	5150.00	50.7 AV	54.0	-3.3	2.48 H	38	46.3	4.4
3	*5210.00	108.7 PK			1.67 H	38	69.3	39.4
4	*5210.00	98.4 AV			1.67 H	38	59.0	39.4
5	5350.00	56.7 PK	74.0	-17.3	2.14 H	45	52.4	4.3
6	5350.00	44.1 AV	54.0	-9.9	2.14 H	45	39.8	4.3
7	#10420.00	57.8 PK	68.2	-10.4	1.69 H	235	41.3	16.5
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	5150.00	68.4 PK	74.0	-5.6	1.51 V	9	64.0	4.4
2	5150.00	52.4 AV	54.0	-1.6	1.51 V	9	48.0	4.4
3	*5210.00	109.1 PK			1.50 V	7	69.7	39.4
4	*5210.00	98.6 AV			1.50 V	7	59.2	39.4
5	5350.00	56.8 PK	74.0	-17.2	1.64 V	18	52.5	4.3
6	5350.00	44.2 AV	54.0	-9.8	1.64 V	18	39.9	4.3
7	#10420.00	57.8 PK	68.2	-10.4	1.83 V	266	41.3	16.5

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) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

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

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	#5649.36	63.0 PK	68.2	-5.2	1.51 H	296	58.5	4.5
2	#5650.00	66.5 PK	68.2	-1.7	1.39 H	300	62.0	4.5
3	*5775.00	110.0 PK			1.51 H	296	69.7	40.3
4	*5775.00	99.9 AV			1.51 H	296	59.6	40.3
5	#5925.00	66.1 PK	68.2	-2.1	1.42 H	299	60.8	5.3
6	#5930.13	63.5 PK	68.2	-4.7	1.51 H	296	58.2	5.3
7	11550.00	61.1 PK	74.0	-12.9	1.49 H	342	43.2	17.9
8	11550.00	48.1 AV	54.0	-5.9	1.49 H	342	30.2	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	#5641.03	61.6 PK	68.2	-6.6	1.20 V	276	57.1	4.5
2	#5650.00	65.4 PK	68.2	-2.8	1.17 V	275	60.9	4.5
3	*5775.00	110.1 PK			1.20 V	276	69.8	40.3
4	*5775.00	100.0 AV			1.20 V	276	59.7	40.3
5	#5925.00	64.1 PK	68.2	-4.1	2.47 V	33	58.8	5.3
6	#5938.46	61.1 PK	68.2	-7.1	1.20 V	276	55.8	5.3
7	11550.00	58.9 PK	74.0	-15.1	1.96 V	257	41.0	17.9
8	11550.00	46.6 AV	54.0	-7.4	1.96 V	257	28.7	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) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

Below 1GHz Worst-Case Data:

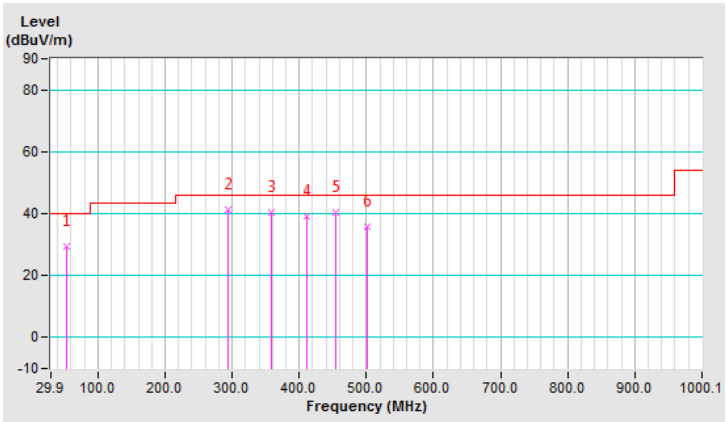
802.11n (HT20)

CHANNEL	TX Channel 40	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		
TEST MODE	A		

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	53.23	29.4 QP	40.0	-10.6	1.99 H	95	39.2	-9.8
2	294.32	41.4 QP	46.0	-4.6	1.01 H	15	49.0	-7.6
3	358.48	40.6 QP	46.0	-5.4	1.99 H	358	47.0	-6.4
4	410.98	39.0 QP	46.0	-7.0	1.99 H	14	44.4	-5.4
5	453.75	40.4 QP	46.0	-5.6	1.51 H	5	44.7	-4.3
6	500.42	35.9 QP	46.0	-10.1	1.51 H	5	39.5	-3.6

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) – Pre-Amplifier Factor(dB).
3. The other emission levels were very low against the limit of frequency range 30MHz ~ 1000MHz.
4. Margin value = Emission Level – Limit value.
5. The emission levels were very low against the limit of frequency range 9kHz ~ 30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

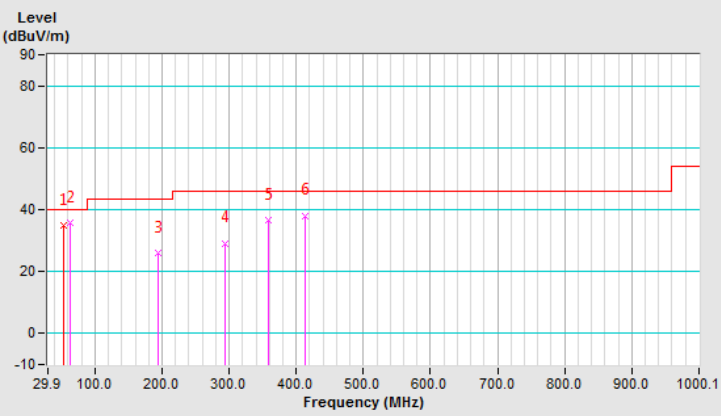


CHANNEL	TX Channel 40	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		
TEST MODE	A		

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	53.23	34.8 QP	40.0	-5.2	1.00 V	10	44.6	-9.8
2	62.95	35.9 QP	40.0	-4.1	1.00 V	5	46.2	-10.3
3	195.16	25.9 QP	43.5	-17.6	1.50 V	14	37.2	-11.3
4	294.32	29.2 QP	46.0	-16.8	1.00 V	120	36.8	-7.6
5	358.48	36.4 QP	46.0	-9.6	2.00 V	166	42.8	-6.4
6	412.92	38.1 QP	46.0	-7.9	1.00 V	75	43.4	-5.3

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) – Pre-Amplifier Factor(dB).
3. The other emission levels were very low against the limit of frequency range 30MHz ~ 1000MHz.
4. Margin value = Emission Level – Limit value.
5. The emission levels were very low against the limit of frequency range 9kHz ~ 30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

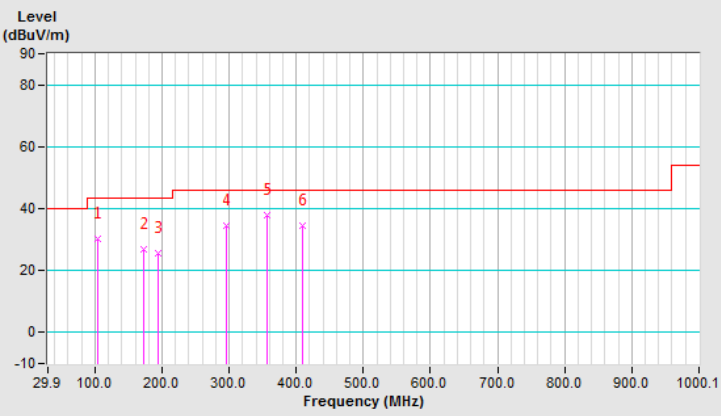


CHANNEL	TX Channel 40	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		
TEST MODE	B		

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	103.78	30.2 QP	43.5	-13.3	1.00 H	123	43.3	-13.1
2	171.83	26.9 QP	43.5	-16.6	1.00 H	298	36.4	-9.5
3	195.16	25.8 QP	43.5	-17.7	2.00 H	18	37.1	-11.3
4	296.27	34.6 QP	46.0	-11.4	1.00 H	50	42.2	-7.6
5	356.54	37.9 QP	46.0	-8.1	1.50 H	131	44.4	-6.5
6	409.04	34.6 QP	46.0	-11.4	1.00 H	298	40.0	-5.4

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. The other emission levels were very low against the limit of frequency range 30MHz ~ 1000MHz.
4. Margin value = Emission Level – Limit value.
5. The emission levels were very low against the limit of frequency range 9kHz ~ 30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

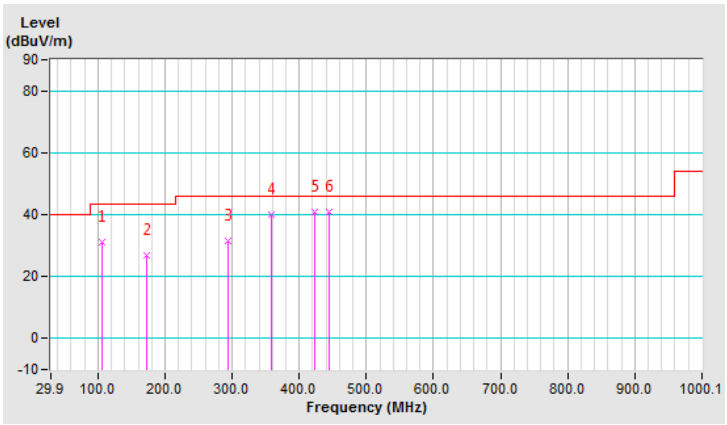


CHANNEL	TX Channel 40	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		
TEST MODE	B		

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	105.73	31.2 QP	43.5	-12.3	1.50 V	79	44.1	-12.9
2	171.83	27.0 QP	43.5	-16.5	1.00 V	3	36.5	-9.5
3	294.32	31.4 QP	46.0	-14.6	2.00 V	347	39.0	-7.6
4	358.48	39.9 QP	46.0	-6.1	1.00 V	3	46.3	-6.4
5	422.65	40.8 QP	46.0	-5.2	1.50 V	343	45.7	-4.9
6	444.03	40.9 QP	46.0	-5.1	1.00 V	352	45.3	-4.4

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. The other emission levels were very low against the limit of frequency range 30MHz ~ 1000MHz.
4. Margin value = Emission Level – Limit value.
5. The emission levels were very low against the limit of frequency range 9kHz ~ 30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

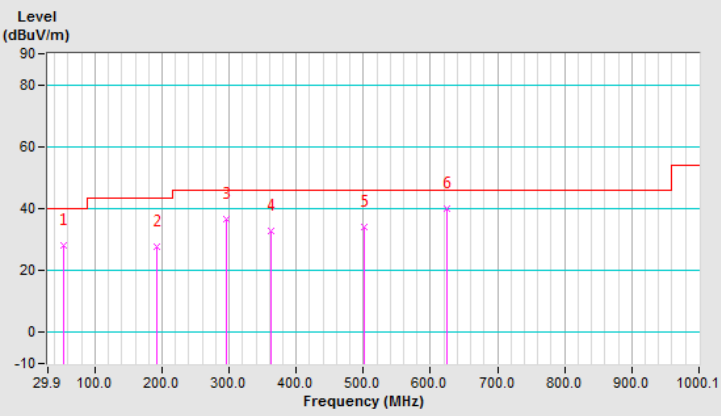


CHANNEL	TX Channel 149	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		
TEST MODE	A		

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	53.23	28.3 QP	40.0	-11.7	1.00 H	105	38.1	-9.8
2	193.22	27.9 QP	43.5	-15.6	1.00 H	295	39.1	-11.2
3	296.27	36.7 QP	46.0	-9.3	1.50 H	318	44.3	-7.6
4	362.37	33.0 QP	46.0	-13.0	1.50 H	231	39.3	-6.3
5	500.42	34.2 QP	46.0	-11.8	2.00 H	6	37.8	-3.6
6	624.85	39.9 QP	46.0	-6.1	1.00 H	6	40.6	-0.7

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) – Pre-Amplifier Factor(dB).
3. The other emission levels were very low against the limit of frequency range 30MHz ~ 1000MHz.
4. Margin value = Emission Level – Limit value.
5. The emission levels were very low against the limit of frequency range 9kHz ~ 30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

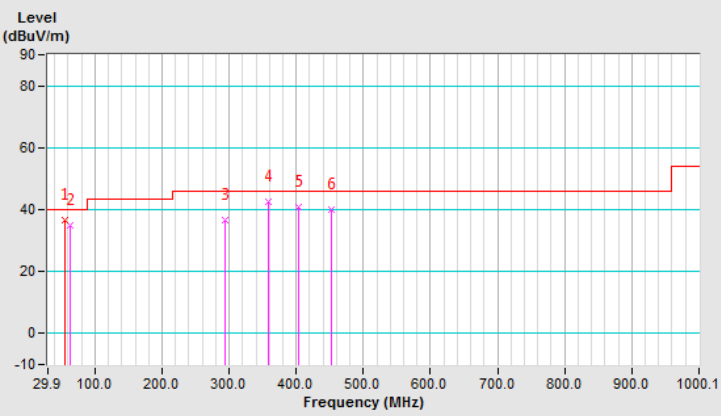


CHANNEL	TX Channel 149	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		
TEST MODE	A		

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	55.18	36.5 QP	40.0	-3.5	1.00 V	12	46.3	-9.8
2	62.95	35.1 QP	40.0	-4.9	1.00 V	13	45.4	-10.3
3	294.32	36.6 QP	46.0	-9.4	1.49 V	3	44.2	-7.6
4	358.48	42.4 QP	46.0	-3.6	1.49 V	5	48.8	-6.4
5	403.20	40.8 QP	46.0	-5.2	1.00 V	146	46.3	-5.5
6	451.81	40.1 QP	46.0	-5.9	1.00 V	354	44.4	-4.3

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) – Pre-Amplifier Factor(dB).
3. The other emission levels were very low against the limit of frequency range 30MHz ~ 1000MHz.
4. Margin value = Emission Level – Limit value.
5. The emission levels were very low against the limit of frequency range 9kHz ~ 30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

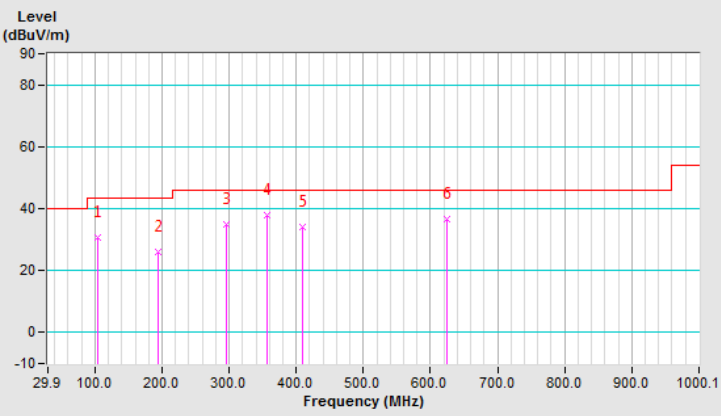


CHANNEL	TX Channel 149	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		
TEST MODE	B		

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	103.78	30.5 QP	43.5	-13.0	1.50 H	134	43.6	-13.1
2	195.16	26.1 QP	43.5	-17.4	1.50 H	49	37.4	-11.3
3	296.27	34.8 QP	46.0	-11.2	1.00 H	39	42.4	-7.6
4	356.54	38.0 QP	46.0	-8.0	1.00 H	48	44.5	-6.5
5	409.04	34.1 QP	46.0	-11.9	1.50 H	290	39.5	-5.4
6	624.85	36.5 QP	46.0	-9.5	1.00 H	270	37.2	-0.7

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) – Pre-Amplifier Factor(dB).
3. The other emission levels were very low against the limit of frequency range 30MHz ~ 1000MHz.
4. Margin value = Emission Level – Limit value.
5. The emission levels were very low against the limit of frequency range 9kHz ~ 30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

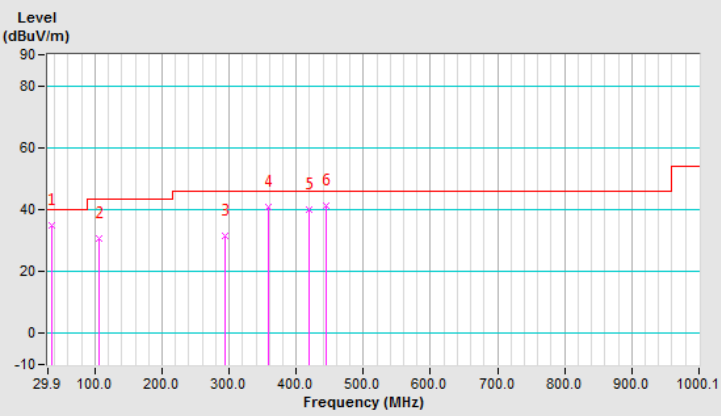


CHANNEL	TX Channel 149	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		
TEST MODE	B		

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	35.73	35.0 QP	40.0	-5.0	1.50 V	296	46.1	-11.1
2	105.73	30.6 QP	43.5	-12.9	1.00 V	60	43.5	-12.9
3	294.32	31.5 QP	46.0	-14.5	1.00 V	13	39.1	-7.6
4	358.48	41.0 QP	46.0	-5.0	2.00 V	9	47.4	-6.4
5	418.76	40.2 QP	46.0	-5.8	1.00 V	9	45.2	-5.0
6	444.03	41.2 QP	46.0	-4.8	1.50 V	9	45.6	-4.4

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. The other emission levels were very low against the limit of frequency range 30MHz ~ 1000MHz.
4. Margin value = Emission Level – Limit value.
5. The emission levels were very low against the limit of frequency range 9kHz ~ 30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.



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	Dec. 10, 2018	Dec. 09, 2019
RF signal cable Woken	5D-FB	Cable-cond1-01	Sep. 05, 2018	Sep. 04, 2019
LISN ROHDE & SCHWARZ (EUT)	ENV216	101826	Feb. 21, 2019	Feb. 20, 2020
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100311	Aug. 19, 2018	Aug. 18, 2019
Software ADT	BV ADT_Cond_ V7.3.7.4	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-12040.

4.2.3 Test Procedures

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

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

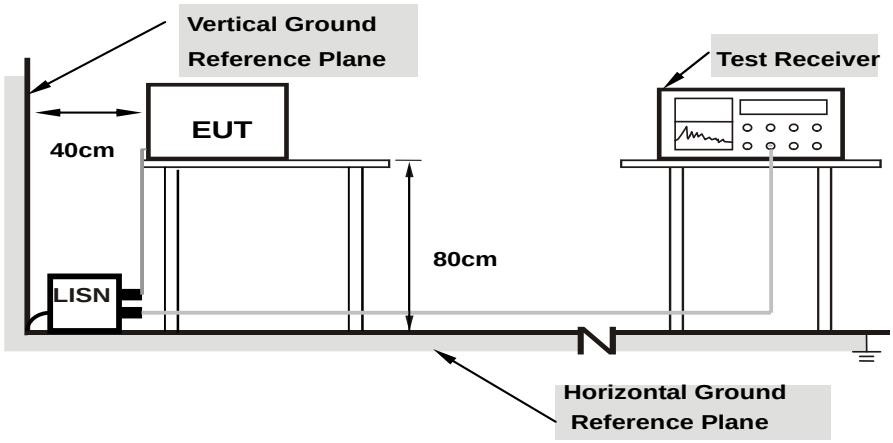
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

Note: 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



Note: 1.Support units were connected to second LISN.

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

4.2.6 EUT Operating Conditions

Same as 4.1.6.

4.2.7 Test Results

Worst-case data:

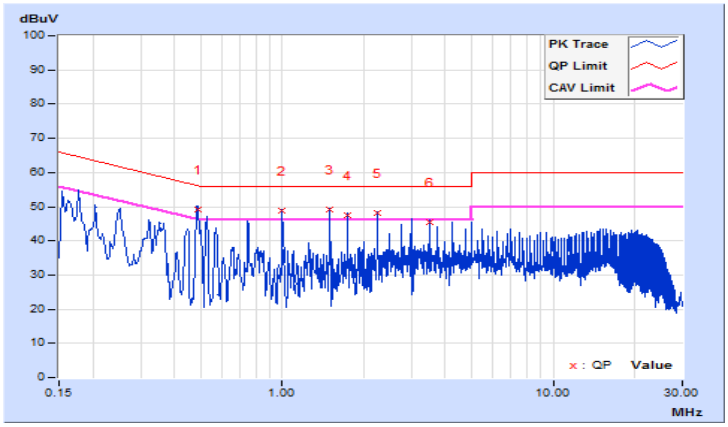
802.11n (HT20)

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
Channel	TX Channel 40	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	**0.48678**	**9.89**	**39.16**	**36.06**	**49.05**	**45.95**	**56.22**	**46.22**	**-7.17**	**-0.27**
2	0.99847	9.92	38.89	35.25	48.81	45.17	56.00	46.00	-7.19	-0.83
3	1.49895	9.93	39.38	35.60	49.31	45.53	56.00	46.00	-6.69	-0.47
4	1.74919	9.94	37.50	35.34	47.44	45.28	56.00	46.00	-8.56	-0.72
5	2.24967	9.96	38.09	35.14	48.05	45.10	56.00	46.00	-7.95	-0.90
6	3.49696	10.00	35.42	34.87	45.42	44.87	56.00	46.00	-10.58	-1.13

Remarks:

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

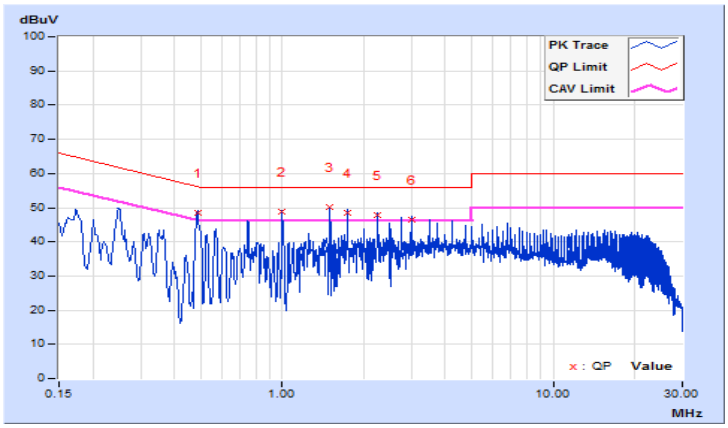


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Channel	TX Channel 40	Test Mode	A

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	0.48626	9.87	38.69	35.34	48.56	45.21	56.23	46.23	-7.67	-1.02
2	0.99847	9.88	38.92	35.28	48.80	45.16	56.00	46.00	-7.20	-0.84
3	1.49954	9.90	40.30	35.51	50.20	45.41	56.00	46.00	-5.80	-0.59
4	1.74919	9.92	38.67	34.99	48.59	44.91	56.00	46.00	-7.41	-1.09
5	2.25001	9.94	37.89	35.76	47.83	45.70	56.00	46.00	-8.17	-0.30
6	3.00039	9.97	36.60	35.00	46.57	44.97	56.00	46.00	-9.43	-1.03

Remarks:

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

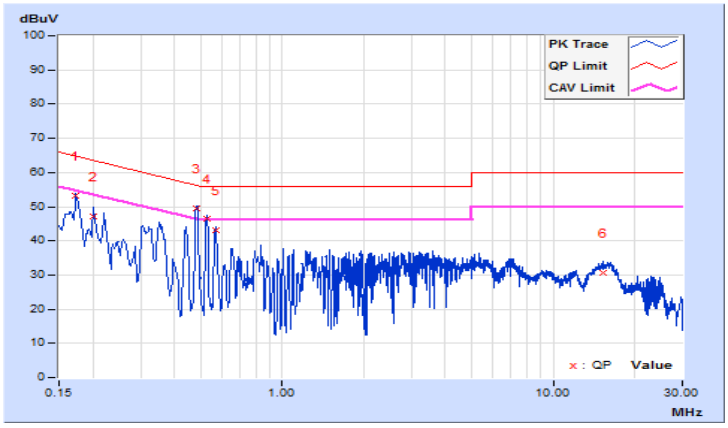


Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
Channel	TX Channel 40	Test Mode	B

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	0.17346	9.84	43.25	36.76	53.09	46.60	64.79	54.79	-11.70	-8.19
2	0.20084	9.85	37.40	25.19	47.25	35.04	63.58	53.58	-16.33	-18.54
3	0.48295	9.89	39.68	35.75	49.57	45.64	56.29	46.29	-6.72	-0.65
4	0.52682	9.89	36.65	35.36	46.54	45.25	56.00	46.00	-9.46	-0.75
5	0.56866	9.89	33.11	31.64	43.00	41.53	56.00	46.00	-13.00	-4.47
6	15.23087	10.21	20.39	12.93	30.60	23.14	60.00	50.00	-29.40	-26.86

Remarks:

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

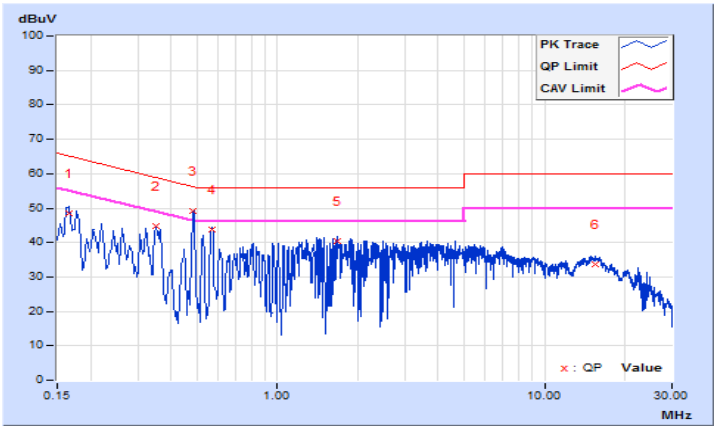


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Channel	TX Channel 40	Test Mode	B

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	9.83	38.68	31.18	48.51	41.01	65.18	55.18	-16.67	-14.17
2	0.35018	9.86	34.84	31.54	44.70	41.40	58.96	48.96	-14.26	-7.56
3	0.48295	9.87	39.15	35.81	49.02	45.68	56.29	46.29	-7.27	-0.61
4	0.57016	9.87	34.03	33.27	43.90	43.14	56.00	46.00	-12.10	-2.86
5	1.67490	9.91	30.51	21.67	40.42	31.58	56.00	46.00	-15.58	-14.42
6	15.58277	10.25	23.39	14.38	33.64	24.63	60.00	50.00	-26.36	-25.37

Remarks:

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

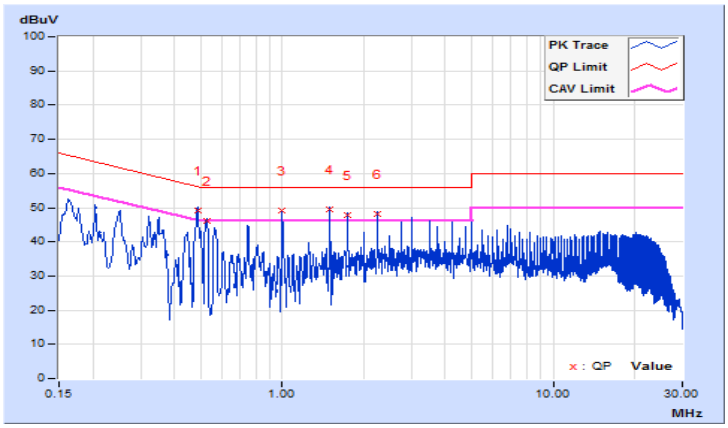


Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
Channel	TX Channel 149	Test Mode	A

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	0.48626	9.89	39.30	34.84	49.19	44.73	56.23	46.23	-7.04	-1.50
2	0.52682	9.89	36.38	35.60	46.27	45.49	56.00	46.00	-9.73	-0.51
3	0.99939	9.92	39.22	34.88	49.14	44.80	56.00	46.00	-6.86	-1.20
4	1.49895	9.93	39.44	35.64	49.37	45.57	56.00	46.00	-6.63	-0.43
5	1.74919	9.94	37.87	34.98	47.81	44.92	56.00	46.00	-8.19	-1.08
6	2.24967	9.96	38.15	35.31	48.11	45.27	56.00	46.00	-7.89	-0.73

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.

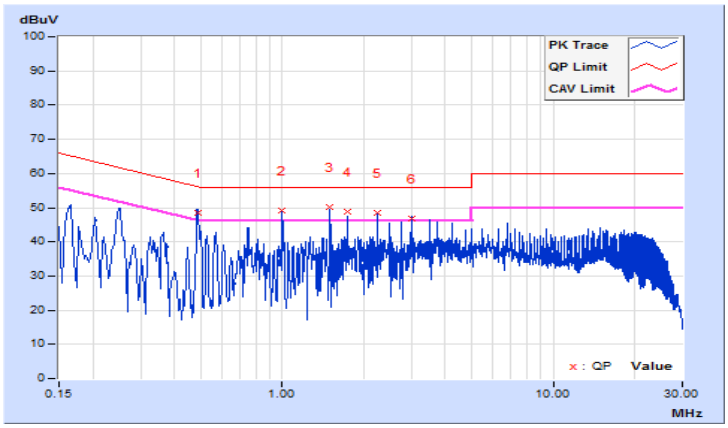


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Channel	TX Channel 149	Test Mode	A

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	0.48678	9.87	38.70	35.86	48.57	45.73	56.22	46.22	-7.65	-0.49
2	0.99939	9.88	39.25	35.61	49.13	45.49	56.00	46.00	-6.87	-0.51
3	1.49954	9.90	40.31	35.69	50.21	45.59	56.00	46.00	-5.79	-0.41
4	1.74919	9.92	38.79	34.64	48.71	44.56	56.00	46.00	-7.29	-1.44
5	2.24967	9.94	38.39	35.18	48.33	45.12	56.00	46.00	-7.67	-0.88
6	3.00039	9.97	36.69	35.23	46.66	45.20	56.00	46.00	-9.34	-0.80

Remarks:

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

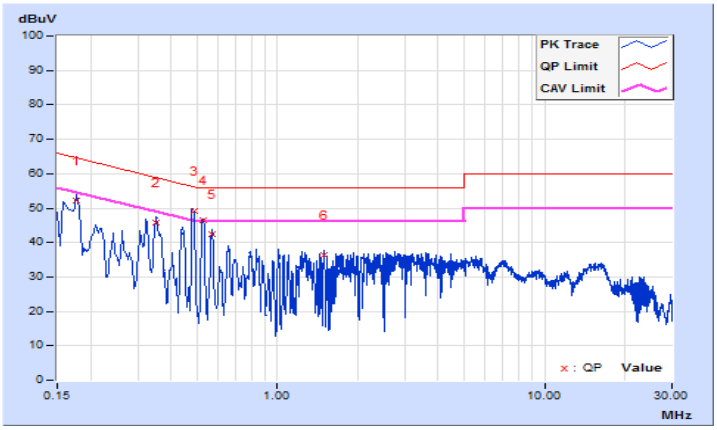


Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
Channel	TX Channel 149	Test Mode	B

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	0.17744	9.85	42.29	33.02	52.14	42.87	64.60	54.60	-12.46	-11.73
2	0.35296	9.87	36.07	29.30	45.94	39.17	58.89	48.89	-12.95	-9.72
3	0.48626	9.89	39.41	35.74	49.30	45.63	56.23	46.23	-6.93	-0.60
4	0.52544	9.89	36.52	35.16	46.41	45.05	56.00	46.00	-9.59	-0.95
5	0.57228	9.89	32.61	28.73	42.50	38.62	56.00	46.00	-13.50	-7.38
6	1.49895	9.93	26.34	20.70	36.27	30.63	56.00	46.00	-19.73	-15.37

Remarks:

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

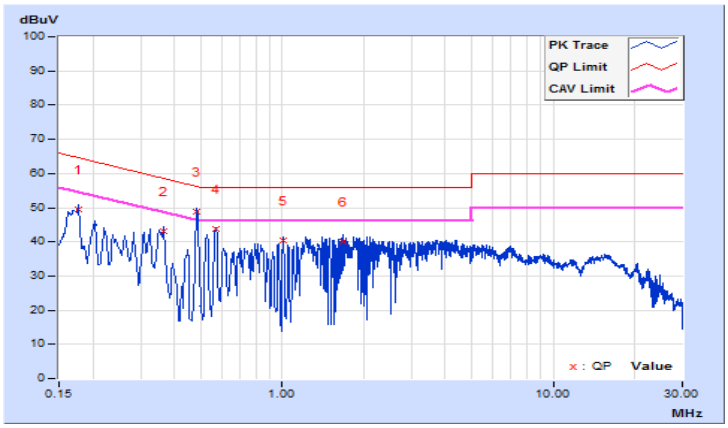


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Channel	TX Channel 149	Test Mode	B

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	0.17698	9.83	39.67	31.07	49.50	40.90	64.63	54.63	-15.13	-13.73
2	0.36505	9.86	33.28	27.09	43.14	36.95	58.61	48.61	-15.47	-11.66
3	0.48295	9.87	39.11	35.82	48.98	45.69	56.29	46.29	-7.31	-0.60
4	0.56866	9.87	34.03	32.78	43.90	42.65	56.00	46.00	-12.10	-3.35
5	1.01411	9.88	30.42	27.01	40.30	36.89	56.00	46.00	-15.70	-9.11
6	1.67490	9.91	30.28	21.24	40.19	31.15	56.00	46.00	-15.81	-14.85

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

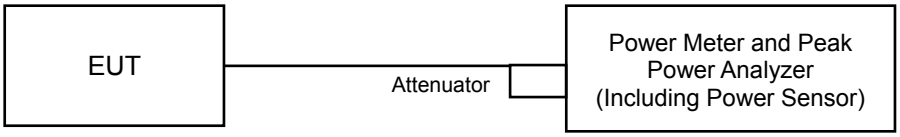
*B is the 26 dB emission bandwidth in megahertz

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

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

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

4.3.2 Test Setup



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

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 and set the detector to average. Duty factor is not added to measured value.

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

CDD Mode

802.11a

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	20.42	20.83	19.97	21.12	459.946	26.63	30.00	Pass
40	5200	20.48	20.85	20.06	21.08	462.929	26.66	30.00	Pass
48	5240	21.15	20.98	20.31	21.78	513.691	27.11	30.00	Pass
149	5745	23.84	23.52	23.26	23.69	912.728	29.60	30.00	Pass
157	5785	22.06	21.83	21.22	22.03	605.121	27.82	30.00	Pass
165	5825	17.54	16.95	16.39	17.09	201.018	23.03	30.00	Pass

802.11n (HT20)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	21.18	21.37	20.38	21.32	512.971	27.10	30.00	Pass
40	5200	23.08	23.01	22.14	23.43	**787.197**	28.96	30.00	Pass
48	5240	22.58	22.49	21.69	22.95	703.366	28.47	30.00	Pass
149	5745	24.01	23.67	23.29	23.73	**933.929**	29.70	30.00	Pass
157	5785	22.32	21.83	21.26	21.91	611.912	27.87	30.00	Pass
165	5825	18.21	17.67	16.86	17.62	231.040	23.64	30.00	Pass

802.11n (HT40)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
38	5190	19.23	19.96	18.54	19.84	350.669	25.45	30.00	Pass
46	5230	19.74	19.95	19.21	20.57	390.437	25.92	30.00	Pass
151	5755	22.67	22.36	21.84	22.18	675.067	28.29	30.00	Pass
159	5795	22.57	22.21	21.86	22.17	665.336	28.23	30.00	Pass

802.11ac (VHT80)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
42	5210	17.64	17.72	16.96	18.26	233.879	23.69	30.00	Pass
155	5775	19.55	19.19	18.64	19.15	328.480	25.17	30.00	Pass

Beamforming Mode

802.11n (HT20)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	21.18	21.37	20.38	21.32	512.971	27.10	27.88	Pass
40	5200	21.59	21.51	20.68	22.93	**599.077**	27.77	27.88	Pass
48	5240	21.52	21.44	20.63	21.91	552.072	27.42	27.88	Pass
149	5745	21.98	21.64	21.28	21.70	585.829	27.68	27.88	Pass
157	5785	22.32	21.83	21.26	21.91	**611.912**	27.87	27.88	Pass
165	5825	18.21	17.67	16.86	17.62	231.040	23.64	27.88	Pass

Note: Directional Gain = 2.1dBi + 10log(4)= 8.12dBi > 6dBi, so the limit shall be reduced to 30-(8.12-6) = 27.88dBm.

802.11n (HT40)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
38	5190	19.23	19.96	18.54	19.84	350.669	25.45	27.88	Pass
46	5230	19.74	19.95	19.21	20.57	390.437	25.92	27.88	Pass
151	5755	21.75	21.43	20.83	21.19	541.201	27.33	27.88	Pass
159	5795	21.62	21.34	20.95	21.24	538.851	27.31	27.88	Pass

Note: Directional Gain = 2.1dBi + 10log(4)= 8.12dBi > 6dBi, so the limit shall be reduced to 30-(8.12-6) = 27.88dBm.

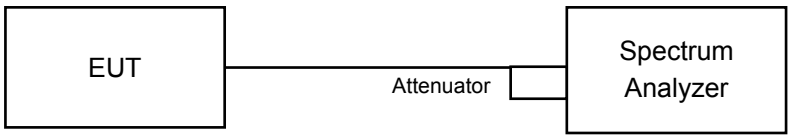
802.11ac (VHT80)

Chan.	Freq. (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
42	5210	17.64	17.72	16.96	18.26	233.879	23.69	27.88	Pass
155	5775	19.55	19.19	18.64	19.15	328.480	25.17	27.88	Pass

Note: Directional Gain = 2.1dBi + 10log(4)= 8.12dBi > 6dBi, so the limit shall be reduced to 30-(8.12-6) = 27.88dBm.

4.4 Occupied Bandwidth Measurement

4.4.1 Test Setup



4.4.2 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.4.3 Test Procedure

The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with resolution bandwidth in the range of 1% to 5% of the anticipated emission bandwidth, and a video bandwidth at least 3x the resolution bandwidth and set the detector to sampling. 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.

4.4.4 Test Result

802.11a

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
36	5180	16.44	16.44	16.44	16.44
40	5200	16.44	16.56	16.56	16.56
48	5240	17.16	17.50	16.80	16.92
149	5745	16.80	16.56	16.56	16.68
157	5785	16.56	16.56	16.56	16.56
165	5825	16.44	16.56	16.32	16.56

802.11n (HT20)

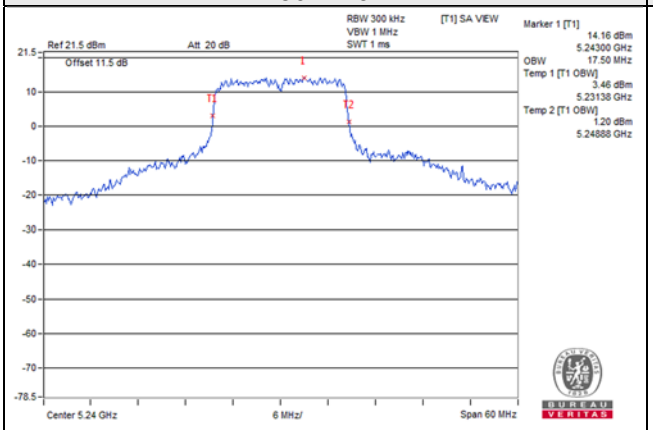
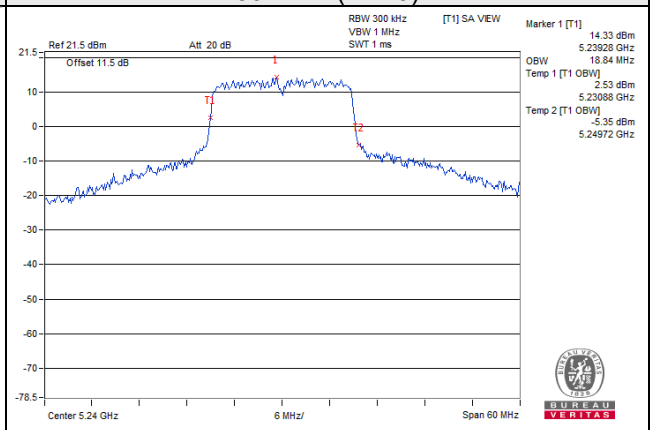
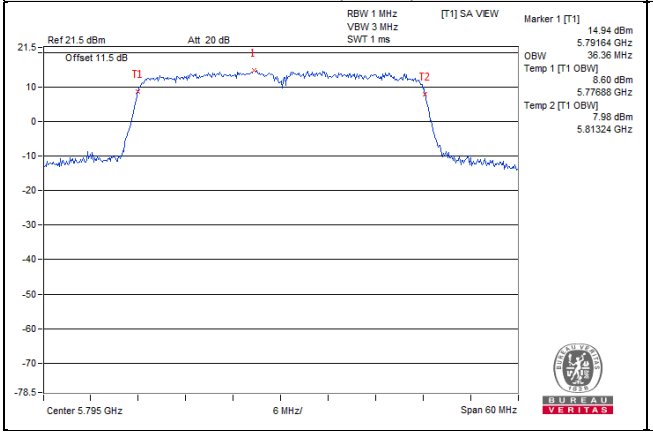
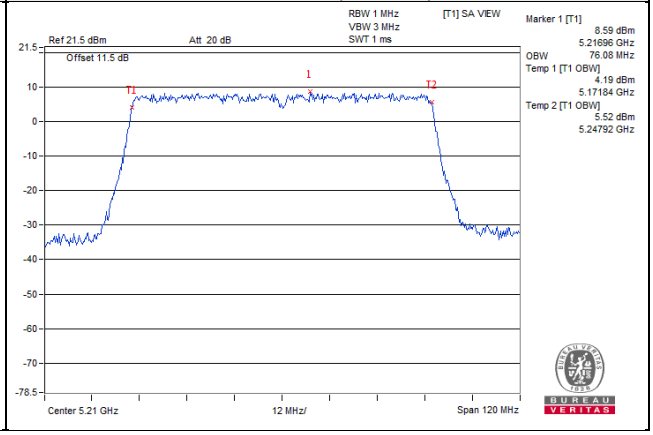
Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
36	5180	17.64	17.64	17.64	17.64
40	5200	17.64	17.76	17.64	17.76
48	5240	18.00	18.84	17.76	18.00
149	5745	18.00	17.76	17.76	17.88
157	5785	17.64	17.64	17.64	17.76
165	5825	17.64	17.76	17.64	17.64

802.11n (HT40)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
38	5190	36.12	36.12	36.00	36.24
46	5230	36.12	36.12	36.00	36.12
151	5755	36.12	36.12	36.36	36.00
159	5795	36.12	36.00	36.36	36.00

802.11ac (VHT80)

Chan.	Freq. (MHz)	Occupied Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
42	5210	76.08	75.84	75.84	75.84
155	5775	75.84	75.84	75.84	75.60

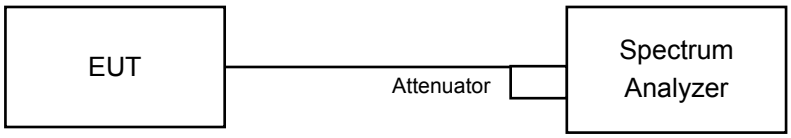
Spectrum Plot of Worst Value	
802.11a	802.11n (HT20)
	
802.11n (HT40)	802.11ac (VHT80)
	

4.5 Peak Power Spectral Density Measurement

4.5.1 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

4.5.2 Test Setup



4.5.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.5.4 Test Procedures

For U-NII-1 band:

Duty cycle of test signal is > 98%

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

Duty cycle of test signal is < 98%

Using method SA-2

a. Set span to encompass the entire emission bandwidth (EBW) of the signal.

b. Set RBW = 1MHz, Set VBW ≥ 3 MHz, Detector = RMS

c. Set Channel power measure = 1MHz

d. Sweep time = auto, trigger set to “free run”.

e. Trace average at least 100 traces in power averaging mode.

f. Record the max value and add 10 log (1/duty cycle)

For U-NII-3 band:

Duty cycle of test signal is > 98%

a. Set span to encompass the entire emission bandwidth (EBW) of the signal.

b. Set RBW = 300 kHz, Set VBW ≥ 1 MHz, Detector = RMS

c. Use the peak marker function to determine the maximum power level in any 300 kHz band segment within the fundamental EBW.

d. 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(500 kHz/300kHz)

e. Sweep time = auto, trigger set to “free run”.

f. Trace average at least 100 traces in power averaging mode.

g. Record the max value

Duty cycle of test signal is < 98%

a. Set span to encompass the entire emission bandwidth (EBW) of the signal.

b. Set RBW = 300 kHz, Set VBW ≥ 1 MHz, Detector = RMS

c. Use the peak marker function to determine the maximum power level in any 300 kHz band segment within the fundamental EBW.

d. 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(500 kHz / 300 kHz)

e. Sweep time = auto, trigger set to “free run”.

f. Trace average at least 100 traces in power averaging mode.

g. Record the max value and add 10 log (1/duty cycle)

4.5.5 Deviation from Test Standard

No deviation.

4.5.6 EUT Operating Conditions

Same as 4.3.6.

4.5.7 Test Results

For U-NII-1 band:

802.11a

Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	7.91	8.60	7.68	8.81	0.18	14.48	14.88	Pass
40	5200	8.23	8.87	7.83	8.95	0.18	14.70	14.88	Pass
48	5240	8.33	8.30	7.91	9.01	0.18	14.61	14.88	Pass

Note:
1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional Gain = 2.1dBi + 10log(4)= 8.12dBi > 6dBi, so the limit shall be reduced to 17-(8.12-6) = 14.88dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT20)

Chan.	Freq. (MHz)	PSD (dBm/MHz)				Total PSD (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3			
36	5180	7.58	8.29	7.28	8.40	13.93	14.88	Pass
40	5200	7.76	8.69	7.71	9.00	14.35	14.88	Pass
48	5240	8.47	8.41	7.66	8.99	14.43	14.88	Pass

Note:
1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional Gain = 2.1dBi + 10log(4)= 8.12dBi > 6dBi, so the limit shall be reduced to 17-(8.12-6) = 14.88dBm.

802.11n (HT40)

Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
38	5190	3.74	4.48	3.42	4.41	0.19	10.25	14.88	Pass
46	5230	4.56	4.89	3.99	5.14	0.19	10.88	14.88	Pass

Note:
1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional Gain = 2.1dBi + 10log(4)= 8.12dBi > 6dBi, so the limit shall be reduced to 17-(8.12-6) = 14.88dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11ac (VHT80)

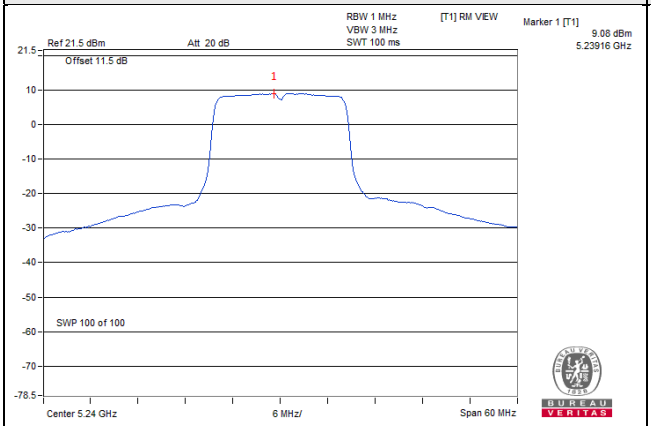
Chan.	Freq. (MHz)	PSD w/o Duty Factor (dBm/MHz)				Duty Factor (dB)	Total PSD with Duty Factor (dBm/MHz)	Max. Limit (dBm/MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
42	5210	-1.65	-1.06	-1.62	-1.16	0.28	4.94	14.88	Pass

Note:

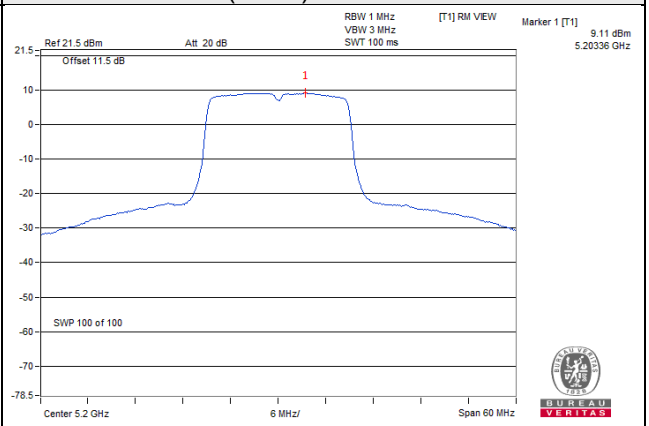
1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional Gain = 2.1dBi + 10log(4)= 8.12dBi > 6dBi, so the limit shall be reduced to 17-(8.12-6) = 14.88dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

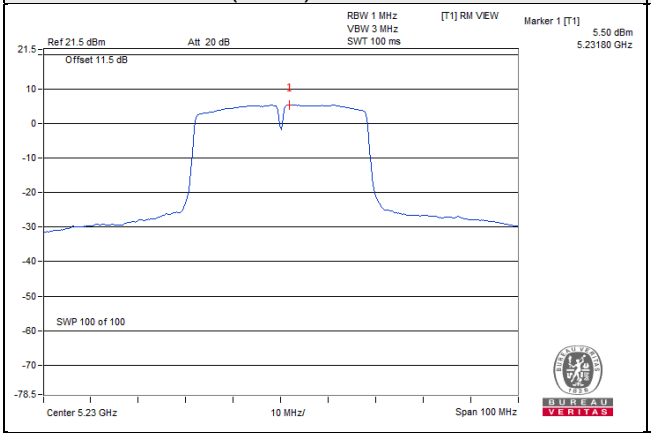
802.11a / Chain 3 / CH 48



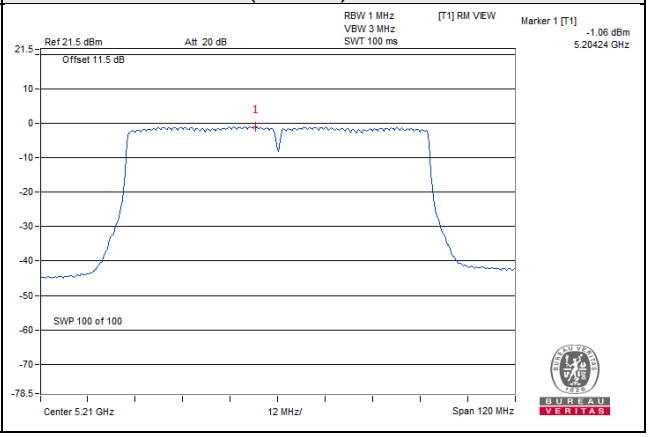
802.11n (HT20) / Chain 3 / CH 40



802.11n (HT40) / Chain 3 / CH 46



802.11ac (VHT80) / Chain 1 / 42



For U-NII-3 band:

802.11a

TX chain	Chan.	Freq. (MHz)	PSD w/o Duty Factor		10 log (N=4) dB	Duty Factor (dB)	Total PSD with Duty Factor (dBm/500kHz)	Limit (dBm/500 kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	149	5745	1.43	3.65	6.02	0.18	9.85	27.88	Pass
	157	5785	-3.03	-0.81	6.02	0.18	5.39	27.88	Pass
	165	5825	-4.92	-2.70	6.02	0.18	3.50	27.88	Pass
1	149	5745	1.50	3.72	6.02	0.18	9.92	27.88	Pass
	157	5785	-0.88	1.34	6.02	0.18	7.54	27.88	Pass
	165	5825	-5.70	-3.48	6.02	0.18	2.72	27.88	Pass
2	149	5745	1.61	3.83	6.02	0.18	10.03	27.88	Pass
	157	5785	-0.87	1.35	6.02	0.18	7.55	27.88	Pass
	165	5825	-5.81	-3.59	6.02	0.18	2.61	27.88	Pass
3	149	5745	1.22	3.44	6.02	0.18	9.64	27.88	Pass
	157	5785	-0.96	1.26	6.02	0.18	7.46	27.88	Pass
	165	5825	-5.48	-3.26	6.02	0.18	2.94	27.88	Pass

Note:

1. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density, Measure and add 10 log (N_{ANT}) dB.
2. Directional Gain = 2.1dBi + 10log(4)= 8.12dBi > 6dBi, so the limit shall be reduced to 30-(8.12-6) = 27.88dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

802.11n (HT20)

TX chain	Chan.	Freq. (MHz)	PSD (dBm/300 kHz)	PSD (dBm/500 kHz)	10 log (N=4) dB	Total PSD (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
0	149	5745	1.53	3.75	6.02	9.77	27.88	Pass
	157	5785	-0.48	1.74	6.02	7.76	27.88	Pass
	165	5825	-4.20	-1.98	6.02	4.04	27.88	Pass
1	149	5745	1.89	4.11	6.02	10.13	27.88	Pass
	157	5785	-0.66	1.56	6.02	7.58	27.88	Pass
	165	5825	-4.99	-2.77	6.02	3.25	27.88	Pass
2	149	5745	1.51	3.73	6.02	9.75	27.88	Pass
	157	5785	-0.96	1.26	6.02	7.28	27.88	Pass
	165	5825	-5.11	-2.89	6.02	3.13	27.88	Pass
3	149	5745	1.65	3.87	6.02	9.89	27.88	Pass
	157	5785	-0.40	1.82	6.02	7.84	27.88	Pass
	165	5825	-4.29	-2.07	6.02	3.95	27.88	Pass

Note:
1. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density, Measure and add 10 log (N_{ANT}) dB.
2. Directional Gain = 2.1dBi + 10log(4)= 8.12dBi > 6dBi, so the limit shall be reduced to 30-(8.12-6) = 27.88dBm.

802.11n (HT40)

TX chain	Chan.	Freq. (MHz)	PSD W/O Duty Factor		10 log (N=4) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/ 500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	151	5755	-3.20	-0.98	6.02	0.19	5.23	27.88	Pass
	159	5795	-3.20	-0.98	6.02	0.19	5.23	27.88	Pass
1	151	5755	-3.19	-0.97	6.02	0.19	5.24	27.88	Pass
	159	5795	-3.37	-1.15	6.02	0.19	5.06	27.88	Pass
2	151	5755	-3.84	-1.62	6.02	0.19	4.59	27.88	Pass
	159	5795	-3.78	-1.56	6.02	0.19	4.65	27.88	Pass
3	151	5755	-3.33	-1.11	6.02	0.19	5.10	27.88	Pass
	159	5795	-3.36	-1.14	6.02	0.19	5.07	27.88	Pass

Note:
1. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density, Measure and add 10 log (N_{ANT}) dB.
2. Directional Gain = 2.1dBi + 10log(4)= 8.12dBi > 6dBi, so the limit shall be reduced to 30-(8.12-6) = 27.88dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

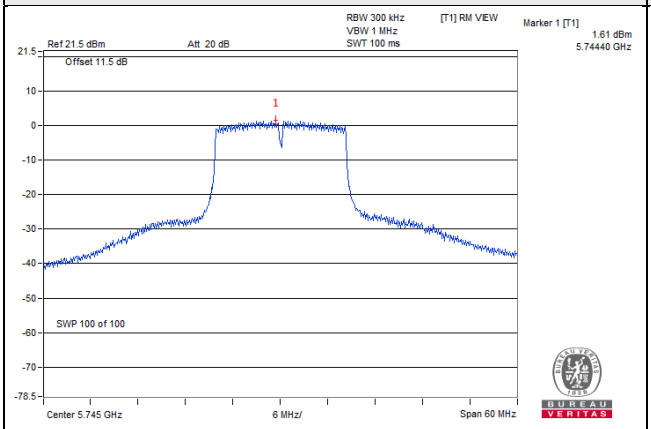
802.11ac (VHT80)

TX chain	Chan.	Freq. (MHz)	PSD W/O Duty Factor		10 log (N=4) dB	Duty Factor (dB)	Total PSD With Duty Factor (dBm/500kHz)	Limit (dBm/ 500kHz)	Pass / Fail
			(dBm/300kHz)	(dBm/500kHz)					
0	155	5775	-9.90	-7.68	6.02	0.28	-1.38	27.88	Pass
1	155	5775	-9.93	-7.71	6.02	0.28	-1.41	27.88	Pass
2	155	5775	-10.61	-8.39	6.02	0.28	-2.09	27.88	Pass
3	155	5775	-9.88	-7.66	6.02	0.28	-1.36	27.88	Pass

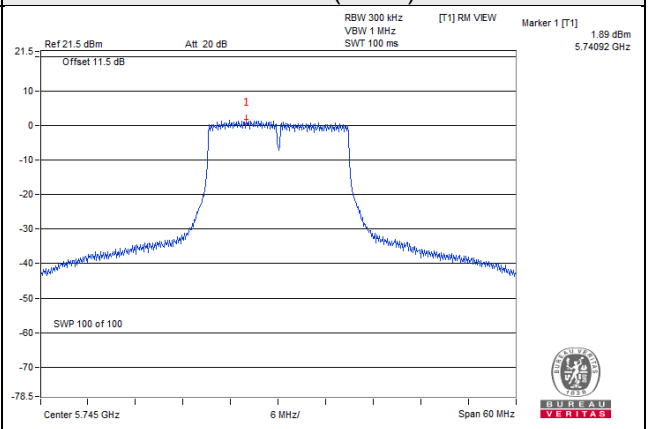
Note:
1. Method E) 2) c) of power density measurement of KDB 662911 is using for calculating total power density, Measure and add 10 log (N_{ANT}) dB.
2. Directional Gain = 2.1dBi + 10log(4)= 8.12dBi > 6dBi, so the limit shall be reduced to 30-(8.12-6) = 27.88dBm.
3. Refer to section 3.3 for duty cycle spectrum plot.

Spectrum Plot of Worst Value

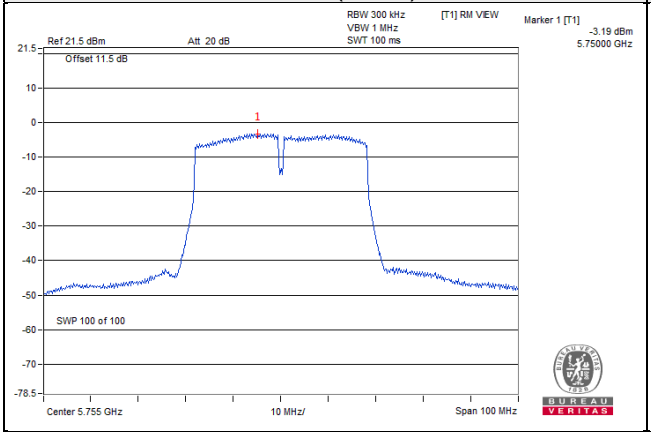
802.11a



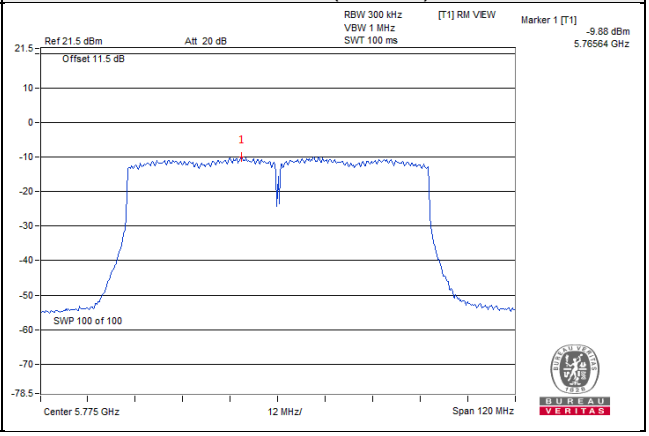
802.11n (HT20)



802.11n (HT40)



802.11ac (VHT80)

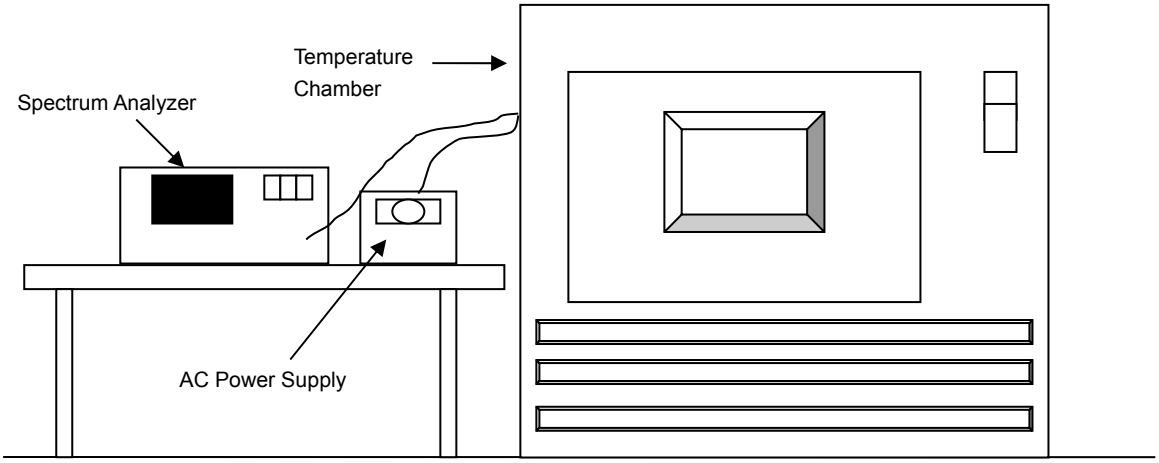


4.6 Frequency Stability

4.6.1 Limits of Frequency Stability Measurement

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

4.6.2 Test Setup



4.6.3 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100040	Sep. 25, 2018	Sep. 24, 2019
WIT Standard Temperature And Humidity Chamber	TH-4S-C	W981030	Jun. 03, 2019	Jun. 02, 2020
Digital Multimeter Fluke	87-III	70360742	Jun. 29, 2018	Jun. 28, 2019
			Jun. 28, 2019	Jun. 27, 2020
AC Power Supply Extech	CFW-105	E000603	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.

4.6.4 Test Procedure

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

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

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

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

e. Repeat step c and d with every 10 degrees reduction until the lowest temperature achieved.

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

4.6.5 Deviation from Test Standard

No deviation.

4.6.6 EUT Operating Condition

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

4.6.7 Test Results

Frequency Stability Versus Temp.									
Operating Frequency: 5180MHz									
Temp. (℃)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
50	120	5180.0215	Pass	5180.0236	Pass	5180.0224	Pass	5180.0195	Pass
40	120	5179.9981	Pass	5179.9964	Pass	5179.9958	Pass	5179.9984	Pass
30	120	5180.0212	Pass	5180.0212	Pass	5180.0234	Pass	5180.0217	Pass
20	120	5180.0039	Pass	5180.0053	Pass	5180.0016	Pass	5180.0034	Pass
10	120	5179.9916	Pass	5179.9943	Pass	5179.9942	Pass	5179.99	Pass
0	120	5179.9781	Pass	5179.9774	Pass	5179.9761	Pass	5179.9798	Pass

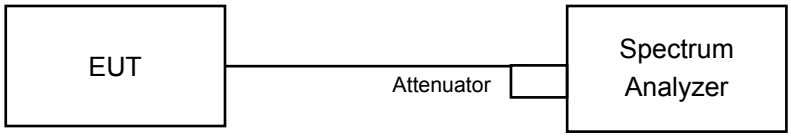
Frequency Stability Versus Voltage									
Operating Frequency: 5180MHz									
Temp. (℃)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result	Measured Frequency (MHz)	Result
20	138	5180.0047	Pass	5180.0043	Pass	5180.0009	Pass	5180.0042	Pass
	120	5180.0039	Pass	5180.0053	Pass	5180.0016	Pass	5180.0034	Pass
	102	5180.0039	Pass	5180.0049	Pass	5180.0022	Pass	5180.0033	Pass

4.7 6dB Bandwidth Measurement

4.7.1 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is 0.5MHz.

4.7.2 Test Setup



4.7.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.7.4 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

4.7.5 Deviation from Test Standard

No deviation.

4.7.6 EUT Operating Condition

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

4.7.7 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	16.38	16.36	15.59	16.38	0.5	Pass
157	5785	16.39	16.39	16.03	16.40	0.5	Pass
165	5825	16.38	16.40	16.36	16.38	0.5	Pass

802.11n (HT20)

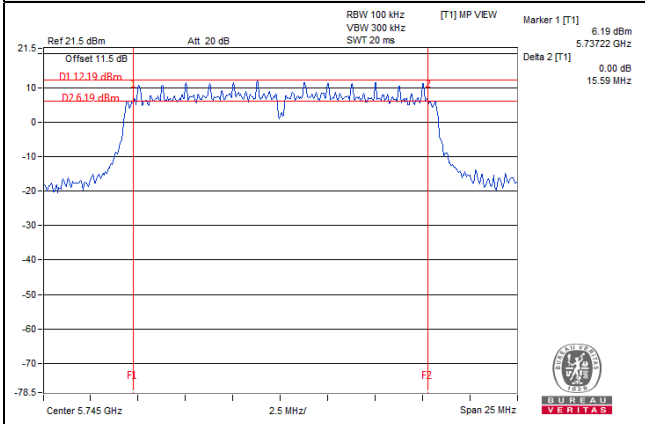
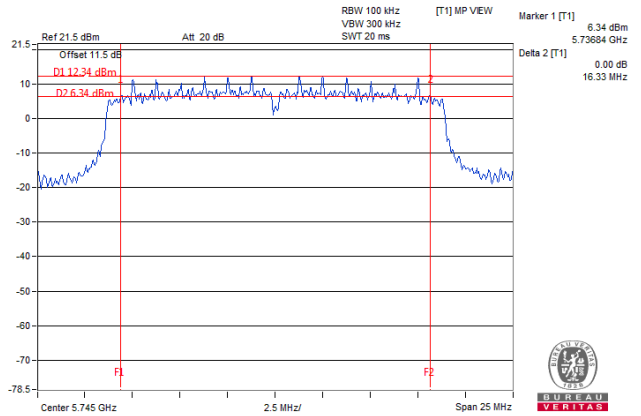
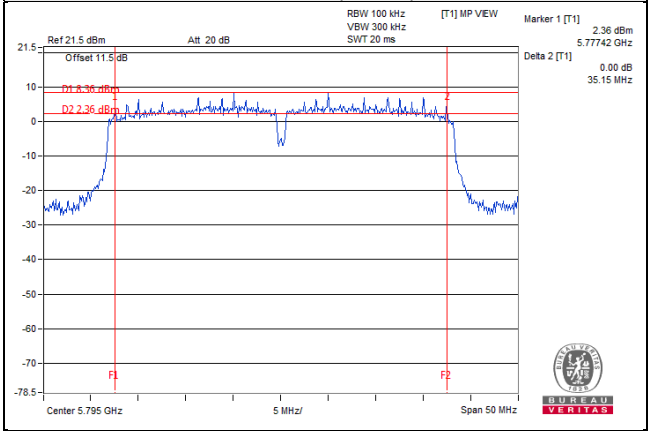
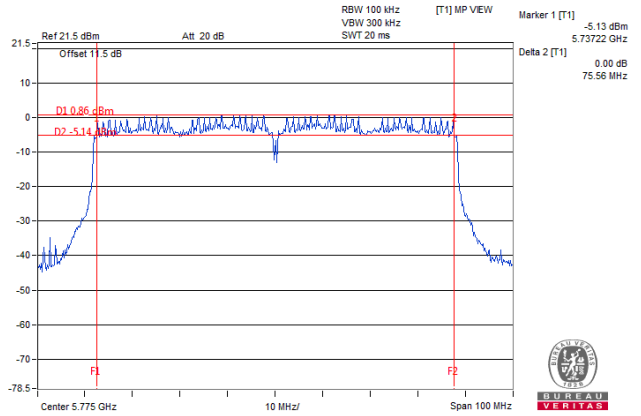
Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
149	5745	17.36	16.63	16.33	17.23	0.5	Pass
157	5785	17.36	17.61	16.34	17.56	0.5	Pass
165	5825	17.25	17.63	16.58	17.21	0.5	Pass

802.11n (HT40)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
151	5755	35.20	35.25	35.20	35.28	0.5	Pass
159	5795	35.15	35.25	35.31	35.23	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	76.25	75.98	76.44	75.56	0.5	Pass

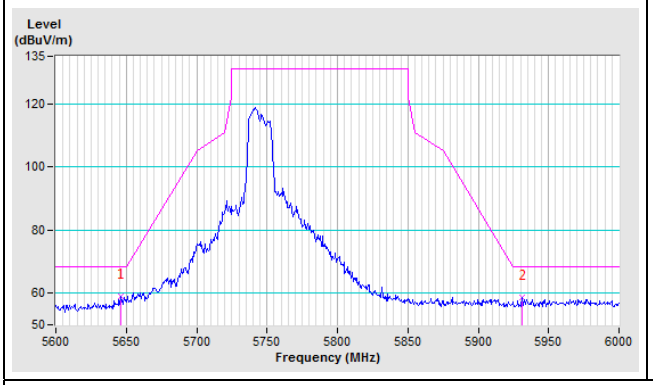
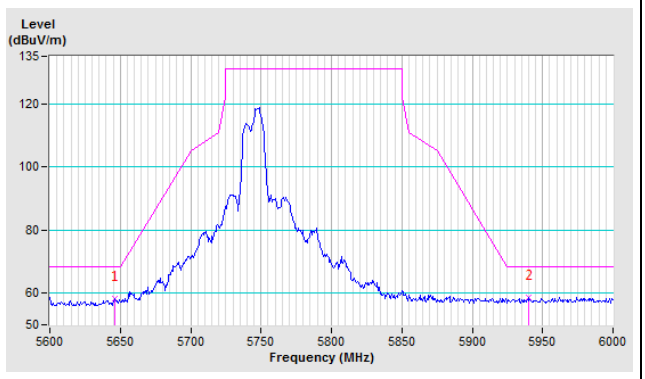
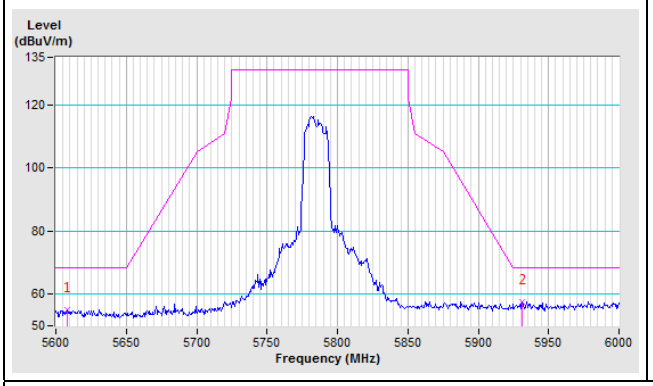
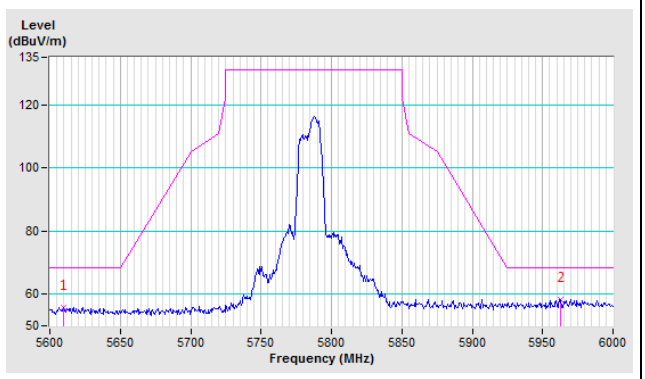
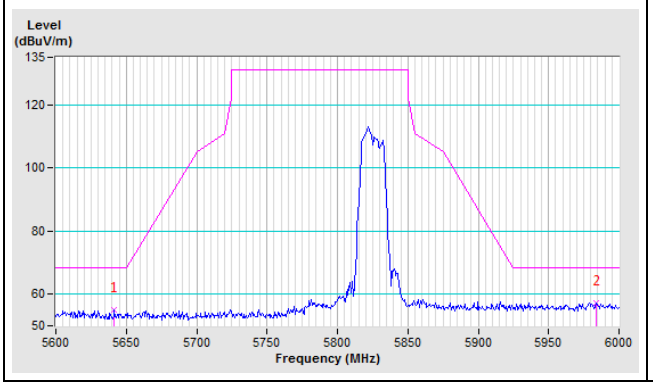
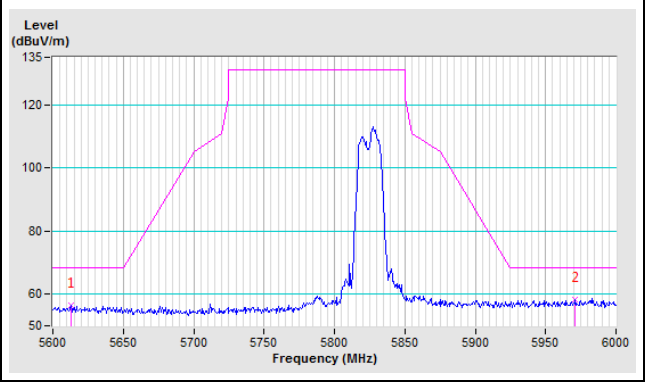
Spectrum Plot of Worst Value	
802.11a	802.11n (HT20)
	
802.11n (HT40)	802.11ac (VHT80)
	

5 Pictures of Test Arrangements

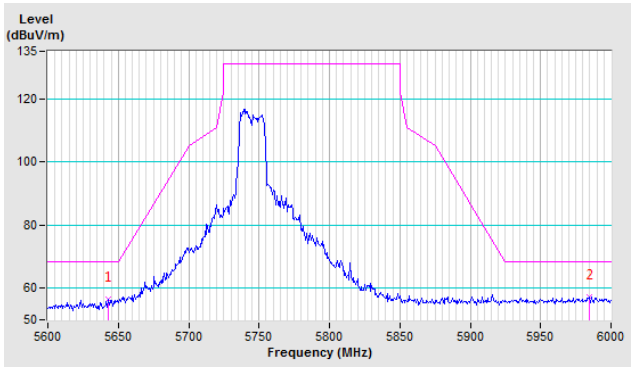
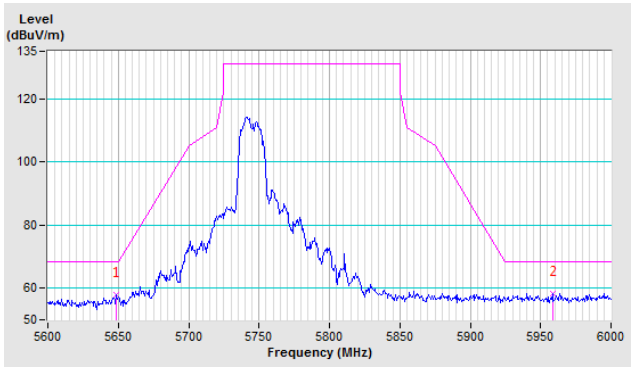
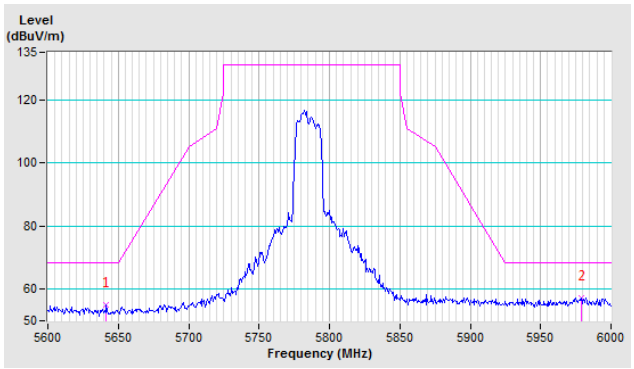
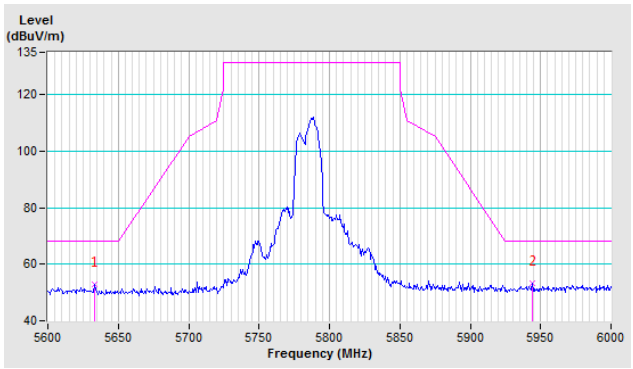
Please refer to the attached file (Test Setup Photo).

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

802.11a

CH149	
Horizontal	Vertical
	
CH157	
Horizontal	Vertical
	
CH165	
Horizontal	Vertical
	

802.11n (HT20)

CH149	
Horizontal	Vertical
	
CH157	
Horizontal	Vertical
	
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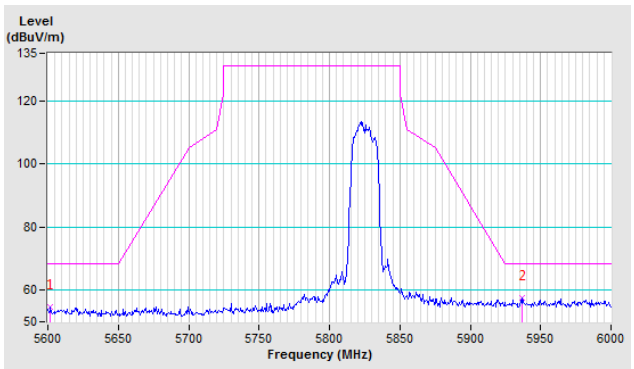
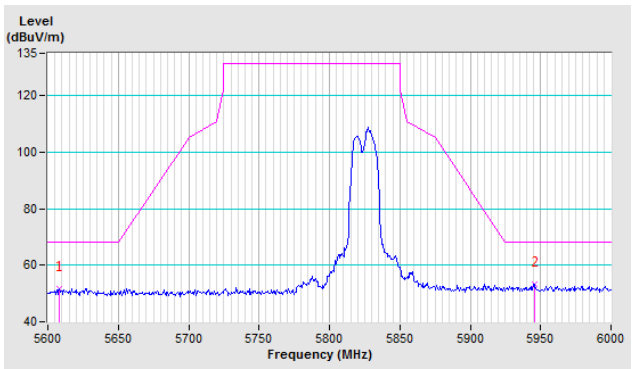
Horizontal	Vertical
	

802.11n (HT40)

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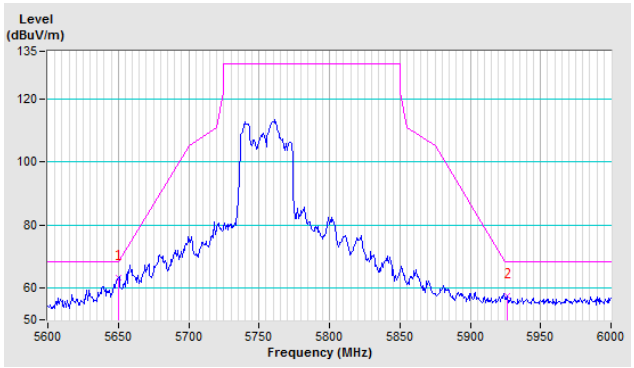
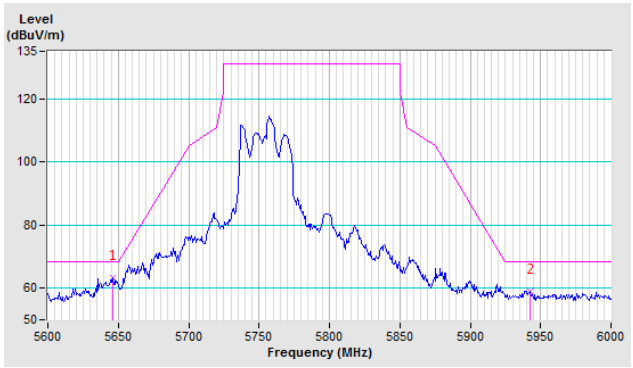
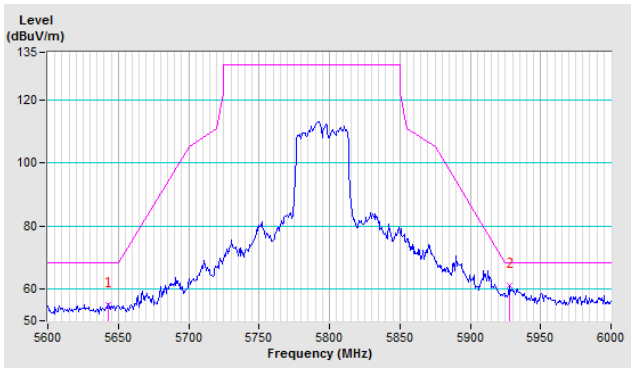
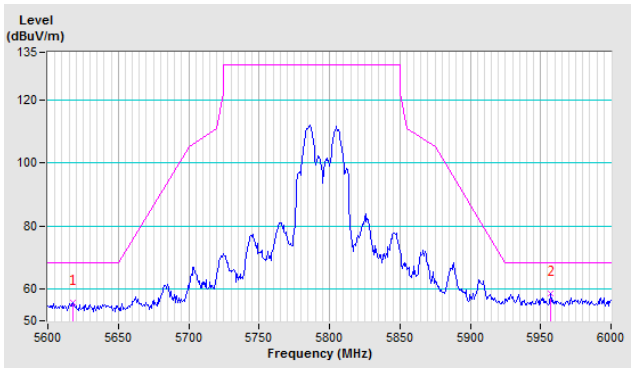
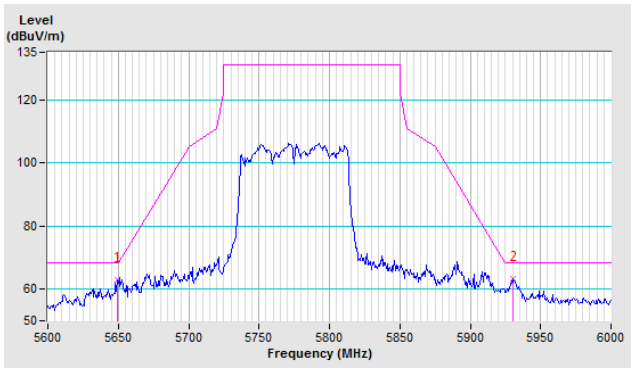
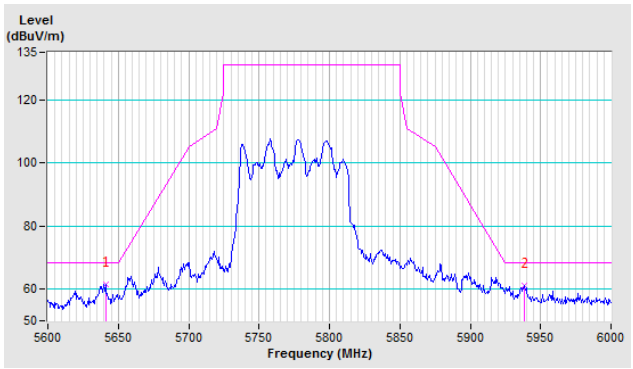
Horizontal	Vertical
	
CH159	
Horizontal	Vertical
	

802.11ac (VHT80)

CH155	
Horizontal	Vertical
	

Appendix – Information of 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 FCC recognized accredited test firms and 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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